



# **Peace Airshed Zone Association**

## **Ambient Air Monitoring Network Summary**

**Continuous Ambient Air Quality Monitoring Program  
Monthly Report  
May 2013**

**Operations and Reporting**

**FOCUS**  
AIR QUALITY MONITORING

June 26<sup>th</sup>, 2013

**Alberta Environment**  
 11<sup>th</sup> Floor, Oxbridge Place  
 9820-106 Street  
 Edmonton Alberta T5K 2J6

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

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

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

Company	Facility	LSD	EPEA Approval Number
Advantage Oil & Gas Ltd.	Glacier	05-02-076-13-W6	262479-00-00
Alberta Power (2000) Ltd. (an ATCO company)	Sturgeon	SW-06-069-21-W5	10283-02-02
ATCO Power Canada	Poplar Hill	11-19-073-08-W6	67774-01-01
ATCO Power Canada	Valleyview	SW-06-069-21-W5	147709-01-01
AltaGas Ltd.	Pouce Coupe	03-03-081-13-W6	247673-00-00
	Ante Creek	02-26-068-25-W5	266694-00-00
	Gordondale	16-31-78-11-W6M	287474-00-00
Apache Canada Ltd.	House Mountain	01-08-070-10-W5	10137-02-02
Barrick Energy Inc.	Sturgeon/Valleyview	02-02-069-22-W5	1633-02-00
Birchcliff Energy Ltd.	Pouce Coupe	03-22-078-12-W6	252529-00-00
Canadian Natural Resources Limited	Bonanza	11-25-081-11-W6	00000029-01-00
	Progress/Gordondale	01-01-077-10-W6	00010036-02-00

<b>Company</b>	<b>Facility</b>	<b>LSD</b>	<b>EPEA Approval Number</b>
	Gold Creek	13-26-067-05-W6	00010446-02-00
	Teepee Creek	SE-2-074-04-W6	00001635-02-00
Canfor Forest Products	Grande Prairie	SW-23-071-06-W6	152645-01-00
Conocophillips Canada Energy Partnership	Wembley	06-19-073-08-W6	00000212-01-00
Devon Canada	NW Belloy (Dunvegan)	16-36-079-03-W6	00009810-02-00
	Eaglesham (South)	02-14-077-25-W5	00047669-01-00
	North Normanville	03-36-079-23-W5	00047455-01-00
	West Culp	05-34-078-25-W6	00136284-00-00
	Cecil	08-15-084-08-W6	00010032-02-00
Encana Corporation	Sexsmith	04-08-075-07-W6	00010002-01-00
Enerplus Resources	Pouce Coupe	SW-06-069-21-W5	1464-02-03
Grande Prairie Generation Inc.	Northern Prairie Power Project	04-19-073-08-W6	00238762-00-00
Long Run Exploration	Eaglesham	01-25-076-01-W6	00241532-00-00
	Kakut	14-12-075-03-W6	00248469-00-00
	Donnelly	06-01-077-21-W5	00000087-02-00
	Puskwaskau	03-26-074-01-W6	00017524-01-00
Longview Oil Corp.	Sunset House	06-22-070-20-W5	138884-01-00
Penn West Petroleum Ltd.	Tangent	13-29-080-23-W5	00001746-02-00

Company	Facility	LSD	EPEA Approval Number
	Pouce Coupe	16-07-078-11-W6	00000614-01-00
Petrus Resources	Rycroft	08-25-077-06-W6	11351-02-00
	Spirit River	08-34-077-06-W6	11096-02-00
Spectra Energy Midstream Corporation	Fourth Creek	16-11-082-09-W6	00000263-01-00
	Gordondale	11-26-079-09-W6	00011495-01-01
	Pouce Coupe/Bonanza	3-23-080-13-W6	00070203-01-01
Suncor Energy Inc.	Progress	07-22-078-09-W6	00011428-02-00
TAQA North Ltd.	Valhalla	13-21-076-09-W6	00017620-01-00
Veresen Energy	Hythe Brainard	11-18-074-12-W6	00010910-02-00
Weyerhaeuser Canada	Grande Prairie Pulp and Wood Plant	01-14-070-05-W6	00000113-02-00

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

**Continuous Monitoring: Seven (7) Stations including Henry Pirker (Grande Prairie), Evergreen Park, Smoky Heights, Beaverlodge, Valleyview, Falher and Portable-Sunset House.**

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

**Henry Pirker Station:**

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



#### **Evergreen Park Station:**

- ◆ The measured ambient air quality was within the AAAQO for the Evergreen Park station except for PM<sub>2.5</sub>, which had one (1) 1-hour exceedence of the AAAQO guideline:
  - May 6 20:00 158.9 µg/m<sup>3</sup> Alberta Environment Reference # 269707
- ◆ All analyzers and sensors at the Evergreen Park station had an operational uptime greater than 90% for the month of May.

#### **Smoky Heights Station:**

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

#### **Beaverlodge Station:**

- ◆ The measured ambient air quality was within the AAAQO for the Beaverlodge station except for PM<sub>2.5</sub>, which had two (2) 1-hour exceedences of the AAAQO guideline:
  - May 12 11:00 84.2 µg/m<sup>3</sup> Alberta Environment Reference # 269958
  - May 12 12:00 146.5 µg/m<sup>3</sup> Alberta Environment Reference # 269958
- ◆ All analyzers and sensors at the Beaverlodge station had an operational uptime greater than 90% for the month of May.

#### **Valleyview Station:**

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

#### **Sunset House Station:**

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

#### **Falher Station:**

- ◆ The measured ambient air quality was within the AAAQO for the Falher station except for H<sub>2</sub>S, which had four (4) 1-hour exceedences and one (1) 24-hour exceedence of the AAAQO:
  - May 8 05:00 22.8 ppb Alberta Environment Reference # 269764
  - May 17 01:00 24.1 ppb Alberta Environment Reference # 270168
  - May 17 02:00 23.5 ppb Alberta Environment Reference # 270168
  - May 17 05:00 25.3 ppb Alberta Environment Reference # 270168
  - May 17 24-hour 4.5 ppb Alberta Environment Reference # 271743
- ◆ All analyzers and sensors at the Falher station had an operational uptime greater than 90% for the month of May.

### Passive Monitoring - 46 Stations throughout the PAZA zone:

There were five duplicate sites sampled in the month of May: Forth Creek, Wanham, Clouston Creek, Boone Creek, and Girouxville 3. 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 0.3 ppb, with a mean of 0.2 ppb.
- Monthly average concentrations for NO<sub>2</sub> passives ranged from 0.1 ppb to 2.0 ppb, with a mean of 0.7 ppb.
- Monthly average concentrations for O<sub>3</sub> passives ranged from 27.2 ppb to 41.2 ppb, with a mean of 34.1 ppb.
- Monthly average concentrations for H<sub>2</sub>S were between 0.1 And 0.2 ppb, with a mean of 0.2 ppb.

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

On Behalf of the  
Peace Airshed Zone Association



Shelly Pruden  
Executive Director

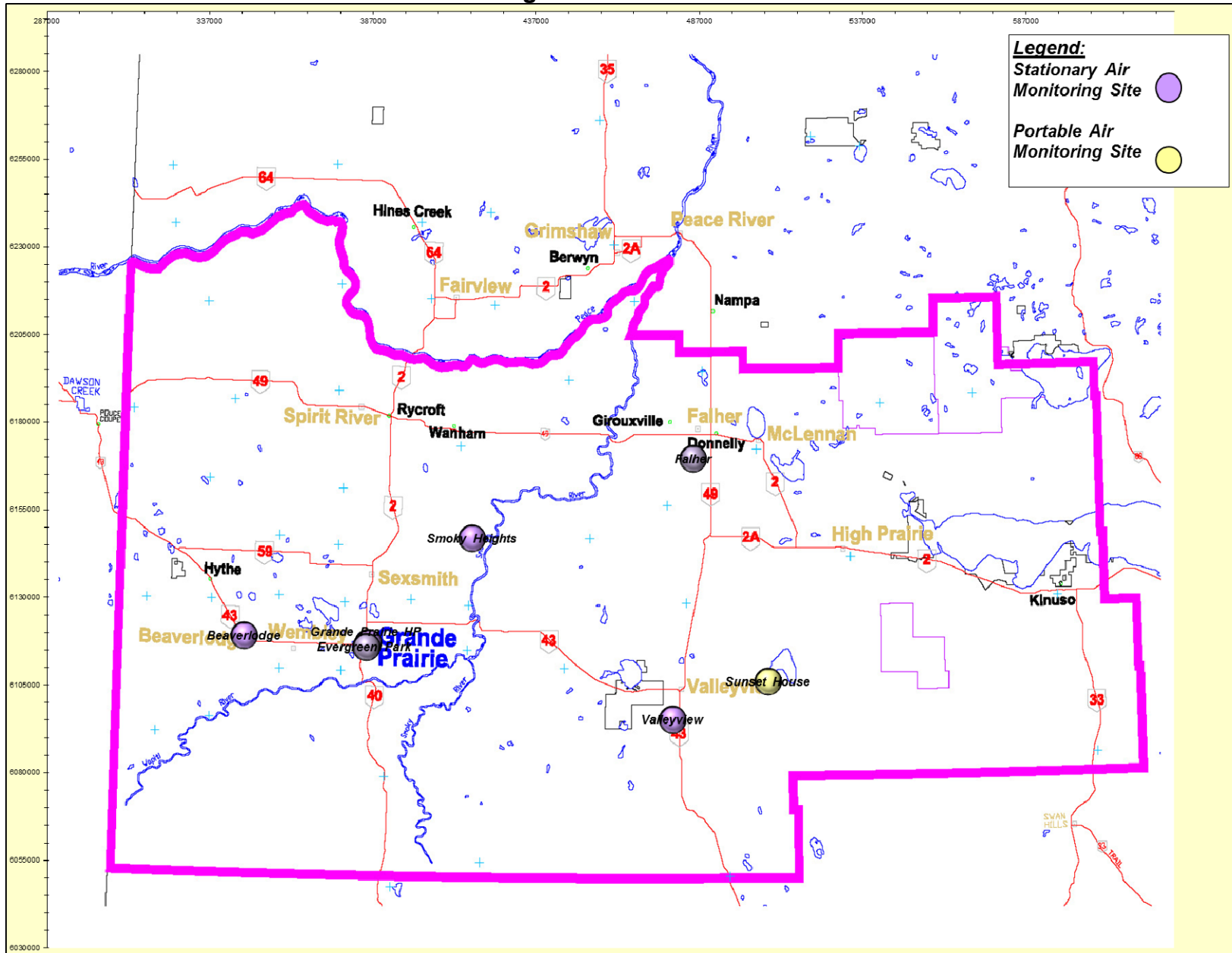


Patrick Andersen, B.Sc.  
FOCUS AQM Data Specialist



Jeff Cooper, C.Tech.  
AQM Operations Manager

# Location of PAZA Continuous Monitoring Stations



## PAZA Monthly Continuous Data Summary

May-2013		Peace Airshed Zone Association					Maximum Recorded Values				Operational Time (%)
							1-hr		24-hr / 8-hr		
Pollutant (units)	Objectives		Station	Monthly Average	Exceedence		Conc	Day	Conc	Day	
	1-hr	24-hr			1-hr	24-hr					
SO <sub>2</sub> (ppb)	172	48	Henry Pirker	0.1	0	0	1.5	May-08 18:00	0.4	May-08	100%
SO <sub>2</sub> (ppb)	172	48	Evergreen Park	0.2	0	0	1.4	May-08 10:00	0.9	May-08	93%
SO <sub>2</sub> (ppb)	172	48	Smoky Heights	0.1	0	0	2.0	May-19 07:00	0.5	May-20	100%
SO <sub>2</sub> (ppb)	172	48	Beaverlodge	0.1	0	0	1.9	May-27 12:00	0.4	May-09	100%
SO <sub>2</sub> (ppb)	172	48	Valleyview	1.2	0	0	15.1	May-14 03:00	3.8	May-02	100%
SO <sub>2</sub> (ppb)	172	48	Sunset House	0.1	0	0	1.4	May-08 07:00	0.6	May-11	100%
SO <sub>2</sub> (ppb)	172	48	Falher	0.2	0	0	1.8	May-04 21:00	0.5	May-11	100%
NO (ppb)			Henry Pirker	0.7	0	0	15.1	May-23 08:00	2.4	May-23	100%
NO <sub>2</sub> (ppb)	159	106	Henry Pirker	4.5	0	0	26.1	May-01 06:00	7.9	May-26	100%
NO <sub>x</sub> (ppb)			Henry Pirker	5.3	0	0	32.7	May-01 06:00	9.7	May-28	100%
NO (ppb)			Beaverlodge	0.3	0	0	8.3	May-29 07:00	1.1	May-28	100%
NO <sub>2</sub> (ppb)	159	106	Beaverlodge	2.2	0	0	12.8	May-20 06:00	4.1	May-12	100%
NO <sub>x</sub> (ppb)			Beaverlodge	2.5	0	0	20.0	May-29 07:00	4.9	May-29	100%
NO (ppb)			Sunset House	0.1	0	0	0.6	May-01 09:00	0.1	May-01	100%
NO <sub>2</sub> (ppb)	159	106	Sunset House	0.9	0	0	2.5	May-08 07:00	1.6	May-11	100%
NO <sub>x</sub> (ppb)			Sunset House	1.0	0	0	3.0	May-28 10:00	1.7	May-11	100%
O <sub>3</sub> (ppb)	82		Henry Pirker	33.8	0	-	64.4	May-11 16:00	46.2	May-13	100%
O <sub>3</sub> (ppb) - 8-hr			Henry Pirker		0				56.9	May-11	
O <sub>3</sub> (ppb)	82		Beaverlodge	36.5	0	-	57.8	May-05 15:00	45.9	May-13	100%
O <sub>3</sub> (ppb) - 8-hr			Beaverlodge		0				56.5	May-05	
O <sub>3</sub> (ppb)	82		Sunset House	40.1	0	-	63.5	May-21 20:00	48.9	May-18	97%
O <sub>3</sub> (ppb) - 8-hr			Sunset House		0				61.0	May-21	
CO (ppm)	13		Henry Pirker	0.19	0	-	0.4	May-12 01:00	0.2	May-29	100%
CO (ppm) - 8-hr		5	Henry Pirker		0				0.3	May-12	

## PAZA Monthly Continuous Data Summary – continued

May-2013		Peace Airshed Zone Association					Maximum Recorded Values				
							1-hr		24-hr / 8-hr		
THC (ppm)			Henry Pirker	1.9	-	-	2.9	May-04 04:00	2.0	May-26	100%
CH4 (ppm)			Henry Pirker	1.9	-	-	2.9	Apr-05 04:00	2.0	May-26	100%
NMHC (ppm)			Henry Pirker	0.00	-	-	0.0	May-08 10:00	0.0	Jan-05	100%
TRS (ppb)			Henry Pirker	0.3	-	-	1.7	May-21 07:00	0.8	May-21	100%
TRS (ppb)			Evergreen Park	0.3	-	-	1.5	May-21 08:00	0.8	May-21	100%
TRS (ppb)			Smoky Heights	0.1	-	-	1.2	May-21 06:00	0.5	May-21	100%
TRS (ppb)			Sunset House	0.3	-	-	1.0	May-22 01:00	0.5	May-21	100%
H <sub>2</sub> S (ppb)	10	3	Valleyview	0.9	0	0	1.9	May-21 23:00	1.3	May-28	100%
H <sub>2</sub> S (ppb)	10	3	Falher	0.4	4	1	25.1	May-17 05:00	4.5	May-17	100%
PM2.5 (µg/m <sup>3</sup> )	80	30	Henry Pirker	5.8	0	0	54.3	May-23 04:00	14.2	May-23	100%
PM2.5 (µg/m <sup>3</sup> )	80	30	Evergreen Park	4.8	1	0	158.9	May-06 20:00	18.3	May-06	100%
PM2.5 (µg/m <sup>3</sup> )	80	30	Smoky Heights	4.1	0	0	35.3	May-05 22:00	9.0	May-05	100%
PM2.5 (µg/m <sup>3</sup> )	80	30	Beaverlodge	7.2	2	0	146.5	May-12 12:00	16.7	May-12	100%
PM2.5 (µg/m <sup>3</sup> )	80	30	Sunset House	3.5	0	0	21.6	May-24 18:00	7.0	May-23	100%
RH (%)			Henry Pirker	49.9	-	-	91.3	May-26 07:00	76.9	May-30	100%
RH (%)			Evergreen Park	51.6	-	-	98.3	May-27 09:00	84.1	May-28	100%
RH (%)			Beaverlodge	56.6	-	-	100.0	May-22 01:00	90.2	May-30	100%
RH (%)			Valleyview	52.1	-	-	100.0	May-29 07:00	85.6	May-26	100%
SR (W/m <sup>2</sup> )			Henry Pirker	223.1	-	-	809.2	May-18 13:00	303.1	May-19	100%
Temp (°C)			Henry Pirker	13.2	-	-	27.9	May-06 14:00	18.8	May-05	100%
Temp (°C)			Evergreen Park	12.9	-	-	27.5	May-05 17:00	19.2	May-05	100%
Temp (°C)			Smoky Heights	13.1	-	-	32.6	May-04 00:00	17.7	May-05	100%
Temp (°C)			Beaverlodge	12.2	-	-	27.0	May-05 17:00	18.1	May-05	100%
Temp (°C)			Valleyview	13.6	-	-	29.8	May-06 16:00	18.9	May-05	100%
Temp (°C)			Sunset House	12.7	-	-	28.6	May-06 16:00	17.9	May-12	100%
Temp (°C)			Falher	13.2	-	-	28.2	May-06 16:00	18.1	May-23	100%

## PAZA Monthly Continuous Data Summary – continued

May-2013 Peace Airshed Zone Association							Maximum Recorded Values				
							1-hr		24-hr / 8-hr		
WSPD s (km/hr)			Henry Pirker	12.2	-	-	46.0	May-12 14:00	27.5	May-02	100%
WSPD s (km/hr)			Evergreen Park	16.6	-	-	70.0	May-12 16:00	42.4	May-02	100%
WSPD s (km/hr)			Smoky Heights	16.7	-	-	59.0	May-12 16:00	35.7	May-02	100%
WSPD s (km/hr)			Beaverlodge	15.0	-	-	59.0	May-12 15:00	36.3	May-02	100%
WSPD s (km/hr)			Valleyview	6.7	-	-	33.0	May-06 20:00	13.8	May-02	100%
WSPD s (km/hr)			Sunset House	13.2	-	-	38.0	May-06 20:00	22.2	May-23	100%
WSPD s (km/hr)			Falher	21.0	-	-	53.0	May-12 16:00	33.6	May-23	100%
WSPD v (km/hr)			Henry Pirker	4.8	-	-	45.0	May-12 14:00	26.9	May-02	100%
WSPD v (km/hr)			Evergreen Park	8.2	-	-	70.0	May-12 16:00	41.5	May-02	100%
WSPD v (km/hr)			Smoky Heights	6.1	-	-	59.0	May-12 16:00	34.9	May-02	100%
WSPD v (km/hr)			Beaverlodge	5.3	-	-	58.0	May-12 15:00	35.6	May-02	100%
WSPD v (km/hr)			Valleyview	1.9	-	-	33.0	May-06 20:00	12.0	May-02	100%
WSPD v (km/hr)			Sunset House	2.9	-	-	38.0	May-06 20:00	20.8	May-23	100%
WSPD v (km/hr)			Falher	3.9	-	-	52.0	May-12 16:00	32.7	May-23	100%
WDIR			Henry Pirker	WSW	-	-	-	-	-	-	100%
WDIR			Evergreen Park	W	-	-	-	-	-	-	100%
WDIR			Smoky Heights	WSW	-	-	-	-	-	-	100%
WDIR			Beaverlodge	WSW	-	-	-	-	-	-	100%
WDIR			Valleyview	WNW	-	-	-	-	-	-	100%
WDIR			Sunset House	SSE	-	-	-	-	-	-	100%
WDIR			Falher	SE	-	-	-	-	-	-	100%

# 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 May 8<sup>th</sup> (THC), May 17<sup>th</sup> (SO<sub>2</sub>, O<sub>3</sub>, NO<sub>x</sub>), and May 22<sup>nd</sup> (TRS, CO). Station datalogger malfunctioned, losing 2 hours of data on May 27<sup>th</sup>.

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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	No operational issues observed.
CO	TEI	48C	No operational issues observed.
THC/CH <sub>4</sub> /NMHC	TEI	55I	No operational issues observed.
TRS	TEI	45C/43C	No operational issues observed.
PM <sub>2.5</sub>	Sharp	5030	No operational issues observed.
RH	Met One	083D	No operational issues observed.
ET	Met One	083D	No operational issues observed.
SR	Met One	096-1	No operational issues observed.
WS / WD	Met One	010C/020C	No operational issues observed.

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**PAZA – Evergreen Park Station**

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**General Station Issues**

Routine monthly calibration performed on May 13<sup>th</sup> (SO<sub>2</sub>, TRS).

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<b>Parameter</b>	<b>Make</b>	<b>Model</b>	<b>Notes</b>
SO <sub>2</sub>	TEI	43i	Analyzer malfunctioned on May 5 <sup>th</sup> , was repaired and restabilized on May 7 <sup>th</sup> .
TRS	TEI	43C	No operational issues observed.
PM <sub>2.5</sub>	R&P	1400AB	One (1) exceedence of the 1-hour guideline recorded. <b>AE Reference #269707.</b>
ET	Met One/Gill	083D	No operational issues observed.
RH	Met One/Gill		No operational issues observed.
WS / WD	Met One/ Gill		No operational issues observed.

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**PAZA – Smoky Heights Station**

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**General Station Issues**

Routine monthly calibration performed on May 31<sup>st</sup> (SO<sub>2</sub>, TRS). Datalogger failure on May 8<sup>th</sup> caused loss of 2 hours of data.

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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.
TRS	TEI	43C	No operational issues observed.
PM <sub>2.5</sub>	R&P	1400AB	No operational issues observed.
ET	Met One	083D	No operational issues observed.
WS / WD	Met One	010C/020C	No operational issues observed.

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**PAZA – Beaverlodge Station**

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**General Station Issues**

Routine monthly calibrations performed on May 23<sup>rd</sup> (NO<sub>x</sub>) and May 24<sup>th</sup> (SO<sub>2</sub>, O<sub>3</sub>). Power failure near end of calibration period on May 23<sup>rd</sup> prompted second visit.

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<b>Parameter</b>	<b>Make</b>	<b>Model</b>	<b>Notes</b>
SO <sub>2</sub>	TEI	43CTL	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	Calibration started on May 23 <sup>rd</sup> , aborted by power failure and completed May 24 <sup>th</sup> .
PM <sub>2.5</sub>	R&P	1400AB	Two (2) exceedences of the 1-hour guideline recorded. <b>AE Reference# 269958.</b>
ET	n/a	n/a	No operational issues observed.
RH	n/a	n/a	No operational issues observed.
WS / WD	Blue Sky	857	No operational issues observed.

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**PAZA – Valleyview Station**

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**General Station Issues**

Routine monthly calibrations were performed on May 14<sup>th</sup> (SO<sub>2</sub> & H<sub>2</sub>S). Datalogger failed to gather 3 hours of data on May 8<sup>th</sup>.

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<b>Parameter</b>	<b>Make</b>	<b>Model</b>	<b>Notes</b>
SO <sub>2</sub>	TEI	43i	Analyzer recalibrated on May 30 <sup>th</sup> after filter replacement.
H <sub>2</sub> S	TEI	43A	No operational issues observed.
ET	Gill	Met Pak 3	No operational issues observed.
RH	Gill	Met Pak 3	No operational issues observed.
WS / WD	Gill	Met Pak 3	No operational issues observed.

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**PAZA – Portable-Sunset House Station**

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**General Station Issues**

Routine monthly calibrations were performed on May 15<sup>th</sup> (O<sub>3</sub>, NO<sub>x</sub>) and May 16<sup>th</sup> (O<sub>3</sub>, TRS).

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<b>Parameter</b>	<b>Make</b>	<b>Model</b>	<b>Notes</b>
SO <sub>2</sub>	TEI	43i	No operational issues observed.
O <sub>3</sub>	TEI	49C	Connection to datalogger was loose, causing loss of data on May 14 <sup>th</sup> and 15 <sup>th</sup> . The analyzer malfunctioned on May 22 <sup>nd</sup> and self-stabilized.
TRS	TEI	39C	No operational issues observed.
PM <sub>2.5</sub>	R&P	1400AB	No operational issues observed.
ET	Gill	Met Pak 3	No operational issues observed.
WS / WD	Gill	Met Pak 3	No operational issues observed.

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**PAZA – Falher Station**

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**General Station Issues**

Routine monthly calibrations were performed on May 28<sup>th</sup> (SO<sub>2</sub> & H<sub>2</sub>S).

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<b>Parameter</b>	<b>Make</b>	<b>Model</b>	<b>Notes</b>
SO <sub>2</sub>	TEI	43i	No operational issues observed.
H <sub>2</sub> S	Thermo	450i	Four (4) 1-hour and one (1) 24-hour exceedence of the guideline were recorded. <b>AE Reference #269764,270168,271743.</b>
ET	Gill	RM Young 5103	No operational issues observed.
WS / WD	Gill	RM Young 5103	No operational issues observed.

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PAZA

Henry Pirker Station

Monthly Summary Tables, Graphs and  
Roses

## Hourly Averages

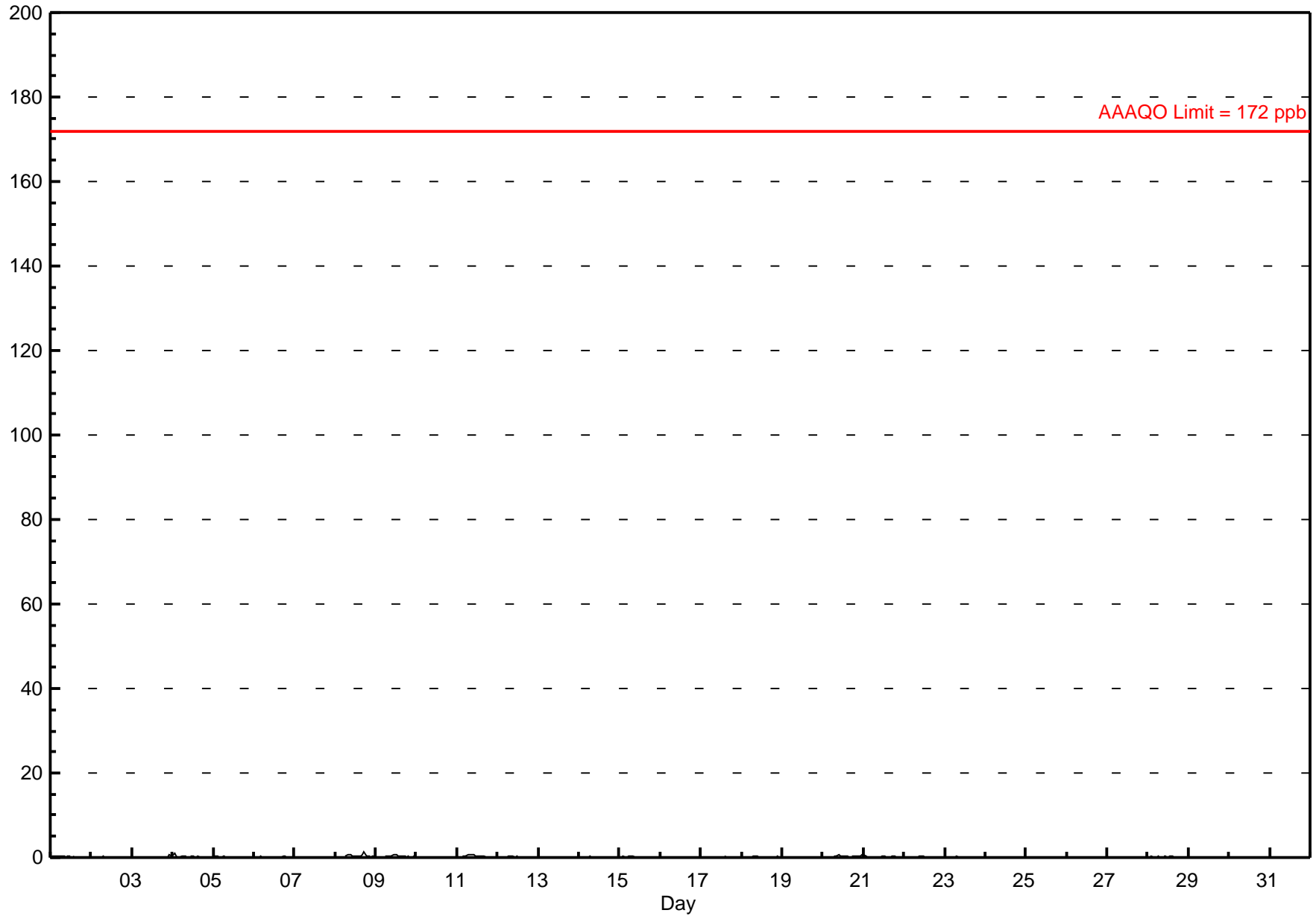
Sulphur Dioxide (SO<sub>2</sub>) - ppb

Henry Pirker - May 2013

Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 1.5 ppb on May 8 18:00	Maximum Daily Average: 0.4 ppb on May 8		Hours of Data:	706
Minimum Value: 0 ppb on May 2 14:00	Minimum Daily Average: 0.0 ppb on May 29		Hours of Missing Data:	38
Maximum Diurnal Average: 0.2 ppb at hour 8	Minimum Diurnal Average: 0.0 ppb at hour 21		Hours of Calibration:	36
Monthly Average: 0.10 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> = 0.1 P <sub>90</sub> = 0.3 P <sub>99</sub> = 0.8		Percent Operational Time:	99.7

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

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





## Hourly Maximums

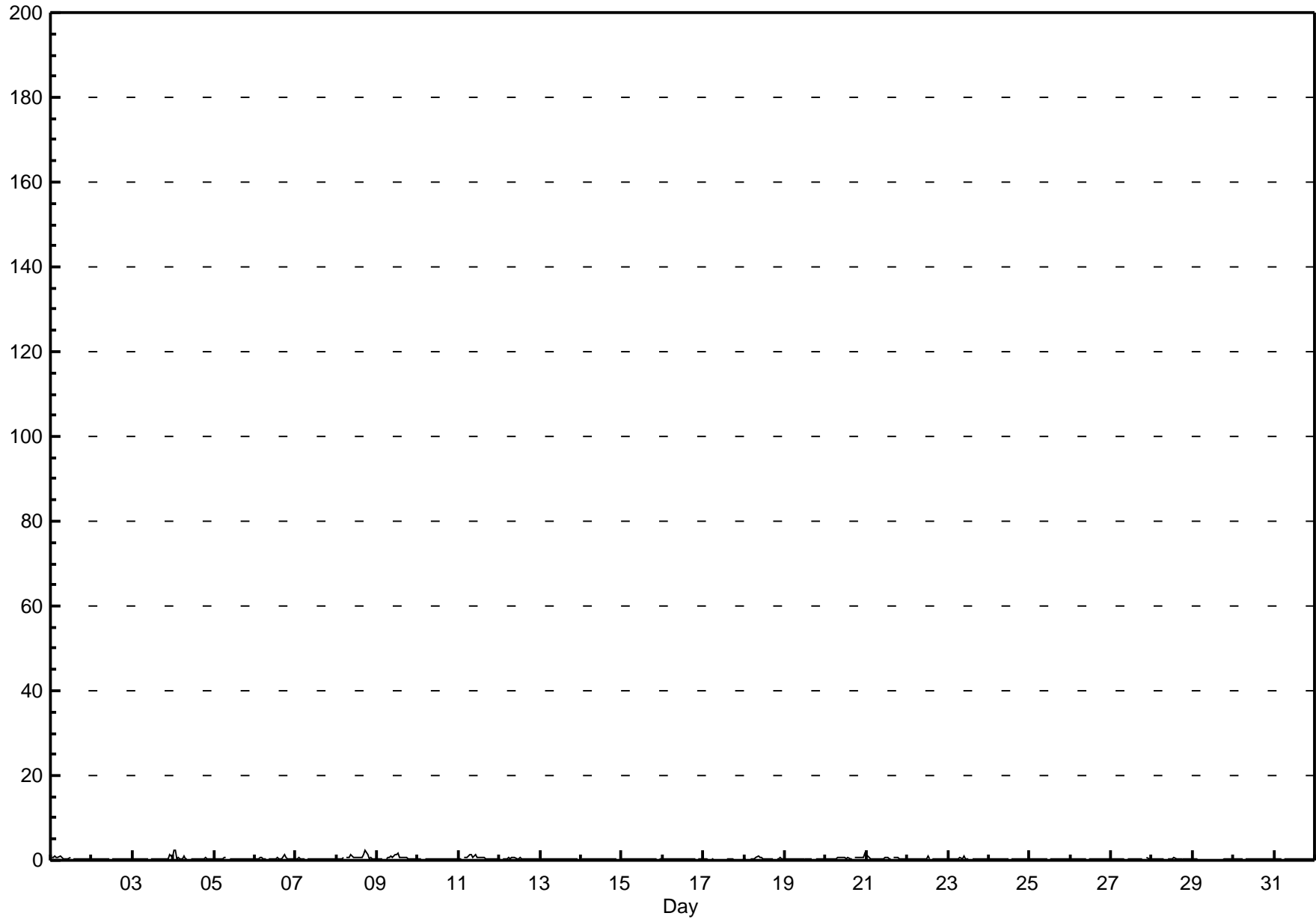
Sulphur Dioxide (SO<sub>2</sub>) - ppb

Henry Pirker - May 2013

Maximum Value: 2.4 ppb on May 4 02:00		Maximum Daily Average: 0.7 ppb on May 8		Hours in Service: 744																						
Minimum Value: 0 ppb on May 17 09:00		Minimum Daily Average: 0.1 ppb on May 17		Hours of Data: 706																						
Maximum Diurnal Average: 0.5 ppb at hour 18		Minimum Diurnal Average: 0.3 ppb at hour 21		Hours of Missing Data: 38																						
Monthly Average: 0.39 ppb		Percentiles: P <sub>1</sub> = 0.1 P <sub>10</sub> = 0.2 Q <sub>1</sub> = 0.3 Median = 0.3 Q <sub>3</sub> = 0.4 P <sub>90</sub> = 0.7 P <sub>99</sub> = 1.3		Hours of Calibration: 36																						
				Percent Operational Time: 99.7																						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-May	1	1	1	1	1	1	1	0	0	0	0	1	A	0	0	0	0	0	0	0	0	0	0	0	0.5	0.9
2-May	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.4
3-May	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	1	1	0.4	1.3
4-May	2	2	0	1	0	0	1	0	0	A	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0.6	2.4
5-May	0	0	0	0	0	0	1	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.7
6-May	0	0	0	1	1	0	0	A	0	0	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0.4	1.2
7-May	0	0	1	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.6
8-May	0	0	0	0	1	A	1	1	1	1	1	1	1	1	1	1	1	2	1	0	1	0	0	0	0.7	2.2
9-May	0	0	0	0	A	0	1	1	1	1	1	1	2	1	1	1	1	1	1	0	0	0	0	0	0.7	1.6
10-May	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.3
11-May	0	0	A	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0.7	1.3
12-May	0	A	0	0	0	1	0	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0.4	0.8
13-May	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0.3	0.4
14-May	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.3	0.4
15-May	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.4	0.4
16-May	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.4	0.4
17-May	0	0	0	0	0	0	0	0	0	0	C	C	C	C	0	0	0	0	0	A	0	0	0	0	0.1	0.3
18-May	1	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0.3	0.9
19-May	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.3	0.5
20-May	0	0	0	0	0	0	0	1	1	1	1	1	0	1	0	0	A	1	1	1	1	1	1	2	0.6	1.7
21-May	1	1	0	0	0	0	0	0	0	0	0	1	1	0	0	A	1	1	1	0	0	0	0	0	0.4	1.2
22-May	0	0	0	0	0	0	0	0	0	0	0	0	1	0	A	0	0	0	0	0	0	0	0	0	0.4	0.9
23-May	0	0	0	0	0	0	0	1	0	1	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.4	0.9
24-May	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.4	0.4
25-May	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.4
26-May	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.4
27-May	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	N	N	1	0	0.2	0.7
28-May	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0.4	0.5
29-May	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	0.2
30-May	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3
31-May	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.3
		0.4	0.4	0.3	0.3	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	0.5	0.4	0.3	0.3	0.4	0.4	0.4	Diurnal Average
		2.4	2.4	0.9	0.8	0.8	0.9	1.3	1.3	1.2	1.1	1.3	1.3	1.6	0.8	0.8	0.8	1.2	2.2	1.5	0.7	0.7	0.8	1.3	1.7	Diurnal Maximum
C - Calibration		N - Not Valid						A - Automated Daily Zero Span																		

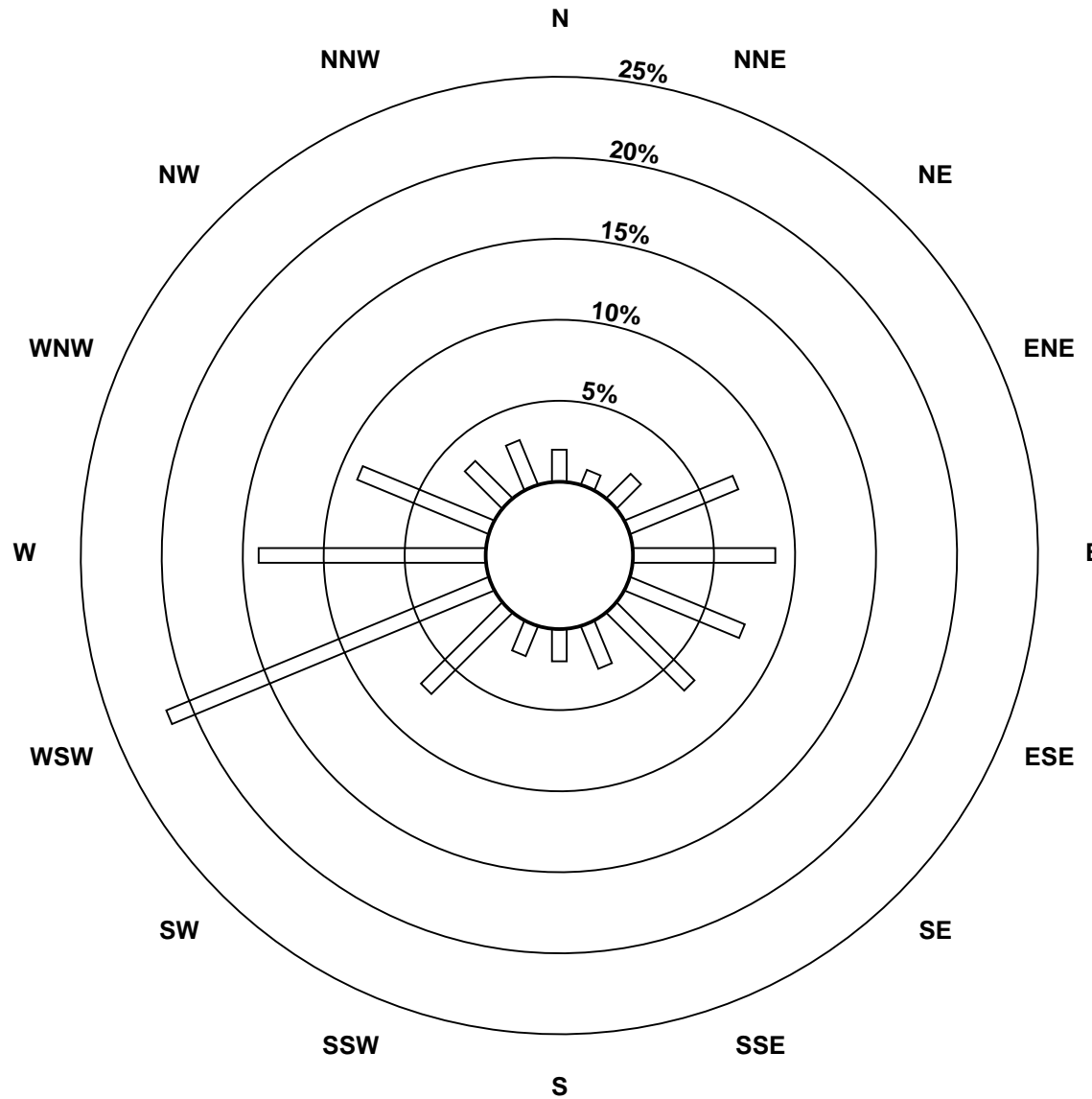
### Hourly Maximums

Sulphur Dioxide (SO<sub>2</sub>) - ppb  
Henry Pirker - May 2013

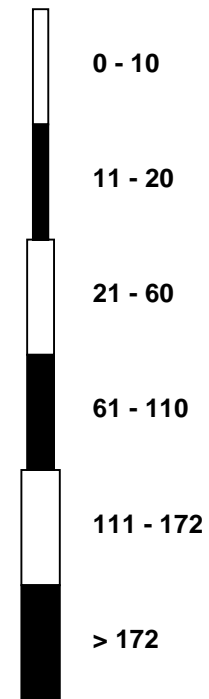


**Pollutant Rose**

**Sulphur Dioxide (SO<sub>2</sub>) - ppb**  
**Henry Pirker - May 2013**

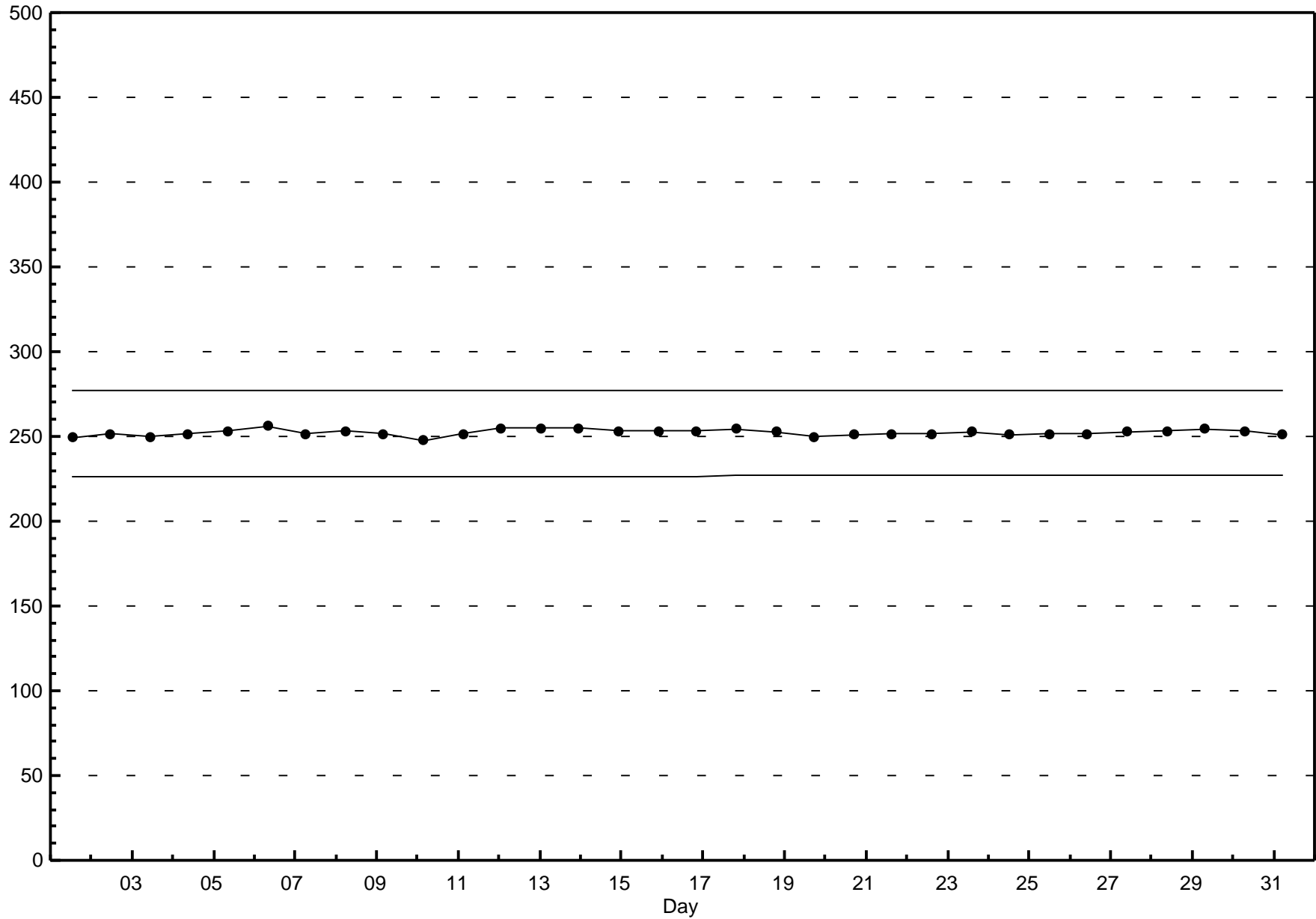


**Pollutant Classes (ppb)**



### Span Responses

Sulphur Dioxide (SO<sub>2</sub>)  
Henry Pirker - May 2013



## Hourly Averages

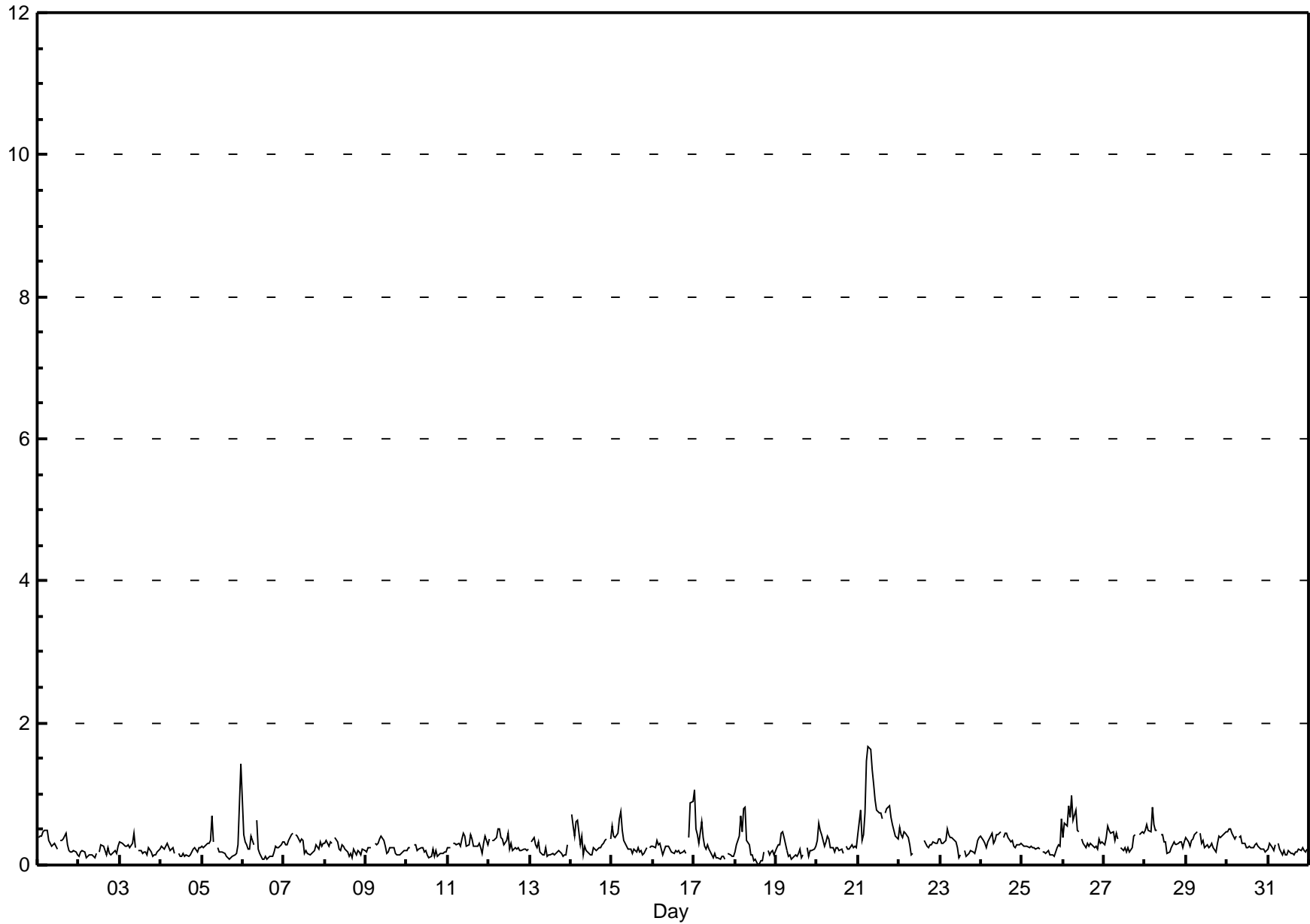
## Total Reduced Sulphur (TRS) - ppb

### Henry Pirker - May 2013

Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 1.7 ppb on May 21 07:00	Maximum Daily Average: 0.8 ppb on May 21		Hours of Data:	706
Minimum Value: 0 ppb on May 18 14:00	Minimum Daily Average: 0.2 ppb on May 2		Hours of Missing Data:	38
Maximum Diurnal Average: 0.4 ppb at hour 6	Minimum Diurnal Average: 0.2 ppb at hour 16		Hours of Calibration:	36
Monthly Average: 0.30 ppb	Percentiles: P <sub>1</sub> = 0.1 P <sub>10</sub> = 0.1 Q <sub>1</sub> = 0.2 Median = 0.3 Q <sub>3</sub> = 0.4 P <sub>90</sub> = 0.5 P <sub>99</sub> = 1.0		Percent Operational Time:	99.7

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

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

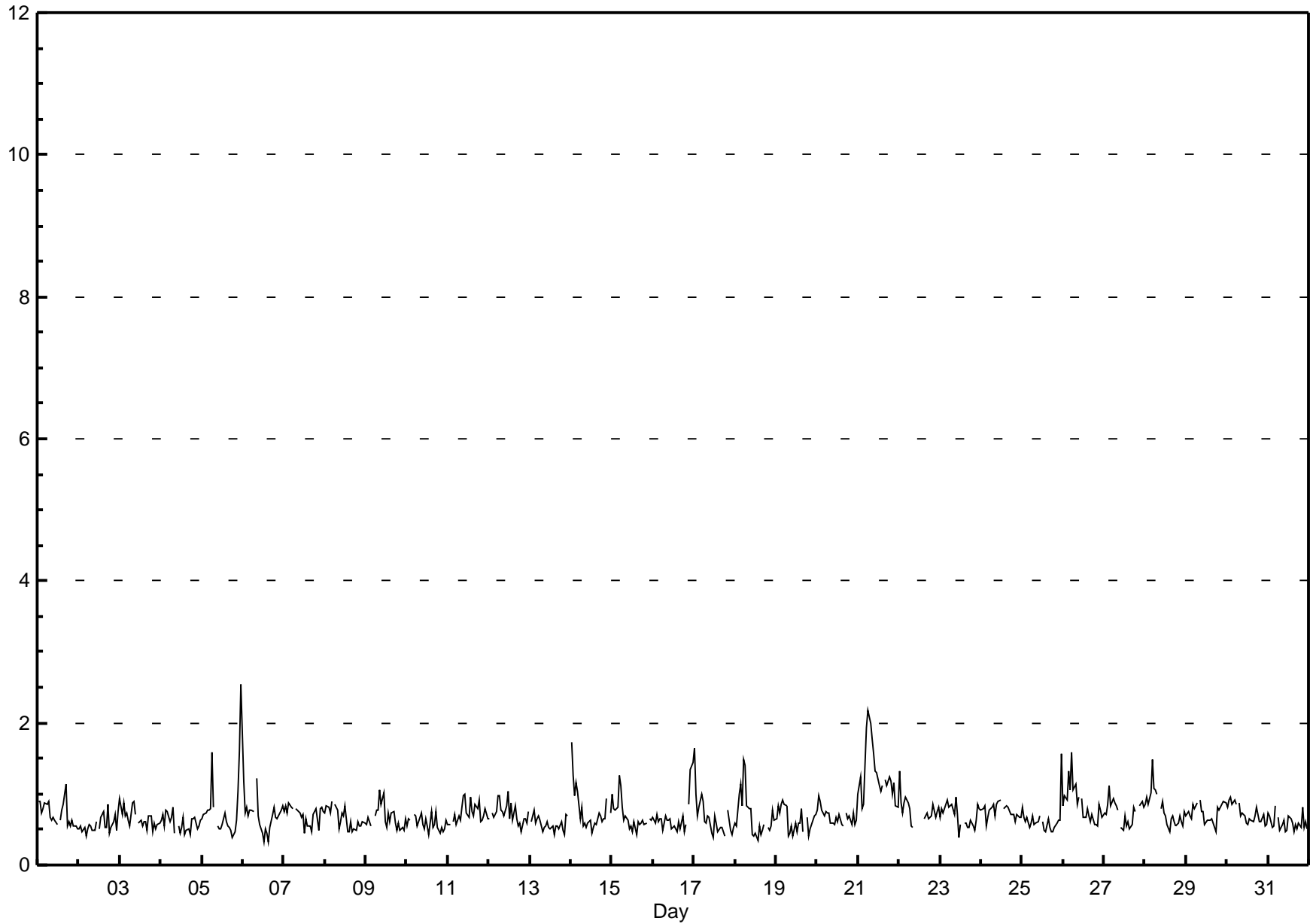


## Hourly Maximums

Total Reduced Sulphur (TRS) - ppb

Henry Pirker - May 2013

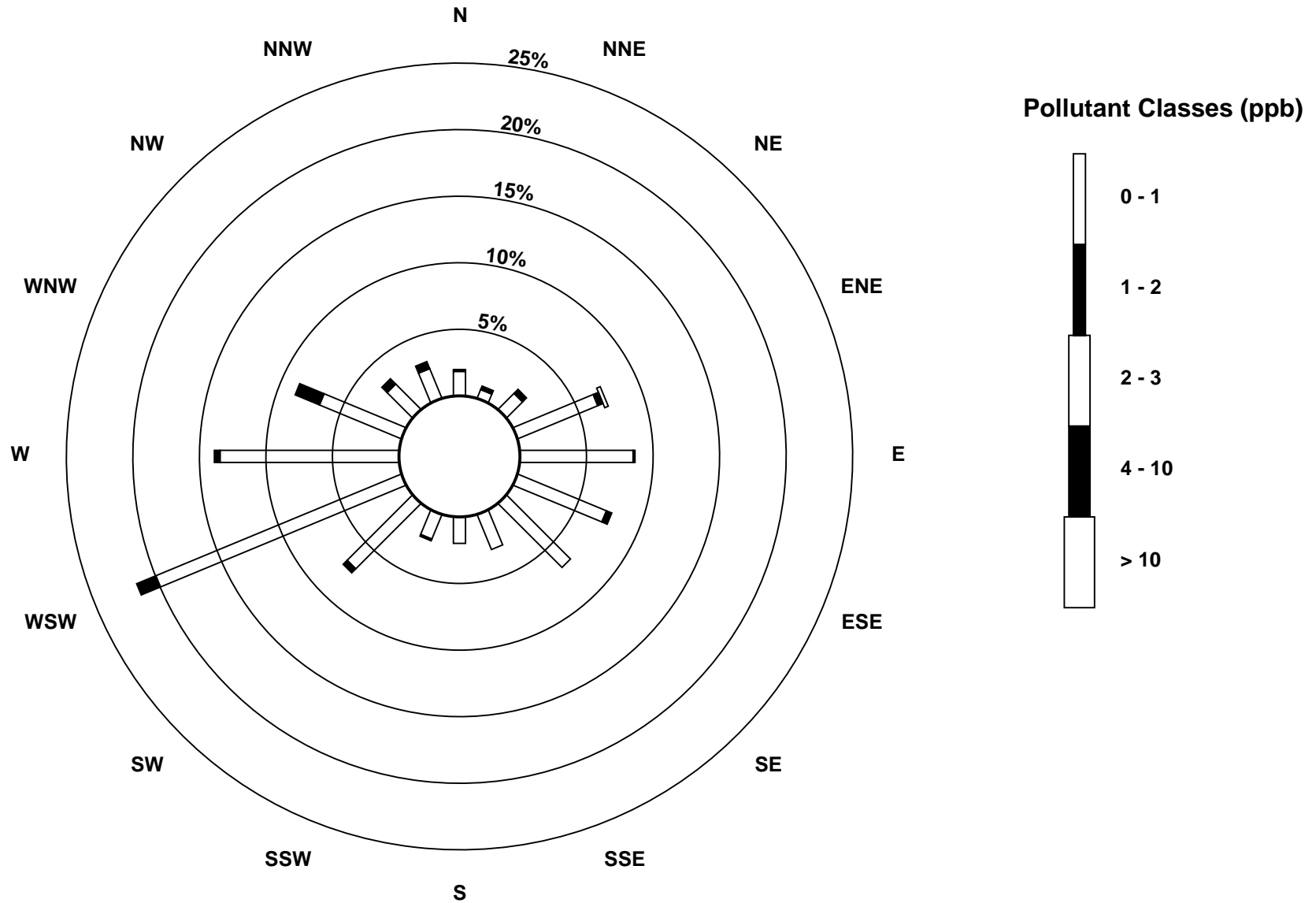
Maximum Value: 2.5 ppb on May 6 00:00		Maximum Daily Average: 1.3 ppb on May 21		Hours in Service: 744																							
Minimum Value: 0 ppb on May 6 13:00		Minimum Daily Average: 0.6 ppb on May 2		Hours of Data: 706																							
Maximum Diurnal Average: 0.9 ppb at hour 6		Minimum Diurnal Average: 0.6 ppb at hour 13		Hours of Missing Data: 38																							
Monthly Average: 0.71 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> = 1.6		Hours of Calibration: 36																							
				Percent Operational Time: 99.7																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-May	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	0.7	1.1	
2-May	1	1	0	1	0	1	1	1	0	0	1	A	1	1	1	1	1	1	0	1	1	1	0	1	0.6	0.9	
3-May	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	0	1	1	0	1	1	1	1	0.7	0.9	
4-May	1	1	1	1	1	1	1	1	0	A	1	0	1	1	0	0	1	0	1	1	1	1	1	1	0.6	0.8	
5-May	1	1	1	1	1	1	2	1	A	1	1	1	1	1	1	1	1	0	0	0	1	1	2	3	0.8	2.5	
6-May	1	1	1	1	1	1	1	A	1	1	1	0	0	1	0	0	1	1	1	1	1	1	1	1	0.7	1.2	
7-May	1	1	1	1	1	1	A	1	1	1	1	1	0	1	1	1	0	1	1	1	0	1	1	1	0.7	0.9	
8-May	1	1	1	1	1	A	1	1	1	1	1	1	1	0	0	1	0	1	0	1	1	1	1	1	0.6	0.9	
9-May	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	1	0	1	0.7	1.1	
10-May	1	1	1	A	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	0	1	0	1	1	0.6	0.8	
11-May	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.0	
12-May	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	0.7	1.0	
13-May	A	1	1	1	1	1	1	0	1	1	1	1	1	0	1	1	1	1	1	0	0	1	1	A	0.6	0.8	
14-May	2	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	A	0.8	1.7	
15-May	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	1	1	1	1	1	1	1	A	1	0.7	1.3	
16-May	1	1	1	1	1	1	0	1	1	1	1	1	1	1	0	1	1	1	0	1	A	1	1	1	0.7	1.4	
17-May	2	1	1	1	1	1	1	1	1	1	0	0	1	1	0	1	1	0	0	A	1	0	0	1	0.7	1.6	
18-May	1	1	1	1	1	1	1	1	1	1	0	0	0	0	1	0	0	1	0	1	A	1	0	1	0.7	1.5	
19-May	1	1	1	1	1	1	1	0	0	1	0	1	0	1	1	1	0	1	0	1	1	1	1	1	0.6	0.9	
20-May	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	0.7	1.0	
21-May	1	1	1	1	1	2	2	2	2	2	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1.3	2.2	
22-May	1	1	1	1	1	1	1	1	1	C	C	C	C	1	A	1	1	1	1	1	1	1	1	1	0.8	1.3	
23-May	1	1	1	1	1	1	1	1	1	1	1	0	1	A	1	1	1	1	1	1	0	1	1	1	0.7	0.9	
24-May	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	0.9	
25-May	1	1	1	1	1	1	1	1	1	1	1	A	1	0	0	1	1	0	0	1	1	1	1	2	0.6	1.6	
26-May	1	1	1	1	1	2	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.6	
27-May	1	1	1	1	1	1	1	1	1	1	A	1	0	1	1	1	1	1	1	1	N	N	1	1	0.7	1.1	
28-May	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	0	1	1	1	1	1	1	1	1	0.8	1.5	
29-May	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	0.7	0.9	
30-May	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.0	
31-May	1	1	1	1	1	A	1	0	1	1	0	0	1	1	1	0	1	0	1	1	1	1	1	1	0.6	0.8	
	0.8	0.8	0.8	0.8	0.9	0.9	0.9	0.8	0.7	0.7	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.8	Diurnal Average	
	1.7	1.3	1.0	1.3	1.5	1.9	2.2	2.0	1.8	1.6	1.3	1.3	1.1	1.0	1.1	0.9	1.2	1.1	1.2	1.2	1.0	1.2	1.6	2.5	Diurnal Maximum		
C - Calibration		N - Not Valid					A - Automated Daily Zero Span																				

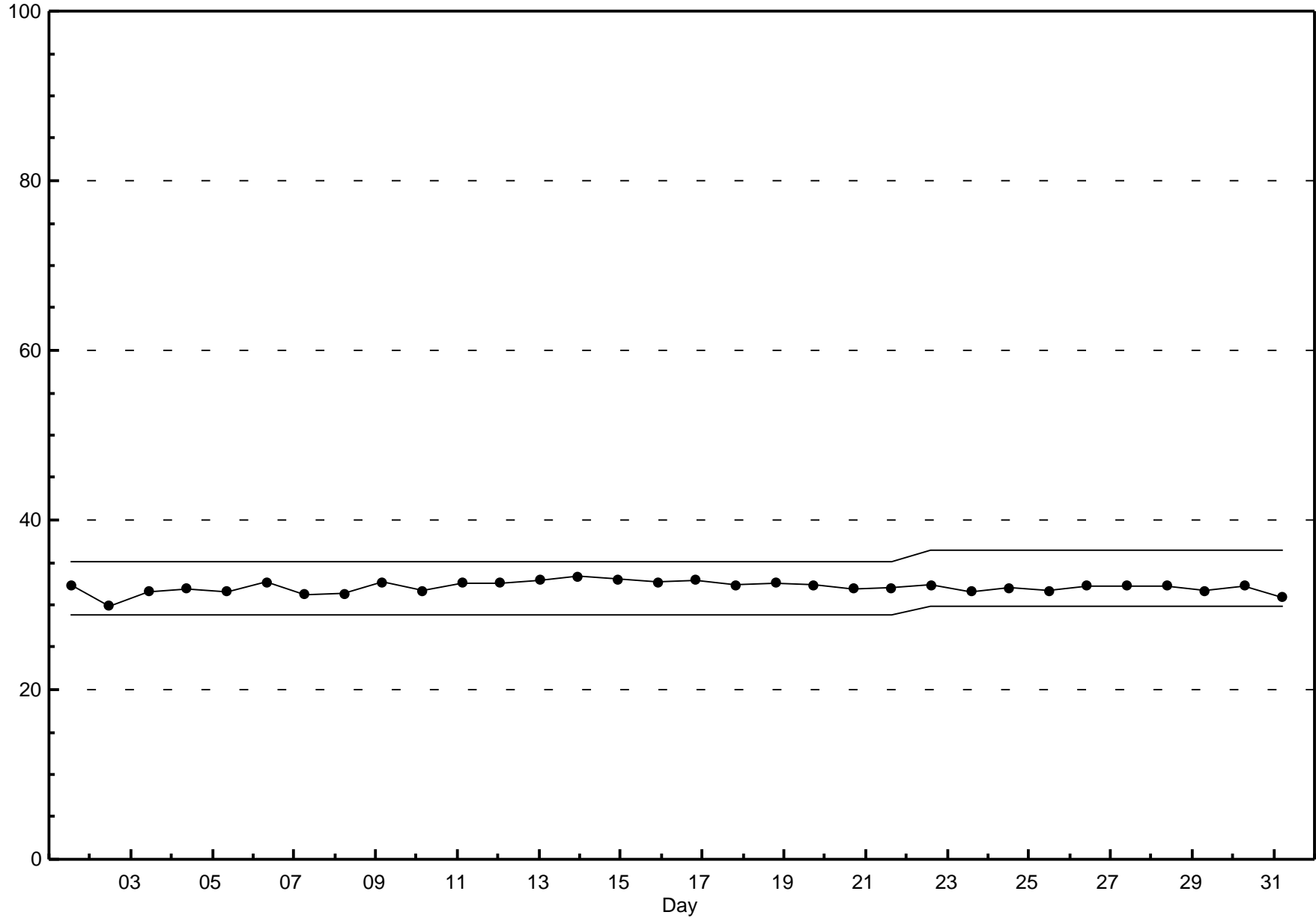




**Pollutant Rose**

**Total Reduced Sulphur (TRS) - ppb**  
**Henry Pirker - May 2013**





## Hourly Averages

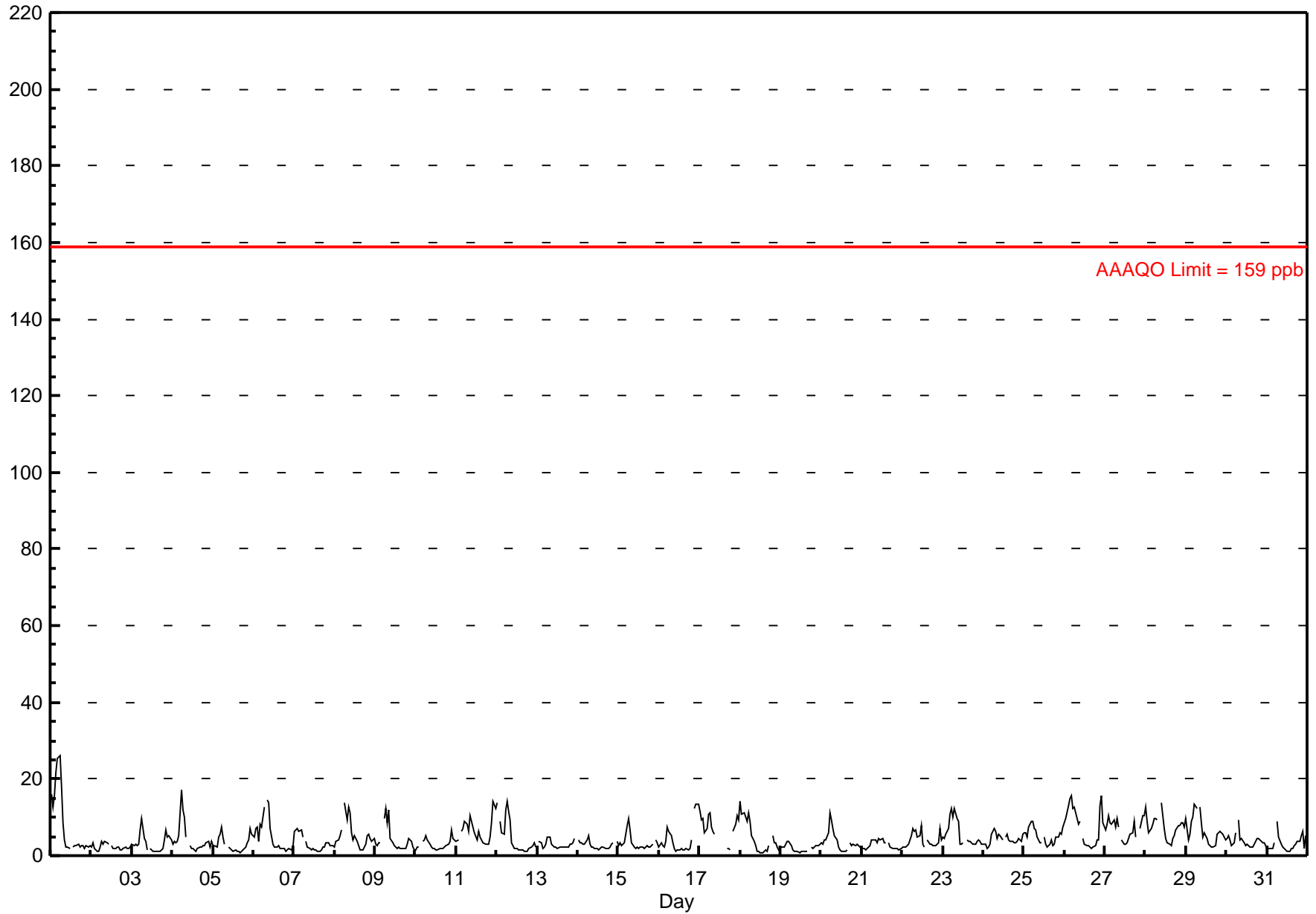
## Nitrogen Dioxide (NO<sub>2</sub>) - ppb

### Henry Pirker - May 2013

Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 26.1 ppb on May 1 06:00	Maximum Daily Average: 7.9 ppb on May 26		Hours of Data:	704
Minimum Value: 1 ppb on May 5 17:00	Minimum Daily Average: 1.9 ppb on May 19		Hours of Missing Data:	40
Maximum Diurnal Average: 8.9 ppb at hour 7	Minimum Diurnal Average: 2.3 ppb at hour 16		Hours of Calibration:	38
Monthly Average: 4.53 ppb	Percentiles: P <sub>1</sub> = 1.0 P <sub>10</sub> = 1.6 Q <sub>1</sub> = 2.2 Median = 3.3 Q <sub>3</sub> = 5.7 P <sub>90</sub> = 9.4 P <sub>99</sub> = 15.3		Percent Operational Time:	99.7

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-May	16	13	16	22	25	26	18	9	4	2	2	2	A	2	2	3	3	2	2	3	2	3	2	3	7.9	26.1	
2-May	2	3	2	1	1	2	4	3	4	3	3	A	3	2	2	2	2	2	2	2	2	2	2	2	2.3	3.8	
3-May	3	3	3	2	3	7	10	4	4	2	A	2	1	1	1	1	1	1	2	4	7	5	5	4	3.3	9.9	
4-May	3	4	3	4	5	17	12	10	5	A	3	2	2	2	1	2	2	2	2	2	3	4	2	4	4.2	17.1	
5-May	3	3	2	5	6	7	5	3	A	2	2	1	1	1	1	1	1	1	1	2	3	4	7	6	3.0	7.4	
6-May	5	7	8	4	8	7	13	A	15	14	7	3	2	2	2	3	2	2	2	1	2	2	1	2	5.0	14.5	
7-May	6	7	7	6	7	5	A	4	2	2	2	2	2	1	1	1	2	2	2	3	4	3	3	2	3.3	7.0	
8-May	2	4	4	5	7	A	14	9	13	11	6	4	5	4	3	2	1	2	3	5	6	4	4	4	5.3	13.7	
9-May	3	3	3	3	A	10	12	8	12	5	3	3	2	2	2	2	2	2	2	3	5	4	2	1	4.1	12.4	
10-May	2	2	2	A	4	4	5	4	3	2	2	2	2	2	2	2	2	2	3	3	4	7	5	4	3.0	6.9	
11-May	4	4	A	6	7	9	8	6	10	9	8	6	4	6	5	4	3	3	3	3	5	8	14	12	6.4	14.0	
12-May	14	A	9	6	6	12	14	12	9	3	2	2	2	1	1	1	1	1	1	2	2	3	3	2	4.8	14.2	
13-May	A	4	3	2	2	3	5	5	3	3	2	2	2	2	2	2	2	2	2	3	3	3	4	A	2.9	5.0	
14-May	4	3	3	3	3	4	5	3	2	2	2	2	2	2	2	2	2	2	2	2	3	3	A	4	2.7	5.2	
15-May	3	3	3	3	5	8	10	7	3	2	2	2	2	2	2	2	2	3	2	2	3	A	4	3	3.5	9.7	
16-May	2	3	3	2	4	7	6	5	3	2	1	1	1	2	1	1	2	2	2	4	A	12	13	13	4.2	13.4	
17-May	11	9	10	6	7	11	11	7	6	5	C	C	C	C	C	C	2	2	1	A	6	8	11	9	--	11.4	
18-May	14	11	11	10	9	11	9	5	4	2	1	1	1	1	1	1	1	1	A	5	3	3	2	2	4.9	14.3	
19-May	2	2	2	3	4	4	3	2	1	1	1	1	1	1	1	1	1	A	2	2	2	2	3	3	1.9	3.7	
20-May	3	3	4	4	6	11	9	7	5	4	2	1	1	1	1	1	A	3	3	3	3	3	3	2	3.7	11.0	
21-May	2	2	2	2	2	3	4	4	4	3	4	4	4	3	3	A	4	2	2	2	2	2	2	2	2.8	4.5	
22-May	2	2	2	3	3	5	7	6	7	5	5	8	3	2	A	4	3	3	3	3	3	2	3	7	4	4.0	7.8
23-May	5	5	5	7	11	12	10	12	10	9	3	3	3	A	4	4	4	3	3	3	4	4	4	3	5.7	12.5	
24-May	3	3	2	2	3	5	7	6	5	6	5	4	A	5	5	4	4	4	3	3	4	5	4	6	4.2	7.0	
25-May	6	6	5	8	9	9	7	7	5	3	4	A	5	3	2	3	4	3	3	5	5	6	6	8	5.2	8.9	
26-May	9	10	13	15	16	12	13	10	8	9	A	5	3	3	3	2	2	2	3	4	4	13	16	9	7.9	15.6	
27-May	7	8	11	9	8	9	8	10	7	A	4	3	3	3	4	6	6	9	5	N	N	7	10	10	7.0	10.6	
28-May	13	9	6	7	8	10	10	10	9	A	14	10	7	5	3	3	3	5	5	7	8	8	9	8	7	7.6	13.9
29-May	10	4	6	9	10	14	12	A	13	9	5	6	4	3	3	2	2	3	6	6	6	6	5	4	6.4	13.5	
30-May	4	5	4	3	3	6	A	9	4	5	3	3	3	2	2	2	3	4	5	5	4	3	3	3	3.9	9.3	
31-May	2	2	2	2	4	A	9	5	3	2	2	2	1	1	2	2	3	3	4	4	5	6	2	5	3.1	9.0	
	5.5	4.9	5.2	5.5	6.5	8.7	8.9	6.6	6.0	4.9	3.4	3.0	2.5	2.3	2.3	2.3	2.5	2.6	2.8	3.3	3.8	5.0	5.3	4.8	Diurnal Average		
	16.2	12.5	15.5	21.5	25.2	26.1	17.8	12.5	14.5	13.9	10.3	7.8	5.4	6.3	5.5	5.8	6.1	9.0	6.8	7.9	7.7	13.2	15.6	13.4	Diurnal Maximum		

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



## Hourly Maximums

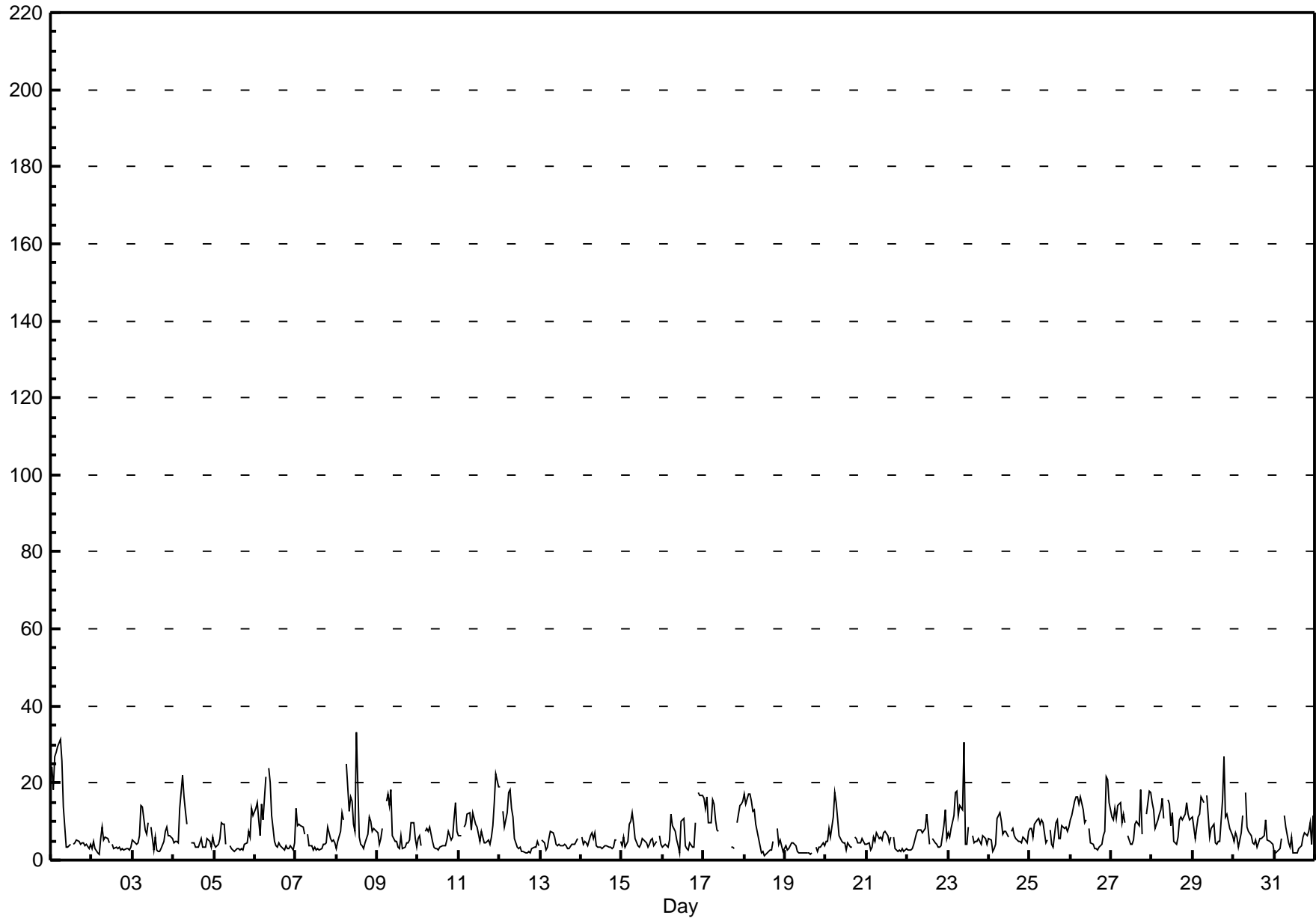
Nitrogen Dioxide (NO<sub>2</sub>) - ppb

Henry Pirker - May 2013

Maximum Value: 33.3 ppb on May 8 13:00		Maximum Daily Average: 11.5 ppb on May 1		Hours in Service: 744																						
Minimum Value: 1 ppb on May 18 13:00		Minimum Daily Average: 2.8 ppb on May 19		Hours of Data: 704																						
Maximum Diurnal Average: 12.9 ppb at hour 7		Minimum Diurnal Average: 4.1 ppb at hour 14		Hours of Missing Data: 40																						
Monthly Average: 7.19 ppb		Percentiles: P <sub>1</sub> = 1.7 P <sub>10</sub> = 2.9 Q <sub>1</sub> = 3.8 Median = 5.5 Q <sub>3</sub> = 9.4 P <sub>90</sub> = 14.4 P <sub>99</sub> = 26.9		Hours of Calibration: 38																						
				Percent Operational Time: 99.7																						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-May	24	18	27	28	29	31	26	14	8	3	4	4	A	4	5	5	5	4	4	4	4	4	3	4	11.5	31.3
2-May	3	5	3	2	2	5	9	5	6	5	5	A	4	3	4	3	4	3	3	3	3	3	3	3	3.8	8.6
3-May	5	4	4	4	6	14	14	8	7	10	A	9	3	6	3	2	2	3	5	7	8	6	6	6	6.3	14.2
4-May	4	5	5	5	14	22	16	13	9	A	4	4	4	3	3	4	6	3	4	3	5	5	3	6	6.6	21.8
5-May	4	4	4	6	10	9	9	4	A	4	3	3	2	3	3	3	3	3	4	4	7	6	13	12	5.3	13.4
6-May	13	15	10	6	15	10	22	A	24	20	11	5	4	3	4	4	3	3	4	3	3	4	2	4	8.4	23.9
7-May	13	9	9	9	8	7	A	7	4	4	2	3	2	3	3	3	4	4	5	9	5	5	5	4	5.6	13.4
8-May	3	5	7	12	10	A	25	13	16	15	9	8	33	6	4	4	3	4	7	11	10	7	8	7	10.0	33.3
9-May	7	4	6	8	A	15	17	14	18	6	5	5	3	3	6	3	3	4	4	5	10	10	6	3	7.3	18.4
10-May	6	6	4	A	8	8	7	9	5	3	3	3	3	3	4	4	4	5	7	5	6	11	15	8	6.0	15.0
11-May	6	6	A	9	9	12	12	8	12	11	9	9	5	7	6	5	4	5	4	6	9	15	22	19	9.2	22.2
12-May	19	A	13	8	12	18	18	13	11	5	3	3	3	2	2	2	2	2	2	3	3	4	5	4	6.9	19.2
13-May	A	5	4	3	3	6	8	7	6	4	4	4	4	4	4	4	3	3	4	4	4	5	6	A	4.5	7.6
14-May	6	4	5	5	4	6	7	6	7	4	3	3	3	3	4	4	3	3	3	3	5	5	A	5	4.4	7.2
15-May	4	6	3	5	9	10	12	9	6	4	3	4	6	5	5	3	4	5	6	4	5	A	6	4	5.6	12.2
16-May	3	4	4	3	5	12	9	8	5	4	2	10	11	4	3	3	4	3	3	10	A	17	17	17	7.0	17.4
17-May	16	13	16	10	10	16	15	10	8	7	C	C	C	C	C	C	3	4	3	A	10	14	14	15	--	16.2
18-May	17	15	17	17	15	13	13	9	6	4	2	2	1	2	2	3	2	5	A	8	4	5	4	2	7.3	17.3
19-May	4	3	3	4	4	4	4	2	2	2	2	2	2	2	1	2	A	3	2	3	3	5	4	2	2.8	4.7
20-May	5	5	8	6	11	17	15	11	6	5	5	5	3	5	3	3	A	6	6	4	4	5	5	4	6.4	17.4
21-May	4	4	2	3	6	5	7	6	6	5	7	8	6	4	6	A	6	3	2	2	2	3	2	3	4.5	7.5
22-May	2	2	2	3	4	7	8	8	8	7	8	12	8	4	A	5	5	4	3	3	4	9	13	5	5.9	13.0
23-May	7	6	8	11	18	18	12	14	13	30	4	4	9	A	7	5	5	5	6	4	6	6	6	4	9.0	30.5
24-May	6	5	2	3	4	11	12	10	7	8	7	6	A	7	8	7	6	5	5	5	6	6	5	7	6.4	12.5
25-May	8	8	6	9	11	11	9	10	10	5	5	A	8	4	4	10	10	6	5	9	8	9	8	9	7.9	11.0
26-May	11	12	15	17	17	15	17	13	10	11	A	8	5	4	3	3	2	3	4	6	7	22	21	15	10.4	21.8
27-May	11	11	13	11	14	15	10	12	10	A	7	4	4	5	9	10	9	18	7	N	N	12	18	18	10.8	18.4
28-May	15	13	8	11	12	13	16	11	A	16	14	9	12	5	4	6	11	11	10	12	15	12	10	11	11.2	15.9
29-May	11	6	9	11	12	16	15	A	17	12	6	8	9	5	4	5	5	16	27	11	12	10	8	7	10.4	26.9
30-May	5	7	6	4	7	11	A	18	9	8	6	4	4	5	3	5	5	6	7	10	5	5	5	4	6.5	17.7
31-May	2	2	3	3	6	A	12	9	4	3	6	2	2	2	3	4	4	6	7	6	7	10	4	12	5.1	11.7
		8.2	7.1	7.6	7.8	9.8	12.4	12.9	9.6	9.0	7.7	5.4	5.4	5.8	4.1	4.2	4.2	4.5	5.2	5.4	5.8	6.3	7.9	8.3	7.5	Diurnal Average
		24.4	18.2	26.9	28.0	29.3	31.3	25.9	17.7	23.9	30.5	14.4	11.9	33.3	7.5	9.3	10.0	10.5	18.4	26.9	12.0	14.8	21.8	22.2	19.0	Diurnal Maximum
C - Calibration		N - Not Valid						A - Automated Daily Zero Span																		

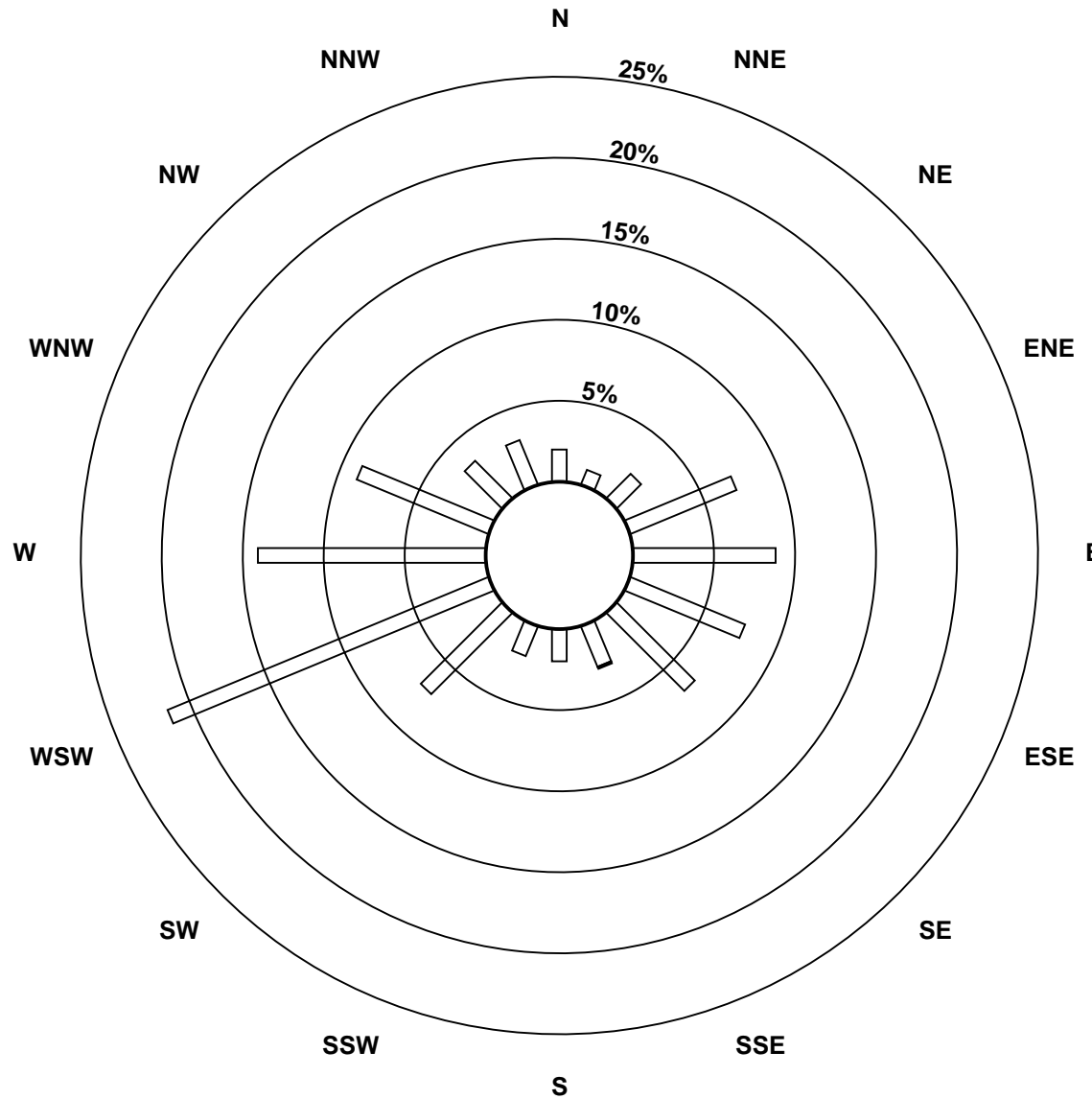
### Hourly Maximums

**Nitrogen Dioxide (NO<sub>2</sub>) - ppb**  
**Henry Pirker - May 2013**

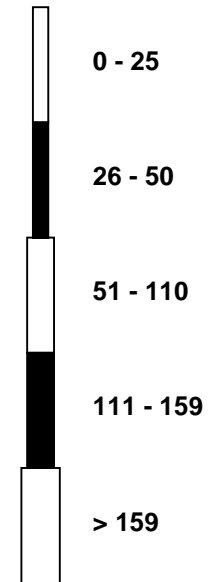


**Pollutant Rose**

**Nitrogen Dioxide (NO<sub>2</sub>) - ppb**  
**Henry Pirker - May 2013**

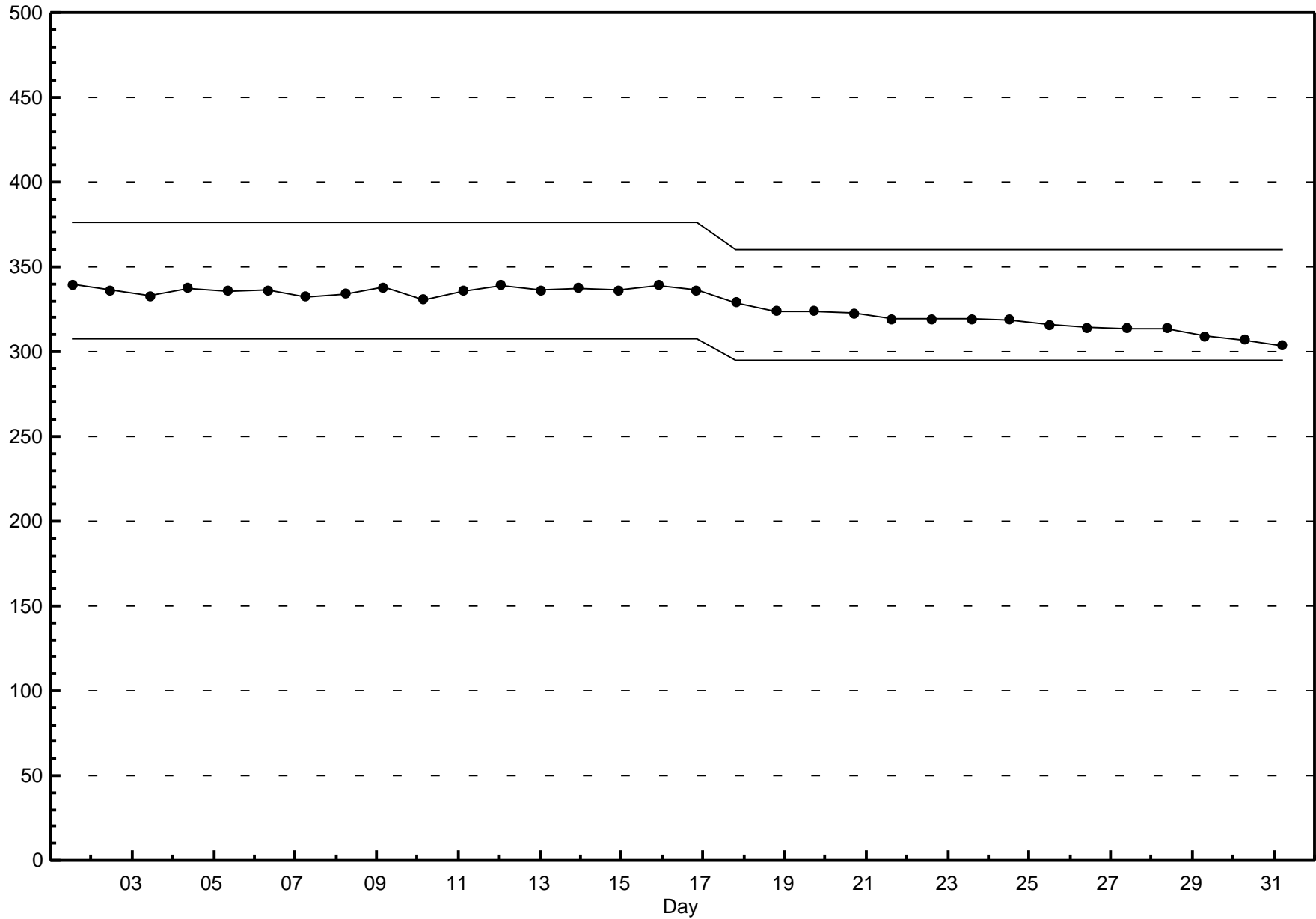


**Pollutant Classes (ppb)**



### Span Responses

Nitrogen Dioxide (NO<sub>2</sub>)  
Henry Pirker - May 2013





## Hourly Averages

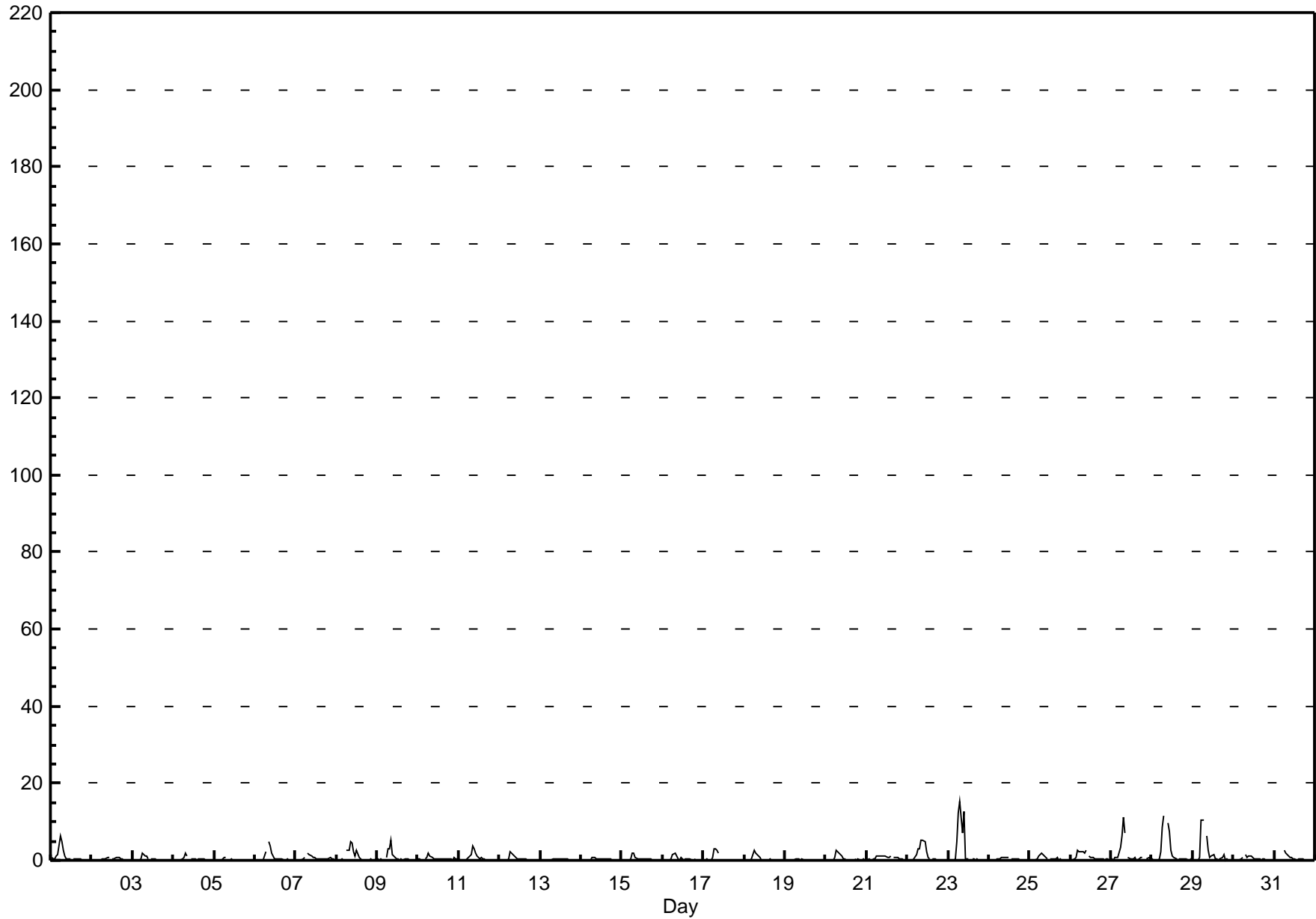
Nitrogen Oxide (NO) - ppb

Henry Pirker - May 2013

Number of Exceedences (AAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 15.1 ppb on May 23 08:00	Maximum Daily Average: 2.4 ppb on May 23		Hours of Data:	704
Minimum Value: 0 ppb on May 1 20:00	Minimum Daily Average: 0.1 ppb on May 5		Hours of Missing Data:	40
Maximum Diurnal Average: 2.9 ppb at hour 7	Minimum Diurnal Average: 0.1 ppb at hour 24		Hours of Calibration:	38
Monthly Average: 0.69 ppb	Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.0 Q <sub>1</sub> = 0.0 Median = 0.2 Q <sub>3</sub> = 0.5 P <sub>90</sub> = 1.7 P <sub>99</sub> = 10.1		Percent Operational Time:	99.7

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-May	1	0	0	1	2	6	5	3	1	1	1	0	A	0	0	1	0	0	0	0	0	0	0	0	1.0	6.4
2-May	0	0	0	0	0	0	0	0	0	1	1	A	1	1	1	1	1	0	0	0	0	0	0	0	0.3	0.7
3-May	0	0	0	0	0	0	2	1	1	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	2.0
4-May	0	0	0	0	0	1	1	2	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	2.0
5-May	0	0	0	0	0	0	1	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.6
6-May	0	0	0	0	0	0	2	A	5	4	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0.7	4.8
7-May	0	0	0	0	0	1	A	2	1	1	1	1	1	0	0	0	0	1	0	1	1	0	0	0	0.5	1.9
8-May	0	0	0	0	0	A	3	3	5	5	2	1	3	1	0	0	0	0	0	0	0	0	0	0	1.0	4.8
9-May	0	0	0	0	A	1	3	3	5	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.8	5.3
10-May	0	0	0	A	0	1	2	1	1	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0.5	1.9
11-May	0	0	A	0	0	0	1	1	4	3	2	1	1	1	0	0	0	0	0	0	0	0	0	0	0.7	3.6
12-May	0	A	0	0	0	0	2	2	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	2.4
13-May	A	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0.2	0.5
14-May	0	0	0	0	0	0	1	1	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	A	0.3	0.7
15-May	0	0	0	0	0	1	2	2	1	1	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.4	2.0
16-May	0	0	0	0	0	1	1	2	1	0	0	1	0	0	0	0	0	0	0	0	0	A	0	0	0.3	1.7
17-May	0	0	0	0	0	1	3	3	3	2	C	C	C	C	C	C	0	0	0	A	0	0	0	0	--	2.8
18-May	0	0	0	0	1	1	2	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	2.5
19-May	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	A	0	0	0	0	0	0.1	0.5
20-May	0	0	0	0	0	1	3	2	2	1	1	0	0	0	0	0	A	0	0	0	0	0	0	0	0.5	2.5
21-May	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	0	0	0	0.6	1.3
22-May	0	0	0	0	0	1	3	3	5	5	5	2	1	1	A	0	0	0	0	0	0	0	0	0	1.2	5.3
23-May	0	0	0	0	0	5	12	15	7	13	0	0	0	A	0	0	0	0	0	0	0	0	0	0	2.4	15.1
24-May	0	0	0	0	0	0	0	1	1	1	1	1	A	0	1	0	0	0	0	0	0	0	0	0	0.3	0.9
25-May	0	0	0	0	0	1	1	2	2	1	1	A	0	0	0	0	1	0	0	0	0	0	0	0	0.4	1.8
26-May	0	0	0	1	3	2	2	2	2	3	A	1	1	1	0	0	0	0	0	0	0	0	0	0	0.9	2.7
27-May	0	0	1	1	1	3	6	11	7	A	1	1	1	1	1	0	0	1	1	N	N	0	1	0	1.8	11.1
28-May	0	0	0	0	0	2	9	12	A	10	7	3	1	1	0	0	0	0	0	0	0	0	0	0	2.1	11.5
29-May	0	0	0	0	1	11	10	A	6	3	1	1	1	1	0	0	0	1	1	0	0	0	0	0	1.6	10.6
30-May	0	0	0	0	0	1	A	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0.3	1.4
31-May	0	0	0	0	0	A	3	2	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.4	2.6
	0.1	0.1	0.1	0.1	0.3	1.5	2.9	2.8	2.3	2.1	1.1	0.7	0.5	0.4	0.4	0.3	0.3	0.3	0.2	0.1	0.1	0.1	0.1	0.1	Diurnal Average	
	0.6	0.4	0.7	1.1	2.7	10.6	12.5	15.1	7.2	12.7	7.3	2.5	2.8	0.9	1.2	0.7	0.8	0.9	1.3	0.5	0.6	0.6	0.6	0.4	Diurnal Maximum	

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



## Hourly Maximums

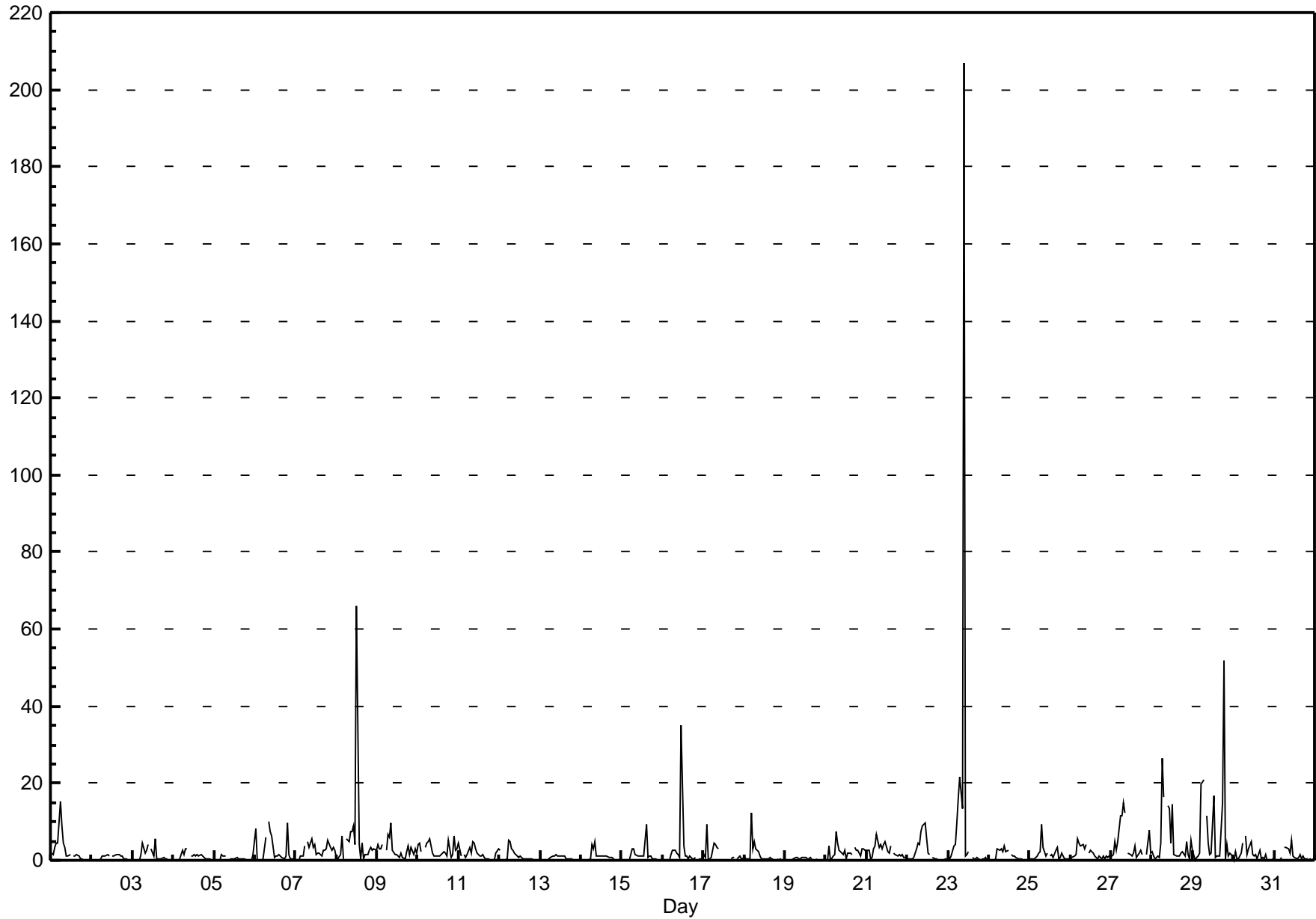
Nitrogen Oxide (NO) - ppb

Henry Pirker - May 2013

Maximum Value: 206.9 ppb on May 23 10:00 Minimum Value: 0 ppb on May 14 01:00 Maximum Diurnal Average: 10.3 ppb at hour 10 Monthly Average: 2.52 ppb		Maximum Daily Average: 12.5 ppb on May 23 Minimum Daily Average: 0.4 ppb on May 19 Minimum Diurnal Average: 0.8 ppb at hour 2 Percentiles: P <sub>1</sub> = 0.1 P <sub>10</sub> = 0.1 Q <sub>1</sub> = 0.5 Median = 1.0 Q <sub>3</sub> = 2.5 P <sub>90</sub> = 4.8 P <sub>99</sub> = 20.3		Hours in Service: 744 Hours of Data: 704 Hours of Missing Data: 40 Hours of Calibration: 38 Percent Operational Time: 99.7																							
Day	Hourly Period Ending At (MST)																								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-May	2	1	3	4	5	15	9	4	3	1	1	1	A	1	1	1	1	0	1	0	0	0	0	0	2.5	15.1	
2-May	0	0	0	0	0	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	0	0	0	0.7	1.5	
3-May	0	0	0	0	0	2	4	2	2	4	A	3	1	6	1	1	1	1	1	1	0	0	0	0	1.2	5.6	
4-May	0	0	0	0	0	3	2	3	3	A	1	1	1	1	1	1	2	1	1	1	0	0	0	0	1.0	3.0	
5-May	0	0	0	0	1	1	1	1	A	1	1	1	1	1	1	1	0	0	0	0	0	0	0	2	0.5	1.6	
6-May	8	0	0	0	0	1	6	A	10	7	6	1	1	1	1	1	1	1	1	10	1	0	0	0	2.5	9.9	
7-May	0	0	0	1	1	4	A	5	3	6	3	4	1	2	2	1	3	3	3	5	4	2	3	3	2.6	5.6	
8-May	1	1	1	6	1	A	5	5	7	7	9	4	66	4	1	5	0	1	1	3	3	3	3	2	6.1	66.0	
9-May	4	3	3	4	A	2	7	6	10	2	2	1	1	1	2	1	1	2	4	1	3	2	3	2	2.8	9.8	
10-May	4	4	2	A	3	5	5	6	2	1	1	1	1	1	2	2	2	1	5	1	2	6	2	3	2.7	6.4	
11-May	4	1	A	2	1	1	3	2	5	4	3	2	1	1	1	1	1	1	0	0	0	0	2	3	1.7	4.9	
12-May	3	A	0	0	1	5	5	3	2	2	1	1	1	1	1	1	1	1	0	0	0	0	0	0	1.2	5.2	
13-May	A	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	A	0.6	1.3	
14-May	0	0	0	0	0	1	4	3	5	1	1	1	1	1	1	1	1	1	1	0	0	0	A	0	1.0	4.8	
15-May	0	0	0	0	0	1	3	3	2	1	1	1	1	1	9	1	1	1	1	1	0	A	0	0	1.2	9.3	
16-May	0	0	0	0	0	2	3	2	2	1	1	35	4	1	1	1	1	1	1	1	A	0	0	1	2.5	35.1	
17-May	1	1	9	0	1	3	4	4	4	3	C	C	C	C	C	C	1	1	1	A	1	1	1	1	--	9.2	
18-May	1	1	1	1	12	3	5	3	2	1	1	1	1	0	1	1	1	1	A	A	1	0	0	0	1.5	12.2	
19-May	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	A	1	0	0	0	0	0	0.4	0.6	
20-May	0	0	4	0	1	2	7	5	3	2	2	2	1	2	2	1	A	A	3	3	2	1	3	3	2.2	7.5	
21-May	3	2	1	1	3	4	7	3	4	3	4	5	2	2	4	A	2	2	1	1	1	2	1	1	2.5	6.6	
22-May	1	1	0	1	1	3	5	4	8	9	10	6	2	1	A	1	1	1	0	0	0	0	1	0	2.3	9.8	
23-May	0	1	1	4	4	10	16	21	13	207	1	1	2	A	1	1	1	1	1	0	1	0	1	0	12.5	206.9	
24-May	0	0	0	0	1	3	3	3	2	4	2	2	A	1	1	1	1	1	1	1	0	0	0	0	1.1	3.7	
25-May	0	1	1	0	1	2	2	9	4	1	2	A	1	1	1	3	3	1	1	2	1	0	0	1	1.6	9.5	
26-May	1	1	1	2	6	4	4	4	3	4	A	2	3	2	1	1	1	1	1	1	0	1	1	1	1.9	5.7	
27-May	1	1	5	2	5	12	11	15	12	A	2	1	1	2	4	1	2	3	2	N	N	2	8	2	4.4	14.8	
28-May	2	1	0	1	1	5	26	16	A	14	13	4	15	2	1	1	1	2	2	1	5	1	1	5	5.3	26.4	
29-May	3	0	1	1	2	20	21	A	11	5	2	2	17	1	1	1	1	15	52	1	4	1	2	1	7.1	51.9	
30-May	0	2	1	0	2	4	A	6	2	3	5	1	1	1	1	2	1	1	1	1	0	0	0	0	1.6	6.5	
31-May	0	0	0	0	1	A	4	4	3	2	5	1	1	1	1	1	1	1	1	1	0	0	0	1	1.1	5.3	
	1.3	0.8	1.2	1.0	1.7	4.0	6.0	5.0	4.5	10.3	2.9	3.2	4.6	1.4	1.5	1.1	1.0	1.5	2.8	1.2	1.0	0.9	1.1	1.0		Diurnal Average	
	8.0	4.4	9.2	6.5	12.2	19.8	26.4	21.5	13.5	206.9	13.4	35.1	66.0	5.6	9.3	4.6	3.2	14.8	51.9	9.6	5.0	6.4	7.9	5.2		Diurnal Maximum	
C - Calibration																								N - Not Valid		A - Automated Daily Zero Span	

### Hourly Maximums

**Nitrogen Oxide (NO) - ppb**  
**Henry Pirker - May 2013**



## Hourly Averages

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

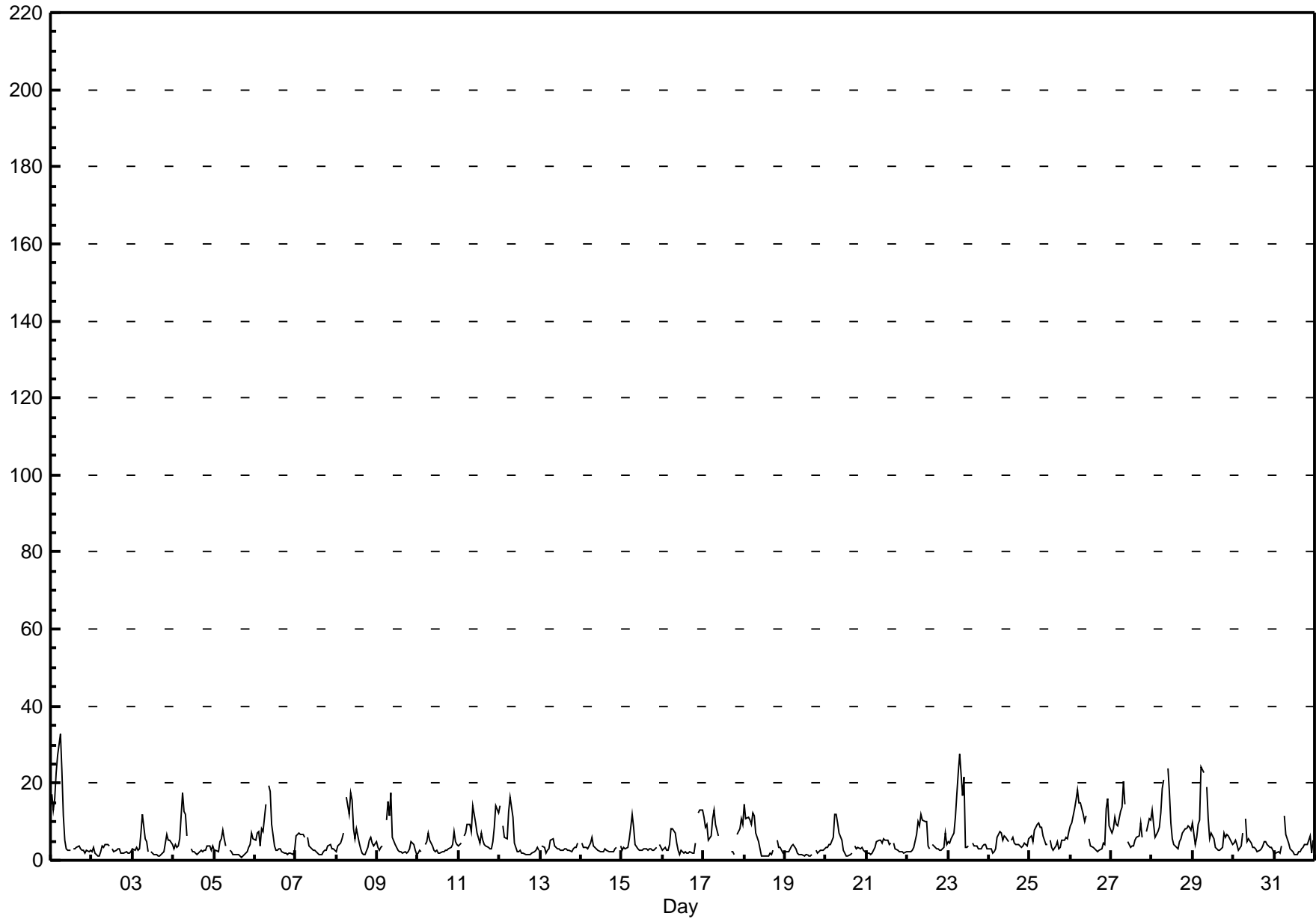
### Henry Pirker - May 2013

Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 32.7 ppb on May 1 06:00	Maximum Daily Average: 9.7 ppb on May 28		Hours of Data:	704
Minimum Value: 1 ppb on May 5 17:00	Minimum Daily Average: 2.2 ppb on May 19		Hours of Missing Data:	40
Maximum Diurnal Average: 11.8 ppb at hour 7	Minimum Diurnal Average: 2.7 ppb at hour 16		Hours of Calibration:	38
Monthly Average: 5.27 ppb	Percentiles: P <sub>1</sub> = 1.2 P <sub>10</sub> = 1.9 Q <sub>1</sub> = 2.5 Median = 3.6 Q <sub>3</sub> = 6.2 P <sub>90</sub> = 11.2 P <sub>99</sub> = 22.8		Percent Operational Time:	99.7

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-May	17	13	16	23	27	33	23	12	5	3	3	A	3	3	3	4	3	3	3	2	3	2	3	9.0	32.7	
2-May	2	3	2	1	1	2	4	3	4	4	4	A	3	2	3	3	3	2	2	2	2	2	2	2.6	4.3	
3-May	3	3	3	2	3	7	12	6	5	2	A	2	2	2	1	1	1	1	2	4	7	5	5	3.7	12.0	
4-May	3	4	3	4	5	18	13	12	6	A	3	2	2	2	1	2	3	2	3	3	4	4	2	4.6	17.7	
5-May	3	3	2	5	6	8	5	4	A	2	2	2	1	2	1	1	1	1	2	2	3	4	7	3.2	7.7	
6-May	5	7	8	4	8	8	15	A	19	18	9	4	3	3	3	3	2	2	2	2	2	2	1	5.7	19.4	
7-May	6	7	7	7	7	6	A	6	4	3	3	3	2	2	2	2	3	3	4	4	3	3	3	3.8	7.0	
8-May	2	4	4	6	7	A	16	12	17	16	8	5	8	4	3	2	1	2	3	5	6	5	4	6.4	17.5	
9-May	3	3	3	4	A	10	15	11	17	6	4	3	2	2	2	2	2	2	3	5	4	3	1	4.9	17.4	
10-May	2	3	2	A	4	5	7	5	4	3	2	2	2	2	2	2	3	3	3	4	8	5	4	3.5	7.6	
11-May	4	4	A	6	7	9	9	8	14	12	10	7	5	7	5	4	4	3	3	3	5	8	14	7.2	14.1	
12-May	14	A	9	6	6	12	17	14	11	4	2	2	3	2	2	2	2	1	1	2	2	3	4	5.3	16.6	
13-May	A	4	4	2	3	3	5	6	4	3	3	3	3	3	3	3	3	2	3	3	3	5	A	3.3	5.5	
14-May	4	3	4	3	3	4	6	4	3	3	2	2	2	2	3	3	2	2	2	3	3	A	4	3.2	6.1	
15-May	3	3	3	3	6	8	12	9	4	3	3	2	3	3	2	3	3	3	3	3	A	4	3	4.0	11.9	
16-May	3	3	3	2	4	8	8	7	5	3	1	2	2	2	2	2	2	2	4	A	12	13	13	4.6	13.2	
17-May	11	9	9	5	6	11	13	9	8	6	C	C	C	C	C	C	2	2	2	A	7	8	11	--	13.0	
18-May	14	11	11	10	9	12	11	7	5	3	1	1	1	1	1	2	1	3	A	5	4	4	3	5.4	14.5	
19-May	2	2	2	3	4	4	3	2	1	1	1	1	1	1	1	1	1	A	3	2	2	3	3	2.2	4.0	
20-May	4	3	4	4	6	12	12	10	7	5	3	2	1	1	1	2	A	4	3	3	3	3	3	4.3	12.0	
21-May	2	2	2	2	3	3	5	5	5	5	6	5	5	4	5	A	4	3	3	2	2	2	2	3.4	5.7	
22-May	2	2	2	3	3	7	10	9	12	10	10	10	4	3	A	4	3	3	3	3	2	3	7	5.3	11.9	
23-May	5	5	6	7	11	17	23	28	17	22	3	3	4	A	4	4	4	4	3	3	4	4	4	8.1	27.6	
24-May	3	3	2	2	3	6	7	7	5	7	6	5	A	5	6	5	4	4	4	3	4	5	4	4.5	7.5	
25-May	6	6	5	8	9	10	8	8	6	4	4	A	5	3	3	4	5	3	3	5	5	6	6	5.7	9.8	
26-May	9	10	13	16	18	15	15	12	10	11	A	5	4	3	3	3	2	3	3	4	4	14	16	8.8	18.2	
27-May	7	8	11	9	9	13	14	21	14	A	5	3	4	4	5	6	6	10	6	N	N	7	11	8.8	20.6	
28-May	13	9	6	7	9	12	19	21	A	24	18	10	6	4	3	3	5	6	7	8	8	9	8	9.7	23.7	
29-May	10	4	6	9	11	24	23	A	19	11	6	7	6	3	3	2	3	3	7	6	7	6	5	8.0	24.1	
30-May	4	5	4	3	4	7	A	11	5	6	4	3	3	3	2	3	3	4	5	5	4	3	3	4.2	10.7	
31-May	2	2	2	2	4	A	12	7	4	3	3	2	2	2	2	2	3	3	4	4	5	6	2	3.6	11.6	

5.6	5.0	5.3	5.6	6.8	10.2	11.8	9.4	8.3	7.0	4.6	3.7	3.1	2.8	2.8	2.7	2.8	3.0	3.1	3.6	4.0	5.1	5.4	4.9	Diurnal Average
17.0	13.2	16.1	22.9	27.1	32.7	23.0	27.6	19.4	23.7	17.6	10.0	8.2	7.1	6.0	6.0	6.4	9.8	7.2	8.3	8.2	13.5	15.9	13.2	Diurnal Maximum

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

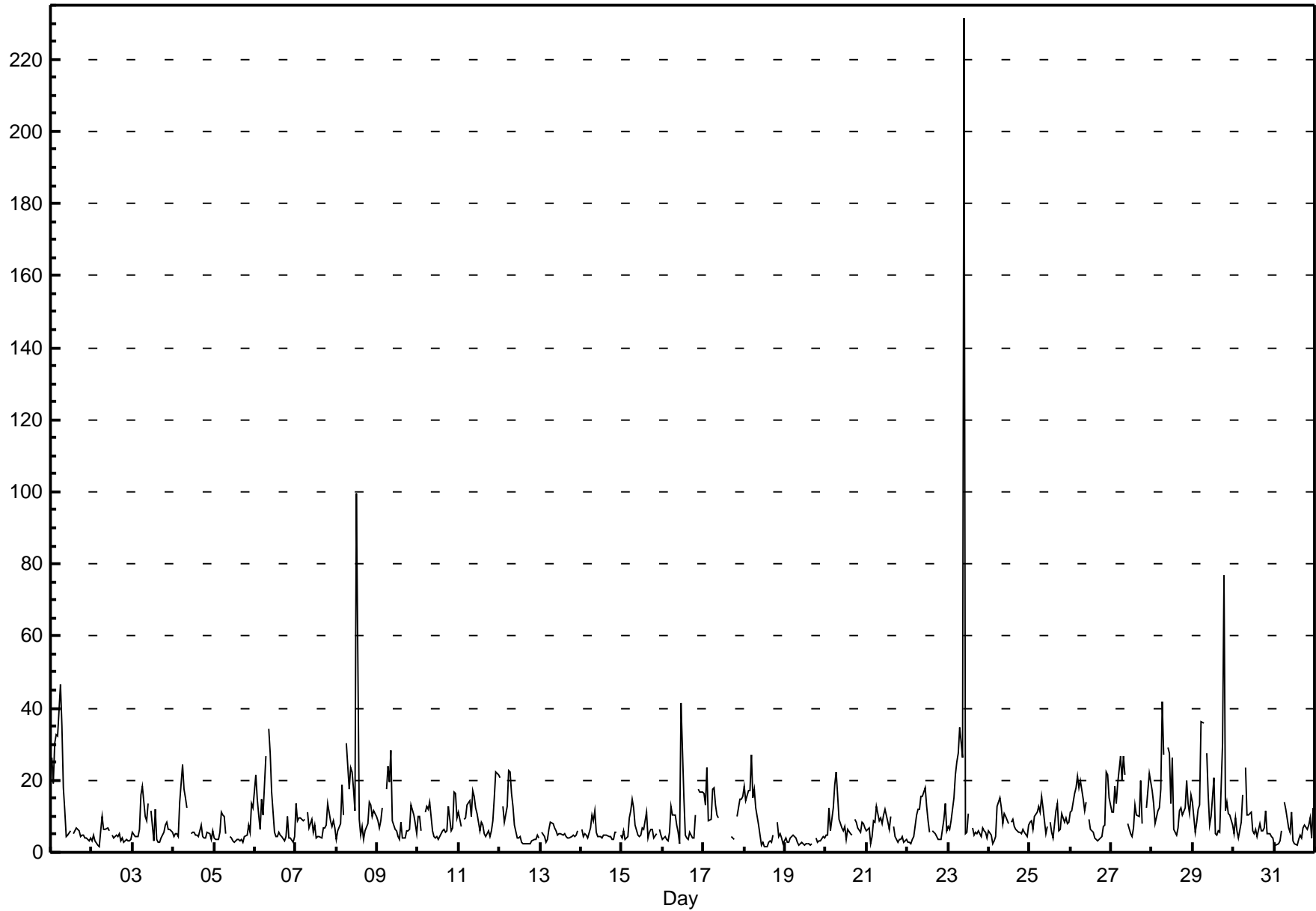


## Hourly Maximums

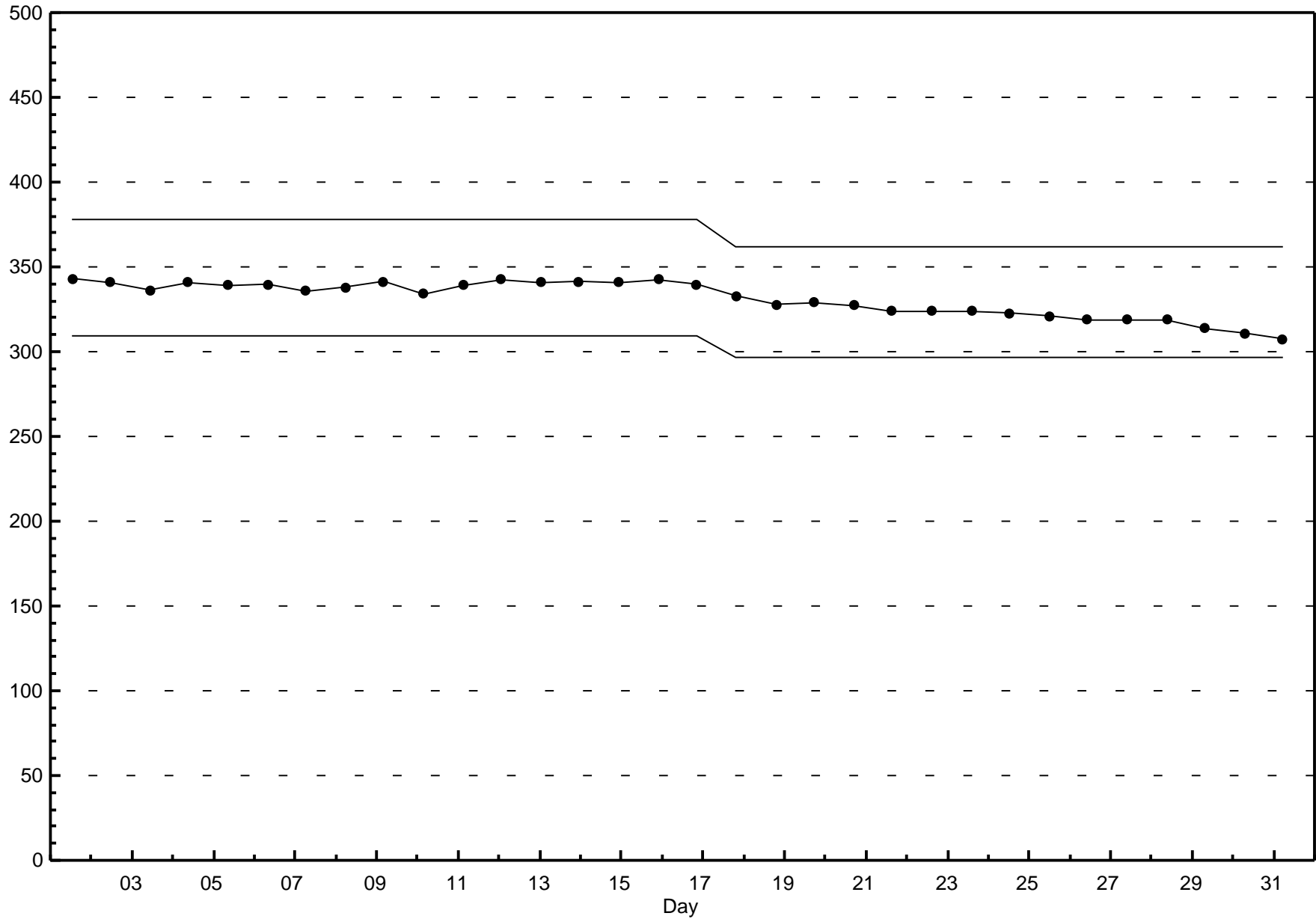
Oxides of Nitrogen (NO<sub>x</sub>) - ppb

Henry Pirker - May 2013

Maximum Value: 231.6 ppb on May 23 10:00		Maximum Daily Average: 20.9 ppb on May 23		Hours in Service: 744																							
Minimum Value: 2 ppb on May 2 05:00		Minimum Daily Average: 3.1 ppb on May 19		Hours of Data: 704																							
Maximum Diurnal Average: 18.5 ppb at hour 7		Minimum Diurnal Average: 5.2 ppb at hour 16		Hours of Missing Data: 40																							
Monthly Average: 9.48 ppb		Percentiles: P <sub>1</sub> = 2.1 P <sub>10</sub> = 3.4 Q <sub>1</sub> = 4.5 Median = 6.5 Q <sub>3</sub> = 11.5 P <sub>90</sub> = 17.5 P <sub>99</sub> = 33.5		Hours of Calibration: 38																							
				Percent Operational Time: 99.7																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-May	26	19	30	33	32	47	35	18	12	5	5	6	A	5	6	7	6	4	5	5	4	4	3	4	13.9	46.6	
2-May	3	5	3	2	2	6	10	6	7	7	6	A	5	4	5	4	5	3	4	3	3	3	3	4	4.4	9.8	
3-May	5	5	5	5	6	16	18	10	9	14	A	12	3	12	3	3	3	4	6	8	9	7	7	6	7.5	18.5	
4-May	5	5	5	5	14	24	17	15	12	A	5	6	6	5	5	4	8	5	4	4	6	5	4	6	7.5	24.4	
5-May	4	4	4	6	11	10	10	5	A	4	4	3	3	3	4	3	3	3	4	5	7	6	13	12	5.8	13.5	
6-May	22	15	10	6	15	10	27	A	34	28	17	6	4	4	6	5	4	3	5	10	4	4	3	4	10.7	34.1	
7-May	13	9	9	10	9	9	A	11	7	9	5	8	4	4	4	4	7	7	7	13	9	7	9	7	7.9	13.5	
8-May	4	6	8	19	10	A	30	18	23	22	18	12	100	9	5	7	4	6	8	14	13	10	11	10	15.9	99.6	
9-May	9	7	9	12	A	17	24	20	28	9	6	6	4	3	8	4	4	6	6	6	13	10	8	5	9.8	28.3	
10-May	10	10	6	A	11	13	12	14	6	4	4	4	3	4	6	6	6	6	13	6	7	17	16	9	8.4	16.6	
11-May	11	7	A	9	10	13	14	10	17	15	12	11	6	8	7	5	5	6	4	6	9	15	22	21	10.7	22.3	
12-May	21	A	13	8	13	23	22	16	13	8	4	4	4	3	2	2	2	3	2	3	3	4	5	4	8.0	22.9	
13-May	A	5	4	3	3	6	8	8	7	6	5	5	5	5	5	4	4	4	4	5	4	5	6	A	5.2	8.4	
14-May	6	4	5	5	4	7	10	9	11	5	4	4	4	5	5	5	4	4	3	4	5	5	A	5	5.5	11.5	
15-May	4	6	3	4	9	11	15	12	7	5	4	5	7	6	11	4	6	6	6	4	5	A	6	5	6.7	14.9	
16-May	3	4	3	3	5	13	10	10	7	5	2	41	15	5	4	3	6	4	4	10	A	17	17	17	9.2	41.5	
17-May	16	13	24	9	9	18	18	13	10	10	C	C	C	C	C	C	4	4	3	A	10	15	15	16	--	23.7	
18-May	18	15	17	17	27	15	18	12	8	5	2	3	2	2	3	3	3	5	A	8	4	5	4	2	8.6	27.1	
19-May	4	3	3	4	4	5	4	3	2	2	3	2	2	2	2	2	2	A	4	3	3	3	4	4	3.1	4.9	
20-May	5	5	12	6	12	19	22	16	9	7	6	7	3	6	5	5	A	A	9	8	7	5	8	8	7	8.6	22.5
21-May	6	7	2	4	9	8	13	9	10	8	10	12	8	6	10	A	7	4	3	4	3	4	3	3	6.7	12.7	
22-May	3	3	2	3	4	10	12	12	15	15	18	13	9	5	A	6	5	4	4	4	3	9	13	6	7.9	17.9	
23-May	7	7	9	15	22	25	28	35	26	232	5	5	11	A	7	5	5	5	6	4	7	6	5	4	20.9	231.6	
24-May	6	5	2	3	4	13	15	12	8	11	10	8	A	8	9	7	6	6	5	5	6	6	4	7	7.3	15.3	
25-May	8	9	6	10	11	13	11	16	13	5	7	A	8	5	4	11	14	6	6	11	9	9	8	9	9.1	15.6	
26-May	11	12	16	18	21	18	20	15	12	14	A	9	6	6	4	4	3	4	4	7	7	22	22	15	11.7	22.3	
27-May	11	11	18	13	19	27	20	27	21	A	8	5	5	7	13	10	10	20	8	N	N	12	22	19	14.6	26.8	
28-May	17	13	8	12	13	18	42	27	A	29	28	13	26	6	5	7	12	12	11	13	20	13	11	16	16.1	41.7	
29-May	14	6	9	12	13	36	36	A	27	16	7	10	21	5	5	6	5	30	77	12	14	11	10	8	16.9	76.8	
30-May	5	9	6	4	9	16	A	23	10	10	11	6	5	6	4	8	6	6	7	11	5	5	5	4	8.0	23.4	
31-May	2	2	3	3	6	A	14	12	7	5	11	3	3	2	4	5	4	7	7	7	7	10	4	12	6.1	14.0	
		9.3	7.6	8.6	8.8	11.3	16.1	18.5	14.3	13.1	17.8	8.1	8.2	10.1	5.3	5.6	5.2	5.4	6.5	8.0	6.9	7.2	8.6	9.1	8.4	Diurnal Average	
		26.5	19.1	30.4	32.5	32.2	46.6	41.7	34.8	34.1	231.6	27.5	41.5	99.6	11.8	13.2	11.4	13.6	30.4	76.8	14.0	19.8	22.3	22.3	21.4	Diurnal Maximum	
C - Calibration		N - Not Valid					A - Automated Daily Zero Span																				







## Hourly Averages

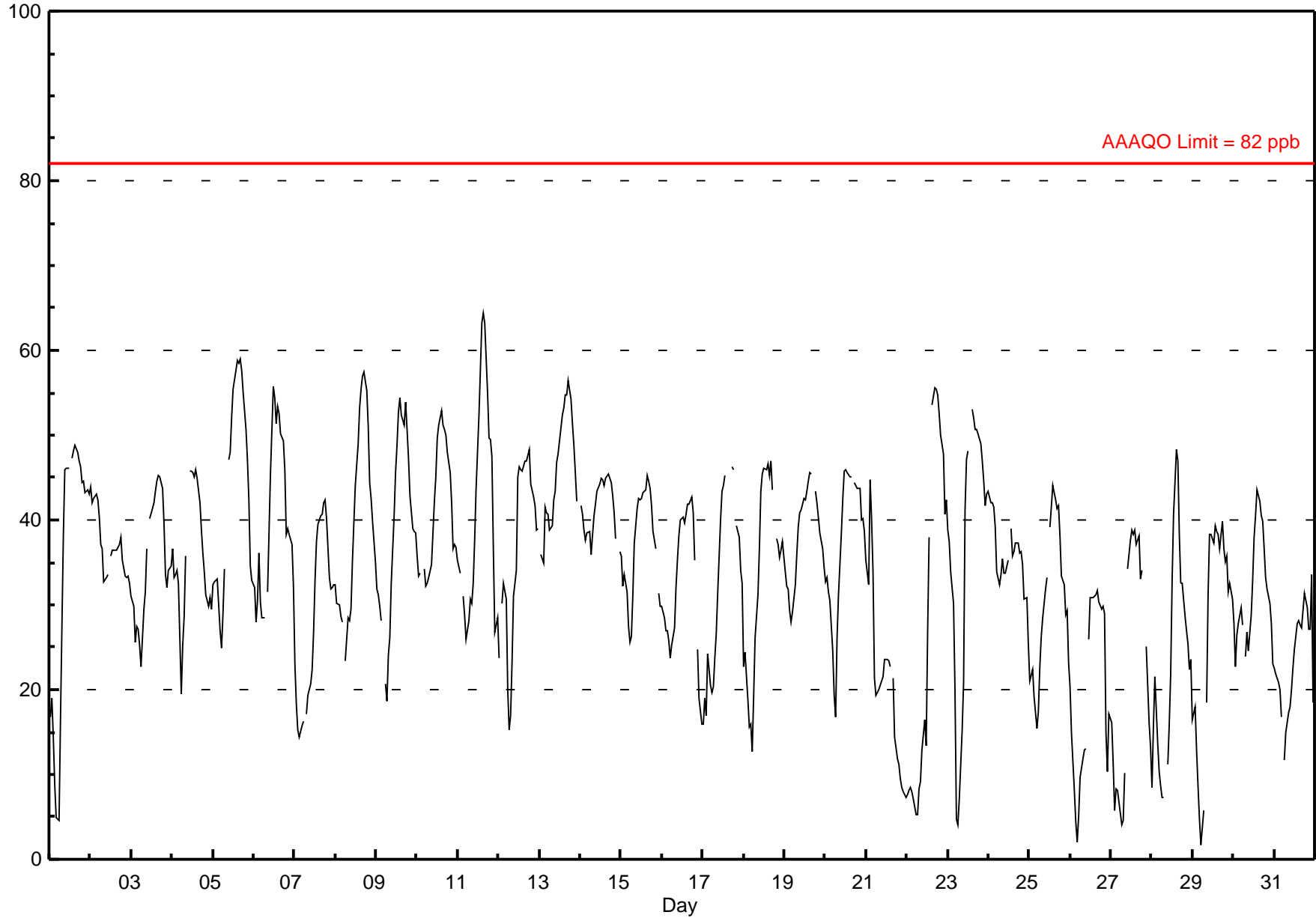
Ozone (O<sub>3</sub>) - ppb

Henry Pirker - May 2013

Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 64.4 ppb on May 11 16:00	Maximum Daily Average: 46.2 ppb on May 13		Hours of Data:	707
Minimum Value: 2 ppb on May 29 06:00	Minimum Daily Average: 19.3 ppb on May 26		Hours of Missing Data:	37
Maximum Diurnal Average: 45.8 ppb at hour 16	Minimum Diurnal Average: 20.6 ppb at hour 6		Hours of Calibration:	35
Monthly Average: 33.80 ppb	Percentiles: P <sub>1</sub> = 4.7 P <sub>10</sub> = 15.8 Q <sub>1</sub> = 26.8 Median = 35.0 Q <sub>3</sub> = 42.6 P <sub>90</sub> = 47.9 P <sub>99</sub> = 57.5		Percent Operational Time:	99.7

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																								
1-May	17	19	14	9	5	5	16	28	38	46	46	46	A	47	48	49	48	47	46	44	45	43	44	43	34.5	48.7																						
2-May	44	42	42	43	42	40	37	37	33	33	34	A	36	36	36	36	37	37	38	35	33	33	33	33	37.0	43.9																						
3-May	31	30	26	27	27	25	23	29	32	37	A	40	41	42	43	45	45	45	44	40	34	32	34	35	35.1	45.3																						
4-May	37	33	34	34	33	19	25	29	36	A	46	46	46	45	46	45	42	39	36	34	31	30	31	29	35.8	45.9																						
5-May	32	33	33	30	27	25	29	34	A	47	48	52	55	58	59	59	59	58	55	51	47	42	35	33	43.5	59.0																						
6-May	32	28	31	36	30	29	28	A	32	38	45	56	54	51	53	53	50	49	46	38	39	38	37	32	40.3	55.7																						
7-May	23	18	15	14	16	16	A	17	19	21	22	27	33	37	40	40	41	42	42	40	33	32	32	32	28.4	42.3																						
8-May	32	30	30	29	28	A	23	29	28	29	35	40	44	49	53	56	57	57	55	51	44	43	40	35	39.9	57.4																						
9-May	32	31	30	28	A	21	19	24	26	33	40	46	49	53	54	52	51	54	51	47	43	39	39	39	39.1	54.5																						
10-May	36	33	34	A	34	32	32	33	35	39	42	45	50	51	53	51	51	50	48	46	42	37	37	37	41.2	52.8																						
11-May	35	34	A	31	29	26	28	31	30	32	38	44	52	58	63	64	63	55	50	49	47	37	27	29	41.4	64.4																						
12-May	24	A	30	33	31	20	15	17	23	31	34	45	46	46	46	47	47	48	48	44	43	42	39	39	36.4	48.3																						
13-May	A	36	35	42	41	41	39	39	42	43	47	48	49	52	53	55	55	56	54	51	49	46	42	A	46.2	56.4																						
14-May	42	41	39	38	38	39	36	38	41	42	43	44	45	45	44	45	45	45	44	43	41	38	A	36	41.4	45.4																						
15-May	36	32	34	31	27	26	26	31	37	41	43	42	42	43	44	45	45	44	42	39	37	A	31	30	36.9	45.3																						
16-May	30	28	27	27	26	24	25	27	32	35	38	40	40	40	41	42	42	43	41	35	A	25	19	16	32.3	42.7																						
17-May	16	19	17	24	20	20	20	24	27	31	40	43	44	45	C	C	C	46	46	A	39	38	34	33	31.4	46.3																						
18-May	23	24	19	16	16	13	19	26	31	37	43	45	46	46	47	45	47	44	A	38	37	36	36	37	33.5	47.0																						
19-May	34	32	32	29	28	29	32	36	39	41	41	43	42	43	45	46	45	A	43	42	40	38	37	34	37.9	45.6																						
20-May	33	33	31	30	25	19	17	26	31	38	43	46	46	46	45	45	A	44	44	44	44	40	40	39	36.9	45.9																						
21-May	35	32	45	40	34	21	19	20	20	21	21	24	23	23	23	A	21	14	12	11	10	9	8	7	21.6	44.8																						
22-May	8	8	9	8	7	5	5	8	9	13	17	13	27	38	A	53	56	55	55	53	50	48	41	42	27.3	55.7																						
23-May	39	37	34	30	20	5	4	7	15	21	41	47	48	A	53	52	51	51	50	49	47	45	42	43	36.1	53.0																						
24-May	43	42	42	42	39	34	32	34	35	34	34	35	A	39	36	36	37	37	36	36	35	31	31	25	35.9	43.5																						
25-May	21	22	22	19	15	17	23	26	28	32	33	A	39	42	44	42	41	42	38	33	32	29	29	23	30.2	44.0																						
26-May	20	15	8	4	2	5	10	12	13	13	A	26	31	31	31	31	32	30	29	30	29	15	10	17	19.3	31.7																						
27-May	16	11	6	8	8	5	4	5	10	A	34	38	39	38	39	37	38	33	34	N	N	25	16	13	21.8	38.8																						
28-May	8	16	21	14	10	9	7	7	A	11	16	22	33	41	48	47	38	32	33	29	27	25	22	24	23.5	48.3																						
29-May	16	18	13	9	5	2	6	A	18	31	38	38	37	39	39	38	37	40	37	35	36	31	33	31	27.2	39.9																						
30-May	28	23	26	28	30	28	A	24	27	25	29	33	38	41	44	42	40	40	37	33	32	30	28	23	31.6	43.5																						
31-May	23	22	21	20	17	A	12	15	17	18	20	22	25	28	28	28	27	29	31	30	27	27	34	18	23.4	33.6																						
																								28.2	27.5	26.6	25.8	23.7	20.6	21.2	24.6	27.8	31.5	36.3	39.2	41.5	43.1	44.7	45.8	44.5	43.6	42.2	39.7	37.7	34.1	32.0	30.3	Diurnal Average
																								43.9	42.1	44.8	43.1	42.3	40.7	38.9	39.4	42.4	47.1	48.0	55.7	55.4	57.8	63.2	64.4	63.2	57.6	55.3	52.5	50.1	47.8	43.5	43.1	Diurnal Maximum

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



## Hourly Maximums

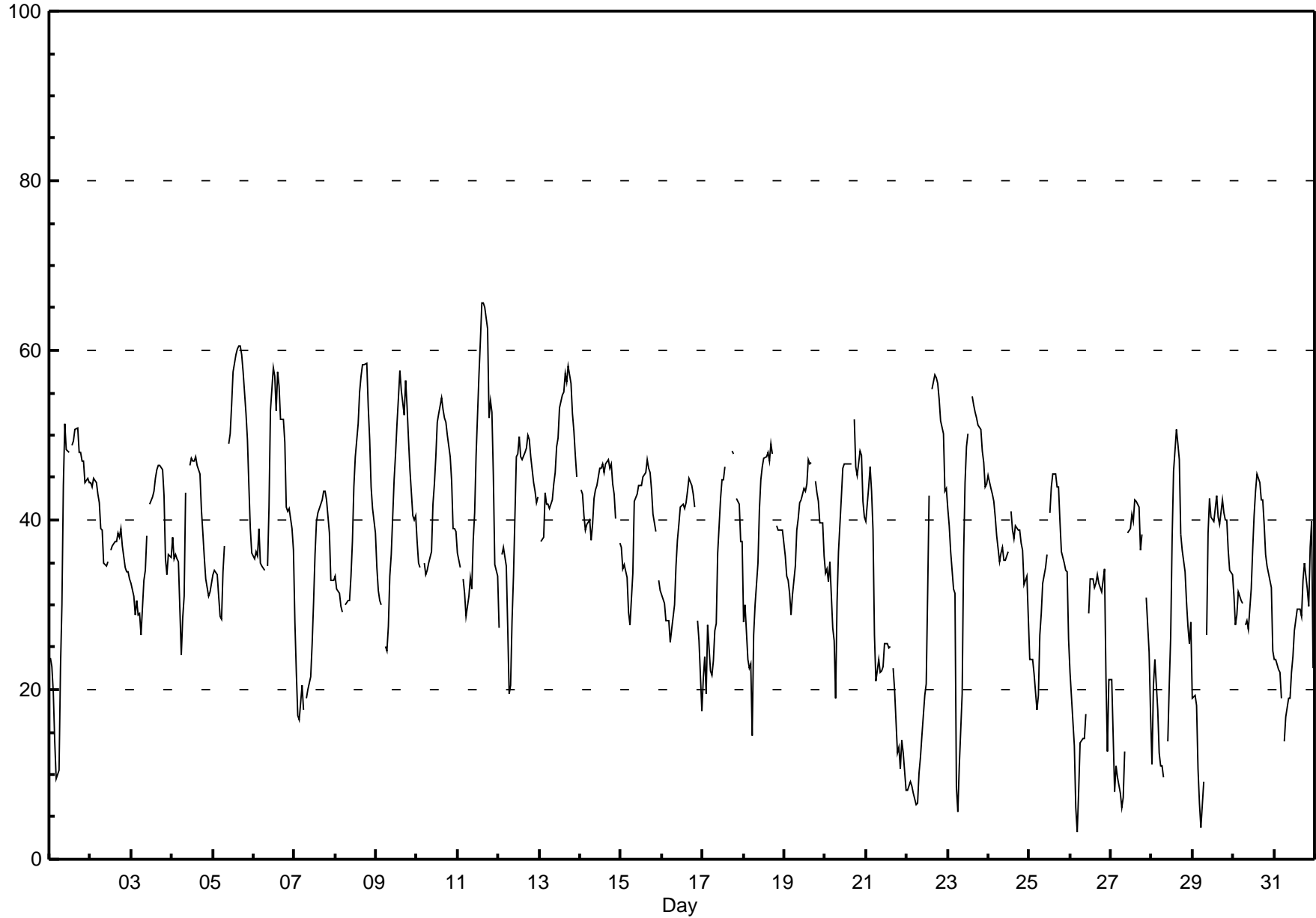
Ozone (O<sub>3</sub>) - ppb

Henry Pirker - May 2013

Maximum Value: 65.7 ppb on May 11 16:00		Maximum Daily Average: 48.2 ppb on May 13		Hours in Service: 744																						
Minimum Value: 3 ppb on May 26 05:00		Minimum Daily Average: 22.2 ppb on May 26		Hours of Data: 707																						
Maximum Diurnal Average: 47.7 ppb at hour 16		Minimum Diurnal Average: 23.7 ppb at hour 6		Hours of Missing Data: 37																						
Monthly Average: 36.42 ppb		Percentiles: P <sub>1</sub> = 6.4 P <sub>10</sub> = 19.5 Q <sub>1</sub> = 29.1 Median = 37.6 Q <sub>3</sub> = 44.7 P <sub>90</sub> = 50.7 P <sub>99</sub> = 60.5		Hours of Calibration: 35																						
				Percent Operational Time: 99.7																						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-May	24	23	20	14	9	10	22	30	44	51	48	48	A	49	49	51	51	48	48	47	47	44	45	44	37.7	51.4
2-May	44	44	45	44	43	42	39	39	35	35	35	A	37	37	38	37	38	38	39	37	34	34	34	33	38.3	45.0
3-May	32	31	29	30	29	29	26	33	34	38	A	42	43	43	45	46	46	46	46	43	35	33	36	36	37.1	46.4
4-May	38	35	36	36	35	24	29	31	43	A	46	47	47	47	48	47	45	41	39	36	33	31	32	33	38.2	47.5
5-May	34	34	34	31	29	28	34	37	A	49	50	54	57	59	60	60	60	59	57	52	50	44	39	36	45.6	60.5
6-May	35	36	36	39	35	35	34	A	35	41	53	58	57	53	57	56	52	52	49	42	41	41	39	36	44.0	57.9
7-May	28	22	17	16	20	18	A	19	20	21	25	30	36	40	41	42	42	43	43	42	39	33	33	33	30.7	43.4
8-May	33	32	31	30	29	A	30	30	30	33	37	44	47	51	55	57	58	58	58	53	49	44	41	39	42.3	58.4
9-May	34	32	31	30	A	25	25	28	33	36	45	48	51	54	58	55	52	56	53	49	46	40	40	40	41.9	57.7
10-May	37	35	34	A	35	33	34	35	36	42	44	47	51	52	54	53	52	51	50	48	45	39	39	39	43.0	54.5
11-May	36	34	A	33	31	29	31	33	32	38	41	48	57	61	66	66	65	63	52	54	53	45	35	33	45.0	65.7
12-May	27	A	36	37	35	27	20	20	28	33	47	48	50	47	47	48	48	50	49	47	44	43	42	43	39.9	49.9
13-May	A	37	38	43	42	42	41	42	44	46	49	50	53	55	55	57	56	58	56	53	51	48	45	A	48.2	58.1
14-May	44	43	41	39	40	40	38	39	43	44	44	46	46	47	46	47	47	46	47	44	43	40	A	37	43.0	47.1
15-May	37	34	35	33	29	28	31	34	42	43	44	44	44	45	46	47	46	46	44	41	39	A	33	32	38.9	47.1
16-May	31	30	28	28	28	26	27	30	35	38	40	42	42	41	42	43	45	44	43	42	A	28	26	18	34.6	44.9
17-May	21	24	20	28	22	22	23	27	28	36	43	45	45	46	C	C	C	48	48	A	43	42	37	37	34.2	48.2
18-May	28	30	24	23	23	15	26	30	35	41	45	46	47	47	48	47	49	48	A	39	39	39	39	39	36.8	48.9
19-May	36	33	33	31	29	31	35	39	40	42	42	44	43	44	47	47	47	A	45	43	42	40	40	36	39.5	47.1
20-May	34	34	33	35	27	26	19	30	36	43	46	47	47	47	47	47	A	52	46	45	48	48	42	40	39.9	51.8
21-May	40	44	46	43	39	26	21	24	22	22	23	25	25	25	25	A	23	20	13	13	11	14	13	8	24.6	46.2
22-May	8	9	9	9	8	6	7	10	12	15	19	21	31	43	A	55	57	57	56	54	52	50	43	44	29.4	57.2
23-May	41	39	36	32	31	9	6	11	19	36	44	49	50	A	55	54	53	52	51	51	48	47	44	44	39.2	54.6
24-May	45	44	43	42	40	38	35	36	37	35	35	36	A	41	39	38	39	39	39	37	36	32	33	28	37.8	45.2
25-May	23	24	24	22	18	19	26	29	32	34	36	A	41	44	45	45	44	44	40	36	35	34	34	26	32.9	45.4
26-May	22	19	13	6	3	8	14	14	14	17	A	29	33	33	32	33	33	33	32	33	34	21	13	21	22.2	34.3
27-May	21	15	8	11	10	8	6	7	13	A	38	39	41	40	42	42	42	36	38	N	N	31	24	17	25.2	42.4
28-May	11	21	24	18	13	11	11	10	A	14	20	26	38	46	51	49	47	38	36	34	30	27	25	28	27.3	50.7
29-May	19	19	18	11	7	4	9	A	26	38	43	40	40	41	43	40	39	42	41	40	40	36	34	34	30.7	42.8
30-May	31	28	29	32	31	30	A	28	28	27	32	36	40	43	45	44	42	42	39	36	35	33	32	24	34.3	45.4
31-May	24	24	22	22	19	A	14	17	19	19	22	24	27	29	29	29	29	33	35	32	30	37	40	22	26.0	39.8
		30.7	30.3	29.0	28.3	26.3	23.7	24.6	27.3	30.9	34.8	39.3	41.5	43.7	45.1	46.7	47.7	46.6	46.2	44.4	42.2	40.4	37.4	35.1	32.7	Diurnal Average
		45.2	44.0	46.2	44.5	43.0	42.0	41.4	42.3	44.3	51.4	53.0	57.9	57.5	61.2	65.6	65.7	65.2	62.6	58.4	54.2	52.7	50.2	45.0	44.4	Diurnal Maximum
C - Calibration		N - Not Valid					A - Automated Daily Zero Span																			

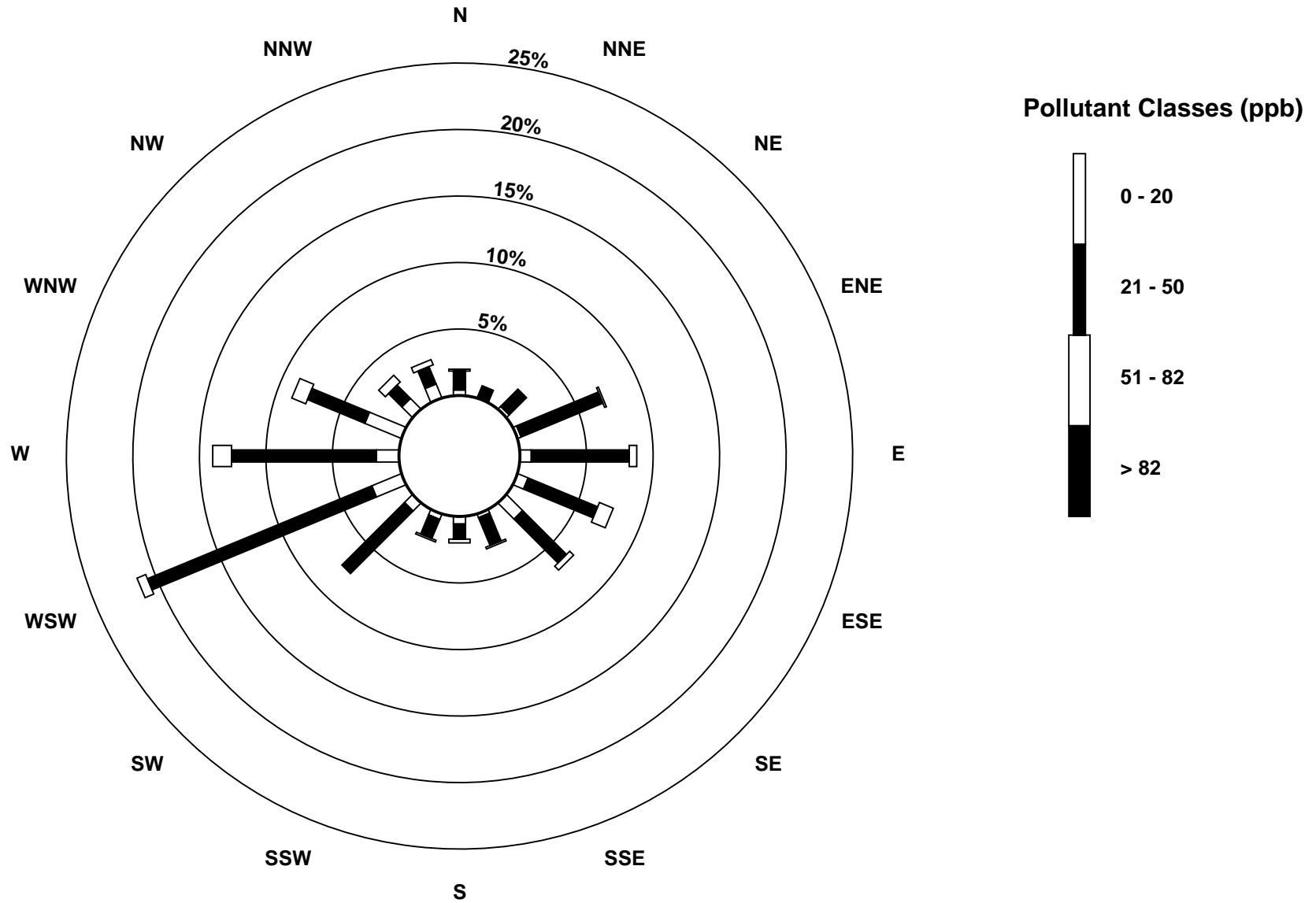
### Hourly Maximums

Ozone (O<sub>3</sub>) - ppb  
Henry Pirker - May 2013



**Pollutant Rose**

Ozone (O<sub>3</sub>) - ppb  
Henry Pirker - May 2013



# Eight Hour Running Averages

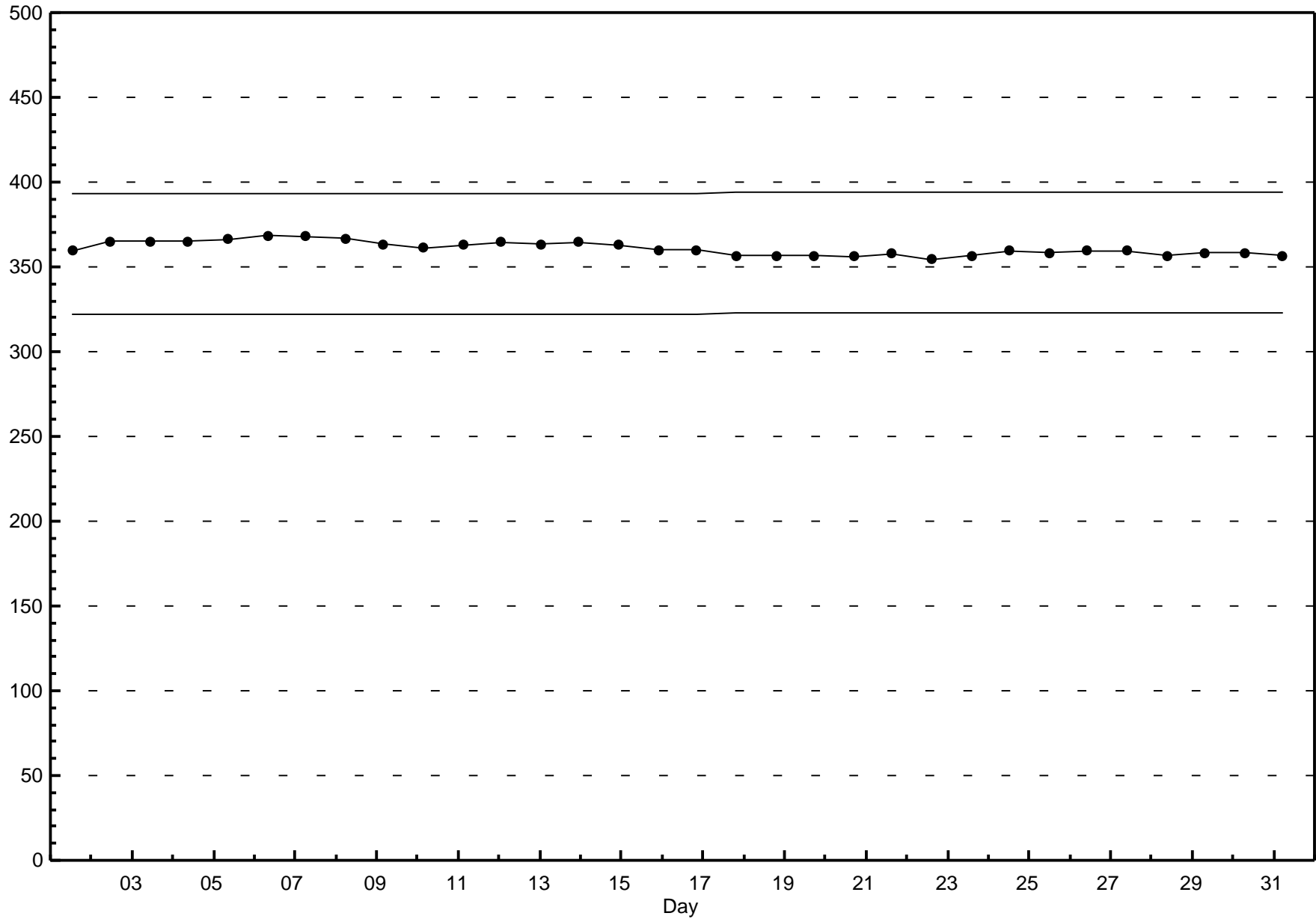
Ozone (O<sub>3</sub>) - ppb

Henry Pirker - May 2013

Maximum Value: 56.9 ppb on May 11 20:00																					Hours in Service:	744			
Minimum Value: 6.6 ppb on May 27 10:00																					Hours of Data:	737			
Percentiles: P <sub>1</sub> = 8.0 P <sub>10</sub> = 18.7 Q <sub>1</sub> = 27.5 Median = 34.9 Q <sub>3</sub> = 41.4 P <sub>90</sub> = 46.8 P <sub>99</sub> = 55.3																					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-May	28	26	24	21	18	15	14	14	17	20	24	29	32	38	43	46	47	47	47	47	47	46	46	45	47.3
2-May	44	44	43	43	43	43	42	41	40	38	37	37	36	35	35	35	36	36	37	37	36	36	35	35	44.5
3-May	34	33	32	31	30	29	28	27	27	28	29	30	32	35	38	40	42	43	43	43	42	41	40	39	43.2
4-May	37	36	35	34	34	32	31	30	30	30	32	33	35	39	42	44	45	44	43	42	40	38	36	34	45.0
5-May	33	32	32	31	31	30	30	30	30	32	34	37	41	46	50	54	55	56	57	57	56	54	51	47	56.7
6-May	44	40	37	35	33	32	31	31	30	32	34	37	40	44	47	48	50	52	52	49	47	46	44	41	51.6
7-May	38	34	30	27	24	22	19	17	17	17	18	20	22	25	27	30	33	35	38	39	39	39	38	37	39.5
8-May	36	34	33	31	31	31	29	29	28	28	29	30	33	35	38	42	45	49	51	53	53	52	50	48	52.9
9-May	45	41	38	35	34	31	28	26	26	26	27	30	32	36	41	44	47	50	51	51	51	49	47	45	51.4
10-May	43	41	39	37	36	35	34	34	33	34	35	37	39	41	43	46	48	49	50	50	49	47	45	43	49.9
11-May	41	39	38	36	34	33	31	30	30	30	31	32	35	39	44	48	52	55	56	57	56	54	49	45	56.9
12-May	40	37	35	32	30	27	26	24	24	25	25	27	29	32	36	40	43	45	47	47	46	46	45	44	46.6
13-May	43	42	40	39	39	39	39	39	39	40	42	43	44	45	47	49	50	52	53	53	53	52	51	50	53.3
14-May	49	46	44	42	41	40	39	39	39	39	39	40	41	42	43	44	44	45	45	45	44	43	43	42	48.6
15-May	40	39	37	35	33	32	31	30	31	32	33	34	36	38	41	42	43	43	43	43	42	42	40	38	43.5
16-May	36	34	32	30	28	28	27	27	27	28	29	31	33	35	37	39	40	41	41	40	40	38	35	31	41.0
17-May	28	24	21	19	20	19	19	20	21	23	26	28	31	34	36	38	N	N	N	N	N	N	N	39	39.4
18-May	37	34	30	28	25	22	20	19	20	22	25	29	33	37	40	43	45	45	46	45	43	42	40	39	45.7
19-May	37	36	35	34	33	32	32	32	32	33	34	36	38	40	41	42	43	44	44	44	43	43	42	40	43.9
20-May	38	38	36	35	33	30	28	27	27	27	29	31	33	37	40	42	44	45	45	45	45	44	43	42	45.1
21-May	41	40	40	39	38	36	33	31	29	28	25	23	21	22	22	22	22	22	20	18	16	14	12	12	41.3
22-May	10	9	9	8	8	7	7	7	7	8	9	10	12	16	18	24	31	37	43	48	51	53	51	50	52.8
23-May	48	46	43	40	36	31	26	22	19	17	18	20	24	26	33	40	45	49	50	51	50	50	48	47	50.5
24-May	46	45	44	43	42	41	40	39	38	36	35	35	34	35	35	36	36	36	37	37	37	36	35	34	46.2
25-May	32	30	28	26	23	22	21	21	22	23	24	25	28	32	35	37	39	40	41	40	39	38	36	34	41.2
26-May	31	28	24	20	16	13	11	10	9	8	8	11	16	19	22	25	28	30	30	31	30	28	26	24	30.9
27-May	22	20	17	14	11	10	10	8	7	7	11	15	19	24	29	34	38	37	37	37	37	34	31	27	37.6
28-May	22	19	17	16	15	13	12	12	12	11	11	12	15	20	25	31	32	35	37	38	37	35	32	29	37.6
29-May	26	24	22	19	16	14	11	10	10	12	16	20	24	30	34	35	37	38	38	38	38	37	36	35	38.3
30-May	34	32	30	29	29	28	28	27	26	27	27	28	29	31	32	35	36	38	39	39	39	37	35	33	39.3
31-May	31	28	26	25	23	22	20	18	18	17	17	17	18	20	22	23	25	26	27	28	29	28	29	28	30.6
48.6 46.3 44.2 43.2 43.0 42.6 41.8 41.0 39.6 40.2 41.7 42.5 43.6 46.2 50.4 53.9 54.5 55.8 56.7 56.9 56.3 53.6 51.3 50.5																									
Diurnal Maximums																									
N - Not Valid																									

### Span Responses

Ozone (O<sub>3</sub>)  
Henry Pirker - May 2013



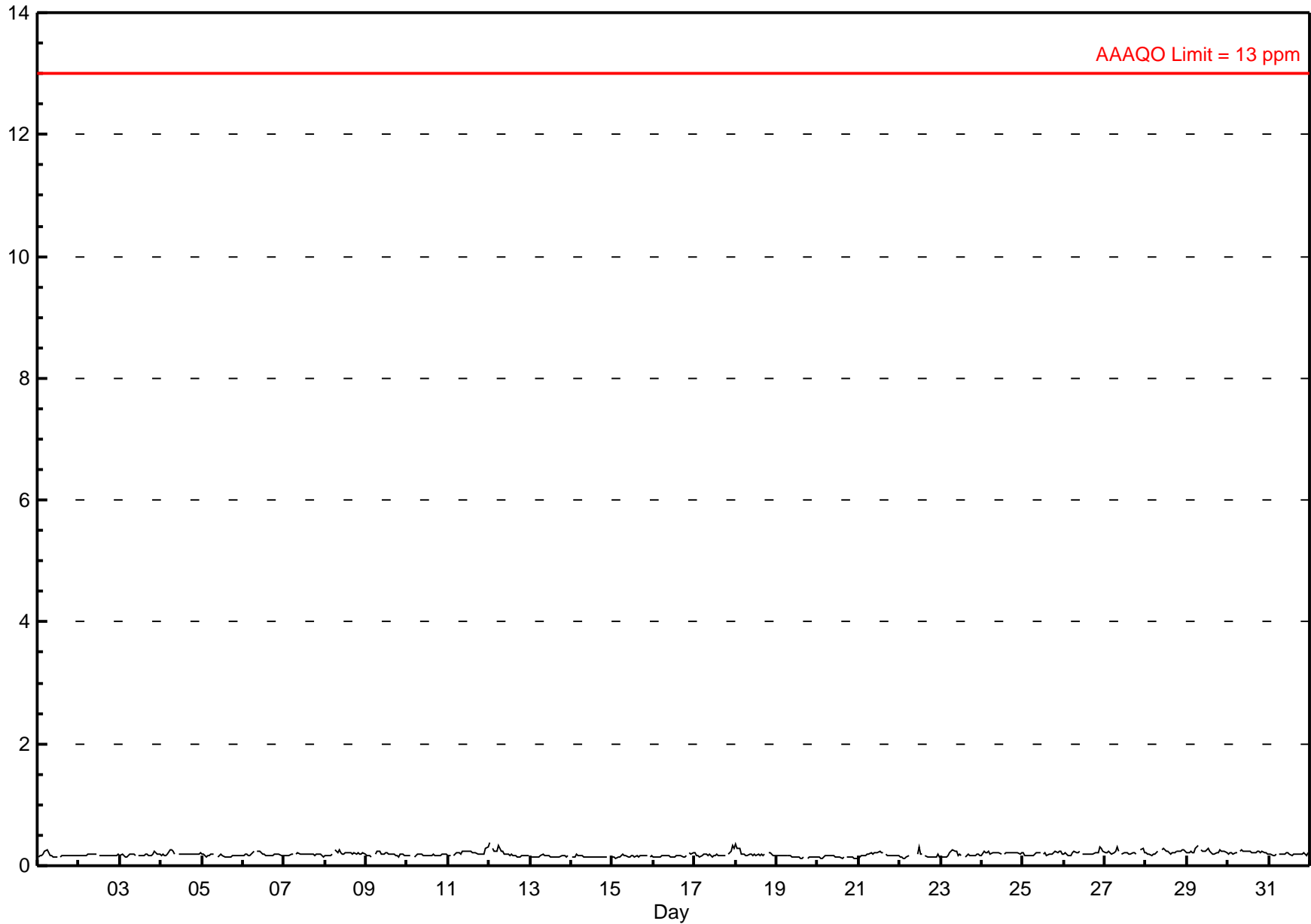


## Hourly Averages

Carbon Monoxide (CO) - ppm

Henry Pirker - May 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 0.37 ppm on May 12 01:00 Maximum Daily Average: 0.24 ppm on May 29		Hours in Service: 744 Hours of Data: 706 Hours of Missing Data: 38 Hours of Calibration: 36 Percent Operational Time: 99.7																																															
Minimum Value: 0.1 ppm on May 20 04:00 Maximum Diurnal Average: 0.21 ppm at hour 7 Monthly Average: 0.187 ppm		Minimum Daily Average: 0.14 ppm on May 20 Minimum Diurnal Average: 0.17 ppm at hour 4 Percentiles: P <sub>1</sub> = 0.13 P <sub>10</sub> = 0.15 Q <sub>1</sub> = 0.16 Median = 0.18 Q <sub>3</sub> = 0.20 P <sub>90</sub> = 0.24 P <sub>99</sub> = 0.30																																															
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-May	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	0.2	0.2	0.2	0.2	0.2	0.17	0.25																							
2-May	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.18	0.20																							
3-May	0.2	0.2	0.2	0.1	0.1	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	0.18	0.24																							
4-May	0.2	0.2	0.2	0.2	0.2	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	0.2	0.2	0.20	0.26																							
5-May	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.16	0.19																							
6-May	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	0.19	0.24																							
7-May	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	0.2	0.19	0.21																							
8-May	0.2	0.2	0.2	0.2	0.2	A	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	0.2	0.2	0.2	0.2	0.20	0.27																							
9-May	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.19	0.24																							
10-May	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.17	0.20																							
11-May	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.22	0.30																							
12-May	0.4	A	0.3	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	0.2	0.21	0.37																							
13-May	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	0.16	0.19																							
14-May	0.2	0.2	0.2	0.2	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	A	0.1	0.15	0.18																							
15-May	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.15	0.18																							
16-May	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	A	0.2	0.2	0.2	0.16	0.21																							
17-May	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	0.2	0.2	0.2	0.2	A	0.2	0.2	0.3	0.19	0.33																							
18-May	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	A	0.2	0.2	0.2	0.2	0.2	0.20	0.36																							
19-May	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	A	0.1	0.1	0.1	0.1	0.1	0.1	0.15	0.16																							
20-May	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.1	0.1	A	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.14	0.17																							
21-May	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.18	0.23																							
22-May	0.1	0.1	0.1	0.1	0.1	0.2	C	C	C	C	0.2	0.3	0.2	0.2	A	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.16	0.30																							
23-May	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3	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	0.18	0.26																							
24-May	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.21	0.25																							
25-May	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	0.20	0.24																							
26-May	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	0.3	0.21	0.30																							
27-May	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	N	N	0.3	0.3	0.2	0.22	0.31																							
28-May	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.22	0.28																							
29-May	0.2	0.2	0.2	0.2	0.2	0.3	0.3	A	0.3	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.24	0.34																							
30-May	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.22	0.25																							
31-May	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	0.2	0.2	0.19	0.22																							
																								0.18	0.18	0.18	0.17	0.18	0.20	0.21	0.20	0.20	0.19	0.19	0.19	0.19	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.19	0.20	0.20	0.19	Diurnal Average	
																								0.37	0.29	0.29	0.24	0.24	0.34	0.34	0.31	0.27	0.27	0.28	0.30	0.29	0.25	0.22	0.22	0.22	0.24	0.24	0.25	0.25	0.30	0.33	0.30	Diurnal Maximum	
C - Calibration                      N - Not Valid                      A - Automated Daily Zero Span Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 13 ppm      24-hr na																																																	



