



# **Peace AirShed Zone Association**

## **Ambient Air Monitoring Network Summary**

**Continuous Ambient Air Quality Monitoring Program  
Monthly Report  
April 2011**

**Operations and Reporting**

**FOCUS**  
AIR QUALITY MONITORING

June 13, 2011

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

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

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

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

Company	Facility	LSD	AENV Number	Approval
Advantage Oil & Gas Ltd.	Sunset House	06-22-0707-20-W5	138884-01-00	
	Glacier	05-02-076-13-W6	262479-00-00	
AltaGas Ltd.	Pouce Coupe	03-03-081-13-W6	247673-00-00	
	Ante Creek	02-26-068-25-W5	266694-00-00	
Barrick Energy Inc.	Sturgeon/Valleyview	02-02-069-22-W5	1633-02-00	
Birchcliff Energy Ltd.	Pouce Coupe	03-22-078-12-W6	252529-00-00	
Bonavista Energy Corporation	Rycroft	08-25-077-06-W6	11351-02-00	
	Spirit River	08-34-077-06-W6	11096-02-00	
Canadian Natural Resources Limited	Bonanza	11-25-081-11-W6	00000029-01-00	
	Progress/Gordondale	01-01-077-10-W6	00010036-02-00	
	Gold Creek	13-26-067-05-W6	00010446-02-00	
	Teepee Creek	SE-2-074-04-W6	00001635-02-00	
Conocophillips Canada Energy Partnership	Wembley	06-19-073-08-W6	00000212-01-00	

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

Included in this report is a summary of the monthly continuous monitoring, detailed hourly average reports and multipoint calibration reports of all instruments. Operational summaries can be found on the “Monthly Continuous Data Summary” and “Continuous Network Equipment Summary” pages of the report.

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

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

**Henry Pirker Station:**

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

**Evergreen Park Station:**

- ◆ The measured ambient air quality was within the AAAQO for the Evergreen Park station, except for the PM<sub>2.5</sub> which had four (4) 1-hour exceedences of the AAAQG and one (1) 24-hour of the AAAQO:
  - April 8 14:00 81 µg/m<sup>3</sup> Alberta Environment Reference #245878.
  - April 11 14:00 92 µg/m<sup>3</sup> Alberta Environment Reference #245924.
  - April 11 15:00 151 µg/m<sup>3</sup> Alberta Environment Reference #245924.
  - April 11 16:00 185 µg/m<sup>3</sup> Alberta Environment Reference #245924.
  - April 11 24-hr 34 µg/m<sup>3</sup> Alberta Environment Reference #245924.
- ◆ All analyzers / sensors at the Evergreen Park station had an operational uptime greater than 90% for the month of April.

**Smoky Heights Station:**

- ◆ The measured ambient air quality was within the AAAQO for the Smoky Heights station.
- ◆ All analyzers / sensors at the Smoky Heights station had an operational uptime greater than 90% for the month of April.

**Beaverlodge Station:**

- ◆ The measured ambient air quality was within the AAAQO for the Beaverlodge station.
- ◆ All analyzers / sensors at the Beaverlodge station had an operational uptime greater than 90% for the month of April.

**Portable – Bonanza Station:**

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

**Valleyview Station:**

- ◆ The measured ambient air quality was within the AAAQO for the Valleyview station.
- ◆ All analyzers / sensors at the Valleyview station had an operational uptime greater than 90% for the month of April.

**Passive Monitoring - 43 Stations throughout the PAZA zone:**

There were four duplicate sites sampled in the month of April: Spirit River, Poplar, Saddle Hills and Kinuso. The passive samples at McLennan were not collected in March as roads were inaccessible due to heavy snow conditions, they were collected in April. The results for the SO<sub>2</sub>, NO<sub>2</sub> and O<sub>3</sub> samples for the McLennan sites are over a two month sample period (March and April). There is no O<sub>3</sub> sample result for Wanham; sample was missing. 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<sub>2</sub> passives ranged from 0.1 ppb to 0.5 ppb, with a mean of 0.2 ppb.
- Monthly average concentrations for NO<sub>2</sub> passives ranged from 0.0 ppb to 2.6 ppb, with a mean of 0.3 ppb.
- Monthly average concentrations for O<sub>3</sub> passives ranged from 21.6 ppb to 51.9 ppb, with a mean of 42.1 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

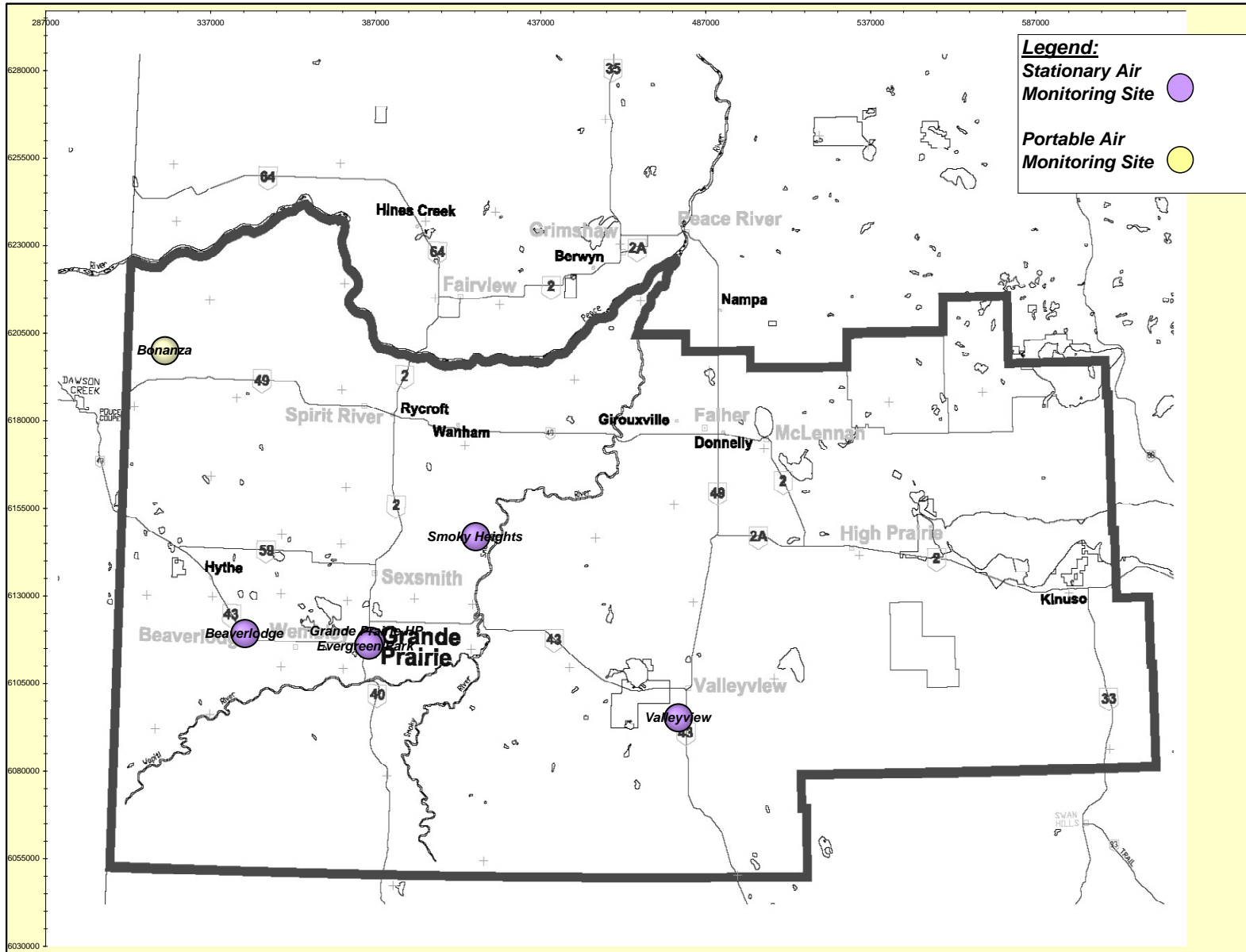


Shelly Pruden  
Program Manager



Sharon Whiteley, B.Sc.  
FOCUS AQM Data Specialist

# Location of PAZA Continuous Monitoring Stations



## PAZA Monthly Continuous Data Summary

Apr-2011 Peace Airshed Zone Association							Maximum Recorded Values				Operational Time (%)
Pollutant (units)	Objectives		Station	Monthly Average	Exceedence		Conc	Day	24-hr / 8-hr		
	1-hr	24-hr			1-hr	24-hr			Conc	Day	
SO <sub>2</sub> (ppb)	172	48	Henry Pirker	0.2	0	0	2.2	Apr-24 10:00	0.6	Apr-13	100.0%
SO <sub>2</sub> (ppb)	172	48	Evergreen Park	0.2	0	0	2.7	Apr-12 10:00	0.4	Apr-24	99.6%
SO <sub>2</sub> (ppb)	172	48	Smoky Heights	0.7	0	0	12.1	Apr-22 08:00	2.7	Apr-22	97.5%
SO <sub>2</sub> (ppb)	172	48	Beaverlodge	0.2	0	0	2.7	Apr-03 00:00	0.7	Apr-02	100.0%
SO <sub>2</sub> (ppb)	172	48	Portable-Bonanza	0.2	0	0	2.5	Apr-02 11:00	0.6	Apr-25	99.9%
SO <sub>2</sub> (ppb)	172	48	Valleyview	0.5	0	0	15.5	Apr-21 10:00	1.2	Apr-11	99.2%
NO (ppb)			Henry Pirker	0.9	0	0	24.3	Apr-12 07:00	3.6	Apr-12	100.0%
NO <sub>2</sub> (ppb)	212	106	Henry Pirker	7.2	0	0	40.1	Apr-01 23:00	14.3	Apr-03	100.0%
NO <sub>x</sub> (ppb)			Henry Pirker	8.2	0	0	48.6	Apr-12 07:00	16.1	Apr-03	100.0%
NO (ppb)			Beaverlodge	0.3	0	0	5.1	Apr-02 10:00	0.9	Apr-03	100.0%
NO <sub>2</sub> (ppb)	212	106	Beaverlodge	2.0	0	0	12.3	Apr-18 06:00	4.0	Apr-03	100.0%
NO <sub>x</sub> (ppb)			Beaverlodge	2.3	0	0	12.8	Apr-19 07:00	4.9	Apr-03	100.0%
NO (ppb)			Portable-Bonanza	0.4	0	0	5.3	Apr-03 01:00	1.2	Apr-03	99.9%
NO <sub>2</sub> (ppb)	212	106	Portable-Bonanza	1.9	0	0	13.1	Apr-03 06:00	4.6	Apr-03	99.9%
NO <sub>x</sub> (ppb)			Portable-Bonanza	2.3	0	0	18.4	Apr-03 01:00	5.9	Apr-03	99.9%
O <sub>3</sub> (ppb)	82		Henry Pirker	36.6	0	-	64.0	Apr-25 16:00	46.1	Apr-10	100.0%
O <sub>3</sub> (ppb) - 8-hr			Henry Pirker		0				59.0	Apr-25	
O <sub>3</sub> (ppb)	82		Beaverlodge	44.8	0	-	68.7	Apr-25 18:00	55.5	Apr-10	100.0%
O <sub>3</sub> (ppb) - 8-hr			Beaverlodge		0				63.6	Apr-25	
O <sub>3</sub> (ppb)	82		Portable-Bonanza	41.8	0	-	62.5	Apr-25 18:00	50.3	Apr-10	99.9%
O <sub>3</sub> (ppb) - 8-hr			Portable-Bonanza		0				57.8	Apr-25	
CO (ppm)	13		Henry Pirker	0.21	-	-	0.5	Apr-12 07:00	0.3	Apr-03	100.0%
CO (ppm) - 8-hr		5	Henry Pirker		0				0.3	Apr-12	
THC (ppm)			Henry Pirker	2.07	-	-	3.2	Apr-07 23:00	2.3	Apr-18	100.0%
TRS (ppb)			Henry Pirker	0.3	-	-	1.1	Apr-28 10:00	0.4	Apr-15	100.0%
TRS (ppb)			Evergreen Park	0.6	-	-	1.3	Apr-25 07:00	0.7	Apr-28	99.6%
TRS (ppb)			Smoky Heights	0.4	-	-	1.4	Apr-20 21:00	0.9	Apr-20	97.6%
TRS (ppb)			Portable-Bonanza	0.6	-	-	1.3	Apr-11 03:00	0.7	Apr-08	99.9%
H <sub>2</sub> S (ppb)	10	3	Valleyview	0.1	0	0	2.0	Apr-21 22:00	0.3	Apr-02	99.3%

## PAZA Monthly Continuous Data Summary – continued

Apr-2011		Peace Airshed Zone Association					Maximum Recorded Values				
							1-hr		24-hr / 8-hr		
PM2.5 (µg/m3)	80	30	Henry Pirker	7.5	0	0	26.6	Apr-03 08:00	12.8	Apr-03	96.4%
PM2.5 (µg/m3)	80	30	Evergreen Park	8.3	4	1	184.6	Apr-11 16:00	33.7	Apr-11	91.7%
PM2.5 (µg/m3)	80	30	Smoky Heights	2.6	0	0	22.7	Apr-17 00:00	6.6	Apr-26	97.5%
PM2.5 (µg/m3)	80	30	Beaverlodge	6.2	0	0	14.7	Apr-25 11:00	11.7	Apr-25	99.4%
RH (%)			Henry Pirker	57.9	-	-	90.0	Apr-29 06:00	84.9	Apr-14	100.0%
RH (%)			Evergreen Park	57.5	-	-	97.7	Apr-14 19:00	92.0	Apr-14	99.6%
RH (%)			Beaverlodge	59.3	-	-	94.4	Apr-19 21:00	87.7	Apr-14	99.7%
RH (%)			Valleyview	57.3	-	-	98.6	Apr-29 09:00	87.2	Apr-28	99.2%
SR (W/m <sup>2</sup> )			Henry Pirker	171.8	-	-	732.7	Apr-21 13:00	220.8	Apr-24	100.0%
Temp (°C)			Henry Pirker	3.2	-	-	17.5	Apr-25 16:00	9.5	Apr-26	100.0%
Temp (°C)			Evergreen Park	3.4	-	-	16.3	Apr-25 15:00	9.9	Apr-26	99.6%
Temp (°C)			Smoky Heights	2.2	-	-	16.9	Apr-25 16:00	8.7	Apr-25	97.6%
Temp (°C)			Beaverlodge	2.9	-	-	15.5	Apr-25 16:00	8.8	Apr-25	98.1%
Temp (°C)			Portable-Bonanza	2.4	-	-	14.7	Apr-25 18:00	8.4	Apr-26	99.9%
Temp (°C)			Valleyview	3.4	-	-	16.9	Apr-25 16:00	10.3	Apr-26	99.2%
WSPD s (km/hr)			Henry Pirker	10.7	-	-	41.0	Apr-08 20:00	19.0	Apr-08	100.0%
WSPD s (km/hr)			Evergreen Park	7.1	-	-	27.0	Apr-04 12:00	13.4	Apr-22	99.2%
WSPD s (km/hr)			Smoky Heights	12.5	-	-	36.0	Apr-11 16:00	21.0	Apr-08	97.6%
WSPD s (km/hr)			Beaverlodge	12.2	-	-	46.0	Apr-11 14:00	26.3	Apr-14	100.0%
WSPD s (km/hr)			Portable-Bonanza	11.7	-	-	32.0	Apr-08 13:00	23.8	Apr-08	99.9%
WSPD s (km/hr)			Valleyview	5.6	-	-	24.0	Apr-11 16:00	9.5	Apr-13	99.3%
WSPD v (km/hr)			Henry Pirker	4.6	-	-	41.0	Apr-08 20:00	15.7	Apr-08	100.0%
WSPD v (km/hr)			Evergreen Park	3.7	-	-	27.0	Apr-04 12:00	12.2	Apr-22	99.2%
WSPD v (km/hr)			Smoky Heights	6.5	-	-	35.0	Apr-11 16:00	18.8	Apr-08	97.6%
WSPD v (km/hr)			Beaverlodge	3.1	-	-	46.0	Apr-11 14:00	25.8	Apr-14	100.0%
WSPD v (km/hr)			Portable-Bonanza	4.9	-	-	32.0	Apr-11 14:00	21.7	Apr-08	99.9%
WSPD v (km/hr)			Valleyview	1.6	-	-	24.0	Apr-11 16:00	9.2	Apr-13	99.3%
WDIR			Henry Pirker	WNW	-	-	-	-	-	-	100.0%
WDIR			Evergreen Park	WNW	-	-	-	-	-	-	99.2%
WDIR			Smoky Heights	WSW	-	-	-	-	-	-	97.6%
WDIR			Beaverlodge	W	-	-	-	-	-	-	100.0%
WDIR			Portable-Bonanza	SW	-	-	-	-	-	-	99.9%
WDIR			Valleyview	WNW	-	-	-	-	-	-	99.3%



# Continuous Network Equipment Summary

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## PAZA – Henry Pirker Station

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### General Station Issues

Routine monthly calibrations were performed on April 5<sup>th</sup> (PM<sub>2.5</sub>), April 20<sup>th</sup> (TRS, CO & THC) and April 21<sup>st</sup> (SO<sub>2</sub>, NO<sub>x</sub> & O<sub>3</sub>).

Parameter	Make	Model	Notes
SO <sub>2</sub>	TEI	43C	No operational issues observed.
NO <sub>x</sub> /NO/NO <sub>2</sub>	TEI	42C	No operational issues observed.
O <sub>3</sub>	TEI	49C	Spans were outside the target on from April 1 <sup>st</sup> to 12 <sup>th</sup> (the spans were stable and it is assumed it was due to rising ambient temperature – a single point calibration was performed on April 12 <sup>th</sup> ).
CO	TEI	48C	No operational issues observed.
THC	TEI	51-CLT	There were no spans April 26 <sup>th</sup> to 29 <sup>th</sup> – span cylinder ran out. No operational issues observed.
TRS	TEI	45C/43C	No operational issues observed.
PM <sub>2.5</sub>	R&P	1400AB	The TEOM unit was changed out on April 5 <sup>th</sup> in an effort to address the FDMS issues. One hour was flagged for maintenance on April 25 <sup>th</sup> . Twenty-five (25) hours were flagged for baseline drift.
RH	Met One	083D	No operational issues observed.
ET	Met One	083D	No operational issues observed.
SR	Met One	096-1	No operational issues observed.
WS / WD	Met One	010C/020C	No operational issues observed.

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**PAZA – Evergreen Park Station**

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**General Station Issues**

Routine monthly calibrations were performed on April 13<sup>th</sup> (SO<sub>2</sub>, TRS & PM<sub>2.5</sub>). The AP1000 datalogger was replaced with a Campbell Scientific CR3000 on April 13<sup>th</sup> 2011 – several hours were flagged for maintenance for all parameters.

Parameter	Make	Model	Notes
SO <sub>2</sub>	TEI	43i	No operational issues observed, other than above noted maintenance (three (3) hours).
TRS	TEI	43C	No operational issues observed, other than above noted maintenance (three (3) hours).
PM <sub>2.5</sub>	R&P	1400AB	<p>Eight (8) hours flagged for above noted maintenance. Twenty-nine (29) hours were flagged invalid due to unusual spiking caused by loading issues in adverse weather conditions. Twenty-three (23) hours flagged fro baseline drift.</p> <p>There were four 1-hour exceedences of the AAAQG and one 24-hour exceedence of the AAAQO:</p> <p>April 8: 14:00 81 µg/m<sup>3</sup> AE Reference # 245878</p> <p>April 11: 14:00 92 µg/m<sup>3</sup> AE Reference # 245924</p> <p>April 11: 15:00 151 µg/m<sup>3</sup> AE Reference # 245924</p> <p>April 11: 16:00 185 µg/m<sup>3</sup> AE Reference # 245924</p> <p>April 11: 24-hour 33.7 µg/m<sup>3</sup> AE Reference # 245924</p>
ET	Met One/Gill	083D	No operational issues observed, other than above noted maintenance (three (3) hours).
RH	Met One/Gill		No operational issues observed, other than above noted maintenance (three (3) hours).
WS / WD	Met One/ Gill		No operational issues observed, other than above noted maintenance (six (6) hours).

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**PAZA – Smoky Heights Station**

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**General Station Issues**

Routine monthly calibrations were performed on April 14<sup>th</sup> (SO<sub>2</sub>, TRS). There was one power failure on April 4<sup>th</sup> (power company maintenance) resulting in seven (7) or eight (8) hours of invalid data for all parameters. There was a DACS / communication error on April 12<sup>th</sup> – resulting in seven (7) hours of invalid data for all parameters. The AP1000 datalogger was replaced with a Campbell Scientific CR3000 on April 14<sup>th</sup> 2011 – several hours were flagged for maintenance for all parameters.

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<b>Parameter</b>	<b>Make</b>	<b>Model</b>	<b>Notes</b>
SO <sub>2</sub>	TEI	43C	Eight (8) hours flagged for power failure, seven (7) hours flagged for DACS failure and three (3) hours flagged for maintenance.
TRS	TEI	43C	Eight (8) hours flagged for power failure, seven (7) hours flagged for DACS failure and three (3) hours flagged for maintenance.
PM <sub>2.5</sub>	R&P	1400AB	Eight (8) hours flagged for power failure, seven (7) hours flagged for DACS failure and three (3) hours flagged for maintenance.
ET	Met One	083D	Seven (7) hours flagged for power failure, seven (7) hours flagged for DACS failure and three (3) hours flagged for maintenance.
WS / WD	Met One	010C/020C	Seven (7) hours flagged for power failure, seven (7) hours flagged for DACS failure and three (3) hours flagged for maintenance.

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**PAZA – Beaverlodge Station**

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**General Station Issues**

Routine monthly calibrations were performed on April 6<sup>th</sup> (SO<sub>2</sub>, NO<sub>x</sub>, O<sub>3</sub> & PM<sub>2.5</sub>).

<b>Parameter</b>	<b>Make</b>	<b>Model</b>	<b>Notes</b>
SO <sub>2</sub>	TEI	43CTL	Spans just outside the target range on April 22 <sup>nd</sup> & 24 <sup>th</sup> – reason unknown.
NO <sub>x</sub> /NO/NO <sub>2</sub>	TEI	42C	No operational issues observed.
O <sub>3</sub>	TEI	49C	No operational issues observed.
PM <sub>2.5</sub>	R&P	1400AB	Two (2) hours were flagged for baseline drift. Two (2) hours were flagged invalid on April 29 <sup>th</sup> due to technical support / troubleshooting issues with other TEOM FDMS units.
ET	n/a	n/a	Fourteen (14) hours were flagged invalid due to signal interference.
RH	n/a	n/a	Two (2) hours were flagged invalid due to signal interference.
WS / WD	Blue Sky	857	No operational issues observed.

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**PAZA – Bonanza (Portable) Station**

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**General Station Issues**

Routine monthly calibrations were performed on April 26<sup>th</sup> (SO<sub>2</sub>, TRS, NO<sub>x</sub> & O<sub>3</sub>). A power failure on April 4<sup>th</sup> resulted in one (1) hour of invalid data for all parameters.

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<b>Parameter</b>	<b>Make</b>	<b>Model</b>	<b>Notes</b>
SO <sub>2</sub>	TEI	43C	No operational issues observed, other than above noted power failure.
TRS	TEI	43C	No operational issues observed, other than above noted power failure.
NO <sub>x</sub> /NO/NO <sub>2</sub>	TEI	42I	No operational issues observed, other than above noted power failure.
O <sub>3</sub>	TEI	49C	No operational issues observed, other than above noted power failure.
ET	Met One		No operational issues observed, other than above noted power failure.
WS / WD	Met One	010C/020C	No operational issues observed, other than above noted power failure.

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**PAZA – Valleyview Station**

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**General Station Issues**

Routine monthly calibrations were performed on April 15<sup>th</sup> (SO<sub>2</sub> & H<sub>2</sub>S). The AP1000 datalogger was replaced with a Campbell Scientific CR3000 on April 15<sup>th</sup> 2011 – several hours were flagged for maintenance for all parameters.

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<b>Parameter</b>	<b>Make</b>	<b>Model</b>	<b>Notes</b>
SO <sub>2</sub>	TEI	43i	Four (4) hours were flagged maintenance on April 15 <sup>th</sup> for datalogger replacement. There were no spans April 15 <sup>th</sup> to 17 <sup>th</sup> due to a wiring issue - two hours were flagged maintenance on April 18 <sup>th</sup> for rewiring.
H <sub>2</sub> S	TEI	43A	Four (4) hours were flagged maintenance on April 15 <sup>th</sup> for datalogger replacement. Two hours were flagged maintenance on April 18 <sup>th</sup> for rewiring.
ET	Gill	Met Pak 3	Six (6) hours were flagged maintenance on April 15 <sup>th</sup> for datalogger replacement.
RH	Gill	Met Pak 3	Six (6) hours were flagged maintenance on April 15 <sup>th</sup> for datalogger replacement.
WS / WD	Gill	Met Pak 3	Five (5) hours were flagged maintenance on April 15 <sup>th</sup> for datalogger replacement.

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PAZA

Henry Pirker Station

Monthly Summary Tables, Graphs and  
Roses

## Hourly Averages

## Sulphur Dioxide (SO<sub>2</sub>) - ppb

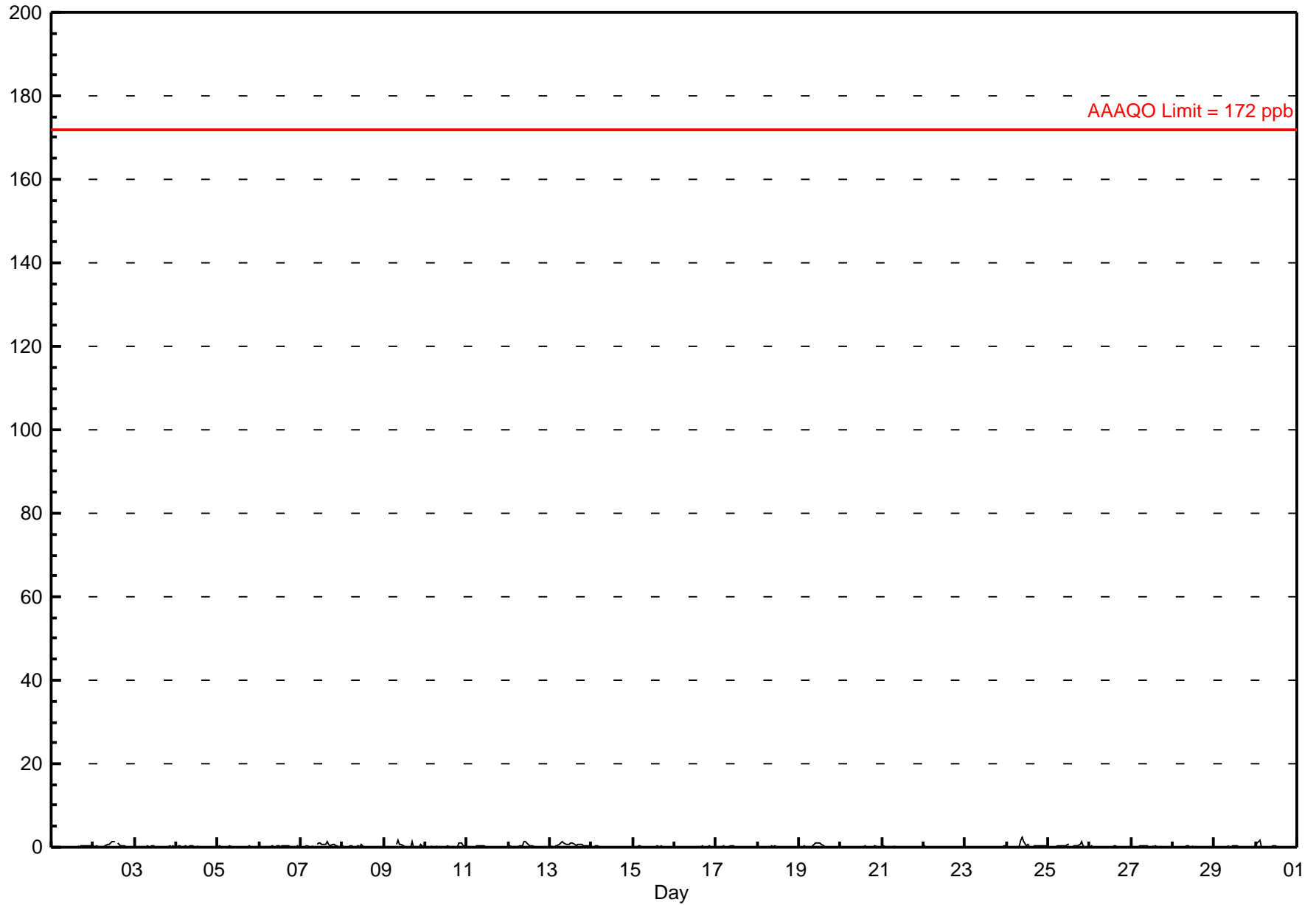
### Henry Pirker - April 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 2.2 ppb on Apr 24 10:00 Minimum Value: 0 ppb on Apr 5 04:00 Maximum Diurnal Average: 0.4 ppb at hour 10 Monthly Average: 0.19 ppb	Maximum Daily Average: 0.6 ppb on Apr 13 Minimum Daily Average: 0.0 ppb on Apr 16 Minimum Diurnal Average: 0.1 ppb at hour 5 Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.0 Q <sub>1</sub> = 0.1 Median = 0.1 Q <sub>3</sub> = 0.2 P <sub>90</sub> = 0.5 P <sub>99</sub> = 1.3	Hours in Service: 720 Hours of Data: 686 Hours of Missing Data: 34 Hours of Calibration: 34 Percent Operational Time: 100.0
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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-Apr	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
2-Apr	0	0	0	0	0	0	0	0	0	1	1	1	1	A	1	1	0	0	0	0	0	0	0	0	0.4	1.4
3-Apr	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.1	0.4
4-Apr	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.4
5-Apr	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
6-Apr	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	0.5
7-Apr	0	0	0	0	0	0	0	0	0	0	0	0	A	1	1	1	1	1	1	1	0	1	1	0	0.5	1.4
8-Apr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.7
9-Apr	0	0	0	0	0	0	0	0	0	0	A	1	2	1	1	0	0	0	0	0	0	0	1	0	0.3	1.9
10-Apr	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0.3	1.1
11-Apr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.4
12-Apr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.2
13-Apr	0	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	1.3
14-Apr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.4
15-Apr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.5
16-Apr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.2
17-Apr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.4
18-Apr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
19-Apr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.1
20-Apr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.4
21-Apr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
22-Apr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
23-Apr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
24-Apr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	2.2
25-Apr	0	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	1.3
26-Apr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
27-Apr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4
28-Apr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.4
29-Apr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.4
30-Apr	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.6
Diurnal Average: 0.1 0.1 0.1 0.1 0.1 0.1 0.2 0.2 0.4 0.4 0.3 0.3 0.2 0.2 0.2 0.2 0.1 0.2 0.2 0.1 0.2 0.1 0.1 Diurnal Maximum: 0.6 1.2 1.6 0.5 0.4 0.6 0.9 1.3 1.9 2.2 1.3 1.4 1.2 0.9 1.1 1.4 1.4 0.6 0.7 1.3 1.1 1.0 0.5 0.4																										

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





## Hourly Maximums

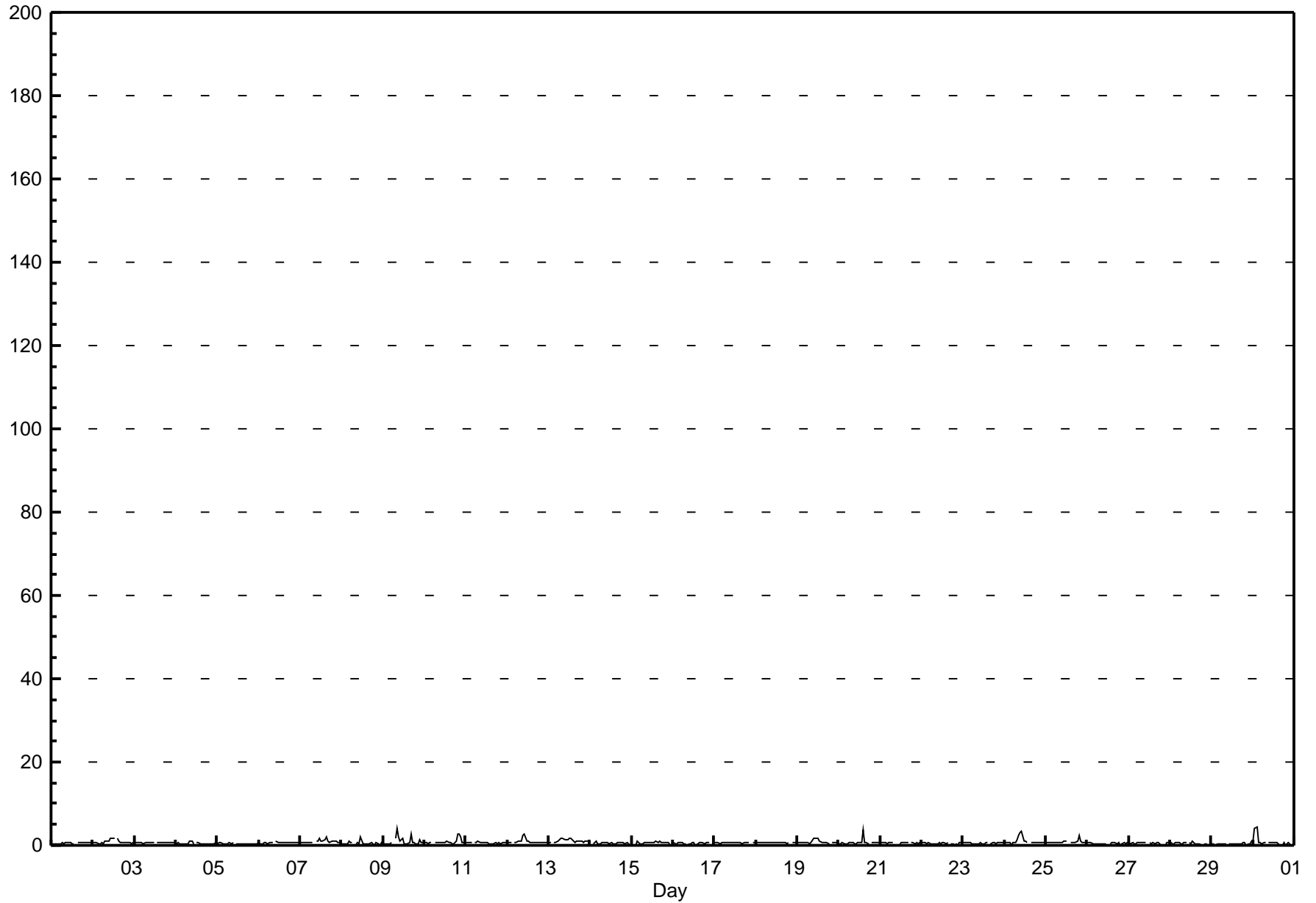
Sulphur Dioxide (SO<sub>2</sub>) - ppb

Henry Pirker - April 2011

Maximum Value: 4.4 ppb on Apr 30 03:00		Maximum Daily Average: 1.1 ppb on Apr 13		Hours in Service: 720																																													
Minimum Value: 0 ppb on Apr 28 19:00		Minimum Daily Average: 0.4 ppb on Apr 22		Hours of Data: 686																																													
Maximum Diurnal Average: 0.9 ppb at hour 11		Minimum Diurnal Average: 0.5 ppb at hour 23		Hours of Missing Data: 34																																													
Monthly Average: 0.62 ppb		Percentiles: P <sub>1</sub> = 0.1 P <sub>10</sub> = 0.3 Q <sub>1</sub> = 0.5 Median = 0.5 Q <sub>3</sub> = 0.6 P <sub>90</sub> = 1.0 P <sub>99</sub> = 2.8		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-Apr	0	0	0	0	0	0	1	0	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	0.5	0.7																							
2-Apr	1	1	1	0	0	1	0	1	1	1	2	2	2	A	2	1	1	1	1	1	1	1	0	1	0.8	1.8																							
3-Apr	1	1	1	1	1	0	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	0.5	0.7																							
4-Apr	1	1	1	1	0	0	0	0	1	1	0	A	1	1	0	0	0	0	0	0	0	0	0	1	0.6	1.0																							
5-Apr	0	1	1	0	0	0	0	1	0	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	0.7																							
6-Apr	1	0	0	1	1	0	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	0.5	1.1																							
7-Apr	1	1	1	1	1	1	1	1	1	A	1	1	2	1	1	1	2	1	1	1	1	1	1	1	0.9	2.1																							
8-Apr	1	0	0	0	1	1	1	A	A	0	1	0	2	0	0	0	0	1	0	0	1	0	0	1	0.5	2.0																							
9-Apr	0	0	0	0	0	1	A	A	2	4	2	1	2	0	0	0	1	3	1	1	0	0	1	1	0.9	4.0																							
10-Apr	1	1	0	1	1	A	1	1	1	1	1	1	1	1	1	1	0	0	1	3	3	2	1	1	0.9	2.6																							
11-Apr	1	1	1	1	A	1	1	1	1	1	1	1	1	0	0	0	0	1	0	1	0	1	1	1	0.6	1.1																							
12-Apr	1	1	1	A	1	1	1	1	1	3	3	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	2.8																							
13-Apr	1	1	A	1	1	1	1	2	2	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1.1	1.7																							
14-Apr	1	A	0	1	0	0	1	1	1	1	1	0	1	0	0	0	1	1	1	1	0	1	0	0	0.5	1.0																							
15-Apr	A	0	0	1	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	A	0.6	1.1																							
16-Apr	1	0	0	1	1	1	0	0	0	0	0	1	1	0	0	1	1	1	0	1	1	1	A	1	0.4	0.6																							
17-Apr	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	A	1	1	0.5	0.6																							
18-Apr	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	A	1	1	1	0.5	0.5																							
19-Apr	1	1	1	1	1	1	1	0	1	2	2	2	2	1	1	1	1	1	0	A	1	1	1	1	0.7	1.6																							
20-Apr	0	0	1	0	0	0	1	1	1	0	0	1	1	1	4	1	1	0	A	1	1	1	1	1	0.6	3.6																							
21-Apr	1	1	1	1	0	1	1	1	C	C	C	0	1	1	1	1	1	A	1	1	0	1	0	1	0.5	0.6																							
22-Apr	1	1	1	0	1	0	0	0	0	0	1	0	1	1	0	1	A	0	0	0	0	0	1	1	0.4	0.6																							
23-Apr	1	1	1	1	1	0	0	0	0	0	1	0	0	1	1	A	0	1	1	0	1	1	1	1	0.5	0.6																							
24-Apr	1	1	1	1	0	1	1	2	2	3	4	1	1	1	A	1	1	1	1	1	1	1	1	1	0.9	3.5																							
25-Apr	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	2	1	1	1	1	0.7	2.3																							
26-Apr	1	1	1	1	1	1	1	1	0	0	0	0	A	1	1	1	1	0	1	0	0	1	0	1	0.5	0.6																							
27-Apr	1	0	1	0	0	1	1	1	1	1	1	A	1	0	1	0	1	1	0	0	0	0	1	1	0.5	0.7																							
28-Apr	1	0	0	1	1	1	1	0	1	1	A	1	0	1	0	0	0	0	0	0	0	0	0	0	0.5	1.0																							
29-Apr	0	0	0	0	0	0	0	0	0	1	A	0	0	0	0	1	1	0	1	1	0	0	0	1	0.4	0.9																							
30-Apr	1	4	4	1	1	0	1	1	A	1	1	1	1	1	1	0	0	0	1	0	1	0	0	0	0.7	4.4																							
																								0.6	0.6	0.6	0.5	0.5	0.5	0.6	0.7	0.8	0.9	0.9	0.8	0.7	0.6	0.7	0.6	0.6	0.5	0.6	0.6	0.6	0.6	0.5	0.6	Diurnal Average	
																								1.0	4.0	4.4	1.1	1.0	1.1	1.4	1.7	4.0	3.0	3.5	2.0	1.6	1.5	3.6	2.1	2.6	1.0	1.1	2.6	2.6	2.1	0.9	1.0	Diurnal Maximum	
C - Calibration																								A - Automated Daily Zero Span																									

**Hourly Maximums**

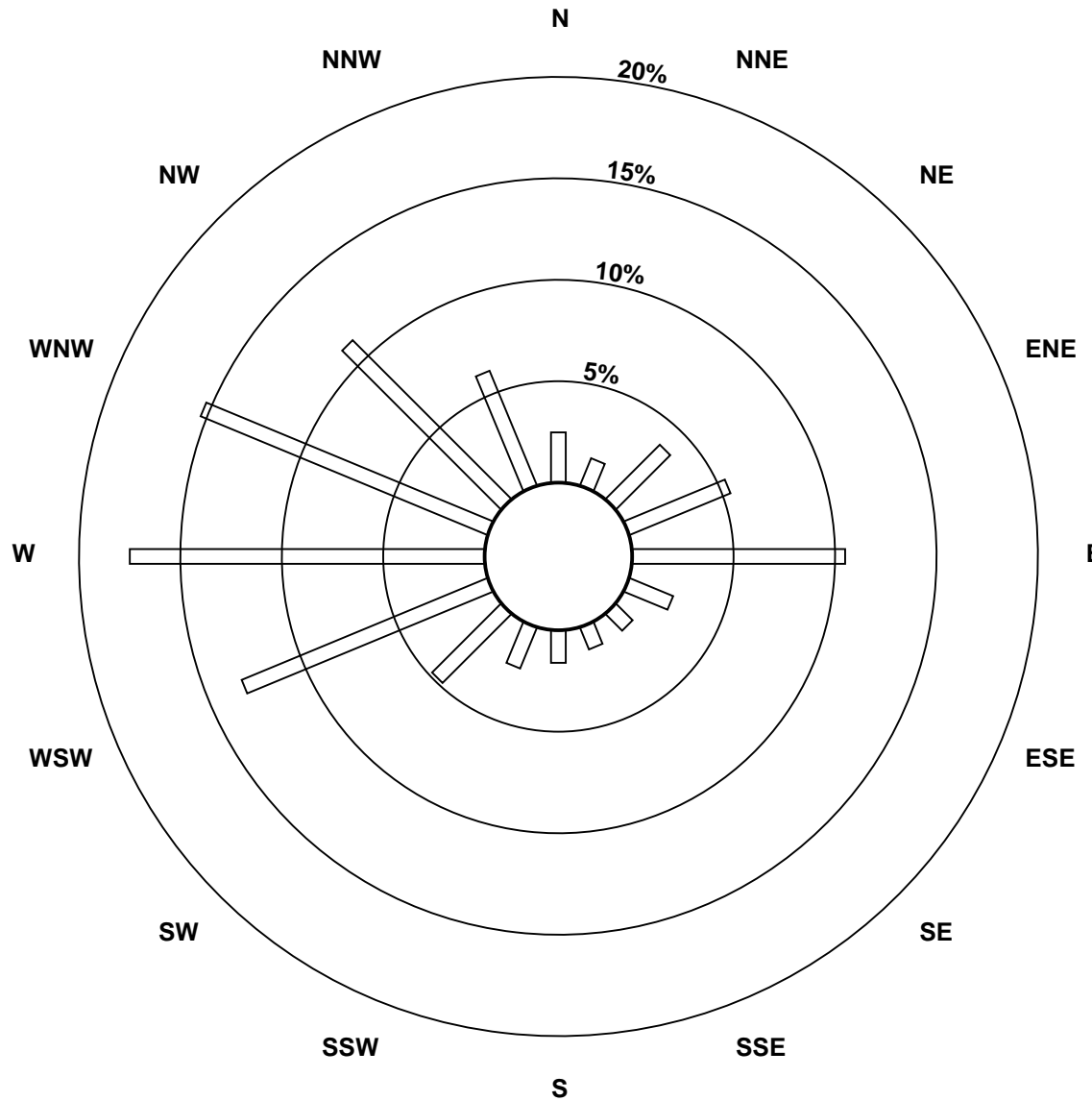
**Sulphur Dioxide (SO<sub>2</sub>) - ppb**  
**Henry Pirker - April 2011**



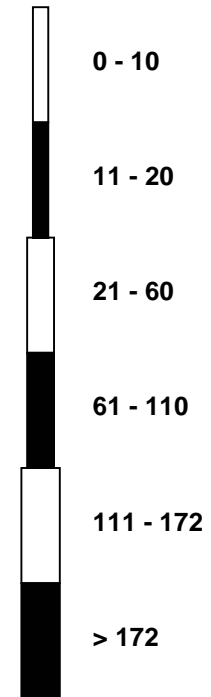
**Pollutant Rose**

**Sulphur Dioxide (SO<sub>2</sub>) - ppb**

**Henry Pirker - April 2011**

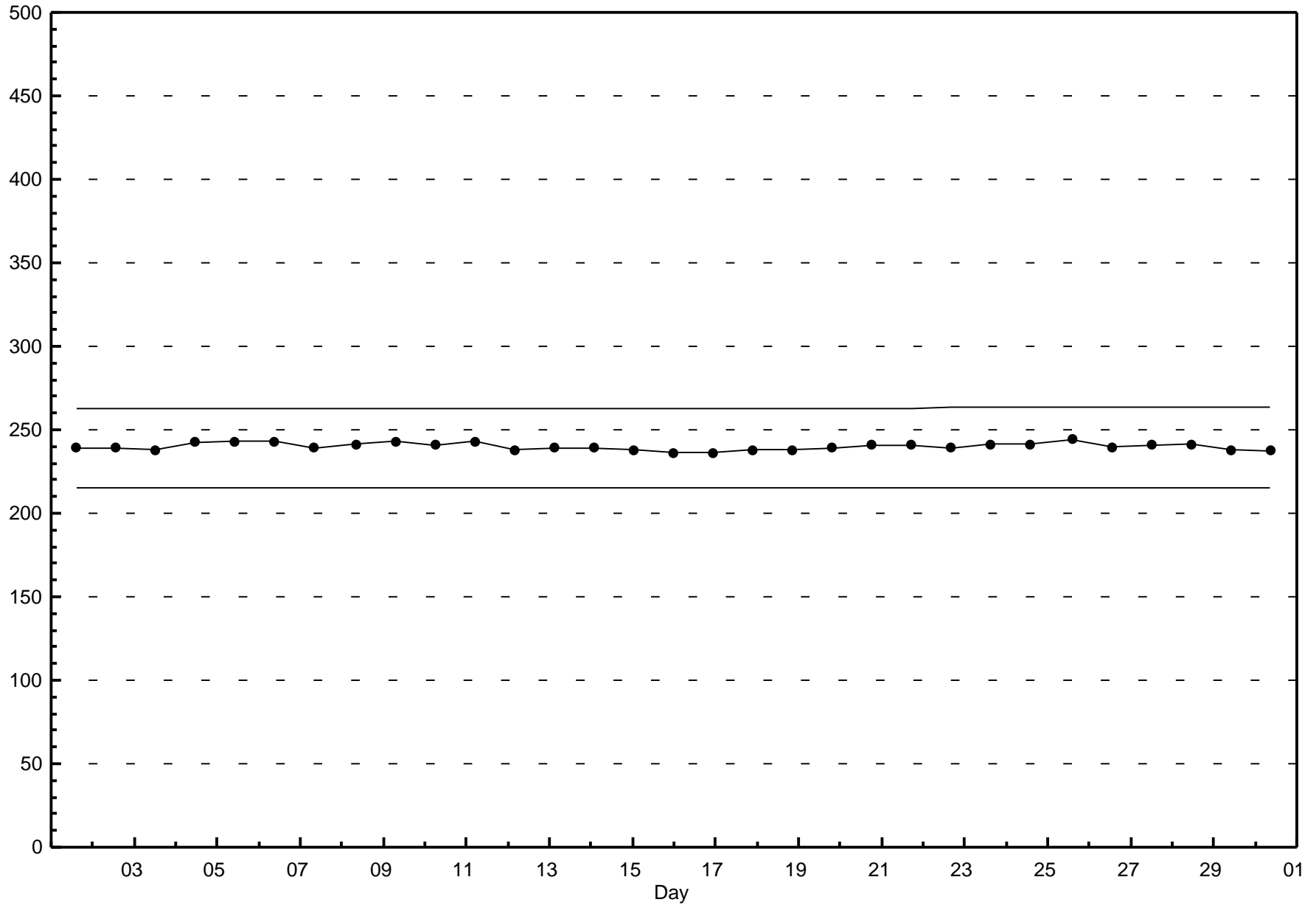


**Pollutant Classes (ppb)**



### Span Responses

Sulphur Dioxide (SO<sub>2</sub>)  
Henry Pirker - April 2011

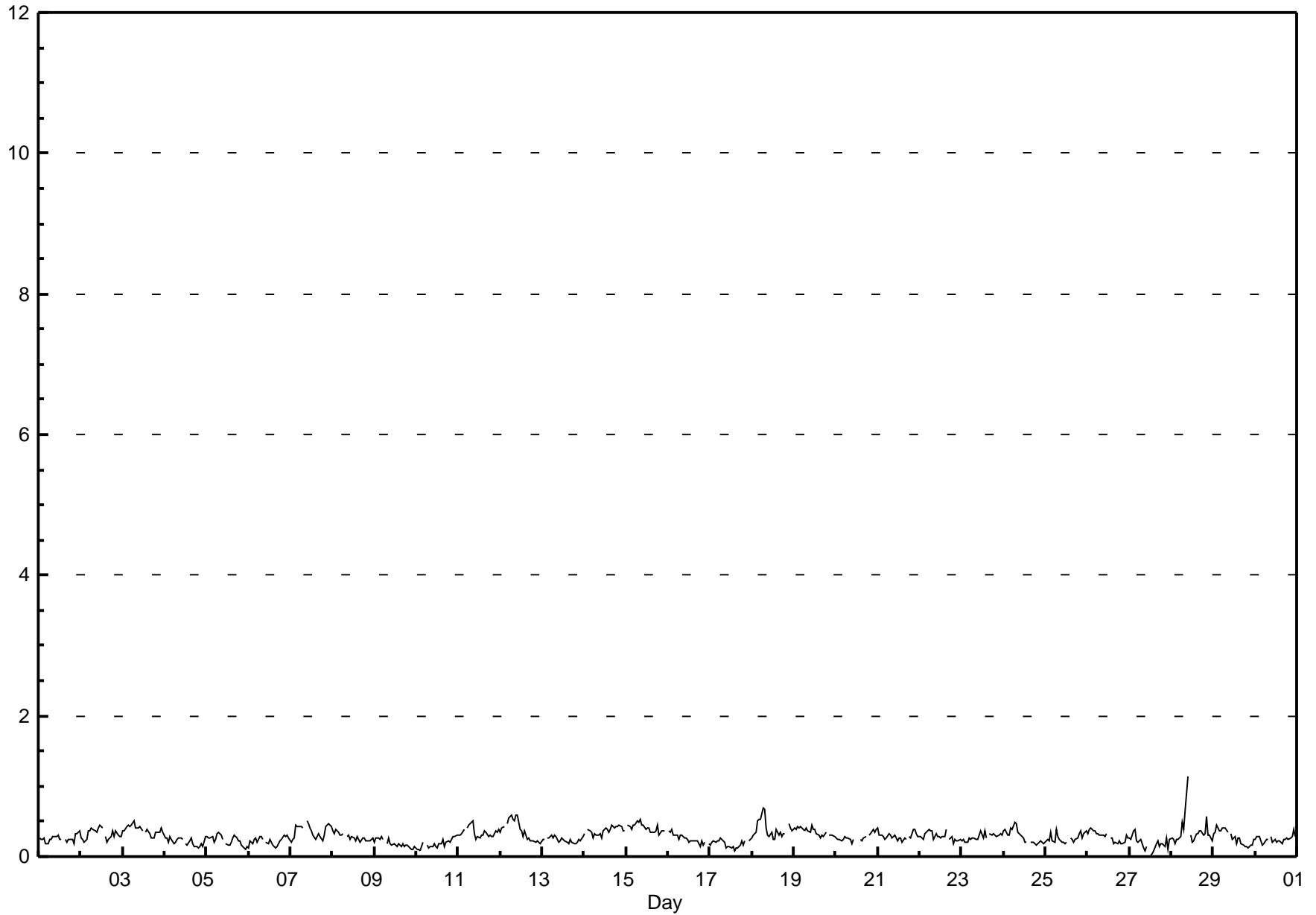


## Hourly Averages

## Total Reduced Sulphur (TRS) - ppb

### Henry Pirker - April 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0											Hours in Service: 720																															
Maximum Value: 1.1 ppb on Apr 28 10:00											Maximum Daily Average: 0.4 ppb on Apr 15		Hours of Data: 686																													
Minimum Value: 0 ppb on Apr 27 13:00											Minimum Daily Average: 0.2 ppb on Apr 10		Hours of Missing Data: 34																													
Maximum Diurnal Average: 0.4 ppb at hour 7											Minimum Diurnal Average: 0.2 ppb at hour 14		Hours of Calibration: 34																													
Monthly Average: 0.28 ppb											Percentiles: P <sub>1</sub> = 0.1 P <sub>10</sub> = 0.2 Q <sub>1</sub> = 0.2 Median = 0.3 Q <sub>3</sub> = 0.3 P <sub>90</sub> = 0.4 P <sub>99</sub> = 0.6		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-Apr	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	0.4																
2-Apr	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.3	0.4																
3-Apr	0	0	0	0	0	0	1	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.4	0.5																
4-Apr	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	0.3																
5-Apr	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																
6-Apr	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3																
7-Apr	0	0	0	0	0	0	0	0	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.5																
8-Apr	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																
9-Apr	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3																
10-Apr	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																
11-Apr	0	0	0	0	A	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.5																
12-Apr	0	0	0	A	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.6																
13-Apr	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																
14-Apr	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.5																
15-Apr	A	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0.4	0.5																
16-Apr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0.3	0.4																
17-Apr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3																
18-Apr	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.7																
19-Apr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	A	0	0	0	0.4	0.4																
20-Apr	0	0	0	0	0	0	0	0	0	0	C	C	C	0	0	0	0	0	A	0	0	0	0	0	0.3	0.4																
21-Apr	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																
22-Apr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0.3	0.4																
23-Apr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.3	0.4																
24-Apr	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																
25-Apr	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.3	0.4																
26-Apr	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																
27-Apr	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																
28-Apr	0	0	0	0	0	0	0	0	1	1	A	0	0	0	0	0	0	0	0	0	1	0	0	0	0.4	1.1																
29-Apr	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	0.5																
30-Apr	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																
0.3											0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.3	0.3	0.3	0.3	0.2	0.2	0.3	0.3	0.3	0.2	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	Diurnal Average				
0.4											0.4	0.5	0.5	0.5	0.5	0.6	0.7	0.7	0.7	0.7	1.1	0.6	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.6	0.5	0.5	0.4	Diurnal Maximum
C - Calibration      A - Automated Daily Zero Span																																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb    24-hr 3 ppb																																										



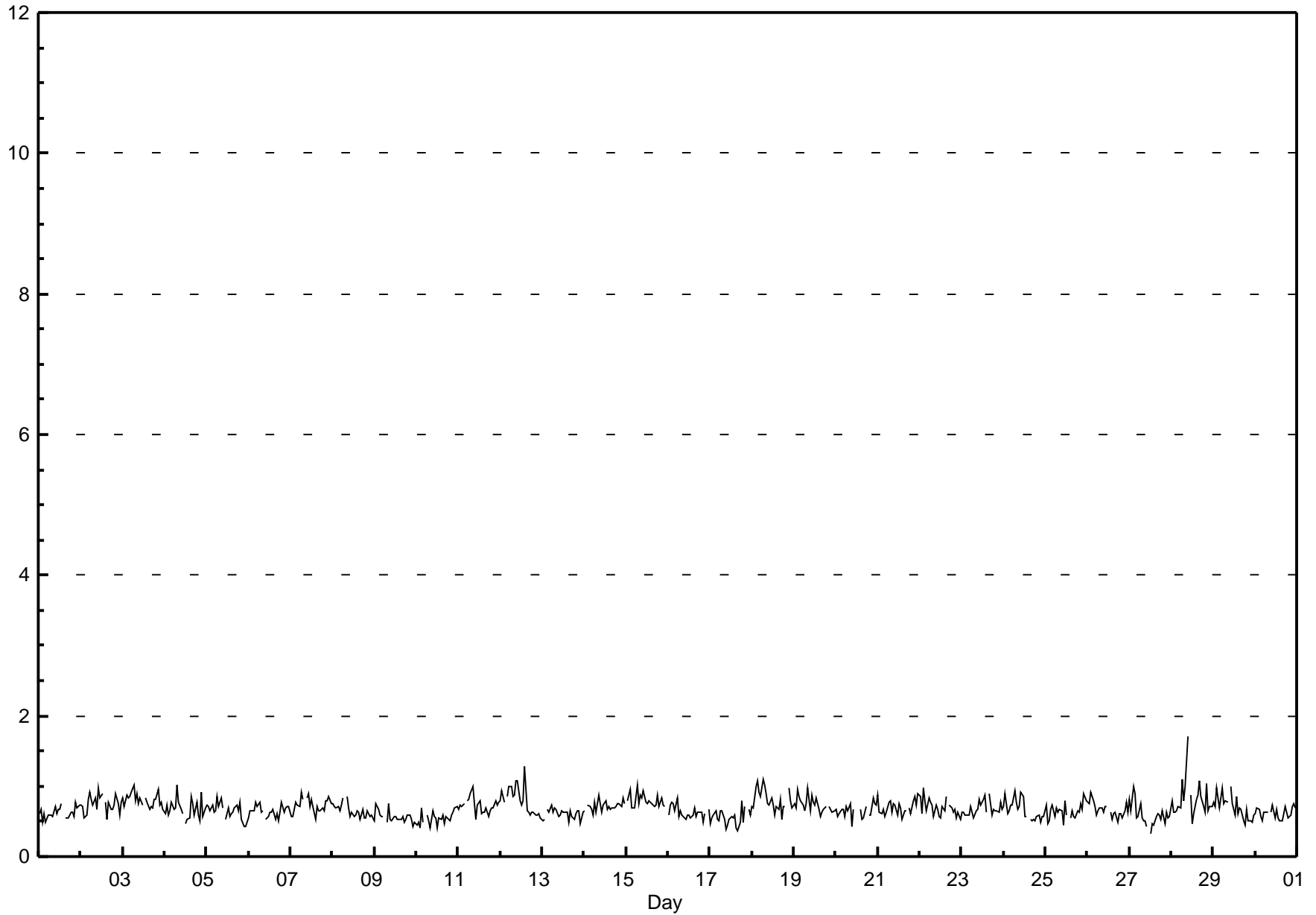
## Hourly Maximums

### Total Reduced Sulphur (TRS) - ppb

### Henry Pirker - April 2011

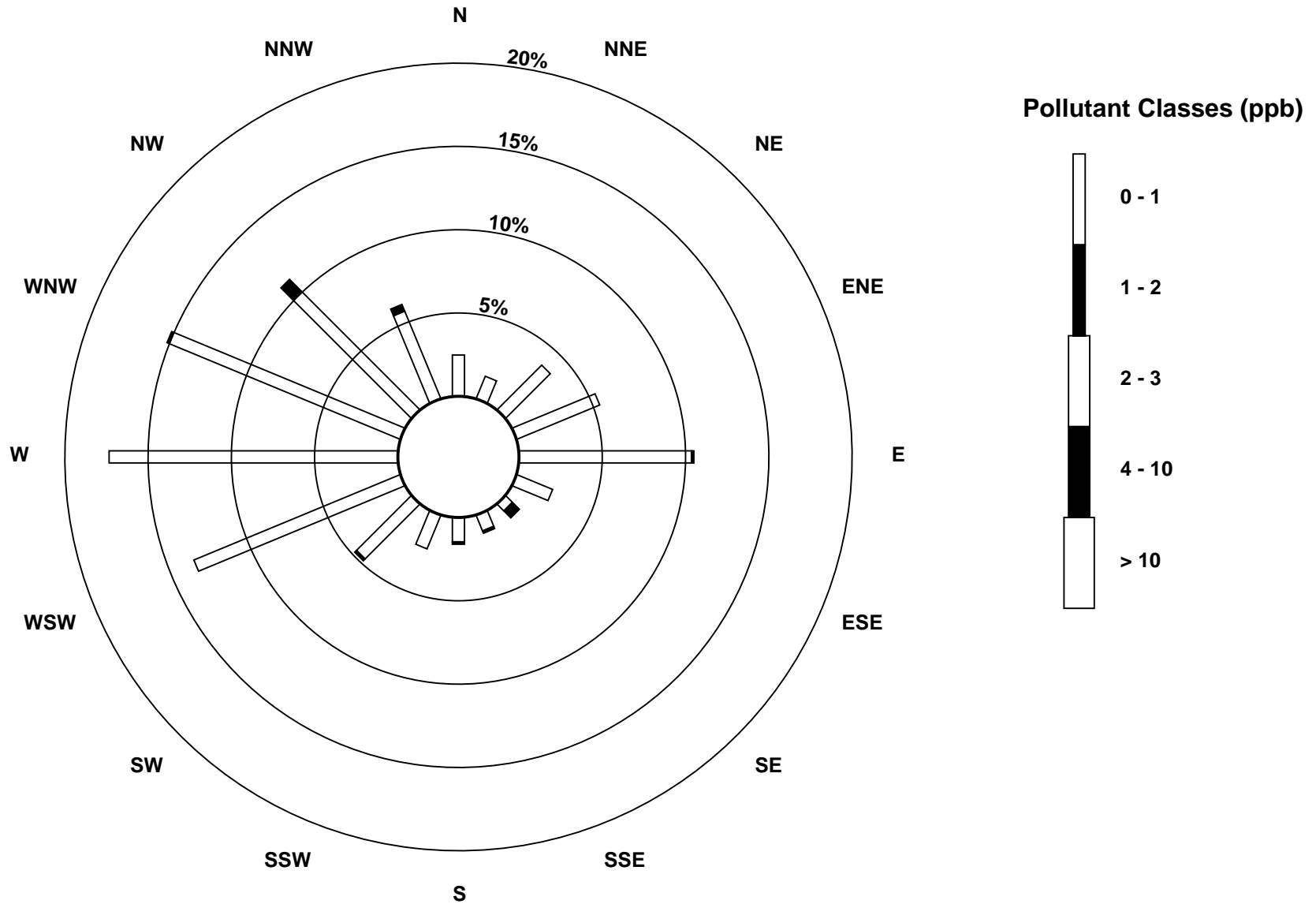
Maximum Value: 1.7 ppb on Apr 28 10:00		Maximum Daily Average: 0.8 ppb on Apr 28		Hours in Service:	720																																												
Minimum Value: 0 ppb on Apr 27 13:00		Minimum Daily Average: 0.5 ppb on Apr 10		Hours of Data:	686																																												
Maximum Diurnal Average: 0.8 ppb at hour 7		Minimum Diurnal Average: 0.6 ppb at hour 18		Hours of Missing Data:	34																																												
Monthly Average: 0.68 ppb		Percentiles: P <sub>1</sub> = 0.4 P <sub>10</sub> = 0.5 Q <sub>1</sub> = 0.6 Median = 0.7 Q <sub>3</sub> = 0.8 P <sub>90</sub> = 0.9 P <sub>99</sub> = 1.1		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-Apr	1	1	0	1	0	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	0.6	0.8																							
2-Apr	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																							
3-Apr	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																							
4-Apr	1	1	1	1	1	1	1	1	1	1	1	A	0	1	1	1	1	1	1	1	1	1	1	1	0.7	1.0																							
5-Apr	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	0	0	0	0.7	0.8																							
6-Apr	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	0	1	1	1	1	1	1	0.6	0.8																							
7-Apr	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	0.9																							
8-Apr	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.6	0.9																							
9-Apr	0	1	1	1	1	1	A	0	1	1	1	1	1	1	1	1	0	1	1	1	1	0	0	0	0.6	0.8																							
10-Apr	0	0	0	1	0	A	1	1	0	1	1	1	0	1	1	1	0	1	1	1	1	1	1	1	0.5	0.7																							
11-Apr	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.0																							
12-Apr	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	1.3																							
13-Apr	1	1	A	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	0	1	0.6	0.7																							
14-Apr	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	0.9																							
15-Apr	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	0.8	1.0																							
16-Apr	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	A	1	0.6	0.8																							
17-Apr	0	1	1	1	1	0	1	1	1	0	0	1	1	1	1	0	0	0	1	0	1	A	1	1	0.6	0.8																							
18-Apr	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	1.1																							
19-Apr	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	0.7	1.0																							
20-Apr	1	1	1	1	1	1	1	1	1	0	1	C	C	C	1	1	1	1	A	1	1	1	1	1	0.6	0.8																							
21-Apr	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																							
22-Apr	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	1.0																							
23-Apr	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	0.7	0.9																							
24-Apr	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	0	1	1	0.7	0.9																							
25-Apr	1	0	1	1	1	1	1	1	1	1	0	1	1	A	1	1	1	1	1	1	1	1	1	1	0.6	0.9																							
26-Apr	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	0	1	1	1	1	1	1	1	0.7	0.9																							
27-Apr	1	1	1	1	1	1	1	1	1	0	0	A	0	0	0	1	1	1	1	1	0	1	1	1	0.6	1.0																							
28-Apr	1	1	1	1	1	1	1	1	1	1	2	A	1	0	1	1	1	1	1	1	1	1	1	1	0.8	1.7																							
29-Apr	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	0	1	1	1	0	1	0.7	1.0																							
30-Apr	1	1	1	1	0	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.6	0.8																							
																								0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.7	0.7	0.7	0.7	0.6	0.7	0.6	0.6	0.7	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.7	Diurnal Average	
																								0.9	0.9	1.0	1.1	0.9	1.0	1.1	1.0	1.0	1.7	1.1	0.9	0.9	0.9	1.3	0.9	1.1	0.9	0.9	0.8	1.0	1.0	0.9	0.9	Diurnal Maximum	
C - Calibration																								A - Automated Daily Zero Span																									

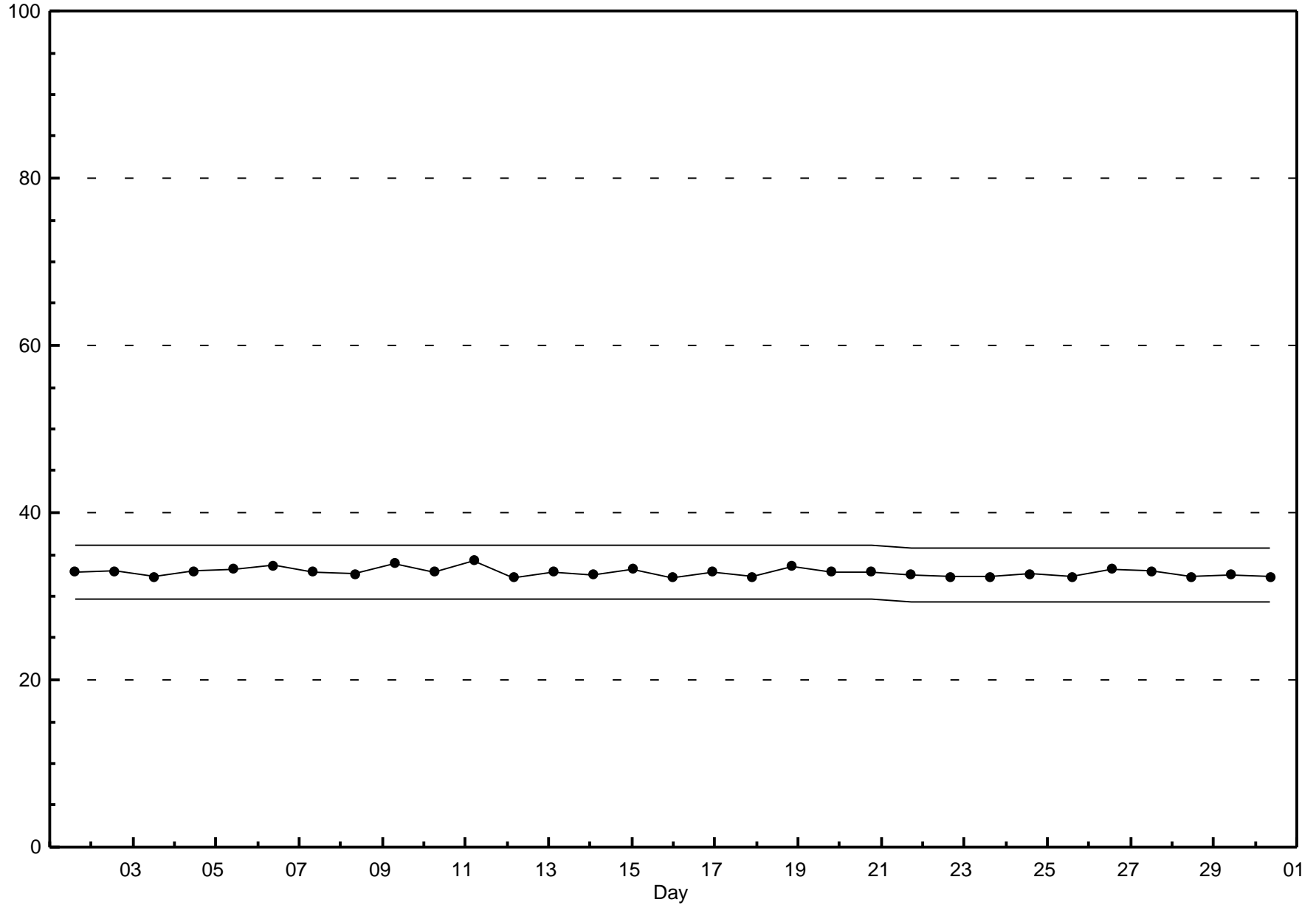




**Pollutant Rose**

**Total Reduced Sulphur (TRS) - ppb**  
**Henry Pirker - April 2011**



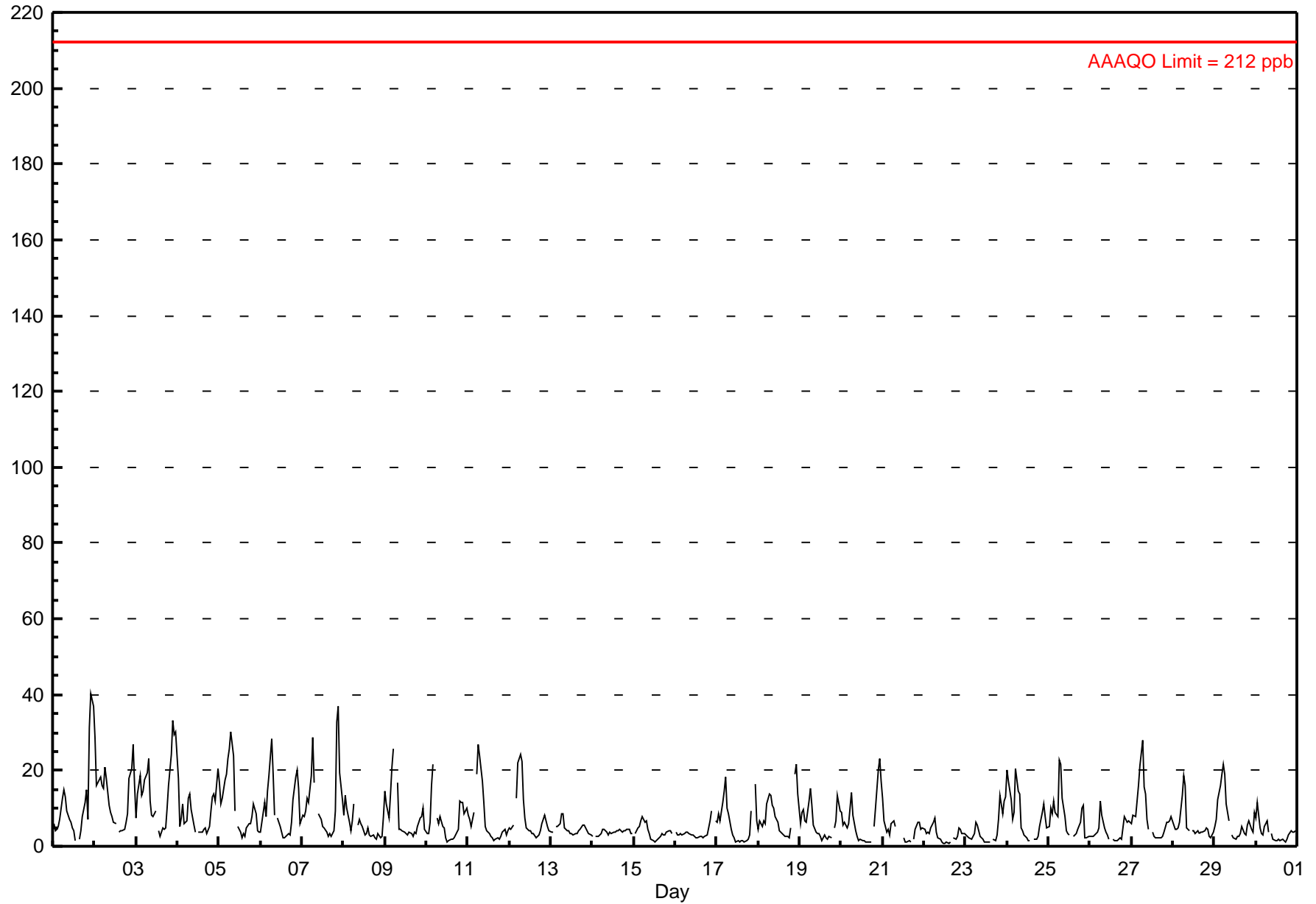


## Hourly Averages

Nitrogen Dioxide (NO<sub>2</sub>) - ppb

Henry Pirker - April 2011

<b>Number of Exceedences (AAAQO):</b> 1-hr: 0 24-hr: 0 <b>Maximum Value:</b> 40.1 ppb on Apr 1 23:00 <b>Maximum Daily Average:</b> 14.3 ppb on Apr 3																		<b>Hours in Service:</b> 720 <b>Hours of Data:</b> 685 <b>Hours of Missing Data:</b> 35 <b>Hours of Calibration:</b> 35 <b>Percent Operational Time:</b> 100.0																										
<b>Minimum Value:</b> 1 ppb on Apr 22 12:00 <b>Minimum Daily Average:</b> 3.0 ppb on Apr 22 <b>Maximum Diurnal Average:</b> 15.1 ppb at hour 7 <b>Minimum Diurnal Average:</b> 2.4 ppb at hour 14 <b>Monthly Average:</b> 7.18 ppb <b>Percentiles:</b> P <sub>1</sub> = 1.0 P <sub>10</sub> = 1.9 Q <sub>1</sub> = 3.1 Median = 4.8 Q <sub>3</sub> = 8.9 P <sub>90</sub> = 16.2 P <sub>99</sub> = 30.0																																												
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-Apr	6	4	4	5	7	13	15	13	9	7	6	5	4	2	A	2	4	8	12	15	7	31	40	37	11.2	40.1																		
2-Apr	29	16	17	18	16	15	21	18	11	9	8	6	6	A	4	4	4	4	7	8	18	21	27	16	13.1	28.6																		
3-Apr	7	14	19	13	15	17	19	23	12	8	8	9	A	4	3	5	5	5	10	16	24	33	29	30	14.3	33.4																		
4-Apr	18	5	7	11	6	7	13	14	10	6	4	A	4	4	4	5	5	3	5	9	13	14	12	20	8.6	20.3																		
5-Apr	17	11	13	18	19	23	26	30	24	9	A	5	4	2	3	3	5	6	6	8	11	8	4	4	11.3	30.4																		
6-Apr	4	6	11	8	14	19	28	19	8	A	7	5	4	2	2	3	3	3	6	12	18	20	15	6	9.8	28.3																		
7-Apr	8	8	9	13	12	19	29	17	A	9	8	7	5	5	4	2	3	3	4	9	33	37	20	12	11.9	36.9																		
8-Apr	8	13	10	6	4	7	11	A	6	7	6	5	3	3	5	3	3	3	2	2	3	2	3	8	5.4	13.3																		
9-Apr	15	11	8	14	21	26	A	17	5	4	4	4	3	4	3	3	3	4	3	5	7	8	10	5	8.1	25.7																		
10-Apr	3	3	6	16	21	A	8	6	8	5	5	2	1	1	2	2	2	3	5	12	12	12	9	10	6.7	21.5																		
11-Apr	8	7	5	9	A	19	27	24	17	12	5	4	3	3	2	2	2	2	2	3	4	4	3	4	7.4	27.0																		
12-Apr	5	5	6	A	13	22	24	22	12	7	5	4	4	3	3	2	3	3	4	6	8	7	5	4	7.7	24.3																		
13-Apr	4	4	A	5	5	6	9	9	5	4	4	3	3	3	3	4	4	5	6	6	5	4	3	3	4.6	8.7																		
14-Apr	3	A	3	3	3	3	5	4	4	3	4	3	4	4	4	4	4	4	4	4	5	5	3	3	3.7	4.6																		
15-Apr	A	3	5	5	7	8	6	7	5	3	2	2	1	1	2	3	3	3	3	4	4	4	3	A	3.8	7.8																		
16-Apr	4	3	3	3	3	3	4	4	3	3	3	3	2	2	2	3	2	3	3	5	7	9	A	7	3.6	9.2																		
17-Apr	7	9	7	12	15	18	10	9	4	3	2	1	1	1	2	1	1	1	2	3	9	A	16	7	6.1	18.2																		
18-Apr	5	7	5	7	6	11	14	13	11	10	8	6	4	4	3	3	3	2	2	5	A	19	22	14	7.9	21.8																		
19-Apr	6	9	10	7	7	12	15	11	6	4	3	3	2	2	3	2	2	2	2	A	5	7	14	9	6.2	15.3																		
20-Apr	9	6	6	5	6	10	14	8	4	3	2	2	2	2	1	1	1	1	A	5	10	20	23	17	6.9	23.1																		
21-Apr	13	7	4	4	3	6	7	5	C	C	C	C	2	1	1	1	1	A	2	4	6	6	5	5	4.4	12.8																		
22-Apr	5	3	4	3	5	6	7	4	2	2	1	1	1	1	1	1	A	2	2	3	5	4	3	3	3.0	7.4																		
23-Apr	3	3	2	2	3	3	6	6	3	2	2	1	1	1	1	A	2	2	3	7	14	9	12	13	4.3	13.6																		
24-Apr	20	17	12	7	9	20	15	14	5	4	3	2	2	1	A	2	2	2	3	5	9	11	8	5	7.7	20.4																		
25-Apr	5	10	8	12	9	8	23	21	13	8	4	3	3	A	3	3	3	5	7	10	11	2	2	3	7.6	22.7																		
26-Apr	3	3	3	3	4	5	12	8	5	4	3	2	A	2	1	1	2	2	2	5	8	6	7	6	4.2	12.0																		
27-Apr	6	8	8	12	16	21	28	16	14	7	4	A	4	2	2	2	2	2	3	4	6	6	7	8	8.2	28.0																		
28-Apr	6	4	4	5	6	13	18	16	5	4	A	4	4	3	4	4	4	4	5	4	3	2	4	5.7	18.5																			
29-Apr	5	7	12	16	19	22	19	11	7	A	3	2	2	3	3	3	5	3	3	6	7	4	4	9	7.6	21.6																		
30-Apr	7	12	5	3	3	5	7	4	A	3	2	2	2	2	1	2	2	1	2	3	4	4	4	4	3.6	11.7																		
																		Diurnal Average		Diurnal Maximum																								
																		8.2	7.5	7.5	8.4	9.5	12.7	15.1	12.9	12.9	8.0	5.6	4.3	3.7	2.9	2.4	2.6	2.6	2.9	3.1	4.0	6.5	9.6	11.1	10.8	9.5		
																		28.6	17.2	18.8	18.1	21.5	25.7	28.8	30.4	23.8	11.7	8.0	9.5	5.8	4.8	4.8	5.0	5.3	7.7	11.7	16.2	33.0	36.9	40.1	36.8			
<b>C - Calibration</b> <b>A - Automated Daily Zero Span</b> <b>Alberta Ambient Air Quality Objectives (AAAQO):</b> 1-hr 212 ppb 24-hr 106 ppb																																												



## Hourly Maximums

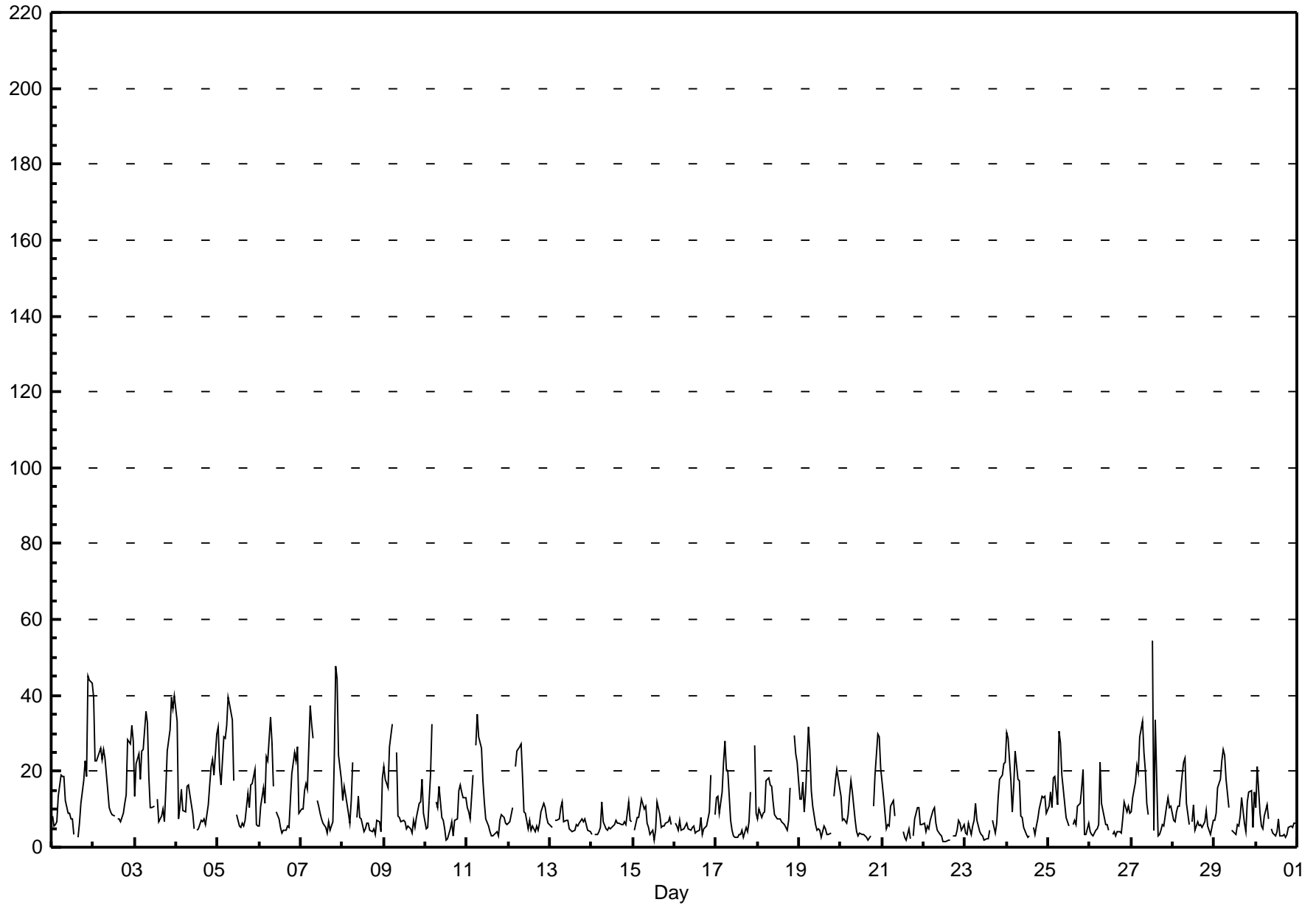
## Nitrogen Dioxide (NO<sub>2</sub>) - ppb Henry Pirker - April 2011

Maximum Value: 54.6 ppb on Apr 27 13:00		Maximum Daily Average: 20.9 ppb on Apr 3		Hours in Service: 720																																													
Minimum Value: 1 ppb on Apr 22 12:00		Minimum Daily Average: 4.7 ppb on Apr 22		Hours of Data: 685																																													
Maximum Diurnal Average: 21.2 ppb at hour 7		Minimum Diurnal Average: 4.5 ppb at hour 14		Hours of Missing Data: 35																																													
Monthly Average: 11.22 ppb		Percentiles: P <sub>1</sub> = 2.0 P <sub>10</sub> = 3.5 Q <sub>1</sub> = 5.3 Median = 7.5 Q <sub>3</sub> = 14.9 P <sub>90</sub> = 24.8 P <sub>99</sub> = 38.8		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-Apr	8	5	6	7	13	19	19	19	12	9	9	8	8	4	A	2	6	12	17	23	19	45	44	43	15.5	45.0																							
2-Apr	40	23	23	25	26	23	26	23	15	10	9	9	8	A	7	7	7	9	11	14	28	27	32	28	18.7	39.7																							
3-Apr	13	22	25	18	26	26	36	33	19	11	10	11	A	13	7	8	10	7	15	25	31	39	36	40	20.9	39.9																							
4-Apr	33	7	11	15	10	9	16	16	14	9	5	A	4	5	7	7	8	6	11	16	21	23	19	30	13.2	33.2																							
5-Apr	32	20	16	29	29	32	40	38	34	17	A	8	5	5	6	5	7	14	10	17	17	20	6	5	18.0	39.6																							
6-Apr	5	11	16	11	24	23	34	28	16	A	9	7	5	4	4	5	5	5	12	19	25	23	26	9	14.3	34.3																							
7-Apr	10	10	15	17	15	37	32	29	A	12	11	9	7	6	5	4	7	4	7	23	48	45	24	18	17.2	47.9																							
8-Apr	12	16	14	9	6	12	22	A	8	14	8	8	4	5	6	6	4	4	5	3	7	7	4	18	8.9	22.4																							
9-Apr	21	18	16	26	30	33	A	25	8	8	7	7	5	6	5	4	7	5	8	12	12	18	9	9	12.8	32.5																							
10-Apr	5	5	12	19	32	A	12	11	16	8	7	5	2	5	7	3	7	8	15	17	15	13	13	13	10.3	32.4																							
11-Apr	10	9	8	19	A	27	35	29	26	18	12	7	5	4	3	3	4	4	3	7	9	8	7	6	11.4	35.0																							
12-Apr	6	7	10	A	21	26	26	27	19	9	9	5	7	4	6	4	5	4	6	9	12	10	8	6	10.8	27.2																							
13-Apr	5	5	A	7	7	8	10	12	7	7	7	5	4	4	5	6	5	6	7	7	8	6	4	4	6.4	11.9																							
14-Apr	3	A	3	3	4	5	12	7	5	4	5	5	5	6	7	6	6	6	6	7	6	12	7	7	6.1	12.0																							
15-Apr	A	4	8	8	10	13	10	11	6	5	3	4	2	5	12	8	5	6	6	6	7	8	6	A	7.0	12.5																							
16-Apr	6	6	4	7	4	5	5	6	5	5	5	5	4	4	5	8	3	5	5	8	9	19	A	9	6.3	19.0																							
17-Apr	13	14	9	15	22	28	21	20	7	5	3	3	3	3	3	4	3	5	4	7	14	A	27	9	10.5	28.0																							
18-Apr	8	10	8	9	9	18	18	16	16	12	9	8	8	7	7	6	5	4	7	16	A	29	25	23	12.0	29.4																							
19-Apr	13	13	17	9	14	32	26	15	11	6	4	5	4	2	5	5	3	3	4	A	13	17	21	16	11.2	31.5																							
20-Apr	14	7	8	6	8	14	18	15	7	4	3	4	3	3	3	2	2	3	A	11	19	30	29	21	10.1	29.9																							
21-Apr	17	14	5	6	6	11	12	8	C	C	C	C	4	2	2	5	2	A	3	7	10	10	6	6	7.3	17.0																							
22-Apr	6	4	5	5	7	10	10	6	4	4	3	1	2	1	2	2	A	3	3	4	7	6	4	6	4.7	10.5																							
23-Apr	4	4	6	3	5	7	12	7	4	4	3	2	2	2	4	A	7	4	6	13	18	19	22	23	7.9	22.5																							
24-Apr	30	29	18	9	16	26	18	18	8	8	5	3	3	3	A	5	3	6	7	10	13	13	13	9	11.9	30.4																							
25-Apr	11	15	11	18	19	11	31	28	19	11	8	7	5	A	6	7	6	11	11	16	20	3	3	6	12.3	30.5																							
26-Apr	4	3	3	4	5	6	22	12	8	6	6	4	A	3	4	3	4	4	4	7	12	9	11	9	6.8	22.4																							
27-Apr	10	13	17	22	20	29	33	25	20	11	8	A	55	4	34	3	4	4	6	5	11	13	10	11	16.0	54.6																							
28-Apr	7	7	9	11	11	19	23	24	12	6	A	7	11	4	7	6	6	5	7	10	5	4	3	7	9.2	23.5																							
29-Apr	7	9	16	18	23	26	24	18	10	A	4	4	3	6	6	8	13	6	4	12	14	15	5	14	11.6	25.9																							
30-Apr	10	21	9	5	5	8	11	7	A	5	4	3	4	7	3	3	3	3	4	5	5	5	6	6	6.3	21.3																							
																								12.6	11.4	11.3	12.5	14.8	18.6	21.2	18.3	12.5	8.4	6.6	5.7	6.7	4.5	6.3	5.2	5.3	5.8	7.1	11.4	15.1	17.1	15.3	14.1	Diurnal Average	
																								39.7	28.5	24.6	29.2	32.4	37.4	39.6	37.5	33.5	17.5	12.0	10.8	54.6	12.6	33.5	8.5	12.9	14.0	17.5	25.4	47.9	45.0	44.2	43.2	Diurnal Maximum	
C - Calibration																								A - Automated Daily Zero Span																									

**Hourly Maximums**

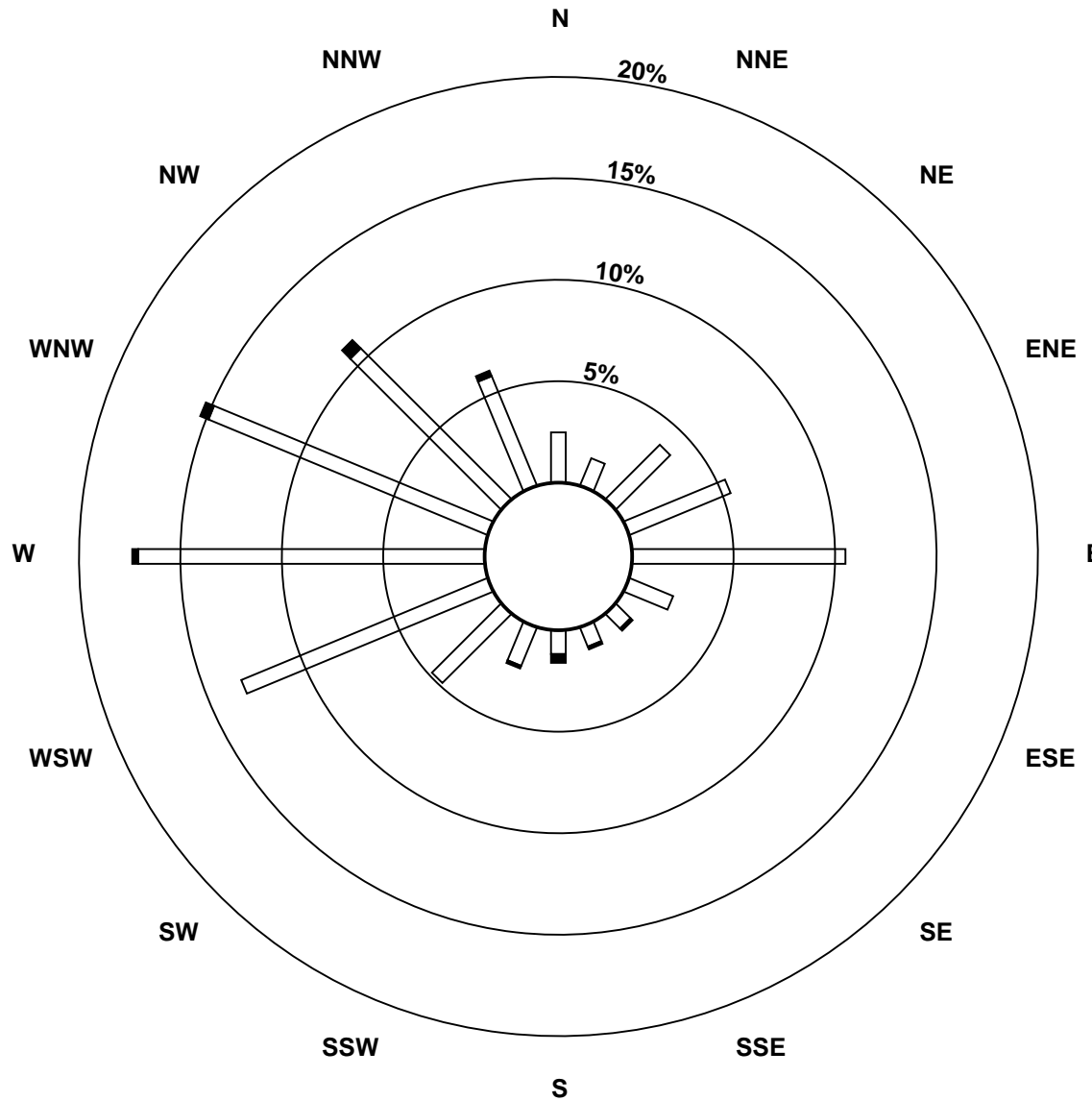
**Nitrogen Dioxide (NO<sub>2</sub>) - ppb**

**Henry Pirker - April 2011**

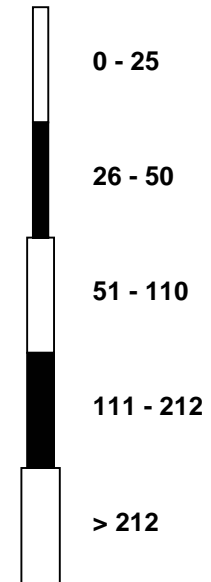


**Pollutant Rose**

**Nitrogen Dioxide (NO<sub>2</sub>) - ppb**  
**Henry Pirker - April 2011**



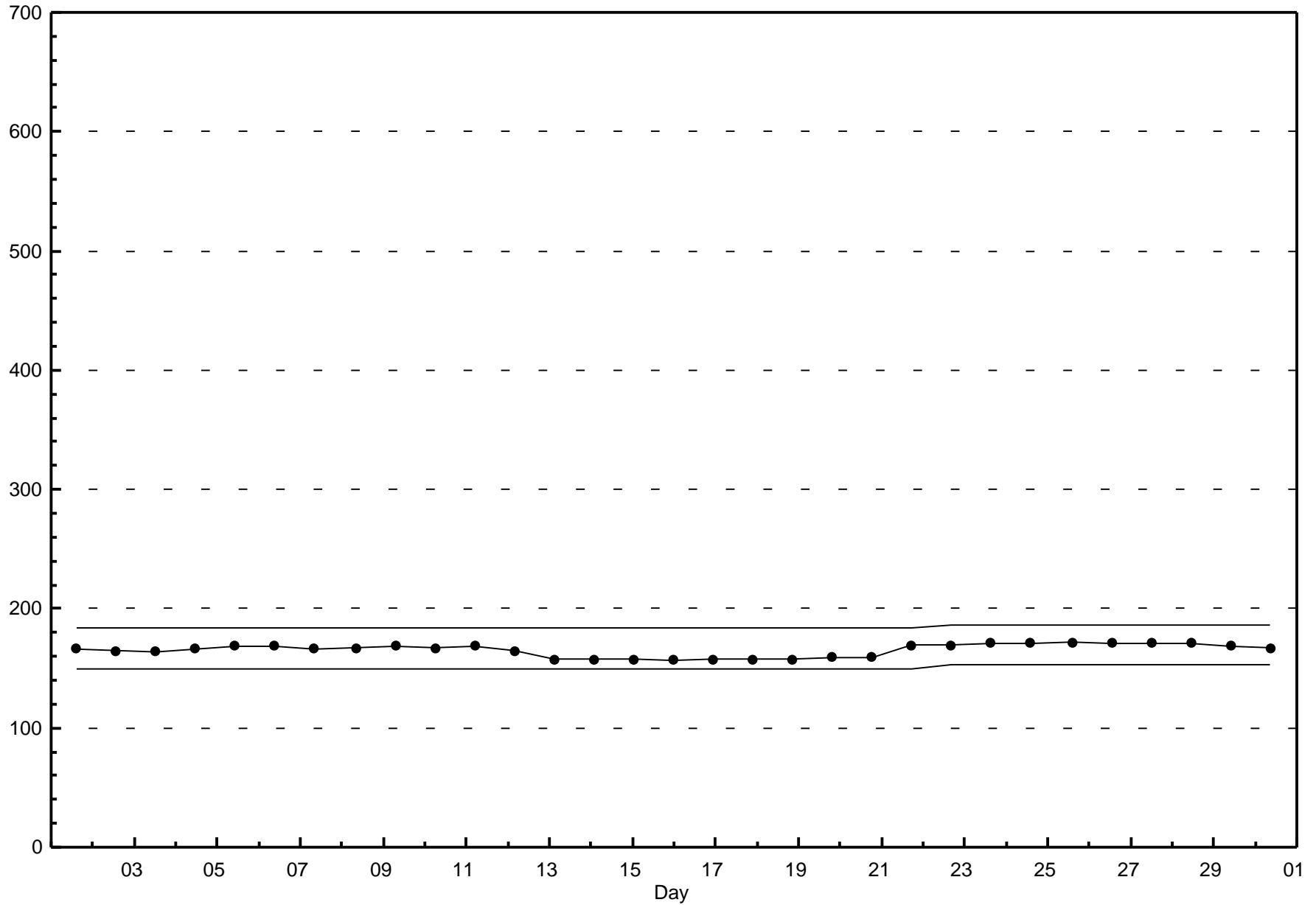
**Pollutant Classes (ppb)**





### Span Responses

**Nitrogen Dioxide (NO<sub>2</sub>)**  
**Henry Pirker - April 2011**



## Hourly Averages

Nitrogen Oxide (NO) - ppb

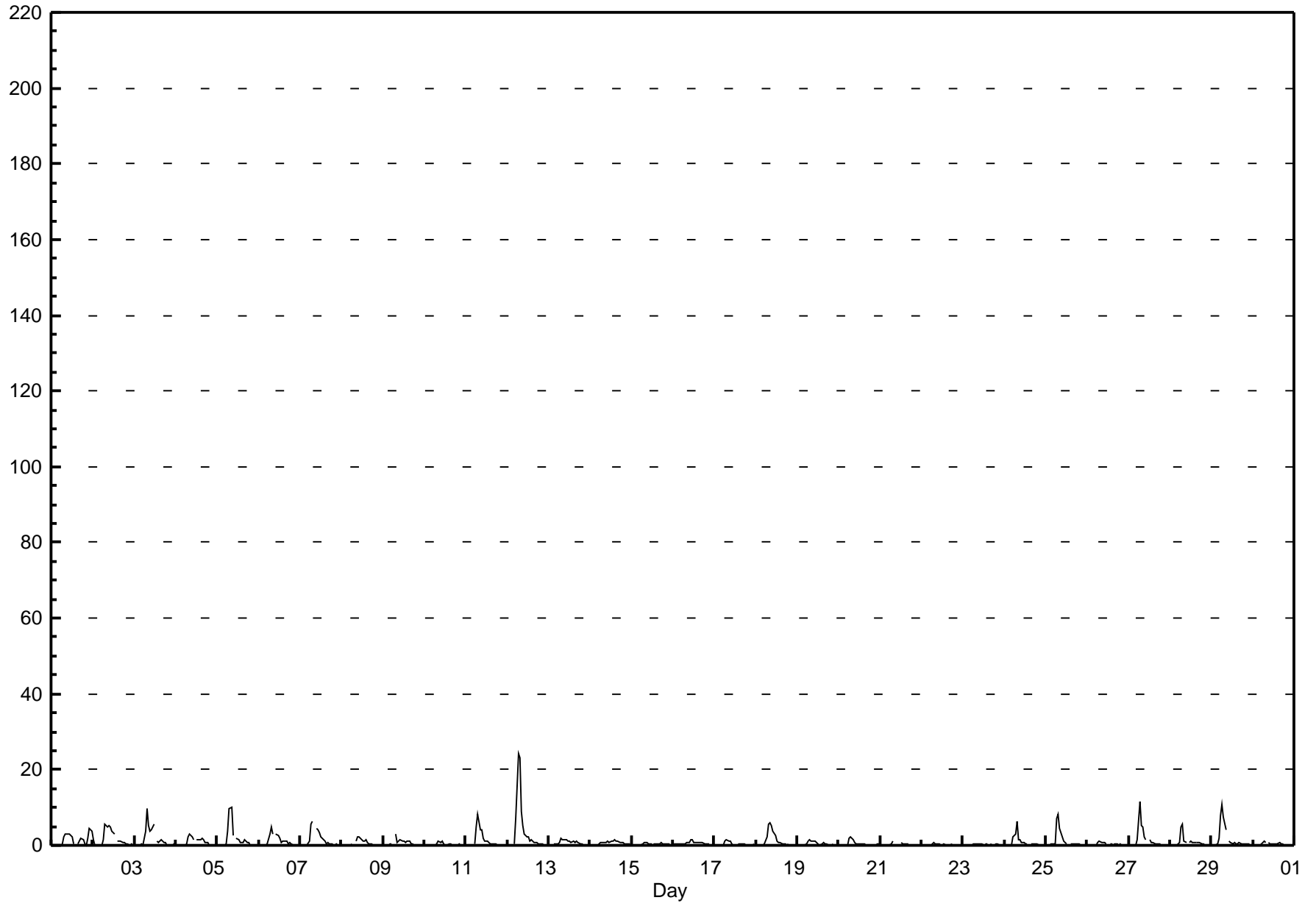
Henry Pirker - April 2011

Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	720
Maximum Value: 24.3 ppb on Apr 12 07:00	Maximum Daily Average: 3.6 ppb on Apr 12		Hours of Data:	685
Minimum Value: 0 ppb on Apr 1 05:00	Minimum Daily Average: 0.1 ppb on Apr 22		Hours of Missing Data:	35
Maximum Diurnal Average: 4.4 ppb at hour 8	Minimum Diurnal Average: 0.0 ppb at hour 3		Hours of Calibration:	35
Monthly Average: 0.92 ppb	Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.0 Q <sub>1</sub> = 0.0 Median = 0.3 Q <sub>3</sub> = 0.9 P <sub>90</sub> = 2.3 P <sub>99</sub> = 9.7		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-Apr	0	0	0	0	0	0	1	2	3	3	3	2	0	A	0	1	2	1	1	0	2	4	4	1.4	4.5	
2-Apr	2	0	0	0	0	0	2	6	5	5	5	4	3	A	1	1	1	1	1	0	0	0	0	1.6	5.6	
3-Apr	0	0	0	0	0	0	4	10	5	4	4	6	A	1	1	1	1	1	1	0	0	0	0	1.7	9.8	
4-Apr	0	0	0	0	0	0	0	2	3	2	2	A	1	1	2	2	2	1	1	0	0	0	0	0.8	3.1	
5-Apr	0	0	0	0	0	0	4	10	10	3	A	2	1	1	1	1	2	1	1	0	0	0	0	1.6	10.0	
6-Apr	0	0	0	0	0	0	3	5	3	A	3	3	2	1	1	1	1	0	1	0	0	0	0	1.1	4.7	
7-Apr	0	0	0	0	0	1	5	6	A	4	4	3	2	2	1	0	1	0	0	0	0	0	0	1.4	6.2	
8-Apr	0	0	0	0	0	0	1	A	1	2	2	1	1	1	1	1	0	0	0	0	0	0	0	0.6	2.3	
9-Apr	0	0	0	0	0	0	A	3	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0.6	2.9	
10-Apr	0	0	0	0	0	A	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.1	
11-Apr	0	0	0	0	A	0	5	8	4	4	2	1	1	1	0	0	0	0	0	0	0	0	0	1.2	8.3	
12-Apr	0	0	0	A	1	7	24	23	9	5	3	2	2	1	1	1	1	1	0	0	0	0	0	3.6	24.3	
13-Apr	0	0	A	0	0	0	1	2	1	2	1	1	1	1	1	1	1	1	1	0	0	0	0	0.7	1.9	
14-Apr	0	A	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0.7	1.3	
15-Apr	A	0	0	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	0	0	0	0	1	A	0.4	0.9
16-Apr	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	A	0	0.5	1.4
17-Apr	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	A	0	0	0.3	1.5
18-Apr	0	0	0	0	0	0	2	6	6	5	4	3	1	1	1	0	0	0	0	0	A	0	0	0	1.3	5.9
19-Apr	0	0	0	0	0	0	1	1	1	1	1	1	0	0	1	0	0	0	0	A	0	0	0	0	0.4	1.4
20-Apr	0	0	0	0	0	0	2	2	1	1	0	1	0	0	0	0	0	0	A	0	0	0	0	0	0.4	2.1
21-Apr	0	0	0	0	0	0	1	C	C	C	C	1	0	0	0	0	0	A	0	0	0	0	0	0	0.2	1.0
22-Apr	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0.1	0.6
23-Apr	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.2	0.5
24-Apr	0	0	0	0	0	2	3	6	1	1	1	1	0	0	A	0	0	0	0	0	0	0	0	0	0.8	6.3
25-Apr	0	0	0	0	0	0	7	8	4	2	1	1	1	A	0	0	0	1	0	0	0	0	0	0	1.2	8.1
26-Apr	0	0	0	0	0	0	1	1	1	1	1	0	A	0	0	0	0	0	0	0	0	0	0	0	0.2	1.0
27-Apr	0	0	0	0	0	2	12	5	5	2	1	A	2	1	1	0	0	0	0	0	0	0	0	0	1.4	11.6
28-Apr	0	0	0	0	0	1	5	6	1	1	A	1	1	1	1	1	1	1	0	0	0	0	0	0	0.9	5.7
29-Apr	0	0	0	0	2	8	11	7	4	A	1	1	1	1	1	0	1	1	1	0	0	0	0	0	1.7	10.9
30-Apr	0	0	0	0	0	0	1	1	A	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0.3	1.3

0.1	0.0	0.0	0.1	0.2	0.8	3.3	4.4	2.8	2.1	1.8	1.4	1.0	0.7	0.7	0.6	0.6	0.5	0.4	0.2	0.1	0.1	0.2	0.2	Diurnal Average	
1.5	0.3	0.3	0.4	1.8	8.0	24.3	23.2	10.0	5.3	4.9	5.6	2.9	1.9	1.6	1.8	1.6	2.0	1.5	0.6	0.4	1.8	4.5	3.7	Diurnal Maximum	

C - Calibration                      A - Automated Daily Zero Span

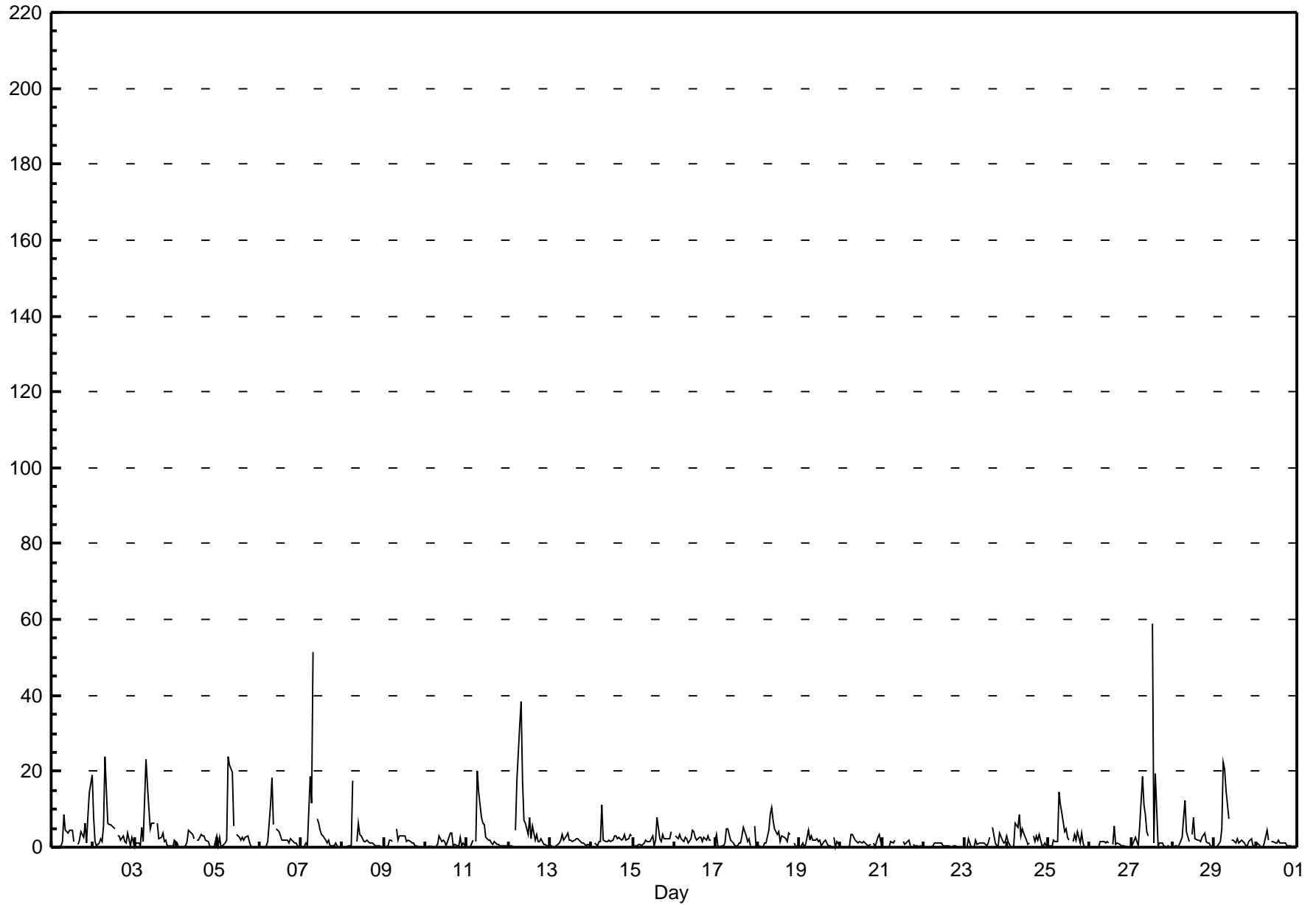


## Hourly Maximums

Nitrogen Oxide (NO) - ppb

Henry Pirker - April 2011

Maximum Value: 58.8 ppb on Apr 27 13:00		Maximum Daily Average: 6.8 ppb on Apr 12		Hours in Service: 720																							
Minimum Value: 0 ppb on Apr 18 04:00		Minimum Daily Average: 0.4 ppb on Apr 22		Hours of Data: 685																							
Maximum Diurnal Average: 10.3 ppb at hour 8		Minimum Diurnal Average: 0.5 ppb at hour 3		Hours of Missing Data: 35																							
Monthly Average: 2.63 ppb		Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.0 Q <sub>1</sub> = 0.5 Median = 1.4 Q <sub>3</sub> = 2.6 P <sub>90</sub> = 5.5 P <sub>99</sub> = 22.7		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-Apr	0	0	0	0	0	0	2	9	4	4	5	4	5	2	A	1	2	4	3	7	1	9	14	19	4.0	19.0	
2-Apr	8	1	0	1	2	1	6	24	7	6	6	6	5	A	3	3	2	3	1	1	4	0	3	1	4.1	23.8	
3-Apr	0	1	1	0	5	1	23	16	11	5	7	7	A	6	2	3	4	2	2	0	0	0	0	2	4.3	23.0	
4-Apr	1	0	0	0	0	0	1	5	4	4	2	A	2	2	4	3	3	2	1	0	0	0	0	3	1.6	4.5	
5-Apr	1	3	0	1	1	2	24	22	20	6	A	3	2	2	2	2	2	3	2	0	0	0	0	0	4.3	23.8	
6-Apr	0	0	0	0	0	1	11	18	6	A	5	4	3	2	2	2	2	1	2	2	1	1	0	0	2.8	18.1	
7-Apr	0	0	0	1	0	19	12	52	A	8	6	4	4	3	2	1	2	0	0	0	1	0	0	0	5.1	51.6	
8-Apr	0	0	0	0	0	0	18	A	1	6	4	3	2	2	2	1	1	1	1	0	0	0	0	0	1.9	17.6	
9-Apr	0	0	0	2	2	1	A	5	2	3	3	3	3	1	2	1	1	1	1	0	0	0	0	0	1.4	4.9	
10-Apr	0	0	0	0	0	A	0	1	3	1	2	1	0	1	4	4	0	1	0	0	3	0	1	0	1.1	3.8	
11-Apr	0	0	0	2	A	1	20	14	8	7	6	3	2	2	1	1	1	1	1	0	0	0	0	0	3.2	20.3	
12-Apr	0	0	0	A	5	17	32	39	18	7	6	3	8	2	6	2	3	1	1	2	1	1	0	0	6.8	38.6	
13-Apr	0	0	A	0	0	1	2	3	2	3	4	2	2	1	2	2	2	2	1	1	1	0	1	0	1.5	3.7	
14-Apr	0	A	1	0	1	1	11	2	1	1	2	1	2	3	3	2	2	2	2	3	2	2	3	3	2.4	11.2	
15-Apr	A	0	0	1	1	0	1	2	1	1	1	3	0	2	8	2	1	3	2	2	2	2	4	A	2.0	7.8	
16-Apr	3	3	2	3	2	1	2	2	1	2	4	4	2	2	2	2	1	3	2	3	2	2	A	2	2.4	4.5	
17-Apr	3	0	0	0	0	1	5	5	2	1	1	0	0	1	1	3	5	3	1	2	0	A	6	0	1.9	5.7	
18-Apr	0	0	0	0	1	1	4	9	10	7	5	3	4	1	3	2	2	1	4	3	A	1	0	0	2.8	10.4	
19-Apr	0	0	1	0	1	5	2	3	2	2	1	2	0	1	2	1	0	0	0	A	2	0	1	0	1.4	4.7	
20-Apr	0	0	0	0	0	0	3	4	2	1	1	1	1	1	1	1	0	1	A	1	0	2	3	1	1.2	3.5	
21-Apr	0	0	0	0	0	1	1	2	C	C	C	C	1	1	1	2	0	A	1	0	0	0	0	0	0.6	2.0	
22-Apr	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	A	0	0	0	0	0	0	0	0.4	1.0	
23-Apr	0	0	2	0	0	0	2	1	1	1	1	1	0	1	3	A	5	1	0	0	4	2	1	1	1.2	5.2	
24-Apr	3	1	0	0	0	7	5	9	3	5	4	2	1	1	A	3	1	3	2	3	0	0	1	0	2.4	8.5	
25-Apr	0	0	0	2	1	1	14	11	9	4	5	3	2	A	1	3	2	4	1	4	1	0	0	0	3.1	14.4	
26-Apr	0	0	0	0	0	0	1	2	1	1	1	1	A	1	6	1	1	1	0	0	0	0	0	0	0.8	5.7	
27-Apr	0	1	2	2	0	6	19	11	9	4	3	A	59	1	19	0	1	1	1	0	0	0	0	0	6.1	58.8	
28-Apr	0	0	0	0	1	2	8	12	4	1	A	3	8	2	2	2	1	2	4	1	1	1	0	0	2.6	12.4	
29-Apr	0	0	0	1	5	22	20	15	7	A	2	2	1	2	1	1	2	1	0	0	1	2	0	0	3.9	22.2	
30-Apr	0	1	0	0	0	1	4	2	A	1	1	1	1	2	1	1	1	1	0	0	0	0	0	0	0.9	4.3	
		0.7	0.5	0.5	0.6	1.1	3.4	8.9	10.3	5.2	3.5	3.4	2.7	4.4	1.8	3.1	1.9	2.0	1.8	1.4	1.5	1.1	1.0	1.4	1.2	Diurnal Average	
		7.9	2.7	2.5	3.3	5.2	22.2	32.1	51.6	19.9	7.5	6.5	6.5	58.8	6.3	19.2	3.8	5.3	4.0	3.8	6.5	3.8	8.5	14.4	19.0	Diurnal Maximum	
C - Calibration		A - Automated Daily Zero Span																									

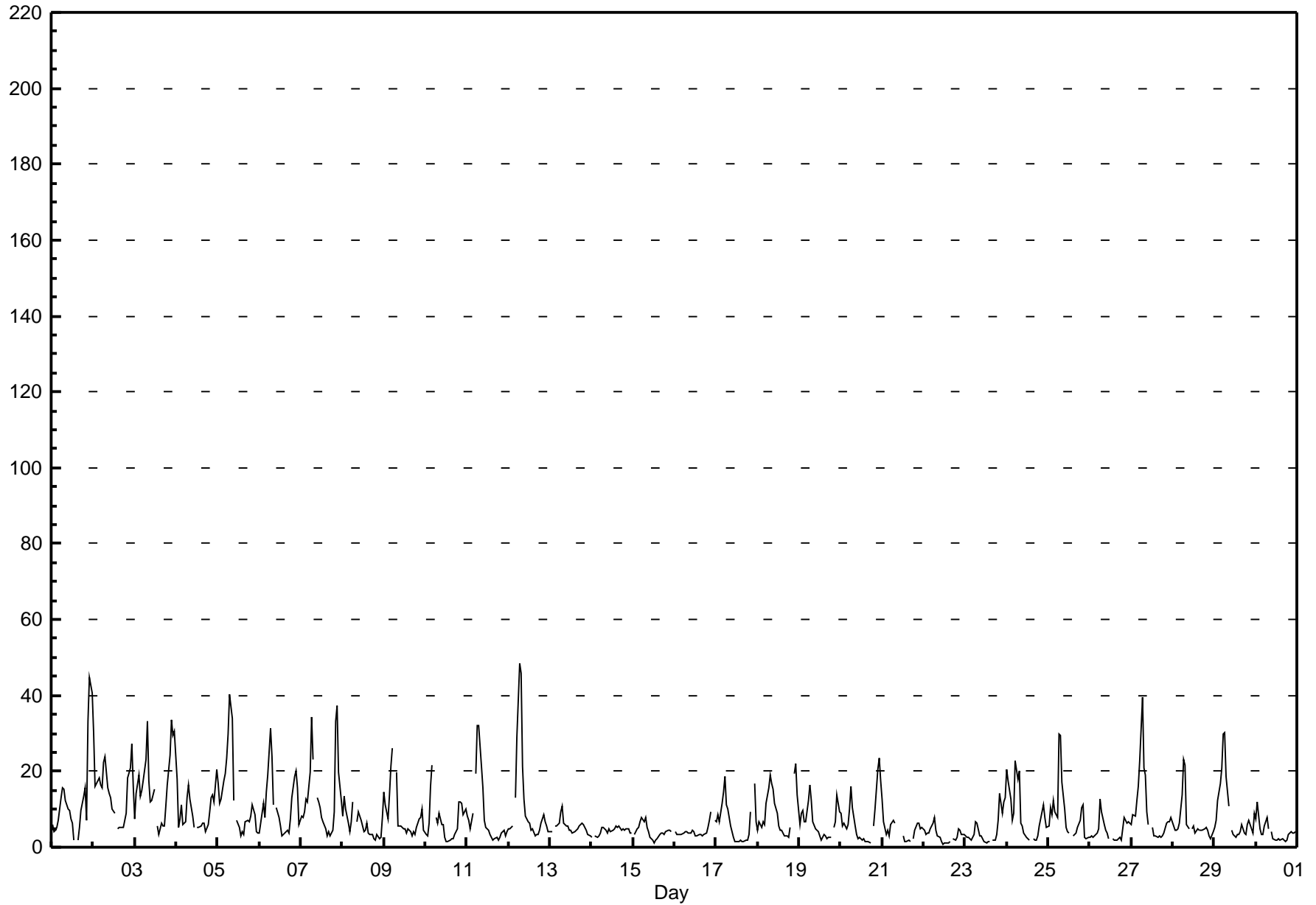


## Hourly Averages

Oxides of Nitrogen (NO<sub>x</sub>) - ppb

Henry Pirker - April 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 48.6 ppb on Apr 12 07:00      Maximum Daily Average: 16.1 ppb on Apr 3																			Hours in Service: 720 Hours of Data: 685																																																	
Minimum Value: 1 ppb on Apr 22 12:00      Minimum Daily Average: 3.2 ppb on Apr 22 Maximum Diurnal Average: 18.5 ppb at hour 7      Minimum Diurnal Average: 3.1 ppb at hour 14 Monthly Average: 8.15 ppb      Percentiles: P <sub>1</sub> = 1.3 P <sub>10</sub> = 2.3 Q <sub>1</sub> = 3.5 Median = 5.4 Q <sub>3</sub> = 10.2 P <sub>90</sub> = 17.7 P <sub>99</sub> = 36.4																			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-Apr	6	4	4	5	7	13	15	15	12	10	10	8	6	2	A	2	5	10	13	15	7	33	45	41	12.6	44.7																																										
2-Apr	30	16	17	18	16	16	23	24	16	14	13	10	9	A	5	5	5	5	7	9	18	21	27	16	14.8	30.2																																										
3-Apr	8	14	19	13	15	18	23	33	17	12	12	15	A	5	3	6	6	6	11	16	24	34	29	30	16.1	33.5																																										
4-Apr	18	5	7	11	6	7	13	16	13	8	5	A	5	5	6	6	6	4	6	9	13	14	12	21	9.5	20.6																																										
5-Apr	17	11	13	18	19	24	30	40	34	12	A	7	5	3	4	3	7	7	7	8	11	8	4	4	12.9	40.2																																										
6-Apr	4	6	11	8	14	19	31	24	11	A	10	8	5	3	3	4	4	4	7	13	19	20	16	6	10.9	31.4																																										
7-Apr	8	8	9	13	12	20	34	23	A	13	12	10	8	7	5	3	4	3	4	9	33	37	20	12	13.4	37.2																																										
8-Apr	8	13	10	6	4	7	12	A	7	9	8	7	4	4	6	4	3	3	2	2	3	2	3	8	6.0	13.3																																										
9-Apr	15	11	8	14	21	26	A	20	5	6	6	5	5	4	5	4	3	4	3	5	7	8	10	5	8.7	26.0																																										
10-Apr	3	3	6	16	22	A	8	6	9	6	6	3	1	2	2	2	2	3	5	12	12	12	9	10	7.0	21.6																																										
11-Apr	8	7	5	9	A	20	32	32	21	16	7	5	4	3	3	2	2	2	2	3	4	4	3	4	8.7	32.2																																										
12-Apr	5	5	6	A	13	29	49	46	21	13	8	7	6	4	5	3	3	3	4	6	9	7	5	4	11.4	48.6																																										
13-Apr	4	4	A	6	5	6	10	11	6	6	6	5	4	4	4	4	5	5	6	6	5	4	3	3	5.3	10.6																																										
14-Apr	3	A	3	3	3	4	5	5	4	4	5	4	5	5	6	5	6	5	5	5	5	5	4	4	4.3	5.6																																										
15-Apr	A	3	5	5	7	8	7	8	5	4	2	2	1	2	2	3	4	4	3	4	4	4	4	A	4.2	7.9																																										
16-Apr	4	3	3	4	3	4	4	4	4	4	4	4	3	3	3	3	3	3	4	5	7	9	A	7	4.2	9.5																																										
17-Apr	7	9	7	12	15	18	11	10	5	4	3	1	2	1	2	2	2	2	2	3	9	A	17	7	6.5	18.5																																										
18-Apr	4	7	5	7	6	12	16	19	17	15	12	9	5	4	4	3	3	3	3	5	A	19	22	14	9.3	21.8																																										
19-Apr	6	9	10	7	7	12	16	12	7	5	4	4	3	2	3	3	2	3	3	A	5	7	14	9	6.6	16.3																																										
20-Apr	9	6	6	5	6	10	16	11	5	3	2	2	2	2	1	1	1	1	A	6	10	20	24	18	7.3	23.5																																										
21-Apr	13	7	4	4	3	6	7	6	C	C	C	C	3	2	1	2	2	A	2	5	6	6	5	5	4.6	12.8																																										
22-Apr	5	3	4	4	5	6	8	4	3	2	2	1	1	1	1	1	A	2	2	3	5	4	3	3	3.2	8.0																																										
23-Apr	3	3	2	2	3	3	7	6	3	3	2	1	1	1	2	A	2	2	3	7	14	9	12	13	4.6	14.1																																										
24-Apr	21	17	13	7	9	23	18	20	6	6	4	3	2	2	A	2	2	2	3	6	9	11	8	5	8.6	22.6																																										
25-Apr	5	10	8	12	9	8	30	30	17	10	5	4	4	A	3	3	4	5	7	10	11	2	2	3	8.9	29.9																																										
26-Apr	3	3	3	3	4	5	13	9	6	4	4	2	A	2	2	2	2	3	2	5	8	6	7	6	4.5	12.8																																										
27-Apr	6	8	8	12	16	23	40	21	19	9	6	A	5	3	3	3	3	3	3	4	6	7	7	8	9.7	39.6																																										
28-Apr	6	5	4	5	6	14	23	22	6	5	A	5	5	4	5	4	4	5	5	5	5	3	2	4	6.6	23.2																																										
29-Apr	5	7	12	17	21	30	30	19	11	A	4	3	3	3	3	4	6	4	3	6	7	5	4	9	9.4	30.0																																										
30-Apr	8	12	5	3	3	6	8	5	A	4	2	2	2	2	2	2	2	2	2	3	4	4	4	4	3.9	11.9																																										
																			8.3		7.6		7.5		8.6		9.7		13.6		18.5		17.3		10.8		7.7		6.1		5.1		4.0		3.1		3.4		3.3		3.6		3.7		4.5		6.8		9.7		11.3		11.1		9.7		Diurnal Average	
																			30.2		17.4		19.0		18.3		21.6		29.7		48.6		45.7		33.9		15.8		13.0		15.2		8.9		6.8		6.2		6.5		6.6		9.7		13.3		16.4		33.3		37.2		44.7		40.7		Diurnal Maximum	
C - Calibration																			A - Automated Daily Zero Span																																																	



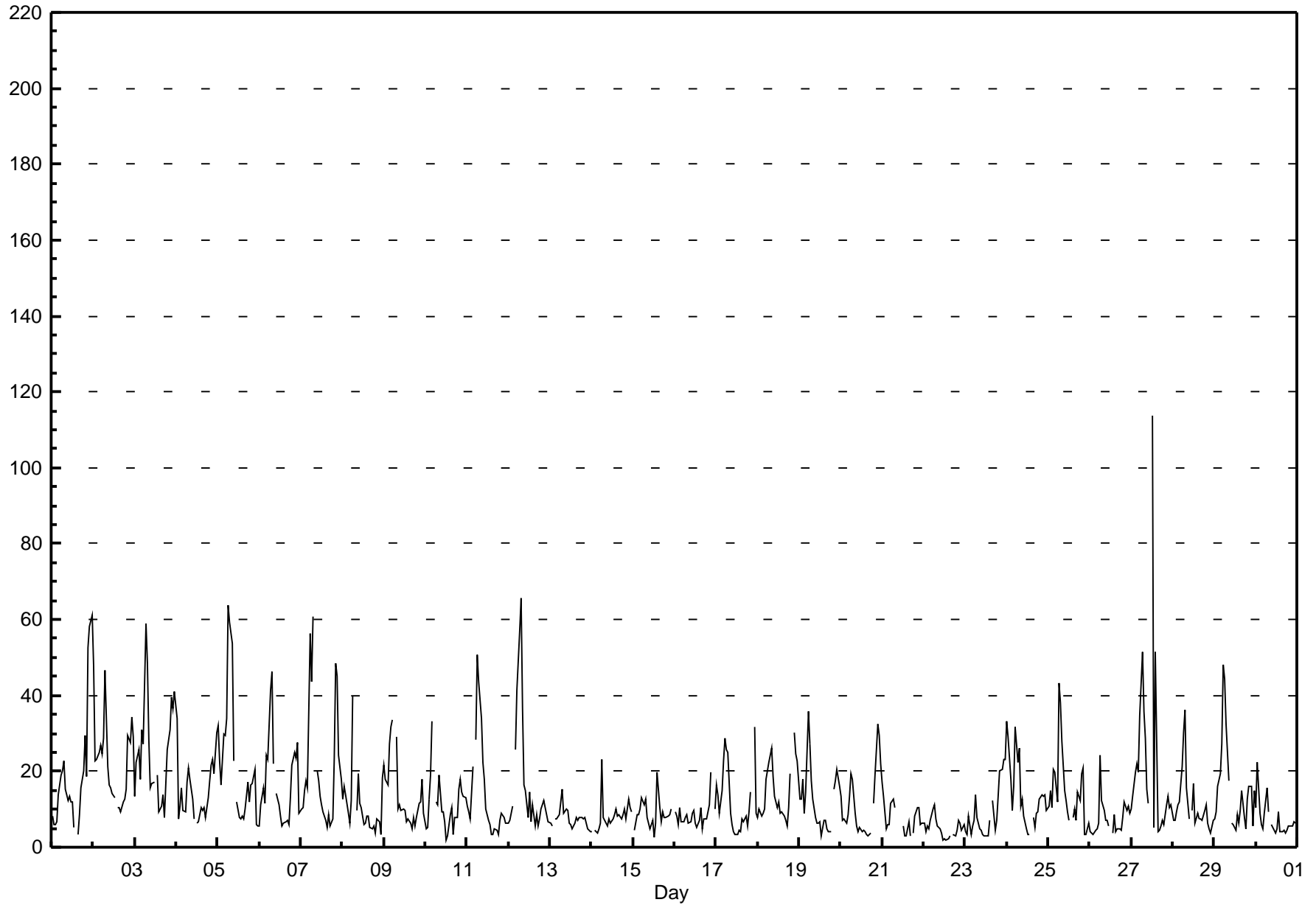
## Hourly Maximums

Oxides of Nitrogen (NO<sub>x</sub>) - ppb

Henry Pirker - April 2011

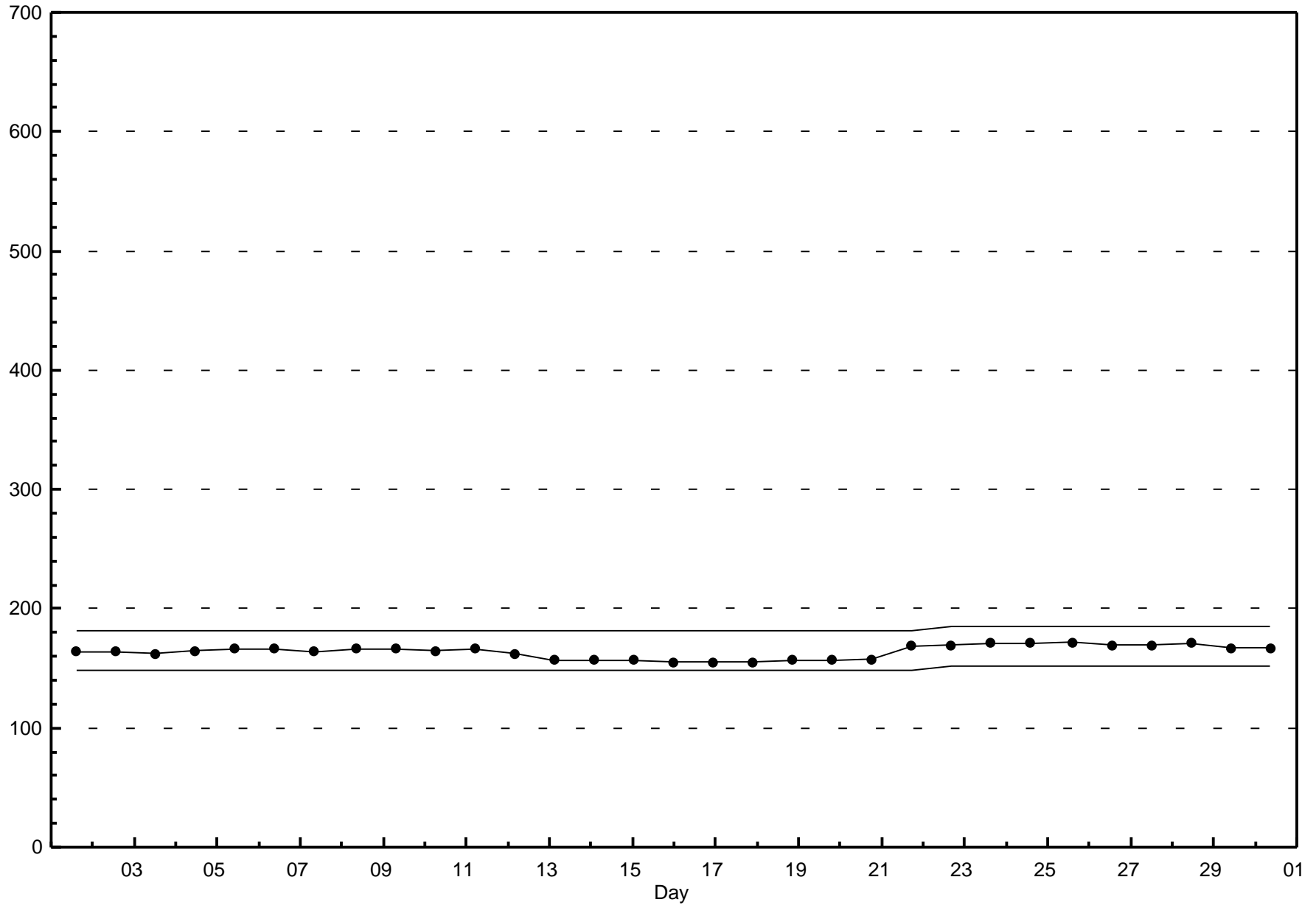
Maximum Value: 113.6 ppb on Apr 27 13:00		Maximum Daily Average: 25.0 ppb on Apr 3		Hours in Service: 720																																													
Minimum Value: 2 ppb on Apr 22 12:00		Minimum Daily Average: 5.1 ppb on Apr 22		Hours of Data: 685																																													
Maximum Diurnal Average: 29.3 ppb at hour 7		Minimum Diurnal Average: 6.2 ppb at hour 14		Hours of Missing Data: 35																																													
Monthly Average: 13.63 ppb		Percentiles: P <sub>1</sub> = 2.8 P <sub>10</sub> = 4.5 Q <sub>1</sub> = 6.5 Median = 9.5 Q <sub>3</sub> = 16.9 P <sub>90</sub> = 28.4 P <sub>99</sub> = 58.6		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-Apr	8	6	6	7	14	19	20	23	15	12	14	12	12	5	A	4	9	16	20	29	19	53	58	61	19.2	61.3																							
2-Apr	48	23	23	25	27	25	29	47	21	17	16	14	13	A	10	10	9	12	13	15	29	28	34	29	22.5	47.5																							
3-Apr	13	22	26	18	31	27	59	49	28	16	17	17	A	19	9	11	14	8	17	26	31	40	37	41	25.0	58.8																							
4-Apr	34	7	11	16	10	9	17	21	18	13	7	A	7	7	11	10	11	8	13	17	22	23	19	30	14.8	34.0																							
5-Apr	32	23	17	30	29	34	64	59	54	23	A	12	8	7	8	7	10	17	12	17	17	20	6	6	22.2	63.8																							
6-Apr	6	11	16	11	24	23	42	46	22	A	14	11	8	6	6	7	7	6	13	22	25	24	28	9	16.8	46.2																							
7-Apr	10	10	15	18	16	56	44	61	A	20	17	13	11	9	7	5	9	5	7	24	49	45	24	18	21.5	60.7																							
8-Apr	13	16	14	9	7	12	40	A	10	20	11	11	6	7	8	8	5	5	6	4	7	7	4	18	10.7	40.0																							
9-Apr	21	18	16	27	32	33	A	29	10	11	10	10	10	6	7	8	6	5	8	6	8	12	12	18	9	14.1	33.4																						
10-Apr	5	5	13	19	33	A	12	11	19	9	9	7	2	3	8	11	4	8	8	15	18	14	13	13	11.3	33.0																							
11-Apr	11	9	8	21	A	28	51	43	34	23	18	10	7	6	4	4	5	4	4	7	9	8	7	6	14.1	50.7																							
12-Apr	7	7	11	A	26	41	57	66	36	16	15	8	14	7	11	6	9	5	8	10	12	11	9	7	17.3	65.7																							
13-Apr	6	6	A	8	8	9	12	15	9	10	10	7	6	5	6	8	7	8	8	7	8	7	5	4	7.7	15.2																							
14-Apr	4	A	4	4	5	6	23	8	6	5	7	7	8	9	10	8	9	7	8	10	8	13	10	9	8.2	23.1																							
15-Apr	A	5	9	9	10	13	11	13	8	6	5	7	3	6	20	11	7	9	8	8	8	8	10	A	8.7	19.7																							
16-Apr	9	8	6	10	7	7	8	9	6	7	9	10	6	5	7	10	5	8	7	9	11	20	A	10	8.4	19.6																							
17-Apr	16	14	9	15	23	29	26	25	9	6	4	3	3	4	4	7	7	8	6	9	14	A	32	9	12.3	31.9																							
18-Apr	8	10	8	9	10	18	22	24	26	19	14	11	12	9	9	8	7	6	11	19	A	30	25	23	14.6	30.2																							
19-Apr	13	13	18	9	15	36	27	18	13	8	6	6	7	3	7	7	5	4	4	A	15	17	21	16	12.4	35.9																							
20-Apr	14	7	8	7	8	14	20	18	9	6	4	5	4	5	4	3	3	4	A	12	19	32	30	22	11.1	32.4																							
21-Apr	17	14	5	6	6	12	13	10	C	C	C	C	6	3	3	7	3	A	4	8	11	11	6	6	7.9	17.1																							
22-Apr	7	4	6	5	7	10	11	8	5	5	4	2	2	2	2	3	A	4	3	4	7	7	4	6	5.1	11.0																							
23-Apr	4	4	8	4	5	7	14	8	5	4	4	3	3	3	7	A	12	4	7	14	20	21	23	23	9.0	23.2																							
24-Apr	33	29	18	10	16	32	22	26	11	13	8	5	3	4	A	8	5	9	9	13	14	14	14	10	14.1	33.2																							
25-Apr	11	15	11	20	20	12	43	38	28	15	12	9	7	A	8	10	7	15	12	19	21	4	4	7	15.1	43.1																							
26-Apr	4	4	3	4	5	6	24	12	10	7	7	5	A	4	9	4	5	5	4	8	12	10	11	9	7.5	24.1																							
27-Apr	10	14	20	22	20	35	51	36	29	15	11	A	114	5	52	4	4	5	7	6	11	13	11	11	22.0	113.6																							
28-Apr	7	7	9	11	12	21	30	36	16	8	A	10	17	6	9	7	8	7	10	11	6	5	4	7	11.5	36.1																							
29-Apr	7	9	16	20	27	48	45	32	18	A	6	6	4	9	7	10	15	8	5	13	16	16	5	15	15.5	48.0																							
30-Apr	11	22	9	6	5	9	16	9	A	6	5	4	5	9	4	4	4	4	4	5	6	5	7	7	7.2	22.4																							
																								13.4	11.7	11.7	13.0	15.7	21.8	29.3	27.6	17.6	11.8	9.8	8.3	11.0	6.2	9.2	7.2	7.1	7.5	8.4	12.7	15.7	17.8	16.4	15.2	Diurnal Average	
																								47.5	29.1	25.6	30.0	33.0	56.5	63.8	65.7	53.7	22.9	18.0	17.3	113.6	18.9	51.6	10.8	14.9	17.1	20.0	29.3	48.5	52.6	58.1	61.3	Diurnal Maximum	
C - Calibration																								A - Automated Daily Zero Span																									





### Span Responses

Oxides of Nitrogen (NO<sub>x</sub>)  
Henry Pirker - April 2011



## Hourly Averages

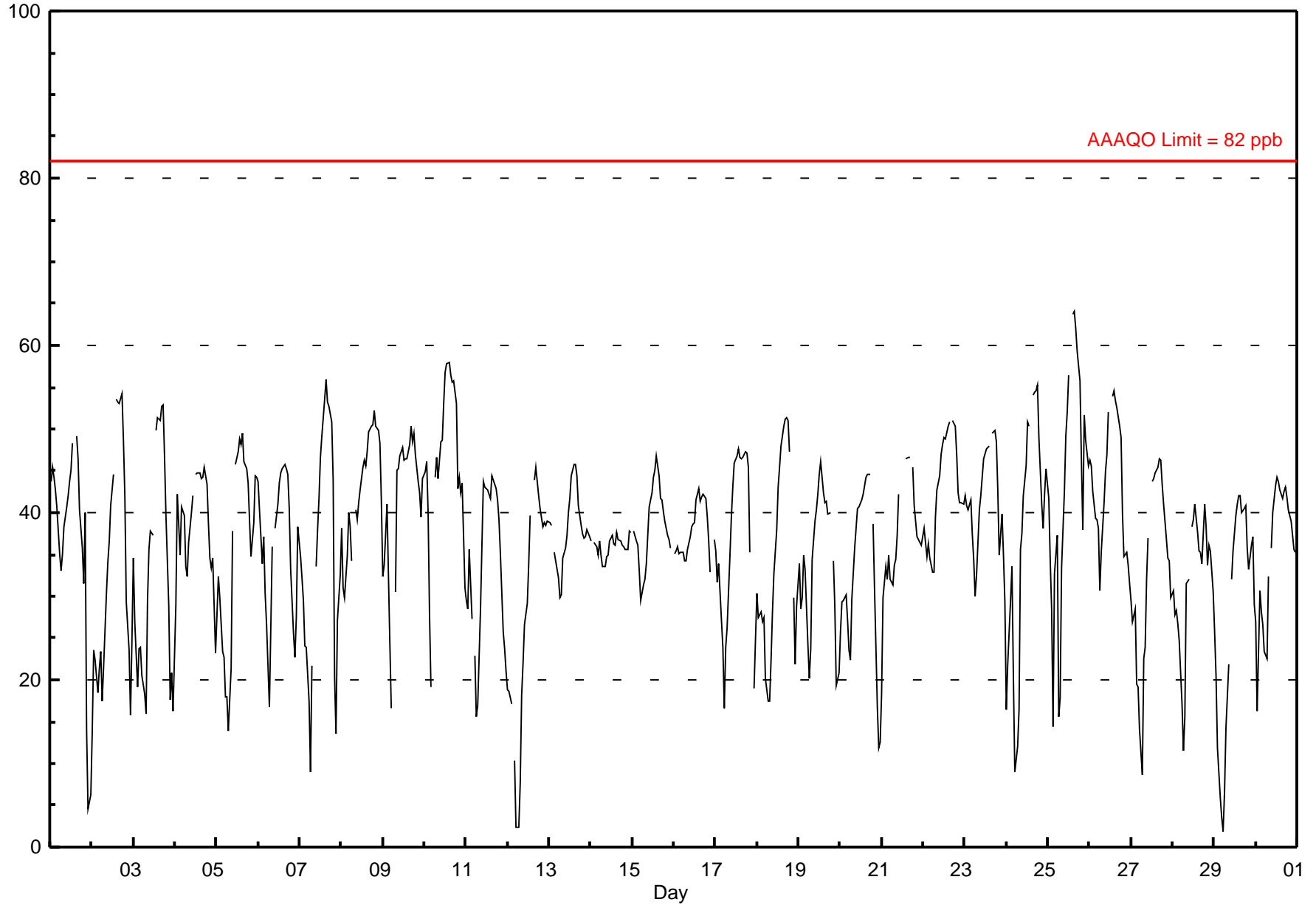
Ozone (O<sub>3</sub>) - ppb

Henry Pirker - April 2011

Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	720
Maximum Value: 64.0 ppb on Apr 25 16:00	Maximum Daily Average: 46.1 ppb on Apr 10		Hours of Data:	685
Minimum Value: 2 ppb on Apr 29 06:00	Minimum Daily Average: 27.7 ppb on Apr 29		Hours of Missing Data:	35
Maximum Diurnal Average: 47.4 ppb at hour 16	Minimum Diurnal Average: 22.7 ppb at hour 7		Hours of Calibration:	35
Monthly Average: 36.56 ppb	Percentiles: P <sub>1</sub> = 6.0 P <sub>10</sub> = 20.9 Q <sub>1</sub> = 30.6 Median = 37.8 Q <sub>3</sub> = 44.2 P <sub>90</sub> = 48.8 P <sub>99</sub> = 56.4		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-Apr	44	45	44	43	41	35	33	35	38	41	42	44	45	48	A	49	46	40	36	32	40	14	5	6	36.8	49.2																							
2-Apr	14	24	22	18	21	23	17	21	30	34	37	41	45	A	54	53	53	54	49	42	29	24	16	25	32.5	54.3																							
3-Apr	35	27	19	24	24	21	18	16	30	36	38	37	A	50	51	51	53	53	47	40	29	18	21	16	32.7	52.9																							
4-Apr	29	42	39	35	41	40	33	32	36	40	42	A	45	45	45	44	44	45	43	39	35	33	35	23	38.5	45.5																							
5-Apr	28	32	30	23	23	18	18	14	21	38	A	46	47	49	48	50	46	45	44	39	35	39	44	44	35.7	49.5																							
6-Apr	44	40	34	37	30	27	17	26	36	A	38	41	44	45	45	46	45	45	40	33	26	23	27	38	36.0	45.7																							
7-Apr	35	32	30	24	24	18	9	22	A	34	38	42	47	49	54	56	53	53	51	44	20	13	27	33	35.0	56.0																							
8-Apr	38	31	30	35	40	38	34	A	40	39	41	43	45	46	46	47	50	50	50	52	50	50	48	42	42.9	52.2																							
9-Apr	32	34	41	32	24	17	A	31	45	45	47	48	46	46	46	48	50	48	49	47	44	42	39	44	41.2	50.3																							
10-Apr	45	46	40	28	19	A	44	47	44	48	49	53	57	58	58	56	56	56	53	43	44	42	44	31	46.1	58.0																							
11-Apr	30	28	36	27	A	23	16	17	29	36	44	43	43	42	42	44	44	43	41	39	35	26	24	21	33.6	44.5																							
12-Apr	19	19	17	A	10	2	2	8	18	22	27	29	34	40	C	44	45	44	42	41	38	39	39	39	28.0	45.5																							
13-Apr	39	38	A	35	34	32	30	30	35	36	37	40	42	44	46	46	44	41	39	37	37	37	38	37	38.0	45.8																							
14-Apr	37	A	36	36	35	37	35	33	34	35	35	37	37	36	36	38	37	37	36	36	36	36	38	38	36.0	37.8																							
15-Apr	A	38	37	36	33	29	31	32	34	37	41	42	44	45	47	44	42	42	40	39	37	37	36	A	38.4	46.7																							
16-Apr	35	35	36	35	35	35	34	34	36	37	38	39	39	42	43	41	42	42	42	39	37	33	A	37	37.7	42.8																							
17-Apr	35	32	34	27	24	17	24	26	35	39	43	46	47	48	47	46	47	47	47	45	35	A	19	25	36.3	47.7																							
18-Apr	30	28	28	27	28	20	17	18	22	28	33	38	43	45	48	50	51	51	51	47	A	30	22	29	34.1	51.3																							
19-Apr	34	28	30	35	33	24	20	24	34	39	40	42	45	46	42	41	41	40	40	A	34	29	19	21	34.1	46.1																							
20-Apr	26	29	29	30	27	24	22	30	36	38	40	41	42	42	43	44	45	45	A	39	31	17	12	13	32.3	44.6																							
21-Apr	18	30	33	32	35	32	31	34	34	37	42	C	C	C	46	47	47	A	45	41	37	37	37	36	36.6	46.6																							
22-Apr	38	36	35	36	35	33	33	39	43	44	47	48	49	49	50	51	A	51	50	47	42	41	41	41	42.6	51.0																							
23-Apr	42	41	40	42	38	34	30	33	40	42	44	46	48	48	48	A	49	50	48	43	35	40	35	29	41.1	49.8																							
24-Apr	16	22	30	34	20	9	12	16	36	37	42	46	51	50	A	54	54	55	55	49	41	38	42	45	37.2	55.3																							
25-Apr	42	34	28	14	33	37	16	18	33	43	49	52	57	A	64	64	62	59	56	46	38	52	49	46	43.1	64.0																							
26-Apr	46	46	43	39	39	38	31	35	41	45	47	52	A	54	55	53	53	50	49	40	35	35	34	31	43.1	54.6																							
27-Apr	29	27	28	20	19	14	9	23	24	32	37	A	44	44	45	46	46	46	43	41	37	35	34	30	32.7	46.5																							
28-Apr	31	28	28	27	25	17	12	16	32	32	A	38	39	41	38	35	35	34	41	38	34	36	35	31	31.4	41.0																							
29-Apr	26	20	12	6	4	2	7	14	22	A	32	35	40	41	42	42	40	40	41	36	33	36	37	29	27.7	42.0																							
30-Apr	27	16	31	28	27	23	23	32	A	36	40	43	44	44	43	42	43	43	42	40	39	37	36	35	35.4	44.2																							
																								32.5	32.1	31.7	29.9	28.3	24.8	22.7	26.1	33.5	37.5	40.3	42.7	44.6	45.8	47.0	47.4	47.0	46.6	45.2	41.2	36.0	33.4	32.1	31.5	Diurnal Average	
																								46.3	46.1	44.3	42.7	40.7	39.6	44.3	46.5	45.0	48.4	49.2	53.1	56.8	57.7	63.7	64.0	62.0	59.2	55.7	52.2	50.4	51.7	48.6	45.6	Diurnal Maximum	

