



Peace Airshed Zone Association

Ambient Air Monitoring Network Summary

**Continuous Ambient Air Quality Monitoring Program
Monthly Report
November 2012**

Operations and Reporting



December 28th, 2012

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

RE: Peace Airshed Zone Association (PAZA) – November 2012 Ambient Air Report

Enclosed is the PAZA Ambient Monitoring Network Report for the month of **November 2012**.

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

Company	Facility	LSD	AENV Approval Number
Advantage Oil & Gas Ltd.	Glacier	05-02-076-13-W6	262479-00-00
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
	Sturgeon/Valleyview	02-02-069-22-W5	1633-02-00
Birchcliff Energy Ltd.	Pouce Coupe	03-22-078-12-W6	252529-00-00
Canadian Natural Resources Limited	Bonanza	11-25-081-11-W6	29-01-01
	Progress/Gordondale	01-01-077-10-W6	10036-02-00
	Gold Creek	13-26-067-05-W6	10446-02-00
	Teepee Creek	SE-2-074-04-W6	1635-02-02
Conocophillips Canada Energy Partnership	Wembley	06-19-073-08-W6	212-01-00
Devon Canada	Tangent	16-20-080-24-W5	11346-02-00
	NW Belloy (Dunvegan)	16-36-079-03-W6	9810-02-00

	Eaglesham (South)	02-14-077-25-W5	47669-01-00
	Puskwaskau	03-26-074-01-W6	17524-01-00
	North Normanville	03-36-079-23-W5	47455-01-00
	West Culp	05-34-078-25-W6	136284-00-00
	Cecil	08-15-084-08-W6	10032-02-00
EnCana Corporation	Sexsmith	04-08-075-07-W6	10002-01-00
Grande Prairie Generation Inc.	Northern Prairie Power Project	04-19-073-08-W6	238762-00-02
Long Run Exploration	Eaglesham	01-25-076-01-W6	241532-00-00
	Kakut	14-12-075-03-W6	248469-00-01
	Donnelly	06-01-077-21-W5	87-02-00
Longview Oil Corp.	Sunset House	06-22-70-20-W5	138884-01-00
Penn West Petroleum Ltd.	Tangent	13-29-080-23-W5	1746-02-01
	Pouce Coupe	16-07-078-11-W6	614-01-00
Petrus Resources	Rycroft	08-25-077-06-W6	11351-02-00
	Spirit River	08-34-077-06-W6	11096-02-00
Spectra Energy Midstream Corporation	Fourth Creek	16-11-082-09-W6	263-01-00
Suncor Energy Inc.	Progress	07-22-078-09-W6	11428-02-00
Taqa North Ltd.	Valhalla	13-21-076-09-W6	17620-01-01
Veresen Energy Infrastructure Inc.	Hythe Brainard	11-18-074-12-W6	10910-02-02
Weyerhaeuser Canada	Grande Prairie Pulp and Wood Plant	01-14-070-05-W6	113-02-00

New approvals joining the PAZA network effective October 31, 2013:

Alberta Power (2000) Ltd.	Sturgeon	SW-06-69-21-W5	10283-02-02
Apache	House Mountain	01-08-70-10-W5	10137-02-02
Enerplus Resources	Pouce Coupe	SW-06-69-21-W5	1464-02-03
Canfor Forest Products (CFP)	Grande Prairie	SW-23-71-06-W6	152645-01-00

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

Continuous Monitoring: Six (6) Stations including Henry Pirker (Grande Prairie), Evergreen Park, Smoky Heights, Beaverlodge, Valleyview, and Portable-Sunset House.

During the month of **November** 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 November with the exception of the THC analyzer, which experienced sample pump failure and returned an uptime of 84.9%. **AE Reference #265995.**

Evergreen Park Station:

- ◆ The measured ambient air quality was within the AAAQO for the Evergreen Park station except for PM_{2.5}, which had one (1) 1-hour of the AAAQO guideline:
 - o November 16 15:00 103.0 µg/m³ Alberta Environment Reference # 265001
- ◆ All analyzers and sensors at the Evergreen Park station had an operational uptime greater than 90% for the month of November.

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 November.

Beaverlodge Station:

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

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 November.

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 November.

Passive Monitoring - 46 Stations throughout the PAZA zone:

There were five duplicate sites sampled in the month of November: Silver Valley, Bay Tree, Spirit River, Puskwaskau, 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 SO₂ passives ranged from 0.1 ppb to 0.6 ppb, with a mean of 0.4 ppb.
- Monthly average concentrations for NO₂ passives ranged from 0.8 ppb to 10.1 ppb, with a mean of 2.2 ppb.
- Monthly average concentrations for O₃ passives ranged from 17.2 ppb to 35.9 ppb, with a mean of 28.6 ppb.
- Monthly average concentrations for H₂S passives ranged from 0.1 ppb to 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

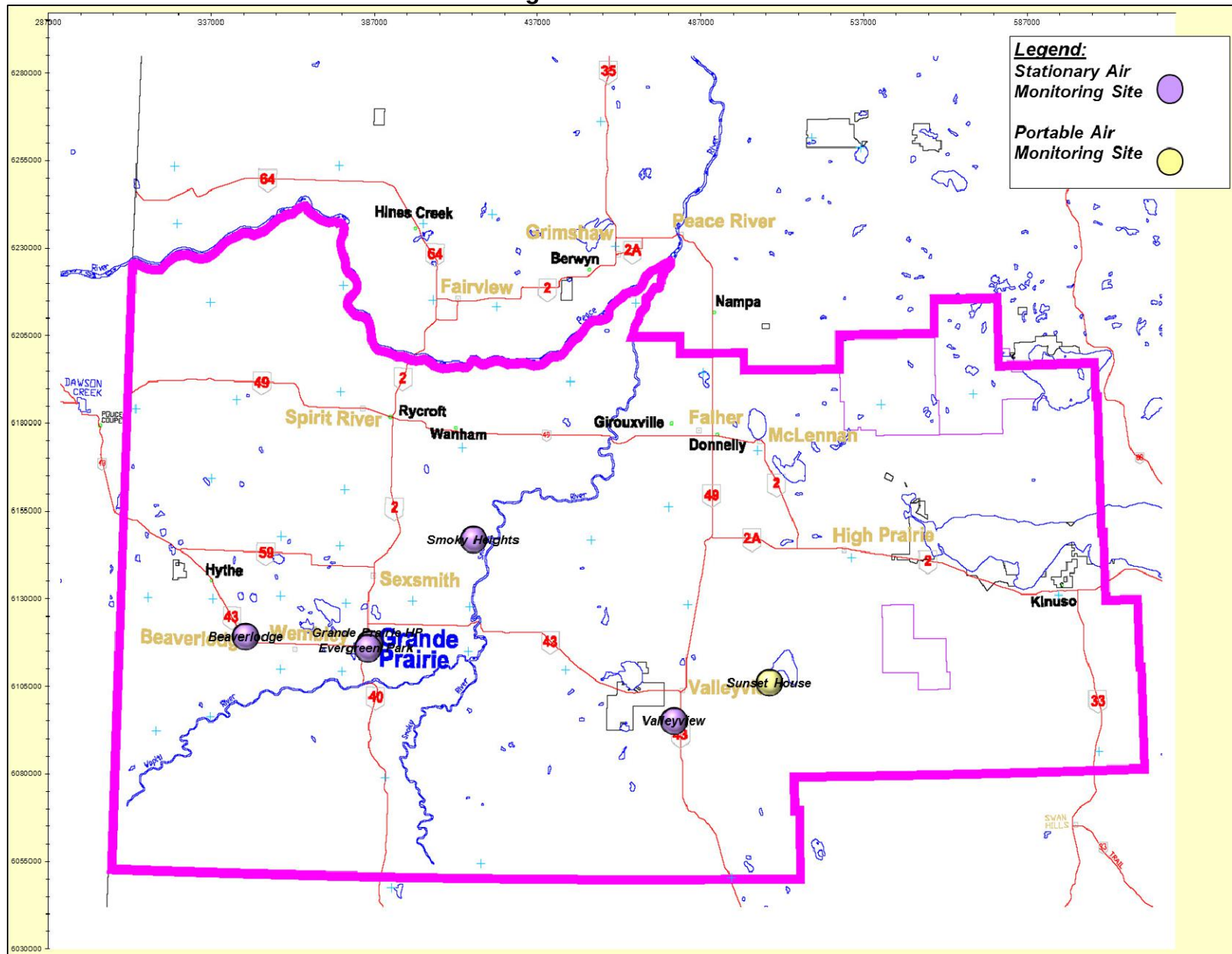


Patrick Andersen, B.Sc.
FOCUS AQM Data Specialist



Jeff Cooper, C.Tech.
AQM Operations Manager

Location of PAZA Continuous Monitoring Stations



PAZA Monthly Continuous Data Summary

Nov-2012Peace Airshed Zone Association							Maximum Recorded Values				
							1-hr		24-hr / 8-hr		
Pollutant (units)	Objectives		Station	Monthly Average	Exceedence		Conc	Day	Conc	Day	Operational Time (%)
	1-hr	24-hr			1-hr	24-hr					
SO ₂ (ppb)	172	48	Henry Pirker	0.6	0	0	3.8	Nov-21 08:00	1.3	Nov-21	100%
SO ₂ (ppb)	172	48	Evergreen Park	0.3	0	0	5.5	Nov-14 13:00	0.7	Nov-30	100%
SO ₂ (ppb)	172	48	Smoky Heights	0.7	0	0	7.9	Nov-01 20:00	1.9	Nov-18	100%
SO ₂ (ppb)	172	48	Beaverlodge	0.7	0	0	4.8	Nov-11 01:00	1.4	Nov-26	100%
SO ₂ (ppb)	172	48	Valleyview	0.4	0	0	13.2	Nov-05 21:00	4.2	Nov-05	100%
SO ₂ (ppb)	172	48	Sunset House	0.4	0	0	2.7	Nov-17 01:00	0.9	Nov-23	100%
NO (ppb)			Henry Pirker	8.3	0	0	113.0	Nov-06 10:00	31.1	Nov-27	100%
NO ₂ (ppb)	159	106	Henry Pirker	14.3	0	0	49.3	Nov-15 18:00	29.1	Nov-06	100%
NO _x (ppb)			Henry Pirker	22.7	0	0	156.7	Nov-06 00:00	58.2	Nov-06	100%
NO (ppb)			Beaverlodge	1.4	0	0	32.5	Nov-26 20:00	5.1	Nov-22	100%
NO ₂ (ppb)	159	106	Beaverlodge	6.6	0	0	37.3	Nov-16 19:00	14.1	Nov-16	100%
NO _x (ppb)			Beaverlodge	8.0	0	0	62.8	Nov-26 21:00	18.4	Nov-27	100%
NO (ppb)			Sunset House	0.3	0	0	5.3	Nov-03 12:00	1.6	Nov-03	100%
NO ₂ (ppb)	159	106	Sunset House	2.6	0	0	11.6	Nov-03 07:00	7.1	Nov-23	100%
NO _x (ppb)			Sunset House	2.8	0	0	12.6	Nov-03 09:00	8.2	Nov-03	100%
O ₃ (ppb)	82		Henry Pirker	15.0	0	-	41.6	Nov-05 07:00	36.2	Nov-05	100%
O ₃ (ppb) - 8-hr			Henry Pirker		0				40.6	Nov-05	
O ₃ (ppb)	82		Beaverlodge	22.9	0	-	41.9	Nov-05 23:00	40.4	Nov-05	100%
O ₃ (ppb) - 8-hr			Beaverlodge		0				41.2	Nov-05	
O ₃ (ppb)	82		Sunset House	25.5	0	-	44.9	Nov-16 10:00	39.5	Nov-16	100%
O ₃ (ppb) - 8-hr			Sunset House		0				42.6	Nov-16	
CO (ppm)	13		Henry Pirker	0.23	0	-	1.2	Nov-06 09:00	0.4	Nov-06	100%
CO (ppm) - 8-hr	5		Henry Pirker		0				0.8	Nov-12	
THC (ppm)			Henry Pirker	2.49	-	-	4.0	Nov-12 10:00	3.2	Nov-27	85%
TRS (ppb)			Henry Pirker	2.3	-	-	3.7	Nov-12 09:00	0.7	Nov-27	100%
TRS (ppb)			Evergreen Park	0.4	-	-	2.1	Nov-12 10:00	0.8	Nov-27	100%
TRS (ppb)			Smoky Heights	0.1	-	-	0.6	Nov-27 13:00	0.3	Nov-27	100%
TRS (ppb)			Sunset House	0.3	-	-	1.6	Nov-12 18:00	1.1	Nov-12	100%
H ₂ S (ppb)	10	3	Valleyview	0.0	0	0	1.6	Nov-05 22:00	0.1	Nov-04	100%
PM2.5 (µg/m3)	80	30	Henry Pirker	9.1	0	0	45.9	Nov-12 01:00	17.2	Nov-17	100%
PM2.5 (µg/m3)	80	30	Evergreen Park	6.0	1	0	103.0	Nov-16 15:00	14.9	Nov-16	97%
PM2.5 (µg/m3)	80	30	Smoky Heights	5.7	0	0	53.9	Nov-22 10:00	18.2	Nov-17	91%
PM2.5 (µg/m3)	80	30	Beaverlodge	10.7	0	0	48.3	Nov-16 19:00	27.3	Nov-16	100%
PM2.5 (µg/m3)	80	30	Sunset House	4.6	0	0	36.9	Nov-13 12:00	16.0	Nov-13	100%

PAZA Monthly Continuous Data Summary – continued

Nov-2012Peace Airshed Zone Association							Maximum Recorded Values				
							1-hr		24-hr / 8-hr		
RH (%)			Henry Pirker	71.3	-	-	88.5	Nov-03 23:00	85.4	Nov-03	100%
RH (%)			Evergreen Park	78.6	-	-	96.2	Nov-03 10:00	94.2	Nov-03	100%
RH (%)			Beaverlodge	84.5	-	-	100.0	Nov-02 22:00	96.5	Nov-03	100%
RH (%)			Valleyview	79.3	-	-	96.2	Nov-04 00:00	92.1	Nov-04	100%
SR (W/m ²)			Henry Pirker	54.2	-	-	519.9	Oct-04 14:00	134.9	Oct-04	100%
Temp (°C)			Henry Pirker	-9.5	-	-	7.8	Nov-15 13:00	4.6	Nov-05	100%
Temp (°C)			Evergreen Park	-9.5	-	-	7.0	Nov-05 15:00	5.4	Nov-05	100%
Temp (°C)			Smoky Heights	-9.8	-	-	7.4	Nov-05 03:00	4.1	Nov-05	97%
Temp (°C)			Beaverlodge	-9.4	-	-	7.6	Nov-05 01:00	4.8	Nov-05	100%
Temp (°C)			Valleyview	-7.8	-	-	8.7	Nov-05 14:00	6.4	Nov-05	100%
Temp (°C)			Sunset House	-7.6	-	-	7.5	Nov-05 00:00	4.8	Nov-05	100%
WSPD s (km/hr)			Henry Pirker	7.1	-	-	49.0	Nov-05 07:00	28.3	Nov-05	100%
WSPD s (km/hr)			Evergreen Park	8.6	-	-	65.0	Nov-05 11:00	43.3	Nov-05	100%
WSPD s (km/hr)			Smoky Heights	10.6	-	-	48.0	Nov-05 03:00	35.5	Nov-05	100%
WSPD s (km/hr)			Beaverlodge	8.8	-	-	46.0	Nov-05 15:00	32.5	Nov-05	100%
WSPD s (km/hr)			Valleyview	5.0	-	-	30.0	Nov-05 12:00	15.6	Nov-05	100%
WSPD s (km/hr)			Sunset House	10.8	-	-	29.0	Nov-04 20:00	19.5	Nov-04	100%
WSPD v (km/hr)			Henry Pirker	1.5	-	-	48.0	Nov-05 07:00	27.9	Nov-05	100%
WSPD v (km/hr)			Evergreen Park	1.8	-	-	64.0	Nov-05 11:00	42.4	Nov-05	100%
WSPD v (km/hr)			Smoky Heights	2.9	-	-	48.0	Nov-05 03:00	35.3	Nov-05	100%
WSPD v (km/hr)			Beaverlodge	2.7	-	-	46.0	Nov-05 15:00	32.2	Nov-05	100%
WSPD v (km/hr)			Valleyview	0.8	-	-	30.0	Nov-05 12:00	15.0	Nov-05	100%
WSPD v (km/hr)			Sunset House	3.6	-	-	29.0	Nov-04 20:00	19.3	Nov-04	100%
WDIR			Henry Pirker	NNE	-	-	-	-	-	-	100%
WDIR			Evergreen Park	NNW	-	-	-	-	-	-	100%
WDIR			Smoky Heights	NNW	-	-	-	-	-	-	100%
WDIR			Beaverlodge	NNW	-	-	-	-	-	-	100%
WDIR			Valleyview	NNW	-	-	-	-	-	-	100%
WDIR			Sunset House	SSE	-	-	-	-	-	-	100%

Continuous Network Equipment Summary

PAZA – Henry Pirker Station

General Station Issues

Routine monthly calibrations were performed on November 8th (CO, TRS) and November 9th (SO₂, NO_x, O₃, THC).

Parameter	Make	Model	Notes
SO ₂	TEI	43C	No operational issues observed.
NOx/NO/NO ₂	TEI	42C	No operational issues observed.
O ₃	TEI	49C	No operational issues observed.
CO	TEI	48C	No operational issues observed.
THC	TEI	51-CLT	The sample pump failed on November 4 th and was replaced on November 8 th . AE Reference #265995
TRS	TEI	45C/43C	No operational issues observed.
PM _{2.5}	Sharp	5030	No operational issues observed.
RH	Met One	083D	No operational issues observed.
ET	Met One	083D	No operational issues observed.
SR	Met One	096-1	No operational issues observed.
WS / WD	Met One	010C/020C	No operational issues observed.

PAZA – Evergreen Park Station

General Station Issues

Routine monthly calibration performed on November 20th (SO₂ and TRS).

Parameter	Make	Model	Notes
SO ₂	TEI	43i	No operational issues observed.
TRS	TEI	43C	No operational issues observed.
PM _{2.5}	R&P	1400AB	Analyzer instability caused loss of data during the month causing a loss of nineteen (19) hours of data. One (1) 1-hour exceedence was recorded AE Reference #265001
ET	Met One/Gill	083D	No operational issues observed.
RH	Met One/Gill		No operational issues observed.
WS / WD	Met One/ Gill		No operational issues observed.

PAZA – Smoky Heights Station

General Station Issues

Routine monthly calibration performed on November 16th (SO₂ and TRS).

Parameter	Make	Model	Notes
SO ₂	TEI	43C	No operational issues observed.
TRS	TEI	43C	No operational issues observed.
PM _{2.5}	R&P	1400AB	The analyzer malfunctioned between November 13 th and November 15 th .causing a loss of fifty-nine (59) hours of data. Four (4) hours flagged invalid due to negative readings.
ET	Met One	083D	No operational issues observed.
WS / WD	Met One	010C/020C	No operational issues observed.

PAZA – Beaverlodge Station

General Station Issues

Routine monthly calibrations performed on November 14th (SO₂, NO_x, O₃).

Parameter	Make	Model	Notes
SO ₂	TEI	43CTL	No operational issues observed.
NOx/NO/NO ₂	TEI	42C	No operational issues observed.
O ₃	TEI	49C	No operational issues observed.
PM _{2.5}	R&P	1400AB	One (1) hour flagged invalid due to negative reading.
ET	n/a	n/a	No operational issues observed.
RH	n/a	n/a	No operational issues observed.
WS / WD	Blue Sky	857	No operational issues observed.

PAZA – Valleyview Station

General Station Issues

Routine monthly calibrations were performed on November 3rd (SO₂ & H₂S). The datalogger failed to record valid data for 3 hours on November 28th.

Parameter	Make	Model	Notes
SO ₂	TEI	43i	No operational issues observed.
H ₂ 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.

PAZA – Portable-Sunset House Station

General Station Issues

Routine monthly calibrations were performed on November 2nd (SO₂, O₃, NO_x, TRS).

Parameter	Make	Model	Notes
SO ₂	TEI	43i	No operational issues observed.
O ₃	TEI	49C	No operational issues observed.
TRS	TEI	39C	No operational issues observed.
PM _{2.5}	R&P	1400AB	One (1) hour was invalidated due to analyzer failure.
ET	Gill	Met Pak 3	No operational issues observed.
WS / WD	Gill	Met Pak 3	No operational issues observed.

PAZA

Henry Pirker Station

Monthly Summary Tables, Graphs and
Roses

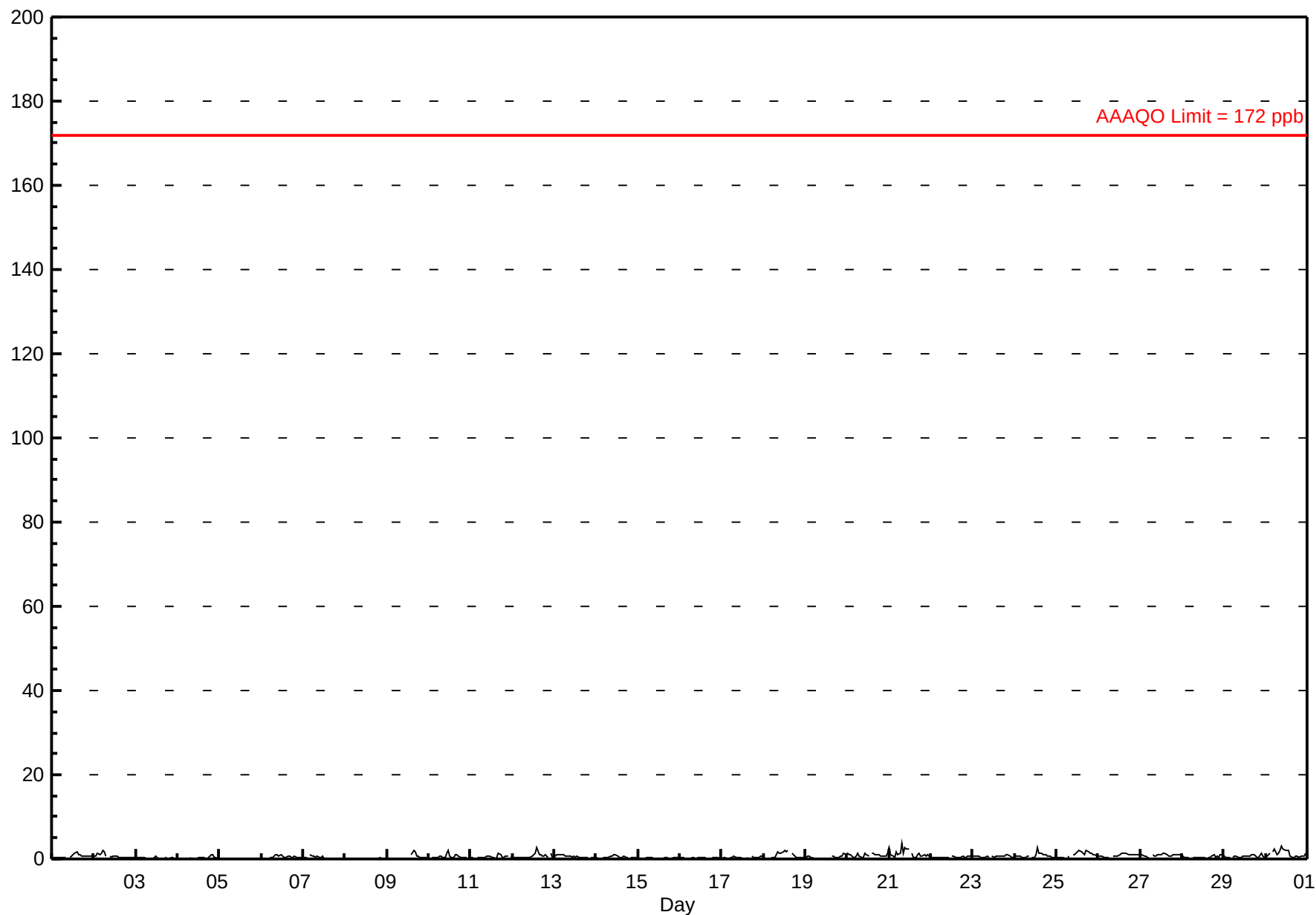
Hourly Averages

Sulphur Dioxide (SO₂) - ppb
Henry Pirker - November 2012

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																					Hours in Service: 720					
Maximum Value: 3.8 ppb on Nov 21 08:00																					Maximum Daily Average: 1.3 ppb on Nov 21		Hours of Data: 684			
Minimum Value: 0 ppb on Nov 5 03:00																					Minimum Daily Average: 0.0 ppb on Nov 5		Hours of Missing Data: 36			
Maximum Diurnal Average: 0.8 ppb at hour 12																					Minimum Diurnal Average: 0.3 ppb at hour 4		Hours of Calibration: 36			
Monthly Average: 0.56 ppb																					Percentiles: P ₁ = 0.0 P ₁₀ = 0.1 Q ₁ = 0.2 Median = 0.5 Q ₃ = 0.8 P ₉₀ = 1.2 P ₉₉ = 2.4		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-Nov	0	0	0	0	0	0	0	0	0	A	0	1	1	1	2	1	1	1	1	1	1	1	1	1	0.6	1.5
2-Nov	1	1	1	1	1	2	2	1	A	1	0	1	1	1	0	1	0	0	0	0	0	0	0	0	0.7	1.9
3-Nov	0	0	0	0	0	0	0	A	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.5
4-Nov	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0.2	1.0
5-Nov	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
6-Nov	0	0	0	0	A	0	0	1	1	1	1	1	1	0	0	1	1	0	0	1	0	0	0	0	0.5	1.0
7-Nov	0	0	0	A	1	1	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.2
8-Nov	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
9-Nov	0	A	0	0	0	0	0	0	0	C	C	C	C	C	1	2	2	1	1	0	0	0	1	0	0.4	2.0
10-Nov	A	0	0	0	0	0	1	1	0	0	1	2	1	0	0	1	1	1	1	0	0	0	0	A	0.6	2.1
11-Nov	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	1	1	0	0	1	1	A	1	0.5	1.4
12-Nov	0	0	0	0	0	0	0	0	0	0	0	1	1	1	3	1	1	1	1	1	0	A	1	0	0.7	2.8
13-Nov	1	1	1	1	1	1	1	1	1	1	0	1	1	1	0	0	0	0	0	0	A	0	0	0	0.6	1.1
14-Nov	0	0	0	0	0	0	0	1	1	1	1	1	1	0	0	0	1	0	0	A	0	0	0	0	0.4	0.9
15-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0.2	0.4
16-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0.2	0.4
17-Nov	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	A	1	0	0	0	0	1	1	0.3	0.6
18-Nov	0	0	0	0	0	0	0	1	2	1	1	2	2	2	2	A	1	1	1	1	0	0	0	0	0.9	2.0
19-Nov	0	1	1	0	0	0	0	0	0	0	0	0	0	0	A	1	1	0	0	0	1	1	1	1	0.4	1.2
20-Nov	1	1	1	0	0	1	1	1	0	0	2	1	1	A	1	2	1	1	1	1	1	1	1	1	0.9	1.5
21-Nov	3	1	1	0	2	1	1	4	2	3	2	2	A	1	0	0	1	1	1	1	1	1	1	1	1.3	3.8
22-Nov	0	0	0	0	0	0	0	0	0	0	0	A	1	1	0	0	0	0	1	0	0	1	1	1	0.4	0.6
23-Nov	1	1	1	1	0	0	0	0	1	0	A	1	1	1	1	1	1	1	1	1	1	1	0	0	0.6	0.9
24-Nov	1	1	1	1	0	0	0	1	1	A	0	0	1	3	1	1	1	1	1	1	1	1	0	0	0.8	2.6
25-Nov	0	0	0	0	0	0	0	1	A	1	1	1	2	2	2	1	1	2	2	1	1	1	1	1	1.0	2.1
26-Nov	1	1	1	0	1	1	0	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.4
27-Nov	1	1	1	1	0	0	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.2
28-Nov	1	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	1	1	1	0	1	0	1	1	0.5	1.2
29-Nov	1	0	1	0	A	0	1	1	0	0	0	1	1	1	1	1	1	1	1	0	0	1	1	0	0.6	1.2
30-Nov	0	1	1	A	2	2	1	1	2	3	2	2	2	2	1	0	0	1	1	1	1	1	1	1	1.2	3.1
																								Diurnal Average	Diurnal Maximum	
																								0.5	2.8	
																								0.4	1.1	
																								0.4	1.3	
																								0.3	1.1	
																								0.4	1.7	
																								0.5	2.4	
																								0.5	1.7	
																								0.6	3.8	
																								0.5	1.9	
																								0.6	3.1	
																								0.7	2.2	
																								0.8	2.5	
																								0.6	2.0	
																								0.7	2.6	
																								0.7	2.8	
																								0.6	2.0	
																								0.7	1.5	
																								0.6	2.0	
																								0.6	1.9	
																								0.5	1.2	
																								0.5	1.3	
																								0.5	1.2	
																								0.5	1.3	
																								0.5	1.3	
C - Calibration A - Automated Daily Zero Span																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb 30-day 11 ppb																										

Hourly Averages

Sulphur Dioxide (SO₂) - ppb
Henry Pirker - November 2012



Hourly Maximums

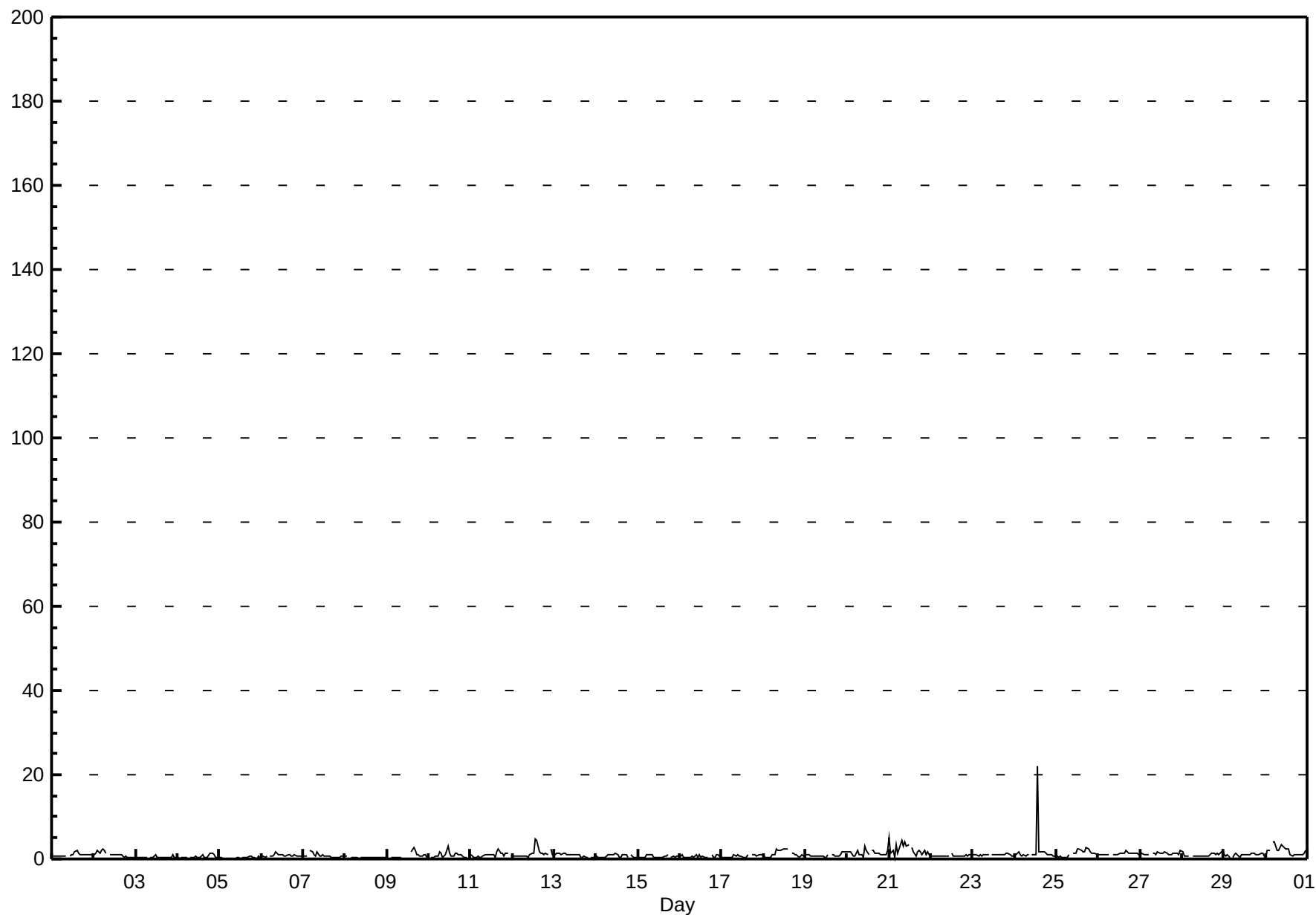
Sulphur Dioxide (SO₂) - ppb

Henry Pirker - November 2012

Maximum Value: 22.2 ppb on Nov 24 14:00																				Maximum Daily Average: 2.3 ppb on Nov 21										Hours in Service: 720																						
Minimum Value: 0 ppb on Nov 5 05:00																				Minimum Daily Average: 0.3 ppb on Nov 5										Hours of Data: 684																						
Maximum Diurnal Average: 2.0 ppb at hour 14																				Minimum Diurnal Average: 0.6 ppb at hour 4										Hours of Missing Data: 36																						
Monthly Average: 1.01 ppb																				Percentiles: P ₁ = 0.1 P ₁₀ = 0.4 Q ₁ = 0.5 Median = 0.9 Q ₃ = 1.1 P ₉₀ = 1.7 P ₉₉ = 4.0										Hours of Calibration: 36																						
																																								Percent Operational Time: 100.0												
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																										
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																												
1-Nov	1	1	1	1	1	1	1	1	1	A	1	1	1	2	2	2	1	1	1	1	1	1	1	1	0.9	2.0																										
2-Nov	1	1	2	1	2	2	2	1	A	1	1	1	1	1	1	1	1	0	1	0	0	0	0	0	1.1	2.5																										
3-Nov	0	0	0	0	0	0	0	A	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0.5	1.1																										
4-Nov	0	0	0	0	0	0	A	0	0	0	1	0	0	0	1	0	0	0	1	1	1	1	0	0	0.6	1.5																										
5-Nov	0	0	0	0	0	A	0	0	0	0	0	0	0	1	0	0	0	1	1	0	0	0	1	0	0.3	0.6																										
6-Nov	1	1	0	1	A	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.6																										
7-Nov	1	1	1	A	2	2	1	1	2	1	1	1	1	1	1	1	0	0	0	0	0	0	1	1	0.7	1.9																										
8-Nov	1	1	A	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.5																										
9-Nov	0	A	0	0	0	0	0	0	0	C	C	C	C	C	2	3	2	1	1	1	1	1	1	0	0.8	2.7																										
10-Nov	A	0	0	0	1	1	2	1	0	1	2	3	1	1	1	1	1	1	1	1	1	1	0	A	1.0	3.0																										
11-Nov	1	1	0	0	1	0	0	1	1	1	1	1	1	1	0	2	2	1	1	1	1	1	A	1	0.9	2.3																										
12-Nov	1	1	1	1	1	1	1	1	1	0	1	1	1	5	4	2	1	1	1	1	1	A	2	1	1.3	4.9																										
13-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	0	0	A	0	0	0	0.9	1.5																										
14-Nov	1	0	0	0	0	0	1	1	1	1	1	1	1	0	0	1	1	1	0	A	1	0	0	0	0.7	1.2																										
15-Nov	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	1	1	1	A	0	1	0	1	1	0.6	0.9																										
16-Nov	1	1	0	0	0	0	0	1	0	1	0	1	0	1	0	0	0	A	1	0	0	1	1	0	0.6	1.0																										
17-Nov	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	1	A	1	1	1	1	1	1	1	0.7	1.2																										
18-Nov	1	0	0	0	0	1	1	2	2	2	2	2	2	2	2	A	1	1	1	1	1	1	1	1	1.3	2.5																										
19-Nov	1	1	1	1	1	1	1	1	1	1	1	0	0	1	A	1	1	1	1	1	1	2	2	2	0.8	1.6																										
20-Nov	2	2	2	1	1	2	2	1	1	1	3	2	1	A	2	2	1	1	1	1	1	1	1	2	1.4	3.0																										
21-Nov	5	1	2	0	3	1	3	4	3	4	3	3	A	3	2	1	2	2	2	1	2	1	2	1	2.3	5.0																										
22-Nov	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.2																										
23-Nov	1	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	1.5																										
24-Nov	1	1	2	1	1	1	1	1	1	A	1	1	1	22	2	2	2	2	2	2	1	1	1	1	2.0	22.2																										
25-Nov	1	0	1	0	0	0	0	1	A	1	1	1	2	2	2	2	2	3	2	2	1	1	1	1	1.4	2.8																										
26-Nov	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1.2	2.0																										
27-Nov	1	1	1	1	1	1	A	1	1	1	2	1	1	1	2	1	1	1	1	2	2	2	1	2	1.3	2.0																										
28-Nov	2	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	2	2	1	1	1	2	2	0.9	2.0																										
29-Nov	1	1	1	0	A	0	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.5																										
30-Nov	0	2	2	A	4	4	2	2	3	3	3	2	2	2	1	1	1	1	1	1	1	1	2	1	1.9	4.0																										
0.9		0.8		0.8		0.6		0.9		0.9		0.9		1.1		0.9		1.0		1.1		1.2		1.0		2.0		1.1		1.1		1.1		1.0		0.9		0.9		0.9		1.0		0.9		Diurnal Average						
5.0		2.0		2.0		1.5		4.0		4.0		3.5		4.5		3.0		4.0		3.0		3.5		2.5		22.2		4.4		2.7		2.3		2.8		2.5		1.7		2.1		1.6		2.5		2.0		Diurnal Maximum				
C - Calibration		A - Automated Daily Zero Span																																																		

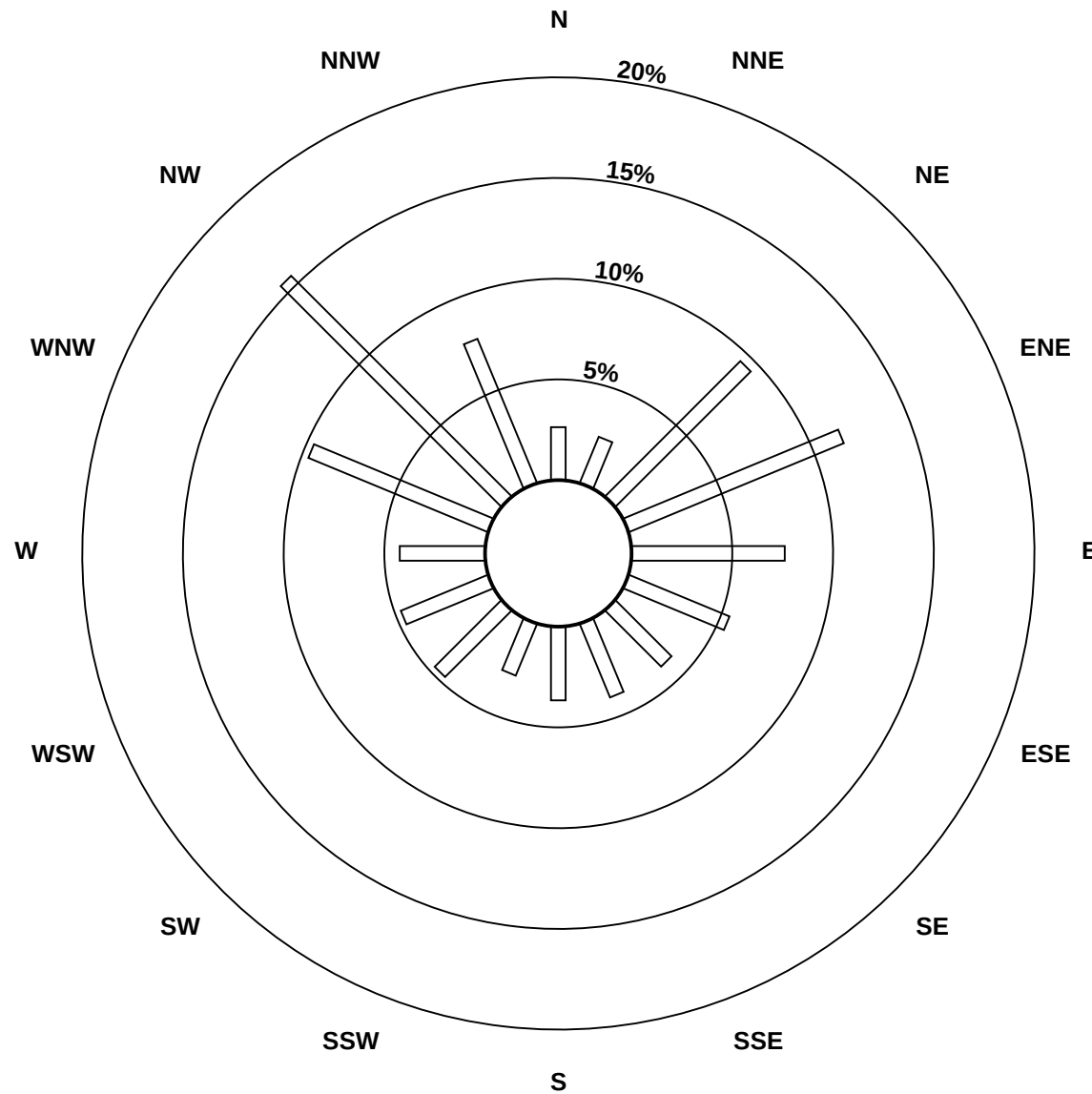
Hourly Maximums

Sulphur Dioxide (SO₂) - ppb
Henry Pirker - November 2012

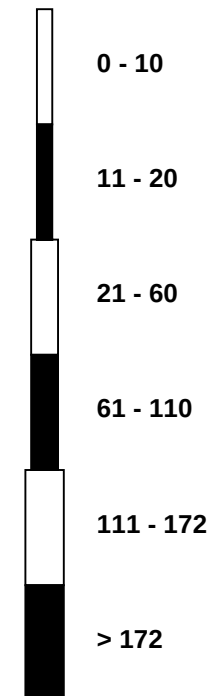


Pollutant Rose

Sulphur Dioxide (SO₂) - ppb
Henry Pirker - November 2012

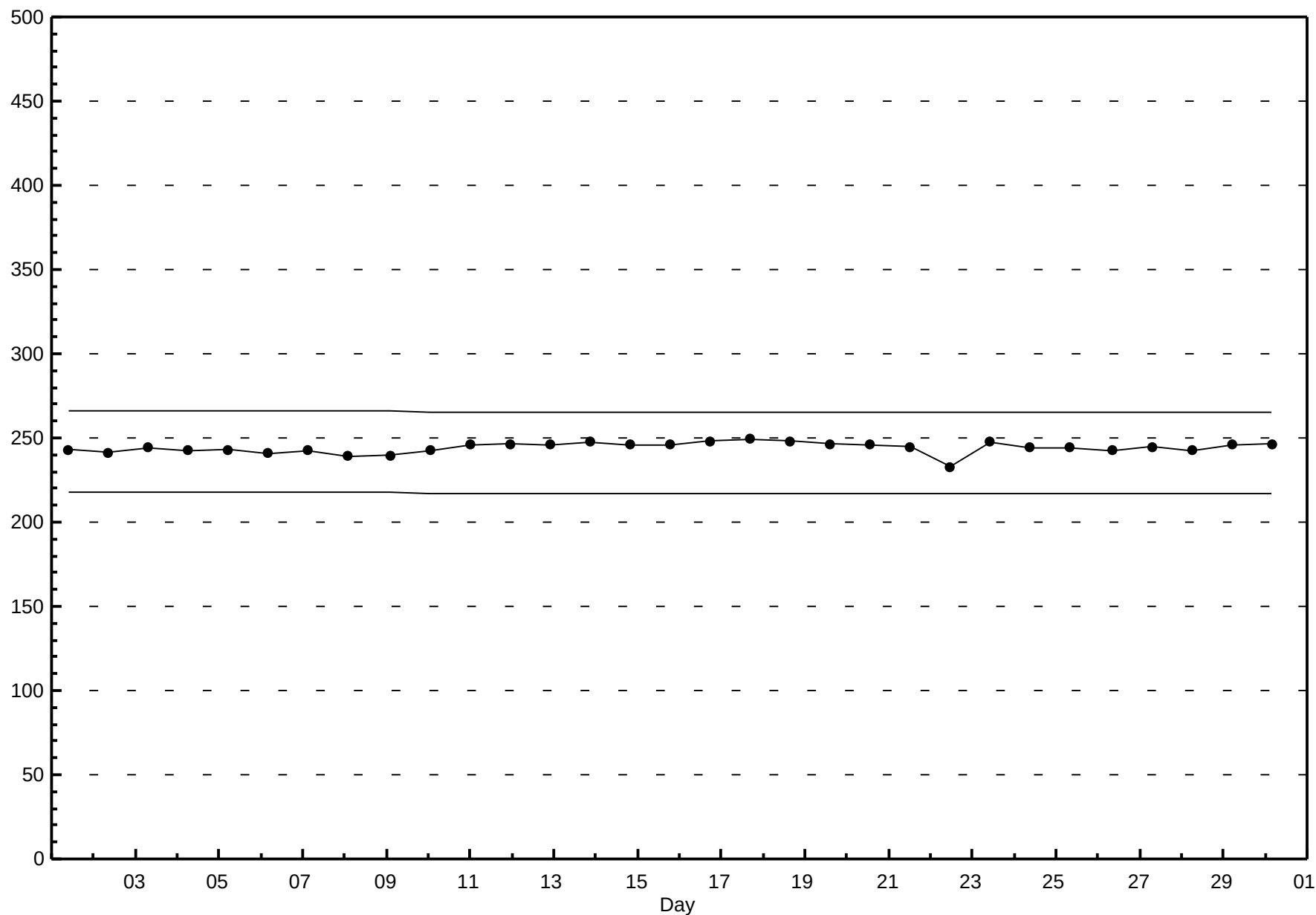


Pollutant Classes (ppb)



Span Responses

Sulphur Dioxide (SO₂)
Henry Pirker - November 2012



Hourly Averages

Total Reduced Sulphur (TRS) - ppb

Henry Pirker - November 2012

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																				Hours in Service: 720						
Maximum Value: 1.2 ppb on Nov 12 09:00																				Maximum Daily Average: 0.7 ppb on Nov 27		Hours of Data: 684				
Minimum Value: 0 ppb on Nov 6 03:00																				Minimum Daily Average: 0.2 ppb on Nov 5		Hours of Missing Data: 36				
Maximum Diurnal Average: 0.4 ppb at hour 10																				Minimum Diurnal Average: 0.3 ppb at hour 15		Hours of Calibration: 36				
Monthly Average: 0.38 ppb																				Percentiles: P ₁ = 0.1 P ₁₀ = 0.2 Q ₁ = 0.3 Median = 0.4 Q ₃ = 0.5 P ₉₀ = 0.6 P ₉₉ = 1.0		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-Nov	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
2-Nov	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
3-Nov	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.4
4-Nov	0	0	0	0	0	0	A	0	1	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0.3	0.8
5-Nov	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
6-Nov	0	0	0	0	A	0	0	0	1	1	0	1	0	0	0	1	1	1	0	0	0	0	0	0	0.4	1.0
7-Nov	0	0	0	A	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.5
8-Nov	0	0	A	0	0	0	0	0	0	0	0	0	C	C	C	C	C	0	0	0	0	0	0	0	0.3	0.4
9-Nov	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0.3	0.5
10-Nov	A	0	1	1	1	0	1	1	0	0	1	1	1	0	0	1	1	1	1	1	1	1	1	A	0.6	0.9
11-Nov	1	0	1	1	1	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	1	1	A	1	0.4	0.8
12-Nov	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	1	1	1	A	0	1	0.6	1.2
13-Nov	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.4	0.5
14-Nov	0	0	1	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
15-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	A	0	0	0	1	1	0.3	0.7
16-Nov	1	1	0	0	1	1	1	1	1	1	0	1	0	0	0	0	1	A	0	0	0	0	1	1	0.5	0.7
17-Nov	1	1	1	1	1	1	0	1	1	0	0	0	0	0	0	0	A	1	1	0	0	0	0	0	0.5	0.7
18-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0.4	0.5
19-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0.3	0.5
20-Nov	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
21-Nov	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.3	0.4
22-Nov	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	0.5
23-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	1	1	1	1	1	0.5	0.7
24-Nov	1	0	0	0	0	0	0	0	0	A	0	0	1	0	1	1	1	1	0	0	0	0	0	0	0.4	0.6
25-Nov	0	0	0	0	0	0	0	0	A	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0.4	0.7
26-Nov	0	0	0	0	0	0	0	A	1	1	1	1	1	0	0	0	0	0	0	0	0	1	0	0	0.4	0.6
27-Nov	0	0	0	0	0	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0.7	1.0
28-Nov	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
29-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3
30-Nov	0	0	0	A	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.5
																								Diurnal Average	Diurnal Maximum	
																								0.4	0.8	

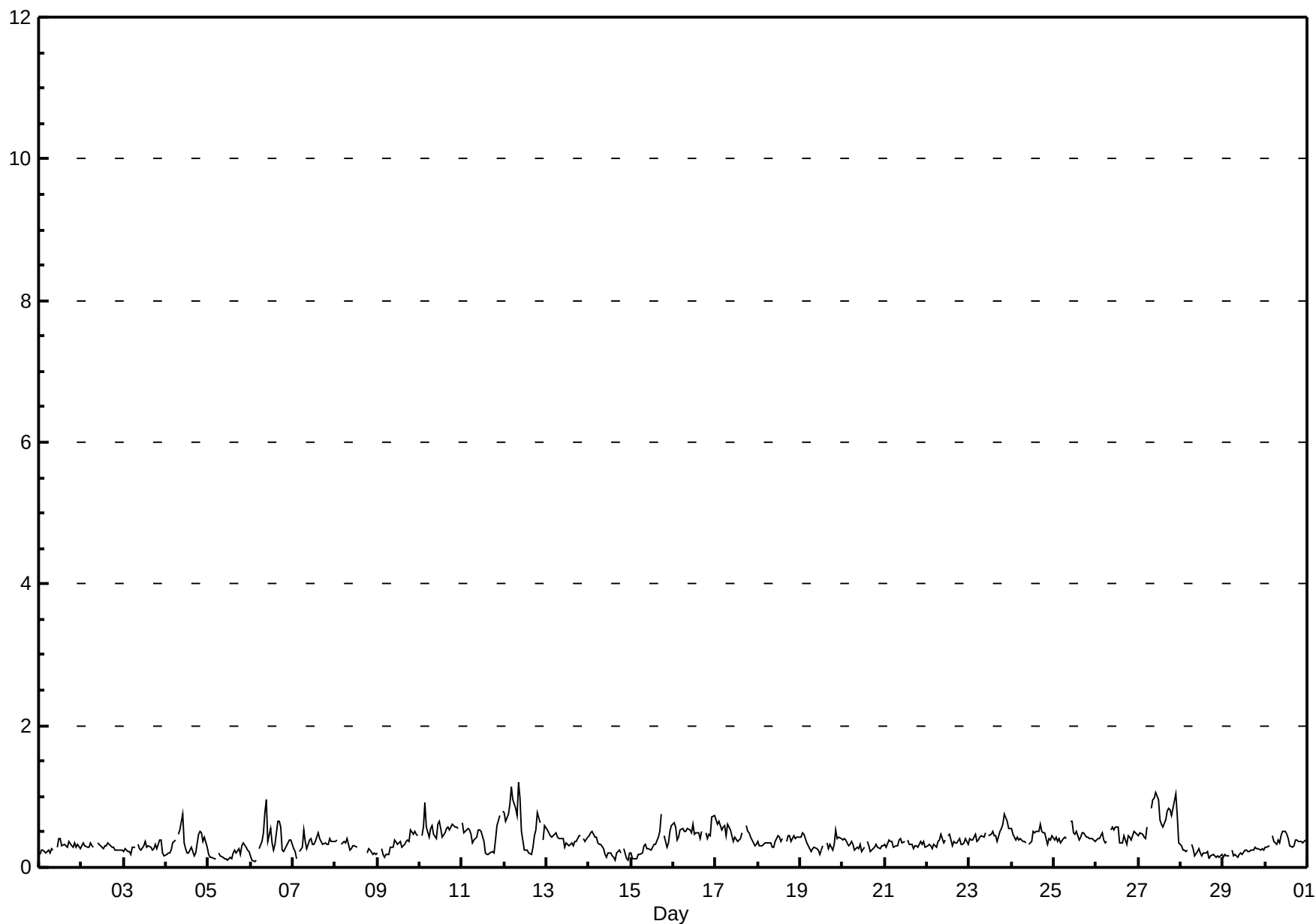
C - CalibrationA - Automated Daily Zero Span

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

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

Hourly Averages

Total Reduced Sulphur (TRS) - ppb
Henry Pirker - November 2012



Hourly Maximums

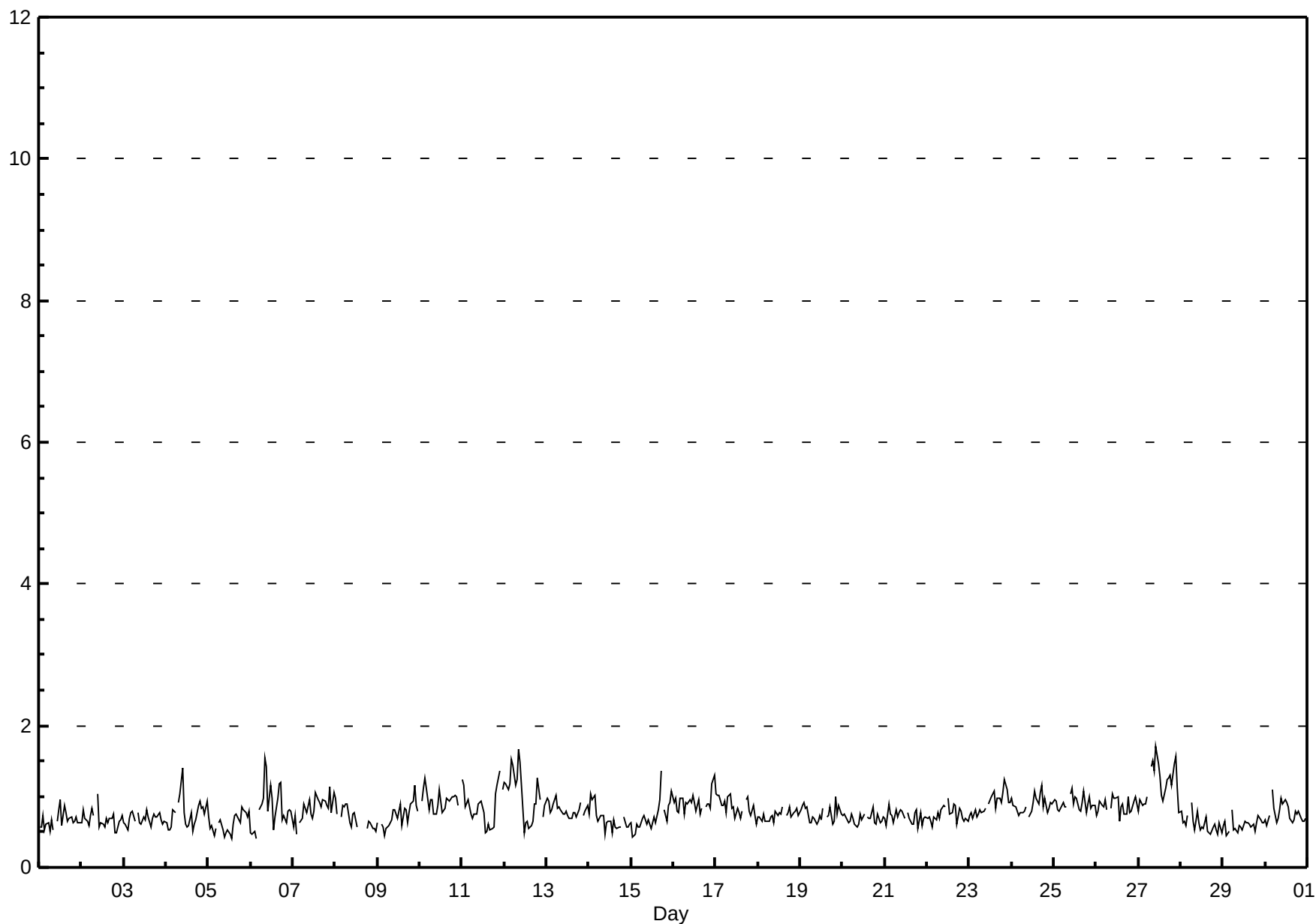
Total Reduced Sulphur (TRS) - ppb

Henry Pirker - November 2012

Maximum Value: 1.7 ppb on Nov 27 11:00																			Maximum Daily Average: 1.2 ppb on Nov 27							Hours in Service: 720	
Minimum Value: 0 ppb on Nov 5 14:00																			Minimum Daily Average: 0.6 ppb on Nov 29							Hours of Data: 684	
Maximum Diurnal Average: 0.9 ppb at hour 10																			Minimum Diurnal Average: 0.7 ppb at hour 14							Hours of Missing Data: 36	
Monthly Average: 0.79 ppb																			Percentiles: P ₁ = 0.5 P ₁₀ = 0.6 Q ₁ = 0.6 Median = 0.8 Q ₃ = 0.9 P ₉₀ = 1.0 P ₉₉ = 1.5							Hours of Calibration: 36	
																										Percent Operational Time: 100.0	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Nov	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	1.0	
2-Nov	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	0.7	1.0	
3-Nov	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	0.8	
4-Nov	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	0.8	1.4	
5-Nov	1	1	1	0	1	A	1	1	1	0	0	1	0	0	1	1	1	1	1	1	1	1	1	1	0.6	0.8	
6-Nov	0	0	1	0	A	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.5	
7-Nov	1	1	0	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.1	
8-Nov	1	1	A	1	1	1	1	1	1	1	1	1	1	C	C	C	C	C	1	1	1	1	1	1	0.7	1.0	
9-Nov	1	A	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.2	
10-Nov	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1.0	1.3	
11-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	A	1	0.8	1.4	
12-Nov	1	1	1	1	2	1	1	1	2	1	1	0	1	1	1	1	1	1	1	1	1	A	1	1	1.0	1.7	
13-Nov	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	1.0	
14-Nov	1	1	1	1	1	1	1	1	1	0	1	1	1	0	1	1	1	1	1	1	A	1	1	1	0.7	1.0	
15-Nov	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	0.7	1.4	
16-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	0.9	1.3	
17-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	0.9	1.0	
18-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	0.7	0.9	
19-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	0.8	1.0	
20-Nov	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	
21-Nov	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	
22-Nov	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.0	
23-Nov	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.2	
24-Nov	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	
25-Nov	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.1	
26-Nov	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.0	
27-Nov	1	1	1	1	1	1	A	1	1	1	2	1	1	1	1	1	1	1	1	1	1	2	1	1	1.2	1.7	
28-Nov	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	0	1	0	0.6	0.9	
29-Nov	1	1	0	1	A	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.6	0.8	
30-Nov	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.1	
0.8		0.8	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.9	0.8	0.8	0.8	0.7	0.8	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	Diurnal Average		
1.2		1.2	1.1	1.3	1.5	1.4	1.2	1.4	1.7	1.5	1.7	1.5	1.3	1.1	1.1	1.1	1.2	1.4	1.3	1.3	1.5	1.6	1.2	1.3	Diurnal Maximum		
C - Calibration		A - Automated Daily Zero Span																									

Hourly Maximums

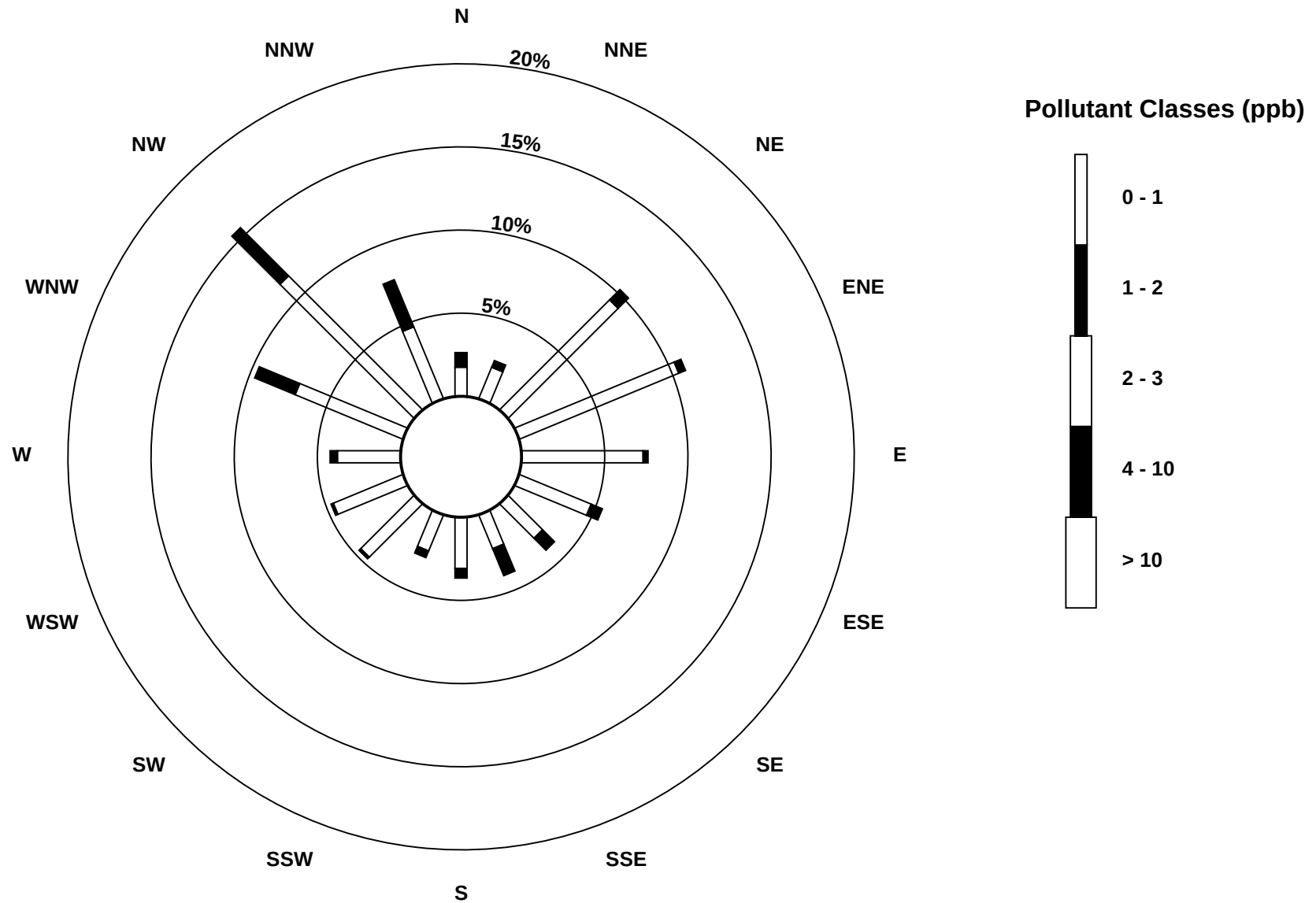
Total Reduced Sulphur (TRS) - ppb
Henry Pirker - November 2012



Pollutant Rose

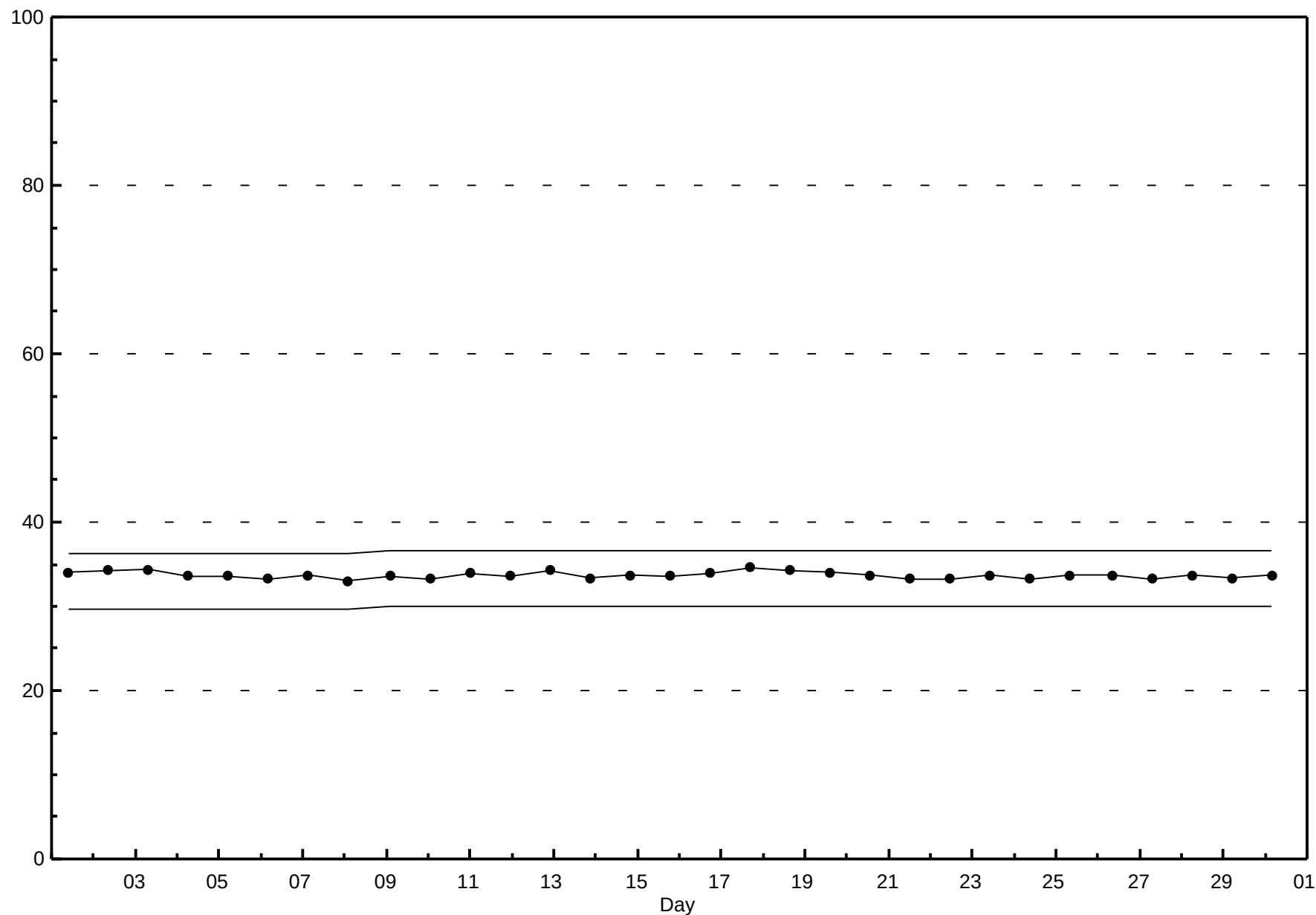
Total Reduced Sulphur (TRS) - ppb

Henry Pirker - November 2012



Span Responses

Total Reduced Sulphur (TRS)
Henry Pirker - November 2012



Hourly Averages

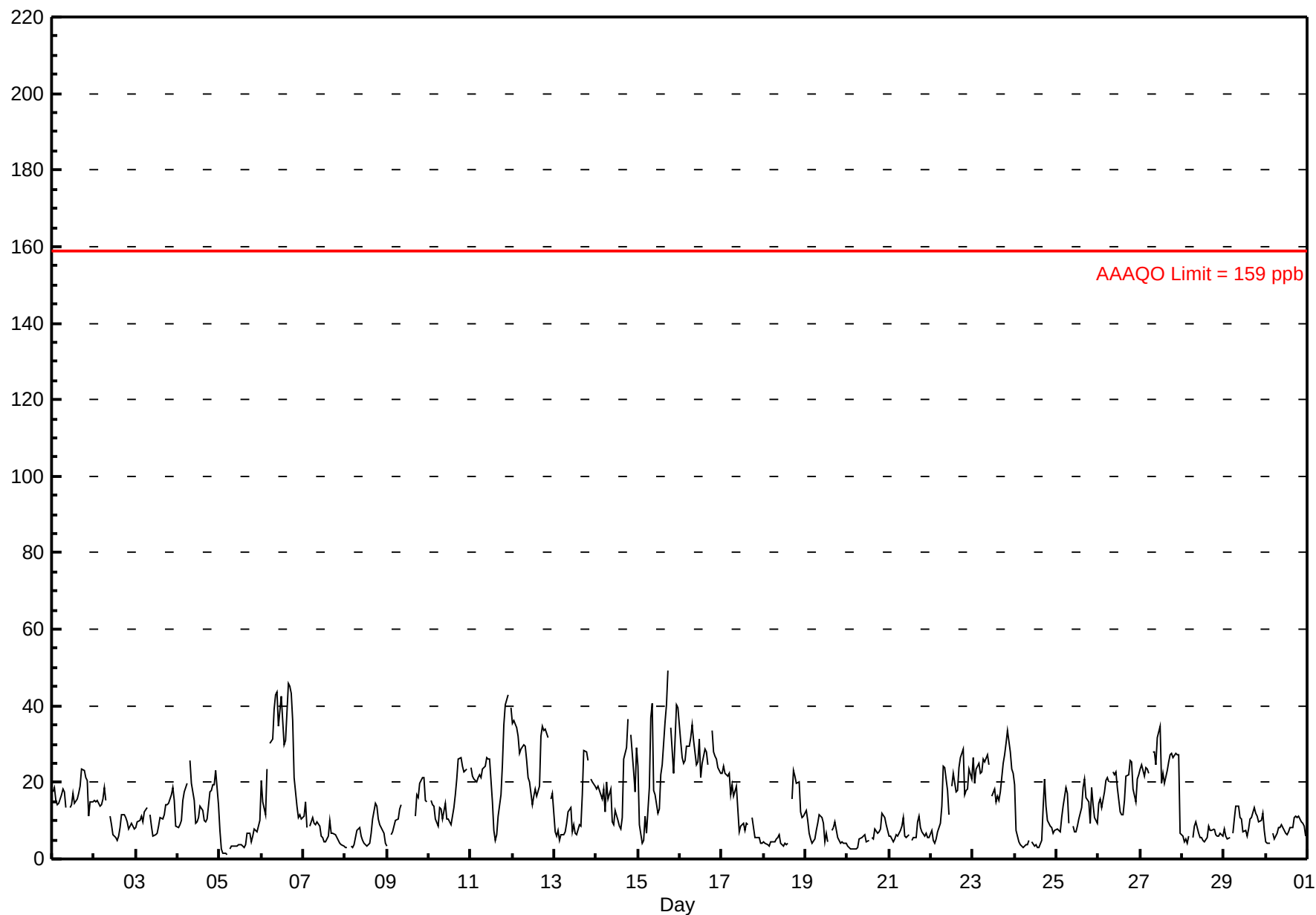
Nitrogen Dioxide (NO₂) - ppb

Henry Pirker - November 2012

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 49.3 ppb on Nov 15 18:00 Maximum Daily Average: 29.1 ppb on Nov 6																				Hours in Service: 720 Hours of Data: 682 Hours of Missing Data: 38 Hours of Calibration: 38 Percent Operational Time: 100.0						
Minimum Value: 1 ppb on Nov 5 05:00 Maximum Diurnal Average: 19.4 ppb at hour 18 Monthly Average: 14.28 ppb										Minimum Daily Average: 4.5 ppb on Nov 5 Minimum Diurnal Average: 10.8 ppb at hour 14 Percentiles: P ₁ = 2.6 P ₁₀ = 4.4 Q ₁ = 6.7 Median = 11.2 Q ₃ = 20.6 P ₉₀ = 27.3 P ₉₉ = 42.8																
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-Nov	17	19	15	14	15	17	18	18	14	A	13	14	17	15	16	17	19	24	23	21	21	11	15	15	16.8	23.5
2-Nov	15	15	15	14	14	16	19	15	A	11	9	6	5	5	6	8	12	12	11	10	8	9	9	8	10.9	18.5
3-Nov	8	10	10	11	10	12	14	A	12	9	6	6	7	9	11	11	11	14	14	15	17	18	15	9	11.2	18.5
4-Nov	8	9	10	15	18	20	A	26	20	15	9	10	11	14	13	10	10	10	17	18	19	19	23	14	14.7	25.9
5-Nov	7	2	1	1	1	A	3	3	3	4	3	4	4	3	3	4	7	7	4	6	8	7	9	10	4.5	9.9
6-Nov	21	15	12	23	A	30	31	39	43	44	35	43	36	30	31	46	45	43	36	21	14	11	11	10	29.1	45.7
7-Nov	11	15	8	A	9	11	9	9	10	9	6	6	4	5	6	10	7	7	6	5	5	4	4	4	7.3	14.8
8-Nov	3	3	A	3	3	4	5	8	8	6	5	4	3	4	4	7	10	15	14	11	9	8	7	4	6.4	14.6
9-Nov	3	A	6	7	9	10	10	13	14	C	C	C	C	C	C	C	11	17	16	20	21	21	15	15	--	21.4
10-Nov	A	15	14	14	11	9	13	13	10	14	10	11	10	9	13	17	21	26	27	24	23	23	23	A	15.9	26.6
11-Nov	24	21	21	20	21	22	21	23	24	27	26	26	15	8	5	6	11	17	25	35	40	43	A	39	22.7	42.9
12-Nov	36	36	34	32	27	29	30	29	26	21	20	14	16	18	16	19	32	35	33	34	32	A	16	17	26.3	36.0
13-Nov	7	6	7	5	6	6	7	9	12	13	7	9	7	6	9	9	17	28	28	26	A	21	20	19	12.4	28.2
14-Nov	18	19	18	16	18	12	20	15	18	10	9	13	10	9	8	11	26	29	37	A	33	23	18	29	18.2	36.5
15-Nov	24	9	4	5	11	7	19	37	41	18	17	12	13	22	25	36	40	49	A	34	22	31	40	39	24.1	49.3
16-Nov	31	27	25	26	30	30	32	35	31	25	25	31	21	25	29	28	25	A	34	28	27	26	24	22	27.6	35.2
17-Nov	22	24	23	22	22	17	19	16	19	13	7	9	9	8	9	9	A	11	8	6	6	5	4	4	12.7	24.4
18-Nov	4	4	4	3	5	4	4	5	6	6	4	3	4	4	4	A	16	23	22	20	20	12	11	11	8.7	23.3
19-Nov	13	10	7	5	4	5	7	9	12	11	9	4	7	5	A	7	8	10	5	5	4	5	4	4	7.0	12.6
20-Nov	3	3	3	3	2	3	3	5	6	6	6	5	5	A	5	5	8	7	7	8	12	11	9	8	5.8	12.0
21-Nov	6	6	5	5	6	6	7	8	11	6	5	6	A	5	6	5	10	11	8	7	6	7	5	6	6.7	11.1
22-Nov	7	5	4	5	7	9	14	24	24	18	11	A	19	22	18	18	24	26	29	17	18	18	24	21	16.6	28.7
23-Nov	26	20	24	25	23	23	26	25	27	25	A	16	18	15	16	15	18	25	27	30	33	28	23	22	23.1	33.5
24-Nov	19	8	5	4	3	3	4	4	5	A	4	3	4	3	3	5	13	21	14	10	8	8	7	7	7.2	20.9
25-Nov	8	7	7	11	14	19	17	9	A	9	7	7	8	10	14	19	21	16	15	9	19	14	11	9	12.2	20.8
26-Nov	14	16	13	17	20	21	20	A	23	22	23	19	12	12	12	15	22	22	26	25	18	15	21	22	18.7	25.8
27-Nov	24	24	22	24	23	22	A	28	28	25	32	35	20	23	20	23	26	27	28	26	27	27	27	7	24.6	34.5
28-Nov	6	5	5	4	6	A	6	8	10	7	6	6	5	4	5	8	7	8	8	6	6	6	7	6	6.3	9.6
29-Nov	8	6	5	6	A	7	10	14	14	11	10	7	7	6	8	10	11	14	12	11	10	10	12	7	9.4	13.9
30-Nov	5	4	4	A	7	5	7	8	8	9	8	7	6	7	8	8	11	11	11	11	10	9	9	6	7.8	11.3
																									Diurnal Average	
																									Diurnal Maximum	
C - Calibration A - Automated Daily Zero Span																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 159 ppb 24-hr 106 ppb																										

Hourly Averages

Nitrogen Dioxide (NO₂) - ppb
Henry Pirker - November 2012



Hourly Maximums

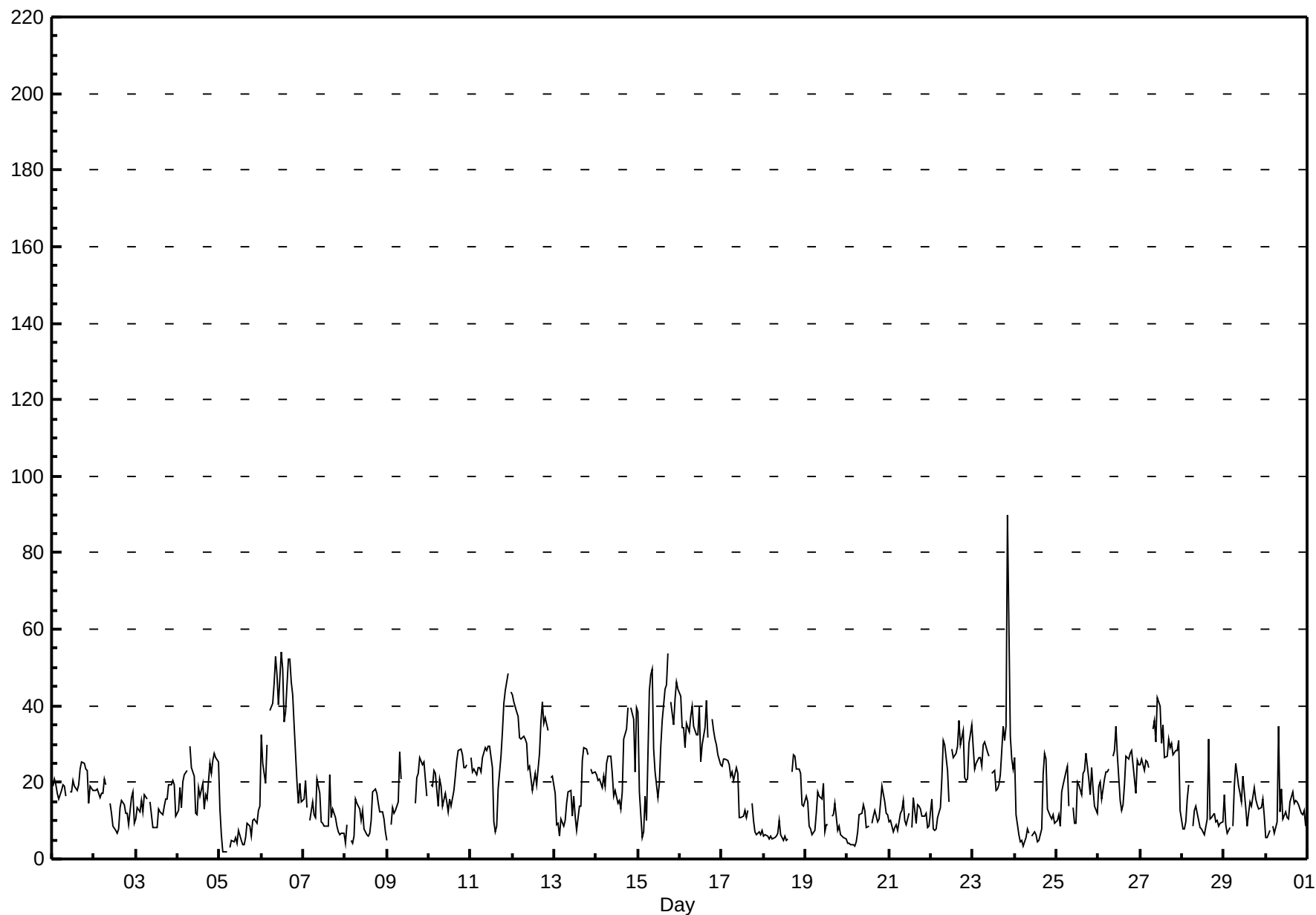
Nitrogen Dioxide (NO₂) - ppb

Henry Pirker - November 2012

Maximum Value: 89.7 ppb on Nov 23 21:00																								Hours in Service: 720		
Maximum Daily Average: 36.9 ppb on Nov 6																								Hours of Data: 682		
Minimum Value: 2 ppb on Nov 5 05:00																								Hours of Missing Data: 38		
Maximum Diurnal Average: 23.8 ppb at hour 18																								Hours of Calibration: 38		
Monthly Average: 18.76 ppb																								Percent Operational Time: 100.0		
Minimum Daily Average: 6.6 ppb on Nov 5																										
Minimum Diurnal Average: 14.5 ppb at hour 3																										
Percentiles: P ₁ = 3.4 P ₁₀ = 6.8 Q ₁ = 10.4 Median = 16.7 Q ₃ = 25.0 P ₉₀ = 33.6 P ₉₉ = 48.7																										
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
1-Nov	19	21	20	17	16	18	19	19	16	A	17	18	21	19	18	20	23	25	25	23	23	14	19	18	19.5	25.5
2-Nov	18	18	18	16	17	17	21	20	A	14	12	8	7	7	8	13	15	14	12	12	9	16	18	9	13.9	20.7
3-Nov	10	13	12	15	12	17	16	A	15	12	8	8	8	13	12	12	14	16	16	19	19	20	19	11	13.9	20.5
4-Nov	13	19	13	20	22	23	A	30	24	22	12	12	18	17	20	13	17	16	25	22	26	27	27	25	20.1	29.6
5-Nov	13	6	2	2	2	A	3	5	4	5	4	7	5	4	4	6	9	8	6	10	10	9	12	14	6.6	13.9
6-Nov	32	25	20	30	A	39	41	46	53	48	40	54	50	36	38	52	52	46	43	35	20	14	20	15	36.9	54.0
7-Nov	16	21	13	A	10	15	11	11	21	17	10	9	9	9	8	22	11	13	11	9	7	6	7	7	11.8	22.0
8-Nov	4	9	A	5	4	6	15	14	13	10	13	8	6	6	7	10	18	18	17	15	12	12	11	7	10.5	18.4
9-Nov	5	A	9	13	12	13	15	28	21	C	C	C	C	C	C	C	15	21	22	27	24	25	21	16	--	28.1
10-Nov	A	19	19	23	22	14	21	19	14	17	15	12	16	14	18	22	26	28	29	27	24	24	25	A	20.3	28.8
11-Nov	26	23	24	22	24	24	23	26	29	28	29	29	24	10	7	9	18	27	33	41	44	48	A	44	26.6	48.5
12-Nov	43	41	38	37	32	31	32	31	30	23	24	18	20	22	19	28	36	41	35	37	34	A	21	22	30.3	42.8
13-Nov	17	9	9	6	10	8	10	14	17	18	11	17	11	7	14	14	26	29	29	27	A	24	22	23	16.3	29.3
14-Nov	22	20	21	19	22	19	25	27	27	22	16	18	14	15	13	18	31	34	40	A	40	37	23	39	24.4	39.7
15-Nov	38	18	5	7	16	10	44	48	49	29	23	16	20	29	36	45	46	54	A	41	35	42	46	44	32.2	53.8
16-Nov	42	34	34	29	35	33	37	40	35	33	33	40	25	30	34	41	32	A	37	34	31	30	27	25	33.5	42.4
17-Nov	24	26	26	26	25	22	23	20	24	22	11	11	11	13	11	13	A	15	10	7	6	7	6	7	15.9	26.2
18-Nov	6	6	6	5	6	5	5	6	7	10	6	5	6	5	5	A	23	27	27	23	24	22	14	14	11.5	27.2
19-Nov	16	15	8	8	6	7	12	17	17	16	20	7	9	9	A	11	12	14	8	9	6	6	6	5	10.6	19.9
20-Nov	4	4	4	4	4	5	7	12	12	14	13	8	9	A	9	11	13	10	11	15	19	15	12	12	9.7	18.8
21-Nov	10	10	7	8	9	8	12	13	15	10	9	12	A	8	16	9	14	14	13	11	11	12	8	9	10.8	15.9
22-Nov	15	8	8	8	11	13	21	31	30	23	15	A	29	27	28	29	36	30	34	21	20	21	30	35	22.7	36.2
23-Nov	29	23	25	26	26	24	30	30	28	27	A	22	23	18	18	19	22	35	31	35	90	32	26	23	28.9	89.7
24-Nov	27	11	6	4	5	3	5	8	7	A	6	7	6	5	5	8	22	27	26	13	11	10	11	9	10.7	27.5
25-Nov	10	11	8	17	19	23	24	14	A	14	9	9	20	19	17	22	23	27	21	17	24	18	14	12	17.2	27.5
26-Nov	19	20	16	21	23	23	23	A	27	28	35	27	15	13	14	19	27	26	28	28	25	17	26	25	22.8	34.5
27-Nov	25	26	23	26	25	24	A	34	36	31	42	40	30	35	26	27	31	29	30	27	28	28	31	13	29.0	42.0
28-Nov	8	8	10	16	19	A	8	13	14	10	8	7	7	10	31	11	11	12	10	10	9	9	10	10	11.2	31.3
29-Nov	17	9	7	8	A	9	19	25	19	17	15	22	13	9	12	15	14	18	16	14	13	13	15	11	14.3	25.0
30-Nov	6	6	8	A	9	7	10	35	12	18	10	12	11	11	15	17	15	15	15	14	12	12	13	9	12.6	34.9
18.4 16.6 14.5 15.7 15.8 16.4 19.0 22.7 22.0 20.0 16.7 16.6 15.9 14.8 15.8 19.8 22.4 23.8 22.7 21.5 22.7 19.8 18.6 17.7																								Diurnal Average		
42.8 41.2 38.4 37.2 35.4 38.8 44.2 48.2 52.9 48.0 42.0 54.0 49.5 35.8 38.3 52.0 52.4 53.8 43.0 41.2 89.7 48.5 46.2 44.3																								Diurnal Maximum		
C - Calibration A - Automated Daily Zero Span																										

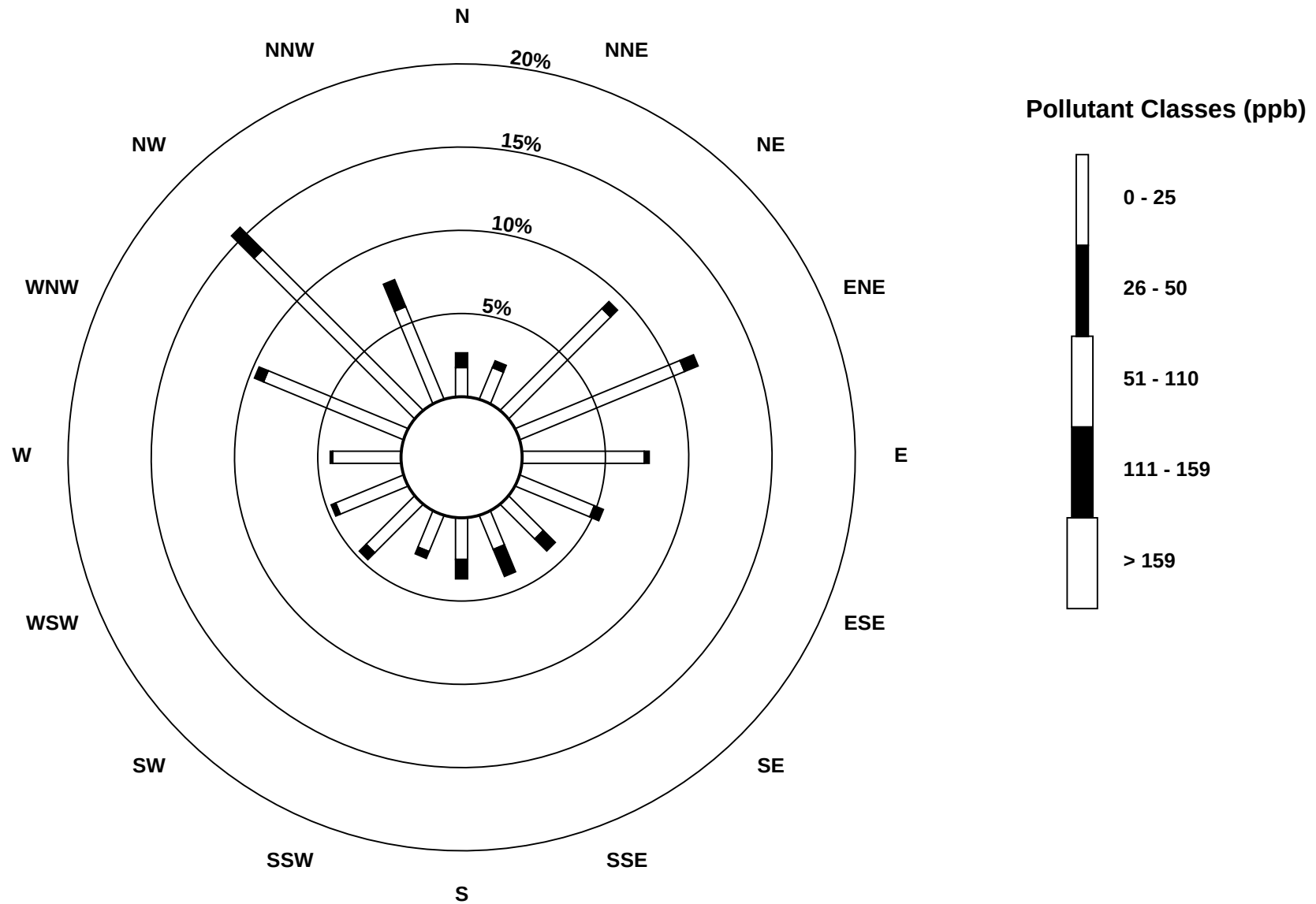
Hourly Maximums

Nitrogen Dioxide (NO₂) - ppb
Henry Pirker - November 2012



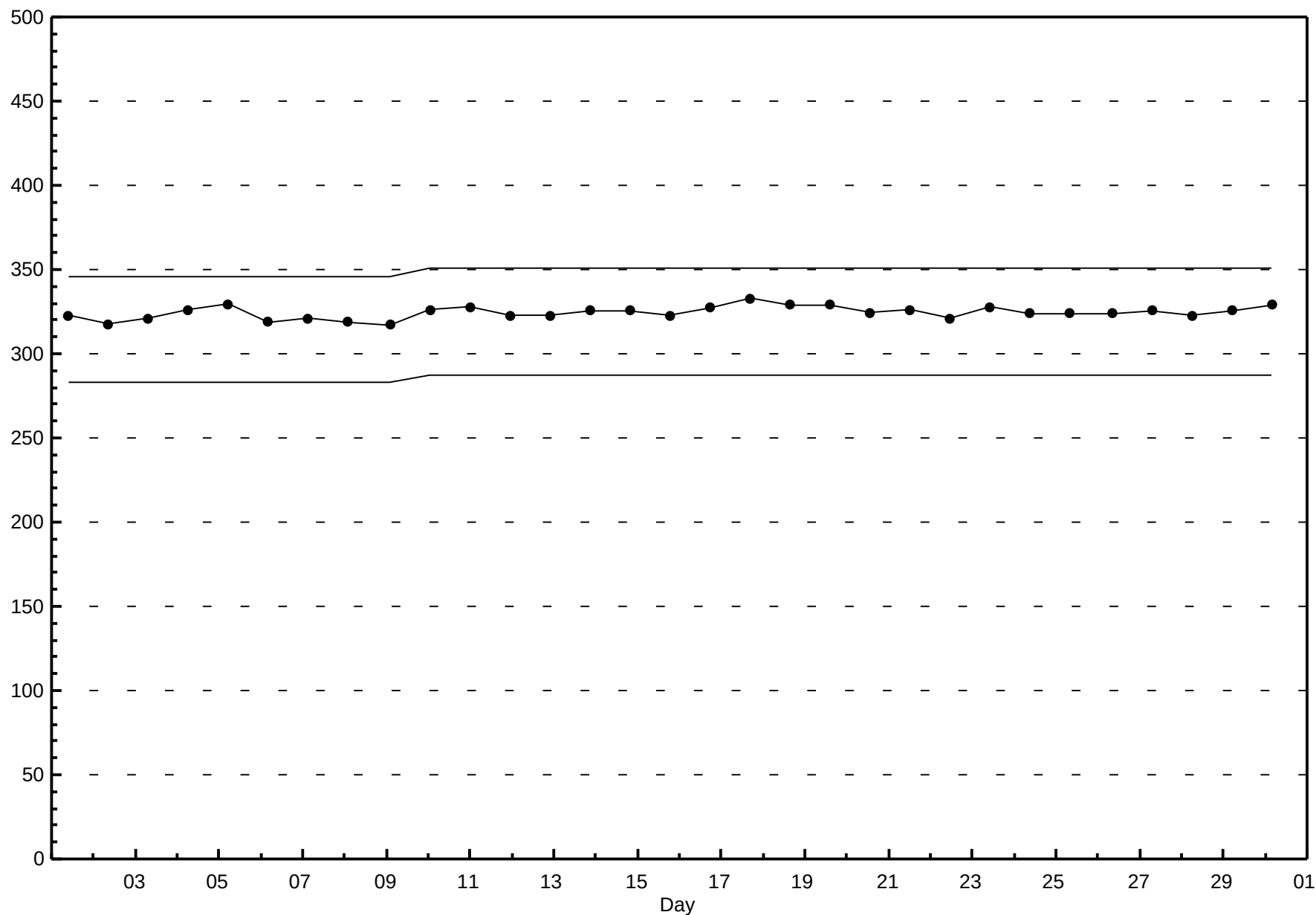
Pollutant Rose

Nitrogen Dioxide (NO₂) - ppb
Henry Pirker - November 2012



Span Responses

Nitrogen Dioxide (NO₂)
Henry Pirker - November 2012



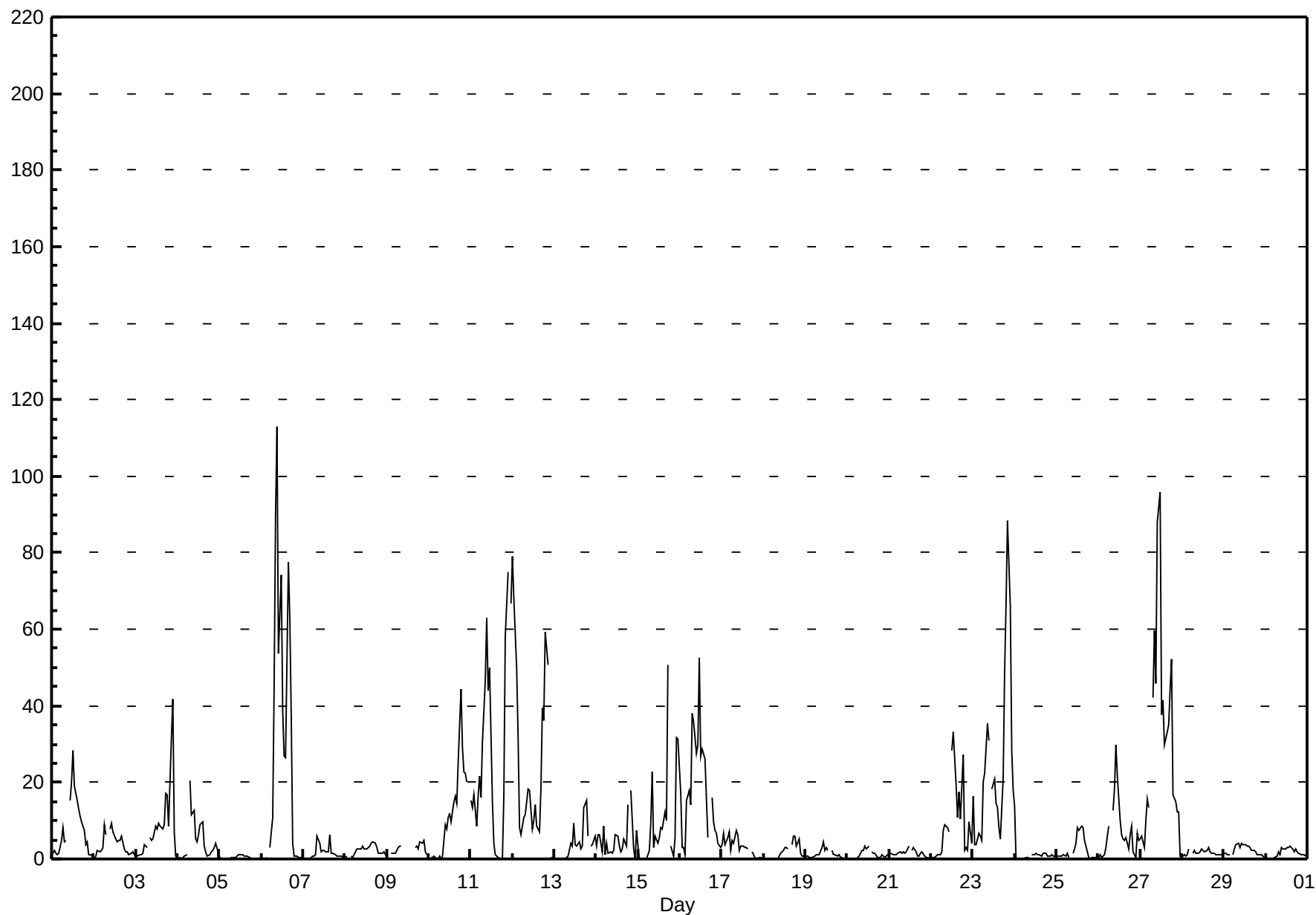
Hourly Averages

Nitrogen Oxide (NO) - ppb
Henry Pirker - November 2012

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 113.0 ppb on Nov 6 10:00 Maximum Daily Average: 31.1 ppb on Nov 27																				Hours in Service: 720 Hours of Data: 682 Hours of Missing Data: 38 Hours of Calibration: 38 Percent Operational Time: 100.0						
Minimum Value: 0 ppb on Nov 11 18:00 Minimum Daily Average: 0.3 ppb on Nov 5 Maximum Diurnal Average: 15.2 ppb at hour 12 Minimum Diurnal Average: 2.8 ppb at hour 4 Monthly Average: 8.32 ppb Percentiles: P ₁ = 0.0 P ₁₀ = 0.2 Q ₁ = 0.9 Median = 2.6 Q ₃ = 8.0 P ₉₀ = 20.8 P ₉₉ = 76.9																										
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Nov	2	2	1	1	2	5	8	4	5	A	15	20	28	19	15	13	11	10	8	4	4	1	1	1	7.8	28.4
2-Nov	0	1	2	2	2	3	9	6	A	8	9	7	5	4	5	5	6	3	2	2	1	2	2	1	3.8	9.4
3-Nov	1	1	1	1	2	4	3	A	5	5	5	9	8	9	9	8	9	17	17	9	32	42	7	1	8.9	41.7
4-Nov	0	0	0	0	1	1	A	21	12	13	5	5	6	9	10	3	2	1	1	2	2	3	4	1	4.4	20.6
5-Nov	0	0	0	0	0	A	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0.3	1.1
6-Nov	1	0	0	0	A	3	11	45	90	113	54	74	39	27	27	77	63	37	4	1	1	0	0	0	29.0	113.0
7-Nov	0	0	0	A	0	1	1	1	6	4	2	2	2	2	2	6	2	1	1	1	1	1	1	0	1.6	6.5
8-Nov	1	1	A	1	0	1	2	3	3	3	4	3	3	3	3	4	5	4	3	2	2	1	2	1	2.2	4.5
9-Nov	1	A	1	1	1	2	3	3	C	C	C	C	C	C	C	C	3	3	3	4	4	5	2	1	--	5.0
10-Nov	A	0	0	1	0	0	1	0	1	9	8	11	12	10	15	17	15	25	44	29	23	23	20	A	11.9	44.2
11-Nov	15	14	17	9	16	22	16	30	46	63	44	50	15	4	1	1	0	0	0	17	58	75	A	67	25.2	74.8
12-Nov	79	68	50	32	8	7	11	11	15	18	18	8	10	14	9	7	18	40	36	59	51	A	0	0	24.7	79.2
13-Nov	0	0	0	0	0	0	0	0	1	4	4	9	4	3	4	3	3	13	15	6	A	3	4	6	3.6	15.3
14-Nov	3	6	6	2	8	1	4	2	2	2	2	6	6	3	2	3	5	3	14	A	18	3	0	8	4.8	17.9
15-Nov	3	0	0	0	0	0	2	9	23	3	6	4	6	8	8	12	10	51	A	4	1	5	32	31	9.5	50.6
16-Nov	17	3	3	1	15	18	14	38	36	28	30	53	27	29	26	16	6	A	16	10	7	7	4	3	17.6	52.7
17-Nov	4	7	4	6	7	2	5	4	7	6	2	3	3	3	3	3	A	2	1	0	0	0	0	0	3.2	7.4
18-Nov	0	0	0	0	0	0	0	0	0	1	1	2	3	3	3	A	4	6	6	4	5	1	1	1	1.8	6.0
19-Nov	1	1	0	0	0	1	1	1	1	3	5	2	3	2	A	2	1	1	1	1	0	0	0	0	1.3	4.6
20-Nov	0	0	0	0	0	0	0	1	2	2	3	3	4	A	2	1	1	0	0	0	1	0	1	1	1.0	3.5
21-Nov	1	1	1	1	1	1	2	1	2	1	2	3	A	2	3	2	1	1	1	2	1	0	0	0	1.4	3.3
22-Nov	0	0	0	1	1	1	2	7	9	8	7	A	28	33	20	11	17	11	27	2	3	2	10	4	8.9	33.2
23-Nov	16	4	4	7	6	5	20	22	35	31	A	18	21	15	13	8	5	21	49	66	88	66	28	18	24.7	88.3
24-Nov	14	0	0	0	0	0	0	0	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.4	13.9
25-Nov	1	1	1	1	1	1	1	0	A	1	3	4	8	8	9	8	5	3	0	0	1	1	0	0	2.5	8.6
26-Nov	0	1	0	1	3	6	8	A	12	18	30	22	10	6	5	5	6	3	6	9	2	0	7	5	7.2	29.8
27-Nov	5	6	3	10	15	13	A	42	60	46	88	96	38	42	30	33	35	44	52	17	15	12	12	1	31.1	95.9
28-Nov	1	1	1	1	3	A	1	2	2	2	2	3	2	2	2	3	2	2	1	1	1	1	1	1	1.6	2.9
29-Nov	2	1	1	1	A	1	3	4	4	3	4	4	4	3	3	3	2	2	2	1	1	1	1	0	2.3	4.0
30-Nov	0	0	0	A	0	0	1	2	1	3	3	3	3	3	3	3	2	2	2	2	1	1	1	1	1.6	3.5
5.8 4.1 3.4 2.8 3.4 3.5 4.6 9.4 13.7 14.8 12.7 15.2 10.7 9.6 8.3 9.2 8.3 10.7 10.9 8.8 11.2 8.9 4.9 5.3																									Diurnal Average	
79.2 68.2 49.6 31.6 16.3 21.6 20.3 45.3 89.8 113.0 88.1 95.9 38.9 41.5 29.7 77.4 62.6 50.6 52.1 66.4 88.3 74.8 31.5 66.8																									Diurnal Maximum	
C - Calibration A - Automated Daily Zero Span																										

Hourly Averages

Nitrogen Oxide (NO) - ppb
Henry Pirker - November 2012



Hourly Maximums

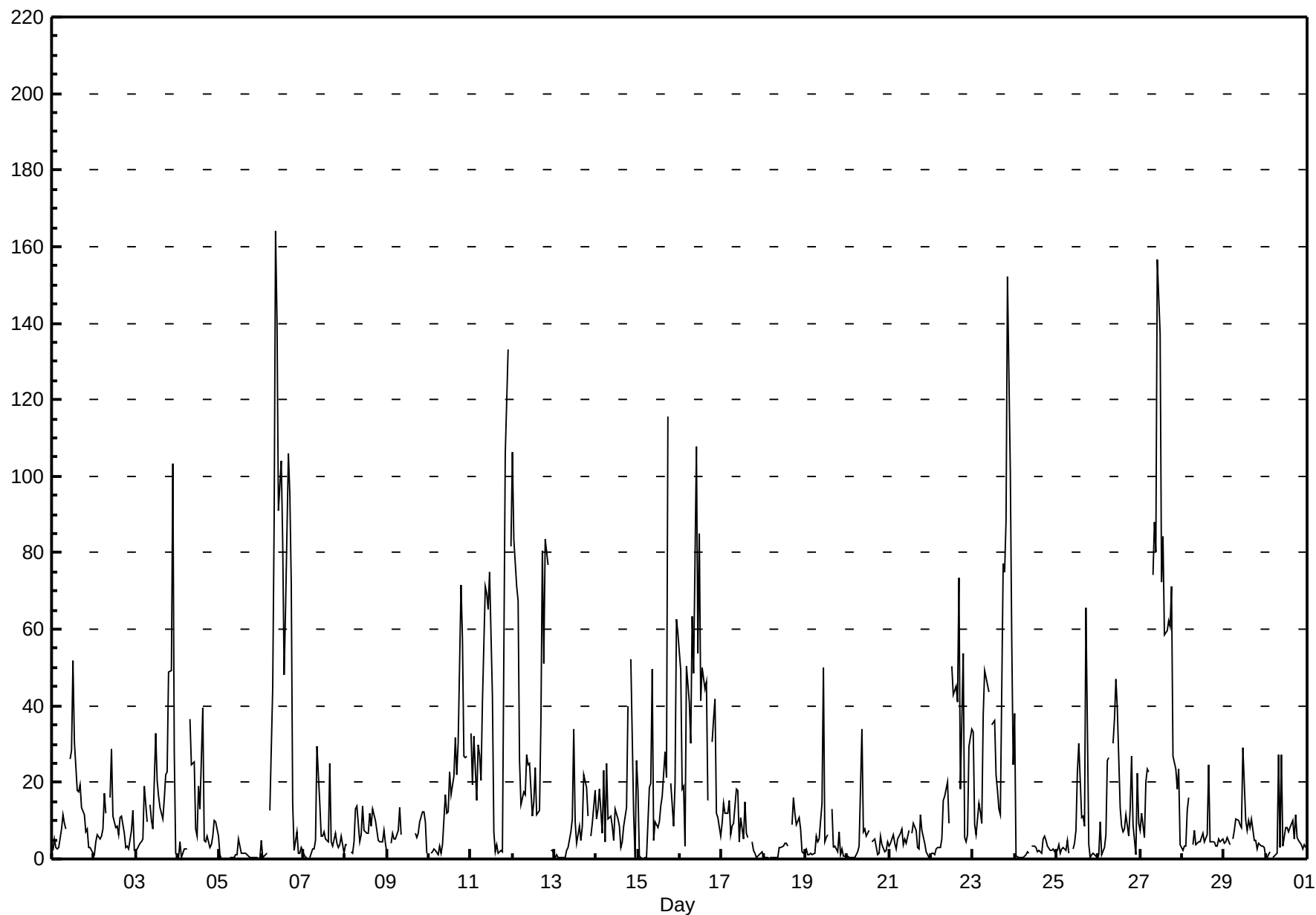
Nitrogen Oxide (NO) - ppb

Henry Pirker - November 2012

Maximum Value: 164.1 ppb on Nov 6 09:00																				Maximum Daily Average: 51.8 ppb on Nov 27					Hours in Service: 720	
Minimum Value: 0 ppb on Nov 15 03:00																				Minimum Daily Average: 0.9 ppb on Nov 5					Hours of Data: 682	
Maximum Diurnal Average: 26.8 ppb at hour 10																				Minimum Diurnal Average: 7.0 ppb at hour 4					Hours of Missing Data: 38	
Monthly Average: 16.61 ppb																				Percentiles: P ₁ = 0.0 P ₁₀ = 1.0 Q ₁ = 2.9 Median = 7.0 Q ₃ = 18.4 P ₉₀ = 48.4 P ₉₉ = 110.1					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-Nov	2	5	3	2	3	8	12	9	8	A	26	28	52	31	18	17	19	13	11	7	8	3	3	1	12.7	51.8
2-Nov	1	5	6	5	6	8	17	12	A	16	29	11	8	9	7	11	11	7	3	3	2	7	13	2	8.7	28.6
3-Nov	2	2	4	4	5	19	10	A	14	10	8	33	20	16	13	10	15	22	23	49	49	103	28	1	20.1	103.4
4-Nov	1	5	0	1	3	2	A	36	25	25	8	6	19	13	40	5	4	6	3	4	6	10	10	6	10.4	39.6
5-Nov	1	0	0	0	0	A	0	1	1	1	1	5	2	1	1	1	1	1	0	0	0	0	0	0	0.9	5.1
6-Nov	5	0	1	1	A	13	45	88	164	141	91	104	83	48	65	106	95	72	15	2	7	2	1	3	50.1	164.1
7-Nov	1	1	1	A	1	3	3	5	30	15	6	6	7	5	5	25	4	4	7	4	3	4	6	1	6.3	29.6
8-Nov	4	4	A	2	1	4	13	14	5	6	14	7	7	7	12	9	13	10	7	5	5	5	7	4	7.2	13.8
9-Nov	2	A	4	7	5	5	7	14	6	C	C	C	C	C	C	C	7	6	7	10	12	12	10	2	--	13.6
10-Nov	A	2	2	2	2	1	3	1	4	17	12	12	23	17	22	32	22	31	72	57	27	26	27	A	18.8	71.8
11-Nov	33	19	32	15	30	27	21	41	71	69	65	75	42	7	2	4	1	2	2	53	106	133	A	82	40.6	133.2
12-Nov	106	84	71	68	26	14	18	17	27	25	25	11	15	24	11	13	36	81	51	84	77	A	2	2	38.6	106.4
13-Nov	0	1	0	0	0	0	0	2	3	7	11	34	10	4	8	5	9	22	19	11	A	6	9	18	7.8	33.8
14-Nov	10	13	18	7	23	4	25	10	11	8	5	13	10	9	3	4	9	13	40	A	52	12	0	26	14.2	52.2
15-Nov	18	1	0	0	0	0	19	20	50	5	10	8	10	14	16	28	21	116	A	20	8	20	63	59	21.9	115.7
16-Nov	49	18	19	3	50	41	30	63	48	108	54	85	41	50	44	46	15	A	30	37	42	12	11	6	39.3	107.8
17-Nov	9	14	12	12	15	6	8	9	18	18	5	11	5	15	7	6	A	5	2	1	0	1	1	2	8.0	18.4
18-Nov	1	0	0	0	1	1	0	1	0	3	3	3	4	4	3	A	9	16	12	9	11	8	2	1	4.0	15.9
19-Nov	2	1	1	1	1	2	6	4	5	15	50	4	6	6	A	13	3	3	2	7	1	3	1	1	6.1	49.9
20-Nov	1	0	1	0	0	1	2	4	34	7	8	6	7	A	4	5	5	1	1	6	4	2	2	4	4.6	34.1
21-Nov	3	4	6	4	3	5	7	8	4	5	4	7	A	7	9	7	3	3	12	7	4	2	1	0	5.1	11.5
22-Nov	1	1	1	2	3	3	5	15	16	20	9	A	50	43	45	41	74	18	54	5	5	6	29	34	21.0	73.6
23-Nov	33	9	6	14	12	9	38	49	45	43	A	35	36	22	18	13	11	77	75	88	152	101	57	25	42.2	152.1
24-Nov	38	1	1	0	0	0	1	2	2	A	3	3	3	2	2	1	5	6	5	3	2	2	2	2	3.9	38.0
25-Nov	2	4	1	2	3	2	5	1	A	2	4	7	23	30	11	11	8	66	4	0	1	1	1	1	8.4	65.6
26-Nov	1	10	1	3	6	26	26	A	30	37	47	39	13	9	7	8	11	6	13	27	9	1	22	9	15.7	47.0
27-Nov	7	12	6	20	23	23	A	74	88	80	157	137	72	84	59	60	62	61	71	27	23	18	23	4	51.8	156.6
28-Nov	2	3	3	13	16	A	4	7	4	4	4	6	7	4	6	25	4	4	4	3	3	5	5	5	6.3	24.7
29-Nov	4	4	6	4	A	5	7	10	10	9	8	29	10	7	10	8	11	5	5	2	4	3	3	3	7.3	28.9
30-Nov	0	0	2	A	0	1	1	27	3	27	3	8	8	7	8	10	5	12	6	5	4	2	4	3	6.4	27.3
11.8 7.8 7.2 7.0 8.6 8.4 11.9 19.5 25.9 26.8 23.9 26.3 21.2 17.7 16.4 18.7 17.1 23.7 19.1 18.6 21.7 17.7 11.9 10.6																									Diurnal Average	
106.4 83.6 71.3 67.5 50.4 41.0 44.9 88.1 164.1 140.8 156.6 137.3 82.8 84.1 65.3 105.8 95.4 115.7 74.9 88.2 152.1 133.2 62.6 81.7																									Diurnal Maximum	
C - Calibration A - Automated Daily Zero Span																										