## Hourly Maximums

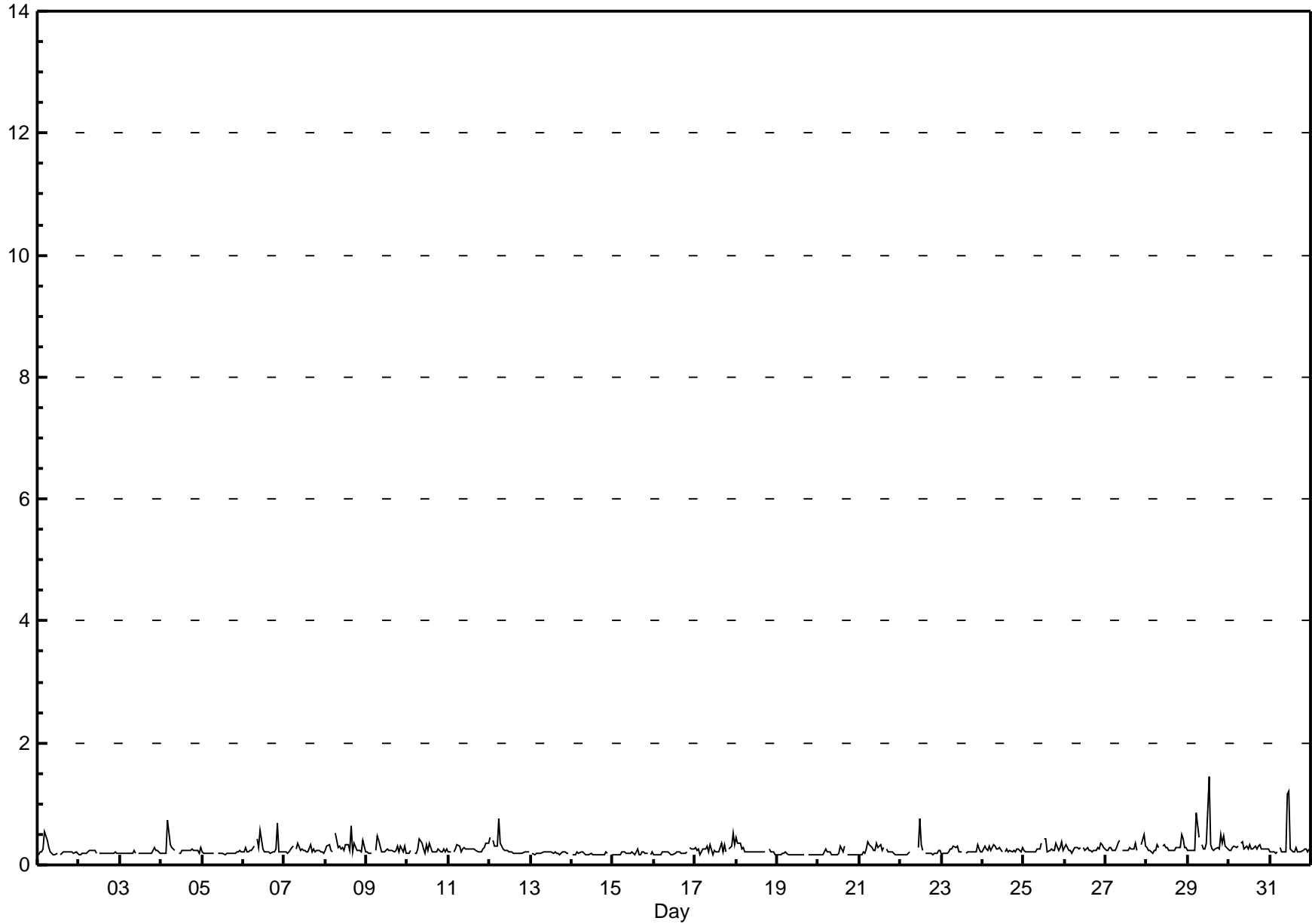
Carbon Monoxide (CO) - ppm

Henry Pirker - May 2013

Maximum Value: 1.45 ppm on May 29 13:00      Maximum Daily Average: 0.38 ppm on May 29 Minimum Value: 0.2 ppm on May 19 16:00      Minimum Daily Average: 0.17 ppm on May 19 Maximum Diurnal Average: 0.28 ppm at hour 6      Minimum Diurnal Average: 0.21 ppm at hour 4 Monthly Average: 0.244 ppm      Percentiles: P <sub>1</sub> = 0.16 P <sub>10</sub> = 0.17 Q <sub>1</sub> = 0.20 Median = 0.21 Q <sub>3</sub> = 0.26 P <sub>90</sub> = 0.33 P <sub>99</sub> = 0.74																								Hours in Service:	744																								
																								Hours of Data:	706																								
																								Hours of Missing Data:	38																								
																								Hours of Calibration:	36																								
																								Percent Operational Time:	99.7																								
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-May	0.2	0.2	0.2	0.3	0.6	0.4	0.3	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	0.23	0.55																						
2-May	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.20	0.24																						
3-May	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	0.3	0.2	0.2	0.2	0.21	0.27																						
4-May	0.2	0.2	0.2	0.2	0.7	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	0.3	0.26	0.74																							
5-May	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.20	0.25																							
6-May	0.2	0.3	0.2	0.2	0.2	0.2	0.3	A	0.4	0.3	0.6	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.7	0.2	0.2	0.2	0.27	0.69																							
7-May	0.2	0.2	0.2	0.2	0.3	0.3	A	0.2	0.4	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	0.24	0.36																							
8-May	0.2	0.3	0.3	0.2	0.2	A	0.5	0.3	0.3	0.3	0.3	0.2	0.3	0.3	0.2	0.6	0.2	0.3	0.2	0.2	0.2	0.4	0.2	0.30	0.64																								
9-May	0.2	0.2	0.2	0.2	A	0.2	0.5	0.4	0.3	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.3	0.2	0.3	0.2	0.3	0.2	0.25	0.48																								
10-May	0.2	0.2	0.2	A	0.2	0.2	0.3	0.4	0.4	0.3	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	0.25	0.43																								
11-May	0.2	0.2	A	0.2	0.3	0.3	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	0.3	0.3	0.3	0.3	0.25	0.35																							
12-May	0.4	A	0.4	0.3	0.3	0.7	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	0.27	0.75																							
13-May	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.20	0.21																							
14-May	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.17	0.21																							
15-May	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.19	0.27																							
16-May	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	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	0.3	0.20	0.28																							
17-May	0.3	0.2	0.3	0.2	0.3	0.3	0.3	0.3	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.4	0.2	0.3	0.2	A	0.3	0.3	0.5	0.3	0.26	0.52																							
18-May	0.5	0.4	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.3	0.2	0.2	0.2	0.2	0.24	0.46																							
19-May	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.17	0.21																							
20-May	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	0.3	0.2	0.3	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.19	0.31																							
21-May	0.2	0.2	0.2	0.2	0.3	0.4	0.3	0.3	0.2	0.2	0.4	0.3	0.3	0.2	0.3	A	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.24	0.37																							
22-May	0.2	0.2	0.2	0.2	0.2	0.2	C	C	C	C	0.3	0.8	0.3	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.23	0.76																							
23-May	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	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.23	0.33																							
24-May	0.2	0.3	0.3	0.2	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.2	A	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.3	0.25	0.34																							
25-May	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.4	A	0.4	0.4	0.2	0.2	0.3	0.2	0.2	0.4	0.2	0.3	0.4	0.2	0.27	0.43																							
26-May	0.3	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	A	0.3	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.4	0.3	0.3	0.26	0.37																							
27-May	0.2	0.2	0.3	0.3	0.2	0.2	0.3	0.4	0.4	A	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.4	0.2	N	N	0.3	0.5	0.3	0.29	0.50																							
28-May	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.3	A	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.5	0.4	0.3	0.3	0.29	0.49																							
29-May	0.2	0.2	0.2	0.2	0.2	0.9	0.4	A	0.3	0.3	0.3	0.4	1.5	0.3	0.3	0.2	0.3	0.3	0.3	0.5	0.3	0.5	0.3	0.3	0.38	1.45																							
30-May	0.2	0.2	0.3	0.3	0.3	0.3	A	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.28	0.37																							
31-May	0.2	0.2	0.2	0.2	0.2	A	0.3	0.2	0.2	0.2	1.2	1.2	0.3	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.3	0.31	1.22																							
																								0.22	0.22	0.22	0.21	0.25	0.28	0.28	0.26	0.26	0.23	0.27	0.28	0.28	0.24	0.22	0.24	0.21	0.23	0.22	0.23	0.25	0.25	0.26	0.23	Diurnal Average	
																								0.46	0.35	0.40	0.30	0.74	0.86	0.51	0.43	0.43	0.34	1.17	1.22	1.45	0.43	0.29	0.64	0.27	0.36	0.34	0.49	0.69	0.47	0.52	0.35	Diurnal Maximum	
C - Calibration																								N - Not Valid				A - Automated Daily Zero Span																					

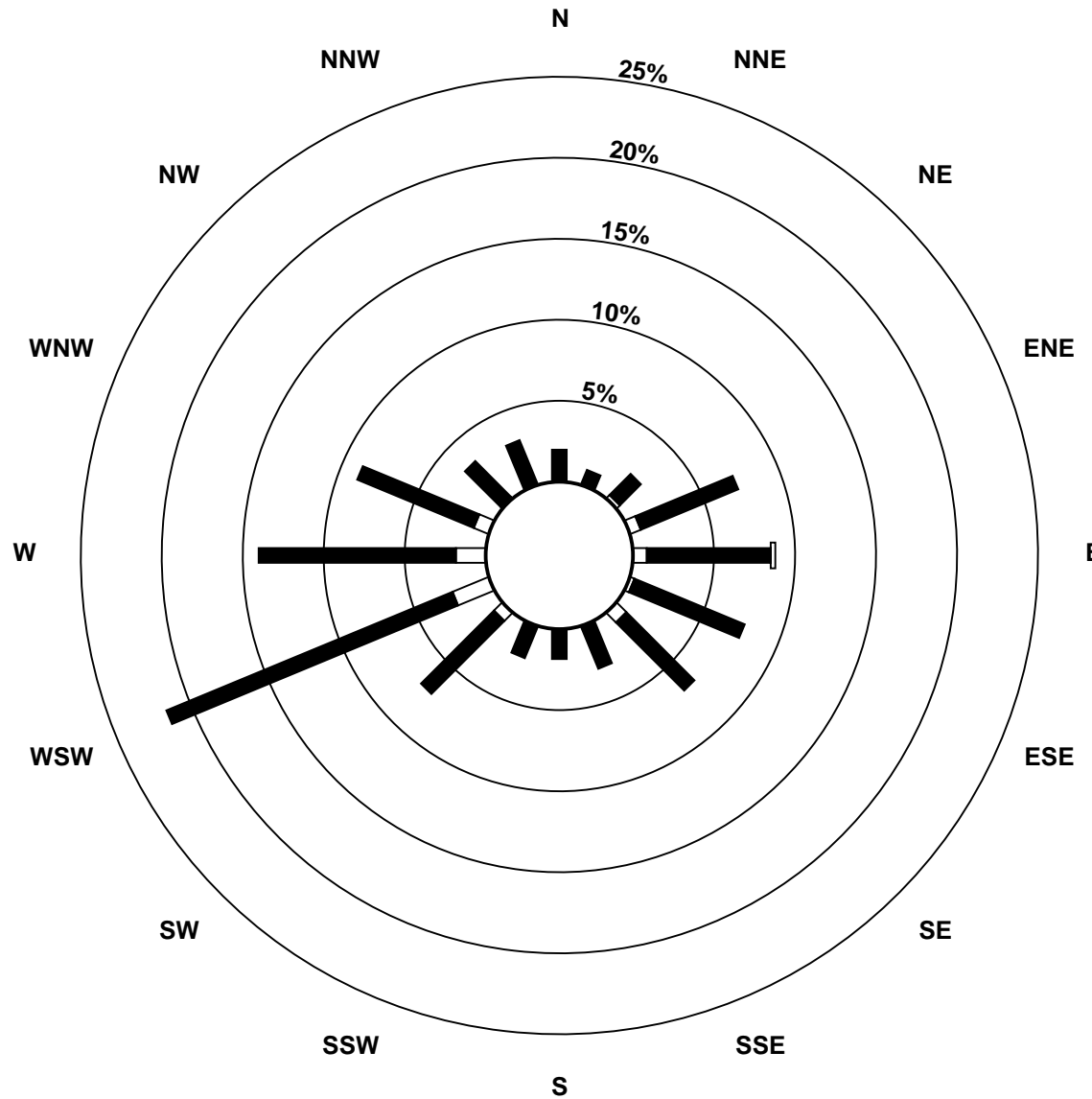
### Hourly Maximums

Carbon Monoxide (CO) - ppm  
Henry Pirker - May 2013

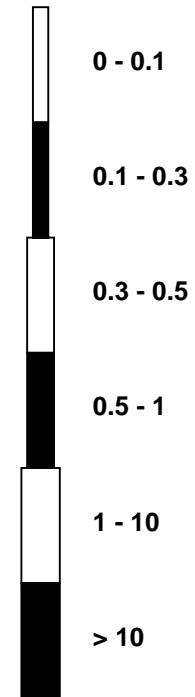


**Pollutant Rose**

**Carbon Monoxide (CO) - ppm**  
**Henry Pirker - May 2013**



**Pollutant Classes (ppm)**



## Eight Hour Running Averages

Carbon Monoxide (CO) - ppm

Henry Pirker - May 2013

Number of Exceedences (AAAQO): 8-hr: 0 Maximum Value: 0.30 ppm on May 12 07:00	Hours in Service: 744 Hours of Data: 736 Hours of Missing Data: 8 Hours of Calibration: 8 Percent Operational Time: 100.0
Minimum Value: 0.13 ppm on May 21 01:00 Percentiles: P <sub>1</sub> = 0.13 P <sub>10</sub> = 0.15 Q <sub>1</sub> = 0.16 Median = 0.18 Q <sub>3</sub> = 0.21 P <sub>90</sub> = 0.23 P <sub>99</sub> = 0.27	

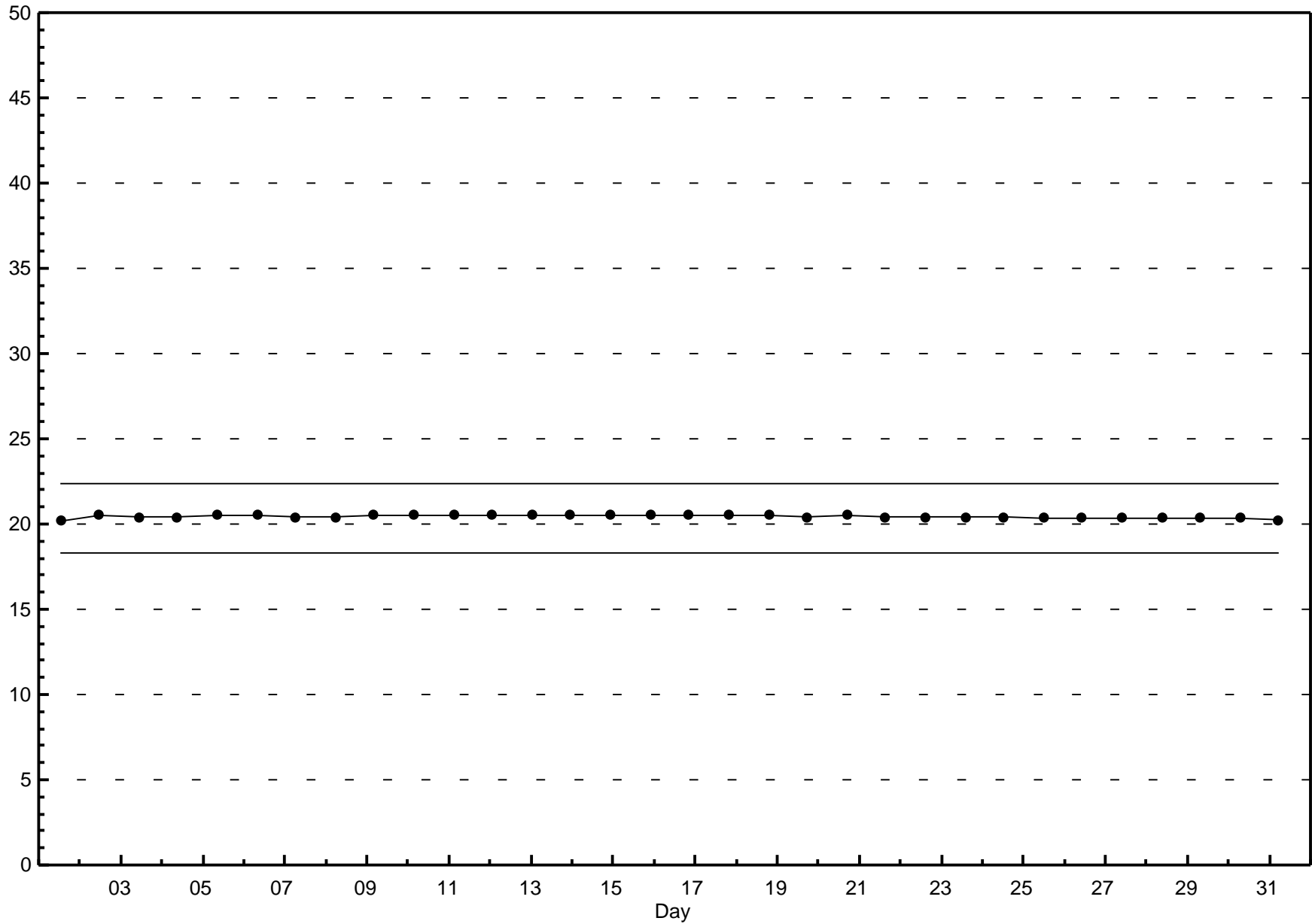
Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-May	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.19
2-May	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.19
3-May	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.19
4-May	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.22
5-May	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.20
6-May	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.22
7-May	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.20
8-May	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.22
9-May	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.22
10-May	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.18
11-May	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.23
12-May	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	0.2	0.2	0.2	0.2	0.30
13-May	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.17
14-May	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.16
15-May	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.16
16-May	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.18
17-May	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.22
18-May	0.2	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.28
19-May	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.18
20-May	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.15
21-May	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.21
22-May	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	N	N	N	N	N	N	N	N	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.20
23-May	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.21
24-May	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.22
25-May	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.21
26-May	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.23
27-May	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.24
28-May	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.24
29-May	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.27
30-May	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.24
31-May	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.22
	0.25	0.27	0.28	0.27	0.28	0.30	0.30	0.29	0.27	0.26	0.26	0.26	0.27	0.26	0.25	0.24	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.24	

Diurnal Maximums

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

### Span Responses

**Carbon Monoxide (CO)**  
**Henry Pirker - May 2013**



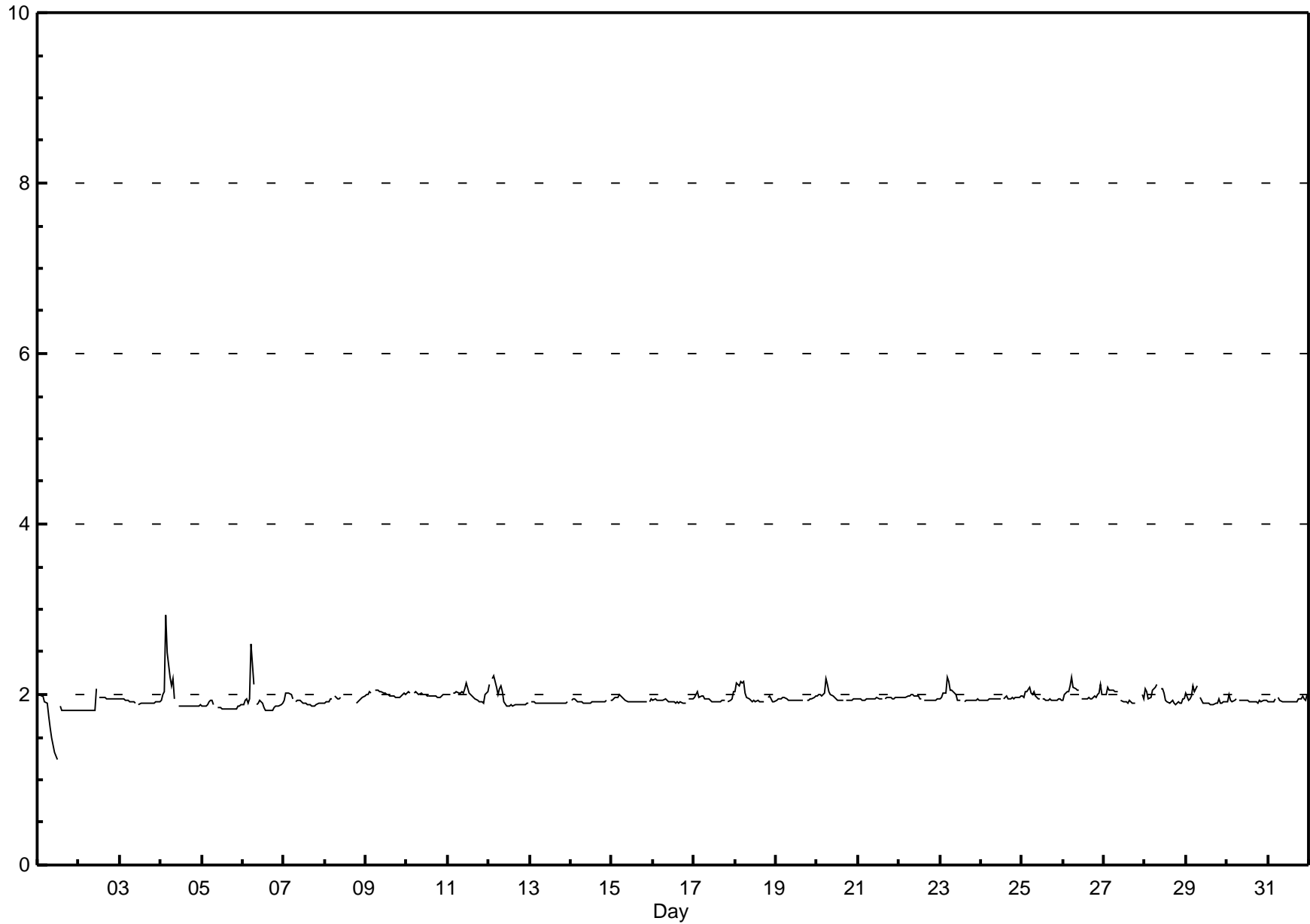
## Hourly Averages

Total Hydrocarbons (THC) - ppm

Henry Pirker - May 2013

Number of Exceedences (AAAQO):		1-hr: 0		24-hr: 0		Hours in Service:		744																																								
Maximum Value: 2.93 ppm on May 4 04:00		Maximum Daily Average: 2.01 ppm on May 26		Hours of Data:		701		Hours of Missing Data:		43																																						
Minimum Value: 1.2 ppm on May 1 12:00		Minimum Daily Average: 1.76 ppm on May 1		Hours of Calibration:		40		Percent Operational Time:		99.6																																						
Maximum Diurnal Average: 2.03 ppm at hour 6		Minimum Diurnal Average: 1.91 ppm at hour 12		Percentiles: P <sub>1</sub> = 1.81 P <sub>10</sub> = 1.87 Q <sub>1</sub> = 1.91 Median = 1.94 Q <sub>3</sub> = 1.97 P <sub>90</sub> = 2.03 P <sub>99</sub> = 2.20																																												
Monthly Average: 1.944 ppm																																																
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-May	2.0	2.0	2.0	2.0	1.9	1.9	1.8	1.6	1.5	1.4	1.3	1.2	A	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.76	2.00																						
2-May	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	2.1	A	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.90	2.06																						
3-May	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.91	1.94																						
4-May	1.9	2.0	2.0	2.9	2.5	2.2	2.1	2.2	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.00	2.93																						
5-May	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.9	1.9	1.86	1.94																						
6-May	1.9	1.9	1.9	1.9	1.9	2.6	2.1	A	1.9	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.9	1.9	1.9	1.9	1.92	2.59																						
7-May	1.9	2.0	2.0	2.0	2.0	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.92	2.02																						
8-May	1.9	1.9	1.9	2.0	1.9	A	2.0	1.9	2.0	2.0	C	C	C	C	C	C	C	C	1.9	1.9	1.9	2.0	2.0	2.0	--	1.98																						
9-May	2.0	2.0	2.0	2.0	A	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.01	2.05																						
10-May	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	2.0	2.0	2.0	2.0	2.0	2.00	2.03																						
11-May	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.99	2.14																						
12-May	2.1	A	2.2	2.2	2.1	2.0	2.1	2.1	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.96	2.21																						
13-May	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.90	1.92																						
14-May	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.92	1.94																						
15-May	1.9	1.9	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	1.93	1.99																						
16-May	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	2.0	1.9	1.92	1.96																						
17-May	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	2.0	1.95	2.03																						
18-May	2.0	2.1	2.1	2.1	2.1	2.2	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	2.0	2.0	1.9	1.9	1.99	2.16																						
19-May	1.9	1.9	1.9	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	2.0	2.0	1.94	1.98																						
20-May	2.0	2.0	2.0	2.0	2.0	2.2	2.1	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	1.9	1.9	2.0	1.9	1.98	2.19																						
21-May	2.0	1.9	1.9	1.9	1.9	2.0	2.0	2.0	1.9	2.0	2.0	2.0	2.0	1.9	A	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.95	1.97																						
22-May	2.0	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	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	1.96	2.00																						
23-May	2.0	2.0	2.0	2.0	2.2	2.1	2.0	2.0	2.0	2.0	1.9	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	1.9	1.98	2.20																						
24-May	1.9	1.9	1.9	1.9	1.9	2.0	1.9	2.0	1.9	1.9	1.9	2.0	A	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.95	1.99																						
25-May	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.97	2.08																						
26-May	1.9	2.0	2.0	2.0	2.1	2.2	2.1	2.1	2.0	2.0	A	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.01	2.20																						
27-May	2.0	2.0	2.1	2.1	2.0	2.0	2.0	2.0	2.0	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	N	N	N	2.0	1.97	2.08																						
28-May	2.1	2.0	2.0	2.0	2.1	2.1	2.1	2.1	A	2.1	2.1	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.98	2.11																						
29-May	2.0	1.9	2.0	2.0	2.1	2.0	2.1	A	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.94	2.10																						
30-May	1.9	2.0	1.9	1.9	1.9	2.0	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.93	1.99																						
31-May	1.9	1.9	1.9	1.9	2.0	A	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	1.9	1.9	2.0	1.93	1.99																						
																								1.96	1.97	1.98	2.01	2.01	2.03	1.99	1.97	1.94	1.93	1.92	1.91	1.92	1.92	1.91	1.91	1.91	1.91	1.91	1.92	1.92	1.93	1.94	1.95	Diurnal Average
																								2.11	2.14	2.19	2.93	2.49	2.59	2.12	2.19	2.04	2.07	2.06	2.14	2.02	2.01	1.98	1.98	1.98	1.98	1.98	1.97	2.01	2.02	2.11	2.04	Diurnal Maximum
C - Calibration																								N - Not Valid				A - Automated Daily Zero Span																				





## Hourly Maximums

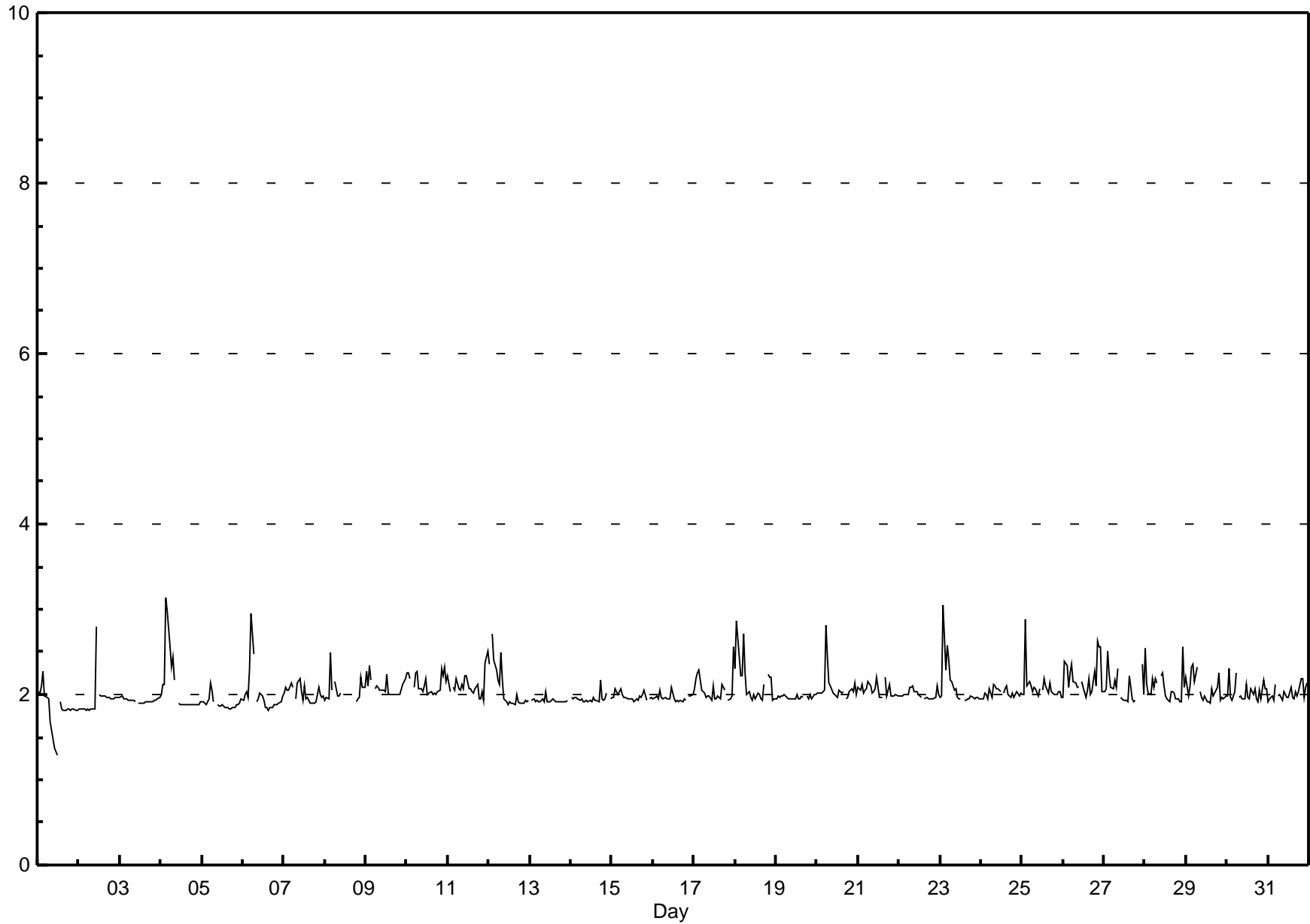
## Total Hydrocarbons (THC) - ppm

### Henry Pirker - May 2013

Maximum Value: 3.13 ppm on May 4 04:00		Maximum Daily Average: 2.19 ppm on May 26		Hours in Service: 744																							
Minimum Value: 1.3 ppm on May 1 12:00		Minimum Daily Average: 1.82 ppm on May 1		Hours of Data: 701																							
Maximum Diurnal Average: 2.18 ppm at hour 6		Minimum Diurnal Average: 1.96 ppm at hour 15		Hours of Missing Data: 43																							
Monthly Average: 2.030 ppm		Percentiles: P <sub>1</sub> = 1.82 P <sub>10</sub> = 1.90 Q <sub>1</sub> = 1.94 Median = 1.98 Q <sub>3</sub> = 2.08 P <sub>90</sub> = 2.22 P <sub>99</sub> = 2.79		Hours of Calibration: 40																							
				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-May	2.0	2.0	2.1	2.3	2.0	2.0	2.0	1.7	1.6	1.5	1.4	1.3	A	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.82	2.28
2-May	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	2.8	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	1.94	2.80
3-May	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.93	1.97	
4-May	2.0	2.1	2.1	3.1	3.0	2.6	2.3	2.4	2.2	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.10	3.13	
5-May	1.9	1.9	1.9	1.9	1.9	2.1	2.1	1.9	A	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.9	1.9	1.9	1.9	2.0	1.90	2.13	
6-May	1.9	2.0	2.0	2.0	2.3	2.9	2.5	A	1.9	1.9	2.0	2.0	1.9	1.9	1.9	1.8	1.8	1.8	1.9	1.9	1.9	1.9	1.9	2.0	2.00	2.95	
7-May	2.0	2.1	2.1	2.1	2.1	2.1	A	2.0	2.1	2.2	2.0	1.9	2.1	2.0	2.0	1.9	1.9	1.9	1.9	1.9	2.1	2.0	2.0	2.0	2.01	2.19	
8-May	1.9	2.0	1.9	2.5	2.0	A	2.1	2.0	2.0	2.0	C	C	C	C	C	C	C	C	1.9	2.0	2.0	2.2	2.1	2.1	--	2.50	
9-May	2.3	2.1	2.3	2.2	A	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.2	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.2	2.09	2.34	
10-May	2.3	2.3	2.2	A	2.1	2.3	2.3	2.1	2.1	2.0	2.1	2.2	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.3	2.2	2.3	2.2	2.13	2.32	
11-May	2.2	2.0	A	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.2	2.2	2.1	2.1	2.0	2.0	2.1	2.1	1.9	1.9	2.0	1.9	2.4	2.5	2.10	2.51	
12-May	2.4	A	2.7	2.4	2.3	2.2	2.1	2.5	2.2	2.0	1.9	1.9	1.9	1.9	1.9	1.9	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.06	2.71	
13-May	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.93	2.03	
14-May	2.0	2.0	2.0	2.0	2.0	1.9	2.0	1.9	1.9	1.9	1.9	1.9	1.9	2.0	1.9	1.9	1.9	2.2	1.9	1.9	1.9	2.0	A	1.9	1.95	2.17	
15-May	2.0	2.0	2.1	2.0	2.0	2.1	2.0	2.0	2.0	1.9	2.0	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.1	1.9	A	1.9	2.0	1.97	2.07	
16-May	2.0	2.0	2.0	2.0	2.1	2.0	1.9	2.0	2.0	1.9	2.0	2.1	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	2.0	2.0	2.0	1.96	2.08	
17-May	2.1	2.2	2.3	2.3	2.1	2.0	2.0	2.0	2.0	2.0	1.9	2.1	1.9	1.9	2.0	1.9	2.1	2.1	2.1	A	1.9	2.0	2.0	2.6	2.06	2.55	
18-May	2.3	2.9	2.4	2.2	2.2	2.7	2.3	2.0	2.0	2.0	1.9	2.0	1.9	2.0	2.0	2.0	1.9	2.1	A	2.2	2.2	2.2	1.9	2.0	2.15	2.86	
19-May	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	2.0	1.9	1.9	2.0	2.0	A	2.0	1.9	2.0	2.0	2.0	2.0	1.97	2.01	
20-May	2.0	2.0	2.0	2.0	2.1	2.8	2.4	2.1	2.1	2.0	2.0	2.0	2.0	2.1	2.0	2.0	A	1.9	2.0	2.0	2.1	2.0	2.1	2.0	2.08	2.81	
21-May	2.1	2.0	2.1	2.0	2.0	2.1	2.2	2.1	2.0	2.0	2.1	2.2	2.0	2.0	2.0	A	2.2	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.05	2.21	
22-May	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	A	1.9	2.0	1.9	1.9	1.9	1.9	2.0	2.1	2.0	2.00	2.11	
23-May	2.0	2.0	3.0	2.3	2.6	2.4	2.2	2.1	2.1	2.1	2.0	2.0	1.9	A	1.9	1.9	1.9	1.9	2.0	2.0	1.9	2.0	2.0	2.0	2.09	3.05	
24-May	1.9	1.9	2.0	2.0	1.9	2.1	2.0	2.1	2.1	2.1	2.1	2.0	A	2.0	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.02	2.12	
25-May	2.0	2.0	2.9	2.1	2.1	2.1	2.0	2.1	2.1	2.0	2.1	A	2.1	2.2	2.1	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.09	2.87	
26-May	2.0	2.4	2.3	2.1	2.3	2.3	2.2	2.1	2.1	2.1	A	2.1	2.1	2.0	2.1	2.2	2.0	2.0	2.3	2.1	2.6	2.6	2.6	2.0	2.19	2.63	
27-May	2.0	2.1	2.5	2.2	2.1	2.1	2.2	2.1	2.3	A	2.0	1.9	1.9	1.9	1.9	2.2	2.0	1.9	1.9	N	N	N	2.4	2.0	2.08	2.51	
28-May	2.5	2.1	2.0	2.0	2.2	2.1	2.2	2.1	A	2.2	2.3	2.1	2.0	2.0	1.9	2.0	2.0	2.0	2.0	1.9	1.9	1.9	2.6	2.1	2.09	2.56	
29-May	2.2	2.0	2.1	2.3	2.4	2.2	2.3	A	2.0	2.0	1.9	2.0	1.9	1.9	1.9	2.1	2.0	2.0	2.1	2.2	1.9	2.0	2.0	2.0	2.06	2.35	
30-May	2.0	2.3	2.0	1.9	2.0	2.3	A	2.0	2.0	1.9	1.9	2.1	2.0	1.9	2.1	2.0	2.1	2.0	1.9	2.0	1.9	2.2	2.1	2.1	2.03	2.30	
31-May	1.9	1.9	2.0	1.9	2.1	A	2.0	2.0	1.9	2.0	2.0	2.0	2.0	2.1	2.0	1.9	2.0	2.0	2.0	2.2	2.2	2.0	2.1	2.1	2.02	2.19	
		2.05	2.06	2.16	2.12	2.12	2.18	2.10	2.04	2.01	1.98	2.01	1.98	1.97	1.96	1.96	1.97	1.98	1.97	1.97	1.98	2.00	2.01	2.06	2.04	Diurnal Average	
		2.54	2.86	3.05	3.13	2.98	2.95	2.47	2.49	2.31	2.22	2.80	2.22	2.23	2.18	2.11	2.23	2.21	2.17	2.27	2.25	2.63	2.56	2.56	2.55	Diurnal Maximum	
C - Calibration		N - Not Valid					A - Automated Daily Zero Span																				

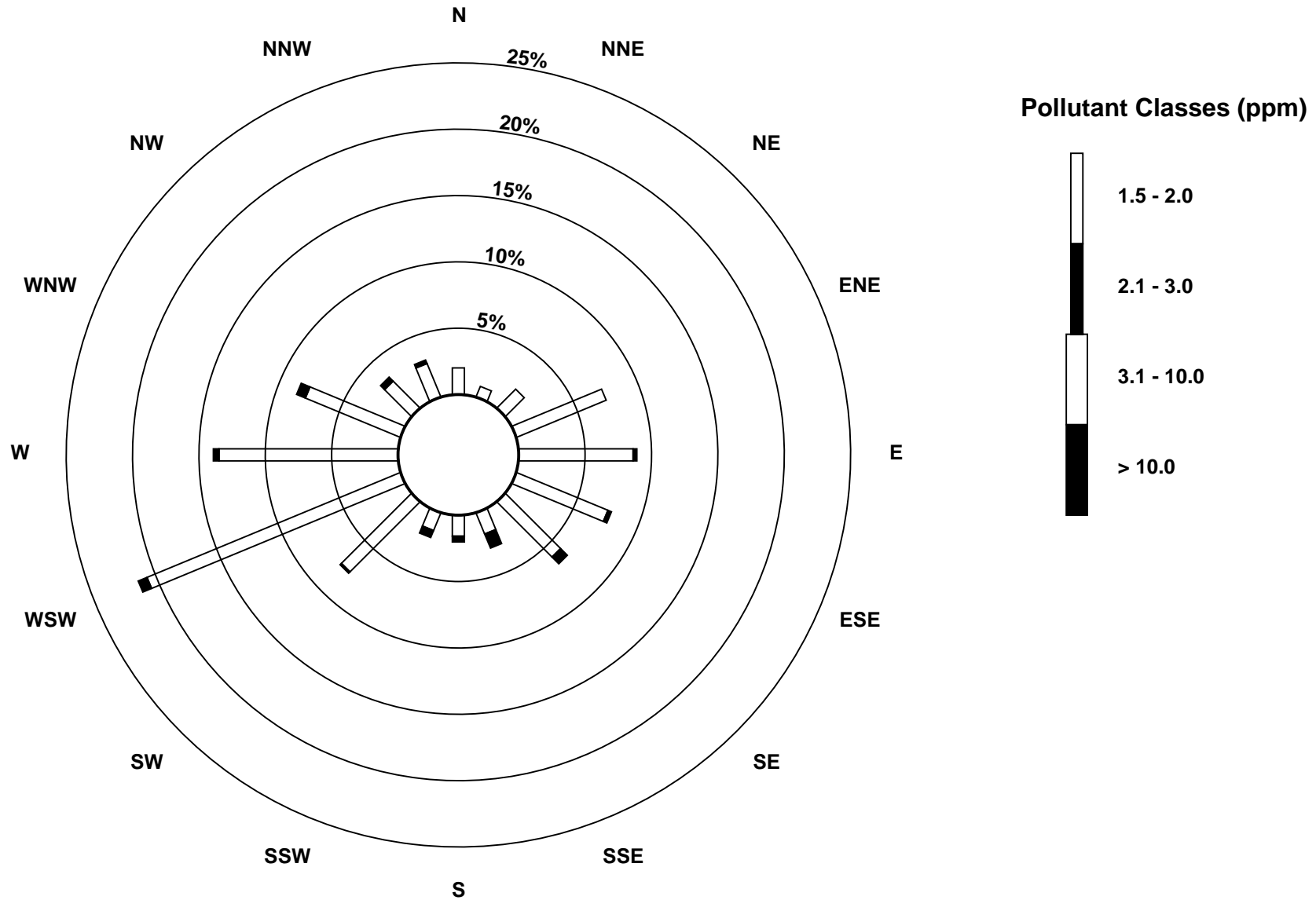
**Hourly Maximums**

**Total Hydrocarbons (THC) - ppm**  
**Henry Pirker - May 2013**



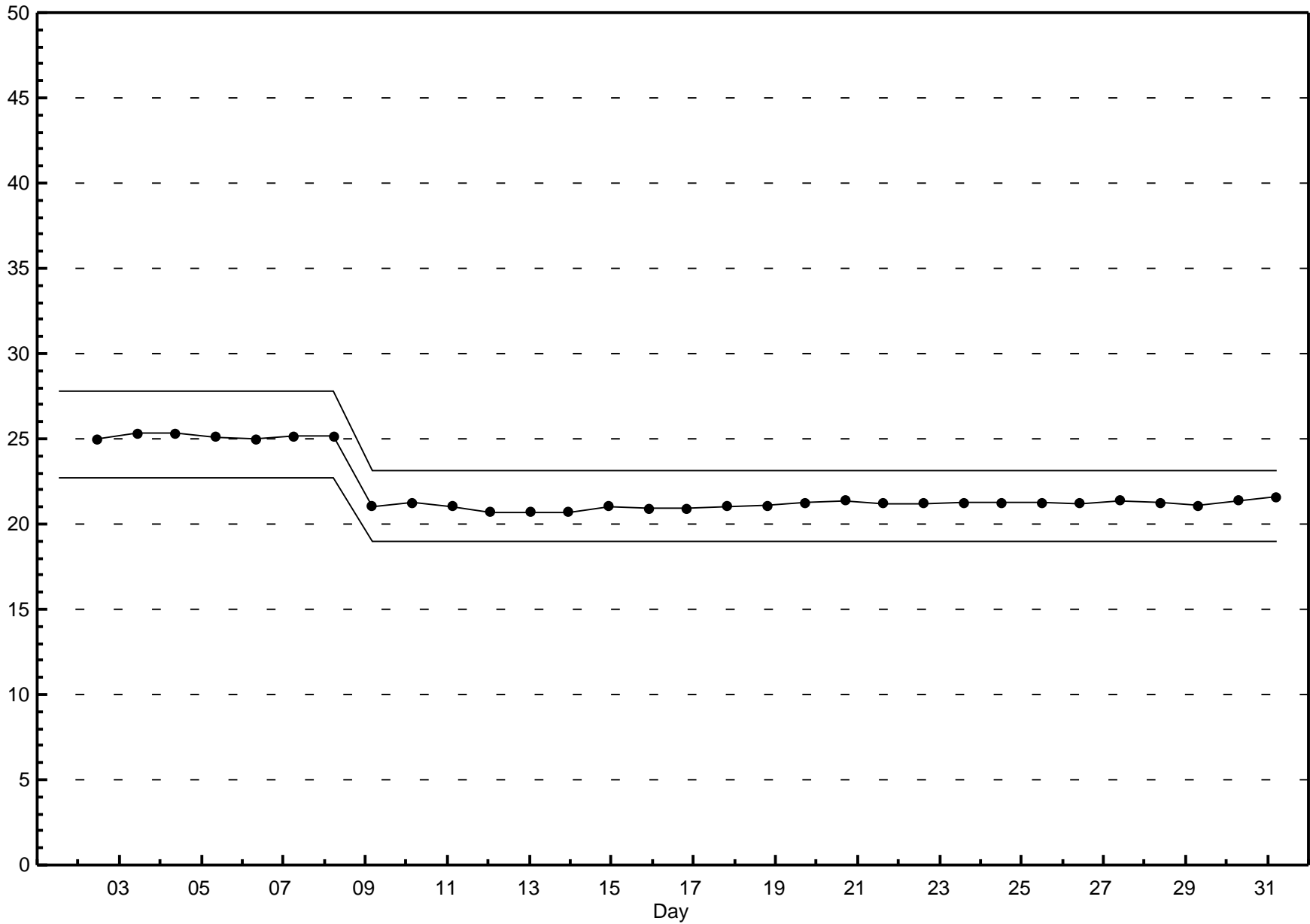
**Pollutant Rose**

**Total Hydrocarbons (THC) - ppm**  
**Henry Pirker - May 2013**



**Span Responses**

**Total Hydrocarbons (THC)**  
**Henry Pirker - May 2013**



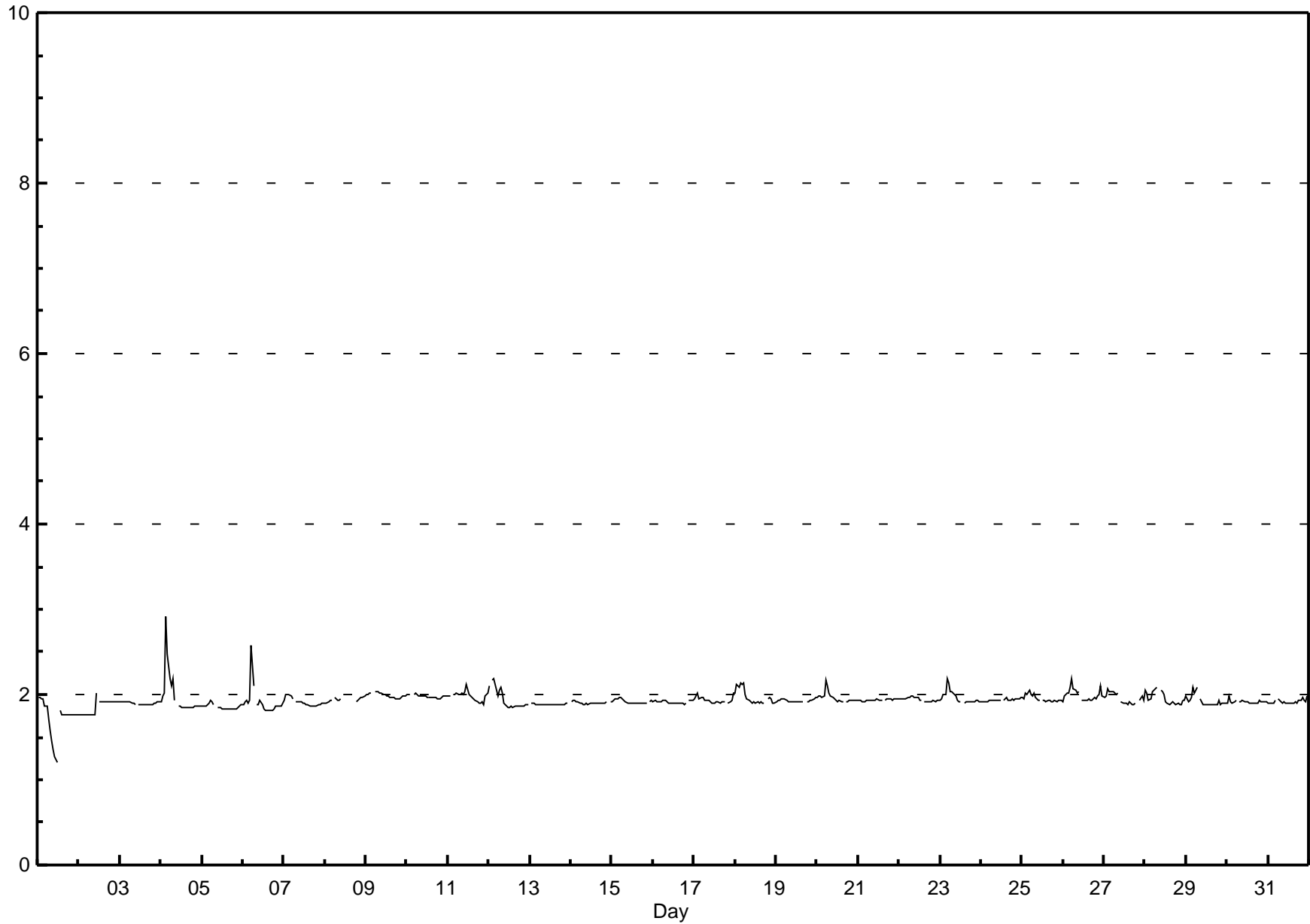
## Hourly Averages

Methane (CH<sub>4</sub>) - ppm  
Henry Pirker - May 2013

Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 2.92 ppm on May 4 04:00	Maximum Daily Average: 2.00 ppm on May 26		Hours of Data:	702
Minimum Value: 1.2 ppm on May 1 12:00	Minimum Daily Average: 1.72 ppm on May 1		Hours of Missing Data:	42
Maximum Diurnal Average: 2.01 ppm at hour 6	Minimum Diurnal Average: 1.89 ppm at hour 12		Hours of Calibration:	40
Monthly Average: 1.929 ppm	Percentiles: P <sub>1</sub> = 1.76 P <sub>10</sub> = 1.86 Q <sub>1</sub> = 1.90 Median = 1.92 Q <sub>3</sub> = 1.96 P <sub>90</sub> = 2.01 P <sub>99</sub> = 2.18		Percent Operational Time:	99.7

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-May	2.0	2.0	2.0	1.9	1.9	1.9	1.7	1.6	1.5	1.4	1.3	1.2	A	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.72	1.97
2-May	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	2.0	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.85	2.02
3-May	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.90	1.92
4-May	1.9	2.0	2.0	2.9	2.5	2.2	2.1	2.2	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.99	2.92
5-May	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.9	1.86	1.93
6-May	1.9	1.9	1.9	1.9	1.9	2.6	2.1	A	1.9	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.9	1.9	1.9	1.9	1.91	2.58
7-May	1.9	2.0	2.0	2.0	2.0	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.91	2.01
8-May	1.9	1.9	1.9	1.9	1.9	A	2.0	1.9	1.9	1.9	C	C	C	C	C	C	C	C	1.9	1.9	1.9	2.0	2.0	2.0	--	1.98
9-May	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	2.0	2.0	2.0	2.0	1.99	2.03
10-May	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	2.0	2.0	2.0	2.0	2.0	1.98	2.01
11-May	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	1.98	2.12
12-May	2.1	A	2.2	2.2	2.1	2.0	2.0	2.1	2.0	1.9	1.9	1.8	1.8	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.94	2.19
13-May	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.89	1.91
14-May	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.90	1.93
15-May	1.9	1.9	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	1.92	1.97
16-May	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	1.91	1.94
17-May	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	2.0	1.94	2.01
18-May	2.0	2.1	2.1	2.1	2.1	2.1	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	2.0	1.9	1.9	1.9	1.97	2.14
19-May	1.9	1.9	1.9	1.9	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	1.9	2.0	1.93	1.96	
20-May	2.0	2.0	2.0	2.0	2.0	2.2	2.1	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.96	2.17
21-May	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.94	1.95
22-May	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.94	1.98
23-May	1.9	1.9	2.0	2.0	2.2	2.1	2.0	2.0	2.0	2.0	1.9	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.96	2.18
24-May	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	2.0	1.9	1.9	1.9	1.9	1.9	2.0	1.9	2.0	1.94	1.97	
25-May	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.0	1.9	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.95	2.06
26-May	1.9	2.0	2.0	2.0	2.1	2.2	2.1	2.1	2.0	2.0	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.1	2.0	2.00	2.18
27-May	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	N	N	1.9	2.0	1.9	1.96	2.06
28-May	2.0	2.0	1.9	2.0	2.0	2.1	2.1	2.1	A	2.1	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.96	2.09
29-May	2.0	1.9	1.9	2.0	2.1	2.0	2.1	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.93	2.08
30-May	1.9	2.0	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.92	1.98
31-May	1.9	1.9	1.9	1.9	1.9	A	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	1.9	2.0	1.92	1.98	
	1.94	1.95	1.96	1.99	1.99	2.01	1.97	1.95	1.92	1.91	1.91	1.89	1.91	1.90	1.90	1.90	1.90	1.89	1.90	1.90	1.91	1.91	1.93	1.93	Diurnal Average	
	2.10	2.12	2.18	2.92	2.48	2.58	2.11	2.19	2.02	2.05	2.04	2.12	2.01	1.99	1.97	1.97	1.96	1.96	1.97	1.96	1.99	2.00	2.10	2.02	Diurnal Maximum	

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



## Hourly Maximums

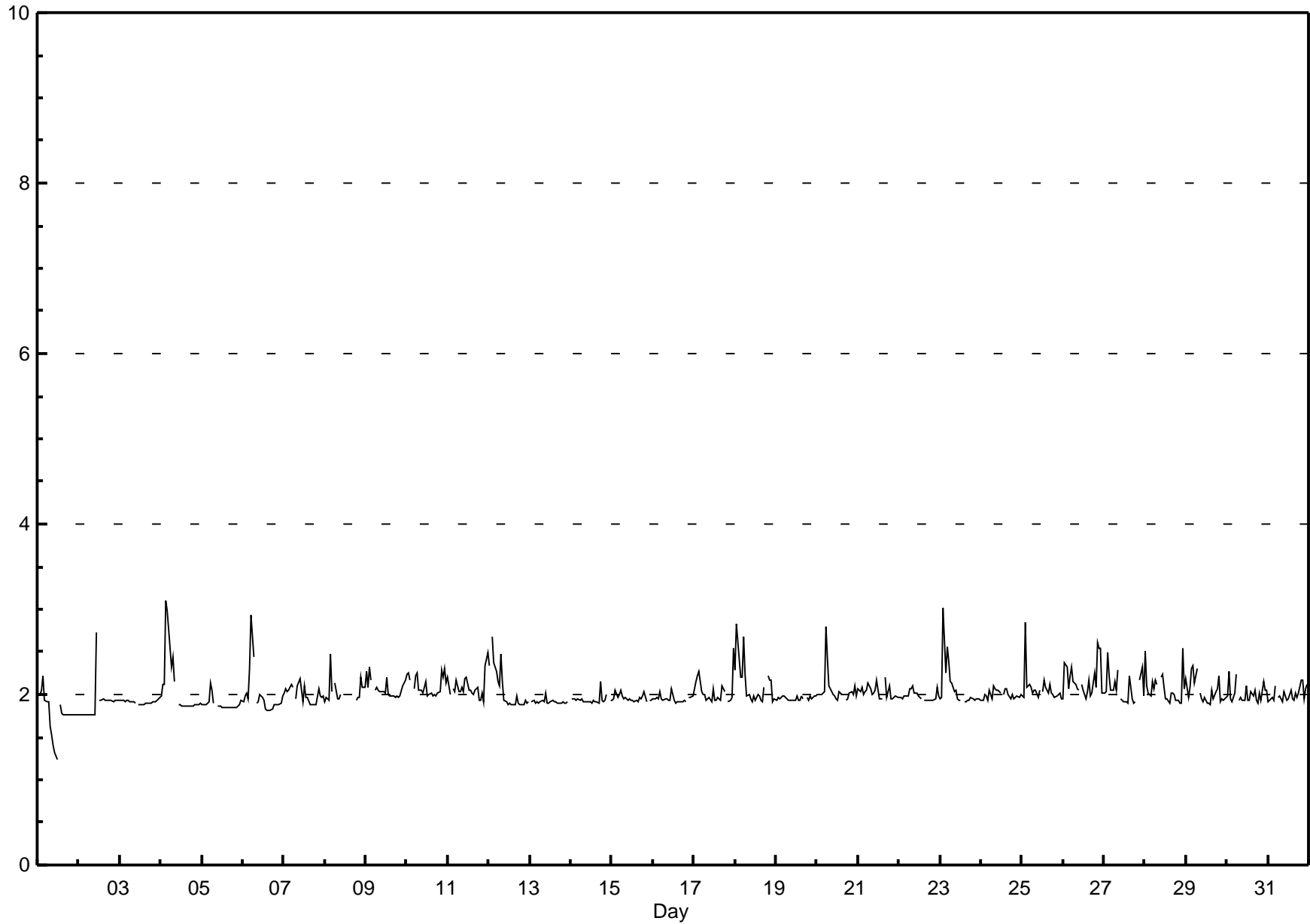
Methane (CH<sub>4</sub>) - ppm  
Henry Pirker - May 2013

Maximum Value: 3.11 ppm on May 4 04:00		Maximum Daily Average: 2.18 ppm on May 26		Hours in Service: 744																																													
Minimum Value: 1.2 ppm on May 1 12:00		Minimum Daily Average: 1.77 ppm on May 1		Hours of Data: 702																																													
Maximum Diurnal Average: 2.16 ppm at hour 6		Minimum Diurnal Average: 1.94 ppm at hour 15		Hours of Missing Data: 42																																													
Monthly Average: 2.011 ppm		Percentiles: P <sub>1</sub> = 1.77 P <sub>10</sub> = 1.89 Q <sub>1</sub> = 1.92 Median = 1.97 Q <sub>3</sub> = 2.05 P <sub>90</sub> = 2.20 P <sub>99</sub> = 2.77		Hours of Calibration: 40																																													
Percent Operational Time: 99.7																										Daily Average	Daily Maximum																						
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-May	2.0	2.0	2.1	2.2	1.9	1.9	1.9	1.6	1.5	1.4	1.3	1.2	A	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.77	2.22																						
2-May	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	2.7	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.90	2.73																						
3-May	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	1.91	1.96																							
4-May	2.0	2.1	2.1	3.1	3.0	2.5	2.3	2.4	2.2	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.08	3.11																							
5-May	1.9	1.9	1.9	1.9	1.9	2.1	2.1	1.9	A	1.9	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.9	1.9	1.89	2.14																							
6-May	1.9	2.0	2.0	2.0	2.3	2.9	2.4	A	1.9	1.9	2.0	2.0	1.9	1.8	1.8	1.8	1.8	1.8	1.9	1.9	1.9	1.9	1.9	2.0	1.99	2.93																							
7-May	2.0	2.1	2.0	2.0	2.1	2.1	A	1.9	2.1	2.2	2.0	1.9	2.1	2.0	2.0	1.9	1.9	1.9	1.9	1.9	2.1	2.0	2.0	2.0	2.00	2.19																							
8-May	1.9	2.0	1.9	2.5	2.0	A	2.1	2.0	1.9	2.0	C	C	C	C	C	C	C	C	1.9	2.0	2.0	2.2	2.1	2.1	--	2.48																							
9-May	2.3	2.1	2.3	2.2	A	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.2	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.2	2.07	2.33																							
10-May	2.2	2.3	2.2	A	2.1	2.2	2.3	2.1	2.0	2.0	2.1	2.2	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.3	2.2	2.3	2.1	2.11	2.30																							
11-May	2.2	2.0	A	2.1	2.0	2.2	2.0	2.0	2.1	2.0	2.2	2.2	2.0	2.0	2.0	2.0	2.1	2.1	1.9	1.9	2.0	1.9	2.3	2.5	2.09	2.49																							
12-May	2.3	A	2.7	2.4	2.3	2.1	2.1	2.5	2.2	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.05	2.68																							
13-May	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.91	2.02																							
14-May	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.2	1.9	1.9	1.9	2.0	A	1.9	1.94	2.15																							
15-May	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	1.9	A	1.9	1.9	1.96	2.05																							
16-May	1.9	2.0	2.0	1.9	2.0	2.0	1.9	2.0	1.9	1.9	1.9	2.1	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	2.0	2.0	2.0	1.95	2.07																							
17-May	2.1	2.2	2.2	2.3	2.0	2.0	2.0	1.9	2.0	2.0	1.9	2.1	1.9	1.9	2.0	1.9	2.1	2.1	2.0	A	1.9	1.9	2.0	2.5	2.04	2.53																							
18-May	2.3	2.8	2.4	2.2	2.2	2.7	2.2	2.0	2.0	1.9	1.9	2.0	1.9	2.0	2.0	1.9	1.9	2.1	A	2.2	2.2	2.2	1.9	1.9	2.13	2.84																							
19-May	1.9	2.0	1.9	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	2.0	1.9	1.9	2.0	1.9	A	2.0	1.9	2.0	1.9	2.0	2.0	1.95	1.99																							
20-May	2.0	2.0	2.0	2.0	2.0	2.8	2.4	2.1	2.1	2.0	2.0	2.0	1.9	2.0	2.0	2.0	A	1.9	2.0	2.0	2.0	2.0	2.1	2.0	2.06	2.79																							
21-May	2.1	2.0	2.1	2.0	2.0	2.0	2.1	2.1	2.0	2.0	2.0	2.2	2.0	2.0	1.9	A	2.2	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.03	2.20																							
22-May	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.1	2.0	1.98	2.10																							
23-May	1.9	2.0	3.0	2.3	2.6	2.4	2.1	2.1	2.0	2.0	1.9	1.9	A	1.9	1.9	1.9	1.9	2.0	1.9	1.9	2.0	2.0	1.9	1.9	2.07	3.02																							
24-May	1.9	1.9	2.0	2.0	1.9	2.0	1.9	2.1	2.1	2.1	2.1	2.0	A	2.0	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.00	2.10																							
25-May	2.0	2.0	2.8	2.1	2.1	2.1	2.0	2.1	2.0	2.0	2.0	A	2.0	2.2	2.1	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	1.9	2.07	2.85																							
26-May	1.9	2.4	2.3	2.1	2.2	2.3	2.1	2.1	2.1	2.1	A	2.1	2.1	1.9	2.0	2.2	2.0	2.0	2.3	2.1	2.6	2.5	2.5	2.0	2.18	2.61																							
27-May	2.0	2.0	2.5	2.2	2.1	2.1	2.1	2.1	2.3	A	1.9	1.9	1.9	1.9	1.9	2.2	1.9	1.9	1.9	N	N	2.2	2.3	2.0	2.07	2.49																							
28-May	2.5	2.1	2.0	2.0	2.2	2.1	2.2	2.1	A	2.2	2.2	2.1	2.0	1.9	1.9	2.0	2.0	2.0	1.9	1.9	1.9	2.5	2.1	2.08	2.54																								
29-May	2.2	2.0	2.1	2.3	2.3	2.1	2.3	A	2.0	1.9	1.9	2.0	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.1	2.2	1.9	2.0	2.0	2.04	2.33																							
30-May	2.0	2.3	1.9	1.9	2.0	2.2	A	1.9	2.0	1.9	1.9	2.1	1.9	1.9	2.0	2.0	2.0	1.9	1.9	2.0	1.9	2.2	2.1	2.1	2.01	2.28																							
31-May	1.9	1.9	2.0	1.9	2.1	A	2.0	2.0	1.9	2.0	2.0	1.9	1.9	2.1	1.9	1.9	2.0	2.0	2.0	2.2	2.2	2.0	2.1	2.1	2.00	2.17																							
																								2.03	2.04	2.14	2.10	2.10	2.16	2.08	2.02	1.99	1.96	1.99	1.96	1.96	1.95	1.94	1.95	1.96	1.95	1.95	1.96	1.99	2.00	2.04	2.02	Diurnal Average	
																								2.51	2.84	3.02	3.11	2.98	2.93	2.44	2.47	2.29	2.20	2.73	2.20	2.21	2.16	2.09	2.22	2.20	2.15	2.26	2.22	2.61	2.54	2.54	2.53	Diurnal Maximum	
C - Calibration																								N - Not Valid				A - Automated Daily Zero Span																					



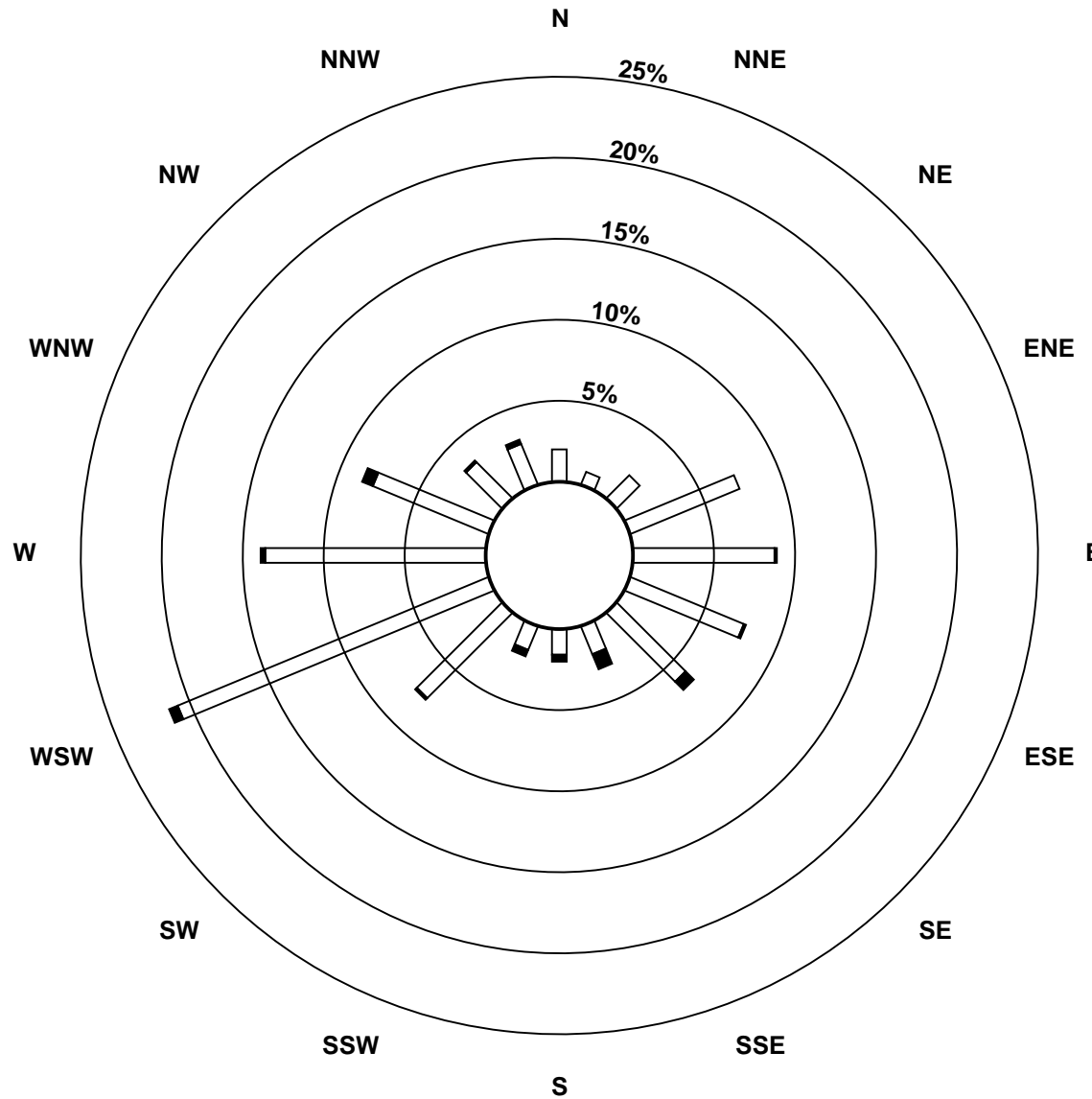
# Hourly Maximums

Methane (CH<sub>4</sub>) - ppm  
Henry Pirker - May 2013

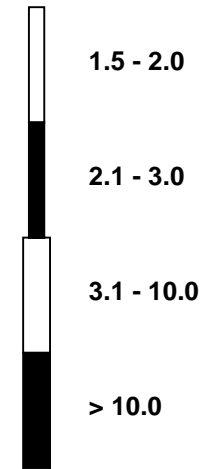


**Pollutant Rose**

**Methane (CH<sub>4</sub>) - ppm**  
**Henry Pirker - May 2013**

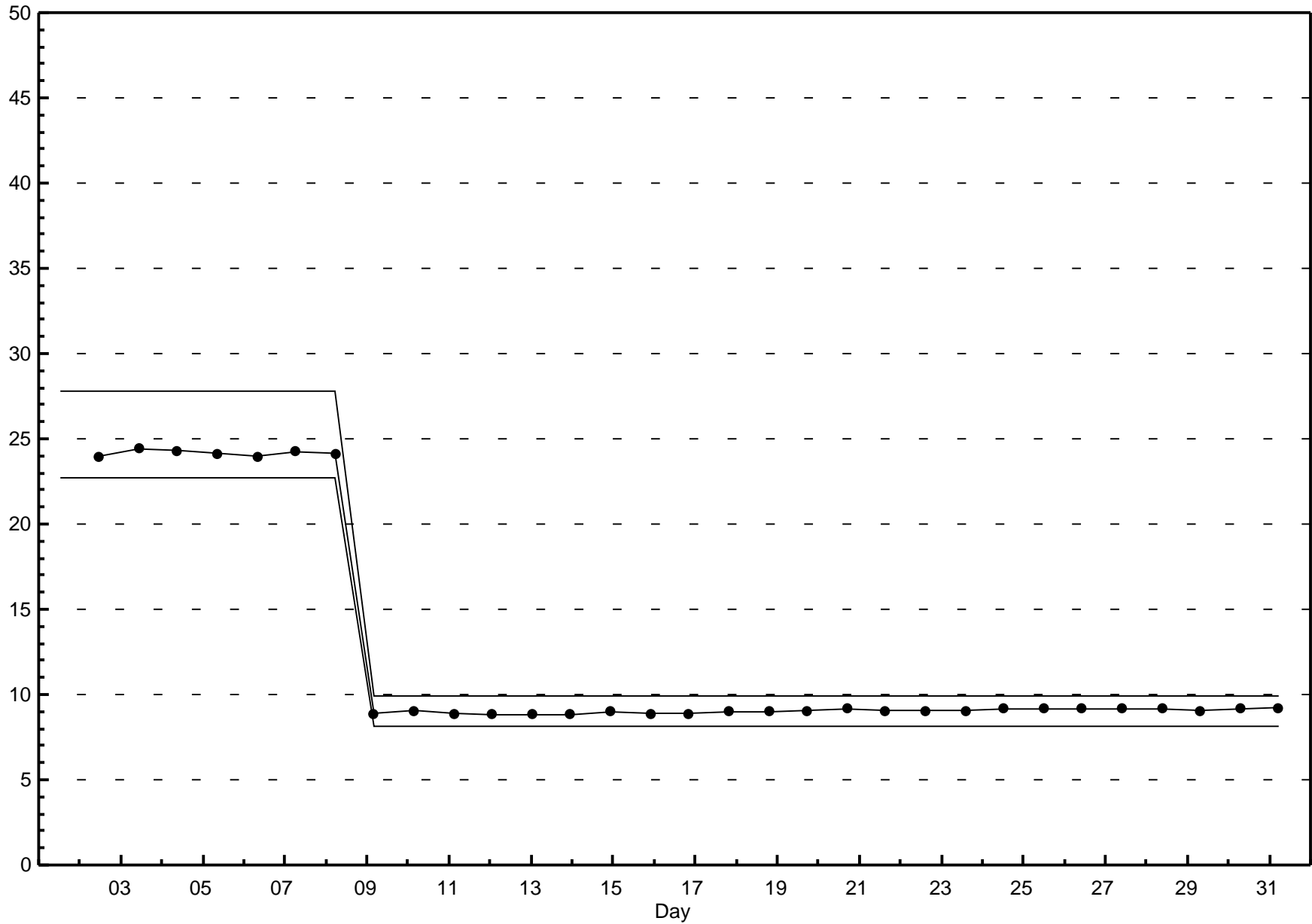


**Pollutant Classes (ppm)**



### Span Responses

Methane (CH<sub>4</sub>)  
Henry Pirker - May 2013

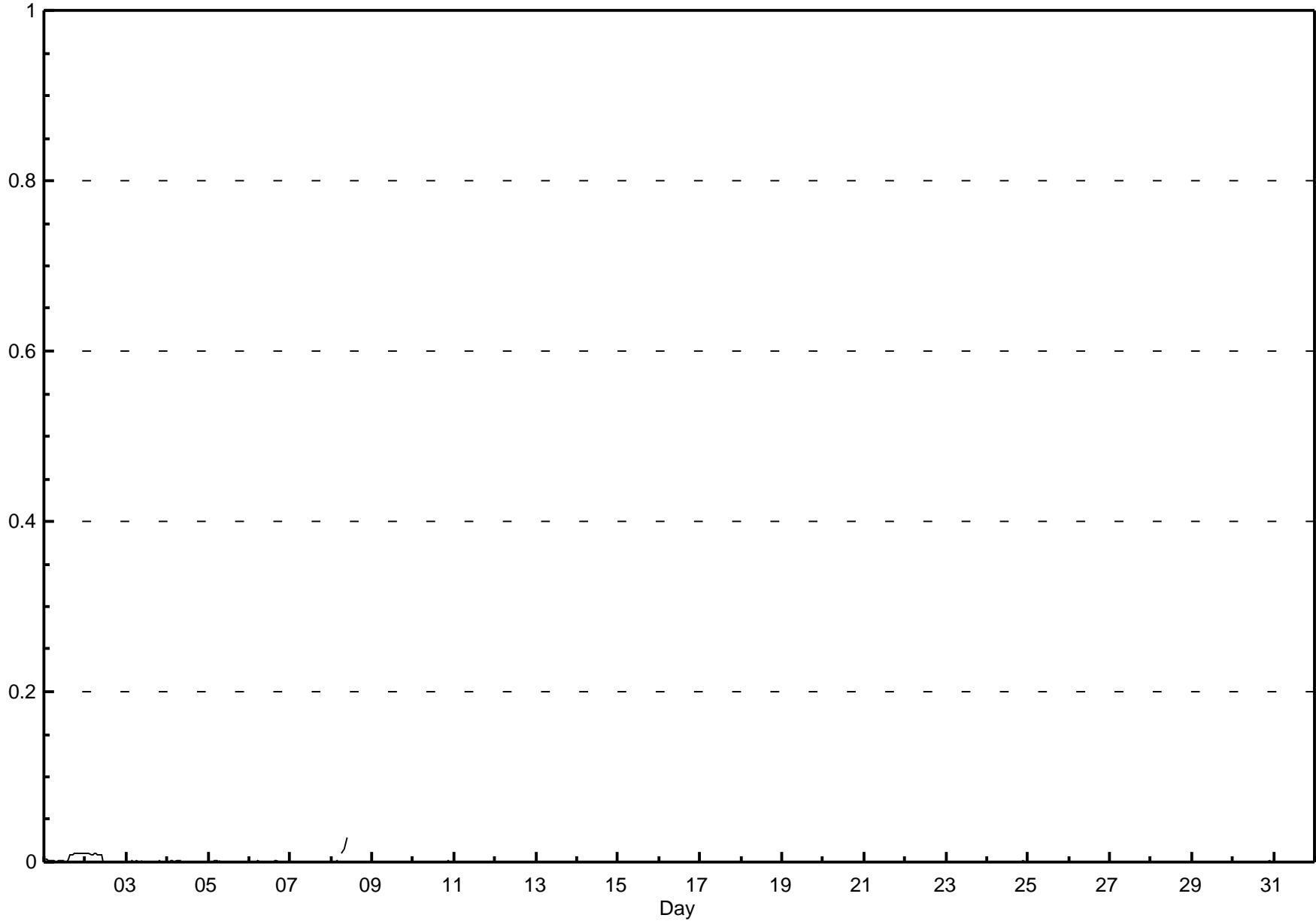


## Hourly Averages

## Non Methane Hydrocarbon (NMHC) - ppm

Henry Pirker - May 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 0.03 ppm on May 8 10:00      Maximum Daily Average: 0.00 ppm on May 1		Hours in Service: 744 Hours of Data: 702 Hours of Missing Data: 42 Hours of Calibration: 40 Percent Operational Time: 99.7																									
Minimum Value: 0.0 ppm on May 1 08:00 Maximum Diurnal Average: 0.00 ppm at hour 10 Monthly Average: 0.001 ppm		Minimum Daily Average: 0.00 ppm on May 9 Minimum Diurnal Average: 0.00 ppm at hour 14 Percentiles: P <sub>1</sub> = 0.00 P <sub>10</sub> = 0.00 Q <sub>1</sub> = 0.00 Median = 0.00 Q <sub>3</sub> = 0.00 P <sub>90</sub> = 0.00 P <sub>99</sub> = 0.01																									
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-May	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.01	
2-May	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.01	
3-May	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	
4-May	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	
5-May	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	
6-May	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	
7-May	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	
8-May	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	C	C	C	C	C	C	C	0.0	0.0	0.0	0.0	0.0	0.0	--	0.03	
9-May	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	
10-May	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	
11-May	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	
12-May	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	
13-May	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	
14-May	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.00	0.00	
15-May	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.00	0.00	
16-May	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.00	0.00	
17-May	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.00	0.00	
18-May	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.00	0.00	
19-May	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.00	0.00	
20-May	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	
21-May	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	
22-May	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	
23-May	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	
24-May	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	
25-May	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	
26-May	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	
27-May	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N	N	0.0	0.00	0.00	
28-May	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	
29-May	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	
30-May	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	
31-May	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	
																								Diurnal Average			
																								Diurnal Maximum			
C - Calibration																								N - Not Valid		A - Automated Daily Zero Span	

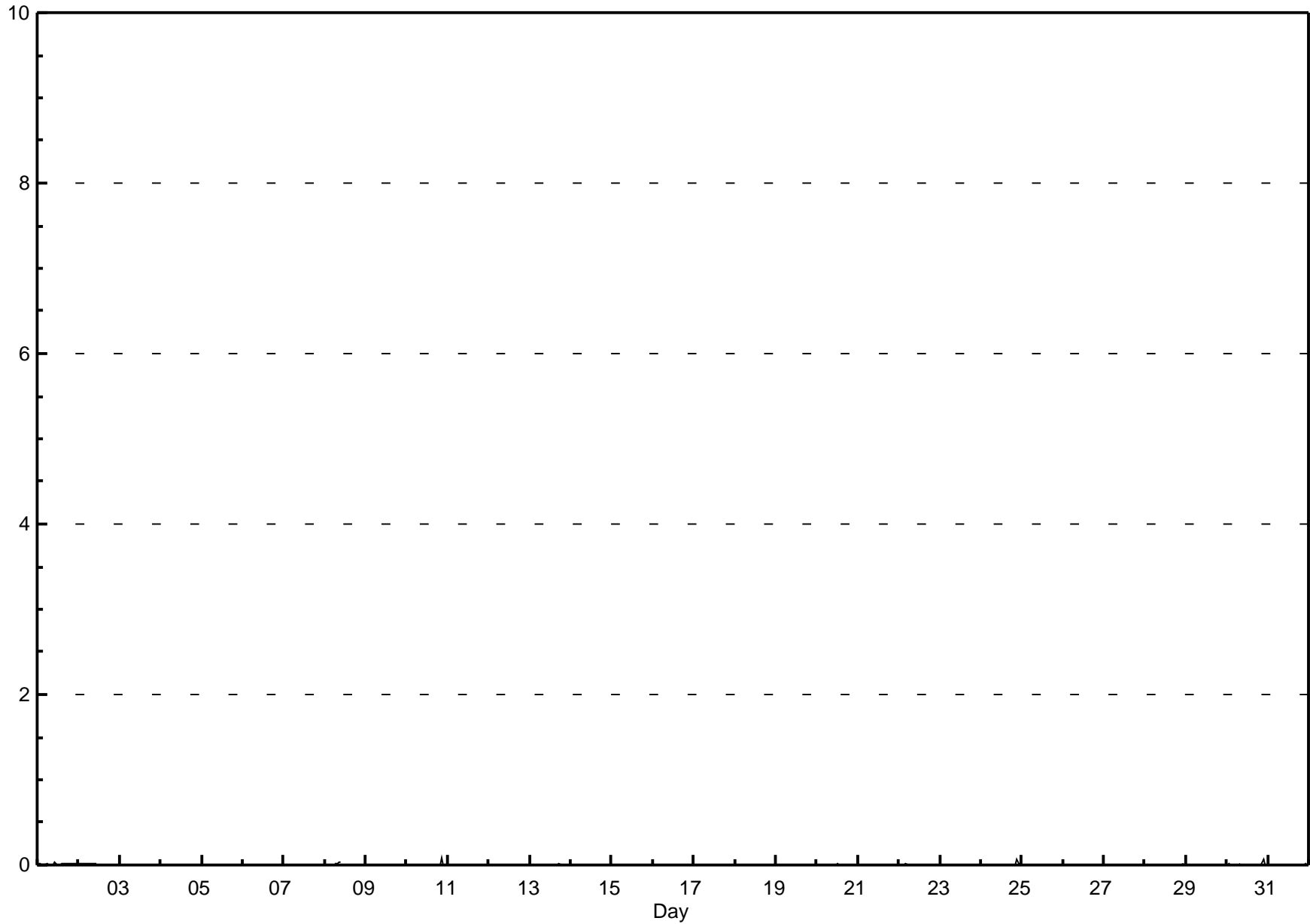


## Hourly Maximums

## Non Methane Hydrocarbon (NMHC) - ppm

Henry Pirker - May 2013

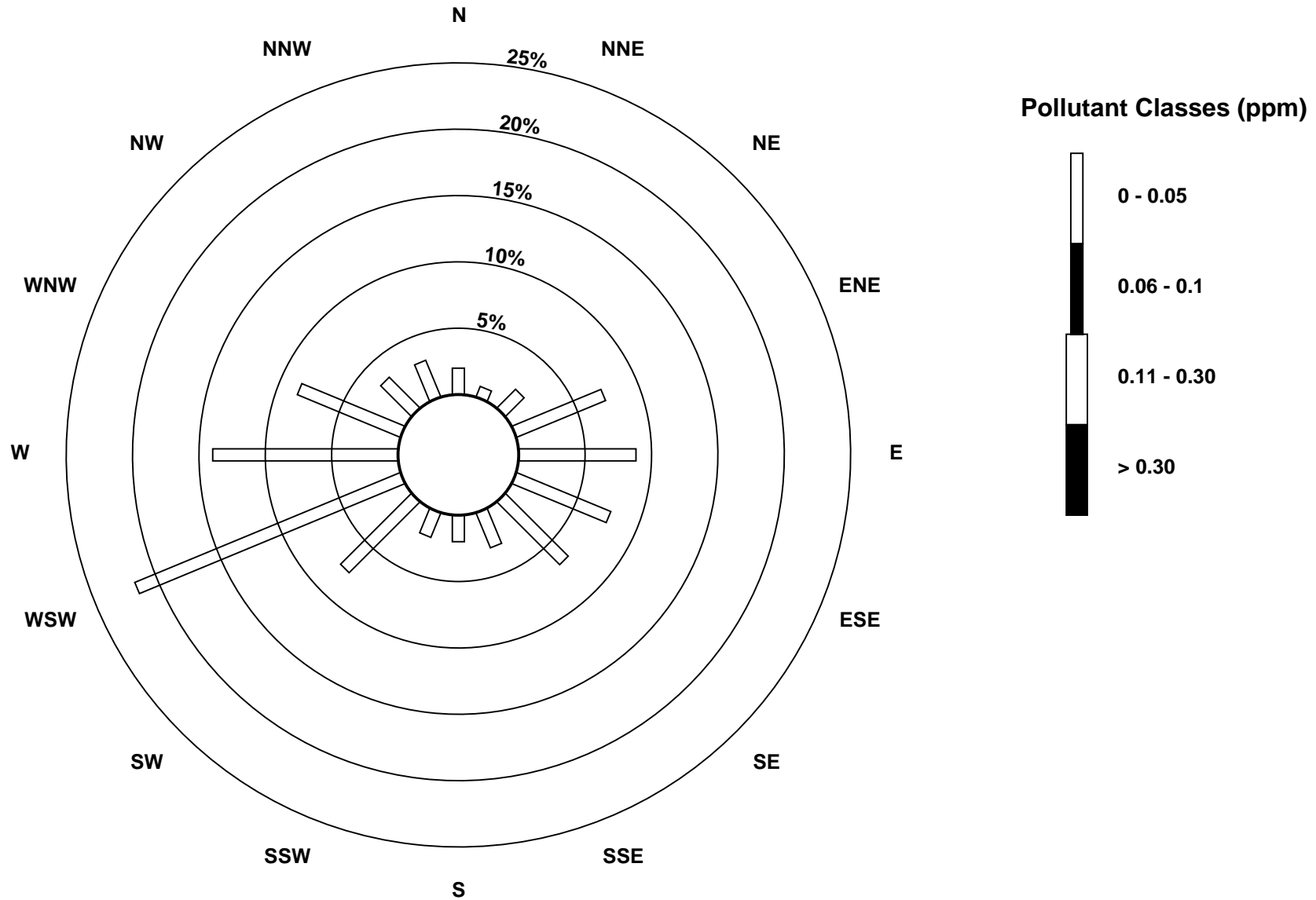
Maximum Value: 0.09 ppm on May 10 21:00      Maximum Daily Average: 0.01 ppm on May 1 Minimum Value: 0.0 ppm on May 5 12:00      Minimum Daily Average: 0.00 ppm on May 11 Maximum Diurnal Average: 0.01 ppm at hour 22      Minimum Diurnal Average: 0.00 ppm at hour 14 Monthly Average: 0.003 ppm      Percentiles: P <sub>1</sub> = 0.00 P <sub>10</sub> = 0.00 Q <sub>1</sub> = 0.00 Median = 0.00 Q <sub>3</sub> = 0.00 P <sub>90</sub> = 0.01 P <sub>99</sub> = 0.02																								Hours in Service:	744																							
																								Hours of Data:	702																							
																								Hours of Missing Data:	42																							
																								Hours of Calibration:	40																							
																								Percent Operational Time:	99.7																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																								
1-May	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.03																						
2-May	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.01																						
3-May	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.01																						
4-May	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.01																						
5-May	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.01																						
6-May	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.01																						
7-May	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00																						
8-May	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	C	C	C	C	C	C	C	0.0	0.0	0.0	0.0	0.0	0.0	--	0.03																						
9-May	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00																						
10-May	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.00	0.09																						
11-May	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00																						
12-May	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00																						
13-May	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.00	0.01																						
14-May	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.00	0.00																						
15-May	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.00	0.00																						
16-May	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.00	0.00																						
17-May	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.00	0.00																						
18-May	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.00	0.00																						
19-May	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.00	0.00																						
20-May	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.02																						
21-May	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00																						
22-May	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.02																						
23-May	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00																						
24-May	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.00	0.07																						
25-May	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00																						
26-May	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00																						
27-May	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N	N	0.0	0.0	0.00	0.00																						
28-May	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.01																						
29-May	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00																						
30-May	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.01	0.07																						
31-May	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.02																						
																								0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	Diurnal Average
																								0.01	0.02	0.01	0.01	0.02	0.01	0.02	0.02	0.03	0.03	0.03	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.09	0.07	0.02	0.01	Diurnal Maximum
C - Calibration																								N - Not Valid				A - Automated Daily Zero Span																				



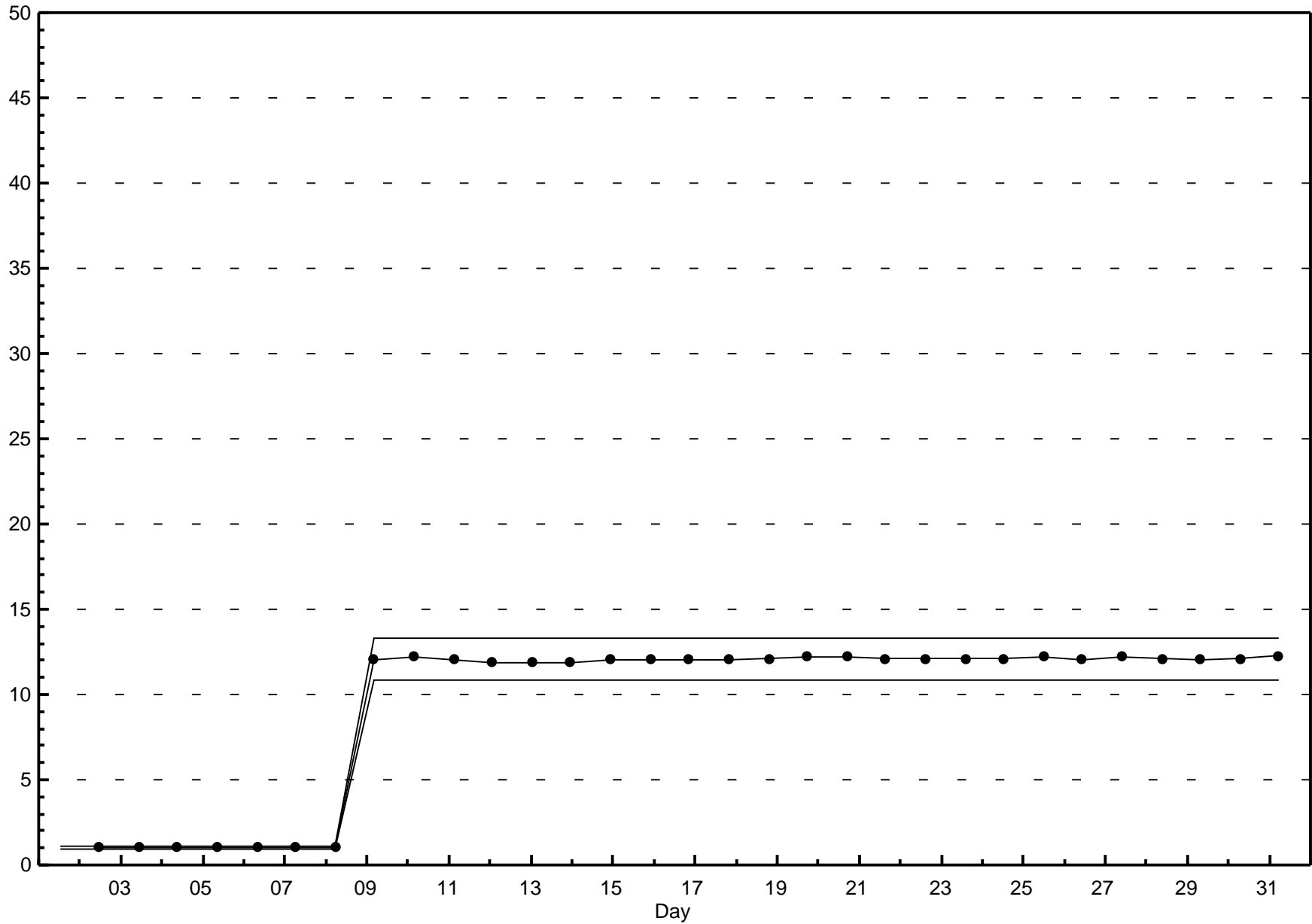
**Pollutant Rose**

**Non Methane Hydrocarbon (NMHC) - ppm**

**Henry Pirker - May 2013**







## Hourly Averages

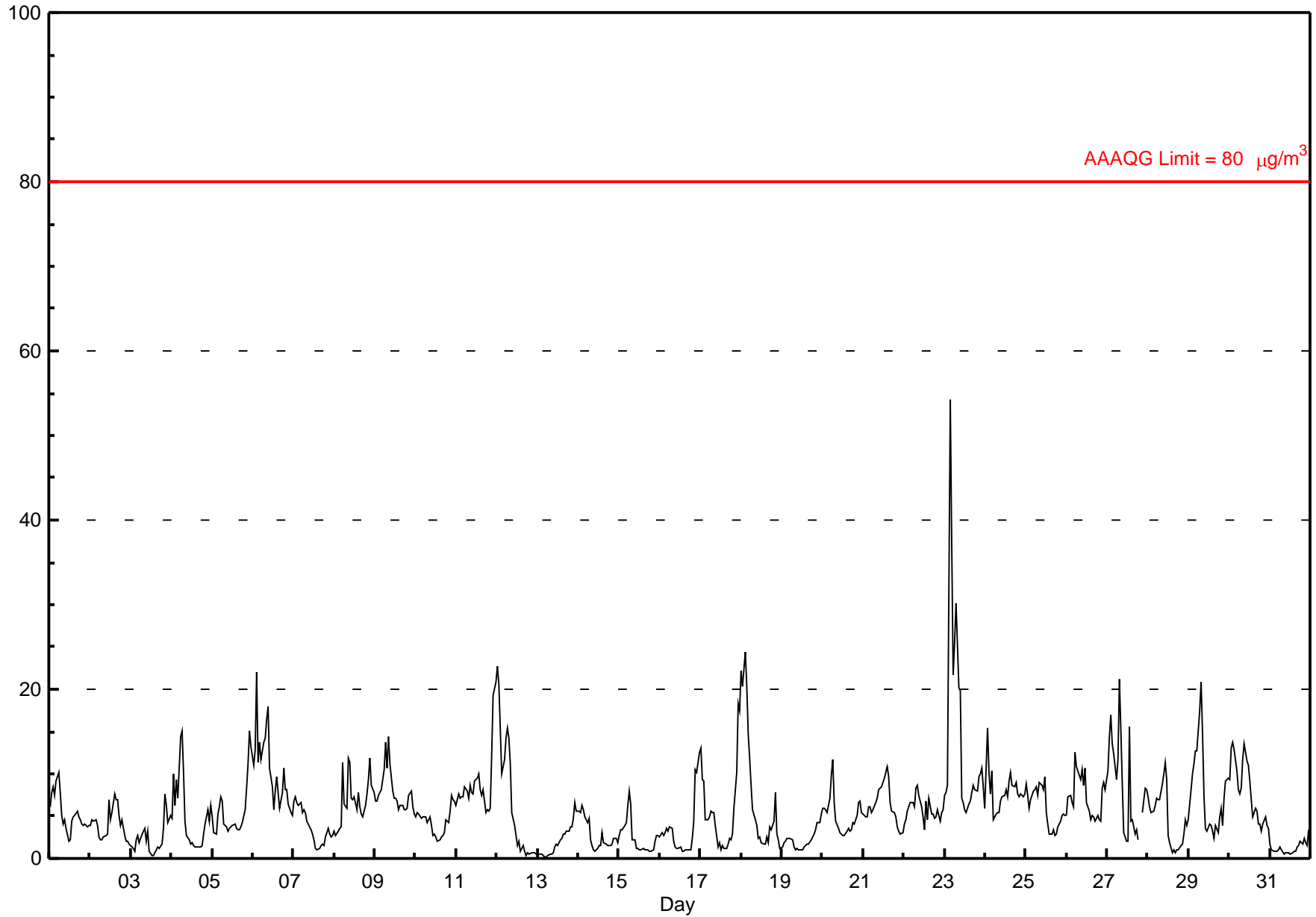
## Particulate Matter 2.5 (PM<sub>2.5</sub>) - µg/m<sup>3</sup>

Henry Pirker - May 2013

Number of Exceedences: 1-hr: 0 24-hr: 0	Hours in Service: 744
Maximum Value: 54.3 µg/m <sup>3</sup> on May 23 04:00	Maximum Daily Average: 14.2 µg/m <sup>3</sup> on May 23
Minimum Value: 0 µg/m <sup>3</sup> on May 13 05:00	Hours of Data: 742
Maximum Diurnal Average: 8.3 µg/m <sup>3</sup> at hour 4	Hours of Missing Data: 2
Monthly Average: 5.82 µg/m <sup>3</sup>	Hours of Calibration: 0
Minimum Daily Average: 1.2 µg/m <sup>3</sup> on May 31	Percent Operational Time: 99.7
Minimum Diurnal Average: 3.6 µg/m <sup>3</sup> at hour 18	
Percentiles: P <sub>1</sub> = 0.5 P <sub>10</sub> = 1.2 Q <sub>1</sub> = 2.6 Median = 4.9 Q <sub>3</sub> = 7.6 P <sub>90</sub> = 10.9 P <sub>99</sub> = 21.6	

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-May	6	8	8	7	9	10	8	5	4	5	4	2	2	4	5	5	6	5	5	4	4	4	4	4	5.3	10.2																						
2-May	4	5	4	5	4	3	2	2	2	3	3	7	5	5	8	7	7	5	4	5	3	2	2	2	4.0	7.6																						
3-May	2	1	1	2	3	2	2	3	4	2	3	1	0	0	1	1	1	1	2	4	8	6	4	5	2.5	7.7																						
4-May	5	10	6	9	7	14	15	10	4	3	2	2	2	2	1	1	1	1	1	3	4	6	4	6	5.1	15.0																						
5-May	5	3	3	5	6	7	7	4	4	3	4	4	4	4	4	3	3	4	4	6	8	11	15	13	5.6	15.1																						
6-May	11	13	22	11	14	12	14	14	16	18	11	9	6	8	10	8	6	8	11	8	8	6	5	5	10.5	22.0																						
7-May	7	7	7	6	7	5	6	5	4	4	3	3	2	1	1	1	1	2	1	3	4	3	3	3	3.7	7.3																						
8-May	3	3	3	3	4	11	6	6	12	11	7	7	7	6	8	6	5	5	6	8	9	12	9	8	6.9	11.9																						
9-May	7	7	7	8	8	11	14	11	14	11	8	7	7	7	6	6	6	6	6	6	7	8	6	5	7.9	14.5																						
10-May	5	5	5	5	5	5	5	4	5	4	3	3	3	2	2	3	3	3	4	4	6	7	7	7	4.3	7.4																						
11-May	6	8	7	7	7	8	8	7	9	8	8	9	9	10	8	7	8	5	6	6	6	12	19	21	8.8	20.9																						
12-May	23	21	15	10	12	14	15	14	11	5	4	3	1	2	1	2	1	0	1	0	1	1	1	1	6.6	22.7																						
13-May	1	0	0	0	0	0	0	0	0	1	1	2	2	2	2	3	3	3	3	4	4	5	7	6	2.1	6.6																						
14-May	6	5	6	6	5	4	5	2	1	1	1	1	1	2	3	2	2	2	2	2	2	2	2	2	2.8	6.2																						
15-May	3	3	3	4	4	6	8	7	2	2	1	1	1	1	1	1	1	1	1	1	2	3	3	3	2.6	8.0																						
16-May	3	3	3	3	4	3	4	4	2	1	1	1	1	1	1	1	1	1	1	2	4	10	10	13	3.3	12.5																						
17-May	13	9	9	5	5	5	6	5	5	4	1	2	1	2	1	1	2	2	2	3	6	10	18	18	5.6	18.3																						
18-May	22	20	24	20	15	12	9	6	5	4	2	3	2	2	2	3	2	4	3	4	8	3	2	1	7.4	24.3																						
19-May	1	2	2	2	2	2	2	1	1	1	1	1	1	1	2	2	2	2	2	3	3	4	4	5	2.2	5.3																						
20-May	6	6	6	5	7	10	12	7	4	4	3	3	3	3	3	4	3	3	4	4	5	7	7	5	5.1	11.8																						
21-May	5	5	5	6	6	5	6	7	7	8	8	8	9	10	11	10	7	6	5	5	4	3	3	3	6.4	10.8																						
22-May	4	5	6	6	7	7	6	8	9	7	6	5	3	7	5	7	5	5	5	5	6	4	5	6	5.8	8.6																						
23-May	7	8	9	54	37	22	26	30	20	20	7	7	6	5	6	7	8	9	8	8	10	10	11	8	14.2	54.3																						
24-May	6	15	10	8	10	5	5	5	5	7	7	8	8	7	9	10	9	9	9	8	7	8	7	8	7.9	15.4																						
25-May	9	8	6	7	8	8	9	8	9	9	8	10	5	4	3	3	3	3	3	4	4	5	5	5	6.0	9.7																						
26-May	5	7	7	7	6	13	11	10	9	11	9	11	7	6	5	5	5	4	5	5	4	8	9	8	7.3	12.6																						
27-May	10	14	17	14	12	9	12	21	15	9	3	2	2	16	4	5	3	3	2	N	N	5	8	8	8.9	21.2																						
28-May	7	6	5	6	6	7	7	7	9	10	11	9	3	2	1	1	1	1	1	1	2	3	5	4	4.8	11.3																						
29-May	5	8	10	11	13	13	17	21	15	7	4	3	4	4	3	2	4	3	5	6	4	7	9	9	7.8	20.8																						
30-May	9	13	14	13	10	8	8	8	12	14	12	11	9	7	5	6	6	4	4	3	4	5	4	4	8.0	13.8																						
31-May	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	3	1.2	3.4																						
																								6.7	7.4	7.5	8.3	7.9	7.8	8.2	7.9	7.2	6.3	4.7	4.6	3.8	4.3	3.9	4.0	3.7	3.6	3.9	4.1	4.9	5.9	6.5	6.4	Diurnal Average
																								22.7	20.7	24.3	54.3	37.2	21.7	25.6	30.1	20.2	19.9	11.5	11.0	9.5	15.7	10.8	10.2	8.6	8.6	10.7	8.1	9.7	12.3	19.3	20.9	Diurnal Maximum

N - Not Valid  
 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>

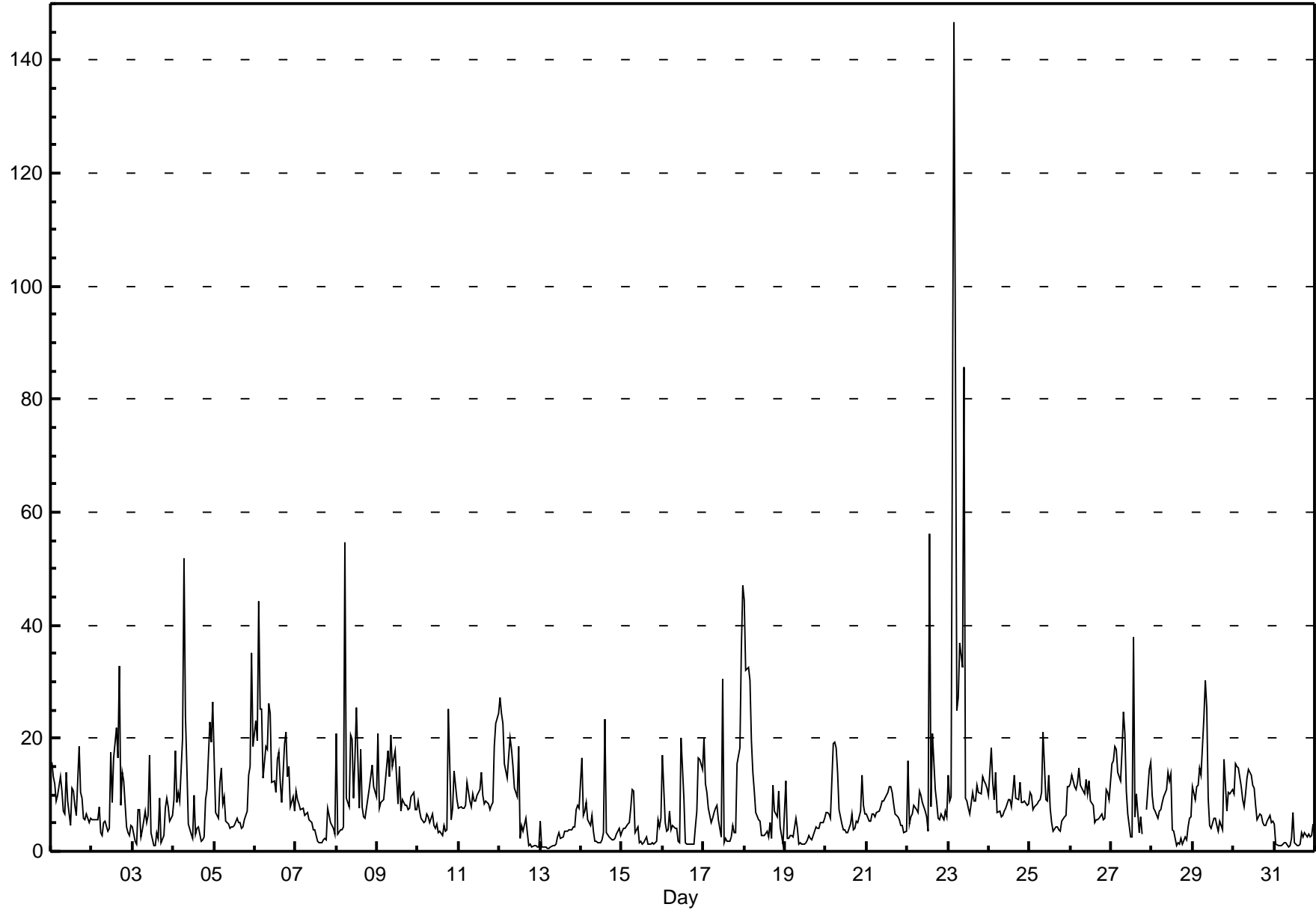


## Hourly Maximums

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

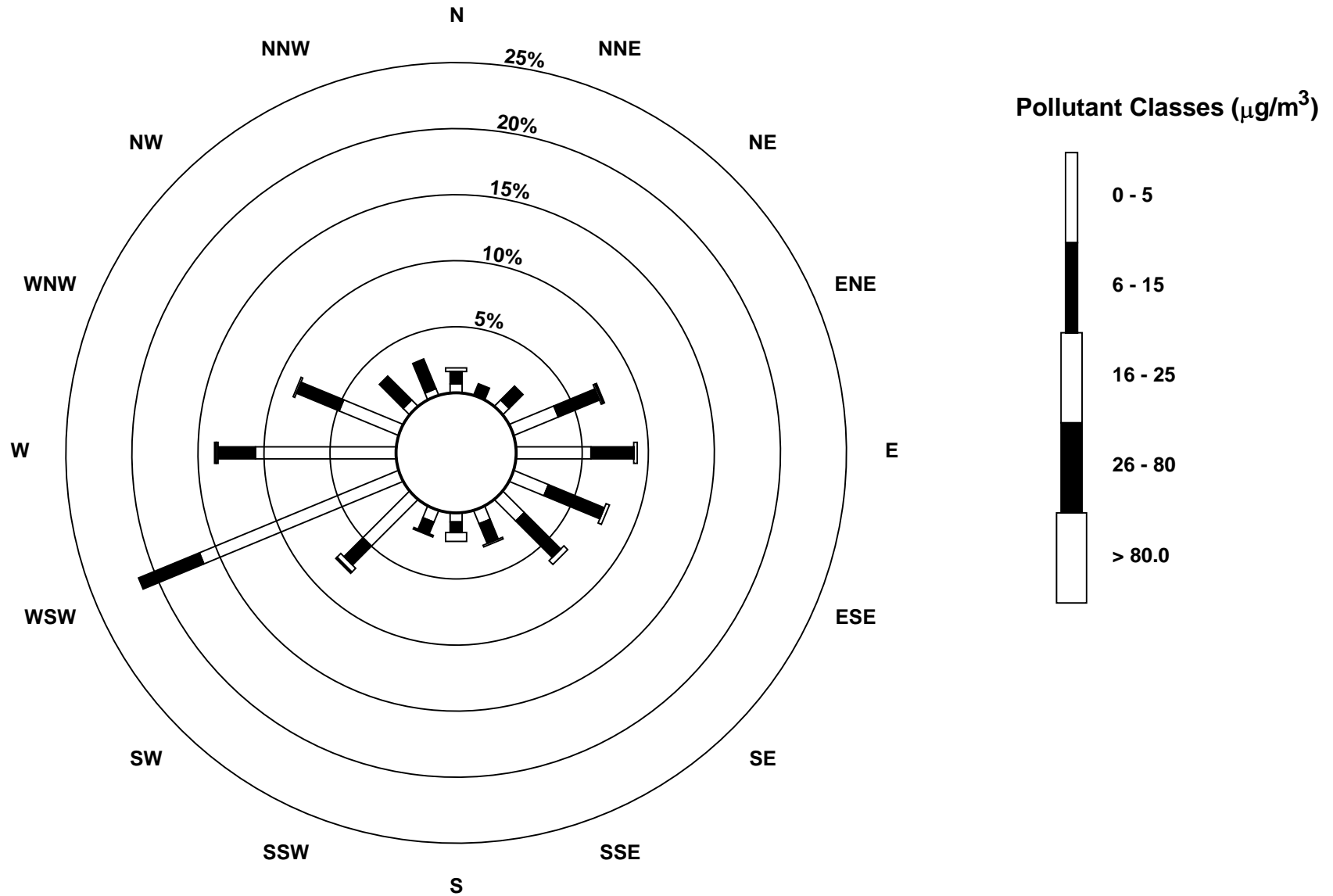
Henry Pirker - May 2013

Maximum Value: 146.8 µg/m <sup>3</sup> on May 23 04:00 Minimum Value: 0 µg/m <sup>3</sup> on May 13 05:00 Maximum Diurnal Average: 13.6 µg/m <sup>3</sup> at hour 4 Monthly Average: 9.12 µg/m <sup>3</sup>		Maximum Daily Average: 25.8 µg/m <sup>3</sup> on May 23 Minimum Daily Average: 2.2 µg/m <sup>3</sup> on May 31 Minimum Diurnal Average: 5.6 µg/m <sup>3</sup> at hour 18 Percentiles: P <sub>1</sub> = 0.8 P <sub>10</sub> = 2.0 Q <sub>1</sub> = 3.9 Median = 7.0 Q <sub>3</sub> = 11.0 P <sub>90</sub> = 17.9 P <sub>99</sub> = 42.4		Hours in Service: 744 Hours of Data: 742 Hours of Missing Data: 2 Hours of Calibration: 0 Percent Operational Time: 99.7																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-May	16	13	12	9	10	13	11	7	7	14	9	5	11	11	8	6	19	11	9	6	6	7	5	6	9.5	18.6	
2-May	6	6	6	6	8	3	3	5	5	3	4	18	9	17	22	17	33	8	14	12	4	3	3	5	9.1	32.8	
3-May	4	2	1	7	7	3	4	7	5	6	17	3	1	1	3	2	9	2	3	8	9	8	5	6	5.2	17.0	
4-May	9	18	9	10	9	20	52	24	15	5	3	2	10	3	4	4	2	2	3	9	11	23	19	26	12.2	52.0	
5-May	16	7	6	12	15	8	10	5	5	4	4	4	5	6	5	5	4	4	6	7	13	15	35	19	9.2	35.1	
6-May	23	20	44	25	25	13	19	18	26	24	12	12	10	16	18	12	9	19	21	13	15	8	10	7	17.5	44.3	
7-May	11	9	8	7	8	6	7	7	6	5	4	4	3	2	2	2	2	2	2	8	5	5	4	3	5.0	10.7	
8-May	21	3	4	4	4	55	9	8	21	20	9	16	25	8	18	8	6	6	9	11	13	15	12	10	13.1	54.8	
9-May	21	8	9	9	9	15	18	13	21	15	18	13	8	15	7	9	8	8	7	8	10	10	7	7	11.4	20.9	
10-May	9	7	6	5	5	7	6	5	7	5	4	5	3	4	3	5	4	4	25	6	8	14	12	9	6.9	25.1	
11-May	8	8	8	8	8	12	9	8	10	9	9	10	11	14	10	8	9	8	7	8	9	19	23	24	10.7	24.3	
12-May	27	24	23	15	13	17	20	18	15	11	10	19	2	5	3	6	3	1	1	1	1	1	1	1	9.9	27.2	
13-May	5	1	1	1	0	0	1	1	1	1	2	3	2	3	4	4	3	4	4	4	4	7	8	8	3.0	8.2	
14-May	16	6	7	9	6	5	6	4	2	2	2	2	2	3	23	3	3	2	2	2	2	3	4	3	4.9	23.3	
15-May	4	4	4	5	5	8	11	11	3	4	2	2	1	2	2	1	1	1	1	1	2	6	4	6	3.8	11.0	
16-May	17	5	3	4	7	4	5	4	4	2	2	20	9	2	1	1	1	1	1	4	7	17	16	15	6.4	20.2	
17-May	20	12	10	8	5	6	7	8	8	6	2	30	2	2	2	2	3	5	3	3	15	18	36	47	10.8	47.0	
18-May	45	32	33	30	19	14	11	7	6	5	3	3	3	3	2	5	2	12	7	6	11	4	3	1	11.1	44.5	
19-May	12	2	2	3	3	3	6	4	1	2	1	1	1	2	3	2	2	4	4	4	4	5	5	6	3.5	12.5	
20-May	7	7	7	6	19	19	18	14	7	5	4	4	3	3	5	7	4	4	5	5	7	13	8	7	7.8	19.3	
21-May	7	5	5	7	7	6	7	7	8	9	9	9	10	12	12	10	8	7	6	6	4	5	3	3	7.1	11.5	
22-May	16	5	6	7	8	7	7	11	10	9	7	6	4	56	8	21	11	9	6	6	7	6	7	6	10.1	56.1	
23-May	13	9	10	147	90	25	27	37	33	86	9	9	8	7	11	9	9	12	10	10	13	13	12	11	25.8	146.8	
24-May	10	18	12	9	14	7	7	6	6	7	8	9	9	8	10	14	9	9	12	9	9	9	8	8	9.5	18.3	
25-May	10	10	7	8	8	9	9	10	21	9	9	14	8	5	3	4	4	4	4	5	6	6	12	11	8.3	21.1	
26-May	12	14	12	11	12	15	12	11	10	13	10	12	9	8	5	6	6	6	7	6	6	11	10	9	9.6	14.7	
27-May	16	16	18	18	14	13	18	25	21	11	7	3	2	38	6	10	3	6	3	N	N	7	15	16	12.9	37.9	
28-May	10	8	7	6	7	7	9	10	11	14	12	14	4	3	1	1	2	1	2	2	4	6	6	6	6.2	13.9	
29-May	12	9	11	12	15	13	24	30	25	9	5	4	6	6	5	3	5	4	16	12	7	10	10	11	11.0	30.2	
30-May	10	15	15	15	12	9	8	10	13	15	13	12	11	8	6	7	6	5	4	5	5	6	5	5	9.2	15.5	
31-May	5	1	1	1	1	1	2	2	1	1	2	7	2	1	1	1	3	2	3	2	3	3	3	5	2.2	6.8	
	13.4	9.8	9.9	13.6	12.1	11.1	11.6	10.8	10.7	10.7	6.8	8.9	6.3	8.8	6.9	6.3	6.3	5.6	6.8	6.3	7.3	9.1	10.0	9.9	Diurnal Average		
	44.5	31.9	44.3	146.8	90.1	54.8	52.0	37.0	32.7	85.8	17.9	30.5	25.4	56.1	23.3	20.8	32.8	19.1	25.1	13.1	15.5	22.8	36.0	47.0	Diurnal Maximum		
N - Not Valid																											



**Pollutant Rose**

**Particulate Matter 2.5 (PM<sub>2.5</sub>) - μg/m<sup>3</sup>**  
**Henry Pirker - May 2013**

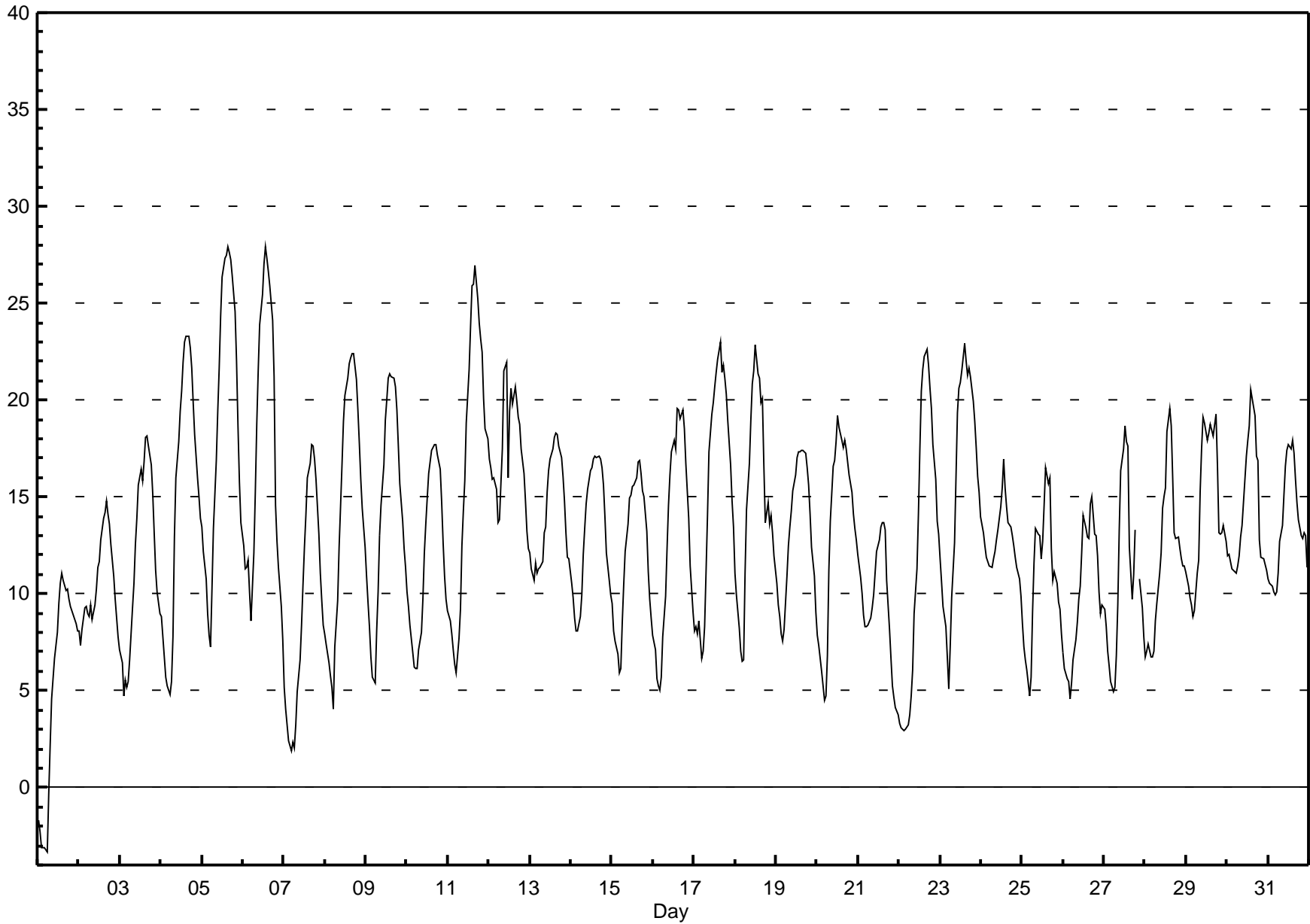


## Hourly Averages

External Temperature (ET) - °C

Henry Pirker - May 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 27.9 °C on May 6 14:00      Maximum Daily Average: 18.8 °C on May 5		Hours in Service: 744 Hours of Data: 742 Hours of Missing Data: 2 Hours of Calibration: 0 Percent Operational Time: 99.7																									
Minimum Value: -3 °C on May 1 06:00 Maximum Diurnal Average: 19.0 °C at hour 15 Monthly Average: 13.16 °C		Minimum Daily Average: 5.2 °C on May 1 Minimum Diurnal Average: 6.7 °C at hour 6 Percentiles: P <sub>1</sub> = 1.8 P <sub>10</sub> = 6.5 Q <sub>1</sub> = 9.2 Median = 12.9 Q <sub>3</sub> = 17.0 P <sub>90</sub> = 20.6 P <sub>99</sub> = 27.1																									
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-May	-2	-2	-3	-3	-3	-3	0	2	5	6	7	8	9	11	11	11	10	10	10	9	9	9	8	8	5.2	11.1	
2-May	8	7	8	9	9	9	9	9	9	9	10	11	12	13	14	14	15	14	14	13	11	10	9	8	10.6	14.8	
3-May	7	6	5	6	5	5	7	9	11	13	14	16	16	16	17	18	18	18	17	15	13	11	10	9	11.7	18.1	
4-May	9	8	7	6	5	5	5	8	13	16	18	19	20	22	23	23	23	23	22	20	18	16	15	14	14.9	23.3	
5-May	13	12	11	9	8	7	10	13	17	19	22	24	26	27	27	28	28	27	26	25	22	19	16	14	18.8	27.9	
6-May	12	11	11	12	10	9	12	15	19	22	24	25	27	28	27	27	26	24	21	15	13	11	9	8	17.4	27.9	
7-May	5	4	3	2	2	2	2	3	5	7	8	10	12	14	16	17	18	18	17	16	13	11	10	8	9.3	17.7	
8-May	8	7	6	6	5	4	7	10	12	15	17	19	20	21	22	22	22	22	21	19	18	16	14	12	14.5	22.4	
9-May	11	10	8	7	6	5	8	10	13	15	17	19	20	21	21	21	21	21	19	18	16	14	12	11	14.3	21.4	
10-May	10	9	8	7	6	6	6	7	8	10	12	14	15	16	17	18	18	18	17	16	15	13	11	10	12.0	17.7	
11-May	9	9	8	7	6	6	8	9	13	14	16	19	22	24	26	26	27	25	24	23	22	20	19	18	16.6	27.0	
12-May	17	16	16	16	15	14	14	16	17	22	22	16	19	21	20	21	20	19	19	18	16	15	13	12	17.2	21.9	
13-May	12	11	11	12	11	11	11	12	13	13	15	16	17	18	18	18	18	18	17	16	15	13	12	12	14.2	18.3	
14-May	11	10	9	8	8	9	10	12	13	15	15	16	17	17	17	17	17	17	17	16	14	12	11	10	13.2	17.1	
15-May	9	8	8	7	6	6	9	10	12	14	15	15	16	16	16	17	17	16	15	15	13	11	10	9	12.0	16.9	
16-May	8	7	6	5	5	6	8	10	12	15	16	17	18	17	20	20	19	19	19	17	15	14	11	9	13.0	19.5	
17-May	8	8	8	9	7	7	8	11	14	17	19	20	21	21	22	23	21	22	21	20	19	17	15	13	15.5	23.0	
18-May	11	10	8	7	7	7	11	14	17	19	21	21	23	21	21	20	20	17	14	15	14	14	13	12	14.8	22.8	
19-May	11	9	9	8	8	8	11	12	13	14	15	16	17	17	17	17	17	17	17	16	14	12	11	9	13.2	17.4	
20-May	8	7	7	6	4	5	7	11	14	17	17	18	19	19	18	18	18	18	17	16	15	14	13	13	13.2	19.2	
21-May	12	11	10	9	8	8	8	9	9	10	11	12	13	13	14	14	13	11	8	7	5	5	4	4	9.5	13.7	
22-May	3	3	3	3	3	3	4	5	6	9	11	14	17	20	22	22	23	22	21	20	18	16	14	13	12.3	22.6	
23-May	12	11	9	8	7	5	7	10	13	16	19	21	21	22	23	22	21	22	21	20	19	18	16	15	15.7	22.9	
24-May	14	13	12	12	12	11	11	12	12	13	13	15	15	17	15	15	14	13	13	12	12	11	11	10	12.9	16.9	
25-May	8	7	7	6	5	6	9	12	13	13	13	12	13	15	17	16	16	12	11	11	11	10	9	8	10.7	16.5	
26-May	7	6	6	5	5	5	7	8	9	10	10	12	14	13	13	13	15	15	13	13	12	10	9	9	9.9	15.0	
27-May	9	8	7	6	5	5	5	7	9	13	16	18	19	18	18	12	10	11	13	N	N	11	9	8	10.8	18.6	
28-May	7	7	7	7	7	7	9	10	11	12	14	15	15	18	20	19	16	13	13	13	12	12	11	11	11.9	19.6	
29-May	11	10	10	9	9	9	11	12	15	17	19	19	18	18	19	18	18	19	17	13	13	13	14	13	14.4	19.3	
30-May	12	12	12	11	11	11	11	12	13	14	16	17	18	19	21	20	19	17	17	13	12	12	12	11	14.2	20.5	
31-May	11	11	10	10	10	10	11	13	14	15	17	17	18	18	18	17	16	15	14	13	13	13	13	11	13.6	17.9	
		9.4	8.7	8.0	7.5	6.8	6.7	8.3	10.1	12.1	13.9	15.5	16.5	17.7	18.4	19.0	18.8	18.5	17.8	16.8	15.7	14.4	12.9	11.7	10.7	Diurnal Average	
		17.0	16.5	15.9	16.0	15.4	13.6	13.8	15.7	18.8	21.5	23.9	25.5	27.0	27.9	27.5	27.9	27.6	27.2	26.4	24.6	22.5	20.1	18.5	18.0	Diurnal Maximum	
N - Not Valid																											





## Hourly Averages

Relative Humidity (RH) - %

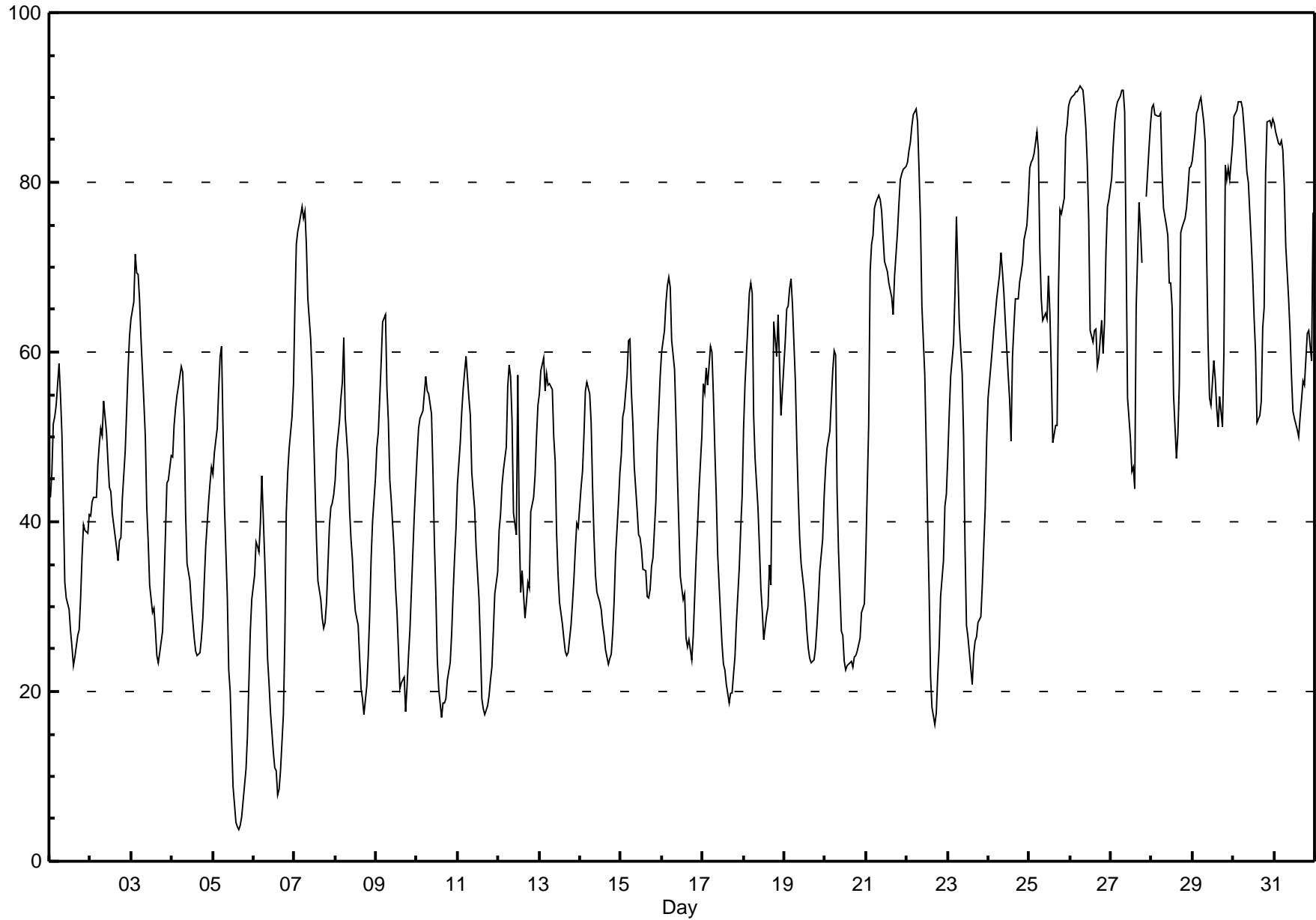
Henry Pirker - May 2013

Number of Exceedences (AAQO): 1-hr: 0 24-hr: 0 Maximum Value: 91.3 % on May 26 07:00 Maximum Daily Average: 76.9 % on May 30		Hours in Service: 744 Hours of Data: 742 Hours of Missing Data: 2 Hours of Calibration: 0 Percent Operational Time: 99.7																									
Minimum Value: 4 % on May 5 16:00 Maximum Diurnal Average: 68.7 % at hour 6 Monthly Average: 49.87 %		Minimum Daily Average: 26.8 % on May 5 Minimum Diurnal Average: 32.7 % at hour 15 Percentiles: P <sub>1</sub> = 8.5 P <sub>10</sub> = 24.0 Q <sub>1</sub> = 31.9 Median = 49.9 Q <sub>3</sub> = 64.5 P <sub>90</sub> = 81.6 P <sub>99</sub> = 90.6																									
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-May	43	46	52	52	54	59	55	50	42	33	31	30	27	25	23	24	27	27	31	36	40	39	39	41	38.5	58.6	
2-May	41	42	43	43	47	49	51	50	54	51	47	44	44	41	38	37	36	38	38	43	48	53	58	62	45.7	61.9	
3-May	64	66	71	69	69	66	62	54	50	42	38	33	29	30	27	24	23	25	27	33	39	45	45	48	44.9	71.5	
4-May	48	51	53	55	56	58	58	52	41	35	33	30	28	26	25	24	25	26	29	33	37	42	45	46	39.9	58.3	
5-May	46	48	51	56	59	61	51	42	31	23	20	14	9	5	4	4	4	5	7	11	15	21	27	31	26.8	60.7	
6-May	34	38	37	37	40	45	36	30	24	21	18	13	11	11	8	9	11	17	26	41	46	49	52	56	29.5	56.1	
7-May	65	73	74	75	77	76	77	73	66	62	57	51	44	38	33	31	29	28	28	30	40	42	42	43	52.2	77.2	
8-May	45	48	52	55	56	62	52	47	42	38	36	32	29	28	24	20	19	17	21	24	29	36	40	45	37.4	61.7	
9-May	49	51	55	59	64	64	56	52	45	43	37	32	29	25	20	21	22	18	21	24	27	36	41	44	38.9	64.5	
10-May	48	51	52	53	55	57	55	55	53	46	38	31	24	20	17	19	19	19	21	23	27	32	36	39	37.1	57.1	
11-May	44	49	53	56	58	60	55	52	46	44	42	37	31	26	19	18	17	18	20	21	23	27	32	34	36.7	59.5	
12-May	39	41	44	46	49	56	58	57	52	41	39	57	39	32	34	29	30	33	32	41	43	45	50	54	43.4	58.4	
13-May	55	58	59	55	57	56	56	56	50	47	39	34	31	28	26	25	24	25	28	30	33	37	40	39	41.2	59.4	
14-May	44	46	50	55	57	55	52	44	38	34	32	30	30	28	27	25	23	24	24	27	31	36	42	46	37.5	56.5	
15-May	48	52	53	57	61	62	55	52	46	41	38	38	37	34	34	31	31	32	35	36	42	49	53	57	44.9	61.6	
16-May	60	63	66	68	69	68	61	58	52	45	39	34	31	31	26	25	26	24	27	31	36	39	44	50	44.7	68.8	
17-May	56	55	58	56	61	60	55	49	43	36	29	26	23	23	21	19	20	20	22	24	28	35	39	43	37.5	60.6	
18-May	51	56	63	67	68	67	53	48	42	37	32	30	26	29	30	35	33	49	64	59	64	59	53	55	48.7	68.1	
19-May	61	65	65	67	69	66	57	49	43	38	35	32	30	27	25	24	23	24	25	28	31	34	38	43	41.6	68.7	
20-May	46	49	50	51	58	60	60	44	37	27	27	24	22	23	23	24	23	24	24	25	26	29	30	30	34.8	60.2	
21-May	36	52	70	73	74	77	78	78	78	77	74	71	70	68	67	66	64	69	74	77	80	81	82	82	71.5	81.8	
22-May	82	84	85	87	88	89	87	81	75	65	57	49	40	32	22	18	16	18	22	25	31	35	42	43	53.1	88.6	
23-May	48	53	57	61	67	76	70	63	57	50	37	28	26	25	21	24	26	26	28	29	33	37	42	49	43.0	75.9	
24-May	54	58	61	63	64	66	69	72	69	67	64	57	54	50	60	63	66	66	68	69	71	73	75	78	64.9	77.8	
25-May	82	82	83	83	86	84	72	66	64	64	64	69	65	58	49	51	51	67	77	76	78	85	87	89	72.2	89.0	
26-May	90	90	90	91	91	91	91	91	89	86	82	76	63	61	63	63	58	59	64	60	64	72	77	78	76.6	91.3	
27-May	80	84	87	89	89	90	91	91	88	72	55	50	46	46	44	65	78	75	71	N	N	78	84	87	74.5	90.8	
28-May	89	89	88	88	88	88	81	77	75	74	68	68	65	55	47	50	56	74	75	76	77	79	82	82	74.6	89.1	
29-May	83	86	88	89	90	90	87	85	71	61	55	54	59	57	53	51	55	51	60	82	80	82	80	84	72.2	90.0	
30-May	88	88	88	89	90	89	86	84	81	80	73	69	64	60	52	53	54	63	65	81	87	87	87	87	76.9	89.6	
31-May	87	86	85	84	85	84	80	73	66	62	57	53	52	51	50	52	54	57	56	62	63	61	59	76	66.5	87.0	
		58.2	61.3	64.0	65.4	67.6	68.7	64.7	60.5	55.2	49.7	44.8	41.7	38.0	35.2	32.7	33.0	33.7	36.0	39.0	42.0	45.6	50.2	52.9	56.2	Diurnal Average	
		89.7	90.0	90.4	90.6	90.6	91.0	91.3	90.9	89.0	86.5	82.2	75.7	69.5	68.2	67.3	66.4	77.7	74.5	76.8	82.0	87.1	87.3	86.8	89.0	Diurnal Maximum	
N - Not Valid																											

**Hourly Averages**

**Relative Humidity (RH) - %**

**Henry Pirker - May 2013**



## Hourly Averages

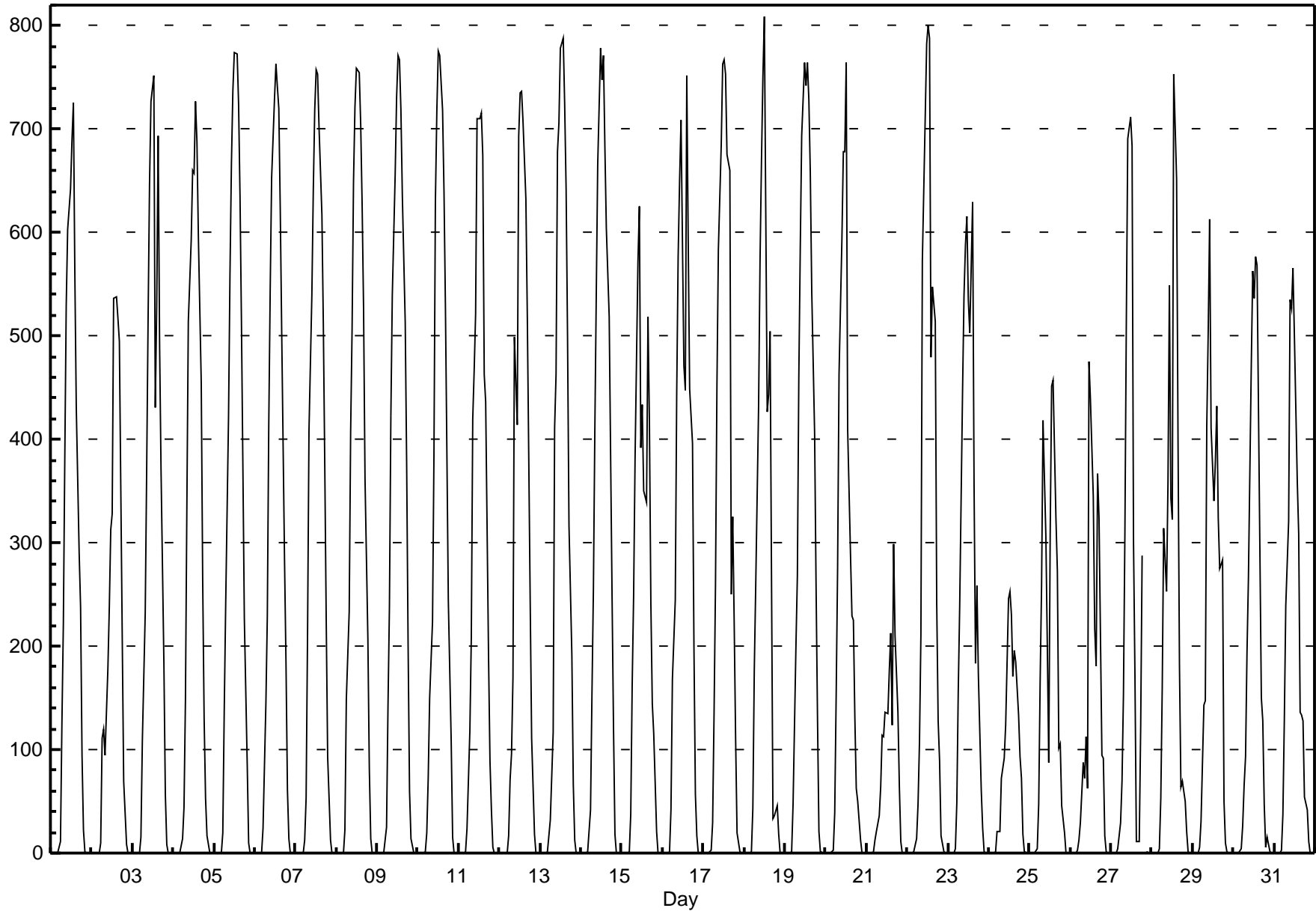
Solar Radiation (SR) - W/m<sup>2</sup>

Henry Pirker - May 2013

Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 809.2 W/m <sup>2</sup> on May 18 13:00	Maximum Daily Average: 303.1 W/m <sup>2</sup> on May 19		Hours of Data:	742
Minimum Value: 0 W/m <sup>2</sup> on May 1 01:00	Minimum Daily Average: 77.7 W/m <sup>2</sup> on May 21		Hours of Missing Data:	2
Maximum Diurnal Average: 607.7 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
Monthly Average: 223.11 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 = 105.0 Q <sub>3</sub> = 426.6 P <sub>90</sub> = 664.9 P <sub>99</sub> = 777.7		Percent Operational Time:	99.7

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																								
1-May	0	0	0	0	0	11	125	222	381	530	603	642	689	726	560	430	290	237	94	22	1	0	0	0	231.8	725.7																						
2-May	0	0	0	0	0	9	111	120	94	178	237	312	328	536	538	517	495	351	209	69	8	0	0	0	171.4	537.6																						
3-May	0	0	0	0	0	15	109	232	370	517	647	727	751	431	529	694	492	371	183	57	8	0	0	0	255.5	751.2																						
4-May	0	0	0	0	0	14	44	149	337	515	592	660	658	727	687	597	454	264	131	52	16	0	0	0	245.7	726.7																						
5-May	0	0	0	0	0	20	138	239	423	560	666	736	774	772	724	633	512	371	226	87	10	0	0	0	287.2	774.0																						
6-May	0	0	0	0	0	23	145	229	414	545	654	729	763	741	720	622	504	281	184	61	14	0	0	0	276.3	763.4																						
7-May	0	0	0	0	0	13	53	211	409	539	640	718	757	753	702	618	510	374	225	94	12	0	0	0	276.1	757.2																						
8-May	0	0	0	0	0	22	149	234	407	505	649	722	759	754	705	626	527	363	208	82	14	0	0	0	280.3	758.9																						
9-May	0	0	0	0	0	25	142	238	422	540	655	732	772	767	719	635	513	375	201	60	13	0	0	0	283.7	772.0																						
10-May	0	0	0	0	1	20	72	150	224	384	629	717	776	771	719	639	526	387	244	109	15	0	0	0	266.1	776.2																						
11-May	0	0	0	0	1	24	117	208	419	467	522	710	710	716	674	463	437	191	89	41	6	0	0	0	241.5	716.1																						
12-May	0	0	0	0	0	17	71	96	170	498	415	694	735	737	707	632	519	382	243	111	18	0	0	0	251.9	737.0																						
13-May	0	0	0	0	1	17	32	117	411	463	679	706	778	788	723	642	500	317	191	67	12	0	0	0	268.5	787.7																						
14-May	0	0	0	0	2	42	154	255	409	541	666	779	747	772	683	605	518	382	247	121	18	0	0	0	289.2	778.9																						
15-May	0	0	0	0	1	38	162	248	380	572	626	392	434	350	338	519	416	242	145	116	21	1	0	0	208.3	625.7																						
16-May	0	0	0	0	2	42	169	244	445	577	650	709	471	448	752	593	450	396	198	56	16	1	0	0	259.1	751.9																						
17-May	0	0	0	0	2	30	135	260	451	584	686	763	767	753	675	660	250	325	224	111	20	1	0	0	279.0	767.3																						
18-May	0	0	0	0	2	44	176	258	432	573	669	751	809	427	443	505	264	33	36	46	17	1	0	0	228.6	809.2																						
19-May	0	0	0	0	2	47	200	268	461	583	694	764	742	764	728	658	543	406	260	132	21	1	0	0	303.1	764.4																						
20-May	0	0	0	0	3	39	151	276	463	593	678	678	764	410	288	229	226	132	63	49	12	0	0	0	210.6	764.4																						
21-May	0	0	0	0	1	13	20	36	64	114	113	137	134	176	212	124	299	210	137	64	11	0	0	0	77.7	298.6																						
22-May	0	0	0	0	1	14	48	107	211	573	712	783	800	788	480	547	514	242	128	89	17	1	0	0	252.3	799.9																						
23-May	0	0	0	0	4	48	158	238	448	539	587	616	535	503	629	356	183	259	173	61	24	1	0	0	223.4	629.5																						
24-May	0	0	0	0	1	21	20	73	83	91	124	246	253	231	171	195	184	133	93	73	17	2	0	0	83.8	252.7																						
25-May	0	0	0	0	4	47	165	259	419	306	200	87	308	452	458	324	273	101	106	45	20	0	0	0	148.9	457.7																						
26-May	0	0	0	0	3	12	29	87	73	112	63	476	439	345	217	181	366	324	94	92	17	2	0	0	122.2	476.0																						
27-May	0	0	0	0	4	29	70	152	308	513	691	711	684	302	173	12	12	122	288	N	N	2	0	0	185.2	711.2																						
28-May	0	0	0	0	4	52	160	314	253	359	549	343	322	754	652	397	181	64	70	50	21	2	0	0	189.4	753.6																						
29-May	0	0	0	0	5	30	143	148	413	504	613	412	341	380	432	324	275	283	50	9	2	0	0	0	181.9	613.4																						
30-May	0	0	0	0	4	26	65	94	193	266	473	563	536	577	568	291	150	128	48	5	15	1	0	0	166.7	577.3																						
31-May	0	0	0	0	3	37	130	239	320	535	527	566	501	360	308	136	134	128	55	41	11	0	0	0	167.9	565.5																						
																								0.0	0.0	0.0	0.0	1.7	27.1	111.7	193.6	332.5	457.3	545.5	599.4	607.7	580.9	545.7	464.6	371.5	263.7	156.2	69.1	14.3	0.5	0.0	0.0	Diurnal Average
																								0.0	0.0	0.0	0.0	5.4	52.4	200.3	313.9	463.0	592.9	712.2	782.8	809.2	787.7	751.9	694.2	543.4	405.8	288.3	132.3	23.6	2.0	0.0	0.0	Diurnal Maximum

N - Not Valid





Peace Airshed Zone Association

### Hourly Averages

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

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1 Spd	8	6	5	4	3	4	6	10	18	28	22	19	17	16	21	32	30	23	23	19	22	16	12	11	13.3	31.6
Dir	134	120	139	136	117	156	222	238	255	261	258	243	242	242	264	271	276	257	255	251	253	240	219	224	249.0	271.4
2 Spd	11	7	18	29	31	23	14	21	25	28	31	41	39	39	36	37	34	35	34	27	25	25	23	19	26.9	41.4
Dir	229	237	253	254	252	266	292	273	257	256	255	259	259	260	256	253	260	261	270	260	259	256	252	247	258.1	258.9
3 Spd	17	15	7	11	9	10	11	15	17	21	16	12	12	11	12	13	12	12	11	13	11	11	8	9	11.5	21.2
Dir	251	259	304	276	274	264	269	273	275	289	311	289	288	305	306	301	290	277	270	245	248	243	233	230	275.2	289.4
4 Spd	10	9	8	6	4	5	6	4	8	21	19	19	17	17	15	15	19	21	21	18	15	13	13	11	10.8	21.1
Dir	214	192	176	162	154	134	157	187	241	263	278	285	282	284	279	267	261	247	249	245	240	235	239	235	249.5	249.3
5 Spd	9	9	7	3	5	4	9	11	13	14	10	10	12	21	19	19	16	15	18	17	12	8	8	8	11.2	21.3
Dir	227	243	253	253	242	236	249	249	251	261	262	262	305	295	293	300	311	288	285	254	255	252	271	301	272.6	295.5
6 Spd	4	2	4	7	2	6	4	3	3	2	5	9	13	22	34	32	31	28	25	29	19	11	13	7	8.5	33.5
Dir	333	142	217	272	224	160	202	283	228	264	151	193	264	268	271	260	267	292	341	345	356	353	354	45	291.8	271.4
7 Spd	7	5	7	7	4	8	11	14	14	13	13	13	14	13	9	10	11	11	11	10	11	12	11	10	8.7	14.0
Dir	294	318	344	347	88	85	91	94	86	90	95	93	94	99	94	95	84	75	64	68	61	80	75	77	78.9	93.8
8 Spd	10	10	5	5	4	2	7	4	3	4	2	3	1	1	6	8	2	3	7	9	7	9	8	8	3.3	10.4
Dir	89	101	103	79	82	90	112	146	317	21	35	30	198	126	278	296	290	292	72	90	71	67	80	64	74.8	88.8
9 Spd	9	8	6	5	5	3	3	4	5	10	20	20	22	23	25	23	21	22	22	16	10	10	10	13	9.0	24.7
Dir	71	76	68	55	62	26	96	144	287	292	309	311	309	307	313	329	330	343	7	20	31	55	59	60	346.8	312.8
10 Spd	11	8	10	10	8	9	10	11	11	12	13	15	15	14	13	15	15	15	16	14	12	9	10	10	11.7	15.6
Dir	65	68	72	84	78	69	70	88	89	104	96	95	96	97	105	95	89	88	87	85	83	79	75	77	86.4	87.2
11 Spd	9	8	7	5	3	3	4	5	3	4	5	5	4	2	3	3	3	13	13	8	7	6	1	3	1.2	13.4
Dir	83	87	78	78	84	74	115	141	252	144	157	144	136	182	315	182	151	259	266	245	239	291	185	10	173.0	266.2
12 Spd	2	3	5	6	4	2	2	1	3	9	24	38	37	45	36	43	41	36	31	20	17	14	11	14	16.9	45.0
Dir	88	152	167	156	145	79	317	343	229	223	256	273	253	253	248	256	257	256	254	227	232	242	236	235	249.1	252.8
13 Spd	14	14	12	16	16	19	19	20	25	28	31	28	31	29	28	28	26	24	20	18	18	15	13	14	20.9	31.3
Dir	231	240	235	242	238	245	245	245	250	251	253	257	262	261	263	259	257	250	263	257	256	255	255	255	252.7	262.3
14 Spd	12	14	15	17	18	20	22	27	29	29	30	28	29	29	27	29	27	28	24	22	20	13	12	12	21.8	29.7
Dir	244	245	246	247	249	249	256	266	268	272	274	268	267	265	259	263	261	251	256	248	247	242	235	244	257.9	274.2
15 Spd	11	8	10	9	8	10	11	14	15	19	15	15	14	18	18	19	18	15	17	19	18	10	10	10	13.7	19.2
Dir	243	234	231	236	233	235	248	246	249	257	246	247	254	256	254	257	245	243	249	256	251	235	238	243	247.2	256.9
16 Spd	9	9	8	9	7	8	12	13	15	14	13	14	12	14	15	16	16	14	13	9	6	6	6	3	10.4	15.8
Dir	245	265	292	290	286	263	255	250	265	273	288	271	295	276	245	270	273	270	266	278	256	243	287	296	269.8	273.2
17 Spd	3	4	4	7	6	7	9	8	6	5	5	6	5	3	1	3	4	4	9	10	9	6	3	3	2.6	10.1
Dir	286	299	282	280	288	275	276	249	244	250	233	234	205	221	65	250	163	190	152	140	116	116	108	137	221.9	140.3
18 Spd	3	3	1	7	5	2	5	7	6	4	4	6	6	10	5	18	15	18	9	8	8	11	13	16	5.8	18.4
Dir	98	136	186	284	294	268	254	249	239	247	294	226	252	179	218	299	292	238	180	180	174	225	266	263	245.4	298.6
19 Spd	13	12	13	10	10	14	18	21	26	25	23	22	19	24	26	23	21	20	20	20	18	17	12	10	18.1	26.0
Dir	247	250	257	258	254	256	257	261	266	261	265	266	264	272	275	269	266	261	255	254	257	260	252	240	261.0	275.0
20 Spd	8	6	5	6	4	1	3	3	2	3	7	4	4	5	7	6	7	8	11	13	11	8	11	12	3.1	12.6
Dir	241	258	288	302	292	299	162	306	196	116	137	133	101	76	109	101	82	56	54	83	85	66	52	60	76.5	82.7
21 Spd	13	12	11	8	7	9	11	11	10	11	9	9	9	12	16	18	19	24	27	26	22	21	19	14	7.7	27.2
Dir	60	63	78	79	75	62	74	63	55	55	48	32	4	341	312	341	327	300	293	292	291	282	286	272	336.8	292.9
22 Spd	14	12	11	8	7	6	5	4	4	4	5	2	5	12	19	25	22	24	22	19	21	18	6	11	7.1	24.7
Dir	247	248	247	244	241	244	219	191	217	231	283	276	100	100	109	113	120	122	140	135	132	135	92	97	143.4	112.8

## Hourly Averages

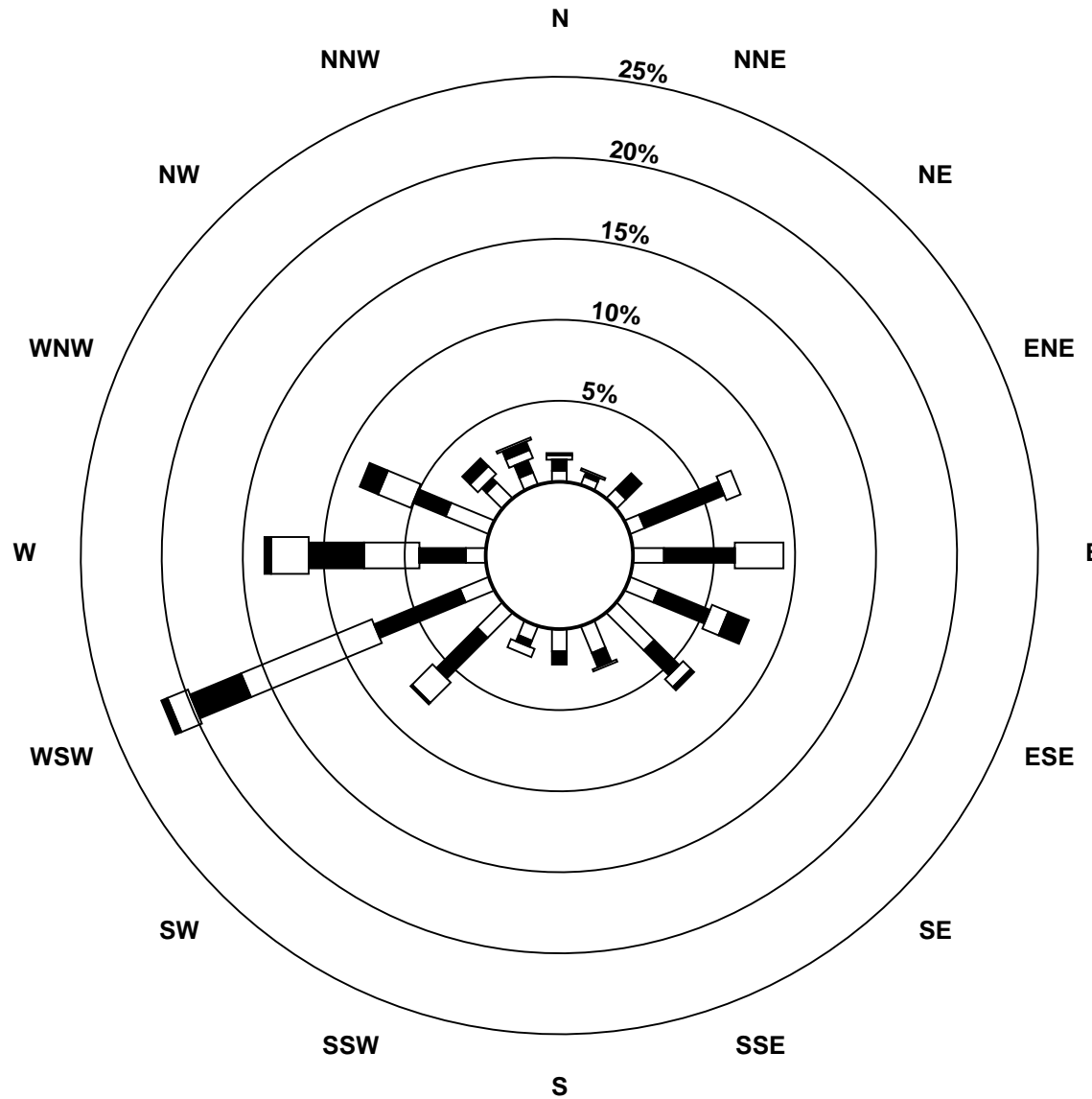
Wind Speed (km/h)  
Wind Direction (deg)  
Henry Pirker - May 2013

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
23 Spd	10	8	5	4	3	3	3	3	4	4	17	21	21	20	25	21	20	19	20	17	13	10	9	19	11.5	25.4
Dir	108	97	79	78	195	215	264	231	178	139	117	120	123	117	119	115	117	122	113	119	114	102	94	149	119.6	119.3
24 Spd	14	13	11	11	8	8	10	9	11	9	9	13	11	8	12	12	13	13	14	13	10	9	5	4.1	14.0	
Dir	132	129	128	129	106	88	92	71	66	68	56	73	74	116	216	193	217	247	228	227	235	239	259	252	151.8	132.0
25 Spd	5	5	5	6	6	6	6	4	10	13	11	9	10	8	9	4	8	14	8	3	7	3	2	7	1.9	14.1
Dir	284	303	294	331	324	331	315	322	95	94	106	110	79	73	36	115	181	124	128	230	234	351	338	338	68.7	124.3
26 Spd	4	1	2	2	3	4	5	6	6	5	3	8	9	10	6	5	4	5	5	1	2	4	4	6	1.4	10.2
Dir	10	307	299	312	292	241	283	250	238	262	55	70	71	95	150	147	162	149	143	129	159	140	127	118	140.0	94.7
27 Spd	4	1	2	5	3	7	4	3	4	8	11	11	12	12	9	12	6	6	N	N	3	1	2	3.1	12.3	
Dir	110	273	106	105	125	135	131	6	39	90	108	102	98	73	74	235	345	328	297	N	N	129	346	291	83.0	344.7
28 Spd	2	5	2	3	4	3	5	5	5	5	5	4	5	7	8	8	16	7	0	2	2	2	1	5	1.2	15.7
Dir	310	17	41	323	275	336	252	238	250	212	193	139	64	48	113	162	200	102	5	227	86	83	119	78	167.3	199.9
29 Spd	5	5	3	1	1	1	2	2	1	2	1	1	6	7	9	9	7	8	7	4	9	6	6	2	2.2	9.1
Dir	127	141	354	335	270	305	184	180	262	271	285	104	104	106	127	140	129	109	121	112	355	358	9	44	102.9	139.9
30 Spd	2	3	5	7	7	6	6	7	9	8	9	9	9	9	7	6	9	12	8	11	7	5	6	7	5.0	12.5
Dir	345	107	113	100	83	73	98	105	117	131	120	139	126	137	130	120	111	103	97	218	270	224	216	215	127.1	103.4
31 Spd	10	8	8	8	6	8	7	9	13	8	7	7	7	4	4	3	12	15	12	6	4	8	7	6	6.9	14.7
Dir	228	248	228	242	247	246	255	257	270	249	286	266	275	241	242	265	213	223	210	210	214	263	282	144	242.0	222.8
Spd	2.5	2.1	2.0	2.8	2.9	2.7	3.3	4.6	5.8	6.3	5.4	5.6	5.2	6.1	7.2	8.5	8.4	7.8	6.2	6.0	5.2	4.1	3.2	2.4	Diurnal Average	
Dir	216.4	219.7	235.5	253.1	247.4	246.0	244.5	249.1	254.9	257.0	260.0	255.8	262.2	261.8	259.4	260.5	260.0	254.4	258.3	245.9	248.7	244.6	259.6	229.9	Diurnal Maximum	
Spd	16.8	14.9	17.9	29.0	30.9	23.1	21.6	26.9	28.8	28.5	30.9	41.4	38.5	45.0	36.1	42.9	40.9	35.7	34.4	29.4	24.9	25.1	22.6	19.1	Diurnal Maximum	
Dir	251.5	259.0	252.6	253.6	252.3	266.0	255.6	265.6	268.1	271.9	254.6	258.9	258.8	252.8	248.4	256.3	256.6	255.8	270.0	345.3	259.2	255.6	252.5	247.2	Diurnal Maximum	
Maximum Speed Value: 45 km/h on May 12 14:00																		Minimum Speed Value: 0 km/h on May 28 19:00						Hours in Service:		744
Maximum Daily Speed Average: 26.9 km/h on May 2																		Minimum Daily Speed Average: 1.2 km/h on May 29						Hours of Data:		742
Maximum Diurnal Speed Average: 8.5 km/h at hour 16																		Minimum Diurnal Speed Average: 2.0 km/h at hour 3						Hours of Missing Data:		2
Monthly Average Velocity: 4.77 km/h 253.03 deg																		Speed Percentiles: P <sub>1</sub> = 0.8 P <sub>10</sub> = 3.0 Q <sub>1</sub> = 5.3 Median = 9.5 Q <sub>3</sub> = 15.3 P <sub>90</sub> = 22.7 P <sub>99</sub> = 38.1						Percent Operational Time:		99.7
All monthly, daily, and diurnal averages have been calculated using vector methods																										
N - Not Valid																										
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	8	5	4	1	0	30																			
NorthEast	11	21	6	0	0	0	38																			
East	24	70	36	1	0	0	131																			
SouthEast	36	32	10	14	0	0	92																			
South	19	12	2	0	0	0	33																			
SouthWest	20	51	49	7	0	0	127																			
West	26	51	68	56	28	7	236																			
NorthWest	18	15	8	14	0	0	55																			
Total	166	260	184	96	29	7	742																			

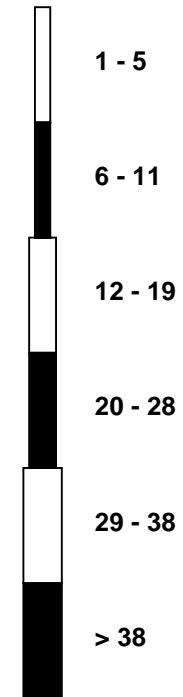
**Wind Rose**

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

**Henry Pirker - May 2013**



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



# Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Henry Pirker - May 2013

Maximum Speed: 46 km/h on May 12 14:00	Maximum Daily Speed Average: 27.5 km/h on May 2	Hours in Service: 744
Minimum Speed: 2 km/h on May 28 23:00	Minimum Daily Speed Average: 5.3 km/h on May 26	Hours of Data: 742
Maximum Diurnal Speed Average: 17.9 km/h at hour 16	Minimum Diurnal Speed Average: 7.2 km/h at hour 5	Hours of Missing Data: 2
Monthly Average Speed: 12.15 km/h	Percentiles: P <sub>1</sub> = 2.1 P <sub>10</sub> = 4.3 Q <sub>1</sub> = 6.3 Median = 9.9 Q <sub>3</sub> = 15.8 P <sub>90</sub> = 23.4 P <sub>99</sub> = 38.8	Percent Operational Time: 99.7

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-May	8	6	5	5	3	4	6	11	18	28	23	20	18	17	22	32	31	23	23	19	23	16	12	11	16.0	32.2
2-May	11	7	18	29	31	24	14	21	25	28	31	42	39	40	36	38	35	36	35	28	25	25	23	19	27.5	41.8
3-May	17	15	8	11	9	10	11	15	17	21	17	13	14	12	13	15	13	13	13	13	11	11	9	10	12.9	21.4
4-May	10	9	8	6	5	5	6	5	9	21	19	20	18	18	16	16	19	21	21	18	15	13	13	11	13.4	21.3
5-May	10	9	7	3	5	4	10	11	13	15	11	11	13	22	21	20	20	17	16	18	17	12	9	8	12.6	21.6
6-May	5	3	4	8	4	6	5	4	4	4	6	9	15	24	34	32	31	32	26	30	20	11	14	7	14.0	34.0
7-May	7	5	7	8	4	8	11	14	14	13	14	14	14	14	10	11	11	12	11	10	12	12	11	11	10.8	14.3
8-May	11	10	5	5	4	2	7	5	4	5	5	5	5	5	7	9	6	5	7	10	7	9	8	8	6.6	10.5
9-May	9	8	7	5	5	3	4	5	5	11	20	21	22	23	25	24	21	23	23	17	11	10	10	13	13.5	25.1
10-May	11	8	10	10	9	9	10	11	11	12	14	15	16	15	14	15	16	16	16	14	12	9	10	10	12.2	15.9
11-May	9	8	7	5	3	3	5	6	4	6	6	6	6	6	5	4	5	14	14	10	9	6	3	5	6.4	14.4
12-May	4	4	5	6	4	3	4	3	4	9	25	39	38	46	37	44	42	36	31	20	17	14	11	14	19.2	45.7
13-May	14	14	12	16	16	20	19	20	26	28	32	29	32	30	28	29	26	24	21	19	18	15	13	14	21.5	32.1
14-May	12	14	15	17	19	20	22	27	29	29	30	29	30	30	28	30	28	28	24	23	20	14	12	13	22.6	30.3
15-May	11	9	10	9	8	10	11	14	16	20	16	17	15	18	19	20	19	16	17	20	18	10	10	10	14.3	20.0
16-May	9	9	8	9	7	9	12	13	15	15	14	15	13	15	16	16	16	15	13	10	6	6	6	3	11.2	16.4
17-May	3	5	4	7	6	7	9	9	6	5	7	8	8	8	6	6	6	6	10	11	9	6	3	4	6.5	10.6
18-May	3	4	5	7	5	3	5	7	7	5	6	8	8	11	11	19	16	20	9	9	8	12	14	17	9.1	20.3
19-May	13	12	13	10	10	14	18	21	26	26	24	23	20	24	27	23	22	21	20	20	19	17	13	10	18.6	26.6
20-May	8	6	7	6	5	2	3	4	4	5	8	7	7	6	10	9	8	9	11	13	12	9	11	12	7.6	13.1
21-May	13	12	12	8	7	9	11	11	10	12	9	10	9	12	16	18	20	24	27	26	22	21	20	15	14.8	27.4
22-May	14	12	11	8	7	7	5	5	5	6	6	6	6	13	20	25	23	24	22	20	22	18	6	11	12.6	25.1
23-May	10	8	5	4	4	3	4	3	5	9	17	22	22	21	26	22	21	20	20	17	13	10	9	19	13.0	25.8
24-May	14	13	12	11	8	8	10	9	11	9	10	13	11	10	13	13	14	13	14	14	13	10	9	6	11.2	14.3
25-May	5	5	6	7	7	6	7	7	11	13	11	9	10	9	10	10	8	15	8	4	7	6	5	7	8.0	15.1
26-May	4	2	3	3	4	4	5	6	7	6	6	8	9	11	8	6	5	7	5	2	3	5	4	6	5.3	10.9
27-May	6	3	3	5	3	7	4	4	5	9	13	12	13	13	13	16	13	7	7	N	N	4	3	2	7.4	16.2
28-May	2	5	2	4	5	4	6	6	5	6	6	6	6	8	9	10	17	9	7	5	3	2	2	5	5.7	16.5
29-May	5	5	4	2	2	2	2	2	2	3	3	4	7	8	10	10	8	9	9	7	9	7	6	6	5.5	9.9
30-May	3	3	5	8	7	6	6	7	9	9	10	10	10	10	8	8	10	13	8	13	7	6	7	8	7.9	12.7
31-May	10	8	9	8	6	9	7	10	13	8	8	8	8	6	4	5	13	15	13	7	5	9	9	7	8.4	15.2
	8.7	7.8	7.6	8.0	7.2	7.5	8.4	9.5	11.0	12.7	13.7	14.8	15.0	16.2	16.8	17.9	17.4	17.5	16.2	14.8	13.0	10.8	9.5	9.7	Diurnal Average	
	16.9	15.1	18.0	29.2	31.1	23.8	21.8	27.2	29.2	29.0	31.5	41.8	38.8	45.7	36.7	43.6	41.5	36.2	34.9	29.7	25.0	25.2	22.7	19.2	Diurnal Maximum	

N - Not Valid  
 All monthly, daily, and diurnal averages have been calculated using scalar methods



# Hourly Standard Deviations

Wind Direction (WD) - deg

Henry Pirker - May 2013

Maximum Value: 97.4 deg on May 12 08:00		Hours in Service: 744																								
Minimum Value: 5.3 deg on May 2 22:00		Hours of Data: 742																								
Percentiles: P <sub>1</sub> = 5.9 P <sub>10</sub> = 8.1 Q <sub>1</sub> = 10.4 Median = 15.2 Q <sub>3</sub> = 27.9 P <sub>90</sub> = 51.4 P <sub>99</sub> = 85.1		Hours of Missing Data: 2																								
		Hours of Calibration: 0																								
		Percent Operational Time: 99.7																								
Day	Hourly Period Ending At (MST)																								Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-May	8	11	23	17	17	30	13	13	14	10	16	21	21	27	18	11	8	14	8	12	13	14	10	8	29.9	
2-May	8	19	9	6	7	13	14	11	8	7	7	8	7	8	8	8	12	9	10	7	6	5	6	7	19.5	
3-May	7	9	15	16	18	8	7	7	10	9	16	25	28	27	18	31	24	14	26	10	7	10	12	18	31.0	
4-May	11	8	11	9	20	20	9	31	36	13	17	13	20	15	23	18	16	10	7	6	8	6	6	8	36.0	
5-May	6	9	11	32	11	15	8	8	9	13	18	26	20	11	15	15	15	12	18	7	7	11	22	23	32.2	
6-May	47	70	24	12	62	10	42	31	46	71	43	26	24	19	10	12	12	29	15	8	13	20	20	26	71.3	
7-May	13	23	12	43	35	14	10	9	14	15	14	16	17	22	30	32	19	18	13	13	12	8	8	9	43.2	
8-May	8	7	15	11	30	44	9	51	58	40	66	55	91	88	46	40	84	76	30	8	12	12	10	11	90.8	
9-May	10	11	11	18	14	26	50	39	29	15	11	10	12	9	11	15	16	15	11	10	12	15	14	12	50.5	
10-May	12	13	11	8	13	10	13	12	13	13	17	12	14	18	21	17	14	12	9	8	9	8	8	9	20.6	
11-May	9	7	9	15	21	30	34	22	45	52	40	42	52	73	74	59	72	37	15	35	33	16	82	85	84.7	
12-May	60	52	33	16	24	56	64	97	47	14	23	9	8	10	10	10	10	10	9	12	10	8	6	6	97.4	
13-May	8	6	7	10	8	8	8	9	10	9	12	15	13	13	14	11	12	14	13	9	6	7	8	11	15.3	
14-May	7	8	8	6	6	7	6	9	9	10	9	16	16	16	12	13	12	11	10	11	7	10	7	8	16.1	
15-May	12	8	7	9	9	7	9	10	13	15	20	22	23	18	16	18	17	16	14	15	9	7	7	11	22.6	
16-May	9	15	8	12	19	14	7	9	13	14	21	23	20	25	19	16	15	17	16	11	15	16	20	31	31.3	
17-May	17	24	16	10	8	10	10	16	23	28	47	57	64	78	95	80	52	54	23	18	8	9	7	37	95.1	
18-May	21	36	75	9	19	37	34	19	19	55	57	47	43	34	63	14	24	30	16	24	12	25	14	7	75.3	
19-May	9	8	8	9	9	8	7	11	11	11	16	16	17	12	13	13	17	17	13	10	7	6	10	10	17.5	
20-May	12	24	37	14	14	71	42	39	65	74	39	71	73	56	48	47	29	40	14	16	20	22	16	13	73.7	
21-May	13	12	13	16	16	16	13	12	18	14	18	24	20	20	16	10	9	7	6	6	7	8	8	17	24.3	
22-May	9	12	9	13	11	18	30	29	45	50	48	76	52	21	14	10	11	12	10	10	11	10	12	6	76.3	
23-May	9	8	9	10	42	27	28	28	42	74	13	13	14	13	11	11	11	11	10	7	8	9	10	12	74.1	
24-May	9	10	11	10	12	12	10	12	12	12	14	13	13	33	17	16	13	11	20	11	14	9	11	23	32.8	
25-May	9	12	28	13	16	11	20	53	21	15	16	22	15	24	22	68	23	23	25	35	19	84	82	9	83.7	
26-May	34	59	52	62	35	23	12	14	13	25	70	24	24	21	36	36	51	49	23	74	71	19	12	10	73.7	
27-May	66	94	34	16	47	32	27	56	36	25	24	22	22	19	17	76	16	28	20	N	N	35	84	27	93.6	
28-May	45	16	46	39	34	19	29	18	23	27	32	49	44	32	33	30	19	42	88	84	79	51	43	11	88.4	
29-May	31	30	71	62	87	64	35	37	59	45	71	85	31	25	24	19	23	35	38	73	13	18	18	86	86.7	
30-May	22	32	32	10	12	13	12	14	15	18	18	28	22	22	37	38	26	11	13	30	24	50	35	28	49.6	
31-May	12	16	21	17	22	13	16	16	13	23	33	26	36	54	48	57	41	16	17	35	30	17	48	25	56.6	
	66.4	93.6	75.3	61.7	86.7	71.2	63.7	97.4	64.6	74.1	71.0	84.8	90.8	88.4	95.1	80.0	84.3	76.4	88.4	84.2	79.0	83.7	84.0	86.2		
N - Not Valid																										