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



# Hourly Maximums

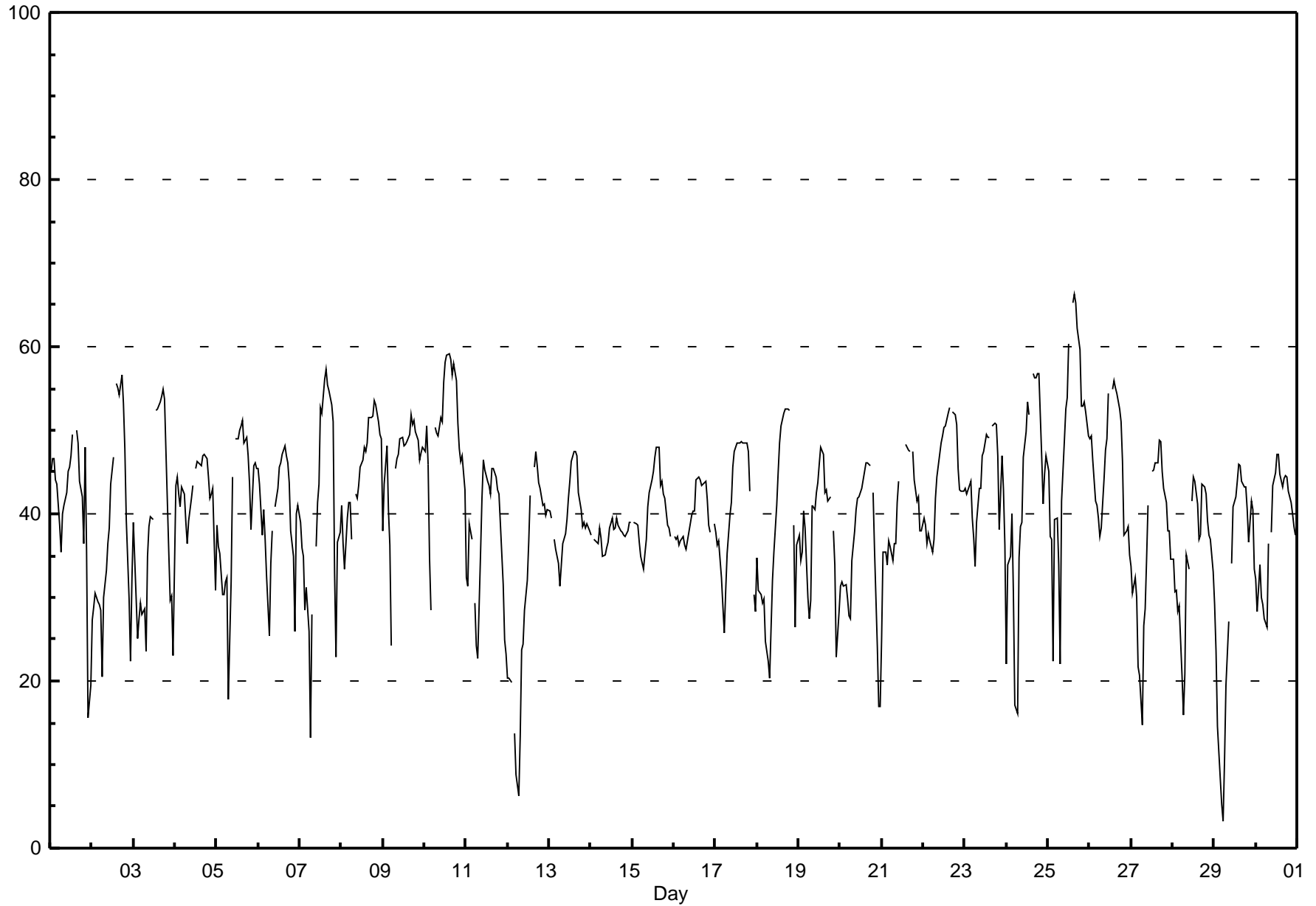
Ozone (O<sub>3</sub>) - ppb

Henry Pirker - April 2011

<b>Maximum Value: 66.3 ppb on Apr 25 16:00</b>		<b>Maximum Daily Average: 50.2 ppb on Apr 10</b>		<b>Hours in Service: 720</b>																							
<b>Minimum Value: 3 ppb on Apr 29 06:00</b>		<b>Minimum Daily Average: 30.8 ppb on Apr 12</b>		<b>Hours of Data: 685</b>																							
<b>Maximum Diurnal Average: 49.2 ppb at hour 16</b>		<b>Minimum Diurnal Average: 28.2 ppb at hour 7</b>		<b>Hours of Missing Data: 35</b>																							
<b>Monthly Average: 40.17 ppb</b>		<b>Percentiles: P<sub>1</sub> = 13.1 P<sub>10</sub> = 28.3 Q<sub>1</sub> = 35.4 Median = 41.0 Q<sub>3</sub> = 46.7 P<sub>90</sub> = 51.1 P<sub>99</sub> = 59.1</b>		<b>Hours of Calibration: 35</b>																							
				<b>Percent Operational Time: 100.0</b>																							
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-Apr	45	47	47	44	44	39	35	40	41	43	45	46	47	50	A	50	49	44	42	36	48	35	16	19	41.3	50.0	
2-Apr	27	29	30	29	29	28	21	30	33	37	38	44	47	A	56	55	54	57	53	48	39	30	22	32	37.8	56.6	
3-Apr	39	34	25	27	29	28	29	23	35	38	40	39	A	52	52	53	54	55	54	47	35	30	30	23	38.0	55.0	
4-Apr	43	44	42	41	43	42	39	36	39	42	43	A	45	46	46	46	47	47	47	44	42	42	43	31	42.7	47.1	
5-Apr	39	36	35	30	30	32	32	18	32	44	A	49	49	50	50	51	49	49	47	43	38	46	46	45	41.0	51.2	
6-Apr	45	44	38	41	37	32	25	34	38	A	41	43	46	46	47	48	47	46	44	38	35	26	40	41	40.1	48.1	
7-Apr	39	36	35	28	31	26	13	28	A	36	41	44	53	52	56	57	55	55	53	51	33	23	37	38	40.0	57.2	
8-Apr	41	36	33	39	41	41	37	A	42	42	43	46	46	48	48	49	52	52	52	54	53	51	50	49	45.4	53.6	
9-Apr	38	44	48	41	36	24	A	45	47	47	49	49	48	48	49	50	52	51	51	50	49	46	47	48	45.9	51.9	
10-Apr	48	51	46	35	28	A	50	50	49	52	51	56	58	59	59	59	57	58	56	51	48	46	47	43	50.2	59.2	
11-Apr	32	31	39	37	A	29	24	23	35	42	47	45	44	43	42	45	45	44	43	42	39	32	25	23	37.1	46.5	
12-Apr	20	20	20	A	14	9	6	13	24	24	28	32	37	42	C	46	47	46	44	43	41	41	40	41	30.8	47.5	
13-Apr	40	39	A	37	36	34	31	34	36	38	39	42	44	46	47	47	47	42	40	38	39	38	39	38	39.8	47.5	
14-Apr	37	A	37	37	36	38	37	35	35	36	37	38	39	38	38	39	39	38	38	37	37	38	39	39	37.6	39.5	
15-Apr	A	39	39	39	37	35	33	35	37	41	43	44	45	47	48	48	43	44	42	42	39	38	37	A	40.7	47.9	
16-Apr	37	37	37	36	37	37	36	36	37	39	40	40	40	44	44	44	43	44	44	42	39	38	A	39	39.6	44.4	
17-Apr	38	36	37	32	29	26	31	35	40	41	46	47	48	48	48	49	48	48	48	47	43	A	30	28	40.3	48.6	
18-Apr	35	31	30	29	30	25	22	20	26	32	35	41	45	48	51	52	53	53	53	52	A	39	26	36	37.6	52.5	
19-Apr	37	34	35	40	38	30	27	30	41	40	42	44	46	48	47	42	43	41	42	A	38	34	23	28	38.0	48.0	
20-Apr	31	32	31	32	30	28	27	34	38	40	42	42	43	44	45	46	46	46	A	43	36	24	17	17	35.4	46.0	
21-Apr	25	35	35	34	37	36	34	36	36	41	44	C	C	C	48	48	47	A	47	44	41	42	38	38	39.5	48.4	
22-Apr	39	39	36	38	37	35	37	42	44	47	48	49	50	50	52	53	A	52	52	51	45	43	43	43	44.6	52.7	
23-Apr	43	42	43	44	39	37	34	39	43	43	47	47	49	49	49	A	50	51	51	47	38	47	43	36	44.0	50.9	
24-Apr	22	34	35	40	31	17	16	35	38	39	47	50	53	52	A	57	56	56	57	57	47	41	45	47	42.2	56.8	
25-Apr	45	37	37	22	39	39	34	22	42	49	53	54	60	A	65	66	65	62	60	53	53	53	52	49	48.4	66.3	
26-Apr	49	49	46	41	41	39	37	38	44	48	49	54	A	55	56	55	54	53	51	46	37	38	39	35	45.9	55.9	
27-Apr	34	31	32	30	22	21	15	27	29	35	41	A	45	45	46	46	49	49	45	43	41	38	38	35	36.3	48.8	
28-Apr	35	31	31	28	29	21	16	21	35	33	A	41	44	44	41	37	37	43	43	42	39	38	37	33	34.8	44.4	
29-Apr	29	24	15	8	5	3	11	19	27	A	34	41	42	44	46	46	44	43	43	40	37	41	40	33	31.1	45.9	
30-Apr	32	28	34	30	29	27	26	36	A	38	43	45	47	47	45	43	44	45	44	43	41	40	38	37	38.5	47.1	
		36.8	36.2	35.5	34.2	32.6	29.7	28.2	31.6	37.3	40.2	42.7	44.9	46.8	47.7	49.0	49.2	48.9	48.7	47.8	45.4	41.1	38.6	36.8	36.1	Diurnal Average	
		48.9	50.5	48.1	44.0	43.5	42.3	50.4	49.7	49.3	51.5	52.5	55.7	60.3	59.1	65.3	66.3	65.3	62.3	59.7	56.7	53.1	53.4	52.2	49.3	Diurnal Maximum	
C - Calibration		A - Automated Daily Zero Span																									

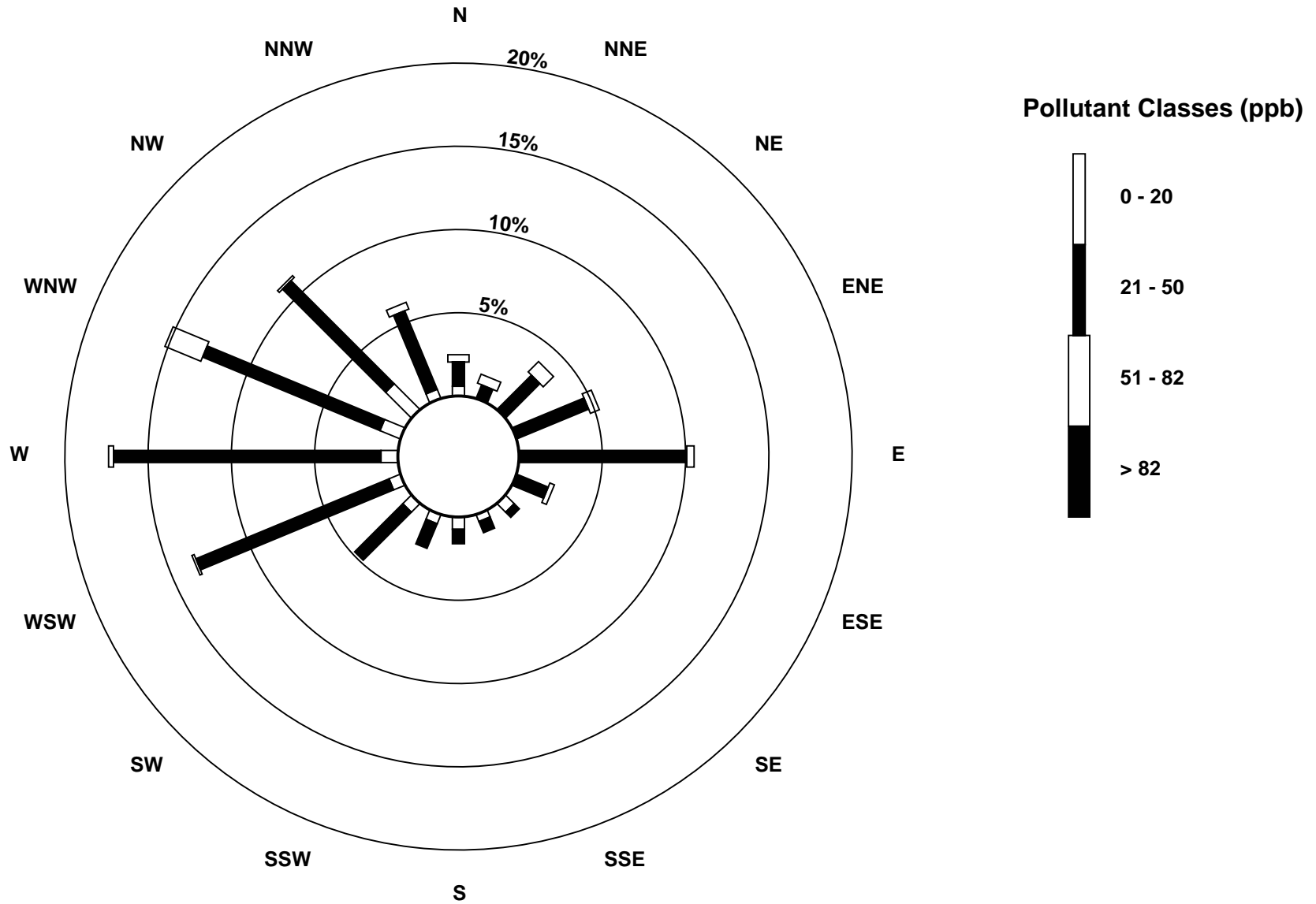
### Hourly Maximums

Ozone (O<sub>3</sub>) - ppb  
Henry Pirker - April 2011



**Pollutant Rose**

Ozone (O<sub>3</sub>) - ppb  
Henry Pirker - April 2011



# Eight Hour Running Averages

Ozone (O<sub>3</sub>) - ppb

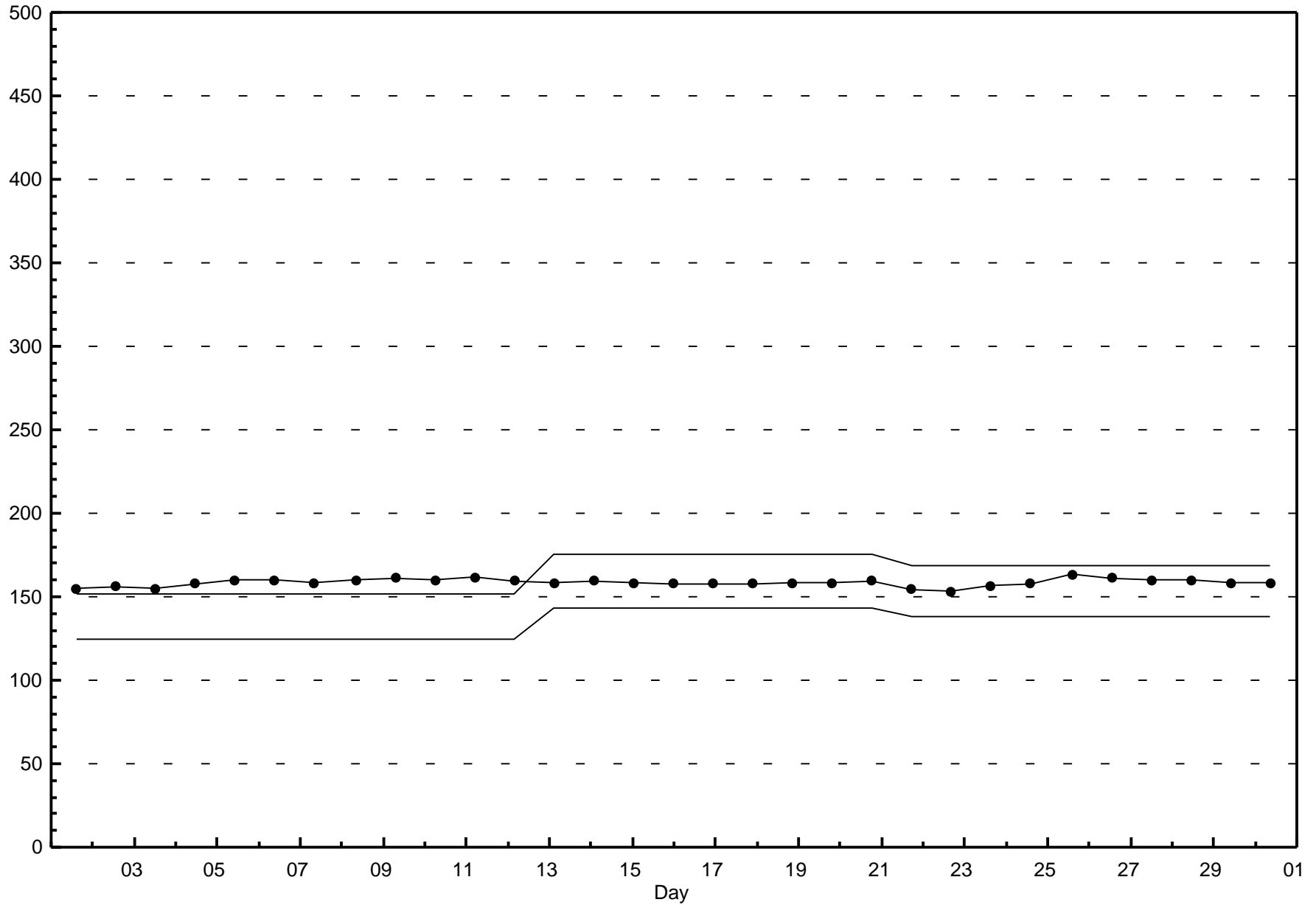
Henry Pirker - April 2011

Maximum Value: 59.0 ppb on Apr 25 19:00																						Hours in Service:	720																								
Minimum Value: 9.4 ppb on Apr 29 10:00																						Hours of Data:	713																								
Percentiles: P <sub>1</sub> = 12.7 P <sub>10</sub> = 24.8 Q <sub>1</sub> = 30.9 Median = 37.3 Q <sub>3</sub> = 42.5 P <sub>90</sub> = 47.2 P <sub>99</sub> = 55.1																						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-Apr	45	45	45	45	44	43	41	40	39	39	38	39	39	41	42	44	45	45	44	42	42	37	33	27		45.4																					
2-Apr	23	21	20	18	16	17	18	20	22	24	25	28	31	32	37	42	45	48	50	50	48	45	40	36		49.9																					
3-Apr	34	31	27	25	24	24	24	23	22	23	26	27	28	32	37	42	45	48	49	49	47	43	39	34		49.2																					
4-Apr	32	30	29	29	30	33	34	36	37	37	37	38	38	39	41	42	43	44	44	44	42	41	40	37		44.5																					
5-Apr	35	34	32	30	28	27	24	23	22	23	22	25	29	33	38	43	46	47	47	46	44	43	43	42		47.3																					
6-Apr	42	41	40	40	39	38	34	32	31	30	30	31	33	35	39	42	43	44	44	43	41	38	36	35		43.9																					
7-Apr	33	32	30	29	29	28	26	24	23	23	24	26	30	34	41	45	46	49	50	51	47	43	40	37		50.7																					
8-Apr	35	32	30	28	31	34	35	35	36	37	38	39	40	41	43	43	45	46	47	48	49	49	50	49		49.8																					
9-Apr	47	45	44	41	38	34	32	30	32	34	34	37	40	44	44	47	47	48	48	48	47	47	46	46		47.9																					
10-Apr	45	45	43	41	38	37	38	38	38	39	40	43	49	50	52	53	54	55	56	55	53	51	49	46		55.8																					
11-Apr	43	39	37	35	34	31	27	25	25	26	27	30	31	34	37	40	42	43	43	42	41	39	37	34		43.1																					
12-Apr	31	28	25	23	19	16	13	11	11	11	13	15	18	22	25	30	34	37	40	41	42	42	41	41		41.9																					
13-Apr	40	39	39	38	38	37	35	34	34	33	34	34	35	37	39	41	42	42	43	42	42	41	40	39		42.7																					
14-Apr	38	37	37	37	37	36	36	36	35	35	35	35	35	35	35	36	36	37	37	37	36	36	37	36		37.8																					
15-Apr	36	37	37	37	36	35	35	34	34	34	34	35	36	38	40	42	43	43	43	43	42	41	40	39		43.4																					
16-Apr	38	37	36	36	36	35	35	35	35	35	36	36	37	37	38	39	40	41	41	41	41	40	39	39		41.2																					
17-Apr	38	36	35	33	32	29	29	27	27	28	29	32	35	38	41	44	45	46	47	47	45	45	41	38		46.8																					
18-Apr	36	33	30	27	26	26	25	24	23	24	25	27	31	34	38	42	45	47	48	49	47	43	40		49.2																						
19-Apr	38	34	31	30	30	29	29	29	29	30	31	32	34	36	39	41	42	42	42	42	41	38	35	32		42.2																					
20-Apr	30	28	27	27	26	26	26	27	28	30	31	32	34	36	39	41	42	43	43	43	41	38	33	29		43.0																					
21-Apr	25	23	24	23	24	26	28	31	33	34	35	35	35	N	N	N	N	N	N	N	44	43	41	40		43.8																					
22-Apr	39	38	37	37	36	36	35	36	36	37	39	40	42	44	46	48	48	49	50	50	49	48	46	45		49.8																					
23-Apr	45	43	42	41	41	40	38	37	37	37	38	38	40	41	44	45	47	48	48	48	46	45	43	41		48.2																					
24-Apr	37	34	31	30	28	24	22	20	22	24	26	27	31	36	40	45	48	50	52	53	51	49	49	47		52.6																					
25-Apr	46	43	40	36	35	35	31	28	27	28	30	35	38	38	45	52	56	58	59	58	56	55	53	51		59.0																					
26-Apr	49	47	46	45	45	43	41	40	39	39	39	41	41	44	47	50	51	52	52	51	49	46	44	41		52.3																					
27-Apr	38	35	32	30	28	25	22	21	20	21	22	22	26	30	35	39	42	44	45	44	44	42	41	39		44.9																					
28-Apr	37	35	33	31	30	27	25	23	23	23	24	26	30	34	36	37	37	38	38	37	36	36	36		37.7																						
29-Apr	34	33	29	25	21	17	13	11	11	9	12	17	22	27	32	36	39	39	40	40	39	39	38	37		40.2																					
30-Apr	35	32	31	30	29	27	25	26	26	28	30	32	34	37	40	42	42	43	43	43	42	41	40	39		42.9																					
																						48.9	47.2	45.6	44.8	44.9	43.2	41.3	40.0	39.3	38.9	39.8	43.5	48.8	49.9	51.7	52.9	55.7	58.1	59.0	58.2	55.5	55.1	53.2	50.9		
																						Diurnal Maximums																									
N - Not Valid																																															



**Span Responses**

**Ozone (O<sub>3</sub>)**  
**Henry Pirker - April 2011**

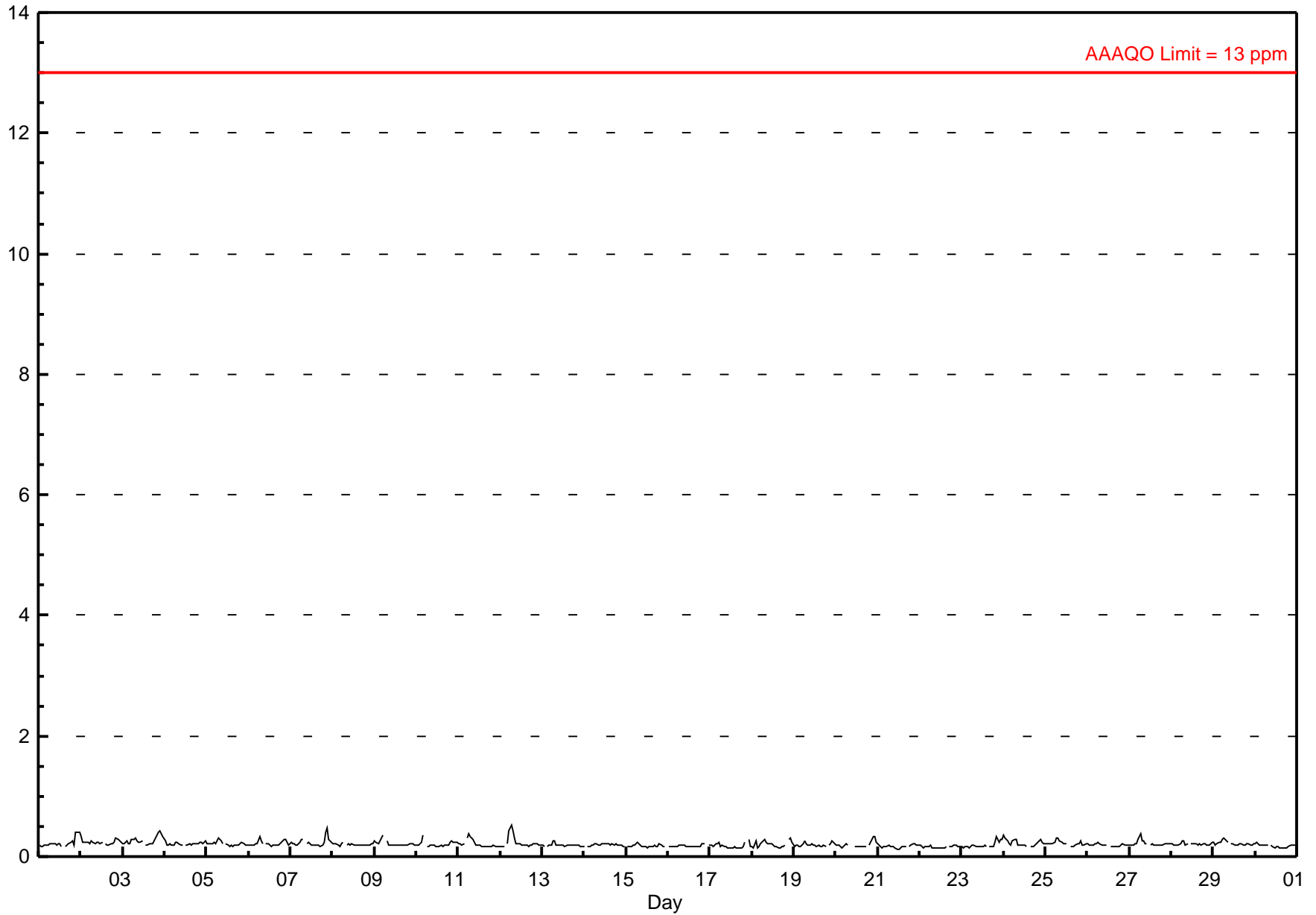


# Hourly Averages

Carbon Monoxide (CO) - ppm

Henry Pirker - April 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 0.51 ppm on Apr 12 07:00 Maximum Daily Average: 0.27 ppm on Apr 3		Hours in Service: 720 Hours of Data: 686 Hours of Missing Data: 34 Hours of Calibration: 34 Percent Operational Time: 100.0																								
Minimum Value: 0.1 ppm on Apr 21 13:00 Maximum Diurnal Average: 0.26 ppm at hour 7 Monthly Average: 0.206 ppm		Minimum Daily Average: 0.16 ppm on Apr 22 Minimum Diurnal Average: 0.18 ppm at hour 14 Percentiles: P <sub>1</sub> = 0.14 P <sub>10</sub> = 0.16 Q <sub>1</sub> = 0.18 Median = 0.20 Q <sub>3</sub> = 0.22 P <sub>90</sub> = 0.26 P <sub>99</sub> = 0.41																								
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-Apr	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.3	0.2	0.4	0.4	0.4	0.23	0.41
2-Apr	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.2	0.24	0.32
3-Apr	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.2	0.2	0.3	A	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.4	0.4	0.4	0.3	0.27	0.42
4-Apr	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.21	0.26
5-Apr	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	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	0.21	0.31
6-Apr	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.2	A	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	0.22	0.33
7-Apr	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.4	0.5	0.3	0.2	0.24	0.47
8-Apr	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.20	0.23
9-Apr	0.3	0.2	0.2	0.3	0.3	0.4	A	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.22	0.37
10-Apr	0.2	0.2	0.2	0.2	0.4	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.21	0.36
11-Apr	0.2	0.2	0.2	0.2	A	0.3	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	0.2	0.2	0.21	0.39
12-Apr	0.2	0.2	0.2	A	0.2	0.4	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	0.23	0.51
13-Apr	0.2	0.2	A	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.19	0.26
14-Apr	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.19	0.22
15-Apr	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.18	0.24
16-Apr	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	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	0.18	0.22
17-Apr	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.2	A	0.3	0.2	0.18	0.29
18-Apr	0.2	0.2	0.3	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.3	0.3	0.2	0.20	0.32
19-Apr	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.3	0.2	0.19	0.25
20-Apr	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	C	C	C	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.3	0.3	0.2	0.20	0.33
21-Apr	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	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.17	0.21
22-Apr	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.16	0.19
23-Apr	0.2	0.1	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.3	0.2	0.3	0.3	0.19	0.33
24-Apr	0.3	0.3	0.3	0.2	0.2	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	0.3	0.3	0.2	0.2	0.23	0.35
25-Apr	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	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.22	0.31
26-Apr	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.19	0.23
27-Apr	0.2	0.2	0.2	0.2	0.2	0.3	0.4	0.3	0.3	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.22	0.39
28-Apr	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.21	0.26
29-Apr	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	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	0.22	0.31
30-Apr	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.1	0.2	0.2	0.1	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.18	0.24
0.21 0.20 0.19 0.19 0.20 0.23 0.26 0.24 0.21 0.20 0.19 0.19 0.18 0.18 0.18 0.18 0.18 0.18 0.18 0.19 0.21 0.24 0.24 0.23 0.22																								Diurnal Average		
0.35 0.30 0.25 0.26 0.36 0.43 0.51 0.42 0.31 0.25 0.24 0.25 0.24 0.21 0.22 0.21 0.22 0.22 0.22 0.27 0.31 0.41 0.47 0.41 0.39																								Diurnal Maximum		
C - Calibration A - Automated Daily Zero Span																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 13 ppm 24-hr na																										



### Hourly Maximums

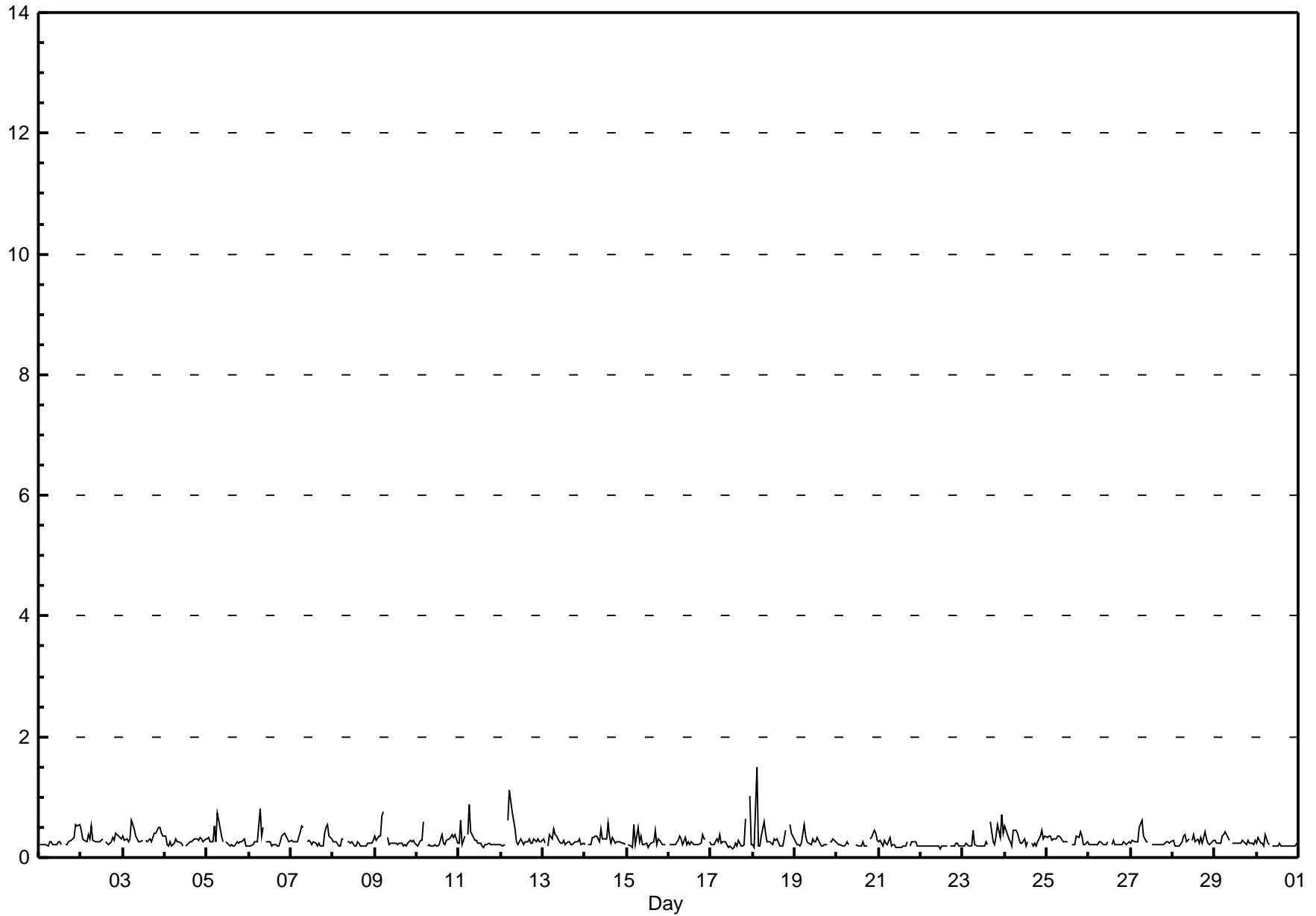
### Carbon Monoxide (CO) - ppm

### Henry Pirker - April 2011

Maximum Value: 1.50 ppm on Apr 18 03:00		Maximum Daily Average: 0.36 ppm on Apr 18		Hours in Service:	720																						
Minimum Value: 0.1 ppm on Apr 22 12:00		Minimum Daily Average: 0.20 ppm on Apr 22		Hours of Data:	686																						
Maximum Diurnal Average: 0.43 ppm at hour 7		Minimum Diurnal Average: 0.23 ppm at hour 16		Hours of Missing Data:	34																						
Monthly Average: 0.279 ppm		Percentiles: P <sub>1</sub> = 0.16 P <sub>10</sub> = 0.20 Q <sub>1</sub> = 0.20 Median = 0.25 Q <sub>3</sub> = 0.30 P <sub>90</sub> = 0.39 P <sub>99</sub> = 0.75		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-Apr	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.3	0.3	0.2	A	0.2	0.2	0.3	0.3	0.3	0.3	0.6	0.5	0.6	0.27	0.55	
2-Apr	0.5	0.3	0.3	0.3	0.4	0.3	0.5	0.3	0.3	0.3	0.3	0.3	0.3	A	0.3	0.2	0.2	0.3	0.3	0.3	0.3	0.4	0.4	0.3	0.3	0.31	0.52
3-Apr	0.4	0.3	0.3	0.3	0.3	0.6	0.5	0.4	0.3	0.3	0.3	0.3	A	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.5	0.5	0.4	0.4	0.35	0.61	
4-Apr	0.4	0.2	0.2	0.3	0.2	0.2	0.3	0.3	0.3	0.2	0.2	A	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.26	0.35	
5-Apr	0.3	0.3	0.3	0.3	0.5	0.3	0.7	0.6	0.4	0.3	A	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.3	0.3	0.3	0.2	0.2	0.30	0.73	
6-Apr	0.2	0.2	0.2	0.3	0.3	0.3	0.8	0.4	0.5	A	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.4	0.4	0.4	0.3	0.3	0.29	0.82	
7-Apr	0.3	0.3	0.3	0.3	0.3	0.4	0.5	0.5	A	0.3	0.3	0.3	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.4	0.5	0.6	0.4	0.3	0.31	0.55	
8-Apr	0.3	0.3	0.3	0.2	0.2	0.3	0.3	A	0.3	0.3	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.24	0.30	
9-Apr	0.3	0.3	0.3	0.3	0.7	0.8	A	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.30	0.76	
10-Apr	0.2	0.2	0.3	0.3	0.6	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.4	0.2	0.2	0.3	0.3	0.3	0.4	0.3	0.4	0.2	0.27	0.59	
11-Apr	0.2	0.6	0.2	0.4	A	0.4	0.9	0.4	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	0.30	0.89	
12-Apr	0.2	0.2	0.2	A	0.6	1.1	0.8	0.6	0.5	0.3	0.2	0.3	0.3	0.2	0.3	0.2	0.3	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.35	1.12	
13-Apr	0.3	0.2	A	0.2	0.4	0.3	0.5	0.4	0.4	0.3	0.2	0.2	0.3	0.2	0.3	0.3	0.2	0.2	0.3	0.3	0.2	0.3	0.2	0.2	0.28	0.47	
14-Apr	0.2	A	0.2	0.2	0.3	0.3	0.4	0.3	0.3	0.5	0.3	0.3	0.3	0.6	0.4	0.2	0.3	0.2	0.3	0.3	0.3	0.2	0.2	0.2	0.30	0.58	
15-Apr	A	0.2	0.2	0.2	0.5	0.2	0.5	0.3	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.5	0.2	0.3	0.3	0.2	0.2	0.2	A	0.26	0.54	
16-Apr	0.2	0.2	0.2	0.2	0.2	0.3	0.4	0.3	0.2	0.3	0.2	0.3	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.4	0.3	0.3	A	0.3	0.25	0.37	
17-Apr	0.2	0.2	0.2	0.3	0.3	0.4	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.6	A	1.0	0.2	0.28	1.03
18-Apr	0.2	0.2	1.5	0.2	0.2	0.3	0.6	0.4	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.3	0.5	A	0.5	0.4	0.4	0.36	1.50
19-Apr	0.3	0.2	0.2	0.2	0.2	0.6	0.4	0.3	0.2	0.2	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	A	0.3	0.3	0.3	0.26	0.55	
20-Apr	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	C	C	C	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	A	0.3	0.3	0.5	0.4	0.3	0.25	0.46
21-Apr	0.3	0.3	0.2	0.3	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	A	0.2	0.3	0.3	0.3	0.2	0.2	0.22	0.33	
22-Apr	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.20	0.24	
23-Apr	0.2	0.2	0.2	0.2	0.2	0.2	0.5	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	A	0.6	0.3	0.2	0.4	0.6	0.3	0.7	0.4	0.30	0.72	
24-Apr	0.5	0.5	0.3	0.3	0.2	0.5	0.5	0.4	0.3	0.2	0.2	0.3	0.2	0.3	A	0.2	0.2	0.2	0.2	0.2	0.4	0.4	0.3	0.4	0.31	0.52	
25-Apr	0.3	0.4	0.4	0.3	0.3	0.3	0.4	0.4	0.3	0.3	0.3	0.3	0.3	A	0.2	0.2	0.2	0.4	0.3	0.4	0.4	0.2	0.2	0.3	0.29	0.44	
26-Apr	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.3	A	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.3	0.22	0.29	
27-Apr	0.2	0.3	0.3	0.3	0.3	0.5	0.6	0.4	0.3	0.3	0.3	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.3	0.27	0.61	
28-Apr	0.3	0.2	0.2	0.2	0.2	0.3	0.4	0.4	0.3	0.3	A	0.3	0.4	0.2	0.3	0.2	0.3	0.2	0.4	0.3	0.2	0.2	0.2	0.3	0.28	0.42	
29-Apr	0.3	0.2	0.2	0.2	0.4	0.4	0.4	0.4	0.4	0.3	A	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.3	0.2	0.2	0.2	0.3	0.27	0.42	
30-Apr	0.2	0.3	0.2	0.2	0.2	0.4	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	0.22	0.39	
																								Diurnal Average			
																								Diurnal Maximum			
0.27 0.26 0.28 0.24 0.31 0.36 0.43 0.33 0.28 0.25 0.23 0.24 0.23 0.24 0.24 0.23 0.25 0.23 0.25 0.29 0.32 0.32 0.32 0.28																											
0.52 0.61 1.50 0.37 0.70 1.12 0.89 0.62 0.49 0.47 0.31 0.31 0.38 0.58 0.38 0.32 0.60 0.36 0.42 0.45 0.64 0.55 1.03 0.55																											
C - Calibration												A - Automated Daily Zero Span															

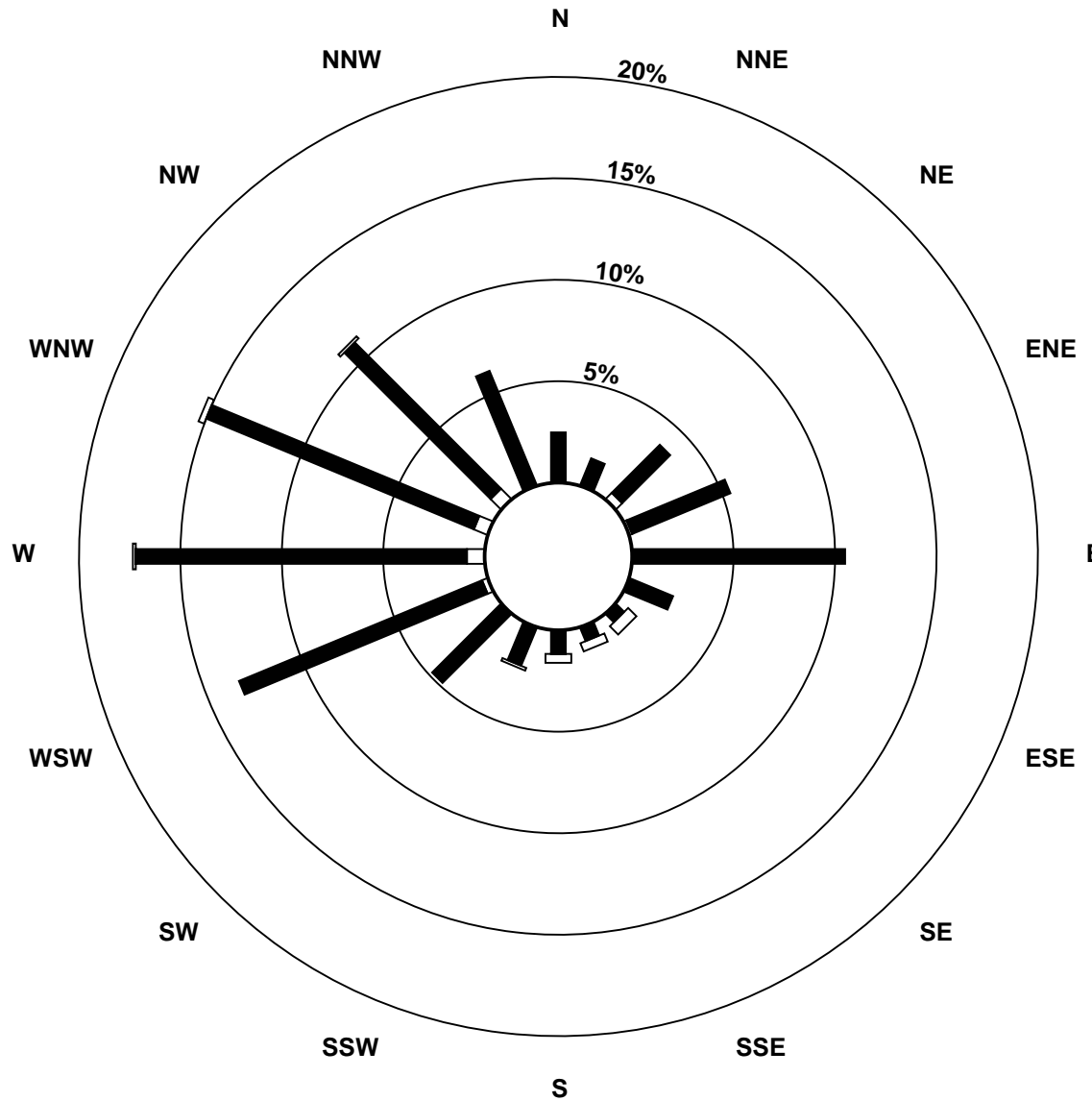
**Hourly Maximums**

**Carbon Monoxide (CO) - ppm**  
**Henry Pirker - April 2011**

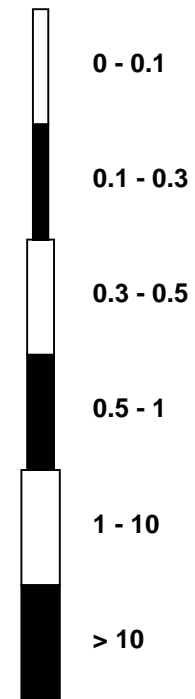


**Pollutant Rose**

**Carbon Monoxide (CO) - ppm**  
**Henry Pirker - April 2011**



**Pollutant Classes (ppm)**

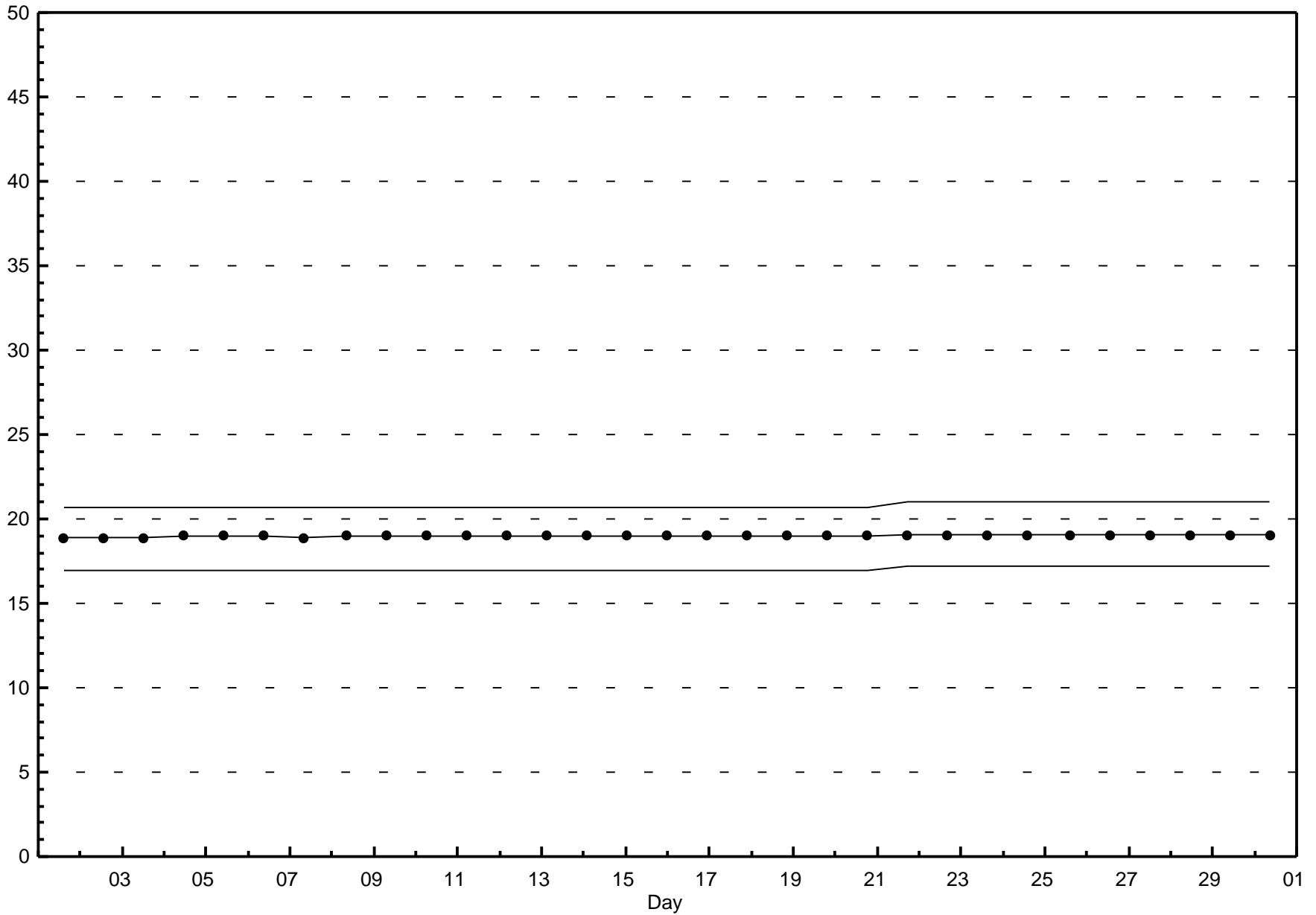


## Eight Hour Running Averages

## Carbon Monoxide (CO) - ppm

### Henry Pirker - April 2011

Number of Exceedences (AAAQO): 8-hr: 0 Maximum Value: 0.33 ppm on Apr 12 11:00		Hours in Service: 720 Hours of Data: 714 Hours of Missing Data: 6 Hours of Calibration: 6 Percent Operational Time: 100.0																							
Minimum Value: 0.14 ppm on Apr 21 18:00																									
Percentiles: P <sub>1</sub> = 0.15 P <sub>10</sub> = 0.17 Q <sub>1</sub> = 0.18 Median = 0.20 Q <sub>3</sub> = 0.22 P <sub>90</sub> = 0.25 P <sub>99</sub> = 0.31																									
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-Apr	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	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	0.29	
2-Apr	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.31
3-Apr	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.32
4-Apr	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.32
5-Apr	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.25
6-Apr	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.24
7-Apr	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.27
8-Apr	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.28
9-Apr	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.28
10-Apr	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.23
11-Apr	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	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.28
12-Apr	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	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.33
13-Apr	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.21
14-Apr	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.21
15-Apr	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.19
16-Apr	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.19
17-Apr	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.20
18-Apr	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.23
19-Apr	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.22
20-Apr	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	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.23
21-Apr	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.25
22-Apr	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.19
23-Apr	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.24
24-Apr	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.29
25-Apr	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.25
26-Apr	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.21
27-Apr	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	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.26
28-Apr	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.22
29-Apr	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.26
30-Apr	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.21
0.32 0.32 0.31 0.31 0.31 0.29 0.27 0.30 0.32 0.32 0.33 0.31 0.31 0.28 0.24 0.23 0.22 0.22 0.22 0.23 0.25 0.28 0.30 0.32																								Diurnal Maximums	
N - Not Valid Alberta Ambient Air Quality Objectives (AAAQO): 8-hr 5 ppm																									



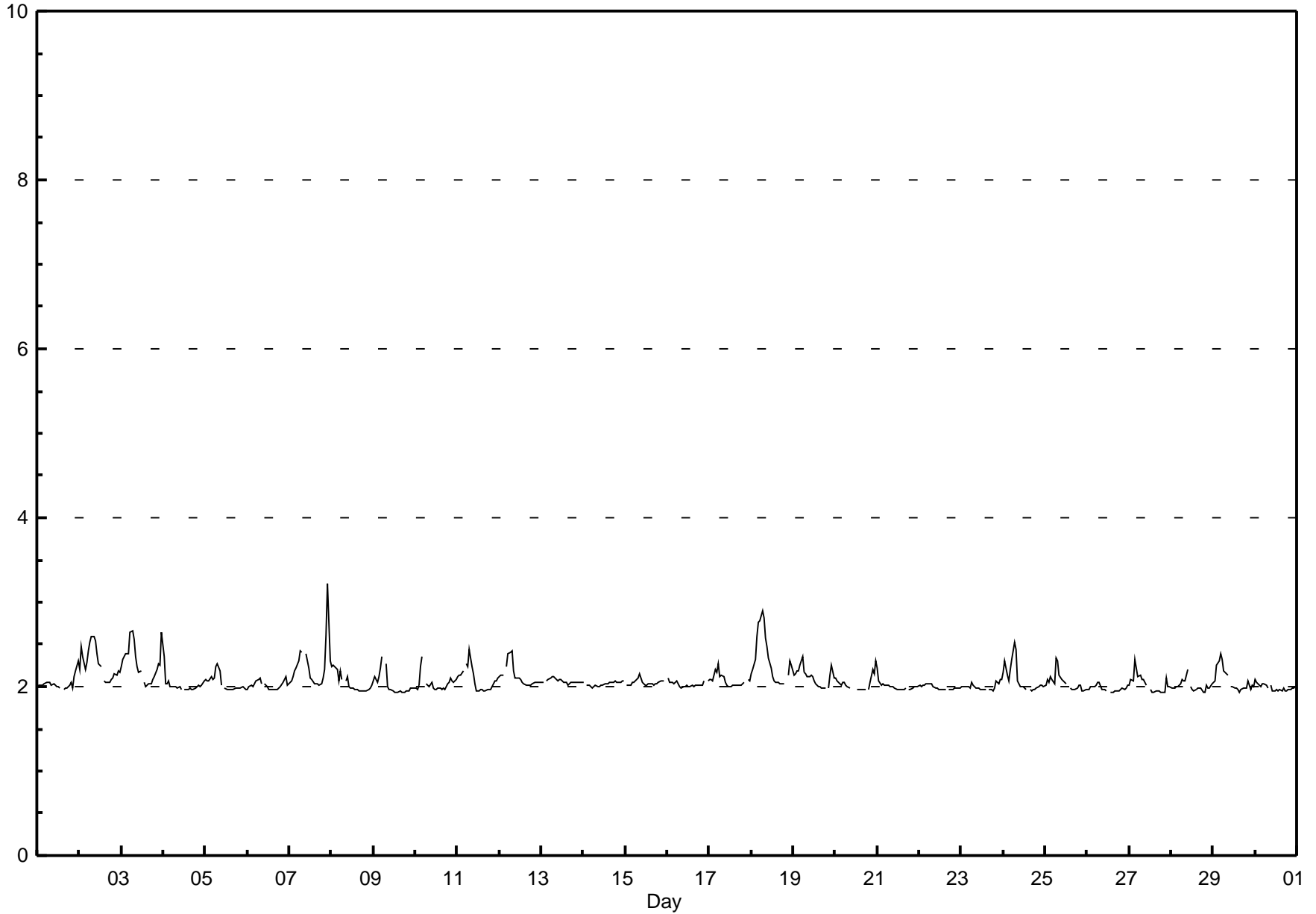


## Hourly Averages

## Total Hydrocarbons (THC) - ppm

Henry Pirker - April 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 3.22 ppm on Apr 7 23:00      Maximum Daily Average: 2.32 ppm on Apr 18										Hours in Service: 720 Hours of Data: 686 Hours of Missing Data: 34 Hours of Calibration: 34 Percent Operational Time: 100.0																	
Minimum Value: 1.9 ppm on Apr 27 19:00 Maximum Diurnal Average: 2.19 ppm at hour 7 Monthly Average: 2.071 ppm										Minimum Daily Average: 1.98 ppm on Apr 26 Minimum Diurnal Average: 1.99 ppm at hour 16 Percentiles: P <sub>1</sub> = 1.93 P <sub>10</sub> = 1.96 Q <sub>1</sub> = 1.98 Median = 2.03 Q <sub>3</sub> = 2.09 P <sub>90</sub> = 2.24 P <sub>99</sub> = 2.64																	
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-Apr	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.1	2.0	2.1	2.2	2.3	2.04	2.31	
2-Apr	2.2	2.5	2.4	2.2	2.3	2.4	2.5	2.6	2.6	2.5	2.4	2.3	2.2	A	2.1	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.2	2.2	2.27	2.60	
3-Apr	2.2	2.3	2.4	2.4	2.4	2.6	2.7	2.6	2.4	2.2	2.2	2.2	A	2.1	2.0	2.0	2.0	2.0	2.1	2.1	2.2	2.3	2.3	2.6	2.27	2.66	
4-Apr	2.4	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.01	2.36	
5-Apr	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.3	2.2	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.04	2.27	
6-Apr	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.0	2.01	2.12	
7-Apr	2.1	2.1	2.1	2.2	2.2	2.3	2.4	2.4	A	2.4	2.3	2.2	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.1	2.2	2.6	3.2	2.3	2.24	3.22	
8-Apr	2.2	2.3	2.2	2.2	2.1	2.2	2.1	A	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	2.0	2.0	2.0	2.0	2.04	2.26	
9-Apr	2.1	2.1	2.0	2.1	2.2	2.4	A	2.3	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.02	2.36	
10-Apr	2.0	2.0	2.0	2.2	2.4	A	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.0	2.1	2.04	2.35	
11-Apr	2.1	2.1	2.1	2.2	A	2.3	2.2	2.4	2.2	2.1	2.0	1.9	1.9	2.0	2.0	1.9	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.08	2.43	
12-Apr	2.1	2.1	2.1	A	2.2	2.4	2.4	2.4	2.2	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.12	2.42	
13-Apr	2.0	2.0	A	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.1	2.1	2.06	2.12	
14-Apr	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.03	2.07	
15-Apr	A	2.0	2.0	2.0	2.1	2.0	2.1	2.1	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	A	2.05	2.16	
16-Apr	2.1	2.1	2.1	2.1	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	A	2.1	2.03	2.09	
17-Apr	2.1	2.1	2.1	2.2	2.2	2.3	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	A	2.1	2.1	2.07	2.27	
18-Apr	2.2	2.2	2.3	2.6	2.8	2.8	2.9	2.8	2.6	2.5	2.3	2.2	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	A	2.1	2.3	2.3	2.32	2.90
19-Apr	2.1	2.2	2.2	2.2	2.3	2.4	2.2	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.1	2.2	2.1	2.11	2.36
20-Apr	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	C	C	C	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.1	2.2	2.2	2.3	2.04	2.30
21-Apr	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.01	2.23	
22-Apr	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.99	2.04	
23-Apr	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.1	2.0	2.1	2.1	2.00	2.09	
24-Apr	2.2	2.3	2.1	2.1	2.2	2.3	2.5	2.4	2.1	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.09	2.52	
25-Apr	2.0	2.1	2.1	2.1	2.1	2.0	2.3	2.3	2.1	2.1	2.1	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	2.0	2.05	2.34	
26-Apr	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.0	2.0	2.0	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	1.98	2.05	
27-Apr	2.0	2.1	2.1	2.3	2.2	2.1	2.1	2.1	2.1	2.0	2.0	A	2.0	1.9	1.9	2.0	2.0	1.9	1.9	1.9	1.9	2.1	2.0	2.0	2.03	2.32	
28-Apr	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.2	A	2.0	2.0	1.9	2.0	2.0	2.0	2.0	1.9	1.9	2.0	2.0	2.0	2.0	2.00	2.20	
29-Apr	2.0	2.1	2.2	2.3	2.4	2.3	2.2	2.2	2.1	A	2.0	2.0	2.0	2.0	2.0	1.9	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.07	2.39	
30-Apr	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.99	2.09	
																								Diurnal Average			
																								Diurnal Maximum			
2.09 2.10 2.10 2.13 2.15 2.19 2.19 2.19 2.19 2.11 2.10 2.06 2.03 2.01 1.99 1.99 1.99 1.99 1.99 1.99 2.01 2.03 2.07 2.11 2.09 2.36 2.47 2.39 2.60 2.76 2.79 2.90 2.81 2.60 2.54 2.38 2.27 2.24 2.09 2.07 2.05 2.05 2.05 2.09 2.13 2.21 2.60 3.22 2.65																											
C - Calibration                      A - Automated Daily Zero Span																											



## Hourly Maximums

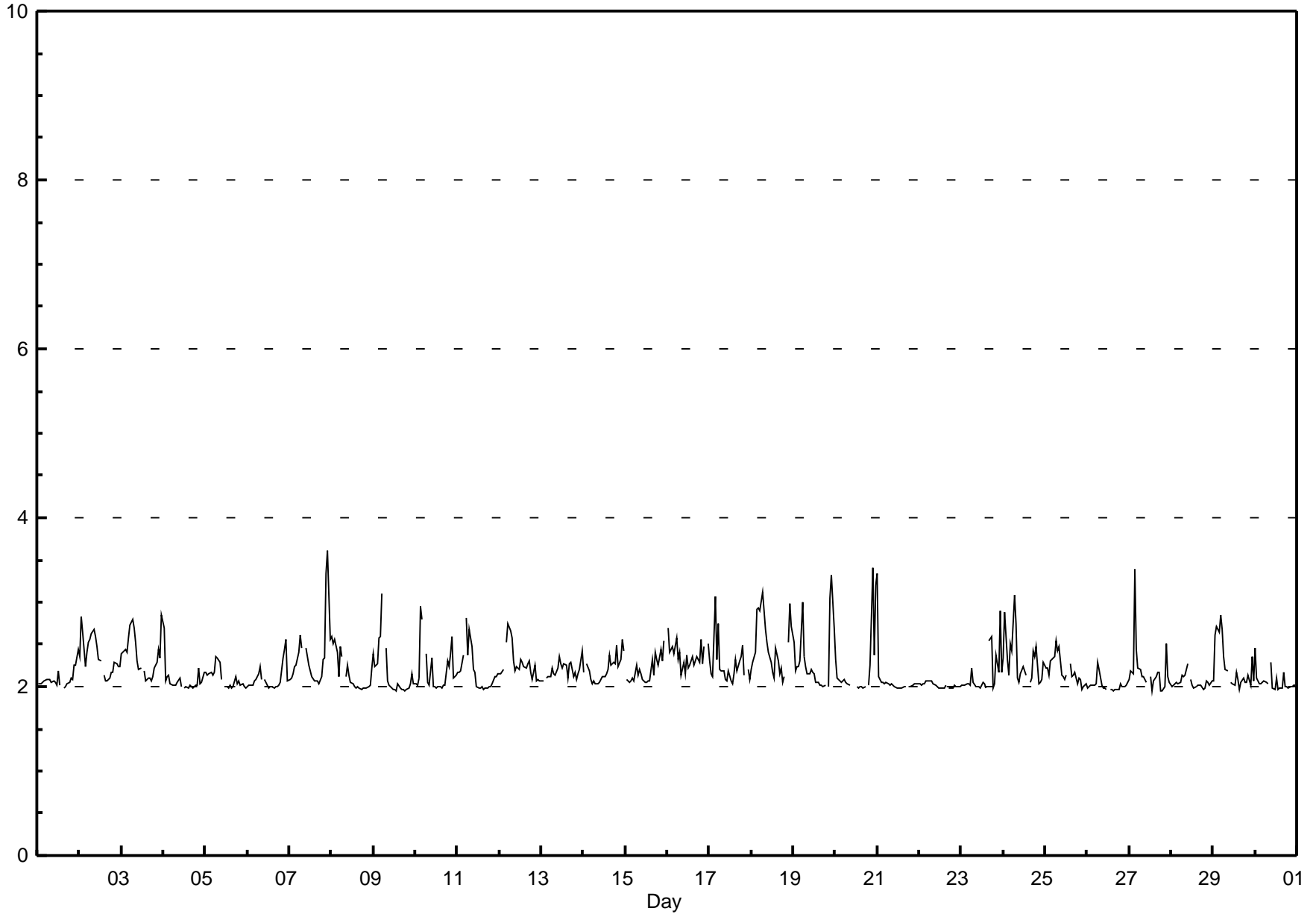
## Total Hydrocarbons (THC) - ppm

### Henry Pirker - April 2011

Maximum Value: 3.61 ppm on Apr 7 23:00		Maximum Daily Average: 2.49 ppm on Apr 18		Hours in Service: 720																																													
Minimum Value: 1.9 ppm on Apr 27 20:00		Minimum Daily Average: 2.02 ppm on Apr 22		Hours of Data: 686																																													
Maximum Diurnal Average: 2.37 ppm at hour 6		Minimum Diurnal Average: 2.06 ppm at hour 14		Hours of Missing Data: 34																																													
Monthly Average: 2.197 ppm		Percentiles: P <sub>1</sub> = 1.96 P <sub>10</sub> = 1.99 Q <sub>1</sub> = 2.02 Median = 2.11 Q <sub>3</sub> = 2.29 P <sub>90</sub> = 2.52 P <sub>99</sub> = 3.16		Hours of Calibration: 34																																													
Percent Operational Time: 100.0																										Daily Average	Daily Maximum																						
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																									
1-Apr	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.0	2.1	2.1	2.0	2.2	2.0	A	2.0	2.0	2.0	2.1	2.1	2.1	2.3	2.3	2.4	2.09	2.45																							
2-Apr	2.4	2.8	2.6	2.2	2.4	2.5	2.6	2.6	2.7	2.6	2.5	2.3	2.3	A	2.1	2.1	2.1	2.1	2.2	2.2	2.3	2.3	2.2	2.2	2.36	2.84																							
3-Apr	2.4	2.4	2.4	2.4	2.6	2.7	2.8	2.7	2.5	2.3	2.2	2.2	A	2.2	2.1	2.1	2.1	2.1	2.1	2.2	2.3	2.4	2.3	2.8	2.37	2.85																							
4-Apr	2.7	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.1	2.1	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.2	2.0	2.0	2.2	2.08	2.69																							
5-Apr	2.2	2.1	2.1	2.2	2.1	2.2	2.4	2.3	2.3	2.1	A	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.1	2.0	2.0	2.0	2.10	2.35																								
6-Apr	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.2	2.1	A	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.3	2.4	2.6	2.1	2.10	2.57																							
7-Apr	2.1	2.1	2.2	2.2	2.3	2.4	2.6	2.4	A	2.5	2.4	2.3	2.2	2.1	2.1	2.1	2.1	2.0	2.1	2.3	2.3	3.3	3.6	2.6	2.36	3.61																							
8-Apr	2.6	2.5	2.6	2.4	2.1	2.5	2.4	A	2.1	2.3	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.2	2.16	2.60																								
9-Apr	2.4	2.2	2.3	2.6	2.6	3.1	A	2.5	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.2	2.0	2.16	3.09																								
10-Apr	2.0	2.0	2.1	3.0	2.8	A	2.4	2.0	2.0	2.3	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.3	2.2	2.4	2.6	2.1	2.1	2.19	2.96																							
11-Apr	2.2	2.2	2.2	2.4	A	2.8	2.4	2.7	2.5	2.2	2.2	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.17	2.82																								
12-Apr	2.2	2.1	2.2	A	2.5	2.7	2.7	2.6	2.3	2.2	2.2	2.2	2.3	2.3	2.2	2.2	2.3	2.3	2.2	2.1	2.3	2.1	2.1	2.1	2.28	2.74																							
13-Apr	2.1	2.1	A	2.1	2.1	2.1	2.2	2.2	2.1	2.2	2.3	2.3	2.2	2.3	2.3	2.1	2.3	2.3	2.1	2.2	2.1	2.2	2.2	2.4	2.19	2.43																							
14-Apr	2.2	A	2.3	2.2	2.1	2.0	2.1	2.0	2.0	2.1	2.1	2.1	2.1	2.2	2.2	2.4	2.2	2.3	2.3	2.5	2.2	2.3	2.6	2.4	2.21	2.55																							
15-Apr	A	2.1	2.0	2.1	2.1	2.1	2.3	2.1	2.2	2.2	2.1	2.0	2.0	2.1	2.1	2.3	2.1	2.4	2.3	2.2	2.4	2.3	2.5	A	2.19	2.54																							
16-Apr	2.7	2.4	2.4	2.5	2.4	2.6	2.3	2.4	2.1	2.3	2.1	2.4	2.2	2.2	2.4	2.2	2.3	2.3	2.3	2.6	2.3	2.5	A	2.5	2.37	2.70																							
17-Apr	2.3	2.2	2.1	3.1	2.3	2.7	2.2	2.2	2.2	2.1	2.1	2.2	2.1	2.0	2.2	2.3	2.2	2.3	2.3	2.5	2.1	A	2.2	2.1	2.26	3.07																							
18-Apr	2.2	2.3	2.4	2.9	2.9	2.9	3.1	2.9	2.7	2.5	2.4	2.3	2.2	2.1	2.5	2.3	2.2	2.2	2.0	2.1	A	2.5	3.0	2.7	2.49	3.11																							
19-Apr	2.5	2.2	2.2	2.2	2.3	3.0	2.4	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.0	2.0	2.0	2.0	A	2.0	3.1	3.3	2.7	2.31	3.32																							
20-Apr	2.3	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	C	C	C	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.3	3.4	2.4	3.2	2.20	3.41																							
21-Apr	3.3	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.08	3.35																							
22-Apr	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.02	2.07																							
23-Apr	2.0	2.0	2.0	2.0	2.0	2.0	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.5	2.6	2.0	2.0	2.4	2.2	2.9	2.2	2.14	2.90																							
24-Apr	2.3	2.9	2.3	2.1	2.5	2.4	3.1	2.8	2.1	2.1	2.2	2.2	2.2	2.1	A	2.1	2.1	2.4	2.4	2.5	2.0	2.0	2.1	2.3	2.31	3.08																							
25-Apr	2.2	2.2	2.1	2.3	2.3	2.4	2.5	2.4	2.5	2.1	2.1	2.1	2.1	A	2.3	2.1	2.1	2.2	2.0	2.1	2.1	2.0	2.0	2.0	2.19	2.54																							
26-Apr	2.0	2.0	2.0	2.0	2.0	2.0	2.3	2.2	2.0	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.02	2.28																							
27-Apr	2.1	2.2	2.1	3.4	2.4	2.2	2.2	2.1	2.1	2.1	2.1	A	2.1	1.9	2.1	2.1	2.2	2.2	2.0	1.9	2.0	2.5	2.1	2.0	2.18	3.39																							
28-Apr	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.3	A	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.1	2.05	2.27																							
29-Apr	2.1	2.6	2.7	2.6	2.8	2.7	2.4	2.2	2.2	A	2.1	2.0	2.0	2.2	2.1	2.0	2.1	2.1	2.1	2.1	2.1	2.0	2.4	2.1	2.24	2.85																							
30-Apr	2.5	2.1	2.0	2.0	2.1	2.1	2.0	2.0	A	2.3	2.0	2.0	2.1	2.0	2.0	2.0	2.2	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.05	2.45																							
																								2.27	2.21	2.21	2.32	2.28	2.37	2.34	2.29	2.19	2.18	2.13	2.09	2.06	2.09	2.08	2.10	2.13	2.09	2.13	2.15	2.30	2.32	2.27	Diurnal Average		
																								3.35	2.88	2.72	3.39	2.93	3.09	3.11	2.90	2.69	2.60	2.48	2.37	2.33	2.29	2.47	2.36	2.55	2.59	2.35	2.56	2.44	3.41	3.61	3.20	Diurnal Maximum	
C - Calibration																								A - Automated Daily Zero Span																									

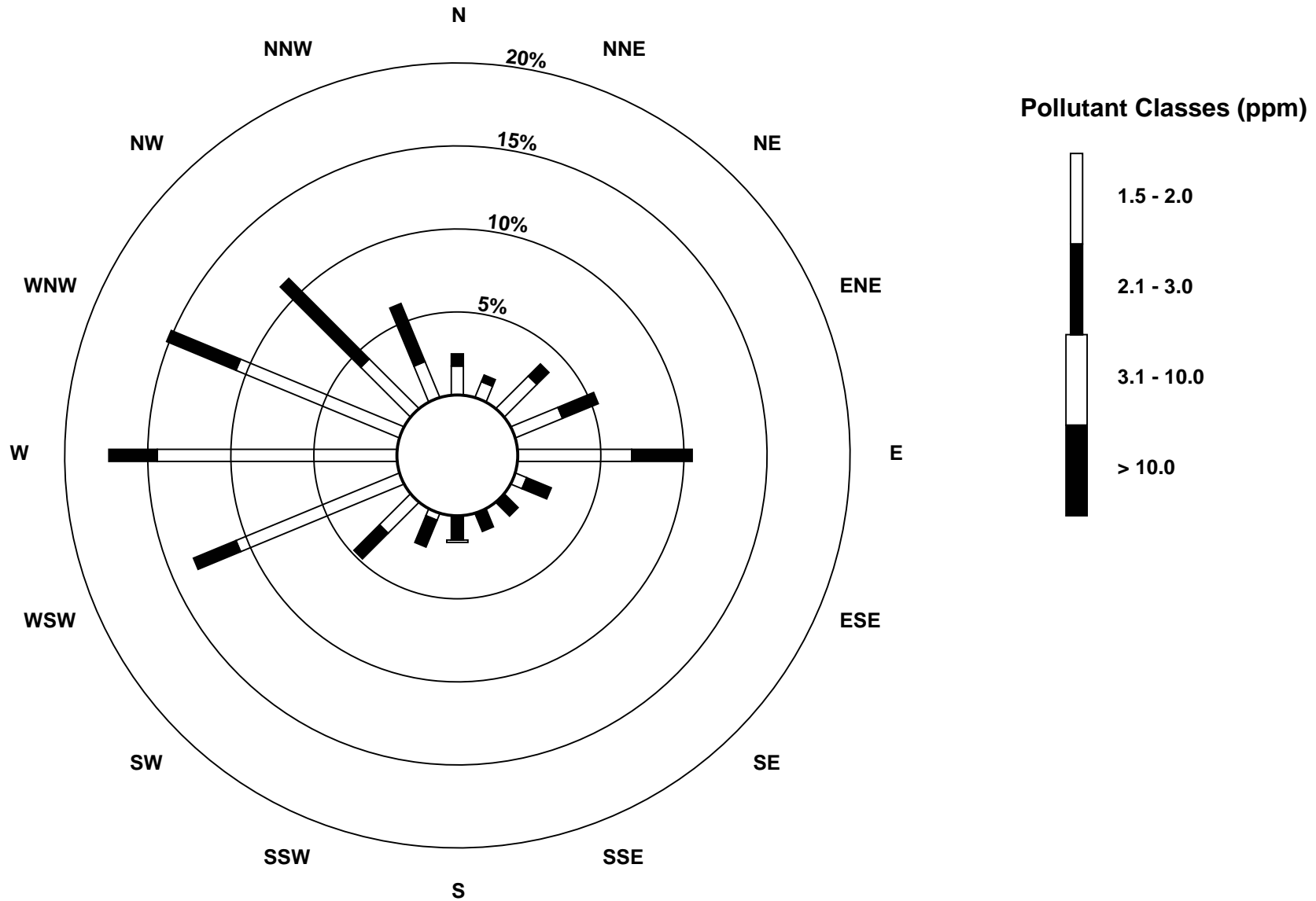
**Hourly Maximums**

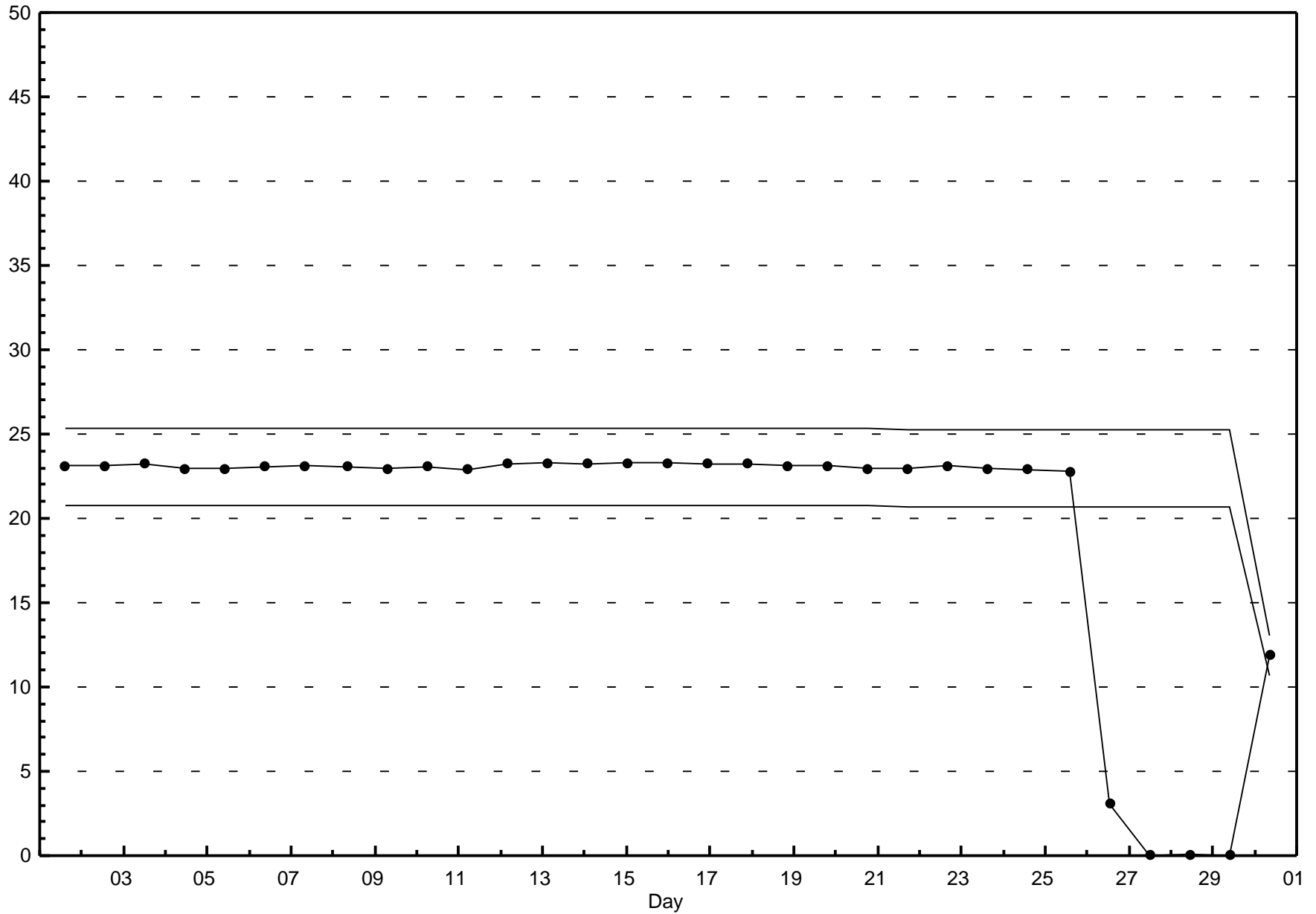
**Total Hydrocarbons (THC) - ppm**  
**Henry Pirker - April 2011**



**Pollutant Rose**

**Total Hydrocarbons (THC) - ppm**  
**Henry Pirker - April 2011**





## Hourly Averages

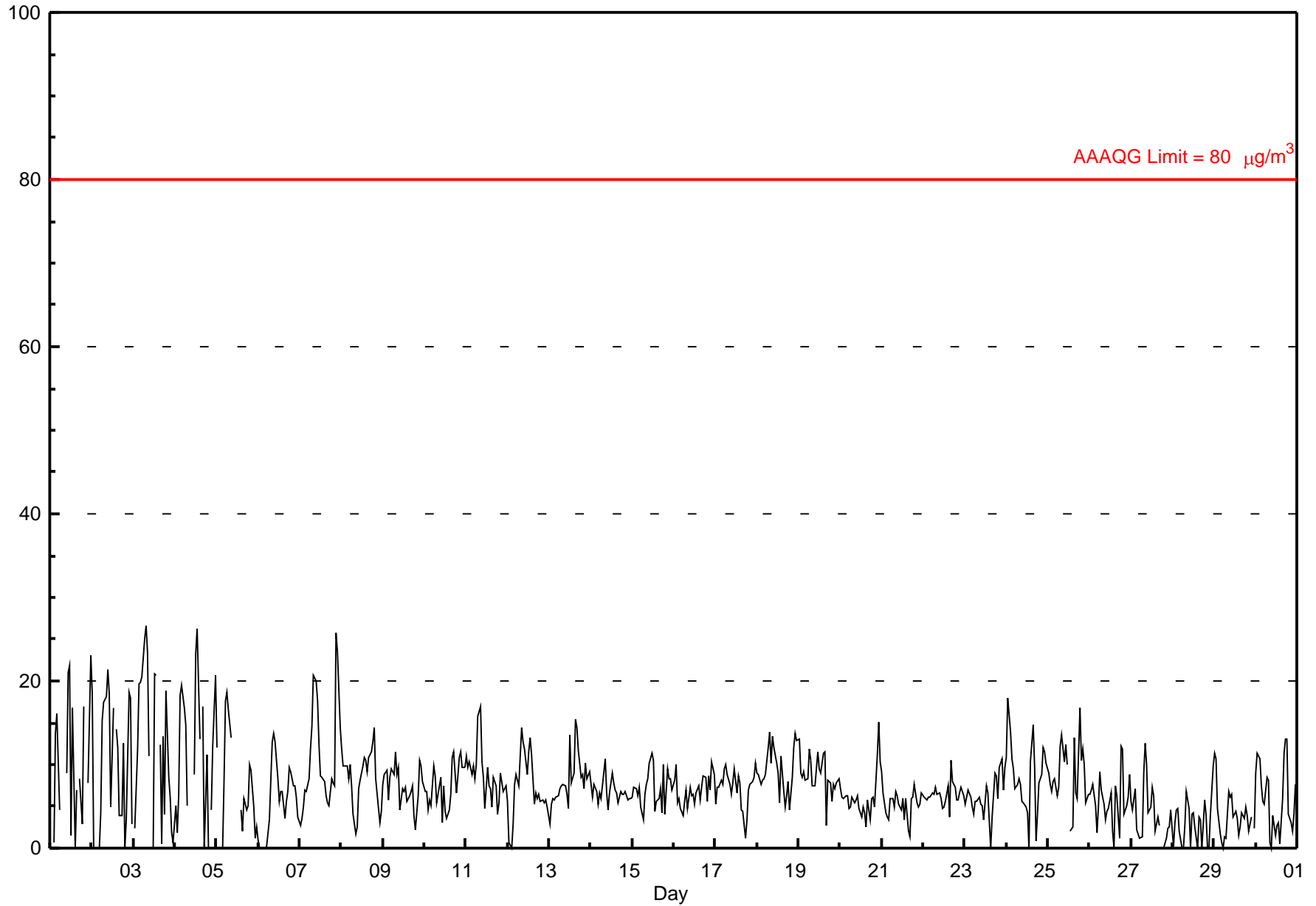
## Particulate Matter 2.5 (PM<sub>2.5</sub>) - µg/m<sup>3</sup>

Henry Pirker - April 2011

Number of Exceedences: 1-hr: 0 24-hr: 0	Hours in Service: 720
Maximum Value: 26.6 µg/m <sup>3</sup> on Apr 3 08:00	Maximum Daily Average: 12.8 µg/m <sup>3</sup> on Apr 3
Minimum Value: 0 µg/m <sup>3</sup> on Apr 1 15:00	Hours of Data: 692
Maximum Diurnal Average: 9.7 µg/m <sup>3</sup> at hour 9	Hours of Missing Data: 28
Monthly Average: 7.51 µg/m <sup>3</sup>	Hours of Calibration: 2
Minimum Daily Average: 2.9 µg/m <sup>3</sup> on Apr 28	Percent Operational Time: 96.4
Minimum Diurnal Average: 6.3 µg/m <sup>3</sup> at hour 15	
Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 2.5 Q <sub>1</sub> = 4.8 Median = 6.8 Q <sub>3</sub> = 9.5 P <sub>90</sub> = 13.0 P <sub>99</sub> = 23.2	

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Apr	BD	BD	1	14	16	5	BD	BD	BD	9	21	22	2	17	0	7	BD	8	3	17	BD	BD	8	23	--	23.1
2-Apr	19	0	BD	BD	0	4	15	17	18	21	18	5	17	BD	14	12	4	4	13	0	3	19	18	3	10.7	21.4
3-Apr	BD	2	12	20	20	20	25	27	23	11	BD	0	21	21	BD	12	1	13	4	19	9	6	2	1	12.8	26.6
4-Apr	5	2	6	18	20	17	15	5	BD	BD	BD	9	23	26	13	BD	17	0	11	0	BD	5	12	21	11.8	26.3
5-Apr	12	BD	BD	0	8	18	19	17	13	BD	BD	5	C	C	5	2	6	5	5	10	9	5	1	3	7.9	18.6
6-Apr	1	0	0	0	0	0	3	8	13	14	13	8	6	7	7	4	6	7	10	9	7	7	6	4	5.8	13.8
7-Apr	3	4	5	7	7	8	12	15	21	20	18	12	9	9	8	6	5	5	8	8	8	26	24	14	10.8	25.8
8-Apr	12	10	10	10	8	10	8	4	2	2	7	8	10	11	10	9	11	12	13	14	8	5	3	4	8.4	14.4
9-Apr	8	9	9	6	8	10	9	11	9	10	5	7	7	7	6	6	7	8	4	2	6	10	10	8	7.5	11.5
10-Apr	7	7	5	6	5	10	9	5	6	9	3	7	4	4	5	6	11	12	7	9	11	11	10	10	7.4	11.5
11-Apr	11	10	10	9	10	8	10	16	17	10	9	5	10	8	7	5	8	7	4	5	9	7	7	7	8.7	17.0
12-Apr	6	1	0	3	8	9	7	11	14	13	12	9	11	13	11	5	7	6	6	6	6	5	6	5	7.5	14.3
13-Apr	3	5	6	6	6	6	7	7	8	7	6	5	14	8	9	15	14	12	8	9	7	10	8	9	8.2	15.4
14-Apr	8	6	8	7	5	7	6	8	11	7	5	7	9	8	7	7	6	7	6	6	7	6	6	6	6.7	10.7
15-Apr	6	7	7	6	7	5	3	6	8	8	10	11	10	4	6	6	7	4	10	4	9	8	8	7	7.1	11.4
16-Apr	8	10	5	6	5	4	6	7	5	7	6	6	5	7	8	6	7	9	8	6	9	7	10	9	6.9	10.3
17-Apr	5	7	7	8	8	10	10	9	8	7	8	10	7	9	8	5	4	1	3	7	8	8	8	10	7.2	10.2
18-Apr	9	9	8	8	8	9	12	14	10	13	12	10	9	5	11	7	5	6	8	5	8	12	14	13	9.4	13.9
19-Apr	13	9	9	9	8	8	12	10	7	8	9	11	10	9	11	11	3	8	8	6	8	7	8	8	8.8	13.1
20-Apr	7	6	6	6	6	5	5	6	5	6	6	5	4	5	4	3	6	3	6	6	5	11	15	10	6.1	15.0
21-Apr	9	7	4	4	3	6	6	5	7	6	5	5	6	3	6	2	1	6	6	8	5	5	5	7	5.3	9.1
22-Apr	6	6	6	6	6	7	6	7	6	7	6	5	5	6	8	4	10	8	7	6	6	7	7	6	6.4	10.5
23-Apr	5	6	7	6	5	4	6	6	6	5	5	3	7	7	3	0	4	9	9	6	10	11	7	10	6.1	10.7
24-Apr	11	18	14	11	10	7	8	8	8	6	5	5	4	0	10	15	10	1	4	8	9	12	12	10	8.5	18.0
25-Apr	9	8	7	8	8	6	7	12	14	10	12	10	M	2	2	13	7	6	17	10	12	10	5	6	8.8	16.8
26-Apr	6	7	8	5	2	5	9	7	5	3	4	5	7	2	0	7	6	1	12	12	4	5	6	9	5.8	12.2
27-Apr	6	5	7	2	2	1	1	9	13	10	4	5	7	6	2	4	3	BD	0	0	1	2	2	5	4.2	12.6
28-Apr	0	3	5	5	2	0	0	3	7	5	0	4	4	3	0	4	3	0	6	4	0	0	4	10	2.9	9.8
29-Apr	11	11	5	2	1	0	1	1	7	6	6	4	4	4	1	3	4	4	5	4	2	4	BD	2	4.0	11.3
30-Apr	9	11	11	7	6	5	8	8	1	0	4	1	3	3	1	6	11	13	13	4	3	2	4	8	6.0	13.1
																								Diurnal Average	Diurnal Maximum	
																								7.6	18.6	
																								6.6	18.0	
																								6.6	13.9	
																								7.0	19.6	
																								6.9	19.8	
																								7.1	20.5	
																								8.5	25.0	
																								9.3	25.0	
																								9.7	26.6	
																								8.6	23.3	
																								8.2	21.4	
																								7.0	21.1	
																								8.3	21.9	
																								7.5	23.2	
																								6.3	26.3	
																								6.6	14.3	
																								6.7	15.4	
																								6.3	16.9	
																								7.5	13.4	
																								6.9	16.8	
																								6.7	18.8	
																								8.1	11.8	
																								8.2	25.8	
																								8.2	23.6	
																								8.2	23.1	

C - Calibration      M - Maintenance      BD - Baseline Drift  
 Alberta Ambient Air Quality Guideline (AAQG): 1-hr 80 µg/m<sup>3</sup>      Alberta Ambient Air Quality Objective (AAQO): 24-hr 30 µg/m<sup>3</sup>



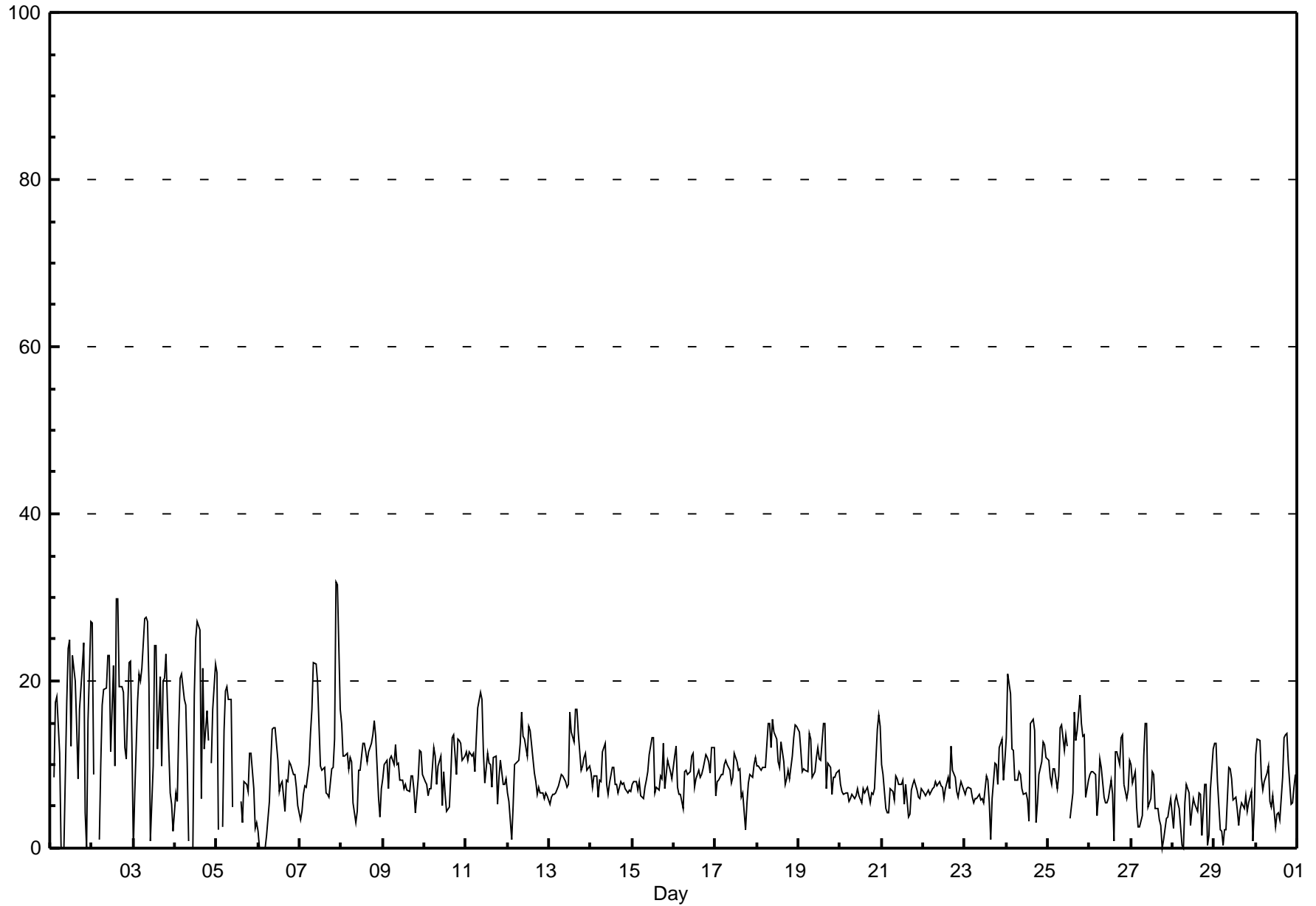


## Hourly Maximums

## Particulate Matter 2.5 (PM<sub>2.5</sub>) - µg/m<sup>3</sup>

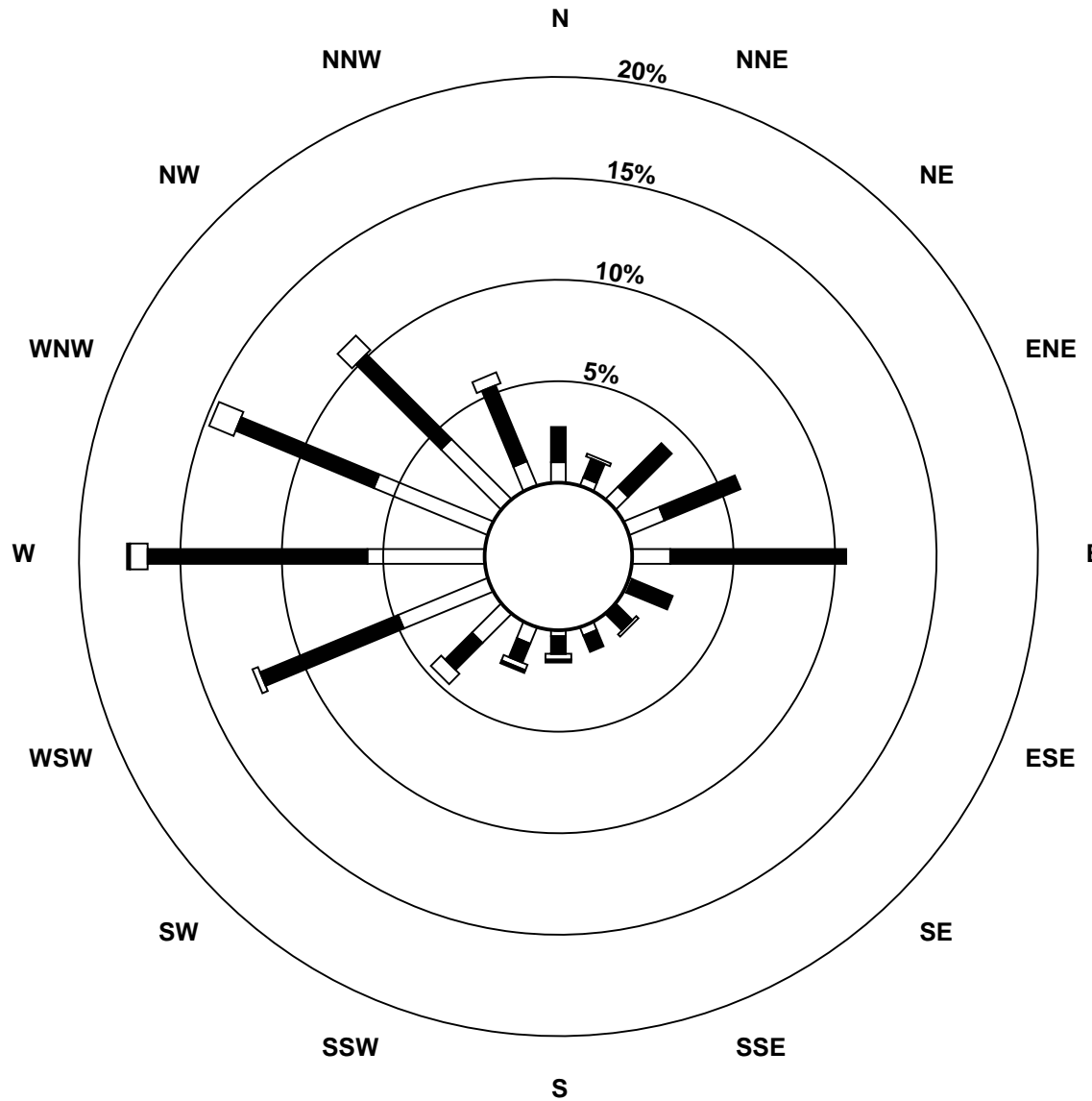
Henry Pirker - April 2011

Maximum Value: 31.8 µg/m <sup>3</sup> on Apr 7 22:00		Maximum Daily Average: 17.6 µg/m <sup>3</sup> on Apr 2		Hours in Service: 720																																													
Minimum Value: 0 µg/m <sup>3</sup> on Apr 1 07:00		Minimum Daily Average: 4.9 µg/m <sup>3</sup> on Apr 28		Hours of Data: 708																																													
Maximum Diurnal Average: 11.0 µg/m <sup>3</sup> at hour 8		Minimum Diurnal Average: 8.3 µg/m <sup>3</sup> at hour 5		Hours of Missing Data: 12																																													
Monthly Average: 9.63 µg/m <sup>3</sup>		Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 4.6 Q <sub>1</sub> = 6.4 Median = 8.6 Q <sub>3</sub> = 11.8 P <sub>90</sub> = 16.6 P <sub>99</sub> = 27.0		Hours of Calibration: 2																																													
				Percent Operational Time: 98.6																																													
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-Apr	BD	BD	8	17	18	11	0	BD	0	17	24	25	12	23	20	15	8	17	22	25	4	0	15	27	14.7	27.2																							
2-Apr	27	9	BD	BD	1	10	17	19	19	23	23	11	22	10	30	30	19	19	19	12	11	22	22	12	17.6	29.8																							
3-Apr	0	7	18	21	20	21	27	28	27	20	1	10	24	24	12	21	10	20	20	23	12	7	5	2	15.8	27.6																							
4-Apr	7	6	14	20	21	18	17	10	1	BD	0	18	25	27	26	6	22	12	16	13	BD	10	17	22	14.9	27.2																							
5-Apr	21	2	BD	3	14	19	19	18	18	5	BD	19	C	C	6	3	8	8	7	11	11	7	2	3	10.2	21.1																							
6-Apr	2	0	0	0	0	2	6	11	14	14	14	10	7	8	8	4	8	8	10	10	9	9	7	5	6.9	14.4																							
7-Apr	3	4	6	7	7	10	14	17	22	22	20	15	10	9	10	7	6	6	10	10	13	32	32	17	12.8	31.8																							
8-Apr	15	11	11	11	10	11	10	5	3	4	9	9	13	13	12	10	11	13	13	15	13	6	4	7	10.0	15.2																							
9-Apr	8	10	11	7	11	11	10	12	10	10	8	8	7	8	7	7	9	9	7	4	8	12	12	9	8.9	12.4																							
10-Apr	8	8	6	7	7	12	11	8	10	11	5	9	6	4	5	9	13	14	9	13	13	13	10	11	9.3	13.5																							
11-Apr	12	11	12	11	11	9	13	17	19	18	11	8	11	10	10	7	11	11	5	9	11	8	8	8	10.8	18.6																							
12-Apr	7	6	1	5	10	10	11	13	16	13	13	11	15	14	12	9	8	6	7	7	7	6	7	6	9.1	16.2																							
13-Apr	5	6	6	6	7	7	8	9	9	8	7	8	16	14	13	17	17	14	9	10	11	11	9	10	9.9	16.7																							
14-Apr	9	7	9	9	6	8	8	12	13	8	6	8	10	10	8	8	7	8	8	8	7	7	7	7	8.1	12.6																							
15-Apr	8	8	8	7	8	6	6	7	8	9	11	13	13	7	7	7	9	8	13	7	11	10	9	8	8.7	13.3																							
16-Apr	11	12	7	6	6	5	9	9	9	9	11	11	7	8	9	9	9	10	11	11	10	9	12	12	9.3	12.3																							
17-Apr	6	8	8	9	9	10	10	10	9	8	9	11	10	9	10	6	7	2	5	8	9	8	10	11	8.5	11.3																							
18-Apr	10	10	9	10	10	10	15	15	12	15	14	13	10	10	13	10	8	8	9	8	11	13	15	15	11.4	15.5																							
19-Apr	14	12	9	10	9	9	14	13	8	9	11	12	11	11	15	15	7	10	10	6	8	8	9	9	10.4	15.0																							
20-Apr	8	7	6	7	7	6	6	6	6	6	7	6	6	7	7	7	7	5	7	6	7	14	16	15	7.6	15.9																							
21-Apr	10	9	5	4	4	7	7	6	9	8	8	8	8	5	8	4	4	7	8	8	7	6	6	7	6.7	10.1																							
22-Apr	7	6	7	7	6	7	7	8	7	8	7	7	6	7	8	7	12	9	8	7	6	7	8	7	7.5	12.3																							
23-Apr	6	7	7	7	6	5	6	6	6	6	6	5	9	8	5	1	6	10	10	8	12	13	8	11	7.3	13.0																							
24-Apr	13	21	18	12	12	8	8	9	9	7	6	7	6	3	15	15	14	3	5	9	10	13	12	11	10.3	20.8																							
25-Apr	11	8	8	9	10	7	9	14	15	12	14	12	M	3	7	16	13	14	18	15	13	14	6	8	11.1	18.4																							
26-Apr	9	9	9	9	4	6	11	10	6	5	5	6	8	6	1	12	12	10	13	14	8	6	7	11	8.2	13.5																							
27-Apr	10	8	9	5	2	3	4	11	15	15	5	6	9	9	5	5	3	3	0	1	4	4	5	6	6.1	15.0																							
28-Apr	2	6	6	5	5	0	0	5	8	7	3	5	6	5	4	7	6	2	8	8	0	2	7	12	4.9	11.8																							
29-Apr	13	13	8	2	2	0	2	2	10	10	8	6	6	4	3	5	5	5	6	4	5	7	1	5	5.5	12.6																							
30-Apr	11	13	13	8	7	8	9	10	6	5	6	3	4	4	3	8	13	14	14	10	5	5	7	9	8.2	13.8																							
																								9.4	8.4	8.6	8.4	8.3	8.6	9.8	11.0	10.8	10.8	9.4	10.0	10.6	9.7	9.9	9.5	9.7	9.4	10.3	10.0	8.9	9.6	9.8	10.1	Diurnal Average	
																								26.9	20.8	18.4	20.8	20.8	21.5	27.4	27.6	27.1	23.0	24.0	24.9	25.1	27.2	29.8	29.8	21.5	20.0	21.7	24.6	13.4	31.8	31.5	27.2	Diurnal Maximum	
C - Calibration			M - Maintenance				BD - Baseline Drift																																										

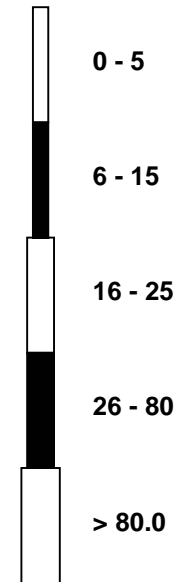


**Pollutant Rose**

**Particulate Matter 2.5 (PM<sub>2.5</sub>) - μg/m<sup>3</sup>**  
Henry Pirker - April 2011



**Pollutant Classes (μg/m<sup>3</sup>)**

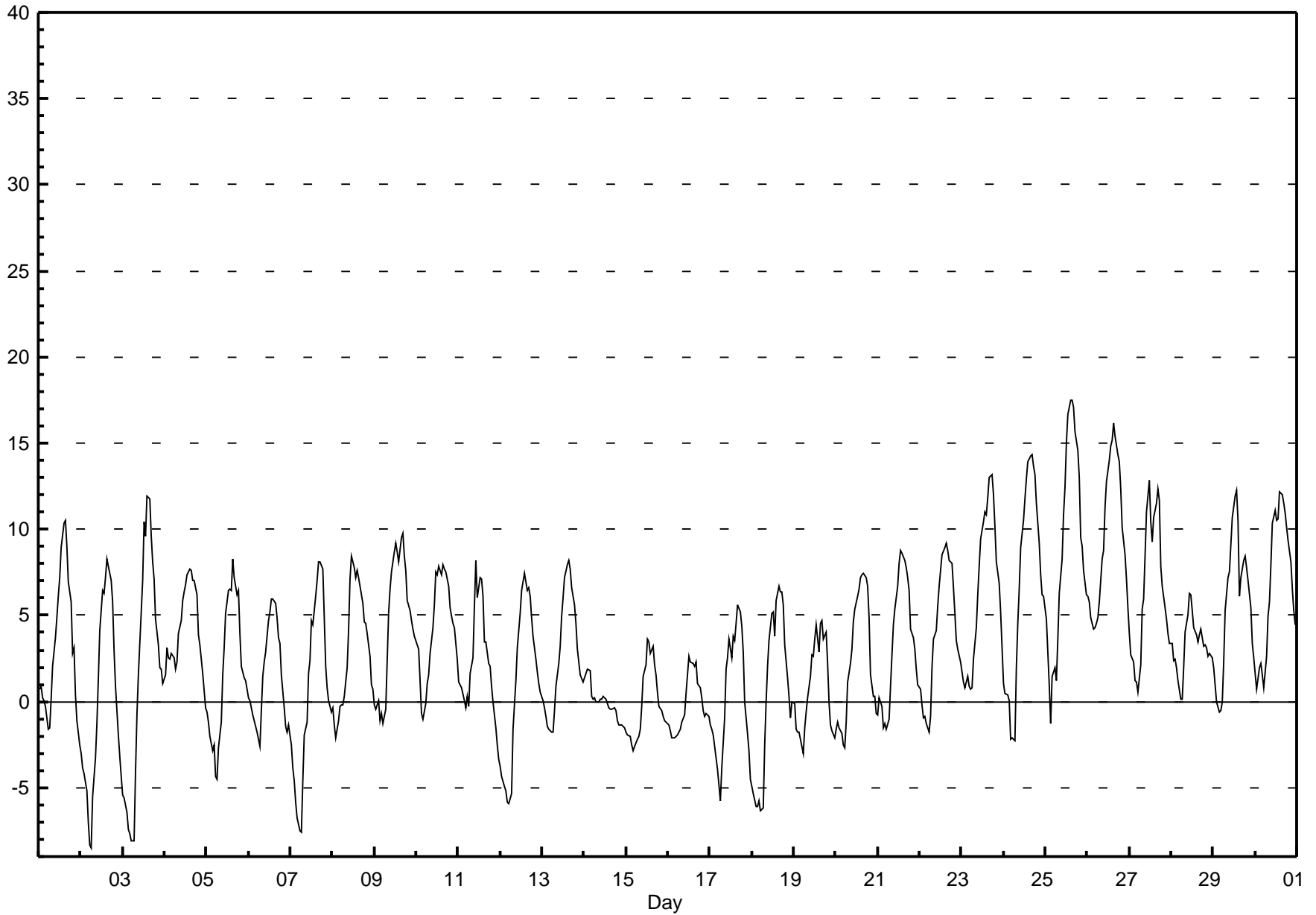


## Hourly Averages

External Temperature (ET) - °C

Henry Pirker - April 2011

Number of Exceedences (AAQO): 1-hr: 0 24-hr: 0 Maximum Value: 17.5 °C on Apr 25 16:00      Maximum Daily Average: 9.5 °C on Apr 26																			Hours in Service: 720 Hours of Data: 720							
Minimum Value: -9 °C on Apr 2 07:00      Minimum Daily Average: -0.2 °C on Apr 16 Maximum Diurnal Average: 8.0 °C at hour 16      Minimum Diurnal Average: -1.9 °C at hour 6 Monthly Average: 3.18 °C      Percentiles: P <sub>1</sub> = -7.5 P <sub>10</sub> = -2.1 Q <sub>1</sub> = -0.3 Median = 2.7 Q <sub>3</sub> = 6.5 P <sub>90</sub> = 9.2 P <sub>99</sub> = 15.3																			Hours of Missing Data: 0 Hours of Calibration: 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-Apr	1	1	0	0	0	-2	-2	0	2	4	5	6	7	9	10	11	9	7	6	3	3	0	-1	-2	3.2	10.5
2-Apr	-3	-4	-4	-5	-7	-8	-9	-6	-3	-1	1	4	6	6	7	8	8	7	6	3	1	-2	-3	-4	-0.1	8.3
3-Apr	-5	-6	-6	-7	-8	-8	-8	-4	-1	2	3	7	10	10	12	12	10	8	7	5	3	2	2	1	1.7	12.0
4-Apr	2	3	3	2	3	3	2	2	4	5	6	6	7	7	8	8	7	7	6	4	3	2	2	0	4.2	7.7
5-Apr	-1	-1	-2	-3	-3	-4	-5	-3	-1	2	3	5	6	7	6	8	7	6	6	4	2	1	1	1	1.9	8.3
6-Apr	0	0	-1	-1	-1	-2	-3	0	1	2	3	5	5	6	6	6	5	4	3	2	0	-1	-2	-1	1.5	5.9
7-Apr	-3	-4	-5	-6	-7	-8	-8	-5	-2	-1	2	2	5	4	6	7	8	8	8	5	2	1	0	-1	0.5	8.1
8-Apr	0	-1	-2	-1	0	0	0	0	2	4	7	8	8	7	8	7	7	6	5	5	4	3	1	1	3.2	8.5
9-Apr	0	0	0	-1	-1	-1	0	2	5	7	8	9	9	9	8	9	10	8	8	6	5	5	4	4	4.6	9.8
10-Apr	3	3	1	-1	-1	0	1	2	3	4	6	8	7	8	7	8	8	8	7	5	5	5	4	2	4.3	7.9
11-Apr	1	1	1	0	0	0	0	2	3	6	8	6	7	7	6	3	3	2	2	1	0	-2	-3	-3	2.1	8.2
12-Apr	-4	-4	-5	-5	-6	-6	-5	-2	0	1	3	5	6	7	7	6	7	6	5	4	2	2	1	1	1.1	7.4
13-Apr	0	0	-1	-1	-2	-2	-2	-1	1	2	3	5	6	7	8	8	8	7	6	5	3	2	2	1	2.7	8.2
14-Apr	1	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	-1	-1	-1	-1	-2	0.0	1.9
15-Apr	-2	-2	-2	-3	-3	-3	-2	-2	-2	0	1	2	4	3	3	3	2	2	1	0	-1	-1	-1	-1	-0.1	3.7
16-Apr	-1	-2	-2	-2	-2	-2	-2	-2	-1	-1	0	2	3	2	2	2	2	1	1	0	-1	-1	-1	-1	-0.2	2.6
17-Apr	-1	-2	-2	-3	-4	-5	-6	-4	-1	2	3	4	3	4	4	5	6	5	4	3	0	-2	-3	-5	0.1	5.6
18-Apr	-5	-5	-6	-6	-6	-6	-6	-3	0	2	4	5	5	4	6	7	6	6	6	3	1	0	-1	0	0.5	6.7
19-Apr	0	-2	-2	-2	-2	-3	-2	-1	0	1	3	3	4	4	3	5	5	4	4	2	0	-1	-2	-2	0.8	4.7
20-Apr	-2	-1	-2	-2	-3	-3	-1	1	2	3	5	5	6	7	7	7	7	7	7	5	2	0	0	-1	2.4	7.4
21-Apr	-1	0	0	-2	-1	-2	-1	1	3	4	5	7	8	9	9	8	8	7	6	4	4	3	2	1	3.4	8.8
22-Apr	1	0	-1	-1	-1	-2	-1	2	4	4	6	7	8	8	9	9	9	8	8	7	5	4	3	2	4.0	9.2
23-Apr	2	1	1	1	1	1	1	2	4	6	8	9	10	11	11	12	13	13	12	10	8	7	5	3	6.4	13.1
24-Apr	1	0	0	0	-2	-2	-2	2	5	7	9	10	12	13	14	14	14	14	13	11	9	7	6	6	6.8	14.4
25-Apr	5	3	1	-1	1	2	1	4	6	8	11	12	15	17	17	18	17	16	15	13	10	9	8	6	8.9	17.5
26-Apr	6	6	5	4	4	5	5	6	8	9	11	13	14	15	15	16	15	14	14	12	10	9	7	5	9.5	16.2
27-Apr	4	3	2	1	1	1	2	5	6	8	11	13	10	9	11	12	12	12	8	7	5	5	4	3	6.5	12.8
28-Apr	3	2	2	2	1	0	0	2	4	5	6	6	5	4	4	3	4	4	3	3	3	3	3	3	3.2	6.3
29-Apr	2	1	0	-1	-1	0	2	5	7	8	9	11	12	12	11	6	7	8	8	8	7	5	3	3	5.6	12.3
30-Apr	2	1	2	2	2	1	3	5	6	8	10	11	11	11	12	12	12	11	10	9	8	7	5	4	6.8	12.2
																								Diurnal Average		
																								Diurnal Maximum		



# Hourly Averages

Relative Humidity (RH) - %

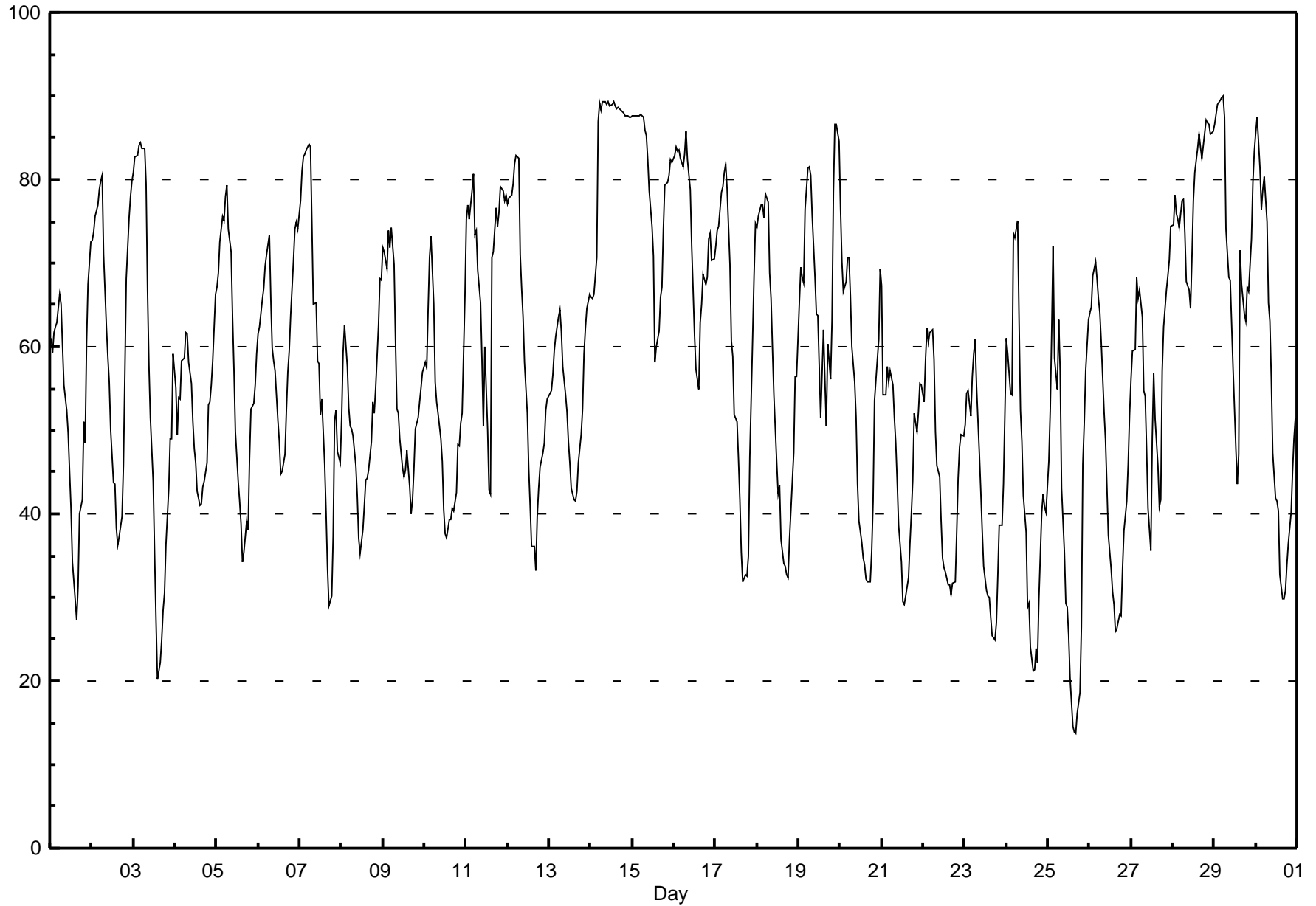
Henry Pirker - April 2011

Number of Exceedences (AAQO): 1-hr: 0 24-hr: 0										Hours in Service: 720																																							
Maximum Value: 90.0 % on Apr 29 06:00										Maximum Daily Average: 84.9 % on Apr 14										Hours of Data: 720																													
Minimum Value: 14 % on Apr 25 17:00										Minimum Daily Average: 40.4 % on Apr 25										Hours of Missing Data: 0																													
Maximum Diurnal Average: 72.9 % at hour 6										Minimum Diurnal Average: 42.1 % at hour 15										Hours of Calibration: 0																													
Monthly Average: 57.85 %										Percentiles: P <sub>1</sub> = 21.1 P <sub>10</sub> = 33.8 Q <sub>1</sub> = 44.0 Median = 57.6 Q <sub>3</sub> = 72.0 P <sub>90</sub> = 82.5 P <sub>99</sub> = 89.2										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-Apr	61	59	62	62	63	66	65	60	55	52	50	45	41	34	30	27	31	40	42	51	48	61	67	73	51.9	72.5																							
2-Apr	73	74	76	77	79	80	80	71	62	59	56	50	44	44	38	36	37	40	46	57	68	75	78	80	61.6	80.5																							
3-Apr	81	83	83	84	84	84	84	80	67	58	51	44	35	27	20	22	25	28	30	36	43	49	49	59	54.4	84.3																							
4-Apr	55	50	54	54	58	59	62	61	58	56	51	48	46	43	41	41	43	44	46	53	53	55	58	66	52.3	66.2																							
5-Apr	67	69	73	76	75	78	79	74	71	64	57	50	44	41	39	34	35	39	38	47	53	53	55	59	57.1	79.4																							
6-Apr	62	62	66	67	70	71	73	66	60	58	57	51	49	45	45	47	52	57	59	64	70	74	75	74	61.4	75.0																							
7-Apr	78	81	83	83	84	84	84	75	65	65	58	58	52	54	46	40	34	29	30	37	51	52	47	46	59.0	84.2																							
8-Apr	52	59	62	58	53	51	50	49	46	42	37	35	38	41	44	44	45	49	53	52	55	63	68	68	50.6	68.2																							
9-Apr	72	71	69	74	72	74	70	61	53	52	49	45	44	45	48	43	40	42	45	50	51	53	55	57	55.7	74.2																							
10-Apr	58	57	64	71	73	65	56	53	52	49	46	41	38	37	39	39	41	40	42	48	48	51	52	66	51.2	73.3																							
11-Apr	75	77	75	79	81	73	74	69	65	59	50	60	50	43	42	71	71	77	74	76	79	79	77	78	69.0	80.7																							
12-Apr	77	78	78	79	82	83	83	71	67	64	58	52	45	41	36	36	33	40	43	46	47	48	52	54	58.1	82.9																							
13-Apr	54	55	57	59	61	64	64	62	58	54	52	49	46	43	42	41	43	46	49	53	59	62	65	66	54.4	66.3																							
14-Apr	66	66	66	71	87	89	88	89	89	89	89	89	89	89	89	89	89	88	88	88	88	88	87	87	84.9	89.3																							
15-Apr	88	88	88	88	88	88	87	86	85	82	79	74	71	58	60	62	66	67	74	79	80	80	82	82	78.4	87.7																							
16-Apr	83	84	83	84	83	81	83	86	82	79	72	67	61	57	55	63	65	69	67	68	73	74	70	71	73.3	85.8																							
17-Apr	72	74	74	78	79	81	82	79	70	61	59	52	51	47	42	35	32	33	33	35	47	61	68	75	59.1	81.9																							
18-Apr	74	76	77	77	75	78	77	69	66	60	54	46	42	43	37	34	34	33	32	37	44	47	56	56	55.3	78.3																							
19-Apr	65	69	68	68	76	81	81	81	76	68	64	64	58	52	62	56	51	60	56	63	79	87	87	85	69.0	86.6																							
20-Apr	77	70	67	68	71	71	66	60	56	52	44	39	37	35	34	32	32	32	35	41	54	59	61	69	52.5	76.6																							
21-Apr	67	54	54	58	56	57	56	52	48	44	39	34	30	29	30	32	37	40	44	52	50	52	56	56	46.9	67.3																							
22-Apr	53	59	62	61	62	62	58	50	46	44	39	35	34	33	32	32	30	32	32	38	44	48	49	49	45.1	62.2																							
23-Apr	51	54	55	52	56	59	61	55	47	43	38	34	31	30	30	28	25	25	27	33	39	39	44	52	41.9	60.8																							
24-Apr	61	59	54	54	74	73	75	63	52	49	42	38	29	29	24	21	21	24	22	30	40	42	41	40	44.1	75.1																							
25-Apr	46	52	61	72	59	55	63	57	43	35	29	29	25	20	15	14	14	16	19	26	46	51	57	63	40.4	72.0																							
26-Apr	64	65	68	70	68	66	64	61	52	49	43	37	33	31	29	26	26	28	28	33	38	42	46	52	46.7	70.1																							
27-Apr	56	59	60	68	66	67	64	55	54	48	41	36	49	57	51	46	41	42	57	62	67	68	70	74	56.6	74.5																							
28-Apr	75	78	76	75	74	77	78	74	68	67	65	71	77	81	84	85	84	83	86	87	87	87	85	86	78.7	87.1																							
29-Apr	87	88	89	90	90	90	87	74	68	68	63	58	48	44	47	71	67	64	63	67	67	73	80	83	71.9	90.0																							
30-Apr	86	87	81	76	79	80	75	65	63	56	47	42	42	40	33	30	30	31	34	36	40	45	49	51	54.2	87.5																							
																								67.8	68.6	69.5	71.0	72.5	72.9	72.4	66.9	61.5	57.5	52.7	49.0	45.9	43.8	42.1	42.6	42.5	44.5	46.6	51.5	56.9	60.6	63.0	65.9	Diurnal Average	
																								87.6	87.8	89.0	89.5	89.9	90.0	88.4	89.3	89.3	89.0	89.3	88.9	88.9	89.3	88.8	88.5	88.6	88.2	88.2	87.9	87.6	87.6	87.5	87.4	Diurnal Maximum	

**Hourly Averages**

**Relative Humidity (RH) - %**

**Henry Pirker - April 2011**



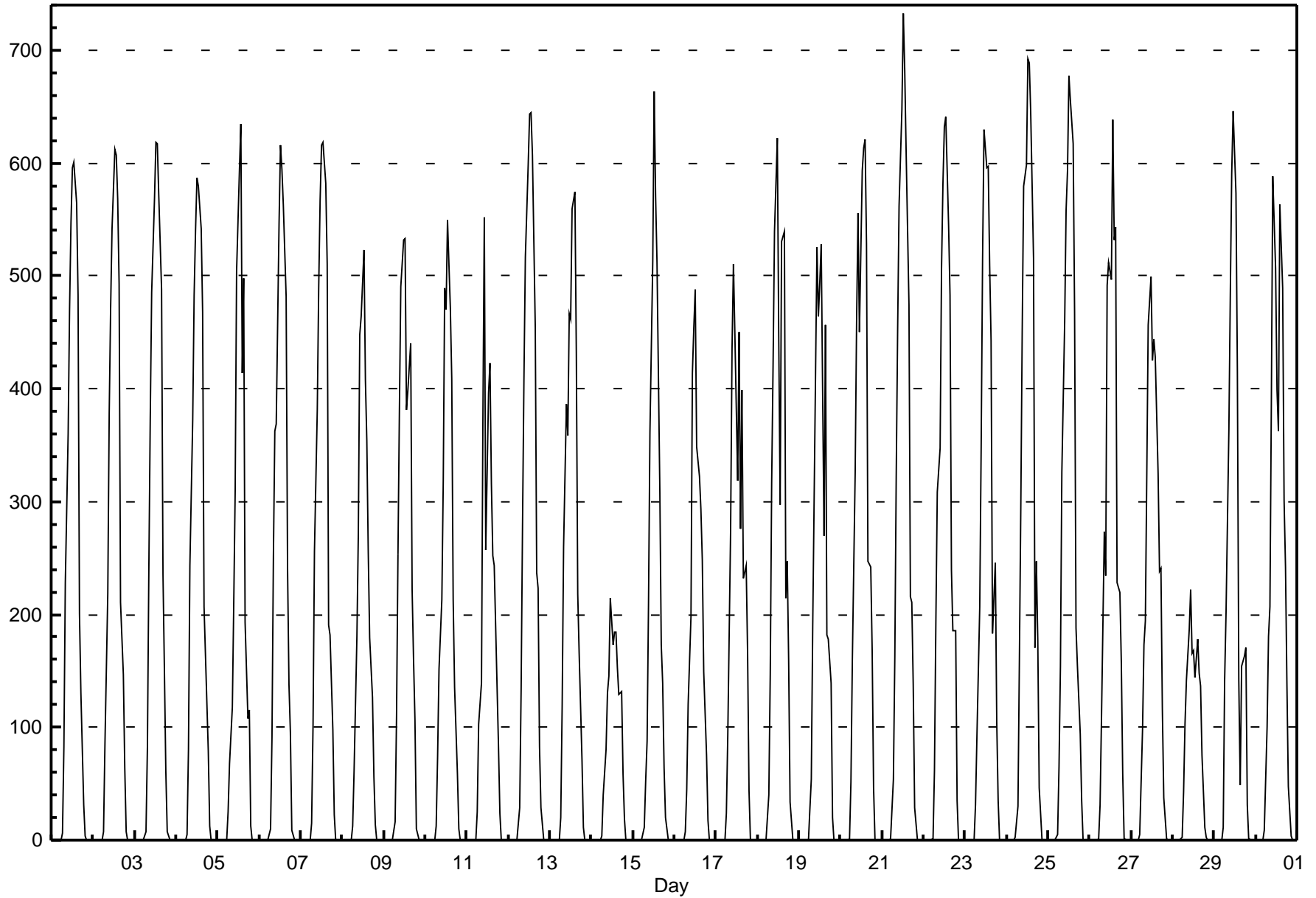
## Hourly Averages

## Solar Radiation (SR) - W/m<sup>2</sup>

### Henry Pirker - April 2011

Number of Exceedences (AAAQO):		1-hr: 0		24-hr: 0		Hours in Service: 720																Daily Average		Daily Maximum			
Maximum Value: 732.7 W/m <sup>2</sup> on Apr 21 13:00		Maximum Daily Average: 220.8 W/m <sup>2</sup> on Apr 24		Hours of Data: 720																179.3		601.1					
Minimum Value: 0 W/m <sup>2</sup> on Apr 1 01:00		Minimum Daily Average: 68.6 W/m <sup>2</sup> on Apr 14		Hours of Missing Data: 0																183.7		612.5					
Maximum Diurnal Average: 527.8 W/m <sup>2</sup> at hour 13		Minimum Diurnal Average: 0.0 W/m <sup>2</sup> at hour 1		Hours of Calibration: 0																187.6		618.0					
Monthly Average: 171.82 W/m <sup>2</sup>		Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.0 Q <sub>1</sub> = 0.0 Median = 53.1 Q <sub>3</sub> = 322.3 P <sub>90</sub> = 539.7 P <sub>99</sub> = 650.0		Percent Operational Time: 100.0																181.9		587.4					
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-Apr	0	0	0	0	0	0	6	82	228	361	470	547	596	601	565	483	200	130	31	4	0	0	0	0	179.3	601.1	
2-Apr	0	0	0	0	0	0	8	85	218	378	471	542	612	607	568	493	210	147	64	7	0	0	0	0	183.7	612.5	
3-Apr	0	0	0	0	0	0	7	82	238	374	485	568	618	618	572	487	236	150	62	7	0	0	0	0	187.6	618.0	
4-Apr	0	0	0	0	0	0	6	80	244	373	483	541	587	579	542	468	206	165	79	13	0	0	0	0	181.9	587.4	
5-Apr	0	0	0	0	0	0	25	67	117	211	310	504	593	635	414	498	194	107	116	13	0	0	0	0	158.5	634.6	
6-Apr	0	0	0	0	0	0	10	91	251	363	368	546	616	595	564	481	241	138	96	9	0	0	0	0	182.1	615.8	
7-Apr	0	0	0	0	0	0	14	102	256	382	489	567	616	618	582	510	191	182	97	22	0	0	0	0	192.9	618.3	
8-Apr	0	0	0	0	0	0	13	61	181	272	448	464	523	407	353	256	179	126	56	14	0	0	0	0	139.8	522.7	
9-Apr	0	0	0	0	0	0	16	111	254	379	491	532	533	382	399	441	222	160	107	10	0	0	0	0	168.2	533.1	
10-Apr	0	0	0	0	0	0	13	74	152	213	318	490	470	550	472	409	213	136	58	10	0	0	0	0	149.1	549.9	
11-Apr	0	0	0	0	0	0	25	103	139	372	552	257	397	422	316	252	243	137	84	24	0	0	0	0	138.5	552.2	
12-Apr	0	0	0	0	0	0	29	132	279	409	517	598	643	644	607	455	237	223	82	28	0	0	0	0	203.5	644.1	
13-Apr	0	0	0	0	0	0	20	119	260	387	358	466	462	559	574	432	219	166	72	11	0	0	0	0	171.0	573.9	
14-Apr	0	0	0	0	0	0	4	40	80	131	145	214	173	184	184	154	129	132	59	18	0	0	0	0	68.6	214.0	
15-Apr	0	0	0	0	0	0	12	53	88	210	361	513	664	571	512	310	173	139	64	20	0	0	0	0	153.8	664.0	
16-Apr	0	0	0	0	0	0	7	45	120	198	414	454	487	348	323	294	249	149	75	18	0	0	0	0	132.6	487.3	
17-Apr	0	0	0	0	0	0	23	93	275	436	511	449	319	450	276	398	232	243	166	44	0	0	0	0	163.1	510.9	
18-Apr	0	0	0	0	0	0	41	147	316	421	540	623	445	297	531	540	214	247	160	34	0	0	0	0	189.8	622.7	
19-Apr	0	0	0	0	0	0	27	54	190	414	525	465	494	528	270	457	182	178	139	20	0	0	0	0	164.2	527.6	
20-Apr	0	0	0	0	0	1	52	160	326	459	556	451	593	614	620	528	248	241	168	46	0	0	0	0	210.9	620.4	
21-Apr	0	0	0	0	0	1	54	162	323	453	562	647	733	682	610	474	216	210	137	29	0	0	0	0	220.6	732.7	
22-Apr	0	0	0	0	0	1	61	194	308	348	507	582	633	642	545	483	239	186	185	35	0	0	0	0	206.2	641.5	
23-Apr	0	0	0	0	0	0	32	92	207	348	516	630	596	597	509	443	183	246	106	35	0	0	0	0	189.2	630.2	
24-Apr	0	0	0	0	0	2	30	159	295	452	580	598	692	689	645	516	171	247	177	46	0	0	0	0	220.8	692.2	
25-Apr	0	0	0	0	0	4	65	154	325	459	558	593	677	656	617	468	188	155	94	35	0	0	0	0	210.3	676.9	
26-Apr	0	0	0	0	0	2	31	108	274	235	491	512	497	638	532	543	228	220	158	59	1	0	0	0	188.7	638.4	
27-Apr	0	0	0	0	0	5	98	173	195	324	456	499	426	444	428	325	238	241	117	38	2	0	0	0	167.0	498.6	
28-Apr	0	0	0	0	0	2	42	103	142	187	222	166	168	144	178	148	136	75	12	3	0	0	0	0	71.9	221.7	
29-Apr	0	0	0	0	0	12	141	202	363	483	591	646	574	415	142	49	155	163	171	32	1	0	0	0	172.5	645.7	
30-Apr	0	0	0	0	0	8	101	181	207	388	589	507	399	362	564	489	301	242	138	48	4	0	0	0	188.7	588.5	
		0.0	0.0	0.0	0.0	0.0	1.3	33.8	110.4	228.4	347.2	462.7	505.6	527.8	515.9	467.0	409.4	209.1	176.0	104.4	24.4	0.3	0.0	0.0	0.0	Diurnal Average	
		0.0	0.0	0.0	0.0	0.0	11.7	141.2	202.5	363.4	483.3	590.7	646.7	732.7	689.1	645.1	542.7	300.9	247.2	185.0	59.1	4.0	0.0	0.0	0.0	Diurnal Maximum	







## Hourly Averages

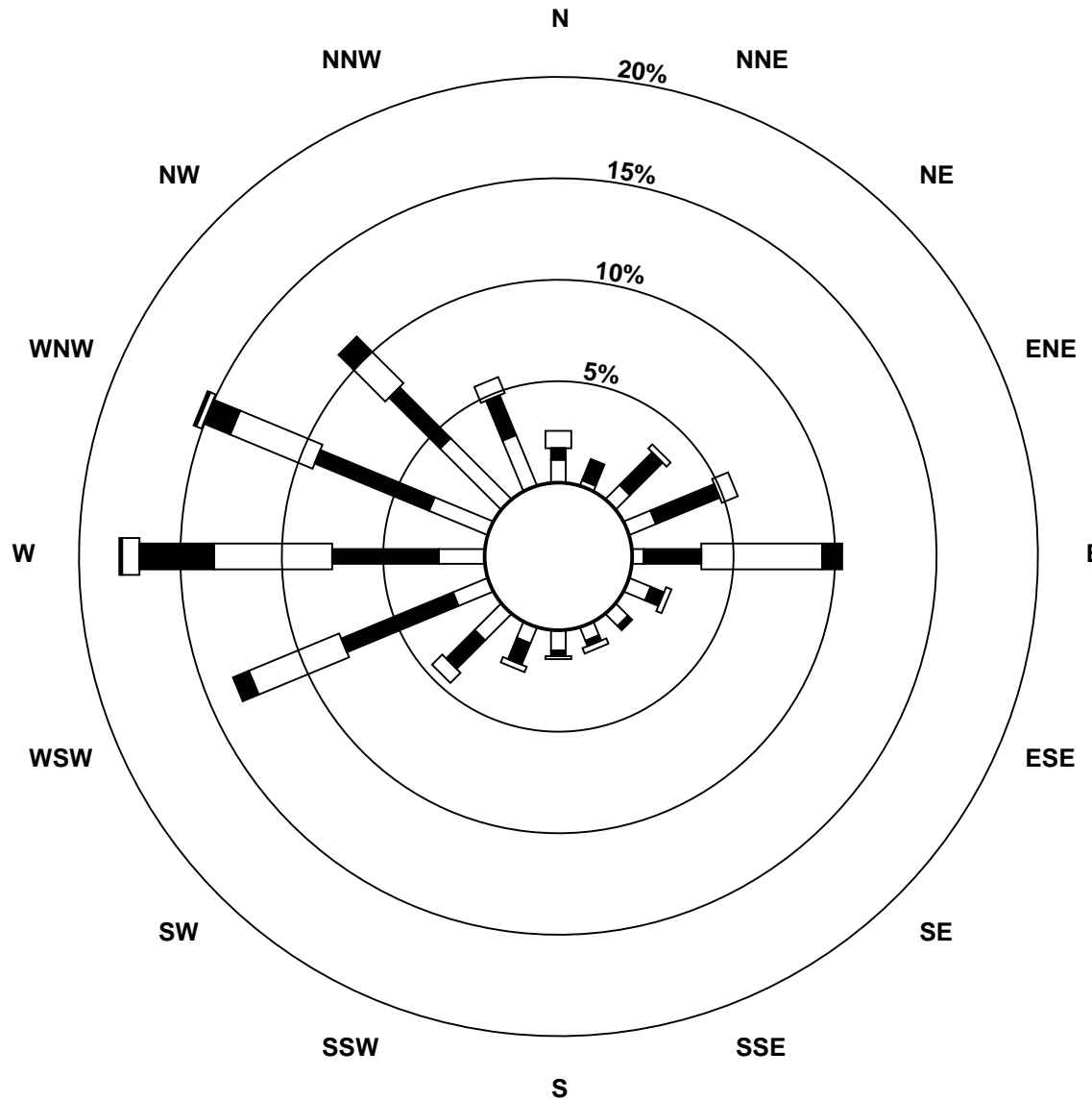
Wind Speed (km/h)  
Wind Direction (deg)  
Henry Pirker - April 2011

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	13	11	7	11	8	6	6	7	15	16	17	16	16	15	14	8	5	3	0	1	1	2	2	0	6.3	16.9
Dir	239	240	308	292	305	298	300	283	276	265	274	310	304	327	351	3	13	358	229	108	89	74	114	172	297.0	274.2
24 Spd	2	2	3	5	3	3	0	2	6	6	5	5	9	6	7	7	8	9	6	8	7	7	10	10	3.6	10.0
Dir	220	234	279	313	258	359	125	293	23	11	67	58	17	39	22	32	45	76	87	83	101	96	91	91	53.5	91.0
25 Spd	6	5	1	4	9	5	3	1	2	4	4	6	6	7	6	8	7	9	8	7	11	20	18	14	1.9	20.4
Dir	107	108	9	357	82	97	204	290	115	105	103	98	80	63	70	59	54	34	19	2	273	276	280	283	19.3	275.6
26 Spd	15	12	15	15	19	15	12	17	18	17	14	14	14	16	13	15	18	20	16	11	10	10	8	8	13.8	20.2
Dir	288	272	258	254	254	257	249	258	263	271	273	289	299	288	299	286	293	279	289	287	273	256	263	272	274.0	279.3
27 Spd	6	4	4	1	3	3	1	6	5	6	7	7	22	20	11	4	6	10	18	11	7	9	3	5	6.7	22.2
Dir	295	319	300	172	237	303	313	248	251	261	278	237	268	259	231	224	212	218	256	254	255	199	233	267	252.6	268.3
28 Spd	6	5	8	9	8	7	7	6	15	15	14	14	16	16	17	20	19	20	15	11	13	12	12	11	11.2	20.2
Dir	268	291	269	257	275	275	291	296	313	317	317	354	352	339	323	313	313	323	360	330	324	314	302	285	315.4	322.8
29 Spd	8	3	3	1	3	3	4	5	4	10	11	10	9	2	12	20	9	10	12	9	11	13	1	2	5.3	20.4
Dir	282	252	244	227	234	218	258	322	261	244	251	233	254	286	283	322	227	196	203	220	205	340	337	246	255.8	321.6
30 Spd	3	5	12	13	11	6	7	14	12	13	13	14	14	13	23	29	27	28	20	17	15	15	15	12	14.0	29.0
Dir	216	263	259	261	274	296	292	278	272	268	300	307	283	298	288	270	279	289	276	262	250	253	257	254	274.8	269.7
Spd	3.1	2.8	2.6	2.6	2.6	2.0	2.3	4.1	5.1	6.8	8.2	7.7	9.2	8.5	8.4	7.5	6.9	5.9	5.5	3.8	2.5	2.4	2.2	2.5	Diurnal Average	
Dir	258.3	266.2	277.1	267.7	255.0	250.6	254.0	259.2	267.6	270.0	277.9	290.1	295.0	296.9	300.0	305.9	302.5	304.3	300.3	294.1	283.8	268.8	261.9	268.5	Diurnal Maximum	
Spd	15.5	16.3	17.0	16.9	18.6	18.1	20.4	19.3	23.1	27.0	24.5	25.3	26.9	33.9	39.4	30.5	34.9	33.5	33.3	40.6	28.9	20.4	18.0	15.1	Diurnal Maximum	
Dir	86.7	249.7	84.9	93.1	254.4	94.5	93.9	97.3	276.7	259.9	285.9	262.6	265.4	260.2	266.8	269.1	272.0	279.9	286.3	282.2	282.3	275.6	280.2	89.9		
Maximum Speed Value: 41 km/h on Apr 8 20:00		Minimum Speed Value: 0 km/h on Apr 23 19:00														Hours in Service:		720								
Maximum Daily Speed Average: 15.7 km/h on Apr 8		Minimum Daily Speed Average: 0.5 km/h on Apr 3														Hours of Data:		720								
Maximum Diurnal Speed Average: 9.2 km/h at hour 13		Minimum Diurnal Speed Average: 2.0 km/h at hour 6														Hours of Missing Data:		0								
Monthly Average Velocity: 4.58 km/h 284.78 deg		Speed Percentiles: P <sub>1</sub> = 0.6 P <sub>10</sub> = 3.1 Q <sub>1</sub> = 5.4 Median = 8.8 Q <sub>3</sub> = 14.1 P <sub>90</sub> = 19.1 P <sub>99</sub> = 28.8														Percent Operational Time:		100.0								
All monthly, daily, and diurnal averages have been calculated using vector methods																										
Frequency Distribution																										
		Speed Range (km/h)																								
Direction	0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total																			
North	20	14	8	0	0	0	42																			
NorthEast	12	34	5	0	0	0	51																			
East	15	36	50	8	0	0	109																			
SouthEast	12	4	1	0	0	0	17																			
South	14	5	4	0	0	0	23																			
SouthWest	20	39	21	0	0	0	80																			
West	29	83	85	41	8	2	248																			
NorthWest	44	59	33	14	0	0	150																			
Total	166	274	207	63	8	2	720																			

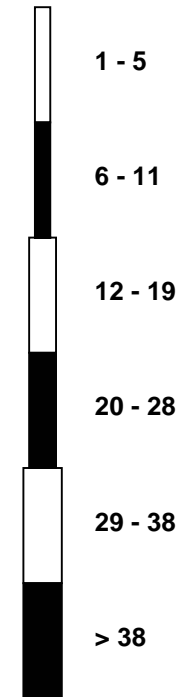
**Wind Rose**

**Wind Speed (WS) (km/h)**

**Henry Pirker - April 2011**



**Wind Speed Classes (km/h)**



# Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Henry Pirker - April 2011

<b>Maximum Speed: 41 km/h on Apr 8 20:00</b>		<b>Maximum Daily Speed Average: 19.0 km/h on Apr 8</b>		Hours in Service: 720 Hours of Data: 720 Hours of Missing Data: 0																																												
<b>Minimum Speed: 1 km/h on Apr 17 02:00</b>		<b>Minimum Daily Speed Average: 4.9 km/h on Apr 3</b>		Percent Operational Time: 100.0																																												
<b>Maximum Diurnal Speed Average: 15.5 km/h at hour 14</b>		<b>Minimum Diurnal Speed Average: 7.2 km/h at hour 7</b>																																														
<b>Monthly Average Speed: 10.69 km/h</b>		Percentiles: P <sub>1</sub> = 1.8 P <sub>10</sub> = 3.8 Q <sub>1</sub> = 5.9 Median = 9.2 Q <sub>3</sub> = 14.7 P <sub>90</sub> = 19.4 P <sub>99</sub> = 29.0																																														
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-Apr	12	16	16	17	17	10	13	14	13	14	17	14	13	8	5	6	7	8	8	7	10	4	4	4	10.7	16.9																						
2-Apr	5	3	5	5	6	6	5	6	6	8	8	7	8	9	8	7	9	8	7	8	4	4	4	4	6.3	8.8																						
3-Apr	4	4	4	3	5	3	4	4	6	6	7	4	4	8	4	5	7	9	5	4	4	5	4	5	4.9	9.3																						
4-Apr	7	8	6	7	11	14	12	13	15	22	24	25	26	23	21	20	20	13	12	9	8	9	6	4	14.0	25.9																						
5-Apr	5	4	3	5	7	6	6	4	8	12	18	15	17	19	12	8	13	6	7	9	6	10	13	12	9.4	19.1																						
6-Apr	11	10	7	8	7	9	4	8	7	11	14	17	17	16	17	15	15	13	8	7	5	3	6	8	10.1	17.3																						
7-Apr	5	5	5	5	4	5	4	4	6	7	7	9	8	9	7	6	6	5	5	4	4	6	7	6	5.9	9.0																						
8-Apr	9	6	6	12	13	11	11	13	12	11	15	15	27	31	23	31	35	34	33	41	29	19	11	8	19.0	40.9																						
9-Apr	4	5	6	3	4	5	5	7	10	11	16	17	20	22	24	21	16	17	22	16	11	10	9	13	12.2	23.8																						
10-Apr	12	8	6	3	3	7	7	9	9	10	10	8	9	11	16	13	10	7	6	3	6	5	3	3	7.7	15.5																						
11-Apr	2	5	4	4	3	6	4	6	7	6	19	23	26	34	40	26	21	23	21	14	12	10	10	11	14.0	39.9																						
12-Apr	10	10	7	5	3	4	4	3	7	8	8	6	6	9	11	13	12	15	14	11	10	10	11	12	8.7	14.5																						
13-Apr	13	12	14	15	16	15	14	14	16	14	15	17	18	19	20	20	19	18	15	15	17	16	15	15	15.9	20.0																						
14-Apr	16	16	17	17	15	18	21	19	19	21	20	21	20	19	16	16	15	13	13	13	12	10	9	7	16.0	21.4																						
15-Apr	6	7	8	8	5	4	6	8	8	8	9	11	10	11	13	10	11	12	11	10	10	10	9	10	8.9	13.1																						
16-Apr	9	8	8	8	9	9	10	10	13	14	15	14	14	15	14	15	16	13	10	6	6	5	6	5	10.5	15.5																						
17-Apr	3	1	5	1	1	2	2	1	6	6	7	7	9	11	9	8	8	8	7	5	3	5	3	4	5.1	10.6																						
18-Apr	6	4	4	5	6	5	5	4	6	6	6	7	8	8	7	7	7	6	4	4	4	3	2	3	5.6	8.3																						
19-Apr	8	4	5	5	4	3	5	8	10	11	11	12	14	15	16	14	15	12	12	11	8	3	4	5	8.9	15.6																						
20-Apr	8	9	8	9	7	7	9	13	22	27	24	24	25	26	25	23	19	19	14	7	2	4	4	4	14.1	27.2																						
21-Apr	4	8	5	5	10	7	7	13	13	19	24	20	18	17	20	20	22	20	16	11	11	10	11	10	13.4	24.1																						
22-Apr	11	12	11	14	12	11	13	18	23	26	25	21	20	17	16	17	25	26	23	16	11	12	12	12	16.8	25.9																						
23-Apr	13	11	9	12	8	6	6	8	15	16	17	17	17	15	14	9	6	5	1	1	1	7	5	2	9.2	17.4																						
24-Apr	3	3	4	6	3	5	3	3	6	7	7	6	9	7	8	8	8	8	9	6	8	7	7	10	6.3	10.0																						
25-Apr	6	5	4	5	9	6	4	2	4	5	6	8	8	8	7	8	8	10	9	7	13	21	18	14	8.1	20.5																						
26-Apr	15	13	15	15	19	16	12	18	18	17	15	15	15	17	14	16	19	21	16	11	10	11	8	8	14.7	20.5																						
27-Apr	7	4	4	3	4	3	2	7	5	6	7	8	24	21	11	6	7	14	18	12	7	9	4	6	8.3	23.6																						
28-Apr	7	6	8	9	8	7	7	6	16	15	14	14	16	17	18	20	19	21	15	12	14	13	12	11	12.6	21.0																						
29-Apr	8	3	3	2	3	3	4	5	6	10	11	11	10	9	16	22	10	11	13	9	11	17	2	2	8.4	22.4																						
30-Apr	4	5	12	13	11	7	7	14	12	14	14	15	18	15	24	30	27	28	21	17	15	15	16	12	15.2	29.7																						
																								7.6	7.2	7.3	7.5	7.7	7.3	7.2	8.7	10.8	12.3	13.7	13.7	15.1	15.5	15.2	14.7	14.4	14.2	12.5	10.2	9.1	9.1	7.9	7.7	Diurnal Average
																								15.6	16.4	17.1	17.1	18.7	18.2	20.6	19.4	23.3	27.2	25.0	25.5	27.1	34.2	39.9	30.8	35.3	33.7	33.4	40.9	29.0	20.5	18.2	15.2	Diurnal Maximum
All monthly, daily, and diurnal averages have been calculated using scalar methods																																																

# Hourly Standard Deviations

Wind Direction (WD) - deg

Henry Pirker - April 2011

Maximum Value: 95.7 deg on Apr 21 00:00																								Hours in Service:	720
Minimum Value: 4.4 deg on Apr 2 13:00																								Hours of Data:	720
Percentiles: P <sub>1</sub> = 5.1 P <sub>10</sub> = 7.0 Q <sub>1</sub> = 9.4 Median = 15.0 Q <sub>3</sub> = 25.6 P <sub>90</sub> = 46.6 P <sub>99</sub> = 85.6																								Hours of Missing Data:	0
																								Hours of Calibration:	0
																								Percent Operational Time:	100.0
Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Apr	5	6	6	6	9	8	7	8	8	11	8	10	11	17	17	23	22	19	22	13	22	42	39	60	59.9
2-Apr	20	70	38	10	17	22	11	12	19	10	11	8	4	10	8	21	30	14	22	21	35	54	20	29	70.3
3-Apr	60	48	15	25	20	17	65	26	23	16	24	47	47	44	53	82	20	12	19	18	12	11	53	78	82.0
4-Apr	24	10	18	16	8	7	8	8	9	8	7	8	6	8	8	8	7	9	9	24	15	16	26	40	39.8
5-Apr	28	38	48	23	27	12	30	26	16	14	11	12	11	7	25	35	30	32	51	23	18	8	8	7	51.1
6-Apr	6	9	10	18	11	15	83	40	25	17	11	13	8	14	13	13	13	8	12	26	39	40	24	12	82.9
7-Apr	17	18	30	29	25	18	15	21	19	10	14	8	16	6	8	13	9	13	30	35	25	10	22	29	35.0
8-Apr	8	11	9	7	6	9	9	8	10	12	18	12	7	7	6	7	8	6	5	8	5	5	6	27	27.5
9-Apr	58	21	75	86	43	38	24	28	19	23	22	12	14	8	5	12	11	11	11	11	14	13	15	10	85.9
10-Apr	21	23	54	62	63	22	38	16	24	12	12	12	23	19	15	14	28	16	17	49	24	47	71	37	70.7
11-Apr	43	21	47	58	73	18	88	55	51	29	15	8	8	8	9	9	8	7	9	9	12	8	7	5	88.5
12-Apr	6	7	13	45	80	33	16	29	24	26	34	56	58	23	17	11	11	9	8	7	7	6	6	6	79.7
13-Apr	6	5	6	5	5	6	6	7	8	9	10	10	11	11	10	8	9	9	6	7	7	7	7	8	10.8
14-Apr	7	7	6	9	7	6	7	7	7	7	6	7	8	8	9	9	8	10	10	9	9	11	12	14	14.2
15-Apr	17	21	12	13	31	16	10	8	10	20	15	19	22	22	16	34	16	13	16	14	11	13	14	10	34.4
16-Apr	11	14	14	12	11	9	11	11	9	11	14	15	14	16	14	15	15	15	18	17	19	18	11	12	19.3
17-Apr	52	20	12	28	23	87	19	16	26	25	41	36	32	17	47	52	53	40	29	23	52	11	24	17	87.4
18-Apr	13	9	19	9	15	16	16	15	18	24	21	26	45	58	49	47	47	43	41	20	26	36	19	84	83.6
19-Apr	30	34	35	24	24	69	20	13	22	12	24	21	16	14	41	16	22	19	17	11	15	85	59	34	85.0
20-Apr	10	9	9	9	10	14	10	10	9	7	13	10	13	12	15	17	17	13	13	10	77	28	81	96	95.7
21-Apr	32	24	23	17	30	34	19	14	13	11	12	16	20	21	17	14	13	13	11	19	18	13	7	6	33.8
22-Apr	7	6	6	6	6	7	9	9	8	9	13	10	17	21	24	34	12	9	9	9	13	7	7	6	34.0
23-Apr	7	8	40	27	14	8	10	11	9	10	14	25	21	18	19	31	51	64	91	13	14	79	80	89	91.4
24-Apr	39	34	31	25	28	59	86	58	18	28	44	43	29	41	30	39	31	23	17	23	10	6	8	6	85.7
25-Apr	28	18	75	40	7	39	24	75	71	52	62	44	43	29	26	25	19	19	9	13	33	8	9	8	75.5
26-Apr	5	12	6	5	7	6	11	5	12	11	12	18	21	19	25	21	25	11	12	7	12	11	14	10	25.1
27-Apr	29	18	17	66	32	29	82	12	24	18	26	48	24	12	21	69	34	51	13	16	18	15	30	20	82.2
28-Apr	26	33	18	7	14	13	9	8	7	8	11	12	14	11	9	6	7	16	12	24	12	7	5	9	32.7
29-Apr	10	35	31	68	26	20	25	22	46	17	20	26	21	78	47	26	32	19	18	10	9	43	80	11	79.5
30-Apr	42	15	6	13	10	25	9	9	10	12	28	20	50	44	15	13	11	10	14	11	7	8	5	9	50.3
	59.8	70.3	75.1	85.9	79.7	87.4	88.5	75.5	71.5	52.2	62.1	56.0	57.8	78.2	52.8	82.0	53.1	64.0	91.4	49.1	77.1	85.0	81.0	95.7	

PAZA

Evergreen Park Station

Monthly Summary Tables, Graphs and  
Roses

## Hourly Averages

Sulphur Dioxide (SO<sub>2</sub>) - ppb

Evergreen Park - April 2011

Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	720
Maximum Value: 2.7 ppb on Apr 12 10:00	Maximum Daily Average: 0.4 ppb on Apr 24		Hours of Data:	683
Minimum Value: 0 ppb on Apr 2 00:00	Minimum Daily Average: 0.1 ppb on Apr 28		Hours of Missing Data:	37
Maximum Diurnal Average: 0.5 ppb at hour 10	Minimum Diurnal Average: 0.1 ppb at hour 5		Hours of Calibration:	34
Monthly Average: 0.17 ppb	Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.0 Q <sub>1</sub> = 0.1 Median = 0.1 Q <sub>3</sub> = 0.2 P <sub>90</sub> = 0.4 P <sub>99</sub> = 0.8		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-Apr	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.4
2-Apr	0	A	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0.3	1.0
3-Apr	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0.1	0.4
4-Apr	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.2	1.8
5-Apr	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	A	0	0	0.2	0.9
6-Apr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.1	0.3
7-Apr	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	A	0	0	0	0	0.2	0.6
8-Apr	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	A	A	0	0	0	0	0.2	0.5
9-Apr	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	A	1	0	1	0	0	1	0.3	1.0
10-Apr	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	A	0	0	0	0	0	0	0	0.2	0.7
11-Apr	0	0	0	0	0	0	0	0	0	1	0	0	0	0	A	A	0	0	0	0	0	0	0	0	0.1	0.5
12-Apr	0	0	0	0	0	0	0	0	0	0	3	2	1	0	A	0	0	0	0	0	0	0	0	0	0.3	2.7
13-Apr	0	0	0	0	0	0	0	0	M	M	M	C	C	C	1	1	1	1	1	1	1	1	1	0	0.4	1.0
14-Apr	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
15-Apr	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0.1	0.3
16-Apr	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
17-Apr	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.2	0.7
18-Apr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.2	0.3
19-Apr	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	A	A	0	0	0	0.2	0.8
20-Apr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0.1	0.3
21-Apr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	A	0	0	0	0	0	0	0.1	0.3
22-Apr	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	0.2
23-Apr	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
24-Apr	0	0	0	0	0	0	0	0	2	2	2	1	1	0	A	0	0	0	0	0	0	0	0	0	0.4	2.0
25-Apr	0	0	0	0	0	0	0	0	0	0	1	1	1	A	0	0	0	0	0	1	1	0	0	0	0.3	0.9
26-Apr	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
27-Apr	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.4
28-Apr	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.4
29-Apr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
30-Apr	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

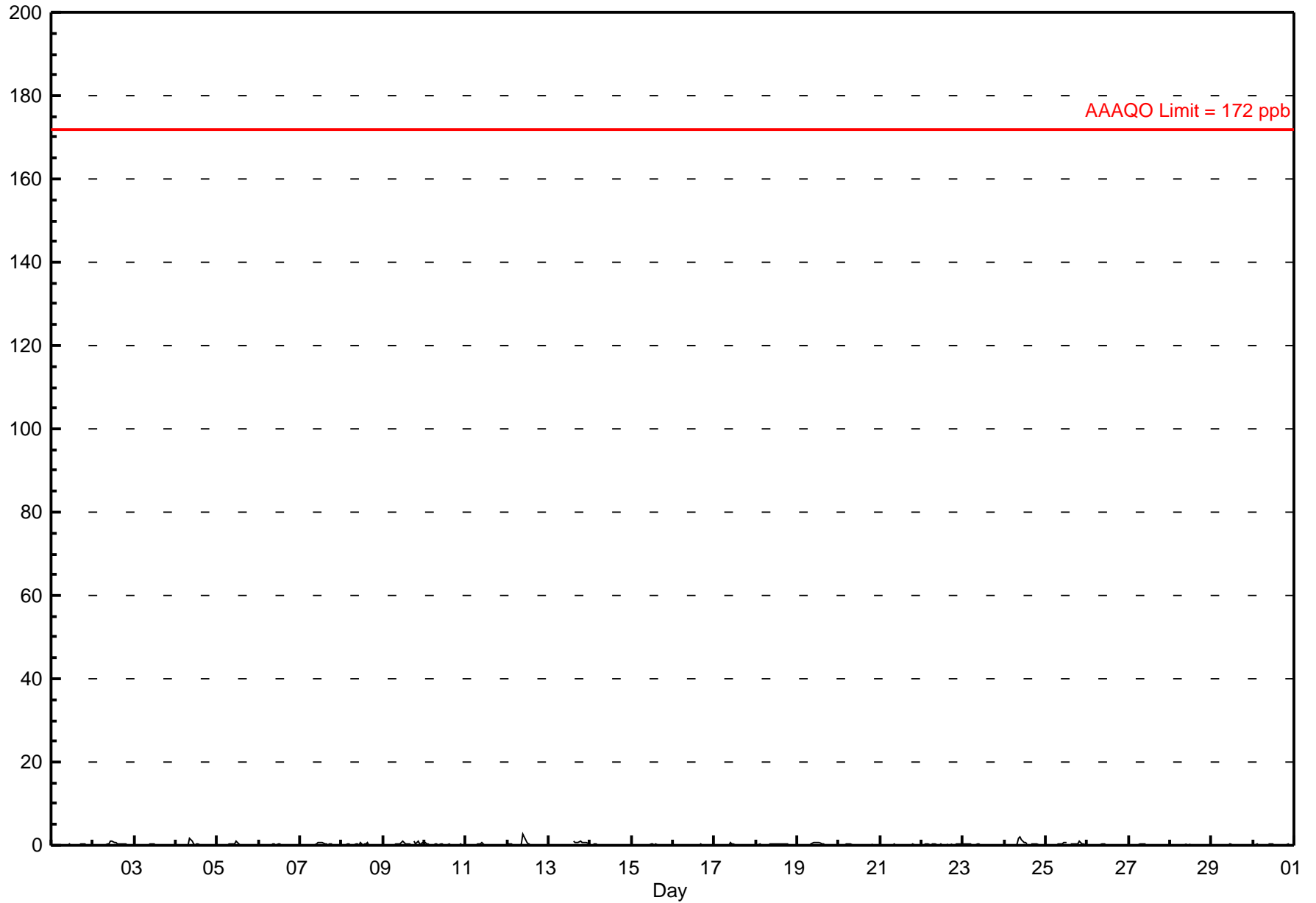
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.5	0.4	0.4	0.3	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	Diurnal Average
0.7	0.4	0.3	0.3	0.2	0.3	0.3	0.4	1.9	2.7	2.1	0.9	0.8	0.7	1.0	0.6	0.7	0.8	0.9	0.9	1.0	0.7	0.6	0.8	0.1	Diurnal Maximum	