Hourly Maximums

Nitrogen Oxide (NO) - ppb
Henry Pirker - November 2012



Hourly Averages

Oxides of Nitrogen (NO_x) - ppb

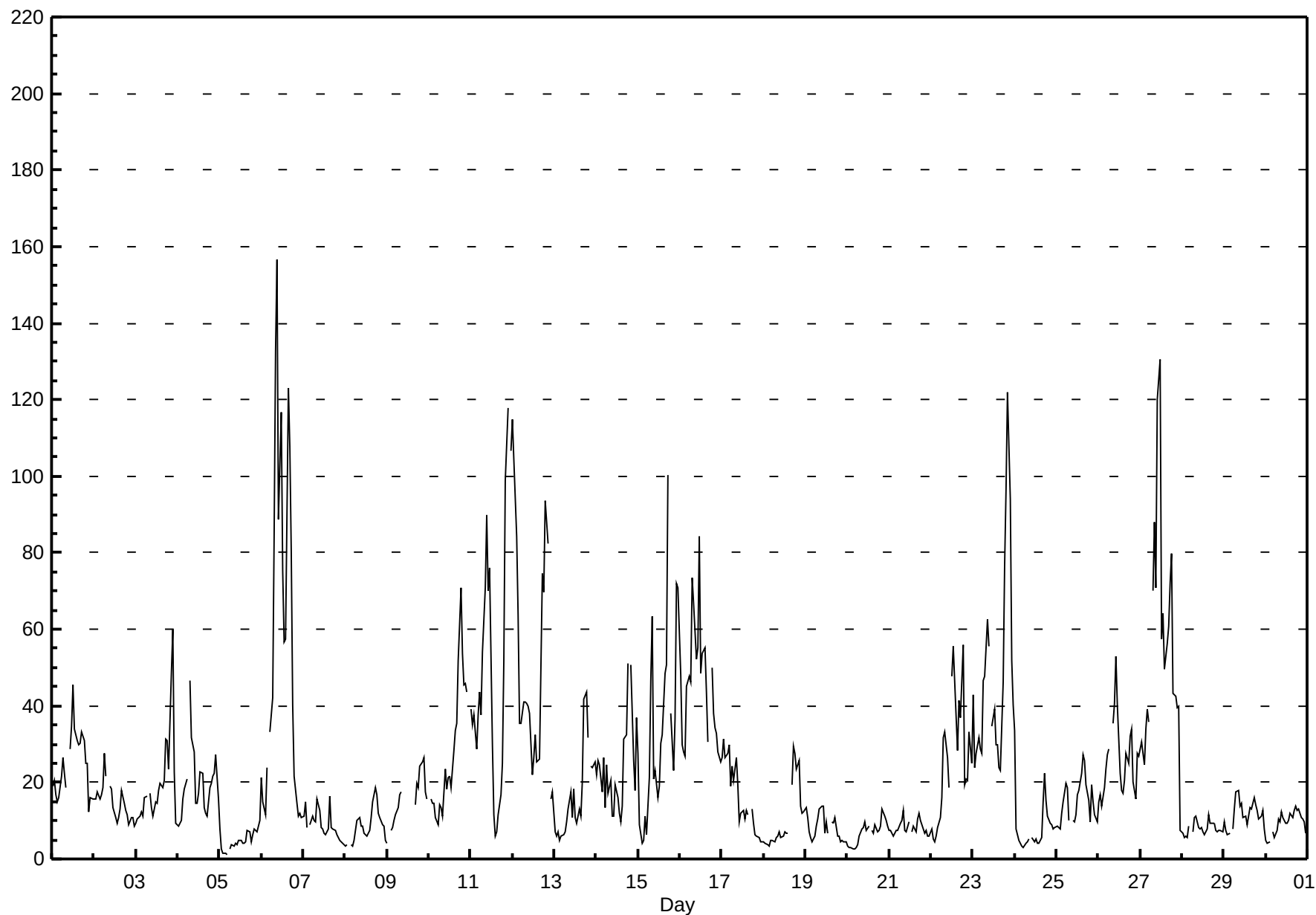
Henry Pirker - November 2012

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 156.7 ppb on Nov 6 10:00 Maximum Daily Average: 58.2 ppb on Nov 6																								Hours in Service: 720 Hours of Data: 682 Hours of Missing Data: 38 Hours of Calibration: 38 Percent Operational Time: 100.0		
Minimum Value: 1 ppb on Nov 5 05:00 Minimum Daily Average: 4.9 ppb on Nov 5 Maximum Diurnal Average: 30.8 ppb at hour 9 Minimum Diurnal Average: 14.9 ppb at hour 3 Monthly Average: 22.68 ppb Percentiles: P ₁ = 2.7 P ₁₀ = 5.5 Q ₁ = 8.3 Median = 14.5 Q ₃ = 28.1 P ₉₀ = 50.2 P ₉₉ = 117.2																										
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-Nov	19	21	17	15	16	22	26	22	18	A	29	35	46	34	31	30	30	33	31	25	25	12	16	16	24.7	45.7
2-Nov	16	16	18	16	17	19	28	22	A	19	18	13	11	10	11	13	18	14	13	12	9	11	11	9	14.8	27.6
3-Nov	9	11	11	12	11	16	17	A	17	13	11	15	15	18	20	19	21	31	31	23	49	60	23	9	20.1	60.2
4-Nov	9	9	10	16	18	21	A	47	32	28	14	14	17	23	22	14	12	11	19	20	21	22	27	16	19.2	46.5
5-Nov	8	3	1	1	1	A	3	4	3	4	4	5	5	4	4	5	7	7	5	6	8	7	9	10	4.9	9.9
6-Nov	21	15	12	24	A	33	42	84	133	157	89	117	75	57	57	123	108	80	40	22	15	11	12	11	58.2	156.7
7-Nov	11	15	8	A	9	11	10	10	16	13	8	8	7	6	8	17	8	8	8	6	6	5	4	4	8.9	16.6
8-Nov	3	4	A	4	3	5	7	10	11	9	9	7	6	7	7	11	15	19	17	12	11	9	9	5	8.6	18.7
9-Nov	4	A	8	8	10	12	13	17	18	C	C	C	C	C	C	C	14	20	18	24	25	26	17	16	--	26.5
10-Nov	A	16	15	15	11	9	14	13	11	23	18	21	22	19	28	33	36	52	71	54	46	46	44	A	28.0	70.9
11-Nov	39	35	38	29	38	44	38	54	71	90	70	76	30	12	6	7	12	17	25	52	99	118	A	106	48.0	117.9
12-Nov	115	104	84	64	36	35	41	41	41	40	38	22	26	33	25	26	50	75	70	94	82	A	16	17	51.1	115.0
13-Nov	7	6	7	5	6	6	7	10	13	18	11	18	11	9	13	11	20	42	44	32	A	24	24	25	16.0	43.5
14-Nov	22	26	25	17	27	14	25	17	20	11	11	19	16	12	10	14	31	33	51	A	51	26	18	37	23.1	51.0
15-Nov	28	9	4	5	11	7	21	47	64	21	23	16	19	30	32	48	51	100	A	38	23	36	72	71	33.7	100.2
16-Nov	48	30	28	27	45	48	46	73	67	52	55	84	49	54	55	44	30	A	50	38	34	33	28	25	45.4	84.2
17-Nov	26	31	27	28	30	19	24	20	27	19	10	12	13	11	13	11	A	13	9	6	6	6	5	5	16.1	31.2
18-Nov	5	4	4	3	5	5	4	6	6	7	5	6	7	7	7	A	19	30	28	23	26	14	12	12	10.6	29.5
19-Nov	14	11	7	6	5	6	9	10	13	14	14	7	10	7	A	10	9	11	6	6	5	5	4	4	8.3	14.0
20-Nov	3	3	3	3	3	3	4	6	8	8	10	7	9	A	8	7	9	7	8	8	13	11	10	9	6.9	13.1
21-Nov	7	7	6	7	7	8	9	10	13	8	7	10	A	7	9	7	11	12	10	9	7	7	6	6	8.2	12.5
22-Nov	8	5	5	6	8	11	16	32	33	26	19	A	48	56	37	29	41	37	56	19	21	21	33	25	25.7	56.0
23-Nov	43	24	27	32	29	28	46	48	63	56	A	35	39	30	30	24	23	46	76	97	122	94	52	40	47.9	122.0
24-Nov	33	8	5	4	3	3	4	4	5	A	6	5	5	4	4	6	15	22	15	11	9	9	8	8	8.6	33.4
25-Nov	9	8	8	12	15	20	19	10	A	10	10	12	17	18	22	27	26	19	15	10	19	15	11	10	14.8	27.1
26-Nov	15	17	14	19	23	27	29	A	35	41	53	40	22	18	17	20	28	25	32	34	20	15	28	27	26.1	52.8
27-Nov	29	30	25	34	39	36	A	70	88	71	120	131	57	64	50	56	61	72	80	43	42	40	40	8	55.9	130.7
28-Nov	7	6	6	5	9	A	7	11	11	8	8	8	7	6	8	12	9	9	9	7	7	7	8	7	8.0	11.5
29-Nov	10	8	6	7	A	8	13	18	18	14	15	11	11	9	11	13	13	16	14	13	11	11	13	8	11.7	18.1
30-Nov	5	4	4	A	7	6	7	10	10	12	11	9	9	10	12	11	13	14	13	13	11	11	10	7	9.5	13.7
19.7 16.7 14.9 15.0 15.8 17.1 18.9 25.9 30.8 29.3 24.8 27.2 21.7 20.5 19.9 23.1 25.5 30.2 29.8 26.1 28.3 24.6 19.6 19.0																								Diurnal Average		
115.0 104.4 84.1 63.7 45.1 47.8 46.5 84.5 132.8 156.7 120.1 130.7 75.2 64.2 57.4 123.2 107.9 100.2 79.8 96.6 122.0 117.9 71.9 106.5																								Diurnal Maximum		
C - Calibration A - Automated Daily Zero Span																										

Hourly Averages

Oxides of Nitrogen (NO_x) - ppb

Henry Pirker - November 2012



Hourly Maximums

Oxides of Nitrogen (NO_x) - ppb

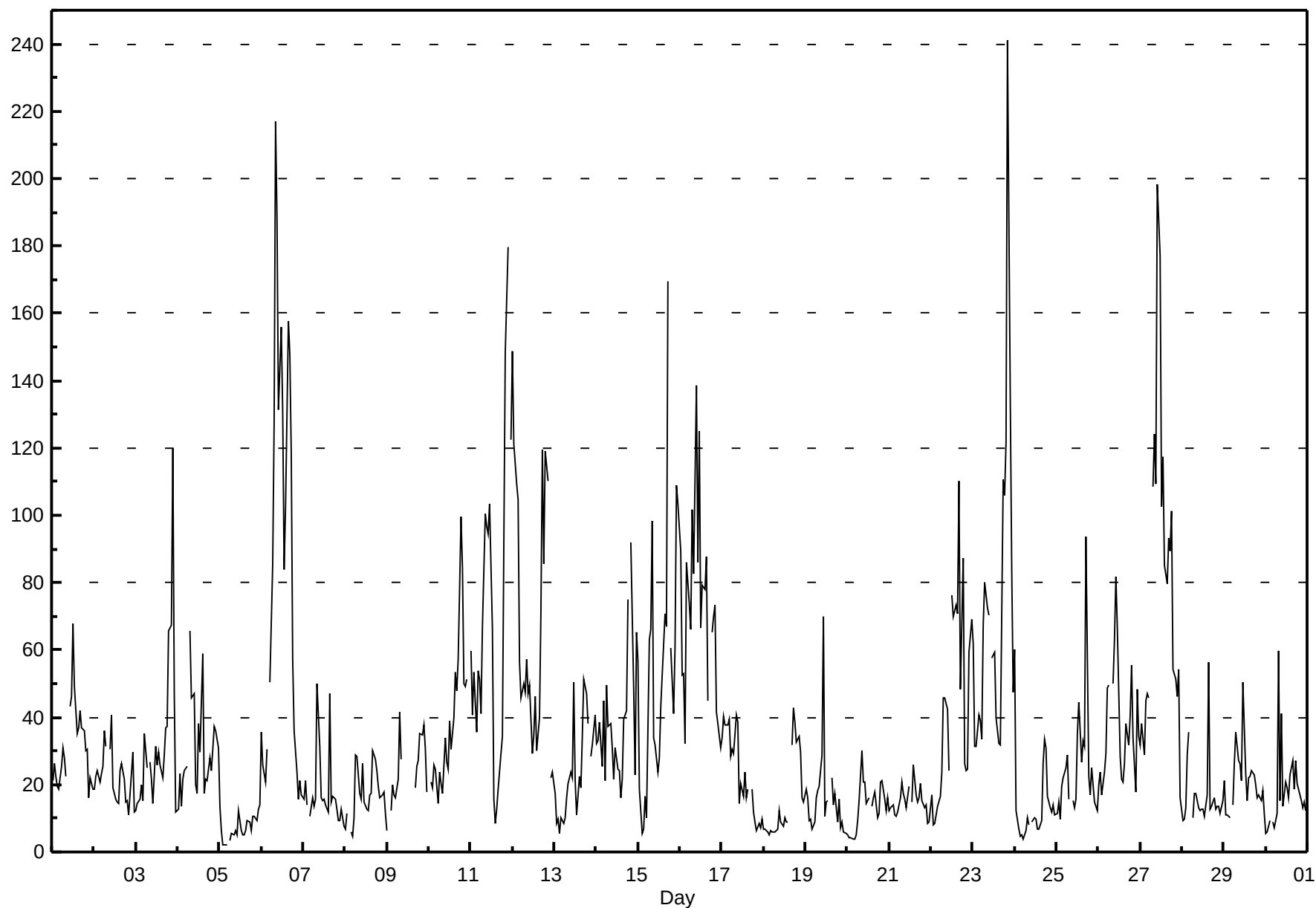
Henry Pirker - November 2012

Maximum Value: 241.1 ppb on Nov 23 21:00																					Maximum Daily Average: 86.1 ppb on Nov 6										Hours in Service: 720	
Minimum Value: 2 ppb on Nov 5 05:00																					Minimum Daily Average: 7.3 ppb on Nov 5										Hours of Data: 682	
Maximum Diurnal Average: 46.8 ppb at hour 18																					Minimum Diurnal Average: 21.4 ppb at hour 3										Hours of Missing Data: 38	
Monthly Average: 34.79 ppb																					Percentiles: P ₁ = 4.1 P ₁₀ = 9.0 Q ₁ = 14.3 Median = 23.5 Q ₃ = 41.7 P ₉₀ = 79.2 P ₉₉ = 166.9										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-Nov	21	26	22	19	19	26	31	28	22	A	43	46	68	49	35	37	42	37	36	30	31	16	22	18	31.5	67.6						
2-Nov	18	23	24	21	23	25	36	31	A	30	41	19	16	15	14	24	26	21	15	15	11	23	30	12	22.4	40.8						
3-Nov	12	14	16	20	15	35	25	A	27	22	15	31	26	30	26	22	29	37	37	66	67	120	47	12	32.7	119.7						
4-Nov	13	23	14	21	24	25	A	66	46	47	20	17	38	29	59	17	21	21	28	24	31	37	36	31	30.0	65.7						
5-Nov	14	6	2	2	2	A	4	5	5	6	5	12	6	5	5	6	10	9	6	11	11	10	13	14	7.3	13.9						
6-Nov	36	26	21	31	A	51	86	128	217	188	131	156	131	84	103	158	148	118	57	36	24	15	21	17	86.1	217.1						
7-Nov	15	21	14	A	10	16	14	16	50	31	16	15	16	14	12	47	15	16	16	13	9	9	13	7	17.7	50.0						
8-Nov	7	11	A	6	5	10	29	28	17	16	26	15	13	12	17	17	30	27	24	19	16	17	18	11	17.1	30.1						
9-Nov	6	A	12	20	17	16	22	41	28	C	C	C	C	C	C	C	19	25	27	35	35	38	31	18	--	41.5						
10-Nov	A	21	19	26	25	14	24	20	17	34	27	25	39	30	40	53	48	57	100	84	50	49	51	A	38.8	99.7						
11-Nov	60	41	54	35	54	51	41	67	101	97	95	103	66	16	8	13	19	29	34	92	149	180	A	123	66.3	179.7						
12-Nov	149	121	109	105	56	46	50	48	57	47	50	29	35	46	30	40	72	120	86	119	110	A	22	24	68.3	148.9						
13-Nov	18	9	10	6	10	9	10	16	20	24	22	50	21	11	22	19	34	51	47	38	A	28	32	41	23.8	51.2						
14-Nov	32	33	39	25	45	21	50	37	38	31	21	31	25	24	16	22	39	42	75	A	92	49	23	65	38.0	91.8						
15-Nov	57	19	5	7	16	10	63	66	98	34	32	24	28	43	53	71	67	169	A	61	41	61	109	104	53.8	169.4						
16-Nov	90	53	53	32	86	74	66	102	83	139	86	125	67	79	78	88	45	A	65	70	73	42	38	31	72.3	138.6						
17-Nov	34	40	38	38	39	28	30	29	41	39	14	20	16	24	16	19	A	19	12	9	6	8	7	10	23.4	40.7						
18-Nov	7	7	6	5	6	6	6	6	7	12	9	8	10	9	9	A	32	43	38	33	34	30	16	15	15.4	42.6						
19-Nov	19	16	9	10	7	9	16	18	19	29	70	10	15	15	A	22	14	17	9	16	7	9	6	6	16.0	69.7						
20-Nov	5	4	4	4	4	5	9	15	30	21	21	14	16	A	14	16	18	10	12	21	21	16	12	16	13.4	29.9						
21-Nov	12	13	14	11	11	12	16	21	17	16	13	19	A	15	26	17	15	16	20	15	13	14	9	9	15.0	25.7						
22-Nov	17	8	9	11	14	16	24	46	46	42	24	A	76	70	73	71	110	48	87	26	24	24	59	69	43.3	110.2						
23-Nov	62	31	31	41	39	34	67	80	72	70	A	58	59	40	36	32	32	111	106	122	241	133	84	47	70.8	241.1						
24-Nov	60	12	7	5	5	4	6	10	8	A	9	10	10	7	7	9	26	33	31	16	13	12	14	11	14.2	60.0						
25-Nov	12	15	10	19	22	25	29	15	A	15	13	15	35	45	27	33	31	94	22	17	25	20	15	12	24.6	93.5						
26-Nov	20	24	17	24	29	49	49	A	50	63	82	66	28	21	21	26	38	32	40	55	34	18	48	34	37.8	81.7						
27-Nov	32	38	29	45	47	46	A	108	124	109	198	177	102	117	85	80	93	89	101	54	51	46	54	16	80.2	198.3						
28-Nov	9	10	13	29	36	A	10	17	17	13	12	13	13	11	17	56	13	14	16	13	14	14	12	15	16.7	56.3						
29-Nov	21	11	11	10	A	14	26	36	27	26	21	51	23	15	22	22	24	23	20	16	17	15	18	12	21.0	50.6						
30-Nov	6	6	9	A	9	7	11	60	15	41	14	21	19	16	23	27	18	27	21	19	15	13	15	12	18.4	59.9						
29.7 23.5 21.4 22.4 24.1 24.4 30.3 41.5 46.4 46.0 40.3 42.3 36.3 31.9 31.9 38.0 38.9 46.8 41.0 39.5 43.7 36.8 30.1 28.0																									Diurnal Average							
148.9 121.1 109.4 104.8 86.0 73.6 85.6 127.7 217.1 188.5 198.3 177.3 131.0 117.3 102.7 157.6 148.0 169.4 105.9 121.7 241.1 179.7 108.9 122.6																									Diurnal Maximum							
C - Calibration																									A - Automated Daily Zero Span							

Hourly Maximums

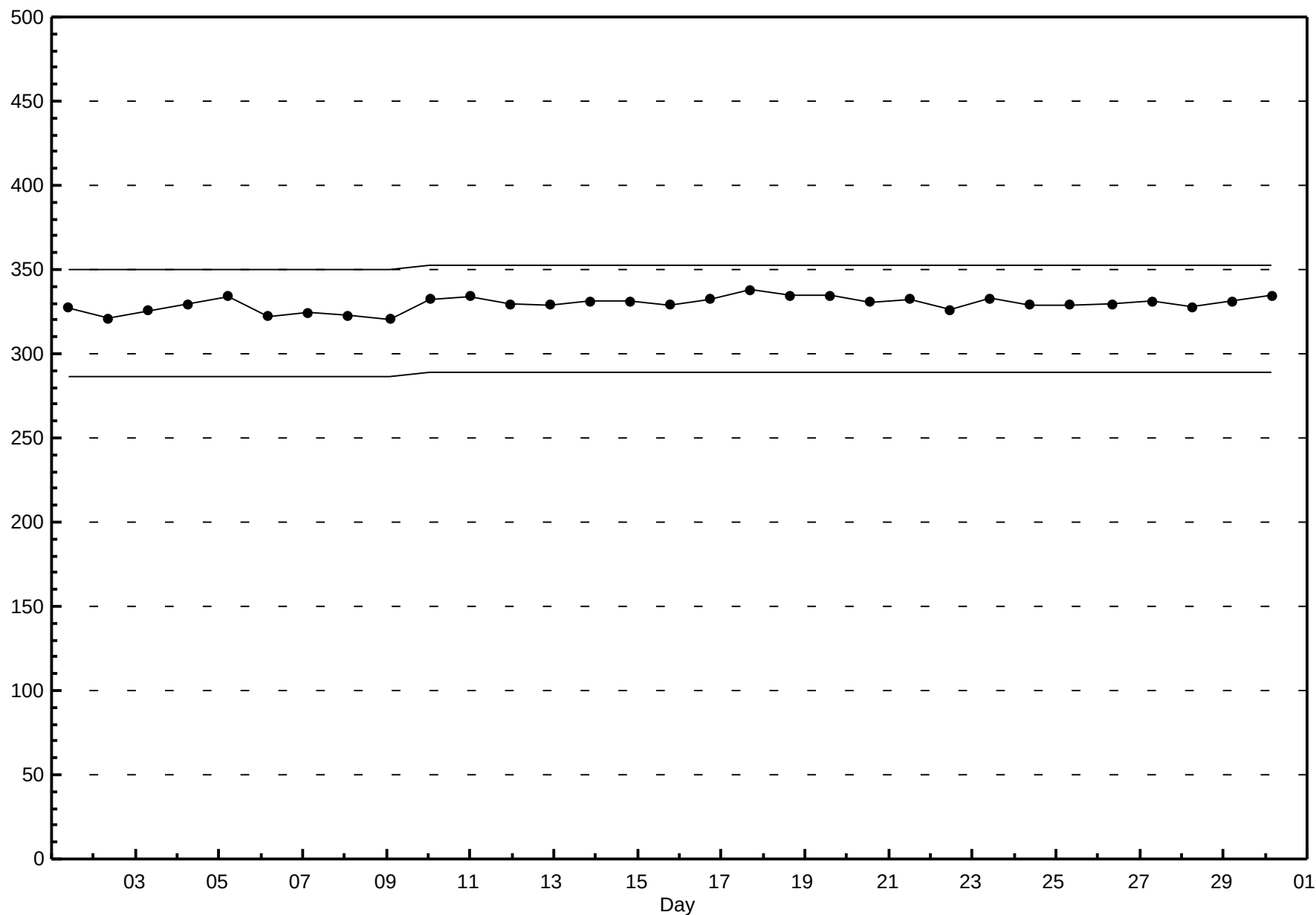
Oxides of Nitrogen (NO_x) - ppb

Henry Pirker - November 2012



Span Responses

Oxides of Nitrogen (NO_x)
Henry Pirker - November 2012



Hourly Averages

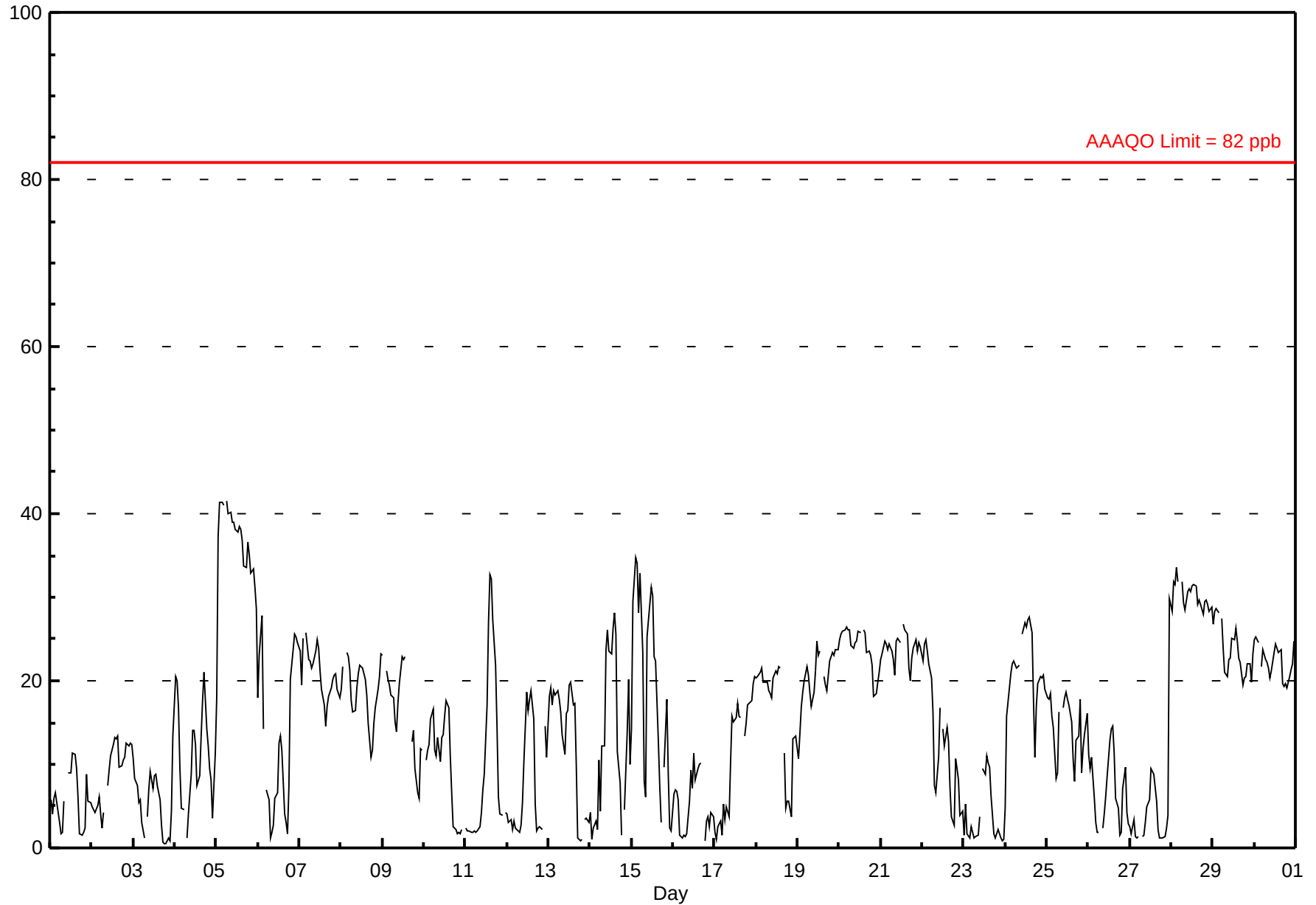
Ozone (O₃) - ppb

Henry Pirker - November 2012

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 41.6 ppb on Nov 5 07:00 Maximum Daily Average: 36.2 ppb on Nov 5																				Hours in Service: 720 Hours of Data: 686 Hours of Missing Data: 34 Hours of Calibration: 34 Percent Operational Time: 100.0						
Minimum Value: 0 ppb on Nov 3 19:00 Maximum Diurnal Average: 19.2 ppb at hour 14 Monthly Average: 14.95 ppb										Minimum Daily Average: 3.8 ppb on Nov 23 Minimum Diurnal Average: 11.4 ppb at hour 19 Percentiles: P ₁ = 1.0 P ₁₀ = 2.1 Q ₁ = 5.8 Median = 15.1 Q ₃ = 22.4 P ₉₀ = 26.8 P ₉₉ = 38.7																
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-Nov	6	4	6	7	5	3	2	2	6	A	9	9	9	11	11	9	6	2	2	2	2	9	6	5	5.8	11.3
2-Nov	5	5	4	5	6	4	2	4	A	8	9	11	12	13	13	13	10	10	11	11	13	12	13	12	9.0	13.5
3-Nov	11	8	7	5	6	3	1	A	4	7	9	7	9	9	8	6	3	1	0	1	1	1	4	13	5.4	13.4
4-Nov	20	20	17	9	5	5	A	1	4	9	14	14	12	7	9	13	18	21	14	12	9	8	4	11	11.2	21.0
5-Nov	18	37	41	41	41	A	42	40	40	39	39	38	38	38	38	37	34	33	37	35	33	33	31	29	36.2	41.6
6-Nov	18	23	28	14	A	7	6	1	2	3	6	7	13	13	12	4	3	2	7	20	24	26	25	25	12.5	27.7
7-Nov	24	20	25	A	26	22	22	22	22	24	25	24	21	19	17	14	17	18	19	20	21	21	19	18	20.9	25.8
8-Nov	19	22	A	23	23	21	18	16	16	19	21	22	21	21	20	18	15	11	12	15	17	19	21	23	18.8	23.4
9-Nov	23	A	21	20	20	18	18	15	14	17	20	23	23	23	C	C	C	13	14	9	7	6	12	12	16.4	23.0
10-Nov	A	10	12	12	15	17	12	11	13	10	13	14	16	18	17	11	7	2	2	2	2	2	2	A	10.0	17.7
11-Nov	2	2	2	2	2	2	2	2	3	4	7	9	17	27	33	32	27	22	15	6	4	4	A	4	10.0	32.7
12-Nov	4	3	3	2	3	2	2	2	3	5	10	19	16	18	19	15	5	2	2	3	2	A	15	11	7.3	18.8
13-Nov	18	19	17	19	18	19	18	16	14	11	16	16	20	20	17	17	10	1	1	1	A	3	4	3	13.0	19.9
14-Nov	4	1	2	3	2	10	4	12	12	24	26	23	23	26	28	26	12	8	1	A	5	14	20	10	13.0	28.1
15-Nov	14	29	35	34	28	33	23	8	6	25	27	31	30	23	22	13	7	3	A	10	18	9	2	2	18.9	34.8
16-Nov	6	7	7	6	2	1	2	1	2	6	9	7	11	8	10	10	10	A	1	3	4	3	4	4	5.3	11.4
17-Nov	2	1	2	3	2	5	3	5	4	10	16	15	16	17	16	16	A	13	15	17	17	18	20	20	11.0	20.5
18-Nov	20	20	21	21	20	20	20	19	18	18	20	21	21	22	22	A	11	5	6	6	4	13	13	13	16.3	21.6
19-Nov	11	14	17	19	20	22	21	19	17	19	21	25	23	24	A	21	20	19	22	23	23	23	24	24	20.3	24.8
20-Nov	25	26	26	26	26	26	26	24	24	25	25	26	26	A	26	26	23	23	23	22	18	18	20	21	24.0	26.4
21-Nov	23	23	25	24	24	24	24	22	21	25	25	25	A	27	26	26	22	20	23	24	25	24	25	24	23.8	26.8
22-Nov	22	24	25	24	22	20	16	7	7	11	17	A	14	12	14	13	7	4	3	11	10	8	4	4	13.0	25.0
23-Nov	2	5	2	1	3	2	1	1	1	4	A	9	9	11	10	10	6	2	1	2	2	1	1	1	3.8	11.0
24-Nov	5	16	19	21	22	22	22	22	22	A	26	27	27	27	28	26	18	11	17	20	20	20	21	19	20.7	27.6
25-Nov	18	18	19	16	14	8	9	16	A	17	18	19	18	17	15	11	8	13	13	18	9	12	14	16	14.5	18.6
26-Nov	11	9	11	6	3	2	2	A	2	4	6	8	13	14	15	11	6	5	2	2	7	10	4	3	6.8	14.6
27-Nov	3	2	3	1	1	1	A	1	2	3	5	6	10	9	9	6	2	1	1	1	1	2	4	30	4.5	29.9
28-Nov	28	32	32	34	32	A	32	29	29	31	31	31	31	32	31	29	30	29	28	29	30	29	28	29	30.2	33.5
29-Nov	27	28	29	28	A	27	24	21	20	23	23	25	25	26	25	23	22	19	20	21	22	22	20	23	23.6	28.7
30-Nov	25	25	25	A	22	24	23	22	22	20	21	23	24	24	23	24	20	19	20	19	21	21	22	25	22.3	25.3
14.3 15.7 16.6 15.3 14.7 13.3 14.1 13.0 12.4 15.0 17.7 18.4 18.9 19.2 19.0 17.1 13.5 11.4 11.4 12.5 12.8 13.5 13.8 15.0																								Diurnal Average		
28.4 37.3 41.3 41.3 41.0 32.8 41.6 40.1 40.1 39.0 39.0 38.1 37.9 38.4 38.2 36.7 33.8 33.5 36.6 35.1 32.9 33.3 31.2 29.9																								Diurnal Maximum		
C - Calibration A - Automated Daily Zero Span																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 82 ppb 24-hr na																										

Hourly Averages

Ozone (O₃) - ppb
Henry Pirker - November 2012



Hourly Maximums

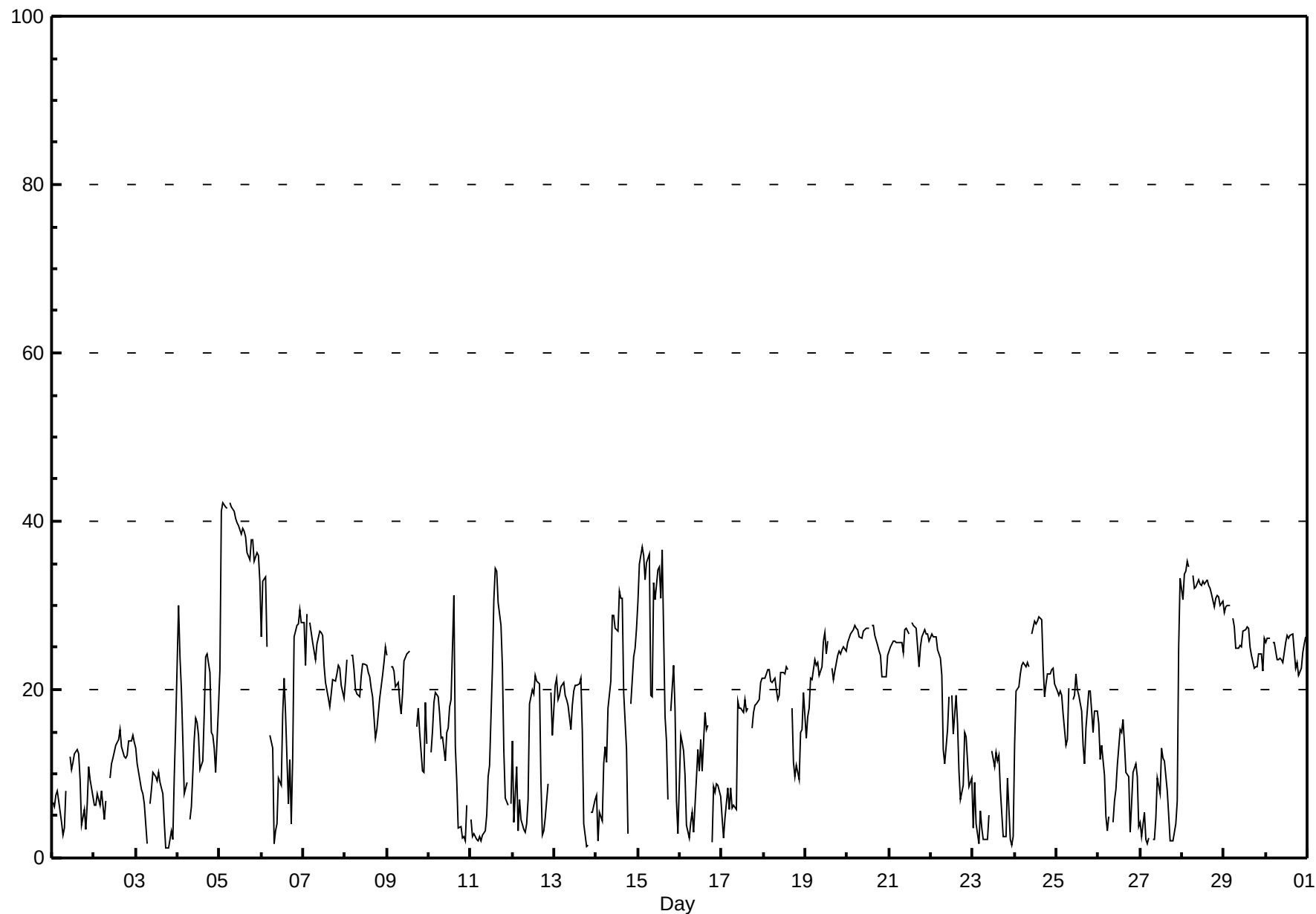
Ozone (O₃) - ppb

Henry Pirker - November 2012

Maximum Value: 42.3 ppb on Nov 5 03:00																				Maximum Daily Average: 38.1 ppb on Nov 5					Hours in Service: 720	
Minimum Value: 1 ppb on Nov 3 20:00																				Minimum Daily Average: 5.7 ppb on Nov 23					Hours of Data: 686	
Maximum Diurnal Average: 22.2 ppb at hour 15																				Minimum Diurnal Average: 14.3 ppb at hour 19					Hours of Missing Data: 34	
Monthly Average: 17.83 ppb																				Percentiles: P ₁ = 1.7 P ₁₀ = 4.1 Q ₁ = 9.6 Median = 19.1 Q ₃ = 24.9 P ₉₀ = 30.1 P ₉₉ = 41.1					Hours of Calibration: 34	
																									Percent Operational Time: 100.0	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
1-Nov	7	6	7	8	7	4	3	4	8	A	12	11	11	12	13	12	9	4	6	3	6	11	9	7	7.9	12.8
2-Nov	6	6	8	6	8	6	5	7	A	10	11	12	13	14	14	15	13	12	12	12	14	14	15	14	10.7	15.2
3-Nov	13	11	9	8	8	7	2	A	6	8	10	10	9	10	9	8	4	1	1	1	3	2	10	16	7.2	15.7
4-Nov	30	24	20	14	8	9	A	5	6	14	17	16	15	11	12	17	24	24	22	15	15	13	10	18	15.5	30.1
5-Nov	22	41	42	42	42	A	42	42	41	40	40	39	38	39	39	38	36	36	38	38	35	36	36	33	38.1	42.3
6-Nov	26	33	33	25	A	15	13	2	3	4	10	9	17	21	17	6	12	4	12	26	28	28	29	28	17.5	33.4
7-Nov	28	23	29	A	28	26	25	24	25	27	27	26	23	21	19	18	20	21	21	22	23	23	21	19	23.3	29.0
8-Nov	21	24	A	24	24	22	20	20	19	21	23	23	23	22	22	20	19	14	15	17	19	22	23	25	21.0	25.1
9-Nov	24	A	23	23	22	20	21	19	17	20	23	24	24	25	C	C	C	16	18	15	10	10	18	14	19.3	24.5
10-Nov	A	13	15	18	20	19	17	14	14	11	15	15	18	19	31	13	9	4	4	2	3	2	6	A	12.9	31.2
11-Nov	5	3	3	2	2	3	2	3	3	5	10	11	23	31	34	34	30	28	23	13	7	6	A	6	12.4	34.4
12-Nov	14	4	11	3	7	5	3	3	4	7	18	20	20	22	21	21	9	3	3	5	9	A	20	15	10.7	21.7
13-Nov	20	21	19	19	20	21	19	19	18	15	18	20	21	21	21	21	15	4	1	2	A	5	5	7	15.4	21.4
14-Nov	7	2	5	4	11	13	11	18	21	29	29	27	27	32	31	31	20	13	3	A	18	24	25	27	18.6	31.6
15-Nov	30	35	37	36	33	35	36	19	19	33	31	35	31	37	17	14	7	A	17	23	18	7	3	25.5	37.0	
16-Nov	15	14	13	10	4	2	4	5	3	9	13	10	14	10	17	15	16	A	2	8	8	9	9	7	9.5	17.3
17-Nov	5	2	5	8	6	8	6	6	6	19	18	18	17	19	17	18	A	15	17	18	18	19	21	21	13.4	21.3
18-Nov	21	21	22	22	21	21	21	20	19	19	22	22	22	23	22	A	18	11	10	11	9	15	15	20	18.6	22.6
19-Nov	14	17	18	21	21	24	23	23	22	23	26	27	24	26	A	22	21	22	24	25	24	25	25	25	22.7	26.7
20-Nov	26	26	27	27	28	27	27	26	26	27	27	27	27	A	28	28	26	25	24	24	22	22	21	24	25.8	27.6
21-Nov	25	25	26	26	26	26	26	26	24	27	27	27	A	28	28	27	25	23	25	26	27	27	27	26	26.0	27.9
22-Nov	27	26	26	26	25	24	22	13	11	15	19	A	19	15	19	16	10	7	9	15	14	11	9	10	16.9	26.7
23-Nov	4	9	4	2	6	4	2	2	2	5	A	13	11	13	12	12	8	3	2	3	9	2	2	2	5.7	12.8
24-Nov	13	20	20	22	23	23	23	23	23	A	27	28	28	28	29	28	23	19	21	22	22	22	23	21	23.0	28.7
25-Nov	20	19	20	19	17	13	14	20	A	19	19	22	20	19	17	13	11	15	20	20	17	15	17	17	17.7	21.9
26-Nov	16	12	13	10	5	3	5	A	4	7	8	11	15	15	16	14	10	10	3	6	10	11	10	4	9.5	16.5
27-Nov	4	3	5	2	2	2	A	2	2	5	9	8	13	12	12	8	5	2	2	2	4	7	25	33	7.4	33.2
28-Nov	31	34	34	35	35	A	34	32	32	33	33	32	33	33	33	32	32	31	30	31	31	31	30	30	32.3	35.3
29-Nov	29	30	30	30	A	29	27	25	25	25	25	27	27	28	27	25	24	23	23	23	24	24	22	26	26.0	30.0
30-Nov	26	26	26	A	26	26	24	24	24	24	23	26	26	26	26	27	25	23	23	22	23	24	25	26	24.7	26.5
18.2 18.3 19.0 17.7 17.2 15.6 17.0 15.9 15.3 17.9 20.3 20.5 21.2 21.5 22.2 19.9 17.5 14.4 14.3 15.3 16.4 16.5 17.7 18.1																									Diurnal Average	
30.7 41.1 42.3 41.8 41.6 35.0 42.3 41.8 41.1 40.3 39.8 39.5 38.5 39.2 38.8 38.2 36.3 35.5 37.8 37.8 35.2 36.2 35.9 33.2																									Diurnal Maximum	
C - Calibration A - Automated Daily Zero Span																										

Hourly Maximums

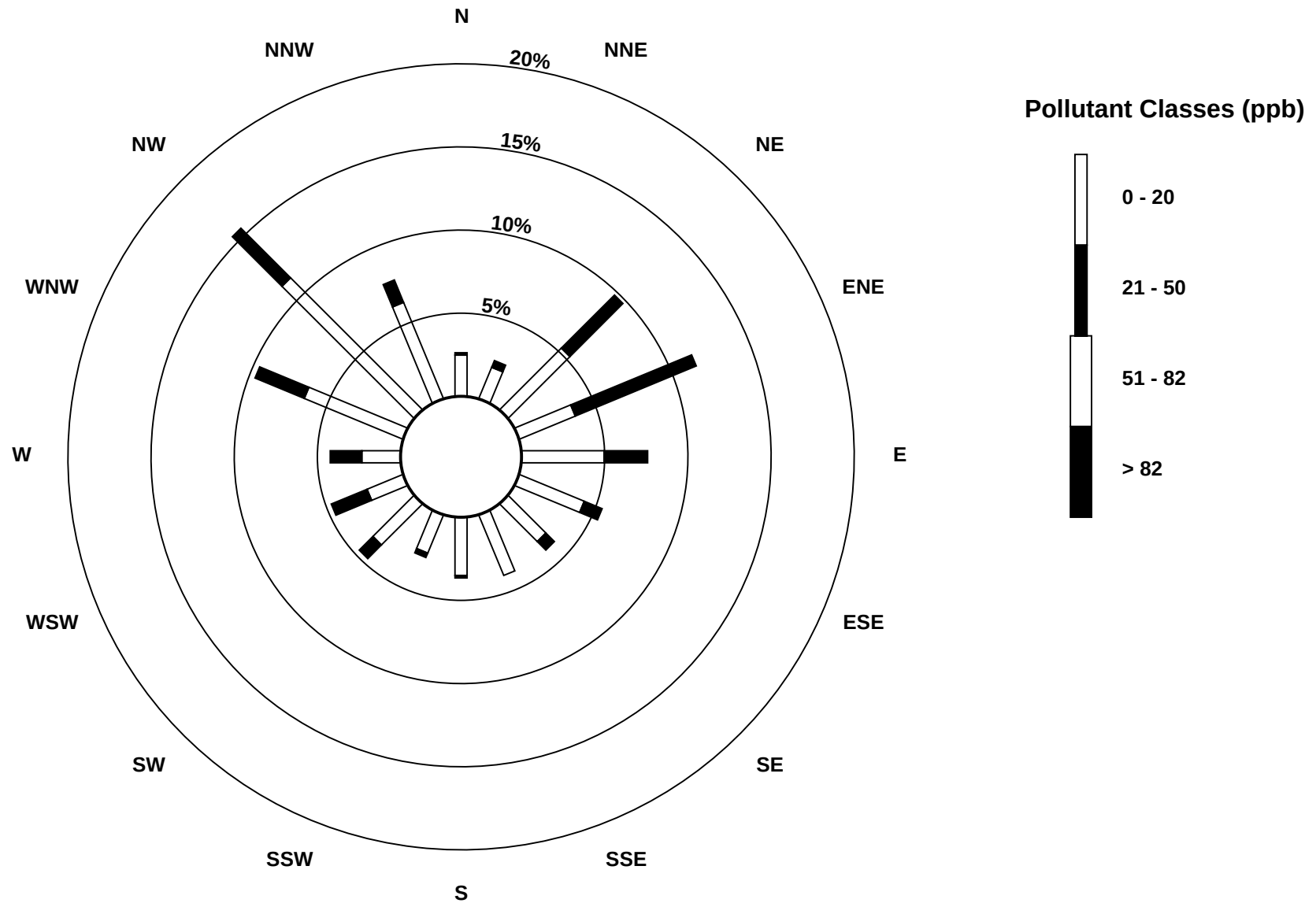
Ozone (O₃) - ppb
Henry Pirker - November 2012



Pollutant Rose

Ozone (O₃) - ppb

Henry Pirker - November 2012



Eight Hour Running Averages

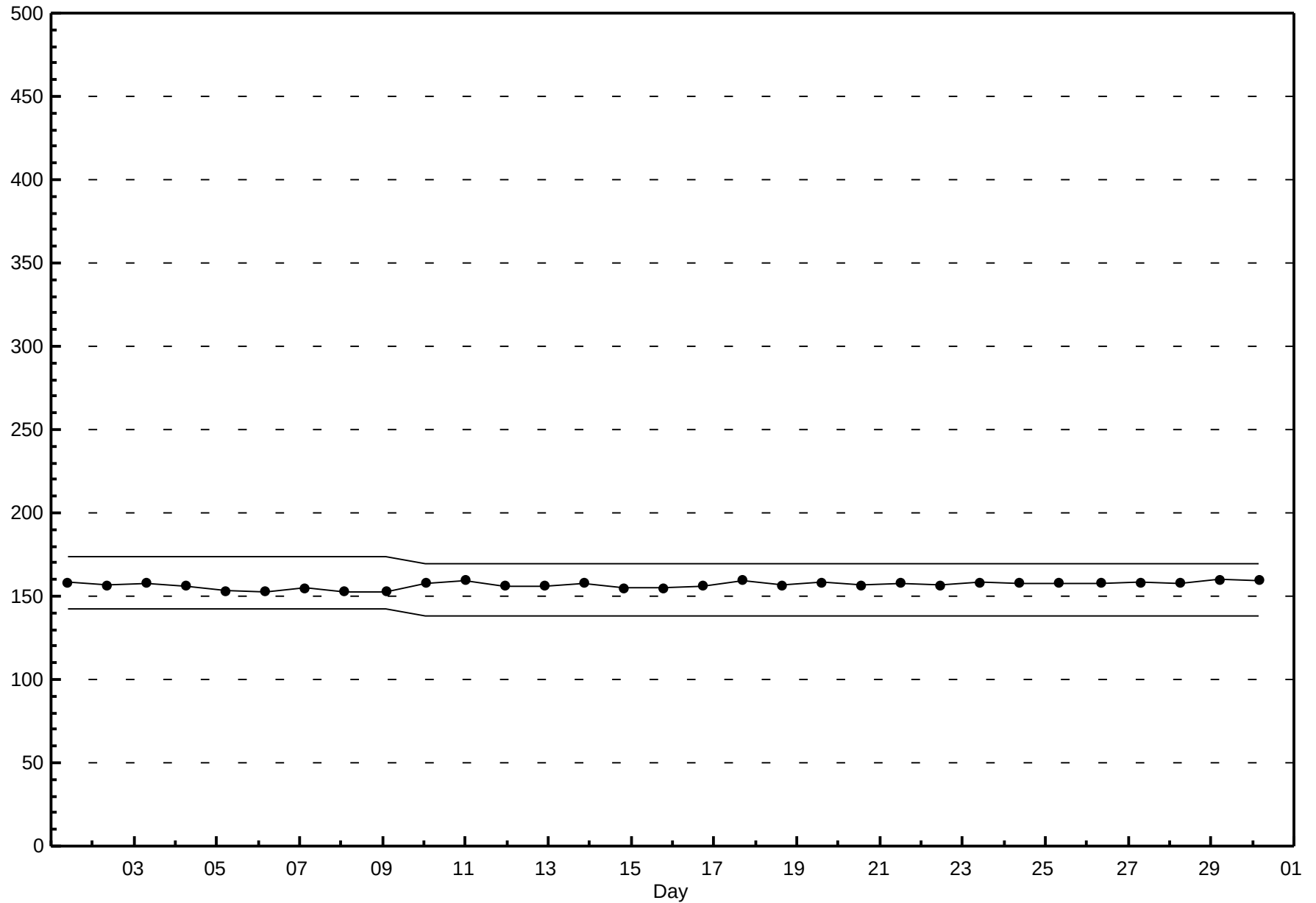
Ozone (O₃) - ppb

Henry Pirker - November 2012

Maximum Value: 40.6 ppb on Nov 5 10:00																								Hours in Service: 720	
Minimum Value: 1.7 ppb on Nov 27 09:00																								Hours of Data: 714	
Percentiles: P ₁ = 2.0 P ₁₀ = 3.9 Q ₁ = 7.1 Median = 14.3 Q ₃ = 21.7 P ₉₀ = 25.0 P ₉₉ = 38.6																								Hours of Missing Data: 6	
																								Hours of Calibration: 6	
																								Percent Operational Time: 100.0	
Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Nov	6	6	6	6	6	5	5	4	4	4	5	5	6	7	8	9	9	8	7	7	6	5	5	4	9.3
2-Nov	4	4	5	5	6	5	5	4	4	5	6	6	7	9	10	11	11	12	12	12	12	12	11	11	11.7
3-Nov	11	11	11	10	9	8	7	6	5	5	5	5	6	7	7	7	7	6	5	4	3	2	2	3	11.4
4-Nov	5	8	10	11	11	12	13	11	9	7	7	7	8	9	9	10	12	14	14	13	13	13	12	12	13.6
5-Nov	12	14	18	21	25	28	33	37	40	41	40	40	39	39	39	38	38	37	37	36	36	35	34	33	40.6
6-Nov	31	30	29	26	25	21	18	14	12	9	6	4	5	6	7	7	8	7	8	9	11	12	14	16	31.2
7-Nov	19	21	23	24	24	24	23	23	23	23	23	23	22	22	21	20	19	19	18	18	18	19	19	19	24.2
8-Nov	19	20	20	20	21	21	21	20	20	20	20	19	19	19	20	20	20	19	18	17	16	16	16	17	20.7
9-Nov	18	18	20	21	21	21	20	19	18	18	18	18	19	19	19	20	N	N	N	N	N	N	10	10	21.0
10-Nov	10	10	10	10	11	13	13	13	13	13	13	13	13	13	14	14	13	12	11	9	8	6	4	3	14.0
11-Nov	2	2	2	2	2	2	2	2	2	2	3	4	6	9	13	16	20	22	23	22	21	18	16	12	22.7
12-Nov	8	6	4	4	3	3	3	3	3	3	4	6	7	9	11	13	13	13	12	10	8	7	6	6	13.5
13-Nov	8	10	12	14	17	17	17	18	17	16	16	16	16	16	16	16	16	15	13	11	10	7	5	3	18.0
14-Nov	2	2	3	3	3	4	4	5	6	9	12	14	17	19	22	24	24	22	18	18	15	13	12	10	23.6
15-Nov	10	13	18	20	23	25	26	26	25	24	23	23	23	22	22	22	22	20	19	15	14	12	9	7	25.9
16-Nov	7	8	8	7	5	4	4	4	3	3	4	4	5	6	7	8	9	9	8	8	7	6	5	4	9.4
17-Nov	3	3	3	3	3	3	3	3	3	4	6	7	9	11	12	14	15	16	15	16	16	16	17	17	17.2
18-Nov	18	19	19	20	20	20	20	20	20	20	20	20	20	20	20	20	19	17	15	13	11	9	8	9	20.4
19-Nov	9	10	11	13	15	16	17	18	18	19	20	20	21	21	21	21	22	22	22	21	22	21	22	22	22.2
20-Nov	23	24	24	25	25	25	26	26	26	25	25	25	25	25	25	25	25	25	25	24	23	23	22	21	25.7
21-Nov	21	21	21	22	22	23	23	24	23	24	24	24	24	24	24	25	25	24	24	24	24	24	23	23	24.9
22-Nov	23	24	24	24	24	23	22	20	18	17	15	14	13	12	12	13	13	12	10	10	9	9	7	6	24.2
23-Nov	6	6	6	4	4	3	2	2	2	2	2	3	4	5	7	8	8	8	7	6	5	4	3	2	8.4
24-Nov	2	4	6	8	11	13	16	19	21	21	22	23	24	24	25	26	25	24	22	22	21	20	19	18	25.9
25-Nov	18	19	19	19	18	17	15	15	14	14	14	14	15	16	17	16	15	15	14	14	13	12	12	13	19.3
26-Nov	13	13	12	11	10	9	8	6	5	4	4	4	5	7	9	9	10	10	9	8	8	7	6	5	13.2
27-Nov	4	4	4	4	3	2	2	2	2	2	2	3	4	5	6	6	6	6	5	5	4	3	2	5	6.1
28-Nov	9	13	16	20	24	27	31	31	31	31	31	31	30	31	31	31	31	30	30	30	30	29	29	29	31.3
29-Nov	29	29	29	28	28	28	27	26	25	25	24	23	24	23	23	24	24	24	23	23	22	22	21	21	28.7
30-Nov	22	22	23	23	23	23	24	24	23	22	22	22	22	22	23	23	22	22	22	22	21	21	21	21	23.7
31.2 29.9 28.7 28.5 28.3 28.1 33.1 37.2 40.4 40.6 40.3 39.8 39.4 39.3 38.8 38.4 37.6 37.0 36.7 36.3 35.6 35.0 34.1 33.1																									
Diurnal Maximums																									
N - Not Valid																									

Span Responses

Ozone (O₃)
Henry Pirker - November 2012



Hourly Averages

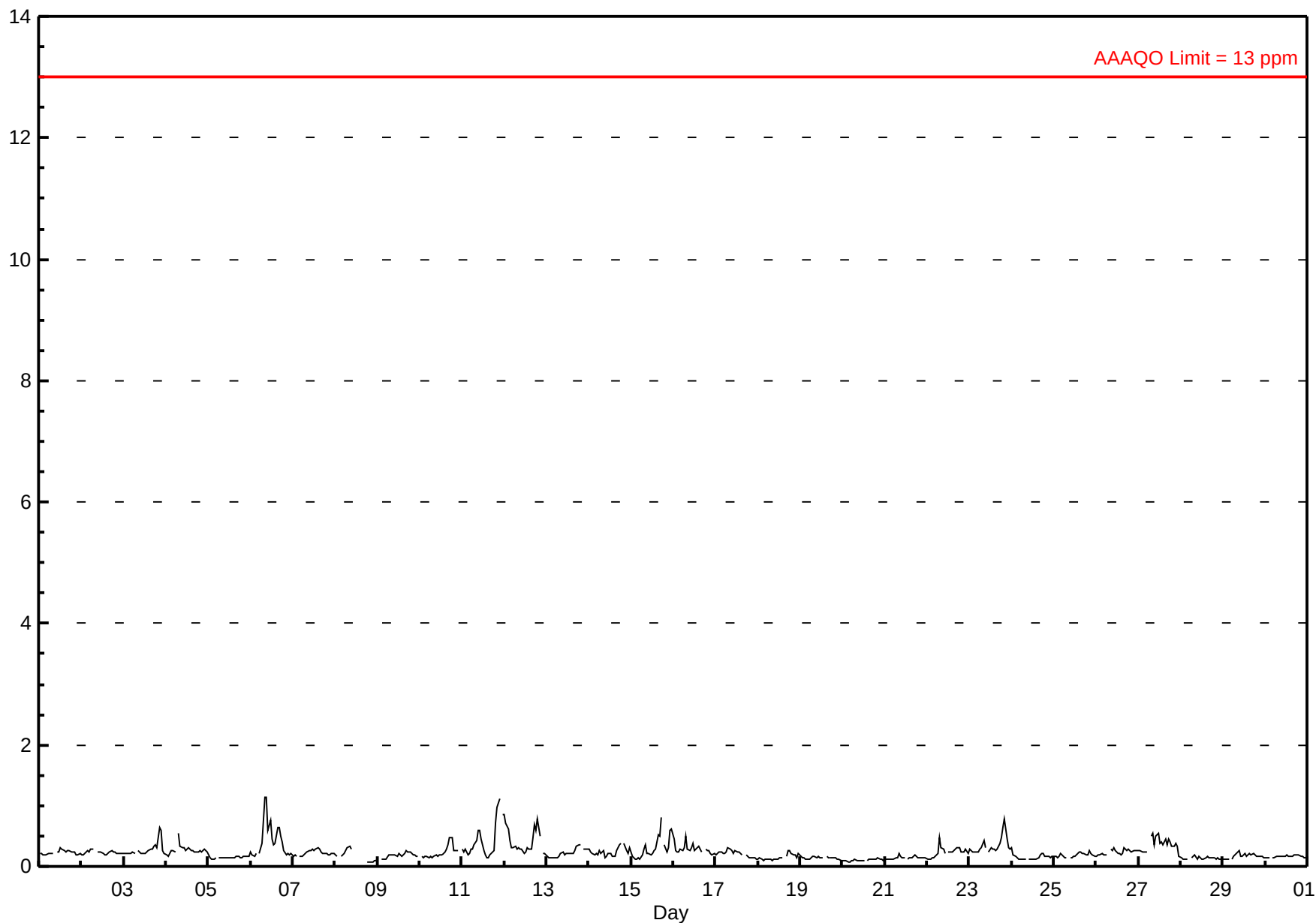
Carbon Monoxide (CO) - ppm

Henry Pirker - November 2012

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 1.15 ppm on Nov 6 09:00 Maximum Daily Average: 0.44 ppm on Nov 6																				Hours in Service: 720 Hours of Data: 681 Hours of Missing Data: 39 Hours of Calibration: 39 Percent Operational Time: 100.0						
Minimum Value: 0.1 ppm on Nov 8 20:00 Maximum Diurnal Average: 0.30 ppm at hour 18 Monthly Average: 0.234 ppm										Minimum Daily Average: 0.10 ppm on Nov 20 Minimum Diurnal Average: 0.18 ppm at hour 5 Percentiles: P ₁ = 0.08 P ₁₀ = 0.12 Q ₁ = 0.15 Median = 0.20 Q ₃ = 0.26 P ₉₀ = 0.35 P ₉₉ = 0.80																
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-Nov	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	0.3	0.3	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.23	0.32
2-Nov	0.2	0.2	0.2	0.3	0.2	0.3	0.3	0.3	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.23	0.28
3-Nov	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	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.6	0.6	0.3	0.2	0.28	0.64
4-Nov	0.2	0.2	0.2	0.3	0.3	0.2	A	0.5	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.27	0.54
5-Nov	0.2	0.1	0.1	0.1	0.1	A	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.15	0.18
6-Nov	0.2	0.2	0.2	0.2	A	0.2	0.4	0.8	1.1	1.1	0.6	0.7	0.4	0.3	0.4	0.6	0.6	0.5	0.4	0.3	0.2	0.2	0.2	0.2	0.44	1.15
7-Nov	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.22	0.30
8-Nov	0.2	0.2	A	0.2	0.2	0.2	0.3	0.3	0.3	0.3	C	C	C	C	C	C	C	C	0.1	0.1	0.1	0.1	0.1	0.1	--	0.33
9-Nov	0.1	A	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.18	0.25
10-Nov	A	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	0.3	0.3	0.5	0.5	0.3	0.3	0.3	A	0.23	0.48
11-Nov	0.3	0.2	0.3	0.2	0.2	0.3	0.3	0.3	0.4	0.6	0.6	0.5	0.3	0.2	0.1	0.2	0.2	0.2	0.3	0.7	1.0	1.1	A	0.9	0.40	1.11
12-Nov	0.8	0.7	0.6	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.3	0.3	0.3	0.5	0.7	0.6	0.8	0.5	A	0.2	0.2	0.41	0.85
13-Nov	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.4	0.3	A	0.3	0.3	0.3	0.22	0.36
14-Nov	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.4	A	0.4	0.3	0.2	0.3	0.24	0.38
15-Nov	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.3	0.4	0.2	0.2	0.2	0.2	0.3	0.3	0.5	0.5	0.8	A	0.4	0.2	0.3	0.6	0.6	0.31	0.81
16-Nov	0.5	0.3	0.2	0.2	0.3	0.3	0.3	0.5	0.3	0.2	0.3	0.4	0.3	0.3	0.3	0.3	0.2	A	0.3	0.3	0.3	0.2	0.2	0.2	0.29	0.50
17-Nov	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.2	0.3	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.21	0.32
18-Nov	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	A	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.15	0.27
19-Nov	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.2	0.1	0.1	0.1	A	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.14	0.17
20-Nov	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	A	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.10	0.14
21-Nov	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	A	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.14	0.21
22-Nov	0.1	0.1	0.1	0.2	0.1	0.2	0.2	0.5	0.3	0.3	0.2	A	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.3	0.2	0.24	0.47
23-Nov	0.3	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.4	0.3	A	0.2	0.3	0.3	0.3	0.3	0.3	0.4	0.5	0.6	0.8	0.5	0.3	0.3	0.34	0.78
24-Nov	0.3	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	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.15	0.31
25-Nov	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	A	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.18	0.27
26-Nov	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.2	0.3	0.3	0.2	0.24	0.31
27-Nov	0.3	0.3	0.2	0.2	0.2	0.2	A	0.5	0.6	0.4	0.5	0.6	0.4	0.4	0.4	0.4	0.4	0.5	0.4	0.3	0.3	0.4	0.3	0.2	0.36	0.55
28-Nov	0.2	0.1	0.1	0.1	0.1	A	0.1	0.2	0.2	0.1	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.14	0.18
29-Nov	0.1	0.1	0.1	0.1	A	0.1	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.17	0.26
30-Nov	0.1	0.1	0.1	A	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.16	0.18
0.22 0.19 0.18 0.18 0.18 0.19 0.20 0.27 0.29 0.27 0.24 0.24 0.22 0.22 0.22 0.25 0.26 0.30 0.27 0.27 0.28 0.26 0.21 0.22																								Diurnal Average		
0.85 0.72 0.62 0.44 0.30 0.31 0.38 0.76 1.15 1.13 0.60 0.75 0.45 0.40 0.39 0.63 0.64 0.81 0.58 0.79 0.98 1.11 0.59 0.86																								Diurnal Maximum		
C - Calibration A - Automated Daily Zero Span																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 13 ppm 24-hr na																										

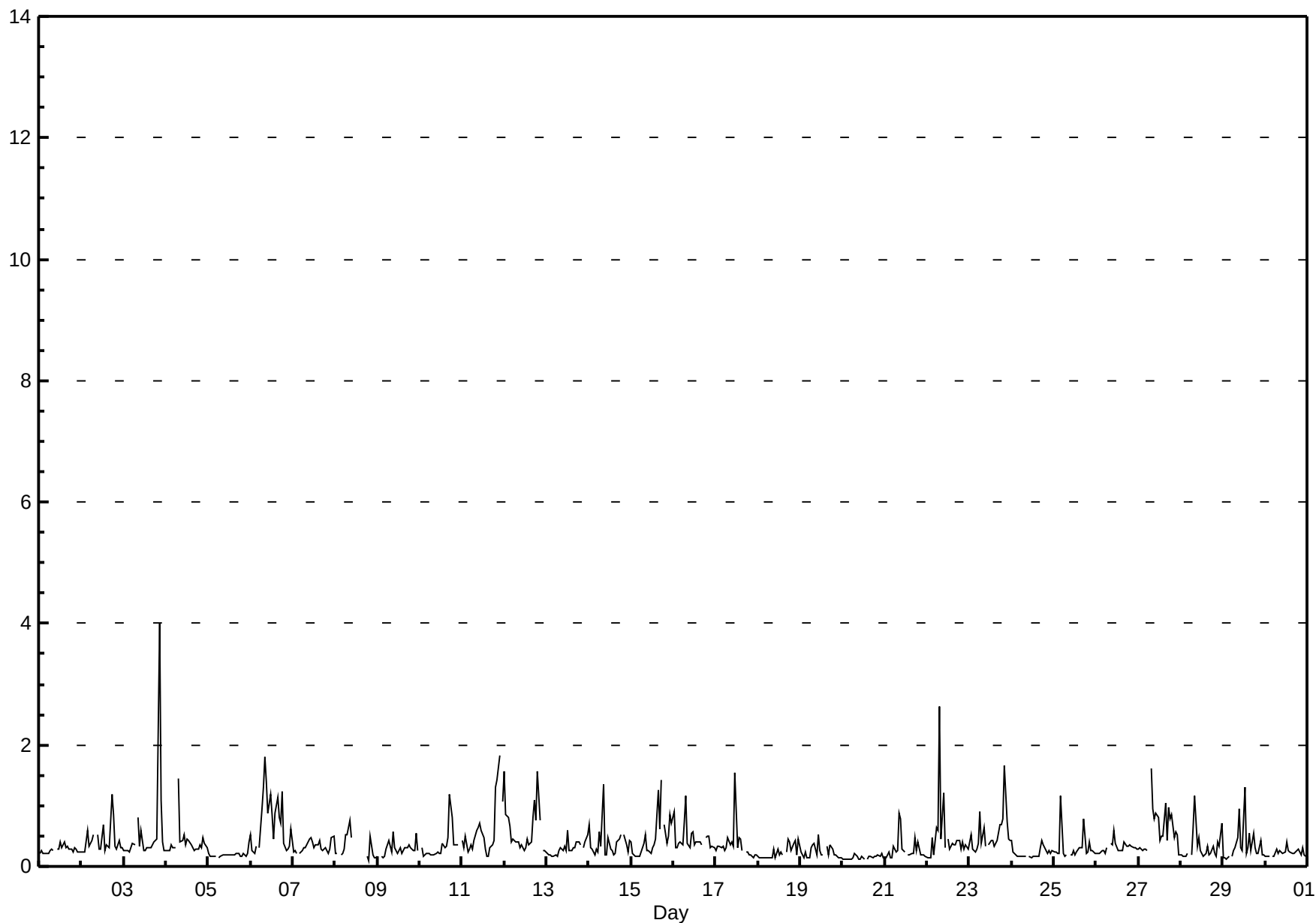
Hourly Averages

Carbon Monoxide (CO) - ppm
Henry Pirker - November 2012



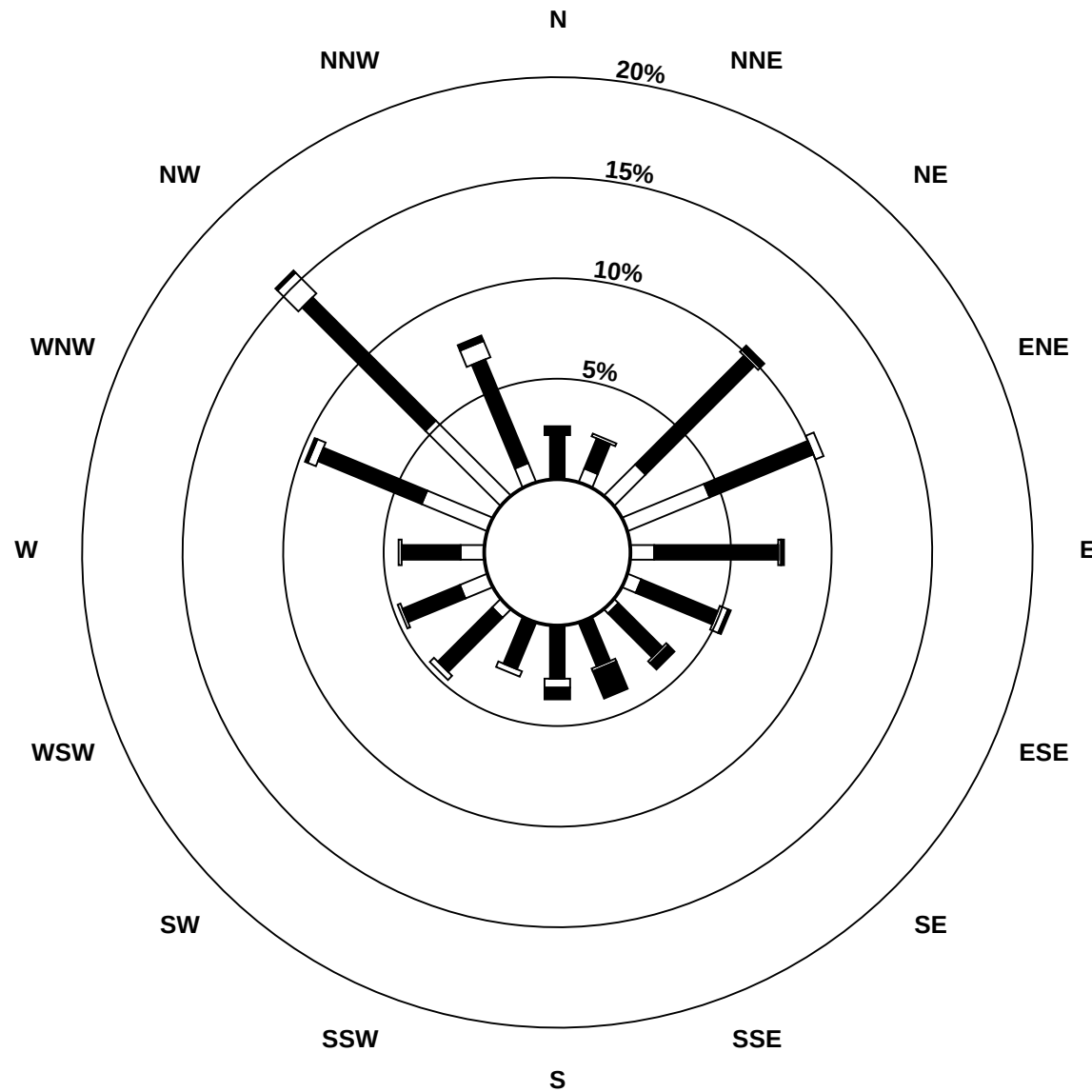
Hourly Maximums

Carbon Monoxide (CO) - ppm
Henry Pirker - November 2012

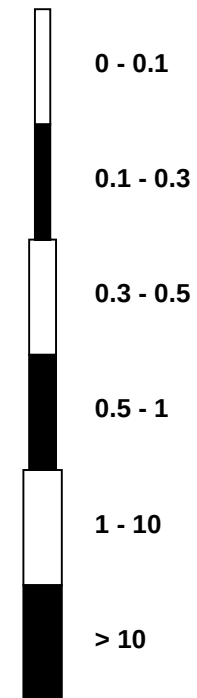


Pollutant Rose

Carbon Monoxide (CO) - ppm
Henry Pirker - November 2012



Pollutant Classes (ppm)



Eight Hour Running Averages

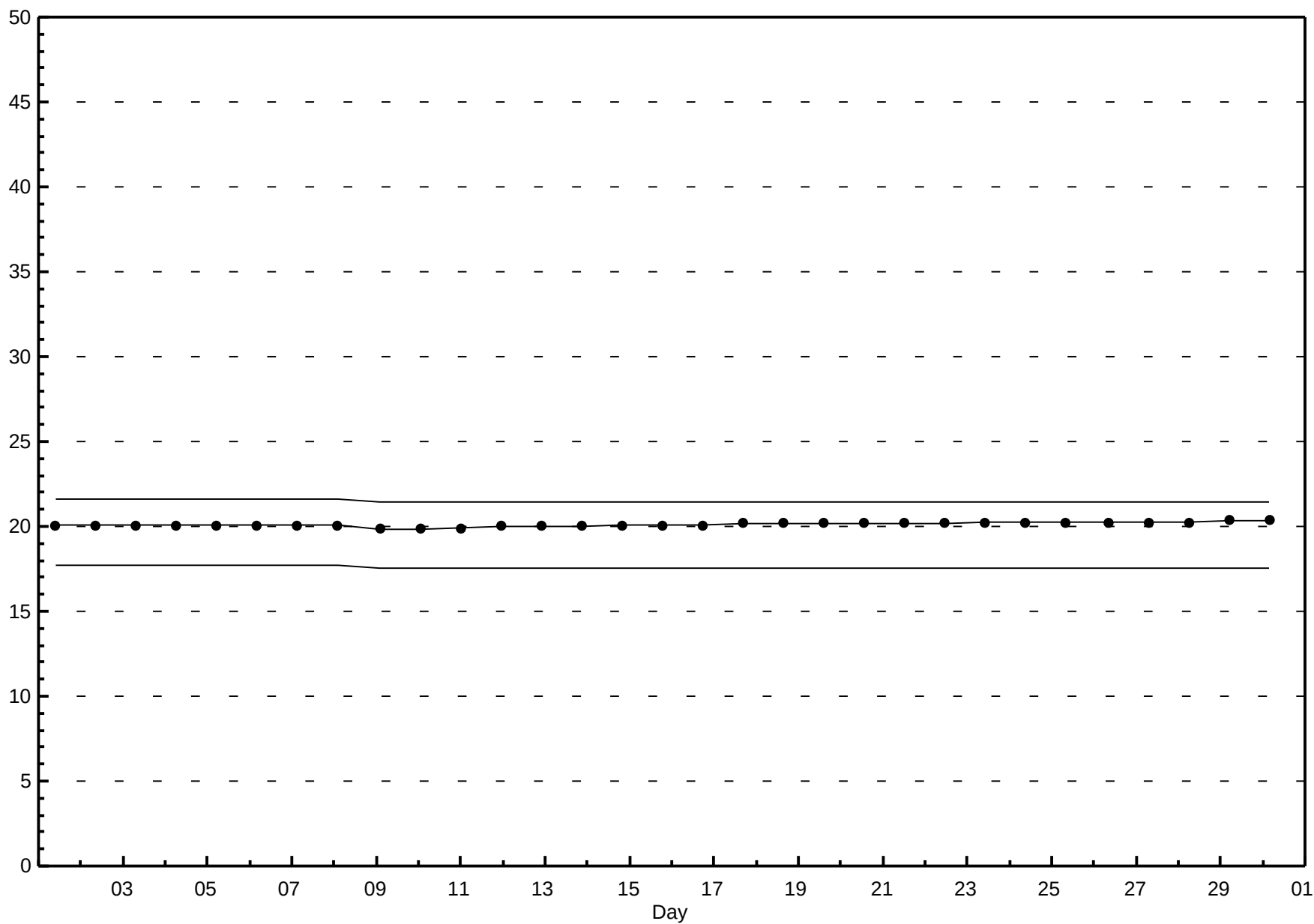
Carbon Monoxide (CO) - ppm

Henry Pirker - November 2012

Number of Exceedences (AAAQO): 8-hr: 0 Maximum Value: 0.84 ppm on Nov 12 03:00																								Hours in Service: 720 Hours of Data: 709		
Minimum Value: 0.08 ppm on Nov 9 00:00																								Hours of Missing Data: 11 Hours of Calibration: 11		
Percentiles: P ₁ = 0.09 P ₁₀ = 0.13 Q ₁ = 0.16 Median = 0.22 Q ₃ = 0.27 P ₉₀ = 0.37 P ₉₉ = 0.69																								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-Nov	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	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.27
2-Nov	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.26
3-Nov	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.38
4-Nov	0.4	0.3	0.3	0.3	0.3	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.36
5-Nov	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.24
6-Nov	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.4	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.6	0.5	0.5	0.5	0.4	0.4	0.4	0.3	0.3	0.71
7-Nov	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.28
8-Nov	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	N	N	N	N	N	N	N	N	N	N	N	N	0.1	0.26
9-Nov	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.22
10-Nov	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.34
11-Nov	0.3	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.2	0.3	0.4	0.5	0.5	0.6	0.6	0.62
12-Nov	0.7	0.8	0.8	0.8	0.7	0.6	0.6	0.5	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.84
13-Nov	0.4	0.4	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.45
14-Nov	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	0.3	0.3	0.3	0.3	0.3	0.31
15-Nov	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	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.49
16-Nov	0.5	0.4	0.4	0.4	0.4	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	0.3	0.3	0.2	0.2	0.2	0.48
17-Nov	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.26
18-Nov	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.20
19-Nov	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.20
20-Nov	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.12
21-Nov	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.16
22-Nov	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.28
23-Nov	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.5	0.5	0.45
24-Nov	0.5	0.4	0.4	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.46
25-Nov	0.2	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	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.22
26-Nov	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.27
27-Nov	0.3	0.3	0.3	0.2	0.3	0.2	0.2	0.3	0.3	0.3	0.4	0.4	0.4	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.46
28-Nov	0.3	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.32
29-Nov	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.20
30-Nov	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.18
0.72 0.79 0.84 0.80 0.70 0.59 0.55 0.48 0.44 0.57 0.64 0.71 0.68 0.70 0.70 0.68 0.62 0.54 0.51 0.46 0.49 0.51 0.52 0.62																										
Diurnal Maximums																										
N - Not Valid																										
Alberta Ambient Air Quality Objectives (AAAQO): 8-hr 5 ppm																										

Span Responses

Carbon Monoxide (CO)
Henry Pirker - November 2012



Hourly Averages

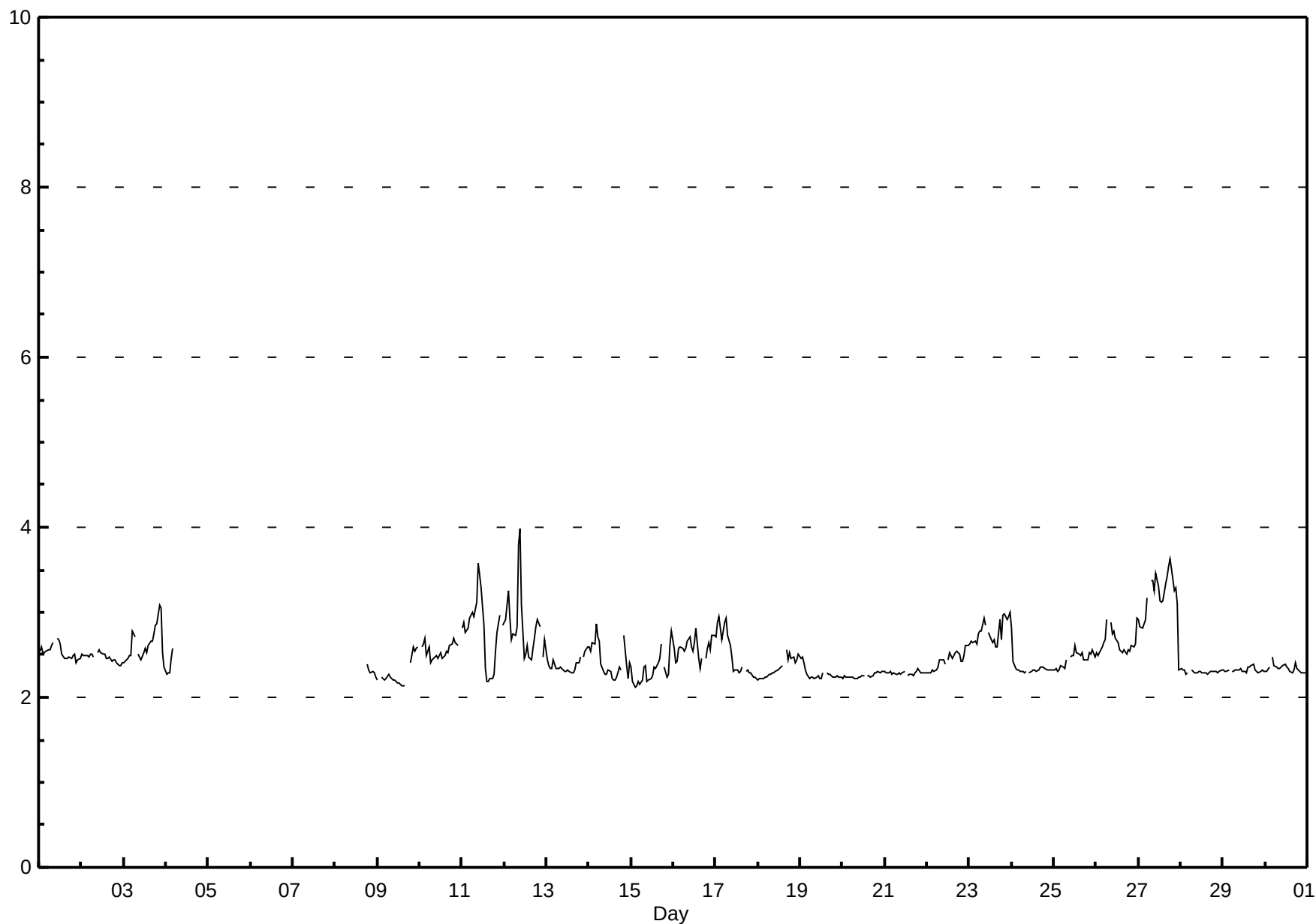
Total Hydrocarbons (THC) - ppm

Henry Pirker - November 2012

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 3.99 ppm on Nov 12 10:00 Maximum Daily Average: 3.18 ppm on Nov 27																								Hours in Service: 720 Hours of Data: 582 Hours of Missing Data: 138 Hours of Calibration: 29 Percent Operational Time: 84.9			
Minimum Value: 2.1 ppm on Nov 15 03:00 Minimum Daily Average: 2.26 ppm on Nov 20 Maximum Diurnal Average: 2.57 ppm at hour 10 Minimum Diurnal Average: 2.41 ppm at hour 15 Monthly Average: 2.486 ppm Percentiles: P ₁ = 2.16 P ₁₀ = 2.24 Q ₁ = 2.30 Median = 2.42 Q ₃ = 2.60 P ₉₀ = 2.85 P ₉₉ = 3.49																											
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-Nov	2.5	2.6	2.5	2.5	2.5	2.6	2.6	2.6	2.6	A	2.7	2.7	2.6	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.4	2.4	2.5	2.53	2.70
2-Nov	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	A	2.5	2.6	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.47	2.56
3-Nov	2.4	2.4	2.5	2.5	2.5	2.8	2.7	A	2.5	2.5	2.4	2.5	2.6	2.5	2.6	2.7	2.7	2.7	2.9	2.9	3.1	3.0	2.5	2.4	2.62	3.08	
4-Nov	2.3	2.3	2.3	2.5	2.6	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	2.57
5-Nov	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	--	--
6-Nov	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-Nov	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	--	--
8-Nov	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	2.4	2.3	2.3	2.3	2.2	--	2.39	
9-Nov	2.2	A	2.2	2.2	2.2	2.2	2.3	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.1	C	C	C	2.4	2.3	2.3	2.5	2.6	2.6	2.28	2.59	
10-Nov	A	2.6	2.6	2.7	2.5	2.6	2.4	2.4	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.6	2.6	2.7	2.6	2.6	2.6	A	2.55	2.70	
11-Nov	2.8	2.9	2.8	2.8	2.9	3.0	3.0	2.9	3.1	3.6	3.4	3.3	2.8	2.3	2.2	2.2	2.2	2.2	2.3	2.5	2.8	3.0	A	2.8	2.78	3.57	
12-Nov	2.9	2.9	3.3	2.9	2.7	2.7	2.7	2.8	3.8	4.0	3.1	2.5	2.5	2.6	2.5	2.4	2.6	2.7	2.8	2.9	2.8	A	2.5	2.7	2.84	3.99	
13-Nov	2.4	2.4	2.3	2.3	2.4	2.3	2.3	2.3	2.4	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.4	2.4	2.5	A	2.5	2.5	2.6	2.38	2.59	
14-Nov	2.6	2.5	2.6	2.6	2.9	2.7	2.7	2.4	2.3	2.3	2.3	2.3	2.3	2.2	2.2	2.2	2.2	2.4	2.3	A	2.7	2.4	2.2	2.4	2.43	2.86	
15-Nov	2.4	2.2	2.1	2.1	2.2	2.2	2.2	2.4	2.4	2.2	2.2	2.2	2.2	2.4	2.3	2.4	2.5	2.6	A	2.4	2.2	2.3	2.6	2.8	2.32	2.79	
16-Nov	2.6	2.4	2.4	2.6	2.6	2.6	2.5	2.6	2.7	2.7	2.6	2.5	2.6	2.8	2.5	2.3	2.5	A	2.5	2.6	2.7	2.6	2.7	2.7	2.57	2.82	
17-Nov	2.7	2.9	2.9	2.7	2.8	2.9	2.9	2.7	2.6	2.5	2.3	2.3	2.3	2.3	2.3	2.4	A	2.3	2.3	2.3	2.3	2.2	2.2	2.2	2.50	2.94	
18-Nov	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.4	2.4	A	2.6	2.4	2.5	2.5	2.5	2.4	2.4	2.5	2.35	2.55	
19-Nov	2.5	2.5	2.4	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.3	2.2	2.2	2.3	A	2.3	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.28	2.47
20-Nov	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.3	A	2.3	2.3	2.2	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.26	2.31	
21-Nov	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	A	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.29	2.33	
22-Nov	2.3	2.3	2.3	2.3	2.3	2.3	2.4	2.4	2.4	2.4	2.4	A	2.4	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.4	2.5	2.6	2.6	2.43	2.61	
23-Nov	2.6	2.7	2.6	2.7	2.6	2.7	2.8	2.8	2.9	2.9	A	2.8	2.7	2.6	2.7	2.6	2.6	2.9	2.7	3.0	3.0	2.9	3.0	3.0	2.77	3.00	
24-Nov	2.8	2.4	2.3	2.3	2.3	2.3	2.3	2.3	2.3	A	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.4	2.4	2.3	2.3	2.3	2.3	2.3	2.35	2.82	
25-Nov	2.3	2.3	2.3	2.3	2.4	2.4	2.3	2.4	A	2.5	2.5	2.5	2.6	2.5	2.5	2.5	2.5	2.4	2.4	2.4	2.5	2.5	2.6	2.5	2.45	2.60	
26-Nov	2.5	2.5	2.5	2.6	2.6	2.7	2.9	A	2.9	2.8	2.8	2.7	2.6	2.6	2.5	2.5	2.6	2.5	2.6	2.5	2.6	2.6	2.6	2.9	2.64	2.93	
27-Nov	2.9	2.8	2.8	2.9	2.9	3.2	A	3.4	3.4	3.3	3.5	3.3	3.1	3.1	3.1	3.3	3.4	3.5	3.6	3.5	3.2	3.3	3.1	2.3	3.18	3.63	
28-Nov	2.3	2.3	2.3	2.3	2.3	A	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.30	2.34	
29-Nov	2.3	2.3	2.3	2.3	A	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.4	2.3	2.4	2.4	2.3	2.3	2.3	2.3	2.3	2.3	2.32	2.39	
30-Nov	2.3	2.3	2.4	A	2.5	2.4	2.4	2.3	2.3	2.4	2.4	2.4	2.3	2.3	2.3	2.3	2.3	2.4	2.3	2.3	2.3	2.3	2.3	2.3	2.34	2.47	
2.48 2.47 2.47 2.47 2.49 2.51 2.48 2.49 2.56 2.57 2.51 2.48 2.46 2.44 2.41 2.42 2.47 2.50 2.49 2.51 2.53 2.50 2.48 2.49																								Diurnal Average			
2.91 2.91 3.25 2.93 2.94 3.17 2.99 3.38 3.80 3.99 3.46 3.31 3.13 3.11 3.14 3.34 3.43 3.54 3.63 3.50 3.25 3.29 3.10 3.00																								Diurnal Maximum			
C - Calibration N - Not Valid A - Automated Daily Zero Span																											

Hourly Averages

Total Hydrocarbons (THC) - ppm
Henry Pirker - November 2012



Hourly Maximums

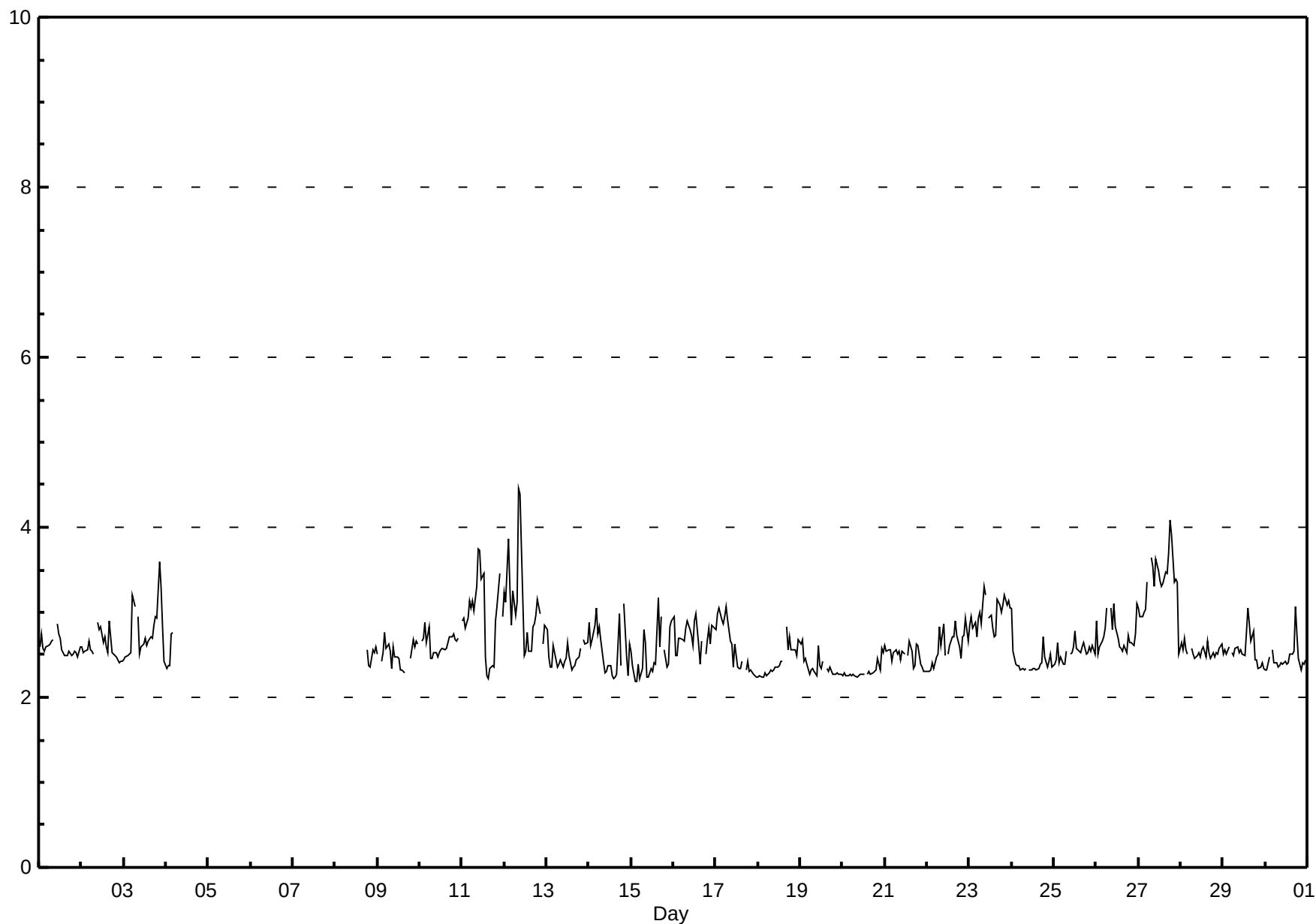
Total Hydrocarbons (THC) - ppm

Henry Pirker - November 2012

Maximum Value: 4.45 ppm on Nov 12 09:00																				Maximum Daily Average: 3.36 ppm on Nov 27				Hours in Service: 720		
Minimum Value: 2.2 ppm on Nov 15 03:00																				Minimum Daily Average: 2.31 ppm on Nov 20				Hours of Data: 582		
Maximum Diurnal Average: 2.74 ppm at hour 9																				Minimum Diurnal Average: 2.54 ppm at hour 15				Hours of Missing Data: 138		
Monthly Average: 2.629 ppm																				Percentiles: P ₁ = 2.23 P ₁₀ = 2.31 Q ₁ = 2.40 Median = 2.55 Q ₃ = 2.75 P ₉₀ = 3.06 P ₉₉ = 3.72				Hours of Calibration: 29		
																								Percent Operational Time: 84.9		
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Nov	2.6	2.8	2.6	2.6	2.6	2.6	2.6	2.7	2.7	A	2.9	2.7	2.7	2.6	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.6	2.59	2.86
2-Nov	2.6	2.5	2.5	2.6	2.7	2.6	2.5	2.5	A	2.9	2.8	2.8	2.6	2.7	2.6	2.5	2.9	2.5	2.5	2.5	2.5	2.4	2.4	2.4	2.59	2.90
3-Nov	2.4	2.5	2.5	2.5	2.5	3.2	3.1	A	2.9	2.5	2.6	2.6	2.7	2.6	2.7	2.7	2.7	2.9	2.9	2.9	3.6	3.3	2.8	2.4	2.77	3.60
4-Nov	2.3	2.4	2.4	2.8	2.8	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	2.76
5-Nov	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
6-Nov	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-Nov	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
8-Nov	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	2.60
9-Nov	2.5	A	2.4	2.5	2.8	2.6	2.6	2.5	2.3	2.6	2.5	2.5	2.5	2.3	2.3	2.3	C	C	C	2.6	2.4	2.4	2.6	2.51	2.77	
10-Nov	A	2.7	2.7	2.9	2.6	2.8	2.5	2.5	2.5	2.5	2.5	2.5	2.6	2.6	2.6	2.6	2.6	2.7	2.7	2.7	2.7	2.7	A	2.63	2.88	
11-Nov	2.9	2.9	2.8	2.9	3.1	3.1	3.1	3.0	3.3	3.8	3.7	3.4	3.5	2.5	2.3	2.2	2.3	2.4	2.4	2.9	3.1	3.5	A	3.0	2.95	3.75
12-Nov	3.2	3.1	3.9	3.3	2.8	3.2	3.0	3.1	4.4	4.4	3.7	2.5	2.5	2.8	2.5	2.5	2.8	2.9	3.0	3.1	3.0	A	2.6	2.8	3.10	4.45
13-Nov	2.8	2.5	2.4	2.4	2.6	2.4	2.4	2.4	2.4	2.4	2.4	2.5	2.7	2.5	2.3	2.3	2.4	2.4	2.5	2.6	A	2.7	2.6	2.7	2.48	2.80
14-Nov	2.9	2.6	2.7	2.8	3.1	2.8	2.8	2.7	2.4	2.3	2.3	2.4	2.4	2.3	2.2	2.2	2.3	3.0	2.4	A	3.1	2.5	2.2	2.6	2.56	3.10
15-Nov	2.5	2.4	2.2	2.2	2.4	2.2	2.3	2.8	2.6	2.2	2.2	2.3	2.3	2.4	2.4	3.2	2.6	2.9	A	2.6	2.4	2.4	2.8	2.9	2.49	3.17
16-Nov	2.9	2.5	2.5	2.7	2.7	2.7	2.7	2.8	2.9	2.8	2.7	2.6	2.9	3.0	2.6	2.4	2.7	A	2.5	2.7	2.8	2.6	2.8	2.8	2.71	2.99
17-Nov	2.8	3.0	3.1	2.9	2.9	2.9	3.1	2.9	2.7	2.6	2.4	2.6	2.4	2.3	2.3	2.4	A	2.3	2.4	2.3	2.3	2.3	2.2	2.2	2.58	3.07
18-Nov	2.2	2.3	2.2	2.2	2.3	2.3	2.3	2.3	2.3	2.3	2.4	2.4	2.4	2.4	2.4	A	2.8	2.6	2.7	2.6	2.6	2.6	2.5	2.7	2.42	2.83
19-Nov	2.6	2.7	2.4	2.5	2.4	2.3	2.3	2.3	2.3	2.3	2.6	2.4	2.3	2.4	A	2.3	2.3	2.4	2.3	2.3	2.3	2.3	2.3	2.3	2.37	2.67
20-Nov	2.2	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.3	2.3	2.3	2.3	A	2.3	2.3	2.3	2.3	2.3	2.3	2.5	2.3	2.6	2.5	2.31	2.57
21-Nov	2.6	2.5	2.6	2.6	2.4	2.5	2.6	2.5	2.5	2.4	2.5	2.5	A	2.5	2.7	2.5	2.3	2.4	2.6	2.6	2.4	2.4	2.3	2.3	2.49	2.66
22-Nov	2.3	2.3	2.3	2.4	2.3	2.5	2.5	2.8	2.6	2.9	2.5	A	2.5	2.6	2.7	2.7	2.9	2.7	2.6	2.5	2.7	2.7	2.9	2.7	2.59	2.94
23-Nov	2.9	3.0	2.8	2.9	2.7	2.9	3.0	2.9	3.3	3.2	A	2.9	3.0	2.8	2.7	2.7	3.2	3.1	3.0	3.1	3.2	3.1	3.1	3.1	2.98	3.30
24-Nov	3.1	2.5	2.4	2.4	2.4	2.3	2.3	2.3	2.3	A	2.3	2.3	2.3	2.3	2.3	2.3	2.4	2.4	2.7	2.5	2.3	2.4	2.5	2.4	2.42	3.06
25-Nov	2.4	2.4	2.6	2.4	2.5	2.4	2.4	2.5	A	2.5	2.5	2.6	2.8	2.6	2.5	2.5	2.6	2.6	2.5	2.5	2.6	2.5	2.6	2.5	2.53	2.78
26-Nov	2.9	2.5	2.6	2.7	2.7	2.8	3.1	A	3.1	2.8	3.1	2.8	2.7	2.6	2.6	2.5	2.6	2.5	2.7	2.6	2.6	2.6	2.7	3.1	2.74	3.11
27-Nov	3.0	2.9	2.9	3.0	3.0	3.4	A	3.6	3.5	3.3	3.6	3.5	3.4	3.3	3.3	3.5	3.5	3.7	4.1	3.9	3.4	3.4	2.5	2.5	3.36	4.08
28-Nov	2.6	2.6	2.7	2.6	2.5	A	2.6	2.5	2.5	2.5	2.5	2.5	2.6	2.6	2.5	2.7	2.5	2.5	2.5	2.5	2.5	2.5	2.6	2.6	2.54	2.70
29-Nov	2.5	2.6	2.5	2.6	A	2.5	2.5	2.6	2.6	2.5	2.6	2.5	2.5	2.8	3.1	2.9	2.7	2.8	2.4	2.4	2.3	2.4	2.4	2.3	2.56	3.05
30-Nov	2.3	2.3	2.5	A	2.6	2.4	2.4	2.3	2.4	2.4	2.4	2.4	2.4	2.4	2.5	2.5	2.5	3.1	2.7	2.5	2.3	2.4	2.4	2.4	2.46	3.06
2.65 2.59 2.59 2.62 2.63 2.65 2.62 2.65 2.74 2.71 2.67 2.61 2.61 2.58 2.54 2.56 2.63 2.68 2.65 2.63 2.67 2.62 2.61 2.60																								Diurnal Average		
3.24 3.12 3.87 3.28 3.13 3.36 3.13 3.64 4.45 4.38 3.74 3.49 3.45 3.30 3.33 3.48 3.46 3.69 4.08 3.92 3.60 3.45 3.36 3.10																								Diurnal Maximum		
C - Calibration N - Not Valid A - Automated Daily Zero Span																										

Hourly Maximums

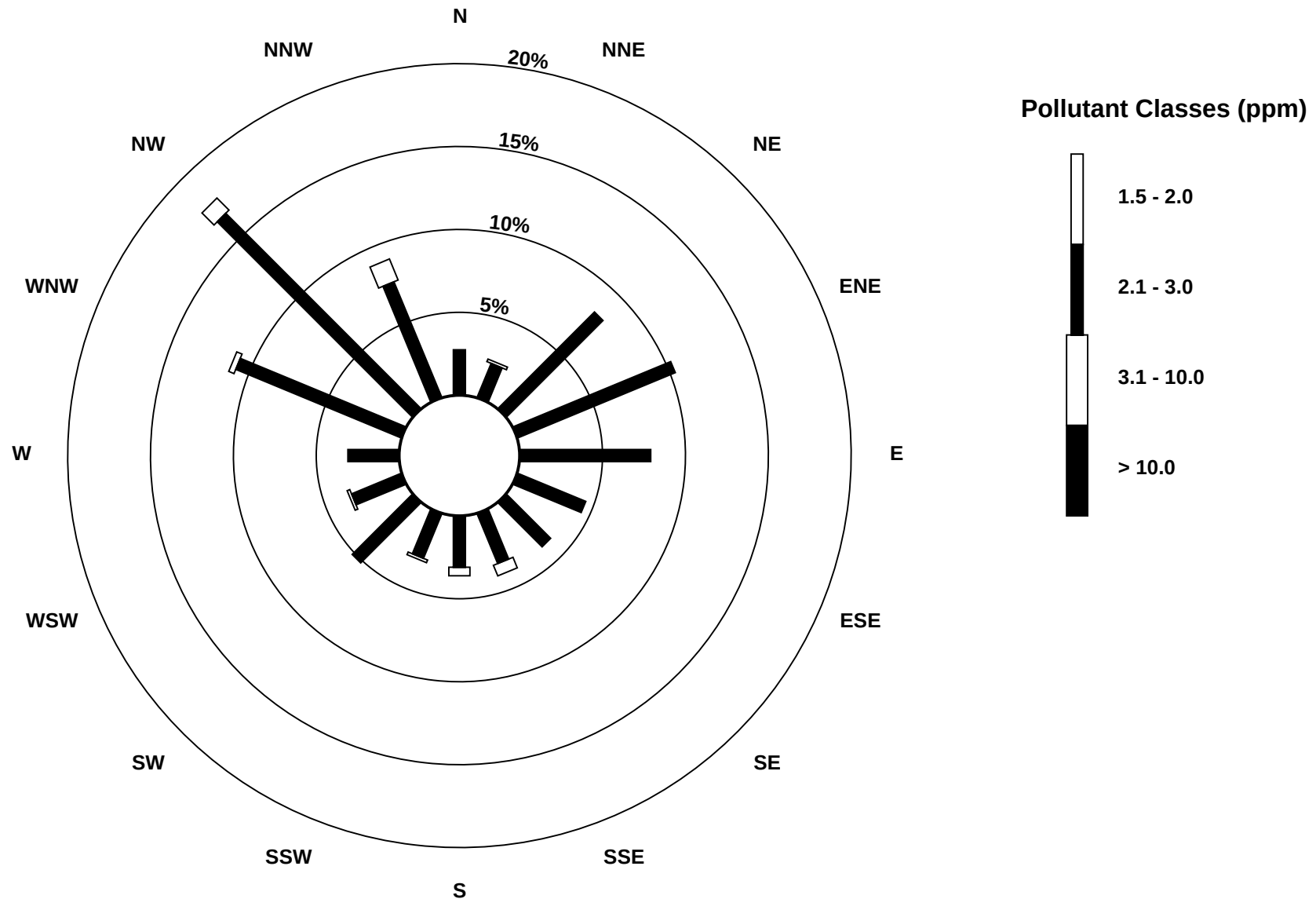
Total Hydrocarbons (THC) - ppm
Henry Pirker - November 2012



Pollutant Rose

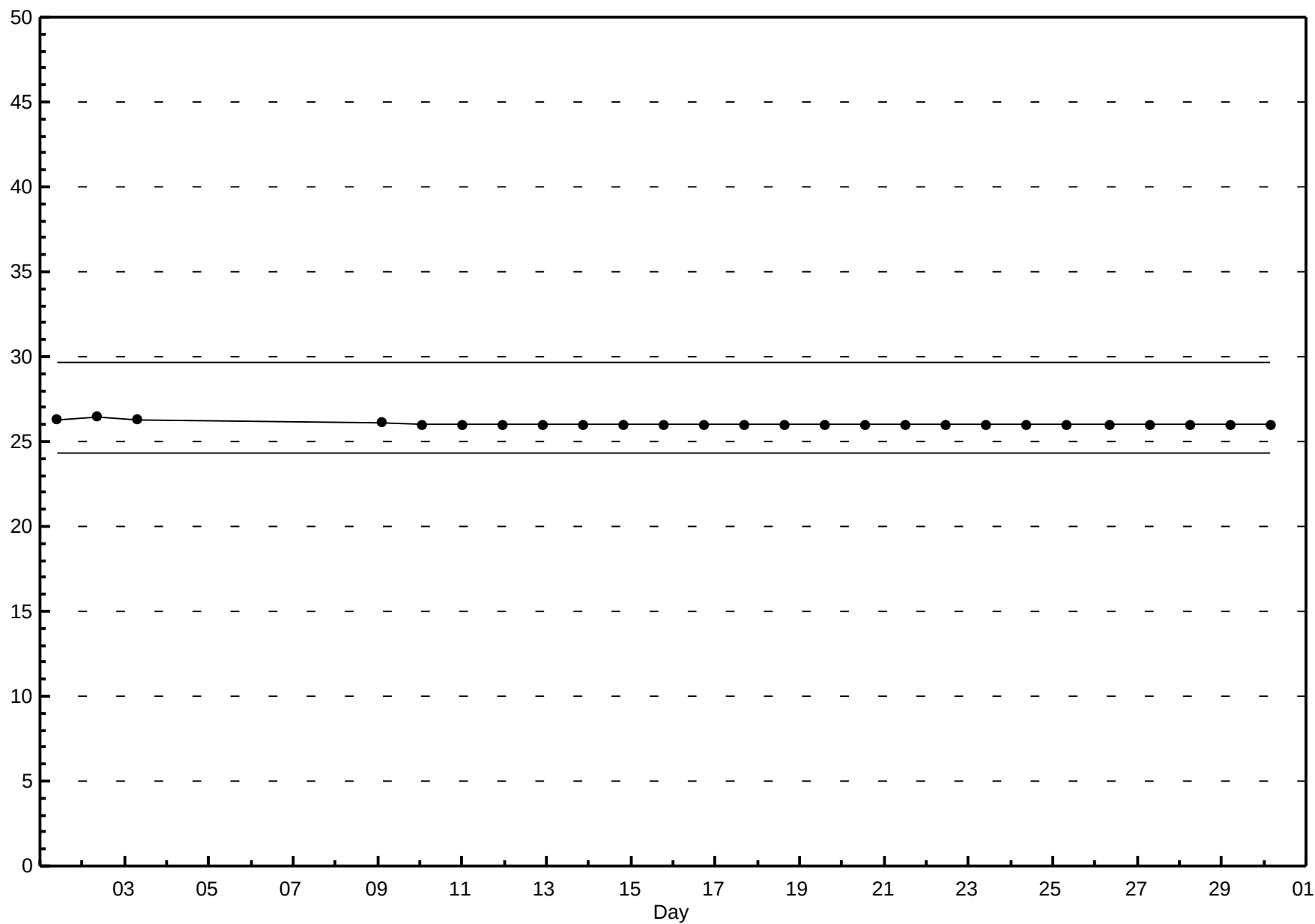
Total Hydrocarbons (THC) - ppm

Henry Pirker - November 2012



Span Responses

Total Hydrocarbons (THC)
Henry Pirker - November 2012

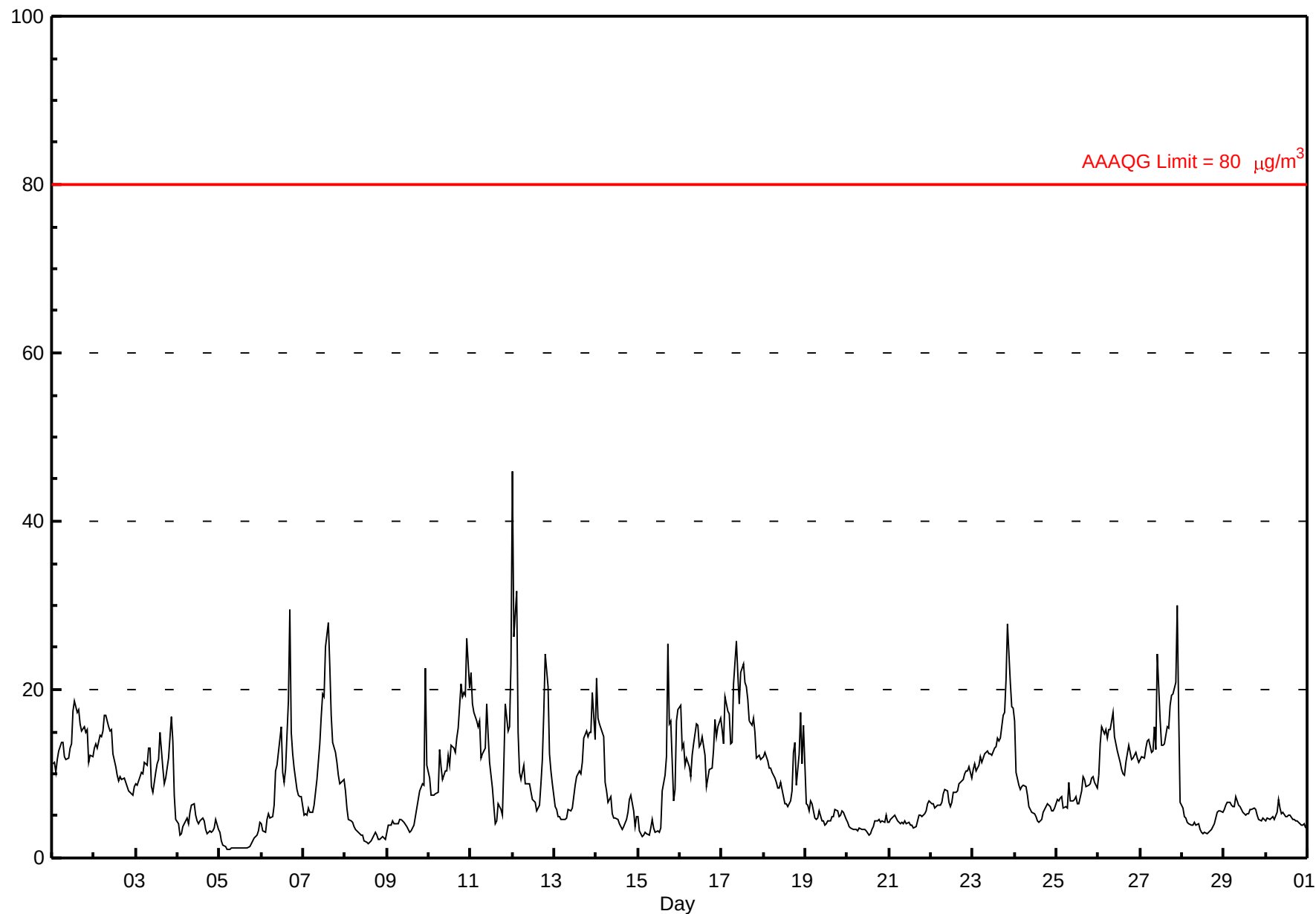


Hourly Averages

Particulate Matter 2.5 (PM_{2.5}) - µg/m³

Henry Pirker - November 2012

Number of Exceedences: 1-hr: 0 24-hr: 0 Maximum Value: 45.9 µg/m ³ on Nov 12 01:00																								Maximum Daily Average: 17.2 µg/m ³ on Nov 17												Hours in Service: 720 Hours of Data: 720 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0			
Minimum Value: 1 µg/m ³ on Nov 5 06:00 Maximum Diurnal Average: 10.6 µg/m ³ at hour 21 Monthly Average: 9.05 µg/m ³																								Minimum Daily Average: 1.7 µg/m ³ on Nov 5 Minimum Diurnal Average: 7.9 µg/m ³ at hour 6 Percentiles: P ₁ = 1.1 P ₁₀ = 3.3 Q ₁ = 4.6 Median = 7.6 Q ₃ = 12.5 P ₉₀ = 16.5 P ₉₉ = 25.3															
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-Nov	11	11	10	12	13	14	14	12	12	12	13	14	18	19	17	18	16	15	16	15	15	11	12	12	13.8	18.7													
2-Nov	13	14	13	15	14	15	17	17	16	15	15	12	11	10	9	10	9	10	9	8	8	8	8	8	11.8	17.0													
3-Nov	9	9	10	10	10	11	11	13	13	8	8	10	11	12	15	11	9	10	11	12	17	14	7	5	10.6	16.9													
4-Nov	4	3	3	4	4	5	4	5	6	6	5	4	4	4	5	4	3	3	3	3	3	4	5	3	4.1	6.4													
5-Nov	3	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	3	3	4	1.7	4.2													
6-Nov	4	3	3	5	5	5	5	6	10	11	13	16	10	9	11	19	29	15	12	11	8	7	7	7	9.7	29.5													
7-Nov	5	5	5	6	5	5	6	8	9	14	17	19	19	25	28	23	17	14	13	11	10	9	9	9	12.2	28.0													
8-Nov	8	6	5	4	4	4	3	3	3	3	2	2	2	2	2	2	2	3	3	2	2	2	2	2	3.1	7.9													
9-Nov	3	4	4	4	4	4	4	5	5	4	4	4	3	3	3	4	5	6	7	8	9	9	23	11	5.8	22.6													
10-Nov	9	7	7	8	8	8	13	11	9	10	10	12	11	13	13	13	14	15	21	19	20	19	26	20	13.3	26.1													
11-Nov	22	18	17	16	16	16	12	12	13	18	15	11	8	6	4	4	6	6	5	11	18	15	16	23	12.9	23.1													
12-Nov	46	26	32	15	10	9	11	9	9	9	9	7	7	7	6	6	9	12	17	24	20	12	10	9	13.8	45.9													
13-Nov	6	6	5	5	5	5	5	5	6	6	6	7	9	10	10	10	11	14	15	14	15	15	20	14	9.3	19.6													
14-Nov	21	17	16	15	14	9	8	7	7	5	5	5	5	4	4	3	4	4	5	7	7	6	4	5	7.8	21.4													
15-Nov	5	3	3	3	3	3	3	4	5	4	3	3	3	4	8	10	12	25	16	16	7	8	16	18	7.6	25.5													
16-Nov	18	13	14	11	12	11	10	12	13	16	16	13	14	14	12	9	10	11	11	13	16	14	16	17	13.1	18.1													
17-Nov	15	14	19	17	17	14	14	21	26	22	18	22	23	21	20	19	16	16	17	15	12	12	12	12	17.2	25.8													
18-Nov	12	13	12	11	11	10	10	9	8	8	9	7	6	6	6	7	8	13	14	9	12	17	11	16	10.2	17.3													
19-Nov	6	6	6	7	6	5	5	5	6	4	4	4	4	4	4	5	5	6	6	5	5	6	5	5	5.1	6.8													
20-Nov	4	4	4	3	3	3	3	4	3	3	3	3	3	3	3	4	4	4	5	4	4	4	5	4	3.8	5.1													
21-Nov	4	5	5	5	5	4	4	4	4	4	4	4	4	4	4	4	4	5	5	5	5	6	6	7	4.7	6.8													
22-Nov	6	6	6	6	6	6	7	8	8	8	7	6	7	8	8	8	9	9	9	10	10	10	11	9	7.8	10.8													
23-Nov	11	11	10	11	12	11	12	12	13	12	12	12	13	13	14	14	14	17	17	21	28	21	18	18	14.5	27.8													
24-Nov	16	10	9	8	8	9	9	7	6	6	5	5	5	4	4	5	5	6	6	6	6	6	6	6	6.8	16.3													
25-Nov	7	7	7	7	6	6	6	9	7	7	7	7	6	7	8	10	9	9	9	9	10	10	9	8	7.7	9.7													
26-Nov	10	14	16	15	15	14	15	15	17	14	14	13	11	11	10	10	11	13	12	12	12	13	12	11	12.9	17.3													
27-Nov	12	12	12	13	14	14	12	13	16	13	24	17	13	13	14	16	15	18	19	19	21	30	17	7	15.6	29.9													
28-Nov	6	5	5	4	4	4	4	4	4	4	3	3	3	3	3	3	3	4	5	5	6	6	5	5	4.1	5.9													
29-Nov	6	6	7	7	6	6	6	7	6	6	6	5	5	5	5	6	6	6	6	5	5	4	5	5	5.7	7.3													
30-Nov	4	5	5	5	5	5	5	7	6	5	5	5	5	5	5	5	5	4	4	4	4	4	4	4	4.8	7.0													
10.3 8.8 8.9 8.4 8.3 7.9 7.9 8.5 8.9 8.7 8.8 8.5 8.1 8.3 8.6 8.6 9.2 9.7 9.9 10.2 10.6 10.1 10.3 9.5																								Diurnal Average															
45.9 26.3 31.7 17.4 17.1 16.2 17.0 20.6 25.8 21.9 24.2 22.1 23.0 25.0 28.0 22.9 29.5 25.5 20.7 24.3 27.8 29.9 26.1 23.1																								Diurnal Maximum															
Alberta Ambient Air Quality Guideline (AAAQG): 1-hr 80 µg/m ³ Alberta Ambient Air Quality Objective (AAAQO): 24-hr 30 µg/m ³																																							