PAZA

Evergreen Park Station

Monthly Summary Tables, Graphs and  
Roses

## Hourly Averages

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

Evergreen Park - May 2013

Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 1.4 ppb on May 8 10:00	Maximum Daily Average: 0.9 ppb on May 8		Hours of Data:	655
Minimum Value: 0 ppb on May 1 03:00	Minimum Daily Average: 0.0 ppb on May 2		Hours of Missing Data:	89
Maximum Diurnal Average: 0.2 ppb at hour 9	Minimum Diurnal Average: 0.1 ppb at hour 6		Hours of Calibration:	39
Monthly Average: 0.18 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> = 1.1		Percent Operational Time:	93.3

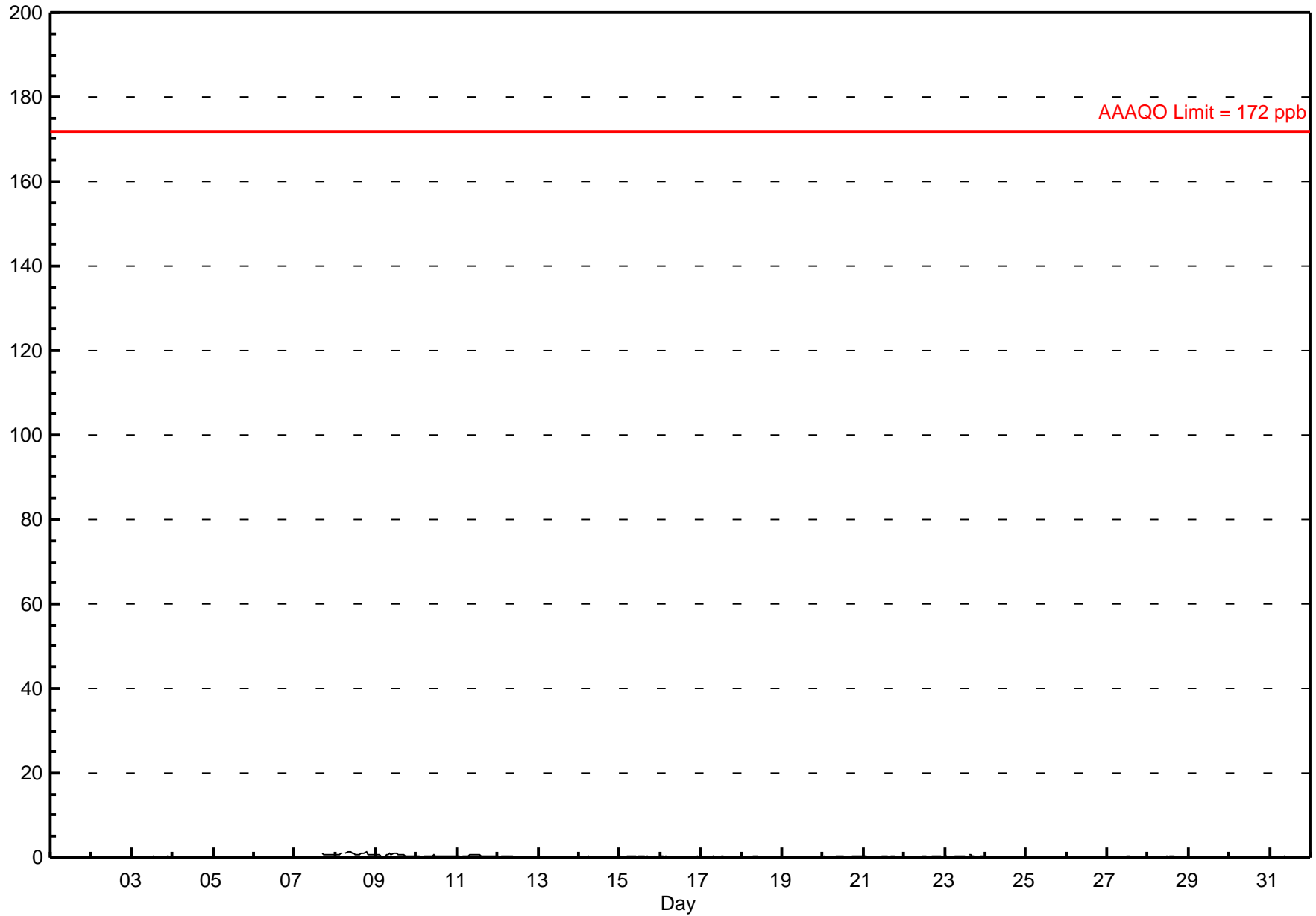
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-May	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
2-May	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
3-May	0	0	0	0	0	0	0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

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

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

### Hourly Averages

Sulphur Dioxide (SO<sub>2</sub>) - ppb  
Evergreen Park - May 2013



## Hourly Maximums

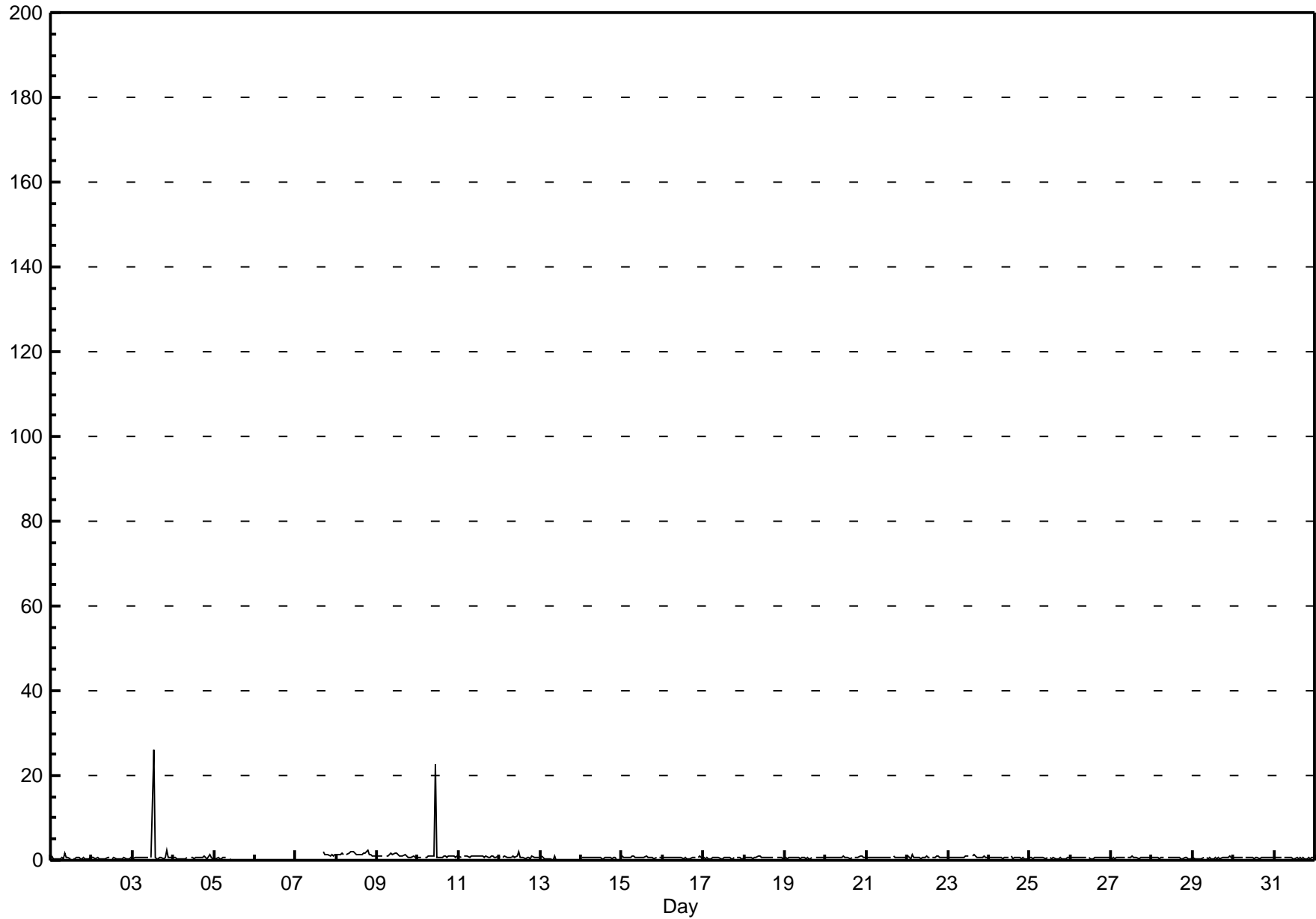
Sulphur Dioxide (SO<sub>2</sub>) - ppb

Evergreen Park - May 2013

Maximum Value: 26.0 ppb on May 3 13:00		Maximum Daily Average: 1.8 ppb on May 10		Hours in Service: 744																																			
Minimum Value: 0 ppb on May 5 13:00		Minimum Daily Average: 0.5 ppb on May 2		Hours of Data: 655																																			
Maximum Diurnal Average: 1.6 ppb at hour 13		Minimum Diurnal Average: 0.6 ppb at hour 6		Hours of Missing Data: 89																																			
Monthly Average: 0.76 ppb		Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.4 Q <sub>1</sub> = 0.5 Median = 0.6 Q <sub>3</sub> = 0.8 P <sub>90</sub> = 1.0 P <sub>99</sub> = 2.0		Hours of Calibration: 39																																			
				Percent Operational Time: 93.3																																			
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24															
1-May	1	0	0	0	0	0	1	0	2	1	0	A	0	0	1	1	0	0	1	0	0	0	1	1	0.6	1.8													
2-May	1	1	0	1	0	0	0	0	0	1	1	A	0	1	0	0	0	0	0	1	0	0	1	1	0.5	0.8													
3-May	0	1	1	1	1	1	1	1	1	1	A	1	26	1	0	0	1	1	0	1	2	1	1	1	1.8	26.0													
4-May	1	1	0	0	0	0	0	0	1	A	1	1	0	1	1	1	1	1	1	1	0	1	1	0	0.6	1.5													
5-May	0	0	1	0	0	1	1	1	1	A	0	0	0	0	0	N	N	N	N	N	N	N	N	N	--	0.7													
6-May	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--													
7-May	N	N	N	N	N	N	M	M	M	M	M	N	N	N	N	N	N	2	1	1	1	1	1	1	--	1.9													
8-May	1	1	1	2	1	A	1	2	2	2	2	2	1	1	1	1	2	2	2	1	1	1	1	1.5	2.2														
9-May	1	1	1	1	A	1	1	1	2	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1.1	1.8														
10-May	1	1	1	A	1	1	1	1	1	1	23	1	1	1	1	1	1	1	1	1	1	1	1	1.8	22.6														
11-May	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.1														
12-May	1	A	1	1	1	1	1	1	1	1	1	2	1	1	0	1	1	0	1	1	1	1	1	0.8	2.2														
13-May	A	1	0	0	0	0	0	0	1	0	0	0	0	C	C	C	C	C	C	C	C	C	3	--	3.1														
14-May	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	0	1	1	0	A	0.6	0.7														
15-May	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	A	1	0.7	1.2														
16-May	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	0	0	1	1	1	A	1	1	0.6	1.1														
17-May	1	0	1	0	0	1	1	1	1	1	0	0	1	1	1	1	0	0	1	A	1	1	0	0.6	0.8														
18-May	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	0	0.6	0.9														
19-May	1	1	1	1	1	1	1	1	1	0	1	0	1	0	0	1	0	0	1	1	1	1	1	0.6	0.7														
20-May	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	A	1	1	1	1	1	1	1	0.7	0.9														
21-May	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														
22-May	1	1	0	1	1	1	1	1	0	1	1	1	1	A	1	1	1	1	1	1	1	1	1	0.7	1.2														
23-May	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	0.8	1.2														
24-May	1	1	1	1	1	1	1	1	0	1	1	1	A	1	0	1	1	1	1	0	1	0	1	0.6	0.9														
25-May	1	1	0	1	1	1	1	1	1	0	1	A	1	0	1	0	0	0	1	0	0	0	1	0.5	0.8														
26-May	1	1	1	1	1	1	1	1	1	1	A	1	1	0	1	1	1	1	1	1	1	1	1	0.6	0.7														
27-May	0	1	0	1	1	1	1	1	1	A	1	1	1	1	1	1	0	1	1	1	1	1	1	0.6	0.9														
28-May	1	1	1	1	0	1	1	1	A	1	1	1	1	1	1	1	0	0	1	1	1	0	0	0.6	0.8														
29-May	1	0	0	0	1	0	1	A	1	0	1	0	0	1	0	1	0	1	1	1	1	1	0	0.5	1.0														
30-May	1	1	1	1	1	1	A	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	0.6	0.8														
31-May	1	1	1	1	1	A	1	1	1	1	1	0	0	1	1	1	0	1	0	1	1	1	1	0.6	0.8														
	0.7	0.7	0.6	0.6	0.6	0.6	0.7	0.7	0.8	0.7	1.5	0.7	1.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.7	Diurnal Average														
	1.2	1.2	1.4	1.7	1.4	1.0	1.4	1.8	2.0	1.9	22.6	2.2	26.0	1.2	1.3	1.5	1.9	1.8	2.2	1.4	2.2	1.5	3.1	1.3	Diurnal Maximum														
C - Calibration																								M - Maintenance				N - Not Valid				A - Automated Daily Zero Span							

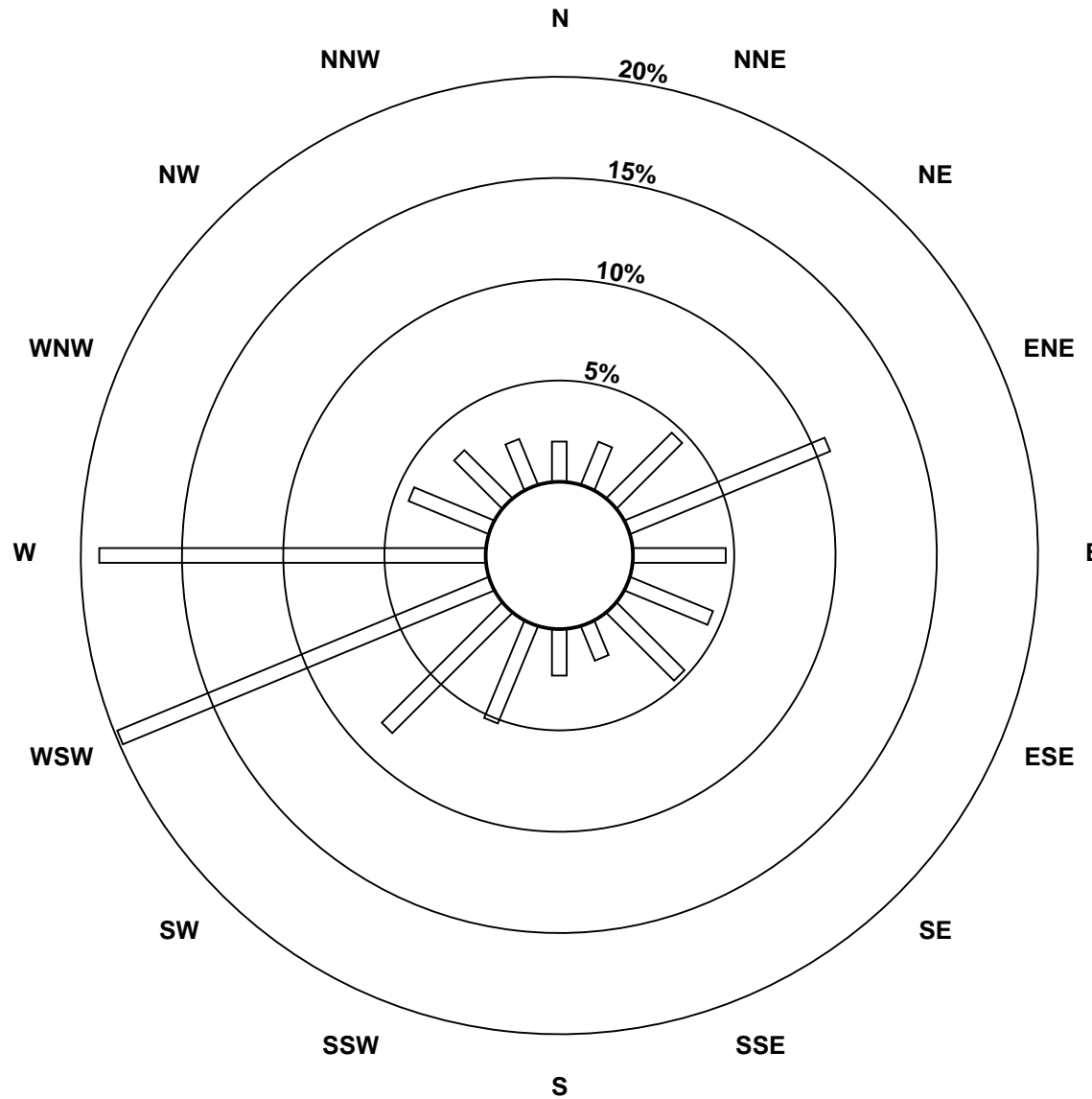
### Hourly Maximums

Sulphur Dioxide (SO<sub>2</sub>) - ppb  
Evergreen Park - May 2013

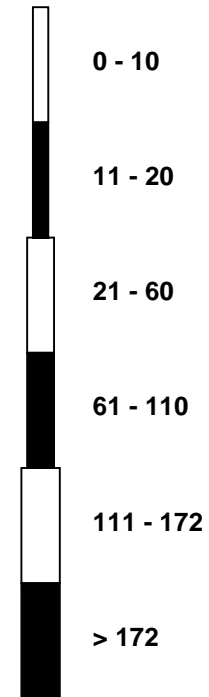


**Pollutant Rose**

**Sulphur Dioxide (SO<sub>2</sub>) - ppb**  
**Evergreen Park - May 2013**

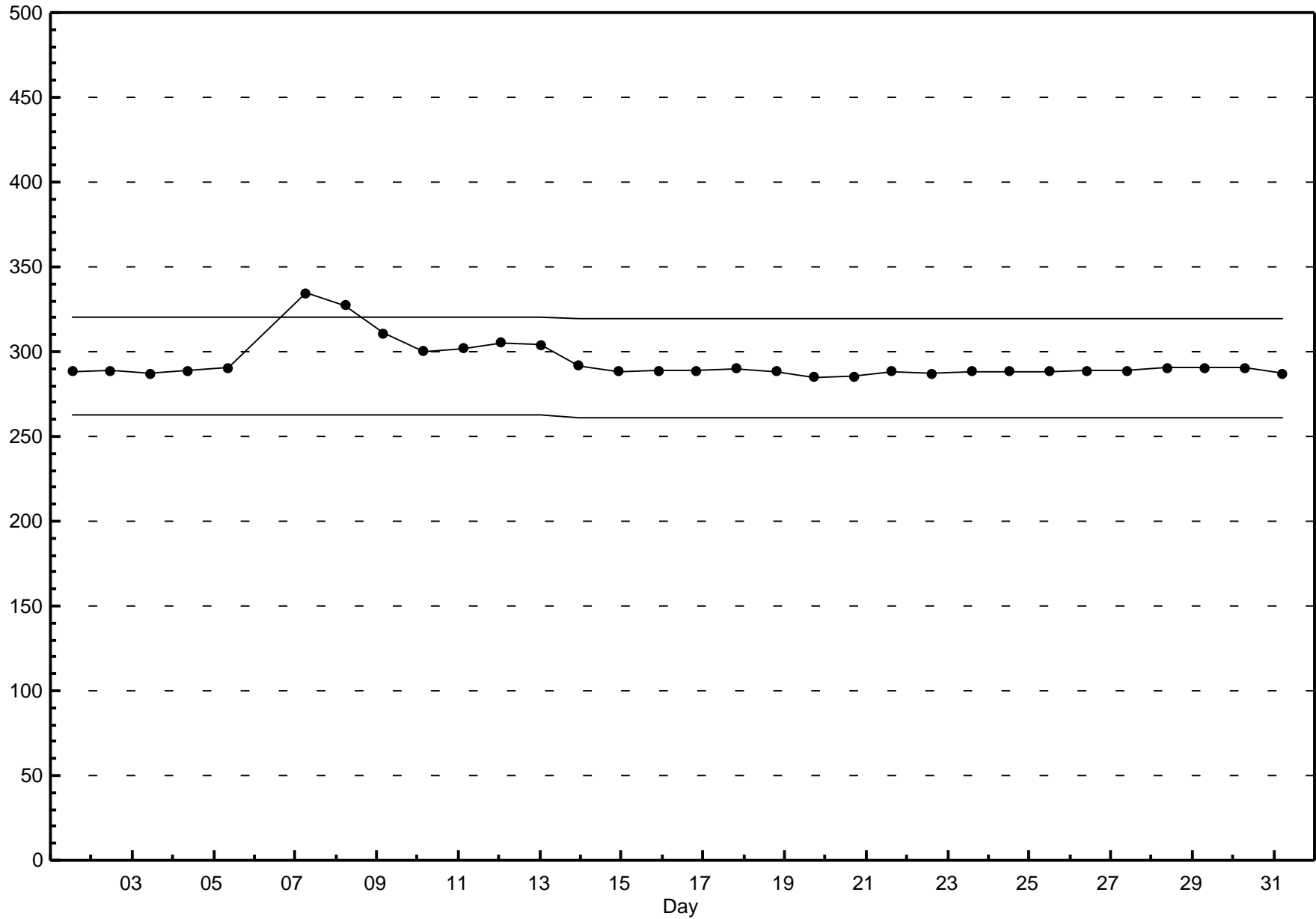


**Pollutant Classes (ppb)**



### Span Responses

Sulphur Dioxide (SO<sub>2</sub>)  
Evergreen Park - May 2013





## Hourly Averages

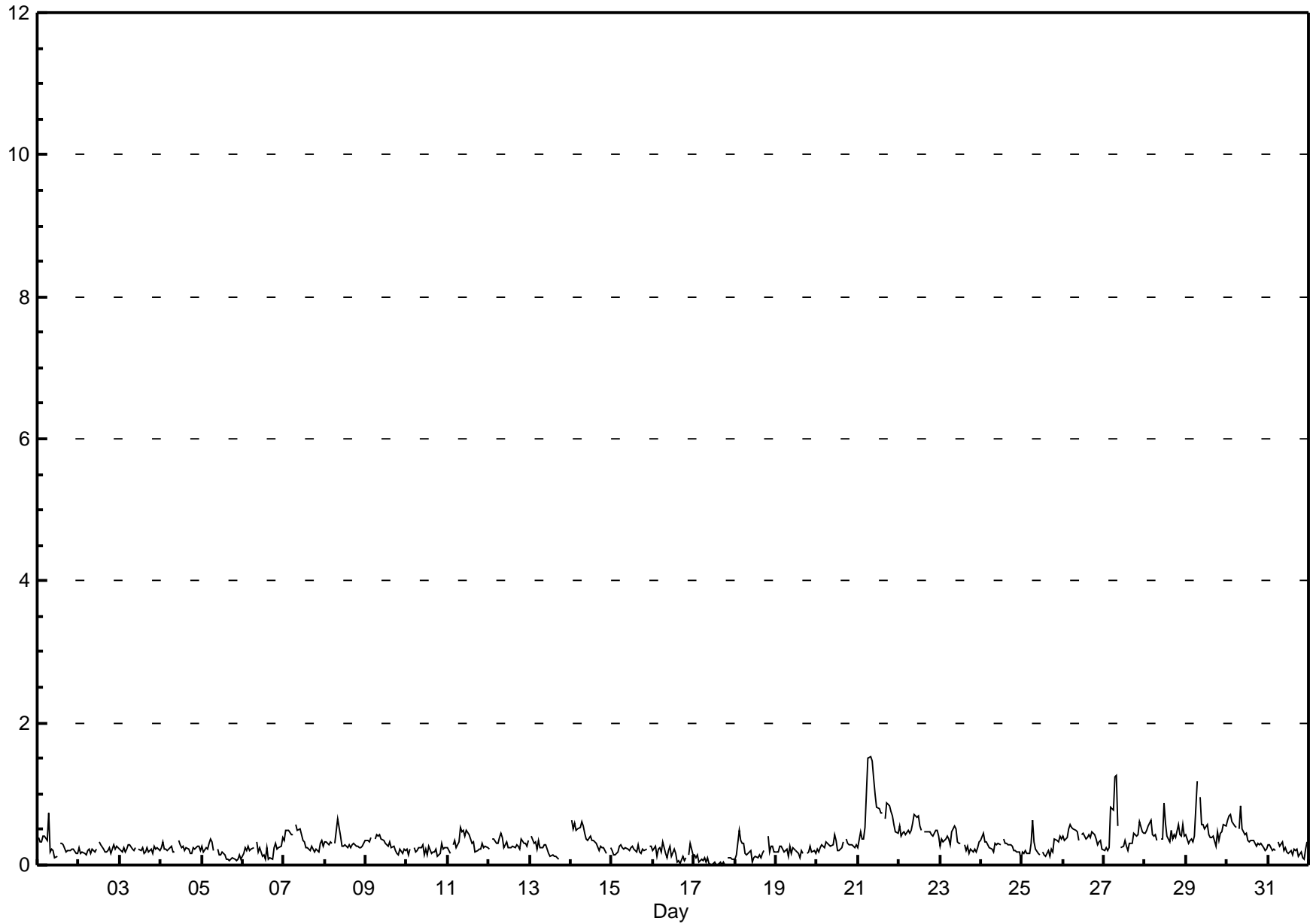
## Total Reduced Sulphur (TRS) - ppb

### Evergreen Park - May 2013

Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 1.5 ppb on May 21 08:00	Maximum Daily Average: 0.8 ppb on May 21		Hours of Data:	707
Minimum Value: 0 ppb on May 17 11:00	Minimum Daily Average: 0.1 ppb on May 17		Hours of Missing Data:	37
Maximum Diurnal Average: 0.4 ppb at hour 7	Minimum Diurnal Average: 0.2 ppb at hour 17		Hours of Calibration:	37
Monthly Average: 0.30 ppb	Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.1 Q <sub>1</sub> = 0.2 Median = 0.3 Q <sub>3</sub> = 0.4 P <sub>90</sub> = 0.5 P <sub>99</sub> = 1.1		Percent Operational Time:	100.0

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

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



## Hourly Maximums

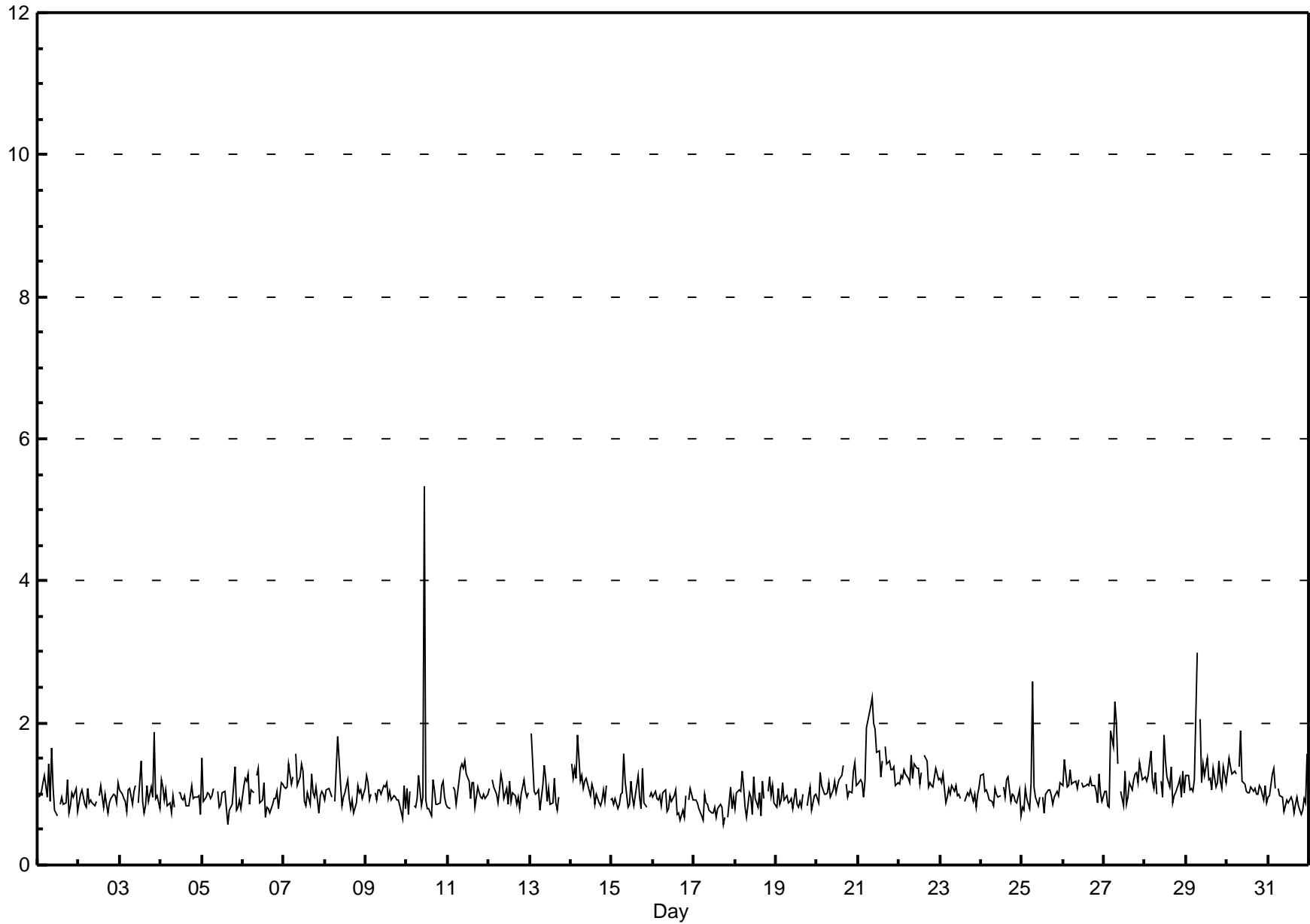
Total Reduced Sulphur (TRS) - ppb

Evergreen Park - May 2013

Maximum Value: 5.3 ppb on May 10 11:00		Maximum Daily Average: 1.5 ppb on May 21		Hours in Service: 744																							
Minimum Value: 1 ppb on May 5 16:00		Minimum Daily Average: 0.8 ppb on May 17		Hours of Data: 707																							
Maximum Diurnal Average: 1.2 ppb at hour 7		Minimum Diurnal Average: 1.0 ppb at hour 18		Hours of Missing Data: 37																							
Monthly Average: 1.06 ppb		Percentiles: P <sub>1</sub> = 0.7 P <sub>10</sub> = 0.8 Q <sub>1</sub> = 0.9 Median = 1.0 Q <sub>3</sub> = 1.2 P <sub>90</sub> = 1.4 P <sub>99</sub> = 1.9		Hours of Calibration: 37																							
				Percent Operational Time: 100.0																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-May	1	1	1	1	1	1	1	1	2	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1.0	1.7	
2-May	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.2	
3-May	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	2	1	1	1	1.0	1.9	
4-May	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	
5-May	2	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	1.5	
6-May	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	
7-May	1	1	1	1	1	1	A	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.1	1.6	
8-May	1	1	1	1	1	A	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.8	
9-May	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.3	
10-May	1	1	1	A	1	1	1	1	1	1	5	1	1	1	1	1	1	1	1	1	1	1	1	1	1.1	5.3	
11-May	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	1.5	
12-May	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	1.3	
13-May	A	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	C	C	C	C	C	A	--	1.9		
14-May	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1.1	1.8	
15-May	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1.0	1.6	
16-May	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	0.9	1.1	
17-May	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	0.8	1.1	
18-May	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	
19-May	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	0.9	1.2	
20-May	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1.1	1.4	
21-May	1	1	1	1	1	2	2	2	2	2	2	2	1	1	A	2	1	1	1	1	1	1	1	1	1.5	2.4	
22-May	1	1	1	1	1	1	1	2	1	1	1	1	1	A	2	1	1	1	1	1	1	1	1	1	1.3	1.5	
23-May	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	
24-May	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.3	
25-May	1	1	1	1	1	1	3	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	2.6	
26-May	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1.1	1.5	
27-May	1	1	1	1	2	2	2	2	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.3	2.3	
28-May	1	1	1	2	1	1	1	1	1	A	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1.2	1.8	
29-May	1	1	1	1	1	1	3	A	2	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1.3	3.0	
30-May	1	1	1	1	1	1	A	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.2	1.9	
31-May	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.0	1.6		
		1.1	1.1	1.1	1.1	1.1	1.1	1.2	1.2	1.2	1.1	1.2	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	Diurnal Average	
		1.5	1.9	1.4	1.6	1.9	1.9	3.0	2.2	2.4	2.0	5.3	1.8	1.6	1.3	1.5	1.5	1.7	1.4	1.5	1.5	1.9	1.5	1.4	1.6	Diurnal Maximum	
C - Calibration		A - Automated Daily Zero Span																									

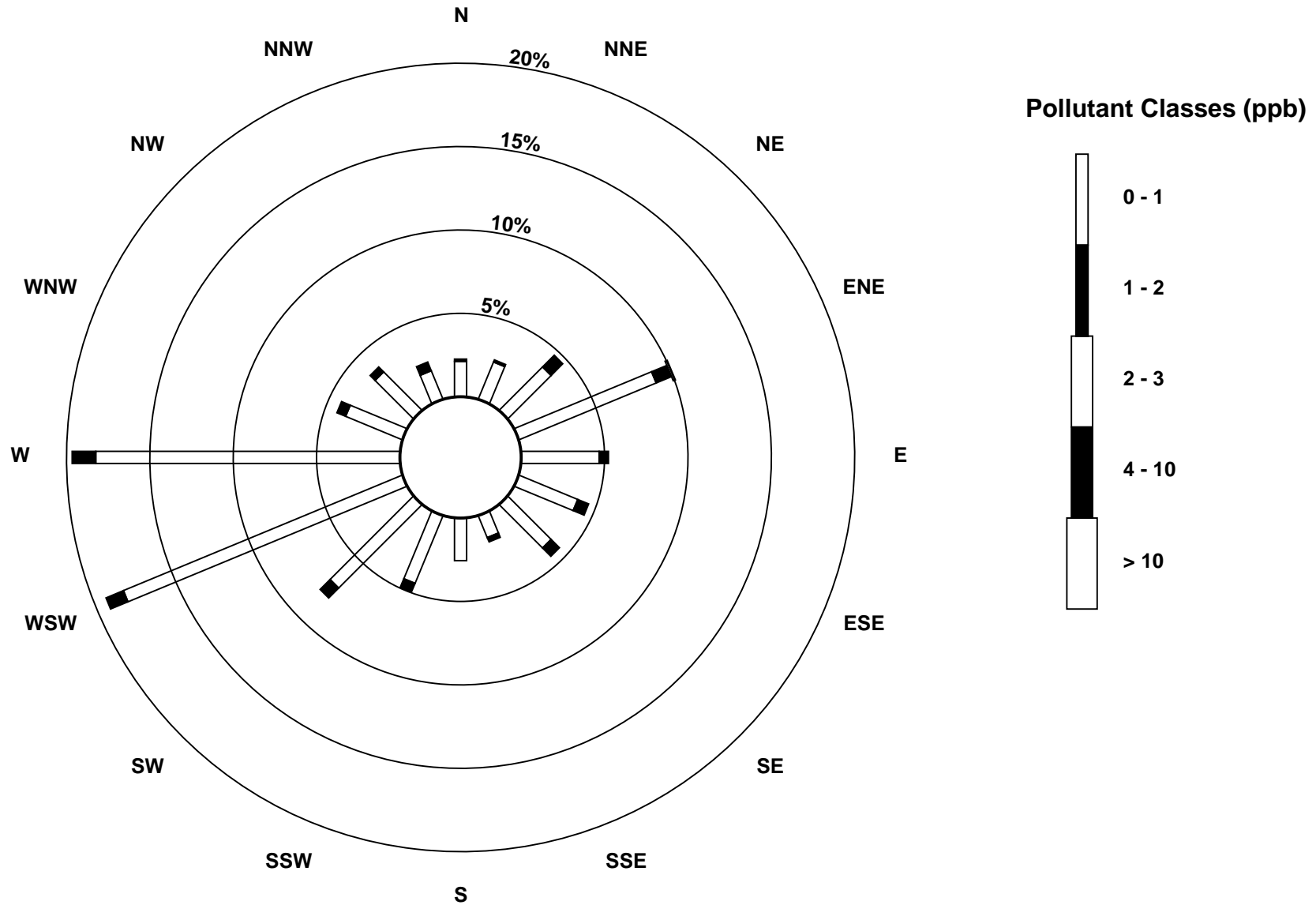
**Hourly Maximums**

**Total Reduced Sulphur (TRS) - ppb**  
**Evergreen Park - May 2013**



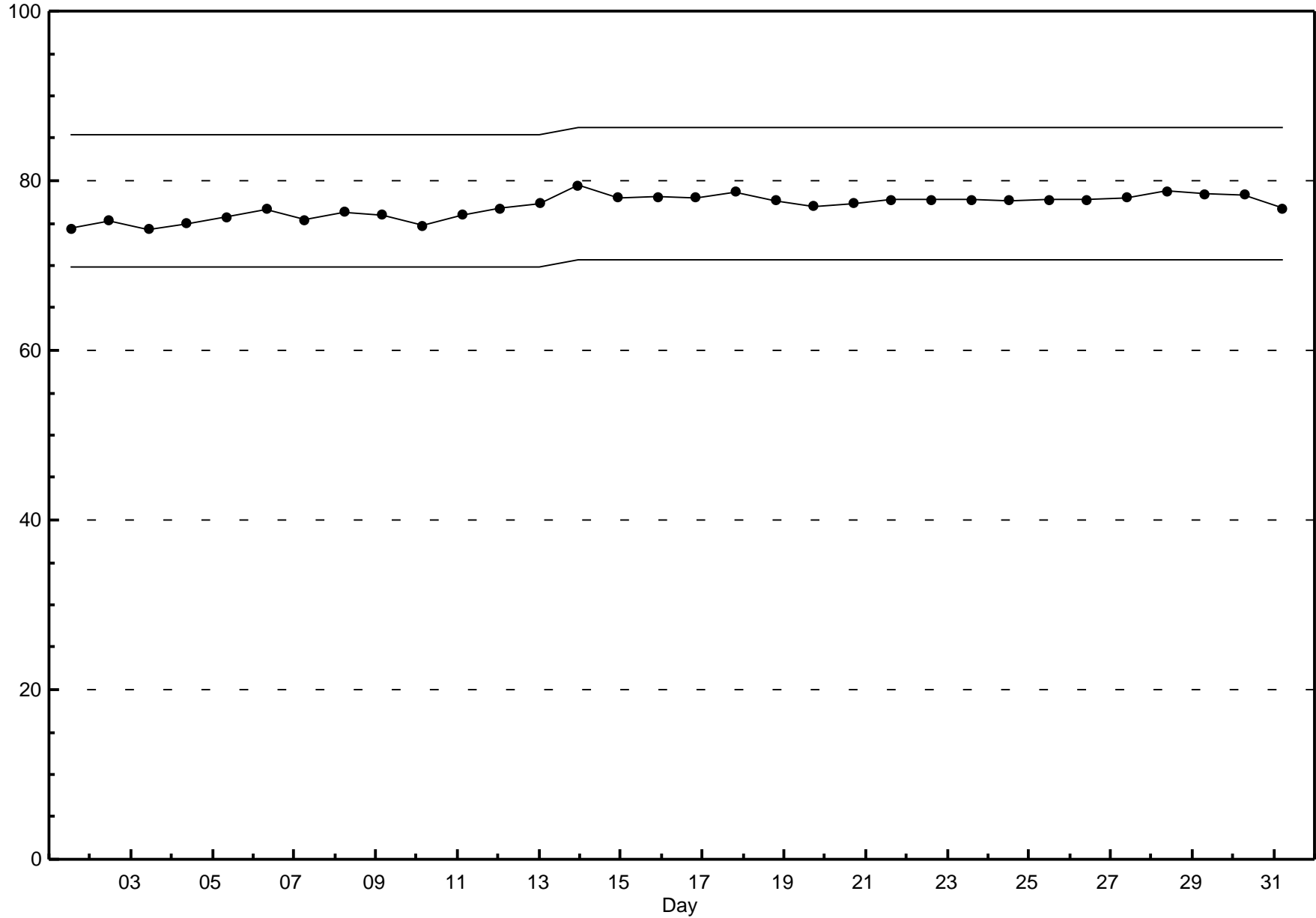
**Pollutant Rose**

**Total Reduced Sulphur (TRS) - ppb**  
**Evergreen Park - May 2013**



### Span Responses

Total Reduced Sulphur (TRS)  
Evergreen Park - May 2013



## Hourly Averages

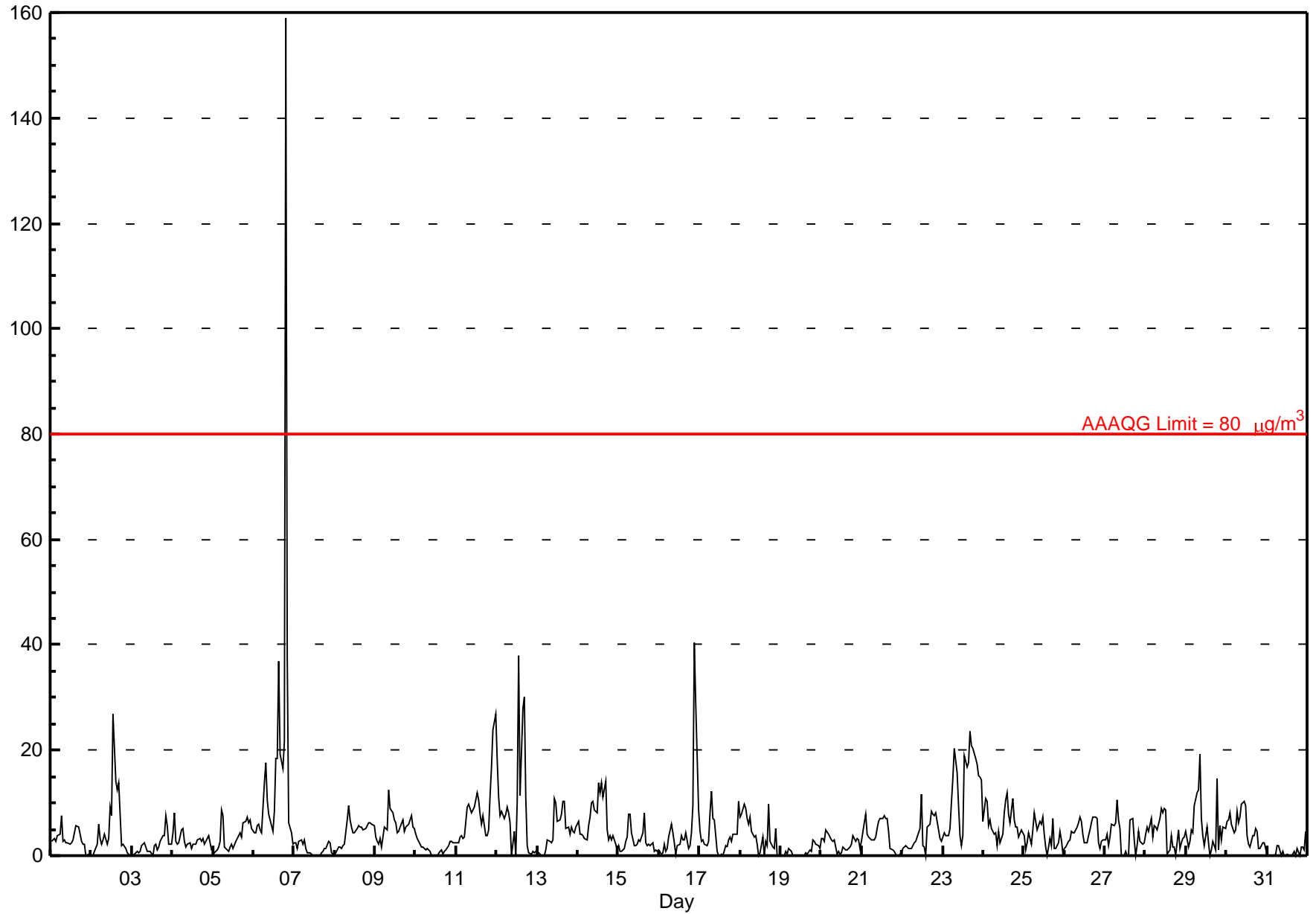
## Particulate Matter 2.5 (PM<sub>2.5</sub>) - µg/m<sup>3</sup>

### Evergreen Park - May 2013

Number of Exceedences: 1-hr: 1 24-hr: 0	Hours in Service: 744
Maximum Value: 158.9 µg/m <sup>3</sup> on May 6 20:00	Maximum Daily Average: 18.3 µg/m <sup>3</sup> on May 6
Minimum Value: 0 µg/m <sup>3</sup> on May 1 22:00	Hours of Data: 744
Maximum Diurnal Average: 8.7 µg/m <sup>3</sup> at hour 20	Hours of Missing Data: 0
Monthly Average: 4.84 µg/m <sup>3</sup>	Hours of Calibration: 0
Minimum Daily Average: 0.7 µg/m <sup>3</sup> on May 31	Percent Operational Time: 100.0
Minimum Diurnal Average: 3.2 µg/m <sup>3</sup> at hour 5	
Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.3 Q <sub>1</sub> = 1.5 Median = 3.2 Q <sub>3</sub> = 6.1 P <sub>90</sub> = 9.6 P <sub>99</sub> = 27.3	

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-May	3	3	3	3	4	4	8	3	3	2	2	3	3	4	6	5	4	3	2	2	0	0	0	3.0	7.7	
2-May	0	0	1	2	6	3	2	3	4	2	3	9	8	27	14	13	14	8	2	2	1	1	0	5.2	26.9	
3-May	0	0	0	1	0	1	2	2	1	1	1	1	0	2	2	1	2	3	4	4	7	6	2	1.9	7.5	
4-May	4	8	3	2	2	5	5	3	2	2	2	1	2	2	2	3	3	3	3	2	3	4	3	3.0	8.1	
5-May	1	1	1	2	3	9	8	2	1	1	2	2	1	3	3	4	4	4	6	6	7	6	7	3.6	8.6	
6-May	4	4	6	6	5	4	14	18	11	8	7	4	8	18	18	37	19	16	22	159	38	6	4	18.3	158.9	
7-May	2	2	1	3	3	2	3	1	1	1	0	0	0	0	0	0	0	1	1	1	3	2	1	1.3	3.1	
8-May	1	1	2	2	1	2	2	7	9	7	5	4	4	5	6	5	5	5	6	6	6	6	6	4.5	9.5	
9-May	3	3	2	3	2	6	5	5	13	9	8	7	6	4	5	6	7	5	5	6	6	8	5	5.5	12.5	
10-May	4	3	3	2	2	1	1	1	1	0	0	0	0	1	1	0	1	1	1	2	3	3	3	1.4	4.2	
11-May	2	2	3	4	3	4	9	10	9	8	9	9	12	11	8	6	7	4	4	5	11	17	24	8.6	26.7	
12-May	18	11	8	8	7	8	9	8	6	0	5	0	10	38	11	28	30	11	2	1	0	1	0	9.3	38.0	
13-May	1	1	0	0	0	1	3	3	2	3	11	10	6	7	8	10	10	5	5	4	6	5	4	4.6	11.0	
14-May	7	4	4	4	3	3	6	7	10	10	9	8	14	12	14	11	14	5	3	4	3	4	2	6.7	14.2	
15-May	2	1	1	1	3	4	8	8	4	2	2	2	3	3	4	8	3	2	2	2	3	1	1	2.9	8.2	
16-May	1	0	1	2	1	1	4	6	4	2	0	2	2	4	3	3	4	1	2	4	10	40	29	5.7	40.4	
17-May	5	3	3	2	2	3	8	12	7	7	1	0	0	0	0	2	2	3	3	3	4	4	4	3.6	12.1	
18-May	7	8	10	9	7	6	7	5	3	4	2	0	1	3	0	3	2	10	3	2	1	5	0	4.1	9.7	
19-May	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	1	0	1	1	3	3	2	2	0.7	3.1	
20-May	3	3	3	5	4	3	3	3	3	0	1	0	1	2	1	1	1	2	2	4	3	3	3	2.3	5.0	
21-May	3	6	8	4	4	3	3	3	3	5	7	7	7	8	7	7	5	1	1	1	0	0	0	3.9	8.0	
22-May	1	2	2	2	1	1	2	2	3	4	5	12	2	1	0	5	6	8	8	8	8	5	3	3.9	11.7	
23-May	4	4	4	4	5	10	15	20	16	10	4	2	4	19	17	18	24	21	20	18	17	15	15	12.4	23.6	
24-May	7	11	10	6	7	5	4	4	2	5	2	4	8	11	12	8	6	11	7	6	6	4	5	6.4	12.0	
25-May	4	1	3	4	2	5	8	7	5	7	6	7	4	2	0	3	2	7	1	1	2	5	3	3.7	8.1	
26-May	1	2	3	3	4	4	4	6	6	7	6	4	2	2	4	5	6	7	7	7	2	1	3	4.3	7.4	
27-May	3	4	2	4	6	6	6	11	7	5	0	0	1	0	0	7	7	3	0	2	5	3	2	3.5	10.6	
28-May	4	6	5	7	3	6	6	5	7	9	8	9	9	0	1	4	2	2	0	5	1	2	3	4.4	8.9	
29-May	5	2	3	5	4	9	12	13	19	7	4	2	5	3	0	1	3	1	15	1	6	3	5	5.5	19.3	
30-May	7	7	8	6	4	5	8	6	7	10	10	9	4	2	2	4	4	5	5	1	1	2	3	5.1	10.2	
31-May	0	0	0	0	0	0	2	2	0	1	0	0	0	0	0	0	1	0	1	0	2	2	1	0.7	4.7	
	3.4	3.3	3.3	3.4	3.2	4.1	5.8	5.9	5.5	4.4	4.0	3.8	4.1	6.2	4.7	6.8	6.4	5.1	4.7	8.7	5.5	5.3	4.6	4.0	Diurnal Average	
	18.1	11.2	10.4	8.9	7.0	10.0	14.7	20.2	19.3	10.4	11.0	11.7	13.9	38.0	18.4	37.0	30.1	20.8	21.7	158.9	37.9	40.4	28.6	26.7	Diurnal Maximum	

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>



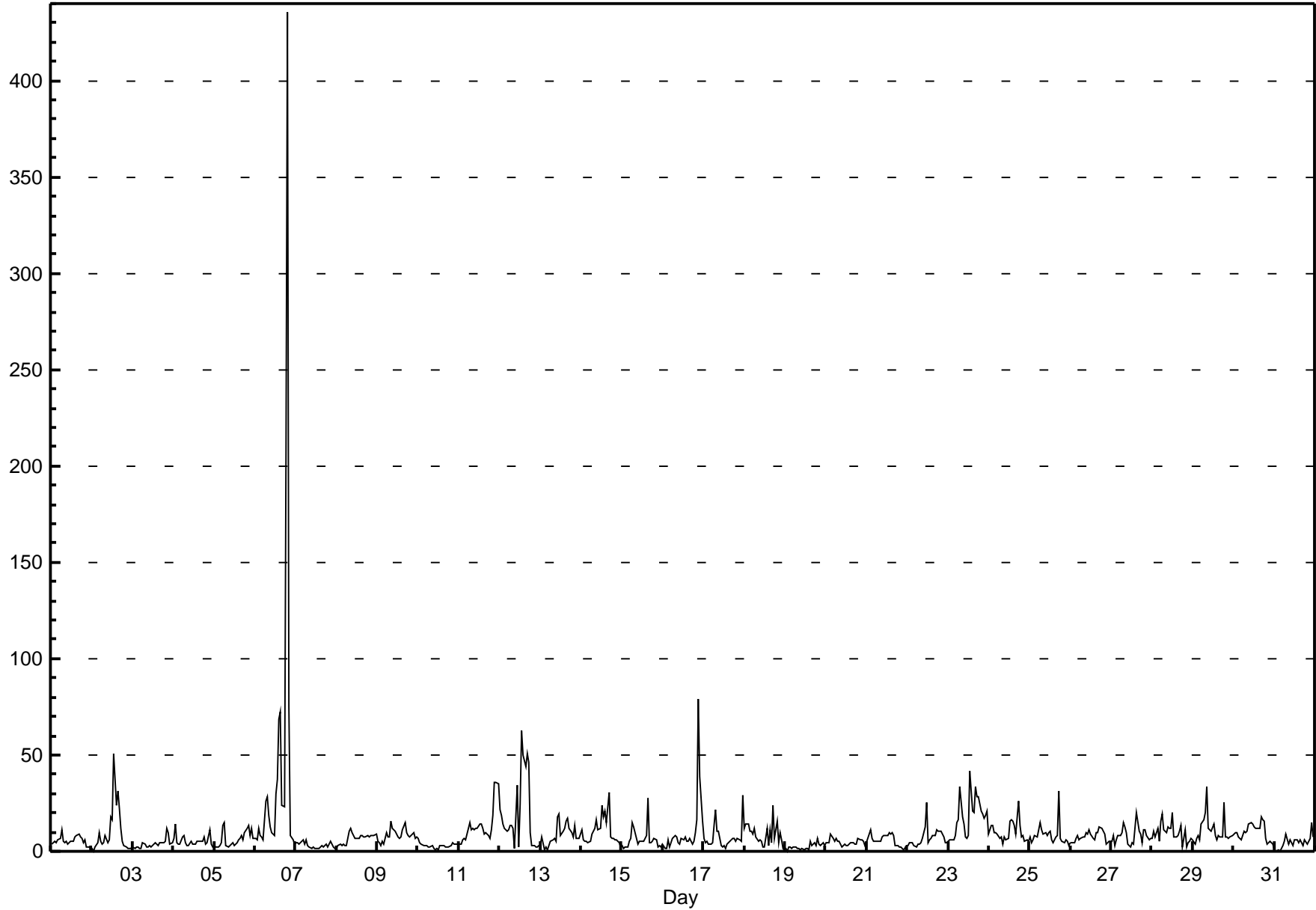


# Hourly Maximums

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

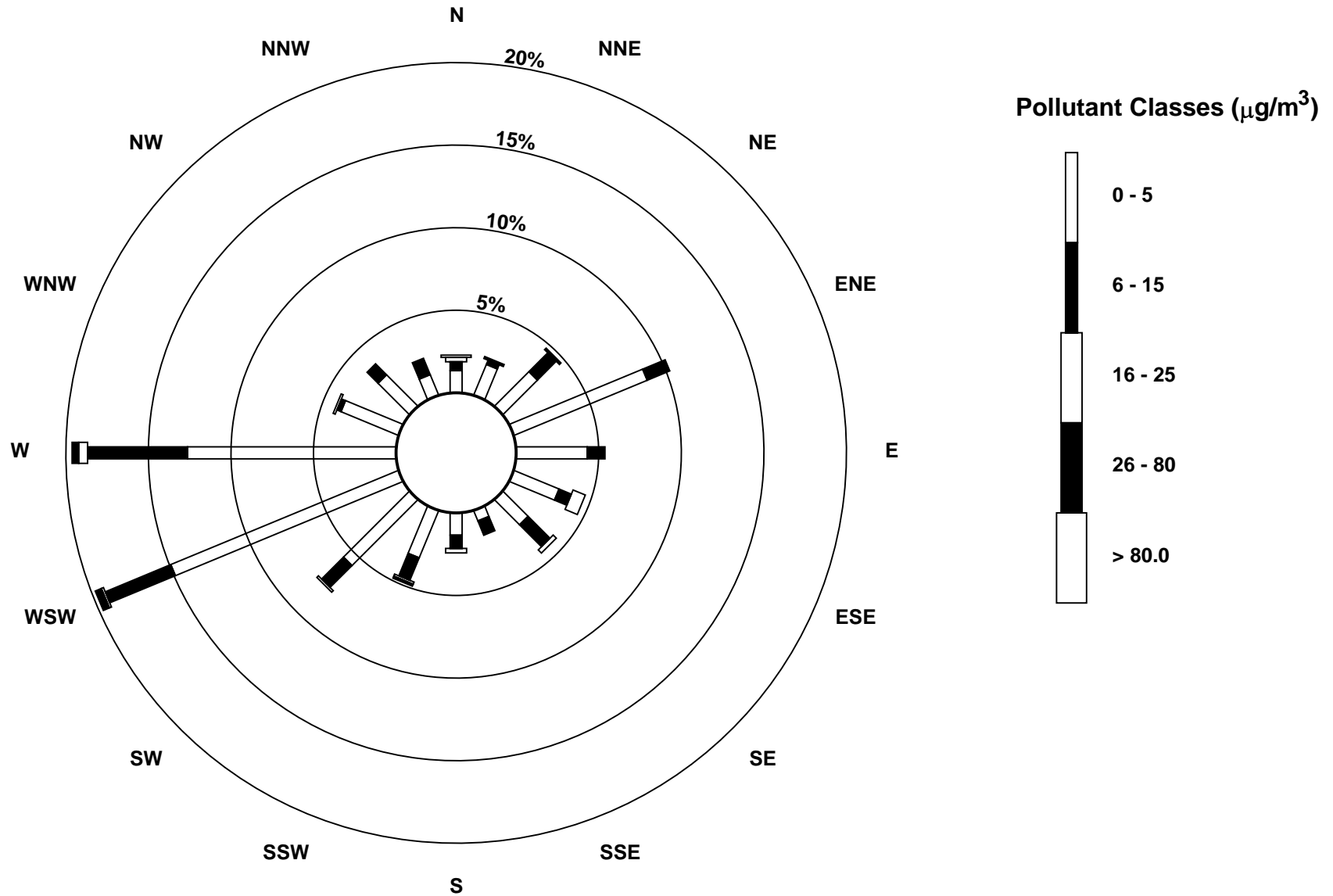
## Evergreen Park - May 2013

Maximum Value: 435.7 µg/m <sup>3</sup> on May 6 20:00 Minimum Value: 0 µg/m <sup>3</sup> on May 31 02:00 Maximum Diurnal Average: 21.3 µg/m <sup>3</sup> at hour 20 Monthly Average: 9.47 µg/m <sup>3</sup>		Maximum Daily Average: 47.7 µg/m <sup>3</sup> on May 6 Minimum Daily Average: 2.4 µg/m <sup>3</sup> on May 19 Minimum Diurnal Average: 5.5 µg/m <sup>3</sup> at hour 5 Percentiles: P <sub>1</sub> = 0.9 P <sub>10</sub> = 2.4 Q <sub>1</sub> = 4.0 Median = 6.5 Q <sub>3</sub> = 10.2 P <sub>90</sub> = 15.8 P <sub>99</sub> = 56.2		Hours in Service: 744 Hours of Data: 744 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0																						
Day	Hourly Period Ending At (MST)																								Daily 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-May	4	5	5	5	6	6	11	6	5	5	4	5	5	7	8	9	7	7	5	6	2	2	2	2	5.5	11.4
2-May	1	0	3	4	10	5	4	5	8	4	6	18	16	50	24	31	22	12	5	3	3	2	2	2	10.0	50.4
3-May	2	2	3	2	2	2	5	4	3	2	3	3	4	4	4	3	5	4	5	5	12	10	4	4	4.0	12.1
4-May	6	14	5	4	4	8	8	4	3	3	6	4	4	4	6	5	6	6	7	4	4	11	4	2	5.4	14.3
5-May	3	2	2	3	5	13	15	3	2	3	4	4	3	5	6	7	8	6	10	12	13	8	12	6	6.5	14.8
6-May	6	6	12	8	8	6	26	29	19	13	10	8	30	37	69	72	24	23	208	436	75	8	6	4	47.7	435.7
7-May	4	5	4	5	6	4	6	3	2	2	2	1	1	2	2	3	3	3	4	2	5	4	2	2	3.1	6.0
8-May	2	3	4	3	4	3	3	10	12	9	8	7	7	7	8	8	8	7	8	7	8	8	8	9	6.7	11.8
9-May	5	4	3	5	4	9	8	7	16	12	10	9	8	7	8	11	15	10	8	8	8	10	6	7	8.3	15.5
10-May	7	4	4	3	3	3	2	3	3	2	1	2	1	3	3	3	2	3	2	3	5	4	4	4	3.1	6.7
11-May	4	4	6	7	6	9	15	11	12	11	12	12	15	14	12	9	10	8	6	11	19	36	36	35	13.2	35.8
12-May	22	19	14	12	10	11	14	13	12	1	34	3	24	62	50	44	50	46	10	3	3	3	3	3	19.4	62.4
13-May	3	7	0	2	1	3	5	6	7	5	18	19	8	11	12	16	17	12	10	8	13	7	7	7	8.5	19.4
14-May	11	6	6	6	5	5	9	11	12	17	11	12	24	18	21	15	31	7	6	6	6	6	4	2	10.7	30.9
15-May	3	2	2	2	5	6	15	12	10	4	5	5	6	5	8	28	5	4	6	7	6	2	3	2	6.4	27.7
16-May	4	1	2	6	2	5	7	8	7	5	4	7	6	7	6	5	7	4	5	10	17	79	38	16	10.7	79.2
17-May	6	4	5	4	4	5	14	22	10	10	3	3	3	2	4	5	6	7	7	6	7	6	6	29	7.3	28.9
18-May	12	14	14	10	10	9	12	7	6	6	5	2	3	12	3	11	5	24	7	16	5	10	6	1	8.7	24.1
19-May	2	0	2	2	2	2	2	1	1	1	2	1	1	2	1	5	3	4	3	7	4	3	4	3	2.4	6.7
20-May	5	4	4	9	7	5	7	5	5	3	3	4	3	3	5	5	4	4	4	7	6	6	5	3	4.8	8.9
21-May	5	9	11	7	5	5	6	5	6	7	8	8	8	9	9	9	8	3	3	2	2	2	1	3	6.0	11.2
22-May	3	5	4	5	3	3	4	4	5	7	13	25	4	6	7	8	8	11	10	10	11	7	5	4	7.1	25.0
23-May	5	6	6	6	8	15	16	34	18	14	8	7	8	42	21	20	34	28	29	21	19	17	19	21	17.6	41.7
24-May	9	13	14	10	9	9	7	7	4	8	6	7	16	17	16	13	9	26	14	7	8	5	6	6	10.2	25.9
25-May	8	4	6	8	7	11	15	11	9	10	8	10	10	6	4	8	8	31	7	5	5	6	6	3	8.7	31.4
26-May	4	4	5	6	8	6	6	7	7	9	9	11	9	7	6	10	10	13	12	10	9	4	4	5	7.6	12.6
27-May	6	8	3	6	8	8	10	15	12	9	4	2	5	4	12	20	10	9	5	11	11	8	6	7	8.3	19.9
28-May	7	10	8	12	5	16	19	11	9	12	12	12	20	8	7	8	11	14	3	11	2	5	6	6	9.7	20.4
29-May	6	4	6	8	6	14	16	20	34	12	11	11	15	8	6	8	7	7	26	7	7	6	7	8	11.0	33.8
30-May	9	10	10	7	6	8	10	9	11	14	15	15	13	12	12	12	18	16	16	6	4	5	5	4	10.3	17.9
31-May	0	0	1	0	2	3	5	9	4	6	4	3	6	6	4	6	5	3	6	4	5	7	15	8	4.7	15.3
	5.6	5.9	5.6	5.7	5.5	7.1	9.7	9.8	8.7	7.3	8.1	7.7	9.2	12.4	11.6	13.4	11.9	11.7	14.7	21.3	9.9	9.6	7.8	7.0	Diurnal Average	
	21.9	18.9	13.8	12.2	10.4	15.5	26.0	33.8	33.8	16.5	34.3	25.0	30.1	62.4	69.0	72.4	50.4	46.0	207.8	435.7	75.3	79.2	38.5	34.8	Diurnal Maximum	



**Pollutant Rose**

**Particulate Matter 2.5 (PM<sub>2.5</sub>) - μg/m<sup>3</sup>**  
**Evergreen Park - May 2013**





Peace Airshed Zone Association

# Hourly Averages

External Temperature (ET) - °C

Evergreen Park - May 2013

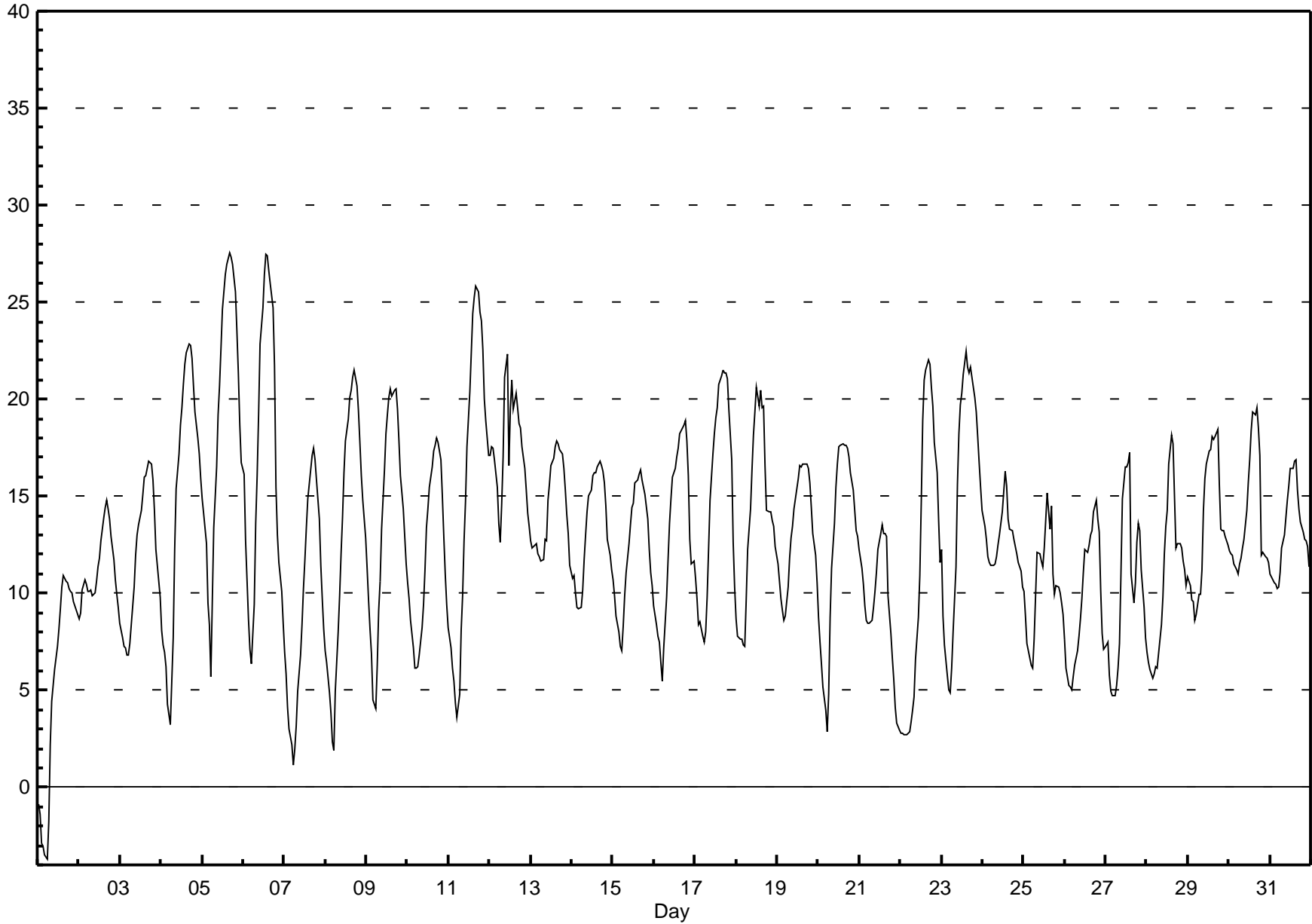
Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 27.5 °C on May 5 17:00	Maximum Daily Average: 19.2 °C on May 5		Hours of Data:	744
Minimum Value: -4 °C on May 1 06:00	Minimum Daily Average: 5.2 °C on May 1		Hours of Missing Data:	0
Maximum Diurnal Average: 18.2 °C at hour 15	Minimum Diurnal Average: 6.4 °C at hour 6		Hours of Calibration:	0
Monthly Average: 12.86 °C	Percentiles: P <sub>1</sub> = 1.1 P <sub>10</sub> = 6.2 Q <sub>1</sub> = 9.3 Median = 12.6 Q <sub>3</sub> = 16.5 P <sub>90</sub> = 19.5 P <sub>99</sub> = 26.9		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-May	-1	-1	-3	-3	-3	-4	-2	2	4	5	6	7	8	9	10	11	11	11	10	10	10	10	9	9	5.2	10.9
2-May	9	9	10	11	10	10	10	10	10	10	11	11	12	13	14	14	15	14	14	13	12	11	10	9	11.3	14.8
3-May	8	8	7	7	7	7	7	9	10	12	13	14	14	15	16	16	16	17	17	16	14	12	11	10	11.9	16.8
4-May	8	7	7	6	4	3	5	8	12	15	17	19	20	21	22	22	23	23	22	21	19	18	17	16	14.8	22.8
5-May	15	14	13	10	8	6	10	13	17	19	21	23	25	26	27	27	28	27	27	26	23	21	19	17	19.2	27.5
6-May	16	13	11	9	7	6	9	14	16	19	23	25	26	28	27	27	26	25	22	15	13	12	10	8	16.9	27.5
7-May	7	6	4	3	2	1	2	3	5	7	8	10	12	13	15	16	17	17	17	16	14	11	10	8	9.4	17.5
8-May	7	6	5	4	2	2	5	8	10	12	14	16	18	19	20	20	21	21	21	19	18	16	15	13	13.0	21.5
9-May	11	10	8	7	4	4	6	9	11	13	16	18	19	20	21	20	20	21	19	18	16	14	13	12	13.8	20.5
10-May	11	10	9	7	6	6	6	7	8	9	11	13	14	15	16	17	18	18	18	17	15	13	11	9	11.9	18.0
11-May	8	7	6	5	4	4	5	8	10	13	15	18	20	22	24	25	26	26	25	24	23	20	19	17	15.6	25.8
12-May	17	18	18	17	15	14	13	15	17	21	22	17	20	21	20	20	20	19	19	18	16	15	14	13	17.4	22.3
13-May	13	12	12	13	12	12	12	12	13	13	15	16	17	17	18	18	18	17	17	16	15	14	13	11	14.4	17.9
14-May	11	11	10	9	9	9	10	12	13	14	15	15	16	16	16	17	17	17	16	16	15	13	12	11	13.3	16.8
15-May	11	10	9	8	7	7	8	10	11	13	14	14	15	16	16	16	16	16	15	15	14	12	11	10	12.2	16.4
16-May	9	8	8	7	6	5	7	10	12	14	15	16	16	17	18	18	18	19	19	18	16	13	12	12	13.0	18.9
17-May	11	10	8	9	8	7	8	10	12	15	17	18	19	20	21	21	22	21	21	21	20	17	13	10	14.9	21.5
18-May	9	8	8	8	7	7	10	12	14	16	18	19	21	20	20	20	20	17	14	14	14	13	12	14.0	20.6	
19-May	12	11	10	9	9	9	10	12	13	13	14	15	16	17	17	17	17	17	16	16	14	13	12	11	13.2	16.7
20-May	9	7	6	5	4	3	5	9	11	14	15	17	18	18	18	18	18	17	17	16	15	14	13	13	12.5	17.7
21-May	12	11	11	9	9	8	8	9	9	10	11	12	13	14	13	13	13	10	8	7	6	4	3	3	9.4	13.5
22-May	3	3	3	3	3	3	3	4	5	7	9	11	15	19	21	22	22	22	21	20	18	16	14	12	11.4	22.0
23-May	12	9	7	6	5	5	6	8	11	16	18	20	20	21	23	22	21	22	21	20	19	18	17	15	15.1	22.5
24-May	14	13	13	12	12	11	11	12	12	12	13	14	15	16	16	14	13	13	13	12	12	12	11	10	12.8	16.3
25-May	10	9	7	7	6	6	8	10	12	12	12	11	12	14	15	13	14	11	10	10	10	10	9	9	10.4	15.2
26-May	8	6	5	5	5	6	6	7	8	9	10	11	12	12	12	13	13	14	15	14	13	10	8	7	9.6	14.8
27-May	7	7	6	5	5	5	5	6	7	11	15	16	16	17	17	11	9	11	13	14	13	11	9	8	10.2	17.2
28-May	7	6	6	6	6	6	6	7	8	10	12	13	14	17	18	18	15	12	13	13	12	12	11	10	10.8	18.1
29-May	11	10	10	10	9	9	10	10	11	14	16	17	17	17	18	18	18	18	16	13	13	13	13	12	13.5	18.5
30-May	12	12	12	12	11	11	11	12	12	13	14	16	17	18	19	19	20	19	17	12	12	12	12	12	14.0	19.6
31-May	11	11	11	10	10	10	11	12	13	14	15	16	16	16	17	17	15	14	14	13	13	13	12	11	13.2	16.9

9.9	9.1	8.2	7.6	6.8	6.4	7.6	9.3	10.9	12.7	14.4	15.4	16.6	17.5	18.2	18.1	18.0	17.6	16.9	15.9	14.8	13.4	12.2	11.0	Diurnal Average	
17.1	17.6	17.5	16.9	15.5	13.6	12.6	14.6	17.0	21.2	22.8	24.7	26.5	27.5	27.4	27.2	27.5	27.3	26.9	25.5	23.5	21.4	18.9	17.1	Diurnal Maximum	

**Hourly Averages**

**External Temperature (ET) - °C**  
**Evergreen Park - May 2013**



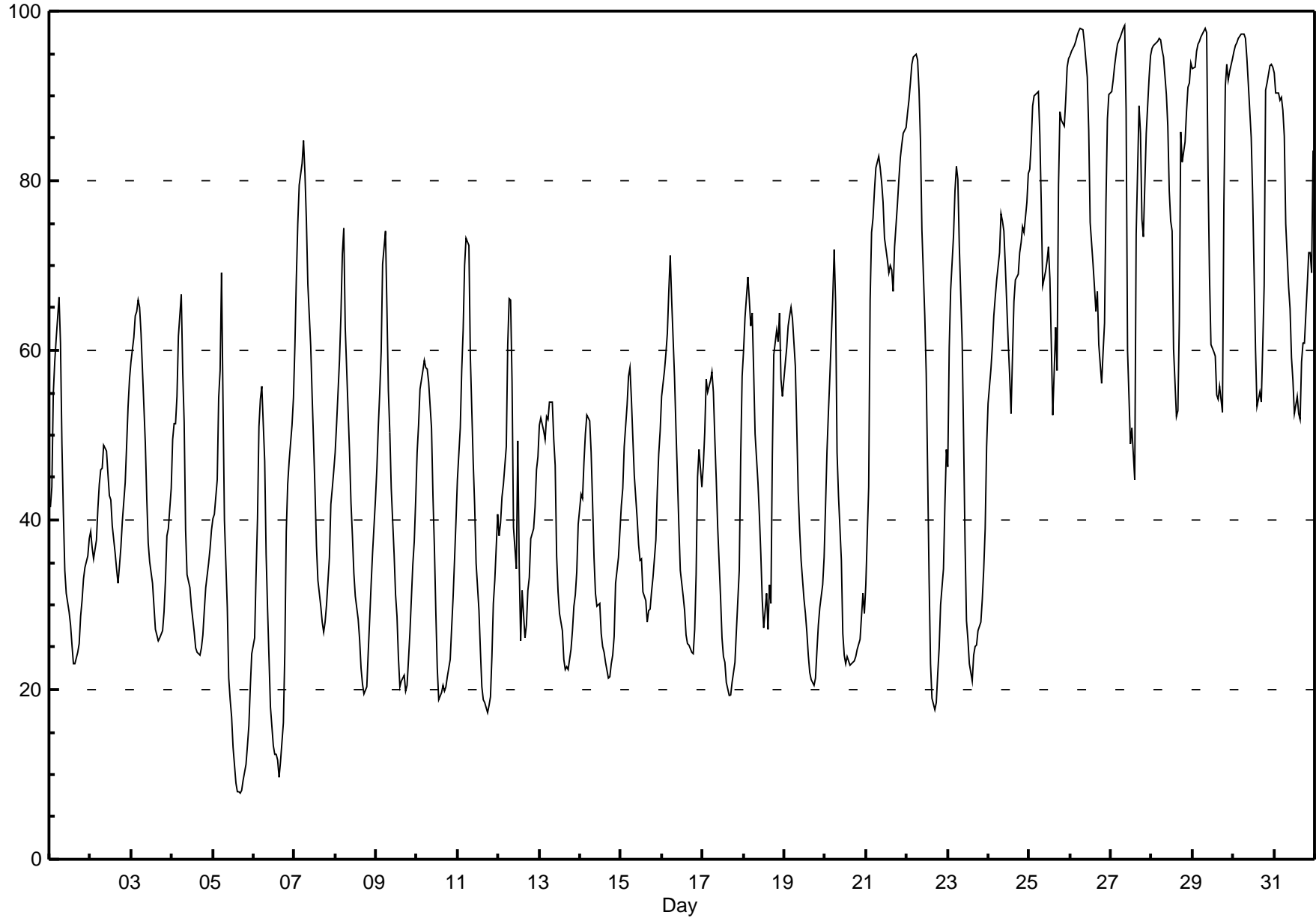
# Hourly Averages

Relative Humidity (RH) - %  
Evergreen Park - May 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 98.3 % on May 27 09:00 Maximum Daily Average: 84.1 % on May 28		Hours in Service: 744 Hours of Data: 744 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0																								
Minimum Value: 8 % on May 5 17:00 Maximum Diurnal Average: 73.2 % at hour 6 Monthly Average: 51.64 %		Minimum Daily Average: 26.5 % on May 5 Minimum Diurnal Average: 33.3 % at hour 15 Percentiles: P <sub>1</sub> = 11.2 P <sub>10</sub> = 23.3 Q <sub>1</sub> = 30.9 Median = 49.5 Q <sub>3</sub> = 68.5 P <sub>90</sub> = 90.3 P <sub>99</sub> = 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-May	41	44	55	59	61	66	61	49	41	34	31	29	28	25	23	23	24	25	29	31	33	34	36	38	38.4	66.2
2-May	39	37	35	38	41	44	46	46	49	48	45	43	42	39	36	34	33	35	37	40	44	49	53	57	42.1	56.6
3-May	59	62	64	65	66	65	62	53	49	43	37	35	33	30	27	26	26	26	27	29	33	38	39	44	43.2	66.0
4-May	50	51	51	55	62	67	57	52	39	34	32	30	28	27	25	24	24	25	27	29	32	35	37	39	38.7	66.6
5-May	40	41	45	54	58	69	54	40	30	21	19	17	13	9	8	8	8	8	9	11	13	16	20	24	26.5	69.1
6-May	26	34	40	51	54	56	47	36	29	24	18	13	12	12	10	12	16	24	39	44	47	51	54	31.7	55.8	
7-May	61	68	75	80	82	85	81	75	68	61	55	49	43	37	33	30	28	27	28	30	36	42	44	46	52.5	84.8
8-May	48	51	59	64	71	74	63	53	48	42	38	34	31	28	26	23	21	19	20	24	28	32	36	42	40.7	74.4
9-May	46	51	55	60	70	74	65	55	50	44	36	31	29	24	20	21	22	20	21	24	27	35	38	42	40.0	74.1
10-May	48	51	55	58	59	58	58	56	51	43	37	29	22	19	20	21	20	20	22	24	27	31	35	40	37.6	58.9
11-May	45	51	58	62	70	73	72	59	53	47	42	35	29	25	20	19	18	17	18	19	24	30	33	41	40.0	73.2
12-May	38	40	43	44	49	61	66	66	56	39	34	49	34	26	32	26	28	32	33	38	39	42	46	47	42.0	66.2
13-May	51	52	51	50	52	52	54	54	50	46	36	31	29	27	24	22	23	22	25	27	30	31	34	39	38.0	54.0
14-May	43	43	47	50	52	52	48	42	36	31	30	30	27	25	24	23	21	22	23	24	26	33	36	39	34.4	52.3
15-May	42	44	49	53	57	58	54	50	45	40	37	35	35	32	31	28	29	30	32	33	38	43	48	51	41.4	58.0
16-May	55	58	60	62	67	71	66	57	51	45	39	34	31	29	27	25	25	24	24	27	34	45	48	44	43.7	71.2
17-May	46	50	57	55	56	58	55	50	45	39	31	26	24	23	21	19	19	21	22	23	27	34	47	57	37.8	57.5
18-May	60	64	69	66	63	64	58	50	44	41	36	31	27	31	27	32	30	48	59	62	61	64	57	55	50.0	68.6
19-May	59	60	63	64	65	64	58	51	43	39	35	31	29	27	24	22	21	20	21	25	28	30	32	36	39.4	65.1
20-May	42	48	53	57	66	72	66	48	43	35	27	24	23	24	23	23	23	23	24	25	26	29	31	29	36.8	71.9
21-May	32	44	66	74	76	79	82	83	82	80	77	73	71	69	70	69	67	72	77	80	83	84	86	86	73.4	86.3
22-May	88	90	92	94	95	95	94	91	85	74	64	57	46	33	23	19	18	18	22	25	30	34	42	48	57.3	94.9
23-May	46	60	67	74	79	82	80	72	61	50	37	28	26	23	21	24	25	25	27	28	31	34	39	49	45.3	81.7
24-May	54	58	60	64	66	68	72	76	75	74	70	61	57	52	59	66	68	69	72	73	74	74	77	81	67.6	80.8
25-May	81	84	89	90	90	91	85	77	68	69	70	72	69	61	52	63	58	79	88	87	86	90	93	94	78.7	94.3
26-May	95	95	96	96	97	98	98	98	96	94	92	86	75	70	68	65	67	61	56	60	63	77	87	90	82.5	97.9
27-May	90	92	93	95	96	97	97	98	98	88	60	49	51	48	45	74	89	86	75	73	79	86	92	95	81.1	98.3
28-May	96	96	96	96	97	97	95	95	90	86	79	75	74	60	52	53	63	86	82	85	88	91	92	94	84.1	96.8
29-May	93	93	95	96	96	97	98	98	97	81	69	61	60	59	55	54	56	53	77	91	94	92	93	94	81.3	97.9
30-May	95	96	96	97	97	97	97	97	94	91	85	78	69	60	53	55	54	60	68	91	92	94	94	93	83.5	97.4
31-May	93	90	90	89	90	88	85	75	68	65	59	56	53	55	53	52	59	61	61	68	72	72	69	84	71.0	92.6
																								Diurnal Average		
																								Diurnal Maximum		

**Hourly Averages**

**Relative Humidity (RH) - %  
Evergreen Park - May 2013**



## Hourly Averages

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

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1 Spd	5	2	2	1	2	2	4	15	30	37	36	31	28	30	30	36	35	43	39	22	27	21	23	23	20.6	42.6
Dir	165	154	50	165	57	232	213	239	254	257	252	256	257	265	273	279	252	255	254	252	235	233	229	253.6	252.2	
2 Spd	23	20	35	45	56	42	27	37	37	38	40	48	44	60	54	60	56	50	45	45	39	39	27	28	41.5	59.7
Dir	225	241	253	255	253	253	273	265	266	258	258	260	267	262	260	251	262	273	268	264	262	259	258	257	259.4	251.2
3 Spd	19	19	16	19	8	11	14	24	26	29	24	20	18	18	20	15	16	18	22	17	13	13	16	13	16.2	28.7
Dir	253	256	256	254	298	269	274	281	288	279	295	328	287	294	285	321	298	272	258	254	244	232	239	222	274.1	279.2
4 Spd	8	5	7	4	1	4	6	6	19	32	27	29	27	25	26	28	30	31	30	27	28	25	26	20	18.2	31.7
Dir	206	197	197	200	92	193	197	210	243	261	280	280	277	279	270	264	261	261	258	249	249	245	247	239	256.2	261.0
5 Spd	18	13	3	2	4	3	10	16	21	22	19	19	12	22	28	25	24	22	22	26	23	18	8	9	14.6	28.2
Dir	233	242	200	214	196	230	264	267	262	275	285	267	299	315	315	305	302	306	278	258	255	264	278	276	278.0	315.3
6 Spd	5	1	1	1	3	1	2	3	2	4	4	13	25	43	43	48	49	41	31	31	21	16	13	12	10.2	48.8
Dir	312	107	238	210	187	169	277	351	240	237	184	227	259	252	261	272	259	290	354	9	32	35	16	41	289.0	258.9
7 Spd	4	4	2	4	1	4	11	12	14	12	14	14	17	15	14	10	12	14	19	17	14	13	10	11	9.9	19.0
Dir	344	278	15	4	108	48	70	83	92	87	101	84	70	90	96	106	91	73	58	63	63	68	64	65	75.6	58.0
8 Spd	9	5	4	3	1	2	1	6	5	8	8	3	10	10	5	9	2	11	10	10	9	8	8	8	4.4	11.1
Dir	72	89	31	29	311	57	72	205	310	353	350	12	344	343	357	312	60	29	59	74	61	67	64	54	30.5	29.5
9 Spd	10	6	7	2	2	1	2	1	9	15	22	28	33	35	38	40	33	25	29	22	17	18	15	19	14.3	40.3
Dir	68	60	61	7	34	277	350	273	279	315	333	324	338	335	340	335	339	15	32	38	45	51	57	53	358.9	335.3
10 Spd	12	11	8	7	7	10	12	10	10	13	14	16	19	17	16	15	18	17	17	13	11	10	11	11	12.2	18.6
Dir	65	65	67	68	66	70	69	81	92	91	79	85	96	120	102	113	97	94	95	77	70	64	64	66	84.6	96.4
11 Spd	8	7	4	2	0	0	2	3	8	5	4	5	5	4	5	8	7	18	20	11	2	2	3	2	2.2	20.2
Dir	67	67	57	346	75	37	210	242	254	261	215	147	187	277	4	28	320	262	272	260	218	190	196	43	269.5	271.6
12 Spd	2	7	3	3	1	3	2	1	3	19	36	53	56	66	52	70	66	53	42	34	35	24	22	23	27.0	69.8
Dir	187	210	216	173	149	5	44	74	240	238	250	276	261	256	253	254	249	253	248	239	238	234	227	234	250.1	253.9
13 Spd	17	17	23	30	29	31	36	32	36	44	47	47	43	42	42	40	41	37	28	26	22	20	17	16	31.4	47.3
Dir	234	242	248	248	251	254	250	248	252	254	264	264	263	267	266	259	260	263	273	263	258	253	252	258	257.6	264.3
14 Spd	14	18	17	20	27	34	31	40	43	42	41	39	43	43	44	44	44	43	38	37	30	22	25	25	33.0	44.5
Dir	252	253	251	245	249	251	258	261	273	276	271	267	274	276	264	259	261	258	258	256	252	237	244	251	260.6	258.8
15 Spd	21	14	14	10	14	18	19	19	26	24	27	26	25	26	27	32	31	29	25	25	22	15	16	16	21.5	32.4
Dir	249	233	241	237	249	250	253	256	256	254	256	257	261	261	261	258	244	258	261	262	264	240	242	244	253.6	257.6
16 Spd	15	13	16	11	6	3	5	16	22	18	19	19	17	18	23	23	23	21	14	11	4	5	3	6	13.1	23.1
Dir	249	234	250	263	294	27	296	261	270	288	303	262	280	268	271	266	261	274	273	274	248	208	259	275	268.6	260.7
17 Spd	7	6	3	5	8	8	12	16	9	9	3	11	11	5	2	13	6	9	10	10	9	4	2	2	3.6	15.7
Dir	304	266	316	292	304	290	267	261	259	273	280	244	207	176	323	260	116	188	130	121	125	113	47	190	242.7	260.7
18 Spd	2	1	1	3	6	4	9	15	13	9	10	11	10	16	18	27	15	33	14	9	10	8	18	26	10.4	32.6
Dir	77	320	204	255	263	236	263	265	245	232	256	271	260	217	259	305	307	255	269	198	197	229	266	259	258.4	254.7
19 Spd	19	17	14	13	15	14	16	24	31	33	29	30	27	27	33	34	32	30	28	27	23	24	18	12	23.3	34.1
Dir	254	251	256	252	252	235	269	268	271	265	265	271	270	275	279	277	282	274	273	276	267	261	256	233	267.1	276.8
20 Spd	6	6	3	3	4	5	7	6	6	6	9	4	7	10	3	7	13	13	9	14	11	9	10	16	3.3	16.1
Dir	229	242	242	308	212	203	207	253	220	192	175	125	46	58	32	80	53	59	62	79	71	60	53	61	79.5	60.6
21 Spd	16	13	12	10	6	11	11	13	10	9	9	7	5	14	19	22	27	28	28	28	26	29	28	26	8.6	29.2
Dir	63	66	63	72	74	53	62	60	53	50	54	57	327	337	322	316	328	305	299	287	282	265	264	261	323.6	264.5
22 Spd	26	20	17	15	15	14	8	6	7	1	3	8	7	13	22	30	30	28	25	22	28	16	4	6	6.1	30.3
Dir	262	265	263	261	258	252	242	216	222	267	244	300	29	86	103	115	122	130	144	137	129	138	71	83	159.2	122.2



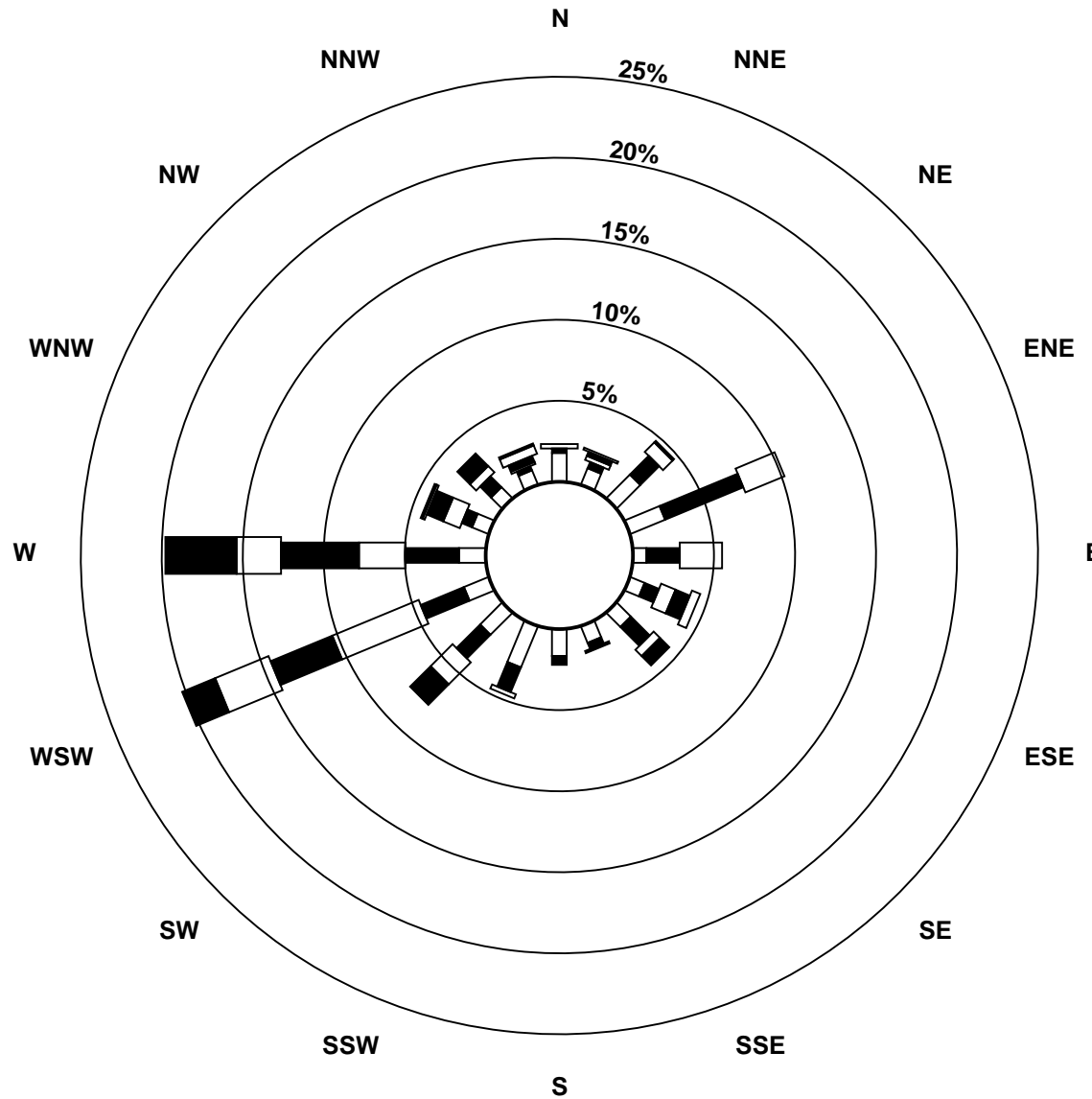
# Hourly Averages

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

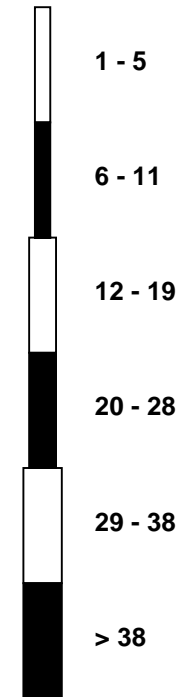
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
23 Spd	5	4	1	1	3	6	5	6	4	12	24	29	26	25	26	29	21	25	23	20	17	11	11	20	12.6	28.8
Dir	96	38	33	30	234	233	279	266	272	122	120	122	120	126	122	111	129	121	116	123	114	99	107	160	122.9	110.6
24 Spd	15	13	9	8	7	7	7	9	11	9	11	15	11	6	22	20	22	21	21	18	17	10	7	7	4.3	22.4
Dir	130	131	137	122	95	82	77	66	66	70	59	63	81	175	226	217	233	251	230	237	247	241	251	242	190.4	225.7
25 Spd	6	5	2	6	5	4	7	3	9	15	15	9	10	10	12	14	10	13	4	3	6	2	7	4	0.8	15.1
Dir	267	302	342	298	292	255	269	176	81	89	108	100	64	54	30	223	219	127	158	254	255	352	240	300	124.8	88.9
26 Spd	1	0	1	3	7	8	10	11	13	10	2	7	11	11	5	6	10	6	4	6	3	1	0	2	1.2	12.7
Dir	49	210	262	219	269	266	266	262	258	273	343	56	93	98	129	145	150	145	42	139	171	127	58	62	194.9	257.9
27 Spd	2	2	2	1	3	2	3	5	7	10	11	14	15	16	14	21	2	6	10	4	3	2	2	5	2.3	21.1
Dir	42	357	107	74	84	126	148	333	54	79	97	108	70	68	84	256	294	307	307	303	144	130	10	214	69.2	256.3
28 Spd	1	2	2	5	4	4	9	8	8	7	6	4	8	10	5	15	16	8	4	2	2	2	1	5	1.9	16.5
Dir	225	43	221	229	271	232	255	258	256	228	212	132	52	52	69	194	212	100	297	231	349	64	108	74	213.6	212.2
29 Spd	4	1	3	1	1	3	4	5	6	4	3	4	4	9	11	11	7	9	3	3	3	3	5	2	2.0	10.5
Dir	123	39	0	176	18	206	197	241	236	259	116	104	125	100	151	133	122	142	54	43	12	326	41	351	129.1	151.0
30 Spd	4	4	2	5	5	4	4	5	6	7	8	7	9	9	8	5	2	5	3	15	6	5	4	9	3.4	14.7
Dir	204	166	73	70	62	71	83	91	127	121	147	143	130	140	170	113	191	142	213	240	256	208	199	230	155.5	240.1
31 Spd	12	11	12	8	7	8	6	14	20	13	12	11	8	4	0	6	26	25	15	5	7	7	3	5	8.8	25.9
Dir	226	246	222	246	225	239	235	255	259	257	302	312	269	338	190	215	224	231	222	216	216	240	212	143	241.4	224.1
Spd	4.4	4.3	4.4	5.2	5.5	5.6	6.1	8.6	10.6	10.3	9.0	9.3	8.9	10.2	11.6	14.7	13.9	12.8	10.1	8.3	7.0	6.1	6.1	5.4	Diurnal Average	
Dir	236.4	241.2	248.2	251.7	255.8	251.0	259.1	260.0	261.9	263.4	265.9	270.0	275.4	271.0	270.2	263.8	260.6	262.1	268.2	257.7	249.2	244.7	252.4	243.8	Diurnal Maximum	
Spd	25.9	20.4	35.3	45.1	56.2	42.2	36.1	39.5	42.9	43.5	47.3	53.2	56.4	66.4	54.4	69.8	66.4	52.8	45.3	45.5	38.7	39.5	36.8	28.0	Diurnal Maximum	
Dir	262.1	241.4	252.9	254.5	252.9	252.8	250.5	261.5	273.0	254.4	264.3	275.7	261.5	255.6	260.1	253.9	249.3	252.8	267.6	264.2	262.1	259.1	258.5	257.2	Diurnal Maximum	
Maximum Speed Value: 70 km/h on May 12 16:00																		Minimum Speed Value: 0 km/h on May 26 02:00						Hours in Service:		744
Maximum Daily Speed Average: 41.5 km/h on May 2																		Minimum Daily Speed Average: 0.8 km/h on May 29						Hours of Data:		744
Maximum Diurnal Speed Average: 14.7 km/h at hour 16																		Minimum Diurnal Speed Average: 4.3 km/h at hour 2						Hours of Missing Data:		0
Monthly Average Velocity: 8.15 km/h 260.33 deg																		Speed Percentiles: P <sub>1</sub> = 0.6 P <sub>10</sub> = 2.5 Q <sub>1</sub> = 5.3 Median = 11.4 Q <sub>3</sub> = 22.3 P <sub>90</sub> = 32.7 P <sub>99</sub> = 56.0						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	22	4	1	1	5	0	33																			
NorthEast	29	37	21	4	1	0	92																			
East	18	30	33	1	1	0	83																			
SouthEast	14	24	8	12	3	0	61																			
South	25	10	1	1	0	0	37																			
SouthWest	35	34	29	22	3	0	123																			
West	17	34	49	68	44	50	262																			
NorthWest	12	15	9	13	3	1	53																			
Total	172	188	151	122	60	51	744																			

**Wind Rose**

**Wind Speed (WS) (km/h)**  
**Evergreen Park - May 2013**



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



# Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Evergreen Park - May 2013

Maximum Speed: 70 km/h on May 12 16:00	Maximum Daily Speed Average: 42.4 km/h on May 2	Hours in Service: 744
Minimum Speed: 2 km/h on May 9 06:00	Minimum Daily Speed Average: 6.5 km/h on May 29	Hours of Data: 744
Maximum Diurnal Speed Average: 26.7 km/h at hour 16	Minimum Diurnal Speed Average: 8.8 km/h at hour 3	Hours of Missing Data: 0
Monthly Average Speed: 16.57 km/h	Percentiles: P <sub>1</sub> = 2.2 P <sub>10</sub> = 4.0 Q <sub>1</sub> = 7.2 Median = 12.9 Q <sub>3</sub> = 23.1 P <sub>90</sub> = 34.0 P <sub>99</sub> = 56.0	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-May	5	3	2	2	3	3	4	15	31	38	37	32	29	31	32	37	36	43	39	22	27	22	23	23	22.4	43.3
2-May	23	21	36	45	57	43	28	38	37	39	40	48	45	60	55	60	57	51	46	46	39	40	37	28	42.4	60.2
3-May	19	19	16	19	9	11	14	25	27	29	27	21	20	21	22	18	19	21	22	18	13	14	16	13	18.9	29.4
4-May	8	5	7	4	3	4	6	7	20	33	28	31	28	27	27	29	31	32	30	27	28	25	26	21	20.3	32.5
5-May	18	13	3	2	4	3	10	16	21	24	21	21	17	24	30	28	27	24	23	27	23	18	9	10	17.4	30.2
6-May	6	4	2	2	3	2	4	4	4	6	7	15	27	44	44	49	50	47	34	32	21	17	14	12	18.8	49.7
7-May	4	4	2	4	3	5	11	13	15	14	16	16	19	17	16	14	15	17	20	18	14	13	10	11	12.1	19.5
8-May	10	5	4	3	3	2	2	7	7	10	10	9	12	12	11	15	11	14	10	11	9	9	8	8	8.3	14.6
9-May	10	7	7	3	3	2	3	4	11	16	23	30	33	36	39	41	34	26	29	22	17	18	15	20	18.7	41.2
10-May	13	11	8	8	8	10	12	11	10	14	17	18	20	20	18	17	20	18	18	14	11	10	12	11	13.7	20.1
11-May	8	7	4	3	3	2	3	5	9	7	7	8	8	8	9	11	8	19	21	13	4	3	4	3	7.5	21.1
12-May	3	8	4	4	3	3	3	2	5	20	38	54	58	67	53	70	68	53	44	35	35	24	22	23	29.2	70.5
13-May	17	17	23	30	29	31	37	33	36	44	48	47	44	44	44	41	42	38	29	27	22	20	17	16	32.3	48.1
14-May	14	18	17	20	27	34	31	40	44	43	43	41	44	44	45	45	45	43	39	38	31	22	26	25	34.2	45.4
15-May	21	14	14	10	14	19	19	20	26	25	28	27	26	27	28	33	32	29	25	26	22	16	16	17	22.2	33.2
16-May	15	13	16	12	8	3	8	17	22	20	22	21	20	20	24	25	24	22	15	12	5	5	4	7	15.0	24.6
17-May	8	7	5	5	8	8	13	16	11	10	8	13	15	13	9	15	10	10	13	11	10	4	2	5	9.5	16.1
18-May	3	5	4	4	6	4	10	16	14	10	12	13	16	19	20	29	18	33	17	12	10	9	19	26	13.7	33.5
19-May	19	17	14	13	16	14	17	24	32	34	31	32	29	30	35	35	33	31	29	27	24	24	18	12	24.5	35.5
20-May	6	6	5	5	4	5	7	7	7	10	12	11	13	13	10	11	14	14	11	15	11	9	11	17	9.6	16.6
21-May	16	13	13	11	7	12	12	13	11	10	10	8	7	15	21	23	29	30	29	29	27	30	28	27	17.8	29.6
22-May	26	20	18	16	16	15	9	6	7	7	9	12	11	16	24	31	32	29	27	23	29	17	5	6	17.0	31.8
23-May	6	4	2	3	4	7	6	7	7	14	26	30	28	28	28	30	22	26	24	21	17	12	12	21	16.0	30.0
24-May	16	13	10	9	7	7	8	10	12	9	12	16	12	15	23	21	23	21	21	19	17	10	8	8	13.5	23.1
25-May	6	5	4	7	6	5	8	6	11	16	16	10	12	13	15	16	10	16	7	6	8	4	9	5	9.1	16.4
26-May	2	3	4	4	7	8	10	11	13	10	6	9	12	11	7	8	12	9	7	6	4	2	2	3	7.1	12.9
27-May	3	4	4	4	4	3	5	7	7	12	14	17	16	17	15	31	8	8	12	11	9	4	3	5	9.3	30.8
28-May	4	3	3	9	5	4	10	9	9	8	9	6	9	12	9	18	18	10	6	8	4	3	3	5	7.6	17.8
29-May	4	3	3	3	3	4	5	6	7	7	7	7	7	11	12	12	10	10	8	5	4	4	5	7	6.5	12.2
30-May	6	5	3	6	6	4	4	5	7	7	9	9	11	12	10	8	4	8	8	16	8	7	5	10	7.5	16.4
31-May	12	11	12	9	7	9	6	14	20	14	13	13	11	8	6	8	26	25	15	6	8	8	10	5	11.6	26.3
	10.7	9.3	8.8	9.0	9.2	9.3	10.4	13.3	16.1	18.0	19.5	20.8	21.2	23.7	23.9	26.7	25.4	25.1	21.9	19.4	16.5	13.6	12.8	13.1	Diurnal Average	
	26.2	20.6	35.6	45.5	56.6	42.8	36.6	40.0	43.9	44.0	48.1	54.2	57.5	67.5	55.4	70.5	67.8	53.5	45.9	45.9	39.0	39.7	37.0	28.2	Diurnal Maximum	

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

# Hourly Standard Deviations

Wind Direction (WD) - deg  
Evergreen Park - May 2013

Maximum Value: 100.9 deg on May 22 10:00																						Hours in Service:	744		
Minimum Value: 5.0 deg on May 2 00:00																						Hours of Data:	744		
Percentiles: P <sub>1</sub> = 5.6 P <sub>10</sub> = 8.5 Q <sub>1</sub> = 12.6 Median = 22.3 Q <sub>3</sub> = 42.9 P <sub>90</sub> = 68.8 P <sub>99</sub> = 91.4																						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-May	22	50	62	70	80	67	18	11	10	13	12	15	19	16	17	16	12	10	8	14	12	9	7	5	79.6
2-May	7	9	6	7	6	11	15	10	9	8	7	8	9	8	11	7	10	11	10	8	6	6	6	8	14.8
3-May	7	6	7	6	27	10	12	15	17	13	31	20	32	30	29	30	34	30	14	11	10	18	12	16	34.5
4-May	11	10	8	41	79	34	13	21	15	13	17	24	20	21	20	16	17	11	9	8	6	6	5	6	79.1
5-May	9	17	49	65	23	40	10	9	10	21	20	24	49	32	21	22	29	23	20	8	6	13	32	28	64.9
6-May	39	82	69	83	45	81	61	56	68	64	72	35	25	16	14	12	11	30	21	19	15	19	19	12	83.4
7-May	29	40	50	41	73	58	11	22	25	31	33	29	27	31	35	49	37	41	14	13	10	13	12	10	73.2
8-May	11	19	37	22	84	69	69	29	54	39	55	92	48	45	76	71	91	39	25	15	8	15	14	8	91.6
9-May	10	10	9	60	42	60	33	86	39	25	21	21	14	14	14	13	17	18	12	10	9	12	14	10	86.2
10-May	16	17	13	14	19	13	15	18	22	29	32	27	25	37	33	34	27	23	23	18	11	7	8	11	37.1
11-May	11	8	24	58	93	85	67	74	43	65	66	72	77	78	85	50	52	28	19	34	56	77	58	58	93.3
12-May	67	19	50	51	74	60	48	68	85	15	18	11	12	10	11	8	12	9	15	9	7	9	6	6	84.8
13-May	7	6	8	8	7	7	9	8	9	9	11	10	16	16	16	15	14	12	13	9	8	6	7	8	16.2
14-May	8	5	6	6	6	6	7	9	12	12	15	17	15	15	13	12	12	10	12	8	10	9	8	6	17.1
15-May	8	7	8	10	10	6	7	11	10	18	16	20	14	16	18	13	15	11	15	14	10	12	10	8	20.3
16-May	7	9	9	10	32	33	49	14	16	28	34	29	35	36	20	25	19	19	28	16	38	9	50	24	50.0
17-May	23	37	59	20	15	16	13	12	26	34	83	43	57	75	87	40	69	26	52	18	17	34	42	79	86.9
18-May	62	72	98	63	23	33	22	14	14	37	40	50	63	52	32	23	33	14	34	57	14	19	18	7	98.0
19-May	7	6	8	8	8	12	16	14	14	14	17	19	20	23	19	16	17	16	17	12	9	7	8	9	22.7
20-May	12	11	59	65	22	10	9	42	34	65	48	81	63	45	81	60	23	22	44	27	19	25	19	15	81.4
21-May	15	16	35	27	38	24	32	23	23	27	24	35	45	33	19	15	18	17	15	13	15	9	8	10	44.5
22-May	9	13	11	13	12	10	26	27	34	101	86	57	58	44	28	17	18	20	18	17	15	21	28	21	100.9
23-May	31	35	83	89	68	38	29	32	61	55	23	19	21	25	22	17	18	17	15	17	14	14	26	17	89.4
24-May	19	19	24	17	17	19	20	24	24	27	29	25	30	68	9	19	15	11	12	13	10	17	20	24	68.3
25-May	20	23	71	40	27	66	24	69	36	24	19	28	35	48	36	28	27	53	63	69	36	76	50	41	75.6
26-May	77	95	86	60	26	16	16	12	11	20	76	38	31	24	57	52	33	56	68	27	29	84	91	60	95.0
27-May	59	79	63	82	37	54	62	48	28	32	43	39	28	21	26	62	78	49	27	87	83	87	59	33	87.0
28-May	90	68	73	75	45	35	16	19	26	23	50	57	35	41	78	35	34	31	49	87	65	52	86	22	90.2
29-May	37	70	27	67	72	67	43	40	42	65	71	64	72	42	34	28	49	29	71	70	62	49	32	81	80.7
30-May	89	34	41	19	19	18	28	38	39	25	36	46	43	48	54	56	75	67	73	31	48	49	54	35	88.7
31-May	12	14	14	56	34	16	18	17	12	26	32	35	55	76	97	57	10	12	21	50	17	24	87	25	97.3
90.2	95.0	98.0	89.4	93.3	85.4	68.9	86.2	84.8	100.9	86.4	91.6	76.8	78.1	97.3	70.6	91.5	67.4	73.2	87.4	82.9	87.0	91.2	80.7		

PAZA

## Smoky Heights Station

Monthly Summary Tables, Graphs and  
Roses

## Hourly Averages

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

Smoky Heights - May 2013

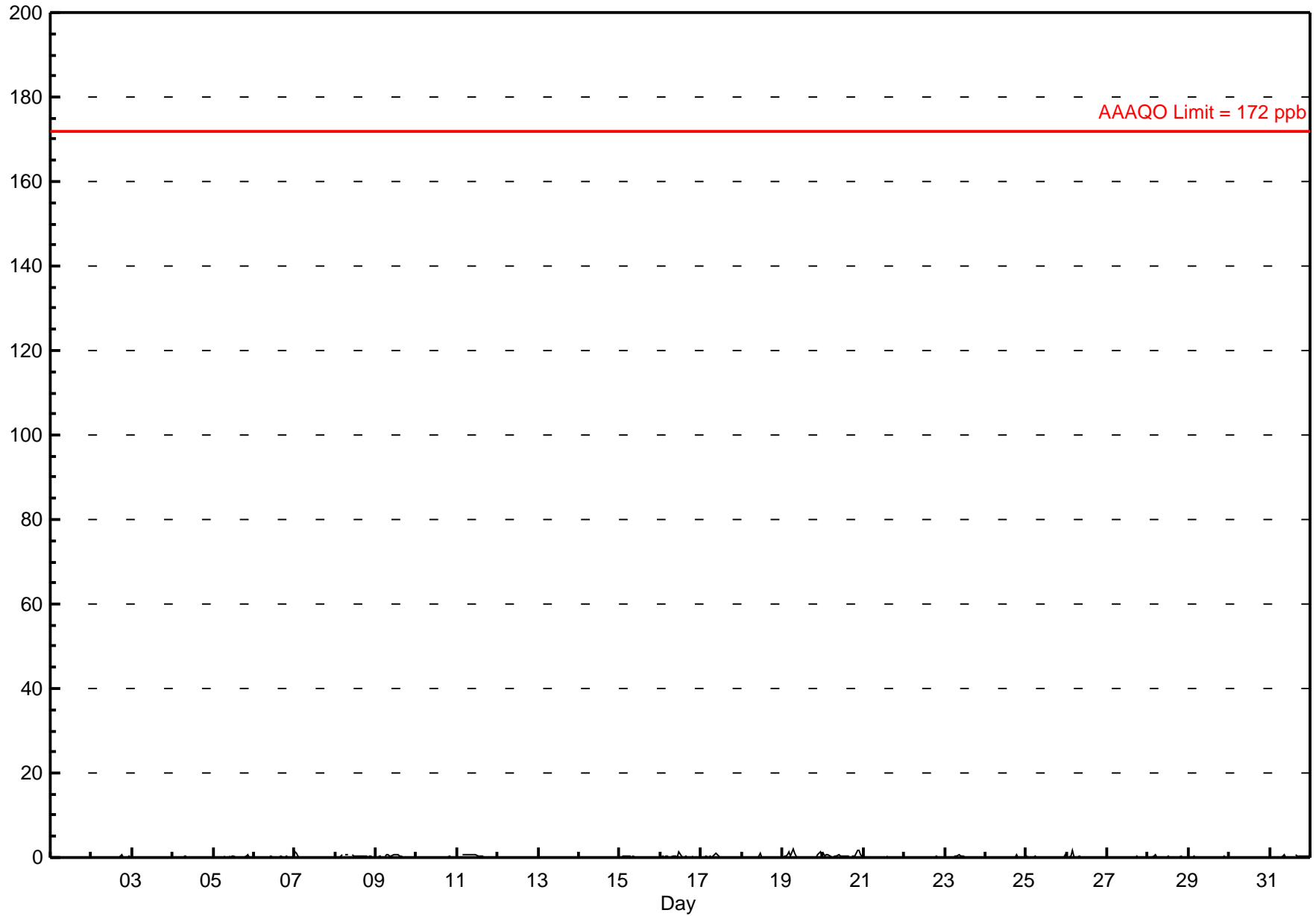
Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 2.0 ppb on May 19 07:00	Maximum Daily Average: 0.5 ppb on May 20		Hours of Data:	706
Minimum Value: 0 ppb on May 22 02:00	Minimum Daily Average: 0.0 ppb on May 30		Hours of Missing Data:	38
Maximum Diurnal Average: 0.2 ppb at hour 8	Minimum Diurnal Average: 0.1 ppb at hour 15		Hours of Calibration:	36
Monthly Average: 0.14 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> = 0.1 P <sub>90</sub> = 0.4 P <sub>99</sub> = 1.2		Percent Operational Time:	99.7

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24				
1-May	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1	
2-May	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	1	0	0	0	0	0	0.1	0.7	
3-May	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1	
4-May	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2	
5-May	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0.1	0.7	
6-May	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.4	
7-May	1	1	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	1.2	
8-May	0	0	0	0	1	A	1	1	D	D	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.7	
9-May	0	0	0	0	A	0	1	1	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0.3	0.8	
10-May	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2	
11-May	0	0	A	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.8	
12-May	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1	
13-May	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	0.0	0.1	
14-May	0	0	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-May	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	0.4	
16-May	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	0.2	1.2	
17-May	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.2	1.1	
18-May	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	A	0	0	0	0	0.1	1.0	
19-May	0	0	0	1	1	0	2	1	0	0	0	0	0	0	0	0	0	0	A	0	0	1	1	0	0	0.4	2.0	
20-May	1	0	1	1	0	0	0	0	0	1	1	0	0	0	0	0	A	0	0	0	0	0	2	2	1	0	0.5	1.7
21-May	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.1	0.2	
22-May	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.1	0.4	
23-May	0	0	0	0	0	0	0	0	1	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.1	0.5	
24-May	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	1	0	0	0	0	0	0.1	0.8	
25-May	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	1	0	0.1	0.6	
26-May	0	0	0	2	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.6	
27-May	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.2	
28-May	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.7	
29-May	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3	
30-May	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1	
31-May	0	0	0	0	0	A	0	0	1	0	0	C	C	C	C	1	1	0	0	0	0	0	0	0	0	0.2	0.8	
	0.1	0.1	0.1	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	Diurnal Average		
	1.2	1.1	0.5	1.6	1.5	0.7	2.0	0.9	0.8	1.1	0.8	1.2	0.6	0.5	0.4	0.5	0.5	0.5	0.8	0.4	1.7	1.7	1.3	0.6	Diurnal Maximum			

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

### Hourly Averages

Sulphur Dioxide (SO<sub>2</sub>) - ppb  
Smoky Heights - May 2013



## Hourly Maximums

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

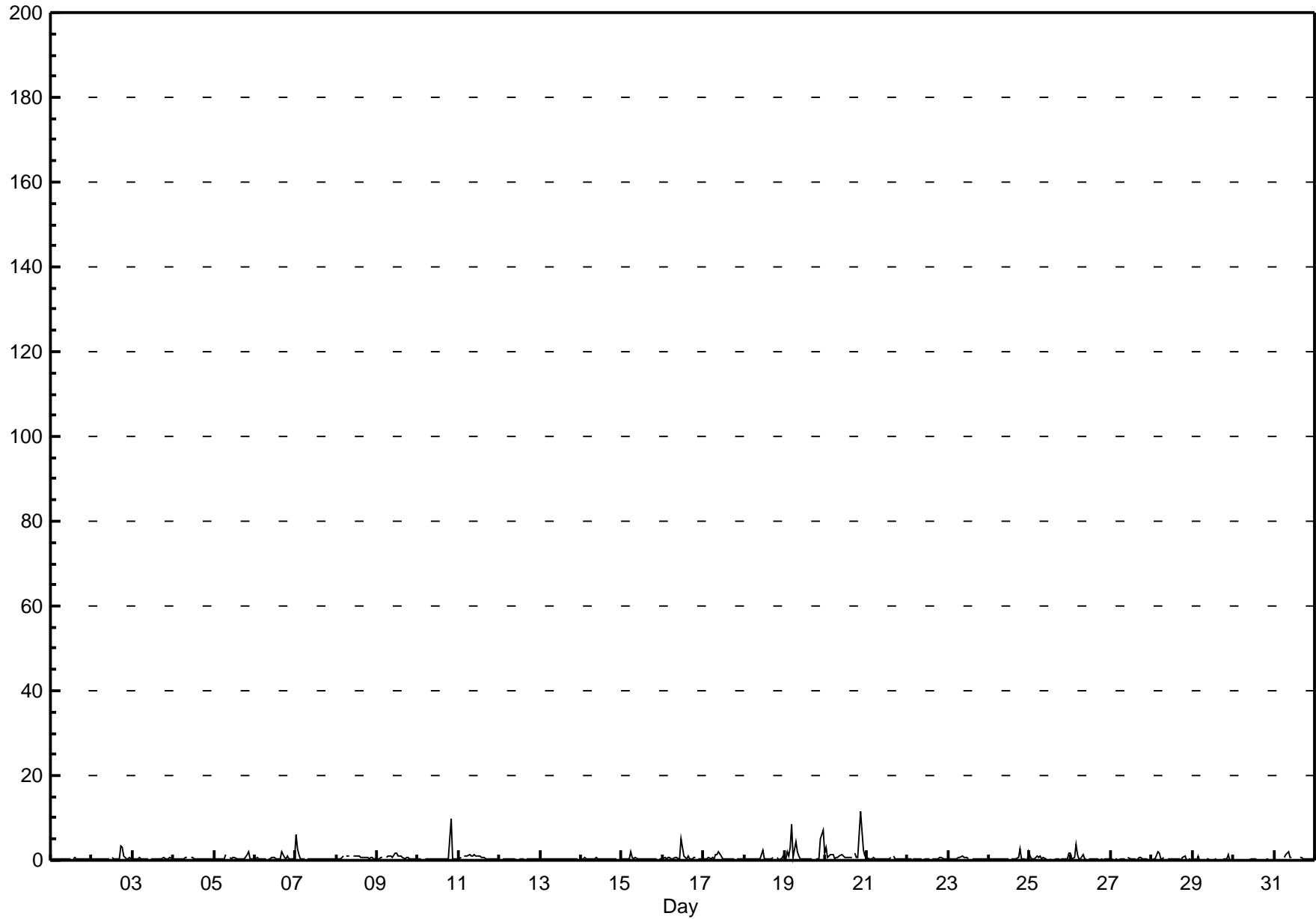
Smoky Heights - May 2013

Maximum Value: 11.6 ppb on May 20 21:00		Maximum Daily Average: 1.8 ppb on May 19		Hours in Service: 744																						
Minimum Value: 0 ppb on May 30 08:00		Minimum Daily Average: 0.1 ppb on May 30		Hours of Data: 706																						
Maximum Diurnal Average: 0.8 ppb at hour 5		Minimum Diurnal Average: 0.3 ppb at hour 15		Hours of Missing Data: 38																						
Monthly Average: 0.56 ppb		Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.2 Q <sub>1</sub> = 0.3 Median = 0.4 Q <sub>3</sub> = 0.5 P <sub>90</sub> = 1.0 P <sub>99</sub> = 4.5		Hours of Calibration: 36																						
				Percent Operational Time: 99.7																						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-May	0	0	0	0	0	0	0	0	0	0	0	0	A	0	1	0	0	0	0	0	0	0	0	0	0.3	0.5
2-May	0	0	0	0	0	1	0	0	0	0	0	A	1	0	0	0	0	3	3	1	0	0	1	0	0.6	3.3
3-May	0	0	0	0	1	0	0	0	0	0	A	0	0	0	0	0	0	0	1	0	0	0	1	0	0.4	0.5
4-May	0	0	0	0	0	0	0	1	1	A	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.7
5-May	0	0	0	0	0	0	0	1	A	1	0	1	1	0	0	0	0	0	0	1	2	0	0	0	0.6	2.1
6-May	0	1	0	0	0	0	0	A	0	0	1	1	0	0	0	0	2	1	0	1	0	0	0	1	0.5	2.0
7-May	6	3	1	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.7	6.1
8-May	0	0	0	1	1	A	1	1	D	D	1	1	1	1	1	1	1	1	1	0	1	1	0	0	0.7	1.2
9-May	0	0	1	1	A	1	1	1	1	1	2	2	1	1	1	1	1	1	1	0	0	0	0	0	0.7	1.8
10-May	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0.7	9.9
11-May	0	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0.7	1.3
12-May	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3
13-May	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.4
14-May	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.4	0.5
15-May	0	0	0	0	0	2	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.4	2.0
16-May	0	1	0	1	1	0	0	1	1	0	0	5	1	1	0	1	0	0	1	1	A	0	0	0	0.7	5.1
17-May	0	0	0	1	0	1	0	1	1	2	1	0	0	0	0	0	0	0	0	A	0	0	0	0	0.5	1.9
18-May	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	1	A	0	0	0	1	0.5	2.2
19-May	0	2	1	3	9	1	4	2	1	0	0	0	0	0	0	0	0	A	0	0	0	5	7	2	1.8	8.5
20-May	3	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	A	2	1	1	12	7	2	1	1.8	11.6
21-May	1	0	0	0	1	0	0	0	0	0	0	0	1	0	1	A	1	0	0	0	0	0	0	0	0.4	0.8
22-May	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	1	1	0	0	0	0.4	0.8
23-May	1	0	0	0	0	0	1	1	1	1	1	1	0	A	0	0	0	0	0	0	0	0	0	0	0.5	0.9
24-May	0	0	0	0	0	0	0	0	0	1	0	0	A	0	0	0	0	0	1	3	0	0	0	2	0.5	2.7
25-May	1	0	0	0	1	1	1	0	1	0	0	A	0	0	0	0	0	0	0	0	0	0	0	2	0.4	1.8
26-May	2	0	1	4	1	0	0	1	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.6	3.6
27-May	0	0	0	0	0	0	0	0	0	0	A	1	0	0	0	0	0	1	1	0	0	0	0	0	0.3	0.8
28-May	0	0	0	2	2	0	0	1	A	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0.5	2.2
29-May	0	0	0	1	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0.3	1.3
30-May	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
31-May	0	0	0	0	0	A	1	1	2	1	1	C	C	C	C	1	1	1	1	0	0	0	0	0	0.5	2.1
		0.7	0.5	0.4	0.7	0.8	0.5	0.6	0.7	0.6	0.5	0.5	0.7	0.4	0.4	0.3	0.4	0.4	0.5	0.5	0.8	0.7	0.7	0.6	0.5	Diurnal Average
		6.1	2.6	1.2	3.6	8.5	2.0	4.4	2.1	2.1	1.9	1.8	5.1	1.0	1.0	0.9	1.1	2.0	3.3	3.0	9.9	11.6	6.9	7.2	2.1	Diurnal Maximum
C - Calibration		D - DAS Failure						A - Automated Daily Zero Span																		



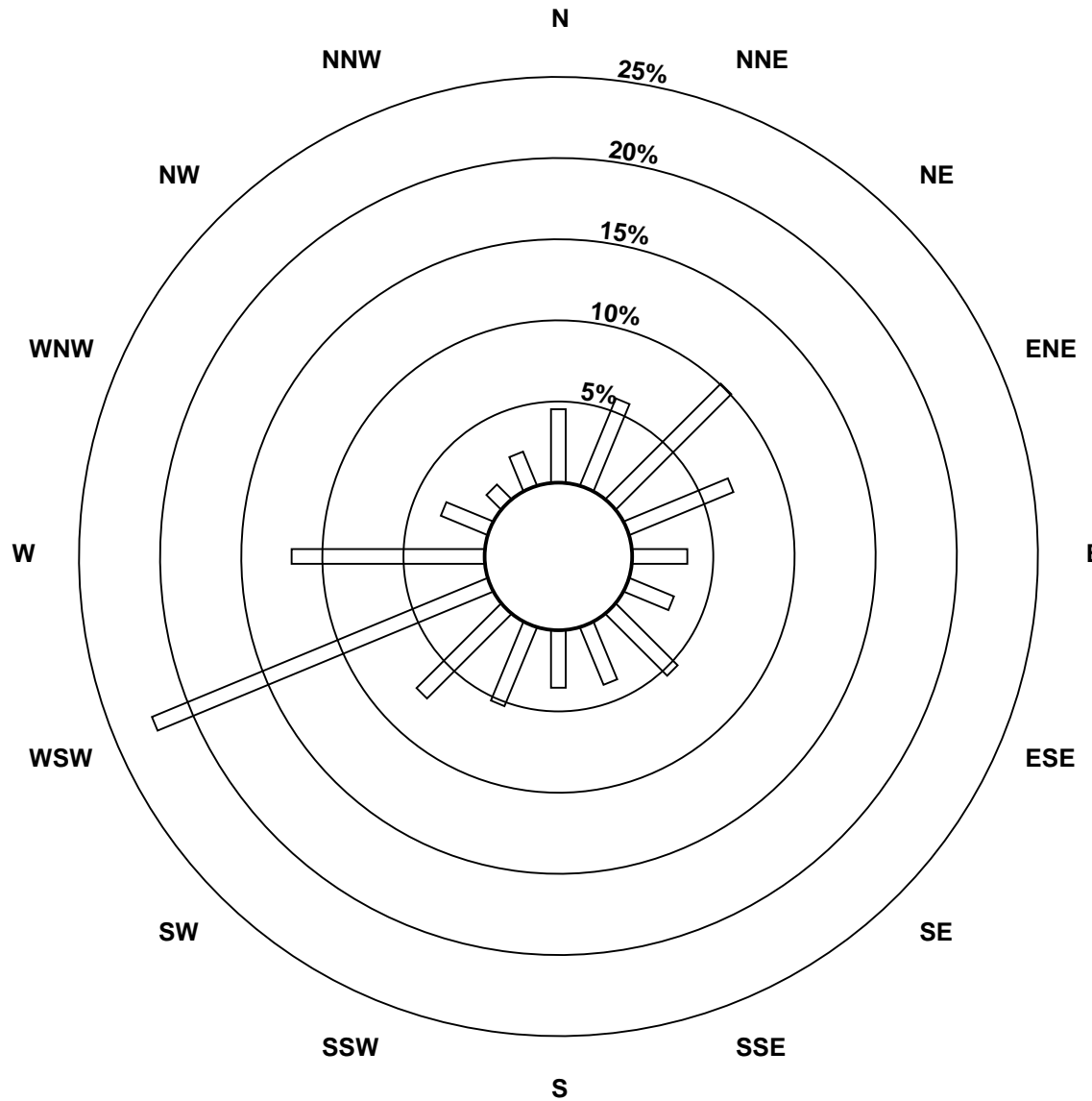
### Hourly Maximums

Sulphur Dioxide (SO<sub>2</sub>) - ppb  
Smoky Heights - May 2013

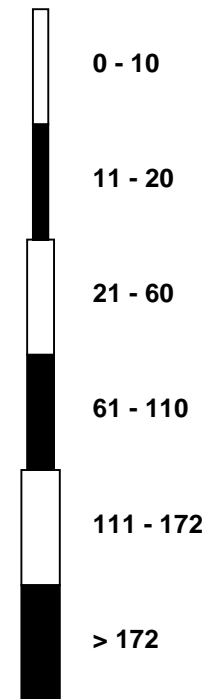


**Pollutant Rose**

**Sulphur Dioxide (SO<sub>2</sub>) - ppb**  
**Smoky Heights - May 2013**

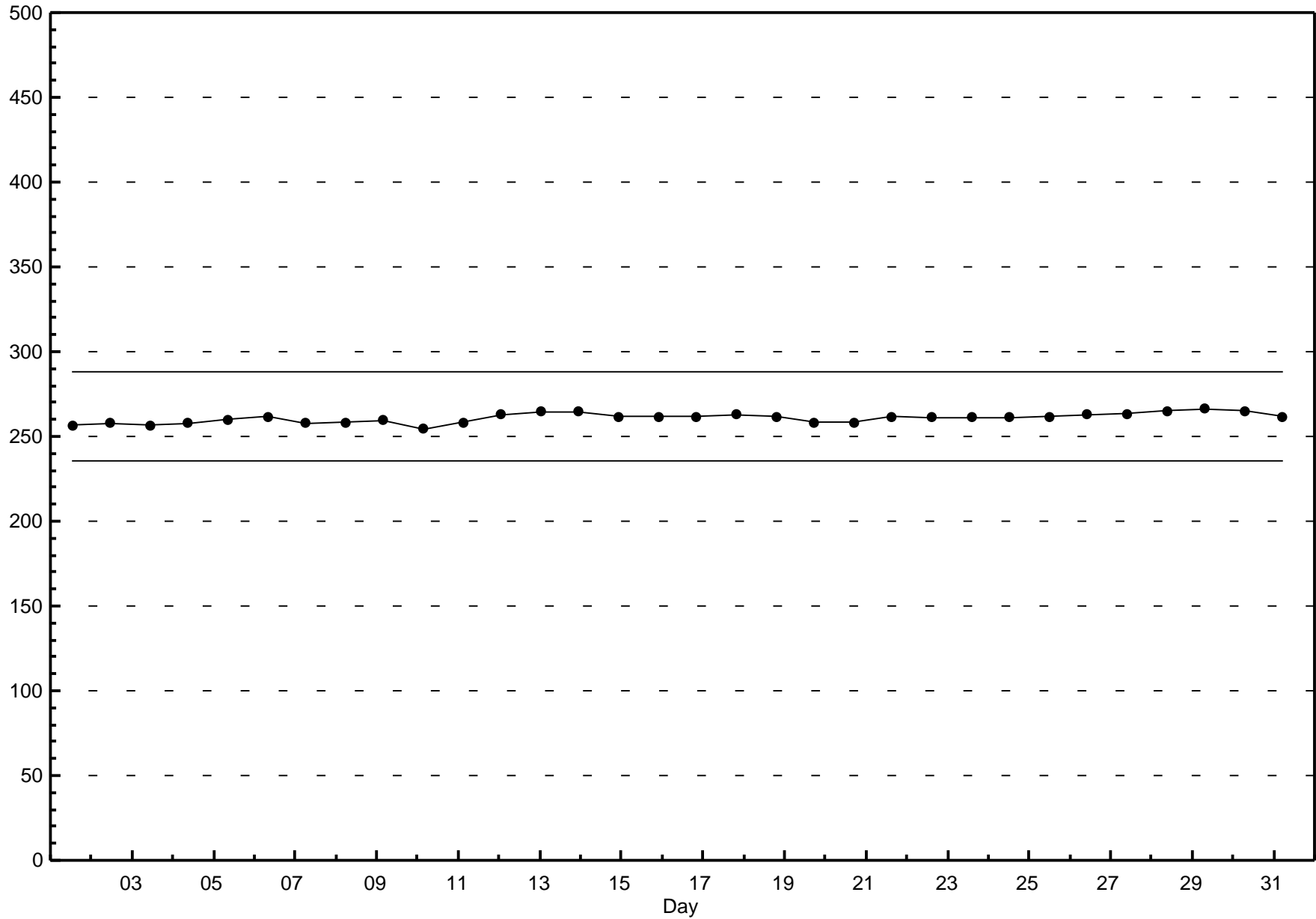


**Pollutant Classes (ppb)**



### Span Responses

Sulphur Dioxide (SO<sub>2</sub>)  
Smoky Heights - May 2013



## Hourly Averages

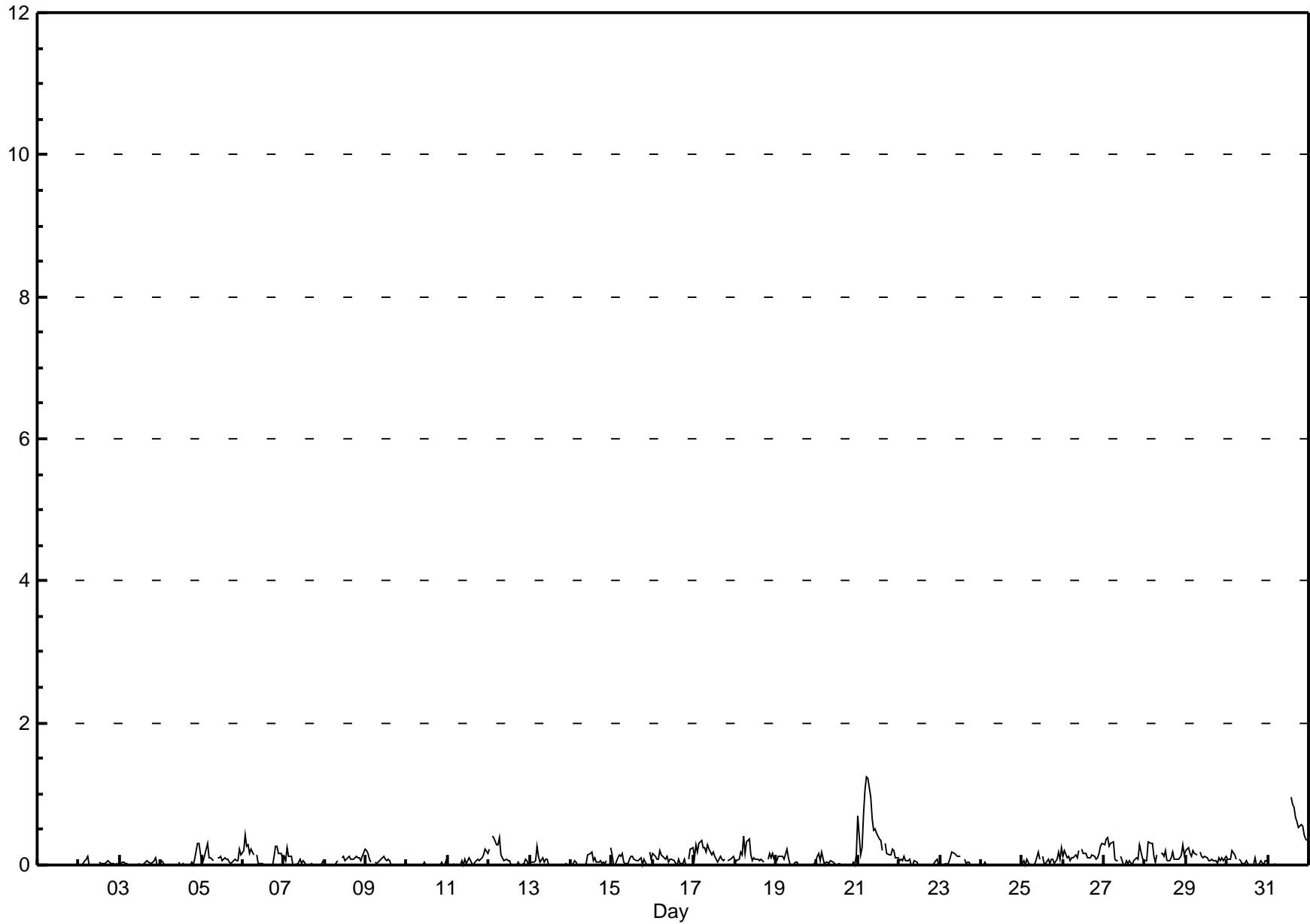
Total Reduced Sulphur (TRS) - ppb

Smoky Heights - May 2013

Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 1.2 ppb on May 21 06:00	Maximum Daily Average: 0.5 ppb on May 21		Hours of Data:	706
Minimum Value: 0 ppb on May 1 01:00	Minimum Daily Average: 0.0 ppb on May 1		Hours of Missing Data:	38
Maximum Diurnal Average: 0.1 ppb at hour 6	Minimum Diurnal Average: 0.1 ppb at hour 19		Hours of Calibration:	36
Monthly Average: 0.09 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> = 0.1 P <sub>90</sub> = 0.2 P <sub>99</sub> = 0.8		Percent Operational Time:	99.7

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

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

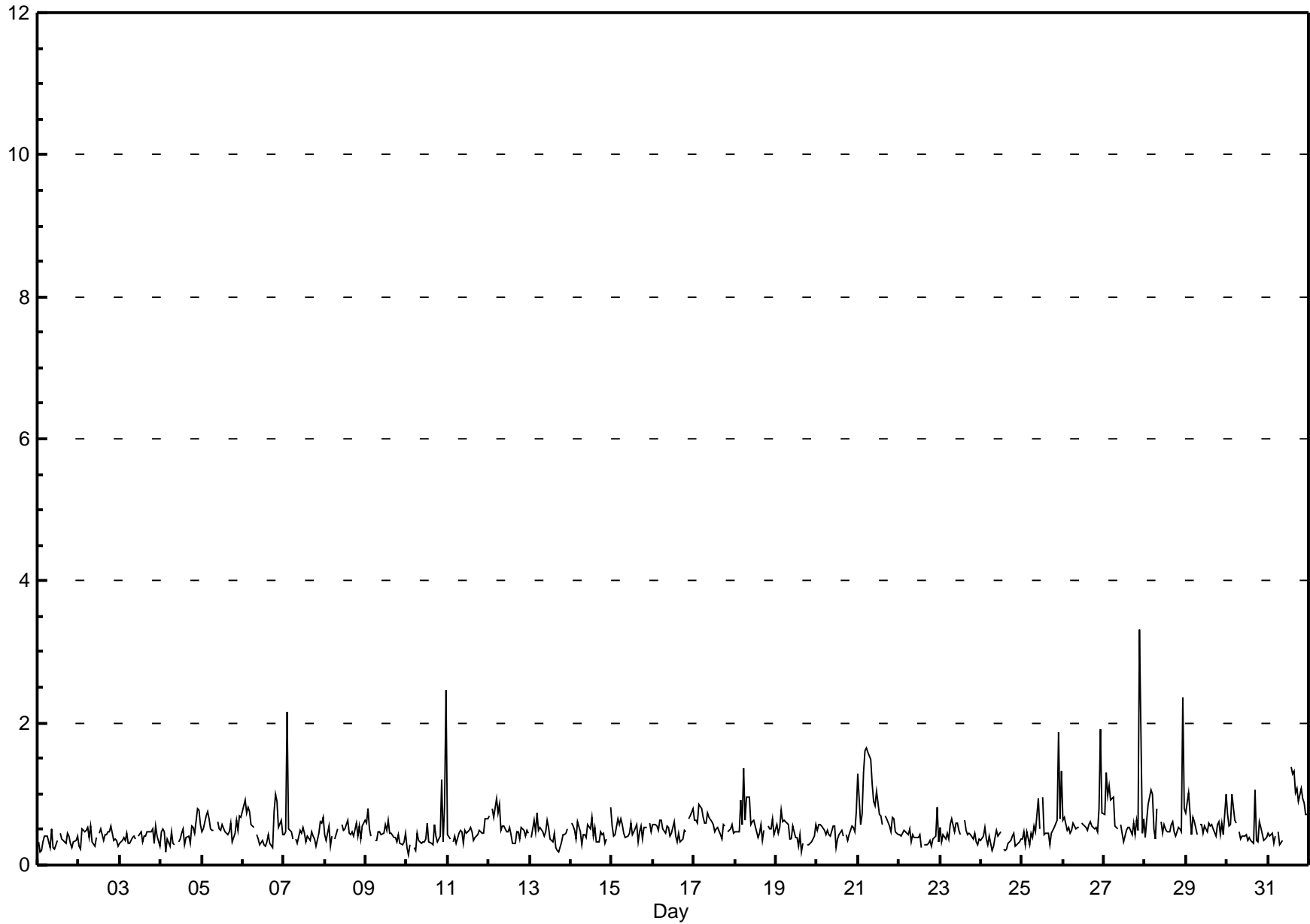


## Hourly Maximums

Total Reduced Sulphur (TRS) - ppb

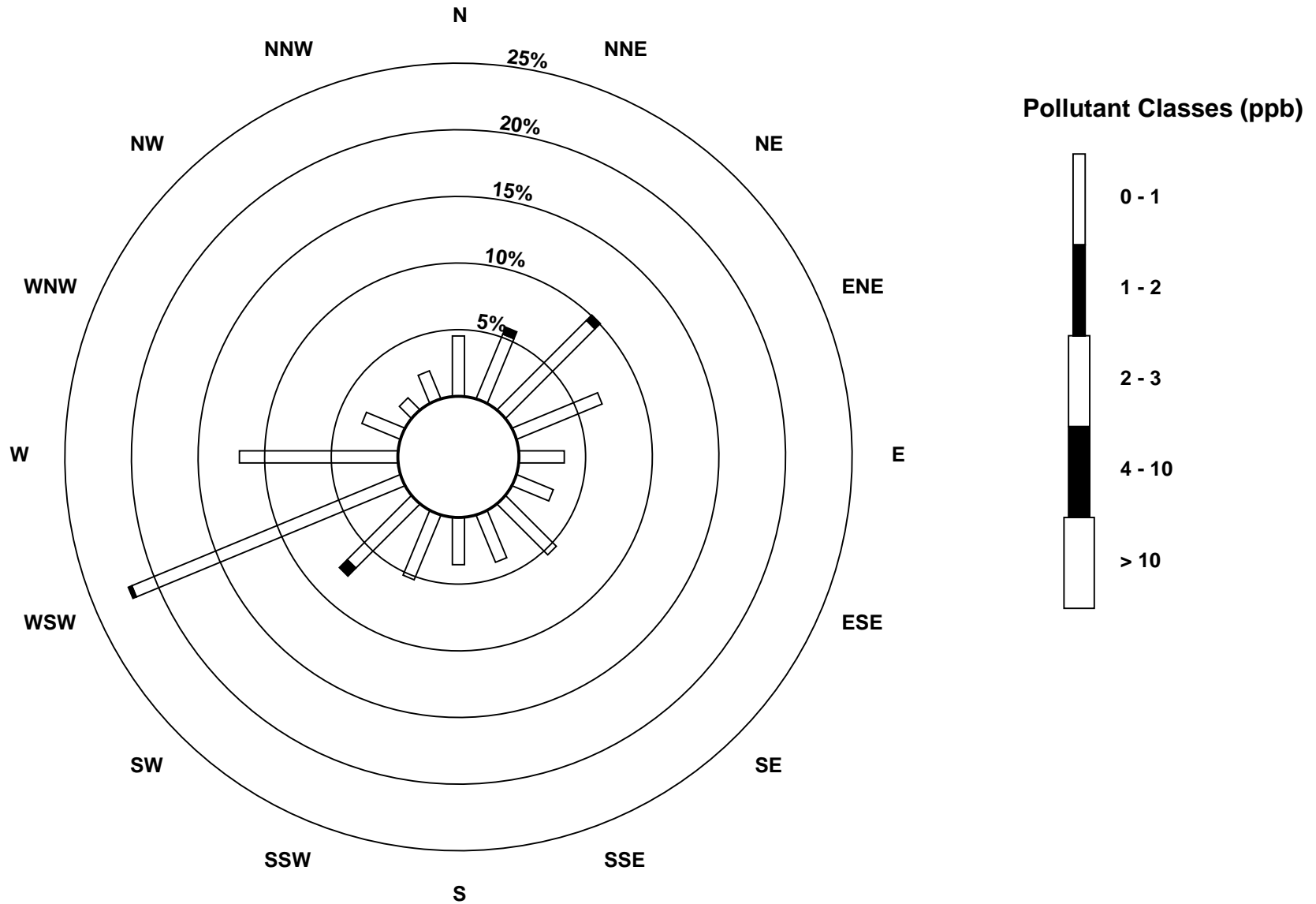
Smoky Heights - May 2013

Maximum Value: 3.3 ppb on May 27 22:00		Maximum Daily Average: 0.9 ppb on May 21		Hours in Service: 744																							
Minimum Value: 0 ppb on May 10 02:00		Minimum Daily Average: 0.3 ppb on May 1		Hours of Data: 706																							
Maximum Diurnal Average: 0.6 ppb at hour 24		Minimum Diurnal Average: 0.4 ppb at hour 16		Hours of Missing Data: 38																							
Monthly Average: 0.52 ppb		Percentiles: P <sub>1</sub> = 0.2 P <sub>10</sub> = 0.3 Q <sub>1</sub> = 0.4 Median = 0.5 Q <sub>3</sub> = 0.6 P <sub>90</sub> = 0.7 P <sub>99</sub> = 1.5		Hours of Calibration: 36																							
				Percent Operational Time: 99.7																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-May	0	0	0	0	0	0	0	0	1	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.3	0.5	
2-May	0	0	1	0	0	1	0	1	0	0	0	A	0	1	0	0	0	0	0	1	0	0	0	0	0.4	0.6	
3-May	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	1	0	1	0	0	0.4	0.5		
4-May	0	1	0	0	0	0	0	0	0	A	0	0	0	1	0	0	0	0	1	1	0	1	1	1	0.4	0.8	
5-May	0	1	1	1	1	1	0	0	A	1	1	0	1	0	0	0	0	1	0	0	1	0	1	1	0.5	0.7	
6-May	1	1	1	1	1	1	1	A	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0.5	1.0	
7-May	0	0	2	1	0	0	A	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	0.5	2.1	
8-May	0	0	1	0	0	A	0	1	D	D	1	0	1	1	0	0	0	0	1	0	1	0	1	1	0.5	0.6	
9-May	1	1	1	0	A	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0.4	0.8	
10-May	0	0	0	A	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	1	2	0.5	2.5	
11-May	0	0	A	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	0.4	0.7	
12-May	1	A	1	1	1	1	1	0	1	1	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0.5	0.9	
13-May	A	0	1	0	1	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	A	0.4	0.7	
14-May	1	1	0	0	1	0	0	0	0	0	1	1	1	0	1	0	0	0	0	0	0	0	A	1	0.5	0.8	
15-May	1	0	0	1	1	1	1	0	0	0	0	1	0	0	1	0	0	1	0	1	1	A	1	0	0.5	0.6	
16-May	1	1	1	0	1	1	1	0	1	1	0	0	1	0	0	0	0	0	0	0	A	1	1	1	0.5	0.8	
17-May	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	0	0	1	1	A	0	1	1	0	0.6	0.9	
18-May	0	0	0	1	1	1	1	1	1	1	1	1	0	0	1	0	0	0	0	1	1	1	1	0	0.6	1.4	
19-May	1	0	1	1	1	1	1	1	0	0	1	0	0	0	0	0	0	0	A	A	0	0	0	1	0.4	0.8	
20-May	0	1	1	1	0	0	0	0	0	1	1	0	0	0	0	0	A	0	0	0	0	1	1	0	0.5	0.7	
21-May	1	1	1	1	2	2	2	1	1	1	1	1	1	1	1	A	1	1	1	0	1	1	0	0	0.9	1.6	
22-May	0	0	0	0	0	0	1	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	1	0	0.4	0.8	
23-May	1	0	0	0	0	0	1	1	0	1	1	0	0	A	1	0	0	0	0	0	0	0	0	0	0.5	0.6	
24-May	0	0	1	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.3	0.5	
25-May	0	0	0	0	0	0	0	1	0	1	1	A	1	0	0	0	0	0	0	1	1	2	1	1	0.6	1.9	
26-May	1	1	0	1	0	0	1	1	1	1	A	1	1	1	0	1	1	1	1	1	0	1	2	1	0.6	1.9	
27-May	1	1	1	1	1	1	1	1	1	1	A	1	0	0	0	1	1	0	1	0	1	0	3	0	0.8	3.3	
28-May	0	1	1	1	1	1	0	1	A	1	0	1	1	0	0	1	1	0	0	1	1	0	2	1	0.7	2.4	
29-May	1	1	1	0	1	1	0	A	1	1	0	1	0	1	1	1	1	0	1	1	0	1	0	1	0.6	1.0	
30-May	1	1	1	1	1	1	A	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0	0	0.5	1.1	
31-May	0	0	0	0	0	A	0	0	0	C	C	C	C	1	1	1	1	1	1	1	1	1	1	1	0.8	1.4	
		0.5	0.5	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.6	Diurnal Average		
		1.3	1.3	2.1	1.3	1.6	1.6	1.6	1.5	1.1	0.9	0.8	1.0	1.0	1.4	1.3	1.3	1.1	1.1	0.9	1.1	1.2	3.3	2.4	2.5	Diurnal Maximum	
C - Calibration		D - DAS Failure						A - Automated Daily Zero Span																			

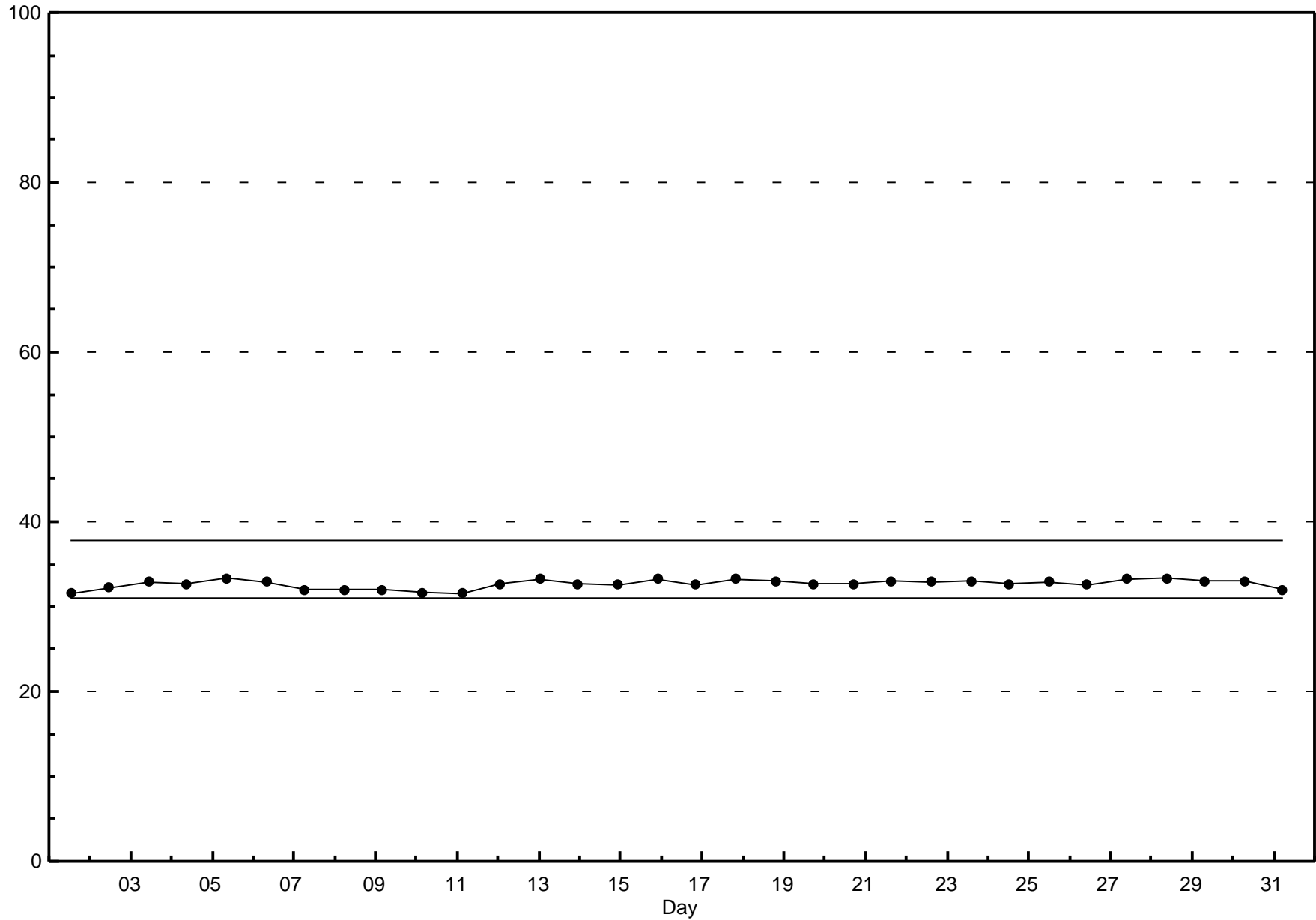


**Pollutant Rose**

**Total Reduced Sulphur (TRS) - ppb**  
**Smoky Heights - May 2013**







## Hourly Averages

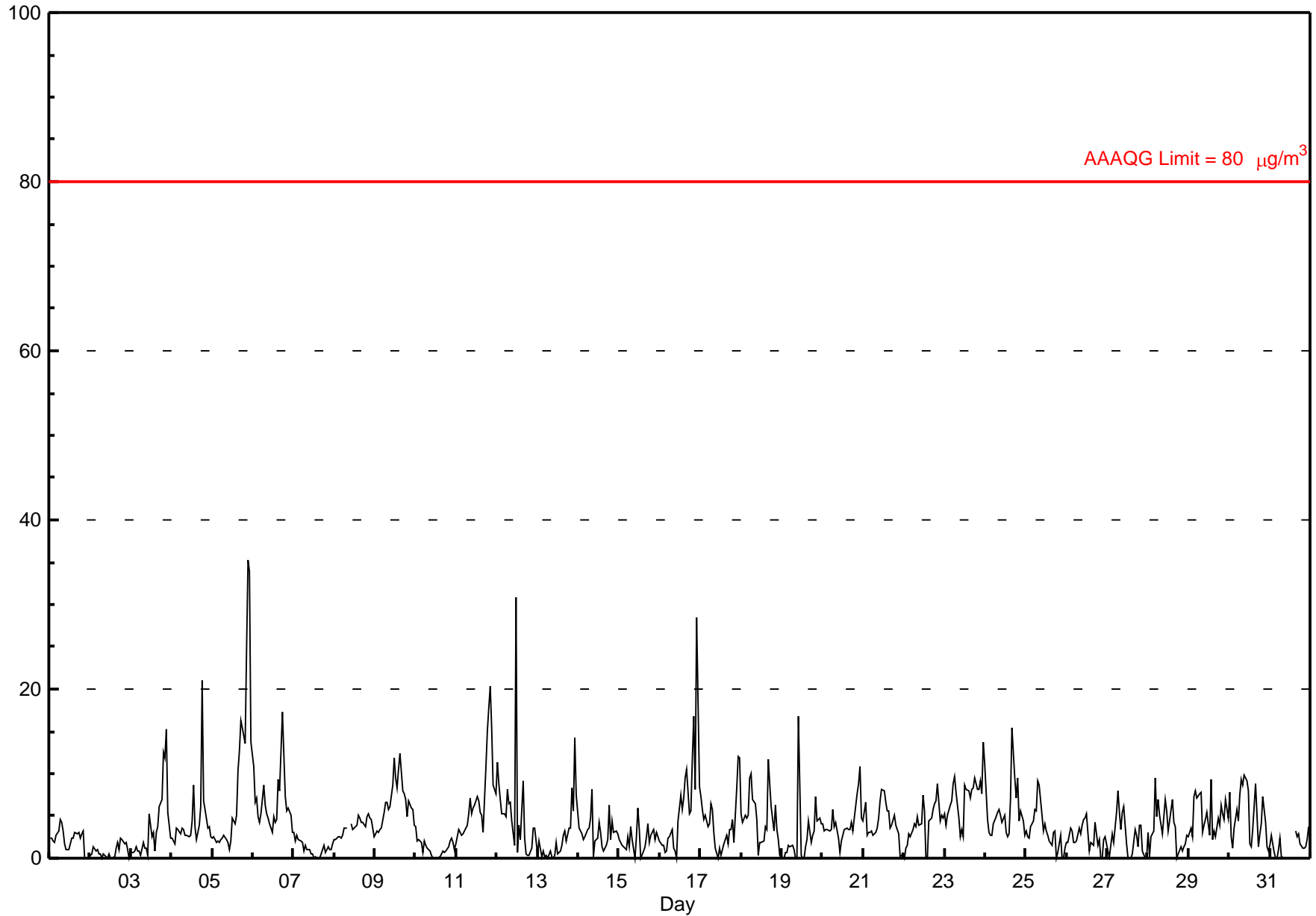
## Particulate Matter 2.5 (PM<sub>2.5</sub>) - µg/m<sup>3</sup>

### Smoky Heights - May 2013

Number of Exceedences: 1-hr: 0 24-hr: 0	Hours in Service: 744
Maximum Value: 35.3 µg/m <sup>3</sup> on May 5 22:00	Maximum Daily Average: 9.0 µg/m <sup>3</sup> on May 5
Minimum Value: 0 µg/m <sup>3</sup> on May 1 22:00	Hours of Data: 740
Maximum Diurnal Average: 6.2 µg/m <sup>3</sup> at hour 21	Hours of Missing Data: 4
Monthly Average: 4.07 µg/m <sup>3</sup>	Hours of Calibration: 0
Minimum Daily Average: 0.8 µg/m <sup>3</sup> on May 2	Percent Operational Time: 99.5
Minimum Diurnal Average: 2.6 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> = 1.6 Median = 3.2 Q <sub>3</sub> = 5.3 P <sub>90</sub> = 8.2 P <sub>99</sub> = 19.8	

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-May	2	2	2	2	3	3	5	4	3	2	1	1	2	2	2	3	3	3	2	3	3	0	0	0	2.2	4.5
2-May	0	0	1	1	1	1	0	0	1	0	0	1	0	0	0	1	2	1	2	2	2	2	1	0	0.8	2.4
3-May	1	1	1	1	1	1	0	2	1	1	0	5	3	3	1	3	4	6	7	12	12	15	6	2	3.7	15.3
4-May	2	2	2	4	3	3	4	3	3	3	3	3	4	9	4	2	4	6	21	7	6	4	4	2	4.4	21.0
5-May	2	3	2	2	2	2	2	3	2	2	1	2	5	4	5	10	13	16	15	14	25	35	34	14	9.0	35.3
6-May	11	7	7	5	4	5	9	6	5	5	4	3	5	4	5	9	8	17	12	7	6	6	5	3	6.6	17.3
7-May	3	2	3	2	2	2	1	1	1	1	1	0	0	0	0	0	1	1	2	1	1	1	1	2	1.2	3.1
8-May	2	2	3	2	2	3	4	4	D	D	4	3	4	4	5	5	4	4	4	5	5	5	5	3	3.7	5.2
9-May	3	3	3	3	3	5	7	7	6	6	9	12	10	8	11	12	8	8	7	5	7	6	6	4	6.6	12.4
10-May	4	2	2	2	1	2	1	1	1	0	0	0	0	0	0	0	1	1	1	1	2	2	2	1	1.2	3.7
11-May	2	3	3	3	3	3	4	5	7	5	6	6	7	7	5	5	3	11	15	18	20	15	9	8	7.3	20.4
12-May	11	9	7	5	5	5	8	6	7	4	2	31	1	4	2	9	2	0	0	0	1	4	4	2	5.4	30.9
13-May	1	2	0	1	0	0	0	1	0	0	0	2	1	1	1	3	3	2	4	4	8	6	14	7	2.5	14.2
14-May	4	3	3	2	3	3	4	5	8	0	2	2	4	3	1	1	1	2	6	2	4	3	3	3	3.1	8.1
15-May	2	2	2	1	1	3	1	4	2	0	3	6	3	0	1	1	2	4	2	3	3	2	3	3	2.3	6.0
16-May	2	1	2	1	1	2	2	3	1	1	0	4	7	6	7	10	11	5	6	12	17	8	28	9	6.1	28.5
17-May	7	6	5	5	4	4	6	6	3	1	0	1	0	1	2	3	2	3	3	5	2	8	12	12	4.2	12.0
18-May	5	4	5	5	5	9	10	7	6	5	0	2	2	2	4	3	12	9	6	3	6	3	2	0	4.9	11.8
19-May	0	0	1	1	1	1	1	1	0	0	17	0	0	0	1	2	4	2	3	3	7	4	5	4	2.5	16.8
20-May	4	3	3	3	3	3	6	4	4	2	1	2	3	3	4	3	3	4	3	5	8	9	11	5	4.2	10.8
21-May	4	7	3	3	3	3	3	3	4	5	7	8	8	7	6	6	4	4	5	4	3	3	0	0	4.2	8.2
22-May	0	1	2	3	3	3	4	4	5	4	4	7	6	0	0	4	5	6	6	7	9	4	5	5	4.0	8.8
23-May	5	4	5	6	7	9	10	8	5	3	3	3	9	8	8	7	8	8	9	8	8	9	8	14	7.1	13.7
24-May	11	5	3	3	3	4	5	6	6	5	4	5	3	3	3	7	15	9	7	10	4	6	4	3	5.5	15.4
25-May	3	3	2	4	4	6	6	9	9	5	3	4	3	3	2	1	3	3	0	1	3	0	0	1	3.3	9.1
26-May	2	2	4	3	2	2	2	4	3	4	5	5	5	1	2	2	2	4	1	2	0	0	2	3	2.5	5.3
27-May	1	0	2	3	2	5	8	5	3	5	6	2	0	0	0	0	3	3	1	4	4	1	0	0	2.5	7.9
28-May	3	0	2	3	10	5	7	5	3	5	7	6	3	4	7	4	4	0	1	1	1	1	2	3	3.6	9.5
29-May	2	3	2	7	8	7	8	8	3	4	5	5	3	9	2	3	3	5	4	6	5	5	7	5	5.0	9.3
30-May	8	2	1	4	6	4	7	9	9	10	9	8	2	1	3	9	5	1	3	4	7	4	1	1	5.0	9.8
31-May	1	3	1	0	0	1	2	0	0	0	0	0	0	M	M	3	3	3	2	1	1	1	2	4	1.3	3.8
	3.6	2.8	2.6	2.9	3.1	3.6	4.4	4.3	3.7	2.9	3.4	4.5	3.3	3.2	3.1	4.3	4.7	4.9	5.2	5.1	6.2	5.6	6.0	3.9		Diurnal Average
	11.3	8.8	7.1	7.3	9.5	9.4	10.0	9.3	8.7	9.8	16.8	30.9	9.5	9.3	10.6	12.4	15.4	17.3	21.0	17.9	24.9	35.3	33.8	13.7		Diurnal Maximum

D - DAS Failure      M - Maintenance  
 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>

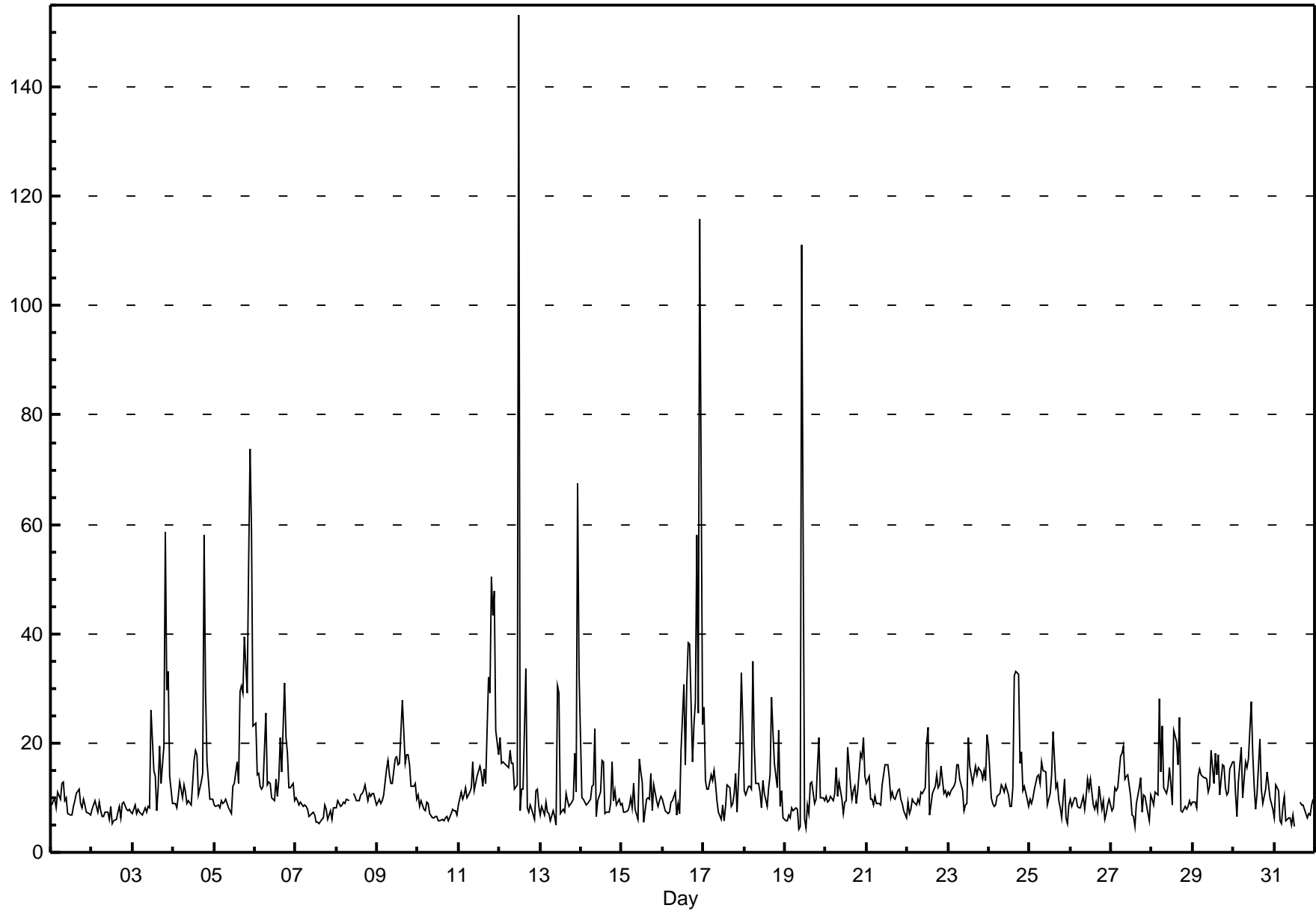


## Hourly Maximums

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

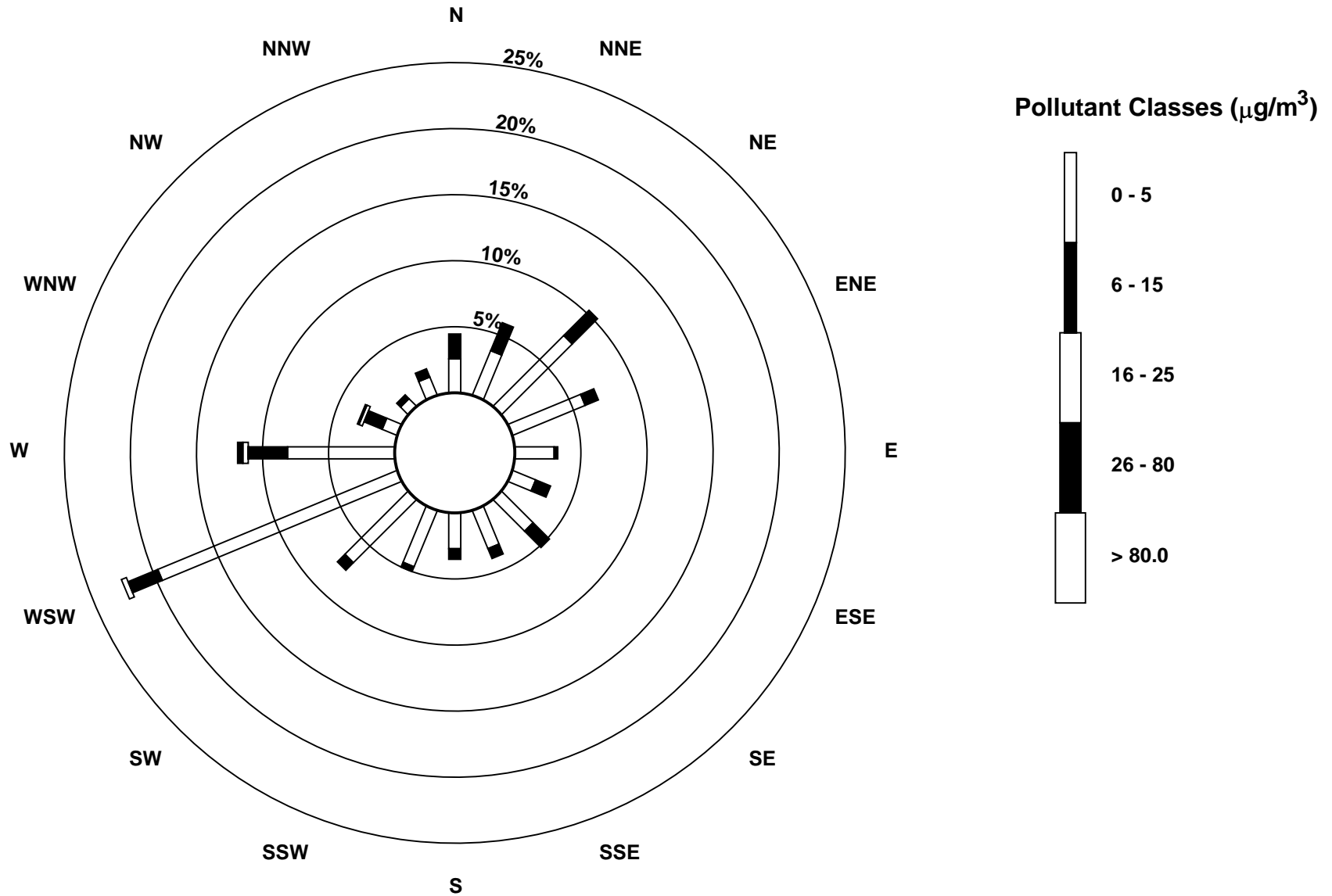
### Smoky Heights - May 2013

<b>Maximum Value: 153.2 µg/m<sup>3</sup> on May 12 12:00</b>		<b>Maximum Daily Average: 23.2 µg/m<sup>3</sup> on May 16</b>		Hours in Service: 744 Hours of Data: 740 Hours of Missing Data: 4 Hours of Calibration: 0 Percent Operational Time: 99.5																							
<b>Minimum Value: 4 µg/m<sup>3</sup> on May 19 09:00</b>		<b>Minimum Daily Average: 7.3 µg/m<sup>3</sup> on May 10</b>																									
<b>Maximum Diurnal Average: 18.2 µg/m<sup>3</sup> at hour 23</b>		<b>Minimum Diurnal Average: 9.6 µg/m<sup>3</sup> at hour 3</b>																									
<b>Monthly Average: 12.89 µg/m<sup>3</sup></b>		<b>Percentiles: P<sub>1</sub> = 5.1 P<sub>10</sub> = 6.9 Q<sub>1</sub> = 8.3 Median = 10.3 Q<sub>3</sub> = 13.7 P<sub>90</sub> = 19.5 P<sub>99</sub> = 58.4</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-May	9	10	10	8	11	10	13	13	10	10	7	7	7	8	9	11	12	9	8	10	9	7	7	7	9.2	12.8	
2-May	8	9	10	7	9	8	7	7	7	7	6	8	5	6	6	7	8	6	9	9	8	8	8	7	7.5	9.5	
3-May	7	9	7	8	7	7	7	8	7	8	8	26	15	14	8	12	20	13	20	58	30	33	14	9	14.8	58.5	
4-May	9	9	8	10	13	10	12	11	9	9	9	13	17	19	18	10	13	14	58	30	17	10	10	10	14.5	57.9	
5-May	9	8	9	8	9	9	9	10	8	8	7	12	12	16	13	29	31	29	39	29	53	74	58	23	21.4	73.8	
6-May	24	14	14	12	12	12	25	12	13	13	10	10	13	10	13	21	15	31	21	18	12	12	13	9	15.0	31.0	
7-May	10	10	9	9	8	9	8	8	7	7	7	6	6	5	6	6	9	8	6	8	6	6	8	8	7.5	10.0	
8-May	8	9	8	9	9	9	10	10	D	D	11	10	10	10	11	11	11	12	10	11	10	11	11	9	9.9	12.3	
9-May	9	10	9	9	11	15	17	14	13	13	17	18	16	16	22	28	16	18	18	16	12	12	13	10	14.6	27.9	
10-May	10	8	10	8	8	9	9	7	6	6	7	7	6	6	6	6	6	7	6	7	8	7	8	7	7.3	10.5	
11-May	9	11	10	11	12	10	11	12	17	11	13	14	16	14	12	15	12	32	29	50	43	48	22	18	18.8	50.3	
12-May	21	16	16	16	16	15	19	16	16	12	12	153	8	12	12	34	8	7	9	8	6	11	12	8	19.3	153.2	
13-May	7	8	7	9	7	7	6	8	7	5	31	29	7	8	7	11	10	8	9	10	18	11	67	33	13.7	67.5	
14-May	10	10	9	9	9	10	12	12	23	7	9	11	17	17	7	7	7	9	17	10	11	9	10	9	10.8	22.6	
15-May	9	7	7	8	8	10	8	13	8	6	17	15	13	6	10	10	10	14	8	12	10	8	10	10	9.9	17.1	
16-May	10	8	7	7	7	9	10	11	7	9	7	19	31	16	31	38	38	17	23	28	58	26	116	23	23.2	115.8	
17-May	27	13	12	12	14	13	15	13	10	7	6	9	6	8	12	12	8	9	11	14	7	19	33	24	13.1	33.0	
18-May	11	11	12	12	12	35	20	13	13	11	8	13	11	8	12	14	28	22	16	12	22	8	11	6	14.2	34.9	
19-May	6	6	7	6	8	8	8	8	4	5	111	6	4	9	7	12	13	9	10	16	21	10	10	10	13.0	111.2	
20-May	10	9	10	10	9	11	15	10	13	10	7	9	10	19	12	10	11	12	9	11	18	17	21	14	12.0	21.0	
21-May	13	14	10	10	9	10	9	9	9	12	14	16	16	14	10	11	10	10	11	12	10	9	8	6	10.8	16.1	
22-May	9	7	8	10	9	9	10	9	11	11	12	20	23	7	9	11	12	14	12	12	16	11	11	10	11.3	23.0	
23-May	11	11	11	12	13	16	16	13	11	8	9	9	21	16	13	14	16	14	15	15	13	15	13	22	13.6	21.5	
24-May	20	10	9	8	9	10	11	12	12	11	12	11	8	8	12	32	33	32	16	18	11	12	10	8	14.1	33.2	
25-May	10	9	10	12	14	14	12	17	15	15	9	10	11	14	22	12	12	10	8	6	13	6	5	9	11.4	22.1	
26-May	10	8	10	10	8	8	8	10	8	10	13	12	13	9	8	9	8	12	8	10	6	7	9	10	9.3	13.3	
27-May	8	8	12	11	12	18	18	20	13	14	14	10	7	7	5	9	12	14	7	11	10	9	6	11	11.0	19.5	
28-May	10	9	11	11	28	15	23	12	11	12	15	13	9	22	20	16	25	8	7	8	8	8	9	9	13.2	28.1	
29-May	9	9	8	14	15	14	14	14	13	11	12	19	13	18	14	18	11	16	16	12	11	11	15	17	13.5	18.6	
30-May	16	11	7	13	19	10	13	17	15	17	28	18	12	8	11	21	12	9	10	12	15	10	9	8	13.3	27.6	
31-May	6	12	11	6	5	8	10	6	6	6	5	7	5	M	M	9	9	9	8	6	7	7	9	10	7.6	12.3	
		11.1	9.8	9.6	9.8	11.0	11.5	12.4	11.4	10.7	9.7	14.6	17.3	11.8	11.7	11.9	15.1	14.3	14.0	14.7	15.7	16.2	14.6	18.2	12.0	Diurnal Average	
		26.6	16.4	16.4	16.4	28.1	34.9	25.4	19.5	22.6	17.1	111.2	153.2	30.8	22.2	30.8	38.4	38.1	32.5	57.9	58.5	58.2	73.8	115.8	32.8	Diurnal Maximum	
D - DAS Failure		M - Maintenance																									