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



### Hourly Averages

Sulphur Dioxide (SO<sub>2</sub>) - ppb  
Evergreen Park - April 2011



## Hourly Maximums

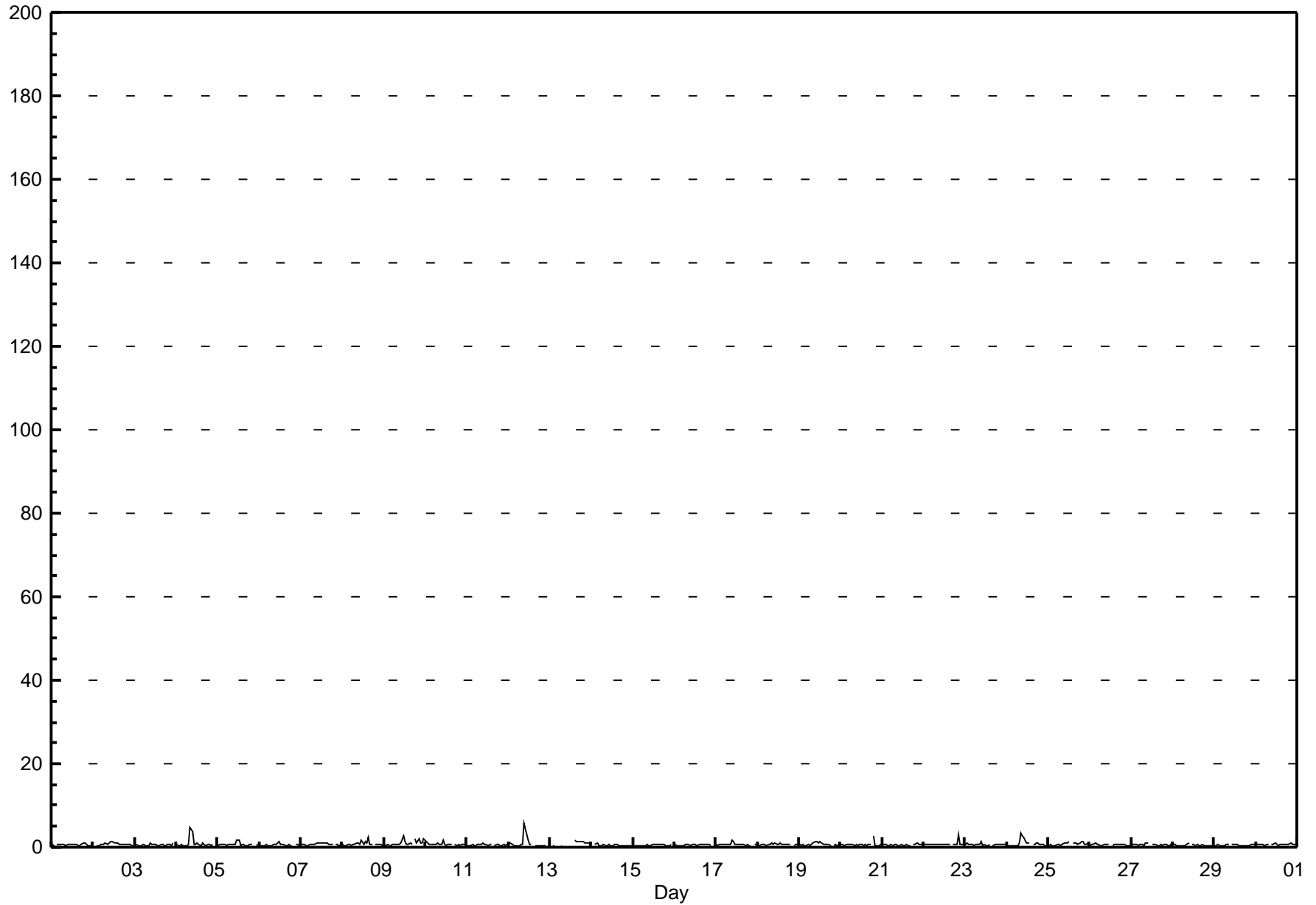
Sulphur Dioxide (SO<sub>2</sub>) - ppb

Evergreen Park - April 2011

Maximum Value: 5.9 ppb on Apr 12 10:00		Maximum Daily Average: 1.0 ppb on Apr 9		Hours in Service: 720																						
Minimum Value: 0 ppb on Apr 13 05:00		Minimum Daily Average: 0.5 ppb on Apr 28		Hours of Data: 683																						
Maximum Diurnal Average: 1.2 ppb at hour 10		Minimum Diurnal Average: 0.5 ppb at hour 5		Hours of Missing Data: 37																						
Monthly Average: 0.67 ppb		Percentiles: P <sub>1</sub> = 0.1 P <sub>10</sub> = 0.4 Q <sub>1</sub> = 0.5 Median = 0.6 Q <sub>3</sub> = 0.7 P <sub>90</sub> = 1.0 P <sub>99</sub> = 2.6		Hours of Calibration: 34																						
				Percent Operational Time: 99.6																						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Apr	1	0	A	1	1	1	1	1	0	1	1	1	1	1	1	0	0	1	1	1	1	0	0	0	0.6	1.1
2-Apr	0	A	0	0	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	0	0	0.8	1.5
3-Apr	A	1	0	0	0	1	1	0	0	1	1	1	1	0	0	1	1	0	0	1	1	0	1	A	0.5	0.9
4-Apr	1	0	0	1	0	0	0	1	5	4	1	1	1	1	0	1	1	0	1	1	0	1	A	1	0.9	4.9
5-Apr	0	1	1	1	1	1	1	1	1	1	1	2	2	1	1	1	0	0	1	1	1	A	1	0	0.7	1.8
6-Apr	0	0	0	0	1	1	0	0	1	1	1	1	1	1	1	0	0	1	0	0	A	1	1	0	0.6	1.2
7-Apr	1	1	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	0	1	0.7	1.1
8-Apr	1	1	0	1	1	1	1	1	1	1	1	2	1	1	1	3	1	1	A	A	1	1	1	0	0.8	2.5
9-Apr	1	0	1	0	0	1	1	1	1	1	1	3	1	1	1	1	1	1	A	A	2	1	1	2	1.0	2.6
10-Apr	1	1	1	1	1	1	1	1	1	1	2	1	0	1	1	1	A	1	0	1	0	1	1	1	0.7	1.8
11-Apr	0	0	0	1	0	0	1	1	1	1	1	0	1	1	A	0	1	1	0	0	1	0	1	0	0.5	1.1
12-Apr	1	1	1	0	0	0	0	1	1	6	4	2	1	1	A	0	0	0	0	0	0	0	0	0	0.9	5.9
13-Apr	0	0	0	0	0	0	0	0	M	M	M	C	C	C	2	1	1	1	1	1	1	1	1	1	0.7	1.6
14-Apr	1	A	1	1	1	0	0	1	0	0	1	0	1	1	1	1	0	0	0	0	0	0	0	0	0.5	1.0
15-Apr	A	0	0	0	0	0	0	0	1	0	0	1	1	1	1	1	1	1	1	0	0	0	1	A	0.5	0.8
16-Apr	1	0	0	0	0	0	1	1	1	0	1	1	1	0	1	1	1	1	1	1	1	0	A	1	0.5	0.8
17-Apr	1	0	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	0	1	0	0	A	1	1	0.7	1.9
18-Apr	1	0	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	0	1	1	0.7	1.0
19-Apr	1	1	1	0	0	1	0	1	1	1	1	1	1	1	1	1	1	1	0	A	A	0	1	0	0.7	1.5
20-Apr	1	1	0	1	1	1	1	1	0	1	0	1	1	0	1	0	1	1	A	A	3	0	0	0	0.7	2.7
21-Apr	1	1	1	0	0	1	0	1	1	0	0	1	0	0	1	0	0	A	A	1	1	1	1	1	0.5	0.9
22-Apr	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	3	1	1	1	0.7	3.1
23-Apr	1	1	1	1	1	0	1	1	1	1	1	1	0	0	1	A	0	1	1	1	1	1	1	1	0.6	1.3
24-Apr	0	0	0	0	0	0	0	1	3	3	2	1	1	1	A	1	1	1	1	1	1	1	0	0	0.9	3.3
25-Apr	0	1	0	0	0	1	1	0	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	0.8	1.3
26-Apr	0	1	1	1	1	1	0	0	1	1	1	1	A	0	1	1	1	1	1	1	1	0	0	0	0.6	1.1
27-Apr	1	1	1	1	0	1	1	0	1	1	1	A	1	1	1	1	1	1	0	1	1	0	0	1	0.6	1.0
28-Apr	1	1	0	0	0	0	0	0	1	1	A	1	1	0	1	0	0	1	0	0	0	0	0	0	0.5	1.0
29-Apr	0	0	1	0	0	0	0	1	1	A	1	1	1	1	0	0	0	0	0	0	0	1	1	1	0.5	0.8
30-Apr	0	1	1	1	1	1	1	1	A	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	0.6	1.1
		0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.6	0.9	1.2	1.0	0.9	0.8	0.6	0.7	0.7	0.6	0.6	0.7	0.7	0.7	0.6	0.6	0.6	Diurnal Average
		1.2	1.1	0.8	1.1	0.8	0.8	0.8	1.1	4.9	5.9	4.3	2.6	1.5	1.4	1.6	2.5	1.3	1.4	2.0	2.7	3.1	1.1	1.1	2.1	Diurnal Maximum
C - Calibration		M - Maintenance						A - Automated Daily Zero Span																		

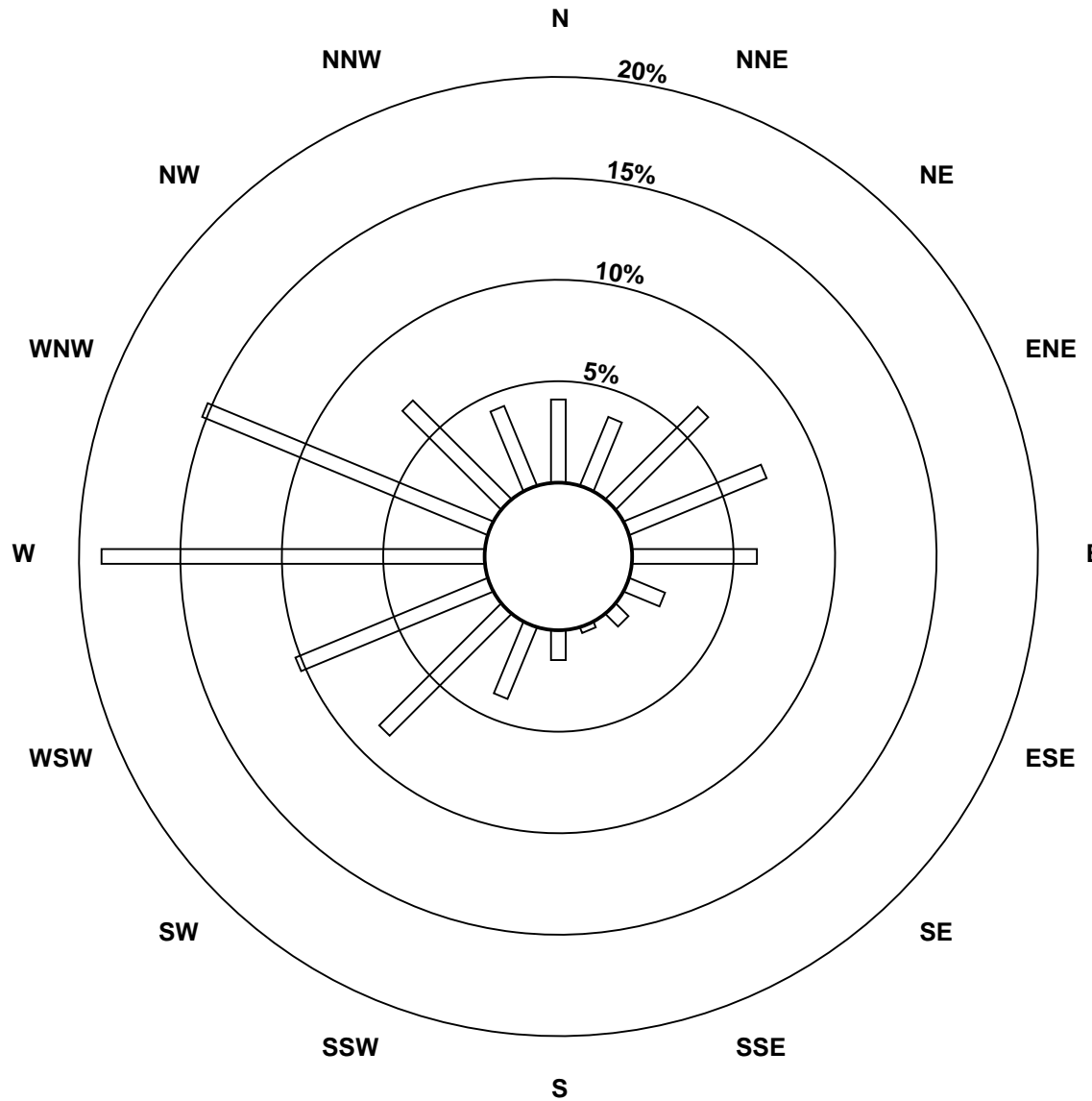
### Hourly Maximums

Sulphur Dioxide (SO<sub>2</sub>) - ppb  
Evergreen Park - April 2011

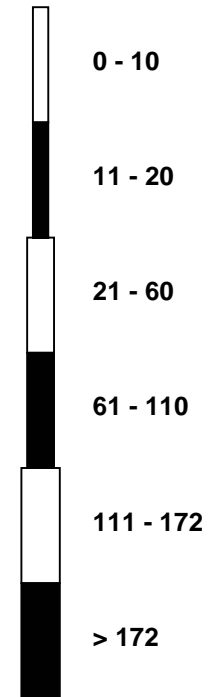


**Pollutant Rose**

**Sulphur Dioxide (SO<sub>2</sub>) - ppb**  
**Evergreen Park - April 2011**

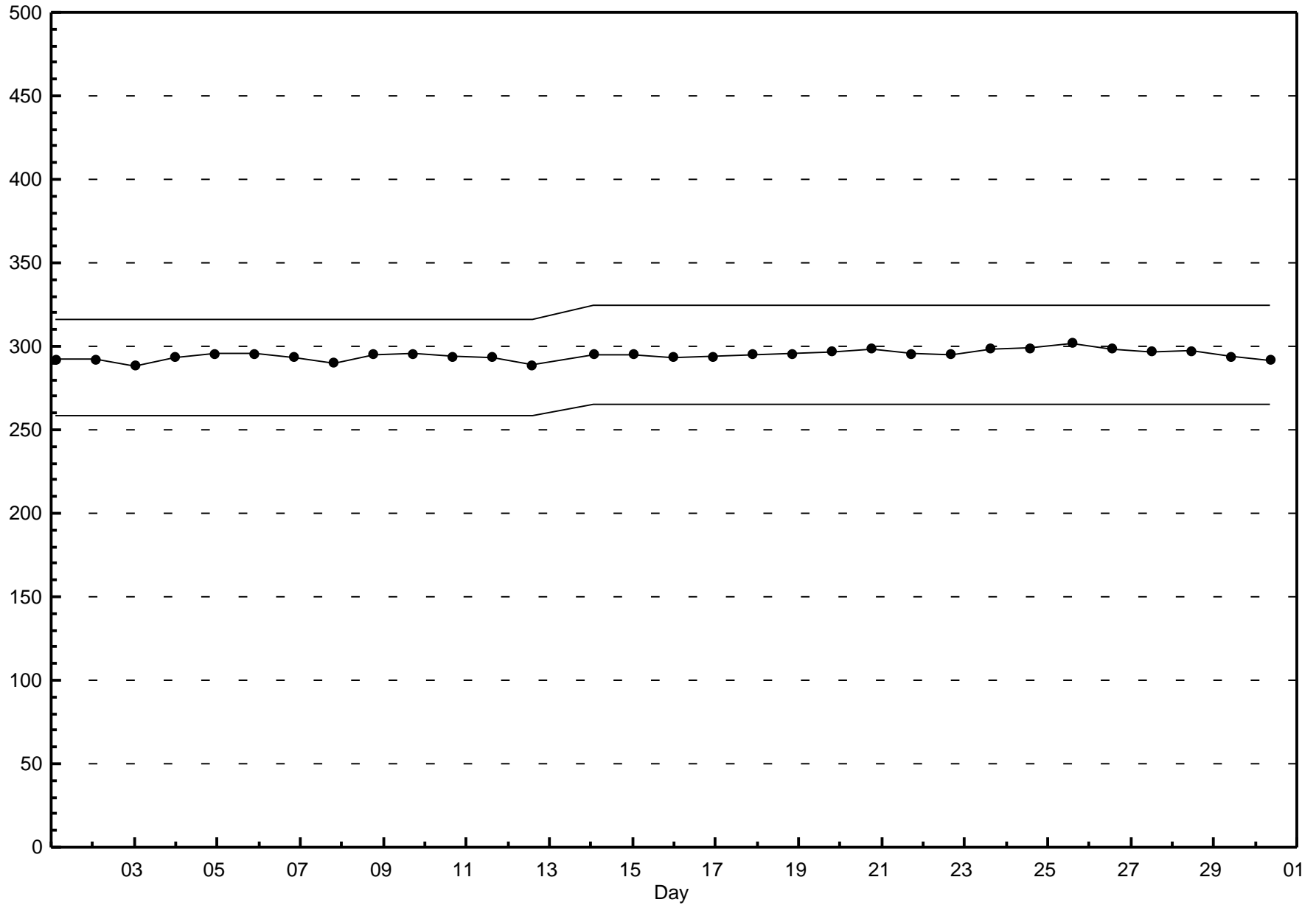


**Pollutant Classes (ppb)**



### Span Responses

Sulphur Dioxide (SO<sub>2</sub>)  
Evergreen Park - April 2011



## Hourly Averages

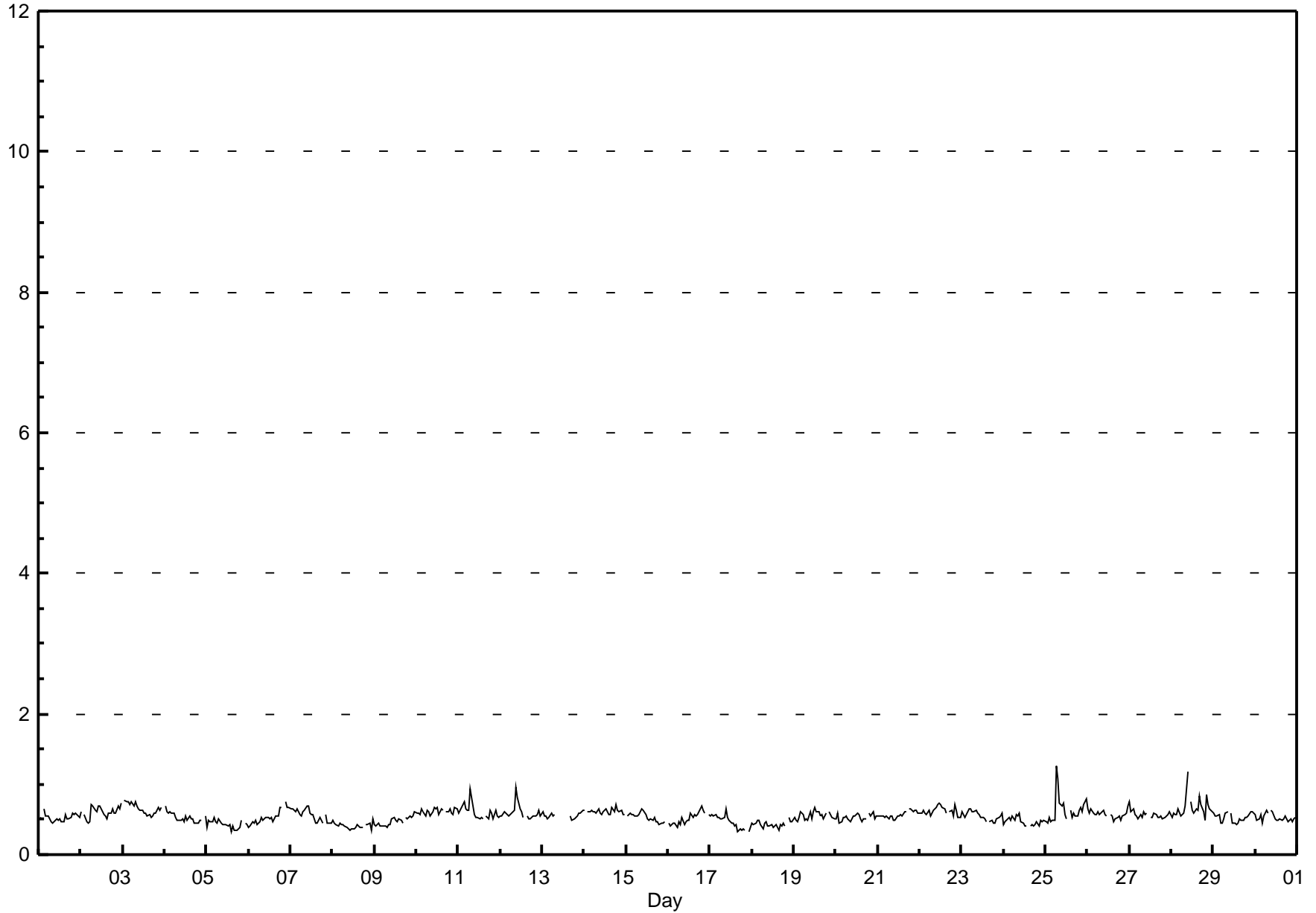
## Total Reduced Sulphur (TRS) - ppb

### Evergreen Park - April 2011

Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	720
Maximum Value: 1.3 ppb on Apr 25 07:00	Maximum Daily Average: 0.7 ppb on Apr 28		Hours of Data:	682
Minimum Value: 0 ppb on Apr 17 23:00	Minimum Daily Average: 0.4 ppb on Apr 8		Hours of Missing Data:	38
Maximum Diurnal Average: 0.6 ppb at hour 10	Minimum Diurnal Average: 0.5 ppb at hour 18		Hours of Calibration:	35
Monthly Average: 0.55 ppb	Percentiles: P <sub>1</sub> = 0.4 P <sub>10</sub> = 0.4 Q <sub>1</sub> = 0.5 Median = 0.5 Q <sub>3</sub> = 0.6 P <sub>90</sub> = 0.7 P <sub>99</sub> = 0.8		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-Apr	0	1	A	1	1	1	1	0	0	0	1	0	1	0	0	1	1	0	1	1	1	1	1	1	0.5	0.7	
2-Apr	1	A	1	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.6	0.7	
3-Apr	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	0.7	0.8	
4-Apr	1	1	1	1	1	1	1	0	0	0	1	0	1	0	1	0	1	0	0	0	0	0	A	1	0.5	0.7	
5-Apr	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.4	0.5	
6-Apr	0	0	0	0	0	0	0	1	0	1	1	1	1	0	1	1	1	1	1	1	A	1	1	1	0.5	0.7	
7-Apr	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	1	0	A	1	0	0	0	0.6	0.7	
8-Apr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	1	0.4	0.5	
9-Apr	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	0	A	1	1	1	1	1	1	0.5	0.6	
10-Apr	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	A	1	1	1	1	1	1	0.6	0.7	
11-Apr	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	0.6	0.9	
12-Apr	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	0.6	1.0	
13-Apr	1	1	1	1	1	1	1	1	M	M	M	1	C	C	C	C	1	0	0	1	1	1	1	1	--	0.6	
14-Apr	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.6	0.7	
15-Apr	A	1	1	1	1	1	1	1	1	1	1	1	0	1	0	1	0	0	0	0	0	0	0	A	0.5	0.6	
16-Apr	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	1	1	1	1	1	1	1	A	1	0.5	0.7	
17-Apr	1	1	1	1	1	1	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	A	0	0	0.5	0.6	
18-Apr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	0	0	0.4	0.5	
19-Apr	1	0	0	1	1	1	0	1	0	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	0.6	0.7	
20-Apr	1	1	0	0	1	1	1	1	0	1	1	1	1	1	0	1	1	1	A	1	1	1	1	1	0.5	0.6	
21-Apr	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	1	A	1	1	1	1	1	1	0.6	0.7	
22-Apr	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	0.6	0.7	
23-Apr	1	1	1	1	1	1	1	1	1	1	1	1	1	0	A	0	0	0	0	0	1	1	1	1	0.6	0.6	
24-Apr	0	0	0	1	0	1	0	1	1	1	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.5	0.6	
25-Apr	0	0	1	0	0	0	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	0.6	1.3	
26-Apr	1	1	1	1	1	1	1	1	1	1	1	A	1	1	0	1	1	1	1	0	1	1	1	1	0.6	0.7	
27-Apr	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	0.6	0.8	
28-Apr	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	0	1	1	1	1	1	0.7	1.2	
29-Apr	1	1	1	1	0	0	1	1	1	1	A	1	0	0	0	0	1	0	0	1	1	1	1	1	0.5	0.6	
30-Apr	1	0	0	1	0	1	1	1	A	1	1	1	0	0	1	0	1	1	1	0	1	0	1	1	0.5	0.6	
	0.5	0.5	0.6	0.6	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.5	0.6	Diurnal Average	
	0.8	0.8	0.8	0.8	0.7	0.7	1.3	1.1	0.7	1.2	0.8	0.7	0.7	0.7	0.7	0.6	0.8	0.7	0.7	0.7	0.7	0.8	0.7	0.5	0.8	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



## Hourly Maximums

Total Reduced Sulphur (TRS) - ppb

Evergreen Park - April 2011

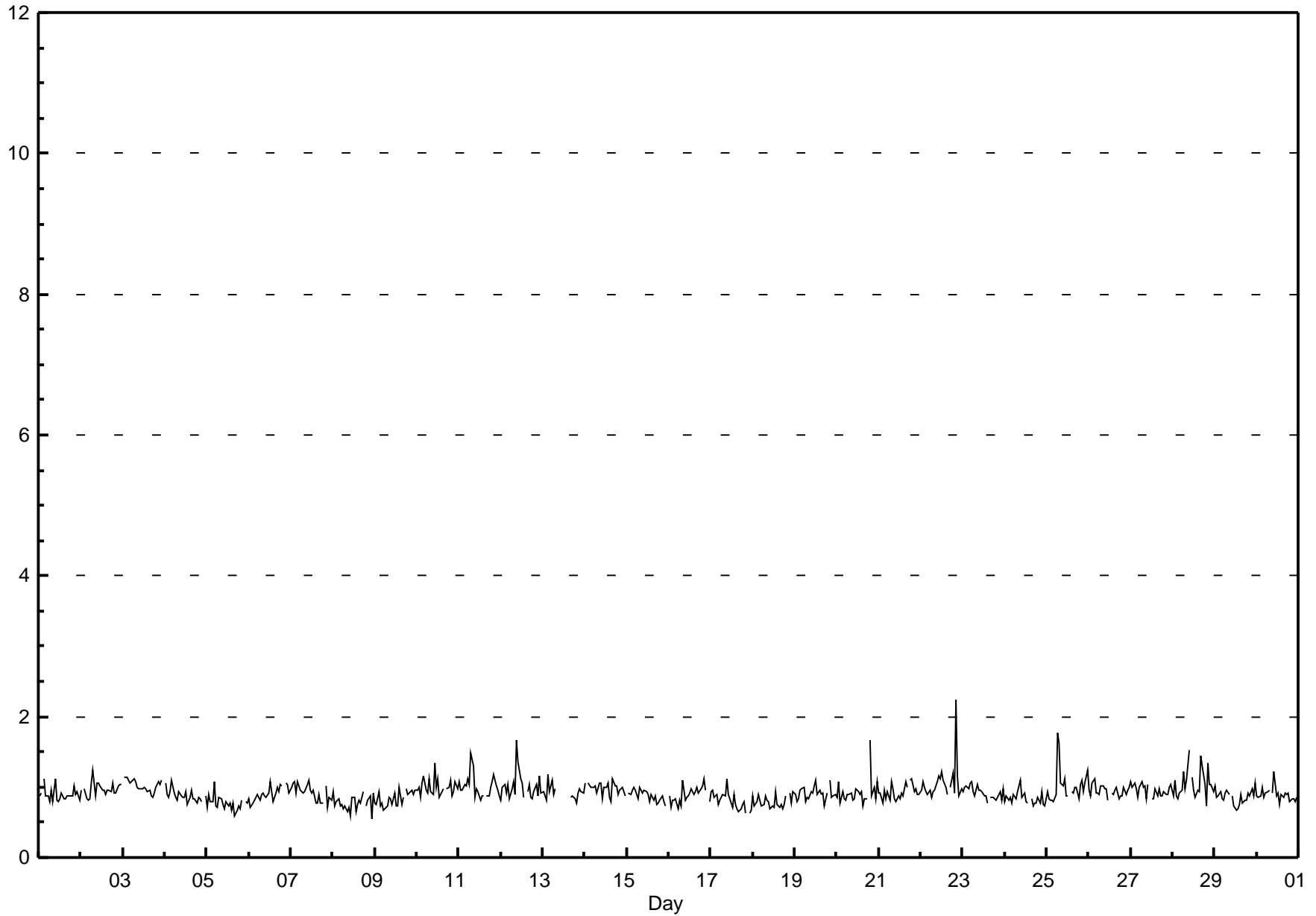
Maximum Value: 2.2 ppb on Apr 22 21:00		Maximum Daily Average: 1.1 ppb on Apr 22		Hours in Service: 720																						
Minimum Value: 1 ppb on Apr 8 23:00		Minimum Daily Average: 0.8 ppb on Apr 8		Hours of Data: 682																						
Maximum Diurnal Average: 1.0 ppb at hour 21		Minimum Diurnal Average: 0.9 ppb at hour 15		Hours of Missing Data: 38																						
Monthly Average: 0.92 ppb		Percentiles: P <sub>1</sub> = 0.6 P <sub>10</sub> = 0.8 Q <sub>1</sub> = 0.8 Median = 0.9 Q <sub>3</sub> = 1.0 P <sub>90</sub> = 1.1 P <sub>99</sub> = 1.5		Hours of Calibration: 35																						
				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-Apr	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.1
2-Apr	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.2
3-Apr	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1.0	1.1
4-Apr	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	0.9	1.1
5-Apr	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	1.1
6-Apr	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	0.9	1.1
7-Apr	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	0.9	1.1
8-Apr	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	A	1	1	1	1	0.8	0.9
9-Apr	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.0
10-Apr	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	A	1	1	1	1	1	1	1.0	1.3
11-Apr	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1.0	1.5
12-Apr	1	1	1	1	1	1	1	1	1	2	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1.0	1.7
13-Apr	1	1	1	1	1	1	1	1	M	M	M	1	C	C	C	C	1	1	1	1	1	1	1	1	--	1.2
14-Apr	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.1
15-Apr	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	0.9	1.0
16-Apr	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	0.9	1.1
17-Apr	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.1
18-Apr	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	0.9
19-Apr	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	0.9	1.1
20-Apr	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	2	1	1	1	1	0.9	1.7
21-Apr	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	0.9	1.1
22-Apr	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	2	1	1	1	1.1	2.2
23-Apr	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	1.1
24-Apr	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.1
25-Apr	1	1	1	1	1	1	2	2	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1.0	1.8
26-Apr	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	1.1
27-Apr	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	1.1
28-Apr	1	1	1	1	1	1	1	1	1	1	2	1	A	1	1	1	1	1	1	1	1	1	1	1	1.0	1.5
29-Apr	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.0
30-Apr	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.2
																								0.9	1.1	
																								0.9	1.1	
																								0.9	1.1	
																								0.9	1.2	
																								0.9	1.2	
																								0.9	1.1	
																								0.9	1.8	
																								1.0	1.6	
																								0.9	1.3	
																								1.0	1.7	
																								0.9	1.4	
																								0.9	1.1	
																								0.9	1.2	
																								0.9	1.1	
																								0.9	1.0	
																								0.9	1.1	
																								0.9	1.1	
																								0.9	1.4	
																								0.9	1.3	
																								0.9	1.2	
																								0.9	1.7	
																								1.0	2.2	
																								0.9	1.1	
																								0.9	1.2	
																								0.9	1.2	
																								Diurnal Average	Diurnal Maximum	

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



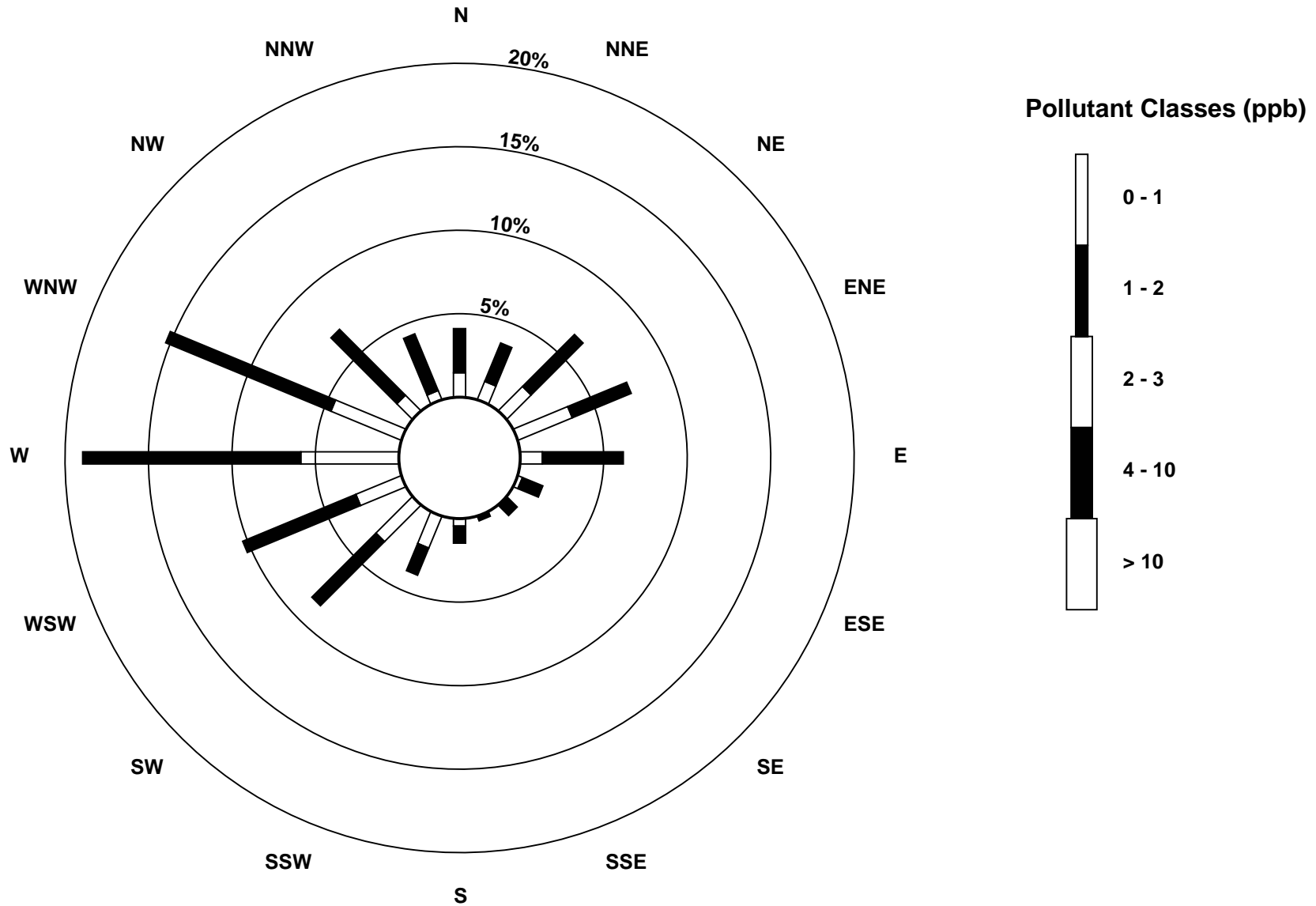
**Hourly Maximums**

**Total Reduced Sulphur (TRS) - ppb**  
**Evergreen Park - April 2011**



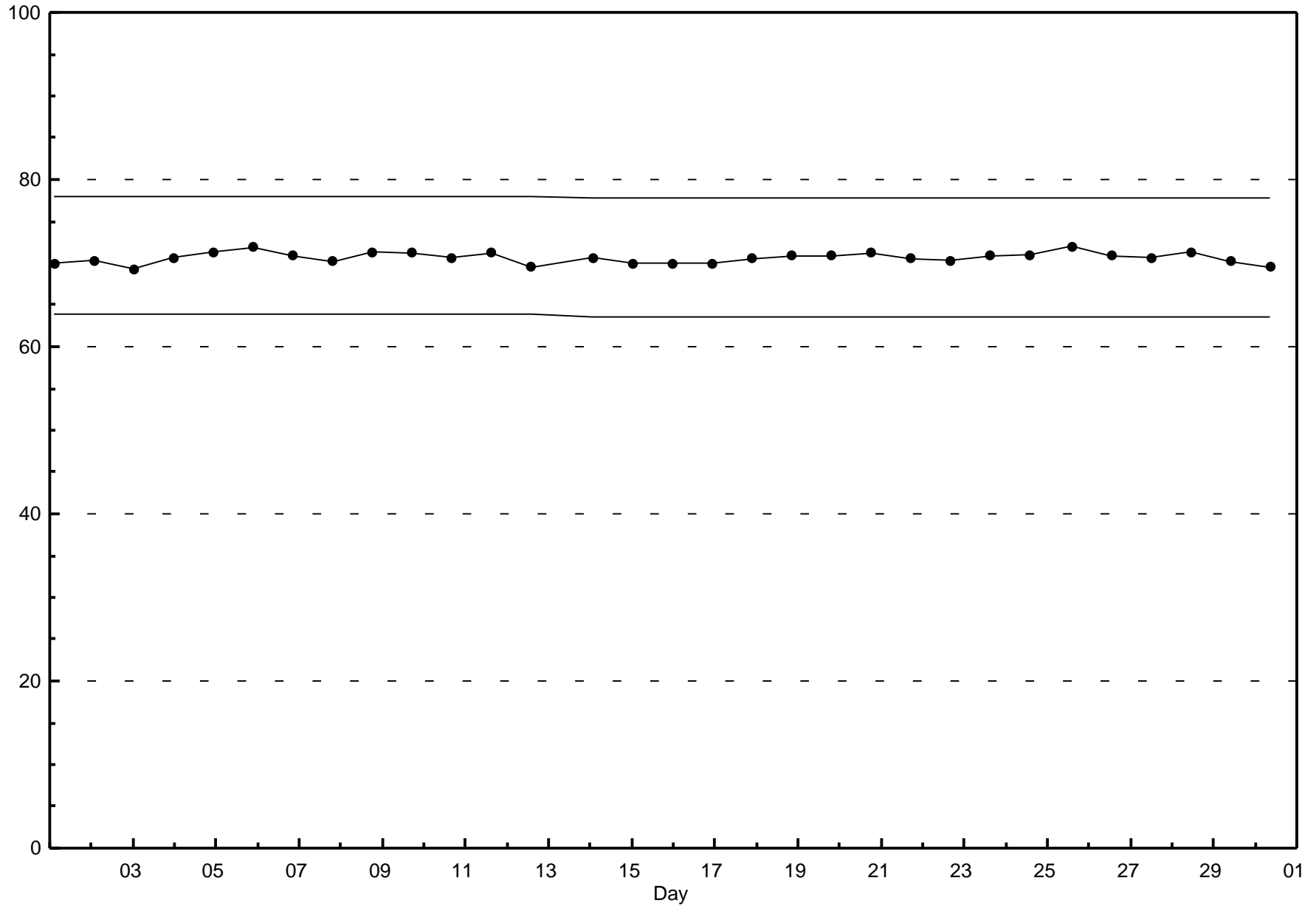
**Pollutant Rose**

**Total Reduced Sulphur (TRS) - ppb**  
**Evergreen Park - April 2011**



## Span Responses

Total Reduced Sulphur (TRS)  
Evergreen Park - April 2011



## Hourly Averages

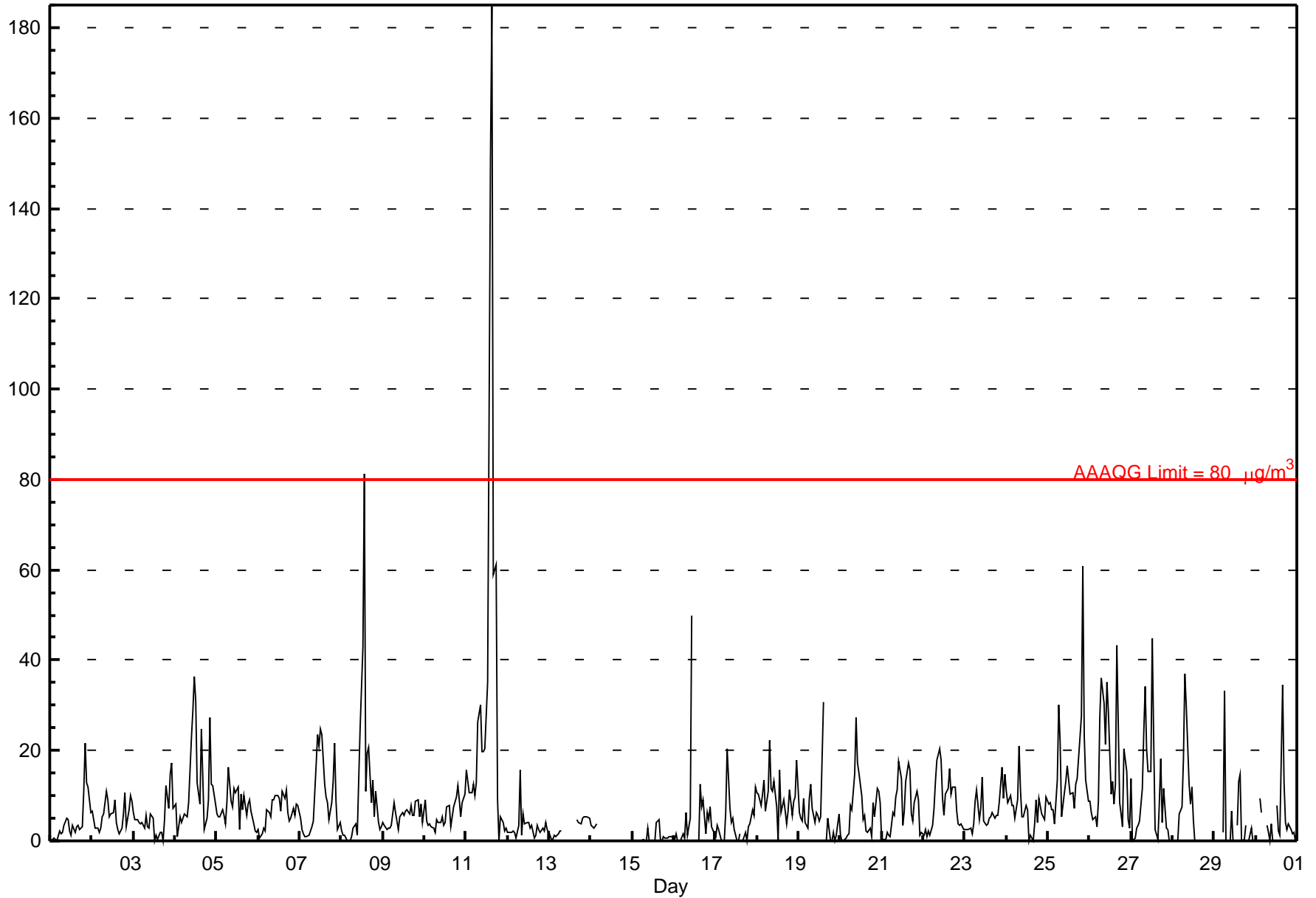
## Particulate Matter 2.5 (PM<sub>2.5</sub>) - µg/m<sup>3</sup>

### Evergreen Park - April 2011

Number of Exceedences: 1-hr: 4 24-hr: 1	Hours in Service: 720
Maximum Value: 184.6 µg/m <sup>3</sup> on Apr 11 16:00	Maximum Daily Average: 33.7 µg/m <sup>3</sup> on Apr 11
Minimum Value: 0 µg/m <sup>3</sup> on Apr 3 13:00	Hours of Data: 660
Maximum Diurnal Average: 16.3 µg/m <sup>3</sup> at hour 16	Hours of Missing Data: 60
Monthly Average: 8.30 µg/m <sup>3</sup>	Hours of Calibration: 0
Minimum Daily Average: 0.9 µg/m <sup>3</sup> on Apr 15	Percent Operational Time: 91.7
Minimum Diurnal Average: 3.3 µg/m <sup>3</sup> at hour 3	
Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.4 Q <sub>1</sub> = 2.4 Median = 5.4 Q <sub>3</sub> = 10.0 P <sub>90</sub> = 17.3 P <sub>99</sub> = 58.9	

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-Apr	0	0	0	0	0	2	2	2	4	5	5	2	1	3	2	3	4	2	3	11	22	13	12	6	4.4	21.8																							
2-Apr	7	5	3	3	2	3	5	6	11	9	5	6	6	9	4	2	1	3	6	11	3	7	10	9	5.6	11.0																							
3-Apr	6	5	5	4	4	4	3	6	3	3	6	5	0	1	0	2	2	0	5	12	7	15	17	7	5.1	17.3																							
4-Apr	8	1	3	5	4	6	6	5	8	23	29	36	31	13	8	25	14	3	5	9	27	13	12	8	12.6	36.3																							
5-Apr	6	5	5	7	6	4	8	16	9	8	11	11	12	3	10	7	10	6	8	9	6	4	2	2	7.3	16.3																							
6-Apr	3	1	2	3	2	7	6	5	9	9	10	10	9	7	11	9	11	6	4	5	7	6	8	8	6.6	11.3																							
7-Apr	5	3	1	1	1	1	2	3	4	17	23	21	25	23	12	10	9	5	8	13	22	9	2	4	9.4	24.7																							
8-Apr	2	1	1	0	0	0	1	3	4	1	13	25	43	81	11	19	21	9	13	5	11	4	2	3	11.4	81.3																							
9-Apr	4	3	3	3	3	4	8	6	4	2	5	6	7	7	6	8	6	6	9	9	5	8	4	4	5.5	9.1																							
10-Apr	9	4	3	4	3	3	2	5	4	4	5	3	4	7	8	3	5	7	10	12	9	5	8	10	5.8	12.1																							
11-Apr	16	13	11	11	12	10	13	26	30	20	20	20	35	92	151	185	59	61	9	0	5	4	2	3	33.7	184.6																							
12-Apr	2	2	2	2	2	1	3	16	1	6	4	4	4	3	3	1	1	3	3	2	3	2	4	2	3.2	15.8																							
13-Apr	1	0	0	1	1	2	2	2	M	M	M	M	M	M	M	M	5	4	4	5	5	5	5	5	--	5.5																							
14-Apr	4	3	3	4	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	3.8																							
15-Apr	BD	BD	BD	BD	0	0	0	0	0	3	0	BD	0	0	4	5	0	0	1	1	1	1	1	1	0.9	4.7																							
16-Apr	0	2	0	0	0	2	1	6	1	5	50	BD	BD	0	0	12	8	9	2	6	5	8	3	2	5.5	49.8																							
17-Apr	1	3	2	0	BD	0	6	20	7	4	5	3	0	0	1	BD	0	2	0	3	4	7	5	12	4.0	20.3																							
18-Apr	11	10	8	10	13	6	11	22	12	11	13	7	0	16	6	9	7	4	7	11	6	9	10	18	9.9	22.2																							
19-Apr	6	5	4	9	4	3	9	12	7	4	6	6	4	5	31	BD	0	5	0	0	2	0	1	6	5.7	30.7																							
20-Apr	1	0	0	0	1	2	8	7	15	27	17	15	10	5	5	2	2	3	1	8	5	12	11	8	6.9	27.2																							
21-Apr	0	0	0	2	1	1	6	6	10	11	18	14	4	7	13	17	16	6	4	8	11	9	1	2	7.0	17.6																							
22-Apr	1	3	1	2	1	4	7	13	18	20	18	9	6	10	12	16	10	12	12	7	4	3	4	2	8.1	20.3																							
23-Apr	2	3	2	3	2	4	9	11	5	7	14	4	4	4	5	5	6	5	6	6	9	16	10	15	6.5	16.4																							
24-Apr	11	8	10	8	8	5	9	21	11	5	5	8	7	0	1	0	4	9	4	9	6	5	5	10	7.1	20.9																							
25-Apr	8	8	7	7	4	13	30	22	5	11	13	17	14	10	11	7	12	14	23	28	61	23	13	9	15.4	60.9																							
26-Apr	9	6	5	5	3	9	28	36	30	21	35	29	10	13	8	13	43	8	6	3	20	15	5	3	15.2	43.1																							
27-Apr	14	0	0	3	3	4	12	24	34	20	15	15	45	23	2	0	8	18	4	11	3	3	0	0	11.0	44.7																							
28-Apr	0	0	0	0	6	8	18	37	30	12	8	12	5	0	0	N	N	N	N	N	N	N	N	N	--	36.9																							
29-Apr	BD	BD	BD	BD	BD	2	33	0	0	0	7	0	BD	3	13	15	0	0	3	BD	0	3	0	BD	--	33.3																							
30-Apr	BD	BD	9	6	BD	BD	3	2	0	4	0	BD	8	2	1	34	13	4	2	4	2	1	2	0	5.2	34.5																							
																								5.1	3.5	3.3	3.7	3.3	3.9	8.7	11.8	9.9	9.8	12.9	11.5	11.2	12.5	12.3	16.3	10.0	7.6	5.7	7.7	9.8	7.4	5.9	5.9	Diurnal Average	
																								15.6	13.1	10.6	10.7	13.3	13.4	33.3	36.9	34.1	27.2	49.8	36.3	44.7	92.5	151.2	184.6	59.1	61.2	22.9	27.5	60.9	23.3	17.3	17.8	Diurnal Maximum	

M - Maintenance      N - Not Valid      BD - Baseline Drift  
 Alberta Ambient Air Quality Guideline (AAAQG): 1-hr 80 µg/m<sup>3</sup>      Alberta Ambient Air Quality Objective (AAAQO): 24-hr 30 µg/m<sup>3</sup>

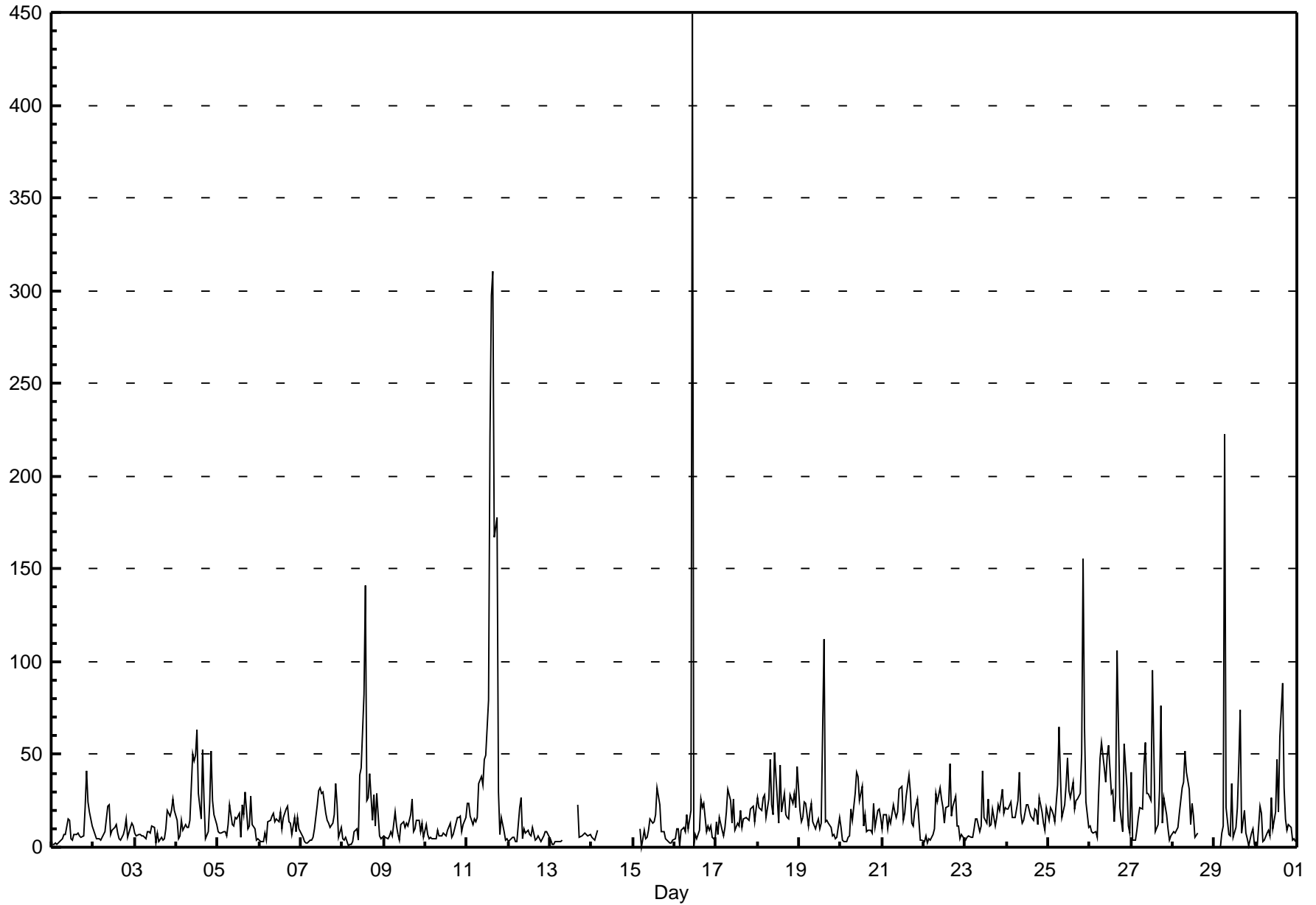


## Hourly Maximums

## Particulate Matter 2.5 (PM<sub>2.5</sub>) - µg/m<sup>3</sup>

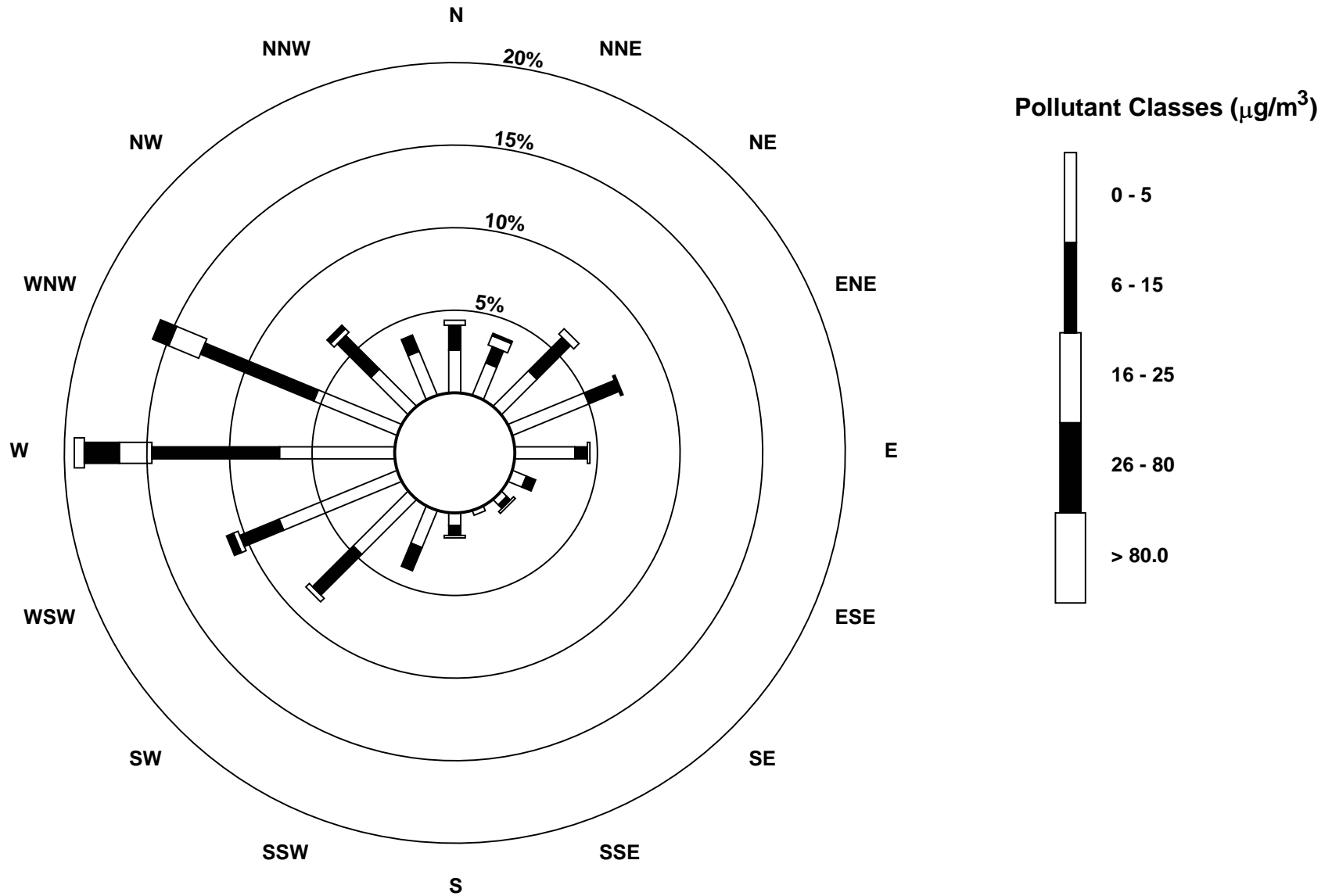
### Evergreen Park - April 2011

Maximum Value: 449.6 µg/m <sup>3</sup> on Apr 16 11:00		Maximum Daily Average: 68.6 µg/m <sup>3</sup> on Apr 11		Hours in Service: 720																																													
Minimum Value: 0 µg/m <sup>3</sup> on Apr 15 06:00		Minimum Daily Average: 7.5 µg/m <sup>3</sup> on Apr 12		Hours of Data: 678																																													
Maximum Diurnal Average: 40.3 µg/m <sup>3</sup> at hour 11		Minimum Diurnal Average: 8.3 µg/m <sup>3</sup> at hour 2		Hours of Missing Data: 42																																													
Monthly Average: 19.18 µg/m <sup>3</sup>		Percentiles: P <sub>1</sub> = 0.9 P <sub>10</sub> = 4.1 Q <sub>1</sub> = 6.7 Median = 12.5 Q <sub>3</sub> = 21.3 P <sub>90</sub> = 33.5 P <sub>99</sub> = 163.8		Hours of Calibration: 0																																													
				Percent Operational Time: 94.2																																													
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Apr	1	2	2	1	2	4	4	7	7	15	15	4	3	7	7	8	6	6	6	21	41	25	19	11	9.4	41.1																							
2-Apr	9	7	5	4	4	5	7	9	22	23	7	9	11	12	8	5	4	7	10	15	6	11	13	11	9.2	22.8																							
3-Apr	8	6	7	7	6	6	5	8	9	8	11	11	3	8	3	6	4	5	10	20	17	20	26	19	9.6	26.2																							
4-Apr	14	5	6	14	10	12	10	10	14	50	46	49	63	29	15	53	25	5	8	23	52	25	17	12	23.8	63.1																							
5-Apr	8	7	7	8	8	6	12	23	12	12	16	15	19	5	23	18	30	10	11	28	12	10	4	5	12.9	29.8																							
6-Apr	4	3	3	8	4	13	14	17	19	14	15	14	19	10	16	21	22	14	13	7	16	8	16	10	12.5	21.8																							
7-Apr	7	6	3	2	3	4	4	5	10	23	30	32	29	29	19	15	13	11	13	17	35	23	5	11	14.5	34.6																							
8-Apr	5	4	5	1	2	2	3	9	10	4	39	43	82	141	25	26	39	14	28	11	29	6	4	5	22.5	141.1																							
9-Apr	6	5	4	6	9	6	19	11	7	4	13	14	11	13	12	18	26	9	10	14	14	9	13	6	10.8	26.0																							
10-Apr	12	7	5	5	5	4	4	10	6	6	8	7	6	9	13	5	7	10	16	16	17	9	12	16	9.0	17.0																							
11-Apr	24	24	16	12	15	14	16	34	38	34	48	50	79	221	297	311	167	178	30	7	16	9	4	5	68.6	310.5																							
12-Apr	3	4	5	5	3	3	21	26	5	10	8	9	7	6	11	4	4	6	4	3	6	9	9	7	7.5	26.4																							
13-Apr	4	2	2	3	3	3	3	4	M	M	M	M	M	M	M	M	23	5	6	7	7	7	6	7	--	22.7																							
14-Apr	5	4	4	9	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	9.5																						
15-Apr	BD	BD	4	BD	10	0	9	4	6	9	16	13	14	17	32	23	8	8	8	4	3	2	2	4	9.4	32.0																							
16-Apr	5	10	10	1	9	11	9	18	10	20	450	0	7	5	9	26	21	24	8	12	9	11	6	4	28.8	449.6																							
17-Apr	14	7	16	9	6	11	19	31	25	13	26	10	13	11	20	11	15	16	15	14	21	22	14	21	15.9	31.0																							
18-Apr	26	22	20	27	29	16	26	47	23	18	51	26	13	44	19	29	17	16	15	28	24	29	21	43	26.2	51.0																							
19-Apr	20	13	16	25	23	11	19	24	13	10	13	15	10	13	112	14	15	13	11	6	7	4	5	16	17.9	112.3																							
20-Apr	11	4	3	3	6	6	21	15	29	41	38	25	33	12	17	8	10	9	8	23	11	20	20	16	16.3	40.8																							
21-Apr	10	18	17	10	16	13	23	19	16	19	31	32	14	18	28	39	30	13	12	19	26	14	4	4	18.6	38.5																							
22-Apr	3	6	2	4	4	7	10	29	25	32	26	21	13	21	22	45	17	22	28	11	12	5	7	4	15.6	44.7																							
23-Apr	4	6	6	5	6	10	15	15	9	12	41	16	13	26	12	12	21	11	16	23	20	31	19	21	15.3	41.0																							
24-Apr	21	21	25	16	16	16	25	41	18	13	15	23	23	20	17	14	20	20	12	27	19	13	9	21	19.3	40.8																							
25-Apr	14	21	20	18	14	34	65	38	16	23	33	48	31	26	35	20	25	26	29	51	155	65	24	11	35.1	155.3																							
26-Apr	12	8	7	9	5	29	48	56	43	35	49	55	29	31	13	28	106	21	14	8	55	32	12	7	29.7	106.2																							
27-Apr	41	4	4	9	16	21	20	44	56	29	29	25	95	52	8	12	31	76	13	27	18	10	4	6	27.0	95.0																							
28-Apr	8	8	9	11	19	32	35	52	41	31	12	24	17	5	8	N	N	N	N	N	N	N	N	N	--	52.0																							
29-Apr	BD	BD	0	0	7	12	223	21	7	6	35	6	11	21	45	74	8	20	8	5	0	7	10	1	23.9	222.7																							
30-Apr	0	0	22	18	3	4	7	9	6	27	10	19	47	19	60	88	32	15	9	13	11	4	5	3	18.0	88.1																							
																								10.7	8.3	8.5	8.7	9.0	10.9	24.1	22.0	17.9	19.2	40.3	21.9	25.5	29.8	32.3	34.4	26.6	21.1	13.4	16.5	23.5	15.8	11.1	11.1	Diurnal Average	
																								40.5	23.9	24.7	26.6	28.6	33.7	222.7	56.2	56.4	50.1	449.6	54.7	95.0	221.1	297.3	310.5	166.8	177.7	30.1	50.6	155.3	65.2	26.2	43.2	Diurnal Maximum	
M - Maintenance																								N - Not Valid				BD - Baseline Drift																					



**Pollutant Rose**

**Particulate Matter 2.5 (PM<sub>2.5</sub>) - μg/m<sup>3</sup>**  
**Evergreen Park - April 2011**





## Hourly Averages

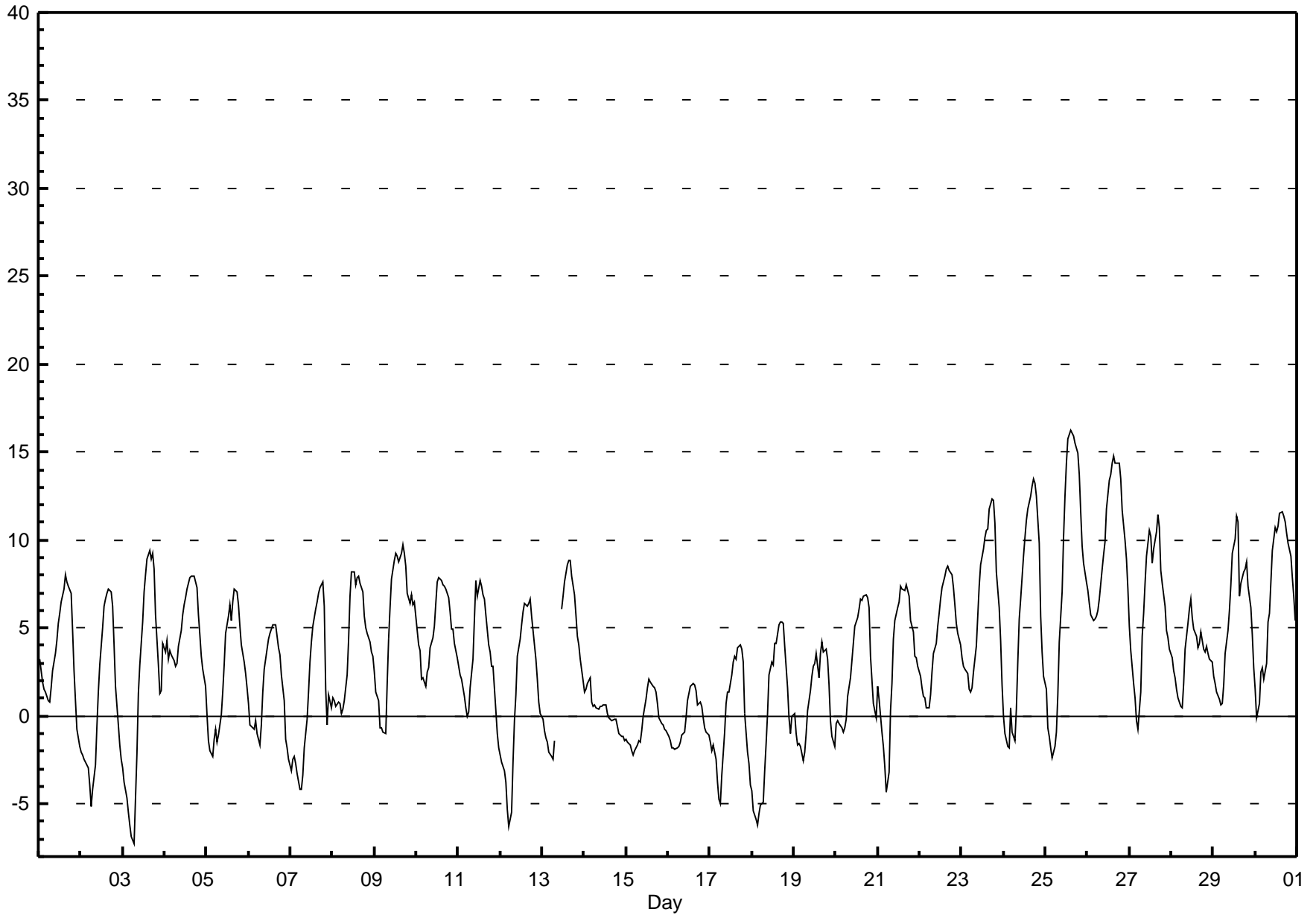
External Temperature (ET) - °C

Evergreen Park - April 2011

Number of Exceedences (AAQO): 1-hr: 0 24-hr: 0	Hours in Service: 720
Maximum Value: 16.3 °C on Apr 25 15:00	Maximum Daily Average: 9.9 °C on Apr 26
Minimum Value: -7 °C on Apr 3 07:00	Hours of Data: 717
Maximum Diurnal Average: 7.5 °C at hour 17	Hours of Missing Data: 3
Monthly Average: 3.39 °C	Hours of Calibration: 0
Minimum Daily Average: -0.3 °C on Apr 16	Percent Operational Time: 99.6
Minimum Diurnal Average: -1.1 °C at hour 6	
Percentiles: P <sub>1</sub> = -5.5 P <sub>10</sub> = -1.8 Q <sub>1</sub> = 0.0 Median = 3.1 Q <sub>3</sub> = 6.6 P <sub>90</sub> = 9.0 P <sub>99</sub> = 14.7	

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-Apr	3	3	2	1	1	1	1	2	3	4	4	5	6	6	7	8	8	7	7	5	3	1	-1	-2	3.5	8.0
2-Apr	-2	-2	-2	-3	-3	-4	-5	-4	-3	-1	1	3	5	6	7	7	7	7	6	4	2	-1	-2	-2	0.9	7.2
3-Apr	-3	-4	-5	-5	-6	-7	-7	-5	-2	1	3	5	7	8	9	9	9	9	8	6	3	1	1	4	1.7	9.4
4-Apr	4	4	3	4	4	3	3	3	4	5	6	6	7	7	8	8	8	8	7	6	5	3	3	2	5.0	8.0
5-Apr	0	-1	-2	-2	-1	-1	-2	-1	0	1	3	5	6	6	5	6	7	7	6	5	4	3	2	2	2.5	7.2
6-Apr	1	0	-1	-1	0	-1	-2	-1	1	3	3	4	5	5	5	5	5	4	3	2	1	-1	-2	-2	1.5	5.2
7-Apr	-3	-2	-2	-3	-3	-4	-4	-3	-2	0	1	3	4	5	6	6	7	7	8	6	1	0	1	0	1.2	7.6
8-Apr	1	1	1	1	1	0	0	1	2	4	7	8	8	7	8	8	8	7	6	5	5	4	4	3	4.2	8.2
9-Apr	2	1	1	-1	-1	-1	-1	2	4	6	8	9	9	9	9	9	10	9	9	7	6	7	6	6	5.3	9.8
10-Apr	5	4	4	2	2	2	2	3	4	4	5	6	8	8	8	7	7	7	7	6	5	5	4	3	4.9	7.8
11-Apr	3	2	2	1	0	0	0	2	3	5	8	7	8	7	7	7	6	4	4	3	3	0	-1	-2	3.3	7.7
12-Apr	-2	-3	-3	-4	-5	-6	-6	-3	0	1	3	4	5	6	6	6	6	7	6	5	3	2	1	0	1.3	6.6
13-Apr	0	-1	-1	-1	-2	-2	-2	-1	M	M	M	6	7	8	9	9	9	8	7	6	5	4	3	2	3.3	8.8
14-Apr	1	1	2	2	1	1	1	0	0	1	1	1	1	0	0	0	0	0	0	-1	-1	-1	-1	-1	0.2	2.2
15-Apr	-1	-1	-2	-2	-2	-2	-2	-1	-1	-1	0	1	2	2	2	2	2	1	1	0	0	-1	-1	-1	-0.3	2.1
16-Apr	-1	-1	-2	-2	-2	-2	-2	-2	-1	-1	0	1	1	2	2	2	1	1	1	1	0	-1	-1	-1	-0.3	1.9
17-Apr	-1	-2	-2	-2	-4	-5	-5	-3	-1	1	1	1	2	3	3	3	4	4	4	3	0	-2	-3	-4	-0.2	4.0
18-Apr	-4	-5	-6	-6	-6	-5	-5	-3	-2	0	2	3	3	4	4	5	5	5	5	4	2	0	-1	0	0.0	5.3
19-Apr	0	-1	-2	-2	-2	-3	-2	-1	0	1	2	3	3	4	2	4	4	4	4	3	2	0	-1	-2	0.9	4.2
20-Apr	0	0	0	-1	-1	-1	0	1	2	3	4	5	6	6	7	7	7	7	7	6	3	1	0	0	2.8	6.9
21-Apr	2	1	-1	-2	-3	-4	-3	0	2	4	5	6	6	7	7	7	7	7	7	5	5	3	3	3	3.2	7.4
22-Apr	2	2	1	1	0	0	1	3	4	4	5	6	7	7	8	8	9	8	8	7	6	5	5	4	4.7	8.5
23-Apr	3	3	3	2	2	1	2	2	4	6	7	9	9	10	11	11	12	12	12	11	8	6	4	2	6.3	12.3
24-Apr	0	-1	-2	-2	0	-1	-1	0	3	5	7	9	10	11	12	13	13	13	13	13	10	6	4	2	5.7	13.5
25-Apr	2	-1	-1	-2	-2	-2	-1	1	4	7	10	12	14	16	16	16	16	16	15	14	12	10	9	8	7.8	16.3
26-Apr	7	6	6	5	6	6	6	7	8	9	10	12	13	14	14	15	14	14	14	13	12	10	9	7	9.9	14.8
27-Apr	5	4	2	1	0	-1	1	5	6	8	9	11	10	9	10	10	11	11	8	8	6	5	4	4	6.1	11.4
28-Apr	3	3	2	2	1	1	0	2	4	5	6	7	6	5	5	4	4	5	4	4	4	4	3	3	3.5	6.6
29-Apr	2	2	1	1	1	1	2	4	5	6	7	9	10	11	11	7	8	8	8	9	7	6	5	3	5.6	11.4
30-Apr	2	0	1	2	3	2	3	5	6	8	9	11	10	11	11	12	11	11	10	10	9	8	7	5	7.0	11.6
	1.0	0.3	-0.1	-0.5	-0.7	-1.1	-0.9	0.5	2.0	3.5	4.8	5.9	6.6	7.1	7.3	7.4	7.5	7.3	6.8	5.8	4.3	2.9	2.2	1.6		Diurnal Average
	7.1	6.4	5.8	5.4	5.5	5.7	6.0	6.6	8.4	9.1	10.1	12.5	14.4	15.8	16.3	16.1	15.9	15.6	14.9	13.8	11.7	10.0	8.9	7.6		Diurnal Maximum

M - Maintenance



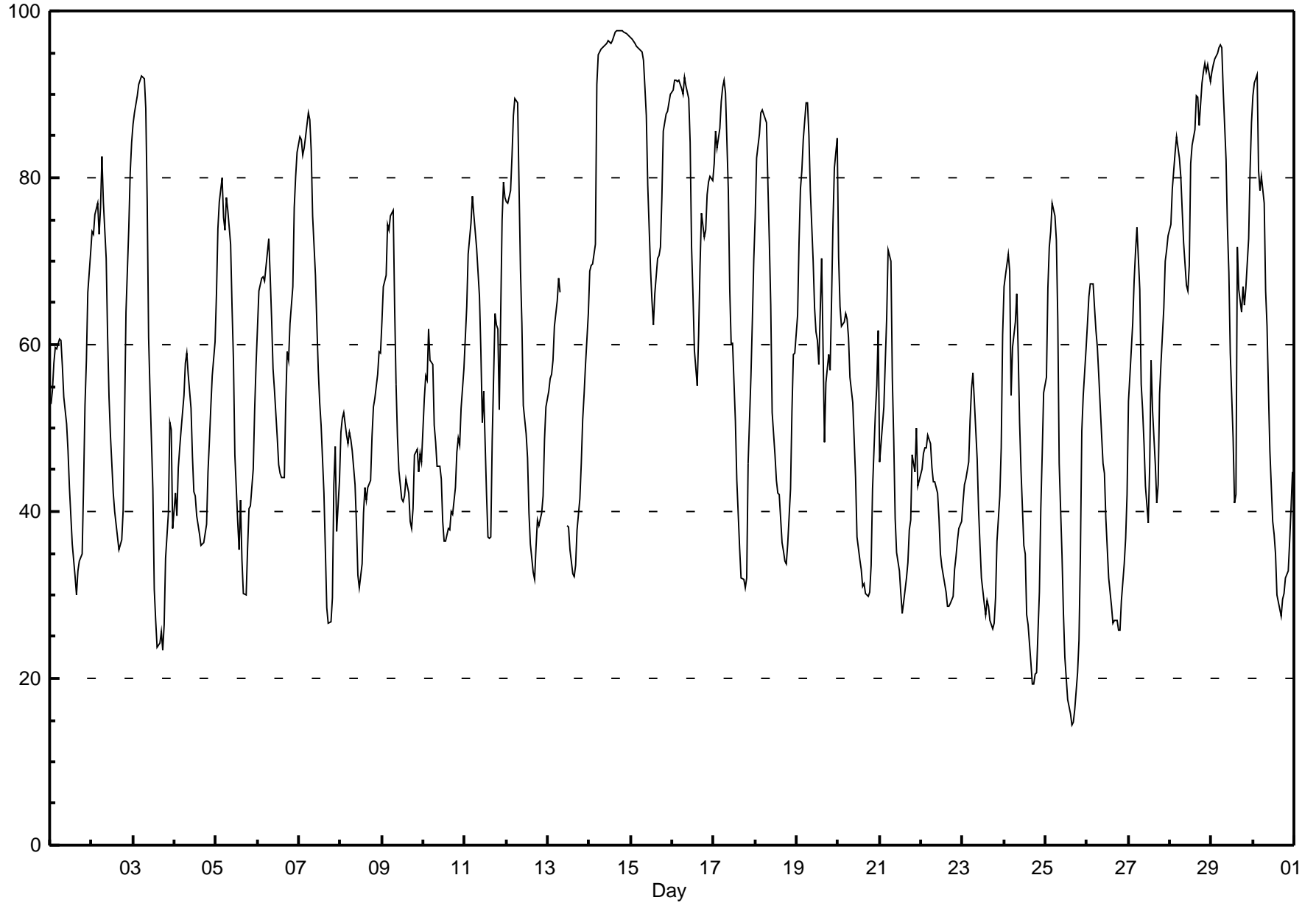
# Hourly Averages

Relative Humidity (RH) - %  
Evergreen Park - April 2011

Number of Exceedences (AAQO): 1-hr: 0 24-hr: 0 Maximum Value: 97.7 % on Apr 14 19:00 Maximum Daily Average: 92.0 % on Apr 14		Hours in Service: 720 Hours of Data: 717 Hours of Missing Data: 3 Hours of Calibration: 0 Percent Operational Time: 99.6																																															
Minimum Value: 14 % on Apr 25 16:00 Maximum Diurnal Average: 74.7 % at hour 6 Monthly Average: 57.46 %		Minimum Daily Average: 38.6 % on Apr 22 Minimum Diurnal Average: 41.2 % at hour 17 Percentiles: P <sub>1</sub> = 19.8 P <sub>10</sub> = 32.0 Q <sub>1</sub> = 40.5 Median = 55.4 Q <sub>3</sub> = 73.5 P <sub>90</sub> = 88.9 P <sub>99</sub> = 97.2																																															
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Apr	53	55	58	60	60	61	61	57	54	50	47	43	40	36	32	30	33	34	35	43	53	58	66	71	49.5	71.0																							
2-Apr	74	73	76	77	73	77	83	77	70	61	54	49	42	40	38	37	35	37	40	51	64	74	81	84	61.1	84.3																							
3-Apr	86	88	90	91	92	92	92	88	77	61	54	43	31	27	24	24	26	23	26	34	40	51	50	38	56.2	92.1																							
4-Apr	42	39	45	48	50	54	58	59	56	52	47	42	42	40	37	36	36	36	39	45	49	53	56	60	46.7	60.4																							
5-Apr	66	74	77	80	75	74	78	76	72	65	58	47	39	35	41	34	30	30	36	40	41	45	52	58	55.1	80.0																							
6-Apr	62	66	68	68	68	69	73	68	63	57	55	49	46	45	44	44	53	59	58	63	67	76	80	83	61.8	83.1																							
7-Apr	85	85	83	83	85	88	87	83	75	68	62	57	53	50	42	35	29	27	27	30	43	48	38	44	58.6	87.8																							
8-Apr	50	51	52	49	48	50	49	47	43	38	32	31	34	40	43	41	43	44	49	53	54	57	59	59	46.4	59.1																							
9-Apr	63	67	68	74	74	76	76	64	55	49	45	41	41	42	44	42	39	38	40	47	47	45	47	46	52.9	76.1																							
10-Apr	54	56	56	62	58	58	50	48	45	45	44	39	36	36	38	38	40	40	43	47	49	48	52	57	47.5	61.8																							
11-Apr	61	65	71	75	78	76	74	71	66	59	51	54	42	37	37	37	48	64	62	62	52	75	79	78	61.4	79.4																							
12-Apr	77	77	78	83	87	89	89	79	69	62	53	49	47	40	36	33	32	36	39	38	40	42	49	52	57.3	89.5																							
13-Apr	54	56	56	58	62	65	68	66	M	M	M	38	38	35	33	32	34	38	41	46	51	54	58	64	49.9	68.0																							
14-Apr	69	70	70	72	91	95	95	95	96	96	96	96	96	96	97	98	98	98	98	98	98	97	97	97	92.0	97.7																							
15-Apr	97	97	96	96	96	95	95	94	91	88	79	69	65	62	66	70	71	72	78	86	88	88	89	90	84.0	96.8																							
16-Apr	90	92	92	92	92	91	90	92	91	90	84	72	66	59	55	61	69	76	73	74	78	79	80	80	79.9	92.1																							
17-Apr	82	86	84	86	89	91	92	90	78	67	60	60	51	44	40	36	32	32	31	32	46	56	63	70	62.3	91.7																							
18-Apr	75	82	85	88	88	88	87	79	72	65	52	47	44	42	36	35	34	34	36	43	52	59	59	59	59.3	88.2																							
19-Apr	64	72	79	81	85	89	89	85	79	70	64	62	60	58	70	59	48	55	59	57	65	74	81	85	70.4	89.0																							
20-Apr	70	65	62	63	64	63	61	56	53	49	44	37	34	33	31	31	30	30	30	34	43	52	55	62	48.0	70.4																							
21-Apr	46	48	53	58	63	71	70	56	48	39	35	33	30	28	29	32	34	38	39	47	45	50	43	44	44.9	71.4																							
22-Apr	45	47	48	48	49	48	45	44	43	42	39	35	33	32	30	29	29	29	30	33	35	36	38	39	38.6	49.1																							
23-Apr	41	43	44	46	51	55	57	53	46	40	36	32	29	28	29	29	27	26	27	30	37	42	48	61	39.8	61.2																							
24-Apr	67	68	71	69	54	60	63	66	59	51	45	36	35	28	26	22	19	19	20	21	30	40	47	54	44.6	70.9																							
25-Apr	56	67	72	74	77	75	73	63	46	35	28	23	20	17	16	14	15	16	21	25	35	50	54	59	42.9	77.0																							
26-Apr	63	66	67	67	64	62	60	56	49	46	45	39	32	30	29	27	27	27	26	26	29	34	37	42	43.7	67.2																							
27-Apr	53	56	62	68	71	74	67	55	52	48	43	39	45	58	52	46	41	43	54	58	64	70	71	73	56.9	74.0																							
28-Apr	74	79	81	83	85	82	80	76	72	67	66	69	82	84	86	90	90	86	91	93	94	93	94	92	82.9	93.7																							
29-Apr	93	94	94	95	96	96	96	90	82	74	69	59	49	41	42	72	67	64	67	65	67	73	81	87	75.4	95.9																							
30-Apr	90	91	92	81	79	80	77	66	62	54	47	39	37	35	30	28	28	29	30	32	33	37	41	45	52.6	92.3																							
																								66.7	69.1	71.0	72.4	73.4	74.7	74.3	70.2	64.4	58.2	52.9	47.6	44.6	42.6	42.0	41.5	41.2	42.7	44.7	48.1	52.5	58.3	61.5	64.4	Diurnal Average	
																								96.8	96.5	96.1	95.8	95.5	95.9	95.5	95.5	95.8	96.0	96.0	96.4	96.1	96.4	97.0	97.5	97.7	97.7	97.7	97.7	97.5	97.3	97.1	97.0	Diurnal Maximum	
M - Maintenance																																																	

**Hourly Averages**

**Relative Humidity (RH) - %  
Evergreen Park - April 2011**





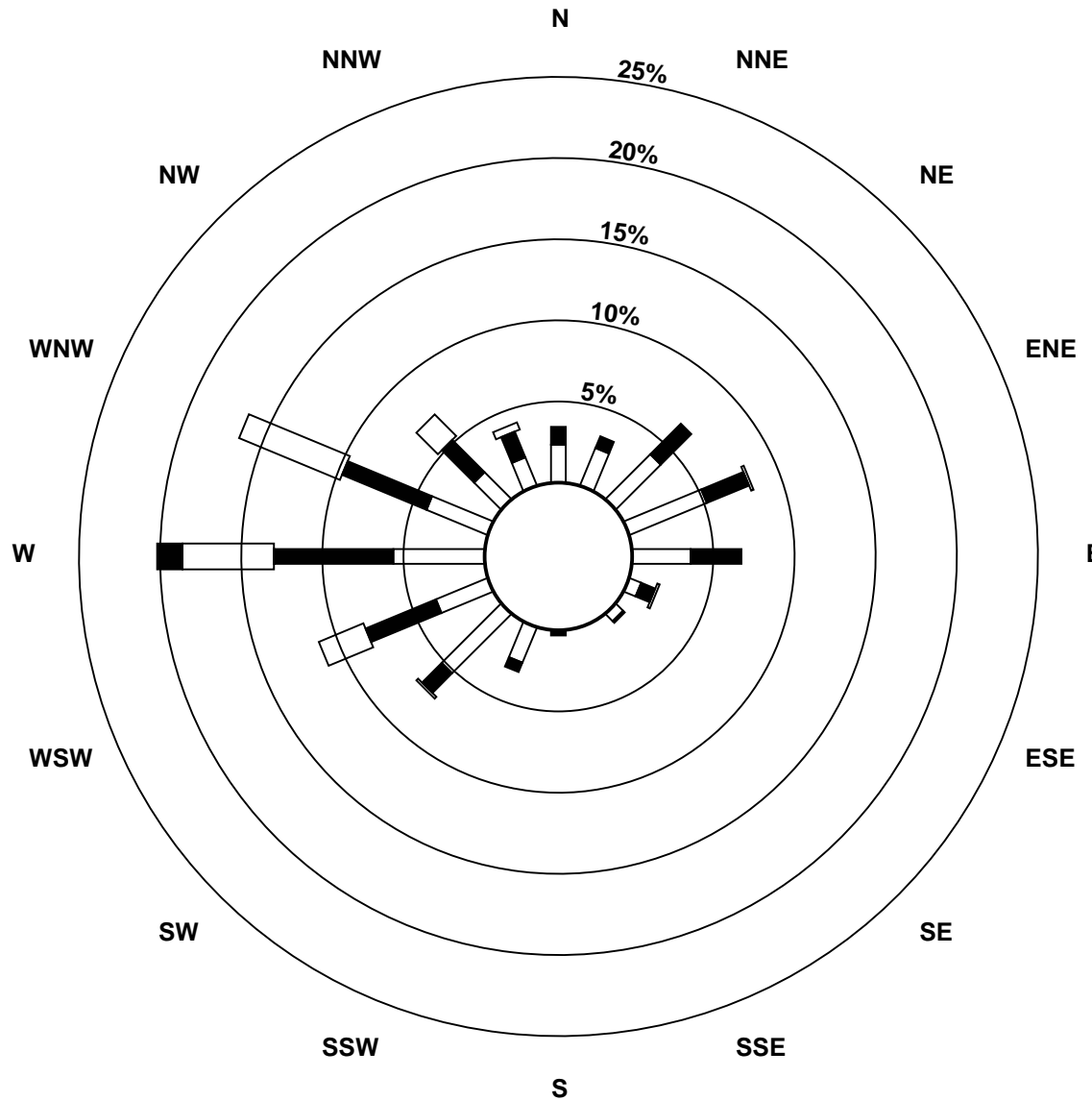
## Hourly Averages

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

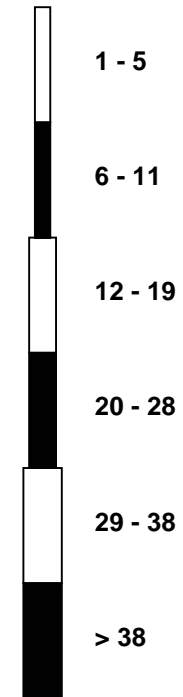
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
23 Spd	13	12	12	6	4	3	2	6	9	15	14	14	12	10	7	4	3	3	2	2	2	1	0	1	4.9	14.6
Dir	257	258	260	300	328	297	278	264	274	273	285	297	302	325	9	22	26	24	68	89	62	98	322	231	291.7	273.0
24 Spd	1	1	0	1	2	2	1	1	2	1	3	3	6	5	6	7	6	4	4	3	3	1	1	1	2.0	6.7
Dir	218	198	183	21	279	209	42	323	356	48	6	24	48	47	43	41	46	49	75	79	94	73	76	221	46.6	41.2
25 Spd	2	0	0	2	0	2	2	1	1	1	1	6	5	2	7	10	8	7	6	3	8	14	13	10	1.6	14.3
Dir	70	227	299	49	259	204	249	27	317	67	56	132	108	111	63	56	53	48	41	34	281	284	293	301	4.6	283.6
26 Spd	11	10	9	8	10	9	10	10	14	11	9	6	9	11	10	11	13	11	9	10	6	7	6	3	8.9	13.5
Dir	282	276	279	274	271	273	274	266	273	282	270	282	305	309	318	301	273	306	312	276	264	264	271	296	283.2	272.6
27 Spd	3	1	0	2	1	2	4	6	5	6	5	5	13	16	6	1	2	13	12	10	3	6	0	2	4.7	16.2
Dir	265	53	195	218	216	211	219	270	279	277	282	281	273	265	271	15	249	236	262	262	250	227	228	218	259.6	265.1
28 Spd	4	1	2	2	4	5	7	5	5	8	10	8	7	8	11	12	11	13	7	4	2	5	7	7	5.3	13.1
Dir	222	231	306	275	298	283	285	287	289	342	351	4	12	5	351	337	328	334	10	319	326	308	278	292	326.8	333.7
29 Spd	6	4	3	4	2	3	3	4	6	9	7	6	6	7	7	13	8	7	9	8	8	4	1	3	4.7	13.1
Dir	285	272	270	266	259	238	250	272	263	268	263	271	272	254	312	337	244	222	227	230	227	343	285	225	264.5	337.0
30 Spd	1	1	3	7	6	2	4	9	10	10	8	10	11	8	14	19	18	15	14	14	12	12	11	6	8.7	19.0
Dir	233	225	270	269	271	321	291	286	283	289	322	313	324	339	304	292	289	302	286	269	254	255	264	249	287.5	291.8
Spd	2.5	1.9	2.2	1.9	2.3	2.3	2.6	4.0	5.8	6.7	7.3	7.2	6.8	6.4	5.4	5.6	5.1	4.4	3.7	2.8	2.3	2.1	2.4	2.5	Diurnal Average	
Dir	257.1	259.4	256.5	258.4	254.7	245.4	253.2	265.3	270.0	276.5	284.9	295.3	306.9	309.3	321.3	319.7	314.2	318.3	309.9	284.8	267.5	270.7	265.2	259.9	Diurnal Maximum	
Spd	13.2	13.5	13.9	12.7	12.6	10.5	12.3	15.9	17.5	21.5	24.2	27.0	25.1	24.1	24.5	24.8	18.2	17.9	17.0	14.3	14.8	14.3	13.4	13.2	Diurnal Maximum	
Dir	257.3	259.2	256.9	257.0	258.3	253.1	252.7	254.3	265.3	271.1	274.1	273.5	274.5	273.3	280.0	280.9	288.7	275.0	291.2	269.4	287.0	283.6	292.6	251.8		
Maximum Speed Value: 27 km/h on Apr 4 12:00		Minimum Speed Value: 0 km/h on Apr 3 04:00														Hours in Service:		720								
Maximum Daily Speed Average: 12.2 km/h on Apr 22		Minimum Daily Speed Average: 0.7 km/h on Apr 3														Hours of Data:		714								
Maximum Diurnal Speed Average: 7.3 km/h at hour 11		Minimum Diurnal Speed Average: 1.9 km/h at hour 4														Hours of Missing Data:		6								
Monthly Average Velocity: 3.65 km/h 287.87 deg		Speed Percentiles: P <sub>1</sub> = 0.2 P <sub>10</sub> = 1.0 Q <sub>1</sub> = 2.5 Median = 5.5 Q <sub>3</sub> = 9.6 P <sub>90</sub> = 13.6 P <sub>99</sub> = 21.0														Percent Operational Time:		99.2								
All monthly, daily, and diurnal averages have been calculated using vector methods																										
M - Maintenance																										
Frequency Distribution																										
		Speed Range (km/h)																								
Direction	0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total																			
North	33	19	0	0	0	0	52																			
NorthEast	48	36	1	0	0	0	85																			
East	49	36	2	0	0	0	87																			
SouthEast	7	2	0	0	0	0	9																			
South	18	4	0	0	0	0	22																			
SouthWest	69	29	3	0	0	0	101																			
West	68	97	82	11	0	0	258																			
NorthWest	35	29	36	0	0	0	100																			
Total	327	252	124	11	0	0	714																			

**Wind Rose**

**Wind Speed (WS) (km/h)**  
**Evergreen Park - April 2011**



**Wind Speed Classes (km/h)**



# Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Evergreen Park - April 2011

Maximum Speed: 27 km/h on Apr 4 12:00	Maximum Daily Speed Average: 13.4 km/h on Apr 22	Hours in Service: 720
Minimum Speed: 1 km/h on Apr 7 01:00	Minimum Daily Speed Average: 2.9 km/h on Apr 3	Hours of Data: 714
Maximum Diurnal Speed Average: 10.9 km/h at hour 13	Minimum Diurnal Speed Average: 4.1 km/h at hour 5	Hours of Missing Data: 6
Monthly Average Speed: 7.07 km/h	Percentiles: P <sub>1</sub> = 1.0 P <sub>10</sub> = 1.5 Q <sub>1</sub> = 3.0 Median = 6.0 Q <sub>3</sub> = 10.0 P <sub>90</sub> = 14.4 P <sub>99</sub> = 21.0	Percent Operational Time: 99.2

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Apr	12	14	14	13	13	11	12	14	17	16	16	14	12	11	9	7	9	7	5	3	3	2	2	2	9.8	16.8
2-Apr	1	3	2	2	3	3	3	3	4	5	6	6	5	6	7	6	6	5	6	4	1	1	2	1	3.8	6.5
3-Apr	2	1	1	1	1	2	1	1	4	2	4	4	7	5	5	5	6	4	3	1	1	1	2	4	2.9	6.9
4-Apr	4	4	3	5	7	9	10	13	17	22	24	27	25	20	15	17	13	9	9	9	4	3	2	2	11.4	27.2
5-Apr	1	1	2	1	4	5	3	4	7	9	12	14	15	13	10	7	8	6	6	5	8	12	13	10	7.5	14.8
6-Apr	7	3	5	3	3	5	2	5	8	7	10	11	13	12	11	13	13	8	6	4	2	1	1	2	6.6	13.4
7-Apr	1	3	4	4	3	2	3	3	3	4	5	5	5	4	5	6	6	5	2	1	1	2	5	5	3.7	6.3
8-Apr	9	7	8	11	10	8	7	7	8	10	17	18	19	22	16	18	17	16	17	14	14	11	9	8	12.5	22.3
9-Apr	2	2	1	1	2	2	1	4	9	15	15	15	15	14	14	14	13	11	15	8	7	7	6	8	8.4	15.3
10-Apr	3	5	3	2	5	4	7	6	7	8	9	8	5	7	9	8	6	5	3	1	2	2	1	1	4.9	9.2
11-Apr	1	1	1	1	1	2	2	4	3	5	14	16	21	25	25	25	19	18	15	13	16	8	7	8	10.6	25.1
12-Apr	7	5	2	2	2	2	1	1	3	5	4	5	6	8	9	10	10	8	7	5	4	4	4	4	4.9	10.2
13-Apr	5	5	4	4	4	5	4	4	M	M	M	M	M	M	12	12	11	13	11	9	9	9	7	7	7.5	12.9
14-Apr	7	8	7	8	6	8	9	9	10	9	11	10	10	8	7	6	6	4	4	5	4	3	4	4	7.1	10.5
15-Apr	3	4	4	4	2	3	2	3	4	4	5	6	6	5	6	7	8	9	7	5	5	5	5	4	4.8	8.6
16-Apr	5	4	4	4	4	3	3	3	5	6	8	9	10	10	10	11	13	9	6	3	3	2	2	2	5.8	12.8
17-Apr	1	1	2	1	1	1	1	1	3	4	6	4	4	5	4	5	7	6	6	3	1	1	1	1	3.0	6.6
18-Apr	1	1	1	2	1	2	2	7	7	5	4	6	6	8	5	5	7	5	4	2	2	2	2	4	3.8	7.6
19-Apr	2	1	1	2	2	2	3	7	9	9	9	10	9	7	8	13	13	10	8	6	2	2	2	5	6.0	12.8
20-Apr	7	8	9	8	9	9	10	16	18	19	16	17	16	16	16	14	15	12	10	5	1	1	3	2	10.7	19.0
21-Apr	7	1	1	1	1	1	1	2	9	15	16	14	14	13	13	12	15	10	11	7	5	4	9	12	8.1	16.3
22-Apr	12	10	11	11	7	9	12	14	16	18	17	14	14	16	15	16	17	18	17	12	11	10	12	13	13.4	18.4
23-Apr	13	13	12	6	5	3	2	6	9	15	14	15	14	11	8	6	6	4	3	2	3	3	1	1	7.2	14.9
24-Apr	1	1	1	2	3	2	2	1	2	3	4	5	6	7	7	8	7	5	5	3	3	1	2	2	3.5	7.7
25-Apr	2	1	1	2	1	3	3	2	2	3	4	7	7	5	9	10	9	8	6	3	9	14	14	11	5.6	14.4
26-Apr	11	10	9	8	10	9	10	10	14	11	10	8	11	13	11	12	13	12	9	10	6	7	6	3	9.8	13.8
27-Apr	3	1	1	2	1	3	4	6	6	7	6	6	14	16	7	4	5	14	12	10	4	6	1	2	5.8	16.4
28-Apr	4	1	2	2	4	6	7	5	5	8	10	9	8	8	11	12	12	14	7	5	3	6	7	7	6.8	13.6
29-Apr	6	4	4	4	2	3	3	5	6	9	8	7	7	8	9	14	8	7	9	8	8	8	3	3	6.4	13.9
30-Apr	1	1	3	7	6	3	4	9	10	10	9	11	13	10	15	20	19	16	15	14	12	12	11	6	10.0	19.7
	4.7	4.2	4.1	4.2	4.1	4.3	4.6	5.9	7.7	9.1	10.1	10.5	10.9	10.8	10.3	10.8	10.5	9.3	8.2	6.1	5.1	5.0	4.9	4.8	Diurnal Average	
	13.2	13.6	13.9	12.7	12.6	10.5	12.3	16.0	17.7	21.7	24.4	27.2	25.3	24.5	24.7	25.1	19.4	18.4	17.3	14.4	16.2	14.4	13.6	13.3	Diurnal Maximum	

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



# Hourly Standard Deviations

Wind Direction (WD) - deg  
Evergreen Park - April 2011

Maximum Value: 98.7 deg on Apr 6 22:00																		Hours in Service: 720							
Minimum Value: 3.6 deg on Apr 1 04:00																		Hours of Data: 714							
Percentiles: P <sub>1</sub> = 4.6 P <sub>10</sub> = 7.8 Q <sub>1</sub> = 12.1 Median = 19.9 Q <sub>3</sub> = 39.9 P <sub>90</sub> = 70.7 P <sub>99</sub> = 90.9																		Hours of Missing Data: 6							
																		Hours of Calibration: 0							
																		Percent Operational Time: 99.2							
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-Apr	5	4	4	4	4	5	5	5	6	8	10	10	15	14	27	29	16	13	9	30	53	62	79	77	88.7
2-Apr	87	44	21	44	17	29	29	35	39	27	35	33	24	29	23	20	23	27	18	18	39	59	55	82	86.8
3-Apr	53	66	52	92	96	50	56	83	13	47	14	31	24	55	48	48	30	32	36	81	78	45	74	69	96.2
4-Apr	27	20	18	17	5	5	6	7	8	7	6	6	7	9	11	10	13	21	9	8	12	34	14	74	73.6
5-Apr	78	67	87	67	17	17	19	26	9	10	9	11	23	19	37	29	23	31	24	44	9	8	5	5	86.9
6-Apr	13	24	43	75	47	12	78	17	11	21	15	14	12	14	14	13	10	14	13	37	62	99	71	40	98.7
7-Apr	87	22	18	28	37	38	22	28	31	33	41	43	46	42	39	29	14	22	31	53	75	11	7	7	86.6
8-Apr	7	6	5	6	11	11	11	12	13	14	17	12	8	7	18	8	11	11	7	9	12	11	14	9	17.6
9-Apr	62	68	72	56	42	63	84	25	10	9	10	10	10	12	9	9	9	11	7	9	9	12	13	12	83.8
10-Apr	18	21	63	91	30	20	7	15	16	15	11	31	50	24	14	13	18	12	18	48	33	60	84	49	91.5
11-Apr	63	20	45	46	74	67	64	32	18	34	13	8	10	11	7	8	24	26	26	14	27	15	13	10	74.1
12-Apr	10	22	33	57	39	80	88	43	80	29	72	30	24	26	16	13	13	15	12	12	11	9	11	13	88.1
13-Apr	7	6	7	7	8	8	10	10	M	M	M	M	M	M	20	25	18	14	14	12	15	14	13	14	25.1
14-Apr	9	11	11	17	15	14	11	14	13	16	14	14	13	16	16	18	20	22	19	16	15	16	14	16	21.8
15-Apr	20	12	11	12	38	21	22	18	17	32	29	34	46	40	24	13	16	14	15	20	13	12	14	14	46.3
16-Apr	15	16	15	16	17	21	21	23	19	17	15	17	16	15	16	15	11	14	19	17	13	14	9	20	23.4
17-Apr	31	41	20	27	67	93	68	64	54	57	55	47	68	45	53	49	35	28	23	9	83	77	79	83	93.3
18-Apr	23	38	70	89	84	33	67	13	17	22	52	58	40	70	36	71	42	40	38	19	18	57	82	25	88.6
19-Apr	40	71	80	58	53	32	22	13	16	20	30	31	23	40	38	16	18	15	21	17	78	82	66	7	82.1
20-Apr	9	9	8	7	5	6	6	6	8	9	17	16	21	20	22	21	20	21	21	22	70	51	71	71	70.8
21-Apr	21	73	27	33	32	34	80	72	10	14	15	19	25	24	17	24	28	20	22	20	26	15	6	6	80.4
22-Apr	5	6	5	6	7	6	5	9	10	12	19	19	24	23	23	22	15	14	14	12	8	5	6	5	24.3
23-Apr	5	5	6	19	15	19	14	11	11	9	20	20	23	29	29	52	73	60	33	47	48	91	98	72	98.4
24-Apr	48	54	87	82	43	47	72	61	53	84	65	67	32	45	45	38	26	35	24	17	16	52	68	88	87.6
25-Apr	71	89	84	18	87	68	69	29	73	80	82	38	40	80	38	17	18	13	10	11	54	8	11	11	89.0
26-Apr	10	7	7	8	6	9	8	7	11	13	13	47	36	31	26	25	16	23	22	7	6	6	22	25	47.3
27-Apr	17	65	76	23	72	64	12	22	19	19	32	43	17	11	45	95	82	23	12	9	67	11	89	32	94.7
28-Apr	14	73	53	31	29	16	14	17	22	24	13	24	22	23	17	13	15	15	25	34	67	16	10	11	73.4
29-Apr	14	17	9	11	14	20	24	15	16	17	25	27	47	45	40	22	23	14	9	8	5	68	86	25	86.0
30-Apr	83	79	25	9	9	35	21	11	11	17	26	33	36	40	26	15	15	17	13	8	8	7	6	8	83.0
86.8 89.0 87.4 92.3 96.2 93.3 88.1 83.3 80.2 83.7 81.6 66.6 68.3 80.4 53.2 94.7 82.2 60.1 38.1 81.1 82.6 98.7 98.4 87.6																									
M - Maintenance																									

PAZA

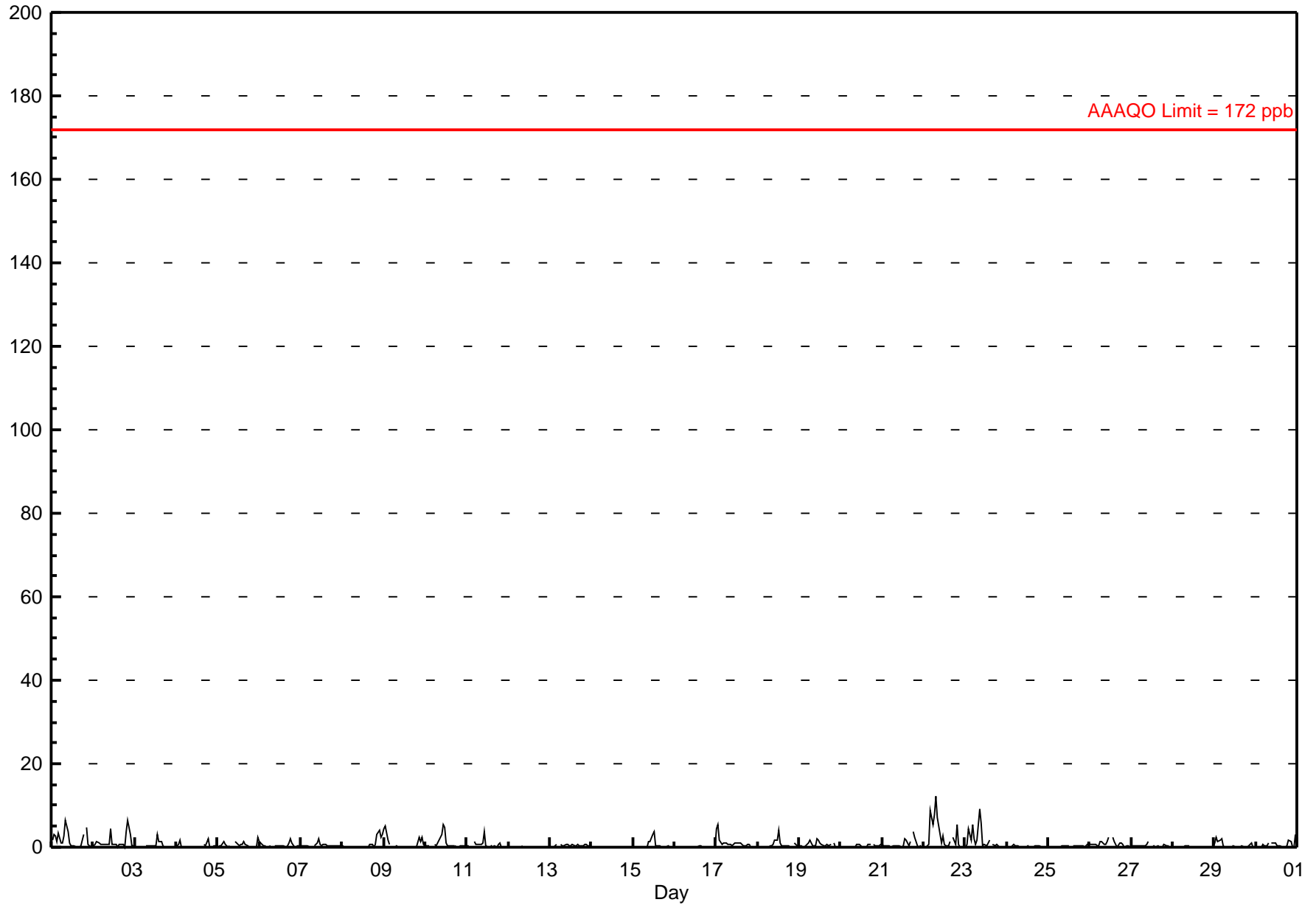
## Smoky Heights Station

Monthly Summary Tables, Graphs and  
Roses

## Hourly Averages

**Sulphur Dioxide (SO<sub>2</sub>) - ppb**  
**Smoky Heights - April 2011**

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 12.1 ppb on Apr 22 08:00 Maximum Daily Average: 2.7 ppb on Apr 22																			Hours in Service: 720 Hours of Data: 662																									
Minimum Value: 0 ppb on Apr 19 23:00 Minimum Daily Average: 0.1 ppb on Apr 16 Maximum Diurnal Average: 1.2 ppb at hour 9 Minimum Diurnal Average: 0.3 ppb at hour 23 Monthly Average: 0.68 ppb Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.0 Q <sub>1</sub> = 0.1 Median = 0.2 Q <sub>3</sub> = 0.6 P <sub>90</sub> = 1.7 P <sub>99</sub> = 6.3																			Hours of Missing Data: 58 Hours of Calibration: 40 Percent Operational Time: 97.5																									
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-Apr	2	3	3	1	4	1	1	3	6	4	1	0	0	0	0	0	0	0	3	A	5	1	0	0	1.7	6.3																		
2-Apr	0	1	1	1	1	1	1	1	1	1	4	1	1	1	0	1	1	1	0	4	6	3	0	0	1.2	6.5																		
3-Apr	0	0	0	0	0	A	0	0	0	0	0	0	0	3	1	1	0	0	0	0	0	0	0	0	0.4	3.1																		
4-Apr	0	1	2	0	0	A	0	0	P	P	P	P	P	P	P	P	1	0	2	0	0	0	0	0	--	2.2																		
5-Apr	0	0	0	2	1	0	0	0	A	A	1	1	1	1	1	1	1	0	0	0	0	0	0	2	0.6	2.2																		
6-Apr	1	1	0	0	0	0	0	A	A	0	0	0	0	0	0	0	0	1	2	1	0	0	0	0	0.5	2.1																		
7-Apr	0	0	0	1	0	0	A	A	0	1	2	1	0	1	1	1	0	0	0	0	0	0	0	0	0.5	2.2																		
8-Apr	0	0	0	0	0	A	A	0	0	0	0	0	0	0	0	0	1	1	0	1	3	4	2	3	0.7	4.0																		
9-Apr	4	5	2	1	A	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	2	1	0.9	5.2																		
10-Apr	0	0	0	A	A	1	0	1	2	3	5	5	1	0	0	0	0	0	0	0	0	0	0	0	1.0	5.4																		
11-Apr	0	0	A	A	1	1	1	1	1	1	4	0	0	0	0	0	0	0	1	1	0	0	0	0	0.6	3.7																		
12-Apr	0	0	0	0	0	A	0	0	0	D	D	D	D	D	D	D	0	0	0	0	0	0	0	0	--	0.3																		
13-Apr	0	0	0	0	1	A	1	0	0	1	1	0	1	0	0	1	0	0	0	1	1	1	1	0	0.4	0.7																		
14-Apr	0	0	0	0	A	0	0	0	M	M	M	C	C	C	0	0	0	0	0	0	0	0	0	0	--	0.2																		
15-Apr	A	0	0	0	0	0	0	0	0	1	1	3	4	0	0	0	0	0	0	0	0	0	0	A	0.5	3.6																		
16-Apr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.1	0.3																		
17-Apr	4	5	2	1	1	1	1	1	1	0	1	1	1	1	1	1	0	0	1	1	0	A	0	0	1.0	5.3																		
18-Apr	0	0	0	0	0	0	0	0	0	1	2	2	4	1	0	0	0	0	0	0	A	1	1	0	0.6	4.1																		
19-Apr	0	0	0	0	0	1	2	1	0	0	2	2	1	1	0	0	1	0	1	A	1	0	0	0	0.6	1.9																		
20-Apr	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	1	1	A	1	0	0	0	1	0.3	0.7																		
21-Apr	1	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	2	A	4	2	0	0	0	0	0.7	3.6																		
22-Apr	0	0	0	1	9	6	8	12	7	3	1	3	1	0	0	1	A	2	1	5	1	0	0	0	2.7	12.1																		
23-Apr	0	1	4	2	5	2	1	2	9	6	0	1	0	1	2	A	1	0	1	0	0	0	0	0	1.6	9.3																		
24-Apr	0	0	0	0	1	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.2	0.7																		
25-Apr	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	1.0																		
26-Apr	1	1	1	1	0	0	1	1	1	1	1	2	A	2	1	1	0	1	1	1	0	0	0	0	0.8	2.3																		
27-Apr	0	0	0	0	0	0	0	0	0	1	1	A	0	0	0	0	0	0	0	1	0	0	0	0	0.3	1.3																		
28-Apr	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																		
29-Apr	1	2	1	2	2	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	1	0	0	0.5	2.2																		
30-Apr	0	0	0	0	1	0	0	1	A	1	1	1	0	0	0	0	0	0	0	2	1	0	0	3	0.6	3.1																		
																			0.6	0.7	0.6	0.4	1.0	0.6	0.6	0.9	1.2	1.0	1.2	0.9	0.6	0.6	0.5	0.4	0.4	0.4	0.6	0.7	0.8	0.5	0.3	0.5	Diurnal Average	
																			4.4	5.3	4.3	1.8	8.8	5.6	7.7	12.1	9.3	5.8	5.4	4.6	4.1	3.1	1.8	1.4	1.5	2.4	3.6	5.4	6.5	4.0	2.3	3.1	Diurnal Maximum	
C - Calibration      P - Power Failure      D - DAS Failure      M - Maintenance      A - Automated Daily Zero Span																			Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb      24-hr 48 ppb																									



## Hourly Maximums

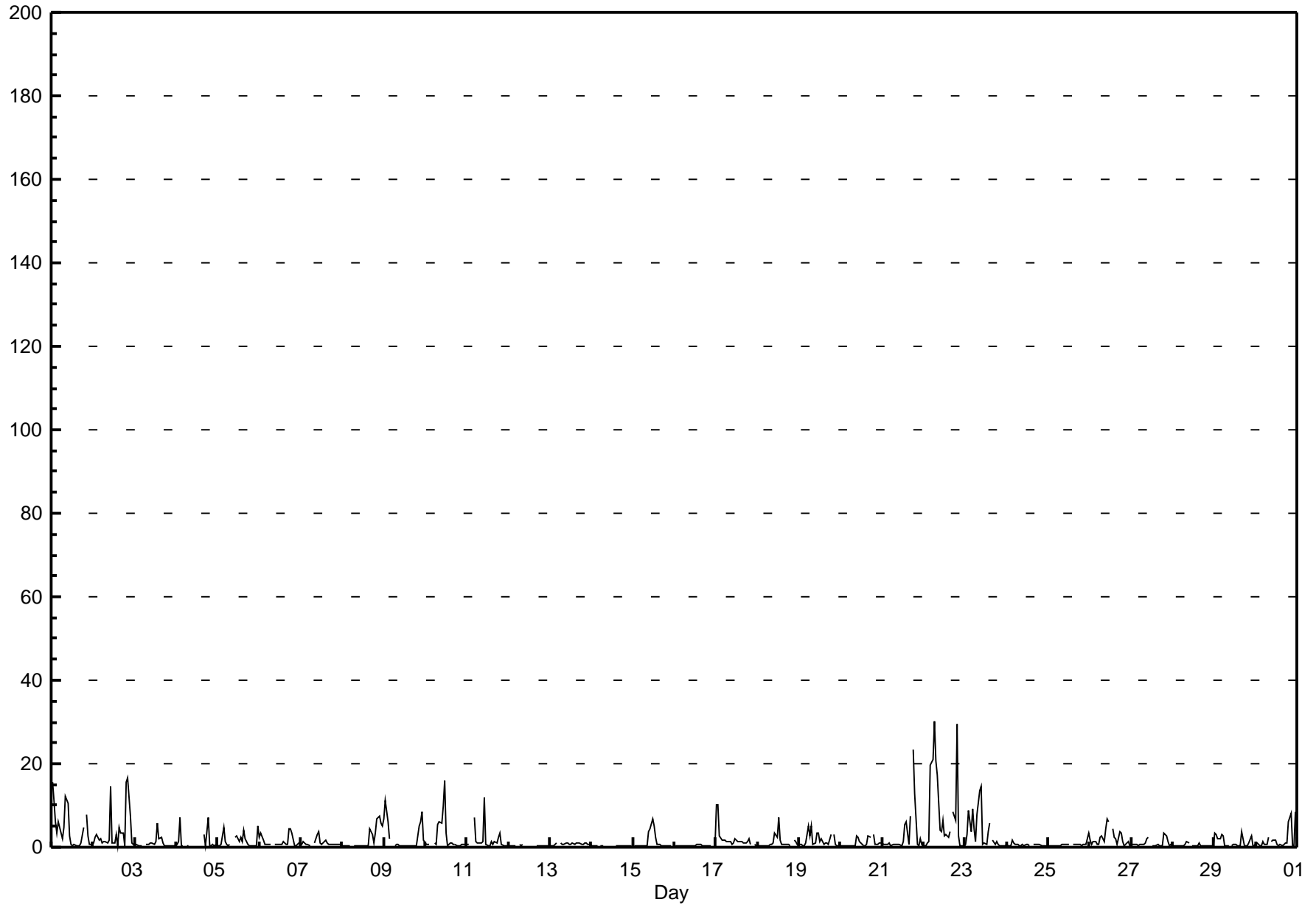
Sulphur Dioxide (SO<sub>2</sub>) - ppb

Smoky Heights - April 2011

Maximum Value: 30.1 ppb on Apr 22 07:00		Maximum Daily Average: 8.1 ppb on Apr 22		Hours in Service: 720																							
Minimum Value: 0 ppb on Apr 20 02:00		Minimum Daily Average: 0.4 ppb on Apr 16		Hours of Data: 662																							
Maximum Diurnal Average: 3.3 ppb at hour 20		Minimum Diurnal Average: 1.1 ppb at hour 23		Hours of Missing Data: 58																							
Monthly Average: 1.87 ppb		Percentiles: P <sub>1</sub> = 0.2 P <sub>10</sub> = 0.3 Q <sub>1</sub> = 0.4 Median = 0.6 Q <sub>3</sub> = 1.6 P <sub>90</sub> = 4.6 P <sub>99</sub> = 17.0		Hours of Calibration: 40																							
				Percent Operational Time: 97.5																							
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-Apr	16	11	6	3	6	3	2	5	12	11	3	1	0	1	0	0	0	1	5	A	8	3	1	1	4.3	15.7	
2-Apr	1	2	3	2	2	1	1	1	1	2	15	1	1	3	0	5	3	3	0	16	17	7	1	1	3.7	16.6	
3-Apr	0	1	0	0	0	A	1	1	1	1	1	1	1	6	2	2	1	0	0	0	0	0	0	0	0.9	5.8	
4-Apr	1	1	7	0	0	A	0	0	P	P	P	P	P	P	P	P	3	0	7	0	0	1	0	1	--	7.2	
5-Apr	1	0	1	5	1	1	0	1	A	A	3	3	1	2	1	4	2	1	0	0	0	0	0	5	1.5	5.0	
6-Apr	2	4	2	1	1	1	1	A	A	1	1	1	1	1	1	1	1	4	4	3	0	0	1	1	1.4	4.4	
7-Apr	1	1	1	1	1	0	A	A	1	3	4	1	1	1	2	1	1	1	1	1	1	1	1	1	1.1	3.9	
8-Apr	0	0	0	0	0	1	A	A	0	0	0	0	0	0	0	0	4	3	1	3	7	7	6	5	1.9	7.5	
9-Apr	7	11	6	2	A	A	0	1	1	0	0	0	0	0	0	0	0	0	0	0	5	6	9	2	2.4	11.3	
10-Apr	1	1	1	A	A	1	1	5	6	6	10	16	3	1	1	1	1	1	0	0	0	1	1	1	2.6	15.9	
11-Apr	1	1	A	A	7	1	1	1	1	1	12	1	0	0	1	1	1	1	2	3	1	0	0	1	1.8	11.8	
12-Apr	0	0	0	0	0	A	1	0	1	D	D	D	D	D	D	D	0	0	0	0	0	0	0	0	--	0.6	
13-Apr	0	0	0	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.1	
14-Apr	0	0	0	0	A	0	0	0	M	M	M	C	C	C	1	0	0	0	0	0	0	0	0	0	--	0.5	
15-Apr	A	0	0	0	0	0	0	0	0	4	4	7	5	2	1	1	0	0	0	0	0	0	0	A	1.3	6.7	
16-Apr	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	A	1	0.4	0.7	
17-Apr	10	10	3	2	2	2	1	1	1	1	1	2	1	1	1	1	1	1	1	2	1	A	1	0	2.1	10.3	
18-Apr	1	0	0	0	0	1	0	1	1	1	4	2	7	2	1	1	1	1	1	1	0	A	2	1	1	1.2	7.2
19-Apr	1	1	0	0	1	5	3	5	1	1	3	3	1	2	1	1	1	1	1	3	A	3	1	0	0	1.6	5.2
20-Apr	0	0	0	0	0	0	0	0	1	3	2	1	1	0	0	1	3	2	A	3	1	1	1	1	1.0	2.9	
21-Apr	1	1	1	1	1	0	1	1	1	1	1	0	1	6	6	1	8	A	23	13	1	0	2	1	3.0	23.4	
22-Apr	0	0	1	1	20	21	30	21	17	4	4	6	3	3	3	4	A	8	6	30	3	0	0	0	8.1	30.1	
23-Apr	1	3	9	4	9	4	1	8	14	15	1	1	1	4	6	A	2	1	1	1	0	0	0	0	3.7	14.6	
24-Apr	1	0	0	2	1	1	1	0	0	1	0	1	1	0	A	1	1	1	1	1	0	0	0	0	0.6	1.7	
25-Apr	0	0	0	0	0	0	0	0	1	1	1	1	1	A	1	1	1	1	1	0	1	1	1	3	0.6	3.2	
26-Apr	2	1	1	1	1	1	2	3	1	4	7	6	A	4	2	2	1	4	3	1	0	1	2	0	2.3	6.7	
27-Apr	1	1	1	1	1	1	1	1	1	2	2	A	0	0	0	1	0	0	0	3	3	1	0	1	0.9	3.3	
28-Apr	0	0	0	0	0	0	0	1	1	1	A	0	0	0	0	1	0	0	0	0	0	0	0	0	0.5	1.5	
29-Apr	3	3	2	2	3	3	0	0	0	1	1	1	0	0	0	0	4	0	0	0	1	3	0	0	1.2	3.6	
30-Apr	1	1	0	0	1	1	1	2	A	1	2	2	1	0	1	0	1	1	1	6	8	0	0	9	1.8	8.5	
1.8		1.9	1.7	1.2	2.3	2.0	1.9	2.2	2.6	3.1	2.3	1.3	1.6	1.3	1.2	1.4	1.4	2.3	3.3	2.2	1.4	1.1	1.2	Diurnal Average			
15.7		11.3	8.9	4.7	19.6	21.2	30.1	20.5	17.3	14.6	14.6	15.9	7.2	5.8	6.2	4.7	7.5	8.5	23.4	29.5	16.6	7.5	8.6	8.5	Diurnal Maximum		
C - Calibration		P - Power Failure					D - DAS Failure					M - Maintenance					A - Automated Daily Zero Span										

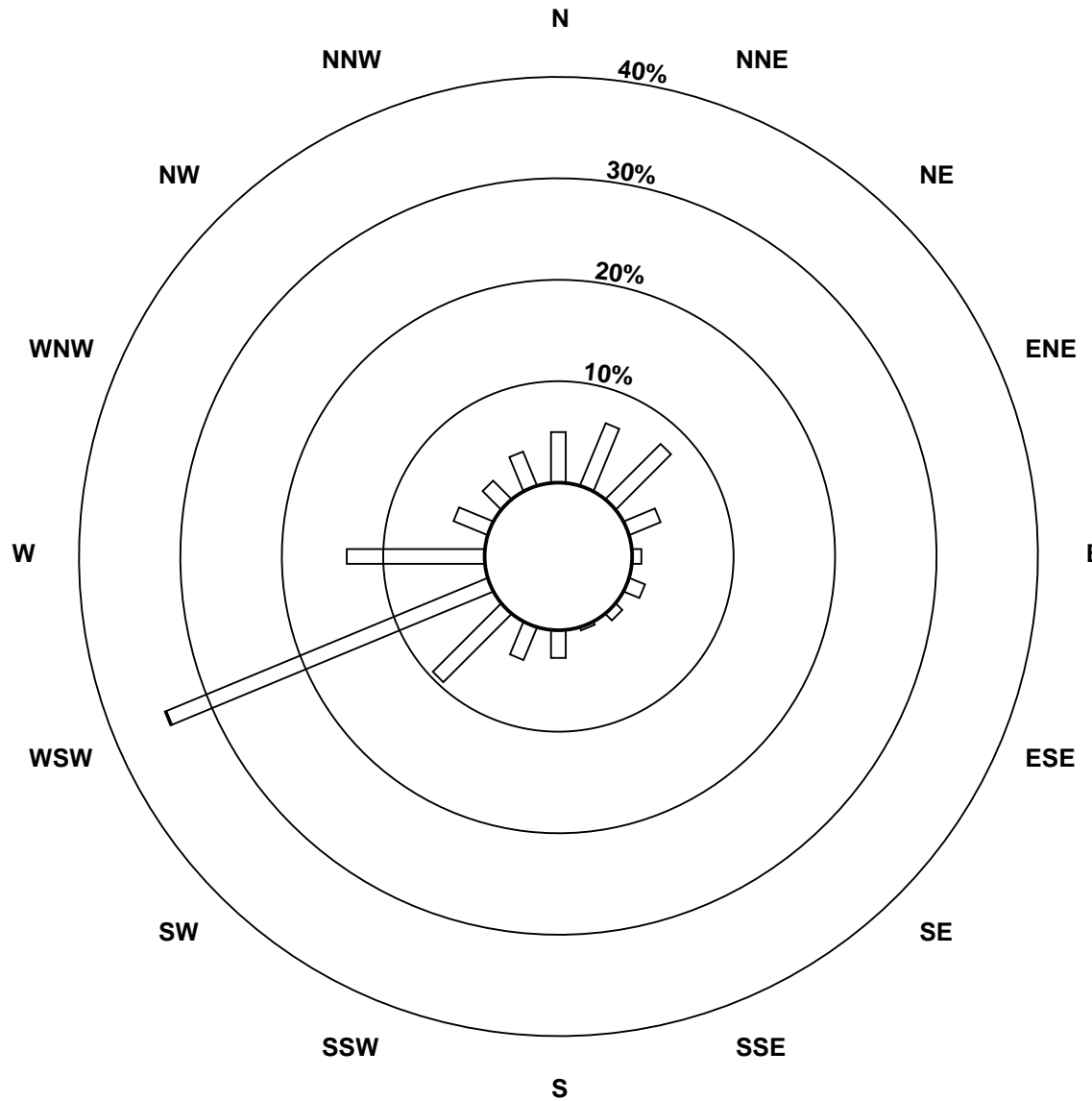
### Hourly Maximums

Sulphur Dioxide (SO<sub>2</sub>) - ppb  
Smoky Heights - April 2011

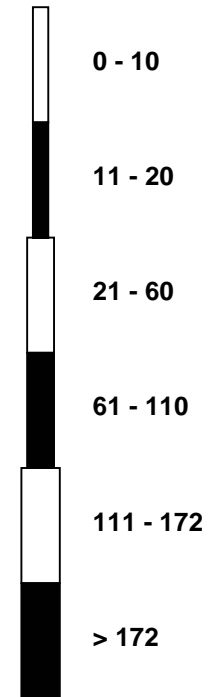


**Pollutant Rose**

**Sulphur Dioxide (SO<sub>2</sub>) - ppb**  
**Smoky Heights - April 2011**

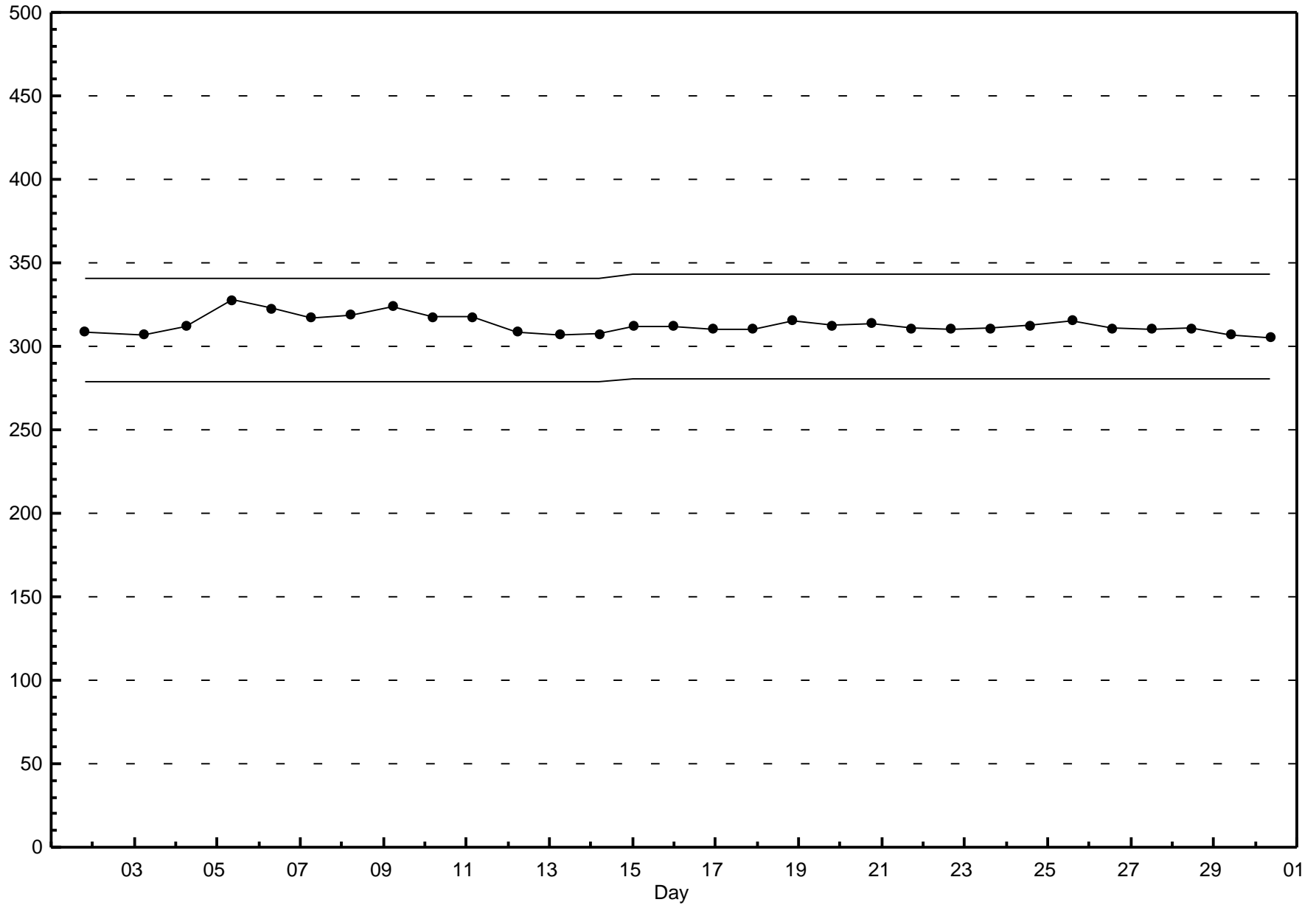


**Pollutant Classes (ppb)**



### Span Responses

Sulphur Dioxide (SO<sub>2</sub>)  
Smoky Heights - April 2011





## Hourly Averages

Total Reduced Sulphur (TRS) - ppb

Smoky Heights - April 2011

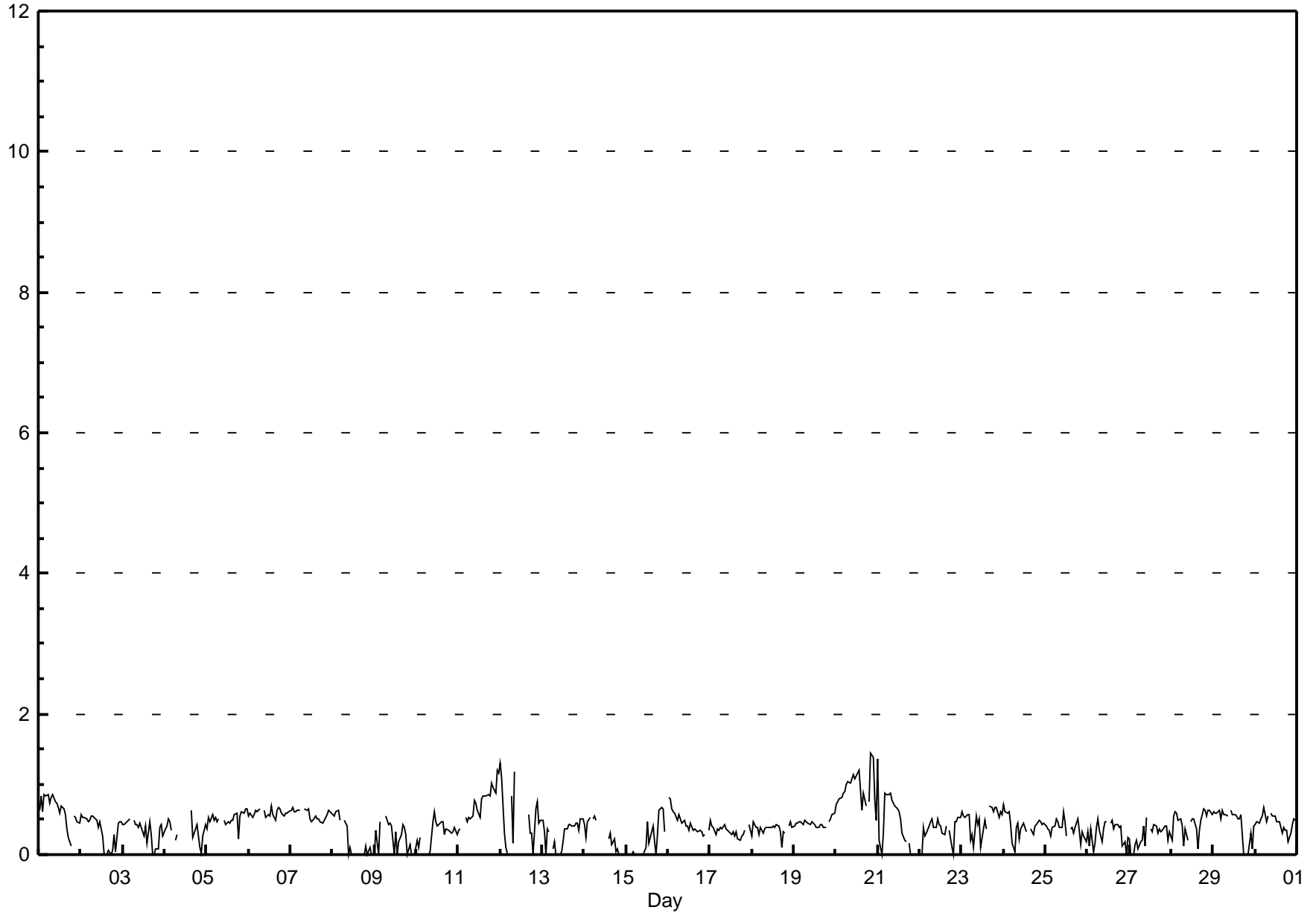
Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	720
Maximum Value: 1.4 ppb on Apr 20 21:00	Maximum Daily Average: 0.9 ppb on Apr 20		Hours of Data:	663
Minimum Value: 0 ppb on Apr 2 15:00	Minimum Daily Average: 0.2 ppb on Apr 8		Hours of Missing Data:	57
Maximum Diurnal Average: 0.5 ppb at hour 1	Minimum Diurnal Average: 0.3 ppb at hour 19		Hours of Calibration:	40
Monthly Average: 0.42 ppb	Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.0 Q <sub>1</sub> = 0.3 Median = 0.4 Q <sub>3</sub> = 0.5 P <sub>90</sub> = 0.7 P <sub>99</sub> = 1.2		Percent Operational Time:	97.6

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-Apr	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	A	1	1	0	0	0.6	0.9	
2-Apr	1	1	1	1	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.6	
3-Apr	0	0	0	0	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.5	
4-Apr	0	0	1	0	0	A	0	0	P	P	P	P	P	P	1	0	0	0	0	0	0	0	0	--	0.6	
5-Apr	0	1	0	1	0	1	0	1	A	A	0	0	0	0	0	0	1	1	0	1	1	1	1	0.5	0.7	
6-Apr	1	1	1	1	1	1	1	A	A	1	1	1	1	1	0	1	1	1	1	1	1	1	1	0.6	0.7	
7-Apr	1	1	1	1	1	1	A	A	1	1	1	1	0	0	1	1	1	0	0	0	1	1	1	0.6	0.7	
8-Apr	1	1	1	1	0	A	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.6	
9-Apr	0	0	0	0	0	A	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.6	
10-Apr	0	0	0	A	A	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.6	
11-Apr	0	0	A	A	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.2	
12-Apr	1	1	0	0	0	A	1	0	1	D	D	D	D	D	D	D	1	0	0	0	1	1	0	--	1.3	
13-Apr	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	0.5	
14-Apr	0	0	0	1	A	1	1	0	M	M	M	C	C	C	0	0	0	0	0	0	0	0	0	--	0.6	
15-Apr	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0.2	0.7	
16-Apr	1	1	1	1	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0.5	0.8	
17-Apr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.5	
18-Apr	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	0.5	
19-Apr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	A	0	0.5	0.6	
20-Apr	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	1.4	
21-Apr	1	0	0	0	1	1	1	1	1	1	1	1	1	0	0	0	A	A	0	0	0	0	0	0.4	1.4	
22-Apr	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	A	0	0	0	0	0	1	0.3	0.5	
23-Apr	1	1	1	1	1	0	0	0	1	0	1	0	0	0	0	A	1	1	1	1	1	1	1	0.5	0.7	
24-Apr	1	1	1	1	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.4	0.7	
25-Apr	0	0	0	0	0	0	1	0	0	0	1	0	0	A	0	0	0	0	1	0	0	0	0	0.4	0.6	
26-Apr	0	0	0	0	0	0	1	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.3	0.5	
27-Apr	0	0	0	0	0	0	0	0	0	0	1	A	0	0	0	0	0	0	0	0	0	0	0	0.3	0.5	
28-Apr	0	1	1	1	0	1	0	0	0	0	0	A	0	1	1	0	0	0	1	1	1	1	1	0.5	0.6	
29-Apr	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	0	1	0	0	0	0	0	0	0.4	0.6	
30-Apr	0	0	0	1	1	1	0	1	A	1	1	1	0	0	0	0	0	0	0	0	0	0	1	0.5	0.7	

0.5	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.4	0.5	0.4	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.4	0.4	0.4	0.4	Diurnal Average
1.4	1.1	0.8	0.8	0.9	0.9	1.0	1.0	1.0	1.2	1.1	1.1	1.1	1.2	1.2	0.9	0.8	0.9	0.9	0.8	1.0	1.4	1.4	1.2	1.2	Diurnal Maximum

C - Calibration      P - Power Failure      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 Maximums

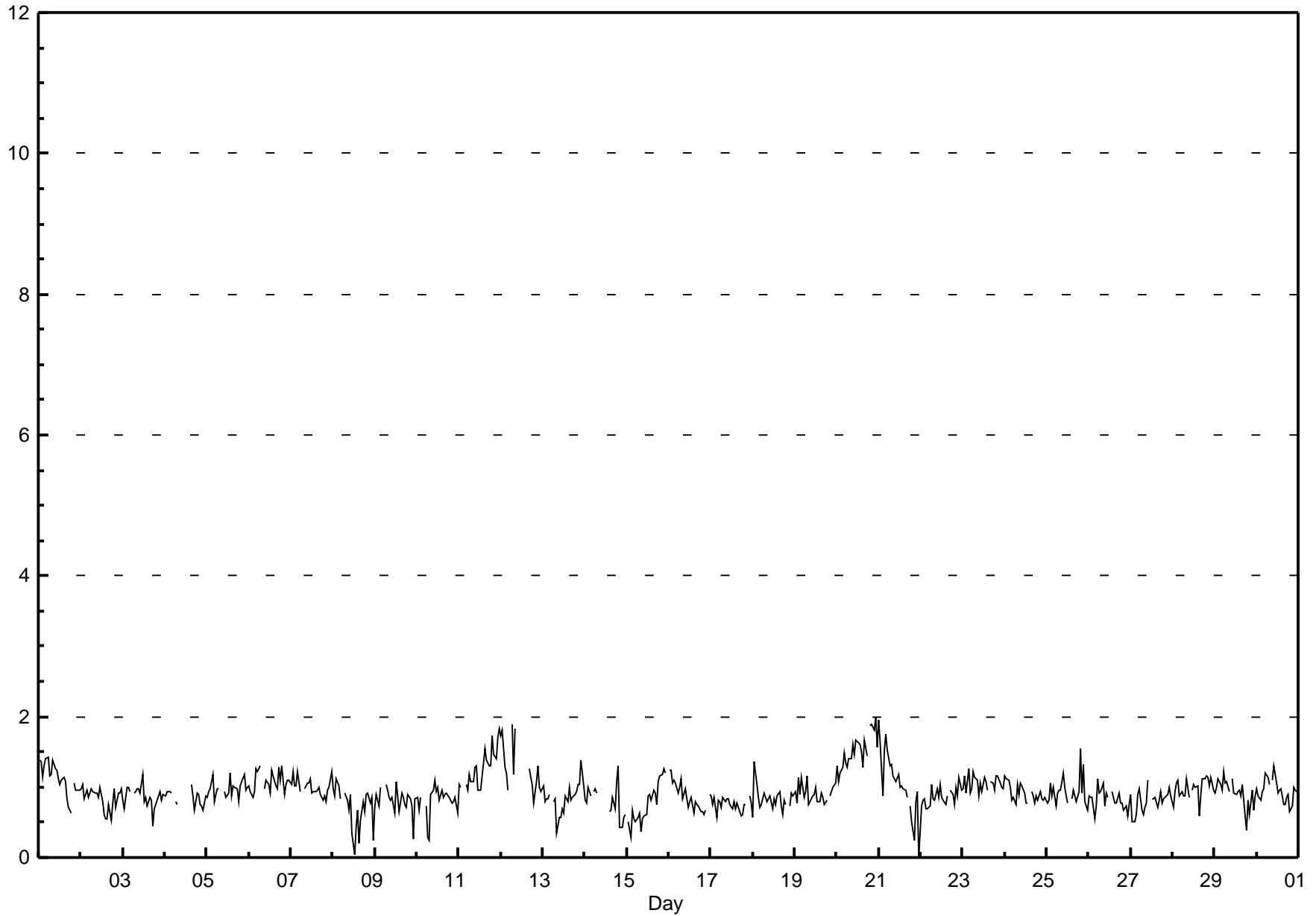
## Total Reduced Sulphur (TRS) - ppb Smoky Heights - April 2011

Maximum Value: 2.0 ppb on Apr 20 23:00		Maximum Daily Average: 1.5 ppb on Apr 20		Hours in Service: 720																						
Minimum Value: 0 ppb on Apr 22 00:00		Minimum Daily Average: 0.7 ppb on Apr 8		Hours of Data: 663																						
Maximum Diurnal Average: 1.0 ppb at hour 1		Minimum Diurnal Average: 0.8 ppb at hour 19		Hours of Missing Data: 57																						
Monthly Average: 0.94 ppb		Percentiles: P <sub>1</sub> = 0.3 P <sub>10</sub> = 0.7 Q <sub>1</sub> = 0.8 Median = 0.9 Q <sub>3</sub> = 1.0 P <sub>90</sub> = 1.3 P <sub>99</sub> = 1.8		Hours of Calibration: 40																						
				Percent Operational Time: 97.6																						
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-Apr	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	1.4
2-Apr	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.0
3-Apr	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	0.9	1.2
4-Apr	1	1	1	1	1	A	1	1	P	P	P	P	P	P	P	1	1	1	1	1	1	1	1	1	--	1.0
5-Apr	1	1	1	1	1	1	1	1	A	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.2
6-Apr	1	1	1	1	1	1	1	A	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.1	1.3
7-Apr	1	1	1	1	1	1	A	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.2
8-Apr	1	1	1	1	1	A	A	1	1	1	1	0	0	0	1	0	1	1	1	1	1	1	1	0	0.7	1.1
9-Apr	1	1	1	1	A	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0.8	1.1
10-Apr	1	1	1	A	A	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.1
11-Apr	1	1	A	A	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	2	1	1	2	2	1.3	1.8
12-Apr	2	2	1	1	1	A	2	1	2	D	D	D	D	D	D	D	1	1	1	1	1	1	1	1	--	1.9
13-Apr	1	1	1	1	1	A	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.4
14-Apr	1	1	1	1	A	1	1	1	M	M	M	C	C	C	1	1	1	1	1	1	0	0	1	1	--	1.3
15-Apr	A	1	0	1	1	0	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	0.8	1.3
16-Apr	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	0.9	1.2
17-Apr	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	0.8	0.9
18-Apr	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.4
19-Apr	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	1.2
20-Apr	1	1	1	1	1	1	1	1	1	2	1	2	2	2	1	1	2	1	A	2	2	2	2	2	1.5	2.0
21-Apr	2	2	1	2	2	2	1	1	1	1	1	1	1	1	1	1	1	A	1	0	0	1	1	0	1.1	1.9
22-Apr	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	0.9	1.1
23-Apr	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1.0	1.3
24-Apr	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	1.2
25-Apr	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	2	1	1	1	1	0.9	1.5
26-Apr	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	1.1
27-Apr	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.1
28-Apr	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	1.2
29-Apr	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	0	1	1	1	1	1	0.9	1.2
30-Apr	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.3
																								Diurnal Average	Diurnal Maximum	
																								1.0	1.9	
																								1.0	1.8	
																								0.9	1.3	
																								1.0	1.5	
																								1.0	1.7	
																								1.0	1.5	
																								1.0	1.9	
																								1.0	1.4	
																								1.0	1.8	
																								1.0	1.6	
																								1.0	1.5	
																								0.9	1.7	
																								0.9	1.6	
																								0.9	1.6	
																								0.9	1.5	
																								0.9	1.5	
																								0.9	1.7	
																								0.9	1.5	
																								0.8	1.3	
																								1.0	1.9	
																								0.9	1.9	
																								1.0	1.8	
																								1.0	2.0	
																								0.9	1.8	

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

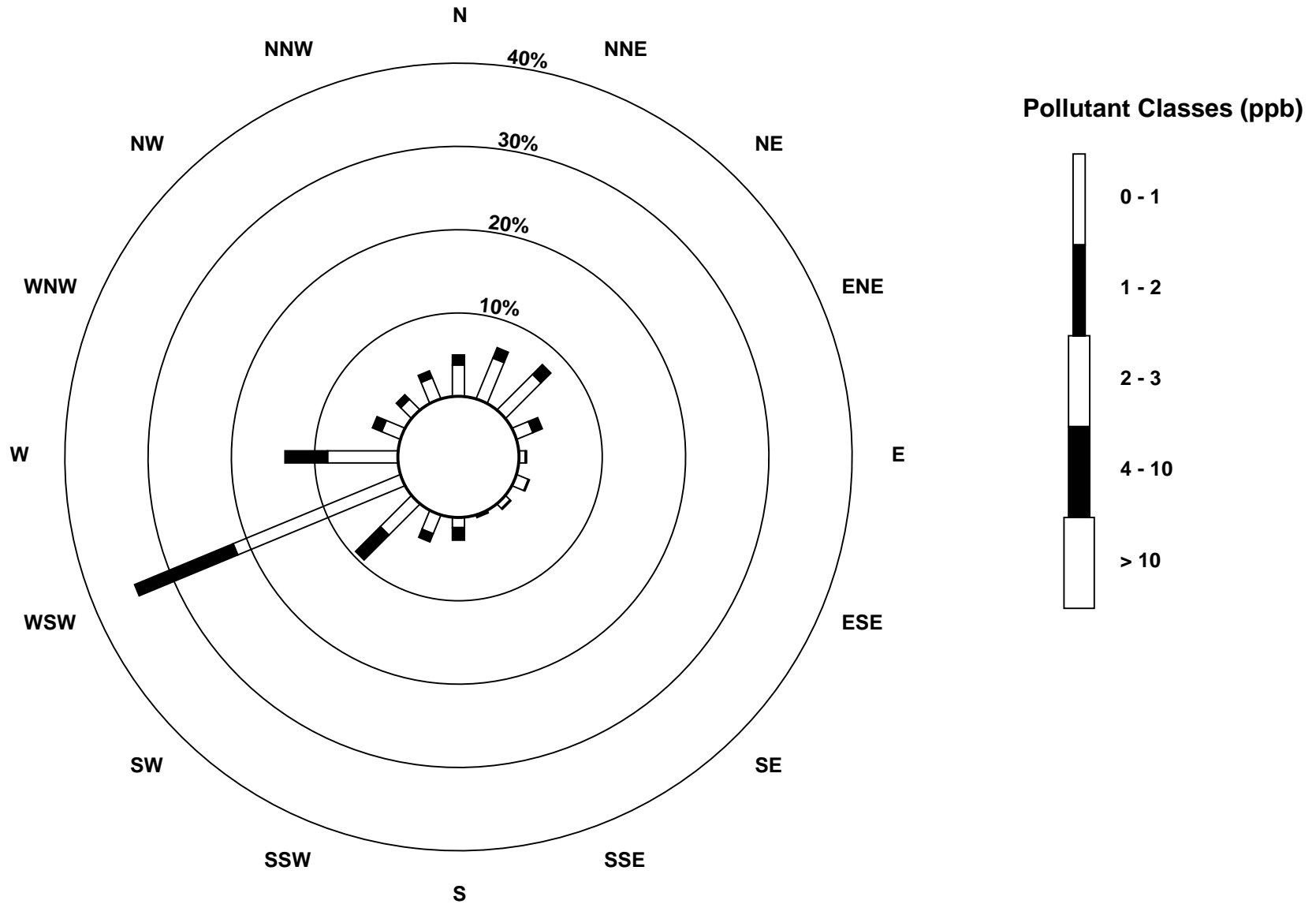
**Hourly Maximums**

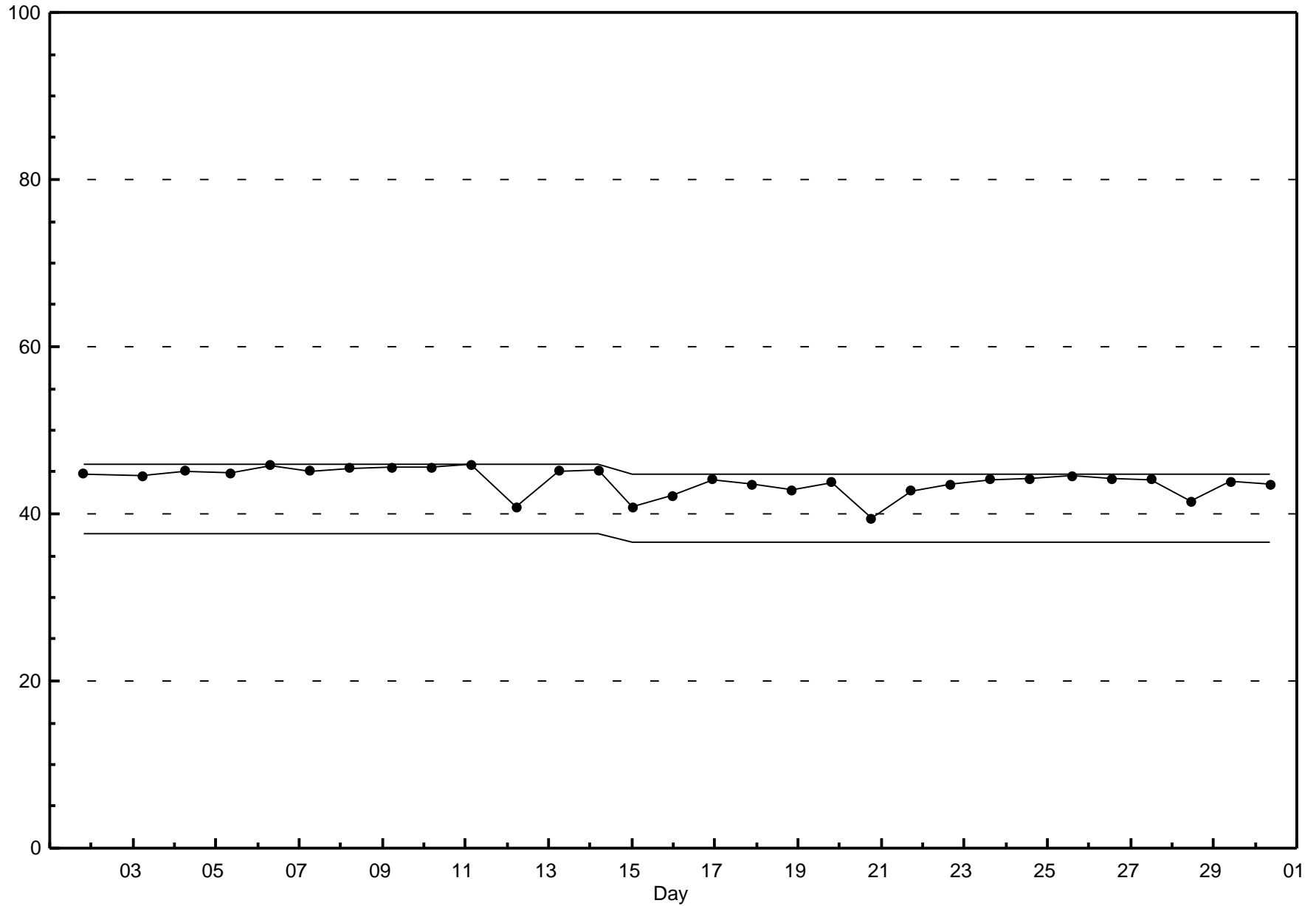
**Total Reduced Sulphur (TRS) - ppb**  
**Smoky Heights - April 2011**