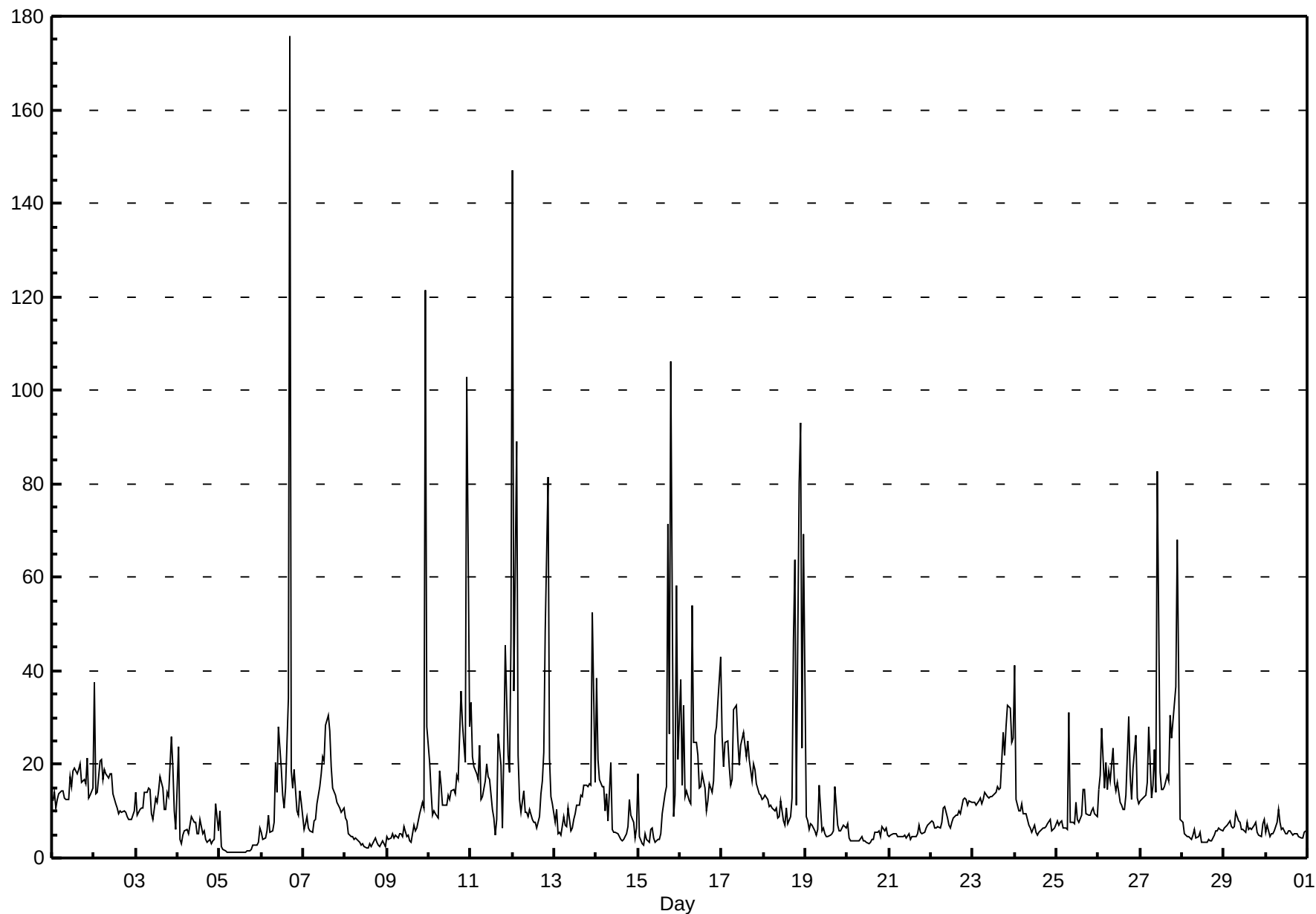


Hourly Maximums

Particulate Matter 2.5 (PM_{2.5}) - µg/m³

Henry Pirker - November 2012

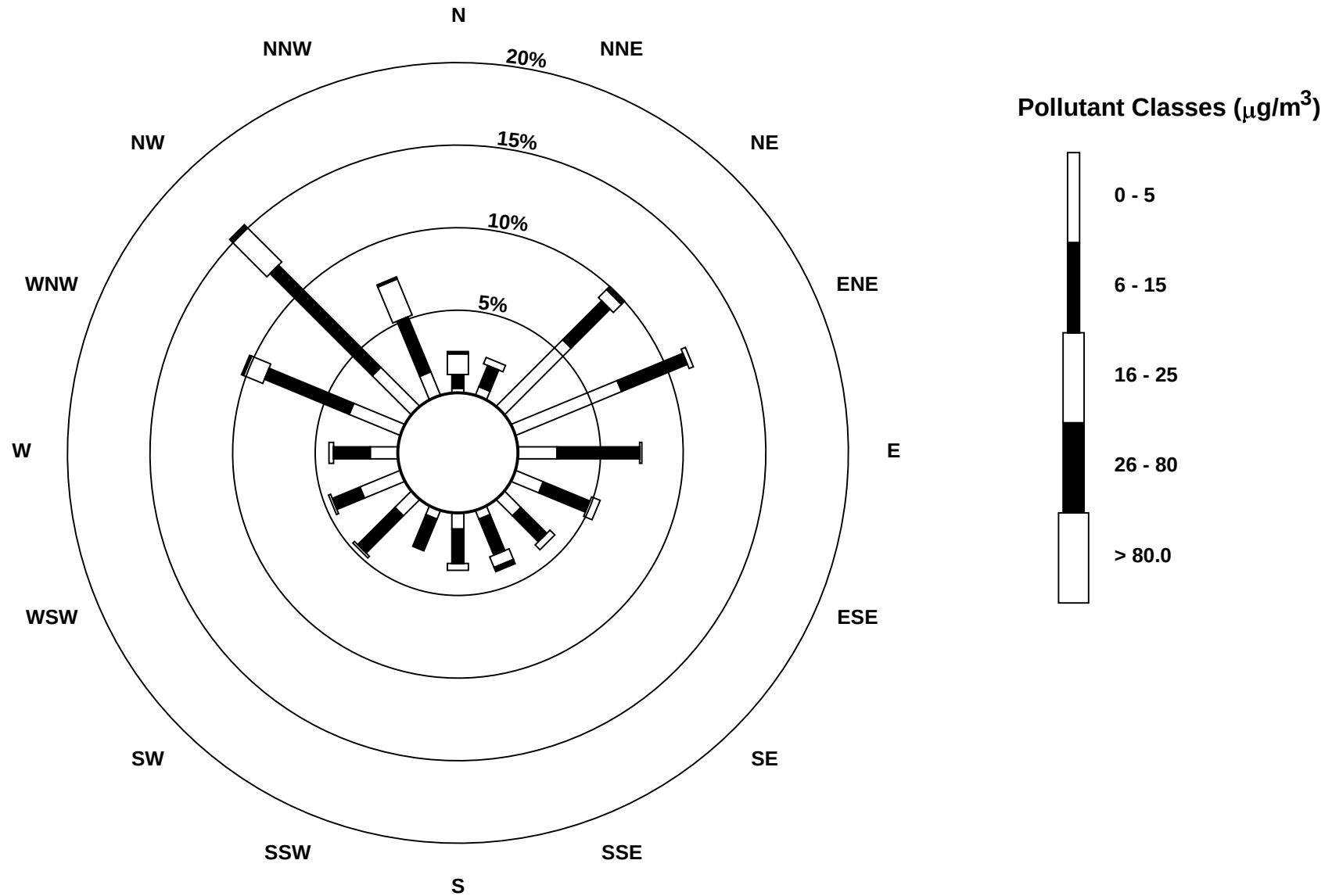
Maximum Value: 175.8 μg/m ³ on Nov 6 17:00																								Maximum Daily Average: 26.5 μg/m ³ on Nov 12				Hours in Service: 720	
Minimum Value: 1 μg/m ³ on Nov 5 06:00																								Minimum Daily Average: 2.2 μg/m ³ on Nov 5				Hours of Data: 720	
Maximum Diurnal Average: 22.0 μg/m ³ at hour 23																								Minimum Diurnal Average: 9.1 μg/m ³ at hour 13				Hours of Missing Data: 0	
Monthly Average: 13.10 μg/m ³																								Percentiles: P ₁ = 1.3 P ₁₀ = 3.9 Q ₁ = 5.6 Median = 9.3 Q ₃ = 15.0 P ₉₀ = 24.1 P ₉₉ = 86.3				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-Nov	12	14	11	13	14	14	14	13	13	13	18	15	19	19	18	19	20	16	17	16	21	13	13	15	15.4	21.4			
2-Nov	38	14	14	21	21	17	19	18	17	18	18	14	12	11	9	10	10	10	10	9	8	8	9	10	14.3	37.6			
3-Nov	14	9	10	11	11	14	14	15	15	9	8	13	12	14	17	15	10	10	14	13	26	20	10	6	13.0	26.0			
4-Nov	24	4	3	5	6	6	5	7	9	8	8	5	5	8	5	6	4	3	4	3	4	4	12	6	6.4	23.8			
5-Nov	10	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	3	7	2.2	10.2			
6-Nov	5	4	4	6	9	6	6	8	20	14	28	19	13	11	15	34	176	19	15	19	10	9	14	12	19.8	175.8			
7-Nov	6	7	9	6	6	6	8	8	12	15	18	22	21	28	30	27	19	15	13	12	11	11	10	11	13.8	30.5			
8-Nov	9	8	5	5	5	4	4	4	3	3	3	2	2	2	3	3	3	4	3	3	2	4	3	2	3.7	8.6			
9-Nov	5	4	4	5	4	5	4	5	5	5	7	5	5	4	3	7	6	6	8	9	12	11	122	28	11.6	121.5			
10-Nov	20	14	9	10	9	8	19	16	11	11	11	13	13	14	15	14	18	17	36	29	24	20	103	28	20.1	102.8			
11-Nov	33	22	20	18	17	24	13	13	16	20	17	17	10	9	5	8	27	20	7	23	46	22	18	47	19.6	47.1			
12-Nov	147	36	89	22	13	10	14	10	10	9	10	8	8	8	6	9	14	16	23	48	82	21	13	12	26.5	146.9			
13-Nov	8	10	5	6	5	9	7	7	11	6	7	8	9	11	11	13	13	16	16	15	16	15	52	16	12.2	52.5			
14-Nov	38	21	17	15	15	10	14	8	21	6	5	6	5	4	4	4	4	5	7	13	9	7	4	6	10.4	38.4			
15-Nov	18	4	3	3	5	4	3	6	6	4	3	4	4	5	10	14	15	71	26	106	9	13	58	21	17.4	106.3			
16-Nov	38	15	33	13	14	12	12	54	25	25	22	15	15	18	15	10	12	16	14	17	26	28	33	43	21.9	53.9			
17-Nov	26	19	25	25	19	16	17	32	33	25	20	24	27	24	22	25	21	16	20	19	16	14	13	13	21.3	32.5			
18-Nov	13	13	13	11	11	11	10	11	8	9	12	8	7	11	7	9	13	47	64	11	80	93	24	69	23.5	92.9			
19-Nov	9	8	6	7	7	6	5	6	16	6	6	5	4	5	5	5	6	15	7	6	6	7	7	6	6.9	15.7			
20-Nov	7	4	4	4	4	4	4	4	5	4	4	3	3	3	4	4	6	6	6	5	7	6	7	5	4.5	7.3			
21-Nov	4	5	5	5	5	5	4	5	5	5	4	5	4	5	4	5	5	7	5	5	6	7	7	7	5.2	7.2			
22-Nov	8	7	6	6	7	7	8	11	11	8	7	7	7	8	9	9	10	10	12	13	12	11	12	12	9.1	12.7			
23-Nov	12	12	11	12	13	12	12	14	13	13	13	13	14	14	15	15	15	27	22	28	33	32	25	26	17.3	32.8			
24-Nov	41	13	10	10	12	9	9	8	7	6	6	7	5	5	6	6	6	6	7	7	8	6	6	6	8.9	41.2			
25-Nov	8	7	8	8	7	6	6	31	8	7	7	12	8	8	9	15	15	9	9	9	10	11	10	9	9.8	31.1			
26-Nov	15	18	28	15	20	15	19	16	24	16	14	16	12	11	10	10	13	30	18	13	19	26	13	12	16.8	30.2			
27-Nov	12	12	13	13	16	28	13	15	23	14	83	18	15	15	15	18	16	31	26	29	37	68	39	8	24.1	82.8			
28-Nov	8	5	5	5	4	4	5	6	4	5	6	3	3	3	3	4	4	4	5	6	6	7	6	6	4.8	7.6			
29-Nov	6	7	7	8	7	6	7	10	8	8	6	6	6	8	6	7	6	7	8	6	5	5	7	8	6.8	9.9			
30-Nov	5	7	5	5	5	6	8	10	8	6	7	5	5	6	6	5	5	5	5	5	4	4	5	6	5.8	10.3			
20.0 10.9 12.8 9.8 9.7 9.4 9.4 12.4 12.2 10.0 12.6 10.0 9.1 9.8 9.7 11.0 16.5 15.5 14.2 16.6 18.6 16.8 22.0 15.4																									Diurnal Average				
146.9 35.7 89.0 25.0 20.9 28.0 18.9 53.9 32.5 25.3 82.8 24.2 26.9 28.5 30.5 34.1 175.8 71.4 63.7 106.3 81.6 92.9 121.5 69.3																									Diurnal Maximum				



Pollutant Rose

Particulate Matter 2.5 (PM_{2.5}) - µg/m³

Henry Pirker - November 2012



Hourly Averages

External Temperature (ET) - °C

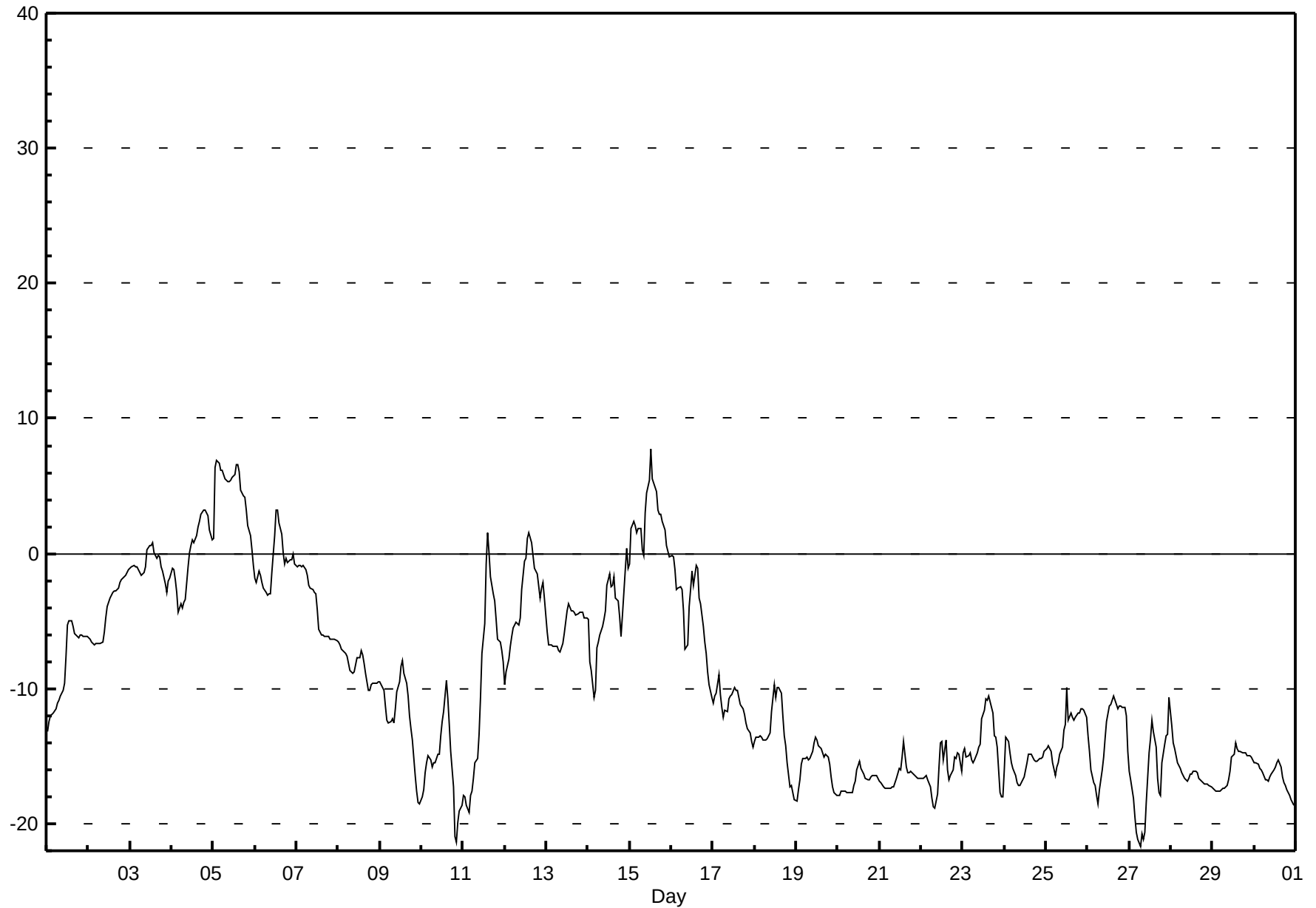
Henry Pirker - November 2012

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 7.8 °C on Nov 15 13:00 Maximum Daily Average: 4.6 °C on Nov 5																									Hours in Service: 720 Hours of Data: 720 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0	
Minimum Value: -22 °C on Nov 27 07:00 Minimum Daily Average: -16.9 °C on Nov 20 Maximum Diurnal Average: -7.1 °C at hour 15 Minimum Diurnal Average: -10.9 °C at hour 9 Monthly Average: -9.54 °C Percentiles: P ₁ = -20.8 P ₁₀ = -17.3 Q ₁ = -15.5 Median = -11.2 Q ₃ = -3.4 P ₉₀ = 0.0 P ₉₉ = 6.1																										
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
1-Nov	-13	-12	-12	-12	-12	-12	-11	-11	-11	-10	-10	-8	-5	-5	-5	-5	-6	-6	-6	-6	-6	-6	-6	-6	-8.4	-4.9
2-Nov	-6	-6	-7	-7	-7	-7	-7	-7	-7	-6	-5	-4	-3	-3	-3	-3	-3	-3	-2	-2	-2	-2	-1	-1	-4.2	-1.2
3-Nov	-1	-1	-1	-1	-1	-1	-2	-1	-1	-1	0	1	1	1	0	0	0	0	-1	-1	-2	-3	-2	-2	-0.9	0.8
4-Nov	-1	-1	-2	-3	-4	-4	-4	-4	-3	-1	0	1	1	1	1	2	2	3	3	3	3	3	2	1	-0.1	3.2
5-Nov	1	6	7	7	6	6	6	6	5	5	5	6	6	7	7	6	5	4	4	3	2	1	0	-1	4.6	6.9
6-Nov	-2	-2	-1	-2	-2	-3	-3	-3	-3	-3	-1	1	3	3	2	1	0	-1	0	-1	0	0	0	-1	-0.7	3.3
7-Nov	-1	-1	-1	-1	-1	-1	-2	-2	-3	-3	-3	-3	-4	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-3.9	-0.9
8-Nov	-7	-7	-7	-7	-7	-8	-8	-9	-9	-9	-8	-8	-8	-7	-8	-8	-9	-10	-10	-10	-10	-10	-10	-9	-8.4	-6.6
9-Nov	-9	-10	-10	-11	-12	-13	-12	-12	-13	-11	-10	-9	-8	-8	-9	-10	-11	-12	-13	-14	-16	-18	-18	-18	-12.0	-8.0
10-Nov	-18	-18	-16	-15	-15	-15	-16	-16	-15	-15	-15	-13	-12	-12	-9	-11	-13	-15	-17	-21	-21	-20	-19	-19	-15.7	-9.4
11-Nov	-18	-18	-19	-19	-18	-18	-17	-16	-15	-13	-11	-7	-5	-1	2	0	-2	-3	-4	-5	-6	-7	-7	-8	-9.7	1.6
12-Nov	-10	-9	-8	-7	-6	-6	-5	-5	-5	-5	-3	-1	0	1	2	1	0	-1	-1	-1	-3	-3	-2	-3	-3.4	1.5
13-Nov	-6	-7	-7	-7	-7	-7	-7	-7	-7	-7	-6	-5	-4	-4	-4	-4	-4	-5	-4	-4	-4	-4	-5	-5	-5.5	-3.7
14-Nov	-5	-8	-9	-11	-10	-7	-7	-6	-5	-5	-4	-2	-1	-2	-2	-2	-3	-4	-5	-6	-5	-1	0	-1	-4.6	0.4
15-Nov	-1	2	2	2	2	2	2	0	0	3	5	5	8	6	5	5	3	3	3	2	2	1	0	0	2.5	7.8
16-Nov	0	0	-1	-3	-3	-2	-3	-4	-7	-7	-4	-3	-1	-2	-1	-1	-3	-4	-5	-7	-7	-9	-10	-11	-4.1	-0.2
17-Nov	-11	-11	-10	-9	-10	-11	-12	-12	-12	-11	-11	-10	-10	-10	-10	-11	-11	-11	-12	-13	-13	-13	-14	-14	-11.3	-9.0
18-Nov	-14	-14	-14	-14	-14	-14	-14	-14	-13	-13	-12	-10	-11	-10	-10	-10	-12	-13	-14	-15	-17	-17	-18	-18	-13.5	-9.7
19-Nov	-18	-18	-17	-16	-15	-15	-15	-15	-15	-15	-14	-14	-14	-14	-14	-15	-15	-15	-15	-16	-17	-17	-18	-18	-15.6	-13.6
20-Nov	-18	-18	-18	-18	-18	-18	-18	-18	-18	-17	-17	-16	-15	-16	-16	-16	-17	-17	-17	-17	-16	-16	-16	-17	-16.9	-15.4
21-Nov	-17	-17	-17	-17	-17	-17	-17	-17	-17	-17	-17	-16	-16	-15	-14	-16	-16	-16	-16	-16	-16	-17	-17	-17	-16.5	-13.9
22-Nov	-17	-17	-17	-16	-17	-17	-18	-19	-19	-18	-16	-14	-14	-15	-14	-16	-17	-16	-16	-15	-15	-15	-15	-16	-16.2	-13.9
23-Nov	-15	-14	-15	-15	-15	-15	-15	-15	-15	-14	-14	-12	-12	-11	-11	-10	-11	-12	-13	-14	-14	-18	-18	-18	-14.0	-10.5
24-Nov	-16	-14	-14	-15	-15	-16	-16	-17	-17	-17	-17	-17	-16	-15	-15	-15	-15	-15	-15	-15	-15	-15	-15	-15	-15.6	-13.6
25-Nov	-14	-14	-14	-15	-16	-16	-16	-15	-15	-14	-13	-13	-10	-12	-12	-12	-12	-12	-12	-12	-12	-12	-12	-12	-13.2	-9.9
26-Nov	-13	-15	-16	-17	-17	-18	-19	-17	-16	-15	-14	-12	-11	-11	-11	-10	-11	-12	-11	-11	-11	-11	-12	-15	-13.7	-10.5
27-Nov	-16	-17	-18	-19	-21	-21	-22	-21	-21	-21	-18	-15	-14	-12	-13	-14	-17	-18	-18	-15	-14	-14	-13	-11	-16.8	-10.7
28-Nov	-13	-14	-14	-15	-16	-16	-16	-16	-17	-17	-17	-16	-16	-16	-16	-16	-17	-17	-17	-17	-17	-17	-17	-17	-16.2	-12.7
29-Nov	-17	-17	-18	-18	-18	-18	-17	-17	-17	-17	-16	-15	-15	-14	-14	-15	-15	-15	-15	-15	-15	-15	-15	-15	-15.9	-14.0
30-Nov	-15	-16	-16	-16	-16	-16	-17	-17	-17	-17	-16	-16	-16	-15	-15	-16	-17	-17	-17	-17	-18	-18	-18	-19	-16.6	-15.3
																									Diurnal Average	
																									Diurnal Maximum	

Hourly Averages

External Temperature (ET) - °C

Henry Pirker - November 2012



Hourly Averages

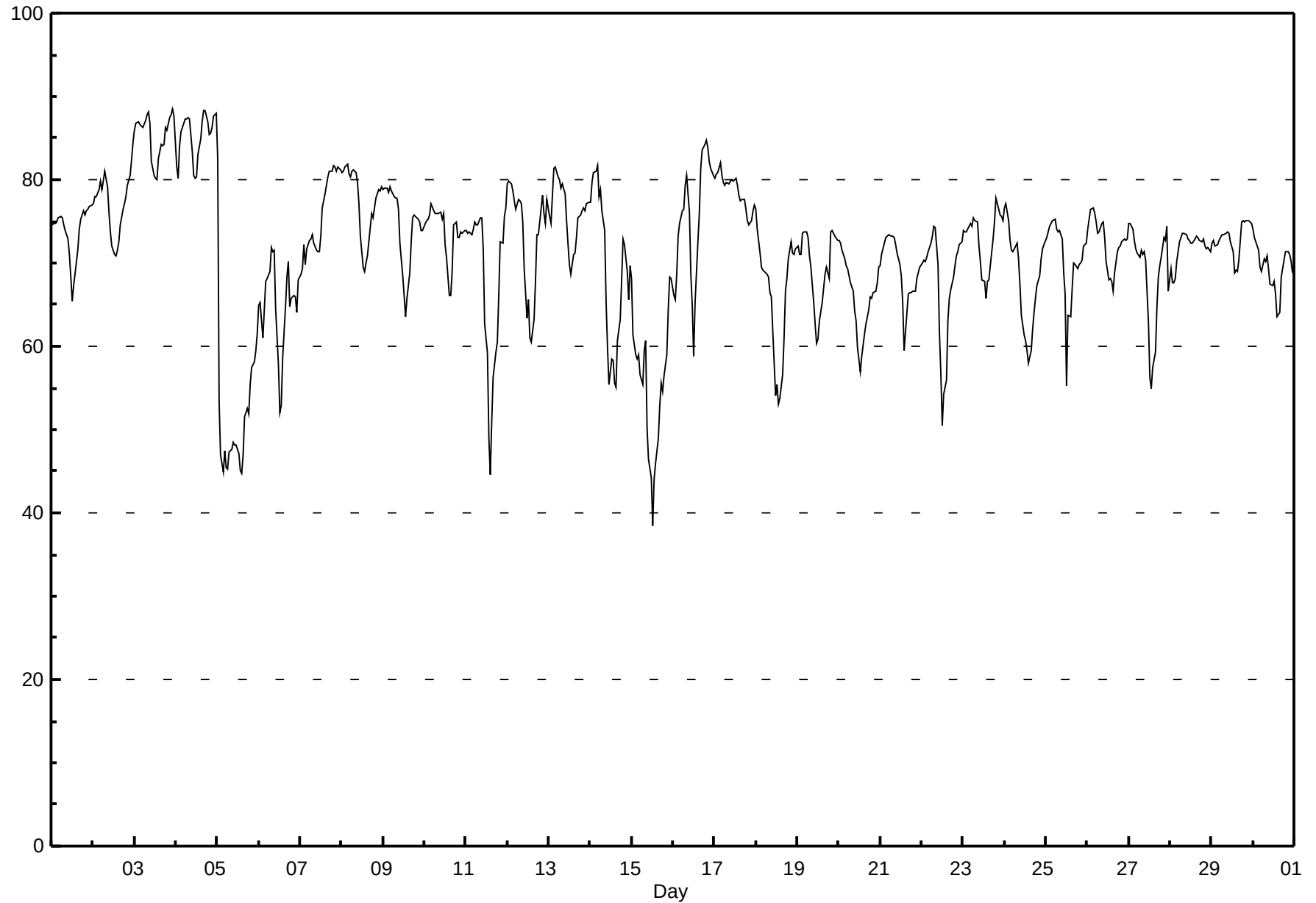
Relative Humidity (RH) - %

Henry Pirker - November 2012

Number of Exceedences (AAAQO): Maximum Value: 88.5 % on Nov 3 23:00																				1-hr: 0 24-hr: 0 Maximum Daily Average: 85.4 % on Nov 3				Hours in Service: 720 Hours of Data: 720 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0		
Minimum Value: 39 % on Nov 15 13:00 Maximum Diurnal Average: 74.6 % at hour 1 Monthly Average: 71.28 %																				Minimum Daily Average: 51.5 % on Nov 5 Minimum Diurnal Average: 63.9 % at hour 14 Percentiles: P ₁ = 45.1 P ₁₀ = 59.5 Q ₁ = 67.8 Median = 72.5 Q ₃ = 76.3 P ₉₀ = 80.8 P ₉₉ = 87.9						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Nov	75	75	75	75	76	76	75	75	74	73	71	68	65	67	70	72	74	75	76	76	76	76	77	77	73.7	77.0
2-Nov	77	78	78	79	80	79	80	81	79	76	74	72	71	71	72	73	75	76	77	78	79	81	82	84	77.1	84.5
3-Nov	86	87	87	87	86	86	87	88	88	87	82	80	80	80	83	84	84	84	86	86	87	88	89	88	85.4	88.5
4-Nov	82	80	84	86	86	87	87	87	87	83	81	80	80	83	85	87	88	88	87	85	86	86	88	88	85.1	88.4
5-Nov	82	53	47	45	47	45	45	47	48	48	48	48	47	45	45	47	52	53	52	55	58	58	60	62	51.5	82.5
6-Nov	65	65	61	64	68	68	69	72	71	72	65	58	52	53	59	65	68	70	65	66	66	66	64	68	64.9	71.8
7-Nov	69	69	72	70	72	73	73	73	72	72	71	71	73	77	78	79	80	81	81	82	82	81	82	81	75.6	81.7
8-Nov	81	81	82	82	81	80	81	81	81	80	77	73	70	69	70	71	73	76	75	77	78	79	79	79	77.2	81.8
9-Nov	79	79	79	79	79	79	78	78	78	76	72	68	66	64	66	69	73	75	76	76	75	75	74	74	74.4	79.2
10-Nov	75	75	75	76	77	76	76	76	76	76	75	76	72	71	66	66	69	75	75	73	73	74	74	74	73.8	77.1
11-Nov	74	74	74	73	74	75	74	75	75	75	72	63	59	49	45	51	56	59	60	66	73	72	76	77	67.5	76.7
12-Nov	80	80	79	79	77	76	78	77	77	75	69	63	66	61	60	63	68	73	73	75	78	76	75	78	73.2	79.9
13-Nov	76	75	78	81	81	80	80	79	79	78	75	72	70	69	71	71	73	75	76	76	77	76	77	77	76.0	81.5
14-Nov	77	80	81	81	82	78	79	76	74	65	60	55	59	58	56	55	61	63	68	73	72	69	66	70	69.0	81.6
15-Nov	68	61	59	58	59	57	55	60	61	50	46	44	39	44	46	49	53	56	55	57	59	64	68	68	55.7	68.3
16-Nov	66	66	69	73	75	76	76	79	80	76	69	65	59	65	72	76	81	84	84	85	84	82	81	81	75.2	84.7
17-Nov	80	81	81	82	81	80	79	80	79	80	80	80	80	79	78	77	78	78	76	75	75	75	76	77	78.6	81.9
18-Nov	76	74	71	69	69	69	69	68	66	66	62	54	55	53	54	57	61	67	68	70	73	71	71	72	66.1	76.4
19-Nov	72	71	71	74	74	74	73	71	70	65	63	60	61	63	65	67	69	70	68	74	74	74	73	73	69.4	73.9
20-Nov	73	72	71	70	70	69	68	68	67	64	63	60	57	59	60	62	63	64	66	66	66	67	68	69	65.9	72.6
21-Nov	70	71	72	73	73	73	73	73	73	72	71	70	69	65	59	64	66	66	66	67	67	68	69	69	69.2	73.3
22-Nov	70	70	70	71	71	72	73	74	74	70	62	57	51	54	56	63	66	67	68	70	71	71	72	73	67.3	74.4
23-Nov	74	74	74	74	75	74	75	75	75	72	70	68	68	66	68	68	70	73	75	78	77	76	76	75	72.9	77.8
24-Nov	77	77	75	73	72	71	72	72	71	67	64	61	61	59	58	59	62	64	66	67	69	70	72	72	68.0	77.1
25-Nov	73	74	74	75	75	75	74	74	74	73	69	66	55	64	64	67	70	70	69	70	70	70	72	72	70.4	75.2
26-Nov	74	75	76	77	76	75	74	74	75	75	73	70	68	68	68	67	69	71	72	72	73	73	73	73	72.5	76.6
27-Nov	75	75	74	73	72	71	71	71	71	71	70	63	56	55	57	59	65	68	70	71	73	73	74	67	68.5	74.8
28-Nov	69	68	68	68	70	73	73	74	74	73	73	73	72	72	73	73	73	73	73	73	72	72	72	71	71.8	73.6
29-Nov	72	73	72	72	73	73	73	73	74	74	74	73	71	69	69	69	70	75	75	75	75	75	75	75	72.8	75.1
30-Nov	74	73	72	71	69	69	71	70	71	69	68	67	68	66	64	64	68	69	70	71	71	71	70	69	69.5	74.1
74.6 73.5 73.4 73.6 74.0 73.7 73.8 74.1 73.8 71.8 68.9 66.0 64.0 63.9 64.5 66.4 69.2 71.3 71.6 72.8 73.6 73.7 74.1 74.4																									Diurnal Average	
86.0 86.8 87.0 86.6 86.4 87.3 87.2 87.9 88.1 86.7 82.1 80.5 80.3 83.1 85.0 87.0 88.3 88.4 86.9 85.9 87.5 87.9 88.5 88.0																									Diurnal Maximum	

Hourly Averages

Relative Humidity (RH) - %
Henry Pirker - November 2012



Hourly Averages

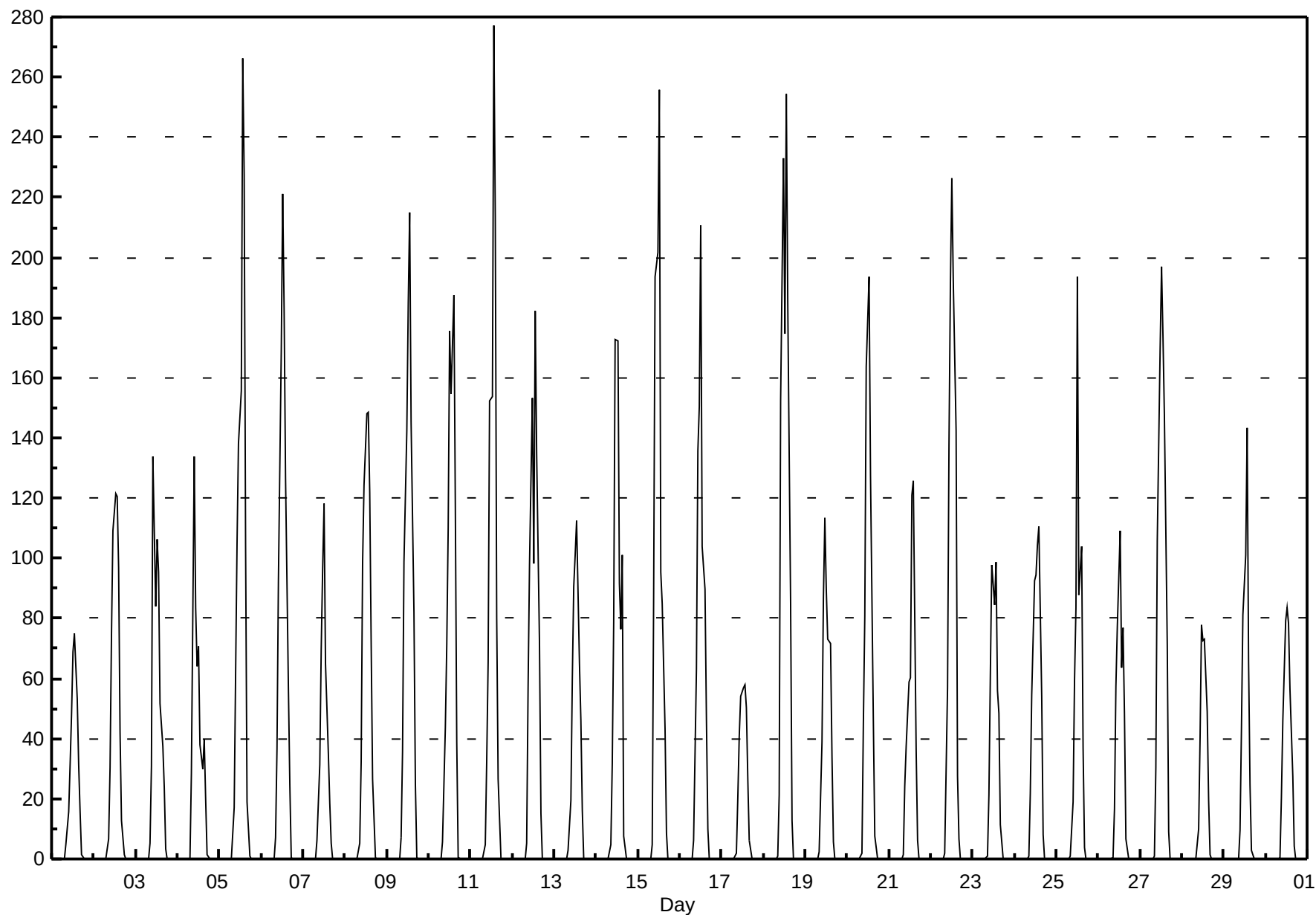
Solar Radiation (SR) - W/m²

Henry Pirker - November 2012

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 277.1 W/m ² on Nov 11 14:00 Maximum Daily Average: 46.6 W/m ² on Nov 18																								Hours in Service: 720 Hours of Data: 720 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0		
Minimum Value: 0 W/m ² on Nov 1 01:00 Minimum Daily Average: 13.1 W/m ² on Nov 17 Maximum Diurnal Average: 136.7 W/m ² at hour 13 Minimum Diurnal Average: 0.0 W/m ² at hour 1 Monthly Average: 28.23 W/m ² Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 35.5 P ₉₀ = 103.9 P ₉₉ = 225.5																										
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-Nov	0	0	0	0	0	0	0	0	5	16	31	48	69	75	53	31	16	1	0	0	0	0	0	0	14.4	75.0
2-Nov	0	0	0	0	0	0	0	0	7	30	75	109	122	121	97	42	13	2	0	0	0	0	0	0	25.7	121.6
3-Nov	0	0	0	0	0	0	0	0	5	31	134	84	106	95	52	37	24	3	0	0	0	0	0	0	23.8	133.9
4-Nov	0	0	0	0	0	0	0	0	28	134	84	64	71	38	30	40	20	2	0	0	0	0	0	0	21.3	133.7
5-Nov	0	0	0	0	0	0	0	0	17	62	105	138	156	266	227	104	19	1	0	0	0	0	0	0	45.6	266.2
6-Nov	0	0	0	0	0	0	0	0	7	37	93	169	221	183	127	57	24	1	0	0	0	0	0	0	38.3	221.3
7-Nov	0	0	0	0	0	0	0	0	6	31	70	96	118	65	35	19	5	0	0	0	0	0	0	0	18.6	118.3
8-Nov	0	0	0	0	0	0	0	0	5	32	98	124	148	148	122	72	27	1	0	0	0	0	0	0	32.4	148.4
9-Nov	0	0	0	0	0	0	0	0	7	35	99	142	185	215	145	82	25	1	0	0	0	0	0	0	39.0	215.2
10-Nov	0	0	0	0	0	0	0	0	6	44	71	110	175	155	188	117	39	0	0	0	0	0	0	0	37.7	187.6
11-Nov	0	0	0	0	0	0	0	0	5	33	65	153	154	277	214	80	27	0	0	0	0	0	0	0	41.9	277.1
12-Nov	0	0	0	0	0	0	0	0	5	57	98	153	98	182	135	71	15	0	0	0	0	0	0	0	34.0	182.3
13-Nov	0	0	0	0	0	0	0	0	3	20	60	91	101	113	65	46	16	0	0	0	0	0	0	0	21.4	112.6
14-Nov	0	0	0	0	0	0	0	0	5	32	79	173	172	91	76	101	7	0	0	0	0	0	0	0	30.7	172.8
15-Nov	0	0	0	0	0	0	0	0	5	87	194	201	256	95	85	43	9	0	0	0	0	0	0	0	40.6	255.6
16-Nov	0	0	0	0	0	0	0	0	6	63	136	150	211	104	90	47	10	0	0	0	0	0	0	0	34.0	210.9
17-Nov	0	0	0	0	0	0	0	0	2	20	41	54	57	58	50	27	6	0	0	0	0	0	0	0	13.1	58.1
18-Nov	0	0	0	0	0	0	0	0	1	21	152	233	174	254	185	85	13	0	0	0	0	0	0	0	46.6	254.2
19-Nov	0	0	0	0	0	0	0	0	2	39	87	114	90	73	72	34	6	0	0	0	0	0	0	0	21.5	113.6
20-Nov	0	0	0	0	0	0	0	0	2	45	81	164	194	127	87	45	8	0	0	0	0	0	0	0	31.3	193.6
21-Nov	0	0	0	0	0	0	0	0	1	24	37	59	60	121	126	36	6	0	0	0	0	0	0	0	19.6	125.6
22-Nov	0	0	0	0	0	0	0	0	2	57	137	191	226	193	143	27	6	0	0	0	0	0	0	0	40.9	226.2
23-Nov	0	0	0	0	0	0	0	0	1	21	61	98	84	99	56	48	11	0	0	0	0	0	0	0	20.0	98.8
24-Nov	0	0	0	0	0	0	0	0	1	22	55	93	94	104	111	54	8	0	0	0	0	0	0	0	22.6	110.5
25-Nov	0	0	0	0	0	0	0	0	1	19	60	83	194	88	104	37	4	0	0	0	0	0	0	0	24.5	193.7
26-Nov	0	0	0	0	0	0	0	0	1	17	57	78	109	63	77	49	7	0	0	0	0	0	0	0	19.0	109.1
27-Nov	0	0	0	0	0	0	0	0	1	31	106	169	197	174	147	71	9	0	0	0	0	0	0	0	37.7	196.8
28-Nov	0	0	0	0	0	0	0	0	0	10	40	78	73	73	49	19	2	0	0	0	0	0	0	0	14.3	77.7
29-Nov	0	0	0	0	0	0	0	0	0	9	43	81	101	143	66	24	3	0	0	0	0	0	0	0	19.6	143.2
30-Nov	0	0	0	0	0	0	0	0	1	20	46	79	84	78	56	28	4	0	0	0	0	0	0	0	16.5	83.6
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 4.6 36.6 83.1 119.3 136.7 129.1 102.2 52.5 12.9 0.4 0.0 0.0 0.0 0.0 0.0 0.0																								Diurnal Average		
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.2 28.5 133.7 193.6 232.9 255.6 277.1 227.3 117.3 38.9 3.2 0.0 0.0 0.0 0.0 0.0 0.0																								Diurnal Maximum		

Hourly Averages

Solar Radiation (SR) - W/m²
Henry Pirker - November 2012



Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Henry Pirker - November 2012

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	4	6	6	5	5	4	4	4	4	4	3	2	4	3	4	4	0	2	2	3	3	4	4	1.9	5.9
Dir	227	198	213	227	222	233	239	300	303	294	297	272	269	291	310	302	352	259	171	17	35	81	132	170	257.6	227.3
2 Spd	3	3	4	3	3	4	5	7	6	5	7	9	9	10	10	9	8	9	9	8	9	7	8	7	6.5	10.1
Dir	181	167	117	102	80	105	131	123	109	90	87	95	90	83	94	99	86	93	95	93	97	97	100	108	99.6	83.2
3 Spd	7	4	5	4	5	4	1	3	5	7	5	4	5	3	7	7	2	3	1	4	3	4	5	10	2.3	9.8
Dir	112	125	116	132	117	164	174	107	102	111	128	263	296	270	224	220	220	212	205	206	176	176	251	237	177.9	236.8
4 Spd	5	4	3	4	4	4	5	4	4	5	7	6	7	7	9	12	12	11	10	9	9	7	2	5	5.2	12.5
Dir	250	209	227	186	187	184	165	114	100	122	117	117	123	123	120	120	127	119	133	119	136	126	203	249	137.0	126.8
5 Spd	13	27	31	31	34	41	48	43	37	39	42	38	38	35	32	27	21	22	25	17	13	11	7	3	27.9	48.4
Dir	247	265	264	267	268	262	258	258	257	255	256	257	258	259	261	260	261	259	261	271	262	270	228	187	259.6	258.1
6 Spd	3	8	5	3	4	3	1	2	4	4	1	1	3	3	5	5	3	3	3	4	6	6	7	3	0.7	8.0
Dir	299	240	216	168	134	172	180	149	134	152	153	334	309	311	324	354	349	42	73	45	62	83	95	56	87.6	240.0
7 Spd	3	3	6	9	9	10	11	13	11	10	9	9	11	11	10	10	10	11	9	10	10	9	7	8	8.9	12.8
Dir	113	56	35	43	24	36	43	45	64	72	70	61	56	52	43	34	39	44	38	33	41	38	45	42	46.3	45.0
8 Spd	8	8	9	8	7	8	9	8	7	8	8	8	8	7	8	8	6	5	6	7	7	6	9	10	7.5	9.6
Dir	49	57	59	61	49	70	91	87	79	78	61	59	60	58	66	66	63	60	48	43	43	53	66	85	64.0	85.2
9 Spd	10	9	8	6	6	6	7	7	7	5	6	8	7	7	8	7	6	6	7	5	5	6	6	4	5.7	10.5
Dir	84	82	66	60	56	58	66	63	47	55	50	52	56	40	45	45	48	52	46	15	309	335	335	327	47.4	83.7
10 Spd	3	2	3	0	5	5	4	2	2	1	5	1	5	1	1	5	4	3	3	4	4	2	3	2	0.5	5.4
Dir	336	313	302	53	163	173	169	176	141	167	132	229	304	265	144	131	113	78	312	303	320	294	307	306	211.4	162.7
11 Spd	4	3	3	3	3	3	4	3	4	4	3	2	4	6	5	7	5	7	3	2	3	3	3	2	1.5	7.1
Dir	313	311	315	317	151	181	161	162	154	162	181	259	148	219	287	284	299	267	292	152	161	138	126	138	224.9	284.5
12 Spd	1	3	4	5	3	1	1	2	5	4	4	6	5	5	3	1	1	2	3	2	2	4	5	6	1.1	6.0
Dir	319	148	162	144	161	71	201	283	169	160	199	220	224	225	272	196	115	172	153	7	325	54	341	331	197.8	219.9
13 Spd	9	7	5	3	5	4	3	4	3	2	5	4	3	3	4	2	1	2	1	3	3	5	4	3	1.1	9.0
Dir	330	330	334	323	311	327	299	326	321	126	120	85	57	82	141	187	206	306	233	180	231	233	227	228	301.2	329.7
14 Spd	4	3	5	5	8	7	3	3	4	6	5	2	7	10	9	8	5	4	4	2	6	6	7	3	0.7	9.7
Dir	318	304	327	311	339	340	306	291	284	287	283	75	118	125	132	131	130	125	182	236	184	250	242	159	231.6	125.0
15 Spd	6	3	6	7	9	10	12	7	9	14	13	8	6	5	4	1	3	0	6	3	5	3	2	3	4.9	14.0
Dir	150	200	229	216	217	230	242	217	236	247	233	201	239	254	265	81	198	54	247	314	326	259	116	158	230.2	247.0
16 Spd	4	5	2	3	2	2	3	2	4	4	4	4	4	3	2	2	6	5	4	5	4	3	4	3	2.4	6.1
Dir	115	131	36	72	343	57	2	32	310	318	330	293	290	314	9	351	339	337	316	311	335	312	320	319	334.1	338.7
17 Spd	1	2	3	2	3	4	5	6	3	3	5	6	4	6	5	7	7	7	9	10	9	13	19	12	5.5	19.2
Dir	331	279	350	353	308	327	332	339	300	52	33	4	8	1	357	311	320	317	319	307	298	294	298	301	320.1	297.6
18 Spd	8	6	6	6	8	9	6	7	4	4	7	7	8	8	9	7	5	5	5	4	5	7	7	5	5.9	9.1
Dir	291	262	249	255	315	326	305	318	311	307	305	310	310	310	306	314	304	335	332	321	316	333	328	341	309.1	305.6
19 Spd	5	7	7	8	9	9	6	4	6	6	6	4	5	7	10	9	8	6	9	11	13	15	16	16	7.3	16.4
Dir	307	330	322	17	16	15	29	39	334	13	43	54	348	329	303	308	310	340	338	335	315	316	312	316	335.3	316.1
20 Spd	15	16	17	16	14	14	15	15	14	15	14	13	12	12	10	10	7	6	5	4	4	4	4	5	9.5	16.8
Dir	307	309	313	309	307	300	291	293	293	295	295	302	301	297	303	289	298	300	310	344	72	116	76	57	304.3	313.4
21 Spd	7	8	9	7	5	7	7	5	5	5	5	5	6	5	5	7	4	4	5	6	5	5	6	6	5.4	8.6
Dir	57	65	68	64	52	66	69	55	78	89	89	56	72	50	58	93	116	93	77	81	96	101	122	130	77.9	68.2
22 Spd	7	6	6	6	7	6	6	4	4	3	5	4	5	7	1	4	5	3	2	5	5	3	2	3	2.8	7.1
Dir	135	123	115	99	106	100	83	77	84	76	106	101	272	283	21	60	58	66	17	26	40	86	168	312	87.0	134.6

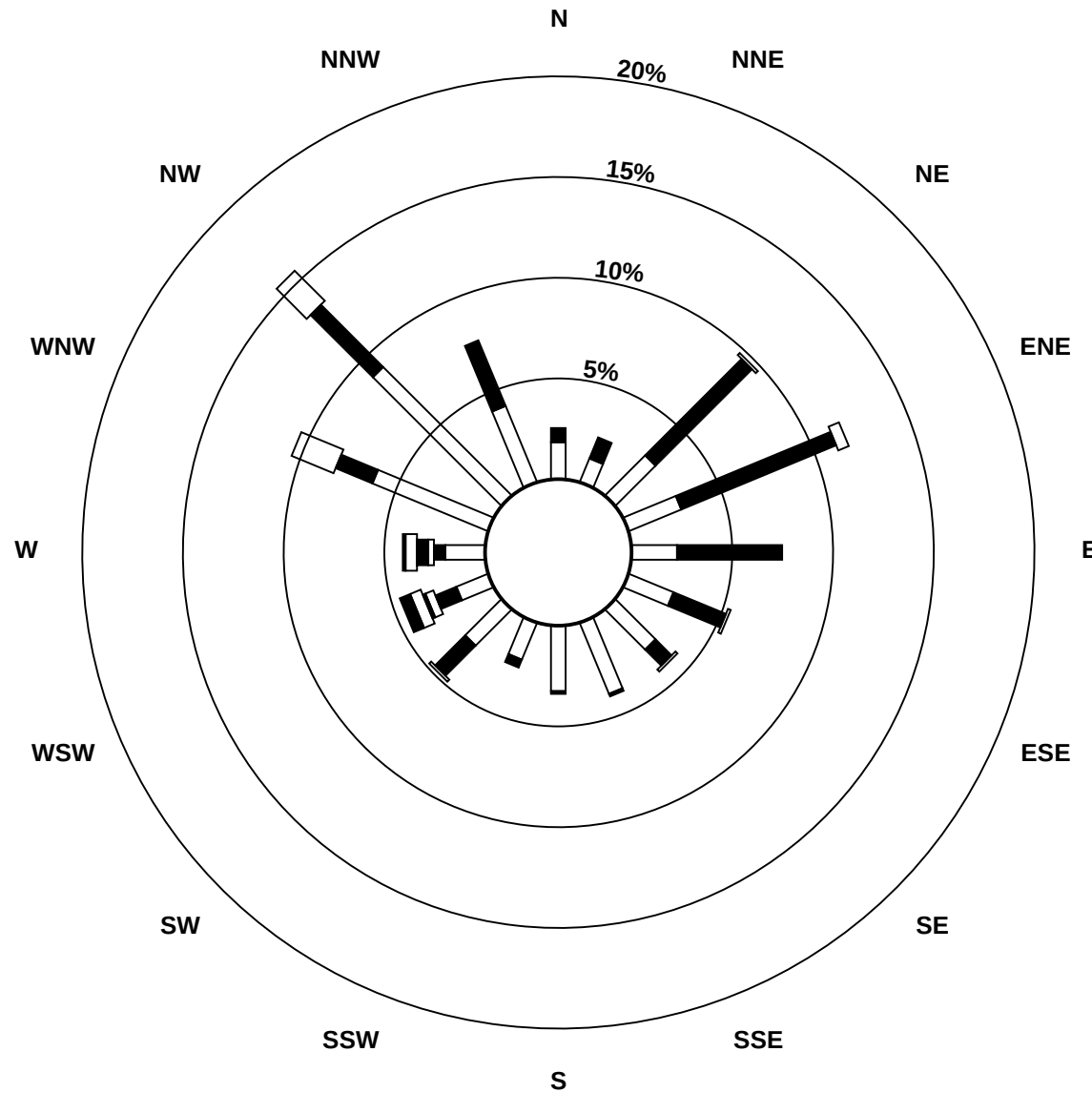
Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Henry Pirker - November 2012

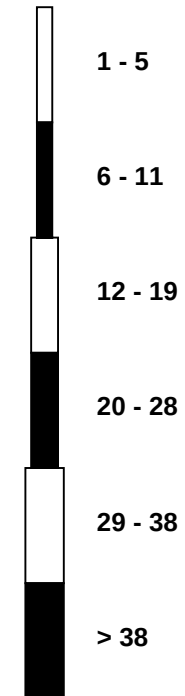
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
23 Spd	2	4	2	1	3	3	3	2	2	5	4	4	5	6	6	6	5	0	2	2	1	5	3	3	1.9	6.5
Dir	46	152	295	233	211	320	227	249	195	243	300	285	254	268	214	192	178	274	301	86	51	327	316	283	246.9	213.9
24 Spd	6	9	14	14	15	16	16	17	16	16	14	12	10	8	6	4	1	4	7	7	8	7	7	7	6.3	17.4
Dir	298	309	310	314	309	302	302	297	307	299	311	309	304	304	301	312	35	150	102	108	115	98	89	100	311.3	297.0
25 Spd	7	6	5	3	5	3	5	6	6	5	4	4	4	5	5	6	8	8	4	4	4	5	6	6	2.2	7.8
Dir	98	93	91	55	27	344	307	314	321	323	287	302	294	312	314	319	352	7	281	296	190	202	227	231	319.4	7.0
26 Spd	4	4	4	2	3	4	4	5	5	3	4	5	5	5	4	2	3	3	2	4	4	4	4	5	3.5	5.3
Dir	262	322	327	359	335	305	309	300	328	296	289	292	292	290	299	298	328	323	243	266	306	313	267	237	299.3	289.7
27 Spd	4	3	3	3	5	4	4	4	3	3	3	3	4	3	5	5	4	4	6	6	5	6	4	11	3.0	10.8
Dir	209	237	228	289	308	325	298	342	328	314	331	304	288	311	313	319	308	340	330	330	343	340	28	74	323.1	73.9
28 Spd	11	11	8	11	11	10	10	10	11	12	10	12	13	13	11	10	11	9	7	7	7	6	7	8	9.7	12.9
Dir	76	64	72	89	75	68	64	72	81	74	68	74	70	63	65	50	57	58	55	55	57	56	48	51	66.2	69.7
29 Spd	8	9	8	7	7	7	6	7	7	7	8	9	9	9	8	8	8	7	6	7	9	8	8	8	7.0	9.5
Dir	58	64	63	57	64	73	67	62	70	73	72	85	88	92	77	85	77	67	54	44	39	39	11	335	62.5	87.6
30 Spd	8	9	10	8	8	9	10	10	9	9	8	8	7	5	5	6	6	6	6	5	7	7	6	6	5.5	9.9
Dir	328	321	317	302	313	321	323	319	318	320	327	336	332	351	45	51	50	61	55	50	43	43	46	57	348.4	319.2
Spd	1.0	1.2	1.9	1.6	2.0	2.2	2.2	2.2	1.7	1.5	1.3	1.6	1.9	2.0	1.6	1.2	1.7	1.7	1.3	2.1	1.7	1.6	1.4	1.0	Diurnal Average	
Dir	347.5	315.9	318.4	332.8	326.6	317.6	295.9	315.4	316.2	302.8	313.6	321.6	314.7	320.3	330.4	354.0	18.5	23.7	358.0	6.2	17.6	8.8	349.1	1.5	Diurnal Maximum	
Spd	15.1	27.2	31.1	31.5	33.6	41.0	48.4	42.5	37.4	39.0	41.6	37.8	37.7	34.6	32.1	26.7	20.7	22.0	25.4	17.0	13.2	15.4	19.2	16.4	Diurnal Maximum	
Dir	307.0	264.9	263.8	267.3	268.1	261.9	258.1	258.1	256.9	254.5	255.9	256.5	257.7	258.5	261.1	260.1	260.9	258.7	261.5	271.0	314.5	315.7	297.6	316.1		
Maximum Speed Value: 48 km/h on Nov 5 07:00																								Hours in Service: 720		
Maximum Daily Speed Average: 27.9 km/h on Nov 5																								Hours of Data: 720		
Maximum Diurnal Speed Average: 2.2 km/h at hour 7																								Hours of Missing Data: 0		
Minimum Speed Value: 0 km/h on Nov 10 04:00																								Percent Operational Time: 100.0		
Minimum Daily Speed Average: 0.5 km/h on Nov 10																										
Minimum Diurnal Speed Average: 1.0 km/h at hour 1																										
Monthly Average Velocity: 1.48 km/h 334.81 deg																										
Speed Percentiles: P ₁ = 0.8 P ₁₀ = 2.5 Q ₁ = 3.7 Median = 5.3 Q ₃ = 7.9 P ₉₀ = 10.7 P ₉₉ = 37.7																										
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	23	19	0	0	0	0	42																			
NorthEast	29	97	4	0	0	0	130																			
East	29	66	5	0	0	0	100																			
SouthEast	39	27	2	0	0	0	68																			
South	44	7	0	0	0	0	51																			
SouthWest	27	25	4	0	0	0	56																			
West	35	16	4	5	8	5	73																			
NorthWest	102	68	29	1	0	0	200																			
Total	328	325	48	6	8	5	720																			

Wind Rose

Wind Speed (WS) (km/h)
Henry Pirker - November 2012



Wind Speed Classes (km/h)



Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Henry Pirker - November 2012

Maximum Speed: 49 km/h on Nov 5 07:00																				Maximum Daily Speed Average: 28.3 km/h on Nov 5										Hours in Service: 720	
Minimum Speed: 2 km/h on Nov 10 09:00																				Minimum Daily Speed Average: 3.8 km/h on Nov 10										Hours of Data: 720	
Maximum Diurnal Speed Average: 7.9 km/h at hour 7																				Minimum Diurnal Speed Average: 6.1 km/h at hour 18										Hours of Missing Data: 0	
Monthly Average Speed: 7.09 km/h																				Percentiles: P ₁ = 2.4 P ₁₀ = 3.4 Q ₁ = 4.2 Median = 5.7 Q ₃ = 8.1 P ₉₀ = 11.0 P ₉₉ = 37.8										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-Nov	5	4	6	6	5	5	5	4	4	5	5	3	3	4	3	4	4	2	2	3	3	4	4	4	4.0	6.0					
2-Nov	3	3	4	4	4	4	5	7	6	6	8	9	9	10	10	9	8	9	9	8	9	7	8	7	6.9	10.3					
3-Nov	7	5	5	4	6	5	3	3	5	8	6	5	6	4	7	7	4	3	6	5	3	4	7	10	5.3	9.9					
4-Nov	7	5	4	4	5	4	5	5	5	5	7	6	8	7	10	12	13	11	10	9	9	8	5	8	7.0	12.6					
5-Nov	13	27	31	32	34	41	49	43	38	39	42	38	38	35	32	27	21	22	26	17	13	11	8	4	28.3	48.5					
6-Nov	4	8	6	4	4	5	3	3	5	4	3	3	3	3	5	5	4	4	3	4	6	6	7	3	4.4	8.5					
7-Nov	3	3	7	9	9	10	12	13	11	10	9	9	11	11	11	11	11	11	9	11	10	9	7	8	9.4	13.1					
8-Nov	8	8	9	9	7	9	9	8	8	8	8	8	9	8	8	8	6	5	6	7	7	7	9	10	7.9	9.8					
9-Nov	11	9	8	6	6	6	7	7	8	6	7	8	7	8	8	7	7	7	7	5	5	6	6	4	6.8	10.6					
10-Nov	3	2	3	3	6	6	5	3	2	2	5	3	5	4	4	6	5	4	4	4	4	3	4	3	3.8	5.8					
11-Nov	4	3	3	3	4	3	4	3	4	4	3	3	4	7	7	8	6	7	4	3	4	4	3	2	4.2	8.3					
12-Nov	2	3	4	5	4	3	2	3	5	4	5	6	5	5	4	3	2	3	4	4	3	5	6	6	4.0	6.2					
13-Nov	9	7	5	4	6	4	4	4	3	4	5	4	4	4	5	2	3	3	3	4	4	5	5	5	4.4	9.1					
14-Nov	4	4	6	5	8	8	4	5	5	6	5	4	7	10	9	8	5	4	4	4	6	6	7	4	5.7	9.9					
15-Nov	6	6	8	8	9	11	13	8	9	14	13	9	7	5	5	4	4	3	7	4	6	4	4	3	7.0	14.1					
16-Nov	4	6	5	3	2	3	4	4	5	5	4	4	5	4	4	6	6	5	4	6	4	4	5	4	4.4	6.3					
17-Nov	3	3	3	4	4	4	5	7	4	4	5	6	4	6	6	7	7	7	9	10	9	13	19	13	6.8	19.3					
18-Nov	9	7	7	6	8	9	7	8	4	4	7	7	8	8	9	7	5	5	5	5	5	7	7	5	6.7	9.3					
19-Nov	6	8	8	9	9	9	6	4	6	7	6	5	6	8	10	9	8	7	9	11	13	16	16	16	8.8	16.4					
20-Nov	15	16	17	16	14	14	15	15	14	15	14	13	12	12	10	10	7	6	5	4	4	5	5	6	11.1	17.0					
21-Nov	7	8	9	7	6	7	7	5	5	5	5	5	6	6	6	7	5	4	5	6	5	5	7	6	6.0	8.7					
22-Nov	7	7	7	6	7	7	6	4	5	4	5	4	6	7	4	4	5	4	3	5	5	4	4	4	5.1	7.4					
23-Nov	4	6	3	3	4	4	4	4	4	5	4	5	6	6	7	7	6	4	5	4	3	5	4	4	4.5	7.3					
24-Nov	6	10	14	15	15	16	16	17	16	17	14	12	10	8	7	4	3	5	7	7	8	8	8	7	10.4	17.5					
25-Nov	7	6	5	4	5	3	5	6	6	5	4	4	4	5	5	6	8	8	5	4	4	6	6	6	5.3	8.0					
26-Nov	4	5	4	3	3	4	5	5	5	3	4	5	5	5	5	3	3	3	3	4	5	4	5	5	4.1	5.4					
27-Nov	5	4	4	4	5	4	4	4	3	3	4	3	4	4	5	5	4	5	6	6	5	6	5	11	4.7	11.0					
28-Nov	12	12	8	11	11	10	10	10	11	12	11	12	13	13	11	10	11	10	8	8	8	7	7	8	10.1	13.1					
29-Nov	8	9	9	7	7	7	6	7	8	7	8	10	10	9	8	8	8	7	6	7	9	8	8	8	7.9	9.7					
30-Nov	8	9	10	8	8	10	10	10	9	9	8	8	7	6	5	6	6	6	6	5	7	7	7	6	7.6	10.0					
6.4 7.1 7.3 7.1 7.5 7.9 7.9 7.6 7.4 7.7 7.8 7.4 7.7 7.7 7.6 7.4 6.5 6.1 6.3 6.1 6.3 6.4 6.7 6.3																									Diurnal Average						
15.3 27.4 31.3 31.7 33.9 41.1 48.5 42.7 37.5 39.1 41.8 37.9 37.9 34.7 32.3 26.8 20.8 22.1 25.6 17.2 13.5 15.5 19.3 16.4																									Diurnal Maximum						
All monthly, daily, and diurnal averages have been calculated using scalar methods																															

Hourly Standard Deviations

Wind Direction (WD) - deg
Henry Pirker - November 2012

Maximum Value: 93.1 deg on Nov 23 18:00																			Hours in Service: 720						
Minimum Value: 0.1 deg on Nov 3 21:00																			Hours of Data: 720						
Percentiles: P ₁ = 5.1 P ₁₀ = 8.4 Q ₁ = 12.0 Median = 17.0 Q ₃ = 29.3 P ₉₀ = 52.8 P ₉₉ = 82.9																			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-Nov	12	20	13	14	16	14	20	11	9	11	14	31	29	25	19	21	19	91	46	35	28	30	20	20	91.5
2-Nov	13	15	19	22	15	16	15	13	13	19	13	11	12	10	9	12	11	10	8	8	10	10	9	11	22.1
3-Nov	11	36	27	27	20	35	80	39	27	25	36	28	26	39	15	22	67	55	93	43	0	0	38	8	92.5
4-Nov	41	38	40	25	18	20	12	27	33	11	11	14	20	18	10	7	7	10	13	8	14	15	67	50	67.0
5-Nov	9	6	7	6	8	5	4	5	5	6	5	5	5	6	7	6	5	6	6	9	11	9	23	59	59.0
6-Nov	43	20	36	55	36	60	60	56	38	25	81	81	40	34	14	12	36	35	26	38	19	12	17	56	81.2
7-Nov	34	33	19	11	9	11	12	11	11	14	14	19	17	15	17	14	15	14	12	14	17	16	17	15	33.8
8-Nov	14	12	13	16	18	14	10	11	13	11	14	14	13	18	11	11	21	12	18	21	16	14	12	11	21.4
9-Nov	8	9	12	14	11	13	8	13	12	14	15	15	22	17	18	17	17	16	13	38	12	7	9	8	37.9
10-Nov	18	68	17	93	14	22	29	43	39	60	26	70	13	78	82	20	21	21	46	14	17	32	22	33	92.6
11-Nov	9	13	17	39	42	27	23	14	21	14	19	53	46	44	54	33	40	18	48	59	51	25	25	37	58.6
12-Nov	79	38	20	11	51	84	60	60	14	14	24	13	15	15	40	92	81	78	41	57	77	37	36	13	91.6
13-Nov	8	13	10	19	9	16	24	19	19	81	18	25	48	43	35	27	68	54	62	19	37	21	40	59	80.9
14-Nov	26	37	18	18	23	23	50	65	40	12	26	67	14	10	13	11	18	39	19	62	22	24	28	57	66.5
15-Nov	22	73	42	31	9	18	20	11	12	7	7	25	25	36	46	85	59	84	49	52	33	38	59	30	84.6
16-Nov	15	44	77	49	53	56	50	67	17	23	19	31	22	20	54	69	18	15	26	15	25	33	23	42	77.1
17-Nov	76	63	48	59	47	33	27	15	45	51	23	13	29	15	18	14	8	9	8	9	10	6	6	21	76.1
18-Nov	17	26	31	22	13	9	29	12	20	31	14	25	14	16	13	14	16	15	9	22	23	10	13	11	31.4
19-Nov	25	17	14	26	18	13	18	32	17	22	22	41	39	23	9	19	11	34	14	13	6	6	6	5	40.5
20-Nov	7	7	6	7	7	8	11	7	6	7	6	10	9	10	10	5	10	9	16	27	34	25	20	18	33.5
21-Nov	19	17	10	14	21	16	16	20	17	14	13	26	20	28	29	14	17	21	23	16	28	17	15	14	29.3
22-Nov	17	20	12	12	11	15	13	12	23	34	23	35	42	7	76	24	26	35	63	21	19	53	58	46	75.7
23-Nov	72	48	58	73	40	64	49	64	72	18	33	29	29	23	27	22	55	93	71	61	84	26	44	44	93.1
24-Nov	20	8	6	7	7	7	7	6	7	8	7	10	10	12	17	17	72	25	15	12	11	12	13	14	72.1
25-Nov	17	17	17	37	13	35	9	7	10	14	15	20	12	10	13	19	11	11	35	21	29	18	17	14	37.2
26-Nov	22	15	14	22	24	15	16	9	16	11	15	10	10	11	19	51	46	21	55	29	17	15	36	21	55.2
27-Nov	15	33	43	43	11	14	16	10	10	15	14	19	10	13	15	15	17	23	15	19	26	21	36	13	43.4
28-Nov	16	12	13	10	12	11	10	10	11	11	11	11	10	12	13	18	16	13	20	18	19	16	14	14	19.6
29-Nov	12	13	13	14	12	11	15	18	12	12	12	13	14	14	16	14	12	17	19	14	12	13	12	14	19.0
30-Nov	9	7	7	10	7	8	7	7	7	6	8	12	12	38	25	18	14	21	15	18	14	15	14	22	38.2
	79.4	73.1	77.1	92.6	52.9	83.5	79.6	66.5	71.6	80.9	81.2	81.0	47.9	77.7	82.4	91.6	80.7	93.1	92.5	62.1	83.6	53.2	67.0	59.0	

PAZA

Evergreen Park Station

Monthly Summary Tables, Graphs and
Roses

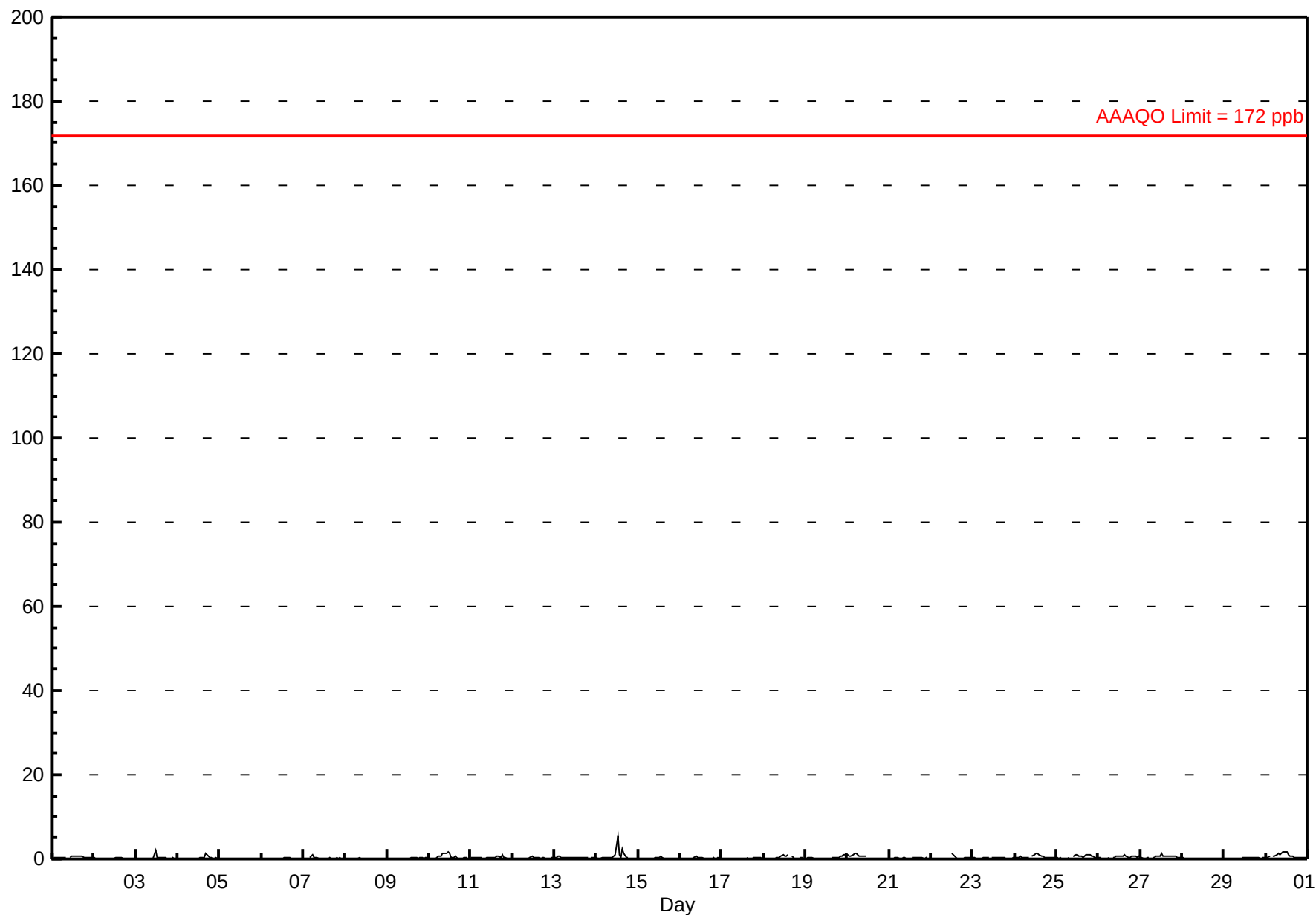
Hourly Averages

Sulphur Dioxide (SO₂) - ppb Evergreen Park - November 2012

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0		Hours in Service: 720																								
Maximum Value: 5.5 ppb on Nov 14 13:00		Hours of Data: 686																								
Maximum Daily Average: 0.7 ppb on Nov 30		Hours of Missing Data: 34																								
Minimum Value: 0 ppb on Nov 4 03:00		Hours of Calibration: 34																								
Minimum Daily Average: 0.0 ppb on Nov 5		Percent Operational Time: 100.0																								
Maximum Diurnal Average: 0.7 ppb at hour 13																										
Monthly Average: 0.29 ppb																										
Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 0.2 Q ₃ = 0.4 P ₉₀ = 0.7 P ₉₉ = 1.6																										
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-Nov	0	0	0	0	0	0	0	0	0	A	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0.4	0.7
2-Nov	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
3-Nov	0	0	0	0	0	0	0	A	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.9
4-Nov	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0.2	1.4
5-Nov	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
6-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
7-Nov	0	0	0	A	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.1
8-Nov	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
9-Nov	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
10-Nov	A	0	0	0	0	1	1	1	1	1	1	2	1	0	0	1	0	0	0	0	0	0	0	A	0.6	1.8
11-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	0	0	A	0	0.3	1.1
12-Nov	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	A	0	0	0.2	0.5
13-Nov	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.3	0.6
14-Nov	0	0	0	0	0	0	0	0	0	0	1	1	6	1	0	2	1	0	0	A	0	0	0	0	0.7	5.5
15-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	A	0	0	0	0	0	0.1	0.7
16-Nov	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0.2	0.6
17-Nov	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
18-Nov	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	A	1	0	0	0	0	0	0	0	0.3	1.0
19-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	1	1	1	1	0.3	1.0
20-Nov	1	1	1	1	1	1	1	1	1	1	1	C	C	C	C	0	0	0	0	0	0	0	0	0	0.5	1.4
21-Nov	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
22-Nov	0	0	0	0	0	0	0	0	0	0	0	A	1	1	0	0	0	0	0	0	0	0	0	0	0.2	1.3
23-Nov	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
24-Nov	0	0	0	1	0	0	0	0	0	A	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0.5	1.3
25-Nov	0	0	0	0	0	0	0	0	A	1	1	1	1	1	1	0	1	1	1	1	1	1	0	1	0.5	1.2
26-Nov	0	0	0	0	0	0	0	A	0	0	1	1	1	1	1	1	1	0	0	1	1	1	0	1	0.5	0.9
27-Nov	0	0	0	0	0	0	A	0	0	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0.5	1.2
28-Nov	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
29-Nov	0	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-Nov	0	0	1	A	1	1	1	1	1	1	2	2	2	1	1	1	0	0	0	0	0	0	0	0	0.7	1.7
																								Diurnal Average		
																								Diurnal Maximum		
C - Calibration A - Automated Daily Zero Span																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb 30-day 11 ppb																										

Hourly Averages

Sulphur Dioxide (SO₂) - ppb
Evergreen Park - November 2012



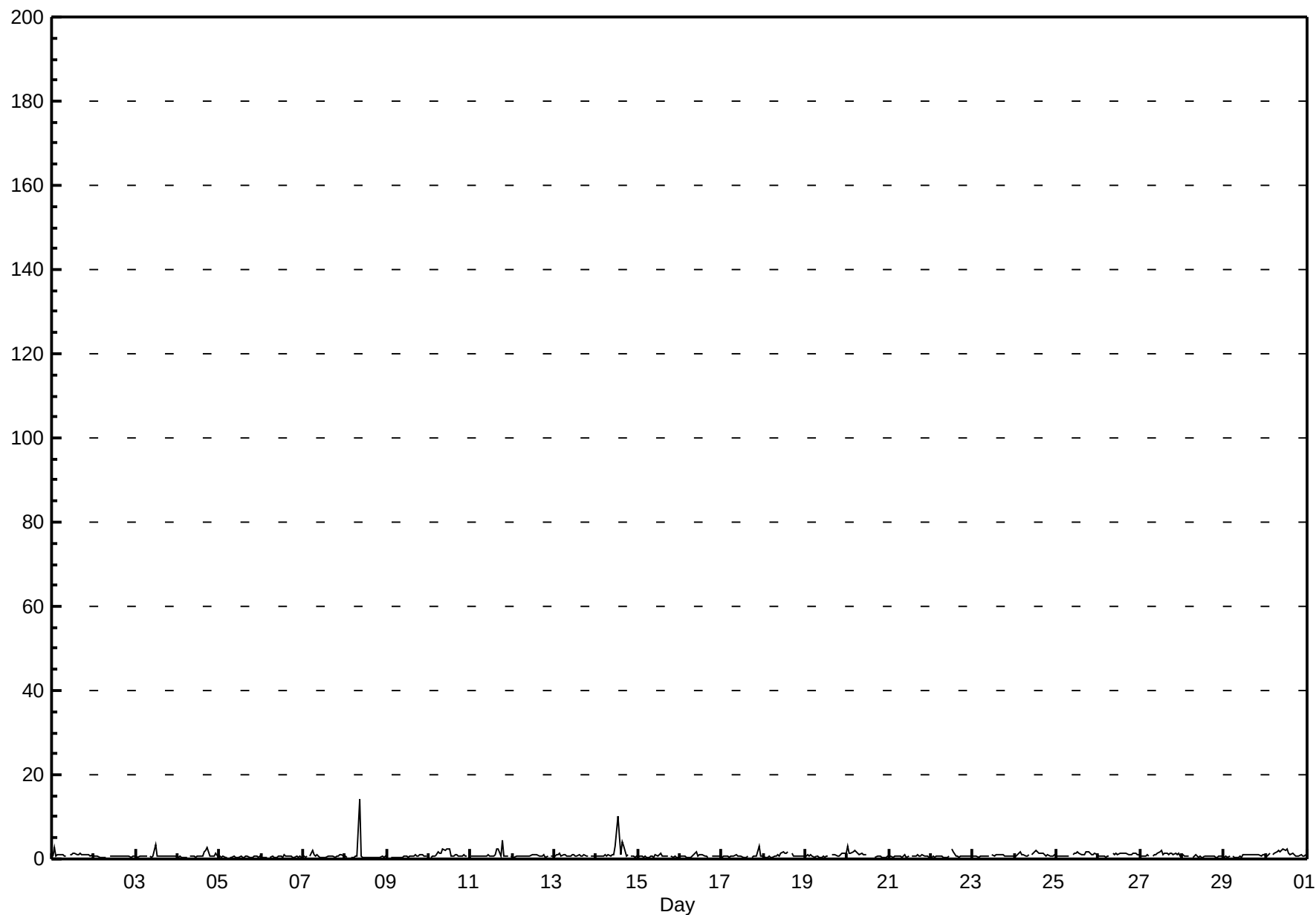
Hourly Maximums

Sulphur Dioxide (SO₂) - ppb Evergreen Park - November 2012

Maximum Value: 14.3 ppb on Nov 8 09:00																				Maximum Daily Average: 1.7 ppb on Nov 14										Hours in Service: 720									
Minimum Value: 0 ppb on Nov 6 08:00																				Minimum Daily Average: 0.5 ppb on Nov 5										Hours of Data: 686									
Maximum Diurnal Average: 1.4 ppb at hour 13																				Minimum Diurnal Average: 0.6 ppb at hour 3										Hours of Missing Data: 34									
Monthly Average: 0.86 ppb																				Percentiles: P ₁ = 0.3 P ₁₀ = 0.5 Q ₁ = 0.5 Median = 0.7 Q ₃ = 0.9 P ₉₀ = 1.3 P ₉₉ = 2.8										Hours of Calibration: 34									
																				Percent Operational Time: 100.0																			
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24															
1-Nov	1	3	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	2.6													
2-Nov	1	1	1	0	0	0	0	0	A	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	0.6	0.8													
3-Nov	1	0	1	1	1	1	1	A	1	0	1	3	1	1	1	1	1	1	1	1	1	1	1	1	0.7	3.5													
4-Nov	0	1	0	0	0	0	A	1	1	1	0	1	1	1	1	2	2	3	1	1	1	1	1	0	0.8	2.6													
5-Nov	1	0	1	0	0	A	0	0	1	0	0	0	1	0	0	1	1	0	0	0	1	1	0	1	0.5	0.7													
6-Nov	0	0	0	1	A	0	1	0	0	0	1	1	0	1	1	1	1	1	0	0	1	0	1	0	0.5	0.9													
7-Nov	1	0	1	A	1	2	1	1	1	0	0	0	0	0	1	1	1	1	0	1	1	1	1	1	0.7	2.0													
8-Nov	1	0	A	0	0	1	1	1	14	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1.1	14.3													
9-Nov	0	A	0	0	0	0	0	0	0	0	1	1	0	1	1	1	1	1	1	1	1	1	1	1	0.6	1.0													
10-Nov	A	0	1	1	1	2	1	1	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	A	1.2	2.5													
11-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	1	4	1	1	1	A	1	1.0	4.4													
12-Nov	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	A	1	1	0.7	1.1													
13-Nov	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	1.2													
14-Nov	1	1	1	1	1	1	1	1	1	1	1	3	10	6	1	4	3	1	1	A	1	1	0	1	1.7	10.1													
15-Nov	0	1	1	0	1	0	0	1	1	0	1	1	1	1	1	1	1	1	A	1	0	1	0	0	0.6	1.4													
16-Nov	1	1	1	1	0	0	0	1	1	2	1	1	1	1	1	1	1	A	1	1	1	1	1	1	0.7	1.5													
17-Nov	0	1	1	1	0	1	1	1	1	1	1	1	0	0	0	1	A	1	1	1	1	3	1	1	0.7	2.9													
18-Nov	1	0	0	1	0	0	1	1	1	1	1	2	1	1	2	A	1	1	1	1	1	1	1	1	0.8	1.7													
19-Nov	1	1	1	1	1	0	1	1	0	0	1	0	1	1	A	1	1	1	1	1	1	1	1	1	0.8	1.5													
20-Nov	3	1	1	2	2	2	1	1	1	1	1	C	C	C	C	0	1	1	1	1	0	0	0	1	1.1	3.0													
21-Nov	1	1	0	1	1	1	1	0	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	0	0.7	0.9													
22-Nov	0	1	0	1	1	1	1	1	0	0	1	A	2	2	1	1	0	1	1	1	1	1	1	1	0.7	2.3													
23-Nov	1	1	1	0	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.1													
24-Nov	1	1	1	2	1	1	1	1	1	A	1	2	2	2	1	1	1	1	1	1	1	1	1	1	1.1	1.9													
25-Nov	1	1	1	1	1	1	1	1	A	1	1	1	2	1	1	1	1	2	2	1	1	1	1	1	1.1	1.7													
26-Nov	1	1	1	1	0	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.4													
27-Nov	1	1	1	1	1	1	A	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1.1	1.9													
28-Nov	1	1	1	1	1	A	0	1	1	0	1	0	0	1	1	1	1	1	1	0	0	1	1	1	0.6	0.9													
29-Nov	0	1	0	1	A	1	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.0													
30-Nov	1	1	1	A	1	1	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1.3	2.4													
0.7 0.7 0.6 0.7 0.7 0.8 0.7 0.7 1.3 0.8 0.9 1.1 1.4 1.1 0.9 1.1 1.0 0.8 0.9 0.7 0.7 0.8 0.8 0.7																									Diurnal Average														
3.0 2.6 1.4 1.6 2.2 2.0 1.7 2.2 14.3 2.0 2.4 3.5 10.1 5.6 1.7 4.2 3.0 2.6 4.4 1.3 1.2 2.9 1.4 1.5																									Diurnal Maximum														
C - Calibration																									A - Automated Daily Zero Span														

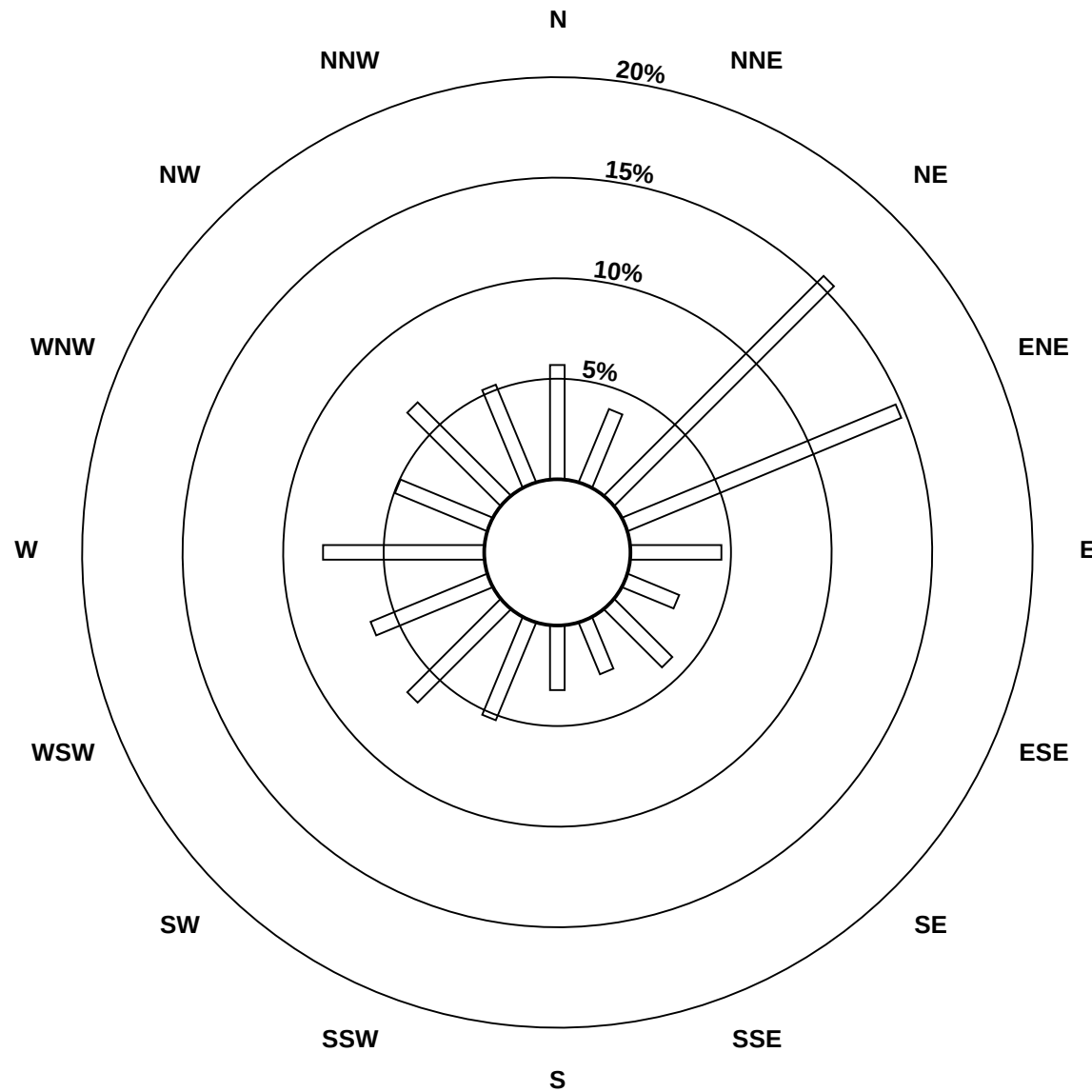
Hourly Maximums

Sulphur Dioxide (SO₂) - ppb
Evergreen Park - November 2012

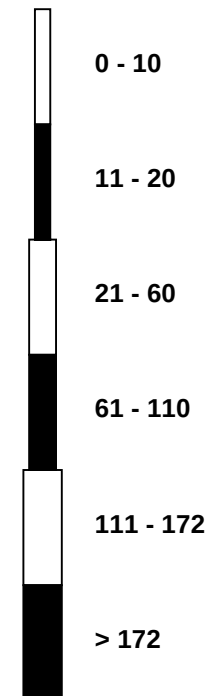


Pollutant Rose

Sulphur Dioxide (SO₂) - ppb
Evergreen Park - November 2012

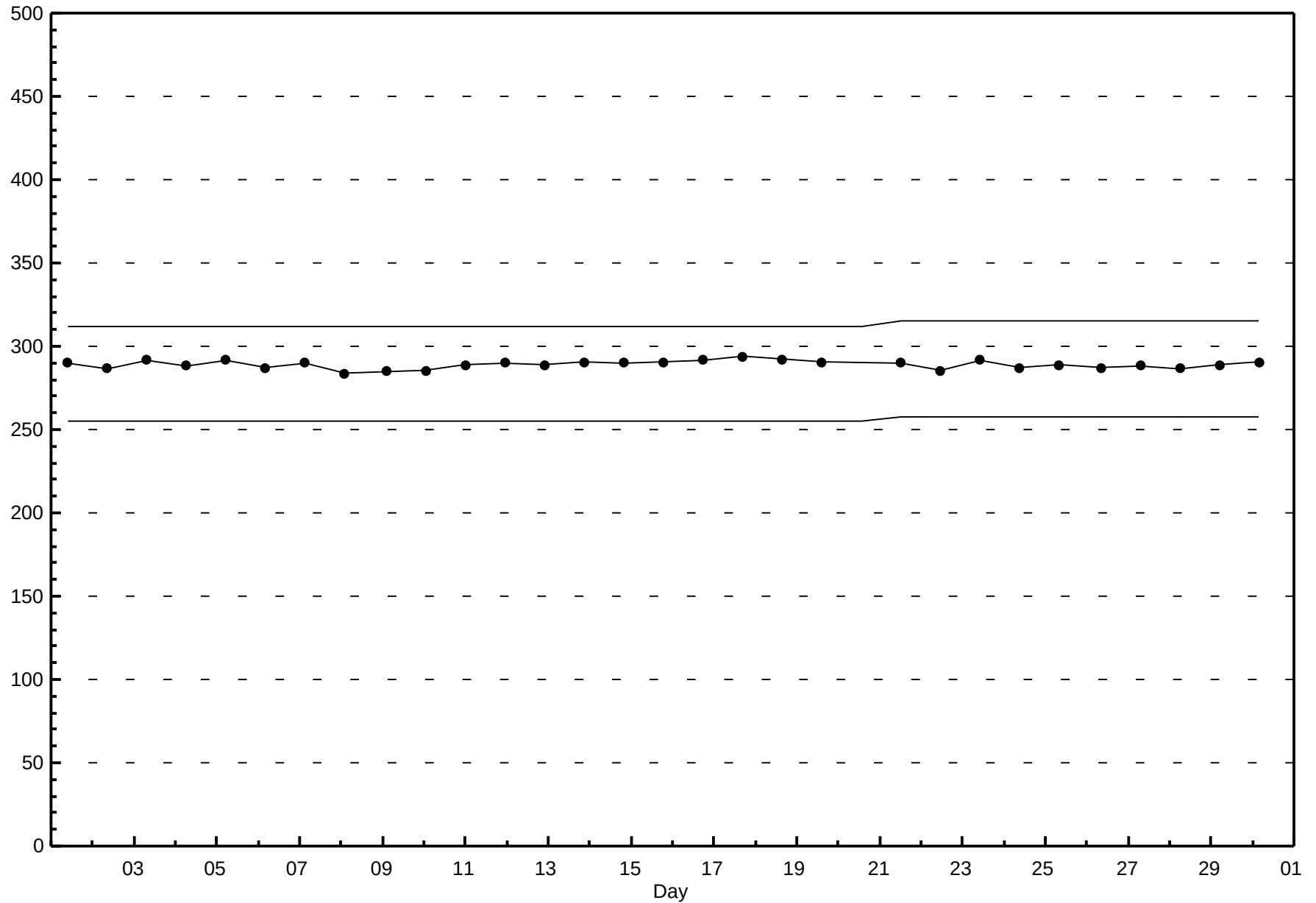


Pollutant Classes (ppb)



Span Responses

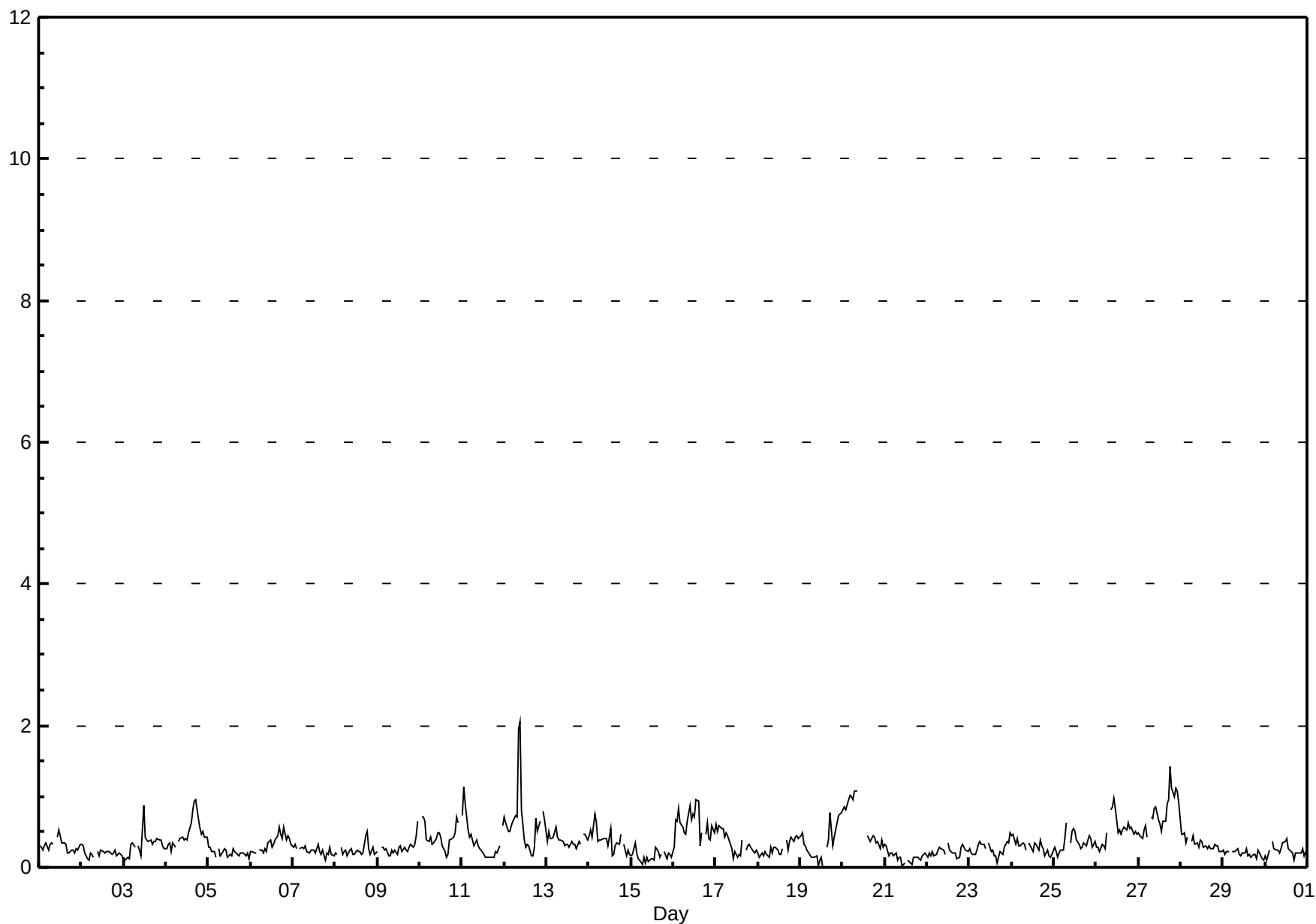
Sulphur Dioxide (SO₂)
Evergreen Park - November 2012



Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																				Hours in Service: 720							
Maximum Value: 2.1 ppb on Nov 12 10:00 Maximum Daily Average: 0.8 ppb on Nov 27																				Hours of Data: 685							
Minimum Value: 0 ppb on Nov 19 14:00 Minimum Daily Average: 0.1 ppb on Nov 21																				Hours of Missing Data: 35							
Maximum Diurnal Average: 0.4 ppb at hour 9 Minimum Diurnal Average: 0.3 ppb at hour 14																				Hours of Calibration: 35							
Monthly Average: 0.35 ppb Percentiles: P ₁ = 0.1 P ₁₀ = 0.2 Q ₁ = 0.2 Median = 0.3 Q ₃ = 0.4 P ₉₀ = 0.6 P ₉₉ = 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-Nov	0	0	0	0	0	0	0	0	0	A	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.5
2-Nov	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	0.3
3-Nov	0	0	0	0	0	0	0	A	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.9
4-Nov	0	0	0	0	0	0	A	0	0	0	0	0	0	0	1	1	1	1	1	1	0	1	0	0	0	0.5	1.0
5-Nov	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	0.3
6-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0.3	0.6
7-Nov	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
8-Nov	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0.2	0.5
9-Nov	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.3	0.6	
10-Nov	A	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	A	0.4	0.7	
11-Nov	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	0.4	1.1	
12-Nov	1	1	1	1	1	1	1	1	2	2	1	0	0	0	0	0	0	0	1	1	1	A	1	1	0.7	2.1	
13-Nov	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.4	0.6	
14-Nov	0	1	0	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	A	0	0	0	0	0.4	0.8	
15-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0.2	0.3	
16-Nov	0	1	1	1	1	1	0	0	1	1	1	1	1	1	1	0	0	A	0	1	0	0	1	0	0.6	1.0	
17-Nov	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0.3	0.6	
18-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0.3	0.5	
19-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	1	0	0	1	1	1	1	0.3	0.8	
20-Nov	1	1	1	1	1	1	1	1	1	C	C	C	C	C	0	0	0	0	0	0	0	0	0	0	0.6	1.1	
21-Nov	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	
22-Nov	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	
23-Nov	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.5	
24-Nov	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	
25-Nov	0	0	0	0	0	0	0	0	1	A	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0.4	0.6	
26-Nov	0	0	0	0	0	0	0	A	1	1	1	1	0	1	0	1	1	1	1	1	1	0	1	0	0.5	1.0	
27-Nov	0	0	0	1	1	0	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.4	
28-Nov	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.5	
29-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3	
30-Nov	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	
																								Diurnal Average			
																								Diurnal Maximum			
C - Calibration A - Automated Daily Zero Span																											
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb																											

Hourly Averages

Total Reduced Sulphur (TRS) - ppb
Evergreen Park - November 2012



Hourly Maximums

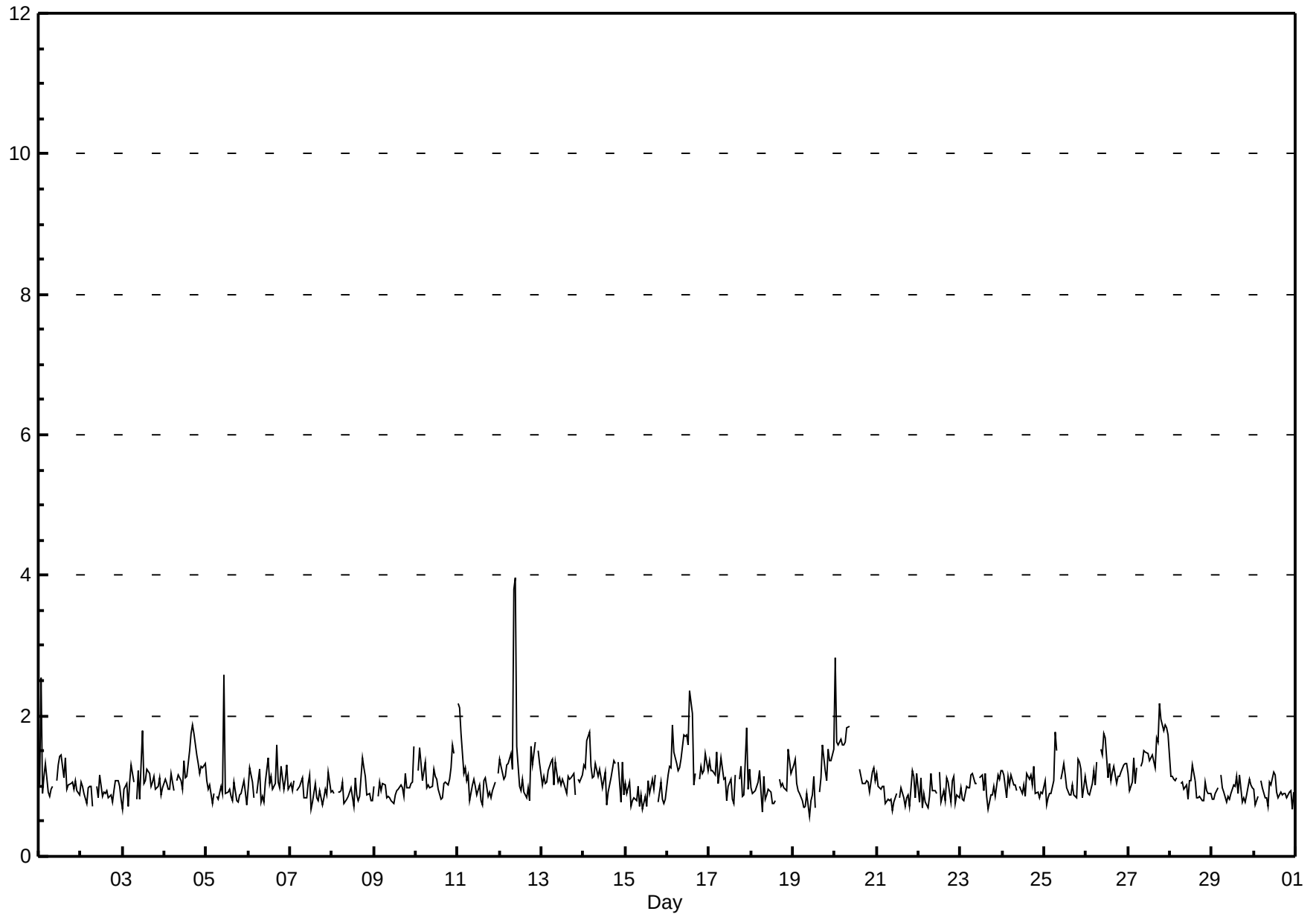
Total Reduced Sulphur (TRS) - ppb

Evergreen Park - November 2012

Maximum Value: 4.0 ppb on Nov 12 10:00																				Maximum Daily Average: 1.5 ppb on Nov 27										Hours in Service: 720									
Minimum Value: 1 ppb on Nov 19 10:00																				Minimum Daily Average: 0.9 ppb on Nov 15										Hours of Data: 685									
Maximum Diurnal Average: 1.2 ppb at hour 1																				Minimum Diurnal Average: 1.0 ppb at hour 16										Hours of Missing Data: 35									
Monthly Average: 1.09 ppb																				Percentiles: P ₁ = 0.7 P ₁₀ = 0.8 Q ₁ = 0.9 Median = 1.0 Q ₃ = 1.2 P ₉₀ = 1.4 P ₉₉ = 2.1										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-Nov	1	3	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.1	2.5													
2-Nov	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.2													
3-Nov	1	1	1	1	1	1	1	A	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.8													
4-Nov	1	1	1	1	1	1	A	1	1	1	1	1	1	1	2	2	2	2	1	1	1	1	1	1	1.2	1.9													
5-Nov	1	1	1	1	1	A	1	1	1	1	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	2.6													
6-Nov	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1.1	1.6													
7-Nov	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.2													
8-Nov	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.4													
9-Nov	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.0	1.6													
10-Nov	A	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	A	1.1	1.6													
11-Nov	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1.1	2.2													
12-Nov	1	1	1	1	1	1	1	1	4	4	2	1	1	1	1	1	1	1	2	1	2	A	2	1	1.5	4.0													
13-Nov	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	1.4													
14-Nov	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1.2	1.8													
15-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	0.9	1.2													
16-Nov	1	1	1	2	1	1	1	1	1	2	2	2	2	2	2	1	1	A	1	1	1	1	1	1	1.4	2.4													
17-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	2	1	1	1.1	1.8													
18-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	2	1	1	1.0	1.5													
19-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	2	1	1	2	1	1	2	1.1	1.6													
20-Nov	3	2	2	2	2	2	2	2	2	C	C	C	C	C	1	1	1	1	1	1	1	1	1	1	1.4	2.8													
21-Nov	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	0.9	1.2													
22-Nov	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													
23-Nov	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.2													
24-Nov	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.3													
25-Nov	1	1	1	1	1	1	2	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.1	1.8													
26-Nov	1	1	1	1	1	1	1	A	2	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1.2	1.7													
27-Nov	1	1	1	1	1	1	A	1	1	2	1	1	1	1	1	1	2	2	2	2	2	2	2	2	1.5	2.2													
28-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.3													
29-Nov	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	1.2													
30-Nov	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.2													
																								Diurnal Average															
																								Diurnal Maximum															
C - Calibration																																							
A - Automated Daily Zero Span																																							