**Pollutant Rose**

**Particulate Matter 2.5 (PM<sub>2.5</sub>) - μg/m<sup>3</sup>**  
**Smoky Heights - May 2013**

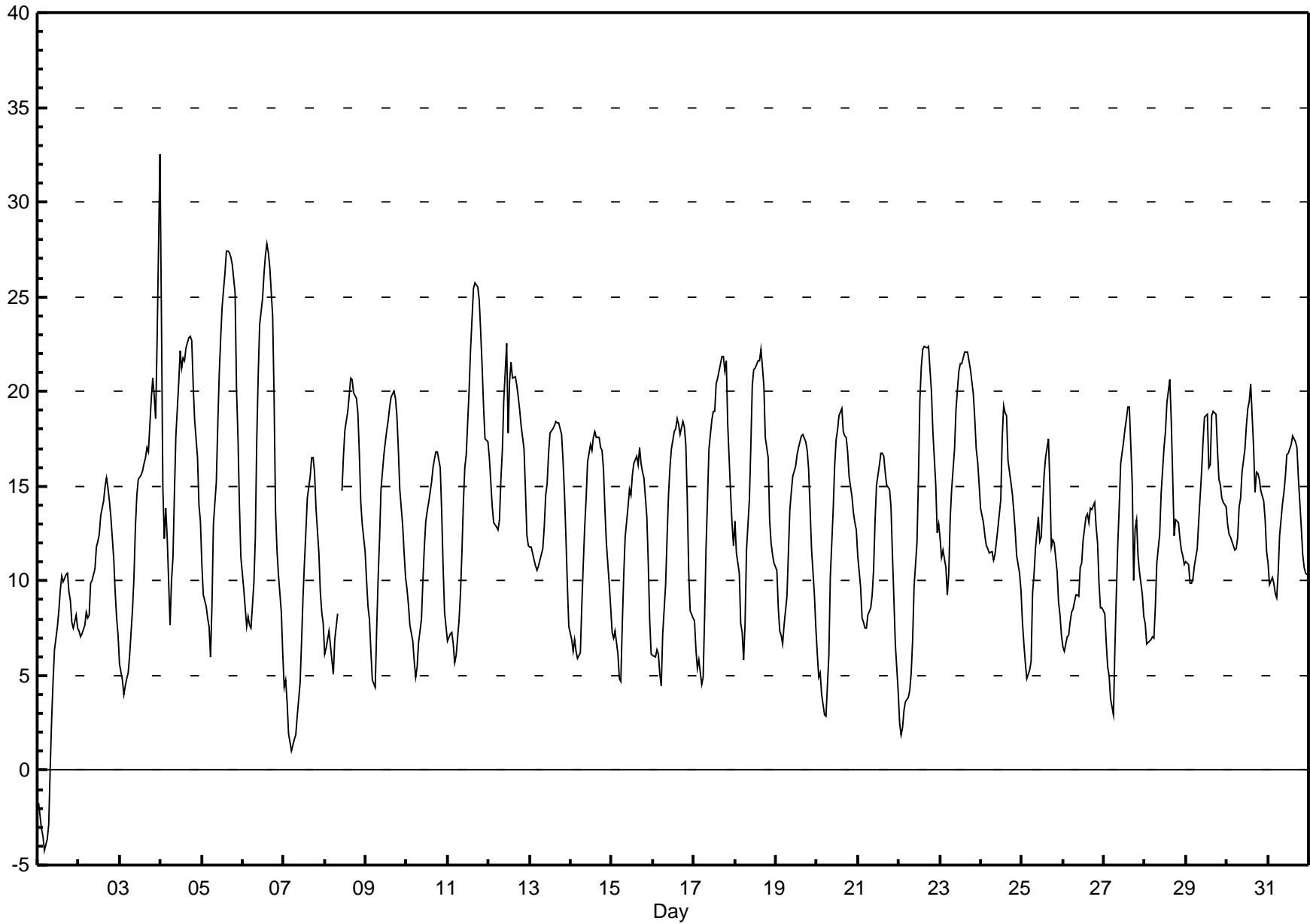


## Hourly Averages

External Temperature (ET) - °C

Smoky Heights - May 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 32.6 °C on May 4 00:00      Maximum Daily Average: 17.7 °C on May 5		Hours in Service: 744 Hours of Data: 742 Hours of Missing Data: 2 Hours of Calibration: 0 Percent Operational Time: 99.7																									
Minimum Value: -4 °C on May 1 05:00 Maximum Diurnal Average: 18.9 °C at hour 16 Monthly Average: 13.08 °C		Minimum Daily Average: 4.5 °C on May 1 Minimum Diurnal Average: 6.5 °C at hour 6 Percentiles: P <sub>1</sub> = -0.1 P <sub>10</sub> = 6.1 Q <sub>1</sub> = 8.6 Median = 13.0 Q <sub>3</sub> = 17.1 P <sub>90</sub> = 20.4 P <sub>99</sub> = 27.0																									
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-May	-2	-2	-3	-3	-4	-4	-3	0	3	5	6	8	8	9	10	10	10	10	9	9	8	8	8	7	4.5	10.4	
2-May	7	7	7	8	8	8	8	10	10	11	12	12	12	13	14	15	15	15	14	13	11	9	8	7	10.7	15.5	
3-May	6	5	4	4	5	5	6	9	10	13	15	15	16	16	16	17	17	17	20	21	20	19	23	33	13.7	32.6	
4-May	24	15	12	14	12	8	10	11	15	18	20	22	21	22	22	22	23	23	23	20	19	17	14	13	17.5	24.1	
5-May	11	9	9	8	8	6	9	13	15	18	21	23	24	26	27	27	27	27	27	25	20	18	14	11	17.7	27.4	
6-May	10	9	8	8	8	8	10	12	17	21	23	25	26	27	28	27	27	24	20	14	12	10	8	6	16.1	27.8	
7-May	4	5	4	2	1	1	2	2	3	5	7	9	11	13	14	15	16	17	16	14	11	9	8	8	8.2	16.5	
8-May	6	6	7	7	6	5	7	8	D	D	15	17	18	19	20	21	21	20	20	19	17	14	13	12	13.5	20.7	
9-May	10	9	8	6	5	4	7	10	12	15	17	17	18	18	19	20	20	20	19	17	15	13	11	10	13.4	20.0	
10-May	10	9	8	7	6	5	5	7	8	10	12	13	14	14	15	16	16	17	17	16	14	11	8	8	11.0	16.8	
11-May	7	7	7	7	6	6	8	9	11	14	16	17	20	22	24	25	26	26	25	23	21	19	17	17	15.9	25.7	
12-May	17	15	14	13	13	13	13	15	17	20	23	18	21	22	21	21	20	20	19	18	17	15	12	12	16.9	22.6	
13-May	12	12	11	11	11	11	11	12	13	15	15	17	18	18	18	18	18	18	18	16	15	12	10	8	14.0	18.4	
14-May	7	6	7	6	6	6	9	11	13	14	16	17	17	18	18	18	18	17	17	16	14	12	10	9	12.5	17.9	
15-May	7	7	7	6	5	5	8	10	12	14	15	15	16	16	17	16	17	16	16	15	13	11	8	6	11.6	17.0	
16-May	6	6	6	6	5	4	7	10	12	15	16	17	18	18	19	18	18	18	18	17	14	11	8	8	12.3	18.5	
17-May	8	6	5	6	5	5	8	12	14	17	18	19	19	20	21	21	22	22	21	22	18	15	13	12	14.5	21.9	
18-May	13	11	10	8	7	6	8	12	14	17	20	21	21	22	22	22	21	20	18	17	13	12	11	11	14.9	22.2	
19-May	11	9	7	7	7	8	9	11	14	15	16	16	17	17	17	18	18	17	17	16	14	12	9	7	12.8	17.7	
20-May	6	5	5	4	3	3	4	6	10	14	16	17	18	19	19	18	18	18	17	15	14	14	13	13	12.0	19.1	
21-May	11	10	8	8	8	8	8	9	9	11	13	15	16	17	17	17	16	15	15	14	11	9	7	4	11.4	16.8	
22-May	2	2	2	3	4	4	4	5	7	10	12	15	20	21	22	22	22	22	21	20	18	15	13	13	12.5	22.4	
23-May	12	11	12	11	9	10	13	15	17	19	20	21	21	21	22	22	22	22	21	20	19	17	16	15	17.1	22.1	
24-May	14	13	12	12	12	11	12	11	11	12	13	14	18	19	19	19	16	15	15	14	13	11	10	10	13.6	19.2	
25-May	8	7	6	5	5	6	9	10	12	13	12	12	14	16	17	15	12	12	12	10	9	8	7	10.6	17.5		
26-May	6	6	7	7	8	8	8	9	9	9	11	11	12	13	14	13	14	14	14	13	12	10	9	9	10.3	14.1	
27-May	8	7	5	5	4	3	6	9	12	14	16	17	18	19	19	19	15	10	13	13	11	11	9	8	11.4	19.2	
28-May	8	7	7	7	7	7	9	11	12	15	16	17	18	19	21	19	15	12	13	13	12	12	11	11	12.4	20.7	
29-May	11	11	10	10	10	11	12	13	14	16	17	19	19	16	16	19	19	19	17	15	15	14	14	14	14.6	19.0	
30-May	13	12	12	12	12	12	12	14	14	16	17	18	19	20	20	17	15	16	16	15	15	14	13	12	14.8	20.4	
31-May	11	10	10	10	9	9	10	12	14	15	15	17	17	17	18	18	17	17	15	13	11	11	10	10	13.2	17.6	
		9.2	8.1	7.6	7.2	6.7	6.5	8.1	10.0	11.9	13.9	15.5	16.5	17.6	18.3	18.9	18.9	18.6	17.9	17.4	16.3	14.4	12.6	11.3	10.6	Diurnal Average	
		24.1	15.2	13.9	13.9	12.9	12.7	13.3	15.3	17.4	20.9	23.5	24.9	26.2	27.2	27.8	27.4	27.3	27.1	26.7	25.2	21.3	19.2	22.6	32.6	Diurnal Maximum	
D - DAS Failure																											





## Hourly Averages

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

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1 Spd	11	8	6	5	6	8	10	12	17	20	24	26	28	30	31	29	28	35	27	36	37	24	23	21	20.0	37.0
Dir	167	193	207	201	204	212	205	211	238	245	240	241	243	247	241	249	239	250	255	248	245	231	231	222	237.5	245.0
2 Spd	20	18	19	22	31	34	29	43	44	40	43	42	43	51	52	44	42	42	37	34	26	29	32	35	34.9	51.8
Dir	223	215	216	232	250	249	253	254	260	265	260	261	259	252	249	252	261	252	249	262	253	245	245	254	251.6	249.3
3 Spd	32	32	30	32	31	32	31	35	33	27	20	10	12	17	11	8	8	6	2	0	7	15	16	18	18.8	35.1
Dir	262	263	264	255	254	259	258	256	246	283	281	271	243	244	278	304	280	322	300	67	283	273	261	267	263.3	256.4
4 Spd	13	9	14	16	15	12	11	14	18	21	27	18	23	18	19	18	22	17	13	13	21	21	18	21	15.9	27.4
Dir	226	207	211	216	212	218	220	211	227	235	256	265	268	275	259	262	263	278	269	258	241	253	260	258	247.1	255.8
5 Spd	21	21	21	21	20	13	15	21	32	25	22	20	19	18	24	26	19	15	14	6	7	11	23	22	18.0	32.2
Dir	260	259	262	260	258	252	245	232	235	242	233	240	233	247	275	266	282	281	276	2	287	269	265	264	256.3	234.6
6 Spd	26	25	23	23	22	23	24	20	14	10	11	14	14	28	40	40	39	32	31	30	22	19	15	10	14.5	40.1
Dir	259	256	246	259	210	205	220	241	225	232	180	188	203	239	246	252	254	303	344	358	11	9	350	335	260.6	252.0
7 Spd	10	8	9	9	9	13	13	14	13	10	11	11	12	13	12	11	10	8	16	18	17	14	16	16	10.2	18.5
Dir	313	337	14	28	41	47	60	75	76	94	110	80	62	58	67	91	135	104	41	47	51	50	49	59	59.1	47.0
8 Spd	11	6	8	10	10	7	9	10	D	D	8	7	8	6	5	3	6	8	11	13	13	11	13	16	5.7	15.9
Dir	44	87	138	150	153	164	155	138	D	D	17	34	22	9	336	21	19	28	37	42	33	36	41	47	56.4	46.6
9 Spd	15	17	18	16	14	11	11	5	2	1	8	16	15	20	22	17	20	23	19	20	23	18	22	16	13.6	23.0
Dir	38	38	45	33	24	6	25	74	135	262	10	349	359	350	335	348	324	344	359	15	36	38	36	32	12.7	36.3
10 Spd	15	14	11	11	13	13	11	14	12	13	12	13	14	15	15	16	15	15	14	16	15	13	10	11	12.2	16.1
Dir	42	53	38	48	43	42	44	60	77	65	71	76	88	90	91	94	95	127	103	87	71	58	51	46	70.8	93.7
11 Spd	10	9	10	8	8	10	10	12	8	6	5	10	9	9	6	3	5	5	9	12	6	2	4	5	4.8	12.2
Dir	43	112	146	167	182	194	178	177	189	146	160	153	152	141	149	132	133	229	255	261	238	234	279	284	176.3	177.5
12 Spd	11	6	5	5	4	4	5	6	6	10	21	53	52	58	51	59	54	51	48	35	31	22	15	17	25.7	58.6
Dir	268	281	269	242	287	257	251	213	222	212	234	269	258	247	248	251	249	249	248	247	252	238	243	236	249.7	251.1
13 Spd	20	21	21	19	21	25	28	31	33	38	40	41	38	37	35	35	33	29	27	24	21	19	15	14	27.6	40.6
Dir	240	239	243	246	245	256	258	249	245	244	251	252	253	247	250	248	254	247	241	246	245	249	263	263	248.9	252.2
14 Spd	14	14	15	16	19	17	21	31	36	28	24	32	30	35	35	37	32	31	31	24	20	22	16	17	24.6	36.7
Dir	260	256	249	249	244	248	255	258	270	271	272	258	265	255	246	246	263	260	267	259	236	243	249	259	256.7	246.4
15 Spd	18	14	15	14	15	14	16	22	24	28	28	25	23	23	24	23	26	21	21	21	19	17	15	14	19.7	28.3
Dir	265	260	262	257	252	242	245	245	249	249	243	267	248	232	233	240	240	237	239	230	242	247	259	262	246.8	242.7
16 Spd	16	19	20	19	18	14	15	15	20	18	14	16	19	15	17	12	10	12	14	6	6	6	10	11	13.4	20.0
Dir	262	259	254	254	254	223	219	230	243	247	242	242	248	288	278	268	307	273	243	247	253	293	282	282	255.4	242.6
17 Spd	6	10	7	7	7	6	5	6	8	7	10	13	9	10	8	6	4	7	7	4	7	6	4	6	4.8	13.1
Dir	284	270	264	239	224	217	192	190	174	158	205	250	244	202	205	215	187	134	140	178	125	144	75	116	201.9	249.6
18 Spd	12	11	13	7	6	2	6	7	9	11	6	10	13	11	13	16	25	21	36	22	12	4	10	11	9.2	36.1
Dir	144	167	182	212	215	286	184	189	155	157	201	238	242	246	225	234	283	273	261	227	173	119	234	223	225.0	261.2
19 Spd	19	20	18	19	22	21	21	20	31	35	36	34	33	32	31	32	30	26	24	22	20	21	19	19	24.8	36.4
Dir	252	263	265	259	266	263	259	244	249	241	247	245	236	242	259	258	256	249	239	238	245	259	264	266	251.5	246.7
20 Spd	18	17	16	11	7	9	9	6	8	6	5	3	4	5	9	14	15	18	18	16	13	13	16	21	3.4	21.5
Dir	268	269	265	262	210	190	187	162	164	151	132	142	93	113	69	77	64	52	61	51	34	36	30	42	58.9	41.9
21 Spd	19	18	21	19	19	18	19	16	14	15	18	18	18	19	23	24	24	27	26	25	9	4	4	8	15.0	26.7
Dir	53	51	49	36	31	27	32	35	36	31	29	29	10	5	353	353	353	344	345	347	318	126	222	203	15.5	344.3
22 Spd	10	9	7	7	8	6	5	5	5	5	5	11	9	20	31	33	30	31	30	29	30	13	9	13	12.7	33.4
Dir	189	189	192	197	197	187	195	153	184	162	121	41	52	109	116	125	117	122	132	136	138	137	101	93	130.7	124.7

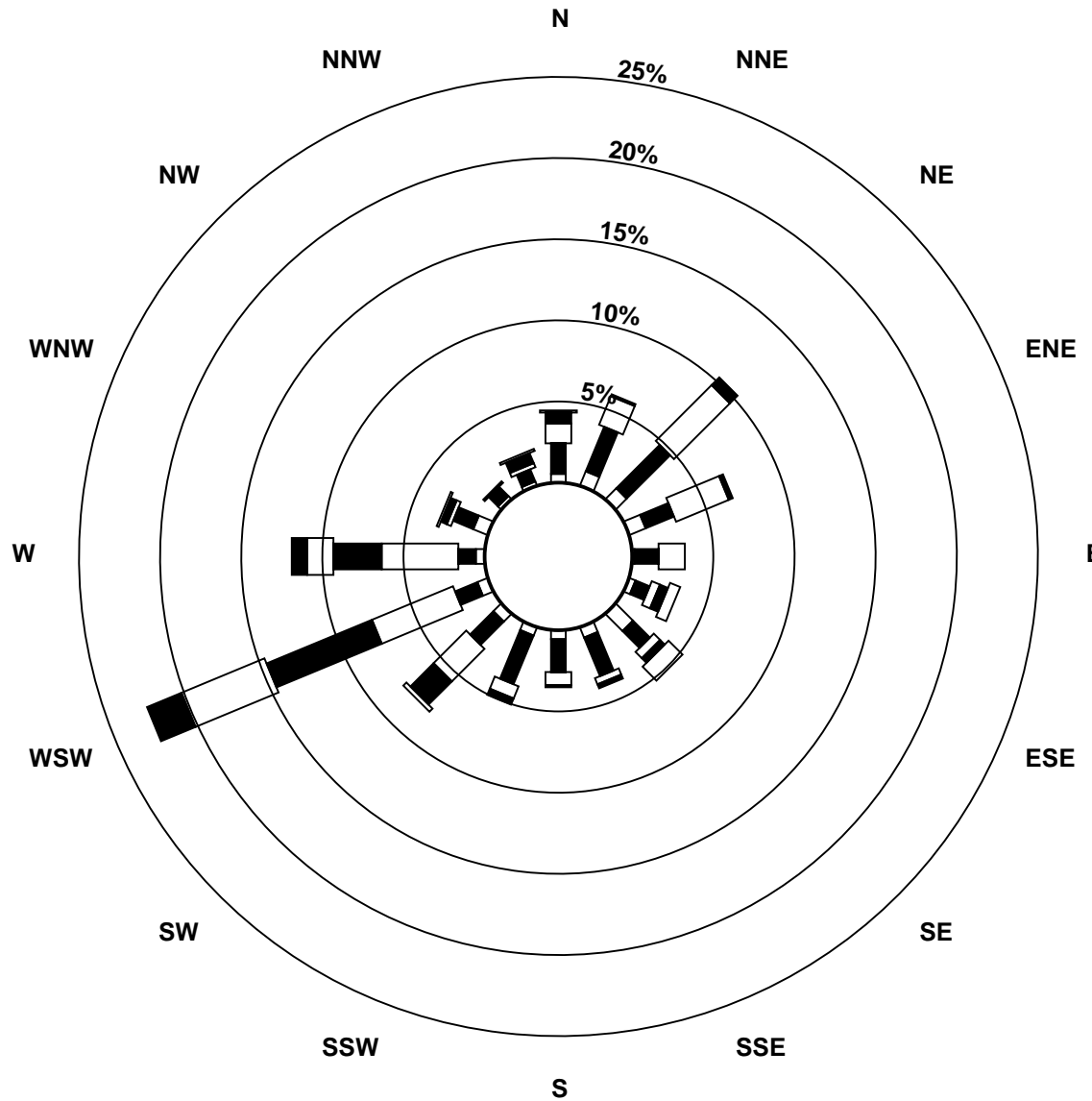
## Hourly Averages

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

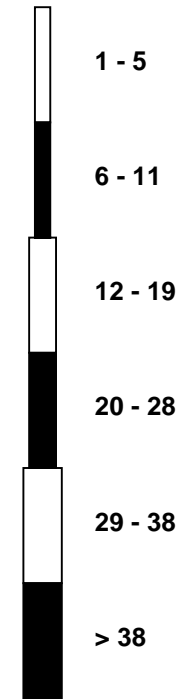
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
23 Spd	11	10	11	9	7	6	9	13	21	26	34	36	36	34	34	30	31	27	27	22	16	12	13	19	19.1	36.0
Dir	96	62	64	60	27	41	113	123	127	122	126	132	134	119	128	113	129	121	125	118	108	97	93	150	117.7	131.7
24 Spd	15	9	8	8	9	10	7	8	10	12	14	16	17	17	21	9	19	23	20	21	23	17	17	17	0.9	22.8
Dir	164	152	149	111	72	57	30	23	25	28	28	37	50	63	71	75	236	245	247	211	240	221	240	253	185.6	244.9
25 Spd	15	16	10	5	6	4	9	13	12	16	17	14	16	21	15	12	16	12	3	7	10	4	6	6	5.8	20.8
Dir	253	263	246	285	346	56	18	34	39	59	79	67	55	35	44	37	71	130	141	285	33	69	341	5	38.6	34.7
26 Spd	6	6	9	11	10	9	12	12	10	9	9	8	10	17	10	20	14	18	21	21	20	16	1	10	5.5	20.9
Dir	4	355	1	355	344	359	351	3	2	26	21	45	51	50	80	66	89	149	149	152	146	170	170	113	69.9	149.0
27 Spd	15	7	5	1	1	1	2	4	9	10	13	13	15	16	15	16	15	23	11	7	14	8	5	6	3.1	22.9
Dir	261	231	214	245	311	59	36	21	57	44	35	51	67	69	66	78	256	282	293	91	89	54	289	304	32.7	282.4
28 Spd	6	2	7	4	6	5	6	6	7	2	4	3	6	2	4	4	13	25	8	8	2	5	3	1	0.4	24.7
Dir	23	288	312	314	28	45	25	54	50	53	137	137	173	139	47	151	209	217	335	95	262	347	32	1	37.7	217.0
29 Spd	4	4	5	4	6	6	4	4	5	4	3	3	3	11	6	1	4	4	9	11	10	12	10	9	4.0	11.6
Dir	353	20	11	33	13	7	24	27	72	65	58	6	140	138	202	58	205	61	27	7	7	3	20	40	29.7	3.0
30 Spd	7	7	7	5	5	6	9	10	10	12	11	9	8	11	12	15	9	7	10	11	10	8	5	8	7.1	15.2
Dir	26	51	73	46	41	42	38	38	41	24	42	60	98	97	112	77	42	77	68	65	70	140	149	200	66.0	76.7
31 Spd	6	8	10	12	9	3	8	10	10	16	17	15	14	7	12	10	11	13	20	15	5	8	15	23	10.4	23.1
Dir	201	209	225	229	223	224	213	240	250	251	248	249	233	219	234	230	227	235	241	226	248	179	180	169	225.0	169.3
Spd	5.9	5.7	5.6	5.8	5.5	4.9	4.9	6.0	7.4	6.6	6.4	7.1	7.2	6.9	7.9	7.2	9.6	9.4	7.5	4.4	3.3	3.6	4.8	4.5	Diurnal Average	
Dir	258.4	253.5	248.9	254.0	253.8	250.9	247.3	239.3	241.0	246.4	245.0	257.0	247.0	243.5	245.3	247.7	252.4	252.7	259.1	250.5	242.2	247.0	269.8	253.6	Diurnal Maximum	
Spd	32.2	31.6	30.1	31.8	31.2	34.3	30.7	42.6	44.1	39.8	42.8	52.7	52.0	58.2	51.8	58.6	54.1	51.3	48.5	36.3	37.0	28.8	31.9	35.0	Diurnal Maximum	
Dir	262.3	262.6	264.3	255.4	250.0	248.8	258.3	253.7	259.6	264.7	260.2	268.7	257.9	246.8	249.3	251.1	248.8	249.2	247.6	248.0	245.0	244.9	244.8	254.0	Diurnal Maximum	
Maximum Speed Value: 59 km/h on May 12 16:00		Minimum Speed Value: 0 km/h on May 3 20:00										Hours in Service: 744														
Maximum Daily Speed Average: 34.9 km/h on May 2		Minimum Daily Speed Average: 0.4 km/h on May 28										Hours of Data: 742														
Maximum Diurnal Speed Average: 9.6 km/h at hour 17		Minimum Diurnal Speed Average: 3.3 km/h at hour 21										Hours of Missing Data: 2														
Monthly Average Velocity: 6.14 km/h 250.23 deg		Speed Percentiles: P <sub>1</sub> = 1.4 P <sub>10</sub> = 5.1 Q <sub>1</sub> = 8.5 Median = 13.9 Q <sub>3</sub> = 20.8 P <sub>90</sub> = 31.2 P <sub>99</sub> = 50.9										Percent Operational Time: 99.7														
All monthly, daily, and diurnal averages have been calculated using vector methods																										
D - DAS 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	6	26	11	11	2	0	56																			
NorthEast	14	47	67	9	0	0	137																			
East	5	20	28	2	0	0	55																			
SouthEast	13	29	7	9	14	0	72																			
South	6	34	8	1	0	0	49																			
SouthWest	8	36	43	55	21	2	165																			
West	12	17	54	46	37	23	189																			
NorthWest	4	12	0	2	1	0	19																			
Total	68	221	218	135	75	25	742																			

**Wind Rose**

**Wind Speed (WS) (km/h)**  
**Smoky Heights - May 2013**



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



# Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Smoky Heights - May 2013

Maximum Speed: 59 km/h on May 12 16:00	Maximum Daily Speed Average: 35.7 km/h on May 2	Hours in Service: 744
Minimum Speed: 2 km/h on May 27 07:00	Minimum Daily Speed Average: 6.9 km/h on May 29	Hours of Data: 742
Maximum Diurnal Speed Average: 21.8 km/h at hour 15	Minimum Diurnal Speed Average: 12.1 km/h at hour 6	Hours of Missing Data: 2
Monthly Average Speed: 16.68 km/h	Percentiles: P <sub>1</sub> = 4.1 P <sub>10</sub> = 6.4 Q <sub>1</sub> = 9.1 Median = 14.5 Q <sub>3</sub> = 21.2 P <sub>90</sub> = 31.6 P <sub>99</sub> = 51.5	Percent Operational Time: 99.7

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-May	11	8	7	5	6	8	10	12	17	21	24	27	28	30	32	30	28	35	27	37	37	25	23	21	21.2	37.3
2-May	20	18	20	22	31	34	29	43	44	40	43	42	43	51	52	44	43	42	37	35	26	29	32	35	35.7	52.1
3-May	32	32	30	32	31	32	31	35	33	29	22	11	13	18	12	10	9	8	5	4	7	15	17	18	20.3	35.2
4-May	13	9	14	16	15	12	11	14	18	21	29	19	23	19	21	19	22	18	13	13	21	21	18	21	17.6	28.8
5-May	21	21	21	21	20	13	15	22	32	25	22	20	20	20	25	27	19	15	15	6	9	11	23	23	19.5	32.4
6-May	26	25	23	24	23	23	24	20	15	11	12	15	14	28	40	41	39	37	32	31	23	19	16	11	23.9	41.1
7-May	10	8	9	9	9	13	13	15	13	11	12	13	13	14	13	13	11	9	16	19	18	14	16	16	12.7	18.6
8-May	11	8	8	10	10	7	9	10	D	D	9	10	9	8	7	7	7	8	11	13	13	11	13	16	9.8	16.0
9-May	15	17	18	16	14	11	12	7	6	4	10	17	15	21	23	18	21	23	20	21	23	18	22	16	16.2	23.4
10-May	15	14	11	11	13	13	11	14	13	13	13	15	16	16	16	17	15	16	14	16	15	13	10	11	13.9	17.1
11-May	10	10	11	9	9	10	11	13	9	7	8	11	10	10	7	5	6	7	10	12	7	5	5	9	8.6	12.6
12-May	11	6	5	5	5	4	5	7	6	11	23	53	52	59	52	59	54	52	49	35	31	23	15	17	26.6	59.1
13-May	21	21	21	19	21	25	28	32	34	38	41	42	39	38	36	36	33	29	28	24	21	19	15	14	28.0	41.6
14-May	14	14	15	16	19	18	21	31	36	29	25	32	31	36	36	37	33	32	31	24	20	22	16	17	25.2	37.2
15-May	18	14	15	14	15	14	16	22	24	28	29	25	24	23	24	24	27	21	21	21	19	17	15	14	20.3	28.9
16-May	16	19	20	19	18	14	15	15	20	19	15	18	21	17	18	16	11	13	14	7	7	6	10	11	15.0	21.2
17-May	8	10	8	8	7	7	6	7	9	8	12	14	12	12	11	8	9	11	8	5	8	7	4	7	8.5	13.8
18-May	12	11	14	8	7	5	6	7	9	11	8	11	15	13	14	17	25	22	36	24	16	9	10	12	13.4	36.3
19-May	19	20	18	20	22	21	21	20	31	35	37	35	33	33	32	33	30	27	25	22	20	21	19	19	25.5	36.8
20-May	18	17	16	12	7	9	9	7	8	7	8	8	7	8	11	15	16	19	18	17	13	13	16	22	12.4	21.7
21-May	19	19	21	19	19	18	19	16	14	16	18	19	18	20	23	24	25	27	26	25	10	6	7	8	18.3	27.0
22-May	10	10	7	8	8	7	5	6	6	6	6	12	11	21	32	34	30	32	31	29	30	14	9	13	15.7	34.0
23-May	11	10	12	9	7	6	10	13	21	27	34	37	37	35	34	31	31	28	27	22	16	13	13	21	21.0	36.6
24-May	15	9	8	9	9	10	8	8	10	12	14	16	17	17	21	13	19	23	22	22	23	17	17	17	14.8	23.0
25-May	15	16	10	6	7	4	10	13	13	16	17	14	16	22	16	13	17	13	6	7	12	6	6	6	11.8	21.9
26-May	7	7	9	11	10	9	12	12	10	9	9	9	11	18	11	21	20	23	25	21	20	17	11	18	13.8	24.9
27-May	16	15	6	3	7	4	2	5	10	10	14	13	15	17	15	16	22	24	11	8	15	8	7	10	11.3	24.1
28-May	6	4	8	6	7	5	6	7	7	4	7	6	7	6	9	16	25	10	9	6	6	4	2	7.5	25.4	
29-May	5	5	5	6	6	6	4	5	5	5	5	6	7	12	7	4	5	6	10	11	10	12	10	9	6.9	12.4
30-May	8	7	8	5	5	6	9	10	11	12	11	10	9	12	13	15	10	8	10	11	10	9	6	9	9.3	15.4
31-May	6	8	11	12	9	4	8	10	11	16	17	15	15	9	13	10	11	13	20	16	7	8	15	23	12.0	23.2
	14.2	13.3	13.1	12.5	12.8	12.1	12.8	14.7	16.5	16.7	17.8	19.2	19.5	21.3	21.8	21.5	21.5	21.5	20.3	18.2	16.5	13.9	13.6	15.0	Diurnal Average	
	32.2	31.7	30.1	31.9	31.3	34.5	30.8	42.8	44.2	39.9	43.0	53.3	52.4	58.7	52.1	59.1	54.4	51.6	48.7	36.5	37.3	29.0	32.0	35.2	Diurnal Maximum	

D - DAS Failure  
 All monthly, daily, and diurnal averages have been calculated using scalar methods

## Hourly Standard Deviations

Wind Direction (WD) - deg  
Smoky Heights - May 2013

Maximum Value: 96.4 deg on May 9 10:00																	Hours in Service: 744																								
Minimum Value: 1.8 deg on May 20 00:00																	Hours of Data: 742																								
Percentiles: P <sub>1</sub> = 2.5 P <sub>10</sub> = 5.0 Q <sub>1</sub> = 7.7 Median = 12.5 Q <sub>3</sub> = 23.4 P <sub>90</sub> = 41.0 P <sub>99</sub> = 81.8																	Hours of Missing Data: 2																								
																	Hours of Calibration: 0																								
																	Percent Operational Time: 99.7																								
Day	Hourly Period Ending At (MST)																								Daily Maximum																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																	
1-May	6	19	14	8	9	8	5	11	10	10	11	17	15	12	9	9	7	7	7	6	7	10	4	3	18.5																
2-May	9	5	5	4	6	5	4	5	4	5	5	5	7	5	6	8	7	6	6	8	10	6	4	5	10.1																
3-May	3	3	4	5	2	3	3	4	7	22	31	35	43	25	33	34	38	40	75	90	13	6	7	4	89.8																
4-May	20	8	9	3	4	4	14	7	13	7	17	20	15	19	24	19	14	18	9	14	4	5	3	3	24.0																
5-May	4	2	4	2	3	6	9	9	6	6	10	10	21	27	15	12	13	18	27	23	37	16	9	10	36.9																
6-May	5	4	11	8	21	11	13	8	17	28	26	21	24	13	11	13	7	30	13	14	9	8	11	14	30.3																
7-May	8	18	12	6	13	9	11	14	13	26	22	27	27	23	25	37	33	37	23	7	9	7	9	7	37.4																
8-May	14	40	10	6	6	6	10	12	D	D	36	49	34	51	55	84	41	19	11	8	3	6	6	5	83.7																
9-May	7	7	8	5	5	17	22	51	75	96	43	15	19	15	19	19	19	15	21	15	5	7	6	5	96.4																
10-May	6	9	7	10	6	6	8	13	14	20	26	26	29	20	25	21	19	18	16	10	10	8	12	13	28.9																
11-May	13	23	14	24	16	9	22	16	37	34	59	16	25	24	45	72	51	49	23	12	12	70	31	66	72.2																
12-May	11	18	15	13	34	19	23	19	16	20	24	10	7	7	8	7	6	6	6	8	4	7	4	12	33.7																
13-May	11	5	5	3	5	6	4	6	5	7	11	12	10	11	11	10	11	9	9	6	4	4	7	8	12.3																
14-May	6	9	5	6	4	5	4	6	6	9	14	14	14	11	11	9	12	9	9	9	5	3	3	7	14.3																
15-May	4	9	3	3	4	3	6	8	8	10	11	9	18	11	10	13	12	9	11	7	9	4	6	2	17.8																
16-May	2	3	3	3	10	6	5	9	9	14	28	24	26	30	22	43	25	34	14	35	32	16	13	7	42.6																
17-May	63	11	41	26	22	32	24	19	14	29	34	22	52	42	60	57	73	54	30	44	13	28	15	32	73.5																
18-May	11	9	10	27	37	83	16	21	14	17	57	33	24	38	26	23	13	16	6	26	41	79	17	24	82.6																
19-May	4	4	3	4	4	4	5	7	8	8	9	12	10	12	12	13	13	14	9	5	4	6	2	2	13.8																
20-May	4	4	5	27	11	7	6	37	26	34	55	89	75	64	41	18	17	13	9	9	10	12	7	9	89.5																
21-May	10	13	7	6	8	6	6	6	8	8	9	11	13	14	13	12	14	9	10	9	36	41	77	15	77.2																
22-May	6	7	9	8	12	15	32	40	47	60	41	33	53	22	14	10	12	12	12	7	7	14	13	6	59.9																
23-May	10	15	14	11	9	12	27	11	9	10	11	10	12	9	11	12	9	9	8	8	8	8	6	21	26.7																
24-May	6	10	9	25	10	12	18	9	7	9	8	7	12	13	10	53	9	5	19	6	10	5	9	13	52.8																
25-May	7	6	23	29	35	35	22	13	11	15	10	14	9	17	21	20	25	17	78	18	38	60	14	15	78.4																
26-May	17	18	11	10	10	16	13	12	12	15	16	13	17	22	25	20	50	41	37	7	12	23	77	60	77.4																
27-May	24	64	40	66	86	77	69	25	19	15	14	17	18	17	14	13	88	18	22	29	22	26	61	57	87.6																
28-May	26	61	12	49	29	17	11	22	28	77	70	74	34	83	64	80	34	15	38	28	77	24	62	58	83.2																
29-May	27	14	15	39	20	9	14	20	34	37	65	76	72	24	57	93	53	53	28	10	11	10	9	10	92.7																
30-May	8	24	15	13	14	12	7	14	16	12	13	16	31	20	29	9	17	18	9	11	11	23	63	34	62.6																
31-May	21	12	13	17	12	54	16	15	14	12	12	20	22	36	23	20	17	10	6	27	46	10	5	7	54.2																
																	63.5	63.9	40.6	65.7	85.7	82.6	68.6	51.4	74.6	96.4	70.2	89.5	75.1	83.2	63.8	92.7	87.6	53.6	78.4	89.8	77.0	78.9	77.4	66.2	
D - DAS Failure																																									

PAZA

Beaverlodge Station

Monthly Summary Tables, Graphs and  
Roses

## Hourly Averages

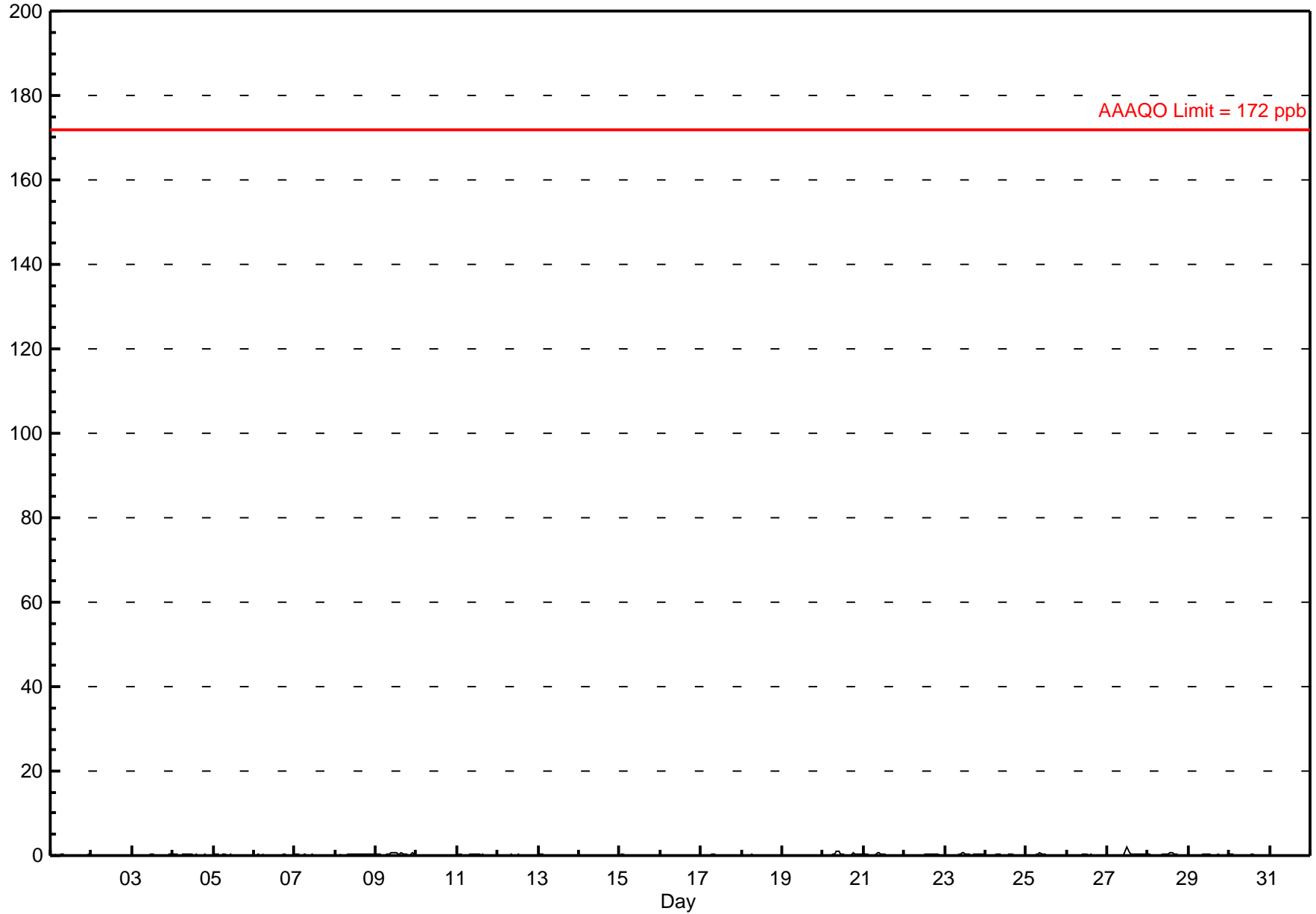
Sulphur Dioxide (SO<sub>2</sub>) - ppb

Beaverlodge - May 2013

Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 1.9 ppb on May 27 12:00	Maximum Daily Average: 0.4 ppb on May 9		Hours of Data:	710
Minimum Value: 0 ppb on May 7 23:00	Minimum Daily Average: 0.0 ppb on May 19		Hours of Missing Data:	34
Maximum Diurnal Average: 0.2 ppb at hour 12	Minimum Diurnal Average: 0.1 ppb at hour 21		Hours of Calibration:	34
Monthly Average: 0.14 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> = 0.2 P <sub>90</sub> = 0.3 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-May	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.5
2-May	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
3-May	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
4-May	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
5-May	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
6-May	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
7-May	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
8-May	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
9-May	0	0	0	0	A	0	0	0	0	1	1	1	1	0	0	1	0	0	0	0	0	1	0	0	0.4	0.8
10-May	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1
11-May	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3
12-May	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
13-May	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
14-May	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
15-May	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
16-May	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
17-May	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
18-May	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
19-May	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
20-May	0	0	0	0	A	0	0	0	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0.3	1.0
21-May	0	0	0	0	A	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.7
22-May	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-May	0	0	0	0	A	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.5
24-May	0	0	0	0	A	0	0	0	0	0	C	C	C	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4
25-May	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
26-May	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
27-May	0	0	0	0	A	0	0	0	0	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0.3	1.9
28-May	0	0	0	0	A	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0.2	0.5
29-May	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
30-May	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
31-May	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
	0.1	0.1	0.1	0.1	--	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	Diurnal Average	
	0.4	0.3	0.3	0.3	--	0.4	0.4	0.5	1.0	0.9	0.8	1.9	1.3	0.7	0.5	0.7	0.3	0.4	0.6	0.4	0.4	0.7	0.3	0.4	Diurnal Maximum	

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





## Hourly Maximums

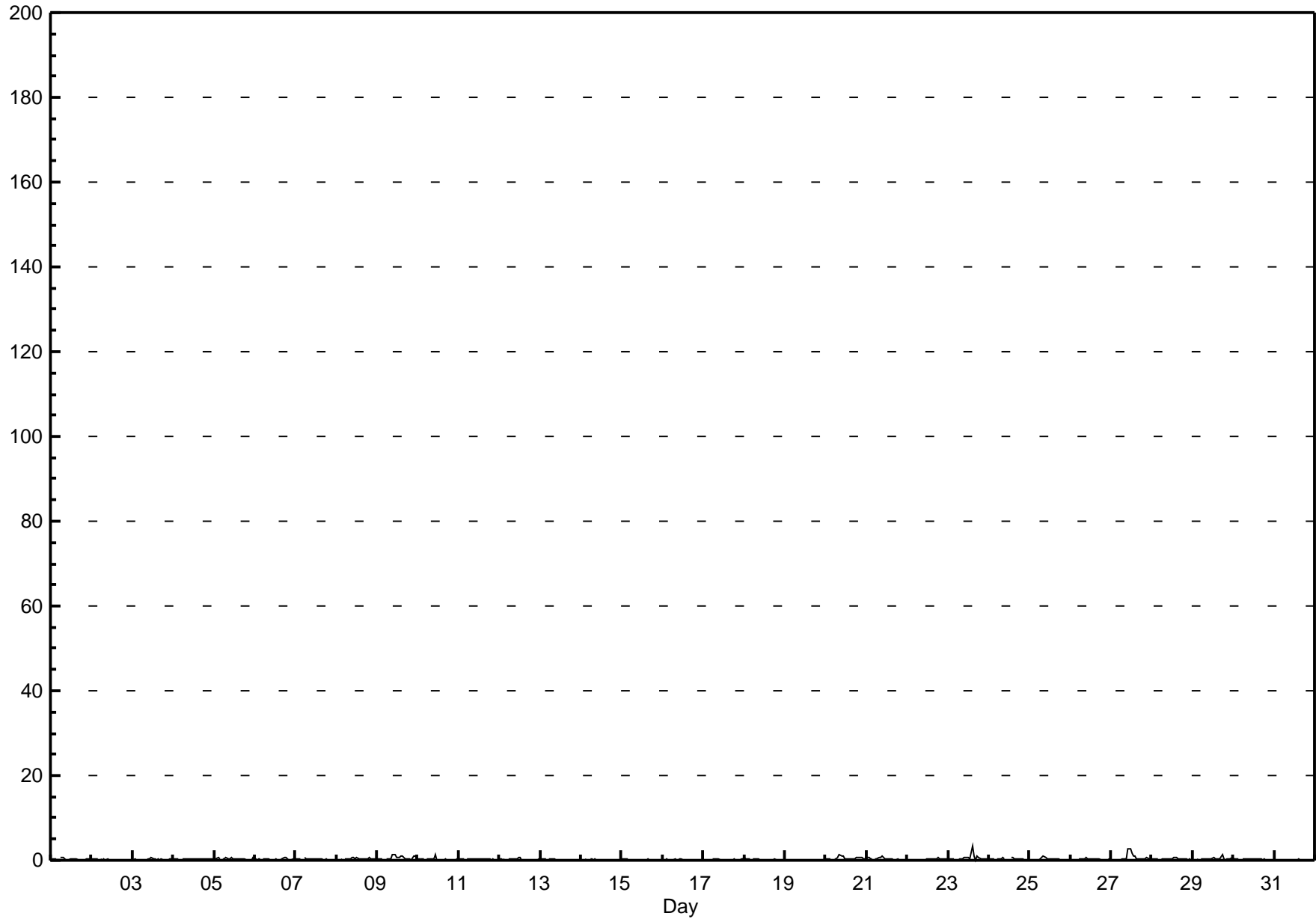
Sulphur Dioxide (SO<sub>2</sub>) - ppb

Beaverlodge - May 2013

Maximum Value: 3.4 ppb on May 23 15:00 Minimum Value: 0 ppb on May 23 17:00 Maximum Diurnal Average: 0.5 ppb at hour 11 Monthly Average: 0.28 ppb		Maximum Daily Average: 0.6 ppb on May 27 Minimum Daily Average: 0.1 ppb on May 31 Minimum Diurnal Average: 0.2 ppb at hour 21 Percentiles: P <sub>1</sub> = 0.1 P <sub>10</sub> = 0.1 Q <sub>1</sub> = 0.1 Median = 0.2 Q <sub>3</sub> = 0.3 P <sub>90</sub> = 0.5 P <sub>99</sub> = 1.3		Hours in Service: 744 Hours of Data: 710 Hours of Missing Data: 34 Hours of Calibration: 34 Percent Operational Time: 100.0																										
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24						
1-May	0	0	0	0	A	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.6			
2-May	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			
3-May	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			
4-May	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	0.3	0.5			
5-May	0	0	1	0	A	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0.3	0.7			
6-May	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0.3	0.6			
7-May	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	0.2	0.7			
8-May	0	0	0	0	A	0	0	0	0	1	1	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0.4	0.6			
9-May	0	0	0	0	A	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	1	1	0	0	0.6	1.4			
10-May	0	0	0	0	A	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.4			
11-May	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	0.3	0.4			
12-May	0	0	0	0	A	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.5			
13-May	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			
14-May	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			
15-May	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	0.4			
16-May	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			
17-May	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	0.4			
18-May	1	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.6			
19-May	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			
20-May	0	0	0	0	A	0	0	1	1	1	1	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0.5	1.3			
21-May	1	1	0	0	A	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.9			
22-May	0	0	0	0	A	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0.3	0.5			
23-May	0	0	0	0	A	0	0	0	0	1	1	1	1	0	3	1	0	1	1	0	0	0	0	0	0	0.5	3.4			
24-May	0	0	0	0	A	0	0	0	1	0	C	C	C	1	1	0	0	0	0	0	0	0	0	0	0	0.3	0.8			
25-May	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	0.3	0.9			
26-May	0	0	0	0	A	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.5			
27-May	0	0	0	0	A	0	0	0	0	0	3	3	2	1	1	0	0	0	0	0	0	1	0	0	0	0.6	2.7			
28-May	0	0	0	0	A	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0.3	0.7			
29-May	0	0	0	0	A	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	1	0	0.3	1.3			
30-May	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	0.4			
31-May	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			
	0.3	0.2	0.2	0.2	--	0.3	0.3	0.3	0.3	0.4	0.5	0.4	0.3	0.3	0.4	0.3	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	Diurnal Average				
	0.6	0.6	0.7	0.5	--	0.7	0.6	0.7	1.3	1.2	2.6	2.7	1.6	0.9	3.4	1.0	0.4	1.3	0.8	0.6	0.7	1.2	1.0	0.7	Diurnal Maximum					
C - Calibration					A - Automated Daily Zero Span																									

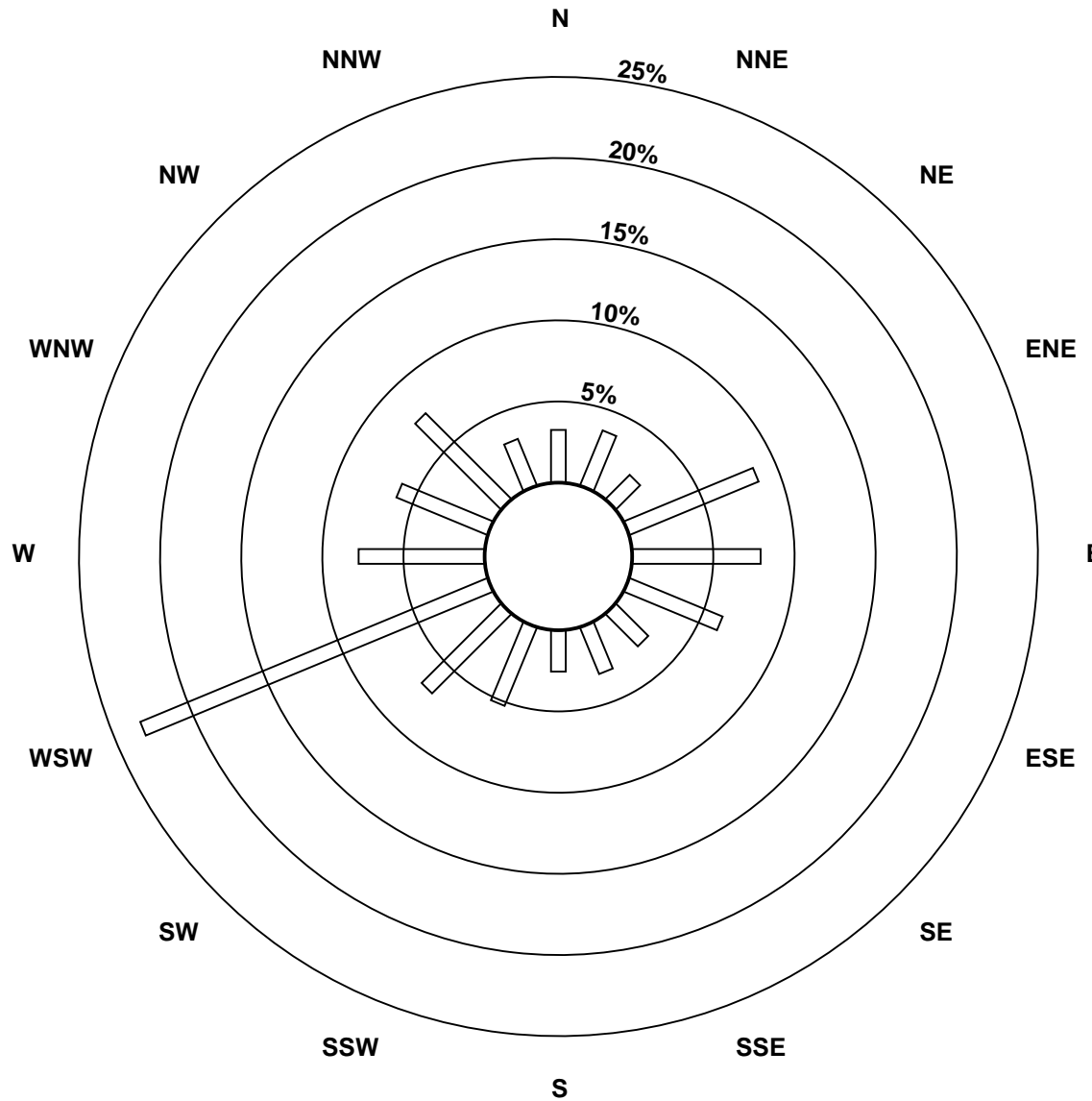
### Hourly Maximums

Sulphur Dioxide (SO<sub>2</sub>) - ppb  
Beaverlodge - May 2013

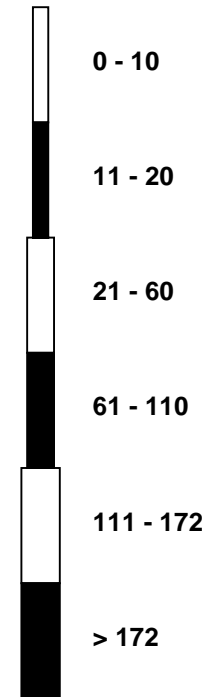


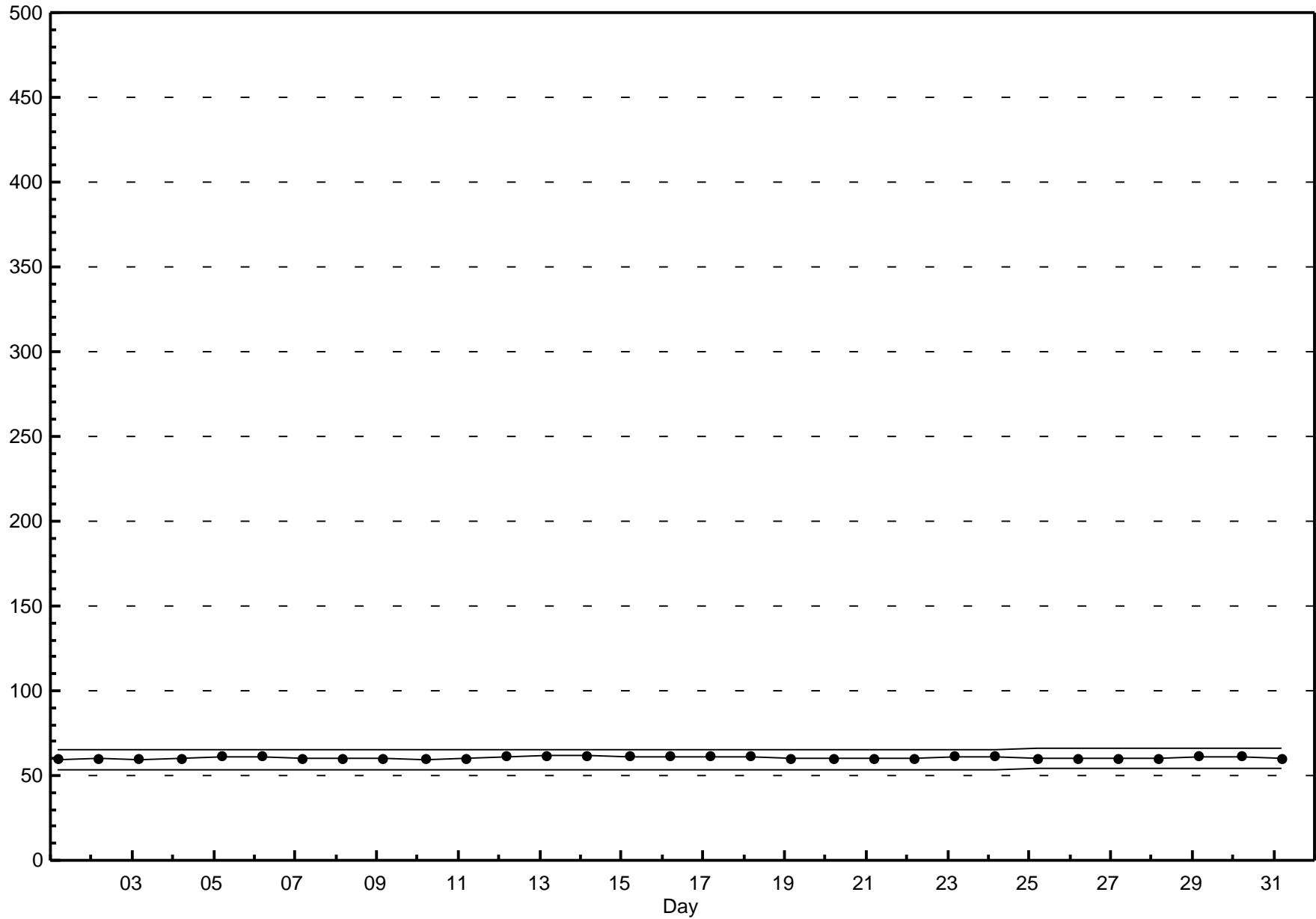
**Pollutant Rose**

**Sulphur Dioxide (SO<sub>2</sub>) - ppb**  
**Beaverlodge - May 2013**



**Pollutant Classes (ppb)**





## Hourly Averages

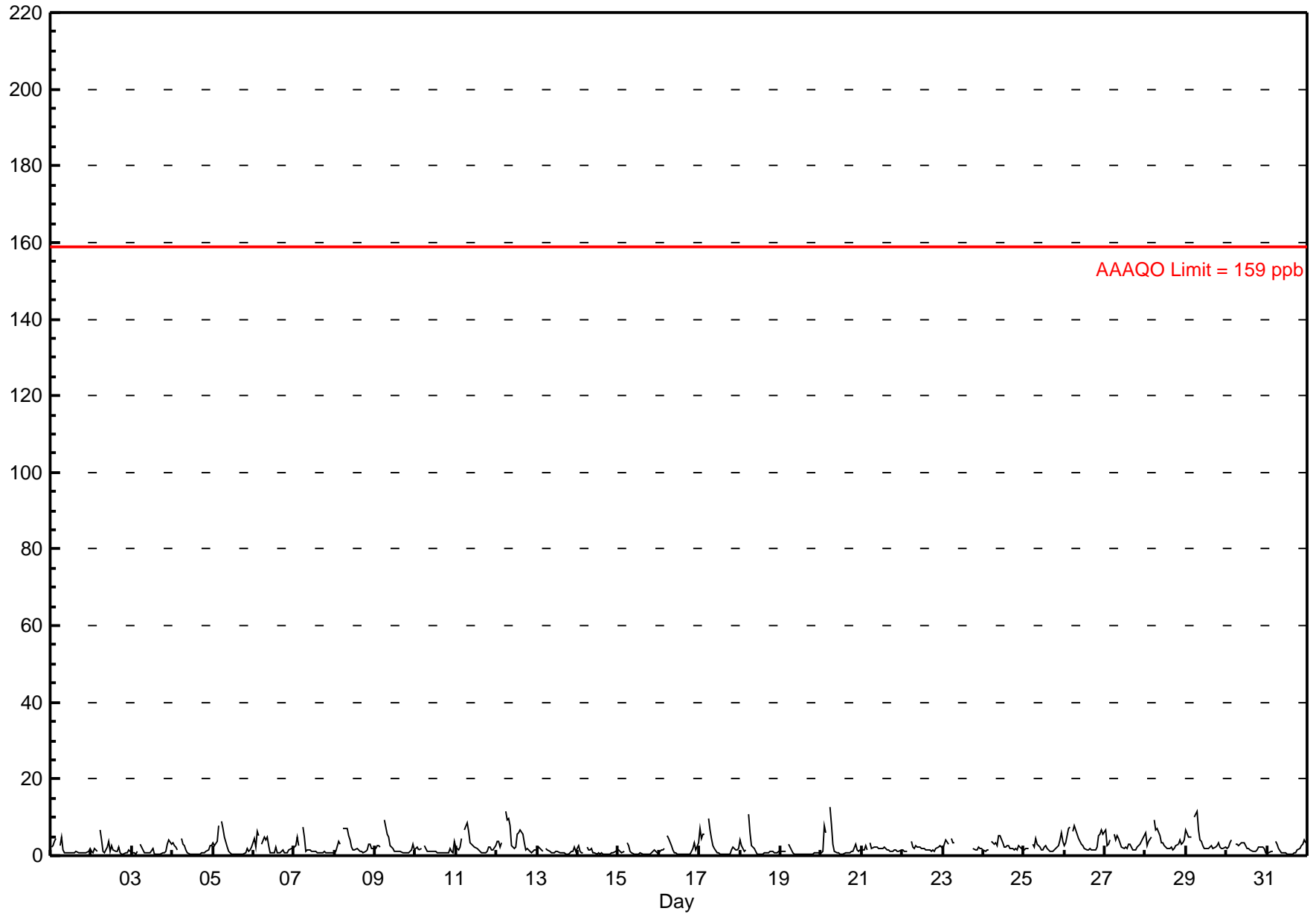
## Nitrogen Dioxide (NO<sub>2</sub>) - ppb

### Beaverlodge - May 2013

Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 12.8 ppb on May 20 06:00	Maximum Daily Average: 4.1 ppb on May 12		Hours of Data:	703
Minimum Value: 0 ppb on May 5 16:00	Minimum Daily Average: 0.7 ppb on May 19		Hours of Missing Data:	41
Maximum Diurnal Average: 5.8 ppb at hour 6	Minimum Diurnal Average: 0.9 ppb at hour 18		Hours of Calibration:	41
Monthly Average: 2.17 ppb	Percentiles: P <sub>1</sub> = 0.3 P <sub>10</sub> = 0.5 Q <sub>1</sub> = 0.8 Median = 1.6 Q <sub>3</sub> = 2.7 P <sub>90</sub> = 4.8 P <sub>99</sub> = 9.5		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-May	2	3	4	4	A	2	5	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.5	4.8																							
2-May	1	1	2	1	A	7	4	1	1	2	4	1	3	1	1	1	2	1	1	1	1	1	1	1	1.7	6.6																							
3-May	1	1	1	1	A	3	2	1	1	1	1	1	2	0	0	0	0	0	1	1	1	3	4	3	1.2	4.2																							
4-May	3	3	2	2	A	4	3	3	2	1	0	0	0	0	0	0	0	1	1	1	1	2	3	3	1.5	4.3																							
5-May	3	2	4	8	A	9	7	5	2	1	1	0	0	0	0	0	0	0	1	1	2	1	1	2	2.3	9.1																							
6-May	4	2	6	5	A	3	5	4	5	3	1	1	1	2	1	1	1	1	1	1	1	1	2	2	2.3	6.2																							
7-May	2	3	5	3	A	8	5	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.8	7.6																							
8-May	1	1	4	3	A	7	7	7	5	4	2	2	2	2	1	1	1	1	1	2	3	3	2	2	2.8	7.2																							
9-May	2	3	2	2	A	9	8	6	5	3	2	1	1	1	1	1	1	1	1	1	1	2	3	1	2.4	9.4																							
10-May	2	2	1	2	A	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	4	1.4	3.5																							
11-May	2	2	2	5	A	7	9	6	3	3	3	2	2	1	1	1	1	1	1	2	2	2	2	2	2.7	8.5																							
12-May	4	4	2	3	A	12	9	10	8	3	2	2	6	6	7	5	3	1	2	1	1	1	2	1	4.1	11.6																							
13-May	2	2	1	1	A	2	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	2	1	1.1	2.2																							
14-May	2	1	1	1	A	2	1	2	2	1	1	1	1	1	1	0	1	0	0	0	1	1	1	2	1.0	2.5																							
15-May	2	1	1	1	A	3	3	1	1	0	0	0	0	1	0	0	0	0	1	1	1	2	1	1	1.0	3.3																							
16-May	1	1	1	2	A	5	4	2	1	1	1	0	0	0	0	0	0	0	1	1	2	3	1	4	1.5	5.2																							
17-May	7	4	6	6	A	10	7	4	3	2	1	1	0	0	0	0	0	1	1	1	2	2	2	2	2.6	9.8																							
18-May	4	3	1	2	A	11	6	2	2	1	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1.8	10.8																							
19-May	1	1	1	1	A	3	2	1	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0.7	2.9																							
20-May	1	1	8	6	A	13	8	3	1	1	1	1	0	0	1	1	1	1	1	1	3	2	1	1	2.4	12.8																							
21-May	1	1	3	2	A	3	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1.8	3.4																							
22-May	1	1	1	1	A	4	2	2	2	2	2	2	2	2	2	1	1	1	2	1	2	2	3	2	1.9	3.7																							
23-May	2	3	4	3	A	5	3	3	C	C	C	C	C	C	C	C	C	C	2	2	2	2	2	2	--	4.7																							
24-May	2	1	1	2	A	4	3	4	3	5	5	3	2	2	3	3	2	2	2	2	2	2	2	2	2.5	5.4																							
25-May	1	2	2	2	A	3	2	4	3	2	2	2	2	2	2	1	1	1	2	2	2	4	6	4	2.4	6.0																							
26-May	3	3	7	8	A	6	8	5	5	4	3	3	2	1	2	2	1	1	2	2	5	6	7	6	4.0	7.9																							
27-May	7	3	3	4	A	6	4	5	4	3	2	2	2	2	3	3	1	1	2	2	3	3	5	5	3.3	6.6																							
28-May	6	3	4	5	A	9	7	7	5	4	3	2	2	2	2	2	2	2	2	3	4	3	3	4	3.8	9.3																							
29-May	7	5	5	5	A	10	12	7	4	4	3	2	2	2	2	3	2	2	3	3	2	2	2	2	3.9	11.7																							
30-May	2	2	3	4	A	3	3	3	3	3	3	3	2	2	1	1	1	1	2	2	2	2	2	1	2.3	4.1																							
31-May	1	1	1	1	A	4	3	2	1	1	1	1	1	1	1	1	1	1	1	2	3	3	4	3	1.5	4.1																							
																								2.6	2.1	2.9	3.0	--	5.8	4.7	3.5	2.6	2.0	1.6	1.3	1.4	1.3	1.3	1.2	1.0	0.9	1.1	1.3	1.8	1.9	2.2	2.2	Diurnal Average	
																								7.1	4.9	7.7	7.8	--	12.8	11.7	9.6	7.7	5.4	5.2	3.3	5.6	6.1	6.7	5.4	3.4	2.2	2.6	3.3	5.3	5.7	6.9	5.6	Diurnal Maximum	

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

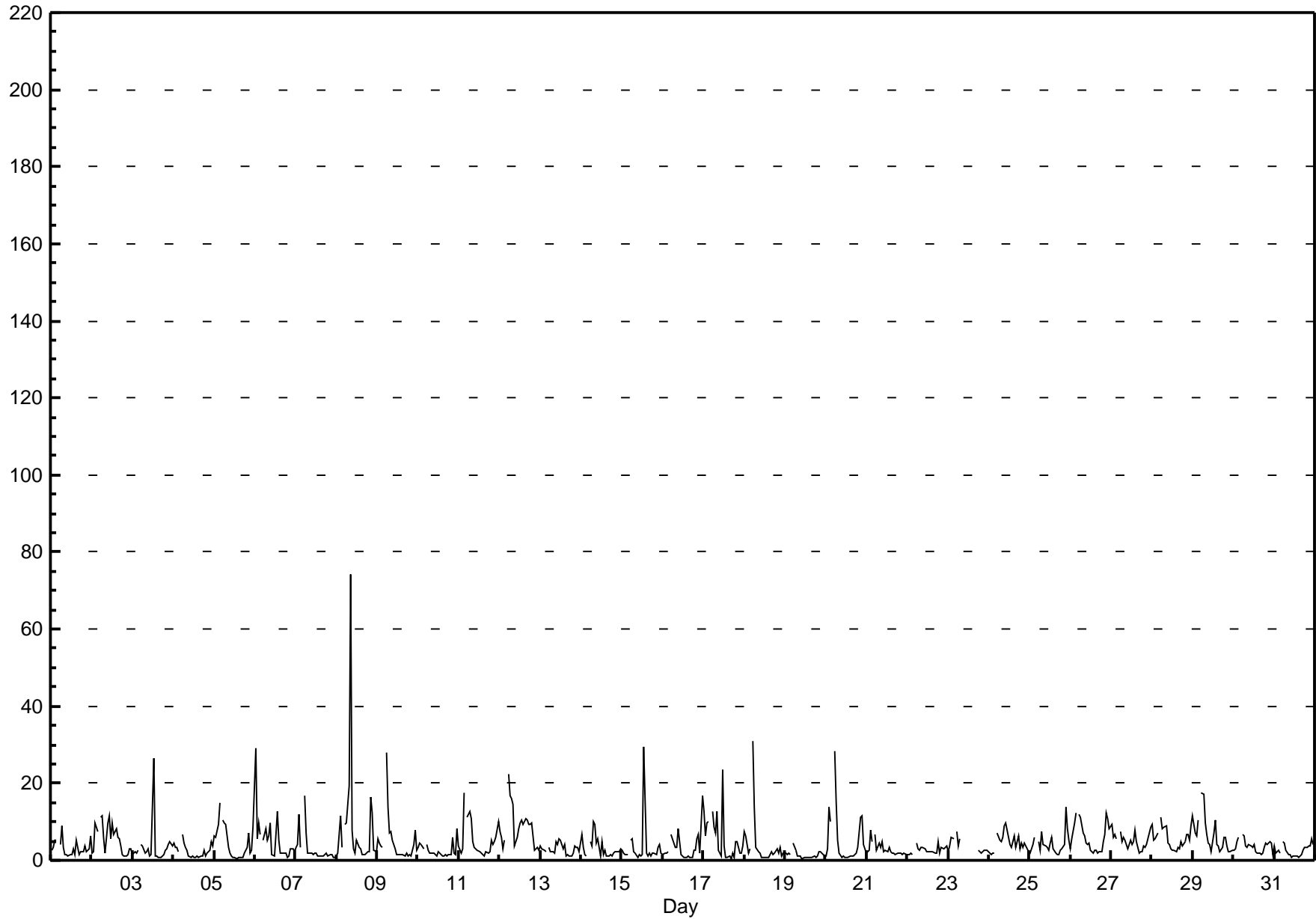


## Hourly Maximums

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

Beaverlodge - May 2013

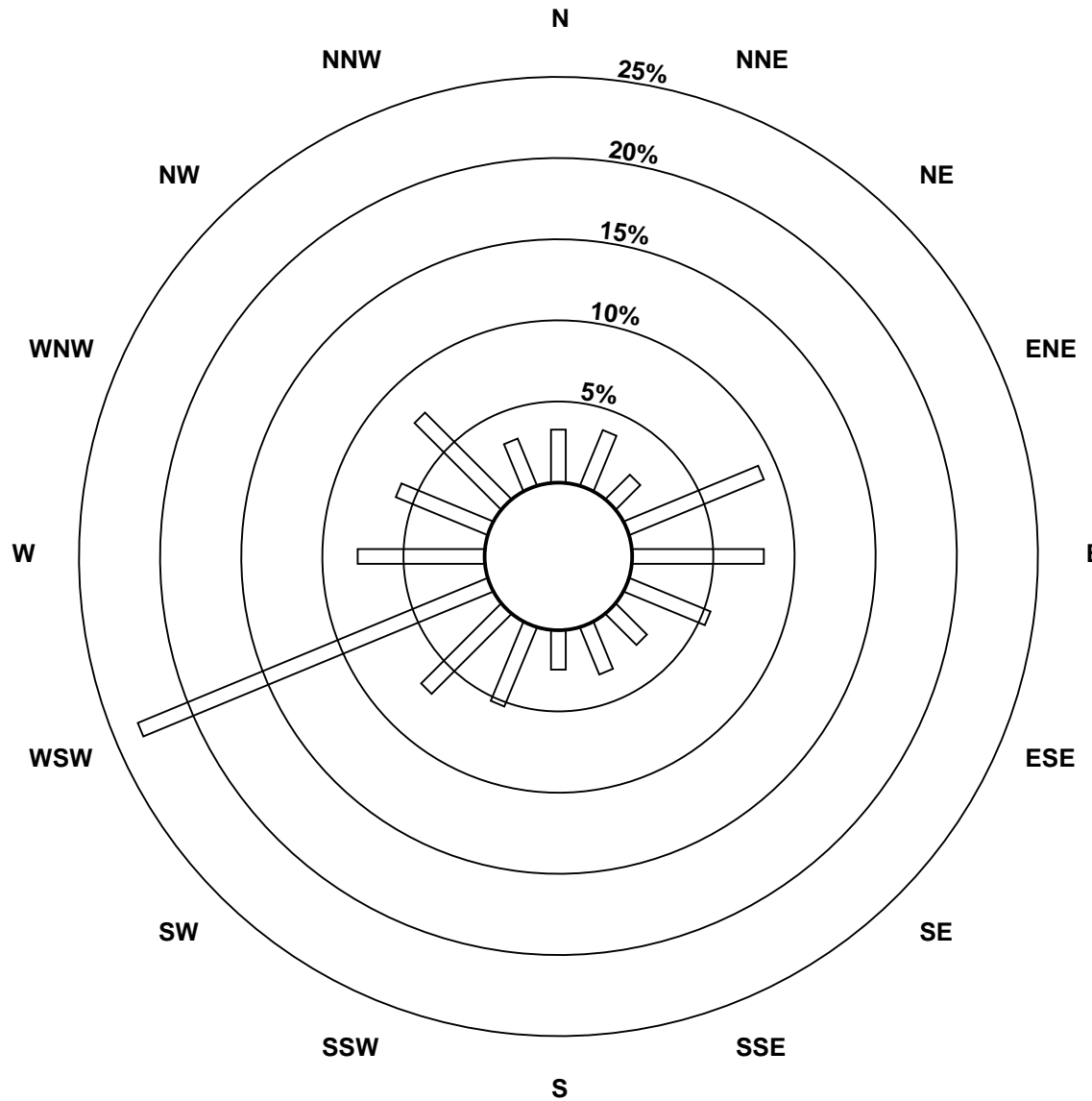
Maximum Value: 74.2 ppb on May 8 09:00		Maximum Daily Average: 8.7 ppb on May 12		Hours in Service: 744																							
Minimum Value: 0 ppb on May 17 17:00		Minimum Daily Average: 1.4 ppb on May 19		Hours of Data: 703																							
Maximum Diurnal Average: 10.3 ppb at hour 6		Minimum Diurnal Average: 2.0 ppb at hour 17		Hours of Missing Data: 41																							
Monthly Average: 4.36 ppb		Percentiles: P <sub>1</sub> = 0.6 P <sub>10</sub> = 1.1 Q <sub>1</sub> = 1.7 Median = 3.0 Q <sub>3</sub> = 5.3 P <sub>90</sub> = 9.5 P <sub>99</sub> = 25.7		Hours of Calibration: 41																							
				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-May	3	3	5	5	A	4	9	3	1	1	1	2	2	3	2	5	1	2	2	2	4	2	3	6	3.2	9.0	
2-May	2	2	10	7	A	11	12	6	2	10	11	5	10	7	8	6	6	4	2	1	1	1	3	3	5.6	11.5	
3-May	1	2	2	3	A	4	4	2	2	3	1	2	26	1	1	1	1	1	2	3	3	4	5	4	3.3	26.5	
4-May	4	4	4	2	A	7	4	3	3	1	1	1	1	1	1	1	1	1	3	1	2	3	5	4	2.5	6.7	
5-May	6	6	9	15	A	10	10	9	3	2	1	1	1	1	1	1	1	1	2	3	7	2	3	9	4.4	15.1	
6-May	29	6	10	7	A	5	8	5	6	10	1	1	7	13	5	2	2	2	2	1	1	3	3	2	5.7	29.3	
7-May	4	4	12	3	A	17	7	2	2	2	2	2	2	1	1	1	1	1	2	1	1	2	1	1	3.1	16.8	
8-May	1	2	11	3	A	9	10	19	74	8	3	2	5	3	3	2	2	2	2	2	16	12	2	2	8.6	74.2	
9-May	6	5	4	3	A	28	14	7	7	5	3	2	2	2	1	2	1	2	1	1	1	4	8	3	4.8	27.8	
10-May	3	5	4	3	A	4	3	2	2	2	1	1	2	2	1	1	2	1	2	1	6	2	1	8	2.6	8.3	
11-May	4	2	3	17	A	11	13	11	5	4	3	3	2	2	2	1	2	2	2	5	4	5	6	10	5.1	17.4	
12-May	7	6	3	5	A	22	17	16	14	4	6	8	10	10	9	11	11	9	9	10	2	3	3	3	8.7	22.4	
13-May	4	3	3	2	A	3	2	2	2	5	4	6	5	3	4	1	1	1	1	2	4	3	3	2	2.9	5.5	
14-May	7	3	2	1	A	5	4	10	9	4	6	1	5	2	2	1	1	2	1	2	2	2	2	3	3.3	10.1	
15-May	3	2	2	2	A	5	5	2	2	1	1	1	1	29	2	1	2	1	2	2	2	3	4	2	3.4	29.3	
16-May	2	2	2	2	A	7	5	3	3	8	5	1	1	1	1	1	1	1	3	3	5	7	2	17	3.6	16.8	
17-May	13	6	10	10	A	13	9	7	13	3	1	23	4	1	1	1	0	2	1	5	5	2	2	4	5.8	23.5	
18-May	7	7	2	3	A	31	14	3	2	2	1	1	1	1	1	2	2	2	2	3	2	3	1	2	4.0	30.9	
19-May	2	2	2	1	A	4	3	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	1	1	1.4	4.4	
20-May	1	3	14	10	A	28	15	5	2	1	1	1	1	1	1	1	1	1	2	4	11	12	4	3	5.4	28.3	
21-May	2	3	8	5	A	7	3	5	3	5	2	2	2	3	2	2	2	1	2	2	2	1	2	2	2.9	7.7	
22-May	2	1	2	1	A	5	3	3	3	3	3	2	2	2	2	2	2	2	5	2	3	3	3	4	2.6	4.8	
23-May	2	4	6	6	A	7	4	6	C	C	C	C	C	C	C	C	C	C	3	2	2	2	3	3	--	7.4	
24-May	2	2	2	2	A	7	5	5	6	9	10	6	4	4	5	6	3	6	3	4	3	4	3	2	4.5	9.8	
25-May	2	3	4	6	A	5	2	8	4	4	3	2	4	6	3	2	2	2	3	3	4	14	8	5	4.3	13.9	
26-May	3	6	10	12	A	12	11	7	6	4	4	5	3	2	3	3	2	2	2	5	7	12	11	8	6.1	12.2	
27-May	9	6	7	6	A	7	5	6	5	4	3	5	4	5	8	5	2	2	2	4	3	4	7	9	5.2	9.4	
28-May	9	5	6	7	A	11	8	9	9	4	4	3	3	3	2	3	3	5	4	5	7	7	5	9	5.7	11.1	
29-May	12	7	6	10	A	18	17	10	7	5	4	2	7	10	4	4	2	3	6	6	4	2	2	3	6.6	17.6	
30-May	3	3	5	6	A	7	6	4	3	4	4	4	4	2	2	2	1	2	3	4	4	5	4	1	3.6	6.8	
31-May	4	2	3	2	A	5	4	3	1	1	1	1	1	1	1	1	2	3	3	3	4	4	6	4	2.5	5.7	
		5.1	3.7	5.4	5.5	--	10.3	7.6	5.9	6.9	4.0	3.1	3.2	4.0	4.0	2.6	2.3	2.0	2.2	2.5	3.0	4.0	4.4	3.8	4.4	Diurnal Average	
		29.3	7.2	13.8	17.4	--	30.9	17.1	19.4	74.2	9.9	11.5	23.5	26.5	29.3	9.3	10.8	10.6	9.2	9.1	9.6	16.4	13.9	10.8	16.8	Diurnal Maximum	
C - Calibration		A - Automated Daily Zero Span																									



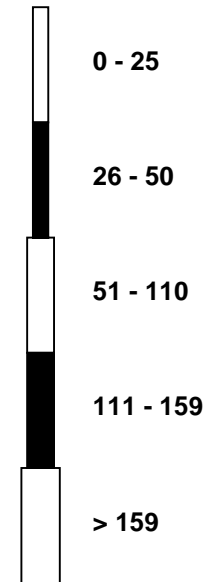


**Pollutant Rose**

**Nitrogen Dioxide (NO<sub>2</sub>) - ppb**  
**Beaverlodge - May 2013**

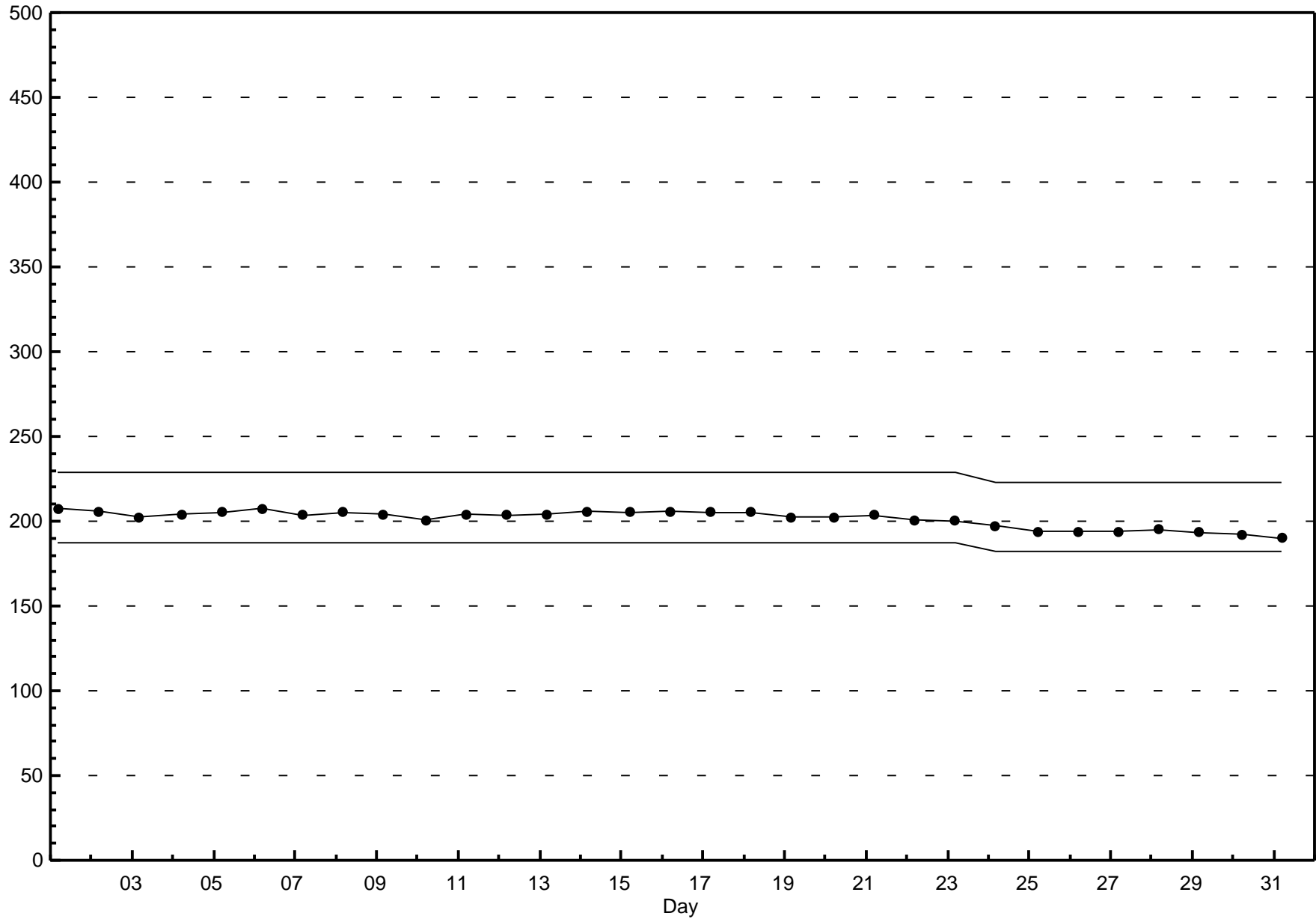


**Pollutant Classes (ppb)**



### Span Responses

Nitrogen Dioxide (NO<sub>2</sub>)  
Beaverlodge - May 2013



## Hourly Averages

**Nitrogen Oxide (NO) - ppb**  
**Beaverlodge - May 2013**

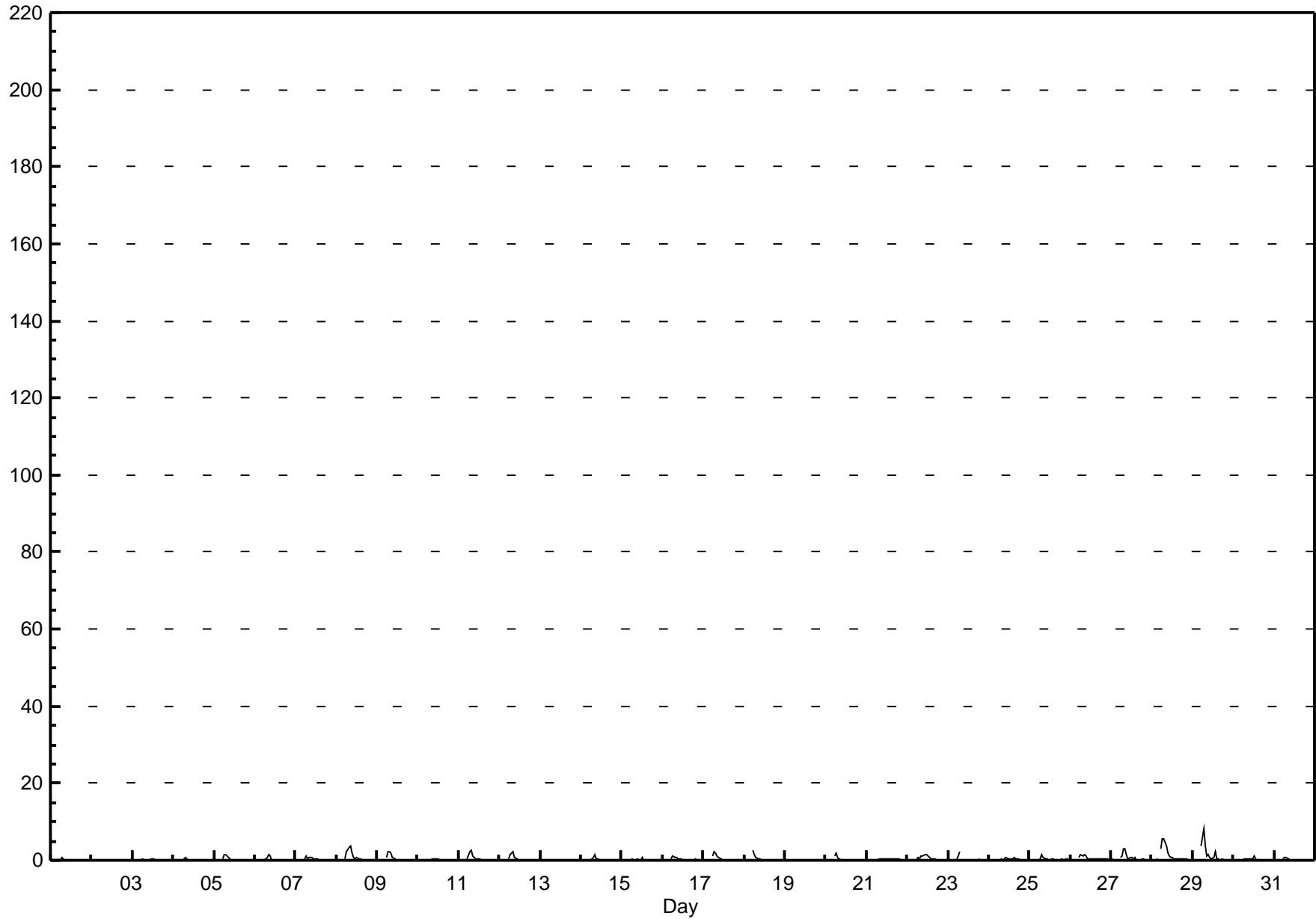
Number of Exceedences (AAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 8.3 ppb on May 29 07:00	Maximum Daily Average: 1.1 ppb on May 28		Hours of Data:	703
Minimum Value: 0 ppb on May 1 01:00	Minimum Daily Average: 0.1 ppb on May 1		Hours of Missing Data:	41
Maximum Diurnal Average: 1.2 ppb at hour 7	Minimum Diurnal Average: 0.0 ppb at hour 3		Hours of Calibration:	41
Monthly Average: 0.31 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> = 0.3 P <sub>90</sub> = 0.7 P <sub>99</sub> = 3.6		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-May	0	0	0	0	A	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.6
2-May	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1
3-May	0	0	0	0	A	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0.1	0.6
4-May	0	0	0	0	A	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.6
5-May	0	0	0	0	A	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.4
6-May	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
7-May	0	0	0	0	A	1	1	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.0
8-May	0	0	0	0	A	0	2	3	4	2	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0.6	3.6
9-May	0	0	0	0	A	1	2	2	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	2.2
10-May	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
11-May	0	0	0	0	A	0	2	2	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	2.5
12-May	0	0	0	0	A	0	1	2	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	2.4
13-May	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1
14-May	0	0	0	0	A	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.7
15-May	0	0	0	0	A	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0.2	0.8
16-May	0	0	0	0	A	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.0
17-May	0	0	0	0	A	1	2	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	2.1
18-May	0	0	0	0	A	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	2.5
19-May	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
20-May	0	0	0	0	A	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.9
21-May	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
22-May	0	0	0	0	A	0	1	1	1	1	2	1	1	1	0	0	0	0	0	0	0	0	0	0	0.4	1.5
23-May	0	0	0	0	A	1	1	2	C	C	C	C	C	C	C	C	C	C	0	0	0	0	0	0	--	2.4
24-May	0	0	0	0	A	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0.2	0.6
25-May	0	0	0	0	A	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.4
26-May	0	0	0	0	A	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0.5	1.3
27-May	0	0	0	0	A	1	1	3	3	1	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0.6	2.9
28-May	0	0	0	0	A	3	6	6	4	2	1	1	1	0	0	0	0	0	0	0	0	0	0	0	1.1	5.7
29-May	0	0	0	0	A	4	8	4	1	1	1	0	1	2	0	0	0	0	0	0	0	0	0	0	1.0	8.3
30-May	0	0	0	0	A	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0.2	1.0
31-May	0	0	0	0	A	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.7
	0.1	0.0	0.0	0.0	--	0.6	1.2	1.2	1.0	0.6	0.4	0.3	0.3	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	Diurnal Average
	0.5	0.2	0.1	0.2	--	3.8	8.3	5.7	3.9	1.9	1.5	1.3	1.0	2.1	0.6	0.6	0.3	0.3	0.3	0.3	0.3	0.5	0.2	0.3	0.2	Diurnal Maximum

C - Calibration                      A - Automated Daily Zero Span

**Hourly Averages**

**Nitrogen Oxide (NO) - ppb**  
**Beaverlodge - May 2013**



## Hourly Maximums

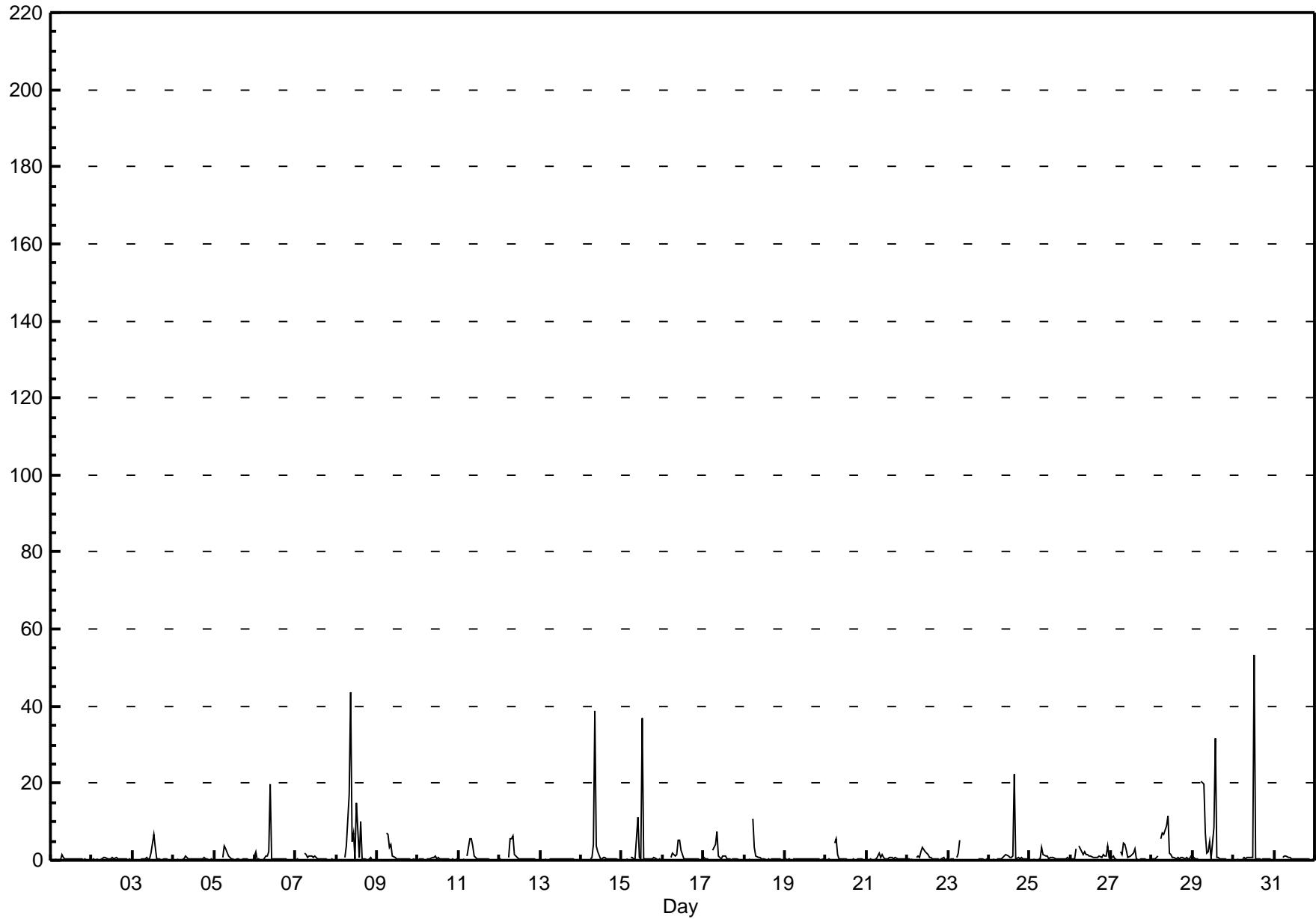
Nitrogen Oxide (NO) - ppb

Beaverlodge - May 2013

Maximum Value: 53.3 ppb on May 30 13:00		Maximum Daily Average: 4.6 ppb on May 8		Hours in Service: 744																												
Minimum Value: 0 ppb on May 8 01:00		Minimum Daily Average: 0.3 ppb on May 19		Hours of Data: 703																												
Maximum Diurnal Average: 4.6 ppb at hour 9		Minimum Diurnal Average: 0.2 ppb at hour 3		Hours of Missing Data: 41																												
Monthly Average: 1.23 ppb		Percentiles: P <sub>1</sub> = 0.1 P <sub>10</sub> = 0.1 Q <sub>1</sub> = 0.2 Median = 0.3 Q <sub>3</sub> = 0.7 P <sub>90</sub> = 2.1 P <sub>99</sub> = 19.3		Hours of Calibration: 41																												
				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-May	0	0	0	0	A	0	1	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0.3	1.4						
2-May	0	0	0	0	A	0	0	1	1	1	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0.4	0.8						
3-May	0	0	0	0	A	0	0	0	1	0	0	2	7	3	0	0	0	0	0	0	0	0	0	0	0.7	6.6						
4-May	0	0	0	0	A	0	1	1	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0.3	1.0						
5-May	0	0	0	0	A	1	4	3	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	3.7						
6-May	2	0	0	0	A	0	1	1	2	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.3	19.6						
7-May	0	0	0	0	A	2	2	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0.5	1.7						
8-May	0	0	0	0	A	1	4	17	43	5	7	1	15	1	10	0	0	0	0	0	1	0	0	0	4.6	43.4						
9-May	0	0	0	0	A	7	7	3	4	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1.1	7.1						
10-May	0	0	0	0	A	0	0	0	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0.3	1.0						
11-May	0	0	0	0	A	1	6	5	4	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.9	5.6						
12-May	0	0	0	0	A	1	5	6	6	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1.1	6.3						
13-May	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						
14-May	0	0	0	0	A	0	1	4	39	4	2	1	0	1	1	0	0	0	0	0	0	0	0	0	2.4	38.8						
15-May	0	0	0	0	A	1	1	1	1	11	1	0	37	1	0	0	1	0	0	1	0	0	0	0	2.5	36.9						
16-May	0	0	0	0	A	1	2	1	1	5	5	3	0	0	0	0	0	0	0	0	0	0	0	0	1.0	5.3						
17-May	1	0	0	0	A	2	3	4	7	1	0	1	1	1	0	0	0	0	0	0	0	0	0	0	1.1	7.4						
18-May	0	0	0	0	A	11	3	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.9	10.7						
19-May	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.4						
20-May	0	0	0	0	A	4	6	2	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0.7	5.6						
21-May	0	0	0	0	A	0	0	2	1	1	1	0	0	1	1	1	1	1	0	0	0	0	0	0	0.6	1.9						
22-May	0	0	0	0	A	1	1	1	2	3	2	2	2	1	1	0	0	0	0	0	0	1	0	0	0.8	3.4						
23-May	0	0	0	0	A	1	2	5	C	C	C	C	C	C	C	C	C	C	0	0	0	0	0	0	--	5.1						
24-May	0	0	0	0	A	0	0	1	1	1	2	1	1	1	1	22	0	1	0	1	0	0	0	0	1.5	22.4						
25-May	0	0	0	0	A	0	1	3	1	1	1	0	1	1	1	0	0	0	0	0	0	1	1	0	0.6	3.3						
26-May	0	1	0	3	A	4	3	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	4	1	1.4	3.8						
27-May	1	1	1	0	A	2	2	5	4	3	1	1	2	2	3	0	0	0	0	1	0	0	0	0	1.2	4.5						
28-May	0	0	0	1	A	6	7	7	9	11	2	1	1	1	0	1	0	1	1	0	1	0	0	1	2.3	11.5						
29-May	1	0	0	0	A	20	20	7	2	2	5	1	9	32	1	1	0	0	0	0	0	0	0	0	4.4	31.7						
30-May	0	0	0	0	A	0	1	0	1	1	1	1	53	0	0	0	0	0	0	0	0	0	0	0	2.6	53.3						
31-May	0	0	0	0	A	1	1	1	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0.4	1.2						
		0.3	0.2	0.2	0.3	--	2.2	2.7	2.7	4.6	2.7	1.3	0.7	4.5	1.6	0.8	1.1	0.3	0.4	0.3	0.3	0.3	0.3	0.2	Diurnal Average							
		2.4	0.9	0.5	3.0	--	20.4	19.8	17.0	43.4	19.6	7.2	2.5	53.3	31.7	9.9	22.4	0.6	1.1	0.9	1.5	1.0	1.2	3.7	0.9	Diurnal Maximum						
C - Calibration					A - Automated Daily Zero Span																											

# Hourly Maximums

Nitrogen Oxide (NO) - ppb  
Beaverlodge - May 2013



## Hourly Averages

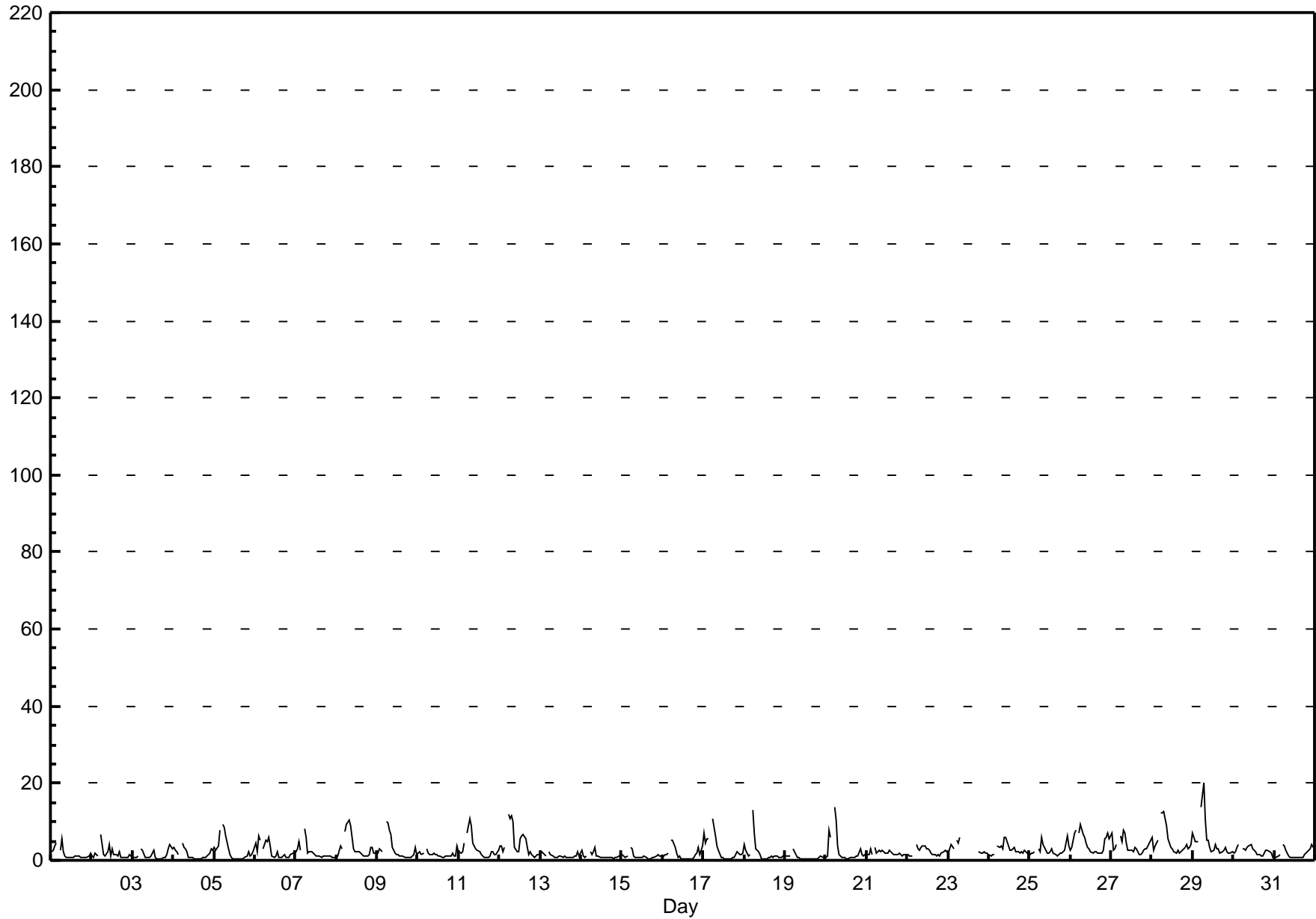
## Oxides of Nitrogen (NO<sub>x</sub>) - ppb

### Beaverlodge - May 2013

Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 20.0 ppb on May 29 07:00	Maximum Daily Average: 4.9 ppb on May 29		Hours of Data:	703
Minimum Value: 0 ppb on May 5 16:00	Minimum Daily Average: 0.8 ppb on May 19		Hours of Missing Data:	41
Maximum Diurnal Average: 6.4 ppb at hour 6	Minimum Diurnal Average: 1.0 ppb at hour 18		Hours of Calibration:	41
Monthly Average: 2.49 ppb	Percentiles: P <sub>1</sub> = 0.4 P <sub>10</sub> = 0.6 Q <sub>1</sub> = 0.9 Median = 1.8 Q <sub>3</sub> = 3.0 P <sub>90</sub> = 5.4 P <sub>99</sub> = 12.4		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-May	2	3	4	4	A	3	5	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.7	5.5																							
2-May	1	1	2	1	A	7	4	1	1	2	4	1	3	2	1	1	2	1	1	1	1	1	1	1	1.8	6.7																							
3-May	1	1	1	1	A	3	2	1	1	1	1	1	3	1	0	0	0	1	1	1	1	3	4	3	1.3	4.3																							
4-May	3	3	2	2	A	4	3	3	2	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	1.6	4.4																							
5-May	3	2	4	8	A	9	9	6	3	1	1	0	0	0	0	0	0	0	1	1	2	1	1	2	2.5	9.4																							
6-May	4	2	6	5	A	3	5	5	6	4	1	1	1	2	1	1	1	1	1	1	1	1	2	2	2.5	6.2																							
7-May	2	3	5	3	A	8	6	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2.1	8.1																							
8-May	1	1	4	3	A	7	9	10	9	6	3	2	2	2	2	1	1	1	1	2	3	3	2	2	3.4	10.4																							
9-May	2	3	3	2	A	10	10	8	7	3	2	1	1	1	1	1	1	1	1	1	1	2	3	1	2.8	10.2																							
10-May	2	2	1	2	A	3	2	1	1	2	1	1	1	1	1	1	1	1	1	1	2	1	1	4	1.5	3.6																							
11-May	2	2	2	5	A	7	11	9	4	4	3	3	2	2	1	1	1	1	1	2	2	2	2	2	3.1	10.7																							
12-May	4	4	2	3	A	12	11	11	10	4	2	2	6	6	7	6	3	2	2	2	1	1	2	1	4.5	11.9																							
13-May	2	2	1	1	A	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1.2	2.2																							
14-May	3	1	1	1	A	2	2	2	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.2	3.2																							
15-May	2	1	1	1	A	3	3	1	1	1	1	1	1	1	1	0	1	0	1	1	1	2	1	1	1.1	3.5																							
16-May	1	1	1	2	A	5	5	3	2	1	1	1	0	0	0	0	0	1	1	1	2	3	1	4	1.7	5.4																							
17-May	7	4	6	6	A	11	9	6	4	2	1	1	0	0	0	0	0	1	1	1	2	2	2	2	3.0	10.8																							
18-May	4	3	1	2	A	13	7	3	2	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	2.0	13.2																							
19-May	1	1	1	1	A	3	2	1	1	1	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0.8	2.9																							
20-May	1	1	8	6	A	14	10	4	2	1	1	1	1	1	1	1	1	1	1	1	3	2	1	1	2.6	14.0																							
21-May	1	1	3	2	A	3	2	3	2	2	2	2	3	2	2	2	2	1	2	2	2	1	1	1	2.0	3.5																							
22-May	1	1	1	1	A	4	3	2	3	4	4	3	3	3	2	2	2	1	2	1	2	2	3	2	2.3	3.9																							
23-May	2	3	4	3	A	5	4	6	C	C	C	C	C	C	C	C	C	C	2	2	2	2	2	2	--	5.8																							
24-May	2	1	1	2	A	4	3	4	3	6	6	4	3	2	3	3	2	2	2	2	2	3	2	2	2.7	5.9																							
25-May	1	2	2	2	A	3	2	6	4	3	2	2	2	3	2	1	1	1	2	2	3	4	6	4	2.6	6.2																							
26-May	3	3	7	8	A	7	9	7	6	5	4	3	2	2	2	2	2	2	2	2	6	6	7	6	4.4	9.2																							
27-May	7	3	3	4	A	6	5	8	7	5	3	3	3	2	3	3	1	2	2	3	3	3	5	5	3.8	8.0																							
28-May	6	3	4	5	A	12	12	13	9	5	5	3	3	2	2	3	2	2	3	3	4	3	3	4	4.9	12.7																							
29-May	7	5	5	5	A	14	20	10	5	5	3	2	3	4	3	3	2	2	3	3	2	2	2	2	4.9	20.0																							
30-May	2	2	3	4	A	3	3	3	3	4	4	3	3	2	2	1	1	1	2	2	2	2	2	1	2.5	4.2																							
31-May	1	1	1	1	A	4	4	3	1	1	1	1	1	1	1	1	1	1	2	2	3	3	4	3	1.7	4.1																							
																								2.6	2.2	2.9	3.1	--	6.4	6.0	4.7	3.6	2.6	2.0	1.6	1.7	1.6	1.5	1.4	1.1	1.0	1.3	1.5	1.9	2.0	2.3	2.2	Diurnal Average	
																								7.1	5.0	7.8	7.8	--	14.0	20.0	12.7	10.1	6.1	5.9	3.9	5.7	6.3	6.8	5.6	3.5	2.4	2.8	3.3	5.8	5.9	7.1	5.8	Diurnal Maximum	

C - Calibration                      A - Automated Daily Zero Span





## Hourly Maximums

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

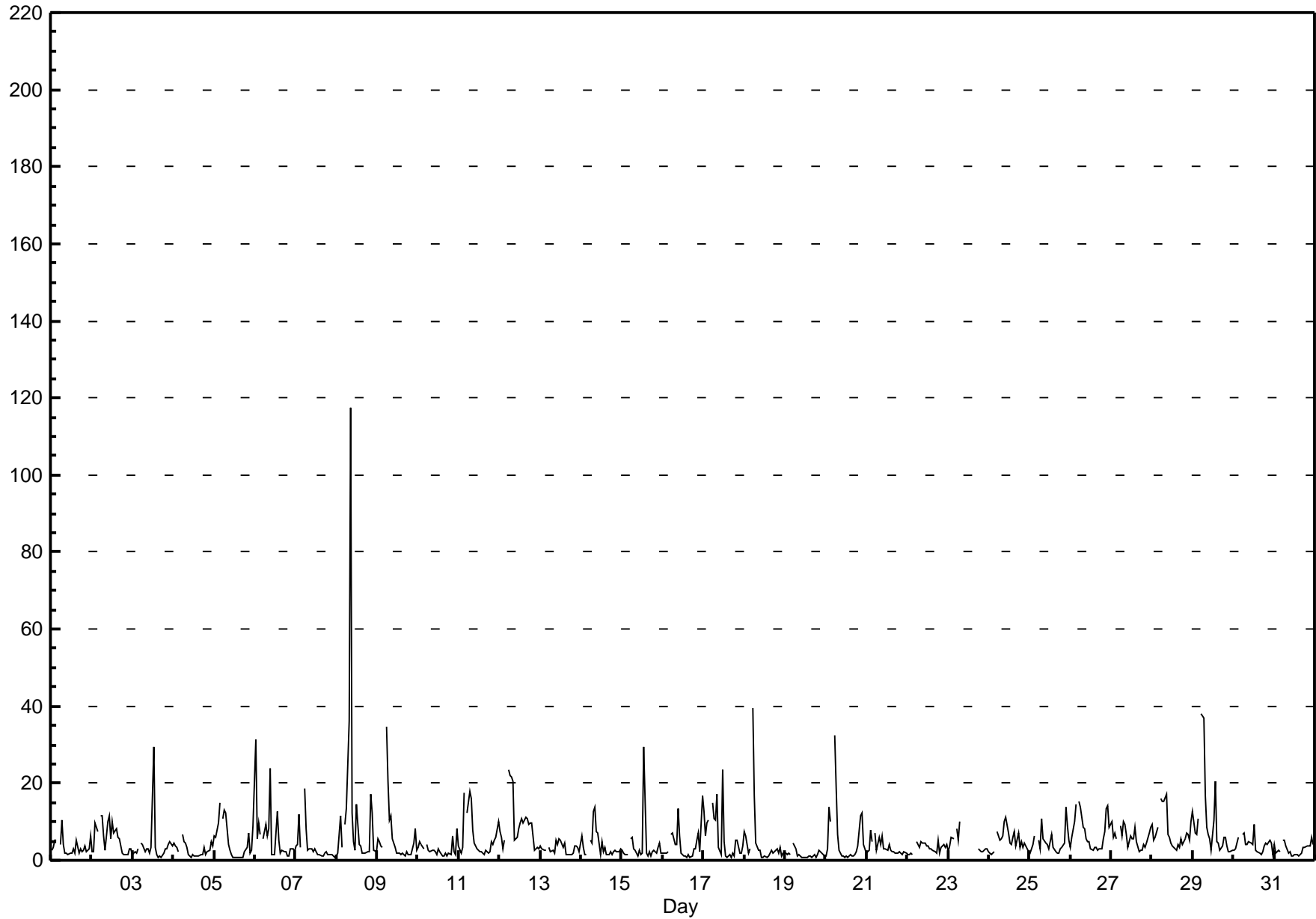
Beaverlodge - May 2013

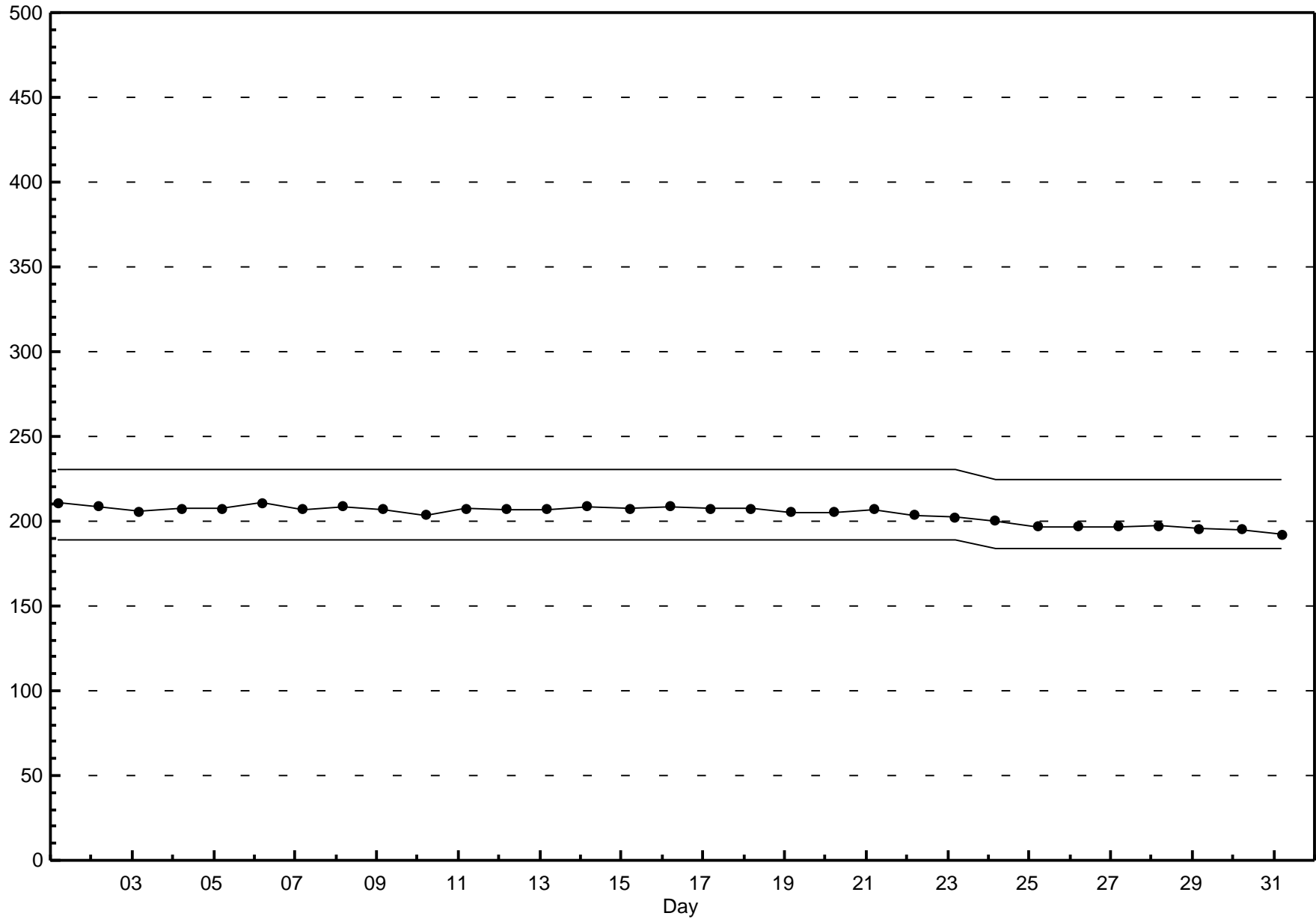
Maximum Value: 117.6 ppb on May 8 09:00		Maximum Daily Average: 12.2 ppb on May 8		Hours in Service: 744																						
Minimum Value: 1 ppb on May 17 17:00		Minimum Daily Average: 1.5 ppb on May 19		Hours of Data: 703																						
Maximum Diurnal Average: 12.3 ppb at hour 6		Minimum Diurnal Average: 2.3 ppb at hour 17		Hours of Missing Data: 41																						
Monthly Average: 5.14 ppb		Percentiles: P <sub>1</sub> = 0.7 P <sub>10</sub> = 1.3 Q <sub>1</sub> = 2.0 Median = 3.3 Q <sub>3</sub> = 5.9 P <sub>90</sub> = 10.6 P <sub>99</sub> = 31.2		Hours of Calibration: 41																						
				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-May	3	3	5	5	A	4	10	4	2	2	1	2	2	3	2	5	2	3	2	2	4	2	3	6	3.4	10.4
2-May	2	2	10	8	A	11	12	6	3	10	12	5	10	7	8	6	6	4	2	1	1	1	3	3	5.8	11.7
3-May	1	2	2	3	A	4	4	2	3	3	2	3	29	3	1	1	1	1	2	3	3	4	5	4	3.8	29.4
4-May	4	4	3	2	A	7	5	4	4	2	1	2	1	1	1	1	1	1	3	1	2	3	5	4	2.7	6.9
5-May	6	6	10	15	A	11	13	12	4	3	1	1	1	1	1	1	1	1	2	3	7	2	3	9	4.9	15.1
6-May	32	6	10	7	A	6	9	6	8	24	2	2	7	13	5	2	3	2	2	1	1	3	3	2	6.7	31.5
7-May	4	4	12	3	A	19	8	3	3	3	2	3	2	2	1	1	1	2	2	1	1	2	1	1	3.5	18.5
8-May	1	2	12	3	A	9	13	36	118	12	5	3	14	4	4	2	2	2	2	2	17	12	3	2	12.2	117.6
9-May	6	5	4	3	A	35	20	10	11	6	3	2	2	2	1	2	1	2	1	2	1	4	8	3	5.9	34.7
10-May	3	5	4	3	A	4	3	2	2	3	2	2	3	2	1	1	2	1	2	2	6	2	1	8	2.9	8.4
11-May	4	2	3	17	A	12	18	16	8	4	4	3	2	2	2	1	3	2	2	5	4	5	6	10	5.9	17.8
12-May	7	6	3	5	A	23	22	22	21	5	6	8	10	11	10	11	11	9	10	10	3	3	3	3	9.6	23.3
13-May	4	3	3	3	A	3	2	3	2	5	4	6	5	3	4	2	2	2	1	2	4	4	4	2	3.1	5.7
14-May	7	3	2	1	A	5	5	13	14	8	7	2	5	2	3	1	1	2	1	2	3	2	2	3	4.1	13.7
15-May	3	2	2	2	A	6	6	3	3	1	2	2	2	29	2	1	2	1	2	3	2	3	5	2	3.7	29.3
16-May	2	2	2	2	A	7	7	4	4	13	6	2	1	1	1	1	1	1	3	3	5	7	2	17	4.1	16.9
17-May	13	6	10	10	A	15	11	10	17	3	2	24	5	1	1	1	1	2	1	5	5	2	2	4	6.6	23.6
18-May	7	6	2	3	A	40	17	4	3	2	1	1	1	1	1	2	3	2	2	3	2	3	1	2	4.7	39.5
19-May	2	2	2	1	A	5	3	1	1	1	1	1	1	1	1	1	1	1	1	2	3	2	1	1	1.5	4.5
20-May	1	3	14	10	A	32	19	7	3	1	1	1	1	1	1	1	1	2	2	4	12	12	4	3	5.9	32.4
21-May	2	3	8	5	A	7	3	6	4	6	3	3	2	4	3	2	2	2	2	2	2	1	2	2	3.3	8.0
22-May	2	1	2	1	A	5	4	3	5	5	4	4	4	3	3	2	2	2	5	2	3	4	3	4	3.2	5.2
23-May	2	4	6	6	A	8	5	10	C	C	C	C	C	C	C	C	C	C	3	2	2	3	3	3	--	9.9
24-May	2	2	2	2	A	8	5	6	6	10	11	7	5	4	6	7	4	7	3	5	4	4	3	2	5.0	11.1
25-May	2	3	4	6	A	5	3	11	6	5	4	3	5	7	3	2	2	2	3	3	4	14	9	5	4.9	13.9
26-May	3	6	10	14	A	15	14	8	8	6	5	5	3	3	3	3	2	3	3	6	7	13	14	8	7.1	15.2
27-May	10	6	7	6	A	9	6	10	9	7	3	6	5	6	9	5	2	3	3	4	4	4	7	9	6.1	10.2
28-May	9	5	6	8	A	16	15	15	17	7	6	4	4	3	3	4	3	6	4	5	7	7	5	10	7.4	17.1
29-May	13	7	7	11	A	38	37	17	9	7	5	3	11	20	5	4	3	4	6	6	4	2	2	3	9.6	37.9
30-May	3	3	5	6	A	7	7	4	4	5	5	4	9	3	2	2	2	2	4	5	4	5	4	2	4.1	9.2
31-May	4	2	3	2	A	5	5	4	2	2	1	1	1	1	1	1	2	3	3	4	4	4	6	4	2.9	5.8
		5.3	3.7	5.5	5.7	--	12.3	10.1	8.5	10.1	5.7	3.8	3.7	5.1	4.8	3.0	2.7	2.3	2.5	2.8	3.3	4.2	4.6	4.0	4.5	Diurnal Average
		31.5	7.2	13.7	17.4	--	39.5	37.0	36.3	117.6	24.0	11.7	23.6	29.4	29.3	9.5	11.1	10.8	9.3	9.5	9.7	17.0	13.9	14.2	16.9	Diurnal Maximum
C - Calibration		A - Automated Daily Zero Span																								

**Hourly Maximums**

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

**Beaverlodge - May 2013**





## Hourly Averages

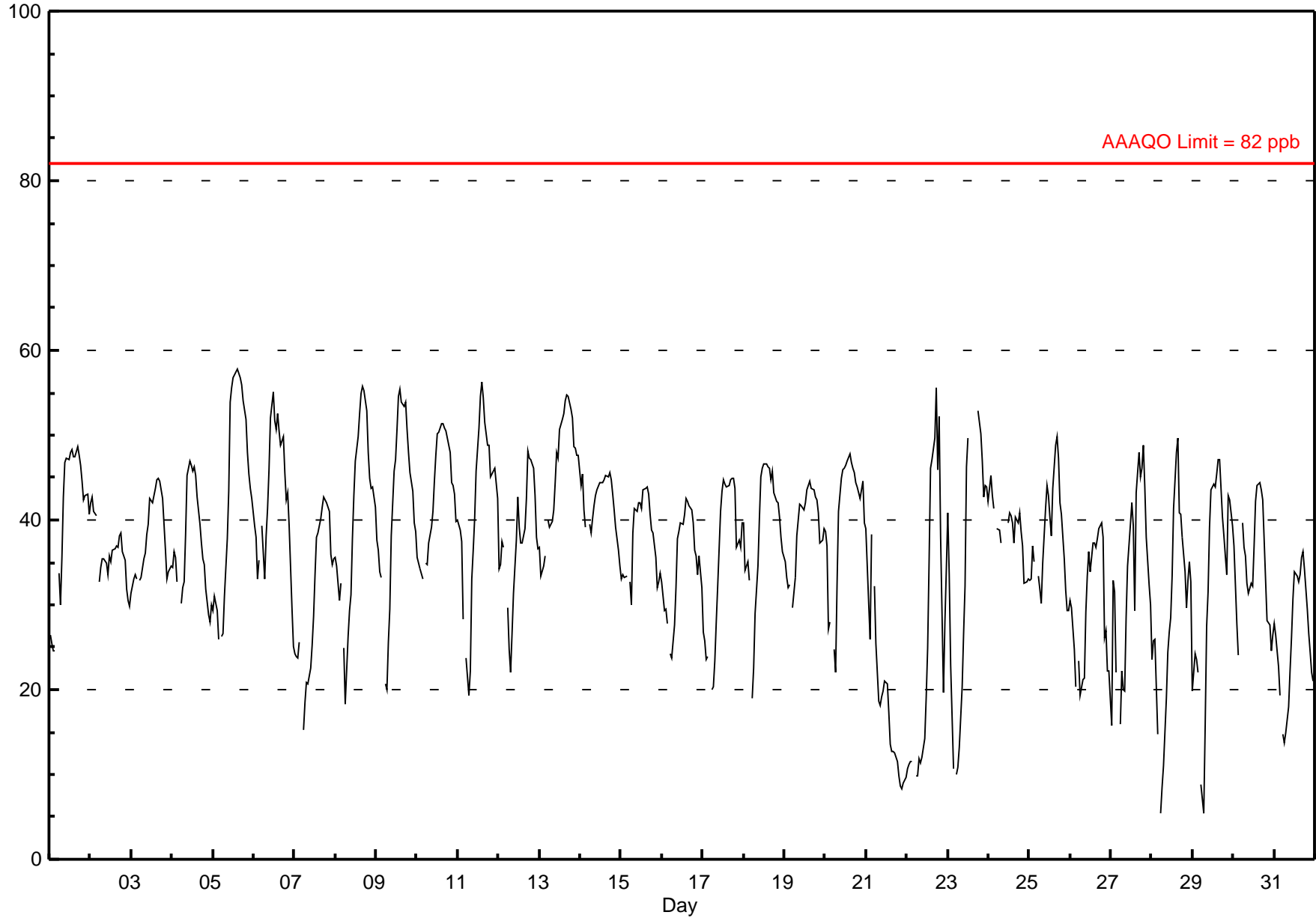
Ozone (O<sub>3</sub>) - ppb

Beaverlodge - May 2013

Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 57.8 ppb on May 5 15:00	Maximum Daily Average: 45.9 ppb on May 13		Hours of Data:	705
Minimum Value: 5 ppb on May 29 07:00	Minimum Daily Average: 18.9 ppb on May 21		Hours of Missing Data:	39
Maximum Diurnal Average: 44.7 ppb at hour 16	Minimum Diurnal Average: 25.1 ppb at hour 7		Hours of Calibration:	39
Monthly Average: 36.46 ppb	Percentiles: P <sub>1</sub> = 9.7 P <sub>10</sub> = 22.1 Q <sub>1</sub> = 30.5 Median = 37.9 Q <sub>3</sub> = 43.9 P <sub>90</sub> = 48.0 P <sub>99</sub> = 55.8		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-May	26	25	25	25	A	34	30	36	43	47	47	48	48	48	47	49	48	47	45	42	43	43	41	40.5	48.7	
2-May	42	43	41	41	A	33	34	35	35	35	34	36	35	36	37	37	37	38	38	36	35	32	30	30	36.1	42.7
3-May	31	33	34	33	A	33	33	35	36	38	39	43	42	43	44	45	45	45	42	39	36	33	34	35	37.9	45.0
4-May	34	36	36	33	A	30	32	33	38	45	47	46	46	46	45	43	40	37	35	35	32	29	28	30	37.2	46.9
5-May	29	31	29	26	A	26	27	31	38	43	54	56	57	57	58	57	57	56	54	52	48	45	44	43	44.2	57.8
6-May	39	38	33	35	A	39	33	38	41	46	52	55	52	51	53	50	49	50	46	42	43	39	30	25	42.6	55.1
7-May	24	24	24	26	A	15	18	21	21	23	25	29	34	38	38	40	42	43	42	42	41	36	35	35	31.1	42.8
8-May	36	35	30	33	A	25	18	26	29	31	38	43	47	50	53	55	56	55	53	48	45	44	44	41	40.6	55.7
9-May	38	36	34	33	A	21	20	26	29	38	46	47	51	55	55	54	53	54	51	48	46	43	40	39	41.6	55.5
10-May	36	35	34	33	A	35	35	37	39	41	45	48	50	50	51	51	51	50	50	48	44	44	43	40	43.0	51.4
11-May	40	39	37	28	A	24	19	22	33	36	40	46	51	55	56	54	52	49	49	45	45	46	46	43	41.5	56.2
12-May	34	35	38	37	A	30	25	22	27	31	38	43	39	37	37	39	42	48	47	47	46	43	38	37	37.4	48.2
13-May	37	33	35	36	A	40	39	40	41	44	48	47	51	52	53	54	55	55	53	52	49	49	48	48	45.9	54.8
14-May	44	45	41	39	A	40	38	40	42	43	44	44	44	44	45	45	45	46	45	43	41	39	36	35	42.1	45.5
15-May	33	34	33	33	A	33	30	39	41	41	42	42	41	44	44	44	43	41	39	38	36	32	33	34	37.8	43.9
16-May	33	29	29	28	A	24	24	28	32	38	39	40	40	41	43	42	42	41	40	36	36	34	36	32	35.0	42.5
17-May	27	26	24	24	A	20	20	23	28	32	41	43	45	44	44	44	45	45	45	44	37	38	37	40	35.4	44.9
18-May	40	34	35	33	A	19	23	29	34	40	45	46	47	47	46	46	45	46	43	42	42	40	38	36	39.0	46.6
19-May	35	33	32	32	A	30	33	38	40	42	42	41	42	44	44	45	44	44	43	42	41	37	38	39	39.1	44.5
20-May	39	37	27	28	A	25	22	32	41	45	46	46	46	47	48	47	46	46	44	44	42	44	45	40	40.3	47.9
21-May	39	30	26	38	A	32	25	19	18	19	20	21	21	17	14	13	13	13	11	10	9	8	9	10	18.9	38.9
22-May	11	11	12	12	A	10	10	12	11	12	14	19	25	35	46	47	50	56	46	52	38	20	28	34	26.5	55.6
23-May	41	34	23	11	A	10	11	13	20	27	32	46	50	C	C	C	C	C	53	50	47	43	44	44	33.2	52.9
24-May	42	45	43	41	A	39	39	37	C	C	C	40	41	41	40	37	40	40	41	39	37	32	33	33	39.0	45.3
25-May	33	33	37	35	A	33	32	30	35	41	44	43	40	38	44	49	50	47	42	41	35	32	29	29	38.0	49.8
26-May	31	30	25	20	A	23	19	21	21	29	33	36	34	37	37	37	38	39	40	38	26	27	22	22	29.9	39.6
27-May	16	33	32	22	A	16	22	20	20	29	35	40	42	39	29	43	48	45	46	49	44	38	32	30	33.4	48.8
28-May	24	26	26	15	A	5	8	11	19	24	27	28	33	41	48	50	41	41	38	34	30	33	35	33	29.1	49.7
29-May	20	24	23	22	A	9	5	16	27	32	39	44	44	44	45	47	47	40	38	36	34	43	42	39	33.1	47.1
30-May	37	32	28	24	A	40	37	36	33	31	33	32	37	42	44	44	43	42	38	33	28	28	25	26	34.5	44.5
31-May	28	26	23	19	A	15	14	15	18	22	26	31	34	33	33	34	36	36	34	29	27	24	22	21	26.1	36.2
	32.8	32.5	30.6	28.8	--	26.0	25.1	27.8	31.1	34.9	38.4	40.9	42.2	43.2	44.0	44.7	44.7	44.4	43.0	41.3	38.1	36.0	35.0	34.3	Diurnal Average	
	44.0	45.4	42.9	41.4	--	40.1	39.2	40.1	42.7	46.8	53.8	55.6	56.8	57.4	57.8	57.3	56.8	55.9	54.0	52.2	48.6	48.5	47.6	47.6	Diurnal Maximum	

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



# Hourly Maximums

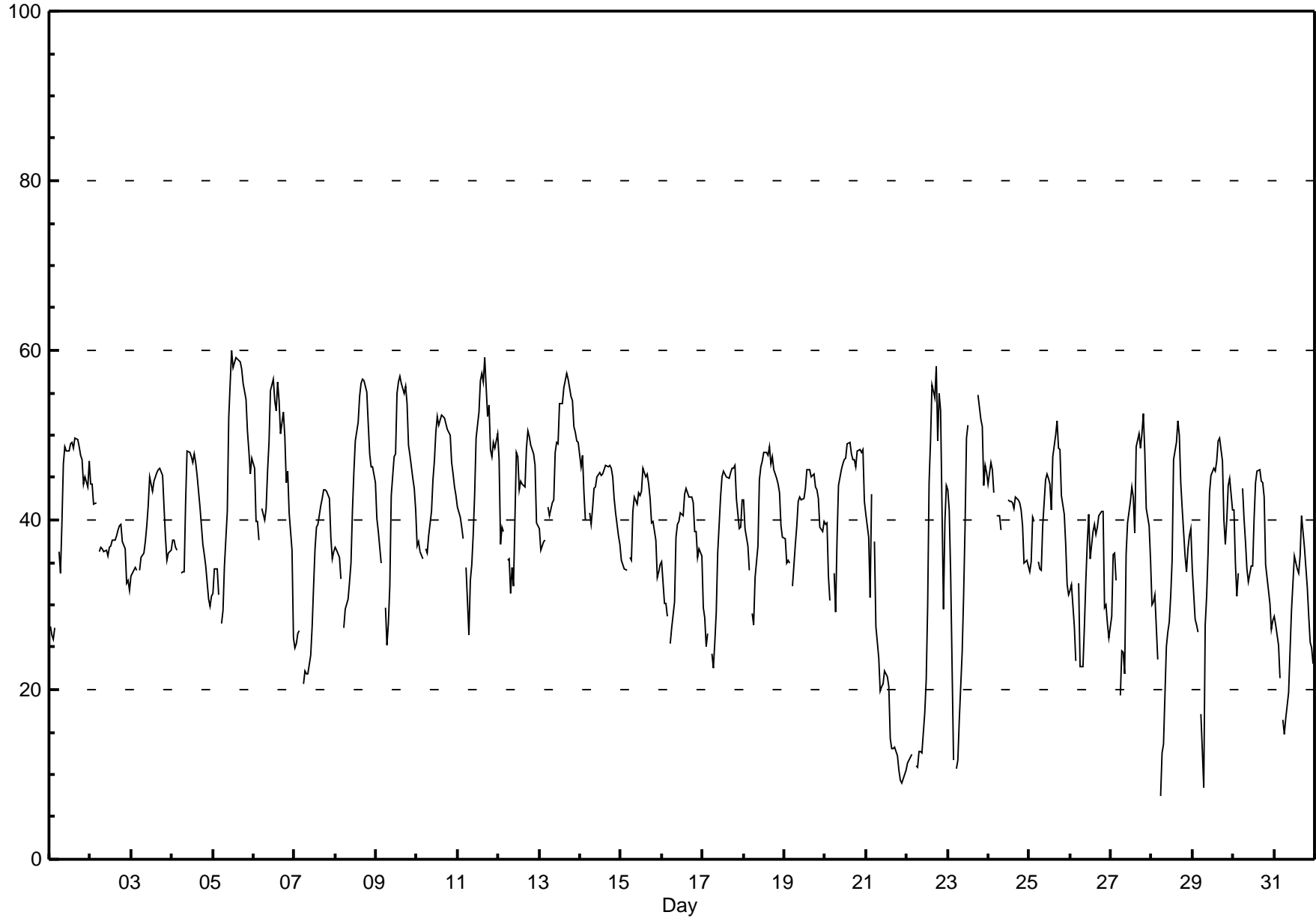
Ozone (O<sub>3</sub>) - ppb

Beaverlodge - May 2013

Maximum Value: 60.0 ppb on May 5 12:00 Minimum Value: 7 ppb on May 28 06:00 Maximum Diurnal Average: 47.0 ppb at hour 17 Monthly Average: 39.18 ppb		Maximum Daily Average: 48.0 ppb on May 13 Minimum Daily Average: 20.9 ppb on May 21 Minimum Diurnal Average: 28.7 ppb at hour 7 Percentiles: P <sub>1</sub> = 10.6 P <sub>10</sub> = 25.9 Q <sub>1</sub> = 34.1 Median = 40.3 Q <sub>3</sub> = 46.1 P <sub>90</sub> = 50.3 P <sub>99</sub> = 57.9		Hours in Service: 744 Hours of Data: 705 Hours of Missing Data: 39 Hours of Calibration: 39 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-May	28	26	26	27	A	36	34	40	47	49	48	48	49	49	48	50	49	49	48	47	44	45	44	47	42.5	49.6	
2-May	44	44	42	42	A	36	37	37	36	36	36	37	37	38	38	38	39	39	39	38	37	33	33	32	37.7	44.3	
3-May	33	34	34	34	A	34	36	36	37	39	42	45	43	45	45	46	46	46	45	42	38	35	36	36	39.5	46.1	
4-May	38	38	37	36	A	34	34	34	42	48	48	47	47	48	47	45	42	39	37	36	35	31	30	31	39.2	48.1	
5-May	31	34	34	31	A	28	29	35	41	52	56	60	58	59	59	59	59	58	56	54	50	48	45	47	47.2	60.0	
6-May	46	40	40	38	A	41	40	41	46	49	55	57	54	53	56	54	50	53	50	44	46	41	36	26	45.9	56.5	
7-May	25	25	27	27	A	21	22	22	22	24	27	32	37	39	39	42	43	44	44	43	43	38	35	36	32.9	43.5	
8-May	37	36	36	33	A	27	29	31	33	35	41	46	49	51	55	56	57	57	55	51	48	46	46	44	43.5	56.7	
9-May	40	39	37	35	A	30	25	28	32	43	47	48	55	56	57	56	55	56	54	49	48	45	44	41	44.3	56.9	
10-May	37	38	36	35	A	37	36	38	41	45	47	50	52	51	52	52	52	51	51	50	47	46	44	43	44.8	52.4	
11-May	41	40	39	38	A	34	26	33	35	38	43	50	53	56	57	56	59	52	54	48	47	49	49	50	45.6	59.2	
12-May	47	37	39	39	A	35	35	31	34	32	48	48	43	44	44	44	49	50	50	49	48	46	40	39	42.3	50.5	
13-May	39	36	38	38	A	42	40	42	42	48	49	49	54	54	56	56	57	57	55	54	51	50	49	49	48.0	57.3	
14-May	46	48	43	40	A	41	40	41	44	44	45	46	45	45	46	46	46	46	46	45	43	41	38	37	43.6	47.5	
15-May	35	35	34	34	A	36	35	41	43	42	43	43	43	46	45	45	44	42	40	40	38	33	34	35	39.4	46.1	
16-May	35	30	30	29	A	25	27	30	38	39	40	41	41	43	44	43	43	43	42	39	39	36	37	36	36.9	43.7	
17-May	30	28	25	27	A	24	23	26	29	36	43	45	46	45	45	45	46	46	46	46	43	39	39	42	37.6	46.4	
18-May	42	39	37	34	A	29	28	33	37	45	46	47	48	48	48	49	47	47	46	45	44	43	39	38	41.7	48.6	
19-May	38	35	35	35	A	32	37	39	42	43	42	42	44	46	46	46	45	45	44	44	43	39	39	40	40.9	45.9	
20-May	39	40	33	31	A	34	29	38	44	46	47	47	47	49	49	48	47	47	46	48	48	48	48	42	43.3	49.2	
21-May	41	38	31	43	A	37	28	24	20	20	21	22	22	20	14	13	13	13	12	11	9	9	9	11	20.9	43.1	
22-May	11	12	12	12	A	11	11	13	13	13	17	21	30	44	49	56	54	58	49	55	53	30	40	44	30.8	58.2	
23-May	44	41	34	12	A	11	12	16	24	31	39	50	51	C	C	C	C	C	55	52	51	44	46	46	36.6	54.8	
24-May	44	47	46	43	A	41	40	39	C	C	C	42	42	42	42	41	43	42	42	41	39	35	35	35	41.1	46.7	
25-May	34	35	40	40	A	35	34	34	39	45	45	45	44	41	47	50	52	49	48	43	41	37	32	31	41.0	51.8	
26-May	32	32	27	23	A	33	23	23	27	33	37	41	35	39	40	38	39	40	41	41	30	30	28	26	33.0	41.1	
27-May	29	36	36	33	A	19	25	24	22	36	40	42	44	43	39	49	50	48	50	52	48	41	39	35	38.3	52.5	
28-May	30	30	31	24	A	7	12	14	25	27	28	31	35	47	49	52	50	44	41	36	34	37	38	39	33.1	51.7	
29-May	34	28	28	27	A	17	8	28	31	36	43	45	46	46	47	49	50	47	40	37	40	44	45	41	37.3	49.6	
30-May	41	35	31	34	A	44	40	37	34	33	35	34	40	44	46	46	45	44	43	35	33	30	27	28	37.4	45.9	
31-May	29	28	25	21	A	16	15	17	20	25	29	33	36	34	34	36	40	39	37	32	29	26	25	23	28.1	40.4	
	36.2	35.0	33.7	32.1	--	29.9	28.7	31.1	34.0	37.7	41.0	43.0	44.2	45.6	46.1	46.9	47.0	46.5	45.3	43.4	41.4	38.5	37.8	37.2	Diurnal Average		
	47.1	47.5	45.9	43.2	--	43.7	40.5	42.1	46.6	52.0	56.1	60.0	58.0	59.1	59.0	58.8	59.2	58.2	56.1	54.9	52.9	50.3	49.3	50.2	Diurnal Maximum		
C - Calibration		A - Automated Daily Zero Span																									

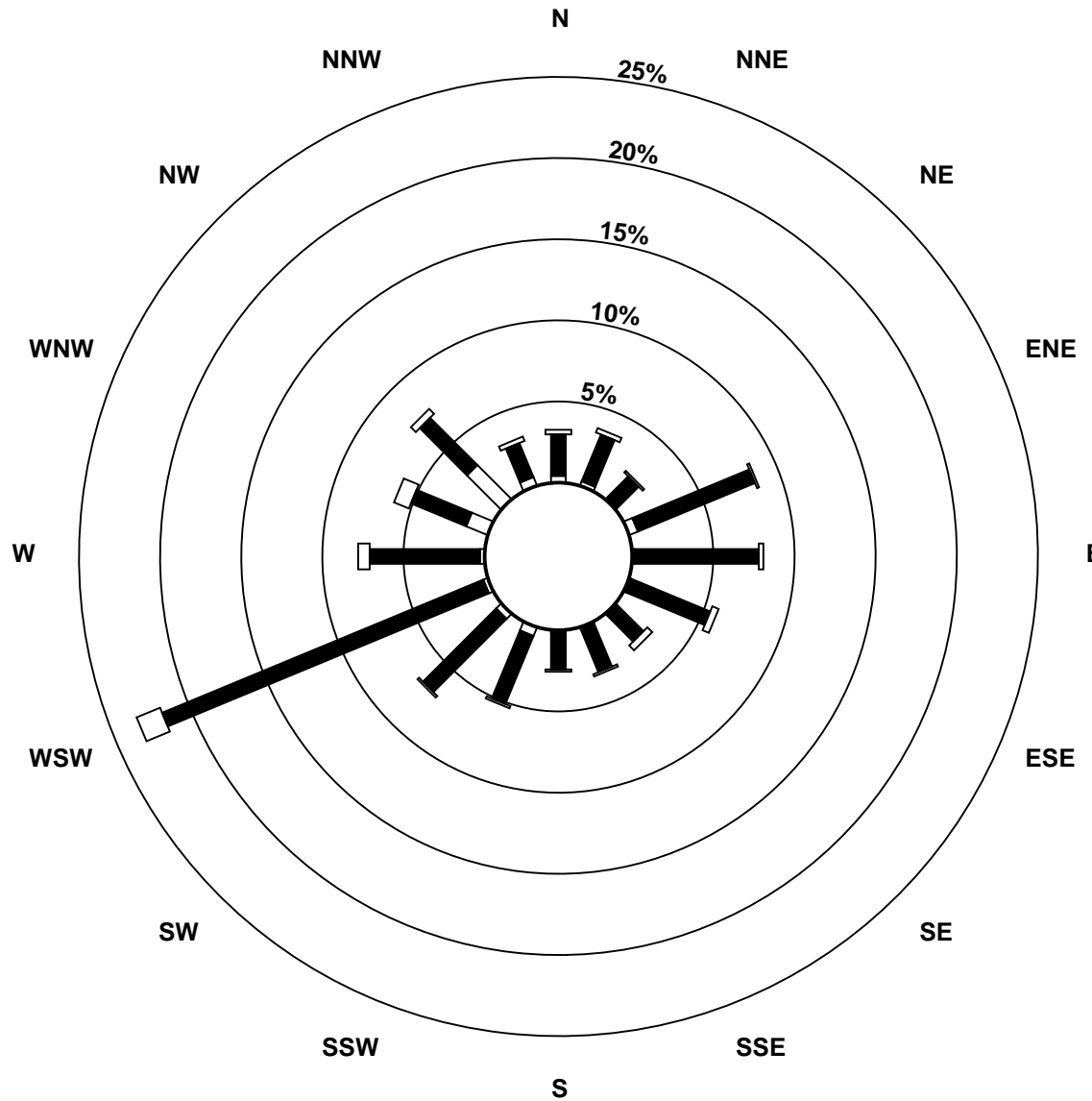
# Hourly Maximums

Ozone (O<sub>3</sub>) - ppb  
Beaverlodge - May 2013

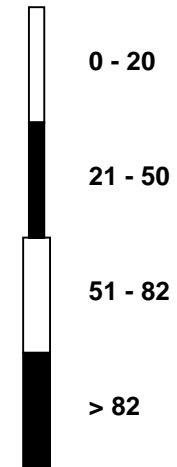


**Pollutant Rose**

Ozone (O<sub>3</sub>) - ppb  
Beaverlodge - May 2013



**Pollutant Classes (ppb)**





# Eight Hour Running Averages

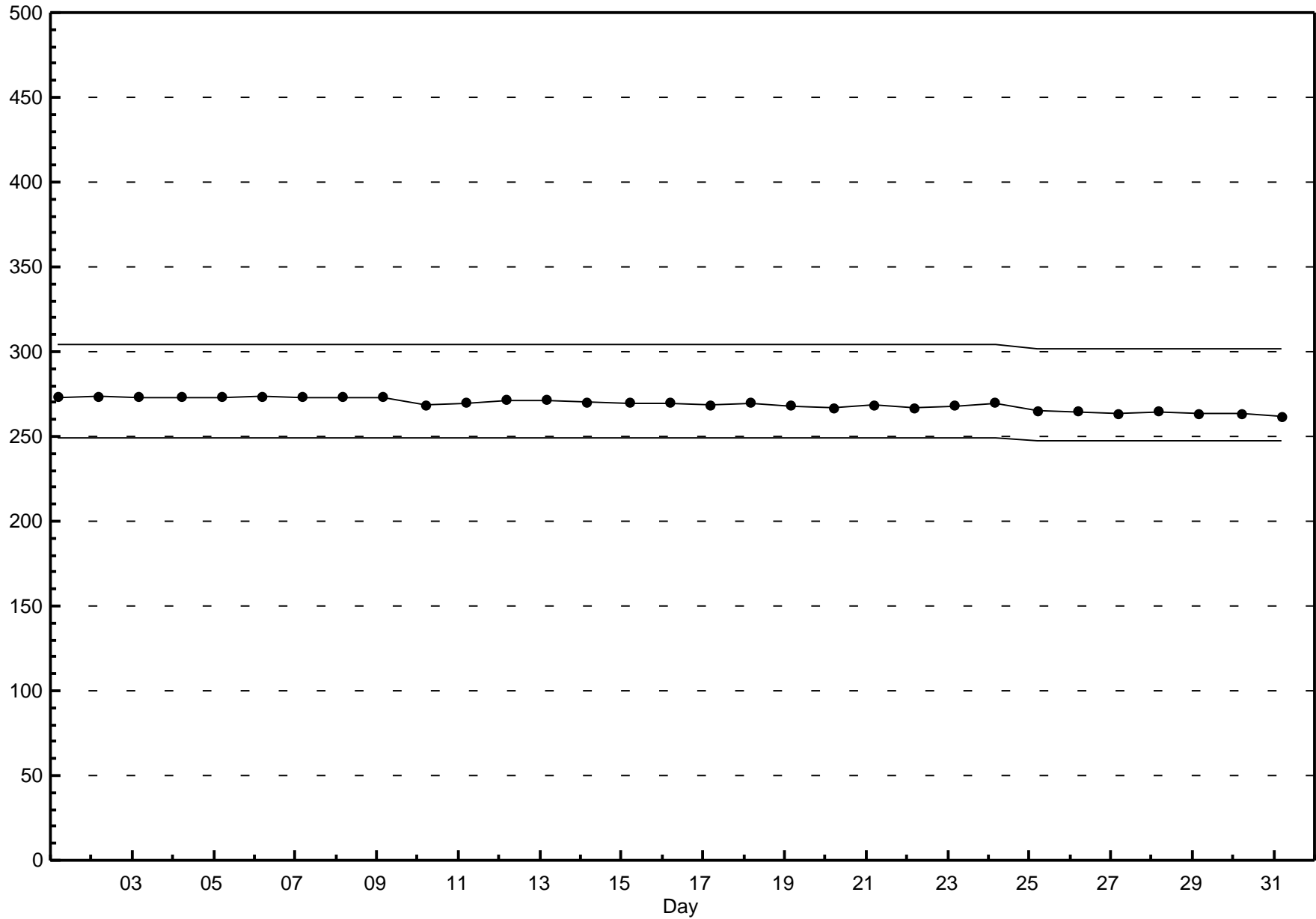
Ozone (O<sub>3</sub>) - ppb

Beaverlodge - May 2013

Maximum Value: 56.5 ppb on May 5 19:00																				Hours in Service:	744				
Minimum Value: 9.9 ppb on May 22 02:00																				Hours of Data:	729				
Percentiles: P <sub>1</sub> = 10.6 P <sub>10</sub> = 23.9 Q <sub>1</sub> = 31.1 Median = 37.0 Q <sub>3</sub> = 42.4 P <sub>90</sub> = 46.5 P <sub>99</sub> = 52.6																				Hours of Missing Data:	15				
																				Hours of Calibration:	15				
																				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-May	30	29	28	27	26	27	27	29	31	34	37	40	41	43	45	47	48	48	48	47	47	46	45	45	47.7
2-May	44	43	42	42	42	40	39	38	37	36	35	35	35	35	35	36	36	36	37	37	37	36	36	35	43.7
3-May	34	33	33	32	32	32	32	33	34	35	35	37	37	39	40	41	42	43	44	43	42	41	40	39	43.5
4-May	37	36	35	35	34	34	34	33	34	35	37	39	40	42	43	45	45	44	42	41	39	37	35	33	44.8
5-May	32	31	30	29	29	29	28	28	30	31	35	39	41	45	49	52	55	56	56	56	55	53	52	50	56.5
6-May	48	45	43	41	40	39	37	37	37	38	41	44	45	46	48	50	51	51	51	49	48	47	44	40	51.4
7-May	37	34	31	29	27	24	22	22	21	21	21	22	23	26	29	31	34	36	38	40	41	41	40	39	40.8
8-May	39	38	36	35	34	33	30	29	28	28	29	30	32	35	40	43	46	50	51	52	52	51	50	48	52.0
9-May	46	44	41	39	39	35	32	30	28	29	30	32	35	39	43	47	50	52	52	53	52	51	49	47	52.5
10-May	44	42	40	38	37	36	35	35	35	36	38	40	41	43	45	47	48	50	50	50	50	49	48	46	50.3
11-May	45	43	42	39	39	36	32	30	29	29	29	32	34	38	42	46	49	50	51	51	51	50	48	47	51.4
12-May	45	43	41	40	40	37	34	31	30	30	30	31	32	33	34	36	38	40	42	42	43	44	44	44	44.6
13-May	43	41	39	38	37	36	37	37	38	39	41	43	44	45	47	49	50	52	52	53	53	52	52	51	53.0
14-May	50	48	47	45	45	43	42	41	41	40	41	42	42	43	43	44	44	45	45	45	44	44	43	41	49.5
15-May	40	38	37	36	35	34	33	33	35	36	37	38	39	40	42	42	43	43	42	42	41	40	38	37	42.6
16-May	36	34	33	32	31	30	29	28	28	29	30	32	33	35	37	39	40	41	41	40	40	39	38	37	40.9
17-May	35	33	31	30	29	27	25	23	24	24	27	30	32	35	38	40	42	44	44	44	43	43	42	41	44.4
18-May	41	39	38	37	37	34	32	30	30	30	32	34	35	39	42	44	45	46	46	45	45	44	43	42	45.9
19-May	40	39	37	36	35	34	33	33	34	35	37	38	39	40	42	42	43	43	43	43	43	42	42	41	43.4
20-May	40	39	37	36	35	33	31	30	30	31	34	37	38	41	44	46	46	46	46	46	46	45	45	44	46.5
21-May	43	41	39	38	37	36	33	30	27	25	25	22	22	20	19	18	17	16	15	14	12	11	11	10	42.9
22-May	10	10	10	10	10	11	11	11	11	11	12	13	14	17	22	26	31	36	40	45	46	44	42	40	46.2
23-May	39	37	34	28	27	26	23	20	17	16	18	23	26	28	31	N	N	N	N	N	N	N	N	47	46.8
24-May	46	46	45	44	43	43	42	41	41	N	N	N	N	N	N	N	40	40	40	40	39	38	37	37	46.1
25-May	36	35	35	34	34	34	34	33	34	35	36	37	37	38	39	42	44	44	44	44	43	42	41	38	44.4
26-May	36	34	31	29	28	27	25	24	23	23	24	26	27	29	31	33	35	36	37	37	36	35	33	31	37.5
27-May	29	28	27	25	25	23	23	23	23	23	23	26	28	31	32	35	38	40	42	43	43	43	43	42	43.2
28-May	38	36	34	29	27	23	19	16	16	16	16	18	20	24	29	34	37	39	40	41	40	39	38	35	40.7
29-May	33	31	29	28	27	24	20	17	18	19	22	25	27	31	36	40	43	44	44	43	41	41	41	40	43.8
30-May	39	38	36	35	35	35	34	33	33	33	33	34	35	35	36	37	38	40	40	41	39	38	35	33	40.5
31-May	31	29	27	25	25	23	22	20	19	18	18	20	22	24	26	29	31	33	34	34	33	32	30	29	33.8
<div style="display: flex; justify-content: space-between;"> <span>49.5</span><span>48.4</span><span>46.9</span><span>45.3</span><span>44.8</span><span>43.5</span><span>42.2</span><span>41.1</span><span>40.8</span><span>40.4</span><span>41.2</span><span>43.6</span><span>44.6</span><span>46.0</span><span>49.2</span><span>52.5</span><span>54.9</span><span>56.4</span><span>56.5</span><span>56.0</span><span>54.9</span><span>53.4</span><span>51.7</span><span>50.9</span> </div> <p style="text-align: center;">Diurnal Maximums</p>																									
N - Not Valid																									

### Span Responses

Ozone (O<sub>3</sub>)  
Beaverlodge - May 2013



## Hourly Averages

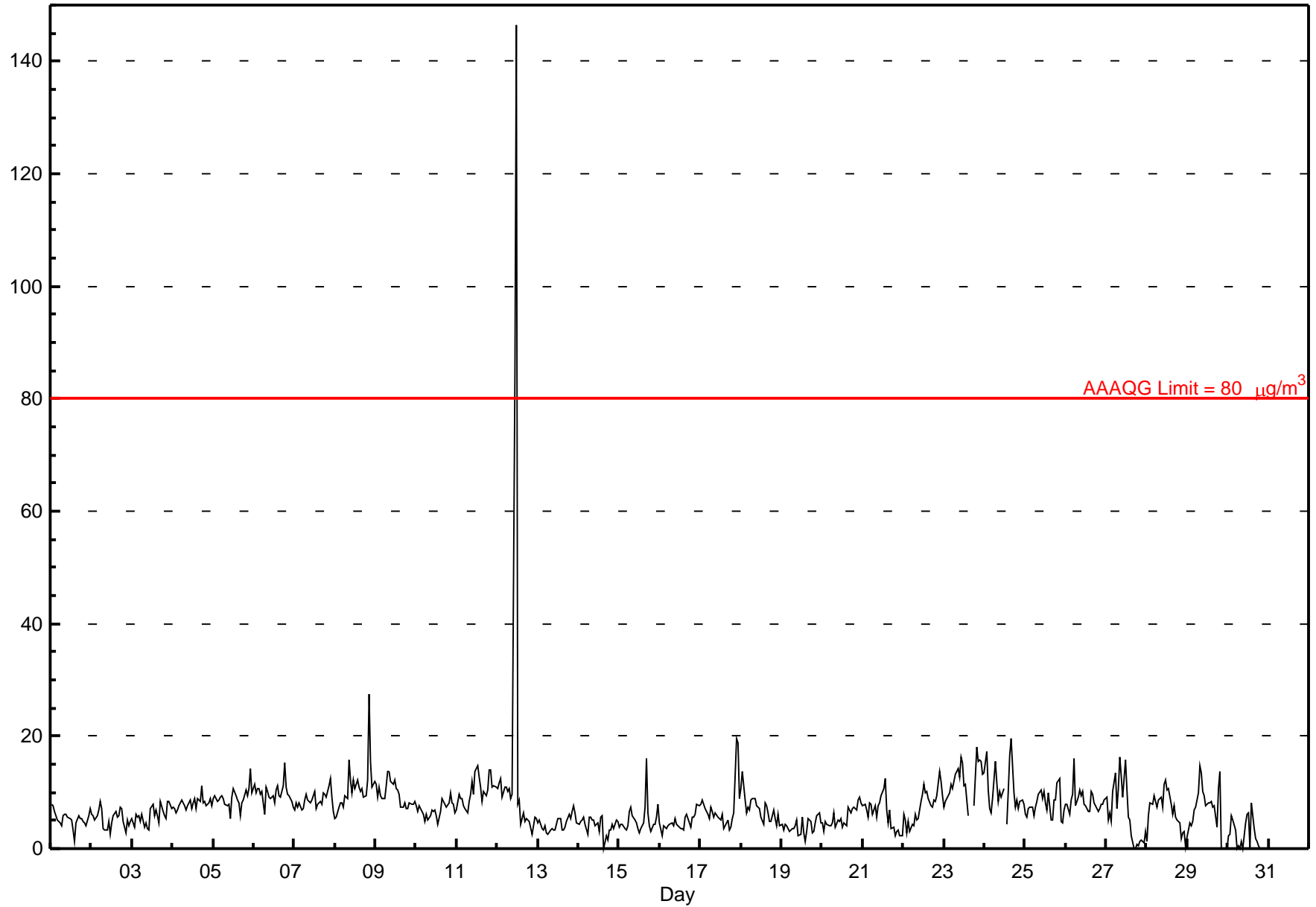
## Particulate Matter 2.5 (PM<sub>2.5</sub>) - µg/m<sup>3</sup>

### Beaverlodge - May 2013

Number of Exceedences: 1-hr: 2 24-hr: 0	Hours in Service: 744
Maximum Value: 146.5 µg/m <sup>3</sup> on May 12 12:00	Maximum Daily Average: 16.7 µg/m <sup>3</sup> on May 12
Minimum Value: 0 µg/m <sup>3</sup> on May 27 17:00	Hours of Data: 740
Maximum Diurnal Average: 12.4 µg/m <sup>3</sup> at hour 12	Hours of Missing Data: 4
Monthly Average: 7.18 µg/m <sup>3</sup>	Hours of Calibration: 0
Minimum Daily Average: 0.0 µg/m <sup>3</sup> on May 31	Percent Operational Time: 99.5
Minimum Diurnal Average: 6.2 µg/m <sup>3</sup> at hour 18	
Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 2.8 Q <sub>1</sub> = 4.5 Median = 6.9 Q <sub>3</sub> = 8.9 P <sub>90</sub> = 11.0 P <sub>99</sub> = 17.6	

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-May	8	8	7	6	5	5	4	6	6	6	6	5	5	3	1	5	6	5	5	5	4	4	6	7	5.3	7.9
2-May	6	6	5	6	7	8	7	4	3	3	5	3	5	6	7	6	6	7	7	5	3	5	4	5	5.3	8.5
3-May	5	4	6	6	6	5	6	4	5	4	3	7	8	6	7	6	4	8	7	6	5	8	8	7	5.9	8.4
4-May	7	7	6	7	8	9	8	8	7	8	9	7	8	9	7	9	8	11	8	8	8	8	9	8	7.9	11.2
5-May	9	10	8	9	9	9	9	8	8	8	5	9	11	9	9	8	6	8	9	10	9	11	14	10	9.0	14.2
6-May	11	10	11	11	10	10	6	11	10	9	9	9	8	10	11	9	9	11	15	11	10	9	8	7	9.9	15.2
7-May	7	8	7	8	7	7	9	10	9	8	9	10	10	7	8	8	8	10	10	9	11	12	9	7	8.6	12.5
8-May	5	6	7	8	8	7	9	9	16	12	10	12	11	12	11	10	11	9	9	12	27	15	11	12	10.9	27.4
9-May	11	9	11	10	9	9	11	14	14	12	12	12	11	10	10	7	7	8	7	7	8	8	8	8	9.7	13.7
10-May	8	7	8	6	6	5	6	5	6	7	7	7	6	4	7	9	8	8	7	8	10	8	8	6	6.9	9.9
11-May	7	10	9	9	8	7	6	8	10	12	10	14	15	13	11	9	10	9	10	14	14	11	11	11	10.3	14.8
12-May	11	12	12	9	11	11	10	11	9	10	84	147	8	9	4	6	5	5	5	5	2	4	6	5	16.7	146.5
13-May	5	5	4	3	4	3	3	3	4	3	3	4	5	5	3	3	4	5	6	5	7	8	6	5	4.4	7.7
14-May	4	5	5	5	4	3	6	6	5	5	4	4	3	6	6	0	2	2	3	3	4	4	5	5	4.1	5.9
15-May	4	4	4	4	3	4	7	7	6	5	5	3	3	3	5	7	16	6	4	3	4	4	6	8	5.3	16.0
16-May	5	2	4	4	4	4	4	5	4	5	4	4	4	4	3	6	6	5	4	6	6	6	8	8	4.7	7.9
17-May	8	9	8	7	6	5	7	7	6	6	6	5	5	6	4	4	5	3	4	5	6	20	19	9	7.1	19.6
18-May	11	14	9	6	7	7	9	9	9	8	7	7	6	4	8	8	6	5	5	7	5	4	6	4	7.1	13.8
19-May	4	3	4	4	3	3	4	4	4	5	2	2	6	3	1	3	5	5	3	3	5	6	6	5	3.9	6.3
20-May	5	3	5	4	4	4	5	6	4	5	5	5	4	5	4	7	7	6	7	7	7	9	9	8	5.6	9.2
21-May	8	8	7	6	8	8	6	8	6	8	8	9	11	13	7	5	7	4	4	2	3	3	2	2	6.3	12.6
22-May	6	5	3	5	3	4	4	6	5	5	8	10	11	10	10	9	8	7	9	8	9	14	12	10	7.6	13.8
23-May	7	8	9	10	11	11	12	13	14	13	16	15	11	12	6	N	N	N	8	18	16	16	15	13	12.1	18.1
24-May	13	17	10	7	6	9	16	12	8	10	9	11	M	4	10	16	20	10	7	9	7	8	9	8	10.3	19.5
25-May	6	6	7	7	7	6	7	8	10	10	9	10	8	7	10	5	5	9	9	12	12	5	4	7	7.8	12.4
26-May	8	8	6	9	10	16	8	9	10	9	10	8	8	7	7	10	10	8	7	7	7	8	8	9	8.5	16.0
27-May	9	5	6	5	10	13	7	11	16	13	9	16	10	6	5	2	0	0	1	1	1	1	1	3	6.4	16.3
28-May	1	6	8	8	9	8	7	9	9	7	11	12	10	11	8	6	8	6	5	4	2	3	3	0	6.8	12.3
29-May	2	4	4	5	7	7	10	15	14	10	9	8	8	8	8	7	8	4	11	14	0	0	0	0	6.8	14.8
30-May	2	3	6	5	3	0	0	0	1	0	5	6	6	0	8	4	2	1	0	0	0	0	0	0	2.2	8.2
31-May	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
	6.6	6.8	6.7	6.4	6.6	6.7	6.9	7.5	7.6	7.3	9.6	12.4	7.4	6.8	6.6	6.5	6.9	6.2	6.3	7.0	6.9	7.2	7.2	6.3	Diurnal Average	
	13.4	17.4	12.5	10.7	11.3	16.0	15.6	14.8	16.3	13.0	84.2	146.5	14.8	12.7	11.2	16.5	19.5	11.2	15.2	18.1	27.4	19.6	18.7	13.2	Diurnal Maximum	