**Pollutant Rose**

**Total Reduced Sulphur (TRS) - ppb**  
**Smoky Heights - April 2011**





## Hourly Averages

## Particulate Matter 2.5 (PM<sub>2.5</sub>) - µg/m<sup>3</sup>

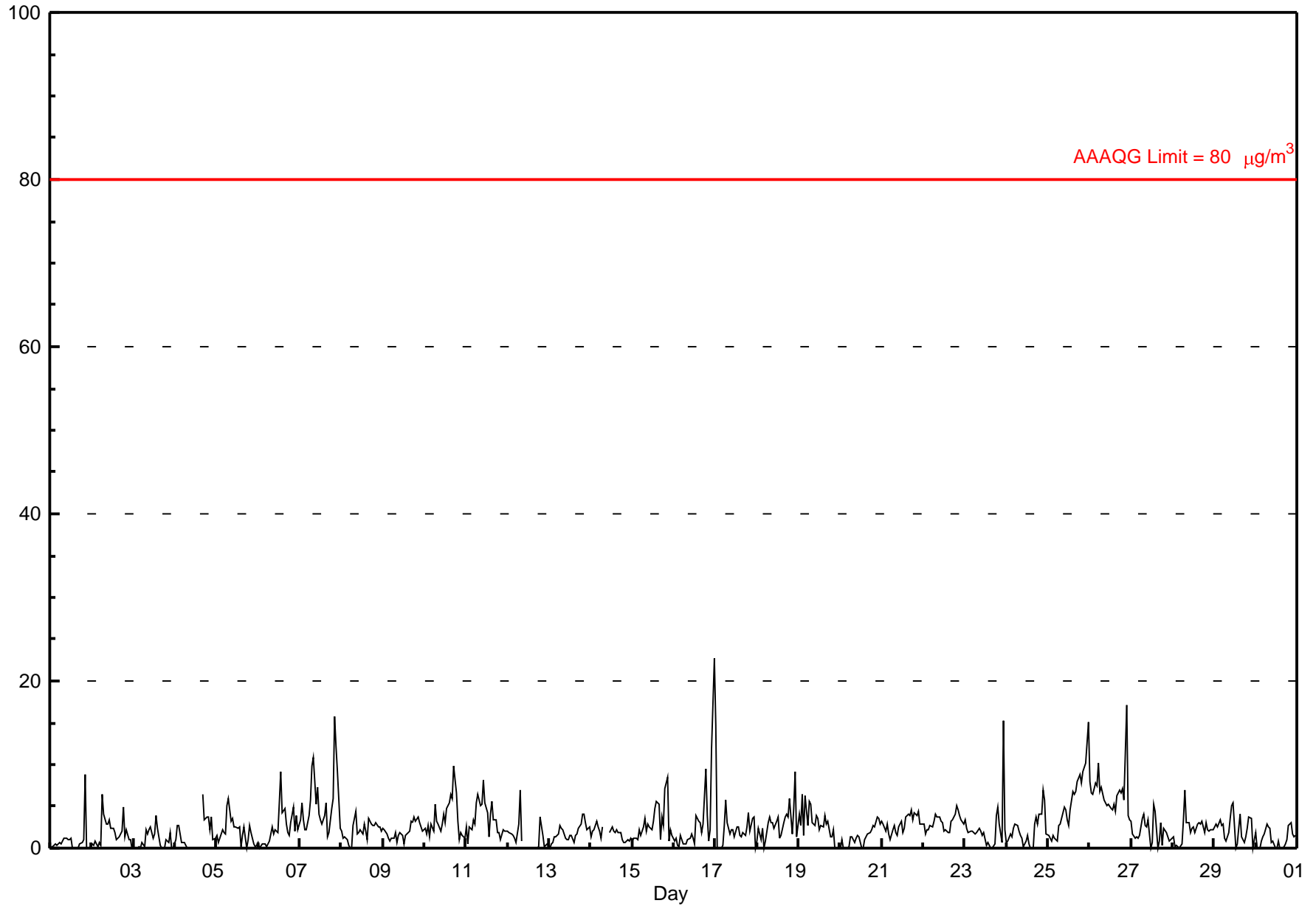
### Smoky Heights - April 2011

Number of Exceedences: 1-hr: 0 24-hr: 0	Hours in Service: 720
Maximum Value: 22.7 µg/m <sup>3</sup> on Apr 17 00:00	Maximum Daily Average: 6.6 µg/m <sup>3</sup> on Apr 26
Minimum Value: 0 µg/m <sup>3</sup> on Apr 1 14:00	Hours of Data: 702
Minimum Daily Average: 0.9 µg/m <sup>3</sup> on Apr 1	Hours of Missing Data: 18
Maximum Diurnal Average: 3.7 µg/m <sup>3</sup> at hour 21	Hours of Calibration: 0
Monthly Average: 2.62 µg/m <sup>3</sup>	Percent Operational Time: 97.5
Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.2 Q <sub>1</sub> = 1.1 Median = 2.1 Q <sub>3</sub> = 3.4 P <sub>90</sub> = 5.4 P <sub>99</sub> = 11.0	

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-Apr	0	0	0	1	0	1	1	1	1	1	1	1	1	0	0	0	0	0	1	1	9	0	0	0	0.9	8.8
2-Apr	1	0	1	0	1	0	6	4	3	3	3	2	2	2	1	1	1	2	5	1	2	1	1	0	1.9	6.4
3-Apr	0	0	0	0	0	1	0	2	2	2	3	1	2	4	2	0	0	0	0	1	1	2	0	0	0.9	4.0
4-Apr	1	3	3	2	1	1	0	0	P	P	P	P	P	P	P	P	6	3	4	4	2	4	1	1	--	6.4
5-Apr	2	1	1	2	2	2	5	6	3	4	3	3	2	2	0	2	3	0	1	3	2	0	0	0	2.0	5.9
6-Apr	1	0	1	0	1	0	1	2	2	2	2	2	5	9	4	5	3	2	2	3	5	2	4	2	2.5	9.2
7-Apr	3	5	3	2	2	4	6	10	11	5	7	4	3	3	4	5	1	2	5	6	16	12	9	2	5.5	15.7
8-Apr	2	1	1	1	0	0	0	3	4	2	2	2	2	3	2	1	4	3	3	3	3	3	3	2	2.0	4.4
9-Apr	2	2	2	1	1	1	1	2	1	1	2	1	0	1	2	2	3	3	4	3	4	3	3	2	2.0	3.7
10-Apr	2	2	3	1	3	2	5	3	3	2	3	4	3	5	5	6	6	10	7	3	1	2	2	1	3.5	9.8
11-Apr	3	1	3	2	3	3	5	6	5	5	8	5	4	1	4	6	3	3	2	2	1	2	2	2	3.4	8.2
12-Apr	2	2	2	1	1	1	3	7	1	D	D	D	D	D	D	D	0	0	0	4	1	0	0	1	--	6.9
13-Apr	0	0	1	1	1	2	3	2	2	1	1	2	2	1	2	2	2	2	3	4	4	3	2	3	1.8	4.0
14-Apr	1	2	2	3	3	2	1	3	M	M	M	2	3	2	2	2	2	2	1	1	1	1	1	1	1.7	3.2
15-Apr	1	1	1	1	2	1	3	4	2	3	3	2	3	5	6	5	1	4	3	7	8	1	2	1	2.9	8.4
16-Apr	1	1	0	0	1	1	0	0	1	1	2	1	1	4	3	3	2	3	10	4	1	2	12	23	3.2	22.7
17-Apr	15	0	0	0	0	3	6	3	2	2	2	1	3	3	1	1	2	2	3	4	2	4	4	0	2.6	14.7
18-Apr	1	2	1	2	0	1	3	4	3	3	2	3	4	1	1	3	4	4	4	6	2	5	9	1	2.9	9.2
19-Apr	4	3	6	2	6	3	6	5	3	3	4	3	2	3	3	4	3	3	1	1	2	0	0	0	2.9	6.4
20-Apr	0	1	0	0	0	0	1	1	1	1	1	1	0	0	1	1	2	2	2	3	2	4	4	3	1.3	3.7
21-Apr	3	3	2	3	2	1	2	3	2	2	2	3	2	2	4	4	4	5	3	4	4	4	3	3	2.9	4.7
22-Apr	3	2	2	2	3	3	3	4	4	4	3	3	2	2	2	2	3	3	4	5	5	4	3	3	3.1	5.1
23-Apr	3	2	2	2	2	2	2	2	2	2	2	0	1	0	0	0	1	4	5	3	1	15	2	2.4	15.2	
24-Apr	1	1	2	1	2	3	3	2	1	1	0	1	1	1	0	0	3	4	3	4	4	7	6	2	2.2	7.0
25-Apr	2	1	1	1	1	1	3	3	4	5	5	3	3	5	7	6	7	8	9	8	9	10	10	15	5.2	15.1
26-Apr	8	7	6	8	8	10	7	7	6	5	5	5	5	5	5	4	6	7	7	7	6	17	4	3	6.6	17.2
27-Apr	3	2	1	1	1	1	4	4	3	3	3	0	1	5	4	0	1	3	0	2	2	1	1	1	2.0	5.3
28-Apr	1	0	0	0	0	0	3	7	3	3	2	2	2	3	3	3	3	2	3	2	2	2	2	2	2.2	7.0
29-Apr	3	3	2	3	3	3	1	1	2	4	5	5	0	1	2	4	1	1	1	2	4	4	0	1	2.3	5.4
30-Apr	2	0	0	1	1	2	3	2	2	1	1	0	0	1	0	0	0	1	1	3	3	2	1	1	1.2	3.1

2.3	1.6	1.7	1.6	1.7	1.8	2.9	3.5	2.8	2.6	2.9	2.4	2.1	2.6	2.5	2.7	2.5	2.8	3.1	3.6	3.7	3.4	3.5	2.7	Diurnal Average	
14.7	6.5	6.5	7.8	7.5	10.2	6.8	9.9	10.9	5.4	8.2	5.5	5.4	9.2	6.8	6.4	6.7	9.8	9.6	7.8	15.7	17.2	15.2	22.7	Diurnal Maximum	

P - Power Failure    D - DAS Failure    M - Maintenance  
 Alberta Ambient Air Quality Guideline (AAQG): 1-hr 80 µg/m<sup>3</sup>    Alberta Ambient Air Quality Objective (AAAQO): 24-hr 30 µg/m<sup>3</sup>

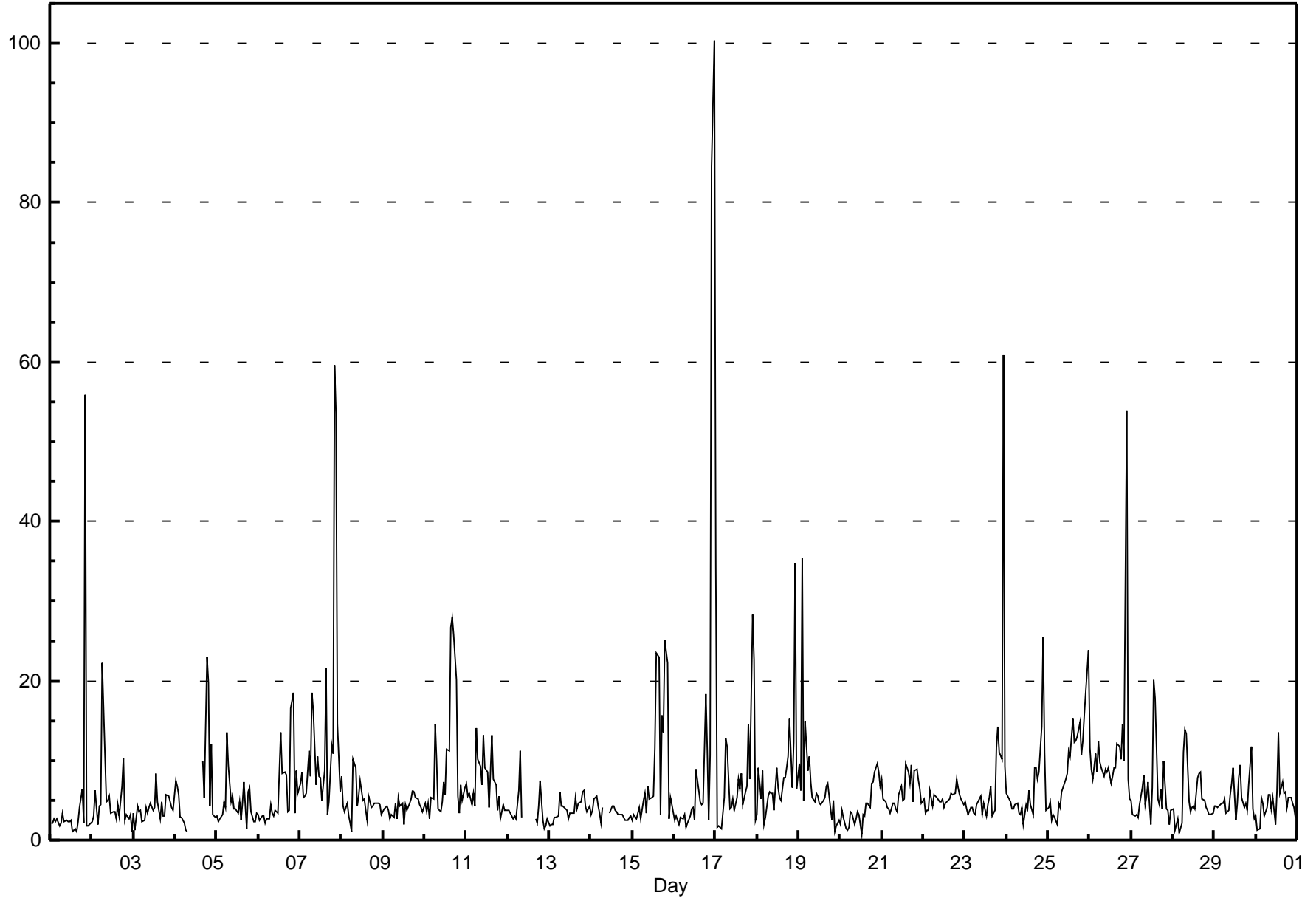




## Hourly Maximums

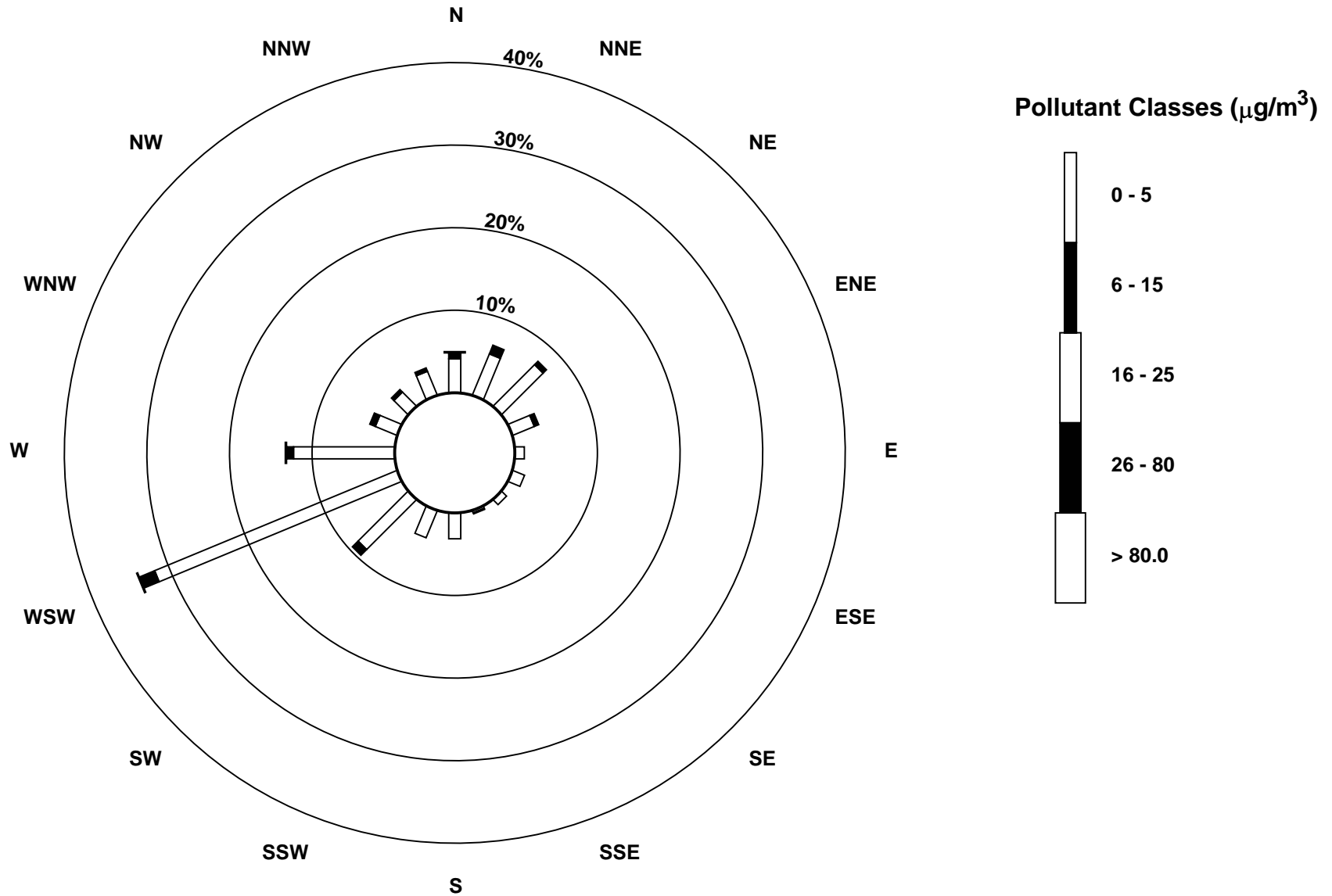
## Particulate Matter 2.5 (PM<sub>2.5</sub>) - µg/m<sup>3</sup> Smoky Heights - April 2011

Maximum Value: 100.4 µg/m <sup>3</sup> on Apr 17 00:00		Maximum Daily Average: 13.3 µg/m <sup>3</sup> on Apr 7		Hours in Service: 720																							
Minimum Value: 1 µg/m <sup>3</sup> on Apr 20 13:00		Minimum Daily Average: 3.5 µg/m <sup>3</sup> on Apr 14		Hours of Data: 702																							
Maximum Diurnal Average: 11.5 µg/m <sup>3</sup> at hour 23		Minimum Diurnal Average: 3.9 µg/m <sup>3</sup> at hour 4		Hours of Missing Data: 18																							
Monthly Average: 6.64 µg/m <sup>3</sup>		Percentiles: P <sub>1</sub> = 1.1 P <sub>10</sub> = 2.4 Q <sub>1</sub> = 3.3 Median = 4.7 Q <sub>3</sub> = 7.2 P <sub>90</sub> = 11.5 P <sub>99</sub> = 53.4		Hours of Calibration: 0																							
				Percent Operational Time: 97.5																							
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-Apr	2	2	3	2	3	2	2	3	2	2	2	2	2	1	1	1	2	4	6	2	56	2	2	2	4.6	55.9	
2-Apr	2	3	6	2	4	4	22	16	5	5	6	3	3	3	3	4	3	7	10	2	3	3	3	1	5.3	22.3	
3-Apr	3	1	4	4	4	2	2	4	3	4	5	4	4	8	5	3	5	3	3	6	5	5	4	4	4.0	8.4	
4-Apr	8	7	6	3	3	2	1	1	P	P	P	P	P	P	P	P	10	5	23	20	4	12	3	3	--	23.0	
5-Apr	3	2	3	3	5	4	13	9	5	5	4	4	3	5	2	5	7	1	6	7	4	2	2	3	4.6	13.4	
6-Apr	3	3	3	3	2	3	3	5	3	3	4	3	9	14	8	9	8	4	4	17	18	3	9	6	6.0	18.4	
7-Apr	7	9	5	5	6	11	8	19	16	7	11	8	8	5	9	22	3	5	12	11	60	54	15	6	13.3	59.7	
8-Apr	8	4	4	5	3	2	1	10	9	4	5	7	5	5	4	2	5	4	4	5	5	5	4	3	4.8	10.2	
9-Apr	4	4	4	4	3	3	3	5	3	5	4	5	2	4	4	5	5	6	6	5	5	4	4	4	4.2	6.3	
10-Apr	5	4	5	3	5	5	15	10	4	4	5	7	6	11	11	27	28	26	20	5	3	7	5	7	9.4	27.9	
11-Apr	7	5	6	4	6	4	14	10	9	7	13	9	9	4	9	13	8	7	4	5	3	4	4	4	7.0	14.0	
12-Apr	4	4	3	3	3	3	6	11	3	D	D	D	D	D	D	D	3	2	4	7	3	1	2	3	--	11.3	
13-Apr	2	2	2	3	3	3	6	4	4	4	4	3	3	3	3	5	4	5	5	6	6	4	4	4	3.9	6.2	
14-Apr	3	4	5	5	4	3	2	4	M	M	M	3	4	4	4	4	3	3	3	3	2	2	3	3	3.5	5.4	
15-Apr	2	3	3	3	4	3	5	6	3	7	5	5	6	12	24	23	3	16	13	25	22	3	5	4	8.6	25.1	
16-Apr	2	3	2	2	3	3	3	2	2	3	4	4	2	9	6	5	4	5	18	11	3	11	85	100	12.2	100.4	
17-Apr	34	2	2	1	3	5	13	12	4	4	5	4	5	8	6	8	4	6	7	15	8	28	23	2	8.7	34.4	
18-Apr	3	9	5	9	2	3	5	6	6	6	4	9	7	5	5	8	8	9	11	15	7	12	35	6	8.1	34.7	
19-Apr	10	6	35	5	15	9	11	7	5	5	6	6	5	4	5	5	7	7	4	3	5	1	2	2	7.0	35.4	
20-Apr	2	4	3	1	1	2	4	3	2	3	4	3	1	3	3	5	5	4	7	7	9	10	9	7	4.1	9.6	
21-Apr	8	5	5	4	4	3	5	5	4	4	6	7	5	5	10	9	7	10	5	9	9	7	6	5	6.0	9.5	
22-Apr	5	3	4	4	6	4	6	5	5	5	5	5	4	5	5	5	6	6	6	8	7	6	5	4	5.2	7.6	
23-Apr	5	4	3	4	4	3	3	4	5	5	3	5	3	4	5	7	3	4	12	14	11	10	61	9	8.0	60.8	
24-Apr	6	5	5	4	4	4	5	3	3	4	2	4	4	6	4	3	9	9	8	9	14	25	11	4	6.5	25.4	
25-Apr	4	5	2	3	3	2	5	4	6	7	8	8	11	11	15	12	12	13	15	11	13	16	19	24	9.5	23.9	
26-Apr	12	9	8	11	9	13	10	9	8	9	9	9	7	8	9	9	12	12	10	15	10	54	8	5	11.3	54.0	
27-Apr	5	3	3	3	3	4	7	8	4	5	7	2	7	20	18	5	4	6	4	10	4	4	2	4	6.0	20.0	
28-Apr	4	1	2	3	1	2	11	14	13	5	3	4	4	4	8	8	9	5	5	4	4	3	3	3	5.2	13.9	
29-Apr	4	4	4	4	5	5	5	3	4	6	7	9	2	5	8	9	5	4	5	4	7	12	4	3	5.3	11.8	
30-Apr	3	1	1	5	5	3	4	6	6	4	5	2	6	14	6	7	6	6	4	5	5	5	4	3	4.9	13.5	
		5.7	4.1	4.9	3.9	4.2	4.0	6.7	7.0	5.3	4.9	5.3	5.2	4.9	6.8	7.1	8.2	6.7	6.8	8.1	8.8	10.4	10.5	11.5	8.0	Diurnal Average	
		34.4	9.1	35.4	10.9	14.9	12.5	22.3	18.5	16.1	8.8	13.2	9.1	11.2	20.0	23.5	26.8	27.9	25.8	23.0	25.1	59.7	54.0	84.5	100.4	Diurnal Maximum	
P - Power Failure		D - DAS Failure				M - Maintenance																					



**Pollutant Rose**

**Particulate Matter 2.5 (PM<sub>2.5</sub>) - μg/m<sup>3</sup>**  
**Smoky Heights - April 2011**



## Hourly Averages

External Temperature (ET) - °C

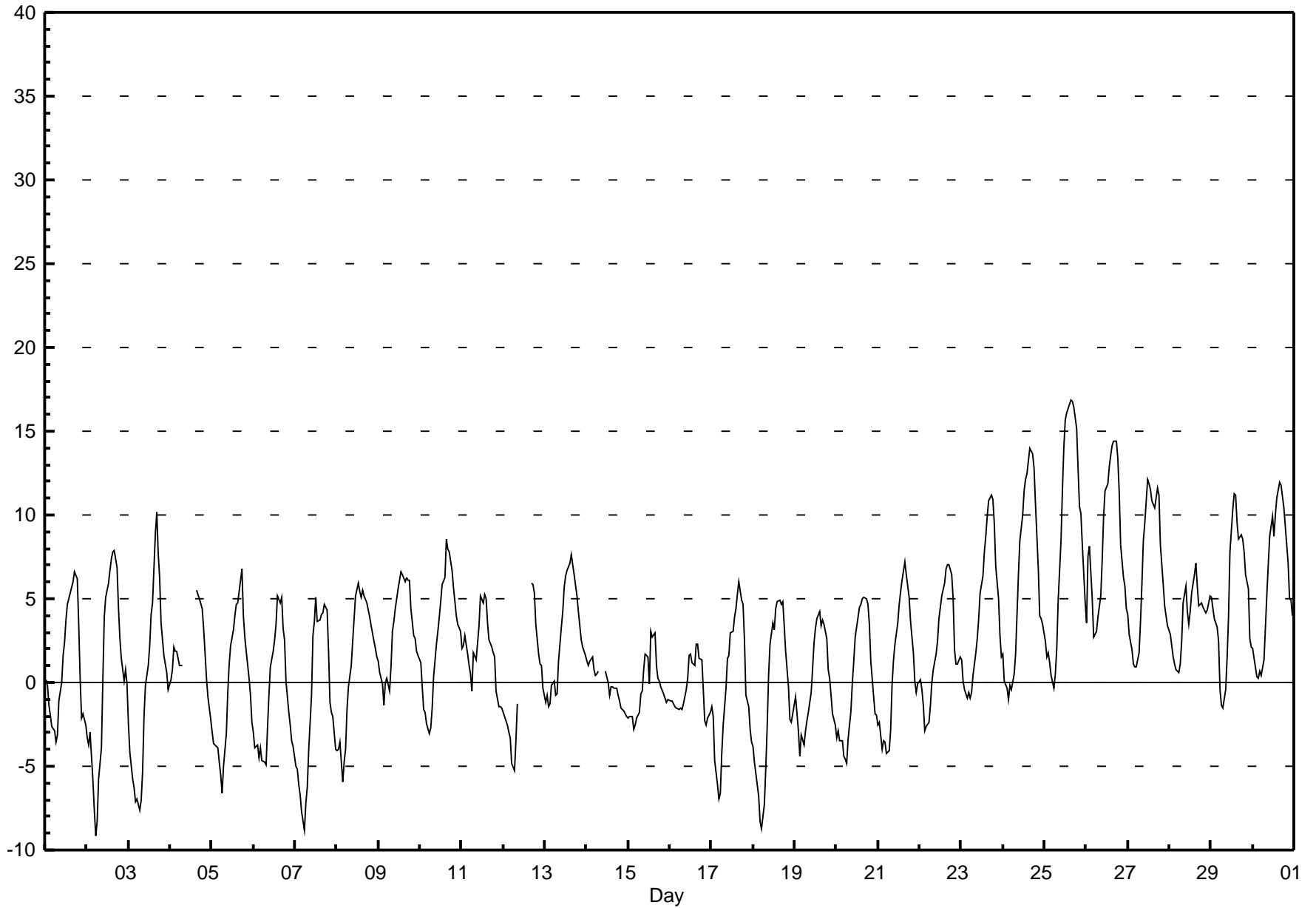
Smoky Heights - April 2011

Number of Exceedences (AAQO):	1-hr: 0	24-hr: 0	Hours in Service:	720
Maximum Value: 16.9 °C on Apr 25 16:00	Maximum Daily Average: 8.7 °C on Apr 25		Hours of Data:	703
Minimum Value: -9 °C on Apr 2 06:00	Minimum Daily Average: -1.2 °C on Apr 7		Hours of Missing Data:	17
Maximum Diurnal Average: 7.0 °C at hour 16	Minimum Diurnal Average: -2.6 °C at hour 6		Hours of Calibration:	0
Monthly Average: 2.16 °C	Percentiles: P <sub>1</sub> = -7.8 P <sub>10</sub> = -3.6 Q <sub>1</sub> = -1.1 Median = 1.8 Q <sub>3</sub> = 5.0 P <sub>90</sub> = 8.1 P <sub>99</sub> = 14.8		Percent Operational Time:	97.6

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-Apr	0	0	-1	-2	-3	-3	-4	-3	-1	0	2	2	4	5	5	6	6	7	6	3	0	-2	-2	-3	1.0	6.6
2-Apr	-3	-4	-3	-6	-8	-9	-8	-6	-4	0	4	5	6	7	7	8	8	7	4	3	1	0	1	0	0.4	7.8
3-Apr	-2	-4	-6	-6	-7	-7	-8	-7	-5	-2	0	1	2	4	5	9	10	8	6	4	2	1	1	0	-0.1	10.2
4-Apr	0	1	2	2	2	1	1	1	P	P	P	P	P	P	P	5	5	5	4	3	2	0	-1	-2	--	5.5
5-Apr	-3	-4	-4	-4	-5	-5	-7	-5	-3	-1	1	2	3	4	5	5	5	7	4	3	2	0	-1	-2	-0.1	6.8
6-Apr	-3	-4	-4	-5	-4	-5	-5	-5	-3	-1	1	2	3	3	5	5	5	3	3	0	-2	-3	-3	-4	-0.8	5.2
7-Apr	-5	-5	-6	-7	-8	-9	-7	-6	-4	-1	3	4	5	4	4	4	4	5	4	2	-1	-2	-2	-4	-1.2	5.1
8-Apr	-4	-4	-4	-6	-5	-4	-2	0	1	2	4	5	6	5	5	5	5	4	4	3	2	2	2	2	1.4	5.9
9-Apr	1	1	0	-1	0	0	0	1	3	4	4	6	6	7	6	6	6	6	6	4	3	3	2	2	3.1	6.6
10-Apr	1	0	-2	-2	-2	-3	-3	-1	0	2	3	4	5	6	6	9	8	8	7	6	5	4	3	3	2.8	8.6
11-Apr	2	2	3	2	1	0	0	2	1	2	3	5	5	5	5	4	3	2	2	2	0	-1	-1	-2	1.9	5.3
12-Apr	-2	-2	-3	-3	-3	-5	-5	-3	-1	D	D	D	D	D	D	D	6	6	5	3	2	1	1	0	--	5.9
13-Apr	-1	-1	-1	-1	0	0	-1	-1	1	3	4	6	6	7	7	8	7	6	5	4	3	3	2	2	2.9	7.6
14-Apr	1	1	1	2	1	0	1	1	M	M	M	1	0	-1	0	0	0	0	-1	-1	-2	-2	-2	-2	-0.1	1.5
15-Apr	-2	-2	-2	-3	-3	-2	-2	-1	-1	1	2	2	0	3	3	3	1	0	0	0	-1	-1	-1	-1	-0.3	3.0
16-Apr	-1	-1	-1	-1	-2	-2	-2	-2	-1	0	0	2	2	1	1	2	2	1	1	0	-2	-3	-2	-2	-0.4	2.3
17-Apr	-1	-2	-5	-6	-7	-7	-4	-3	0	1	2	3	3	4	4	5	6	5	5	3	-1	-1	-3	-4	-0.1	6.0
18-Apr	-4	-5	-6	-7	-8	-9	-7	-5	-3	0	2	4	3	4	5	5	5	5	3	2	0	-2	-2	-2	-0.9	4.9
19-Apr	-1	-2	-3	-4	-3	-4	-3	-2	-2	-1	1	2	3	4	4	3	4	3	3	1	0	-1	-2	-3	0.0	4.2
20-Apr	-3	-3	-3	-4	-4	-5	-5	-3	-2	0	1	3	4	4	5	5	5	5	5	3	1	-1	-2	-2	0.2	5.1
21-Apr	-3	-2	-4	-3	-4	-4	-4	-3	0	1	2	4	5	5	6	7	6	6	5	4	2	0	-1	0	1.1	7.2
22-Apr	0	0	-1	-3	-3	-2	-1	0	1	2	2	4	5	5	6	7	7	7	6	5	2	1	1	2	2.1	7.1
23-Apr	1	0	0	-1	-1	-1	-1	0	2	3	4	5	6	8	9	10	11	11	11	10	7	5	3	2	4.3	11.2
24-Apr	2	0	0	-1	0	0	0	2	4	6	8	10	11	12	12	14	14	14	13	11	7	4	4	3	6.2	14.0
25-Apr	2	2	2	1	0	0	1	2	5	8	12	14	16	16	17	17	17	16	15	13	11	10	8	5	8.7	16.9
26-Apr	4	8	8	5	3	3	3	4	5	7	10	11	12	13	14	14	14	14	13	11	8	6	6	4	8.4	14.4
27-Apr	4	3	2	1	1	1	2	4	6	8	9	12	12	11	11	10	11	12	11	8	6	5	4	3	6.6	12.1
28-Apr	3	2	2	1	1	1	1	2	5	6	4	4	4	5	6	7	6	5	5	4	4	4	4	5	3.8	7.1
29-Apr	5	4	4	3	2	0	-1	-2	0	1	4	8	10	11	11	10	9	9	9	8	6	6	3	2	5.1	11.3
30-Apr	2	1	0	0	1	0	1	3	5	7	9	10	9	10	11	12	12	11	10	9	7	5	5	4	6.1	12.0

-0.3	-0.7	-1.2	-2.0	-2.2	-2.6	-2.3	-1.2	0.3	2.3	3.8	5.0	5.5	6.2	6.6	7.0	6.9	6.6	5.9	4.4	2.5	1.4	0.8	0.2	Diurnal Average	
5.0	7.5	8.1	5.0	2.7	2.9	3.0	3.9	5.9	8.5	11.5	14.1	15.7	16.1	16.6	16.9	16.8	16.5	15.1	12.8	10.5	10.0	8.2	5.1	Diurnal Maximum	

P - Power Failure      D - DAS Failure      M - Maintenance



## Hourly Averages

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

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 Spd	27	25	23	17	16	18	17	17	26	28	26	25	19	19	17	16	9	7	6	8	4	5	6	8	15.9	28.0	
Dir	262	258	263	264	253	243	247	250	254	251	248	244	244	241	239	231	249	276	262	248	314	245	264	250	251.5	251.0	
2 Spd	8	9	10	3	3	1	0	2	3	1	8	13	12	11	8	9	10	12	11	9	10	4	11	6	5.7	12.5	
Dir	235	282	288	73	317	248	239	66	206	271	11	8	1	350	333	350	347	14	342	336	1	340	340	340.7	8.4		
3 Spd	2	5	11	9	9	8	8	7	9	10	12	14	10	9	10	3	2	9	7	3	7	7	5	6	6.2	13.7	
Dir	181	266	262	250	248	213	213	219	207	227	244	250	261	266	260	235	124	132	142	213	237	236	269	247	235.2	250.2	
4 Spd	7	12	16	15	15	14	19	20	P	P	P	P	P	P	P	20	19	18	12	15	11	13	12	12	--	20.3	
Dir	227	243	250	235	222	222	221	234	P	P	P	P	P	P	P	236	235	240	257	259	264	244	253	257	--	234.1	
5 Spd	12	13	12	3	7	8	7	7	9	10	16	20	22	19	18	19	6	1	10	16	12	11	10	10	10.6	22.0	
Dir	251	256	247	206	211	211	248	234	233	233	238	232	244	234	253	244	283	177	206	183	172	193	227	264	232.1	244.4	
6 Spd	14	15	15	12	10	10	15	15	13	17	20	19	22	21	9	15	6	14	13	14	13	16	13	5	13.7	22.2	
Dir	264	263	265	241	245	247	253	261	253	239	241	242	239	242	277	245	287	242	258	263	258	260	268	224	252.1	239.4	
7 Spd	7	11	10	10	7	2	1	1	2	2	1	4	5	10	12	10	10	8	7	7	5	7	7	8	5.9	12.0	
Dir	210	261	266	274	269	9	168	337	231	180	300	246	250	263	269	265	253	250	278	265	256	246	230	231	255.9	269.3	
8 Spd	9	9	8	9	10	11	19	20	23	26	23	19	24	27	27	22	27	19	30	25	31	28	28	27	18.5	30.8	
Dir	226	245	224	192	199	200	178	180	188	186	194	212	229	237	238	236	242	245	258	250	252	254	257	259	229.1	251.9	
9 Spd	25	22	19	15	20	15	13	14	16	18	23	19	24	22	23	17	18	16	15	16	8	13	12	10	16.9	25.0	
Dir	256	255	256	251	241	231	217	223	240	244	233	234	239	239	235	247	255	243	237	250	242	238	264	250	242.7	256.4	
10 Spd	9	9	9	12	11	12	11	12	12	16	15	15	14	9	9	4	4	2	5	8	10	6	6	5	6.7	15.9	
Dir	260	244	250	256	262	265	266	272	254	259	258	259	245	239	263	276	291	304	12	27	32	33	26	21	270.0	259.0	
11 Spd	4	5	7	9	8	9	5	3	9	14	17	24	30	27	34	35	32	32	21	11	11	14	15	13	11.8	35.5	
Dir	1	357	2	30	40	43	18	5	223	251	242	236	240	239	248	271	251	254	272	276	336	309	307	315	267.9	271.0	
12 Spd	9	7	6	7	3	1	1	2	4	D	D	D	D	D	D	D	D	9	9	8	10	10	10	11	--	12.1	
Dir	330	320	317	324	284	183	333	258	129	D	D	D	D	D	D	D	D	110	105	85	41	48	65	69	51	--	68.6
13 Spd	8	6	6	7	10	8	6	8	8	11	16	18	24	23	23	23	25	23	20	17	13	12	11	11	12.1	25.5	
Dir	22	41	47	53	101	101	37	42	33	106	131	125	121	119	106	102	120	114	105	96	67	55	52	47	95.4	120.5	
14 Spd	13	13	12	14	14	16	18	19	M	M	M	18	21	22	22	19	15	12	12	11	12	11	11	11	14.8	22.0	
Dir	37	42	38	69	67	59	64	66	M	M	M	59	54	51	55	58	52	63	68	50	41	42	34	34	53.7	50.9	
15 Spd	11	10	10	8	7	7	5	3	5	5	4	6	11	8	14	17	15	13	13	11	12	12	10	11	7.9	16.7	
Dir	30	31	28	20	11	356	341	21	337	335	321	279	258	355	29	34	39	38	45	29	30	35	35	49	21.8	34.0	
16 Spd	10	8	8	10	11	11	15	15	13	13	16	16	20	17	17	15	15	10	5	2	8	5	4	5	10.4	20.2	
Dir	52	47	43	47	43	50	51	61	46	37	34	46	56	38	32	56	62	74	6	360	307	337	5	352	42.7	56.4	
17 Spd	6	7	2	5	4	2	1	2	4	3	5	7	10	10	8	5	7	8	7	5	8	11	8	9	4.7	10.9	
Dir	5	325	242	283	319	287	42	252	226	248	268	237	249	257	271	293	6	329	334	288	282	286	286	290	288.7	286.1	
18 Spd	10	2	2	2	4	6	4	5	6	5	5	7	12	9	8	8	8	7	9	9	7	4	3	3	4.8	12.5	
Dir	292	357	204	185	252	233	217	186	192	192	247	266	259	249	251	248	257	267	258	270	308	329	38	236	254.5	259.1	
19 Spd	4	4	1	4	5	1	1	10	6	3	3	4	5	7	8	14	10	12	12	12	19	15	13	14	5.9	18.5	
Dir	262	262	287	271	20	61	335	11	23	29	223	240	240	232	245	255	243	233	246	242	247	251	253	230	252.8	247.1	
20 Spd	12	15	17	17	14	15	14	10	17	22	23	20	23	26	25	22	21	18	12	7	5	2	4	7	14.8	25.7	
Dir	245	245	247	246	250	245	239	232	234	236	235	240	253	252	252	250	248	237	245	283	355	17	242	239	245.8	252.0	
21 Spd	9	9	7	12	15	10	11	9	12	14	16	17	17	19	17	9	16	17	16	9	10	11	12	16	12.5	18.6	
Dir	244	245	247	252	254	226	225	229	233	236	243	244	238	237	251	295	243	260	244	268	264	256	247	241	245.8	237.0	
22 Spd	18	18	15	14	15	17	19	22	21	23	25	22	24	24	22	19	22	21	20	17	11	12	14	20	18.8	24.8	
Dir	246	250	251	258	255	259	250	251	243	239	237	243	239	240	238	248	253	251	240	241	254	249	251	249	246.5	237.5	

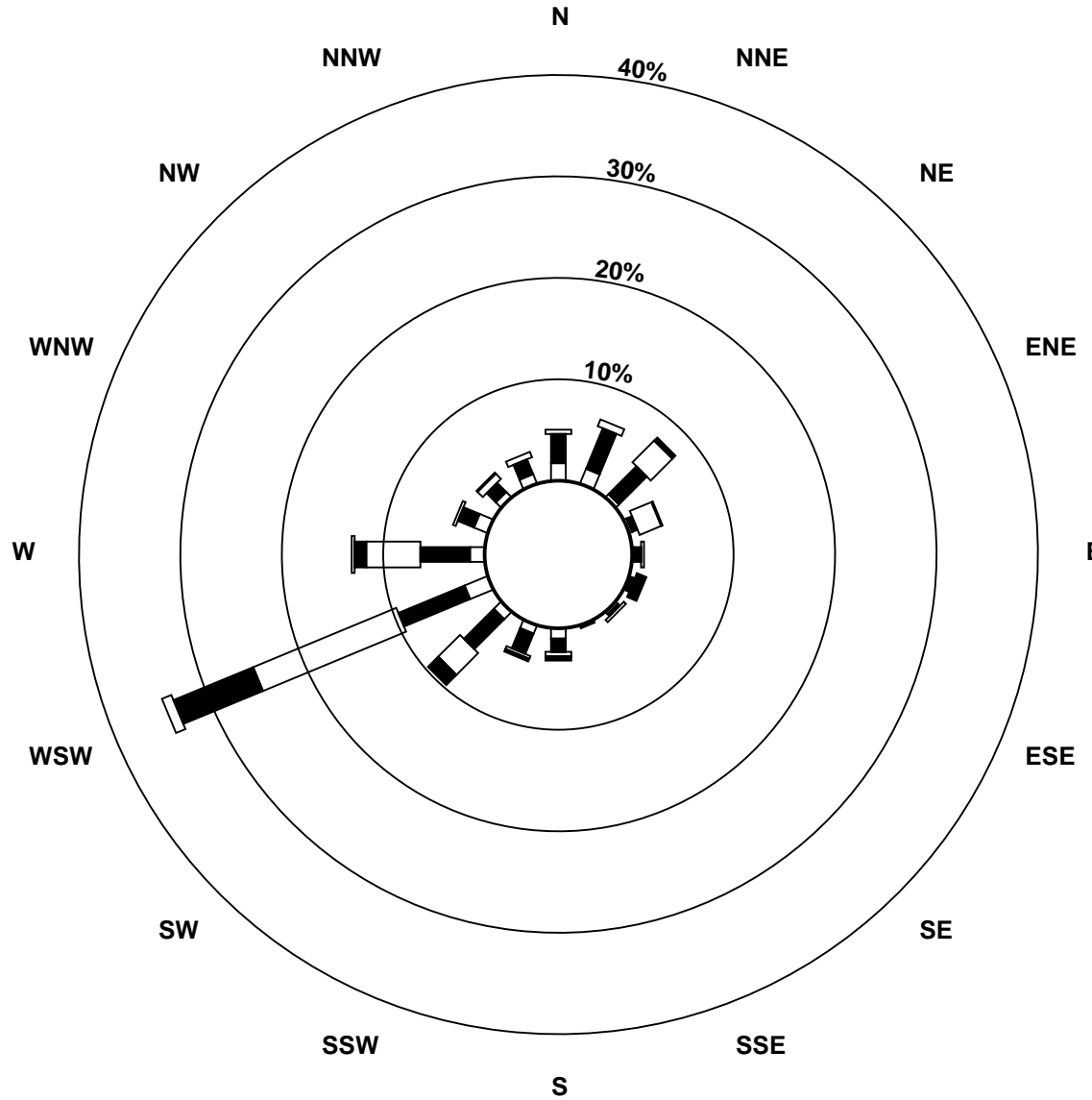
## Hourly Averages

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

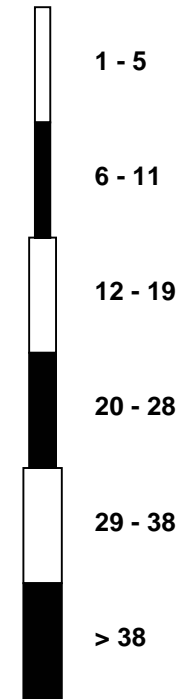
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
23 Spd	21	21	24	22	21	19	15	6	3	11	17	19	21	18	16	12	8	8	6	6	7	4	1	5	11.6	23.9
Dir	254	259	255	259	259	264	260	251	271	238	242	238	240	241	237	238	231	241	274	18	27	28	266	261	252.6	255.1
24 Spd	4	1	3	6	9	11	10	13	12	9	7	4	2	3	6	5	8	12	10	7	4	5	7	7	5.8	12.7
Dir	255	338	341	16	4	2	22	29	38	53	71	82	288	50	307	14	20	32	47	40	25	357	18	11	22.7	28.8
25 Spd	6	6	8	9	9	7	9	10	8	3	6	8	9	13	13	11	14	17	15	10	8	10	3	12	7.1	16.6
Dir	6	4	18	18	16	18	27	26	24	17	86	105	83	95	75	78	63	51	68	56	27	25	296	259	46.3	50.8
26 Spd	7	16	21	8	10	11	9	12	19	24	23	20	21	22	23	24	24	22	19	13	12	15	16	15	15.5	24.1
Dir	285	328	321	217	219	240	258	236	239	253	256	245	246	250	248	251	250	249	245	254	254	260	263	266	255.1	250.8
27 Spd	13	9	13	14	15	11	8	7	8	7	6	5	8	16	27	17	9	17	14	21	13	11	14	11	11.2	27.3
Dir	263	255	262	262	265	252	203	183	168	193	239	184	182	209	240	241	233	249	231	249	238	221	218	246	235.4	239.7
28 Spd	10	10	11	9	7	5	7	5	7	14	19	19	17	16	17	18	10	11	16	12	13	13	5	12	10.1	18.8
Dir	235	236	246	265	271	264	258	258	350	339	321	300	289	276	263	274	336	309	268	257	273	274	303	337	283.8	300.3
29 Spd	13	10	10	10	8	4	6	8	8	9	10	10	13	18	18	18	27	23	20	18	5	8	9	6	6.5	27.0
Dir	351	353	354	0	6	150	186	179	176	174	176	178	226	241	255	264	246	212	224	229	246	317	28	275	241.8	246.2
30 Spd	14	9	4	9	11	16	15	13	13	10	8	6	16	13	12	26	29	34	25	20	14	12	20	21	14.6	33.5
Dir	255	241	211	211	255	265	264	253	246	230	224	185	240	314	267	264	261	256	253	250	243	244	250	257	252.6	255.6
Spd	6.8	7.0	6.9	5.2	5.1	4.8	4.5	3.8	5.7	7.7	9.0	8.6	10.4	9.8	10.1	9.1	7.0	6.9	6.2	5.9	5.0	5.1	5.4	6.3	Diurnal Average	
Dir	270.0	273.3	274.7	266.0	263.3	250.8	243.5	241.0	236.9	237.8	240.2	238.3	242.3	246.6	253.9	258.2	256.0	250.5	253.5	261.6	281.4	276.1	277.9	272.5	Diurnal Maximum	
Spd	27.3	25.3	23.9	22.4	20.7	18.8	19.5	21.7	25.6	28.0	25.8	25.0	30.1	26.8	33.5	35.5	32.3	33.5	29.8	25.0	30.8	28.1	27.8	27.5	Diurnal Maximum	
Dir	261.8	258.4	255.1	259.1	258.8	264.3	220.7	251.0	253.7	251.0	247.9	243.5	240.4	237.4	248.4	271.0	251.0	255.6	257.9	250.5	251.9	254.3	257.0	259.5	Diurnal Maximum	
Maximum Speed Value: 35 km/h on Apr 11 16:00		Minimum Speed Value: 0 km/h on Apr 2 07:00		Hours in Service: 720																						
Maximum Daily Speed Average: 18.8 km/h on Apr 8		Minimum Daily Speed Average: 4.7 km/h on Apr 17		Hours of Data: 703																						
Maximum Diurnal Speed Average: 10.4 km/h at hour 13		Minimum Diurnal Speed Average: 3.8 km/h at hour 8		Hours of Missing Data: 17																						
Monthly Average Velocity: 6.52 km/h 256.01 deg				Speed Percentiles: P <sub>1</sub> = 0.9 P <sub>10</sub> = 4.3 Q <sub>1</sub> = 7.4 Median = 11.0 Q <sub>3</sub> = 16.0 P <sub>90</sub> = 21.8 P <sub>99</sub> = 29.7				Percent Operational Time: 97.6																		
All monthly, daily, and diurnal averages have been calculated using vector methods																										
P - Power Failure    D - DAS Failure    M - Maintenance																										
Frequency Distribution																										
		Speed Range (km/h)																								
Direction	0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total																			
North	16	41	6	0	0	0	63																			
NorthEast	8	40	41	6	0	0	95																			
East	2	10	9	3	0	0	24																			
SouthEast	3	2	2	4	0	0	11																			
South	8	15	4	5	0	0	32																			
SouthWest	16	63	79	46	1	0	205																			
West	23	68	90	39	10	0	230																			
NorthWest	12	22	8	1	0	0	43																			
Total	88	261	239	104	11	0	703																			

**Wind Rose**

**Wind Speed (WS) (km/h)**  
**Smoky Heights - April 2011**



**Wind Speed Classes (km/h)**





# Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Smoky Heights - April 2011

<b>Maximum Speed: 36 km/h on Apr 11 16:00</b>		<b>Maximum Daily Speed Average: 21.0 km/h on Apr 8</b>		Hours in Service: 720																						
<b>Minimum Speed: 1 km/h on Apr 12 07:00</b>		<b>Minimum Daily Speed Average: 6.5 km/h on Apr 18</b>		Hours of Data: 703																						
<b>Maximum Diurnal Speed Average: 16.9 km/h at hour 15</b>		<b>Minimum Diurnal Speed Average: 10.0 km/h at hour 7</b>		Hours of Missing Data: 17																						
<b>Monthly Average Speed: 12.53 km/h</b>		Percentiles: P <sub>1</sub> = 2.5 P <sub>10</sub> = 5.1 Q <sub>1</sub> = 7.8 Median = 11.3 Q <sub>3</sub> = 16.3 P <sub>90</sub> = 21.9 P <sub>99</sub> = 29.8		<b>Percent Operational Time: 97.6</b>																						
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-Apr	27	25	23	17	16	18	17	17	26	28	26	25	20	19	17	16	10	7	6	8	5	6	7	11	16.5	28.1
2-Apr	10	9	10	4	3	3	3	3	4	3	8	13	12	11	9	9	11	13	11	9	10	5	11	9	8.0	12.7
3-Apr	4	6	11	9	9	9	8	8	9	10	12	14	10	9	10	3	4	9	8	5	8	7	5	7	8.0	13.8
4-Apr	8	12	16	15	15	14	20	20	P	P	P	P	P	P	P	20	19	18	12	15	12	14	12	12	--	20.3
5-Apr	12	13	13	4	7	9	7	8	9	11	16	20	22	19	18	19	11	6	10	16	12	11	11	10	12.3	22.1
6-Apr	14	16	15	12	10	11	15	15	13	17	20	19	22	21	12	15	7	15	13	14	13	16	14	6	14.3	22.2
7-Apr	8	11	10	10	7	3	2	2	3	2	3	5	5	10	12	10	10	8	7	7	5	7	7	8	6.8	12.1
8-Apr	9	9	9	9	10	11	19	20	23	26	23	19	24	27	27	23	27	19	30	25	31	28	28	27	21.0	30.8
9-Apr	25	22	19	15	20	15	13	14	16	18	23	19	24	22	24	17	18	16	15	16	9	13	12	10	17.3	25.1
10-Apr	9	9	10	12	11	12	11	12	12	16	15	15	14	9	9	4	4	2	6	8	10	7	7	5	9.6	16.0
11-Apr	4	5	7	9	8	9	5	5	9	14	17	25	30	27	34	36	32	32	22	15	11	14	15	13	16.6	35.7
12-Apr	9	7	7	7	3	3	1	3	4	D	D	D	D	D	D	D	10	9	8	10	10	10	12	11	--	12.1
13-Apr	8	6	6	8	11	9	7	8	9	12	16	19	24	23	23	24	26	23	20	17	13	12	11	11	14.4	25.6
14-Apr	13	13	13	14	14	16	18	19	M	M	M	18	21	22	22	19	16	12	12	11	12	13	11	11	15.2	22.1
15-Apr	11	10	10	8	7	7	5	3	5	5	5	7	11	10	14	17	15	14	13	11	12	12	10	11	9.7	16.9
16-Apr	10	8	8	10	12	11	15	16	13	13	16	16	21	17	17	15	16	11	5	9	8	5	4	5	11.8	20.6
17-Apr	7	7	4	5	5	3	2	4	4	4	6	7	10	10	8	7	8	8	7	6	8	11	8	9	6.6	10.9
18-Apr	10	4	4	3	5	6	4	5	6	6	6	8	13	9	8	8	8	7	9	9	7	5	4	4	6.5	12.7
19-Apr	5	5	3	4	6	3	3	10	6	4	4	4	5	7	8	14	10	12	12	12	19	15	14	14	8.3	18.6
20-Apr	12	15	17	17	14	15	14	10	17	22	23	20	23	26	25	22	21	18	12	8	6	3	5	8	15.6	25.7
21-Apr	9	10	7	13	15	11	11	9	12	14	16	17	17	19	18	10	16	18	16	9	10	11	12	16	13.1	18.7
22-Apr	18	18	16	14	15	17	19	22	21	23	25	22	24	24	22	19	22	21	20	17	11	12	14	20	19.0	24.9
23-Apr	21	22	24	22	21	19	15	9	6	11	17	19	21	18	16	12	8	8	7	7	7	4	3	5	13.3	24.0
24-Apr	6	5	6	6	10	11	10	13	12	10	8	7	6	7	7	6	9	12	11	8	4	5	7	7	7.9	12.7
25-Apr	6	6	8	9	9	7	10	10	8	4	7	9	11	14	13	12	15	17	15	10	8	10	10	12	10.0	17.1
26-Apr	9	16	21	14	10	11	9	12	19	24	23	21	21	22	23	24	24	22	19	13	12	15	16	15	17.3	24.3
27-Apr	13	9	13	14	15	12	9	7	8	9	7	6	11	18	27	17	10	18	16	22	14	11	14	12	13.0	27.5
28-Apr	10	10	11	10	7	5	8	6	7	14	19	19	17	16	18	18	13	12	16	12	14	13	7	12	12.3	19.0
29-Apr	13	10	10	10	8	5	6	8	8	9	11	10	15	19	18	20	28	24	21	18	8	12	13	6	12.9	27.5
30-Apr	14	9	5	10	11	16	15	13	13	10	9	7	18	16	13	27	29	34	26	20	14	12	20	21	15.9	33.7
11.2 10.9 11.0 10.5 10.4 10.0 10.0 10.3 10.8 12.5 14.1 14.7 16.8 16.8 16.9 16.0 15.3 14.8 13.4 12.2 10.7 10.7 10.8 11.0																								Diurnal Average		
27.3 25.3 24.0 22.4 20.7 18.8 19.5 21.8 25.7 28.1 25.9 25.0 30.1 26.9 33.7 35.7 32.5 33.7 29.8 25.2 30.8 28.2 27.9 27.5																								Diurnal Maximum		
P - Power Failure      D - DAS Failure      M - Maintenance																										
All monthly, daily, and diurnal averages have been calculated using scalar methods																										

## Hourly Standard Deviations

Wind Direction (WD) - deg  
Smoky Heights - April 2011

Maximum Value: 93.7 deg on Apr 2 10:00																								Hours in Service: 720	
Minimum Value: 1.5 deg on Apr 1 01:00																								Hours of Data: 703	
Percentiles: P <sub>1</sub> = 2.2 P <sub>10</sub> = 3.6 Q <sub>1</sub> = 5.5 Median = 9.7 Q <sub>3</sub> = 17.4 P <sub>90</sub> = 40.3 P <sub>99</sub> = 86.8																								Hours of Missing Data: 17	
																								Hours of Calibration: 0	
																								Percent Operational Time: 97.6	
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-Apr	2	2	2	5	6	3	5	3	4	2	5	3	3	3	4	5	25	11	10	3	35	22	33	44	43.9
2-Apr	37	13	30	60	17	91	91	58	24	94	27	7	10	11	10	11	12	14	12	11	7	42	5	83	93.7
3-Apr	85	50	9	9	12	17	14	15	9	13	5	5	6	7	4	54	88	5	18	48	21	18	19	37	88.2
4-Apr	15	14	12	5	6	3	2	4	P	P	P	P	P	P	P	6	4	4	11	3	11	13	11	4	15.0
5-Apr	7	4	15	54	14	24	10	22	6	13	10	5	6	4	7	7	64	76	12	5	7	12	22	12	75.7
6-Apr	10	4	7	15	14	12	10	3	6	3	3	4	3	3	57	13	39	9	4	3	3	4	7	24	56.6
7-Apr	20	7	10	12	16	64	75	66	30	29	76	30	10	4	7	7	10	9	5	11	14	8	6	12	75.6
8-Apr	11	13	11	10	7	14	3	4	5	6	9	8	6	4	3	4	6	7	3	6	3	2	3	2	14.4
9-Apr	2	2	5	7	3	9	5	11	6	6	3	5	4	3	4	9	3	7	5	5	12	7	12	7	12.4
10-Apr	8	15	18	6	9	5	6	12	7	3	4	5	8	10	4	13	20	52	20	8	8	36	42	13	51.7
11-Apr	19	17	12	8	11	12	15	66	14	7	14	5	4	4	6	7	5	4	17	55	10	9	7	11	66.2
12-Apr	12	18	16	10	17	71	59	57	21	D	D	D	D	D	D	D	15	10	20	7	7	13	7	5	71.3
13-Apr	14	24	18	18	19	26	24	11	8	19	14	10	7	8	7	14	6	6	4	10	11	10	10	7	25.9
14-Apr	5	5	6	11	7	5	6	7	M	M	M	9	7	6	6	6	8	9	13	8	5	5	5	4	13.1
15-Apr	3	5	4	5	8	8	22	20	14	22	45	40	10	45	13	10	10	11	12	11	8	4	6	15	45.1
16-Apr	9	7	11	5	7	9	5	9	8	7	10	13	11	18	7	10	16	29	16	73	15	15	12	17	73.1
17-Apr	13	7	65	10	28	43	87	78	8	52	30	10	8	11	32	53	26	14	12	35	11	3	3	3	87.2
18-Apr	6	67	69	71	23	20	15	7	8	27	38	13	10	11	6	7	20	17	5	10	5	24	50	40	70.5
19-Apr	45	36	78	21	31	92	90	8	14	35	60	19	19	9	8	4	10	10	10	8	6	11	19	14	92.2
20-Apr	9	3	2	3	6	3	4	6	6	3	3	7	5	4	4	6	6	4	14	13	31	64	12	11	64.5
21-Apr	11	30	12	4	7	18	7	4	3	7	5	6	4	5	21	28	9	12	9	21	10	7	11	3	30.0
22-Apr	5	6	7	3	5	4	3	3	5	3	4	6	4	4	3	7	4	4	3	6	6	3	3	3	7.3
23-Apr	3	3	4	2	3	2	2	78	68	10	4	5	3	4	5	10	10	8	20	36	11	10	87	17	87.3
24-Apr	50	80	54	28	6	8	9	4	10	21	36	67	70	77	40	37	23	13	13	17	31	14	7	9	80.4
25-Apr	5	10	4	4	6	6	6	5	7	64	30	31	29	23	22	28	20	14	12	9	11	9	72	11	72.2
26-Apr	46	10	6	56	15	4	6	10	8	8	10	8	6	7	6	7	6	6	5	5	4	8	8	5	56.5
27-Apr	3	5	4	3	2	16	18	22	16	29	27	52	49	25	6	12	23	13	22	12	22	14	11	11	52.2
28-Apr	13	8	6	33	8	16	16	28	21	11	9	9	5	7	13	13	42	29	6	13	7	9	75	8	75.3
29-Apr	9	9	9	8	18	30	8	9	13	11	11	14	28	15	15	30	12	12	9	6	71	79	39	41	78.9
30-Apr	7	11	41	20	10	4	4	5	11	16	22	43	25	41	31	14	10	5	6	4	6	4	3	2	43.2
85.2 80.4 78.5 70.5 30.9 92.2 91.0 78.5 67.8 93.7 75.6 67.4 70.2 76.8 56.6 54.3 88.2 75.7 21.8 73.1 70.6 78.9 87.3 83.1																									
P - Power Failure      D - DAS Failure      M - Maintenance																									

PAZA

Beaverlodge Station

Monthly Summary Tables, Graphs and  
Roses

## Hourly Averages

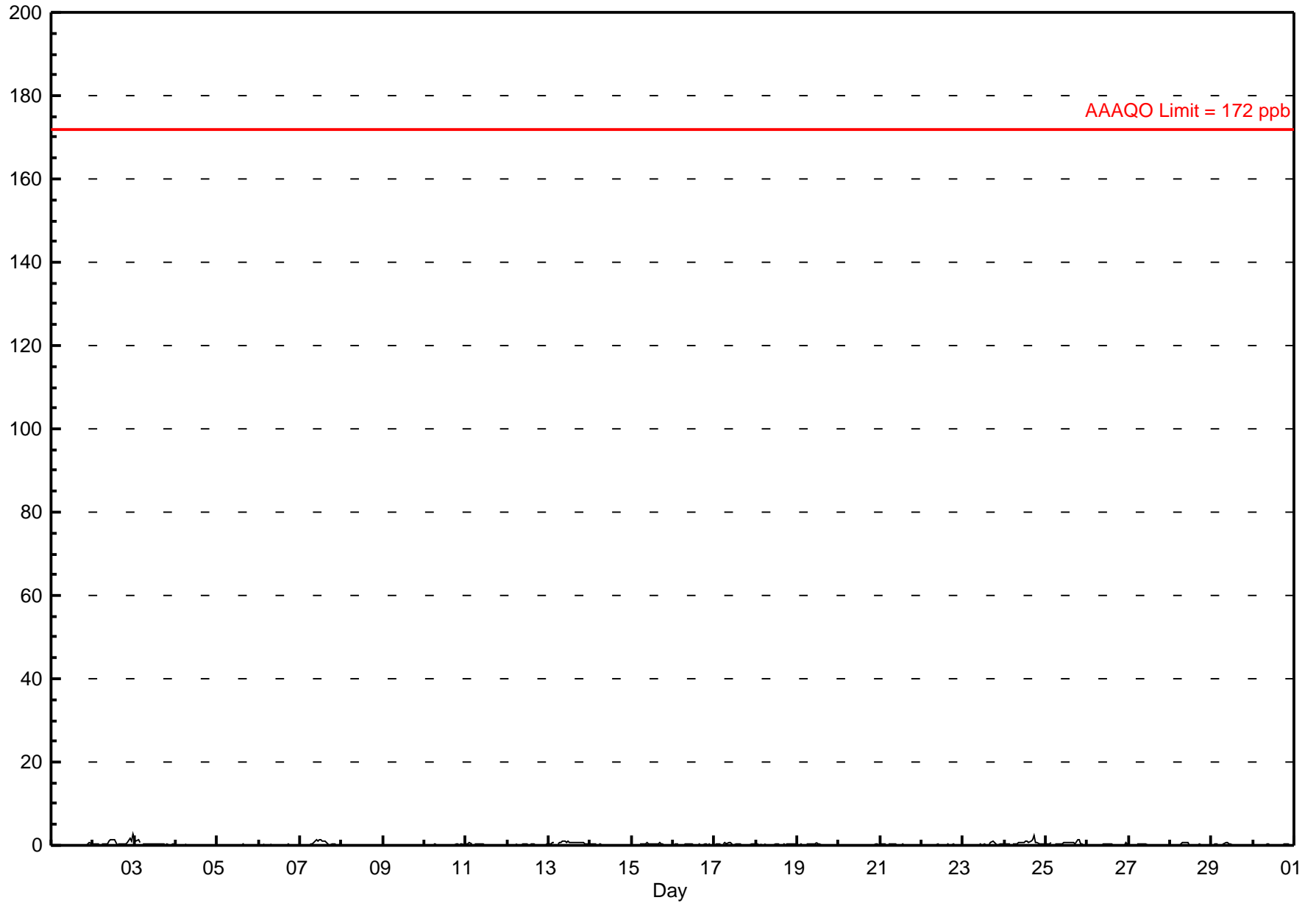
Sulphur Dioxide (SO<sub>2</sub>) - ppb

Beaverlodge - April 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 2.7 ppb on Apr 3 00:00      Maximum Daily Average: 0.7 ppb on Apr 2		Hours in Service: 720 Hours of Data: 686 Hours of Missing Data: 34 Hours of Calibration: 34 Percent Operational Time: 100.0																																															
Minimum Value: 0 ppb on Apr 1 02:00 Maximum Diurnal Average: 0.3 ppb at hour 10 Monthly Average: 0.23 ppb		Minimum Daily Average: 0.0 ppb on Apr 9 Minimum Diurnal Average: 0.1 ppb at hour 21 Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.0 Q <sub>1</sub> = 0.1 Median = 0.1 Q <sub>3</sub> = 0.3 P <sub>90</sub> = 0.6 P <sub>99</sub> = 1.4																																															
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-Apr	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0.1	0.6																							
2-Apr	0	0	0	0	A	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	1	2	1	3	0.7	2.7																						
3-Apr	2	1	1	1	A	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	1.5																						
4-Apr	0	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																						
5-Apr	0	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																						
6-Apr	0	0	0	0	A	0	0	0	C	C	C	C	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3																						
7-Apr	0	0	0	0	A	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0.4	1.4																						
8-Apr	0	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																						
9-Apr	0	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																						
10-Apr	0	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	0.3																						
11-Apr	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	0.2	0.6																						
12-Apr	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.5																						
13-Apr	0	0	1	1	A	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0.6	1.1																						
14-Apr	0	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	0.4																						
15-Apr	0	0	0	0	A	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0.3	0.7																						
16-Apr	0	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																						
17-Apr	0	0	0	0	A	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.7																						
18-Apr	0	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																						
19-Apr	0	0	0	0	A	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.6																						
20-Apr	0	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	0.3																						
21-Apr	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.5																						
22-Apr	0	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																						
23-Apr	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0.2	0.9																						
24-Apr	0	0	0	0	A	0	0	0	1	1	1	1	1	1	1	1	1	2	1	1	0	0	0	0	0	0.6	2.3																						
25-Apr	0	0	0	1	A	0	0	0	0	0	1	1	1	1	1	1	1	0	1	1	0	0	0	0	0	0.5	1.4																						
26-Apr	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0.2	0.6																						
27-Apr	0	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	0.4																						
28-Apr	0	0	0	0	A	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.7																						
29-Apr	0	0	0	0	A	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.7																						
30-Apr	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.5																						
																								0.2	0.2	0.2	0.2	--	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	Diurnal Average	
																								1.5	0.9	1.2	0.7	--	0.5	0.8	0.7	1.0	1.3	1.2	1.3	1.4	1.0	1.0	0.9	1.5	2.3	1.4	1.3	0.6	1.7	1.0	2.7	Diurnal Maximum	
C - Calibration      A - Automated Daily Zero Span Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb    24-hr 48 ppb																																																	

### Hourly Averages

Sulphur Dioxide (SO<sub>2</sub>) - ppb  
Beaverlodge - April 2011



## Hourly Maximums

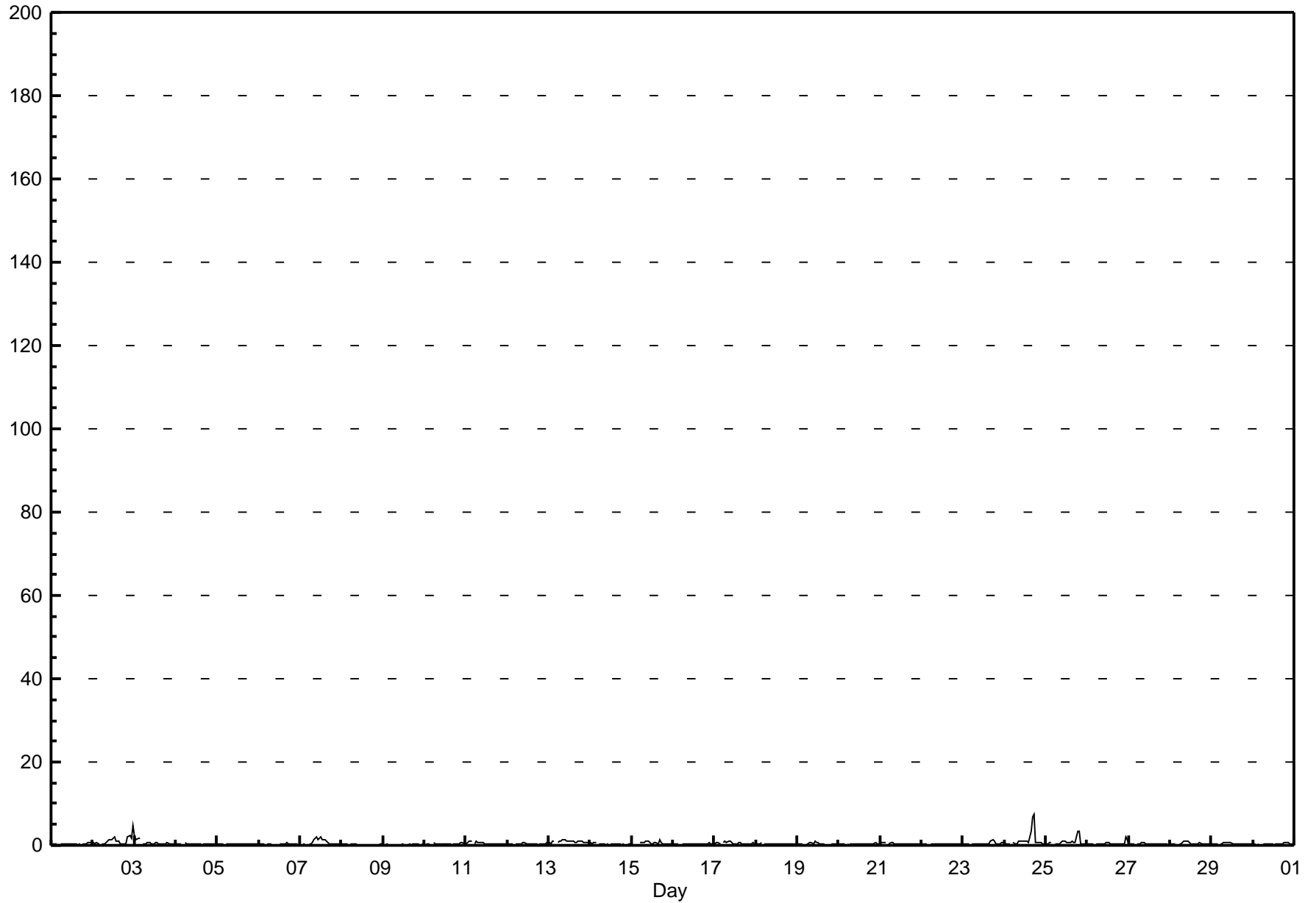
Sulphur Dioxide (SO<sub>2</sub>) - ppb

Beaverlodge - April 2011

Maximum Value: 7.4 ppb on Apr 24 18:00		Maximum Daily Average: 1.4 ppb on Apr 24		Hours in Service: 720																							
Minimum Value: 0 ppb on Apr 14 12:00		Minimum Daily Average: 0.1 ppb on Apr 9		Hours of Data: 686																							
Maximum Diurnal Average: 0.6 ppb at hour 17		Minimum Diurnal Average: 0.3 ppb at hour 2		Hours of Missing Data: 34																							
Monthly Average: 0.46 ppb		Percentiles: P <sub>1</sub> = 0.1 P <sub>10</sub> = 0.2 Q <sub>1</sub> = 0.2 Median = 0.3 Q <sub>3</sub> = 0.5 P <sub>90</sub> = 0.9 P <sub>99</sub> = 2.1		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-Apr	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0.3	0.7	
2-Apr	1	0	1	0	A	0	0	0	1	1	1	1	2	1	1	1	0	0	0	0	2	2	2	5	1.1	4.7	
3-Apr	2	1	2	2	A	0	0	1	1	1	1	0	1	1	0	0	0	0	0	1	0	0	0	0	0.7	2.4	
4-Apr	0	0	0	0	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.5	
5-Apr	0	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	
6-Apr	0	0	0	0	A	0	0	0	C	C	C	C	0	0	0	0	1	0	0	0	0	0	0	0	0.3	0.5	
7-Apr	0	0	0	0	A	0	0	1	1	2	1	2	2	1	1	1	1	0	0	0	0	0	0	0	0.7	2.0	
8-Apr	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3	
9-Apr	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2	
10-Apr	0	0	0	0	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0.3	0.6	
11-Apr	0	1	1	1	A	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	1.2	
12-Apr	0	0	0	0	A	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0.4	0.7	
13-Apr	1	0	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.3	
14-Apr	1	1	1	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.7	
15-Apr	0	0	0	0	A	1	1	1	1	1	1	0	0	1	1	0	1	1	0	0	0	0	0	0	0.5	1.2	
16-Apr	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0.4	0.5	
17-Apr	0	1	1	0	A	1	1	1	1	1	1	0	1	0	1	1	0	0	0	0	0	0	1	0	0.5	1.1	
18-Apr	0	0	0	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.5	
19-Apr	0	0	0	0	A	0	0	1	1	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0.4	0.9	
20-Apr	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0.2	0.6	
21-Apr	0	1	1	1	A	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.7	
22-Apr	0	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	
23-Apr	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	1	1	0.4	1.3	
24-Apr	1	0	0	0	A	1	0	0	1	1	1	1	1	1	1	3	7	7	1	1	1	1	0	0	1.4	7.4	
25-Apr	0	0	1	1	A	0	0	0	0	1	1	1	1	1	1	1	1	1	3	3	0	0	0	0	0.9	3.5	
26-Apr	0	0	0	0	A	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2	1	0.5	2.0	
27-Apr	0	0	0	0	A	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.6	
28-Apr	0	0	0	0	A	0	1	1	1	1	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0.4	0.9	
29-Apr	0	0	0	0	A	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0.4	0.8	
30-Apr	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0.3	0.8	
		0.4	0.3	0.4	0.4	--	0.4	0.4	0.4	0.5	0.6	0.5	0.5	0.5	0.4	0.4	0.5	0.6	0.6	0.5	0.4	0.4	0.4	0.5	0.5	Diurnal Average	
		2.4	1.2	1.6	1.8	--	0.7	1.1	1.0	1.4	2.0	1.4	1.7	2.0	1.3	1.3	3.3	6.8	7.4	3.5	3.2	2.1	2.3	2.0	4.7	Diurnal Maximum	
C - Calibration		A - Automated Daily Zero Span																									

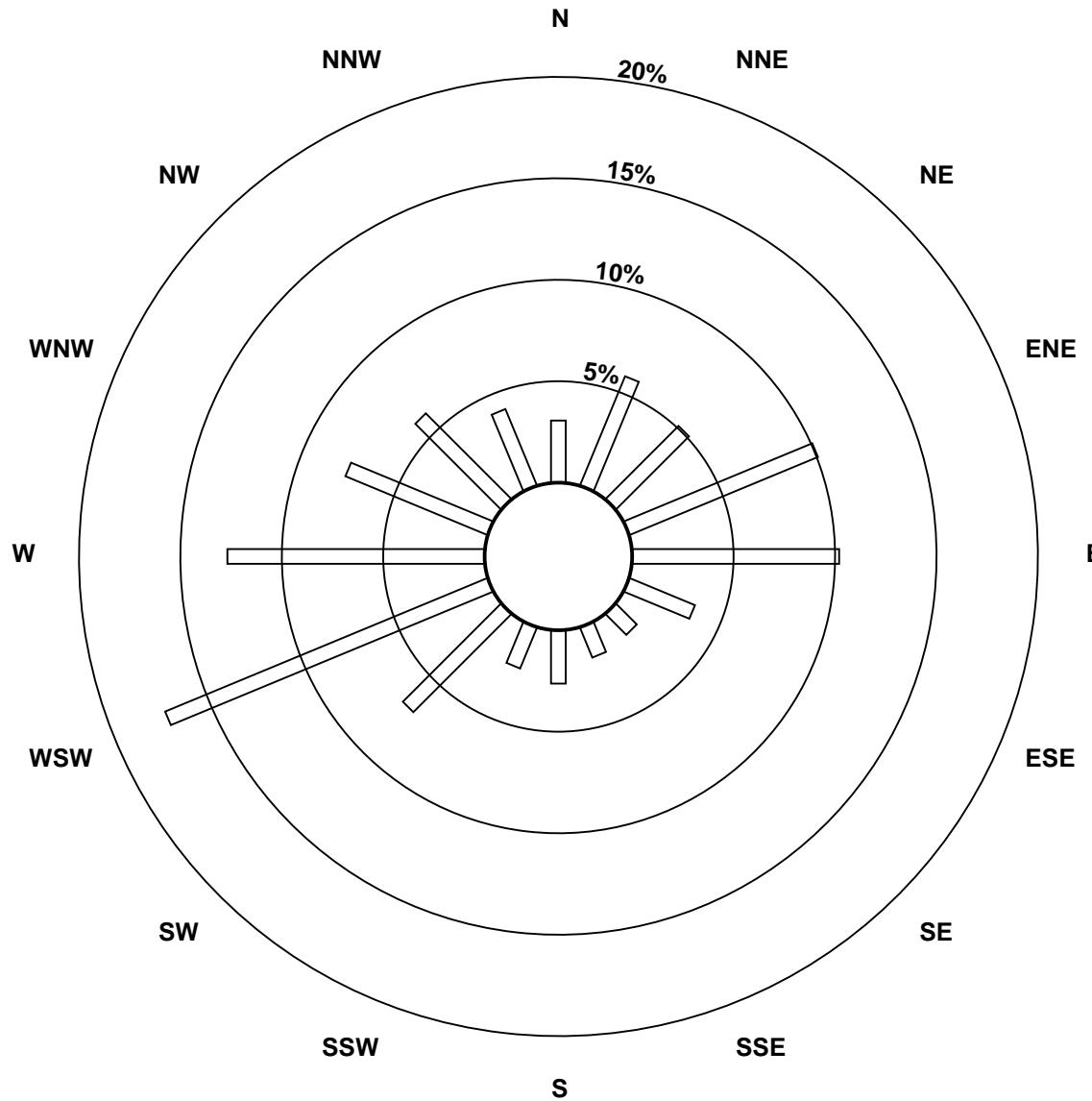
### Hourly Maximums

Sulphur Dioxide (SO<sub>2</sub>) - ppb  
Beaverlodge - April 2011

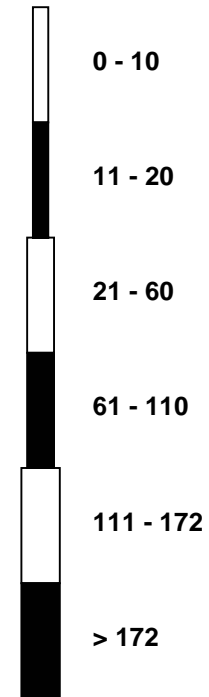


**Pollutant Rose**

**Sulphur Dioxide (SO<sub>2</sub>) - ppb**  
**Beaverlodge - April 2011**



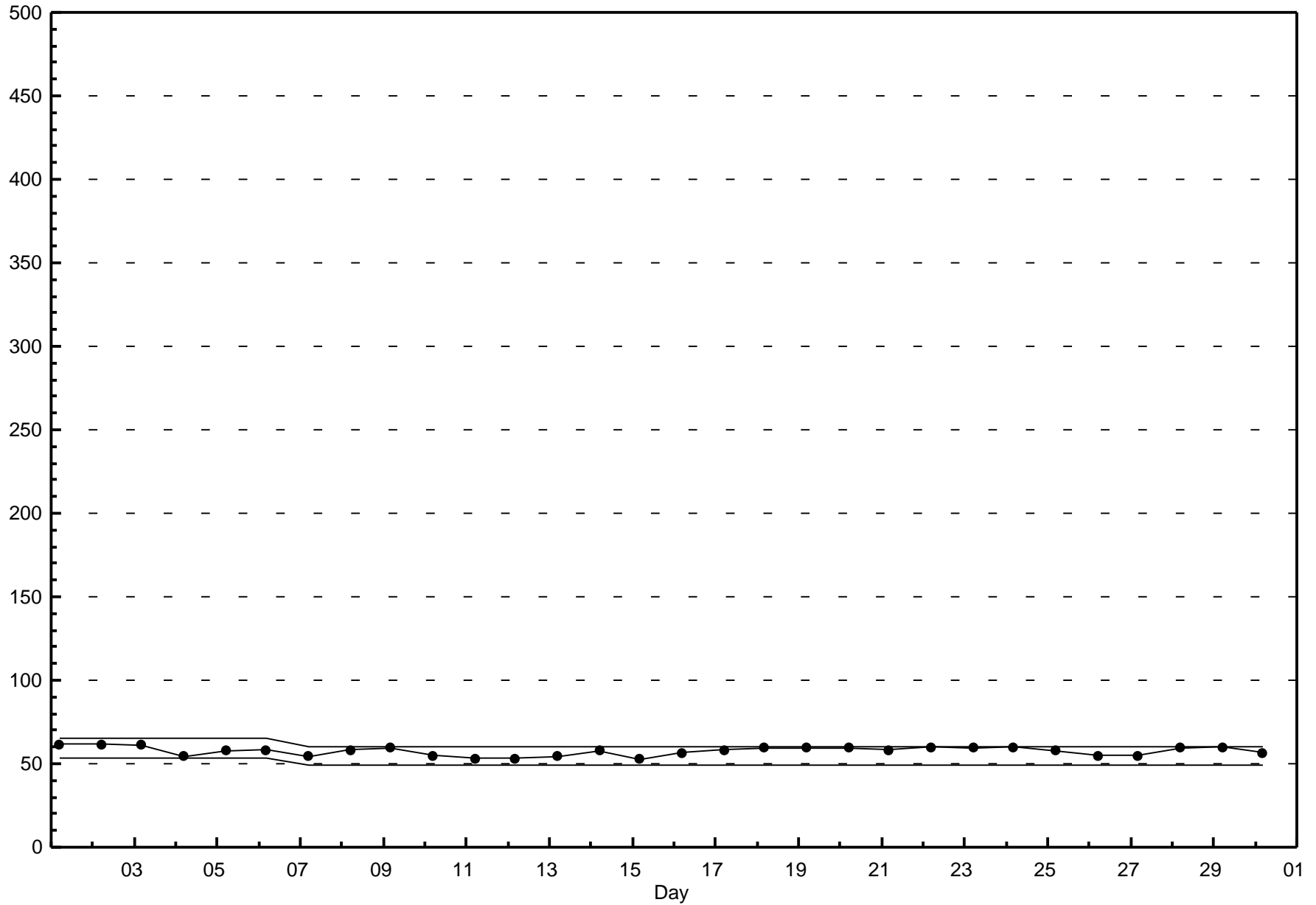
**Pollutant Classes (ppb)**





### Span Responses

Sulphur Dioxide (SO<sub>2</sub>)  
Beaverlodge - April 2011



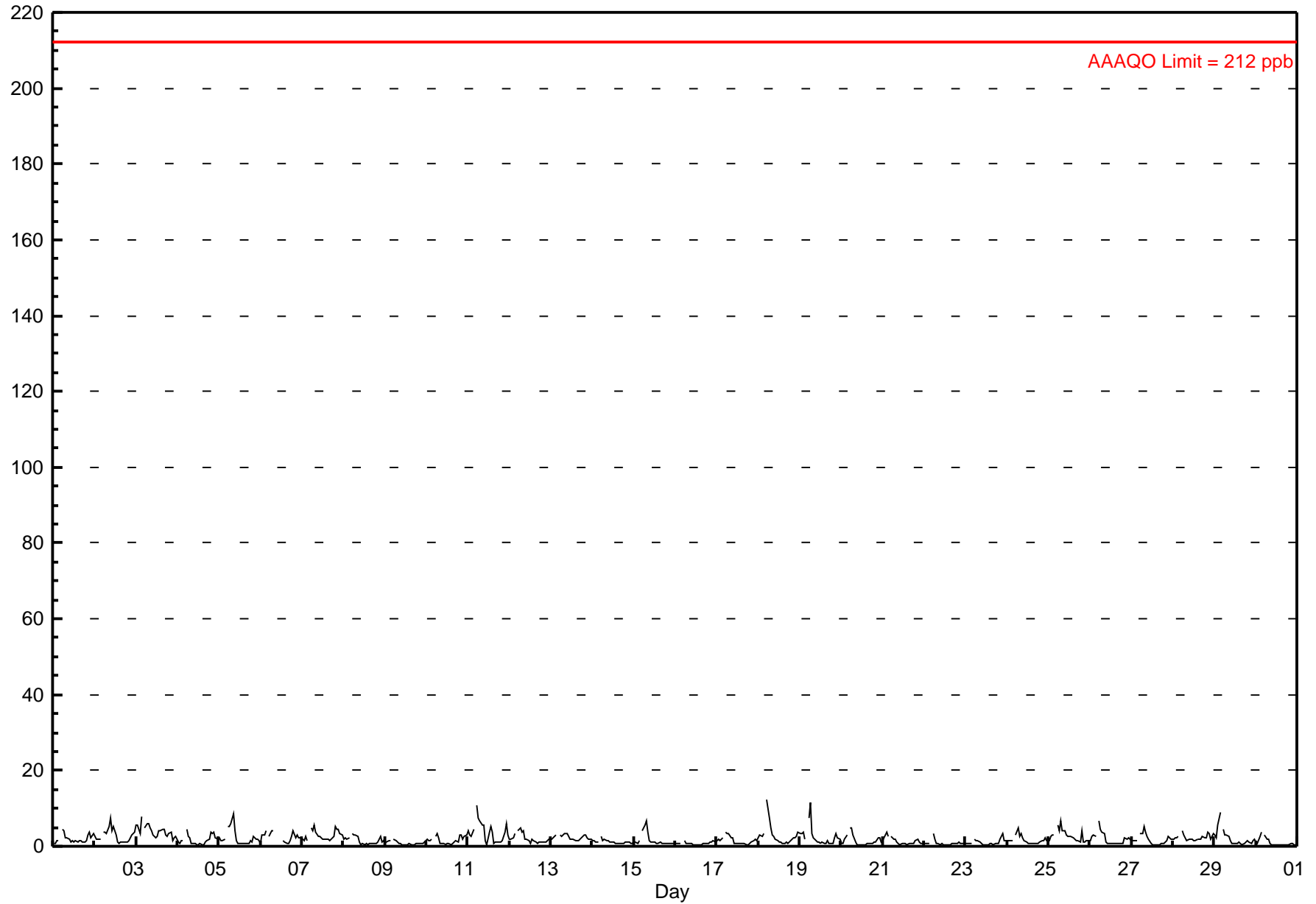
## Hourly Averages

Nitrogen Dioxide (NO<sub>2</sub>) - ppb

Beaverlodge - April 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 12.3 ppb on Apr 18 06:00      Maximum Daily Average: 4.0 ppb on Apr 3		Hours in Service: 720 Hours of Data: 685 Hours of Missing Data: 35 Hours of Calibration: 35 Percent Operational Time: 100.0																								
Minimum Value: 0 ppb on Apr 30 16:00 Maximum Diurnal Average: 4.4 ppb at hour 6 Monthly Average: 1.95 ppb		Minimum Daily Average: 0.8 ppb on Apr 16 Minimum Diurnal Average: 1.0 ppb at hour 16 Percentiles: P <sub>1</sub> = 0.4 P <sub>10</sub> = 0.6 Q <sub>1</sub> = 0.8 Median = 1.5 Q <sub>3</sub> = 2.7 P <sub>90</sub> = 3.9 P <sub>99</sub> = 7.4																								
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-Apr	1	1	2	1	A	5	4	2	2	2	1	1	1	2	1	2	2	1	1	2	3	4	2	3	2.0	4.6
2-Apr	3	2	2	2	A	4	4	3	5	8	4	5	3	1	1	1	1	1	1	1	1	3	3	4	2.7	7.6
3-Apr	6	6	3	8	A	5	6	6	5	4	3	2	2	4	4	4	4	3	3	3	4	2	2	3	4.0	7.9
4-Apr	1	1	1	2	A	4	3	2	1	1	1	1	1	1	1	1	1	1	2	4	3	4	2	2	1.6	4.4
5-Apr	2	2	1	2	A	5	5	6	9	4	1	1	1	1	1	1	1	1	2	1	3	2	2	1	2.4	8.6
6-Apr	1	3	3	4	A	2	4	4	C	C	C	C	C	1	1	1	1	1	3	4	2	3	2	2	2.4	4.3
7-Apr	2	2	3	2	A	5	4	6	4	3	3	2	2	2	2	2	2	2	3	5	4	4	3	3	2.9	5.6
8-Apr	2	2	2	2	A	3	3	3	3	1	1	1	1	1	1	1	1	1	1	1	1	3	1	2	1.5	3.4
9-Apr	1	1	2	2	A	2	1	1	1	1	0	0	1	0	1	1	1	1	1	1	1	1	1	1	0.9	2.0
10-Apr	2	1	2	2	A	3	3	2	1	1	1	1	1	1	1	1	1	1	1	3	3	2	2	3	1.6	3.3
11-Apr	4	3	3	4	A	11	7	7	6	6	1	1	4	5	4	1	1	1	1	2	4	6	3	3.7	10.8	
12-Apr	2	2	2	3	A	4	5	4	4	2	2	1	1	2	2	1	1	1	1	1	1	1	2	2.0	4.7	
13-Apr	2	2	3	3	A	3	3	3	3	3	2	2	2	2	1	1	1	2	3	3	3	2	2	2	2.4	3.3
14-Apr	2	1	1	1	A	3	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.2	2.6
15-Apr	1	1	1	2	A	4	6	7	4	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.7	6.9
16-Apr	1	1	1	1	A	1	1	1	1	1	1	1	0	0	0	1	1	1	1	1	1	1	1	1	0.8	1.5
17-Apr	1	2	2	2	A	4	3	3	2	2	1	1	1	1	1	1	1	1	1	1	1	1	2	2	1.5	3.6
18-Apr	2	3	3	3	A	12	7	5	3	2	2	2	1	1	1	1	1	1	1	2	2	2	3	4	2.8	12.3
19-Apr	3	3	4	2	A	7	12	3	2	2	1	1	1	1	1	1	1	1	1	1	2	3	2	2	2.5	11.6
20-Apr	1	1	2	3	A	5	5	3	1	1	0	0	0	0	1	1	1	1	1	1	1	2	2	1	1.4	4.9
21-Apr	1	2	4	3	A	3	2	2	1	1	1	1	1	1	1	1	1	1	1	2	2	1	1	1	1.3	3.7
22-Apr	1	1	1	1	A	3	2	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	0.8	3.2
23-Apr	1	1	1	1	A	2	2	2	1	1	0	0	0	1	1	1	0	1	1	1	2	4	2	1	1.0	3.5
24-Apr	1	2	2	2	A	3	5	3	3	2	2	1	1	1	1	1	1	1	1	1	1	1	2	1	1.7	5.0
25-Apr	2	3	3	3	A	6	4	7	4	4	3	3	2	3	2	2	2	1	1	4	1	1	1	2	2.8	6.6
26-Apr	2	3	3	3	A	7	4	4	3	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	1.9	6.5
27-Apr	1	1	1	1	A	3	3	5	4	2	2	1	1	0	0	1	0	1	1	1	1	3	2	2	1.7	5.1
28-Apr	2	2	2	3	A	4	3	2	2	2	2	2	2	1	2	2	2	3	2	2	4	3	2	3	2.3	4.1
29-Apr	3	2	6	9	A	5	3	3	3	2	1	1	1	1	1	1	0	1	1	1	1	2	2	2	2.1	9.0
30-Apr	1	1	3	4	A	3	2	2	1	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1.0	3.7
																								Diurnal Average	Diurnal Maximum	
																								1.8	5.5	
																								1.9	5.6	
																								2.2	5.6	
																								2.6	9.0	
																								--	--	
																								4.4	12.3	
																								3.9	11.6	
																								3.4	6.9	
																								2.8	8.6	
																								2.1	7.6	
																								1.4	4.0	
																								1.2	5.1	
																								1.1	3.8	
																								1.2	5.3	
																								1.1	4.2	
																								1.0	4.4	
																								1.0	4.4	
																								1.0	2.8	
																								1.2	2.8	
																								1.7	5.3	
																								1.9	4.4	
																								2.1	4.3	
																								1.9	5.9	
																								1.9	3.6	

C - Calibration      A - Automated Daily Zero Span  
 Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 212 ppb    24-hr 106 ppb

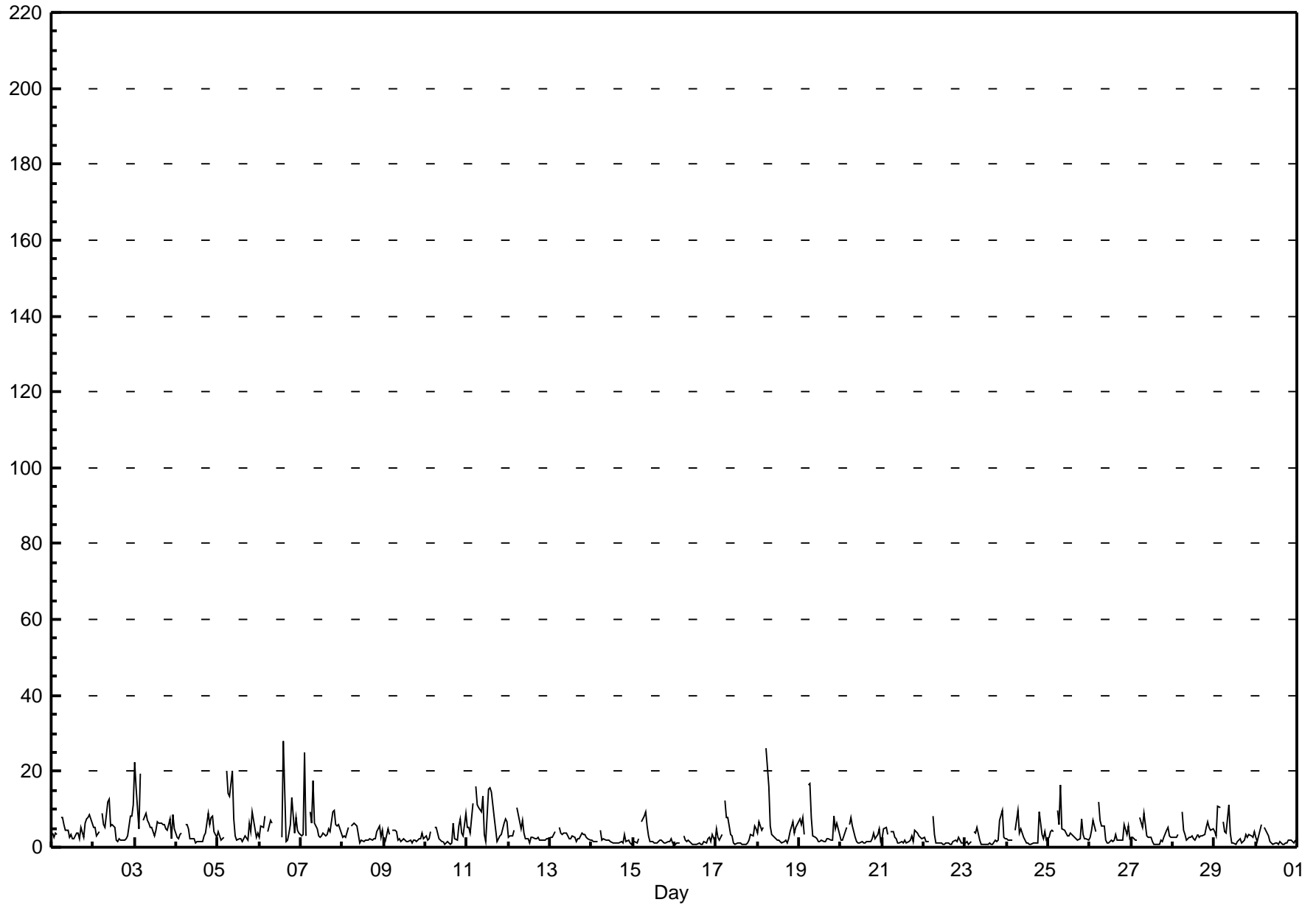


## Hourly Maximums

Nitrogen Dioxide (NO<sub>2</sub>) - ppb

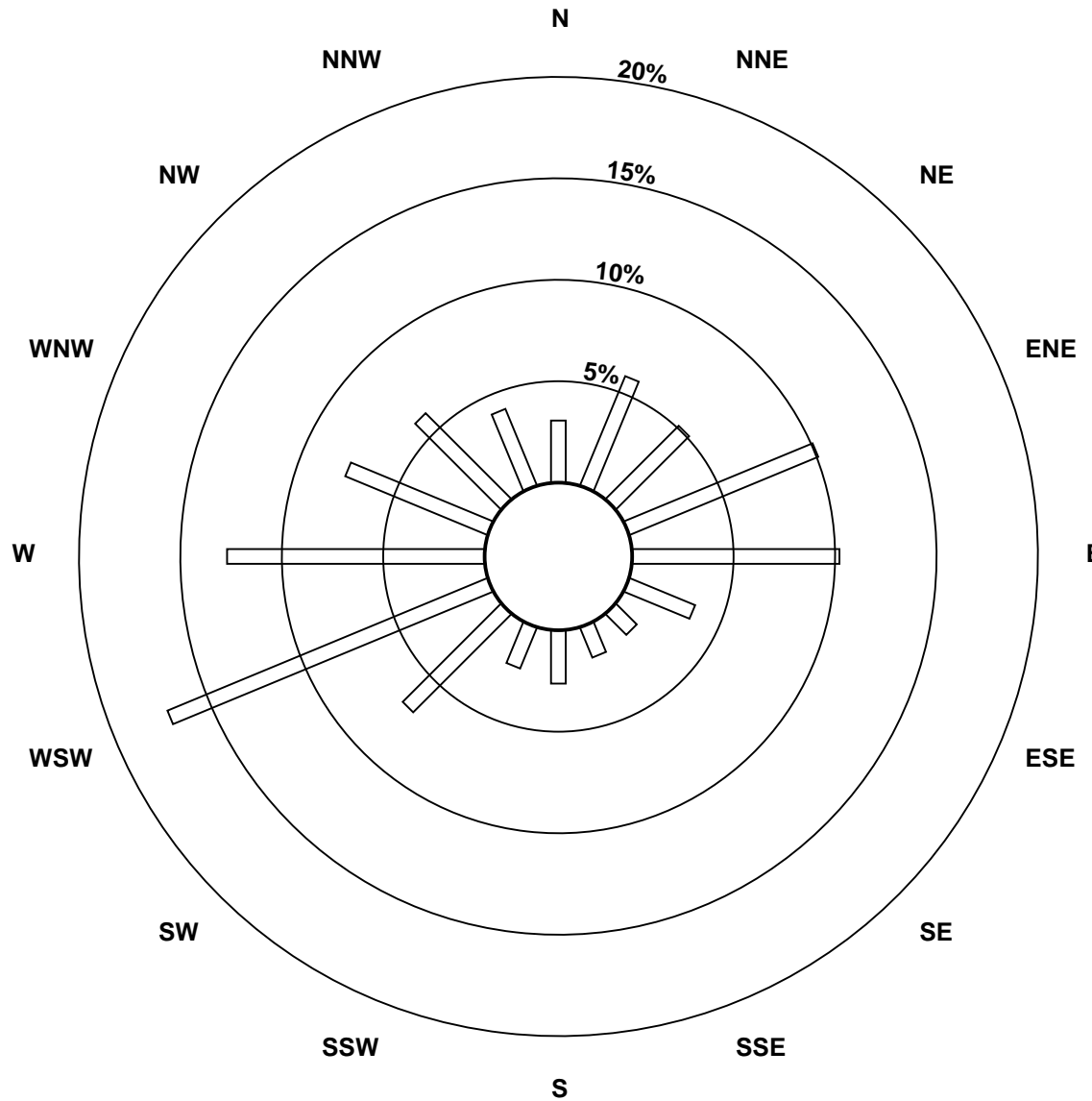
Beaverlodge - April 2011

Maximum Value: 28.1 ppb on Apr 6 15:00		Maximum Daily Average: 8.1 ppb on Apr 11		Hours in Service: 720																							
Minimum Value: 1 ppb on Apr 27 17:00		Minimum Daily Average: 1.5 ppb on Apr 16		Hours of Data: 685																							
Maximum Diurnal Average: 8.6 ppb at hour 6		Minimum Diurnal Average: 1.9 ppb at hour 12		Hours of Missing Data: 35																							
Monthly Average: 3.81 ppb		Percentiles: P <sub>1</sub> = 0.8 P <sub>10</sub> = 1.1 Q <sub>1</sub> = 1.7 Median = 2.7 Q <sub>3</sub> = 4.8 P <sub>90</sub> = 7.7 P <sub>99</sub> = 19.2		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-Apr	4	3	4	3	A	8	8	6	4	4	3	3	2	2	4	4	2	5	3	6	8	8	8	6	4.7	8.4	
2-Apr	5	5	3	4	A	9	6	5	12	13	5	6	5	2	1	2	2	2	2	2	3	8	8	11	5.3	12.6	
3-Apr	22	16	5	19	A	7	9	7	6	5	5	3	4	7	6	6	6	6	5	4	7	2	9	5	7.5	22.3	
4-Apr	3	2	3	4	A	6	6	5	2	2	2	1	2	2	2	1	3	4	9	6	8	8	4	2	3.8	8.9	
5-Apr	4	3	2	2	A	20	14	13	20	7	3	2	2	2	2	2	3	2	6	4	9	5	3	4	5.8	20.1	
6-Apr	3	6	5	8	A	4	7	7	C	C	C	C	C	3	28	2	2	4	6	13	4	8	5	4	6.4	28.1	
7-Apr	3	3	25	3	A	9	6	17	7	5	3	3	3	4	3	3	5	4	9	10	6	6	6	4	6.4	25.1	
8-Apr	3	3	3	5	A	6	6	6	6	3	1	2	1	2	2	2	2	2	2	2	4	6	2	4	3.3	6.4	
9-Apr	1	1	5	3	A	4	4	4	2	2	1	2	2	1	2	2	1	2	2	1	2	2	4	2	2.4	5.0	
10-Apr	3	2	2	4	A	5	5	4	2	2	1	1	1	1	1	1	6	2	2	6	8	4	3	9	3.3	9.1	
11-Apr	5	5	4	11	A	16	11	11	9	14	3	1	15	15	15	11	8	2	2	3	3	6	8	7	8.1	16.0	
12-Apr	3	3	3	4	A	11	7	5	7	4	2	2	1	3	3	2	2	2	2	2	2	2	2	2	3.2	10.5	
13-Apr	3	3	3	4	A	5	4	3	4	4	3	2	2	3	3	2	2	2	4	3	3	3	2	2	3.0	5.2	
14-Apr	2	2	1	1	A	4	2	2	2	2	2	1	1	1	1	1	1	2	1	3	2	2	1	1	1.7	4.3	
15-Apr	2	1	1	2	A	7	8	9	6	3	1	2	1	1	1	2	2	1	1	1	2	1	2	1	2.6	9.5	
16-Apr	1	1	1	1	A	3	2	2	2	1	1	1	1	1	1	1	1	1	1	2	3	2	3	2	1.5	3.2	
17-Apr	5	3	2	3	A	12	8	8	3	3	1	1	1	1	1	1	1	1	1	2	3	3	6	5	3.2	12.2	
18-Apr	4	7	5	5	A	26	16	6	4	3	2	2	2	1	1	1	2	1	2	4	7	4	5	6	5.0	26.1	
19-Apr	7	6	8	3	A	17	17	8	3	2	2	1	2	2	1	2	2	2	2	2	8	5	6	3	4.8	16.7	
20-Apr	2	2	3	5	A	6	8	6	3	1	1	1	1	1	1	1	2	2	2	4	2	3	5	2	2.8	7.9	
21-Apr	2	5	5	3	A	4	4	3	2	1	1	2	1	2	1	1	2	3	2	4	4	3	3	2	2.6	5.4	
22-Apr	3	1	2	2	A	8	3	1	1	1	1	1	1	1	1	1	1	1	2	1	3	2	1	1	1.7	8.0	
23-Apr	1	1	1	1	A	4	4	5	2	1	1	1	1	1	1	1	1	2	2	2	7	10	3	2	2.3	9.9	
24-Apr	2	2	2	2	A	5	10	4	5	4	2	1	1	1	1	1	1	1	1	9	3	2	4	2	2.9	9.9	
25-Apr	3	4	4	4	A	10	6	16	5	4	4	3	3	4	3	2	2	2	2	7	3	2	2	2	4.3	16.3	
26-Apr	2	4	7	4	A	12	7	6	6	2	1	1	2	1	2	3	2	2	2	2	6	4	6	2	3.7	11.8	
27-Apr	2	2	2	2	A	8	5	9	6	3	3	3	1	1	1	1	1	2	2	2	5	5	3	2	3.0	8.8	
28-Apr	2	2	3	3	A	9	4	4	2	3	3	3	2	2	3	3	3	3	5	7	5	5	5	5	3.7	9.5	
29-Apr	4	3	11	11	A	7	4	4	11	4	1	1	1	1	2	2	1	2	3	3	4	3	2	4	3.9	11.2	
30-Apr	3	1	4	6	A	5	4	3	1	1	1	1	1	1	2	1	1	1	1	2	2	1	1	2	2.0	6.0	
		3.6	3.4	4.3	4.6	--	8.6	6.8	6.2	5.0	3.6	2.2	1.9	2.2	2.3	3.1	2.2	2.3	2.3	2.8	4.0	4.5	4.1	4.1	3.5	Diurnal Average	
		22.3	15.6	25.1	19.4	--	26.1	16.7	17.4	20.1	13.6	5.4	5.9	15.3	15.5	28.1	11.2	7.9	6.0	9.1	13.2	9.2	9.9	8.6	11.2	Diurnal Maximum	
C - Calibration		A - Automated Daily Zero Span																									

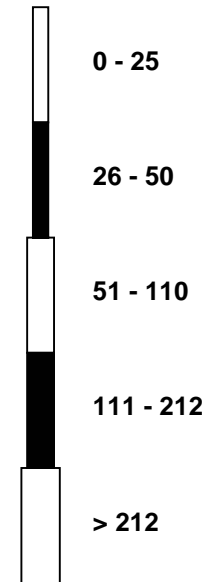


**Pollutant Rose**

**Nitrogen Dioxide (NO<sub>2</sub>) - ppb**  
**Beaverlodge - April 2011**

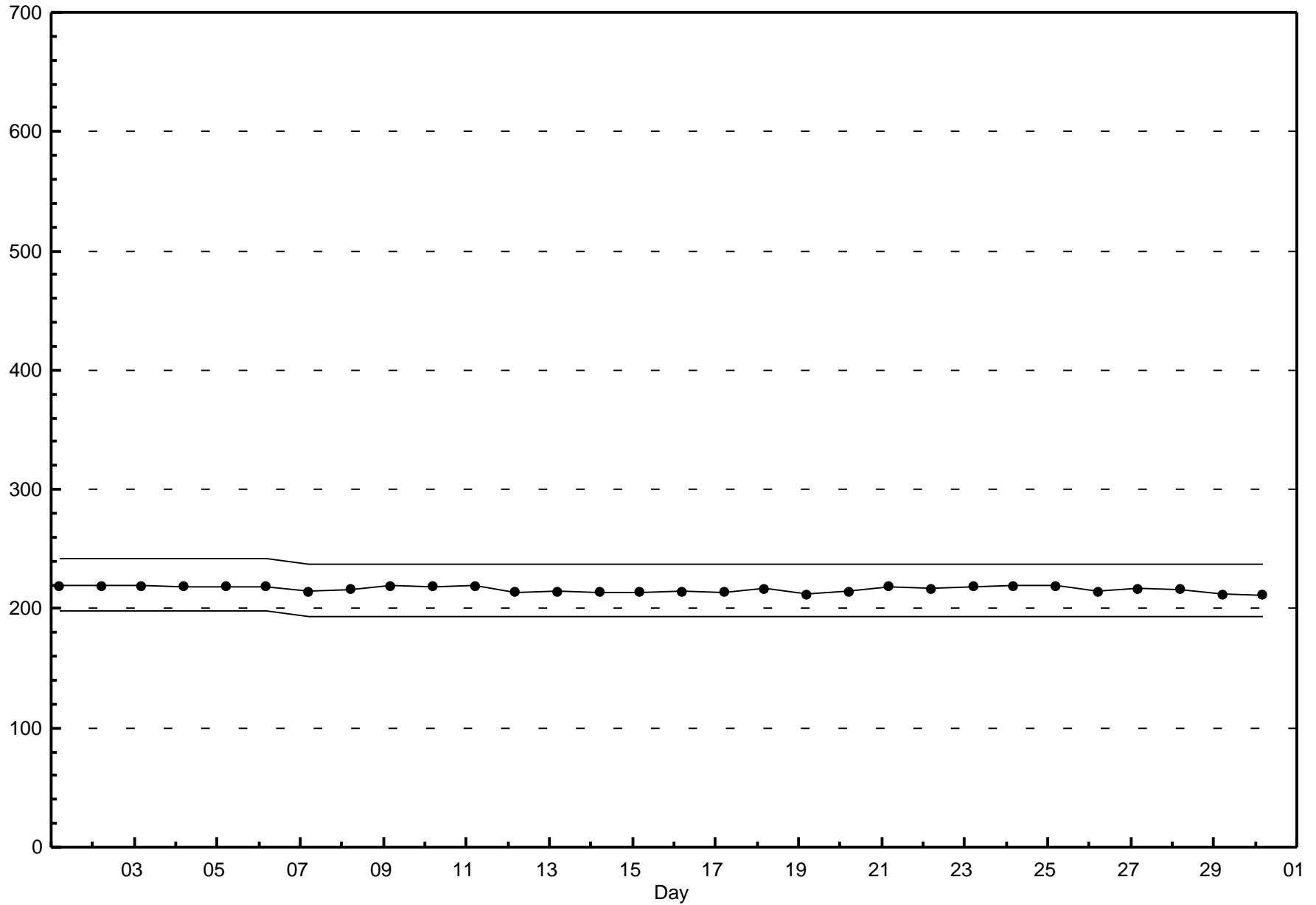


**Pollutant Classes (ppb)**



### Span Responses

**Nitrogen Dioxide (NO<sub>2</sub>)**  
**Beaverlodge - April 2011**



## Hourly Averages

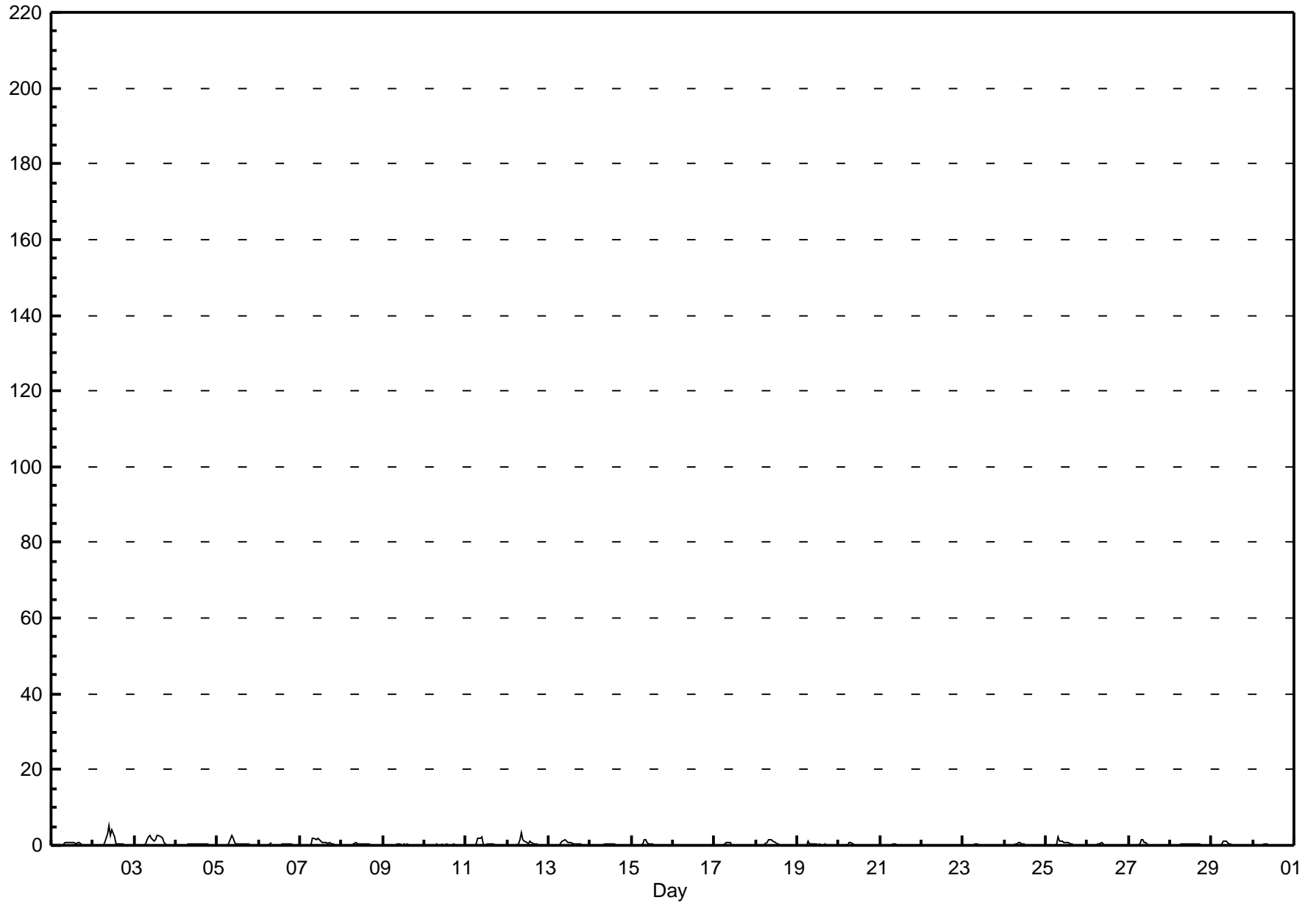
## Nitrogen Oxide (NO) - ppb Beaverlodge - April 2011

Number of Exceedences (AAQO): 1-hr: 0 24-hr: 0		Hours in Service: 720																																															
Maximum Value: 5.1 ppb on Apr 2 10:00		Maximum Daily Average: 0.9 ppb on Apr 3																																															
Minimum Value: 0 ppb on Apr 4 01:00		Hours of Data: 685																																															
Maximum Diurnal Average: 1.0 ppb at hour 9		Hours of Missing Data: 35																																															
Monthly Average: 0.28 ppb		Hours of Calibration: 35																																															
Minimum Daily Average: 0.0 ppb on Apr 16		Percent Operational Time: 100.0																																															
Minimum Diurnal Average: 0.0 ppb at hour 1																																																	
Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.0 Q <sub>1</sub> = 0.0 Median = 0.1 Q <sub>3</sub> = 0.3 P <sub>90</sub> = 0.7 P <sub>99</sub> = 2.6																																																	
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-Apr	0	0	0	0	A	0	0	0	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0.3	0.9																							
2-Apr	0	0	0	0	A	0	0	1	3	5	3	4	2	0	0	0	0	0	0	0	0	0	0	0	0.8	5.1																							
3-Apr	0	0	0	0	A	0	0	1	2	3	2	1	2	3	3	2	2	1	0	0	0	0	0	0	0.9	2.7																							
4-Apr	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4																							
5-Apr	0	0	0	0	A	0	0	1	3	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	2.6																							
6-Apr	0	0	0	0	A	0	0	1	C	C	C	C	C	0	0	0	0	0	0	0	0	0	0	0	0.2	0.9																							
7-Apr	0	0	0	0	A	0	0	2	2	2	2	1	1	1	1	1	1	1	0	0	0	0	0	0	0.6	2.0																							
8-Apr	0	0	0	0	A	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.8																							
9-Apr	0	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																							
10-Apr	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2																							
11-Apr	0	0	0	0	A	0	1	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	2.4																							
12-Apr	0	0	0	0	A	0	0	1	3	2	1	1	0	1	1	0	0	0	0	0	0	0	0	0	0.5	3.3																							
13-Apr	0	0	0	0	A	0	0	1	1	2	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0.4	1.6																							
14-Apr	0	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																							
15-Apr	0	0	0	0	A	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.4																							
16-Apr	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.2																							
17-Apr	0	0	0	0	A	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.9																							
18-Apr	0	0	0	0	A	0	1	2	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	1.6																							
19-Apr	0	0	0	0	A	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.0																							
20-Apr	0	0	0	0	A	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.8																							
21-Apr	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.4																							
22-Apr	0	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																							
23-Apr	0	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																							
24-Apr	0	0	0	0	A	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.8																							
25-Apr	0	0	0	0	A	0	0	2	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0.4	2.4																							
26-Apr	0	0	0	0	A	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.6																							
27-Apr	0	0	0	0	A	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.4																							
28-Apr	0	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																							
29-Apr	0	0	0	0	A	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.2																							
30-Apr	0	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																							
																								0.0	0.0	0.0	0.0	--	0.1	0.3	0.8	1.0	0.9	0.6	0.5	0.4	0.4	0.3	0.3	0.3	0.2	0.1	0.1	0.0	0.0	0.0	Diurnal Average		
																								0.1	0.0	0.1	0.1	--	0.3	1.0	2.4	3.3	5.1	2.5	4.1	2.1	2.7	2.6	2.3	2.0	0.6	0.4	0.2	0.1	0.1	0.1	0.1	Diurnal Maximum	
C - Calibration																								A - Automated Daily Zero Span																									



**Hourly Averages**

**Nitrogen Oxide (NO) - ppb**  
**Beaverlodge - April 2011**



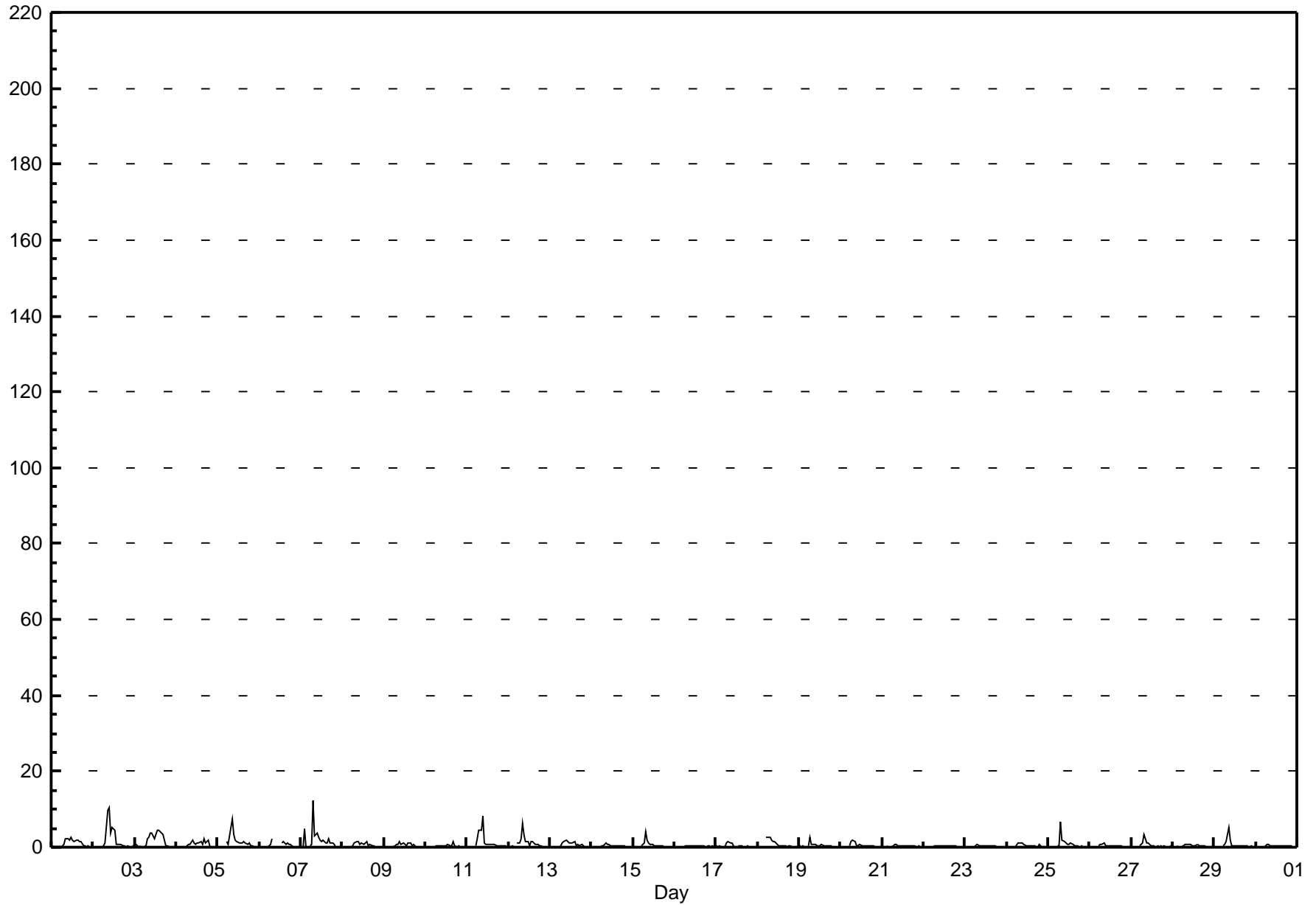
## Hourly Maximums

## Nitrogen Oxide (NO) - ppb Beaverlodge - April 2011

Maximum Value: 12.4 ppb on Apr 7 08:00		Maximum Daily Average: 1.8 ppb on Apr 7		Hours in Service: 720																										
Minimum Value: 0 ppb on Apr 15 23:00		Minimum Daily Average: 0.2 ppb on Apr 22		Hours of Data: 685																										
Maximum Diurnal Average: 2.2 ppb at hour 9		Minimum Diurnal Average: 0.1 ppb at hour 23		Hours of Missing Data: 35																										
Monthly Average: 0.68 ppb		Percentiles: P <sub>1</sub> = 0.1 P <sub>10</sub> = 0.1 Q <sub>1</sub> = 0.1 Median = 0.3 Q <sub>3</sub> = 0.7 P <sub>90</sub> = 1.6 P <sub>99</sub> = 6.2		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-Apr	0	0	0	0	A	0	0	1	2	2	2	2	2	2	2	2	2	1	0	0	0	0	0	0	0.9	2.5				
2-Apr	0	0	0	0	A	0	0	1	10	10	4	5	4	1	1	1	1	1	0	0	0	0	0	0	1.8	10.5				
3-Apr	1	1	0	0	A	0	1	2	2	4	4	2	3	5	5	4	3	2	0	0	0	0	0	0	1.7	4.6				
4-Apr	0	0	0	0	A	0	0	1	1	2	1	1	1	1	1	1	2	1	2	1	0	0	0	0	0.7	2.3				
5-Apr	0	0	0	0	A	2	1	3	7	3	2	1	1	1	1	1	1	1	1	0	0	0	0	0	1.3	7.5				
6-Apr	0	0	0	0	A	0	1	2	C	C	C	C	C	1	2	1	1	1	1	1	0	0	0	0	0.6	2.1				
7-Apr	0	0	5	0	A	0	1	12	3	4	2	2	2	2	1	1	2	1	1	1	0	0	0	0	1.8	12.4				
8-Apr	0	0	0	0	A	0	0	1	2	2	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0.6	1.6				
9-Apr	0	0	0	0	A	0	0	1	1	1	1	1	1	1	1	1	0	1	0	0	0	0	0	0	0.5	1.4				
10-Apr	0	0	0	0	A	0	0	1	0	0	0	0	0	1	0	0	2	0	0	0	0	0	0	0	0.3	1.6				
11-Apr	0	0	0	0	A	0	2	4	4	8	1	1	1	1	1	1	1	0	0	0	0	0	0	0	1.2	8.2				
12-Apr	0	0	0	0	A	1	1	2	6	3	2	2	1	2	2	1	1	1	0	0	0	0	0	0	1.1	6.4				
13-Apr	0	0	0	0	A	0	0	1	2	2	2	1	1	1	2	1	1	0	1	0	0	0	0	0	0.6	1.9				
14-Apr	0	0	0	0	A	0	0	1	1	1	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0.3	1.1				
15-Apr	0	0	0	0	A	0	1	4	2	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0.6	4.0				
16-Apr	0	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				
17-Apr	0	0	0	0	A	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.3				
18-Apr	0	0	0	0	A	3	3	2	2	2	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0.7	2.6				
19-Apr	0	0	0	0	A	1	3	1	1	1	1	0	0	1	0	0	1	0	0	0	0	0	0	0	0.5	2.6				
20-Apr	0	0	0	0	A	0	2	2	1	1	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0.5	1.9				
21-Apr	0	0	0	0	A	0	0	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0.3	0.7				
22-Apr	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4				
23-Apr	0	0	0	0	A	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.8				
24-Apr	0	0	0	0	A	0	1	1	1	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0.4	1.2				
25-Apr	0	0	0	0	A	1	0	7	2	2	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0.8	6.8				
26-Apr	0	0	0	0	A	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.1				
27-Apr	0	0	0	0	A	1	1	3	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	3.4				
28-Apr	0	0	0	0	A	0	0	1	1	1	1	1	1	1	1	0	1	0	0	0	0	0	0	0	0.4	0.7				
29-Apr	0	0	0	0	A	0	1	2	5	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.6	5.1				
30-Apr	0	0	0	0	A	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.6				
		0.2	0.1	0.3	0.1	--	0.4	0.8	2.0	2.2	1.9	1.1	1.0	0.8	0.8	0.8	0.7	0.7	0.5	0.4	0.3	0.1	0.1	0.1	0.1	Diurnal Average				
		0.6	0.9	4.7	0.4	--	2.6	2.6	12.4	9.6	10.5	3.8	5.4	4.3	4.6	4.6	3.8	3.5	1.7	1.8	0.6	0.4	0.3	0.4	0.3	Diurnal Maximum				
C - Calibration					A - Automated Daily Zero Span																									

### Hourly Maximums

Nitrogen Oxide (NO) - ppb  
Beaverlodge - April 2011



## Hourly Averages

## Oxides of Nitrogen (NO<sub>x</sub>) - ppb

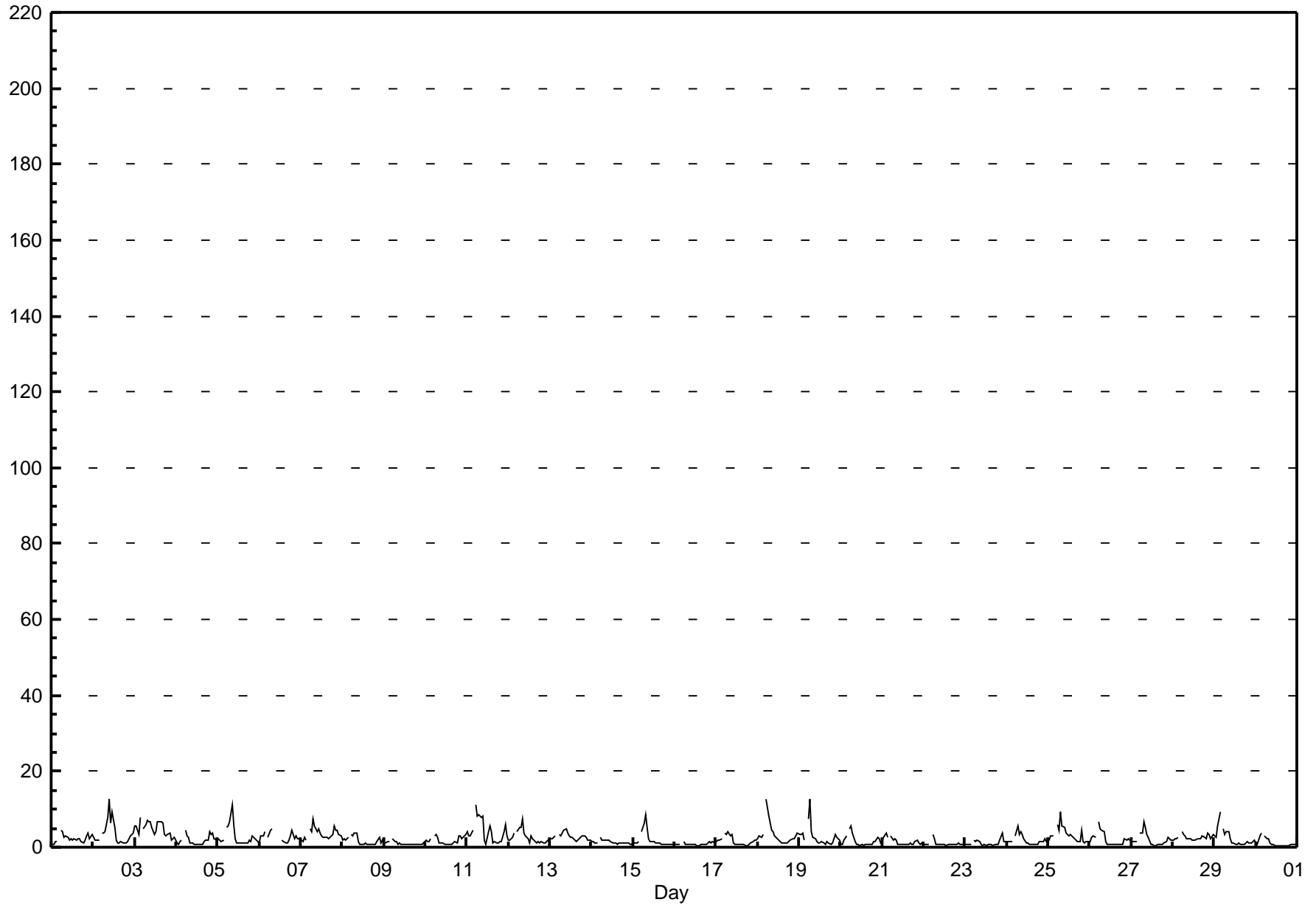
### Beaverlodge - April 2011

Number of Exceedences (AAQO):	1-hr: 0	24-hr: 0	Hours in Service:	720
Maximum Value: 12.8 ppb on Apr 19 07:00	Maximum Daily Average: 4.9 ppb on Apr 3		Hours of Data:	685
Minimum Value: 0 ppb on Apr 30 18:00	Minimum Daily Average: 0.9 ppb on Apr 16		Hours of Missing Data:	35
Maximum Diurnal Average: 4.5 ppb at hour 6	Minimum Diurnal Average: 1.3 ppb at hour 18		Hours of Calibration:	35
Monthly Average: 2.26 ppb	Percentiles: P <sub>1</sub> = 0.5 P <sub>10</sub> = 0.7 Q <sub>1</sub> = 0.9 Median = 1.7 Q <sub>3</sub> = 3.0 P <sub>90</sub> = 4.5 P <sub>99</sub> = 9.2		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-Apr	1	1	2	1	A	5	4	3	3	3	2	2	2	2	2	2	2	2	1	2	3	4	2	3	2.3	4.6
2-Apr	3	2	2	2	A	4	4	4	8	13	7	9	5	2	1	1	1	1	1	1	2	3	3	4	3.6	12.7
3-Apr	6	6	3	8	A	5	6	7	7	7	5	3	4	7	7	7	6	3	3	3	4	2	2	3	4.9	8.0
4-Apr	1	1	1	2	A	4	3	3	1	1	1	1	1	1	1	1	1	2	2	4	3	4	2	2	1.8	4.4
5-Apr	2	2	1	2	A	5	5	7	11	6	2	1	1	1	1	1	1	1	2	1	3	2	2	2	2.8	11.2
6-Apr	1	3	3	4	A	3	4	5	C	C	C	C	C	2	1	1	1	2	3	5	2	3	2	2	2.6	4.9
7-Apr	2	2	3	2	A	5	4	7	6	4	5	4	3	2	3	2	2	3	3	6	4	4	3	3	3.6	7.4
8-Apr	2	2	2	2	A	3	3	4	4	1	1	1	1	1	1	1	1	1	1	1	1	3	1	2	1.7	3.7
9-Apr	1	1	2	2	A	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	2.1
10-Apr	2	1	2	2	A	3	3	3	1	1	1	1	1	1	1	1	1	2	1	3	3	2	3	3	1.8	3.4
11-Apr	4	3	3	5	A	11	8	9	8	8	2	1	4	6	4	1	1	1	1	1	2	4	6	3	4.2	11.1
12-Apr	2	2	3	4	A	4	5	5	8	4	3	2	1	3	2	1	1	2	1	1	1	1	1	2	2.6	7.6
13-Apr	2	2	3	3	A	3	3	4	5	5	4	3	3	2	2	2	2	2	3	3	3	2	2	2	2.8	5.0
14-Apr	2	2	1	1	A	3	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1.4	2.7
15-Apr	1	1	1	2	A	4	6	8	5	2	1	2	1	1	1	1	1	1	1	1	1	1	1	1	2.0	8.4
16-Apr	1	1	1	1	A	2	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	0.9	1.5
17-Apr	1	2	2	2	A	4	3	4	3	3	1	1	1	1	1	1	1	1	1	1	1	1	2	2	1.7	4.1
18-Apr	2	3	3	3	A	13	8	6	4	4	3	2	2	1	1	1	1	1	1	2	2	2	3	4	3.2	12.7
19-Apr	4	3	4	2	A	8	13	4	3	2	2	1	1	1	1	1	2	1	1	1	2	3	2	2	2.8	12.8
20-Apr	1	1	2	3	A	5	6	4	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	1	1.6	5.6
21-Apr	1	2	4	3	A	3	2	2	2	1	1	1	1	1	1	1	1	1	1	2	2	1	1	1	1.5	3.7
22-Apr	1	1	1	1	A	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	3.3
23-Apr	1	1	1	1	A	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	2	4	2	1	1.1	3.6
24-Apr	2	2	2	2	A	3	5	3	4	3	2	1	1	1	1	1	1	1	1	1	1	1	2	1	1.9	5.5
25-Apr	2	3	3	3	A	6	5	9	6	5	4	3	3	3	3	2	2	1	1	4	1	1	1	2	3.2	9.1
26-Apr	2	3	3	3	A	7	5	4	4	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2.1	6.7
27-Apr	1	1	1	1	A	4	4	7	5	3	2	1	1	0	1	1	1	1	1	1	1	3	2	2	2.0	6.6
28-Apr	2	2	2	3	A	4	3	3	2	2	2	2	2	2	2	2	2	3	3	2	4	3	2	3	2.6	4.2
29-Apr	3	3	6	9	A	5	3	4	4	2	1	1	1	1	1	1	1	1	1	2	1	1	2	2	2.4	9.2
30-Apr	1	1	3	4	A	3	2	2	1	1	1	1	0	1	0	0	0	0	0	1	1	1	1	1	1.1	3.8

1.8	1.9	2.2	2.7	--	4.5	4.2	4.3	3.8	3.1	2.0	1.7	1.5	1.6	1.4	1.3	1.3	1.3	1.3	1.3	1.8	2.0	2.2	2.0	2.0	Diurnal Average	
5.6	5.6	5.7	9.2	--	12.7	12.8	9.1	11.2	12.7	6.5	9.2	5.2	6.6	6.8	6.7	6.4	3.5	3.3	5.6	4.5	4.4	6.1	3.7	Diurnal Maximum		

C - Calibration                      A - Automated Daily Zero Span



## Hourly Maximums

Oxides of Nitrogen (NO<sub>x</sub>) - ppb

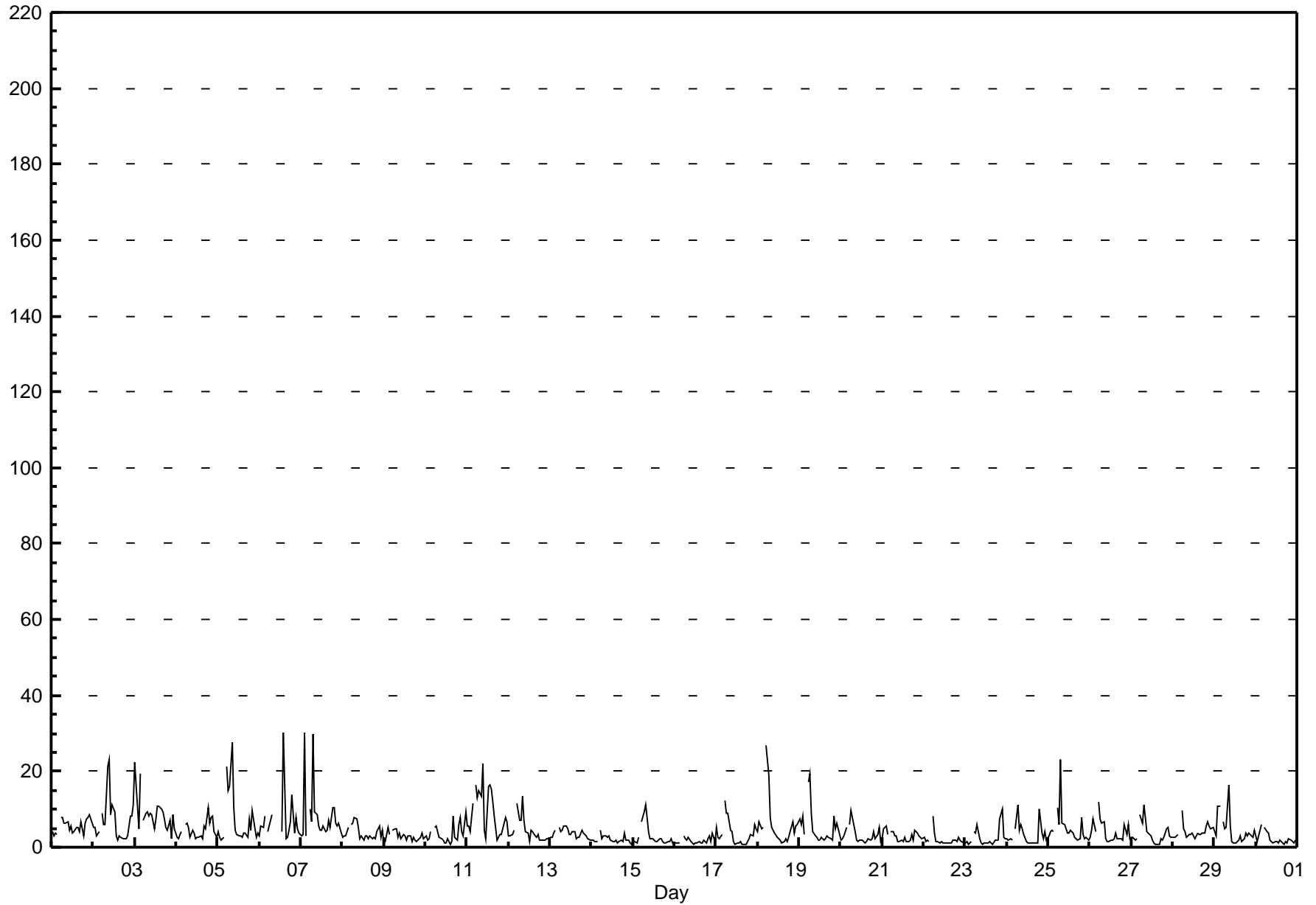
Beaverlodge - April 2011

Maximum Value: 30.1 ppb on Apr 7 03:00		Maximum Daily Average: 9.3 ppb on Apr 11		Hours in Service: 720																							
Minimum Value: 1 ppb on Apr 27 15:00		Minimum Daily Average: 1.7 ppb on Apr 16		Hours of Data: 685																							
Maximum Diurnal Average: 8.8 ppb at hour 6		Minimum Diurnal Average: 2.8 ppb at hour 18		Hours of Missing Data: 35																							
Monthly Average: 4.45 ppb		Percentiles: P <sub>1</sub> = 0.9 P <sub>10</sub> = 1.3 Q <sub>1</sub> = 2.0 Median = 3.1 Q <sub>3</sub> = 5.4 P <sub>90</sub> = 8.6 P <sub>99</sub> = 23.0		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-Apr	4	3	4	3	A	8	8	6	6	7	4	6	4	4	5	5	4	7	3	6	8	8	8	6	5.5	8.5	
2-Apr	5	5	3	4	A	9	6	6	21	23	8	11	9	3	2	3	3	2	2	2	3	8	8	11	6.9	23.0	
3-Apr	22	16	5	19	A	7	9	9	8	9	9	5	7	11	11	10	9	8	5	4	7	2	9	5	9.0	22.3	
4-Apr	3	2	3	4	A	6	6	5	3	4	4	2	3	2	3	2	6	5	11	6	8	8	4	2	4.5	10.5	
5-Apr	4	3	2	2	A	21	15	16	27	11	5	3	3	3	3	4	4	3	7	5	10	5	3	4	7.0	27.5	
6-Apr	3	6	5	8	A	4	7	9	C	C	C	C	C	4	30	2	3	5	7	14	4	8	5	4	7.0	30.1	
7-Apr	3	3	30	3	A	10	7	30	9	9	6	4	4	6	4	4	7	5	11	10	6	6	6	4	8.1	30.1	
8-Apr	3	3	3	5	A	6	7	8	8	5	2	3	2	3	3	2	3	2	2	2	4	6	3	4	3.9	7.7	
9-Apr	1	1	5	3	A	4	5	5	3	4	2	3	3	2	3	3	2	3	2	2	2	2	4	2	2.9	5.1	
10-Apr	3	2	2	4	A	5	5	4	3	2	2	1	1	2	1	1	8	2	2	6	8	4	3	9	3.6	9.4	
11-Apr	5	6	4	12	A	16	13	15	14	22	4	2	16	17	15	12	8	2	3	3	3	6	8	7	9.3	21.8	
12-Apr	3	3	3	5	A	12	7	7	13	7	4	4	2	4	4	3	3	3	2	2	2	2	2	2	4.3	13.4	
13-Apr	3	3	4	4	A	5	4	4	5	6	5	3	3	4	4	2	3	3	4	4	3	3	2	2	3.7	5.7	
14-Apr	2	2	1	1	A	4	2	3	3	2	3	2	2	2	2	1	2	2	1	4	2	2	1	1	2.0	4.4	
15-Apr	2	2	1	2	A	7	9	11	8	4	2	2	2	1	1	2	2	2	1	1	2	1	2	1	3.1	11.2	
16-Apr	1	1	1	1	A	3	2	2	3	1	1	1	1	1	1	1	1	2	1	2	3	2	4	2	1.7	3.6	
17-Apr	5	3	2	3	A	12	9	9	4	4	2	1	1	1	1	1	1	1	2	2	3	3	6	5	3.6	12.5	
18-Apr	4	7	5	5	A	27	19	8	5	4	4	3	2	2	1	2	2	1	2	4	7	4	5	6	5.6	26.8	
19-Apr	8	6	8	3	A	17	19	9	4	3	3	2	2	3	2	2	3	3	2	2	8	5	6	3	5.3	19.4	
20-Apr	2	2	3	5	A	6	10	8	4	2	1	2	2	2	1	2	2	2	2	4	2	3	5	2	3.2	9.5	
21-Apr	2	5	5	4	A	4	4	3	3	2	1	2	1	3	1	2	2	3	2	4	4	3	3	2	2.8	5.4	
22-Apr	3	2	2	2	A	8	4	1	1	1	2	1	1	1	1	1	1	2	2	1	3	2	1	1	1.9	8.2	
23-Apr	1	1	1	1	A	4	4	6	2	1	1	1	1	1	1	1	1	2	2	2	7	10	3	2	2.5	10.1	
24-Apr	2	2	2	2	A	5	11	5	6	5	3	2	1	1	1	1	1	1	1	10	4	2	4	2	3.2	11.1	
25-Apr	3	4	4	4	A	10	6	23	6	6	5	4	4	5	4	3	2	2	2	8	3	2	2	2	5.0	23.0	
26-Apr	2	4	7	4	A	12	8	6	7	2	2	1	2	2	2	4	2	2	2	2	6	3	6	2	4.0	11.9	
27-Apr	3	3	2	2	A	9	7	11	8	4	4	3	2	1	1	1	1	2	2	3	5	5	3	3	3.6	11.2	
28-Apr	3	3	3	3	A	10	5	4	3	3	3	4	3	2	4	3	4	4	4	6	7	5	5	5	4.1	9.7	
29-Apr	4	3	11	11	A	7	5	5	17	6	1	1	1	2	2	3	1	2	4	3	4	3	3	4	4.4	16.6	
30-Apr	3	1	4	6	A	5	4	4	2	2	1	1	1	1	2	1	1	1	1	2	2	2	1	2	2.2	6.1	
		3.7	3.5	4.6	4.6	--	8.8	7.5	8.1	7.1	5.6	3.2	2.8	3.0	3.2	3.9	2.8	3.0	2.8	3.2	4.2	4.6	4.2	4.2	3.6	Diurnal Average	
		22.3	16.4	30.1	19.3	--	26.8	19.4	29.8	27.5	23.0	8.6	11.2	16.1	16.5	30.1	12.0	9.4	7.5	10.6	13.7	9.7	10.1	8.6	11.2	Diurnal Maximum	
C - Calibration		A - Automated Daily Zero Span																									

# Hourly Maximums

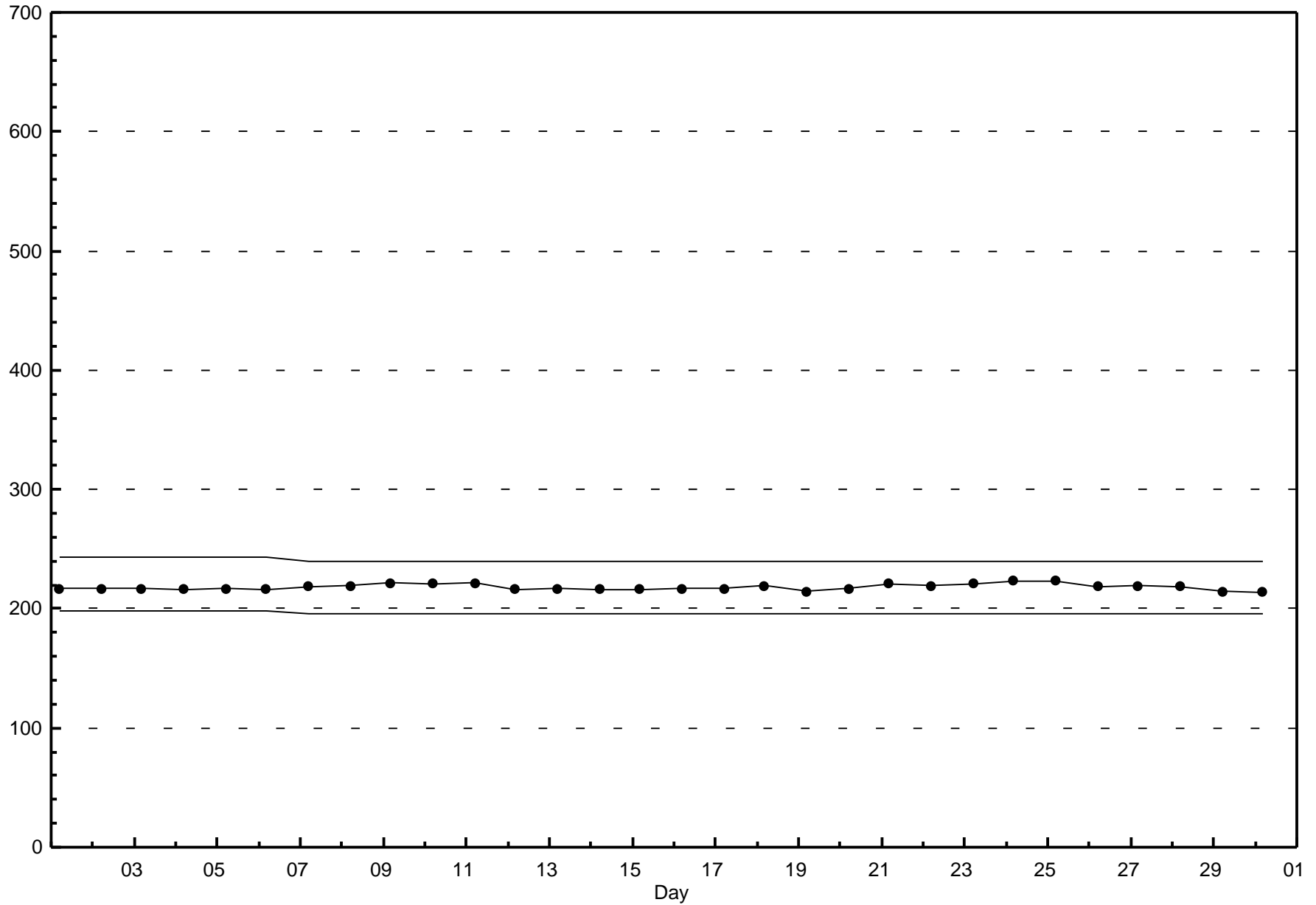
Oxides of Nitrogen (NO<sub>x</sub>) - ppb

Beaverlodge - April 2011



### Span Responses

Oxides of Nitrogen (NO<sub>x</sub>)  
Beaverlodge - April 2011





# Hourly Averages

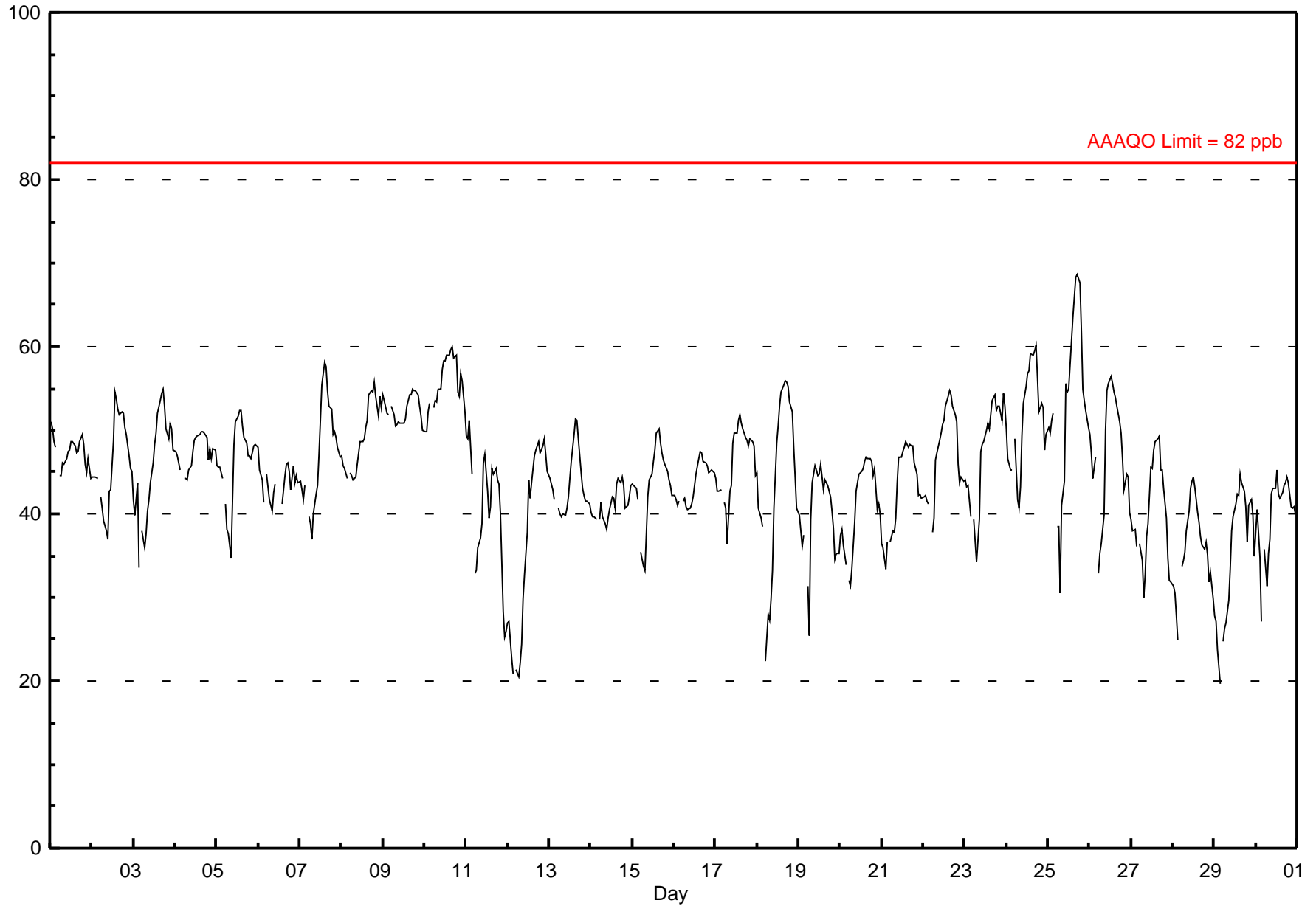
Ozone (O<sub>3</sub>) - ppb

Beaverlodge - April 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 68.7 ppb on Apr 25 18:00      Maximum Daily Average: 55.5 ppb on Apr 10		Hours in Service: 720 Hours of Data: 687 Hours of Missing Data: 33 Hours of Calibration: 33 Percent Operational Time: 100.0																								
Minimum Value: 20 ppb on Apr 29 04:00 Maximum Diurnal Average: 50.4 ppb at hour 17 Monthly Average: 44.75 ppb		Minimum Daily Average: 35.2 ppb on Apr 29 Minimum Diurnal Average: 37.5 ppb at hour 7 Percentiles: P <sub>1</sub> = 23.4 P <sub>10</sub> = 35.2 Q <sub>1</sub> = 40.7 Median = 44.8 Q <sub>3</sub> = 49.6 P <sub>90</sub> = 54.1 P <sub>99</sub> = 59.6																								
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-Apr	51	50	49	48	A	45	45	46	46	47	47	48	49	49	48	47	47	49	49	48	46	45	47	44	47.3	51.0
2-Apr	44	44	44	44	A	42	41	39	38	37	43	43	49	55	54	53	52	52	52	50	49	47	45	45	46.2	54.6
3-Apr	42	40	44	34	A	38	36	38	40	42	44	46	48	50	52	54	54	55	53	50	49	51	50	48	45.9	54.9
4-Apr	47	47	46	45	A	44	44	44	45	46	47	49	49	49	49	50	50	50	49	46	48	47	48	48	47.3	49.9
5-Apr	46	46	46	44	A	41	38	38	35	42	48	51	52	52	52	51	49	49	47	47	47	48	48	48	46.3	52.5
6-Apr	48	45	44	41	A	45	42	41	40	43	44	C	C	C	41	45	46	46	45	43	46	44	45	44	43.8	47.9
7-Apr	44	43	42	43	A	40	39	37	40	42	43	47	51	55	58	58	55	53	53	49	50	49	48	47	47.2	58.1
8-Apr	47	46	45	44	A	45	45	44	44	46	47	49	49	49	50	51	54	55	55	56	54	52	54	53	49.3	55.7
9-Apr	54	54	52	52	A	53	52	50	51	51	51	51	51	51	53	54	54	55	55	55	54	53	52	50	52.5	54.9
10-Apr	50	50	52	53	A	53	53	53	55	55	57	58	58	59	59	60	60	59	59	55	54	57	56	52	55.5	60.1
11-Apr	49	49	51	45	A	33	33	36	37	39	46	47	43	40	41	45	45	45	44	44	40	28	25	26	40.5	51.3
12-Apr	27	27	23	21	A	21	20	22	24	30	33	38	44	42	44	47	48	48	49	47	48	49	47	45	36.7	49.0
13-Apr	44	44	43	42	A	41	40	40	40	40	41	42	44	46	49	51	51	49	45	43	42	41	42	41	43.5	51.3
14-Apr	40	40	40	39	A	39	41	40	39	38	40	41	42	42	41	44	44	44	44	43	41	41	42	43	41.2	44.5
15-Apr	44	43	43	42	A	35	34	33	38	42	44	45	46	48	50	50	49	47	46	46	45	44	43	42	43.4	50.2
16-Apr	42	42	41	41	A	42	42	41	40	41	41	42	43	45	47	47	47	46	46	46	45	45	45	45	43.6	47.4
17-Apr	44	43	43	43	A	41	41	36	43	43	48	50	50	51	52	51	50	49	49	48	49	49	48	45	46.3	51.9
18-Apr	45	41	39	38	A	22	28	27	30	33	41	49	51	53	55	55	56	56	55	53	52	48	44	41	44.0	56.0
19-Apr	40	38	36	38	A	31	25	39	44	46	45	44	45	46	43	44	44	43	42	40	38	35	35	35	39.9	46.0
20-Apr	37	38	36	34	A	32	31	33	39	43	44	45	45	45	46	47	47	47	46	45	46	40	41	40	41.2	46.8
21-Apr	37	36	33	37	A	37	38	38	39	44	47	47	47	48	49	48	48	48	48	46	45	42	42	42	42.8	48.7
22-Apr	42	42	42	41	A	38	39	46	47	49	50	51	51	53	54	55	54	53	52	51	46	44	44	44	47.3	54.8
23-Apr	44	43	43	40	A	39	37	34	39	47	48	49	50	51	50	52	54	54	52	53	53	51	54	53	47.5	54.4
24-Apr	50	47	45	45	A	49	42	41	43	49	53	55	57	57	59	59	60	60	56	52	53	53	48	49	51.4	60.2
25-Apr	50	50	51	52	A	39	38	30	41	44	56	55	55	58	64	66	68	69	68	62	55	53	52	50	53.3	68.7
26-Apr	50	47	44	47	A	33	35	36	40	50	55	56	56	56	55	54	53	51	50	47	43	45	44	40	47.2	56.4
27-Apr	39	38	38	36	A	36	34	30	33	37	39	46	45	48	49	49	49	45	45	43	40	35	32	32	39.9	49.3
28-Apr	31	30	28	25	A	34	34	35	38	40	43	44	44	43	40	39	37	36	36	37	35	32	33	30	35.9	44.5
29-Apr	28	27	24	20	A	25	26	27	30	33	38	40	41	42	42	45	44	43	41	37	41	42	40	35	35.2	44.8
30-Apr	38	41	35	27	A	36	31	35	37	42	43	43	45	42	42	43	43	44	44	44	41	41	41	40	39.9	45.2
43.2		42.3	41.4	40.0	--	38.3	37.5	37.7	39.9	42.7	45.5	47.1	48.3	49.1	49.6	50.4	50.4	50.0	49.2	47.5	46.5	45.0	44.6	43.2	Diurnal Average	
54.2		53.6	52.1	53.3	--	52.9	53.5	53.4	54.9	54.9	57.3	58.3	58.2	59.0	63.6	65.9	68.3	68.7	67.7	61.9	55.0	56.9	55.9	53.0	Diurnal Maximum	
C - Calibration      A - Automated Daily Zero Span Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 82 ppb    24-hr na																										