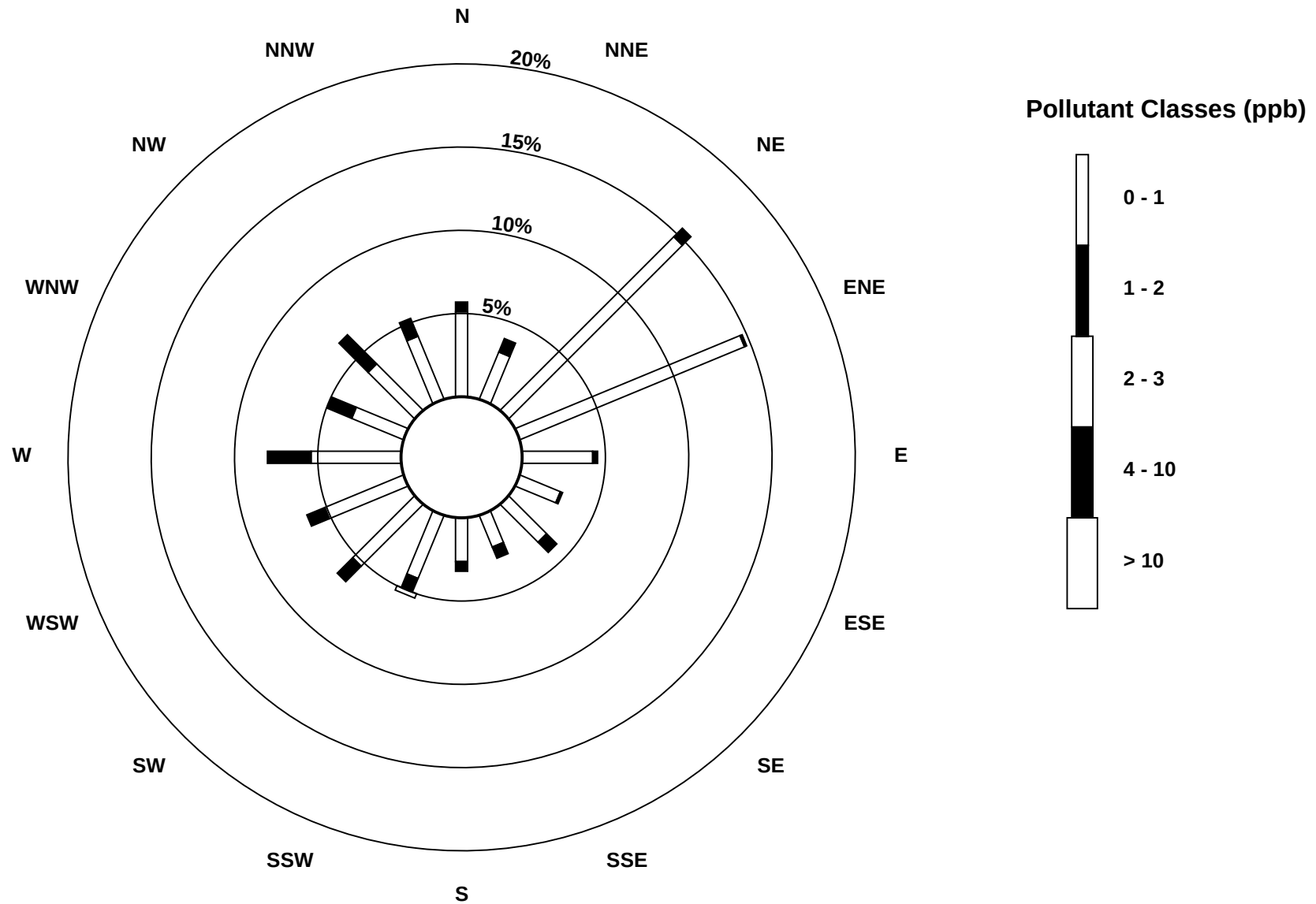
Hourly Maximums

Total Reduced Sulphur (TRS) - ppb
Evergreen Park - November 2012



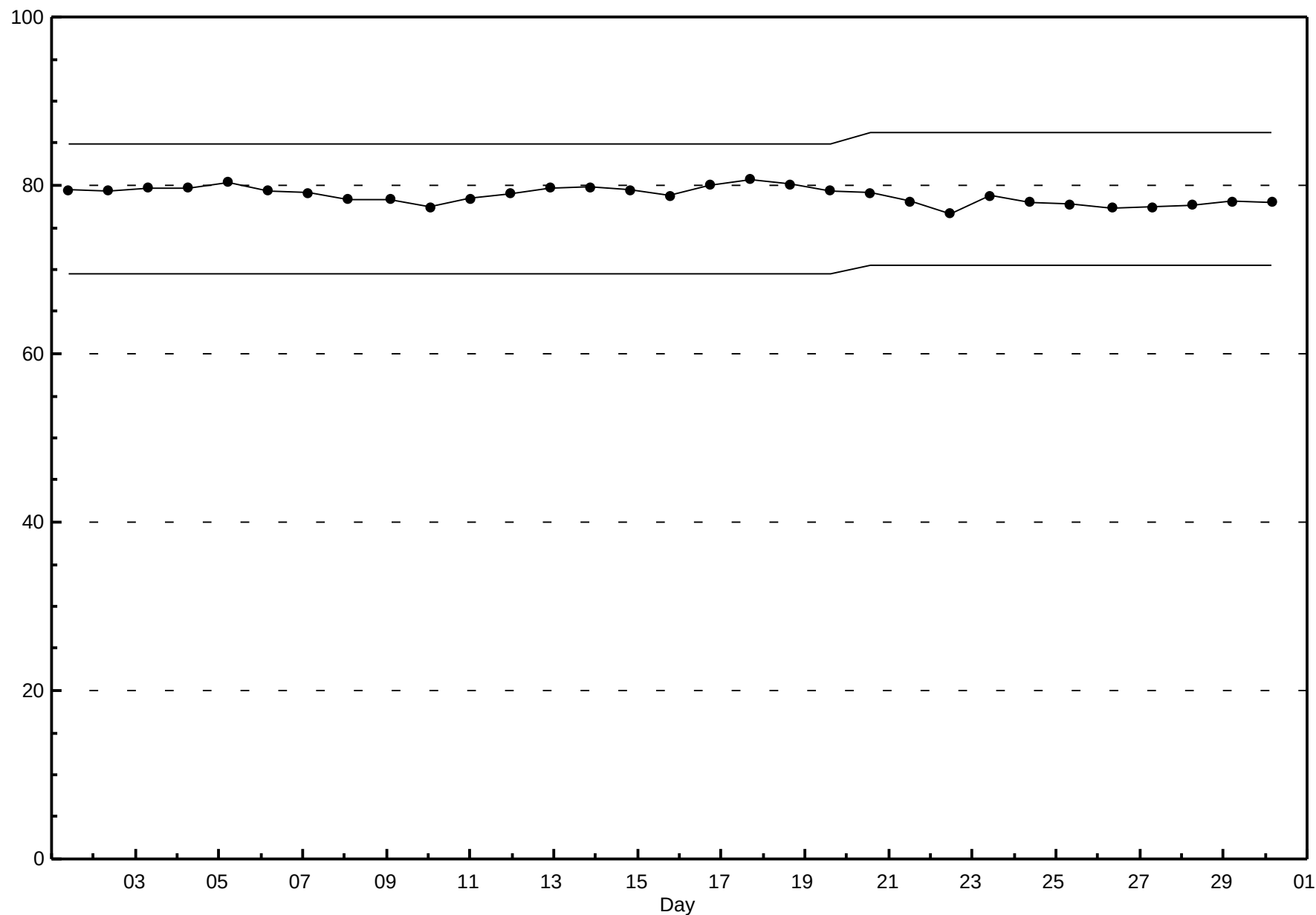
Pollutant Rose

Total Reduced Sulphur (TRS) - ppb
Evergreen Park - November 2012



Span Responses

Total Reduced Sulphur (TRS)
Evergreen Park - November 2012



Hourly Averages

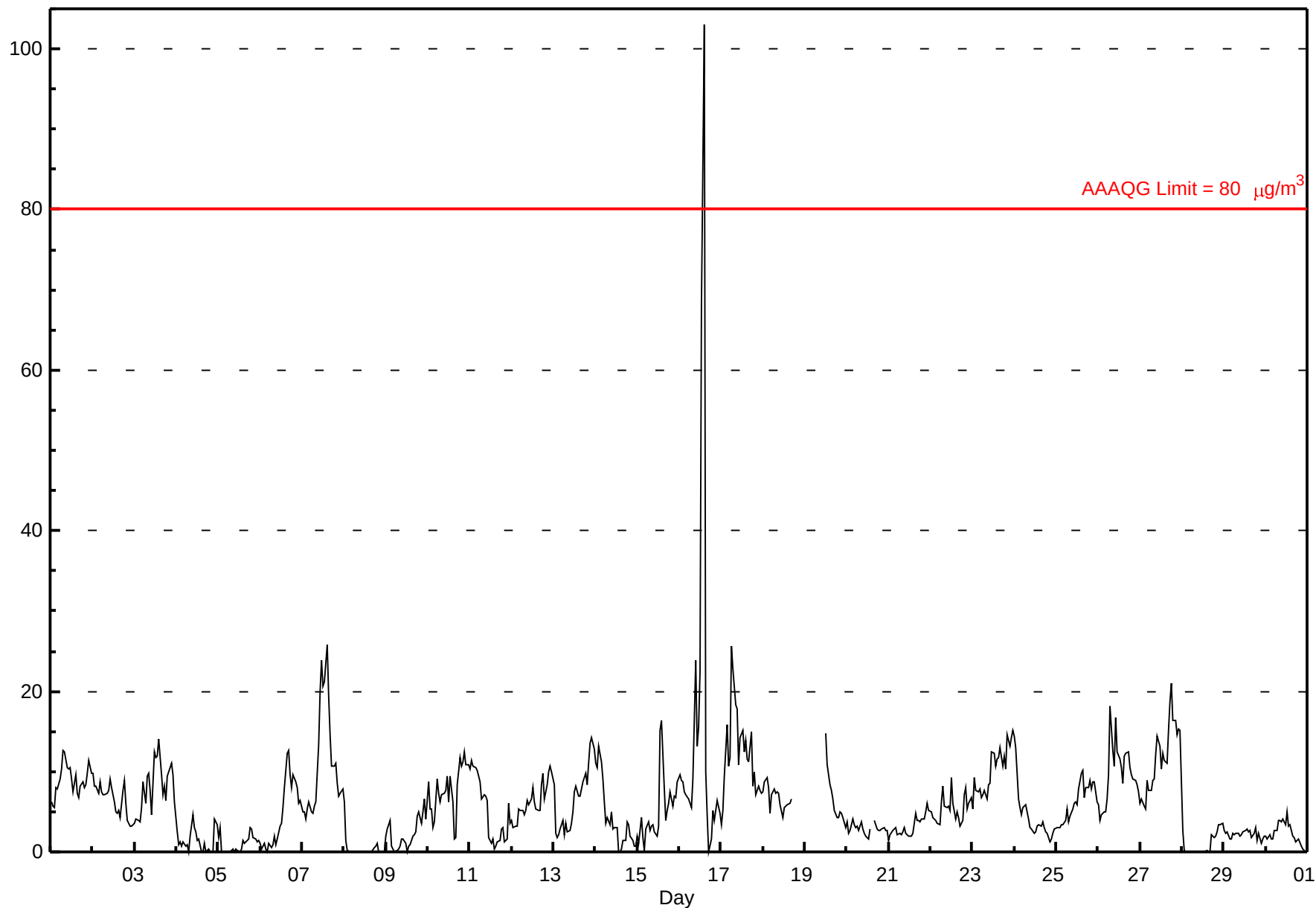
Particulate Matter 2.5 (PM_{2.5}) - µg/m³

Evergreen Park - November 2012

Number of Exceedences: 1-hr: 1 24-hr: 0 Maximum Value: 103.0 µg/m³ on Nov 16 15:00 Minimum Value: 0 µg/m³ on Nov 4 08:00 Maximum Diurnal Average: 9.9 µg/m³ at hour 15 Monthly Average: 5.95 µg/m³																								Hours in Service: 720 Hours of Data: 699 Hours of Missing Data: 21 Hours of Calibration: 0 Percent Operational Time: 97.1		
Maximum Daily Average: 14.9 µg/m³ on Nov 16 Minimum Daily Average: 0.4 µg/m³ on Nov 8 Minimum Diurnal Average: 4.4 µg/m³ at hour 5 Percentiles: P ₁ = 0.0 P ₁₀ = 0.4 Q ₁ = 2.3 Median = 5.0 Q ₃ = 8.4 P ₉₀ = 11.7 P ₉₉ = 22.2																										
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-Nov	6	6	5	8	8	9	10	13	12	10	10	11	9	8	10	7	7	8	9	8	8	10	11	10	8.9	12.6
2-Nov	10	8	8	7	9	8	7	7	7	8	9	8	6	5	5	5	4	8	9	6	4	3	3	3	6.6	9.7
3-Nov	4	4	4	4	6	9	6	9	10	8	5	12	12	12	14	10	7	8	6	9	11	11	10	6	8.2	14.1
4-Nov	3	1	1	1	1	1	1	0	2	5	3	3	1	2	0	0	1	0	0	0	0	0	4	3	1.3	4.7
5-Nov	2	3	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	2	3	3	2	2	1	1	0.9	3.0
6-Nov	1	0	1	0	0	1	1	1	2	1	2	3	4	6	8	12	13	10	8	10	9	8	6	6	4.7	12.6
7-Nov	5	5	4	5	6	5	5	6	6	13	20	24	21	21	26	19	15	11	11	11	8	7	7	8	11.2	25.9
8-Nov	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0.4	6.2
9-Nov	2	3	4	1	0	0	0	0	1	2	2	1	0	1	1	2	2	3	5	5	4	5	7	4	2.2	6.5
10-Nov	9	5	5	3	4	9	7	6	7	7	8	9	6	9	6	2	2	8	12	11	11	12	11	11	7.6	12.4
11-Nov	10	11	11	11	10	9	9	7	7	7	6	2	1	2	0	1	1	1	3	3	1	2	6	4	5.2	11.3
12-Nov	4	3	3	3	5	5	5	5	5	6	6	7	8	6	5	5	5	8	10	7	8	10	11	10	6.3	10.7
13-Nov	8	2	2	2	3	4	2	4	3	3	3	5	8	8	7	7	8	9	10	8	11	14	14	13	6.5	14.2
14-Nov	11	11	13	11	9	6	4	4	3	5	3	3	3	0	0	0	1	1	4	3	2	2	1	1	4.2	13.1
15-Nov	2	1	4	2	0	3	4	3	3	3	3	2	3	15	16	8	4	5	6	7	6	7	7	9	5.1	16.3
16-Nov	10	9	9	7	7	7	6	6	9	24	13	16	22	68	103	10	5	0	2	5	4	5	6	5	14.9	103.0
17-Nov	3	5	9	16	11	12	26	23	18	18	11	14	15	13	14	12	11	15	8	10	7	8	8	7	12.2	25.7
18-Nov	7	9	9	8	5	7	8	7	7	7	6	4	6	6	6	6	7	N	N	N	N	N	N	N	--	9.2
19-Nov	N	N	N	N	N	N	N	N	N	N	N	N	15	11	8	8	7	5	4	4	5	5	4	3	--	14.8
20-Nov	4	2	3	4	3	3	3	3	4	3	2	2	2	3	M	M	4	3	3	3	3	3	3	3	2.9	4.0
21-Nov	1	2	3	3	3	2	2	2	3	3	2	2	2	2	2	5	4	4	4	4	4	5	6	5	3.1	6.0
22-Nov	5	4	4	4	4	3	6	8	6	6	6	5	9	6	4	5	4	3	4	7	8	5	6	7	5.4	9.2
23-Nov	5	9	8	8	8	7	7	8	7	8	9	12	12	11	12	12	13	11	12	10	15	13	14	15	10.2	15.2
24-Nov	14	13	7	5	5	6	6	5	4	3	3	2	3	3	3	3	4	3	3	2	1	2	2	3	4.4	14.5
25-Nov	3	3	3	3	3	4	5	4	4	5	6	6	6	8	10	10	7	8	8	9	8	9	9	6	6.2	10.2
26-Nov	6	4	5	5	5	7	10	18	13	11	17	12	12	10	8	12	12	13	11	10	9	9	8	8	9.7	18.2
27-Nov	6	7	6	5	9	8	8	9	9	12	14	13	10	12	11	11	15	19	21	16	16	15	15	15	11.8	21.1
28-Nov	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2	3	3	3	4	0.9	3.6
29-Nov	3	2	3	2	2	2	2	2	2	2	2	2	3	3	2	3	2	2	3	1	2	1	2	2	2.2	3.0
30-Nov	2	2	2	2	2	3	3	4	4	4	4	3	5	3	3	2	2	1	1	2	1	0	0	0	2.3	5.0
5.3 4.7 4.7 4.5 4.4 4.7 5.2 5.6 5.5 6.3 6.0 6.4 6.7 8.4 9.9 6.1 5.6 5.9 6.2 6.2 5.9 6.0 6.4 5.9																								Diurnal Average		
14.5 13.0 13.1 15.9 10.6 11.7 25.7 22.7 18.2 23.8 19.9 23.8 22.5 68.1 103.0 19.5 15.1 18.7 21.1 16.3 16.4 14.6 15.4 15.2																								Diurnal Maximum		
M - Maintenance N - Not Valid																										
Alberta Ambient Air Quality Guideline (AAQG): 1-hr 80 µg/m³ Alberta Ambient Air Quality Objective (AAQO): 24-hr 30 µg/m³																										

Hourly Averages

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Evergreen Park - November 2012



Hourly Maximums

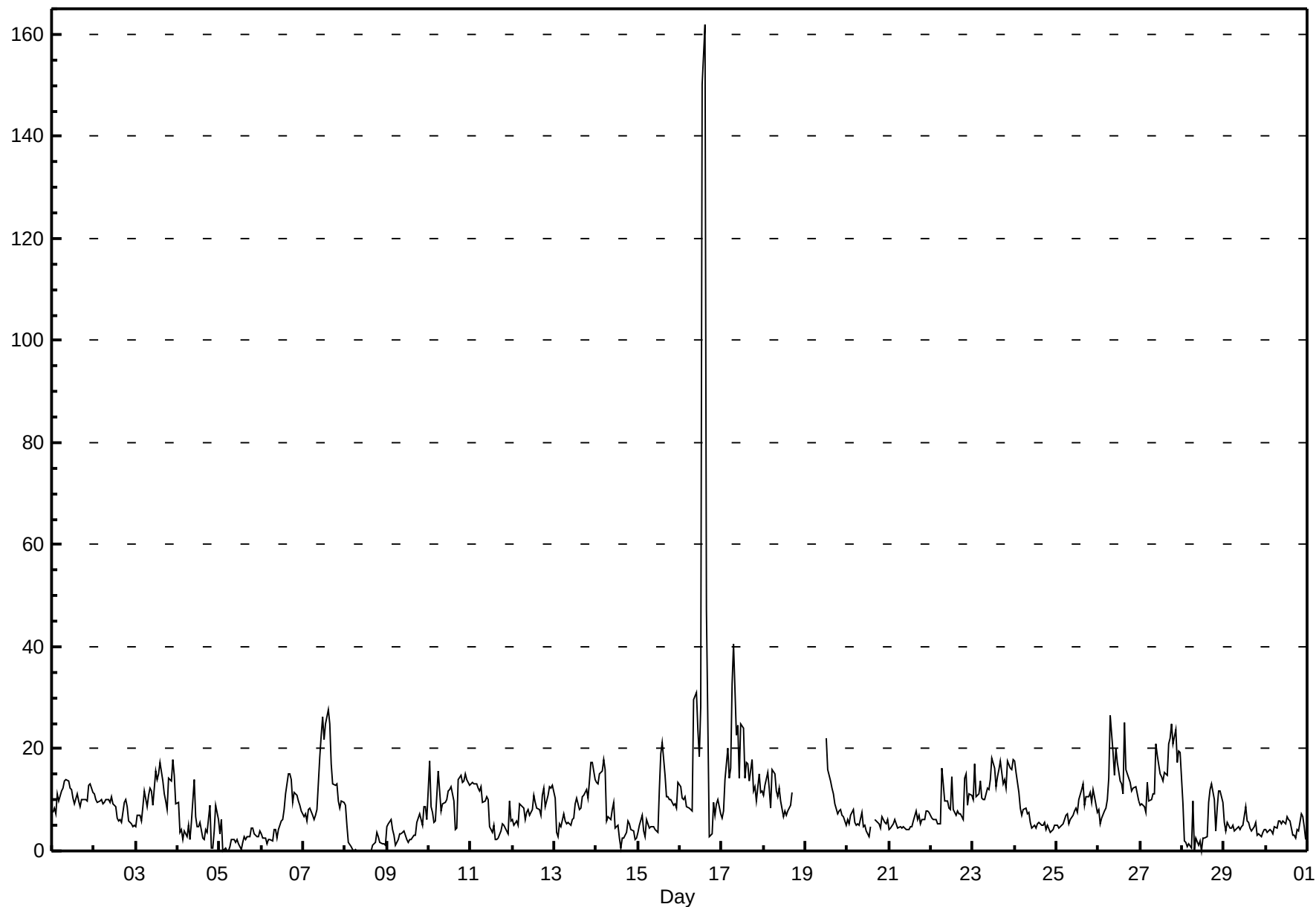
Particulate Matter 2.5 (PM_{2.5}) - µg/m³

Evergreen Park - November 2012

Maximum Value: 161.9 μg/m ³ on Nov 16 15:00																								Maximum Daily Average: 26.7 μg/m ³ on Nov 16								Hours in Service: 720	
Minimum Value: 0 μg/m ³ on Nov 5 03:00																								Minimum Daily Average: 1.3 μg/m ³ on Nov 8								Hours of Data: 699	
Maximum Diurnal Average: 14.4 μg/m ³ at hour 15																								Minimum Diurnal Average: 7.0 μg/m ³ at hour 5								Hours of Missing Data: 21	
Monthly Average: 9.10 μg/m ³																								Percentiles: P ₁ = 0.0 P ₁₀ = 2.6 Q ₁ = 4.8 Median = 7.7 Q ₃ = 11.7 P ₉₀ = 15.5 P ₉₉ = 29.0								Hours of Calibration: 0	
																								Percent Operational Time: 97.1									
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-Nov	7	8	7	11	10	12	12	14	14	14	12	12	10	9	11	10	9	10	10	10	10	13	13	11	10.8	14.1							
2-Nov	11	10	9	10	10	9	9	10	10	9	11	9	9	7	6	6	6	9	10	9	6	5	5	5	8.4	11.2							
3-Nov	5	7	7	6	9	12	9	11	12	12	9	16	14	15	17	14	11	10	8	14	14	18	15	9	11.3	18.0							
4-Nov	9	4	4	2	4	3	5	2	6	14	7	5	5	6	3	2	4	4	9	1	1	4	9	6	4.9	14.1							
5-Nov	3	6	0	1	0	0	1	2	2	2	2	1	0	2	3	2	3	3	5	4	3	3	3	4	2.3	6.2							
6-Nov	3	3	3	1	2	2	2	4	4	3	4	6	6	8	11	15	15	14	9	11	11	10	9	8	6.9	15.0							
7-Nov	7	7	6	8	8	7	6	7	8	18	23	26	22	25	28	25	17	13	13	13	10	8	10	9	13.5	27.8							
8-Nov	9	5	2	1	0	0	0	0	0	0	0	0	0	0	0	0	1	2	4	3	2	1	1	1	1.3	9.0							
9-Nov	5	5	6	4	3	1	2	3	3	4	4	2	2	2	2	3	3	5	6	7	5	9	9	6	4.3	8.7							
10-Nov	17	9	7	6	6	16	12	8	9	9	10	12	12	13	10	4	5	14	15	13	14	15	14	13	10.9	17.5							
11-Nov	13	13	13	13	12	12	13	9	10	11	10	5	4	5	2	2	3	4	5	5	5	3	10	6	7.8	13.3							
12-Nov	6	5	6	5	9	9	8	6	7	8	7	8	11	9	8	8	7	11	12	9	11	13	12	13	8.8	12.8							
13-Nov	10	4	3	5	5	7	6	5	6	5	6	7	9	10	8	8	11	11	12	10	14	17	17	14	8.8	17.5							
14-Nov	13	13	15	16	18	16	6	7	6	8	9	5	5	3	1	3	3	4	6	5	4	4	2	3	7.2	17.9							
15-Nov	4	5	7	4	3	6	5	5	5	5	4	4	12	19	21	15	11	11	10	10	9	9	8	13	8.5	21.4							
16-Nov	13	10	10	11	9	8	8	8	30	31	24	18	28	150	162	47	25	3	3	9	7	9	10	7	26.7	161.9							
17-Nov	6	8	14	20	14	16	33	41	23	25	14	25	24	14	17	17	14	18	12	13	10	15	11	12	17.3	40.6							
18-Nov	11	13	15	12	8	16	15	12	11	12	10	7	8	7	8	9	11	N	N	N	N	N	N	N	--	16.0							
19-Nov	N	N	N	N	N	N	N	N	N	N	N	N	22	16	14	12	11	9	7	8	8	7	7	5	--	22.1							
20-Nov	6	5	7	8	6	5	5	5	7	5	5	4	3	5	M	M	6	6	5	5	7	6	5	6	5.5	8.2							
21-Nov	4	4	5	6	5	4	5	5	5	5	4	4	5	5	6	8	6	7	5	6	6	8	8	7	5.6	8.0							
22-Nov	7	6	6	6	5	5	16	13	10	10	8	8	15	8	7	8	7	7	6	14	15	9	11	11	9.1	16.3							
23-Nov	10	17	11	11	14	10	10	10	12	12	14	18	16	13	15	16	18	13	14	12	18	16	16	18	13.9	18.2							
24-Nov	18	16	11	8	7	8	8	7	7	6	5	5	5	5	6	5	5	6	4	5	4	4	4	5	6.8	17.7							
25-Nov	5	5	5	5	5	7	7	5	6	7	8	8	7	10	12	13	9	11	11	11	9	12	11	8	8.2	13.1							
26-Nov	8	5	6	8	8	10	14	26	19	15	20	17	14	13	11	25	16	14	13	12	12	13	11	10	13.5	26.5							
27-Nov	9	9	9	7	13	10	10	11	11	21	19	15	15	14	16	15	21	22	25	21	24	17	20	19	15.5	25.0							
28-Nov	9	2	2	1	1	1	10	0	3	1	2	0	3	3	3	9	12	13	10	4	8	12	12	9	5.3	13.1							
29-Nov	5	4	6	4	5	5	4	4	5	4	5	5	9	6	6	5	4	5	6	3	3	3	4	4	4.6	8.7							
30-Nov	4	4	4	4	3	5	5	6	6	5	6	5	7	6	6	3	3	3	4	4	7	7	5	2	4.7	7.2							
8.3 7.3 7.1 7.1 7.0 7.7 8.5 8.5 8.9 9.6 9.0 8.9 10.0 13.6 14.4 10.7 9.2 9.0 9.0 8.7 8.8 9.3 9.4 8.5																								Diurnal Average									
17.7 17.0 15.3 20.2 17.9 16.3 32.8 40.6 29.7 31.1 23.8 26.2 28.2 150.2 161.9 47.3 25.0 22.1 25.0 20.9 23.8 18.0 19.7 19.4																								Diurnal Maximum									
M - Maintenance N - Not Valid																																	

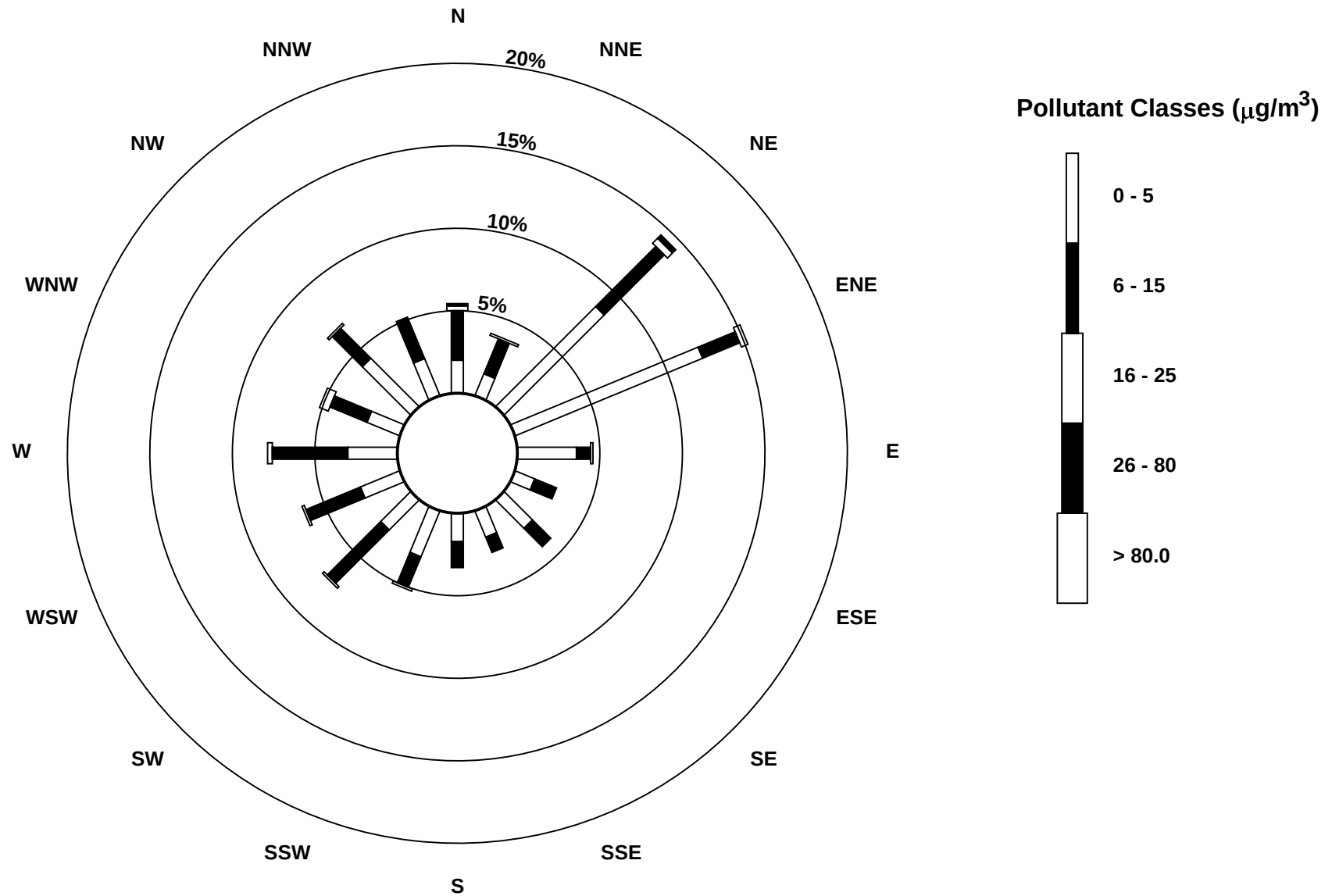
Hourly Maximums

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Evergreen Park - November 2012



Pollutant Rose

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Evergreen Park - November 2012



Hourly Averages

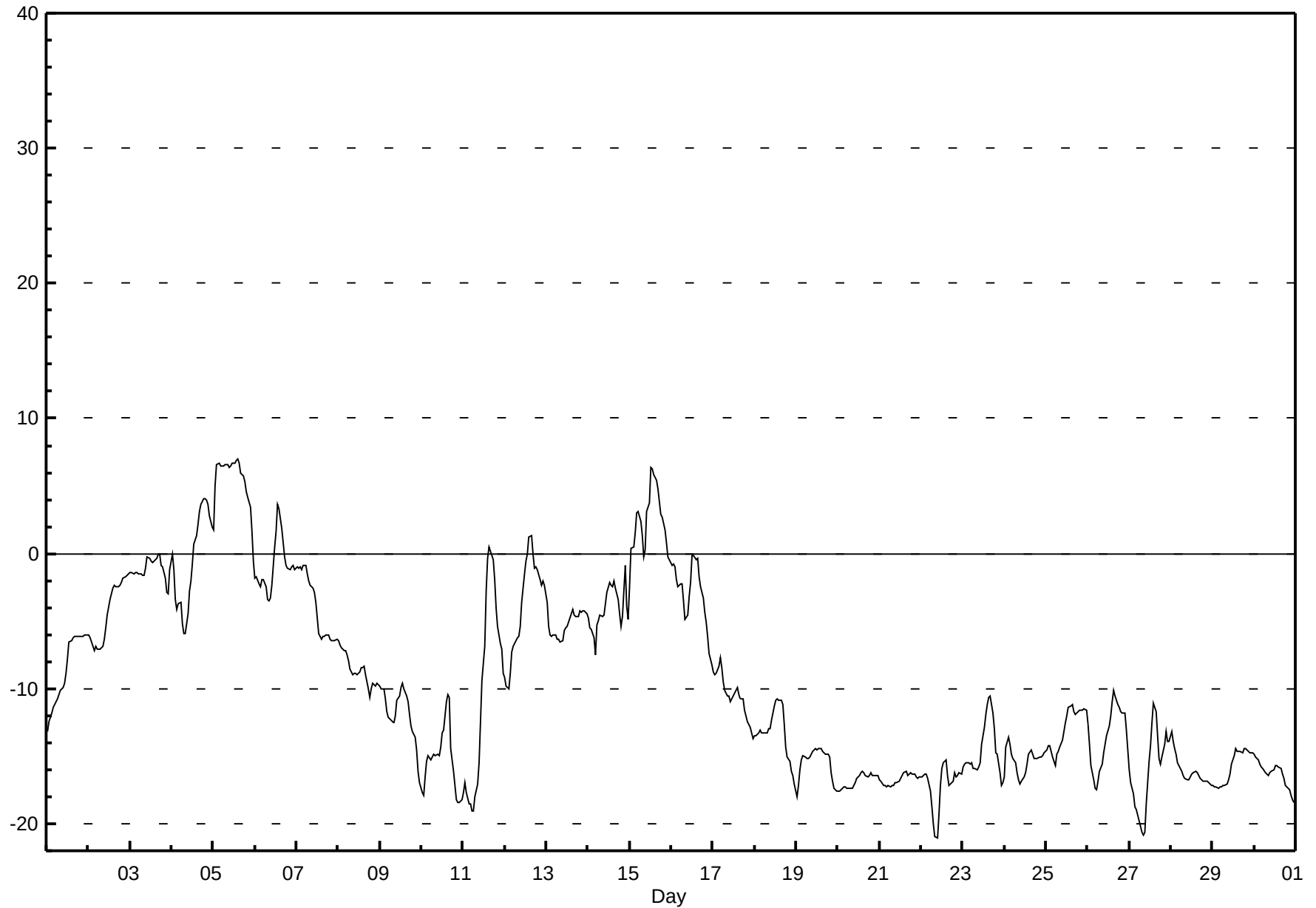
External Temperature (ET) - °C

Evergreen Park - November 2012

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 7.0 °C on Nov 5 15:00 Maximum Daily Average: 5.4 °C on Nov 5																				Hours in Service: 720 Hours of Data: 720 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0						
Minimum Value: -21 °C on Nov 22 10:00 Maximum Diurnal Average: -7.4 °C at hour 16 Monthly Average: -9.48 °C Minimum Daily Average: -17.2 °C on Nov 22 Minimum Diurnal Average: -10.9 °C at hour 9 Percentiles: P ₁ = -19.4 P ₁₀ = -17.1 Q ₁ = -15.7 Median = -11.0 Q ₃ = -3.5 P ₉₀ = -0.2 P ₉₉ = 6.6																										
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-Nov	-13	-12	-12	-12	-11	-11	-11	-10	-10	-10	-10	-9	-8	-7	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-8.7	-6.0
2-Nov	-6	-6	-7	-7	-7	-7	-7	-7	-7	-6	-6	-5	-3	-3	-3	-2	-2	-2	-2	-2	-2	-2	-2	-1	-4.4	-1.5
3-Nov	-1	-1	-1	-1	-1	-1	-2	-2	-2	-1	0	0	-1	-1	-1	0	0	0	-1	-1	-2	-3	-3	-1	-1.2	0.0
4-Nov	0	-1	-3	-4	-4	-4	-5	-6	-6	-4	-3	-2	-1	1	1	2	3	4	4	4	4	4	3	2	-0.5	4.1
5-Nov	2	5	7	7	6	6	6	7	7	6	7	7	7	7	7	7	6	6	5	5	4	3	2	-1	5.4	7.0
6-Nov	-2	-2	-2	-2	-2	-2	-2	-3	-4	-3	-2	1	2	4	3	2	1	0	-1	-1	-1	-1	-1	-1	-0.9	3.6
7-Nov	-1	-1	-1	-1	-1	-1	-1	-2	-2	-3	-3	-4	-5	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-3.9	-0.9
8-Nov	-6	-7	-7	-7	-7	-8	-8	-9	-9	-9	-9	-9	-9	-8	-8	-8	-9	-10	-11	-10	-10	-10	-10	-10	-8.6	-6.4
9-Nov	-10	-10	-10	-11	-12	-12	-12	-12	-13	-12	-11	-11	-10	-10	-10	-11	-11	-12	-13	-13	-14	-15	-16	-17	-11.9	-9.6
10-Nov	-18	-18	-17	-15	-15	-15	-15	-15	-15	-15	-15	-14	-13	-13	-11	-10	-11	-14	-16	-17	-18	-18	-18	-18	-15.3	-10.5
11-Nov	-18	-17	-18	-19	-19	-19	-19	-18	-17	-16	-12	-9	-7	-3	0	0	0	0	-2	-4	-5	-7	-7	-9	-10.1	0.5
12-Nov	-9	-10	-10	-9	-7	-7	-6	-6	-6	-5	-4	-2	-1	0	1	1	0	-1	-1	-1	-2	-2	-2	-2	-3.8	1.3
13-Nov	-4	-5	-6	-6	-6	-6	-6	-6	-7	-6	-6	-6	-5	-5	-4	-4	-5	-5	-5	-4	-4	-4	-4	-4	-5.2	-3.6
14-Nov	-5	-6	-6	-6	-7	-5	-5	-5	-5	-5	-4	-3	-2	-2	-2	-2	-3	-3	-4	-5	-5	-1	-4	-5	-4.1	-0.8
15-Nov	-2	0	0	2	3	3	2	1	0	0	3	4	6	6	6	5	5	4	3	3	2	1	0	0	2.4	6.4
16-Nov	-1	-1	-1	-2	-2	-2	-2	-3	-5	-5	-3	-2	0	0	0	0	-2	-2	-3	-4	-5	-6	-7	-8	-2.9	-0.1
17-Nov	-9	-9	-9	-8	-8	-8	-9	-10	-11	-11	-11	-11	-10	-10	-10	-10	-11	-11	-12	-12	-12	-13	-13	-14	-10.5	-7.7
18-Nov	-14	-14	-13	-13	-13	-13	-13	-13	-13	-13	-12	-11	-11	-11	-11	-11	-11	-13	-14	-15	-15	-16	-16	-17	-13.2	-10.8
19-Nov	-18	-17	-16	-15	-15	-15	-15	-15	-15	-15	-15	-14	-15	-14	-14	-15	-15	-15	-15	-15	-16	-17	-17	-18	-15.5	-14.4
20-Nov	-18	-18	-17	-17	-17	-17	-17	-17	-17	-17	-17	-17	-16	-16	-16	-16	-16	-17	-16	-16	-16	-16	-16	-16	-16.8	-16.2
21-Nov	-17	-17	-17	-17	-17	-17	-17	-17	-17	-17	-17	-17	-17	-16	-16	-16	-16	-16	-16	-16	-16	-17	-17	-17	-16.7	-16.1
22-Nov	-17	-16	-16	-16	-17	-18	-19	-20	-21	-21	-19	-17	-16	-15	-15	-16	-17	-17	-17	-16	-17	-16	-16	-16	-17.2	-15.3
23-Nov	-16	-16	-16	-15	-16	-15	-16	-16	-16	-16	-15	-14	-13	-12	-11	-11	-11	-12	-13	-15	-15	-16	-17	-17	-14.5	-10.6
24-Nov	-17	-14	-14	-14	-15	-15	-16	-16	-17	-17	-17	-17	-16	-16	-15	-15	-15	-15	-15	-15	-15	-15	-15	-15	-15.4	-13.6
25-Nov	-15	-14	-14	-15	-15	-16	-15	-15	-14	-14	-13	-13	-12	-11	-11	-11	-12	-12	-12	-12	-12	-12	-11	-12	-13.0	-11.2
26-Nov	-13	-14	-16	-17	-17	-18	-17	-16	-16	-15	-14	-13	-13	-12	-11	-10	-11	-11	-11	-12	-12	-12	-13	-15	-13.6	-10.1
27-Nov	-16	-17	-18	-19	-19	-19	-20	-21	-21	-21	-19	-15	-14	-13	-11	-12	-13	-15	-16	-15	-14	-13	-14	-14	-16.2	-11.1
28-Nov	-13	-14	-14	-15	-15	-16	-16	-16	-17	-17	-17	-17	-16	-16	-16	-16	-16	-17	-17	-17	-17	-17	-17	-17	-16.1	-13.1
29-Nov	-17	-17	-17	-17	-17	-17	-17	-17	-17	-17	-17	-16	-16	-15	-14	-15	-15	-15	-15	-14	-14	-15	-15	-15	-15.8	-14.5
30-Nov	-15	-15	-15	-16	-16	-16	-16	-16	-16	-16	-16	-16	-16	-16	-16	-16	-16	-17	-17	-17	-17	-18	-18	-18	-16.4	-14.8
																									Diurnal Average	
																									Diurnal Maximum	

Hourly Averages

External Temperature (ET) - °C
Evergreen Park - November 2012



Hourly Averages

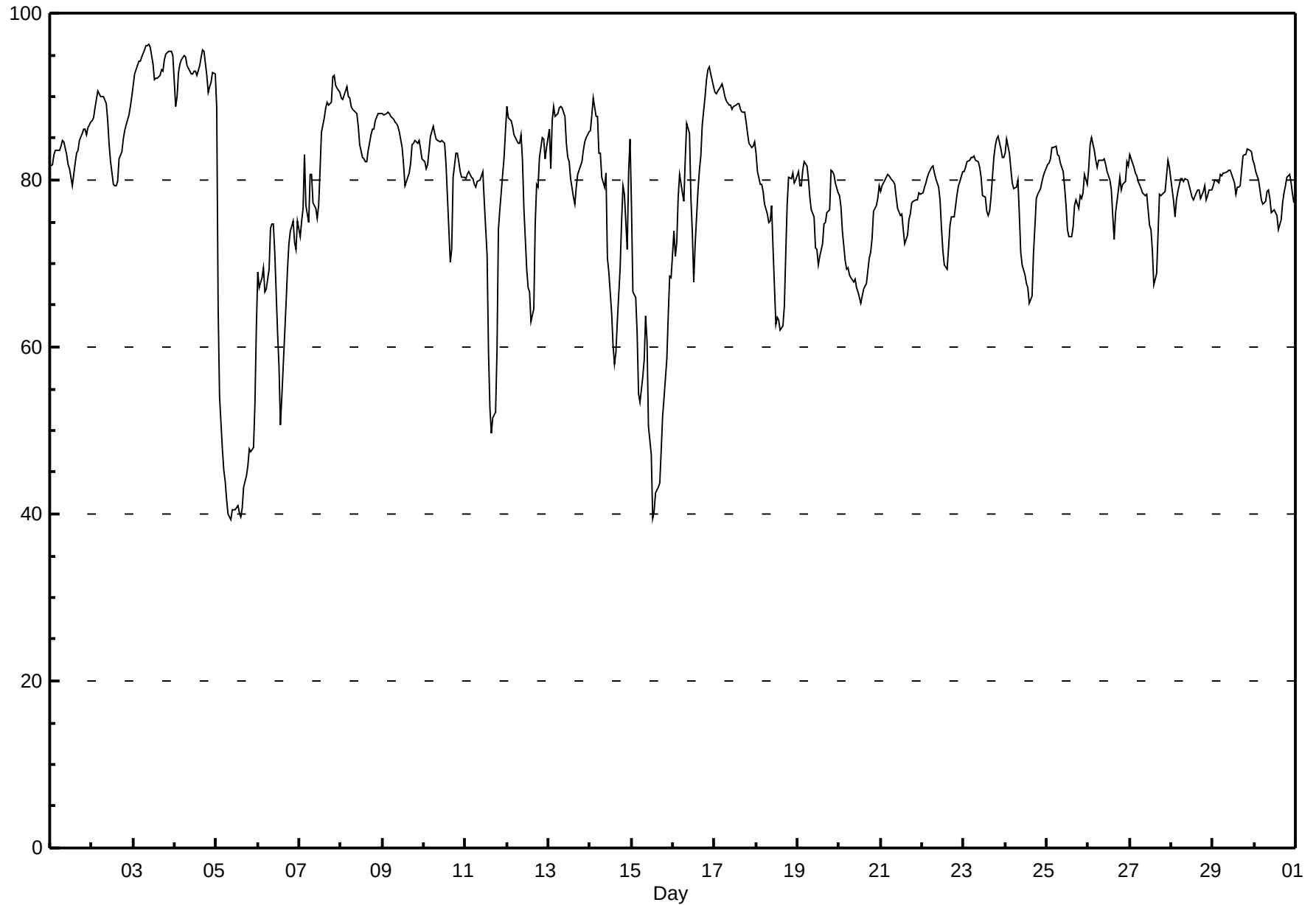
Relative Humidity (RH) - %

Evergreen Park - November 2012

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																			Hours in Service: 720											
Maximum Value: 96.2 % on Nov 3 10:00																			Maximum Daily Average: 94.2 % on Nov 3						Hours of Data: 720					
Minimum Value: 39 % on Nov 5 09:00																			Minimum Daily Average: 47.5 % on Nov 5						Hours of Missing Data: 0					
Maximum Diurnal Average: 82.4 % at hour 1																			Minimum Diurnal Average: 72.0 % at hour 15						Hours of Calibration: 0					
Monthly Average: 78.62 %																			Percentiles: P ₁ = 40.5 P ₁₀ = 66.5 Q ₁ = 75.8 Median = 80.3 Q ₃ = 84.7 P ₉₀ = 90.0 P ₉₉ = 95.3						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-Nov	82	82	83	84	84	84	84	85	85	83	82	81	80	79	82	83	83	85	86	86	86	85	86	87	83.6	87.0				
2-Nov	87	87	89	91	90	90	90	90	89	87	84	82	79	79	79	80	83	83	85	86	87	88	89	90	86.0	90.7				
3-Nov	91	93	94	94	94	95	96	96	96	96	96	94	92	92	92	93	93	93	94	95	95	95	95	95	94.2	96.2				
4-Nov	89	90	93	94	94	95	95	94	93	93	93	93	93	93	94	95	96	95	93	90	91	92	93	93	93.0	95.6				
5-Nov	89	65	54	48	45	44	42	40	39	41	41	40	41	40	40	41	43	45	46	48	47	48	53	62	47.5	88.7				
6-Nov	69	67	68	70	67	67	69	74	75	75	71	62	58	51	54	61	65	69	72	74	75	73	72	75	68.0	75.0				
7-Nov	73	75	77	83	77	75	81	81	77	77	75	77	81	86	87	89	89	89	89	92	92	91	91	90	83.2	92.5				
8-Nov	90	90	90	91	90	90	89	89	88	88	87	84	83	82	82	82	84	85	86	86	87	88	88	88	86.9	91.1				
9-Nov	88	88	88	88	88	88	87	87	87	86	86	84	82	79	80	81	82	84	84	85	84	85	84	83	84.9	88.1				
10-Nov	82	81	82	84	85	87	86	85	85	85	85	85	84	82	74	70	72	80	83	83	82	81	80	80	81.8	86.5				
11-Nov	80	81	81	80	80	80	79	80	80	80	81	78	71	60	53	50	51	52	59	74	76	81	83	86	73.2	85.9				
12-Nov	89	87	87	87	85	85	84	84	85	82	77	69	67	67	63	65	75	79	79	83	85	85	82	84	79.9	88.8				
13-Nov	86	81	87	89	88	88	89	89	89	88	84	83	82	80	78	77	79	81	82	82	84	84	85	86	84.2	88.8				
14-Nov	86	88	90	88	88	83	83	80	79	81	71	69	64	60	58	59	63	69	75	79	78	72	81	85	76.2	89.8				
15-Nov	77	67	66	62	54	53	57	58	64	61	50	47	39	40	43	43	44	48	52	54	59	64	68	68	55.7	77.0				
16-Nov	74	71	73	78	81	78	77	83	87	86	78	74	68	72	79	81	83	87	90	92	93	94	93	91	81.7	93.6				
17-Nov	91	90	91	91	91	91	90	89	89	89	89	89	89	89	89	89	88	88	87	86	84	84	84	85	88.4	91.5				
18-Nov	83	81	80	80	79	77	76	75	75	77	72	63	64	63	62	63	65	71	77	80	80	81	80	80	74.3	83.1				
19-Nov	81	79	79	81	82	82	80	78	76	76	72	72	70	71	72	75	75	76	76	81	81	81	80	79	77.3	82.2				
20-Nov	78	77	74	70	69	69	69	68	68	68	67	67	65	66	67	67	68	71	71	73	76	77	78	79	71.0	79.2				
21-Nov	79	79	80	80	81	81	80	80	79	78	77	76	76	74	72	73	75	76	77	77	78	78	78	78	77.6	80.6				
22-Nov	79	79	80	80	81	81	82	81	80	79	78	74	71	70	69	72	75	76	76	77	78	79	80	81	77.4	81.7				
23-Nov	81	82	82	82	83	83	83	82	82	81	80	78	78	76	76	76	78	83	84	85	85	84	83	83	81.3	85.2				
24-Nov	83	85	83	81	80	79	79	80	76	71	70	69	68	67	65	66	71	74	78	78	79	80	80	81	76.0	84.8				
25-Nov	82	82	83	84	84	84	83	83	82	81	79	77	74	73	73	74	77	78	77	78	78	78	81	80	79.4	84.1				
26-Nov	81	84	85	84	82	82	82	82	82	82	82	81	80	79	76	73	76	79	80	79	79	80	82	82	80.6	85.0				
27-Nov	83	82	82	81	81	80	79	78	78	78	78	75	74	72	67	69	74	78	78	78	79	80	82	81	77.9	83.0				
28-Nov	79	77	76	78	79	80	80	80	80	80	79	78	78	78	79	79	79	78	79	79	78	78	79	79	78.6	80.2				
29-Nov	79	80	80	80	81	81	81	81	81	81	81	81	80	78	79	79	79	83	83	83	84	84	83	82	81.0	83.8				
30-Nov	82	81	80	79	78	77	77	79	79	78	76	76	76	76	74	75	77	79	79	80	81	80	78	77	78.1	81.9				
82.4 81.1 81.1 81.3 80.7 80.2 80.3 80.4 80.2 79.6 77.3 75.2 73.6 72.5 72.0 72.7 74.7 77.1 78.6 80.2 80.8 80.9 81.8 82.3																								Diurnal Average						
91.3 92.8 93.7 94.2 94.4 94.9 95.5 96.0 96.1 96.2 95.9 93.8 93.1 92.5 93.7 94.7 95.6 95.4 94.4 95.1 95.3 95.4 95.4 95.0																								Diurnal Maximum						

Hourly Averages

Relative Humidity (RH) - %
Evergreen Park - November 2012



Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Evergreen Park - November 2012

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	9	7	9	8	5	5	9	9	5	6	7	6	6	4	8	6	4	2	2	2	3	3	2	3	3.1	9.5
Dir	267	256	240	241	230	247	249	252	283	313	305	267	312	353	350	1	6	112	129	122	123	142	176	187	270.0	239.8
2 Spd	1	2	2	3	1	1	1	4	4	6	8	8	7	10	9	8	6	6	7	6	6	4	3	3	4.6	10.5
Dir	144	124	79	54	138	141	138	119	67	62	70	70	102	88	103	100	76	75	76	75	87	82	74	83	85.7	88.0
3 Spd	1	0	1	1	1	2	2	3	2	4	3	6	10	7	10	8	1	5	5	4	2	3	2	5	2.0	10.2
Dir	58	140	212	133	178	226	62	223	55	115	176	266	263	237	232	231	268	221	194	49	81	187	57	266	227.8	232.4
4 Spd	6	3	0	2	4	3	2	4	3	4	5	5	2	3	3	7	9	11	15	16	10	3	5	12	2.9	15.7
Dir	235	94	96	196	195	209	222	59	56	52	57	54	46	94	135	128	148	165	170	174	179	135	273	281	161.3	173.6
5 Spd	17	31	36	35	35	48	63	63	62	64	64	61	55	59	56	53	45	47	44	32	32	17	7	4	42.4	64.4
Dir	251	260	256	258	263	261	260	257	259	259	257	261	262	263	264	264	263	263	263	258	256	241	197	68	259.7	257.1
6 Spd	3	2	3	3	11	4	2	3	2	1	0	2	5	2	4	7	2	2	3	3	2	2	1	3	0.6	10.7
Dir	68	157	193	187	202	175	121	189	155	80	221	13	7	278	21	36	348	48	53	3	360	55	71	42	74.8	202.1
7 Spd	0	2	6	9	9	10	13	18	15	14	18	16	18	21	17	16	19	15	14	16	15	14	13	11	13.3	21.4
Dir	9	36	46	44	45	54	55	53	59	69	59	59	57	48	47	56	45	51	43	43	58	45	48	46	51.5	47.9
8 Spd	11	14	12	13	10	10	10	10	9	9	14	14	14	11	11	12	12	5	6	8	9	7	11	11	10.4	14.4
Dir	60	58	58	56	57	69	79	77	61	68	56	56	51	55	59	60	58	46	42	43	39	44	67	75	58.8	56.3
9 Spd	10	10	9	10	8	7	9	9	8	7	10	13	12	12	11	12	10	9	9	6	3	3	6	4	7.7	13.1
Dir	76	77	69	63	52	58	63	61	55	60	66	64	57	61	39	37	58	56	47	33	1	317	320	288	53.5	63.7
10 Spd	1	0	1	1	4	6	5	3	2	4	8	4	6	6	5	9	4	3	2	1	3	1	1	1	1.7	9.3
Dir	232	233	226	160	199	182	157	199	183	144	139	14	273	255	165	164	147	37	3	314	273	273	239	182	183.7	163.8
11 Spd	1	1	2	2	1	1	0	1	1	1	2	10	9	5	23	26	20	17	4	1	4	2	2	1	4.5	25.9
Dir	12	310	235	227	236	40	117	34	114	82	200	205	199	212	245	245	244	262	44	146	195	152	221	245	236.0	245.5
12 Spd	2	1	1	1	0	2	2	2	4	5	9	4	3	2	2	1	1	1	1	2	1	4	2	5	0.5	8.8
Dir	229	144	223	34	326	63	130	191	202	206	213	216	340	334	353	20	87	151	192	51	27	10	295	360	232.4	212.7
13 Spd	8	8	5	2	1	1	3	2	3	3	3	5	8	7	2	3	4	3	1	2	4	3	2	1	1.5	8.4
Dir	10	344	352	6	43	271	155	175	128	115	127	10	356	10	54	351	12	48	164	211	237	240	230	303	4.7	10.1
14 Spd	1	0	5	7	4	10	1	4	2	2	1	6	9	9	10	8	3	2	1	1	2	6	4	2	0.8	10.2
Dir	350	86	343	281	314	1	295	287	312	234	274	117	136	124	129	140	115	71	228	82	196	238	80	112	122.3	1.2
15 Spd	5	2	2	1	18	16	3	6	3	9	11	17	15	18	12	6	3	5	3	4	2	1	1	2	5.9	18.4
Dir	201	158	9	195	235	242	10	231	174	191	218	205	231	229	200	180	217	196	218	216	67	145	185	158	215.9	229.1
16 Spd	3	2	2	2	2	3	2	1	2	2	2	2	4	4	5	3	6	5	2	4	2	2	3	3	1.5	5.8
Dir	36	155	159	26	36	20	40	10	272	269	345	300	270	1	18	23	322	345	281	250	297	247	286	280	327.6	322.4
17 Spd	1	1	3	5	1	1	5	8	1	6	11	9	7	5	5	9	9	4	12	11	10	12	20	10	4.0	19.7
Dir	209	227	21	51	123	72	37	353	226	80	51	44	53	47	56	329	334	357	294	301	320	285	280	307	340.1	279.5
18 Spd	10	10	6	5	11	10	6	7	1	2	6	6	7	11	12	12	7	2	0	3	2	2	6	1	5.1	11.8
Dir	258	257	266	291	338	340	316	329	296	246	299	330	336	342	332	335	322	10	199	4	306	300	323	336	317.1	335.4
19 Spd	4	6	8	10	10	11	8	6	2	3	8	8	8	6	6	9	10	7	6	10	24	22	17	15	7.6	23.6
Dir	276	335	334	39	32	33	44	39	47	65	37	37	45	22	13	345	316	328	31	354	339	336	313	313	356.0	338.8
20 Spd	16	17	17	21	17	14	15	16	15	16	16	16	14	14	11	9	10	7	4	1	3	2	2	2	10.5	20.6
Dir	305	313	316	324	316	312	300	288	285	312	315	309	312	313	323	315	284	306	284	128	171	113	52	47	309.0	323.5
21 Spd	9	8	11	9	9	7	6	4	4	2	7	9	9	9	9	5	7	3	5	5	4	5	5	4	6.0	10.6
Dir	55	56	61	60	47	54	50	50	76	157	71	76	74	56	36	77	54	109	78	94	89	91	108	128	67.0	60.9
22 Spd	6	5	5	5	5	3	2	1	1	3	6	2	4	8	7	5	6	2	2	5	3	3	4	2	1.7	8.0
Dir	131	109	92	81	100	60	16	44	21	37	61	30	332	351	8	27	53	49	0	266	219	197	247	219	48.4	351.0

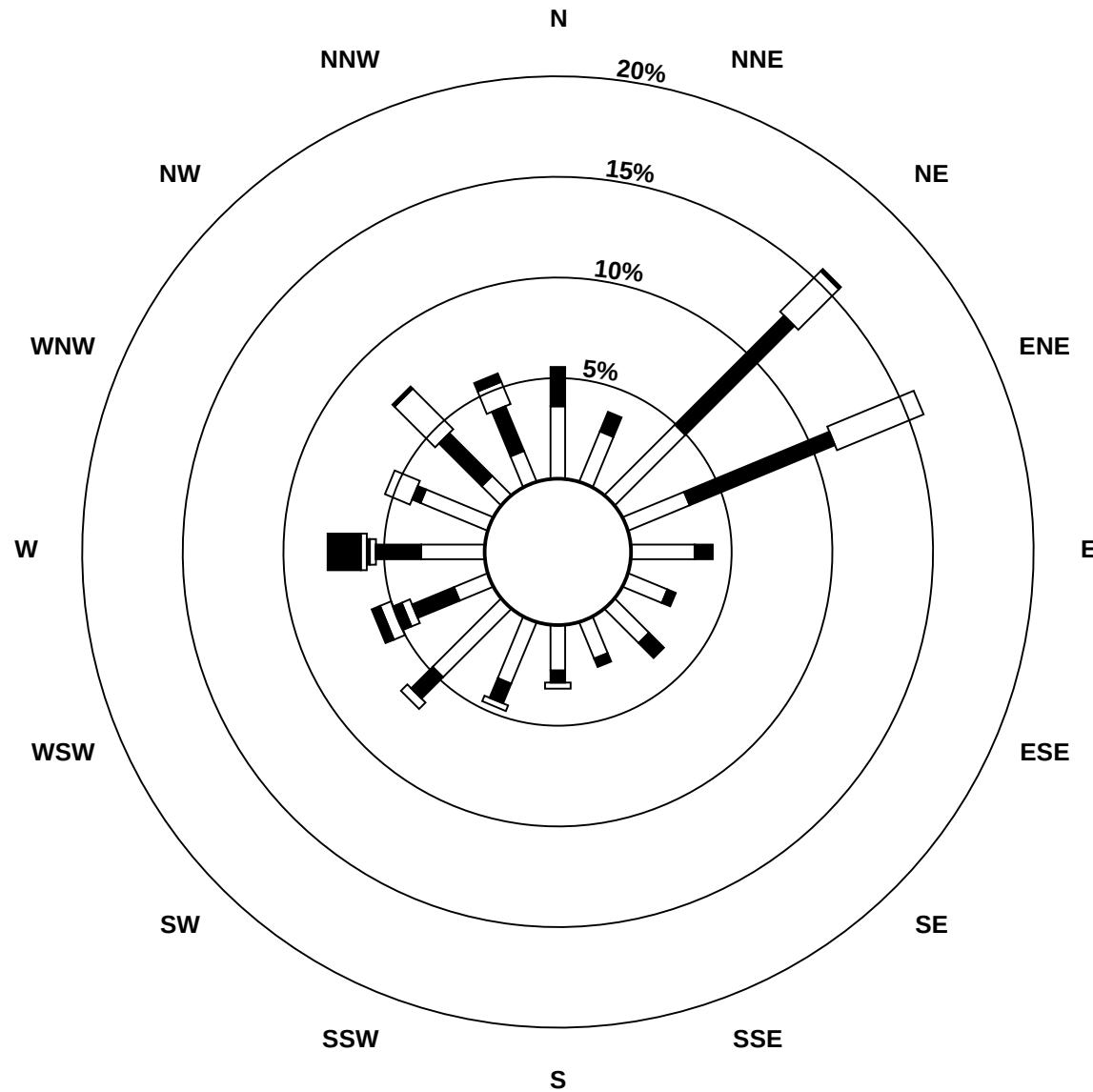
Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Evergreen Park - November 2012

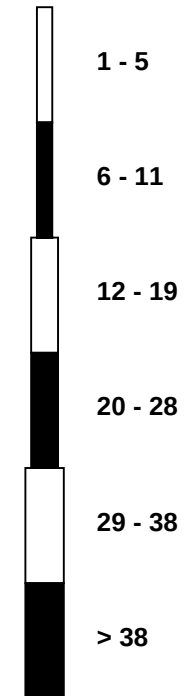
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
23 Spd	1	5	2	1	4	2	4	4	6	5	5	6	7	9	9	8	1	1	2	4	1	0	2	5	2.9	9.3
Dir	143	233	82	211	230	288	233	268	212	234	303	253	226	269	249	210	128	6	173	55	14	209	218	214	238.4	249.4
24 Spd	4	8	19	22	16	16	17	17	17	19	16	14	12	7	4	1	5	3	4	5	5	5	5	4	7.3	22.5
Dir	226	260	329	336	319	302	321	301	312	318	309	301	301	315	277	232	88	93	79	97	89	80	68	78	319.1	336.2
25 Spd	4	3	1	2	1	2	2	6	5	3	4	3	5	3	6	5	9	11	5	5	6	8	5	7	1.9	10.8
Dir	72	68	36	13	32	20	329	309	299	329	267	274	259	353	357	13	39	35	244	298	235	219	217	263	316.6	34.9
26 Spd	5	3	2	0	0	2	4	5	6	2	6	8	8	6	2	4	3	3	2	6	5	5	8	9	3.8	8.6
Dir	267	222	203	260	298	251	293	295	320	284	249	269	260	267	329	272	209	177	247	263	297	267	227	244	261.9	243.7
27 Spd	8	7	2	3	4	1	2	1	1	3	2	1	8	5	5	6	4	5	4	4	2	1	5	6	2.1	8.4
Dir	217	239	231	225	270	318	227	214	255	238	276	246	269	327	317	337	318	10	302	322	283	310	194	86	276.7	217.0
28 Spd	19	15	12	11	13	15	15	14	13	14	14	15	19	17	16	15	16	15	14	12	14	12	9	11	14.1	19.2
Dir	71	67	70	67	66	60	63	68	70	64	64	69	65	60	62	52	56	54	53	52	57	50	45	50	61.2	71.1
29 Spd	10	10	10	11	8	8	6	8	7	7	8	10	8	9	11	9	10	7	9	8	9	8	7	8	8.3	11.3
Dir	56	59	59	55	60	56	61	60	65	70	69	72	47	47	53	66	60	57	53	44	37	37	30	5	53.6	54.8
30 Spd	12	12	13	11	11	13	16	13	11	7	11	12	7	8	8	9	10	9	9	7	10	12	11	8	7.4	15.6
Dir	335	329	320	312	313	319	330	330	327	305	337	332	8	39	36	46	64	80	69	57	55	57	52	61	1.3	330.5
Spd	0.9	1.4	2.3	2.6	2.2	2.7	2.4	2.8	2.2	1.6	2.0	2.2	2.6	2.9	2.5	2.0	2.2	1.6	0.9	1.4	1.4	1.2	1.1	1.5	Diurnal Average	
Dir	335.9	326.8	337.8	349.3	315.2	322.9	321.4	303.5	303.4	302.6	327.7	324.6	320.7	340.4	338.1	338.2	3.2	7.2	1.0	4.1	352.9	2.4	342.7	356.0	Diurnal Maximum	
Spd	19.2	30.9	36.4	34.6	35.1	48.5	62.7	63.2	62.5	64.1	64.4	60.9	55.2	58.6	55.8	52.7	45.3	47.0	43.8	32.1	32.0	21.6	19.7	15.5	Diurnal Maximum	
Dir	71.1	260.0	256.1	257.7	263.4	261.0	260.3	256.7	259.3	258.7	257.1	261.3	262.0	262.9	263.8	263.8	262.5	263.5	262.9	257.7	256.2	335.8	279.5	313.2		
Maximum Speed Value: 64 km/h on Nov 5 11:00																								Hours in Service: 720		
Maximum Daily Speed Average: 42.4 km/h on Nov 5																								Hours of Data: 720		
Maximum Diurnal Speed Average: 2.9 km/h at hour 14																								Hours of Missing Data: 0		
Minimum Speed Value: 0 km/h on Nov 18 19:00																								Percent Operational Time: 100.0		
Minimum Daily Speed Average: 0.5 km/h on Nov 12																										
Minimum Diurnal Speed Average: 0.9 km/h at hour 19																										
Monthly Average Velocity: 1.84 km/h 333.78 deg																										
Speed Percentiles: P ₁ = 0.4 P ₁₀ = 1.3 Q ₁ = 2.5 Median = 5.5 Q ₃ = 9.7 P ₉₀ = 15.2 P ₉₉ = 57.0																										
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	43		23		1		1		0		0		68													
NorthEast	50		86		47		3		0		0		186													
East	36		37		5		1		0		0		79													
SouthEast	42		9		0		0		0		0		51													
South	37		11		4		0		0		0		52													
SouthWest	57		24		7		3		0		0		91													
West	36		27		6		1		6		14		90													
NorthWest	30		35		35		3		0		0		103													
Total	331		252		105		12		6		14		720													

Wind Rose

Wind Speed (WS) (km/h)
Evergreen Park - November 2012



Wind Speed Classes (km/h)



Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Evergreen Park - November 2012

Maximum Speed: 65 km/h on Nov 5 11:00																				Maximum Daily Speed Average: 43.3 km/h on Nov 5										Hours in Service: 720	
Minimum Speed: 1 km/h on Nov 12 03:00																				Minimum Daily Speed Average: 3.6 km/h on Nov 12										Hours of Data: 720	
Maximum Diurnal Speed Average: 11.1 km/h at hour 13																				Minimum Diurnal Speed Average: 6.4 km/h at hour 24										Hours of Missing Data: 0	
Monthly Average Speed: 8.61 km/h																				Percentiles: P ₁ = 1.7 P ₁₀ = 2.8 Q ₁ = 3.8 Median = 6.4 Q ₃ = 10.3 P ₉₀ = 15.6 P ₉₉ = 57.4										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-Nov	10	8	10	9	6	6	9	9	6	7	8	7	7	5	8	6	5	3	3	3	3	4	2	3	6.0	10.0					
2-Nov	2	3	3	3	2	2	2	4	4	6	8	8	8	11	10	8	7	6	7	6	6	4	4	3	5.3	11.2					
3-Nov	2	3	4	3	3	4	3	4	3	6	7	7	10	8	11	10	7	5	7	6	5	5	4	6	5.5	10.6					
4-Nov	7	5	3	3	5	4	3	4	4	5	5	5	5	5	4	7	10	12	16	16	10	5	8	15	6.9	16.0					
5-Nov	17	31	37	35	35	49	63	64	63	64	65	61	56	59	56	53	46	47	44	32	32	17	7	5	43.3	64.8					
6-Nov	4	3	3	3	11	6	4	5	7	3	2	4	5	3	5	7	3	4	3	3	2	3	3	4	4.2	10.7					
7-Nov	3	3	6	9	9	10	13	18	16	15	18	17	19	22	18	16	20	15	14	17	15	15	14	12	13.8	21.9					
8-Nov	11	14	13	13	11	10	10	11	10	10	14	15	15	11	12	13	12	6	6	8	9	7	11	11	10.9	15.0					
9-Nov	10	11	10	10	8	8	9	9	8	7	10	13	12	13	12	12	10	9	9	6	3	3	6	4	8.9	13.4					
10-Nov	2	2	2	2	5	6	6	4	4	5	9	7	8	8	8	10	5	4	3	2	3	2	2	3	4.6	9.9					
11-Nov	2	2	3	3	2	2	2	2	3	3	3	10	10	7	23	26	20	18	6	3	5	3	2	2	6.8	26.1					
12-Nov	3	2	1	3	3	4	4	3	5	6	9	4	4	4	2	3	4	3	2	3	3	4	3	6	3.6	9.0					
13-Nov	9	8	5	3	2	3	4	3	3	3	4	7	9	8	4	4	4	4	5	3	5	4	4	3	4.6	9.4					
14-Nov	3	3	7	7	8	11	5	5	3	3	3	7	10	10	10	8	4	3	3	4	3	9	4	5	5.8	11.5					
15-Nov	6	6	7	4	18	16	5	7	4	9	12	17	15	19	12	7	5	6	5	4	4	3	3	3	8.3	18.7					
16-Nov	4	3	5	3	2	3	3	3	3	3	3	4	5	5	6	7	7	6	3	5	4	3	5	4	4.0	7.0					
17-Nov	4	4	5	5	5	4	5	8	3	7	11	10	8	6	5	10	9	6	12	11	10	13	20	12	8.1	20.3					
18-Nov	10	11	7	6	12	10	6	7	3	5	8	8	9	11	13	12	7	3	2	4	3	3	6	2	7.2	12.6					
19-Nov	6	7	9	10	10	11	8	7	3	4	9	9	8	7	7	11	10	9	6	11	24	22	17	16	10.1	23.8					
20-Nov	16	17	17	21	18	15	15	16	15	17	17	17	15	15	12	10	11	7	5	3	4	3	2	3	12.2	21.4					
21-Nov	9	9	11	10	9	7	7	4	4	3	8	10	10	10	10	6	7	4	5	6	4	5	5	4	6.9	11.0					
22-Nov	6	5	5	5	5	3	4	3	3	4	6	4	6	8	7	5	6	2	2	5	5	4	5	5	4.8	8.3					
23-Nov	4	6	3	3	6	5	5	6	7	6	6	7	8	10	11	10	6	4	5	6	4	4	5	6	6.0	10.8					
24-Nov	5	10	19	23	17	17	18	18	18	19	17	15	14	9	5	4	6	3	4	5	5	6	5	4	11.0	22.9					
25-Nov	5	3	2	3	3	2	3	7	5	4	5	5	5	4	7	6	9	11	8	6	7	8	5	7	5.3	11.1					
26-Nov	6	3	3	2	2	2	5	5	6	3	7	9	9	7	4	5	4	3	3	7	6	6	8	9	5.1	8.9					
27-Nov	9	7	4	4	4	2	3	2	2	4	3	2	8	6	6	7	5	5	5	5	3	3	6	8	4.7	8.6					
28-Nov	20	16	13	11	14	15	16	14	14	14	15	16	20	18	16	15	16	15	14	13	14	12	9	11	14.6	19.8					
29-Nov	10	10	10	11	8	8	7	8	7	8	9	10	9	10	11	9	10	8	9	9	9	9	7	9	9.0	11.5					
30-Nov	12	12	13	12	11	14	16	14	11	8	11	12	8	9	9	10	10	9	10	7	10	13	12	9	10.9	15.8					
7.2 7.6 8.0 8.0 8.4 8.6 8.7 9.2 8.3 8.6 10.4 10.9 11.1 10.9 10.8 10.6 9.4 8.1 7.6 7.3 7.4 6.7 6.5 6.4																									Diurnal Average						
19.8 31.1 36.5 34.9 35.3 48.8 63.0 63.6 63.0 64.5 64.8 61.2 55.6 59.0 56.2 53.1 45.6 47.2 44.0 32.4 32.2 22.0 20.3 16.1																									Diurnal Maximum						
All monthly, daily, and diurnal averages have been calculated using scalar methods																															

Hourly Standard Deviations

Wind Direction (WD) - deg
Evergreen Park - November 2012

Maximum Value: 99.1 deg on Nov 11 10:00																		Hours in Service: 720							
Minimum Value: 5.6 deg on Nov 5 07:00																		Hours of Data: 720							
																		Hours of Missing Data: 0							
Percentiles: P ₁ = 6.0 P ₁₀ = 13.2 Q ₁ = 17.3 Median = 29.9 Q ₃ = 57.4 P ₉₀ = 78.3 P ₉₉ = 95.0																		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-Nov	18	30	18	15	13	22	14	14	38	21	19	35	45	46	24	24	35	43	58	37	27	30	35	22	57.9
2-Nov	42	34	31	32	83	65	70	34	19	29	23	26	37	23	19	25	21	18	15	20	20	21	23	51	82.9
3-Nov	90	94	92	75	75	72	73	64	71	46	72	34	20	22	16	37	96	48	62	66	78	76	81	54	96.2
4-Nov	56	65	97	67	51	67	96	65	61	51	24	21	87	67	46	21	24	22	13	12	19	58	50	33	96.6
5-Nov	11	7	6	7	6	7	6	6	7	6	6	6	7	6	7	7	6	6	6	7	6	11	15	47	46.9
6-Nov	65	58	31	67	7	71	65	62	76	86	95	80	44	51	38	22	55	53	50	30	48	38	86	42	95.1
7-Nov	88	46	11	9	10	13	10	11	15	16	13	16	17	12	14	15	12	15	13	12	13	13	14	14	88.4
8-Nov	16	15	16	15	17	20	20	17	16	22	13	18	15	18	17	20	12	10	10	11	9	12	15	17	21.8
9-Nov	18	15	15	11	10	10	9	11	8	16	18	15	27	22	26	17	11	11	11	19	41	43	21	20	43.4
10-Nov	58	82	65	74	39	28	41	45	74	52	33	63	57	55	60	22	46	20	39	62	38	80	93	86	93.0
11-Nov	81	67	50	59	79	72	92	88	86	99	89	12	34	76	11	8	10	37	59	80	61	66	62	87	99.1
12-Nov	73	64	85	88	91	81	69	55	27	29	12	25	46	55	56	75	66	88	74	74	87	20	56	31	91.2
13-Nov	24	24	33	56	81	87	59	59	34	46	62	45	25	53	78	56	41	32	86	61	30	56	87	82	87.3
14-Nov	79	93	41	24	60	28	90	41	62	63	87	42	25	22	28	23	64	66	87	79	77	74	45	70	92.6
15-Nov	49	71	86	90	14	10	57	53	52	26	18	19	16	10	14	33	62	78	74	32	78	77	92	93	93.3
16-Nov	50	56	64	68	43	30	53	89	76	51	53	62	28	39	26	55	31	47	61	43	58	72	48	54	88.6
17-Nov	96	95	53	52	78	71	38	26	93	44	22	19	20	32	34	28	25	46	17	21	21	28	14	40	96.2
18-Nov	23	29	36	43	15	21	28	33	85	82	43	45	42	30	26	14	22	48	92	61	63	43	16	76	92.4
19-Nov	65	32	25	31	20	19	16	29	55	55	37	33	30	39	46	35	22	43	24	25	8	11	16	16	65.5
20-Nov	17	16	16	15	17	16	18	17	14	17	21	21	23	25	24	25	19	17	29	85	59	52	49	51	84.6
21-Nov	15	16	19	17	14	14	27	25	29	66	33	22	26	27	24	37	20	33	24	27	29	19	22	25	65.6
22-Nov	24	20	22	19	17	34	58	74	83	58	20	75	49	18	30	21	14	47	54	41	55	62	53	93	93.3
23-Nov	81	63	73	95	68	78	42	57	48	32	34	42	29	31	33	49	78	93	79	71	85	93	90	46	94.9
24-Nov	38	36	14	11	17	18	14	19	16	16	20	21	30	43	47	82	27	25	25	25	28	29	23	28	82.2
25-Nov	55	30	61	43	71	28	43	23	19	43	50	57	35	57	26	29	13	14	64	33	23	12	29	20	70.7
26-Nov	29	31	58	77	86	62	45	27	30	67	15	17	13	29	73	40	34	41	48	29	39	23	18	16	85.5
27-Nov	16	18	81	54	33	59	45	65	81	45	68	80	15	26	31	19	21	31	52	37	65	81	36	58	81.5
28-Nov	15	15	17	17	16	13	14	15	18	15	17	15	15	15	15	13	14	14	15	13	15	15	14	13	18.0
29-Nov	15	16	15	12	16	17	23	19	22	31	24	27	53	29	19	20	20	17	14	15	14	12	15	25	52.9
30-Nov	16	11	13	18	16	12	10	12	15	20	21	14	34	27	21	19	17	20	22	19	18	16	17	20	33.6
96.2 95.1 96.6 94.9 91.2 87.1 95.6 88.6 93.5 99.1 95.1 80.3 87.2 76.2 78.0 82.2 96.2 93.4 92.4 84.6 86.5 92.5 93.0 93.3																									

PAZA
Smoky Heights Station
Monthly Summary Tables, Graphs and
Roses

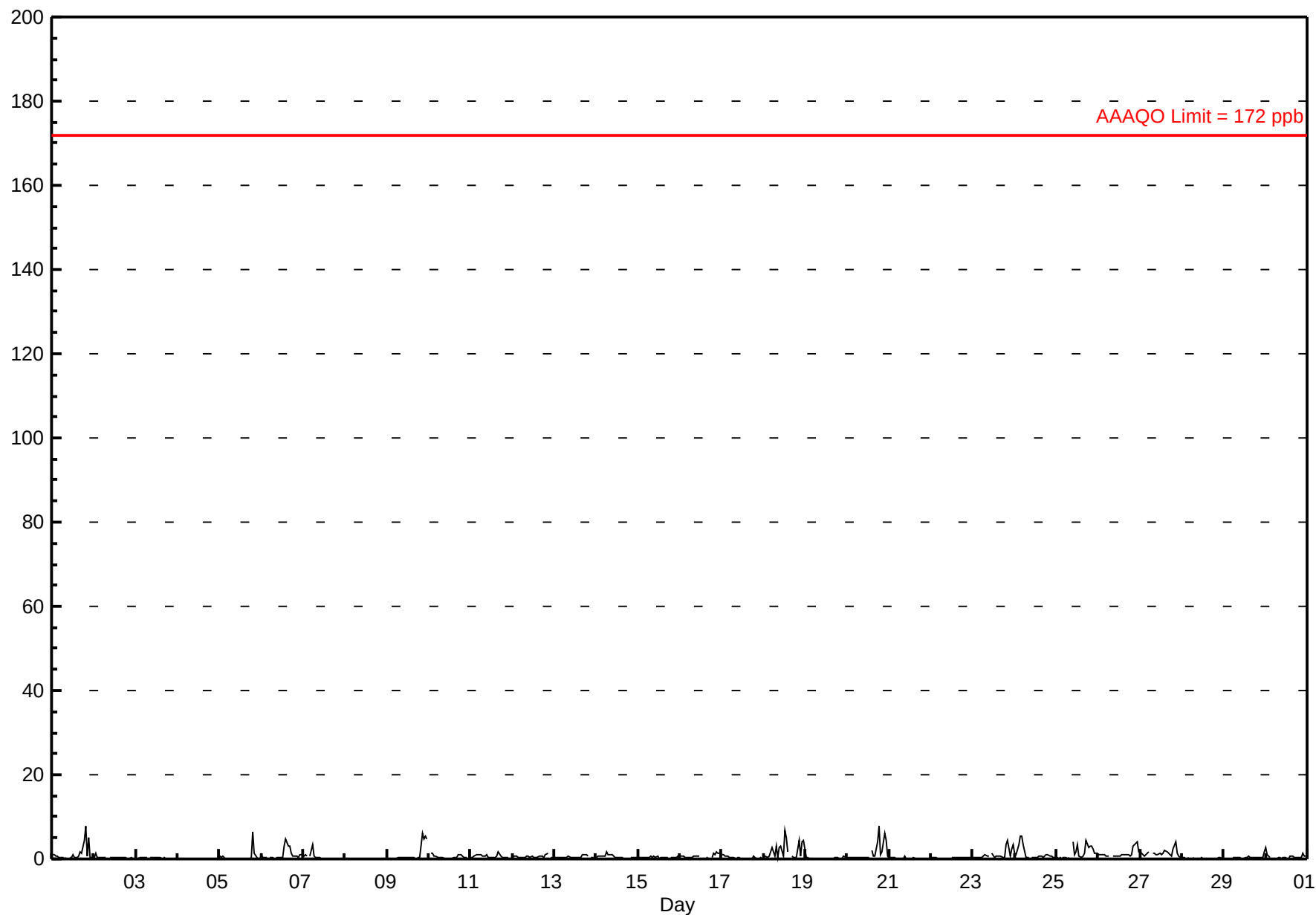
Hourly Averages

Sulphur Dioxide (SO₂) - ppb Smoky Heights - November 2012

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 7.9 ppb on Nov 1 20:00 Maximum Daily Average: 1.9 ppb on Nov 18																				Hours in Service: 720 Hours of Data: 686 Hours of Missing Data: 34 Hours of Calibration: 34 Percent Operational Time: 100.0						
Minimum Value: 0 ppb on Nov 4 23:00 Minimum Daily Average: 0.0 ppb on Nov 8 Maximum Diurnal Average: 1.2 ppb at hour 21 Minimum Diurnal Average: 0.3 ppb at hour 7 Monthly Average: 0.67 ppb Percentiles: P ₁ = 0.0 P ₁₀ = 0.1 Q ₁ = 0.1 Median = 0.3 Q ₃ = 0.7 P ₉₀ = 1.4 P ₉₉ = 5.5																										
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-Nov	1	1	1	1	0	0	0	0	0	A	0	0	1	0	0	1	2	1	4	8	1	5	0	0	1.3	7.9
2-Nov	0	1	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.3
3-Nov	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
4-Nov	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
5-Nov	1	0	1	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	6	1	0	0	0	0.5	6.4
6-Nov	1	0	0	0	A	0	0	0	0	0	0	0	0	3	5	3	3	1	1	1	1	0	1	1	1.0	4.9
7-Nov	1	1	1	A	1	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	3.5
8-Nov	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
9-Nov	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	5	5	5	5	1.1	6.1
10-Nov	A	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	A	0.4	1.4
11-Nov	0	0	1	1	1	1	1	1	1	1	1	0	0	0	0	1	2	1	0	0	0	0	A	0	0.6	1.7
12-Nov	0	1	1	1	0	0	0	0	1	1	0	1	0	0	0	1	1	1	0	1	1	A	0	0	0.6	1.2
13-Nov	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1	1	1	A	0	0	0	0.4	1.0
14-Nov	0	1	1	1	1	1	2	1	1	1	1	0	0	0	0	0	0	0	0	A	0	0	0	0	0.5	1.7
15-Nov	0	0	0	0	0	0	0	1	0	1	0	1	0	0	0	0	0	0	A	0	0	0	0	1	0.4	0.7
16-Nov	1	1	1	0	0	0	0	0	1	1	1	1	C	C	C	0	0	A	0	1	1	2	1	1	0.7	1.7
17-Nov	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	A	0	1	0	0	0	0	0	0.3	1.1
18-Nov	0	1	0	1	2	3	1	3	0	3	3	1	7	5	2	A	1	0	0	0	4	1	4	4	1.9	6.8
19-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	1	0	0	0.2	0.7
20-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	A	2	1	1	4	8	1	2	6	4	1	1.4	7.8
21-Nov	0	0	0	0	0	0	0	0	0	1	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.1	0.7
22-Nov	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
23-Nov	0	0	0	0	0	0	1	1	1	1	A	1	0	1	1	1	1	0	0	3	4	1	2	3	1.1	4.4
24-Nov	1	1	3	6	5	3	0	0	0	A	0	0	0	0	1	1	0	1	1	1	1	1	0	0	1.2	5.6
25-Nov	0	0	0	0	0	0	0	0	A	4	1	2	3	1	0	1	1	4	3	3	3	2	1	1	1.4	4.4
26-Nov	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	3	4	4	2	1.3	4.0
27-Nov	2	1	1	1	1	2	A	1	1	1	1	1	1	1	2	2	1	1	1	2	4	1	1	0	1.4	3.9
28-Nov	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
29-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2	0.3	1.7
30-Nov	3	1	0	A	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1	1	1	0.5	2.9
0.6 0.6 0.5 0.6 0.6 0.6 0.3 0.4 0.4 0.6 0.4 0.4 0.7 0.6 0.7 0.5 0.6 0.7 0.9 1.1 1.2 1.1 1.0 0.9																									Diurnal Average	
2.9 1.4 3.4 5.6 5.4 3.5 1.7 2.9 1.3 3.9 3.1 1.7 6.8 5.0 4.9 3.1 2.9 4.4 7.8 7.9 6.1 5.9 5.3 4.6																									Diurnal Maximum	
C - Calibration A - Automated Daily Zero Span																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb 30-day 11 ppb																										

Hourly Averages

Sulphur Dioxide (SO₂) - ppb
Smoky Heights - November 2012



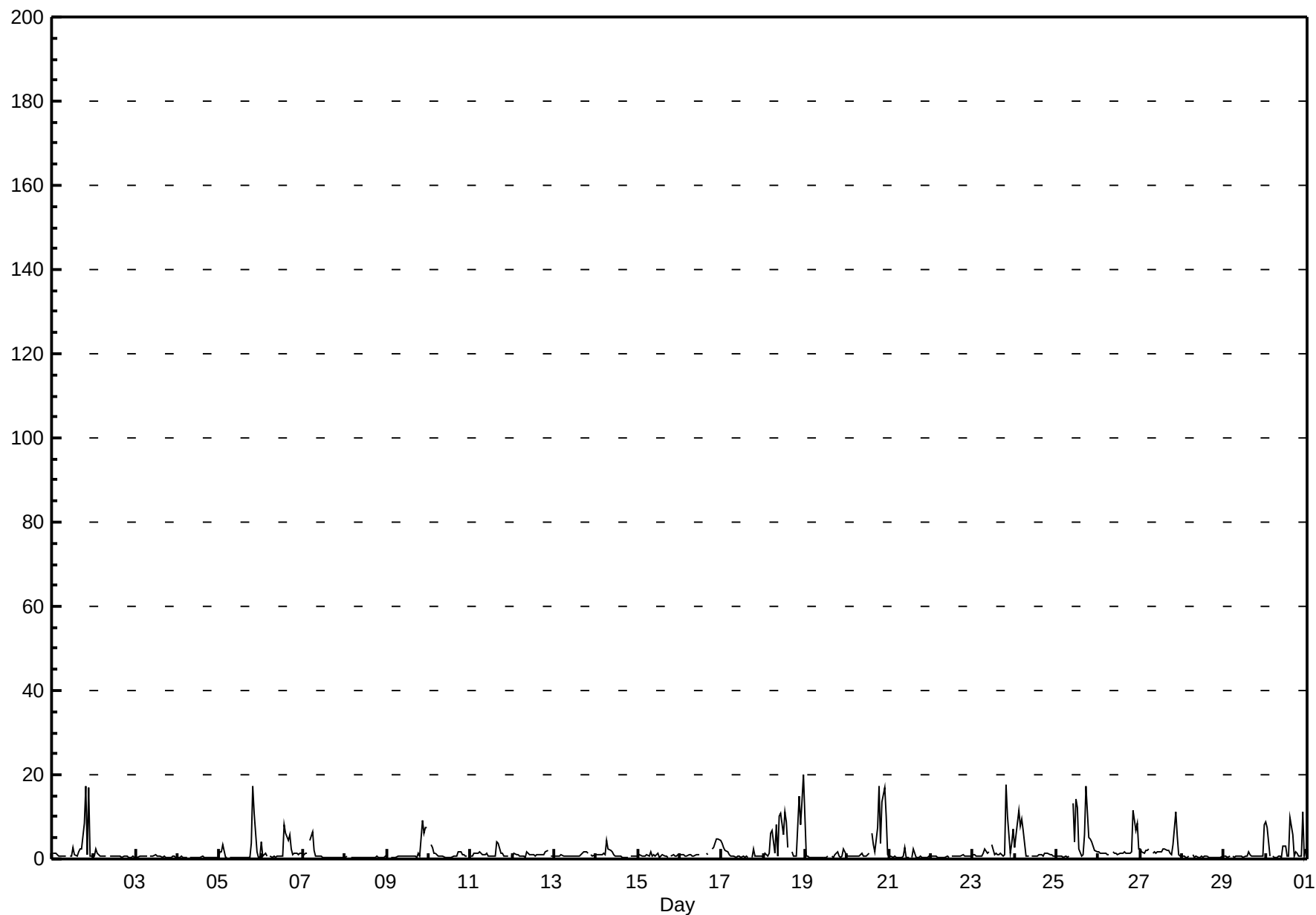
Hourly Maximums

Sulphur Dioxide (SO₂) - ppb Smoky Heights - November 2012

Maximum Value: 20.0 ppb on Nov 19 00:00																				Maximum Daily Average: 6.0 ppb on Nov 18				Hours in Service: 720		
Minimum Value: 0 ppb on Nov 5 00:00																				Minimum Daily Average: 0.4 ppb on Nov 8				Hours of Data: 686		
Maximum Diurnal Average: 3.6 ppb at hour 21																				Minimum Diurnal Average: 0.8 ppb at hour 9				Hours of Missing Data: 34		
Monthly Average: 1.70 ppb																				Percentiles: P ₁ = 0.3 P ₁₀ = 0.4 Q ₁ = 0.5 Median = 0.7 Q ₃ = 1.3 P ₉₀ = 3.9 P ₉₉ = 16.7				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-Nov	1	1	1	1	1	1	1	1	1	A	1	1	3	1	1	2	2	2	8	17	1	17	1	1	2.8	17.4
2-Nov	1	2	1	1	1	1	1	1	A	1	1	1	1	1	1	1	0	1	1	1	0	0	1	1	0.7	2.5
3-Nov	0	0	1	1	1	1	1	A	1	1	1	1	1	1	1	0	1	0	0	0	0	1	1	0	0.6	0.9
4-Nov	0	0	1	0	0	0	A	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0.4	0.6
5-Nov	2	2	3	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	4	17	11	2	0	0	2.0	17.3
6-Nov	4	1	1	1	A	1	0	1	0	1	1	1	1	8	6	4	6	2	1	1	1	1	1	1	2.0	8.1
7-Nov	1	1	1	A	5	6	2	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1.1	6.3
8-Nov	0	1	A	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0.4	0.6
9-Nov	0	A	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	0	1	1	9	6	8	8	1.8	9.1
10-Nov	A	3	3	1	1	1	1	1	1	0	0	0	0	0	1	1	1	2	2	1	1	1	1	A	1.0	3.5
11-Nov	1	1	1	2	1	2	1	1	1	1	1	1	1	1	1	4	4	1	2	1	1	1	A	1	1.3	4.0
12-Nov	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	2	2	A	1	1	1.0	2.2
13-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	1	A	1	1	1	0.9	1.6
14-Nov	1	1	1	1	1	1	4	2	2	2	1	1	1	1	1	0	0	0	0	A	1	1	1	1	1.1	4.5
15-Nov	1	1	1	1	1	1	1	2	1	1	1	1	0	1	1	1	1	1	A	1	1	1	1	1	0.8	1.6
16-Nov	1	1	1	1	1	1	1	1	1	1	1	1	C	C	C	1	1	A	2	3	4	5	5	4	1.8	4.7
17-Nov	4	3	2	2	1	1	1	1	0	1	1	0	1	0	1	0	A	0	2	1	1	1	1	1	1.0	3.6
18-Nov	0	1	1	1	6	7	1	8	1	10	11	6	11	9	3	A	2	1	1	1	15	8	14	20	6.0	20.0
19-Nov	1	1	0	0	0	0	0	0	0	0	0	0	0	1	A	1	0	1	2	1	0	1	2	1	0.7	2.5
20-Nov	1	1	1	1	1	1	1	1	1	1	1	1	2	A	6	3	2	7	17	4	14	17	10	1	4.0	17.3
21-Nov	1	1	0	1	0	0	0	0	1	3	1	0	A	0	3	0	0	0	1	0	0	0	0	1	0.7	2.9
22-Nov	1	1	1	1	0	0	0	0	0	1	0	A	1	1	1	1	1	1	1	1	1	1	1	1	0.6	0.9
23-Nov	1	1	1	1	1	1	1	2	1	2	A	4	1	1	1	1	1	1	1	18	10	1	4	7	2.7	17.8
24-Nov	3	6	12	8	10	7	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2.6	11.5
25-Nov	1	1	1	1	0	1	0	1	A	13	4	14	12	3	1	1	6	17	5	5	4	3	2	2	4.2	17.3
26-Nov	2	1	1	1	1	1	1	A	2	1	1	1	1	1	1	2	1	1	1	2	12	7	9	2	2.4	11.6
27-Nov	3	2	1	2	2	2	A	2	2	1	2	2	2	2	2	2	2	1	1	3	11	6	1	1	2.4	11.2
28-Nov	1	1	0	0	1	A	1	0	1	0	0	1	0	1	1	0	0	0	0	0	0	0	1	1	0.5	0.9
29-Nov	1	1	0	1	A	1	0	1	1	1	1	0	1	1	2	1	1	1	1	1	1	1	1	8	1.0	8.0
30-Nov	9	7	1	A	1	0	0	1	1	0	3	3	1	1	10	6	1	2	1	1	1	11	1	2	2.7	11.2
1.4 1.5 1.4 1.1 1.4 1.4 0.9 1.0 0.8 1.7 1.2 1.5 1.5 1.3 1.7 1.3 1.3 1.7 2.1 2.9 3.6 3.2 2.3 2.4																								Diurnal Average		
8.8 7.4 11.5 7.9 9.5 6.8 4.5 8.2 1.9 13.2 10.9 14.1 12.2 8.7 9.7 5.9 5.9 17.3 17.3 17.8 15.0 16.9 13.9 20.0																								Diurnal Maximum		
C - Calibration A - Automated Daily Zero Span																										

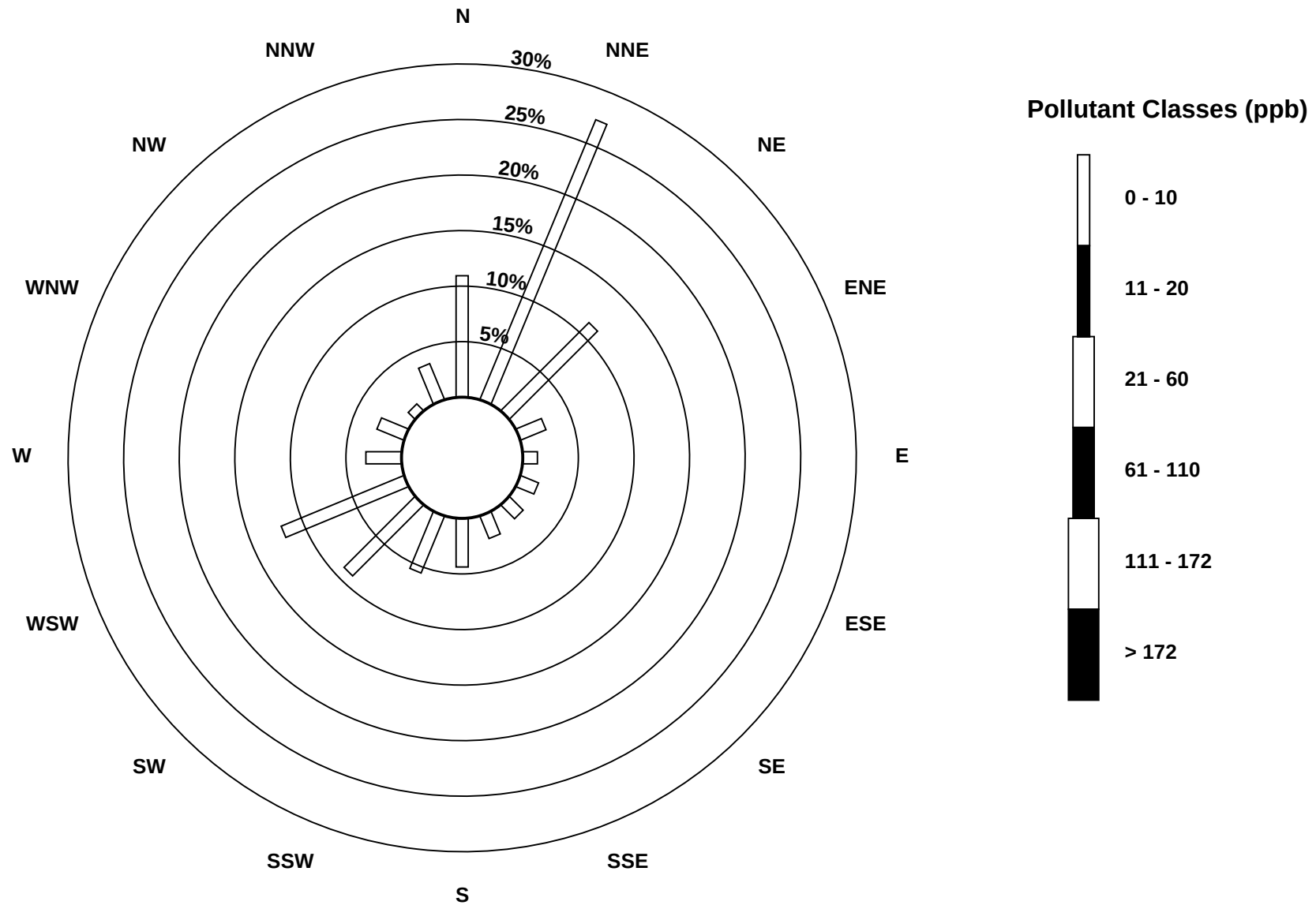
Hourly Maximums

Sulphur Dioxide (SO₂) - ppb
Smoky Heights - November 2012



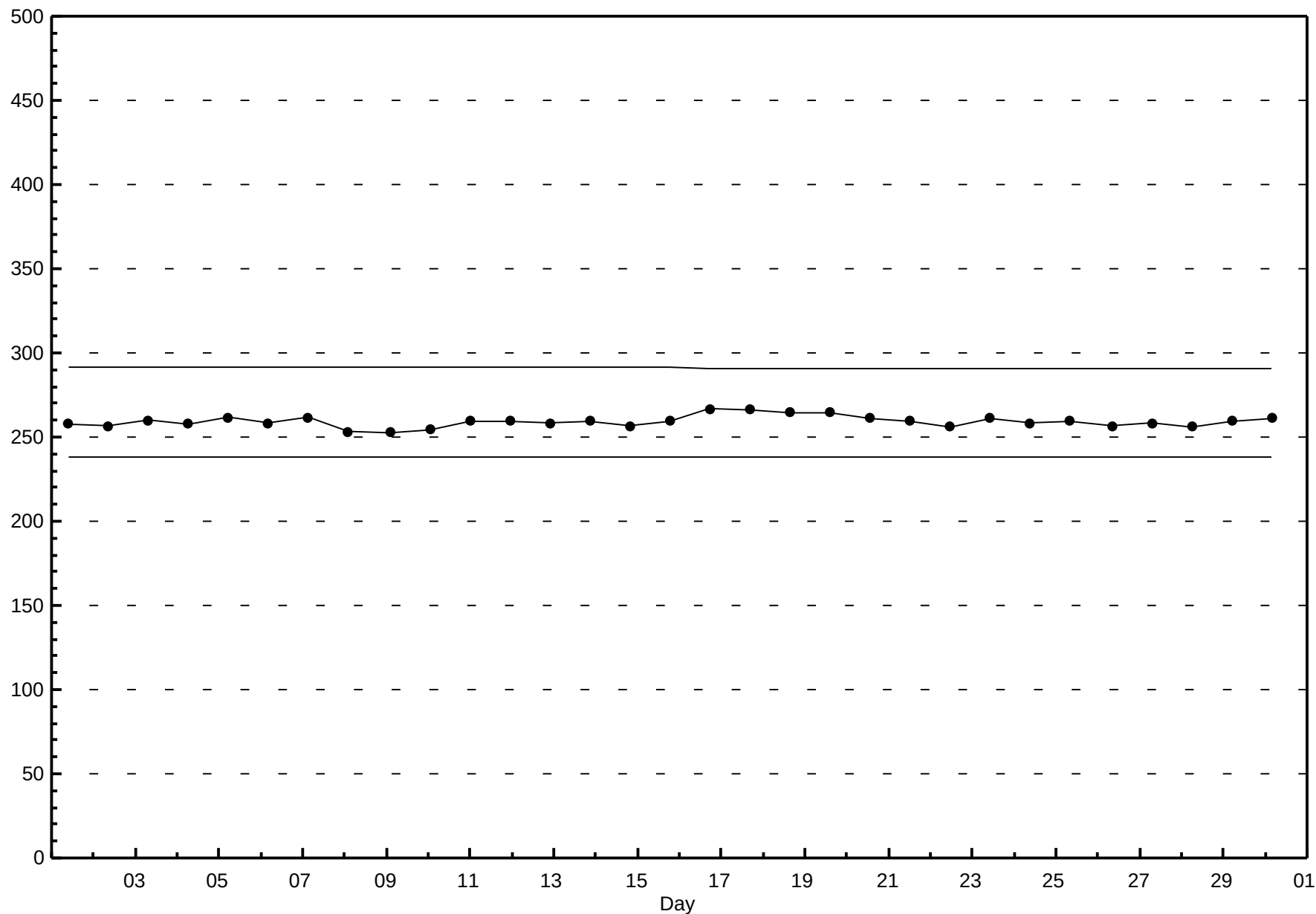
Pollutant Rose

Sulphur Dioxide (SO₂) - ppb
Smoky Heights - November 2012



Span Responses

Sulphur Dioxide (SO₂)
Smoky Heights - November 2012



Hourly Averages

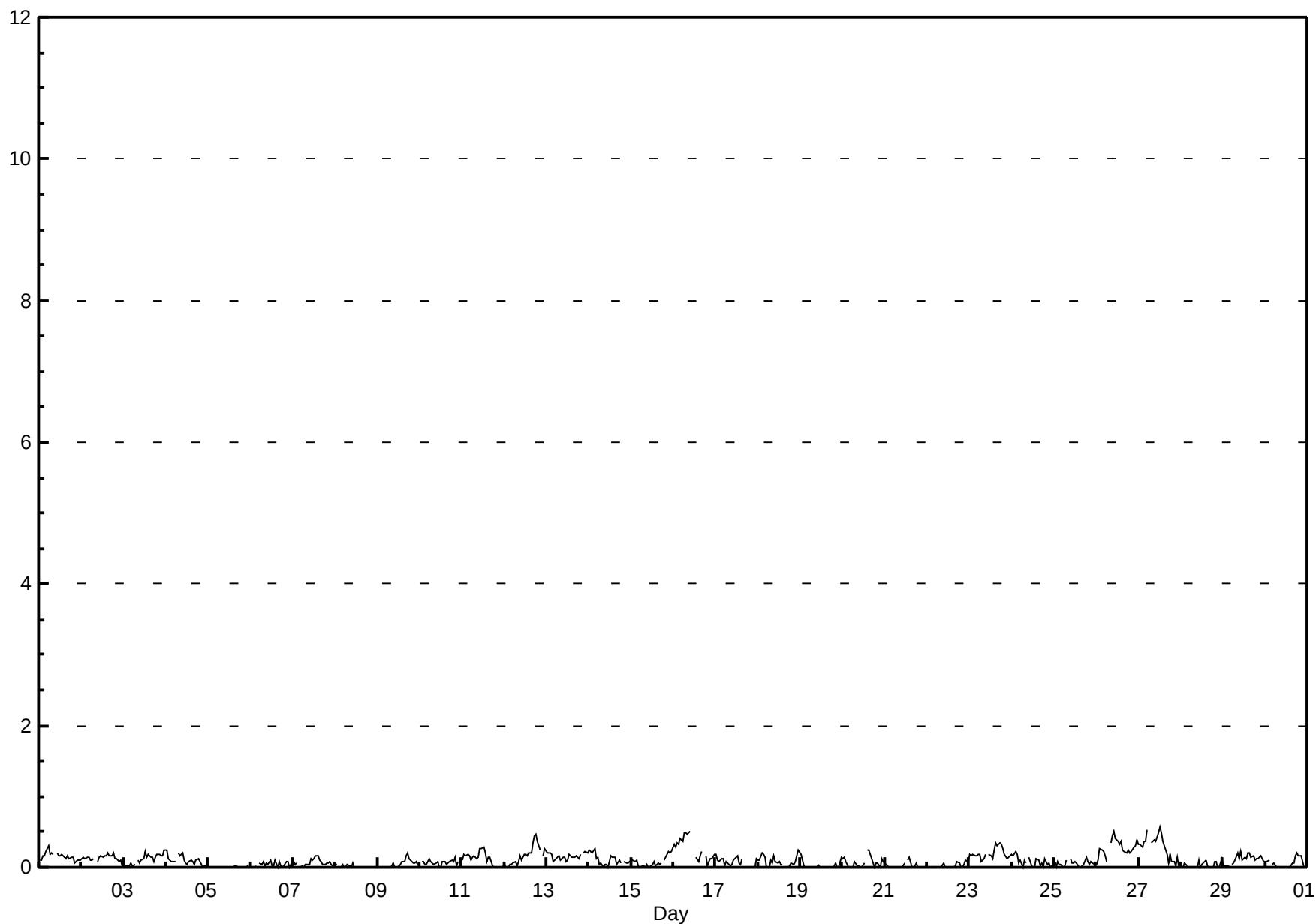
Total Reduced Sulphur (TRS) - ppb

Smoky Heights - November 2012

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 0.6 ppb on Nov 27 13:00 Maximum Daily Average: 0.3 ppb on Nov 27																								Hours in Service: 720 Hours of Data: 686 Hours of Missing Data: 34 Hours of Calibration: 34 Percent Operational Time: 100.0		
Minimum Value: 0 ppb on Nov 5 02:00 Maximum Diurnal Average: 0.1 ppb at hour 15 Monthly Average: 0.10 ppb												Minimum Daily Average: 0.0 ppb on Nov 5 Minimum Diurnal Average: 0.1 ppb at hour 7 Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.1 Q ₃ = 0.2 P ₉₀ = 0.2 P ₉₉ = 0.5														
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-Nov	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
2-Nov	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
3-Nov	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
4-Nov	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
5-Nov	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
6-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
7-Nov	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
8-Nov	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
9-Nov	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	0.2
10-Nov	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	0.1
11-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.1	0.3
12-Nov	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
13-Nov	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	0.2
14-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.1	0.3
15-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0.1	0.2
16-Nov	0	0	0	0	0	0	0	0	0	1	C	C	C	0	0	0	0	A	0	0	0	0	0	0	0.3	0.5
17-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0.1	0.2
18-Nov	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
19-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.0	0.2
20-Nov	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
21-Nov	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
22-Nov	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
23-Nov	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
24-Nov	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
25-Nov	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
26-Nov	0	0	0	0	0	0	0	A	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.5
27-Nov	0	0	0	0	0	1	A	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0.3	0.6
28-Nov	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
29-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
30-Nov	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
0.1 0.1																								Diurnal Average		
0.3 0.3 0.3 0.4 0.4 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.6 0.5 0.4 0.3 0.3 0.5 0.5 0.4 0.2 0.3 0.3 0.4																								Diurnal Maximum		
C - Calibration A - Automated Daily Zero Span																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb																										

Hourly Averages

Total Reduced Sulphur (TRS) - ppb
Smoky Heights - November 2012



Hourly Maximums

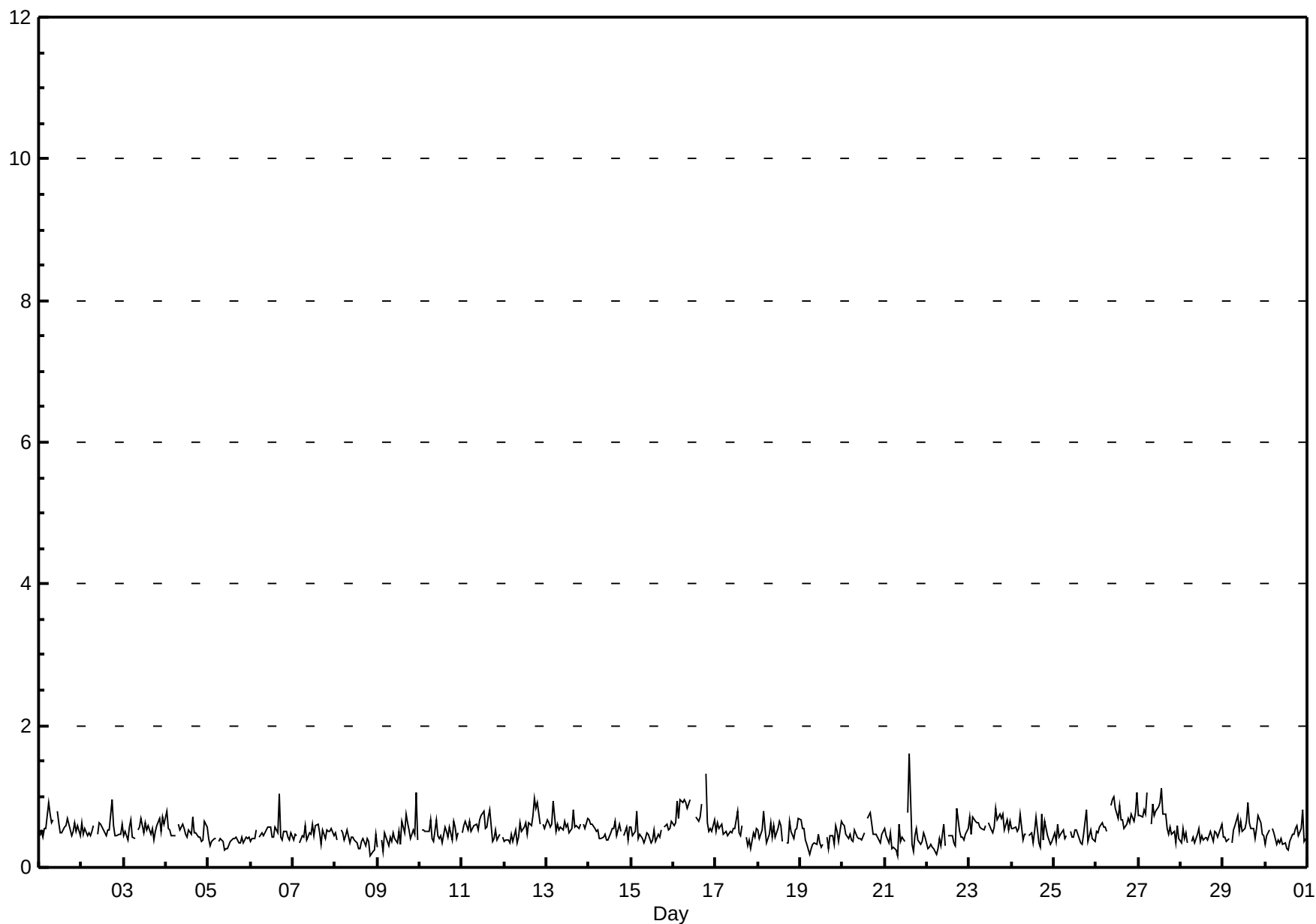
Total Reduced Sulphur (TRS) - ppb

Smoky Heights - November 2012

Maximum Value: 1.6 ppb on Nov 21 15:00																			Maximum Daily Average: 0.8 ppb on Nov 16							Hours in Service: 720	
Minimum Value: 0 ppb on Nov 21 08:00																			Minimum Daily Average: 0.4 ppb on Nov 5							Hours of Data: 686	
Maximum Diurnal Average: 0.6 ppb at hour 15																			Minimum Diurnal Average: 0.5 ppb at hour 7							Hours of Missing Data: 34	
Monthly Average: 0.52 ppb																			Percentiles: P ₁ = 0.2 P ₁₀ = 0.3 Q ₁ = 0.4 Median = 0.5 Q ₃ = 0.6 P ₉₀ = 0.7 P ₉₉ = 1.0							Hours 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-Nov	0	1	0	1	1	1	1	1	1	A	1	1	0	0	1	1	1	1	0	1	1	1	1	0	0.6	0.9	
2-Nov	1	0	1	0	0	0	1	1	A	0	1	1	1	0	0	1	1	1	1	1	0	0	0	1	0.5	1.0	
3-Nov	0	1	0	1	1	0	0	A	1	1	1	0	1	1	1	0	1	0	1	1	1	1	1	1	0.5	0.7	
4-Nov	1	1	1	0	0	0	A	1	1	1	1	0	0	1	0	1	0	0	0	0	0	0	1	1	0.5	0.8	
5-Nov	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.4	
6-Nov	0	0	0	1	A	0	0	0	0	1	1	1	0	0	1	0	1	0	0	1	0	0	0	0	0.5	1.0	
7-Nov	0	0	0	A	0	0	0	1	0	0	0	1	0	1	1	0	0	1	0	1	1	0	1	0	0.5	0.6	
8-Nov	0	0	A	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.5	
9-Nov	0	A	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	1	1	0	1	0	1	0	0.5	1.1	
10-Nov	A	1	1	1	1	1	1	0	0	1	0	0	0	0	1	1	0	1	0	1	1	0	0	A	0.5	0.7	
11-Nov	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	0	0	A	0	0.6	0.8	
12-Nov	0	0	0	0	0	0	1	0	0	1	1	1	1	0	1	1	1	1	1	1	1	A	1	1	0.6	1.0	
13-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	A	1	1	1	0.6	0.9	
14-Nov	1	1	1	1	1	1	0	0	0	0	0	0	0	1	1	1	0	1	1	A	0	1	0	1	0.5	0.7	
15-Nov	1	0	1	1	0	0	0	0	0	0	0	0	0	1	0	0	0	1	A	1	1	1	1	1	0.5	0.8	
16-Nov	1	1	1	1	1	1	1	1	1	1	C	C	C	1	1	1	1	A	1	1	1	1	1	1	0.8	1.3	
17-Nov	1	1	1	1	0	0	1	0	1	0	1	1	1	0	0	1	A	0	0	0	0	0	0	1	0.5	0.8	
18-Nov	1	0	1	1	1	0	0	1	0	1	0	1	1	1	0	A	0	0	1	1	0	1	1	1	0.5	0.8	
19-Nov	1	1	1	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	1	1	0	1	0.4	0.7	
20-Nov	1	1	0	0	0	0	0	1	0	0	0	0	0	A	1	1	1	0	0	0	0	0	0	1	0.5	0.8	
21-Nov	1	0	0	0	0	0	0	0	1	0	0	0	A	1	2	0	0	0	1	0	0	0	0	0	0.5	1.6	
22-Nov	0	0	0	0	0	0	0	0	0	1	0	A	0	0	0	0	0	1	1	0	0	0	0	1	0.4	0.8	
23-Nov	1	0	1	1	1	1	1	1	1	1	A	1	1	0	1	1	1	1	1	1	1	1	1	1	0.6	0.8	
24-Nov	1	1	1	0	1	1	0	0	0	A	0	0	0	1	1	0	0	1	0	1	0	0	0	0	0.5	0.8	
25-Nov	0	0	1	0	0	1	0	0	A	1	0	0	1	1	0	0	0	0	1	0	0	1	0	0	0.5	0.8	
26-Nov	0	0	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.1	
27-Nov	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	0	1	0	1	0	1	0	0.7	1.1	
28-Nov	0	1	0	0	0	A	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	1	0.4	0.6	
29-Nov	0	0	0	0	A	0	1	1	1	1	1	0	1	1	1	1	1	1	0	1	1	1	0	0	0.5	0.9	
30-Nov	0	0	1	A	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1	0	0	0.4	0.8	
0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.6 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5																									Diurnal Average		
0.8 0.7 0.9 0.8 1.0 1.1 1.0 0.9 0.9 1.0 1.0 0.8 0.9 1.1 1.6 0.8 1.0 1.0 1.3 0.9 0.8 0.8 1.1 1.1																									Diurnal Maximum		
C - Calibration																									A - Automated Daily Zero Span		