M - Maintenance N - Not Valid  
 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>

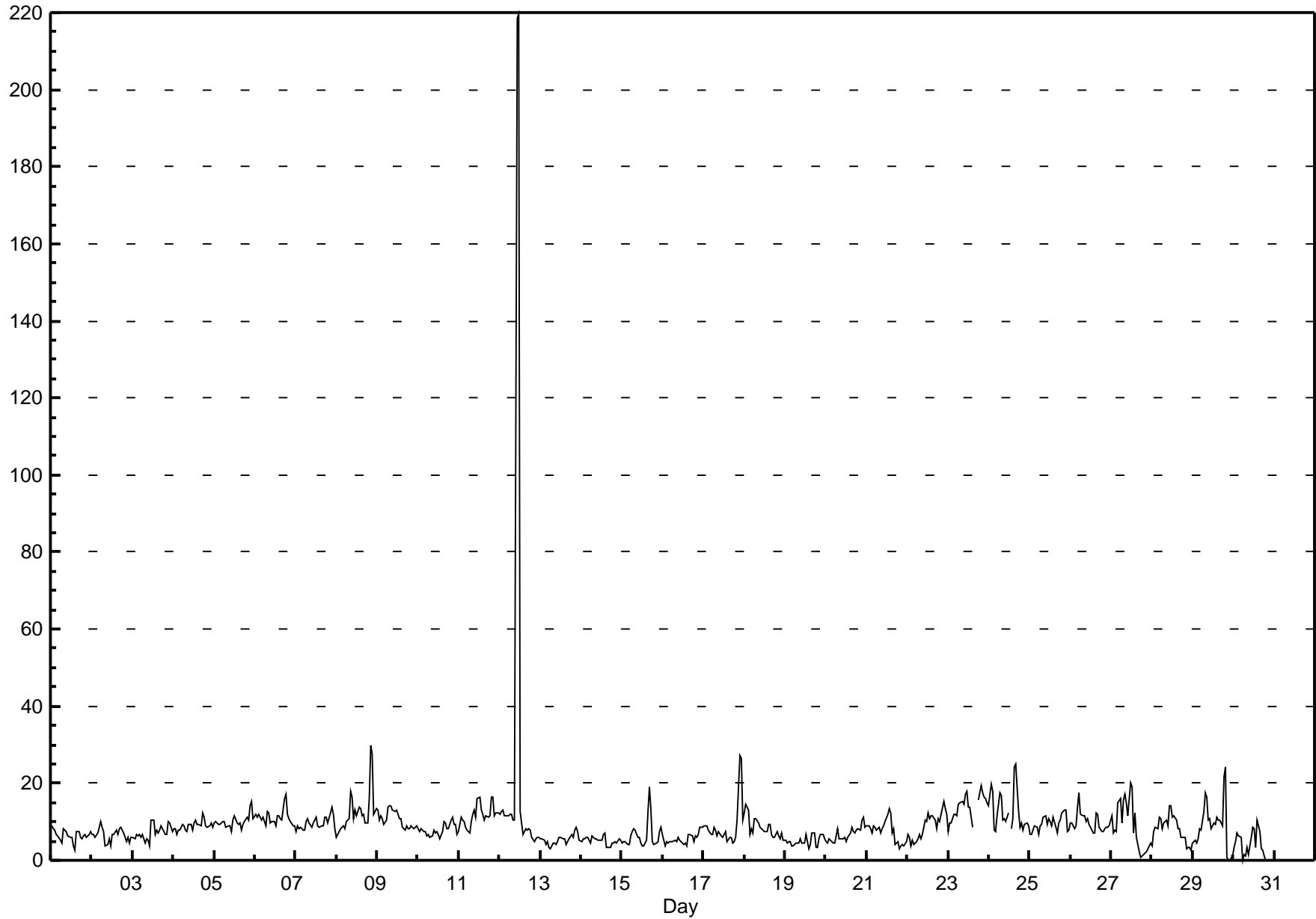


## Hourly Maximums

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

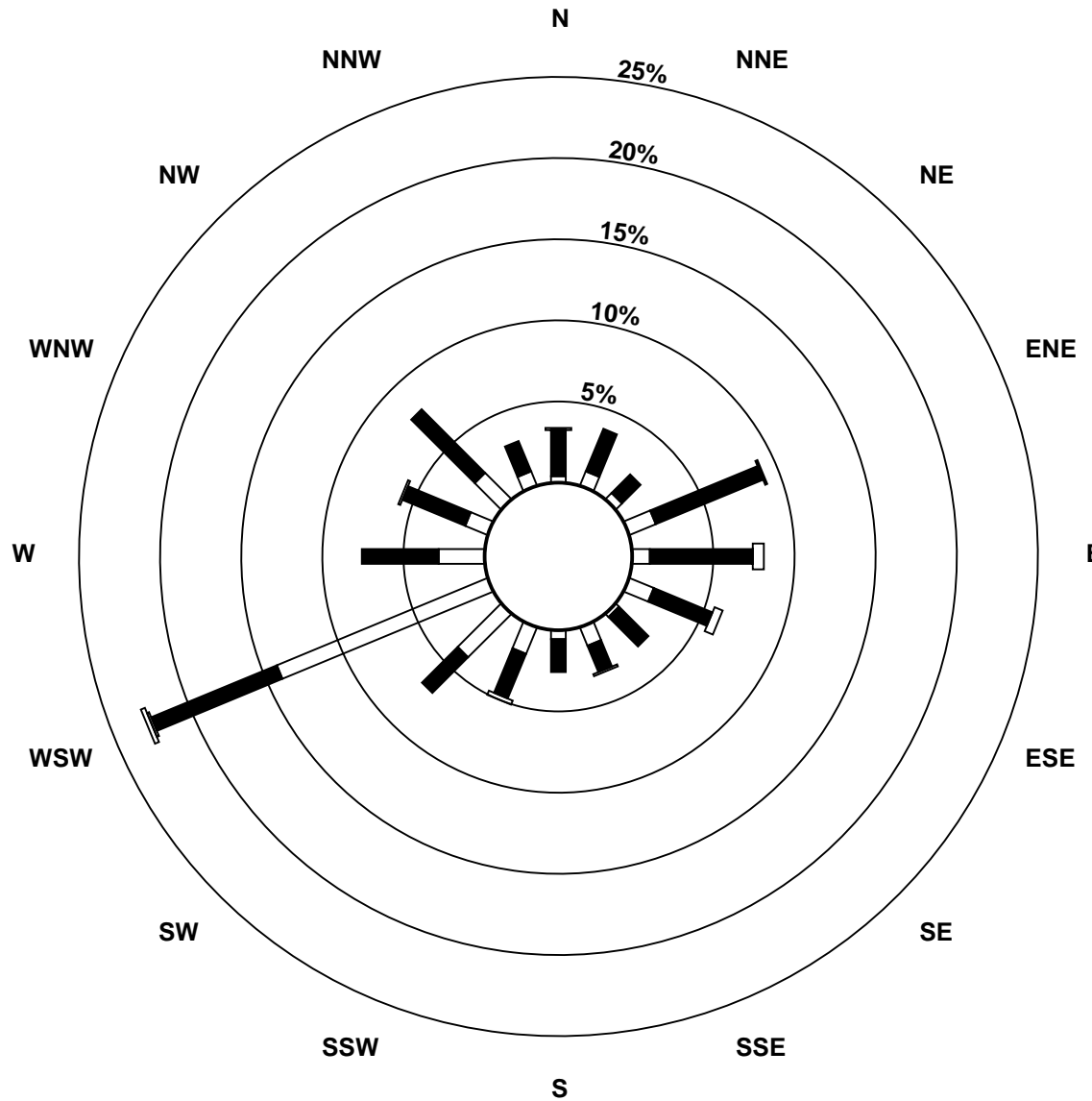
### Beaverlodge - May 2013

Maximum Value: 219.5 µg/m <sup>3</sup> on May 12 12:00		Maximum Daily Average: 26.9 µg/m <sup>3</sup> on May 12		Hours in Service: 744																						
Minimum Value: 0 µg/m <sup>3</sup> on May 29 22:00		Minimum Daily Average: 0.0 µg/m <sup>3</sup> on May 31		Hours of Data: 740																						
Maximum Diurnal Average: 16.0 µg/m <sup>3</sup> at hour 12		Minimum Diurnal Average: 7.3 µg/m <sup>3</sup> at hour 4		Hours of Missing Data: 4																						
Monthly Average: 8.82 µg/m <sup>3</sup>		Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 3.9 Q <sub>1</sub> = 5.8 Median = 8.0 Q <sub>3</sub> = 10.4 P <sub>90</sub> = 13.0 P <sub>99</sub> = 23.7		Hours of Calibration: 0																						
				Percent Operational Time: 99.5																						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-May	9	8	8	7	6	5	4	8	8	7	6	6	4	3	7	8	6	6	6	7	6	7	7	6.5	8.9	
2-May	7	7	6	7	9	10	9	7	4	4	6	4	7	8	7	8	9	8	7	5	6	5	6	6.6	10.0	
3-May	6	6	7	6	7	6	7	5	6	5	4	10	10	7	8	7	8	9	8	7	7	10	10	8	7.1	10.5
4-May	8	8	7	8	8	9	9	8	8	9	9	8	10	11	9	9	9	12	11	9	9	9	10	9	9.0	12.1
5-May	10	10	9	9	10	10	10	9	9	9	7	10	12	10	9	10	8	9	10	11	10	14	15	11	10.1	15.4
6-May	12	11	12	11	10	11	9	13	12	10	10	10	9	12	12	11	10	16	17	12	11	10	9	9	11.2	17.2
7-May	8	9	8	9	8	8	10	11	10	9	10	10	11	9	9	9	9	11	11	10	12	14	12	8	9.7	13.9
8-May	6	7	8	9	9	8	10	11	18	16	11	13	12	14	14	12	12	10	17	30	28	12	13	12.8	30.0	
9-May	13	11	11	11	9	10	14	14	14	13	13	13	12	11	11	9	8	9	8	8	9	8	9	9	10.7	14.3
10-May	8	7	8	8	8	6	7	6	6	8	7	8	7	6	7	10	10	8	8	10	11	9	9	7	7.9	11.3
11-May	8	11	10	10	9	8	7	10	12	13	11	16	16	13	12	10	11	11	11	17	16	11	12	12	11.7	16.6
12-May	12	13	13	12	11	12	12	12	10	10	219	220	13	10	7	8	8	8	8	6	5	6	6	6	26.9	219.5
13-May	6	6	5	4	5	3	3	4	4	4	5	6	6	6	4	5	6	7	6	8	8	7	5	5.4	8.5	
14-May	5	6	6	6	6	4	6	6	6	6	5	5	5	7	7	3	3	3	5	5	5	4	6	5	5.2	7.0
15-May	4	5	5	4	4	6	7	8	8	6	6	4	4	5	13	19	14	5	4	5	5	7	9	6.7	19.2	
16-May	7	4	5	5	5	5	5	5	5	6	5	5	4	4	4	7	7	6	5	6	6	7	9	9	5.6	8.6
17-May	9	9	9	8	7	7	9	8	6	7	6	6	7	7	5	6	6	4	5	6	10	27	27	10	8.8	27.1
18-May	12	15	13	7	8	7	11	11	10	8	8	8	8	7	9	9	7	6	6	7	6	6	7	5	8.4	14.6
19-May	5	4	5	5	4	4	4	4	4	6	4	5	7	5	3	4	7	7	3	3	6	7	7	6	5.0	7.0
20-May	5	4	6	5	4	5	6	8	6	6	6	6	5	6	7	9	7	7	8	8	8	11	11	9	6.7	11.0
21-May	9	9	8	7	9	9	8	9	7	8	9	10	12	13	12	7	8	4	5	3	4	4	4	5	7.6	13.4
22-May	7	6	4	5	4	5	6	7	6	7	10	10	12	11	12	12	11	8	11	10	12	15	14	12	8.9	15.1
23-May	8	10	10	12	12	12	14	15	15	15	17	18	14	14	9	N	N	N	16	19	17	17	16	15	13.9	19.2
24-May	14	20	18	8	7	12	18	17	10	11	10	12	M	8	11	24	25	13	8	10	8	9	10	9	12.7	25.0
25-May	7	7	8	9	9	7	9	9	11	11	9	11	10	9	11	9	7	10	10	12	13	13	7	8	9.4	13.0
26-May	10	10	8	9	14	18	12	11	11	10	11	9	9	7	7	12	12	9	8	7	8	9	9	9	9.9	17.5
27-May	12	7	8	7	15	16	10	16	17	15	12	20	19	7	12	6	2	1	1	1	2	2	4	5	9.0	20.3
28-May	4	7	8	8	11	11	8	10	10	9	14	14	11	11	10	8	8	6	6	6	3	3	3	3	8.1	14.1
29-May	4	5	4	6	8	8	13	17	17	11	11	8	10	9	11	11	10	9	22	24	1	0	0	1	9.2	24.4
30-May	3	5	7	6	6	0	1	1	3	2	6	9	8	3	10	8	3	3	1	0	0	0	0	0	3.6	10.3
31-May	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
		7.6	7.9	7.9	7.3	7.8	7.8	8.3	9.0	8.8	8.4	15.1	16.0	9.1	8.1	8.4	8.7	8.6	7.8	8.0	8.3	8.2	9.0	8.4	7.3	Diurnal Average
		14.3	19.7	18.0	11.9	14.8	17.5	17.6	17.4	17.8	16.3	218.5	219.5	18.9	13.8	13.6	24.4	25.0	15.9	21.5	24.4	30.0	27.6	26.6	14.8	Diurnal Maximum
M - Maintenance		N - Not Valid																								

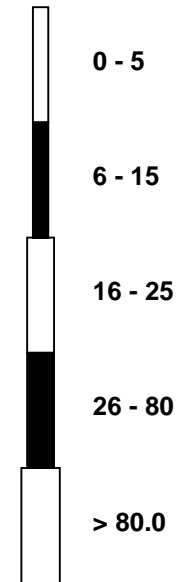


**Pollutant Rose**

**Particulate Matter 2.5 (PM<sub>2.5</sub>) - μg/m<sup>3</sup>**  
**Beaverlodge - May 2013**



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





Peace Airshed Zone Association

# Hourly Averages

External Temperature (ET) - °C

Beaverlodge - May 2013

Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 27.0 °C on May 5 17:00	Maximum Daily Average: 18.1 °C on May 5		Hours of Data:	742
Minimum Value: -2 °C on May 1 04:00	Minimum Daily Average: 4.4 °C on May 1		Hours of Missing Data:	2
Maximum Diurnal Average: 17.3 °C at hour 15	Minimum Diurnal Average: 6.3 °C at hour 6		Hours of Calibration:	0
Monthly Average: 12.18 °C	Percentiles: P <sub>1</sub> = 0.9 P <sub>10</sub> = 5.7 Q <sub>1</sub> = 8.3 Median = 11.9 Q <sub>3</sub> = 15.8 P <sub>90</sub> = 19.0 P <sub>99</sub> = 26.2		Percent Operational Time:	99.7

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-May	-2	-2	-1	-2	-2	-2	-1	1	3	5	6	7	8	9	9	9	9	9	9	8	8	7	7	6	4.4	9.3
2-May	6	8	8	8	8	8	8	8	8	9	10	10	11	13	13	14	14	13	13	12	10	8	6	5	9.7	14.0
3-May	6	6	7	6	6	6	7	9	10	11	13	14	14	15	16	16	16	16	16	14	12	10	9	8	10.9	16.4
4-May	7	7	7	5	6	5	6	9	13	16	18	19	20	21	22	23	23	23	21	20	18	14	13	12	14.5	23.2
5-May	11	10	9	8	7	8	9	11	15	19	23	25	26	26	27	27	27	27	26	24	21	18	16	15	18.1	27.0
6-May	14	12	10	10	9	10	11	14	16	20	22	24	26	27	26	26	25	23	18	13	11	9	8	6	16.3	26.7
7-May	6	5	5	4	3	1	4	5	6	7	9	10	12	13	14	16	17	17	16	15	13	11	10	10	9.5	16.8
8-May	9	8	6	6	5	4	5	8	10	12	14	16	18	19	20	21	22	20	20	19	17	15	14	13	13.4	21.5
9-May	12	11	9	8	6	5	6	8	10	14	17	18	19	20	20	20	20	20	18	17	15	13	12	11	13.8	20.0
10-May	10	9	8	7	6	6	6	7	9	10	12	13	15	15	16	17	18	18	17	16	14	13	12	11	11.9	17.9
11-May	11	10	9	6	4	5	7	8	11	14	16	19	21	23	25	26	25	24	23	22	21	20	19	17	15.9	25.8
12-May	16	15	16	15	14	14	14	15	16	19	17	15	19	19	19	19	19	18	18	18	16	14	11	10	16.1	19.4
13-May	10	10	10	9	9	10	10	11	11	13	15	16	16	16	17	17	17	17	16	15	13	11	11	10	12.9	17.3
14-May	9	9	7	7	7	8	9	12	13	14	15	15	16	16	16	16	16	16	16	15	12	11	9	8	12.1	16.4
15-May	7	7	6	6	5	5	7	10	12	13	14	14	14	15	15	16	15	14	13	12	9	9	8	8	10.9	15.6
16-May	7	5	5	4	4	4	6	8	11	14	15	16	16	16	17	17	18	17	18	17	16	13	12	11	11.9	18.1
17-May	9	7	6	6	5	4	6	8	11	15	17	18	19	19	20	21	21	20	21	20	17	15	14	14	13.9	20.8
18-May	14	12	11	10	8	7	10	13	15	17	18	19	20	20	19	18	17	18	16	17	16	13	10	9	14.4	19.7
19-May	9	8	7	7	7	7	10	11	12	13	14	15	15	16	16	16	16	16	16	14	12	10	8	8	11.7	16.2
20-May	8	7	5	4	4	5	5	9	12	14	15	16	17	16	15	16	15	16	15	15	14	14	13	12	11.8	16.8
21-May	11	10	10	10	9	9	8	8	8	8	8	8	8	8	7	6	5	5	4	3	2	2	2	1	6.7	11.3
22-May	1	2	2	2	2	2	2	3	3	4	6	10	12	17	20	21	20	21	19	19	16	10	10	9	9.6	20.8
23-May	11	9	7	3	3	3	4	6	9	12	15	19	20	20	22	P	P	21	21	20	18	16	15	15	13.1	22.0
24-May	14	13	12	11	10	11	11	11	12	12	12	13	14	16	15	14	13	12	12	12	11	11	10	9	12.2	15.5
25-May	9	8	8	7	7	7	8	10	13	15	15	14	12	11	13	15	16	16	12	11	10	9	8	8	11.0	16.2
26-May	8	8	7	6	6	6	6	7	8	10	11	12	12	14	14	13	14	15	15	14	12	11	10	10	10.4	15.4
27-May	9	10	9	7	6	7	9	10	12	14	15	16	17	16	14	8	9	9	11	12	11	9	8	8	10.5	16.6
28-May	6	6	7	4	3	3	5	7	10	11	13	13	15	16	17	17	16	16	15	13	13	12	12	12	10.9	17.5
29-May	10	10	10	10	9	9	10	11	13	15	16	17	17	18	18	19	18	16	14	12	12	12	12	12	13.3	18.7
30-May	11	11	12	11	11	11	12	12	13	12	13	13	15	16	17	17	18	17	15	12	12	12	12	10	13.2	17.7
31-May	10	10	10	9	9	9	10	11	12	13	14	15	16	16	16	16	16	15	15	13	13	12	12	12	12.6	16.4
	9.0	8.4	7.8	7.0	6.3	6.3	7.4	9.0	10.9	12.8	14.0	15.1	16.1	16.8	17.3	17.2	17.2	17.0	16.1	15.0	13.4	11.7	10.7	10.1	Diurnal Average	
	15.8	15.2	15.6	15.0	14.5	14.1	13.9	14.8	16.4	19.6	22.7	24.6	26.5	26.7	26.9	26.9	27.0	26.8	26.2	24.3	20.7	19.9	18.8	17.3	Diurnal Maximum	

P - Power Failure

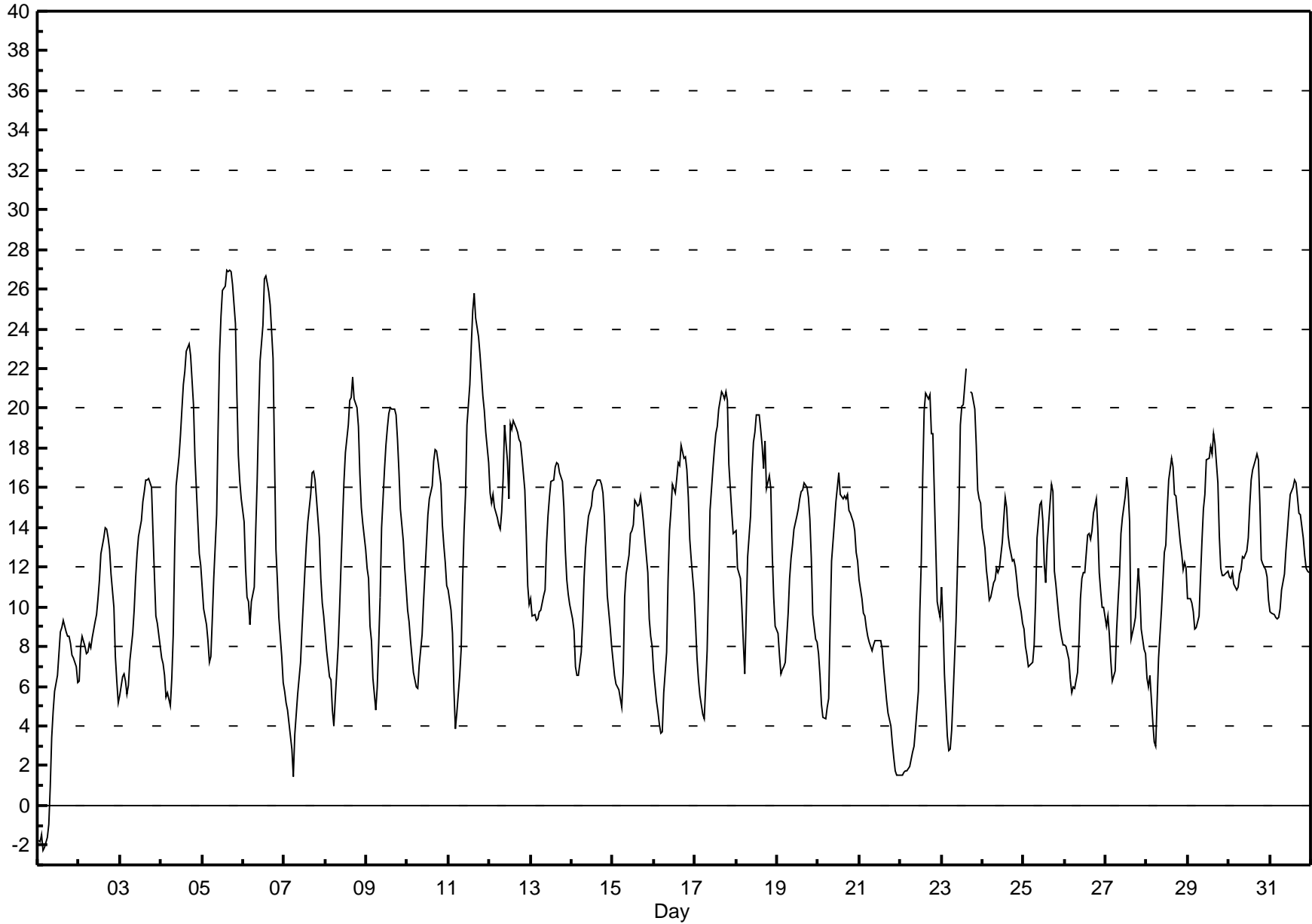




**Hourly Averages**

**External Temperature (ET) - °C**

**Beaverlodge - May 2013**



# Hourly Averages

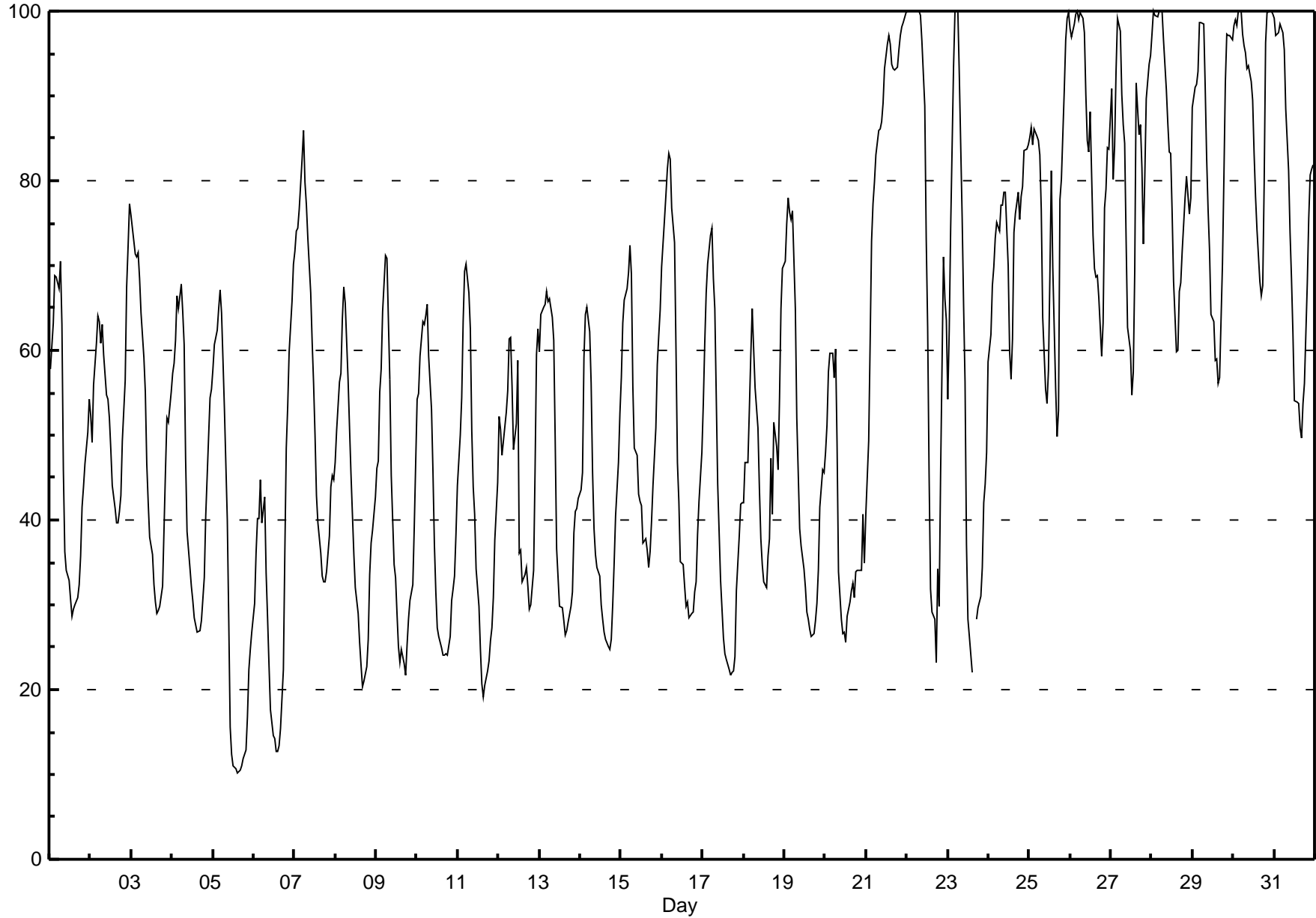
Relative Humidity (RH) - %

Beaverlodge - May 2013

Number of Exceedences (AAQO): 1-hr: 0 24-hr: 0 Maximum Value: 100.0 % on May 22 01:00 Maximum Daily Average: 90.2 % on May 30		Hours in Service: 744 Hours of Data: 742 Hours of Missing Data: 2 Hours of Calibration: 0 Percent Operational Time: 99.7																																														
Minimum Value: 10 % on May 5 15:00 Maximum Diurnal Average: 76.5 % at hour 6 Monthly Average: 56.60 %		Minimum Daily Average: 31.9 % on May 5 Minimum Diurnal Average: 39.6 % at hour 15 Percentiles: P <sub>1</sub> = 12.4 P <sub>10</sub> = 27.1 Q <sub>1</sub> = 34.8 Median = 55.8 Q <sub>3</sub> = 74.4 P <sub>90</sub> = 93.6 P <sub>99</sub> = 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-May	58	60	63	69	69	67	70	63	46	36	34	33	31	29	29	30	31	32	36	41	44	47	50	54	46.8	70.5																						
2-May	52	49	56	61	64	63	61	63	60	55	54	52	48	44	41	40	40	41	43	49	56	68	72	77	54.6	77.3																						
3-May	76	73	71	71	72	68	64	59	55	47	42	38	36	32	30	29	29	30	32	39	46	52	51	55	49.9	76.0																						
4-May	57	58	61	66	65	68	65	61	47	39	34	32	31	29	28	27	27	28	31	33	40	50	54	55	45.3	67.9																						
5-May	58	61	62	65	67	64	59	53	40	28	16	12	11	11	10	10	11	11	12	13	17	22	25	27	31.9	67.1																						
6-May	30	36	40	40	45	40	43	34	28	23	18	15	14	13	13	15	22	36	49	53	60	66	70	34.0	70.1																							
7-May	72	74	74	77	83	86	80	77	73	67	61	56	50	43	40	36	33	33	33	34	38	44	45	45	56.4	85.9																						
8-May	47	51	56	57	64	67	66	56	51	46	41	36	32	29	26	23	20	21	23	26	34	37	39	43	41.2	67.4																						
9-May	46	47	55	58	65	71	71	64	57	45	35	33	29	25	23	25	23	22	25	28	30	32	39	47	41.5	71.3																						
10-May	54	55	59	63	63	64	65	59	53	46	37	32	27	26	25	24	24	24	24	26	31	32	33	38	41.1	65.4																						
11-May	44	50	54	63	69	70	67	63	51	44	41	34	30	25	21	19	21	22	23	26	27	31	38	44	40.7	70.2																						
12-May	52	51	48	49	53	55	61	61	56	48	51	59	36	36	33	34	34	32	29	30	34	46	59	62	46.3	62.5																						
13-May	60	64	65	65	67	66	66	64	61	49	37	33	30	30	28	27	27	28	30	31	39	41	41	42	45.5	67.0																						
14-May	44	46	59	64	65	62	56	46	39	36	34	33	30	28	27	26	25	25	26	30	35	41	47	52	40.6	65.0																						
15-May	57	63	66	67	69	72	69	56	48	48	43	42	42	37	38	36	34	36	40	44	51	58	62	65	51.8	72.4																						
16-May	70	75	78	81	83	83	77	73	60	47	42	35	35	32	30	30	29	29	29	32	33	38	42	48	50.4	83.2																						
17-May	54	61	67	70	74	74	69	65	55	44	33	30	26	24	23	22	22	22	24	32	38	42	42	42	43.1	74.4																						
18-May	42	47	47	53	59	65	60	56	51	44	38	35	33	32	36	38	47	41	52	49	46	54	65	70	48.2	69.6																						
19-May	70	75	78	76	75	76	65	52	46	39	37	34	32	29	28	27	26	27	28	30	34	42	46	46	46.6	78.0																						
20-May	48	51	57	60	60	57	60	49	34	28	27	27	26	29	30	32	32	31	34	34	34	34	41	35	39.5	60.2																						
21-May	41	49	61	73	77	80	83	86	86	87	89	93	96	97	96	94	93	93	93	95	97	98	99	100	85.7	99.8																						
22-May	100	100	100	100	100	100	100	100	99	96	89	73	63	45	32	29	28	23	34	30	45	71	66	64	70.4	100.0																						
23-May	54	62	74	93	100	100	100	93	76	65	56	37	28	26	22	P	P	28	30	31	34	42	44	48	56.6	100.0																						
24-May	59	62	68	70	73	75	74	77	77	79	79	70	60	57	61	74	76	79	75	78	79	84	84	84	73.0	84.2																						
25-May	85	86	84	86	85	85	83	77	64	55	54	58	69	81	70	56	50	53	78	80	91	97	99	100	76.0	99.9																						
26-May	98	97	99	100	100	99	100	99	98	90	85	83	88	74	70	69	69	66	59	63	77	79	84	84	84.5	100.0																						
27-May	91	80	84	93	99	98	90	87	84	73	63	60	55	58	69	92	85	87	81	73	81	90	94	95	81.7	99.2																						
28-May	97	100	100	99	100	100	100	97	91	87	83	83	76	68	60	60	67	68	72	78	81	78	76	78	83.3	100.0																						
29-May	89	91	91	93	99	99	98	91	83	77	72	64	63	59	59	56	57	70	80	91	97	97	97	97	82.1	98.6																						
30-May	98	99	98	100	100	97	96	95	93	94	92	90	83	78	74	68	66	68	80	96	100	100	100	100	90.2	100.0																						
31-May	99	97	97	99	98	97	95	89	81	74	68	62	54	54	54	51	50	54	56	68	76	81	81	82	75.7	99.1																						
																								64.6	66.8	70.2	73.6	76.2	76.5	74.6	69.8	62.6	56.0	51.1	47.6	44.0	41.3	39.6	39.8	39.8	40.2	43.4	46.9	52.0	57.5	60.7	62.8	Diurnal Average
																								100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.5	96.5	91.7	93.3	96.1	97.2	96.1	93.7	93.2	93.1	93.5	96.2	99.8	100.0	100.0	99.9	Diurnal Maximum
P - Power Failure																																																

**Hourly Averages**

**Relative Humidity (RH) - %**  
**Beaverlodge - May 2013**



# Hourly Averages

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

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1 Spd	4	4	4	2	5	10	10	20	27	25	28	29	32	32	31	36	35	21	18	17	15	21	18	10	17.8	36.1
Dir	94	96	157	95	226	230	226	238	242	248	242	241	249	257	246	242	256	253	243	245	237	228	231	231	242	242
2 Spd	9	26	42	41	42	48	45	40	38	44	46	38	46	48	41	42	49	46	41	32	26	16	8	10	35.6	48.8
Dir	233	245	250	250	244	240	249	252	254	249	247	249	257	247	247	255	263	264	255	249	240	231	201	201	250	255
3 Spd	4	13	16	10	6	7	8	16	22	23	20	14	15	15	17	14	12	11	17	23	16	4	7	7	12.0	23.4
Dir	231	260	266	272	274	279	273	268	271	286	286	285	293	292	269	291	294	258	228	227	233	207	220	200	266	286
4 Spd	4	7	8	3	5	4	4	11	16	23	26	21	18	17	20	23	24	22	23	22	16	14	9	8	12.5	25.8
Dir	157	183	179	125	149	134	195	215	237	262	279	281	285	265	250	253	262	267	263	254	239	237	224	225	251	279
5 Spd	5	3	2	3	3	2	2	4	12	9	16	17	21	20	20	23	19	19	19	20	12	13	13	5	9.8	22.6
Dir	202	179	169	78	80	108	147	194	218	261	291	305	298	301	288	289	284	274	278	279	274	257	274	285	279	289
6 Spd	2	2	3	3	5	5	3	4	6	6	9	13	31	45	37	39	38	23	32	34	19	9	11	11	9.7	44.6
Dir	313	172	176	100	111	199	90	139	194	178	175	202	248	245	257	257	263	309	342	350	356	326	312	318	275	245
7 Spd	13	16	15	14	9	3	6	16	17	18	18	20	20	18	16	15	12	12	18	17	15	20	21	15	12.2	20.7
Dir	331	338	348	10	22	60	101	95	102	96	94	89	101	101	103	91	83	67	69	74	75	77	84	83	75	84
8 Spd	7	2	5	3	6	2	2	2	6	8	7	6	6	5	5	8	2	9	7	8	16	17	17	14	4.1	17.1
Dir	86	291	71	94	58	214	305	254	302	317	0	15	0	321	300	266	18	37	63	91	59	59	86	77	42	86
9 Spd	13	9	4	4	3	3	3	5	7	14	19	20	22	22	24	21	22	24	23	20	17	16	16	16	10.9	24.4
Dir	73	66	281	241	319	335	281	297	306	318	318	321	321	321	338	346	2	7	20	31	34	38	61	60	358	338
10 Spd	17	17	16	9	9	9	10	13	17	18	21	27	26	23	20	21	22	22	24	21	17	20	19	13	17.3	26.7
Dir	62	64	71	68	81	60	58	84	92	97	92	97	100	107	111	99	98	88	85	75	70	81	81	64	86	97
11 Spd	12	6	2	3	5	5	1	2	2	3	7	5	5	3	5	15	24	16	7	5	8	8	5	2	2.2	23.7
Dir	76	82	148	42	309	29	221	242	189	164	147	142	132	149	128	226	247	258	251	270	307	290	302	8	238	247
12 Spd	3	4	3	5	4	2	2	1	5	9	54	46	55	57	58	57	50	42	44	43	23	19	14	15	23.5	58.1
Dir	339	74	115	107	81	53	1	20	158	225	255	251	239	247	244	251	252	249	248	252	257	238	248	254	248	244
13 Spd	10	5	12	16	15	24	26	24	29	31	42	43	41	41	38	37	33	28	27	22	17	15	8	8	24.4	42.5
Dir	239	229	235	244	243	244	238	241	239	251	259	252	250	259	253	251	256	254	243	249	252	261	284	280	250	252
14 Spd	9	10	15	15	16	21	21	36	37	36	34	35	37	37	38	35	34	33	32	29	25	18	16	12	25.9	37.7
Dir	273	274	245	246	242	246	250	260	266	265	263	257	254	250	253	251	259	264	256	241	239	240	238	233	254	253
15 Spd	1	12	14	14	11	8	5	21	25	21	21	23	19	25	25	21	24	26	27	26	19	10	12	9	17.2	26.6
Dir	259	251	243	248	250	241	215	244	245	243	250	249	275	236	239	249	253	250	240	237	233	239	251	251	245	240
16 Spd	7	2	2	3	2	2	3	8	10	18	13	12	16	17	22	20	17	10	14	9	11	7	6	2	8.1	21.7
Dir	228	94	151	73	121	93	165	204	247	283	274	287	247	247	253	235	254	267	271	270	276	280	284	269	257	253
17 Spd	4	3	5	4	5	3	2	5	5	4	4	6	7	11	5	5	0	9	11	12	10	10	10	6	3.0	12.3
Dir	62	70	51	30	48	57	145	196	197	202	213	243	229	241	174	84	248	156	120	123	107	86	100	74	127	123
18 Spd	5	4	6	6	2	2	1	2	5	5	6	8	10	12	21	13	13	16	17	7	21	17	14	9	6.6	21.2
Dir	61	295	290	300	228	58	198	195	295	257	261	224	239	249	175	192	261	189	175	179	266	257	242	243	231	175
19 Spd	6	9	6	12	10	12	16	28	29	37	34	33	33	30	29	29	29	27	27	26	21	15	8	8	21.2	36.9
Dir	235	247	226	241	243	252	251	257	246	255	249	255	256	263	255	257	256	249	248	242	242	243	253	243	251	255
20 Spd	8	4	4	4	5	2	3	4	7	4	7	6	6	1	1	5	14	6	7	9	10	22	10	13	4.6	22.3
Dir	238	226	58	57	59	80	67	358	33	63	123	112	105	349	194	28	23	50	6	106	66	94	69	42	66	94
21 Spd	9	9	14	10	11	11	11	8	9	9	13	13	14	16	20	23	23	25	24	22	22	19	17	17	11.9	24.8
Dir	21	21	55	72	77	59	42	2	360	7	12	8	349	325	322	322	324	322	318	309	304	302	297	299	339	322
22 Spd	19	17	15	12	14	13	8	6	7	7	7	2	3	3	22	19	19	31	18	28	8	9	3	2	0.2	31.0
Dir	302	305	311	310	314	330	335	314	311	305	284	260	275	50	86	127	149	121	158	133	161	309	312	58	6	121

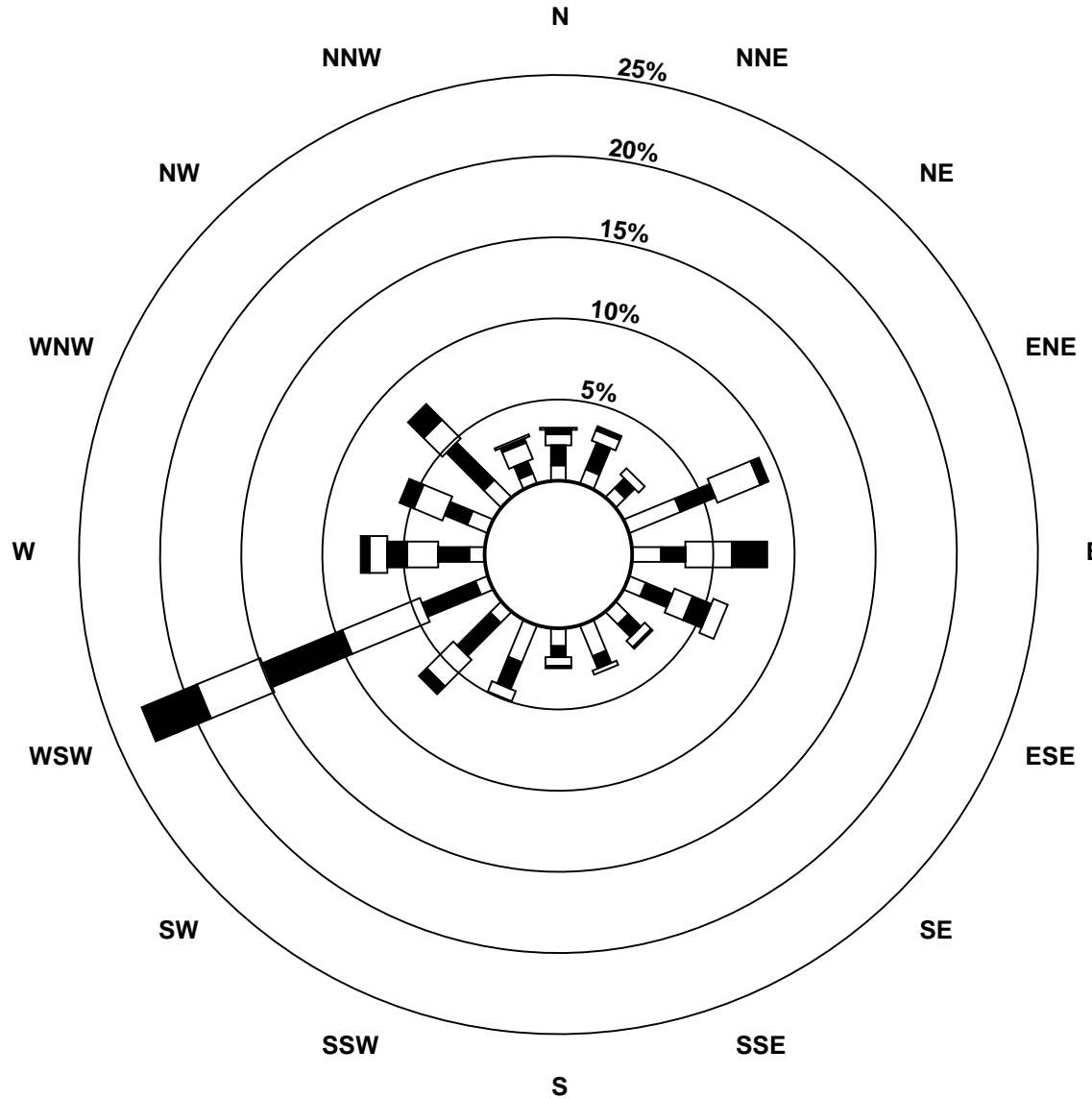
## Hourly Averages

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

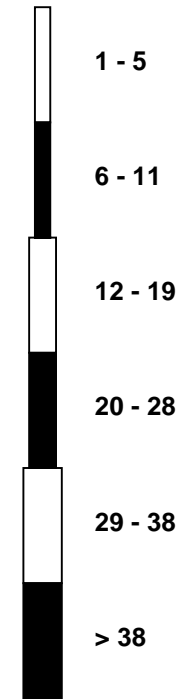
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
23 Spd	13	6	6	19	19	14	9	8	1	8	18	31	36	34	35	P	P	31	28	30	22	16	19	23	12.6	35.7
Dir	107	145	284	316	319	317	310	284	183	134	123	108	116	107	113	P	P	112	112	112	112	97	90	114	107	116
24 Spd	19	26	22	19	11	13	11	18	19	19	14	16	22	18	12	12	14	16	14	17	15	10	8	8	7.7	26.4
Dir	126	117	120	125	95	86	81	86	75	67	63	68	80	92	172	209	203	228	234	212	220	245	239	251	125	117
25 Spd	7	5	6	6	8	10	10	13	19	26	28	28	25	16	10	5	8	6	21	11	8	1	4	9	5.7	28.5
Dir	246	236	294	322	325	331	326	5	31	74	88	89	95	88	63	36	34	194	108	148	224	319	281	312	66	88
26 Spd	10	7	6	5	7	5	10	9	6	6	6	4	11	14	15	11	6	3	1	1	4	3	4	1	1.7	14.5
Dir	316	351	339	322	25	357	318	307	288	313	322	9	102	96	118	139	222	213	56	175	101	77	63	75	19	118
27 Spd	4	7	3	6	1	6	6	5	3	5	12	16	21	19	8	21	16	11	10	9	11	4	6	9	3.4	21.2
Dir	74	49	57	234	126	17	20	119	167	61	82	91	76	72	202	242	344	14	337	309	307	12	356	323	29	242
28 Spd	6	8	11	0	2	5	1	3	6	5	7	8	1	8	8	12	16	5	13	10	8	10	4	2	1.5	15.8
Dir	330	18	19	204	352	310	293	291	250	251	215	199	209	12	110	145	191	119	109	132	64	57	63	32	105	191
29 Spd	3	2	5	9	5	4	5	4	2	3	5	3	7	10	10	10	7	14	19	16	12	17	14	11	4.7	19.0
Dir	199	285	320	309	355	346	304	343	330	325	318	13	92	94	116	115	119	317	337	334	348	27	17	25	3	337
30 Spd	9	7	2	3	6	7	9	12	11	12	11	11	9	10	10	7	5	7	14	9	6	7	10	14	3.7	14.2
Dir	350	348	61	112	78	41	72	81	103	105	121	142	129	134	137	168	206	225	217	247	206	199	211	223	147	223
31 Spd	12	8	6	5	4	5	7	9	13	17	11	14	13	12	8	15	20	18	10	7	5	3	2	2	8.6	19.7
Dir	232	237	238	216	188	207	211	226	250	249	240	233	238	234	210	235	232	243	205	153	154	147	150	161	227	232
Spd	0.5	1.1	2.3	2.8	2.0	2.9	3.4	5.3	6.6	6.9	7.8	6.3	7.3	8.7	9.5	12.5	12.7	8.6	6.9	6.1	4.9	2.0	1.3	1.1	Diurnal Average	
Dir	338	292	270	273	285	274	263	253	251	260	256	247	245	251	235	246	259	258	254	242	257	263	262	276	Diurnal Maximum	
Spd	19.3	26.4	41.8	40.6	42.0	47.8	45.2	40.4	38.4	43.9	54.1	45.6	54.6	57.2	58.1	56.7	50.0	46.0	43.8	42.5	26.3	22.3	20.7	23.4	Diurnal Maximum	
Dir	126	117	250	250	244	240	249	252	254	249	255	251	239	247	244	251	252	263	248	252	249	94	84	114	Diurnal Maximum	
Maximum Speed Value: 58 km/h on May 12 15:00																		Minimum Speed Value: 0 km/h on May 28 04:00						Hours in Service:		744
Maximum Daily Speed Average: 35.6 km/h on May 2																		Minimum Daily Speed Average: 0.2 km/h on May 17						Hours of Data:		742
Maximum Diurnal Speed Average: 12.7 km/h at hour 17																		Minimum Diurnal Speed Average: 0.5 km/h at hour 1						Hours of Missing Data:		2
Monthly Average Velocity: 5.26 km/h 254.2 deg																		Speed Percentiles: P <sub>1</sub> = 0.9 P <sub>10</sub> = 3.1 Q <sub>1</sub> = 5.8 Median = 11.4 Q <sub>3</sub> = 19.6 P <sub>90</sub> = 29.2 P <sub>99</sub> = 47.6						Percent Operational Time:		99.7
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	14	21	12	5	2	0	54																			
NorthEast	23	22	18	1	0	0	64																			
East	24	23	40	24	7	0	118																			
SouthEast	17	21	7	6	4	0	55																			
South	23	16	7	1	0	0	47																			
SouthWest	15	49	44	25	7	9	149																			
West	14	31	35	33	31	24	168																			
NorthWest	15	36	18	18	0	0	87																			
Total	145	219	181	113	51	33	742																			

**Wind Rose**

**Wind Speed (WS) (km/h)**  
**Beaverlodge - May 2013**



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



# Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Beaverlodge - May 2013

<b>Maximum Speed: 59 km/h on May 12 15:00</b>		<b>Maximum Daily Speed Average: 36.3 km/h on May 2</b>																				Hours in Service: 744					
<b>Minimum Speed: 2 km/h on Jun 1 00:00</b>		<b>Minimum Daily Speed Average: 7.2 km/h on May 17</b>																				Hours of Data: 742					
<b>Maximum Diurnal Speed Average: 22.1 km/h at hour 15</b>		<b>Minimum Diurnal Speed Average: 8.9 km/h at hour 7</b>																				Hours of Missing Data: 2					
<b>Monthly Average Speed: 14.97 km/h</b>		Percentiles: P <sub>1</sub> = 2.5 P <sub>10</sub> = 4.1 Q <sub>1</sub> = 7.0 Median = 11.9 Q <sub>3</sub> = 20.0 P <sub>90</sub> = 29.7 P <sub>99</sub> = 47.9																				<b>Percent Operational Time: 99.7</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-May	4	4	4	3	8	10	10	20	27	27	28	30	32	33	32	36	35	21	18	17	15	21	18	10	19.3	36.4	
2-May	10	26	42	41	42	48	45	41	38	44	46	38	46	48	41	42	49	46	41	32	26	16	9	11	36.3	49.5	
3-May	6	13	16	10	7	7	8	16	22	24	21	15	16	16	18	15	13	12	18	23	16	5	7	7	13.9	23.6	
4-May	4	7	8	4	5	5	4	11	16	24	26	21	19	19	21	23	25	23	24	22	16	14	9	8	15.0	26.4	
5-May	6	3	3	3	4	3	2	4	12	10	16	17	22	21	21	23	20	19	19	20	13	13	13	8	12.3	23.0	
6-May	5	4	3	4	5	5	5	5	6	6	10	14	33	45	39	40	38	24	34	35	19	9	11	11	17.1	45.0	
7-May	13	16	15	14	9	4	6	16	18	18	19	20	20	19	17	16	13	13	19	17	15	20	21	15	15.5	20.8	
8-May	8	3	5	3	6	3	3	3	7	9	9	7	8	8	9	10	7	9	9	8	16	17	17	14	8.2	17.2	
9-May	13	9	5	4	5	5	4	5	7	14	20	21	23	23	25	22	23	25	23	20	17	16	16	16	15.0	25.1	
10-May	17	17	16	9	9	9	10	13	18	19	22	27	27	23	21	22	23	23	24	21	17	20	19	13	18.2	27.2	
11-May	12	6	4	4	8	5	3	3	3	3	7	6	7	6	7	17	25	17	8	5	8	9	5	4	7.6	24.6	
12-May	6	4	3	5	4	4	3	2	6	9	58	47	55	58	59	57	51	42	44	43	24	19	14	15	26.2	58.6	
13-May	11	6	12	16	15	24	26	24	29	32	42	43	41	42	39	38	33	29	28	22	17	16	8	8	25.0	43.0	
14-May	9	10	15	15	16	21	21	36	37	36	35	35	37	38	38	36	35	34	32	29	25	18	16	12	26.6	38.5	
15-May	4	12	14	14	11	8	6	21	25	21	22	23	20	27	26	22	25	26	27	26	19	10	12	9	17.9	26.7	
16-May	7	3	2	3	3	2	4	8	11	19	14	13	17	17	22	20	18	11	15	9	11	7	6	3	10.2	22.2	
17-May	4	3	5	4	5	3	3	5	5	5	6	8	11	12	9	7	6	10	11	12	10	10	10	7	7.2	12.5	
18-May	8	8	6	6	3	3	2	3	5	6	8	9	12	14	26	17	15	18	17	8	22	17	14	9	10.7	25.6	
19-May	6	9	7	12	11	12	17	28	29	37	34	34	33	31	30	30	30	27	28	26	21	15	8	8	21.7	37.4	
20-May	8	6	4	4	5	2	3	5	7	7	9	9	8	12	11	8	15	10	8	11	10	23	11	14	8.7	23.0	
21-May	9	10	14	10	12	12	11	8	9	10	13	13	14	16	20	23	23	25	24	22	22	19	17	17	15.6	24.9	
22-May	19	17	15	12	14	13	9	7	7	7	8	6	5	7	23	24	20	33	18	29	17	10	6	5	13.7	32.6	
23-May	13	7	7	19	19	14	10	8	3	9	18	31	36	34	36	P	P	31	28	30	22	16	19	25	19.9	36.3	
24-May	20	27	22	19	11	13	11	18	19	19	14	16	23	19	14	12	15	16	15	18	15	10	9	9	15.9	26.5	
25-May	7	5	6	6	9	10	10	14	19	27	29	29	25	16	12	8	11	9	21	12	9	7	5	9	13.1	28.9	
26-May	10	8	7	6	7	6	10	9	7	7	6	9	12	15	15	11	7	5	3	4	4	3	4	4	7.5	15.2	
27-May	6	7	5	6	5	6	6	6	4	6	13	16	21	20	14	27	16	12	10	9	11	7	7	9	10.4	26.5	
28-May	7	8	11	3	4	7	3	4	6	6	7	8	4	9	10	13	16	7	14	10	8	11	5	3	7.6	16.1	
29-May	4	4	6	9	7	6	6	5	3	4	6	5	8	11	10	11	7	15	19	16	13	17	14	12	9.1	19.1	
30-May	10	7	3	4	6	7	9	12	11	12	12	11	10	10	11	7	5	7	14	10	6	9	11	15	9.2	15.2	
31-May	12	8	7	5	4	5	7	9	14	17	11	15	14	12	9	15	20	18	11	9	6	3	2	2	9.9	20.0	
		9.0	8.9	9.4	8.9	9.0	9.0	8.9	11.9	13.9	15.9	19.0	19.3	21.2	22.0	22.1	21.7	21.3	20.0	20.2	18.5	15.2	13.1	11.1	10.1	Diurnal Average	
		19.7	26.5	41.8	40.7	42.1	47.9	45.4	40.5	38.4	44.0	57.6	46.5	55.0	57.8	58.6	57.1	51.2	46.4	44.0	42.7	26.4	23.0	20.8	24.8	Diurnal Maximum	
<b>P - Power Failure</b> All monthly, daily, and diurnal averages have been calculated using scalar methods																											

## Hourly Standard Deviations

Wind Direction (WD) - deg

Beaverlodge - May 2013

Maximum Value: 96.1 deg on May 20 14:00		Hours in Service:	744																								
Minimum Value: 2.1 deg on May 14 21:00		Hours of Data:	742																								
Percentiles: P <sub>1</sub> = 2.7 P <sub>10</sub> = 5.2 Q <sub>1</sub> = 8.2 Median = 14.5 Q <sub>3</sub> = 27.3 P <sub>90</sub> = 53.3 P <sub>99</sub> = 88.2		Hours of Missing Data:	2																								
		Hours of Calibration:	0																								
		Percent Operational Time:	99.7																								
Day	Hourly Period Ending At (MST)																								Daily Maximum		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-May	27	13	20	42	81	13	7	4	6	19	9	10	11	11	11	7	6	5	10	4	7	2	3	11	81.5		
2-May	23	25	3	3	3	4	4	4	3	4	4	6	5	7	8	10	10	7	7	6	6	7	30	23	29.8		
3-May	86	20	3	5	65	15	11	7	5	8	19	22	18	20	27	23	28	25	19	4	3	44	12	38	86.1		
4-May	25	10	12	46	14	25	23	5	16	15	12	15	20	27	18	14	18	18	10	4	5	6	18	12	45.9		
5-May	45	40	43	22	27	20	24	19	9	29	18	16	15	19	19	10	16	13	12	7	15	15	21	65	65.5		
6-May	75	52	31	40	20	43	51	39	16	21	20	23	19	8	16	11	10	17	20	6	18	11	7	4	74.8		
7-May	4	4	7	5	41	25	19	10	10	12	13	11	12	16	17	20	17	23	9	5	4	3	3	4	40.8		
8-May	46	64	24	28	41	47	51	45	27	21	37	50	47	60	84	56	86	18	37	10	7	7	3	7	85.5		
9-May	9	25	46	28	84	53	39	15	13	12	10	14	11	16	13	18	17	16	8	6	6	4	8	6	83.9		
10-May	7	6	4	6	12	7	6	10	10	11	12	12	12	14	16	18	11	12	9	5	4	7	7	8	17.5		
11-May	5	18	66	42	55	36	85	35	41	48	25	39	42	78	45	26	20	7	18	36	30	37	44	69	84.8		
12-May	73	14	40	14	14	72	72	70	31	19	21	11	7	8	7	7	12	8	6	5	8	8	7	6	73.3		
13-May	22	26	8	6	6	4	4	6	4	12	9	9	12	10	11	10	10	11	9	4	4	5	22	9	26.5		
14-May	12	14	3	4	5	4	4	5	5	9	13	13	9	12	11	10	11	11	8	8	2	3	4	6	13.7		
15-May	88	3	5	2	4	14	17	6	9	12	13	14	15	21	14	18	15	10	5	5	3	10	2	7	87.9		
16-May	50	37	37	14	37	20	33	11	23	17	27	24	19	17	12	11	22	35	34	14	8	14	16	70	69.8		
17-May	10	14	6	11	6	6	45	13	19	46	61	60	53	25	60	45	95	39	12	10	16	5	3	24	94.8		
18-May	46	65	22	30	86	77	73	62	27	40	61	41	44	42	38	36	39	23	13	55	21	9	6	12	86.3		
19-May	30	4	37	7	7	8	13	7	8	9	11	13	10	15	15	12	13	11	11	5	2	3	5	5	36.5		
20-May	5	67	29	14	14	45	15	39	24	68	49	54	52	96	95	51	15	58	36	41	22	15	23	13	96.1		
21-May	8	12	15	11	13	15	11	17	13	14	10	8	12	10	5	6	6	6	6	5	6	5	5	6	17.1		
22-May	6	5	6	12	6	7	13	16	12	13	25	87	61	87	15	38	19	20	8	8	68	39	84	59	86.9		
23-May	6	41	42	3	6	5	11	15	88	28	12	11	10	11	14	P	P	8	6	6	6	4	5	19	87.5		
24-May	12	5	6	5	14	5	6	5	6	4	8	9	7	12	33	9	13	12	13	8	5	11	10	9	33.1		
25-May	7	15	26	31	9	11	7	25	13	13	10	9	5	11	25	56	54	51	20	22	30	96	56	6	95.8		
26-May	4	25	34	42	13	71	16	7	15	20	19	64	13	16	18	22	42	60	80	66	6	23	23	79	79.8		
27-May	71	26	92	14	74	16	16	34	42	56	21	18	11	8	60	41	16	23	17	9	8	46	29	33	92.5		
28-May	51	19	28	89	59	79	85	41	24	22	27	25	90	23	40	16	12	41	20	12	10	10	33	59	90.3		
29-May	58	69	29	10	43	48	10	43	64	56	38	70	25	24	19	24	23	18	6	12	24	6	7	58	69.5		
30-May	14	23	48	47	14	12	15	11	17	9	21	11	22	18	16	15	26	20	16	26	15	31	23	24	48.1		
31-May	6	8	7	19	17	30	15	15	10	9	19	14	17	19	29	13	10	12	23	33	31	23	23	14	32.5		
		87.9	69.3	92.5	89.2	86.3	78.6	84.8	69.7	87.5	67.7	61.5	86.9	90.3	96.1	94.9	56.4	94.8	59.5	79.8	66.0	68.5	95.8	84.1	78.8		
P - Power Failure																											



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

## Hourly Averages

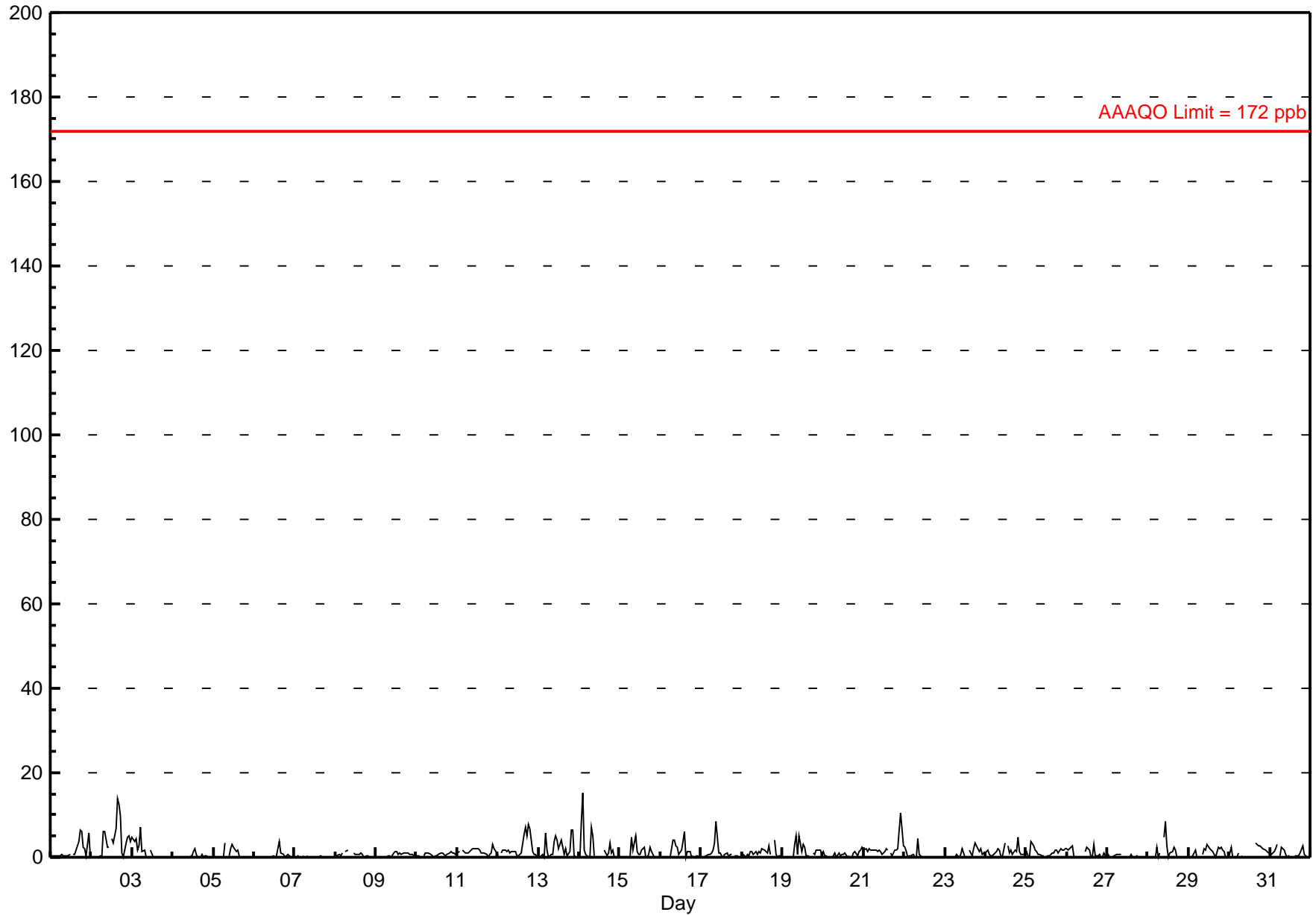
Sulphur Dioxide (SO<sub>2</sub>) - ppb

Valleyview - May 2013

Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 15.1 ppb on May 14 03:00	Maximum Daily Average: 3.8 ppb on May 2		Hours of Data:	699
Minimum Value: 0 ppb on May 2 02:00	Minimum Daily Average: 0.1 ppb on May 7		Hours of Missing Data:	45
Maximum Diurnal Average: 1.7 ppb at hour 8	Minimum Diurnal Average: 0.6 ppb at hour 7		Hours of Calibration:	42
Monthly Average: 1.16 ppb	Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.0 Q <sub>1</sub> = 0.0 Median = 0.6 Q <sub>3</sub> = 1.6 P <sub>90</sub> = 2.8 P <sub>99</sub> = 8.4		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-May	0	0	0	0	0	0	1	0	0	0	0	1	A	1	1	2	4	6	6	2	2	0	6	0	1.5	6.4
2-May	0	0	0	0	0	0	0	6	6	2	2	A	4	4	7	14	13	10	1	0	3	5	5	4	3.8	14.0
3-May	5	4	4	2	3	7	1	2	0	0	A	2	0	0	0	0	0	0	0	0	0	0	0	0	1.3	7.0
4-May	0	0	0	0	0	0	0	0	0	A	0	0	1	2	1	0	0	1	0	0	0	0	0	0	0.3	1.9
5-May	0	0	0	0	0	0	0	4	A	0	2	3	2	1	2	0	0	0	0	0	0	0	0	0	0.7	3.5
6-May	0	0	0	0	0	0	0	A	0	0	0	0	0	0	2	4	1	1	0	0	1	0	0	0	0.4	3.6
7-May	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.4
8-May	0	0	1	0	1	A	1	2	D	D	D	1	1	1	1	1	1	1	0	0	0	0	0	0	0.6	1.8
9-May	0	0	0	0	A	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0.6	1.4
10-May	0	0	0	A	0	1	1	1	1	0	0	0	0	1	1	1	1	0	1	1	1	1	1	1	0.7	1.3
11-May	1	1	A	2	1	1	1	1	2	2	2	2	2	2	1	1	1	1	0	1	1	3	2	1	1.4	3.1
12-May	0	A	1	2	2	1	2	1	1	1	1	0	0	1	1	5	7	5	8	7	1	1	1	0	2.2	7.7
13-May	A	0	1	0	6	2	0	1	1	4	5	4	2	4	2	1	2	0	1	6	7	0	0	A	2.2	6.5
14-May	0	8	15	2	1	0	0	7	5	0	C	C	C	C	C	2	0	1	3	1	2	0	A	1	2.7	15.1
15-May	0	0	0	0	0	0	0	5	2	5	1	1	1	2	2	0	0	1	2	1	0	A	0	0	1.0	5.1
16-May	0	0	0	0	0	0	0	4	4	3	3	1	2	4	6	0	1	1	0	0	A	0	0	0	1.3	6.1
17-May	0	0	0	0	1	1	1	2	4	8	1	1	0	0	1	1	0	1	1	A	0	0	0	0	1.0	8.5
18-May	0	1	0	1	0	1	1	1	1	1	1	1	2	2	1	1	3	1	A	A	4	1	0	0	1.1	4.2
19-May	0	0	0	0	0	0	0	3	5	1	5	1	3	2	0	0	0	A	1	1	2	2	2	1	1.3	5.2
20-May	1	0	0	0	0	0	0	1	0	1	0	1	1	1	0	0	A	0	1	1	0	1	2	2	0.7	2.3
21-May	2	2	2	2	2	2	2	2	1	2	1	1	2	2	2	A	1	0	2	2	2	6	10	3	2.2	10.4
22-May	3	1	0	0	0	1	0	0	4	1	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.5	4.4
23-May	0	0	0	0	0	0	0	1	0	1	2	1	0	A	2	1	0	2	3	2	1	2	1	1	0.9	3.3
24-May	1	2	1	0	0	1	1	2	2	0	0	3	A	3	1	2	1	2	1	5	2	1	1	1	1.4	4.6
25-May	1	0	0	4	3	2	1	1	1	1	0	A	0	0	0	1	1	2	2	1	2	2	2	2	1.2	3.8
26-May	2	2	2	3	0	0	0	0	0	0	A	1	2	2	0	0	3	0	0	1	0	0	1	0	0.9	3.0
27-May	1	0	0	0	0	1	1	1	1	A	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0.2	0.8
28-May	0	0	0	0	0	2	0	1	A	5	8	3	0	1	1	2	2	0	0	0	0	0	0	0	1.1	8.4
29-May	0	0	0	1	2	0	0	A	1	2	2	3	2	2	1	1	0	2	2	3	2	1	0	0	1.2	2.9
30-May	1	2	0	0	0	1	A	0	0	0	C	C	C	C	C	3	3	3	3	3	2	2	1	1	1.4	3.3
31-May	1	1	1	2	3	A	0	2	2	1	0	0	0	0	0	0	0	0	1	3	1	0	0	0	0.8	3.2

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



## Hourly Maximums

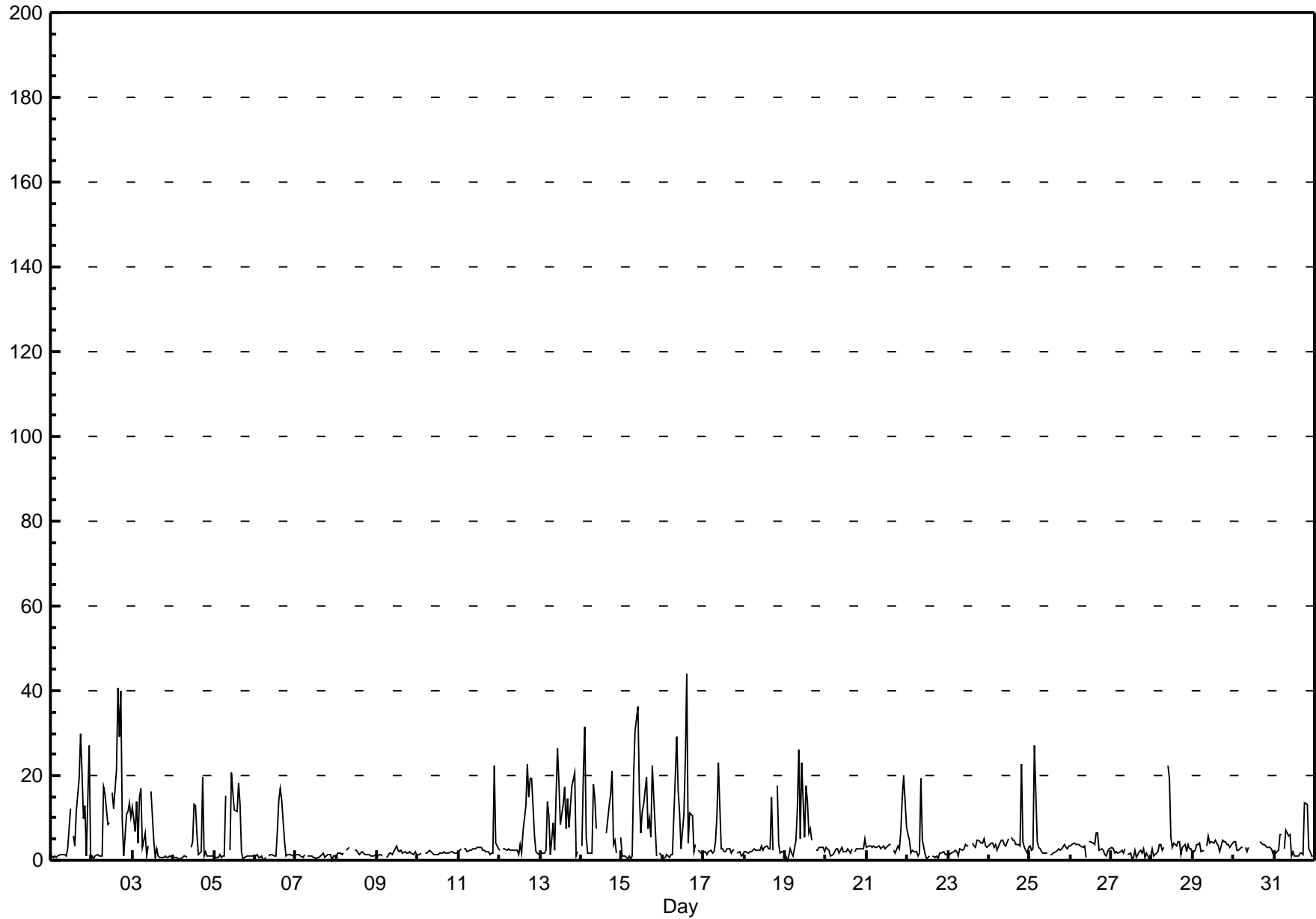
Sulphur Dioxide (SO<sub>2</sub>) - ppb

Valleyview - May 2013

Maximum Value: 44.1 ppb on May 16 15:00		Maximum Daily Average: 11.9 ppb on May 2		Hours in Service: 744																							
Minimum Value: 0 ppb on May 6 06:00		Minimum Daily Average: 1.0 ppb on May 7		Hours of Data: 699																							
Maximum Diurnal Average: 7.3 ppb at hour 15		Minimum Diurnal Average: 2.1 ppb at hour 7		Hours of Missing Data: 45																							
Monthly Average: 4.66 ppb		Percentiles: P <sub>1</sub> = 0.4 P <sub>10</sub> = 0.9 Q <sub>1</sub> = 1.4 Median = 2.4 Q <sub>3</sub> = 4.1 P <sub>90</sub> = 13.6 P <sub>99</sub> = 29.4		Hours of Calibration: 42																							
Percent Operational Time: 99.6																										Daily Average	Daily Maximum
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-May	1	1	1	1	1	1	1	1	1	1	3	12	A	6	3	12	19	30	21	10	13	1	27	1	7.3	29.8	
2-May	1	0	1	1	1	1	1	17	16	8	9	A	16	12	21	41	29	40	10	1	11	12	14	10	11.9	40.7	
3-May	13	7	14	4	15	17	3	6	1	4	A	16	4	1	3	1	1	1	1	1	1	1	1	1	4.9	16.9	
4-May	1	1	1	0	0	1	1	1	1	A	3	4	13	13	6	1	2	20	1	2	1	1	1	1	3.3	19.8	
5-May	1	1	1	1	1	1	1	15	A	2	21	16	12	12	18	13	2	0	1	1	1	1	1	1	5.4	20.8	
6-May	1	1	1	1	1	0	1	A	1	1	1	1	1	7	14	17	14	4	1	1	1	1	1	1	3.3	17.0	
7-May	1	1	1	1	1	1	A	1	1	1	1	1	0	1	1	1	2	1	1	1	1	0	1	1	1.0	1.6	
8-May	1	2	2	1	2	A	2	3	D	D	D	3	2	2	2	2	2	1	1	1	1	1	1	1	1.7	2.9	
9-May	1	1	1	1	A	1	1	2	2	1	3	3	2	2	2	2	2	2	2	2	2	2	2	1	1.7	3.3	
10-May	2	1	2	A	2	2	2	2	2	2	1	1	2	2	2	2	2	2	2	2	2	2	2	2	1.7	2.3	
11-May	2	3	A	3	3	2	2	2	3	3	3	3	3	3	2	2	2	2	1	2	2	22	4	3	3.3	22.3	
12-May	2	A	3	3	2	3	2	2	2	3	2	1	4	2	7	13	23	15	19	19	6	2	2	1	6.0	22.6	
13-May	A	2	2	2	14	11	1	9	2	15	26	18	9	13	17	8	15	8	18	19	21	1	2	A	10.5	26.3	
14-May	3	20	32	5	2	2	2	18	14	8	C	C	C	C	C	7	13	16	21	4	5	2	A	5	9.9	31.7	
15-May	1	1	1	0	1	0	1	20	31	36	16	6	12	13	20	7	10	5	22	15	1	A	2	1	9.7	36.3	
16-May	0	1	1	1	1	1	1	20	29	17	11	3	11	24	44	4	11	10	2	4	A	2	2	1	8.8	44.1	
17-May	2	2	1	2	2	2	2	4	10	23	3	3	2	2	3	3	2	2	3	A	2	2	1	1	3.4	23.0	
18-May	2	2	2	2	2	3	3	2	2	3	2	3	3	3	3	3	15	2	A	18	4	2	2	2	3.6	17.5	
19-May	1	0	1	3	2	1	5	12	26	5	23	5	17	14	7	7	5	A	2	2	3	3	3	2	6.5	26.2	
20-May	3	3	3	1	1	2	3	3	2	3	2	2	2	3	2	3	A	2	3	3	3	3	3	3	2.5	5.0	
21-May	3	3	3	3	3	3	3	3	3	3	3	3	3	4	4	A	2	2	3	3	7	14	20	8	4.7	19.9	
22-May	6	5	2	2	2	2	1	2	19	5	1	1	1	1	A	1	1	1	0	2	2	2	2	1	2.6	19.2	
23-May	2	2	2	2	2	2	1	3	2	3	4	3	3	A	4	3	3	5	5	4	4	5	3	3	3.1	4.9	
24-May	4	4	4	3	4	2	4	5	5	4	3	5	A	5	5	5	4	4	3	23	4	3	2	3	4.6	22.8	
25-May	3	2	3	27	4	3	3	2	2	2	2	A	1	1	2	2	2	3	2	3	4	3	3	3	3.6	27.0	
26-May	3	4	4	4	4	4	3	3	3	1	A	4	5	4	4	7	7	2	3	3	1	1	2	3	3.4	6.5	
27-May	3	3	2	2	2	2	2	2	3	A	1	2	1	1	2	1	2	2	2	3	1	2	0	1	1.7	3.1	
28-May	3	1	1	2	4	4	2	3	A	22	19	5	3	4	3	5	4	1	3	4	2	4	3	3	4.6	22.4	
29-May	2	2	4	4	4	2	2	A	3	6	4	4	4	5	4	4	2	5	4	4	4	4	3	4	3.6	5.7	
30-May	4	5	2	2	3	3	A	3	2	3	C	C	C	C	C	4	4	4	4	3	3	3	3	2	3.2	4.5	
31-May	2	2	2	6	6	A	3	7	6	6	1	2	1	1	1	2	2	1	13	13	3	2	1	1	3.7	13.4	
		2.5	2.7	3.3	3.0	3.0	2.6	2.1	6.0	6.9	6.7	6.5	4.9	5.1	5.7	7.3	6.0	6.7	6.5	5.8	5.7	3.8	3.4	3.7	2.5	Diurnal Average	
		12.5	20.3	31.7	27.0	14.9	16.9	4.9	20.0	30.6	36.3	26.3	18.4	17.5	23.8	44.1	40.7	29.0	40.2	22.2	22.8	20.7	22.3	27.3	10.2	Diurnal Maximum	
C - Calibration		D - DAS Failure						A - Automated Daily Zero Span																			

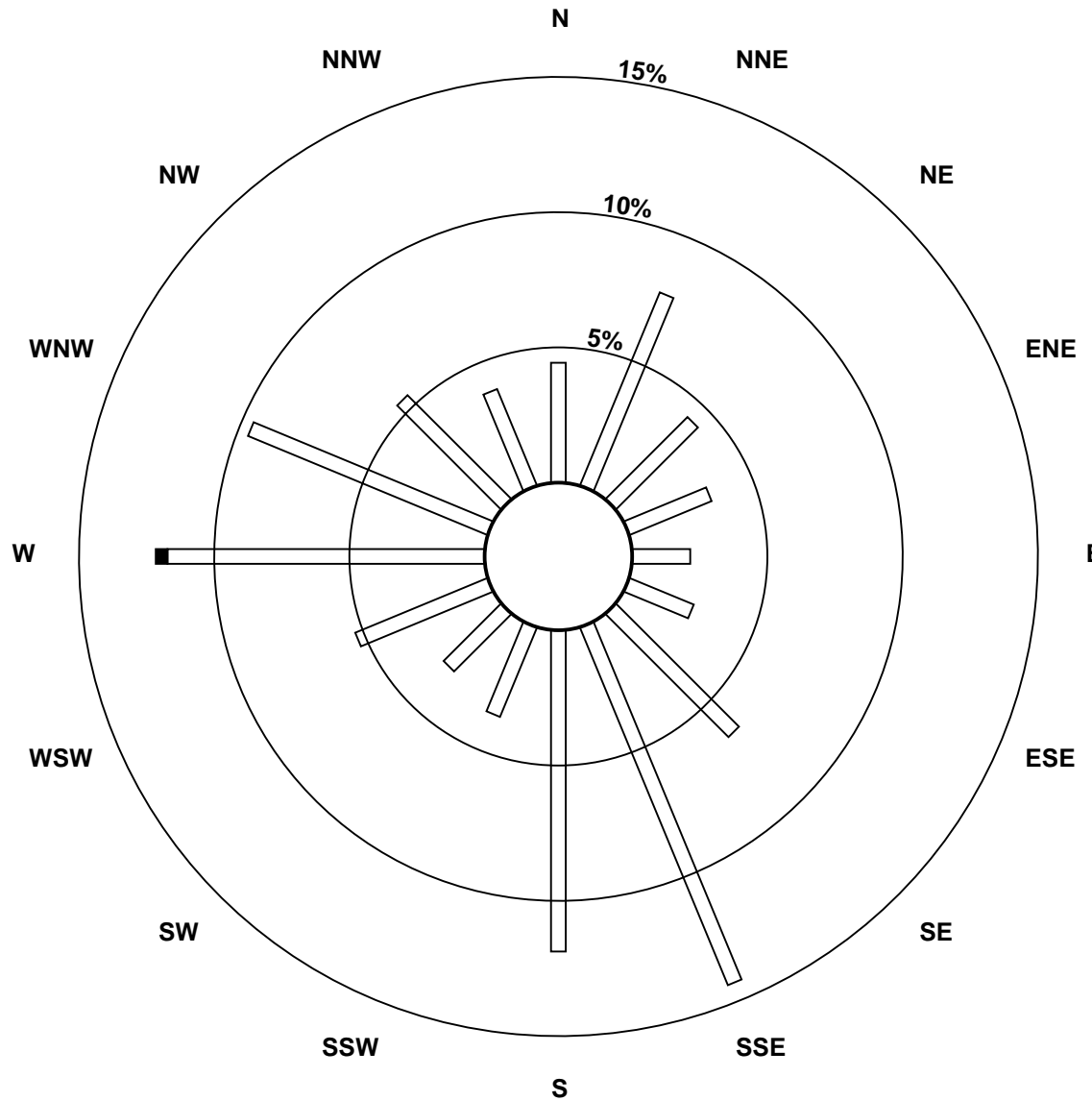
# Hourly Maximums

Sulphur Dioxide (SO<sub>2</sub>) - ppb  
Valleyview - May 2013

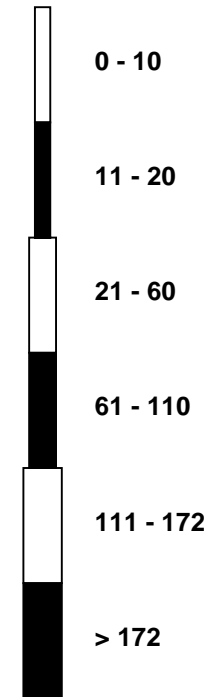


**Pollutant Rose**

**Sulphur Dioxide (SO<sub>2</sub>) - ppb**  
**Valleyview - May 2013**

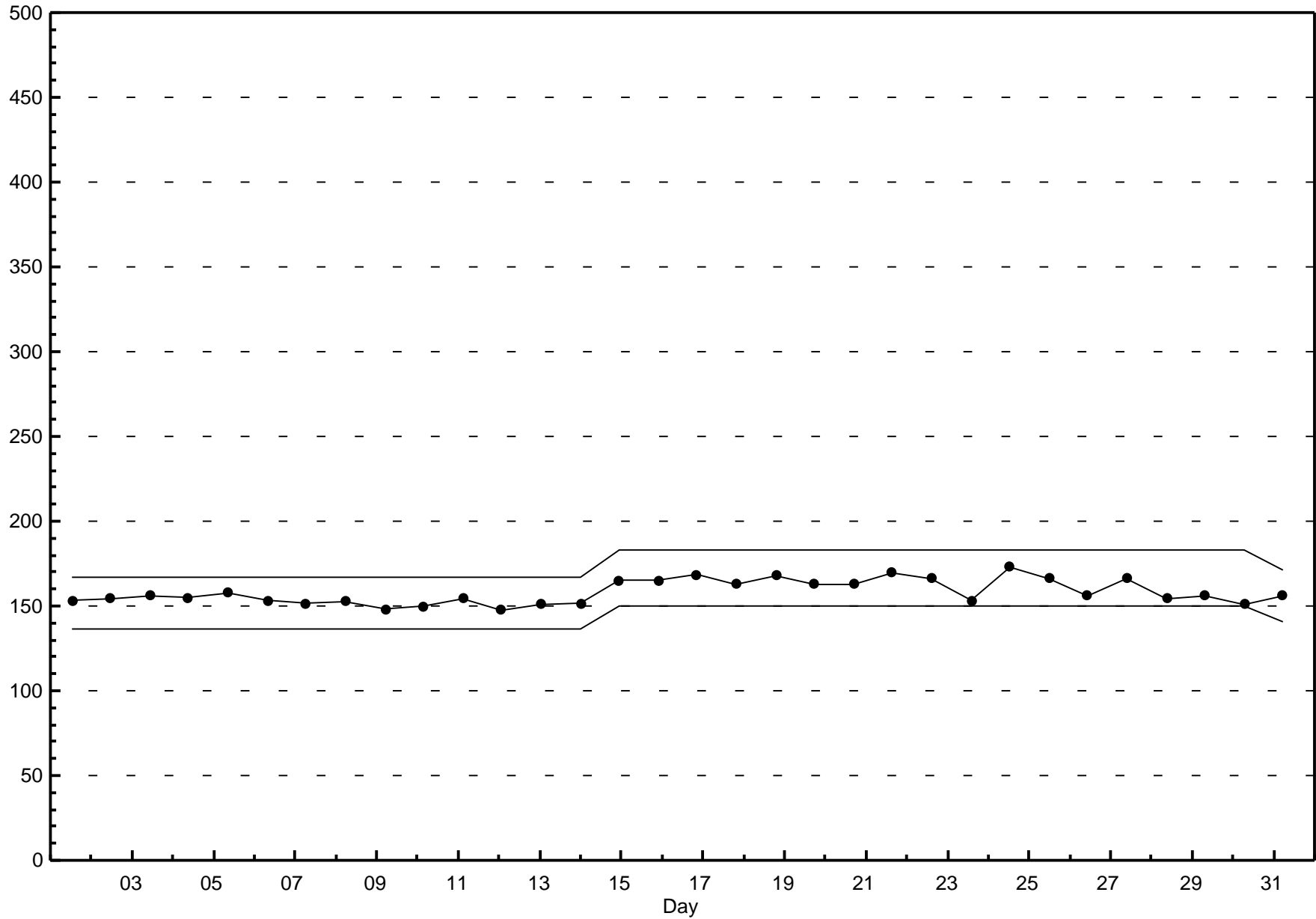


**Pollutant Classes (ppb)**



**Span Responses**

**Sulphur Dioxide (SO<sub>2</sub>)**  
**Valleyview - May 2013**



## Hourly Averages

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

### Valleyview - May 2013

Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 1.9 ppb on May 21 23:00	Maximum Daily Average: 1.3 ppb on May 28		Hours of Data:	704
Minimum Value: 0 ppb on May 1 02:00	Minimum Daily Average: 0.5 ppb on May 7		Hours of Missing Data:	40
Maximum Diurnal Average: 1.0 ppb at hour 3	Minimum Diurnal Average: 0.8 ppb at hour 14		Hours of Calibration:	37
Monthly Average: 0.90 ppb	Percentiles: P <sub>1</sub> = 0.4 P <sub>10</sub> = 0.5 Q <sub>1</sub> = 0.6 Median = 1.0 Q <sub>3</sub> = 1.1 P <sub>90</sub> = 1.2 P <sub>99</sub> = 1.7		Percent Operational Time:	99.6

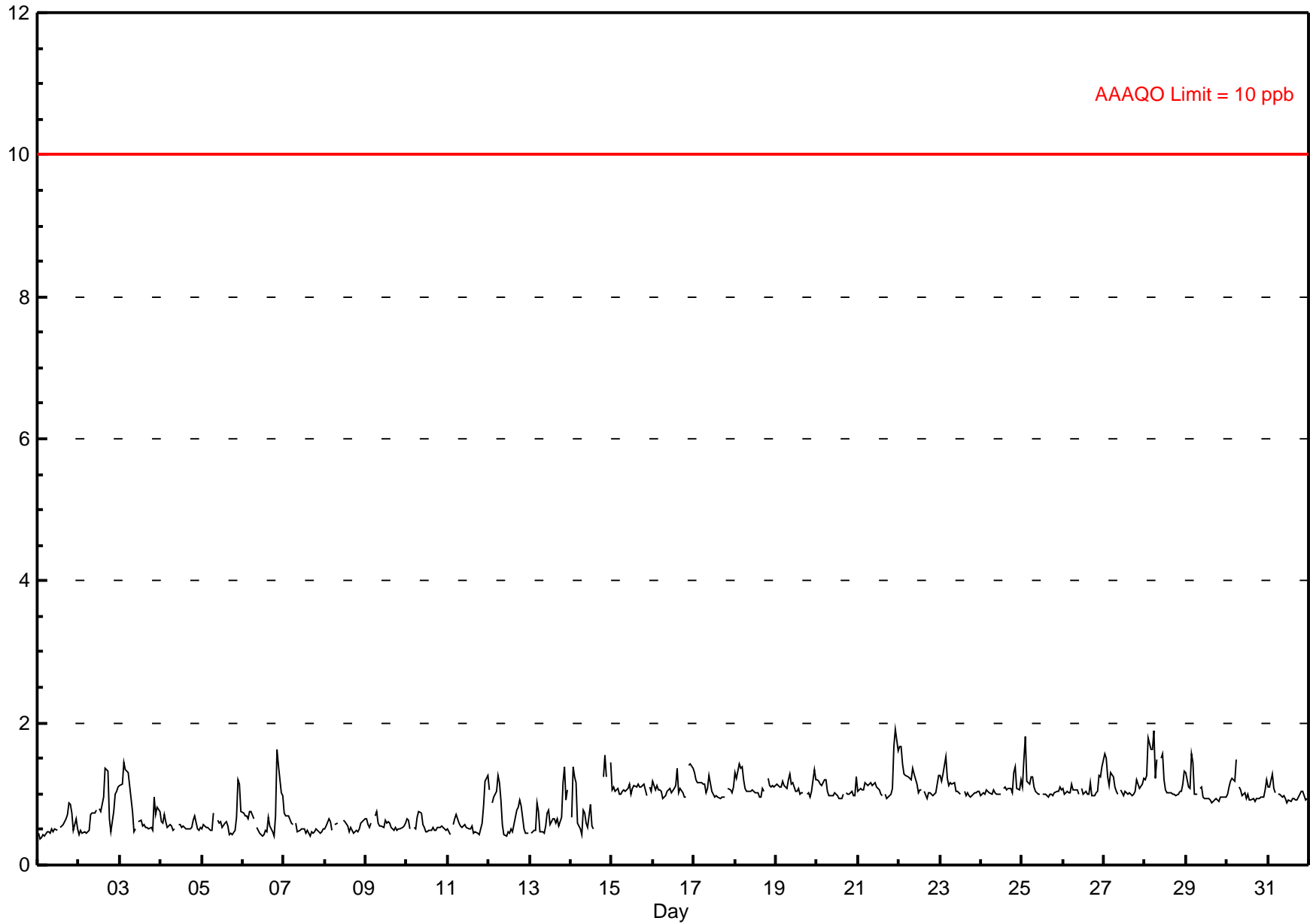
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-May	0	0	0	0	0	0	0	0	1	0	1	0	A	1	1	1	1	1	1	1	1	0	1	1	0.5	0.9
2-May	0	0	0	0	0	0	0	1	1	1	1	A	1	1	1	1	1	1	1	0	1	1	1	1	0.8	1.4
3-May	1	1	1	1	1	1	1	1	0	1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

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



**Hourly Averages**

**Hydrogen Sulphide (H<sub>2</sub>S) - ppb**  
**Valleyview - May 2013**



## Hourly Maximums

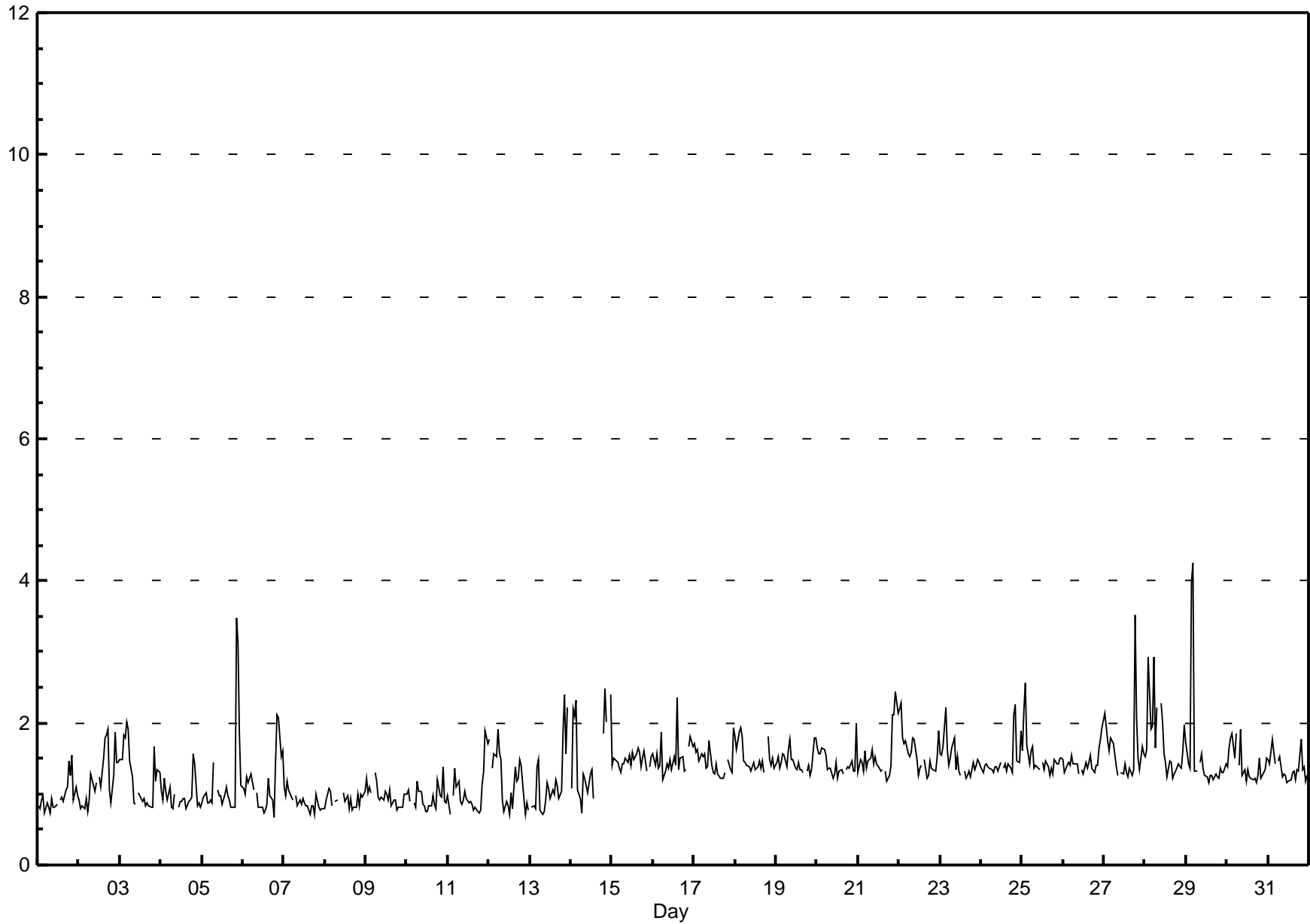
### Hydrogen Sulphide (H<sub>2</sub>S) - ppb

### Valleyview - May 2013

Maximum Value: 4.3 ppb on May 29 05:00		Maximum Daily Average: 1.7 ppb on May 28		Hours in Service: 744																						
Minimum Value: 1 ppb on May 6 19:00		Minimum Daily Average: 0.9 ppb on May 7		Hours of Data: 704																						
Maximum Diurnal Average: 1.5 ppb at hour 21		Minimum Diurnal Average: 1.2 ppb at hour 14		Hours of Missing Data: 40																						
Monthly Average: 1.32 ppb		Percentiles: P <sub>1</sub> = 0.7 P <sub>10</sub> = 0.8 Q <sub>1</sub> = 1.0 Median = 1.3 Q <sub>3</sub> = 1.5 P <sub>90</sub> = 1.8 P <sub>99</sub> = 2.9		Hours of Calibration: 37																						
				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-May	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	2	1	1	1		
2-May	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	2	2	2	1	1	1	2	1	1		
3-May	1	1	2	2	2	2	1	1	1	1	A	1	1	1	1	1	1	1	1	1	2	1	1	1		
4-May	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	2	1	1	1	1		
5-May	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	3	3	2	1		
6-May	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2		
7-May	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
8-May	1	1	1	1	1	A	1	1	D	D	D	1	1	1	1	1	1	1	1	1	1	1	1	1		
9-May	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
10-May	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
11-May	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2		
12-May	2	A	1	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
13-May	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	A	2		
14-May	1	2	2	2	1	1	1	1	1	1	1	1	1	1	C	C	C	C	C	2	2	2	A	2		
15-May	1	2	1	1	1	1	1	1	2	1	2	1	2	1	2	2	2	1	2	2	1	A	1	2		
16-May	2	1	2	1	1	2	1	1	1	1	1	2	1	2	1	2	2	1	1	A	2	2	2	2		
17-May	2	2	2	1	2	2	2	1	1	2	1	1	1	1	1	1	1	1	A	1	1	1	2	2		
18-May	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	A	2	1	1	1	1		
19-May	1	2	1	1	2	2	2	1	2	1	1	1	1	1	1	1	1	A	1	1	1	2	2	2		
20-May	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	2		
21-May	1	1	1	1	2	1	1	2	2	1	2	1	1	1	A	1	1	1	1	1	2	2	2	2		
22-May	2	2	2	2	2	2	2	2	2	2	1	1	1	A	1	1	1	1	1	1	1	1	2	2		
23-May	2	2	2	2	2	1	2	2	2	1	2	1	1	A	1	1	1	1	1	1	1	1	1	1		
24-May	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	2	2	1	1	2		
25-May	2	2	3	2	1	2	2	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	2	2		
26-May	1	1	1	1	1	2	1	1	1	1	A	1	1	1	1	1	2	1	1	1	1	2	2	2		
27-May	2	2	2	2	2	2	2	1	1	A	1	1	1	1	1	1	1	1	4	2	1	1	2	2		
28-May	2	2	3	2	2	3	2	2	A	2	2	2	1	1	1	1	1	1	1	1	1	1	2	2		
29-May	2	1	1	4	4	1	1	A	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
30-May	1	2	2	2	2	2	A	1	2	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1		
31-May	1	1	2	2	1	A	1	2	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1		
		1.4	1.4	1.5	1.5	1.5	1.4	1.3	1.3	1.3	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.4	1.5	1.4	1.4	1.5	Diurnal Average
		2.2	2.3	2.9	4.0	4.3	2.9	1.7	2.2	1.9	2.3	2.0	1.6	1.6	1.5	2.4	1.8	1.8	1.9	3.5	2.1	3.5	3.1	2.4	2.4	Diurnal Maximum
C - Calibration		D - DAS Failure						A - Automated Daily Zero Span																		

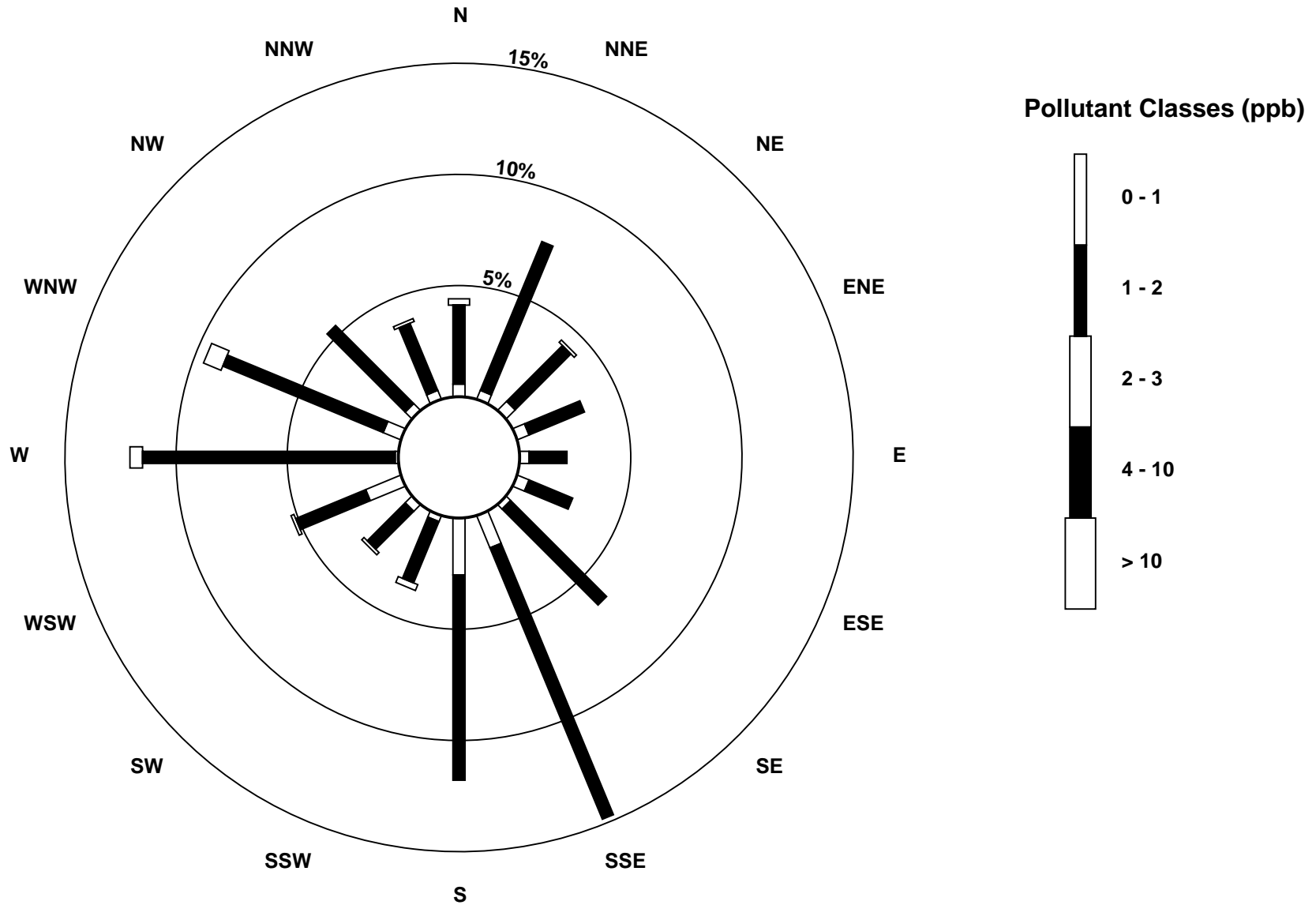
**Hourly Maximums**

**Hydrogen Sulphide (H<sub>2</sub>S) - ppb**  
**Valleyview - May 2013**



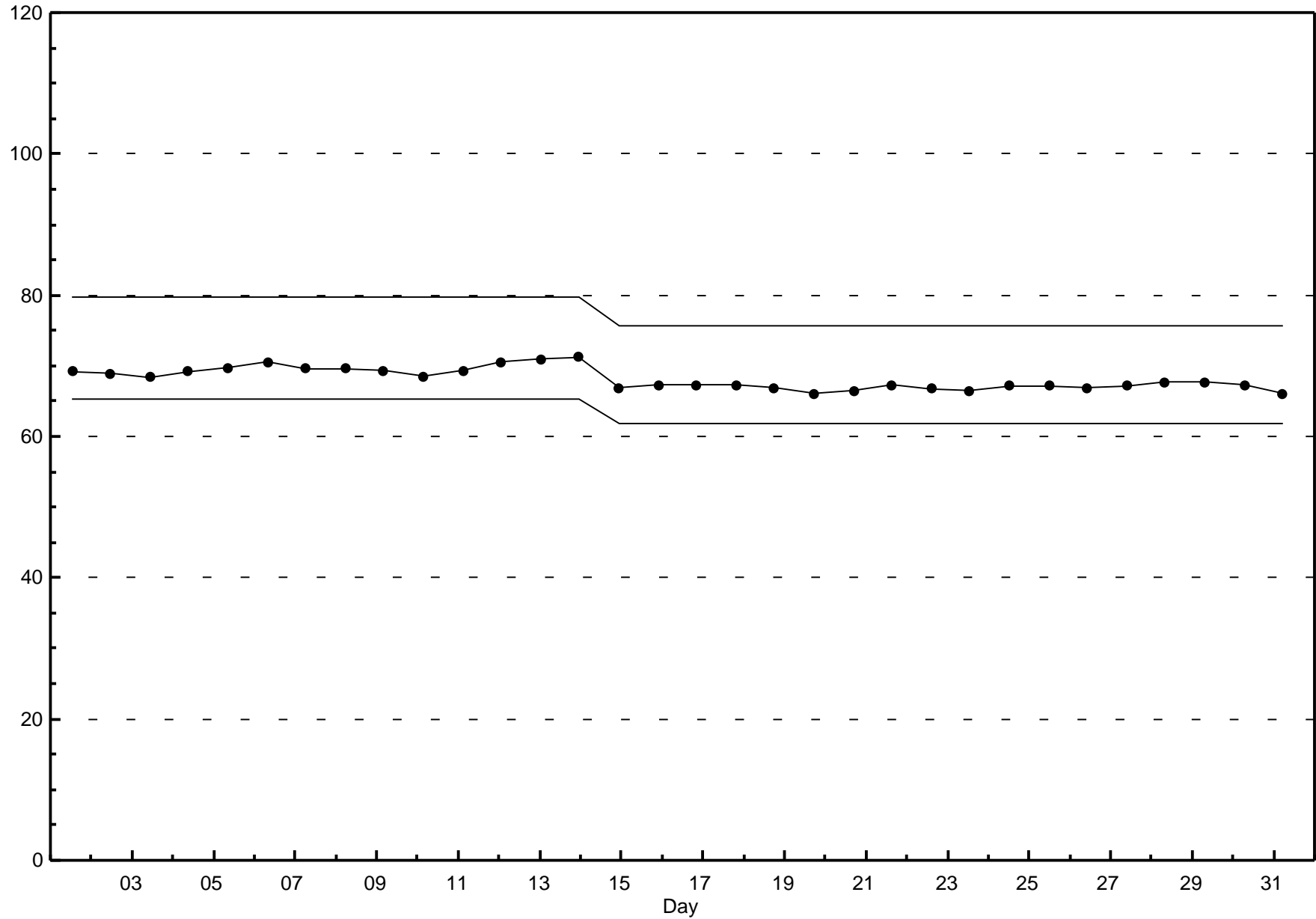
**Pollutant Rose**

**Hydrogen Sulphide (H<sub>2</sub>S) - ppb**  
**Valleyview - May 2013**



### Span Responses

Hydrogen Sulphide (H<sub>2</sub>S)  
Valleyview - May 2013



## Hourly Averages

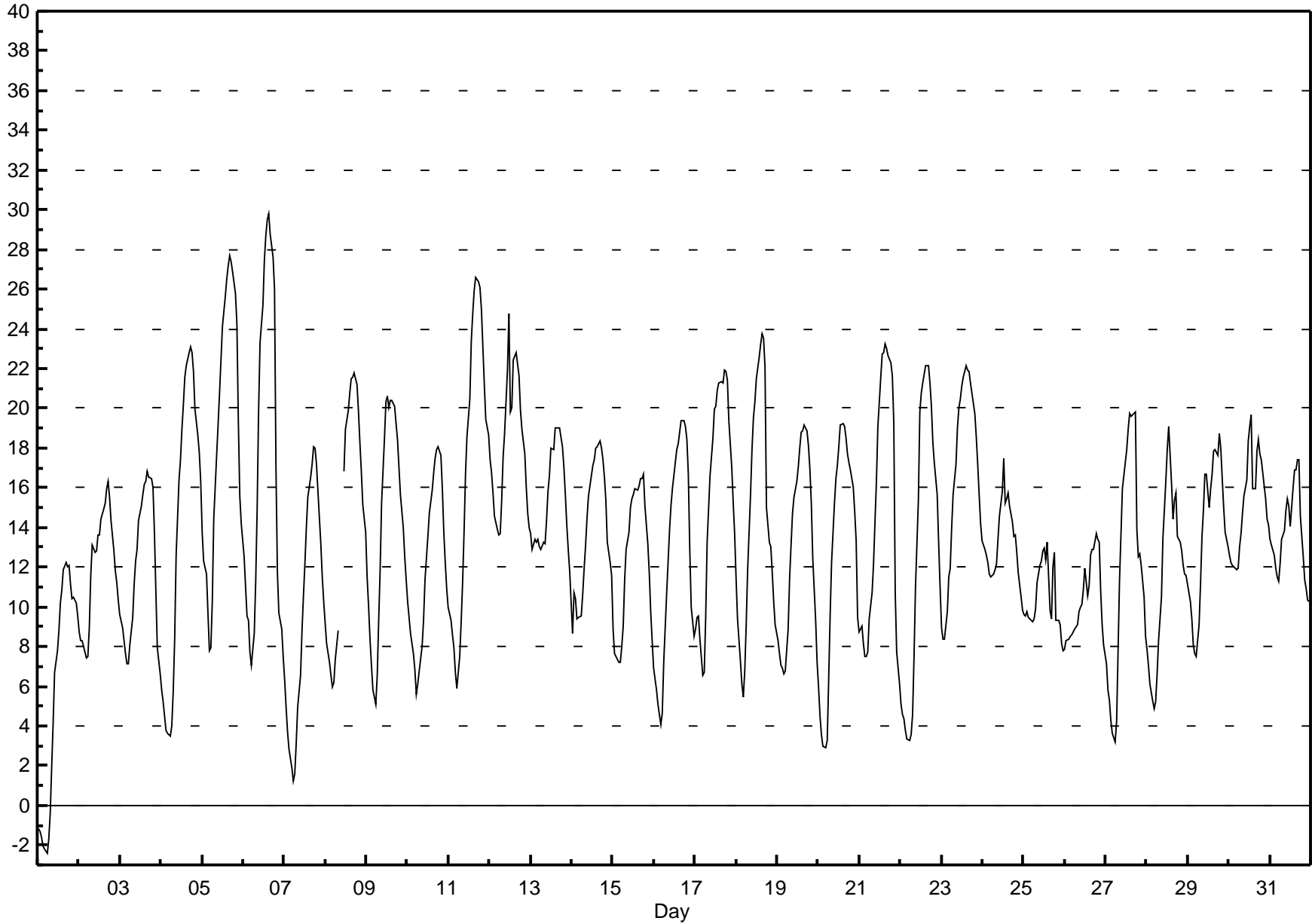
External Temperature (ET) - °C

Valleyview - May 2013

Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 29.8 °C on May 6 16:00	Maximum Daily Average: 18.9 °C on May 5		Hours of Data:	741
Minimum Value: -2 °C on May 1 06:00	Minimum Daily Average: 5.7 °C on May 1		Hours of Missing Data:	3
Maximum Diurnal Average: 19.3 °C at hour 17	Minimum Diurnal Average: 7.1 °C at hour 6		Hours of Calibration:	0
Monthly Average: 13.55 °C	Percentiles: P <sub>1</sub> = -0.5 P <sub>10</sub> = 6.7 Q <sub>1</sub> = 9.3 Median = 13.3 Q <sub>3</sub> = 17.5 P <sub>90</sub> = 21.2 P <sub>99</sub> = 27.3		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-May	-1	-1	-2	-2	-2	-2	-2	0	2	4	7	8	9	10	11	12	12	12	12	11	10	10	10	10	5.7	12.2
2-May	9	8	8	8	7	8	9	12	13	13	13	14	14	14	15	15	16	16	16	14	13	12	11	10	12.0	16.3
3-May	10	9	8	8	7	7	8	9	11	12	13	14	15	16	16	16	17	17	16	16	14	11	8	7	11.9	16.9
4-May	6	5	5	4	4	4	4	6	8	13	16	17	19	20	22	22	23	23	23	22	20	19	18	16	14.0	23.1
5-May	14	12	12	10	8	8	10	14	18	19	21	22	24	26	27	27	28	27	27	26	24	19	16	14	18.9	27.7
6-May	13	11	10	9	8	7	9	11	15	20	23	25	27	29	30	30	29	28	26	17	12	10	9	7	17.2	29.8
7-May	6	5	4	3	2	1	2	3	5	7	9	11	12	14	16	17	17	18	18	17	15	13	12	10	9.8	18.0
8-May	9	8	7	7	6	6	7	9	D	D	D	17	19	20	21	21	22	22	21	20	18	17	15	14	14.6	21.8
9-May	12	10	8	7	6	5	7	9	12	15	18	20	21	20	20	20	20	19	18	17	16	14	13	11	14.1	20.6
10-May	10	9	9	8	7	6	6	7	8	9	11	12	14	15	16	17	17	18	18	18	16	14	12	11	12.0	18.0
11-May	10	9	9	8	7	6	8	9	11	14	17	19	20	23	25	26	27	26	26	25	23	21	19	19	16.9	26.6
12-May	17	17	16	15	14	14	14	15	18	19	22	25	20	20	22	23	22	22	20	19	18	16	15	14	18.1	24.8
13-May	14	13	13	13	13	13	13	13	13	14	16	17	18	18	19	19	19	19	18	17	16	14	13	12	15.3	19.0
14-May	9	11	10	9	9	10	11	12	13	14	16	17	17	17	18	18	18	18	17	17	15	13	12	12	13.9	18.3
15-May	9	8	7	7	7	8	9	11	13	14	15	15	16	16	16	16	16	16	17	15	13	12	10	8	12.3	16.7
16-May	7	6	5	5	4	5	7	11	12	14	15	16	17	18	18	19	19	19	19	18	17	13	10	8	12.6	19.4
17-May	9	9	10	8	7	7	9	13	15	17	19	20	20	21	21	21	21	22	22	21	19	17	15	14	15.7	21.9
18-May	11	9	7	6	5	7	9	12	16	18	19	20	21	23	23	24	24	22	15	13	13	12	10	9	14.6	23.8
19-May	8	8	7	7	7	7	9	11	13	15	16	16	17	18	19	19	19	19	18	17	15	12	9	7	13.1	19.2
20-May	6	4	4	3	3	3	6	10	12	15	16	17	18	19	19	19	18	18	17	17	16	15	13	9	12.5	19.2
21-May	9	9	8	8	7	8	9	11	12	14	16	19	22	23	23	23	23	23	22	22	19	11	8	6	14.8	23.2
22-May	5	5	4	4	3	3	4	5	7	11	15	20	21	21	22	22	22	21	20	18	17	16	13	11	13.0	22.2
23-May	9	8	8	10	12	12	14	16	17	19	20	21	21	22	22	22	22	21	21	20	19	17	16	14	16.7	22.2
24-May	13	13	13	12	12	12	12	12	12	13	15	16	18	15	15	16	15	14	14	14	13	12	10	10	13.3	17.5
25-May	10	10	10	9	9	9	9	10	11	12	12	13	13	12	13	10	9	12	13	9	9	9	8	8	10.5	13.2
26-May	8	8	8	9	9	9	9	9	10	10	10	11	12	11	11	13	13	13	14	13	13	11	9	8	10.4	13.7
27-May	7	6	5	4	4	3	4	8	11	14	16	17	18	19	20	20	20	20	14	12	13	12	10	9	11.9	19.8
28-May	8	7	6	5	5	5	7	8	10	14	15	16	18	19	16	14	15	16	14	13	13	12	12	12	11.7	19.1
29-May	11	10	9	8	8	8	9	11	14	15	17	17	15	16	17	18	18	18	19	18	16	15	14	13	13.8	18.7
30-May	13	12	12	12	12	12	13	14	15	16	16	18	19	20	16	16	18	18	18	17	17	15	14	14	15.3	19.7
31-May	13	13	13	12	11	11	12	13	14	15	15	15	14	16	17	17	17	17	15	13	11	11	10	10	13.6	17.4
	9.4	8.8	8.2	7.6	7.1	7.1	8.3	10.1	12.1	13.9	15.7	16.9	17.7	18.4	18.9	19.1	19.3	19.2	18.3	17.0	15.6	13.7	12.1	10.9		Diurnal Average
	17.4	16.8	15.7	14.6	13.9	13.6	14.0	15.7	17.6	19.9	23.3	25.2	27.4	28.7	29.5	29.8	28.7	27.6	26.9	25.8	24.2	21.2	19.5	18.6		Diurnal Maximum

D - DAS Failure



## Hourly Averages

Relative Humidity (RH) - %

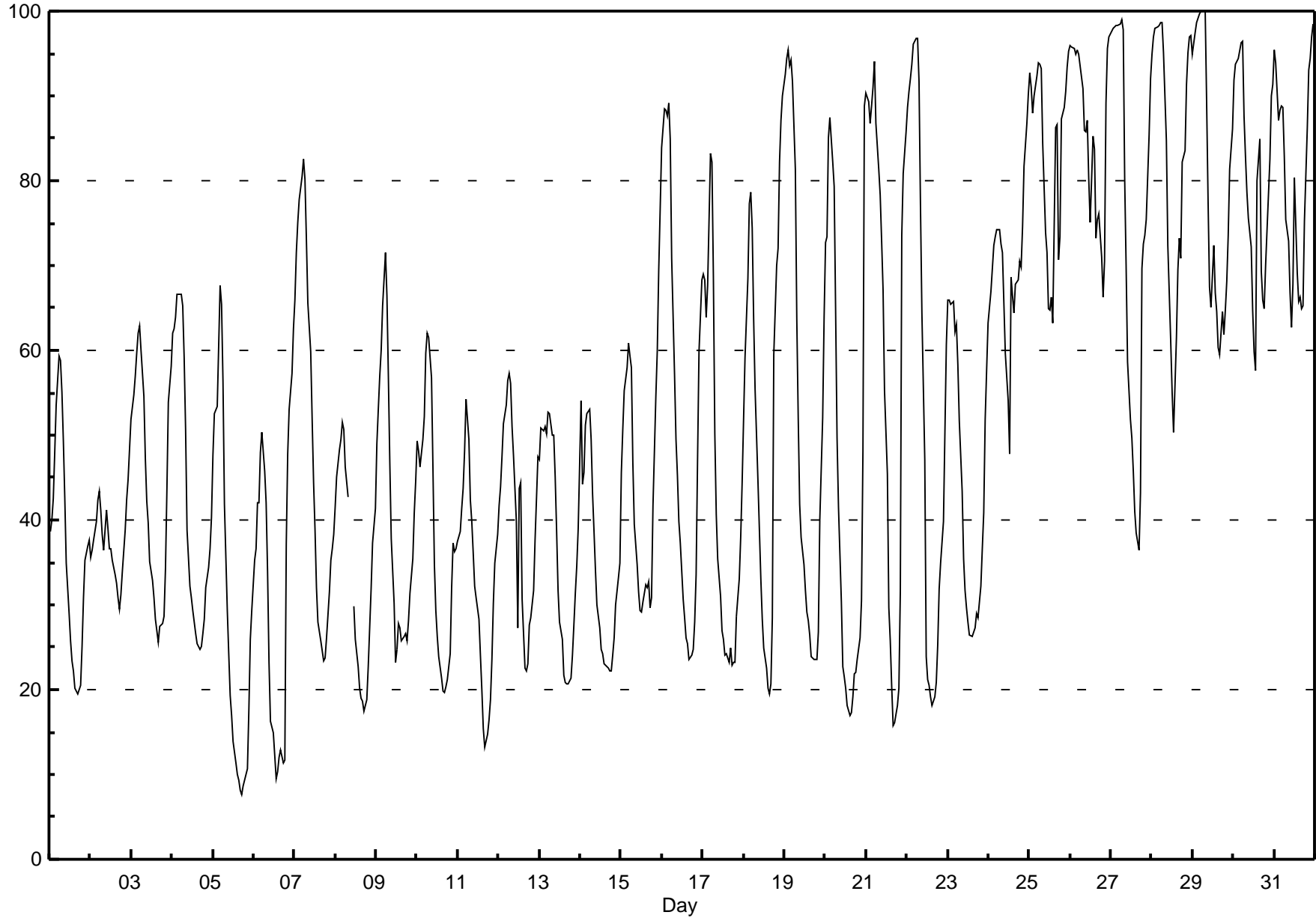
Valleyview - May 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 100.0 % on May 29 07:00 Maximum Daily Average: 85.6 % on May 26		Hours in Service: 744 Hours of Data: 741 Hours of Missing Data: 3 Hours of Calibration: 0 Percent Operational Time: 99.6																																														
Minimum Value: 8 % on May 5 18:00 Maximum Diurnal Average: 74.2 % at hour 6 Monthly Average: 52.07 %		Minimum Daily Average: 29.1 % on May 5 Minimum Diurnal Average: 33.2 % at hour 17 Percentiles: P <sub>1</sub> = 10.3 P <sub>10</sub> = 22.5 Q <sub>1</sub> = 29.7 Median = 48.4 Q <sub>3</sub> = 71.2 P <sub>90</sub> = 90.7 P <sub>99</sub> = 98.3																																														
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-May	39	40	43	48	54	59	59	55	49	43	35	29	26	23	22	20	20	20	20	25	31	35	37	38	36.2	59.4																						
2-May	36	36	38	40	42	43	41	38	36	41	39	37	37	35	34	33	31	29	31	34	39	42	45	48	37.7	48.3																						
3-May	52	55	57	60	62	63	60	55	47	42	40	35	33	31	28	27	26	27	28	29	34	44	54	58	43.6	62.8																						
4-May	62	63	64	67	67	67	65	59	51	39	32	31	29	28	27	25	25	25	27	28	32	34	37	40	42.6	66.7																						
5-May	48	53	53	61	68	65	56	42	29	24	19	17	14	11	10	9	8	8	9	10	11	18	26	29	29.1	67.6																						
6-May	35	37	42	42	48	50	46	42	34	23	16	15	12	10	10	12	13	11	12	37	48	53	57	63	32.0	62.5																						
7-May	66	72	75	78	81	83	80	73	66	60	52	44	39	32	28	26	25	23	24	26	32	35	37	38	49.7	82.6																						
8-May	42	45	48	50	51	51	46	43	D	D	D	30	26	23	20	19	19	18	19	23	27	32	37	41	33.8	51.5																						
9-May	49	53	57	60	65	72	66	57	47	38	30	23	25	28	27	26	26	27	26	28	31	35	41	45	40.9	71.6																						
10-May	49	48	46	49	52	60	62	61	57	46	35	29	26	24	21	20	20	20	21	24	32	37	36	37	38.1	62.1																						
11-May	37	39	41	44	48	54	50	42	40	36	32	31	28	24	20	15	13	15	17	19	24	30	35	38	32.2	54.3																						
12-May	42	44	47	51	54	56	57	56	51	48	40	27	44	44	31	23	22	23	28	28	32	38	42	47	40.6	57.3																						
13-May	47	51	51	51	50	53	52	50	50	45	39	32	28	26	22	21	21	21	21	24	28	31	35	39	36.9	52.7																						
14-May	54	44	46	51	53	53	49	43	39	34	30	27	25	24	23	23	23	22	22	24	26	30	33	35	34.7	54.0																						
15-May	46	51	55	58	61	59	58	47	40	35	31	29	29	30	32	32	33	30	31	42	55	60	69	77	45.4	76.6																						
16-May	84	88	88	88	89	85	71	57	49	45	40	37	31	29	26	25	24	24	25	28	34	47	60	68	51.7	89.2																						
17-May	69	68	64	68	83	82	69	50	41	35	31	27	26	24	24	23	25	23	23	23	29	33	38	44	42.6	83.3																						
18-May	52	59	68	77	79	74	64	55	45	39	33	28	25	23	20	19	21	28	59	70	72	82	87	90	52.9	90.0																						
19-May	93	94	95	93	94	92	81	64	52	42	38	35	32	29	28	27	24	23	23	24	27	40	52	64	52.8	95.4																						
20-May	73	73	85	87	82	79	65	50	42	30	23	22	20	18	17	17	19	22	22	24	26	30	48	89	44.3	88.8																						
21-May	90	89	87	89	91	94	87	81	78	73	67	55	45	30	26	20	16	16	18	20	32	73	81	86	60.2	94.1																						
22-May	89	91	92	94	96	97	97	92	77	64	47	24	21	21	19	18	19	21	25	32	35	40	50	61	55.0	96.8																						
23-May	66	66	65	66	62	63	58	52	43	35	32	30	28	26	26	27	27	29	28	32	37	41	52	58	43.7	65.9																						
24-May	63	67	70	72	73	74	74	73	71	66	60	54	48	69	67	64	68	68	70	70	75	82	87	90	69.8	90.1																						
25-May	93	91	88	90	92	94	94	93	84	74	71	65	65	66	63	86	87	71	73	87	89	90	93	95	83.2	95.3																						
26-May	96	96	96	95	95	95	94	91	86	86	87	80	75	85	84	73	75	76	71	66	70	89	96	97	85.6	97.0																						
27-May	98	98	98	98	98	98	99	98	80	70	59	52	50	46	41	38	36	43	70	73	74	75	85	92	73.7	98.9																						
28-May	95	97	98	98	98	99	99	95	85	72	67	61	55	50	61	69	73	71	82	83	91	95	97	97	82.9	98.6																						
29-May	95	97	99	99	100	100	100	100	89	78	67	65	72	67	65	60	59	65	62	65	68	74	81	86	79.7	100.0																						
30-May	92	94	94	94	96	96	88	83	79	76	72	65	60	58	80	85	69	66	65	70	74	83	90	91	80.0	96.4																						
31-May	95	94	87	88	89	89	83	75	73	67	63	68	80	69	66	66	65	65	75	86	93	94	97	99	80.3	98.6																						
																								65.9	67.5	69.0	71.2	73.4	74.2	70.0	63.6	57.0	50.2	44.2	38.8	37.2	35.6	34.5	33.9	33.2	33.3	36.4	40.5	45.3	52.4	58.6	63.9	Diurnal Average
																								97.6	97.9	98.6	99.1	99.7	100.0	100.0	100.0	89.2	85.7	87.1	80.4	80.4	85.3	83.7	86.3	86.5	76.1	82.2	87.3	93.1	95.1	96.9	98.6	Diurnal Maximum
D - DAS Failure																																																



**Hourly Averages**

**Relative Humidity (RH) - %**  
**Valleyview - May 2013**



## Hourly Averages

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

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1 Spd	6	10	9	8	5	6	6	8	6	6	7	11	11	9	10	13	13	11	12	9	8	9	10	4	6.0	12.9
Dir	170	171	169	165	167	169	169	167	175	184	225	244	268	246	263	274	275	277	277	282	263	244	260	191	233	275
2 Spd	5	6	5	4	3	3	2	7	18	19	19	19	21	23	23	23	19	18	17	17	15	13	13	13	12.0	23.3
Dir	178	178	180	170	171	177	165	270	268	281	278	282	275	281	273	273	272	283	297	301	286	277	275	274	274	281
3 Spd	12	12	9	11	11	11	15	16	15	14	10	8	10	12	11	12	11	7	7	3	1	1	2	1	8.5	16.4
Dir	275	277	273	275	271	270	276	281	298	304	297	295	306	324	290	325	324	317	334	315	205	181	175	189	293	281
4 Spd	3	2	2	3	3	3	3	5	6	5	10	12	11	9	9	12	9	11	8	4	3	6	7	6	4.0	12.4
Dir	165	180	197	192	191	184	182	173	168	177	277	292	285	275	299	315	320	326	327	285	236	246	252	243	272	292
5 Spd	2	2	3	3	2	3	3	4	12	11	9	7	8	11	14	16	14	18	14	8	3	1	2	2	5.2	17.5
Dir	208	167	169	165	153	168	160	252	280	290	277	274	277	279	285	305	313	329	332	330	302	182	162	175	291	329
6 Spd	2	3	3	1	2	1	2	2	2	3	6	7	6	10	13	18	23	22	24	33	26	21	14	15	5.3	33.0
Dir	151	153	156	192	188	190	172	161	173	175	165	174	195	242	246	282	293	294	303	6	9	12	355	351	317	6
7 Spd	13	9	10	9	5	5	6	3	3	3	4	6	6	6	4	4	4	3	4	6	5	7	6	5	3.7	13.0
Dir	4	357	16	12	37	28	33	30	81	56	94	65	62	73	84	81	118	140	116	83	105	150	158	161	61	4
8 Spd	2	1	4	3	4	4	8	9	D	D	D	1	1	3	3	3	3	5	8	7	4	3	4	4	0.4	9.3
Dir	177	155	166	179	179	176	172	173	D	D	D	108	71	7	265	347	3	326	0	17	56	9	13	354	45	173
9 Spd	6	5	6	5	3	1	1	2	3	3	4	13	18	20	22	22	19	19	16	15	13	10	7	7	8.1	22.5
Dir	358	19	19	16	11	51	227	159	163	178	288	295	317	324	324	334	353	8	19	23	20	16	28	32	351	334
10 Spd	7	5	5	4	5	4	5	7	5	5	5	7	6	4	5	6	5	5	6	7	5	8	9	7	3.9	9.0
Dir	51	50	23	22	30	14	32	50	73	73	80	53	56	62	64	86	121	125	124	129	149	155	157	163	84	157
11 Spd	6	5	5	3	1	1	3	8	7	5	2	3	4	2	2	3	4	4	4	4	3	2	1	1	1.6	8.5
Dir	164	165	166	173	203	204	164	171	168	158	173	174	166	184	208	51	2	55	20	360	328	322	285	148	160	171
12 Spd	1	1	1	1	1	1	1	1	2	4	2	18	18	15	20	26	28	27	23	20	15	8	8	6	9.0	27.6
Dir	168	165	178	168	237	189	323	202	164	169	174	240	291	304	291	272	271	270	270	262	250	239	242	215	265	271
13 Spd	6	4	5	5	2	2	5	13	15	15	17	17	17	17	16	16	16	16	16	9	7	5	6	5	10.0	17.5
Dir	222	206	224	242	283	243	233	255	251	263	267	272	277	278	267	286	280	292	284	276	263	257	258	245	267	272
14 Spd	2	9	10	6	8	8	9	16	16	15	17	14	15	16	16	17	16	17	15	11	6	5	7	7	11.1	17.0
Dir	179	268	265	253	253	249	253	274	274	294	302	299	296	292	281	292	292	287	285	284	279	249	268	258	281	287
15 Spd	2	2	2	2	2	1	2	3	9	12	6	6	10	8	10	8	9	8	6	4	3	3	2	2	4.0	12.2
Dir	195	173	176	172	167	161	165	250	280	266	268	271	262	287	270	263	297	286	262	218	167	172	187	180	258	266
16 Spd	1	2	2	2	3	2	3	3	9	8	8	6	10	8	7	7	10	8	7	5	0	1	1	1	3.6	10.1
Dir	182	179	172	168	170	168	172	238	286	284	271	292	278	273	282	297	294	309	316	318	313	202	179	189	279	294
17 Spd	1	1	2	1	2	1	2	2	4	4	2	3	3	2	3	5	5	3	3	3	2	3	3	3	1.8	5.4
Dir	166	211	179	193	156	160	171	164	296	278	282	182	162	158	196	163	136	165	142	122	145	148	151	164	169	163
18 Spd	1	1	0	0	1	2	3	3	2	3	1	4	1	2	4	0	3	6	12	13	4	1	1	1	1.3	13.3
Dir	186	263	234	187	243	153	190	167	162	147	67	19	221	319	262	243	323	134	250	289	304	147	194	189	244	289
19 Spd	1	2	2	2	1	1	2	5	11	13	12	12	10	9	8	9	12	15	13	11	4	1	1	1	5.2	14.9
Dir	177	156	150	172	175	165	149	273	281	287	274	284	278	281	272	301	308	322	319	330	331	177	174	174	292	322
20 Spd	1	1	1	1	1	1	2	2	2	1	3	2	3	3	3	3	7	10	10	9	6	7	3	6	2.3	10.4
Dir	188	178	169	164	194	169	168	160	139	146	123	53	81	46	66	78	37	34	43	45	37	31	209	321	53	43
21 Spd	10	10	12	9	8	8	9	8	7	6	5	2	1	12	14	14	14	12	10	7	2	8	7	4	3.0	14.4
Dir	18	31	28	22	21	15	26	27	14	347	345	338	142	138	134	136	140	139	134	131	187	265	264	247	72	136
22 Spd	3	4	3	4	4	4	3	3	1	2	2	13	15	14	14	15	14	12	12	11	6	2	2	1	4.2	15.2
Dir	266	291	298	300	318	342	316	0	331	352	47	129	132	135	131	136	148	149	154	154	150	119	96	20	140	132

## Hourly Averages

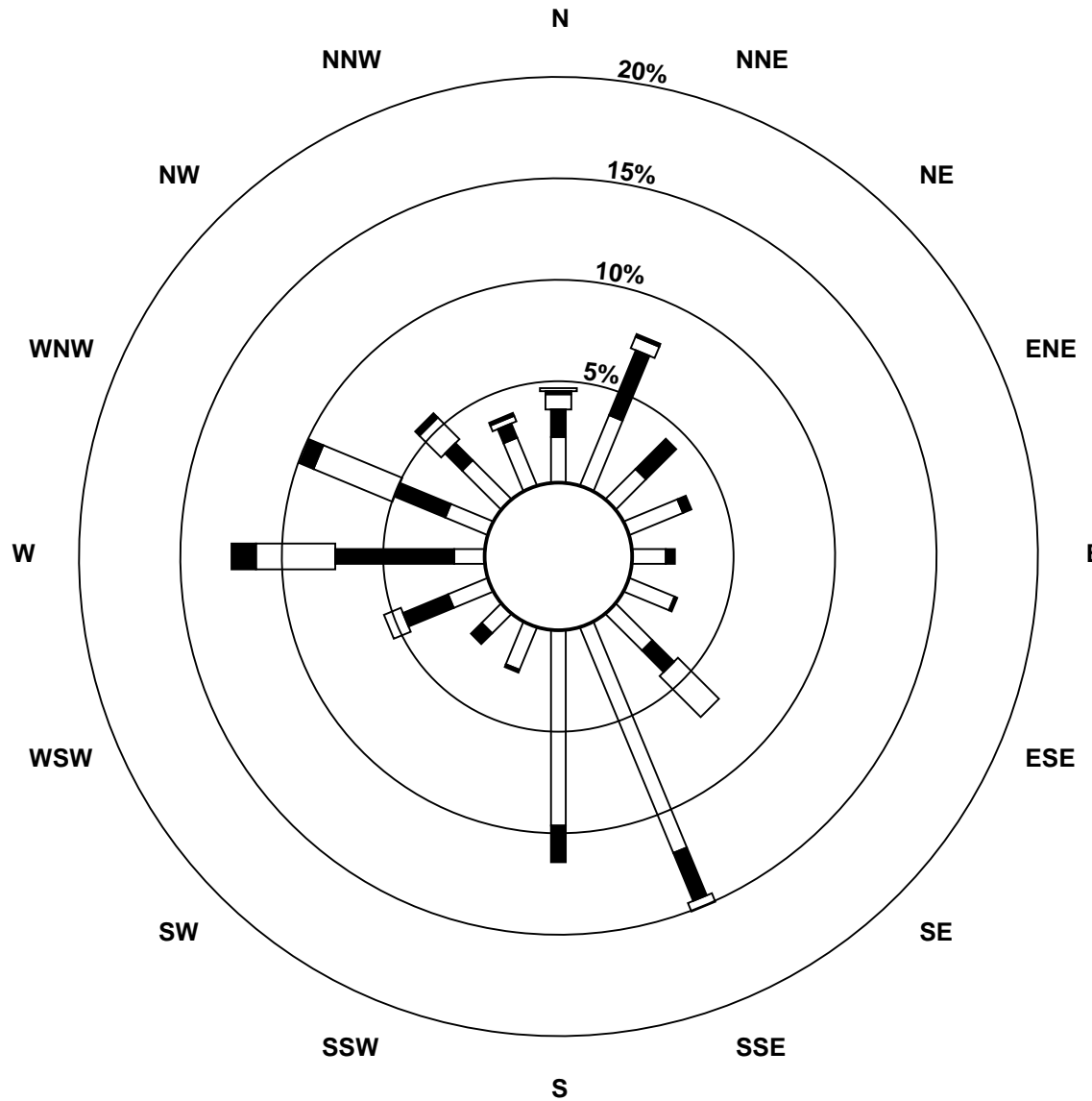
Wind Speed (km/h)  
Wind Direction (deg)  
Valleyview - May 2013

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
23 Spd	4	3	1	1	2	4	6	7	9	10	12	15	15	15	13	12	13	12	12	7	5	6	9	6	7.5	15.0	
Dir	342	332	319	210	173	152	152	139	134	140	143	139	136	145	139	140	133	133	132	130	122	144	163	154	140	145	
24 Spd	5	3	2	1	5	5	7	7	8	7	7	8	7	4	6	7	6	5	5	4	4	1	1	2	0.9	7.9	
Dir	153	152	134	57	15	30	24	14	9	31	41	41	44	188	240	234	230	211	236	266	278	234	218	236	2	41	
25 Spd	1	2	2	1	1	2	1	2	3	4	3	5	7	8	7	5	3	3	3	2	4	3	2	2	1.8	7.7	
Dir	228	271	282	224	222	319	70	53	79	86	100	60	36	45	52	90	325	351	97	146	317	310	343	334	38	45	
26 Spd	3	3	4	4	4	6	7	7	7	7	6	4	3	3	2	0	1	1	0	2	0	0	0	0	2.7	7.5	
Dir	328	325	337	346	1	2	13	7	5	7	360	23	20	51	31	225	165	147	164	296	222	159	206	268	2	13	
27 Spd	0	0	1	1	0	1	1	0	1	2	1	3	5	4	4	4	2	5	8	2	3	1	1	3	1.3	8.1	
Dir	284	45	202	261	292	300	287	26	14	358	77	77	69	82	102	154	155	51	110	50	18	354	41	345	73	110	
28 Spd	1	0	1	1	1	0	1	1	1	1	1	3	2	3	5	7	6	5	5	2	3	1	1	1	2	0.7	7.0
Dir	180	44	9	288	221	207	189	21	113	290	347	21	27	23	150	16	52	146	135	328	168	65	270	296	53	150	
29 Spd	2	1	1	2	1	2	1	1	1	1	2	4	4	4	3	1	2	2	3	3	3	3	1	2	1.5	4.3	
Dir	6	170	112	295	167	162	122	52	110	129	146	156	153	165	154	87	128	114	54	75	113	120	125	129	128	153	
30 Spd	0	1	1	1	0	1	1	3	4	3	5	4	3	3	5	4	5	4	4	1	1	1	1	1	1.7	4.7	
Dir	264	9	271	316	151	11	152	162	163	165	163	162	168	150	112	65	128	144	155	122	110	78	343	347	141	112	
31 Spd	0	1	5	3	1	1	1	0	3	4	4	1	4	4	4	4	2	2	8	5	1	2	2	2	1.0	7.9	
Dir	237	212	276	260	237	213	158	218	244	314	314	289	11	30	30	27	48	131	270	256	299	180	177	160	292	270	
Spd	0.3	0.5	0.6	0.6	0.4	0.3	0.6	1.3	2.5	2.8	2.8	2.7	3.1	3.1	3.7	4.1	4.1	3.6	3.6	3.0	1.6	0.8	1.6	1.2	Diurnal Average		
Dir	245	235	244	257	255	246	197	242	268	280	278	274	287	286	271	291	293	302	301	325	316	265	244	251			
Spd	13.0	12.3	12.1	11.3	11.0	10.9	14.8	16.4	18.0	19.0	18.5	19.3	21.5	23.3	22.6	25.9	27.6	27.4	23.8	33.0	26.1	20.6	14.0	15.1	Diurnal Maximum		
Dir	4	277	28	275	271	270	276	281	268	281	278	282	275	281	273	272	271	270	303	6	9	12	355	351			
Maximum Speed Value: 33 km/h on May 6 20:00		Minimum Speed Value: 0 km/h on May 27 08:00																Hours in Service: 744									
Maximum Daily Speed Average: 12.0 km/h on May 2		Minimum Daily Speed Average: 0.4 km/h on May 29																Hours of Data: 741									
Maximum Diurnal Speed Average: 4.1 km/h at hour 17		Minimum Diurnal Speed Average: 0.3 km/h at hour 1																Hours of Missing Data: 3									
Monthly Average Velocity: 1.89 km/h 282.6 deg		Speed Percentiles: P <sub>1</sub> = 0.4 P <sub>10</sub> = 1.0 Q <sub>1</sub> = 2.0 Median = 4.3 Q <sub>3</sub> = 8.5 P <sub>90</sub> = 14.4 P <sub>99</sub> = 22.8																Percent Operational Time: 99.6									
All monthly, daily, and diurnal averages have been calculated using vector methods																											
D - DAS 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	40	26	6	3	1	0	76																				
NorthEast	35	34	2	0	0	0	71																				
East	26	9	0	0	0	0	35																				
SouthEast	59	20	23	0	0	0	102																				
South	139	26	0	0	0	0	165																				
SouthWest	41	15	3	0	0	0	59																				
West	32	54	52	12	0	0	150																				
NorthWest	37	18	22	6	0	0	83																				
Total	409	202	108	21	1	0	741																				

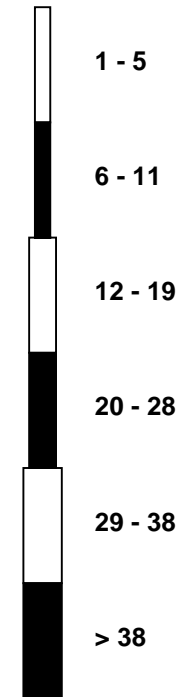
**Wind Rose**

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

**Valleyview - May 2013**



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



# Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Valleyview - May 2013

Maximum Speed: 33 km/h on May 6 20:00	Maximum Daily Speed Average: 13.8 km/h on May 2	Hours in Service: 744
Minimum Speed: 1 km/h on May 30 05:00	Minimum Daily Speed Average: 2.5 km/h on May 29	Hours of Data: 741
Maximum Diurnal Speed Average: 10.6 km/h at hour 16	Minimum Diurnal Speed Average: 3.2 km/h at hour 5	Hours of Missing Data: 3
Monthly Average Speed: 6.66 km/h	Percentiles: P <sub>1</sub> = 0.8 P <sub>10</sub> = 1.4 Q <sub>1</sub> = 2.6 Median = 5.0 Q <sub>3</sub> = 9.0 P <sub>90</sub> = 14.8 P <sub>99</sub> = 22.9	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-May	7	10	9	8	5	6	7	9	6	7	9	12	12	11	11	13	13	11	12	9	9	9	11	4	9.0	13.4
2-May	5	6	5	4	3	3	2	7	18	19	19	20	22	24	23	23	20	18	17	17	15	13	13	13	13.8	23.6
3-May	12	12	10	11	11	11	15	17	15	14	11	10	11	13	12	13	12	8	7	3	1	1	2	1	9.7	16.7
4-May	3	2	2	3	3	3	3	5	6	5	12	13	12	11	10	14	10	11	8	4	3	6	7	6	6.7	13.7
5-May	2	2	3	3	2	3	4	7	12	12	10	8	9	12	14	17	15	18	14	8	3	2	3	3	7.7	17.9
6-May	2	3	3	1	2	1	2	2	3	4	7	7	6	12	14	19	23	22	24	33	26	21	14	15	11.1	33.5
7-May	13	9	10	9	5	5	6	4	3	5	5	8	8	8	8	6	6	4	5	6	5	7	7	5	6.5	13.1
8-May	2	2	4	3	4	4	8	9	D	D	D	4	4	5	5	5	6	7	9	7	4	3	5	5	5.0	9.4
9-May	6	5	6	5	3	1	1	2	4	4	7	13	19	21	23	23	20	20	16	15	13	10	7	8	10.4	22.9
10-May	8	5	5	4	5	4	5	7	6	6	7	8	7	6	7	7	6	6	6	7	5	8	9	7	6.3	9.1
11-May	6	5	5	3	1	1	3	9	7	5	3	3	4	4	4	4	5	5	4	4	3	4	4	2	4.1	8.6
12-May	1	2	1	1	1	1	2	1	3	4	3	19	21	15	21	26	28	28	23	20	15	8	8	6	10.7	28.1
13-May	6	4	6	5	3	2	5	13	15	16	17	18	18	18	18	17	17	16	17	9	7	5	6	6	11.0	18.5
14-May	2	9	10	6	8	8	9	16	16	16	18	15	16	17	17	18	17	17	16	11	6	5	8	8	12.0	17.8
15-May	2	2	2	2	2	2	2	3	9	13	8	8	10	9	11	8	10	9	7	6	3	3	2	2	5.6	12.8
16-May	2	2	2	2	3	2	3	4	9	8	8	7	11	9	8	8	11	9	7	5	1	1	1	1	5.2	11.4
17-May	1	1	2	1	2	1	2	2	5	5	5	5	4	5	4	6	6	3	4	3	2	3	3	3	3.2	5.7
18-May	2	1	1	1	2	2	4	3	3	3	4	5	5	5	6	4	5	6	15	15	6	2	2	1	4.3	14.8
19-May	1	2	2	2	1	1	2	6	12	13	13	13	11	10	10	10	13	16	14	11	5	1	1	1	7.0	15.8
20-May	1	1	1	2	1	1	2	2	2	2	4	5	5	4	5	3	7	10	11	9	7	7	4	8	4.4	10.6
21-May	10	10	12	9	9	8	9	8	7	7	5	4	3	12	14	15	14	12	10	7	7	8	7	5	8.8	14.6
22-May	4	4	3	4	4	4	3	3	2	3	3	13	15	15	14	15	14	12	13	11	6	2	2	2	7.2	15.3
23-May	4	3	2	1	2	4	6	7	9	10	12	15	15	15	14	13	13	12	12	7	5	6	9	7	8.5	15.4
24-May	5	3	2	2	5	5	7	8	8	7	8	8	7	4	7	7	7	6	5	4	4	2	2	2	5.2	8.2
25-May	1	2	3	3	3	2	2	3	4	5	4	6	8	8	8	7	4	4	5	4	4	3	3	2	4.1	8.4
26-May	3	3	4	4	4	6	8	7	8	7	7	5	4	3	2	1	1	2	1	3	1	1	1	1	3.7	7.7
27-May	1	1	1	1	1	1	1	1	2	3	3	5	6	6	5	4	2	8	9	8	4	3	2	3	3.3	8.7
28-May	1	1	1	1	1	1	1	1	1	2	3	3	5	6	8	7	5	6	4	4	1	1	1	2	2.8	8.0
29-May	2	1	1	2	1	2	1	1	2	2	3	4	4	4	3	2	3	2	3	4	3	3	2	2	2.5	4.4
30-May	1	1	1	1	1	1	1	3	4	3	5	4	4	4	6	5	5	5	4	2	1	1	1	1	2.7	5.9
31-May	1	2	5	3	2	2	1	2	3	4	5	3	5	4	5	5	3	2	9	5	3	2	3	3	3.4	9.4
	3.8	3.8	3.9	3.4	3.2	3.2	4.1	5.6	6.8	7.1	7.6	8.7	9.4	9.6	10.2	10.6	10.4	10.2	10.0	8.4	5.8	4.9	4.8	4.3	Diurnal Average	
	13.1	12.4	12.3	11.3	11.1	11.1	14.9	16.7	18.4	19.3	18.8	19.6	21.9	23.6	23.1	26.5	28.1	28.1	24.4	33.5	26.3	20.9	14.4	15.2	Diurnal Maximum	

D - DAS Failure  
 All monthly, daily, and diurnal averages have been calculated using scalar methods

# Hourly Standard Deviations

Wind Direction (WD) - deg

Valleyview - May 2013

Maximum Value: 96.6 deg on May 31 12:00		Hours in Service: 744																								
Minimum Value: 5.3 deg on May 16 03:00		Hours of Data: 741																								
Percentiles: P <sub>1</sub> = 6.6 P <sub>10</sub> = 9.2 Q <sub>1</sub> = 12.6 Median = 22.8 Q <sub>3</sub> = 42.7 P <sub>90</sub> = 65.6 P <sub>99</sub> = 87.4		Hours of Missing Data: 3																								
		Hours of Calibration: 0																								
		Percent Operational Time: 99.6																								
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-May	6	7	6	8	8	10	11	11	12	22	43	21	29	36	37	18	16	16	10	10	15	19	20	12	42.6	
2-May	7	7	8	11	12	23	33	40	12	11	11	11	12	10	13	12	17	15	11	10	10	9	8	9	39.5	
3-May	7	8	7	5	7	9	7	9	14	17	24	39	34	21	17	30	19	22	23	26	28	22	21	23	39.4	
4-May	17	9	16	8	13	8	11	9	11	14	52	19	27	41	30	28	27	22	19	25	9	7	6	21	52.5	
5-May	14	26	12	19	30	9	10	65	12	14	35	35	38	24	21	19	19	13	8	7	34	45	41	27	65.3	
6-May	33	10	17	24	27	31	9	15	17	31	18	20	28	30	31	15	12	12	12	9	7	9	13	8	33.2	
7-May	7	7	7	7	17	11	15	50	52	63	51	38	41	41	44	63	57	55	32	24	20	13	11	11	62.9	
8-May	20	62	15	12	6	10	9	8	D	D	D	94	86	75	65	83	77	74	21	17	13	34	33	37	93.6	
9-May	8	13	11	7	15	67	59	29	25	24	75	17	14	14	12	19	11	11	9	10	10	7	8	74.6		
10-May	16	17	9	10	10	9	13	18	31	38	36	36	34	58	42	39	41	28	16	11	13	9	9	9	58.5	
11-May	8	8	10	12	32	29	23	9	16	24	56	28	42	63	70	64	42	27	19	15	31	66	88	79	88.0	
12-May	22	18	16	39	56	46	67	61	20	13	61	16	32	18	13	12	11	13	10	11	11	16	12	16	66.6	
13-May	21	17	22	29	75	36	24	9	10	13	16	19	20	15	20	19	16	15	13	11	9	9	10	28	74.5	
14-May	43	11	10	20	9	7	9	12	12	18	18	21	22	17	18	16	20	13	14	11	13	11	12	17	42.5	
15-May	20	9	9	7	9	49	27	50	15	19	43	43	21	37	22	30	24	26	20	46	13	7	15	20	50.4	
16-May	23	13	5	8	9	7	11	51	19	22	26	43	29	38	46	34	31	29	22	34	73	32	58	54	73.0	
17-May	27	51	11	24	16	26	22	38	41	46	80	55	53	76	50	20	33	29	28	22	16	6	8	16	79.8	
18-May	35	72	59	71	77	20	36	11	48	51	87	60	86	76	58	96	69	24	40	27	59	36	29	27	95.5	
19-May	22	14	13	50	42	17	13	56	16	15	18	23	32	31	34	32	24	21	15	10	21	34	20	54	56.1	
20-May	29	16	9	17	47	51	10	25	54	83	54	72	67	66	55	51	15	10	11	12	12	25	47	54	83.3	
21-May	11	9	9	11	10	10	12	14	17	17	25	78	66	12	9	10	10	10	12	15	69	22	32	30	77.7	
22-May	35	24	23	24	24	14	33	47	68	56	74	16	9	11	11	12	10	12	13	11	10	30	23	31	73.6	
23-May	11	11	44	36	28	9	12	13	11	14	13	12	10	12	13	12	11	10	9	9	13	20	9	13	44.3	
24-May	11	15	19	49	15	13	10	11	8	14	15	15	25	28	28	28	35	36	36	34	34	43	28	28	48.8	
25-May	64	50	60	77	74	34	56	36	37	34	37	33	20	20	34	48	23	49	73	89	16	15	18	22	89.1	
26-May	19	18	27	23	12	10	12	15	15	14	14	25	64	43	47	72	38	58	82	37	64	91	71	86	91.1	
27-May	68	73	47	50	87	46	85	96	83	66	74	55	41	47	40	32	61	53	20	76	61	79	61	50	96.3	
28-May	74	87	77	67	47	77	57	64	47	85	35	59	67	57	41	36	29	16	57	66	51	76	65	45	86.8	
29-May	77	27	38	38	46	27	67	54	61	87	51	28	14	17	38	75	30	35	48	34	23	34	59	23	86.7	
30-May	75	30	59	75	72	55	46	23	13	20	23	32	55	37	57	33	18	16	13	25	53	47	91	55	91.1	
31-May	63	26	17	33	62	61	69	89	47	43	40	97	48	48	42	27	51	19	62	48	85	32	38	17	96.6	
	77.4	86.8	77.1	77.1	87.3	76.7	85.0	96.3	83.2	86.7	87.0	96.6	86.4	76.5	70.3	95.5	77.0	73.9	82.0	89.1	85.0	91.1	91.1	85.7		
D - DAS Failure																										

PAZA

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

## Hourly Averages

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

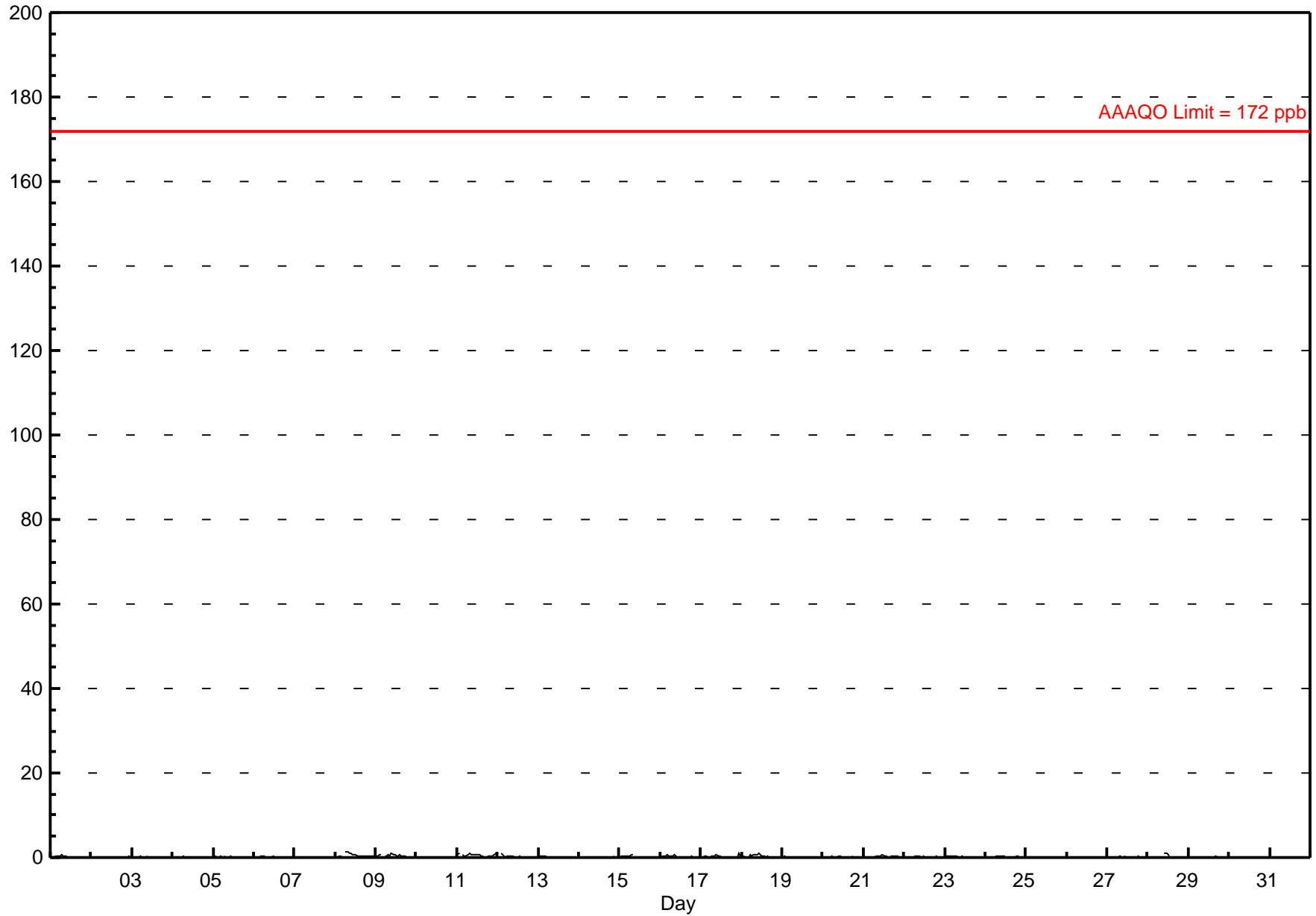
Sunset House - May 2013

Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 1.4 ppb on May 8 07:00	Maximum Daily Average: 0.6 ppb on May 11		Hours of Data:	706
Minimum Value: 0 ppb on May 1 01:00	Minimum Daily Average: 0.0 ppb on May 7		Hours of Missing Data:	38
Maximum Diurnal Average: 0.3 ppb at hour 8	Minimum Diurnal Average: 0.1 ppb at hour 17		Hours of Calibration:	38
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> = 1.0		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-May	0	0	0	0	1	0	1	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.6
2-May	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.3
3-May	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
4-May	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.2
5-May	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
6-May	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.5
7-May	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
8-May	0	0	0	0	0	A	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.5	1.4
9-May	0	0	1	1	A	0	0	1	1	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0.4	0.9
10-May	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.2
11-May	1	1	A	1	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	1	1	0.6	0.9
12-May	1	A	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.1
13-May	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.4
14-May	0	0	0	0	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
15-May	0	0	0	0	0	0	0	1	1	C	C	C	C	C	C	0	0	0	0	0	0	0	A	0	0	--	0.7
16-May	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.2	0.7
17-May	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	A	0	0	1	0	0.2	1.0
18-May	0	0	0	0	0	1	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.0
19-May	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	A	A	0	0	0	0	0	0.0	0.3
20-May	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.1	0.2
21-May	0	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	0.5
22-May	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.1	0.3
23-May	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.1	0.5
24-May	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
25-May	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
26-May	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.2
27-May	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.4
28-May	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0.2	1.0
29-May	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.2
30-May	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
31-May	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
	0.1	0.1	0.2	0.2	0.1	0.2	0.2	0.3	0.3	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	Diurnal Average
	1.1	0.9	1.1	0.7	0.7	0.5	1.4	1.2	1.1	1.0	1.0	1.0	0.7	0.5	0.6	0.4	0.4	0.3	0.3	0.4	0.4	0.4	1.0	0.9	0.9	Diurnal Maximum	

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





## Hourly Maximums

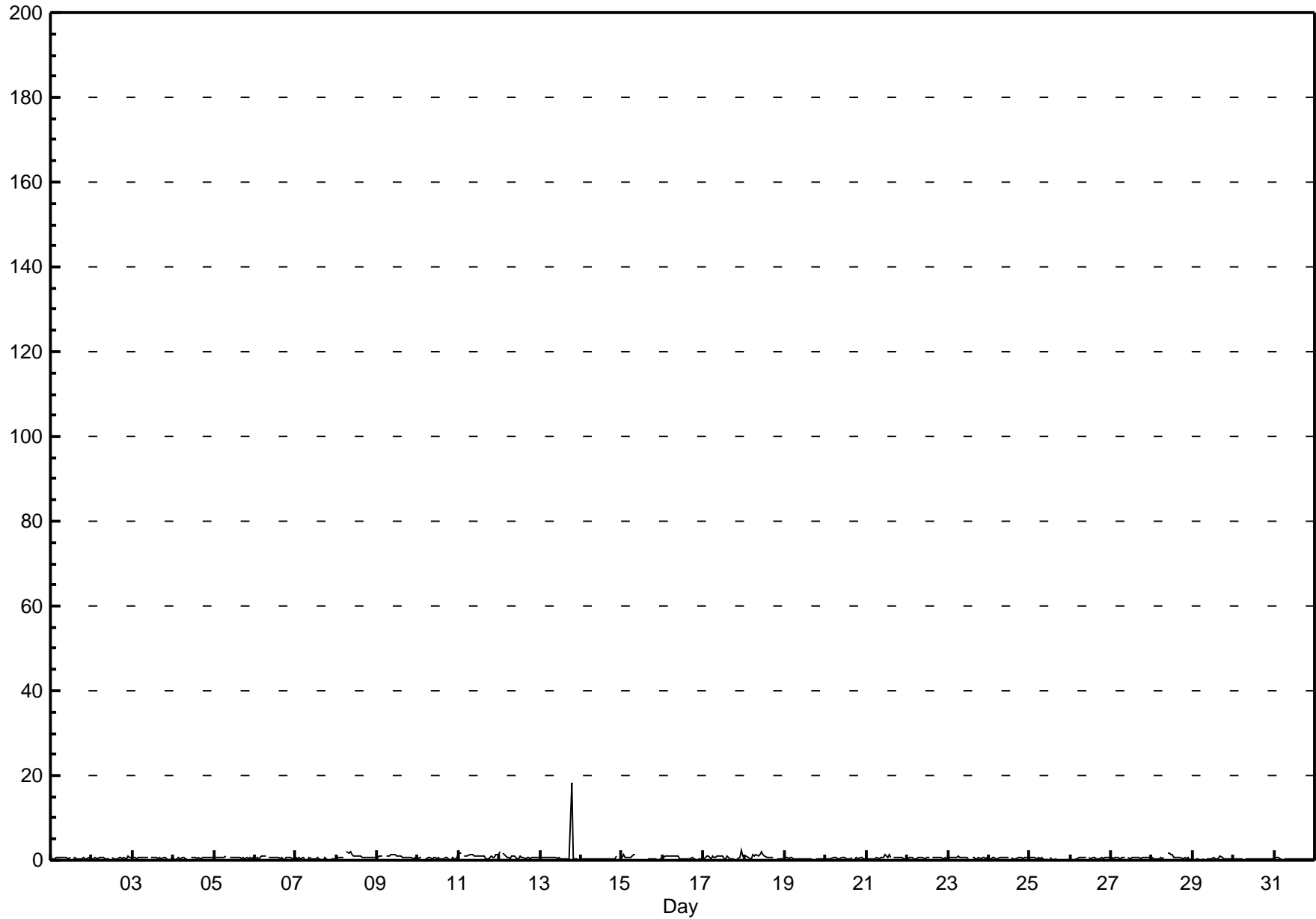
Sulphur Dioxide (SO<sub>2</sub>) - ppb

Sunset House - May 2013

Maximum Value: 18.3 ppb on May 13 19:00		Maximum Daily Average: 1.3 ppb on May 13		Hours in Service: 744																						
Minimum Value: 0 ppb on May 28 23:00		Minimum Daily Average: 0.3 ppb on May 25		Hours of Data: 706																						
Maximum Diurnal Average: 1.1 ppb at hour 19		Minimum Diurnal Average: 0.5 ppb at hour 21		Hours of Missing Data: 38																						
Monthly Average: 0.61 ppb		Percentiles: P <sub>1</sub> = 0.1 P <sub>10</sub> = 0.2 Q <sub>1</sub> = 0.4 Median = 0.5 Q <sub>3</sub> = 0.7 P <sub>90</sub> = 1.0 P <sub>99</sub> = 1.6		Hours of Calibration: 38																						
				Percent Operational Time: 100.0																						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-May	0	0	0	1	1	1	1	1	1	1	1	1	A	0	1	0	0	0	0	1	0	0	1	0	0.5	0.8
2-May	0	0	1	0	1	1	1	1	0	0	0	A	1	0	0	0	1	1	0	1	0	1	1	1	0.5	1.1
3-May	1	1	0	1	1	1	1	1	1	1	A	1	1	1	1	0	1	0	1	1	0	0	0	1	0.6	0.7
4-May	0	0	0	1	0	1	1	0	0	A	1	1	1	1	0	1	0	1	1	1	1	1	1	1	0.5	0.6
5-May	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	0	1	0	1	0	1	0	1	0.6	1.1
6-May	0	1	0	1	1	1	1	A	1	1	1	1	1	1	1	0	1	0	1	1	1	1	0	0	0.6	1.1
7-May	1	0	1	0	1	0	A	0	1	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0.3	0.6
8-May	0	1	1	1	1	A	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	2.0
9-May	1	1	1	1	A	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	0	1	0.8	1.5
10-May	0	1	1	A	0	0	1	1	0	1	1	0	1	0	0	0	1	1	0	0	1	0	0	1	0.5	0.6
11-May	2	2	A	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	1	1	1.1	1.6
12-May	2	A	2	1	1	1	0	1	1	1	0	0	1	1	1	1	1	1	0	1	1	1	1	1	0.8	1.9
13-May	A	1	1	1	1	1	1	1	1	1	0	1	1	0	0	0	0	0	18	0	0	0	0	A	1.3	18.3
14-May	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	A	0	0.5	1.0
15-May	1	1	1	1	1	1	1	1	1	C	C	C	C	C	C	0	0	0	0	0	0	A	0	0	--	1.4
16-May	0	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	1	0	0	A	0	0	0	0.7	1.1
17-May	0	1	1	1	0	1	1	1	1	1	1	1	0	0	1	0	0	0	0	A	0	1	2	1	0.8	2.4
18-May	1	1	1	0	0	1	1	1	1	1	2	1	1	1	1	1	1	1	A	A	0	0	0	0	0.8	1.9
19-May	1	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	1	0.4	0.8
20-May	0	0	0	0	1	1	1	0	0	1	1	1	0	0	0	1	A	0	1	0	1	1	0	0	0.5	0.8
21-May	0	0	0	0	0	0	1	0	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	0	0.7	1.3
22-May	0	1	1	1	0	0	1	1	1	1	0	1	1	1	A	1	1	1	1	1	1	1	0	1	0.6	0.8
23-May	1	1	1	1	1	1	1	1	1	1	1	0	A	1	1	0	0	1	0	1	1	1	0	1	0.6	1.0
24-May	0	0	1	1	0	0	1	1	1	1	1	1	A	1	0	0	0	1	1	1	1	0	1	1	0.6	0.8
25-May	1	1	1	1	0	1	0	1	0	0	0	A	1	0	0	0	0	0	0	0	0	0	0	0	0.3	0.7
26-May	0	0	0	0	0	1	1	1	1	1	A	1	0	1	1	0	0	0	1	0	1	1	1	1	0.5	0.7
27-May	1	0	1	1	1	0	1	1	1	1	A	1	0	1	1	1	1	1	0	1	1	1	1	1	0.6	0.7
28-May	1	0	0	0	0	1	0	1	A	2	2	1	1	1	1	1	1	1	0	1	0	1	0	0	0.6	1.6
29-May	0	0	0	0	0	0	0	A	0	0	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0.4	0.9
30-May	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.4
31-May	1	1	1	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	0.7
		0.5	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.8	0.7	0.7	0.6	0.6	0.6	0.5	0.5	0.5	1.1	0.5	0.5	0.5	0.5	0.5	Diurnal Average
		1.9	1.6	1.7	1.2	1.1	1.2	2.0	1.7	1.9	1.6	1.9	1.4	1.2	1.3	1.0	1.0	0.9	0.8	18.3	0.9	0.8	1.1	2.4	1.4	Diurnal Maximum
C - Calibration		A - Automated Daily Zero Span																								