### Hourly Averages

Ozone (O<sub>3</sub>) - ppb  
Beaverlodge - April 2011



## Hourly Maximums

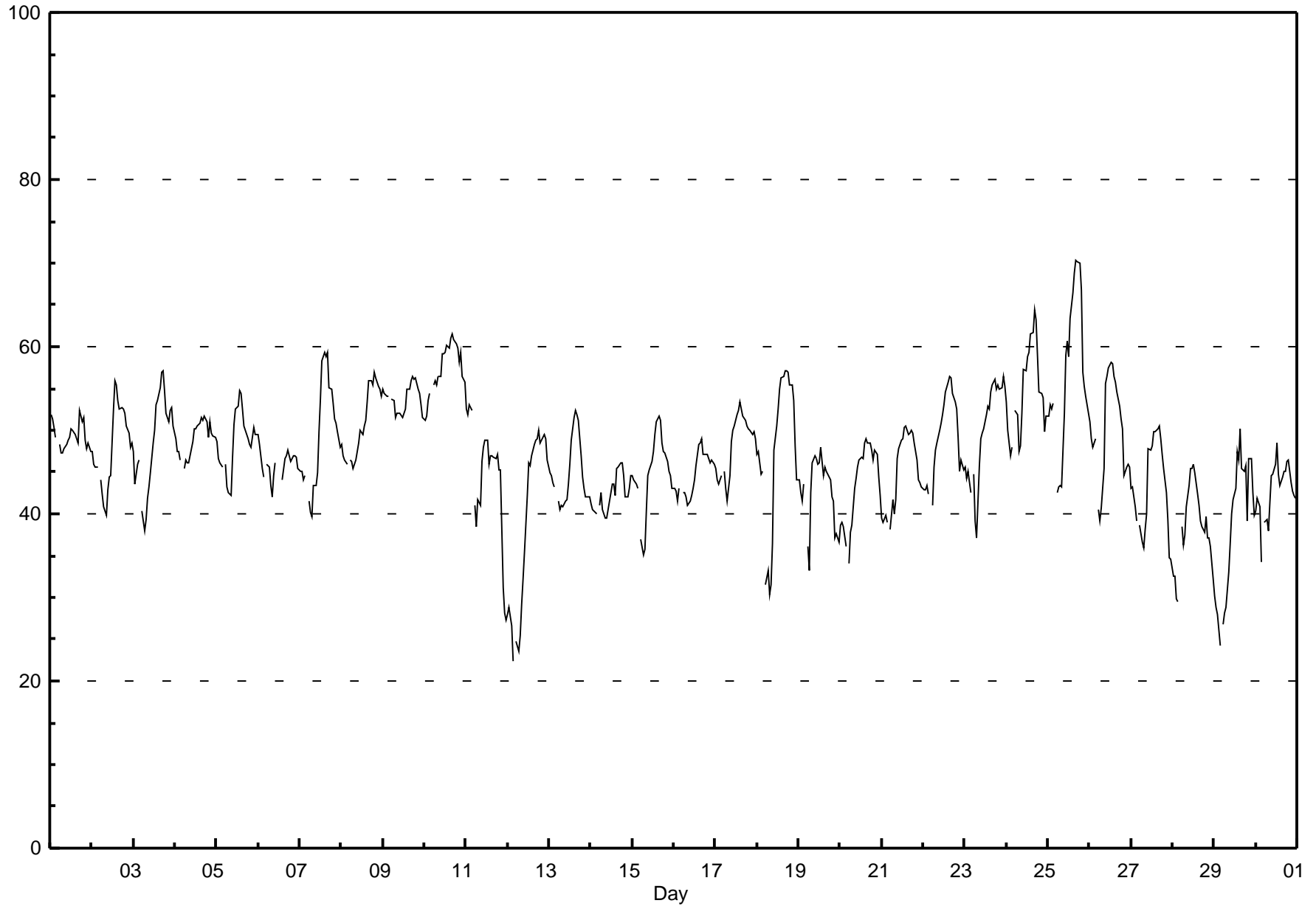
Ozone (O<sub>3</sub>) - ppb

Beaverlodge - April 2011

Maximum Value: 70.3 ppb on Apr 25 17:00		Maximum Daily Average: 57.5 ppb on Apr 10		Hours in Service: 720																							
Minimum Value: 22 ppb on Apr 12 04:00		Minimum Daily Average: 38.4 ppb on Apr 29		Hours of Data: 687																							
Maximum Diurnal Average: 52.2 ppb at hour 16		Minimum Diurnal Average: 40.9 ppb at hour 8		Hours of Missing Data: 33																							
Monthly Average: 47.07 ppb		Percentiles: P <sub>1</sub> = 26.7 P <sub>10</sub> = 39.0 Q <sub>1</sub> = 43.1 Median = 47.0 Q <sub>3</sub> = 51.6 P <sub>90</sub> = 55.7 P <sub>99</sub> = 63.6		Hours of Calibration: 33																							
				Percent Operational Time: 100.0																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Apr	52	51	50	49	A	48	47	47	48	48	49	49	50	50	49	49	48	52	51	52	49	48	48	48	49.3	52.3	
2-Apr	48	46	46	46	A	44	42	41	40	43	44	44	53	56	55	54	53	53	53	52	51	50	48	49	48.2	56.0	
3-Apr	48	44	46	47	A	40	38	39	42	43	45	49	50	53	54	55	57	57	55	52	51	52	53	51	48.7	57.2	
4-Apr	49	48	47	46	A	45	46	46	46	48	49	50	50	51	51	52	51	52	51	49	51	50	49	49	49.0	51.6	
5-Apr	49	47	46	46	A	46	43	43	42	47	51	53	53	55	54	53	51	50	49	48	48	50	50	50	48.7	54.7	
6-Apr	49	48	45	44	A	46	46	43	42	45	46	C	C	C	44	47	47	48	47	46	47	47	47	45	46.0	49.5	
7-Apr	45	45	44	45	A	42	40	40	43	43	45	50	54	58	59	59	59	55	55	53	51	51	50	48	49.3	59.4	
8-Apr	48	47	46	46	A	46	46	45	46	47	48	50	49	50	51	53	56	56	55	57	56	55	55	54	50.8	57.0	
9-Apr	55	54	54	54	A	54	54	52	52	52	52	52	52	53	55	55	56	56	56	56	55	54	53	52	53.8	56.5	
10-Apr	51	52	54	54	A	55	56	55	56	56	59	59	59	60	60	61	61	61	60	60	58	59	57	56	57.5	61.5	
11-Apr	53	52	53	52	A	41	38	42	41	46	48	49	49	46	47	47	47	47	47	45	45	31	28	27	44.4	53.0	
12-Apr	28	29	27	22	A	25	24	25	29	32	35	42	46	46	47	48	49	49	50	49	49	50	49	47	39.0	50.0	
13-Apr	45	45	44	43	A	42	41	41	41	42	42	43	46	49	52	52	52	51	47	44	43	42	42	42	44.7	52.4	
14-Apr	41	40	40	40	A	41	42	40	39	40	41	42	43	43	42	45	46	46	46	45	42	42	43	45	42.4	46.0	
15-Apr	45	44	44	43	A	37	35	36	40	45	45	46	48	50	51	52	51	49	48	47	46	45	45	43	44.9	51.7	
16-Apr	43	43	42	43	A	43	43	42	41	42	42	43	44	46	48	48	49	47	47	47	47	46	46	46	44.7	49.0	
17-Apr	45	44	44	45	A	45	43	42	45	49	50	51	52	52	53	53	52	51	50	50	50	50	50	49	48.4	53.3	
18-Apr	47	47	45	45	A	32	33	30	32	36	48	51	53	55	56	56	57	57	57	55	55	54	48	44	47.5	57.1	
19-Apr	44	43	42	44	A	36	33	43	46	47	47	46	46	48	45	46	45	45	44	42	42	37	38	37	42.7	48.1	
20-Apr	39	39	39	36	A	34	38	39	43	44	46	47	47	47	49	49	48	48	48	46	48	47	44	42	43.7	49.0	
21-Apr	39	39	40	39	A	38	42	40	42	47	48	49	49	50	50	50	50	50	48	46	44	44	43	43	45.1	50.5	
22-Apr	43	43	43	42	A	41	46	48	48	50	51	52	53	55	56	56	56	54	53	53	49	45	47	45	49.1	56.4	
23-Apr	46	44	45	43	A	45	39	37	46	49	50	50	52	53	53	55	55	56	55	55	55	56	55	55	49.9	56.4	
24-Apr	53	50	47	48	A	52	52	47	48	52	57	57	59	59	62	62	64	63	59	55	54	54	50	52	54.7	64.3	
25-Apr	52	53	53	53	A	43	43	43	43	52	59	61	59	63	66	69	70	70	70	67	57	55	54	52	56.9	70.3	
26-Apr	51	49	48	49	A	40	39	41	45	56	57	57	58	58	56	56	55	53	51	50	45	46	46	46	50.1	58.1	
27-Apr	43	43	41	39	A	39	37	36	38	40	48	48	48	50	50	50	51	49	47	45	43	39	35	35	43.1	50.5	
28-Apr	32	33	30	30	A	38	36	37	41	43	45	45	46	45	42	41	39	39	38	40	37	37	36	32	38.4	46.0	
29-Apr	30	29	28	24	A	27	28	29	33	36	40	42	43	47	46	50	45	45	46	39	47	47	42	40	38.4	50.1	
30-Apr	40	42	41	34	A	39	39	38	41	45	45	46	48	45	43	44	45	45	46	44	44	43	42	42	42.8	48.5	
		45.1	44.4	43.7	43.0	--	41.5	41.0	40.9	42.7	45.5	47.7	49.0	50.3	51.5	51.6	52.2	52.2	51.8	51.0	49.9	48.7	47.5	46.5	45.4	Diurnal Average	
		55.0	54.5	54.0	54.5	--	55.5	56.0	55.4	56.4	56.4	59.2	60.6	59.4	63.4	66.4	68.8	70.3	70.2	70.0	66.7	58.2	59.3	56.5	55.7	Diurnal Maximum	
C - Calibration		A - Automated Daily Zero Span																									

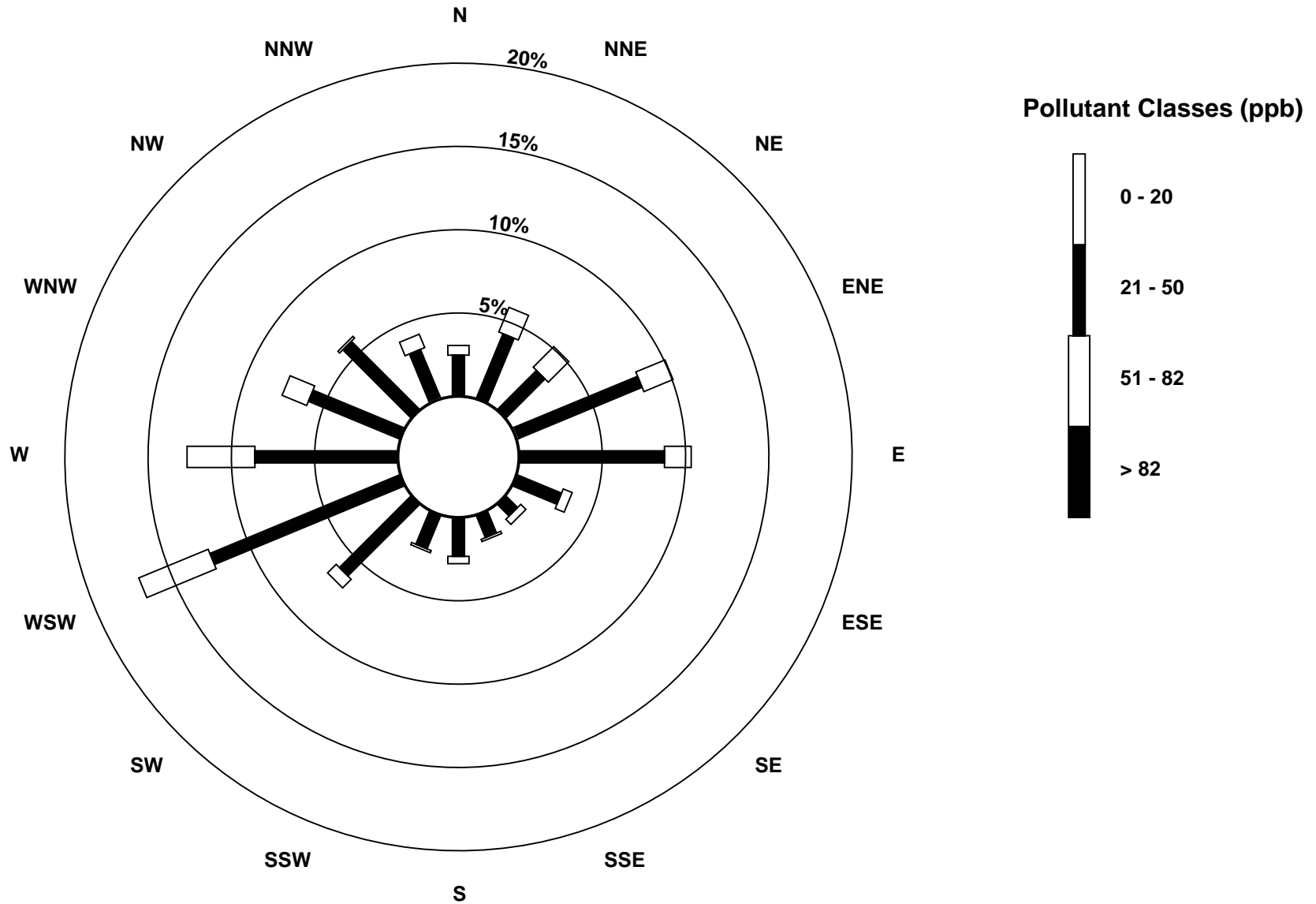
### Hourly Maximums

Ozone (O<sub>3</sub>) - ppb  
Beaverlodge - April 2011



**Pollutant Rose**

Ozone (O<sub>3</sub>) - ppb  
Beaverlodge - April 2011



# Eight Hour Running Averages

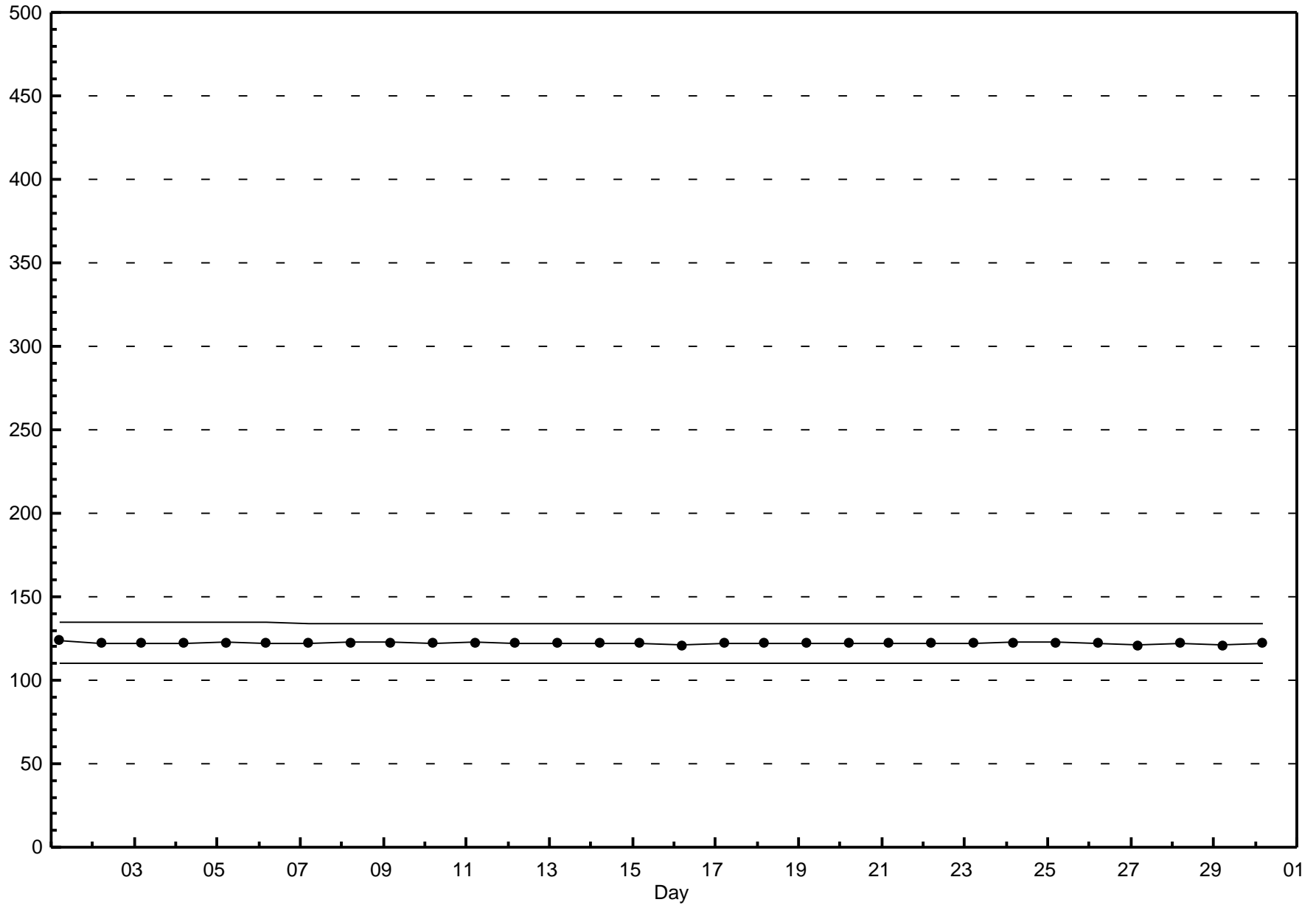
Ozone (O<sub>3</sub>) - ppb

Beaverlodge - April 2011

Maximum Value: 63.6 ppb on Apr 25 20:00																					Hours in Service:	720			
Minimum Value: 22.7 ppb on Apr 12 09:00																					Hours of Data:	714			
Percentiles: P <sub>1</sub> = 25.3 P <sub>10</sub> = 36.6 Q <sub>1</sub> = 40.9 Median = 44.7 Q <sub>3</sub> = 48.9 P <sub>90</sub> = 52.8 P <sub>99</sub> = 58.8																					Hours of Missing Data:	6			
																					Hours of Calibration:	6			
																					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-Apr	51	51	51	50	50	49	48	48	47	46	46	46	46	47	47	48	48	48	48	48	48	48	47	47	51.2
2-Apr	47	46	45	45	45	44	43	43	42	41	40	40	41	43	45	46	48	50	51	52	52	51	50	49	52.1
3-Apr	48	46	45	43	42	41	40	39	38	39	39	41	41	43	45	47	49	50	51	52	52	52	52	51	52.2
4-Apr	50	49	49	48	48	47	46	45	45	45	45	46	46	47	47	48	49	49	49	49	49	49	48	48	50.4
5-Apr	48	47	47	46	46	45	44	43	41	40	41	42	43	44	46	48	50	51	50	50	49	49	48	48	50.5
6-Apr	48	47	47	46	46	46	45	44	43	42	42	42	42	N	N	N	N	N	N	44	45	44	45	45	47.7
7-Apr	44	44	44	44	43	43	42	41	40	40	41	41	42	44	47	49	51	53	54	54	54	53	52	50	54.0
8-Apr	49	49	48	47	47	46	45	45	45	45	46	46	47	47	48	49	51	51	52	53	53	53	54	54	54.0
9-Apr	54	54	54	53	53	53	53	52	52	51	51	51	51	51	51	52	52	53	53	53	54	54	54	53	54.1
10-Apr	53	52	52	52	51	51	52	52	53	54	54	55	55	56	57	58	58	59	59	59	58	58	57	56	59.0
11-Apr	55	54	53	52	51	48	45	42	41	39	38	39	39	40	41	42	43	44	44	43	43	42	40	37	55.1
12-Apr	35	33	30	27	25	24	24	23	23	23	25	27	29	32	35	38	41	43	45	46	47	47	48	48	47.8
13-Apr	47	47	46	45	45	44	43	42	41	41	40	40	41	42	43	44	46	47	47	47	47	47	46	44	47.4
14-Apr	43	42	41	41	40	40	40	40	40	39	39	40	40	40	40	41	41	42	43	43	43	43	43	43	43.0
15-Apr	43	43	43	42	43	42	41	39	38	38	38	39	40	41	43	45	47	47	48	48	48	47	46	45	47.7
16-Apr	45	44	43	43	42	42	42	42	41	41	41	41	42	42	43	43	44	45	46	46	46	46	46	46	46.2
17-Apr	45	45	44	44	44	43	43	42	41	41	42	43	44	45	47	48	49	50	50	50	50	50	49	48	50.2
18-Apr	48	47	45	44	44	40	37	34	32	31	31	33	35	39	42	46	49	52	54	54	54	53	51	51	54.5
19-Apr	49	46	44	42	41	38	36	35	36	37	38	39	40	42	44	45	45	44	44	43	43	41	40	39	48.7
20-Apr	38	38	37	36	36	35	35	35	35	36	37	38	39	41	43	44	45	46	46	46	46	45	45	44	46.0
21-Apr	43	41	40	39	38	37	37	36	37	38	40	41	42	43	45	46	47	48	48	48	47	47	46	45	47.9
22-Apr	44	44	43	42	42	41	41	42	42	43	44	46	46	48	50	51	52	53	53	53	52	51	50	49	52.9
23-Apr	47	46	45	44	43	43	41	40	39	40	41	42	43	44	46	48	50	51	51	52	52	52	53	53	53.0
24-Apr	53	52	51	50	49	49	47	46	45	45	46	48	49	50	52	54	56	58	58	58	57	57	55	54	57.9
25-Apr	53	51	51	51	50	48	47	44	43	42	43	43	45	47	50	55	58	61	63	64	64	63	62	60	63.6
26-Apr	57	55	52	50	49	46	44	42	40	41	42	44	45	48	50	53	54	54	54	53	51	50	48	47	57.4
27-Apr	45	43	42	40	40	39	38	36	35	35	35	36	38	39	41	43	45	46	47	47	46	44	42	40	47.0
28-Apr	38	36	34	32	30	30	31	31	32	34	36	38	39	40	41	42	41	41	40	39	38	36	36	34	41.5
29-Apr	33	32	31	29	28	27	26	25	25	26	28	31	32	35	37	39	41	42	42	42	42	42	41	40	42.2
30-Apr	39	39	38	37	37	36	35	35	35	35	36	38	39	40	41	42	43	43	43	43	43	43	43	42	43.4
57.4 54.7 53.5 53.1 52.9 53.1 52.8 52.4 52.8 53.5 54.3 55.0 55.4 56.2 56.9 57.7 58.3 61.2 62.7 63.6 63.6 63.1 61.7 59.7																									
Diurnal Maximums																									
N - Not Valid																									

### Span Responses

Ozone (O<sub>3</sub>)  
Beaverlodge - April 2011



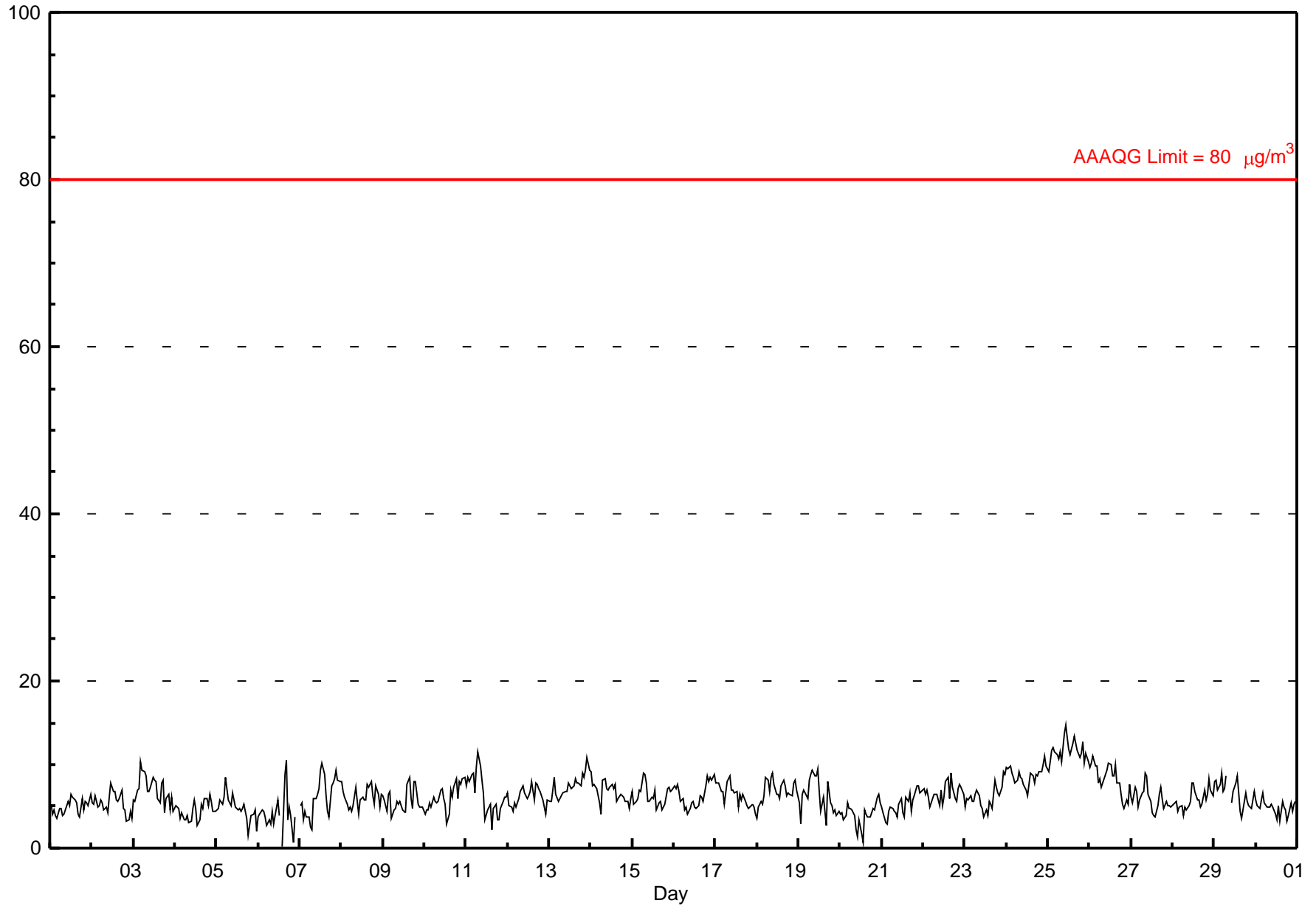
## Hourly Averages

## Particulate Matter 2.5 (PM<sub>2.5</sub>) - µg/m<sup>3</sup>

### Beaverlodge - April 2011

Number of Exceedences: 1-hr: 0 24-hr: 0 Maximum Value: 14.7 µg/m <sup>3</sup> on Apr 25 11:00      Maximum Daily Average: 11.7 µg/m <sup>3</sup> on Apr 25																	Hours in Service: 720 Hours of Data: 715 Hours of Missing Data: 5 Hours of Calibration: 1 Percent Operational Time: 99.4									
Minimum Value: 0 µg/m <sup>3</sup> on Apr 6 15:00      Minimum Daily Average: 4.0 µg/m <sup>3</sup> on Apr 20 Maximum Diurnal Average: 6.5 µg/m <sup>3</sup> at hour 9      Minimum Diurnal Average: 5.9 µg/m <sup>3</sup> at hour 20 Monthly Average: 6.24 µg/m <sup>3</sup> Percentiles: P <sub>1</sub> = 2.1 P <sub>10</sub> = 4.0 Q <sub>1</sub> = 4.8 Median = 5.9 Q <sub>3</sub> = 7.5 P <sub>90</sub> = 8.9 P <sub>99</sub> = 12.6																										
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-Apr	5	4	5	4	3	5	5	4	4	5	6	5	6	6	6	5	4	4	6	5	6	5	5	6	5.0	6.4
2-Apr	5	5	6	5	5	6	5	5	5	4	6	8	7	7	6	6	6	7	5	5	3	3	4	4	5.3	7.8
3-Apr	6	6	7	7	10	9	9	9	7	7	7	8	8	8	6	6	8	8	4	6	6	5	6	4	7.0	10.4
4-Apr	5	5	5	4	4	3	3	4	3	3	5	6	5	3	3	5	5	6	6	5	6	6	4	4	4.5	6.5
5-Apr	5	5	6	5	6	9	7	6	5	7	6	5	5	5	4	5	5	4	1	3	4	4	5	2	4.8	8.5
6-Apr	4	4	5	4	4	3	3	3	4	3	4	6	4	C	0	9	10	3	5	4	1	4	BD	BD	4.1	10.5
7-Apr	5	5	3	4	4	4	3	2	6	6	6	7	9	10	9	6	4	4	7	8	8	9	8	8	6.1	10.2
8-Apr	8	7	6	5	5	4	5	7	6	6	4	6	6	6	6	8	7	8	6	5	7	6	5	6	6.1	8.0
9-Apr	6	6	4	6	7	4	5	5	6	5	6	5	4	4	8	9	6	5	8	8	5	5	5	5	5.6	8.5
10-Apr	4	5	5	5	5	6	6	5	6	7	7	6	5	3	4	7	6	7	8	6	8	8	8	8	6.1	8.4
11-Apr	8	8	8	9	9	7	10	12	10	8	7	3	5	5	5	2	5	5	3	3	5	6	6	6	6.4	11.5
12-Apr	7	5	5	4	5	5	6	7	7	7	7	6	6	7	8	6	8	8	7	7	6	5	4	6	6.2	8.0
13-Apr	6	6	7	8	6	6	6	6	7	7	7	8	7	7	8	8	8	8	7	9	9	9	11	9	7.5	10.9
14-Apr	9	7	8	7	6	5	4	8	8	7	7	7	8	7	8	6	6	7	6	6	6	6	5	6	6.7	9.1
15-Apr	7	5	6	6	7	7	9	9	8	6	6	6	6	7	5	6	6	5	5	5	7	7	7	7	6.3	9.1
16-Apr	8	7	8	7	6	6	5	5	4	5	5	6	5	5	5	6	6	6	8	9	8	9	8	9	6.3	8.8
17-Apr	8	8	8	7	7	5	7	8	9	7	7	7	7	5	6	6	6	6	5	5	5	5	5	4	6.3	8.6
18-Apr	4	5	6	5	6	8	8	7	8	9	8	6	6	6	7	8	7	6	7	6	6	8	8	7	6.9	9.1
19-Apr	5	3	6	7	7	6	8	9	9	9	9	7	4	6	4	3	8	5	5	4	5	4	4	4	6.1	9.4
20-Apr	4	4	3	4	5	5	5	5	4	2	1	3	2	1	5	4	4	4	4	4	5	5	6	5	4.0	6.5
21-Apr	5	4	3	3	4	5	5	4	4	4	5	6	4	4	6	6	7	4	6	6	7	7	7	7	5.2	7.4
22-Apr	7	6	7	6	5	6	6	6	7	5	7	5	6	8	9	6	9	7	6	6	7	8	7	6	6.6	9.0
23-Apr	5	6	6	6	6	6	6	7	6	5	5	4	5	4	6	5	5	8	7	7	6	7	9	9	6.0	9.2
24-Apr	10	10	10	9	9	8	8	9	9	8	8	7	6	8	9	9	8	9	9	9	9	10	11	10	8.7	11.1
25-Apr	9	10	12	12	12	11	11	11	10	14	15	13	12	11	13	13	13	12	11	11	13	10	11	10	11.7	14.7
26-Apr	10	10	11	10	10	8	8	7	8	9	9	10	10	9	9	10	8	8	7	5	5	6	5	8	8.3	10.9
27-Apr	6	5	7	7	5	6	7	7	9	9	7	6	4	4	4	5	6	7	6	5	6	5	5	5	5.9	9.0
28-Apr	5	5	6	4	5	5	4	5	5	5	6	8	8	7	6	6	5	7	6	7	8	7	6	6	5.8	8.3
29-Apr	8	8	7	8	9	7	7	9	N	N	5	7	8	9	7	4	4	6	7	6	5	5	6	7	6.6	8.9
30-Apr	6	5	5	6	7	5	5	5	5	5	5	4	3	5	3	6	5	5	3	4	5	4	5	6	4.9	6.6
																								Diurnal Average		
																								Diurnal Maximum		
C - Calibration      N - Not Valid      BD - Baseline Drift Alberta Ambient Air Quality Guideline (AAQG): 1-hr 80 µg/m <sup>3</sup> Alberta Ambient Air Quality Objective (AAQO): 24-hr 30 µg/m <sup>3</sup>																										

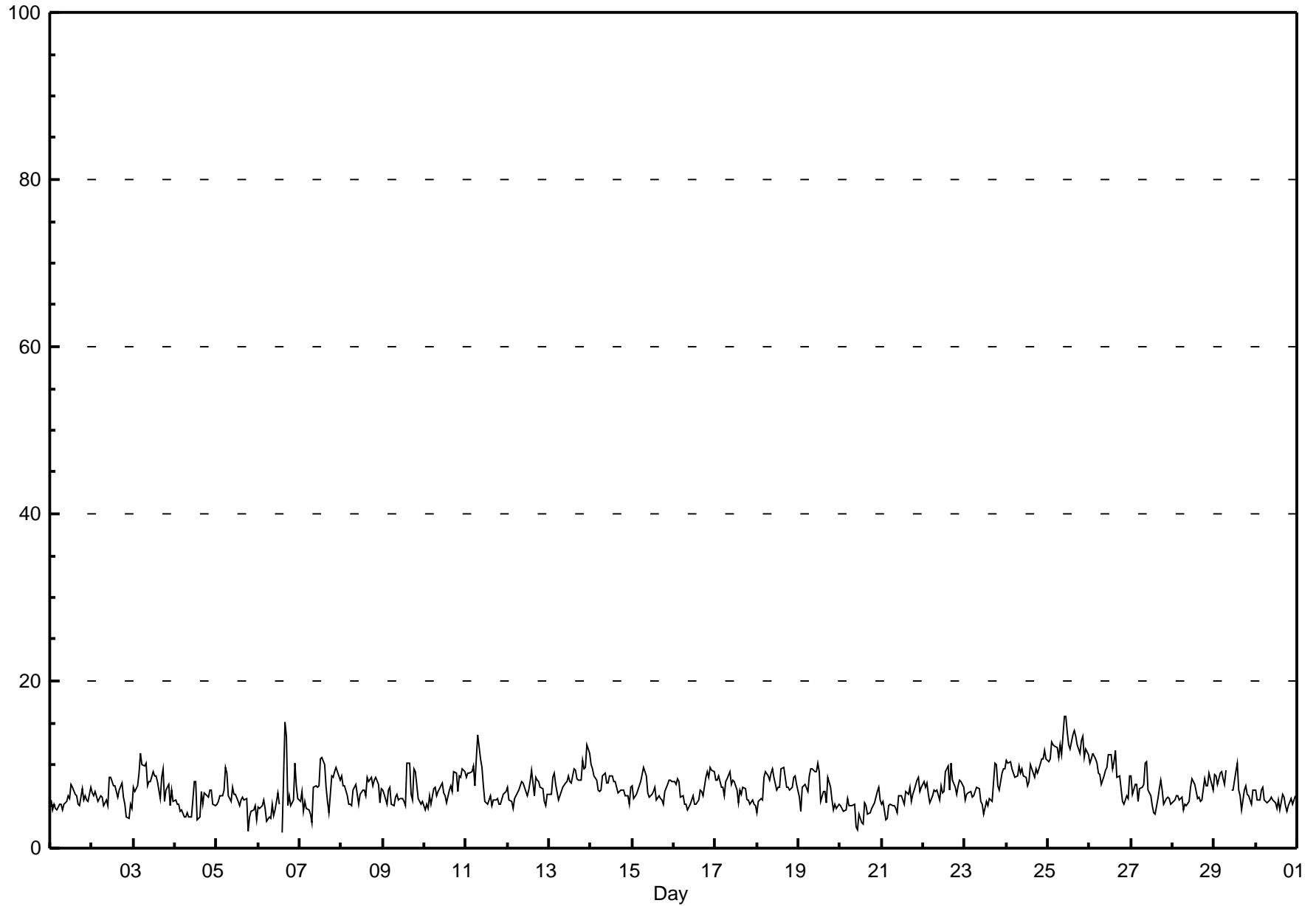




## Hourly Maximums

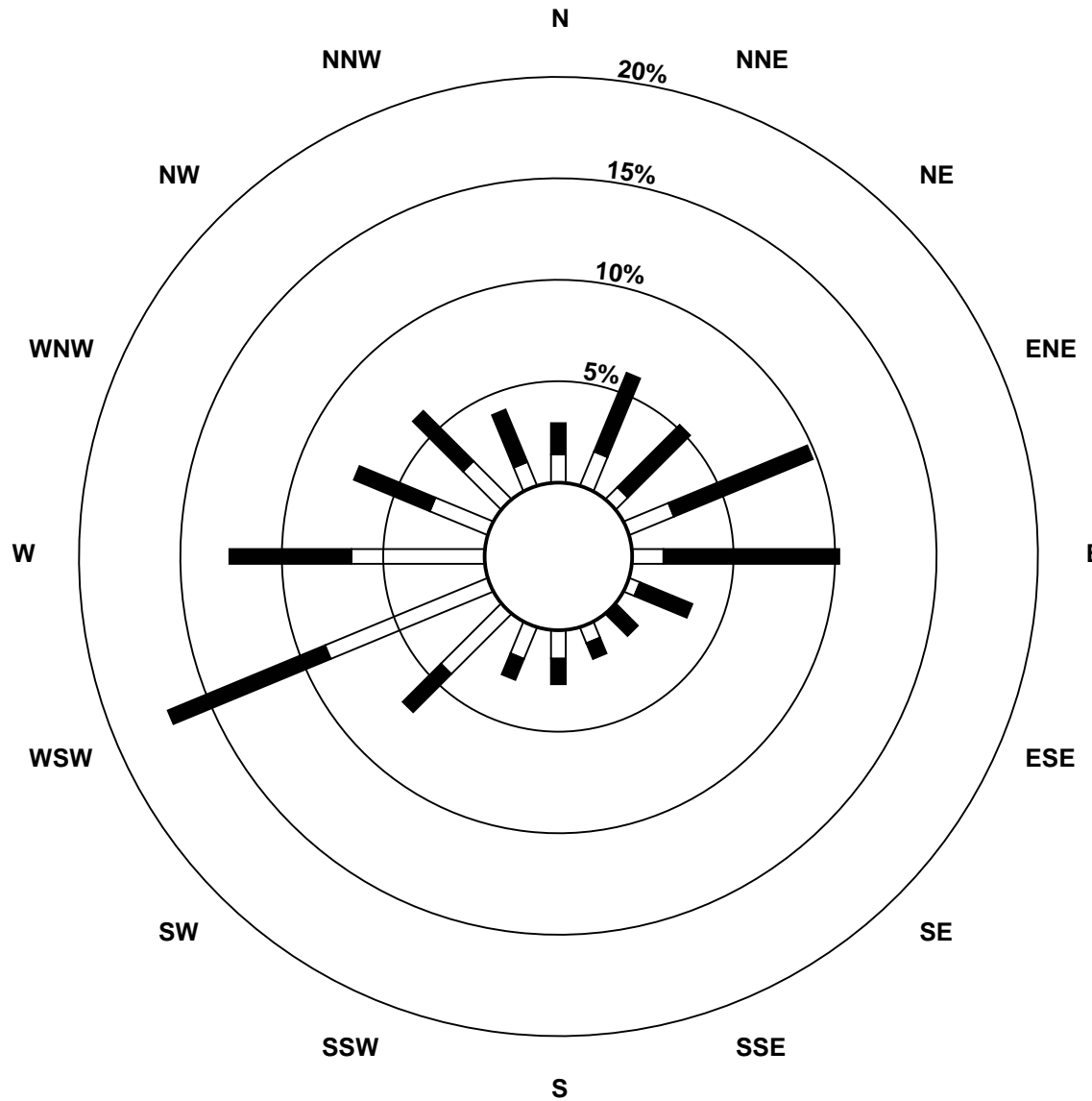
## Particulate Matter 2.5 (PM<sub>2.5</sub>) - µg/m<sup>3</sup> Beaverlodge - April 2011

Maximum Value: 15.8 µg/m <sup>3</sup> on Apr 25 10:00		Maximum Daily Average: 12.5 µg/m <sup>3</sup> on Apr 25		Hours in Service: 720																							
Minimum Value: 2 µg/m <sup>3</sup> on Apr 6 15:00		Minimum Daily Average: 4.7 µg/m <sup>3</sup> on Apr 20		Hours of Data: 717																							
Maximum Diurnal Average: 7.6 µg/m <sup>3</sup> at hour 16		Minimum Diurnal Average: 6.8 µg/m <sup>3</sup> at hour 6		Hours of Missing Data: 3																							
Monthly Average: 7.12 µg/m <sup>3</sup>		Percentiles: P <sub>1</sub> = 3.2 P <sub>10</sub> = 5.0 Q <sub>1</sub> = 5.6 Median = 6.9 Q <sub>3</sub> = 8.4 P <sub>90</sub> = 9.7 P <sub>99</sub> = 13.6		Hours of Calibration: 1																							
Percent Operational Time: 99.7																						Daily Average	Daily Maximum				
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			
1-Apr	6	5	5	5	5	5	5	5	5	6	6	8	7	6	6	5	5	7	6	6	6	6	7		5.8	7.7	
2-Apr	7	6	7	6	6	6	6	5	6	5	8	8	7	7	7	6	7	8	6	5	4	4	5	5		6.1	8.4
3-Apr	7	7	7	9	11	10	10	10	8	8	8	9	9	9	8	6	8	9	6	7	8	5	7	6		8.0	11.4
4-Apr	6	5	5	4	5	4	4	4	4	4	6	8	8	3	4	7	5	7	6	6	7	7	5	5		5.4	8.0
5-Apr	5	6	6	6	7	10	9	6	6	7	7	7	6	5	6	6	6	6	2	4	4	5	5	3		5.8	9.6
6-Apr	5	5	5	6	5	3	4	4	5	4	5	7	5	C	2	15	13	5	6	5	6	10	7	6		6.0	15.0
7-Apr	6	7	4	6	5	5	4	3	7	8	7	7	11	11	10	7	6	4	9	8	9	10	9	8		7.1	10.8
8-Apr	9	7	7	6	5	5	5	7	8	7	5	6	7	7	6	8	8	8	7	8	8	8	5	7		7.0	8.7
9-Apr	7	6	5	7	7	5	5	6	7	6	6	6	6	5	10	10	6	6	9	9	6	6	5	6		6.6	10.2
10-Apr	5	5	5	6	5	7	7	6	7	7	8	7	6	5	7	7	7	9	9	7	9	8	9	9		7.0	9.4
11-Apr	8	9	9	9	10	8	11	14	11	10	7	6	5	6	6	5	6	6	6	5	5	7	7	7		7.5	13.6
12-Apr	7	6	6	5	6	6	7	7	8	8	7	6	7	8	9	6	8	8	8	7	7	6	5	6		6.9	9.4
13-Apr	7	6	8	9	8	6	6	7	7	8	8	9	8	8	9	9	8	8	8	10	9	10	12	11		8.4	12.4
14-Apr	10	9	9	8	7	7	7	9	9	8	8	9	9	8	8	7	7	7	7	7	6	6	5	7		7.6	9.9
15-Apr	7	6	7	7	8	8	10	9	9	7	6	7	7	7	6	6	6	6	5	7	8	8	8	8		7.1	9.7
16-Apr	8	8	8	8	6	6	5	5	5	5	6	6	5	5	6	7	7	6	8	9	8	10	9	9		7.0	9.7
17-Apr	8	8	9	7	7	6	8	8	9	8	8	8	7	5	7	7	7	7	6	6	5	6	5	5		7.0	9.2
18-Apr	4	6	6	6	8	9	9	8	9	9	8	7	7	7	9	10	8	7	7	7	7	8	9	8		7.7	9.6
19-Apr	6	4	7	8	8	7	9	9	9	9	9	10	9	6	7	7	5	8	7	6	5	5	5	5		7.1	10.2
20-Apr	5	5	4	5	6	5	5	5	5	3	2	4	3	3	5	5	4	4	5	5	5	7	7	6		4.7	7.2
21-Apr	5	6	3	4	5	5	5	5	5	4	6	6	6	5	7	6	7	6	7	7	8	8	7	7		5.9	8.5
22-Apr	8	7	8	7	5	6	7	7	7	6	7	7	7	9	10	7	10	8	7	7	8	8	8	7		7.4	10.1
23-Apr	6	6	7	7	6	6	7	7	7	6	5	4	6	5	6	6	6	10	10	7	7	9	9	9		6.8	10.2
24-Apr	11	10	10	9	9	8	9	10	9	10	9	8	7	8	10	9	8	9	9	9	11	11	12	11		9.4	11.7
25-Apr	10	11	13	12	12	12	11	12	11	16	16	14	12	12	14	14	13	12	11	13	13	11	12	11		12.5	15.8
26-Apr	10	11	11	11	10	9	9	8	9	9	10	11	11	9	10	12	8	9	7	6	5	6	6	9		9.0	11.6
27-Apr	9	7	8	8	6	7	7	8	10	10	7	6	5	4	4	6	7	8	7	5	6	6	6	5		6.8	10.4
28-Apr	6	6	6	6	6	6	5	5	5	6	7	8	8	8	6	6	6	6	8	7	7	9	8	7		6.6	9.0
29-Apr	9	9	8	9	9	8	8	9	N	N	7	7	9	10	7	6	5	7	7	7	6	5	7	7		7.6	10.2
30-Apr	7	6	6	7	7	6	5	6	6	6	6	5	5	6	5	6	6	5	4	5	6	5	6	6		5.8	7.2
	7.1	6.8	7.0	7.0	7.0	6.8	6.9	7.2	7.3	7.1	7.2	7.3	7.2	6.9	7.2	7.6	7.2	7.2	7.1	6.9	7.1	7.3	7.3	7.2		Diurnal Average	
	10.6	10.7	12.6	12.4	12.1	12.1	10.9	13.6	11.2	15.8	15.8	13.9	12.4	11.9	13.6	15.0	13.4	12.4	11.4	12.8	13.3	10.9	12.4	11.4		Diurnal Maximum	
C - Calibration		N - Not Valid																									

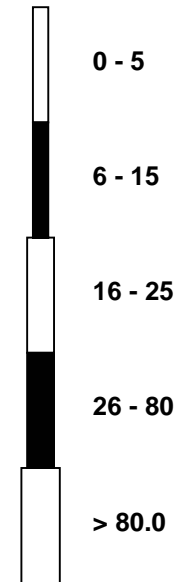


**Pollutant Rose**

**Particulate Matter 2.5 (PM<sub>2.5</sub>) - μg/m<sup>3</sup>**  
**Beaverlodge - April 2011**



**Pollutant Classes (μg/m<sup>3</sup>)**





Peace Airshed Zone Association

# Hourly Averages

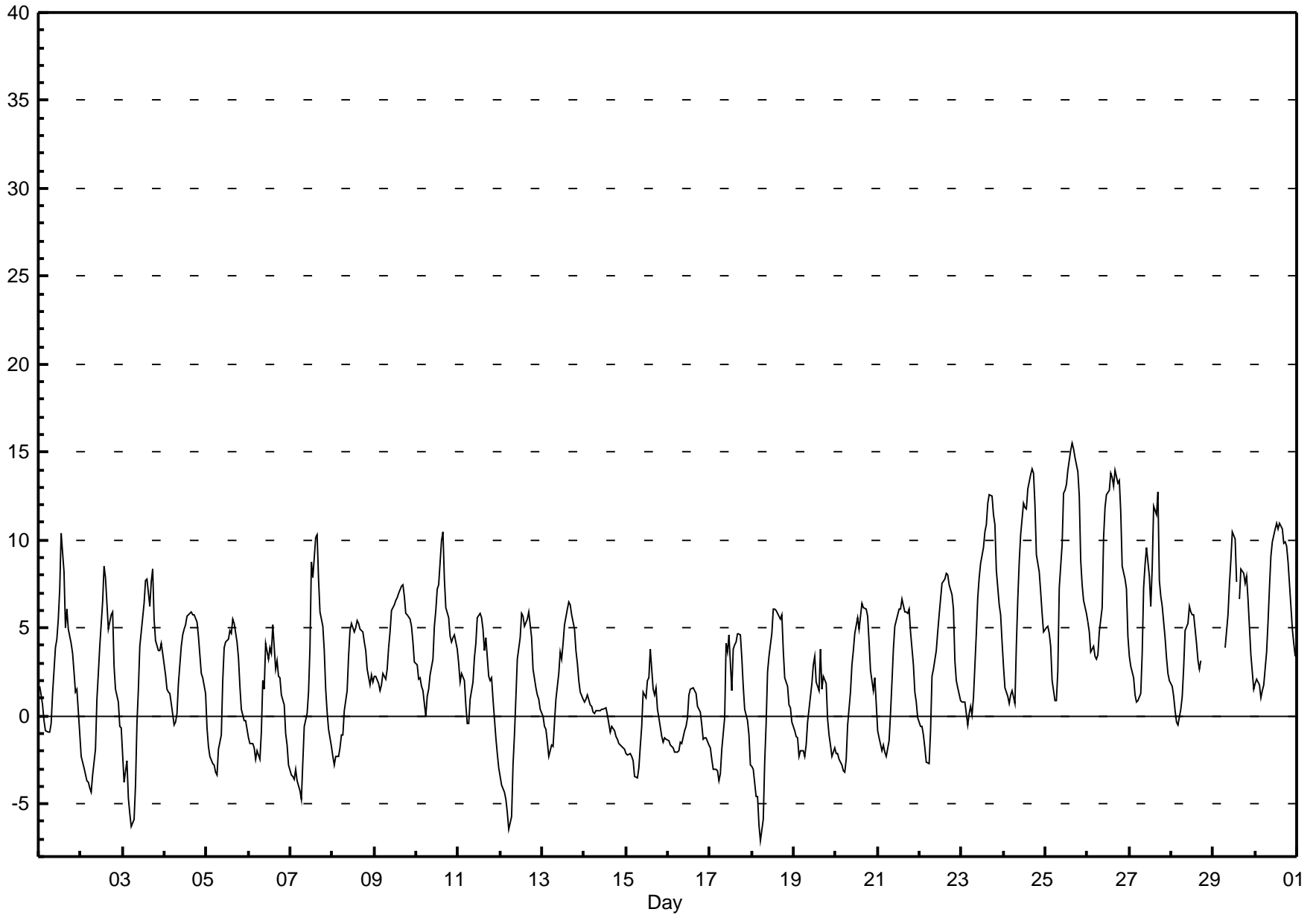
External Temperature (ET) - °C

Beaverlodge - April 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0	Hours in Service: 720
Maximum Value: 15.5 °C on Apr 25 16:00	Maximum Daily Average: 8.8 °C on Apr 25
Minimum Value: -7 °C on Apr 18 06:00	Hours of Data: 706
Maximum Diurnal Average: 7.0 °C at hour 15	Hours of Missing Data: 14
Monthly Average: 2.88 °C	Hours of Calibration: 0
Minimum Daily Average: -0.7 °C on Apr 16	Percent Operational Time: 98.1
Minimum Diurnal Average: -1.6 °C at hour 6	
Percentiles: P <sub>1</sub> = -5.6 P <sub>10</sub> = -2.3 Q <sub>1</sub> = -0.4 Median = 2.4 Q <sub>3</sub> = 5.7 P <sub>90</sub> = 8.4 P <sub>99</sub> = 13.9	

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-Apr	2	1	1	0	-1	-1	-1	0	1	4	4	5	7	10	8	5	6	5	4	4	3	1	2	-1	2.9	10.4																							
2-Apr	-2	-3	-3	-4	-4	-4	-4	-3	-2	1	2	4	6	8	8	6	5	6	6	3	2	1	-1	-1	1.2	8.5																							
3-Apr	-2	-4	-3	-5	-6	-6	-6	-4	0	2	4	6	6	8	8	6	8	8	6	4	4	4	4	4	1.9	8.3																							
4-Apr	2	2	1	1	1	-1	0	0	2	4	5	5	5	6	6	6	6	6	5	5	3	2	2	1	3.1	5.9																							
5-Apr	-1	-2	-2	-3	-3	-3	-3	-2	-1	2	4	4	4	5	5	6	5	4	3	2	0	0	0	-1	1.0	5.5																							
6-Apr	-1	-2	-2	-2	-2	-2	-2	-1	2	1	4	3	4	4	5	3	3	2	2	1	1	-1	-2	-3	0.7	5.2																							
7-Apr	-3	-3	-4	-3	-4	-4	-5	-3	-1	0	1	4	9	8	10	10	8	6	5	4	1	0	-1	-2	1.5	10.3																							
8-Apr	-2	-3	-2	-2	-2	-1	-1	0	1	3	5	5	5	5	5	5	5	5	4	4	3	2	2	2	2.0	5.5																							
9-Apr	2	2	2	1	2	2	2	3	4	5	6	6	7	7	7	7	7	7	6	6	5	5	4	3	4.5	7.5																							
10-Apr	3	2	2	2	1	0	1	1	2	3	5	6	7	7	10	10	8	6	6	5	4	4	5	4	4.4	10.5																							
11-Apr	3	2	2	2	1	0	0	1	2	3	4	6	6	6	5	4	4	2	2	2	1	-1	-2	-3	2.1	5.8																							
12-Apr	-3	-4	-4	-5	-5	-6	-6	-3	-1	1	3	4	6	6	5	5	6	5	4	3	2	1	1	0	0.6	5.9																							
13-Apr	0	-1	-1	-2	-2	-2	-2	0	1	2	4	3	4	5	6	6	6	6	5	4	3	2	1	1	2.1	6.5																							
14-Apr	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	-1	-1	-1	-1	-1	-2	-2	-2	-2	-0.2	1.2																							
15-Apr	-2	-2	-2	-2	-3	-3	-4	-3	-2	-1	1	1	2	2	4	1	1	2	0	0	-1	-1	-1	-1	-0.6	3.8																							
16-Apr	-1	-2	-2	-2	-2	-2	-2	-2	-2	-1	-1	0	1	2	2	1	1	1	0	-1	-1	-1	-1	-2	-0.7	1.6																							
17-Apr	-2	-2	-3	-3	-3	-4	-3	-2	0	4	4	5	1	4	4	4	5	5	3	2	0	0	-1	-3	0.6	4.7																							
18-Apr	-3	-3	-5	-5	-6	-7	-6	-3	0	2	3	5	6	6	6	6	5	6	4	2	2	1	0	0	0.7	6.1																							
19-Apr	-1	-1	-1	-2	-2	-2	-2	-2	0	1	2	3	3	2	1	4	2	2	2	0	-1	-2	-2	-2	0.0	3.8																							
20-Apr	-2	-2	-2	-3	-3	-3	-2	-1	1	3	4	5	6	5	6	6	6	6	6	4	3	1	2	1	1.9	6.4																							
21-Apr	-1	-1	-2	-2	-2	-2	-1	0	2	4	5	6	6	6	7	6	6	6	6	5	3	1	1	0	2.4	6.7																							
22-Apr	-1	-1	-1	-2	-3	-3	-1	2	3	4	5	6	7	8	8	8	8	7	7	6	3	2	2	1	3.1	8.1																							
23-Apr	1	1	1	0	0	1	0	1	5	7	8	9	10	10	11	12	13	12	11	11	8	6	6	4	6.1	12.6																							
24-Apr	3	2	1	1	1	1	1	4	7	9	10	12	12	12	13	14	14	14	12	9	8	7	6	5	7.3	14.0																							
25-Apr	5	5	5	4	2	1	1	3	7	10	13	13	13	14	15	15	15	15	14	13	9	7	7	6	8.8	15.5																							
26-Apr	5	5	4	4	3	3	3	5	6	10	12	13	13	14	14	13	14	13	13	12	8	8	7	5	8.6	13.9																							
27-Apr	3	3	2	1	1	1	1	4	7	9	10	8	6	8	12	11	13	8	7	6	4	3	2	2	5.5	12.7																							
28-Apr	2	1	0	0	0	0	1	3	5	5	6	6	6	6	4	3	3	3	N	N	N	N	N	N	3.0	6.3																							
29-Apr	N	N	N	N	N	N	N	4	6	7	9	10	10	8	N	7	8	8	8	8	7	3	3	2	--	10.5																							
30-Apr	2	2	2	1	1	2	4	5	7	9	10	11	11	11	11	11	10	10	10	9	6	5	4	3	6.5	11.0																							
																								0.2	-0.2	-0.5	-1.0	-1.3	-1.6	-1.3	0.3	2.1	3.8	5.1	5.8	6.3	6.7	7.0	6.8	6.7	6.1	5.5	4.4	3.0	2.1	1.6	0.8	Diurnal Average	
																								5.4	5.1	4.7	4.0	3.4	3.2	3.7	5.3	7.3	10.1	12.7	12.8	13.2	14.0	15.1	15.5	15.2	14.7	13.9	12.5	8.9	7.8	7.2	5.8	Diurnal Maximum	

N - Not Valid



## Hourly Averages

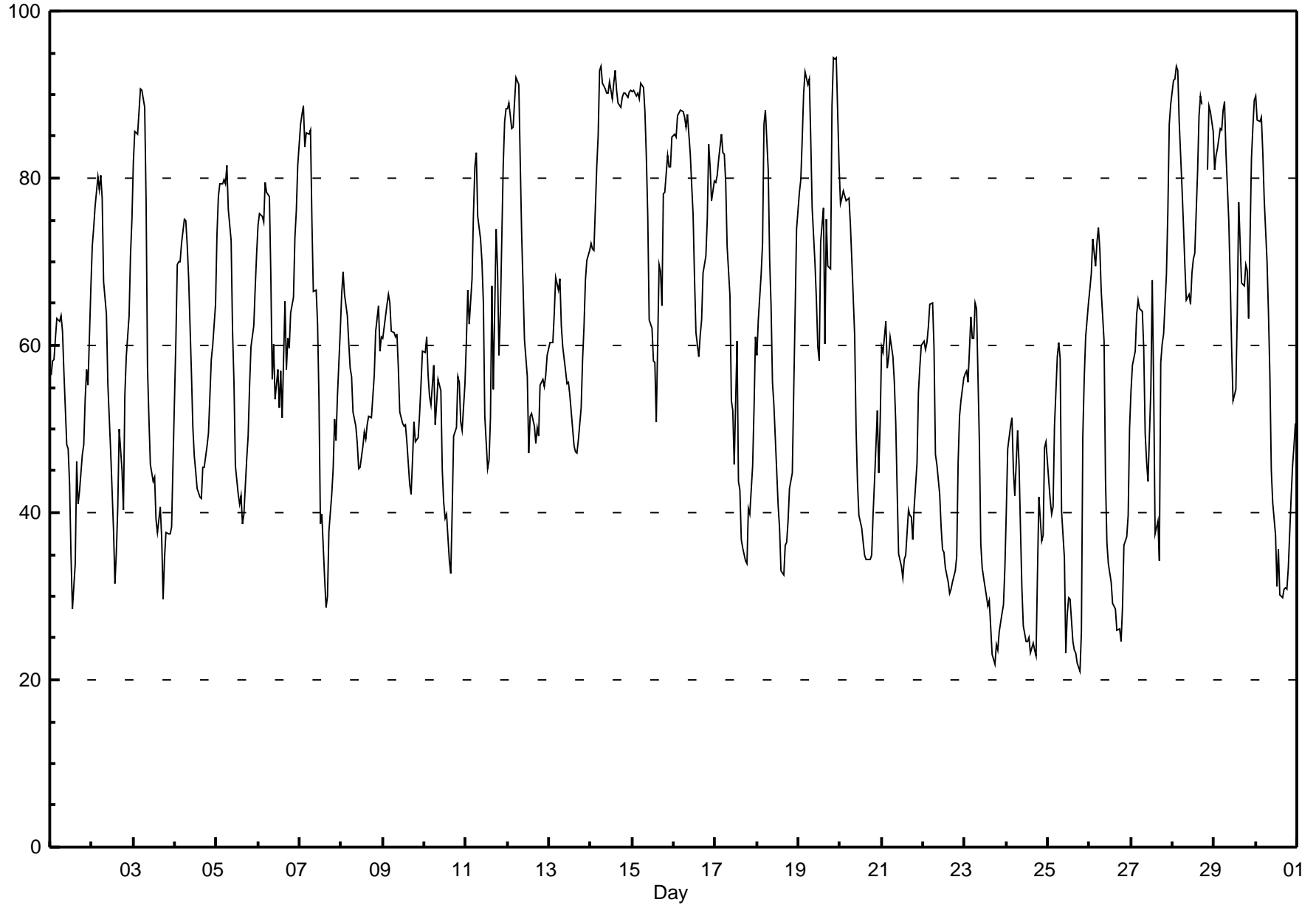
Relative Humidity (RH) - %

Beaverlodge - April 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0		Hours in Service: 720																																														
Maximum Value: 94.4 % on Apr 19 21:00		Maximum Daily Average: 87.7 % on Apr 14																																														
Minimum Value: 21 % on Apr 25 19:00		Hours of Data: 718																																														
Maximum Diurnal Average: 75.0 % at hour 6		Hours of Missing Data: 2																																														
Monthly Average: 59.27 %		Hours of Calibration: 0																																														
Minimum Daily Average: 36.7 % on Apr 24		Percent Operational Time: 99.7																																														
Minimum Diurnal Average: 44.8 % at hour 15																																																
Percentiles: P <sub>1</sub> = 23.2 P <sub>10</sub> = 34.3 Q <sub>1</sub> = 45.2 Median = 58.7 Q <sub>3</sub> = 74.1 P <sub>90</sub> = 86.8 P <sub>99</sub> = 92.9																																																
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-Apr	56	58	58	61	63	63	64	62	57	48	48	43	35	28	34	46	41	43	47	48	54	57	55	67	51.5	66.8																						
2-Apr	72	74	77	80	79	80	78	68	64	55	51	47	38	31	35	41	50	45	40	54	59	64	71	75	59.5	80.4																						
3-Apr	82	86	85	88	91	90	88	77	57	51	46	44	44	39	38	41	37	30	35	38	37	37	38	46	56.0	90.7																						
4-Apr	60	70	70	70	72	75	75	72	68	57	50	47	45	43	42	42	46	45	48	50	54	58	60	65	57.6	75.1																						
5-Apr	73	78	79	79	80	79	82	76	73	62	56	46	42	41	42	39	40	46	49	55	60	62	67	71	61.5	81.6																						
6-Apr	74	76	75	75	80	78	78	69	56	60	54	57	53	57	51	65	57	61	60	64	66	73	76	81	66.5	81.5																						
7-Apr	86	88	89	84	85	85	86	75	66	67	63	53	39	40	32	29	30	38	42	45	51	49	54	62	59.9	88.7																						
8-Apr	66	69	66	64	60	57	56	52	50	48	45	45	48	50	49	51	51	54	56	62	65	59	61	55.7	68.8																							
9-Apr	61	62	65	66	65	62	62	61	61	57	52	51	50	51	48	43	42	46	51	48	49	52	55	59	55.1	66.1																						
10-Apr	59	61	56	54	53	58	50	53	56	54	45	41	39	40	34	33	40	49	50	56	56	51	50	55	49.8	60.9																						
11-Apr	60	67	63	68	76	81	83	75	73	70	65	51	45	46	51	67	55	74	69	59	64	82	87	88	67.5	88.4																						
12-Apr	88	89	86	86	89	92	91	82	73	67	61	56	47	51	52	50	48	50	49	55	56	55	56	59	66.3	92.0																						
13-Apr	60	60	60	64	68	67	68	62	60	57	55	56	54	52	48	47	47	49	52	58	62	68	70	71	59.1	71.3																						
14-Apr	72	72	71	81	85	93	93	91	91	90	90	91	89	91	93	90	89	89	90	90	90	90	90	90	87.7	93.3																						
15-Apr	90	91	90	90	90	91	91	88	83	75	63	62	58	58	51	70	69	65	78	78	83	81	81	85	77.5	91.4																						
16-Apr	85	85	87	88	88	88	87	86	88	83	79	76	68	62	59	61	63	69	71	75	84	81	77	80	77.9	88.1																						
17-Apr	79	80	82	85	83	83	80	72	66	53	52	46	61	44	43	37	36	34	34	40	40	46	53	61	57.9	85.3																						
18-Apr	59	63	69	72	86	88	81	70	65	56	53	45	41	38	33	33	36	37	39	43	45	55	64	74	56.0	88.1																						
19-Apr	78	80	85	90	93	91	92	85	76	70	65	60	58	72	76	60	75	69	69	89	94	94	94	82	79.1	94.4																						
20-Apr	77	78	78	77	77	78	74	70	61	50	44	40	38	37	35	34	34	34	35	40	44	52	45	51	53.5	78.4																						
21-Apr	60	59	63	57	59	61	59	56	51	43	35	34	32	34	35	40	40	39	37	41	46	54	57	60	48.0	62.9																						
22-Apr	61	60	60	62	65	65	60	47	46	42	38	36	35	33	32	30	31	32	33	35	46	52	53	56	46.2	65.1																						
23-Apr	57	57	56	63	61	61	65	64	49	36	33	32	30	29	30	26	23	22	24	24	26	28	29	33	39.9	65.0																						
24-Apr	40	48	50	51	45	42	50	46	38	31	26	25	25	25	23	24	24	23	33	42	37	37	48	49	36.7	51.4																						
25-Apr	44	42	40	41	50	59	60	59	40	35	23	28	30	30	25	24	23	22	21	26	49	56	61	65	39.6	65.1																						
26-Apr	67	69	73	70	72	74	72	66	60	44	36	34	32	29	29	28	26	26	25	29	36	37	40	50	46.8	74.1																						
27-Apr	55	58	59	64	65	64	64	60	50	46	44	55	68	55	37	39	34	58	60	61	68	76	86	89	59.0	88.9																						
28-Apr	92	92	93	93	87	79	74	70	65	66	65	69	70	71	81	88	90	89	N	N	81	89	88	86	80.7	93.5																						
29-Apr	81	83	84	86	86	88	89	83	75	68	60	53	55	64	77	72	67	67	70	69	63	82	86	89	74.9	89.3																						
30-Apr	90	87	87	87	83	77	70	64	56	45	41	37	31	36	30	30	31	31	31	33	42	46	48	51	52.7	89.9																						
																								69.5	71.2	71.9	73.2	74.6	75.0	74.0	68.7	62.5	56.2	51.3	48.6	46.7	45.9	44.8	46.0	45.8	47.7	48.1	51.8	56.8	60.9	63.4	67.0	Diurnal Average
																								91.6	91.8	93.5	93.0	92.8	92.9	93.3	91.4	90.7	90.2	90.2	91.5	89.5	91.4	92.8	90.5	89.9	88.9	89.6	90.2	94.4	94.2	94.3	90.5	Diurnal Maximum
N - Not Valid																																																

**Hourly Averages**

**Relative Humidity (RH) - %**  
**Beaverlodge - April 2011**





## Hourly Averages

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

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 Spd	23	18	12	5	3	12	12	10	10	6	16	14	7	3	7	11	7	9	10	8	7	6	7	2	8.8	23.4
Dir	257	259	265	238	255	266	269	245	258	224	275	270	255	196	247	227	216	289	280	273	269	309	305	148	261	257
2 Spd	2	1	2	3	2	1	6	4	12	5	8	9	8	8	10	11	14	10	6	10	11	5	4	6	5.7	14.0
Dir	83	306	57	50	265	20	319	347	330	24	11	322	320	17	27	342	335	21	14	7	28	10	359	22	359	335
3 Spd	2	4	6	1	0	3	2	3	3	4	4	5	8	8	9	12	9	4	2	3	3	1	5	10	2.3	11.7
Dir	348	24	42	217	139	108	109	97	189	119	116	87	93	115	121	125	129	206	183	224	72	332	238	272	120	125
4 Spd	10	12	8	6	3	5	7	12	25	28	35	39	41	38	36	32	21	18	15	12	20	12	11	6	18.3	40.9
Dir	239	246	246	239	206	213	220	233	241	253	255	258	258	263	264	264	245	259	264	279	274	278	297	301	257	258
5 Spd	2	5	3	3	4	2	2	2	1	3	10	25	22	18	24	19	18	20	14	17	12	11	7	8	8.6	25.2
Dir	211	65	94	99	27	67	215	269	220	213	238	266	273	275	263	255	257	251	244	240	224	223	223	220	252	266
6 Spd	10	9	6	7	11	10	6	6	3	7	7	15	11	9	11	13	15	11	8	9	5	1	0	2	6.2	14.8
Dir	221	223	224	219	231	244	239	245	86	188	212	224	240	245	316	288	285	294	291	281	304	228	276	71	252	224
7 Spd	2	3	3	3	3	5	4	6	9	11	9	5	4	4	3	3	5	9	6	3	3	3	4	3	1.4	10.6
Dir	53	243	320	320	320	332	357	316	323	318	303	297	98	103	162	111	174	224	237	178	108	158	176	160	283	318
8 Spd	5	4	5	7	8	9	8	7	11	22	29	29	31	28	34	26	26	35	28	27	18	8	10	7	15.4	34.5
Dir	132	108	183	164	162	169	176	195	222	235	239	243	241	237	234	237	248	261	257	257	260	264	261	291	239	261
9 Spd	8	13	8	6	7	5	10	15	25	22	27	29	25	27	27	28	30	31	29	24	26	19	11	7	18.4	30.5
Dir	288	285	271	186	199	216	233	244	245	233	239	244	243	245	241	246	253	247	253	257	259	254	255	265	248	247
10 Spd	9	6	6	7	8	4	11	8	13	8	10	11	6	8	4	3	6	8	3	4	3	6	4	1	2.8	13.1
Dir	293	300	277	268	264	227	274	250	248	263	281	295	0	49	74	47	50	93	86	328	270	66	76	124	294	248
11 Spd	7	7	10	5	1	4	3	2	4	2	23	32	45	46	40	21	28	17	19	14	14	8	7	10	11.8	46.3
Dir	306	31	23	24	251	266	224	265	111	156	235	244	245	246	251	277	261	305	298	265	275	340	343	351	266	246
12 Spd	9	8	9	5	3	4	4	5	7	10	9	10	11	12	13	14	16	15	18	19	24	24	24	21	10.7	23.8
Dir	353	357	10	17	48	59	64	85	136	106	103	102	100	109	112	97	93	94	89	86	89	90	93	98	88	90
13 Spd	21	17	14	12	11	11	13	13	15	14	12	15	16	21	23	24	28	29	29	27	27	32	27	25	19.5	31.8
Dir	99	100	98	98	90	78	79	72	85	83	86	76	78	80	71	75	78	80	79	83	83	86	83	81	83	86
14 Spd	24	24	26	26	26	29	38	41	41	37	35	33	35	30	19	27	27	23	19	17	16	15	12	11	25.8	40.7
Dir	79	77	77	78	87	85	89	92	92	93	97	94	92	89	77	69	70	74	72	68	67	73	69	54	83	92
15 Spd	11	10	10	9	6	12	9	8	7	8	7	6	7	6	7	14	10	13	13	15	11	12	11	13	7.0	15.1
Dir	44	34	27	19	344	325	321	313	314	320	333	336	301	3	27	21	36	60	73	80	72	71	69	79	28	80
16 Spd	12	9	13	13	13	11	15	19	15	18	21	22	20	24	26	23	20	19	16	13	11	10	10	11	15.5	25.9
Dir	76	52	67	67	75	60	81	74	64	79	70	70	75	70	66	67	57	56	59	46	29	28	35	30	63	66
17 Spd	9	11	10	7	8	4	5	4	4	3	6	6	13	9	10	9	6	6	8	5	4	8	7	2	6.1	13.4
Dir	37	32	33	25	25	352	19	47	51	67	33	10	33	21	33	21	74	110	117	103	34	21	32	80	39	33
18 Spd	5	1	2	2	3	2	2	2	3	3	5	4	7	8	8	9	8	4	7	6	4	1	7	6	2.4	8.8
Dir	36	312	11	338	243	356	68	111	121	96	154	138	93	93	70	47	41	80	18	22	336	359	291	304	49	47
19 Spd	5	1	4	2	5	5	7	10	10	9	10	9	11	6	16	9	9	4	6	6	1	1	2	9	4.7	16.3
Dir	282	259	298	74	271	298	289	310	291	296	291	311	346	344	222	301	327	259	204	356	73	174	161	237	292	222
20 Spd	8	9	6	7	6	8	8	9	18	26	27	29	28	27	24	20	21	19	17	7	4	1	5	3	12.9	28.7
Dir	247	239	219	231	213	223	232	228	244	268	274	266	262	266	267	284	283	293	283	300	24	173	267	233	265	266
21 Spd	5	6	4	5	6	4	11	10	13	21	21	15	13	20	17	18	16	20	18	14	11	14	16	12	11.2	21.5
Dir	204	191	171	202	210	233	231	171	214	239	277	289	291	287	254	290	290	269	266	270	255	244	246	244	256	277
22 Spd	14	18	14	10	9	7	10	22	26	30	25	20	19	21	23	28	26	28	24	19	13	14	13	8	17.8	30.0
Dir	243	244	244	245	242	229	248	272	272	271	280	289	283	265	268	260	269	254	252	255	246	244	242	237	261	271

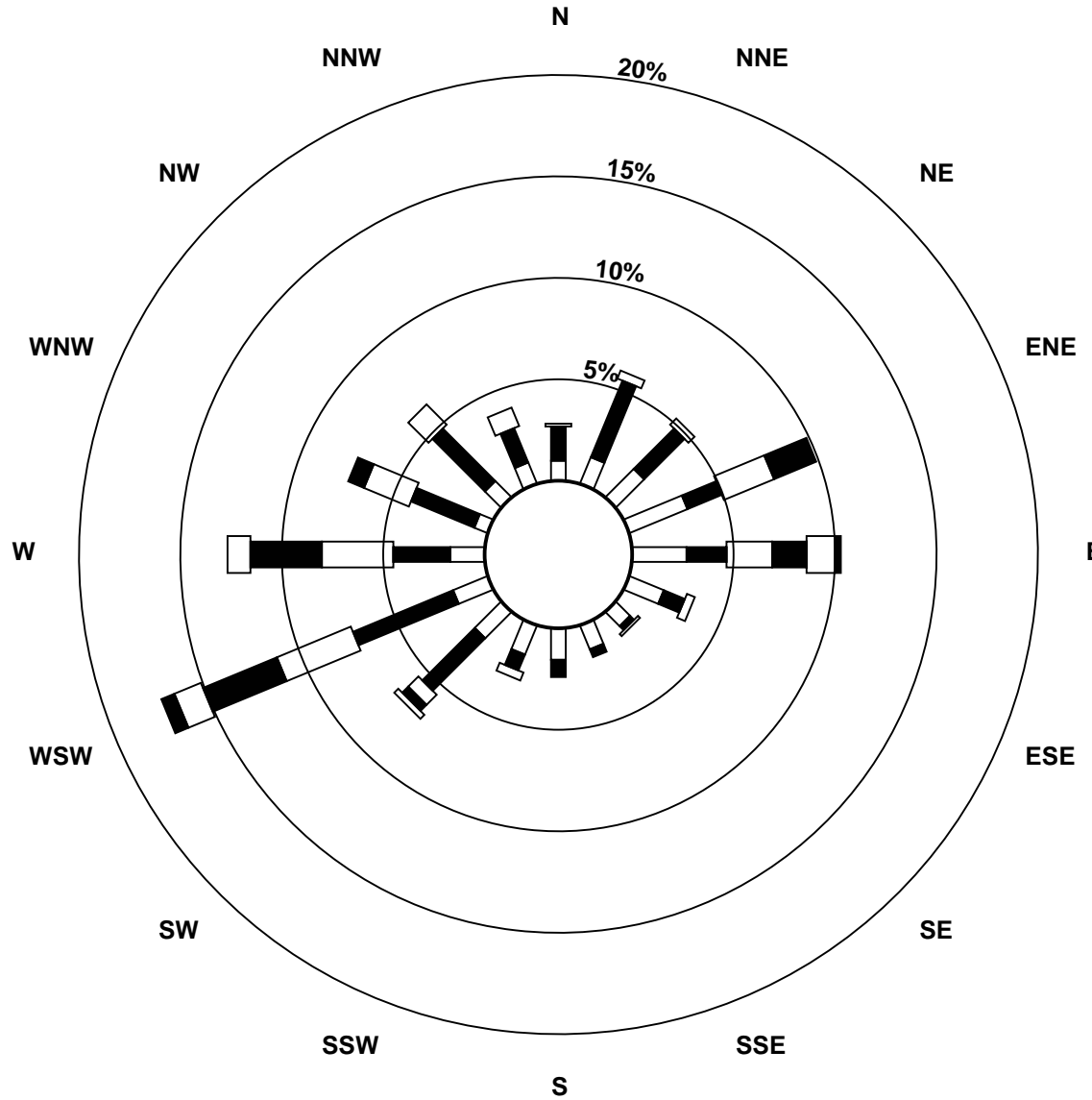
## Hourly Averages

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

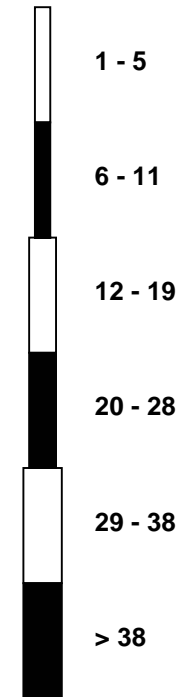
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
23 Spd	11	9	7	2	2	1	3	4	2	21	20	21	16	11	15	5	22	21	18	21	13	6	8	5	8.6	21.8
Dir	251	244	238	49	319	20	65	54	190	275	281	275	334	26	3	262	265	259	258	266	255	255	252	274	262	
24 Spd	3	2	4	3	6	3	1	1	5	6	5	8	9	12	10	9	7	8	12	7	7	9	10	10	5.9	12.0
Dir	64	126	94	90	51	23	241	256	39	56	65	87	43	52	64	71	73	72	112	83	74	65	82	87	72	52
25 Spd	9	7	9	10	4	3	6	3	3	4	2	7	9	10	10	11	10	8	8	19	14	10	9	3.4	18.6	
Dir	80	85	91	94	237	272	44	256	88	81	83	47	42	43	47	34	36	10	356	317	258	286	286	312	17	258
26 Spd	9	7	6	3	3	2	5	4	7	13	19	15	15	17	15	14	18	18	24	17	12	9	6	3	10.0	23.6
Dir	309	302	258	270	264	204	232	207	214	261	278	282	296	272	277	278	292	280	254	252	255	263	280	190	270	254
27 Spd	1	3	4	3	3	5	4	2	2	4	8	24	27	17	4	7	5	29	12	11	11	5	4	1	5.0	29.3
Dir	78	61	52	75	61	49	58	134	126	231	220	239	239	248	161	124	124	224	253	261	247	193	183	160	226	224
28 Spd	2	1	1	2	3	4	9	10	17	18	14	16	15	16	15	16	15	16	15	14	15	7	8	4	9.8	17.9
Dir	69	123	83	60	12	338	319	325	313	322	344	342	337	351	339	326	325	322	338	323	310	287	275	302	328	322
29 Spd	5	5	7	11	11	11	11	9	6	6	8	6	6	10	6	10	14	16	12	4	12	9	7	1	4.4	15.6
Dir	321	336	343	328	318	314	324	326	291	256	265	227	241	288	326	152	195	201	199	191	315	12	252	83	282	201
30 Spd	4	1	4	5	7	8	1	3	9	17	18	18	26	21	35	31	31	26	23	20	17	15	11	9	14.4	34.9
Dir	55	220	276	258	256	254	245	242	255	284	284	278	266	290	255	265	270	259	258	250	245	252	249	234	263	255
Spd	0.8	0.9	1.2	1.2	0.2	0.8	0.6	0.9	3.0	4.8	7.0	8.0	7.1	5.5	5.3	4.6	5.4	6.3	5.0	4.4	3.7	1.1	1.3	0.5	Diurnal Average	
Dir	332	321	25	70	251	300	296	262	253	262	268	270	271	280	271	290	284	270	268	279	282	313	287	3	Diurnal Maximum	
Spd	24.4	23.9	26.1	25.5	26.0	28.7	37.5	40.5	40.7	37.3	35.3	38.6	45.5	46.3	40.1	32.0	30.6	34.5	29.3	27.3	27.2	31.8	27.1	24.7	Diurnal Maximum	
Dir	79	77	77	78	87	85	89	92	92	93	97	258	245	246	251	264	270	261	253	83	83	86	83	81	Diurnal Maximum	
Maximum Speed Value: 46 km/h on Apr 11 14:00		Minimum Speed Value: 0 km/h on Apr 3 05:00		Hours in Service: 720																						
Maximum Daily Speed Average: 25.8 km/h on Apr 14		Minimum Daily Speed Average: 1.4 km/h on Apr 18		Hours of Data: 720																						
Maximum Diurnal Speed Average: 8.0 km/h at hour 12		Minimum Diurnal Speed Average: 0.2 km/h at hour 5		Hours of Missing Data: 0																						
Monthly Average Velocity: 3.07 km/h 276.7 deg				Speed Percentiles: P <sub>1</sub> = 0.9 P <sub>10</sub> = 2.8 Q <sub>1</sub> = 5.2 Median = 9.3 Q <sub>3</sub> = 15.7 P <sub>90</sub> = 25.1 P <sub>99</sub> = 37.6				Percent Operational Time: 100.0																		
All monthly, daily, and diurnal averages have been calculated using vector methods																										
Frequency Distribution																										
	Speed Range (km/h)																									
Direction	0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total																			
North	14	31	8	0	0	0	53																			
NorthEast	30	43	13	3	0	0	89																			
East	36	26	33	27	10	2	134																			
SouthEast	15	7	1	0	0	0	23																			
South	19	13	3	0	0	0	35																			
SouthWest	27	49	25	16	8	2	127																			
West	19	48	51	45	15	4	182																			
NorthWest	11	44	20	2	0	0	77																			
Total	171	261	154	93	33	8	720																			

**Wind Rose**

**Wind Speed (WS) (km/h)**  
**Beaverlodge - April 2011**



**Wind Speed Classes (km/h)**



# Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Beaverlodge - April 2011

Maximum Speed: 46 km/h on Apr 11 14:00		Maximum Daily Speed Average: 26.3 km/h on Apr 14		Hours in Service: 720																						
Minimum Speed: 2 km/h on Apr 30 02:00		Minimum Daily Speed Average: 5.1 km/h on Apr 7		Hours of Data: 720																						
Maximum Diurnal Speed Average: 17.7 km/h at hour 13		Minimum Diurnal Speed Average: 6.8 km/h at hour 4		Hours of Missing Data: 0																						
Monthly Average Speed: 12.15 km/h		Percentiles: P <sub>1</sub> = 2.0 P <sub>10</sub> = 3.7 Q <sub>1</sub> = 5.9 Median = 9.6 Q <sub>3</sub> = 16.2 P <sub>90</sub> = 25.3 P <sub>99</sub> = 37.5		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-Apr	23	19	12	7	5	12	12	10	11	9	16	14	8	4	9	12	7	12	11	11	7	7	8	3	10.4	23.4
2-Apr	3	3	2	3	2	2	7	5	12	7	8	10	8	8	10	13	15	10	7	11	11	7	5	7	7.2	14.8
3-Apr	6	6	6	3	2	4	3	3	4	4	4	6	8	8	9	12	9	5	3	6	3	2	6	10	5.4	11.8
4-Apr	10	13	8	6	3	5	8	12	25	28	35	39	41	38	37	32	21	19	15	12	20	12	11	7	19.1	41.1
5-Apr	5	5	4	5	5	5	3	2	3	3	10	26	22	19	25	19	19	20	14	17	12	11	7	8	11.2	25.7
6-Apr	10	9	6	7	11	10	6	7	4	7	7	15	11	10	12	13	15	11	8	9	5	4	3	3	8.4	14.9
7-Apr	2	4	4	4	4	6	5	6	9	11	9	6	4	4	3	4	5	9	6	4	4	3	4	4	5.1	10.8
8-Apr	6	4	5	7	8	9	8	7	11	22	29	29	31	28	34	26	26	35	29	27	18	8	10	7	17.7	34.7
9-Apr	8	13	8	6	7	5	10	15	25	22	27	29	25	27	27	28	30	31	30	24	26	19	11	8	19.3	30.6
10-Apr	9	7	6	7	9	4	11	9	13	8	10	12	8	8	4	4	6	8	4	6	4	6	5	2	7.1	13.1
11-Apr	8	7	10	6	4	5	7	6	7	5	23	32	46	46	41	23	31	18	19	15	16	8	7	10	16.7	46.5
12-Apr	9	8	9	5	3	4	5	6	7	10	9	11	11	12	13	14	16	15	18	19	24	24	24	21	12.4	23.8
13-Apr	21	17	14	12	11	11	13	13	15	14	12	15	16	21	23	24	28	29	29	27	27	32	27	25	19.8	31.8
14-Apr	24	24	26	26	26	29	38	41	41	37	35	33	35	31	20	27	27	23	20	17	16	15	12	11	26.3	40.7
15-Apr	11	10	10	10	7	12	9	8	8	8	8	7	8	7	8	14	10	13	13	15	12	12	11	13	10.2	15.4
16-Apr	12	9	13	13	13	11	15	19	17	19	21	22	21	24	26	23	21	19	16	13	11	10	10	11	16.2	26.0
17-Apr	9	11	10	7	8	5	6	4	4	4	7	7	14	10	11	10	8	6	8	6	4	8	7	4	7.3	13.7
18-Apr	5	2	4	3	3	3	2	2	4	3	5	5	8	8	9	9	6	7	7	6	4	8	7	4	5.3	9.1
19-Apr	5	2	5	3	6	5	7	11	10	10	10	11	13	11	16	11	10	8	7	9	3	3	2	9	7.7	16.5
20-Apr	8	10	6	7	7	8	8	9	18	27	27	29	29	27	25	21	22	20	17	9	5	3	5	4	14.6	29.1
21-Apr	6	7	7	5	6	4	12	10	14	22	22	16	14	21	19	19	16	21	19	15	11	14	16	12	13.7	22.0
22-Apr	14	18	14	10	9	7	10	22	27	30	25	21	20	22	24	28	27	28	24	19	13	14	13	8	18.7	30.3
23-Apr	11	9	7	4	5	5	3	4	5	21	21	21	17	15	15	12	23	22	18	21	13	7	8	6	12.2	22.5
24-Apr	3	3	4	4	6	3	2	3	5	6	6	8	10	12	11	10	8	8	12	7	7	9	10	10	7.0	12.4
25-Apr	9	8	9	10	8	5	6	5	4	4	4	8	10	11	11	10	11	10	8	9	19	14	10	9	8.9	19.2
26-Apr	9	7	7	4	4	3	5	4	7	13	19	15	16	18	16	15	19	18	24	17	12	9	6	3	11.4	24.4
27-Apr	2	4	4	3	4	5	5	3	3	5	9	24	27	18	7	9	7	29	12	11	11	6	5	3	9.0	29.4
28-Apr	3	2	2	2	4	5	9	10	18	18	15	16	15	16	15	16	15	16	15	14	15	9	8	5	11.0	18.2
29-Apr	6	5	8	11	11	11	11	9	6	6	8	8	8	13	11	11	14	16	12	6	17	11	7	4	9.6	16.8
30-Apr	4	2	6	5	8	8	2	4	10	18	18	19	27	22	35	32	31	27	23	21	17	16	11	9	15.5	35.3
																								Diurnal Average		
																								Diurnal Maximum		
8.7 8.2 7.8 6.8 7.0 7.1 8.3 8.9 11.4 13.4 15.4 17.1 17.7 17.3 17.6 16.6 16.9 17.0 14.9 13.4 12.3 10.3 9.3 8.1																								24.5 23.9 26.1 25.7 26.2 28.8 37.6 40.6 40.7 37.3 35.4 38.7 45.6 46.5 41.4 32.2 31.0 34.7 29.6 27.3 27.2 31.8 27.2 24.7		

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

# Hourly Standard Deviations

Wind Direction (WD) - deg

Beaverlodge - April 2011

Maximum Value: 92.7 deg on Apr 24 08:00		Hours in Service: 720																							
Minimum Value: 1.4 deg on Apr 12 21:00		Hours of Data: 720																							
Percentiles: P <sub>1</sub> = 2.3 P <sub>10</sub> = 4.4 Q <sub>1</sub> = 6.6 Median = 13.0 Q <sub>3</sub> = 30.6 P <sub>90</sub> = 53.2 P <sub>99</sub> = 83.8		Hours of Missing Data: 0																							
		Hours of Calibration: 0																							
		Percent Operational Time: 100.0																							
Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Apr	3	4	4	66	61	7	12	8	43	38	6	9	23	37	47	15	22	46	18	43	12	44	41	60	65.6
2-Apr	80	62	69	19	81	57	30	31	15	59	19	14	10	18	7	27	18	8	13	16	3	49	60	74	80.8
3-Apr	71	43	7	76	88	46	41	28	36	21	20	10	7	9	11	4	19	45	57	74	19	71	41	13	88.3
4-Apr	9	5	7	29	22	41	38	11	3	7	5	4	5	4	7	6	4	12	6	6	4	4	9	60	59.6
5-Apr	65	26	31	46	47	80	65	56	78	51	8	13	9	17	17	9	18	5	10	7	6	8	8	12	79.9
6-Apr	6	5	15	24	9	7	8	42	48	8	50	6	18	31	52	9	14	6	11	7	16	84	85	67	84.8
7-Apr	59	60	39	41	43	39	35	6	28	11	5	45	18	10	20	28	8	13	12	33	20	11	16	37	60.4
8-Apr	34	34	18	10	9	5	5	11	7	7	3	4	2	6	4	7	6	5	6	5	5	72	8	13	72.3
9-Apr	11	7	31	17	10	35	22	7	5	12	10	4	5	7	4	4	5	4	9	4	5	4	5	32	34.8
10-Apr	7	10	12	12	42	24	9	35	4	10	11	13	43	17	21	39	12	13	53	64	66	17	19	61	66.5
11-Apr	39	14	5	68	91	33	68	84	49	72	8	10	5	5	19	23	34	19	11	16	41	15	20	11	91.1
12-Apr	10	9	6	7	14	21	24	34	10	8	6	5	8	5	5	4	3	3	2	3	1	1	3	3	34.0
13-Apr	4	3	5	4	5	4	5	6	5	9	12	9	6	6	3	5	5	3	3	3	3	3	5	3	12.3
14-Apr	4	4	3	5	6	4	3	3	2	3	7	3	3	8	28	6	5	5	5	6	7	5	12	6	28.0
15-Apr	3	6	6	7	38	4	6	6	10	10	28	31	43	33	16	5	16	13	10	12	16	7	12	5	42.9
16-Apr	5	11	6	6	9	13	21	5	37	6	5	5	10	8	5	8	7	6	9	7	7	6	7	6	36.9
17-Apr	5	3	4	3	9	66	20	20	20	34	18	24	13	14	15	12	45	13	7	39	13	5	3	43	66.4
18-Apr	9	71	54	57	37	36	48	30	31	13	37	46	14	17	21	15	23	42	4	10	42	80	29	19	79.6
19-Apr	30	80	64	48	17	14	9	14	13	19	21	31	30	70	10	41	30	57	16	50	69	76	48	13	79.5
20-Apr	11	14	14	10	28	10	9	6	12	8	6	10	14	9	16	13	19	12	10	42	21	85	22	44	84.6
21-Apr	32	31	65	21	13	19	19	20	24	15	14	19	23	12	27	20	15	19	16	10	4	4	2	4	64.6
22-Apr	2	2	5	7	11	21	8	5	5	7	9	15	19	20	15	14	16	8	5	7	5	2	3	7	21.4
23-Apr	4	8	15	67	69	74	19	12	72	10	15	15	17	43	8	62	15	12	5	4	10	19	3	22	74.2
24-Apr	53	41	29	33	12	45	76	93	23	23	33	16	34	15	24	21	31	27	6	13	6	7	10	5	92.7
25-Apr	4	22	13	7	69	61	9	69	69	23	62	29	21	25	27	18	13	9	11	13	15	6	13	5	69.4
26-Apr	14	10	26	40	47	43	23	15	10	22	13	17	20	17	29	40	19	17	15	6	11	3	6	30	46.8
27-Apr	80	30	20	42	65	9	19	41	26	45	30	13	7	27	61	42	54	7	18	6	8	36	33	61	80.0
28-Apr	41	46	37	58	42	40	5	12	5	9	13	12	12	11	13	7	6	8	7	7	5	51	14	17	58.3
29-Apr	19	20	34	5	5	7	2	8	28	35	25	42	42	41	63	25	12	8	9	40	43	43	24	74	73.7
30-Apr	22	47	39	27	8	5	86	17	24	12	9	13	14	17	9	12	7	12	12	6	4	6	9	8	85.6
	80.0	79.5	68.7	76.4	91.1	79.9	85.6	92.7	77.8	72.1	61.8	46.1	43.4	69.8	62.8	62.2	54.1	57.5	57.1	74.2	69.4	84.6	84.8	74.3	

PAZA

Portable – Bonanza Station

Monthly Summary Tables, Graphs and  
Roses

## Hourly Averages

## Sulphur Dioxide (SO<sub>2</sub>) - ppb Portable-Bonanza - April 2011

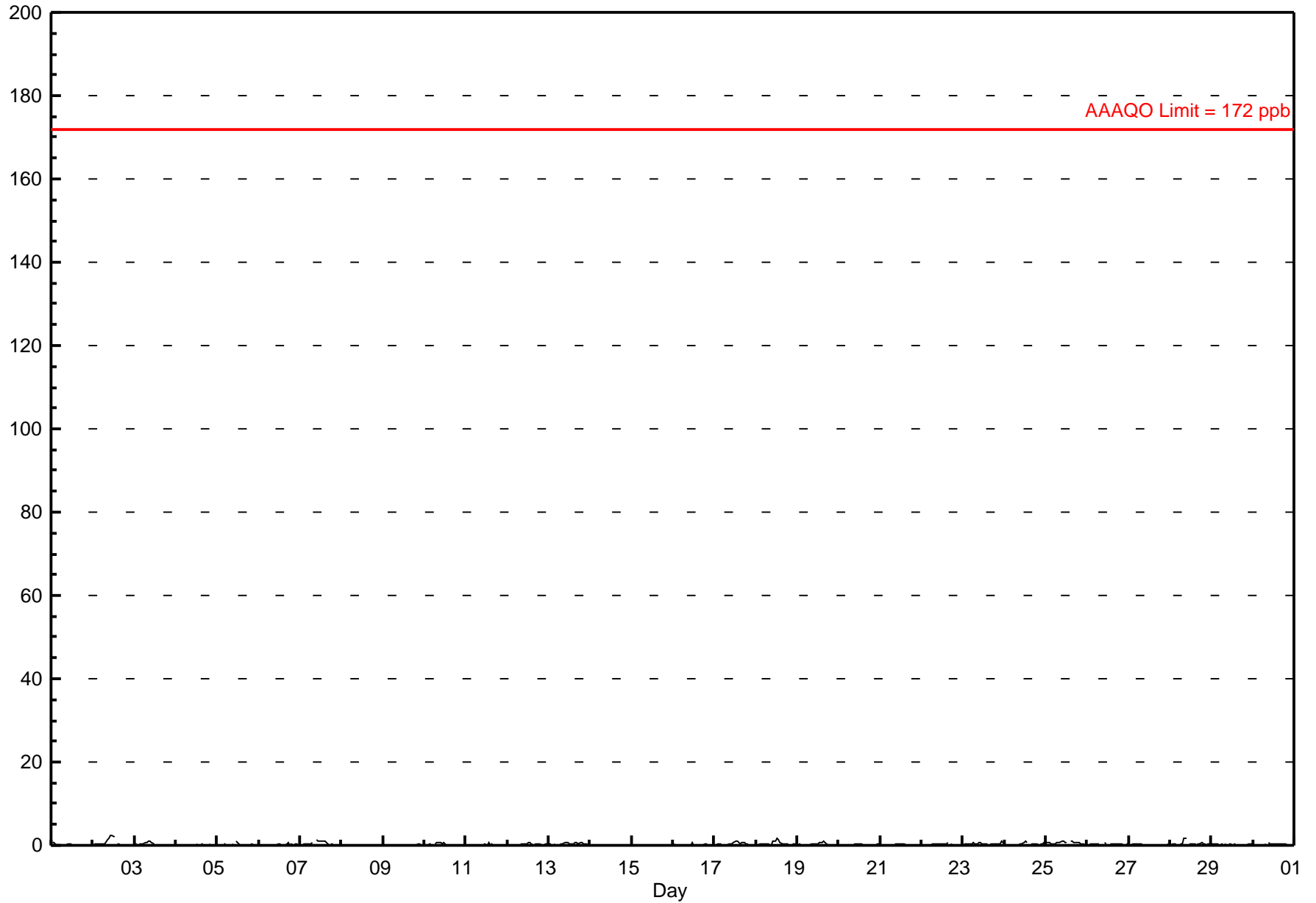
Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	720
Maximum Value: 2.5 ppb on Apr 2 11:00	Maximum Daily Average: 0.6 ppb on Apr 25		Hours of Data:	686
Minimum Value: 0 ppb on Apr 9 13:00	Minimum Daily Average: 0.0 ppb on Apr 8		Hours of Missing Data:	34
Maximum Diurnal Average: 0.5 ppb at hour 12	Minimum Diurnal Average: 0.1 ppb at hour 21		Hours of Calibration:	33
Monthly Average: 0.24 ppb	Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.0 Q <sub>1</sub> = 0.1 Median = 0.1 Q <sub>3</sub> = 0.4 P <sub>90</sub> = 0.6 P <sub>99</sub> = 1.6		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-Apr	1	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	0.6
2-Apr	0	0	0	0	0	0	0	0	1	2	2	2	2	A	0	0	0	0	0	0	0	0	0	0	0	0.6	2.5
3-Apr	0	0	0	0	0	0	1	1	1	1	1	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.0
4-Apr	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	P	0	0	0	0	0	0.1	0.2
5-Apr	0	0	0	0	0	0	0	0	0	0	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.0
6-Apr	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0.1	0.5
7-Apr	0	0	0	0	0	0	0	1	A	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0.5	1.4
8-Apr	0	0	0	0	0	0	0	A	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
9-Apr	0	0	0	0	0	0	A	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.2
10-Apr	0	0	0	0	0	A	0	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.6
11-Apr	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	0.1	0.5
12-Apr	0	0	0	A	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0.2	0.7
13-Apr	0	0	A	0	0	0	0	0	0	1	1	1	0	0	1	1	0	1	1	0	0	0	0	0	0	0.4	0.7
14-Apr	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	0.1
15-Apr	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0.1	0.1
16-Apr	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	A	0	0.1	0.8
17-Apr	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	1	1	0	0	0	0	A	0	0	0.4	0.9
18-Apr	0	0	0	0	0	0	0	0	0	0	1	1	2	1	1	0	0	0	0	0	0	A	0	0	0	0.5	1.7
19-Apr	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0	A	0	0	0	0	0.3	1.0
20-Apr	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	0.5
21-Apr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0.2	0.5
22-Apr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	A	0	0	0	0	0	0	0	0	0.2	0.5
23-Apr	0	0	0	0	0	0	1	0	0	1	1	0	0	0	0	A	0	0	0	0	0	0	0	1	1	0.4	0.9
24-Apr	0	0	0	0	0	0	0	0	0	0	1	1	1	A	0	0	0	0	0	0	0	0	0	1	0	0.3	0.9
25-Apr	1	1	1	0	0	0	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	0	0	0	0	0.6	1.0
26-Apr	0	0	0	0	0	0	0	0	C	C	1	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.7
27-Apr	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	0.5
28-Apr	0	0	0	0	0	0	0	0	2	2	A	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0.4	1.7
29-Apr	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.5
30-Apr	0	0	0	0	0	0	0	0	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.7
	0.1	0.1	0.2	0.2	0.1	0.1	0.2	0.2	0.3	0.5	0.5	0.5	0.5	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.2		Diurnal Average
	0.6	0.6	0.7	0.5	0.5	0.5	0.5	0.8	1.6	1.8	2.5	2.4	1.9	1.3	1.0	1.0	0.8	0.7	0.6	0.6	0.5	0.5	0.2	0.2	0.8		Diurnal Maximum

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

### Hourly Averages

Sulphur Dioxide (SO<sub>2</sub>) - ppb  
Portable-Bonanza - April 2011





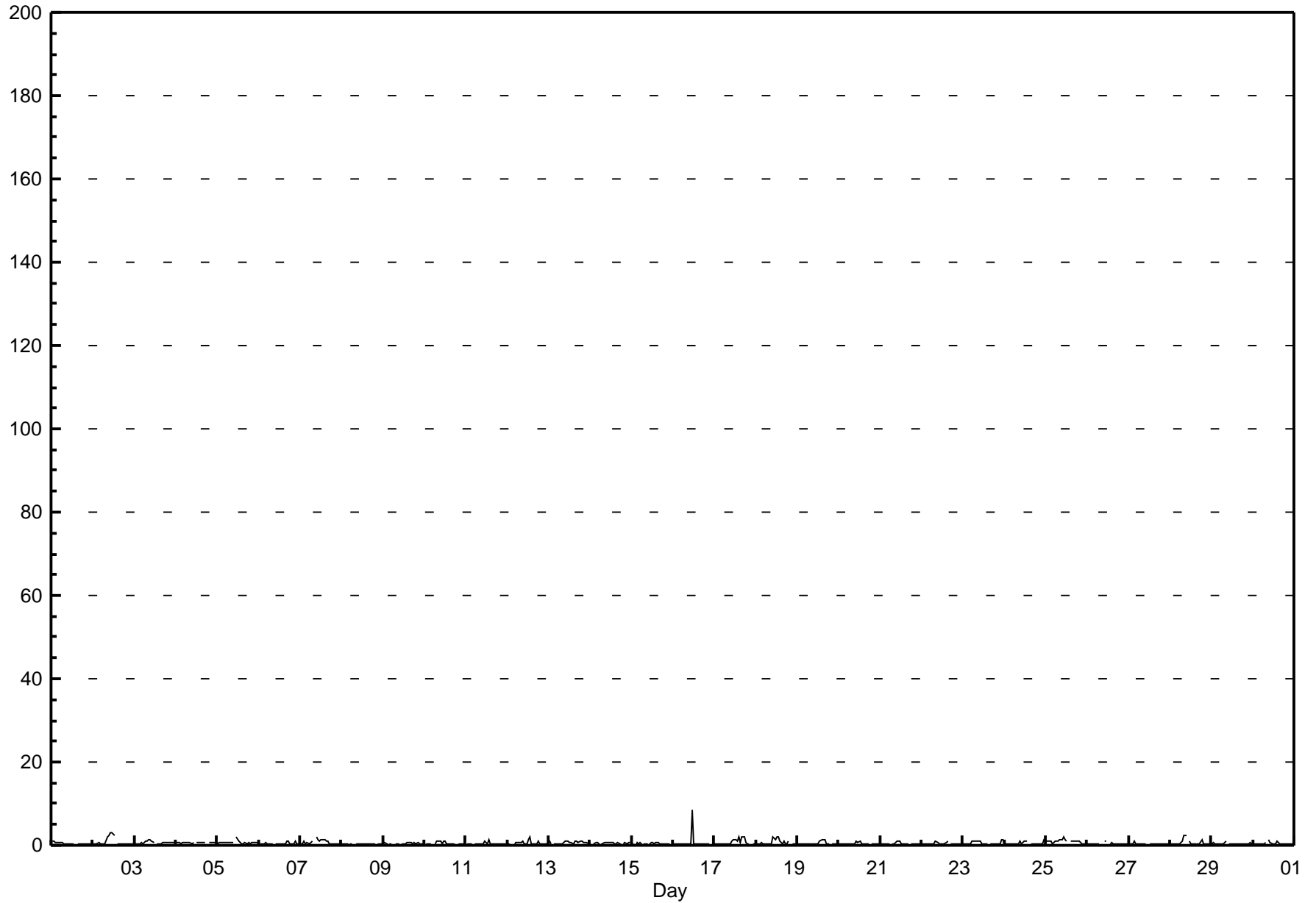
## Hourly Maximums

Sulphur Dioxide (SO<sub>2</sub>) - ppb  
 Portable-Bonanza - April 2011

Maximum Value: 8.5 ppb on Apr 16 12:00		Maximum Daily Average: 1.0 ppb on Apr 25		Hours in Service: 720																						
Minimum Value: 0 ppb on Apr 11 01:00		Minimum Daily Average: 0.4 ppb on Apr 15		Hours of Data: 686																						
Maximum Diurnal Average: 1.2 ppb at hour 12		Minimum Diurnal Average: 0.5 ppb at hour 3		Hours of Missing Data: 34																						
Monthly Average: 0.62 ppb		Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.4 Q <sub>1</sub> = 0.5 Median = 0.5 Q <sub>3</sub> = 0.5 P <sub>90</sub> = 1.0 P <sub>99</sub> = 2.4		Hours of Calibration: 33																						
				Percent Operational Time: 99.9																						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Apr	1	1	1	1	1	1	1	1	1	1	0	0	0	0	A	1	0	1	1	0	0	0	0	0	0.5	1.0
2-Apr	0	0	0	1	0	0	0	0	2	2	3	3	2	A	0	1	1	0	0	0	0	0	0	0	1.0	3.0
3-Apr	0	1	0	1	1	0	1	1	1	1	1	1	A	0	1	1	1	1	1	1	1	1	1	1	0.7	1.5
4-Apr	1	1	1	0	1	1	1	1	1	0	1	A	1	1	1	1	1	1	1	P	1	1	1	1	0.5	0.6
5-Apr	0	1	1	1	1	1	1	1	1	1	A	2	1	1	0	0	1	0	1	0	1	1	1	1	0.6	1.9
6-Apr	0	0	0	0	1	0	1	1	0	A	0	0	0	0	0	0	1	1	0	0	0	1	0	0	0.5	1.0
7-Apr	0	0	1	0	1	0	1	1	A	2	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0.8	2.0
8-Apr	0	0	0	0	0	0	0	A	A	0	0	0	1	1	1	1	0	1	1	1	0	0	1	1	0.4	0.5
9-Apr	0	1	0	0	1	0	A	1	1	0	0	0	0	0	1	1	1	0	1	1	1	1	1	1	0.4	0.5
10-Apr	0	1	0	1	1	A	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	1	0.5	1.0
11-Apr	0	0	0	1	A	0	0	0	0	0	1	1	1	1	1	1	0	0	0	0	0	0	1	0	0.5	1.5
12-Apr	1	0	0	A	0	1	1	1	1	1	0	0	1	2	1	1	1	1	1	1	1	1	1	1	0.6	2.2
13-Apr	1	1	A	1	1	0	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.0
14-Apr	1	A	1	1	1	1	0	0	1	1	1	1	1	1	0	0	1	0	0	0	1	0	1	1	0.4	0.6
15-Apr	A	0	0	1	0	1	0	0	0	0	0	1	1	0	1	1	0	0	0	0	1	0	0	A	0.4	0.5
16-Apr	0	0	0	0	0	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	A	0.8	8.5
17-Apr	0	0	0	0	0	0	0	0	0	0	1	1	1	1	2	1	2	2	1	0	0	0	A	0	0.8	2.1
18-Apr	0	0	0	1	0	0	0	0	0	0	2	1	2	2	1	0	1	0	0	0	1	A	0	0	0.8	2.0
19-Apr	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	A	1	A	0	0	0.6	1.5
20-Apr	0	0	0	0	0	0	0	0	0	0	1	1	1	0	1	1	1	0	A	1	0	0	0	0	0.5	1.0
21-Apr	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	A	0	0	0	0	0	0	0.5	1.0
22-Apr	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	1	A	0	0	0	0	0	0	0	0.5	1.0
23-Apr	0	0	0	0	0	1	1	1	1	1	1	0	0	0	0	A	0	0	0	0	0	0	1	1	0.7	1.5
24-Apr	0	0	0	0	0	0	0	0	0	1	0	1	1	1	A	1	1	1	0	1	0	0	1	0	0.6	1.5
25-Apr	1	1	1	1	0	1	1	1	1	1	2	1	1	A	1	1	1	1	1	1	1	1	0	0	1.0	2.0
26-Apr	0	0	0	0	0	0	0	0	C	C	1	1	A	0	1	0	0	0	0	0	0	0	0	0	0.5	1.1
27-Apr	0	0	0	1	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.5	1.0
28-Apr	0	1	1	1	0	1	1	1	2	2	A	1	1	1	1	1	1	0	1	1	0	0	0	0	0.8	2.5
29-Apr	0	1	0	0	0	0	0	0	1	A	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0.5	0.9
30-Apr	0	0	0	0	0	0	0	1	A	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0.5	1.3
		0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.8	0.9	0.8	1.2	0.8	0.7	0.7	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.6	Diurnal Average
		1.0	1.0	1.0	1.0	0.8	1.0	1.0	1.0	2.5	3.0	8.5	2.5	2.2	2.1	1.4	2.0	2.0	1.5	1.0	0.7	1.0	1.5	1.5	Diurnal Maximum	
C - Calibration		P - Power Failure						A - Automated Daily Zero Span																		

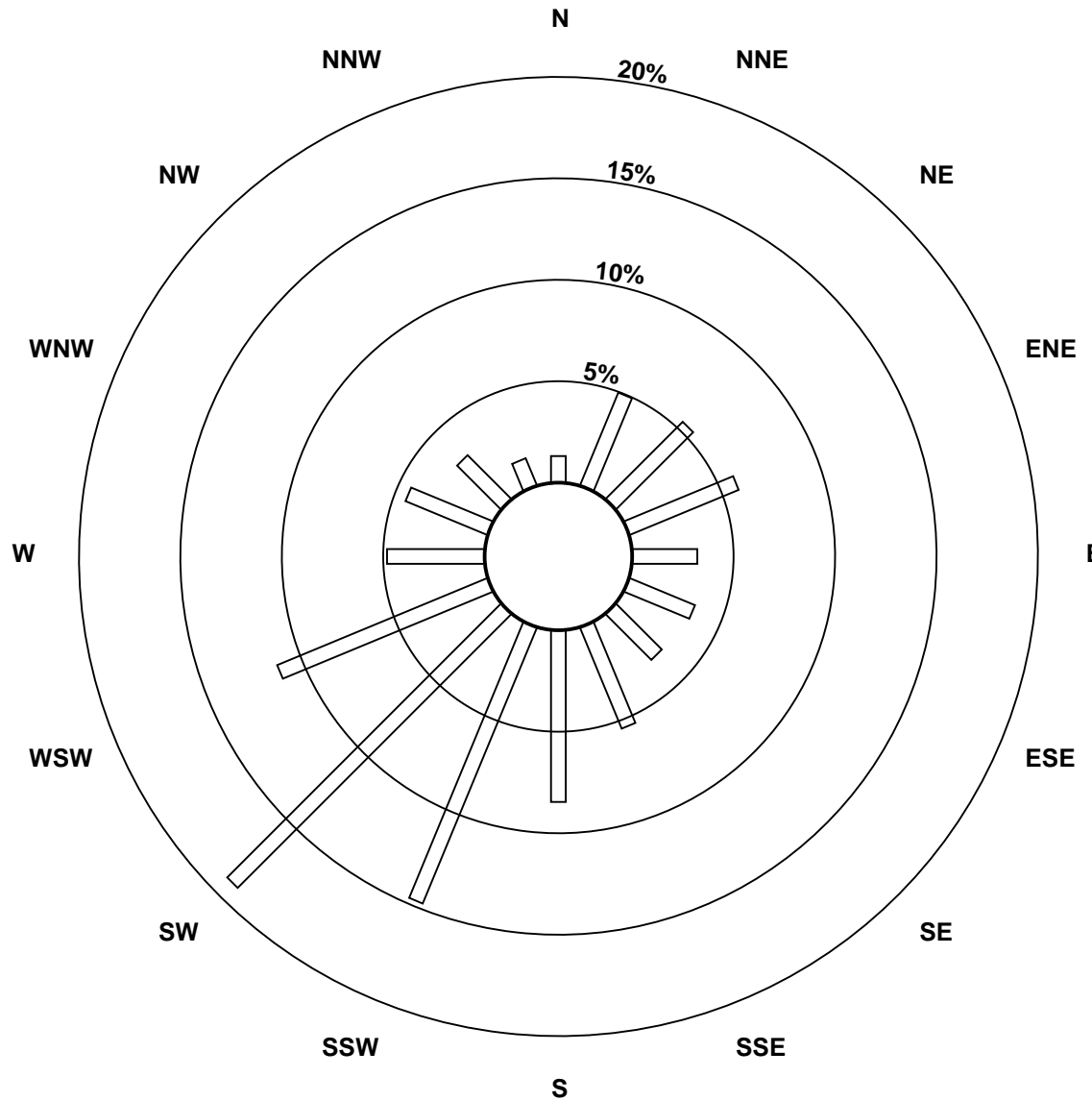
### Hourly Maximums

Sulphur Dioxide (SO<sub>2</sub>) - ppb  
Portable-Bonanza - April 2011

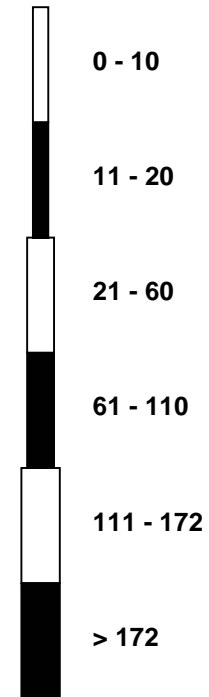


**Pollutant Rose**

**Sulphur Dioxide (SO<sub>2</sub>) - ppb**  
**Portable-Bonanza - April 2011**

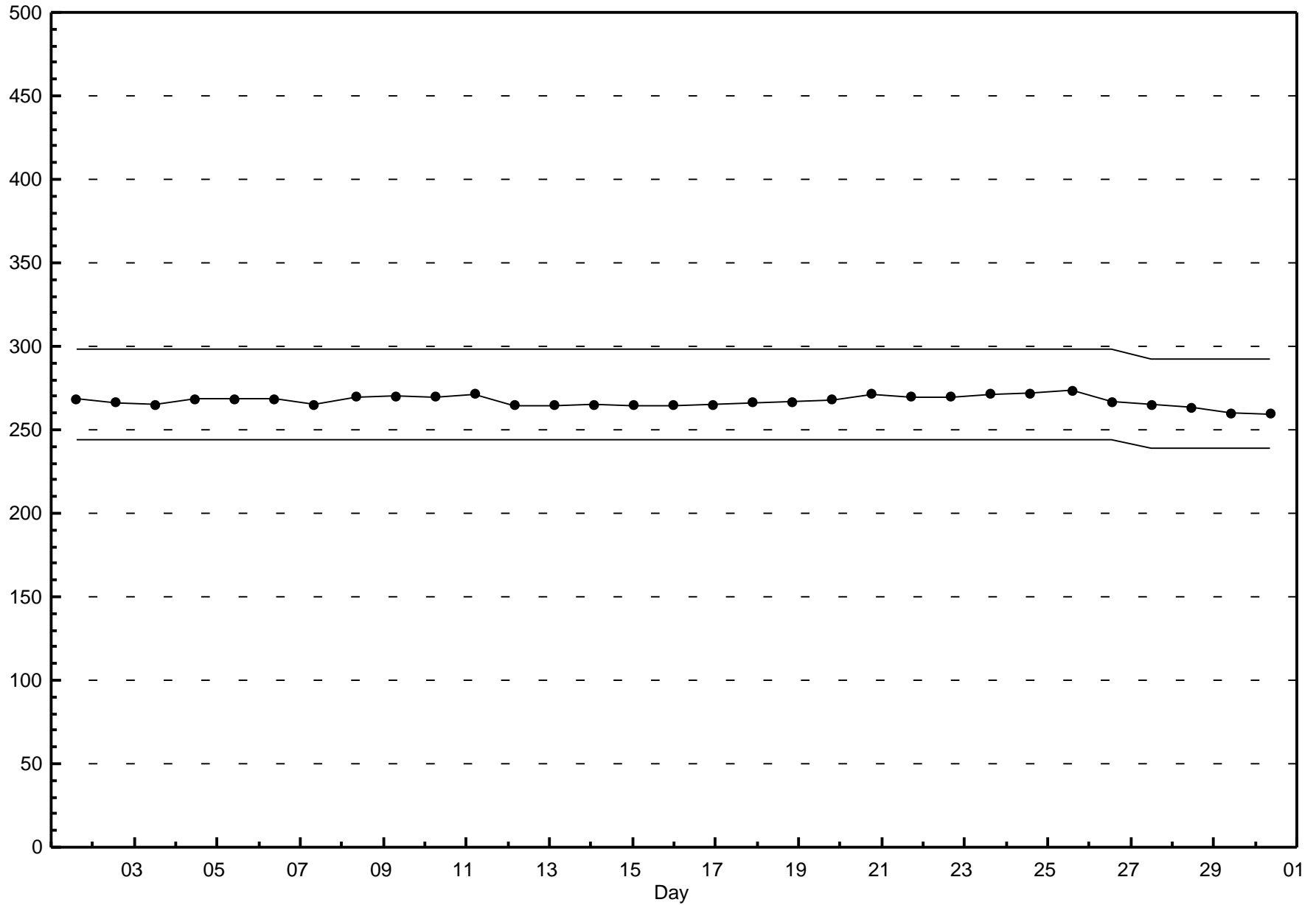


**Pollutant Classes (ppb)**



**Span Responses**

**Sulphur Dioxide (SO<sub>2</sub>)**  
**Portable-Bonanza - April 2011**



## Hourly Averages

Total Reduced Sulphur (TRS) - ppb

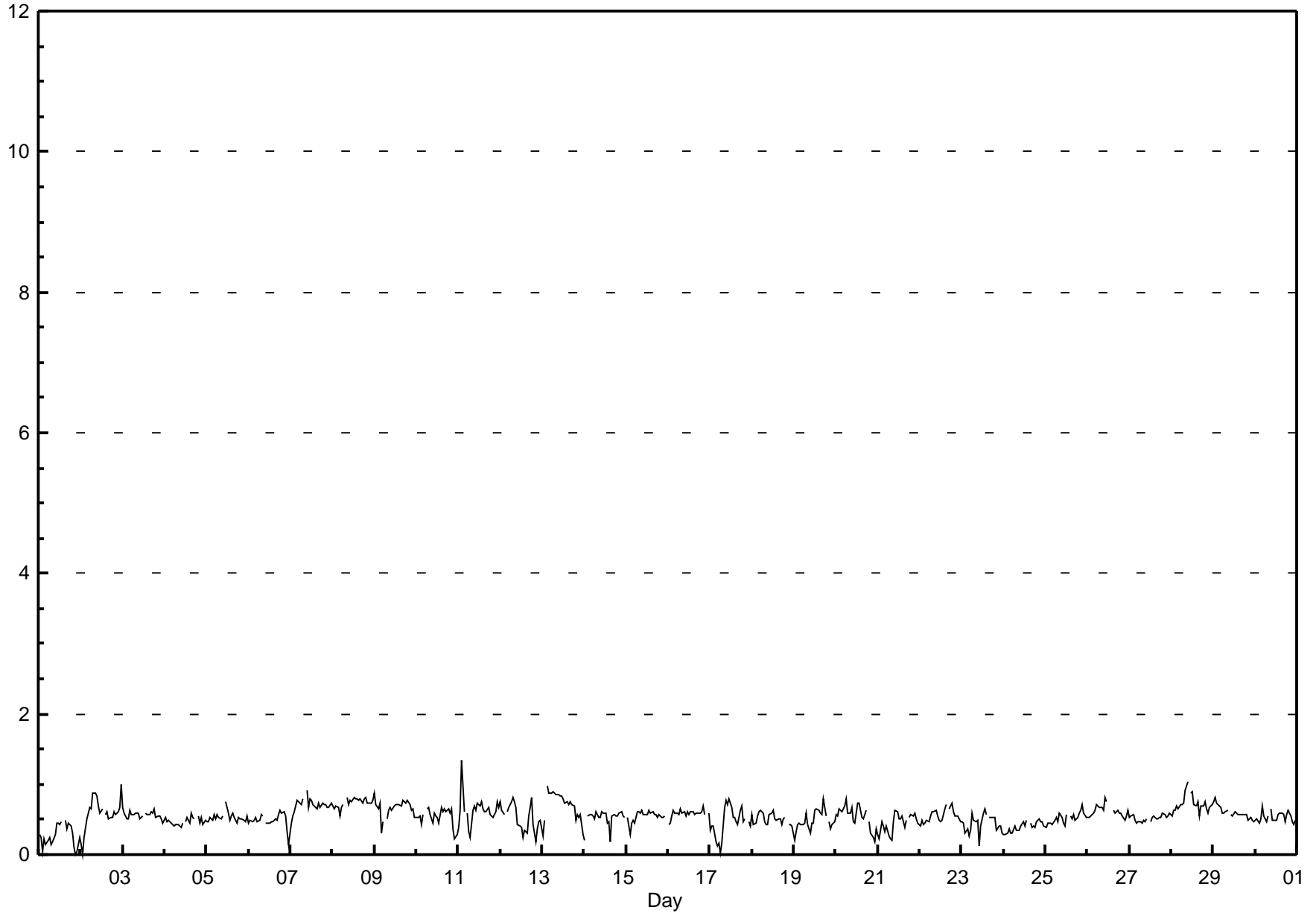
Portable-Bonanza - April 2011

Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	720
Maximum Value: 1.3 ppb on Apr 11 03:00	Maximum Daily Average: 0.7 ppb on Apr 8		Hours of Data:	686
Minimum Value: 0 ppb on Apr 1 22:00	Minimum Daily Average: 0.3 ppb on Apr 1		Hours of Missing Data:	34
Maximum Diurnal Average: 0.6 ppb at hour 10	Minimum Diurnal Average: 0.5 ppb at hour 1		Hours of Calibration:	33
Monthly Average: 0.55 ppb	Percentiles: P <sub>1</sub> = 0.1 P <sub>10</sub> = 0.4 Q <sub>1</sub> = 0.5 Median = 0.6 Q <sub>3</sub> = 0.6 P <sub>90</sub> = 0.7 P <sub>99</sub> = 0.9		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-Apr	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
2-Apr	0	0	0	0	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	0.6	1.0
3-Apr	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	0	0.6	0.7
4-Apr	1	0	0	0	0	0	0	0	0	0	A	0	1	0	1	1	1	1	P	1	0	1	0	0	0.5	0.6
5-Apr	0	0	1	0	1	1	1	1	1	1	A	1	1	0	1	1	1	0	1	1	1	0	0	1	0.5	0.8
6-Apr	0	0	0	0	1	0	0	1	1	A	0	0	0	0	0	1	0	1	1	1	1	1	0	0	0.5	0.6
7-Apr	0	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	0.9
8-Apr	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	0.8
9-Apr	1	1	1	1	0	0	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	0.9
10-Apr	1	1	1	0	1	A	1	1	1	1	0	1	1	1	0	1	1	1	1	1	1	1	0	0	0.5	0.7
11-Apr	0	1	1	1	A	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.6	1.3
12-Apr	1	1	1	A	1	1	1	1	1	1	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0.5	0.8
13-Apr	0	0	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	0	0.7	1.0
14-Apr	0	A	1	1	1	1	1	1	1	1	1	1	1	0	0	0	1	1	1	1	1	1	1	1	0.5	0.6
15-Apr	A	1	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	0.5	0.6
16-Apr	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	0.6	0.7
17-Apr	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	0	0	1	1	0	0	A	0	0	0.5	0.8
18-Apr	1	0	0	1	1	1	1	0	0	0	1	1	1	0	1	1	1	0	1	1	A	0	0	0	0.5	0.6
19-Apr	0	0	0	0	0	0	0	1	0	0	0	0	1	1	1	1	1	1	1	A	1	0	0	0	0.5	0.8
20-Apr	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	1	A	0	0	0	0	0	0.5	0.8
21-Apr	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1	0	0	A	1	1	1	1	1	0	0.4	0.6
22-Apr	0	0	0	0	0	0	1	1	1	1	1	0	0	0	1	1	A	1	1	1	1	1	1	0	0.5	0.7
23-Apr	0	0	0	0	0	0	1	0	0	0	0	0	1	1	1	A	1	1	1	1	0	0	0	0	0.4	0.6
24-Apr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	1	0	0	0.4	0.5
25-Apr	0	0	0	0	0	0	1	0	1	1	0	0	1	A	1	1	1	0	1	1	1	1	1	1	0.5	0.7
26-Apr	1	1	1	1	1	1	1	1	1	1	1	1	A	C	C	1	1	1	1	1	1	1	0	1	0.6	0.8
27-Apr	1	1	1	0	0	0	0	0	0	0	1	A	0	1	1	1	1	1	1	1	1	1	1	1	0.5	0.6
28-Apr	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.0
29-Apr	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	0	0	0.6	0.8
30-Apr	0	0	0	1	1	1	0	1	A	1	0	0	0	1	1	1	1	0	1	1	1	0	0	0	0.5	0.7

0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.5	Diurnal Average
0.9	0.8	1.3	1.0	0.9	0.9	0.9	0.9	0.9	0.6	1.0	0.8	0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.7	0.7	1.0	Diurnal Maximum

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



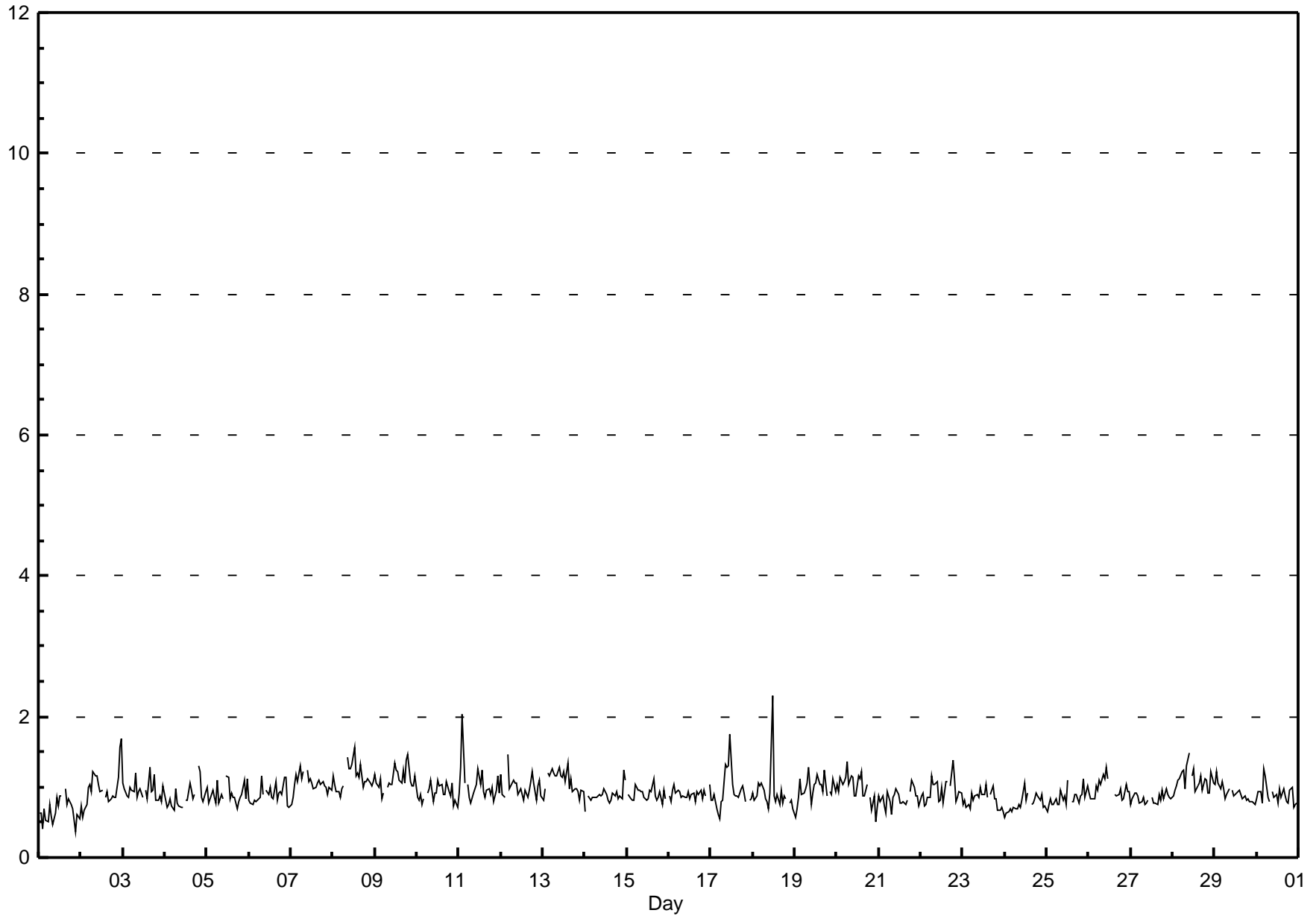
## Hourly Maximums

Total Reduced Sulphur (TRS) - ppb

Portable-Bonanza - April 2011

Maximum Value: 2.3 ppb on Apr 18 12:00		Maximum Daily Average: 1.1 ppb on Apr 8		Hours in Service: 720																						
Minimum Value: 0 ppb on Apr 1 22:00		Minimum Daily Average: 0.7 ppb on Apr 1		Hours of Data: 686																						
Maximum Diurnal Average: 1.1 ppb at hour 12		Minimum Diurnal Average: 0.9 ppb at hour 1		Hours of Missing Data: 34																						
Monthly Average: 0.93 ppb		Percentiles: P <sub>1</sub> = 0.5 P <sub>10</sub> = 0.8 Q <sub>1</sub> = 0.8 Median = 0.9 Q <sub>3</sub> = 1.0 P <sub>90</sub> = 1.2 P <sub>99</sub> = 1.4		Hours of Calibration: 33																						
				Percent Operational Time: 99.9																						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Apr	1	1	0	1	1	1	1	1	0	1	1	1	1	1	A	1	1	1	1	1	1	0	1	1	0.7	1.0
2-Apr	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	2	2	1.0	1.7
3-Apr	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	1.3
4-Apr	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	P	1	1	1	1	1	0.9	1.3
5-Apr	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
6-Apr	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.2
7-Apr	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.3
8-Apr	1	1	1	1	1	1	1	A	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1.1	1.6
9-Apr	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	1.5
10-Apr	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	1.1
11-Apr	1	1	2	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	2.0
12-Apr	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.5
13-Apr	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.1	1.4
14-Apr	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.2
15-Apr	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	0.9	1.1
16-Apr	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	0.9	1.0
17-Apr	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.7
18-Apr	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	0.9	2.3
19-Apr	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1.0	1.3
20-Apr	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1.0	1.4
21-Apr	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	0.8	1.1
22-Apr	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1.0	1.4
23-Apr	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
24-Apr	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
25-Apr	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	0.8	1.1
26-Apr	1	1	1	1	1	1	1	1	1	1	1	1	A	C	C	1	1	1	1	1	1	1	1	1	1.0	1.3
27-Apr	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.0
28-Apr	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	1.5
29-Apr	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
30-Apr	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.3
																								Diurnal Average	Diurnal Maximum	
																								0.9	1.7	
																								1.2	1.7	

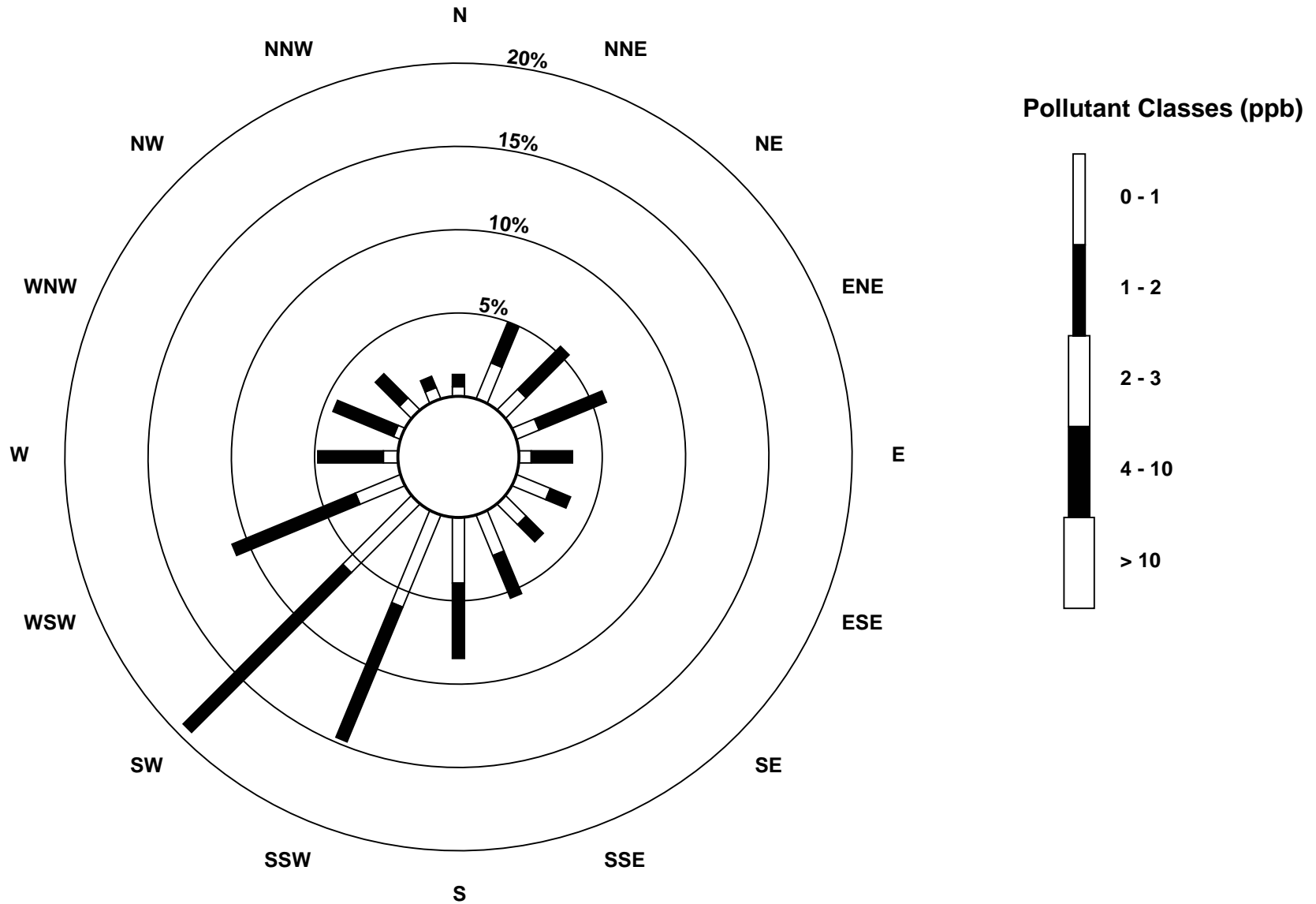
C - Calibration      P - Power Failure      A - Automated Daily Zero Span

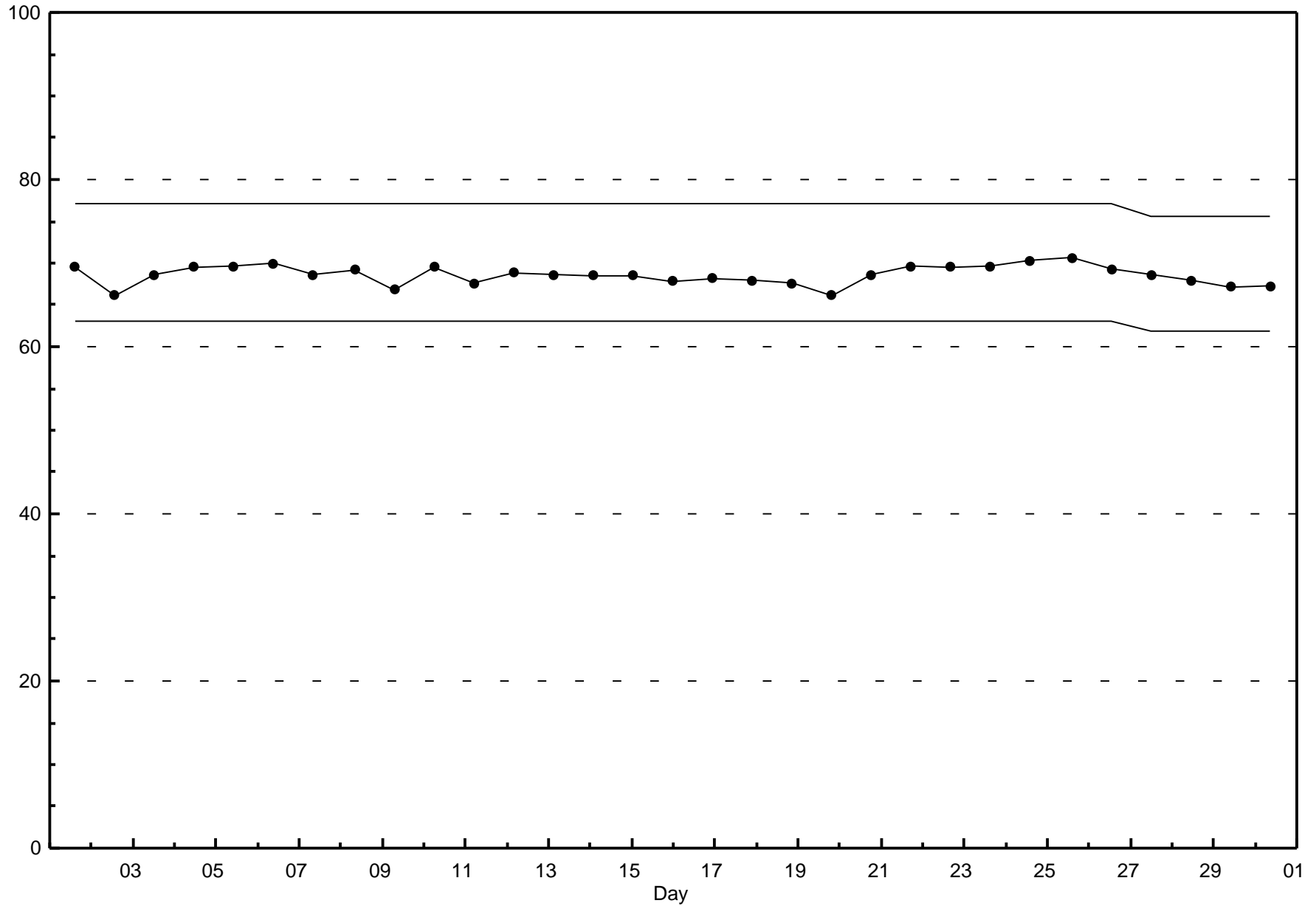




**Pollutant Rose**

**Total Reduced Sulphur (TRS) - ppb**  
**Portable-Bonanza - April 2011**





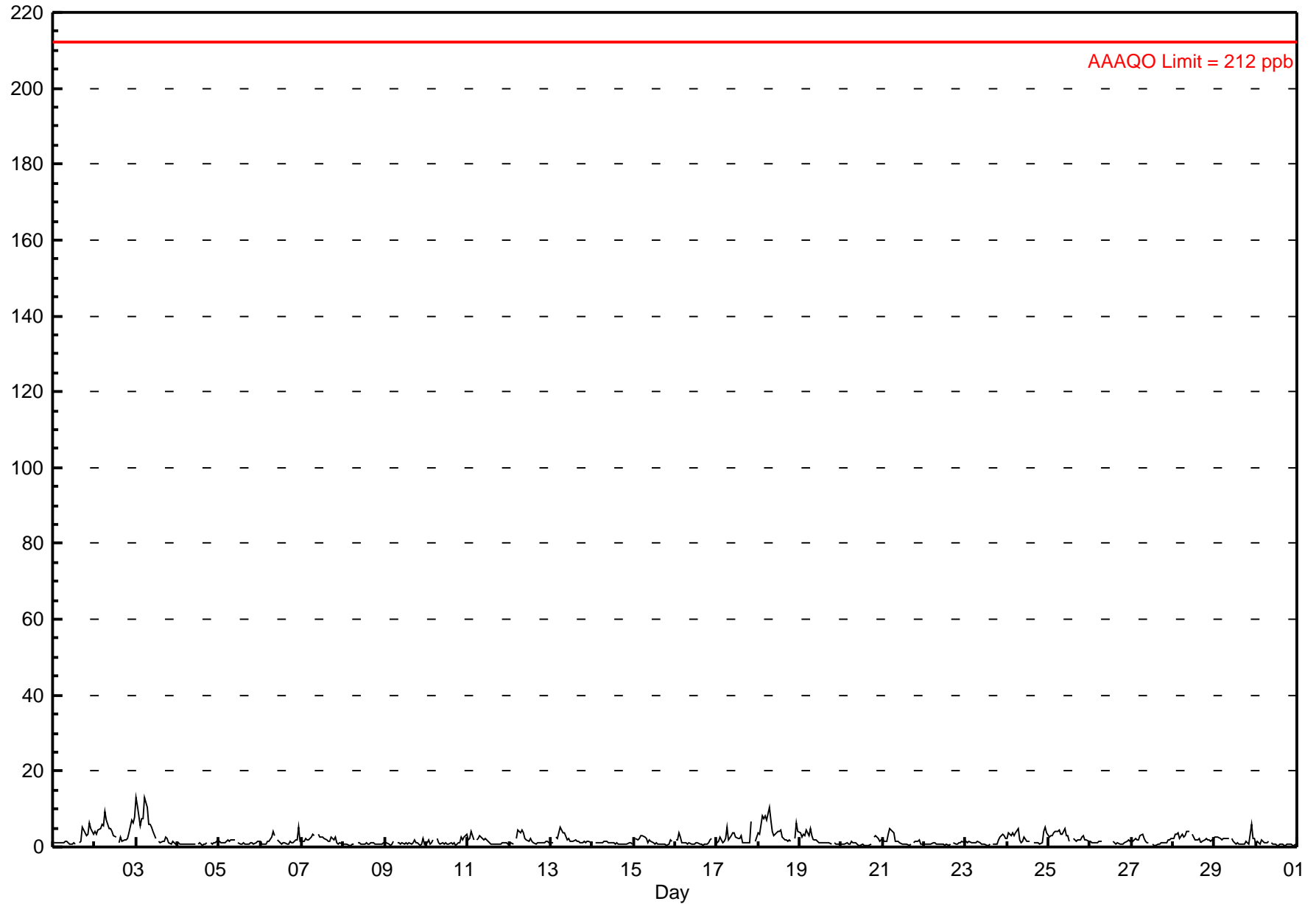
## Hourly Averages

## Nitrogen Dioxide (NO<sub>2</sub>) - ppb Portable-Bonanza - April 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0	Hours in Service: 720
Maximum Value: 13.1 ppb on Apr 3 06:00	Maximum Daily Average: 4.6 ppb on Apr 3
Minimum Value: 0 ppb on Apr 20 15:00	Hours of Data: 684
Maximum Diurnal Average: 3.3 ppb at hour 7	Hours of Missing Data: 36
Monthly Average: 1.87 ppb	Hours of Calibration: 35
Minimum Daily Average: 0.8 ppb on Apr 22	Percent Operational Time: 99.9
Minimum Diurnal Average: 1.0 ppb at hour 17	
Percentiles: P <sub>1</sub> = 0.4 P <sub>10</sub> = 0.6 Q <sub>1</sub> = 0.9 Median = 1.3 Q <sub>3</sub> = 2.2 P <sub>90</sub> = 3.7 P <sub>99</sub> = 7.9	

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-Apr	1	1	1	1	1	1	1	2	1	1	1	1	1	1	A	1	2	5	4	3	4	6	5	3	2.1	6.3																							
2-Apr	4	3	4	5	6	6	9	7	5	5	4	3	2	A	1	3	1	2	2	2	4	7	6	8	4.3	9.3																							
3-Apr	13	11	6	7	7	13	10	6	6	5	4	2	A	1	1	1	2	3	2	1	1	1	1	1	4.6	13.1																							
4-Apr	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	P	1	1	1	1	0.9	1.8																							
5-Apr	1	1	1	1	1	2	2	2	2	2	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1.2	1.9																							
6-Apr	2	1	1	1	1	1	3	4	3	A	2	1	1	1	1	1	1	1	1	1	2	2	5	2	1.6	5.2																							
7-Apr	1	2	2	2	2	2	3	3	A	3	3	3	3	2	2	2	2	3	2	3	1	1	1	1	2.1	3.2																							
8-Apr	1	1	1	1	1	1	1	A	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.2																							
9-Apr	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	2	1	1	1	1	2	1	1.0	2.3																							
10-Apr	1	2	1	1	2	A	2	1	1	1	1	1	1	1	1	1	1	1	1	1	3	2	2	3	1.3	3.2																							
11-Apr	2	2	4	2	A	2	2	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1.5	4.1																							
12-Apr	1	1	1	A	2	5	4	5	4	2	2	2	2	1	1	1	1	1	1	1	1	2	1	1	1.9	4.6																							
13-Apr	1	1	A	3	2	5	5	4	4	2	2	2	2	1	2	2	1	1	1	1	1	1	1	1	2.0	5.2																							
14-Apr	1	A	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.7																							
15-Apr	A	2	2	2	3	3	3	2	1	2	2	1	1	1	1	1	1	1	1	1	1	2	1	A	1.5	3.1																							
16-Apr	2	2	4	3	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	2	2	A	2	1.3	3.6																							
17-Apr	1	2	3	1	2	2	5	2	3	4	4	3	2	2	3	1	1	1	1	1	7	A	1	2	2.3	6.8																							
18-Apr	4	3	8	7	8	7	10	7	4	3	3	4	4	4	2	2	2	2	2	1	A	2	7	4	4.4	10.5																							
19-Apr	4	3	3	3	4	3	5	3	2	2	1	1	1	1	1	1	1	1	1	1	A	1	1	1	2.0	4.8																							
20-Apr	1	1	1	1	1	1	1	1	1	1	0	0	1	0	0	0	0	0	1	A	3	3	2	1	1.1	3.1																							
21-Apr	2	1	2	3	5	5	4	2	1	2	1	1	1	1	1	1	1	A	1	2	2	2	1	1	1.7	4.7																							
22-Apr	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	0.8	1.5																							
23-Apr	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	A	1	1	1	2	3	3	3	2	1.3	3.2																							
24-Apr	2	4	3	4	3	4	5	2	1	1	2	1	2	1	A	1	1	1	1	1	1	4	5	4	2.4	5.0																							
25-Apr	3	3	3	4	4	4	5	3	3	5	3	3	2	A	2	2	2	2	2	3	3	2	2	1	2.8	4.9																							
26-Apr	1	1	1	1	1	2	1	1	C	C	C	C	C	1	1	1	1	1	1	1	1	1	2	1	1.2	2.0																							
27-Apr	2	1	2	2	2	3	3	2	2	1	1	A	1	1	1	1	1	1	1	1	1	2	2	2	1.5	3.3																							
28-Apr	2	3	3	4	2	3	3	3	4	4	A	3	3	2	2	2	1	1	2	2	2	2	2	2	2.5	4.3																							
29-Apr	3	3	3	2	2	2	2	2	2	A	2	1	1	1	1	1	1	1	2	1	1	6	2	2	1.9	5.9																							
30-Apr	1	2	1	2	2	1	1	1	A	1	1	1	0	0	1	1	0	0	1	1	1	0	1	1	0.8	1.7																							
																								2.1	2.1	2.2	2.3	2.4	2.9	3.3	2.6	2.2	2.0	1.8	1.6	1.3	1.2	1.1	1.1	1.0	1.3	1.3	1.4	1.7	2.1	2.2	1.9	Diurnal Average	
																								13.0	10.6	8.2	7.3	8.3	13.1	10.5	7.2	5.9	5.3	4.1	4.1	4.1	4.4	2.8	2.7	1.7	5.1	3.7	3.0	6.8	6.9	6.5	8.0	Diurnal Maximum	

C - Calibration      P - Power Failure      A - Automated Daily Zero Span  
 Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 212 ppb      24-hr 106 ppb