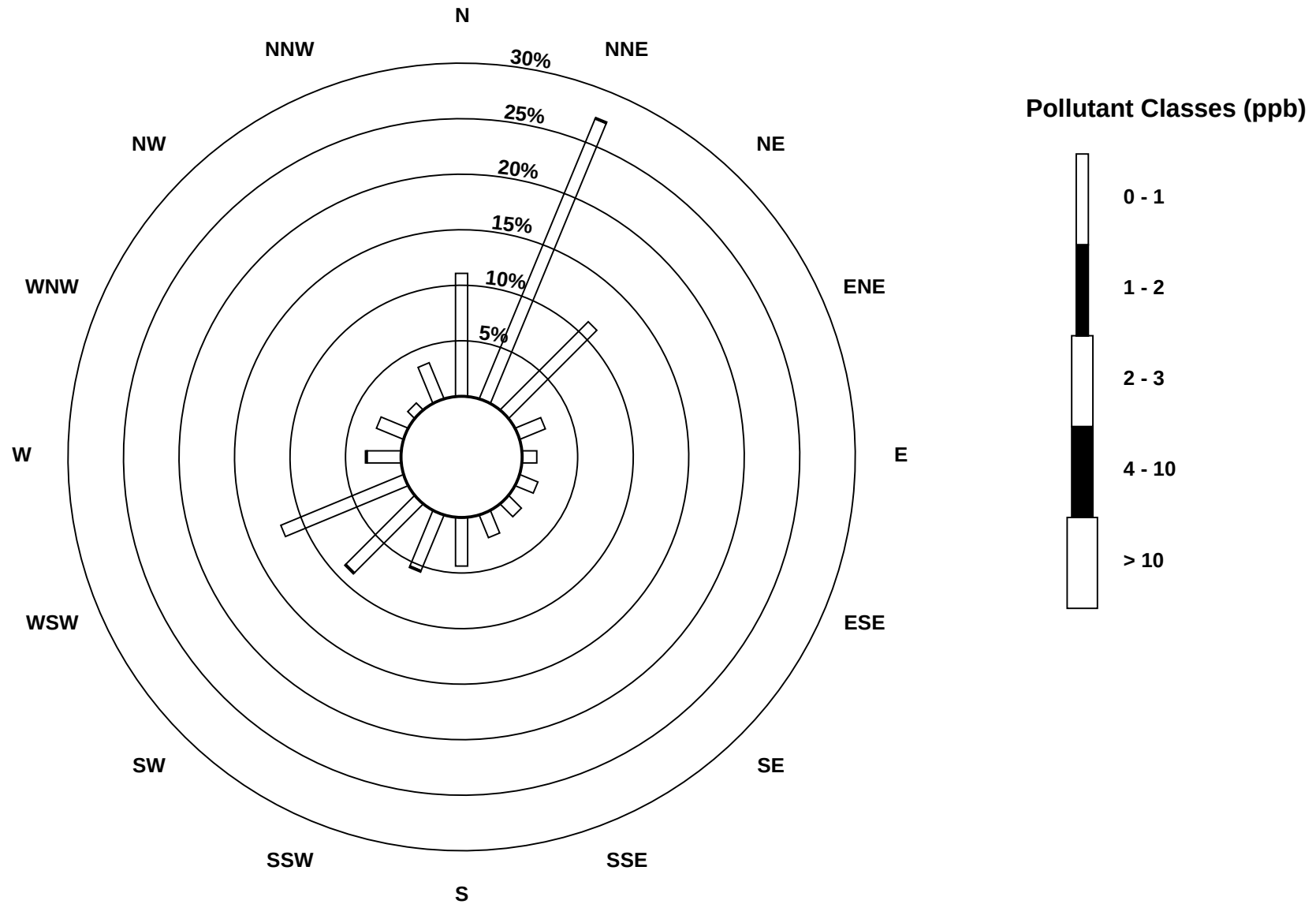
Hourly Maximums

Total Reduced Sulphur (TRS) - ppb
Smoky Heights - November 2012



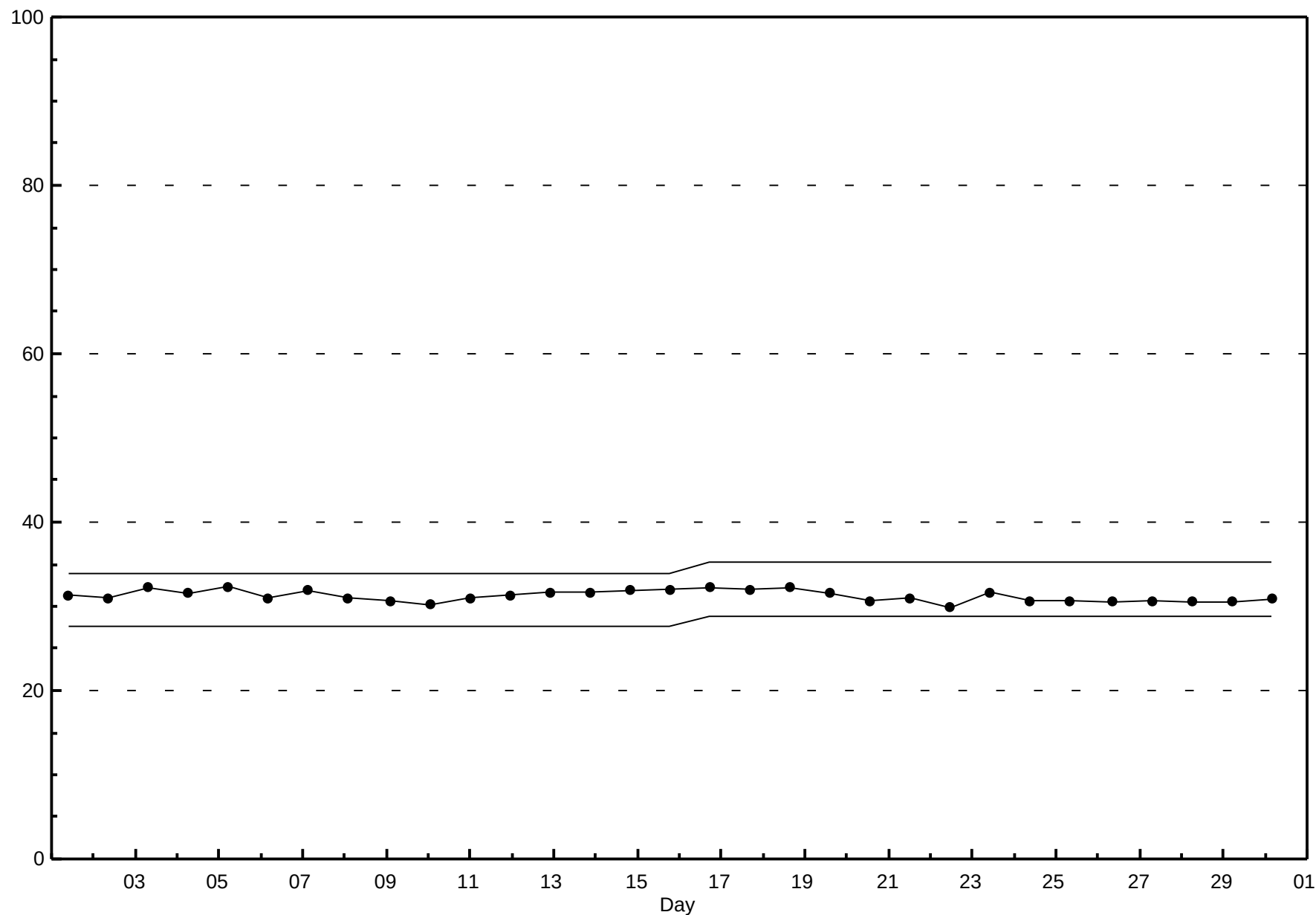
Pollutant Rose

Total Reduced Sulphur (TRS) - ppb
Smoky Heights - November 2012



Span Responses

Total Reduced Sulphur (TRS)
Smoky Heights - November 2012

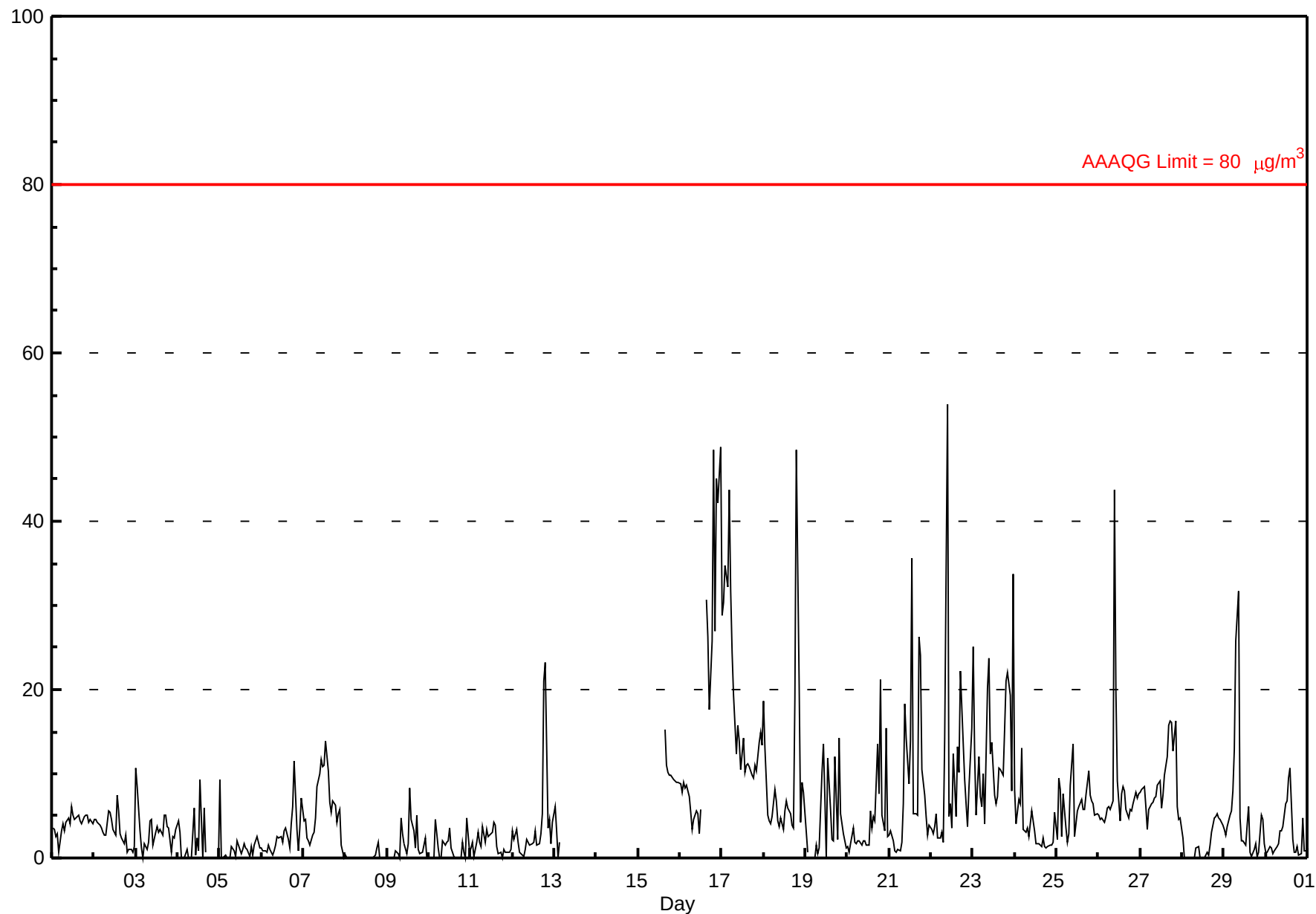


Hourly Averages

Particulate Matter 2.5 (PM_{2.5}) - µg/m³

Smoky Heights - November 2012

Number of Exceedences: 1-hr: 0 24-hr: 0 Maximum Value: 53.9 µg/m³ on Nov 22 10:00 Minimum Value: 0 µg/m³ on Nov 3 05:00 Maximum Diurnal Average: 10.0 µg/m³ at hour 20 Monthly Average: 5.73 µg/m³																						Maximum Daily Average: 18.2 µg/m³ on Nov 17 Minimum Daily Average: 0.2 µg/m³ on Nov 8 Minimum Diurnal Average: 3.7 µg/m³ at hour 6 Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 1.3 Median = 3.5 Q ₃ = 6.9 P ₉₀ = 13.2 P ₉₉ = 43.7										Hours in Service: 720 Hours of Data: 655 Hours of Missing Data: 65 Hours of Calibration: 0 Percent Operational Time: 91.0	
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-Nov	4	3	3	3	1	3	4	3	4	5	4	6	5	5	5	5	4	4	5	5	5	4	5	4	4.1	6.1							
2-Nov	5	4	4	4	4	3	3	3	6	5	5	3	3	8	6	3	2	2	3	1	1	1	1	1	3.3	7.5							
3-Nov	11	9	3	1	0	2	1	2	4	5	1	3	4	3	3	3	5	5	4	4	1	2	2	3	3.4	10.7							
4-Nov	4	3	0	0	0	1	0	0	0	6	0	2	1	9	0	6	1	N	0	0	0	0	0	0	1.5	9.4							
5-Nov	9	0	0	0	0	0	0	1	1	0	2	1	1	1	2	1	1	0	1	0	1	3	2	1	1.2	9.4							
6-Nov	1	1	1	1	1	1	0	1	1	3	2	3	2	3	4	2	1	4	6	11	3	1	4	7	2.7	11.5							
7-Nov	4	5	2	2	2	3	3	5	9	10	12	11	11	14	10	7	5	7	6	4	5	6	2	0	6.0	13.8							
8-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0.2	1.8							
9-Nov	0	0	0	0	0	1	1	0	5	3	2	0	2	8	5	3	1	5	1	1	1	2	2	0	1.7	8.2							
10-Nov	0	0	0	0	5	1	0	0	2	2	2	2	4	1	0	0	0	0	0	2	1	0	5	1	1.1	4.8							
11-Nov	1	2	0	2	3	2	1	4	2	3	2	3	3	4	4	1	1	1	0	1	1	1	1	1	1.8	4.2							
12-Nov	3	2	3	2	1	0	0	1	2	2	1	2	2	3	2	2	3	5	21	23	4	5	2	4	3.9	23.2							
13-Nov	6	3	0	2	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	6.1							
14-Nov	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--							
15-Nov	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	15	11	10	10	10	9	9	9	9	--	15.3							
16-Nov	9	8	9	8	9	7	5	3	5	6	5	3	6	M	M	31	26	18	26	48	27	45	42	49	17.9	48.8							
17-Nov	29	30	35	32	44	32	24	19	12	16	14	10	14	10	11	11	11	10	9	11	10	14	15	13	18.2	43.7							
18-Nov	19	13	5	4	4	5	8	7	4	4	5	3	6	7	6	5	4	4	19	48	20	4	9	8	9.2	48.5							
19-Nov	3	1	N	N	N	0	2	1	1	10	14	7	0	12	6	2	2	12	2	14	5	4	3	1	4.8	14.3							
20-Nov	1	1	2	4	2	2	2	2	2	2	2	2	1	6	4	5	4	14	8	21	5	3	15	3	4.6	21.2							
21-Nov	3	3	2	1	1	1	1	2	6	18	14	9	14	36	5	5	5	26	24	11	7	5	3	4	8.6	35.5							
22-Nov	3	3	4	5	2	2	3	2	14	54	5	6	4	12	5	13	10	22	14	9	6	4	8	15	9.5	53.9							
23-Nov	25	12	5	12	7	6	10	4	20	24	12	14	7	6	7	11	11	10	15	21	22	19	8	34	13.5	33.8							
24-Nov	8	4	7	6	13	3	3	3	3	4	6	3	2	2	2	1	2	1	1	1	2	1	2	5	3.6	13.0							
25-Nov	2	9	8	3	8	4	2	3	9	14	2	4	6	6	7	6	6	7	10	8	7	6	5	5	6.1	13.6							
26-Nov	5	5	5	4	5	6	6	6	7	44	20	9	4	8	9	8	6	5	6	6	6	8	7	8	8.4	43.7							
27-Nov	8	8	8	6	3	6	7	7	7	7	9	9	6	7	10	12	16	16	16	13	16	6	5	5	8.9	16.3							
28-Nov	2	0	0	0	0	0	0	0	1	1	0	0	0	0	1	0	1	3	5	5	5	5	5	4	1.6	5.2							
29-Nov	3	3	4	5	6	8	13	26	32	5	2	2	2	4	6	1	0	1	2	0	1	5	5	2	5.6	31.8							
30-Nov	1	1	1	1	1	1	1	2	3	3	4	6	7	9	11	2	1	1	1	0	1	5	1	1	2.7	10.7							
6.1 4.7 4.1 4.0 4.6 3.7 3.7 3.9 6.0 9.4 5.5 4.6 4.2 7.1 4.9 5.8 5.0 7.1 7.7 10.0 6.2 6.0 5.9 6.7																								Diurnal Average									
28.9 30.3 34.8 32.2 43.7 31.6 24.5 25.8 31.8 53.9 19.9 13.8 14.2 35.5 11.0 30.6 26.3 26.2 25.7 48.5 26.9 45.1 42.2 48.8																								Diurnal Maximum									
M - Maintenance N - Not Valid																																	
Alberta Ambient Air Quality Guideline (AAQG): 1-hr 80 µg/m³ Alberta Ambient Air Quality Objective (AAQO): 24-hr 30 µg/m³																																	



Hourly Maximums

Particulate Matter 2.5 (PM_{2.5}) - µg/m³

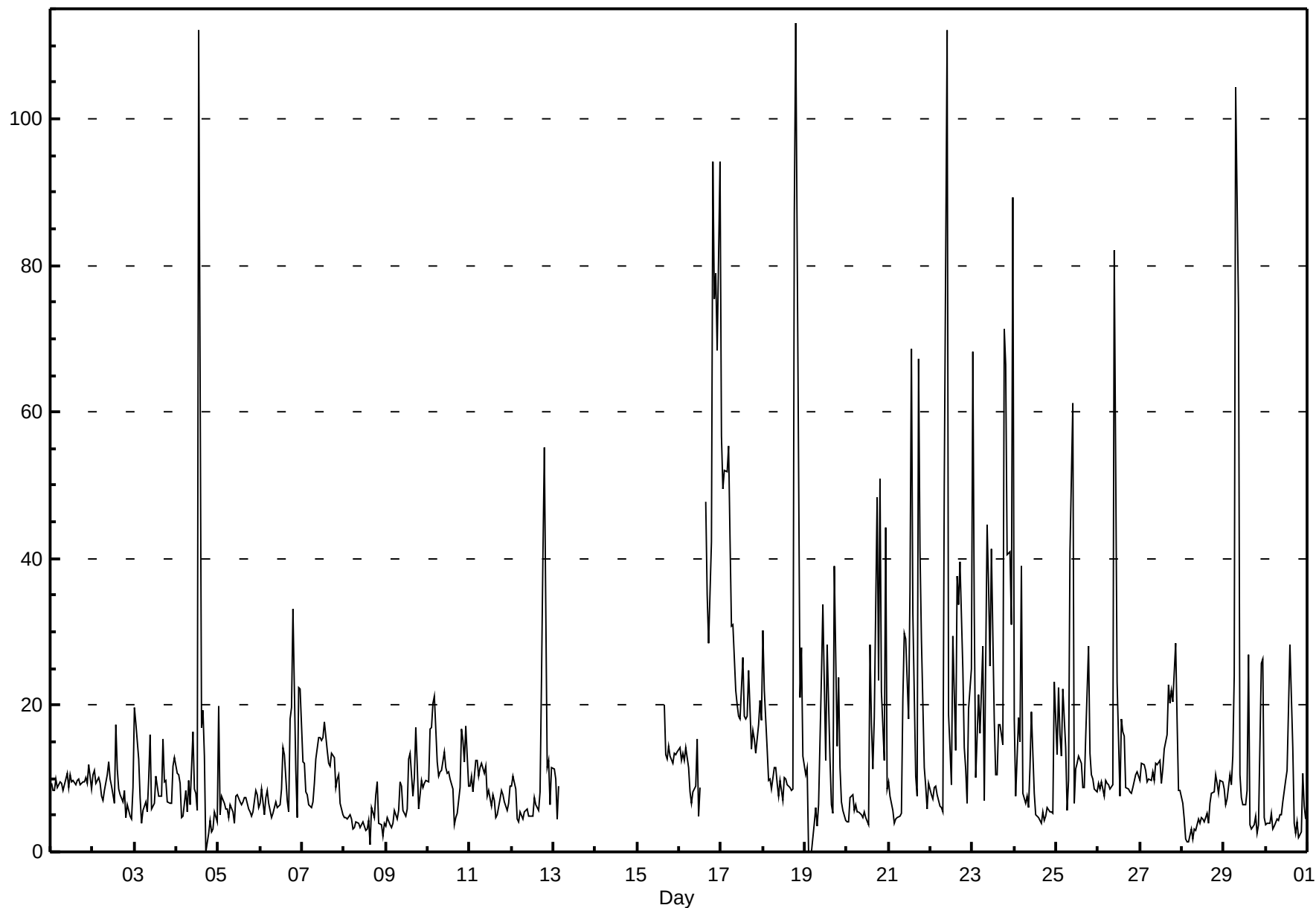
Smoky Heights - November 2012

Maximum Value: 113.1 µg/m ³ on Nov 18 20:00																					Maximum Daily Average: 32.6 µg/m ³ on Nov 23										Hours in Service:		720	
Minimum Value: 0 µg/m ³ on Nov 4 18:00																					Minimum Daily Average: 4.3 µg/m ³ on Nov 8										Hours of Data:		659	
Maximum Diurnal Average: 23.2 µg/m ³ at hour 20																					Minimum Diurnal Average: 8.9 µg/m ³ at hour 7										Hours of Missing Data:		61	
Monthly Average: 13.97 µg/m ³																					Percentiles: P ₁ = 1.7 P ₁₀ = 4.2 Q ₁ = 6.1 Median = 9.3 Q ₃ = 14.2 P ₉₀ = 28.2 P ₉₉ = 88.8										Hours of Calibration:		0	
																					Percent Operational Time:		91.5											
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-Nov	9	8	8	10	9	10	9	8	9	11	9	11	10	10	9	10	10	9	10	9	10	9	12	9	9.5	11.8								
2-Nov	11	11	9	10	9	8	7	8	11	12	10	9	7	17	11	9	8	7	8	5	6	5	4	9	8.8	17.4								
3-Nov	20	18	13	7	4	6	7	5	10	16	6	7	10	9	8	8	15	10	10	7	7	7	12	13	9.6	19.6								
4-Nov	11	11	9	5	5	8	5	10	6	16	9	8	6	112	17	19	13	0	3	4	3	3	5	4	12.2	112.1								
5-Nov	20	5	8	7	6	6	5	6	5	4	8	8	7	6	7	7	7	6	5	5	5	8	8	6	6.9	19.8								
6-Nov	7	9	5	7	8	7	5	5	6	7	6	6	9	14	13	7	5	18	20	33	11	5	22	22	10.7	33.2								
7-Nov	12	12	8	8	6	6	7	9	13	16	16	15	16	18	14	12	12	13	13	9	10	11	7	5	11.1	17.8								
8-Nov	5	5	4	5	4	3	3	4	4	3	4	4	3	3	4	1	6	5	8	10	4	4	2	4	4.3	9.6								
9-Nov	3	5	4	3	4	6	4	6	10	9	6	5	6	13	13	8	10	17	12	6	10	9	9	10	7.8	16.9								
10-Nov	10	17	17	20	21	12	10	11	11	14	12	11	11	10	9	4	5	5	9	17	15	12	17	9	12.0	21.3								
11-Nov	9	10	8	13	12	10	12	12	11	12	8	8	6	8	7	5	5	7	8	8	7	6	7	9	8.6	12.5								
12-Nov	9	10	9	4	4	5	4	5	6	6	5	5	5	7	6	6	8	23	40	55	12	13	6	12	11.1	55.2								
13-Nov	11	10	4	9	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	11.3								
14-Nov	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--								
15-Nov	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	20.0								
16-Nov	14	13	14	13	14	12	8	7	8	9	15	5	9	M	M	48	35	28	42	94	76	79	68	94	32.0	94.1								
17-Nov	57	50	52	52	55	43	31	31	22	20	19	18	26	19	18	19	25	14	17	15	13	17	21	18	27.9	56.7								
18-Nov	30	22	14	10	10	9	12	12	9	8	10	7	10	10	9	9	8	9	87	113	53	21	28	13	21.7	113.1								
19-Nov	11	12	0	0	0	4	6	3	6	24	34	23	13	28	13	6	5	39	14	24	12	7	6	4	12.2	39.1								
20-Nov	4	4	7	8	6	6	5	5	5	5	5	5	4	28	18	11	18	48	23	51	22	13	44	9	14.8	50.8								
21-Nov	10	8	6	4	4	5	5	5	21	30	29	18	36	69	32	10	8	67	41	29	12	9	6	9	19.6	68.7								
22-Nov	8	7	9	9	8	6	6	5	50	112	19	14	9	29	14	38	34	40	25	14	11	7	20	25	21.6	112.1								
23-Nov	68	32	10	21	16	22	28	7	45	36	25	41	18	11	11	17	17	15	71	66	41	41	31	89	32.6	89.2								
24-Nov	18	8	18	15	39	8	7	8	6	12	19	8	5	5	5	4	5	4	5	6	5	5	5	23	10.1	39.0								
25-Nov	13	22	16	13	22	14	6	10	41	61	7	11	12	13	12	9	9	16	28	13	11	10	9	8	16.1	61.3								
26-Nov	9	9	10	8	10	9	9	9	9	82	53	23	8	18	16	16	9	9	8	8	9	11	11	10	15.5	82.1								
27-Nov	10	12	12	11	10	10	10	11	10	12	12	12	9	11	14	16	23	20	22	21	28	18	8	8	13.7	28.4								
28-Nov	7	4	2	1	1	3	2	3	3	4	4	5	4	4	5	4	7	8	8	11	9	8	10	10	5.3	10.6								
29-Nov	9	6	7	11	9	13	24	104	74	11	7	6	6	8	27	4	3	4	5	3	4	26	26	5	16.7	104.3								
30-Nov	4	4	4	5	3	4	4	4	5	5	7	10	11	20	28	14	4	2	4	2	3	11	6	4	7.0	28.2								
14.5 12.2 10.2 10.3 11.2 9.4 8.9 11.7 15.4 20.6 13.4 11.3 10.2 19.2 13.1 12.1 11.7 16.3 20.1 23.2 15.0 13.8 15.1 16.2																								Diurnal Average										
68.2 49.6 52.1 51.8 55.3 42.8 30.9 104.3 74.1 112.1 53.0 41.3 35.7 112.1 32.5 47.7 35.0 67.2 87.0 113.1 75.5 79.0 68.4 94.1																								Diurnal Maximum										
M - Maintenance N - Not Valid																																		

Hourly Maximums

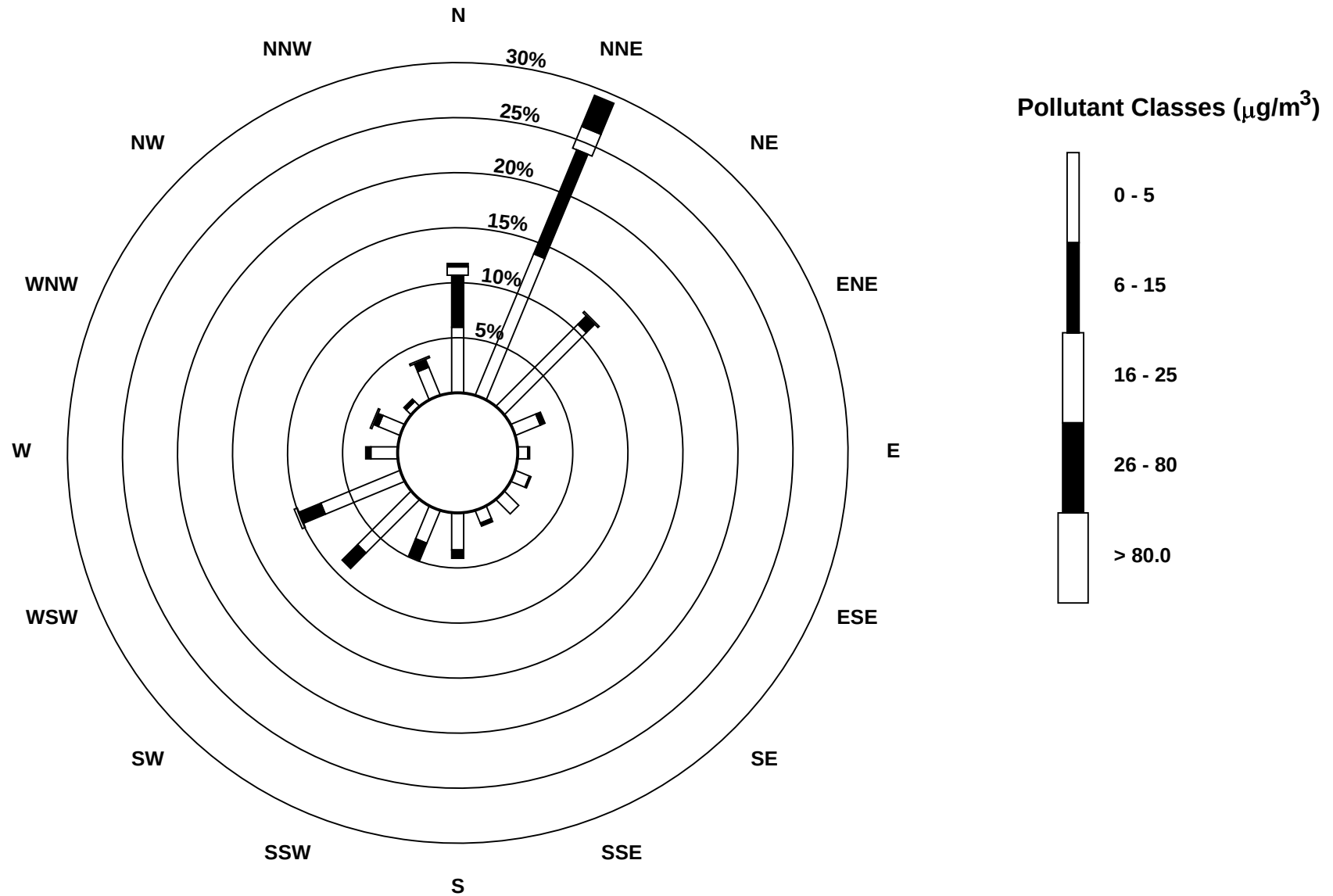
Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$

Smoky Heights - November 2012



Pollutant Rose

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Smoky Heights - November 2012



Hourly Averages

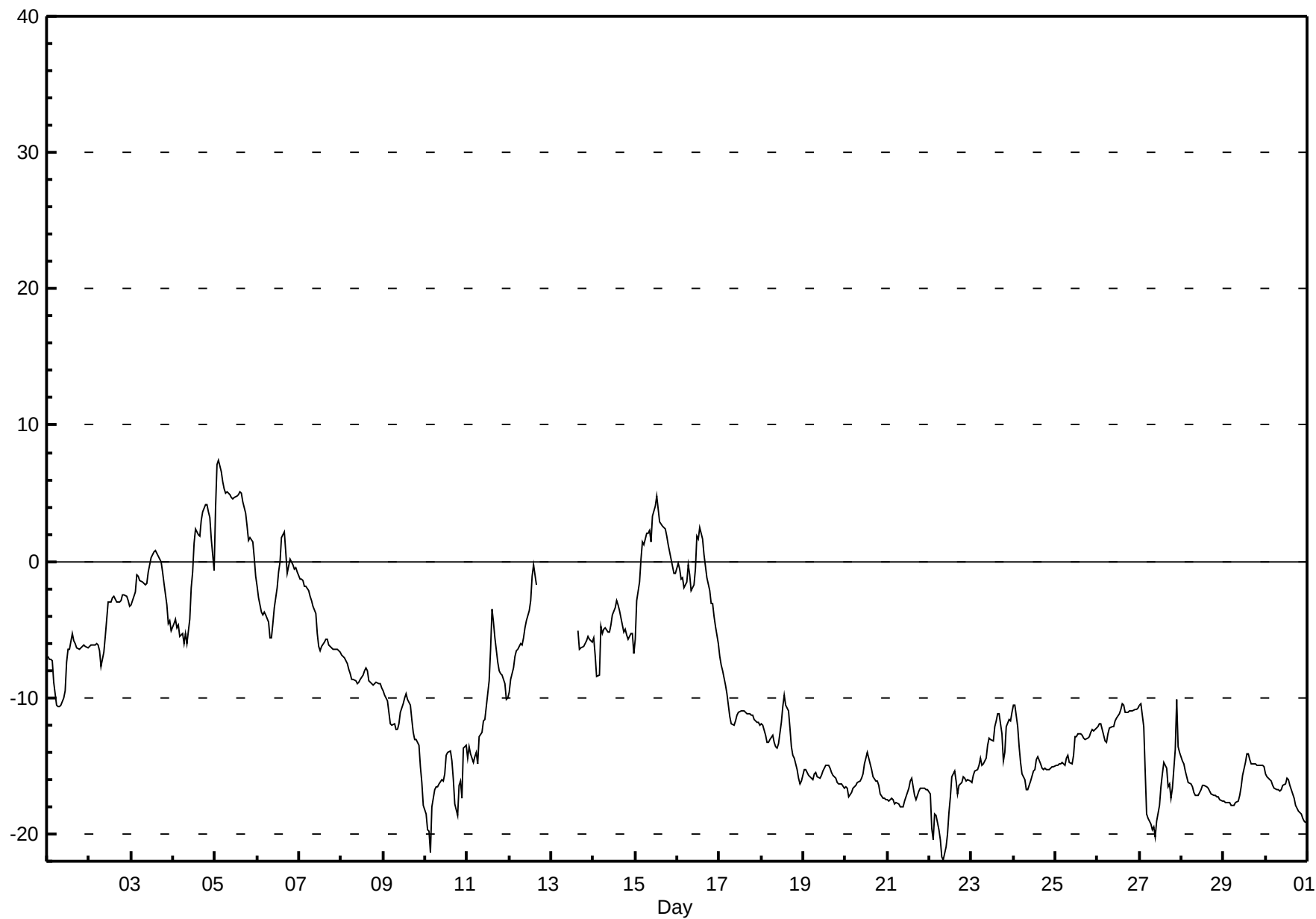
External Temperature (ET) - °C

Smoky Heights - November 2012

Number of Exceedences (AAAQO): Maximum Value: 7.4 °C on Nov 5 03:00																				1-hr: 0 24-hr: 0 Maximum Daily Average: 4.1 °C on Nov 5		Hours in Service: 720 Hours of Data: 697 Hours of Missing Data: 23 Hours of Calibration: 0 Percent Operational Time: 96.8					
Minimum Value: -22 °C on Nov 22 09:00 Maximum Diurnal Average: -8.0 °C at hour 15 Monthly Average: -9.80 °C																				Minimum Daily Average: -18.0 °C on Nov 22 Minimum Diurnal Average: -10.9 °C at hour 9 Percentiles: P ₁ = -20.2 P ₁₀ = -17.2 Q ₁ = -15.7 Median = -11.2 Q ₃ = -4.9 P ₉₀ = -0.2 P ₉₉ = 5.0							
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-Nov	-7	-7	-7	-7	-9	-10	-11	-11	-11	-10	-9	-7	-6	-6	-5	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-7.5	-5.3
2-Nov	-6	-6	-6	-6	-6	-6	-7	-8	-7	-6	-4	-3	-3	-3	-3	-3	-3	-3	-3	-2	-2	-3	-3	-3	-3	-4.3	-2.5
3-Nov	-3	-3	-2	-1	-1	-1	-2	-2	-2	-2	-1	0	0	1	1	0	0	0	-1	-2	-3	-5	-4	-5	-5	-1.5	0.8
4-Nov	-5	-4	-5	-5	-6	-5	-6	-5	-6	-4	-2	-1	1	2	2	2	3	4	4	4	4	3	2	-1	-1.0	4.2	
5-Nov	4	7	7	7	6	5	5	5	5	5	5	5	5	5	5	5	4	4	3	2	2	1	0	-1	4.1	7.4	
6-Nov	-2	-3	-4	-4	-4	-4	-4	-6	-6	-5	-3	-2	-1	0	2	2	1	-1	0	0	0	-1	0	-1	-1.9	2.2	
7-Nov	-1	-1	-1	-2	-2	-2	-3	-3	-3	-4	-5	-6	-7	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-7	-4.5	-1.3	
8-Nov	-7	-7	-7	-7	-8	-8	-9	-9	-9	-9	-9	-9	-8	-8	-8	-8	-9	-9	-9	-9	-9	-9	-9	-9	-8.4	-6.8	
9-Nov	-10	-10	-10	-11	-12	-12	-12	-12	-12	-12	-11	-10	-10	-10	-10	-11	-12	-13	-13	-13	-13	-15	-16	-18	-12.0	-9.5	
10-Nov	-19	-20	-20	-21	-18	-17	-16	-17	-16	-16	-16	-16	-14	-14	-14	-15	-16	-18	-19	-16	-16	-17	-14	-13	-16.6	-13.5	
11-Nov	-14	-14	-14	-15	-14	-14	-15	-13	-13	-12	-12	-11	-9	-6	-4	-4	-6	-7	-8	-8	-8	-9	-10	-10	-10.4	-3.5	
12-Nov	-10	-9	-8	-7	-7	-6	-6	-6	-6	-5	-4	-4	-3	-1	0	-2	N	N	N	N	N	N	N	N	--	-0.2	
13-Nov	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-5	-6	-6	-6	-6	-6	-6	-6	-6	--	-5.0	
14-Nov	-6	-7	-8	-8	-5	-5	-5	-5	-5	-5	-5	-4	-3	-3	-3	-4	-4	-5	-5	-5	-6	-5	-5	-7	-5.2	-2.8	
15-Nov	-6	-3	-2	0	1	1	2	2	2	1	3	4	5	4	3	3	3	2	2	1	0	0	-1	-1	1.2	4.8	
16-Nov	0	-1	-1	-1	-2	-2	0	-1	-2	-2	-1	2	2	2	2	1	0	-1	-2	-3	-3	-4	-5	-6	-1.2	2.5	
17-Nov	-7	-8	-8	-9	-10	-11	-11	-12	-12	-12	-11	-11	-11	-11	-11	-11	-11	-11	-11	-11	-12	-12	-12	-12	-10.7	-7.0	
18-Nov	-12	-12	-13	-13	-13	-13	-13	-13	-14	-14	-13	-12	-11	-10	-10	-11	-12	-14	-14	-14	-15	-16	-16	-16	-13.1	-9.8	
19-Nov	-15	-15	-15	-16	-16	-16	-16	-16	-16	-16	-16	-15	-15	-15	-15	-15	-16	-16	-16	-16	-16	-16	-16	-17	-15.7	-15.0	
20-Nov	-16	-17	-17	-17	-17	-17	-16	-16	-16	-16	-16	-15	-14	-14	-15	-15	-16	-16	-16	-16	-16	-17	-17	-17	-16.2	-14.0	
21-Nov	-18	-18	-17	-17	-18	-18	-18	-18	-18	-18	-18	-17	-17	-16	-16	-17	-17	-17	-17	-17	-17	-17	-17	-17	-17.2	-15.9	
22-Nov	-17	-20	-20	-19	-19	-20	-20	-22	-22	-21	-20	-18	-17	-16	-15	-16	-17	-16	-16	-16	-16	-16	-16	-16	-18.0	-15.4	
23-Nov	-16	-16	-15	-15	-15	-14	-15	-15	-14	-13	-13	-13	-13	-12	-12	-11	-11	-13	-15	-14	-12	-12	-12	-11	-13.4	-11.1	
24-Nov	-11	-11	-12	-14	-15	-16	-16	-17	-17	-16	-16	-15	-15	-15	-14	-15	-15	-15	-15	-15	-15	-15	-15	-15	-14.8	-10.5	
25-Nov	-15	-15	-15	-15	-15	-15	-14	-14	-15	-15	-14	-13	-13	-13	-13	-13	-13	-13	-13	-13	-13	-12	-12	-12	-13.6	-12.2	
26-Nov	-12	-12	-12	-13	-13	-13	-13	-12	-12	-12	-12	-11	-11	-11	-10	-11	-11	-11	-11	-11	-11	-11	-11	-11	-11.6	-10.5	
27-Nov	-11	-10	-12	-15	-19	-19	-19	-20	-20	-20	-19	-18	-16	-16	-15	-15	-17	-16	-17	-17	-17	-14	-10	-14	-14	-15.9	-10.1
28-Nov	-15	-15	-15	-16	-16	-16	-17	-17	-17	-17	-17	-17	-16	-16	-16	-16	-17	-17	-17	-17	-17	-17	-17	-18	-16.6	-14.6	
29-Nov	-18	-18	-18	-18	-18	-18	-18	-18	-18	-17	-17	-16	-15	-14	-14	-15	-15	-15	-15	-15	-15	-15	-15	-15	-16.1	-14.1	
30-Nov	-16	-16	-16	-16	-16	-17	-17	-17	-17	-17	-16	-16	-16	-16	-16	-17	-17	-18	-18	-18	-19	-19	-19	-19	-17.0	-15.5	
		-9.9	-9.9	-10.2	-10.4	-10.5	-10.7	-10.7	-10.9	-10.9	-10.6	-10.1	-9.3	-8.7	-8.2	-8.0	-8.3	-9.0	-9.5	-9.7	-9.7	-9.8	-9.9	-10.1	-10.5	Diurnal Average	
		3.9	7.1	7.4	6.5	5.9	5.3	5.0	5.1	4.9	4.7	4.6	4.7	4.8	4.9	5.1	5.0	4.4	3.6	4.2	4.2	3.6	3.2	1.7	-0.6	Diurnal Maximum	
N - Not Valid																											

Hourly Averages

External Temperature (ET) - °C
Smoky Heights - November 2012



Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Smoky Heights - November 2012

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	9	7	7	6	4	4	5	5	4	4	4	3	3	4	2	1	3	3	6	5	4	5	2	4	1.5	9.3
Dir	110	91	46	24	100	138	143	181	187	161	189	181	146	138	216	283	265	332	352	343	8	37	98	200	105.8	110.4
2 Spd	2	0	3	2	2	3	3	2	4	2	1	2	5	7	9	12	11	13	10	10	10	10	12	12	5.6	12.8
Dir	228	251	104	54	61	63	66	75	63	14	38	109	93	49	34	32	32	33	31	46	40	43	44	37	44.0	33.0
3 Spd	9	8	8	13	13	9	8	6	4	4	6	7	10	7	8	12	16	14	15	10	13	13	8	14	4.8	16.4
Dir	29	28	62	117	122	138	133	86	59	43	144	178	221	252	211	222	223	230	217	219	230	229	229	218	194.9	222.5
4 Spd	11	13	14	14	8	13	9	7	6	8	11	13	8	13	13	12	18	19	22	14	7	7	6	9	9.7	21.5
Dir	222	227	225	231	244	214	246	232	229	247	256	236	226	191	191	156	165	174	178	179	188	195	292	245	209.2	178.0
5 Spd	23	37	48	39	39	42	44	42	42	42	44	43	43	39	36	38	35	33	28	25	27	24	19	20	35.3	48.2
Dir	246	258	253	248	243	243	245	247	247	246	246	247	247	246	248	248	250	254	255	260	250	247	251	260	248.8	252.5
6 Spd	19	11	13	12	13	11	9	10	11	8	10	10	13	4	2	4	4	7	11	14	13	10	13	9	4.6	19.0
Dir	262	264	260	246	231	255	262	246	254	214	207	254	250	266	172	234	41	14	18	18	22	36	28	25	278.5	261.6
7 Spd	9	10	11	10	14	15	12	14	16	16	22	23	23	21	20	19	17	16	16	16	17	16	14	13	15.7	23.2
Dir	24	18	12	12	4	5	5	24	28	31	23	24	28	21	21	23	23	27	29	25	30	28	29	39	22.9	24.0
8 Spd	14	16	16	14	14	15	15	13	13	13	15	15	15	12	12	13	9	9	9	9	9	10	11	12	12.5	16.1
Dir	38	40	40	48	60	53	60	65	62	55	38	36	39	49	50	52	36	40	29	26	34	36	42	54	45.8	40.4
9 Spd	13	14	12	11	10	9	10	8	9	9	10	11	10	10	11	12	11	9	9	9	8	6	5	3	9.1	13.8
Dir	54	58	56	39	25	27	29	22	16	28	28	33	26	21	9	16	8	10	4	0	8	2	8	8	24.7	57.8
10 Spd	1	1	3	3	2	5	5	3	2	2	3	3	3	5	8	10	9	11	7	8	8	9	11	14	4.9	14.3
Dir	2	248	313	246	140	184	192	200	211	200	157	181	214	235	254	260	259	260	254	249	257	242	214	215	235.2	215.4
11 Spd	12	12	13	13	14	11	11	11	12	13	10	11	12	10	10	11	4	8	7	4	8	8	7	8	9.4	13.7
Dir	221	220	237	235	240	229	215	244	226	222	188	176	185	191	244	243	228	234	233	194	213	230	241	242	222.8	239.7
12 Spd	6	4	4	3	3	6	7	9	8	8	8	6	5	5	6	4	1	2	3	5	5	12	14	14	1.6	14.2
Dir	225	208	201	221	265	235	200	200	228	198	186	171	173	178	174	160	187	261	291	7	24	11	15	17	212.5	14.5
13 Spd	13	13	10	9	7	6	4	4	4	4	2	3	1	3	1	4	7	6	5	10	14	14	14	12	1.8	14.3
Dir	19	21	13	37	32	40	47	36	79	111	81	46	89	219	161	272	281	259	257	251	234	244	240	229	302.5	244.5
14 Spd	11	10	13	16	23	17	12	4	2	7	7	5	8	8	8	9	6	8	9	11	12	14	13	13	5.1	22.8
Dir	225	238	234	254	345	352	1	9	105	175	173	151	157	167	149	156	201	228	242	248	241	246	245	252	240.3	344.9
15 Spd	11	13	7	17	19	19	22	24	26	27	27	26	30	22	19	17	19	15	9	8	5	3	8	8	15.8	29.6
Dir	248	193	225	213	207	194	210	236	243	254	243	236	237	238	240	244	245	253	220	210	218	262	217	218	231.5	236.6
16 Spd	5	5	0	5	3	5	5	5	6	5	3	1	4	4	5	9	8	6	8	8	9	9	8	8	2.1	8.6
Dir	236	270	191	311	247	242	209	204	215	192	230	133	23	1	21	33	29	358	30	24	14	26	24	27	1.0	14.4
17 Spd	10	9	9	13	15	18	15	17	20	17	16	14	14	11	11	10	9	9	7	7	8	6	10	9	10.8	19.7
Dir	31	34	21	30	28	33	29	20	20	25	26	19	15	6	17	15	9	10	347	342	331	333	292	315	14.2	19.9
18 Spd	3	4	8	10	8	5	3	8	7	8	6	7	5	5	7	10	9	9	10	10	9	9	10	10	5.1	10.4
Dir	17	203	245	236	251	257	354	23	19	1	345	358	7	38	17	21	24	26	22	7	9	12	9	17	2.1	21.7
19 Spd	15	13	19	18	18	17	17	12	13	15	16	11	11	10	9	10	7	9	10	12	10	7	7	13	11.7	18.6
Dir	21	15	33	25	23	15	16	13	358	4	13	14	24	11	9	32	7	354	346	18	2	1	328	287	10.5	33.2
20 Spd	12	11	11	12	14	13	10	10	7	7	7	4	3	6	7	7	6	6	5	8	9	5	9	12	6.1	14.2
Dir	297	290	281	276	291	293	285	272	280	292	300	312	342	36	28	29	28	3	6	19	9	360	15	7	321.7	291.4
21 Spd	12	10	11	13	16	14	14	14	12	11	9	11	10	10	10	8	7	8	8	8	7	8	8	4	9.9	15.9
Dir	15	17	27	18	21	27	23	13	11	11	10	12	18	17	360	6	1	15	17	26	13	23	58	44	17.7	20.5
22 Spd	3	3	2	5	6	7	7	6	8	7	9	7	9	8	8	7	7	12	15	14	14	14	13	13	8.2	14.6
Dir	65	84	1	30	39	27	16	12	26	21	31	31	30	24	31	21	2	18	21	19	18	20	20	14	22.9	21.2



Hourly Averages

Wind Speed (km/h)

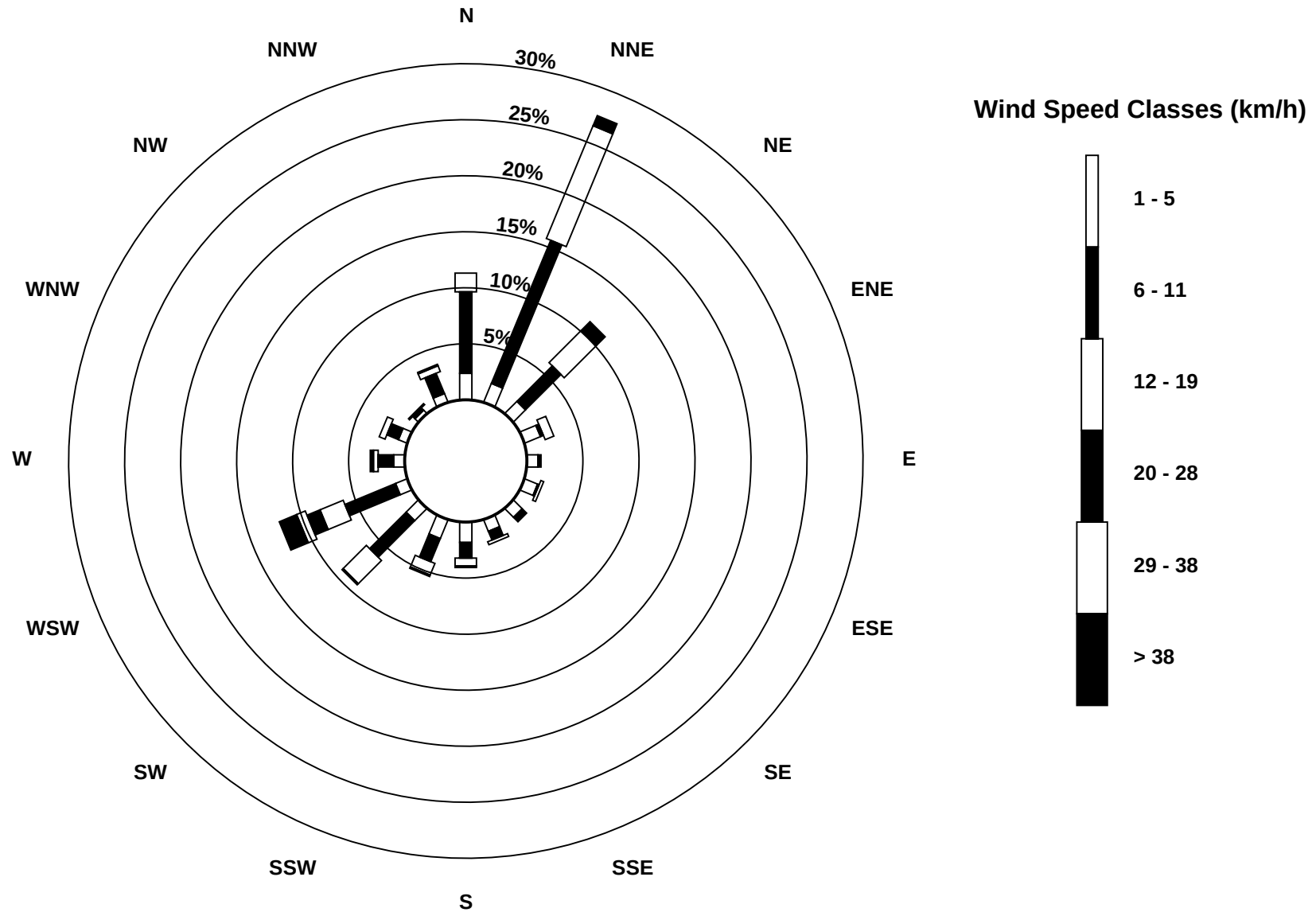
Wind Direction (deg)

Smoky Heights - November 2012

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	15	12	15	15	14	14	12	11	7	8	5	3	5	13	15	14	9	3	6	6	8	10	4	5.0	15.2
Dir	14	25	10	22	16	17	15	7	15	15	15	60	87	155	204	209	202	222	289	46	15	32	2	5	15.4	15.9
24 Spd	5	6	9	7	9	11	12	11	9	4	5	2	5	3	3	3	6	6	5	5	5	5	6	9	2.4	11.6
Dir	290	349	1	8	21	3	321	302	309	29	339	298	237	196	137	133	151	138	158	118	108	72	40	35	5.8	321.4
25 Spd	9	8	9	8	8	8	8	8	8	6	4	3	5	7	5	5	7	9	10	7	2	4	7	6	5.1	10.3
Dir	34	24	24	20	28	13	7	10	11	349	335	49	31	27	21	21	11	17	4	359	350	173	183	166	17.9	3.9
26 Spd	5	4	5	1	3	5	5	6	8	5	6	6	5	2	2	2	3	1	3	2	6	8	7	8	0.7	8.3
Dir	146	123	106	174	297	3	354	37	32	15	16	7	16	356	67	102	44	79	190	246	249	224	209	222	19.9	221.9
27 Spd	8	8	11	10	9	11	10	9	7	8	9	10	10	11	8	10	10	9	2	1	6	18	13	18	4.9	18.1
Dir	219	206	211	245	216	259	252	231	227	208	213	225	232	247	242	248	254	251	342	13	3	7	49	36	247.0	35.8
28 Spd	20	13	17	16	14	11	17	20	17	13	18	22	23	23	21	21	23	20	18	16	17	16	14	15	17.6	22.9
Dir	38	43	46	44	45	48	40	38	41	41	32	36	39	35	37	35	34	34	34	27	26	25	20	24	35.8	35.4
29 Spd	15	13	13	12	13	13	12	12	12	12	12	12	10	9	10	10	11	11	9	10	10	9	9	10	11.1	15.0
Dir	26	30	25	21	17	17	18	16	21	29	33	34	36	29	30	40	41	40	42	35	30	25	6	0	26.4	25.5
30 Spd	13	13	12	12	9	10	6	8	6	6	6	8	8	9	10	11	8	8	9	9	9	12	11	13	8.6	12.8
Dir	348	347	349	347	337	341	344	345	349	337	344	4	13	5	41	42	13	358	3	359	21	42	37	38	4.9	347.8
Spd	3.1	2.7	3.2	3.1	3.6	3.4	3.0	3.2	3.3	2.4	2.5	2.1	1.7	1.8	1.8	1.9	2.3	3.0	3.2	4.0	3.9	3.8	3.7	3.4	Diurnal Average	
Dir	348.0	345.8	336.1	329.1	344.4	339.2	335.7	329.3	332.8	327.5	329.7	340.4	336.2	343.5	346.6	350.0	331.6	332.6	347.6	357.9	349.2	355.6	356.0	345.8		
Spd	22.7	37.1	48.2	38.9	38.6	41.7	43.6	42.1	41.6	42.1	44.4	43.4	42.9	38.8	36.2	37.5	34.9	33.1	28.0	25.4	26.8	23.6	19.3	19.5	Diurnal Maximum	
Dir	246.2	257.7	252.5	247.7	242.9	243.2	244.6	246.9	247.4	246.5	246.5	247.0	246.6	245.8	247.7	248.4	250.0	254.2	255.4	259.9	249.5	247.1	251.1	260.3		
Maximum Speed Value: 48 km/h on Nov 5 03:00								Minimum Speed Value: 0 km/h on Nov 2 02:00												Hours in Service:				720		
Maximum Daily Speed Average: 35.3 km/h on Nov 5								Minimum Daily Speed Average: 0.7 km/h on Nov 1												Hours of Data:				720		
Maximum Diurnal Speed Average: 4.0 km/h at hour 20								Minimum Diurnal Speed Average: 1.7 km/h at hour 13												Hours of Missing Data:				0		
Monthly Average Velocity: 2.87 km/h 342.05 deg								Speed Percentiles: P ₁ = 1.2 P ₁₀ = 3.5 Q ₁ = 6.1 Median = 9.2 Q ₃ = 12.9 P ₉₀ = 17.0 P ₉₉ = 42.1												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	23		107		62		4		0		0		196													
NorthEast	22		85		77		13		0		0		197													
East	16		5		0		0		0		0		21													
SouthEast	11		11		3		0		0		0		25													
South	22		22		8		2		0		0		54													
SouthWest	17		60		39		10		1		10		137													
West	14		28		15		6		6		2		71													
NorthWest	7		9		3		0		0		0		19													
Total	132		327		207		35		7		12		720													

Wind Rose

Wind Speed (WS) (km/h)
Smoky Heights - November 2012



Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Smoky Heights - November 2012

Maximum Speed: 48 km/h on Nov 5 03:00																				Maximum Daily Speed Average: 35.5 km/h on Nov 5										Hours in Service: 720	
Minimum Speed: 2 km/h on Nov 2 02:00																				Minimum Daily Speed Average: 4.6 km/h on Nov 1										Hours of Data: 720	
Maximum Diurnal Speed Average: 11.7 km/h at hour 6																				Minimum Diurnal Speed Average: 9.7 km/h at hour 20										Hours of Missing Data: 0	
Monthly Average Speed: 10.62 km/h																				Percentiles: P ₁ = 2.3 P ₁₀ = 4.1 Q ₁ = 6.5 Median = 9.4 Q ₃ = 13.0 P ₉₀ = 17.2 P ₉₉ = 42.2										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-Nov	9	7	7	6	5	4	5	5	4	4	4	3	4	4	2	3	3	4	7	5	4	5	3	4	4.6	9.4					
2-Nov	3	2	3	2	2	3	3	2	5	3	3	3	6	7	9	12	11	13	10	10	10	11	12	12	6.4	12.8					
3-Nov	10	8	9	13	13	10	9	7	5	5	6	8	10	7	8	13	17	14	15	10	13	13	8	14	10.1	16.5					
4-Nov	11	13	14	14	8	13	9	7	6	8	11	14	9	14	13	12	18	19	22	14	8	7	7	10	11.7	21.6					
5-Nov	23	37	48	39	39	42	44	42	42	42	45	43	43	39	36	38	35	33	28	25	27	24	19	20	35.5	48.4					
6-Nov	19	12	13	12	13	11	9	10	11	8	10	11	13	7	5	4	5	7	12	15	13	10	13	9	10.5	19.1					
7-Nov	9	10	11	11	14	16	12	14	16	16	22	23	23	22	20	19	17	16	16	17	17	16	15	13	16.0	23.4					
8-Nov	14	16	16	14	14	15	15	13	13	14	15	15	16	13	13	13	9	9	9	9	9	10	11	13	12.8	16.1					
9-Nov	13	14	12	11	10	9	10	8	9	9	10	11	10	10	11	12	12	10	10	9	8	6	5	3	9.7	13.8					
10-Nov	3	2	3	3	3	5	5	3	2	2	3	3	3	5	8	10	9	11	7	9	9	10	11	14	6.0	14.3					
11-Nov	12	12	13	13	14	11	12	11	13	13	10	11	12	10	11	11	4	8	8	5	9	8	7	8	10.2	13.7					
12-Nov	6	4	4	3	4	6	8	10	9	8	8	6	6	5	6	5	2	3	4	6	6	12	14	14	6.6	14.3					
13-Nov	13	13	10	9	7	6	5	4	4	4	3	3	2	3	2	4	7	7	5	11	14	14	14	12	7.3	14.3					
14-Nov	11	10	14	17	23	17	12	5	4	7	7	6	8	8	8	9	7	8	9	11	12	14	14	13	10.7	23.1					
15-Nov	11	15	8	18	20	20	22	24	26	27	27	26	30	22	19	17	19	15	10	8	5	4	9	8	17.0	29.6					
16-Nov	6	5	3	5	4	6	6	7	7	5	4	3	5	4	6	9	8	6	8	8	9	9	8	8	6.1	8.7					
17-Nov	10	9	9	13	16	18	15	17	20	17	16	14	14	11	11	10	9	9	7	7	8	6	10	12	12.0	19.8					
18-Nov	5	6	8	10	8	5	4	8	7	8	7	7	6	6	7	10	9	9	10	10	9	9	10	10	7.9	10.4					
19-Nov	15	14	19	18	18	17	17	13	13	15	16	12	11	11	9	10	7	9	10	12	11	7	8	13	12.8	18.6					
20-Nov	12	11	11	12	14	13	11	10	8	7	7	5	4	6	7	7	6	6	5	8	9	6	9	12	8.6	14.3					
21-Nov	12	10	11	13	16	14	14	14	12	11	9	11	10	10	11	8	7	8	8	8	7	8	8	4	10.2	15.9					
22-Nov	3	3	2	5	6	7	7	6	8	7	9	7	9	8	8	7	7	12	15	14	14	14	13	13	8.5	14.7					
23-Nov	13	15	13	15	15	15	14	12	11	7	8	7	4	6	13	15	14	11	6	7	6	9	10	5	10.5	15.4					
24-Nov	6	6	9	8	9	12	12	11	9	6	6	5	5	3	4	3	6	6	6	5	5	5	6	9	6.8	12.1					
25-Nov	9	8	9	8	8	8	8	8	8	6	4	4	5	7	5	5	7	9	10	7	4	4	7	6	6.9	10.4					
26-Nov	5	5	5	2	3	5	5	6	8	5	6	6	5	3	2	3	3	2	3	3	6	8	8	8	4.8	8.3					
27-Nov	8	8	12	10	10	11	10	9	7	8	9	10	10	11	8	10	10	9	6	3	9	19	13	18	10.0	18.9					
28-Nov	20	13	17	16	14	11	17	20	18	13	18	22	23	23	21	21	23	20	18	16	17	16	14	15	17.8	22.9					
29-Nov	15	13	13	12	13	13	12	12	12	12	12	12	10	9	10	10	11	11	9	10	10	9	9	11	11.3	15.0					
30-Nov	13	13	13	12	9	10	6	8	6	6	6	9	8	9	10	11	9	8	9	9	9	12	11	13	9.4	12.9					
10.6 10.5 11.3 11.5 11.7 11.7 11.2 10.9 10.8 10.1 10.7 10.6 10.7 10.1 10.2 10.7 10.4 10.4 10.0 9.7 9.9 10.1 10.2 10.9																								Diurnal Average							
23.0 37.2 48.4 39.0 38.8 41.8 43.6 42.2 41.7 42.2 44.5 43.5 43.0 38.9 36.3 37.6 35.0 33.2 28.1 25.5 26.9 23.8 19.4 19.6																								Diurnal Maximum							
All monthly, daily, and diurnal averages have been calculated using scalar methods																															

Hourly Standard Deviations

Wind Direction (WD) - deg

Smoky Heights - November 2012

Maximum Value: 89.5 deg on Nov 2 11:00																		Hours in Service: 720							
Minimum Value: 0.0 deg on Nov 3 21:00																		Hours of Data: 720							
																		Hours of Missing Data: 0							
Percentiles: P ₁ = 2.8 P ₁₀ = 4.7 Q ₁ = 6.5 Median = 9.3 Q ₃ = 16.2 P ₉₀ = 31.6 P ₉₉ = 80.0																		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-Nov	7	12	10	5	45	10	12	10	15	17	6	18	20	13	27	72	39	58	10	15	16	9	30	11	72.0
2-Nov	29	89	28	32	26	16	14	21	17	44	89	47	24	21	9	4	5	4	6	9	6	6	7	8	89.5
3-Nov	5	6	28	9	9	11	20	25	30	19	12	21	16	18	11	8	7	8	6	10	0	0	0	8	29.8
4-Nov	12	7	5	10	24	11	9	17	18	8	8	10	19	20	10	11	6	4	4	13	33	23	39	24	39.0
5-Nov	11	4	6	5	5	3	2	3	4	3	3	3	4	3	3	4	5	4	4	3	4	6	7	4	11.4
6-Nov	6	10	8	14	13	7	10	6	14	13	8	21	12	79	78	38	48	8	6	6	6	10	10	8	78.6
7-Nov	5	7	6	6	7	7	7	8	5	7	6	6	6	7	5	6	6	7	7	6	6	6	8	6	8.3
8-Nov	6	5	7	8	10	7	8	11	9	18	7	6	7	10	10	9	7	5	6	6	6	5	7	6	18.3
9-Nov	5	5	9	6	8	5	6	6	7	6	5	6	7	7	9	6	8	7	10	9	7	8	7	43	42.9
10-Nov	64	47	13	26	36	15	9	11	14	16	23	25	11	10	12	9	8	4	3	6	9	23	7	4	63.6
11-Nov	5	5	4	3	4	7	19	5	10	6	15	7	9	14	18	12	60	16	21	39	14	11	15	14	60.0
12-Nov	17	24	20	22	26	12	14	9	15	13	6	8	16	10	14	30	69	70	51	32	38	9	8	6	70.0
13-Nov	7	5	9	14	8	9	17	14	16	26	59	25	80	27	58	27	18	20	28	9	5	5	7	5	80.5
14-Nov	13	17	22	16	8	12	19	49	74	11	8	23	11	12	11	6	15	9	7	8	6	4	11	9	73.8
15-Nov	9	25	32	9	18	16	8	4	8	5	6	3	3	4	5	7	8	12	31	21	12	37	24	19	37.2
16-Nov	29	33	83	47	44	29	24	35	24	18	32	69	56	21	21	7	16	15	13	11	7	5	7	6	83.4
17-Nov	4	6	7	7	7	5	10	8	6	6	7	8	7	10	9	8	11	11	12	15	11	18	12	53	52.9
18-Nov	61	68	19	9	15	23	66	15	11	10	18	15	28	18	12	9	7	10	5	9	11	18	12	7	68.1
19-Nov	7	20	5	8	11	9	9	13	10	11	10	13	16	17	16	13	24	15	12	8	15	23	33	7	32.9
20-Nov	8	8	9	10	7	8	11	9	13	14	19	22	64	12	6	11	11	12	14	9	14	17	9	7	63.8
21-Nov	7	7	6	6	4	5	7	5	7	7	9	8	9	7	11	8	10	8	10	8	10	13	7	28	27.6
22-Nov	19	22	50	10	13	6	7	20	7	9	7	9	6	6	5	9	8	5	5	6	5	4	6	8	49.8
23-Nov	10	8	13	4	9	8	8	8	9	14	12	40	48	35	14	7	16	40	57	30	26	16	12	61	61.0
24-Nov	47	17	15	12	10	14	19	12	9	56	28	70	26	40	32	21	17	7	19	15	28	15	9	9	69.9
25-Nov	7	6	4	6	6	10	8	8	9	13	13	53	11	6	9	11	9	8	10	13	80	35	7	12	80.2
26-Nov	11	19	18	69	22	16	15	15	5	15	12	14	16	62	32	35	39	49	36	49	13	9	9	8	68.9
27-Nov	11	8	13	15	18	8	4	9	10	7	7	5	7	14	8	6	7	22	70	87	84	21	10	4	86.7
28-Nov	5	8	7	7	5	6	5	4	5	8	4	4	4	4	4	5	4	5	4	6	5	5	6	5	7.7
29-Nov	4	5	5	6	6	6	5	7	7	7	5	4	7	6	7	6	6	4	4	3	4	6	7	9	9.3
30-Nov	7	6	7	9	8	8	14	9	11	14	13	11	13	11	18	8	18	9	10	9	17	5	5	5	18.2
	63.6	88.6	83.4	68.9	45.0	29.4	66.0	48.8	73.8	55.6	89.5	69.9	80.5	78.6	78.5	72.0	69.0	70.0	70.4	86.7	84.3	37.2	39.0	61.0	

PAZA
Beaverlodge Station
Monthly Summary Tables, Graphs and
Roses

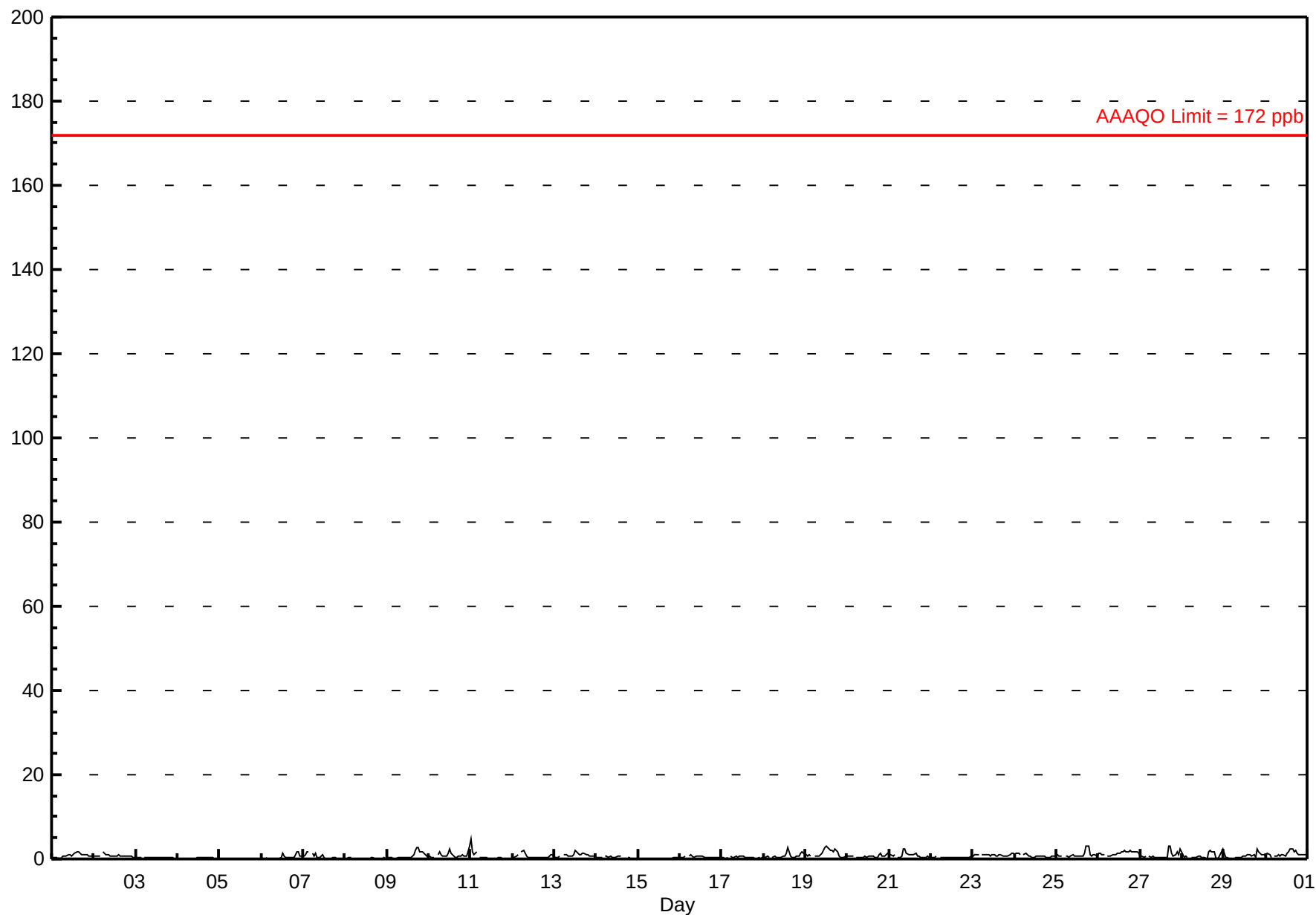
Hourly Averages

Sulphur Dioxide (SO₂) - ppb Beaverlodge - November 2012

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 4.8 ppb on Nov 11 01:00 Maximum Daily Average: 1.4 ppb on Nov 26																				Hours in Service: 720 Hours of Data: 687 Hours of Missing Data: 33 Hours of Calibration: 33 Percent Operational Time: 100.0						
Minimum Value: 0 ppb on Nov 5 14:00 Maximum Diurnal Average: 0.9 ppb at hour 18 Monthly Average: 0.66 ppb										Minimum Daily Average: 0.1 ppb on Nov 5 Minimum Diurnal Average: 0.5 ppb at hour 9 Percentiles: P ₁ = 0.0 P ₁₀ = 0.1 Q ₁ = 0.2 Median = 0.5 Q ₃ = 0.9 P ₉₀ = 1.4 P ₉₉ = 2.9																
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Nov	0	0	0	0	A	0	1	1	1	1	1	1	1	1	2	2	2	1	1	1	1	1	1	1	0.9	1.8
2-Nov	1	1	1	1	A	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0.8	1.5
3-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3
4-Nov	0	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-Nov	0	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
6-Nov	0	0	0	0	A	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	2	2	1	1	0.4	1.6
7-Nov	1	1	2	2	A	1	1	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.6	1.7
8-Nov	0	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
9-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	1	2	3	3	2	2	1	1	1	0.8	2.7
10-Nov	1	0	0	0	A	1	2	1	1	1	1	1	2	1	1	0	0	1	1	1	1	1	1	3	0.9	3.0
11-Nov	5	2	1	2	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	4.8
12-Nov	0	0	1	1	A	2	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0.6	2.1
13-Nov	0	0	0	1	A	1	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1	0.9	1.9
14-Nov	0	0	0	0	A	1	1	0	1	0	0	0	1	1	1	C	C	C	0	0	0	0	0	0	0.4	0.7
15-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.4
16-Nov	0	0	0	1	A	1	1	1	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0.5	1.1
17-Nov	0	0	0	0	A	1	0	1	1	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0.4	0.7
18-Nov	0	0	1	0	A	0	1	0	0	0	0	1	1	1	3	1	0	0	0	1	1	1	2	1	0.7	2.9
19-Nov	1	1	1	1	A	1	1	1	1	1	2	3	3	3	2	2	2	2	2	2	1	0	0	1	1.3	3.0
20-Nov	1	1	1	1	A	0	0	0	0	0	1	0	1	1	1	1	0	0	1	1	1	1	1	1	0.6	1.4
21-Nov	1	1	1	1	A	0	0	1	2	2	1	1	1	1	1	1	1	1	0	0	0	0	1	0	0.9	2.5
22-Nov	0	0	0	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.4	0.8
23-Nov	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
24-Nov	1	1	1	1	A	1	1	1	1	1	0	0	1	1	1	1	1	1	0	1	0	1	1	1	0.7	1.5
25-Nov	1	1	1	1	A	1	1	0	1	1	1	1	1	1	1	1	1	3	3	1	1	1	1	1	1.0	3.0
26-Nov	1	1	1	1	A	1	1	1	1	1	1	2	1	2	2	2	2	2	2	2	2	2	2	1	1.4	2.0
27-Nov	1	1	0	1	A	1	0	1	0	0	0	0	0	0	0	0	3	3	1	1	1	2	1	2	0.9	2.9
28-Nov	1	0	1	0	A	0	0	0	0	1	1	0	0	0	0	2	2	2	2	0	0	0	1	2	0.7	2.3
29-Nov	2	0	0	0	A	0	0	0	0	0	0	1	1	1	1	1	1	1	0	2	2	1	1	1	0.7	2.4
30-Nov	1	1	1	0	A	1	1	1	1	1	1	1	1	2	2	2	2	2	1	1	1	1	1	1	1.2	2.3
0.7 0.6 0.6 0.6 -- 0.6 0.6 0.6 0.5 0.6 0.6 0.6 0.8 0.7 0.7 0.8 0.8 0.9 0.8 0.6 0.6 0.6 0.7 0.8																								Diurnal Average		
4.8 1.8 1.7 1.6 -- 1.7 2.1 1.3 2.3 2.5 2.0 2.6 3.0 2.7 2.9 2.3 2.9 3.0 3.0 2.4 1.8 1.6 1.8 3.0																								Diurnal Maximum		
C - Calibration A - Automated Daily Zero Span																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb 30-day 11 ppb																										

Hourly Averages

Sulphur Dioxide (SO₂) - ppb
Beaverlodge - November 2012



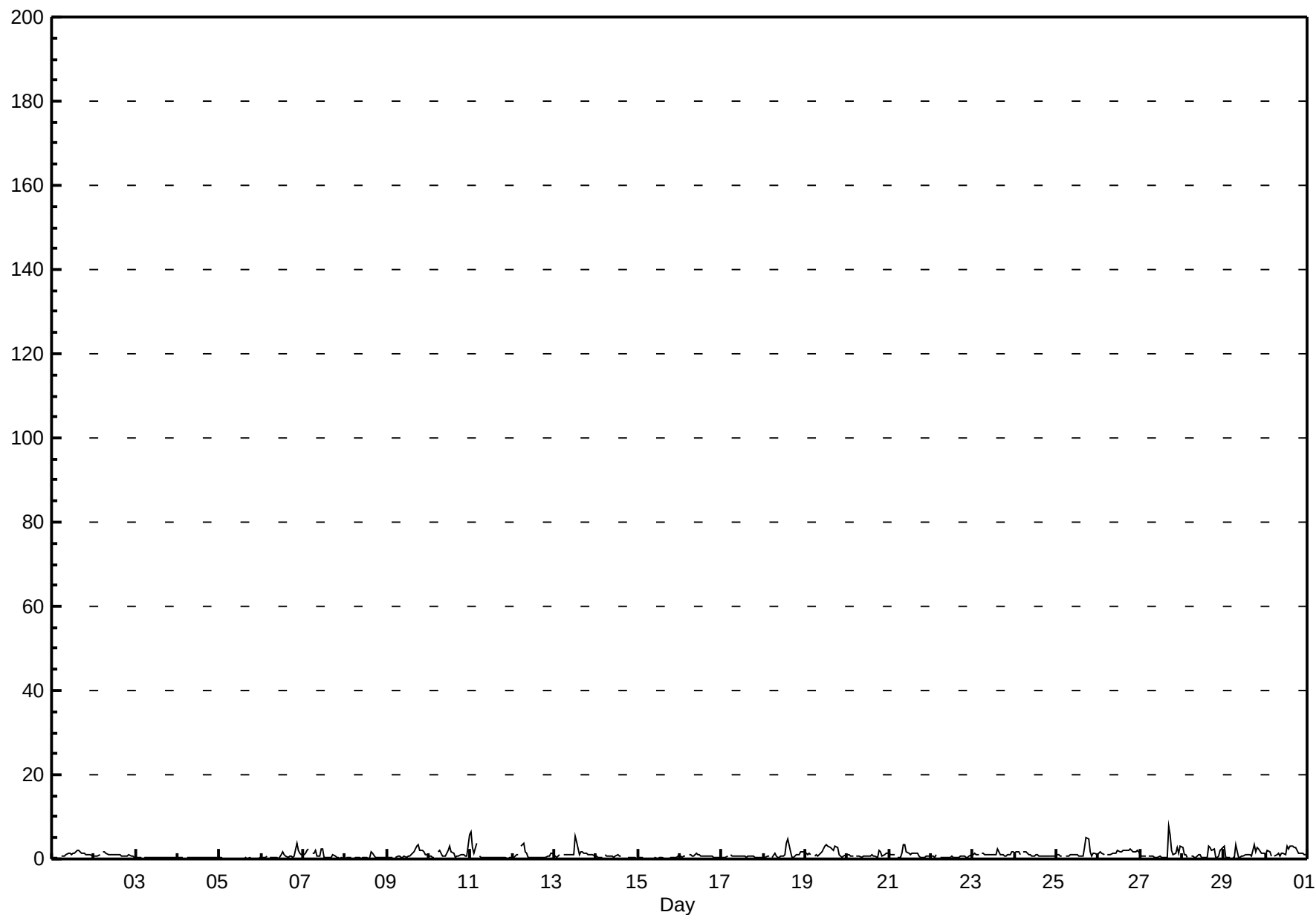
Hourly Maximums

Sulphur Dioxide (SO₂) - ppb Beaverlodge - November 2012

Maximum Value: 7.8 ppb on Nov 27 17:00																				Maximum Daily Average: 1.6 ppb on Nov 30										Hours in Service: 720	
Minimum Value: 0 ppb on Nov 5 07:00																				Minimum Daily Average: 0.1 ppb on Nov 5										Hours of Data: 687	
Maximum Diurnal Average: 1.4 ppb at hour 18																				Minimum Diurnal Average: 0.7 ppb at hour 9										Hours of Missing Data: 33	
Monthly Average: 0.94 ppb																				Percentiles: P ₁ = 0.1 P ₁₀ = 0.2 Q ₁ = 0.4 Median = 0.7 Q ₃ = 1.2 P ₉₀ = 1.9 P ₉₉ = 4.8										Hours of Calibration: 33	
																				Percent Operational Time: 100.0											
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24							
1-Nov	0	0	0	0	A	1	1	1	1	1	1	1	1	1	2	2	2	1	1	1	1	1	1	1	1.1	1.9					
2-Nov	1	1	1	1	A	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.8					
3-Nov	0	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					
4-Nov	0	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					
5-Nov	0	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					
6-Nov	0	0	0	1	A	0	0	0	0	0	0	1	2	1	1	0	1	1	0	1	4	2	1	1	0.7	3.7					
7-Nov	1	1	2	2	A	1	1	2	1	1	2	2	0	0	0	0	0	1	1	0	0	0	0	0	0.9	2.3					
8-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0.3	1.5					
9-Nov	0	0	0	0	A	0	1	1	0	0	1	0	1	1	1	2	2	3	3	2	2	2	1	1	1.1	3.5					
10-Nov	1	1	1	0	A	2	2	1	1	1	1	2	3	2	1	0	1	1	1	1	1	1	1	6	1.3	5.8					
11-Nov	6	3	1	4	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.8	6.3					
12-Nov	0	0	1	1	A	3	4	2	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0.9	3.6					
13-Nov	1	0	1	1	A	1	1	1	1	1	1	1	5	4	1	2	2	1	1	1	1	1	1	1	1.3	5.3					
14-Nov	1	0	0	0	A	1	1	1	1	1	0	1	1	1	1	C	C	C	0	0	0	0	0	0	0.5	1.0					
15-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.2	0.5					
16-Nov	1	0	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0.7	1.2					
17-Nov	0	0	0	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0.5	0.9					
18-Nov	0	0	1	1	A	0	1	1	0	0	1	1	1	4	5	2	0	0	1	1	1	2	2	2	1.1	4.8					
19-Nov	1	1	1	1	A	1	1	1	1	2	2	3	3	3	3	2	2	3	3	1	1	0	1	1	1.6	3.3					
20-Nov	1	1	1	1	A	1	1	1	0	1	1	1	1	1	1	1	1	0	2	2	1	1	1	2	0.9	1.9					
21-Nov	1	1	1	1	A	0	0	1	3	3	2	1	1	1	1	2	1	1	0	0	0	1	1	1	1.2	3.4					
22-Nov	1	1	0	1	A	0	0	0	0	0	0	0	1	0	0	0	0	1	1	1	0	0	1	1	0.5	1.0					
23-Nov	1	1	1	1	A	1	1	1	1	1	1	1	1	1	2	2	1	1	1	1	1	1	2	2	1.2	2.3					
24-Nov	1	2	2	1	A	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.8					
25-Nov	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	3	5	5	2	1	1	1	1	1.4	5.0					
26-Nov	1	2	1	1	A	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	1.6	2.5					
27-Nov	1	1	1	1	A	1	1	1	1	0	0	1	0	0	0	0	8	6	2	1	1	3	1	3	1.5	7.8					
28-Nov	3	1	1	0	A	1	1	0	0	1	1	0	0	0	0	3	3	2	2	0	0	1	2	3	1.2	3.1					
29-Nov	3	0	0	0	A	0	0	3	0	0	1	1	1	1	1	1	1	3	2	3	2	1	1	2	1.3	3.4					
30-Nov	1	2	2	1	A	1	1	1	1	1	1	1	3	2	3	3	3	3	2	1	1	1	1	1	1.6	3.1					
1.0 0.8 0.7 0.8 -- 0.8 0.9 0.9 0.7 0.8 0.8 0.9 1.1 1.1 1.1 1.1 1.3 1.4 1.1 0.8 0.9 0.8 0.9 1.1																									Diurnal Average						
6.3 2.6 2.2 3.7 -- 3.1 3.6 3.3 3.4 3.4 2.4 2.9 5.3 4.2 4.8 3.1 7.8 5.9 4.7 2.8 3.7 2.6 2.0 5.8																									Diurnal Maximum						
C - Calibration																									A - Automated Daily Zero Span						

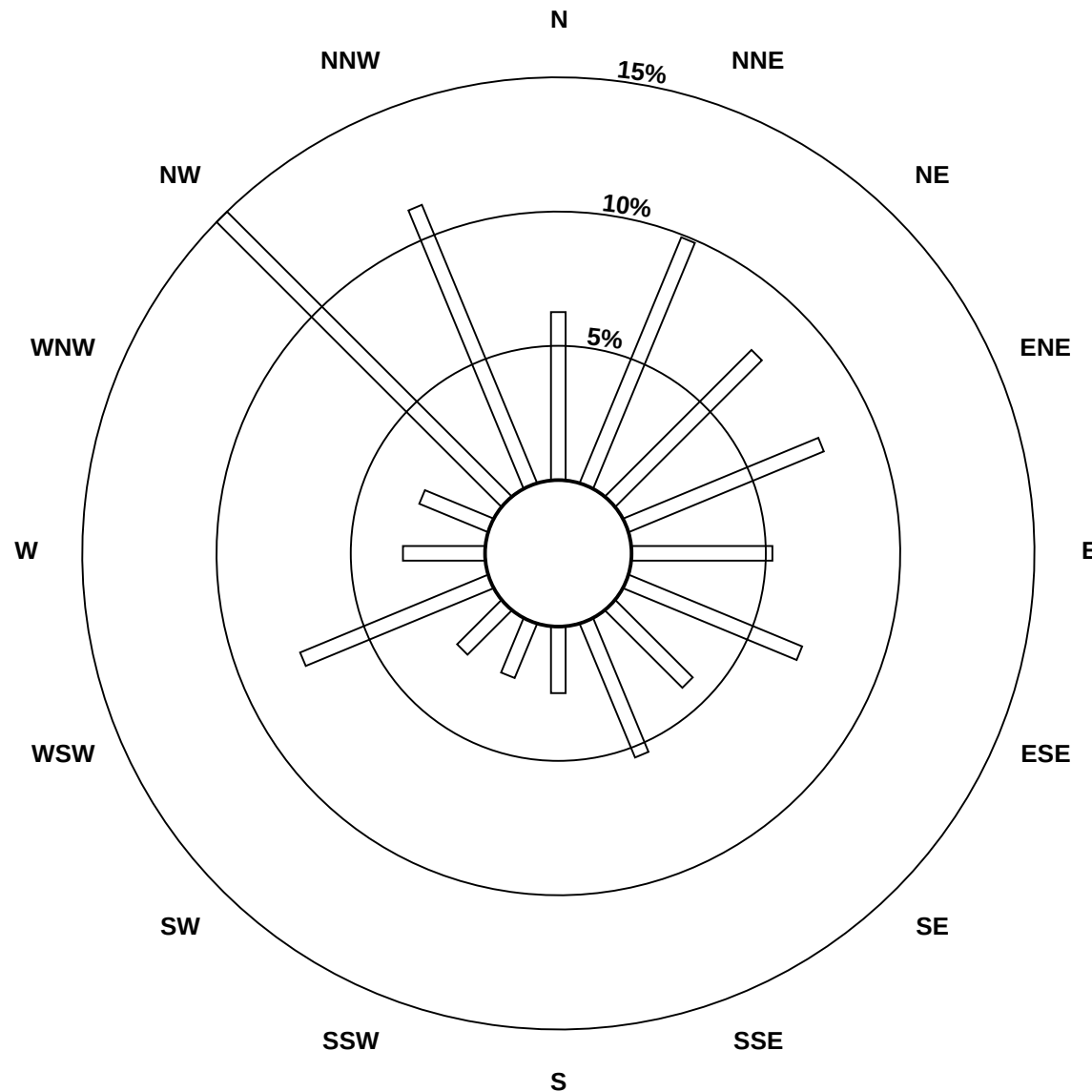
Hourly Maximums

Sulphur Dioxide (SO₂) - ppb
Beaverlodge - November 2012

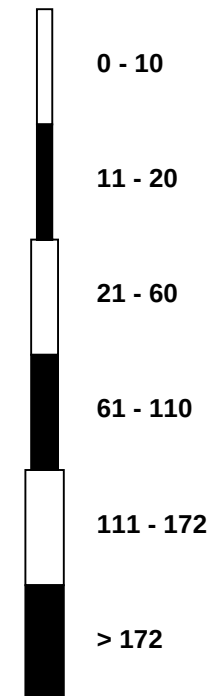


Pollutant Rose

Sulphur Dioxide (SO₂) - ppb
Beaverlodge - November 2012

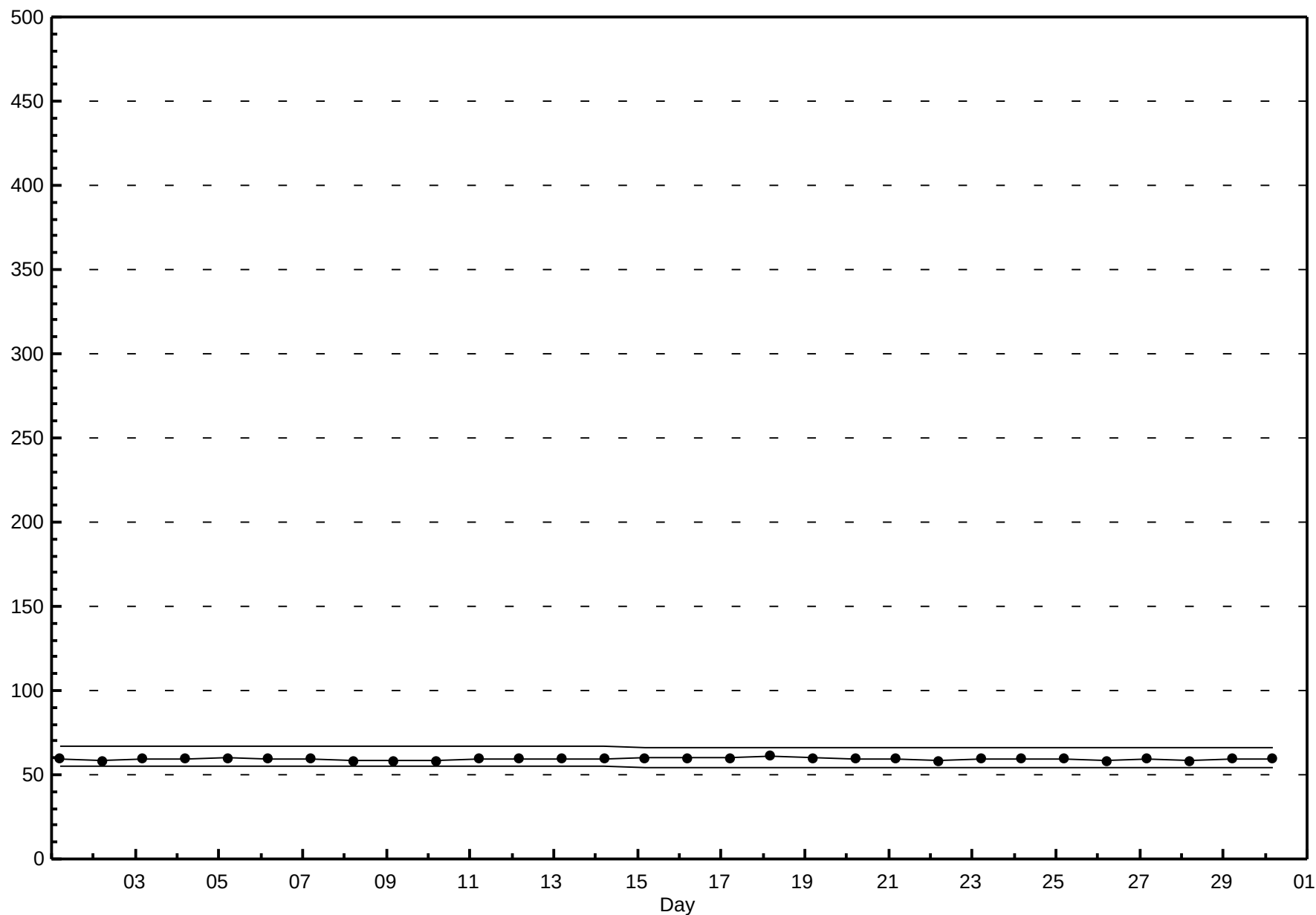


Pollutant Classes (ppb)



Span Responses

Sulphur Dioxide (SO₂)
Beaverlodge - November 2012



Hourly Averages

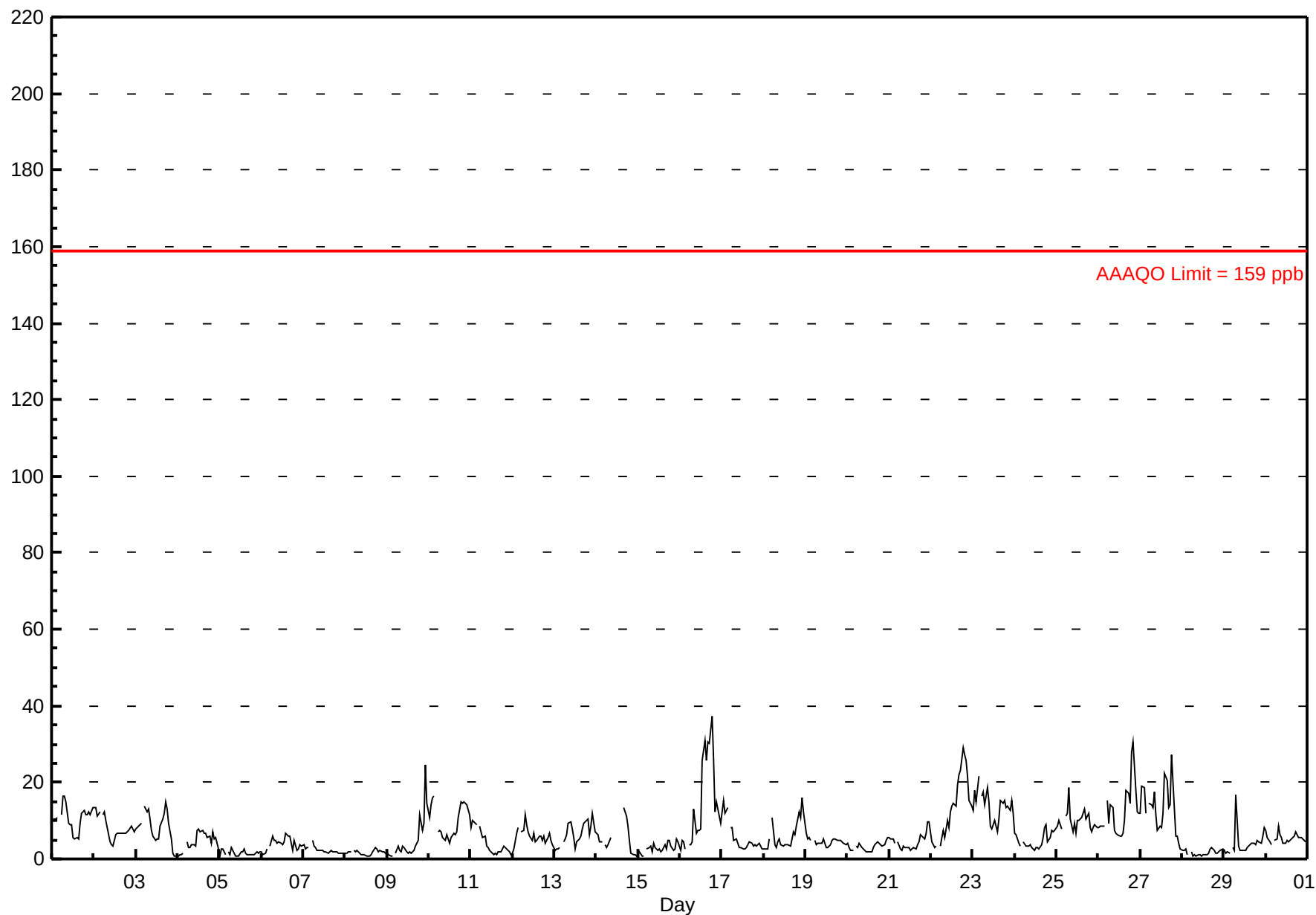
Nitrogen Dioxide (NO₂) - ppb

Beaverlodge - November 2012

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 37.3 ppb on Nov 16 19:00 Maximum Daily Average: 14.1 ppb on Nov 16																								Hours in Service: 720 Hours of Data: 683 Hours of Missing Data: 37 Hours of Calibration: 37 Percent Operational Time: 100.0		
Minimum Value: 1 ppb on Nov 15 03:00 Maximum Diurnal Average: 9.3 ppb at hour 19 Monthly Average: 6.56 ppb												Minimum Daily Average: 1.5 ppb on Nov 5 Minimum Diurnal Average: 4.4 ppb at hour 12 Percentiles: P ₁ = 0.7 P ₁₀ = 1.6 Q ₁ = 2.7 Median = 4.9 Q ₃ = 8.6 P ₉₀ = 13.9 P ₉₉ = 27.5														
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-Nov	10	10	11	11	A	11	16	16	15	9	9	9	5	5	5	5	9	12	13	11	12	12	12	13	10.6	16.5
2-Nov	13	13	11	12	A	12	12	10	6	4	4	3	6	7	7	7	7	7	7	7	7	8	8	7	8.1	13.4
3-Nov	8	8	9	9	A	14	12	13	11	8	6	5	5	5	9	10	12	15	13	9	5	2	1	1	8.2	14.8
4-Nov	1	1	1	2	A	4	3	3	4	4	3	7	8	7	8	7	7	5	6	4	7	5	5	3	4.6	8.0
5-Nov	1	3	3	1	A	2	1	3	1	1	1	1	2	2	3	1	1	1	1	1	1	2	1	2	1.5	2.9
6-Nov	2	1	2	3	A	3	6	5	5	4	4	4	4	4	7	6	6	4	2	5	2	3	4	3	3.8	6.8
7-Nov	4	3	3	3	A	5	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	2.3	4.8
8-Nov	1	2	2	2	A	2	2	2	2	1	1	1	1	1	1	1	2	3	3	2	2	2	2	2	1.6	3.0
9-Nov	2	1	1	1	A	2	4	2	2	3	3	2	1	2	2	2	3	4	5	11	7	9	25	15	4.7	24.5
10-Nov	11	14	16	16	A	7	7	7	5	5	6	5	4	6	7	6	7	11	15	14	15	14	14	12	9.9	16.3
11-Nov	8	10	10	9	A	9	7	6	6	3	3	2	1	1	1	1	2	2	2	3	3	2	2	1	4.1	10.0
12-Nov	1	3	7	8	A	7	8	12	9	7	6	5	7	5	5	6	6	5	6	4	6	7	5	4	5.9	11.5
13-Nov	2	2	3	3	A	4	5	6	9	10	8	6	3	4	5	6	8	9	10	10	6	9	12	7	6.4	11.9
14-Nov	7	6	5	4	A	4	3	4	6	C	C	C	C	C	C	C	13	11	9	5	2	1	1	1	--	13.4
15-Nov	1	2	1	1	A	3	3	3	2	4	3	2	3	2	2	4	3	5	5	3	2	2	5	4	2.8	5.2
16-Nov	2	5	5	3	A	4	4	4	13	7	8	7	8	26	31	26	31	30	37	26	12	15	13	9	14.1	37.3
17-Nov	12	15	12	13	A	8	8	5	5	4	3	3	3	2	3	4	4	4	4	4	4	4	3	3	5.7	15.1
18-Nov	3	3	3	5	A	11	4	3	5	5	4	3	4	4	4	3	5	7	6	8	12	11	16	12	6.1	15.9
19-Nov	7	5	6	5	A	5	4	4	4	4	5	4	3	3	4	5	5	5	5	5	5	4	4	4	4.5	6.5
20-Nov	4	3	2	2	A	3	3	4	3	2	2	2	2	2	2	3	4	4	4	4	3	4	5	6	3.2	5.7
21-Nov	6	5	5	4	A	4	3	2	3	3	3	3	2	2	3	3	4	4	6	6	5	7	10	10	4.6	9.8
22-Nov	5	4	3	3	A	3	5	7	6	10	8	12	14	15	14	20	22	23	29	27	26	21	15	14	13.3	28.9
23-Nov	13	18	15	22	A	16	17	14	19	15	9	8	10	8	7	11	15	14	15	13	14	13	15	12	13.6	21.6
24-Nov	7	6	4	3	A	4	3	4	3	4	3	2	3	3	3	4	6	8	9	4	6	7	7	7	4.8	9.1
25-Nov	8	10	9	8	A	11	12	19	11	7	9	7	10	10	11	12	13	10	12	8	7	8	9	8	10.0	18.6
26-Nov	8	9	9	9	A	15	9	14	13	7	7	6	6	6	7	10	18	17	15	28	30	18	12	12	12.5	30.4
27-Nov	12	19	19	12	A	15	14	13	18	11	7	8	8	12	23	21	13	14	27	20	6	6	4	3	13.3	27.1
28-Nov	2	2	2	1	A	2	1	1	1	1	1	1	1	1	1	2	3	3	2	2	2	2	2	3	1.7	2.9
29-Nov	2	2	2	1	A	3	2	17	3	2	2	2	2	3	3	4	4	4	4	5	4	4	6	8	4.0	16.9
30-Nov	7	6	5	4	A	5	5	9	6	6	4	4	5	4	5	5	6	7	6	6	6	5	5	4	5.4	8.6
5.7 6.4 6.0 6.0 -- 6.7 6.2 7.2 6.6 5.3 4.6 4.4 4.6 5.3 6.3 6.7 8.0 8.4 9.3 8.6 7.4 7.0 7.5 6.3																								Diurnal Average		
13.4 19.1 18.8 21.6 -- 16.5 17.5 18.6 18.6 14.8 9.2 12.1 13.7 25.5 31.0 25.8 30.5 30.3 37.3 27.9 30.4 21.5 24.5 14.7																								Diurnal Maximum		
C - Calibration A - Automated Daily Zero Span																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 159 ppb 24-hr 106 ppb																										

Hourly Averages

Nitrogen Dioxide (NO₂) - ppb
Beaverlodge - November 2012



Hourly Maximums

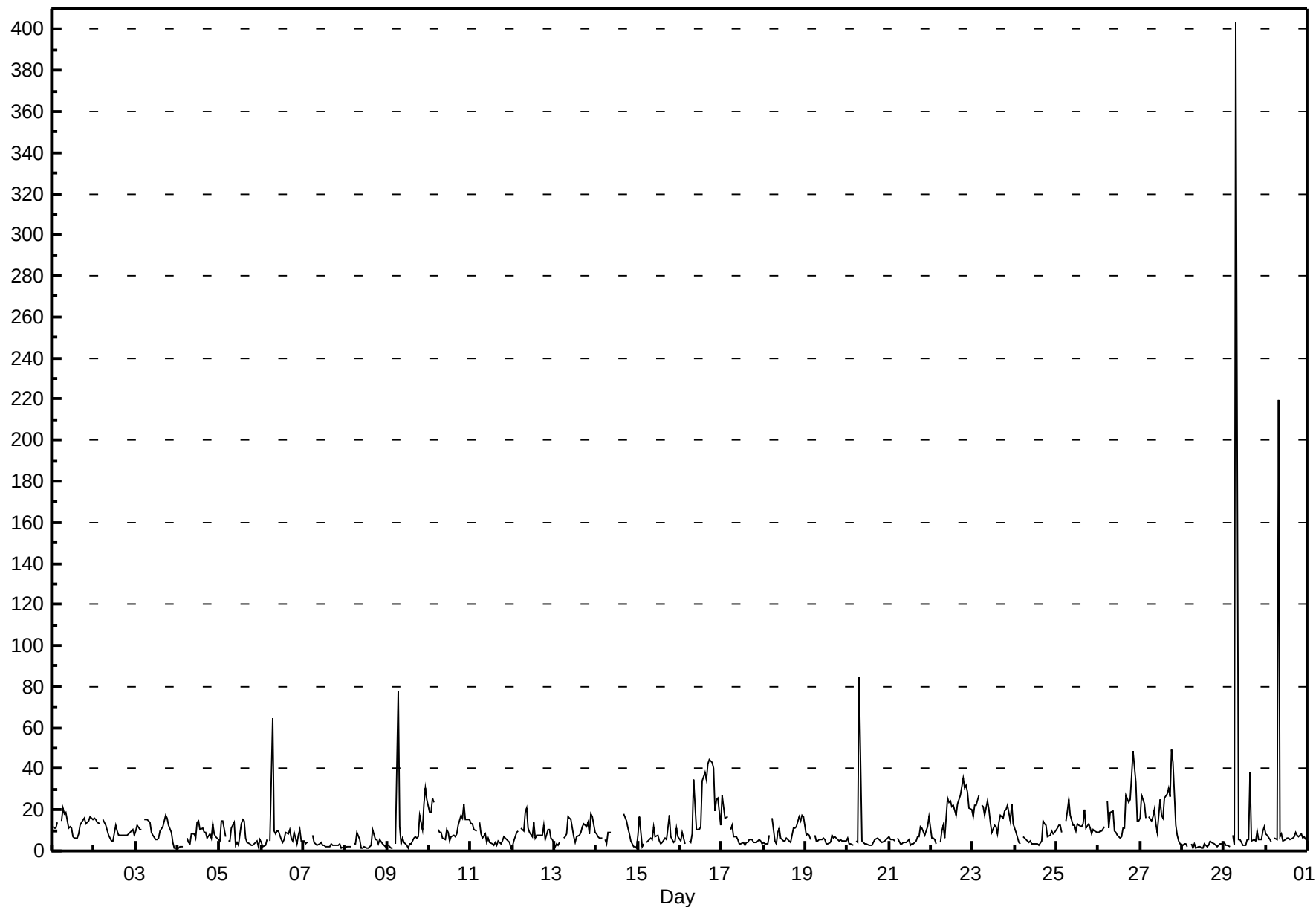
Nitrogen Dioxide (NO₂) - ppb

Beaverlodge - November 2012

Maximum Value: 403.5 ppb on Nov 29 08:00																				Maximum Daily Average: 24.0 ppb on Nov 29										Hours in Service: 720	
Minimum Value: 1 ppb on Nov 9 04:00																				Minimum Daily Average: 2.9 ppb on Nov 28										Hours of Data: 683	
Maximum Diurnal Average: 32.8 ppb at hour 8																				Minimum Diurnal Average: 7.2 ppb at hour 13										Hours of Missing Data: 37	
Monthly Average: 10.76 ppb																				Percentiles: P ₁ = 1.5 P ₁₀ = 3.0 Q ₁ = 4.5 Median = 7.3 Q ₃ = 12.7 P ₉₀ = 19.8 P ₉₉ = 48.4										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-Nov	12	11	11	14	A	14	21	18	19	11	12	11	7	6	7	8	12	14	16	13	14	15	17	15	12.9	20.5					
2-Nov	16	15	14	13	A	15	14	13	8	6	5	5	12	10	8	8	7	8	8	7	8	9	10	7	9.9	15.9					
3-Nov	10	13	10	10	A	15	15	14	14	9	7	5	6	6	10	12	14	18	16	12	9	4	1	2	10.2	17.7					
4-Nov	1	2	2	2	A	6	4	4	8	8	6	14	15	10	11	9	9	7	8	7	13	8	7	6	7.3	14.6					
5-Nov	5	15	15	7	A	5	5	11	14	3	4	3	13	15	15	6	4	3	3	3	4	5	2	6	7.1	15.1					
6-Nov	4	2	3	5	A	5	65	10	8	9	10	6	4	5	9	9	10	6	5	9	4	8	10	5	9.1	65.0					
7-Nov	5	3	4	4	A	8	4	4	3	3	4	3	3	2	2	2	4	3	3	3	3	3	2	2	3.3	7.7					
8-Nov	2	2	2	2	A	4	3	9	6	2	2	2	1	1	2	3	10	6	5	3	6	3	3	2	3.5	10.3					
9-Nov	3	3	1	1	A	3	78	12	3	6	4	3	2	3	4	6	7	6	7	18	10	23	31	25	11.2	77.5					
10-Nov	19	19	26	24	A	11	9	9	6	6	10	9	5	7	8	7	8	13	18	16	23	16	15	15	12.9	25.8					
11-Nov	13	13	10	10	A	14	8	6	9	4	6	5	4	3	4	3	5	3	5	7	6	5	4	2	6.5	13.7					
12-Nov	2	5	9	10	A	11	9	19	21	11	9	7	14	6	8	8	8	7	13	5	10	10	6	6	9.3	20.6					
13-Nov	2	3	3	4	A	6	7	8	17	15	11	7	4	7	7	9	12	13	12	14	8	18	17	9	9.3	18.1					
14-Nov	8	7	6	6	A	6	4	9	9	C	C	C	C	C	C	C	18	15	11	9	5	2	2	1	--	18.1					
15-Nov	8	17	2	3	A	4	6	6	5	12	7	7	5	4	4	6	5	11	17	7	4	5	11	7	7.1	17.3					
16-Nov	5	9	6	3	A	5	4	8	34	10	11	11	11	34	38	35	42	45	43	40	20	25	26	12	20.8	44.6					
17-Nov	27	22	16	17	A	11	12	7	7	6	4	4	4	3	4	4	5	5	4	4	4	6	5	4	8.0	27.0					
18-Nov	4	4	3	7	A	16	5	4	9	11	7	5	5	6	6	4	7	11	11	12	16	14	17	17	8.7	17.1					
19-Nov	8	8	8	6	A	8	5	5	5	5	6	6	3	4	4	8	7	7	6	5	6	5	5	5	5.8	8.1					
20-Nov	6	3	3	3	A	5	4	85	5	5	4	3	3	3	3	4	5	6	5	5	4	5	6	6	7.9	84.9					
21-Nov	7	6	6	5	A	6	4	3	4	4	4	6	3	3	4	5	7	7	12	11	8	9	12	17	6.6	17.0					
22-Nov	6	7	5	4	A	4	10	12	6	26	24	24	21	22	17	23	25	27	35	31	32	28	21	20	18.7	35.1					
23-Nov	16	23	23	27	A	22	21	18	24	20	14	9	13	12	8	14	18	16	19	20	22	15	23	14	17.8	27.2					
24-Nov	11	9	4	4	A	7	5	5	4	5	3	3	3	3	3	5	14	13	12	7	8	10	8	9	6.8	14.3					
25-Nov	11	13	13	9	A	14	20	25	17	13	13	10	13	12	12	13	20	11	13	11	8	10	10	9	13.0	25.1					
26-Nov	9	9	10	12	A	24	11	19	20	10	9	8	7	7	11	11	27	24	25	36	49	33	15	15	17.4	48.7					
27-Nov	16	27	23	16	A	17	15	16	20	13	9	25	17	16	26	28	31	26	49	43	12	8	5	4	20.2	49.4					
28-Nov	3	4	3	2	A	4	2	3	2	2	2	2	2	4	2	3	5	4	3	3	2	3	4	3	2.9	5.1					
29-Nov	4	3	3	2	A	8	3	403	6	6	4	3	3	6	5	38	5	5	5	10	5	6	10	12	24.0	403.5					
30-Nov	8	8	6	4	A	6	6	220	7	8	5	6	6	6	6	6	7	9	8	7	8	6	7	5	15.9	219.6					
8.4 9.4 8.3 7.9 -- 9.4 12.6 32.8 10.7 8.6 7.4 7.2 7.2 7.9 8.6 10.2 12.0 11.6 13.3 12.6 11.0 10.6 10.4 8.7																									Diurnal Average						
27.0 27.0 25.8 27.2 -- 24.2 77.5 403.5 34.5 25.8 23.8 24.8 21.4 34.3 38.0 38.0 42.1 44.6 49.4 43.4 48.7 33.2 30.6 24.8																									Diurnal Maximum						
C - Calibration					A - Automated Daily Zero Span																										