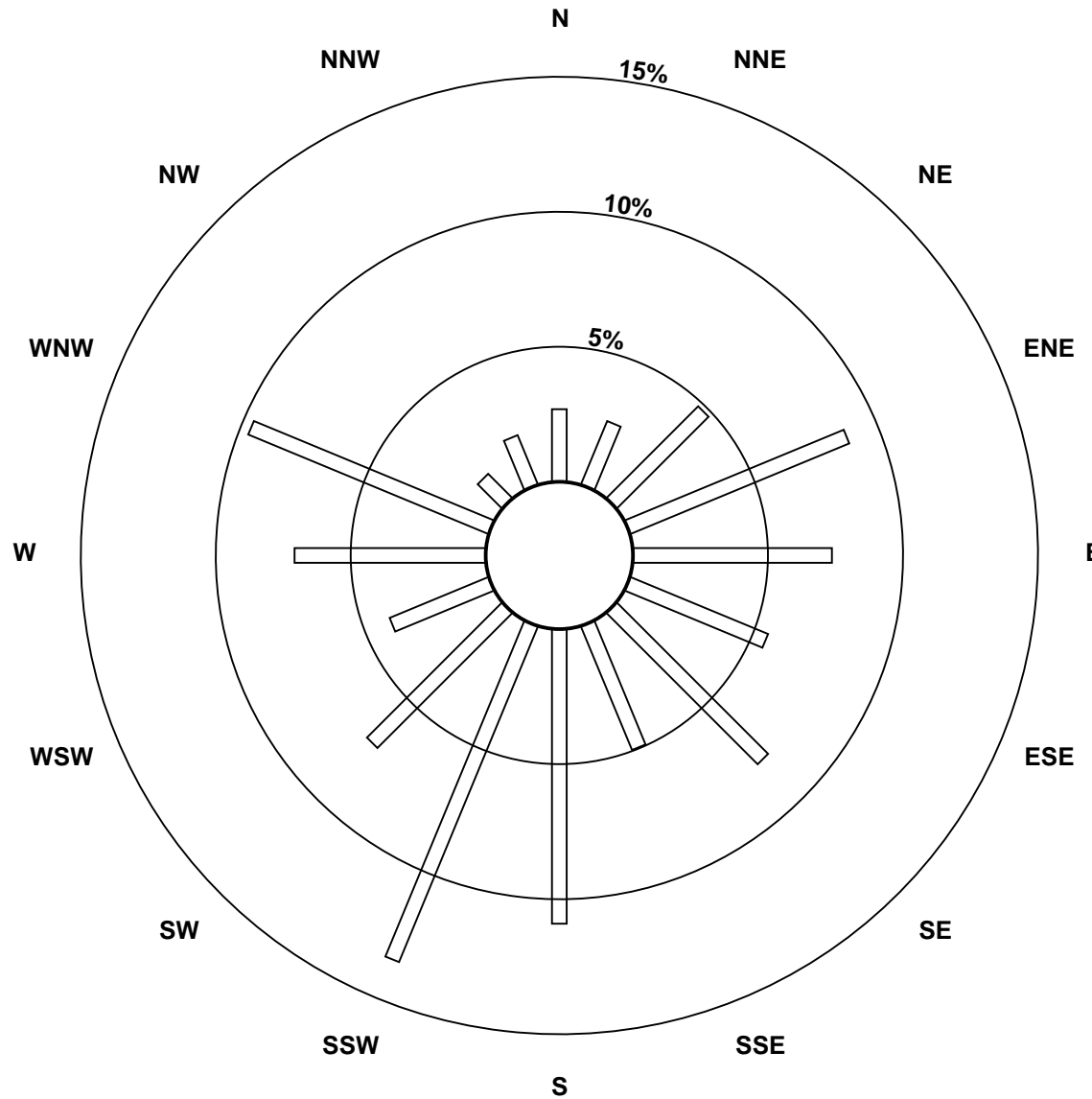
### Hourly Maximums

Sulphur Dioxide (SO<sub>2</sub>) - ppb  
Sunset House - May 2013

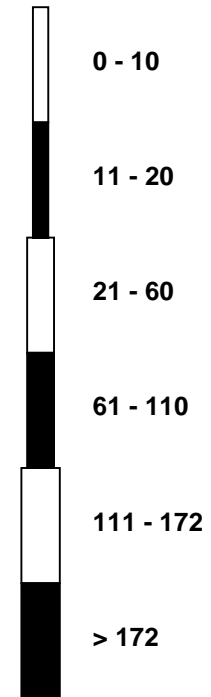


**Pollutant Rose**

**Sulphur Dioxide (SO<sub>2</sub>) - ppb**  
**Sunset House - May 2013**

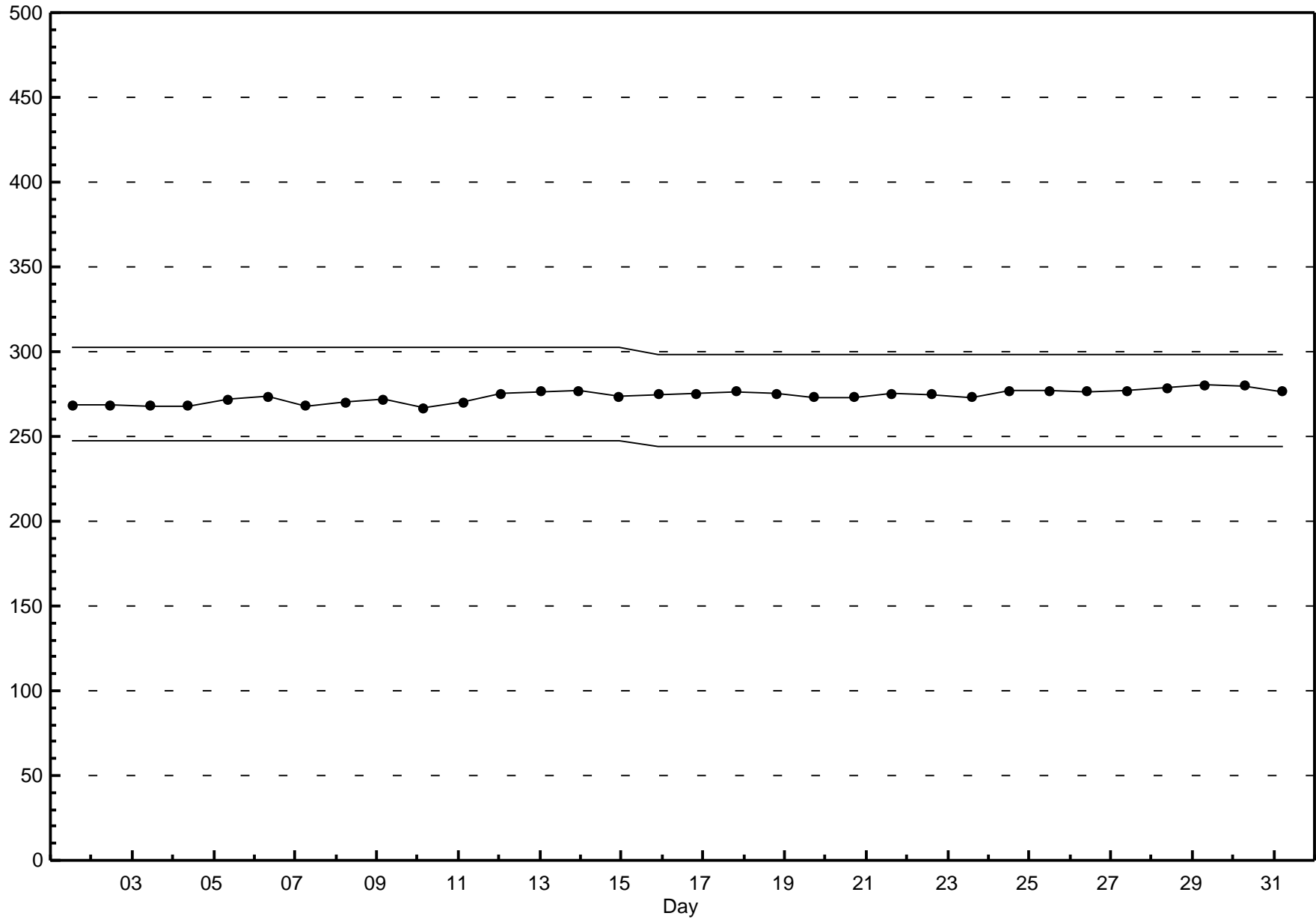


**Pollutant Classes (ppb)**



### Span Responses

Sulphur Dioxide (SO<sub>2</sub>)  
Sunset House - May 2013



## Hourly Averages

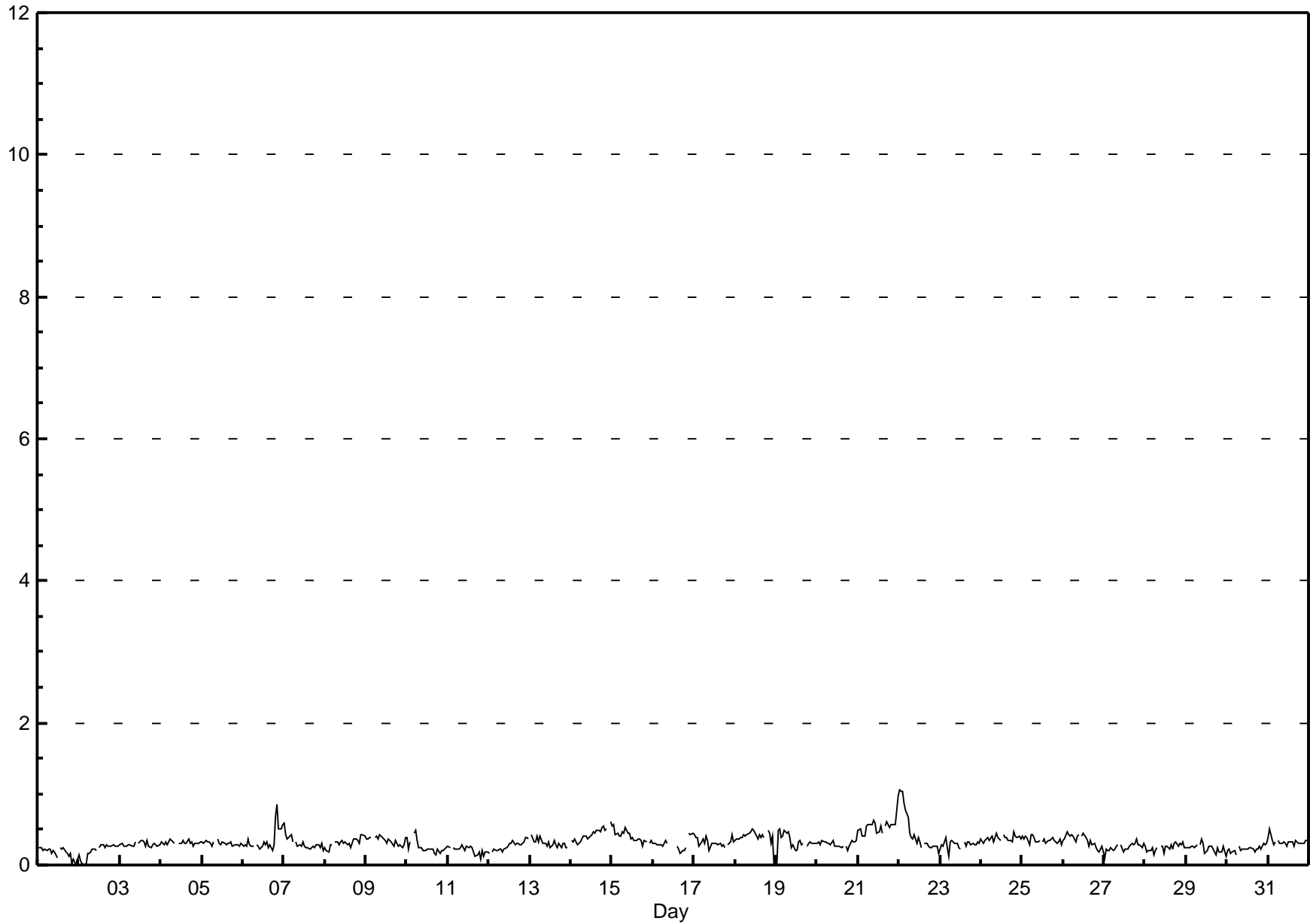
## Total Reduced Sulphur (TRS) - ppb

### Sunset House - May 2013

Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 1.0 ppb on May 22 01:00	Maximum Daily Average: 0.5 ppb on May 21		Hours of Data:	707
Minimum Value: 0 ppb on May 2 04:00	Minimum Daily Average: 0.2 ppb on May 1		Hours of Missing Data:	37
Maximum Diurnal Average: 0.3 ppb at hour 2	Minimum Diurnal Average: 0.3 ppb at hour 19		Hours of Calibration:	37
Monthly Average: 0.32 ppb	Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.2 Q <sub>1</sub> = 0.3 Median = 0.3 Q <sub>3</sub> = 0.4 P <sub>90</sub> = 0.4 P <sub>99</sub> = 0.7		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-May	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3	
2-May	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3	
3-May	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.4	
4-May	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.4	
5-May	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.4	
6-May	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0.4	0.8	
7-May	1	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.6	
8-May	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.4	
9-May	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.4	
10-May	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.5	
11-May	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3	
12-May	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.4	
13-May	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.4	
14-May	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	A	0.4	0.6	
15-May	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.4	0.6	
16-May	0	0	0	0	0	0	0	0	0	C	C	C	C	C	0	0	0	0	0	0	0	A	0	0	0.3	0.5	
17-May	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.3	0.4	
18-May	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.5	
19-May	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.3	0.5	
20-May	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	
21-May	0	1	0	0	0	1	1	1	1	1	1	0	0	1	0	A	1	1	1	1	1	1	1	1	0.5	1.0	
22-May	1	1	1	1	1	1	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.5	1.0	
23-May	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	
24-May	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.4	0.5	
25-May	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.4	
26-May	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	
27-May	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-May	0	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	
29-May	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	
30-May	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3	
31-May	0	1	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.5	
	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	Diurnal Average		
	1.0	1.0	1.0	0.9	0.8	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.6	0.4	0.5	0.5	0.6	0.5	0.7	0.8	0.6	0.6	1.0	Diurnal Maximum	

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



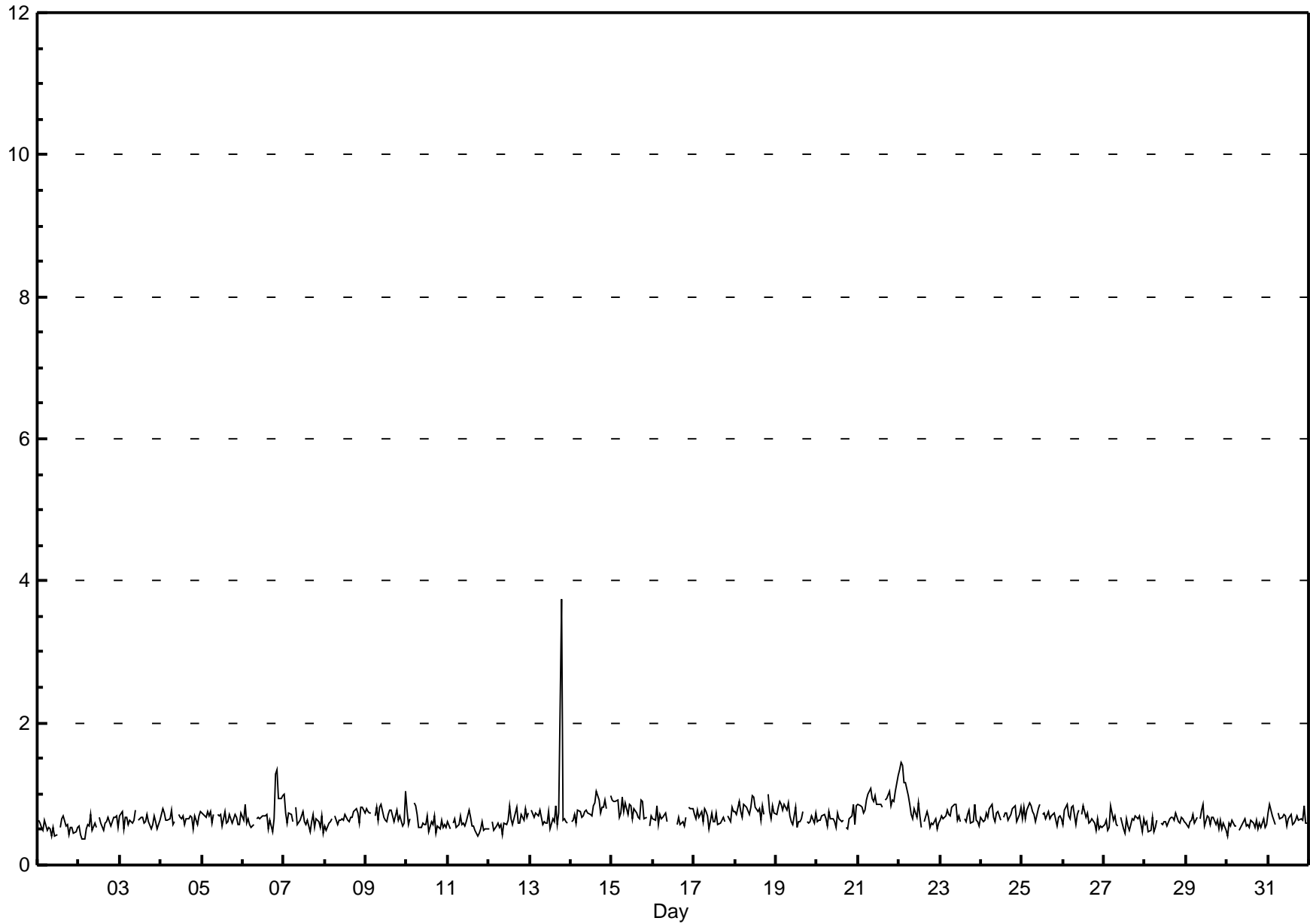
## Hourly Maximums

Total Reduced Sulphur (TRS) - ppb

Sunset House - May 2013

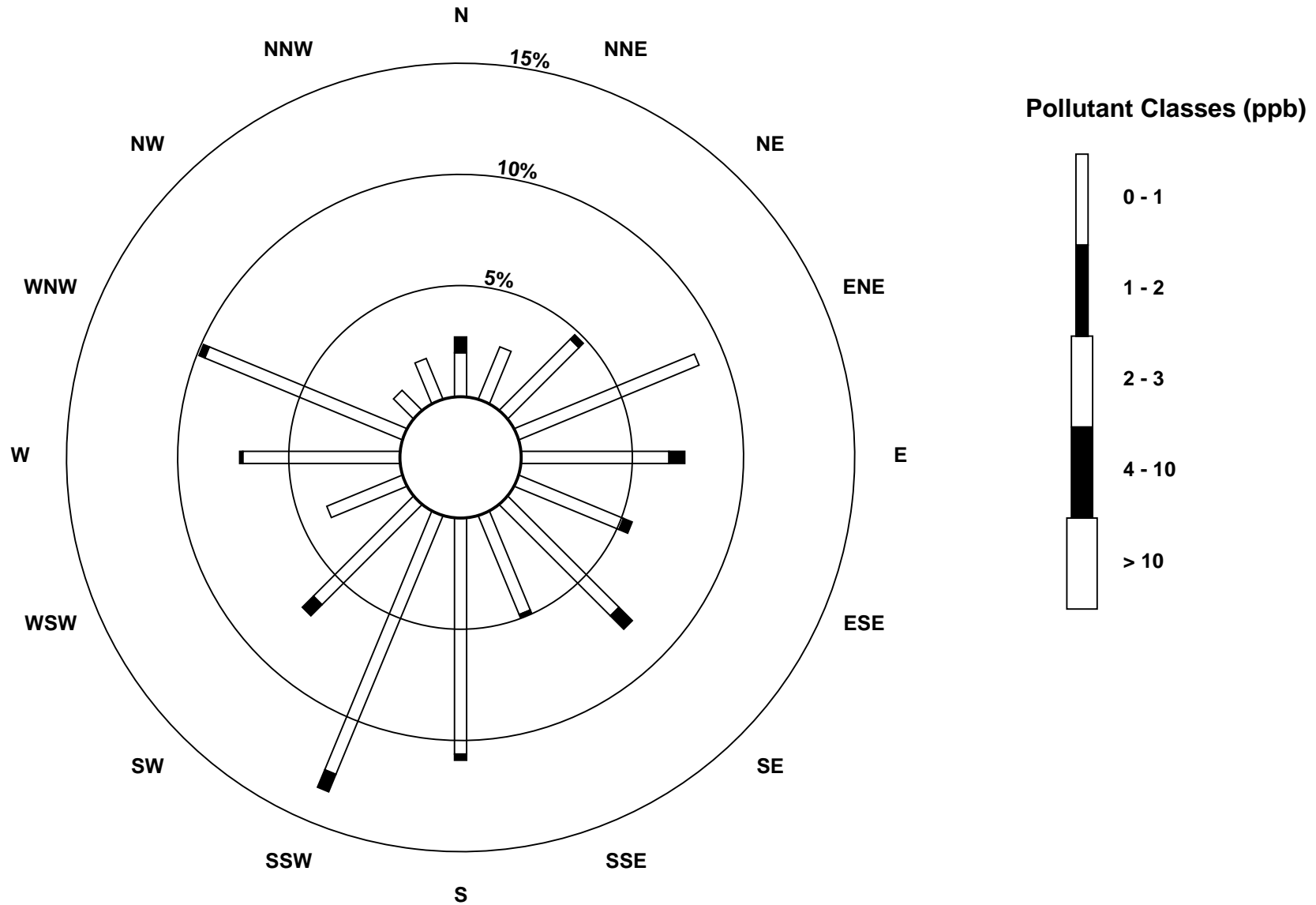
Maximum Value: 3.7 ppb on May 13 19:00		Maximum Daily Average: 0.9 ppb on May 21		Hours in Service: 744																							
Minimum Value: 0 ppb on May 2 03:00		Minimum Daily Average: 0.5 ppb on May 1		Hours of Data: 707																							
Maximum Diurnal Average: 0.7 ppb at hour 19		Minimum Diurnal Average: 0.6 ppb at hour 15		Hours of Missing Data: 37																							
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> = 0.7 P <sub>90</sub> = 0.8 P <sub>99</sub> = 1.3		Hours of Calibration: 37																							
				Percent Operational Time: 100.0																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-May	1	1	1	0	1	0	1	1	0	1	0	0	A	1	1	1	1	1	0	1	1	0	0	1	0.5	0.7	
2-May	1	0	0	0	1	1	1	1	0	1	1	A	1	1	0	1	1	1	1	1	1	1	1	1	0.6	0.7	
3-May	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	0.6	0.8	
4-May	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	0.8	
5-May	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	
6-May	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	0.7	1.3	
7-May	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	0	0.6	1.0	
8-May	1	0	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	0.8	
9-May	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	
10-May	1	1	1	A	1	1	1	1	1	1	1	1	1	0	1	1	1	0	1	1	1	1	1	1	0.6	0.9	
11-May	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	1	1	0	1	1	1	0.6	0.8	
12-May	1	A	1	0	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.6	0.8	
13-May	A	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	4	1	1	1	1	1	A	0.8	3.7	
14-May	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	0.8	1.0	
15-May	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	0.8	1.0	
16-May	1	1	1	1	1	1	1	1	1	C	C	C	C	C	1	1	1	1	1	1	1	A	1	1	0.7	0.8	
17-May	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	0.8	
18-May	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	
19-May	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	0.9	
20-May	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	0.6	0.9	
21-May	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	1.3	
22-May	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	0	1	0.8	1.4	
23-May	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	0.7	0.9	
24-May	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	0.7	0.9	
25-May	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	0.9	
26-May	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	0.8	
27-May	1	1	0	1	1	1	1	1	1	A	1	1	0	1	1	0	1	1	1	1	1	1	0	1	0.6	0.8	
28-May	1	1	0	0	1	0	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.6	0.7	
29-May	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0.6	0.9	
30-May	0	1	1	1	1	1	A	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.6	0.7	
31-May	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	0.9	
		0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.6	0.7	0.7	0.7	0.7	0.7	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.6	0.7	Diurnal Average		
		1.4	1.4	1.4	1.2	1.2	1.0	1.0	1.1	0.9	0.9	1.0	1.0	0.9	0.9	1.0	0.9	0.9	3.7	1.3	1.3	0.9	1.0	1.3	Diurnal Maximum		
C - Calibration		A - Automated Daily Zero Span																									

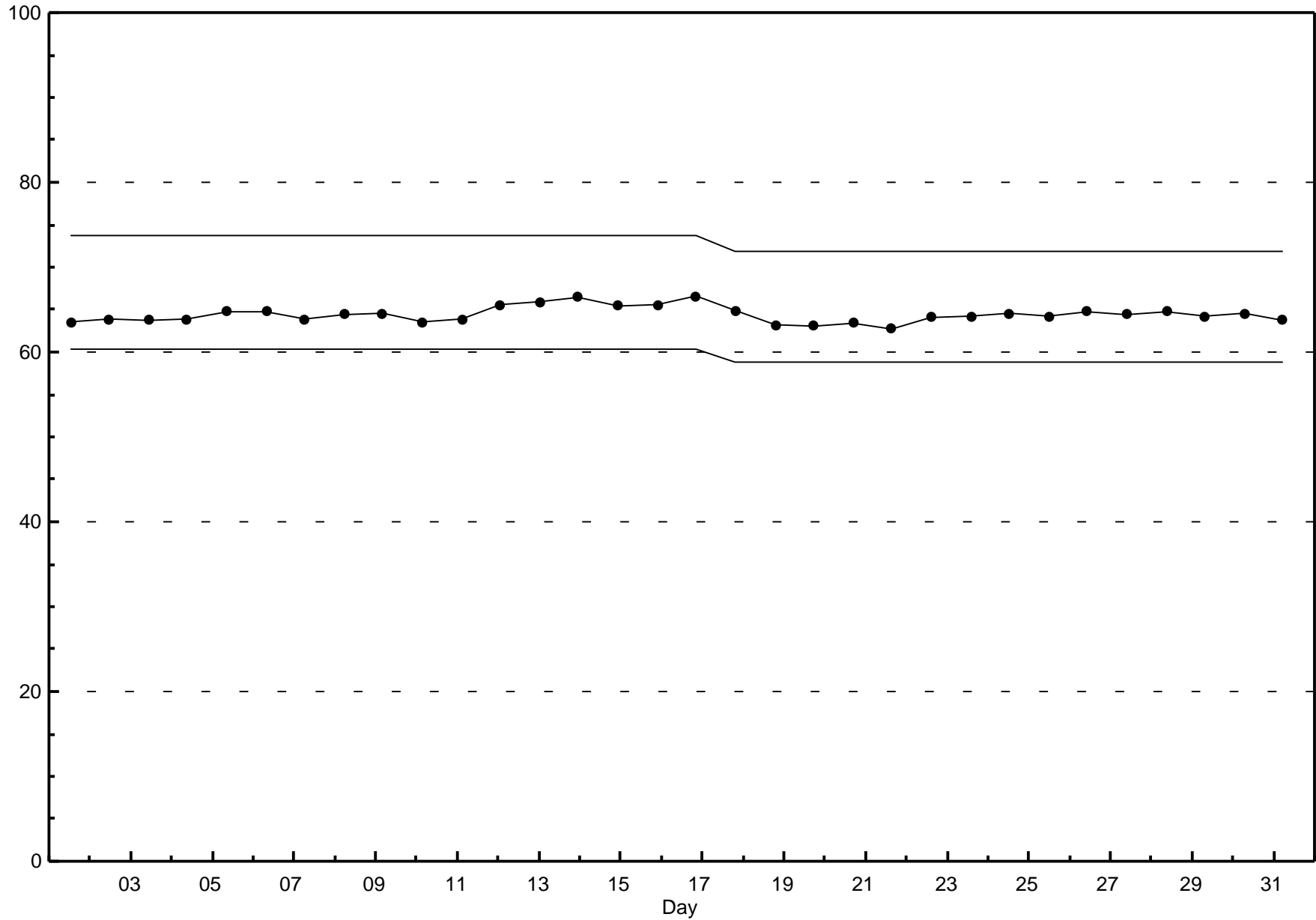




**Pollutant Rose**

**Total Reduced Sulphur (TRS) - ppb**  
**Sunset House - May 2013**





## Hourly Averages

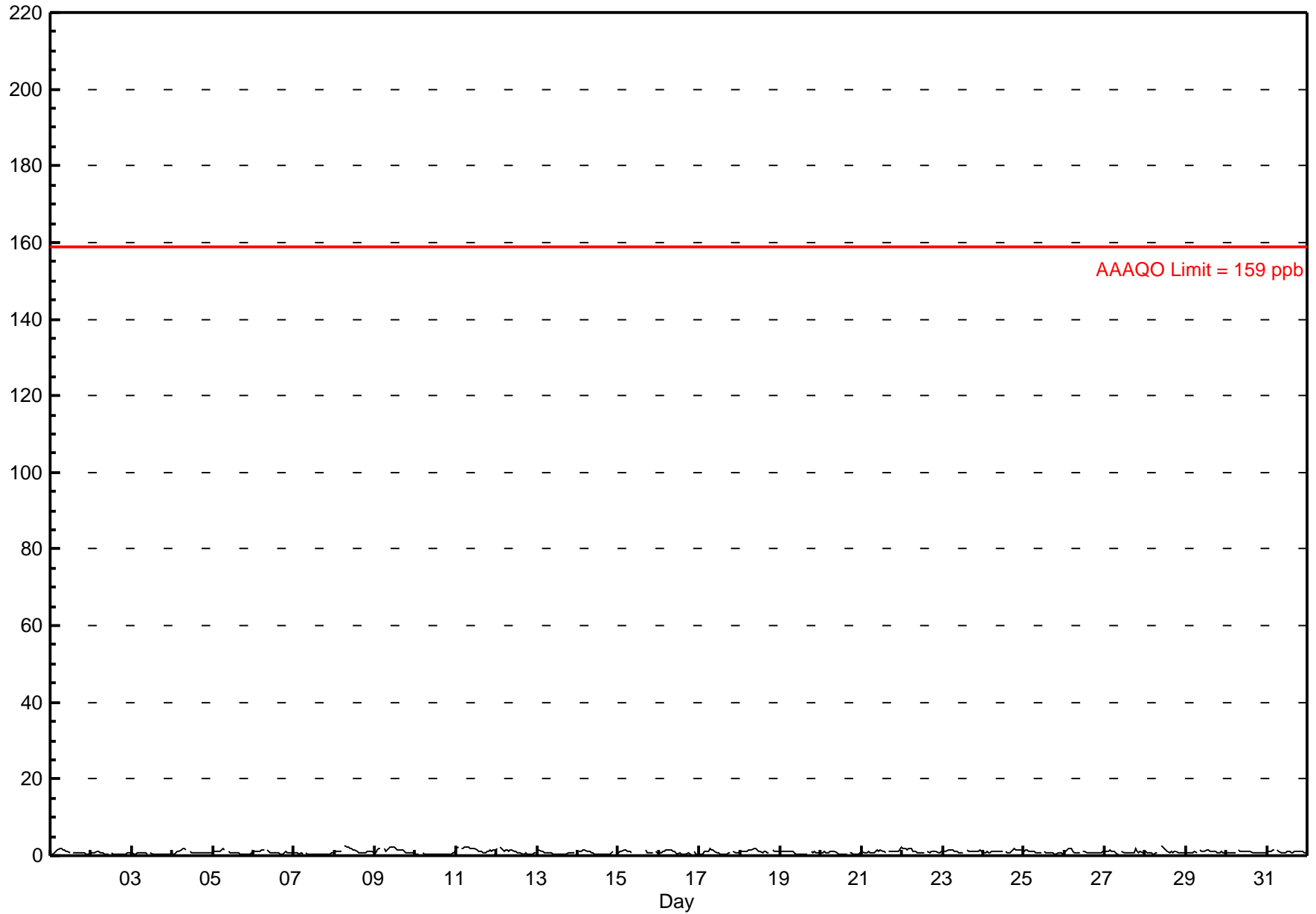
## Nitrogen Dioxide (NO<sub>2</sub>) - ppb

### Sunset House - May 2013

Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 2.5 ppb on May 8 07:00	Maximum Daily Average: 1.6 ppb on May 11		Hours of Data:	705
Minimum Value: 0 ppb on May 4 00:00	Minimum Daily Average: 0.5 ppb on May 10		Hours of Missing Data:	39
Maximum Diurnal Average: 1.3 ppb at hour 7	Minimum Diurnal Average: 0.7 ppb at hour 16		Hours of Calibration:	39
Monthly Average: 0.93 ppb	Percentiles: P <sub>1</sub> = 0.3 P <sub>10</sub> = 0.4 Q <sub>1</sub> = 0.6 Median = 0.9 Q <sub>3</sub> = 1.2 P <sub>90</sub> = 1.5 P <sub>99</sub> = 2.2		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-May	0	0	1	1	1	2	2	2	1	1	1	1	A	1	1	1	1	1	1	1	1	1	0	1	0.9	1.9	
2-May	1	1	1	1	1	1	1	1	1	0	0	A	1	0	0	0	0	0	0	0	0	0	1	1	1	0.6	1.1
3-May	1	1	1	1	1	1	1	1	1	0	A	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.5	0.9
4-May	0	0	1	1	1	2	2	2	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	2.0
5-May	1	1	1	1	1	2	2	2	A	1	1	1	1	1	1	1	1	0	0	0	0	0	0	1	0.8	1.8	
6-May	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.4	
7-May	1	1	1	1	1	1	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.5	0.7	
8-May	1	1	1	1	1	A	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1.3	2.5	
9-May	1	1	2	2	A	2	1	1	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1.4	2.2	
10-May	1	0	0	A	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.5	0.9	
11-May	2	2	A	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	2	1.6	2.3	
12-May	2	A	2	2	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	0	1	0	1	1	1.0	2.3	
13-May	A	2	1	1	1	1	1	1	1	0	0	0	0	0	0	0	1	1	1	1	1	1	1	A	0.7	1.6	
14-May	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	1	1	A	1	0.8	1.3	
15-May	1	1	1	1	1	1	1	1	1	C	C	C	C	C	C	C	1	1	1	1	1	A	1	1	--	1.5	
16-May	1	1	1	1	1	1	1	1	1	1	1	0	1	0	0	0	0	1	0	1	A	1	1	1	0.8	1.5	
17-May	0	0	0	1	1	1	2	2	2	1	1	1	0	0	0	0	0	1	1	A	1	1	1	1	0.8	1.9	
18-May	1	1	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1.2	1.8	
19-May	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	A	1	A	1	1	1	1	0.8	1.2	
20-May	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	A	1	1	1	0	0	0	1	0.7	1.2	
21-May	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	2	1.1	2.3	
22-May	2	2	2	2	2	2	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1.2	1.9	
23-May	1	1	1	1	1	1	1	1	1	1	1	1	1	A	2	1	1	1	1	1	1	1	1	1	1.1	1.6	
24-May	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	2	1	1	1	2	1.1	1.8	
25-May	1	1	2	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.5	
26-May	1	1	2	2	2	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.8	
27-May	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	2	1	1	1	1	1	0.9	1.8	
28-May	1	1	1	1	1	0	1	1	A	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1.0	2.5	
29-May	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	1.5	
30-May	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.4	
31-May	1	1	1	1	1	A	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.6	
	0.9	1.0	1.1	1.2	1.1	1.2	1.3	1.2	1.1	1.1	1.0	0.9	0.9	0.8	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.9	Diurnal Average		
	1.9	2.3	2.3	2.0	1.8	2.2	2.5	2.3	2.1	2.5	2.2	2.1	1.8	1.7	1.6	1.5	1.4	1.4	1.8	1.5	1.4	1.4	1.6	2.3	Diurnal Maximum		

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



## Hourly Maximums

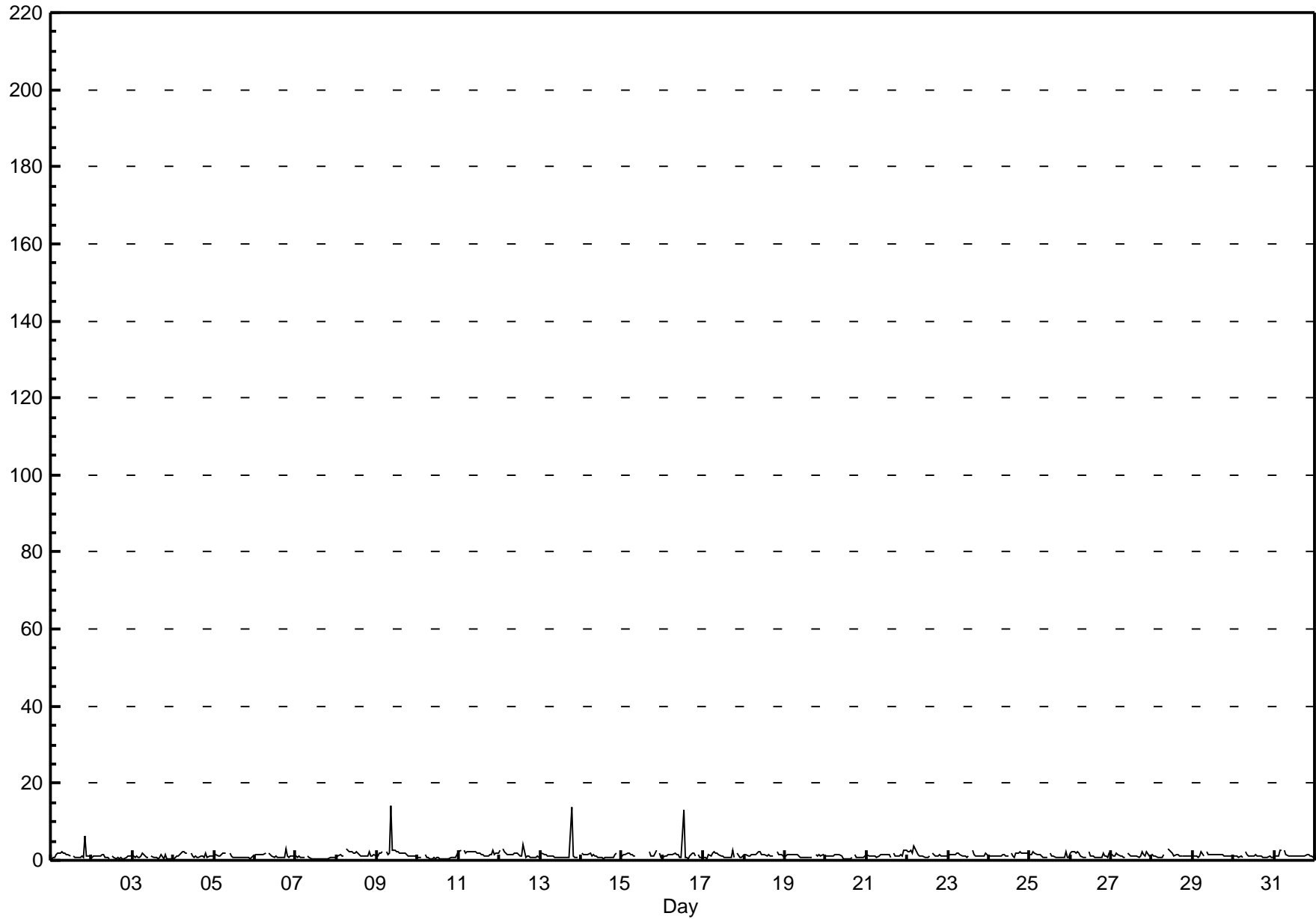
Nitrogen Dioxide (NO<sub>2</sub>) - ppb

Sunset House - May 2013

Maximum Value: 14.3 ppb on May 9 09:00		Maximum Daily Average: 2.2 ppb on May 9		Hours in Service: 744																																													
Minimum Value: 0 ppb on May 7 20:00		Minimum Daily Average: 0.7 ppb on May 7		Hours of Data: 705																																													
Maximum Diurnal Average: 1.8 ppb at hour 9		Minimum Diurnal Average: 0.9 ppb at hour 16		Hours of Missing Data: 39																																													
Monthly Average: 1.31 ppb		Percentiles: P <sub>1</sub> = 0.5 P <sub>10</sub> = 0.6 Q <sub>1</sub> = 0.9 Median = 1.2 Q <sub>3</sub> = 1.5 P <sub>90</sub> = 2.0 P <sub>99</sub> = 2.7		Hours of Calibration: 39																																													
				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-May	1	1	1	1	2	2	2	2	2	1	11	1	A	1	1	1	1	1	1	1	6	1	1	1	1.4	6.5																							
2-May	1	1	1	1	1	1	2	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.5																							
3-May	1	1	1	1	1	1	2	1	1	1	A	1	1	1	1	1	1	2	1	1	1	1	1	0	0.9	1.7																							
4-May	1	1	1	1	1	2	2	2	2	A	2	1	1	1	1	1	1	1	1	2	1	1	1	1	1.2	2.3																							
5-May	1	1	1	1	1	2	2	2	A	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.1	2.0																							
6-May	1	2	2	1	2	2	2	A	2	1	1	1	1	1	1	1	1	1	3	1	1	1	1	1	1.3	2.9																							
7-May	1	1	1	1	1	1	A	1	1	1	1	1	1	0	1	1	1	1	0	0	1	1	1	1	0.7	1.1																							
8-May	1	1	1	1	1	A	3	2	2	2	2	2	2	2	1	1	1	1	1	2	1	1	1	1	1.6	3.0																							
9-May	1	2	2	2	A	2	1	2	14	2	3	2	2	2	2	2	2	2	1	1	1	1	1	1	2.2	14.3																							
10-May	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.4																							
11-May	2	3	A	3	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	3	1	2	2	1.9	2.8																							
12-May	2	A	3	2	1	2	2	2	2	2	2	1	1	1	4	1	1	1	1	1	1	1	1	1	1.5	4.3																							
13-May	A	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	1	1	1	1	A	1.5	13.6																							
14-May	2	1	1	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	A	2	1.1	2.0																							
15-May	1	1	2	2	2	1	1	1	1	C	C	C	C	C	C	C	2	1	1	1	2	A	2	1	--	2.5																							
16-May	1	1	1	1	2	2	2	2	1	1	1	13	1	1	0	1	2	2	1	A	2	1	1	1	1.7	12.9																							
17-May	1	1	1	1	1	2	2	2	2	2	1	1	1	1	1	1	1	3	1	A	2	1	1	1	1.2	2.8																							
18-May	1	1	1	1	1	2	2	2	2	2	1	1	1	1	1	1	1	1	1	A	2	1	2	2	1	1.5	2.3																						
19-May	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	2	1	2	1	1	1	1.1	1.5																						
20-May	1	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1	A	2	1	1	1	1	1	1	1.0	1.7																							
21-May	1	1	1	1	1	1	1	1	2	1	2	2	1	2	1	A	2	1	1	1	1	1	2	3	1.4	2.7																							
22-May	2	2	3	2	4	2	2	1	1	1	1	1	1	1	A	2	1	1	1	1	1	1	1	1	1.5	3.8																							
23-May	1	1	1	2	2	2	2	1	1	1	1	1	1	A	2	1	1	1	1	1	1	1	2	1	1.4	2.4																							
24-May	1	1	1	1	1	1	1	1	1	1	1	1	A	2	1	1	2	2	2	2	2	2	2	1	1.4	2.1																							
25-May	1	2	2	2	1	2	2	1	1	1	1	A	2	1	1	1	1	1	1	1	1	2	1	1	1.2	2.3																							
26-May	2	2	2	2	2	2	1	1	1	1	A	2	1	1	1	1	1	1	1	2	1	1	1	2	1.4	2.2																							
27-May	1	1	1	2	1	1	1	1	1	A	2	1	1	1	1	1	1	1	2	1	1	2	1	1	1.3	2.2																							
28-May	1	1	1	1	1	1	1	1	A	3	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1.3	2.9																							
29-May	1	1	1	1	1	2	1	A	2	1	1	2	2	2	2	1	2	2	1	1	1	1	1	1	1.3	2.4																							
30-May	1	1	1	1	1	1	A	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.1	2.1																							
31-May	1	1	1	2	3	A	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.4	2.8																							
																								1.3	1.3	1.4	1.5	1.5	1.5	1.6	1.5	1.8	1.4	1.3	1.2	1.6	1.1	1.1	0.9	1.0	1.1	1.5	1.2	1.3	1.1	1.1	1.1	Diurnal Average	
																								2.5	2.6	3.1	2.8	3.8	2.4	3.0	2.4	14.3	2.9	2.5	2.4	12.9	2.0	4.3	1.9	2.3	2.8	13.6	2.3	6.5	2.1	2.5	2.7	Diurnal Maximum	
C - Calibration																								A - Automated Daily Zero Span																									

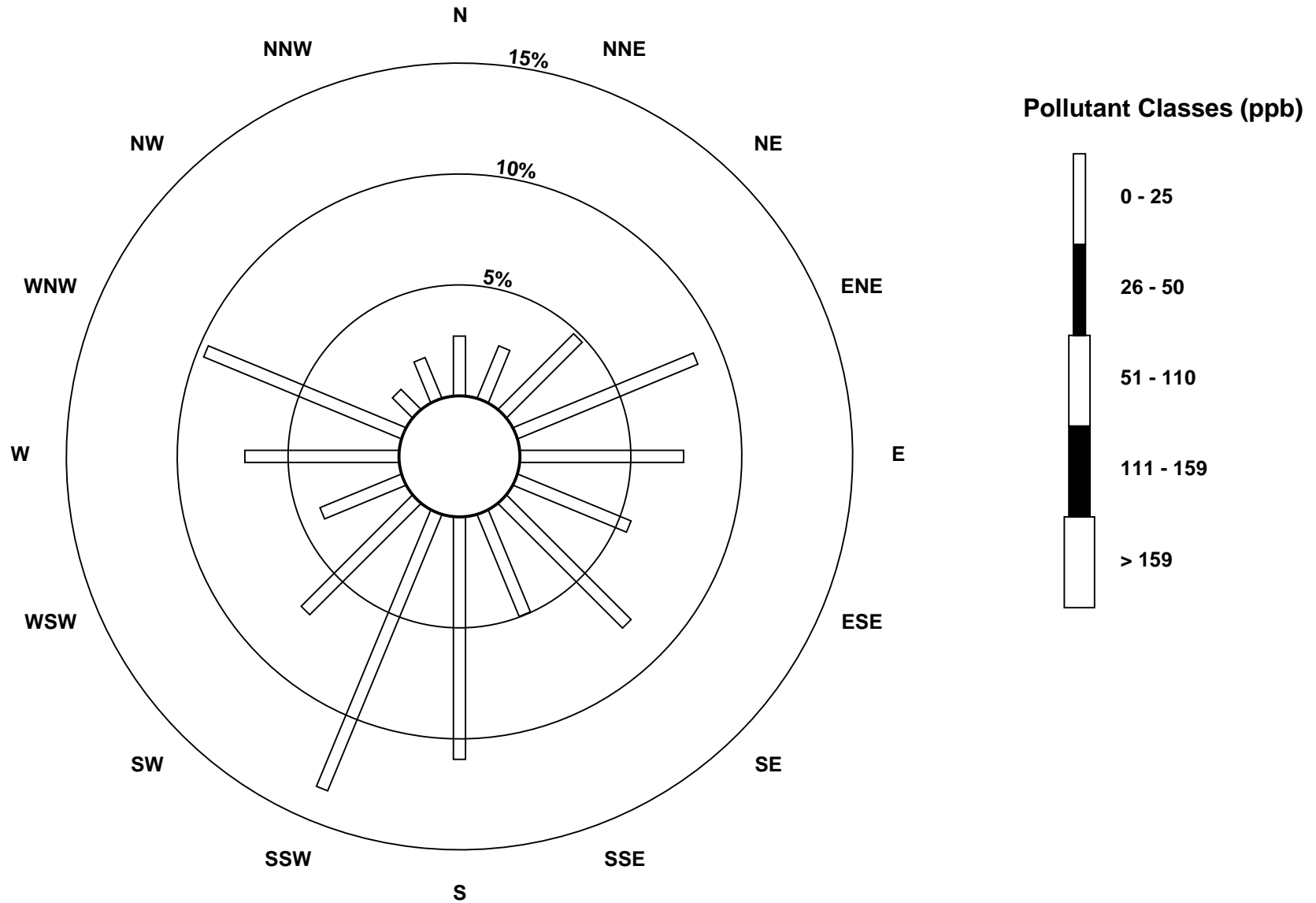
### Hourly Maximums

Nitrogen Dioxide (NO<sub>2</sub>) - ppb  
Sunset House - May 2013



**Pollutant Rose**

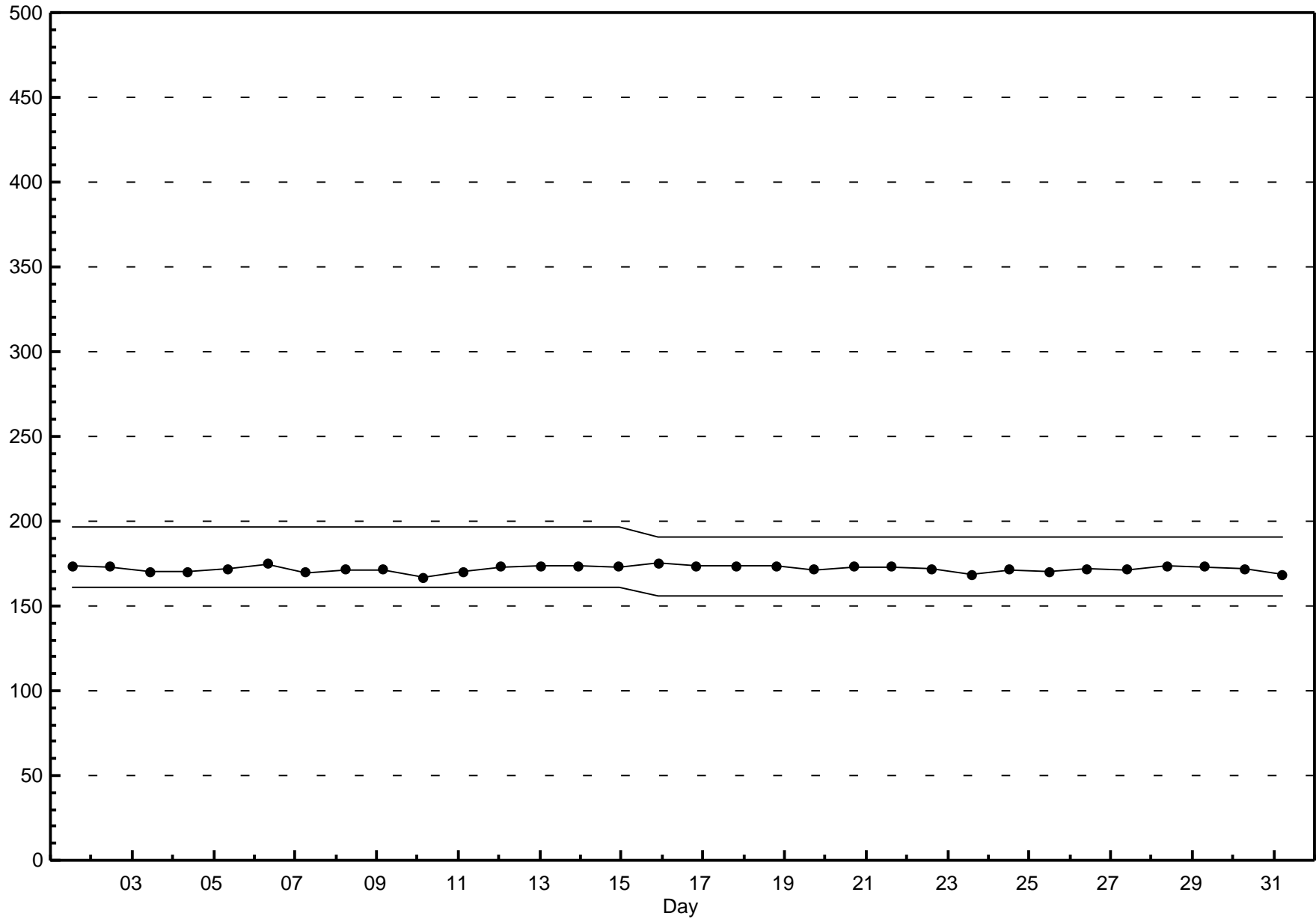
**Nitrogen Dioxide (NO<sub>2</sub>) - ppb**  
**Sunset House - May 2013**





### Span Responses

**Nitrogen Dioxide (NO<sub>2</sub>)**  
**Sunset House - May 2013**



## Hourly Averages

Nitrogen Oxide (NO) - ppb

Sunset House - May 2013

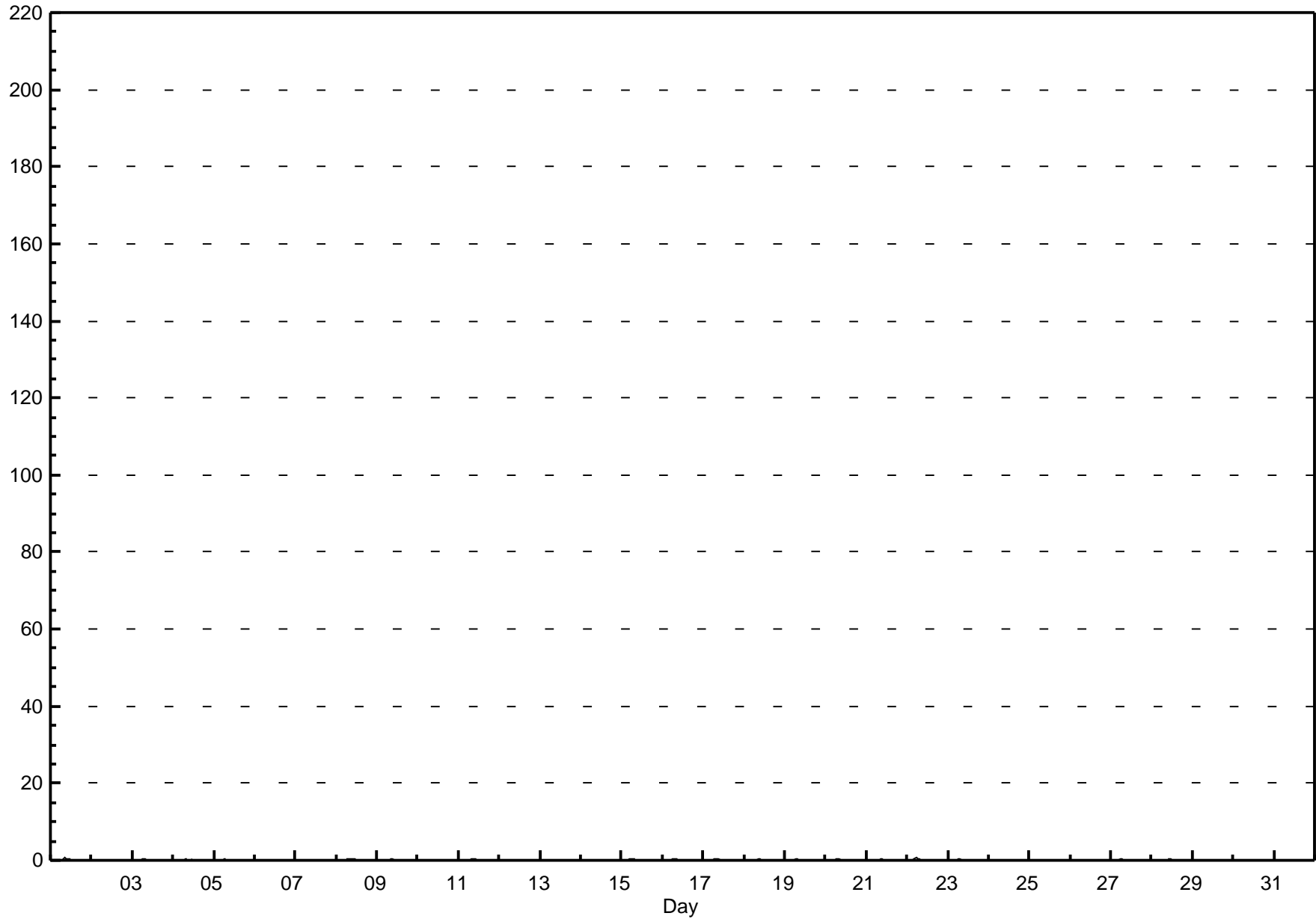
Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 0.6 ppb on May 1 09:00	Maximum Daily Average: 0.1 ppb on May 1		Hours of Data:	705
Minimum Value: 0 ppb on May 1 05:00	Minimum Daily Average: 0.0 ppb on May 10		Hours of Missing Data:	39
Maximum Diurnal Average: 0.2 ppb at hour 9	Minimum Diurnal Average: 0.0 ppb at hour 16		Hours of Calibration:	39
Monthly Average: 0.06 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> = 0.1 P <sub>90</sub> = 0.2 P <sub>99</sub> = 0.5		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-May	0	0	0	0	0	0	0	0	1	0	0	A	A	0	0	0	0	0	0	0	0	0	0	0	0.1	0.6
2-May	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
3-May	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
4-May	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.4
5-May	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.4
6-May	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
7-May	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
8-May	0	0	0	0	0	A	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.5
9-May	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.5
10-May	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
11-May	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
12-May	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
13-May	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
14-May	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
15-May	0	0	0	0	0	0	0	1	0	C	C	C	C	C	C	C	0	0	0	0	0	A	0	0	--	0.5
16-May	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.1	0.4
17-May	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.1	0.5
18-May	0	0	0	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
19-May	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.1	0.3
20-May	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0.1	0.3
21-May	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.1	0.2
22-May	0	0	0	0	0	1	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.1	0.6
23-May	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.1	0.2
24-May	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
25-May	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
26-May	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
27-May	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
28-May	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.4
29-May	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.2
30-May	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
31-May	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		Diurnal Average
	0.1	0.1	0.2	0.2	0.4	0.6	0.4	0.5	0.6	0.5	0.4	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	Diurnal Maximum

C - Calibration                      A - Automated Daily Zero Span

### Hourly Averages

**Nitrogen Oxide (NO) - ppb**  
**Sunset House - May 2013**



## Hourly Maximums

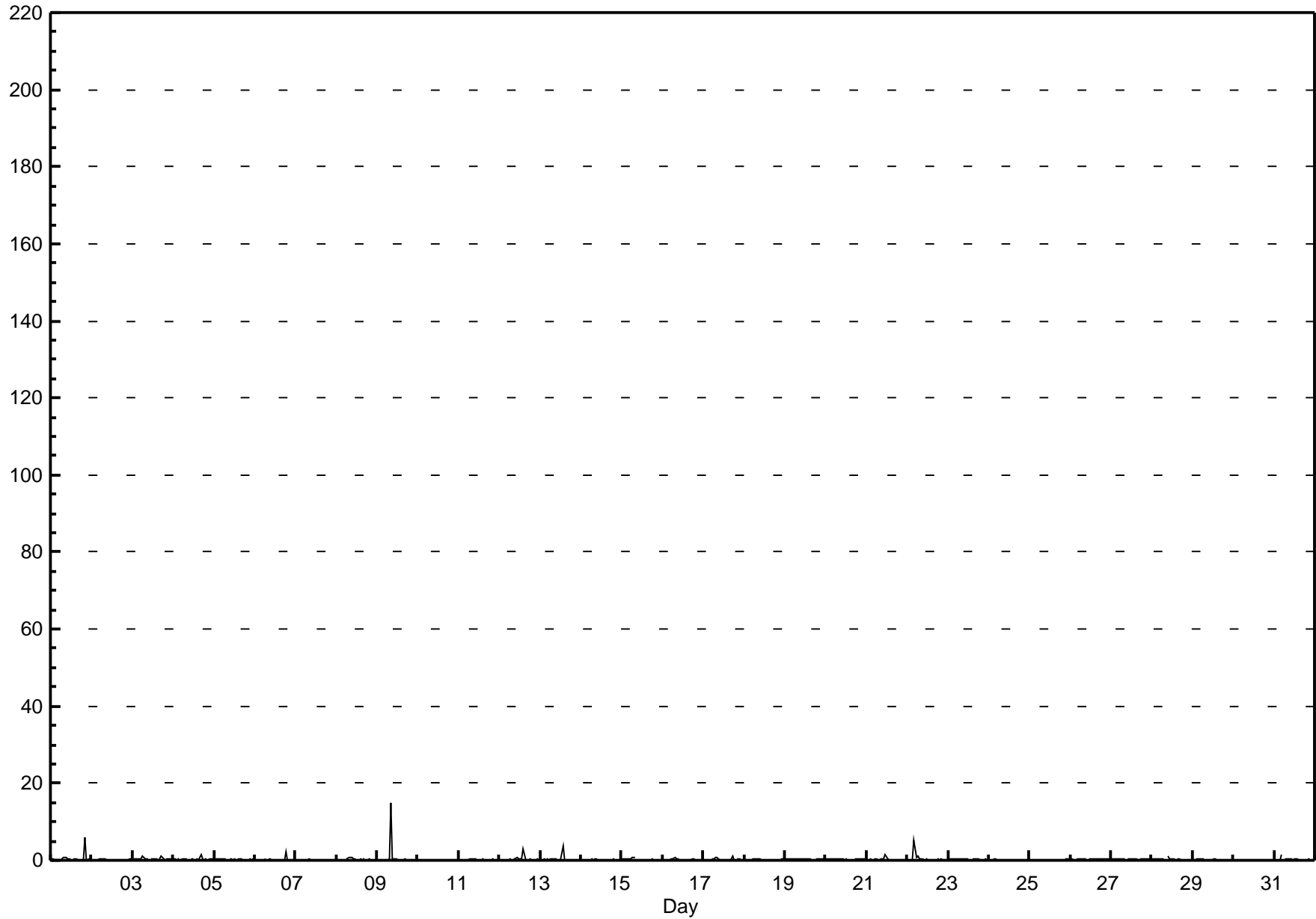
Nitrogen Oxide (NO) - ppb

Sunset House - May 2013

Maximum Value: 15.1 ppb on May 9 09:00 Minimum Value: 0 ppb on May 15 17:00 Maximum Diurnal Average: 0.9 ppb at hour 9 Monthly Average: 0.26 ppb		Maximum Daily Average: 0.8 ppb on May 9 Minimum Daily Average: 0.1 ppb on May 7 Minimum Diurnal Average: 0.1 ppb at hour 16 Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.1 Q <sub>1</sub> = 0.2 Median = 0.2 Q <sub>3</sub> = 0.2 P <sub>90</sub> = 0.4 P <sub>99</sub> = 1.0		Hours in Service: 744 Hours of Data: 705 Hours of Missing Data: 39 Hours of Calibration: 39 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-May	0	0	0	0	0	0	0	1	1	1	0	0	A	0	0	0	0	0	0	0	6	0	0	0	0.5	6.0																								
2-May	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.5																								
3-May	0	0	0	0	0	0	1	0	0	0	A	0	0	0	0	0	0	1	0	0	0	0	0	0	0.3	1.2																								
4-May	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0.3	1.4																								
5-May	0	0	0	0	0	0	1	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.5																								
6-May	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0.2	2.3																								
7-May	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2																								
8-May	0	0	0	0	0	A	0	1	1	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0.3	0.7																								
9-May	0	0	0	0	A	0	0	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.8	15.1																								
10-May	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2																								
11-May	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.5																								
12-May	0	A	0	0	0	0	0	0	0	0	1	0	0	0	3	0	0	0	0	0	0	0	0	0	0.3	3.2																								
13-May	A	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	A	0.3	3.9																								
14-May	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.2	0.4																								
15-May	0	0	0	0	0	0	1	1	1	C	C	C	C	C	C	C	0	0	0	0	0	A	0	0	--	0.6																								
16-May	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	A	0	0	0	0.2	0.6																								
17-May	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1	0	A	0	0	0	0	0.3	0.9																								
18-May	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.2	0.4																								
19-May	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.2	0.5																								
20-May	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0.2	0.5																								
21-May	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	A	0	0	0	0	0	0	0	0	0.2	1.4																								
22-May	0	0	0	0	5	1	1	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.5	5.1																								
23-May	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.2	0.4																								
24-May	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.2	0.2																								
25-May	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3																								
26-May	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	1	0	0	0.2	0.5																								
27-May	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																								
28-May	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0.3	1.0																								
29-May	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.5																								
30-May	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	0.2																								
31-May	0	0	0	0	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.5																								
	0.2	0.2	0.2	0.2	0.4	0.3	0.4	0.3	0.9	0.3	0.3	0.2	0.2	0.3	0.3	0.1	0.2	0.2	0.2	0.2	0.4	0.2	0.2	0.2	Diurnal Average	0.5	0.3	0.4	0.3	5.1	0.9	1.1	0.6	15.1	1.0	0.9	1.4	0.4	3.9	3.2	0.3	1.4	1.2	2.3	0.5	6.0	0.5	0.3	0.3	Diurnal Maximum
C - Calibration                      A - Automated Daily Zero Span																																																		

### Hourly Maximums

Nitrogen Oxide (NO) - ppb  
Sunset House - May 2013



## Hourly Averages

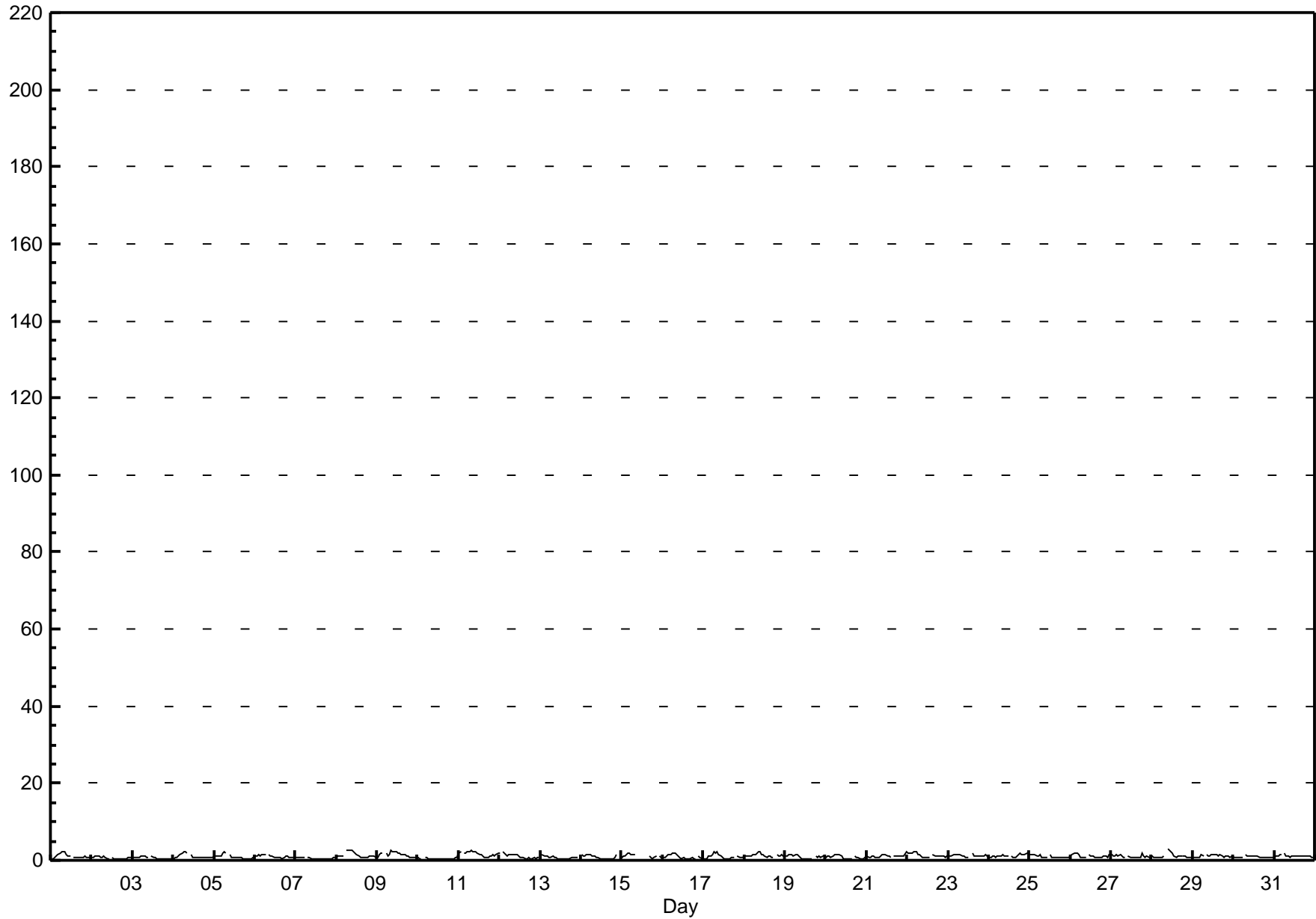
## Oxides of Nitrogen (NO<sub>x</sub>) - ppb

### Sunset House - May 2013

Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 3.0 ppb on May 28 10:00	Maximum Daily Average: 1.7 ppb on May 11		Hours of Data:	705
Minimum Value: 0 ppb on May 7 19:00	Minimum Daily Average: 0.5 ppb on May 10		Hours of Missing Data:	39
Maximum Diurnal Average: 1.5 ppb at hour 7	Minimum Diurnal Average: 0.8 ppb at hour 16		Hours of Calibration:	39
Monthly Average: 1.02 ppb	Percentiles: P <sub>1</sub> = 0.3 P <sub>10</sub> = 0.5 Q <sub>1</sub> = 0.7 Median = 0.9 Q <sub>3</sub> = 1.3 P <sub>90</sub> = 1.6 P <sub>99</sub> = 2.5		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-May	0	1	1	1	2	2	2	2	2	2	2	1	A	1	1	1	1	1	1	1	1	1	1	1	1.0	2.2
2-May	1	1	1	1	1	1	1	1	1	1	0	A	1	1	0	0	0	0	0	0	0	1	1	1	0.7	1.1
3-May	1	1	1	1	1	1	1	1	1	1	A	1	1	1	0	0	1	1	0	0	0	0	0	0	0.6	1.1
4-May	0	1	1	1	1	2	2	2	2	A	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	2.2
5-May	1	1	1	1	1	2	2	2	A	1	1	1	1	1	1	1	1	0	0	1	0	0	0	1	0.9	2.1
6-May	1	1	1	1	1	1	2	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.6
7-May	1	1	1	1	1	1	A	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	0.9
8-May	1	1	1	1	1	A	3	3	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1.4	2.7
9-May	1	2	2	2	A	2	1	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1.5	2.5
10-May	1	0	0	A	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0.5	0.9
11-May	2	2	A	2	2	2	2	3	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	2	1.7	2.5
12-May	2	A	2	2	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1.1	2.3
13-May	A	2	1	1	1	1	1	1	1	1	1	1	0	0	0	0	1	1	1	1	1	1	1	A	0.8	1.6
14-May	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	1	1	1	1	A	0.9	1.4
15-May	1	1	1	2	2	2	2	2	1	C	C	C	C	C	C	C	1	1	0	1	1	A	1	1	--	1.7
16-May	1	1	1	1	2	2	2	2	2	1	1	0	1	0	0	0	1	1	0	1	A	1	1	1	0.9	1.8
17-May	1	1	0	1	1	1	2	2	2	1	1	1	0	0	0	0	1	1	1	A	1	1	1	1	0.9	2.3
18-May	1	1	1	1	1	1	2	2	2	2	1	1	1	1	1	1	1	1	1	A	2	1	1	1	1.3	2.1
19-May	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	0	A	1	1	1	1	1	1.0	1.5
20-May	1	1	1	1	1	1	1	1	2	1	0	0	0	0	0	0	A	1	1	1	1	1	0	0	0.8	1.6
21-May	1	1	1	1	1	1	1	1	1	2	1	2	1	1	1	A	1	1	1	1	1	1	1	1	1.2	2.4
22-May	2	2	2	2	2	2	2	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1.3	2.4
23-May	1	1	1	2	2	2	2	2	1	1	1	1	1	A	2	1	1	1	1	1	1	1	1	1	1.2	1.7
24-May	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	2	2	2	2	1	2	1.2	1.9
25-May	1	1	2	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.6
26-May	1	1	2	2	2	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1.1	1.9
27-May	1	1	1	2	1	1	1	1	1	A	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1.1	1.9
28-May	1	1	1	1	1	1	1	1	A	A	3	3	2	2	1	1	1	1	1	1	1	1	1	1	1.1	3.0
29-May	1	1	1	1	1	1	1	A	2	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1.1	1.6
30-May	1	1	1	1	1	1	A	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.5
31-May	1	1	1	1	1	A	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.1	1.7
	1.0	1.1	1.1	1.2	1.2	1.3	1.5	1.4	1.4	1.3	1.1	1.0	0.9	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.9	0.9	0.9	0.9	Diurnal Average
	2.0	2.3	2.3	2.0	2.3	2.4	2.7	2.7	2.7	3.0	2.5	2.2	1.9	1.7	1.7	1.6	1.5	1.5	1.9	1.6	1.5	1.5	1.7	2.4	Diurnal Maximum	

C - Calibration                      A - Automated Daily Zero Span



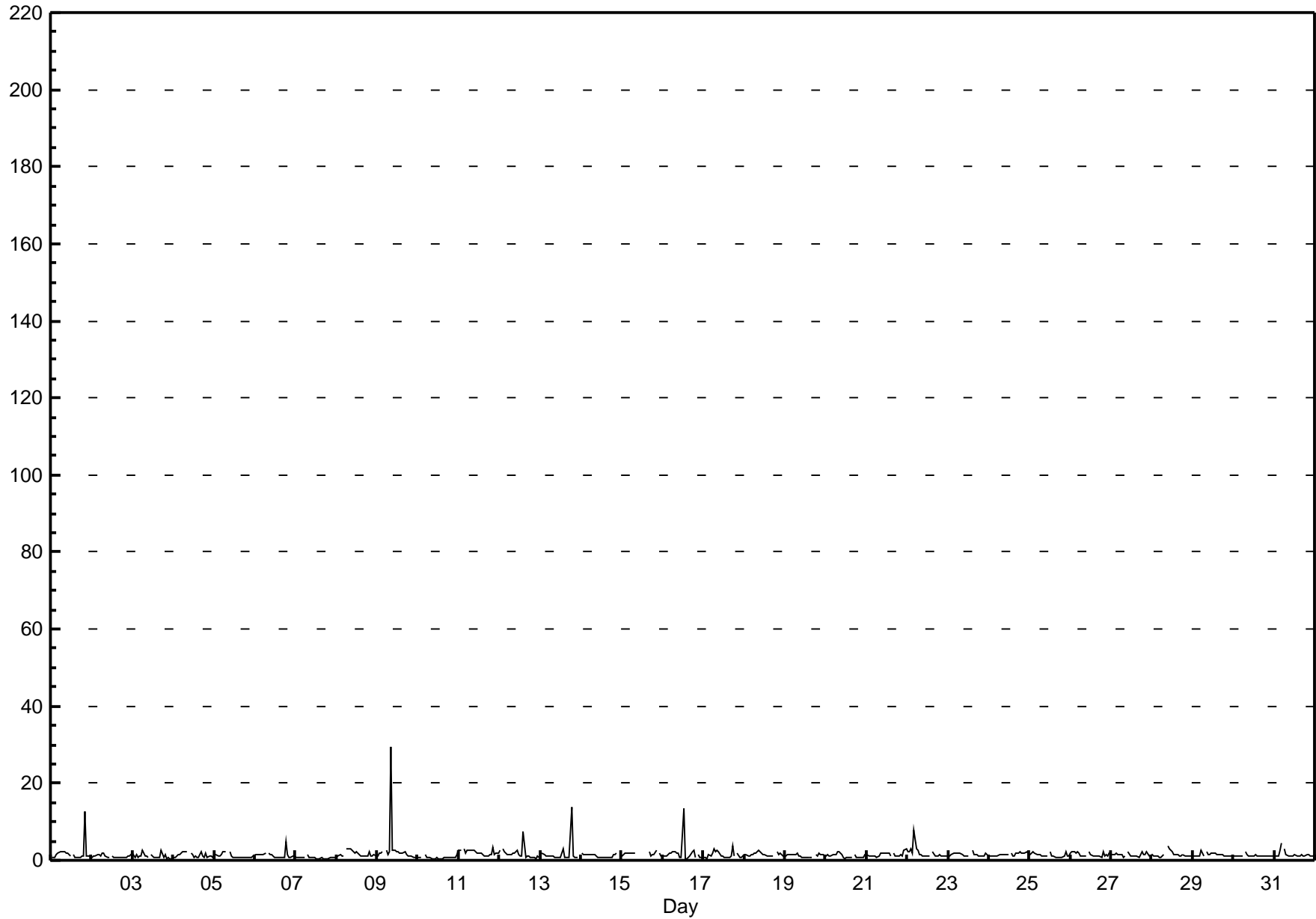
## Hourly Maximums

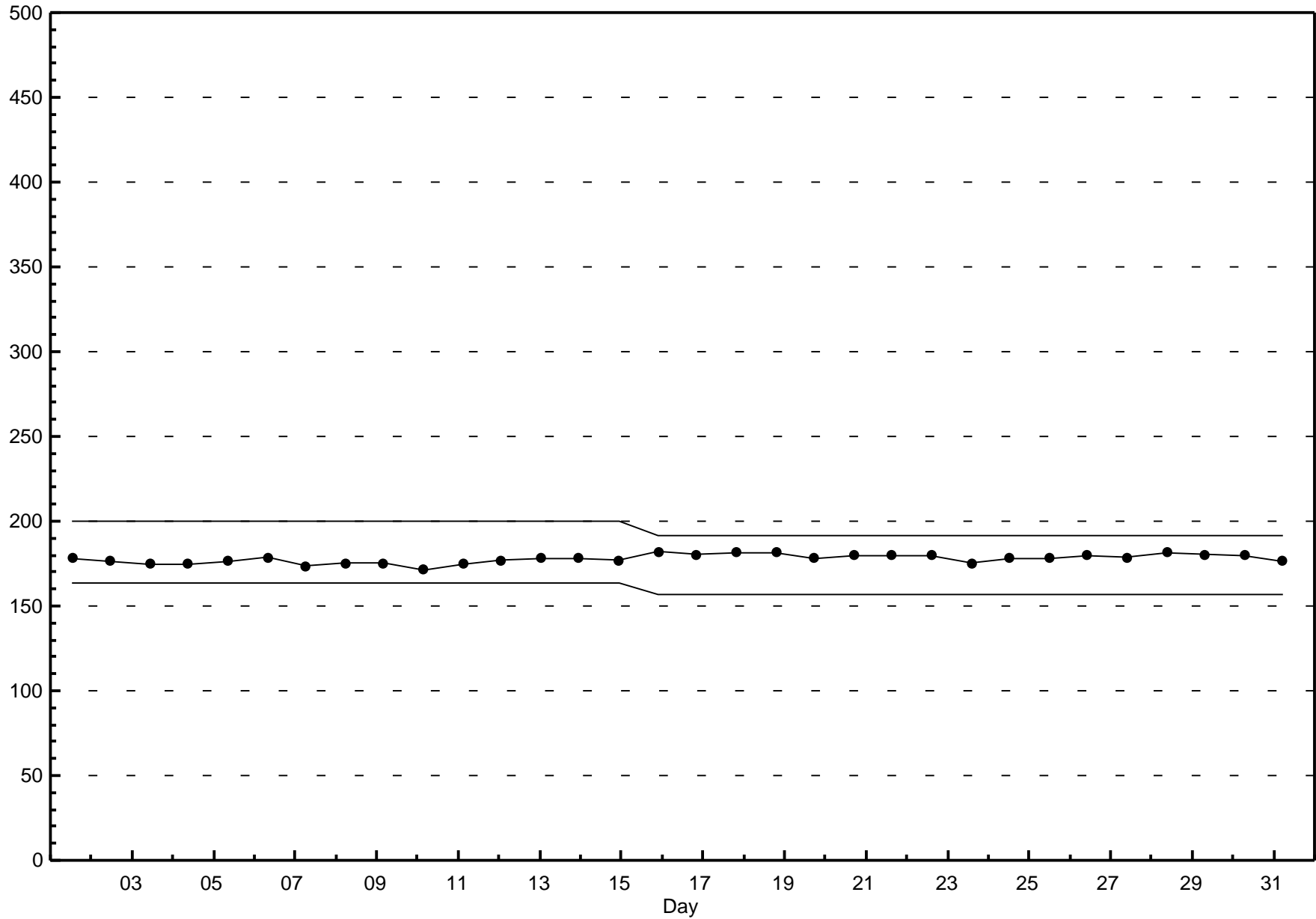
Oxides of Nitrogen (NO<sub>x</sub>) - ppb

Sunset House - May 2013

Maximum Value: 29.4 ppb on May 9 09:00		Maximum Daily Average: 2.9 ppb on May 9		Hours in Service: 744																						
Minimum Value: 0 ppb on May 7 20:00		Minimum Daily Average: 0.7 ppb on May 7		Hours of Data: 705																						
Maximum Diurnal Average: 2.6 ppb at hour 9		Minimum Diurnal Average: 1.0 ppb at hour 16		Hours of Missing Data: 39																						
Monthly Average: 1.45 ppb		Percentiles: P <sub>1</sub> = 0.5 P <sub>10</sub> = 0.6 Q <sub>1</sub> = 0.9 Median = 1.2 Q <sub>3</sub> = 1.7 P <sub>90</sub> = 2.2 P <sub>99</sub> = 3.7		Hours of Calibration: 39																						
				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-May	1	1	1	1	2	2	2	2	2	2	2	1	A	1	1	1	1	1	1	1	13	1	1	1	1.8	12.7
2-May	1	1	1	1	1	1	2	2	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1.0	2.0
3-May	2	1	2	1	1	1	3	1	1	1	A	1	1	1	1	1	3	1	2	0	1	0	0	1.1	2.7	
4-May	1	1	1	1	1	2	2	2	2	A	2	1	1	1	1	1	2	1	1	2	1	1	1	1	1.4	2.3
5-May	1	1	1	1	1	2	2	2	A	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1.1	2.3	
6-May	1	2	2	1	2	2	2	A	2	1	1	1	1	1	1	1	1	1	5	1	1	1	1	1.4	5.0	
7-May	1	1	1	1	1	1	A	1	1	1	1	1	1	0	0	1	0	0	0	0	1	1	1	0.7	1.3	
8-May	1	1	1	1	1	A	3	3	3	3	2	2	2	1	1	1	1	1	2	1	1	1	1	1.7	3.0	
9-May	1	2	2	2	A	3	2	2	29	3	3	2	2	2	2	2	2	1	1	1	1	1	1	2.9	29.4	
10-May	1	1	1	A	2	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	0.7	1.6	
11-May	2	3	A	3	2	2	3	3	3	2	2	2	2	1	1	1	1	1	1	3	1	2	2	2.0	3.3	
12-May	2	A	3	2	1	2	2	2	2	2	2	1	1	1	7	1	1	1	1	1	1	1	1	1.7	7.3	
13-May	A	2	1	1	1	1	1	1	1	1	1	1	1	3	1	1	1	1	14	1	1	1	1	1.7	14.0	
14-May	2	1	1	2	2	2	1	2	1	1	1	1	1	1	1	1	1	1	1	1	2	A	2	1.2	2.0	
15-May	1	2	2	2	2	2	2	2	2	C	C	C	C	C	C	C	2	1	1	1	3	A	2	--	2.5	
16-May	1	1	1	2	2	2	2	2	2	2	1	1	13	1	1	1	1	2	3	1	A	2	1	1.8	13.4	
17-May	1	1	1	1	1	2	3	2	2	2	1	1	1	1	1	1	1	4	1	A	2	1	1	1.4	3.8	
18-May	1	1	1	1	1	2	2	2	3	2	2	2	1	1	1	1	1	1	A	A	2	1	2	1.6	2.7	
19-May	1	1	1	2	2	1	2	2	1	1	1	1	1	1	1	1	1	1	A	2	1	2	1	1.2	1.9	
20-May	1	1	1	1	2	2	2	2	2	2	1	0	1	1	1	1	A	A	2	1	1	1	1	1.1	2.3	
21-May	1	1	1	1	1	1	1	1	2	2	2	2	2	2	1	A	2	1	1	1	1	1	3	1.5	2.9	
22-May	2	2	3	2	8	3	3	2	1	1	1	1	1	1	A	2	1	1	1	1	1	1	1	1.8	7.8	
23-May	1	1	1	2	2	2	2	2	1	1	1	1	1	A	3	2	1	1	1	1	1	1	2	1.4	2.5	
24-May	1	1	1	1	1	1	1	1	1	1	1	1	A	2	1	1	2	2	2	2	2	2	2	1.5	2.1	
25-May	2	2	2	2	1	2	2	1	1	1	1	A	2	1	1	1	1	1	1	1	1	2	1	1.3	2.3	
26-May	2	2	2	2	2	2	1	1	1	1	A	2	1	1	1	1	1	1	1	2	1	1	1	1.5	2.2	
27-May	2	1	1	2	1	2	1	1	1	A	2	1	1	1	1	1	1	1	2	2	1	2	1	1.4	2.3	
28-May	1	1	1	1	1	1	1	2	A	4	3	2	2	1	1	1	1	1	1	1	1	1	1	1.5	3.7	
29-May	1	1	1	1	1	3	1	A	2	2	1	2	2	2	2	1	2	2	1	1	1	1	1	1.4	2.5	
30-May	1	1	1	1	1	1	A	2	2	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1.1	2.1	
31-May	1	1	1	3	4	A	3	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1.5	4.3	
		1.3	1.3	1.4	1.5	1.7	1.6	1.8	1.7	2.6	1.6	1.4	1.3	1.6	1.2	1.2	1.0	1.1	1.2	1.7	1.3	1.6	1.2	1.2	1.2	Diurnal Average
		2.4	2.5	3.1	2.9	7.8	3.0	3.0	2.9	29.4	3.7	3.0	2.5	13.4	3.0	7.3	2.1	2.2	3.8	14.0	2.4	12.7	2.2	2.6	2.9	Diurnal Maximum
C - Calibration		A - Automated Daily Zero Span																								







## Hourly Averages

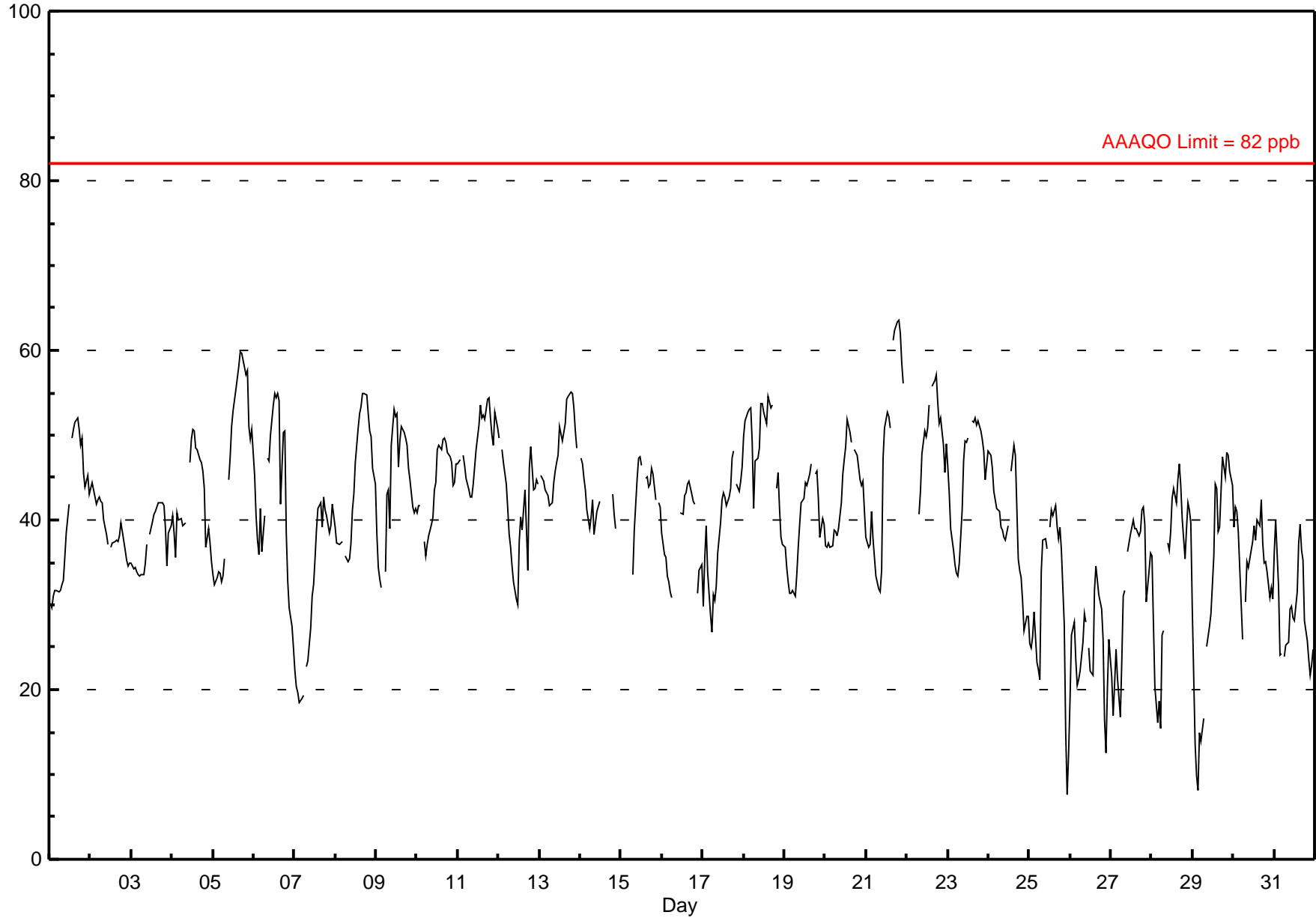
Ozone (O<sub>3</sub>) - ppb

Sunset House - May 2013

Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 63.5 ppb on May 21 20:00	Maximum Daily Average: 48.9 ppb on May 18		Hours of Data:	684
Minimum Value: 8 ppb on May 25 23:00	Minimum Daily Average: 24.9 ppb on May 26		Hours of Missing Data:	60
Maximum Diurnal Average: 46.5 ppb at hour 16	Minimum Diurnal Average: 32.5 ppb at hour 6		Hours of Calibration:	36
Monthly Average: 40.07 ppb	Percentiles: P <sub>1</sub> = 14.8 P <sub>10</sub> = 27.4 Q <sub>1</sub> = 34.6 Median = 40.7 Q <sub>3</sub> = 46.7 P <sub>90</sub> = 51.5 P <sub>99</sub> = 59.7		Percent Operational Time:	96.8

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-May	30	30	31	32	32	32	32	32	33	36	38	42	A	50	51	51	52	51	49	50	46	44	45	43	40.4	52.0																						
2-May	44	44	44	42	42	43	42	42	40	38	37	A	37	37	37	38	37	38	40	39	36	35	35	35	39.2	44.4																						
3-May	35	34	34	34	34	33	33	34	35	37	A	38	40	41	41	42	42	42	42	42	39	35	38	39	37.6	42.1																						
4-May	41	39	36	41	40	40	39	39	40	A	47	49	51	51	48	48	47	47	46	44	37	39	37	35	42.6	50.7																						
5-May	33	32	33	34	34	33	33	35	A	45	47	51	53	55	57	58	60	60	59	57	58	51	50	51	46.9	59.9																						
6-May	45	40	38	36	41	36	40	A	47	47	50	53	55	54	55	54	42	50	51	39	33	30	27	25	43.0	54.9																						
7-May	22	20	20	19	19	19	A	23	23	27	31	32	35	39	41	42	39	43	41	41	39	39	42	41	32.0	42.7																						
8-May	39	37	37	37	37	A	36	35	35	37	41	43	47	51	53	53	55	55	55	52	51	50	46	44	44.7	55.0																						
9-May	38	34	33	32	A	34	43	43	39	49	53	52	53	46	49	51	50	50	49	46	45	41	41	41	44.1	53.0																						
10-May	41	42	42	A	38	36	37	38	40	40	44	44	48	49	48	49	50	49	48	47	47	44	44	47	44.0	49.7																						
11-May	47	47	A	48	46	45	43	43	43	44	46	48	51	54	52	52	52	54	54	52	50	49	53	51	48.9	54.5																						
12-May	50	A	48	47	44	41	38	37	35	33	31	30	37	40	39	44	39	34	46	49	44	44	45	44	40.8	49.7																						
13-May	A	45	45	44	43	43	42	42	44	46	47	48	51	49	50	51	54	55	55	55	53	50	48	A	48.2	55.1																						
14-May	47	47	45	43	41	39	40	42	38	40	41	42	D	D	D	D	D	D	D	43	41	39	A	D	--	47.4																						
15-May	D	D	D	D	D	D	D	34	39	45	47	47	46	D	45	45	44	44	46	45	42	A	42	42	--	47.4																						
16-May	39	36	36	33	33	32	31	C	C	C	C	41	41	43	43	44	45	43	42	42	A	31	34	35	38.0	44.6																						
17-May	30	35	39	34	29	27	31	31	32	36	40	42	43	43	42	43	44	47	48	A	44	43	45	46	38.9	48.1																						
18-May	50	52	53	53	53	49	41	47	47	48	54	54	53	51	55	54	53	54	A	44	46	41	38	37	48.9	54.6																						
19-May	37	34	33	31	31	32	31	34	37	40	42	43	44	44	45	45	47	A	45	46	43	38	40	40	39.2	46.5																						
20-May	37	37	37	37	37	39	39	38	39	42	45	47	49	52	50	49	A	48	48	48	45	44	44	41	43.1	51.8																						
21-May	38	37	37	41	38	36	33	32	31	34	47	51	53	52	51	A	61	62	63	64	62	59	56	N	47.2	63.5																						
22-May	N	N	N	N	N	N	N	41	43	48	50	50	51	54	A	56	56	57	54	51	52	49	46	49	--	57.2																						
23-May	46	43	39	37	35	34	33	35	41	47	49	49	50	A	52	52	52	51	52	51	50	48	45	46	45.0	52.1																						
24-May	48	48	46	43	42	41	41	39	39	38	38	39	A	46	47	49	48	35	34	33	31	27	29	29	39.5	48.8																						
25-May	25	25	26	29	23	22	21	34	38	38	37	A	39	41	41	42	39	38	39	36	28	15	8	12	30.3	41.7																						
26-May	19	26	28	24	20	21	22	26	29	28	A	25	22	22	32	34	33	31	30	26	16	13	20	26	24.9	34.5																						
27-May	21	17	21	25	21	17	23	31	32	A	36	38	39	40	39	39	38	39	41	41	39	30	34	36	32.1	41.5																						
28-May	36	28	20	16	19	15	27	27	A	37	36	39	42	44	42	45	47	44	40	35	39	42	41	40	34.8	46.5																						
29-May	30	14	10	8	15	14	17	A	25	26	28	29	36	44	44	39	39	47	46	45	48	48	46	44	32.2	47.9																						
30-May	39	42	41	39	30	26	A	30	35	34	36	37	39	38	40	39	42	37	35	35	34	31	32	31	35.8	42.3																						
31-May	36	40	32	24	24	A	24	25	26	29	30	28	28	32	37	40	36	35	28	26	24	22	23	25	29.3	40.0																						
																								37.3	35.9	35.1	34.3	33.7	32.5	33.9	35.3	36.6	38.9	41.8	42.5	44.0	45.0	45.7	46.5	46.3	46.3	45.7	44.1	41.9	39.0	39.1	38.3	Diurnal Average
																								49.8	51.7	52.6	53.0	53.2	49.2	43.5	46.9	47.4	48.8	53.7	53.7	54.8	55.4	56.7	58.2	61.1	62.4	63.4	63.5	62.0	58.5	56.2	50.8	Diurnal Maximum

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



## Hourly Maximums

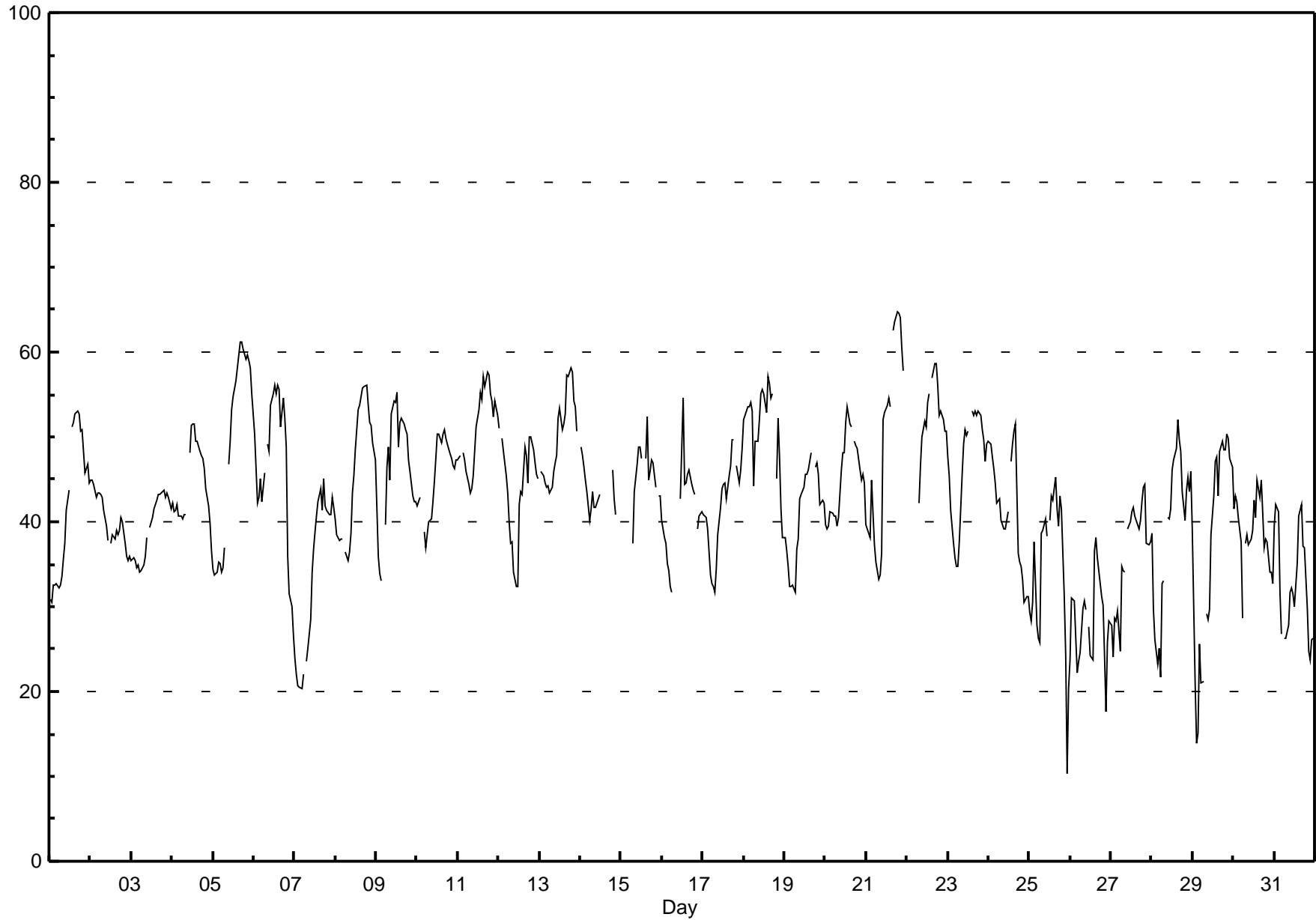
Ozone (O<sub>3</sub>) - ppb

Sunset House - May 2013

Maximum Value: 64.7 ppb on May 21 19:00		Maximum Daily Average: 51.3 ppb on May 18		Hours in Service:	744																						
Minimum Value: 10 ppb on May 25 23:00		Minimum Daily Average: 28.3 ppb on May 26		Hours of Data:	684																						
Maximum Diurnal Average: 49.1 ppb at hour 17		Minimum Diurnal Average: 35.2 ppb at hour 6		Hours of Missing Data:	60																						
Monthly Average: 42.57 ppb		Percentiles: P <sub>1</sub> = 20.4 P <sub>10</sub> = 30.6 Q <sub>1</sub> = 37.5 Median = 43.0 Q <sub>3</sub> = 48.8 P <sub>90</sub> = 53.6 P <sub>99</sub> = 61.1		Hours of Calibration:	36																						
				Percent Operational Time:	96.8																						
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-May	31	31	32	33	33	32	33	34	36	38	41	44	A	51	52	53	53	53	51	51	48	46	47	45	41.9	53.1	
2-May	45	45	44	43	43	43	43	43	41	39	38	A	37	38	38	39	38	39	40	40	37	36	35	36	40.2	44.9	
3-May	35	36	35	35	35	34	34	35	36	38	A	39	41	42	42	43	43	43	44	44	43	43	43	41	39.3	43.7	
4-May	42	41	41	42	41	41	40	41	41	A	48	51	52	52	49	49	48	48	47	46	44	42	40	37	44.5	51.6	
5-May	34	34	34	35	35	34	35	37	A	47	50	53	55	57	58	60	61	61	60	59	60	59	58	55	49.2	61.1	
6-May	50	46	42	43	45	42	46	A	49	48	54	55	56	55	56	56	51	55	52	49	36	32	30	27	46.7	56.1	
7-May	24	22	21	20	20	22	A	24	25	29	34	37	39	41	42	44	41	45	42	41	41	41	43	42	33.9	45.1	
8-May	40	38	38	38	38	A	36	35	36	39	43	45	48	53	54	55	56	56	56	54	52	51	49	47	46.1	56.1	
9-May	42	36	34	33	A	40	46	49	45	53	54	55	49	52	52	52	51	50	47	46	43	42	42	42	46.4	55.2	
10-May	42	42	43	A	39	37	38	40	40	42	45	47	50	50	49	50	51	50	49	48	47	47	46	47	45.3	50.8	
11-May	47	48	A	48	47	46	44	43	44	45	48	51	53	55	54	57	56	58	57	55	54	52	54	52	51.0	57.6	
12-May	51	A	50	48	45	43	40	38	38	34	32	32	42	44	43	49	48	45	50	50	49	47	46	45	43.8	51.0	
13-May	A	46	45	45	44	44	43	44	46	47	48	52	53	51	51	53	57	57	58	58	54	54	51	A	50.1	58.2	
14-May	49	48	46	45	43	40	41	44	42	42	42	43	D	D	D	D	D	D	D	46	43	41	A	D	--	48.8	
15-May	D	D	D	D	D	D	D	37	44	47	49	49	47	D	48	52	45	46	47	47	44	A	43	43	--	52.3	
16-May	40	38	37	35	34	32	32	C	C	C	C	43	55	44	45	46	46	44	44	43	A	39	41	41	41.0	54.6	
17-May	41	41	41	39	34	33	32	32	34	39	42	44	44	45	43	45	47	50	50	A	47	45	46	49	41.7	49.6	
18-May	52	52	54	54	54	53	44	50	50	52	55	56	55	53	57	56	55	55	A	45	52	48	42	38	51.3	57.1	
19-May	38	37	35	32	32	33	32	37	38	43	43	44	46	46	46	47	48	A	46	47	46	42	43	42	40.9	48.1	
20-May	40	39	40	41	41	41	41	40	40	46	48	48	52	54	51	51	A	49	49	49	46	45	46	45	45.3	53.5	
21-May	40	39	38	45	41	37	35	33	34	36	52	53	54	55	54	A	63	64	65	65	64	61	58	N	49.2	64.7	
22-May	N	N	N	N	N	N	N	42	47	50	52	51	54	55	A	57	59	59	56	53	53	52	51	51	--	58.6	
23-May	48	45	41	38	36	35	35	38	46	49	51	50	51	A	53	53	53	53	53	53	51	50	47	49	46.7	53.1	
24-May	50	49	48	46	45	42	43	40	40	39	39	41	A	47	49	51	52	36	35	35	33	31	31	31	41.4	51.6	
25-May	29	28	30	38	28	26	26	39	39	40	38	A	40	43	43	45	42	40	43	42	31	24	10	20	34.1	45.2	
26-May	24	31	31	26	22	24	25	30	31	30	A	28	24	24	37	38	36	34	31	30	24	18	26	28	28.3	38.2	
27-May	28	24	29	28	29	25	35	34	34	A	39	40	41	42	41	40	39	40	42	44	44	38	37	38	36.2	44.3	
28-May	39	30	26	23	25	22	33	33	A	41	40	42	46	47	49	52	50	48	44	40	44	45	43	46	39.4	52.1	
29-May	39	21	14	15	26	21	21	A	29	29	30	39	43	47	48	43	48	50	49	48	50	50	48	46	37.1	50.3	
30-May	42	43	42	41	38	29	A	37	39	37	38	39	43	41	45	43	45	41	37	38	38	34	34	33	38.9	44.9	
31-May	40	42	41	32	27	A	26	26	28	32	32	32	30	35	41	41	42	37	37	30	25	24	26	26	32.6	42.1	
		40.0	38.3	37.6	37.1	36.4	35.2	36.3	37.6	38.9	41.1	43.8	44.9	46.7	46.9	47.9	49.0	49.1	48.4	47.8	46.5	44.9	42.6	41.8	40.8	Diurnal Average	
		52.1	52.5	53.6	53.6	54.1	53.1	46.4	49.5	49.5	52.8	55.1	55.6	56.1	56.6	58.1	59.6	62.6	63.5	64.7	64.5	64.0	60.6	58.1	55.2	Diurnal Maximum	
C - Calibration		D - DAS Failure					N - Not Valid					A - Automated Daily Zero Span															

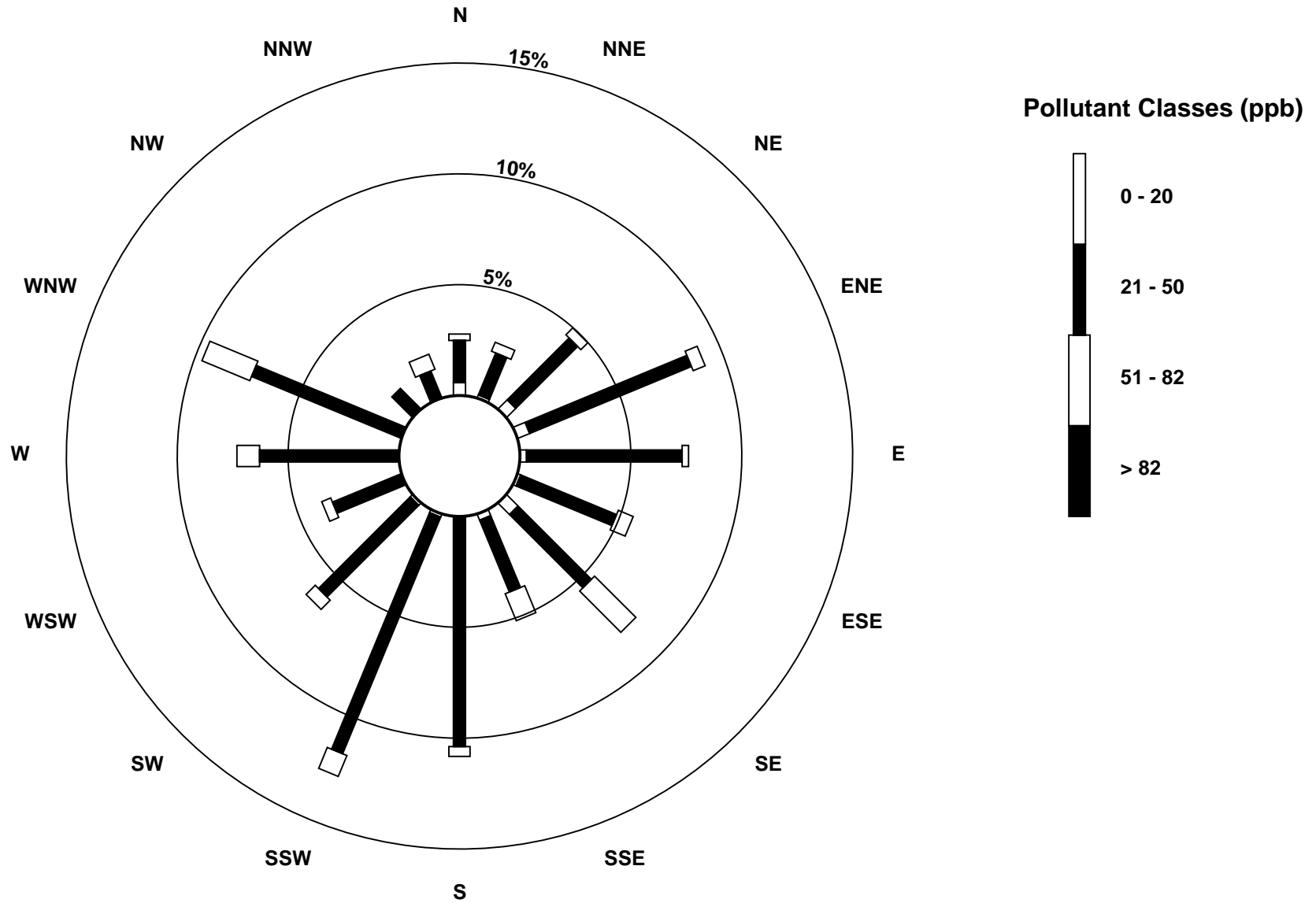
# Hourly Maximums

Ozone (O<sub>3</sub>) - ppb  
Sunset House - May 2013



**Pollutant Rose**

Ozone (O<sub>3</sub>) - ppb  
Sunset House - May 2013



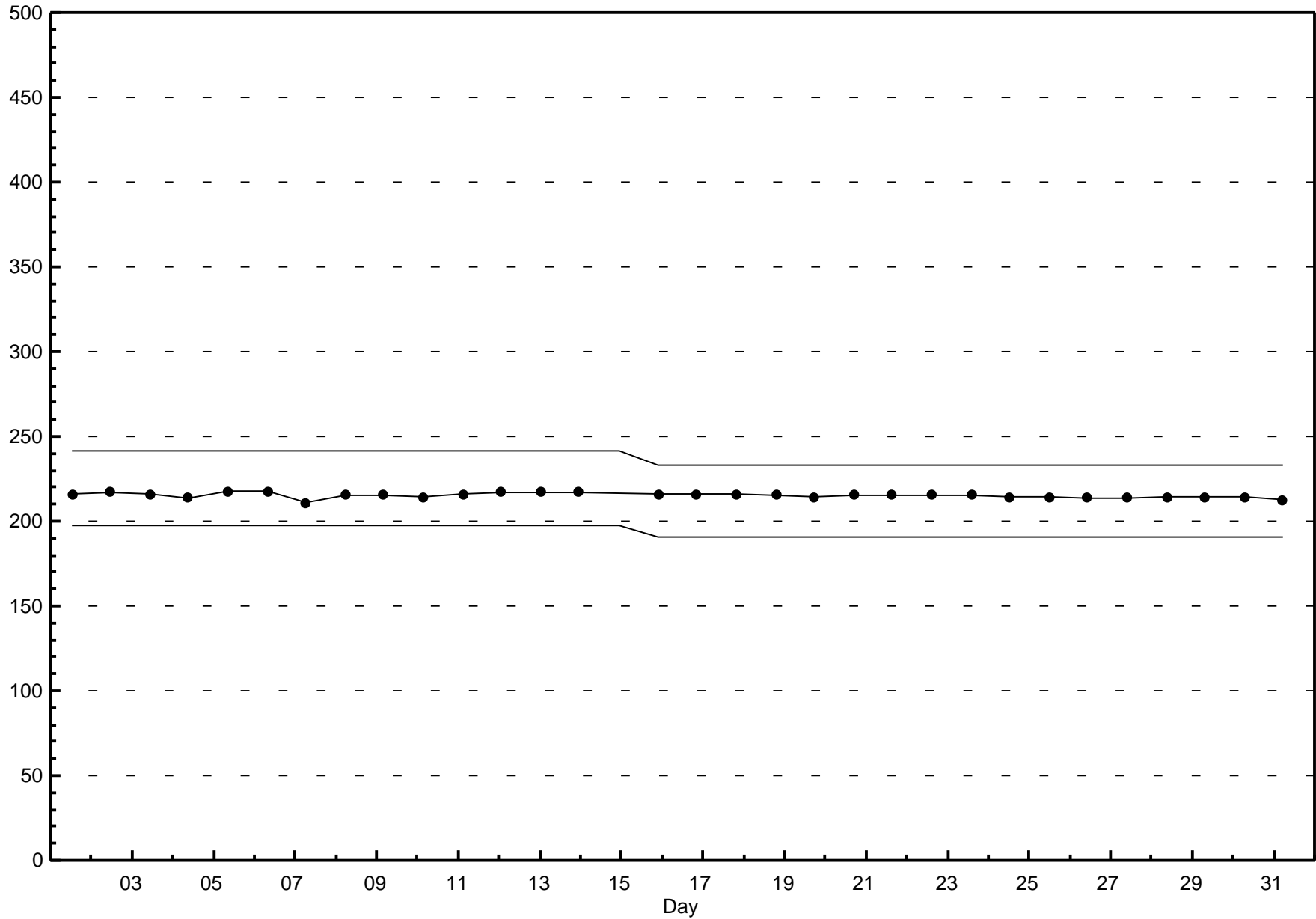
## Eight Hour Running Averages

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

Sunset House - May 2013

Maximum Value: 61.0 ppb on May 21 23:00																					Hours in Service:	744				
Minimum Value: 14.6 ppb on May 29 09:00																					Hours of Data:	704				
Percentiles: P <sub>1</sub> = 19.8 P <sub>10</sub> = 27.9 Q <sub>1</sub> = 35.2 Median = 40.6 Q <sub>3</sub> = 45.9 P <sub>90</sub> = 50.5 P <sub>99</sub> = 57.9																					Hours of Missing Data:	40				
																					Hours of Calibration:	11				
																					Percent Operational Time:	96.1				
Day	Hourly Period Ending At (MST)																								Daily Maximum	
1-May	30	30	30	30	30	31	31	31	32	32	33	35	37	40	43	46	48	49	50	50	49	48	47	50.4		
2-May	46	46	45	44	44	43	43	43	42	42	41	41	40	39	38	38	37	38	38	38	38	37	37	46.3		
3-May	37	36	35	35	34	34	34	34	34	34	34	35	36	37	38	39	40	41	41	41	41	40	40	41.4		
4-May	40	39	38	38	38	39	39	39	39	39	41	42	44	45	46	48	49	49	48	48	46	44	43	41	48.7	
5-May	40	38	36	35	35	34	33	34	34	35	37	40	43	46	49	52	53	55	57	57	58	57	56	56	57.9	
6-May	54	51	49	46	44	42	41	40	40	41	43	45	47	50	52	52	51	52	52	50	47	44	41	37	53.7	
7-May	35	31	27	24	23	21	21	20	20	21	23	25	27	30	32	34	36	38	39	40	41	41	41	40	40.7	
8-May	40	40	39	39	39	39	38	37	36	36	37	38	39	41	43	45	47	50	51	53	53	53	52	51	53.0	
9-May	49	46	44	41	40	37	37	37	37	39	42	45	46	47	48	49	50	51	50	49	48	48	47	45	50.6	
10-May	44	43	42	42	41	40	39	39	39	39	39	40	41	43	44	45	47	48	48	49	48	48	47	47	48.6	
11-May	47	46	46	46	46	46	46	46	45	45	45	45	45	47	48	49	50	51	52	53	53	52	52	52	52.7	
12-May	52	51	50	50	49	48	46	44	41	40	38	36	35	35	35	36	37	37	39	41	42	42	43	43	51.6	
13-May	44	45	45	44	44	44	44	43	43	44	44	44	45	46	47	48	50	51	52	53	53	53	53	53	53.0	
14-May	52	51	49	48	46	44	43	43	42	41	41	40	40	41	N	N	N	N	N	N	N	N	N	N	52.0	
15-May	N	N	N	N	N	N	N	N	N	N	N	N	N	N	43	43	43	45	46	46	45	45	45	44	44	45.7
16-May	43	42	40	38	37	36	35	34	33	N	N	N	N	N	N	N	43	43	43	43	43	41	40	39	43.1	
17-May	37	36	35	34	33	33	33	32	32	32	32	33	35	37	39	40	42	43	44	44	44	44	45	45	45.4	
18-May	46	47	47	48	49	50	50	50	49	49	49	49	49	49	51	52	53	53	53	52	51	49	47	45	53.3	
19-May	42	40	39	37	35	34	33	33	33	34	35	36	38	39	41	42	44	44	45	45	45	44	43	43	45.2	
20-May	41	41	40	39	38	38	38	38	38	38	39	41	42	44	45	47	48	49	49	49	49	47	47	45	49.1	
21-May	45	43	42	41	40	39	38	36	36	35	37	38	40	42	44	46	50	54	56	58	59	60	61	61	61.0	
22-May	61	N	N	N	N	N	N	N	N	N	N	N	N	47	48	48	50	52	53	54	54	54	53	52	61.0	
23-May	51	49	47	45	43	41	39	38	37	38	39	40	42	43	46	48	50	51	51	51	51	51	49	49	51.2	
24-May	49	48	48	47	46	45	45	44	42	41	40	40	39	40	41	42	43	43	43	42	40	38	36	33	48.8	
25-May	30	29	28	28	27	26	25	26	27	29	30	30	33	35	38	39	39	39	40	39	38	35	31	27	39.8	
26-May	24	23	22	20	19	20	22	23	25	25	24	24	25	25	26	27	28	28	29	29	28	27	25	24	28.7	
27-May	23	21	20	20	21	21	21	22	23	24	26	28	31	34	36	38	39	39	39	40	40	38	38	37	39.6	
28-May	37	36	33	30	27	26	25	23	22	23	25	29	32	36	38	41	41	42	43	42	42	42	42	41	42.8	
29-May	39	35	31	28	25	21	18	15	15	16	19	22	25	29	33	34	36	38	41	43	44	44	45	45	45.4	
30-May	45	45	44	43	41	38	37	35	35	34	33	33	34	36	36	37	38	39	39	38	38	37	36	35	45.4	
31-May	34	34	34	32	31	31	30	29	28	26	26	27	27	28	29	31	33	33	33	33	32	31	29	27	34.2	
61.0 51.3 50.3 49.6 49.3 50.0 49.6 49.7 49.4 49.0 49.1 49.2 49.2 49.7 51.7 52.4 53.3 55.2 56.6 58.0 59.3 60.2 61.0 61.0																										
Diurnal Maximums																										
N - Not Valid																										





## Hourly Averages

PM2.5 (PM<sub>2.5</sub>) - µg/m<sup>3</sup>

Sunset House - May 2013

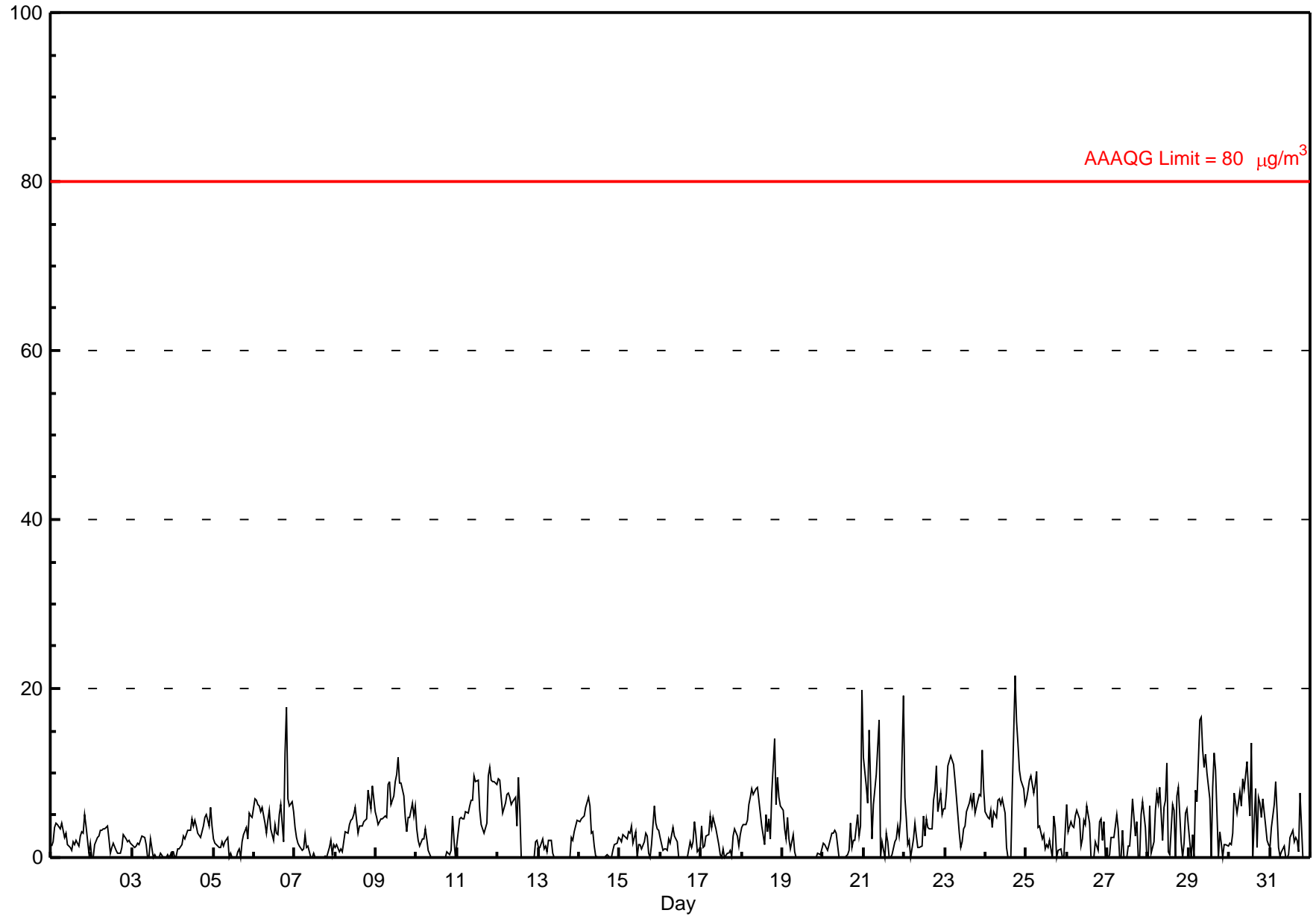
Number of Exceedences: 1-hr: 0 24-hr: 0	Hours in Service: 744
Maximum Value: 21.6 µg/m <sup>3</sup> on May 24 18:00	Maximum Daily Average: 7.0 µg/m <sup>3</sup> on May 23
Minimum Value: 0 µg/m <sup>3</sup> on May 2 01:00	Hours of Data: 744
Maximum Diurnal Average: 4.7 µg/m <sup>3</sup> at hour 7	Hours of Missing Data: 0
Monthly Average: 3.50 µg/m <sup>3</sup>	Hours of Calibration: 0
Minimum Daily Average: 0.8 µg/m <sup>3</sup> on May 3	Percent Operational Time: 100.0
Minimum Diurnal Average: 2.2 µg/m <sup>3</sup> at hour 15	
Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.0 Q <sub>1</sub> = 0.9 Median = 2.6 Q <sub>3</sub> = 5.3 P <sub>90</sub> = 8.0 P <sub>99</sub> = 16.2	

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-May	1	2	4	4	4	3	4	3	2	3	2	1	1	2	2	1	3	3	3	5	4	1	2	2.5	5.1	
2-May	0	0	2	2	3	3	3	3	3	4	2	0	1	2	1	1	0	1	1	3	2	2	2	1.8	3.8	
3-May	2	1	1	2	2	2	3	2	1	0	0	2	0	0	0	0	0	1	0	0	0	0	1	0.8	2.5	
4-May	1	0	0	1	1	1	3	2	3	3	3	5	4	4	4	3	2	3	4	5	5	4	6	2.9	5.9	
5-May	2	2	1	1	1	2	1	2	2	0	0	0	0	0	1	1	0	2	3	4	2	5	5	1.8	5.2	
6-May	7	7	6	6	5	6	4	3	4	6	3	2	4	3	3	5	6	2	12	18	7	6	7	5.7	17.8	
7-May	4	2	2	1	1	1	3	1	1	0	0	1	0	0	0	0	0	0	0	1	2	0	1	0.9	3.5	
8-May	1	1	1	1	1	2	3	3	4	4	5	5	6	3	4	4	4	5	8	7	6	8	5	3.9	8.5	
9-May	5	4	4	5	5	5	5	9	9	6	7	9	10	12	9	9	7	5	3	5	5	6	5	6.4	11.9	
10-May	3	2	1	2	2	3	2	1	0	0	0	0	0	0	0	0	0	0	1	0	1	5	2	1.1	5.0	
11-May	2	5	5	5	5	5	5	6	7	7	10	9	9	6	4	3	3	4	10	11	9	9	9	6.4	10.7	
12-May	9	9	7	5	6	7	8	7	6	7	7	4	9	6	0	0	0	0	0	0	0	0	2	4.2	9.4	
13-May	1	1	2	1	1	1	2	2	0	0	0	0	0	0	0	0	0	0	2	2	3	4	4	1.2	4.4	
14-May	4	5	5	5	6	7	6	3	3	1	0	0	0	0	0	0	0	0	0	1	1	2	2	2.2	7.1	
15-May	2	2	3	2	2	3	3	4	2	3	0	1	2	1	2	3	3	0	0	1	6	4	3	2.3	6.2	
16-May	2	1	1	1	1	2	2	4	3	2	2	0	0	0	0	0	2	1	2	4	3	1	1	1.4	4.3	
17-May	4	1	1	3	3	5	4	5	4	3	1	0	0	1	0	1	0	1	0	2	3	2	1	2.1	4.8	
18-May	4	4	4	4	6	7	8	7	8	8	7	5	4	2	5	3	5	2	8	14	6	9	7	6.0	14.1	
19-May	6	3	2	5	2	1	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1.0	5.6	
20-May	2	2	1	1	2	3	3	3	3	0	0	0	0	0	1	4	1	2	2	5	3	4	20	2.5	19.8	
21-May	12	9	6	15	9	2	6	10	13	16	0	2	0	3	2	0	0	0	2	2	4	3	5	5.8	19.1	
22-May	7	5	2	2	0	2	4	2	1	1	1	5	3	5	4	3	3	7	8	11	5	8	5	4.1	10.9	
23-May	6	8	11	12	12	11	9	7	3	1	2	3	4	5	7	7	6	8	5	7	7	7	13	7.0	12.7	
24-May	5	5	5	6	4	5	5	7	7	6	7	5	1	0	0	0	8	22	16	13	10	9	8	6.7	21.6	
25-May	7	8	9	10	8	9	10	4	4	2	3	1	2	1	2	0	5	4	0	1	1	0	0	3.8	10.1	
26-May	6	3	4	4	4	5	6	5	1	2	4	4	6	4	0	0	0	2	1	4	5	2	4	3.2	6.3	
27-May	0	0	2	2	2	5	3	0	0	3	0	0	1	1	4	7	3	4	0	5	7	3	0	2.3	7.0	
28-May	0	6	0	2	6	8	6	8	2	6	7	11	1	0	6	6	0	7	8	2	0	2	5	4.4	11.2	
29-May	4	0	3	0	8	7	16	17	13	11	12	10	7	0	8	12	10	0	3	2	0	2	2	6.1	16.6	
30-May	2	1	3	8	5	7	8	6	9	8	11	8	5	14	0	8	1	7	6	5	7	4	2	5.7	13.6	
31-May	1	4	6	9	5	1	0	1	1	0	0	0	2	3	2	2	2	1	8	0	0	0	0	2.0	9.0	
	3.6	3.3	3.4	4.1	3.9	4.3	4.7	4.4	3.9	3.7	3.1	3.0	2.6	2.5	2.2	2.6	2.4	3.0	3.5	4.1	3.8	3.8	3.7	4.3	Diurnal Average	
	11.8	9.1	10.8	15.0	11.6	11.0	16.3	16.6	13.0	16.3	12.2	11.2	9.9	13.6	8.9	12.4	10.4	21.6	16.1	17.8	10.4	9.4	12.7	19.8	Diurnal Maximum	

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 Averages

PM2.5 (PM<sub>2.5</sub>) -  $\mu\text{g}/\text{m}^3$   
Sunset House - May 2013



## Hourly Maximums

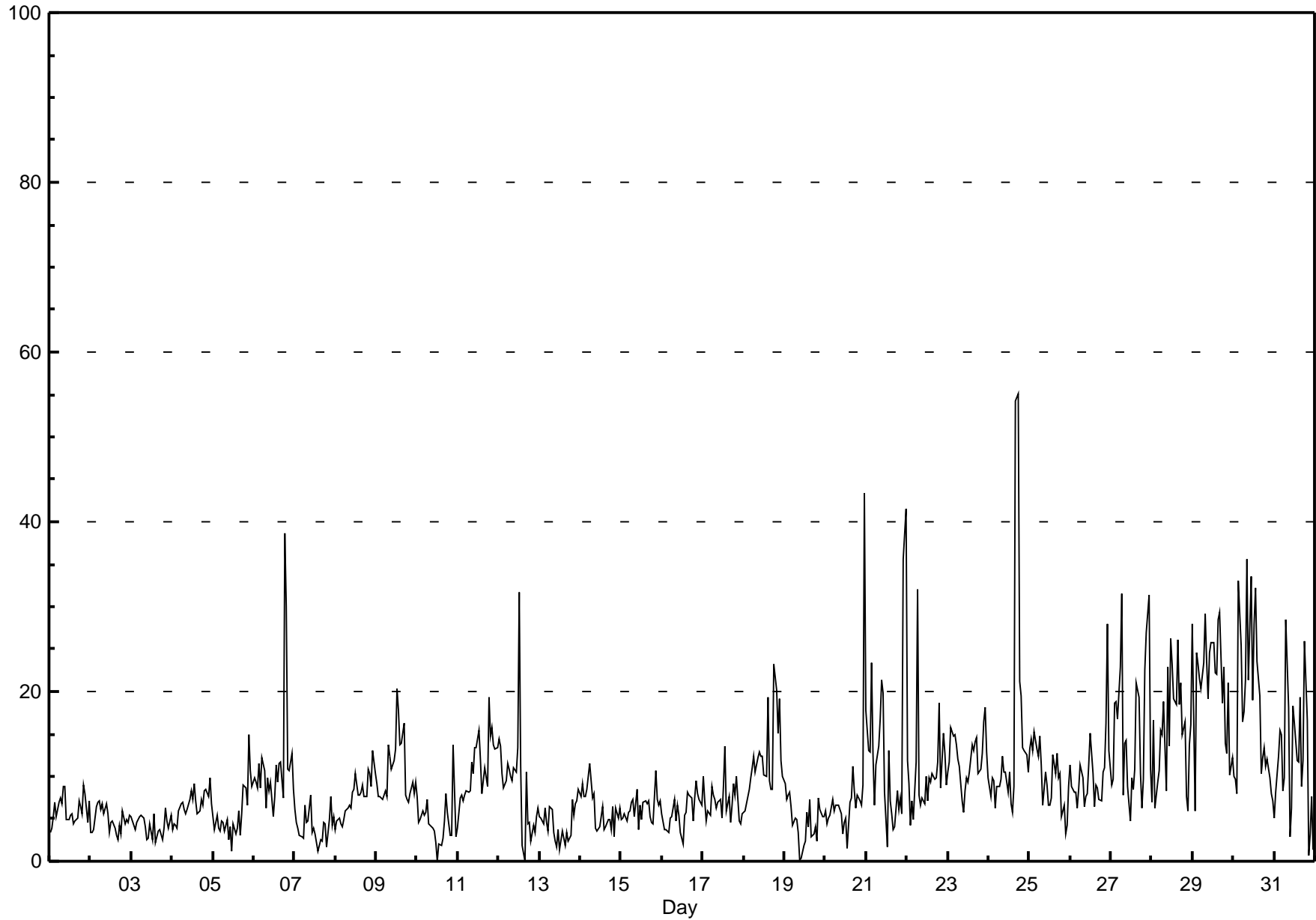
PM2.5 (PM<sub>2.5</sub>) - µg/m<sup>3</sup>

Sunset House - May 2013

Maximum Value: 55.1 µg/m <sup>3</sup> on May 24 18:00		Maximum Daily Average: 21.2 µg/m <sup>3</sup> on May 29		Hours in Service: 744																						
Minimum Value: 0 µg/m <sup>3</sup> on May 10 13:00		Minimum Daily Average: 4.1 µg/m <sup>3</sup> on May 7		Hours of Data: 744																						
Maximum Diurnal Average: 10.9 µg/m <sup>3</sup> at hour 23		Minimum Diurnal Average: 7.5 µg/m <sup>3</sup> at hour 2		Hours of Missing Data: 0																						
Monthly Average: 9.44 µg/m <sup>3</sup>		Percentiles: P <sub>1</sub> = 1.4 P <sub>10</sub> = 3.6 Q <sub>1</sub> = 5.2 Median = 7.6 Q <sub>3</sub> = 11.3 P <sub>90</sub> = 18.1 P <sub>99</sub> = 35.7		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-May	3	4	5	7	5	7	7	7	9	9	5	5	5	6	4	5	5	7	6	6	9	8	5	7	6.1	8.9
2-May	3	3	4	6	7	7	6	7	6	7	6	3	5	5	4	3	3	4	3	6	4	5	5	6	4.9	7.1
3-May	5	4	4	5	5	5	5	5	4	3	3	4	3	6	2	3	4	4	3	4	6	5	4	5	4.2	6.3
4-May	4	4	4	4	6	7	7	6	6	6	7	8	7	9	7	6	6	7	7	8	8	8	10	7	6.6	9.8
5-May	5	4	5	4	4	5	5	4	5	3	4	1	4	3	4	6	3	6	9	9	7	15	11	9	5.5	14.9
6-May	10	9	9	12	9	12	11	6	10	8	9	5	8	11	9	11	12	7	39	30	11	11	13	9	11.7	38.6
7-May	6	5	4	3	3	3	7	5	5	8	3	4	3	2	1	3	2	5	4	2	5	8	4	5	4.1	7.8
8-May	4	5	5	4	4	5	6	6	7	6	8	8	10	8	8	8	9	8	8	11	10	9	13	10	7.5	13.1
9-May	9	8	8	8	7	8	8	14	12	11	12	13	20	18	14	14	16	8	7	7	8	9	8	9	10.7	20.3
10-May	8	5	5	6	5	6	7	4	4	4	4	2	0	2	2	3	5	8	6	3	3	14	8	3	4.8	13.7
11-May	4	8	8	7	8	8	8	8	12	10	13	13	15	12	8	10	11	9	19	15	16	14	13	13	10.9	19.4
12-May	14	14	10	9	10	12	11	10	10	11	11	13	32	11	2	0	11	4	5	2	4	3	5	6	9.1	31.6
13-May	5	5	4	6	5	4	6	6	3	2	2	4	1	4	3	2	3	2	3	7	5	7	7	8	4.4	8.5
14-May	8	9	8	8	9	12	9	7	8	4	4	4	5	6	4	4	5	5	4	6	3	6	5	6	6.2	11.5
15-May	5	5	6	5	6	6	7	7	5	8	4	7	5	7	7	7	7	5	5	4	11	7	7	7	6.2	10.7
16-May	6	4	4	4	3	5	5	7	5	7	5	3	2	6	6	8	8	8	5	7	10	8	7	7	5.8	9.5
17-May	10	7	5	6	5	9	8	7	6	7	7	5	9	14	6	8	5	7	9	8	10	5	4	6	7.1	13.6
18-May	6	6	8	9	10	11	12	10	12	13	12	12	10	10	19	10	9	8	23	20	15	19	12	10	12.0	23.2
19-May	9	7	8	8	6	4	5	5	3	0	0	2	2	6	4	7	3	3	4	2	7	6	5	5	4.8	9.1
20-May	6	4	5	5	7	6	7	7	7	6	3	5	5	2	7	7	11	8	6	8	7	7	9	43	7.8	43.4
21-May	18	13	13	23	12	7	11	14	17	21	20	8	2	13	7	6	4	4	8	6	7	6	36	41	13.2	41.5
22-May	12	9	4	7	5	12	32	8	7	7	7	10	7	10	9	10	10	10	12	19	9	15	13	9	10.5	32.0
23-May	11	12	16	15	15	14	12	11	7	6	8	10	9	11	14	13	14	15	10	11	13	16	18	13	12.2	18.1
24-May	10	8	10	10	6	9	9	10	12	10	11	8	10	7	6	9	54	55	21	19	13	13	13	11	14.3	55.1
25-May	13	14	13	15	13	12	15	11	7	10	9	7	7	8	13	10	13	10	10	5	7	3	4	9	9.9	15.2
26-May	11	9	8	8	6	8	11	10	6	8	8	11	15	10	6	9	9	7	7	11	11	16	28	13	10.4	27.9
27-May	9	10	19	19	17	23	32	8	14	14	9	5	10	9	11	21	19	10	6	10	22	27	31	11	15.2	31.6
28-May	7	17	6	9	11	15	15	19	8	23	14	26	23	19	18	26	19	21	15	16	8	6	14	16	15.5	26.2
29-May	28	6	25	23	21	20	23	29	24	19	25	26	26	22	22	29	29	19	23	14	13	21	10	12	21.2	29.4
30-May	10	10	8	33	26	17	18	21	36	21	34	19	28	32	24	19	10	12	13	11	12	10	8	7	18.3	35.7
31-May	5	8	12	15	15	8	10	28	18	3	6	18	16	12	12	19	9	12	26	17	1	3	8	1	11.8	28.4
		8.5	7.5	8.1	9.8	8.7	9.2	10.8	9.9	9.4	8.9	8.8	8.8	9.9	9.6	8.5	9.5	10.5	9.6	10.5	9.8	8.9	10.0	10.9	10.5	Diurnal Average
		28.0	16.7	24.5	33.0	25.5	23.0	32.0	29.1	35.7	22.9	33.5	26.2	31.6	32.3	23.5	28.6	54.3	55.1	38.6	29.9	22.5	26.9	35.7	43.4	Diurnal Maximum

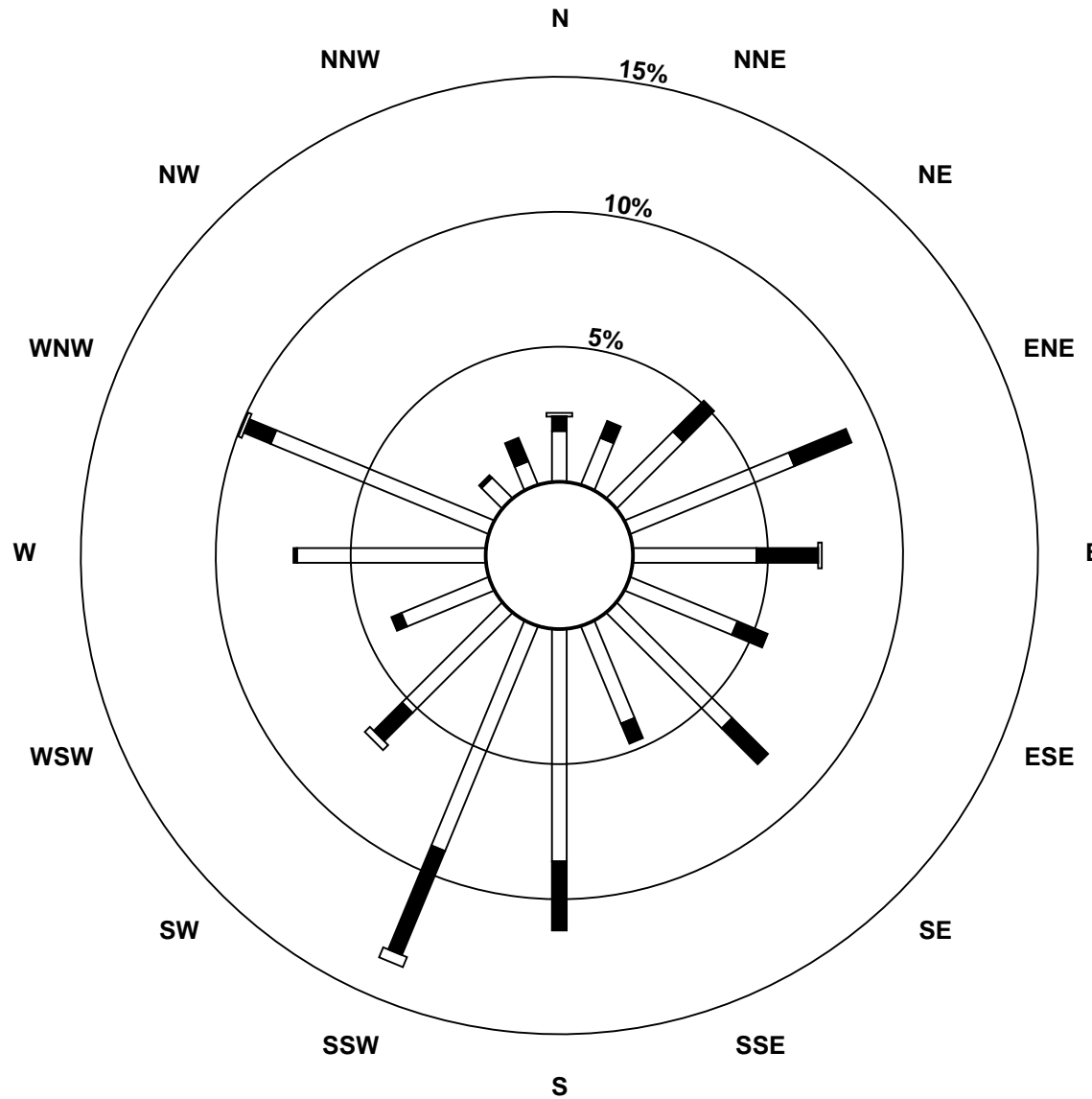
# Hourly Maximums

PM2.5 (PM<sub>2.5</sub>) -  $\mu\text{g}/\text{m}^3$   
Sunset House - May 2013

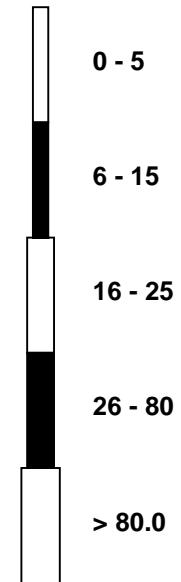


**Pollutant Rose**

**PM<sub>2.5</sub> (PM<sub>2.5</sub>) - μg/m<sup>3</sup>**  
**Sunset House - May 2013**



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



## Hourly Averages

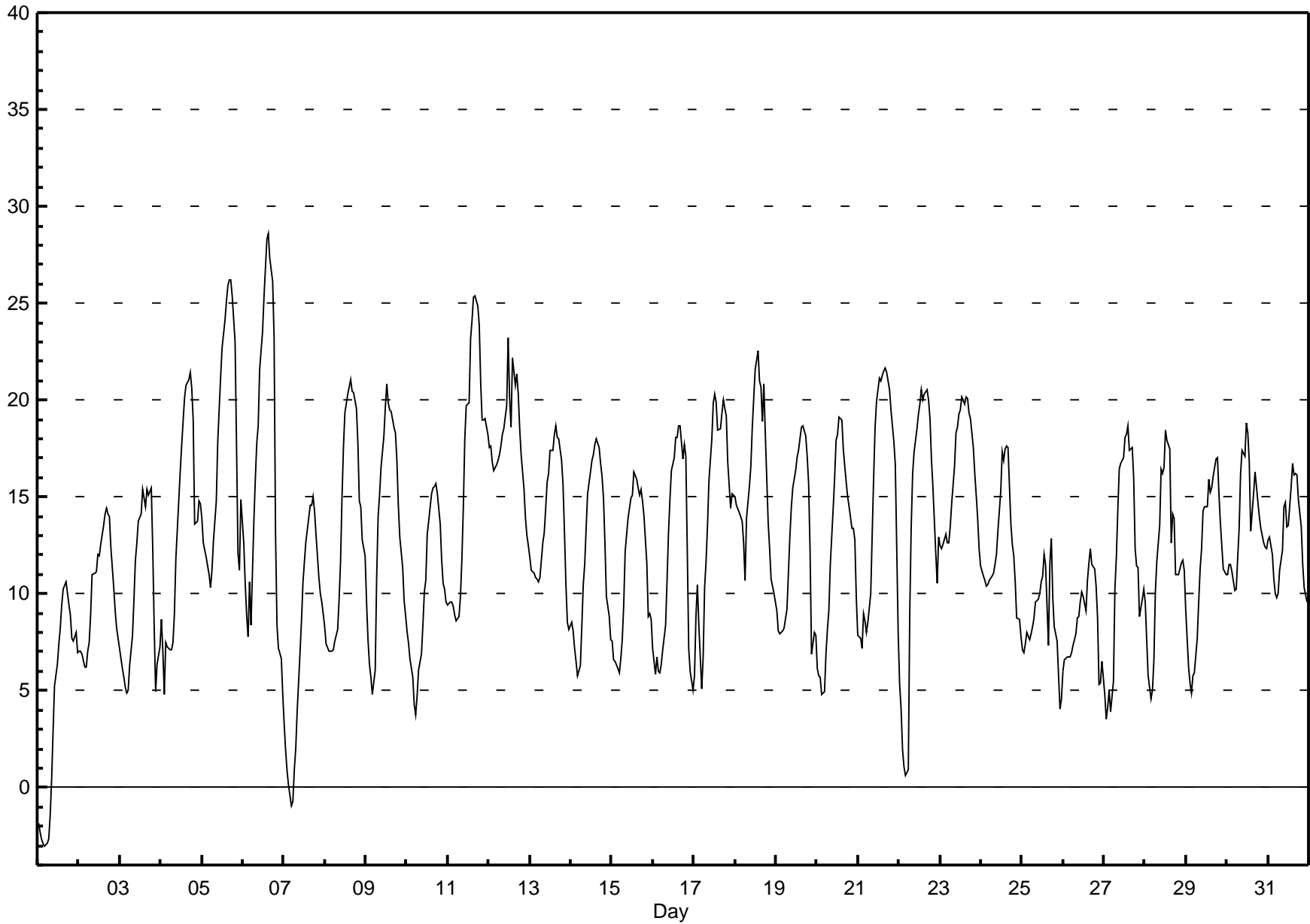
External Temperature (ET) - °C

Sunset House - May 2013

Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 28.6 °C on May 6 16:00	Maximum Daily Average: 17.9 °C on May 12		Hours of Data:	744
Minimum Value: -3 °C on May 1 05:00	Minimum Daily Average: 4.2 °C on May 1		Hours of Missing Data:	0
Maximum Diurnal Average: 18.0 °C at hour 17	Minimum Diurnal Average: 7.1 °C at hour 5		Hours of Calibration:	0
Monthly Average: 12.67 °C	Percentiles: P <sub>1</sub> = -1.5 P <sub>10</sub> = 6.2 Q <sub>1</sub> = 8.6 Median = 12.4 Q <sub>3</sub> = 16.8 P <sub>90</sub> = 19.7 P <sub>99</sub> = 26.2		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-May	-2	-2	-3	-3	-3	-3	-3	-1	0	3	5	6	7	8	9	10	11	10	9	9	8	8	8	7	4.2	10.7	
2-May	7	7	7	6	6	7	7	9	11	11	11	12	12	13	14	14	14	14	14	12	10	9	8	8	10.2	14.4	
3-May	7	6	6	5	5	5	6	8	10	12	13	14	14	15	15	14	15	15	15	12	8	5	6	7	10.0	15.5	
4-May	9	7	5	7	7	7	7	8	9	12	15	16	18	19	20	21	21	21	21	19	14	14	15	15	13.5	21.5	
5-May	14	13	12	11	11	10	11	13	15	18	20	21	23	24	25	26	26	26	25	23	18	12	11	15	17.6	26.2	
6-May	13	11	9	8	11	8	14	16	18	19	22	24	25	27	28	29	27	26	23	13	8	7	7	5	16.5	28.6	
7-May	3	2	1	0	-1	-1	1	2	4	7	9	11	12	13	13	15	15	15	14	13	11	10	10	9	7.8	15.0	
8-May	8	7	7	7	7	7	8	8	10	12	15	18	19	20	21	21	20	20	20	18	15	14	13	12	13.6	21.0	
9-May	10	8	6	6	5	6	11	14	15	16	18	20	21	20	19	19	19	18	17	15	13	11	10	9	13.5	20.8	
10-May	8	7	7	6	4	4	5	6	7	8	10	11	13	14	15	15	16	16	15	14	12	11	10	10	10.1	15.7	
11-May	9	10	10	9	9	9	9	10	12	14	18	20	20	23	24	25	25	25	24	21	19	19	19	18	16.7	25.4	
12-May	18	18	17	16	17	17	17	18	18	19	20	23	20	19	22	21	21	20	19	17	15	14	13	12	17.9	23.2	
13-May	12	11	11	11	11	11	11	13	13	14	16	16	17	17	18	19	18	18	17	16	13	10	9	8	13.8	18.7	
14-May	9	8	7	6	6	6	8	10	12	13	15	16	17	17	18	18	18	17	16	15	13	10	9	8	12.1	18.0	
15-May	8	7	7	6	6	7	8	9	12	14	14	15	15	16	16	15	15	15	15	14	12	9	9	9	11.3	16.3	
16-May	7	6	7	6	6	6	7	8	11	13	15	16	17	18	18	19	19	17	18	17	12	7	6	5	11.7	18.7	
17-May	6	9	10	8	5	7	10	12	13	16	18	20	20	20	18	19	19	20	20	19	17	14	15	15	14.6	20.3	
18-May	15	15	14	14	14	13	11	14	16	17	19	20	22	23	21	21	19	21	18	14	12	11	10	10	15.9	22.5	
19-May	9	8	8	8	8	8	9	11	13	14	15	16	17	17	18	19	19	18	17	16	12	7	8	8	12.7	18.6	
20-May	6	6	6	5	5	7	8	9	12	14	16	18	18	19	19	17	17	16	15	14	13	13	13	10	12.3	19.1	
21-May	8	8	7	9	9	8	9	10	13	16	19	20	21	21	21	21	22	21	21	20	19	18	17	8	15.2	21.6	
22-May	5	4	2	1	1	1	9	13	16	17	19	19	20	21	20	20	21	20	19	17	16	12	11	13	13.2	20.5	
23-May	12	12	13	13	13	13	13	15	17	18	19	19	20	20	20	20	20	20	19	19	18	16	15	14	12	16.2	20.1
24-May	11	11	11	10	10	11	11	11	12	12	13	15	17	17	17	18	18	14	13	12	11	9	9	8	12.5	17.7	
25-May	7	7	7	8	8	8	8	9	10	10	10	11	11	12	12	7	12	13	10	8	8	6	4	5	8.7	12.9	
26-May	6	7	7	7	7	7	7	8	9	9	10	10	10	9	11	12	12	12	11	10	9	5	5	7	8.5	12.3	
27-May	5	4	4	5	4	5	10	12	14	16	17	17	18	18	19	17	18	16	12	11	11	9	10	10	11.8	18.6	
28-May	10	8	6	5	5	7	10	12	14	16	16	17	18	18	17	13	14	14	11	11	11	12	12	11	11.9	18.5	
29-May	9	6	5	5	6	6	8	10	11	12	14	14	14	16	15	15	16	17	17	15	14	12	11	11	11.7	17.1	
30-May	11	11	11	11	10	10	12	13	16	17	17	19	18	17	13	15	16	16	15	14	13	13	12	12	14.0	18.8	
31-May	13	13	12	11	10	10	10	11	12	15	15	13	13	16	17	16	16	16	15	13	12	10	10	10	12.8	16.7	

8.8	8.1	7.7	7.4	7.1	7.3	8.8	10.3	12.0	13.7	15.2	16.4	17.1	17.6	17.9	17.8	18.0	17.6	16.6	14.9	12.7	10.9	10.4	9.8	Diurnal Average	
17.6	17.6	16.8	16.4	16.6	16.9	17.1	17.6	18.2	18.7	21.6	23.5	25.3	26.8	28.3	28.6	27.3	26.2	25.4	23.0	19.0	18.9	19.0	18.2	Diurnal Maximum	





## Hourly Averages

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

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1 Spd	20	23	24	22	21	22	20	19	18	13	10	13	13	13	14	12	13	12	9	12	13	11	12	11	11.1	24.4
Dir	171	174	169	173	173	177	176	177	182	198	238	237	231	259	262	276	293	289	280	271	281	261	255	224	212.4	169.4
2 Spd	15	17	15	13	10	10	8	8	20	25	23	24	23	23	22	23	19	21	23	23	14	11	9	10	15.2	25.1
Dir	207	207	207	223	222	227	236	258	274	286	284	280	280	280	281	286	273	284	293	291	278	270	264	265	268.2	286.5
3 Spd	8	8	9	8	9	9	9	9	11	13	12	10	11	12	10	10	10	9	7	4	6	8	8	10	4.8	13.0
Dir	257	207	217	215	206	207	226	259	277	299	301	276	294	300	312	314	314	333	18	33	124	127	158	174	266.1	299.2
4 Spd	12	10	11	13	15	18	17	17	16	12	12	15	14	13	15	15	14	12	13	7	4	5	6	8	8.2	17.7
Dir	184	179	172	176	178	190	195	192	191	206	262	283	277	273	284	291	289	292	305	287	184	204	216	221	230.5	190.1
5 Spd	9	8	8	9	12	15	15	11	9	12	11	12	14	16	15	17	16	17	15	8	5	4	5	9	7.2	16.8
Dir	213	209	213	206	196	187	188	215	224	283	277	271	284	282	280	296	287	295	298	350	77	97	159	193	253.2	296.1
6 Spd	7	6	7	8	11	9	10	12	13	11	10	12	13	10	12	16	29	29	26	38	37	23	16	19	5.4	37.8
Dir	195	194	181	174	181	174	181	184	192	200	209	201	211	222	255	291	286	290	304	349	10	35	360	352	284.4	349.4
7 Spd	15	11	13	13	12	14	12	11	7	6	9	13	14	16	15	16	16	14	19	18	16	16	25	26	10.0	26.5
Dir	8	359	360	4	36	57	52	66	91	66	65	48	60	62	78	64	87	85	75	85	83	142	164	168	73.5	168.2
8 Spd	21	14	17	23	26	27	23	21	14	10	3	6	3	3	7	7	6	4	9	13	9	9	13	16	6.1	27.4
Dir	174	175	183	181	174	173	179	186	191	168	164	10	356	334	49	24	333	341	20	49	71	85	54	67	153.2	172.9
9 Spd	19	21	14	14	11	13	12	2	6	9	10	12	14	19	21	20	23	23	24	22	19	15	13	19	9.4	23.6
Dir	63	71	63	69	59	89	109	156	227	211	233	282	330	335	335	329	344	352	7	13	21	63	51	52	20.5	6.5
10 Spd	17	14	12	13	13	13	16	16	14	10	12	14	12	11	14	14	14	16	18	14	12	22	26	19	11.9	26.3
Dir	54	48	48	54	57	61	66	70	77	76	68	62	63	76	43	47	67	77	78	78	89	137	163	166	76.8	165.8
11 Spd	30	32	31	28	24	23	21	19	13	7	4	5	9	7	6	2	7	9	11	11	11	11	14	11	10.8	32.4
Dir	171	173	171	174	176	181	186	193	195	206	257	237	206	191	227	203	45	14	64	66	69	130	162	171	171.6	172.7
12 Spd	13	12	11	14	15	14	14	15	15	13	13	13	25	13	25	25	25	28	26	18	12	12	11	14	11.5	27.7
Dir	176	173	175	170	173	178	185	188	192	192	197	245	288	284	289	280	273	285	276	264	255	227	209	205	236.0	284.8
13 Spd	12	10	8	6	8	7	7	11	14	16	19	20	19	22	18	18	20	18	17	12	6	5	6	6	11.1	21.6
Dir	212	224	221	215	217	233	219	252	255	274	277	278	282	291	287	287	285	287	281	266	247	208	192	196	263.8	291.0
14 Spd	8	7	7	8	6	6	7	15	16	16	21	20	21	22	18	20	19	24	19	14	8	4	5	5	11.6	23.8
Dir	204	211	211	206	219	227	243	280	280	278	291	289	294	288	276	286	290	295	286	283	269	223	211	198	273.9	294.8
15 Spd	4	10	11	11	10	12	12	8	10	15	14	11	12	11	12	10	10	9	7	6	9	9	11	10	7.5	15.4
Dir	214	188	187	184	191	192	195	219	267	286	283	266	286	270	288	267	261	275	248	259	201	178	174	192	234.5	286.0
16 Spd	10	8	9	11	11	12	13	10	9	8	9	10	13	10	12	10	11	8	12	4	2	7	8	8	4.7	13.4
Dir	187	187	196	193	199	196	191	208	231	251	257	269	298	299	304	297	312	341	315	324	111	129	132	137	238.4	190.9
17 Spd	6	9	10	10	8	9	9	9	8	8	7	6	7	8	13	9	9	8	6	7	11	13	19	19	8.0	18.9
Dir	144	188	184	194	184	184	201	217	219	224	221	254	212	155	119	186	181	187	186	171	135	119	146	155	175.1	145.9
18 Spd	21	20	19	20	19	11	9	14	13	11	14	10	6	4	13	12	17	10	10	12	10	3	9	13	10.2	20.6
Dir	161	167	167	167	172	186	201	183	217	205	201	214	241	203	99	122	126	158	208	212	65	189	188	181	174.5	161.4
19 Spd	8	7	8	10	9	8	8	10	13	14	18	18	16	12	11	13	13	14	16	11	2	4	4	4	8.5	18.0
Dir	212	205	198	199	208	212	223	265	280	279	285	292	292	285	285	286	296	294	294	294	270	179	200	216	267.3	291.8
20 Spd	7	6	6	7	7	9	10	10	6	3	3	2	13	9	14	10	13	18	17	16	14	17	14	5	3.6	17.8
Dir	186	197	193	191	198	194	192	192	218	250	189	347	19	6	18	21	42	51	64	70	71	78	74	289	74.9	51.2
21 Spd	9	14	18	19	24	28	23	17	13	13	23	26	31	28	27	29	29	28	27	22	19	19	15	7	18.0	30.7
Dir	42	41	50	86	87	93	90	88	94	93	148	155	148	138	132	131	141	139	130	126	119	110	120	219	117.4	147.8
22 Spd	6	7	3	3	1	2	10	15	16	24	28	26	30	26	31	29	28	26	29	23	16	8	10	15	15.8	31.0
Dir	209	206	218	224	227	144	109	117	128	128	129	137	126	127	129	124	135	143	140	168	149	127	94	89	133.6	129.3

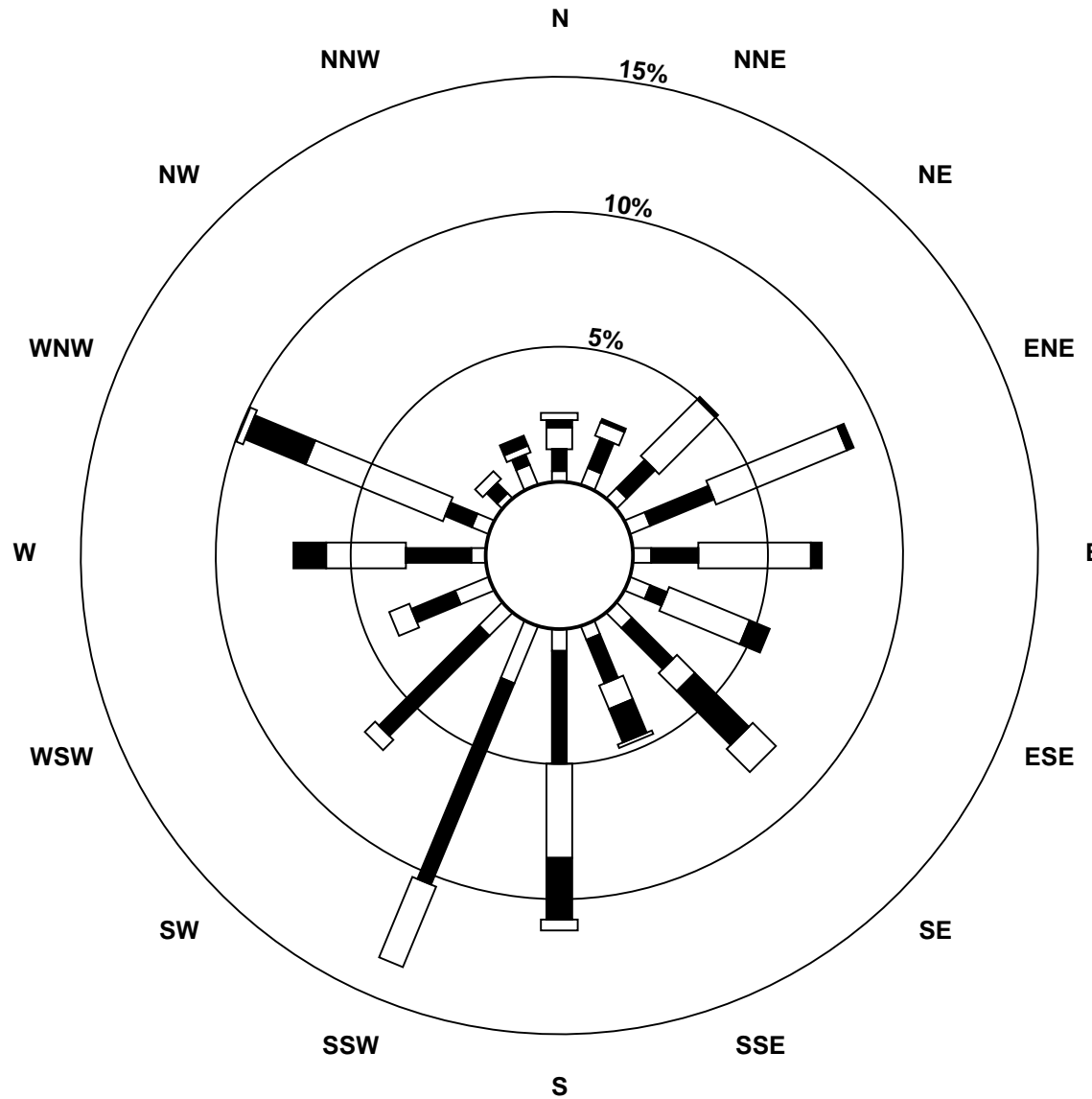
## Hourly Averages

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

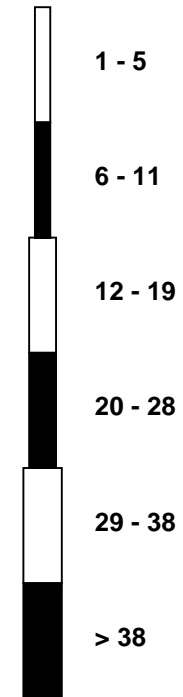
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
23 Spd	16	18	23	24	24	23	23	20	17	23	26	29	29	27	26	27	25	24	23	16	12	12	18	16	20.8	28.7
Dir	90	99	109	116	121	125	128	124	120	137	142	135	132	134	123	139	134	137	137	125	105	113	177	163	128.7	135.5
24 Spd	11	10	8	11	15	15	17	17	19	20	18	15	15	19	15	14	11	16	11	5	4	7	7	6	8.1	20.3
Dir	146	160	144	78	77	80	74	67	66	65	57	70	67	84	105	100	131	205	232	230	203	201	204	201	97.6	65.1
25 Spd	6	4	3	7	5	6	6	14	17	14	13	13	15	16	15	8	11	13	7	5	2	2	5	7.4	17.5	
Dir	199	209	198	111	60	28	66	90	83	89	85	71	64	50	54	134	33	49	124	69	35	66	94	54	78.4	83.1
26 Spd	5	12	10	9	10	11	8	9	8	7	7	12	10	8	6	5	4	6	5	5	3	7	8	10	4.0	11.9
Dir	23	1	1	17	7	24	58	91	120	99	71	39	67	94	82	140	167	221	193	173	83	128	155	169	73.8	1.2
27 Spd	8	8	8	7	8	6	3	7	3	5	12	16	13	11	12	17	17	24	32	22	3	4	11	14	8.9	32.4
Dir	165	154	159	153	149	141	110	105	123	40	57	25	37	50	54	75	79	105	127	106	102	95	82	113	96.5	126.6
28 Spd	7	9	5	5	7	6	2	2	4	2	5	3	5	11	7	7	10	17	13	8	11	15	16	12	5.4	16.6
Dir	139	47	65	67	52	54	62	343	112	284	267	288	348	52	89	158	83	157	118	64	88	108	104	92	92.5	156.8
29 Spd	3	5	4	3	4	1	3	6	5	6	5	6	7	5	2	7	5	11	14	14	17	17	16	17	5.4	17.4
Dir	174	124	124	104	135	225	201	192	199	201	213	217	217	237	129	81	99	80	97	104	106	101	100	105	122.4	105.9
30 Spd	16	18	15	11	3	8	5	2	4	5	3	3	3	8	11	9	10	12	14	13	12	14	15	11	6.7	18.4
Dir	101	110	117	111	49	44	26	297	357	29	333	321	248	207	174	46	70	92	89	89	93	88	111	141	96.4	110.4
31 Spd	12	12	9	5	4	4	4	6	6	7	6	5	6	4	5	4	3	3	2	5	4	5	11	11	4.4	12.4
Dir	159	174	203	228	254	237	202	224	226	264	282	221	287	270	285	246	356	250	21	278	248	204	202	210	226.1	158.9
Spd	6.7	6.5	6.6	7.0	6.6	6.7	6.6	5.7	4.6	3.1	3.0	3.0	2.6	1.5	1.1	1.1	1.3	1.4	0.6	2.0	4.0	5.7	6.6	6.5	Diurnal Average	
Dir	161.5	160.4	162.6	158.4	157.9	157.3	160.4	172.9	191.5	214.0	230.1	255.8	282.5	286.2	326.7	301.1	318.0	291.9	65.1	54.0	83.1	120.3	145.5	159.0	Diurnal Maximum	
Spd	29.8	32.4	31.3	28.1	25.6	27.6	23.1	20.8	19.6	25.1	28.3	28.7	30.7	28.1	31.0	29.1	29.1	28.9	32.4	37.8	37.0	23.1	25.2	26.5	Diurnal Maximum	
Dir	171.4	172.7	171.2	174.0	174.4	92.9	89.8	185.8	274.1	286.5	129.2	135.5	147.8	138.2	129.3	124.5	140.8	290.1	126.6	349.4	9.5	35.0	164.4	168.2	Diurnal Maximum	
Maximum Speed Value: 38 km/h on May 6 20:00		Minimum Speed Value: 1 km/h on May 29 06:00																Hours in Service: 744								
Maximum Daily Speed Average: 20.8 km/h on May 23		Minimum Daily Speed Average: 3.6 km/h on May 31																Hours of Data: 744								
Maximum Diurnal Speed Average: 7.0 km/h at hour 4		Minimum Diurnal Speed Average: 0.6 km/h at hour 19																Hours of Missing Data: 0								
Monthly Average Velocity: 2.93 km/h 164.70 deg		Speed Percentiles: P <sub>1</sub> = 2.1 P <sub>10</sub> = 4.8 Q <sub>1</sub> = 7.7 Median = 11.7 Q <sub>3</sub> = 16.0 P <sub>90</sub> = 22.7 P <sub>99</sub> = 30.5																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	8	11	9	5	2	0	35																			
NorthEast	9	27	44	5	0	0	85																			
East	11	22	63	8	0	0	104																			
SouthEast	6	20	26	24	12	0	88																			
South	13	64	51	26	4	0	158																			
SouthWest	16	77	18	0	0	0	111																			
West	12	30	57	25	2	0	126																			
NorthWest	5	10	16	6	0	0	37																			
Total	80	261	284	99	20	0	744																			

**Wind Rose**

**Wind Speed (WS) (km/h)**  
**Sunset House - May 2013**



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



# Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Sunset House - May 2013

Maximum Speed: 38 km/h on May 6 20:00	Maximum Daily Speed Average: 22.2 km/h on May 23	Hours in Service: 744
Minimum Speed: 3 km/h on May 29 06:00	Minimum Daily Speed Average: 6.7 km/h on May 31	Hours of Data: 744
Maximum Diurnal Speed Average: 16.4 km/h at hour 19	Minimum Diurnal Speed Average: 10.5 km/h at hour 22	Hours of Missing Data: 0
Monthly Average Speed: 13.21 km/h	Percentiles: P <sub>1</sub> = 3.6 P <sub>10</sub> = 5.7 Q <sub>1</sub> = 8.3 Median = 12.3 Q <sub>3</sub> = 16.4 P <sub>90</sub> = 22.9 P <sub>99</sub> = 31.4	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-May	20	23	24	22	21	22	20	19	19	14	12	13	14	14	15	14	13	12	9	12	13	12	13	11	16.0	24.5
2-May	16	17	15	13	10	10	8	9	20	25	23	24	24	24	23	24	19	21	23	23	14	11	9	10	17.3	25.4
3-May	9	8	9	9	9	9	9	10	11	13	12	11	12	13	11	11	11	10	8	5	6	8	9	10	9.8	13.5
4-May	12	10	11	13	15	18	18	17	16	13	13	16	15	14	15	16	15	12	14	7	4	5	7	8	12.6	17.8
5-May	9	8	8	9	12	15	15	12	10	13	11	13	14	16	16	17	16	17	15	9	5	4	5	9	11.6	17.2
6-May	7	6	7	8	11	9	10	12	13	11	11	13	14	12	13	17	29	29	30	38	38	23	18	19	16.6	38.2
7-May	15	11	13	13	12	14	12	11	8	7	11	14	15	17	16	17	17	15	20	18	16	17	25	27	15.1	26.7
8-May	21	14	17	23	26	28	23	21	15	10	6	8	7	7	9	9	8	6	10	13	10	9	13	17	13.7	27.5
9-May	19	21	14	15	12	14	12	6	7	10	11	13	16	19	21	21	23	24	24	22	19	15	13	19	16.3	24.0
10-May	17	14	12	14	13	13	16	16	14	12	13	15	13	14	15	15	15	15	17	18	14	14	22	26	15.3	26.4
11-May	30	33	31	28	25	23	21	19	14	8	7	7	10	8	7	5	9	9	11	12	11	12	14	11	15.2	32.6
12-May	13	12	11	14	15	14	14	15	15	13	14	14	27	13	25	26	25	28	26	19	13	13	11	14	16.9	28.1
13-May	13	11	8	6	8	7	7	12	15	17	20	20	19	22	19	18	20	19	17	12	6	5	6	6	13.1	22.0
14-May	8	7	7	8	7	6	8	16	16	16	21	21	21	22	19	20	19	24	20	14	8	5	6	5	13.5	24.0
15-May	5	10	11	11	10	12	12	9	10	16	15	12	13	12	13	11	11	9	8	7	10	9	11	10	10.7	15.9
16-May	10	8	10	11	11	12	13	11	9	9	10	11	14	11	13	11	13	9	13	4	4	7	8	8	10.0	13.6
17-May	7	9	10	10	9	9	10	9	9	9	8	8	9	13	15	11	10	10	7	7	12	13	19	19	10.4	19.0
18-May	21	20	20	20	19	13	9	15	13	12	15	11	8	9	13	13	18	13	11	13	16	7	10	13	13.7	20.8
19-May	8	7	8	11	9	8	8	11	14	15	18	19	17	13	12	14	14	14	16	11	4	4	5	4	11.0	18.6
20-May	7	7	7	8	8	10	10	10	6	5	6	6	14	11	14	10	13	18	17	16	14	18	15	13	10.8	18.0
21-May	12	14	18	19	25	28	24	18	14	14	24	27	32	29	27	29	30	29	28	22	19	19	18	8	21.9	31.5
22-May	6	7	4	4	3	4	12	15	16	25	29	27	31	27	32	30	28	26	30	24	16	8	10	15	17.9	31.8
23-May	17	18	23	24	24	23	23	20	17	23	27	30	30	28	27	27	26	24	24	17	12	13	18	16	22.2	29.8
24-May	11	10	9	11	15	15	17	17	20	20	18	15	16	20	16	15	15	16	11	6	4	7	7	6	13.2	20.5
25-May	6	5	4	8	5	6	7	15	18	15	13	13	15	17	16	15	9	11	14	8	5	3	3	5	9.8	17.7
26-May	6	12	11	9	10	11	8	9	8	7	8	12	11	9	7	6	6	7	6	5	4	7	8	10	8.2	12.2
27-May	8	8	8	8	8	6	4	8	6	8	13	16	14	12	13	18	18	24	33	22	9	5	11	14	12.3	32.8
28-May	9	9	5	5	7	7	5	3	5	4	6	4	6	12	16	12	11	19	16	9	11	15	16	13	9.3	18.6
29-May	6	6	4	3	4	3	4	6	5	7	5	6	7	6	4	8	6	12	14	15	18	17	16	17	8.3	17.5
30-May	16	18	15	11	5	8	6	4	5	6	5	5	5	8	12	9	11	12	14	13	12	14	15	12	10.0	18.5
31-May	12	12	9	6	5	5	4	6	6	8	7	6	6	6	6	5	4	4	5	7	4	5	11	11	6.7	12.4
	12.0	12.1	11.8	12.1	12.0	12.3	11.9	12.2	12.1	12.4	13.3	13.9	15.1	14.7	15.5	15.3	15.6	16.1	16.4	13.7	11.3	10.5	12.0	12.5	Diurnal Average	
	29.9	32.6	31.5	28.3	25.8	27.7	24.1	21.0	20.2	25.4	29.2	29.8	31.5	29.3	31.8	30.0	29.8	29.0	32.8	38.2	37.6	23.4	25.4	26.7	Diurnal Maximum	