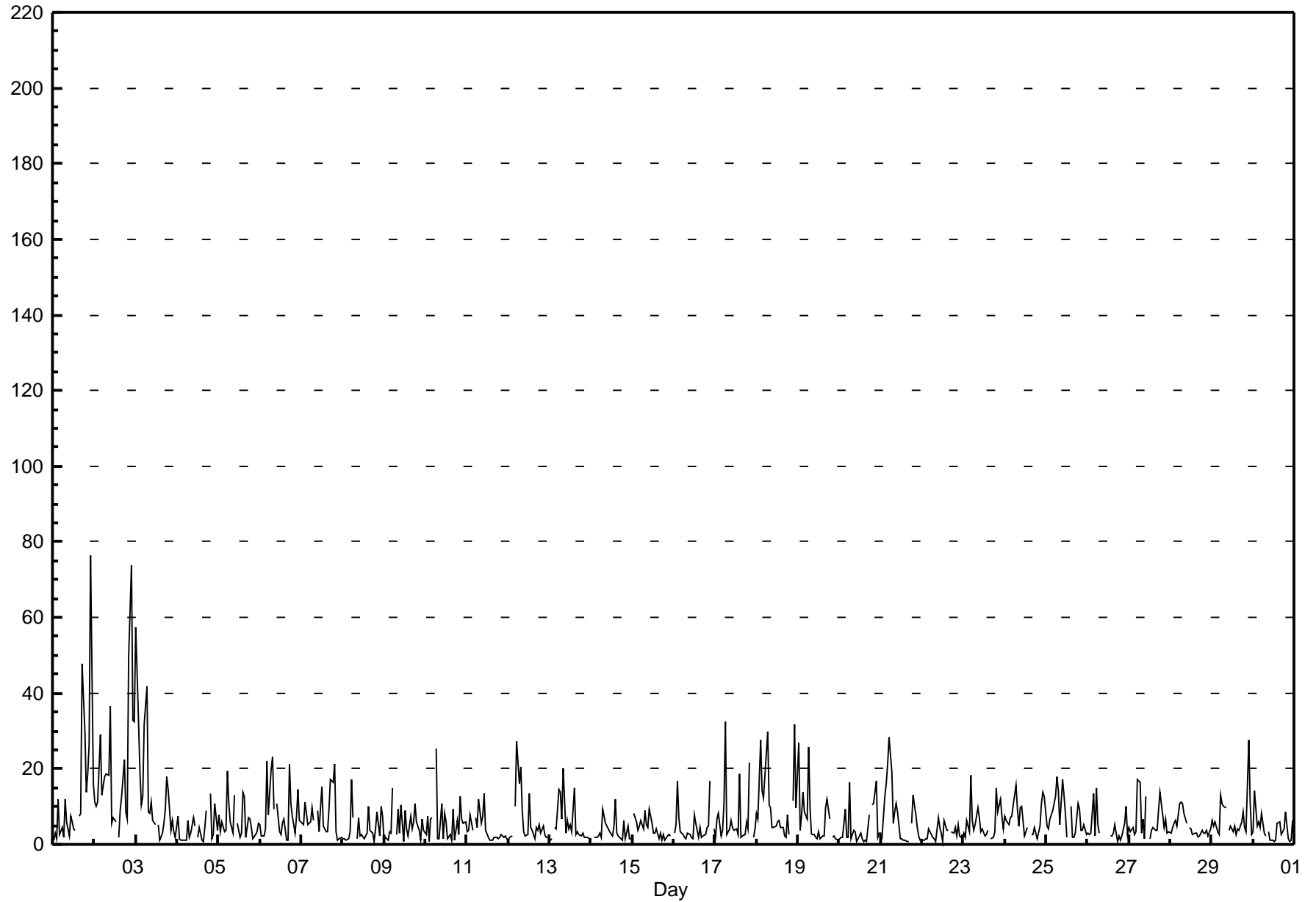
## Hourly Maximums

## Nitrogen Dioxide (NO<sub>2</sub>) - ppb Portable-Bonanza - April 2011

Maximum Value: 76.4 ppb on Apr 1 23:00		Maximum Daily Average: 19.5 ppb on Apr 2		Hours in Service: 720																																													
Minimum Value: 1 ppb on Apr 20 17:00		Minimum Daily Average: 2.9 ppb on Apr 22		Hours of Data: 684																																													
Maximum Diurnal Average: 13.5 ppb at hour 7		Minimum Diurnal Average: 3.5 ppb at hour 14		Hours of Missing Data: 36																																													
Monthly Average: 6.82 ppb		Percentiles: P <sub>1</sub> = 0.6 P <sub>10</sub> = 1.5 Q <sub>1</sub> = 2.4 Median = 4.3 Q <sub>3</sub> = 8.4 P <sub>90</sub> = 14.4 P <sub>99</sub> = 40.3		Hours of Calibration: 35																																													
				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-Apr	1	3	1	12	2	4	2	12	6	2	7	6	4	4	A	7	8	48	30	14	19	26	76	16	13.6	76.4																							
2-Apr	11	10	11	29	13	16	18	19	18	36	6	7	6	A	2	9	13	22	9	7	49	74	33	32	19.5	73.8																							
3-Apr	58	45	20	10	13	32	42	9	8	11	6	5	A	5	1	3	6	9	18	15	4	6	3	2	14.4	57.5																							
4-Apr	8	2	1	1	1	1	6	2	3	7	5	A	2	5	1	1	4	9	P	13	1	3	11	4	4.1	13.5																							
5-Apr	8	3	6	3	4	19	11	6	3	13	A	6	2	3	14	13	2	7	7	4	1	3	4	6	6.4	19.4																							
6-Apr	5	2	2	4	22	8	20	23	9	A	11	3	3	6	7	1	1	21	11	8	3	7	14	6	8.6	23.0																							
7-Apr	6	5	11	8	5	6	10	6	A	9	3	10	15	5	3	3	9	17	16	21	3	1	1	2	7.7	21.2																							
8-Apr	2	2	1	2	4	17	7	A	1	7	2	3	1	2	3	10	4	3	1	4	8	2	10	7	4.5	17.2																							
9-Apr	2	2	1	3	3	15	A	3	9	3	10	1	9	4	2	7	4	6	11	6	4	1	7	4	5.0	15.1																							
10-Apr	3	8	1	7	7	A	26	2	1	11	1	8	6	1	2	1	9	1	6	3	13	7	6	6	5.9	25.5																							
11-Apr	3	4	8	4	A	7	4	12	5	8	13	4	2	1	1	1	2	2	2	2	2	2	2	2	4.0	13.3																							
12-Apr	1	2	2	A	10	27	16	21	9	3	2	3	13	5	4	2	4	4	5	3	5	2	2	2	6.4	27.2																							
13-Apr	1	2	A	5	4	14	14	7	20	3	6	4	5	3	15	2	3	3	2	3	2	2	2	1	5.4	20.1																							
14-Apr	2	A	2	2	2	3	2	9	6	5	4	3	2	5	12	3	2	1	1	6	1	5	2	2	3.6	11.8																							
15-Apr	A	8	6	4	5	6	4	9	5	5	9	6	3	3	4	2	3	1	3	1	2	3	2	A	4.2	9.4																							
16-Apr	3	5	17	7	4	3	2	1	3	3	2	1	8	6	2	5	2	2	3	5	5	17	A	4	4.6	16.9																							
17-Apr	2	7	8	2	4	11	32	3	4	6	4	4	4	3	19	2	2	3	6	4	22	A	2	4	6.8	32.4																							
18-Apr	8	7	27	14	12	18	30	10	10	4	4	5	6	6	5	4	2	2	8	3	A	12	32	10	10.4	31.5																							
19-Apr	27	4	8	14	8	7	26	10	3	3	2	1	3	2	2	10	12	7	A	2	2	2	1	6.8	26.7																								
20-Apr	1	2	2	9	2	2	16	1	4	3	1	2	3	1	1	1	1	8	A	11	11	17	2	3	4.5	16.8																							
21-Apr	3	2	13	16	21	28	19	6	9	11	8	1	2	1	1	1	1	A	5	13	8	5	2	1	7.7	28.4																							
22-Apr	1	1	2	1	4	3	2	2	1	7	4	3	1	6	4	4	A	3	3	4	2	5	2	2	2.9	6.9																							
23-Apr	3	2	6	3	18	6	4	5	10	7	3	4	2	2	4	A	1	2	3	15	9	12	7	4	5.9	18.2																							
24-Apr	7	6	5	7	7	10	16	9	5	10	10	2	3	4	A	3	3	4	3	1	5	11	14	13	6.9	15.7																							
25-Apr	5	4	7	8	9	13	18	14	5	17	13	8	2	A	10	2	2	3	11	9	4	4	5	3	7.6	17.9																							
26-Apr	3	3	3	14	2	15	5	3	C	C	C	C	C	2	2	3	5	1	2	1	2	6	10	3	4.5	15.0																							
27-Apr	5	3	4	3	3	17	17	3	7	2	13	A	2	4	4	4	4	9	14	11	4	7	3	3	6.3	17.3																							
28-Apr	3	4	6	6	5	11	11	11	8	6	A	5	4	2	3	3	2	2	4	3	3	4	2	4	4.9	11.3																							
29-Apr	6	5	6	3	3	13	11	10	10	A	4	5	3	5	3	4	4	6	9	4	3	28	11	3	6.8	27.5																							
30-Apr	3	14	5	6	4	8	3	2	A	3	1	1	1	1	6	6	3	4	4	9	2	1	1	6	4.1	14.2																							
																								6.6	5.7	6.7	7.2	7.0	11.8	13.5	7.9	6.7	7.6	5.9	4.1	4.2	3.5	4.8	3.7	4.0	7.4	7.3	7.0	6.9	9.4	9.3	5.3	Diurnal Average	
																								57.5	45.3	27.5	29.0	22.1	31.8	41.6	23.0	20.1	36.4	13.3	9.6	15.1	6.5	18.8	12.9	12.8	47.8	29.9	21.2	49.4	73.8	76.4	32.4	Diurnal Maximum	
C - Calibration																								P - Power Failure						A - Automated Daily Zero Span																			

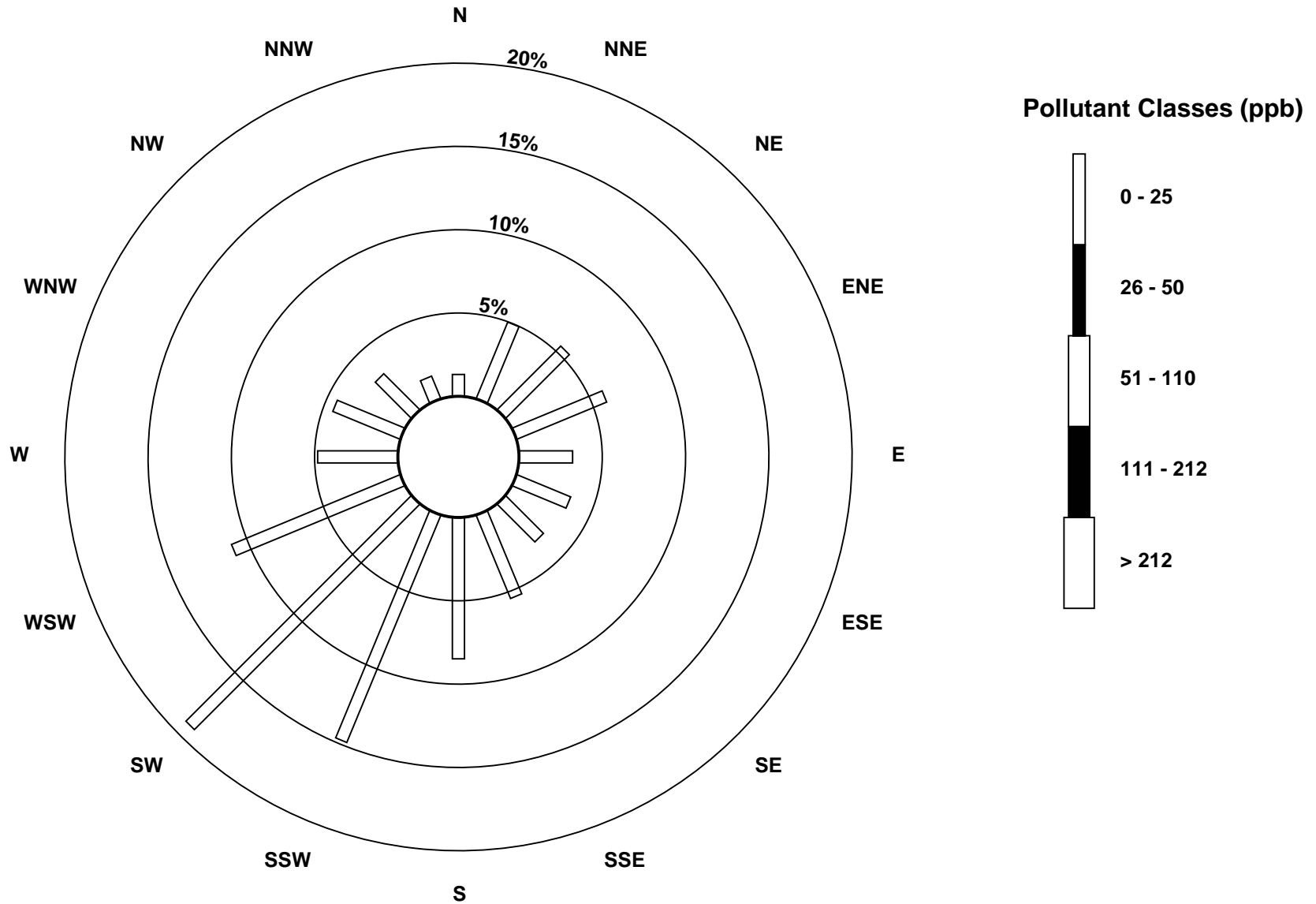
**Hourly Maximums**

**Nitrogen Dioxide (NO<sub>2</sub>) - ppb**  
**Portable-Bonanza - April 2011**



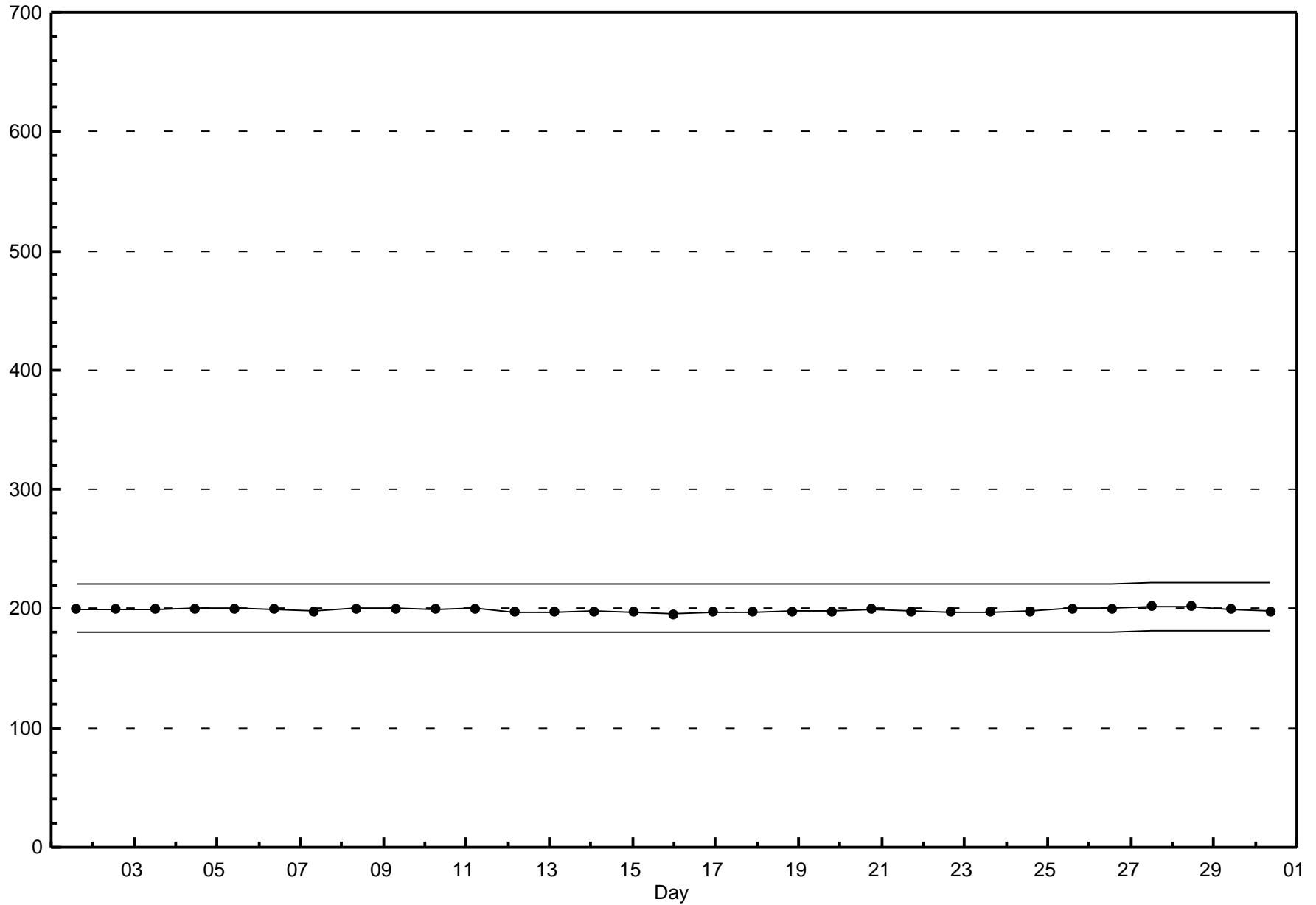
**Pollutant Rose**

**Nitrogen Dioxide (NO<sub>2</sub>) - ppb**  
**Portable-Bonanza - April 2011**



### Span Responses

Nitrogen Dioxide (NO<sub>2</sub>)  
Portable-Bonanza - April 2011





## Hourly Averages

Nitrogen Oxide (NO) - ppb

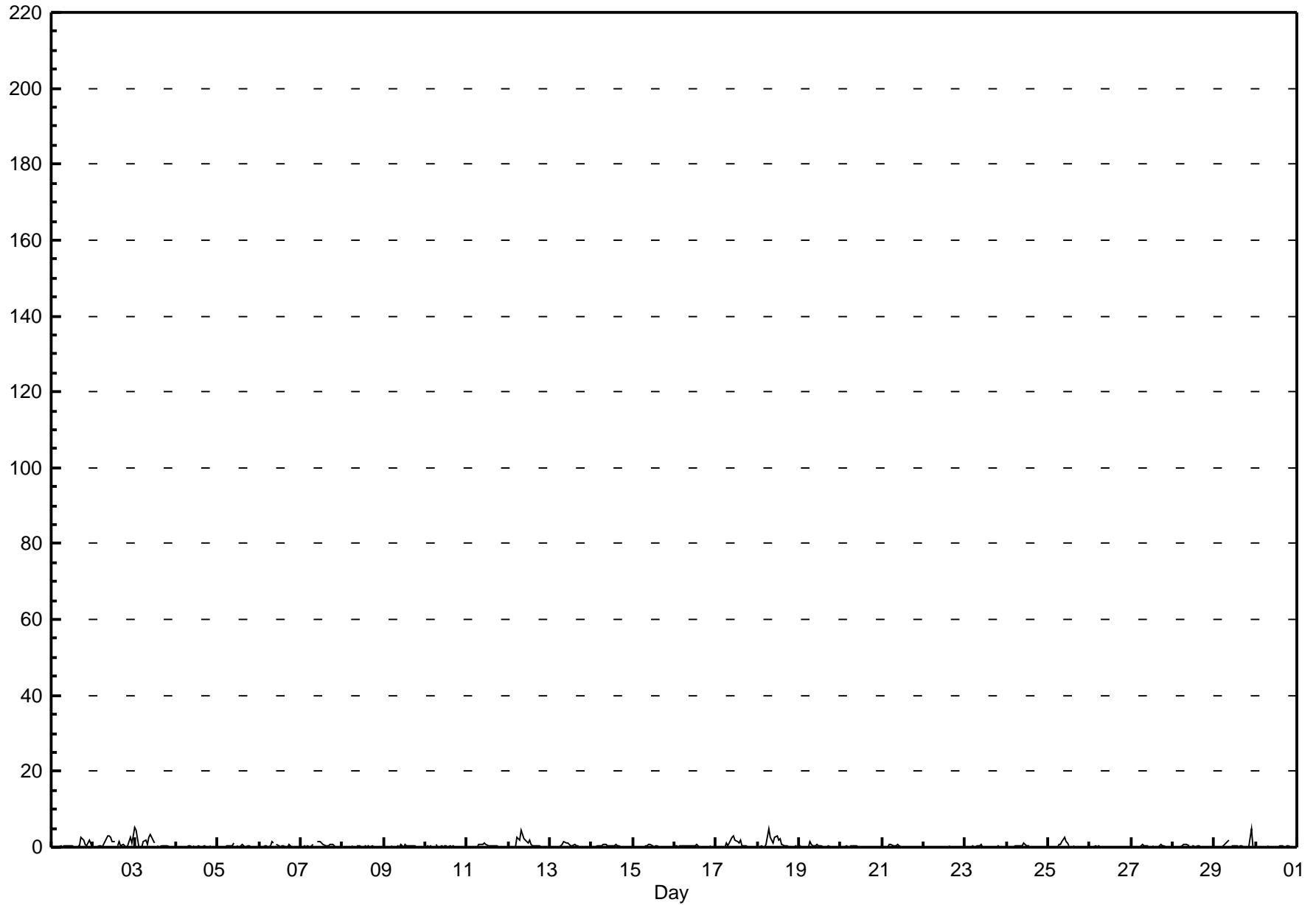
Portable-Bonanza - April 2011

Number of Exceedences (AAQO):	1-hr: 0	24-hr: 0	Hours in Service:	720
Maximum Value: 5.3 ppb on Apr 3 01:00	Maximum Daily Average: 1.2 ppb on Apr 3		Hours of Data:	684
Minimum Value: 0 ppb on Apr 1 02:00	Minimum Daily Average: 0.1 ppb on Apr 26		Hours of Missing Data:	36
Maximum Diurnal Average: 1.0 ppb at hour 10	Minimum Diurnal Average: 0.1 ppb at hour 3		Hours of Calibration:	35
Monthly Average: 0.37 ppb	Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.0 Q <sub>1</sub> = 0.0 Median = 0.1 Q <sub>3</sub> = 0.4 P <sub>90</sub> = 0.9 P <sub>99</sub> = 3.4		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-Apr	0	0	0	0	0	0	0	0	1	0	0	0	0	0	A	0	0	2	2	1	0	1	2	0	0.5	2.5
2-Apr	0	0	0	0	0	0	1	2	3	3	3	2	1	A	0	1	0	1	0	0	0	2	1	3	1.1	3.1
3-Apr	5	5	0	0	0	2	2	1	3	3	2	1	A	0	0	0	0	1	1	0	0	0	0	0	1.2	5.3
4-Apr	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	P	0	0	0	0	0.2	0.5
5-Apr	0	0	0	0	0	0	0	0	0	1	A	0	0	0	1	0	0	0	0	0	0	0	0	0	0.2	1.1
6-Apr	0	0	0	0	0	0	0	1	1	A	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0.3	1.3
7-Apr	0	0	0	0	0	0	0	1	A	2	1	1	1	1	1	0	0	1	1	0	0	0	0	0	0.5	1.6
8-Apr	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.4
9-Apr	0	0	0	0	0	0	0	A	0	0	0	1	0	1	0	0	0	1	0	0	0	0	0	0	0.2	0.8
10-Apr	0	0	0	0	0	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.7
11-Apr	0	0	0	0	A	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.0
12-Apr	0	0	0	A	0	3	2	4	3	2	2	1	2	1	0	0	0	0	0	0	0	0	0	0	1.0	4.4
13-Apr	0	0	A	0	0	0	0	1	2	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0.4	1.6
14-Apr	0	A	0	0	0	0	0	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0.3	0.8
15-Apr	A	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.8
16-Apr	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	A	0	0.2	0.6
17-Apr	0	0	0	0	0	0	1	0	2	2	3	2	2	1	2	0	0	0	0	0	0	0	0	0	0.7	3.0
18-Apr	0	0	0	0	0	1	5	2	2	1	2	3	2	2	1	0	0	0	0	0	0	0	0	0	1.0	4.8
19-Apr	0	0	0	0	0	0	1	1	0	1	1	0	0	0	0	0	0	0	0	0	A	0	0	0	0.2	1.5
20-Apr	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
21-Apr	0	0	0	0	1	1	0	0	1	1	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0.2	0.8
22-Apr	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
23-Apr	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.1	0.6
24-Apr	0	0	0	0	0	0	0	0	0	0	1	0	0	0	A	0	0	0	0	0	0	0	0	0	0.2	1.0
25-Apr	0	0	0	0	0	0	1	1	1	3	1	1	0	A	0	0	0	0	0	0	0	0	0	0	0.4	2.7
26-Apr	0	0	0	0	0	0	0	0	C	C	C	C	C	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
27-Apr	0	0	0	0	0	0	1	0	1	0	0	A	0	0	0	0	0	1	0	0	0	0	0	0	0.2	0.8
28-Apr	0	0	0	0	0	0	1	1	1	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.7
29-Apr	0	0	0	0	0	0	1	1	2	A	1	0	0	0	0	0	0	0	0	0	0	5	0	0	0.5	4.7
30-Apr	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.4

0.2	0.2	0.1	0.1	0.1	0.3	0.7	0.7	0.7	1.0	0.9	0.6	0.5	0.4	0.3	0.2	0.2	0.3	0.2	0.2	0.1	0.3	0.1	0.1	Diurnal Average	
5.3	4.5	0.4	0.3	0.7	2.6	4.8	4.4	3.4	3.5	3.0	3.1	2.0	2.2	1.7	1.5	0.5	2.5	2.0	0.7	0.4	4.7	1.8	3.0	Diurnal Maximum	

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



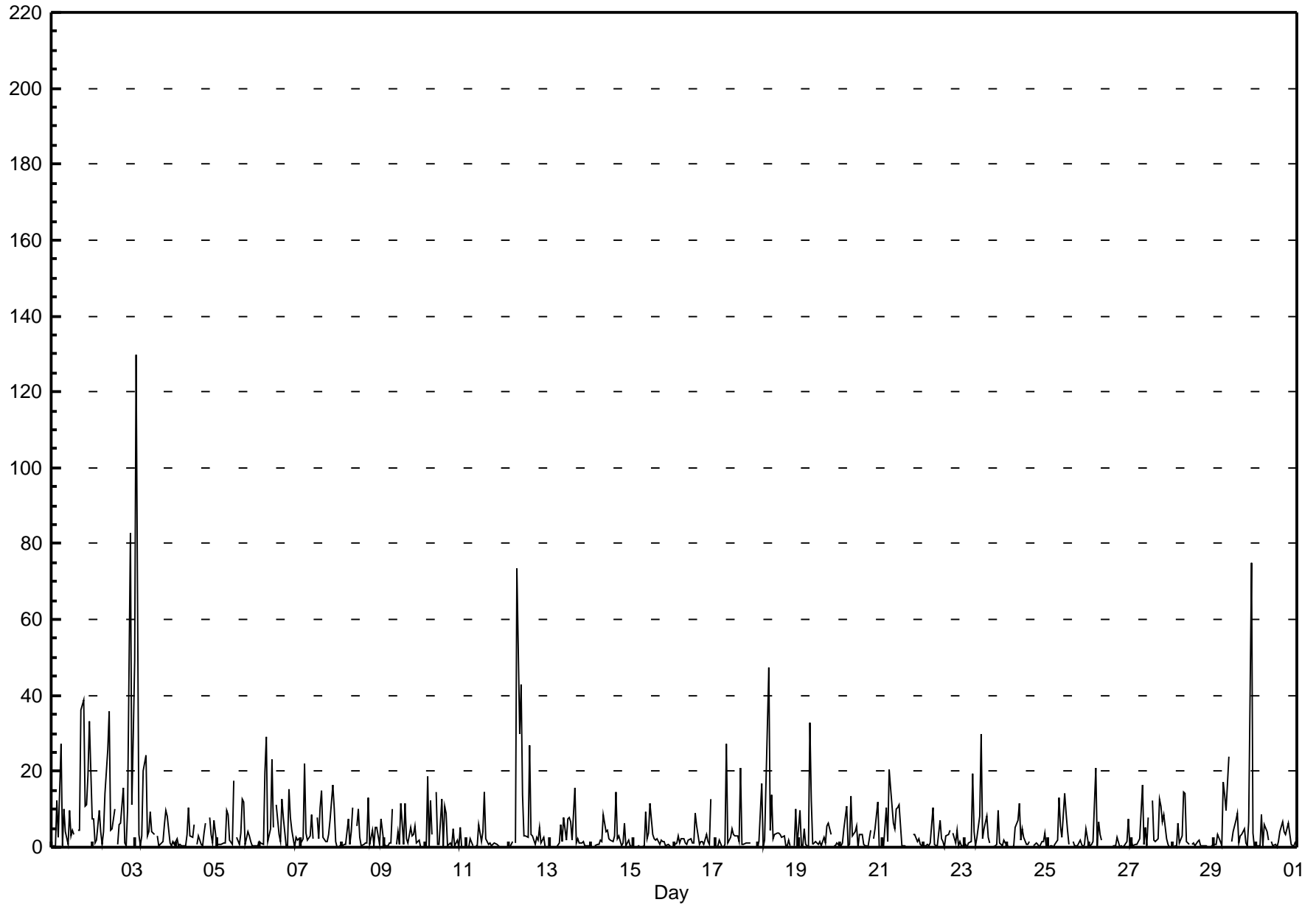
## Hourly Maximums

## Nitrogen Oxide (NO) - ppb Portable-Bonanza - April 2011

Maximum Value: 129.8 ppb on Apr 3 02:00		Maximum Daily Average: 12.5 ppb on Apr 2		Hours in Service: 720																																													
Minimum Value: 0 ppb on Apr 24 02:00		Minimum Daily Average: 1.7 ppb on Apr 11		Hours of Data: 684																																													
Maximum Diurnal Average: 11.0 ppb at hour 7		Minimum Diurnal Average: 1.8 ppb at hour 24		Hours of Missing Data: 36																																													
Monthly Average: 4.66 ppb		Percentiles: P <sub>1</sub> = 0.1 P <sub>10</sub> = 0.2 Q <sub>1</sub> = 0.5 Median = 1.6 Q <sub>3</sub> = 4.9 P <sub>90</sub> = 11.5 P <sub>99</sub> = 41.3		Hours of Calibration: 35																																													
				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-Apr	0	0	0	12	3	27	0	10	4	1	10	3	5	3	A	4	4	36	39	11	11	19	33	8	10.6	38.8																							
2-Apr	7	1	2	10	4	1	4	14	26	36	4	5	10	A	1	6	6	16	1	0	10	83	11	29	12.5	83.0																							
3-Apr	49	130	3	0	3	20	24	3	4	9	4	3	A	3	0	1	1	6	10	8	1	0	1	1	12.5	129.8																							
4-Apr	2	0	1	0	0	0	3	11	3	3	6	A	1	3	1	0	4	6	P	8	3	1	7	1	2.9	10.6																							
5-Apr	1	1	1	1	1	10	9	2	1	17	A	3	1	4	13	12	1	4	3	2	1	1	0	0	3.8	17.5																							
6-Apr	1	1	1	20	29	1	5	23	5	A	11	3	1	13	8	0	0	15	8	5	0	3	2	2	6.9	29.0																							
7-Apr	2	2	22	4	2	3	8	2	A	8	2	10	15	2	2	3	7	16	10	1	0	0	1	5.4	22.1																								
8-Apr	1	1	1	8	1	4	11	A	5	10	3	1	1	1	13	1	4	0	5	5	1	7	5	3.8	13.1																								
9-Apr	1	0	0	1	1	10	A	1	4	1	11	1	12	2	1	5	3	3	6	1	2	0	0	0	2.9	11.7																							
10-Apr	1	19	0	12	3	A	15	1	1	13	1	11	9	0	1	0	5	0	2	0	5	0	0	0	4.3	18.7																							
11-Apr	0	0	2	0	A	0	0	6	2	4	15	2	1	1	1	1	1	1	1	0	0	0	0	0	1.7	14.7																							
12-Apr	0	0	2	A	1	73	30	43	14	3	3	3	27	3	3	1	3	2	5	1	2	0	0	0	9.5	73.3																							
13-Apr	0	0	A	0	0	1	6	2	8	2	8	8	7	2	16	1	2	1	1	2	0	0	0	0	2.9	15.7																							
14-Apr	0	A	0	1	1	2	2	9	4	5	2	2	1	3	14	2	3	0	1	6	0	2	0	0	2.7	14.4																							
15-Apr	A	0	0	0	0	0	0	9	2	4	12	3	2	2	2	1	2	1	1	0	1	0	0	A	2.0	11.5																							
16-Apr	1	1	3	1	2	2	1	1	2	2	1	1	9	6	1	2	2	1	3	1	1	13	A	0	2.4	12.7																							
17-Apr	0	0	2	0	0	1	27	1	3	5	3	3	3	2	21	1	1	1	1	1	1	A	0	0	3.3	27.1																							
18-Apr	0	2	17	0	2	17	47	5	14	2	4	4	3	2	3	1	0	2	0	2	A	0	10	0	6.1	47.5																							
19-Apr	10	0	0	5	1	0	33	12	1	2	1	1	0	2	1	6	6	3	A	1	1	1	1	0	3.8	32.8																							
20-Apr	0	1	5	11	0	1	13	3	4	5	0	3	4	1	0	0	0	4	A	2	5	12	0	0	3.3	13.4																							
21-Apr	0	0	10	1	21	16	6	5	10	10	11	0	1	0	0	0	0	A	4	3	2	2	1	0	4.5	20.5																							
22-Apr	0	0	1	1	1	11	1	0	0	7	2	2	0	3	3	5	A	4	1	5	1	2	0	0	2.2	10.6																							
23-Apr	1	0	1	1	19	4	0	2	8	30	2	5	8	3	1	A	0	0	1	10	1	0	2	1	4.4	29.7																							
24-Apr	1	0	0	0	1	5	7	12	2	5	2	1	1	2	A	0	1	1	1	0	2	2	4	0	2.1	11.5																							
25-Apr	0	0	0	0	1	2	13	6	3	14	9	4	1	A	1	0	0	0	2	1	0	1	5	0	2.8	14.1																							
26-Apr	0	1	1	21	0	7	3	2	C	C	C	C	C	0	1	1	3	0	0	0	0	1	7	0	2.6	21.0																							
27-Apr	2	1	1	1	1	2	16	1	5	1	8	A	12	2	2	2	13	11	7	9	2	1	0	0	4.3	16.2																							
28-Apr	0	0	0	6	1	3	14	14	2	1	A	1	1	0	1	2	0	0	0	0	0	0	1	1	2.1	14.5																							
29-Apr	1	1	3	1	0	17	14	10	24	A	2	4	7	9	1	3	3	5	1	0	7	75	4	0	8.3	74.9																							
30-Apr	0	0	0	9	1	6	4	2	A	2	0	1	0	1	4	7	4	4	5	6	1	0	0	1	2.5	8.5																							
																								2.8	5.6	2.8	4.4	3.5	8.5	11.0	7.2	5.9	7.4	5.1	3.2	5.1	2.7	3.7	2.6	2.5	4.9	4.5	3.4	2.3	7.6	3.4	1.8	Diurnal Average	
																								49.1	129.8	22.1	21.0	29.0	73.3	47.5	42.9	25.9	35.9	14.7	10.7	27.0	12.6	20.9	13.1	12.6	36.3	38.8	10.8	11.0	83.0	33.2	29.3	Diurnal Maximum	
C - Calibration																								P - Power Failure						A - Automated Daily Zero Span																			

### Hourly Maximums

Nitrogen Oxide (NO) - ppb  
Portable-Bonanza - April 2011



## Hourly Averages

Oxides of Nitrogen (NO<sub>x</sub>) - ppb

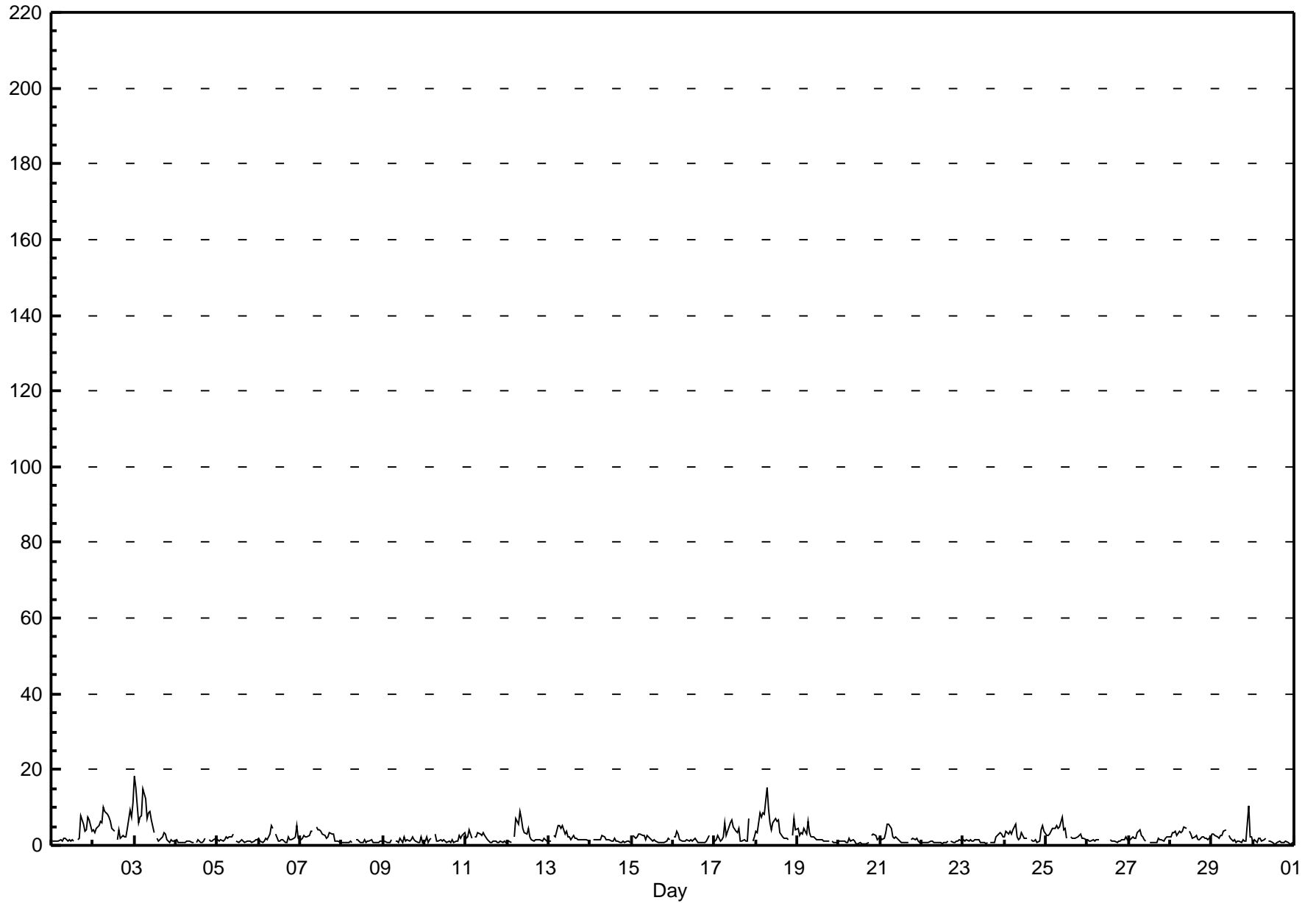
Portable-Bonanza - April 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 18.4 ppb on Apr 3 01:00 Maximum Daily Average: 5.9 ppb on Apr 3											Hours in Service: 720 Hours of Data: 684															
Minimum Value: 0 ppb on Apr 20 15:00 Minimum Daily Average: 0.8 ppb on Apr 22 Maximum Diurnal Average: 4.0 ppb at hour 7 Minimum Diurnal Average: 1.2 ppb at hour 17 Monthly Average: 2.27 ppb Percentiles: P <sub>1</sub> = 0.5 P <sub>10</sub> = 0.8 Q <sub>1</sub> = 1.0 Median = 1.5 Q <sub>3</sub> = 2.6 P <sub>90</sub> = 4.4 P <sub>99</sub> = 10.4											Hours of Missing Data: 36 Hours of Calibration: 35 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-Apr	1	1	1	1	1	2	1	2	2	1	1	1	2	1	A	1	2	8	6	4	4	8	7	4	2.6	7.6
2-Apr	4	3	5	5	6	6	10	9	8	8	7	5	4	A	2	4	2	3	2	2	4	10	7	11	5.5	11.1
3-Apr	18	15	6	8	8	15	12	7	9	9	7	3	A	2	1	2	2	3	3	1	1	1	1	1	5.9	18.4
4-Apr	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	2	P	2	1	1	1	2	1.1	1.8
5-Apr	2	1	1	1	1	2	2	2	2	3	A	1	1	1	2	1	1	1	1	1	1	1	2	1	1.4	3.0
6-Apr	2	1	1	1	2	1	3	5	4	A	3	1	1	1	2	1	1	2	2	1	2	2	5	2	2.0	5.4
7-Apr	2	2	3	2	2	3	4	4	A	5	4	4	4	3	3	2	2	3	3	3	1	1	1	1	2.6	4.8
8-Apr	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.4
9-Apr	1	1	1	1	1	2	A	1	1	1	2	1	2	1	1	1	2	2	2	1	1	1	2	1	1.2	2.4
10-Apr	1	2	1	1	2	A	3	1	1	1	1	2	1	1	1	1	1	1	1	1	3	2	2	3	1.5	3.3
11-Apr	2	2	4	2	A	2	2	3	3	3	3	3	1	1	1	1	1	1	1	1	1	1	1	1	1.8	4.3
12-Apr	1	1	1	A	2	7	6	9	7	4	3	3	4	2	2	1	2	2	2	1	1	2	1	1	2.9	9.0
13-Apr	1	1	A	3	2	5	5	4	5	3	4	2	2	2	3	2	2	1	2	2	1	2	2	1	2.4	5.3
14-Apr	1	A	2	1	1	1	1	3	2	2	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1.3	2.5
15-Apr	A	2	2	2	3	3	3	3	1	3	2	1	1	1	1	1	1	1	1	1	1	2	1	A	1.7	3.1
16-Apr	2	2	4	3	1	1	1	1	1	1	1	1	2	2	1	1	1	1	1	1	2	2	A	2	1.6	3.8
17-Apr	1	2	3	1	2	2	6	2	5	6	7	5	4	3	5	1	1	1	1	1	7	A	1	2	3.1	7.0
18-Apr	4	3	9	7	9	8	15	10	6	4	6	7	6	7	3	2	2	2	2	1	A	2	7	4	5.5	15.4
19-Apr	4	3	3	3	4	3	6	3	2	2	2	1	2	1	1	1	1	1	1	A	1	1	1	1	2.2	6.3
20-Apr	1	1	1	1	1	1	2	1	1	1	0	1	1	0	0	0	0	1	A	3	3	3	1	2	1.2	3.2
21-Apr	2	1	2	3	5	5	4	2	2	2	2	1	1	1	1	1	1	A	1	2	2	2	1	1	2.0	5.5
22-Apr	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	1.5
23-Apr	2	1	1	1	2	1	1	2	1	1	1	1	1	1	A	1	1	1	1	2	3	3	3	2	1.4	3.2
24-Apr	2	4	3	4	3	4	6	2	1	2	4	2	2	2	A	1	1	1	1	1	1	4	5	4	2.6	5.5
25-Apr	3	3	3	4	4	4	5	4	5	8	4	4	2	A	2	2	2	2	2	3	3	2	2	1	3.2	7.6
26-Apr	1	1	1	1	1	2	1	2	C	C	C	C	C	2	1	1	1	1	1	1	1	2	2	1	1.3	2.2
27-Apr	2	2	2	2	2	3	4	3	2	1	1	A	1	1	1	1	1	2	1	1	1	2	2	2	1.7	4.2
28-Apr	2	3	3	4	2	4	3	4	5	4	A	4	3	2	2	2	1	1	2	2	2	2	2	2	2.8	4.9
29-Apr	3	3	3	2	2	3	3	4	4	A	3	2	1	1	1	1	1	2	1	1	11	2	2	2	2.4	10.6
30-Apr	1	2	1	2	2	1	1	2	A	1	1	1	0	0	1	1	1	1	1	1	1	1	1	1	1.0	1.9
																								Diurnal Average	Diurnal Maximum	
																								2.4	18.4	
																								2.3	15.3	
																								2.3	8.7	
																								2.4	7.5	
																								2.6	8.5	
																								3.3	15.0	
																								4.0	15.4	
																								3.3	9.8	
																								3.2	8.7	
																								3.0	8.8	
																								2.7	6.7	
																								2.2	7.2	
																								1.8	6.2	
																								1.6	6.6	
																								1.5	4.6	
																								1.3	4.3	
																								1.2	2.1	
																								1.6	7.6	
																								1.6	5.7	
																								1.6	3.7	
																								1.8	7.0	
																								2.5	10.6	
																								2.3	7.3	
																								2.1	11.1	

C - Calibration

P - Power Failure

A - Automated Daily Zero Span

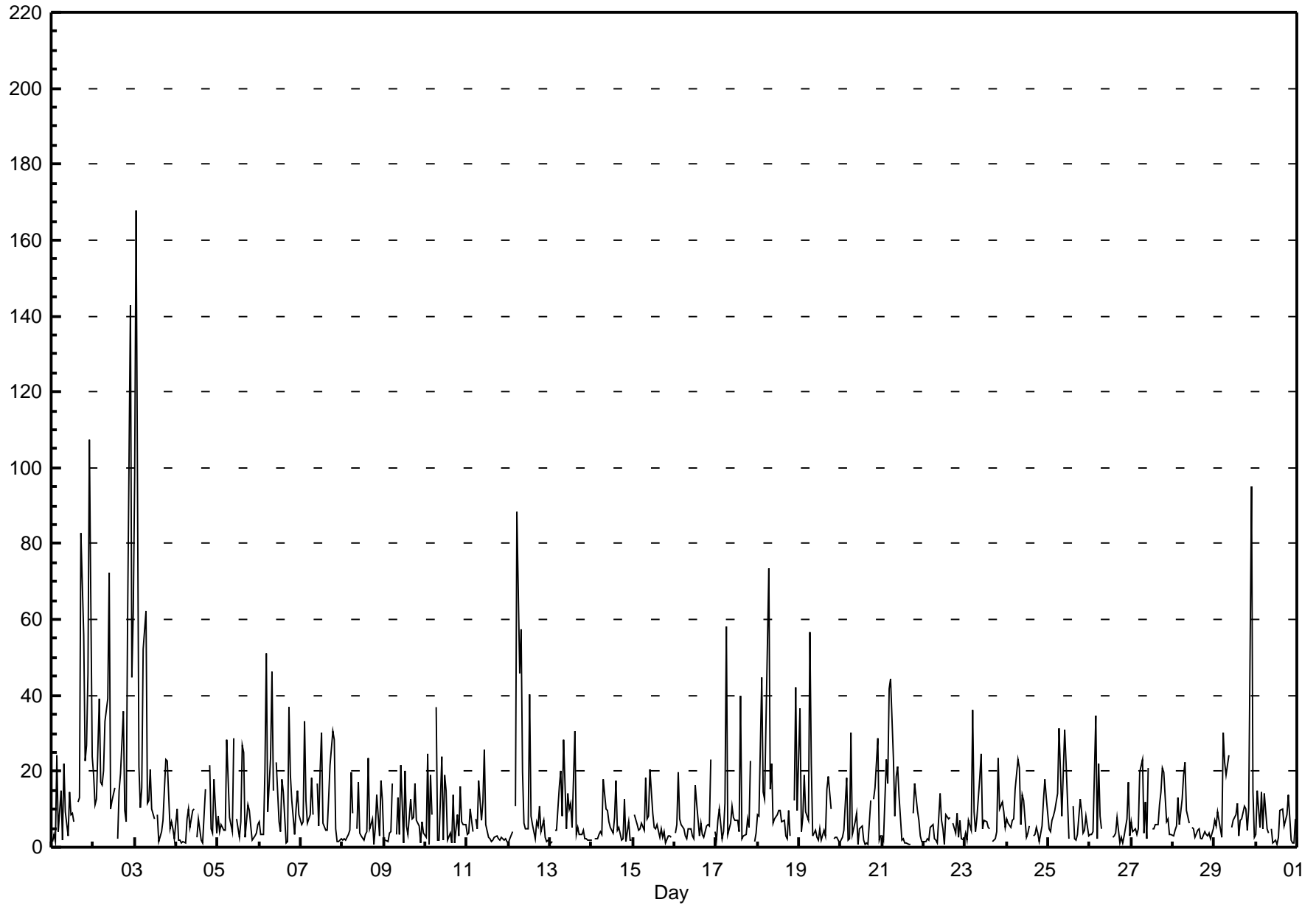


## Hourly Maximums

Oxides of Nitrogen (NO<sub>x</sub>) - ppb

Portable-Bonanza - April 2011

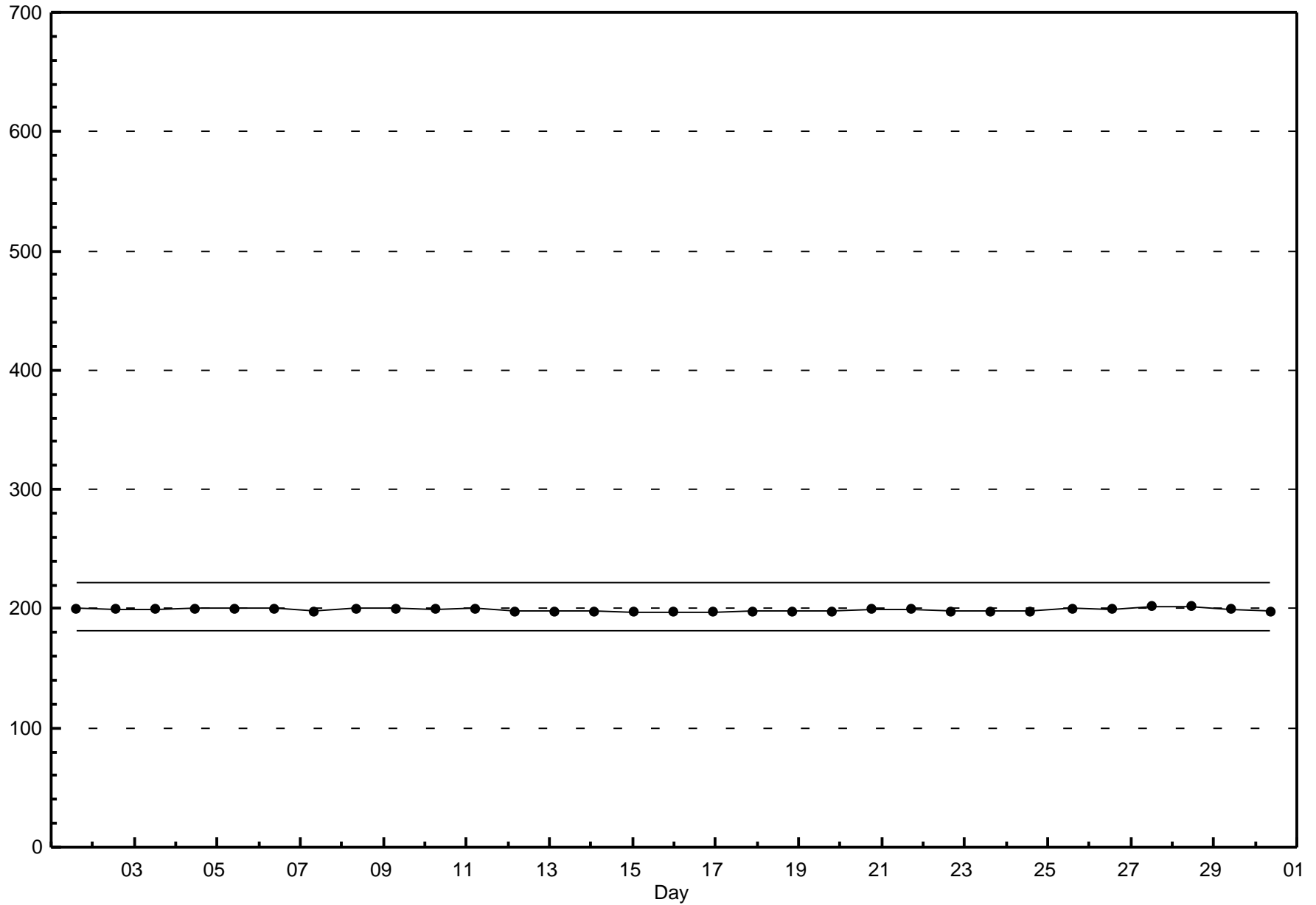
Maximum Value: 167.9 ppb on Apr 3 02:00		Maximum Daily Average: 31.2 ppb on Apr 2		Hours in Service: 720																						
Minimum Value: 1 ppb on Apr 20 17:00		Minimum Daily Average: 4.6 ppb on Apr 22		Hours of Data: 684																						
Maximum Diurnal Average: 22.7 ppb at hour 7		Minimum Diurnal Average: 5.9 ppb at hour 14		Hours of Missing Data: 36																						
Monthly Average: 10.97 ppb		Percentiles: P <sub>1</sub> = 0.8 P <sub>10</sub> = 1.9 Q <sub>1</sub> = 3.1 Median = 6.2 Q <sub>3</sub> = 12.8 P <sub>90</sub> = 23.0 P <sub>99</sub> = 80.9		Hours of Calibration: 35																						
				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-Apr	1	3	2	24	4	15	2	22	9	3	15	9	9	7	A	12	13	83	56	23	27	46	107	24	22.4	107.3
2-Apr	19	11	13	39	17	16	20	33	39	72	10	12	16	A	2	15	19	36	10	7	60	143	45	62	31.2	142.9
3-Apr	98	168	21	11	16	52	62	12	12	21	10	8	A	8	1	4	7	15	23	23	5	7	5	2	25.7	167.9
4-Apr	10	2	2	1	1	1	7	10	5	10	10	A	3	7	2	1	8	15	P	21	5	4	18	4	6.8	21.5
5-Apr	8	4	6	4	5	28	18	8	4	29	A	8	3	7	27	25	3	11	10	6	2	3	4	6	9.8	28.6
6-Apr	7	3	3	20	51	9	23	46	15	A	22	7	4	18	15	1	1	37	19	12	3	10	15	9	15.3	51.3
7-Apr	6	7	33	12	6	9	18	9	A	17	6	20	30	6	5	4	13	22	31	28	5	1	1	2	12.7	33.3
8-Apr	2	2	2	3	4	20	9	A	5	17	4	3	2	3	4	23	5	7	1	5	14	3	18	12	7.3	23.4
9-Apr	2	2	2	4	4	17	A	3	13	4	22	1	20	6	3	13	7	8	17	7	6	1	7	4	7.4	21.7
10-Apr	3	24	1	19	9	A	37	2	2	24	2	19	15	2	4	1	14	1	9	3	16	7	6	6	9.8	37.0
11-Apr	3	4	10	4	A	7	5	17	7	12	26	6	3	2	1	2	2	3	2	2	3	2	2	1	5.5	25.7
12-Apr	1	2	4	A	11	88	46	58	20	6	5	5	40	8	6	2	7	6	11	4	7	2	2	2	14.9	88.4
13-Apr	1	2	A	5	4	16	20	8	28	5	14	10	11	5	31	3	5	3	3	5	2	2	2	2	8.2	30.7
14-Apr	2	A	2	2	3	4	3	18	10	10	7	5	4	8	18	4	5	2	2	13	2	7	2	2	5.8	17.8
15-Apr	A	8	6	4	5	6	4	18	7	8	21	9	5	5	6	2	5	2	4	1	3	3	2	A	6.2	20.6
16-Apr	4	6	20	8	6	5	3	2	5	5	3	2	17	11	3	6	3	3	6	6	6	23	A	4	6.8	23.1
17-Apr	2	7	10	2	4	12	58	3	6	11	8	7	7	4	40	2	3	3	7	5	23	A	2	4	10.1	58.3
18-Apr	9	8	45	15	13	33	73	15	22	6	8	9	10	10	7	7	3	2	10	3	A	12	42	10	16.1	73.4
19-Apr	36	4	8	19	9	7	57	22	3	4	3	2	5	2	5	3	15	19	10	A	2	3	2	1	10.5	56.6
20-Apr	2	3	5	18	2	2	30	3	7	9	1	5	6	2	1	1	1	12	A	13	16	29	2	3	7.4	30.1
21-Apr	3	2	23	17	42	44	23	8	19	21	14	2	2	1	1	1	1	A	9	17	10	7	3	1	11.8	44.3
22-Apr	2	1	2	2	5	6	2	2	1	14	7	5	1	9	7	8	A	6	4	9	3	7	2	2	4.6	14.2
23-Apr	4	2	7	4	36	9	4	8	18	25	5	7	7	5	5	A	1	2	4	24	10	12	9	5	9.3	36.1
24-Apr	8	6	5	7	7	15	23	21	6	14	12	3	4	6	A	3	3	5	4	1	6	12	18	13	8.8	23.0
25-Apr	5	4	7	8	10	14	31	20	8	31	22	12	2	A	11	2	2	3	13	9	4	5	8	3	10.3	31.3
26-Apr	3	4	4	35	2	22	8	5	C	C	C	C	C	2	3	4	8	1	3	1	3	7	17	3	7.1	34.6
27-Apr	7	4	5	3	5	20	23	4	12	2	21	A	5	5	6	6	11	14	21	20	7	8	3	3	9.3	23.2
28-Apr	3	5	6	13	6	13	19	22	10	6	A	5	5	3	4	5	2	2	4	3	3	4	2	5	6.5	22.3
29-Apr	7	6	9	5	3	30	22	19	24	A	5	7	9	11	3	7	7	11	10	5	10	95	15	3	14.1	95.2
30-Apr	3	15	5	14	5	14	5	4	A	5	1	2	1	2	10	10	6	7	9	14	2	1	1	8	6.3	14.8
		9.0	11.0	9.2	11.1	10.2	18.5	22.7	14.6	11.8	14.4	10.4	7.0	8.7	5.9	8.2	6.2	6.3	11.9	11.1	10.0	9.0	16.0	12.5	7.1	Diurnal Average
		98.1	167.9	44.6	39.2	51.3	88.4	73.4	57.6	39.1	72.4	25.7	20.0	40.4	17.9	39.7	24.9	19.3	82.8	56.0	28.2	60.0	142.9	107.3	61.9	Diurnal Maximum
C - Calibration		P - Power Failure										A - Automated Daily Zero Span														





### Span Responses

Oxides of Nitrogen (NO<sub>x</sub>)  
Portable-Bonanza - April 2011



## Hourly Averages

Ozone (O<sub>3</sub>) - ppb

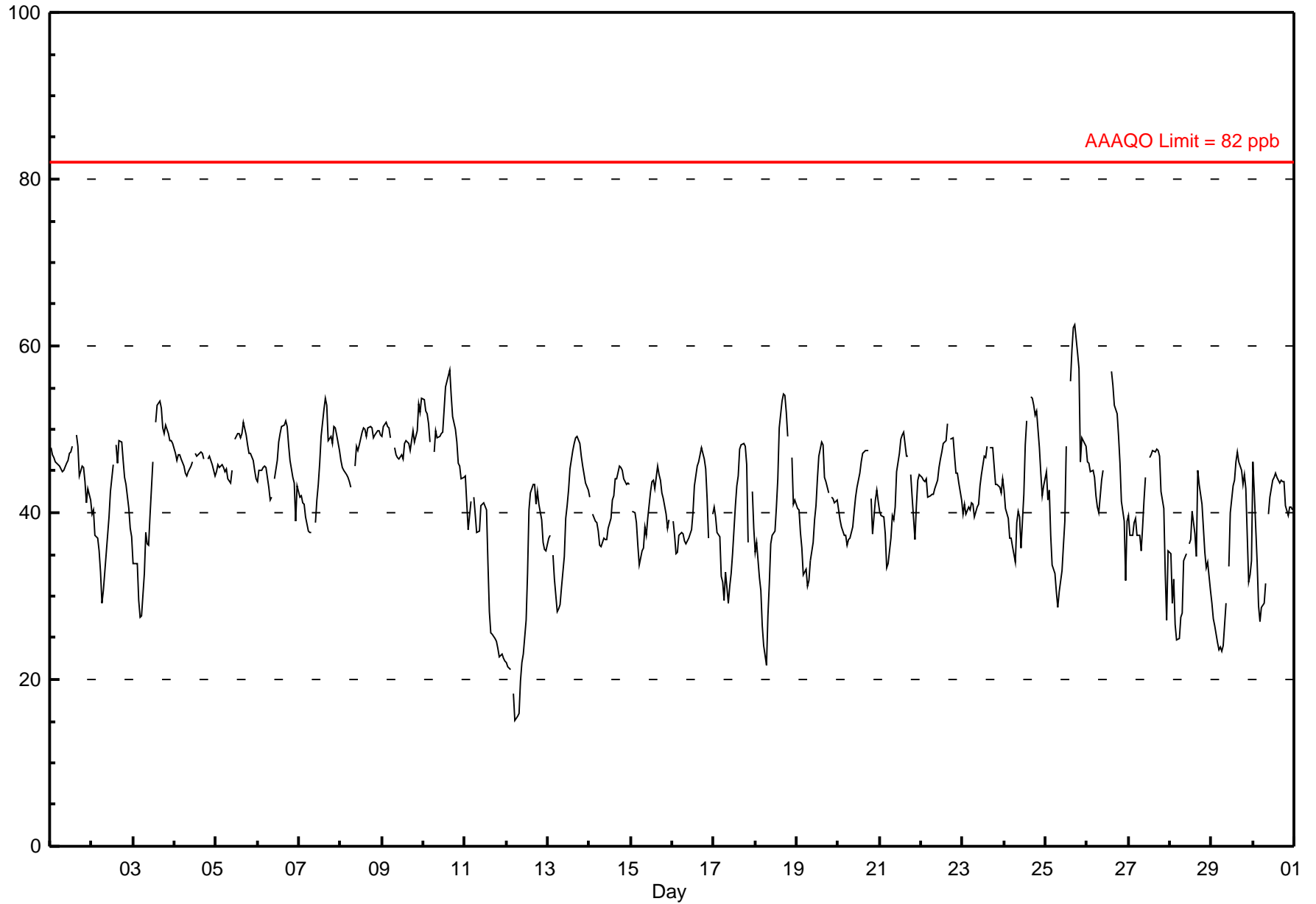
Portable-Bonanza - April 2011

Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	720
Maximum Value: 62.5 ppb on Apr 25 18:00	Maximum Daily Average: 50.3 ppb on Apr 10		Hours of Data:	685
Minimum Value: 15 ppb on Apr 12 06:00	Minimum Daily Average: 30.2 ppb on Apr 12		Hours of Missing Data:	35
Maximum Diurnal Average: 48.1 ppb at hour 17	Minimum Diurnal Average: 35.3 ppb at hour 7		Hours of Calibration:	34
Monthly Average: 41.84 ppb	Percentiles: P <sub>1</sub> = 21.4 P <sub>10</sub> = 31.9 Q <sub>1</sub> = 37.6 Median = 43.3 Q <sub>3</sub> = 46.9 P <sub>90</sub> = 49.6 P <sub>99</sub> = 57.0		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-Apr	48	47	47	46	46	46	45	45	45	46	47	47	48	A	49	48	44	46	45	44	41	43	42	45.7	49.3	
2-Apr	40	40	37	37	35	33	29	31	35	37	40	43	46	A	48	46	49	48	46	44	43	41	38	37	40.2	48.7
3-Apr	34	34	34	29	27	28	33	38	36	36	40	46	A	51	53	53	53	50	50	50	49	49	49	48	42.2	53.4
4-Apr	47	46	47	47	47	46	45	44	45	46	46	A	47	47	47	47	47	46	P	46	47	46	46	44	46.2	47.3
5-Apr	45	46	45	46	45	45	45	44	44	45	A	49	50	49	49	50	51	49	48	47	47	46	45	44	46.7	50.8
6-Apr	44	45	45	45	46	45	43	42	42	A	44	46	48	50	50	51	51	50	48	46	44	43	39	43	45.7	51.0
7-Apr	42	42	41	41	40	38	38	38	A	39	41	43	46	49	52	54	53	49	49	48	50	50	49	47	45.2	53.8
8-Apr	46	45	45	44	44	44	43	A	46	48	47	48	50	50	50	49	50	50	49	49	50	50	49	47	47.8	50.4
9-Apr	49	50	51	50	50	49	A	48	47	47	46	47	46	48	49	48	47	49	50	48	50	53	52	54	49.1	53.8
10-Apr	54	52	52	51	48	A	47	50	49	49	50	50	52	55	56	57	54	52	50	49	46	46	44	44	50.3	57.1
11-Apr	44	41	38	41	A	42	40	38	38	41	41	41	40	34	28	26	25	25	25	24	23	23	23	22	33.2	44.5
12-Apr	22	22	21	A	18	15	16	16	20	22	23	27	33	40	42	43	43	41	43	41	39	36	36	35	30.2	43.4
13-Apr	37	37	A	35	32	28	29	29	31	35	39	41	43	45	47	48	49	49	48	47	46	45	44	43	40.3	49.1
14-Apr	42	A	40	39	39	38	36	36	37	37	37	38	39	41	42	44	44	46	46	45	44	43	44	43	40.8	45.5
15-Apr	A	40	40	39	36	34	35	36	38	37	39	43	44	44	43	46	45	44	42	42	40	38	39	A	40.1	45.6
16-Apr	39	37	35	35	37	38	37	37	36	37	37	38	40	43	46	46	47	48	46	45	42	37	A	40	40.2	47.8
17-Apr	41	40	38	37	32	32	30	33	29	31	33	35	41	43	44	48	48	48	48	46	36	A	43	38	38.8	48.3
18-Apr	35	36	32	31	26	24	22	28	31	36	37	38	41	44	50	53	54	54	52	49	A	47	41	41	39.3	54.2
19-Apr	40	40	38	36	33	33	31	32	34	36	39	41	44	47	48	48	44	44	42	A	42	42	41	42	39.9	48.4
20-Apr	40	39	38	37	37	36	37	37	38	40	42	43	45	46	47	47	47	47	A	42	38	42	43	41	41.3	47.4
21-Apr	40	40	39	37	33	34	37	40	39	41	45	47	49	49	50	47	47	A	45	42	37	41	44	45	42.0	49.7
22-Apr	44	44	44	44	42	42	42	42	43	44	45	46	47	48	49	51	A	49	49	47	45	45	44	42	45.1	50.7
23-Apr	40	41	40	41	40	41	41	39	41	41	43	45	47	47	48	A	48	48	46	43	43	43	42	44	43.1	48.0
24-Apr	43	41	39	37	37	36	34	39	40	40	36	42	48	51	A	54	54	53	52	52	48	45	42	43	43.7	53.9
25-Apr	45	42	43	37	34	33	30	29	31	33	36	39	48	A	56	59	62	63	59	57	46	49	49	48	44.7	62.5
26-Apr	46	46	45	45	44	42	41	40	44	45	C	C	C	C	57	55	53	52	49	46	41	39	32	39	45.1	57.0
27-Apr	40	37	37	39	39	37	37	35	38	41	44	A	47	47	47	47	48	48	47	42	41	33	27	35	40.7	47.7
28-Apr	35	29	32	27	25	25	28	28	34	35	A	36	37	40	37	35	45	43	41	38	35	33	34	31	34.1	45.1
29-Apr	29	27	27	24	24	24	23	24	29	A	34	40	43	44	46	47	46	45	43	44	43	32	33	34	35.0	47.3
30-Apr	46	42	34	29	27	29	29	32	A	40	42	44	44	45	44	44	44	44	44	41	40	41	41	40	39.3	46.1

41.3	40.3	39.4	38.9	36.7	35.7	35.3	36.1	37.9	39.5	40.5	42.3	44.7	46.2	47.4	48.0	48.1	47.5	46.5	45.1	42.7	42.0	41.2	41.4	Diurnal Average	
53.6	52.1	51.9	50.7	50.2	49.0	47.3	49.8	49.0	49.2	49.5	49.7	52.4	55.0	57.0	59.5	62.2	62.5	59.2	57.3	50.3	53.0	52.0	53.8	Diurnal Maximum	

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



## Hourly Maximums

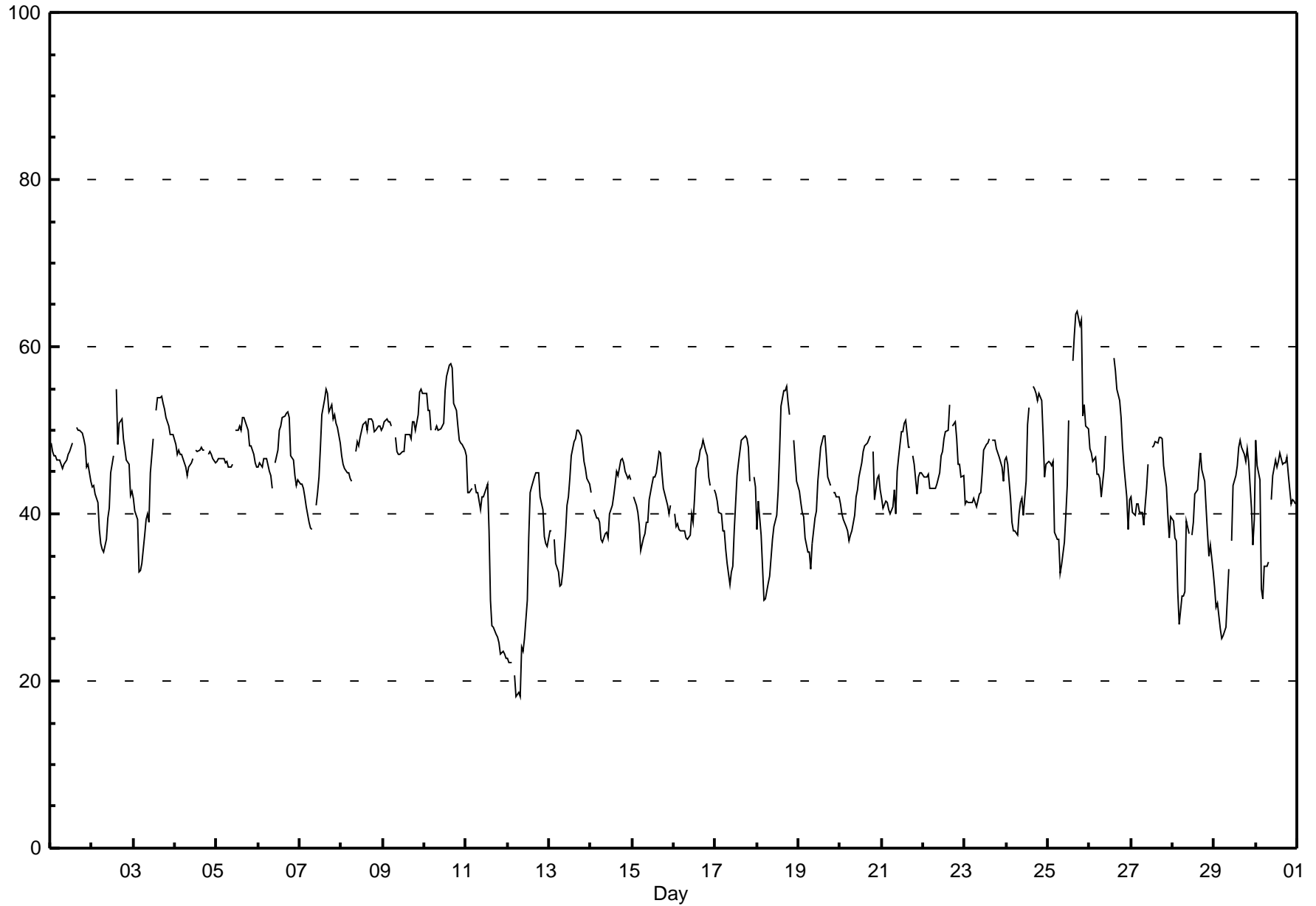
Ozone (O<sub>3</sub>) - ppb

Portable-Bonanza - April 2011

Maximum Value: 64.2 ppb on Apr 25 18:00		Maximum Daily Average: 52.1 ppb on Apr 10		Hours in Service: 720																																													
Minimum Value: 18 ppb on Apr 12 08:00		Minimum Daily Average: 32.2 ppb on Apr 12		Hours of Data: 685																																													
Maximum Diurnal Average: 49.7 ppb at hour 16		Minimum Diurnal Average: 38.1 ppb at hour 8		Hours of Missing Data: 35																																													
Monthly Average: 43.93 ppb		Percentiles: P <sub>1</sub> = 22.3 P <sub>10</sub> = 35.8 Q <sub>1</sub> = 40.1 Median = 45.0 Q <sub>3</sub> = 48.4 P <sub>90</sub> = 51.4 P <sub>99</sub> = 58.1		Hours of Calibration: 34																																													
				Percent Operational Time: 99.9																																													
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Apr	48	47	47	47	46	46	46	45	46	46	47	47	48	48	A	50	50	50	50	49	48	46	46	44	47.4	50.4																							
2-Apr	43	43	42	41	38	37	36	36	37	39	41	45	47	A	55	48	51	51	49	48	46	46	42	43	43.7	54.9																							
3-Apr	42	40	39	33	33	34	37	39	40	39	45	49	A	52	54	54	54	53	52	51	50	50	49	50	45.3	54.1																							
4-Apr	48	47	48	47	47	46	46	45	46	46	47	A	48	48	48	48	48	48	P	47	47	47	47	46	46.9	48.2																							
5-Apr	46	47	47	47	47	46	46	46	46	46	A	50	50	51	50	52	52	51	50	48	48	47	46	46	47.9	51.5																							
6-Apr	46	46	46	47	47	47	45	45	43	A	46	48	50	51	52	52	52	52	51	47	46	45	43	44	47.3	52.2																							
7-Apr	43	43	43	42	41	39	38	38	A	41	43	44	48	52	54	55	54	52	53	51	52	51	50	48	46.9	54.9																							
8-Apr	47	46	45	45	45	44	44	A	47	49	48	49	51	51	51	50	51	51	51	50	50	50	50	50	48.6	51.4																							
9-Apr	50	51	51	51	51	50	A	49	47	47	47	47	49	49	49	49	49	49	51	51	50	52	55	54	50.3	54.9																							
10-Apr	54	54	52	52	50	A	50	50	50	50	50	51	55	56	58	58	57	53	52	50	49	48	48	48	52.1	57.9																							
11-Apr	47	43	43	43	A	44	42	43	41	42	42	42	43	38	30	27	26	26	25	25	23	24	23	23	34.9	47.0																							
12-Apr	23	22	22	A	21	18	19	18	24	24	25	30	37	42	43	44	45	45	45	42	41	37	36	36	32.2	45.0																							
13-Apr	38	38	A	37	34	33	31	32	33	38	41	42	44	47	49	49	50	50	49	48	46	45	44	44	41.9	50.0																							
14-Apr	43	A	41	40	40	39	37	37	38	38	37	40	41	42	44	45	45	46	47	46	45	44	45	44	41.8	46.5																							
15-Apr	A	42	41	40	39	36	37	38	39	39	42	44	44	44	45	47	47	45	43	42	41	40	41	A	41.7	47.4																							
16-Apr	40	38	39	38	38	38	38	37	37	37	40	39	42	45	46	48	48	49	47	47	44	43	A	43	41.9	48.9																							
17-Apr	42	41	40	40	38	38	36	34	32	33	34	38	45	46	47	49	49	49	49	48	44	A	44	43	41.7	49.3																							
18-Apr	38	42	37	34	30	30	32	32	35	37	38	40	43	47	53	55	55	55	53	52	A	49	46	44	42.4	55.3																							
19-Apr	43	41	40	40	37	35	35	33	36	39	40	44	46	48	49	49	47	44	43	A	42	42	42	42	41.8	49.4																							
20-Apr	41	40	39	38	38	37	37	38	40	42	43	44	46	47	48	48	48	49	A	47	42	44	45	43	42.9	49.3																							
21-Apr	42	41	41	41	40	40	41	43	40	45	47	50	50	51	51	48	48	A	47	46	42	44	45	45	44.7	51.2																							
22-Apr	44	44	44	45	43	43	43	43	44	45	47	47	49	50	50	53	A	50	51	49	46	46	44	45	46.3	53.1																							
23-Apr	41	41	41	41	41	42	41	41	42	43	45	48	48	49	49	A	49	49	48	47	47	46	44	46	44.8	49.0																							
24-Apr	47	46	42	39	38	38	37	40	41	42	40	44	51	53	A	55	55	54	54	54	54	49	44	46	46.2	55.2																							
25-Apr	46	46	46	46	38	37	37	33	34	37	40	43	51	A	58	61	64	64	63	63	52	53	50	50	48.4	64.2																							
26-Apr	48	47	46	47	45	45	44	42	45	49	C	C	C	C	59	57	55	54	52	48	46	42	38	42	47.5	58.6																							
27-Apr	42	40	40	41	41	40	40	39	41	43	46	A	48	48	49	49	49	49	49	46	43	40	37	40	43.5	49.2																							
28-Apr	39	37	37	31	27	30	30	31	39	38	A	37	39	42	43	45	47	45	44	41	38	35	36	33	37.6	47.2																							
29-Apr	31	29	29	26	25	25	26	26	33	A	37	43	45	46	48	49	48	47	46	48	46	41	36	39	37.8	48.8																							
30-Apr	49	46	44	31	30	34	34	34	A	42	45	46	46	46	47	46	46	46	47	45	41	42	42	41	42.1	48.8																							
																								43.2	42.4	41.9	41.0	38.8	38.3	38.2	38.1	39.9	41.3	42.3	44.2	46.5	47.8	49.2	49.7	49.6	49.3	48.6	47.5	45.3	44.5	43.5	43.5	Diurnal Average	
																								54.4	54.4	52.4	52.4	50.9	50.4	50.0	50.4	50.0	50.1	50.4	50.8	54.8	56.4	58.6	61.3	63.9	64.2	62.6	63.2	53.6	54.6	54.9	54.4	Diurnal Maximum	
C - Calibration																								P - Power Failure						A - Automated Daily Zero Span																			

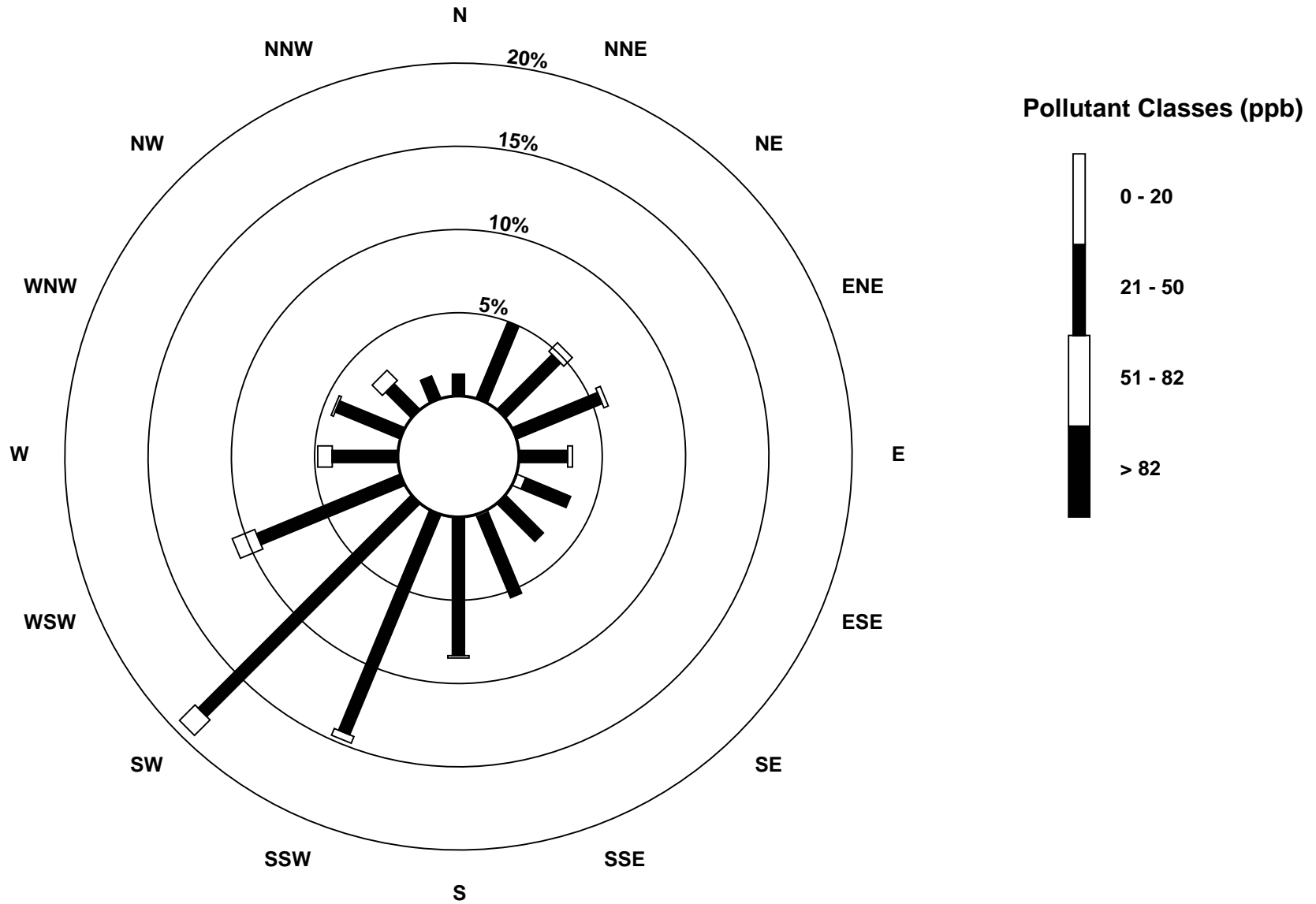
### Hourly Maximums

Ozone (O<sub>3</sub>) - ppb  
Portable-Bonanza - April 2011



**Pollutant Rose**

Ozone (O<sub>3</sub>) - ppb  
Portable-Bonanza - April 2011



# Eight Hour Running Averages

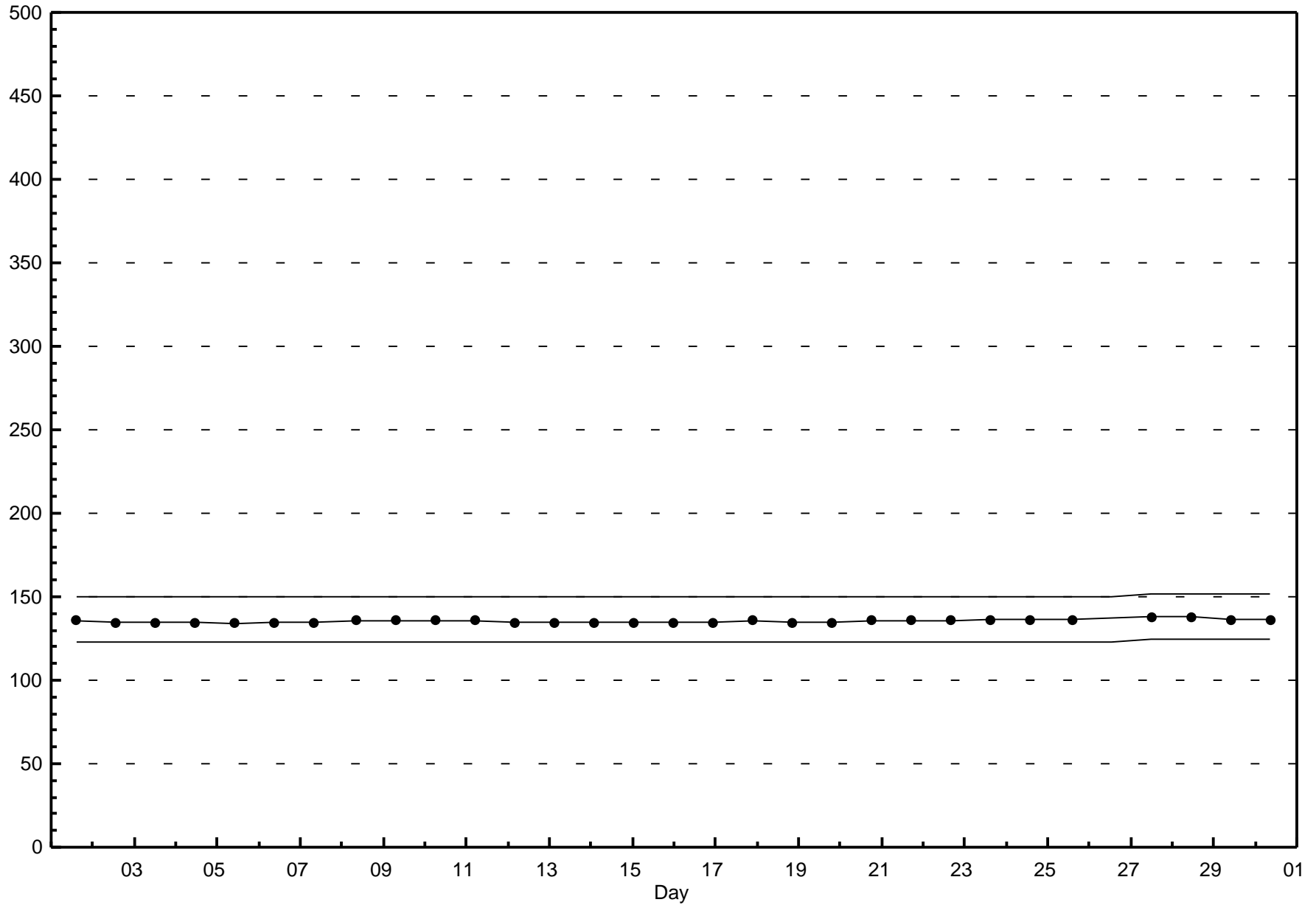
Ozone (O<sub>3</sub>) - ppb

Portable-Bonanza - April 2011

Maximum Value: 57.8 ppb on Apr 25 20:00																					Hours in Service:	720			
Minimum Value: 18.2 ppb on Apr 12 09:00																					Hours of Data:	713			
Percentiles: P <sub>1</sub> = 21.4 P <sub>10</sub> = 33.3 Q <sub>1</sub> = 38.1 Median = 43.1 Q <sub>3</sub> = 46.5 P <sub>90</sub> = 49.3 P <sub>99</sub> = 52.8																					Hours of Missing Data:	7			
																					Hours of Calibration:	7			
																					Percent Operational Time:	100.0			
Day	Hourly Period Ending At (MST)																								Daily Maximum
1-Apr	48	48	48	48	47	47	47	46	46	46	46	46	46	46	47	47	47	47	47	47	46	45	45	44	48.4
2-Apr	43	43	42	40	39	38	37	35	35	34	35	35	37	37	40	42	44	46	47	47	46	46	44	43	46.8
3-Apr	42	40	38	36	34	33	32	32	32	33	33	35	37	40	43	45	47	49	51	51	51	51	50	50	51.4
4-Apr	49	49	48	48	47	47	47	46	46	46	46	45	45	46	46	46	47	47	47	47	47	47	47	46	49.0
5-Apr	46	46	46	46	45	45	45	45	45	45	45	45	46	47	47	48	49	49	49	49	49	49	48	47	49.5
6-Apr	46	46	45	45	45	45	45	44	44	44	44	44	44	45	46	47	49	49	49	49	49	49	48	47	49.3
7-Apr	45	44	43	42	41	41	41	40	40	39	39	39	40	42	44	46	47	48	49	50	51	51	50	50	50.7
8-Apr	49	48	48	47	47	46	45	45	45	45	46	47	47	48	49	49	49	49	50	50	50	50	50	50	49.8
9-Apr	50	50	50	50	50	50	50	50	49	49	48	48	47	47	47	47	47	48	48	48	49	49	50	50	50.4
10-Apr	51	52	52	52	52	52	51	51	50	49	49	49	50	50	51	52	53	53	53	53	53	52	51	50	53.3
11-Apr	47	45	44	43	43	42	42	41	40	40	40	40	40	39	38	36	35	33	31	28	26	25	24	24	46.8
12-Apr	23	23	22	22	22	20	19	19	18	18	19	20	21	25	28	31	34	37	39	41	42	41	40	39	41.6
13-Apr	38	38	37	37	36	34	33	32	32	31	32	33	34	36	39	41	43	45	46	47	47	47	47	46	47.5
14-Apr	45	45	44	42	41	41	39	38	38	38	37	37	37	38	38	39	40	41	43	43	44	44	44	44	45.3
15-Apr	44	44	43	42	41	39	38	37	37	37	37	38	40	40	42	42	43	44	44	43	42	42	41	44.4	
16-Apr	41	40	39	38	37	37	37	37	37	37	37	38	38	39	40	42	43	44	45	45	45	44	44	44	45.4
17-Apr	43	41	40	39	38	37	36	35	34	33	32	32	33	34	36	38	40	43	44	46	45	46	45	44	45.8
18-Apr	42	40	38	36	35	33	31	29	29	29	30	32	35	38	41	44	46	48	50	51	51	50	48	51.4	
19-Apr	46	44	42	40	39	38	37	35	35	34	34	35	36	38	40	42	43	44	45	45	44	43	42	46.4	
20-Apr	42	41	41	40	40	39	38	38	38	38	38	39	40	41	42	44	45	46	46	46	45	44	44	43	46.1
21-Apr	42	41	41	40	39	39	38	38	37	38	38	40	41	43	45	46	47	48	48	47	45	44	43	43	47.6
22-Apr	42	43	42	43	43	44	43	43	43	43	43	44	45	46	47	47	48	48	49	48	48	47	46	46	48.5
23-Apr	45	44	43	42	41	41	41	40	41	41	41	41	42	43	44	44	45	46	47	47	46	46	45	45	46.7
24-Apr	44	43	42	42	41	40	39	38	38	38	37	38	39	41	42	44	46	48	51	52	52	51	50	49	51.9
25-Apr	47	46	45	43	41	40	38	37	35	34	33	33	35	35	39	43	48	52	55	58	57	56	56	54	57.8
26-Apr	52	50	48	47	46	46	45	44	43	43	43	N	N	N	N	N	N	N	N	52	50	49	46	44	52.1
27-Apr	42	40	39	38	38	38	38	38	38	38	39	39	40	41	43	45	46	47	47	47	46	44	42	40	47.2
28-Apr	38	36	34	32	30	29	29	29	29	29	30	32	34	35	36	38	39	39	40	39	39	38	38	38	39.6
29-Apr	36	34	32	30	29	27	26	25	25	25	26	28	31	34	37	40	43	43	44	45	45	43	42	40	45.0
30-Apr	40	40	39	37	35	34	34	33	32	31	32	35	37	39	41	43	43	44	44	44	43	43	42	42	44.0
Diurnal Maximums																									
52.1 51.6 51.8 52.1 51.9 51.8 51.1 50.6 49.9 49.5 49.1 49.0 49.6 50.3 51.4 52.3 52.9 53.2 55.2 57.8 57.5 56.4 55.6 54.1																									
N - Not Valid																									

### Span Responses

Ozone (O<sub>3</sub>)  
Portable-Bonanza - April 2011





## Hourly Averages

External Temperature (ET) - °C

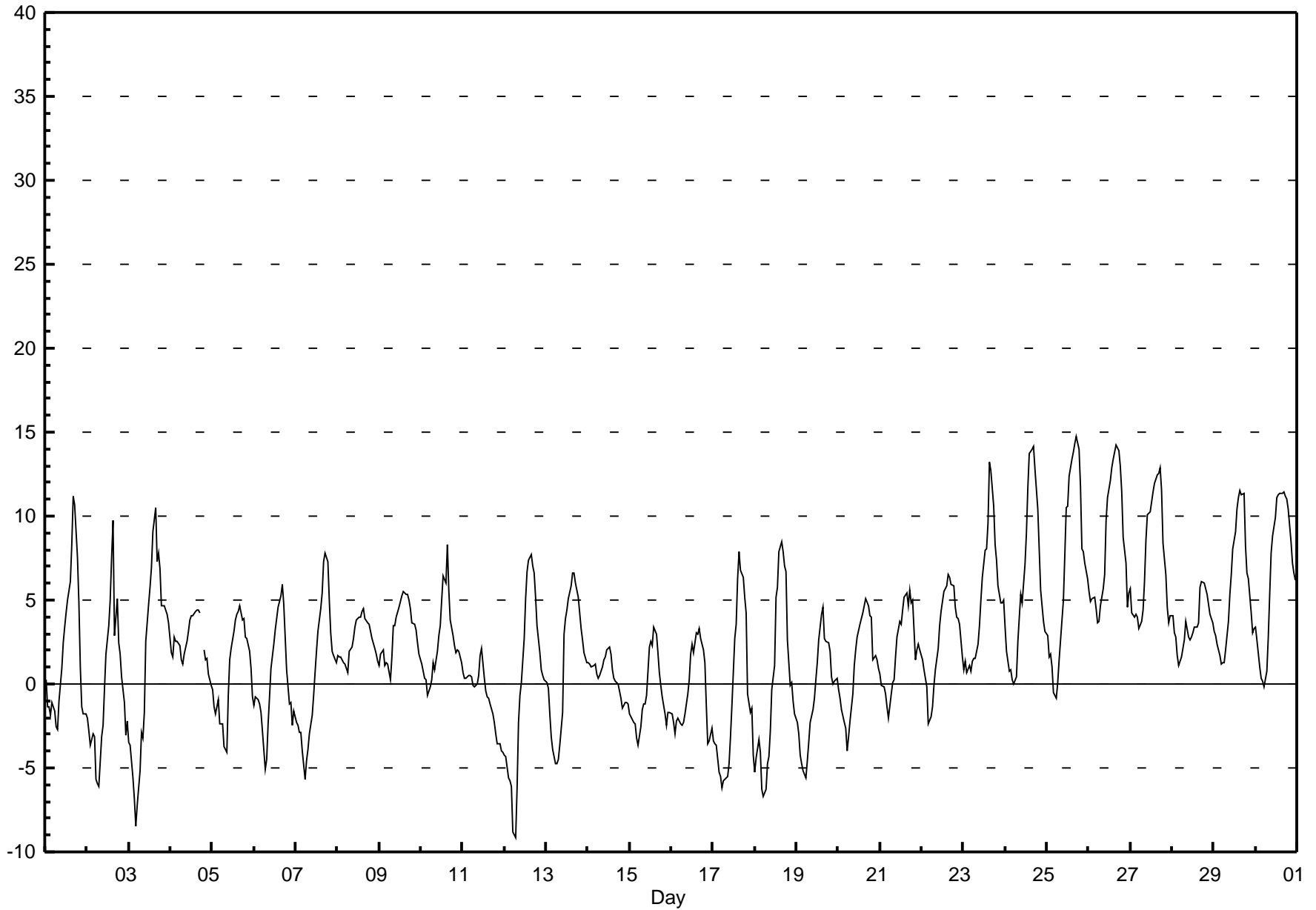
Portable-Bonanza - April 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0	Hours in Service: 720
Maximum Value: 14.7 °C on Apr 25 18:00	Maximum Daily Average: 8.4 °C on Apr 26
Minimum Value: -9 °C on Apr 12 07:00	Hours of Data: 719
Maximum Diurnal Average: 7.2 °C at hour 16	Hours of Missing Data: 1
Monthly Average: 2.36 °C	Hours of Calibration: 0
Minimum Daily Average: -0.8 °C on Apr 17	Percent Operational Time: 99.9
Minimum Diurnal Average: -1.9 °C at hour 6	
Percentiles: P <sub>1</sub> = -6.3 P <sub>10</sub> = -3.1 Q <sub>1</sub> = -0.7 Median = 2.1 Q <sub>3</sub> = 4.8 P <sub>90</sub> = 8.1 P <sub>99</sub> = 13.8	

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Apr	0	-1	-1	-2	-1	-2	-3	-3	-1	1	2	3	4	5	6	8	11	11	8	5	1	-1	-2	-2	2.0	11.2
2-Apr	-2	-3	-4	-3	-3	-6	-6	-6	-3	-2	0	2	3	5	8	10	3	5	2	2	0	-1	-3	-2	-0.2	9.7
3-Apr	-3	-4	-6	-7	-8	-7	-5	-3	-3	-2	3	5	6	7	9	10	7	8	7	5	5	4	4	4	1.5	10.5
4-Apr	2	2	3	3	3	2	1	1	2	3	3	4	4	4	4	4	4	4	P	2	1	2	1	0	2.5	4.4
5-Apr	0	-1	-2	-1	-2	-2	-2	-4	-4	-1	1	2	3	4	4	4	5	4	4	3	3	2	1	-1	0.8	4.6
6-Apr	-1	-1	-1	-1	-2	-3	-5	-4	-2	-1	1	2	3	4	5	5	6	5	3	1	-1	-1	-2	-2	0.3	5.9
7-Apr	-2	-2	-3	-3	-4	-6	-5	-4	-3	-2	-1	1	2	3	4	5	7	8	7	5	3	2	2	1	0.7	7.8
8-Apr	2	2	2	1	1	1	1	2	2	3	3	4	4	4	4	4	4	4	4	3	3	2	2	1	2.6	4.5
9-Apr	1	2	2	1	1	1	0	2	3	3	4	5	5	5	5	5	5	5	4	4	3	2	2	2	3.2	5.5
10-Apr	1	1	0	0	-1	0	0	1	1	2	3	4	5	6	6	8	6	4	3	2	2	2	2	1	2.5	8.3
11-Apr	1	0	0	1	1	0	0	0	0	1	2	2	0	0	-1	-1	-1	-2	-2	-3	-4	-4	-4	-4	-0.8	2.2
12-Apr	-4	-4	-6	-6	-6	-9	-9	-6	-2	-1	0	3	5	7	7	8	7	7	5	3	2	1	1	0	0.1	7.7
13-Apr	0	0	-2	-3	-4	-5	-5	-4	-4	-2	3	4	4	5	6	7	7	6	5	4	3	3	2	1	1.3	6.6
14-Apr	1	1	1	1	1	1	0	1	1	1	2	2	2	2	1	0	0	0	0	-1	-1	-1	-1	-1	0.5	2.2
15-Apr	-2	-2	-2	-2	-3	-4	-3	-2	-1	-1	-1	2	3	2	3	3	2	1	0	-1	-2	-2	-2	-2	-0.6	3.4
16-Apr	-2	-2	-3	-2	-2	-2	-2	-2	-2	-1	0	2	2	2	3	3	3	3	2	1	-1	-4	-3	-3	-0.4	3.3
17-Apr	-3	-4	-4	-5	-5	-6	-6	-6	-6	-5	-3	-1	3	4	6	8	7	6	5	4	-1	-2	-1	-4	-0.8	7.9
18-Apr	-5	-4	-3	-4	-6	-7	-6	-5	-4	-3	0	1	5	6	8	8	8	7	7	3	0	0	-1	-2	0.0	8.4
19-Apr	-2	-3	-4	-5	-5	-6	-5	-4	-2	-1	-1	0	1	3	4	5	3	3	2	2	0	0	0	0	-0.6	4.6
20-Apr	0	-1	-1	-2	-3	-4	-3	-2	-1	1	2	3	4	4	4	5	5	5	4	4	1	2	1	1	1.2	5.1
21-Apr	1	0	0	-1	-1	-2	-1	0	0	2	3	4	4	4	5	5	5	6	5	5	1	2	2	2	2.1	5.6
22-Apr	1	1	0	0	-2	-2	-1	0	1	2	3	4	5	5	6	7	6	6	6	5	4	4	4	2	2.8	6.5
23-Apr	1	1	1	1	1	1	2	2	2	3	5	6	8	8	10	13	13	11	8	7	6	5	5	5	5.2	13.2
24-Apr	3	2	1	1	0	0	0	3	4	5	5	7	9	12	14	14	14	13	12	10	6	5	4	3	6.1	14.1
25-Apr	3	2	2	1	0	-1	0	1	3	5	8	11	11	12	13	14	14	15	14	12	8	8	7	6	7.0	14.7
26-Apr	6	5	5	5	5	4	4	5	6	7	10	11	12	13	13	14	14	14	13	11	9	7	5	5	8.4	14.2
27-Apr	6	4	4	4	4	3	4	4	6	9	10	10	11	11	12	12	13	13	12	8	7	5	4	4	7.5	12.9
28-Apr	4	3	3	2	1	2	2	3	4	3	3	3	3	3	4	6	6	6	6	6	5	5	4	4	3.6	6.1
29-Apr	3	3	2	2	1	1	1	2	4	5	7	8	9	10	11	12	11	11	8	7	6	4	3	3	5.7	11.5
30-Apr	3	3	1	0	0	0	1	3	5	8	9	10	11	11	11	11	11	11	11	10	8	7	7	6	6.7	11.4

0.4	-0.1	-0.5	-0.8	-1.4	-1.9	-1.7	-0.9	0.2	1.4	2.8	4.1	5.1	5.7	6.6	7.2	6.9	6.5	5.7	4.3	2.6	1.9	1.4	1.0	Diurnal Average	
5.7	5.0	5.1	5.1	4.5	3.6	3.7	4.7	6.1	8.5	10.1	11.1	12.2	12.9	13.7	14.0	14.3	14.7	14.0	11.8	8.7	7.9	7.2	6.3	Diurnal Maximum	

P - Power Failure





Peace Airshed Zone Association

# Hourly Averages

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

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 Spd	20	13	18	16	15	17	15	14	16	19	16	13	12	11	7	4	3	3	4	5	6	6	5	5	9.7	19.5
Dir	216	227	215	215	209	211	214	217	218	229	235	231	227	227	243	235	101	76	124	179	160	144	144	156	213	216
2 Spd	6	6	4	6	7	7	5	5	6	6	6	7	8	7	7	4	24	4	6	4	4	1	4	7	2.2	23.6
Dir	156	157	161	184	203	221	199	195	197	215	214	215	217	269	358	14	326	333	2	11	76	52	185	171	225	326
3 Spd	4	4	2	2	2	6	9	10	3	2	1	5	8	8	5	3	6	5	7	13	9	10	10	17	4.5	17.3
Dir	186	202	179	123	251	129	138	141	200	286	247	243	239	231	259	318	316	128	181	203	175	165	182	205	192	205
4 Spd	12	13	17	17	20	22	22	21	24	29	29	31	30	27	26	24	18	19	P	18	18	15	15	5	19.5	31.3
Dir	211	209	197	198	198	202	207	209	228	242	240	243	240	235	238	241	245	245	P	222	217	206	210	181	225	243
5 Spd	8	6	7	10	7	8	12	6	11	14	15	19	16	13	14	11	9	11	8	8	12	11	8	8	9.3	19.2
Dir	175	206	206	192	215	219	210	231	244	223	234	238	251	246	251	226	247	252	242	192	156	175	215	220	223	238
6 Spd	8	11	10	12	10	7	7	6	7	10	10	11	10	11	10	6	4	9	14	10	7	11	4	9	8.2	14.1
Dir	185	183	181	189	176	189	225	235	215	231	230	240	253	247	233	255	242	222	215	218	236	227	190	187	217	215
7 Spd	6	7	8	10	9	8	8	8	8	8	8	8	7	7	6	5	2	4	5	6	9	12	13	13	7.1	13.1
Dir	181	179	208	204	198	207	206	206	201	217	222	223	215	216	192	203	240	142	152	158	156	163	161	166	191	161
8 Spd	15	16	21	21	19	17	14	17	22	23	28	32	32	26	25	24	23	28	28	30	32	27	26	22	21.7	32.1
Dir	187	179	175	169	174	171	166	196	219	230	236	238	236	234	241	222	229	232	226	222	226	230	230	231	218	236
9 Spd	18	14	14	10	11	8	8	17	21	22	15	20	20	21	19	20	19	18	17	16	21	25	23	21	16.4	25.1
Dir	220	201	191	179	173	162	176	207	206	219	225	222	232	236	232	235	225	227	234	247	242	243	236	226	222	243
10 Spd	21	20	20	17	10	7	10	19	10	19	16	10	9	6	7	2	7	8	8	4	4	2	2	6	8.9	20.7
Dir	233	222	218	210	240	274	211	202	220	215	225	230	224	227	269	262	216	242	241	294	55	185	135	329	226	233
11 Spd	7	5	2	2	4	3	1	5	10	5	10	23	27	32	30	28	24	19	19	18	13	12	7	9	11.3	32.2
Dir	312	298	75	66	22	30	322	166	255	218	231	252	275	282	283	288	301	312	312	301	307	308	298	273	288	282
12 Spd	9	8	5	5	6	6	6	6	6	8	10	9	9	11	12	12	11	10	15	16	19	22	20	21	6.5	21.6
Dir	260	272	266	199	168	121	108	109	109	24	19	16	27	30	43	39	27	67	102	100	109	117	115	112	85	117
13 Spd	24	23	4	5	3	2	2	2	2	5	20	20	23	23	22	19	17	17	17	17	17	16	16	19	11.9	23.7
Dir	110	113	122	281	281	295	283	279	311	330	92	99	102	100	93	86	87	80	81	77	71	76	71	67	88	110
14 Spd	17	16	16	15	16	20	18	19	22	21	20	20	20	21	19	20	20	21	20	17	12	9	9	7	17.1	22.3
Dir	73	76	71	74	73	59	70	80	86	81	84	85	78	73	71	71	62	64	64	63	59	63	75	44	72	86
15 Spd	8	8	7	5	5	2	3	1	2	6	8	8	13	15	15	19	19	19	18	16	10	9	8	9	8.1	19.1
Dir	14	9	17	25	16	342	14	282	261	230	241	18	18	17	25	41	41	44	41	41	40	33	29	32	27	44
16 Spd	9	8	8	8	11	16	16	15	17	15	13	14	15	16	14	15	15	12	12	7	6	3	1	4	10.5	16.6
Dir	29	31	20	28	43	61	59	56	56	61	55	50	29	29	59	45	46	90	100	64	52	75	353	344	50	56
17 Spd	9	3	4	3	1	4	3	2	2	4	3	3	4	3	5	5	3	3	2	4	4	6	8	5	0.4	9.2
Dir	322	336	1	313	209	182	218	308	303	284	294	226	339	277	25	53	24	63	170	48	118	154	166	127	345	322
18 Spd	5	5	6	7	5	4	5	4	5	3	3	4	6	3	6	6	3	2	7	9	10	10	11	7	2.2	11.1
Dir	52	192	148	156	179	188	168	215	217	216	319	332	59	23	56	55	35	324	46	39	48	40	19	28	59	19
19 Spd	7	8	8	2	3	2	3	5	4	5	8	8	7	4	4	6	16	12	11	13	12	9	13	17	4.7	17.4
Dir	39	49	8	7	16	26	203	231	258	220	268	233	243	282	205	184	209	188	218	202	185	191	190	200	210	200
20 Spd	16	15	14	14	13	11	14	15	17	20	22	19	15	18	20	18	18	15	9	2	6	8	9	11	11.9	22.4
Dir	204	205	210	210	212	222	211	216	223	243	247	244	245	258	262	261	254	265	279	219	149	151	148	147	230	247
21 Spd	10	8	7	5	4	5	6	8	13	11	12	12	13	10	10	13	12	10	8	1	6	8	13	18	6.5	17.6
Dir	154	164	170	184	170	189	200	200	215	227	251	253	293	287	275	261	277	257	278	115	133	167	193	205	226	205
22 Spd	17	18	16	16	14	13	13	14	18	20	21	19	16	17	17	20	16	16	17	17	13	11	16	14	15.5	20.6
Dir	205	206	205	207	216	211	208	221	235	242	251	246	238	235	231	243	236	236	220	220	213	198	202	212	224	251

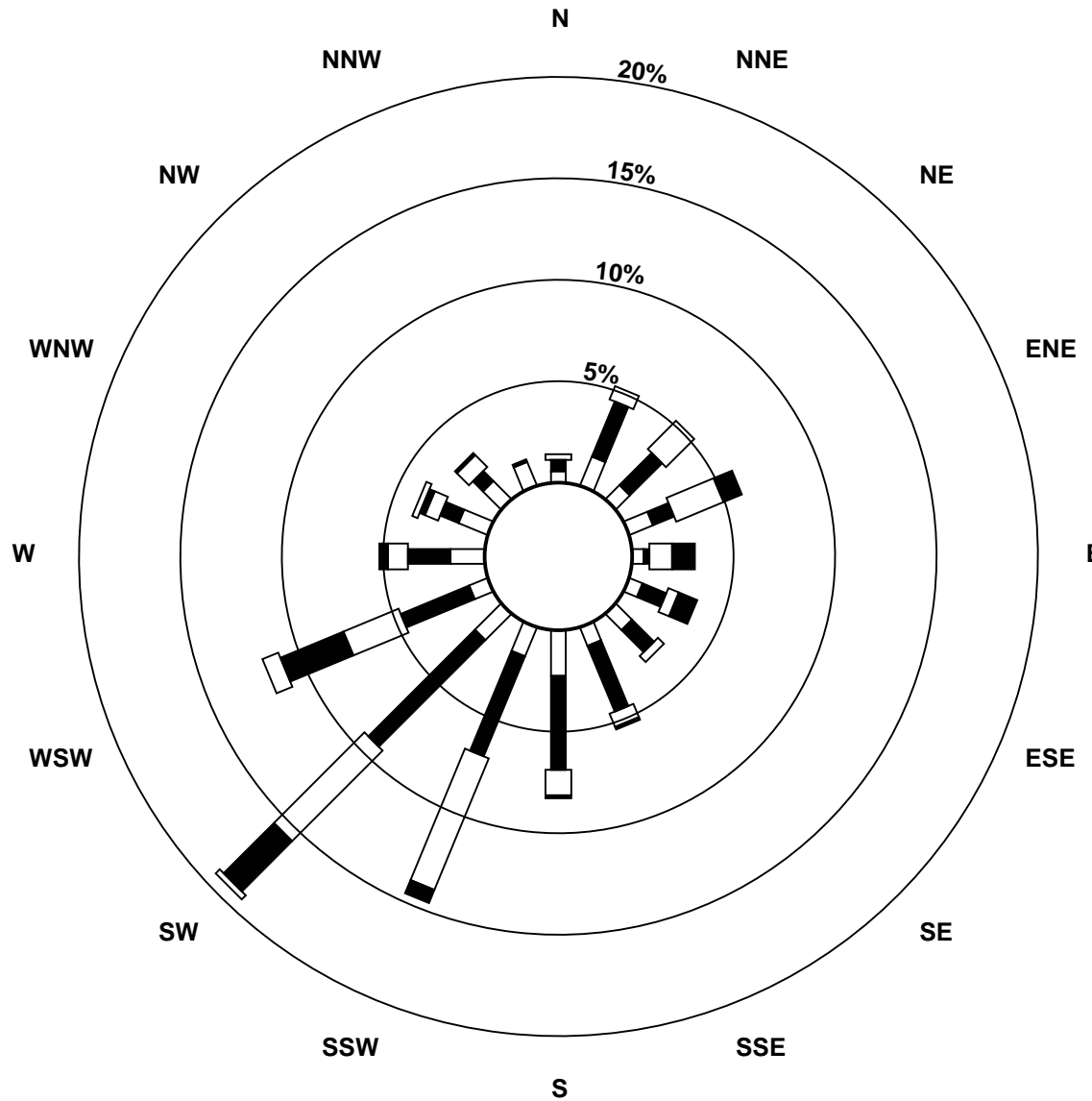
## Hourly Averages

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

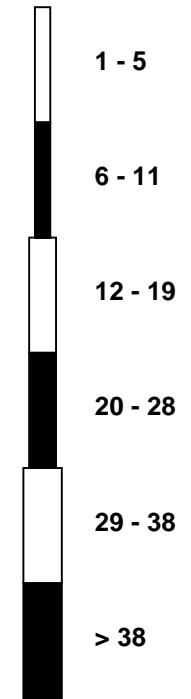
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
23 Spd	13	13	8	10	9	12	12	10	10	12	12	11	8	10	4	9	10	11	8	6	11	15	13	7	5.3	15.4
Dir	213	201	198	195	194	197	199	207	211	218	227	226	218	238	313	46	48	52	57	74	112	125	137	167	184	125
24 Spd	3	3	14	20	9	2	9	17	19	9	8	6	4	2	5	5	9	12	9	6	6	11	10	9	6.2	19.7
Dir	187	346	129	123	95	153	128	116	119	122	235	248	232	85	66	58	40	48	63	89	105	119	123	127	111	123
25 Spd	10	1	4	3	3	1	5	0	3	9	11	8	5	8	4	6	5	4	3	8	9	10	10	12	1.6	11.7
Dir	130	288	121	44	35	329	140	300	277	13	20	20	274	223	273	307	302	306	272	310	292	234	203	205	281	205
26 Spd	11	10	9	12	12	11	8	10	17	16	22	23	21	21	20	22	21	20	18	16	9	8	2	8	13.4	23.3
Dir	201	190	196	199	200	215	221	221	232	224	242	245	248	244	246	253	253	262	246	266	246	219	188	174	235	245
27 Spd	8	6	7	10	11	8	6	3	5	14	19	17	13	9	8	10	10	7	5	16	6	4	3	9	7.7	19.5
Dir	193	184	179	176	181	176	195	223	243	240	234	226	206	227	192	163	158	161	203	199	179	132	84	149	196	234
28 Spd	7	5	6	8	5	5	9	8	13	13	10	10	9	8	10	9	16	16	14	10	7	10	10	5	6.4	15.9
Dir	138	87	174	169	213	166	208	240	297	288	264	278	260	265	229	248	312	306	282	293	291	297	299	272	269	306
29 Spd	5	6	6	8	8	7	7	6	6	7	7	10	15	16	20	18	18	13	17	1	8	7	7	6	7.3	19.8
Dir	227	232	208	205	205	196	188	212	211	244	246	235	236	223	223	229	232	238	358	35	165	142	134	274	223	223
30 Spd	19	5	7	6	8	6	8	12	11	17	15	12	22	24	27	27	26	21	19	17	17	18	18	16	13.0	27.0
Dir	356	59	241	218	202	172	188	206	231	256	278	269	247	248	249	238	239	231	230	220	206	200	202	201	233	249
Spd	4.6	4.9	5.6	6.5	5.3	4.8	5.9	6.3	6.9	8.0	8.3	8.5	7.9	7.4	6.0	4.8	4.7	3.4	2.2	3.2	3.8	5.2	5.4	5.7	Diurnal Average	
Dir	192	187	187	185	189	186	186	196	217	233	240	240	245	249	251	250	268	250	236	216	179	178	180	187	Diurnal Maximum	
Spd	23.7	23.4	21.1	20.7	19.9	22.3	21.9	21.0	24.2	28.6	29.2	31.9	32.1	32.2	30.3	27.7	25.6	27.8	27.6	29.9	31.5	26.9	26.2	22.1	Diurnal Maximum	
Dir	110	113	175	169	198	202	207	209	228	242	240	238	236	282	283	288	239	232	226	222	226	230	230	231	Diurnal Maximum	
Maximum Speed Value: 32 km/h on Apr 11 14:00		Minimum Speed Value: 0 km/h on Apr 25 08:00		Hours in Service: 720																						
Maximum Daily Speed Average: 21.7 km/h on Apr 8		Minimum Daily Speed Average: 0.4 km/h on Apr 17		Hours of Data: 719																						
Maximum Diurnal Speed Average: 8.5 km/h at hour 12		Minimum Diurnal Speed Average: 2.2 km/h at hour 19		Hours of Missing Data: 1																						
Monthly Average Velocity: 4.93 km/h 215.0 deg				Speed Percentiles: P <sub>1</sub> = 1.2 P <sub>10</sub> = 3.6 Q <sub>1</sub> = 6.1 Median = 9.9 Q <sub>3</sub> = 16.1 P <sub>90</sub> = 20.3 P <sub>99</sub> = 29.5				Percent Operational Time: 99.9																		
All monthly, daily, and diurnal averages have been calculated using vector methods																										
P - Power Failure																										
Frequency Distribution																										
	Speed Range (km/h)																									
Direction	0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total																			
North	12	13	6	0	0	0	31																			
NorthEast	17	33	24	7	0	0	81																			
East	7	10	18	17	0	0	52																			
SouthEast	13	30	5	5	0	0	53																			
South	21	67	35	4	0	0	127																			
SouthWest	20	92	89	48	9	0	258																			
West	20	25	17	11	2	0	75																			
NorthWest	19	12	8	3	0	0	42																			
Total	129	282	202	95	11	0	719																			

**Wind Rose**

**Wind Speed (WS) (km/h)**  
**Portable-Bonanza - April 2011**



**Wind Speed Classes (km/h)**



# Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

## Portable-Bonanza - April 2011

<b>Maximum Speed: 32 km/h on Apr 8 13:00</b>		<b>Maximum Daily Speed Average: 23.8 km/h on Apr 8</b>		Hours in Service: 720																						
<b>Minimum Speed: 1 km/h on Apr 15 08:00</b>		<b>Minimum Daily Speed Average: 4.5 km/h on Apr 17</b>		Hours of Data: 719																						
<b>Maximum Diurnal Speed Average: 14.3 km/h at hour 13</b>		<b>Minimum Diurnal Speed Average: 8.7 km/h at hour 6</b>		Hours of Missing Data: 1																						
<b>Monthly Average Speed: 11.68 km/h</b>		Percentiles: $P_1 = 2.3$ $P_{10} = 4.5$ $Q_1 = 6.5$ Median = 10.3 $Q_3 = 16.3$ $P_{90} = 20.6$ $P_{99} = 29.5$		<b>Percent Operational Time: 99.9</b>																						
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-Apr	20	13	18	16	15	17	15	14	16	19	16	13	12	11	8	4	4	3	4	5	6	6	5	6	11.1	19.5
2-Apr	6	6	5	7	8	7	5	5	6	6	6	7	8	8	9	5	24	7	7	4	6	4	6	7	7.0	24.2
3-Apr	5	4	2	3	3	6	9	10	4	2	2	5	8	8	5	4	7	5	7	13	10	10	10	18	6.7	17.5
4-Apr	12	13	17	17	20	22	22	21	24	29	29	31	30	27	27	24	18	19	P	18	18	15	15	6	20.6	31.4
5-Apr	8	6	7	10	9	8	12	6	11	14	16	19	16	13	14	11	10	11	8	8	12	11	10	8	10.7	19.3
6-Apr	8	11	10	12	10	7	7	6	7	11	10	11	12	10	10	7	4	9	14	10	8	11	7	9	9.3	14.1
7-Apr	6	8	8	10	9	8	8	8	8	8	8	8	7	7	6	5	3	5	6	6	9	12	13	13	7.9	13.2
8-Apr	15	17	21	21	19	17	14	17	22	23	29	32	32	26	26	24	24	28	28	30	32	27	26	22	23.8	32.4
9-Apr	19	14	14	10	11	9	9	17	21	22	15	20	20	21	19	20	19	19	17	17	21	25	23	21	17.6	25.1
10-Apr	21	20	20	17	12	8	11	19	11	19	16	10	9	6	7	3	8	8	8	6	5	3	4	7	10.7	20.7
11-Apr	7	5	3	3	4	3	2	6	12	6	10	23	28	32	30	28	24	19	19	18	13	12	8	9	13.7	32.4
12-Apr	9	8	6	6	6	6	6	6	7	8	10	9	9	11	12	12	11	12	15	16	19	22	20	21	11.3	21.7
13-Apr	24	23	10	5	3	2	2	3	3	6	20	21	23	24	22	19	17	17	17	18	17	16	16	19	14.4	23.7
14-Apr	17	16	16	15	16	20	19	20	23	22	20	21	20	22	20	21	20	21	20	17	12	9	9	7	17.6	22.6
15-Apr	8	8	7	5	5	2	3	1	3	6	8	9	13	15	15	15	19	19	18	16	10	9	8	9	9.7	19.2
16-Apr	9	8	8	8	12	17	16	15	17	15	13	14	15	17	15	16	15	13	12	7	6	3	2	5	11.5	16.9
17-Apr	9	4	5	4	1	4	3	2	3	5	4	4	4	4	6	5	4	5	3	4	5	7	8	6	4.5	9.4
18-Apr	5	6	7	7	5	6	5	4	5	4	3	4	6	4	6	6	4	3	7	9	10	10	11	7	6.0	11.2
19-Apr	7	8	8	3	3	3	3	4	5	5	5	8	8	7	5	5	6	16	13	11	13	12	9	13	8.2	17.5
20-Apr	16	15	14	15	13	11	14	15	17	20	22	19	16	19	20	18	18	16	9	4	6	8	9	11	14.3	22.4
21-Apr	10	8	7	5	4	5	6	8	13	11	13	13	13	10	10	14	13	11	8	4	6	8	14	18	9.6	17.6
22-Apr	17	18	16	16	14	13	13	14	18	20	21	19	16	17	17	20	16	16	17	17	13	11	16	15	16.2	20.6
23-Apr	13	13	8	10	10	12	12	10	10	12	12	11	9	11	8	9	10	11	8	6	11	15	13	8	10.4	15.5
24-Apr	4	7	15	20	10	5	9	17	19	12	8	6	5	5	6	7	9	12	9	6	6	11	10	9	9.5	19.8
25-Apr	10	5	5	6	4	5	6	4	3	9	11	8	7	8	6	6	5	4	4	10	11	11	10	12	7.1	12.1
26-Apr	12	10	9	12	12	11	9	10	17	16	22	23	22	21	21	23	21	20	18	16	9	9	4	8	14.8	23.5
27-Apr	8	6	7	10	11	8	6	5	6	14	20	18	14	12	9	11	11	8	5	17	7	4	5	9	9.6	19.6
28-Apr	7	7	6	9	6	6	9	8	13	13	10	11	9	9	11	12	16	16	14	11	7	11	10	6	9.8	16.1
29-Apr	5	6	6	8	8	8	7	6	7	8	8	10	16	17	20	19	18	13	20	12	8	7	7	12	10.6	20.3
30-Apr	20	7	8	7	8	6	8	12	12	18	15	14	23	25	28	27	26	22	19	17	17	18	18	16	16.3	27.5
11.3 10.0 9.8 9.8 9.0 8.7 9.1 9.9 11.4 12.8 13.5 14.0 14.3 14.1 13.9 13.4 13.8 12.8 12.2 11.8 11.0 11.2 11.0 11.4																								Diurnal Average		
23.7 23.4 21.2 20.8 20.0 22.3 21.9 21.1 24.4 28.7 29.2 32.0 32.4 32.4 30.4 28.2 26.1 27.9 27.7 29.9 31.5 27.0 26.2 22.1																								Diurnal Maximum		
P - Power Failure All monthly, daily, and diurnal averages have been calculated using scalar methods																										

# Hourly Standard Deviations

Wind Direction (WD) - deg  
**Portable-Bonanza - April 2011**

Maximum Value: 92.4 deg on Apr 13 03:00																								Hours in Service:	720	
Minimum Value: 1.8 deg on Apr 22 05:00																								Hours of Data:	719	
Percentiles: P <sub>1</sub> = 2.9 P <sub>10</sub> = 4.2 Q <sub>1</sub> = 6.4 Median = 10.5 Q <sub>3</sub> = 18.7 P <sub>90</sub> = 41.6 P <sub>99</sub> = 78.7																								Hours of Missing Data:	1	
																								Hours of Calibration:	0	
																								Percent Operational Time:	99.9	
Day	Hourly Period Ending At (MST)																								Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Apr	4	10	3	3	3	3	3	2	5	3	5	6	5	7	8	12	57	23	10	13	9	8	19	28	57.2	
2-Apr	14	14	30	11	16	17	17	23	13	13	23	4	8	26	46	40	14	60	38	47	48	92	55	11	91.8	
3-Apr	31	12	29	79	72	10	4	7	37	39	47	16	9	5	15	20	56	21	13	8	7	6	10	11	78.9	
4-Apr	5	7	4	4	4	4	4	5	8	4	3	3	4	5	4	4	5	4	P	6	4	5	8	17	16.6	
5-Apr	16	27	17	12	42	11	4	14	8	7	9	5	5	12	11	12	27	12	11	20	12	8	43	20	43.3	
6-Apr	7	6	10	8	8	17	8	17	9	18	7	4	9	10	6	31	14	21	4	5	6	9	81	8	80.9	
7-Apr	15	13	7	4	10	9	6	6	6	7	5	6	4	6	12	15	44	26	12	8	7	6	5	8	43.6	
8-Apr	7	7	4	5	5	6	6	11	6	3	6	4	8	4	12	6	6	5	4	3	2	3	3	4	12.4	
9-Apr	9	9	11	7	8	19	23	17	9	4	6	7	3	5	5	7	7	7	9	8	7	3	3	3	23.2	
10-Apr	4	7	4	7	32	58	18	4	31	10	7	6	8	8	12	40	31	5	9	59	42	63	62	15	63.3	
11-Apr	9	25	59	58	12	43	63	44	45	36	20	6	11	6	6	10	13	10	10	5	7	10	21	13	62.6	
12-Apr	7	8	39	20	12	14	10	16	15	19	4	5	12	8	7	6	8	33	8	8	7	3	4	4	39.0	
13-Apr	4	3	92	17	27	37	30	33	46	26	18	11	11	12	10	11	12	13	10	10	9	10	9	6	92.4	
14-Apr	9	10	10	11	12	6	9	12	10	10	11	12	10	9	10	10	8	8	6	6	7	14	12	13	13.9	
15-Apr	6	4	6	8	7	16	32	51	18	4	4	33	4	4	8	9	6	6	4	3	5	8	6	4	51.5	
16-Apr	6	13	7	8	13	9	8	7	5	11	8	10	11	16	14	13	14	17	16	8	19	35	70	42	70.1	
17-Apr	11	57	31	60	44	12	17	31	17	25	38	45	26	28	36	17	57	42	66	17	21	25	5	37	65.7	
18-Apr	39	24	12	12	30	42	17	24	11	37	23	20	12	49	11	12	56	20	11	10	6	15	8	27	56.4	
19-Apr	12	8	9	56	23	58	17	30	25	12	20	13	19	32	35	28	13	15	4	7	14	9	11	3	58.0	
20-Apr	4	4	4	4	5	8	3	5	3	10	4	5	9	12	10	10	11	9	13	53	4	5	5	4	52.6	
21-Apr	9	6	8	16	26	13	7	6	6	12	17	22	10	15	18	20	19	18	23	88	8	10	11	4	88.3	
22-Apr	4	3	3	4	2	5	5	10	4	4	4	4	5	5	6	6	6	8	7	7	3	5	9	4	9	9.7
23-Apr	7	6	48	10	6	5	3	6	6	4	6	11	16	17	58	11	7	7	8	16	8	5	5	15	58.4	
24-Apr	47	76	9	5	46	81	9	8	4	53	7	19	26	77	39	43	15	10	13	16	17	16	9	6	80.6	
25-Apr	4	92	60	57	55	77	39	84	38	14	8	19	47	7	42	10	12	23	49	70	33	23	13	16	91.9	
26-Apr	13	4	12	7	6	7	12	6	4	8	6	6	8	12	12	12	11	10	11	7	15	14	79	10	78.9	
27-Apr	7	10	9	8	5	9	17	56	31	8	8	17	21	40	30	28	25	43	22	17	31	39	54	11	56.1	
28-Apr	15	41	19	10	21	23	13	19	8	13	7	16	16	21	19	39	9	8	18	16	18	13	14	30	40.8	
29-Apr	21	14	9	7	9	8	10	8	18	23	22	16	17	14	14	13	8	17	43	91	19	12	11	68	90.8	
30-Apr	14	48	26	15	22	30	11	9	11	18	18	23	12	17	11	10	11	12	8	7	5	4	4	4	48.0	
47.2	91.9	92.4	78.9	71.5	80.6	62.6	84.2	46.3	52.7	46.8	44.6	47.2	77.0	58.4	43.2	57.2	60.3	65.7	90.8	47.9	91.8	80.9	68.0			
P - Power Failure																										

**PAZA**  
**Valleyview Station**  
**Monthly Summary Tables, Graphs and**  
**Roses**



## Hourly Averages

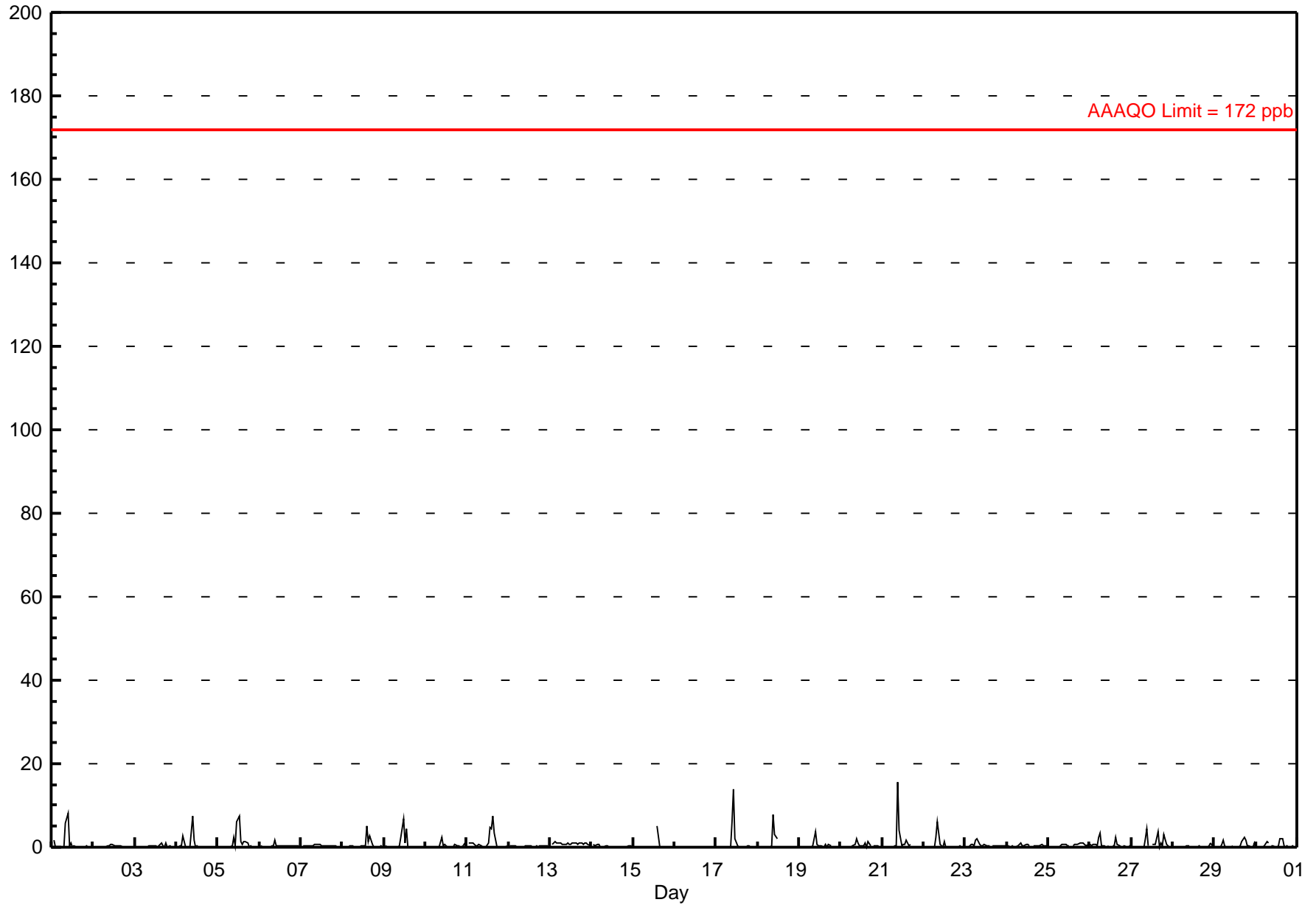
Sulphur Dioxide (SO<sub>2</sub>) - ppb

Valleyview - April 2011

Number of Exceedences (AAQO):	1-hr: 0	24-hr: 0	Hours in Service:	720
Maximum Value: 15.5 ppb on Apr 21 10:00	Maximum Daily Average: 1.2 ppb on Apr 11		Hours of Data:	680
Minimum Value: 0 ppb on Apr 1 03:00	Minimum Daily Average: 0.0 ppb on Apr 16		Hours of Missing Data:	40
Maximum Diurnal Average: 2.4 ppb at hour 10	Minimum Diurnal Average: 0.1 ppb at hour 1		Hours of Calibration:	34
Monthly Average: 0.52 ppb	Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.0 Q <sub>1</sub> = 0.1 Median = 0.2 Q <sub>3</sub> = 0.4 P <sub>90</sub> = 1.1 P <sub>99</sub> = 7.5		Percent Operational Time:	99.2

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Apr	A	2	0	0	0	0	0	0	6	8	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0.8	8.2
2-Apr	A	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.5
3-Apr	A	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0.2	1.1
4-Apr	A	0	0	0	3	0	0	0	0	7	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0.6	7.5
5-Apr	A	0	0	0	0	0	0	0	0	2	0	6	7	1	1	2	1	1	0	0	0	0	0	0	1.0	7.5
6-Apr	A	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.5
7-Apr	A	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.8
8-Apr	A	0	0	0	0	0	0	0	0	0	0	0	0	0	5	1	3	1	0	0	0	0	0	0	0.6	4.9
9-Apr	A	0	0	0	0	0	0	0	0	0	3	7	1	4	0	0	0	0	0	0	0	0	0	0	0.7	6.9
10-Apr	A	0	0	0	0	0	0	0	0	2	0	1	0	0	0	0	0	1	0	0	0	0	0	1	0.3	2.2
11-Apr	A	1	1	1	1	0	0	1	0	0	0	0	1	5	4	8	3	0	0	0	0	0	0	0	1.2	7.5
12-Apr	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.5
13-Apr	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.3
14-Apr	A	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.7
15-Apr	A	0	0	0	0	0	0	M	M	M	M	0	C	C	5	0	0	0	0	0	0	0	0	A	--	5.2
16-Apr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0.0	0.1
17-Apr	0	0	0	0	0	0	0	0	0	6	14	2	0	0	0	0	0	0	0	0	0	0	0	A	1.0	14.0
18-Apr	0	0	0	0	0	0	0	A	0	0	8	3	2	M	M	0	0	0	0	0	0	0	0	A	0.7	7.7
19-Apr	0	0	0	0	0	0	0	0	0	4	1	0	0	0	1	0	1	0	0	A	0	0	0	A	0.3	3.9
20-Apr	0	0	0	0	0	0	0	0	1	2	1	0	0	0	1	0	1	0	A	0	0	0	0	0	0.4	2.1
21-Apr	0	0	0	0	0	0	0	0	0	15	4	0	1	1	2	0	1	A	0	0	0	0	0	0	1.1	15.5
22-Apr	0	0	0	0	0	0	0	2	6	1	0	0	1	0	0	0	A	0	0	0	0	0	0	0	0.5	6.2
23-Apr	0	0	0	1	1	0	2	2	1	0	0	1	0	0	0	A	0	0	0	0	0	0	0	0	0.4	2.0
24-Apr	0	0	0	0	0	0	0	1	1	0	0	1	1	0	A	0	0	0	0	1	1	0	0	0	0.4	1.0
25-Apr	0	0	0	0	0	0	0	0	1	1	1	0	0	A	0	1	1	1	1	1	1	1	1	0	0.5	1.2
26-Apr	1	0	1	1	0	2	3	0	0	0	0	0	A	0	0	2	1	0	0	0	0	0	0	0	0.6	3.3
27-Apr	0	0	0	0	0	0	0	0	2	4	0	A	1	1	1	4	0	1	0	3	1	0	0	0	0.8	4.4
28-Apr	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	1	0	0	0.1	1.2
29-Apr	0	0	0	0	1	2	0	0	0	0	0	A	0	0	0	0	1	2	2	0	0	0	1	0	0.5	2.2
30-Apr	0	0	0	0	0	0	1	1	A	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0.4	2.1
	0.1	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.8	2.4	1.2	0.9	0.7	0.6	0.9	0.8	0.5	0.4	0.3	0.3	0.2	0.2	0.2	0.2	Diurnal Average
	0.7	1.8	1.2	1.3	2.6	2.4	3.3	2.3	6.2	15.5	14.0	6.9	7.5	4.7	5.2	7.5	3.3	2.2	1.6	2.9	1.1	1.0	1.2	1.3	Diurnal Maximum	

C - Calibration                      M - Maintenance                      A - Automated Daily Zero Span  
 Alberta Ambient Air Quality Objectives (AAQO): 1-hr 172 ppb    24-hr 48 ppb



## Hourly Maximums

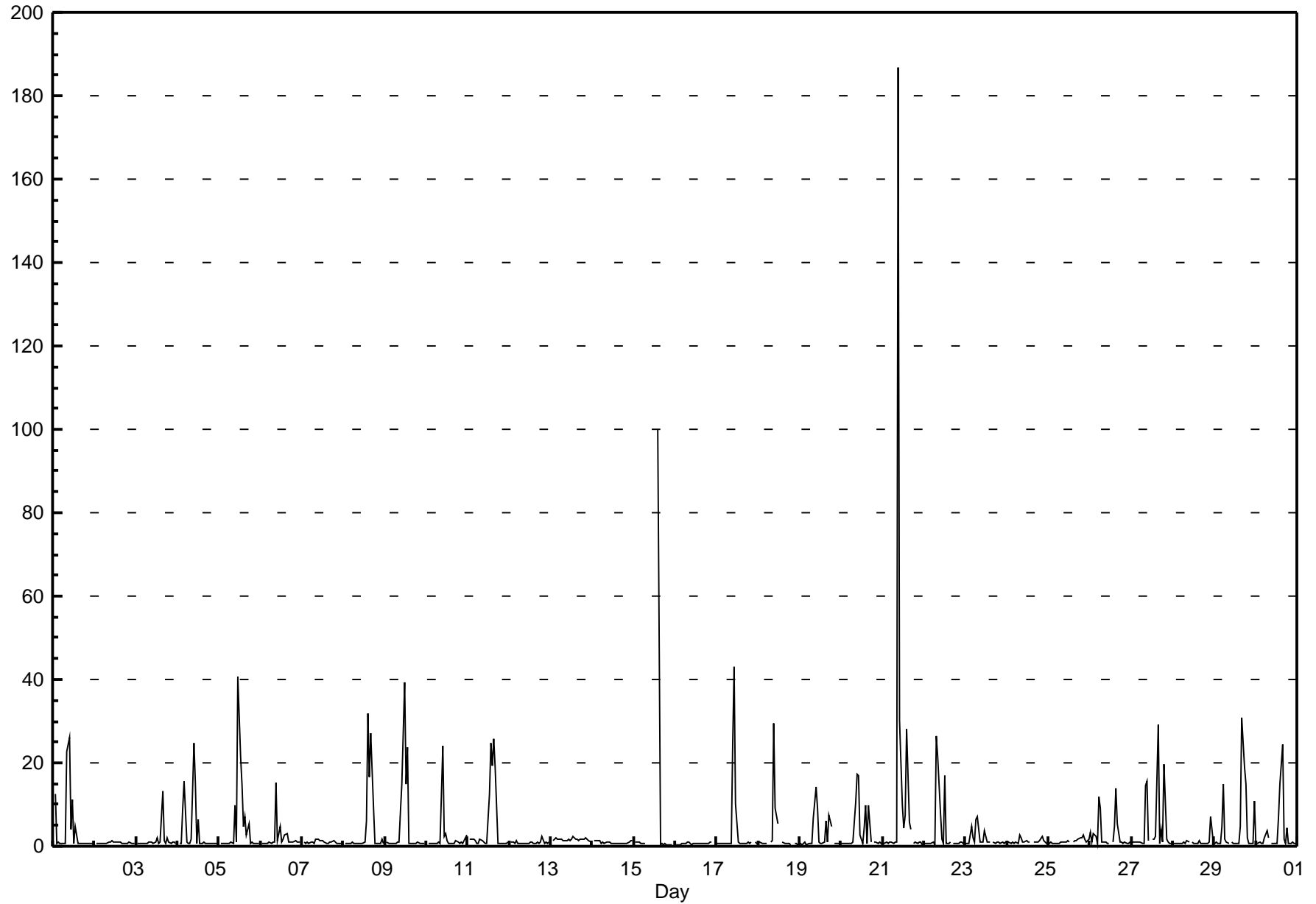
Sulphur Dioxide (SO<sub>2</sub>) - ppb

Valleyview - April 2011

Maximum Value: 186.8 ppb on Apr 21 10:00		Maximum Daily Average: 12.6 ppb on Apr 21		Hours in Service: 720																							
Minimum Value: 0 ppb on Apr 19 00:00		Minimum Daily Average: 0.7 ppb on Apr 16		Hours of Data: 680																							
Maximum Diurnal Average: 14.9 ppb at hour 10		Minimum Diurnal Average: 0.8 ppb at hour 1		Hours of Missing Data: 40																							
Monthly Average: 3.17 ppb		Percentiles: P <sub>1</sub> = 0.5 P <sub>10</sub> = 0.6 Q <sub>1</sub> = 0.7 Median = 0.9 Q <sub>3</sub> = 1.3 P <sub>90</sub> = 7.0 P <sub>99</sub> = 30.4		Hours of Calibration: 34																							
				Percent Operational Time: 99.2																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Apr	A	13	1	1	1	1	1	1	23	26	4	11	1	5	1	1	1	1	1	1	1	1	1	1	4.1	26.1	
2-Apr	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.4	
3-Apr	A	1	1	1	1	1	1	1	1	1	1	1	2	1	1	13	1	1	2	1	1	1	1	1	1.5	13.3	
4-Apr	A	1	1	9	16	1	1	1	2	25	15	1	6	1	1	1	1	1	1	1	1	1	1	1	3.6	24.8	
5-Apr	A	1	1	1	1	1	1	1	1	10	1	41	21	15	5	7	3	5	1	1	1	1	1	1	5.1	40.6	
6-Apr	A	1	1	1	1	1	1	1	1	15	1	5	1	2	3	3	1	1	1	1	1	1	1	1	1.9	15.2	
7-Apr	A	1	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.8	
8-Apr	A	1	1	1	1	1	1	1	1	1	1	1	1	6	32	17	27	9	1	1	1	1	2	1	4.6	31.8	
9-Apr	A	1	1	1	1	1	1	1	1	8	15	39	15	24	1	1	1	1	1	1	1	1	1	1	5.0	39.4	
10-Apr	A	1	1	1	1	1	1	1	1	24	2	3	1	1	1	1	1	1	1	1	1	1	1	3	2.1	24.0	
11-Apr	A	2	2	2	1	1	1	2	1	1	1	1	13	25	19	26	19	1	1	1	1	1	1	1	5.2	25.6	
12-Apr	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	0.9	2.3	
13-Apr	A	2	2	2	2	2	2	1	1	1	2	1	2	2	2	2	1	2	2	2	2	2	2	1	1.6	2.2	
14-Apr	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.3	
15-Apr	A	1	1	1	1	1	1	M	M	M	M	1	C	C	100	0	1	0	1	1	1	0	1	A	--	99.9	
16-Apr	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	A	0.7	1.0	
17-Apr	1	1	1	1	1	1	1	1	1	24	43	10	1	1	1	1	1	1	1	1	1	1	1	1	4.0	42.9	
18-Apr	1	1	1	1	1	1	A	1	1	29	9	5	M	M	1	1	1	1	1	1	1	1	1	0	2.8	29.4	
19-Apr	1	0	1	1	1	1	1	1	1	7	14	9	1	1	1	6	1	7	5	A	A	1	1	1	2.6	14.3	
20-Apr	1	1	1	1	1	1	1	1	1	10	17	17	3	1	5	10	1	10	1	A	1	1	1	1	3.7	17.1	
21-Apr	1	1	1	1	1	1	1	1	1	187	30	10	4	7	28	6	4	A	A	1	1	1	1	0	12.6	186.8	
22-Apr	1	1	1	1	1	1	0	26	21	8	2	1	17	1	1	1	A	1	1	1	1	1	1	1	3.8	26.3	
23-Apr	1	1	1	5	2	1	7	7	1	1	1	4	1	1	1	A	1	1	1	1	1	1	1	1	1.8	7.1	
24-Apr	1	1	1	1	1	1	1	3	2	1	1	1	1	1	A	1	1	1	1	1	1	2	1	1	1.2	2.6	
25-Apr	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	2	2	2	3	2	1	2	1.3	2.8
26-Apr	3	1	3	2	1	12	9	1	1	1	1	1	A	1	5	14	6	1	1	1	1	1	1	1	2.9	13.7	
27-Apr	1	1	1	1	1	1	1	1	1	14	15	1	A	2	2	3	29	1	4	1	20	2	1	1	4.5	29.1	
28-Apr	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	7	1	1.0	7.0	
29-Apr	1	1	1	1	5	15	2	1	1	A	1	1	1	1	1	5	31	19	15	2	1	1	1	11	5.0	30.7	
30-Apr	1	1	1	1	1	2	4	2	A	1	1	1	1	7	15	24	2	1	4	1	1	1	1	1	3.1	24.3	
		0.8	1.2	0.9	1.3	1.5	1.7	1.4	2.1	3.6	14.9	5.9	5.1	3.7	4.1	8.1	5.7	4.1	2.2	1.7	1.6	1.0	0.9	1.1	1.2	Diurnal Average	
		3.4	12.6	3.0	8.7	15.6	14.9	9.3	26.3	22.6	186.8	42.9	40.6	21.3	24.7	99.9	29.1	30.7	18.9	14.9	19.6	2.8	1.7	7.0	11.0	Diurnal Maximum	
C - Calibration		M - Maintenance						A - Automated Daily Zero Span																			

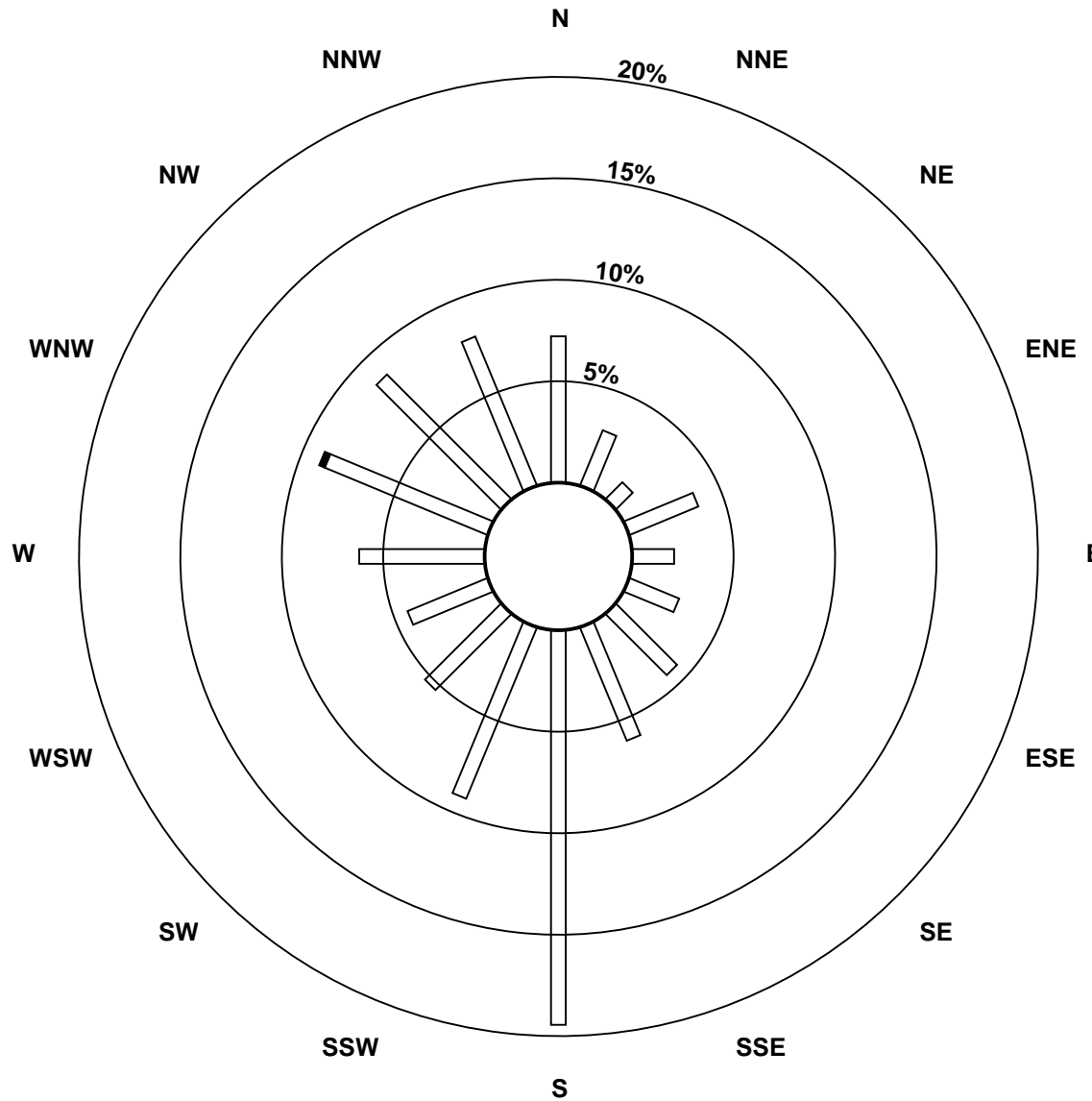
### Hourly Maximums

Sulphur Dioxide (SO<sub>2</sub>) - ppb  
Valleyview - April 2011

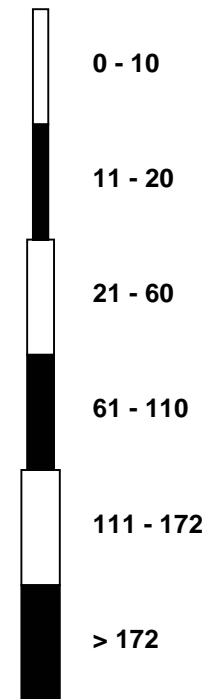


**Pollutant Rose**

**Sulphur Dioxide (SO<sub>2</sub>) - ppb**  
**Valleyview - April 2011**

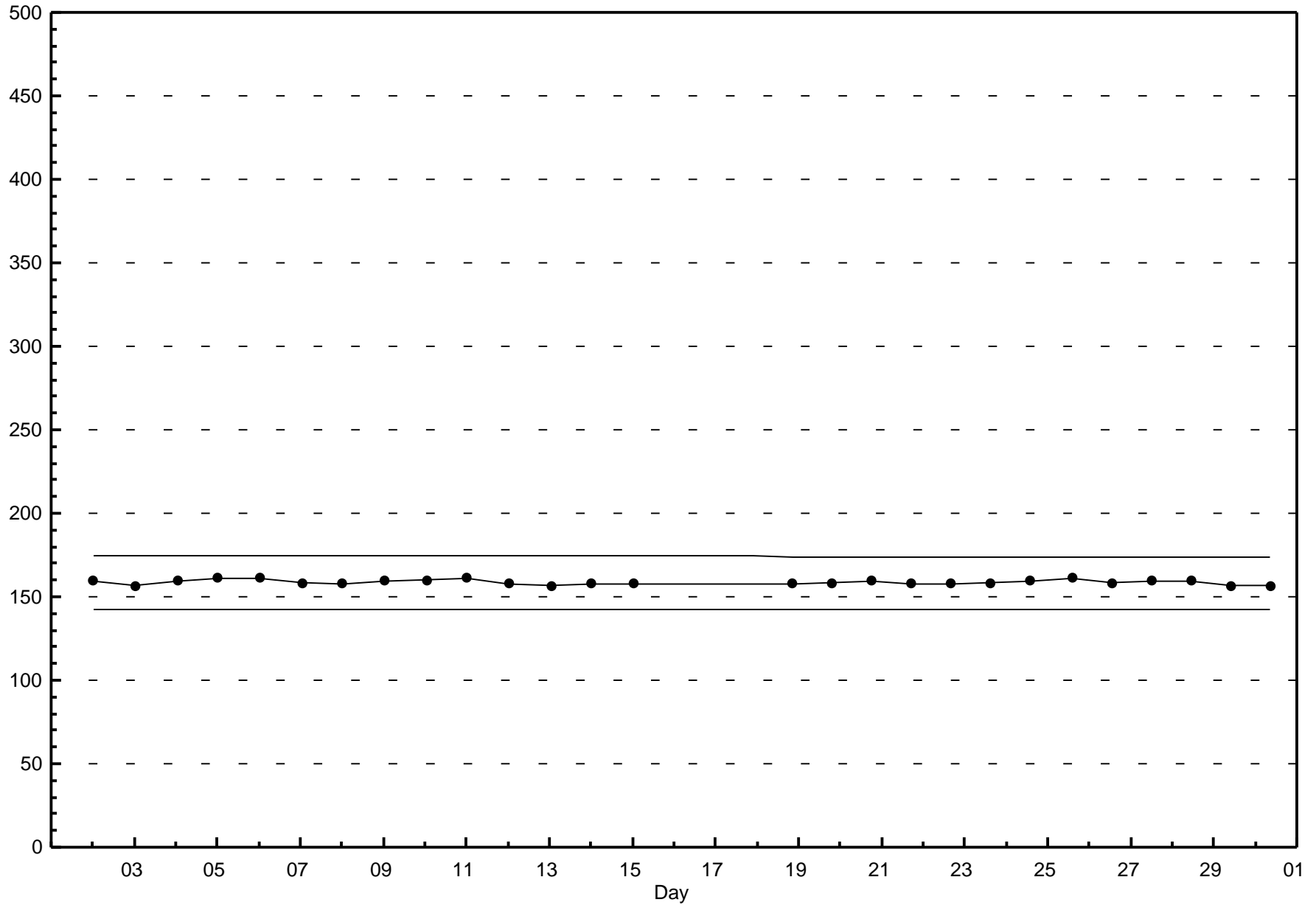


**Pollutant Classes (ppb)**



### Span Responses

Sulphur Dioxide (SO<sub>2</sub>)  
Valleyview - April 2011



## Hourly Averages

## Hydrogen Sulphide (H<sub>2</sub>S) - ppb

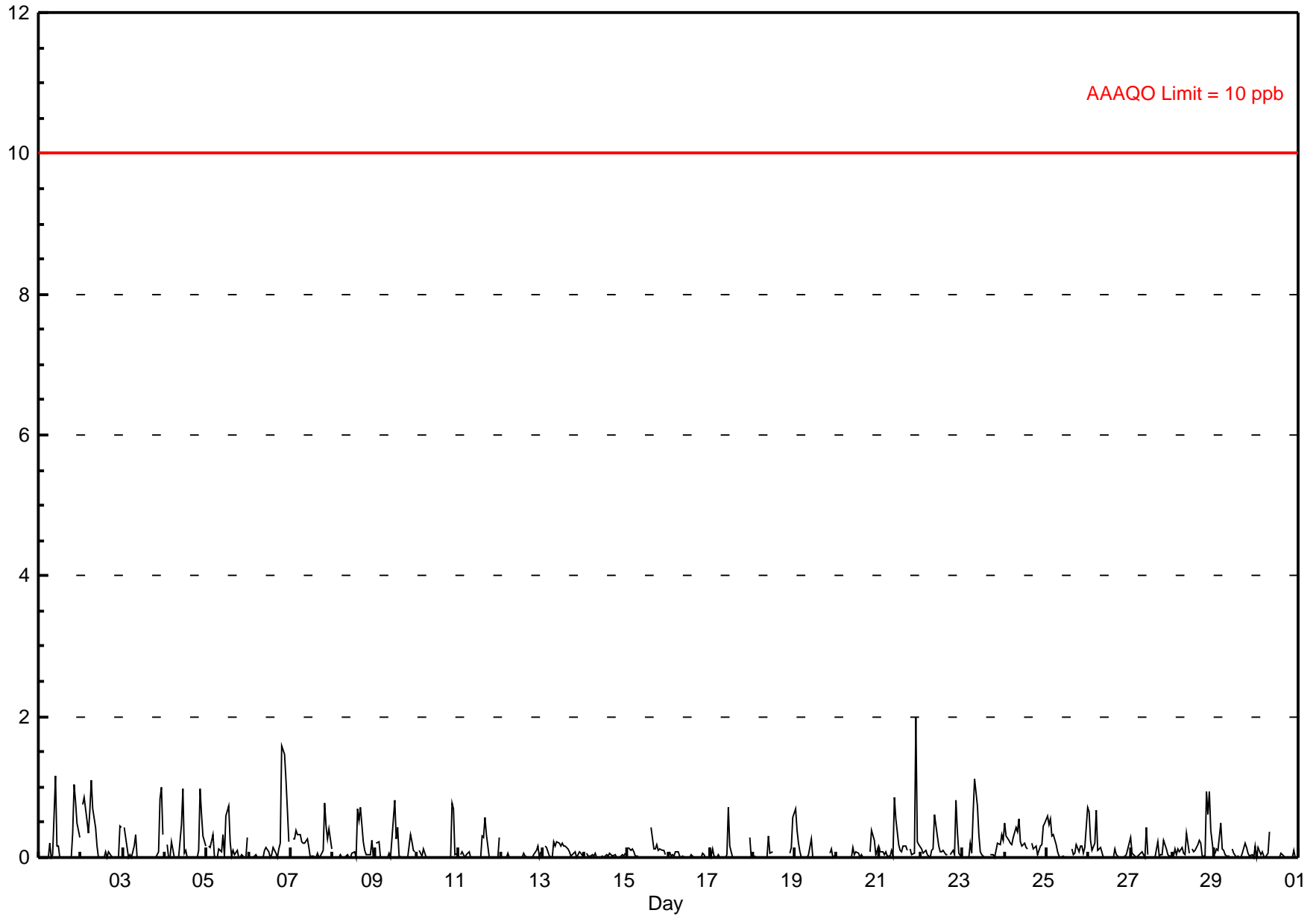
### Valleyview - April 2011

Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	720
Maximum Value: 2.0 ppb on Apr 21 22:00	Maximum Daily Average: 0.3 ppb on Apr 2		Hours of Data:	679
Minimum Value: 0 ppb on Apr 1 02:00	Minimum Daily Average: 0.0 ppb on Apr 12		Hours of Missing Data:	41
Maximum Diurnal Average: 0.3 ppb at hour 22	Minimum Diurnal Average: 0.0 ppb at hour 19		Hours of Calibration:	36
Monthly Average: 0.13 ppb	Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.0 Q <sub>1</sub> = 0.0 Median = 0.0 Q <sub>3</sub> = 0.2 P <sub>90</sub> = 0.4 P <sub>99</sub> = 1.1		Percent Operational Time:	99.3