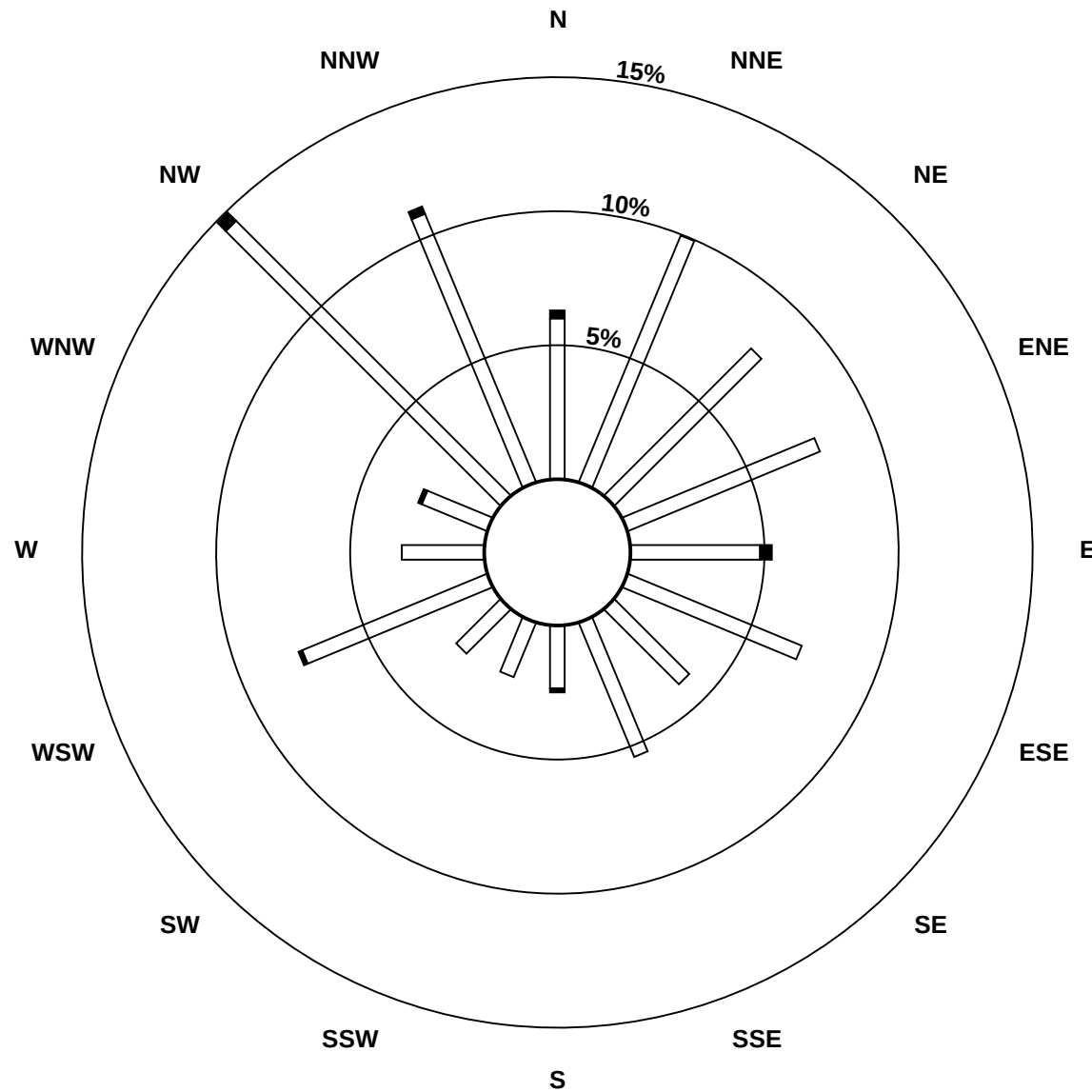
Hourly Maximums

Nitrogen Dioxide (NO₂) - ppb
Beaverlodge - November 2012

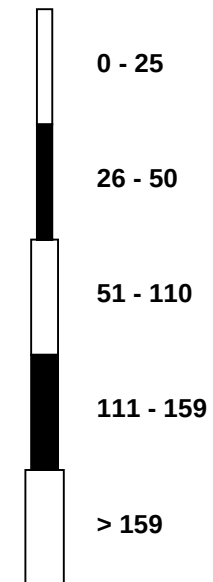


Pollutant Rose

Nitrogen Dioxide (NO₂) - ppb
Beaverlodge - November 2012

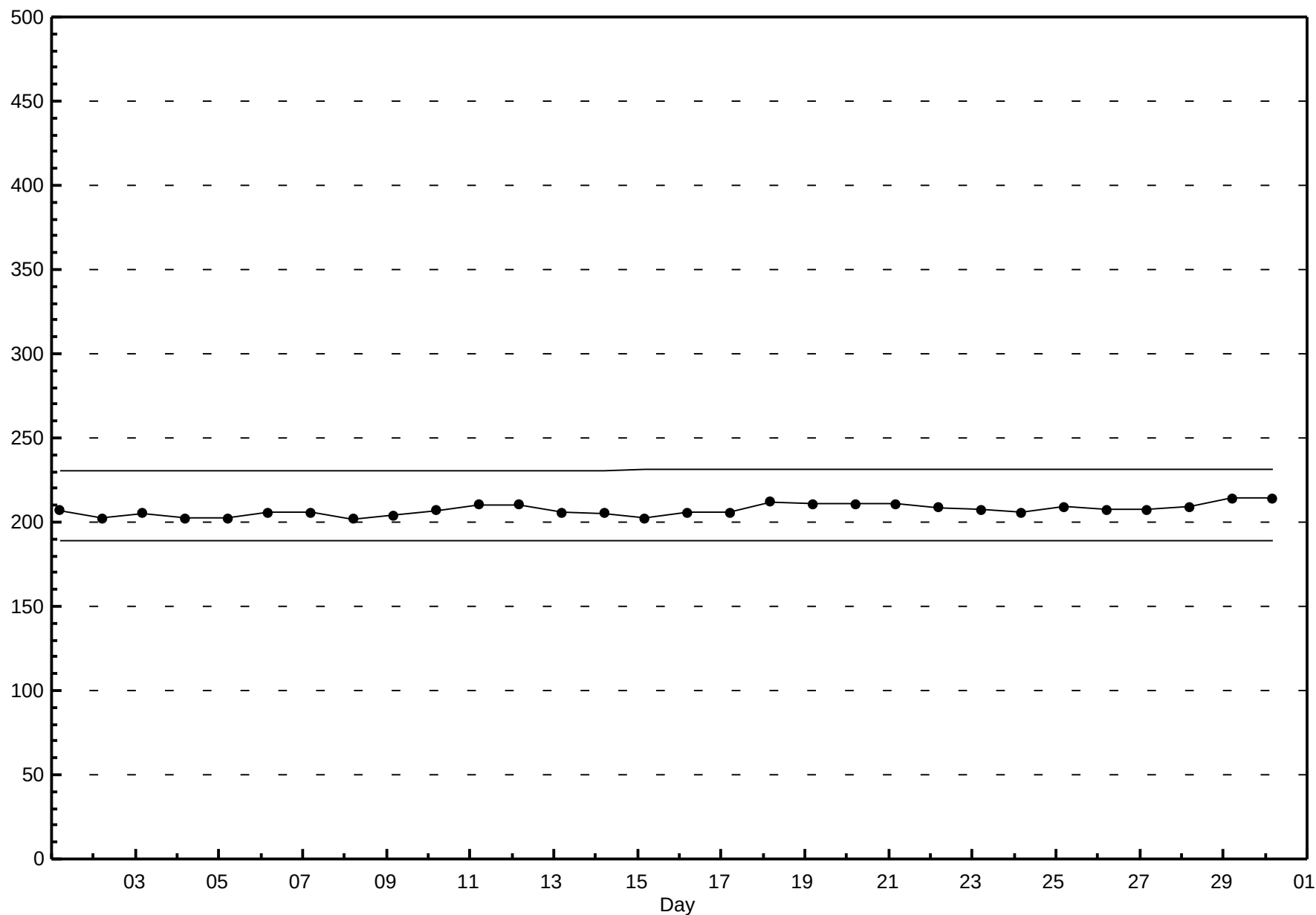


Pollutant Classes (ppb)



Span Responses

Nitrogen Dioxide (NO₂)
Beaverlodge - November 2012



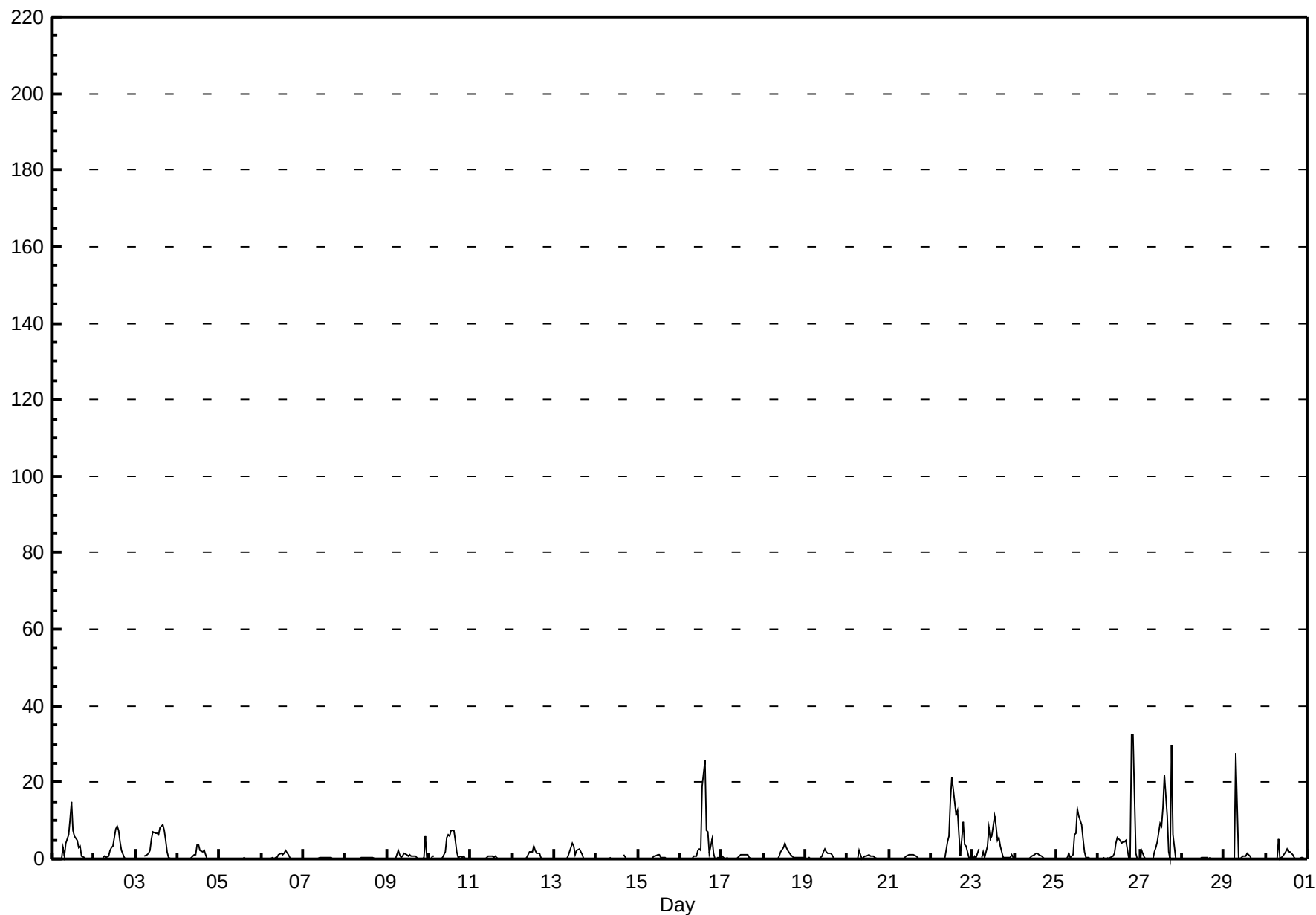
Hourly Averages

Nitrogen Oxide (NO) - ppb Beaverlodge - November 2012

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 32.5 ppb on Nov 26 20:00 Maximum Daily Average: 5.1 ppb on Nov 22																				Hours in Service: 720 Hours of Data: 683 Hours of Missing Data: 37 Hours of Calibration: 37 Percent Operational Time: 100.0						
Minimum Value: 0 ppb on Nov 14 18:00 Maximum Diurnal Average: 4.4 ppb at hour 15 Monthly Average: 1.44 ppb										Minimum Daily Average: 0.1 ppb on Nov 28 Minimum Diurnal Average: 0.1 ppb at hour 1 Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 0.1 Q ₃ = 1.0 P ₉₀ = 4.6 P ₉₉ = 21.1																
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-Nov	0	0	0	0	A	0	3	1	4	6	10	15	7	6	5	3	3	1	0	0	0	0	0	0	2.9	14.9
2-Nov	0	0	0	0	A	0	1	0	1	2	3	3	8	9	8	5	2	0	0	0	0	0	0	0	1.9	8.6
3-Nov	0	0	0	0	A	1	1	2	2	5	7	7	7	6	8	9	7	5	2	0	0	0	0	0	3.0	8.9
4-Nov	0	0	0	0	A	0	0	0	0	1	1	4	4	2	2	2	1	0	0	0	0	0	0	0	0.8	3.6
5-Nov	0	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
6-Nov	0	0	0	0	A	0	0	0	0	1	1	2	1	1	2	1	0	0	0	0	0	0	0	0	0.5	2.1
7-Nov	0	0	0	0	A	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.5
8-Nov	0	0	0	0	A	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.5
9-Nov	0	0	0	0	A	0	2	1	0	1	1	1	1	1	1	1	1	0	0	0	0	6	0	0	0.8	5.8
10-Nov	0	0	1	1	A	0	0	0	0	2	6	6	6	7	8	5	2	0	1	0	1	0	0	0	2.0	7.6
11-Nov	0	0	0	0	A	0	0	0	0	0	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0.2	0.9
12-Nov	0	0	0	0	A	0	0	0	0	1	2	2	3	2	2	1	0	0	0	0	0	0	0	0	0.7	3.3
13-Nov	0	0	0	0	A	0	0	0	1	3	4	3	1	2	3	2	1	0	0	0	0	0	0	0	0.9	4.2
14-Nov	0	0	0	0	A	0	0	0	0	C	C	C	C	C	C	C	1	0	0	0	0	0	0	0	--	1.0
15-Nov	0	0	0	0	A	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0.2	1.1
16-Nov	0	0	0	0	A	0	0	0	1	1	2	3	2	19	26	8	7	2	5	1	0	0	0	0	3.4	25.9
17-Nov	1	0	0	0	A	0	0	0	0	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0.4	1.2
18-Nov	0	0	0	0	A	0	0	0	0	1	2	3	4	3	2	1	1	0	0	0	0	0	0	0	0.8	4.1
19-Nov	0	0	0	0	A	0	0	0	0	1	2	2	2	1	2	1	0	0	0	0	0	0	0	0	0.6	2.5
20-Nov	0	0	0	0	A	0	0	2	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0.4	2.2
21-Nov	0	0	0	0	A	0	0	0	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0.3	1.3
22-Nov	0	0	0	0	A	0	0	0	0	4	6	15	21	18	12	13	6	1	10	4	3	2	0	0	5.1	21.3
23-Nov	0	1	0	3	A	1	2	0	3	8	5	6	11	9	5	6	3	0	0	0	0	0	1	0	2.9	11.3
24-Nov	0	0	0	0	A	0	0	0	0	0	1	1	1	2	1	1	0	0	0	0	0	0	0	0	0.4	1.5
25-Nov	0	0	0	0	A	0	0	2	0	1	6	7	13	11	9	5	2	0	0	0	0	0	0	0	2.5	13.2
26-Nov	0	0	0	0	A	0	0	0	1	1	4	6	5	4	5	5	5	1	0	32	32	1	0	0	4.5	32.5
27-Nov	0	2	0	0	A	0	0	0	2	3	4	9	8	13	22	11	2	0	30	6	0	0	0	0	5.0	29.9
28-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
29-Nov	0	0	0	0	A	0	0	28	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	1.5	27.7
30-Nov	0	0	0	0	A	0	0	5	0	1	1	2	3	2	2	1	0	0	0	0	0	0	0	0	0.8	5.2
0.1 0.2 0.1 0.2 -- 0.1 0.4 1.4 0.6 1.6 2.6 3.6 4.0 4.4 4.4 2.9 1.6 0.4 1.7 1.5 1.3 0.2 0.3 0.1																									Diurnal Average	
0.6 2.3 0.8 2.8 -- 0.7 2.8 27.7 4.1 8.3 10.3 15.4 21.3 19.1 25.9 12.8 7.4 5.0 29.9 32.5 32.4 2.0 5.8 0.3																									Diurnal Maximum	
C - Calibration A - Automated Daily Zero Span																										

Hourly Averages

Nitrogen Oxide (NO) - ppb
Beaverlodge - November 2012



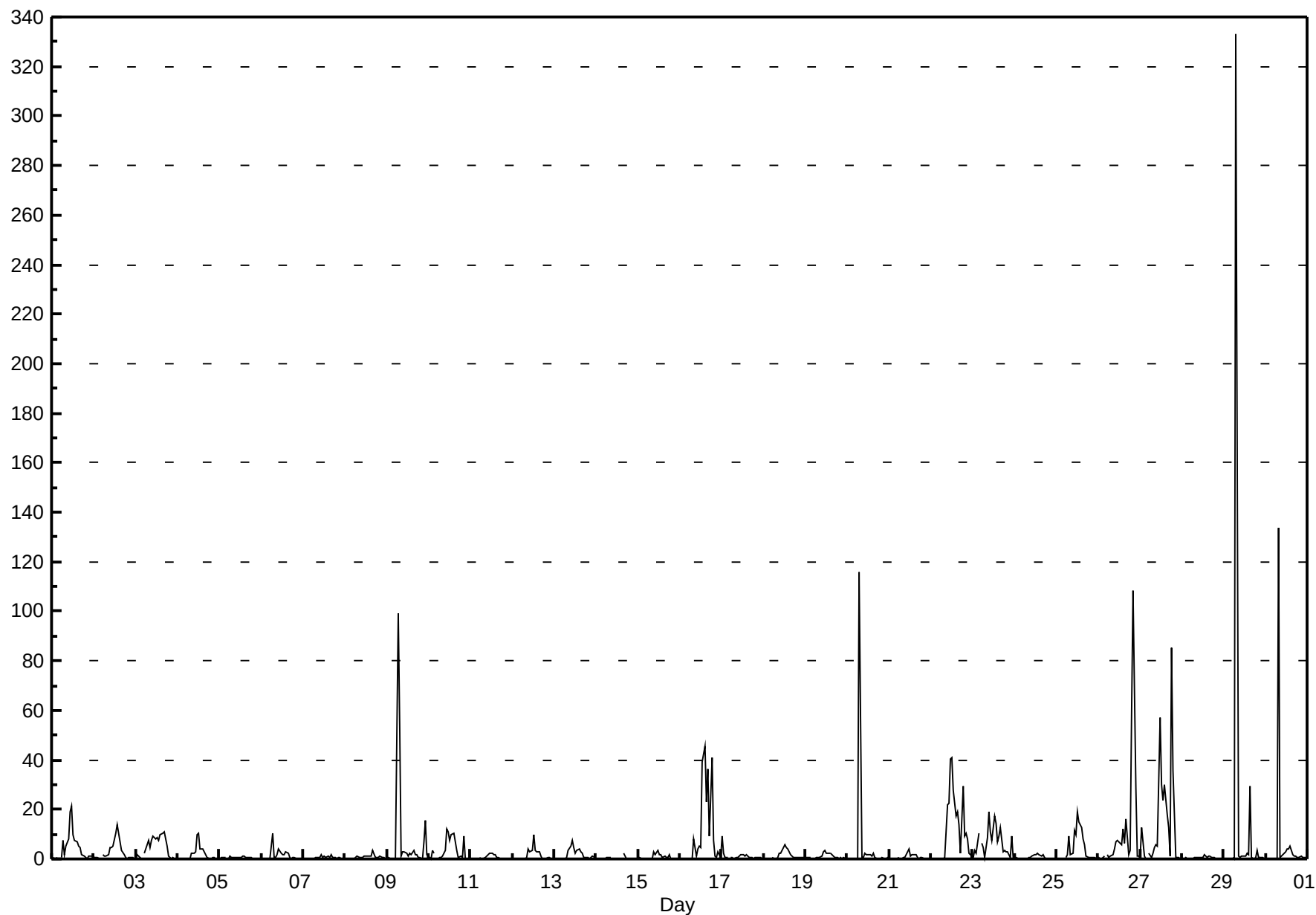
Hourly Maximums

Nitrogen Oxide (NO) - ppb Beaverlodge - November 2012

Maximum Value: 333.3 ppb on Nov 29 08:00																				Maximum Daily Average: 16.5 ppb on Nov 29										Hours in Service: 720	
Minimum Value: 0 ppb on Nov 15 00:00																				Minimum Daily Average: 0.5 ppb on Nov 28										Hours of Data: 683	
Maximum Diurnal Average: 22.3 ppb at hour 8																				Minimum Diurnal Average: 0.3 ppb at hour 24										Hours of Missing Data: 37	
Monthly Average: 4.33 ppb																				Percentiles: P ₁ = 0.1 P ₁₀ = 0.1 Q ₁ = 0.2 Median = 0.6 Q ₃ = 2.5 P ₉₀ = 9.2 P ₉₉ = 50.3										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-Nov	0	0	0	0	A	1	8	2	5	8	19	21	10	7	7	5	5	2	1	1	0	1	1	1	4.6	21.5					
2-Nov	1	0	1	0	A	2	1	1	2	4	4	5	10	14	10	7	3	2	0	0	1	1	0	0	3.1	13.6					
3-Nov	0	2	0	0	A	2	6	8	4	8	9	8	8	8	10	10	11	8	5	1	0	1	0	0	4.8	10.9					
4-Nov	0	0	0	0	A	0	0	0	2	2	3	10	11	4	4	3	2	0	0	0	0	0	0	0	1.9	10.6					
5-Nov	0	0	1	0	A	0	1	0	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0.5	1.3					
6-Nov	0	0	0	0	A	0	11	0	1	2	4	2	2	2	3	2	1	0	0	0	0	0	0	0	1.3	10.5					
7-Nov	0	0	0	0	A	0	0	0	1	1	2	1	1	1	1	1	2	0	0	0	0	0	0	0	0.5	2.0					
8-Nov	0	0	0	0	A	0	1	1	1	0	1	1	1	1	1	1	3	0	0	0	1	1	0	0	0.7	3.3					
9-Nov	0	1	0	0	A	0	99	54	1	3	3	3	1	2	2	3	2	1	1	1	0	7	16	1	8.7	98.9					
10-Nov	0	0	3	2	A	0	0	1	1	3	12	11	7	10	11	7	3	1	1	1	9	0	0	0	3.7	12.0					
11-Nov	0	0	0	0	A	1	0	0	0	1	2	3	2	2	2	1	0	0	0	0	0	0	0	0	0.7	2.5					
12-Nov	0	0	0	0	A	0	0	0	1	4	3	3	10	4	3	3	1	0	0	0	0	0	0	0	1.5	9.7					
13-Nov	0	0	0	0	A	0	0	1	3	5	8	4	2	4	4	3	2	0	0	0	0	0	1	0	1.8	7.5					
14-Nov	0	0	0	0	A	0	0	1	1	C	C	C	C	C	C	C	2	0	0	0	0	0	0	0	--	2.2					
15-Nov	0	1	0	0	A	0	0	0	0	3	2	3	2	1	1	1	0	0	1	0	0	0	0	0	0.8	3.2					
16-Nov	0	0	0	0	A	0	0	0	8	1	4	5	5	39	46	23	36	9	41	8	1	0	3	0	10.0	45.6					
17-Nov	9	2	1	1	A	0	0	0	0	1	1	2	2	1	2	1	1	0	0	0	1	0	0	0	1.2	9.3					
18-Nov	0	0	0	0	A	0	0	0	1	3	3	5	6	5	4	2	1	1	1	1	1	1	1	1	1.5	5.6					
19-Nov	0	0	1	0	A	0	0	1	0	1	3	3	3	2	2	2	1	0	1	0	0	0	0	0	1.0	3.4					
20-Nov	0	0	0	0	A	0	0	116	1	1	2	2	1	2	1	2	1	0	0	0	0	0	0	0	5.7	115.7					
21-Nov	0	0	0	0	A	0	0	0	1	1	2	4	1	2	2	1	1	0	0	0	0	0	0	0	0.7	4.2					
22-Nov	0	0	0	0	A	0	0	0	0	22	22	40	41	28	17	19	14	2	29	9	11	8	2	1	11.6	41.0					
23-Nov	0	3	3	11	A	6	4	1	8	19	11	8	17	14	7	9	13	3	3	3	3	1	9	1	6.8	18.8					
24-Nov	0	0	0	0	A	0	0	0	0	1	1	1	2	2	2	1	2	0	0	0	0	0	0	0	0.7	2.1					
25-Nov	0	0	0	0	A	1	2	9	2	2	12	10	19	15	13	8	6	1	0	0	1	0	0	0	4.4	18.9					
26-Nov	0	0	0	1	A	2	1	1	1	4	7	8	6	5	12	6	16	2	4	59	108	29	1	1	11.9	108.4					
27-Nov	0	13	1	0	A	2	0	2	5	6	5	57	30	24	30	18	13	1	85	36	0	0	0	0	14.3	85.5					
28-Nov	0	0	0	0	A	0	0	1	0	0	0	1	0	1	1	1	1	0	1	0	0	0	0	0	0.5	1.5					
29-Nov	0	0	0	0	A	0	0	333	1	1	1	1	1	3	2	29	0	0	0	4	0	1	0	0	16.5	333.3					
30-Nov	0	0	0	0	A	0	0	134	1	1	1	3	4	4	5	2	1	1	0	1	1	1	0	0	7.0	133.9					
0.6 0.9 0.5 0.7 -- 0.7 4.6 22.3 1.8 3.7 5.0 7.8 7.1 7.1 7.0 5.9 4.8 1.3 6.0 4.2 4.7 1.8 1.3 0.3																									Diurnal Average						
9.3 12.6 3.4 10.6 -- 6.2 98.9 333.3 8.5 22.1 22.4 57.3 41.0 39.1 45.6 29.5 36.3 9.0 85.5 59.0 108.4 28.6 15.6 1.5																									Diurnal Maximum						
C - Calibration																									A - Automated Daily Zero Span						

Hourly Maximums

Nitrogen Oxide (NO) - ppb
Beaverlodge - November 2012



Hourly Averages

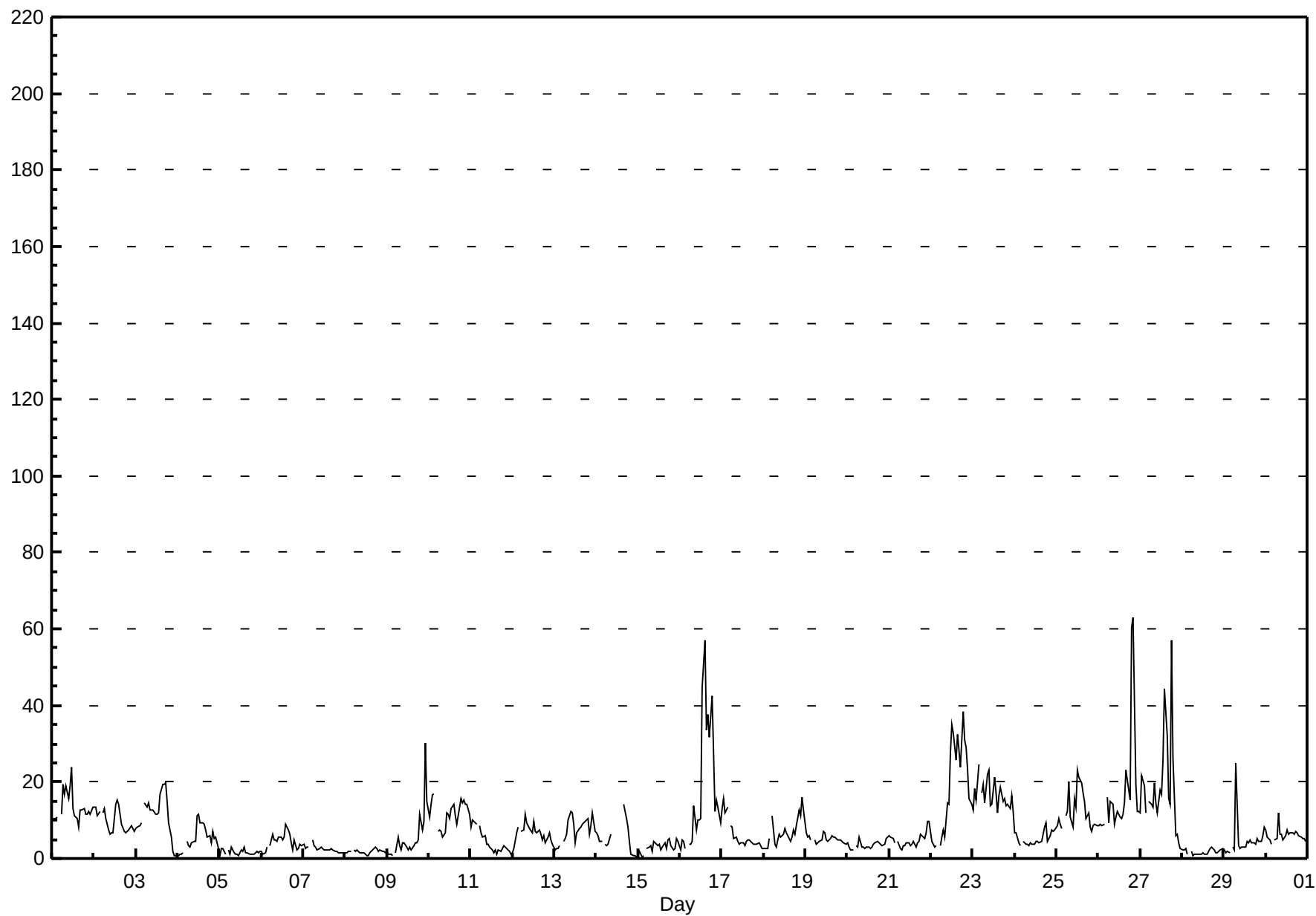
Oxides of Nitrogen (NO_x) - ppb

Beaverlodge - November 2012

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 62.8 ppb on Nov 26 21:00 Maximum Daily Average: 18.4 ppb on Nov 27																								Hours in Service: 720 Hours of Data: 683 Hours of Missing Data: 37 Hours of Calibration: 37 Percent Operational Time: 100.0		
Minimum Value: 0 ppb on Nov 15 00:00 Maximum Diurnal Average: 10.9 ppb at hour 19 Monthly Average: 7.97 ppb												Minimum Daily Average: 1.6 ppb on Nov 5 Minimum Diurnal Average: 5.7 ppb at hour 1 Percentiles: P ₁ = 0.8 P ₁₀ = 1.7 Q ₁ = 3.0 Median = 5.5 Q ₃ = 10.9 P ₉₀ = 15.5 P ₉₉ = 41.9														
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Nov	10	10	11	11	A	11	19	17	19	16	19	24	13	11	10	8	13	13	13	12	12	12	12	13	13.4	23.8
2-Nov	13	13	11	12	A	12	13	10	7	6	7	7	14	15	14	11	9	7	7	7	7	8	8	7	9.9	15.1
3-Nov	8	8	9	9	A	14	14	15	13	13	13	12	12	12	17	19	19	20	15	9	5	2	1	1	11.2	19.6
4-Nov	1	1	1	2	A	4	3	3	4	5	5	11	12	9	9	9	8	6	6	4	7	5	5	3	5.3	11.6
5-Nov	1	3	3	1	A	2	1	3	2	1	1	1	2	2	3	2	1	1	1	1	1	2	1	2	1.6	3.0
6-Nov	2	1	2	3	A	3	6	5	5	5	6	6	5	6	9	7	6	4	2	5	2	3	4	3	4.3	8.9
7-Nov	4	3	3	3	A	5	3	3	2	3	3	3	2	2	2	2	3	2	2	2	2	2	1	1	2.5	4.8
8-Nov	1	2	2	2	A	2	2	2	2	1	2	2	1	1	1	2	2	3	3	2	2	2	2	2	1.8	3.1
9-Nov	2	1	1	1	A	2	6	3	2	4	4	3	2	3	2	3	4	4	5	11	7	10	30	15	5.5	30.1
10-Nov	11	14	17	17	A	7	7	7	6	7	12	12	10	13	14	11	9	11	16	15	15	14	14	11	11.8	16.8
11-Nov	8	10	10	9	A	9	7	6	6	4	4	3	2	1	2	1	2	2	2	3	3	2	2	1	4.3	9.9
12-Nov	1	3	7	8	A	7	8	11	9	8	8	7	10	7	7	7	6	5	6	4	6	7	5	4	6.5	11.5
13-Nov	2	2	3	3	A	4	5	6	10	12	12	9	4	7	8	8	9	9	10	10	6	9	12	7	7.3	12.5
14-Nov	7	6	5	4	A	4	3	4	6	C	C	C	C	C	C	C	14	11	8	4	1	1	1	0	--	14.1
15-Nov	1	2	1	1	A	3	3	3	2	5	4	3	4	2	3	4	3	5	5	3	2	2	5	4	3.1	5.2
16-Nov	2	5	5	3	A	4	4	4	14	7	10	10	10	45	57	33	38	32	43	27	12	15	13	9	17.5	56.9
17-Nov	13	16	12	14	A	9	8	5	5	5	4	4	4	4	4	5	5	4	4	4	4	4	3	3	6.1	15.5
18-Nov	3	3	3	5	A	11	4	3	5	6	6	6	8	7	6	5	6	8	6	9	13	11	16	13	6.9	16.2
19-Nov	7	5	6	5	A	5	4	4	4	5	7	7	5	4	5	6	6	5	5	5	5	4	4	4	5.1	7.1
20-Nov	4	3	2	2	A	3	3	5	3	3	3	3	3	3	3	4	4	5	4	4	3	4	5	6	3.6	5.8
21-Nov	6	5	5	4	A	4	3	2	3	3	4	4	3	4	4	3	4	4	6	6	5	7	10	10	4.9	9.9
22-Nov	5	4	3	3	A	3	5	7	6	14	14	28	35	33	26	32	28	24	38	31	29	23	16	14	18.3	38.4
23-Nov	13	18	15	24	A	17	19	15	22	23	14	14	21	17	12	16	19	15	16	14	14	13	16	12	16.5	24.5
24-Nov	7	7	4	3	A	5	4	4	3	4	4	4	4	5	4	5	6	8	9	5	6	7	7	7	5.3	9.2
25-Nov	9	10	9	8	A	11	12	20	11	8	16	13	23	21	20	17	15	11	12	8	7	8	9	8	12.5	23.1
26-Nov	8	9	9	9	A	16	9	15	14	9	11	12	11	10	12	15	23	18	15	60	63	19	12	12	17.0	62.8
27-Nov	12	21	19	12	A	15	14	14	20	15	12	18	17	26	45	32	16	14	57	26	6	6	4	3	18.4	57.0
28-Nov	2	2	2	1	A	2	1	1	1	1	1	1	1	1	1	2	3	3	2	2	2	2	2	3	1.7	3.0
29-Nov	2	2	2	1	A	3	2	25	3	3	3	3	3	4	4	5	4	4	4	5	5	4	6	8	4.6	25.1
30-Nov	7	6	5	4	A	5	5	12	6	6	5	6	7	6	7	7	6	7	7	6	6	5	5	4	6.1	11.8
5.7 6.5 6.1 6.2 -- 6.8 6.6 7.8 7.2 7.0 7.2 8.1 8.6 9.7 10.7 9.7 9.6 8.8 10.9 10.1 8.7 7.2 7.8 6.4																								Diurnal Average		
13.4 21.5 19.1 24.5 -- 17.0 19.3 25.1 21.9 23.2 19.1 27.5 35.0 44.7 56.9 33.4 37.5 31.8 57.0 60.4 62.8 23.5 30.1 14.9																								Diurnal Maximum		
C - Calibration A - Automated Daily Zero Span																										

Hourly Averages

Oxides of Nitrogen (NO_x) - ppb
Beaverlodge - November 2012



Hourly Maximums

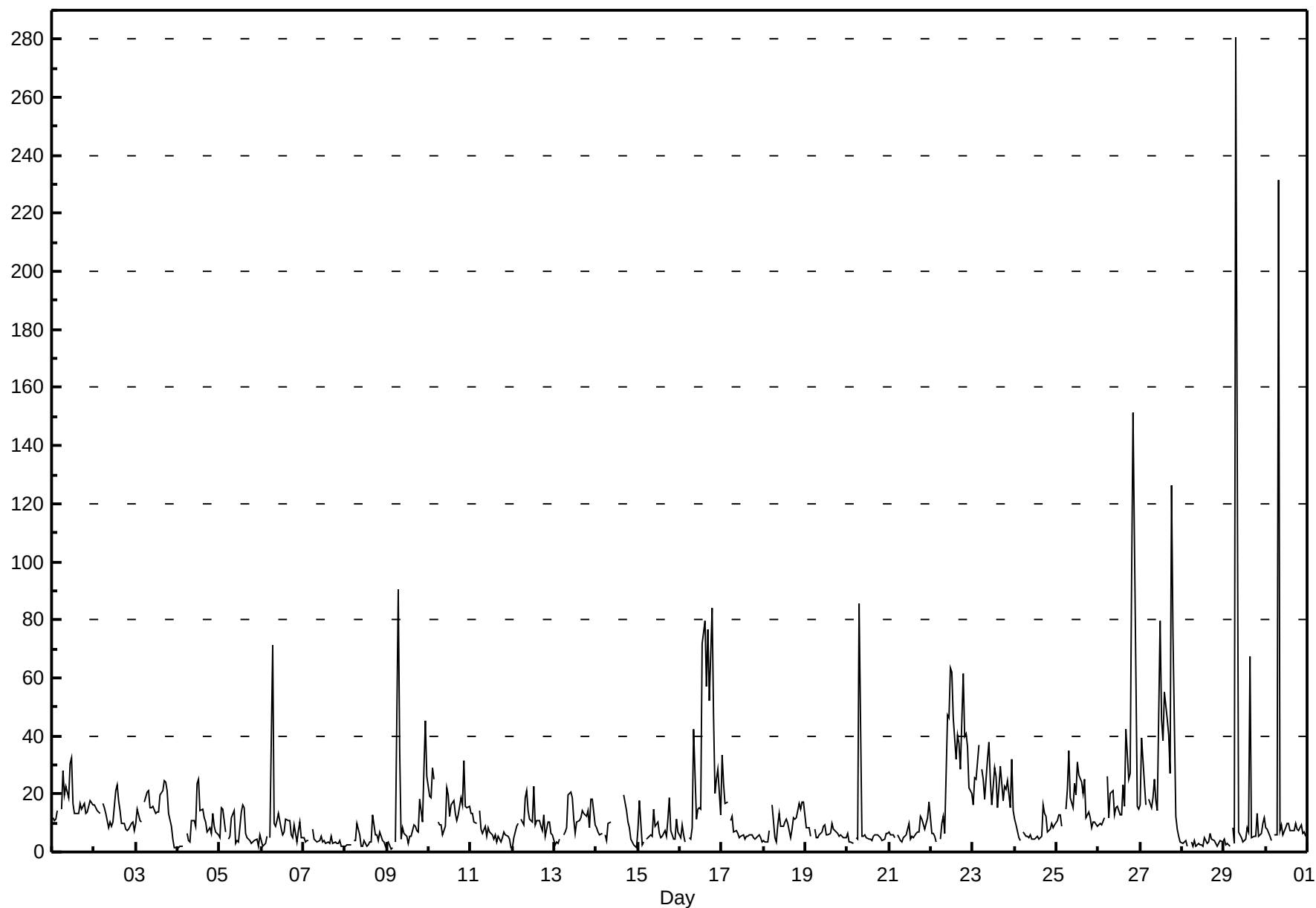
Oxides of Nitrogen (NO_x) - ppb

Beaverlodge - November 2012

Maximum Value: 280.9 ppb on Nov 29 08:00																				Maximum Daily Average: 33.3 ppb on Nov 27										Hours in Service: 720	
Minimum Value: 1 ppb on Nov 9 03:00																				Minimum Daily Average: 3.2 ppb on Nov 28										Hours of Data: 683	
Maximum Diurnal Average: 30.9 ppb at hour 8																				Minimum Diurnal Average: 8.3 ppb at hour 4										Hours of Missing Data: 37	
Monthly Average: 13.62 ppb																				Percentiles: P ₁ = 1.6 P ₁₀ = 3.4 Q ₁ = 5.1 Median = 8.6 Q ₃ = 15.1 P ₉₀ = 25.2 P ₉₉ = 84.2										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-Nov	12	11	11	14	A	15	28	20	23	19	30	33	17	13	13	13	17	15	17	13	14	16	18	16	17.2	32.7					
2-Nov	16	15	14	13	A	17	15	13	8	10	9	10	21	23	17	14	10	10	8	7	8	10	10	8	12.6	23.1					
3-Nov	10	15	11	10	A	17	21	21	15	15	16	13	14	14	19	21	25	24	21	13	9	4	2	2	14.4	24.7					
4-Nov	1	2	2	2	A	6	4	4	11	11	9	24	25	14	15	12	10	7	8	7	13	9	7	6	9.0	24.9					
5-Nov	5	15	15	7	A	5	5	12	14	3	4	3	14	16	15	7	5	4	3	3	4	5	2	6	7.5	16.0					
6-Nov	4	2	3	5	A	5	71	10	9	11	13	8	6	7	11	11	11	6	5	9	4	7	10	5	10.1	71.1					
7-Nov	5	3	4	4	A	8	4	4	3	4	6	4	4	3	4	3	6	3	3	3	3	4	2	2	3.8	7.7					
8-Nov	2	3	2	2	A	4	4	10	6	2	2	4	2	2	4	3	13	6	6	4	7	4	3	2	4.2	12.6					
9-Nov	3	3	1	1	A	3	90	35	5	8	6	5	3	5	5	10	9	7	7	18	10	29	45	26	14.6	90.3					
10-Nov	19	19	29	25	A	11	9	9	6	9	22	20	12	16	18	13	11	13	19	16	32	16	15	16	16.2	31.6					
11-Nov	13	13	10	10	A	14	8	6	9	5	8	7	6	4	6	4	5	3	5	7	6	5	4	1	7.0	14.1					
12-Nov	2	5	9	10	A	11	9	19	21	14	11	10	23	9	11	11	9	7	13	5	10	10	6	6	10.5	22.5					
13-Nov	2	3	3	4	A	6	7	9	20	21	19	11	6	10	11	12	14	13	12	14	8	18	18	9	11.0	20.8					
14-Nov	8	7	6	7	A	6	4	10	10	C	C	C	C	C	C	C	20	14	10	8	4	2	2	1	--	19.6					
15-Nov	8	18	2	3	A	5	6	6	6	15	9	10	6	5	5	7	5	11	19	7	4	5	11	7	7.8	18.6					
16-Nov	5	9	6	3	A	5	4	8	42	11	15	15	15	72	80	57	77	52	84	47	20	25	29	13	30.2	83.9					
17-Nov	33	24	17	17	A	11	13	7	7	6	5	5	6	4	5	5	6	6	5	4	5	6	5	4	9.0	33.4					
18-Nov	4	4	4	8	A	16	5	4	9	13	9	9	10	11	10	5	8	12	11	12	17	15	17	17	10.0	17.3					
19-Nov	8	9	8	6	A	8	5	5	6	7	9	9	6	6	6	10	8	7	6	5	6	5	5	5	6.7	9.7					
20-Nov	7	3	3	3	A	5	4	86	5	5	6	5	4	4	4	5	6	6	6	5	4	4	6	7	8.4	85.7					
21-Nov	7	6	6	5	A	6	4	4	5	5	6	10	4	5	5	6	7	7	12	11	8	10	12	17	7.3	17.2					
22-Nov	6	7	5	4	A	4	10	12	7	47	46	64	62	46	32	40	37	29	62	40	41	37	22	20	29.5	63.6					
23-Nov	16	26	25	37	A	29	25	18	32	38	24	16	29	26	15	22	30	18	22	22	25	15	32	14	24.2	37.9					
24-Nov	11	9	5	4	A	7	6	5	5	6	5	5	5	6	5	6	16	13	13	7	8	10	8	9	7.5	16.3					
25-Nov	11	13	13	9	A	15	22	35	19	15	23	20	31	26	24	20	25	12	14	12	8	10	10	9	17.2	34.7					
26-Nov	9	10	10	12	A	26	12	20	21	13	15	16	13	13	23	16	42	25	27	94	151	62	16	15	28.7	151.2					
27-Nov	16	39	24	16	A	18	15	19	25	18	14	80	46	38	55	46	40	27	126	75	12	8	5	4	33.3	126.3					
28-Nov	3	4	4	2	A	4	2	4	2	3	2	2	2	5	3	3	6	5	4	3	2	3	4	4	3.2	6.2					
29-Nov	4	3	3	2	A	8	3	281	7	6	5	3	4	8	7	67	5	5	5	13	5	6	10	12	20.6	280.9					
30-Nov	8	8	6	4	A	6	6	232	7	9	6	9	10	10	7	7	8	10	8	7	9	7	7	6	17.3	231.7					
8.7 10.2 8.7 8.3 -- 10.0 14.0 30.9 12.2 12.1 12.2 14.8 14.0 14.6 15.0 15.8 16.3 12.6 18.7 16.4 15.3 12.2 11.5 8.9																									Diurnal Average						
33.4 39.3 28.8 36.9 -- 28.5 90.3 280.9 42.4 47.1 46.2 79.7 62.0 71.7 79.9 67.5 76.7 52.2 126.3 93.5 151.2 61.7 45.1 26.1																									Diurnal Maximum						
C - Calibration					A - Automated Daily Zero Span																										

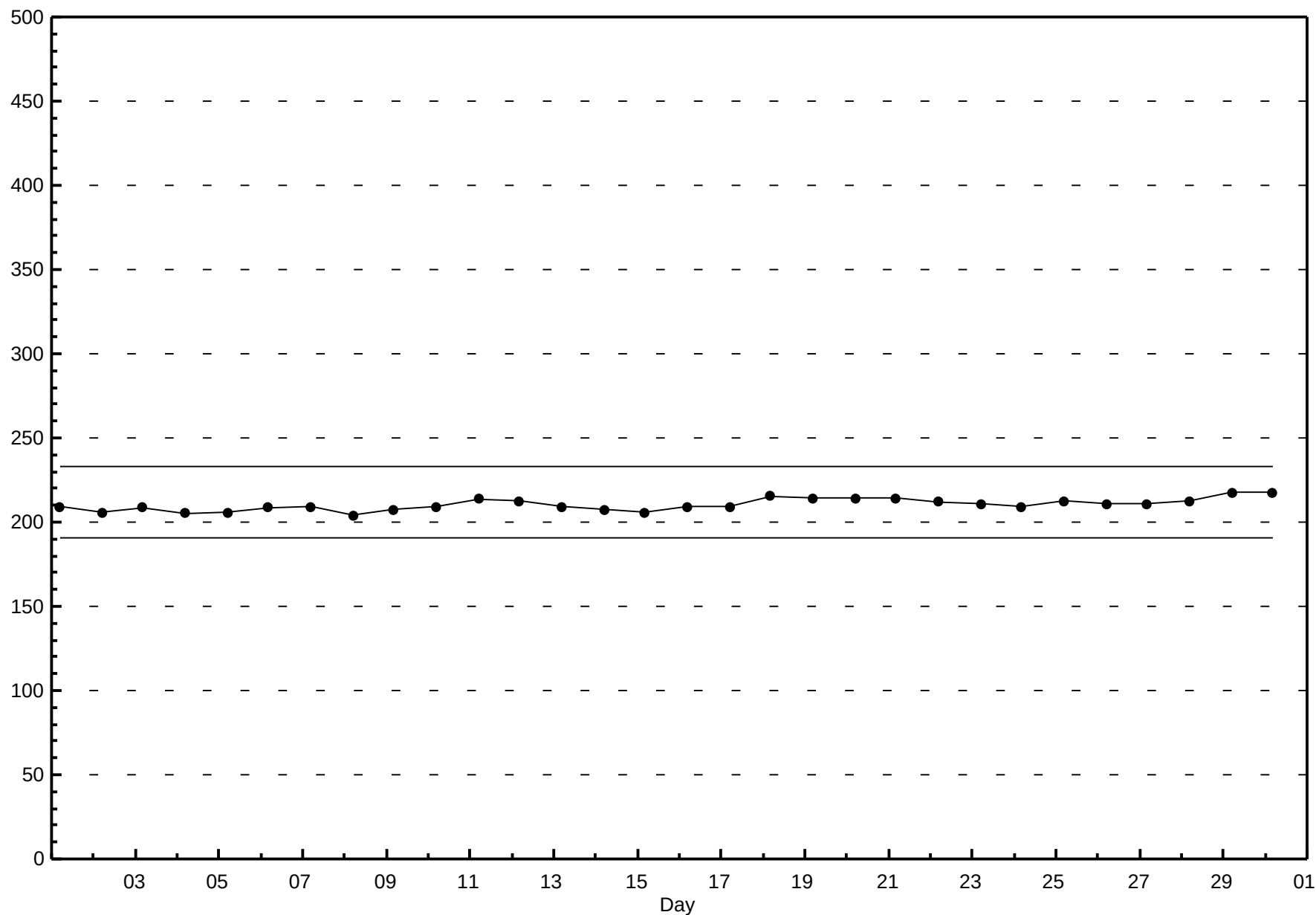
Hourly Maximums

Oxides of Nitrogen (NO_x) - ppb
Beaverlodge - November 2012



Span Responses

Oxides of Nitrogen (NO_x)
Beaverlodge - November 2012



Hourly Averages

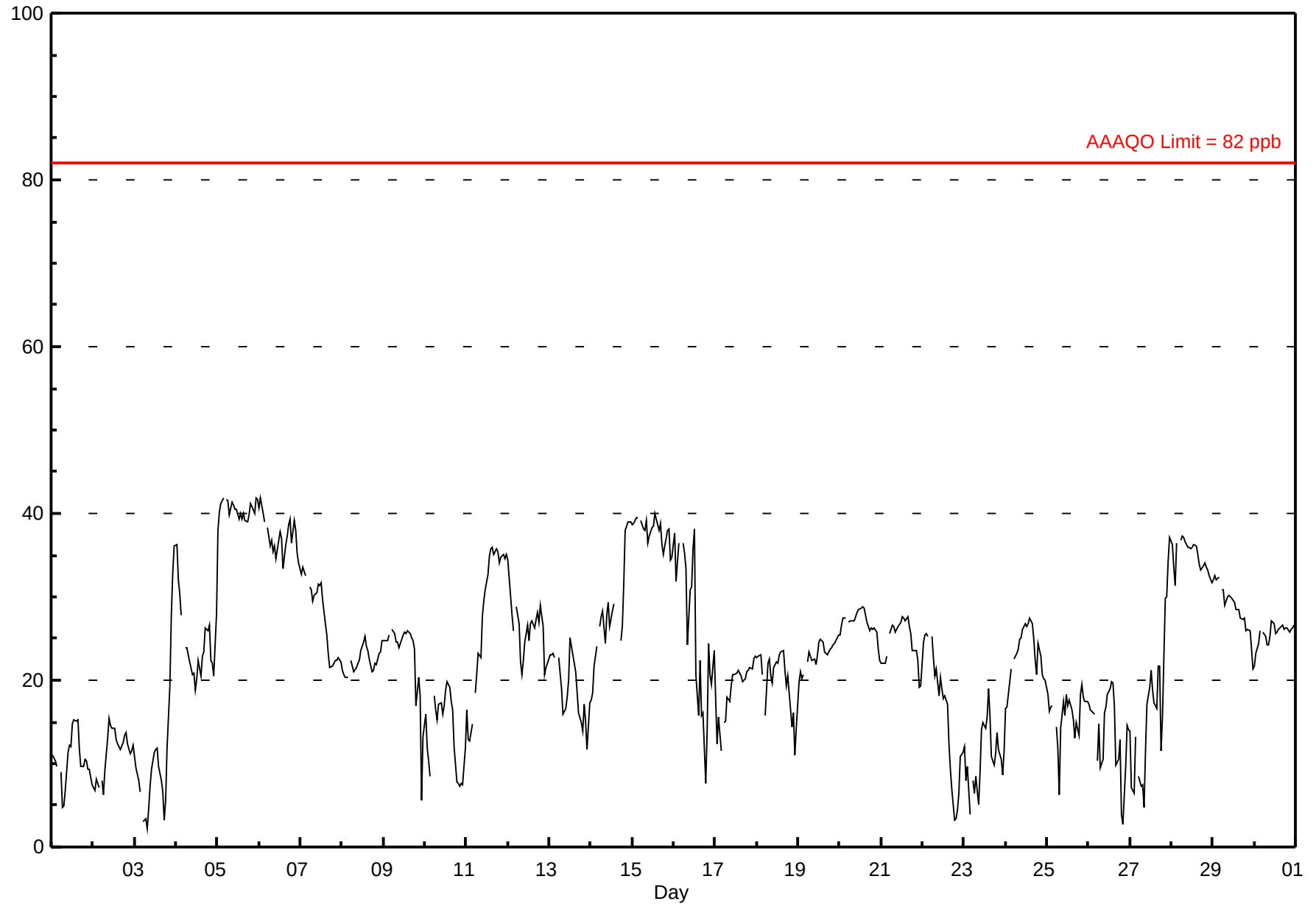
Ozone (O₃) - ppb

Beaverlodge - November 2012

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 41.9 ppb on Nov 5 23:00 Maximum Daily Average: 40.4 ppb on Nov 5																								Hours in Service: 720 Hours of Data: 687 Hours of Missing Data: 33 Hours of Calibration: 33 Percent Operational Time: 100.0		
Minimum Value: 2 ppb on Nov 3 08:00 Maximum Diurnal Average: 25.2 ppb at hour 13 Monthly Average: 22.89 ppb												Minimum Daily Average: 10.5 ppb on Nov 1 Minimum Diurnal Average: 21.0 ppb at hour 19 Percentiles: P ₁ = 3.9 P ₁₀ = 10.3 Q ₁ = 16.3 Median = 22.8 Q ₃ = 28.1 P ₉₀ = 36.4 P ₉₉ = 41.2														
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-Nov	11	11	10	10	A	9	5	5	7	11	12	12	15	15	15	15	12	10	10	11	10	9	9	7	10.5	15.3
2-Nov	7	7	8	7	A	8	6	9	13	15	15	14	14	13	12	12	12	13	13	14	12	11	11	12	11.3	15.4
3-Nov	11	9	8	7	A	3	3	2	5	7	9	11	12	12	10	8	7	3	6	12	19	28	33	36	11.3	36.1
4-Nov	36	32	30	28	A	24	24	23	22	21	21	19	20	22	20	23	23	26	26	27	22	22	20	28	24.4	36.3
5-Nov	38	40	41	42	A	42	42	40	41	41	40	41	39	40	39	40	39	39	40	41	41	40	42	42	40.4	41.9
6-Nov	41	42	40	39	A	38	36	37	35	36	35	37	38	37	33	36	37	39	39	36	39	38	35	34	37.3	41.8
7-Nov	33	33	33	32	A	31	31	30	30	31	31	31	32	30	27	25	23	22	22	22	22	22	23	22	27.8	33.5
8-Nov	21	21	20	20	A	22	22	21	22	22	22	24	25	25	24	24	22	21	21	22	22	23	23	25	22.3	25.2
9-Nov	25	25	25	25	A	26	26	25	25	24	24	25	26	26	26	26	25	25	24	17	20	18	6	13	22.8	26.1
10-Nov	16	12	10	9	A	18	16	15	17	17	16	17	19	20	19	18	16	12	8	8	7	8	8	12	13.8	19.9
11-Nov	16	13	13	15	A	19	21	23	23	28	29	31	33	35	36	36	35	36	35	34	35	35	35	35	28.2	36.0
12-Nov	34	32	28	26	A	29	27	22	21	22	25	27	25	27	27	26	27	28	27	29	26	21	21	22	26.0	34.4
13-Nov	23	23	23	23	A	23	21	19	16	17	18	20	25	24	22	21	19	16	15	14	17	15	12	17	19.2	25.1
14-Nov	18	18	22	24	A	26	28	28	24	28	29	26	28	29	C	C	C	25	27	32	38	39	39	39	28.4	39.1
15-Nov	39	39	40	39	A	39	38	38	39	36	37	38	39	40	39	38	39	36	35	36	38	38	34	35	37.9	40.0
16-Nov	38	32	34	36	A	36	35	33	24	31	31	36	38	21	16	22	16	16	8	14	24	21	20	24	26.4	38.2
17-Nov	18	12	16	12	A	15	15	18	17	19	21	21	21	21	21	21	20	20	21	21	22	21	22	23	19.0	22.9
18-Nov	23	23	23	21	A	16	22	23	21	20	21	22	22	23	23	24	21	19	20	19	14	16	11	14	20.0	23.5
19-Nov	20	21	20	21	A	22	23	23	22	22	22	23	25	25	25	23	23	23	24	24	24	24	25	25	23.1	25.5
20-Nov	25	27	28	27	A	27	27	27	27	28	28	28	29	29	29	28	27	26	26	26	26	26	24	22	26.8	28.8
21-Nov	22	22	22	23	A	26	27	26	26	26	26	27	28	28	27	28	26	26	24	24	24	22	19	19	24.6	27.7
22-Nov	25	25	26	25	A	25	23	20	21	18	20	19	18	18	17	12	9	7	3	3	4	6	11	11	16.1	25.6
23-Nov	12	8	10	4	A	8	7	9	5	9	14	15	14	16	19	16	11	10	11	14	12	11	9	12	11.0	19.0
24-Nov	17	17	20	21	A	23	23	24	25	25	26	27	26	27	28	27	25	22	21	24	23	21	20	20	23.1	27.5
25-Nov	18	16	17	17	A	14	12	6	14	18	16	18	17	18	16	15	13	15	13	18	20	18	18	18	15.9	19.6
26-Nov	17	16	16	16	A	10	15	10	11	16	17	18	19	20	20	17	10	11	13	4	3	10	15	14	13.7	19.9
27-Nov	14	7	6	13	A	8	7	8	5	12	17	19	21	19	17	17	22	22	12	16	30	30	34	37	17.0	37.1
28-Nov	36	33	31	36	A	37	37	37	37	36	36	36	36	36	36	35	34	33	34	34	34	33	33	32	34.9	37.3
29-Nov	32	33	32	32	A	31	31	29	30	30	30	30	29	28	28	29	27	27	27	26	26	26	24	21	28.7	32.6
30-Nov	22	23	24	26	A	26	25	24	24	25	27	27	26	26	26	26	27	26	26	26	26	26	26	27	25.6	27.1
23.5 22.4 22.5 22.6 -- 22.7 22.5 21.8 21.6 23.0 23.9 24.6 25.2 24.9 24.1 23.7 22.4 21.8 21.0 21.5 22.7 22.6 22.0 23.3																								Diurnal Average		
40.7 41.8 41.3 41.8 -- 41.6 41.6 39.9 41.3 40.9 40.4 40.5 39.4 40.0 39.4 39.9 39.2 38.9 39.8 41.2 40.8 39.9 41.9 41.7																								Diurnal Maximum		
C - Calibration A - Automated Daily Zero Span																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 82 ppb 24-hr na																										

Hourly Averages

Ozone (O₃) - ppb
Beaverlodge - November 2012



Hourly Maximums

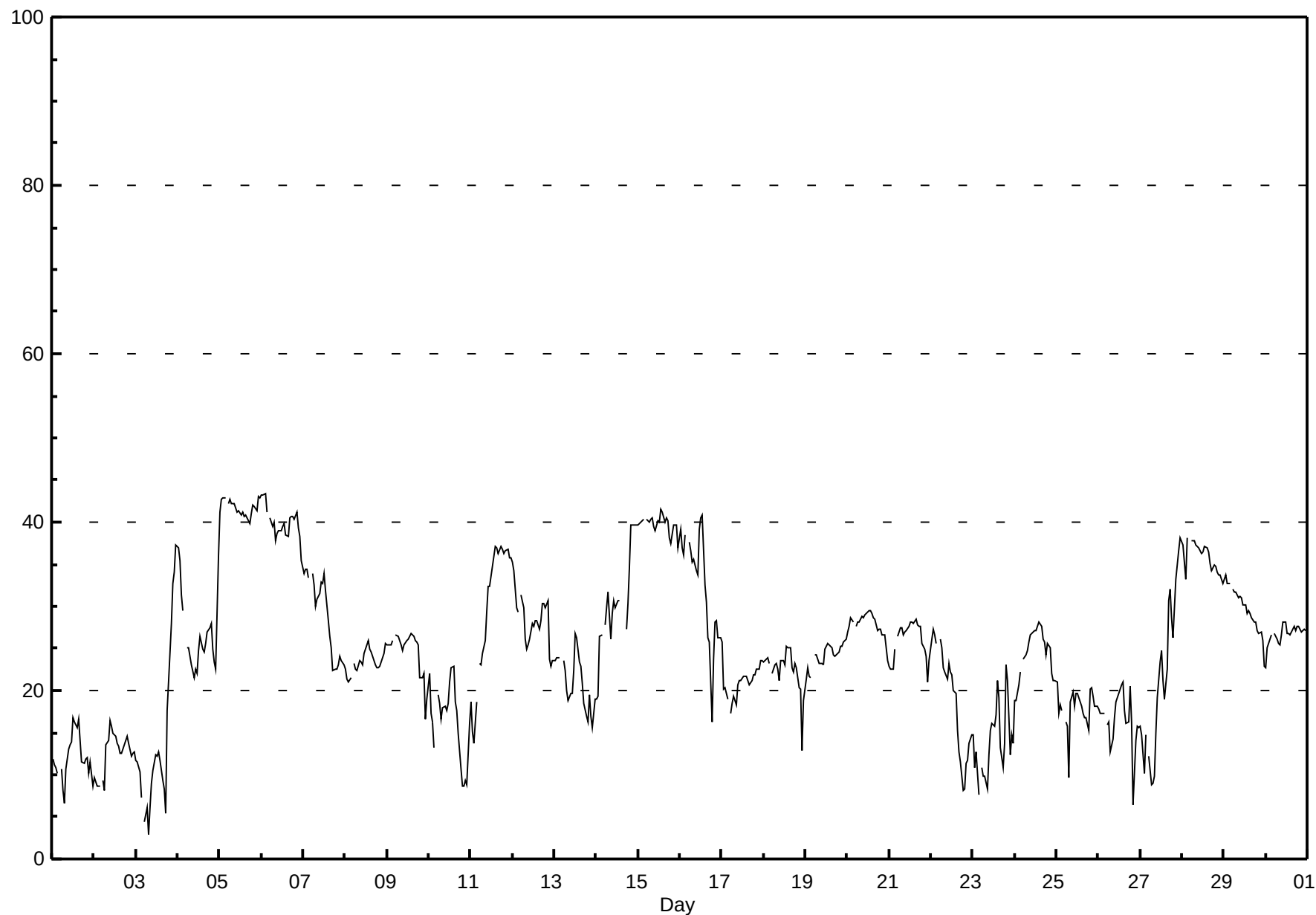
Ozone (O₃) - ppb

Beaverlodge - November 2012

Maximum Value: 43.3 ppb on Nov 6 03:00																								Maximum Daily Average: 41.7 ppb on Nov 5										Hours in Service: 720	
Minimum Value: 3 ppb on Nov 3 08:00																								Minimum Daily Average: 12.0 ppb on Nov 1										Hours of Data: 687	
Maximum Diurnal Average: 27.0 ppb at hour 14																								Minimum Diurnal Average: 23.6 ppb at hour 8										Hours of Missing Data: 33	
Monthly Average: 24.97 ppb																								Percentiles: P ₁ = 7.0 P ₁₀ = 12.7 Q ₁ = 18.9 Median = 24.9 Q ₃ = 30.3 P ₉₀ = 38.6 P ₉₉ = 42.8										Hours of Calibration: 33	
																								Percent Operational Time: 100.0											
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum									
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24											
1-Nov	12	11	11	10	A	11	8	7	11	13	14	14	17	16	16	17	14	12	11	12	12	10	12	9	12.0	16.7									
2-Nov	10	9	9	9	A	9	8	14	14	16	16	15	15	14	13	13	13	14	14	15	14	12	12	13	12.6	16.5									
3-Nov	12	11	10	7	A	4	6	3	6	9	11	12	12	13	12	9	8	5	18	21	28	33	34	37	14.0	37.3									
4-Nov	37	35	31	29	A	25	25	24	23	22	23	22	25	26	25	24	26	27	27	28	25	23	22	36	26.6	37.0									
5-Nov	41	43	43	43	A	42	43	42	42	42	41	41	41	41	41	41	40	40	41	42	42	41	43	43	41.7	43.1									
6-Nov	43	43	43	41	A	41	39	40	38	39	39	39	39	40	38	38	41	41	41	40	41	39	38	35	39.9	43.3									
7-Nov	34	34	34	33	A	34	33	30	31	32	33	33	34	32	28	26	25	22	23	23	23	24	24	23	29.0	34.4									
8-Nov	23	21	21	22	A	23	23	22	23	23	23	24	25	26	25	25	24	23	23	23	23	24	24	26	23.4	25.9									
9-Nov	25	25	25	26	A	27	26	26	25	25	25	26	26	26	27	26	26	26	25	21	21	22	17	19	24.6	26.7									
10-Nov	22	17	16	13	A	20	19	17	18	18	18	19	21	23	23	19	18	15	11	9	9	9	9	16	16.3	23.0									
11-Nov	19	15	14	19	A	23	23	24	26	29	32	32	35	36	37	37	36	37	37	36	37	37	36	36	30.1	37.1									
12-Nov	35	34	30	29	A	31	30	26	25	25	26	28	28	28	28	27	28	30	30	30	31	24	23	24	28.3	35.3									
13-Nov	23	24	24	24	A	24	22	20	19	20	20	22	27	26	23	23	21	18	17	16	19	17	16	19	21.1	26.8									
14-Nov	19	19	26	27	A	28	30	32	26	29	31	30	31	31	C	C	C	27	30	35	40	40	40	40	30.4	39.6									
15-Nov	40	40	40	40	A	40	40	40	41	40	39	40	40	42	41	40	40	40	38	38	40	40	40	37	39.8	41.6									
16-Nov	39	37	36	38	A	38	37	35	36	34	34	39	40	41	33	31	26	26	16	24	28	28	26	26	32.5	40.9									
17-Nov	26	20	20	19	A	17	19	19	18	21	21	21	22	22	22	21	21	21	22	22	23	23	24	24	21.1	25.7									
18-Nov	23	24	24	23	A	22	23	23	23	21	24	24	23	25	25	25	23	22	23	23	20	20	13	19	22.4	25.3									
19-Nov	21	23	22	21	A	24	24	24	23	23	23	25	25	26	25	25	24	24	24	25	25	25	26	26	24.1	26.2									
20-Nov	27	28	29	28	A	28	28	28	29	29	29	29	29	30	29	29	28	27	27	27	27	27	25	24	27.8	29.6									
21-Nov	23	23	23	25	A	27	28	28	27	27	27	28	28	28	28	28	28	28	28	26	25	24	21	24	26.0	28.4									
22-Nov	26	27	27	26	A	26	25	23	22	21	23	22	22	20	20	15	13	12	8	8	11	12	14	15	19.0	27.3									
23-Nov	15	11	13	8	A	11	10	10	8	12	15	16	16	17	21	19	13	11	14	23	21	12	15	14	14.1	23.1									
24-Nov	19	19	21	22	A	24	24	25	26	27	27	27	27	28	28	28	26	26	24	26	25	22	21	21	24.4	28.2									
25-Nov	21	17	18	18	A	16	16	10	19	20	18	20	20	19	18	17	17	17	15	20	20	19	18	18	17.9	20.9									
26-Nov	18	17	17	17	A	16	16	13	14	17	19	19	20	21	21	18	16	16	20	16	6	14	16	16	16.7	21.0									
27-Nov	16	15	10	15	A	12	9	9	10	15	19	23	25	21	19	23	31	32	29	26	33	35	37	38	21.8	38.2									
28-Nov	37	35	33	38	A	38	38	38	37	37	37	36	36	37	37	36	35	34	35	35	34	34	34	33	35.8	38.1									
29-Nov	33	34	33	33	A	32	32	32	31	31	31	30	30	29	29	29	29	28	28	27	27	27	26	23	29.7	33.6									
30-Nov	23	25	26	27	A	27	26	26	25	27	28	28	27	27	27	27	28	27	28	28	27	27	27	27	26.6	28.1									
25.4 24.6 24.3 24.3 -- 24.6 24.3 23.6 23.9 24.7 25.5 26.2 26.9 27.0 26.2 25.4 24.7 24.3 24.2 24.7 25.2 24.8 24.3 25.3																								Diurnal Average											
43.2 43.3 43.3 42.9 -- 42.2 42.7 42.2 42.2 41.7 41.3 41.3 40.8 41.6 41.2 40.8 40.6 40.7 41.0 42.0 41.9 41.4 43.1 42.9																								Diurnal Maximum											
C - Calibration A - Automated Daily Zero Span																																			

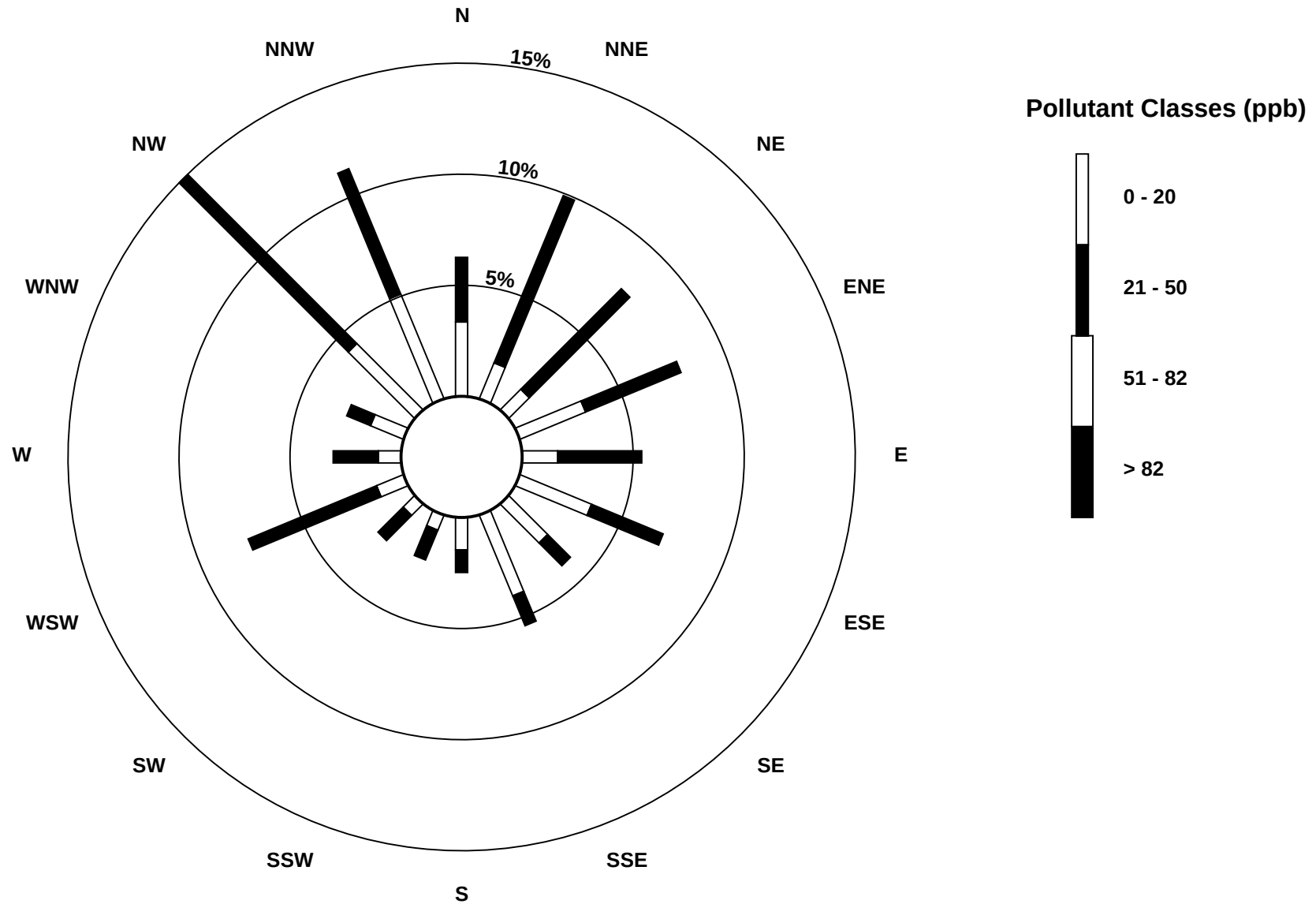
Hourly Maximums

Ozone (O₃) - ppb
Beaverlodge - November 2012



Pollutant Rose

Ozone (O₃) - ppb
Beaverlodge - November 2012



Eight Hour Running Averages

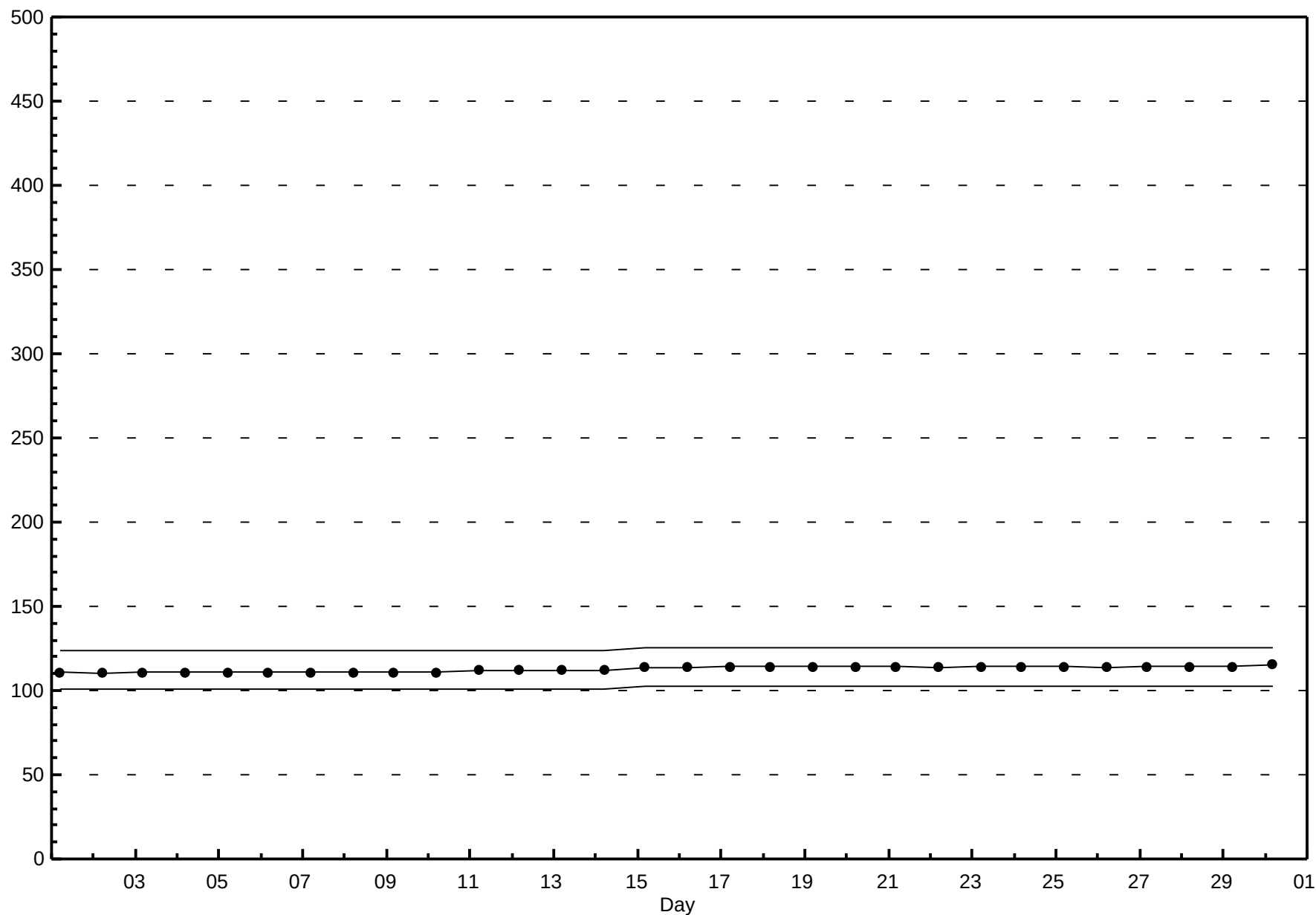
Ozone (O₃) - ppb

Beaverlodge - November 2012

Maximum Value: 41.2 ppb on Nov 5 10:00																								Hours in Service: 720	
Minimum Value: 5.1 ppb on Nov 3 10:00																								Hours of Data: 714	
																								Hours of Missing Data: 6	
Percentiles: P ₁ = 7.1 P ₁₀ = 10.7 Q ₁ = 16.1 Median = 22.8 Q ₃ = 27.7 P ₉₀ = 36.0 P ₉₉ = 40.6																								Hours of Calibration: 6	
																								Percent Operational Time: 100.0	
Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Nov	12	12	12	12	11	11	10	9	8	8	8	9	9	10	12	13	13	13	13	13	12	11	11	10	13.4
2-Nov	9	9	9	8	8	8	7	7	8	10	10	12	12	12	13	14	13	13	13	13	13	12	12	12	13.6
3-Nov	12	12	11	10	10	9	8	6	5	5	5	6	7	8	8	9	9	9	8	9	10	11	14	18	17.9
4-Nov	22	25	28	30	32	31	30	28	26	25	23	22	22	22	21	21	21	22	23	24	24	24	24	24	31.9
5-Nov	26	28	30	32	33	36	39	41	41	41	41	41	41	41	40	40	40	40	40	40	40	40	40	40	41.2
6-Nov	41	41	41	41	41	40	40	39	38	37	37	36	36	36	36	36	36	36	37	37	37	37	38	37	41.0
7-Nov	37	36	35	35	34	33	33	32	32	31	31	31	31	31	30	30	29	28	26	25	24	23	23	22	36.7
8-Nov	22	22	22	21	21	21	21	21	21	21	22	22	22	23	23	23	23	23	23	23	23	22	22	22	23.5
9-Nov	23	23	24	24	24	25	25	25	25	25	25	25	25	25	25	25	25	25	25	24	24	23	20	18	25.3
10-Nov	17	16	14	13	12	12	14	14	14	15	16	17	17	17	18	18	18	17	16	15	13	12	10	10	17.8
11-Nov	10	10	11	11	12	14	15	17	18	20	22	25	26	28	30	31	33	34	35	35	35	35	35	35	35.3
12-Nov	35	34	33	32	32	31	30	28	26	25	24	25	25	24	24	25	26	26	27	27	27	26	26	25	34.9
13-Nov	25	24	24	23	22	23	23	22	21	20	19	19	20	20	20	20	21	21	20	19	18	17	16	16	24.7
14-Nov	15	16	17	18	18	20	22	23	24	26	27	27	27	28	28	28	N	N	N	N	N	N	33	34	34.0
15-Nov	35	36	38	39	39	39	39	39	39	39	38	38	38	38	38	38	38	38	38	38	38	37	37	36	39.1
16-Nov	36	36	36	36	35	35	35	35	33	33	33	32	33	31	29	27	26	24	22	19	17	17	18	18	36.3
17-Nov	18	18	19	18	17	16	16	15	15	16	17	18	18	19	20	20	20	21	21	21	21	21	21	21	21.3
18-Nov	22	22	22	22	22	21	21	21	21	21	20	21	21	22	22	22	22	22	22	21	20	20	18	17	22.3
19-Nov	17	17	17	17	18	18	20	21	22	22	22	23	23	23	23	23	24	24	24	24	24	24	24	24	24.1
20-Nov	24	25	25	26	26	26	27	27	27	27	27	28	28	28	28	28	28	28	28	27	27	27	26	25	28.2
21-Nov	25	24	24	23	23	23	23	24	24	25	26	26	26	27	27	27	27	27	27	26	26	25	24	23	27.0
22-Nov	23	23	23	23	23	24	24	24	24	23	22	21	21	20	19	18	17	15	13	11	9	8	7	7	24.2
23-Nov	7	7	8	8	9	9	8	8	7	7	8	9	10	11	13	13	14	14	14	14	13	13	12	11	14.3
24-Nov	12	13	14	15	15	17	19	21	22	23	24	25	25	25	26	26	26	26	25	25	25	24	23	22	26.3
25-Nov	21	20	20	19	18	18	16	14	14	14	14	14	14	15	15	17	16	16	16	16	16	16	16	17	21.2
26-Nov	17	17	18	17	17	16	15	14	13	13	13	14	14	16	16	17	17	16	16	14	12	11	10	10	17.6
27-Nov	10	10	9	10	11	11	10	9	8	8	10	11	12	13	15	16	18	19	18	18	19	21	23	25	25.2
28-Nov	27	29	31	34	34	35	36	36	36	36	37	37	36	36	36	36	36	35	35	35	34	34	34	33	36.6
29-Nov	33	33	33	32	32	32	32	31	31	31	30	30	30	30	29	29	29	29	28	28	27	27	27	26	33.0
30-Nov	25	24	24	24	24	24	24	24	25	25	25	26	26	26	26	26	26	26	26	26	26	26	26	26	26.3
40.6 41.0 41.0 40.7 40.7 40.5 39.7 40.6 41.1 41.2 41.1 40.9 40.7 40.5 40.2 40.2 40.0 39.7 39.6 39.7 39.9 39.9 40.2 40.4																									Diurnal Maximums
N - Not Valid																									

Span Responses

Ozone (O₃)
Beaverlodge - November 2012



Hourly Averages

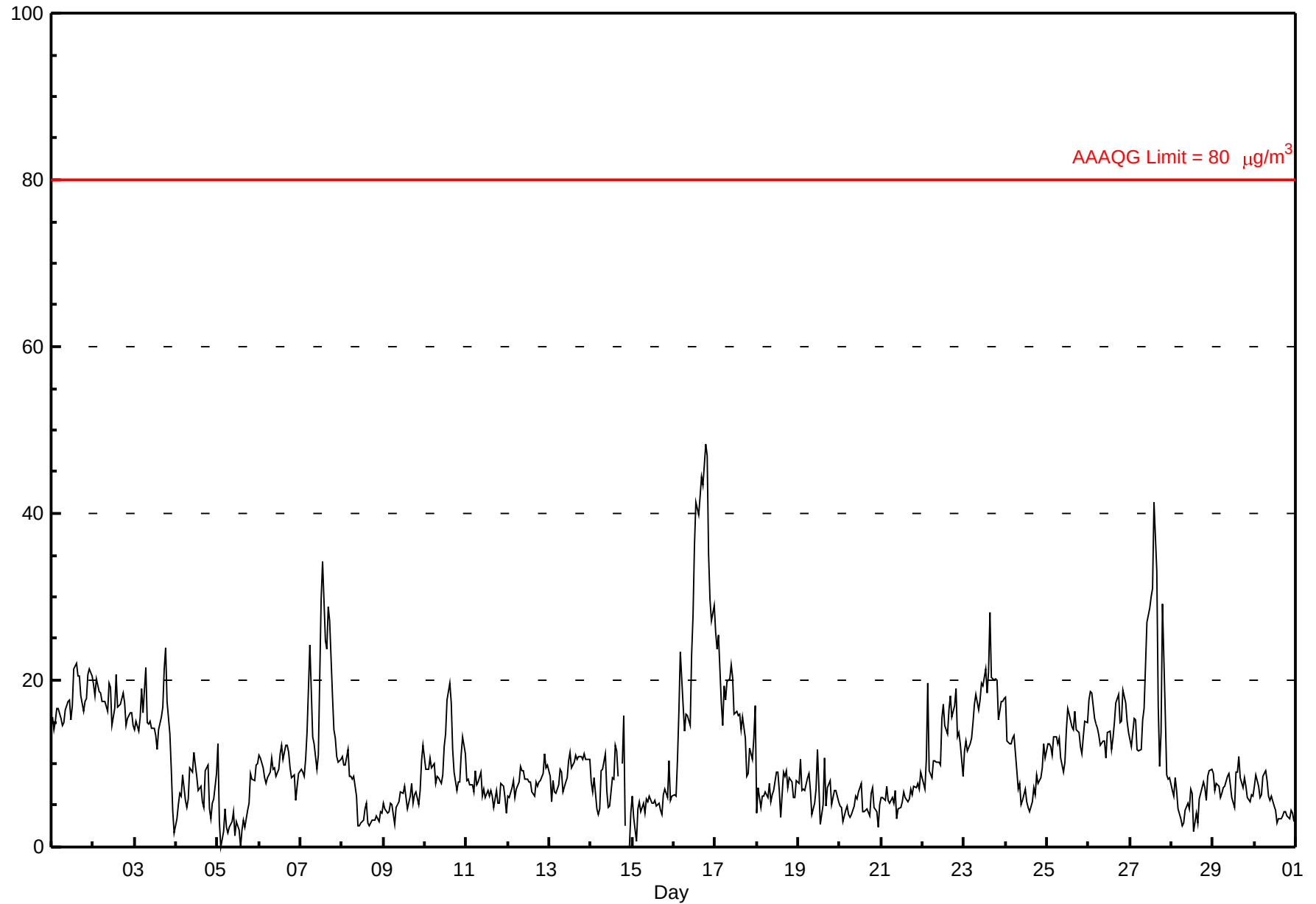
Particulate Matter 2.5 (PM_{2.5}) - µg/m³

Beaverlodge - November 2012

Number of Exceedences: 1-hr: 0 24-hr: 0 Maximum Value: 48.3 µg/m³ on Nov 16 19:00																								Maximum Daily Average: 27.3 µg/m³ on Nov 16				Hours in Service: 720 Hours of Data: 718 Hours of Missing Data: 2 Hours of Calibration: 0 Percent Operational Time: 99.7			
Minimum Value: 0 µg/m³ on Nov 5 03:00 Maximum Diurnal Average: 12.6 µg/m³ at hour 16 Monthly Average: 10.65 µg/m³												Minimum Daily Average: 4.3 µg/m³ on Nov 5 Minimum Diurnal Average: 9.4 µg/m³ at hour 2 Percentiles: P ₁ = 1.8 P ₁₀ = 4.3 Q ₁ = 6.0 Median = 8.7 Q ₃ = 14.1 P ₉₀ = 18.5 P ₉₉ = 41.4																			
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24							
1-Nov	16	14	15	17	17	15	15	15	16	17	18	15	17	21	22	21	21	18	16	17	18	21	21	21	17.7	22.1					
2-Nov	20	18	20	19	18	17	17	17	16	20	19	15	17	21	17	17	17	19	17	15	15	16	16	15	17.4	20.7					
3-Nov	14	15	14	16	19	16	22	15	15	15	14	14	13	12	14	16	17	21	24	17	14	9	4	2	14.6	23.8					
4-Nov	3	5	6	6	9	6	5	6	9	9	11	10	9	7	7	6	5	9	10	5	3	5	6	9	6.9	11.3					
5-Nov	12	3	0	2	5	2	2	2	3	4	1	3	2	0	2	3	2	4	5	9	8	8	10	10	4.3	12.4					
6-Nov	11	11	9	8	8	8	9	11	9	10	9	9	11	12	11	12	12	11	9	8	9	6	7	9	9.5	12.3					
7-Nov	9	9	9	10	14	24	19	13	12	9	11	21	30	34	25	24	29	27	18	14	13	11	10	11	16.9	34.3					
8-Nov	11	10	10	12	9	8	8	8	6	3	2	3	3	5	5	3	3	3	3	3	4	3	4	4	5.5	11.7					
9-Nov	5	5	4	4	5	5	3	5	5	5	7	7	7	6	5	6	8	5	6	7	5	7	10	12	6.0	12.3					
10-Nov	9	9	9	11	9	10	8	9	8	8	9	12	13	18	20	17	12	9	7	8	8	11	13	11	10.7	19.7					
11-Nov	8	8	7	7	7	9	7	8	9	6	7	6	7	6	7	6	5	7	5	5	8	7	6	4	6.8	9.1					
12-Nov	6	6	7	8	6	7	8	10	9	9	8	8	8	8	7	6	8	7	8	8	9	11	9	10	7.9	11.2					
13-Nov	8	5	8	7	6	7	9	9	7	8	8	10	11	10	10	11	10	11	11	11	10	11	10	10	9.2	11.3					
14-Nov	8	7	8	5	4	5	9	9	11	7	5	5	8	8	12	12	9	M	10	16	3	N	0	4	7.4	15.8					
15-Nov	6	4	1	5	5	4	5	4	6	5	6	5	5	6	5	5	4	4	6	7	6	10	6	6	5.3	10.4					
16-Nov	6	6	11	16	23	17	14	16	16	15	23	28	36	41	40	42	44	43	48	47	35	30	27	29	27.3	48.3					
17-Nov	26	24	25	17	15	19	18	20	20	22	20	16	16	16	16	14	16	13	9	9	12	11	13	17	16.8	25.8					
18-Nov	4	7	5	6	6	7	6	8	5	6	7	9	9	7	4	9	8	9	7	8	8	6	6	8	6.8	9.1					
19-Nov	8	10	7	7	7	8	9	7	4	5	7	12	7	3	5	11	5	7	8	5	6	7	7	5	6.9	11.7					
20-Nov	5	5	3	4	5	4	4	4	5	6	6	7	8	4	4	4	5	4	6	7	5	4	2	5	4.8	7.6					
21-Nov	6	6	6	7	6	5	6	5	7	3	5	5	5	7	6	5	6	7	6	7	7	8	7	9	6.1	8.9					
22-Nov	8	7	11	20	9	8	10	10	10	10	10	15	17	15	14	17	18	16	17	19	13	14	12	8	12.8	19.7					
23-Nov	12	13	12	12	13	15	17	18	16	18	20	19	21	19	21	28	20	20	20	20	15	18	17	18	17.6	28.2					
24-Nov	18	13	12	12	13	13	9	7	8	5	6	7	5	5	4	5	7	6	9	8	8	10	12	11	8.9	17.9					
25-Nov	12	12	12	11	13	13	12	13	11	9	10	14	17	16	14	14	16	14	14	12	11	13	15	15	13.1	16.5					
26-Nov	18	19	19	15	15	14	13	12	13	13	11	14	14	12	13	15	17	18	15	15	19	17	15	14	14.9	18.8					
27-Nov	13	12	15	15	12	12	12	15	17	22	27	29	30	31	41	33	17	10	14	29	16	9	8	8	18.6	41.4					
28-Nov	7	6	8	7	5	3	3	3	4	5	5	7	6	2	4	3	6	6	8	7	6	8	9	9	5.7	9.4					
29-Nov	9	7	8	7	6	6	7	7	8	9	7	6	5	9	9	11	8	7	8	7	6	5	6	6	7.3	10.8					
30-Nov	7	9	7	6	6	8	9	8	6	6	6	5	4	3	3	3	4	4	4	4	3	4	4	3	5.4	9.1					
10.2 9.4 9.6 10.0 9.8 10.0 9.8 9.8 9.8 9.6 10.1 11.1 12.1 12.0 12.2 12.6 12.0 11.8 11.6 11.8 10.1 10.3 9.9 10.1																								Diurnal Average							
25.8 23.7 25.4 19.7 23.3 24.3 21.5 19.9 20.2 21.9 27.0 28.6 36.1 41.4 41.4 42.0 44.4 43.5 48.3 47.0 35.1 29.7 27.2 29.0																								Diurnal Maximum							
M - Maintenance N - Not Valid Alberta Ambient Air Quality Guideline (AAQG): 1-hr 80 µg/m³ Alberta Ambient Air Quality Objective (AAQO): 24-hr 30 µg/m³																															

Hourly Averages

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Beaverlodge - November 2012



Hourly Maximums

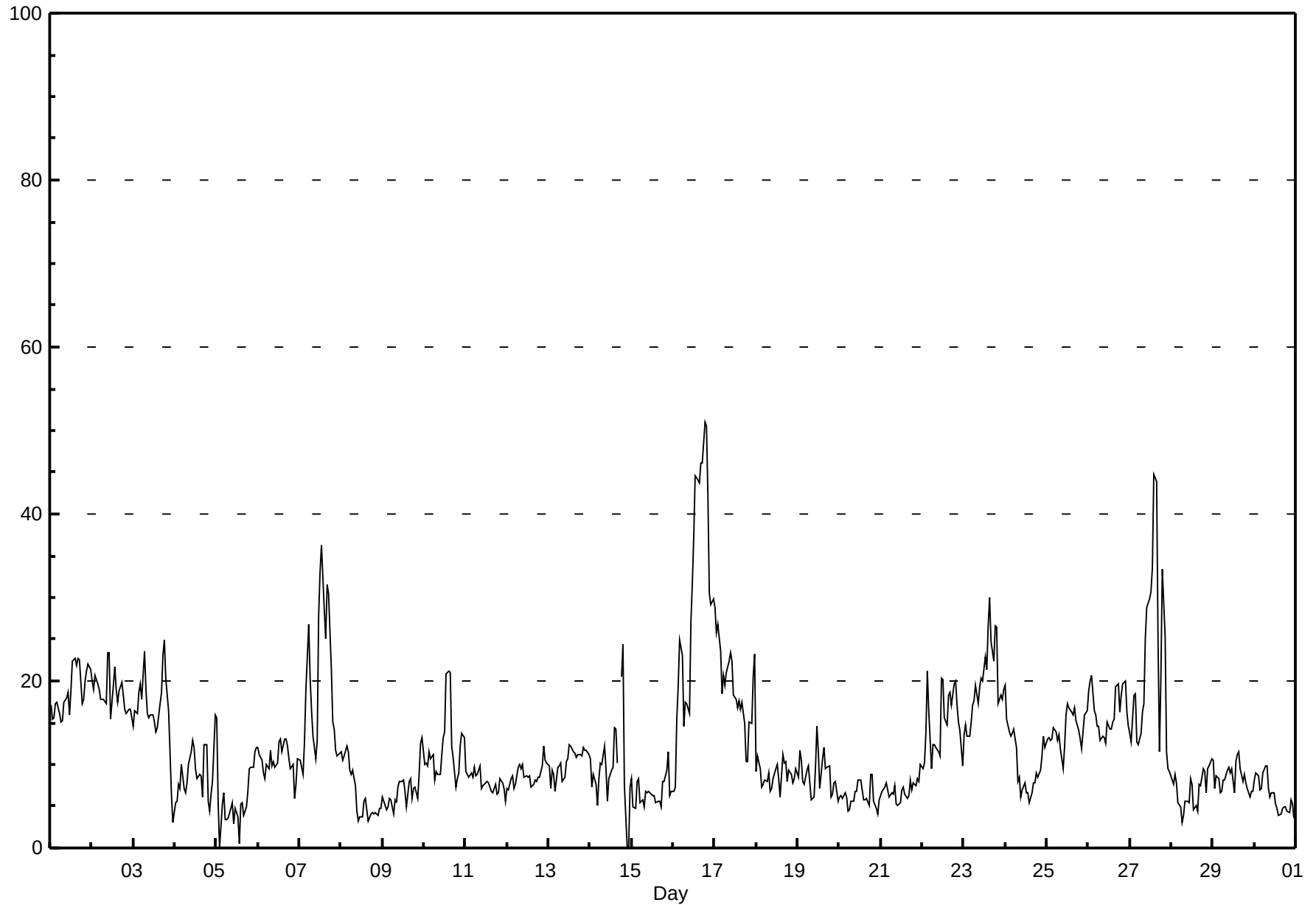
Particulate Matter 2.5 (PM_{2.5}) - µg/m³

Beaverlodge - November 2012

Maximum Value: 50.9 µg/m³ on Nov 16 19:00																					Maximum Daily Average: 29.8 µg/m³ on Nov 16					Hours in Service: 720	
Minimum Value: 0 µg/m³ on Nov 5 03:00																					Minimum Daily Average: 6.0 µg/m³ on Nov 5					Hours of Data: 719	
Maximum Diurnal Average: 14.4 µg/m³ at hour 16																					Minimum Diurnal Average: 10.8 µg/m³ at hour 2					Hours of Missing Data: 1	
Monthly Average: 12.19 µg/m³																					Percentiles: P ₁ = 3.2 P ₁₀ = 5.4 Q ₁ = 7.2 Median = 9.9 Q ₃ = 15.9 P ₉₀ = 20.8 P ₉₉ = 43.6					Hours of Calibration: 0	
																					Percent Operational Time: 99.9						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Nov	17	15	16	17	17	16	15	15	17	18	19	16	19	22	23	22	23	23	17	18	20	21	22	21	18.7	22.7	
2-Nov	20	19	21	20	19	18	18	18	17	23	23	15	20	22	19	18	19	20	18	17	16	17	17	16	18.6	23.4	
3-Nov	15	16	16	19	20	18	24	19	16	16	16	16	15	14	14	17	19	23	25	20	16	11	6	3	16.4	24.9	
4-Nov	5	6	8	7	10	7	7	8	10	11	13	12	9	8	9	9	6	12	12	6	4	6	8	16	8.7	16.0	
5-Nov	16	6	0	5	7	3	3	4	5	5	3	5	4	1	5	5	4	5	7	10	10	10	11	12	6.0	15.6	
6-Nov	12	11	10	9	8	10	9	12	10	10	10	10	13	13	11	13	13	12	11	9	10	6	8	11	10.5	13.1	
7-Nov	11	10	9	13	19	27	20	16	13	11	13	28	33	36	28	25	31	31	21	15	14	12	11	11	19.1	36.3	
8-Nov	12	10	11	12	12	9	9	9	7	4	3	4	4	6	6	5	3	4	4	4	4	4	5	5	6.5	12.2	
9-Nov	6	6	5	5	6	6	4	6	5	7	8	8	8	7	5	8	8	6	7	7	6	9	12	13	7.0	13.2	
10-Nov	10	10	10	11	11	11	8	9	9	9	11	13	14	21	21	21	12	11	7	8	9	12	14	13	11.9	21.1	
11-Nov	9	9	9	9	8	10	9	9	10	7	7	8	8	8	7	7	7	8	6	7	8	8	7	6	7.9	9.8	
12-Nov	7	7	8	9	7	8	10	10	10	10	9	9	9	9	7	8	8	8	9	8	10	12	11	10	8.7	12.2	
13-Nov	10	7	9	9	7	10	10	10	8	8	10	11	12	12	11	11	11	11	11	11	12	12	12	11	10.3	12.4	
14-Nov	11	7	9	8	5	8	10	10	12	9	6	8	9	10	14	14	10	M	21	24	7	0	0	7	9.6	24.4	
15-Nov	8	5	5	8	8	5	6	5	7	7	7	6	6	6	5	6	6	5	8	8	9	11	6	7	6.7	11.5	
16-Nov	7	7	15	19	25	23	15	18	17	16	27	32	37	45	44	44	46	46	51	50	42	31	29	30	29.8	50.9	
17-Nov	29	26	27	23	18	21	19	21	22	23	22	18	18	17	18	17	18	15	10	10	15	15	20	23	19.4	28.9	
18-Nov	9	11	9	7	8	8	8	9	7	7	8	10	10	8	6	11	10	10	8	9	9	8	8	9	8.7	11.2	
19-Nov	8	12	11	8	8	9	10	8	6	6	10	15	12	7	11	12	9	10	10	6	6	8	8	6	8.9	14.5	
20-Nov	6	6	6	7	6	4	5	6	6	7	7	8	8	7	6	6	6	5	9	9	6	5	4	6	6.2	8.8	
21-Nov	6	7	7	8	7	6	7	6	7	5	5	5	7	7	7	6	6	8	7	8	8	8	8	10	7.0	10.0	
22-Nov	10	10	14	21	16	9	12	12	12	12	11	20	20	16	15	18	19	17	20	20	17	15	14	10	15.0	21.2	
23-Nov	14	15	13	13	15	17	18	19	17	19	20	20	23	21	27	30	25	22	27	26	17	18	18	19	19.8	30.1	
24-Nov	19	15	14	13	14	14	12	8	9	6	7	8	7	7	5	7	8	8	9	9	9	11	13	12	10.2	19.5	
25-Nov	13	13	13	13	14	14	13	14	12	10	12	16	17	17	16	16	17	15	14	13	12	14	16	16	14.2	17.3	
26-Nov	19	20	21	16	16	15	15	13	13	13	13	15	14	14	15	15	19	20	16	18	20	20	16	15	16.3	20.7	
27-Nov	14	13	18	19	13	12	14	16	17	25	29	30	31	34	45	44	25	12	20	33	25	11	10	9	21.6	44.7	
28-Nov	8	8	9	8	5	5	3	4	6	6	5	8	8	5	5	4	8	7	10	9	7	10	10	11	6.9	10.7	
29-Nov	11	7	9	8	7	7	8	8	9	10	9	10	7	10	11	12	9	8	9	8	7	6	7	7	8.4	11.6	
30-Nov	8	9	9	7	7	9	10	10	7	6	7	7	5	5	4	4	5	5	5	4	4	6	5	4	6.3	9.9	
11.6 10.8 11.3 11.7 11.4 11.3 11.0 11.1 10.8 10.9 11.6 13.0 13.5 13.8 14.1 14.4 13.6 13.3 13.6 13.6 12.0 11.2 11.2 11.6																									Diurnal Average		
28.9 25.7 26.8 23.5 24.9 26.8 23.5 21.0 22.3 25.1 28.8 31.7 37.3 44.6 44.7 44.0 46.1 46.1 50.9 50.5 42.2 30.6 29.1 29.8																									Diurnal Maximum		
M - Maintenance																											

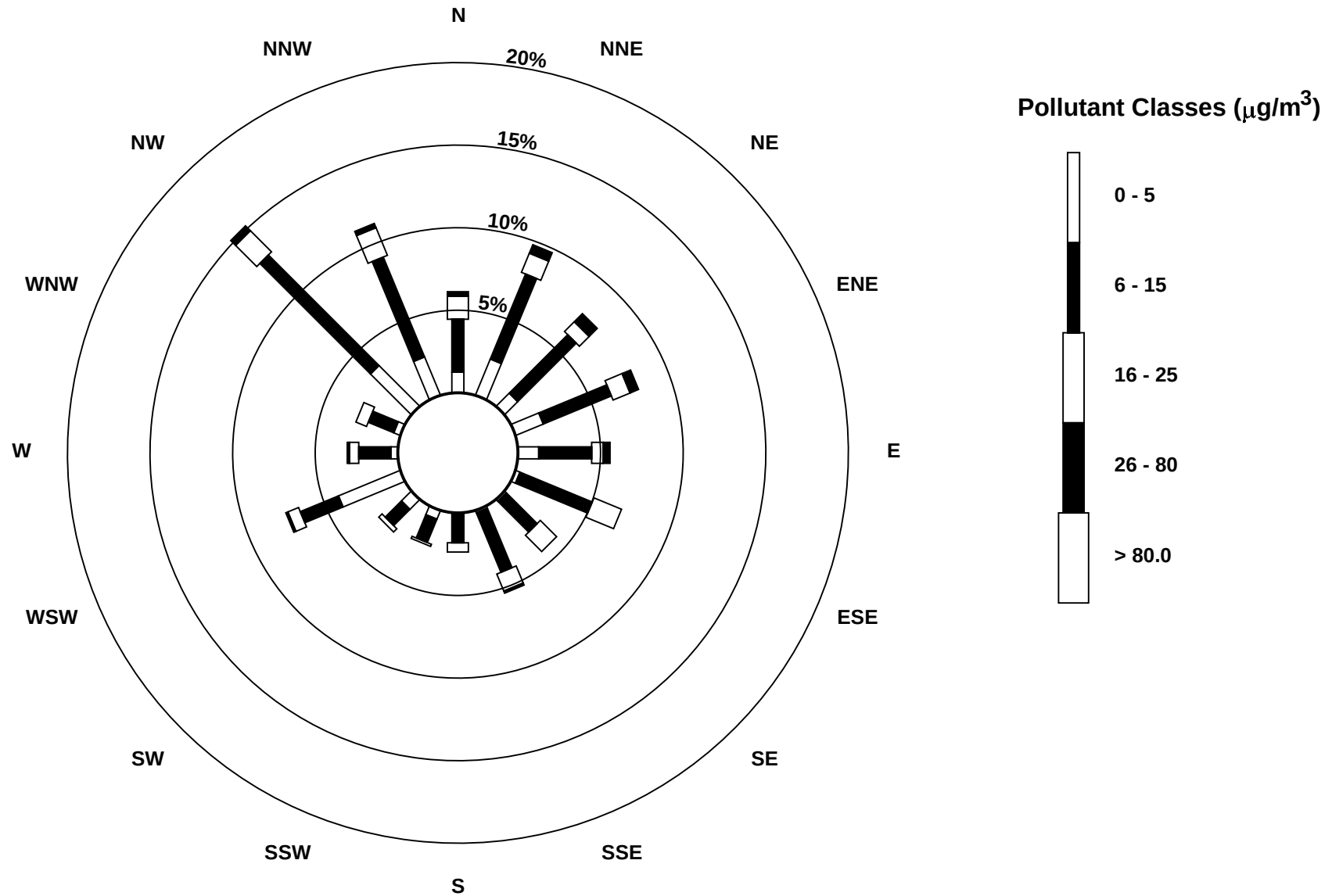
Hourly Maximums

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Beaverlodge - November 2012



Pollutant Rose

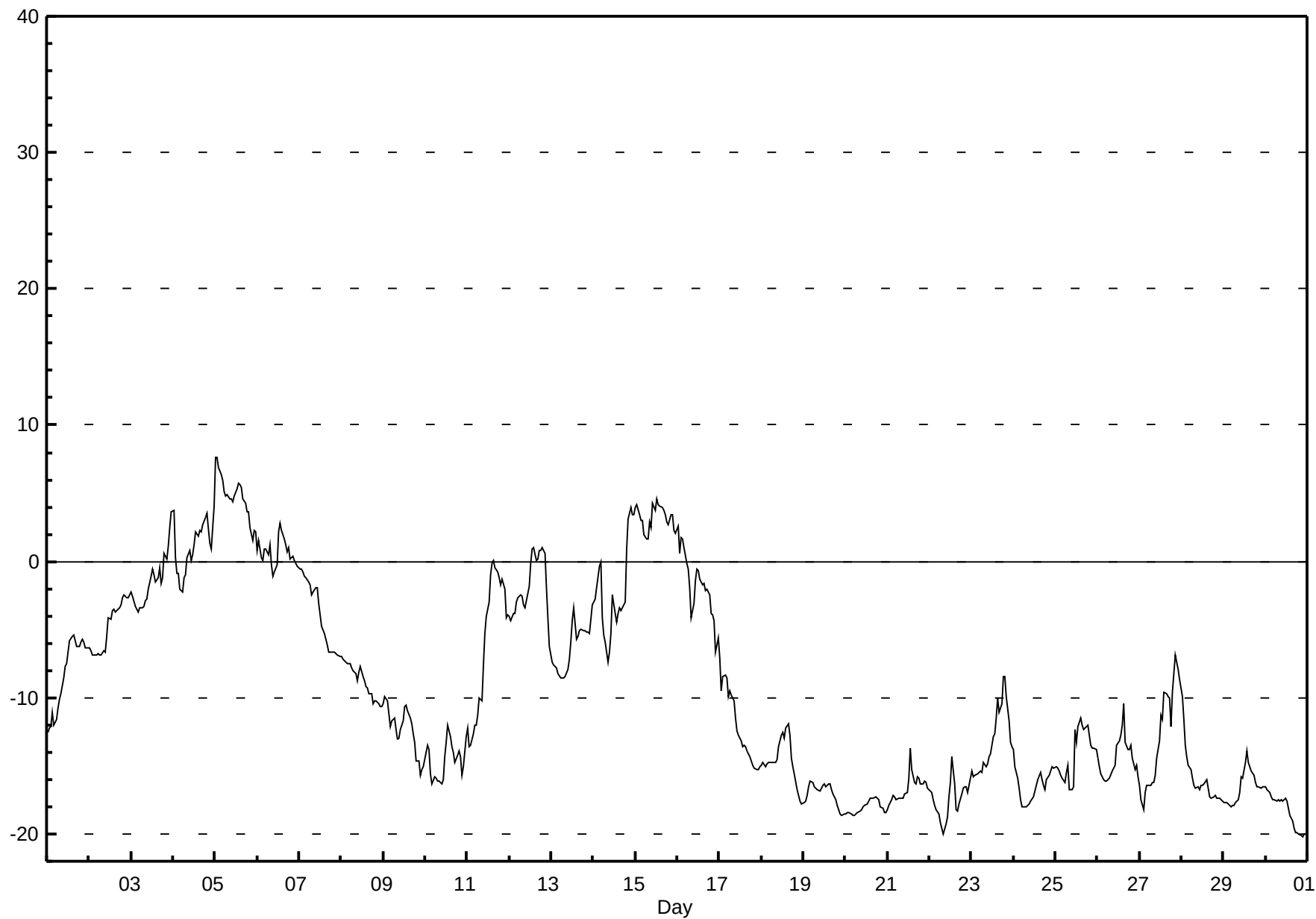
Particulate Matter 2.5 (PM_{2.5}) - µg/m³
Beaverlodge - November 2012



Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 7.6 °C on Nov 5 01:00 Maximum Daily Average: 4.8 °C on Nov 5																								Hours in Service: 720 Hours of Data: 720		
Minimum Value: -20 °C on Nov 30 22:00 Minimum Daily Average: -18.4 °C on Nov 30 Maximum Diurnal Average: -8.1 °C at hour 14 Minimum Diurnal Average: -10.5 °C at hour 9 Monthly Average: -9.35 °C Percentiles: P ₁ = -20.0 P ₁₀ = -17.5 Q ₁ = -16.1 Median = -11.5 Q ₃ = -2.9 P ₉₀ = 1.5 P ₉₉ = 5.6																								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-Nov	-13	-12	-12	-11	-12	-12	-11	-10	-10	-9	-8	-8	-7	-6	-5	-5	-6	-6	-6	-6	-6	-6	-6	-6	-8.2	-5.4
2-Nov	-6	-7	-7	-7	-7	-7	-7	-7	-7	-7	-5	-4	-4	-4	-4	-4	-4	-3	-3	-3	-2	-3	-3	-3	-4.8	-2.5
3-Nov	-2	-3	-3	-3	-4	-3	-3	-3	-3	-3	-2	-1	-1	-1	-2	-1	0	-2	-1	1	0	1	3	4	-1.4	3.7
4-Nov	4	0	-1	-1	-2	-2	-1	-1	0	1	0	0	1	2	2	2	2	3	3	4	2	1	1	4	1.1	4.1
5-Nov	8	8	7	6	6	5	5	5	5	5	4	5	5	6	6	5	5	4	4	4	2	2	2	2	4.8	7.6
6-Nov	1	2	0	0	1	1	0	1	0	-1	-1	0	2	3	2	2	1	1	1	0	0	0	0	0	0.7	2.8
7-Nov	-1	-1	-1	-1	-1	-1	-2	-2	-2	-2	-2	-3	-4	-5	-5	-6	-6	-7	-7	-7	-7	-7	-7	-7	-3.8	-0.6
8-Nov	-7	-7	-7	-7	-8	-8	-8	-8	-8	-9	-8	-8	-8	-9	-9	-9	-10	-10	-10	-10	-10	-10	-11	-11	-8.8	-7.0
9-Nov	-10	-10	-10	-11	-12	-12	-12	-12	-13	-13	-12	-12	-11	-11	-11	-11	-12	-13	-13	-15	-15	-16	-15	-15	-12.3	-9.9
10-Nov	-14	-14	-14	-16	-16	-16	-16	-16	-16	-16	-16	-14	-13	-12	-13	-14	-14	-15	-14	-14	-14	-16	-15	-13	-14.6	-12.0
11-Nov	-12	-14	-14	-13	-12	-12	-11	-10	-10	-8	-5	-4	-3	-1	0	0	0	-1	-1	-2	-1	-2	-4	-4	-6.0	0.1
12-Nov	-4	-4	-4	-4	-3	-3	-2	-3	-3	-3	-3	-2	0	1	1	0	0	1	1	1	1	-2	-4	-6	-1.9	1.1
13-Nov	-7	-8	-8	-8	-8	-9	-9	-9	-8	-8	-7	-6	-4	-3	-6	-5	-5	-5	-5	-5	-5	-5	-3	-6.3	-3.2	
14-Nov	-3	-3	-2	0	0	-4	-5	-6	-7	-7	-5	-3	-4	-4	-4	-3	-4	-3	-3	1	3	4	3	3	-2.3	3.9
15-Nov	4	4	3	3	3	2	2	2	3	3	4	4	5	4	4	4	4	3	3	3	3	3	2	2	3.2	4.5
16-Nov	3	1	2	2	1	0	-1	-2	-4	-3	-1	-1	-1	-1	-2	-2	-2	-2	-2	-4	-4	-4	-7	-6	-1.7	2.5
17-Nov	-7	-10	-8	-8	-9	-10	-9	-10	-10	-11	-12	-13	-13	-14	-14	-14	-14	-14	-15	-15	-15	-15	-15	-15	-12.1	-7.0
18-Nov	-15	-15	-15	-15	-15	-15	-15	-15	-15	-15	-14	-13	-13	-13	-12	-12	-13	-14	-15	-16	-17	-17	-18	-18	-14.6	-11.9
19-Nov	-18	-18	-17	-17	-16	-16	-17	-17	-17	-17	-17	-16	-16	-17	-16	-16	-17	-17	-17	-18	-18	-18	-19	-19	-17.1	-16.2
20-Nov	-19	-18	-18	-19	-19	-19	-19	-18	-18	-18	-18	-18	-18	-18	-17	-17	-17	-17	-17	-18	-18	-18	-18	-18	-18.1	-17.3
21-Nov	-18	-18	-17	-17	-17	-18	-17	-17	-17	-17	-17	-17	-16	-14	-15	-16	-16	-16	-16	-16	-16	-16	-16	-17	-16.7	-13.7
22-Nov	-17	-17	-18	-18	-18	-19	-19	-20	-20	-19	-19	-17	-16	-14	-16	-18	-18	-18	-17	-17	-17	-17	-17	-16	-17.5	-14.3
23-Nov	-15	-16	-16	-16	-16	-15	-15	-15	-15	-15	-14	-14	-13	-13	-11	-10	-11	-10	-8	-8	-10	-12	-13	-14	-13.2	-8.4
24-Nov	-14	-15	-16	-17	-17	-18	-18	-18	-18	-18	-18	-17	-17	-16	-16	-16	-16	-16	-17	-16	-16	-15	-15	-15	-16.4	-13.8
25-Nov	-15	-15	-15	-16	-16	-16	-15	-15	-17	-17	-17	-12	-13	-12	-11	-12	-12	-12	-12	-13	-13	-14	-14	-14	-14.1	-11.5
26-Nov	-14	-15	-16	-16	-16	-16	-16	-16	-15	-15	-15	-13	-13	-13	-12	-10	-13	-14	-14	-14	-14	-15	-15	-16	-14.5	-10.5
27-Nov	-16	-17	-18	-17	-16	-16	-16	-16	-16	-16	-14	-13	-11	-12	-10	-10	-10	-10	-12	-10	-7	-7	-8	-9	-12.9	-6.9
28-Nov	-10	-12	-13	-14	-15	-15	-16	-16	-17	-17	-17	-16	-16	-16	-16	-17	-17	-17	-17	-17	-17	-17	-17	-18	-15.9	-9.9
29-Nov	-18	-18	-18	-18	-18	-18	-18	-18	-18	-17	-16	-16	-15	-14	-15	-15	-15	-16	-16	-17	-17	-17	-17	-17	-16.6	-13.9
30-Nov	-17	-17	-17	-17	-17	-17	-18	-18	-18	-18	-18	-17	-18	-18	-19	-19	-20	-20	-20	-20	-20	-20	-20	-20	-18.4	-16.6
																								Diurnal Average		
																								Diurnal Maximum		