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

# Hourly Standard Deviations

Wind Direction (WD) - deg

Sunset House - May 2013

Maximum Value: 86.5 deg on May 31 19:00																						Hours in Service:	744		
Minimum Value: 3.8 deg on May 17 00:00																						Hours of Data:	744		
Percentiles: P <sub>1</sub> = 4.5 P <sub>10</sub> = 6.4 Q <sub>1</sub> = 9.5 Median = 14.4 Q <sub>3</sub> = 22.9 P <sub>90</sub> = 39.6 P <sub>99</sub> = 81.4																						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-May	7	6	5	9	5	5	5	6	11	20	27	19	26	25	19	26	14	12	12	11	15	16	18	10	27.4
2-May	6	5	6	8	10	9	11	17	13	8	9	12	12	10	10	9	13	8	9	8	9	12	11	15	17.0
3-May	18	12	15	11	9	11	13	20	15	16	18	33	28	24	29	23	22	25	23	39	6	7	14	8	38.9
4-May	13	14	4	5	5	5	8	9	8	17	22	19	24	24	16	20	18	20	8	17	16	14	12	13	24.1
5-May	10	10	11	13	10	7	9	17	20	14	19	21	16	17	15	14	16	14	8	23	25	22	27	19	26.6
6-May	12	14	9	14	5	4	5	6	11	14	19	21	22	33	25	21	9	6	27	7	11	9	24	7	32.8
7-May	10	9	9	10	11	5	7	13	32	49	36	24	24	16	24	19	18	20	10	8	11	24	7	8	48.8
8-May	7	9	10	7	6	6	6	7	13	22	72	54	76	77	63	63	66	81	30	9	10	8	16	22	81.3
9-May	7	7	14	16	14	15	7	72	28	24	22	22	28	16	14	17	13	11	11	7	13	8	7	7	71.9
10-May	6	6	8	10	9	6	8	13	14	29	24	26	27	34	25	23	22	19	15	7	11	27	7	6	33.7
11-May	6	6	6	6	6	4	6	8	15	34	57	45	24	46	46	78	54	17	19	11	13	17	8	16	78.2
12-May	6	6	6	7	5	6	9	8	10	8	13	22	23	22	11	11	13	11	11	12	19	11	11	7	23.3
13-May	8	11	12	10	15	12	16	20	18	16	12	12	14	12	17	16	13	11	15	15	20	24	10	14	24.4
14-May	12	12	18	10	16	12	17	11	12	13	10	16	10	12	14	12	12	8	11	11	14	30	20	19	30.4
15-May	38	9	7	6	6	7	8	18	21	15	13	25	22	26	15	21	23	20	20	21	22	5	4	11	37.8
16-May	7	9	12	7	6	6	7	18	22	32	26	27	17	35	25	25	36	55	21	25	59	9	6	4	58.6
17-May	20	7	9	6	9	12	9	13	19	24	37	41	50	62	27	38	29	37	31	28	12	7	5	5	62.1
18-May	6	6	6	6	6	38	24	11	16	24	21	34	50	82	26	28	17	40	26	14	60	70	10	6	82.1
19-May	12	18	12	10	13	14	14	21	14	15	13	16	17	25	25	20	22	19	9	12	71	23	19	25	71.3
20-May	10	15	15	15	15	21	16	9	23	64	74	84	25	32	18	22	10	8	8	5	5	10	15	68	84.2
21-May	42	9	7	12	7	5	17	10	19	19	23	14	13	16	12	11	13	14	11	8	10	6	41	15	41.8
22-May	15	10	31	54	74	59	66	8	12	14	15	18	13	17	13	14	15	12	13	10	8	15	7	5	74.2
23-May	4	6	5	5	6	6	6	8	14	16	14	15	16	14	13	13	16	12	14	14	7	19	10	10	18.8
24-May	11	9	19	7	7	7	7	7	6	9	7	11	16	17	24	16	42	14	13	27	28	13	11	12	42.3
25-May	11	24	57	62	40	20	19	11	9	14	16	18	18	13	20	12	36	19	20	30	23	36	28	14	61.7
26-May	16	11	16	8	11	14	16	15	14	17	22	17	12	13	33	40	66	18	18	16	34	7	9	8	66.1
27-May	12	10	12	13	5	13	29	23	83	59	21	12	20	30	17	21	11	10	9	9	85	53	12	14	85.2
28-May	57	9	25	30	14	19	75	64	38	73	33	63	53	21	62	54	18	32	37	27	10	5	5	29	74.7
29-May	57	30	23	24	19	83	34	16	19	17	22	17	19	30	71	25	56	16	16	11	7	9	6	6	82.9
30-May	7	6	4	11	65	6	13	86	64	42	55	58	63	20	35	21	19	12	10	7	11	13	8	14	86.0
31-May	4	9	22	34	25	24	21	19	29	31	42	41	34	50	38	35	61	45	86	49	34	46	13	10	86.5
57.3	30.3	56.8	61.7	74.2	82.9	74.7	86.0	83.2	72.7	74.1	84.2	75.9	82.1	71.1	78.2	66.1	81.3	86.5	49.1	85.2	70.0	40.7	67.8		

PAZA

Falher Station

Monthly Summary Tables, Graphs and  
Roses

## Hourly Averages

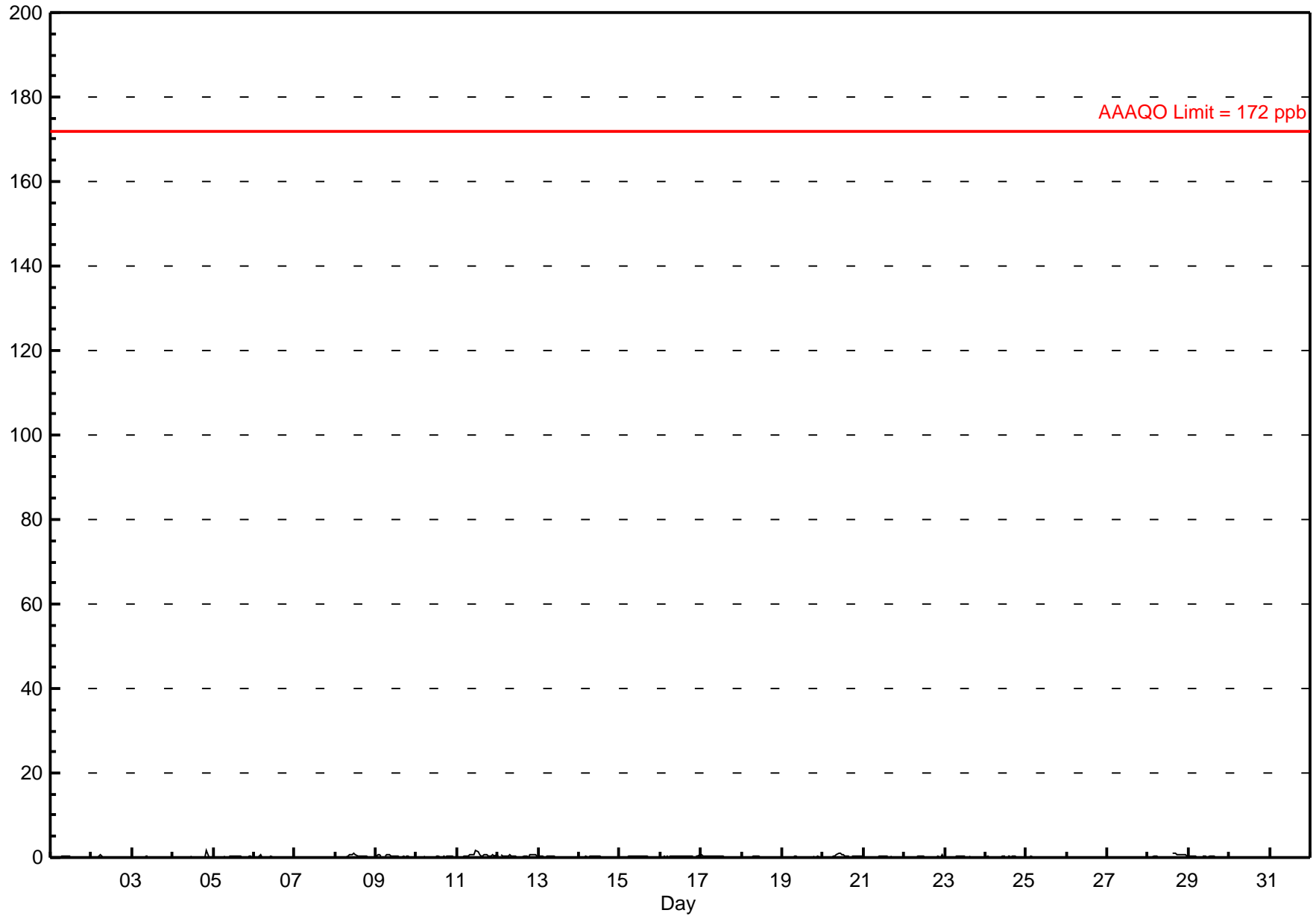
## Sulphur Dioxide (SO<sub>2</sub>) - ppb

Falher - May 2013

Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 1.8 ppb on May 4 21:00	Maximum Daily Average: 0.5 ppb on May 11		Hours of Data:	709
Minimum Value: 0 ppb on May 2 01:00	Minimum Daily Average: 0.0 ppb on May 26		Hours of Missing Data:	35
Maximum Diurnal Average: 0.2 ppb at hour 12	Minimum Diurnal Average: 0.1 ppb at hour 1		Hours of Calibration:	35
Monthly Average: 0.16 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> = 0.2 P <sub>90</sub> = 0.4 P <sub>99</sub> = 0.9		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-May	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3	
2-May	0	0	0	0	0	1	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.6	
3-May	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.2	
4-May	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0.1	1.8	
5-May	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3	
6-May	0	0	0	0	1	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.6	
7-May	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1	
8-May	0	0	0	0	0	A	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.9	
9-May	0	1	1	0	A	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.6	
10-May	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	0.3	
11-May	0	0	A	0	0	0	0	1	1	1	1	2	1	1	0	0	1	1	0	0	0	0	1	1	1	0.5	1.6	
12-May	0	A	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0.4	0.7	
13-May	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	0.4	
14-May	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	A	0	0.2	0.3
15-May	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.2	0.5	
16-May	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	0.7	
17-May	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	0.2	0.8	
18-May	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	0.3	
19-May	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	0.2	
20-May	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	A	0	0	0	0	0	0	0	0	0.4	1.0	
21-May	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.1	0.3	
22-May	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	0.1	0.6	
23-May	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3	
24-May	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3	
25-May	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.2	
26-May	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	
27-May	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1	
28-May	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	1.1	
29-May	0	0	0	0	0	0	0	A	0	0	0	0	C	C	C	1	1	1	1	1	1	1	1	1	0	0.2	0.5	
30-May	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1	
31-May	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	
	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1		Diurnal Average	
	0.8	0.5	0.6	0.4	0.6	0.6	0.5	0.8	0.7	1.0	1.0	1.6	1.3	0.6	1.1	0.9	0.9	0.8	0.8	0.7	1.8	0.7	0.6	0.7		Diurnal Maximum		

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



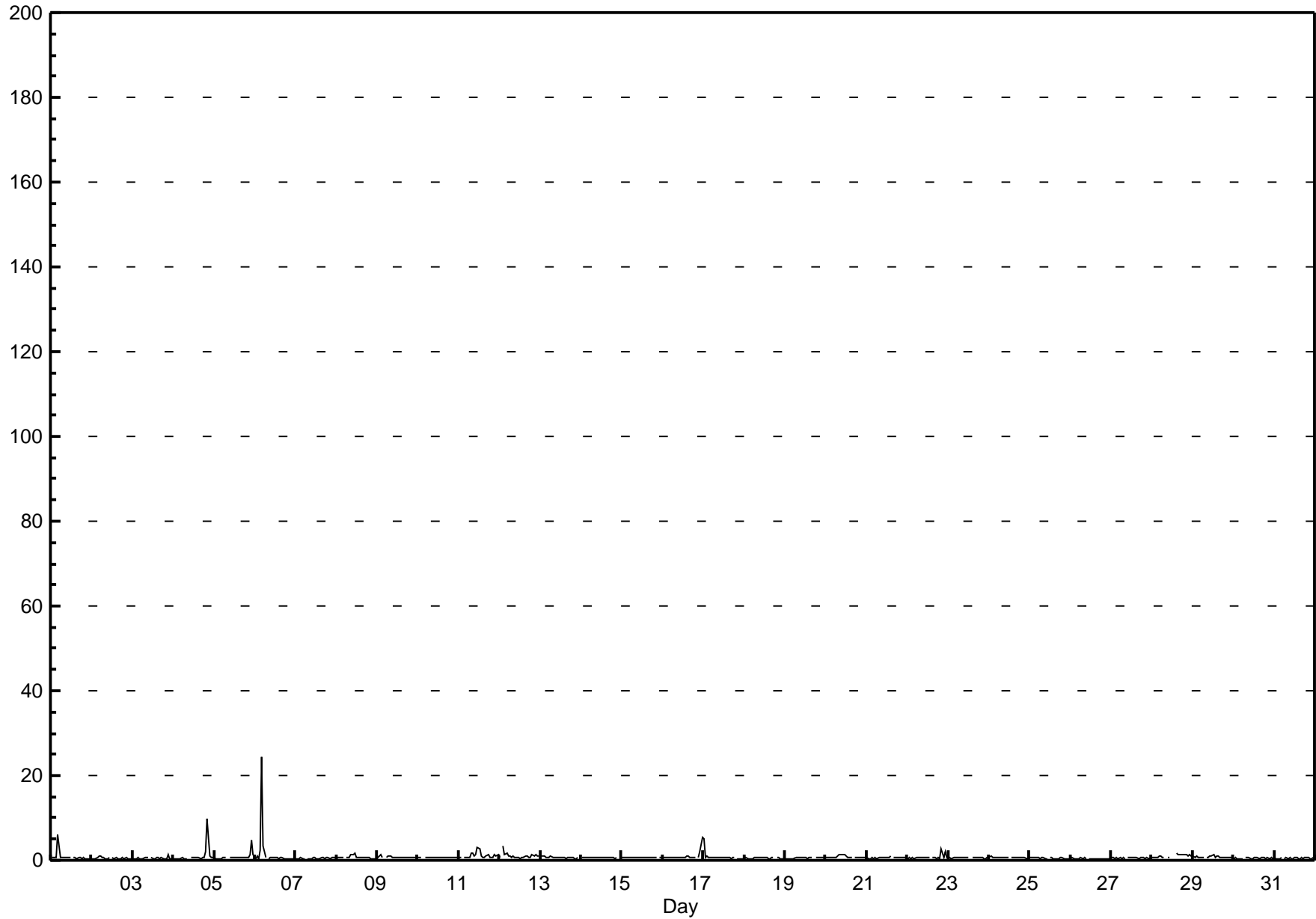


## Hourly Maximums

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

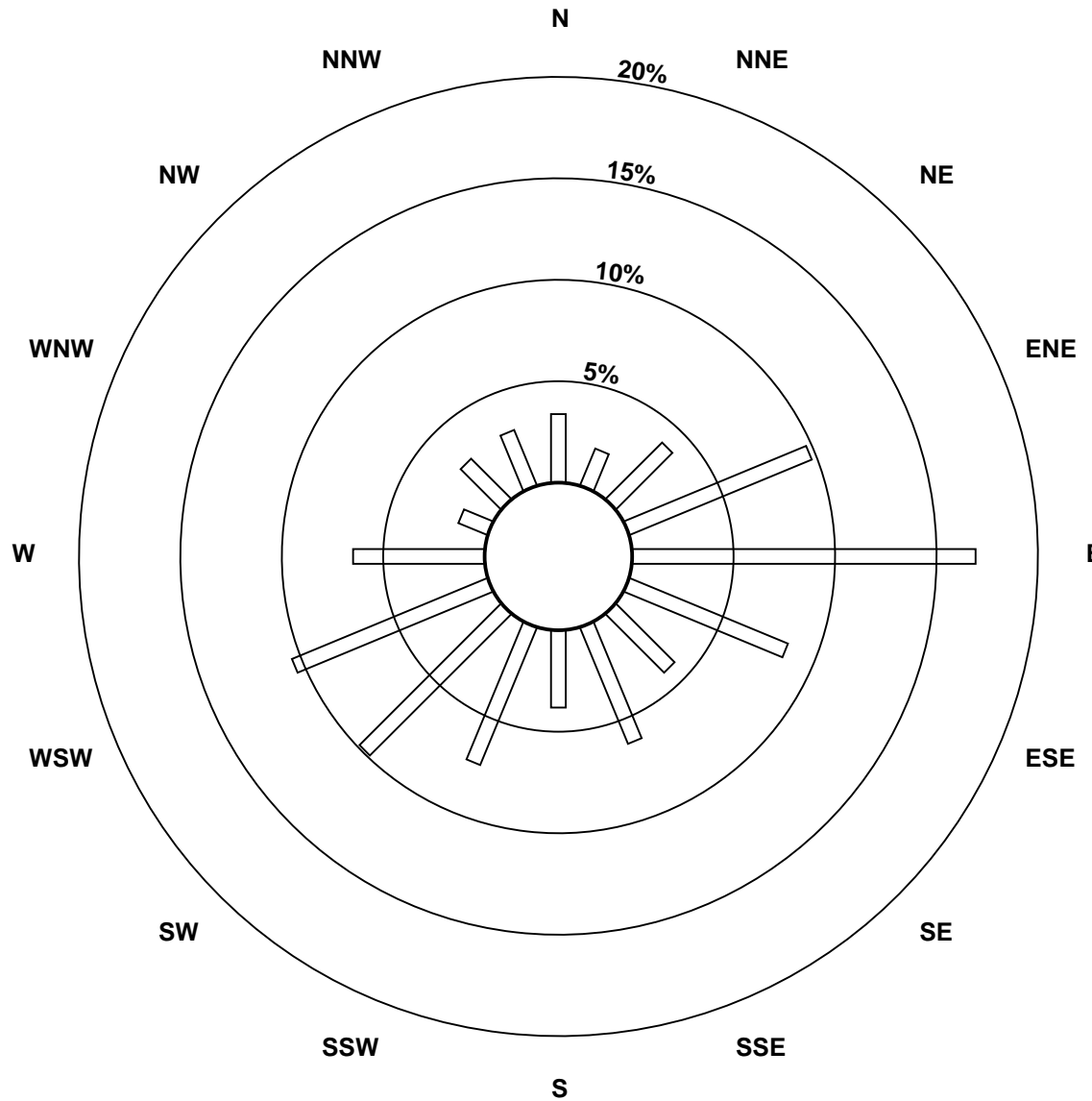
Falher - May 2013

Maximum Value: 24.3 ppb on May 6 05:00		Maximum Daily Average: 1.8 ppb on May 6		Hours in Service: 744																							
Minimum Value: 0 ppb on May 2 17:00		Minimum Daily Average: 0.4 ppb on May 26		Hours of Data: 709																							
Maximum Diurnal Average: 1.6 ppb at hour 5		Minimum Diurnal Average: 0.6 ppb at hour 17		Hours of Missing Data: 35																							
Monthly Average: 0.74 ppb		Percentiles: P <sub>1</sub> = 0.3 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> = 0.9 P <sub>99</sub> = 2.6		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-May	1	1	1	1	6	1	1	1	1	1	1	1	A	1	1	0	1	1	0	1	0	0	0	0	0.8	6.2	
2-May	0	0	0	1	1	1	1	1	0	0	1	A	1	1	1	0	0	0	1	0	1	0	1	0	0.5	1.0	
3-May	0	0	0	1	0	0	0	1	1	1	A	1	0	0	1	1	0	1	0	0	0	1	0	0	0.5	1.4	
4-May	0	0	0	0	0	1	0	0	0	A	1	1	1	1	1	1	0	1	1	2	10	1	1	1	1.0	9.7	
5-May	1	0	0	0	0	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	5	1	0.9	4.6	
6-May	0	1	0	3	24	3	1	A	0	1	1	1	1	1	0	1	1	0	0	0	0	0	0	0	1.8	24.3	
7-May	0	0	0	1	0	0	A	0	0	0	1	1	0	0	1	1	0	1	1	1	0	1	1	1	0.5	0.7	
8-May	0	1	1	1	1	A	1	1	1	1	1	2	1	1	1	1	1	1	1	1	0	0	0	0	0.7	1.8	
9-May	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	1.3	
10-May	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.6	0.7	
11-May	1	1	A	1	1	1	1	2	2	1	1	3	3	1	1	1	1	1	1	1	1	1	1	1	1.1	3.0	
12-May	1	A	3	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	3.3	
13-May	A	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	0	0	1	A	0.7	1.1	
14-May	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	A	0.6	0.7	
15-May	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	0.7	0.8	
16-May	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	2	5	1.0	5.3
17-May	5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	A	0	0	0	0	0.8	5.2	
18-May	0	1	0	0	0	0	1	1	1	1	1	1	1	0	0	1	1	A	A	1	1	1	0	0	0.5	0.7	
19-May	0	0	0	0	0	0	1	1	1	1	1	1	0	1	1	1	A	A	1	1	1	1	1	1	0.6	0.8	
20-May	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	A	1	1	1	1	1	1	1	1	0.8	1.5	
21-May	1	0	0	1	0	1	0	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	0.6	0.9	
22-May	0	1	0	1	1	1	1	1	1	1	1	1	1	A	1	1	0	1	0	1	0	3	1	2	0.8	2.7	
23-May	1	1	0	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	0	1	1	0.6	0.8	
24-May	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	0	1	0.7	0.9	
25-May	1	1	1	1	1	1	0	1	1	0	0	A	1	1	0	0	0	1	1	1	0	0	0	0	0.5	0.8	
26-May	0	1	0	0	0	0	1	0	1	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.6	
27-May	1	1	0	1	0	1	0	1	0	A	1	1	1	1	1	1	1	1	1	1	0	1	0	1	0.6	0.7	
28-May	1	1	1	1	1	1	1	1	A	A	1	C	C	C	2	1	1	1	1	1	1	1	1	1	1.0	1.7	
29-May	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.2	
30-May	0	1	0	0	0	0	A	1	1	1	1	0	1	1	1	0	1	1	1	0	1	0	1	0	0.5	0.7	
31-May	1	0	0	0	1	A	0	1	0	1	1	1	1	1	0	0	1	0	1	1	1	0	0	1	0.5	0.7	
		0.7	0.6	0.7	0.7	1.6	0.7	0.6	0.7	0.7	0.7	0.8	0.8	0.7	0.6	0.7	0.6	0.6	0.6	0.6	0.6	0.7	1.0	0.7	0.8	0.8	Diurnal Average
		5.2	1.0	3.3	2.5	24.3	3.3	1.0	1.7	1.7	1.5	1.5	3.0	2.6	1.0	1.7	1.5	1.5	1.3	1.3	2.1	9.7	1.4	4.6	5.3	Diurnal Maximum	
C - Calibration		A - Automated Daily Zero Span																									

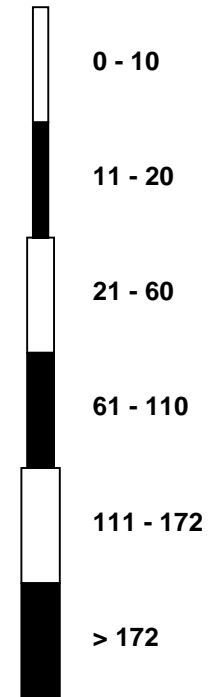


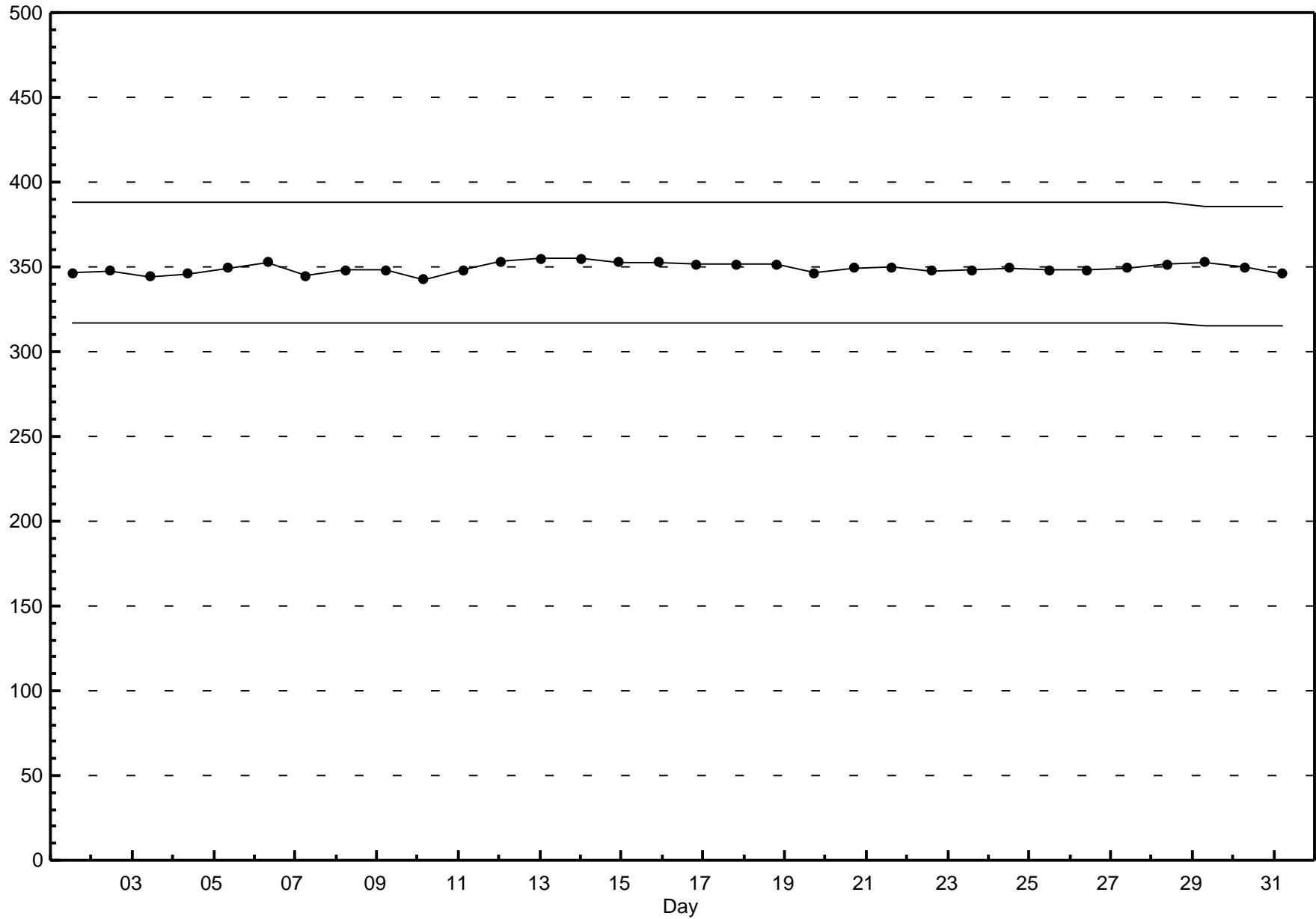
**Pollutant Rose**

**Sulphur Dioxide (SO<sub>2</sub>) - ppb**  
**Falher - May 2013**



**Pollutant Classes (ppb)**





## Hourly Averages

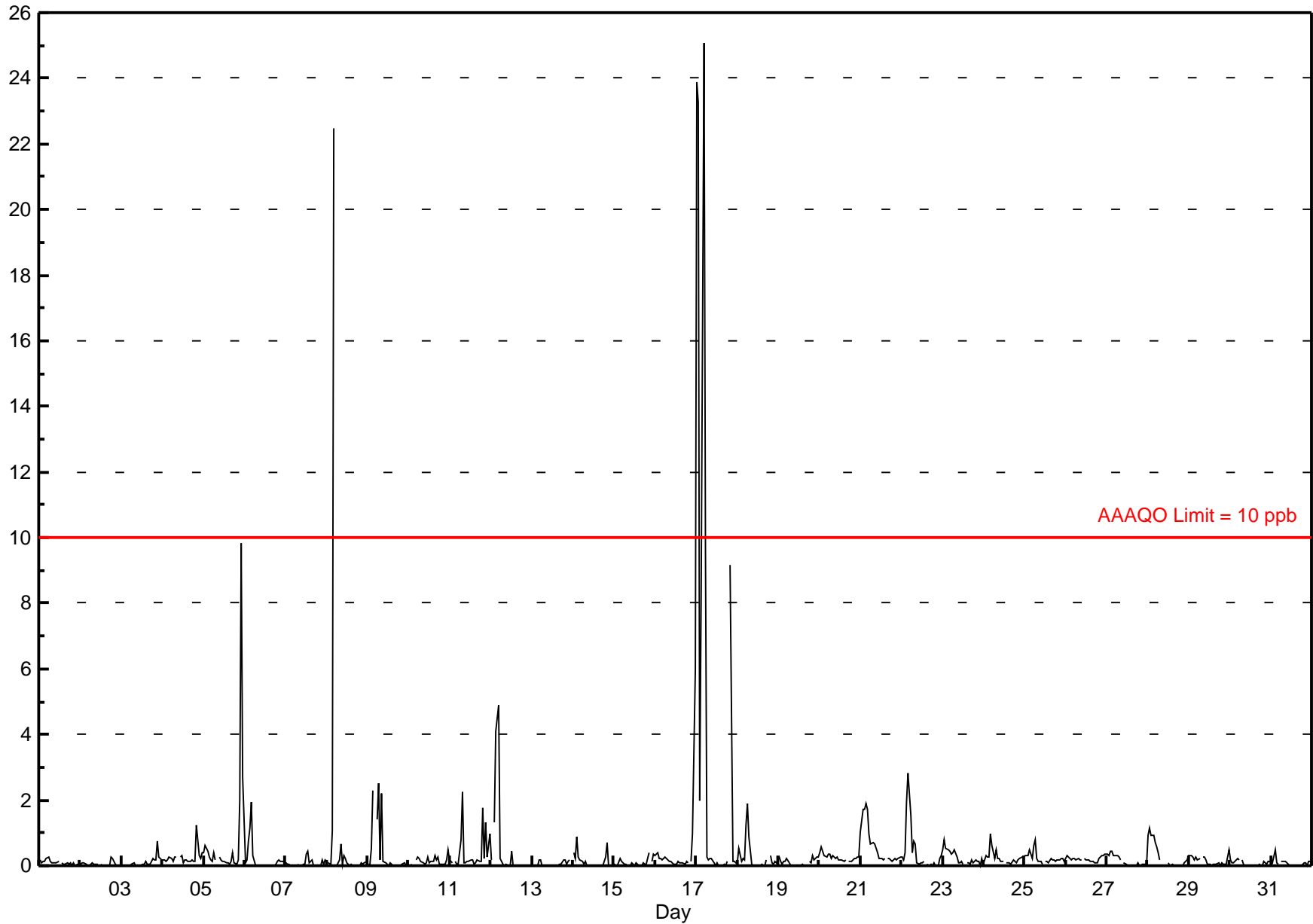
## Hydrogen Sulphide (H<sub>2</sub>S) - ppb

Falher - May 2013

Number of Exceedences (AAAQO):	1-hr: 4	24-hr: 1	Hours in Service:	744
Maximum Value: 25.1 ppb on May 17 05:00	Maximum Daily Average: 4.5 ppb on May 17		Hours of Data:	709
Minimum Value: 0 ppb on May 2 05:00	Minimum Daily Average: 0.0 ppb on May 2		Hours of Missing Data:	35
Maximum Diurnal Average: 2.1 ppb at hour 5	Minimum Diurnal Average: 0.1 ppb at hour 16		Hours of Calibration:	35
Monthly Average: 0.41 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> = 0.2 P <sub>90</sub> = 0.5 P <sub>99</sub> = 8.9		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-May	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
2-May	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.3
3-May	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	1	0	0	0.1	0.8
4-May	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0.3	1.2
5-May	0	1	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	2	10	3	0.8	9.8
6-May	0	0	1	1	2	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	2.0
7-May	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.4
8-May	0	0	0	1	2	A	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.1	22.5
9-May	0	0	1	2	A	1	3	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	2.5
10-May	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.5
11-May	0	0	A	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	2	0	1	0	1	0.4	2.2
12-May	0	A	1	4	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	4.9
13-May	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0.1	0.2
14-May	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	A	0	0.1	0.9
15-May	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.1	0.4
16-May	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	1	6	0.4	6.0
17-May	24	23	2	8	25	10	0	0	0	0	0	0	0	0	0	0	0	0	0	A	9	0	0	0	4.5	25.1
18-May	0	1	0	0	0	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.9
19-May	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	A	0	0	0	0	0	0.1	0.3
20-May	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.3	0.6
21-May	1	2	2	2	2	1	1	1	1	1	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.6	1.9
22-May	0	0	0	2	3	2	0	1	1	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.4	2.8
23-May	0	1	1	1	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.2	0.8
24-May	0	0	0	0	1	1	0	1	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.0
25-May	0	0	0	1	0	1	1	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.8
26-May	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
27-May	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.4
28-May	1	1	1	1	1	1	0	0	A	C	C	C	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.2
29-May	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.5
30-May	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
31-May	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.5
	1.0	1.1	0.4	0.9	2.1	0.7	0.4	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.5	0.2	0.5	0.5	Diurnal Average
	23.9	23.3	2.0	8.2	25.1	9.6	2.5	2.2	2.2	0.5	0.4	0.3	0.5	0.4	0.2	0.3	0.2	0.4	0.3	1.8	9.2	2.0	9.8	6.0	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

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

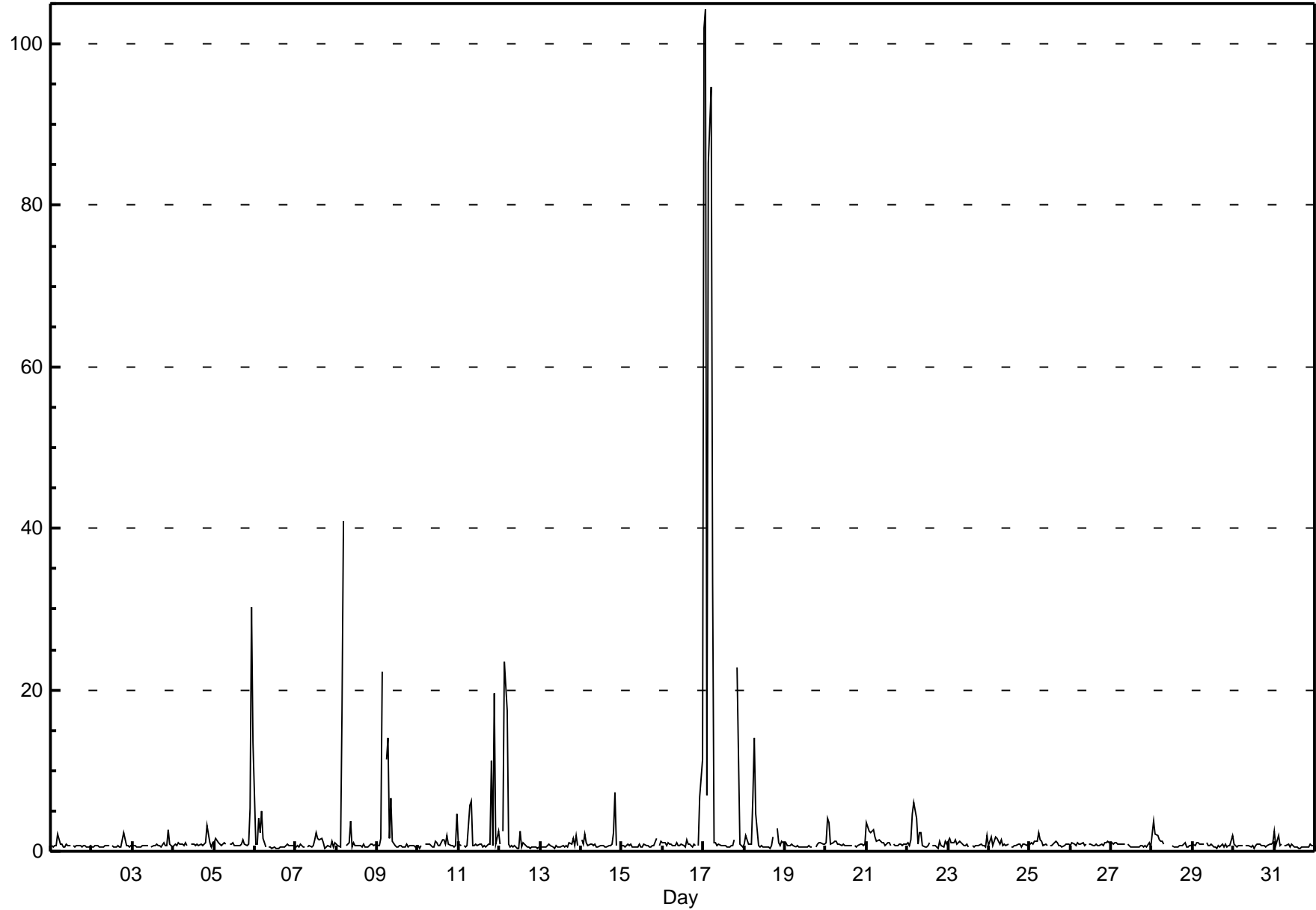
Falher - May 2013

Maximum Value: 104.4 ppb on May 17 02:00		Maximum Daily Average: 20.1 ppb on May 17		Hours in Service: 744																							
Minimum Value: 0 ppb on May 12 11:00		Minimum Daily Average: 0.7 ppb on May 19		Hours of Data: 709																							
Maximum Diurnal Average: 6.3 ppb at hour 5		Minimum Diurnal Average: 0.7 ppb at hour 17		Hours of Missing Data: 35																							
Monthly Average: 1.92 ppb		Percentiles: P <sub>1</sub> = 0.4 P <sub>10</sub> = 0.5 Q <sub>1</sub> = 0.6 Median = 0.8 Q <sub>3</sub> = 1.0 P <sub>90</sub> = 1.7 P <sub>99</sub> = 28.5		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-May	1	1	1	1	2	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	0.7	2.1	
2-May	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	2	2	1	1	1	0.7	2.3	
3-May	1	1	0	1	1	1	1	1	1	1	1	A	0	1	1	1	1	1	1	1	1	3	1	1	0.8	2.6	
4-May	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	3	1	1	1	1.0	3.1	
5-May	1	2	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	5	30	14	3.0	30.3	
6-May	1	1	4	2	5	2	1	A	1	1	0	1	0	0	0	0	1	1	1	1	1	1	1	1	1.1	5.0	
7-May	1	1	1	1	1	1	A	1	1	1	1	1	2	2	1	2	1	0	1	1	1	1	1	1	0.9	2.3	
8-May	1	1	1	18	41	A	1	1	4	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	3.4	40.9	
9-May	1	1	2	22	A	11	14	2	7	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	3.0	22.2	
10-May	1	0	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	5	1.1	4.7	
11-May	1	1	A	1	0	1	6	6	1	1	1	1	1	1	1	1	1	1	1	11	1	20	1	3	2.5	19.6	
12-May	1	A	2	23	17	1	1	1	1	1	0	0	2	1	1	1	1	1	0	0	1	1	0	1	2.5	23.5	
13-May	A	1	0	1	1	1	1	1	0	1	1	0	1	1	1	1	1	1	1	2	1	2	1	A	0.8	2.0	
14-May	1	1	2	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	2	7	1	A	1	1.2	7.4	
15-May	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	A	1	1	0.8	1.6	
16-May	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	7	11	1.6	11.3	
17-May	102	104	7	85	95	33	1	1	1	1	1	1	1	1	0	1	1	1	1	A	23	1	1	1	20.1	104.4	
18-May	1	2	1	1	1	7	14	5	1	0	1	1	1	0	0	1	2	A	A	3	1	1	1	1	1.9	14.0	
19-May	1	1	1	1	1	1	1	1	1	1	0	0	1	1	0	1	A	1	1	1	1	1	1	1	0.7	1.1	
20-May	1	4	3	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1.1	4.1	
21-May	4	2	2	2	3	2	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1.4	3.6	
22-May	1	1	1	5	6	4	1	2	2	1	1	1	1	A	1	1	1	1	0	1	1	1	1	1	1.5	6.1	
23-May	1	2	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	2	0.9	2.0	
24-May	1	2	1	1	2	2	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	0.9	1.7	
25-May	1	1	1	1	1	2	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1.0	2.3	
26-May	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	1.3	
27-May	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.1	
28-May	2	4	2	2	1	1	1	1	1	C	C	C	1	1	1	1	1	1	1	1	1	1	1	1	1.2	3.8	
29-May	1	1	1	1	1	1	1	1	A	1	1	1	1	0	1	0	1	1	1	1	1	1	1	2	0.8	2.0	
30-May	1	1	1	1	1	1	A	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	0.7	1.0	
31-May	2	1	2	1	1	A	1	1	1	1	1	1	0	1	0	0	1	1	0	1	1	1	1	1	0.8	2.5	
		4.4	4.6	1.4	6.0	6.3	2.8	1.9	1.3	1.1	0.7	0.7	0.7	0.8	0.7	0.7	0.7	0.7	0.8	0.7	1.3	1.8	1.7	2.0	1.9	Diurnal Average	
		102.0	104.4	6.9	85.3	94.6	33.3	14.0	6.3	6.5	1.3	1.2	1.4	2.5	1.6	1.5	1.7	1.1	2.0	1.5	11.2	22.7	19.6	30.3	13.5	Diurnal Maximum	
C - Calibration		A - Automated Daily Zero Span																									

### Hourly Maximums

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

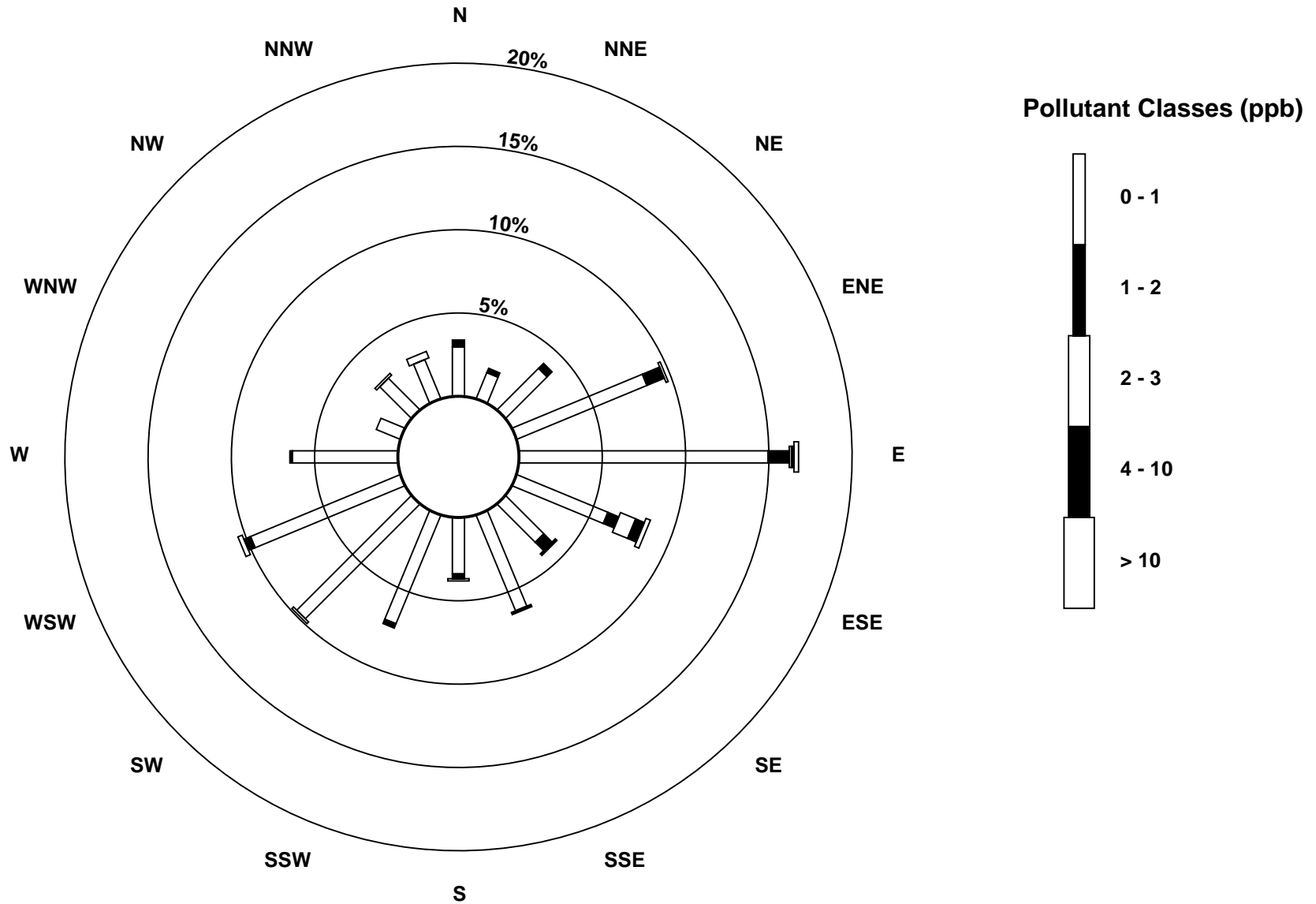
Falher - May 2013

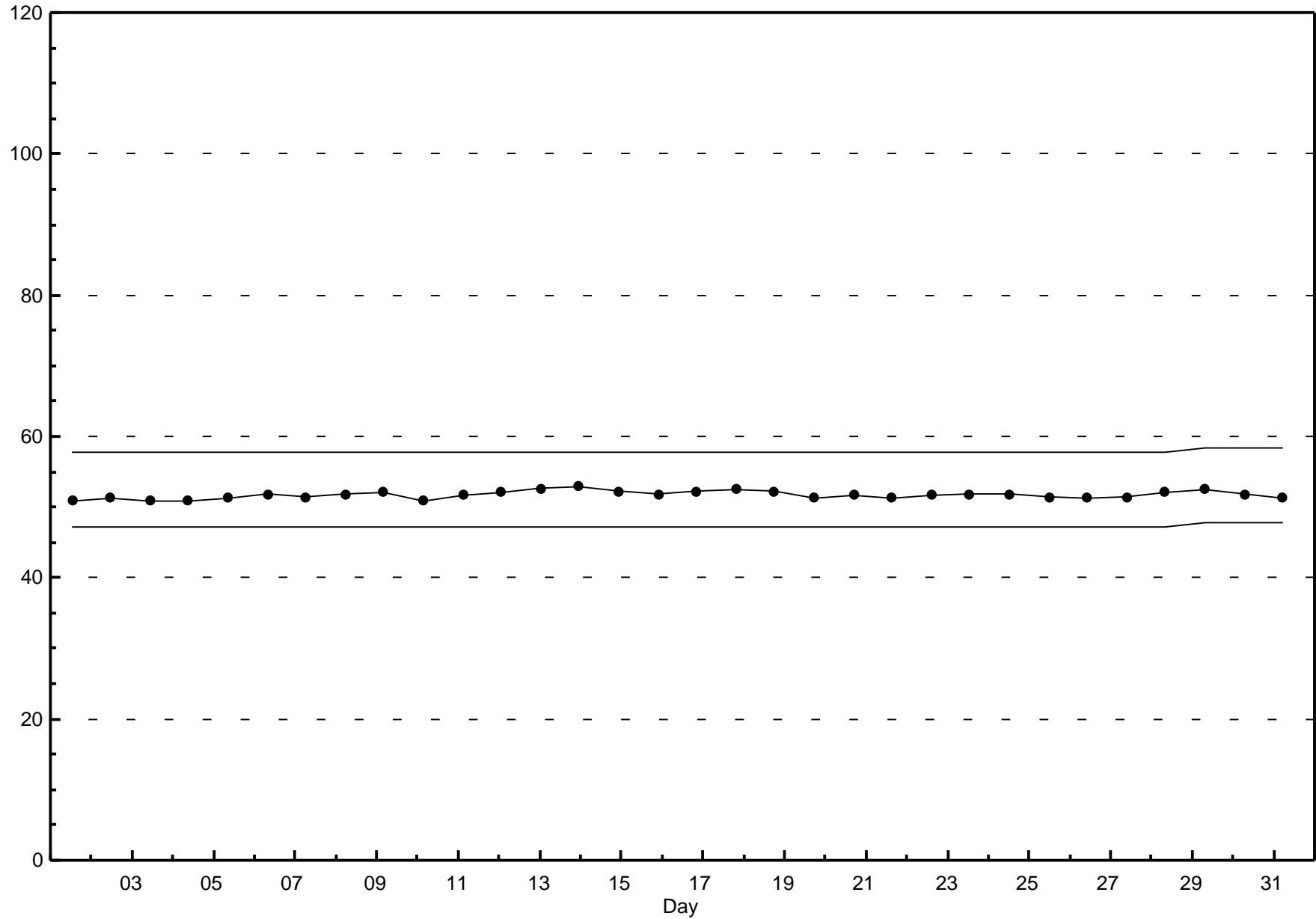




**Pollutant Rose**

**Hydrogen Sulphide (H<sub>2</sub>S) - ppb**  
**Falher - May 2013**







Peace Airshed Zone Association

# Hourly Averages

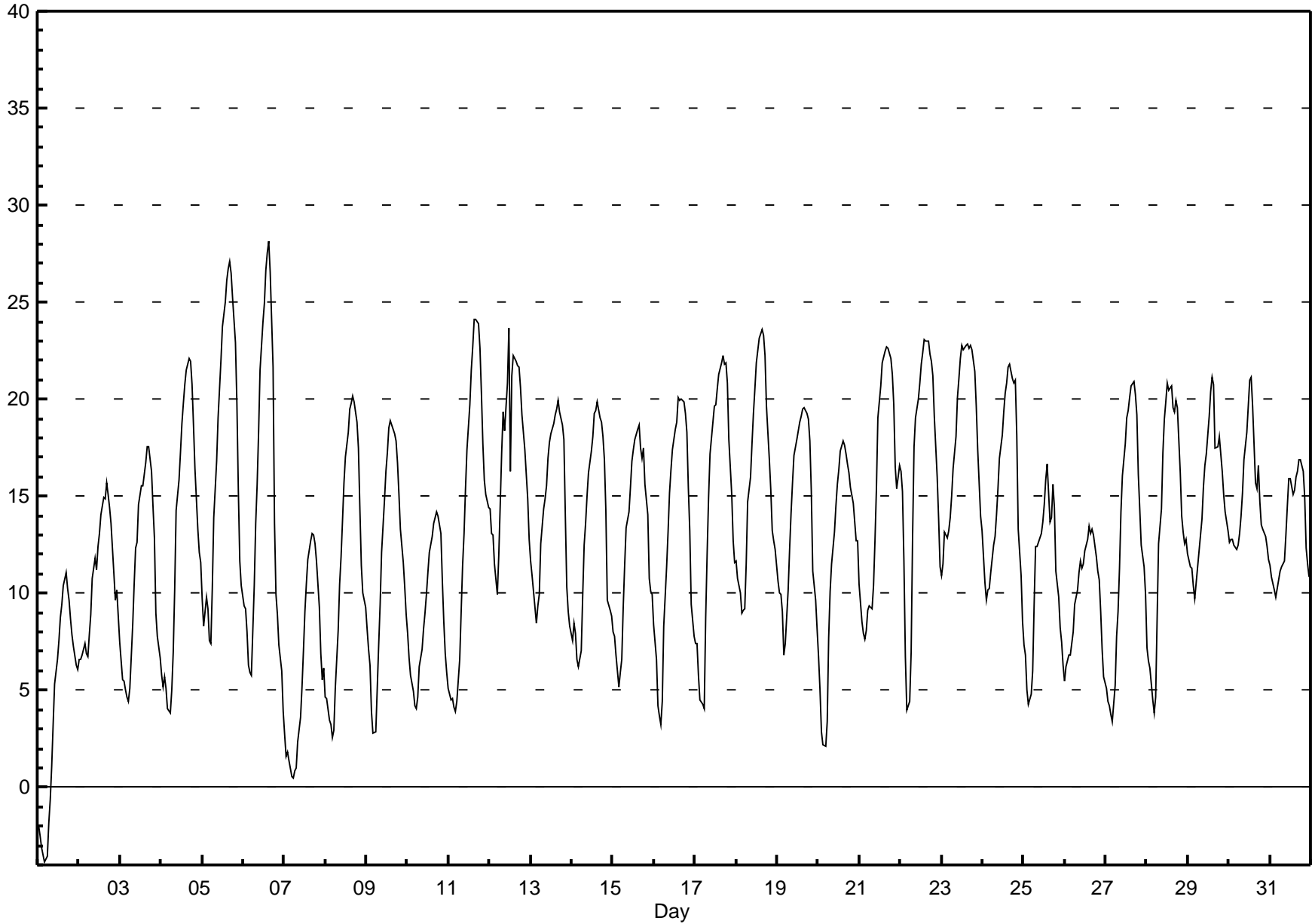
External Temperature (ET) - °C

Falher - May 2013

Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 28.2 °C on May 6 16:00	Maximum Daily Average: 18.1 °C on May 23		Hours of Data:	744
Minimum Value: -4 °C on May 1 05:00	Minimum Daily Average: 4.1 °C on May 1		Hours of Missing Data:	0
Maximum Diurnal Average: 19.3 °C at hour 16	Minimum Diurnal Average: 5.9 °C at hour 5		Hours of Calibration:	0
Monthly Average: 13.15 °C	Percentiles: P <sub>1</sub> = -0.7 P <sub>10</sub> = 5.1 Q <sub>1</sub> = 8.8 Median = 13.1 Q <sub>3</sub> = 17.8 P <sub>90</sub> = 20.9 P <sub>99</sub> = 26.5		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-May	-2	-3	-3	-3	-4	-4	-2	-1	1	3	5	7	8	9	9	10	11	10	10	9	8	7	6	6	4.1	11.1
2-May	7	7	7	7	7	7	8	9	11	12	11	12	13	14	15	15	16	15	14	14	11	10	10	9	10.8	15.7
3-May	7	6	5	5	5	4	5	8	10	12	13	15	16	16	16	17	18	18	16	14	13	9	8	7	10.9	17.5
4-May	6	5	6	5	4	4	5	7	10	14	16	17	19	20	21	22	22	22	21	19	16	13	12	12	13.2	22.1
5-May	10	8	10	9	8	7	10	14	17	19	21	22	24	25	26	27	27	27	25	23	20	15	12	10	17.3	27.1
6-May	9	9	8	6	6	6	10	14	16	18	22	24	25	27	28	28	27	22	14	10	9	7	6	4	14.7	28.2
7-May	3	2	2	1	1	0	1	1	2	4	5	7	9	10	12	13	13	13	13	12	9	7	6	6	6.3	13.1
8-May	5	5	3	3	3	3	5	8	10	12	14	16	17	18	20	20	20	20	19	17	14	11	10	9	11.8	20.1
9-May	8	7	6	4	3	3	5	7	9	12	15	16	17	19	19	19	18	18	17	15	13	12	10	9	11.7	18.9
10-May	8	7	6	5	4	4	5	6	7	8	9	10	11	12	13	14	14	14	14	13	11	9	7	6	9.0	14.2
11-May	5	5	5	4	4	4	7	9	11	13	15	17	20	21	23	24	24	24	23	20	18	16	15	14	14.2	24.1
12-May	14	13	13	12	10	12	15	17	19	18	21	24	16	21	22	22	22	22	21	19	17	16	15	13	17.2	23.6
13-May	12	11	9	8	9	10	13	14	15	16	17	18	18	19	19	19	20	19	19	18	14	10	9	8	14.4	19.9
14-May	8	8	8	7	6	7	10	12	14	15	16	17	18	19	19	20	19	19	18	17	14	10	9	9	13.3	19.9
15-May	8	8	7	5	6	7	9	11	13	14	15	17	17	18	19	17	17	17	16	14	11	10	10	10	12.7	18.7
16-May	8	7	4	4	3	4	8	11	13	15	16	17	18	19	20	20	20	20	19	18	15	13	9	8	13.0	20.1
17-May	7	7	6	4	4	4	9	12	15	17	19	20	20	21	21	22	22	22	22	21	18	15	13	12	14.7	22.2
18-May	12	11	10	9	9	9	12	15	16	18	19	21	22	23	23	24	23	22	20	17	15	13	13	12	16.1	23.6
19-May	11	10	10	9	7	7	10	12	14	16	17	18	18	19	19	20	20	19	19	18	15	11	10	8	14.0	19.5
20-May	7	5	3	2	2	3	8	10	12	13	15	16	16	17	18	18	17	17	16	15	15	14	13	13	11.8	17.8
21-May	10	9	8	8	8	9	9	9	10	13	15	19	21	22	22	23	23	23	22	21	20	17	15	17	15.5	22.7
22-May	16	15	12	7	4	4	7	13	18	19	20	21	22	22	23	23	23	22	22	21	19	16	14	11	16.4	23.1
23-May	11	11	13	13	13	14	15	16	18	20	21	22	23	23	23	23	23	23	23	21	20	17	16	14	18.1	22.9
24-May	13	11	10	10	10	11	12	13	14	15	17	18	19	20	21	22	22	21	21	21	18	13	11	9	15.5	21.8
25-May	7	7	5	4	5	6	9	12	12	13	13	14	15	16	17	14	14	16	14	11	10	8	7	6	10.7	16.7
26-May	6	6	7	7	7	8	9	10	11	12	11	12	12	13	13	13	13	13	12	11	11	9	7	6	10.0	13.4
27-May	5	4	4	4	3	5	8	9	11	14	16	18	19	19	20	21	21	20	19	16	14	12	11	10	12.8	20.9
28-May	7	7	6	4	4	5	9	13	14	17	19	20	21	20	21	20	19	20	16	14	13	13	13	13	13.9	20.8
29-May	12	11	11	10	10	11	12	13	14	15	17	17	19	20	21	21	17	18	18	17	16	15	14	13	15.2	21.1
30-May	13	13	13	12	12	13	13	14	15	17	18	20	21	21	20	16	15	17	15	13	13	13	12	12	15.0	21.1
31-May	11	11	10	10	10	11	11	11	12	13	14	16	16	15	15	16	16	17	17	16	15	12	12	11	13.3	16.9

8.5	7.8	7.2	6.3	5.9	6.4	8.6	10.7	12.5	14.1	15.6	16.9	17.7	18.7	19.3	19.3	19.2	18.9	18.0	16.5	14.5	12.1	10.8	9.9	Diurnal Average
16.3	15.2	13.2	12.9	13.2	13.9	15.1	17.3	19.4	20.1	21.5	24.0	24.9	26.7	27.5	28.2	27.1	26.5	25.3	22.9	19.8	17.4	15.7	16.6	Diurnal Maximum



## Hourly Averages

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

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1 Spd	19	22	23	22	22	19	23	24	24	20	14	26	27	22	22	21	24	24	24	29	28	32	23	20	11.6	32.1
Dir	77	71	77	66	69	79	106	125	150	167	195	205	208	228	236	236	227	226	222	235	223	220	209	189	186	220
2 Spd	23	27	28	31	26	23	26	29	32	33	36	34	36	34	25	30	34	31	25	28	22	21	25	23	26.8	35.9
Dir	193	201	204	216	223	227	227	237	250	253	243	250	251	242	259	268	265	267	262	253	245	224	228	226	240	240
3 Spd	21	21	21	17	18	15	8	16	21	17	13	8	8	9	6	9	12	10	11	6	6	15	18	20	9.0	21.1
Dir	226	212	216	222	226	225	209	247	270	291	311	275	276	229	318	300	289	306	286	291	148	137	154	161	238	216
4 Spd	20	18	20	20	22	20	22	21	20	22	25	22	25	27	26	24	23	22	12	6	13	16	22	19	11.9	27.3
Dir	160	159	148	147	137	142	149	169	189	232	252	252	250	260	264	262	265	271	304	46	123	140	176	202	205	260
5 Spd	15	10	20	19	17	18	16	17	20	25	26	25	26	24	28	29	26	29	24	15	10	9	12	16	15.3	29.2
Dir	185	196	207	205	210	203	215	235	256	263	261	256	261	261	268	274	272	263	289	305	316	109	129	170	247	263
6 Spd	15	12	7	12	14	17	16	16	16	13	13	13	11	3	23	26	31	45	51	41	31	29	27	19	6.8	51.3
Dir	195	202	192	114	115	137	149	154	186	189	203	184	147	157	247	256	315	340	337	324	330	327	317	329	294	337
7 Spd	17	16	16	21	21	22	18	15	13	14	14	17	16	15	18	23	25	27	26	22	21	17	18	23	11.2	27.4
Dir	308	294	307	331	336	342	1	25	49	61	77	91	102	109	100	103	101	93	96	97	92	62	52	71	60	93
8 Spd	19	24	26	24	21	19	20	16	17	13	8	10	10	7	3	8	10	11	16	21	23	23	22	21	11.7	25.6
Dir	87	90	91	95	96	91	87	92	135	153	143	90	78	69	346	310	311	347	356	8	39	40	39	53	69	91
9 Spd	23	25	23	16	15	8	17	19	19	17	17	14	15	21	26	28	28	26	29	29	23	26	29	21	14.0	29.1
Dir	62	69	82	112	81	83	99	100	106	80	61	6	339	315	317	336	338	352	351	349	355	355	4	3	20	349
10 Spd	24	21	18	17	16	16	16	24	23	20	18	15	15	16	19	21	24	24	25	23	19	19	16	20	15.6	24.6
Dir	358	358	1	9	23	46	63	85	93	89	102	107	101	112	107	112	110	106	100	91	88	82	81	92	79	100
11 Spd	22	22	24	22	21	21	20	19	20	16	15	17	18	16	13	12	14	19	23	20	19	9	7	13	16.1	23.7
Dir	92	92	90	94	88	92	101	108	152	149	135	136	147	142	140	140	113	105	107	111	109	185	116	100	114	90
12 Spd	14	4	7	9	13	13	15	17	15	17	19	26	37	44	52	52	49	48	48	45	34	30	23	21	21.6	52.4
Dir	97	129	144	150	122	132	139	156	183	153	186	225	254	248	247	241	241	239	234	240	232	230	238	227	225	241
13 Spd	16	7	11	19	21	22	28	33	36	35	35	33	33	33	34	30	28	25	24	17	15	15	16	11	22.6	35.7
Dir	231	208	180	196	207	211	225	236	240	243	252	246	247	254	258	257	252	257	257	263	282	232	222	246	242	240
14 Spd	10	20	18	17	16	15	19	29	34	33	31	31	34	35	36	32	31	29	32	28	18	15	18	19	23.5	36.2
Dir	232	243	236	214	204	209	228	255	269	267	275	264	264	263	262	256	264	261	260	262	259	225	210	215	252	262
15 Spd	18	19	16	17	18	18	20	27	28	27	26	24	25	26	28	27	27	20	23	24	13	18	19	17	20.3	28.3
Dir	220	225	218	197	211	216	219	233	245	247	266	259	232	241	237	243	234	245	248	263	232	171	187	197	232	237
16 Spd	17	15	12	15	14	13	15	20	23	22	20	20	22	23	22	23	22	21	20	15	10	9	6	9	13.4	23.3
Dir	198	194	152	171	181	174	197	240	254	258	242	241	256	252	263	270	264	270	265	245	242	212	108	100	236	254
17 Spd	12	12	7	9	11	10	8	10	6	11	12	14	12	12	17	16	14	16	18	23	18	22	21	23	9.8	22.8
Dir	105	98	73	106	117	121	193	232	207	202	232	227	176	188	173	202	150	159	135	127	108	100	100	102	143	102
18 Spd	23	22	23	19	23	22	22	21	23	20	16	11	8	10	10	15	15	9	13	20	23	26	16	13	8.7	25.6
Dir	100	103	97	92	95	99	106	132	151	167	187	196	221	258	229	222	239	98	280	67	204	221	258	213	152	221
19 Spd	9	16	13	7	8	18	16	23	24	26	26	28	26	25	24	26	25	24	20	20	20	17	18	17	18.8	27.7
Dir	163	199	227	160	163	200	209	230	237	240	237	241	237	253	232	245	236	233	248	241	225	225	221	217	229	241
20 Spd	16	13	13	14	12	11	12	14	17	15	11	8	3	5	9	13	21	29	30	27	21	17	16	16	4.3	30.0
Dir	200	181	143	150	149	135	193	223	264	278	259	325	226	245	338	3	13	17	10	16	5	12	359	8	352	10
21 Spd	20	18	24	28	24	21	36	32	34	30	28	31	37	43	47	48	49	46	39	32	29	22	25	29	23.5	49.3
Dir	245	314	329	339	349	22	44	31	41	47	55	81	89	98	102	101	101	96	90	90	90	71	70	82	70	101
22 Spd	31	29	10	8	13	13	12	12	36	36	38	41	46	46	46	45	49	42	42	34	32	21	11	18	25.0	48.9
Dir	92	90	86	229	247	252	265	124	113	103	100	98	100	99	93	101	104	101	98	112	153	152	97	60	105	104

## Hourly Averages

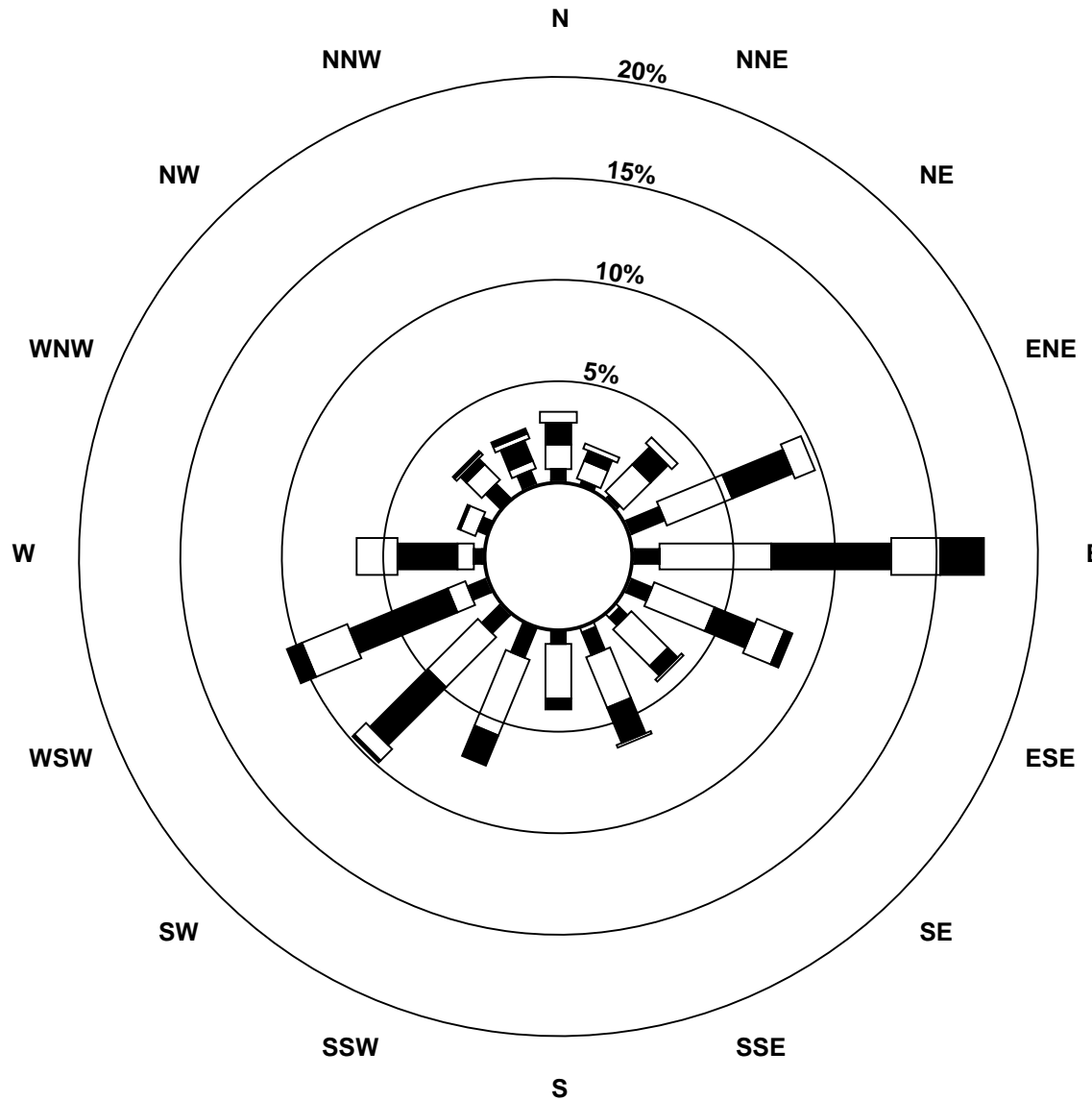
Wind Speed (km/h)  
Wind Direction (deg)  
Falher - May 2013

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
23 Spd	21	23	27	27	30	31	36	37	38	36	35	37	38	44	45	45	44	38	39	34	26	25	23	21	32.7	45.3
Dir	63	72	88	87	87	96	105	112	113	118	120	109	115	97	98	99	100	97	100	101	99	98	98	108	101	98
24 Spd	20	14	16	14	16	15	20	21	22	28	32	32	29	31	29	30	29	23	20	23	16	22	16	12	17.3	31.7
Dir	154	100	84	77	58	60	62	59	57	52	65	75	79	81	78	83	96	103	96	79	154	206	216	168	86	65
25 Spd	7	5	7	10	10	13	19	29	29	29	29	22	18	17	15	25	17	13	9	22	16	15	17	9	12.8	29.3
Dir	216	279	345	352	8	72	71	85	77	77	73	69	63	68	90	116	135	134	206	71	47	36	57	354	74	77
26 Spd	11	13	15	16	16	15	15	15	18	17	21	22	20	24	20	20	14	15	19	9	9	8	3	9	9.0	24.3
Dir	337	301	304	304	312	332	8	38	40	52	84	78	75	65	66	111	105	99	96	150	65	68	45	76	54	65
27 Spd	11	13	14	13	17	15	14	19	18	15	12	7	17	15	16	17	25	26	36	29	13	8	15	13	14.5	35.7
Dir	72	74	73	85	82	87	86	94	99	92	84	68	99	83	85	84	102	106	115	138	163	303	49	49	93	115
28 Spd	10	10	10	6	2	8	9	8	7	4	10	15	14	9	10	21	26	18	12	23	4	14	16	16	5.8	25.9
Dir	99	78	72	258	352	360	30	74	112	120	87	123	103	166	234	36	27	53	207	219	76	23	73	68	73	27
29 Spd	4	7	14	12	13	7	6	8	8	5	11	15	18	19	20	12	24	23	21	16	16	22	19	11	9.5	23.7
Dir	168	334	20	27	19	322	318	66	116	98	67	82	132	149	156	125	64	56	45	48	35	85	87	93	74	64
30 Spd	14	20	20	14	14	19	19	18	17	13	15	18	20	24	30	22	14	22	30	31	25	23	17	15	18.2	30.6
Dir	63	89	90	92	70	73	77	78	90	80	49	57	93	84	66	152	156	101	84	73	68	73	104	118	85	73
31 Spd	15	12	12	10	14	10	12	11	12	14	13	10	10	14	6	11	13	9	7	8	7	8	2	15	7.5	15.2
Dir	99	77	109	160	183	187	181	194	194	196	213	236	181	191	26	219	228	243	184	129	193	251	125	166	183	166
Spd	5.9	5.0	5.4	5.0	4.9	5.6	6.6	6.4	6.3	4.6	3.6	4.2	5.7	5.2	3.8	4.7	2.9	1.9	1.3	2.5	3.0	3.3	4.0	5.8	Diurnal Average	
Dir	133	121	112	127	114	122	126	143	162	172	173	172	173	186	200	198	188	112	93	94	126	138	118	124	Diurnal Maximum	
Spd	30.8	28.6	27.7	31.4	30.5	31.3	36.1	36.9	37.9	36.5	38.0	41.3	45.6	45.8	51.8	52.4	49.3	48.1	51.3	45.0	33.9	32.1	28.7	29.3	Diurnal Maximum	
Dir	92	90	204	216	87	96	44	112	113	118	100	98	100	99	247	241	241	239	337	240	232	220	4	82	Diurnal Maximum	
Maximum Speed Value: 52 km/h on May 12 16:00		Minimum Speed Value: 2 km/h on May 31 23:00																				Hours in Service: 744				
Maximum Daily Speed Average: 32.7 km/h on May 23		Minimum Daily Speed Average: 4.3 km/h on May 31																				Hours of Data: 744				
Maximum Diurnal Speed Average: 6.6 km/h at hour 7		Minimum Diurnal Speed Average: 1.3 km/h at hour 19																				Hours of Missing Data: 0				
Monthly Average Velocity: 3.91 km/h 144.1 deg		Speed Percentiles: P <sub>1</sub> = 3.8 P <sub>10</sub> = 9.5 Q <sub>1</sub> = 14.0 Median = 19.2 Q <sub>3</sub> = 24.7 P <sub>90</sub> = 31.5 P <sub>99</sub> = 47.4																				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	2	7	13	13	7	1	43																			
NorthEast	1	5	30	18	8	0	62																			
East	1	21	64	85	29	19	219																			
SouthEast	4	10	42	17	7	1	81																			
South	1	15	43	11	0	0	70																			
SouthWest	1	18	44	60	15	6	144																			
West	1	6	13	40	27	1	88																			
NorthWest	0	11	13	8	3	2	37																			
Total	11	93	262	252	96	30	744																			

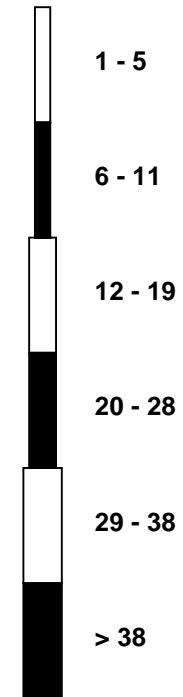
**Wind Rose**

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

**Falher - May 2013**



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



# Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Falher - May 2013

Maximum Speed: 53 km/h on May 12 16:00	Maximum Daily Speed Average: 33.6 km/h on May 23	Hours in Service: 744
Minimum Speed: 6 km/h on May 28 05:00	Minimum Daily Speed Average: 11.8 km/h on May 31	Hours of Data: 744
Maximum Diurnal Speed Average: 26.5 km/h at hour 17	Minimum Diurnal Speed Average: 16.7 km/h at hour 4	Hours of Missing Data: 0
Monthly Average Speed: 20.97 km/h	Percentiles: P <sub>1</sub> = 7.9 P <sub>10</sub> = 11.4 Q <sub>1</sub> = 15.0 Median = 19.6 Q <sub>3</sub> = 25.3 P <sub>90</sub> = 31.9 P <sub>99</sub> = 47.7	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-May	20	22	23	22	22	20	23	25	24	20	17	26	28	23	23	22	24	24	25	30	29	33	23	21	23.6	32.6
2-May	24	27	28	31	26	24	26	30	32	34	36	34	36	34	26	31	34	31	25	28	22	21	25	23	28.7	36.1
3-May	21	21	21	17	18	15	9	16	21	18	14	11	11	13	11	12	13	14	12	7	7	15	18	20	14.9	21.2
4-May	20	18	20	20	22	20	22	21	20	23	25	22	25	28	26	25	23	22	13	9	14	17	23	19	20.7	27.8
5-May	15	11	20	19	17	18	16	17	21	25	27	25	27	25	28	29	27	29	25	15	11	12	12	18	20.4	29.4
6-May	16	14	11	12	14	17	16	16	16	14	14	15	13	11	24	27	36	46	52	41	31	30	27	19	22.2	51.7
7-May	18	16	16	21	22	22	19	16	14	15	16	18	17	16	19	24	25	28	27	22	21	17	18	23	19.6	27.8
8-May	19	24	26	24	21	19	20	16	18	14	11	12	13	11	11	13	13	17	21	24	23	22	21	17.8	25.7	
9-May	23	25	23	16	15	10	17	19	19	17	19	17	17	22	27	28	29	26	29	29	24	26	29	21	22.0	29.3
10-May	24	21	18	17	16	16	16	24	23	21	19	17	17	19	20	22	24	25	25	23	19	19	16	20	20.2	25.0
11-May	22	22	24	22	21	21	20	19	21	17	16	17	18	16	14	14	15	20	24	20	19	13	11	14	18.3	23.7
12-May	16	8	8	11	13	13	16	17	15	17	20	27	38	45	52	53	50	48	48	45	34	30	23	21	27.8	52.7
13-May	16	9	12	19	21	22	28	33	36	36	35	33	34	34	35	31	29	26	24	17	15	15	16	14	24.6	35.9
14-May	11	20	18	17	16	15	19	30	34	33	31	31	35	36	37	33	32	30	32	28	18	15	18	19	25.4	37.2
15-May	18	19	17	17	18	18	20	27	28	28	27	25	25	27	29	28	28	21	23	24	13	19	19	17	22.3	29.4
16-May	17	15	12	15	14	14	16	21	24	23	21	21	24	23	24	24	23	22	20	16	10	9	8	10	17.7	23.8
17-May	12	12	8	9	12	11	9	10	9	12	14	16	15	15	19	17	18	17	19	23	18	22	21	23	15.1	23.4
18-May	23	22	23	19	23	22	22	23	23	21	17	13	12	13	15	16	16	17	20	21	27	26	16	14	19.3	26.9
19-May	12	16	14	8	10	18	17	23	25	27	27	28	27	26	27	27	26	25	21	20	21	17	18	17	20.6	28.4
20-May	16	15	13	14	12	11	13	15	17	15	12	11	11	10	13	15	22	29	30	27	21	17	16	19	16.5	30.1
21-May	21	21	24	28	24	24	36	32	34	30	29	32	38	43	47	48	49	46	39	32	29	22	25	29	32.6	49.4
22-May	31	29	15	10	13	13	12	18	36	36	38	42	46	46	47	45	49	43	42	36	32	21	13	18	30.4	49.3
23-May	21	23	27	27	31	31	36	37	38	37	35	38	40	45	46	45	44	38	40	34	26	25	23	21	33.6	45.5
24-May	20	15	17	15	16	15	20	21	22	28	32	32	29	31	30	30	30	24	20	23	25	22	17	13	22.8	31.9
25-May	9	8	8	10	11	13	19	29	29	30	29	23	19	19	17	25	18	13	13	26	16	16	17	10	17.9	29.5
26-May	12	13	15	16	16	15	15	16	18	18	22	22	21	25	21	20	15	15	20	10	10	9	7	9	15.9	24.6
27-May	11	14	14	13	17	15	14	19	18	16	14	12	18	18	17	18	26	26	36	31	14	12	16	13	17.6	36.0
28-May	10	10	10	9	6	9	9	9	9	10	13	18	17	13	12	24	27	24	13	26	12	15	16	16	14.0	26.6
29-May	9	8	14	12	13	10	8	9	9	8	13	16	19	21	22	19	24	24	21	16	17	23	20	13	15.3	24.5
30-May	15	20	20	14	14	19	19	18	17	15	16	19	21	24	30	27	16	23	31	31	26	23	17	16	20.4	31.4
31-May	15	12	13	11	14	10	12	11	13	14	14	11	12	15	9	12	14	10	8	10	13	8	9	16	11.8	16.3
	17.2	17.1	17.1	16.7	17.1	16.8	18.2	20.6	22.1	21.7	21.7	22.1	23.2	24.2	25.2	25.9	26.5	25.8	25.6	23.9	19.9	19.2	18.1	17.7	Diurnal Average	
	30.9	28.6	27.8	31.5	30.5	31.4	36.3	37.0	38.2	36.7	38.2	41.9	46.1	46.4	52.3	52.7	49.7	48.5	51.7	45.2	34.0	32.6	28.8	29.4	Diurnal Maximum	

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



# Hourly Standard Deviations

Wind Direction (WD) - deg

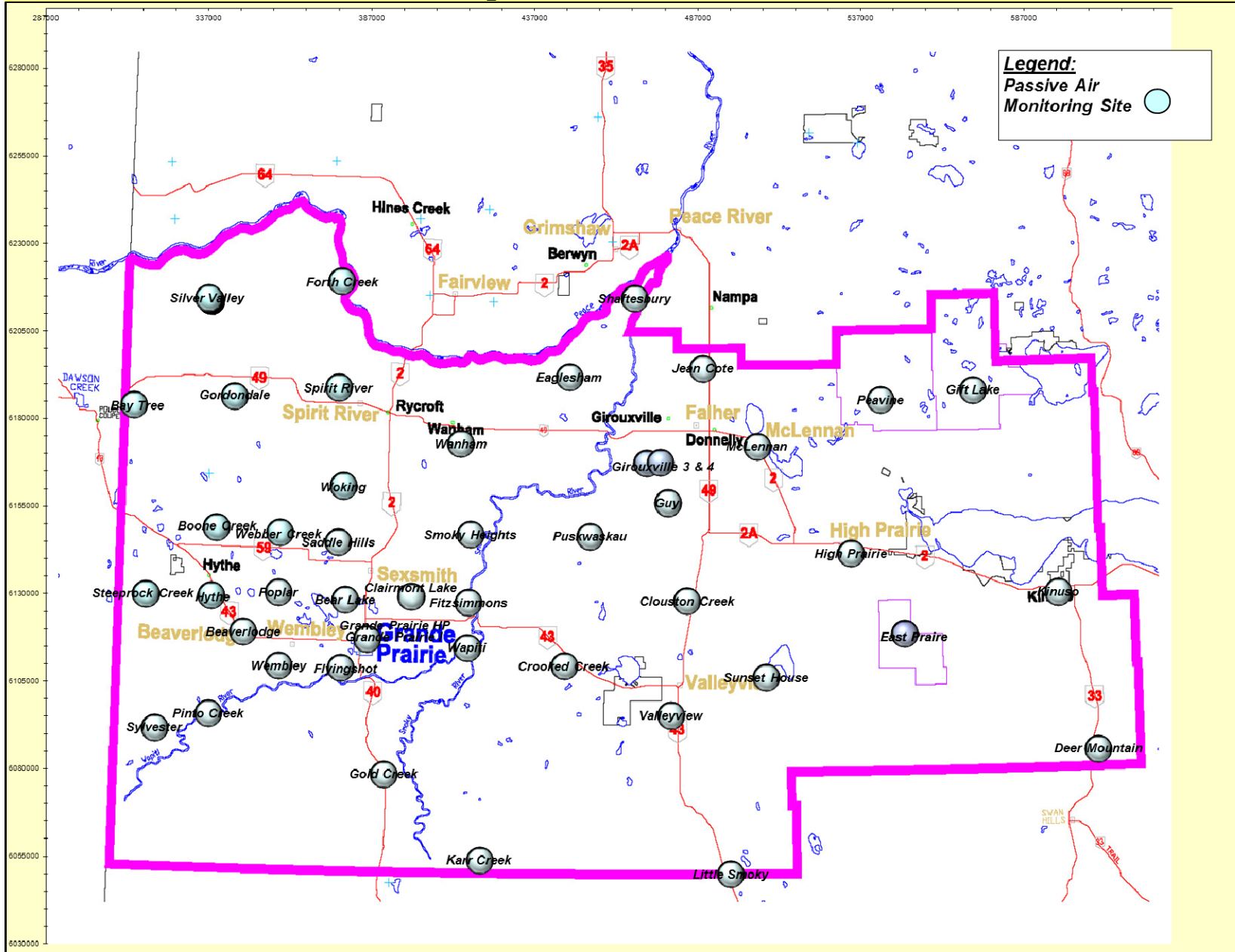
Falher - May 2013

Maximum Value: 90.6 deg on May 28 21:00																						Hours in Service:	744		
Minimum Value: 1.3 deg on May 23 01:00																						Hours of Data:	744		
Percentiles: P <sub>1</sub> = 1.9 P <sub>10</sub> = 3.7 Q <sub>1</sub> = 6.4 Median = 10.6 Q <sub>3</sub> = 19.7 P <sub>90</sub> = 37.1 P <sub>99</sub> = 82.2																						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-May	5	4	2	6	6	6	9	8	10	11	33	13	10	16	18	16	12	9	8	4	6	10	9	7	32.8
2-May	4	2	4	3	3	2	3	7	5	6	6	7	7	8	13	7	7	5	8	3	8	6	4	4	12.5
3-May	4	2	5	4	3	7	26	14	8	18	19	46	58	52	62	58	28	47	25	34	49	20	3	8	62.1
4-May	4	6	4	4	5	3	4	8	6	14	8	12	14	11	13	10	11	10	21	46	12	11	6	4	45.8
5-May	13	18	2	5	8	4	5	5	13	6	7	11	12	17	11	9	10	7	11	9	29	48	10	24	47.8
6-May	17	32	65	10	7	9	9	8	7	19	36	34	40	90	18	15	35	4	7	4	8	12	3	10	89.9
7-May	8	9	6	7	8	8	15	22	28	30	28	16	22	25	18	15	10	9	8	4	7	8	3	11	29.9
8-May	7	5	3	2	4	3	4	9	23	27	46	38	47	66	84	64	54	44	19	7	7	3	6	4	83.7
9-May	4	7	8	10	14	42	6	9	10	14	26	38	30	18	15	10	12	12	8	5	5	5	4	4	42.2
10-May	6	4	4	7	7	4	14	9	8	17	18	31	28	31	21	18	11	9	10	4	5	3	6	5	30.9
11-May	2	2	2	2	3	5	4	10	13	20	16	15	16	20	28	40	21	13	3	3	3	50	49	22	50.1
12-May	45	68	40	34	12	7	6	8	7	8	17	14	9	7	8	6	7	7	6	5	3	3	3	3	67.8
13-May	5	47	21	6	2	4	6	4	6	9	10	11	11	8	14	16	15	14	11	11	6	10	9	45	47.1
14-May	20	4	10	5	7	9	6	10	7	8	11	12	13	13	14	16	9	12	8	6	9	9	9	3	19.6
15-May	3	2	13	3	5	2	5	5	7	13	12	16	11	14	16	13	13	13	11	13	20	7	7	2	19.8
16-May	2	5	13	4	6	8	16	13	8	12	18	19	18	14	21	17	16	11	10	18	14	13	50	23	50.4
17-May	10	14	43	26	21	29	30	22	54	28	35	33	40	48	28	28	42	27	23	14	9	1	2	2	54.2
18-May	2	3	5	2	2	5	8	20	10	16	20	38	64	44	61	28	18	83	63	11	61	15	12	22	82.8
19-May	44	8	14	28	36	6	11	5	8	9	13	14	15	12	24	16	13	17	15	10	3	3	5	7	43.8
20-May	4	31	11	7	6	13	18	14	13	14	22	49	87	64	63	30	11	6	5	4	6	10	12	46	87.4
21-May	19	34	4	8	10	27	5	6	4	6	10	15	11	5	4	4	5	4	4	3	3	10	6	3	33.8
22-May	3	2	66	48	11	9	13	72	5	6	7	9	8	9	8	7	7	5	4	15	11	6	26	7	72.0
23-May	1	3	4	3	2	6	5	5	7	7	10	10	14	7	6	9	7	7	6	4	4	2	4	15	14.9
24-May	7	26	5	18	5	10	8	8	5	4	7	7	8	9	13	11	16	13	10	9	52	11	10	29	52.0
25-May	43	75	34	14	25	18	4	7	7	7	8	16	20	25	33	9	12	18	55	52	17	12	6	22	75.4
26-May	18	8	8	8	9	7	10	22	12	18	10	7	11	8	18	13	33	11	19	19	31	27	83	18	82.5
27-May	7	8	8	12	2	5	7	8	8	22	36	65	25	40	20	24	16	12	7	24	29	51	15	19	64.6
28-May	19	14	9	65	81	28	12	25	37	81	48	36	31	46	41	30	13	59	29	28	91	20	5	11	90.6
29-May	79	36	11	6	4	47	36	32	30	57	35	20	20	23	63	14	21	11	6	15	12	10	33	78.9	
30-May	24	3	3	5	7	3	3	8	11	31	25	15	18	11	7	35	28	9	6	14	4	5	9	9	35.4
31-May	8	18	13	18	14	11	9	11	10	12	18	30	32	19	65	16	11	17	29	31	63	26	83	22	82.9
78.9	75.4	65.9	65.1	81.5	47.3	35.8	72.0	54.2	80.6	47.8	64.6	87.4	89.9	83.7	63.8	53.9	82.8	63.3	51.6	90.6	50.8	82.9	45.6		

# PAZA

## Monthly Passive Data Summary

# Location of PAZA Passive Monitoring Stations



## PAZA Passive Results for April 2013

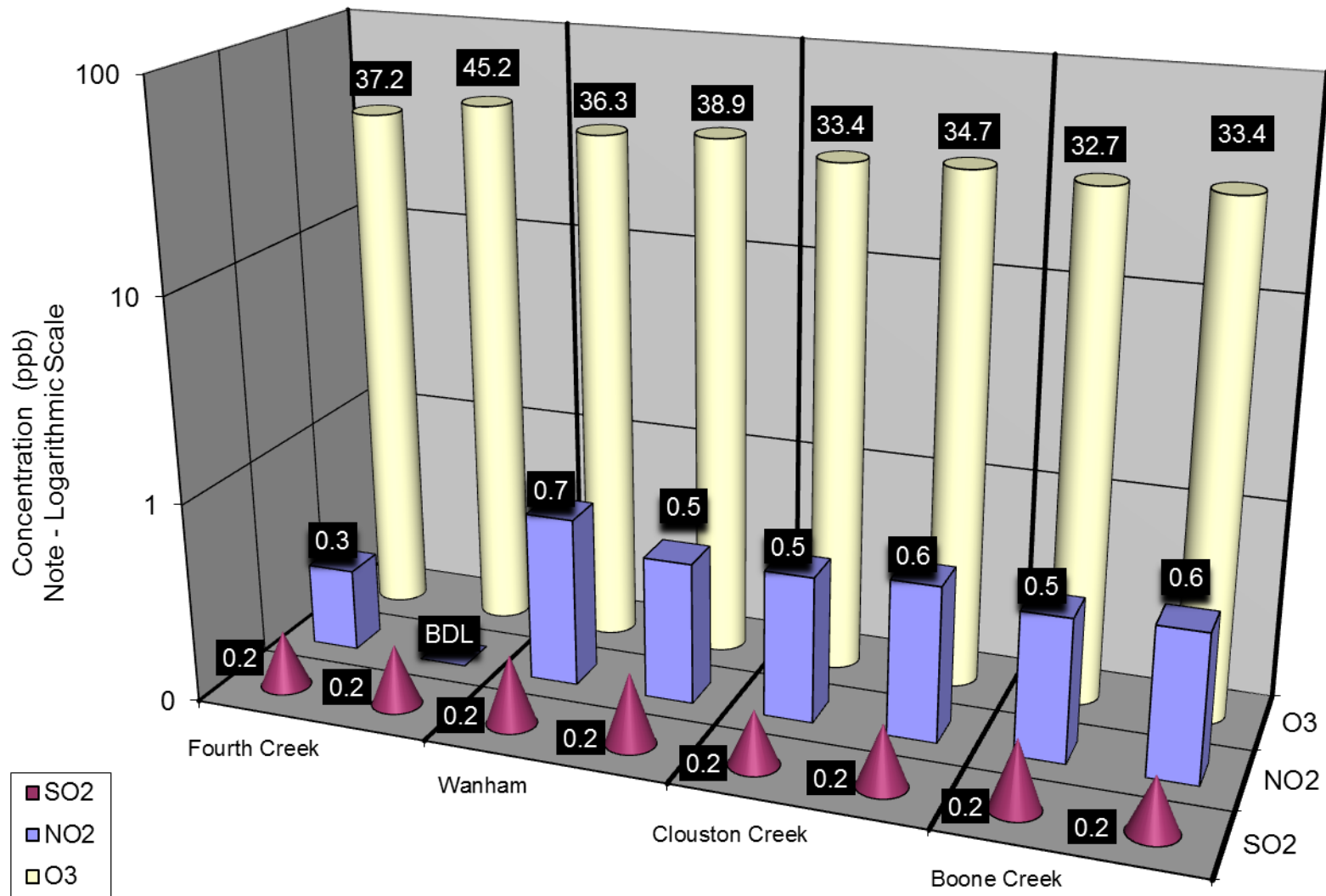
Station Number	Station Name	SO2 ppb	O3 ppb	NO2 ppb	H2S ppb	Site Legal
<b>Duplicates</b>						
3a	Fourth Creek	0.2	37.2	0.3		
3b	Fourth Creek	0.2	45.2	BDL		
19a	Wanham	0.2	36.3	0.7		
19b	Wanham	0.2	38.9	0.5		
39a	Clouston Creek	0.2	33.4	0.5		
39b	Clouston Creek	0.2	34.7	0.6		
5a	Boone Creek	0.2	32.7	0.5		
5b	Boone Creek	0.2	33.4	0.6		
63a	Girouxville 3				0.3	
63b	Girouxville 3				0.1	
1	Silver Valley	0.3	29.9	0.4		08-27-081-11 W6M
2	Bay Tree	0.2	36.6	0.3		13-16-078-13 W6M
3	Fourth Creek	0.2	41.2	BDL		04-13-082-07 W6M
4	Gordondale	0.2	38.0	0.3		04-34-078-10 W6M
5	Boone Creek	0.2	33.0	BDL		16-36-074-11 W6M
7	Steepprock Creek	0.2	38.2	0.1		09-35-072-13 W6M
9	Spirit River	0.3	32.9	0.7		08-12-079-07 W6M
10	Woking	0.3	34.1	0.4		01-13-076-07 W6M
11	Webber Creek	0.3	32.4	0.8		09-36-074-09 W6M
12	Hythe	0.2	31.8	0.7		14-36-072-11 W6M
14	Sylvester	0.1	27.2	0.4		08-06-069-12 W6M
16	Beaverlodge	0.2	38.2	0.6		15-36-071-10 W6M
17	Poplar	0.2	33.2	1.6		13-06-073-08 W6M
18	Saddle Hills	0.2	38.0	0.2		04-25-074-07 W6M
19	Wanham	0.2	37.6	BDL		16-22-077-03 W6M
20	Shaftesbury	0.2	N/S	0.5		04-03-082-23 W5M
21	Eaglesham	0.3	30.2	0.6		16-21-079-25 W5M
23	Bear Lake	0.3	33.9	2.0		15-31-072-06 W6M
24	Wembley	0.2	36.3	2.0		12-31-070-08 W6M
25	Pinto Creek	0.2	33.0	0.2		04-24-069-11 W6M
26	Flyingshot	0.2	33.8	0.7		15-36-070-07 W6M
27	Grande Prairie I	0.1	34.7	2.0		08-15-071-06 W6M

## PAZA Passive Results for April 2013 (Continued)

28	Clairmont Lake	0.2	36.6	0.6		09-06-073-04 W6M
29	Smoky Heights	0.3	39.9	0.4		04-06-075-02 W6M
30	Fitzsimmons	0.2	28.9	1.1		15-36-072-03 W6M
32	Gold Creek	0.3	29.3	0.6		06-33-067-05 W6M
33	Wapiti	0.2	32.7	0.5		02-25-071-03 W6M
34	Puskwaskau	0.2	29.9	0.2		15-35-074-25 W5M
35	Jean Cote	0.2	34.9	0.8		12-35-079-21 W5M
36	Guy	0.2	33.1	0.9		03-04-076-22 W5M
37	Crooked Creek	0.1	33.0	0.6		16-01-071-26 W5M
38	Karr Creek	0.1	29.1	0.3		10-16-065-02 W6M
39	Clouston Creek	0.2	34.1	0.6		12-01-073-22 W5M
40	McLennan	0.3	36.0	0.6		03-29-077-19 W5M
41	Valleyview	0.1	36.3	0.3		09-30-069-22 W5M
42	Sunset House	0.2	38.3	0.5		05-32-070-19 W5M
43	High Prairie	0.2	36.5	0.5		16-13-074-17 W5M
44	Peavine	0.2	34.2	BDL		03-05-079-15 W5M
45	Gift Lake	0.1	30.4	0.1	0.1	10-07-079-12 W5M
46	Little Smoky	0.2	37.7	0.4		12-01-065-21 W5M
47	Kinuso	0.2	32.1	BDL		12-10-073-10 W5M
48	Deer Mountain	0.2	31.0	0.2		15-22-068-09 W5M
49	Grande Prairie HP	0.3	36.1	1.8		17-26-071-06 W6M
62	East Prairie	0.3	31.6	0.3		13-02-072-15 W5M
63	Girouxville 3				0.2	14-02-077-23 W5M
64	Girouxville 4				0.2	4-08-077-22 W5M

\*BDL = Below Detection Level

\*NS - No sample



Duplicate Summary Chart

## Passive Summary for April 2013

Stats	Sulphur Dioxide SO <sub>2</sub>	Ozone O <sub>3</sub>	Nitrogen Dioxide NO <sub>2</sub>	Hydrogen Sulphide H <sub>2</sub> S
	ppb	ppb	ppb	ppb

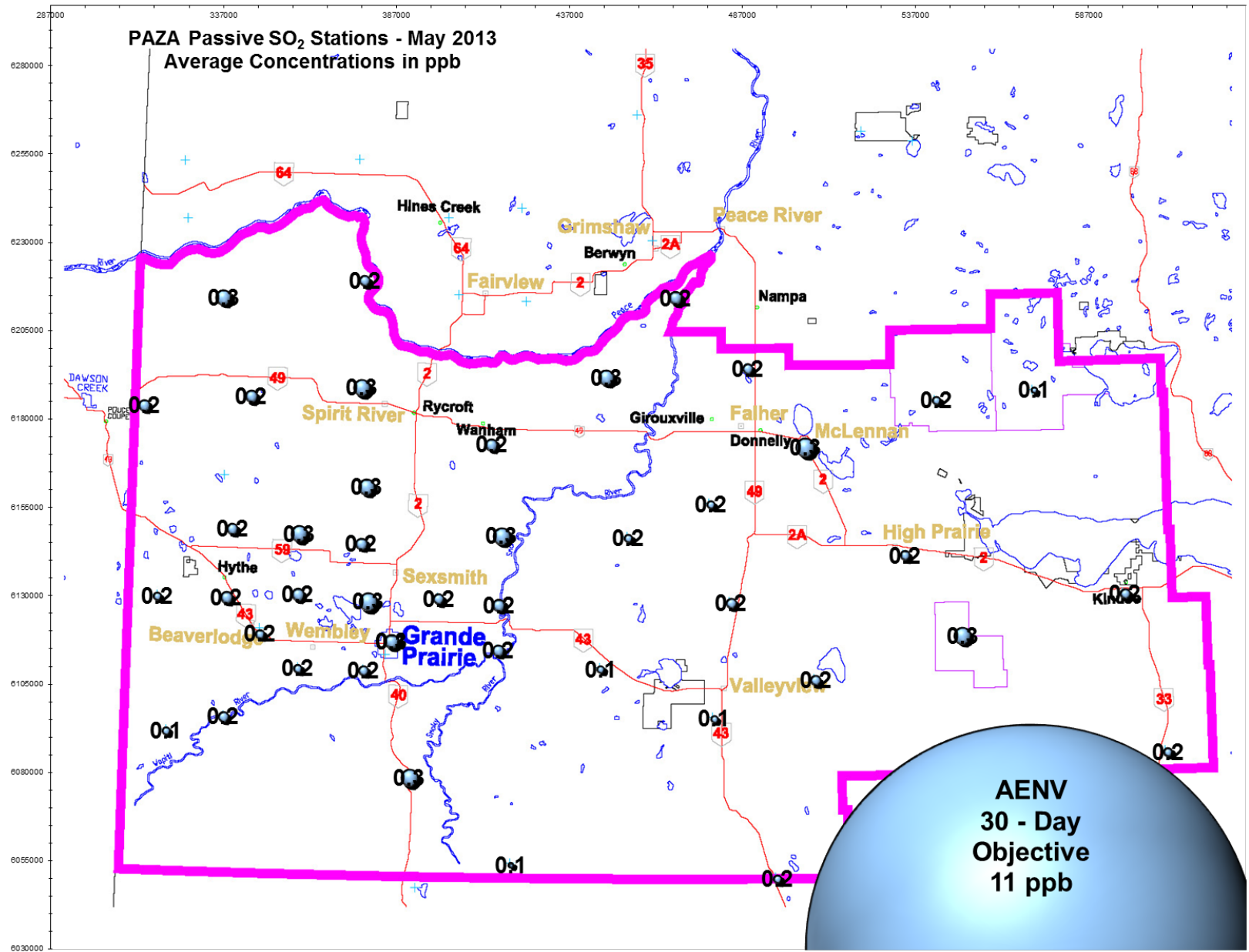
Passive Summary for May 2013 (PAZA Zone)				
Mean	0.2	34.1	0.7	0.2
Standard Deviation	0.1	3.3	0.5	0.1
Minimum	0.1	27.2	0.1	0.1
Minimum At	Karr Creek (#38)	Sylvester (#14)	Gift Lake (#45)	Gift Lake (#45)
Maximum	0.3	41.2	2.0	0.2
Maximum At	McLennan (#40)	Fourth Creek (#3)	Bear Lake (#23)	Girouxville 4 (#64)

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

	SO <sub>2</sub>	O <sub>3</sub>	NO <sub>2</sub>
PAZA Beaverlodge station	0.1	36.5	2.2
PAZA Beaverlodge passive	0.2	38.2	0.6

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

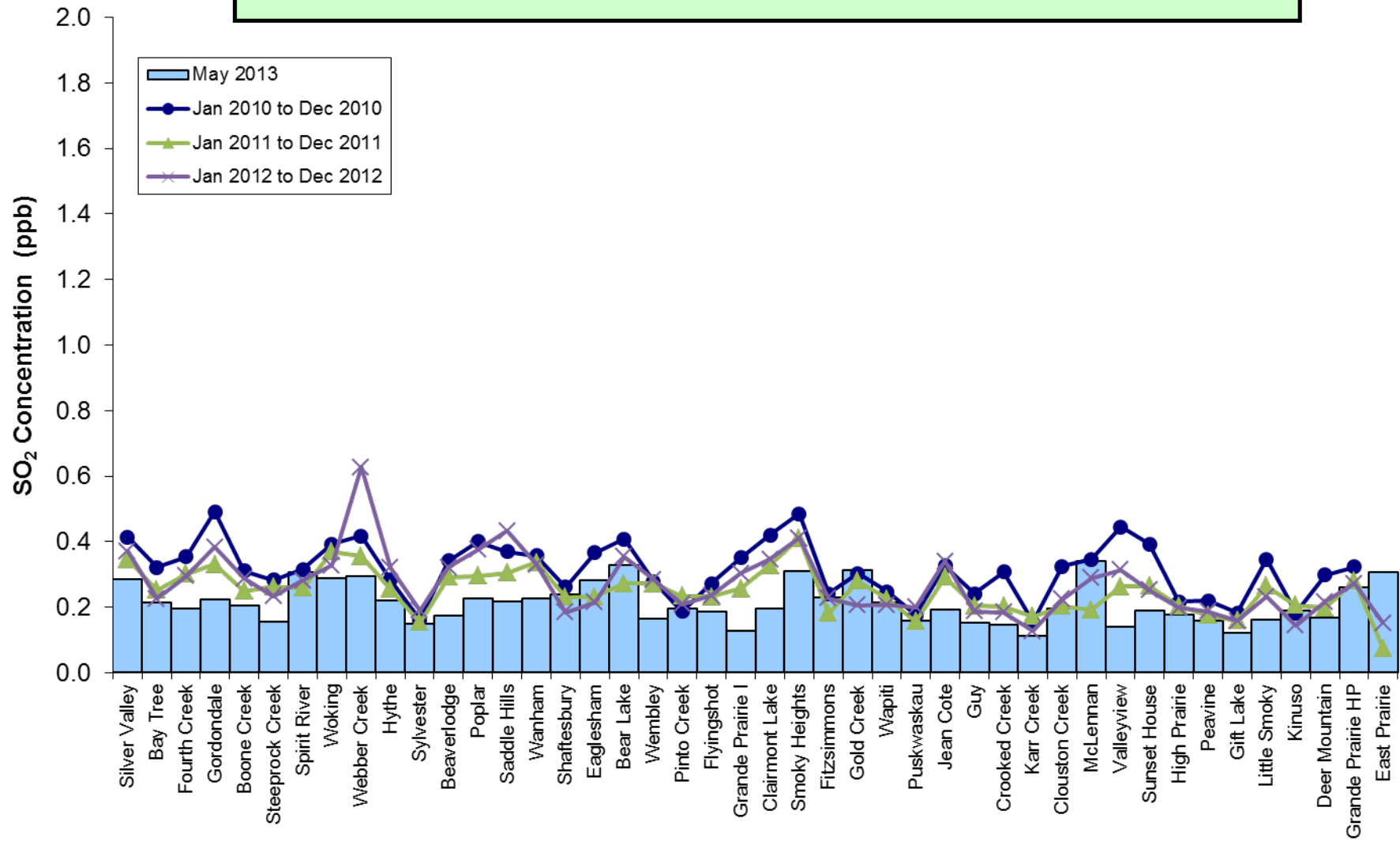
	SO <sub>2</sub>	O <sub>3</sub>	NO <sub>2</sub>
PAZA Henry Pirker station	0.1	33.8	4.5
PAZA Grande Prairie passive	0.3	36.1	1.8



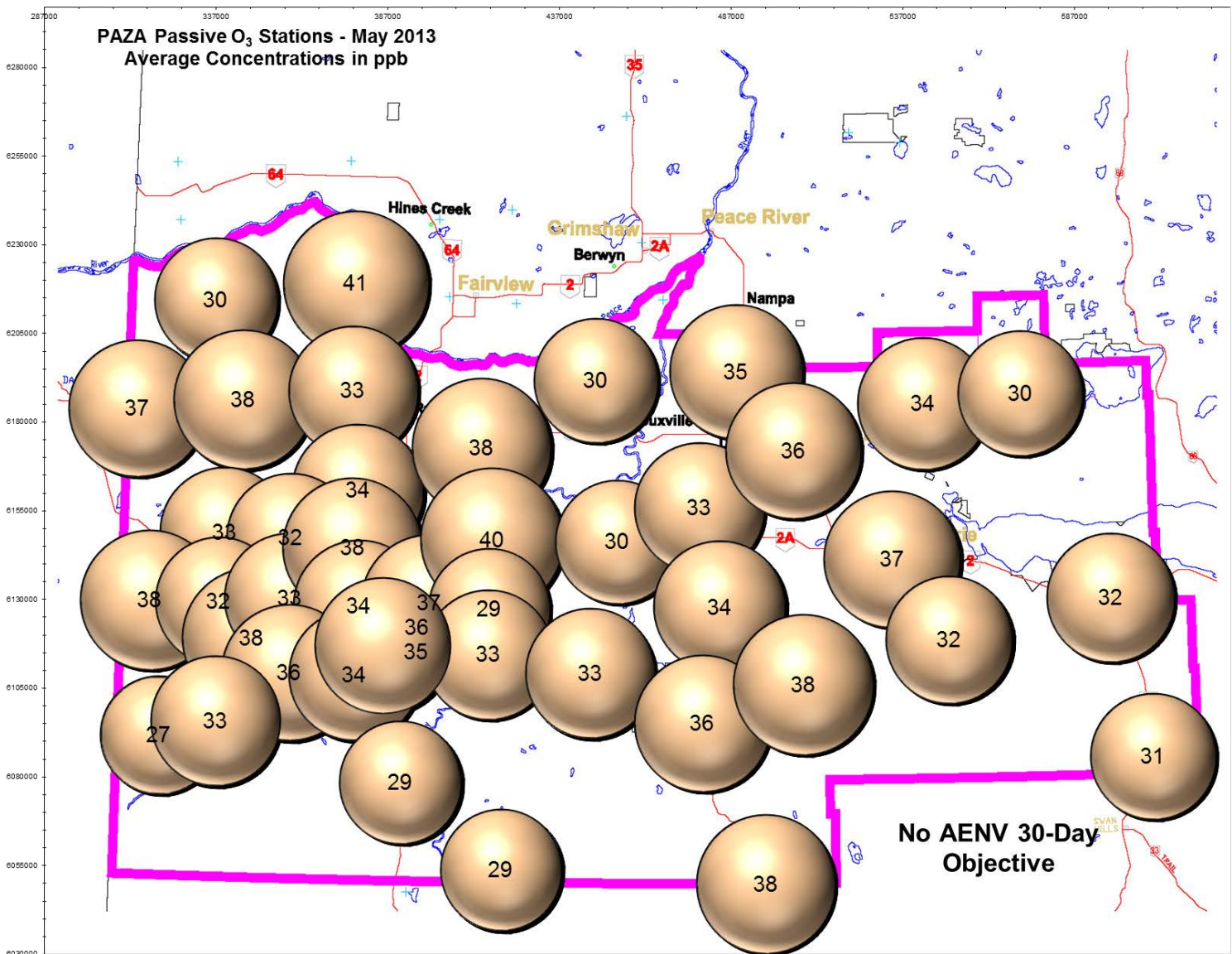
SO<sub>2</sub> Bubble Chart



**Alberta Ambient Air Quality Objective - 30-day Objective is 11 ppb**

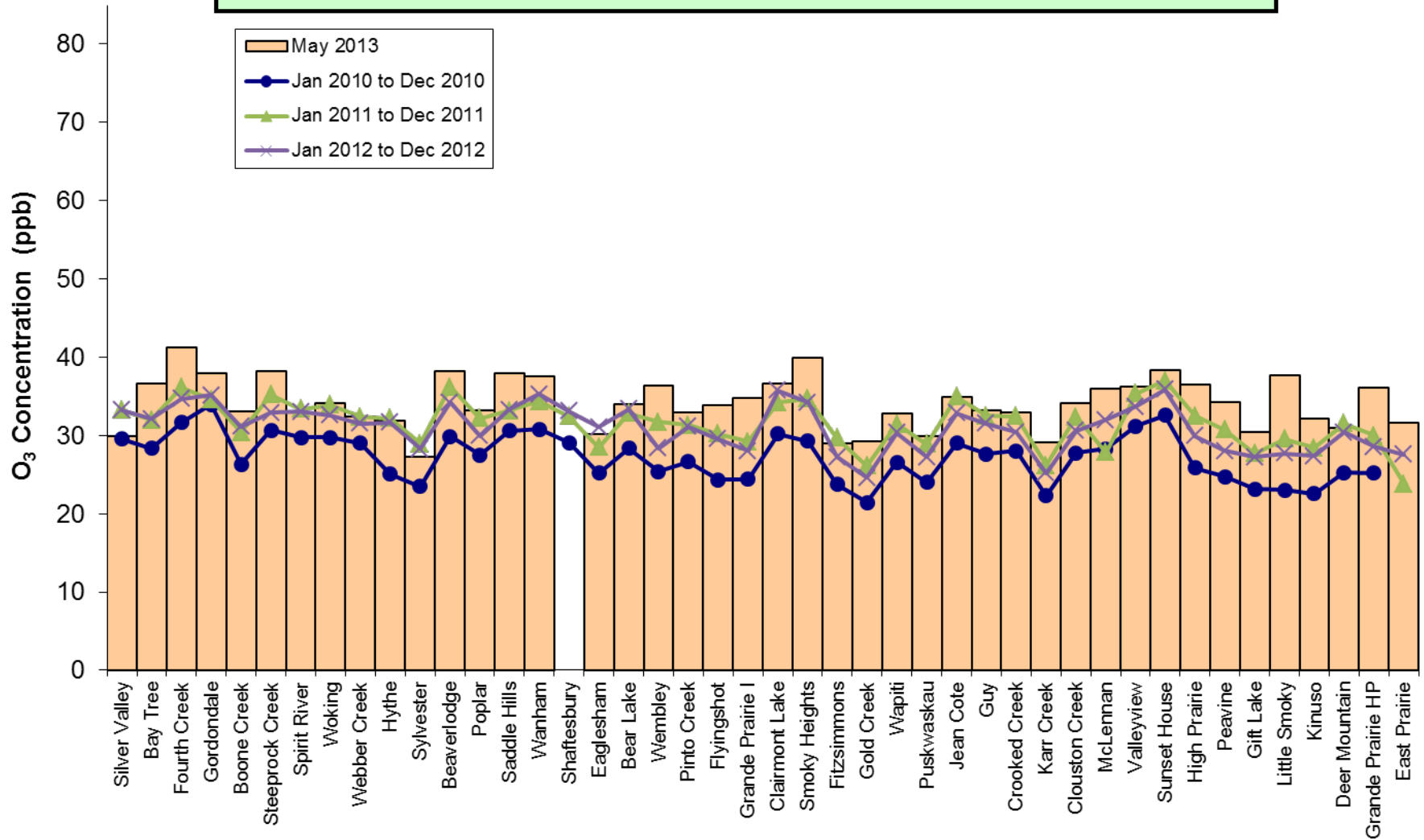


**SO<sub>2</sub> Summary Chart**

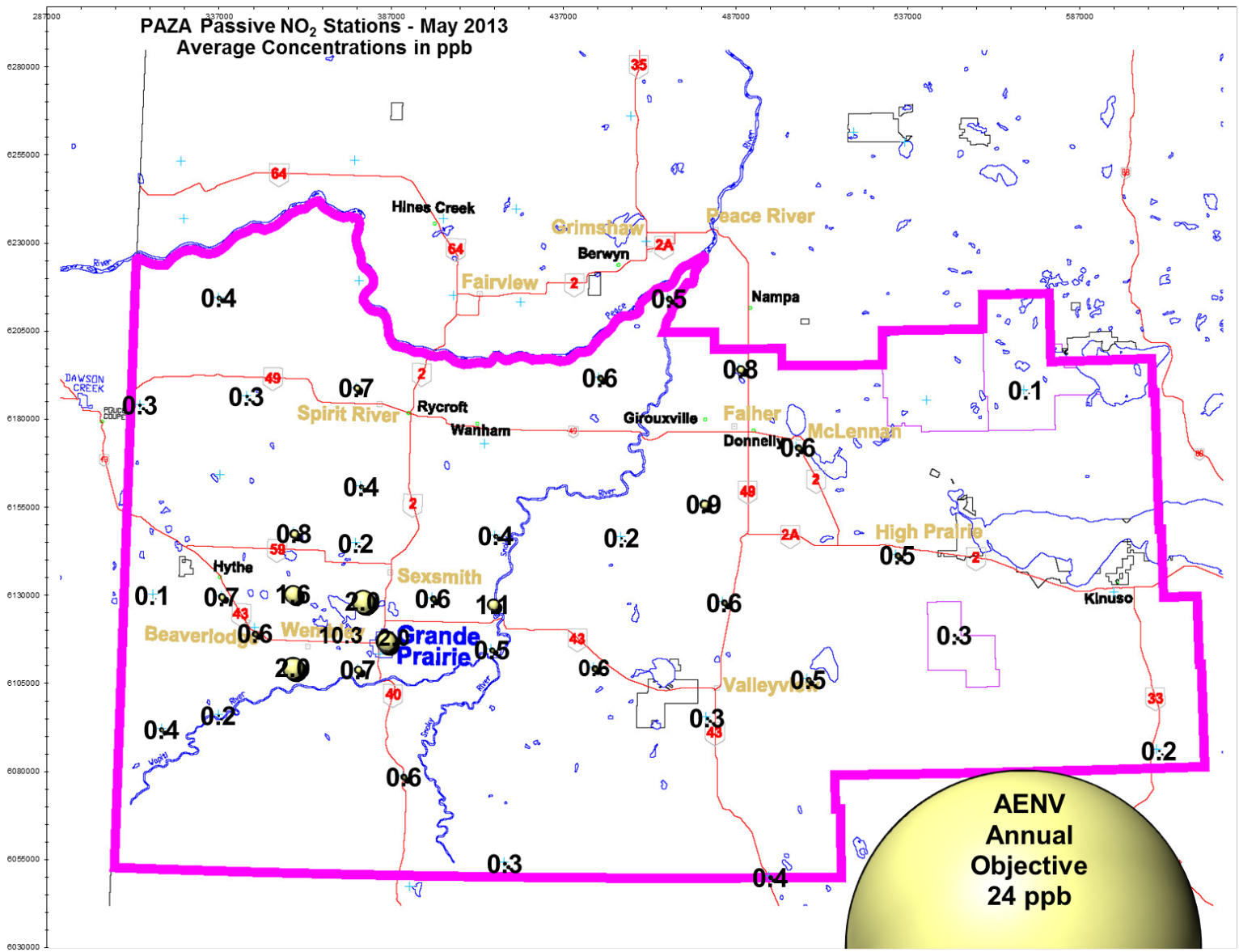


O<sub>3</sub> Bubble Chart

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

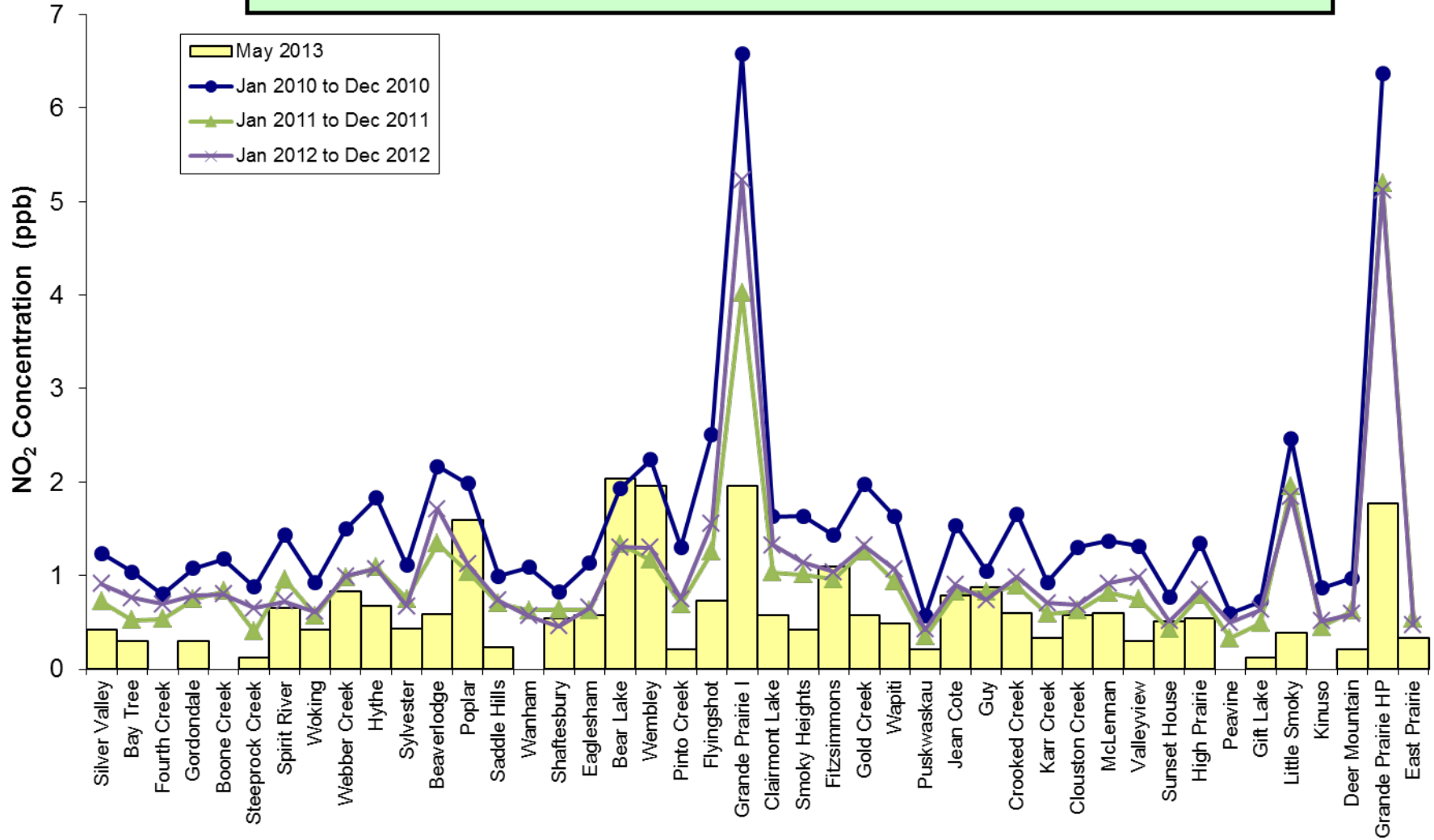


**O<sub>3</sub> Summary Chart**



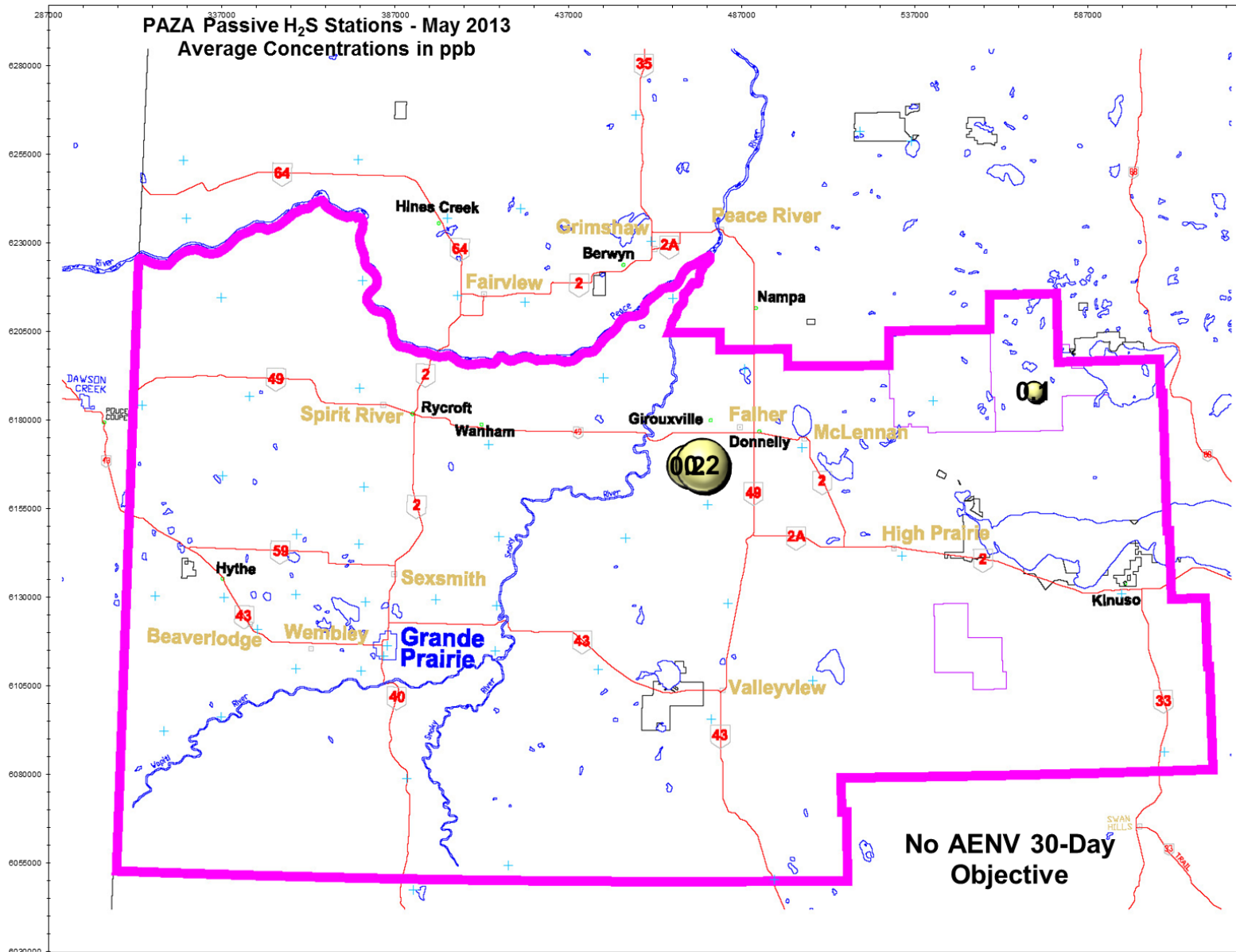
**NO<sub>2</sub> Bubble Chart**

**Alberta Ambient Air Quality Objective - Annual NO<sub>2</sub> Objective is 24 ppb**



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





**H<sub>2</sub>S Bubble Chart**

# PAZA

## **ALBERTA ENVIRONMENT AND SUSTAINABLE RESOURCES INCIDENCE REPORT**

### **May 2013**

## Air Monitoring Directive Exceedence Report

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

<b>Reference Number:</b>	269707	<b>Reported To (AESRD Contact):</b>	Karla
<b>Date &amp; Time Incident Reported to AESRD:</b>	May 6 2013 21:35	<b>Reported By:</b>	Christopher Hendrickson
<b>Reported on Behalf of:</b>	PAZA	<b>Approval Number (if applicable):</b>	NA
<b>Location(s) of Incident:</b>	Evergreen Park		
<b>Start Date &amp; Time of Incident:</b>	May 6, 2013 19:00	<b>End Date &amp; Time of Incident:</b>	May 6 2013 20:00
<b>Reason or Nature of Incident:</b>			
<p>On May 6 the PM2.5 exceeded the hourly value of 80 µg/m<sup>3</sup>, details as follows:</p> <p>20:00 MST    PM2.5=158.9 µg/m<sup>3</sup>    WS=30.5km/hr    WD=8.5degrees</p>			
<b>Immediate Actions Taken:</b>			
Validated Real-time data and Reported to AESRD			
<b>Investigation Details:</b>			
Not Applicable			
<b>Actions Taken to Prevent Reoccurrence (if any):</b>			
Not Applicable			
<b>Additional Actions Required (if any):</b>			
Not applicable			
Report Completed By:	Christopher Hendrickson	Date Report Submitted:	May 6 2013
<b>7-Day Letter Due Date:</b>	May 13 2013		



## Air Monitoring Directive Exceedence Report

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

<b>Reference Number:</b>	269764	<b>Reported To (AESRD Contact):</b>	Karla
<b>Date &amp; Time Incident Reported to AESRD:</b>	May 8 2013 06:30	<b>Reported By:</b>	Christopher Hendrickson
<b>Reported on Behalf of:</b>	PAZA	<b>Approval Number (if applicable):</b>	NA
<b>Location(s) of Incident:</b>	Guide-Fahler		
<b>Start Date &amp; Time of Incident:</b>	May 8, 2013 04:00	<b>End Date &amp; Time of Incident:</b>	May 8 2013 05:00
<b>Reason or Nature of Incident:</b>			
<p>On May 6 the H<sub>2</sub>S exceeded the hourly value of 10.5ppb, details as follows:          05:00 MST H<sub>2</sub>S=22.8ppb WS=21.0km/hr WD=95.5degrees</p>			
<b>Immediate Actions Taken:</b>			
Validated real time data and reported to AESRD			
<b>Investigation Details:</b>			
Not Applicable			
<b>Actions Taken to Prevent Reoccurrence (if any):</b>			
Not Applicable			
<b>Additional Actions Required (if any):</b>			
Not applicable			
Report Completed By:	Christopher Hendrickson	Date Report Submitted:	May 8 2013
<b>7-Day Letter Due Date:</b>	May 15 2013		

## Air Monitoring Directive Exceedence Report

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

<b>Reference Number:</b>	269958	<b>Reported To (AESRD Contact):</b>	Jasmina
<b>Date &amp; Time Incident Reported to AESRD:</b>	May 12, 2013 14:00	<b>Reported By:</b>	Christopher Hendrickson
<b>Reported on Behalf of:</b>	PAZA	<b>Approval Number (if applicable):</b>	NA
<b>Location(s) of Incident:</b>	Beaverlodge		
<b>Start Date &amp; Time of Incident:</b>	May 12, 2013 at 10:00	<b>End Date &amp; Time of Incident:</b>	May 12, 2013 at 12:00
<b>Reason or Nature of Incident:</b>			
On May 12 <sup>th</sup> the PM2.5 exceeded the hourly value of 80 µg/m <sup>3</sup> PM2.5, details as follows: 11:00 MST PM2.5 = 84.2 µg/m <sup>3</sup> WS=54.1 km/hr WD=255.0degrees 12:00 MST PM2.5 = 146.5 µg/m <sup>3</sup> WS=45.6 km/hr WD=251.0degrees			
<b>Immediate Actions Taken:</b>			
Validated real-time data and Reported to AESRD			
<b>Investigation Details:</b>			
Not applicable			
<b>Actions Taken to Prevent Reoccurrence (if any):</b>			
Not applicable			
<b>Additional Actions Required (if any):</b>			
Not applicable			
<b>Report Completed By:</b>	Christopher Hendrickson	<b>Date Report Submitted:</b>	May 12, 2013
<b>7-Day Letter Due Date:</b>	May 19 2013		

## Air Monitoring Directive Exceedence Report

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

<b>Reference Number:</b>	270168	<b>Reported To (AENV Contact):</b>	Stephan												
<b>Date &amp; Time Incident Reported to AENV:</b>	May 17, 2013 08:45	<b>Reported By:</b>	Focus-Gagandeep Singh												
<b>Reported on Behalf of:</b>	PAZA	<b>Approval Number (if applicable):</b>	Not applicable												
<b>Location(s) of Incident:</b>	Guide Falher Air Quality Station														
<b>Start Date &amp; Time of Incident:</b>	May 17, 2013 01:00 MST	<b>End Date &amp; Time of Incident:</b>	May 17, 2013 06:00 MST												
<b>Reason or Nature of Incident:</b>															
<p>The H<sub>2</sub>S analyzer exceeded the Alberta Air Quality Ambient Guideline limit for a 1-hour average of PM<sub>2.5</sub> which is 10.0 ppb</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 25%;">01:00 MST</td> <td style="width: 25%;">H<sub>2</sub>S = 24.1ppb</td> <td style="width: 25%;">WS = 11.5 km/h</td> <td style="width: 25%;">WD = 104.8 deg</td> </tr> <tr> <td>02:00 MST</td> <td>H<sub>2</sub>S = 23.5ppb</td> <td>WS = 12.0 km/h</td> <td>WD = 97.9 deg</td> </tr> <tr> <td>05:00 MST</td> <td>H<sub>2</sub>S = 25.3ppb</td> <td>WS = 11.4 km/h</td> <td>WD = 117.4 deg</td> </tr> </table>				01:00 MST	H <sub>2</sub> S = 24.1ppb	WS = 11.5 km/h	WD = 104.8 deg	02:00 MST	H <sub>2</sub> S = 23.5ppb	WS = 12.0 km/h	WD = 97.9 deg	05:00 MST	H <sub>2</sub> S = 25.3ppb	WS = 11.4 km/h	WD = 117.4 deg
01:00 MST	H <sub>2</sub> S = 24.1ppb	WS = 11.5 km/h	WD = 104.8 deg												
02:00 MST	H <sub>2</sub> S = 23.5ppb	WS = 12.0 km/h	WD = 97.9 deg												
05:00 MST	H <sub>2</sub> S = 25.3ppb	WS = 11.4 km/h	WD = 117.4 deg												
<b>Immediate Actions Taken:</b>															
Confirmed validity of data and reported to AESRD Environmental Service Response Centre.															
<b>Investigation Details:</b>															
Unknown															
<b>Actions Taken to Prevent Reoccurrence (if any):</b>															
Not applicable															
<b>Additional Actions Required (if any):</b>															
Not applicable															
<b>Report Completed By:</b>	Gagandeep Singh	<b>Date Report Submitted:</b>	May 17, 2013												
<b>7-Day Letter Due Date:</b>	May 24, 2013														

## Air Monitoring Directive Exceedence Report

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

<b>Reference Number:</b>	271743	<b>Reported To (AESRD Contact):</b>	Raymond
<b>Date &amp; Time Incident Reported to AESRD:</b>	June 25, 2013 15:35	<b>Reported By:</b>	Patrick Andersen
<b>Reported on Behalf of:</b>	PAZA	<b>Approval Number (if applicable):</b>	NA
<b>Location(s) of Incident:</b>	Guide-Falher		
<b>Start Date &amp; Time of Incident:</b>	May 17, 2013 00:00	<b>End Date &amp; Time of Incident:</b>	May 18 2013 00:00
<b>Reason or Nature of Incident:</b>			
<p>On May 17 the H<sub>2</sub>S exceeded the 24-hour value of 4ppb, details as follows:</p> <p>H<sub>2</sub>S=4.5ppb    WS=9.8km/hr    WD=143degrees</p>			
<b>Immediate Actions Taken:</b>			
None			
<b>Investigation Details:</b>			
Not Applicable			
<b>Actions Taken to Prevent Reoccurrence (if any):</b>			
Not Applicable			
<b>Additional Actions Required (if any):</b>			
Not applicable			
<b>Report Completed By:</b>	Patrick Andersen	<b>Date Report Submitted:</b>	June 25, 2013
<b>7-Day Letter Due Date:</b>	July 2, 2013		

# May 2013 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 – Valleyview Station with the following calibrations:  
SO<sub>2</sub> & H<sub>2</sub>S**

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

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

# Calibration Report



Parameter SO2

Air Monitoring Network PAZA

## Station Information

Calibration Date	May 17, 2013	Previous Calibration	April 12, 2013
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)	9:58	End Time (MST)	13:29
Barometric Pressure	na ATM	Station Temperature	20.5 Deg C
Calibrator	Envionics 6100	Serial Number	3016
Cal Gas Conc	50.8 ppm	Cal Gas Cert Date	March 12, 2014
		Cal Gas Cylinder #	LL107272
DACS make	CR3000	DACS serial No.	5408
DACS voltage range	0 - 1 volt	DACS channel #	10
	Before		After
Calculated slope	1.004816	Calculated slope	0.998713
Calculated intercept	1.044649	Calculated intercept	1.835652
Analyzer make	TEI 43C	Analyzer serial #	610816292

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
Background	9.1		9.1	
Coefficient	0.793		0.793	
Pressure	643.3	mm Hg	638.3	mm Hg
Flow	0.490	lpm	0.486	lpm
Lamp Voltage	44184	Hz	44287	Hz

## Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
4990	0.00	0.0	0.2	N/A
4990	39.92	403.2	403.0	1.0005
4990	19.98	202.6	199.6	1.0151
4990	9.98	101.4	98.0	1.0351
4990	0.00	0.0	0.2	As Found Zero
4990	39.94	403.4	403.0	As Found Span
Average Correction Factor				1.0169

Calculated value of As Found Response: 405.8 ppb      Percent Change of As Found: -0.6%

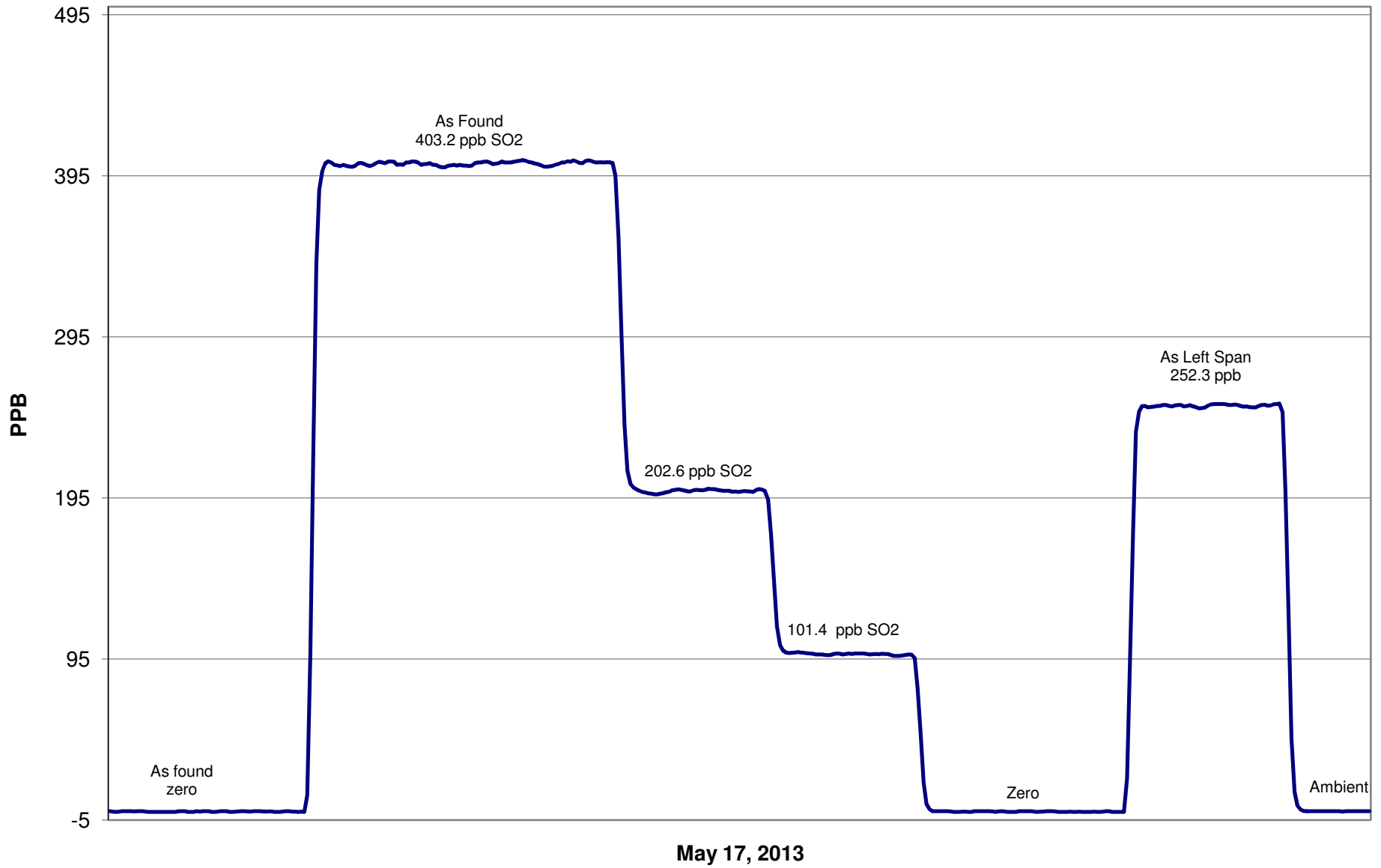
	before calibration		after calibration	
Auto zero	0.1	ppb	0.1	ppb
Auto span	247.2	ppb	252.3	ppb

Notes: No adjustment required.

Calibration Performed By: Grover Christiansen



# SO2 Calibration





# Calibration Report

Parameter

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

Air Monitoring Network

PAZA



## Station Information

Calibration Date	May 17, 2013	Previous Calibration	April 11, 2013
Station Number	1	Station Location	Henry Pirker
Reason:	<b>Routine</b>	Installation	Removal
Other:			
Start Time (MST)	9:58	End Time (MST)	15:30
Barometric Pressure	na	Atm	Station Temperature
Calibrator	EnviroNics 6100	Serial Number	3016
NO Cal Gas Conc	51.2	ppm	Cal Gas Expiry Date
NOx Cal Gas Conc	51.2	ppm	Cal Gas Serial #
			March 12, 2014
			LL107272

## DACS Information

DACS make	CR3000	DACS serial No.	5408
Parameter	NO2	NOx	NO
Before	Data Slope	0.992544	0.995355
	Data Offset	1.028711	2.083656
After	Data Slope	1.000867	0.999418
	Data Offset	-1.196663	1.871495
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	12.9	mV	12.9	mV
NOx bkgnd	14.3	mV	14.3	mV
NO coefficient	1.101		1.101	
NOx coefficient	1.001		1.001	
NO2 conv temp	319.0	Deg C	319.0	Deg C
PMT Temp	-2.4	Deg C	-2.4	Deg C
PMT Volt	-768.0	mV	-768.0	mV
R Cell Press	175.4	in Hg	175.5	in Hg

# Calibration Report

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



Calibration Date: **May 17, 2013** Station Location: **Henry Pirker**

	Dilution flow rate (ccm)	Source gas flow rate (ccm)	Calculated NOx conc (ppb)	Calculated NO conc (ppb)	Calculated NO2 conc (ppb)	Indicated NOx conc (ppb)	Indicated NO conc (ppb)	Indicated NO2 conc (ppb)	NOx Correction factor	NO Correction factor	
zero	4990	0.00	0.0	0.0	0.0	-0.4	-0.1	-0.4	N/A	N/A	
1	4990	39.92	406.3	406.3	0.0	405.6	404.9	0.5	1.0019	1.0035	
2	4990	19.98	204.2	204.2	0.0	201.3	200.7	0.4	1.0145	1.0174	
3	4990	9.98	102.2	102.2	0.0	99.2	98.9	0.2	1.0298	1.0332	
AFZ	4990	0.00	0.0	0.0	0.0	-0.4	-0.1	-0.4	0.0000	0.0000	
AFS	4990	39.94	406.6	406.6	0.0	416.9	415.8	0.9	0.9751	0.9777	
									Average Correction Factor	1.0154	1.0180

As Found Concentrations: **NO<sub>x</sub>= 419.4** **NO= 417.7** As Found Percent Change **NO<sub>x</sub>= 3.2%** **NO= 2.7%**

Dilution Flow 4990 ccm Source Gas Flow 39.94 ccm

O3 Setpoint (ppb)	Indicated NO high point (ppb)	Indicated NO drop conc (ppb)	Calculated NO2 conc (ppb)	Indicated NOx conc (ppb)	Indicated NO conc (ppb)	Indicated NO2 conc (ppb)	NOx Correction factor	NO Correction factor	NO2 Correction factor	Converter Efficiency	
0	-0.1	-0.1	0.0	-0.4	-0.1	-0.4	N/A	N/A	N/A	N/A	
NO point	404.5	404.5	0.0	405.1	404.5	0.4	0.9986	1.0000	N/A	N/A	
300	404.5	93.4	311.2	404.4	93.4	311.2	1.0004	1.0000	1.0000	100.0%	
200	404.5	191.3	213.3	405.4	191.3	214.2	0.9979	1.0000	0.9956	100.4%	
100	404.5	292.6	112.0	408.3	292.6	115.7	0.9908	1.0000	0.9679	103.3%	
							Average Correction Factor	0.9963	1.0000	0.9878	101.3%

Parameter	Previous calibration				Current calibration			
	NOx	NO2	NO		NOx	NO2	NO	
Auto zero	0.0	-0.3	0.0	ppb	0.0	-0.1	-0.1	ppb
Auto span	328.3	326.9	1.6	ppb	329.1	327.3	1.9	ppb

Calibration Performed By: Grover Christiansen

# Calibration Summary



Parameter NO<sub>2</sub>

Air Monitoring Network PAZA

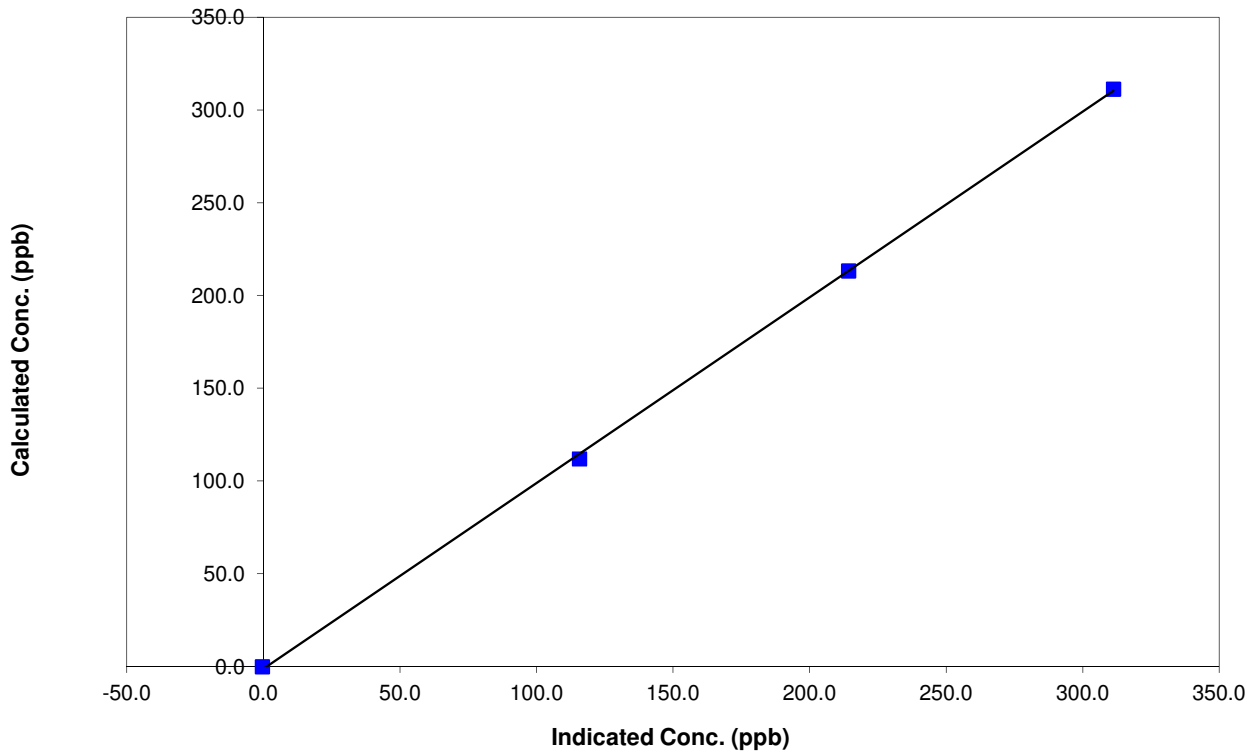
## Station Information

Calibration Date	May 17, 2013	Previous Calibration	April 11, 2013
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	9:58	End Time (MST)	15:30
Analyzer make	TEI 42C	Analyzer serial #	508011073

## Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.4	N/A	Correlation Coefficient	0.999807
311.2	311.2	1.0000		
213.3	214.2	0.9956	Slope	1.000867
112.0	115.7	0.9679		
			Intercept	-1.196663

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



# Calibration Summary

Parameter NO<sub>x</sub>

Air Monitoring Network PAZA



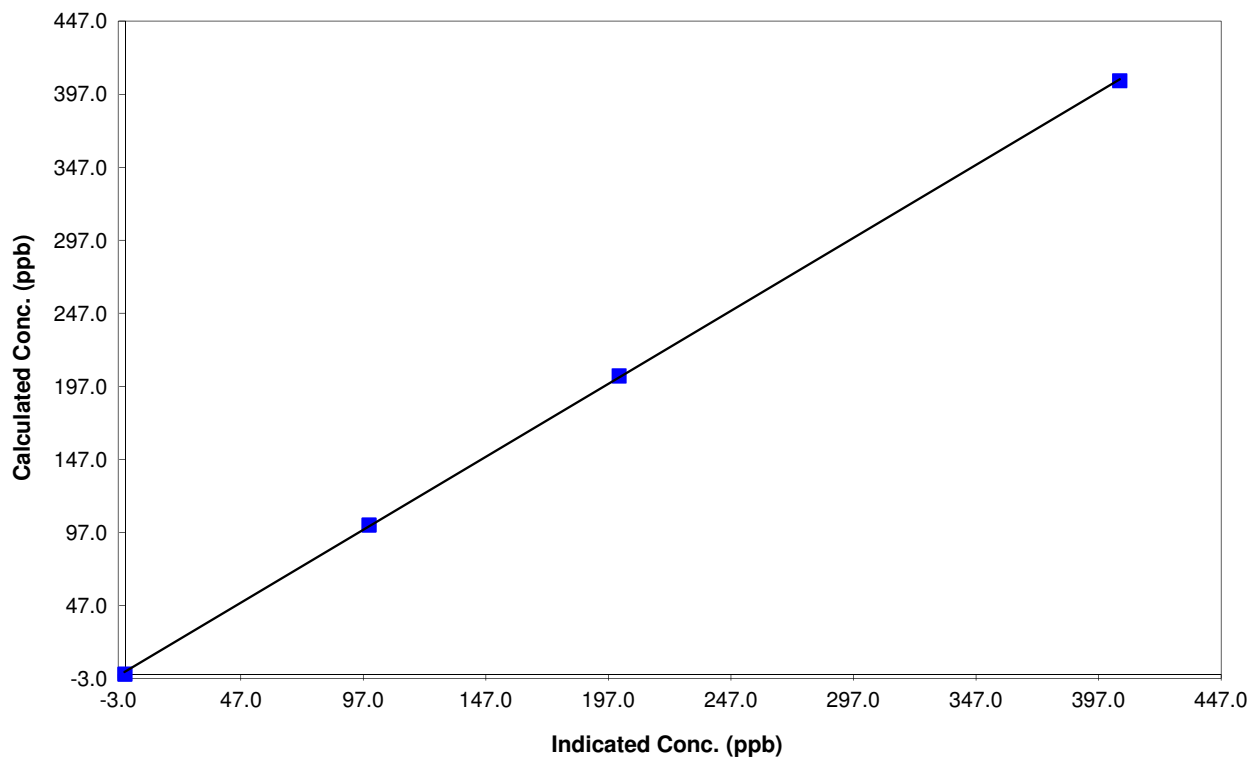
## Station Information

Calibration Date	May 17, 2013	Previous Calibration	April 11, 2013
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	9:58	End Time (MST)	15:30
Analyzer make	TEI 42C	Analyzer serial #	508011073

## Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.4	N/A	Correlation Coefficient	0.999939
406.3	405.6	1.0019		
204.2	201.3	1.0145	Slope	0.999418
102.2	99.2	1.0298		
			Intercept	1.871495

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



# Calibration Summary

Parameter NO

Air Monitoring Network PAZA



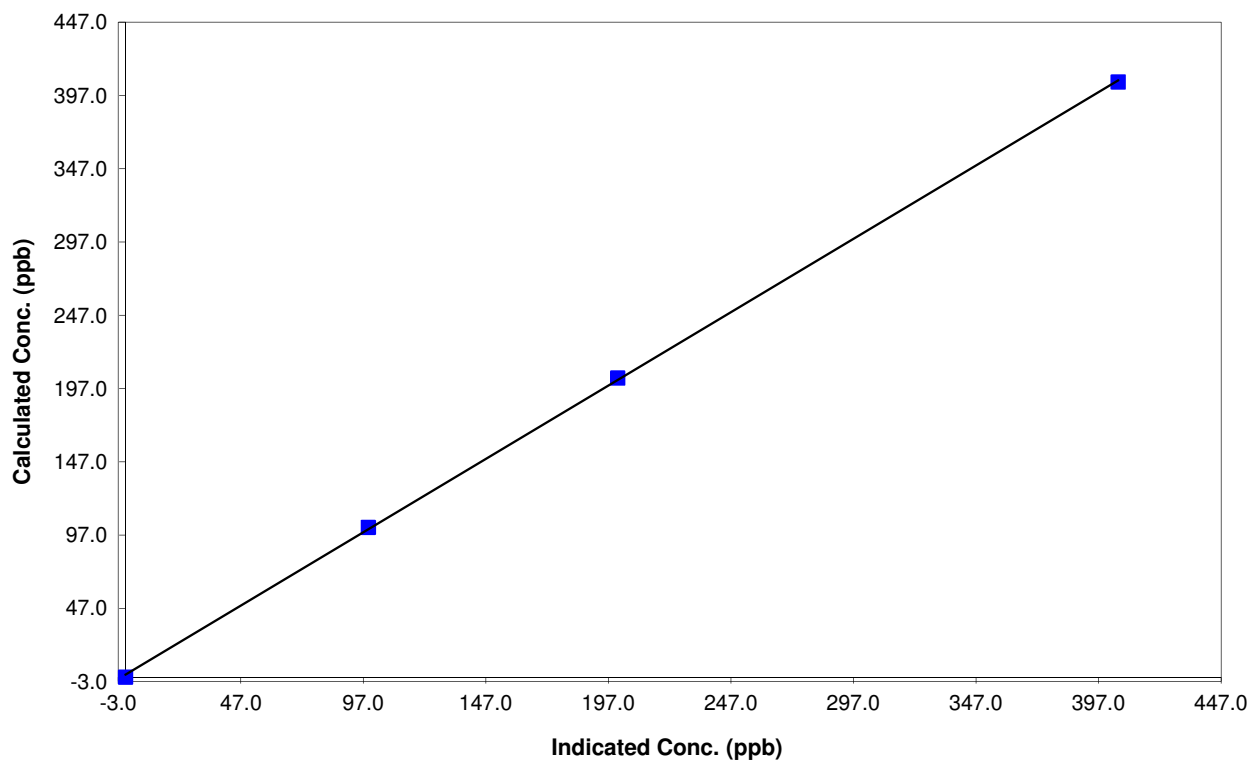
## Station Information

Calibration Date	May 17, 2013	Previous Calibration	April 11, 2013
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	9:58	End Time (MST)	15:30
Analyzer make	TEI 42C	Analyzer serial #	508011073

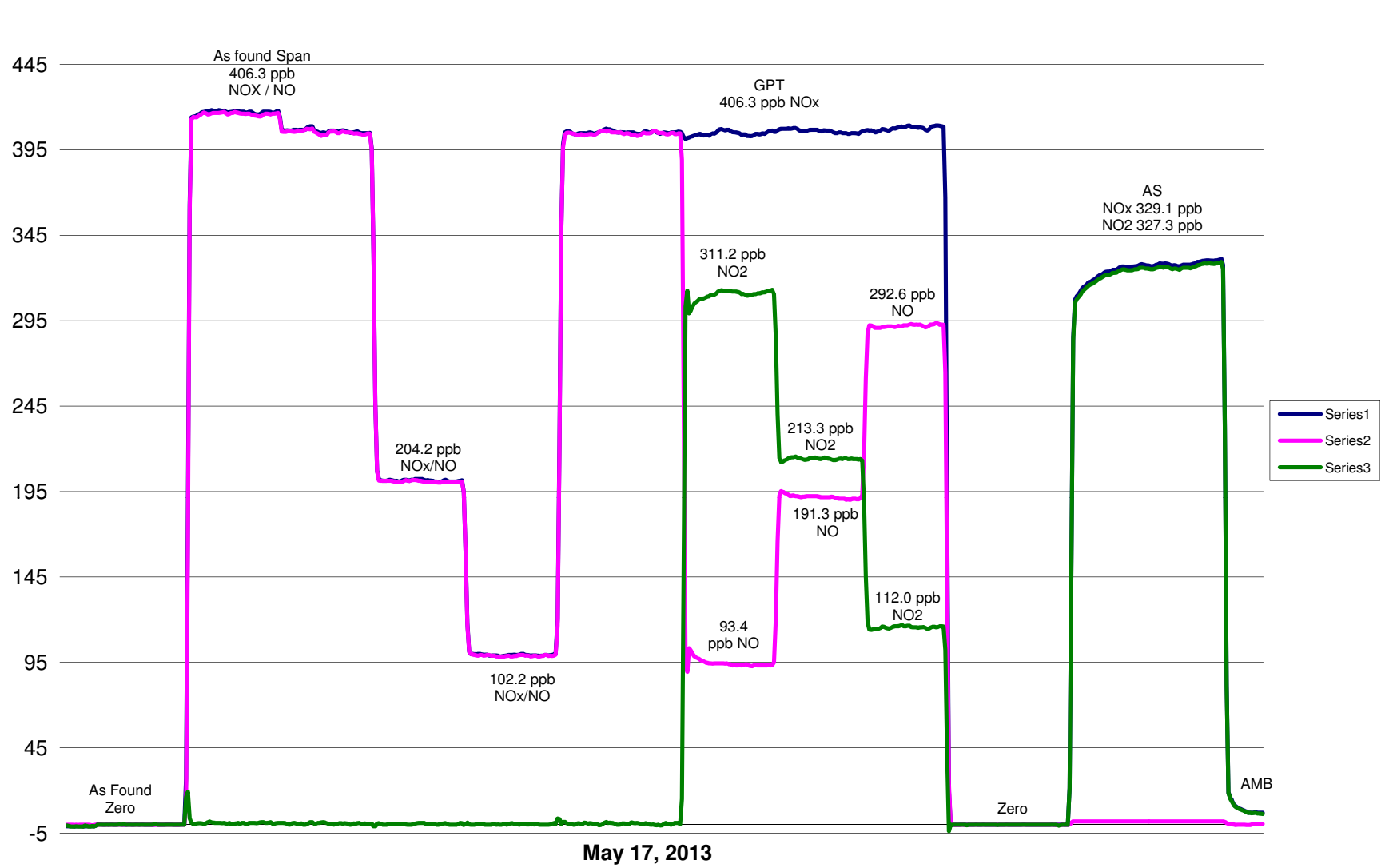
## Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.1	N/A	Correlation Coefficient	0.999916
406.3	404.9	1.0035		
204.2	200.7	1.0174	Slope	1.001598
102.2	98.9	1.0332		

## NO Calibration Curve



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

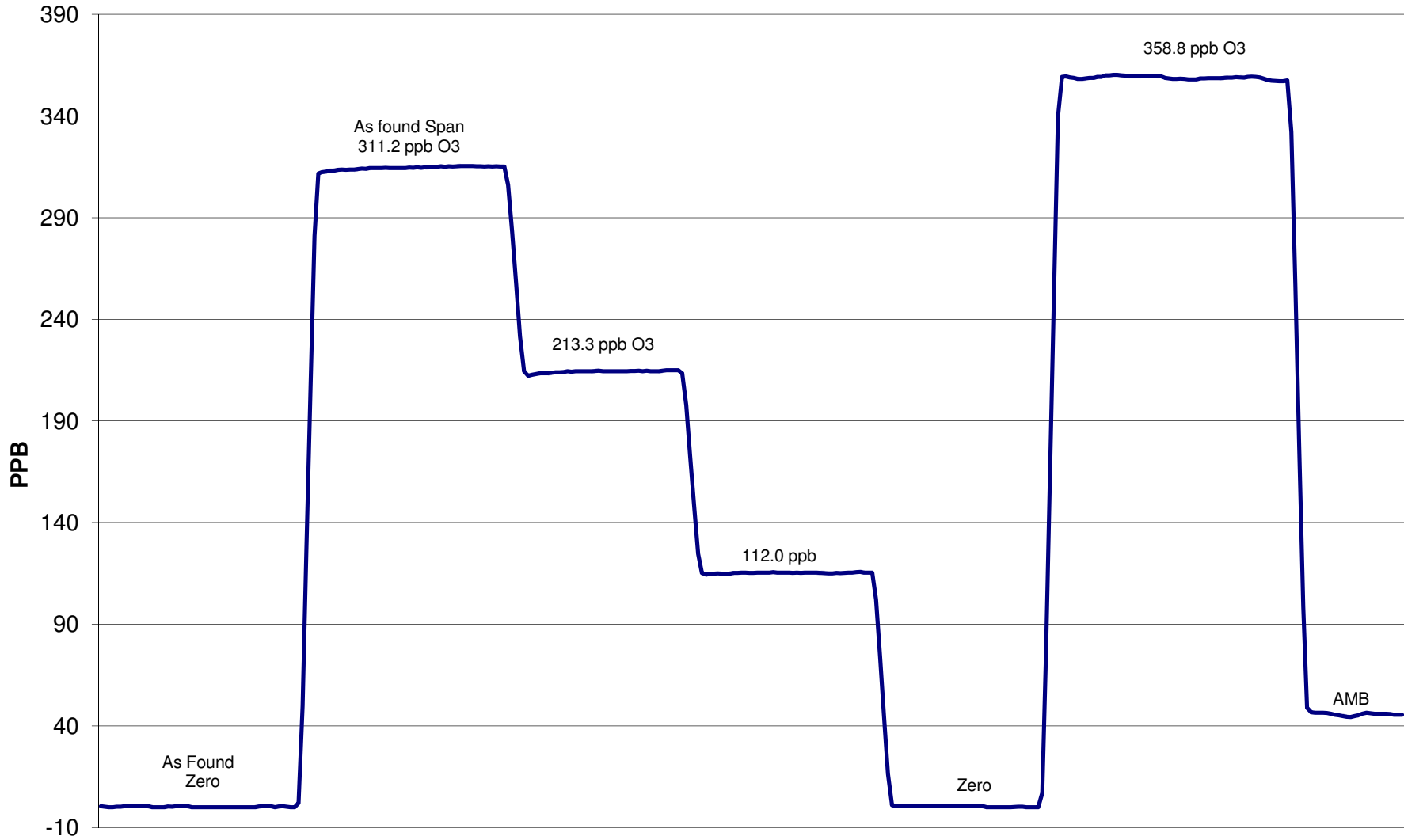








# O3 Calibration



May 17, 2013

# Calibration Report



Parameter CO

Air Monitoring Network PAZA

## Station Information

Calibration Date	May 22, 2013	Previous Calibration	April 8, 2013
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)	7:15	End Time (MST)	9:43
Barometric Pressure	0.922 ATM	Station Temperature	21.0 Deg C
Calibrator	EnviroNics 6100	Serial Number	3016
Cal Gas Conc	2898 ppm	Cal Gas Expiry Date	2/04/13
		Cal Gas Cylinder #	LL83909
DACS make	CR3000	DACS serial No.	5408
DACS voltage range	0 - 1 volt	DACS channel #	9
	Before		After
Calculated slope	1.001385	Calculated slope	0.997057
Calculated intercept	0.024978	Calculated intercept	0.026355
Analyzer make	TEI Model 48C	Analyzer serial #	508011062

	before		after	
Concentration range	0 - 50	ppm	0 - 50	ppm
CO span setting	1.130		1.130	
CO zero setting	5.787		4.960	
Sample pressure	690.1	mm Hg	690.9	mm Hg
Sample Flow	1.124	LPM	1.127	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)
4995	0.00	0.00	0.16	N/A
4995	69.94	40.02	40.19	0.9956
4995	34.96	20.14	20.11	1.0018
4995	17.96	10.38	10.18	1.0196
4995	0.00	0.00	0.16	As Found Zero
4995	69.94	40.02	40.19	As Found Span
Average Correction Factor				1.0057

Calculated value of As Found Response: 40.114 ppm      Percent Change of As Found: -0.2%

	before calibration		after calibration	
Auto zero	0.03	ppm	0.03	ppm
Auto span	19.96	ppm	20.37	ppm

Notes: No adjustment made. Will replace corelation wheel next cal.