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Apr	A	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0.2	1.2
2-Apr	A	1	1	1	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.1
3-Apr	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0.1	1.0
4-Apr	A	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1	0	0	0.2	1.0
5-Apr	A	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0.1	0.7
6-Apr	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	1	1	0	0.3	1.6
7-Apr	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0.2	0.8
8-Apr	A	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0.1	0.7
9-Apr	A	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.8
10-Apr	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0.1	0.8
11-Apr	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0.1	0.6
12-Apr	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.2
13-Apr	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
14-Apr	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
15-Apr	A	0	0	0	0	0	M	M	M	C	C	C	C	0	0	0	0	0	0	0	0	0	0	A	--	0.4
16-Apr	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
17-Apr	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.7
18-Apr	0	0	0	0	0	0	A	0	0	0	0	0	M	M	0	0	0	0	0	0	0	0	0	1	0.1	0.6
19-Apr	1	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	0.7
20-Apr	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
21-Apr	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	A	0	0	0	0	2	0	0.2	2.0
22-Apr	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	A	0	0	0	0	1	0	0	0.2	0.8
23-Apr	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.2	1.1
24-Apr	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.3	0.5
25-Apr	1	0	1	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	1	0.2	0.7
26-Apr	1	0	0	0	1	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.1	0.7
27-Apr	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.1	0.4
28-Apr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0.2	0.9
29-Apr	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.5
30-Apr	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

0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.2	0.3	0.3	0.2	0.2	Diurnal Average
0.7	0.7	0.8	0.5	0.7	0.7	1.1	1.1	0.7	1.2	1.0	0.8	0.7	0.4	0.7	0.6	0.7	0.2	0.2	1.6	1.5	2.0	1.0	0.7	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





## Hourly Maximums

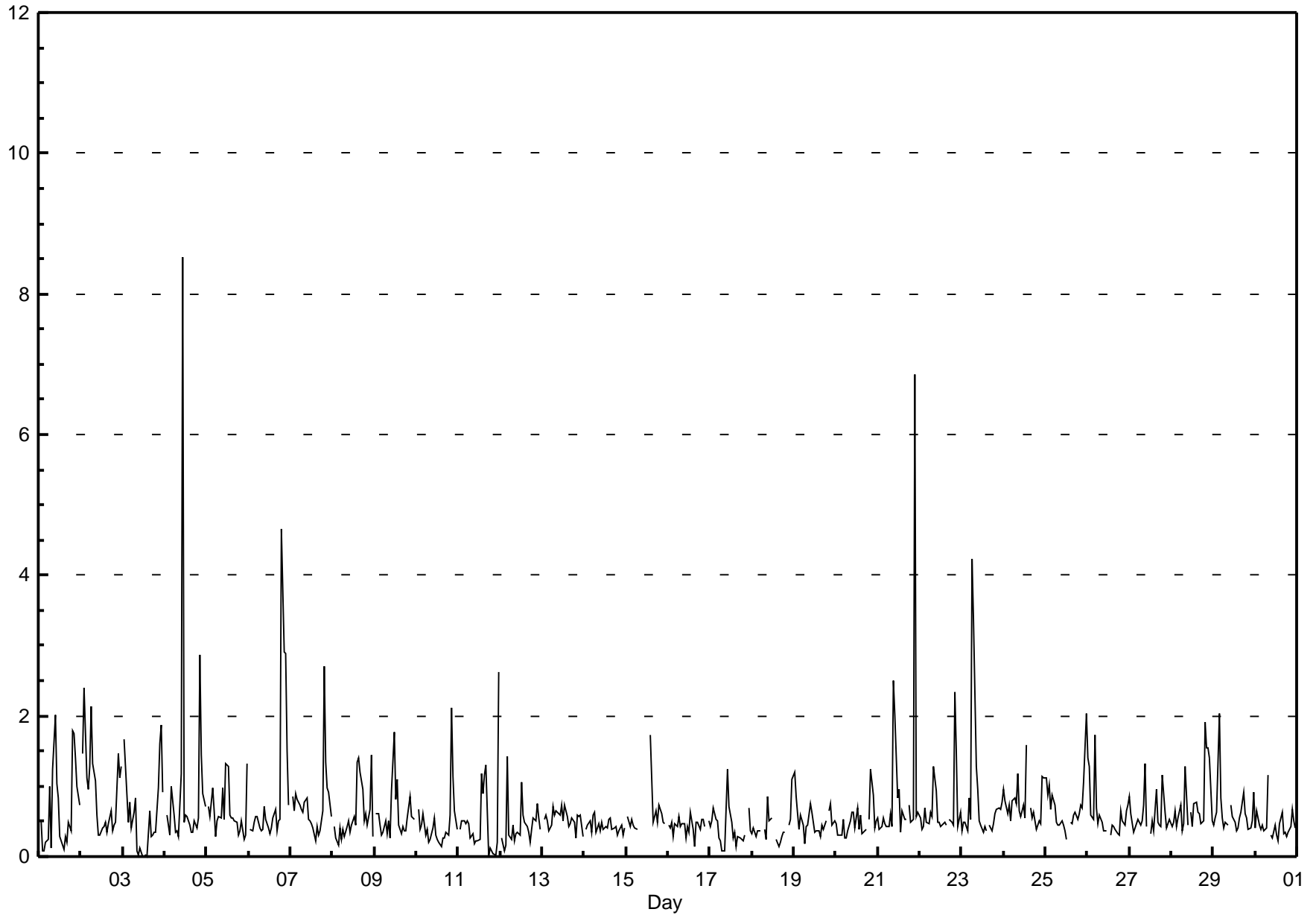
Hydrogen Sulphide (H<sub>2</sub>S) - ppb

Valleyview - April 2011

Maximum Value: 8.5 ppb on Apr 4 11:00		Maximum Daily Average: 1.0 ppb on Apr 4		Hours in Service: 720																						
Minimum Value: 0 ppb on Apr 3 12:00		Minimum Daily Average: 0.4 ppb on Apr 18		Hours of Data: 679																						
Maximum Diurnal Average: 1.1 ppb at hour 22		Minimum Diurnal Average: 0.4 ppb at hour 19		Hours of Missing Data: 41																						
Monthly Average: 0.63 ppb		Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.3 Q <sub>1</sub> = 0.4 Median = 0.5 Q <sub>3</sub> = 0.7 P <sub>90</sub> = 1.1 P <sub>99</sub> = 2.9		Hours of Calibration: 36																						
				Percent Operational Time: 99.3																						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Apr	A	0	0	0	0	0	1	0	1	2	1	0	0	0	0	0	0	0	0	2	2	1	1	1	0.7	2.0
2-Apr	A	1	2	1	1	1	2	1	1	1	0	0	0	0	0	0	0	1	0	0	0	1	1	1	0.9	2.4
3-Apr	A	2	1	0	1	0	1	1	0	0	0	0	0	0	1	0	0	0	0	0	1	2	2	1	0.6	1.9
4-Apr	A	1	0	0	1	1	0	0	0	1	9	0	1	1	0	0	0	1	0	1	3	1	1	1	1.0	8.5
5-Apr	A	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	0	0	0	1	0	0	1	0.6	1.3
6-Apr	A	0	0	0	1	1	0	0	0	1	1	0	0	0	1	1	0	1	1	5	3	3	2	1	0.9	4.7
7-Apr	A	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	1	3	1	1	1	1	1	0.7	2.7
8-Apr	A	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	1	1	0	1	1	0	0.6	1.4
9-Apr	A	1	1	0	0	0	1	0	1	0	1	2	1	1	0	0	0	0	0	1	1	1	1	1	0.6	1.8
10-Apr	A	1	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	2	1	1	0	0.5	2.1
11-Apr	A	0	1	1	0	1	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	3	0.5	2.6
12-Apr	A	0	0	0	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1	1	1	1	0	0.4	1.4
13-Apr	A	1	1	1	0	0	1	1	1	1	1	1	1	1	1	0	0	1	0	0	1	1	1	0	0.5	0.7
14-Apr	A	0	0	1	0	1	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0.4	0.6
15-Apr	A	1	0	1	0	0	0	M	M	M	C	C	C	C	2	0	1	1	0	1	1	0	0	A	--	1.7
16-Apr	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	1	1	0	A	1	0.4	0.6
17-Apr	0	1	1	1	1	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.4	1.2
18-Apr	0	0	0	0	0	0	A	0	0	1	1	1	M	M	0	0	0	0	0	0	0	0	1	1	0.4	1.1
19-Apr	1	1	1	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	1	A	A	1	1	0	0.5	1.2
20-Apr	0	0	0	0	1	0	0	0	0	1	1	0	1	0	1	0	0	0	A	1	1	1	0	1	0.5	1.2
21-Apr	1	0	0	1	0	0	0	1	0	3	2	1	1	0	1	1	1	A	1	0	1	7	1	1	1.0	6.9
22-Apr	1	0	0	1	0	0	1	1	1	1	0	0	0	0	0	0	A	1	0	0	2	1	0	1	0.7	2.3
23-Apr	0	0	0	0	1	1	4	3	1	1	1	0	0	0	0	A	0	0	0	1	1	1	1	1	0.9	4.2
24-Apr	1	1	1	1	1	1	1	1	1	1	1	1	1	2	A	1	1	1	1	0	1	0	1	1	0.7	1.6
25-Apr	1	1	1	1	1	1	0	0	0	0	0	0	0	A	0	0	1	1	1	1	1	1	1	2	0.7	2.0
26-Apr	1	1	1	1	2	1	0	1	0	0	0	0	A	0	0	0	0	0	0	1	1	0	1	1	0.6	1.7
27-Apr	1	1	0	0	0	1	0	1	1	1	0	A	0	1	0	1	0	0	1	1	0	0	1	1	0.6	1.3
28-Apr	0	0	1	0	1	1	0	0	1	0	A	1	0	1	1	1	0	0	1	2	2	2	1	1	0.8	1.9
29-Apr	0	1	1	2	1	1	0	0	0	A	1	1	0	0	0	1	1	1	1	1	0	0	1	1	0.6	2.0
30-Apr	0	1	0	0	0	0	0	1	A	0	0	0	0	0	0	1	0	0	0	0	0	1	1	0	0.4	1.2
		0.7	0.6	0.6	0.5	0.6	0.5	0.7	0.6	0.6	0.7	0.9	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.8	0.9	1.1	0.8	0.8	Diurnal Average
		1.4	1.7	2.4	2.0	1.7	1.3	4.2	3.4	1.3	2.5	8.5	1.8	1.3	1.6	1.7	1.4	1.3	1.0	0.7	4.7	2.9	6.9	1.9	2.6	Diurnal Maximum
C - Calibration		M - Maintenance						A - Automated Daily Zero Span																		

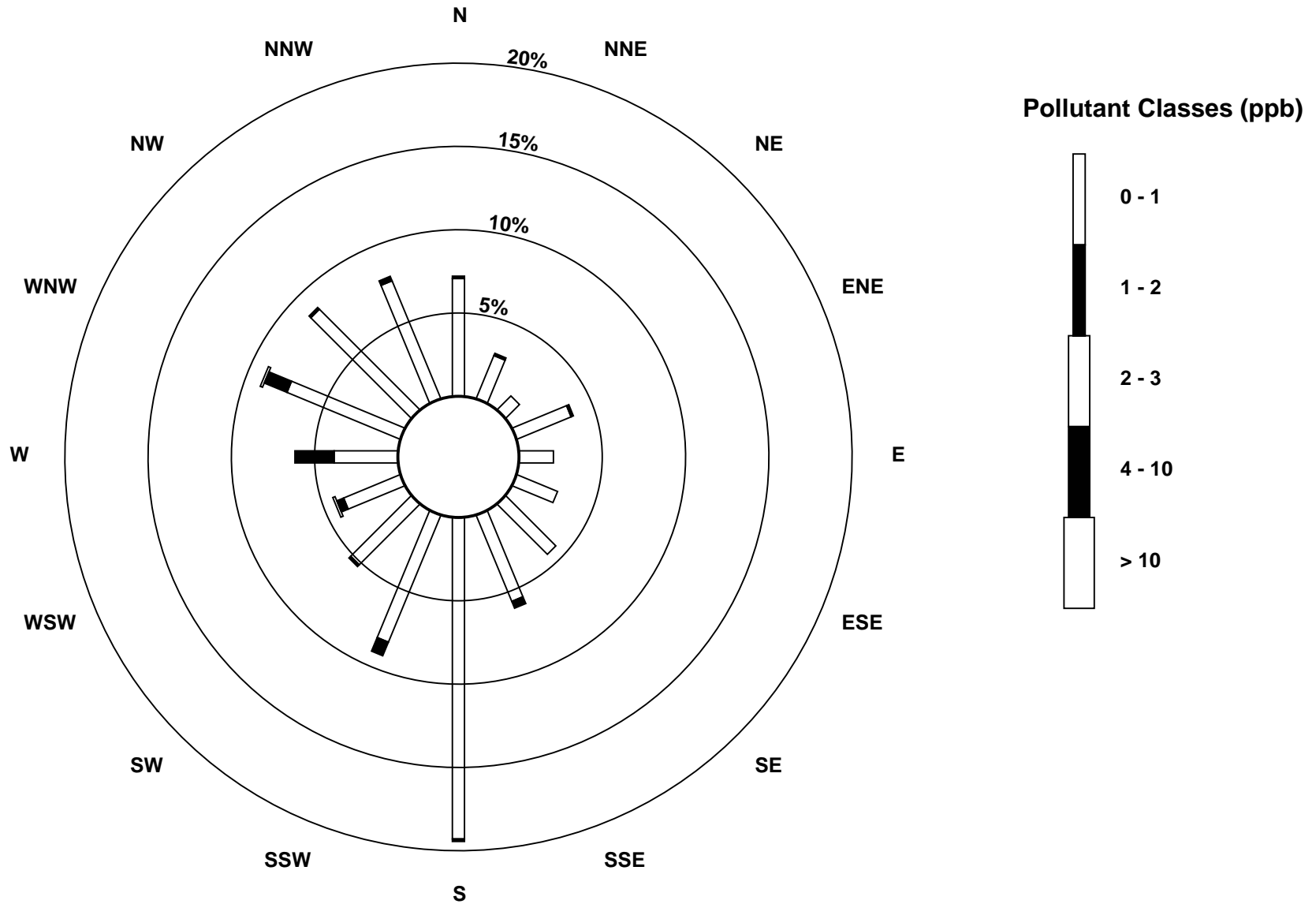
**Hourly Maximums**

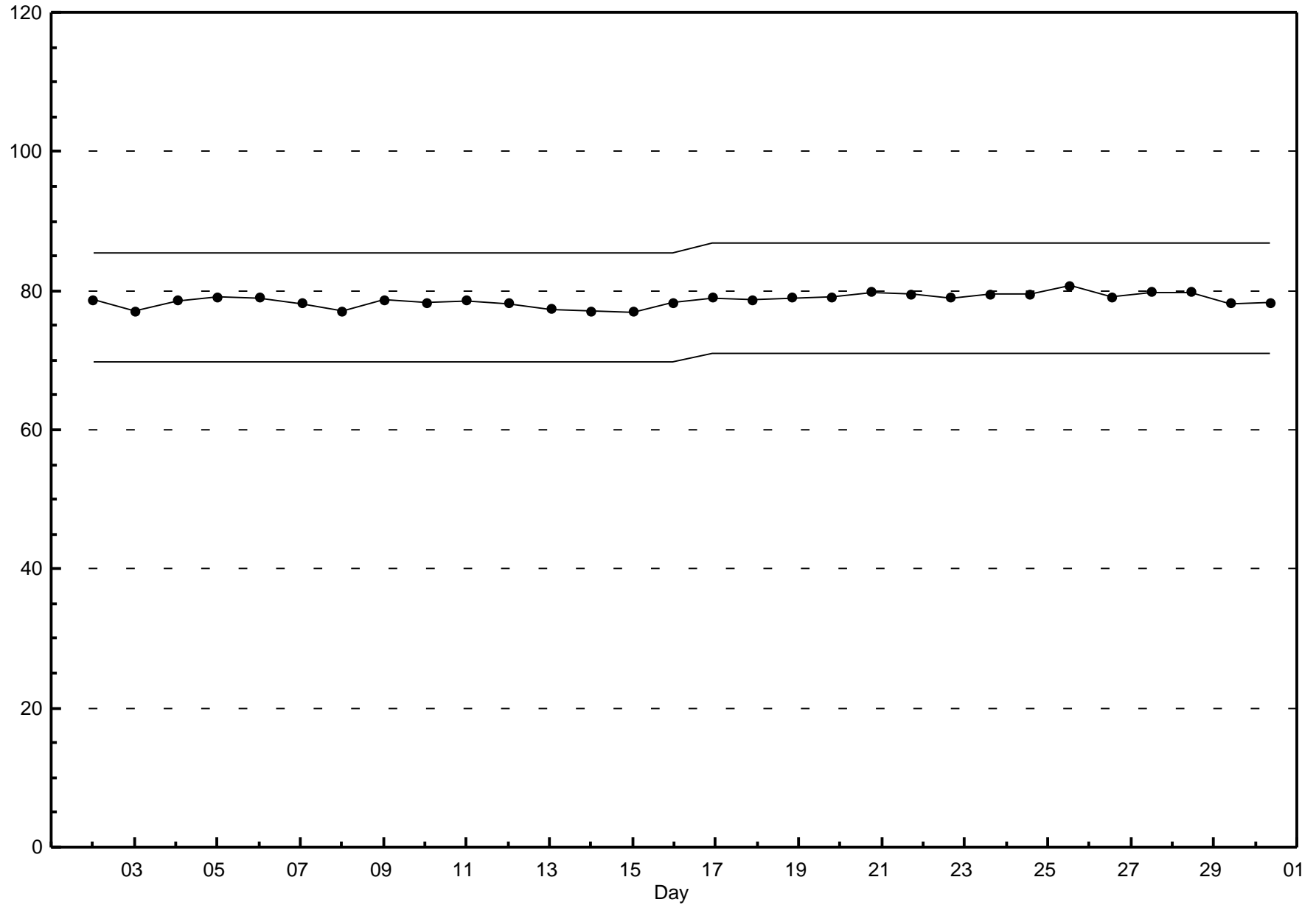
**Hydrogen Sulphide (H<sub>2</sub>S) - ppb**  
**Valleyview - April 2011**



**Pollutant Rose**

**Hydrogen Sulphide (H<sub>2</sub>S) - ppb**  
**Valleyview - April 2011**





## Hourly Averages

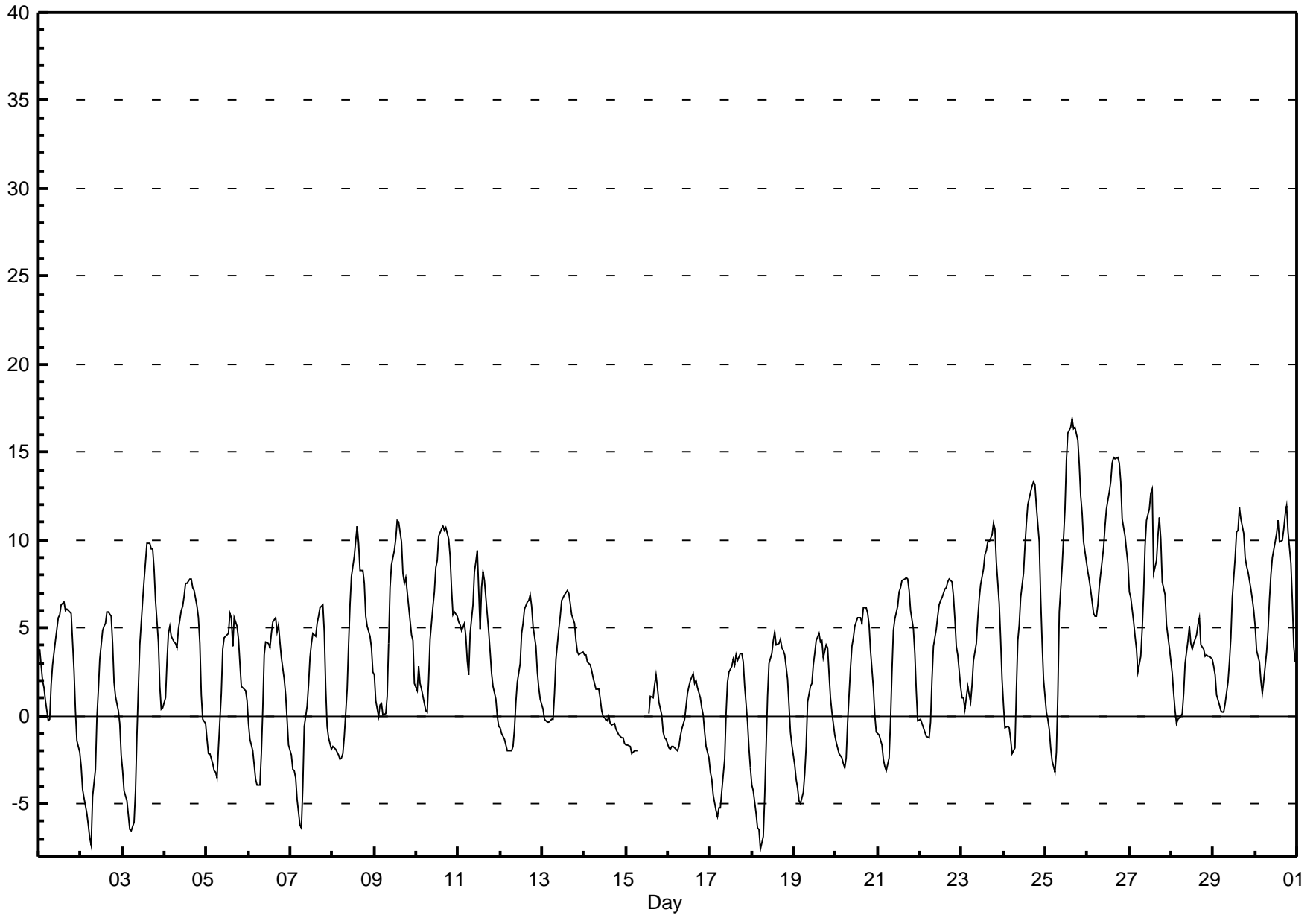
External Temperature (ET) - °C

Valleyview - April 2011

Number of Exceedences (AAQO):	1-hr: 0	24-hr: 0	Hours in Service:	720
Maximum Value: 16.9 °C on Apr 25 16:00	Maximum Daily Average: 10.3 °C on Apr 26		Hours of Data:	714
Minimum Value: -8 °C on Apr 18 06:00	Minimum Daily Average: -0.5 °C on Apr 17		Hours of Missing Data:	6
Maximum Diurnal Average: 7.4 °C at hour 16	Minimum Diurnal Average: -1.5 °C at hour 6		Hours of Calibration:	0
Monthly Average: 3.35 °C	Percentiles: P <sub>1</sub> = -6.3 P <sub>10</sub> = -2.2 Q <sub>1</sub> = -0.2 Median = 3.5 Q <sub>3</sub> = 6.3 P <sub>90</sub> = 9.8 P <sub>99</sub> = 14.1		Percent Operational Time:	99.2

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																								
1-Apr	4	3	2	2	1	0	0	2	3	4	5	6	6	6	6	6	6	6	6	4	3	0	-1	-2	3.2	6.5																						
2-Apr	-3	-4	-5	-6	-6	-7	-7	-5	-3	0	1	3	5	5	5	6	6	6	4	2	1	0	0	-2	-0.1	5.9																						
3-Apr	-3	-4	-5	-6	-6	-7	-6	-4	-1	2	4	7	8	9	10	10	9	9	8	7	4	2	0	0	1.9	9.8																						
4-Apr	1	3	5	5	5	4	4	4	5	6	6	7	8	8	8	8	7	7	6	6	4	1	0	0	4.8	7.8																						
5-Apr	-1	-2	-2	-3	-3	-3	-4	-2	1	4	4	4	5	6	6	4	6	5	4	3	2	1	1	1	1.6	5.8																						
6-Apr	0	-1	-2	-3	-4	-4	-4	-2	0	3	4	4	4	5	5	6	5	5	4	3	2	1	0	-2	1.3	5.6																						
7-Apr	-2	-3	-3	-4	-5	-6	-6	-4	-1	1	2	3	4	5	5	5	6	6	6	5	2	-1	-1	-2	0.5	6.3																						
8-Apr	-2	-2	-2	-2	-2	-2	-2	-1	1	4	6	8	9	10	11	10	8	8	8	6	5	5	4	2	3.7	10.8																						
9-Apr	2	1	0	1	1	0	0	1	4	7	9	9	10	11	11	10	8	8	8	7	5	5	4	2	5.2	11.1																						
10-Apr	1	3	2	2	1	0	0	2	4	6	7	8	9	10	11	11	11	11	10	9	7	6	6	6	6.0	10.8																						
11-Apr	5	5	5	5	4	3	2	5	6	8	9	9	5	7	8	8	7	5	4	2	2	1	0	-1	4.8	9.4																						
12-Apr	-1	-1	-1	-2	-2	-2	-2	-2	-1	1	2	3	5	5	6	6	7	7	6	5	4	3	2	1	2.0	6.9																						
13-Apr	0	0	0	0	0	0	0	1	3	5	6	7	7	7	7	7	6	6	5	4	4	3	4	4	3.5	7.1																						
14-Apr	3	3	3	3	3	2	2	1	2	1	0	0	0	0	0	0	-1	0	-1	-1	-1	-1	-1	-2	0.6	3.5																						
15-Apr	-2	-2	-2	-2	-2	-2	-2	M	M	M	M	M	M	0	1	1	2	2	2	1	0	-1	-1	-1	-0.4	2.3																						
16-Apr	-2	-2	-2	-2	-2	-2	-2	-1	-1	0	1	1	2	2	2	2	2	2	1	1	0	-1	-2	-2	-0.2	2.4																						
17-Apr	-3	-4	-5	-5	-6	-5	-5	-4	-2	0	2	2	3	3	3	3	3	4	4	3	2	0	-2	-3	-0.5	3.6																						
18-Apr	-4	-4	-6	-6	-6	-8	-7	-5	-2	1	3	4	4	5	4	4	4	4	4	3	2	1	-1	-2	-0.3	4.8																						
19-Apr	-3	-4	-4	-5	-5	-4	-3	-2	1	2	2	3	4	4	5	4	4	3	4	4	2	1	0	-1	0.5	4.7																						
20-Apr	-1	-2	-2	-2	-3	-3	-2	0	3	4	4	5	6	6	6	5	6	6	6	5	4	2	0	-1	2.1	6.2																						
21-Apr	-1	-1	-2	-2	-3	-3	-2	0	2	5	5	6	7	7	8	8	8	8	7	6	5	4	1	0	3.0	7.9																						
22-Apr	0	0	-1	-1	-1	-1	0	2	4	5	6	6	7	7	7	7	8	8	8	7	6	4	3	2	3.8	7.8																						
23-Apr	1	1	0	2	1	1	2	3	4	6	7	7	8	9	9	10	10	10	11	11	9	6	4	2	5.6	10.9																						
24-Apr	1	-1	-1	-1	-1	-2	-2	1	4	5	7	8	10	11	12	13	13	13	13	12	10	7	4	2	5.8	13.3																						
25-Apr	0	0	-1	-2	-3	-3	-2	1	6	8	10	12	15	16	16	17	16	16	16	14	13	12	10	9	8.2	16.9																						
26-Apr	8	8	7	6	6	6	6	7	9	10	11	12	13	13	14	15	15	15	14	13	11	10	9	9	10.3	14.7																						
27-Apr	7	7	5	4	4	3	3	5	7	10	11	12	13	13	8	9	10	11	10	8	7	5	5	4	7.5	12.9																						
28-Apr	2	1	0	0	0	0	0	1	3	4	5	4	4	4	5	5	6	4	4	3	3	3	3	3	2.9	5.6																						
29-Apr	3	2	1	1	0	0	0	1	2	3	4	7	9	10	11	12	11	10	9	9	8	7	7	6	5.6	11.8																						
30-Apr	5	4	3	2	1	2	4	5	7	8	9	10	10	11	10	10	11	11	12	10	9	7	4	3	7.0	11.9																						
																								0.6	0.1	-0.3	-0.7	-1.1	-1.5	-1.2	0.4	2.5	4.2	5.3	6.1	6.7	7.2	7.3	7.4	7.3	7.2	6.8	5.7	4.4	3.1	2.1	1.1	Diurnal Average
																								8.2	7.7	7.2	5.8	5.7	5.7	6.3	7.3	8.8	9.6	11.1	11.8	14.6	16.0	16.4	16.9	16.3	16.4	15.7	14.3	12.5	11.5	9.9	8.8	Diurnal Maximum

M - Maintenance



# Hourly Averages

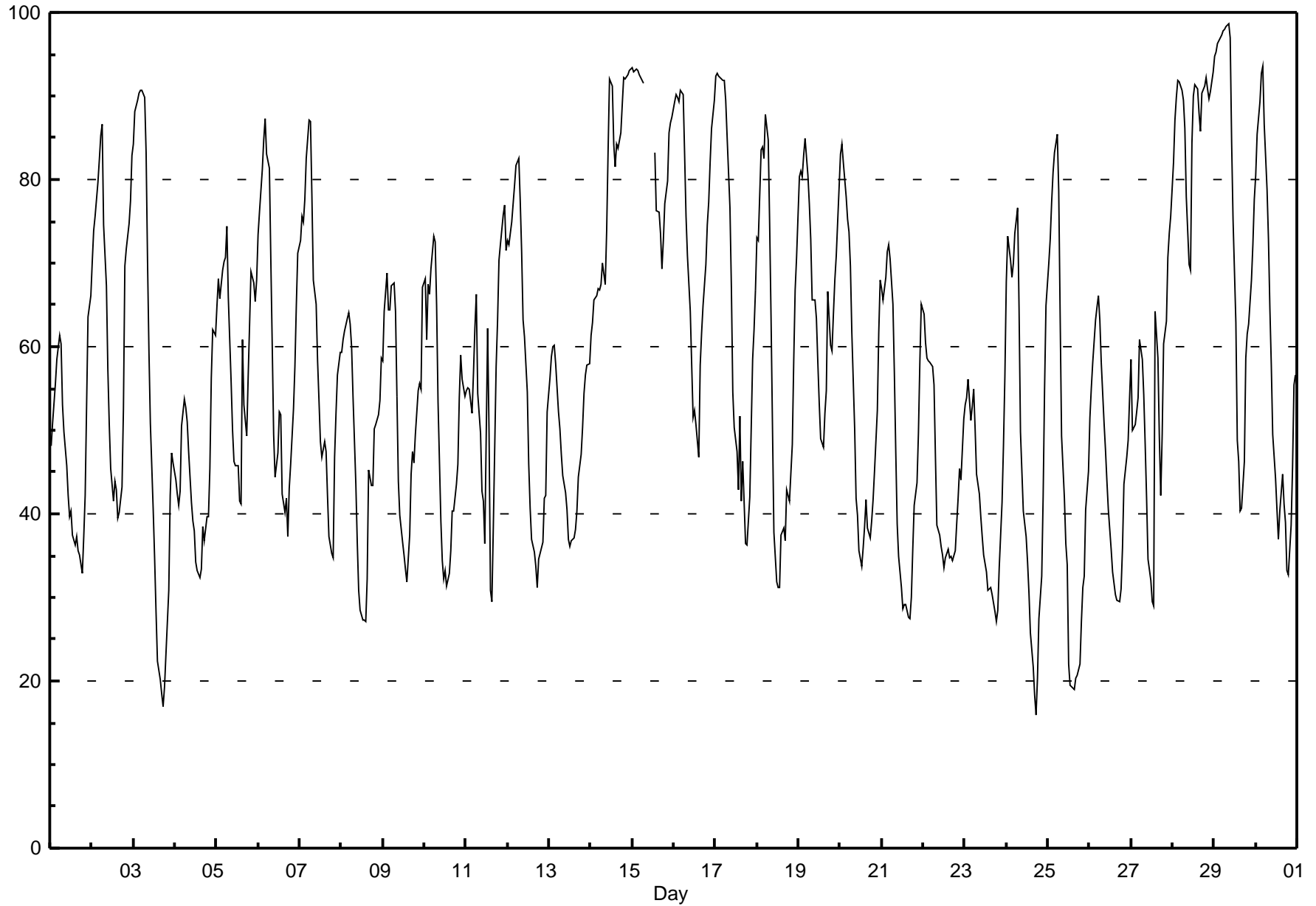
Relative Humidity (RH) - %

Valleyview - April 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 98.6 % on Apr 29 09:00 Maximum Daily Average: 87.2 % on Apr 28		Hours in Service: 720 Hours of Data: 714 Hours of Missing Data: 6 Hours of Calibration: 0 Percent Operational Time: 99.2																																															
Minimum Value: 16 % on Apr 24 18:00 Maximum Diurnal Average: 75.3 % at hour 6 Monthly Average: 57.27 %		Minimum Daily Average: 41.3 % on Apr 23 Minimum Diurnal Average: 41.9 % at hour 15 Percentiles: P <sub>1</sub> = 19.3 P <sub>10</sub> = 33.2 Q <sub>1</sub> = 41.2 Median = 55.0 Q <sub>3</sub> = 72.2 P <sub>90</sub> = 86.7 P <sub>99</sub> = 96.9																																															
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-Apr	48	51	53	56	58	61	60	53	50	46	42	40	40	37	36	37	36	35	33	37	42	53	64	66	47.3	66.1																							
2-Apr	70	74	76	80	82	85	87	75	67	57	51	45	42	44	43	40	40	43	53	70	72	75	77	83	63.7	86.5																							
3-Apr	84	88	89	90	91	91	90	83	70	59	51	41	35	28	22	20	18	17	19	23	31	42	47	46	53.2	90.7																							
4-Apr	44	42	41	43	50	54	53	51	47	41	39	38	34	33	32	33	38	37	40	40	45	56	62	61	44.0	62.0																							
5-Apr	65	68	66	69	70	71	74	66	56	50	46	46	46	42	41	61	53	49	56	62	69	68	65	68	59.5	74.4																							
6-Apr	73	76	81	85	87	83	81	71	60	50	44	47	52	52	42	40	42	37	43	46	53	58	65	71	60.0	87.3																							
7-Apr	73	76	75	78	83	87	87	78	68	65	58	54	49	47	49	48	42	37	35	35	47	52	57	59	59.9	87.2																							
8-Apr	59	61	62	63	64	63	60	54	44	37	31	28	27	27	32	45	43	43	50	51	52	54	59	59	47.4	64.1																							
9-Apr	58	64	69	64	64	67	68	64	54	44	40	37	35	33	32	37	45	47	46	49	55	56	55	67	52.1	68.8																							
10-Apr	68	61	67	66	69	73	73	65	53	39	34	32	33	31	33	36	40	40	44	46	54	59	56	54	51.2	73.1																							
11-Apr	55	55	55	52	57	62	66	54	50	43	41	36	62	50	31	30	38	58	63	70	72	76	77	72	55.2	76.9																							
12-Apr	73	72	75	77	79	82	83	78	71	63	61	55	46	41	37	36	34	31	35	35	37	42	42	52	55.6	82.6																							
13-Apr	56	59	60	60	58	52	50	47	45	42	40	37	36	37	37	38	40	44	47	50	54	57	58	58	48.5	60.1																							
14-Apr	61	63	66	66	67	67	67	70	67	74	83	92	91	84	82	84	84	86	89	92	92	93	93	93	79.4	93.2																							
15-Apr	93	93	93	93	93	92	92	M	M	M	M	M	M	83	76	76	73	69	73	77	80	86	87	87	84.3	93.5																							
16-Apr	89	90	90	89	91	90	83	76	71	64	58	52	52	51	47	58	62	65	70	75	77	82	86	90	73.2	90.7																							
17-Apr	92	93	92	92	92	92	90	85	77	67	55	50	48	43	52	41	46	36	36	39	42	58	62	67	64.5	92.8																							
18-Apr	73	73	84	84	83	88	85	75	63	51	38	32	31	31	37	38	37	43	42	41	48	58	67	71	57.2	87.9																							
19-Apr	80	81	80	83	85	80	77	73	66	66	63	58	53	49	48	52	55	67	60	59	64	68	71	79	67.4	84.8																							
20-Apr	83	84	82	78	75	74	70	62	50	42	40	36	34	36	38	42	38	37	39	42	45	52	62	68	54.5	84.2																							
21-Apr	67	66	68	71	72	70	65	57	47	39	35	31	29	29	29	28	28	30	36	41	44	50	58	65	48.1	72.2																							
22-Apr	64	60	59	58	58	58	55	47	39	37	36	35	34	35	36	35	35	34	36	39	42	45	44	51	44.7	63.9																							
23-Apr	53	54	56	51	53	55	50	45	42	40	37	35	33	31	31	31	30	28	27	28	34	41	48	56	41.3	56.4																							
24-Apr	68	73	70	68	70	74	77	65	50	45	40	37	34	30	26	22	18	16	20	27	33	42	55	65	46.9	76.7																							
25-Apr	70	73	77	81	83	86	79	64	49	42	36	34	22	20	19	19	20	21	22	27	31	33	41	45	45.5	85.5																							
26-Apr	52	55	58	63	65	66	63	58	51	48	44	40	36	33	32	30	30	29	31	36	44	47	49	54	46.4	66.1																							
27-Apr	58	50	51	52	54	61	58	54	48	42	35	32	30	29	64	59	49	42	50	60	63	71	74	76	52.5	75.5																							
28-Apr	82	87	90	92	92	91	90	86	78	70	69	84	90	91	91	88	86	90	91	92	91	90	90	93	87.2	92.9																							
29-Apr	95	95	96	97	97	98	98	98	99	97	85	75	63	49	46	40	41	46	59	61	63	68	72	78	75.7	98.6																							
30-Apr	80	85	89	93	97	87	79	73	65	58	49	44	40	37	40	45	41	39	33	33	39	46	55	57	58.4	93.5																							
																								69.6	70.8	72.4	73.2	74.5	75.3	73.6	66.4	58.5	52.3	47.7	45.0	43.3	42.1	41.9	42.5	42.9	43.3	45.7	49.5	53.7	59.1	63.1	67.0	Diurnal Average	
																								94.8	95.2	96.3	96.9	97.4	97.7	97.9	98.3	98.6	96.9	84.6	92.1	91.2	91.3	90.8	88.0	85.8	90.3	91.1	92.2	92.1	92.6	93.1	93.2	Diurnal Maximum	
M - Maintenance																																																	

**Hourly Averages**

**Relative Humidity (RH) - %**  
**Valleyview - April 2011**





## Hourly Averages

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

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 Spd	15	10	9	8	4	3	3	3	10	11	12	10	8	8	9	11	10	8	7	1	0	1	1	1	5.0	14.9
Dir	263	256	253	252	226	174	200	221	260	276	292	296	323	316	332	350	350	342	324	290	196	199	155	189	290	263
2 Spd	2	1	1	0	0	0	0	0	1	1	3	4	8	15	15	14	14	10	12	7	4	2	1	1	4.4	15.0
Dir	173	265	198	335	182	168	147	58	3	3	333	342	342	353	4	6	4	10	1	354	330	318	317	216	356	353
3 Spd	2	2	1	1	1	1	2	3	4	3	5	4	2	4	3	0	4	2	3	3	1	1	3	2	1.5	5.4
Dir	182	185	179	202	191	175	195	182	170	163	163	164	183	166	171	295	0	77	63	3	232	209	163	172	166	163
4 Spd	3	3	5	7	5	2	2	3	7	16	20	16	15	15	14	12	10	11	10	5	1	2	3	2	6.3	19.6
Dir	205	218	236	243	261	229	215	199	243	267	286	295	291	300	301	308	338	332	335	323	218	204	193	186	286	286
5 Spd	2	3	3	2	3	2	1	2	2	3	7	9	9	5	6	4	2	1	3	2	2	3	3	1	2.2	9.3
Dir	203	167	168	205	201	177	189	188	189	276	306	270	267	274	326	236	179	225	189	205	214	188	190	255	240	267
6 Spd	2	2	1	0	1	1	2	2	3	4	8	7	6	6	6	7	8	7	8	5	5	4	1	2	2.5	8.1
Dir	195	178	202	186	181	230	185	187	184	232	303	304	218	203	342	320	330	311	314	284	289	279	244	165	281	330
7 Spd	2	2	2	1	1	1	1	1	1	3	3	3	5	7	9	8	5	4	2	1	2	2	2	3	1.2	9.5
Dir	168	156	135	177	188	194	170	189	22	3	356	7	332	354	352	11	31	32	320	279	177	203	203	186	1	352
8 Spd	4	3	5	6	7	7	8	9	8	7	7	6	8	9	10	16	11	7	11	7	5	4	2	2	4.3	16.0
Dir	178	183	177	176	173	175	174	173	177	175	186	198	234	251	285	285	280	258	296	332	300	300	235	201	231	285
9 Spd	4	2	3	3	3	3	3	3	4	3	5	9	8	6	13	12	12	8	3	1	2	1	2	1	2.7	12.6
Dir	250	189	179	201	214	191	184	188	185	181	266	287	295	290	296	331	337	341	324	195	207	172	212	181	280	296
10 Spd	1	1	1	1	2	2	2	3	3	4	3	1	4	1	4	4	4	3	2	2	1	2	3	3	1.8	4.5
Dir	174	209	169	171	190	185	192	189	180	233	249	300	31	131	173	160	152	168	207	171	306	172	155	172	180	173
11 Spd	3	4	3	3	1	2	1	6	4	10	10	15	19	13	21	24	15	11	13	8	9	6	7	6	7.1	24.1
Dir	173	191	184	181	198	189	200	181	214	248	236	245	291	283	281	275	288	316	312	317	316	309	320	296	276	275
12 Spd	5	3	5	4	3	1	2	3	2	2	1	2	2	4	3	5	5	4	3	3	3	1	5	4	1.5	5.5
Dir	303	311	323	302	300	344	68	62	79	133	8	69	89	54	51	64	62	86	88	75	81	80	139	154	57	62
13 Spd	3	4	6	6	6	6	5	8	8	11	15	15	16	15	14	14	16	14	12	9	6	4	2	7	9.2	15.9
Dir	152	156	152	154	143	164	167	154	160	147	140	131	133	129	132	138	131	133	129	124	130	140	132	134	139	133
14 Spd	9	13	12	11	9	10	9	10	11	10	8	5	11	11	12	11	9	6	6	4	3	3	2	3	8.0	12.7
Dir	135	141	135	131	122	122	118	122	124	124	123	108	122	127	126	125	123	122	120	109	85	59	64	54	123	141
15 Spd	3	3	3	3	4	4	5	M	M	M	M	M	11	9	7	11	12	6	7	5	4	5	5	4	5.3	11.6
Dir	41	48	32	358	356	334	343	M	M	M	M	M	354	340	322	341	348	23	45	18	24	5	10	20	360	348
16 Spd	4	3	3	4	3	3	5	6	5	9	7	7	6	6	7	7	7	5	6	4	2	2	2	0	3.7	8.6
Dir	18	25	11	11	15	29	64	61	93	128	119	104	100	110	122	74	75	83	76	93	82	25	328	2	80	128
17 Spd	1	0	0	0	1	1	2	3	3	1	2	4	9	10	12	9	13	11	9	4	1	0	1	1	2.8	13.1
Dir	340	265	158	205	190	216	196	173	183	44	292	349	345	352	27	357	341	337	347	343	157	169	177	172	348	341
18 Spd	1	0	1	1	2	1	2	4	3	3	1	4	4	4	12	9	7	11	8	3	2	1	1	1	2.0	12.3
Dir	183	229	168	193	195	184	192	173	144	154	83	1	350	7	351	349	349	345	348	17	41	348	222	339	354	351
19 Spd	1	1	1	1	1	1	1	2	2	5	8	9	10	9	8	9	7	5	3	2	1	2	1	3	2.6	10.1
Dir	7	181	216	182	210	179	169	164	202	281	297	312	323	317	313	278	233	304	242	218	186	197	226	173	282	323
20 Spd	3	3	3	3	3	3	4	4	5	12	12	13	13	7	7	11	5	7	6	3	1	2	2	1	3.6	13.1
Dir	175	191	190	192	191	183	187	184	228	285	298	294	299	319	323	332	272	305	318	297	210	201	181	148	281	294
21 Spd	2	3	2	3	3	3	3	4	4	5	9	8	3	8	4	7	8	8	8	6	4	1	2	2	2.7	8.9
Dir	182	178	179	174	175	182	179	163	179	288	298	322	270	301	242	280	307	310	319	317	304	255	197	192	277	298
22 Spd	2	2	2	3	3	3	4	7	14	15	15	14	13	13	14	14	16	15	14	9	3	4	5	2	6.4	16.0
Dir	188	183	189	193	202	199	213	245	281	286	295	297	289	327	328	340	337	341	336	330	280	244	244	204	302	337

## Hourly Averages

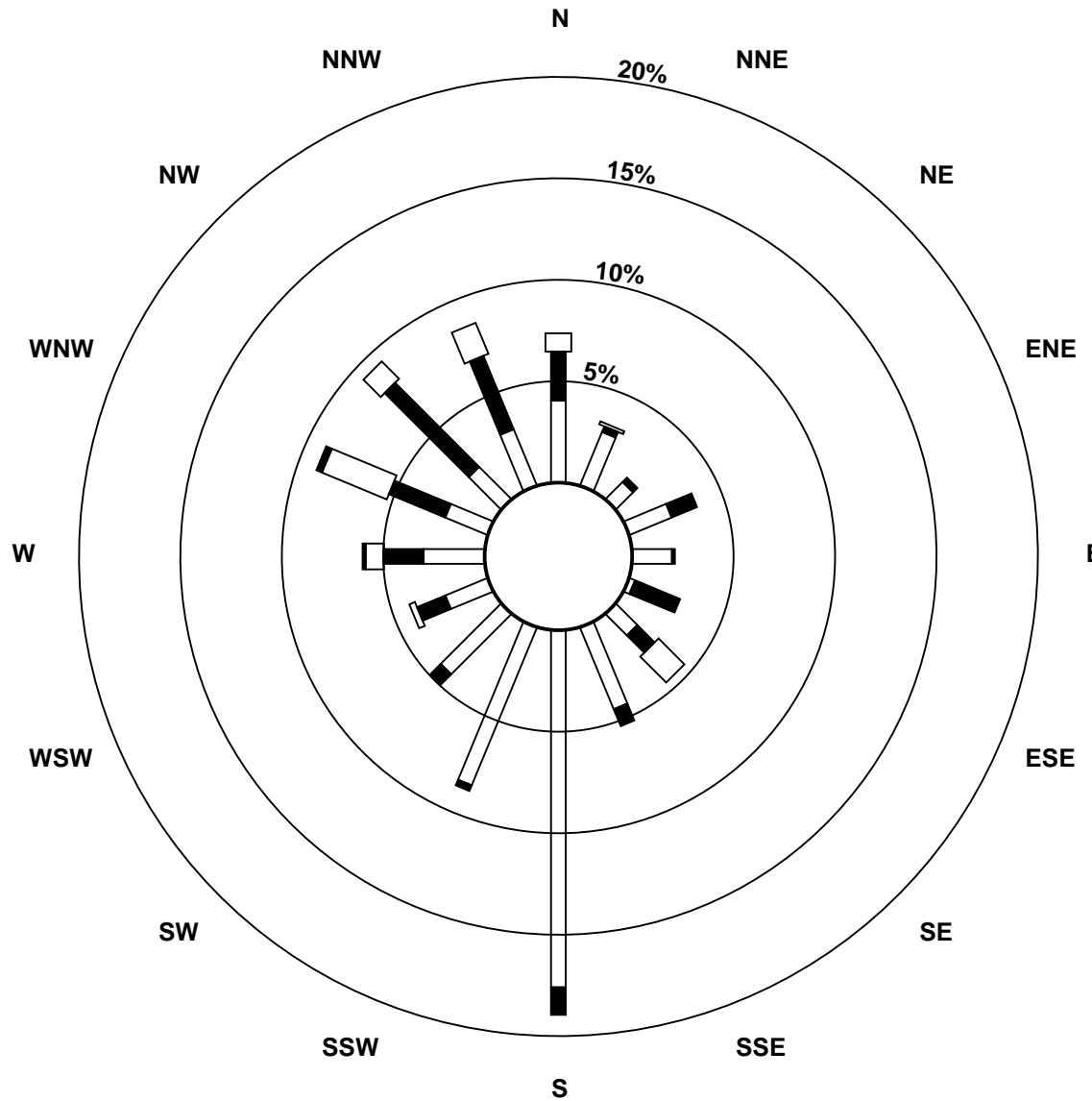
Wind Speed (km/h)  
Wind Direction (deg)  
Valleyview - April 2011

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	2	3	3	3	3	3	4	12	13	11	9	9	10	10	10	10	9	8	3	1	1	0	2	1	4.2	13.1
Dir	208	208	185	235	235	218	248	274	280	288	301	308	322	321	354	0	355	348	334	266	201	4	177	178	304	280
24 Spd	1	2	2	0	2	3	2	2	2	4	4	5	6	5	5	5	6	4	4	1	2	2	0	2.1	6.2	
Dir	2	177	175	285	215	39	336	170	32	12	331	5	337	0	348	344	12	2	27	75	74	350	336	156	3	2
25 Spd	1	0	1	1	1	1	1	2	3	0	3	7	4	8	10	7	9	8	9	7	3	2	1	5	2.3	9.9
Dir	194	225	242	181	158	170	199	180	177	281	2	344	356	26	45	70	59	64	58	59	67	81	193	270	49	45
26 Spd	6	2	1	1	2	5	5	5	11	12	10	13	13	13	7	11	7	6	8	5	4	4	3	1	5.1	13.4
Dir	269	308	244	173	264	243	281	282	302	307	306	312	313	323	302	275	268	308	336	349	67	146	208	347	301	323
27 Spd	2	2	3	3	3	2	2	2	2	3	2	4	4	1	17	12	10	2	7	11	1	3	3	2	2.6	16.6
Dir	176	200	188	176	191	169	146	171	165	353	4	335	266	185	238	279	339	277	223	262	205	190	183	184	245	238
28 Spd	2	2	1	2	2	1	1	1	3	6	4	8	7	9	12	15	12	16	8	8	9	5	1	3	4.4	15.7
Dir	207	187	169	170	160	189	153	195	280	336	14	335	300	293	289	282	291	347	313	284	286	276	295	327	299	347
29 Spd	4	4	5	3	3	3	2	2	3	4	4	3	4	4	4	4	7	8	8	3	1	1	1	2	2.3	8.2
Dir	325	319	313	267	246	244	204	190	203	207	191	149	140	163	201	242	261	255	281	225	225	186	182	302	240	255
30 Spd	4	3	1	1	2	2	1	5	12	13	13	11	11	11	9	10	5	1	8	13	4	2	2	2	5.0	13.4
Dir	322	241	170	154	170	218	192	276	300	308	295	305	310	310	288	305	354	11	308	324	310	182	176	193	301	308
Spd	1.3	1.6	1.6	1.6	1.6	1.6	1.6	2.3	2.4	3.1	3.8	4.4	4.6	4.2	4.6	5.5	4.8	4.3	3.8	2.3	0.8	0.6	0.9	0.9	Diurnal Average	
Dir	219	196	188	196	194	185	182	188	226	267	287	303	307	321	319	320	337	342	335	331	308	237	204	196	Diurnal Maximum	
Spd	14.9	12.7	11.7	11.3	9.2	9.6	9.4	12.0	13.6	16.5	19.6	15.6	19.3	15.2	21.4	24.1	16.0	15.7	13.8	13.0	8.6	5.8	6.7	6.5	Diurnal Maximum	
Dir	263	141	135	131	122	122	118	274	281	267	286	295	291	129	281	275	337	347	336	324	286	309	320	134	Diurnal Maximum	
Maximum Speed Value: 24 ppb on Apr 11 16:00		Minimum Speed Value: 0 ppb on Apr 25 10:00																Hours in Service: 720								
Maximum Daily Speed Average: 9.2 ppb on Apr 13		Minimum Daily Speed Average: 1.2 ppb on Apr 3																Hours of Data: 715								
Maximum Diurnal Speed Average: 5.5 ppb at hour 16		Minimum Diurnal Speed Average: 0.6 ppb at hour 22																Hours of Missing Data: 5								
Monthly Average Velocity: 1.60 ppb 293.5 deg		Speed Percentiles: P <sub>1</sub> = 0.3 P <sub>10</sub> = 1.1 Q <sub>1</sub> = 1.9 Median = 3.7 Q <sub>3</sub> = 7.7 P <sub>90</sub> = 11.5 P <sub>99</sub> = 15.7																Percent Operational Time: 99.3								
All monthly, daily, and diurnal averages have been calculated using vector methods																										
M - Maintenance																										
Frequency Distribution																										
		Speed Range (ppb)																								
Direction	0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total																			
North	44	35	13	0	0	0	92																			
NorthEast	26	11	1	0	0	0	38																			
East	20	8	0	0	0	0	28																			
SouthEast	24	22	17	0	0	0	63																			
South	189	15	0	0	0	0	204																			
SouthWest	68	10	2	0	0	0	80																			
West	29	29	21	4	0	0	83																			
NorthWest	37	61	29	0	0	0	127																			
Total	437	191	83	4	0	0	715																			

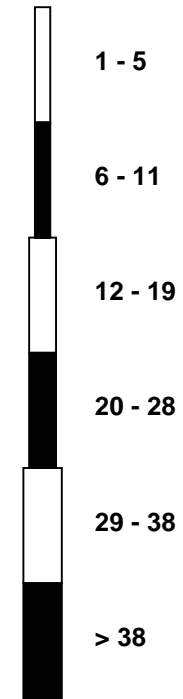
**Wind Rose**

**Wind Speed (WS) (km/h)**

**Valleyview - April 2011**



**Wind Speed Classes (km/h)**



# Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Valleyview - April 2011

Maximum Speed: 24 km/h on Apr 11 16:00	Maximum Daily Speed Average: 9.5 km/h on Apr 13	Hours in Service: 720
Minimum Speed: 1 km/h on Apr 17 02:00	Minimum Daily Speed Average: 2.9 km/h on Apr 10	Hours of Data: 715
Maximum Diurnal Speed Average: 10.7 km/h at hour 16	Minimum Diurnal Speed Average: 2.6 km/h at hour 23	Hours of Missing Data: 5
Monthly Average Speed: 5.63 km/h	Percentiles: P <sub>1</sub> = 0.8 P <sub>10</sub> = 1.5 Q <sub>1</sub> = 2.4 Median = 4.1 Q <sub>3</sub> = 8.5 P <sub>90</sub> = 11.9 P <sub>99</sub> = 16.0	Percent Operational Time: 99.3

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Apr	15	10	9	8	4	3	3	4	10	11	13	10	9	9	9	11	10	8	7	2	1	1	1	1	7.0	15.0
2-Apr	2	3	1	2	1	1	1	1	1	2	4	4	8	15	15	14	14	10	12	7	4	2	1	1	5.2	15.1
3-Apr	2	2	1	1	1	1	2	3	4	3	5	4	4	4	6	4	3	3	3	2	2	3	2	2.9	5.5	
4-Apr	3	4	5	7	6	3	2	3	8	17	20	16	16	15	15	12	10	11	10	5	1	2	3	2	8.1	19.9
5-Apr	2	3	3	2	3	2	1	2	3	4	7	9	10	6	7	6	3	3	2	3	3	3	2	3.8	9.9	
6-Apr	2	2	1	1	1	2	2	2	3	5	8	8	7	7	7	8	8	8	8	5	5	4	3	2	4.5	8.5
7-Apr	2	2	2	1	1	1	1	1	2	3	3	3	5	7	10	9	6	4	2	2	2	2	3	3.2	9.8	
8-Apr	4	3	5	6	7	7	8	9	9	7	7	7	8	9	11	16	12	8	11	8	5	4	2	2	7.3	16.1
9-Apr	4	2	3	3	3	3	3	3	4	3	6	9	8	8	13	13	12	8	3	1	2	1	2	2	5.0	13.0
10-Apr	1	2	1	1	2	2	2	3	4	4	4	3	5	3	5	5	4	4	2	2	3	2	3	3	2.9	4.9
11-Apr	3	4	3	4	1	2	2	6	5	10	10	15	22	13	22	24	16	11	13	9	9	6	7	6	9.3	24.4
12-Apr	5	4	5	4	4	2	2	3	3	3	3	4	3	5	4	6	6	4	3	4	3	2	5	4	3.8	5.8
13-Apr	3	4	7	6	6	6	5	8	8	12	15	16	16	15	15	14	16	14	12	9	7	5	3	7	9.5	16.1
14-Apr	9	13	12	11	9	10	10	10	11	11	8	5	11	11	12	12	10	7	6	4	3	3	2	3	8.5	13.0
15-Apr	3	3	3	3	4	4	6	M	M	M	M	M	11	9	7	12	12	8	7	5	4	5	5	4	6.0	12.1
16-Apr	4	3	3	4	3	3	5	7	6	9	8	8	7	7	8	7	7	5	6	4	2	2	2	1	5.1	8.7
17-Apr	1	1	1	1	1	2	2	3	3	2	3	5	9	11	12	10	13	11	9	4	1	1	1	1	4.5	13.2
18-Apr	1	1	1	1	2	1	2	4	3	4	3	4	5	5	13	10	8	11	8	3	2	1	1	1	4.0	12.6
19-Apr	1	1	1	1	1	1	1	2	2	6	9	10	11	10	8	11	7	6	4	2	1	2	2	3	4.3	10.7
20-Apr	3	3	3	3	3	3	4	4	6	13	12	14	14	10	10	11	7	8	7	3	1	2	2	2	6.2	13.9
21-Apr	2	3	2	3	3	3	3	4	4	6	9	9	7	9	7	8	9	9	8	6	4	2	2	3	5.2	9.4
22-Apr	2	2	2	3	3	3	4	8	14	15	15	15	14	14	14	15	16	15	14	9	3	4	5	3	8.8	16.3
23-Apr	2	3	3	4	4	3	5	12	13	11	9	10	11	11	11	10	10	9	4	1	1	2	2	1	6.3	13.2
24-Apr	1	2	2	2	2	3	3	2	3	5	5	6	6	6	7	6	6	7	5	4	2	3	2	2	3.8	6.6
25-Apr	1	1	1	1	1	1	1	2	3	3	4	7	6	9	11	8	10	9	9	7	3	3	2	5	4.5	11.3
26-Apr	6	4	2	2	3	5	5	5	11	12	11	13	14	14	9	11	8	7	8	6	5	4	4	3	7.2	14.3
27-Apr	2	2	3	3	3	2	2	2	2	4	3	5	6	4	17	14	10	4	8	12	3	4	3	2	4.9	17.2
28-Apr	2	2	2	2	2	2	2	1	4	6	4	9	8	9	12	15	13	16	9	8	9	5	2	4	6.1	16.0
29-Apr	5	4	5	3	3	3	2	2	3	4	4	4	5	5	5	5	9	9	8	3	2	1	2	4	4.2	8.8
30-Apr	5	3	1	2	2	2	2	6	13	14	13	12	12	13	13	12	8	4	9	13	5	2	2	2	7.0	13.9
	3.4	3.2	3.2	3.2	3.0	2.9	3.1	4.1	5.7	7.2	7.8	8.4	9.2	9.1	10.3	10.7	9.5	8.0	7.3	5.1	3.2	2.7	2.6	2.6	Diurnal Average	
	15.0	13.0	11.9	11.4	9.3	9.6	9.5	12.1	13.9	16.8	19.9	15.8	21.5	15.4	21.7	24.4	16.3	16.0	13.9	13.2	8.7	6.0	6.8	6.7	Diurnal Maximum	

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

## Hourly Standard Deviations

Wind Direction (WD) - deg

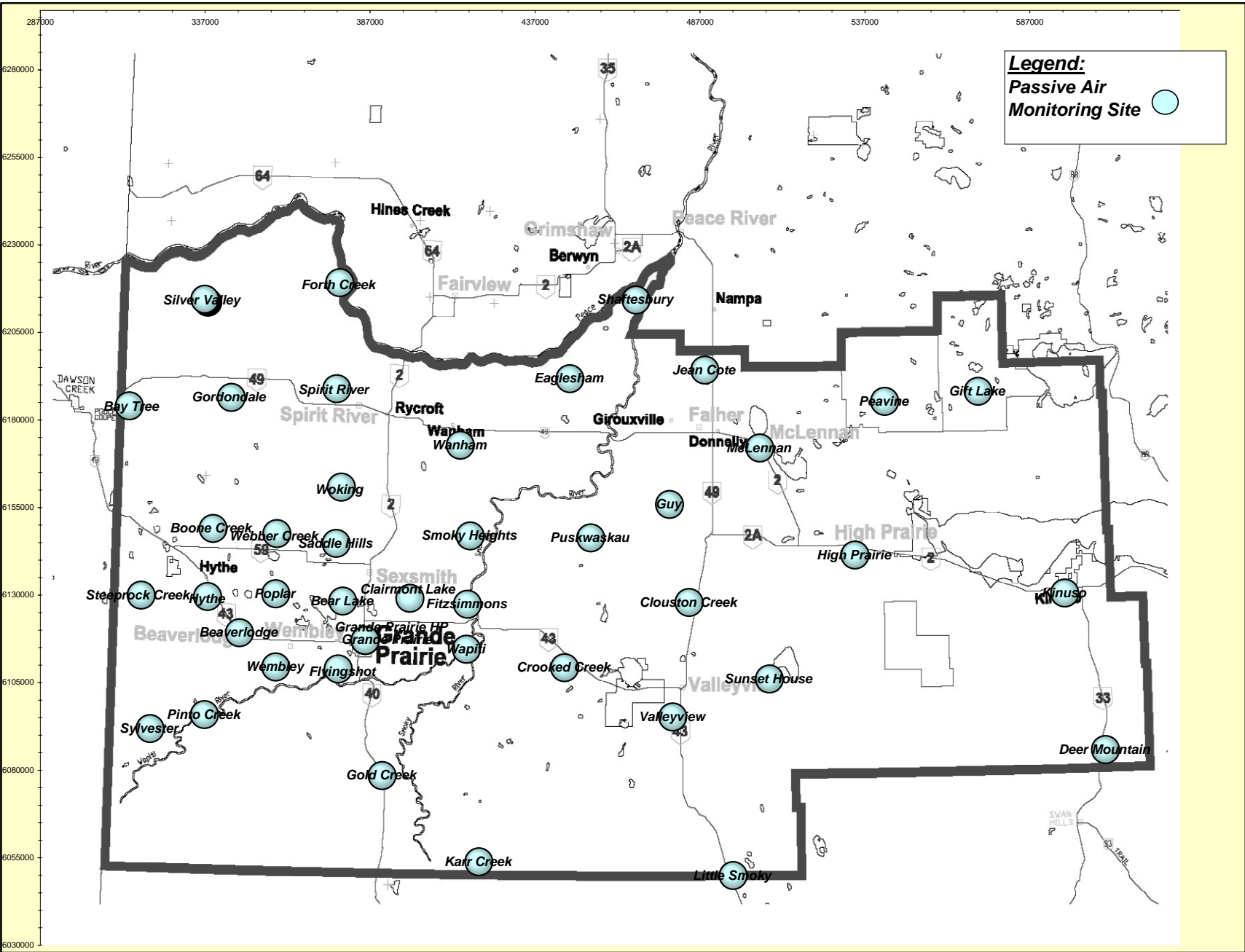
Valleyview - April 2011

Maximum Value: 97.6 deg on Apr 17 00:00																	Hours in Service: 720																								
Minimum Value: 4.0 deg on Apr 18 19:00																	Hours of Data: 715																								
Percentiles: P <sub>1</sub> = 4.8 P <sub>10</sub> = 8.5 Q <sub>1</sub> = 11.8 Median = 19.2 Q <sub>3</sub> = 35.8 P <sub>90</sub> = 57.8 P <sub>99</sub> = 86.1																	Hours of Missing Data: 5																								
																	Hours of Calibration: 0																								
																	Percent Operational Time: 99.3																								
Day	Hourly Period Ending At (MST)																								Daily Maximum																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																	
1-Apr	7	9	9	9	28	13	7	19	14	12	14	17	22	14	14	7	6	11	12	62	80	38	56	38	79.5																
2-Apr	41	69	42	85	80	89	78	80	39	61	24	12	15	6	5	7	5	7	7	14	9	31	41	24	89.5																
3-Apr	23	15	21	61	11	17	14	11	10	23	11	29	62	30	52	89	26	31	17	25	58	68	12	19	88.6																
4-Apr	14	25	16	18	26	39	12	13	20	11	10	9	11	10	11	11	9	9	4	11	56	16	11	12	56.2																
5-Apr	16	16	10	23	11	21	32	14	31	39	17	18	26	36	35	79	37	69	8	23	24	16	10	54	79.4																
6-Apr	10	16	13	68	37	54	20	15	9	35	15	28	27	30	39	18	15	11	6	10	15	19	77	15	76.6																
7-Apr	14	27	36	54	26	25	48	24	84	26	12	18	16	13	16	12	20	30	28	49	14	14	7	7	83.9																
8-Apr	6	7	6	5	5	5	5	5	7	8	10	20	19	17	8	24	21	12	16	19	18	20	13	24.2																	
9-Apr	22	12	13	12	13	9	8	8	10	25	44	19	18	35	11	18	5	8	45	43	36	38	30	18	44.7																
10-Apr	23	61	24	23	34	16	11	11	9	29	36	82	31	76	23	15	11	17	22	16	70	20	36	17	81.9																
11-Apr	26	25	9	7	15	20	54	12	24	12	14	11	24	15	10	8	18	10	10	13	10	16	10	17	54.4																
12-Apr	19	21	16	15	19	50	28	28	60	59	83	67	67	34	49	46	23	26	20	18	14	64	9	8	83.5																
13-Apr	15	13	8	9	10	12	11	11	19	12	13	10	9	8	12	11	10	11	10	12	17	37	51	14	50.6																
14-Apr	13	11	9	9	7	9	10	11	9	15	12	25	17	8	9	10	12	18	16	25	23	16	42	13	42.0																
15-Apr	13	11	12	16	11	7	10	M	M	M	M	M	10	13	16	7	17	31	16	10	8	8	11	9	30.9																
16-Apr	11	10	14	9	10	9	15	11	36	11	14	24	25	28	27	22	28	35	23	25	35	45	45	98	97.6																
17-Apr	55	46	78	86	20	37	16	14	27	55	72	38	22	18	20	33	8	9	8	7	67	86	36	24	86.4																
18-Apr	10	71	52	11	14	73	11	14	14	14	69	36	46	48	17	16	26	6	4	19	22	17	67	42	72.8																
19-Apr	72	36	26	57	53	50	22	41	53	35	20	14	19	22	26	32	24	50	35	20	17	15	46	9	71.6																
20-Apr	10	6	5	6	6	4	5	7	38	17	14	16	19	57	70	13	43	26	15	35	11	7	26	50	70.2																
21-Apr	16	11	20	5	6	5	7	9	17	54	19	24	70	32	56	37	28	24	10	8	10	52	12	13	70.0																
22-Apr	8	5	6	7	10	10	13	21	14	11	14	14	16	18	16	14	11	12	8	10	24	17	9	17	23.9																
23-Apr	11	16	7	24	24	47	49	8	8	12	15	16	20	22	27	21	18	29	32	36	54	91	14	45	91.4																
24-Apr	85	29	31	85	53	55	54	29	64	35	51	37	33	43	43	59	45	23	44	17	62	61	69	82	85.3																
25-Apr	27	77	67	30	56	16	17	15	25	90	43	23	50	34	33	30	20	22	14	8	45	53	45	31	90.4																
26-Apr	16	68	83	45	65	14	23	18	16	16	22	18	17	21	44	21	37	44	19	25	43	29	49	87	87.0																
27-Apr	46	10	14	11	7	24	20	19	22	53	71	51	51	85	19	24	14	57	19	18	59	33	8	13	85.3																
28-Apr	8	34	22	29	32	52	43	25	51	17	25	29	14	15	10	11	16	10	28	12	10	23	69	41	68.8																
29-Apr	18	15	11	22	16	26	33	30	32	25	24	70	41	57	34	57	50	15	28	41	63	22	61	65	69.6																
30-Apr	58	32	32	35	23	43	68	47	14	16	17	23	19	31	60	38	76	88	72	11	25	14	21	23	88.3																
																	85.3	76.9	82.8	86.4	80.5	89.5	77.5	79.9	83.9	90.4	83.5	81.9	70.0	85.3	70.2	88.6	76.3	88.3	72.2	61.5	79.5	91.4	76.6	97.6	
M - Maintenance																																									

# PAZA

## Monthly Passive Data Summary

Location of PAZA Passive Monitoring Stations



## PAZA Passive Results for April 2011

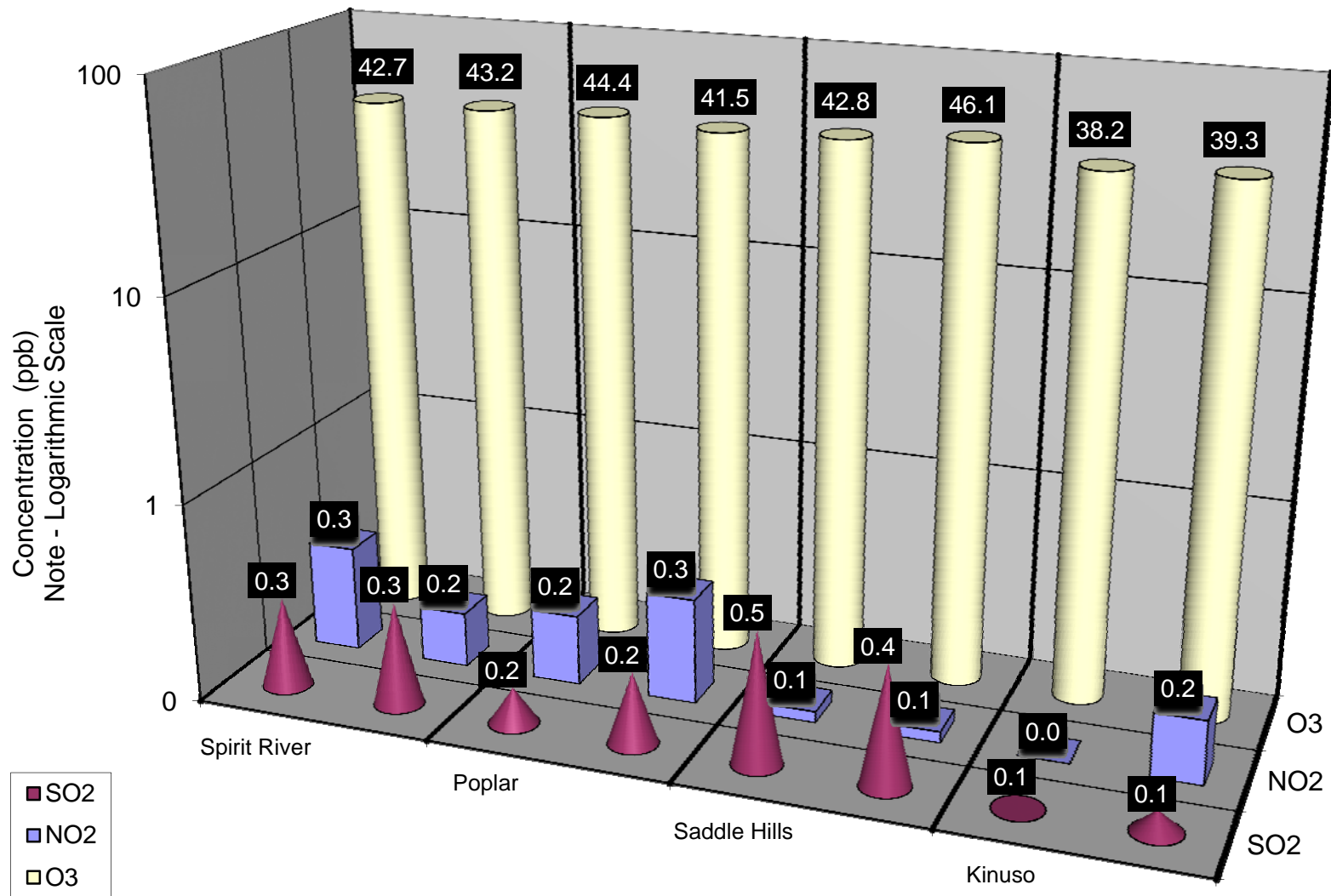
Station Number	Station Name	SO2 ppb	O3 ppb	NO2 ppb	Site Legal
<b>Duplicates</b>					
9a	Spirit River	0.3	42.7	0.3	
9b	Spirit River	0.3	43.2	0.2	
17a	Poplar	0.2	44.4	0.2	
17b	Poplar	0.2	41.5	0.3	
18a	Saddle Hills	0.5	42.8	0.1	
18b	Saddle Hills	0.4	46.1	0.1	
47a	Kinuso	0.1	38.2	0.0	
47b	Kinuso	0.1	39.3	0.2	
1	Silver Valley	0.4	51.9	0.1	08-27-081-11 W6M
2	Bay Tree	0.2	43.2	0.3	13-16-078-13 W6M
3	Fourth Creek	0.3	43.8	0.0	04-13-082-07 W6M
4	Gordondale	0.3	46.1	0.2	04-34-078-10 W6M
5	Boone Creek	0.3	46.7	0.2	16-36-074-11 W6M
7	Steeprock Creek	0.2	46.9	0.0	09-35-072-13 W6M
9	Spirit River	0.3	43.0	0.3	08-12-079-07 W6M
10	Woking	0.4	44.6	0.0	01-13-076-07 W6M
11	Webber Creek	0.3	41.1	0.5	09-36-074-09 W6M
12	Hythe	0.2	41.3	0.4	14-36-072-11 W6M
14	Sylvester	0.1	39.1	0.2	08-06-069-12 W6M
16	Beaverlodge	0.3	45.5	0.6	15-36-071-10 W6M
17	Poplar	0.2	43.0	0.3	13-06-073-08 W6M
18	Saddle Hills	0.4	44.4	0.1	04-25-074-07 W6M
19	Wanham	0.4	N/A	0.4	16-22-077-03 W6M
20	Shaftesbury	0.2	48.9	0.2	04-03-082-23 W5M
21	Eaglesham	0.2	38.3	0.3	16-21-079-25 W5M
23	Bear Lake	0.2	45.8	0.6	15-31-072-06 W6M



## PAZA Passive Results for April 2011 (Continued)

Station Number	Station Name	SO2 ppb	O3 ppb	NO2 ppb	Site Legal
24	Wembley	0.2	42.4	0.5	12-31-070-08 W6M
25	Pinto Creek	0.1	39.8	0.3	04-24-069-11 W6M
26	Flyingshot	0.2	41.2	0.3	15-36-070-07 W6M
27	Grande Prairie I	0.2	37.3	2.2	08-15-071-06 W6M
28	Clairmont Lake	0.3	41.5	0.4	09-06-073-04 W6M
29	Smoky Heights	0.5	45.3	0.5	04-06-075-02 W6M
30	Fitzsimmons	0.2	41.4	0.2	15-36-072-03 W6M
32	Gold Creek	0.2	34.3	0.5	06-33-067-05 W6M
33	Wapiti	0.2	38.2	0.5	02-25-071-03 W6M
34	Puskwaskau	0.1	42.3	0.0	15-35-074-25 W5M
35	Jean Cote	0.2	50.8	0.0	12-35-079-21 W5M
36	Guy	0.2	40.0	0.2	03-04-076-22 W5M
37	Crooked Creek	0.2	45.0	0.0	16-01-071-26 W5M
38	Karr Creek	0.2	36.4	0.0	10-16-065-02 W6M
39	Clouston Creek	0.2	41.7	0.2	12-01-073-22 W5M
40	McLennan	0.2	21.6	0.0	03-29-077-19 W5M
41	Valleyview	0.2	44.2	0.0	09-30-069-22 W5M
42	Sunset House	0.2	49.7	0.0	05-32-070-19 W5M
43	High Prairie	0.2	38.9	0.4	16-13-074-17 W5M
44	Peavine	0.2	41.3	0.1	03-05-079-15 W5M
45	Gift Lake	0.1	38.3	0.0	10-07-079-12 W5M
46	Little Smoky	0.2	39.4	0.5	12-01-065-21 W5M
47	Kinuso	0.1	38.7	0.1	12-10-073-10 W5M
48	Deer Mountain	0.2	45.5	0.1	15-22-068-09 W5M
49	Grande Prairie HP	0.2	39.1	2.6	17-26-071-06 W6M

\*BDL = Below Detection Level



Duplicate Summary Chart

## Passive Summary for April 2011

Stats	Sulphur Dioxide SO <sub>2</sub>	Ozone O <sub>3</sub>	Nitrogen Dioxide NO <sub>2</sub>
	ppb	ppb	ppb

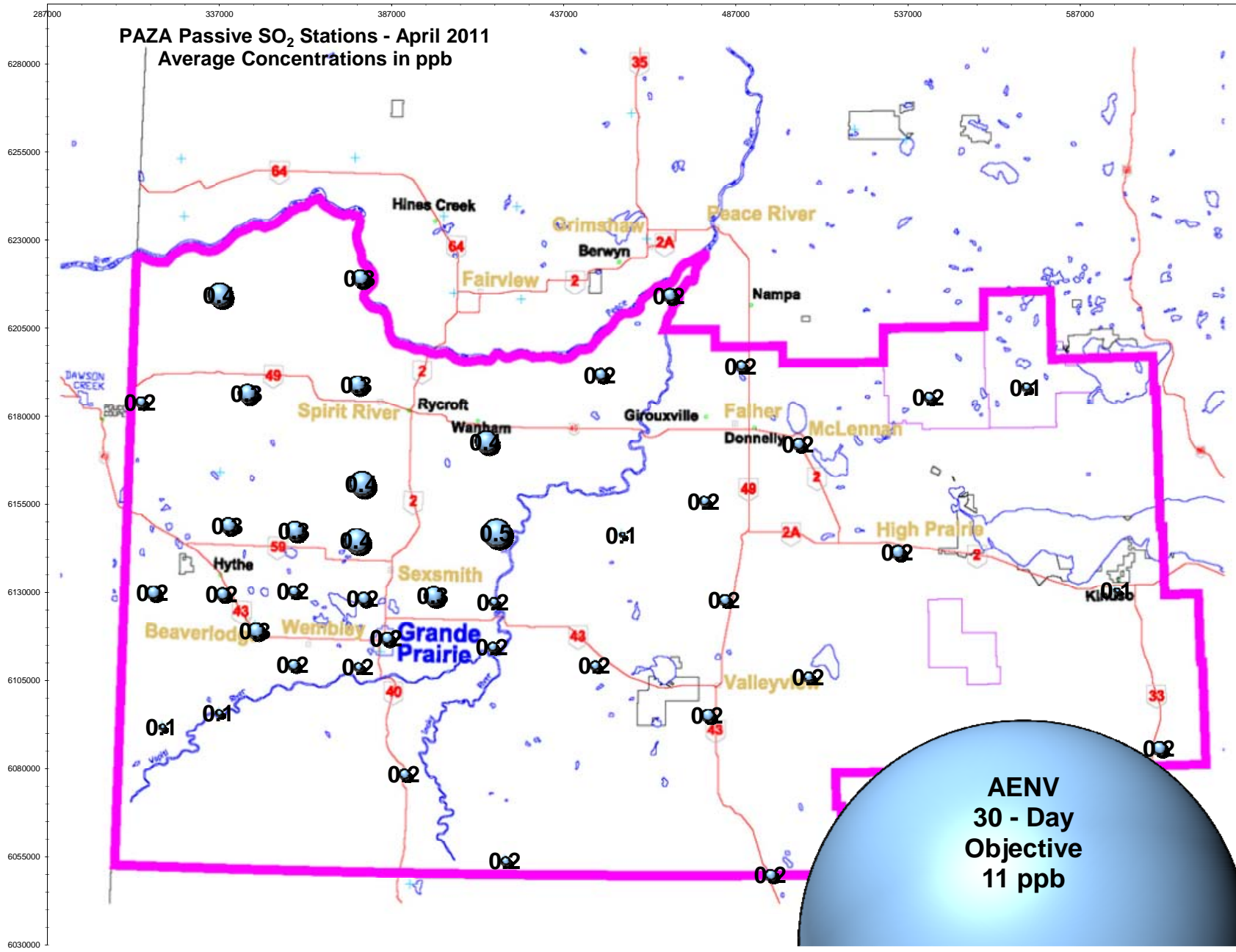
Passive Summary for April 2011 (PAZA Zone)			
<b>Mean</b>	<b>0.2</b>	<b>42.1</b>	<b>0.3</b>
<b>Standard Deviation</b>	<b>0.1</b>	<b>5.1</b>	<b>0.5</b>
<b>Minimum</b>	<b>0.1</b>	<b>21.6</b>	<b>0.0</b>
<b>Minimum At</b>	<b>Puskwaskau (#34)</b>	<b>McLennan (#40)</b>	<b>Karr Creek (#38)</b>
<b>Maximum</b>	<b>0.5</b>	<b>51.9</b>	<b>2.6</b>
<b>Maximum At</b>	<b>Smoky Heights (#29)</b>	<b>Silver Valley (#1)</b>	<b>Grande Prairie HP</b>

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

	SO <sub>2</sub>	O <sub>3</sub>	NO <sub>2</sub>
PASZA Beaverlodge station	<b>0.2</b>	<b>44.8</b>	<b>2.0</b>
PASZA Beaverlodge passive	<b>0.3</b>	<b>45.5</b>	<b>0.6</b>

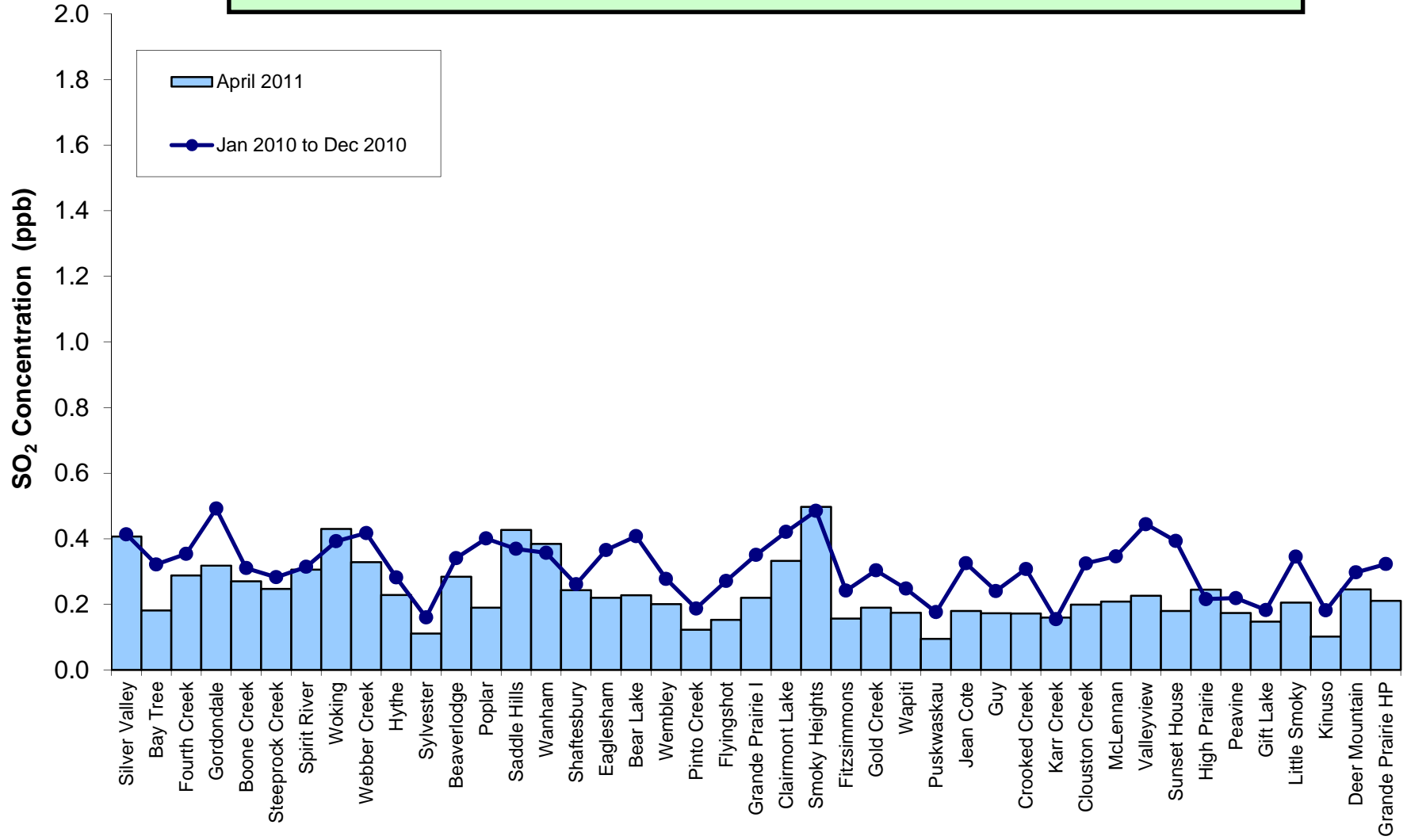
### Comparison between Continuous and Passive monitoring at Henry Pirker (passive #49 Grande Prairie HP)

	SO <sub>2</sub>	O <sub>3</sub>	NO <sub>2</sub>
PASZA Henry Pirker station	<b>0.2</b>	<b>36.6</b>	<b>7.2</b>
PASZA Grande Prairie passive	<b>0.2</b>	<b>39.1</b>	<b>2.6</b>

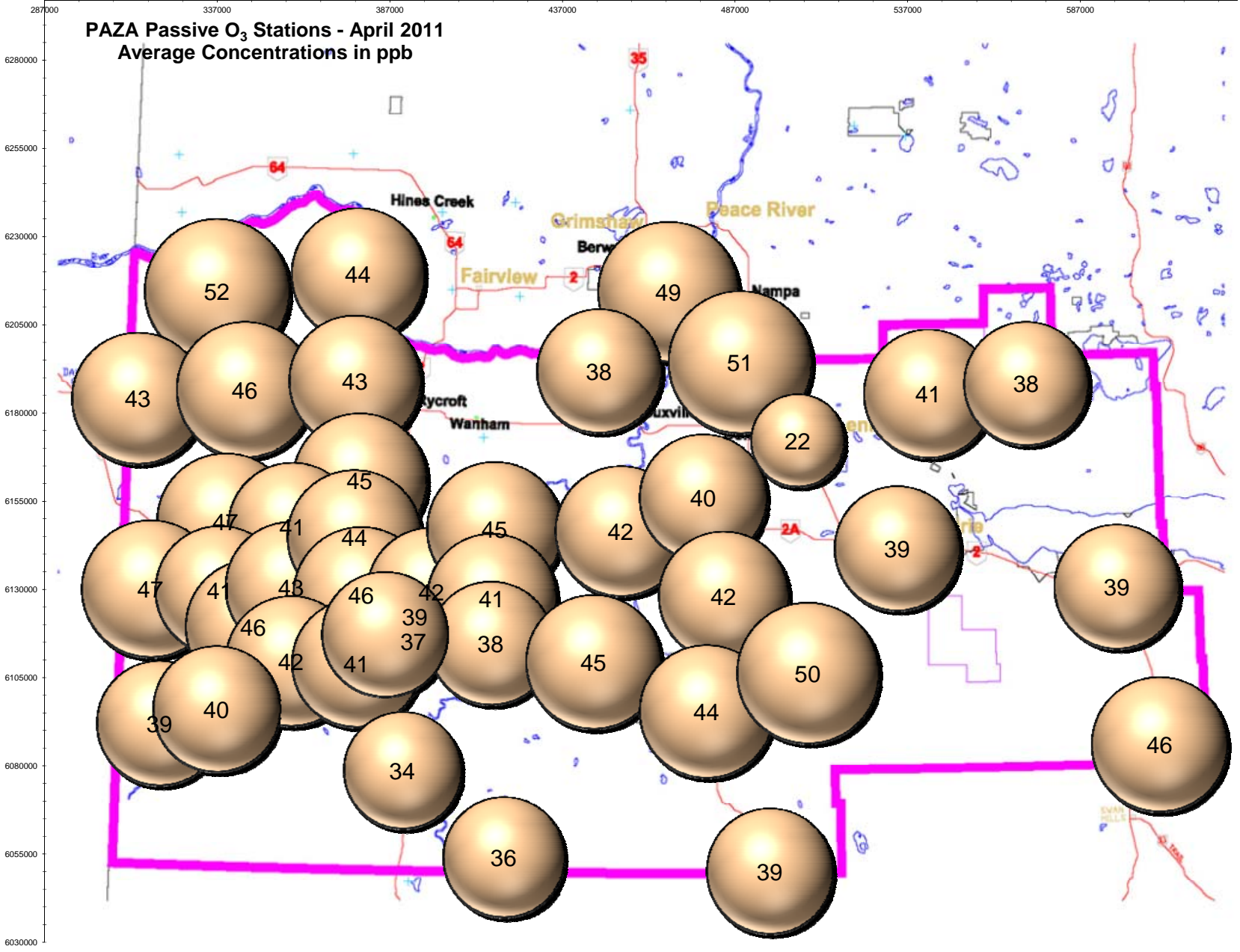


SO<sub>2</sub> Bubble Chart

**Alberta Ambient Air Quality Objective - Annual SO<sub>2</sub> Objective is 8 ppb**

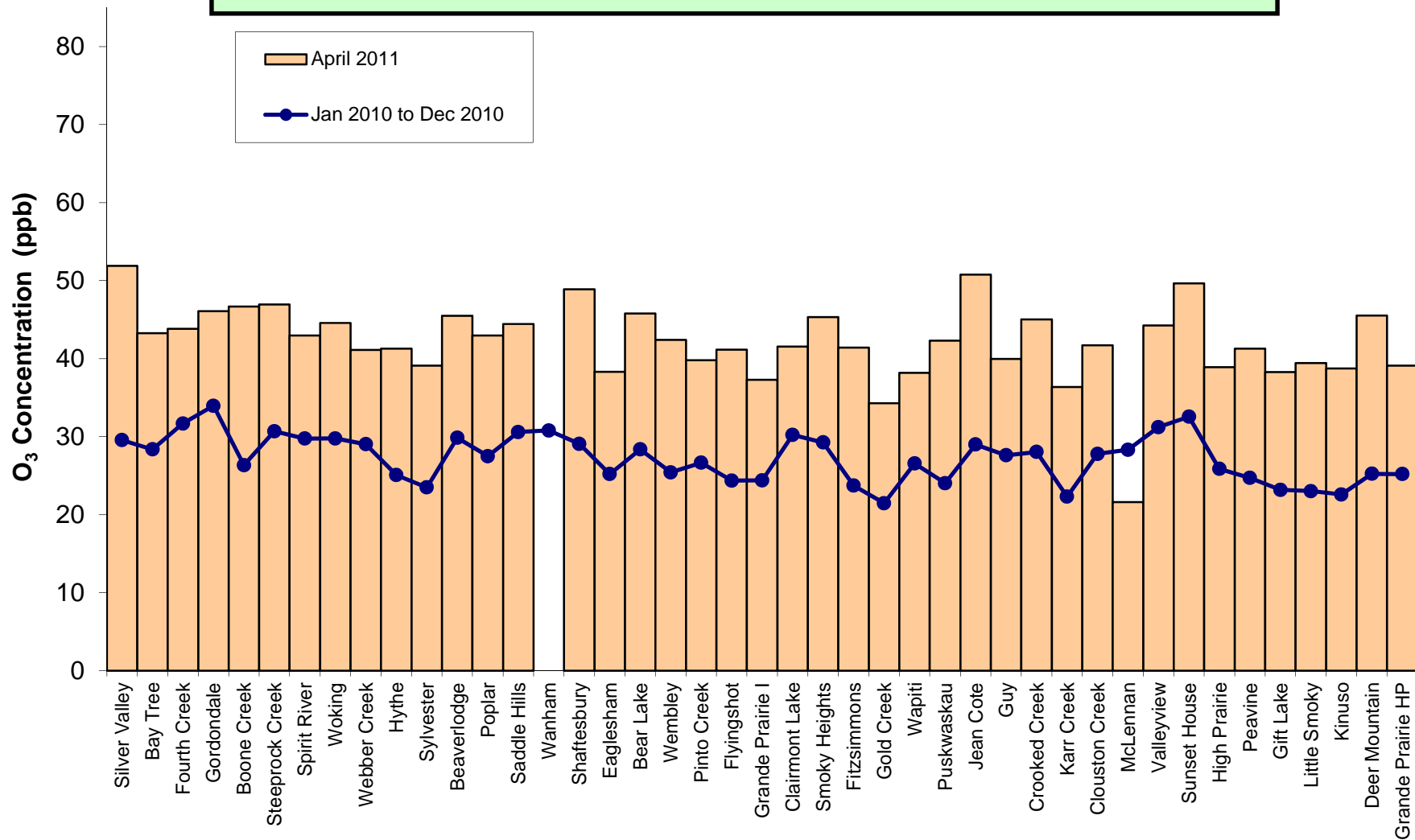


**SO<sub>2</sub> Summary Chart**

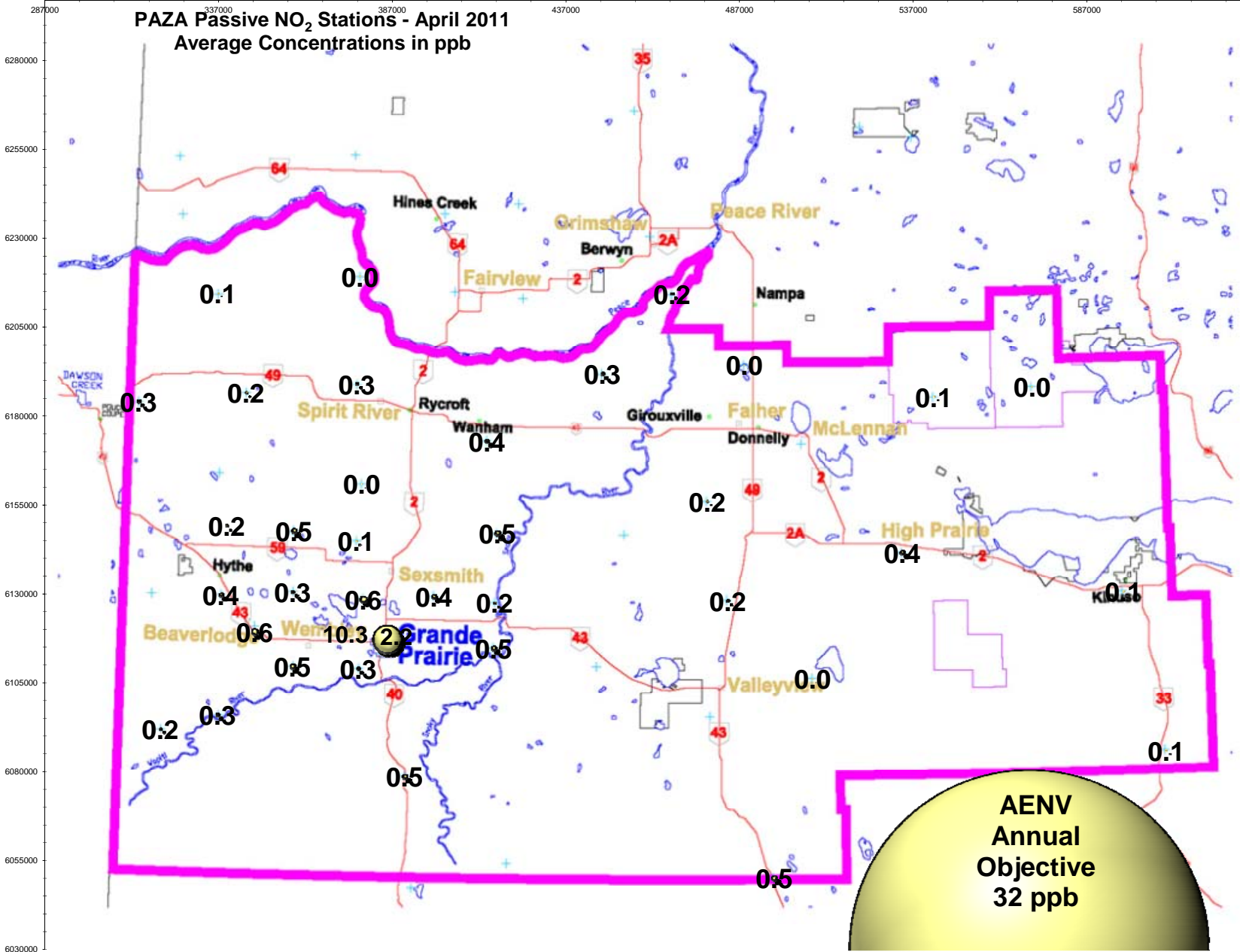


**O<sub>3</sub> Bubble Chart**

## Alberta Ambient Air Quality Objective - No Annual O<sub>3</sub> Objective



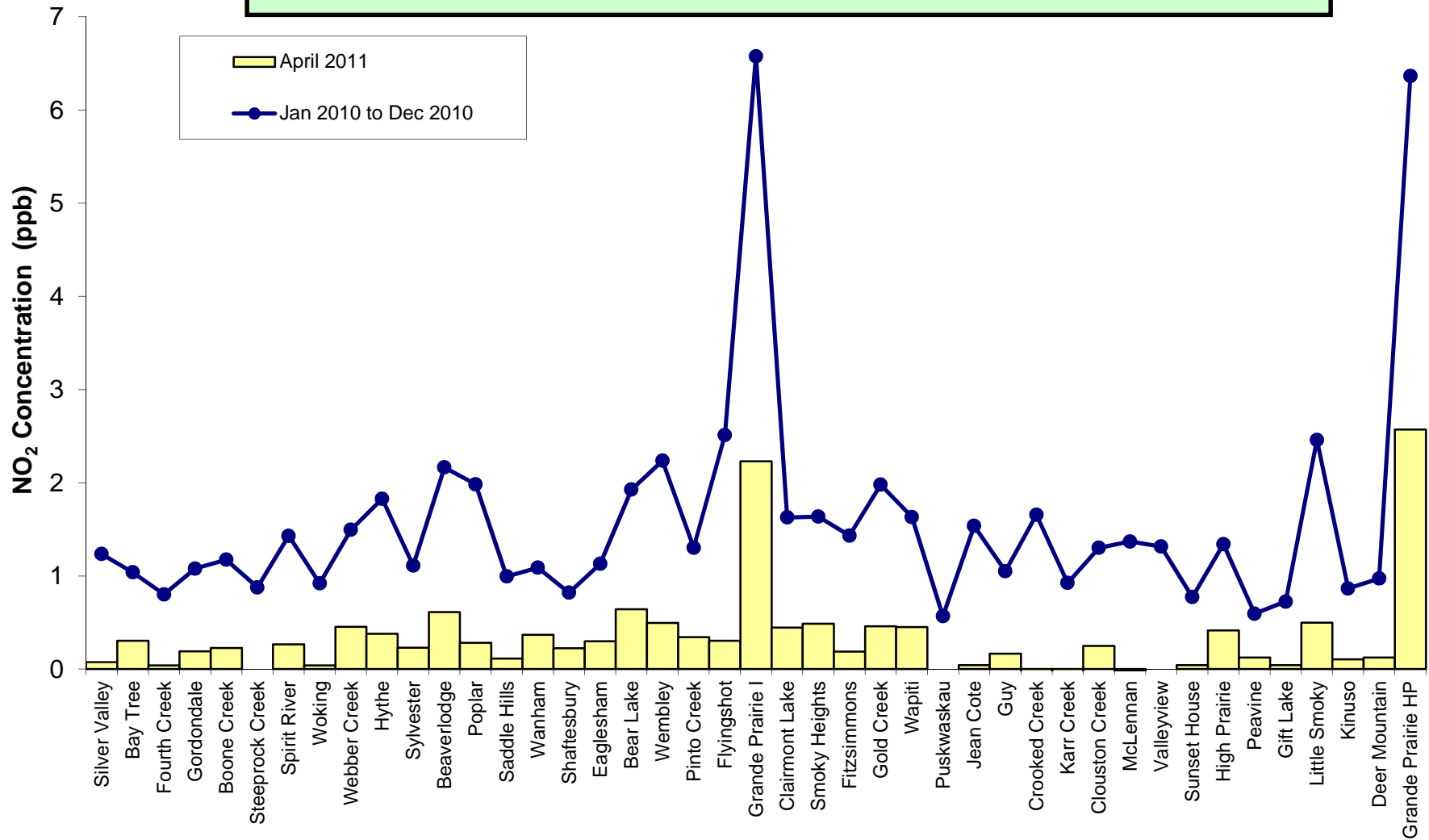
**O<sub>3</sub> Summary Chart**



NO<sub>2</sub> Bubble Chart



**Alberta Ambient Air Quality Objective - Annual NO<sub>2</sub> Objective is 32 ppb**



**NO<sub>2</sub> Summary Chart**

# April 2011 Calibration Reports

**PAZA - Henry Pirker Station with the following calibrations:  
SO<sub>2</sub>, NO, NO<sub>2</sub>, NO<sub>x</sub>, O<sub>3</sub>, CO, THC, TRS**

**PAZA – Evergreen Park Station with the following calibrations:  
SO<sub>2</sub>, TRS**

**PAZA – Smoky Heights Station with the following calibrations:  
SO<sub>2</sub>, TRS**

**PAZA – Beaverlodge Station with the following calibrations:  
SO<sub>2</sub>, NO, NO<sub>2</sub>, NO<sub>x</sub>, O<sub>3</sub>**

**PAZA – Kinuso (Portable) Station with the following calibrations:  
SO<sub>2</sub>, TRS, NO, NO<sub>2</sub>, NO<sub>x</sub> & O<sub>3</sub>,**

**PAZA – Valleyview Station with the following calibrations:  
SO<sub>2</sub> & H<sub>2</sub>S**

# Calibration Report



Parameter SO2

Air Monitoring Network PASZA

## Station Information

Calibration Date	April 21, 2011	Previous Calibration	March 16, 2011
Station Number	1	Station Location	Henry Pirker
Reason:	<input checked="" type="checkbox"/> Routine	<input type="checkbox"/> Install	<input type="checkbox"/> Removal
			<input type="checkbox"/> Other:
Start Time (MST)	8:35	End Time (MST)	11:00
Barometric Pressure	0.923 ATM	Station Temperature	20.0 Deg C
Calibrator	Enviroics 6100	Serial Number	3474
Cal Gas Conc	50.6 ppb	Cal Gas Cert Date	4/6/2012
		Cal Gas Cylinder #	LL34002
DACS make	Focus AP1000	DACS serial No.	1
DACS voltage range	0 - 1 volt	DACS channel #	10
	Before		After
Calculated slope	1.001551	Calculated slope	1.000862
Calculated intercept	-0.164281	Calculated intercept	0.287816
Analyzer make	TEI 43C	Analyzer serial #	610816292

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
Background	8.1		8.7	
Coefficient	.809		.809	
Pressure	640.9	mm Hg	642.5	mm Hg
Flow	0.476	lpm	0.474	lpm
Lamp Voltage	44176	Hz	43721	Hz

## Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
4989	0.00	0.0	0.4	N/A
4989	39.83	400.8	400.6	1.0004
4989	19.90	201.0	199.9	1.0058
4989	9.93	100.5	99.6	1.0088
4989	0.00	0.0	0.4	As Found Zero
4989	39.83	400.8	400.1	As Found Span
Average Correction Factor				1.0050

Calculated value of As Found Response: 400.1 ppb      Percent Change of As Found: 0.2%

	before calibration		after calibration	
Auto zero	0.1	ppb	0.1	ppb
Auto span	241.8	ppb	241.0	ppb

Notes: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Calibration Performed By: Grover Christiansen

# Calibration Summary

Parameter SO2  
 Air Monitoring Network PASZA



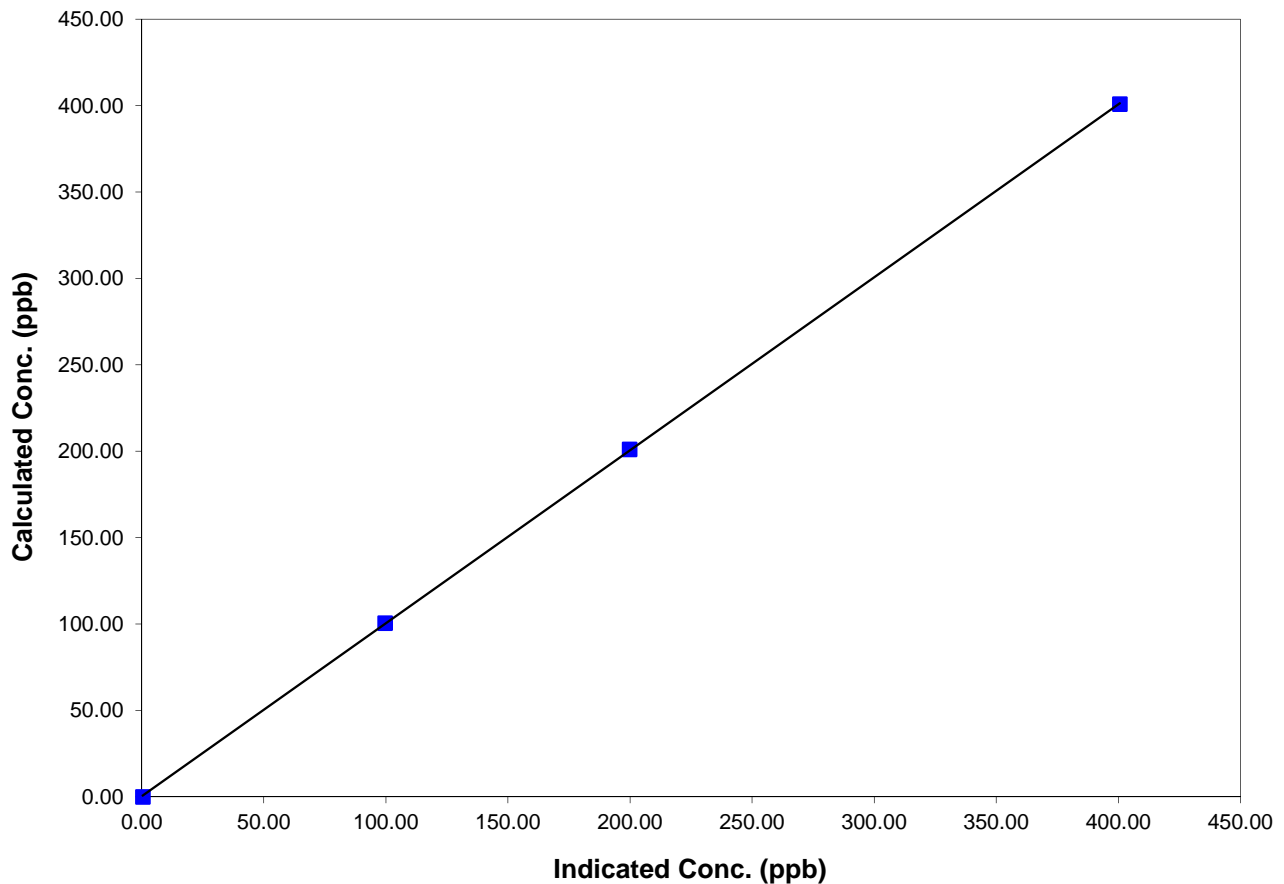
## Station Information

Calibration Date	April 21, 2011	Previous Calibration	March 16, 2011
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	8:35	End Time (MST)	11:00
Analyzer make/model	TEI 43C	Analyzer serial #	610816292

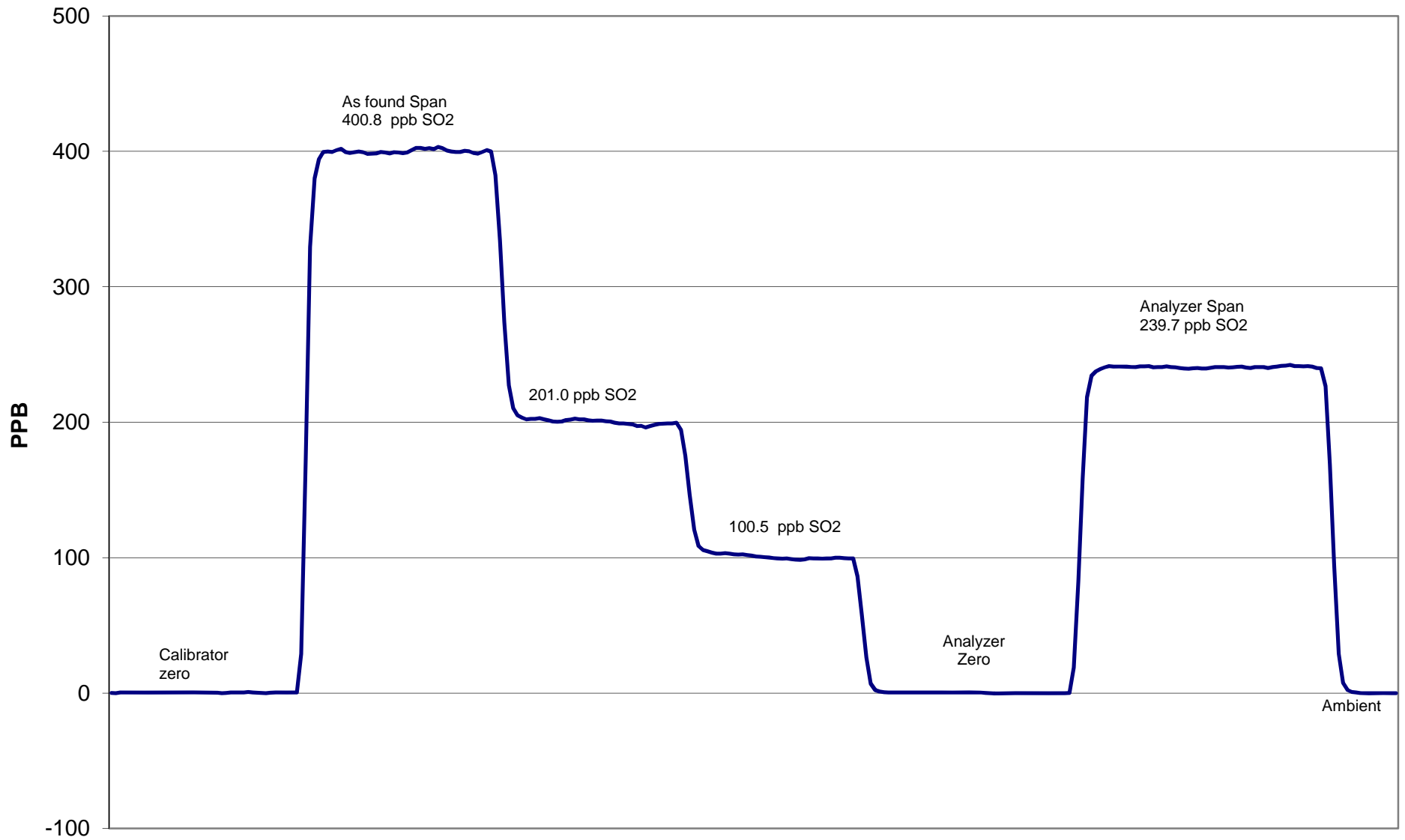
## Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.4	N/A	Correlation Coefficient	0.999983
400.8	400.6	1.0004		
201.0	199.9	1.0058	Slope	1.000862
100.5	99.6	1.0088		
			Intercept	0.287816

### SO2 Calibration Curve



# Henry Pirker SO<sub>2</sub> Calibration



April 21, 2011



# Calibration Summary

Parameter        TRS       

Air Monitoring Network        PASZA       



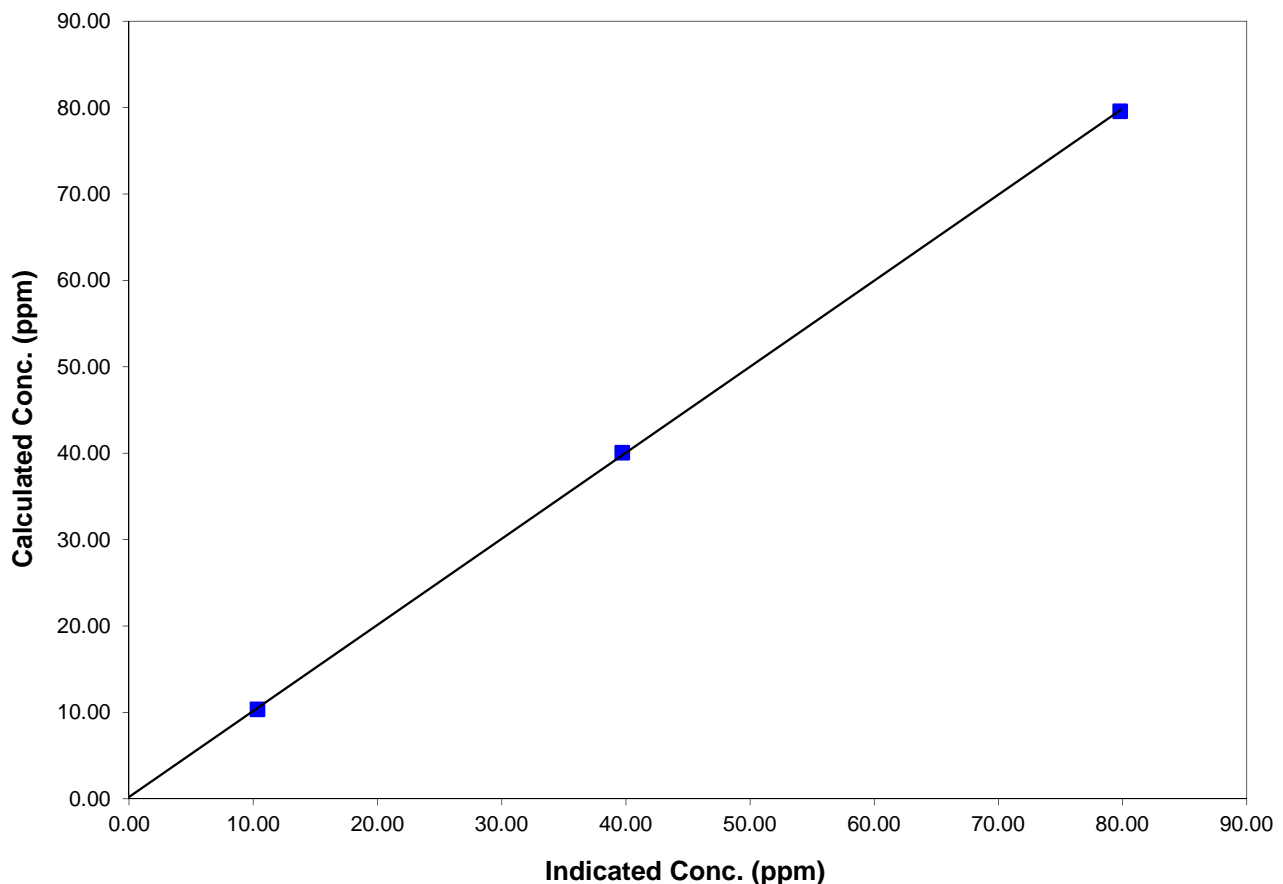
## Station Information

Calibration Date	<u>      </u> April 20, 2011 <u>      </u>	Previous Calibration	<u>      </u> March 14, 2011 <u>      </u>
Station Number	<u>      </u> 1 <u>      </u>	Station Location	<u>      </u> Henry Pirker <u>      </u>
Start Time (MST)	<u>      </u> 11:00 <u>      </u>	End Time (MST)	<u>      </u> 13:30 <u>      </u>
Analyzer make/model	<u>      </u> TEI 45C <u>      </u>	Analyzer serial #	<u>      </u> 630718528 <u>      </u>

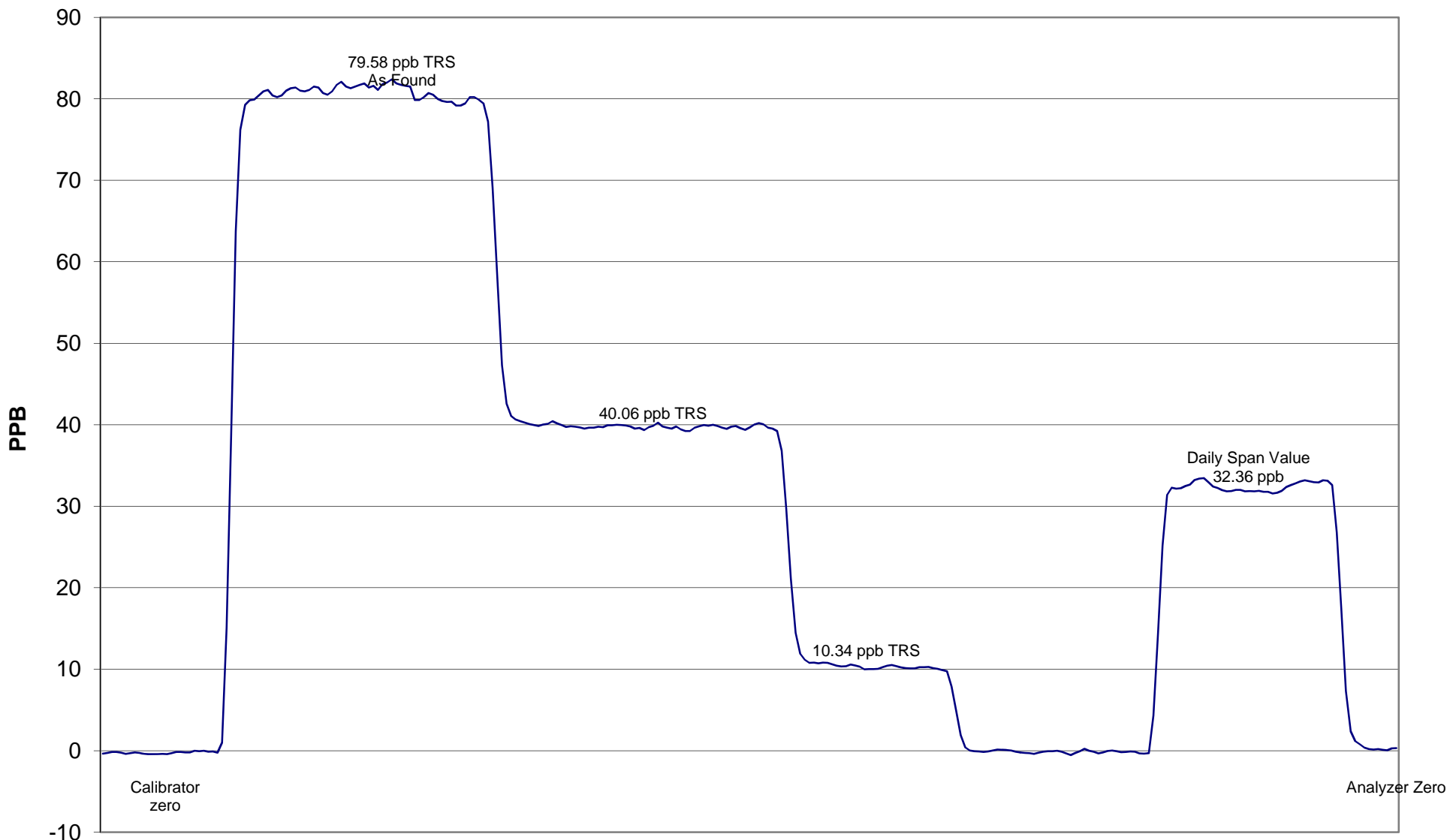
## Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	-0.217	N/A	Correlation Coefficient	0.999968
79.579	79.828	0.9969		
40.060	39.728	1.0084	Slope	0.995695
10.344	10.336	1.0008		
			Intercept	0.216689

### TRS Calibration Curve



# Henry Pirker TRS Calibration



April 20, 2011



# Calibration Report

Parameter **NO<sub>x</sub>-NO-NO<sub>2</sub>**  
 Air Monitoring Network **PASZA**



## Station Information

Calibration Date	April 21, 2011	Previous Calibration	March 16, 2011
Station Number	1	Station Location	Henry Pirker
Reason:	<input checked="" type="checkbox"/> Routine	<input type="checkbox"/> Installation	<input type="checkbox"/> Removal
Start Time (MST)	8:35	End Time (MST)	12:20
Barometric Pressure	0.923 Atm	Station Temperature	20.0 Deg C
Calibrator	EnviroNics	Serial Number	3474
NO Cal Gas Conc	51.4 ppm	Cal Gas Expiry Date	April 6, 2012
NOx Cal Gas Conc	51.4 ppm	Cal Gas Serial #	LL34002

## DACS Information

DACS make Focus AP1000 DACS serial No. \_\_\_\_\_

Parameter		NO2	NOx	NO
Before	Data Slope	1.001131	1.003659	1.003257
	Data Offset	0.338660	-2.606314	-2.542975
After	Data Slope	1.000724	1.003147	1.003435
	Data Offset	-0.376700	-2.275240	-2.475293
Channel #		8	6	7
Voltage Range		0 - 5 VDC	0 - 5 VDC	0 - 5 VDC

## Analyzer Information

Analyzer make/model **TEI 42C** Analyzer serial # **508011073**

Test Point	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
NO offset	10.7	mV	10.2	mV
NOx bkgnd	10.9	mV	10.3	mV
NO coefficient	0.786		0.759	
NOx coefficient	1.000		0.998	
NO2 conv temp	318.0	Deg C	318.0	Deg C
PMT Temp	-2.5	Deg C	-2.5	Deg C
PMT Volt	-786.0	mV	-786.0	mV
R Cell Press	178.7	in Hg	178.6	in Hg
Sample Flow	0.756	ccm	0.759	ccm

Notes: Span adjustment made.

# Calibration Report

Parameter **NOx-NO-NO<sub>2</sub>**  
 Air Monitoring Network **PASZA**



## Station Information

Calibration Date: **April 21, 2011** Station Location: **Henry Pirker**

## Calibration Data

	Dilution flow rate (ccm)	Source gas flow rate (ccm)	Calculated NOx conc (ppb)	Calculated NO conc (ppb)	Calculated NO2 conc (ppb)	Indicated NOx conc (ppb)	Indicated NO conc (ppb)	Indicated NO2 conc (ppb)	NOx Correction factor	NO Correction factor
zero	4989	0.00	0.0	0.0	0.0	0.0	0.0	0.0	N/A	N/A
1	4989	39.83	407.1	407.1	0.0	406.9	406.9	0.1	1.0004	1.0006
2	4989	19.90	204.2	204.2	0.0	206.9	207.3	-0.5	0.9872	0.9853
3	4989	9.93	102.1	102.1	0.0	106.5	106.7	-0.3	0.9589	0.9565
AFZ	4989	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0000	0.0000
AFS	4989	39.83	407.1	407.1	0.0	421.6	420.9	0.6	0.9657	0.9672
Average Correction Factor									0.9822	0.9808

As Found Concentrations: **NO<sub>x</sub>= 419.0** **NO= 418.4** As Found Percent Change **NO<sub>x</sub>= 2.9%** **NO= 2.8%**

## GPT Calibration Data

Dilution Flow 4989 ccm Source Gas Flow 39.85 ccm

O3 Setpoint (ppb)	Indicated NO high point (ppb)	Indicated NO drop conc (ppb)	Calculated NO2 conc (ppb)	Indicated NOx conc (ppb)	Indicated NO conc (ppb)	Indicated NO2 conc (ppb)	NOx Correction factor	NO Correction factor	NO2 Correction factor	Converter Efficiency
0	0.0	0.0	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A
NO point	407.1	407.1	0.0	406.7	407.1	-0.4	1.0009	1.0000	N/A	N/A
300	407.1	157.7	249.3	407.0	157.7	249.2	1.0002	1.0000	1.0007	99.9%
200	407.1	236.8	170.2	407.6	236.8	170.7	0.9987	1.0000	0.9969	100.3%
100	407.1	314.3	92.7	407.8	314.3	93.5	0.9982	1.0000	0.9917	100.8%
Average Correction Factor							0.9991	1.0000	0.9964	100.4%

## AIC Data

Parameter	Previous calibration				Current calibration			
	NOx	NO2	NO		NOx	NO2	NO	
Auto zero	-0.1	0.0	0.0	ppb	0.1	0.0	0.0	ppb
Auto span	168.4	169.5	1.2	ppb	169.4	168.5	0.1	ppb

Calibration Performed By: Grover Christiansen

# Calibration Summary

Parameter NO<sub>2</sub>

Air Monitoring Network PASZA



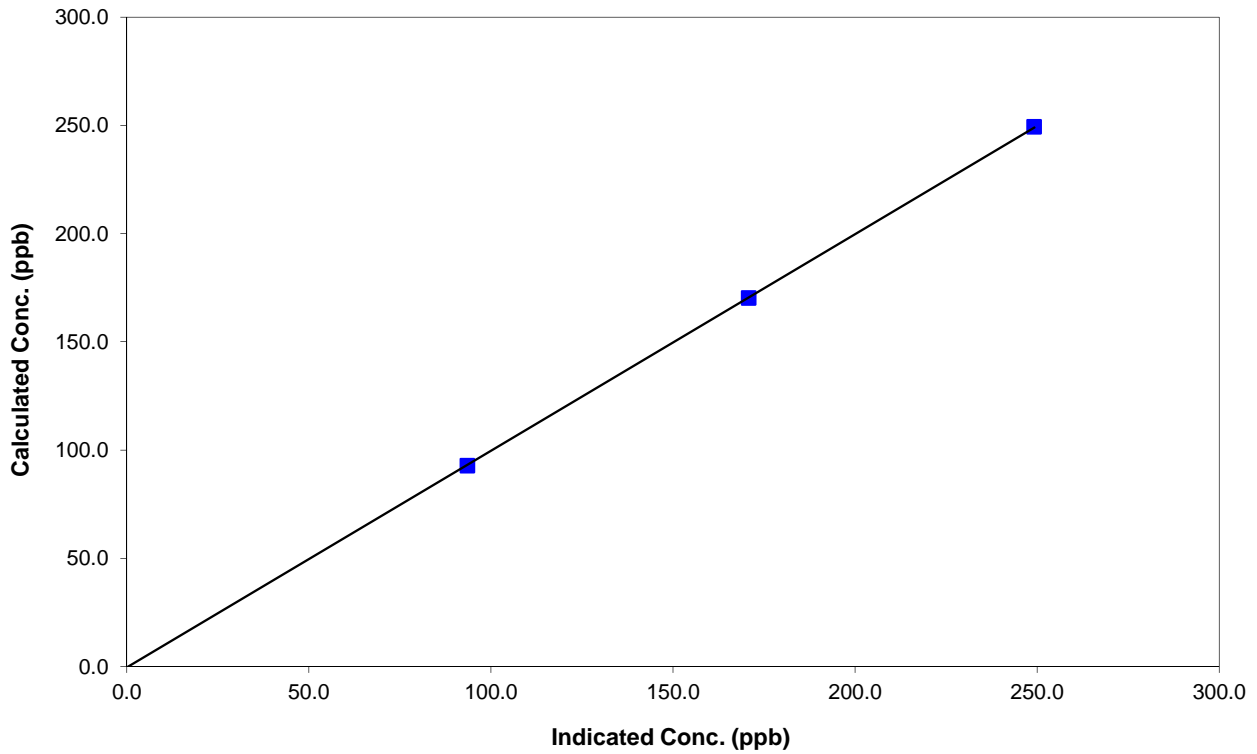
## Station Information

Calibration Date	April 21, 2011	Previous Calibration	March 16, 2011
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	8:35	End Time (MST)	12:20
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	Correlation Coefficient	0.999983
249.3	249.2	1.0007		
170.2	170.7	0.9969		
92.7	93.5	0.9917	Slope	1.000724
			Intercept	-0.376700

**NO<sub>2</sub> Calibration Curve**



# Calibration Summary

Parameter NO<sub>x</sub>

Air Monitoring Network PASZA



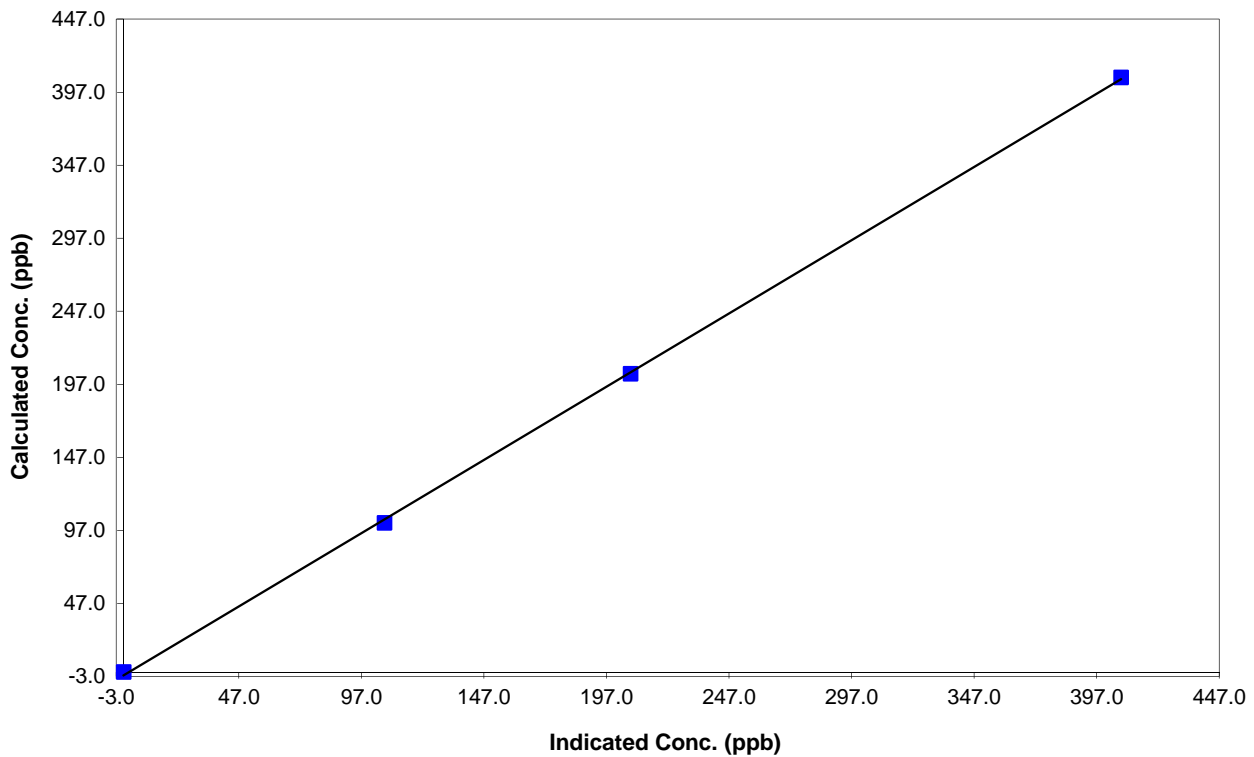
## Station Information

Calibration Date	April 21, 2011	Previous Calibration	March 16, 2011
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	8:35	End Time (MST)	12:20
Analyzer make	TEI 42C	Analyzer serial #	508011073

## Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.0	N/A		
407.1	406.9	1.0004	Correlation Coefficient	0.999850
204.2	206.9	0.9872		
102.1	106.5	0.9589	Slope	1.003147
			Intercept	-2.275240

## NO<sub>x</sub> Calibration Curve



# Calibration Summary



Parameter NO

Air Monitoring Network PASZA

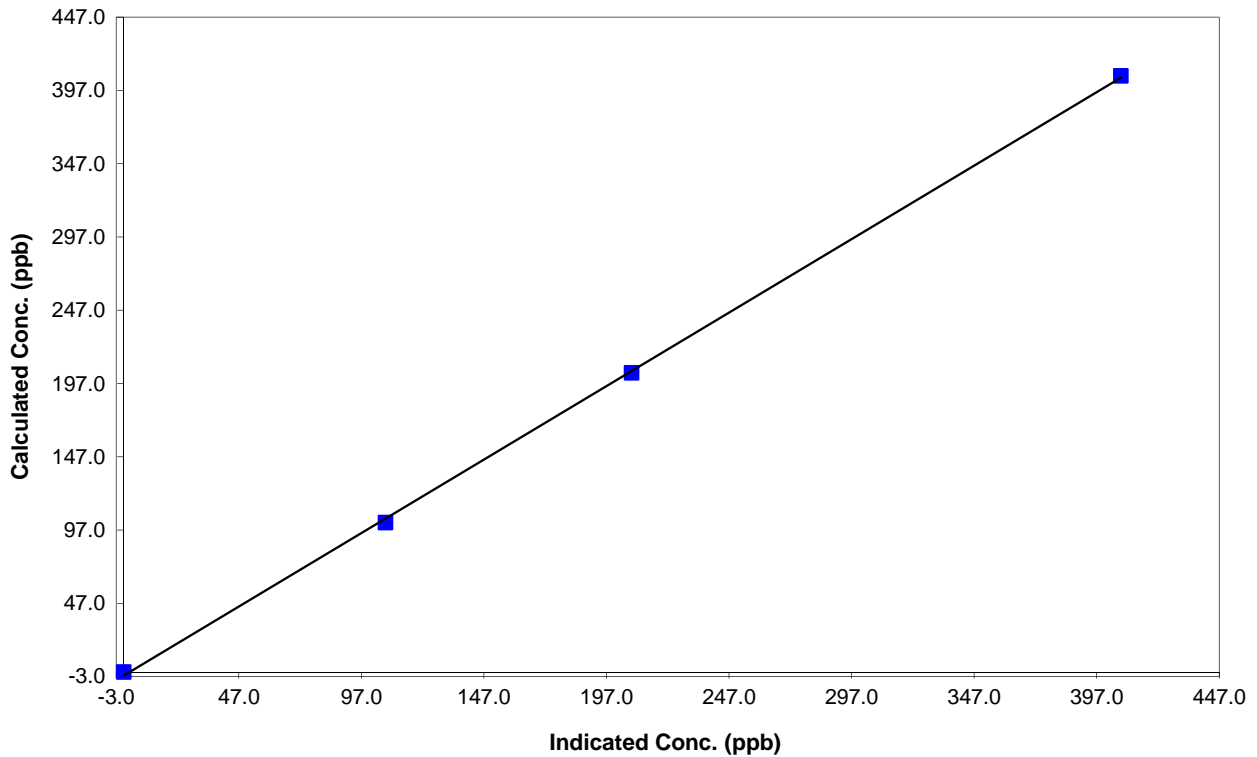
## Station Information

Calibration Date	April 21, 2011	Previous Calibration	March 16, 2011
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	8:35	End Time (MST)	12:20
Analyzer make	TEI 42C	Analyzer serial #	508011073

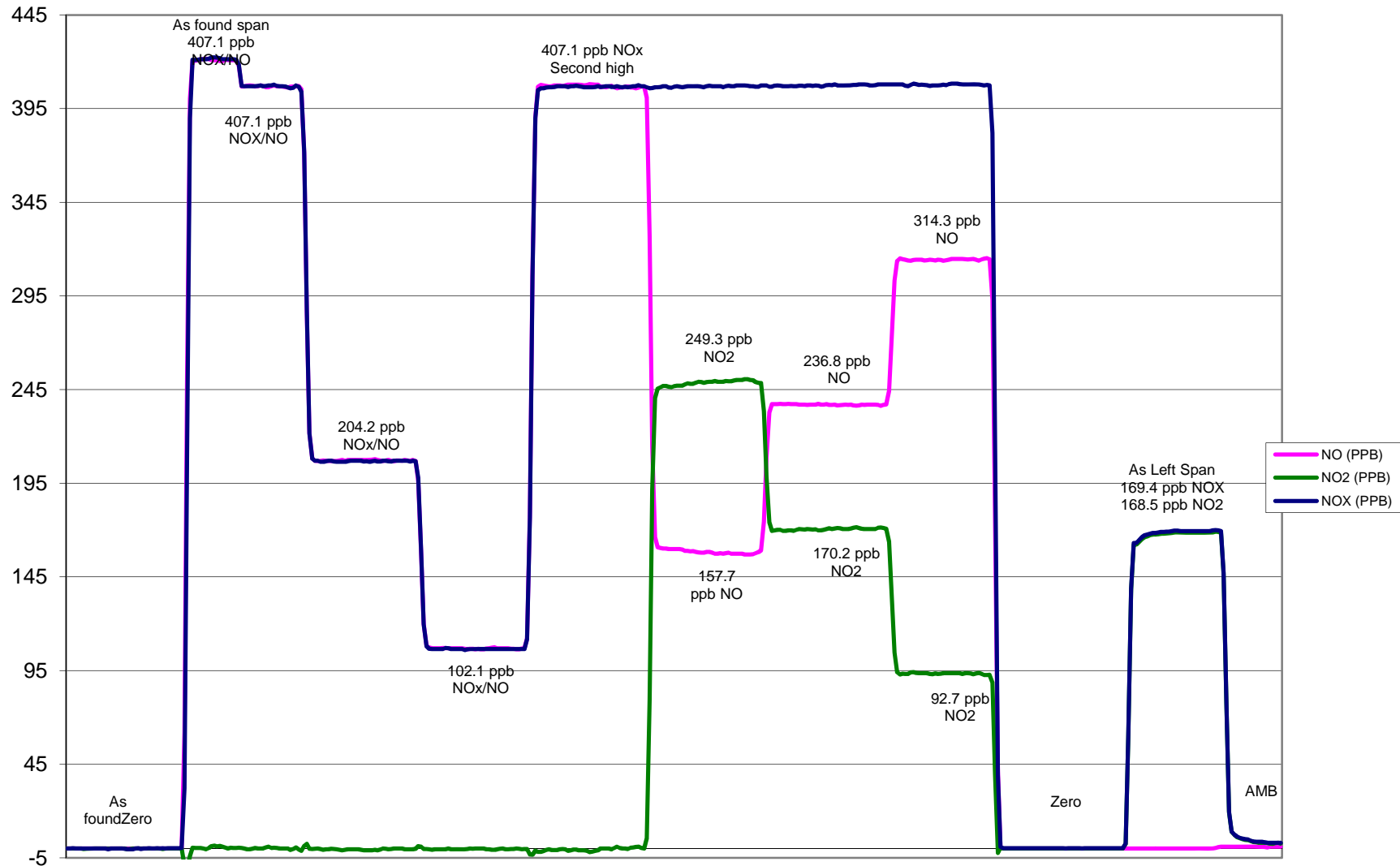
## Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.0	N/A	Correlation Coefficient	0.999823
407.1	406.9	1.0006		
204.2	207.3	0.9853		
102.1	106.7	0.9565	Slope	1.003435
			Intercept	-2.475293

## NO Calibration Curve



# Henry Pirker NO<sub>x</sub> Calibration



April 21, 2011

# Calibration Report



Parameter 03

Air Monitoring Network PASZA

## Station Information

Calibration Date	April 12, 2011	Previous Calibration	March 16, 2011
Station Number	1	Station Location	Henry Pirker
Reason:	<input checked="" type="checkbox"/> Routine	<input type="checkbox"/> Install	<input type="checkbox"/> Removal
		<input type="checkbox"/> Other:	
Start Time (MST)	14:15	End Time (MST)	15:00
Barometric Pressure	0.915 atm	Station Temperature	0.6 Deg C
Calibrator	Envionics 6100	Serial Number	3474
Cal Gas Concentration	NA	Cal Gas Expiry Date	NA
DACS make	Focus AP1000	DACS serial No.	45269
DACS voltage range	0 - 1 volt	DACS channel #	5
	Before		After
Calculated slope	1.006492	Calculated slope	1.006292
Calculated intercept	0.450874	Calculated intercept	-0.001921
Analyzer make	TECO 49C	Analyzer serial #	607415761

	before		after	
Concentration range	500	ppb	500	ppb
offset	-0.6	ppb	-0.6	ppb
slope	0.985		0.986	
O3 Lamp temp	71.1	Deg C	71.1	Deg C
Intensities	83742/73205	mV	85134/74092	mV
Pressure	674.9	inches Hg	689.8	inches Hg
Flow A	0.712	ccm	0.722	ccm
Flow B	0.727	ccm	0.737	ccm

## Calibration Data

Referenced concentration (ppb)	Dilution air flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
0	4989	0.0	0.0	N/A
300	4989	231.4	230.0	1.0063
0	4989	0.0	0.0	As found zero
300	4989	231.4	230.0	As found span
Average Correction Factor				1.0063

Calculated value of As Found Response: 231.9 ppm      Percent Change of As Found: 0.2%

	before calibration		after calibration	
Auto zero	0.3	ppb	0.3	ppb
Auto span	160.1	ppb	157.8	ppb

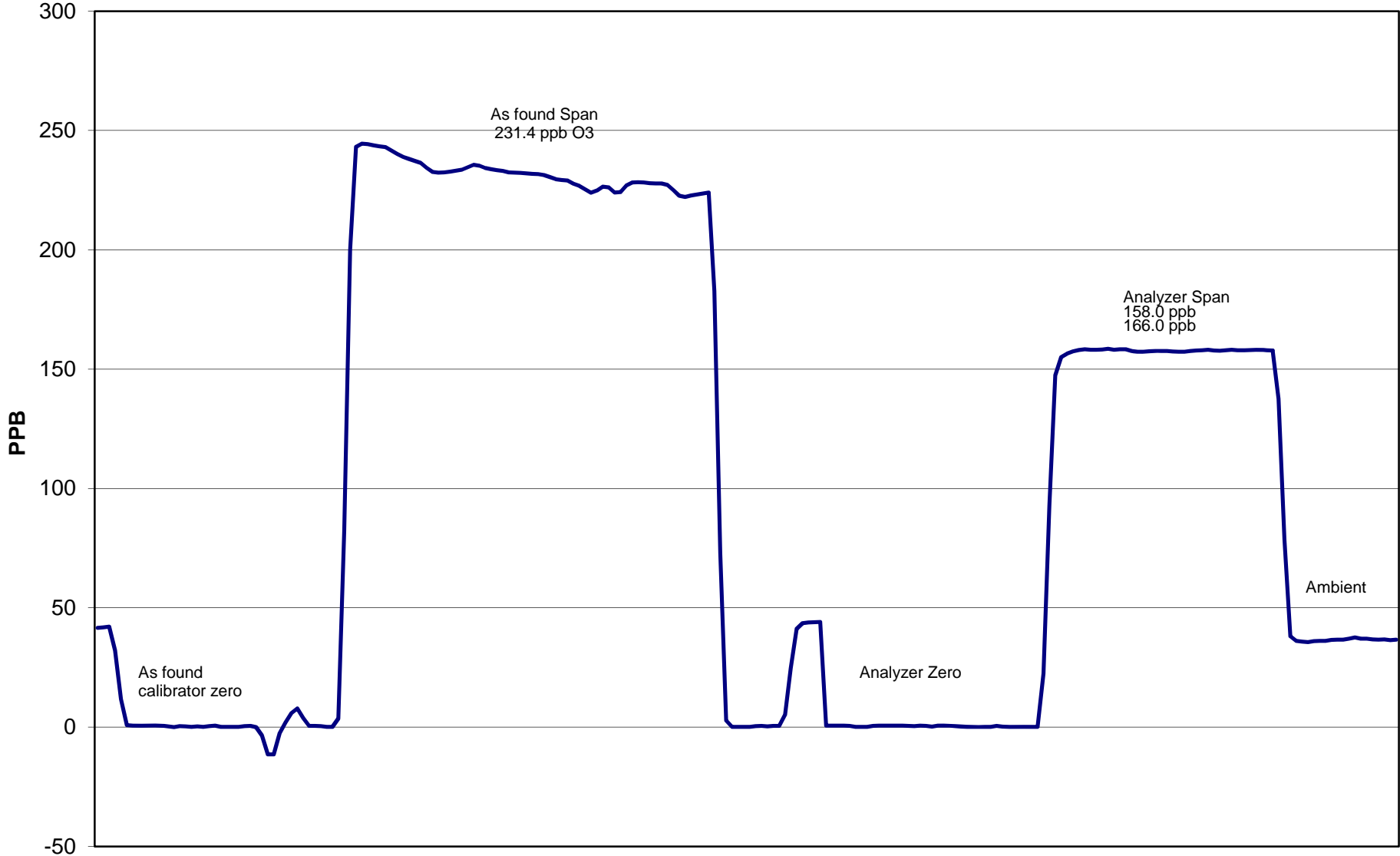
Notes: Used last GPT point value as calibrator output. After span was from next day.