Calibration Performed By: Grover Christiansen

# Calibration Summary

Parameter CO  
 Air Monitoring Network PAZA

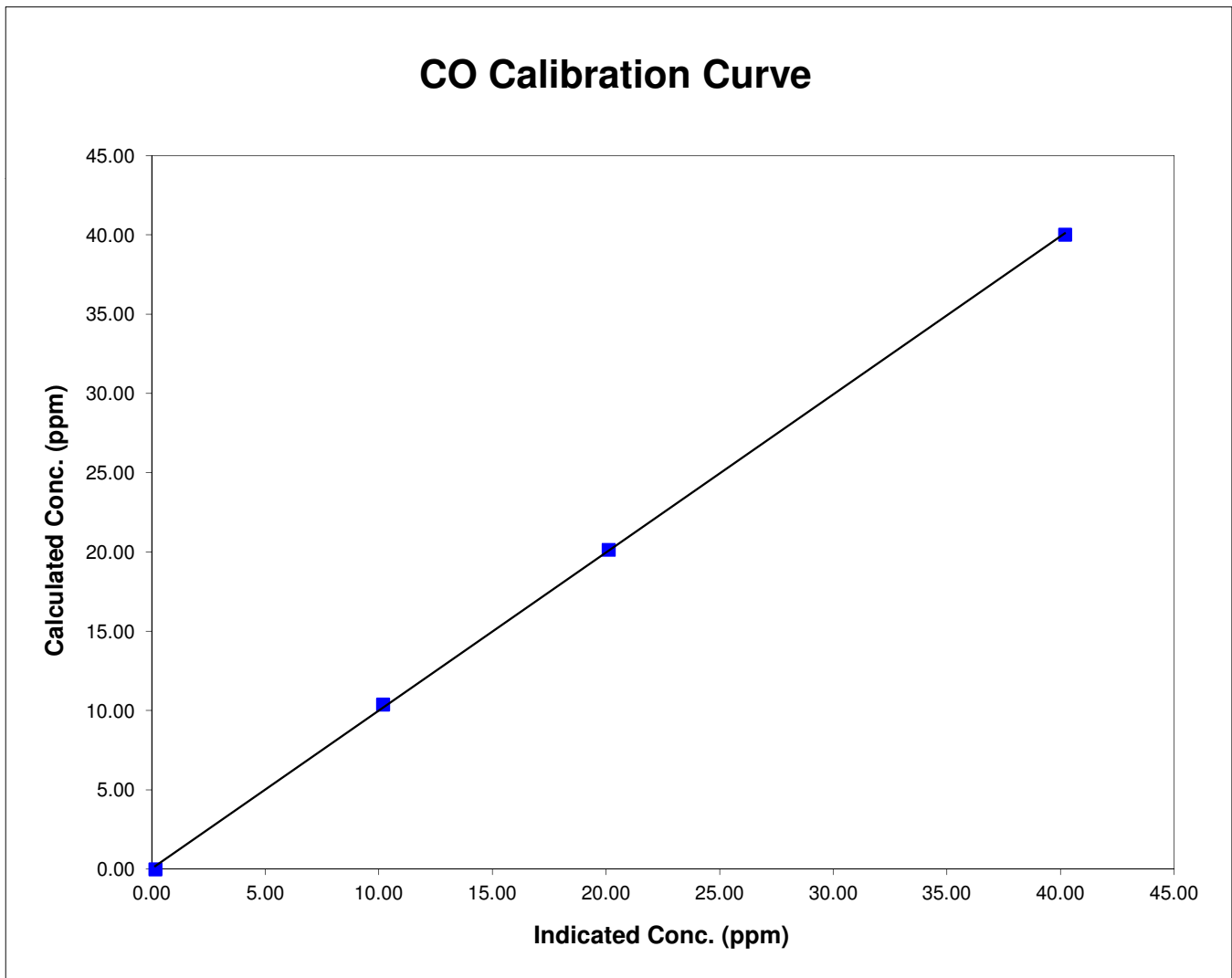


## Station Information

Calibration Date	May 22, 2013	Previous Calibration	April 8, 2013
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	7:15	End Time (MST)	9:43
Analyzer make/model	TEI Model 48C	Analyzer serial #	508011062

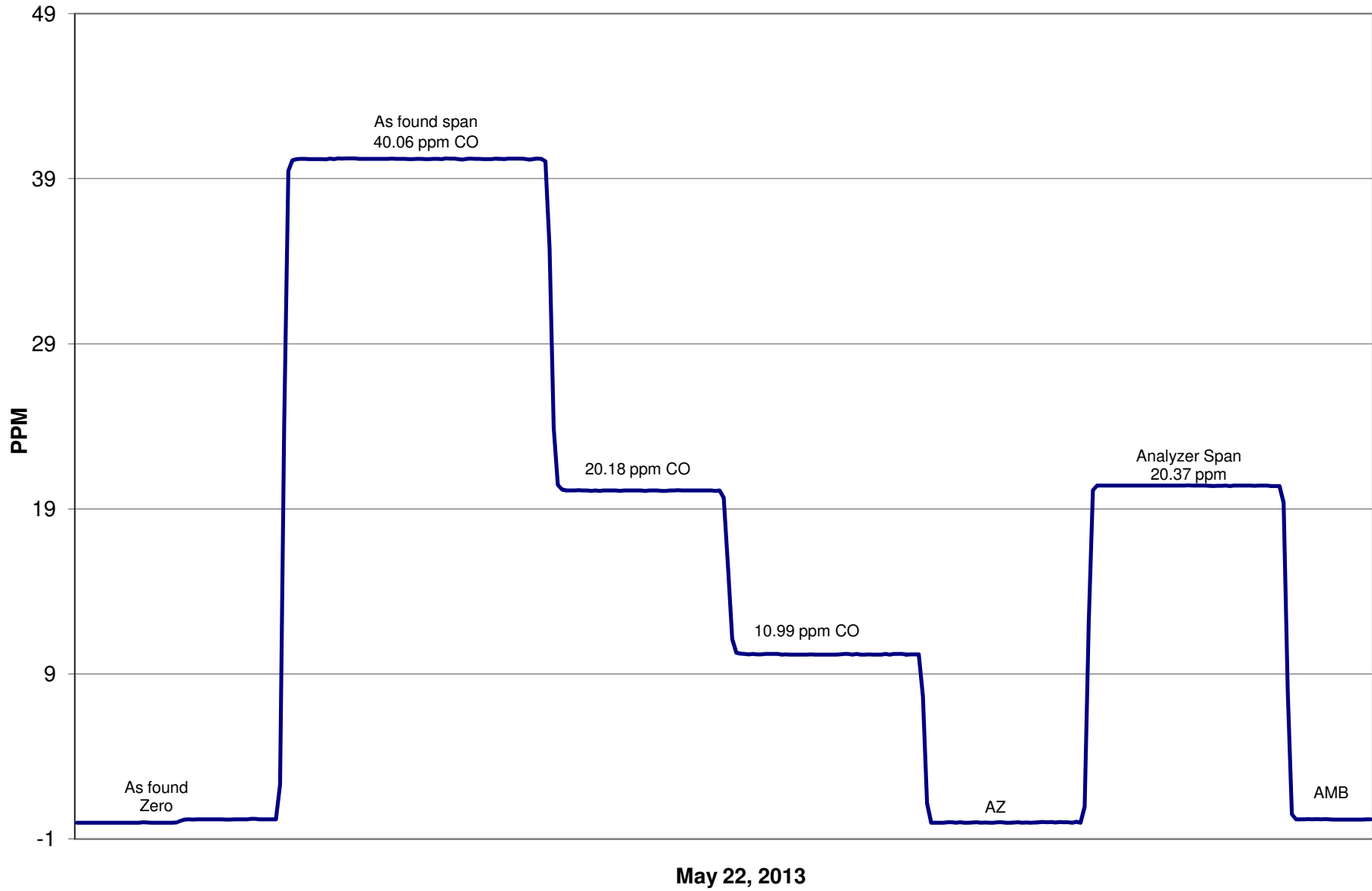
## Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.161	N/A	Correlation Coefficient	0.999899
40.017	40.195	0.9956		
20.142	20.106	1.0018	Slope	0.997057
10.383	10.183	1.0196		
			Intercept	0.026355



11.15 ppm CO

# CO Calibration



# Calibration Report

Parameter CH4 / NMHC / THC

Air Monitoring Network PAZA



## Station Information

Calibration Date	May 8, 2013	Previous Calibration	April 12, 2013
Station Number	1	Station Location	Henry Pirker
Reason:	<input type="checkbox"/> Routine	<input checked="" type="checkbox"/> Install	<input type="checkbox"/> Removal
		<input type="checkbox"/> Other:	

Start Time (MST)	10:20	End Time (MST)	13:05
Barometric Pressure	inches Hg	Station Temperature	20.0 Deg C
Calibrator	EnviroNics 6100	Serial Number	3016
Cal Gas CH4 Conc	404 ppm CH4	Cal Gas Expiry Date	3/28/14
Cal Gas C3H8 Conc	201x2.75= 552.75 ppm CH4	Cal Gas Cylinder #	LL28503
DACS make	CR3000	DACS serial No.	5408
DACS voltage range	0 - 5 volt	DACS channel #	SE 11,12,13

Analyzer make TEI 55I Analyzer serial # loaner

	before		after	
Concentration range	0-20 (CH4, NMHC); 0-40 (THC)	ppm	0-20 (CH4, NMHC); 0-40 (THC)	ppm
Air pressure	32.9	PSI	32.9	PSI
Fuel pressure	36.3	PSI	36.3	PSI
Carrier pressure	26	PSI	26	PSI
CH4 cal factor	3.70		3.70	
NMHC cal factor	9.63		9.63	
Rt	12.20	Sec	12.20	Sec
Pk Index	16.00		16.00	

## CH4 Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
2000	0.00	0.00	0.01	N/A
2000	64.93	12.70	12.81	0.9920
2000	39.93	7.91	7.82	1.0111
2000	14.95	3.00	2.87	1.0461
			0.01	As Found Zero
			12.81	As Found Span
Average Correction Factor				1.0164

Calculated value of As Found Response: 12.828 ppm Percent Change of As Found: NA

	Before		After
Calculated slope	0.997273	Calculated slope	0.990923
Calculated intercept	0.069640	Calculated intercept	0.079491

## Final Zero/Span Data

	before calibration		after calibration	
Auto zero	N/A	ppm	0.07	ppm
Auto span	N/A	ppm	NA	ppm

**NMHC Calibration Data**

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
2000	0.00	0.00	0.05	N/A
2000	64.93	17.38	17.44	0.9966
2000	39.93	10.82	10.78	1.0034
2000	14.95	4.10	4.08	1.0060
			0.05	As Found Zero
			17.44	As Found Span
Average Correction Factor				1.0020

Calculated value of As Found Response: 17.307 ppm      Percent Change of As Found: NA

	<u>Before</u>		<u>After</u>
Calculated slope	0.995703	Calculated slope	0.999153
Calculated intercept	-0.007508	Calculated intercept	-0.005604

**Final Zero/Span Data**

	before calibration		after calibration	
Auto zero	0.05	ppm	0.05	ppm
Auto span	11.66	ppm	NA	ppm

**THC Calibration Data**

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
2000	0.00	0.00	0.07	N/A
2000	64.93	30.08	30.21	0.9958
2000	39.93	18.73	18.60	1.0071
2000	14.95	7.10	6.94	1.0231
			0.07	As Found Zero
			30.21	As Found Span
Average Correction Factor				1.0087

Calculated value of As Found Response: 30.114 ppm      Percent Change of As Found: NA

	<u>Before</u>		<u>After</u>
Calculated slope	0.997554	Calculated slope	0.997099
Calculated intercept	0.051575	Calculated intercept	0.063789

**Final Zero/Span Data**

	before calibration		after calibration	
Auto zero	0.02	ppm	0.01	ppm
Auto span	8.09	ppm	NA	ppm

Notes: Pull out calibration on loaner analyzer from CD Nova.  
 \_\_\_\_\_  
 \_\_\_\_\_

Calibration Performed By: Grover Christiansen

# Calibration Summary

Parameter CH4

Air Monitoring Network PAZA



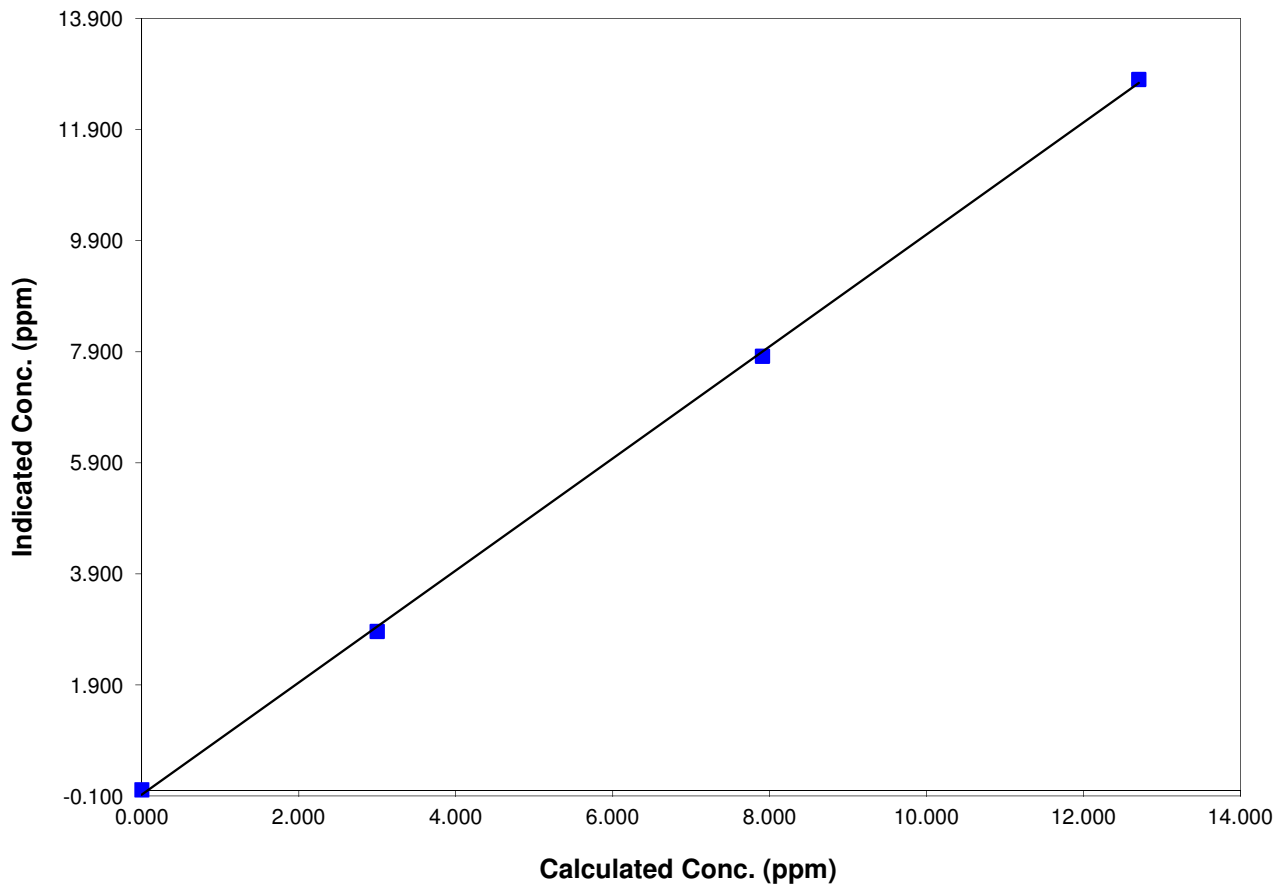
## Station Information

Calibration Date	May 8, 2013	Previous Calibration	April 12, 2013
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	10:20	End Time (MST)	13:05
Analyzer make/model	TEI 55I	Analyzer serial #	loaner

## Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.012	N/A	Correlation Coefficient	0.999734
12.703	12.805	0.9920		
7.908	7.821	1.0111	Slope	0.990923
2.997	2.865	1.0461		
			Intercept	0.079491

## CH4 Calibration Data







# Calibration Summary

Parameter THC

Air Monitoring Network PAZA



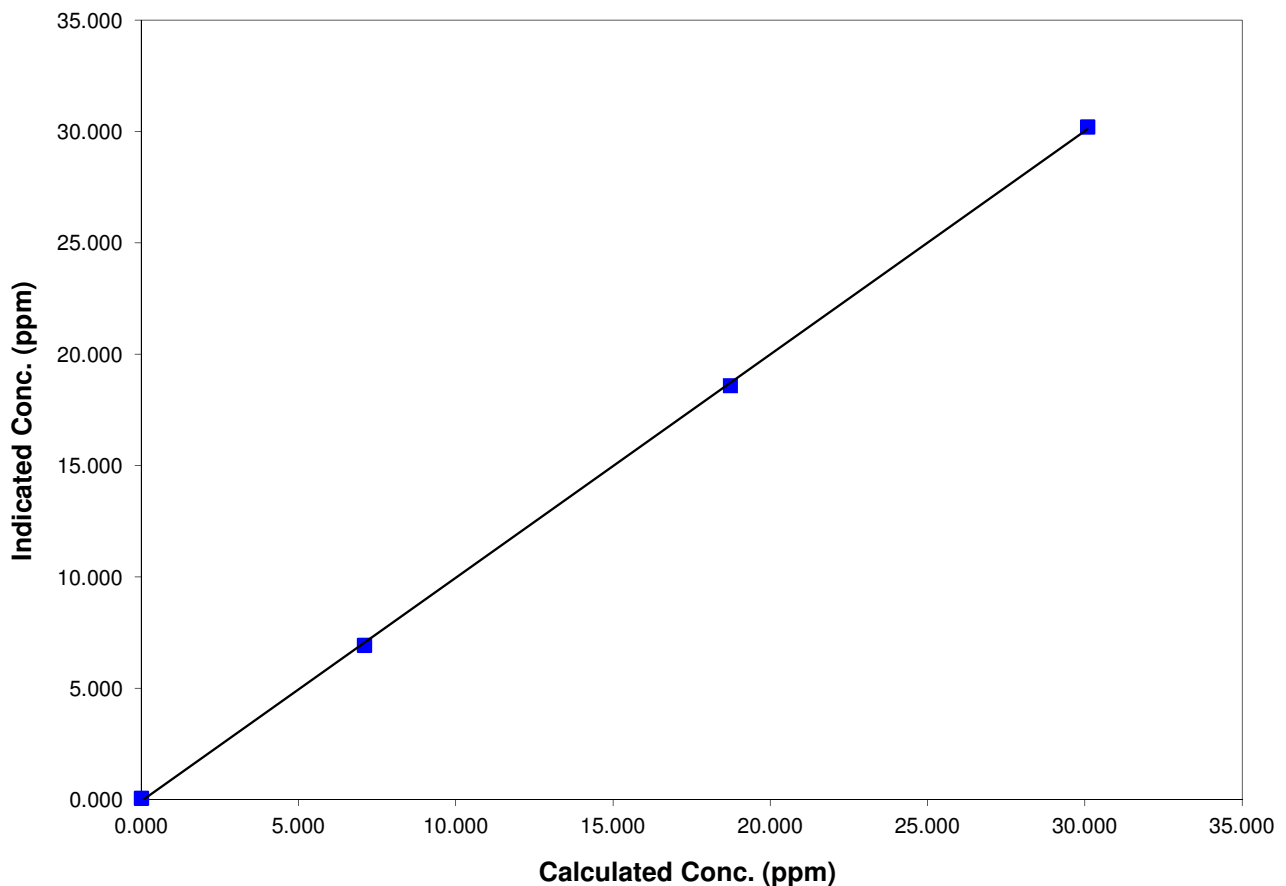
## Station Information

Calibration Date	May 8, 2013	Previous Calibration	April 12, 2013
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	10:20	End Time (MST)	13:05
Analyzer make/model	TEI 55I	Analyzer serial #	loaner

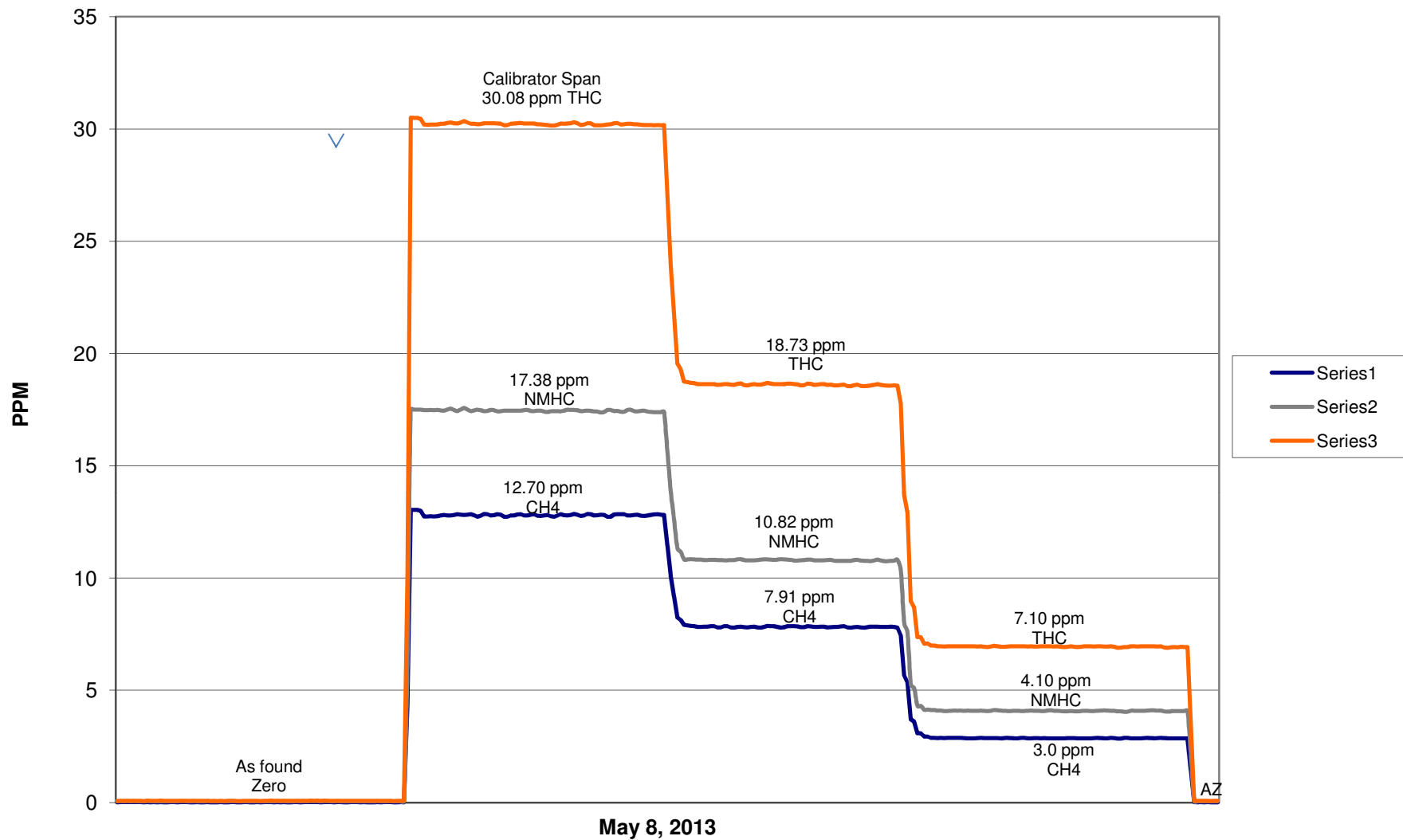
## Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.074	N/A	Correlation Coefficient	0.999890
30.084	30.210	0.9958		
18.728	18.596	1.0071		
7.099	6.938	1.0231		
			Slope	0.997099
			Intercept	0.063789

## THC Calibration Data



### THC/CH<sub>4</sub>/NMHC Calibration



# Calibration Report

Parameter CH4 / NMHC / THC

Air Monitoring Network PAZA



## Station Information

Calibration Date	May 8, 2013	Previous Calibration	May 8, 2013
Station Number	1	Station Location	Henry Pirker
Reason:	<input type="checkbox"/> Routine	<input checked="" type="checkbox"/> Install	<input type="checkbox"/> Removal
			<input type="checkbox"/> Other:

Start Time (MST)	15:15:00 PM	End Time (MST)	17:47
Barometric Pressure	inches Hg	Station Temperature	20.0 Deg C
Calibrator	EnviroNics 6100	Serial Number	3016
Cal Gas CH4 Conc	404 ppm CH4	Cal Gas Expiry Date	3/28/14
Cal Gas C3H8 Conc	201x2.75= 552.75 ppm CH4	Cal Gas Cylinder #	LL28503
DACS make	CR3000	DACS serial No.	5408
DACS voltage range	0 - 5 volt	DACS channel #	SE 11,12,13

Analyzer make TEI 551 Analyzer serial # 1134650658

	before		after	
Concentration range	0-20 (CH4, NMHC); 0-40 (THC)	ppm	0-20 (CH4, NMHC); 0-40 (THC)	ppm
Air pressure	32.9	PSI	32.9	PSI
Fuel pressure	36.3	PSI	36.3	PSI
Carrier pressure	26	PSI	26	PSI
CH4 cal factor	3.70		3.70	
NMHC cal factor	9.63		9.63	
Rt	12.20	Sec	12.20	Sec
Pk Index	16.00		16.00	

## CH4 Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
2000	0.00	0.00	0.02	N/A
2000	64.93	12.70	12.89	0.9853
2000	39.93	7.91	8.04	0.9834
2000	14.95	3.00	3.05	0.9843
			0.02	As Found Zero
			12.89	As Found Span
Average Correction Factor				0.9844

Calculated value of As Found Response: 12.910 ppm Percent Change of As Found: NA

	Before		After
Calculated slope	0.997273	Calculated slope	0.986147
Calculated intercept	0.069640	Calculated intercept	-0.013855

## Final Zero/Span Data

	before calibration		after calibration	
Auto zero	N/A	ppm	0.03	ppm
Auto span	N/A	ppm	9.00	ppm

**NMHC Calibration Data**

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
2000	0.00	0.00	0.02	N/A
2000	64.93	17.38	17.39	0.9994
2000	39.93	10.82	10.98	0.9857
2000	14.95	4.10	4.18	0.9817
			0.02	As Found Zero
			17.39	As Found Span
Average Correction Factor				0.9889

Calculated value of As Found Response: 17.293 ppm      Percent Change of As Found: NA

	<u>Before</u>		<u>After</u>
Calculated slope	0.995703	Calculated slope	0.999398
Calculated intercept	-0.007508	Calculated intercept	-0.060415

**Final Zero/Span Data**

	before calibration		after calibration	
Auto zero	0.02	ppm	0.02	ppm
Auto span	11.66	ppm	12.07	ppm

**THC Calibration Data**

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
2000	0.00	0.00	0.03	N/A
2000	64.93	30.08	30.27	0.9939
2000	39.93	18.73	19.00	0.9859
2000	14.95	7.10	7.22	0.9837
			0.03	As Found Zero
			30.27	As Found Span
Average Correction Factor				0.9879

Calculated value of As Found Response: 30.216 ppm      Percent Change of As Found: NA

	<u>Before</u>		<u>After</u>
Calculated slope	0.997554	Calculated slope	0.994255
Calculated intercept	0.051575	Calculated intercept	-0.068379

**Final Zero/Span Data**

	before calibration		after calibration	
Auto zero	0.02	ppm	0.02	ppm
Auto span	8.09	ppm	21.07	ppm

Notes: Installation calibration. Installed original 55i s/n: 1134650658. Is running on zero air as opposed to Nitrogen. Little blips showing on trace on lower points. Will plumb in Nitrogen cylinder next cal.

Calibration Performed By: Grover Christiansen

# Calibration Summary

Parameter CH4

Air Monitoring Network PAZA



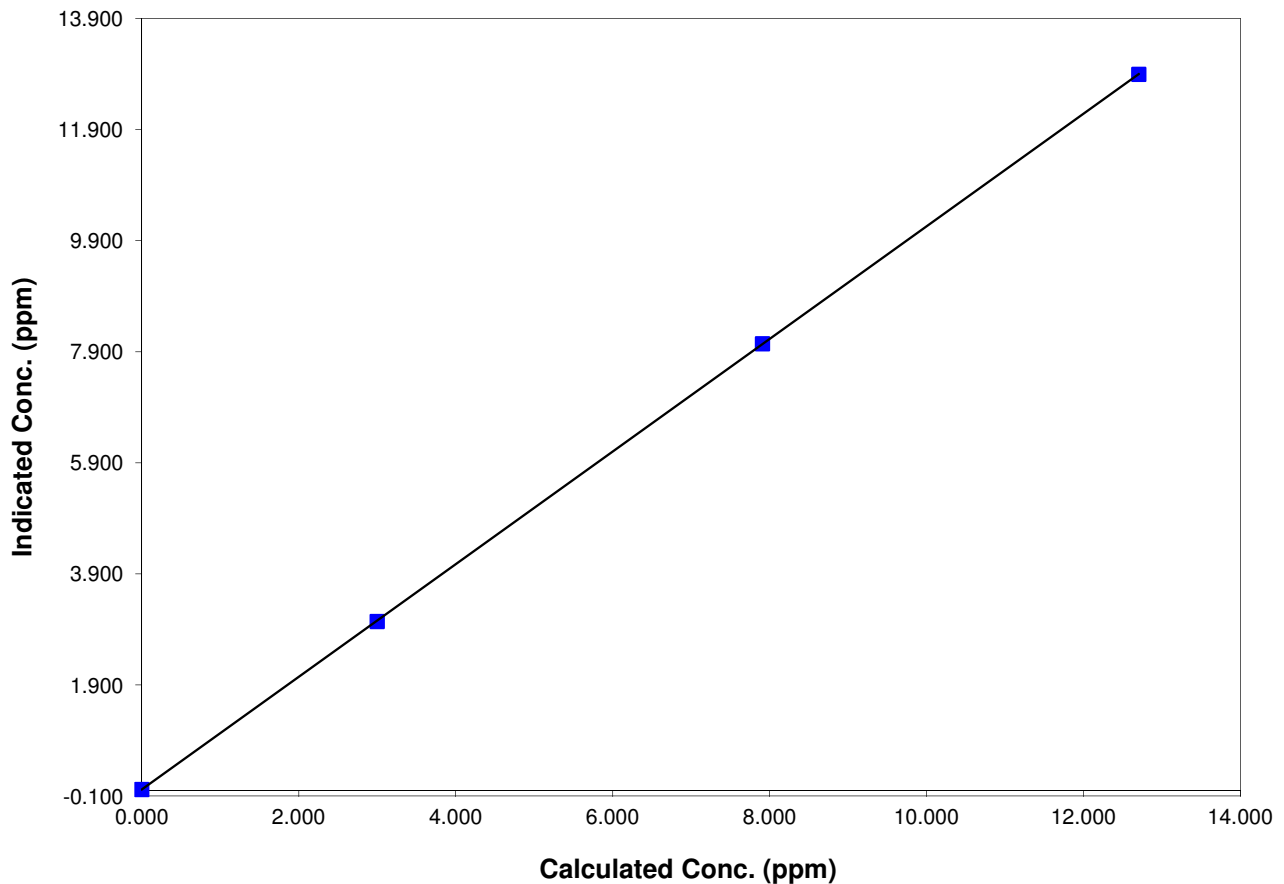
## Station Information

Calibration Date	May 8, 2013	Previous Calibration	May 8, 2013
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	15:15:00 PM	End Time (MST)	17:47
Analyzer make/model	TEI 55I	Analyzer serial #	1134650658

## Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.017	N/A		
12.703	12.893	0.9853	Correlation Coefficient	0.999998
7.908	8.042	0.9834		
2.997	3.045	0.9843	Slope	0.986147
			Intercept	-0.013855

## CH4 Calibration Data



# Calibration Summary

Parameter           NMHC            
Air Monitoring Network                                   PAZA                                  

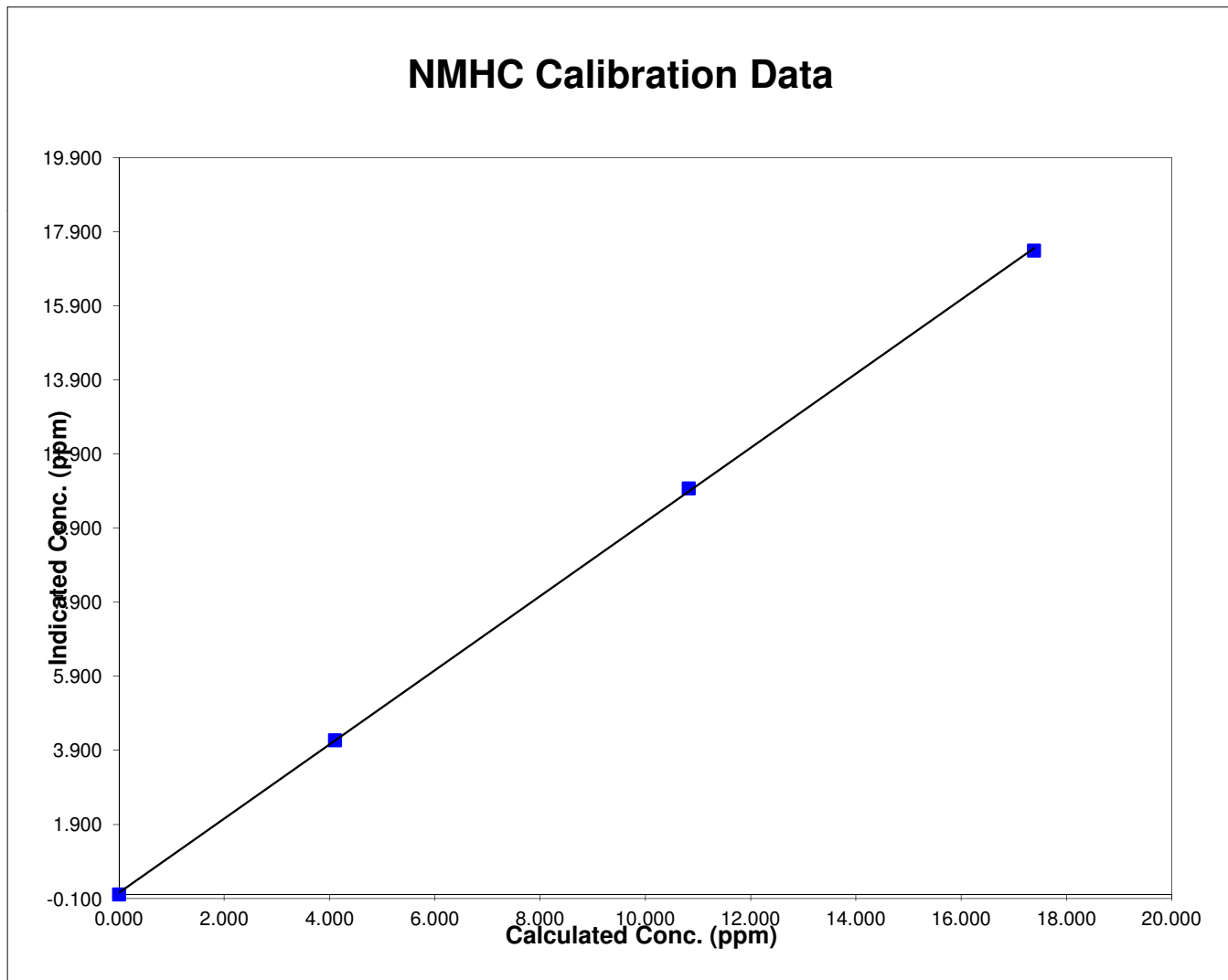


### Station Information

Calibration Date	<u>          May 8, 2013          </u>	Previous Calibration	<u>          May 8, 2013          </u>
Station Number	<u>          1          </u>	Station Location	<u>          Henry Pirker          </u>
Start Time (MST)	<u>          15:15:00 PM          </u>	End Time (MST)	<u>          17:47          </u>
Analyzer make/model	<u>          TEI 55I          </u>	Analyzer serial #	<u>          1134650658          </u>

### Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.017	N/A	Correlation Coefficient	0.999922
17.381	17.392	0.9994		
10.820	10.976	0.9857	Slope	0.999398
4.101	4.178	0.9817		
			Intercept	-0.060415



# Calibration Summary

Parameter THC

Air Monitoring Network PAZA



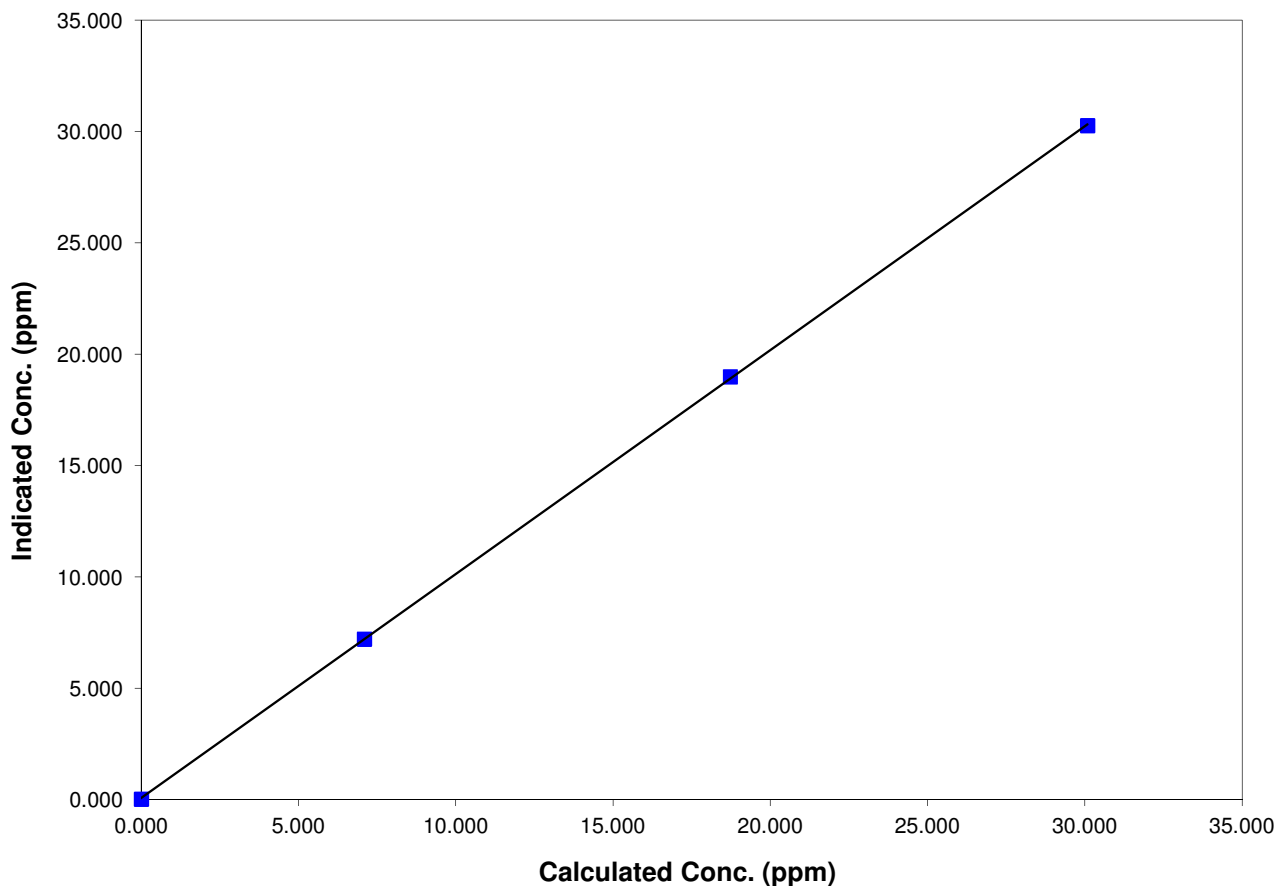
## Station Information

Calibration Date	May 8, 2013	Previous Calibration	May 8, 2013
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	15:15:00 PM	End Time (MST)	17:47
Analyzer make/model	TEI 55I	Analyzer serial #	1134650658

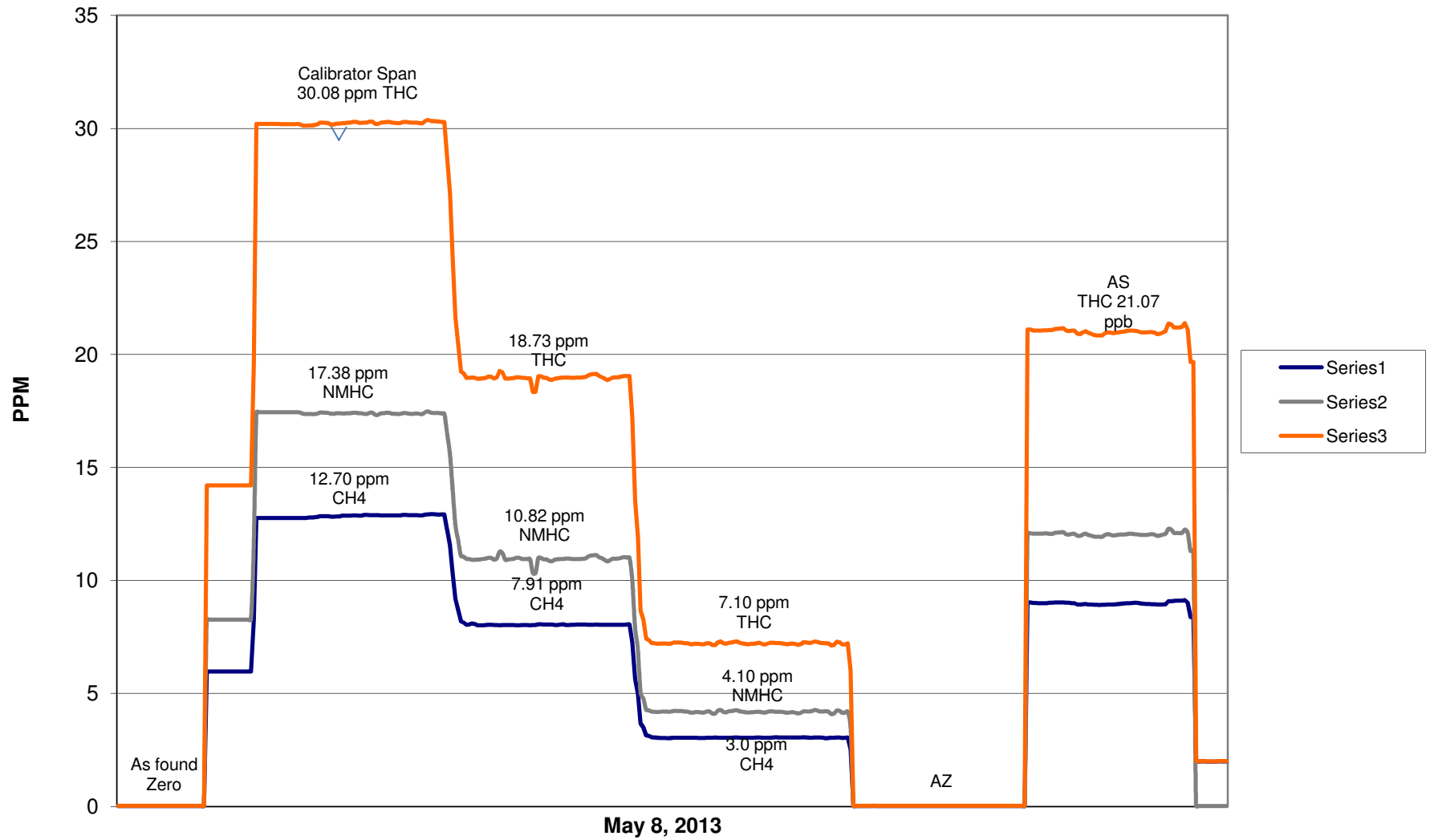
## Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.029	N/A	Correlation Coefficient	0.999975
30.084	30.268	0.9939		
18.728	18.995	0.9859	Slope	0.994255
7.099	7.216	0.9837		
			Intercept	-0.068379

## THC Calibration Data



# THC/CH<sub>4</sub>/NMHC Calibration

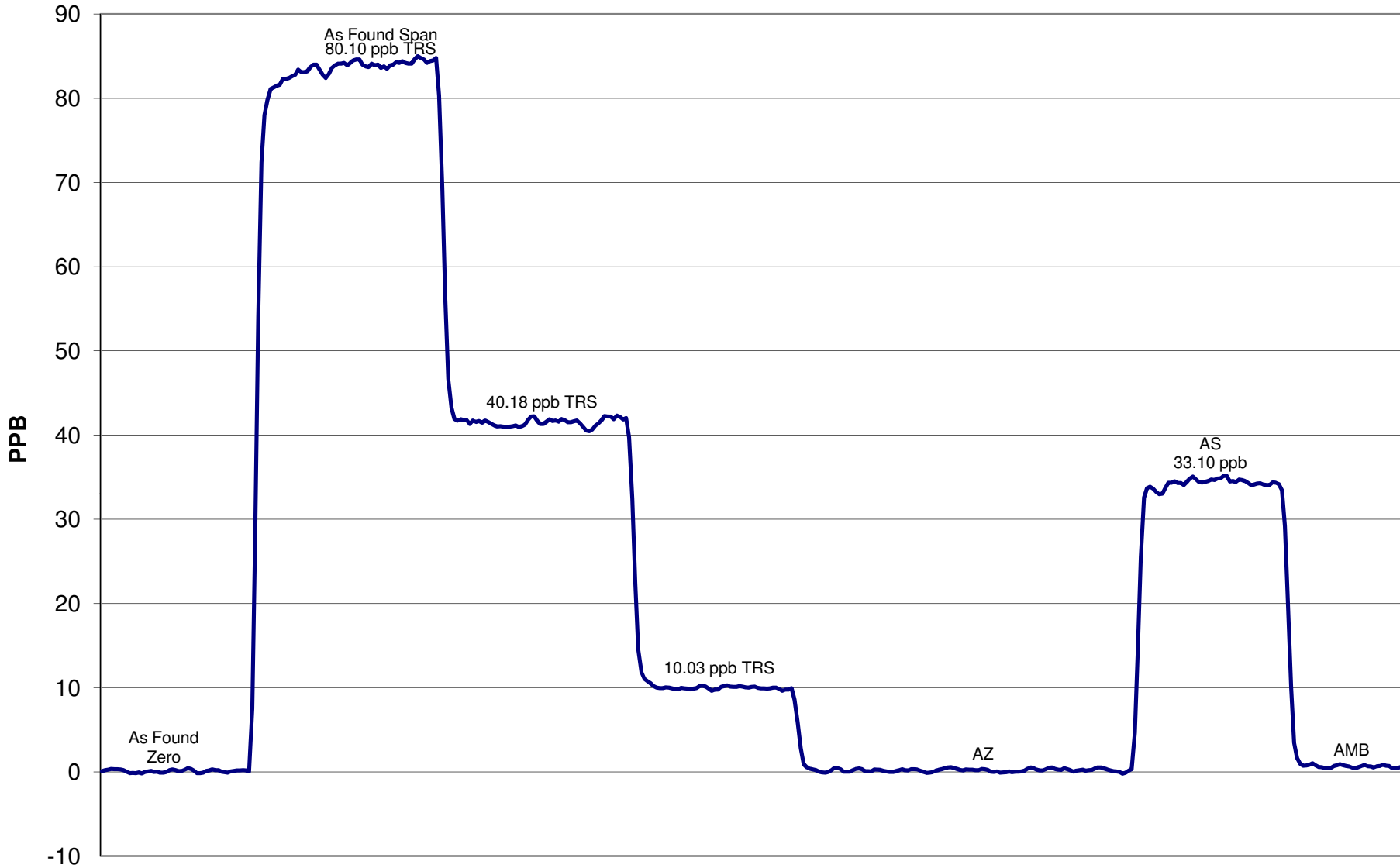








# TRS Calibration



May 22, 2013

# Calibration Report



Parameter SO<sub>2</sub>

Air Monitoring Network PAZA

## Station Information

Calibration Date	May 13 2013	Previous Calibration	April 24 2013
Station Number	2	Station Location	Evergreen Park
Reason:	<input type="checkbox"/> Routine	<input type="checkbox"/> Install	<input checked="" type="checkbox"/> Removal
			<input type="checkbox"/> Other:
Start Time (MST)	12:30	End Time (MST)	16:10
Barometric Pressure	0.921 ATM	Station Temperature	20.0 Deg C
Calibrator	EnviroNics	Serial Number	3474
Cal Gas Concentration	51.6 ppm	Cal Gas Expiry Date	12/29/2013
Correction factor	0.031307	Cal Gas Cylinder #	LL105164
DACS make	CR3000	DACS serial No.	5236
DACS voltage range	0 - 5 volt	DACS channel #	6
	Before		After
Calculated slope	1.000961	Calculated slope	0.994152
Calculated intercept	1.631188	Calculated intercept	3.498366
Analyzer make	Teco 43i	Analyzer serial #	701120008

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
Background	11.5		11.6	
coefficient	1.228		1.228	
Lamp Voltage	830	volts	830	volts
Chamber Temp	45.2	Deg C	45.2	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	668.6	mm Hg	661.6	mm Hg
Sample Flow	0.449	ccm	0.449	ccm
Lamp Intensity	89	%	89	%

Dilution air flow rate (cc/min)	Corrected gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4995	0.0	0.00	-2.2	N/A
4995	39.93	409.2	408.7	1.0012
4995	19.97	205.5	202.5	1.0145
4995	9.97	102.8	98.5	1.0431
4995	0.0	0.0	-2.2	As Found Zero
4995	39.93	409.2	408.7	As Found Span
Average Correction Factor				1.0196

Calculated value of As Found Response: 412.969 ppm      Percent Change of As Found: -0.9%

	before calibration		after calibration	
Auto zero	0.6	ppm	NA	ppm
Auto span	291.6	ppm	NA	ppm

Notes: As found calibration due to pump rebuild.

Calibration Performed By: Christopher Hendrickson

# Calibration Summary



Parameter SO2  
 Air Monitoring Network PAZA

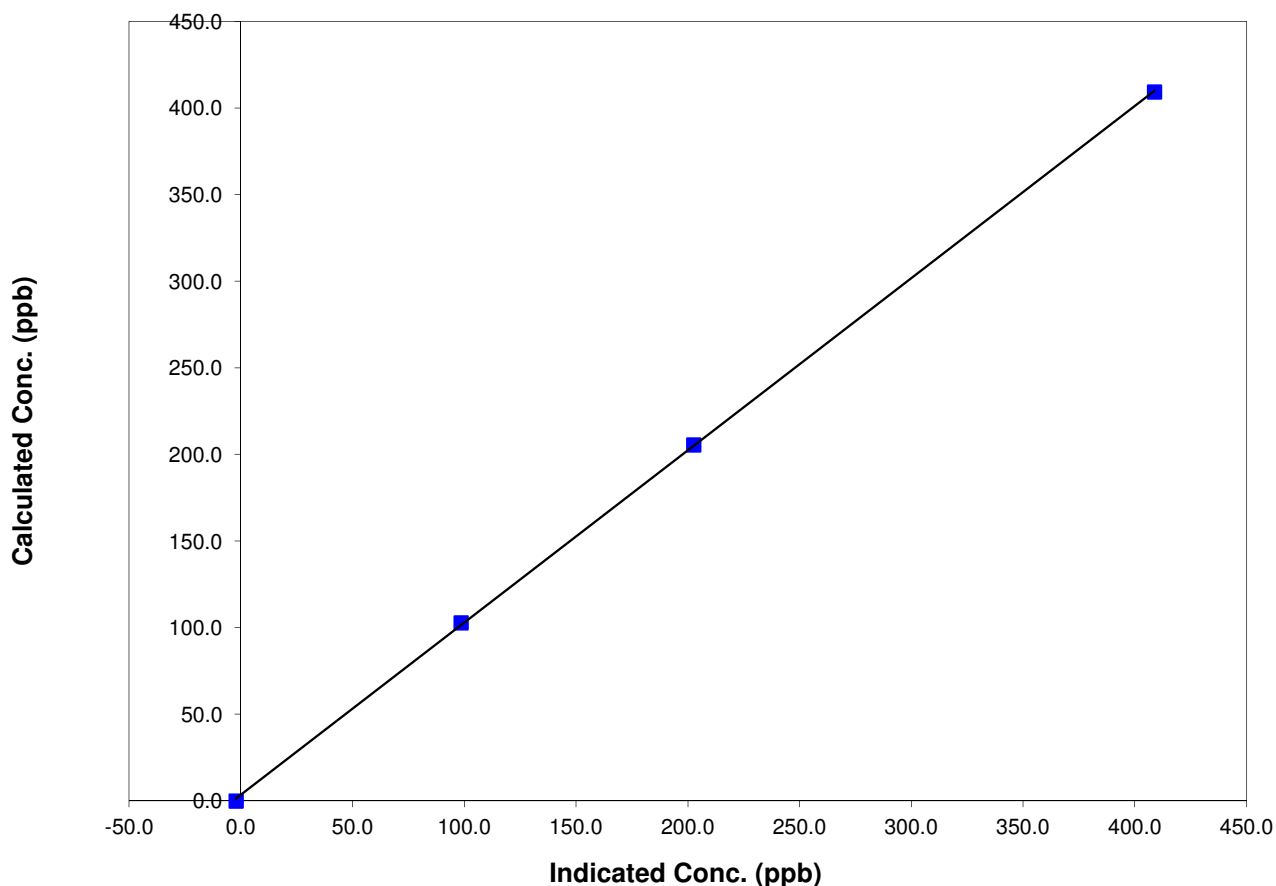
### Station Information

Calibration Date	May 13 2013	Previous Calibration	April 24 2013
Station Number	2	Station Location	Evergreen Park
Start Time (MST)	12:30	End Time (MST)	16:10
Analyzer make/model	Teco 43i	Analyzer serial #	701120008

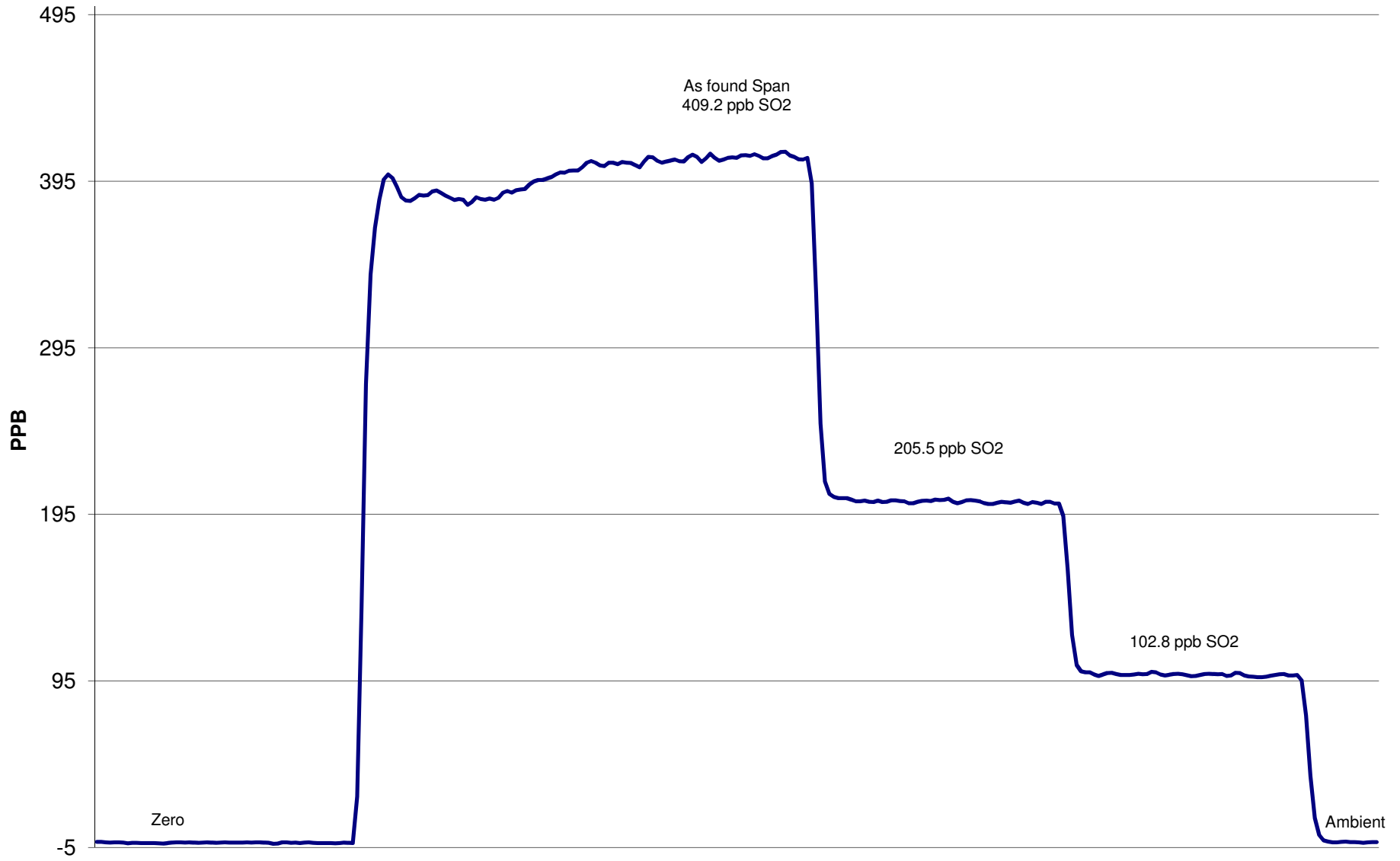
### Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-2.2	N/A	Correlation Coefficient	0.999953
409.2	408.7	1.0012		
205.5	202.5	1.0145	Slope	0.994152
102.8	98.5	1.0431		
			Intercept	3.498366

## SO2 Calibration Curve



### SO2 Calibration



May 13 2013

# Calibration Report



Parameter TRS

Air Monitoring Network PAZA

## Station Information

Calibration Date	May 13 2013	Previous Calibration	April 24 2013
Station Number	2	Station Location	Evergreen Park
Reason:	<b>Routine</b>	Install	Removal
			Other:
Start Time (MST)	18:30	End Time (MST)	22:45
Barometric Pressure	0.923 ATM	Station Temperature	22.0 Deg C
Calibrator	EnviroNics	Serial Number	3474
Cal Gas Conc	9.97 ppm	Cal Gas Expiry Date	7/03/13
Correction factor	0.031163	Cal Gas Cylinder #	BLM000121
DACS make	CR3000	DACS serial No.	5236
DACS voltage range	0 - 5 volt	DACS channel #	5
	<u>Before</u>		<u>After</u>
Calculated slope	0.984129	Calculated slope	0.997000
Calculated intercept	0.208932	Calculated intercept	0.702462
Analyzer make	TEI Model 43C	Analyzer serial #	3.199E+13

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Background	36.6	ppb	36.7	ppb
coefficient	1.058		1.058	
Lamp Voltage	1028	volts	1020	volts
Chamber Temp	44.1	Deg C	44.3	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	631.9	mm Hg	628.9	mm Hg
Sample Flow	0.643	ccm	0.624	ccm
Lamp Intensity	31,405	mv	31,405	mv

## Calibration Data

Dilution air flow rate (cc/min)	Corrected gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4995	0.00	0.00	-0.1	N/A
4995	39.93	79.07	78.9	1.0024
4995	19.96	39.68	38.8	1.0227
4995	9.95	19.82	18.6	1.0641
4995	9.95	102.58	0.5	Sox Test
4995	0.00	0.00	-0.1	As Found Zero
4995	39.95	79.11	78.9	As Found Span
Average Correction Factor				1.0297

Calculated value of As Found Response: 77.97 ppm Percent Change of As Found: **1.4%**

	before calibration		after calibration	
Auto zero	0.4	ppm	0.7	ppm
Auto span	77.6	ppm	78.5	ppm

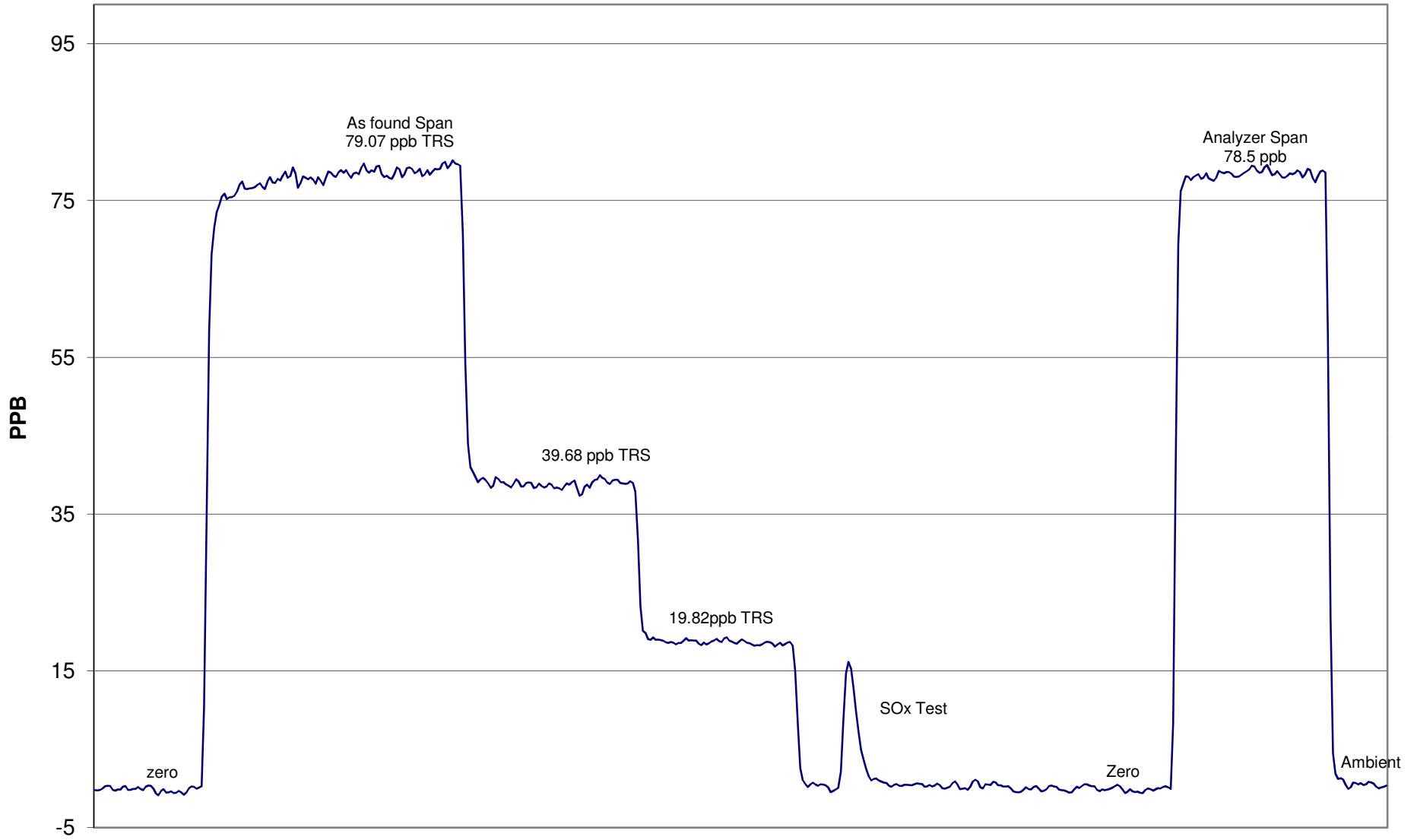
Notes: No adjustment made.

Calibration Performed By: Christopher Hendrickson





# TRS Calibration



May 13 2013

# Calibration Report



Parameter SO<sub>2</sub>

Air Monitoring Network PAZA

## Station Information

Calibration Date	May 31, 2013	Previous Calibration	April 26, 2013
Station Number	3	Station Location	Smokey Heights
Reason:	<input checked="" type="checkbox"/> Routine	<input type="checkbox"/> Install	<input type="checkbox"/> Removal
			Other: <input type="text"/>
Start Time (MST)	11:01	End Time (MST)	14:35
Barometric Pressure	0.916 ATM	Station Temperature	20.0 Deg C
Calibrator	EnviroNics 6100	Serial Number	3474
Cal Gas Concentration	50.8 ppm	Cal Gas Cert Date	3/12/14
Correction factor	0.031137	Cal Gas Cylinder #	LL107272
DACS make	CR3000	DACS serial No.	5238
DACS voltage range	0 - 5 volt	DACS channel #	6
	Before		After
Calculated slope	0.998023	Calculated slope	0.994952
Calculated intercept	2.034350	Calculated intercept	2.936432
Analyzer make	Teco 43i	Analyzer serial #	701120009

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
Background	11.3		11	
coefficient	0.970		0.956	
Lamp Voltage	917	volts	917	volts
Chamber Temp	45	Deg C	45	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	675.7	mm Hg	675.9	mm Hg
Sample Flow	0.450	ccm	0.452	ccm
Lamp Intensity	89	%	89	%

## Calibration Data

Dilution air flow rate (cc/min)	Corrected gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4995	0.0	0.00	0.2	N/A
4995	39.93	402.87	403.5	0.9985
4995	19.97	202.29	198.8	1.0178
4995	9.97	101.19	95.7	1.0573
4995	0.0	0.00	0.3	As Found Zero
4995	39.93	402.87	408.9	As Found Span
Average Correction Factor				1.0245

Calculated value of As Found Response: 409.784 ppm      Percent Change of As Found: **-1.7%**

	before calibration		after calibration	
Auto zero	0.4	ppb	0.2	ppb
Auto span	304.5	ppb	255.2	ppb

Notes: Slight span adjust down.

Calibration Performed By: Grover Christiansen

# Calibration Summary

Parameter SO2  
 Air Monitoring Network PAZA

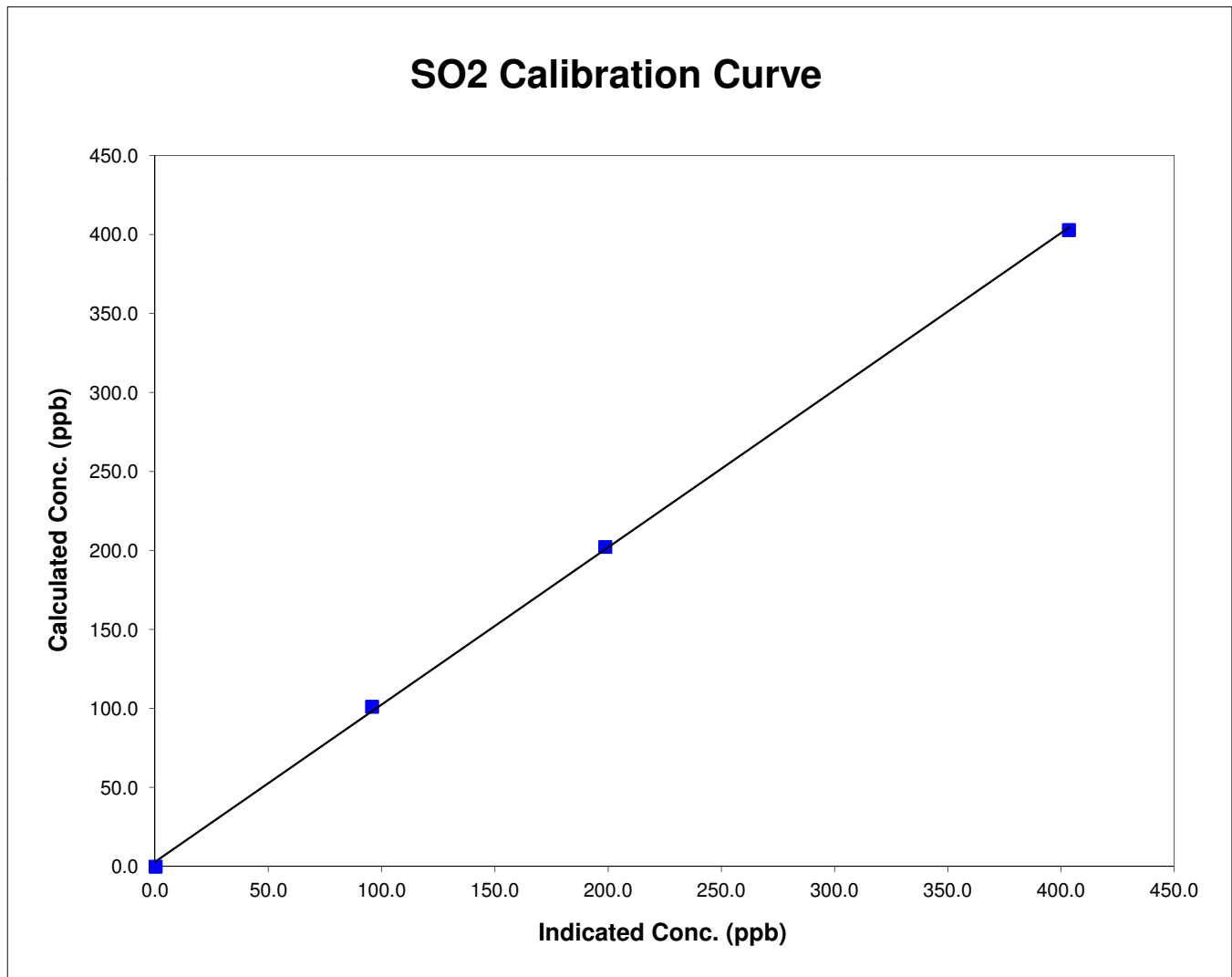


## Station Information

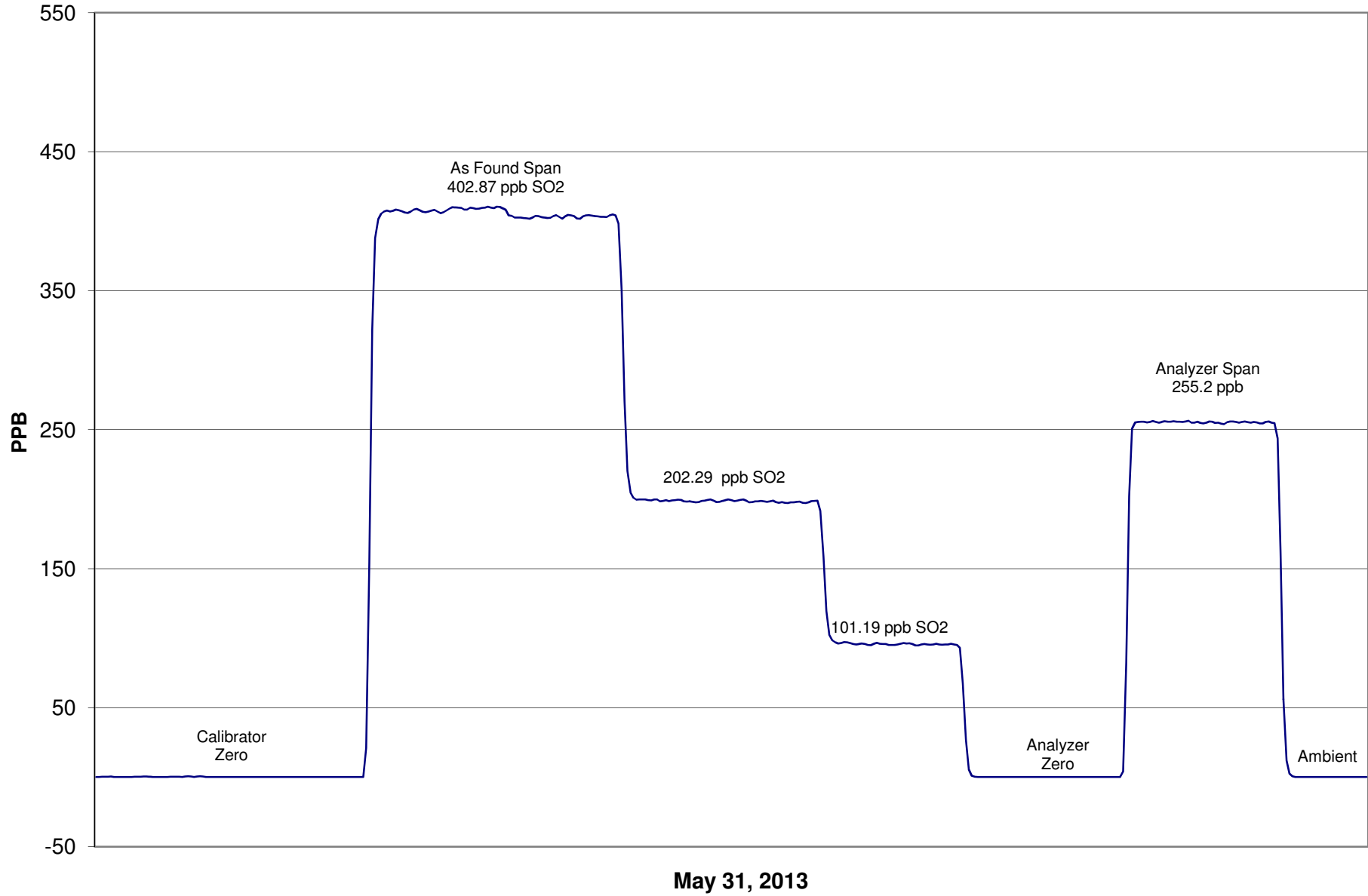
Calibration Date	May 31, 2013	Previous Calibration	April 26, 2013
Station Number	3	Station Location	Smokey Heights
Start Time (MST)	11:01	End Time (MST)	14:35
Analyzer make/model	Teco 43i	Analyzer serial #	701120009

## Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.2	N/A	Correlation Coefficient	0.999731
402.9	403.5	0.9985		
202.3	198.8	1.0178		
101.2	95.7	1.0573	Slope	0.994952
			Intercept	2.936432



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



# Calibration Report



Parameter TRS

Air Monitoring Network PAZA

### Station Information

Calibration Date	May 31, 2013	Previous Calibration	April 26, 2013
Station Number	3	Station Location	Smokey Heights
Reason:	<input type="checkbox"/> Routine	<input type="checkbox"/> Install	<input type="checkbox"/> Removal <input checked="" type="checkbox"/> Other: Maintenance

Start Time (MST)	9:14	End Time (MST)	12:22
Barometric Pressure	0.916 ATM	Station Temperature	20.0 Deg C
Calibrator	EnviroNics 6100	Serial Number	3474
Cal Gas Conc	10.1 ppm	Cal Gas Expiry Date	5/11/13
Correction factor	0.031137	Cal Gas Cylinder #	LL160692
DACS make	CR3000	DACS serial No.	5238
DACS voltage range	0 - 5 volt	DACS channel #	5
	<u>Before</u>		<u>After</u>
Calculated slope	1.001237	Calculated slope	0.972513
Calculated intercept	0.811548	Calculated intercept	1.380177

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

	before		after	
Concentration range	100	ppb	100	ppb
Background	19	ppb	18.7	ppb
coefficient	0.964		0.983	
Lamp Voltage	816	volts	816	volts
Chamber Temp	43.5	Deg C	43.5	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	607	mm Hg	589.6	mm Hg
Sample Flow	0.650	ccm	0.639	ccm
Lamp Intensity	35,368	mv	34,197	mv

Dilution air flow rate (cc/min)	Corrected gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4995	0.0	0.00	-0.1	N/A
4995	39.94	80.12	81.7	0.9811
4995	19.97	40.22	38.6	1.0419
8995	8.96	10.05	8.2	1.2194
4995	0.0	0.00	-0.1	As Found Zero
4995	39.94	80.12	79.4	As Found Span
Average Correction Factor				1.0808

Calculated value of As Found Response: 80.47 ppm Percent Change of As Found: -0.4%

	before calibration		after calibration	
Auto zero	0.0	ppm	1.3	ppm
Auto span	52.9	ppm	34.3	ppm

Notes: Slight zero & span adjustment.

Calibration Performed By: Grover Christiansen

# Calibration Summary



Parameter TRS

Air Monitoring Network PAZA

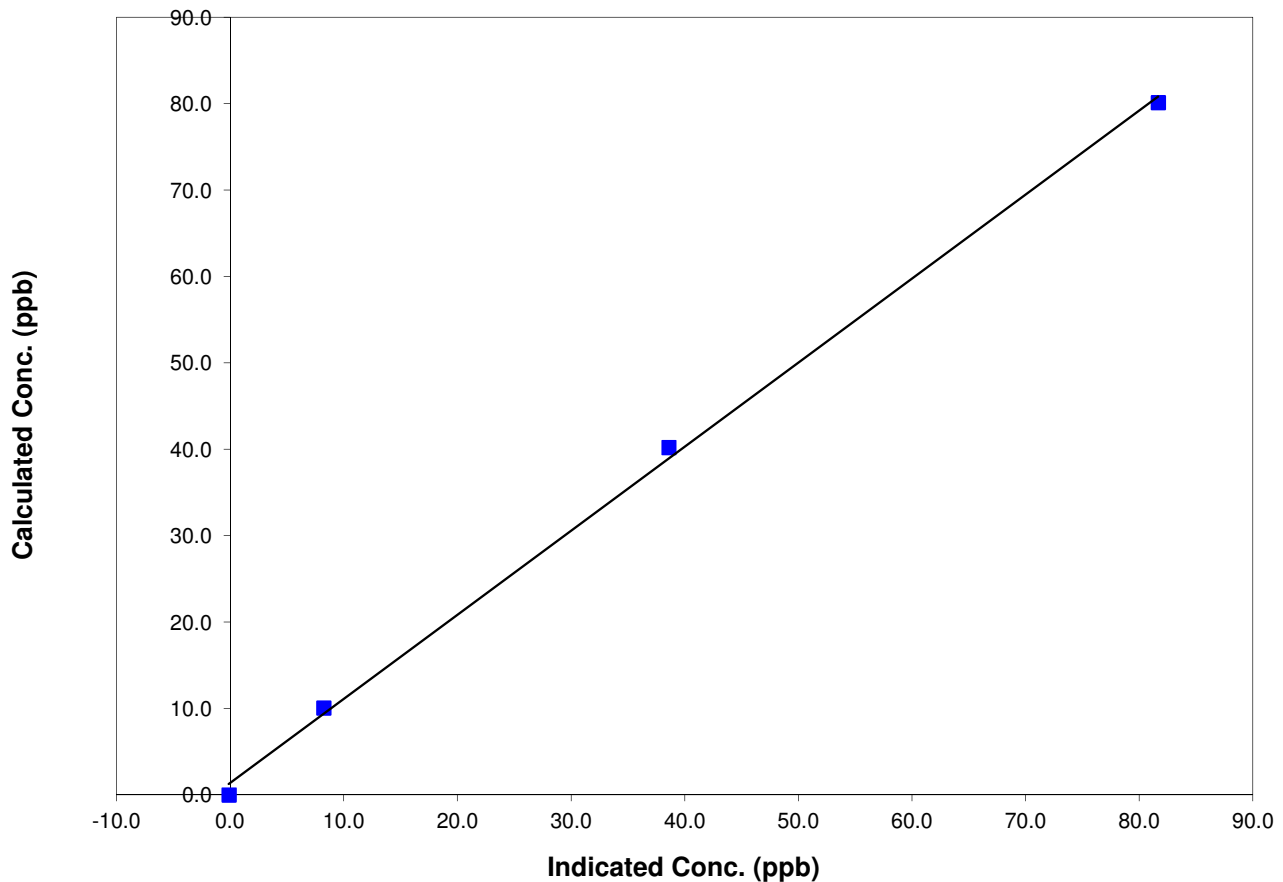
## Station Information

Calibration Date	<u>May 31, 2013</u>	Previous Calibration	<u>April 26, 2013</u>
Station Number	<u>3</u>	Station Location	<u>Smokey Heights</u>
Start Time (MST)	<u>9:14</u>	End Time (MST)	<u>12:22</u>
Analyzer make/model	<u>TEI Model 43C</u>	Analyzer serial #	<u>0436610005</u>

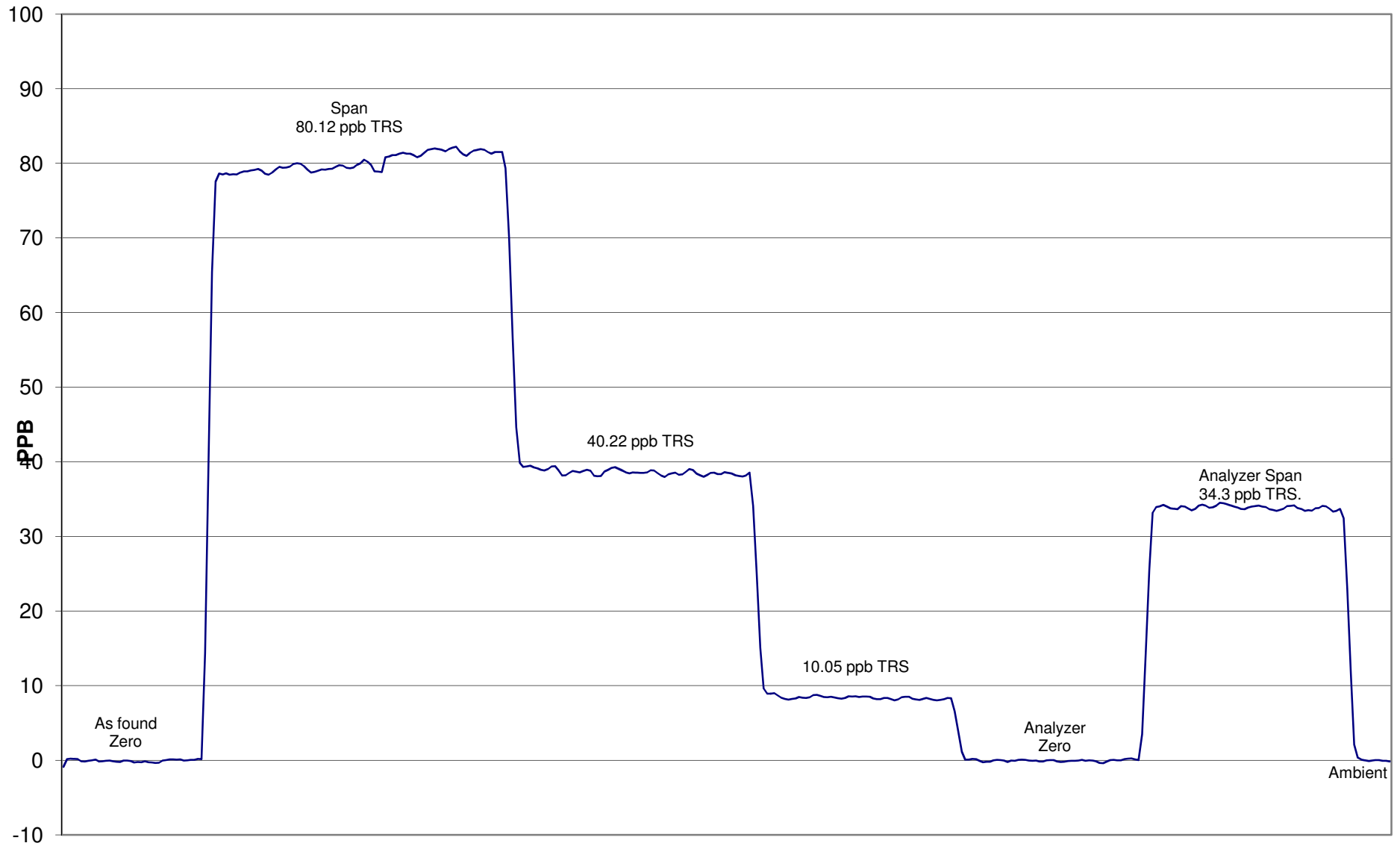
## Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.1	N/A	Correlation Coefficient	0.998920
80.1	81.7	0.9811		
40.2	38.6	1.0419		
10.1	8.2	1.2194	Slope	0.972513
			Intercept	1.380177

### TRS Calibration Curve



# Smokey Heights TRS Calibration



May 31, 2013

# Calibration Report



Parameter SO2  
 Air Monitoring Network PAZA

## Station Information

Calibration Date	May 24, 2013	Previous Calibration	April 23, 2013
Station Number	4	Station Location	Beaverlodge
Reason:	<b>Routine</b>	Install	Removal
			Other:
Start Time (MST)	10:08	End Time (MST)	13:13
Barometric Pressure	0.923 atm	Station Temperature	23.0 Deg C
Calibrator	EnviroNics 6100	Serial Number	3474
Cal Gas Concentration	10.8 ppm	Cal Gas Expiry Date	9/28/12
Gas Cert Reference	FF14871		
DACS make	CR3000	DACS serial No.	5237
DACS voltage range	0 - 5 volt	DACS channel #	5
	<u>Before</u>		<u>After</u>
DACS Scale High	100	DACS slope	100
DACS Scale Low	0	DACS intercept	0
Calculated slope	1.016514	Calculated slope	0.997750
Calculated intercept	-0.186703	Calculated intercept	-0.112088
Analyzer make	TEI Model 43i-TLE	Analyzer serial #	713021137

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Background	2.41		2.41	
Coefficient	1.071		1.071	
PMT	-767.6	V	-767.6	V
UV Lamp Voltage	1063	V	1063	V
Chamber Temp	45.2	Deg C	45.2	Deg C
Pressure	665.2	mm Hg	666.4	mm Hg
Sample Flow	0.484	LPM	0.485	LPM
Lamp Intesity	97%	%	97%	%

## Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4995	0.00	0.0	0.4	N/A
4995	39.93	85.7	86.1	0.9949
4995	19.97	43.0	43.1	0.9983
4995	9.97	21.5	21.4	1.0058
4995	0.00	0.0	0.4	As found zero
4995	39.93	85.7	86.1	As found span
Average Correction Factor				0.9996

Calculated value of As Found Response: 86.927 ppm      Percent Change of As Found: -1.5%

	before calibration		after calibration	
Auto zero	0.3	ppb	0.2	ppb
Auto span	58.5	ppb	60.0	ppb

Notes: No adjustments made.

Calibration Performed By: Grover Christiansen



# Calibration Summary

Parameter SO2  
 Air Monitoring Network PAZA



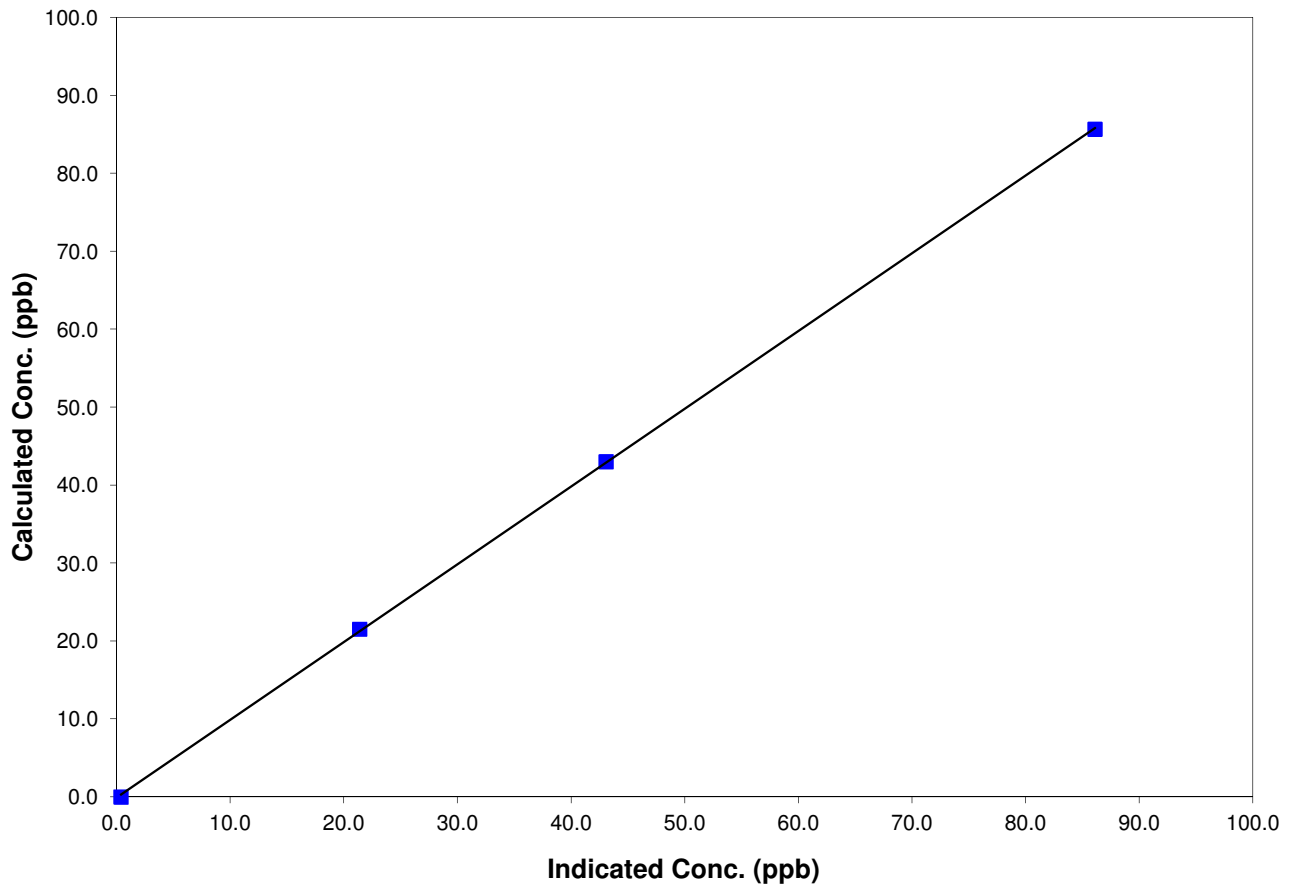
## Station Information

Calibration Date	May 24, 2013	Previous Calibration	April 23, 2013
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	10:08	End Time (MST)	13:13
Analyzer make/model	TEI Model 43i-TLE	Analyzer serial #	713021137

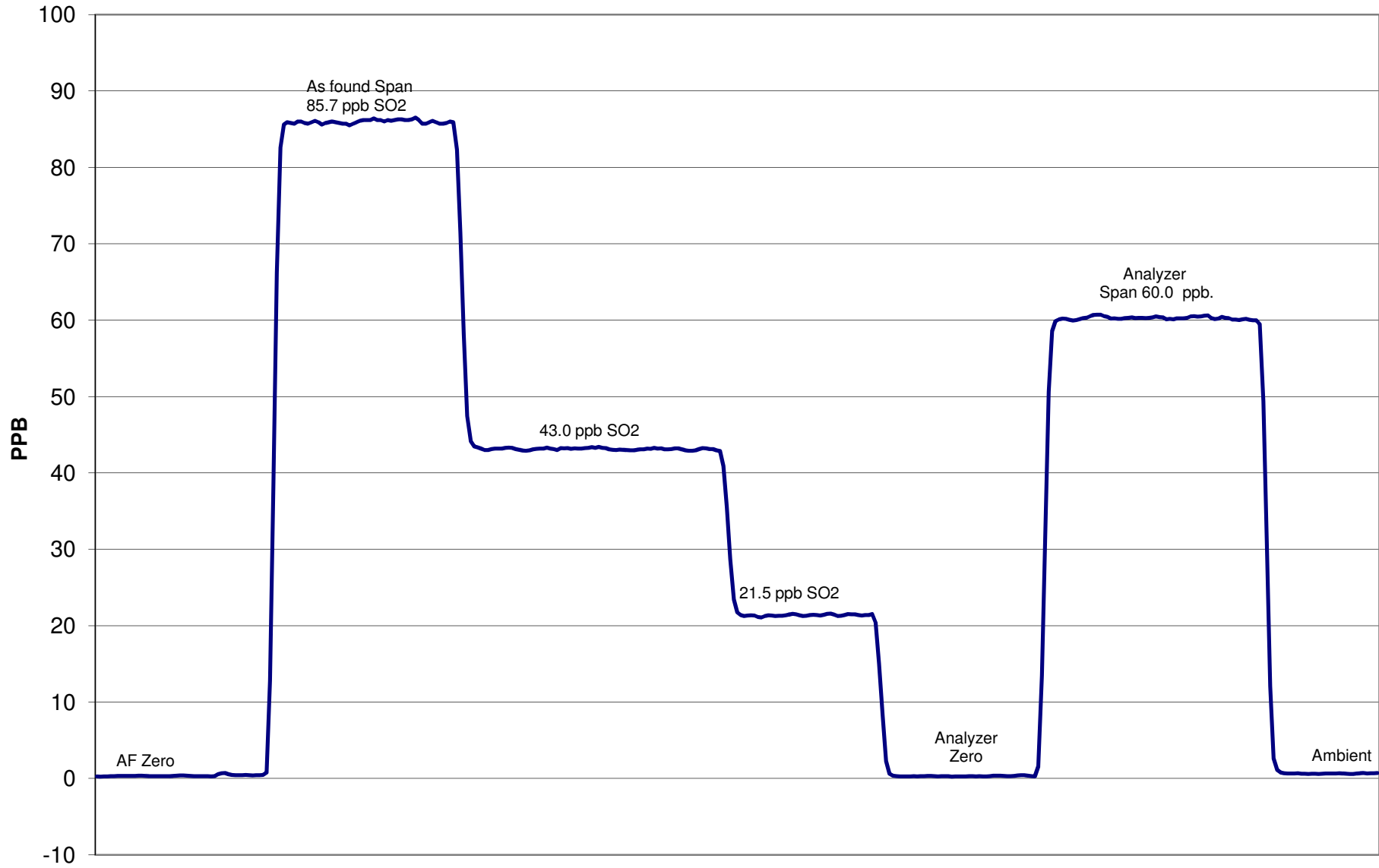
## Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.4	N/A	Correlation Coefficient	0.999951
85.7	86.1	0.9949		
43.0	43.1	0.9983	Slope	0.997750
21.5	21.4	1.0058		
			Intercept	-0.112088

### SO2 Calibration Curve



# SO2 Calibration



May 24, 2013

# Calibration Report

Parameter

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

Air Monitoring Network

PAZA



## Station Information

Calibration Date	May 23, 2013		Previous Calibration	April 23, 2013	
Station Number	4		Station Location	Beaverlodge	
Reason:	<b>Routine</b>	Installation	Removal	Other: _____	
Start Time (MST)	8:46		End Time (MST)	14:44	
Barometric Pressure	0.923	Atm	Station Temperature	23.0	Deg C
Calibrator	EnviroNics		Serial Number	2844	
NO Cal Gas Conc	51.2	ppm	Cal Gas Expiry Date	March 12, 2014	
NOx Cal Gas Conc	51.2	ppm	Cal Gas Serial #	LL107272	

## DACS Information

DACS make	CR3000		DACS serial No.	5237	
	Parameter	NO2	NOx	NO	
Before	Data Slope	0.996658	0.996616	1.001329	
	Data Offset	-0.113238	1.104559	1.309140	
After	Data Slope	1.003865	1.001061	0.998002	
	Data Offset	-0.335700	1.272457	1.546734	
	Channel #	8	6	7	
	Voltage Range	0 - 5 VDC	0 - 5 VDC	0 - 5 VDC	

## Analyzer Information

Analyzer make/model	TEI 42i		Analyzer serial #	906535068	
Test Point	before		after		
Concentration range	0-500	ppb	0-500	ppb	
NO offset	1.6	mV	1.7	mV	
NOx bkgnd	2.1	mV	2.0	mV	
NO coefficient	1.208		1.005		
NOx coefficient	1.003		1.000		
NO2 conv temp	326.0	Deg C	326.0	Deg C	
PMT Temp	-2.8	Deg C	-2.8	Deg C	
PMT Volt	-671.9	mV	-696.0	mV	
R Cell Press	200.0	in Hg	155.5	in Hg	
Sample Flow	0.864	ccm	0.864	ccm	

Notes: As found point low @ about 373 ppb. Leak check OK. New pump has settled since install last month. Perform factory cal - looks good. Will keep an eye on pressure transducer.

# Calibration Report

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



## Station Information

Calibration Date: **May 23, 2013** Station Location: **Beaverlodge**

## Calibration Data

	Dilution flow rate (ccm)	Source gas flow rate (ccm)	Calculated NOx conc (ppb)	Calculated NO conc (ppb)	Calculated NO2 conc (ppb)	Indicated NOx conc (ppb)	Indicated NO conc (ppb)	Indicated NO2 conc (ppb)	NOx Correction factor	NO Correction factor
zero	4995	0.00	0.0	0.0	0.0	0.2	0.0	0.2	N/A	N/A
1	4995	39.94	406.1	406.1	0.0	405.1	406.2	0.1	1.0026	0.9999
2	4995	19.97	203.9	203.9	0.0	201.9	201.9	0.3	1.0097	1.0100
3	4995	9.97	102.0	102.0	0.0	99.0	99.2	0.3	1.0304	1.0282
AFZ	4995	0.00	0.0	0.0	0.0	0.1	0.0	0.0	0.0000	0.0000
AFS	4995	39.94	406.1	406.1	0.8	372.5	372.5	1.0	1.0904	1.0904
Average Correction Factor									1.0142	1.0127

As Found Concentrations: **NO<sub>x</sub>= 373.5** **NO= 373.8** As Found Percent Change **NO<sub>x</sub>= -8.0%** **NO= -8.0%**

## GPT Calibration Data

Dilution Flow 4995 ccm Source Gas Flow 39.94 ccm

O3 Setpoint (ppb)	Indicated NO high point (ppb)	Indicated NO drop conc (ppb)	Calculated NO2 conc (ppb)	Indicated NOx conc (ppb)	Indicated NO conc (ppb)	Indicated NO2 conc (ppb)	NOx Correction factor	NO Correction factor	NO2 Correction factor	Converter Efficiency
0	0.0	0.0	0.0	0.2	0.0	0.2	N/A	N/A	N/A	N/A
NO point	406.5	406.5	0.0	405.3	406.5	0.0	1.0030	1.0000	N/A	N/A
300	406.5	110.4	296.2	405.7	110.4	295.3	1.0021	1.0000	1.0030	99.7%
200	406.5	204.1	202.4	405.9	204.1	202.0	1.0015	1.0000	1.0019	99.8%
100	406.5	297.0	109.6	405.7	297.0	109.6	1.0021	1.0000	0.9994	100.1%
Average Correction Factor							1.0019	1.0000	1.0015	99.9%

## AIC Data

Parameter	Previous calibration				Current calibration			
	NOx	NO2	NO		NOx	NO2	NO	
Auto zero	0.0	-0.1	0.0	ppb	-0.1	-0.1	0.0	ppb
Auto span	205.5	203.2	1.6	ppb	204.2	202.7	1.0	ppb

Calibration Performed By: Grover Christiansen

# Calibration Summary

Parameter NO<sub>2</sub>

Air Monitoring Network PAZA



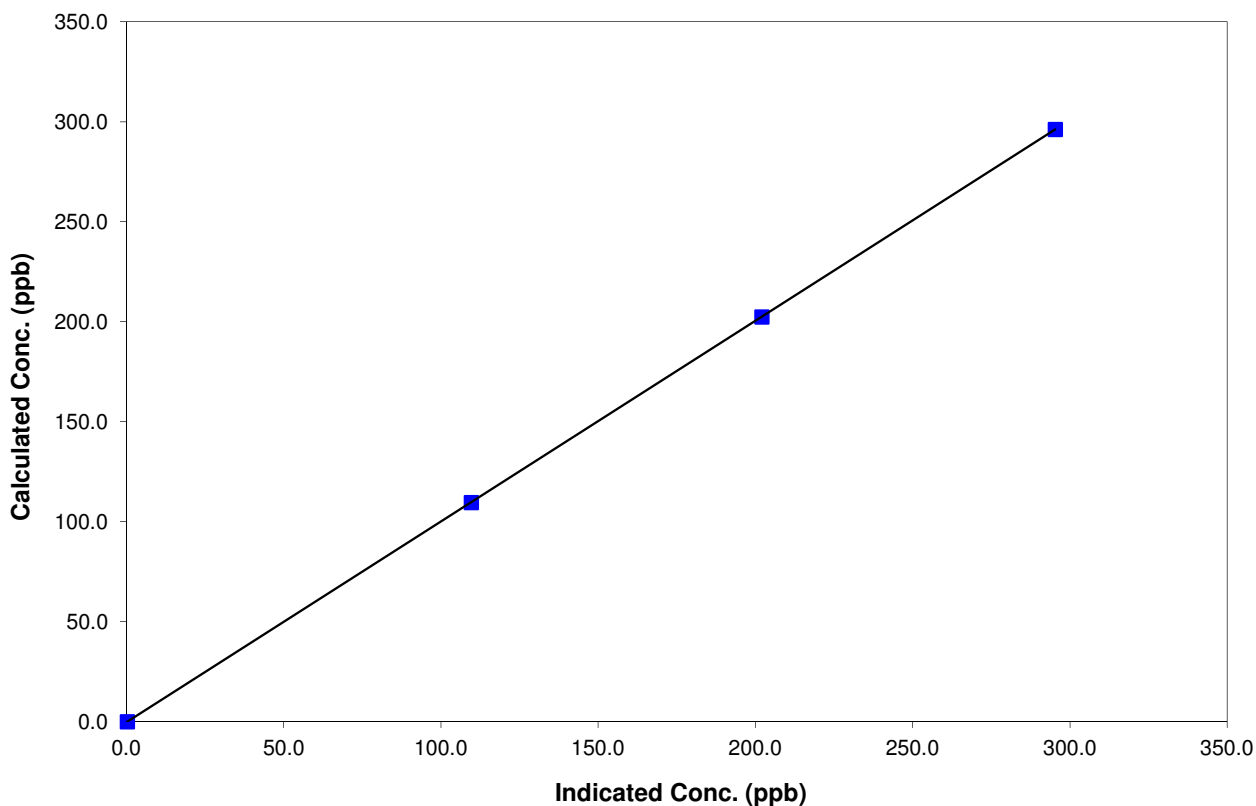
## Station Information

Calibration Date	May 23, 2013	Previous Calibration	April 23, 2013
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	8:46	End Time (MST)	14:44
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	0.999999
296.2	295.3	1.0030		
202.4	202.0	1.0019	Slope	1.003865
109.6	109.6	0.9994		

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



# Calibration Summary

Parameter NO<sub>x</sub>

Air Monitoring Network PAZA



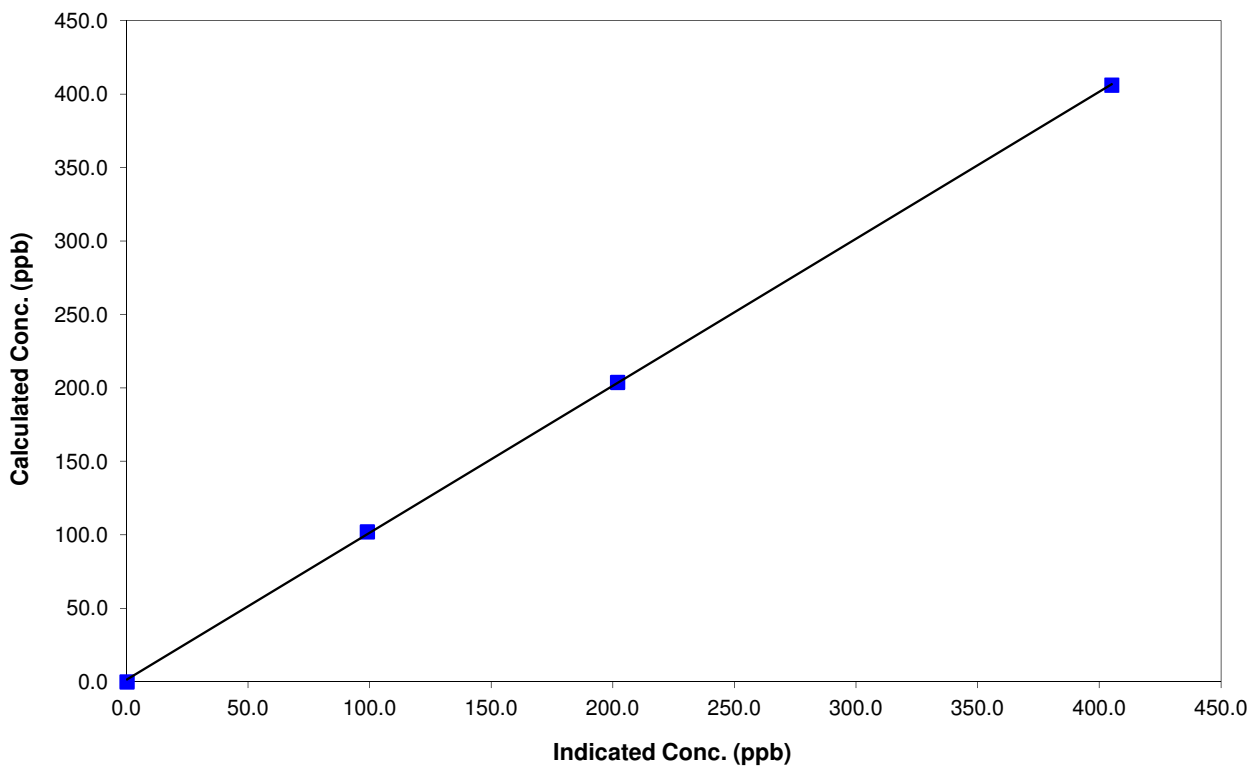
## Station Information

Calibration Date	May 23, 2013	Previous Calibration	April 23, 2013
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	8:46	End Time (MST)	14:44
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	0.999940
406.1	405.1	1.0026		
203.9	201.9	1.0097	Slope	1.001061
102.0	99.0	1.0304		
			Intercept	1.272457

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



# Calibration Summary

Parameter NO

Air Monitoring Network PAZA



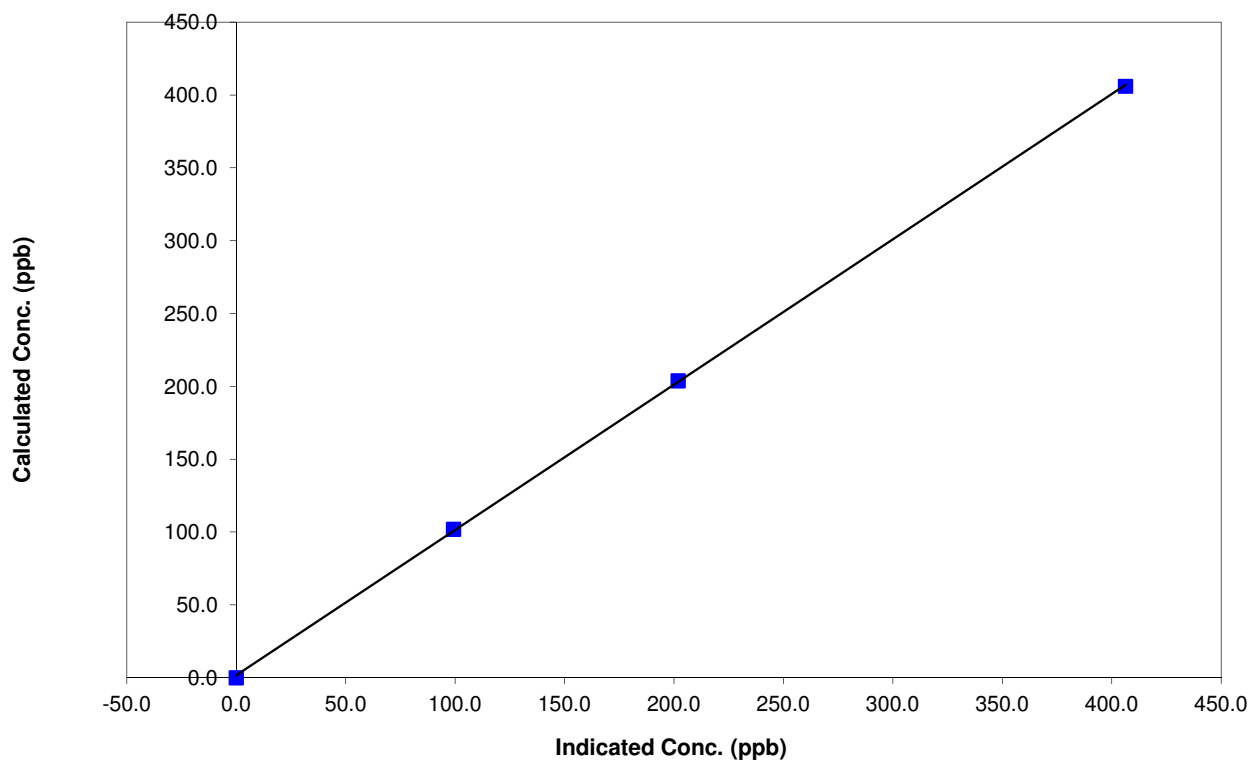
## Station Information

Calibration Date	May 23, 2013	Previous Calibration	April 23, 2013
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	8:46	End Time (MST)	14:44
Analyzer make	TEI 42i	Analyzer serial #	906535068

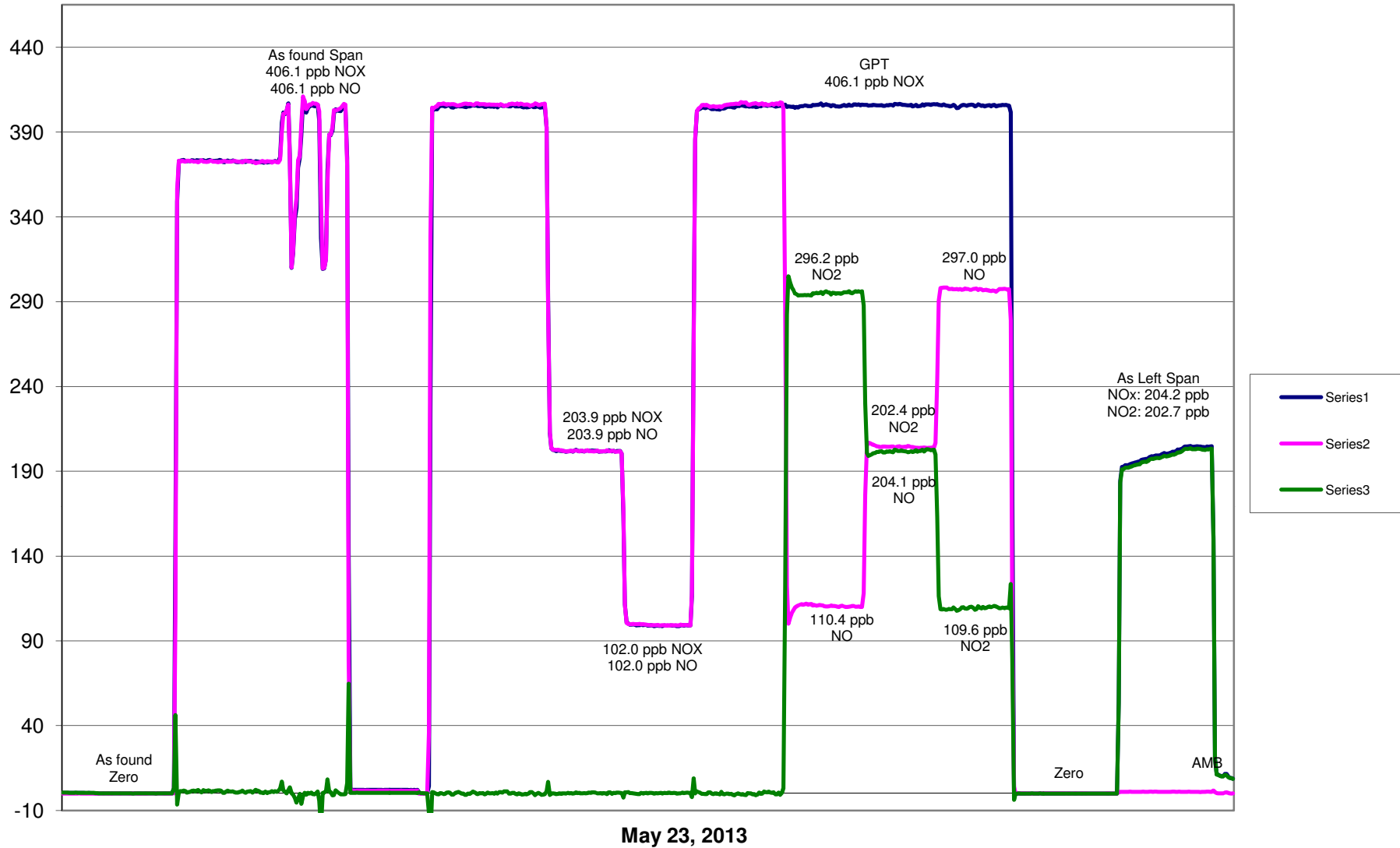
## Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.0	N/A	Correlation Coefficient	0.999935
406.1	406.2	0.9999		
203.9	201.9	1.0100		
102.0	99.2	1.0282		
			Slope	0.998002
			Intercept	1.546734

## NO Calibration Curve



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





# Calibration Report



Parameter 03

Air Monitoring Network PAZA

## Station Information

Calibration Date	May 24, 2013	Previous Calibration	April 23, 2013
Station Number	4	Station Location	Beaverlodge
Reason:	<b>Routine</b>	Install	Removal
		Other:	
Start Time (MST)	8:15	End Time (MST)	11:22
Barometric Pressure	0.924 atm	Station Temperature	23.0 Deg C
Calibrator	EnviroNics 6100	Serial Number	2844
Cal Gas Concentration	NA	Cal Gas Expiry Date	NA
DACS make	CR3000	DACS serial No.	5237
DACS voltage range	0 - 5 volt	DACS channel #	9
	Before		After
Calculated slope	0.993521	Calculated slope	0.978202
Calculated intercept	0.268015	Calculated intercept	0.589784
Analyzer make	Teco 49i	Analyzer serial #	1136451236

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
offset	-1.00	ppb	-1.00	ppb
slope	1.027		1.027	
Lamp temp	54	mV	54	mV
Lamp Intensity A/B	87025/91312	mV	87008/91303	mV
Pressure	685.4	mm Hg	685.4	mm Hg
Flow A	0.744	ccm	0.742	ccm
Flow B	0.747	ccm	0.747	ccm

## Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
5035	0.0	0.0	0.1	N/A
5035	0.3	296.2	302.8	0.9783
5035	0.2	202.4	206.0	0.9825
5035	0.1	109.6	110.4	0.9925
5035	0.0	0.0	0.2	As found zero
5035	0.3	296.2	302.8	As found span
Average Correction Factor				0.9844

Calculated value of As Found Response: 300.9 ppm      Percent Change of As Found: 1.6%

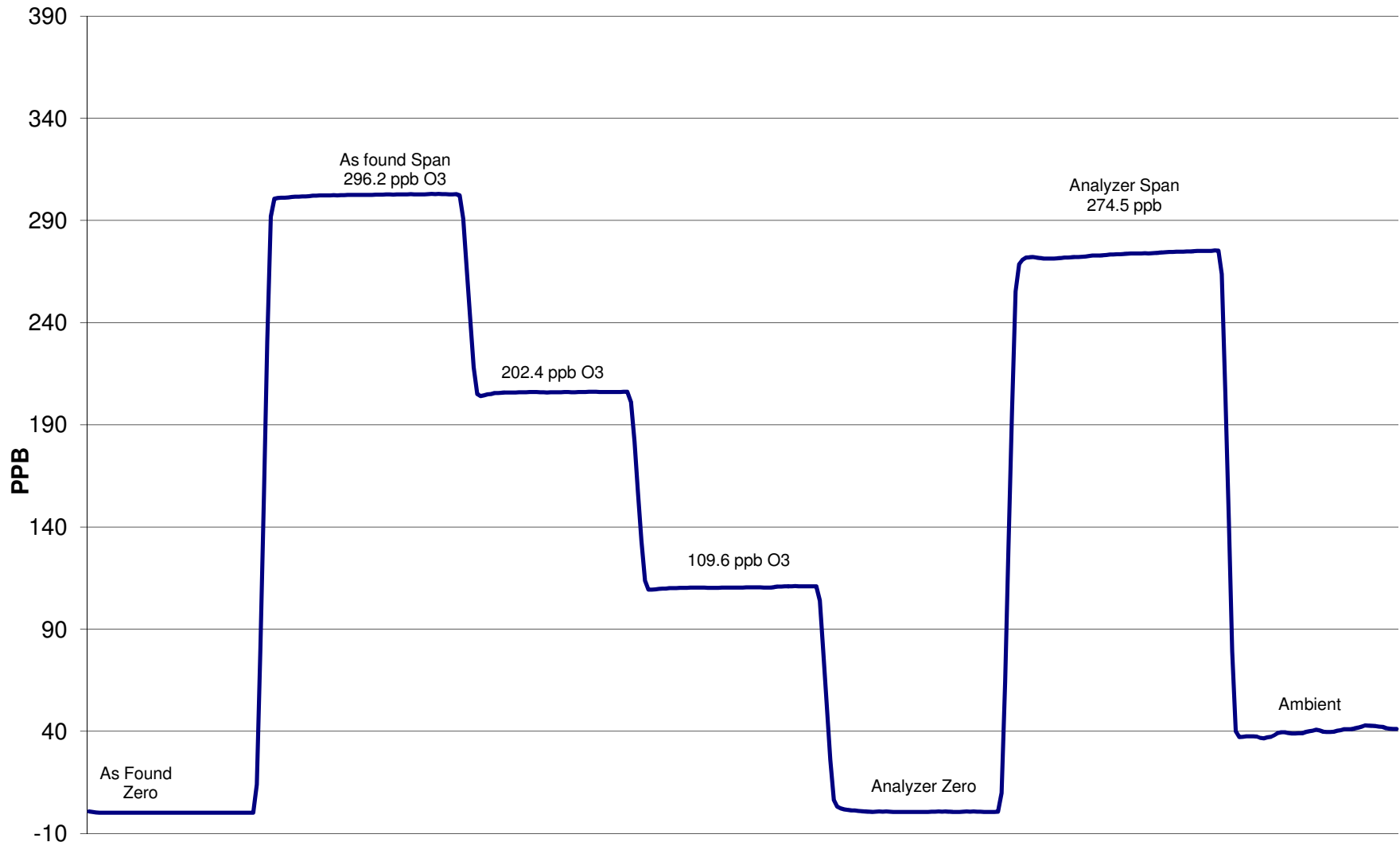
	before calibration		after calibration	
Auto zero	0.4	ppb	1.2	ppb
Auto span	275.0	ppb	274.5	ppb

Notes: No adjustment made. Calibration was restarted this morning following a power failure yesterday during the calibration.

Calibration Performed By: Grover Christiansen



# O3 Calibration



May 24, 2013

# Calibration Report



Parameter SO2

Air Monitoring Network PAZA

## Station Information

Calibration Date	May 14 2013	Previous Calibration	April 27 2013
Station Number	6	Station Location	Valleyview
Reason:	<b>Routine</b>	Install	Removal
		Other:	
Start Time (MST)	10:30	End Time (MST)	15:20
Barometric Pressure	702.00 mmHg	Station Temperature	20.0 Deg C
Calibrator	Envionics 6100	Serial Number	3474
Cal Gas Concentration	51.6 ppm	Cal Gas Exp Date	December 29 2013
Gas Cylinder Num.	LL105164		
DACS make	CR3000	DACS serial No.	5409
DACS voltage range	0 - 5 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	1.001436	Calculated slope	1.002487
Calculated intercept	1.917562	Calculated intercept	-1.056805
Analyzer make	TEI 45C	Analyzer serial #	45C-57531-313

	before		after	
Concentration range	0-500	ppb	0-500	ppb
Background	37.1		39.9	
Coefficient	0.882		0.979	
UV Lamp Voltage	981	LPM	980	LPM
Chamber Temp	28.3	V	44.1	V
Perm Gas Temp	44.3	C	44.3	C
Pressure	599.9	in Hg	606.3	in Hg
Sample Flow	0.558	LPM	0.557	LPM
Lamp Intensity	48185	Hz	47999	Hz

## Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4995	0.00	0.0	-1.2	N/A
4985	39.80	408.7	407.7	1.0025
4995	19.97	205.5	206.8	0.9938
4995	9.94	102.5	105.9	0.9680
4995	0.00	0.0	-2.0	As found zero
4995	39.80	407.9	377.7	As found span
Average Correction Factor				0.9881

Calculated value of As Found Response: 382.1 ppm      Percent Change of As Found: 6.3%

	before calibration		after calibration	
Auto zero	0.0	ppm	0.0	ppm
Auto span	151.8	ppm	166.3	ppm

Notes: Adjustment made to zero and span

Calibration Performed By: Christopher Hendrickson

# Calibration Summary

Parameter SO2

Air Monitoring Network PAZA



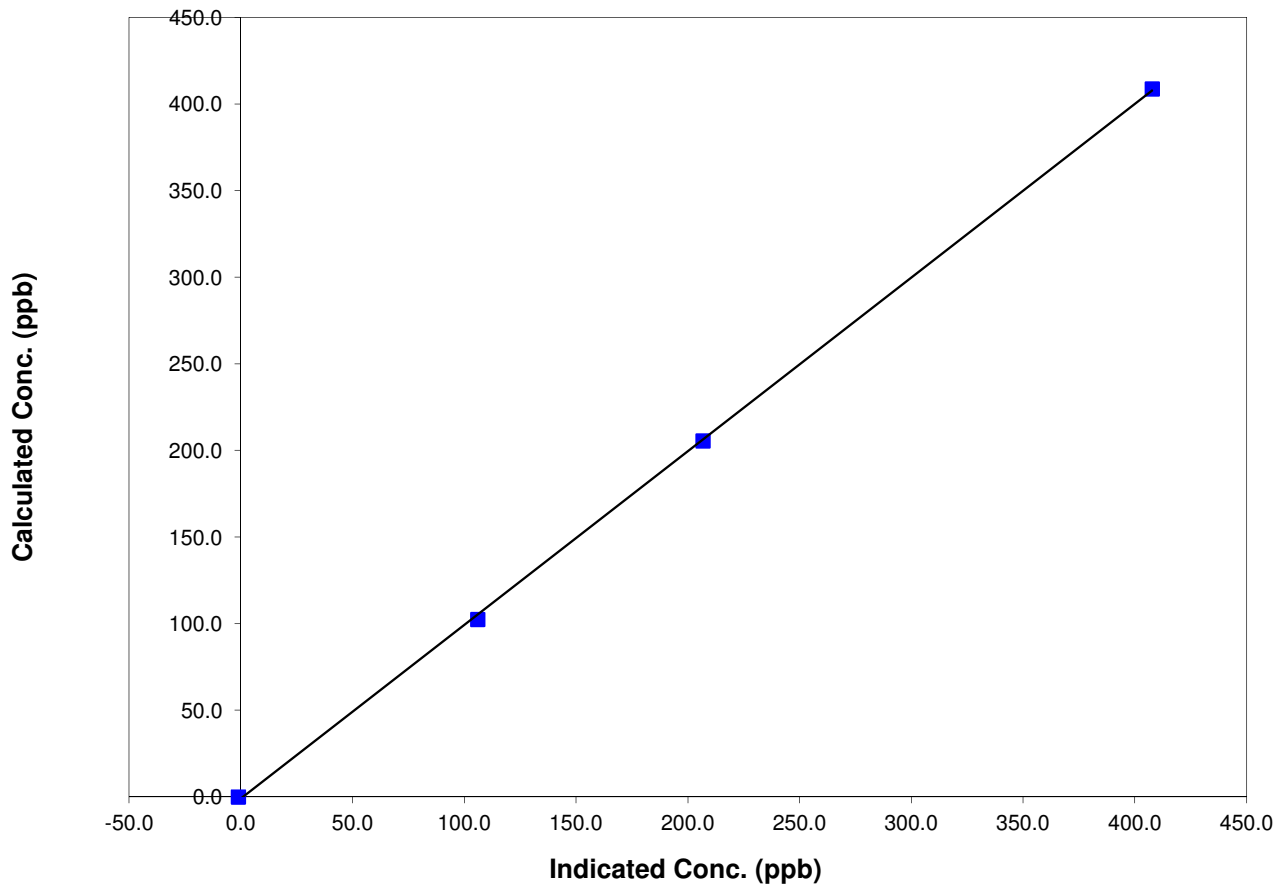
## Station Information

Calibration Date	May 14 2013	Previous Calibration	April 27 2013
Station Number	6	Station Location	Valleyview
Start Time (MST)	10:30	End Time (MST)	15:20
Analyzer make/model	TEI 45C	Analyzer serial #	45C-57531-313

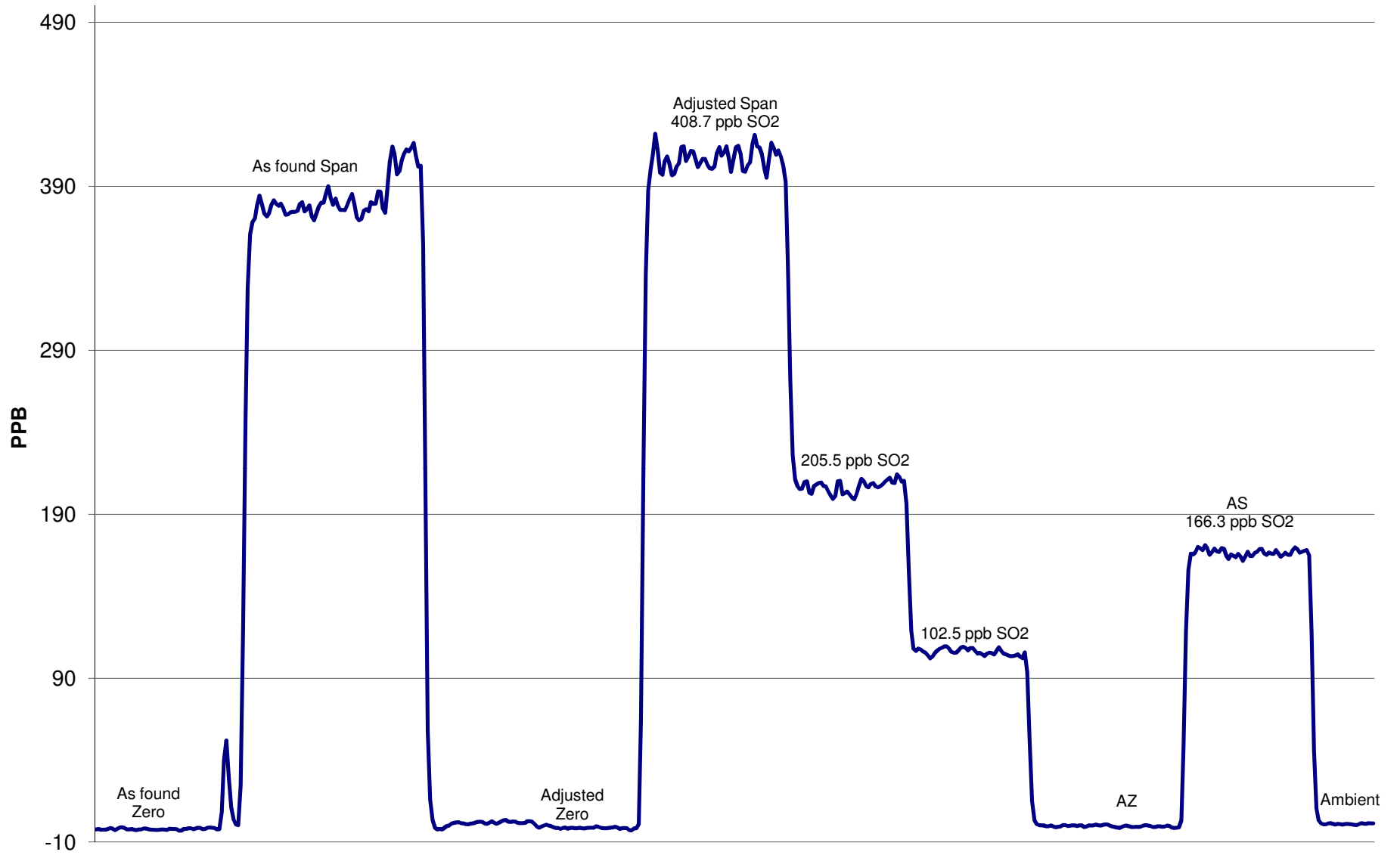
## Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-1.2	N/A	Correlation Coefficient	0.999850
408.7	407.7	1.0025		
205.5	206.8	0.9938	Slope	1.002487
102.5	105.9	0.9680		
			Intercept	-1.056805

### SO2 Calibration Curve



# SO2 Calibration



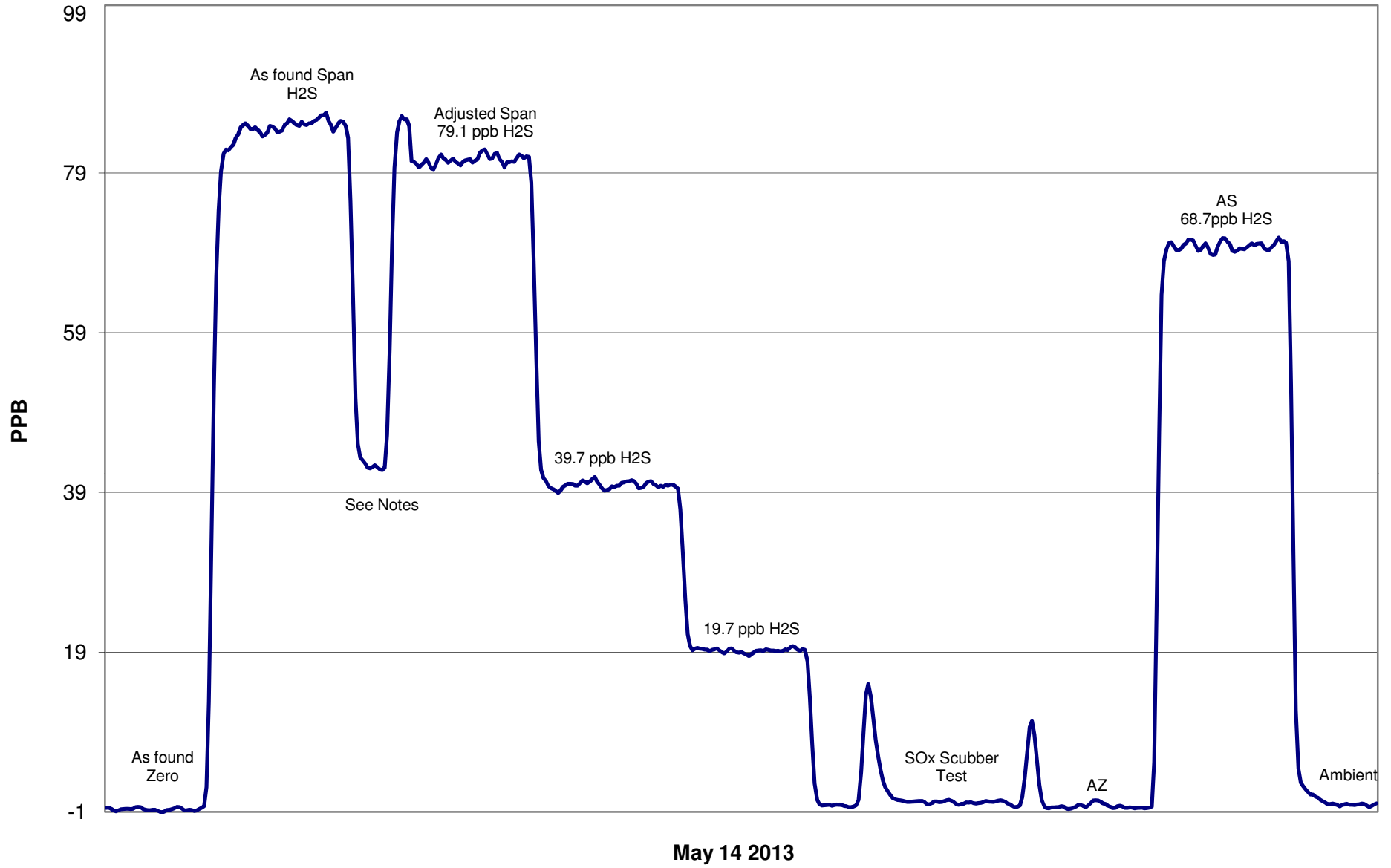
May 14 2013







# H2S Calibration



# Calibration Report



Parameter SO2

Air Monitoring Network PAZA

## Station Information

Calibration Date	<u>May 15 2013</u>	Previous Calibration	<u>April 27 2013</u>
Station Number	<u>9</u>	Station Location	<u>Sunset House</u>
Reason:	<input checked="" type="checkbox"/> Routine	<input type="checkbox"/> Install	<input type="checkbox"/> Removal
		<input type="checkbox"/> Other:	
Start Time (MST)	<u>9:00</u>	End Time (MST)	<u>12:40</u>
Barometric Pressure	<u>0.90</u> Atm	Station Temperature	<u>20.0</u> Deg C
Calibrator	<u>EnviroNics 6100</u>	Serial Number	<u>3474</u>
Cal Gas Concentration	<u>51.6</u> ppm	Cal Gas Expiry Date	<u>12/29/2013</u>
Gas Cert Reference	<u>LL105164</u>		
DACS make	<u>CR3000</u>	DACS serial No.	<u>5407</u>
DACS voltage range	<u>0 - 5 Volt</u>	DACS channel #	<u>2</u>
	<u>Before</u>		<u>After</u>
DACS Scale High	<u>500</u>	DACS slope	<u>500</u>
DACS Scale Low	<u>0</u>	DACS intercept	<u>0</u>
Calculated slope	<u>0.999399</u>	Calculated slope	<u>0.993188</u>
Calculated intercept	<u>2.058137</u>	Calculated intercept	<u>1.062609</u>
Analyzer make	<u>TEI 43C</u>	Analyzer serial #	<u>609716238</u>

	before		after	
Concentration range	0-500	ppb	0-500	ppb
Background	18.2		18.4	
Coefficient	0.977		0.992	
UV Lamp Voltage	844	V	848	V
Chamber Temp	44.6	C	44.6	C
Perm Gas Temp	45	C	45	C
Pressure	656.3	mm Hg	660.9	mm Hg
Sample Flow	0.48	LPM	0.482	LPM
Lamp Intesity	37191	Hz	37005	Hz

## Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4995	0.00	0.0	0.6	N/A
4995	39.93	409.2	411.7	0.9939
4995	20.08	206.6	206.2	1.0020
4995	10.03	103.4	101.4	1.0202
4995	0.00	0.0	0.6	As found zero
4995	39.93	409.2	405.8	As found span
Average Correction Factor				1.0053

Calculated value of As Found Response: 407.047 ppm      Percent Change of As Found: 0.5%

	before calibration		after calibration	
Auto zero	0.3	ppm	0.3	ppm
Auto span	275.2	ppm	271.5	ppm

Notes: Adjstuted Span

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Calibration Performed By: Christopher Hendrickson

# Calibration Summary

Parameter SO2

Air Monitoring Network PAZA



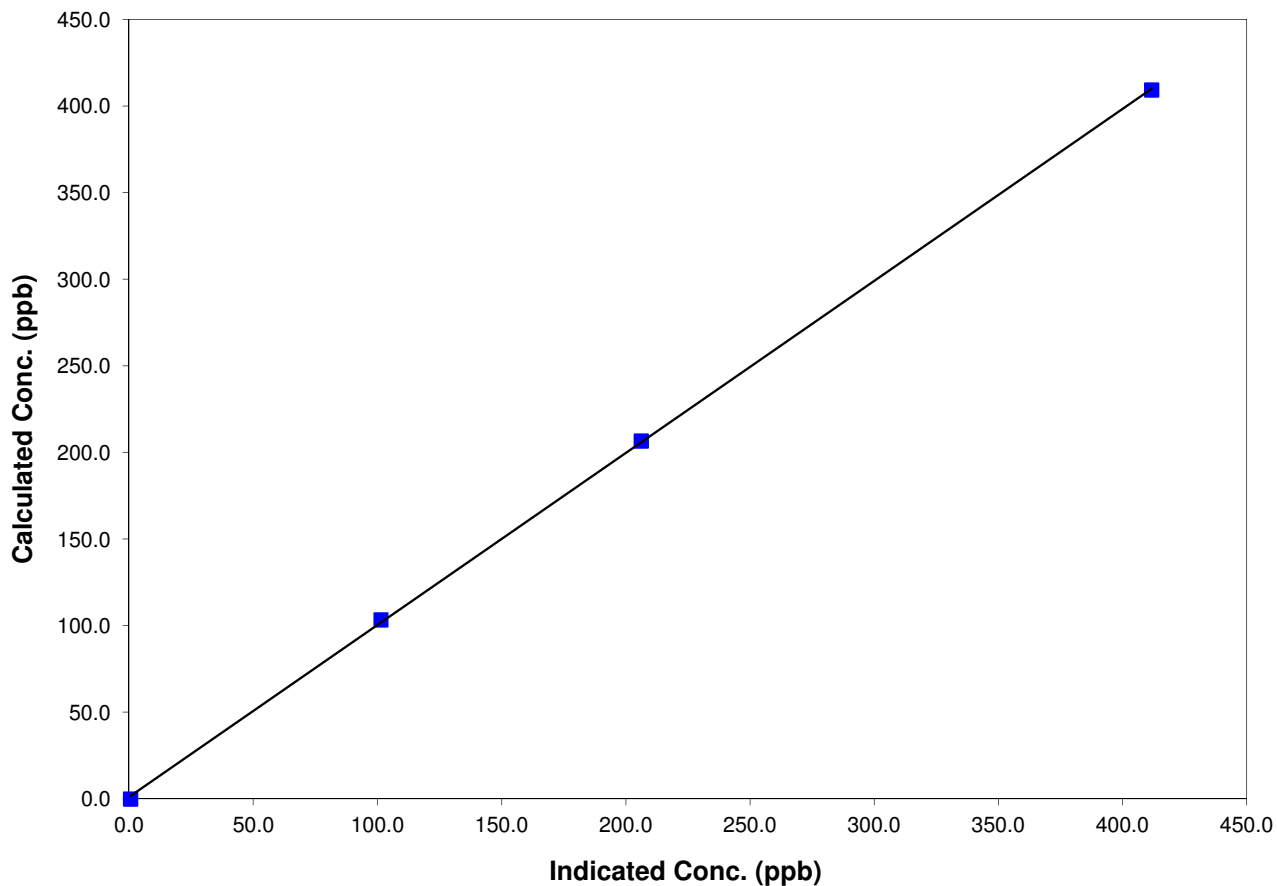
## Station Information

Calibration Date	May 15 2013	Previous Calibration	April 27 2013
Station Number	9	Station Location	Sunset House
Start Time (MST)	9:00	End Time (MST)	12:40
Analyzer make/model	TEI 43C	Analyzer serial #	609716238

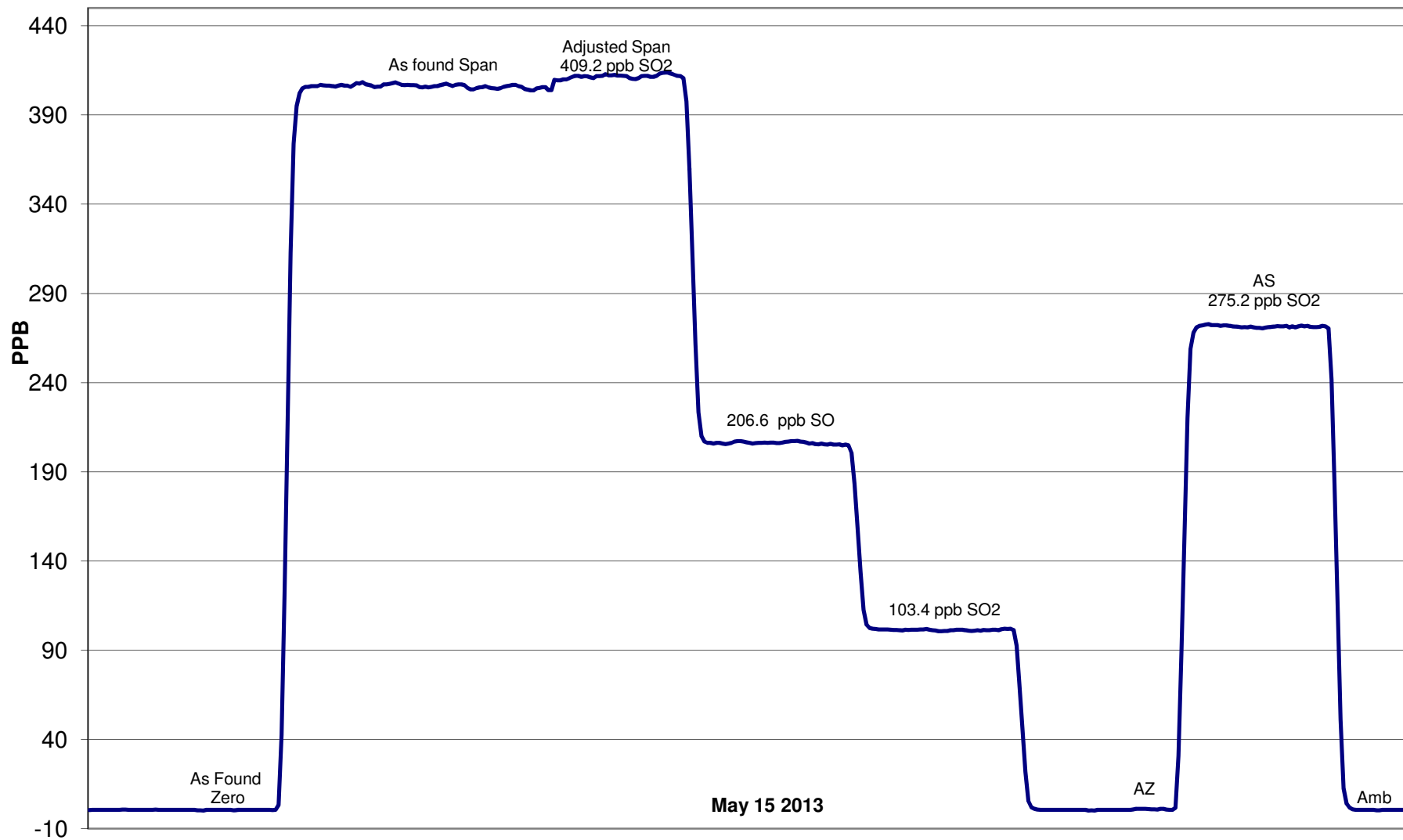
## Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.6	N/A	Correlation Coefficient	0.999927
409.2	411.7	0.9939		
206.6	206.2	1.0020		
103.4	101.4	1.0202	Slope	0.993188
			Intercept	1.062609

### SO2 Calibration Curve



# SO2 Calibration



# Calibration Report

Parameter

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

Air Monitoring Network

PAZA



## Station Information

Calibration Date	May 15 2013	Previous Calibration	April 27 2013		
Station Number	9	Station Location	Sunset House		
Reason:	<b>Routine</b>	Install	Removal Other: _____		
Start Time (MST)	9:00	End Time (MST)	16:00		
Barometric Pressure	0.898	Atm	Station Temperature	20.0	Deg C
Calibrator	EnviroNics	Serial Number	3474		
NO Cal Gas Conc	49.9	ppm	Cal Gas Expiry Date	December 29 2013	
NO <sub>x</sub> Cal Gas Conc	50.1	ppm	Cal Gas Serial #	LL105164	

## DACS Information

DACS make	CR3000	DACS serial No.	5407	
	<b>Parameter</b>	<b>NO2</b>	<b>NOx</b>	<b>NO</b>
Before	Data Slope	0.997476	0.994524	0.998323
	Data Offset	-0.471411	1.531869	1.376776
After	Data Slope	0.989519	1.008710	1.006259
	Data Offset	-0.407057	0.775738	0.636227
	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	
<b>Test Point</b>	<b>before</b>		<b>after</b>	
Concentration range	0 - 500	ppb	0 - 500	ppb
NO offset	5.0	mV	5.0	mV
NO <sub>x</sub> bkgnd	5.2	mV	5.3	mV
NO coefficient	1.158		1.186	
NO <sub>x</sub> coefficient	1.002		1.000	
NO2 conv temp	325.0	Deg C	324.5	Deg C
PMT Temp	-2.8	Deg C	-2.7	Deg C
PMT Volt	-805.5	mV	-805.1	mV
R Cell Press	179.4	in Hg	185.9	in Hg
Sample Flow	0.752	ccm	0.737	ccm

NOTES: Trace drop on NO<sub>x</sub> due to incorrect NO<sub>x</sub> value entered.  
 Inputed the Incorrect O3 concentration for start of GPT. Restarted GPT reference point.

# Calibration Report

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



## Station Information

Calibration Date: **May 15 2013** Station Location: **Sunset House**

## Calibration Data

	Dilution flow rate (ccm)	Source gas flow rate (ccm)	Calculated NOx conc (ppb)	Calculated NO conc (ppb)	Calculated NO2 conc (ppb)	Indicated NOx conc (ppb)	Indicated NO conc (ppb)	Indicated NO2 conc (ppb)	NOx Correction factor	NO Correction factor
zero	4995	0.00	0.0	0.0	0.0	0.0	0.0	0.0	N/A	N/A
1	4995	39.93	397.3	395.7	1.6	393.4	393.0	0.3	1.0099	1.0071
2	4995	20.08	200.6	199.8	0.8	197.9	197.6	0.2	1.0137	1.0112
3	4995	10.03	100.4	100.0	0.4	97.9	98.2	0.1	1.0256	1.0184
AFZ	4995	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0000	0.0000
AFS	4995	39.93	397.3	395.7	1.6	384.5	383.1	1.3	1.0332	1.0331
Average Correction Factor									1.0164	1.0122

As Found Concentrations: **NO<sub>x</sub>= 386.1** **NO= 384.5** As Found Percent Change **NO<sub>x</sub>= -2.8%** **NO= -2.8%**

## GPT Calibration Data

Dilution Flow 4995 ccm Source Gas Flow 39.93 ccm

O3 Setpoint (ppb)	Indicated NO high point (ppb)	Indicated NO drop conc (ppb)	Calculated NO2 conc (ppb)	Indicated NOx conc (ppb)	Indicated NO conc (ppb)	Indicated NO2 conc (ppb)	NOx Correction factor	NO Correction factor	NO2 Correction factor	Converter Efficiency
0	0.0	0.0	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A
NO point	395.9	395.9	0.0	397.5	395.9	1.1	0.9960	1.0000	N/A	N/A
300	395.9	114.2	281.7	397.6	114.2	284.9	0.9959	1.0000	0.9889	101.1%
230	395.9	194.8	201.2	397.7	194.8	203.8	0.9956	1.0000	0.9873	101.3%
130	395.9	303.7	92.2	397.7	303.7	94.2	0.9956	1.0000	0.9791	102.1%
Average Correction Factor							0.9957	1.0000	0.9851	101.5%

## AIC Data

Parameter	Previous calibration				Current calibration			
	NOx	NO2	NO		NOx	NO2	NO	
Auto zero	0.9	0.2	0.9	ppb	0.1	0.2	-0.1	ppb
Auto span	181.8	178.9	2.0	ppb	173.8	173.7	1.0	ppb

Calibration Performed By: Christopher Hendrickson

# Calibration Summary

Parameter NO<sub>2</sub>

Air Monitoring Network PAZA



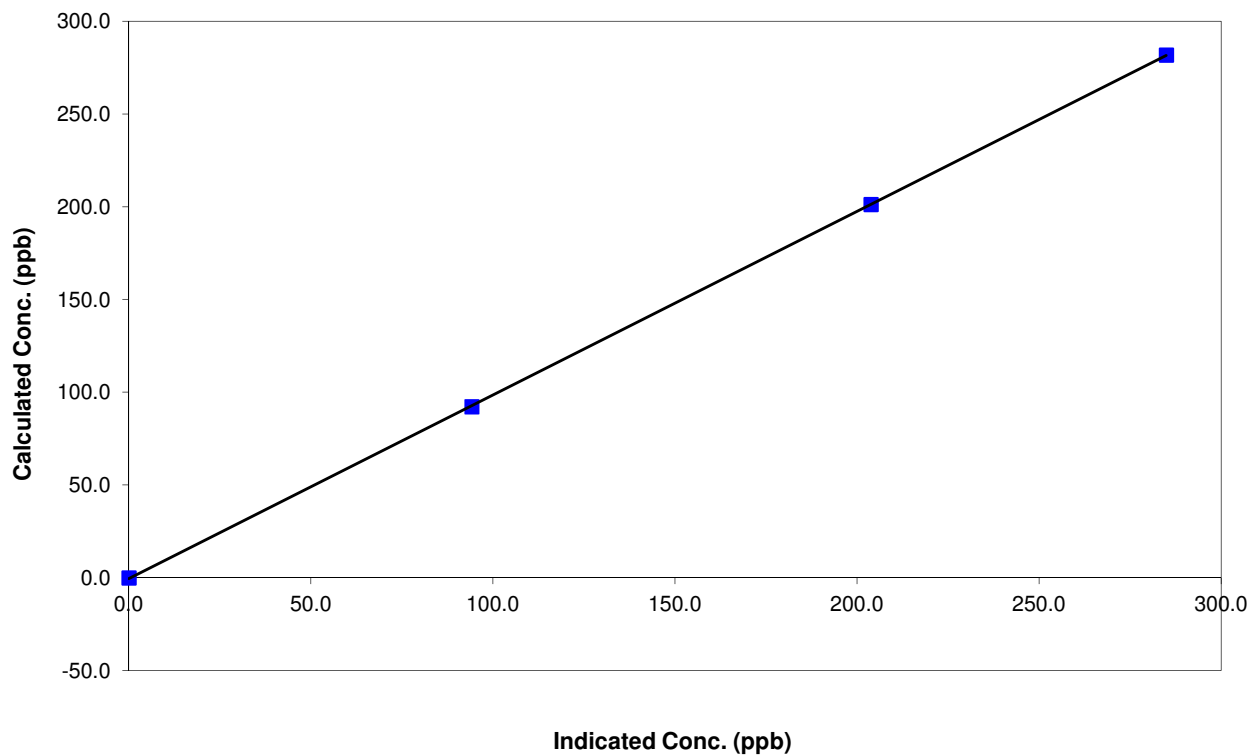
## Station Information

Calibration Date	May 15 2013	Previous Calibration	April 27 2013
Station Number	9	Station Location	Sunset House
Start Time (MST)	9:00	End Time (MST)	16:00
Analyzer make	TEI 42i	Analyzer serial #	0701120011

## Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.0	N/A	Correlation Coefficient	0.999988
281.7	284.9	0.9889		
201.2	203.8	0.9873		
92.2	94.2	0.9791	Slope	0.989519
			Intercept	-0.407057

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



# Calibration Summary

Parameter NO<sub>x</sub>

Air Monitoring Network PAZA



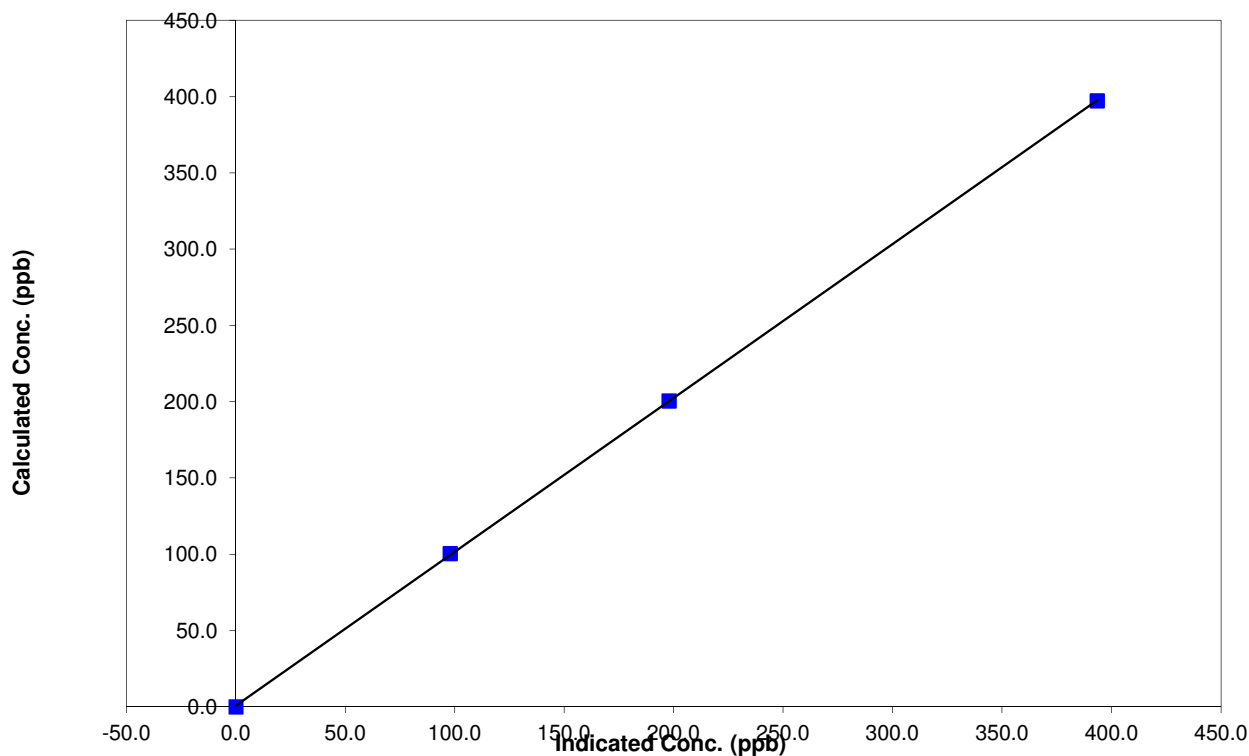
## Station Information

Calibration Date	May 15 2013	Previous Calibration	April 27 2013
Station Number	9	Station Location	Sunset House
Start Time (MST)	9:00	End Time (MST)	16:00
Analyzer make	TEI 42i	Analyzer serial #	0701120011

## Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.0	N/A	Correlation Coefficient	0.999982
397.3	393.4	1.0099		
200.6	197.9	1.0137		
100.4	97.9	1.0256	Slope	1.008710
			Intercept	0.775738

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





# Calibration Summary

Parameter NO

Air Monitoring Network PAZA



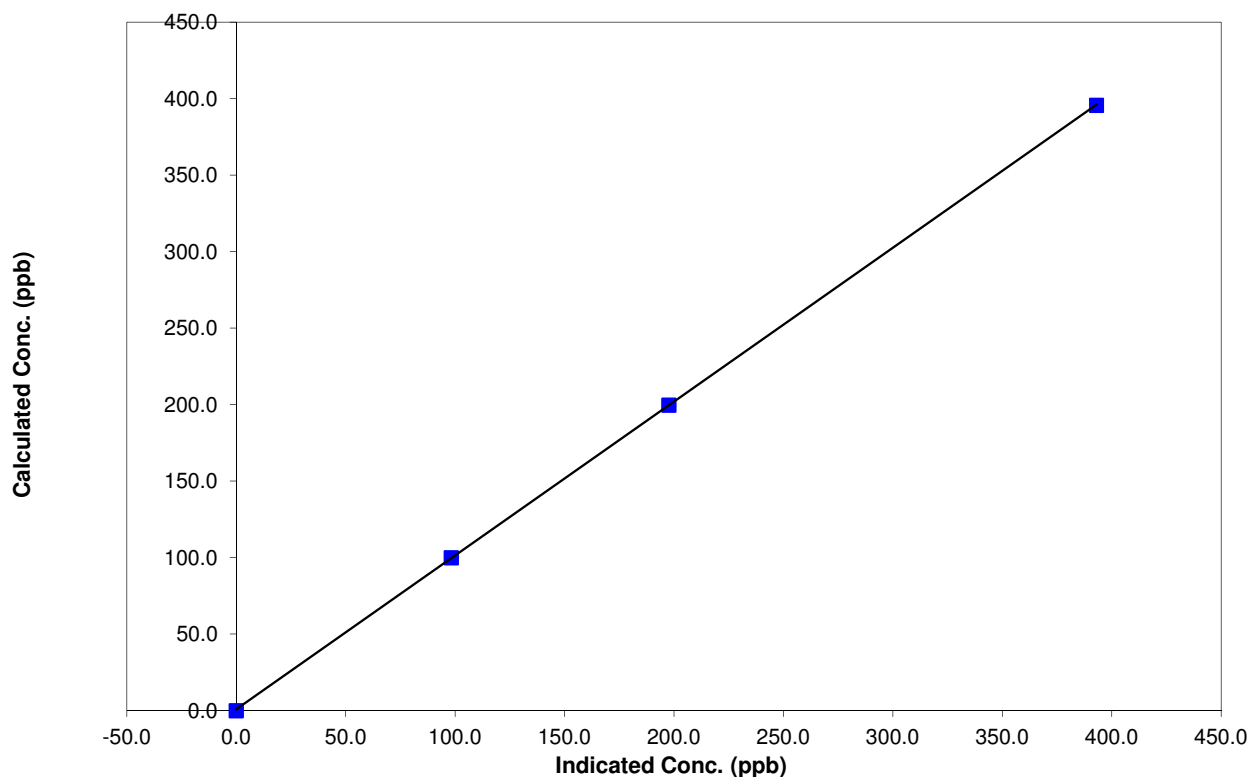
## Station Information

Calibration Date	May 15 2013	Previous Calibration	April 27 2013
Station Number	9	Station Location	Sunset House
Start Time (MST)	9:00	End Time (MST)	16:00
Analyzer make	TEI 42i	Analyzer serial #	0701120011

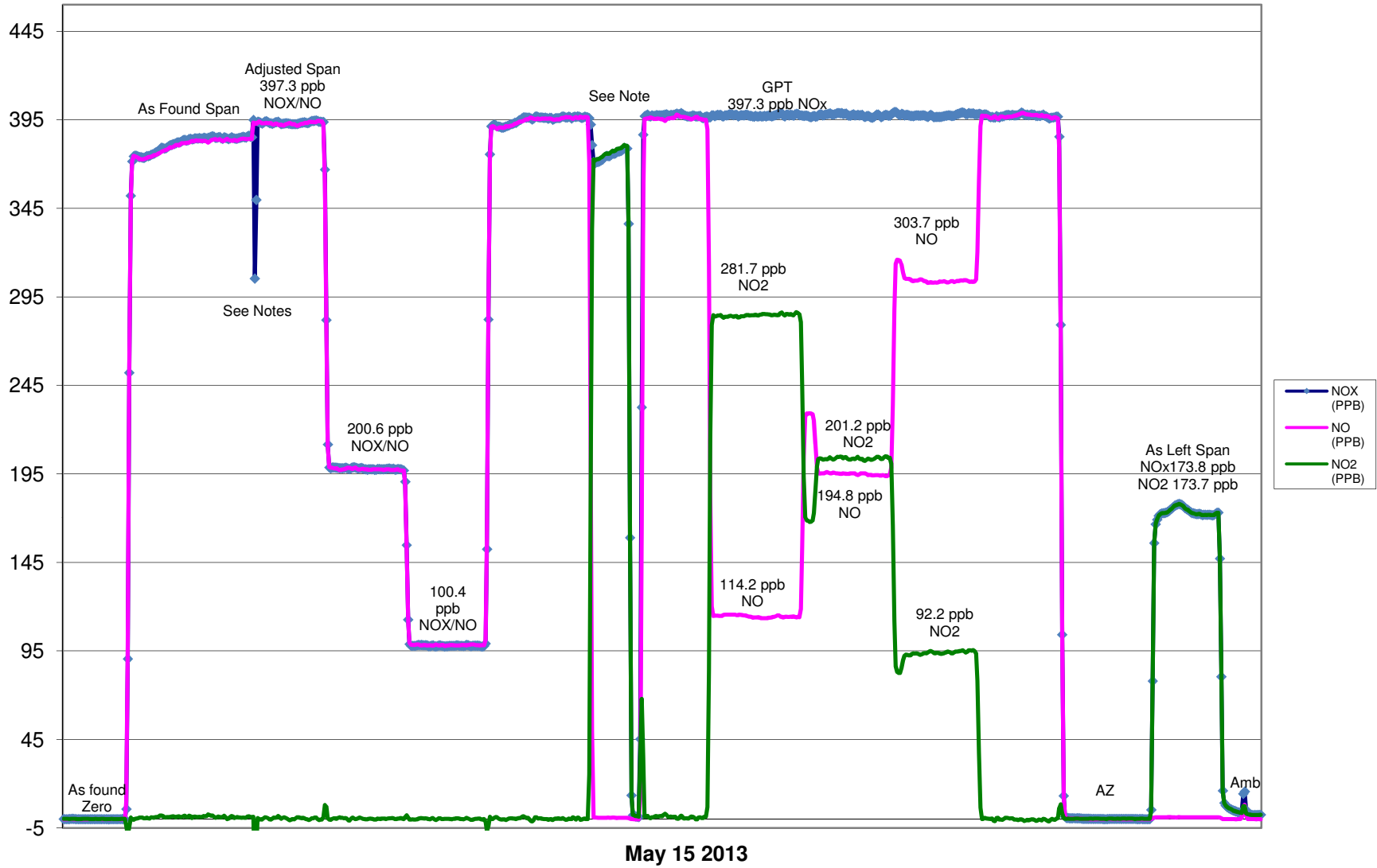
## Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.0	N/A	Correlation Coefficient	0.999990
395.7	393.0	1.0071		
199.8	197.6	1.0112		
100.0	98.2	1.0184	Slope	1.006259
			Intercept	0.636227

## NO Calibration Curve



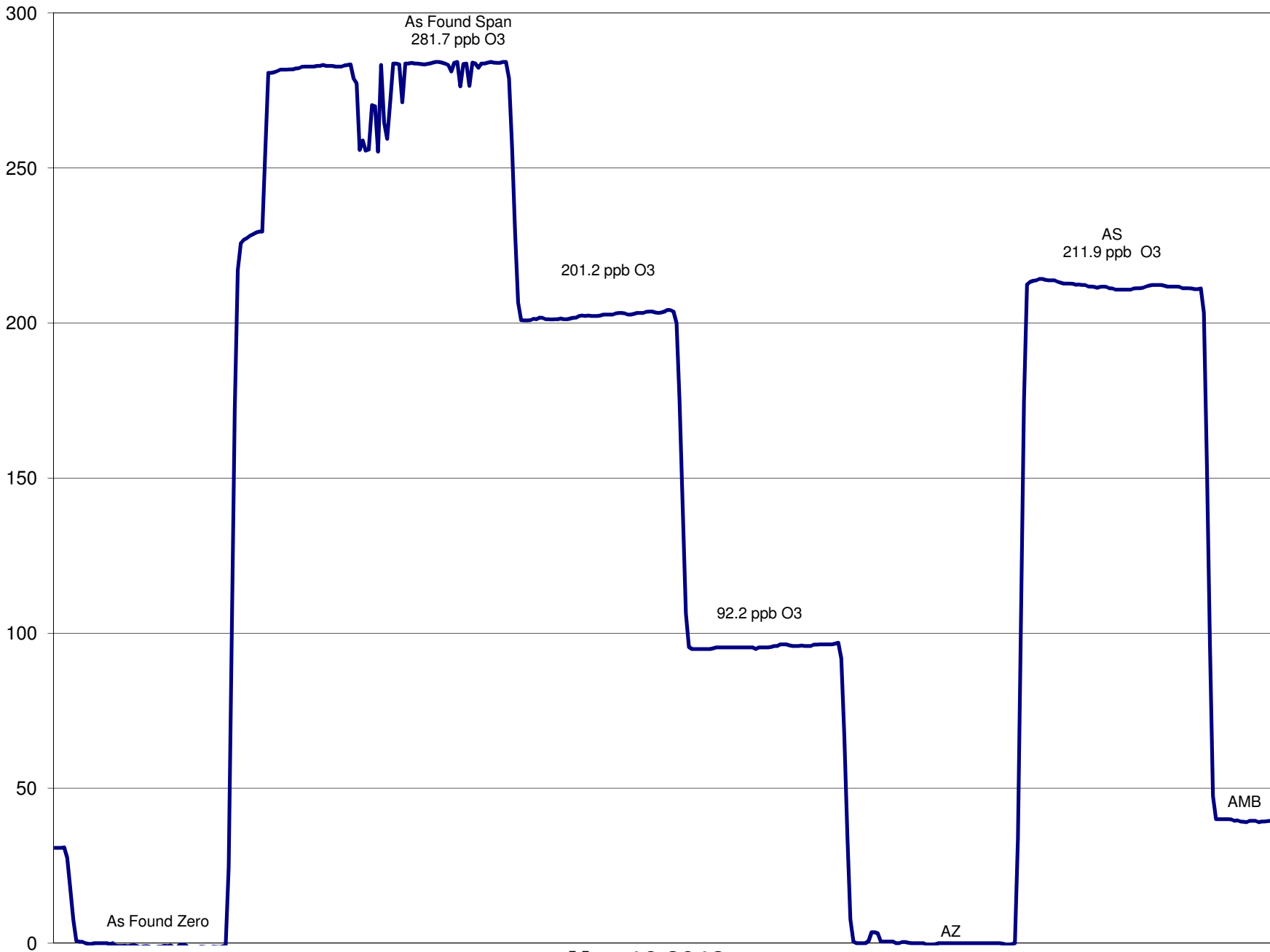
# PASZA Sunset House NO<sub>x</sub> Calibration







# O3 (PPB)

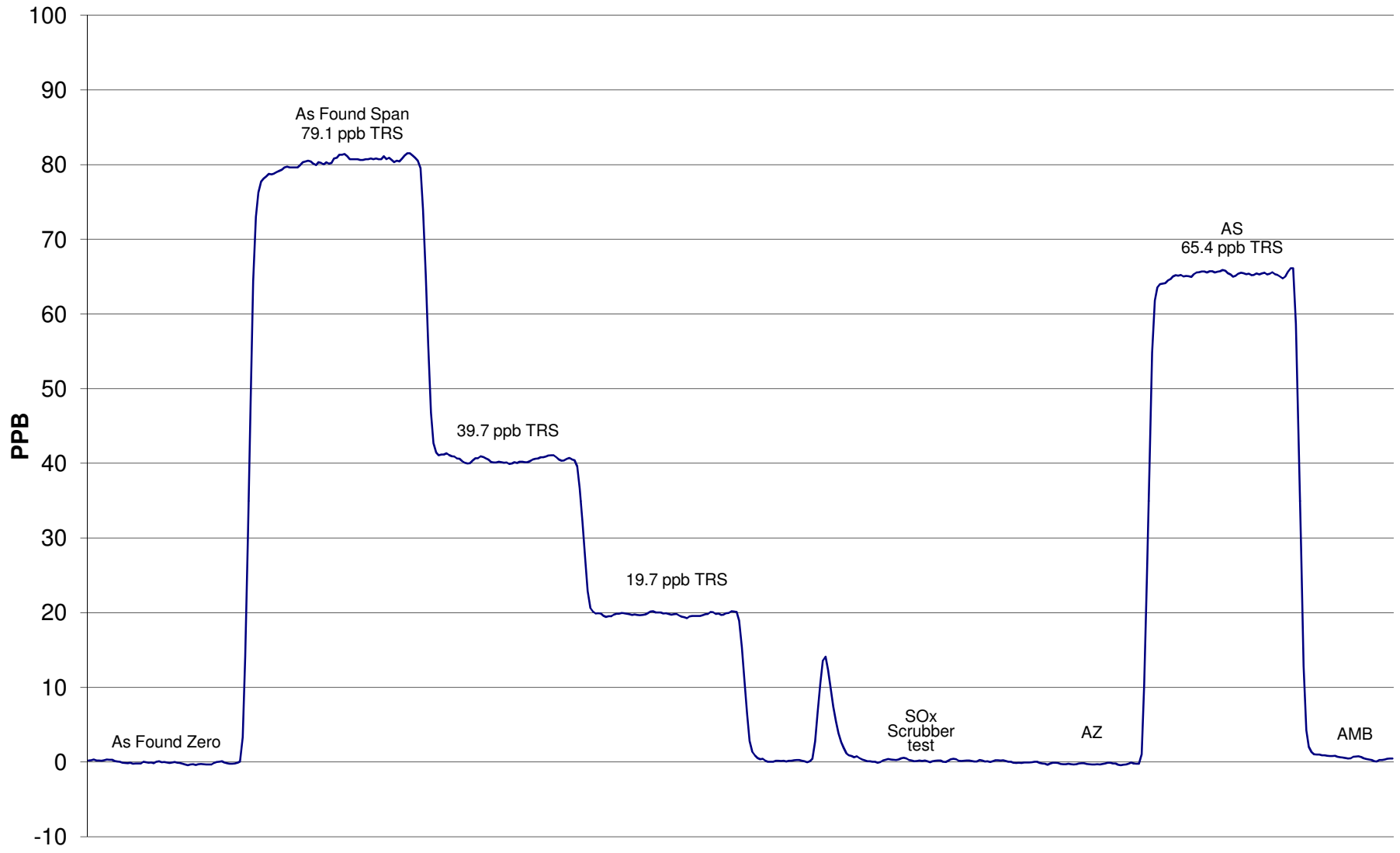


May 16 2013





# TRS Calibration



May 16 2013



# Calibration Report



Parameter SO<sub>2</sub>

Air Monitoring Network PAZA

## Station Information

Calibration Date	May 28, 2013	Previous Calibration	April 28, 2013
Station Number	1	Station Location	Falher
Reason:	<input checked="" type="checkbox"/> Routine	<input type="checkbox"/> Install	<input type="checkbox"/> Removal
			<input type="checkbox"/> Other:
Start Time (MST)	11:03	End Time (MST)	13:51
Barometric Pressure	0.917 ATM	Station Temperature	20.0 Deg C
Calibrator	EnviroNics	Serial Number	3474
Cal Gas Concentration	50.8 ppm	Cal Gas Expiry Date	3/12/14
Correction factor	0.031171	Cal Gas Cylinder #	LL107272
DACS make	CR1000	DACS serial No.	3980
DACS voltage range	0 - 5 volt	DACS channel #	6
	Before		After
Calculated slope	1.000464	Calculated slope	1.002499
Calculated intercept	0.988540	Calculated intercept	2.219339
Analyzer make	Teco 43i	Analyzer serial #	1207452008

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
Background	7.1		7.1	
coefficient	0.932		0.932	
Lamp Voltage	840	volts	840	volts
Chamber Temp	45	Deg C	45	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	675.8	mm Hg	677.9	mm Hg
Sample Flow	0.419	ccm	0.425	ccm
Lamp Intensity	96	%	96	%

Dilution air flow rate (cc/min)	Corrected gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4995	0.0	0.00	-0.2	N/A
4995	39.93	402.9	400.8	1.0051
4995	19.98	202.4	198.1	1.0218
4995	9.84	99.9	95.8	1.0428
4995	0.0	0.0	-0.2	As Found Zero
4995	39.93	402.9	400.8	As Found Span
Average Correction Factor				1.0232

Calculated value of As Found Response: 402.172 ppm Percent Change of As Found: **0.2%**

	before calibration		after calibration	
Auto zero	0.5	ppm	-0.2	ppm
Auto span	359.4	ppm	350.7	ppm

Notes: No span adjust.

Calibration Performed By: Grover Christiansen

# Calibration Summary



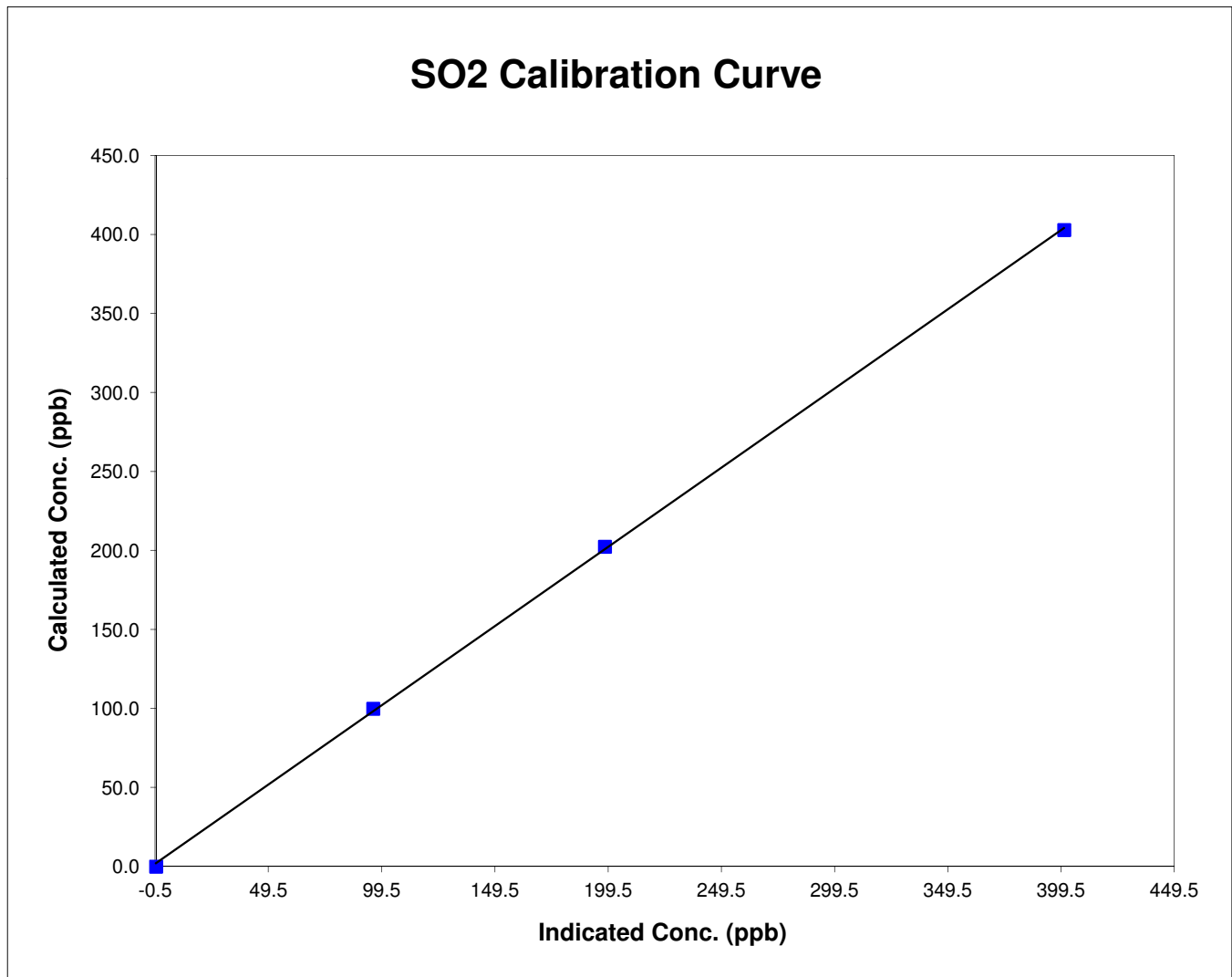
Parameter SO2  
 Air Monitoring Network PAZA

### Station Information

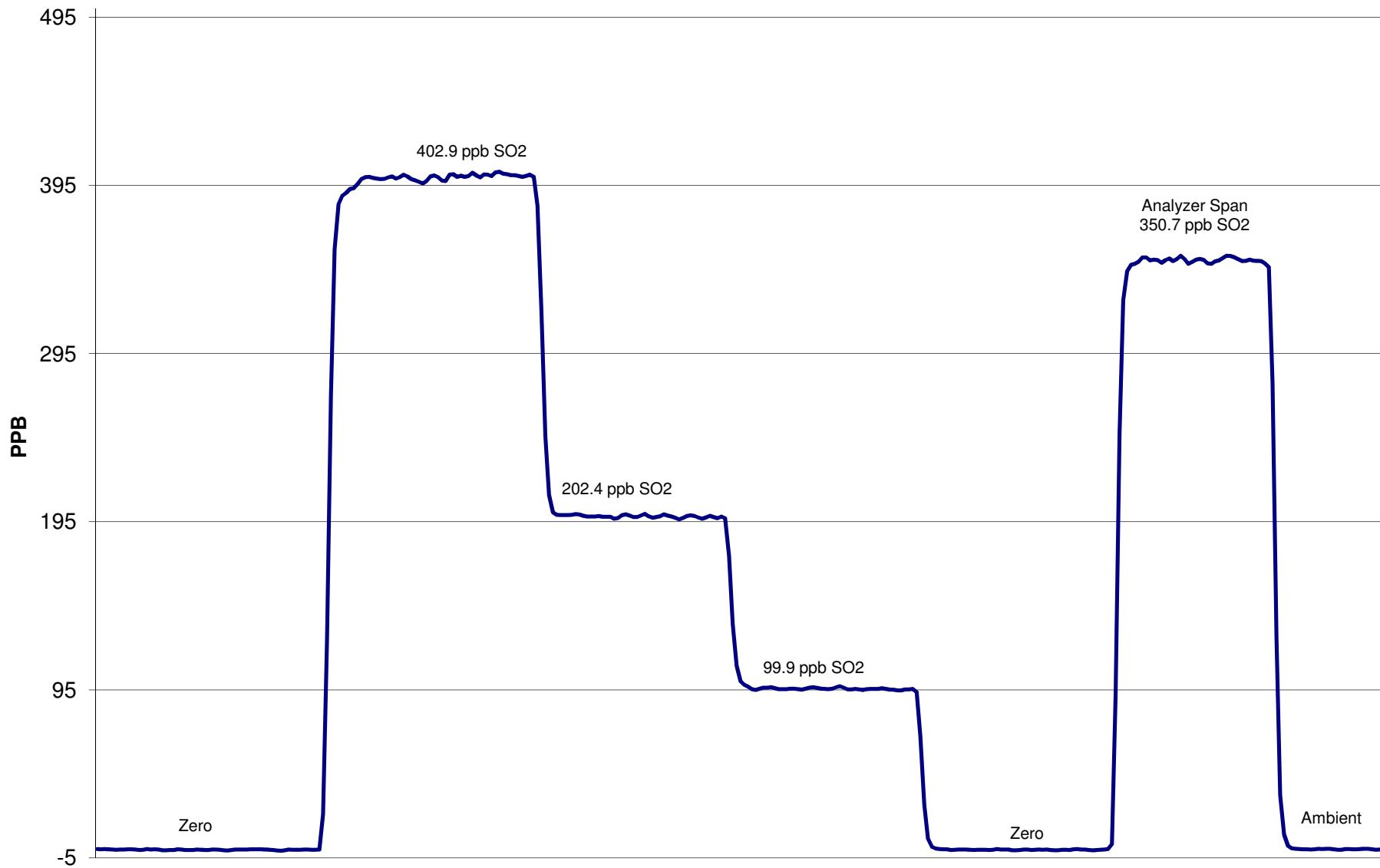
Calibration Date	May 28, 2013	Previous Calibration	April 28, 2013
Station Number	1	Station Location	Falher
Start Time (MST)	11:03	End Time (MST)	13:51
Analyzer make/model	Teco 43i	Analyzer serial #	1207452008

### Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.2	N/A	Correlation Coefficient	0.999877
402.9	400.8	1.0051		
202.4	198.1	1.0218	Slope	1.002499
99.9	95.8	1.0428		
			Intercept	2.219339



# SO2 Calibration

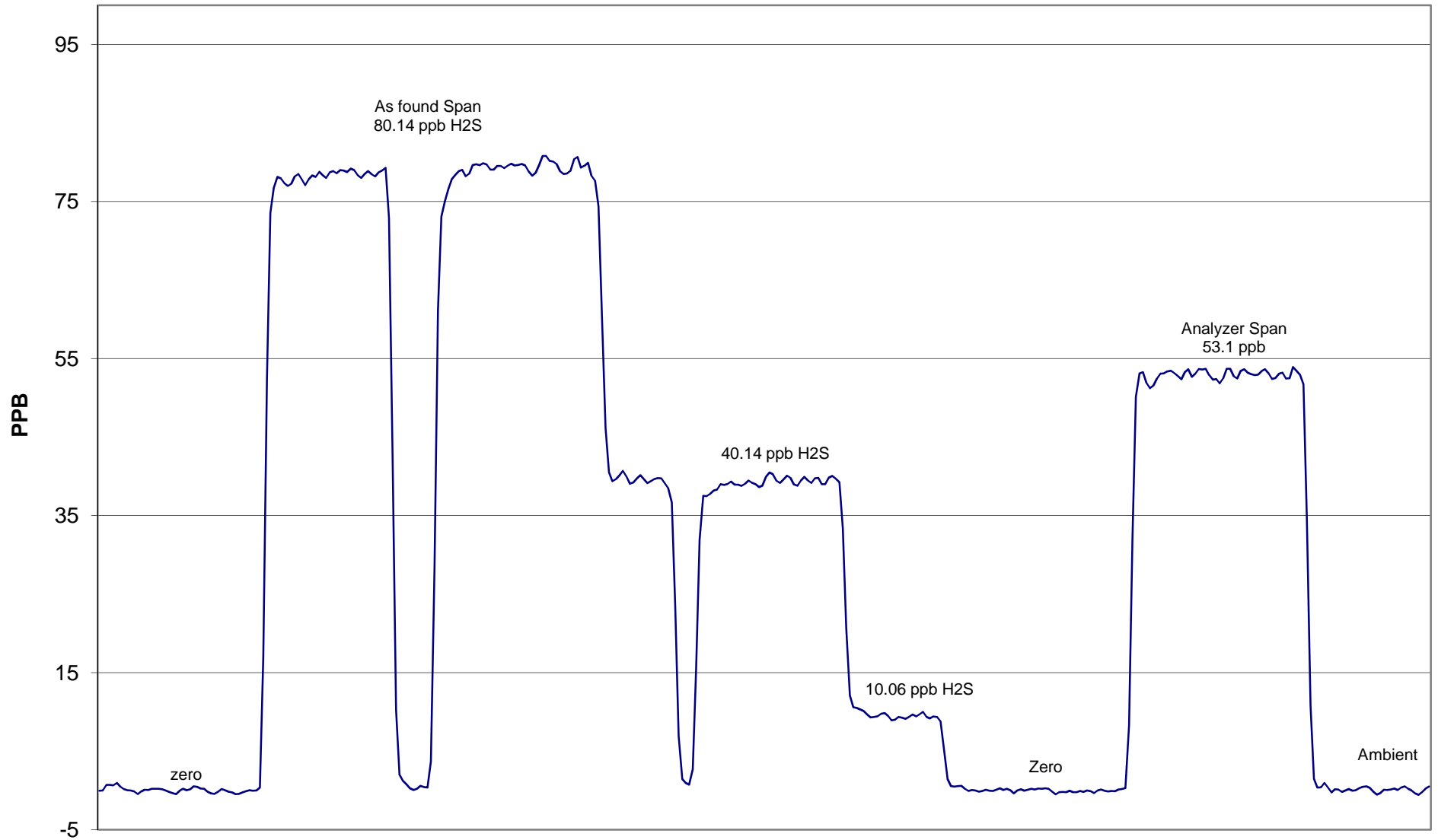


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# H2S Calibration



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