Calibration Performed By: Grover Christiansen





# Henry Pirker O<sub>3</sub> Calibration



April 12, 2011

# Calibration Report



Parameter 03

Air Monitoring Network PASZA

## Station Information

Calibration Date	April 21, 2011	Previous Calibration	March 16, 2011
Station Number	1	Station Location	Henry Pirker
Reason:	<input checked="" type="checkbox"/> Routine	<input type="checkbox"/> Install	<input type="checkbox"/> Removal
		<input type="checkbox"/> Other:	
Start Time (MST)	11:00	End Time (MST)	13:50
Barometric Pressure	0.923 atm	Station Temperature	20.0 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Concentration	NA	Cal Gas Expiry Date	NA
DACS make	Focus AP1000	DACS serial No.	45269
DACS voltage range	0 - 1 volt	DACS channel #	5
	Before		After
Calculated slope	1.006292	Calculated slope	0.995187
Calculated intercept	-0.001921	Calculated intercept	-0.127780
Analyzer make	TECO 49C	Analyzer serial #	607415761

	before		after	
Concentration range	500	ppb	500	ppb
offset	-0.6	ppb	-0.6	ppb
slope	0.985		1.009	
O3 Lamp temp	71.1	Deg C	71.1	Deg C
Intensities	83709/73205	mV	83134/73092	mV
Pressure	694.8	inches Hg	698.3	inches Hg
Flow A	0.723	ccm	0.726	ccm
Flow B	0.740	ccm	0.743	ccm

## Calibration Data

Referenced concentration (ppb)	Dilution air flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
0	4989	0.0	0.2	N/A
300	4989	249.3	250.9	0.9935
200	4989	170.2	170.6	0.9975
100	4989	92.7	93.4	0.9922
0	4989	0.0	0.5	As found zero
300	4989	249.3	244.6	As found span
Average Correction Factor				0.9944

Calculated value of As Found Response: 245.6 ppm      Percent Change of As Found: -1.5%

	before calibration		after calibration	
Auto zero	0.3	ppb	0.3	ppb
Auto span	160.1	ppb	159.5	ppb

Notes: \_\_\_\_\_

Calibration Performed By: Grover Christiansen

## Calibration Summary

Parameter           O3            
 Air Monitoring Network                                   PASZA                                  



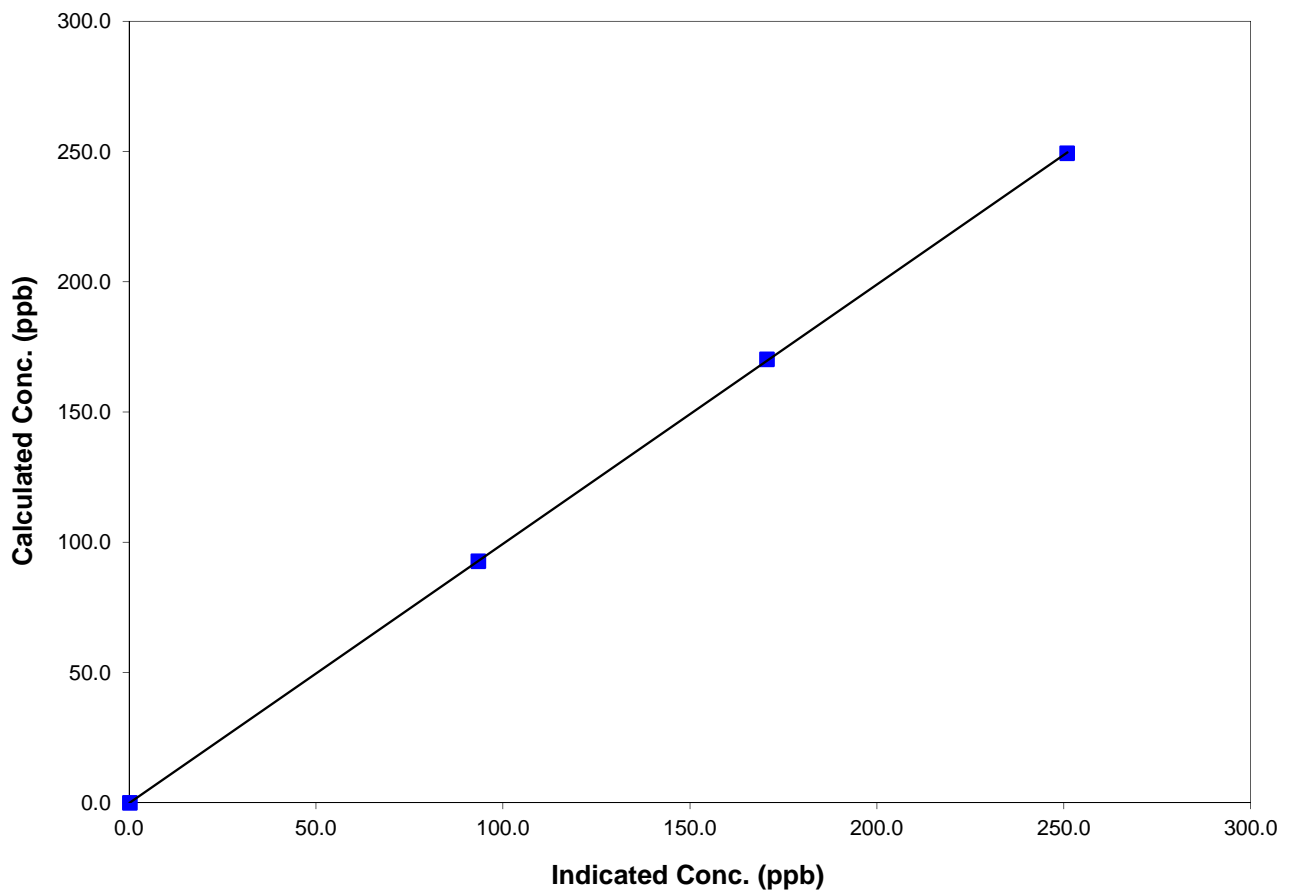
### Station Information

Calibration Date	<u>          April 21, 2011          </u>	Previous Calibration	<u>          March 16, 2011          </u>
Station Number	<u>          1          </u>	Station Location	<u>          Henry Pirker          </u>
Start Time (MST)	<u>          11:00          </u>	End Time (MST)	<u>          13:50          </u>
Analyzer make/model	<u>          TECO 49C          </u>	Analyzer serial #	<u>          607415761          </u>

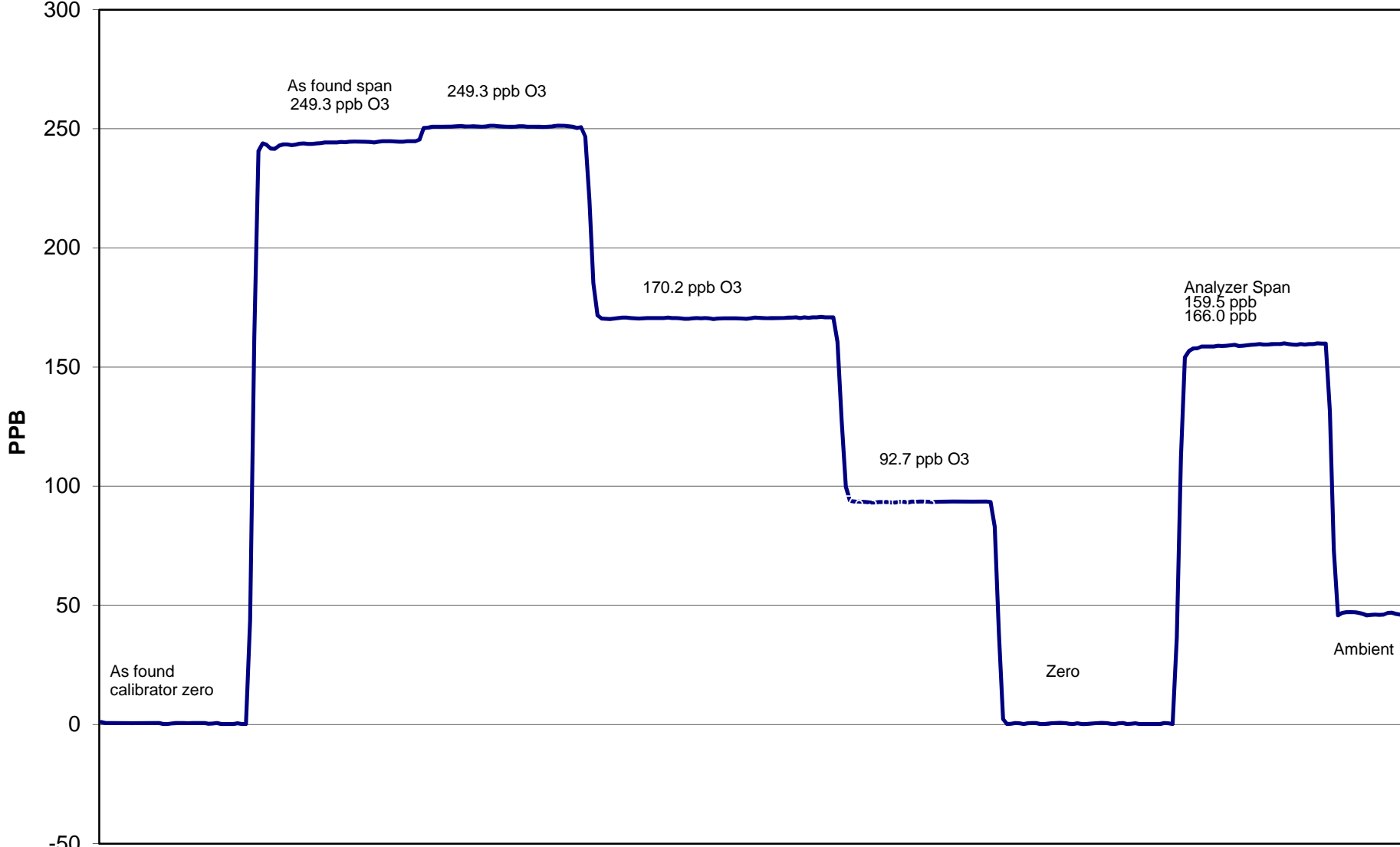
### Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.2	NA	Correlation Coefficient	0.999988
249.3	250.9	0.9935		
170.2	170.6	0.9975		
92.7	93.4	0.9922		
			Slope	0.995187
			Intercept	-0.127780

### O3 Calibration Curve



# Henry Pirker O<sub>3</sub> Calibration



April 21, 2011

# Calibration Report



Parameter CO

Air Monitoring Network PASZA

## Station Information

Calibration Date	April 20, 2011	Previous Calibration	March 14, 2011
Station Number	1	Station Location	Henry Pirker
Reason:	<input checked="" type="checkbox"/> Routine	<input type="checkbox"/> Install	<input type="checkbox"/> Removal
			<input type="checkbox"/> Other:
Start Time (MST)	8:00	End Time (MST)	10:25
Barometric Pressure	0.923 ATM	Station Temperature	20.0 Deg C
Calibrator	EnviroNics 6100	Serial Number	3474
Cal Gas Conc	3000 ppm	Cal Gas Expiry Date	AUG 28/05
		Cal Gas Cylinder #	AAL20565
DACS make	Focus AP1000	DACS serial No.	1
DACS voltage range	0 - 1 volt	DACS channel #	9
	Before		After
Calculated slope	1.007165	Calculated slope	1.009126
Calculated intercept	-0.747373	Calculated intercept	-0.547081
Analyzer make	TEI Model 48C	Analyzer serial #	508011062

	before		after	
Concentration range	0 - 50	ppm	0 - 50	ppm
CO span setting	1.077		1.077	
CO zero setting	0.759		0.894	
Sample pressure	681.6	mm Hg	671.5	mm Hg
Sample Flow	1.140	LPM	1.130	LPM

## Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4988	0.00	0.00	0.47	N/A
4988	39.84	23.77	24.06	0.9881
4988	19.90	11.92	12.40	0.9611
4988	9.93	5.96	6.51	0.9155
4988	0.00	0.00	0.47	As Found Zero
4988	39.84	23.77	24.06	As Found Span
Average Correction Factor				0.9549

Calculated value of As Found Response: 23.008 ppm      Percent Change of As Found: 3.2%

	before calibration		after calibration	
Auto zero	0.03	ppm	0.03	ppm
Auto span	19.12	ppm	19.01	ppm

Notes: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Calibration Performed By: Grover Christiansen

# Calibration Summary



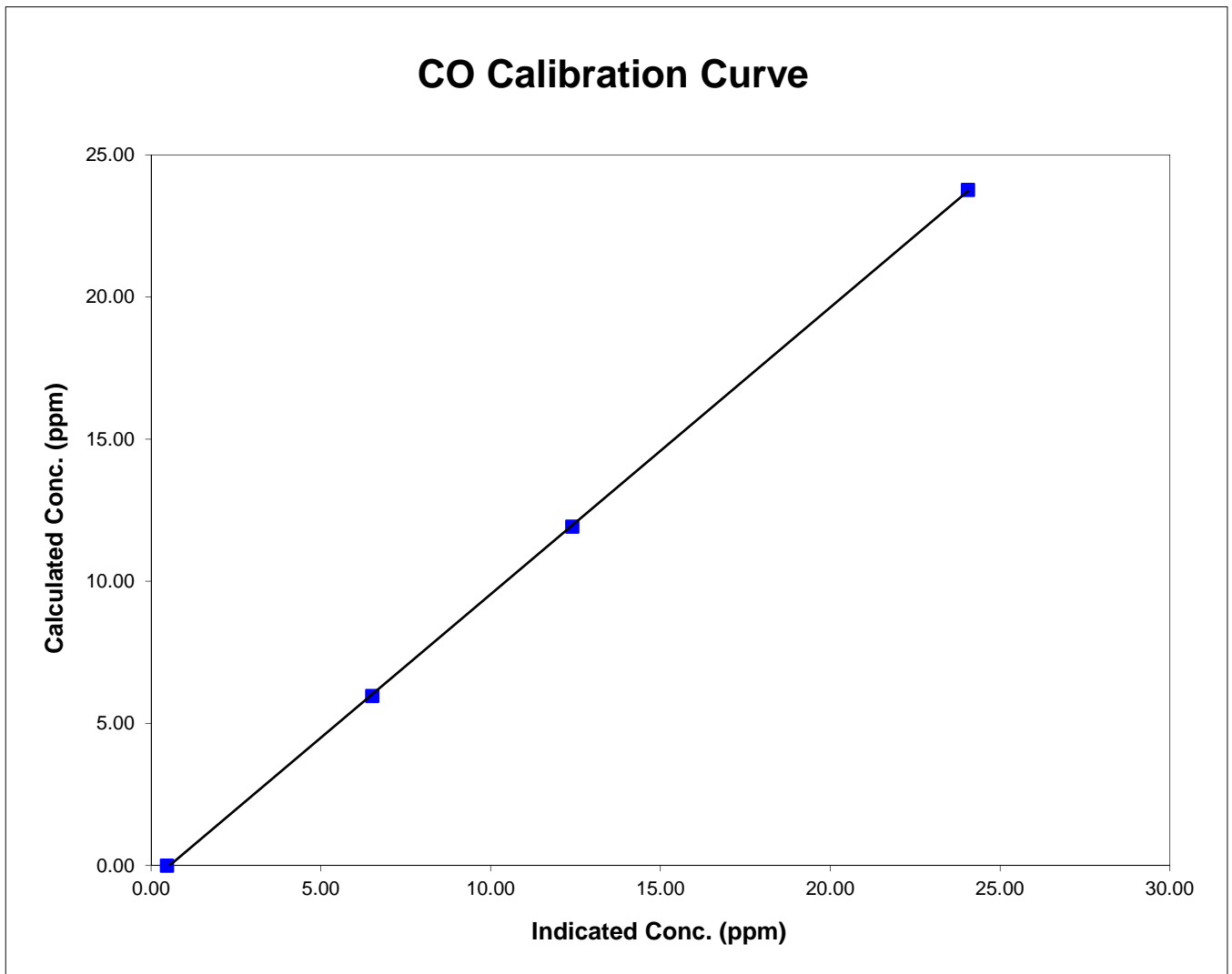
Parameter CO  
 Air Monitoring Network PASZA

### Station Information

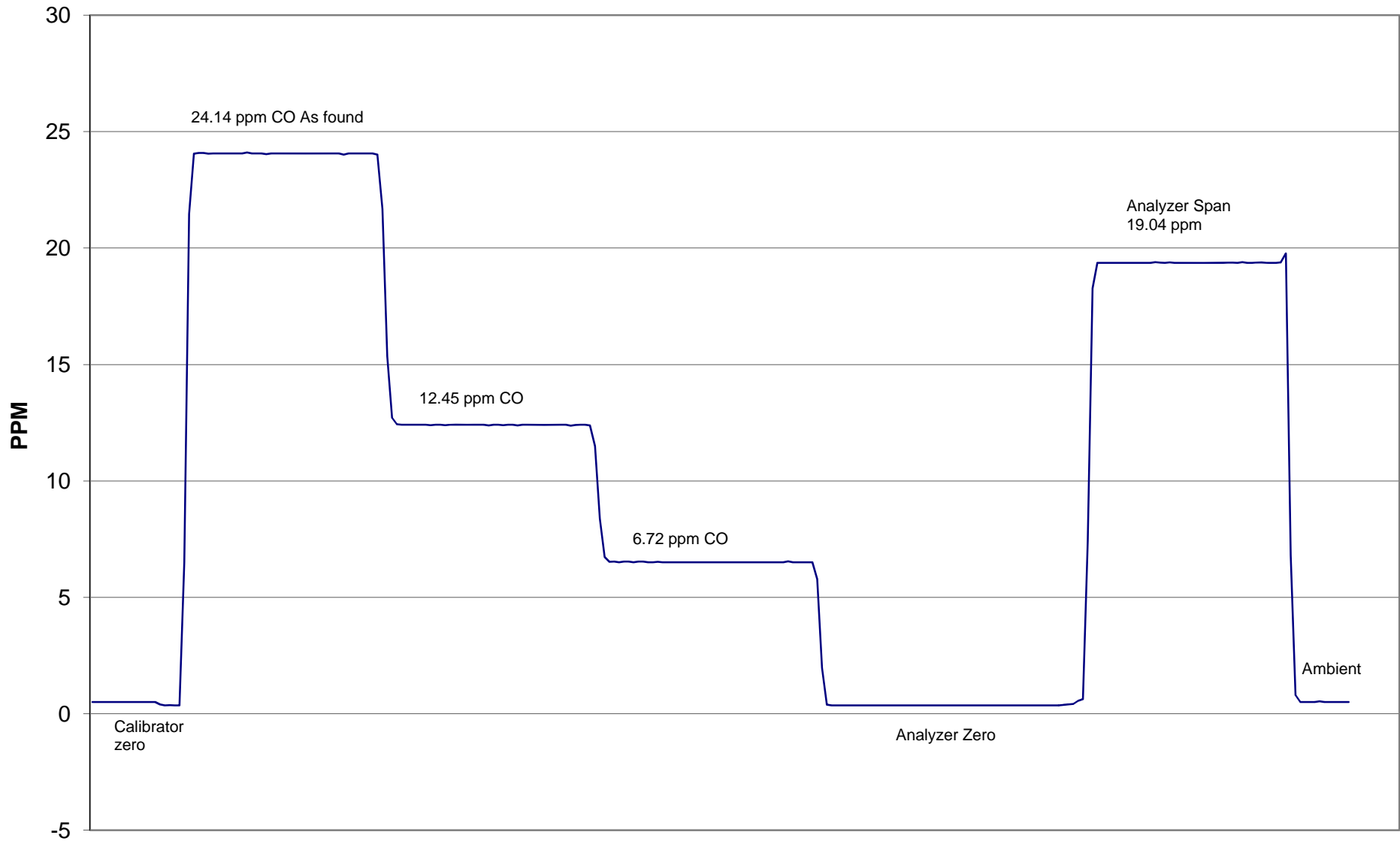
Calibration Date	April 20, 2011	Previous Calibration	March 14, 2011
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	8:00	End Time (MST)	10:25
Analyzer make/model	TEI Model 48C	Analyzer serial #	508011062

### Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.472	N/A		
23.772	24.058	0.9881	Correlation Coefficient	0.999958
11.921	12.404	0.9611		
5.960	6.511	0.9155	Slope	1.009126
			Intercept	-0.547081



# Henry Pirker CO Calibration



April 20, 2011

# Calibration Report



Parameter THC  
 Air Monitoring Network PASZA

## Station Information

Calibration Date	April 20, 2011	Previous Calibration	March 14, 2011
Station Number	1	Station Location	Henry Pirker
Reason:	<input checked="" type="checkbox"/> Routine	<input type="checkbox"/> Install	<input type="checkbox"/> Removal
			<input type="checkbox"/> Other:
Start Time (MST)	9:35	End Time (MST)	12:00
Barometric Pressure	0.923 ATM	Station Temperature	20.0 Deg C
Calibrator	EnviroNics 6100	Serial Number	3474
Cal Gas Concentration	701 ppm CH4/ 299 ppm C3H8	Cal Gas Expiry Date	2/4/2010
Cal Gas CH4 equiv	1523.25 ppm	Cal Gas Cylinder #	ALM 004476
DACS make	Focus AP1000	DACS serial No.	1
DACS voltage range	0 - 1 volt	DACS channel #	9
	<u>Before</u>		<u>After</u>
Calculated slope	1.062736	Calculated slope	1.058697
Calculated intercept	0.188112	Calculated intercept	0.152195
Analyzer make	TEI Model 51C-LT	Analyzer serial #	51CLT-79009-390

	before		after	
Concentration range	0 - 25	ppm	0 - 25	ppm
THC sample pressure	6.50	psi	6.50	psi
THC span counts	9617	capture	9616	capture
THC zero counts	448	capture	447	capture

## Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4988	0.00	0.00	-0.15	N/A
4988	69.75	21.01	19.72	1.0653
4988	29.87	9.07	8.36	1.0852
4988	9.92	3.02	2.76	1.0956
4988	0.00	0.00	-0.15	As Found Zero
4988	69.75	21.01	19.72	As Found Span
Average Correction Factor				1.0820

Calculated value of As Found Response: 21.301 ppm      Percent Change of As Found: **-1.4%**

	before calibration		after calibration	
Auto zero	0.10	ppm	-0.01	ppm
Auto span	20.65	ppm	22.91	ppm

Notes: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Calibration Performed By: Grover Christiansen



# Calibration Summary



Parameter THC  
 Air Monitoring Network PASZA

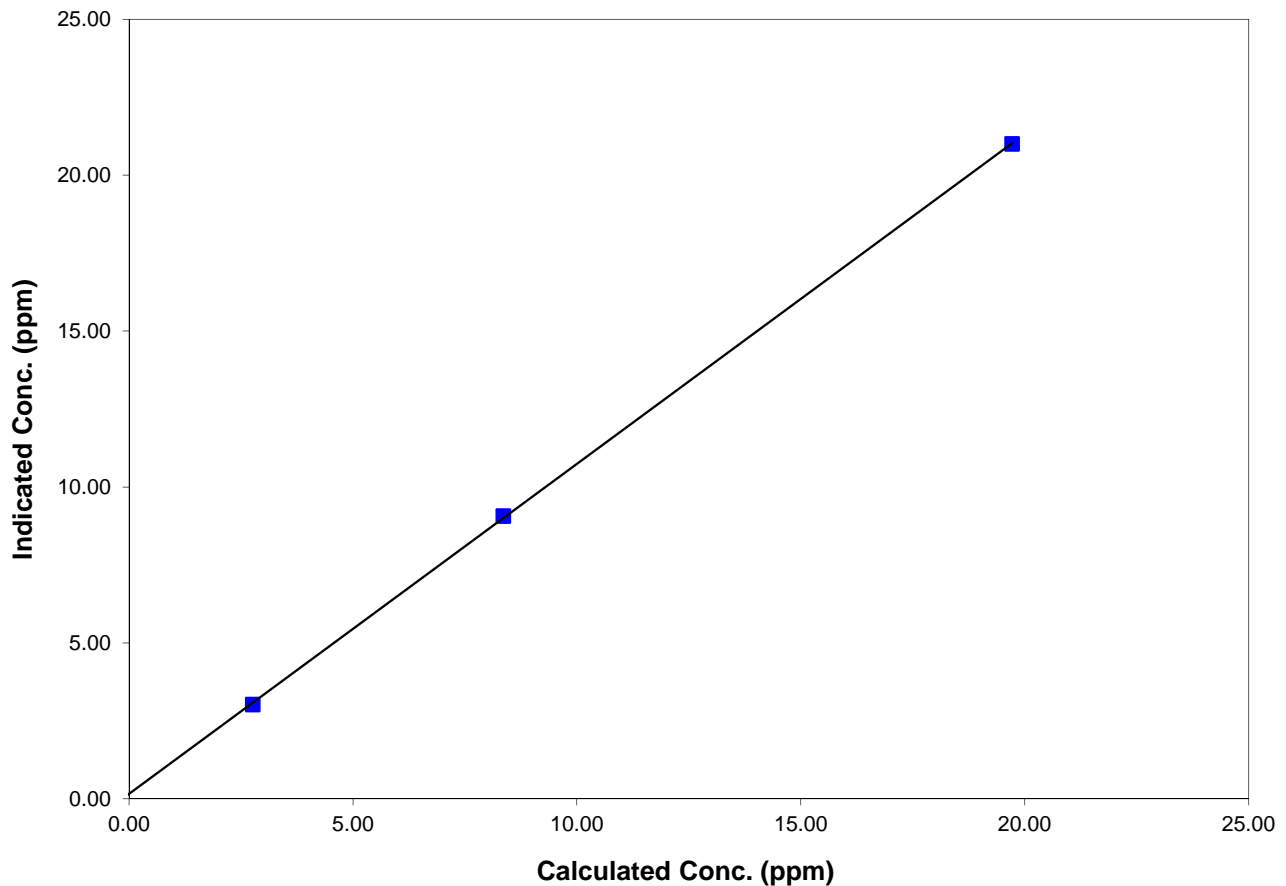
### Station Information

Calibration Date	April 20, 2011	Previous Calibration	March 14, 2011
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	9:35	End Time (MST)	12:00
Analyzer make/model	TEI Model 51C-LT	Analyzer serial #	51CLT-79009-390

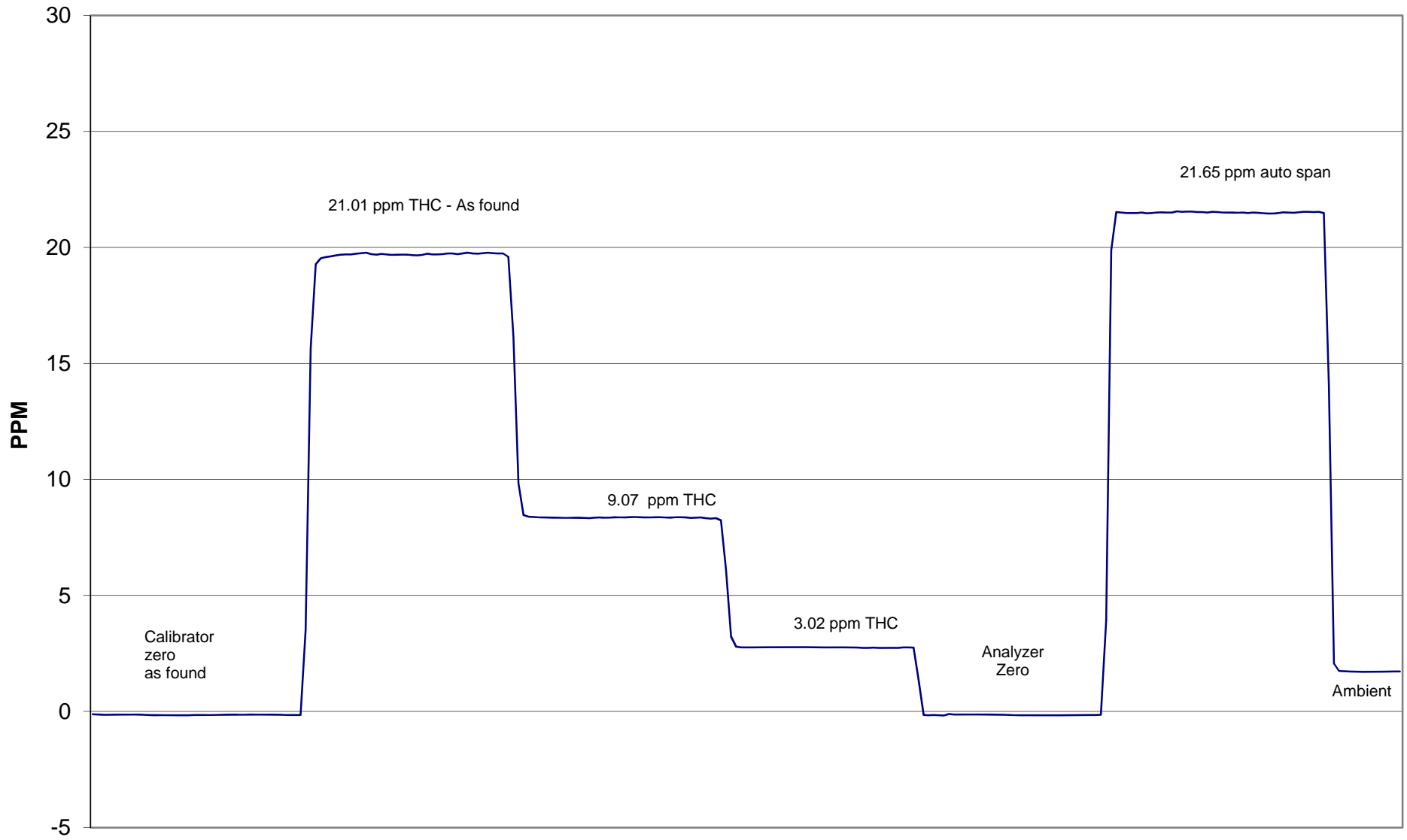
### Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	-0.147	N/A		
21.007	19.719	1.0653	Correlation Coefficient	0.999970
9.067	8.356	1.0852		
3.023	2.759	1.0956	Slope	1.058697
			Intercept	0.152195

## THC Calibration Curve



# Henry Pirker THC Calibration



April 20, 2011

# Calibration Report



Parameter SO<sub>2</sub>

Air Monitoring Network PASZA

### Station Information

Calibration Date	April 13, 2011	Previous Calibration	March 22, 2011
Station Number	2	Station Location	Evergreen Park
Reason:	<input checked="" type="checkbox"/> Routine	<input type="checkbox"/> Install	<input type="checkbox"/> Removal
		<input type="checkbox"/> Other:	
Start Time (MST)	10:50	End Time (MST)	13:50
Barometric Pressure	0.924 ATM	Station Temperature	20.0 Deg C
Calibrator	EnviroNics 6100	Serial Number	3474
Cal Gas Concentration	50.6 ppm	Cal Gas Expiry Date	4/6/2012
Correction factor	0.031409	Cal Gas Cylinder #	SGAL3245
DACS make	Focus AP1000	DACS serial No.	52620
DACS voltage range	0 - 10 volt	DACS channel #	6
	<u>Before</u>		<u>After</u>
Calculated slope	0.995861	Calculated slope	1.002660
Calculated intercept	-0.806875	Calculated intercept	0.161642
Analyzer make	Teco 43i	Analyzer serial #	701120008

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
Background	11.1		11.3	
coefficient	1.081		1.09	
Lamp Voltage	831	volts	833	volts
Chamber Temp	45.1	Deg C	45.2	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	668.9	mm Hg	665.6	mm Hg
Sample Flow	0.455	ccm	0.455	ccm
Lamp Intensity	90	%	90	%

Dilution air flow rate (cc/min)	Corrected gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4989	0.0	0.00	0.5	N/A
4989	39.83	400.8	399.9	1.0021
4989	19.91	201.1	199.9	1.0059
4989	9.96	100.8	99.9	1.0096
	0.0			
4989	0.0	0.0	0.5	As Found Zero
4989	39.83	400.8	392.9	As Found Span
Average Correction Factor				1.0059

Calculated value of As Found Response: 389.994 ppm      Percent Change of As Found: **2.7%**

	before calibration		after calibration	
Auto zero	0.7	ppm	0.5	ppm
Auto span	286.9	ppm	294.3	ppm

Notes:  
Calibration Performed By: Grover Christiansen

# Calibration Summary



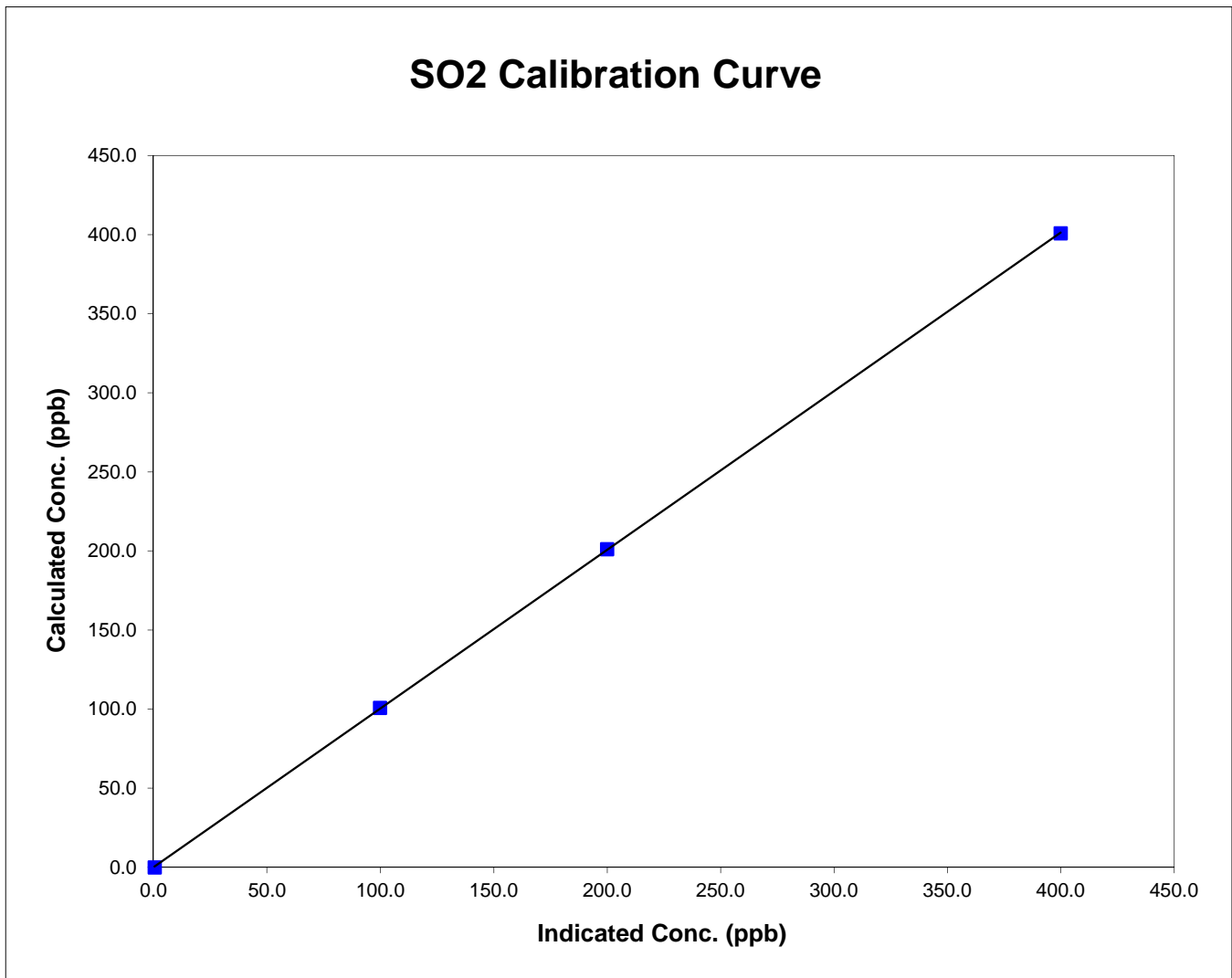
Parameter SO2  
 Air Monitoring Network PASZA

### Station Information

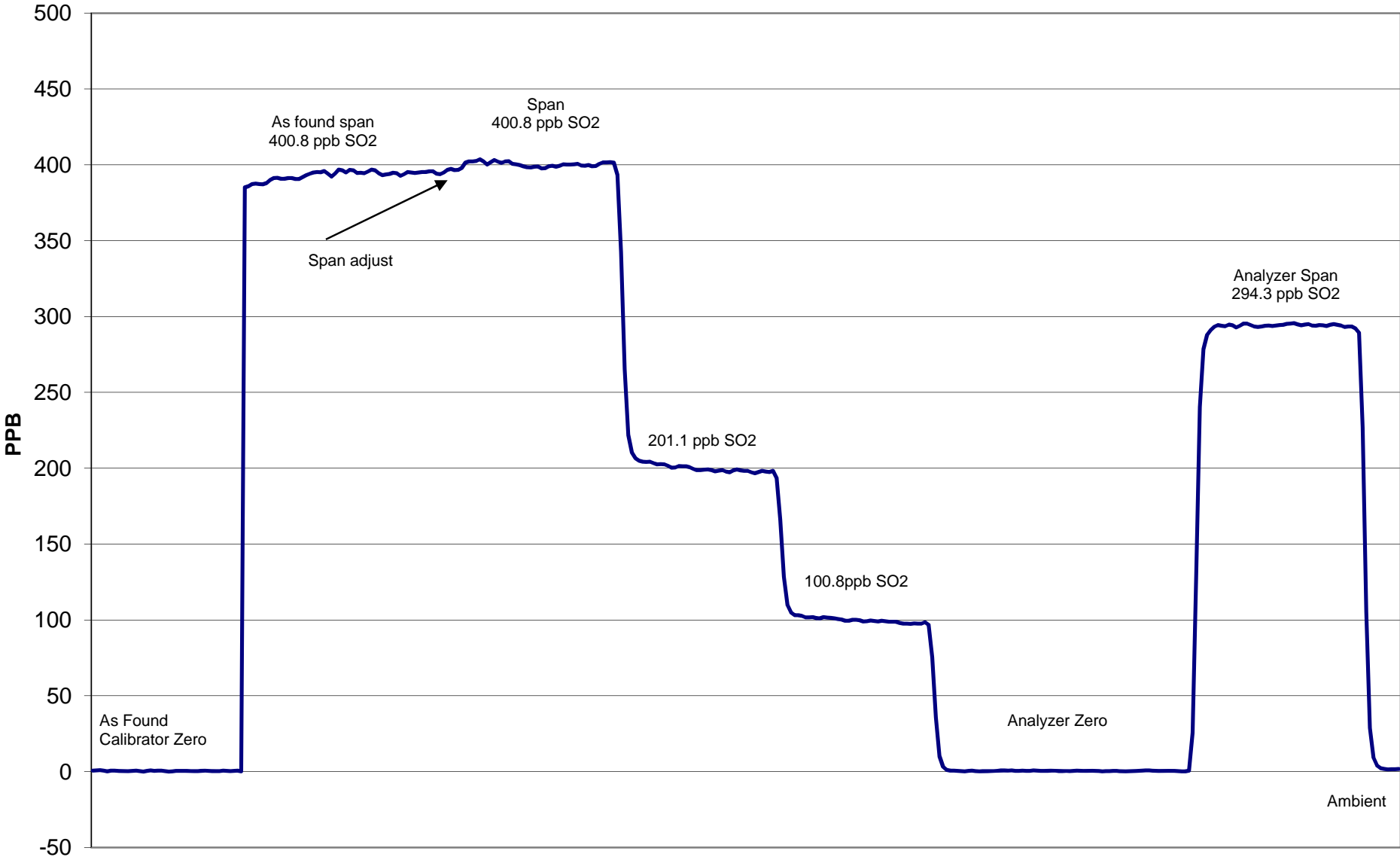
Calibration Date	April 13, 2011	Previous Calibration	March 22, 2011
Station Number	2	Station Location	Evergreen Park
Start Time (MST)	10:50	End Time (MST)	13:50
Analyzer make/model	Teco 43i	Analyzer serial #	701120008

### Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.5	N/A	Correlation Coefficient	0.999988
400.8	399.9	1.0021		
201.1	199.9	1.0059	Slope	1.002660
100.8	99.9	1.0096		
			Intercept	0.161642



# Evergreen Park SO<sub>2</sub> Calibration



April 13, 2011

# Calibration Report



Parameter TRS  
 Air Monitoring Network PASZA

### Station Information

Calibration Date	<u>April 13, 2011</u>	Previous Calibration	<u>March 22, 2011</u>
Station Number	<u>2</u>	Station Location	<u>Evergreen Park</u>
Reason:	<input checked="" type="checkbox"/> Routine	<input type="checkbox"/> Install	<input type="checkbox"/> Removal
Other:	<input type="text"/>		
Start Time (MST)	<u>12:30</u>	End Time (MST)	<u>15:20</u>
Barometric Pressure	<u>0.924 ATM</u>	Station Temperature	<u>20.0 Deg C</u>
Calibrator	<u>Enviroics 6100</u>	Serial Number	<u>3474</u>
Cal Gas Conc	<u>5.77 ppm</u>	Cal Gas Expiry Date	<u>9/3/2011</u>
Correction factor	<u>0.031409</u>	Cal Gas Cylinder #	<u>BLM001434</u>
DACS make	<u>Focus AP1000</u>	DACS serial No.	<u>52620</u>
DACS voltage range	<u>0 - 10 volt</u>	DACS channel #	<u>5</u>
	<u>Before</u>		<u>After</u>
Calculated slope	<u>1.004846</u>	Calculated slope	<u>1.016012</u>
Calculated intercept	<u>-0.345593</u>	Calculated intercept	<u>-0.506276</u>
Analyzer make	<u>TEI Model 43C</u>	Analyzer serial #	<u>436610005</u>

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Background	17.1	ppb	17.1	ppb
coefficient	0.903		0.903	
Lamp Voltage	809	volts	809	volts
Chamber Temp	44.4	Deg C	45	Deg C
Perm Gas Temp	45	Deg C	45.01	Deg C
Pressure	644	mm Hg	641.3	mm Hg
Sample Flow	0.478	ccm	0.477	ccm
Lamp Intensity	45,600	mv	46,421	mv

### Calibration Data

Dilution air flow rate (cc/min)	Corrected gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4987	0.00	0.00	0.6	N/A
4987	69.73	79.57	78.9	1.0088
4987	34.86	40.05	39.8	1.0058
4988	8.94	10.32	10.6	0.9784
4987	0.00	0.00	0.5	As Found Zero
4987	69.73	79.57	78.9	As Found Span
<b>Average Correction Factor</b>				<b>0.9976</b>

Calculated value of As Found Response: 78.44 ppm      Percent Change of As Found: 1.4%

	before calibration		after calibration	
Auto zero	-0.5	ppm	0.1	ppm
Auto span	62.0	ppm	70.5	ppm

Notes: \_\_\_\_\_

Calibration Performed By: Grover Christiansen

# Calibration Summary



Parameter TRS

Air Monitoring Network PASZA

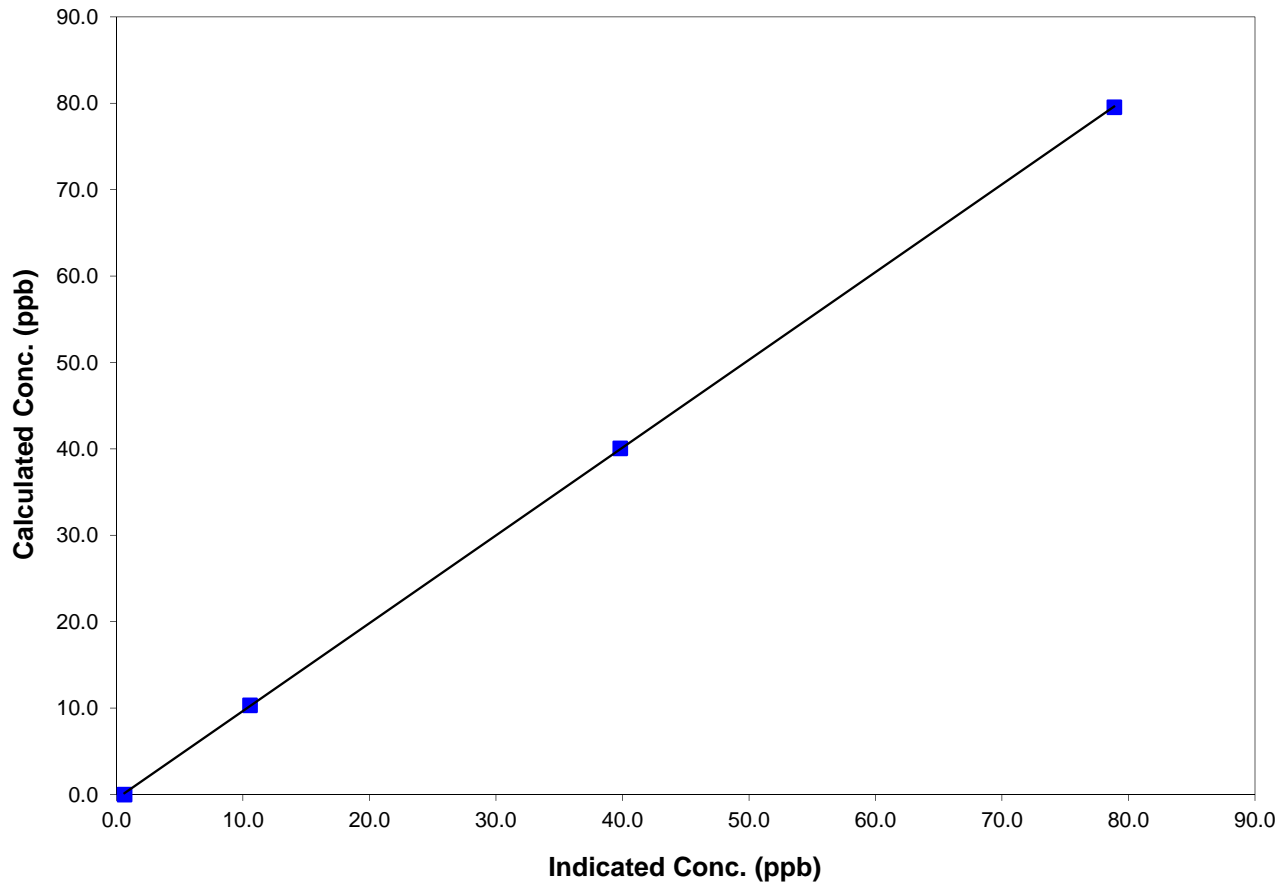
### Station Information

Calibration Date	<u>April 13, 2011</u>	Previous Calibration	<u>March 22, 2011</u>
Station Number	<u>2</u>	Station Location	<u>Evergreen Park</u>
Start Time (MST)	<u>12:30</u>	End Time (MST)	<u>15:20</u>
Analyzer make/model	<u>TEI Model 43C</u>	Analyzer serial #	<u>436610005</u>

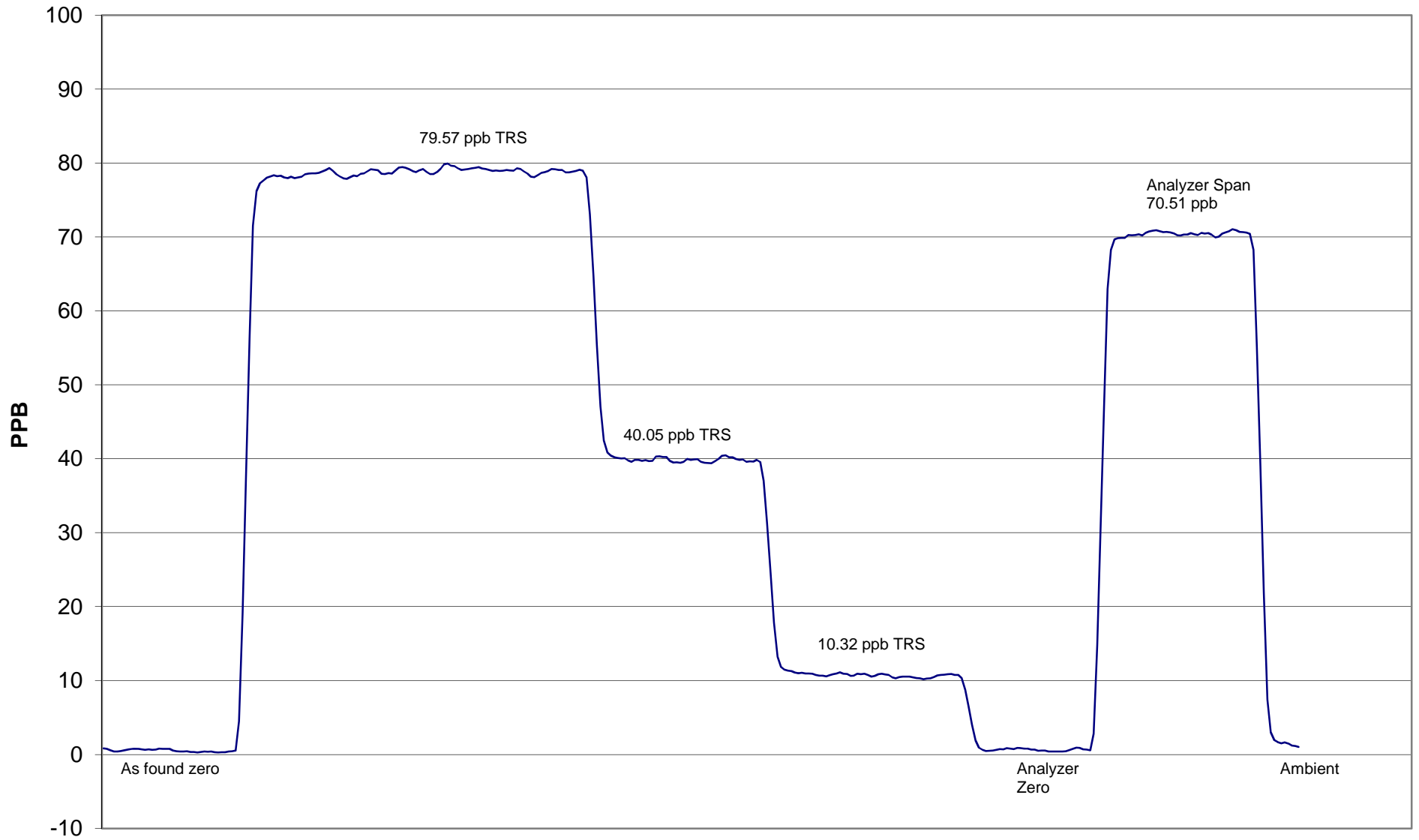
### Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.6	N/A	Correlation Coefficient	0.999988
79.6	78.9	1.0088		
40.1	39.8	1.0058	Slope	1.016012
10.3	10.6	0.9784		
			Intercept	-0.506276

### TRS Calibration Curve



# Evergreen Park TRS Calibration



April 13, 2011



# Calibration Report



Parameter SO<sub>2</sub>

Air Monitoring Network PASZA

## Station Information

Calibration Date	April 14, 2011	Previous Calibration	March 18, 2011
Station Number	3	Station Location	Smokey Heights
Reason:	<input checked="" type="checkbox"/> Routine	<input type="checkbox"/> Install	<input type="checkbox"/> Removal
			<input type="checkbox"/> Other:
Start Time (MST)	10:30	End Time (MST)	12:55
Barometric Pressure	0.924 ATM	Station Temperature	20.0 Deg C
Calibrator	EnviroNics 6100	Serial Number	3474
Cal Gas Concentration	50.6 ppm	Cal Gas Cert Date	11/29/2010
Correction factor	0.031409	Cal Gas Cylinder #	LL34002
DACS make	Focus AP1000	DACS serial No.	45272
DACS voltage range	0 - 10 volt	DACS channel #	6
	<u>Before</u>		<u>After</u>
Calculated slope	0.998218	Calculated slope	0.999384
Calculated intercept	-0.479661	Calculated intercept	0.582956
Analyzer make	Teco 43i	Analyzer serial #	701120009

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
Background	9.5		9.7	
coefficient	0.998		1.008	
Lamp Voltage	927	volts	923	volts
Chamber Temp	45	Deg C	45.01	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	669.6	mm Hg	666.6	mm Hg
Sample Flow	0.442	ccm	0.440	ccm
Lamp Intensity	88	%	88	%

## Calibration Data

Dilution air flow rate (cc/min)	Corrected gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4989	0.0	0.00	0.4	N/A
4989	39.84	400.87	401.1	0.9993
4989	19.91	201.13	199.8	1.0066
4989	9.95	100.72	99.5	1.0122
4989	0.0	0.00	0.4	As Found Zero
4989	39.84	400.87	401.1	As Found Span
Average Correction Factor				1.0060

Calculated value of As Found Response: 399.569 ppm      Percent Change of As Found: 0.3%

	before calibration		after calibration	
Auto zero	0.4	ppb	0.3	ppb
Auto span	306.6	ppb	311.6	ppb

Notes: \_\_\_\_\_

Calibration Performed By: Grover Christiansen

# Calibration Summary



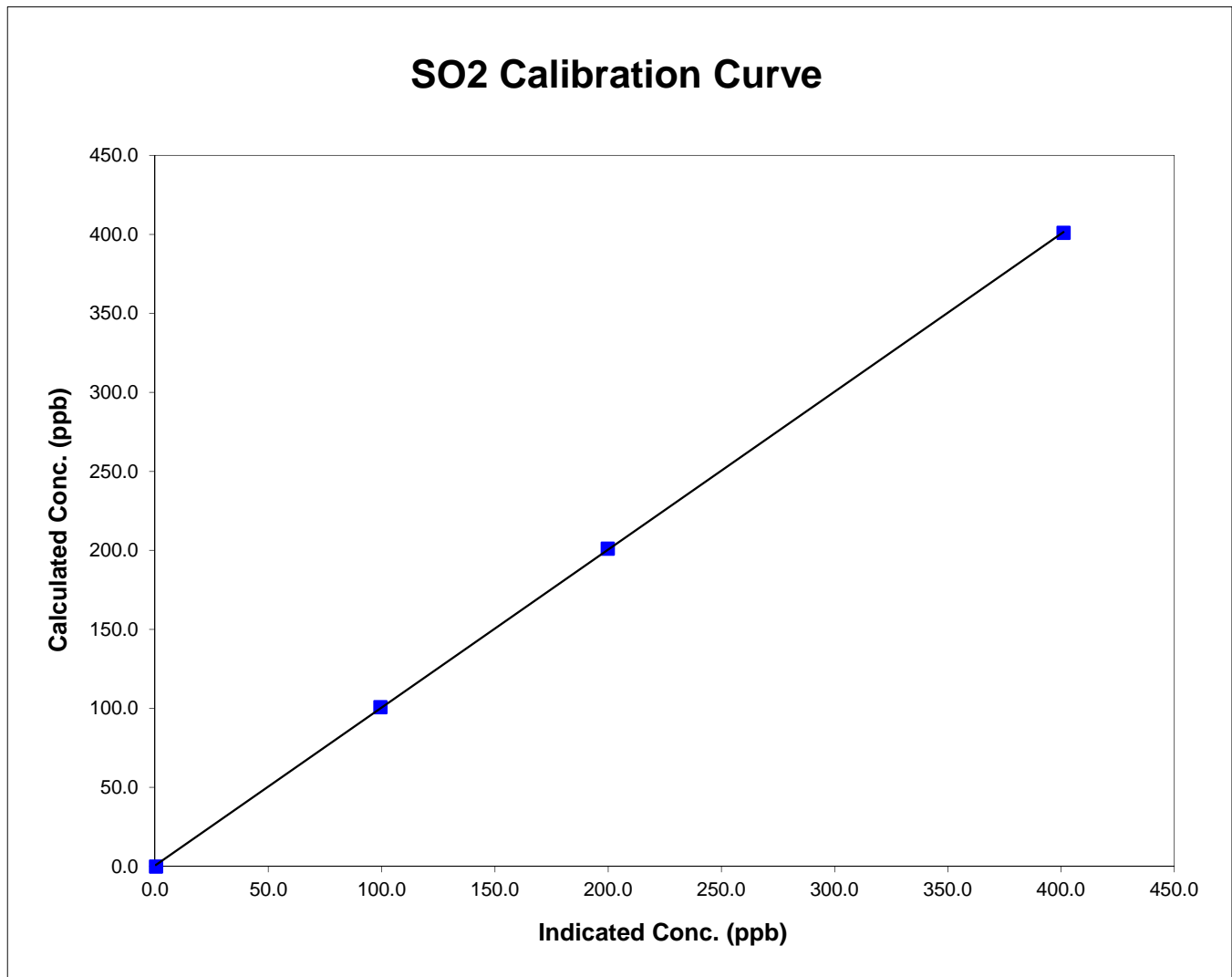
Parameter SO2  
 Air Monitoring Network PASZA

### Station Information

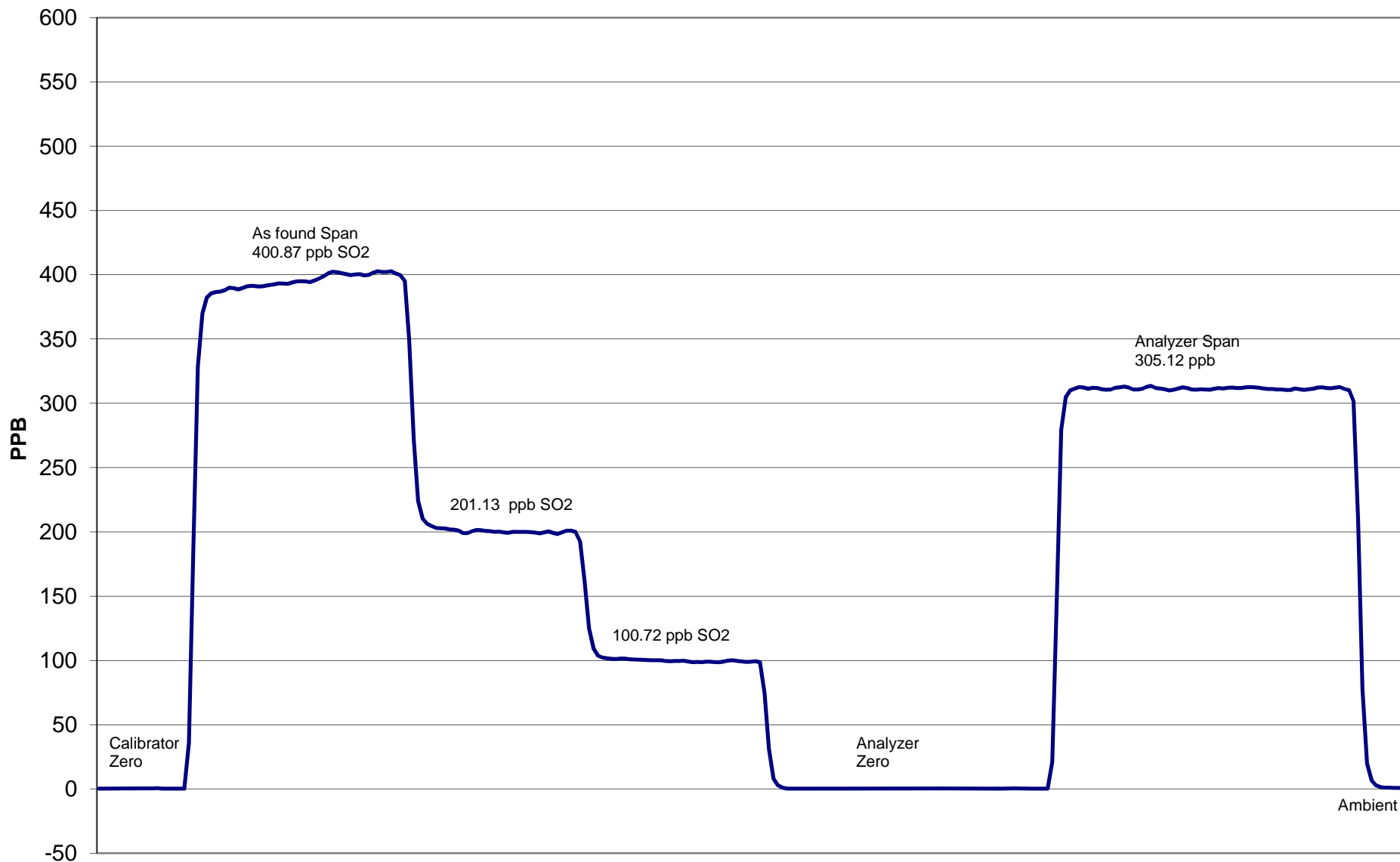
Calibration Date	April 14, 2011	Previous Calibration	March 18, 2011
Station Number	3	Station Location	Smokey Heights
Start Time (MST)	10:30	End Time (MST)	12:55
Analyzer make/model	Teco 43i	Analyzer serial #	701120009

### Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.4	N/A	Correlation Coefficient	0.999972
400.9	401.1	0.9993		
201.1	199.8	1.0066	Slope	0.999384
100.7	99.5	1.0122		
			Intercept	0.582956



# Smoky Heights SO<sub>2</sub> Calibration



April 14, 2011

# Calibration Report



Parameter                            **TRS**

Air Monitoring Network                            **PASZA**

## Station Information

Calibration Date	April 14, 2011	Previous Calibration	March 18, 2011
Station Number	3	Station Location	Smoky Heights
Reason:	<b>Routine</b>	Install	Removal
Other:			
Start Time (MST)	11:40	End Time (MST)	14:00
Barometric Pressure	0.924 ATM	Station Temperature	20.0 Deg C
Calibrator	Enviroics 6100	Serial Number	3474
Cal Gas Conc	5.77 ppm	Cal Gas Expiry Date	9/3/2011
Correction factor	0.031409	Cal Gas Cylinder #	BLM001434
DACS make	Focus AP1000	DACS serial No.	52620
DACS voltage range	0 - 10 volt	DACS channel #	5
	<b>Before</b>		<b>After</b>
Calculated slope	0.997347	Calculated slope	1.002429
Calculated intercept	0.152751	Calculated intercept	0.041791

Analyzer make          **TEI Model 43C** Analyzer serial #          **0436610005**

	before		after	
Concentration range	100	ppb	100	ppb
Background	16.5	ppb	16	ppb
coefficient	1.120		1.089	
Lamp Voltage	769	volts	769	volts
Chamber Temp	44	Deg C	44.99	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	484.2	mm Hg	483.2	mm Hg
Sample Flow	0.721	ccm	0.716	ccm
Lamp Intensity	32,403	mv	32,325	mv

Dilution air flow rate (cc/min)	Corrected gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4989	0.0	0.00	-0.1	N/A
4989	69.77	79.58	79.3	1.0031
4989	34.88	40.06	39.9	1.0034
4989	8.96	10.34	10.4	0.9971
4989	0.0	0.00	-0.1	As Found Zero
4989	69.77	79.58	81.2	As Found Span
<b>Average Correction Factor</b>				<b>1.0012</b>

Calculated value of As Found Response: **81.28 ppm**      Percent Change of As Found: **-2.1%**

	before calibration		after calibration	
Auto zero	0.0	ppm	0.0	ppm
Auto span	41.9	ppm	44.6	ppm

Notes: \_\_\_\_\_  
 \_\_\_\_\_

Calibration Performed By:          **Grover Christiansen**

# Calibration Summary



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

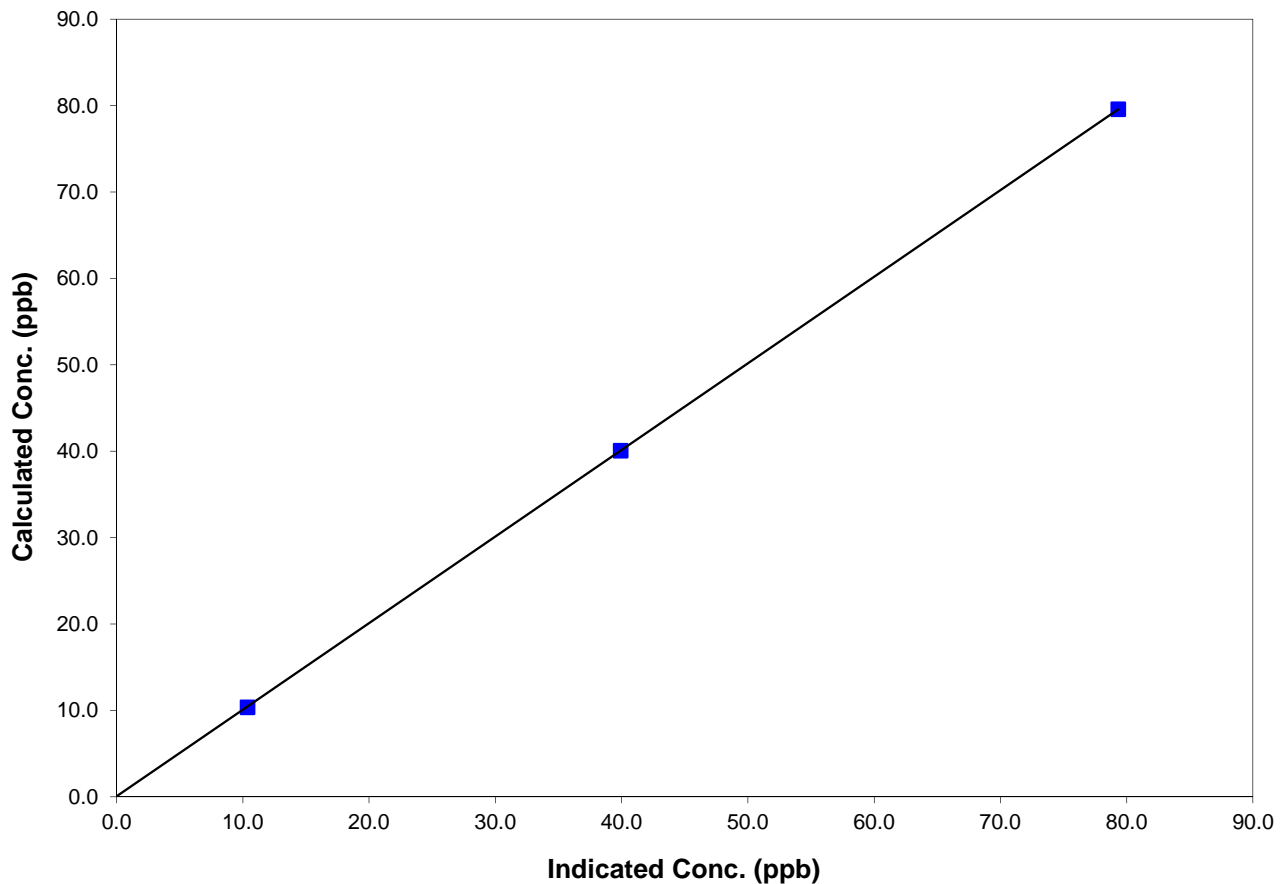
### Station Information

Calibration Date	<u>                    </u> April 14, 2011	Previous Calibration	<u>                    </u> March 18, 2011
Station Number	<u>                    </u> 3	Station Location	<u>                    </u> Smoky Heights
Start Time (MST)	<u>                    </u> 11:40	End Time (MST)	<u>                    </u> 14:00
Analyzer make/model	<u>                    </u> TEI Model 43C	Analyzer serial #	<u>                    </u> 0436610005

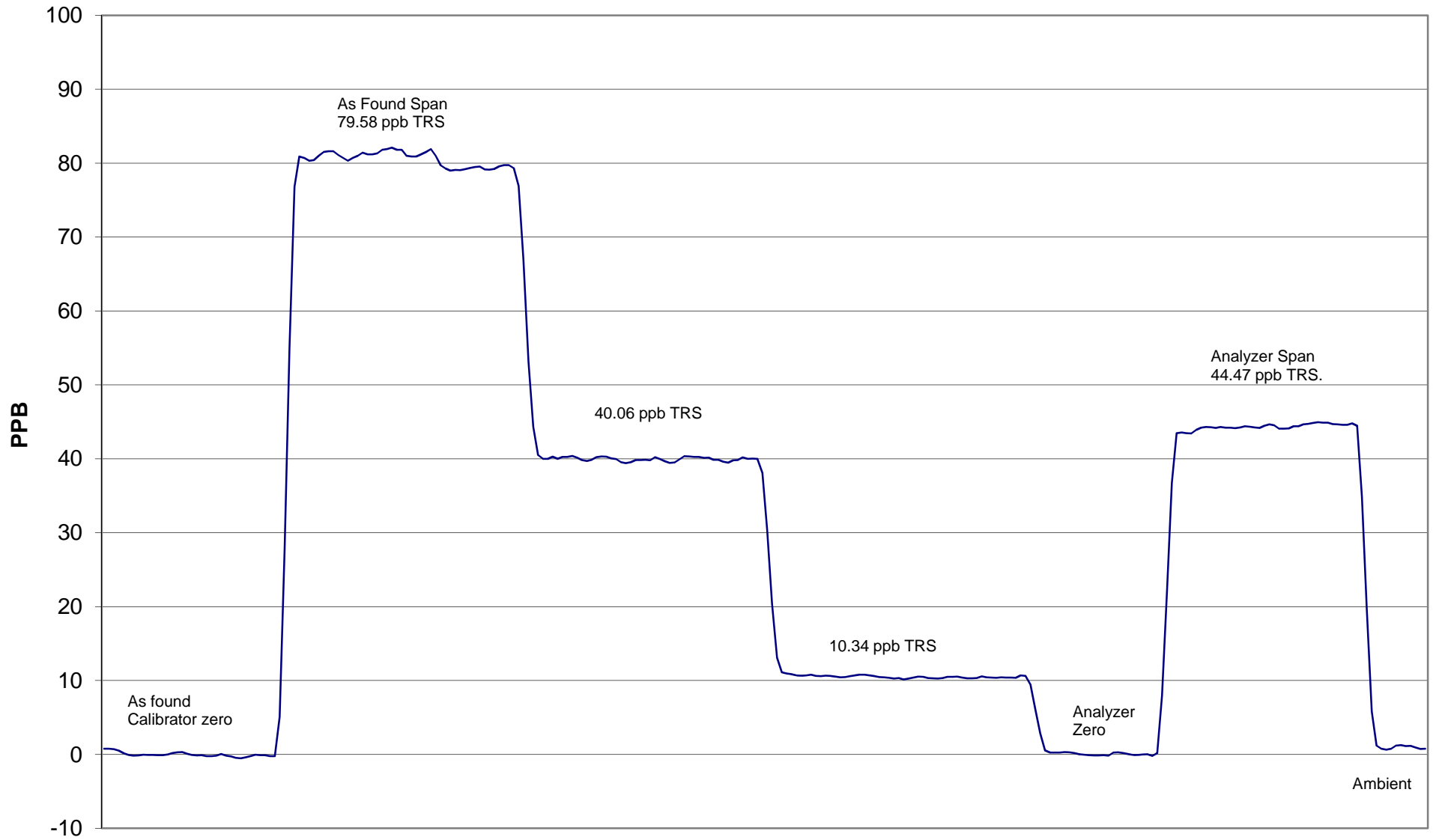
### Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.1	N/A		
79.6	79.3	1.0031	Correlation Coefficient	0.999996
40.1	39.9	1.0034		
10.3	10.4	0.9971	Slope	1.002429
			Intercept	0.041791

## TRS Calibration Curve



# Smoky Heights TRS Calibration



April 14, 2011

# Calibration Report



Parameter SO2

Air Monitoring Network PASZA

## Station Information

Calibration Date	April 6, 2011	Previous Calibration	March 10, 2011
Station Number	4	Station Location	Beaverlodge
Reason:	<input checked="" type="checkbox"/> Routine	<input type="checkbox"/> Install	<input type="checkbox"/> Removal
		<input type="checkbox"/> Other:	
Start Time (MST)	9:00	End Time (MST)	11:20
Barometric Pressure	0.900 atm	Station Temperature	23.0 Deg C
Calibrator	EnviroNics 6100	Serial Number	3474
Cal Gas Concentration	10.06 ppm	Cal Gas Expiry Date	7/27/2009
Gas Cert Reference	CC 114395		
DACS make	Focus AP1000	DACS serial No.	45269
DACS voltage range	0 - 10 volt	DACS channel #	5
	<u>Before</u>		<u>After</u>
DACS Scale High	100	DACS slope	100
DACS Scale Low	0	DACS intercept	0
Calculated slope	0.989072	Calculated slope	1.010092
Calculated intercept	0.284381	Calculated intercept	0.195843
Analyzer make	TEI Model 43i-TLE	Analyzer serial #	713021137

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Background	2.68		2.69	
Coefficient	0.988		0.988	
PMT	-787.7	V	-787.7	V
UV Lamp Voltage	1175	V	1160	V
Chamber Temp	45	Deg C	45.2	Deg C
Pressure	654.7	mm Hg	651	mm Hg
Sample Flow	0.525	LPM	0.523	LPM
Lamp Intesity	95%	%	78%	%

## Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4989	0.00	0.0	-0.1	N/A
4989	39.83	79.7	78.7	1.0126
4989	19.90	40.0	39.4	1.0137
4989	9.93	20.0	19.5	1.0257
4989	0.00	0.0	-0.1	As found zero
4989	39.83	79.7	78.7	As found span
Average Correction Factor				1.0173

Calculated value of As Found Response: 78.258 ppm      Percent Change of As Found: 1.8%

	before calibration		after calibration	
Auto zero	-0.3	ppb	0.1	ppb
Auto span	59.7	ppb	60.7	ppb

Notes: Lamp Voltage & lamp intensity readings are not stable. Flashlamp or board needed.

Calibration Performed By: Grover Christiansen

# Calibration Summary

Parameter SO2

Air Monitoring Network PASZA



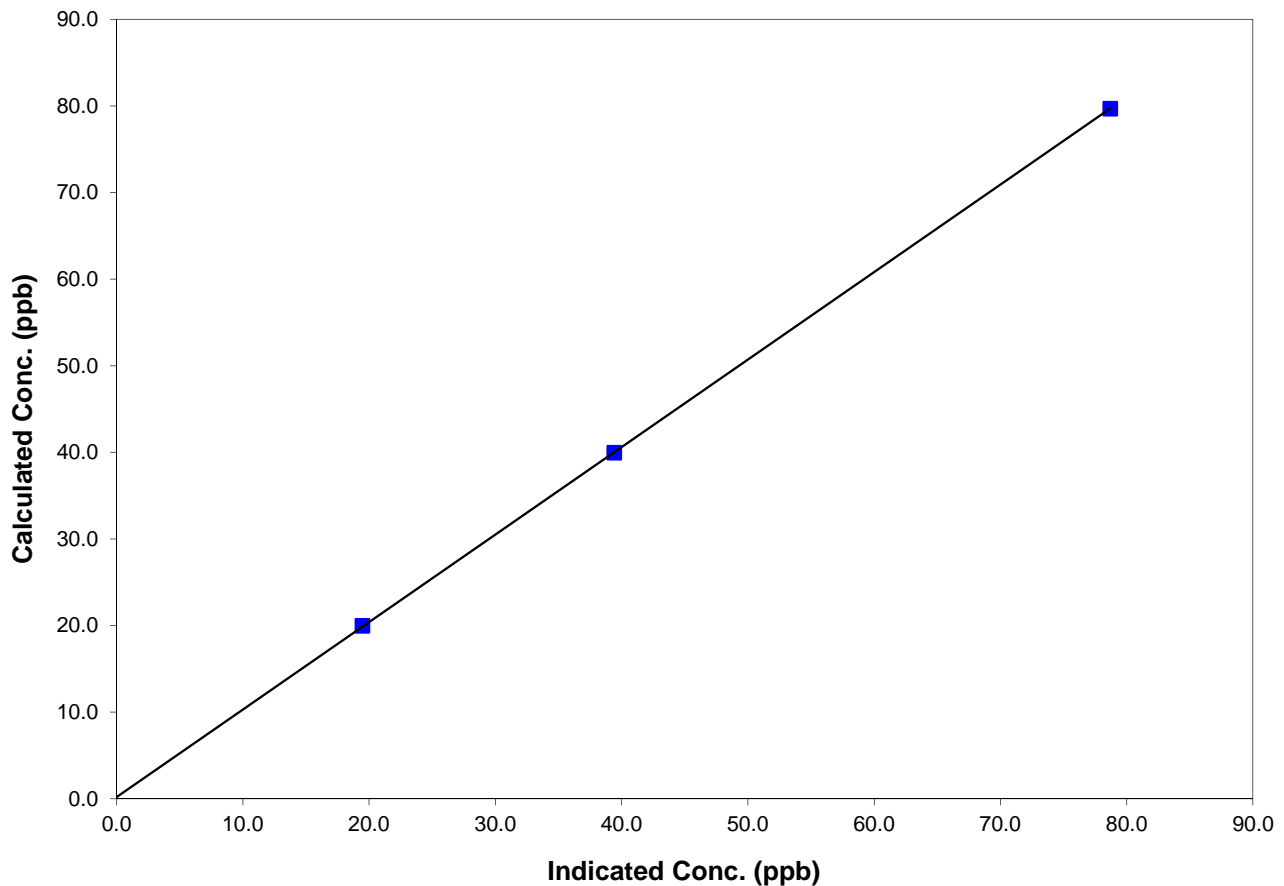
## Station Information

Calibration Date	April 6, 2011	Previous Calibration	March 10, 2011
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	9:00	End Time (MST)	11:20
Analyzer make/model	TEI Model 43i-TLE	Analyzer serial #	713021137

## Calibration Data

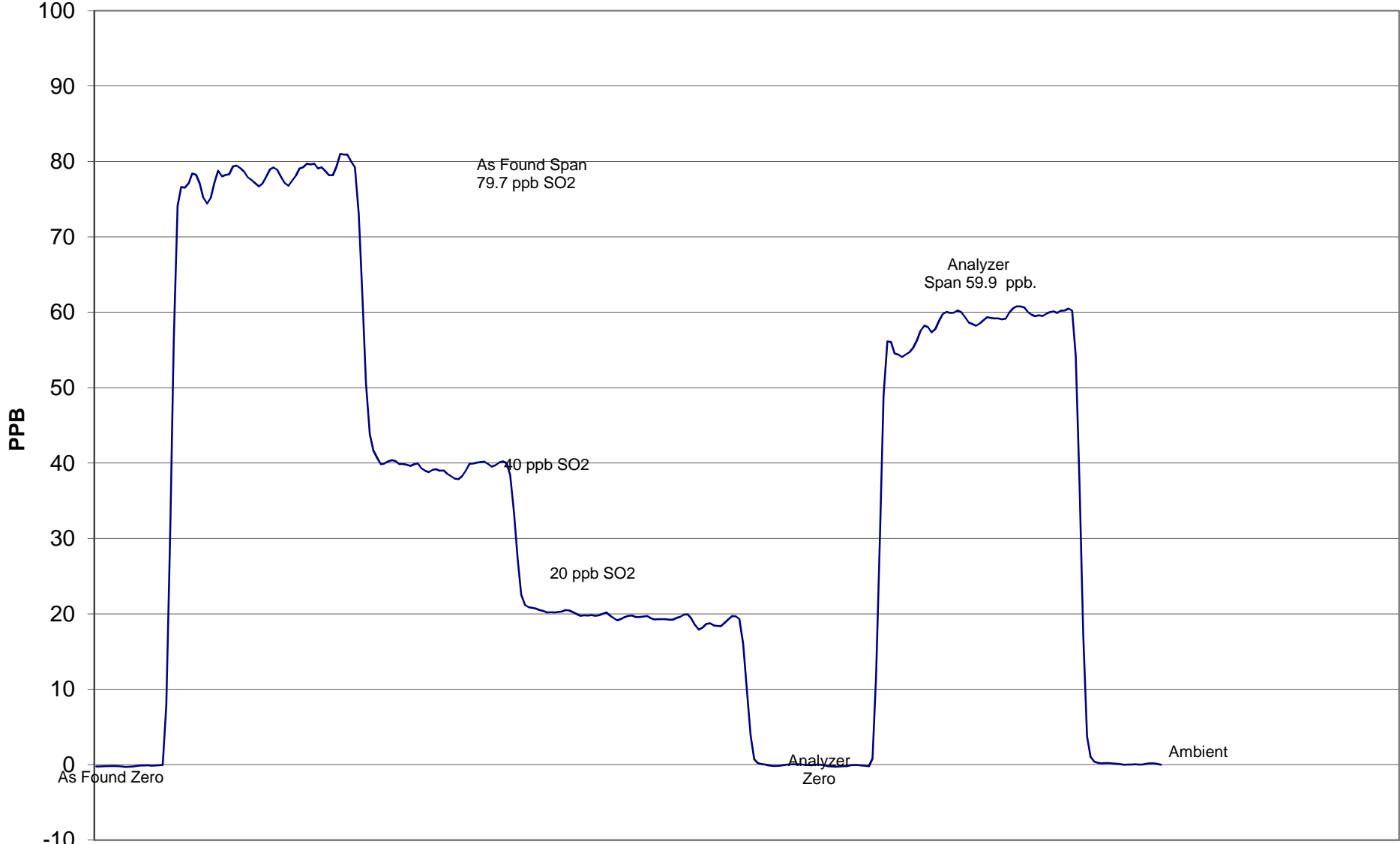
Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.1	N/A		
79.7	78.7	1.0126	Correlation Coefficient	0.999995
40.0	39.4	1.0137		
20.0	19.5	1.0257	Slope	1.010092
			Intercept	0.195843

### SO2 Calibration Curve





# Beaverlodge SO<sub>2</sub> Calibration



April 6, 2011

# Calibration Report

Parameter

NO<sub>x</sub>-NO-NO<sub>2</sub>

Air Monitoring Network

PASZA



## Station Information

Calibration Date	April 6, 2011	Previous Calibration	March 10, 2011
Station Number	4	Station Location	BeaverLodge
Reason:	<input checked="" type="checkbox"/> Routine	<input type="checkbox"/> Installation	<input type="checkbox"/> Removal
Start Time (MST)	8:45	End Time (MST)	12:50
Barometric Pressure	0.900 Atm	Station Temperature	23.0 Deg C
Calibrator	EnviroNics	Serial Number	2844
NO Cal Gas Conc	50.1 ppm	Cal Gas Expiry Date	
NOx Cal Gas Conc	50.2 ppm	Cal Gas Serial #	CC-114395

## DACS Information

DACS make AP1000 DACS serial No. \_\_\_\_\_

Parameter		NO2	NOx	NO
Before	Data Slope	0.998577	1.005646	1.002086
	Data Offset	0.228378	-2.188839	-2.463466
After	Data Slope	0.991112	1.006595	1.002428
	Data Offset	0.391741	-2.378625	-2.183490
Channel #		8	6	7
Voltage Range		0 - 10 VDC	0 - 10 VDC	0 - 10 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	2.2	mV	2.2	mV
NOx bkgnd	2.5	mV	2.5	mV
NO coefficient	1.430		1.430	
NOx coefficient	0.999		0.999	
NO2 conv temp	322.6	Deg C	326.2	Deg C
PMT Temp	-3.1	Deg C	-3.0	Deg C
PMT Volt	-676.4	mV	-676.4	mV
R Cell Press	180.1	in Hg	180.3	in Hg
Sample Flow	0.702	ccm	0.704	ccm

# Calibration Report



Parameter **NOX-NO-NO2**  
 Air Monitoring Network **PASZA**

## Station Information

Calibration Date: April 6, 2011 Station Location: BeaverLodge

## Calibration Data

	Dilution flow rate (ccm)	Source gas flow rate (ccm)	Calculated NOx conc (ppb)	Calculated NO conc (ppb)	Calculated NO2 conc (ppb)	Indicated NOx conc (ppb)	Indicated NO conc (ppb)	Indicated NO2 conc (ppb)	NOx Correction factor	NO Correction factor
zero	4989	0.00	0.0	0.0	0.0	-0.1	-0.1	-0.2	N/A	N/A
1	4989	39.83	397.6	396.8	0.8	395.9	396.9	-1.1	1.0043	0.9998
2	4989	19.90	199.4	199.0	0.4	202.3	201.7	0.1	0.9860	0.9868
3	4989	9.93	99.7	99.5	0.2	103.6	103.9	-0.2	0.9629	0.9577
AFZ	4989	0.00	0.0	0.0	0.0	-0.1	-0.1	-0.2	0.0000	0.0000
AFS	4989	39.83	397.6	396.8	0.8	386.1	386.3	-0.3	1.0299	1.0271
Average Correction Factor									0.9844	0.9814

As Found Concentrations: NO<sub>x</sub>= 384.0 NO= 384.0 As Found Percent Change NO<sub>x</sub>= -3.4% NO= -3.2%

## GPT Calibration Data

Dilution Flow 4989 ccm Source Gas Flow 39.84 ccm

O3 Setpoint (ppb)	Indicated NO high point (ppb)	Indicated NO drop conc (ppb)	Calculated NO2 conc (ppb)	Indicated NOx conc (ppb)	Indicated NO conc (ppb)	Indicated NO2 conc (ppb)	NOx Correction factor	NO Correction factor	NO2 Correction factor	Converter Efficiency
0	-0.1	-0.1	0.0	-0.1	-0.1	-0.2	N/A	N/A	N/A	N/A
NO point	396.4	396.4	0.0	396.3	396.4	0.0	1.0003	1.0000	N/A	N/A
300	396.4	181.0	215.5	397.6	181.0	217.0	0.9971	1.0000	0.9931	100.7%
200	396.4	251.5	144.9	397.3	251.5	146.1	0.9979	1.0000	0.9918	100.8%
100	396.4	317.6	78.9	395.8	317.6	78.8	1.0017	1.0000	1.0014	99.9%
Average Correction Factor							0.9989	1.0000	0.9955	100.5%

## AIC Data

Parameter	Previous calibration				Current calibration			
	NOx	NO2	NO		NOx	NO2	NO	
Auto zero	-0.2	-0.3	-0.2	ppb	0.0	0.0	0.3	ppb
Auto span	238.0	235.5	1.6	ppb	226.4	224.5	1.2	ppb

Calibration Performed By: Grover Christiansen

# Calibration Summary

Parameter NO<sub>2</sub>

Air Monitoring Network PASZA



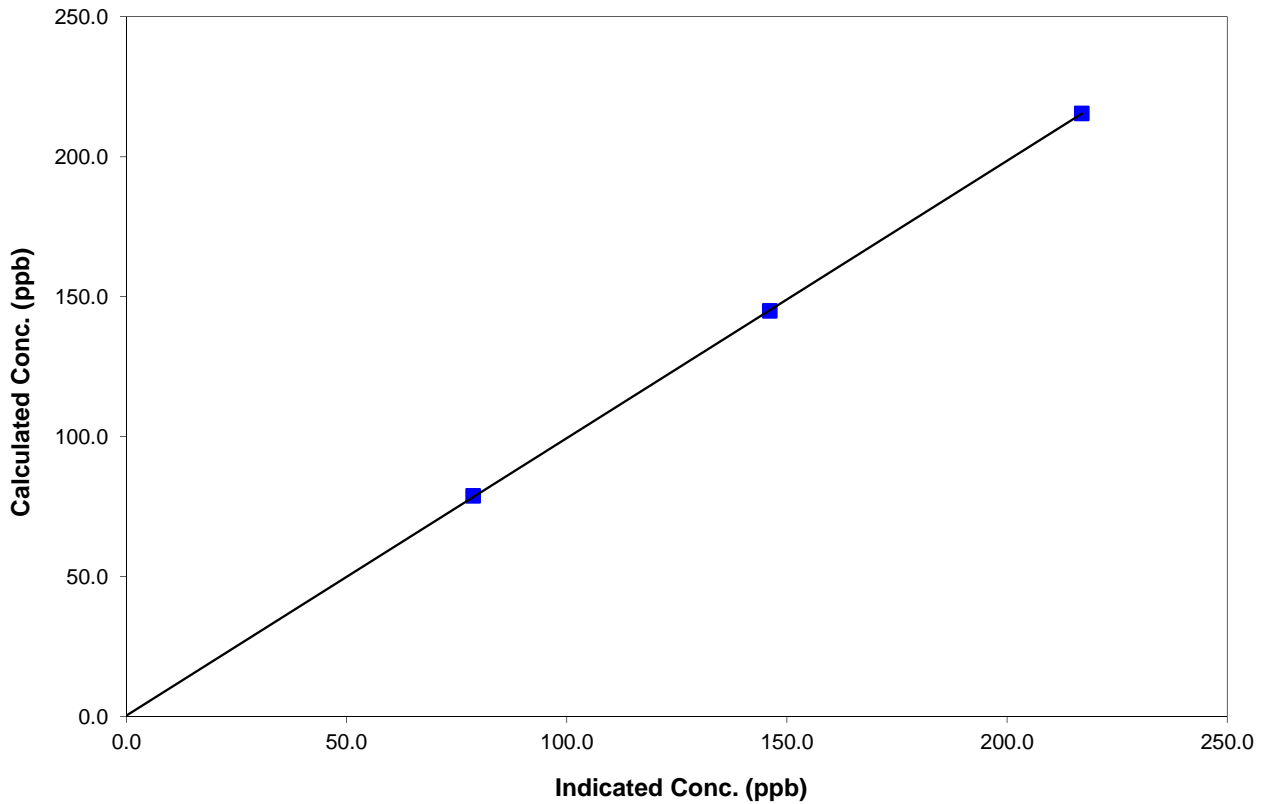
## Station Information

Calibration Date	April 6, 2011	Previous Calibration	March 10, 2011
Station Number	4	Station Location	BeaverLodge
Start Time (MST)	8:45	End Time (MST)	12:50
Analyzer make	TEI 42i	Analyzer serial #	906535068

## Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.2	N/A	Correlation Coefficient	0.999989
215.5	217.0	0.9931		
144.9	146.1	0.9918	Slope	0.991112
78.9	78.8	1.0014		
			Intercept	0.391741

**NO<sub>2</sub> Calibration Curve**



# Calibration Summary

Parameter NO<sub>x</sub>

Air Monitoring Network PASZA



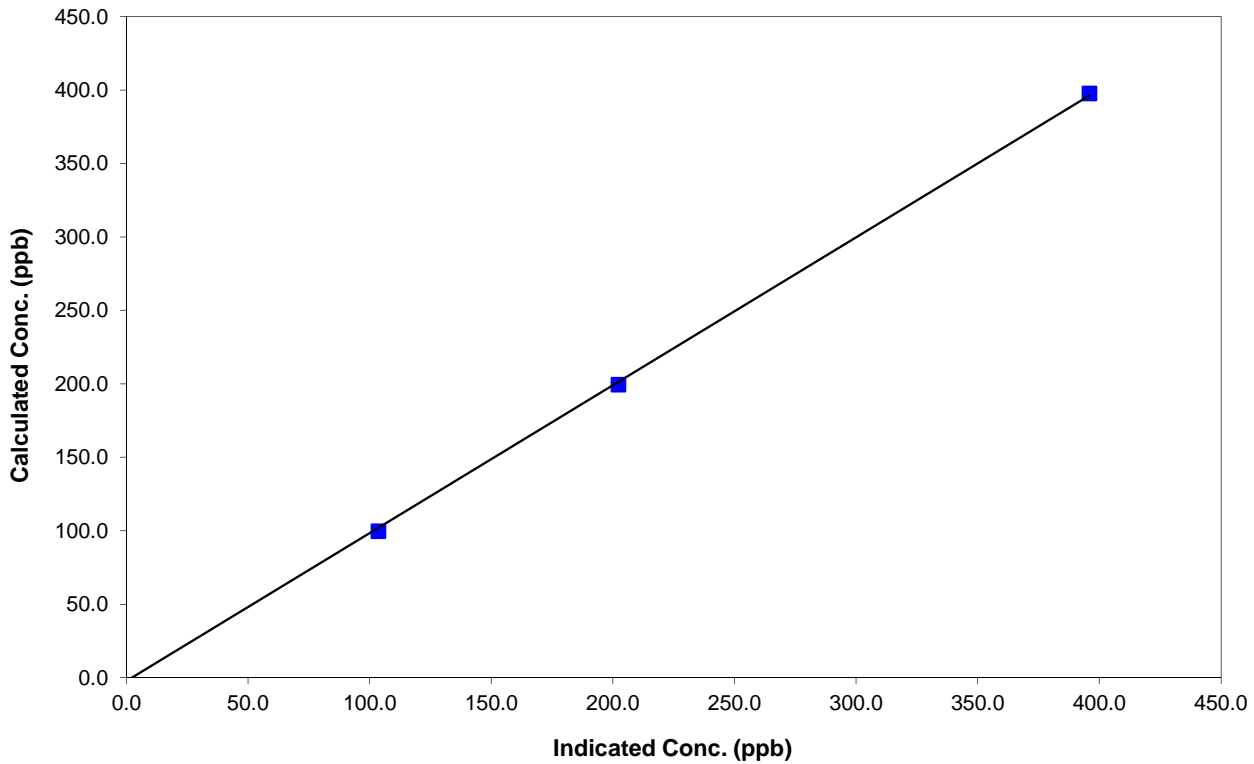
## Station Information

Calibration Date	April 6, 2011	Previous Calibration	March 10, 2011
Station Number	4	Station Location	BeaverLodge
Start Time (MST)	8:45	End Time (MST)	12:50
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		
397.6	395.9	1.0043	Correlation Coefficient	0.999814
199.4	202.3	0.9860		
99.7	103.6	0.9629	Slope	1.006595
			Intercept	-2.378625

## NO<sub>x</sub> Calibration Curve



# Calibration Summary

Parameter NO

Air Monitoring Network PASZA



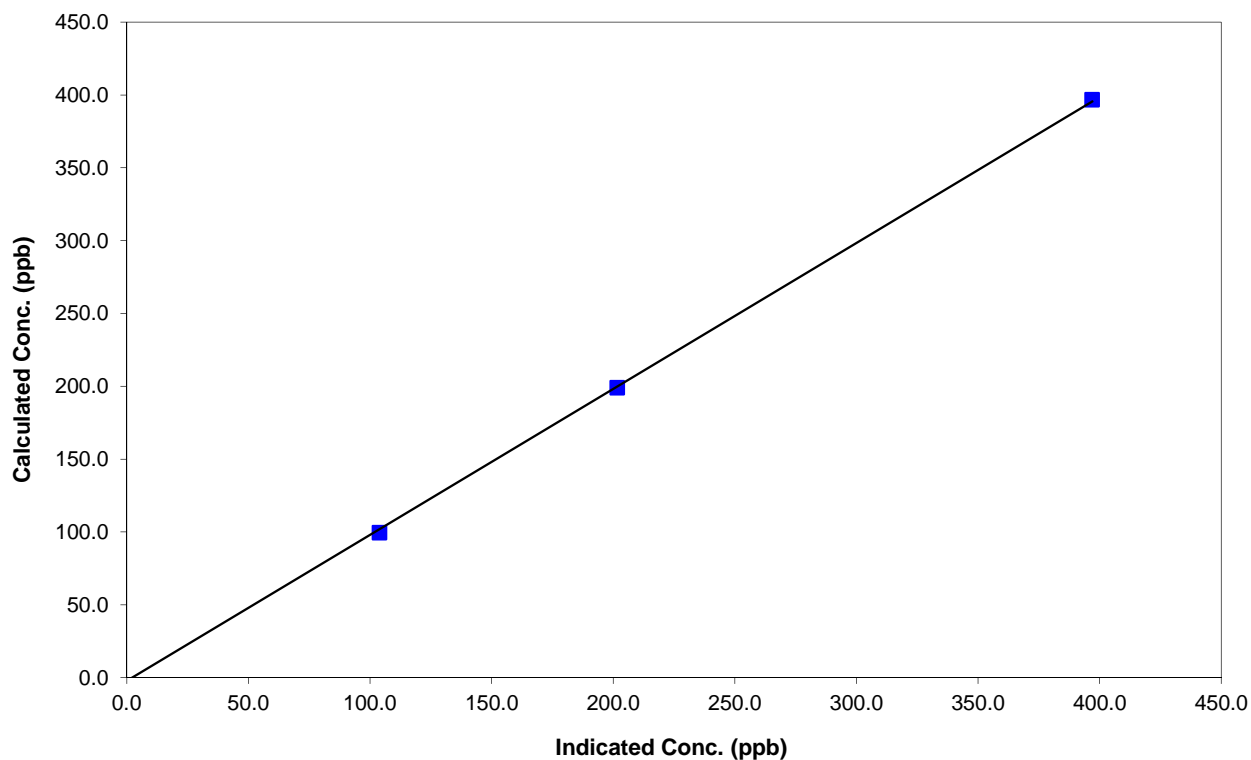
## Station Information

Calibration Date	April 6, 2011	Previous Calibration	March 10, 2011
Station Number	4	Station Location	BeaverLodge
Start Time (MST)	8:45	End Time (MST)	12:50
Analyzer make	TEI 42i	Analyzer serial #	906535068

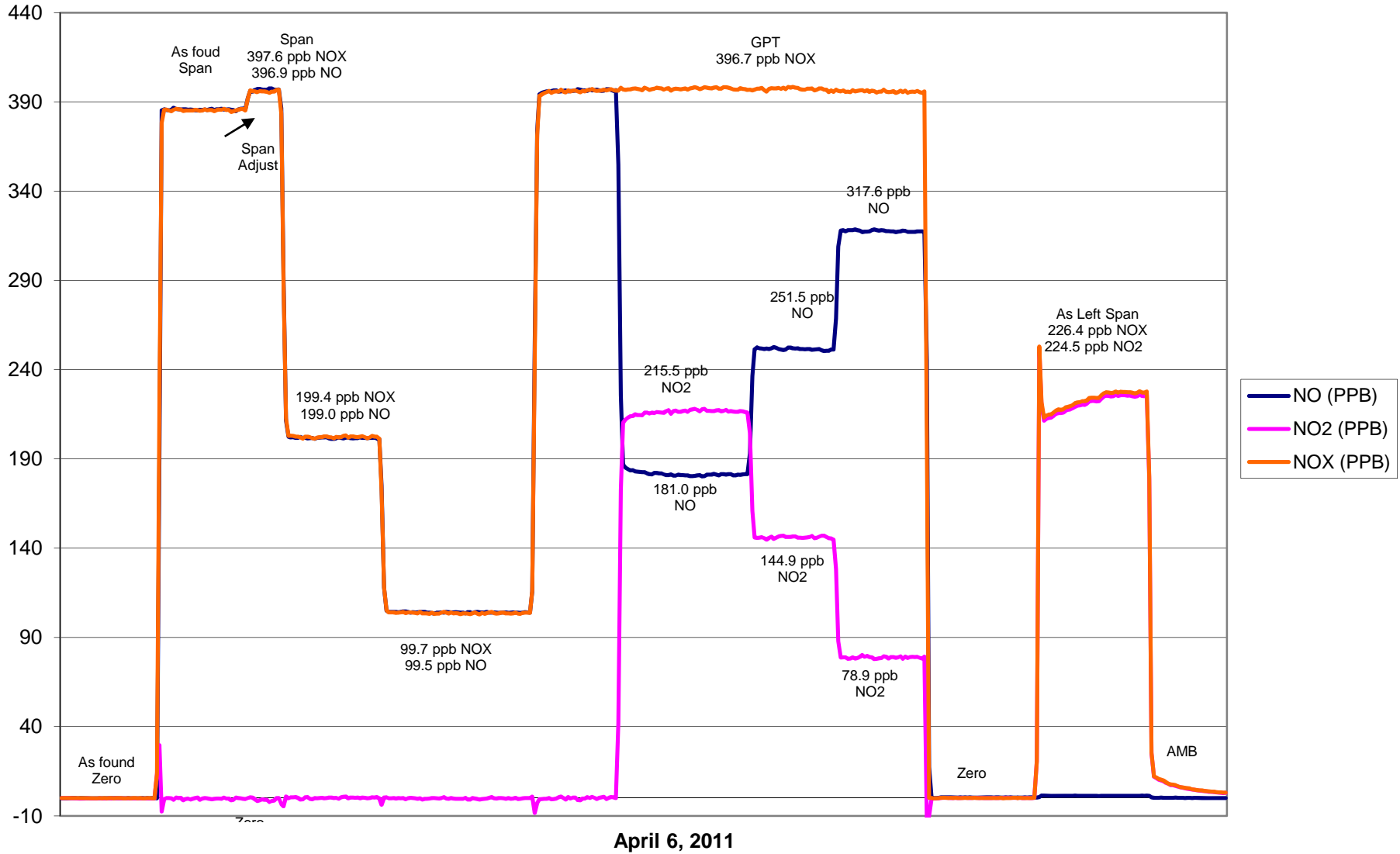
## Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.1	N/A	Correlation Coefficient	0.999842
396.8	396.9	0.9998		
199.0	201.7	0.9868		
99.5	103.9	0.9577	Slope	1.002428
			Intercept	-2.183490

## NO Calibration Curve



# Beaverlodge NO<sub>x</sub> Calibration

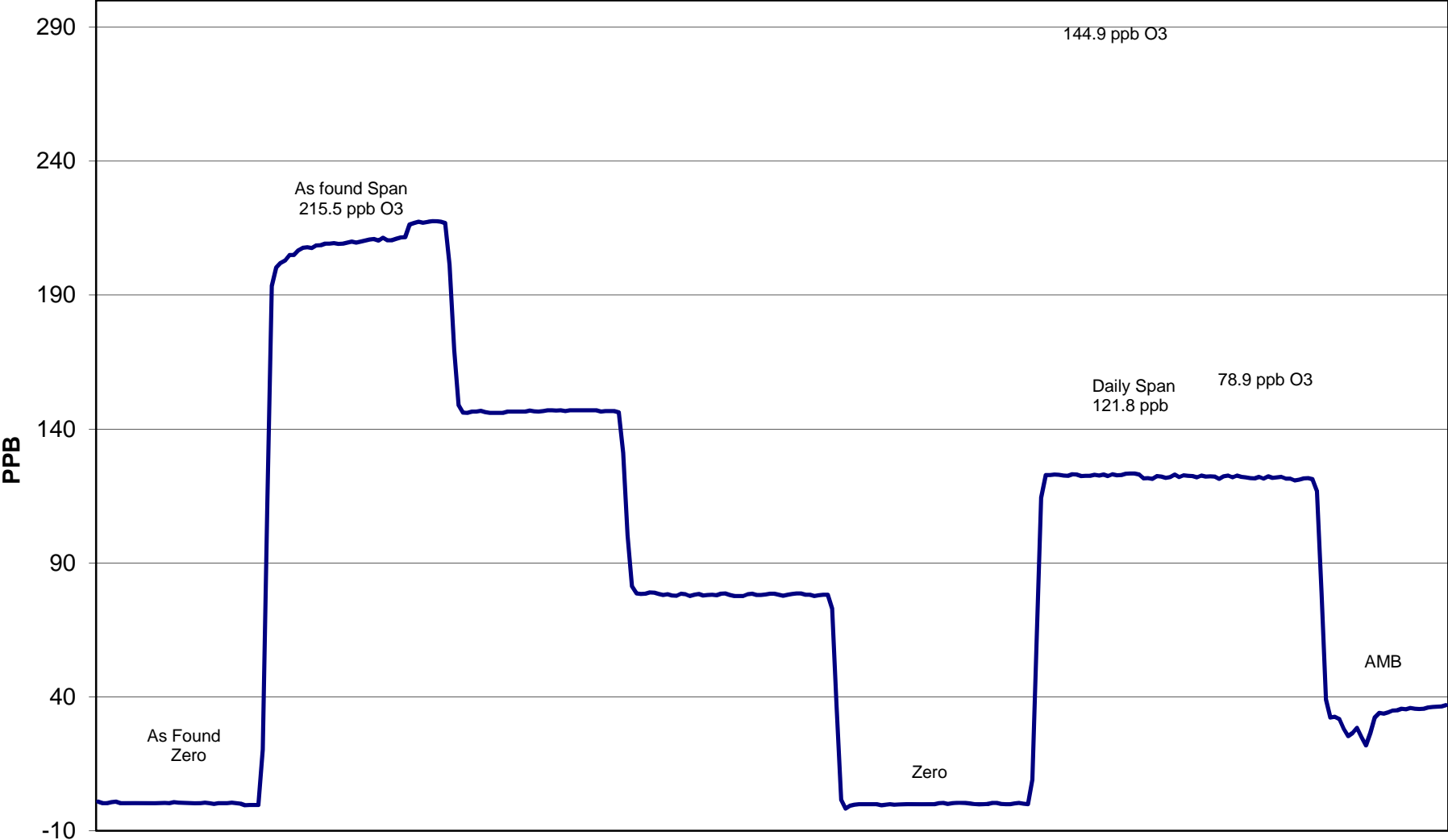








# Beaverlodge O<sub>3</sub> Calibration



April 6, 2011

# Calibration Report



Parameter SO2

Air Monitoring Network PASZA

## Station Information

Calibration Date	April 15, 2011	Previous Calibration	March 24, 2011
Station Number	6	Station Location	Valleyview
Reason:	<input checked="" type="checkbox"/> Routine	<input type="checkbox"/> Install	<input type="checkbox"/> Removal
		<input type="checkbox"/> Other:	
Start Time (MST)	12:40	End Time (MST)	14:10
Barometric Pressure	702.00 mm	Station Temperature	14.7 Deg C
Calibrator	EnviroNics 6100	Serial Number	3474
Cal Gas Concentration	50.6 ppm	Cal Gas Cert Date	7/23/2010
Gas Cert Reference	SGAL3245		
DACS make	Focus AP1000	DACS serial No.	45274
DACS voltage range	0 - 10 volt	DACS channel #	4
	<u>Before</u>		<u>After</u>
DACS Scale High	500	DACS slope	500
DACS Scale Low	0	DACS intercept	0
Calculated slope	0.999304	Calculated slope	1.001170
Calculated intercept	-0.210459	Calculated intercept	0.555384
Analyzer make	TEI 45C	Analyzer serial #	45C-57531-313

	before		after	
Concentration range	0 - 1000	ppb	0 - 1000	ppb
Background	28.1		28.4	
Coefficient	0.882		0.882	
UV Lamp Voltage	951	LPM	951	LPM
Chamber Temp	44.3	V	44.5	V
Perm Gas Temp	35.1	C	35.1	C
Pressure	614.9	in Hg	616.9	in Hg
Sample Flow	0.564	LPM	0.565	LPM
Lamp Intensity	48565	Hz	48314	Hz

## Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4989	0.00	0.0	0.2	N/A
4989	39.84	400.9	400.4	1.0011
4989	19.89	200.9	199.1	1.0093
4989	9.94	100.6	99.7	1.0096
4989	0.00	0.0	0.2	As found zero
4989	39.84	400.9	400.4	As found span
Average Correction Factor				1.0067

Calculated value of As Found Response: 399.761 ppm      Percent Change of As Found: 0.3%

	before calibration		after calibration	
Auto zero	0.0	ppm	0.0	ppm
Auto span	155.5	ppm	157.5	ppm

Notes: \_\_\_\_\_

Calibration Performed By: Grover Christiansen

# Calibration Summary

Parameter SO2

Air Monitoring Network PASZA



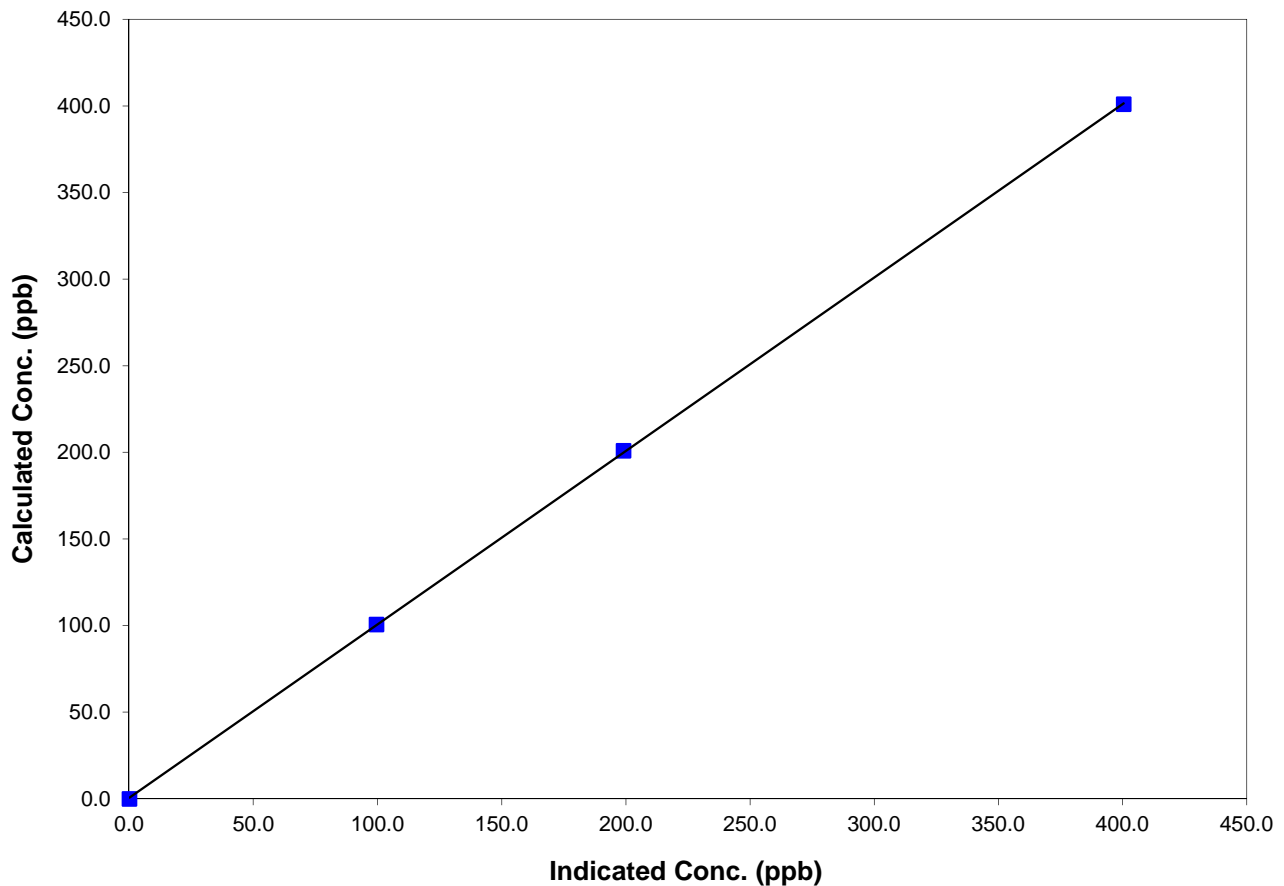
## Station Information

Calibration Date	<u>April 15, 2011</u>	Previous Calibration	<u>March 24, 2011</u>
Station Number	<u>6</u>	Station Location	<u>Valleyview</u>
Start Time (MST)	<u>12:40</u>	End Time (MST)	<u>14:42</u>
Analyzer make/model	<u>TEI 45C</u>	Analyzer serial #	<u>45C-57531-313</u>

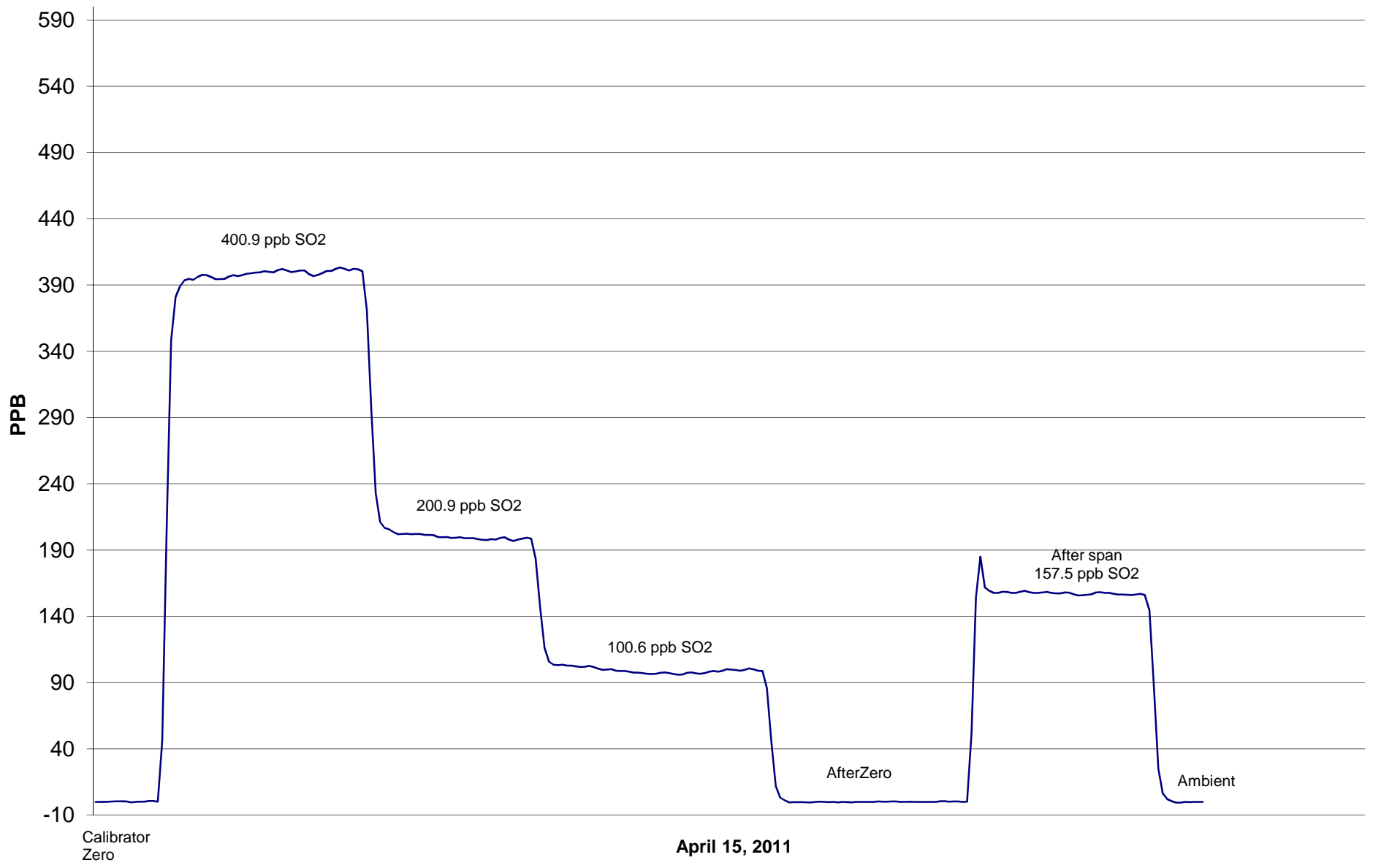
## Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.2	N/A		
400.9	400.4	1.0011	Correlation Coefficient	0.999976
200.9	199.1	1.0093		
100.6	99.7	1.0096	Slope	1.001170
			Intercept	0.555384

### SO2 Calibration Curve



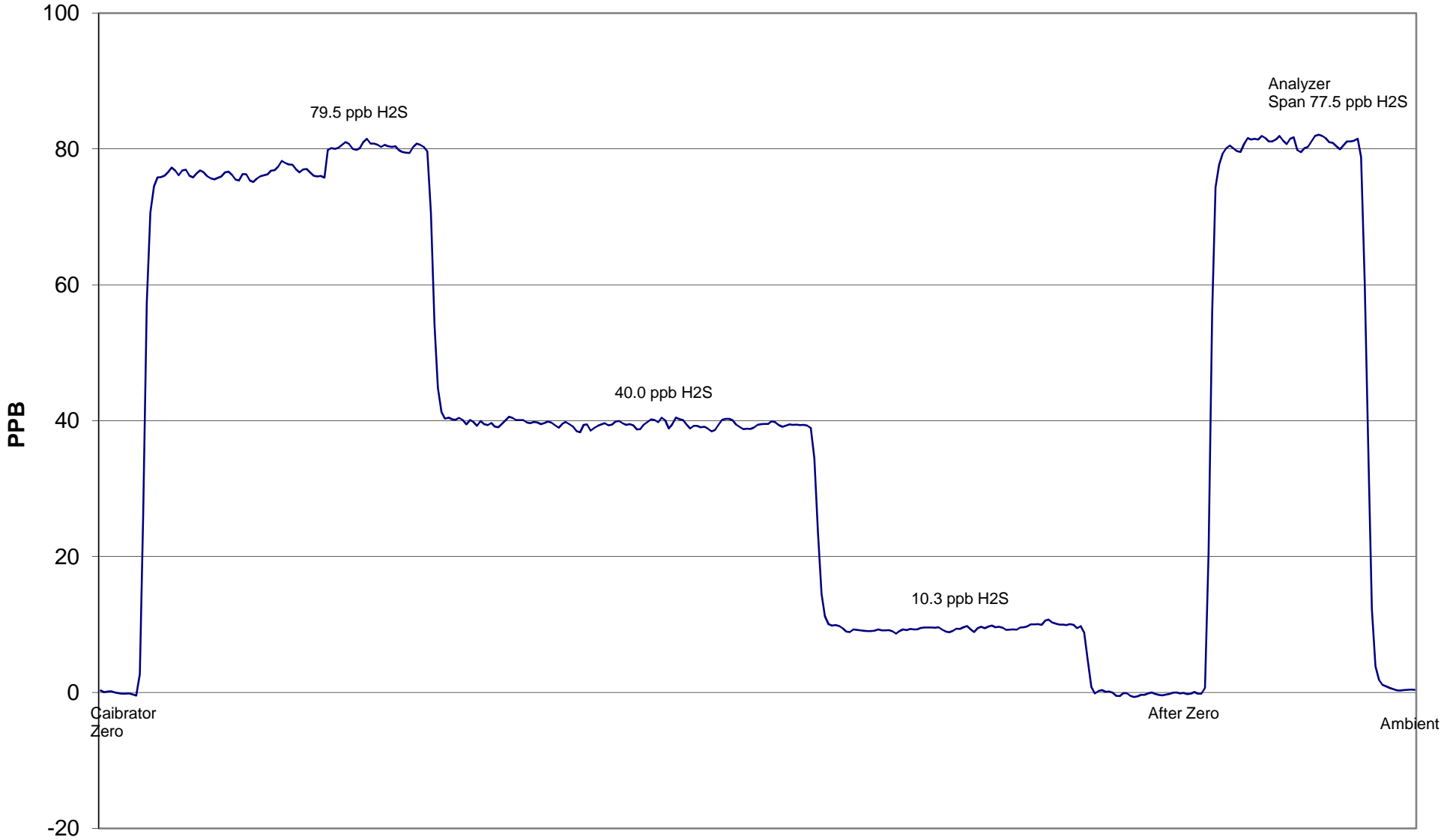
# Valleyview SO<sub>2</sub> Calibration







# Valleyview H<sub>2</sub>S Calibration



April 15, 2011

Analyzer  
Span 77.5 ppb H<sub>2</sub>S



# Calibration Report

Parameter SO2  
 Air Monitoring Network \_\_\_\_\_

PASZA



## Station Information

Calibration Date	April 26, 2011	Previous Calibration	March 29, 2011
Station Number	9	Station Location	Rover - Bonanza
Reason:	<input checked="" type="checkbox"/> Routine	<input type="checkbox"/> Install	<input type="checkbox"/> Removal
			<input type="checkbox"/> Other:
Start Time (MST)	7:50	End Time (MST)	10:00
Barometric Pressure	31.70 inches Hg	Station Temperature	15.7 Deg C
Calibrator	EnviroNics 6100	Serial Number	3474
Cal Gas Concentration	50.6 ppm	Cal Gas Expiry Date	4/6/2012
Gas Cert Reference	SGAL3245		
DACS make	CR3000	DACS serial No.	5407
DACS voltage range	0 - 5 Volt	DACS channel #	2
	<u>Before</u>		<u>After</u>
DACS Scale High	500	DACS slope	500
DACS Scale Low	0	DACS intercept	0
Calculated slope	0.995909	Calculated slope	0.999554
Calculated intercept	2.668246	Calculated intercept	0.765053
Analyzer make	TEI 43C	Analyzer serial #	609716238

	before		after	
Concentration range	0-500	ppb	0-500	ppb
Background	9.6		9.5	
Coefficient	1.002		0.994	
UV Lamp Voltage	795	V	794	V
Chamber Temp	44.3	C	44.2	C
Perm Gas Temp	45	C	45	C
Pressure	664.8	mm Hg	665.3	mm Hg
Sample Flow	0.484	LPM	0.483	LPM
Lamp Intesity	47703	Hz	48323	Hz

## Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4989	0.00	0.0	0.0	N/A
4989	39.83	400.8	400.8	0.9999
4989	19.90	201.0	199.3	1.0087
4989	9.93	100.5	99.5	1.0106
4989	0.00	0.0	0.0	As found zero
4989	39.83	400.8	400.8	As found span
Average Correction Factor				1.0064

Calculated value of As Found Response: 401.762 ppm      Percent Change of As Found: -0.2%

	before calibration		after calibration	
Auto zero	0.3	ppm	0.3	ppm
Auto span	264.0	ppm	265.5	ppm

Notes: \_\_\_\_\_

Calibration Performed By: Grover Christiansen

# Calibration Summary

Parameter SO2  
 Air Monitoring Network PASZA



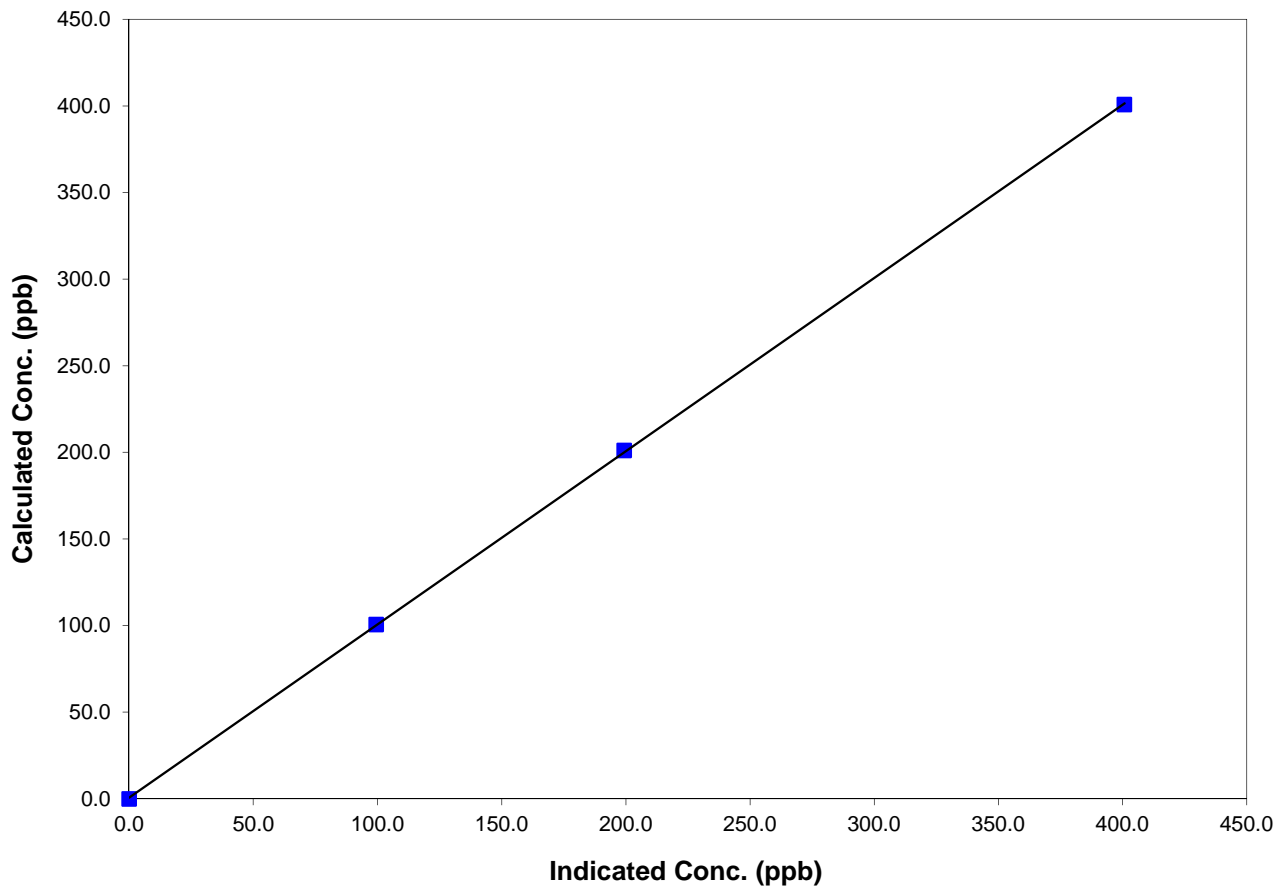
### Station Information

Calibration Date	April 26, 2011	Previous Calibration	March 29, 2011
Station Number	9	Station Location	Rover - Bonanza
Start Time (MST)	7:50	End Time (MST)	10:00
Analyzer make/model	TEI 43C	Analyzer serial #	609716238

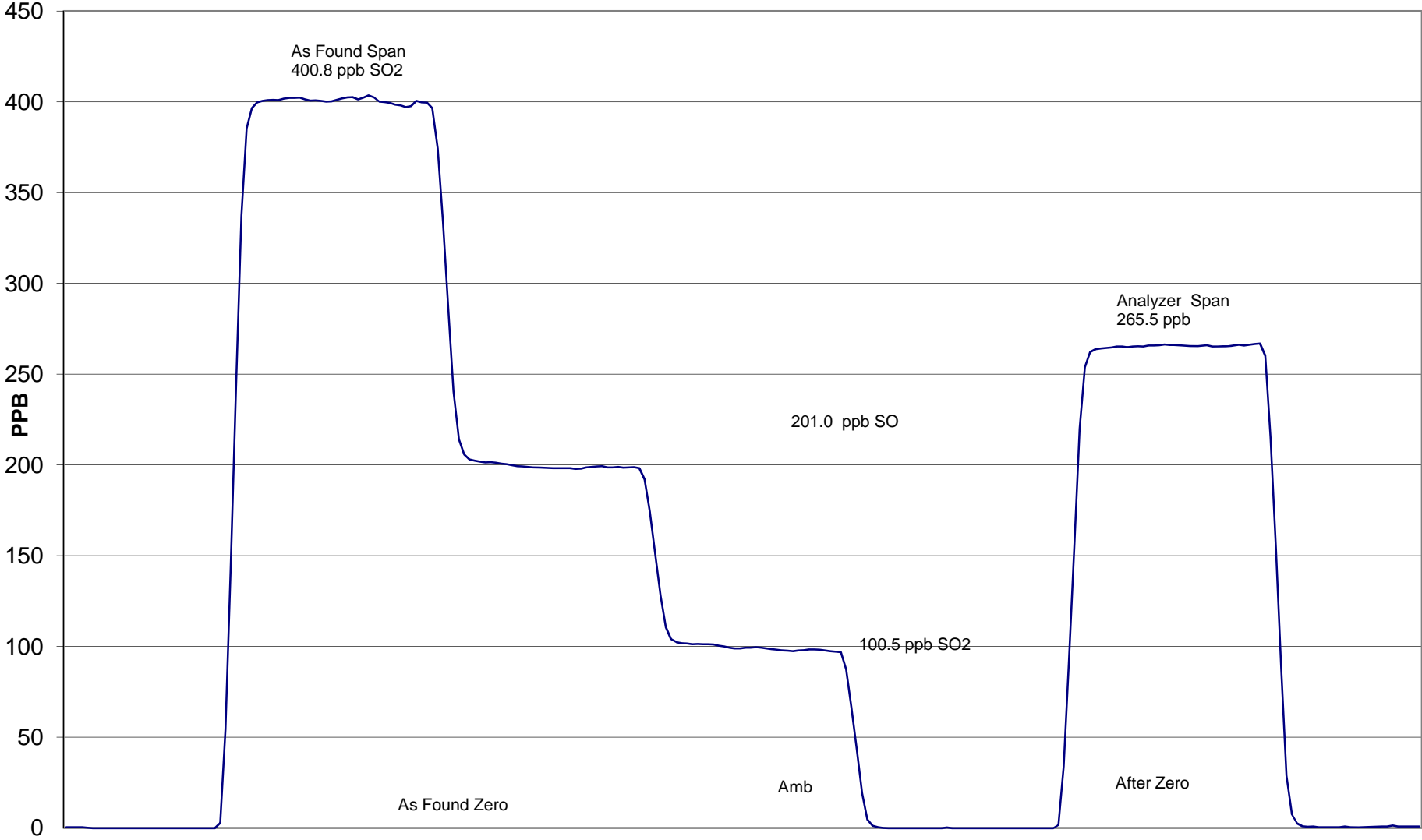
### Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.0	N/A		
400.8	400.8	0.9999	Correlation Coefficient	0.999975
201.0	199.3	1.0087		
100.5	99.5	1.0106	Slope	0.999554
			Intercept	0.765053

## SO2 Calibration Curve



# Bonanza SO<sub>2</sub> Calibration



April 26, 2011



# Calibration Summary

Parameter           TRS          

Air Monitoring Network                                   PASZA                                  



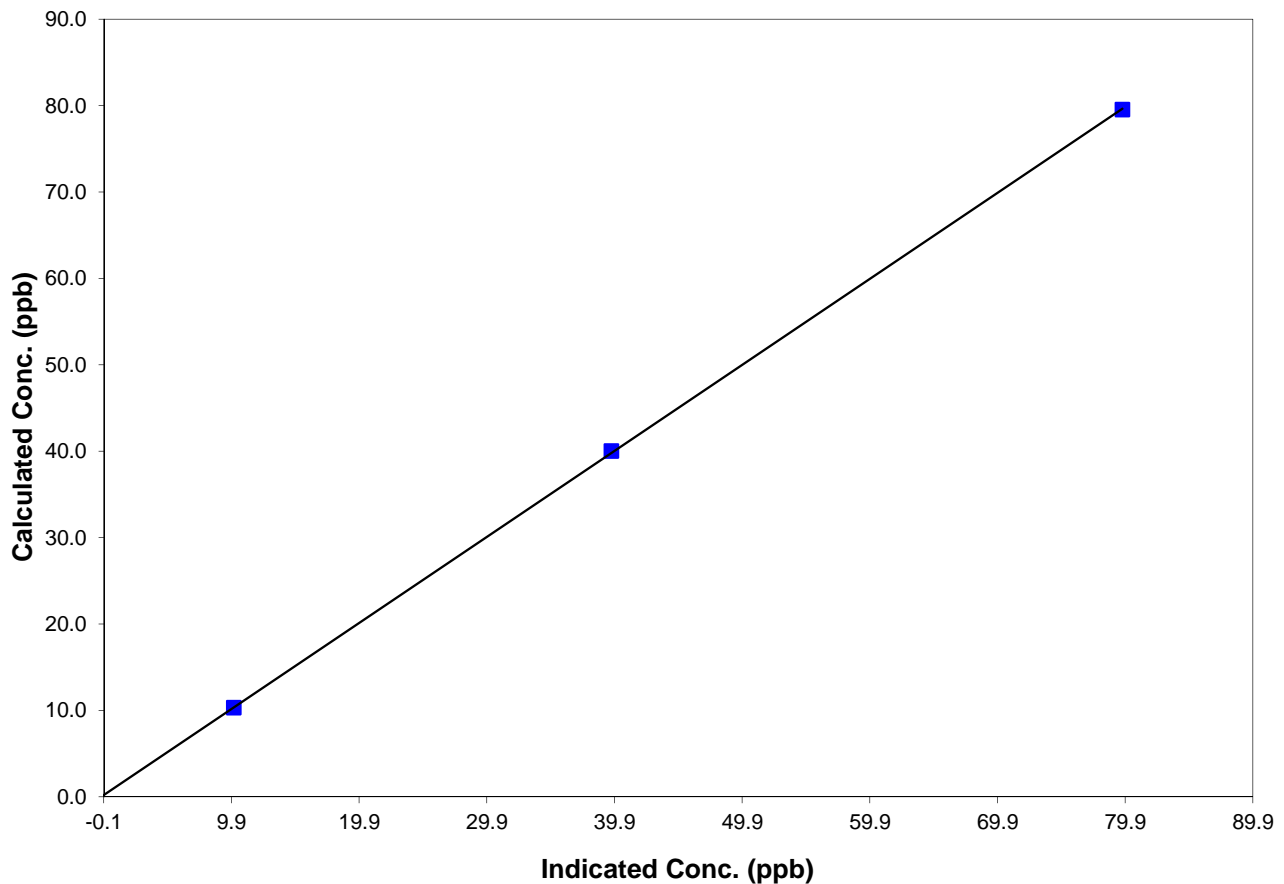
### Station Information

Calibration Date	<u>          April 26, 2011          </u>	Previous Calibration	<u>          March 29, 2011          </u>
Station Number	<u>                                  9                                  </u>	Station Location	<u>          Rover-Bonanza          </u>
Start Time (MST)	<u>                                  13:05                                  </u>	End Time (MST)	<u>                                  15:16                                  </u>
Analyzer make/model	<u>          TEI 43C                  </u>	Analyzer serial #	<u>          609716238          </u>

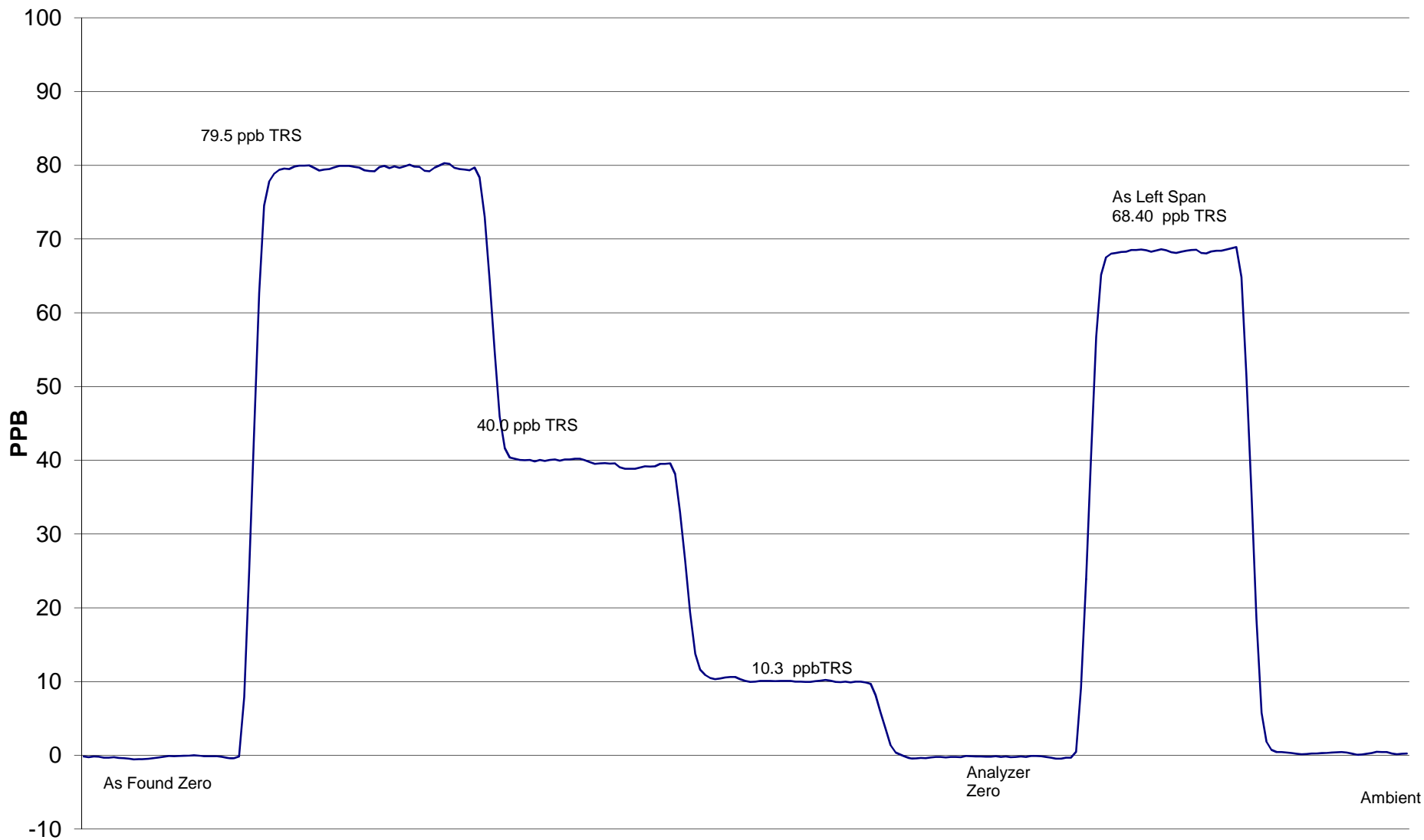
### Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.2	N/A		
79.5	79.7	0.9983	Correlation Coefficient	0.999983
40.0	39.7	1.0090		
10.3	10.1	1.0234	Slope	0.995562
			Intercept	0.319001

## TRS Calibration Curve



# Bonanza TRS Calibration



April 26, 2011

# Calibration Report

Parameter

NO<sub>x</sub>-NO-NO<sub>2</sub>

Air Monitoring Network

PASZA



## Station Information

Calibration Date	April 26, 2011	Previous Calibration	March 29, 2011
Station Number	9	Station Location	Rover-Bonanza
Reason:	<input checked="" type="checkbox"/> Routine	<input type="checkbox"/> Installation	<input type="checkbox"/> Removal
Start Time (MST)	7:50	End Time (MST)	12:06
Barometric Pressure	0.927 Atm	Station Temperature	20.0 Deg C
Calibrator	EnviroNics	Serial Number	3474
NO Cal Gas Conc	51.4 ppm	Cal Gas Expiry Date	April 6th, 2012
NOx Cal Gas Conc	51.4 ppm	Cal Gas Serial #	SGAL 3245

## DACS Information

DACS make CR3000 DACS serial No. 5407

Parameter		NO2	NOx	NO
Before	Data Slope	0.999392	1.001567	1.006706
	Data Offset	-0.567552	-3.368570	-3.510755
After	Data Slope	0.999137	1.000094	1.003935
	Data Offset	0.035438	-3.113156	-3.239469
Channel #		5	3	4
Voltage Range		0 - 5 VDC	0 - 5 VDC	0 - 5 VDC

## Analyzer Information

Analyzer make/model TEI 42i Analyzer serial # 0701120011

Test Point	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
NO offset	4.1	mV	4.2	mV
NOx bkgnd	4.2	mV	4.2	mV
NO coefficient	1.091		1.108	
NOx coefficient	0.999		1.000	
NO2 conv temp	323.9	Deg C	325.3	Deg C
PMT Temp	-2.6	Deg C	-2.6	Deg C
PMT Volt	-773.3	mV	-773.3	mV
R Cell Press	149.4	in Hg	152.1	in Hg
Sample Flow	0.907	ccm	0.902	ccm

# Calibration Report



Parameter **NOX-NO-NO2**  
 Air Monitoring Network **PASZA**

## Station Information

Calibration Date: April 26, 2011 Station Location: Rover-Bonanza

## Calibration Data

	Dilution flow rate (ccm)	Source gas flow rate (ccm)	Calculated NOx conc (ppb)	Calculated NO conc (ppb)	Calculated NO2 conc (ppb)	Indicated NOx conc (ppb)	Indicated NO conc (ppb)	Indicated NO2 conc (ppb)	NOx Correction factor	NO Correction factor
zero	4989	0.00	0.0	0.0	0.0	0.7	0.7	0.2	N/A	N/A
1	4989	39.83	407.1	407.1	0.0	408.9	407.4	0.2	0.9956	0.9993
2	4989	19.90	204.2	204.2	0.0	208.6	207.9	0.0	0.9788	0.9822
3	4989	9.93	102.1	102.1	0.0	107.5	107.5	0.1	0.9494	0.9498
AFZ	4989	0.00	0.0	0.0	0.0	0.7	0.7	0.2	0.0000	0.0000
AFS	4989	39.83	407.1	407.1	0.8	408.9	407.4	0.2	0.9956	0.9993
Average Correction Factor									0.9746	0.9771

As Found Concentrations: NO<sub>x</sub>= 404.8 NO= 403.2 As Found Percent Change NO<sub>x</sub>= -0.6% NO= -1.0%

## GPT Calibration Data

Dilution Flow 4989 ccm Source Gas Flow 39.84 ccm

O3 Setpoint (ppb)	Indicated NO high point (ppb)	Indicated NO drop conc (ppb)	Calculated NO2 conc (ppb)	Indicated NOx conc (ppb)	Indicated NO conc (ppb)	Indicated NO2 conc (ppb)	NOx Correction factor	NO Correction factor	NO2 Correction factor	Converter Efficiency
0	0.7	0.7	0.0	0.7	0.7	0.2	N/A	N/A	N/A	N/A
NO point	407.8	407.8	0.0	409.2	407.8	0.2	0.9965	1.0000	N/A	N/A
300	407.8	151.3	256.4	409.6	151.3	257.0	0.9955	1.0000	0.9979	100.2%
200	407.8	231.5	176.3	409.2	231.5	176.0	0.9964	1.0000	1.0015	99.9%
100	407.8	310.7	97.1	408.9	310.7	96.9	0.9972	1.0000	1.0020	99.8%
Average Correction Factor							0.9963	1.0000	1.0005	100.0%

## AIC Data

Parameter	Previous calibration				Current calibration			
	NOx	NO2	NO		NOx	NO2	NO	
Auto zero	-0.2	-0.3	-0.2	ppb	0.9	0.2	0.8	ppb
Auto span	200.0	197.1	1.6	ppb	200.7	197.9	2.0	ppb

Calibration Performed By: Grover Christiansen



# Calibration Summary

Parameter NO<sub>2</sub>

Air Monitoring Network PASZA



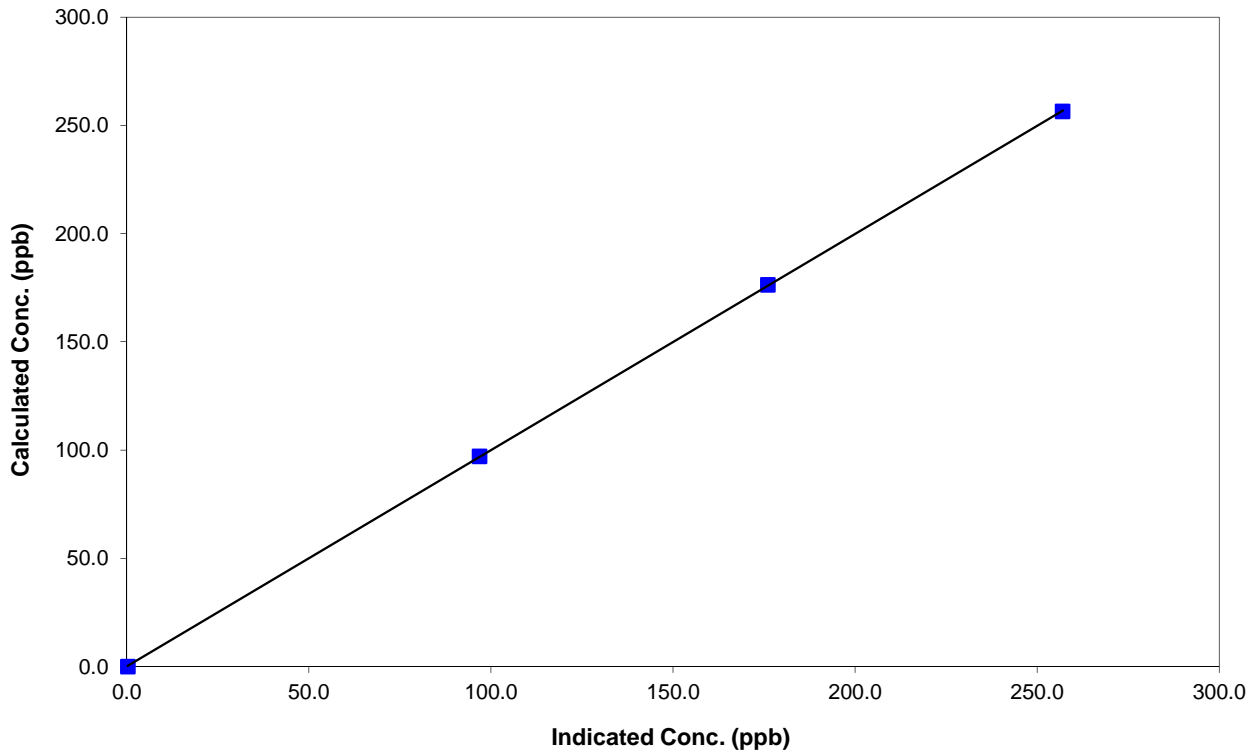
## Station Information

Calibration Date	April 26, 2011	Previous Calibration	March 29, 2011
Station Number	9	Station Location	Rover-Bonanza
Start Time (MST)	7:50	End Time (MST)	12:06
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	0.2	N/A	Correlation Coefficient	0.999989
256.4	257.0	0.9979		
176.3	176.0	1.0015	Slope	0.999137
97.1	96.9	1.0020		
			Intercept	0.035438

**NO<sub>2</sub> Calibration Curve**



# Calibration Summary

Parameter NO<sub>x</sub>

Air Monitoring Network PASZA



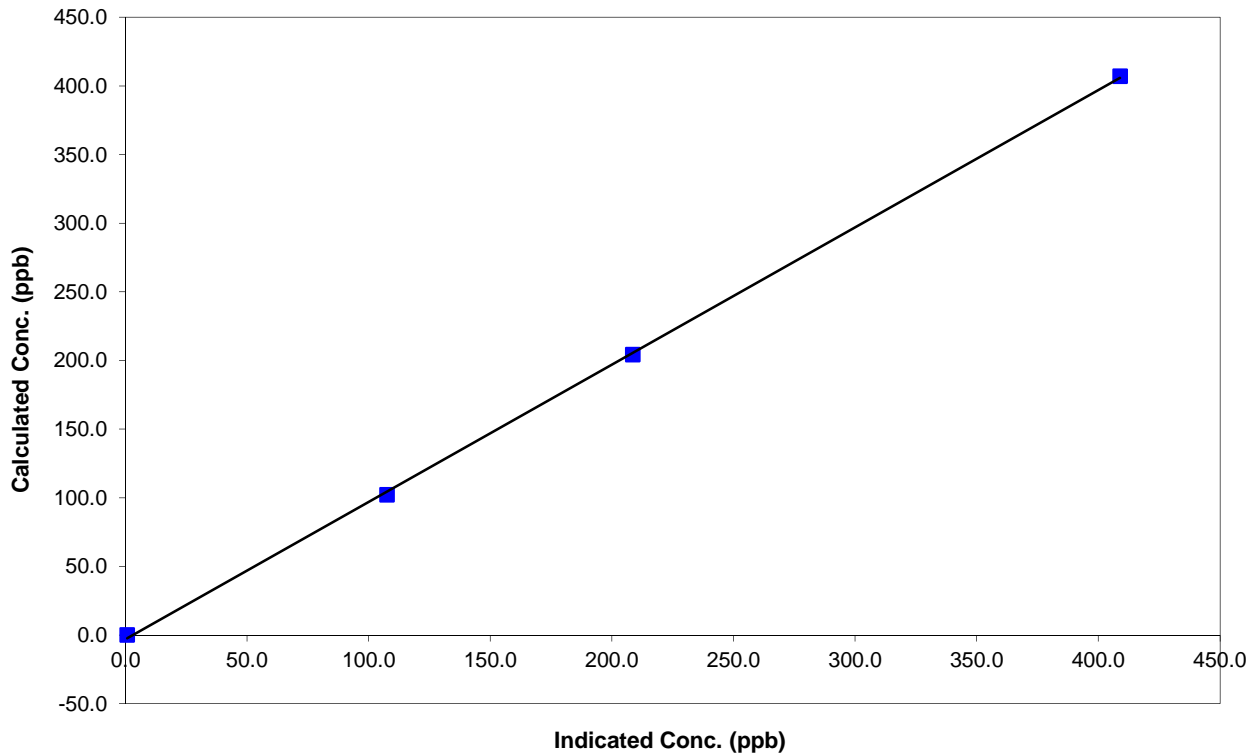
## Station Information

Calibration Date	April 26, 2011	Previous Calibration	March 29, 2011
Station Number	9	Station Location	Rover-Bonanza
Start Time (MST)	7:50	End Time (MST)	12:06
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	Correlation Coefficient	0.999839
407.1	408.9	0.9956		
204.2	208.6	0.9788	Slope	1.000094
102.1	107.5	0.9494		
			Intercept	-3.113156

## NO<sub>x</sub> Calibration Curve



# Calibration Summary

Parameter NO

Air Monitoring Network PASZA



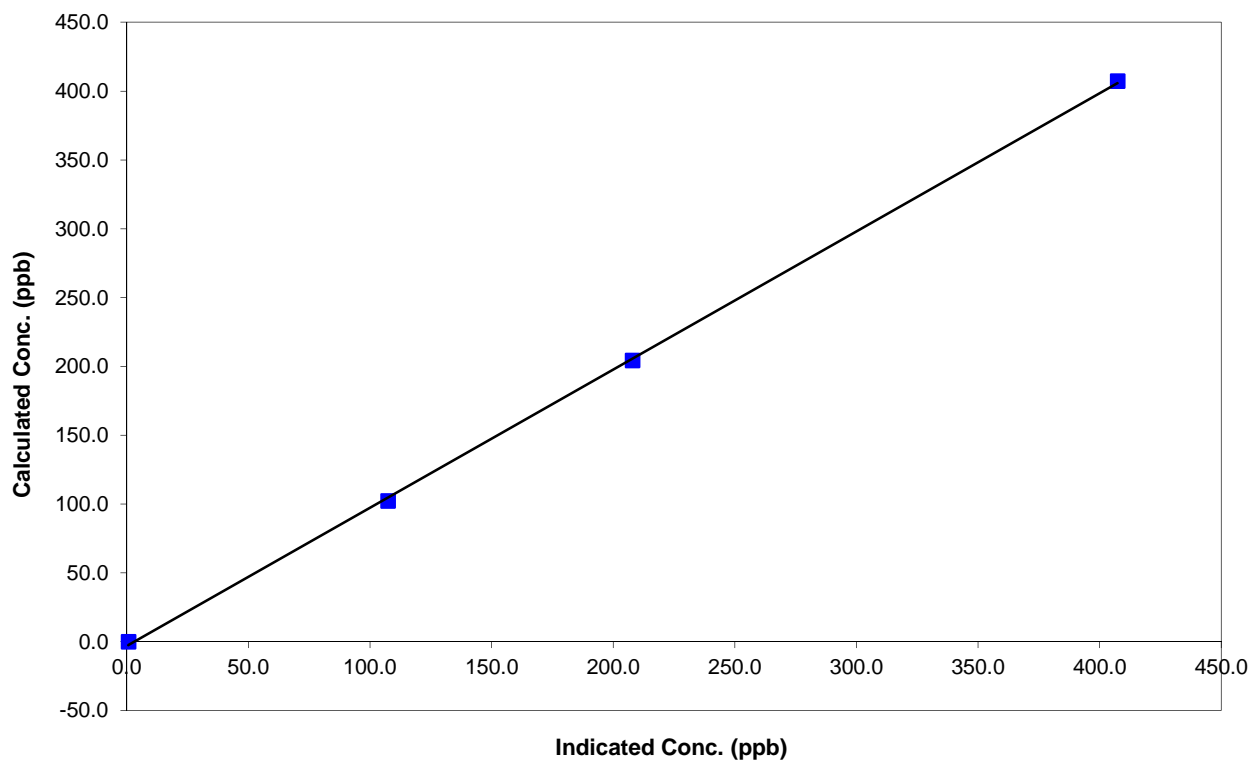
## Station Information

Calibration Date	April 26, 2011	Previous Calibration	March 29, 2011
Station Number	9	Station Location	Rover-Bonanza
Start Time (MST)	7:50	End Time (MST)	12:06
Analyzer make	TEI 42i	Analyzer serial #	0701120011

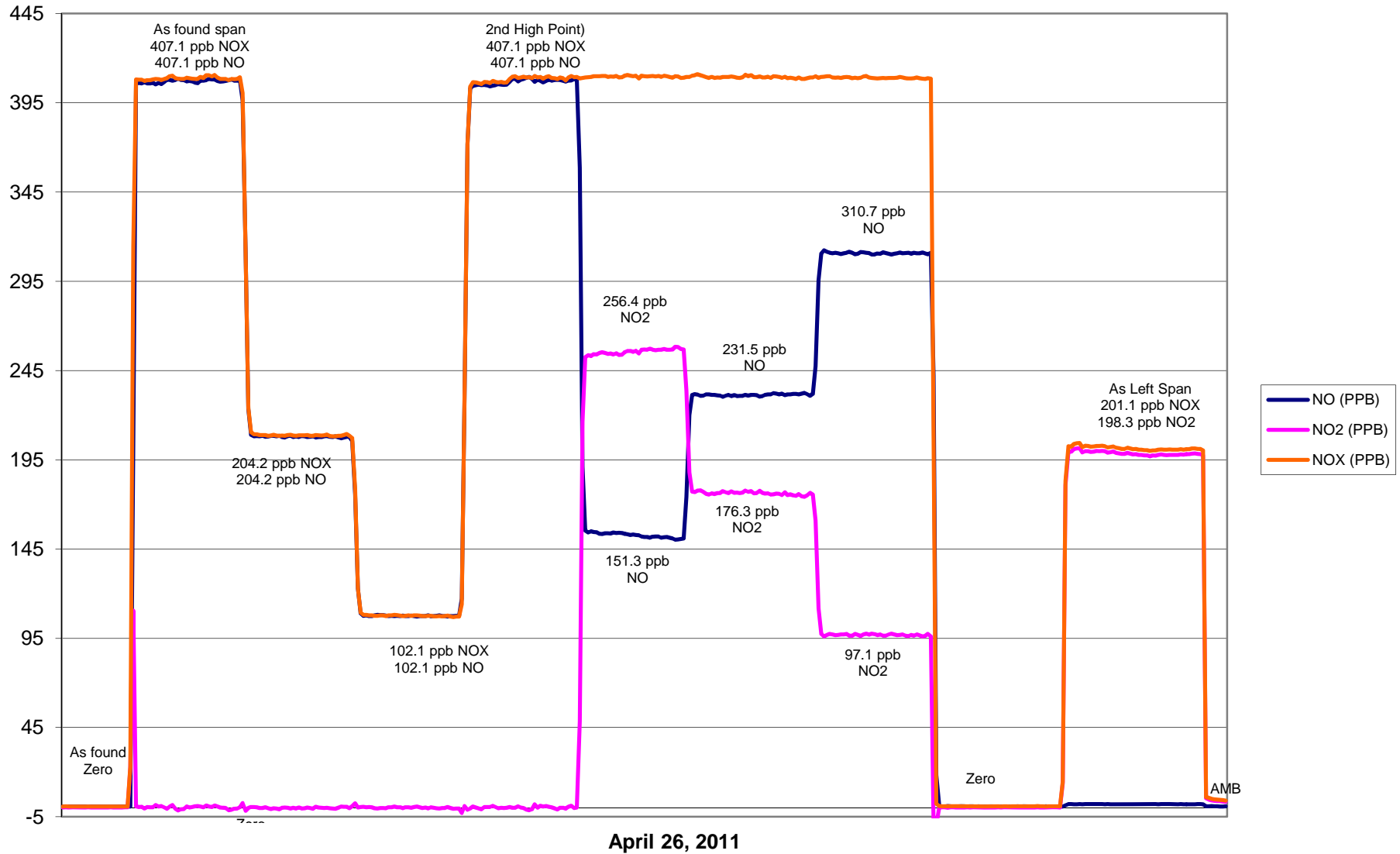
## Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.7	N/A	Correlation Coefficient	0.999817
407.1	407.4	0.9993		
204.2	207.9	0.9822	Slope	1.003935
102.1	107.5	0.9498		

## NO Calibration Curve



# Bonanza NO<sub>x</sub> Calibration





# Calibration Summary



Parameter 03

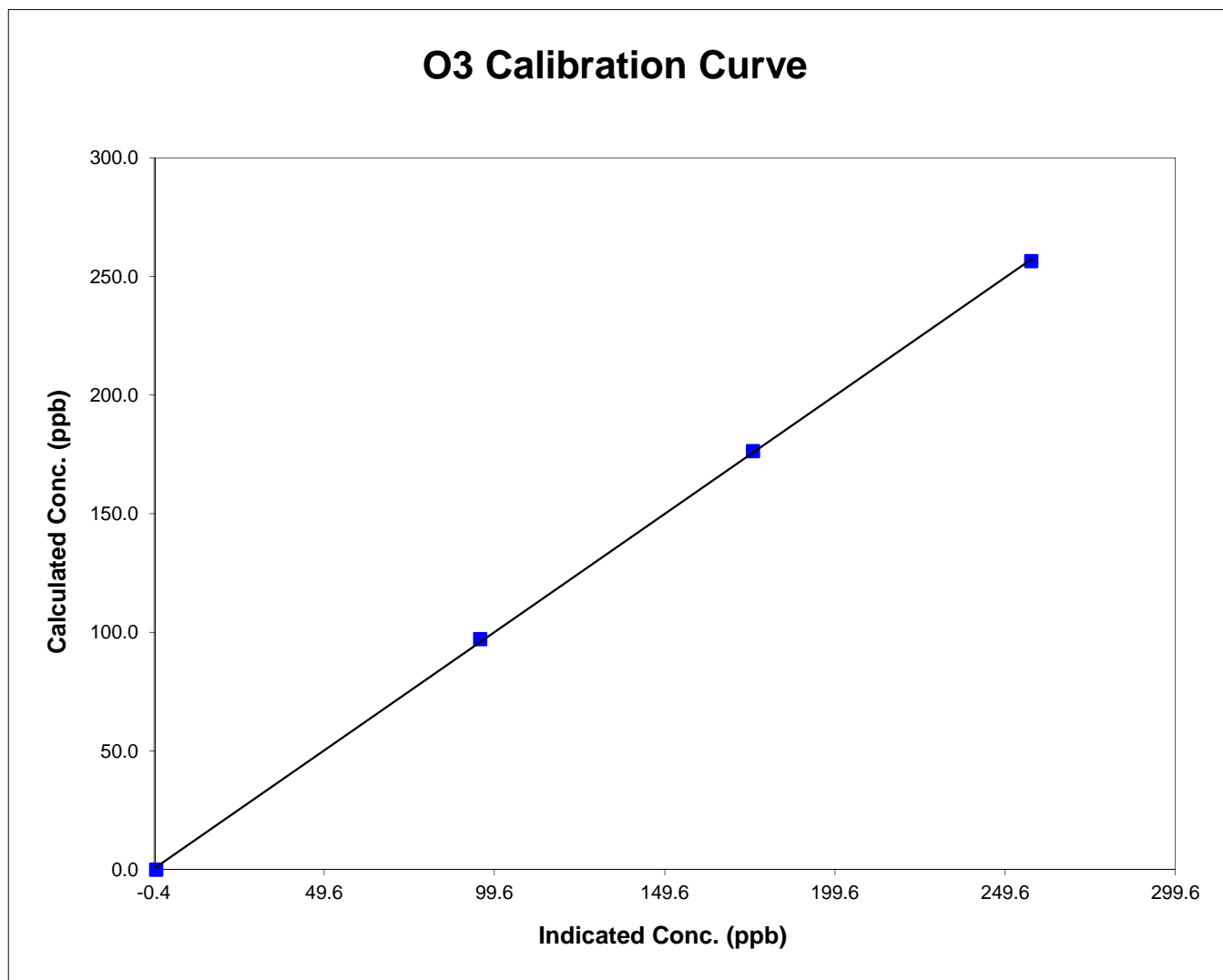
Air Monitoring Network PASZA

## Station Information

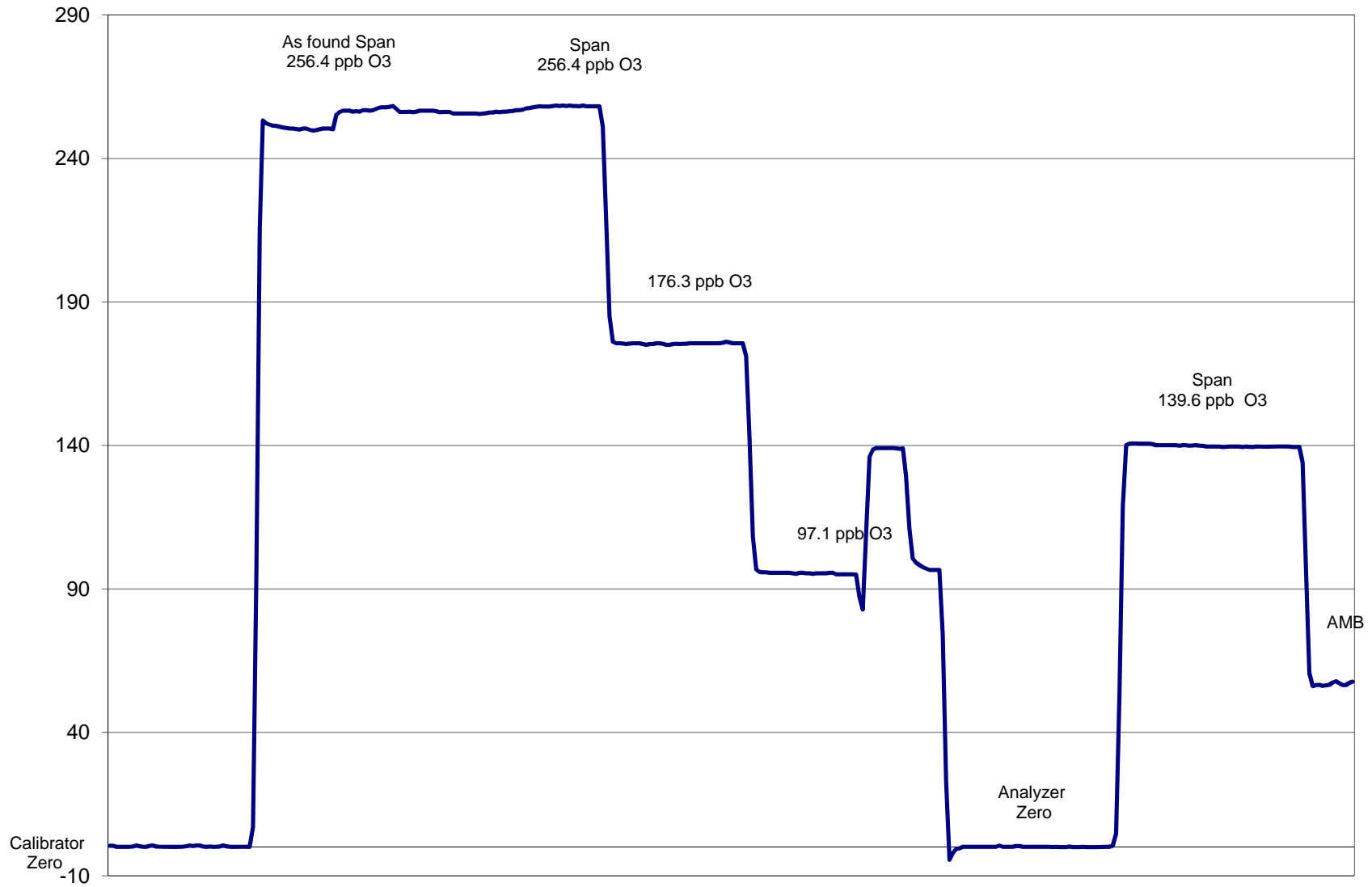
Calibration Date	April 26, 2011	Previous Calibration	March 29, 2011
Station Number	9	Station Location	Rover - Bonanza
Start Time (MST)	10:31	End Time (MST)	13:37
Analyzer make/model	TEI Model 49C	Analyzer serial #	49C-71577-369

## Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.2	NA	Correlation Coefficient	0.999904
256.4	257.3	0.9965		
176.3	175.5	1.0045		
97.1	95.5	1.0173		
			Slope	0.997033
			Intercept	0.721428



# Bonanza O<sub>3</sub> Calibration



April 26, 2011