Hourly Averages

External Temperature (ET) - °C
Beaverlodge - November 2012



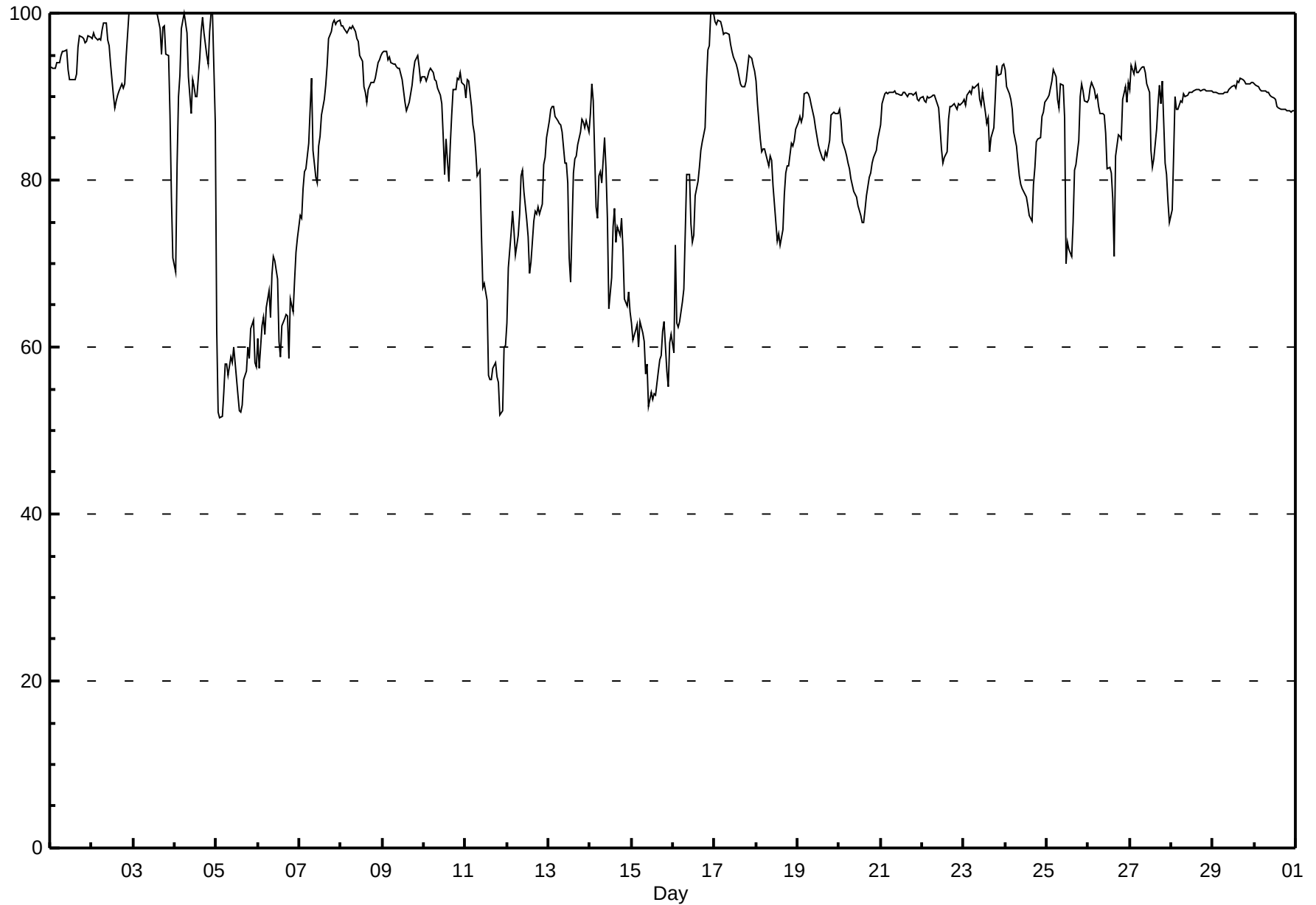
Hourly Averages

Relative Humidity (RH) - %
Beaverlodge - November 2012

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 100.0 % on Nov 2 22:00 Maximum Daily Average: 96.5 % on Nov 3																								Hours in Service: 720 Hours of Data: 720 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0		
Minimum Value: 52 % on Nov 5 03:00 Maximum Diurnal Average: 86.5 % at hour 9 Monthly Average: 84.54 %												Minimum Daily Average: 56.8 % on Nov 5 Minimum Diurnal Average: 80.1 % at hour 14 Percentiles: P ₁ = 52.8 P ₁₀ = 63.3 Q ₁ = 79.8 Median = 88.9 Q ₃ = 91.8 P ₉₀ = 96.8 P ₉₉ = 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-Nov	93	93	93	93	94	94	95	95	95	96	93	92	92	92	92	93	96	97	97	97	96	97	97	97	94.7	97.3
2-Nov	97	98	97	97	97	97	98	99	99	97	96	94	90	89	89	90	91	91	91	92	95	100	100	100	95.1	100.0
3-Nov	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	98	95	98	99	95	95	88	78	71	96.5	100.0
4-Nov	69	82	90	92	98	100	99	98	92	88	92	91	90	90	95	98	99	98	95	94	98	100	100	87	93.1	100.0
5-Nov	62	52	52	52	55	58	58	57	59	58	60	58	54	52	52	53	56	57	60	59	62	63	58	58	56.8	63.3
6-Nov	61	57	63	64	62	65	67	63	69	71	70	68	61	59	62	63	64	64	59	66	64	68	71	73	64.7	73.0
7-Nov	76	75	79	81	81	84	89	92	84	80	80	84	85	88	90	91	94	97	98	99	99	99	99	99	88.5	99.2
8-Nov	99	99	98	98	98	98	98	98	98	97	97	95	94	91	90	89	91	92	92	92	92	94	94	95	94.9	98.5
9-Nov	95	95	95	94	95	94	94	94	94	93	93	92	91	89	88	89	90	91	93	94	95	94	92	92	92.8	95.4
10-Nov	92	92	92	93	93	93	92	92	91	90	89	85	81	85	80	84	88	91	91	92	92	93	92	91	89.8	93.3
11-Nov	90	92	92	89	87	86	83	81	81	74	67	68	66	57	56	56	57	58	56	56	52	52	60	60	69.8	92.0
12-Nov	63	69	74	76	74	71	73	76	81	81	79	75	73	69	70	75	76	76	77	76	77	82	83	85	75.5	85.0
13-Nov	87	88	89	89	88	87	87	87	86	82	82	80	71	68	81	83	83	84	86	87	87	86	87	86	84.1	88.8
14-Nov	88	91	89	77	75	80	81	80	85	81	75	64	68	74	77	73	74	73	75	72	66	65	67	64	75.7	91.5
15-Nov	63	61	62	63	60	63	62	61	57	58	53	55	54	54	54	57	58	59	62	63	57	55	61	62	58.9	63.1
16-Nov	59	72	63	62	63	65	67	74	81	81	75	72	73	78	80	81	84	85	86	92	96	96	100	100	78.6	100.0
17-Nov	99	99	99	99	98	97	98	98	97	96	95	95	94	93	92	92	91	91	92	93	95	95	94	93	95.2	99.1
18-Nov	92	89	85	83	84	84	82	82	83	82	79	75	73	74	72	74	78	81	82	82	84	84	85	86	81.4	91.9
19-Nov	87	88	87	88	90	91	90	90	89	88	86	85	84	84	83	82	83	83	85	88	88	88	88	88	86.7	90.6
20-Nov	88	87	85	84	83	82	81	80	79	78	78	77	76	75	75	76	78	80	81	82	83	83	85	86	80.9	88.5
21-Nov	87	89	90	91	90	90	91	91	91	90	90	90	90	90	91	90	90	90	90	90	90	90	89	90	90.1	90.6
22-Nov	90	89	89	90	90	90	90	90	90	89	86	84	82	83	83	87	89	89	89	89	88	89	89	89	88.1	90.2
23-Nov	90	89	90	91	90	91	91	91	92	90	89	91	88	87	87	83	85	86	90	94	92	93	94	94	89.9	94.0
24-Nov	93	91	90	90	89	86	84	82	81	79	79	78	78	77	76	75	79	82	85	85	85	88	88	89	83.7	93.3
25-Nov	90	90	91	92	93	92	90	89	92	91	87	70	73	72	71	75	81	82	85	90	91	91	90	89	85.7	93.3
26-Nov	90	91	92	91	90	90	89	88	88	88	86	81	81	81	78	71	83	85	85	85	90	91	89	92	86.4	91.8
27-Nov	91	94	93	94	93	93	93	94	94	93	91	91	84	82	83	86	89	91	89	92	82	81	77	75	88.5	93.9
28-Nov	77	83	90	88	88	89	89	90	90	90	91	90	90	91	91	91	91	91	91	91	91	91	91	91	89.4	90.8
29-Nov	90	90	90	90	90	90	90	90	90	91	91	91	91	91	91	92	92	92	92	92	92	92	92	92	91.1	92.2
30-Nov	92	91	91	91	91	91	91	91	91	90	90	90	90	89	89	89	88	88	88	88	88	88	88	88	89.6	91.6
85.0 86.0 86.4 86.0 86.0 86.4 86.4 86.4 86.4 86.5 85.4 84.0 82.1 80.6 80.1 80.6 81.3 83.2 84.1 84.6 85.5 85.4 85.8 85.9 85.4 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 99.9 99.9 98.1 99.4 98.3 98.6 98.9 99.1 100.0 100.0 100.0																								Diurnal Average	Diurnal Maximum	

Hourly Averages

Relative Humidity (RH) - %
Beaverlodge - November 2012



Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Beaverlodge - November 2012

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	2	1	2	0	2	2	3	3	6	5	3	6	5	3	3	1	4	4	4	3	2	3	5	5	0.4	5.8
Dir	78	66	57	165	212	36	334	336	333	342	321	304	342	7	351	19	179	166	171	172	148	126	142	135	17	304
2 Spd	4	5	5	4	4	5	8	8	9	9	7	7	8	9	10	12	9	10	9	11	13	9	8	7	7.6	13.3
Dir	128	114	76	94	116	129	129	120	105	95	78	108	145	139	134	119	119	109	106	101	99	122	113	118	113	99
3 Spd	3	3	6	2	6	3	3	4	2	7	5	3	1	3	6	5	2	3	7	15	2	13	19	18	4.4	18.6
Dir	142	166	211	224	262	278	353	296	137	243	247	33	167	196	204	155	155	152	214	238	225	241	256	252	233	256
4 Spd	8	3	1	4	3	4	4	3	2	4	3	0	5	8	8	15	18	17	11	9	5	3	2	13	3.9	18.1
Dir	262	228	60	187	97	85	126	81	130	206	211	63	111	115	153	119	116	112	116	114	165	197	172	275	134	116
5 Spd	38	45	42	37	41	33	37	44	38	34	36	36	43	40	46	34	22	23	22	21	17	14	15	17	32.2	45.5
Dir	259	256	249	253	248	240	240	246	244	248	244	245	254	255	257	254	253	251	249	250	249	258	268	268	251	257
6 Spd	4	6	5	1	3	3	1	8	1	3	3	4	2	1	1	4	5	7	8	9	6	7	5	2	1.3	9.1
Dir	242	233	227	166	244	271	352	291	341	66	154	64	103	100	61	45	83	57	46	27	27	58	120	128	50	27
7 Spd	6	4	9	12	14	15	18	19	14	8	11	15	17	20	19	16	15	15	11	11	10	11	11	10	12.5	19.6
Dir	98	54	19	18	18	19	27	35	34	13	30	21	26	39	42	41	39	39	39	45	60	44	45	49	35	39
8 Spd	7	8	9	9	11	8	10	6	7	11	6	8	12	11	9	9	6	5	6	7	9	11	12	11	8.1	12.5
Dir	31	29	30	26	55	45	34	46	90	94	90	81	88	74	54	46	52	53	56	49	30	32	32	30	51	32
9 Spd	7	12	14	14	12	14	14	12	9	10	10	10	9	7	9	9	8	9	8	1	2	0	1	2	7.6	14.1
Dir	26	79	77	72	61	71	82	41	31	26	25	30	34	23	22	20	27	15	21	313	264	74	68	24	45	72
10 Spd	1	1	1	5	5	7	7	6	4	8	6	4	5	6	6	9	12	10	6	4	3	3	2	3	4.4	11.7
Dir	55	59	88	159	164	161	156	207	168	156	187	151	109	136	119	114	111	107	116	137	150	181	157	87	139	111
11 Spd	2	2	2	0	4	4	2	2	2	4	10	14	14	15	15	23	15	16	8	4	5	2	4	3	5.4	23.1
Dir	154	163	123	154	218	220	121	145	77	261	260	221	220	239	247	256	261	270	297	287	302	311	101	89	247	256
12 Spd	3	3	3	2	2	1	2	2	3	2	3	4	3	2	1	2	4	1	0	3	6	12	14	18	1.6	18.2
Dir	92	118	134	74	93	158	111	114	171	110	58	51	165	158	198	80	49	339	47	42	347	333	330	322	12	322
13 Spd	19	16	9	10	10	8	7	8	3	3	3	3	1	1	4	4	3	2	3	2	1	3	4	3	2.9	19.4
Dir	321	323	332	331	326	327	318	321	284	302	40	63	118	164	190	180	174	167	164	137	65	80	70	207	324	321
14 Spd	6	4	4	10	12	17	17	13	11	11	4	1	3	6	7	6	3	1	3	13	23	34	31	22	5.7	33.9
Dir	49	57	31	311	319	356	333	329	317	319	346	76	92	129	137	140	133	95	243	247	254	249	250	249	282	249
15 Spd	35	35	19	10	8	13	9	10	14	5	4	11	8	17	9	15	9	11	10	11	10	4	2	3	10.9	35.2
Dir	246	242	240	229	232	256	231	246	262	237	213	197	194	226	199	224	239	229	228	244	262	285	147	86	236	242
16 Spd	4	2	5	4	5	1	1	2	1	4	2	1	1	3	2	1	2	2	4	4	5	2	2	6	1.8	6.1
Dir	40	75	63	73	67	103	243	28	71	66	148	66	277	322	82	83	244	333	310	355	21	343	8	33	36	33
17 Spd	2	7	3	16	17	15	16	15	15	16	17	17	16	16	12	12	13	14	15	13	15	17	15	12	13.1	17.0
Dir	306	19	18	335	348	331	336	351	331	316	322	329	322	322	329	325	322	318	316	316	315	308	316	301	326	329
18 Spd	8	4	5	5	5	7	7	8	4	4	8	8	8	10	8	8	8	11	10	10	11	12	7	8	7.4	12.1
Dir	298	344	354	3	345	326	322	330	358	317	327	312	324	318	338	324	319	336	355	341	334	345	355	352	334	345
19 Spd	12	12	8	7	7	9	12	10	11	12	10	10	10	11	11	10	12	14	13	13	18	17	16	12	11.5	17.5
Dir	321	340	344	349	332	324	313	326	331	338	335	323	320	315	316	327	321	326	325	323	316	315	313	316	324	316
20 Spd	14	17	16	16	14	15	16	15	15	13	13	11	12	11	9	8	6	6	7	9	10	7	10	9	10.8	16.8
Dir	307	315	318	310	309	307	305	304	305	312	307	308	308	309	322	306	308	319	338	360	14	4	8	7	319	315
21 Spd	8	8	5	3	4	5	6	6	6	6	6	8	5	1	1	8	5	3	2	4	3	3	3	6	2.7	8.1
Dir	7	20	29	51	47	22	6	354	5	19	24	24	17	256	276	27	149	142	169	189	193	138	113	147	33	7
22 Spd	9	10	9	6	5	5	3	3	2	0	4	4	1	2	4	1	3	2	5	3	2	5	6	5	0.3	9.7
Dir	133	118	107	91	91	84	199	176	190	161	261	268	288	258	218	175	295	360	300	333	354	296	333	330	125	118

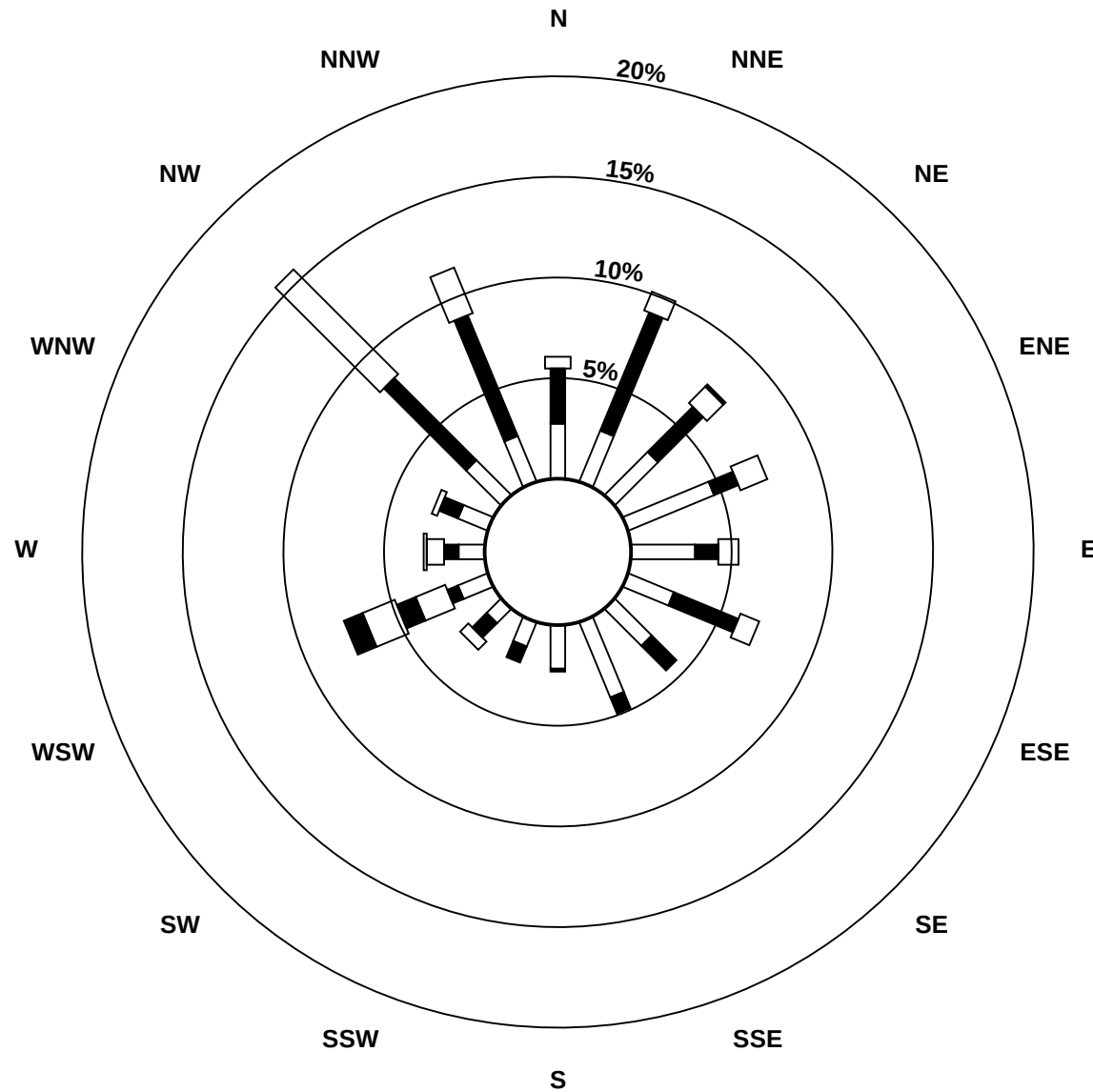
Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Beaverlodge - November 2012

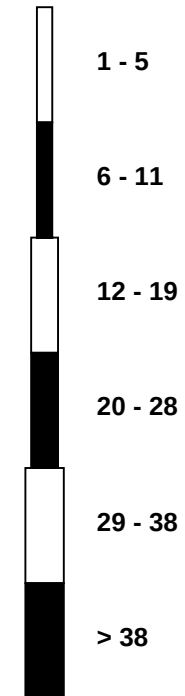
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
23 Spd	2	6	4	4	4	4	10	3	6	3	8	13	3	5	7	5	5	6	4	4	8	11	11	5	3.6	13.0
Dir	342	294	312	317	294	332	295	355	260	324	322	317	254	243	155	167	58	56	27	326	6	4	342	350	328	317
24 Spd	12	11	13	12	13	13	15	14	14	13	13	12	8	7	5	2	3	5	7	8	11	9	9	10	4.9	14.7
Dir	335	340	330	326	310	306	309	302	309	317	323	314	317	322	335	2	71	127	119	104	121	113	122	135	329	309
25 Spd	9	7	5	4	2	3	2	3	5	8	2	1	3	2	2	1	7	10	7	11	11	10	9	5	2.7	11.0
Dir	138	131	118	85	315	353	306	315	323	339	268	76	266	63	156	352	349	359	344	315	303	300	310	320	330	303
26 Spd	6	12	12	5	2	13	11	5	9	11	9	9	7	6	4	0	1	2	2	1	3	1	2	4	5.3	12.6
Dir	333	321	322	349	4	328	333	341	336	354	334	330	313	313	19	358	255	26	6	187	306	34	308	32	334	328
27 Spd	0	0	1	4	2	2	3	4	3	3	4	4	1	2	3	5	3	2	0	7	14	16	9	15	3.9	15.8
Dir	334	258	115	63	75	48	58	74	97	86	78	56	85	67	72	40	47	40	90	27	2	358	13	36	35	358
28 Spd	13	16	17	14	14	11	18	18	16	12	14	13	10	9	7	10	11	9	8	7	9	8	6	5	10.1	17.7
Dir	69	95	102	104	90	76	69	67	74	79	70	71	52	59	64	18	12	2	26	41	44	39	16	352	64	69
29 Spd	6	5	5	8	6	4	4	4	5	3	1	7	5	3	4	8	7	7	10	10	9	10	11	11	5.2	10.8
Dir	14	22	16	35	29	15	29	32	37	52	49	34	54	105	56	75	84	30	30	12	347	332	326	325	20	326
30 Spd	10	12	10	12	10	10	9	10	9	8	9	9	11	11	11	10	9	8	6	8	8	10	8	9	9.4	12.0
Dir	328	322	314	316	320	322	321	324	328	320	327	328	327	328	330	332	331	337	346	342	354	336	336	331	328	316
Spd	3.1	2.7	2.2	2.9	2.9	3.7	3.7	4.0	3.3	3.2	3.2	3.1	2.3	2.2	1.3	1.1	1.4	2.2	2.0	2.5	3.5	4.0	3.6	3.4	Diurnal Average	
Dir	308	310	334	342	330	332	330	328	324	329	321	331	315	299	301	342	6	360	350	333	335	323	326	325	Diurnal Maximum	
Spd	38.3	45.4	42.0	36.7	41.1	33.4	36.8	44.4	37.7	34.1	35.8	36.0	43.2	40.5	45.5	34.5	22.1	22.9	21.9	21.0	22.8	33.9	31.2	21.8	Diurnal Maximum	
Dir	259	256	249	253	248	240	240	246	244	248	244	245	254	255	257	254	253	251	249	250	254	249	250	249		
Maximum Speed Value: 46 km/h on Nov 5 15:00																								Hours in Service: 720		
Maximum Daily Speed Average: 32.2 km/h on Nov 5																								Hours of Data: 720		
Maximum Diurnal Speed Average: 4.0 km/h at hour 22																								Hours of Missing Data: 0		
Minimum Speed Value: 0 km/h on Nov 27 19:00																								Percent Operational Time: 100.0		
Minimum Daily Speed Average: 0.3 km/h on Nov 16																										
Minimum Diurnal Speed Average: 1.1 km/h at hour 16																										
Monthly Average Velocity: 2.74 km/h 327.9 deg																										
Speed Percentiles: P ₁ = 0.4 P ₁₀ = 1.9 Q ₁ = 3.4 Median = 7.0 Q ₃ = 10.9 P ₉₀ = 15.3 P ₉₉ = 40.1																										
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	36	49	14	0	0	0	99																			
NorthEast	50	58	14	2	0	0	124																			
East	48	19	22	0	0	0	89																			
SouthEast	38	37	4	0	0	0	79																			
South	38	6	0	0	0	0	44																			
SouthWest	17	16	10	1	7	1	52																			
West	19	6	11	7	5	7	55																			
NorthWest	31	75	71	1	0	0	178																			
Total	277	266	146	11	12	8	720																			

Wind Rose

Wind Speed (WS) (km/h)
Beaverlodge - November 2012



Wind Speed Classes (km/h)



Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Beaverlodge - November 2012

Maximum Speed: 46 km/h on Nov 5 15:00																				Maximum Daily Speed Average: 32.5 km/h on Nov 5										Hours in Service: 720																			
Minimum Speed: 1 km/h on Nov 1 04:00																				Minimum Daily Speed Average: 3.6 km/h on Nov 1										Hours of Data: 720																			
Maximum Diurnal Speed Average: 9.8 km/h at hour 2																				Minimum Diurnal Speed Average: 7.6 km/h at hour 19										Hours of Missing Data: 0																			
Monthly Average Speed: 8.77 km/h																				Percentiles: P ₁ = 1.5 P ₁₀ = 2.8 Q ₁ = 4.2 Median = 7.4 Q ₃ = 11.1 P ₉₀ = 15.4 P ₉₉ = 40.2										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-Nov	3	2	2	1	2	3	4	4	6	5	3	6	6	4	3	3	4	4	4	3	2	4	6	5	3.6	6.0																							
2-Nov	4	5	5	4	4	5	8	8	9	9	7	7	8	9	10	12	9	10	9	11	13	9	8	7	8.0	13.4																							
3-Nov	4	4	6	3	6	4	6	5	8	7	5	5	2	3	6	6	2	5	10	15	6	14	19	18	7.1	18.8																							
4-Nov	8	4	4	5	3	5	4	4	4	4	4	3	6	8	9	15	18	17	12	9	5	5	5	14	7.3	18.1																							
5-Nov	38	45	42	37	41	33	37	44	38	34	36	36	43	41	46	35	22	23	22	21	18	15	15	17	32.5	45.6																							
6-Nov	8	7	7	4	4	6	4	8	4	3	4	4	2	1	2	4	5	7	8	9	6	7	7	3	5.2	9.2																							
7-Nov	6	5	9	12	14	15	18	19	14	8	11	15	17	20	19	16	15	15	11	11	10	11	11	10	13.0	19.7																							
8-Nov	7	8	9	9	11	8	10	6	7	11	6	9	12	11	9	9	7	5	6	7	9	11	13	11	8.8	12.5																							
9-Nov	7	12	14	14	12	14	14	12	9	11	10	10	9	7	9	9	8	9	8	2	2	1	1	3	8.7	14.2																							
10-Nov	2	1	3	5	5	8	7	6	4	8	7	5	5	6	6	9	12	10	6	4	3	3	2	3	5.5	11.7																							
11-Nov	3	2	3	3	5	4	3	3	4	5	11	14	14	15	15	23	15	17	8	5	5	4	4	3	7.7	23.2																							
12-Nov	3	3	3	3	3	2	3	3	3	3	3	4	3	4	2	3	4	3	1	3	7	12	15	18	4.6	18.2																							
13-Nov	19	16	10	10	10	8	7	8	3	3	4	3	2	2	4	4	3	2	3	2	2	3	5	5	5.8	19.5																							
14-Nov	6	4	5	11	15	18	17	13	11	11	5	2	3	7	7	7	4	3	5	13	23	34	31	22	11.5	34.0																							
15-Nov	35	35	20	10	8	13	9	10	15	7	6	11	8	17	10	15	11	12	10	11	10	4	3	3	12.2	35.4																							
16-Nov	5	3	5	4	5	3	2	3	2	5	3	2	2	3	2	2	3	2	5	6	6	5	6	6	3.8	6.3																							
17-Nov	6	10	6	16	17	16	16	15	15	16	17	17	16	16	12	12	13	14	15	13	15	17	16	12	14.1	17.2																							
18-Nov	8	5	5	5	5	7	7	8	5	4	8	8	8	10	9	8	8	11	10	11	11	12	7	8	8.0	12.2																							
19-Nov	13	12	9	8	7	9	12	10	11	12	11	11	10	11	11	11	13	14	13	14	18	17	16	12	11.8	17.6																							
20-Nov	14	17	16	16	14	15	16	15	15	13	13	11	12	11	9	8	6	6	8	9	10	8	10	9	11.8	16.9																							
21-Nov	8	8	5	3	5	5	6	6	6	6	6	8	5	2	3	8	7	3	3	4	3	3	3	6	5.1	8.2																							
22-Nov	9	10	9	6	5	6	3	3	2	2	5	4	2	3	4	3	5	3	5	4	3	6	9	7	5.0	9.8																							
23-Nov	6	8	6	6	7	6	11	4	7	4	9	13	5	6	8	5	6	6	5	6	9	12	11	5	7.1	13.1																							
24-Nov	12	11	13	12	13	13	15	14	14	13	13	12	8	7	5	3	3	5	7	8	11	9	9	10	10.0	14.8																							
25-Nov	10	7	5	4	3	3	3	3	6	9	4	2	4	3	2	2	7	10	7	11	11	10	9	5	5.9	11.1																							
26-Nov	6	12	12	5	3	13	11	5	10	11	9	9	7	6	5	3	3	3	3	2	4	1	2	4	6.3	12.6																							
27-Nov	3	4	2	4	2	2	3	4	3	3	4	4	2	3	4	5	3	3	3	8	14	16	10	15	5.2	16.2																							
28-Nov	13	16	17	14	14	11	18	18	16	12	14	13	11	9	7	10	11	9	8	7	10	8	6	6	11.6	17.7																							
29-Nov	6	5	5	8	6	4	4	4	5	3	3	7	5	4	5	8	7	7	10	10	9	10	11	11	6.5	10.8																							
30-Nov	10	12	10	12	11	11	10	10	9	8	9	9	11	11	11	10	9	8	6	8	8	10	8	9	9.5	12.0																							
																									9.4	9.8	8.9	8.5	8.7	9.0	9.6	9.3	8.9	8.4	8.3	8.9	8.3	8.7	8.5	8.9	8.2	8.2	7.6	8.2	8.8	9.3	9.2	8.9	Diurnal Average
																									38.4	45.4	42.2	36.8	41.2	33.5	36.9	44.4	37.7	34.2	35.9	36.3	43.3	40.6	45.6	34.6	22.2	23.0	22.0	21.1	22.8	34.0	31.3	22.0	Diurnal Maximum
All monthly, daily, and diurnal averages have been calculated using scalar methods																																																	

Hourly Standard Deviations

Wind Direction (WD) - deg
Beaverlodge - November 2012

Maximum Value: 94.7 deg on Nov 1 04:00																		Hours in Service: 720							
Minimum Value: 2.9 deg on Nov 9 16:00																		Hours of Data: 720							
																		Hours of Missing Data: 0							
Percentiles: P ₁ = 3.1 P ₁₀ = 5.0 Q ₁ = 7.2 Median = 13.3 Q ₃ = 34.2 P ₉₀ = 64.9 P ₉₉ = 89.5																		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-Nov	42	44	15	95	38	56	69	18	18	17	50	13	16	32	29	76	22	6	8	19	34	27	7	7	94.7
2-Nov	15	7	11	14	14	14	10	6	8	8	6	14	12	9	6	17	10	10	7	6	6	7	6	7	16.5
3-Nov	26	38	15	62	26	65	58	53	71	14	25	58	69	17	9	27	27	54	71	9	91	19	8	5	90.6
4-Nov	10	65	88	39	41	16	21	44	61	38	57	91	34	27	38	6	5	5	17	21	32	75	70	59	91.3
5-Nov	4	3	5	4	4	5	4	3	4	4	3	7	5	4	4	4	4	4	5	5	4	33	48	8	48.4
6-Nov	85	45	40	74	83	70	87	13	71	54	36	8	18	70	73	12	12	15	10	10	25	23	52	62	86.6
7-Nov	12	27	7	3	4	4	5	3	10	9	10	8	6	5	4	5	5	6	5	5	10	10	4	5	27.4
8-Nov	8	7	4	5	9	17	5	13	7	4	5	17	7	4	7	14	14	12	12	11	4	4	4	7	17.2
9-Nov	11	15	6	3	4	4	5	18	8	3	7	8	11	16	3	3	4	8	5	73	53	85	81	64	85.3
10-Nov	74	77	80	25	11	14	20	17	27	20	25	28	17	18	8	4	6	4	6	18	24	29	40	22	80.5
11-Nov	30	19	40	82	50	29	52	46	69	55	17	7	12	8	6	5	4	8	12	66	25	80	24	30	82.5
12-Nov	42	24	20	36	56	80	24	34	22	50	27	24	25	50	74	35	25	64	90	34	32	9	5	5	89.8
13-Nov	4	12	16	10	6	6	11	14	25	36	24	17	53	65	25	13	29	25	19	46	73	47	25	65	73.1
14-Nov	18	21	39	27	36	16	6	15	3	4	35	68	41	14	7	15	43	78	90	4	3	3	3	7	89.6
15-Nov	4	6	5	10	20	10	10	17	16	41	50	14	17	13	31	4	35	13	15	10	17	22	45	42	49.8
16-Nov	36	58	11	16	9	60	79	48	62	27	56	75	87	40	34	86	59	48	41	46	36	65	72	17	86.7
17-Nov	86	52	60	10	12	15	9	11	7	9	8	8	7	5	9	10	8	6	8	6	9	8	21	11	85.9
18-Nov	12	35	19	24	17	10	21	12	32	30	25	27	20	10	20	13	10	6	13	11	11	7	15	9	35.2
19-Nov	13	8	12	19	12	8	6	7	6	7	14	12	15	11	11	23	8	8	6	5	5	6	5	6	23.3
20-Nov	7	7	9	7	6	6	5	5	5	7	7	9	8	10	11	12	12	10	10	17	7	8	6	5	17.2
21-Nov	6	5	7	8	28	9	14	9	11	8	7	10	10	69	80	9	46	21	35	8	13	14	13	10	80.1
22-Nov	8	8	5	13	10	14	23	16	37	83	26	29	66	30	24	69	66	71	14	49	56	33	45	52	82.8
23-Nov	83	67	54	42	56	51	18	58	38	51	28	5	62	24	37	33	36	17	35	49	40	15	9	15	83.0
24-Nov	12	16	8	8	8	6	6	7	5	9	10	7	10	13	25	43	22	13	10	5	5	7	7	5	42.9
25-Nov	8	6	8	15	42	30	75	58	63	27	65	69	32	65	25	81	28	8	16	12	6	5	5	14	81.1
26-Nov	15	4	5	24	50	4	15	20	17	7	9	8	7	11	24	85	73	65	67	90	61	67	31	18	90.2
27-Nov	86	81	74	20	43	73	53	25	16	24	28	19	62	51	40	12	39	68	90	22	9	13	12	6	90.3
28-Nov	14	7	7	10	8	8	3	3	5	7	8	7	15	11	12	13	6	9	12	10	7	16	22	12	21.6
29-Nov	13	15	17	5	9	13	8	7	10	35	91	10	23	55	54	6	8	13	6	3	12	6	5	6	90.9
30-Nov	6	6	6	5	6	6	7	8	8	7	7	8	7	8	8	10	6	8	10	9	8	6	6	5	10.4
	86.4	80.6	87.6	94.7	83.1	79.8	86.6	57.8	71.3	82.8	90.9	91.3	86.7	70.2	80.1	85.8	73.4	78.0	90.3	90.2	90.6	85.3	81.5	64.9	

PAZA
Valleyview Station
Monthly Summary Tables, Graphs and
Roses

Hourly Averages

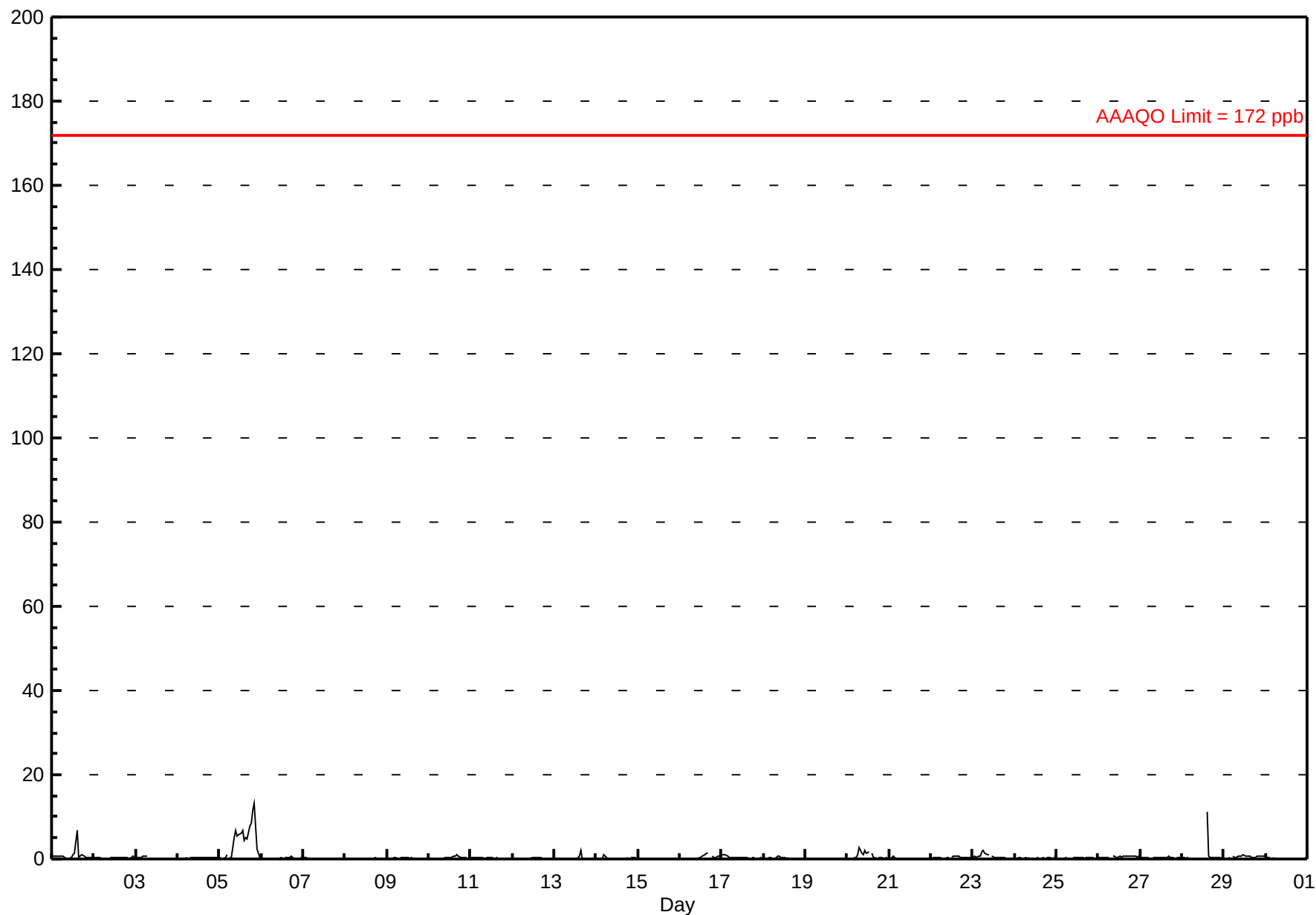
Sulphur Dioxide (SO₂) - ppb

Valleyview - November 2012

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																				Hours in Service: 720						
Maximum Value: 13.2 ppb on Nov 5 21:00																				Maximum Daily Average: 4.2 ppb on Nov 5		Hours of Data: 683				
Minimum Value: 0 ppb on Nov 3 13:00																				Minimum Daily Average: 0.0 ppb on Nov 19		Hours of Missing Data: 37				
Maximum Diurnal Average: 1.1 ppb at hour 15																				Minimum Diurnal Average: 0.2 ppb at hour 24		Hours of Calibration: 34				
Monthly Average: 0.42 ppb																				Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 0.2 Q ₃ = 0.4 P ₉₀ = 0.6 P ₉₉ = 6.9		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-Nov	1	1	1	1	1	1	1	0	0	A	0	0	1	1	7	0	1	1	1	0	0	0	0	0	0.9	6.9
2-Nov	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0.2	0.6
3-Nov	0	0	0	0	1	1	1	A	1	C	C	C	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.7
4-Nov	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.5
5-Nov	0	0	0	0	1	A	0	0	5	7	5	6	6	7	4	5	5	8	8	12	13	2	1	0	4.2	13.2
6-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0.2	0.8
7-Nov	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
8-Nov	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
9-Nov	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
10-Nov	A	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	0	0	0	0	0	A	0.3	0.9
11-Nov	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	0.5
12-Nov	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
13-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	A	0	0	0	0.1	1.9
14-Nov	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.1	0.9
15-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0.1	0.1
16-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	A	1	0	0	0	1	1	0.4	1.4
17-Nov	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0.3	1.0
18-Nov	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.2	0.6
19-Nov	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
20-Nov	0	0	0	0	0	0	1	3	1	1	2	1	2	A	1	0	0	0	0	0	0	0	0	0	0.7	2.8
21-Nov	0	0	1	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.6
22-Nov	0	0	0	0	0	0	0	0	0	0	A	0	1	1	1	1	0	0	0	0	0	0	0	0	0.3	0.8
23-Nov	0	1	0	1	1	2	2	1	1	1	A	1	1	0	0	0	0	0	0	0	0	0	0	0	0.6	1.9
24-Nov	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.5
25-Nov	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3
26-Nov	0	0	0	0	0	0	0	A	1	1	0	0	1	0	1	1	1	1	1	1	1	1	0	1	0.5	0.8
27-Nov	1	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0.3	0.5
28-Nov	0	0	0	0	0	A	0	0	0	0	0	D	D	D	11	1	0	0	0	0	0	0	0	0	0.7	11.0
29-Nov	0	0	0	1	A	1	0	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	1	0.5	0.8
30-Nov	1	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
																								Diurnal Average		
																								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 (SO₂) - ppb
Valleyview - November 2012



Hourly Maximums

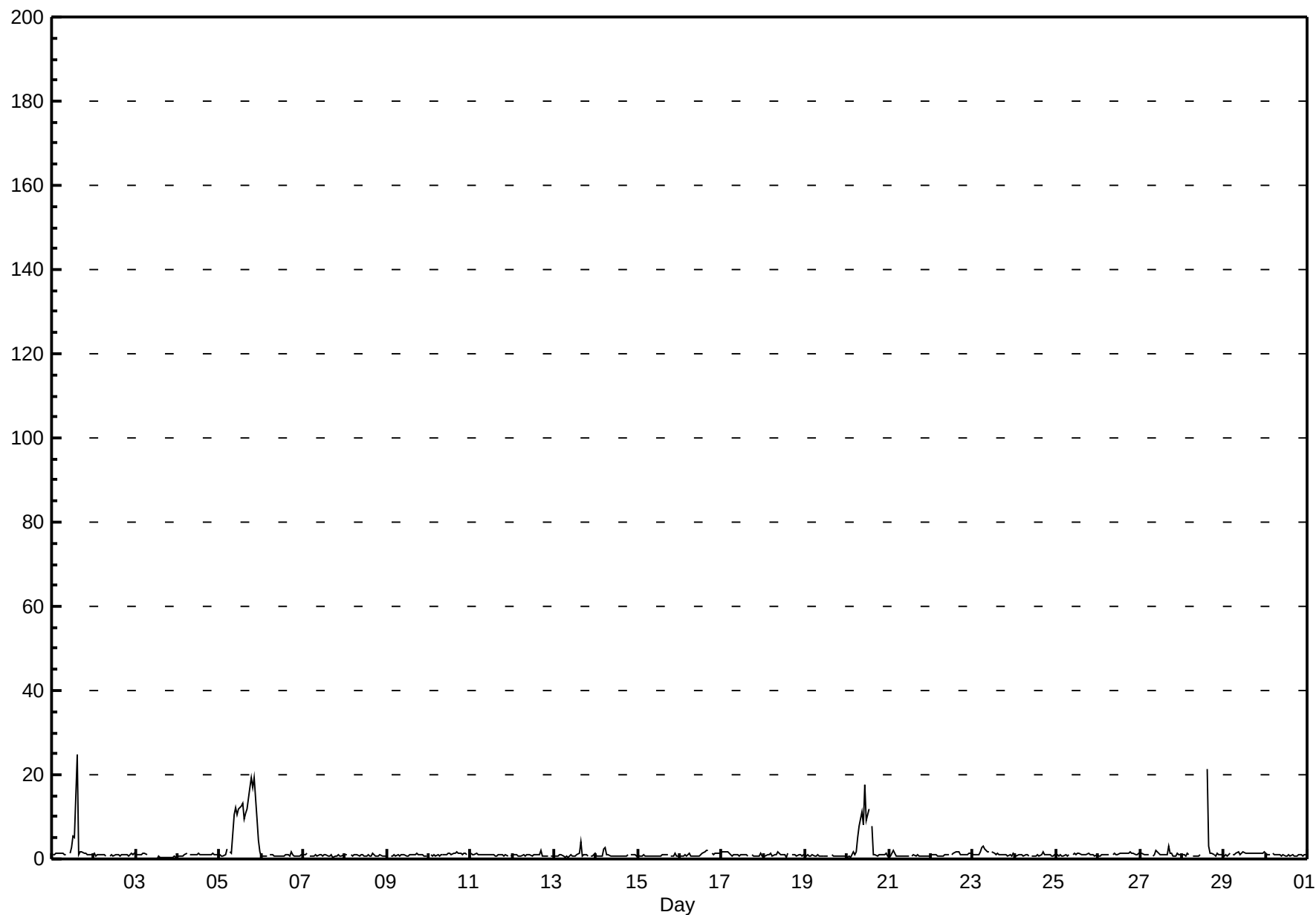
Sulphur Dioxide (SO₂) - ppb

Valleyview - November 2012

Maximum Value: 24.7 ppb on Nov 1 15:00																			Maximum Daily Average: 8.7 ppb on Nov 5										Hours in Service: 720	
Minimum Value: 0 ppb on Nov 3 13:00																			Minimum Daily Average: 0.7 ppb on Nov 3										Hours of Data: 683	
Maximum Diurnal Average: 3.1 ppb at hour 15																			Minimum Diurnal Average: 0.9 ppb at hour 2										Hours of Missing Data: 37	
Monthly Average: 1.43 ppb																			Percentiles: P ₁ = 0.4 P ₁₀ = 0.6 Q ₁ = 0.8 Median = 0.9 Q ₃ = 1.2 P ₉₀ = 1.5 P ₉₉ = 16.9										Hours of Calibration: 34	
																													Percent Operational Time: 99.6	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24						
1-Nov	1	1	1	1	1	1	2	1	1	A	1	3	5	5	25	1	2	2	1	1	1	1	1	1	2.7	24.7				
2-Nov	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.4				
3-Nov	1	1	1	1	1	1	1	A	1	C	C	C	0	1	0	0	0	0	0	0	0	0	1	0	0.7	1.4				
4-Nov	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.4				
5-Nov	1	1	1	1	3	A	2	1	10	12	11	12	13	13	10	11	12	17	19	17	19	9	4	2	8.7	19.3				
6-Nov	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	0.9	1.8				
7-Nov	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	0.8	1.2				
8-Nov	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.3				
9-Nov	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.3				
10-Nov	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	A	1.1	1.6				
11-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	0.9	1.3				
12-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	A	1	1	0.9	2.1				
13-Nov	1	1	1	1	1	1	0	1	0	1	1	1	1	1	1	4	1	1	1	1	A	1	1	1	0.9	3.9				
14-Nov	1	1	1	1	2	3	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1.0	2.9				
15-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	0.8	1.2				
16-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	A	1	1	1	1	1	1	1.1	2.1				
17-Nov	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1.1	1.8				
18-Nov	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	A	1	1	1	1	1	1	1	1	0.9	1.5				
19-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	0.8	1.1				
20-Nov	1	1	0	2	1	2	5	8	11	8	18	9	12	A	8	1	1	1	1	1	1	1	1	1	4.1	17.8				
21-Nov	1	1	2	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	0.8	2.0				
22-Nov	1	1	1	1	1	1	1	1	1	1	1	A	1	1	2	2	2	1	1	1	1	1	1	1	1.2	1.7				
23-Nov	1	1	1	1	2	3	3	2	2	2	A	2	2	1	1	1	1	1	1	1	1	1	1	1	1.4	2.9				
24-Nov	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	2	1	1	1	1	1	1	1	0.9	1.5				
25-Nov	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.3				
26-Nov	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1.2	1.7				
27-Nov	1	1	1	1	1	1	A	1	1	2	2	1	1	1	1	1	3	1	1	1	1	1	1	1	1.2	3.1				
28-Nov	1	1	1	1	1	A	1	1	1	1	1	D	D	D	21	3	1	1	1	1	1	1	1	1	2.1	21.2				
29-Nov	1	1	1	1	A	1	1	1	2	1	1	2	1	1	1	1	1	1	1	1	1	1	2	1	1.3	1.6				
30-Nov	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.4				
1.0		0.9	1.0	1.0	1.1	1.1	1.1	1.2	1.6	1.6	1.9	1.7	1.9	1.6	3.1	1.5	1.6	1.6	1.6	1.6	1.4	1.6	1.2	1.0	1.0	Diurnal Average				
1.8		1.8	2.0	1.8	2.5	2.9	5.0	7.9	11.1	12.2	17.8	11.7	12.5	13.3	24.7	10.9	11.7	17.1	19.3	16.9	19.2	9.5	4.3	1.6	Diurnal Maximum					
C - Calibration				D - DAS Failure				A - Automated Daily Zero Span																						

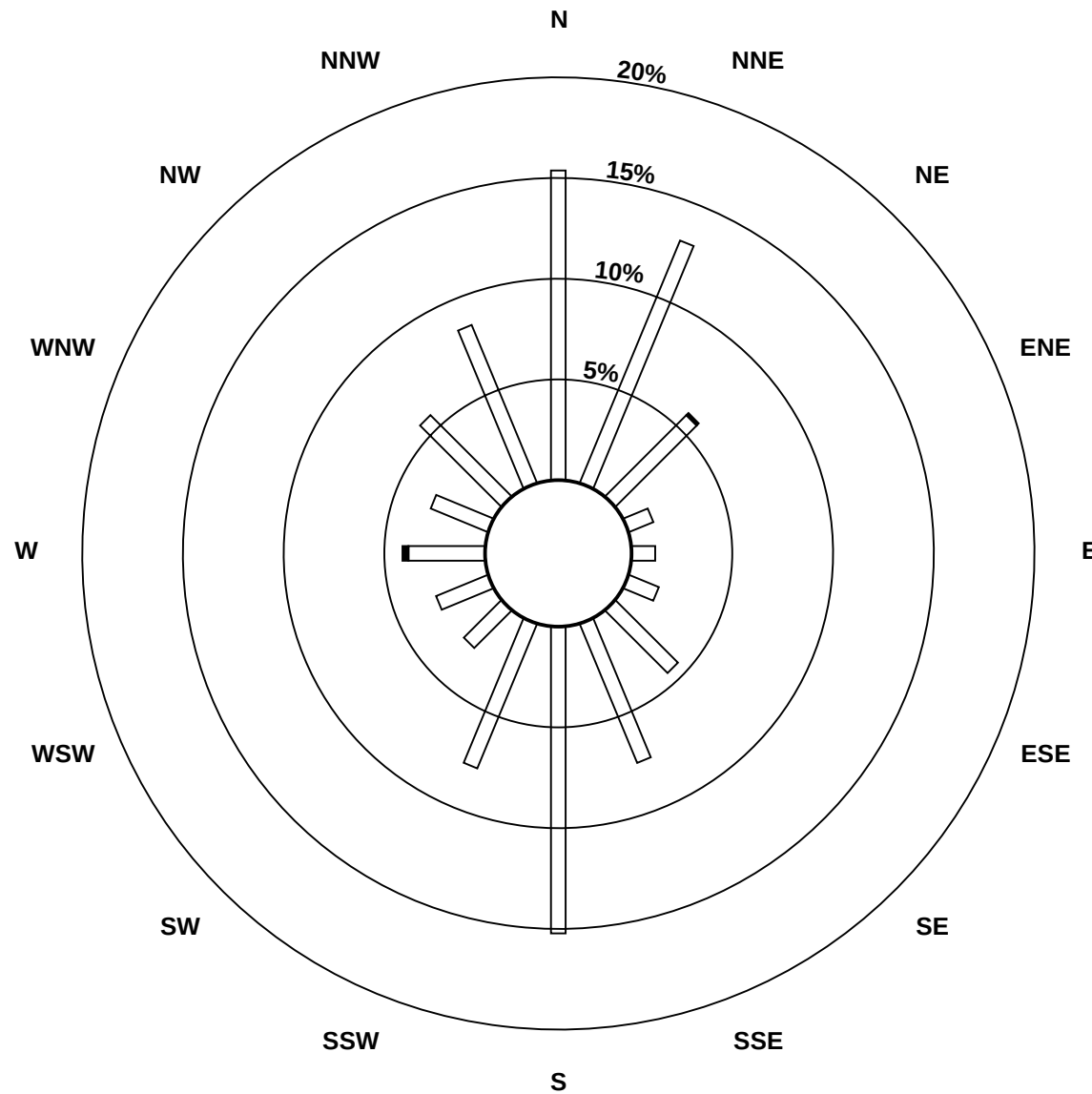
Hourly Maximums

Sulphur Dioxide (SO₂) - ppb
Valleyview - November 2012

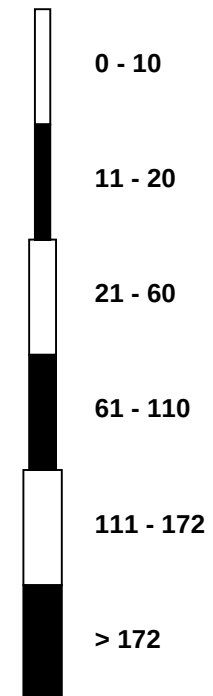


Pollutant Rose

Sulphur Dioxide (SO₂) - ppb
Valleyview - November 2012

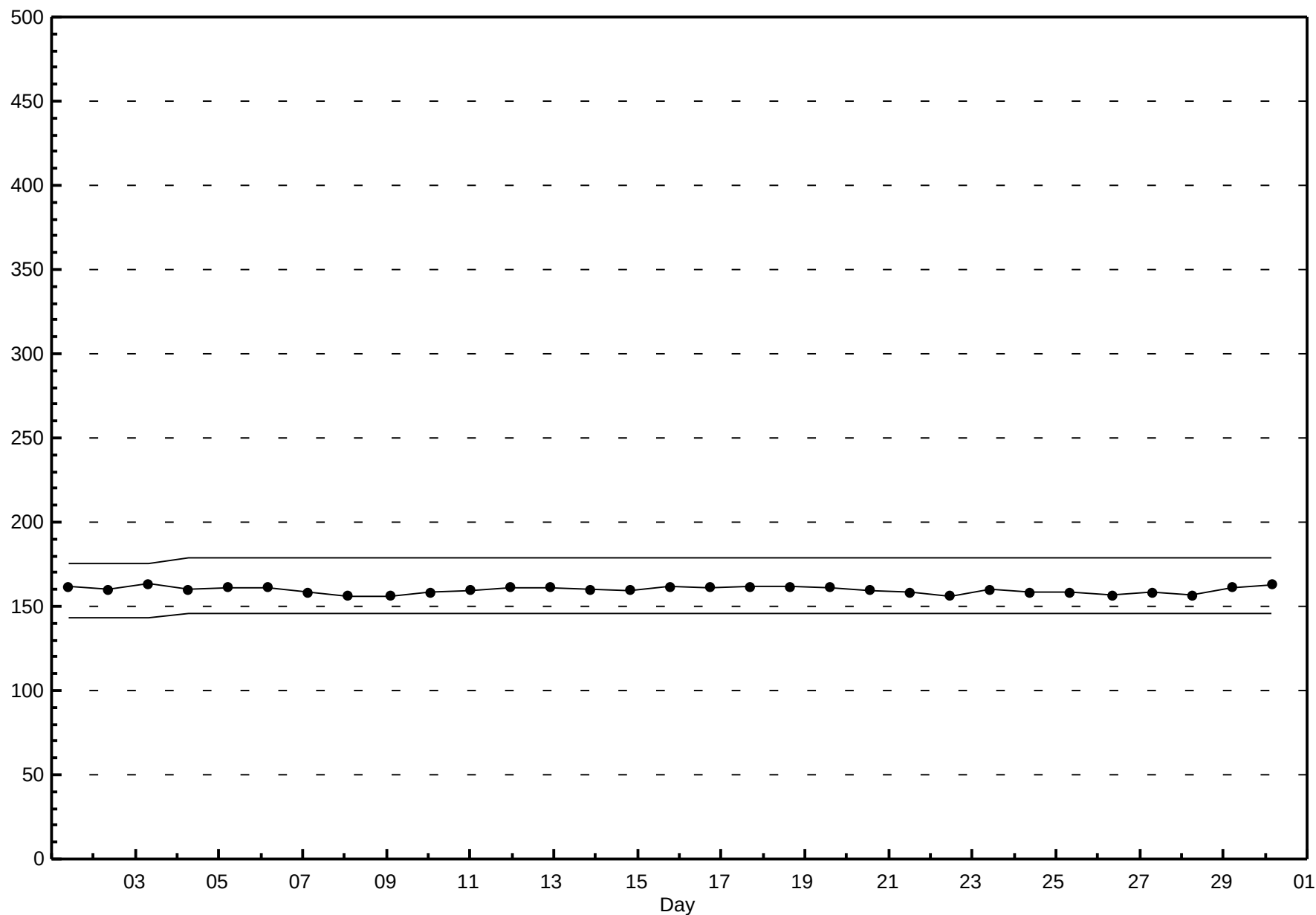


Pollutant Classes (ppb)



Span Responses

Sulphur Dioxide (SO₂)
Valleyview - November 2012



Hourly Averages

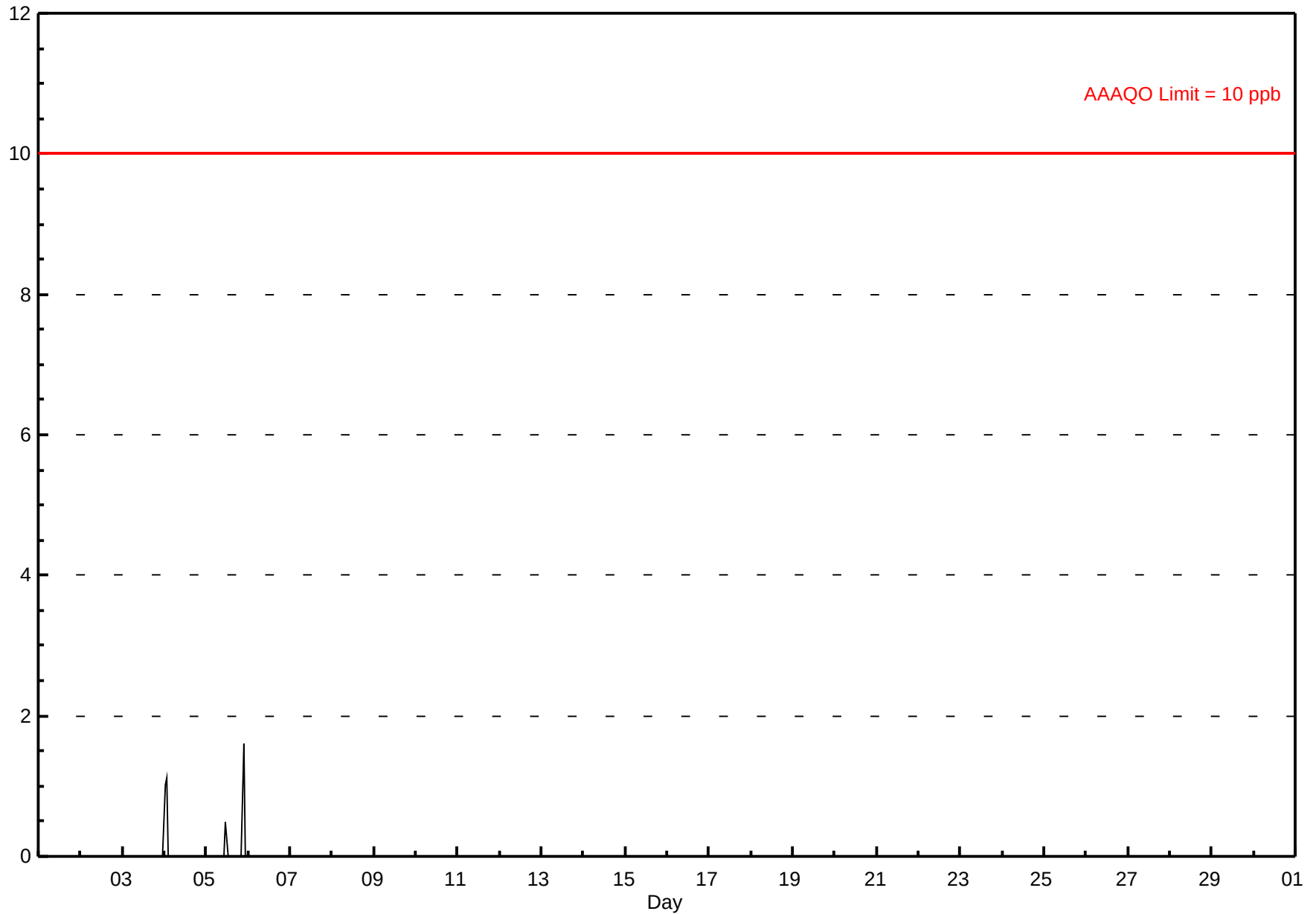
Hydrogen Sulphide (H₂S) - ppb

Valleyview - November 2012

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 1.6 ppb on Nov 5 22:00 Maximum Daily Average: 0.1 ppb on Nov 4																			Hours in Service: 720 Hours of Data: 683 Hours of Missing Data: 37 Hours of Calibration: 34 Percent Operational Time: 99.6							
Minimum Value: 0 ppb on Nov 1 01:00 Maximum Diurnal Average: 0.1 ppb at hour 22 Monthly Average: 0.01 ppb																			Minimum Daily Average: 0.0 ppb on Nov 1 Minimum Diurnal Average: 0.0 ppb at hour 3 Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 0.0 P ₉₀ = 0.0 P ₉₉ = 0.0							
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-Nov	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-Nov	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
3-Nov	0	0	0	0	0	0	0	C	C	C	C	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
4-Nov	1	1	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	1.1
5-Nov	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0.1	1.6
6-Nov	0	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
7-Nov	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
8-Nov	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
9-Nov	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
10-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0.0	0.0
11-Nov	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
12-Nov	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
13-Nov	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
14-Nov	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
15-Nov	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
16-Nov	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
17-Nov	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
18-Nov	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
19-Nov	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
20-Nov	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
21-Nov	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
22-Nov	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
23-Nov	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
24-Nov	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
25-Nov	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
26-Nov	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
27-Nov	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
28-Nov	0	0	0	0	0	A	0	0	0	0	0	D	D	D	0	0	0	0	0	0	0	0	0	0	0.0	0.0
29-Nov	0	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
30-Nov	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 0.1 0.0 0.0																									Diurnal Average	
1.0 1.1 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.5 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 1.6 0.0 0.0																									Diurnal Maximum	
C - Calibration D - DAS Failure A - Automated Daily Zero Span																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb																										

Hourly Averages

Hydrogen Sulphide (H₂S) - ppb
Valleyview - November 2012



Hourly Maximums

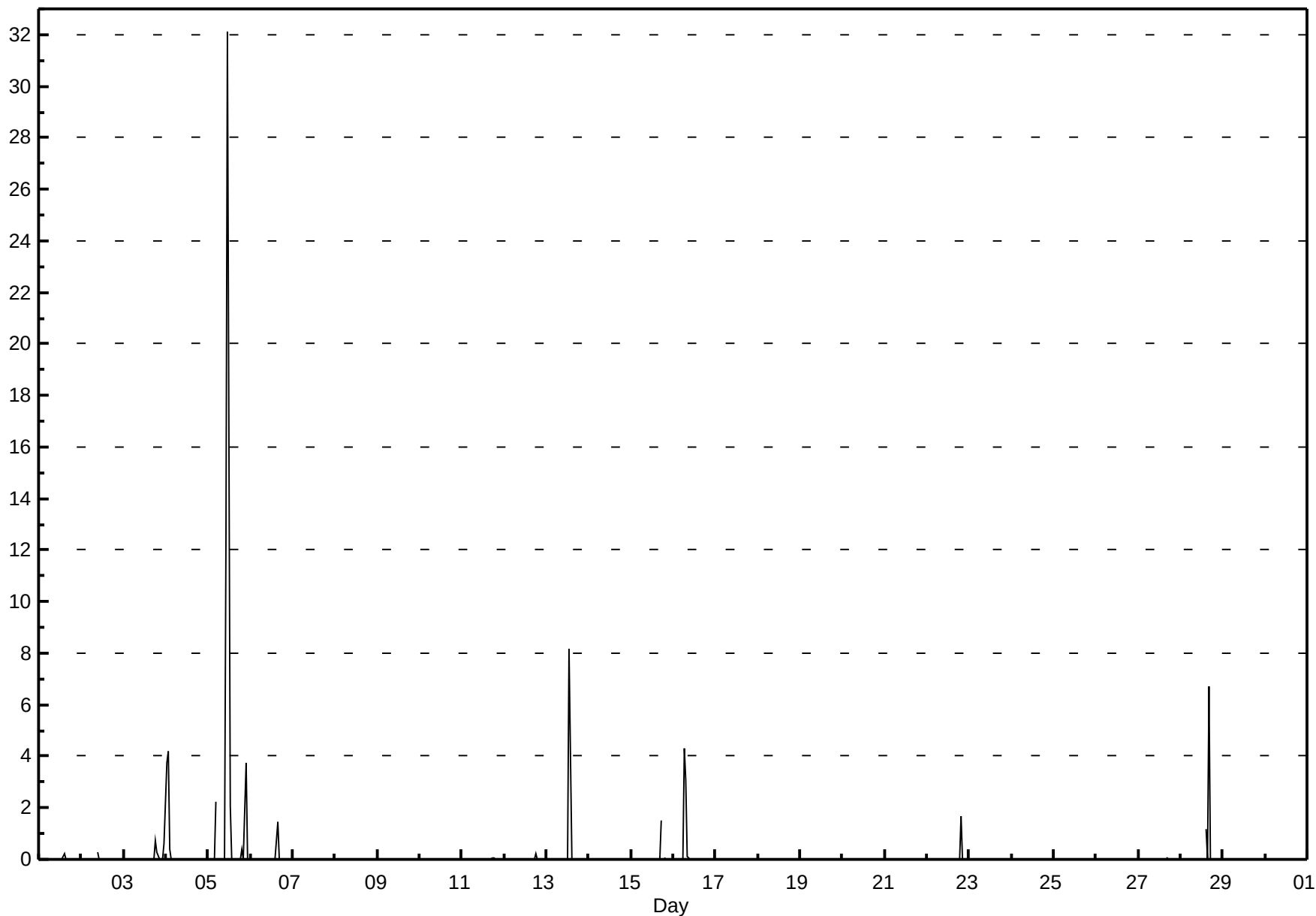
Hydrogen Sulphide (H₂S) - ppb

Valleyview - November 2012

Maximum Value: 32.1 ppb on Nov 5 12:00																				Maximum Daily Average: 2.3 ppb on Nov 5					Hours in Service: 720	
Minimum Value: 0 ppb on Nov 1 01:00																				Minimum Daily Average: 0.0 ppb on Nov 7					Hours of Data: 683	
Maximum Diurnal Average: 1.1 ppb at hour 12																				Minimum Diurnal Average: 0.0 ppb at hour 4					Hours of Missing Data: 37	
Monthly Average: 0.14 ppb																				Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 0.0 P ₉₀ = 0.0 P ₉₉ = 3.6					Hours of Calibration: 34	
																				Percent Operational Time: 99.6						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Nov	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
2-Nov	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.3
3-Nov	0	0	0	0	0	0	0	C	C	C	C	0	0	0	0	0	0	0	1	0	0	0	0	1	0.1	0.8
4-Nov	4	4	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	4.2
5-Nov	0	0	0	0	2	A	0	0	0	0	12	32	2	0	0	0	0	0	0	0	0	0	4	0	2.3	32.1
6-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0.1	1.5
7-Nov	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
8-Nov	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
9-Nov	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
10-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0.0	0.0
11-Nov	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
12-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.0	0.2
13-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	0	0	0	0	A	0	0	0	0.4	8.2
14-Nov	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
15-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	A	0	0	0	0	0	0.1	1.5
16-Nov	0	0	0	0	0	0	4	3	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0.3	4.3
17-Nov	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
18-Nov	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
19-Nov	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
20-Nov	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
21-Nov	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
22-Nov	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	2	0	0	0	0	0.1	1.7
23-Nov	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
24-Nov	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
25-Nov	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
26-Nov	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
27-Nov	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
28-Nov	0	0	0	0	0	A	0	0	0	0	0	D	D	D	1	0	7	0	0	0	0	0	0	0	0.4	6.7
29-Nov	0	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
30-Nov	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
0.1 0.1 0.0 0.0 0.1 0.0 0.2 0.1 0.0 0.0 0.4 1.1 0.1 0.3 0.0 0.1 0.2 0.1 0.0 0.1 0.0 0.1 0.0 0.0																									Diurnal Average	
3.8 4.2 0.4 0.0 2.2 0.0 4.3 3.1 0.1 0.3 12.4 32.1 2.1 8.2 1.2 1.5 6.7 1.5 0.8 1.7 0.0 3.8 0.0 0.6																									Diurnal Maximum	
C - Calibration D - DAS Failure A - Automated Daily Zero Span																										

Hourly Maximums

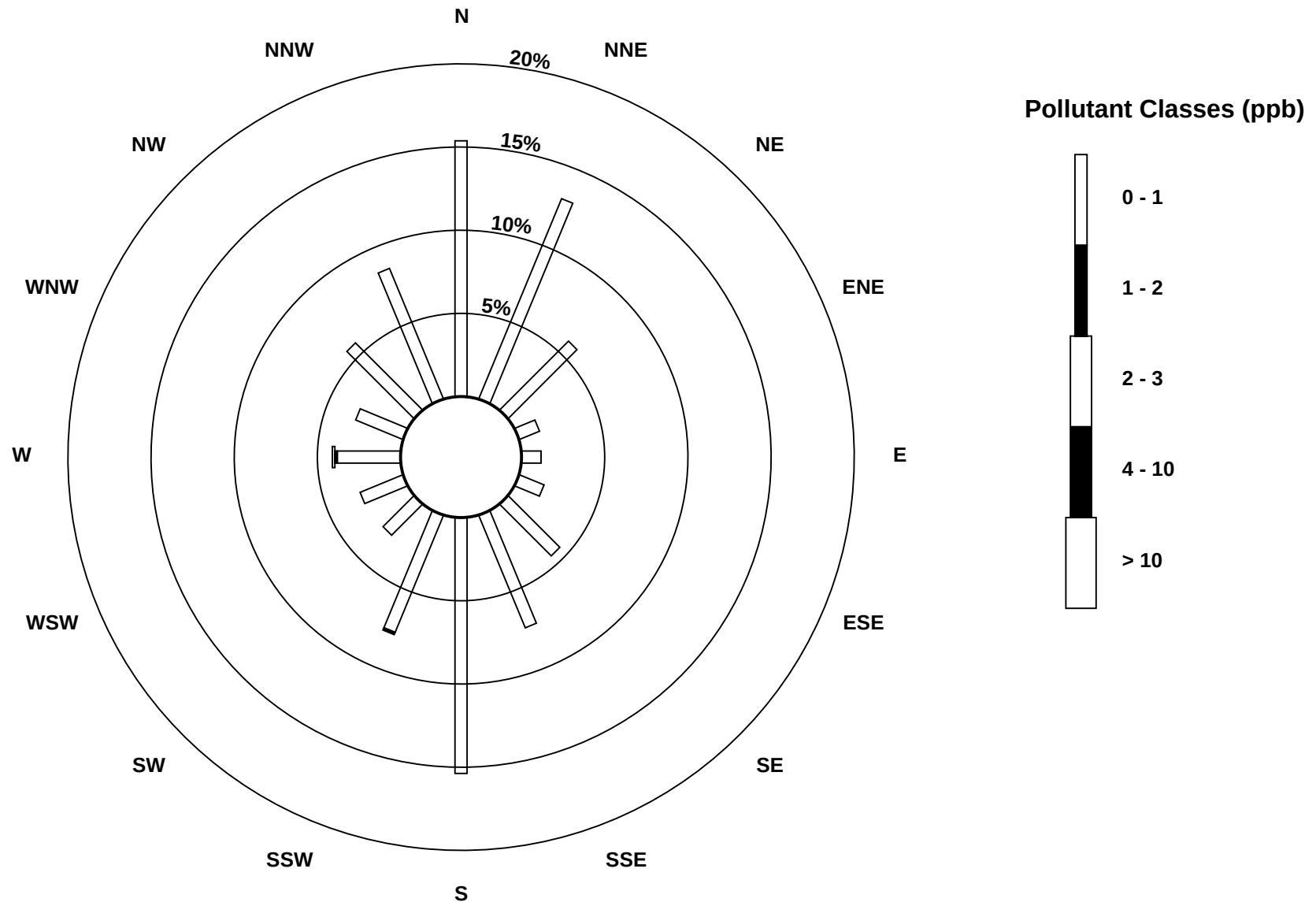
Hydrogen Sulphide (H₂S) - ppb
Valleyview - November 2012



Pollutant Rose

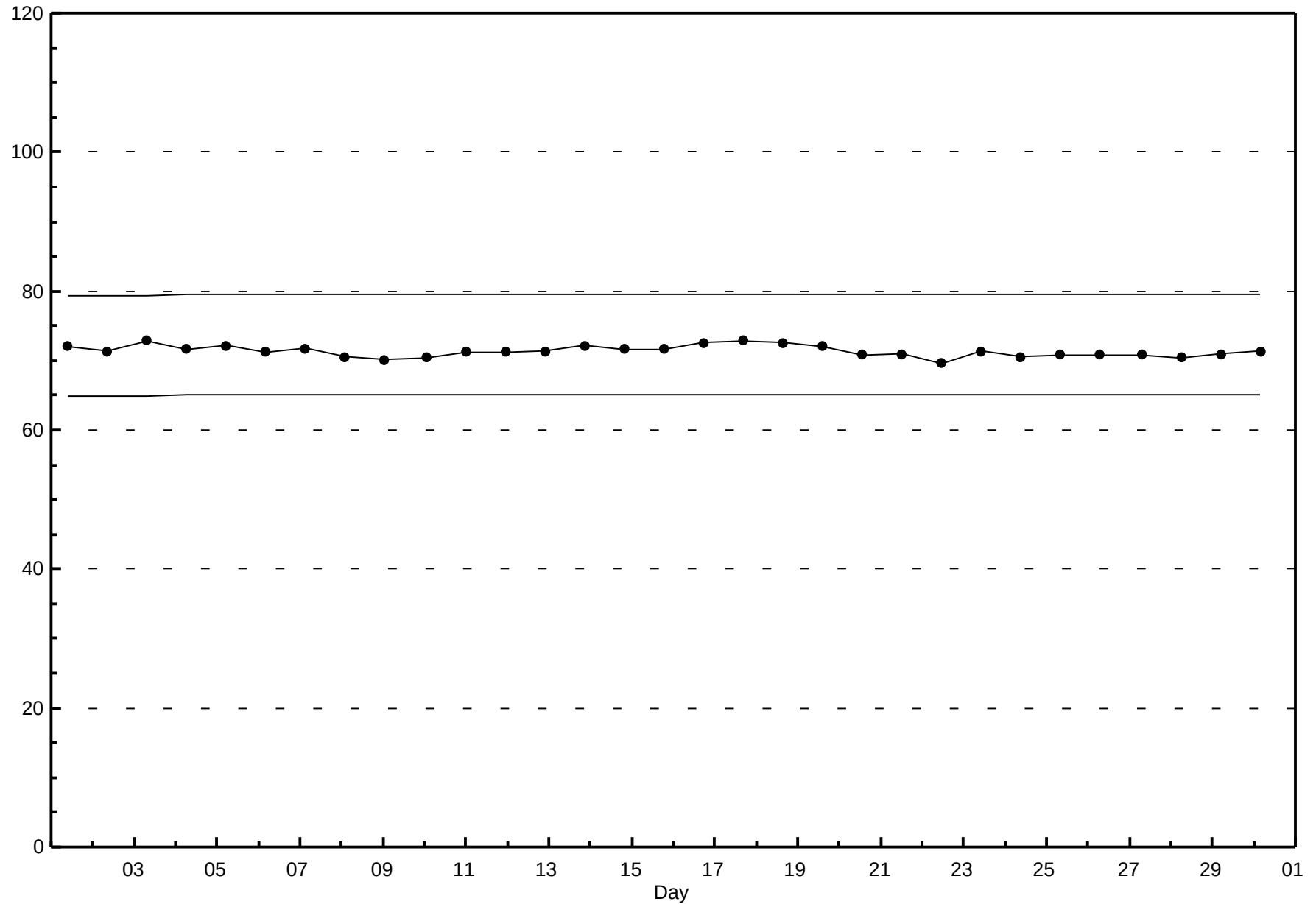
Hydrogen Sulphide (H₂S) - ppb

Valleyview - November 2012



Span Responses

Hydrogen Sulphide (H_2S)
Valleyview - November 2012



Hourly Averages

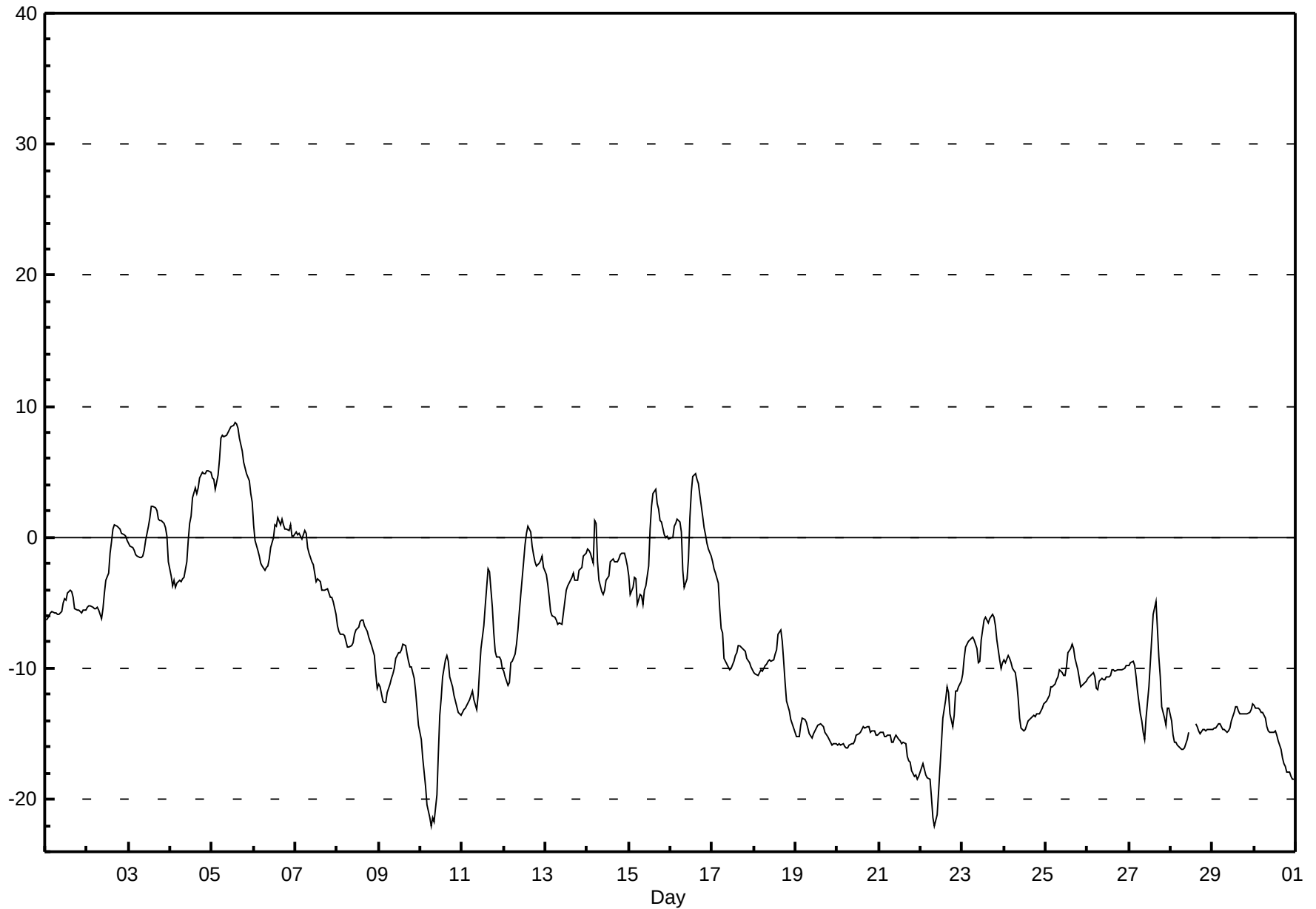
External Temperature (ET) - °C

Valleyview - November 2012

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 8.7 °C on Nov 5 14:00 Maximum Daily Average: 6.4 °C on Nov 5																				Hours in Service: 720 Hours of Data: 717 Hours of Missing Data: 3 Hours of Calibration: 0 Percent Operational Time: 99.6						
Minimum Value: -22 °C on Nov 22 09:00 Maximum Diurnal Average: -5.8 °C at hour 16 Monthly Average: -7.78 °C																				Minimum Daily Average: -16.1 °C on Nov 21 Minimum Diurnal Average: -9.4 °C at hour 9 Percentiles: P ₁ = -20.6 P ₁₀ = -15.4 Q ₁ = -13.4 Median = -8.9 Q ₃ = -2.5 P ₉₀ = 0.9 P ₉₉ = 7.8						
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-Nov	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-5	-5	-5	-4	-4	-4	-5	-5	-6	-6	-6	-6	-6	-6	-5.4	-4.1
2-Nov	-5	-5	-5	-5	-5	-5	-5	-6	-6	-5	-4	-3	-3	-1	0	1	1	1	1	1	0	0	0	0	-2.6	1.0
3-Nov	0	-1	-1	-1	-1	-1	-2	-2	-1	-1	0	1	2	2	2	2	2	1	1	1	1	1	0	-2	0.2	2.4
4-Nov	-3	-4	-3	-4	-3	-3	-3	-3	-3	-2	0	1	2	3	4	3	4	5	5	5	5	5	5	5	0.8	5.1
5-Nov	5	4	4	5	6	8	8	8	8	8	8	8	9	9	9	8	8	7	6	5	5	4	3	3	6.4	8.7
6-Nov	1	0	-1	-1	-2	-2	-3	-2	-2	-2	-1	0	1	1	2	1	1	1	1	1	1	1	0	0	-0.2	1.5
7-Nov	0	0	0	0	0	1	0	-1	-1	-2	-2	-3	-3	-3	-3	-4	-4	-4	-4	-4	-5	-5	-5	-6	-2.4	0.5
8-Nov	-7	-7	-7	-7	-7	-8	-8	-8	-8	-8	-7	-7	-7	-6	-6	-6	-7	-7	-8	-8	-8	-9	-10	-12	-7.8	-6.3
9-Nov	-11	-11	-12	-13	-13	-12	-11	-11	-10	-10	-9	-9	-9	-9	-8	-8	-9	-9	-10	-10	-11	-12	-13	-14	-10.6	-8.1
10-Nov	-15	-17	-18	-19	-20	-21	-22	-21	-22	-20	-17	-14	-12	-11	-9	-9	-9	-11	-11	-12	-13	-13	-13	-14	-15.1	-9.1
11-Nov	-13	-13	-13	-13	-12	-12	-12	-12	-13	-12	-10	-8	-7	-5	-4	-2	-3	-5	-7	-9	-9	-9	-9	-10	-9.3	-2.4
12-Nov	-10	-11	-11	-11	-10	-9	-9	-8	-7	-6	-4	-2	-1	0	1	0	-1	-1	-2	-2	-2	-2	-1	-2	-4.6	0.9
13-Nov	-3	-4	-5	-6	-6	-6	-6	-7	-7	-7	-6	-5	-4	-4	-3	-3	-3	-3	-3	-2	-2	-2	-1	-1	-4.1	-1.2
14-Nov	-1	-1	-1	-2	1	1	-2	-3	-4	-4	-4	-3	-3	-2	-2	-2	-2	-2	-2	-1	-1	-1	-2	-2	-1.9	1.3
15-Nov	-3	-4	-4	-3	-3	-5	-4	-4	-5	-4	-4	-2	1	2	3	4	3	2	1	1	0	0	0	0	-1.2	3.7
16-Nov	0	0	1	1	1	1	0	-3	-4	-3	-2	1	3	5	5	4	4	3	2	1	0	0	-1	-1	0.8	4.8
17-Nov	-2	-2	-3	-3	-5	-7	-7	-9	-10	-10	-10	-10	-9	-9	-9	-8	-8	-8	-9	-9	-9	-10	-10	-10	-7.8	-1.9
18-Nov	-10	-10	-11	-10	-10	-10	-10	-10	-9	-9	-9	-9	-9	-9	-7	-7	-8	-9	-11	-12	-13	-14	-14	-15	-10.3	-7.1
19-Nov	-15	-15	-15	-14	-14	-14	-14	-15	-15	-15	-15	-15	-15	-14	-14	-14	-14	-15	-15	-15	-16	-16	-16	-16	-14.9	-13.8
20-Nov	-16	-16	-16	-16	-16	-16	-16	-16	-16	-16	-16	-15	-15	-15	-15	-14	-15	-15	-15	-15	-15	-15	-15	-15	-15.3	-14.5
21-Nov	-15	-15	-15	-15	-15	-15	-15	-16	-16	-15	-15	-15	-15	-16	-16	-16	-17	-17	-17	-18	-18	-18	-18	-18	-16.1	-14.9
22-Nov	-18	-17	-18	-18	-18	-19	-20	-21	-22	-21	-19	-18	-16	-14	-12	-11	-12	-14	-14	-14	-12	-12	-11	-11	-15.9	-11.0
23-Nov	-10	-9	-8	-8	-8	-8	-8	-8	-9	-10	-9	-8	-6	-6	-6	-7	-6	-6	-6	-7	-8	-9	-10	-10	-7.9	-5.8
24-Nov	-9	-10	-9	-9	-10	-10	-10	-11	-12	-14	-15	-15	-15	-14	-14	-14	-14	-14	-14	-14	-13	-13	-13	-13	-12.4	-9.0
25-Nov	-12	-12	-12	-11	-11	-11	-11	-11	-10	-10	-11	-11	-10	-9	-9	-8	-8	-9	-10	-11	-11	-11	-11	-11	-10.5	-8.2
26-Nov	-11	-11	-11	-10	-11	-12	-12	-11	-11	-11	-11	-11	-11	-11	-10	-10	-10	-10	-10	-10	-10	-10	-10	-10	-10.5	-9.8
27-Nov	-10	-10	-10	-10	-11	-12	-13	-14	-15	-15	-14	-11	-10	-8	-6	-5	-7	-9	-11	-13	-14	-14	-13	-13	-11.1	-5.0
28-Nov	-14	-15	-16	-16	-16	-16	-16	-16	-16	-15	-15	D	D	D	-14	-14	-15	-15	-15	-15	-15	-15	-15	-15	-15.1	-14.0
29-Nov	-15	-15	-15	-14	-14	-14	-15	-15	-15	-15	-15	-14	-13	-13	-13	-13	-13	-14	-14	-13	-13	-14	-13	-13	-13.9	-12.8
30-Nov	-13	-13	-13	-13	-13	-13	-14	-14	-15	-15	-15	-15	-15	-15	-16	-16	-17	-17	-18	-18	-18	-18	-18	-18	-15.4	-12.8
																									Diurnal Average	
																									Diurnal Maximum	
D - DAS Failure																										

Hourly Averages

External Temperature (ET) - °C
Valleyview - November 2012



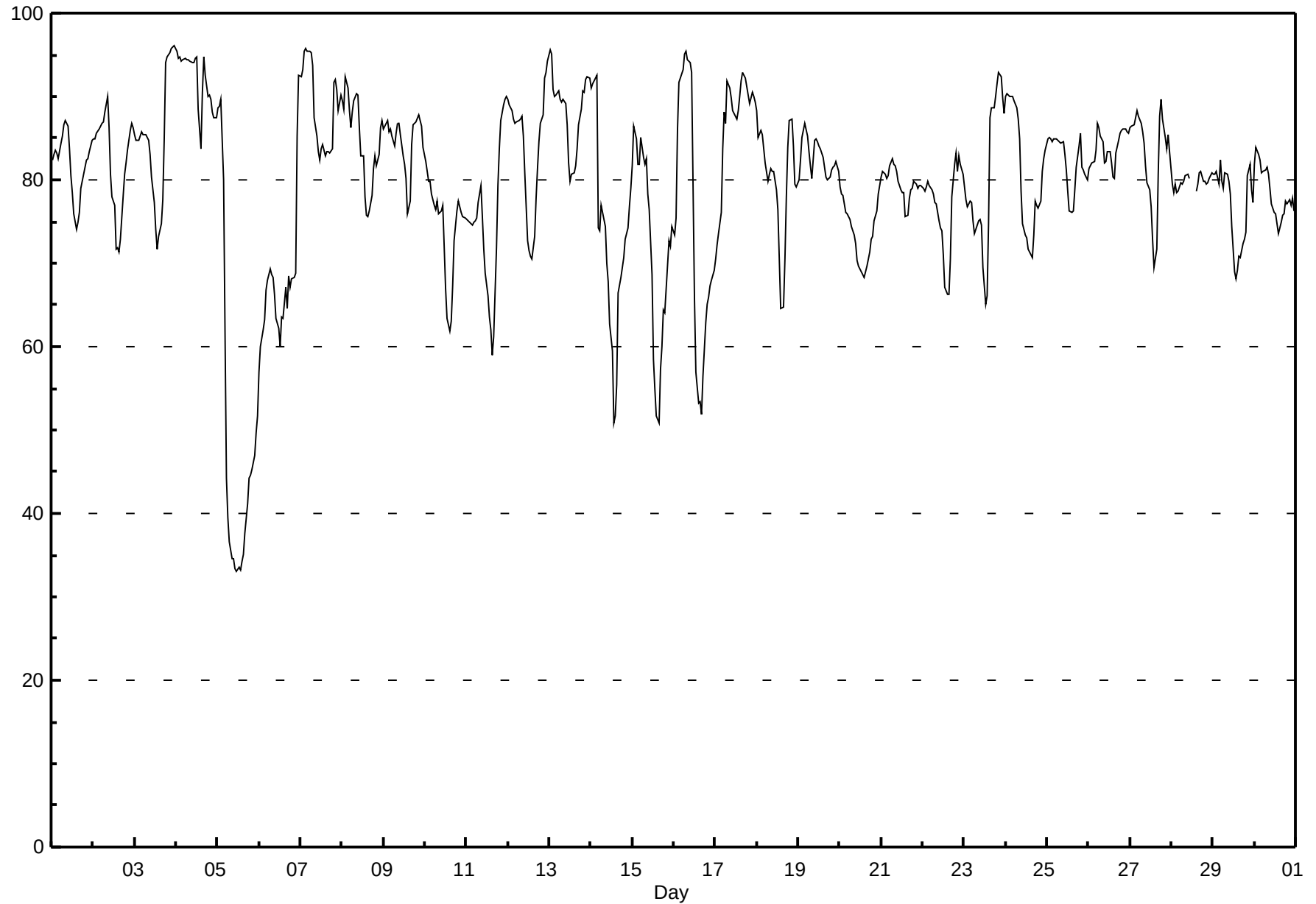
Hourly Averages

Relative Humidity (RH) - %
Valleyview - November 2012

Number of Exceedences (AAAQO): Maximum Value: 96.2 % on Nov 4 00:00																				1-hr: 0 24-hr: 0 Maximum Daily Average: 92.1 % on Nov 4				Hours in Service: 720 Hours of Data: 717 Hours of Missing Data: 3 Hours of Calibration: 0 Percent Operational Time: 99.6			
Minimum Value: 33 % on Nov 5 12:00 Maximum Diurnal Average: 83.9 % at hour 3 Monthly Average: 79.34 %																				Minimum Daily Average: 48.4 % on Nov 5 Minimum Diurnal Average: 70.3 % at hour 15 Percentiles: P ₁ = 34.6 P ₁₀ = 67.1 Q ₁ = 75.3 Median = 80.9 Q ₃ = 86.3 P ₉₀ = 90.3 P ₉₉ = 95.5							
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-Nov	82	83	84	83	82	84	85	87	87	86	84	81	79	76	74	75	76	79	81	82	82	83	83	85	81.8	87.2	
2-Nov	85	85	86	86	86	87	87	88	90	86	81	78	77	72	72	71	73	78	81	82	84	86	87	86	82.2	90.0	
3-Nov	85	85	85	85	86	85	86	85	85	83	80	77	74	72	73	75	78	85	94	95	95	96	96	96	84.8	96.2	
4-Nov	95	95	95	94	94	95	94	94	94	94	94	95	95	88	84	91	95	93	90	90	90	88	87	87	92.1	95.4	
5-Nov	89	89	90	80	62	44	39	37	35	35	33	33	34	33	34	35	38	41	44	45	45	47	50	52	48.4	89.6	
6-Nov	57	60	62	63	67	68	69	69	68	66	63	62	60	64	63	67	65	69	67	68	68	69	85	93	67.2	92.5	
7-Nov	92	93	95	96	95	95	95	94	88	85	83	82	84	84	83	83	83	83	84	92	92	91	88	90	88.9	95.7	
8-Nov	89	88	92	91	88	86	88	90	90	90	86	83	83	78	76	76	76	78	81	83	82	83	86	87	84.7	92.3	
9-Nov	86	87	87	86	86	85	84	86	87	87	85	83	82	80	76	77	84	87	87	87	88	87	86	84	84.7	87.9	
10-Nov	82	81	80	80	78	77	77	78	76	76	77	72	67	63	62	63	67	73	76	77	77	76	76	75	74.4	82.3	
11-Nov	75	75	75	75	75	75	75	77	79	76	72	69	66	64	62	59	61	72	79	84	87	89	90	90	75.0	90.0	
12-Nov	90	89	88	87	87	87	87	87	88	85	81	73	72	71	70	73	78	81	85	87	88	92	93	94	83.9	94.3	
13-Nov	96	95	91	90	90	91	90	89	90	89	87	82	80	81	81	82	84	87	88	91	91	92	92	92	88.3	95.6	
14-Nov	91	92	92	93	74	74	77	76	74	70	68	63	60	51	52	55	66	68	70	71	73	74	77	79	72.4	92.5	
15-Nov	82	86	85	82	82	85	83	82	83	78	76	69	58	55	52	51	57	60	64	64	70	73	72	74	71.8	86.5	
16-Nov	73	75	86	92	92	93	95	95	94	94	93	79	66	57	53	53	52	56	63	65	66	67	68	69	75.0	95.4	
17-Nov	70	72	74	76	84	88	87	92	91	90	88	88	87	88	90	92	93	92	91	90	89	90	90	89	86.8	92.9	
18-Nov	88	85	86	86	84	82	80	81	81	81	81	79	76	70	65	65	70	78	84	87	87	84	79	79	80.0	88.2	
19-Nov	80	82	85	86	87	85	83	82	80	85	85	85	84	84	83	82	80	80	80	81	82	82	82	81	82.7	86.9	
20-Nov	79	78	78	76	76	76	75	74	73	72	70	70	69	69	68	69	70	71	73	73	75	76	78	79	73.7	79.3	
21-Nov	80	81	81	80	81	82	83	82	82	81	80	79	78	79	76	76	78	79	79	80	79	79	79	79	79.6	82.6	
22-Nov	79	79	79	80	79	79	78	77	77	75	74	74	71	67	66	66	71	78	82	83	81	83	82	81	76.7	83.3	
23-Nov	79	78	77	77	77	75	74	74	75	75	75	69	65	66	75	87	89	89	90	92	93	92	90	88	80.0	92.8	
24-Nov	90	90	90	90	90	89	89	87	85	79	75	73	73	72	71	71	73	77	77	77	77	81	83	84	81.0	90.3	
25-Nov	85	85	85	85	85	85	85	85	84	85	83	81	79	76	76	76	79	82	84	86	82	81	81	80	82.2	85.6	
26-Nov	81	82	82	82	84	87	86	85	85	82	82	83	83	82	80	80	83	85	86	86	86	86	86	86	83.8	86.8	
27-Nov	86	86	87	87	88	88	87	86	84	82	80	79	77	73	69	72	81	88	90	87	85	84	85	83	83.1	89.7	
28-Nov	79	79	79	78	79	80	79	80	80	81	80	D	D	D	79	79	81	81	80	80	79	80	80	81	79.7	81.0	
29-Nov	81	81	81	80	82	80	79	81	81	80	78	74	69	68	69	71	71	72	73	74	81	82	79	77	76.8	82.3	
30-Nov	82	84	83	82	81	81	81	81	81	79	77	76	76	75	74	75	76	76	77	77	78	77	78	76	78.4	83.9	
83.1 83.3 83.9 83.6 82.7 82.3 81.9 82.0 81.6 80.3 78.4 75.5 73.2 70.9 70.3 71.6 74.2 77.2 79.3 80.5 81.0 81.7 82.3 82.6																									Diurnal Average		
95.6 95.2 95.5 95.7 95.4 95.5 95.3 95.4 94.4 94.1 94.0 94.5 94.8 88.4 89.9 91.8 94.7 92.5 94.1 94.8 95.3 95.7 96.0 96.2																									Diurnal Maximum		
D - DAS Failure																											

Hourly Averages

Relative Humidity (RH) - %
Valleyview - November 2012



Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Valleyview - November 2012

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	7	5	4	7	8	7	7	6	4	4	3	3	5	3	3	3	5	8	4	2	3	3	2	3	1.2	7.5
Dir	151	149	142	162	166	166	169	171	173	168	170	280	313	313	282	307	324	346	350	309	329	326	312	305	201	166
2 Spd	2	2	2	2	3	2	1	0	1	0	1	2	2	2	2	1	0	3	7	8	6	8	9	11	1.8	10.8
Dir	312	322	338	33	44	52	43	284	194	145	138	350	344	34	44	57	53	124	122	126	130	145	153	155	121	155
3 Spd	12	15	15	14	12	12	12	12	12	11	11	10	10	9	7	6	5	7	5	3	3	1	1	2	8.4	14.9
Dir	154	161	167	165	162	167	164	165	168	170	169	169	173	172	170	171	180	171	178	174	176	180	156	342	167	161
4 Spd	1	0	1	0	2	1	1	1	1	1	2	0	1	3	6	5	8	7	9	10	12	12	10	6	3.9	11.8
Dir	210	265	230	227	199	204	210	189	196	240	180	147	324	178	178	170	165	171	177	174	168	172	174	179	176	168
5 Spd	3	3	3	3	10	17	19	22	20	23	25	30	27	27	24	23	20	13	11	12	12	8	6	8	15.0	30.0
Dir	197	189	218	252	277	270	255	258	271	266	268	272	272	270	274	273	275	271	266	267	268	278	256	252	267	272
6 Spd	6	3	2	3	2	2	3	4	3	3	2	2	0	1	1	3	1	2	4	2	3	1	1	2	0.9	5.7
Dir	234	199	194	193	203	200	200	187	188	167	180	194	50	329	277	359	299	346	7	5	14	340	204	185	215	234
7 Spd	3	4	5	7	7	6	6	7	7	8	11	11	12	11	11	9	9	7	4	7	8	7	7	8	7.3	11.7
Dir	348	8	9	13	12	24	13	7	4	5	7	2	356	4	33	36	34	34	18	1	357	22	46	21	14	356
8 Spd	9	9	9	9	9	8	8	8	8	8	8	7	7	7	8	8	6	6	5	3	4	3	3	3	6.4	9.2
Dir	16	8	15	16	18	24	18	16	16	23	43	54	33	47	44	45	50	48	46	76	80	56	21	357	30	16
9 Spd	1	2	2	2	4	2	3	3	2	2	2	2	5	4	2	2	3	4	3	1	2	1	0	0	2.1	4.8
Dir	323	357	1	351	331	3	23	30	11	11	8	344	341	3	67	24	355	11	28	352	325	335	305	185	1	341
10 Spd	0	0	0	0	1	1	0	1	0	0	1	4	7	6	6	7	7	7	8	8	8	7	7	7	3.8	8.3
Dir	237	36	253	355	180	161	94	164	47	213	220	165	169	164	168	167	165	166	168	170	176	176	178	173	170	168
11 Spd	6	5	5	5	5	3	3	2	2	2	3	4	4	3	2	2	0	1	1	1	3	2	2	3	2.8	5.9
Dir	175	174	177	180	176	182	184	194	198	189	189	187	188	187	176	176	213	293	224	196	195	194	209	198	186	175
12 Spd	2	2	1	1	0	0	1	1	1	1	2	2	2	2	2	0	1	0	1	1	2	3	0	3	0.9	3.2
Dir	204	194	196	197	231	157	155	208	187	211	172	179	212	230	197	209	311	126	338	277	189	167	240	360	199	167
13 Spd	3	5	8	9	5	6	5	5	2	4	1	1	2	3	3	2	0	0	1	1	2	2	2	4	1.9	8.8
Dir	16	14	12	20	17	352	357	14	6	350	90	91	341	338	332	317	257	229	192	203	167	184	192	187	5	20
14 Spd	3	3	2	2	11	15	10	6	7	5	2	2	4	4	3	4	4	5	5	5	5	4	4	3	1.0	14.6
Dir	194	187	200	208	273	322	13	21	24	43	76	173	186	168	165	166	168	169	171	169	174	176	180	191	191	322
15 Spd	3	2	2	1	1	1	3	3	4	4	4	4	2	2	2	1	1	1	1	1	0	1	1	1	1.8	4.2
Dir	198	205	214	223	222	225	195	210	199	200	194	189	182	206	149	152	175	167	153	355	244	276	188	212	198	189
16 Spd	1	2	1	2	2	0	1	1	0	1	2	3	6	7	8	5	4	1	1	4	6	7	7	6	2.9	7.6
Dir	167	179	173	116	48	91	242	187	130	242	345	169	168	165	170	163	142	203	173	173	177	174	173	178	169	170
17 Spd	6	5	5	3	1	1	1	4	2	7	7	8	7	8	9	6	6	6	3	3	6	5	7	10	2.9	9.9
Dir	179	174	176	173	328	187	24	337	352	2	14	14	13	351	344	358	355	352	21	318	288	297	292	297	338	297
18 Spd	10	2	3	2	2	3	2	2	1	2	3	5	5	5	3	3	5	5	5	4	6	7	7	7	3.4	10.4
Dir	306	315	248	223	266	339	309	144	359	4	346	16	350	339	335	332	342	6	349	339	350	1	11	9	344	306
19 Spd	6	5	8	9	11	13	10	13	12	8	5	5	4	3	4	4	4	8	8	6	6	4	4	6	6.5	12.8
Dir	3	2	8	17	10	2	352	338	346	356	12	2	11	35	33	26	20	349	358	24	11	4	324	308	0	338
20 Spd	6	6	6	7	10	9	6	7	6	7	7	6	6	5	4	4	4	3	2	4	2	1	5	4	4.6	9.8
Dir	300	302	297	285	282	281	277	269	284	285	292	293	271	288	293	327	294	300	357	356	18	17	10	6	297	282
21 Spd	6	5	6	7	7	6	7	6	6	6	8	9	10	9	7	5	7	4	1	3	1	1	1	2	5.2	9.5
Dir	21	22	14	18	16	7	12	345	1	354	351	348	346	346	0	352	345	358	15	38	15	320	346	245	360	346
22 Spd	1	1	1	0	1	2	1	1	1	1	3	3	4	5	6	4	2	1	0	0	1	0	1	1	1.0	6.3
Dir	198	169	146	89	338	316	217	210	72	332	342	333	340	332	337	338	355	341	338	196	190	106	251	160	332	337

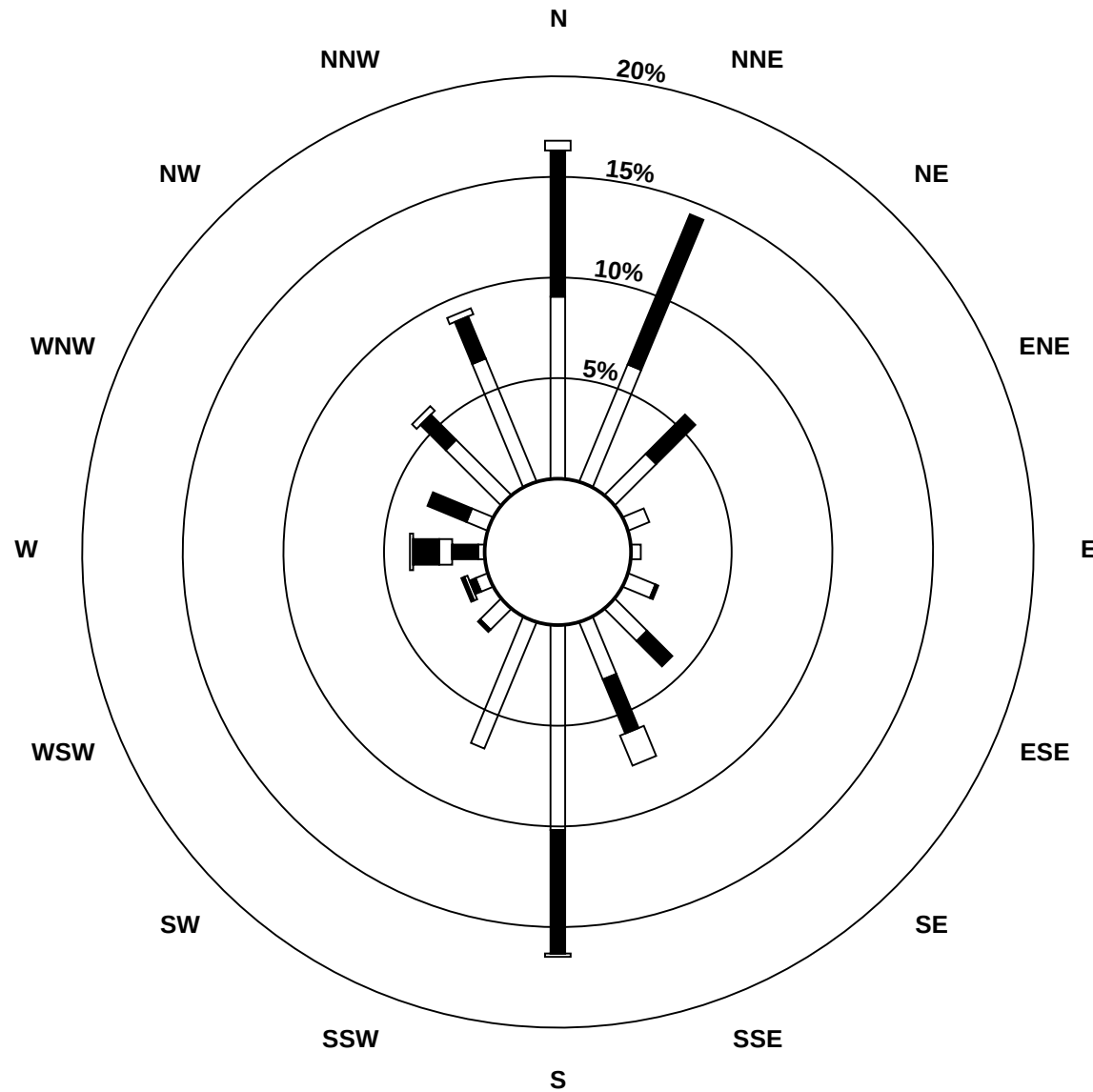
Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Valleyview - November 2012

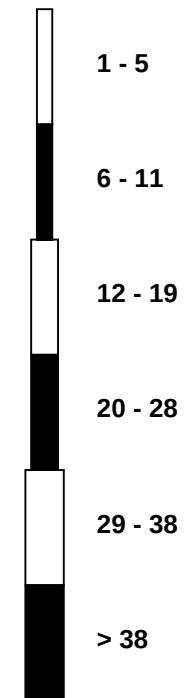
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
23 Spd	4	8	8	4	7	9	10	11	8	10	10	10	8	3	2	3	4	2	1	0	3	1	4	1	4.8	10.5
Dir	169	170	174	181	167	169	173	174	176	173	175	175	178	174	189	194	176	194	211	23	2	357	354	193	175	174
24 Spd	8	5	3	7	7	8	7	8	10	12	10	10	8	6	5	3	2	1	2	2	3	2	2	2	4.3	11.6
Dir	340	344	320	313	307	300	307	322	330	325	311	318	314	313	344	322	325	35	115	121	130	124	120	57	324	325
25 Spd	2	1	2	0	4	2	2	3	1	5	6	4	4	2	2	2	4	7	7	8	7	3	1	1	3.2	7.6
Dir	19	356	23	152	4	17	11	6	357	16	12	19	21	14	356	3	355	2	7	2	15	26	112	143	11	2
26 Spd	2	2	2	1	3	4	3	4	6	9	7	4	7	5	2	3	2	2	1	1	1	1	1	0	2.7	8.9
Dir	120	57	50	7	347	344	344	358	7	7	5	22	341	346	15	33	40	346	339	349	14	11	276	271	4	7
27 Spd	1	1	2	1	2	1	1	1	1	0	0	1	2	2	1	2	1	1	1	0	1	1	3	10	0.2	9.7
Dir	177	161	167	155	178	165	179	240	221	254	93	245	246	228	210	202	234	186	325	16	7	4	352	6	248	6
28 Spd	13	11	10	9	8	10	11	10	10	7	7	D	D	D	8	8	9	8	5	6	7	5	5	3	7.8	13.4
Dir	6	5	3	18	23	21	18	25	28	33	34	D	D	D	49	44	50	50	40	39	40	40	40	42	28	6
29 Spd	4	3	2	4	4	6	6	4	5	4	5	5	7	7	5	6	7	7	7	6	4	3	3	1	4.5	7.2
Dir	62	54	66	128	127	136	145	133	136	142	134	141	154	142	134	130	126	129	128	134	128	117	115	89	129	128
30 Spd	1	3	3	5	6	3	5	7	6	5	7	8	6	6	7	8	7	6	6	7	6	7	6	5	5.4	7.9
Dir	0	356	2	345	333	3	354	8	339	319	326	340	17	21	26	23	26	26	12	7	0	5	3	24	2	340
Spd	0.4	0.3	0.4	0.6	1.3	1.5	1.0	1.2	1.5	1.6	1.4	1.4	1.7	1.5	1.0	0.9	0.9	1.1	0.8	0.4	0.2	0.3	0.2	0.4	Diurnal Average	
Dir	335	65	20	19	329	329	330	321	334	330	330	312	307	313	347	359	359	16	42	42	33	109	135	306	Diurnal Maximum	
Spd	13.4	14.9	14.8	13.6	12.1	17.1	18.9	21.8	19.8	23.0	24.9	30.0	26.8	26.8	24.0	22.9	20.0	13.0	11.3	11.9	11.8	11.6	9.5	10.8	Diurnal Maximum	
Dir	6	161	167	165	162	270	255	258	271	266	268	272	272	270	274	273	275	271	266	267	268	172	174	155		
Maximum Speed Value: 30 km/h on Nov 5 12:00												Minimum Speed Value: 0 km/h on Nov 10 09:00												Hours in Service: 720		
Maximum Daily Speed Average: 15.0 km/h on Nov 5												Minimum Daily Speed Average: 0.2 km/h on Nov 12												Hours of Data: 717		
Maximum Diurnal Speed Average: 1.7 km/h at hour 13												Minimum Diurnal Speed Average: 0.2 km/h at hour 23												Hours of Missing Data: 3		
Monthly Average Velocity: 0.78 km/h 339.0 deg												Speed Percentiles: P ₁ = 0.2 P ₁₀ = 0.8 Q ₁ = 1.8 Median = 3.8 Q ₃ = 6.9 P ₉₀ = 9.1 P ₉₉ = 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	115		97		7		0		0		0		219													
NorthEast	39		36		0		0		0		0		75													
East	13		0		0		0		0		0		13													
SouthEast	34		20		1		0		0		0		55													
South	118		59		10		0		0		0		187													
SouthWest	50		1		0		0		0		0		51													
West	16		16		7		9		1		0		49													
NorthWest	43		23		2		0		0		0		68													
Total	428		252		27		9		1		0		717													

Wind Rose

Wind Speed (WS) (km/h)
Valleyview - November 2012



Wind Speed Classes (km/h)



Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Valleyview - November 2012

Maximum Speed: 30 km/h on Nov 5 12:00																				Maximum Daily Speed Average: 15.6 km/h on Nov 5										Hours in Service: 720	
Minimum Speed: 1 km/h on Nov 27 11:00																				Minimum Daily Speed Average: 1.7 km/h on Nov 12										Hours of Data: 717	
Maximum Diurnal Speed Average: 6.2 km/h at hour 13																				Minimum Diurnal Speed Average: 3.9 km/h at hour 23										Hours of Missing Data: 3	
Monthly Average Speed: 4.97 km/h																				Percentiles: P ₁ = 0.6 P ₁₀ = 1.3 Q ₁ = 2.1 Median = 4.0 Q ₃ = 7.0 P ₉₀ = 9.3 P ₉₉ = 23.1										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-Nov	7	5	4	7	8	8	7	6	4	4	3	4	5	4	4	4	5	8	4	2	3	3	2	3	4.7	7.7					
2-Nov	2	2	2	2	3	2	1	1	1	1	1	2	3	2	2	1	1	4	7	8	6	8	9	11	3.4	10.9					
3-Nov	13	15	15	14	12	12	12	12	12	11	11	10	10	10	7	6	5	7	7	4	3	2	1	3	8.9	15.1					
4-Nov	1	1	1	1	2	1	1	1	1	1	1	2	1	3	6	6	8	7	9	10	12	12	10	6	4.4	11.8					
5-Nov	4	3	3	4	11	17	19	22	20	23	25	30	27	27	24	23	20	13	11	12	12	9	6	8	15.6	30.3					
6-Nov	6	3	2	3	2	2	3	4	3	3	2	2	1	2	1	4	1	2	4	2	3	2	1	2	2.5	5.9					
7-Nov	4	5	5	7	7	6	6	7	7	8	11	11	12	11	11	9	9	7	5	7	9	7	7	8	7.7	11.8					
8-Nov	9	9	9	9	9	8	8	8	8	8	8	7	7	7	8	8	6	6	5	3	4	3	3	3	6.9	9.3					
9-Nov	1	2	2	2	4	3	3	3	2	2	2	2	5	5	3	2	4	4	3	1	3	1	1	1	2.5	4.8					
10-Nov	1	1	1	1	1	1	1	1	1	1	2	4	7	6	6	7	7	7	8	8	8	7	7	7	4.1	8.4					
11-Nov	6	5	5	5	5	3	3	2	3	2	3	4	4	3	3	2	1	2	2	2	3	2	2	3	3.1	5.9					
12-Nov	2	2	1	1	1	1	1	1	1	1	3	2	2	2	2	2	2	1	1	1	2	3	1	3	1.7	3.3					
13-Nov	3	5	8	9	5	6	5	5	3	5	2	2	2	3	3	2	1	1	1	2	2	2	3	4	3.5	9.0					
14-Nov	3	3	2	2	11	15	11	6	7	5	2	3	4	4	3	4	4	5	5	5	5	4	4	3	5.1	15.4					
15-Nov	3	2	2	3	2	3	3	3	4	4	4	4	2	2	2	2	2	1	1	2	2	2	2	1	2.4	4.2					
16-Nov	2	2	2	2	2	1	1	1	1	1	2	4	6	7	8	5	4	2	2	4	6	7	7	6	3.5	7.7					
17-Nov	6	5	5	3	2	2	2	4	2	7	8	8	7	8	9	6	6	6	4	4	6	5	7	10	5.5	10.1					
18-Nov	11	3	3	3	2	4	2	2	2	2	4	6	5	5	3	3	5	6	5	4	7	7	7	7	4.5	10.6					
19-Nov	6	5	8	9	11	13	10	13	12	8	5	5	4	3	4	5	4	8	8	6	6	4	4	6	7.1	12.9					
20-Nov	6	6	6	8	10	9	7	7	6	7	7	6	6	6	5	4	4	3	2	4	2	2	5	4	5.5	9.9					
21-Nov	6	5	6	7	7	6	7	6	6	6	8	9	10	9	7	6	7	4	1	3	2	1	1	2	5.6	9.7					
22-Nov	2	1	1	1	1	2	1	1	1	1	3	3	4	5	6	4	2	1	1	1	1	1	1	1	2.0	6.3					
23-Nov	4	9	8	4	7	9	10	11	8	11	10	10	8	4	3	3	5	2	2	2	4	2	4	2	5.9	10.6					
24-Nov	8	5	3	7	8	8	7	8	10	12	10	10	8	6	5	3	2	2	2	2	3	3	2	2	5.7	11.8					
25-Nov	2	2	2	1	4	3	2	3	1	5	6	4	4	3	3	2	4	7	8	8	7	4	2	1	3.7	8.2					
26-Nov	2	2	2	2	3	4	3	5	6	9	7	5	7	5	3	3	2	2	2	1	1	1	1	1	3.2	9.0					
27-Nov	1	1	2	1	2	1	1	1	1	1	1	1	2	2	2	2	2	2	1	1	1	2	3	10	1.8	9.7					
28-Nov	13	12	10	9	9	10	11	10	10	7	7	D	D	D	8	8	9	8	6	6	7	5	5	3	8.2	13.5					
29-Nov	4	3	3	4	4	6	6	4	5	4	5	5	7	7	5	6	7	7	7	6	5	3	3	1	5.0	7.3					
30-Nov	1	3	3	5	7	4	5	7	6	5	7	8	6	7	7	8	7	6	7	7	6	7	6	5	5.9	8.3					
4.6 4.3 4.2 4.6 5.4 5.7 5.4 5.5 5.2 5.5 5.7 5.9 6.2 5.7 5.4 4.9 4.8 4.6 4.3 4.3 4.6 4.1 3.9 4.3																									Diurnal Average						
13.5 15.1 15.0 13.8 12.2 17.3 19.0 21.9 20.0 23.2 25.2 30.3 27.0 27.0 24.3 23.2 20.2 13.2 11.4 12.0 11.9 11.7 9.6 10.9																									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 - November 2012

Maximum Value: 97.7 deg on Nov 27 21:00																			Hours in Service: 720						
Minimum Value: 3.7 deg on Nov 15 12:00																			Hours of Data: 717						
																			Hours of Missing Data: 3						
Percentiles: P ₁ = 5.9 P ₁₀ = 8.0 Q ₁ = 10.0 Median = 14.7 Q ₃ = 33.1 P ₉₀ = 64.3 P ₉₉ = 91.7																			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-Nov	12	13	16	11	10	10	9	10	10	10	15	55	11	35	27	17	22	6	12	14	13	12	15	11	55.0
2-Nov	13	13	27	23	12	36	50	83	46	70	71	47	28	36	39	62	78	10	7	8	8	10	11	9	83.0
3-Nov	10	8	8	8	8	8	9	8	8	9	8	10	9	8	9	8	14	6	60	32	10	74	50	78	77.5
4-Nov	89	79	47	85	21	50	15	37	46	69	21	65	58	45	8	8	8	9	7	6	6	6	7	14	89.1
5-Nov	30	20	37	76	22	10	6	6	9	9	8	8	7	8	9	9	8	9	8	9	9	13	15	14	75.6
6-Nov	16	13	9	8	11	11	11	5	13	16	20	16	86	25	55	26	73	29	17	49	49	66	21	31	86.4
7-Nov	72	12	10	8	9	13	10	8	7	8	9	7	9	13	10	11	13	12	22	10	11	15	10	13	71.6
8-Nov	9	12	10	10	12	12	10	8	9	10	13	12	11	12	10	14	8	8	9	37	24	27	29	14	37.4
9-Nov	34	40	21	25	17	21	13	11	18	14	20	15	8	40	38	37	22	13	25	49	7	79	86	41	85.8
10-Nov	78	63	70	92	50	23	66	36	85	83	56	18	11	14	11	9	8	7	7	7	8	7	6	7	92.0
11-Nov	9	9	11	9	9	11	11	11	16	13	13	15	13	9	16	33	64	59	70	33	26	15	14	12	70.4
12-Nov	12	18	22	43	86	71	53	52	38	45	21	31	33	40	22	75	61	95	72	59	43	13	79	17	94.6
13-Nov	30	9	10	13	10	11	15	13	33	18	57	66	54	27	18	29	89	73	66	71	20	36	38	20	88.6
14-Nov	13	10	18	17	18	22	18	13	13	24	46	19	8	13	16	17	15	10	13	12	6	7	9	10	46.1
15-Nov	10	9	20	85	49	67	10	11	10	9	5	4	26	20	17	62	60	68	62	72	84	88	61	38	88.1
16-Nov	75	13	55	27	14	73	53	55	59	52	50	42	8	9	8	10	14	35	45	20	6	7	7	7	75.2
17-Nov	9	7	7	14	90	88	67	29	59	10	10	10	22	12	7	16	14	18	25	36	12	17	13	12	90.1
18-Nov	12	77	41	56	67	59	72	45	41	66	43	25	24	9	13	13	19	15	15	11	8	6	6	7	76.6
19-Nov	14	22	13	11	10	8	9	8	8	11	24	28	27	31	22	24	22	10	12	16	11	12	19	17	31.1
20-Nov	14	14	12	13	10	10	16	18	15	15	16	21	26	22	29	28	20	13	32	15	65	84	16	15	83.7
21-Nov	11	11	16	10	10	8	8	5	7	11	10	11	10	8	13	14	11	10	24	15	35	61	45	21	61.0
22-Nov	36	15	24	59	26	25	65	64	43	73	30	22	14	9	5	20	46	43	90	97	65	77	97	47	97.5
23-Nov	14	9	9	9	8	8	8	7	7	7	8	9	12	31	47	29	17	31	50	94	51	85	38	71	94.4
24-Nov	13	8	17	13	17	13	15	12	8	12	12	15	12	13	18	21	30	46	24	20	14	14	14	28	46.1
25-Nov	21	72	38	75	32	14	14	26	51	28	12	18	13	20	27	17	12	8	14	47	17	46	39	53	75.2
26-Nov	19	33	32	64	32	10	11	14	8	9	10	16	8	15	30	21	20	28	21	50	33	61	64	82	82.2
27-Nov	23	28	20	30	9	63	36	25	33	58	88	50	47	30	27	21	35	71	92	85	98	55	27	7	97.7
28-Nov	7	9	8	10	11	9	7	11	10	11	10	D	D	D	11	11	9	8	14	9	9	9	10	21	21.1
29-Nov	15	19	24	10	8	11	12	11	12	15	11	15	15	13	13	11	9	11	10	13	9	12	19	48	48.4
30-Nov	14	10	14	11	8	15	12	9	20	12	12	21	18	16	11	12	9	11	13	9	8	7	7	12	21.0
89.1 79.2 69.5 92.0 90.1 88.3 71.7 83.0 84.6 83.4 88.2 65.6 86.4 44.5 55.0 75.4 88.6 94.6 91.8 97.4 97.7 88.1 97.5 82.2																									
D - DAS Failure																									

PAZA

Portable – Sunset House Station

Monthly Summary Tables, Graphs and Roses

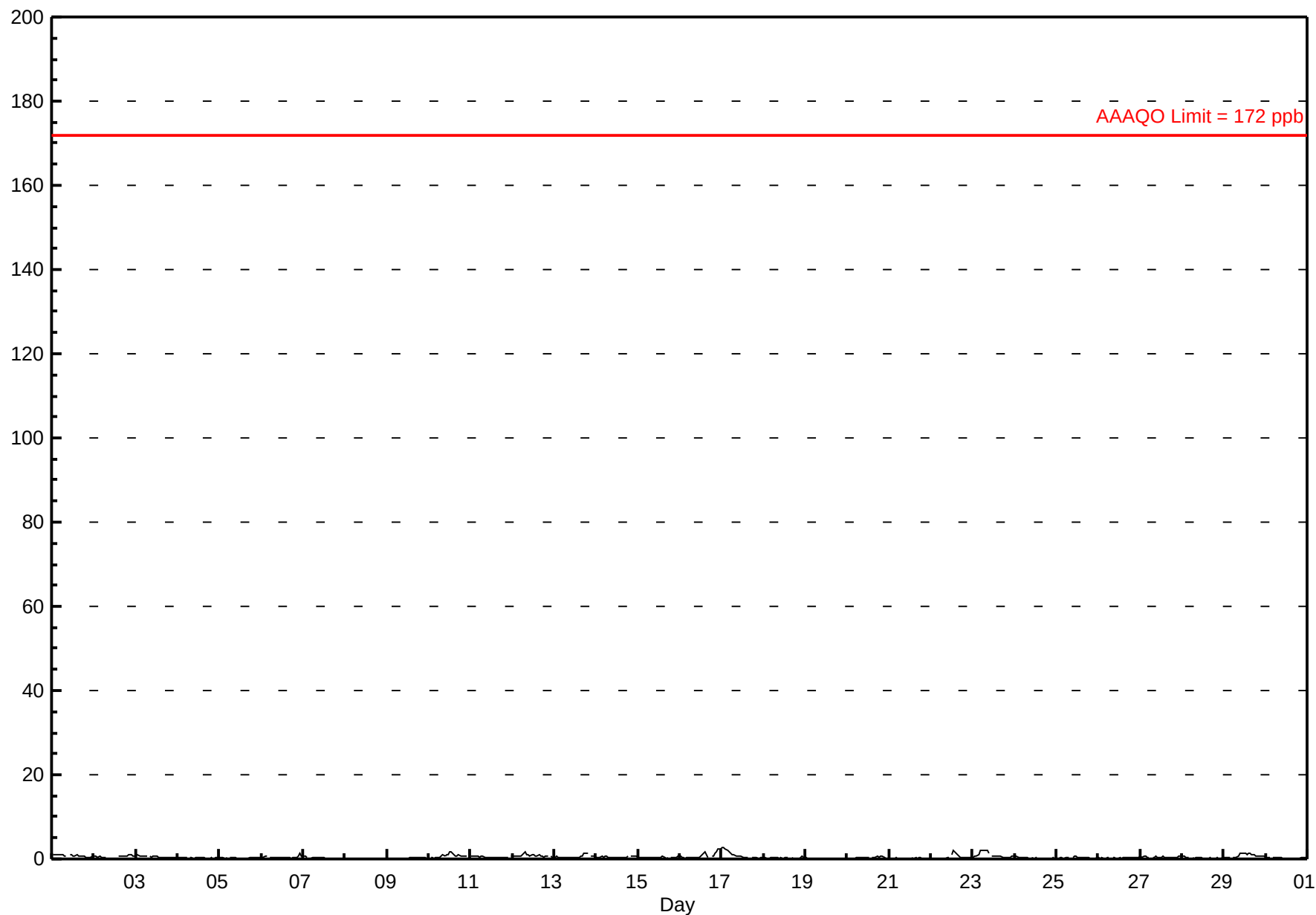
Hourly Averages

Sulphur Dioxide (SO₂) - ppb Sunset House - November 2012

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 2.7 ppb on Nov 17 01:00 Maximum Daily Average: 0.9 ppb on Nov 23																				Hours in Service: 720 Hours of Data: 684 Hours of Missing Data: 36 Hours of Calibration: 36 Percent Operational Time: 100.0						
Minimum Value: 0 ppb on Nov 8 22:00 Maximum Diurnal Average: 0.5 ppb at hour 15 Monthly Average: 0.43 ppb										Minimum Daily Average: 0.1 ppb on Nov 19 Minimum Diurnal Average: 0.4 ppb at hour 21 Percentiles: P ₁ = 0.0 P ₁₀ = 0.1 Q ₁ = 0.2 Median = 0.3 Q ₃ = 0.5 P ₉₀ = 0.8 P ₉₉ = 2.0																
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-Nov	1	1	1	1	1	1	1	1	1	A	C	C	C	C	1	1	1	1	1	0	0	0	0	1	0.8	1.1
2-Nov	1	1	0	1	0	0	0	0	A	C	C	C	C	C	1	1	1	1	1	1	1	1	1	1	0.6	0.9
3-Nov	1	1	1	1	1	1	1	A	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0.5	0.9
4-Nov	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
5-Nov	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
6-Nov	0	0	1	1	A	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	1	0.4	1.3
7-Nov	1	1	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.6
8-Nov	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
9-Nov	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
10-Nov	A	0	0	0	0	0	0	1	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1	A	0.7	1.7
11-Nov	1	1	1	1	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	0.5	0.6
12-Nov	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	0	1	1	A	1	0	0.8	1.5
13-Nov	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	1	1	A	1	1	1	0.6	1.5
14-Nov	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1	A	1	1	1	1	0.5	0.7
15-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	A	0	0	0	0	1	0.4	0.8
16-Nov	1	0	0	0	0	0	0	0	0	0	0	0	1	1	2	1	0	A	1	1	1	2	2	2	0.8	2.5
17-Nov	3	3	2	2	2	1	1	1	1	1	1	0	0	0	0	0	A	0	0	0	0	0	0	0	0.9	2.7
18-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	1	0	0.2	0.5
19-Nov	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
20-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	1	1	0	1	1	0	0	0	0.3	0.6
21-Nov	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
22-Nov	0	0	0	0	0	0	0	0	0	0	0	A	1	2	1	1	1	0	0	0	0	0	0	0	0.4	2.0
23-Nov	0	1	1	1	2	2	2	2	2	1	A	1	1	1	1	1	1	0	0	0	0	0	1	1	0.9	2.1
24-Nov	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	0.6
25-Nov	0	0	0	0	0	0	0	0	A	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.5
26-Nov	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
27-Nov	1	0	1	1	0	0	A	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	1	1	0.5	0.8
28-Nov	1	1	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.7
29-Nov	0	0	0	0	A	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.3
30-Nov	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.5
0.5 0.5 0.4 0.4 0.4 0.4 0.4 0.4 0.4 0.4 0.4 0.4 0.5 0.5 0.5 0.4 0.4 0.4 0.4 0.4 0.4 0.4 0.4 0.5																								Diurnal Average		
2.7 2.6 2.2 1.9 1.9 2.1 2.0 1.9 2.0 1.5 1.2 1.3 1.6 2.0 1.7 1.2 1.1 1.5 1.3 1.4 1.3 1.7 2.3 2.5																								Diurnal Maximum		
C - Calibration A - Automated Daily Zero Span																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb 30-day 11 ppb																										

Hourly Averages

Sulphur Dioxide (SO₂) - ppb
Sunset House - November 2012



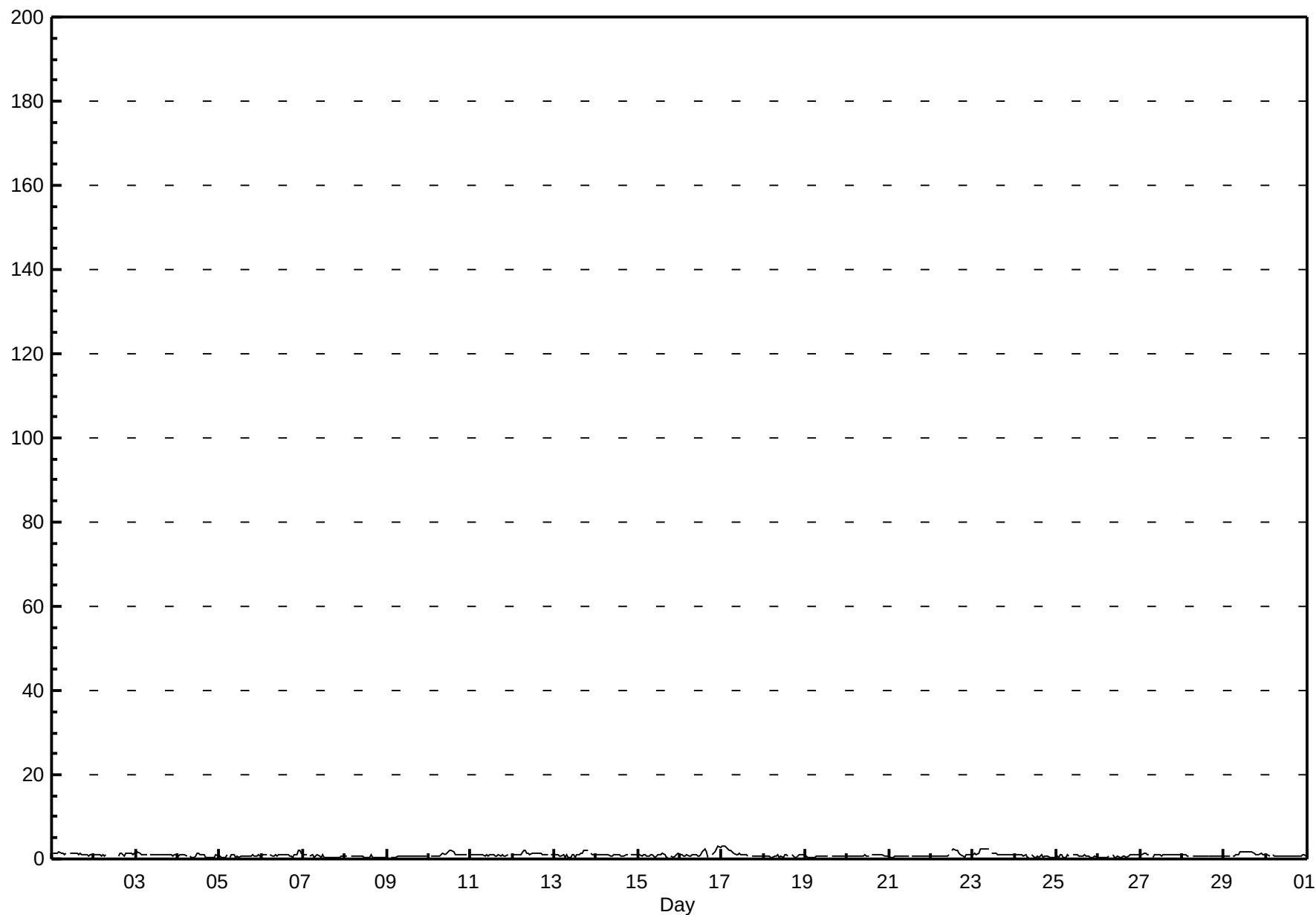
Hourly Maximums

Sulphur Dioxide (SO₂) - ppb Sunset House - November 2012

Maximum Value: 3.2 ppb on Nov 17 01:00																				Maximum Daily Average: 1.4 ppb on Nov 23										Hours in Service: 720									
Minimum Value: 0 ppb on Nov 7 07:00																				Minimum Daily Average: 0.5 ppb on Nov 8										Hours of Data: 684									
Maximum Diurnal Average: 1.0 ppb at hour 14																				Minimum Diurnal Average: 0.8 ppb at hour 18										Hours of Missing Data: 36									
Monthly Average: 0.88 ppb																				Percentiles: P ₁ = 0.4 P ₁₀ = 0.5 Q ₁ = 0.5 Median = 0.9 Q ₃ = 1.0 P ₉₀ = 1.4 P ₉₉ = 2.4										Hours of Calibration: 36									
																				Percent Operational Time: 100.0																			
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24															
1-Nov	2	1	1	1	2	1	1	1	1	A	C	C	C	C	1	1	1	1	1	1	1	1	1	1	1.2	1.7													
2-Nov	1	1	1	1	1	1	1	1	A	C	C	C	C	C	1	1	1	1	1	1	1	1	1	1	1.1	1.3													
3-Nov	1	2	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.6													
4-Nov	1	1	1	1	1	1	A	1	0	0	1	1	1	1	1	1	0	0	0	0	0	0	1	1	0.7	1.4													
5-Nov	1	0	0	0	1	A	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.6	1.0													
6-Nov	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	2	2	1	0.9	1.9													
7-Nov	1	1	1	A	1	1	0	1	1	1	0	1	0	0	0	0	0	0	0	0	1	0	1	1	0.6	1.1													
8-Nov	1	1	A	1	1	1	1	1	1	1	1	1	1	1	0	1	0	1	0	0	0	0	0	0	0.5	1.0													
9-Nov	0	A	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.6	0.7													
10-Nov	A	1	1	1	1	1	1	1	1	1	1	2	2	2	2	1	1	1	1	1	1	1	1	A	1.2	2.1													
11-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	0.9	1.1													
12-Nov	1	1	1	1	1	1	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1.2	2.0													
13-Nov	1	1	1	1	1	1	0	1	0	0	1	1	0	1	1	1	1	2	2	2	A	1	1	1	1.0	2.0													
14-Nov	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	1.0													
15-Nov	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	0	0	A	1	0	1	1	1	0.8	1.5													
16-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	0	A	1	1	2	2	3	3	1.3	3.0													
17-Nov	3	3	3	2	2	2	2	1	1	1	2	1	1	1	1	1	A	1	1	1	1	1	1	1	1.3	3.2													
18-Nov	1	1	1	1	1	0	1	1	1	0	1	0	1	1	1	A	1	1	0	0	1	1	1	1	0.7	1.0													
19-Nov	1	0	0	0	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	0.5	0.6													
20-Nov	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	1.0													
21-Nov	1	0	0	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	0.6	0.6													
22-Nov	1	1	1	1	1	1	1	1	1	1	1	A	2	2	2	2	1	1	1	0	1	1	1	1	1.0	2.5													
23-Nov	1	1	1	1	2	2	2	2	2	2	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1.4	2.4													
24-Nov	1	1	1	1	1	1	1	0	0	A	1	0	0	1	0	1	0	1	1	1	0	0	0	0	0.7	1.2													
25-Nov	1	0	1	1	0	0	1	1	A	1	1	1	1	1	1	1	1	1	1	0	0	0	1	1	0.7	0.9													
26-Nov	0	0	0	0	0	0	1	A	1	0	0	1	0	0	1	1	0	1	1	1	1	1	1	1	0.6	0.9													
27-Nov	1	1	1	1	1	1	A	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.3													
28-Nov	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.1													
29-Nov	1	1	1	1	A	1	1	1	1	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1.1	1.6													
30-Nov	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	1.0													
0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.8 0.8 0.9 0.9 1.0 0.9 0.9 0.8 0.8 0.8 0.8 0.8 0.9 0.9 0.9																									Diurnal Average														
3.2 3.1 2.9 2.4 2.4 2.4 2.4 2.4 2.4 2.4 1.6 1.6 2.1 2.5 2.3 2.0 1.6 2.0 2.0 2.0 2.0 1.8 2.4 3.0 2.9																									Diurnal Maximum														
C - Calibration																									A - Automated Daily Zero Span														

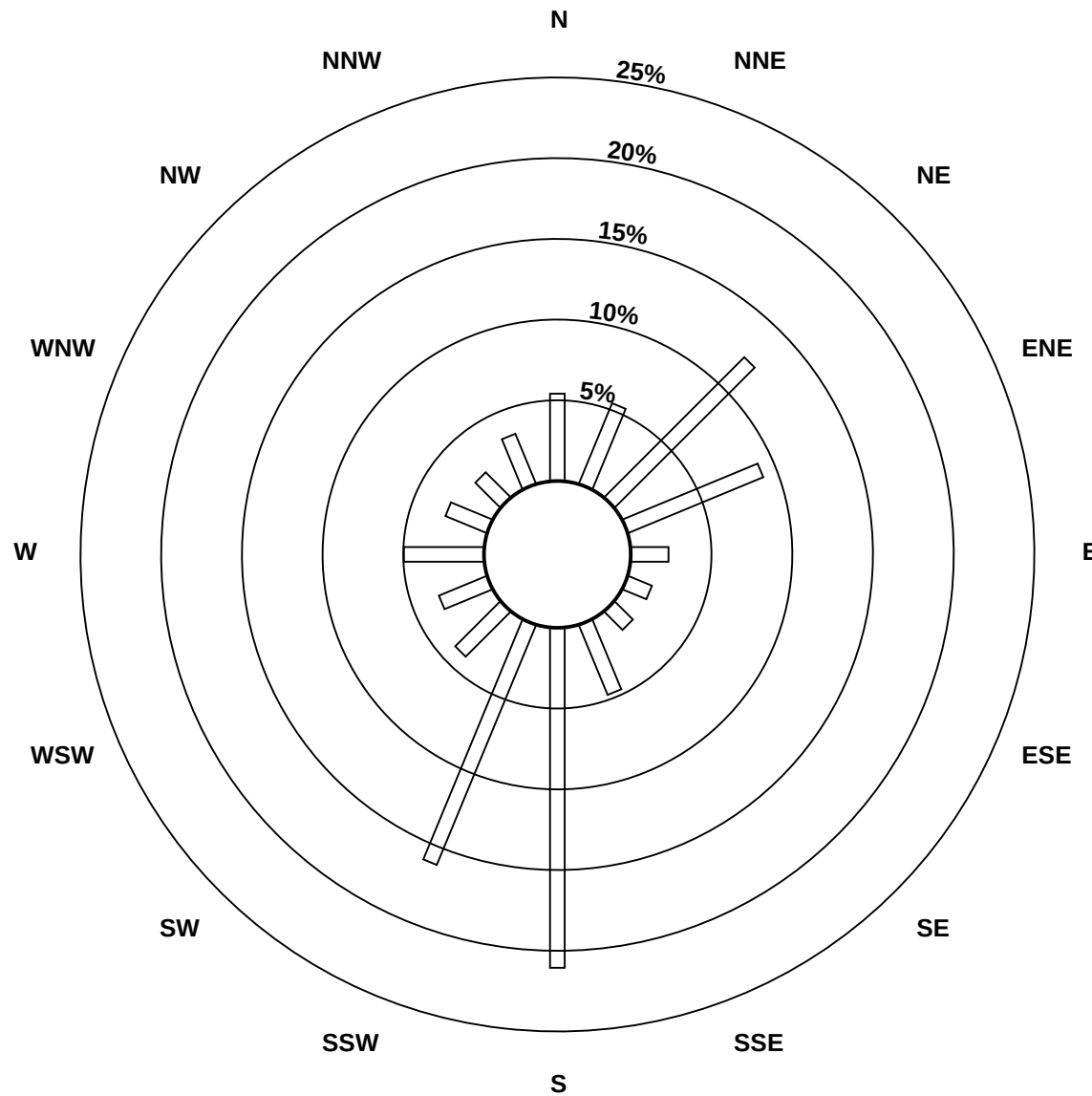
Hourly Maximums

Sulphur Dioxide (SO₂) - ppb
Sunset House - November 2012

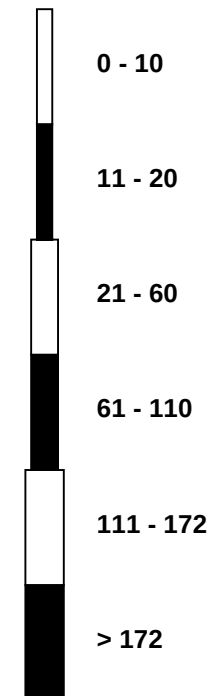


Pollutant Rose

Sulphur Dioxide (SO₂) - ppb
Sunset House - November 2012

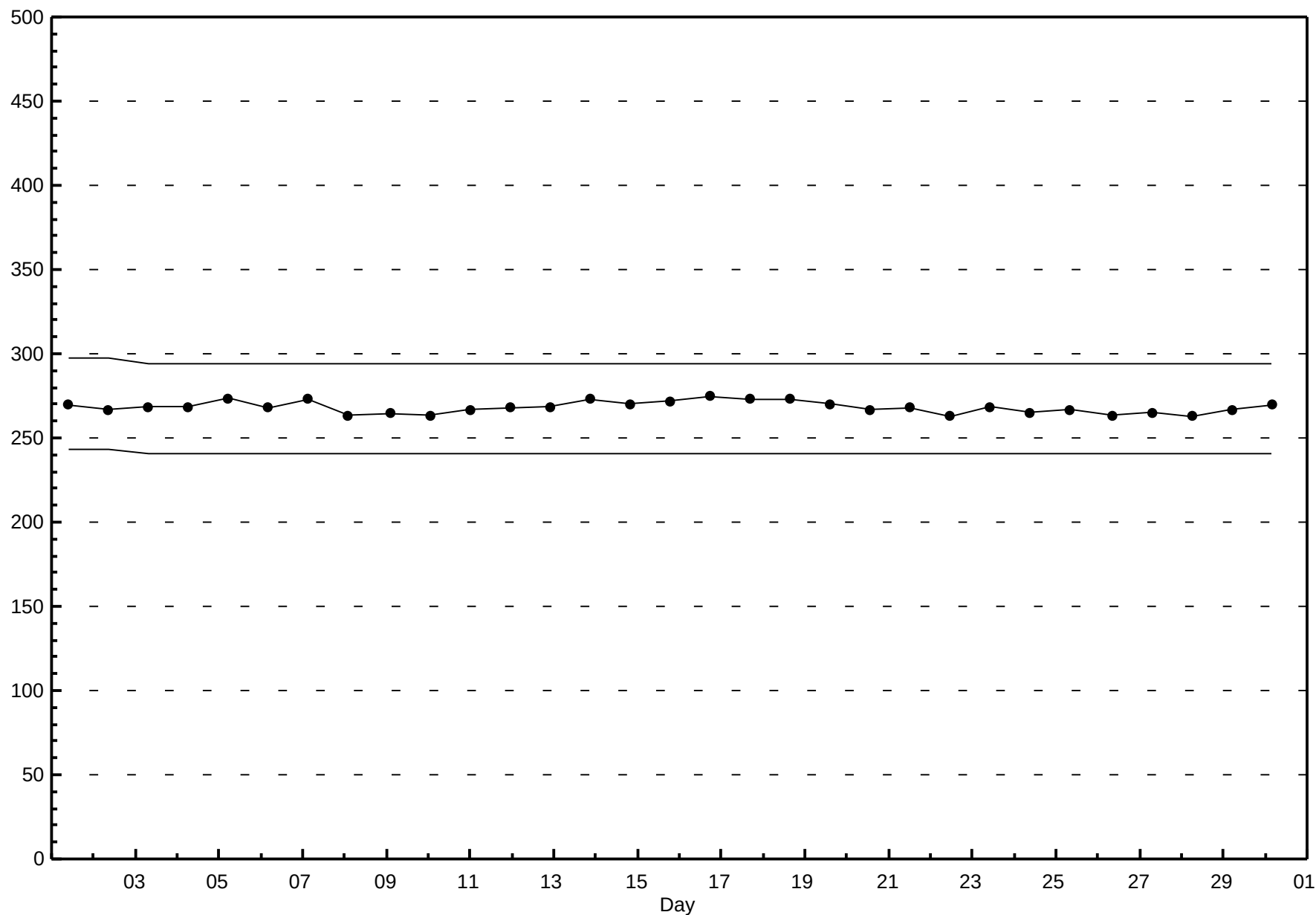


Pollutant Classes (ppb)



Span Responses

Sulphur Dioxide (SO₂)
Sunset House - November 2012



Hourly Averages

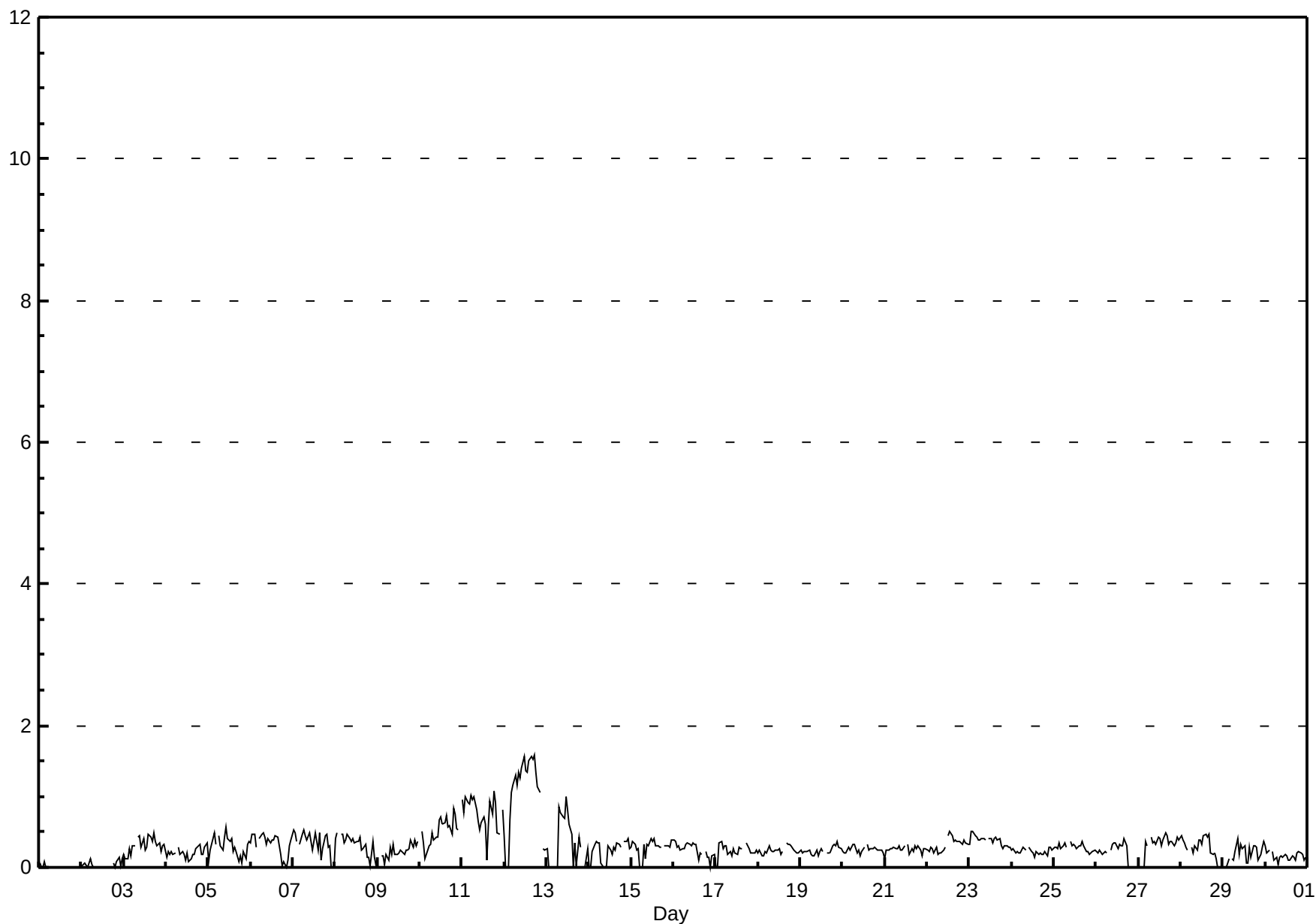
Total Reduced Sulphur (TRS) - ppb

Sunset House - November 2012

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																				Hours in Service: 720						
Maximum Value: 1.6 ppb on Nov 12 18:00																				Maximum Daily Average: 1.1 ppb on Nov 12		Hours of Data: 680				
Minimum Value: 0 ppb on Nov 1 02:00																				Minimum Daily Average: 0.0 ppb on Nov 1		Hours of Missing Data: 40				
Maximum Diurnal Average: 0.4 ppb at hour 12																				Minimum Diurnal Average: 0.2 ppb at hour 23		Hours of Calibration: 40				
Monthly Average: 0.31 ppb																				Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.2 Median = 0.3 Q ₃ = 0.4 P ₉₀ = 0.5 P ₉₉ = 1.4		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-Nov	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
2-Nov	0	0	0	0	0	0	0	0	A	C	C	C	C	C	C	C	C	C	0	0	0	0	0	0	--	0.1
3-Nov	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.5
4-Nov	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
5-Nov	0	0	0	0	0	A	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.6
6-Nov	0	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
7-Nov	1	0	0	A	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.5
8-Nov	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	0.5
9-Nov	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4
10-Nov	A	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	0	1	1	1	1	A	0.5	0.8
11-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	0	0	A	1	0.8	1.1
12-Nov	0	0	0	1	1	1	1	1	1	1	1	2	1	1	2	2	2	2	1	1	1	A	0	0	1.1	1.6
13-Nov	0	0	0	0	0	0	0	1	1	1	1	1	1	1	0	0	0	0	0	0	A	0	0	0	0.3	1.0
14-Nov	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
15-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0.3	0.4
16-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0.2	0.4
17-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0.2	0.4
18-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.2	0.3
19-Nov	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
20-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.3	0.3
21-Nov	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.3	0.3
22-Nov	0	0	0	0	0	0	0	0	0	0	0	A	0	1	0	0	0	0	0	0	0	0	0	0	0.3	0.5
23-Nov	0	1	1	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.5
24-Nov	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
25-Nov	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
26-Nov	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
27-Nov	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.5
28-Nov	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.5
29-Nov	0	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-Nov	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
0.2 0.2 0.2 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.4 0.3 0.4 0.4 0.4 0.3 0.4 0.4 0.3 0.3 0.3 0.3 0.2 0.2 0.3																									Diurnal Average	
1.0 0.8 1.0 0.9 1.1 1.2 1.3 1.2 1.3 1.3 1.4 1.6 1.4 1.3 1.5 1.6 1.5 1.6 1.3 1.1 1.1 0.5 0.5 0.8																									Diurnal Maximum	
C - Calibration A - Automated Daily Zero Span																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb																										

Hourly Averages

Total Reduced Sulphur (TRS) - ppb
Sunset House - November 2012



Hourly Maximums

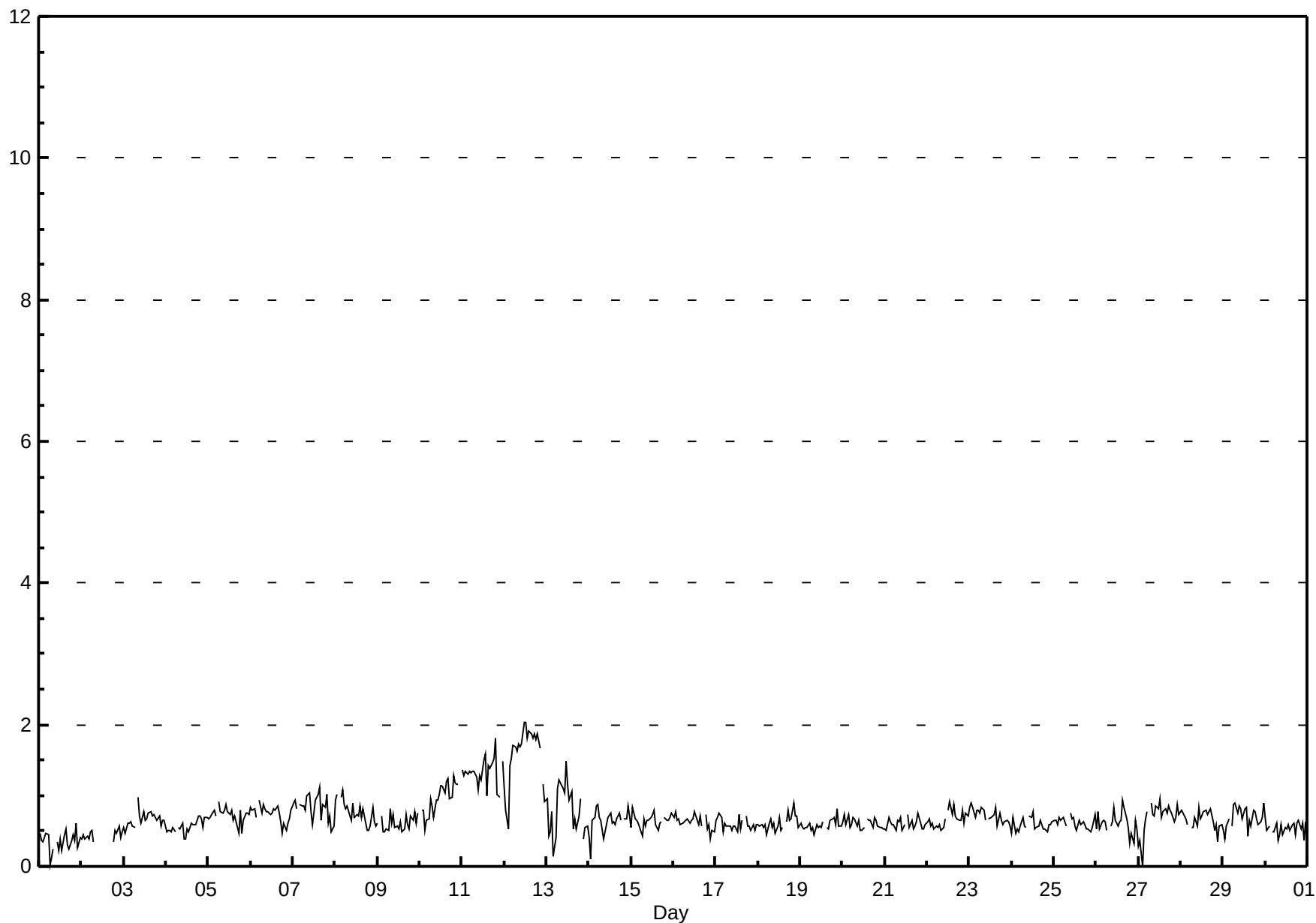
Total Reduced Sulphur (TRS) - ppb

Sunset House - November 2012

Maximum Value: 2.0 ppb on Nov 12 13:00																			Maximum Daily Average: 1.6 ppb on Nov 12							Hours in Service: 720	
Minimum Value: 0 ppb on Nov 27 03:00																			Minimum Daily Average: 0.4 ppb on Nov 1							Hours of Data: 680	
Maximum Diurnal Average: 0.8 ppb at hour 13																			Minimum Diurnal Average: 0.6 ppb at hour 3							Hours of Missing Data: 40	
Monthly Average: 0.70 ppb																			Percentiles: P ₁ = 0.2 P ₁₀ = 0.5 Q ₁ = 0.6 Median = 0.7 Q ₃ = 0.8 P ₉₀ = 1.0 P ₉₉ = 1.8							Hours of Calibration: 40	
																										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-Nov	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0.4	0.6	
2-Nov	0	0	0	0	0	0	1	0	A	C	C	C	C	C	C	C	C	C	0	1	0	1	0	0	--	0.6	
3-Nov	1	0	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.0	
4-Nov	0	1	1	0	1	0	A	1	1	1	0	0	1	0	1	1	1	1	1	1	1	1	1	1	0.6	0.7	
5-Nov	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	0	1	0	1	1	1	1	0.7	0.9	
6-Nov	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	0.7	0.9	
7-Nov	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0.8	1.1	
8-Nov	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.1	
9-Nov	1	A	1	0	0	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	0.6	0.8	
10-Nov	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1.0	1.3	
11-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	2	2	1	1	A	1	1.3	1.8	
12-Nov	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	A	1	1	1.6	2.0	
13-Nov	1	0	0	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	0	1	1	0.8	1.5	
14-Nov	0	0	1	1	1	1	1	1	0	0	1	1	1	1	1	1	1	1	1	A	1	1	1	1	0.6	0.9	
15-Nov	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	0.6	0.8	
16-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	0	1	0	0.6	0.8	
17-Nov	1	1	1	1	0	1	1	1	1	1	1	1	0	1	1	1	A	1	1	1	1	1	0	1	0.6	0.8	
18-Nov	1	1	1	1	1	0	1	1	1	1	0	1	1	1	1	A	1	1	1	1	1	1	1	1	0.6	0.9	
19-Nov	1	1	1	1	1	1	1	1	0	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	0.6	0.8	
20-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	0.6	0.7	
21-Nov	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	0.6	0.7	
22-Nov	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	
23-Nov	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	
24-Nov	0	1	0	1	0	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	0	1	1	1	0.6	0.8	
25-Nov	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	0.6	0.7	
26-Nov	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	0	0	0	1	1	0.6	0.9	
27-Nov	0	0	0	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	
28-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	1	1	0.7	0.8	
29-Nov	1	0	1	1	A	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	0.7	0.9	
30-Nov	1	1	1	A	0	0	1	0	0	1	0	1	1	1	1	1	1	0	1	1	1	1	0	1	0.5	0.7	
																									Diurnal Average		
																									Diurnal Maximum		
C - Calibration																									A - Automated Daily Zero Span		

Hourly Maximums

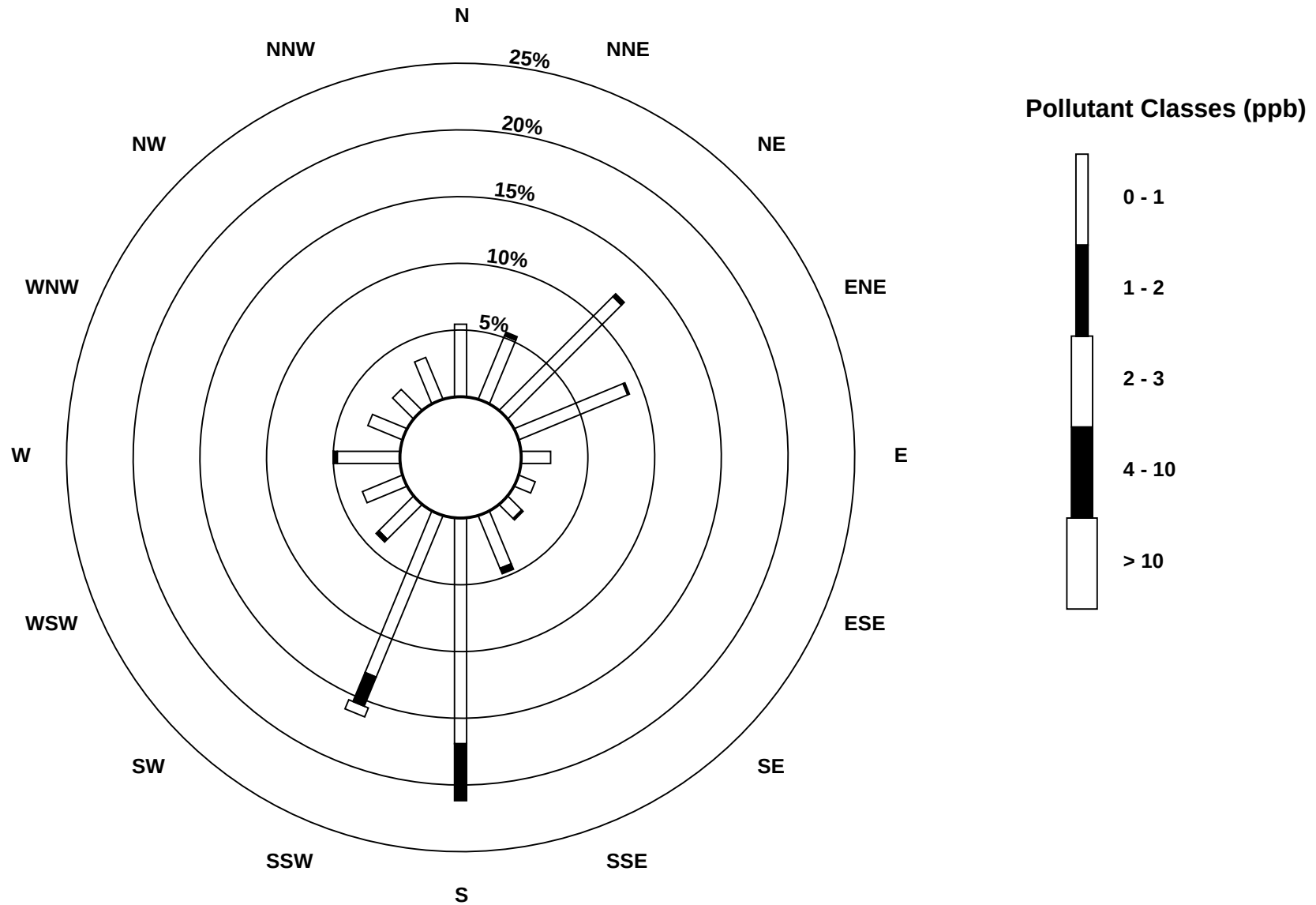
Total Reduced Sulphur (TRS) - ppb
Sunset House - November 2012



Pollutant Rose

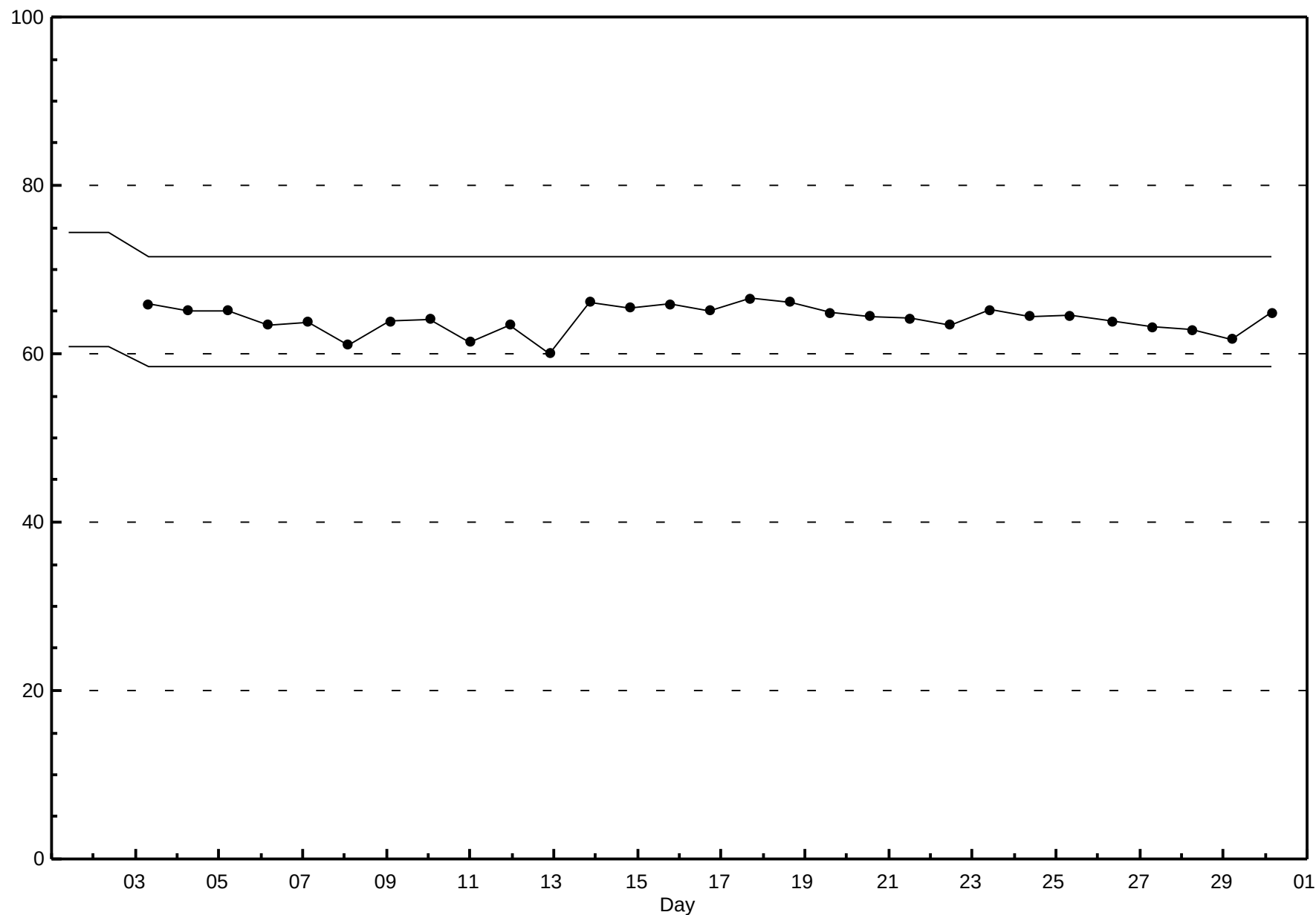
Total Reduced Sulphur (TRS) - ppb

Sunset House - November 2012



Span Responses

Total Reduced Sulphur (TRS)
Sunset House - November 2012



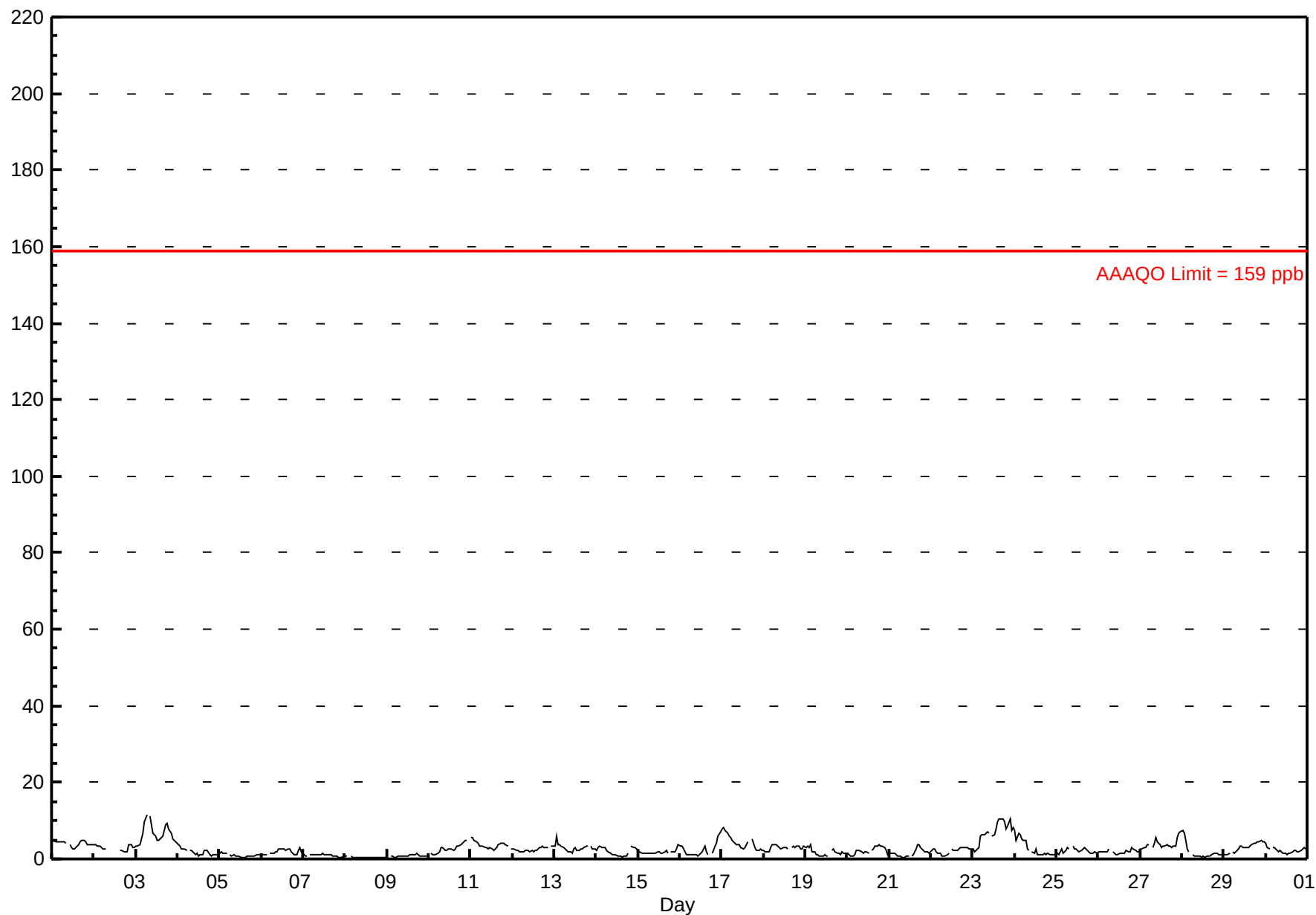
Hourly Averages

Nitrogen Dioxide (NO₂) - ppb Sunset House - November 2012

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																			Hours in Service: 720								
Maximum Value: 11.6 ppb on Nov 3 07:00																			Maximum Daily Average: 7.1 ppb on Nov 23		Hours of Data: 683						
Minimum Value: 0 ppb on Nov 8 14:00																			Minimum Daily Average: 0.5 ppb on Nov 8		Hours of Missing Data: 37						
Maximum Diurnal Average: 3.0 ppb at hour 18																			Minimum Diurnal Average: 2.0 ppb at hour 11		Hours of Calibration: 37						
Monthly Average: 2.59 ppb																			Percentiles: P ₁ = 0.4 P ₁₀ = 0.7 Q ₁ = 1.3 Median = 2.2 Q ₃ = 3.2 P ₉₀ = 4.7 P ₉₉ = 9.4		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-Nov	5	5	5	4	4	4	5	4	4	A	4	3	3	3	3	4	5	5	5	4	4	4	4	4	4.0	4.8	
2-Nov	4	4	3	3	3	3	3	3	A	C	C	C	C	C	C	2	2	2	2	2	4	4	4	3	--	3.8	
3-Nov	3	3	4	5	7	10	12	A	11	9	7	6	5	5	5	6	8	9	9	8	7	5	5	4	6.6	11.6	
4-Nov	4	3	3	2	2	2	A	2	2	2	1	1	1	1	1	2	2	2	1	1	1	1	1	1	1.8	3.7	
5-Nov	2	2	2	2	2	A	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	0.9	1.7	
6-Nov	1	1	1	1	A	2	1	1	2	2	2	3	2	3	2	3	2	2	1	1	1	2	3	2	1.9	3.0	
7-Nov	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1.0	1.3	
8-Nov	1	1	A	1	1	1	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0.5	0.8	
9-Nov	0	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.4	
10-Nov	A	1	1	1	1	2	2	3	3	2	2	2	3	3	2	3	3	3	4	4	4	5	5	A	2.7	4.9	
11-Nov	6	6	5	5	4	3	3	3	3	3	3	3	3	2	3	3	4	4	4	4	4	3	A	3	3.6	5.6	
12-Nov	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	A	3	3	2.5	3.3	
13-Nov	3	6	4	4	3	3	3	2	2	2	2	3	3	2	2	3	3	3	3	3	A	3	3	2	2.9	5.9	
14-Nov	2	3	3	3	3	3	2	2	2	1	1	1	1	1	1	1	1	1	2	A	3	3	3	2	1.9	3.2	
15-Nov	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	2	A	2	2	2	3	4	1.8	3.6	
16-Nov	3	3	3	2	1	1	1	1	1	1	1	1	1	2	3	2	1	A	2	2	3	4	6	7	2.3	7.0	
17-Nov	8	8	7	7	6	6	5	5	4	4	4	3	3	3	4	4	A	5	4	3	2	2	2	2	4.4	8.2	
18-Nov	2	2	2	2	3	4	4	4	3	3	3	3	3	3	3	A	3	3	3	3	3	3	2	3	2.9	3.7	
19-Nov	3	3	3	4	2	2	1	1	1	1	1	1	1	1	A	3	2	3	2	2	1	2	2	1	1.7	3.8	
20-Nov	1	1	1	1	1	2	2	2	2	2	2	2	2	A	2	3	3	3	4	4	3	3	2	1	2.1	3.6	
21-Nov	1	1	1	1	1	1	1	1	0	0	1	1	A	1	1	3	4	4	3	3	2	2	2	1	1.5	3.9	
22-Nov	2	3	3	2	2	1	1	1	1	1	2	A	3	2	2	2	3	3	3	3	3	3	3	3	2.2	3.0	
23-Nov	2	2	2	3	6	6	6	7	7	7	A	6	6	8	10	11	10	11	10	8	9	10	8	8	7.1	10.6	
24-Nov	7	5	7	6	5	5	5	3	2	A	2	1	3	1	1	1	1	2	1	1	1	1	1	1	2.8	7.5	
25-Nov	2	1	2	3	1	2	3	3	A	3	3	3	2	2	2	3	3	2	2	1	2	1	2	2	2.1	3.3	
26-Nov	2	2	2	2	2	2	3	A	2	1	1	1	1	1	1	2	2	2	2	3	3	2	2	2	1.8	2.8	
27-Nov	2	2	3	3	4	4	A	3	4	5	5	4	3	3	3	4	4	3	3	3	3	6	7	7	3.9	7.1	
28-Nov	7	7	5	3	2	A	1	1	1	1	1	1	1	1	1	1	1	1	2	2	1	1	1	1	1.7	7.3	
29-Nov	1	1	1	1	A	2	1	2	3	3	3	3	3	3	3	3	4	4	4	4	5	5	5	4	3.0	4.7	
30-Nov	4	3	3	A	3	3	2	2	2	2	2	1	1	1	2	2	2	2	2	2	2	3	3	2	2.2	4.2	
		2.9	2.9	2.8	2.7	2.6	2.8	2.6	2.2	2.4	2.3	2.0	2.1	2.1	2.1	2.3	2.6	2.8	3.0	2.8	2.7	2.7	2.9	2.8	2.7	Diurnal Average	
		7.7	8.2	7.4	6.9	6.7	9.6	11.6	6.5	11.1	9.1	6.8	6.0	6.4	8.0	9.5	10.5	10.4	10.6	9.6	8.0	8.5	10.3	7.6	8.2	Diurnal Maximum	
C - Calibration		A - Automated Daily Zero Span																									
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 159 ppb 24-hr 106 ppb																											

Hourly Averages

Nitrogen Dioxide (NO₂) - ppb
Sunset House - November 2012



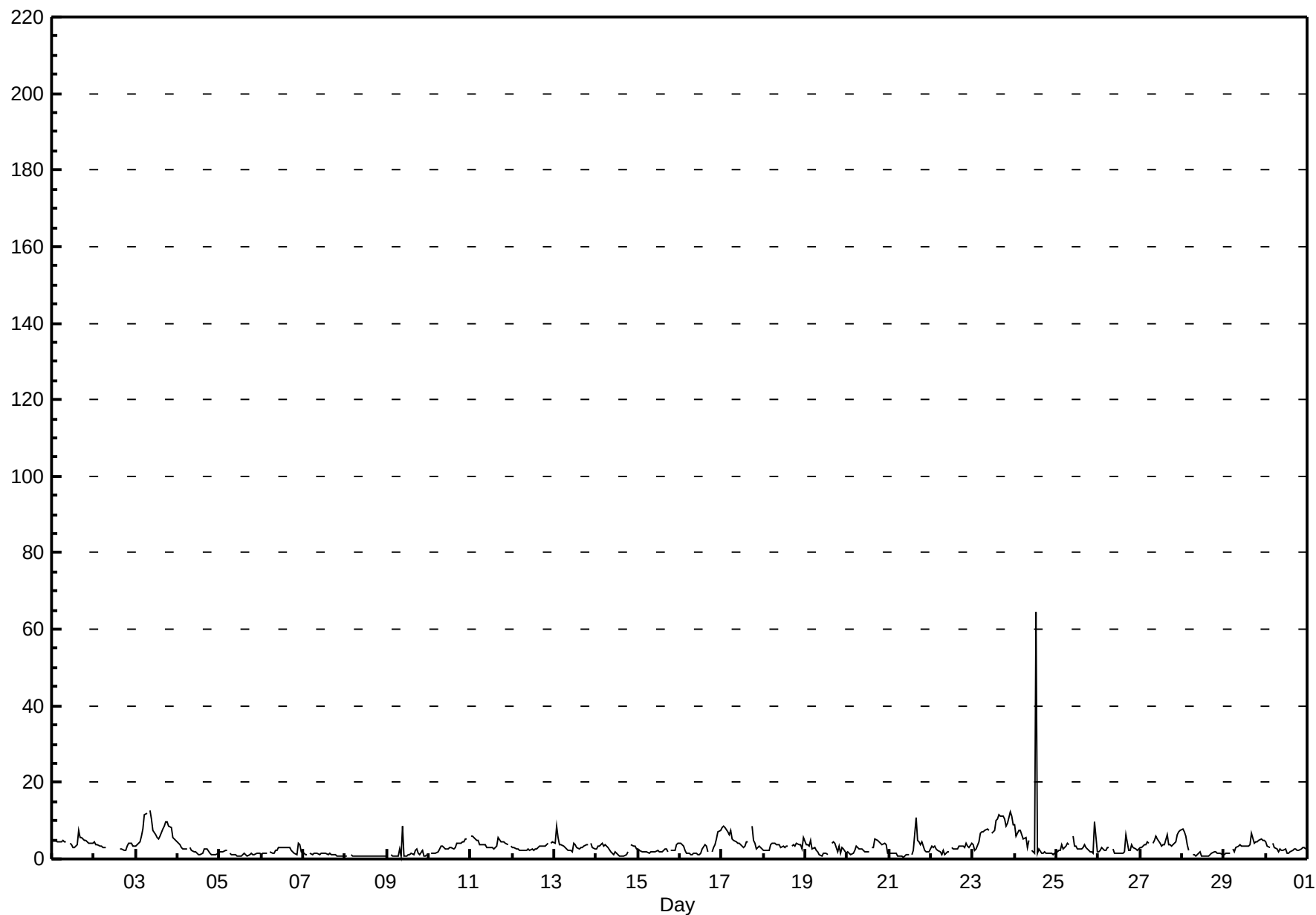
Hourly Maximums

Nitrogen Dioxide (NO₂) - ppb Sunset House - November 2012

Maximum Value: 64.4 ppb on Nov 24 13:00																				Maximum Daily Average: 8.1 ppb on Nov 23					Hours in Service: 720	
Minimum Value: 1 ppb on Nov 21 09:00																				Minimum Daily Average: 0.7 ppb on Nov 8					Hours of Data: 683	
Maximum Diurnal Average: 4.7 ppb at hour 13																				Minimum Diurnal Average: 2.4 ppb at hour 11					Hours of Missing Data: 37	
Monthly Average: 3.23 ppb																				Percentiles: P ₁ = 0.6 P ₁₀ = 1.1 Q ₁ = 1.6 Median = 2.8 Q ₃ = 3.9 P ₉₀ = 5.7 P ₉₉ = 11.1					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-Nov	5	5	5	5	5	5	5	5	4	A	4	4	3	3	4	8	6	5	5	5	4	4	4	4	4.6	7.5
2-Nov	4	4	4	3	3	3	3	3	A	C	C	C	C	C	C	3	3	2	2	3	4	4	4	3	--	4.5
3-Nov	4	4	4	6	8	11	12	A	13	10	7	6	6	5	6	8	9	10	10	9	8	6	5	5	7.4	12.7
4-Nov	4	4	3	3	3	3	A	3	2	2	2	2	1	1	2	3	3	3	2	1	1	1	1	2	2.1	3.9
5-Nov	2	2	2	2	2	A	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	2	1.4	2.3
6-Nov	1	1	2	1	A	2	2	2	2	2	3	3	3	3	3	3	3	2	2	1	1	4	4	2	2.3	3.9
7-Nov	2	1	1	A	2	1	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1.2	1.6
8-Nov	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	1.2
9-Nov	1	A	1	1	1	1	1	3	1	9	1	1	1	1	1	1	2	2	1	1	2	1	1	1	1.6	8.6
10-Nov	A	2	1	1	1	2	3	3	3	3	3	3	3	3	3	3	4	4	4	4	5	5	5	A	3.1	5.2
11-Nov	6	6	6	5	5	4	4	4	4	3	3	3	3	3	3	3	5	5	5	4	4	4	A	3	4.1	6.0
12-Nov	3	3	2	2	2	2	2	2	2	3	2	3	2	3	3	3	3	3	3	3	4	A	4	5	2.9	4.6
13-Nov	4	8	6	4	4	3	3	2	2	2	2	4	4	3	3	3	3	3	4	4	A	4	3	3	3.5	8.4
14-Nov	3	3	3	4	3	4	3	3	2	1	1	2	1	1	1	1	1	1	2	A	4	3	3	3	2.3	4.0
15-Nov	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	2	A	2	2	2	4	4	2.2	4.0
16-Nov	4	4	3	2	2	1	1	1	1	2	1	1	2	3	4	3	2	A	2	3	4	5	7	7	2.8	7.3
17-Nov	8	9	8	7	6	7	5	5	5	4	4	4	3	3	5	5	A	9	5	4	3	3	3	2	5.1	8.6
18-Nov	2	2	2	2	4	4	4	4	4	4	3	3	3	3	3	A	3	4	3	4	4	4	3	6	3.4	5.6
19-Nov	4	4	4	5	2	3	2	2	1	1	1	1	1	1	A	4	5	4	2	3	2	3	3	2	2.6	4.8
20-Nov	2	2	1	1	2	3	3	3	3	2	2	2	2	A	3	3	5	5	5	4	4	4	4	1	2.8	5.1
21-Nov	2	2	2	2	1	1	1	1	1	1	1	1	A	1	2	11	5	5	4	4	2	2	2	2	2.3	10.8
22-Nov	3	3	3	3	2	2	1	2	1	2	2	A	3	2	2	3	3	3	3	3	4	3	3	4	2.7	4.2
23-Nov	4	2	3	5	7	7	7	7	8	8	A	7	8	10	11	12	11	11	10	9	9	12	11	9	8.1	12.2
24-Nov	9	6	7	7	6	5	6	3	5	A	2	2	64	1	2	2	1	2	1	2	2	1	1	2	6.1	64.4
25-Nov	2	2	2	4	3	4	4	4	A	6	3	3	3	2	3	3	4	3	2	2	2	2	10	2	3.2	9.8
26-Nov	2	2	3	2	2	3	3	A	2	2	1	1	2	2	2	2	6	2	2	4	3	2	2	3	2.4	6.2
27-Nov	3	3	4	4	4	4	A	4	5	6	5	4	3	4	4	6	4	4	3	4	5	6	7	8	4.5	7.5
28-Nov	8	7	6	4	2	A	1	1	1	1	2	1	1	1	1	1	1	2	2	2	2	2	1	1	2.1	7.7
29-Nov	1	1	1	2	A	2	2	3	3	4	4	3	3	3	3	4	7	4	4	5	5	5	5	5	3.4	6.6
30-Nov	5	4	3	A	4	3	3	2	2	2	2	3	1	2	2	2	3	3	2	2	2	3	3	3	2.7	4.5
3.4 3.4 3.3 3.2 3.2 3.3 3.0 2.8 3.0 3.1 2.4 2.6 4.7 2.5 2.8 3.6 3.7 3.7 3.3 3.3 3.2 3.4 3.6 3.2																									Diurnal Average	
9.0 8.6 8.2 7.3 7.9 11.4 11.9 7.5 12.7 10.4 7.5 6.8 64.4 9.9 10.5 11.7 11.2 11.1 10.5 8.7 9.3 12.2 11.2 9.1																									Diurnal Maximum	
C - Calibration A - Automated Daily Zero Span																										

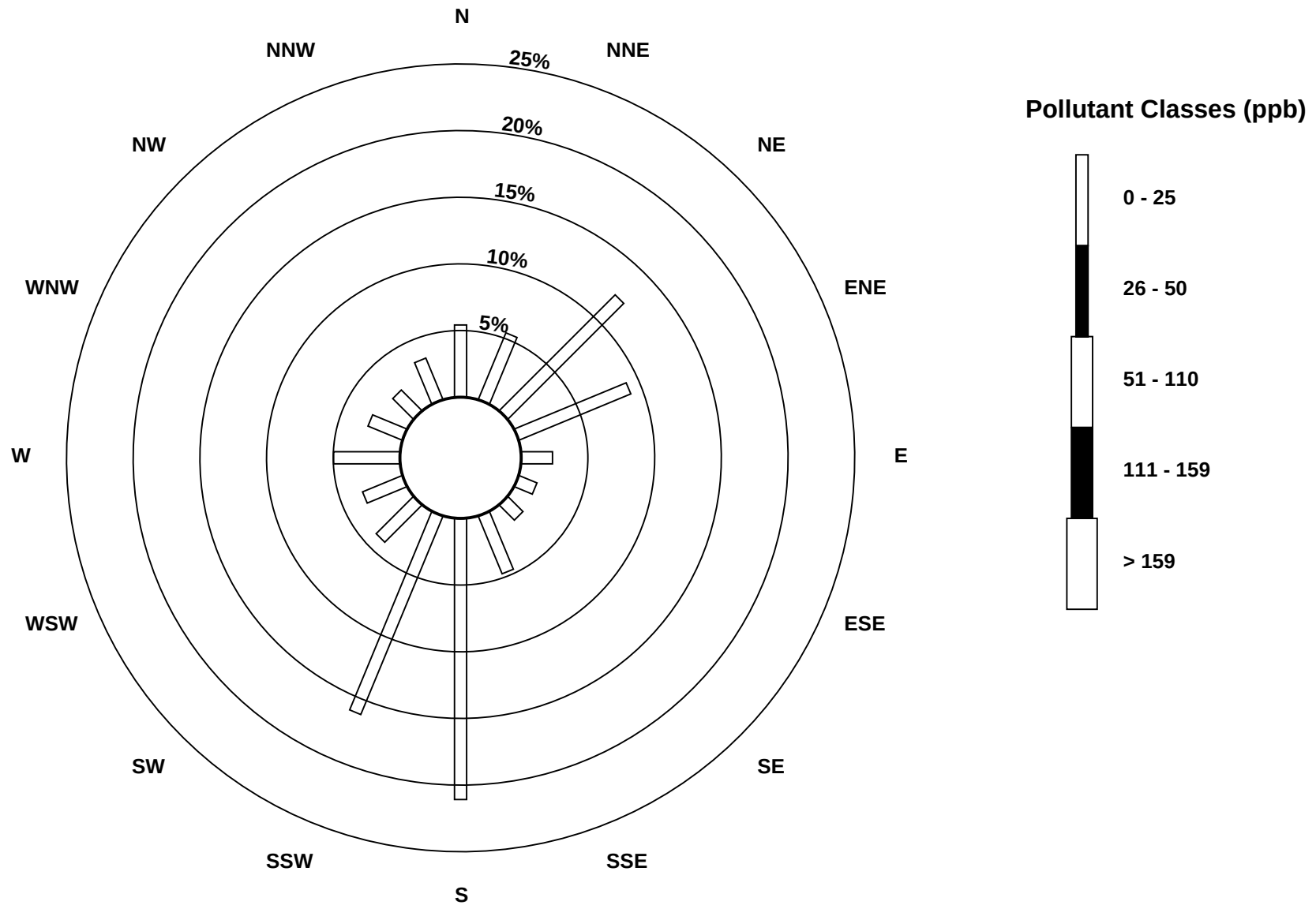
Hourly Maximums

Nitrogen Dioxide (NO₂) - ppb
Sunset House - November 2012



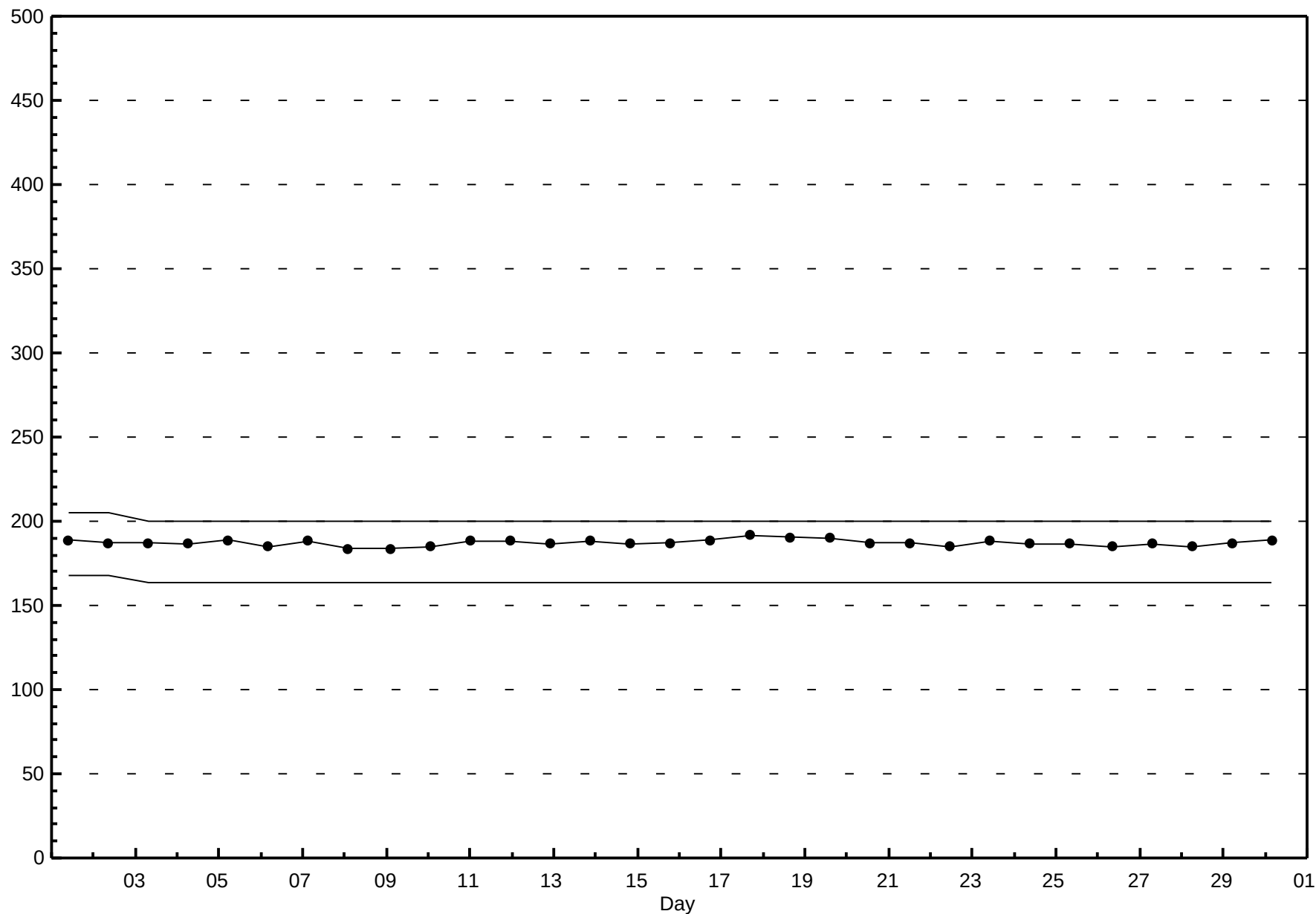
Pollutant Rose

Nitrogen Dioxide (NO₂) - ppb
Sunset House - November 2012



Span Responses

Nitrogen Dioxide (NO₂)
Sunset House - November 2012



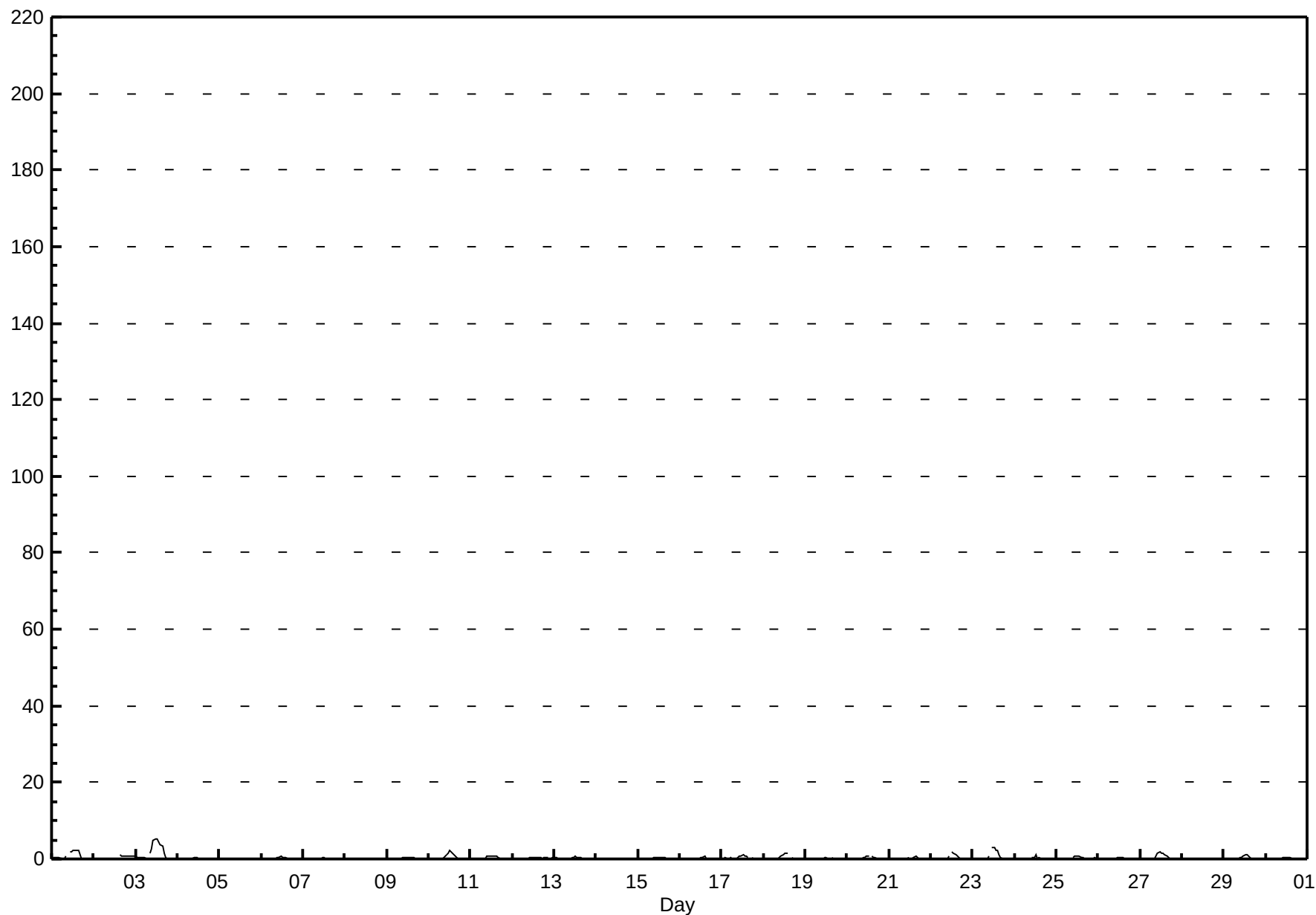
Hourly Averages

Nitrogen Oxide (NO) - ppb Sunset House - November 2012

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																			Hours in Service: 720							
Maximum Value: 5.3 ppb on Nov 3 12:00 Maximum Daily Average: 1.6 ppb on Nov 3																			Hours of Data: 683							
Minimum Value: 0 ppb on Nov 4 17:00 Minimum Daily Average: 0.0 ppb on Nov 28																			Hours of Missing Data: 37							
Maximum Diurnal Average: 1.0 ppb at hour 13 Minimum Diurnal Average: 0.1 ppb at hour 8																			Hours of Calibration: 37							
Monthly Average: 0.26 ppb Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.1 Q ₃ = 0.2 P ₉₀ = 0.7 P ₉₉ = 3.0																			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-Nov	0	0	0	0	0	0	0	0	1	A	2	2	2	2	2	2	1	0	0	0	0	0	0	0	0.7	2.3
2-Nov	0	0	0	0	0	0	0	0	A	C	C	C	C	C	C	1	1	1	1	1	1	1	1	1	--	1.1
3-Nov	1	0	0	0	0	0	0	A	1	3	5	5	5	5	4	3	2	0	0	0	0	0	0	0	1.6	5.3
4-Nov	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
5-Nov	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
6-Nov	0	0	0	0	A	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0.2	0.7
7-Nov	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
8-Nov	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
9-Nov	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
10-Nov	A	0	0	0	0	0	0	0	0	1	1	2	2	2	1	1	0	0	0	0	0	0	0	A	0.5	2.1
11-Nov	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	0	0	0	0	0	0	A	0	0.3	0.9
12-Nov	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
13-Nov	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	A	0	0	0	0.2	0.6
14-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.1	0.2
15-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0.2	0.5
16-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	A	0	0	0	0	0	0	0.1	0.6
17-Nov	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	0	A	0	0	0	0	0	0	0	0.3	0.9
18-Nov	0	0	0	0	0	0	0	0	0	0	1	1	2	1	1	A	0	0	0	0	0	0	0	0	0.3	1.6
19-Nov	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
20-Nov	0	0	0	0	0	0	0	0	0	0	1	1	1	A	1	1	0	0	0	0	0	0	0	0	0.2	0.8
21-Nov	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	1	0	0	0	0	0	0	0	0	0.1	0.7
22-Nov	0	0	0	0	0	0	0	0	0	0	1	A	2	1	1	1	0	0	0	0	0	0	0	0	0.3	1.8
23-Nov	0	0	0	0	0	0	0	0	0	1	A	3	3	2	2	1	0	0	0	0	0	0	0	0	0.6	3.0
24-Nov	0	0	0	0	0	0	0	0	0	A	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0.1	1.1
25-Nov	0	0	0	0	0	0	0	0	A	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0.2	0.8
26-Nov	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
27-Nov	0	0	0	0	0	0	A	0	0	1	2	2	1	1	1	1	0	0	0	0	0	0	0	0	0.4	1.7
28-Nov	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
29-Nov	0	0	0	0	A	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0.2	1.1
30-Nov	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.4
0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.4 0.6 0.8 1.0 0.8 0.7 0.5 0.2 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1																									Diurnal Average	
0.6 0.5 0.4 0.3 0.3 0.3 0.2 0.1 1.5 2.7 4.8 5.3 5.3 4.6 3.9 3.2 1.6 0.6 0.7 0.8 0.8 0.7 0.7 0.6																									Diurnal Maximum	
C - Calibration A - Automated Daily Zero Span																										

Hourly Averages

Nitrogen Oxide (NO) - ppb
Sunset House - November 2012



Hourly Maximums

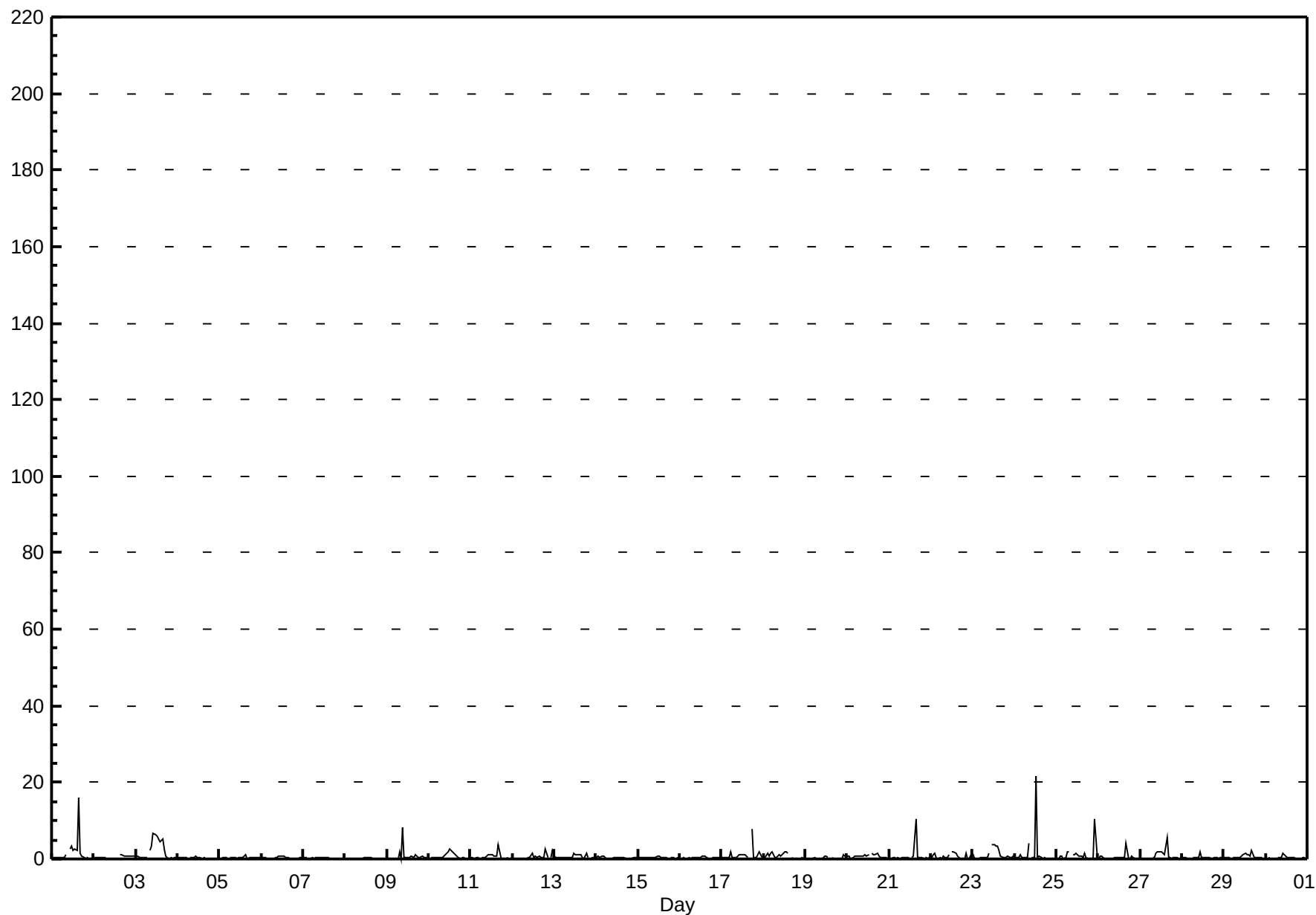
Nitrogen Oxide (NO) - ppb

Sunset House - November 2012

Maximum Value: 21.5 ppb on Nov 24 13:00																				Maximum Daily Average: 2.1 ppb on Nov 3					Hours in Service: 720	
Minimum Value: 0 ppb on Nov 4 20:00																				Minimum Daily Average: 0.2 ppb on Nov 8					Hours of Data: 683	
Maximum Diurnal Average: 2.0 ppb at hour 13																				Minimum Diurnal Average: 0.3 ppb at hour 19					Hours of Missing Data: 37	
Monthly Average: 0.66 ppb																				Percentiles: P ₁ = 0.1 P ₁₀ = 0.2 Q ₁ = 0.2 Median = 0.3 Q ₃ = 0.6 P ₉₀ = 1.3 P ₉₉ = 6.1					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-Nov	0	0	0	0	0	0	0	0	1	A	3	3	2	3	2	16	1	1	0	0	0	0	0	0	1.6	16.0
2-Nov	0	0	0	0	0	0	0	0	A	C	C	C	C	C	C	1	1	1	1	1	1	1	1	1	--	1.3
3-Nov	1	1	1	1	0	0	0	A	2	4	7	6	6	5	5	5	3	1	0	0	0	0	0	0	2.1	6.5
4-Nov	0	0	0	0	0	0	A	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.6
5-Nov	0	0	0	0	0	A	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0.4	1.2
6-Nov	0	0	0	0	A	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0.3	0.9
7-Nov	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
8-Nov	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
9-Nov	0	A	0	0	0	0	0	0	2	0	8	0	0	0	1	0	1	1	0	0	1	0	0	0	0.8	8.0
10-Nov	A	0	0	0	0	0	0	0	0	1	2	2	2	2	2	1	1	0	0	0	0	0	0	A	0.7	2.5
11-Nov	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	4	0	0	0	0	0	A	0	0.6	3.6
12-Nov	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	3	0	A	0	2	0.5	2.7
13-Nov	1	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0	1	0	A	0	0	0	0.5	1.4
14-Nov	0	1	0	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	A	0	0	0	0	0.3	0.9
15-Nov	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	A	0	0	0	0	0	0.3	0.7
16-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	A	0	0	0	0	0	0	0.3	0.8
17-Nov	0	0	0	0	0	2	0	0	0	1	1	1	1	1	1	1	A	8	0	0	0	2	1	0	1.0	7.9
18-Nov	0	0	2	1	2	2	0	0	1	1	1	2	2	2	2	A	0	0	0	0	0	0	0	0	0.8	2.0
19-Nov	0	0	0	0	0	0	0	0	0	0	0	1	1	0	A	0	0	0	0	0	0	0	1	0	0.3	1.1
20-Nov	1	1	0	0	1	1	1	1	1	1	1	1	1	A	2	1	1	1	1	0	0	0	0	0	0.7	1.5
21-Nov	0	0	0	0	0	0	0	0	0	0	0	0	A	0	1	10	0	0	0	0	0	0	0	0	0.7	10.4
22-Nov	0	1	2	0	0	0	0	1	0	0	1	A	2	2	1	1	0	0	0	0	1	0	0	1	0.7	2.0
23-Nov	1	0	0	0	0	0	0	0	0	2	A	4	4	3	3	2	1	0	0	0	1	0	0	1	1.1	3.7
24-Nov	0	0	0	1	0	0	0	0	4	A	0	0	21	0	1	0	0	1	0	0	0	0	0	0	1.4	21.5
25-Nov	0	0	1	1	0	0	2	2	A	1	1	1	1	1	1	0	1	0	0	0	0	0	11	0	1.1	10.6
26-Nov	0	1	1	0	0	0	0	A	0	0	0	0	0	0	0	0	4	0	0	1	0	0	0	0	0.5	4.1
27-Nov	0	0	0	0	0	0	A	0	0	2	2	2	2	2	1	6	0	0	0	0	0	0	0	0	0.8	5.6
28-Nov	0	0	0	0	0	A	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.9
29-Nov	0	0	0	0	A	0	0	0	0	0	1	1	1	1	1	1	2	0	0	0	0	0	0	0	0.5	2.2
30-Nov	0	0	0	A	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0.3	1.4
0.3 0.3 0.4 0.3 0.3 0.4 0.3 0.4 0.5 1.0 1.0 1.2 2.0 1.1 1.0 1.8 0.8 0.6 0.3 0.3 0.3 0.3 0.6 0.4																									Diurnal Average	
1.3 1.1 1.7 1.0 1.6 2.0 2.0 1.9 4.3 8.0 6.5 6.3 21.5 5.4 4.6 16.0 4.1 7.9 1.4 2.7 1.5 2.0 10.6 2.1																									Diurnal Maximum	
C - Calibration																									A - Automated Daily Zero Span	

Hourly Maximums

Nitrogen Oxide (NO) - ppb
Sunset House - November 2012



Hourly Averages

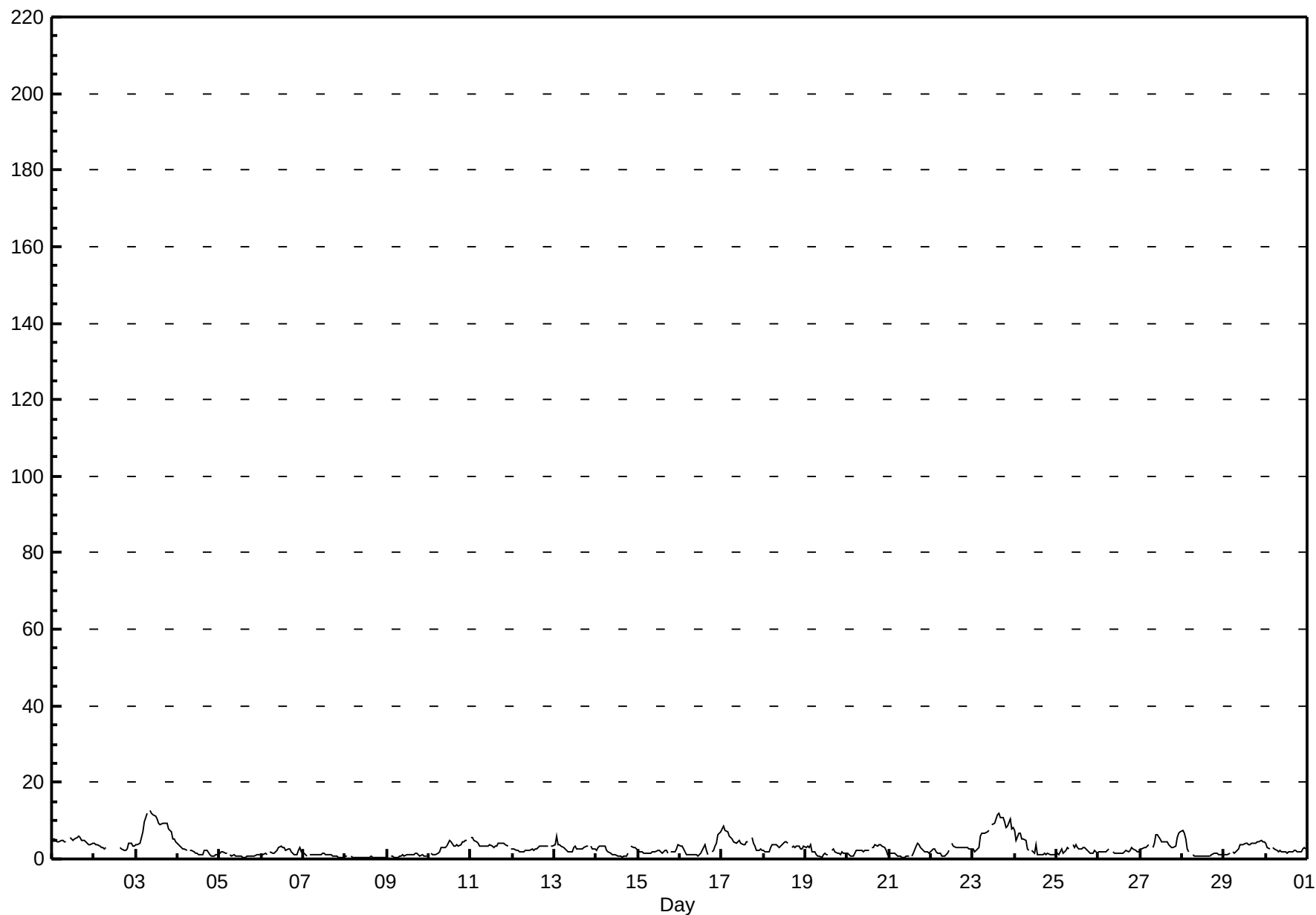
Oxides of Nitrogen (NO_x) - ppb

Sunset House - November 2012

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																				Hours in Service: 720							
Maximum Value: 12.6 ppb on Nov 3 09:00																				Maximum Daily Average: 8.2 ppb on Nov 3				Hours of Data: 683			
Minimum Value: 0 ppb on Nov 8 23:00																				Minimum Daily Average: 0.5 ppb on Nov 8				Hours of Missing Data: 37			
Maximum Diurnal Average: 3.1 ppb at hour 18																				Minimum Diurnal Average: 2.2 ppb at hour 8				Hours of Calibration: 37			
Monthly Average: 2.82 ppb																				Percentiles: P ₁ = 0.4 P ₁₀ = 0.8 Q ₁ = 1.3 Median = 2.3 Q ₃ = 3.6 P ₉₀ = 5.1 P ₉₉ = 11.2				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-Nov	5	5	5	5	5	5	5	5	5	A	6	5	5	5	5	6	5	5	5	5	4	4	4	4	4.8	5.9	
2-Nov	4	4	4	3	3	3	3	3	A	C	C	C	C	C	C	3	3	2	2	2	4	4	4	3	--	4.3	
3-Nov	4	4	4	5	7	10	12	A	13	12	12	11	10	9	9	9	9	9	9	8	7	5	5	4	8.2	12.6	
4-Nov	4	3	3	3	3	2	A	2	2	2	2	2	1	1	1	2	2	2	1	1	1	1	1	1	1.9	3.8	
5-Nov	1	2	2	2	2	A	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1.0	1.7	
6-Nov	1	1	1	1	A	2	1	1	2	2	3	3	3	3	2	3	2	2	1	1	1	2	3	2	2.0	3.2	
7-Nov	1	1	1	A	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	0	0	1	1	1.0	1.5	
8-Nov	1	1	A	1	1	0	1	0	0	0	1	0	1	1	1	1	1	1	1	0	0	0	0	0	0.5	0.8	
9-Nov	0	A	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	0.9	1.5	
10-Nov	A	1	1	1	1	2	2	3	3	3	4	4	5	4	3	3	4	4	4	4	4	5	5	A	3.2	5.0	
11-Nov	6	6	5	5	4	3	3	3	3	3	4	4	3	3	3	3	4	4	4	4	4	3	A	3	3.8	5.6	
12-Nov	3	3	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	A	3	3	2.6	3.4	
13-Nov	4	6	4	4	3	3	3	2	2	2	2	3	3	3	3	3	3	3	3	3	A	3	3	3	3.0	6.1	
14-Nov	2	3	3	3	3	3	2	2	1	1	1	1	1	1	1	1	1	1	2	A	3	3	3	3	1.9	3.2	
15-Nov	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	A	2	2	2	3	4	2.0	3.6	
16-Nov	3	3	3	2	1	1	1	1	1	1	1	1	2	2	4	2	1	A	2	2	3	4	6	7	2.4	7.2	
17-Nov	8	8	8	7	6	6	5	5	4	4	5	4	4	4	4	5	A	6	4	3	2	2	3	2	4.7	8.4	
18-Nov	2	2	2	2	3	4	4	4	3	3	3	4	4	4	4	A	3	3	3	3	3	3	2	3	3.2	4.4	
19-Nov	3	3	3	4	2	2	1	1	1	1	1	1	1	1	A	2	3	2	1	1	1	2	2	1	1.7	3.8	
20-Nov	1	1	1	1	1	2	2	2	2	2	2	2	2	A	3	3	4	3	4	4	3	3	2	1	2.3	3.6	
21-Nov	1	1	1	1	1	1	1	1	0	0	1	1	A	1	2	3	4	4	3	3	2	2	2	1	1.6	4.1	
22-Nov	2	3	3	2	2	2	1	1	1	1	2	A	4	4	3	3	3	3	3	3	3	3	3	3	2.4	4.2	
23-Nov	3	2	2	3	6	7	7	7	7	7	A	9	9	10	12	12	11	11	10	8	9	10	8	8	7.7	11.8	
24-Nov	8	5	7	7	5	5	5	3	2	A	2	2	4	1	1	1	1	2	1	1	1	1	1	1	2.9	7.5	
25-Nov	2	1	2	3	1	2	3	3	A	4	3	4	3	3	3	3	3	3	2	1	1	1	2	2	2.3	3.6	
26-Nov	2	2	2	2	2	2	3	A	2	1	1	1	2	2	2	2	2	2	2	3	3	2	2	2	1.9	2.8	
27-Nov	2	3	3	3	4	4	A	3	4	6	6	5	5	5	4	4	4	3	3	3	3	6	7	7	4.2	7.2	
28-Nov	7	7	5	3	2	A	1	1	1	1	1	1	1	1	1	1	1	1	2	2	1	1	1	1	1.8	7.4	
29-Nov	1	1	1	1	A	2	1	2	3	4	4	4	4	4	4	4	4	4	4	4	5	5	5	5	3.2	4.7	
30-Nov	4	3	3	A	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	2	2.3	4.3	
		3.0	3.0	2.8	2.8	2.7	2.8	2.6	2.2	2.6	2.6	2.6	2.9	3.0	2.9	3.0	3.1	3.0	3.1	2.9	2.8	2.8	2.9	2.9	2.8	Diurnal Average	
		7.8	8.4	7.6	7.0	7.0	9.9	11.8	6.6	12.6	11.8	11.7	11.3	10.4	10.3	11.7	11.8	10.7	10.7	9.7	8.1	8.7	10.4	7.7	8.4	Diurnal Maximum	
C - Calibration		A - Automated Daily Zero Span																									

Hourly Averages

Oxides of Nitrogen (NO_x) - ppb
Sunset House - November 2012



Hourly Maximums

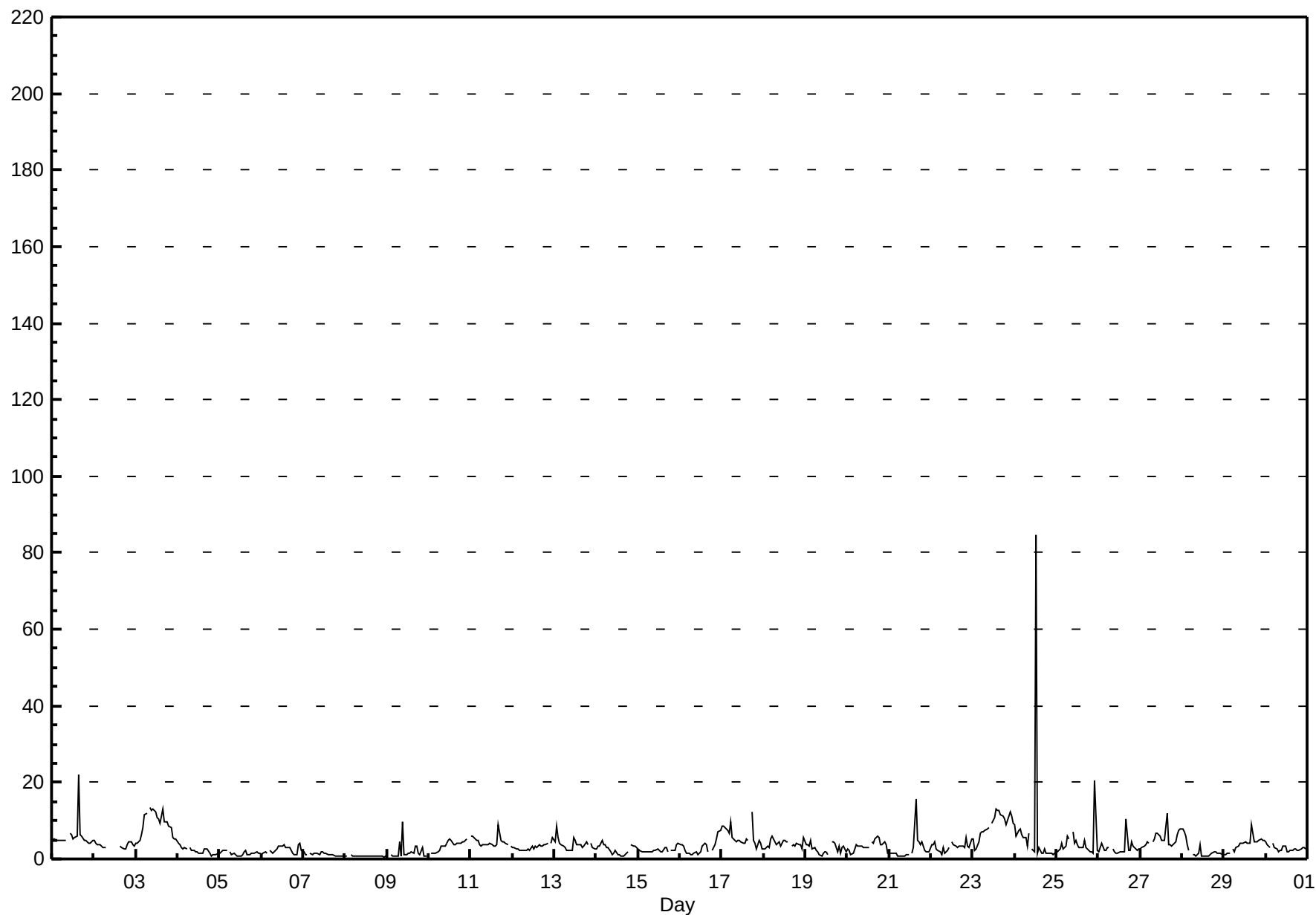
Oxides of Nitrogen (NO_x) - ppb

Sunset House - November 2012

Maximum Value: 84.6 ppb on Nov 24 13:00																				Maximum Daily Average: 9.0 ppb on Nov 3					Hours in Service: 720	
Minimum Value: 1 ppb on Nov 8 23:00																				Minimum Daily Average: 0.7 ppb on Nov 8					Hours of Data: 683	
Maximum Diurnal Average: 6.4 ppb at hour 13																				Minimum Diurnal Average: 2.9 ppb at hour 8					Hours of Missing Data: 37	
Monthly Average: 3.64 ppb																				Percentiles: P ₁ = 0.6 P ₁₀ = 1.1 Q ₁ = 1.7 Median = 3.0 Q ₃ = 4.4 P ₉₀ = 6.3 P ₉₉ = 13.1					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-Nov	5	5	5	5	5	5	5	5	5	A	7	6	5	6	6	22	6	6	5	5	4	4	4	5	5.9	21.9
2-Nov	5	4	4	4	3	3	3	3	A	C	C	C	C	C	C	3	3	2	2	4	5	4	4	4	--	5.0
3-Nov	4	4	5	6	8	12	12	A	13	13	13	12	11	10	9	13	10	10	10	9	8	6	5	5	9.0	13.4
4-Nov	4	4	3	3	3	3	A	3	2	2	2	2	1	1	2	3	3	3	1	1	1	1	1	1	2.2	4.1
5-Nov	2	2	2	2	2	A	2	1	1	1	1	1	1	1	2	2	1	1	1	1	1	2	2	2	1.5	2.4
6-Nov	1	2	2	1	A	2	2	2	2	2	3	3	3	4	3	3	3	2	2	1	1	4	4	2	2.4	3.9
7-Nov	2	1	1	A	2	1	1	1	1	1	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1.2	1.9
8-Nov	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	1.2
9-Nov	1	A	1	1	1	1	1	5	1	10	1	1	1	1	2	1	3	3	1	1	3	1	1	1	1.8	9.8
10-Nov	A	2	1	1	1	2	2	3	3	3	4	5	5	5	4	4	4	4	4	4	5	5	5	A	3.6	5.2
11-Nov	6	6	6	5	5	4	3	4	4	4	4	4	4	3	4	4	9	5	4	4	4	4	A	3	4.4	9.0
12-Nov	3	3	2	3	2	2	2	2	2	3	2	3	3	3	3	4	4	4	4	4	4	A	4	6	3.1	5.7
13-Nov	4	9	6	4	4	3	3	2	2	2	2	5	5	4	4	4	3	3	5	4	A	4	3	3	3.8	8.7
14-Nov	3	3	3	5	4	4	3	3	2	1	2	2	1	1	1	1	1	1	2	A	4	3	3	3	2.4	4.8
15-Nov	3	2	2	2	2	2	2	2	2	2	2	3	2	2	2	3	3	2	A	2	2	2	4	4	2.3	4.0
16-Nov	4	4	3	2	1	1	1	1	1	2	1	1	2	3	4	4	2	A	2	3	4	5	7	8	2.9	7.5
17-Nov	8	9	8	7	7	10	6	5	5	5	5	5	4	4	5	5	A	12	5	4	3	5	4	3	5.8	12.4
18-Nov	3	3	4	3	5	6	5	4	4	5	4	5	5	5	4	A	4	4	3	4	4	4	3	6	4.0	6.1
19-Nov	4	4	3	5	2	3	2	2	1	1	2	2	2	1	A	4	5	4	2	3	1	3	3	2	2.7	4.8
20-Nov	3	2	1	1	3	4	4	3	3	3	3	3	3	A	5	4	5	6	5	4	4	4	4	1	3.4	6.0
21-Nov	2	2	2	2	1	1	1	1	1	1	1	1	A	1	3	16	5	5	4	4	2	2	2	2	2.6	15.7
22-Nov	4	4	4	3	2	2	1	3	2	2	3	A	5	4	3	3	3	3	3	3	6	3	3	5	3.2	5.6
23-Nov	5	2	3	5	7	7	7	8	8	8	A	9	11	13	13	13	12	11	11	9	10	12	11	9	8.8	13.2
24-Nov	9	6	7	8	6	5	6	3	7	A	3	2	85	1	3	2	1	3	1	2	2	1	1	2	7.2	84.6
25-Nov	2	2	3	4	3	3	6	5	A	7	4	5	4	3	3	3	5	3	2	2	2	2	20	2	4.1	20.4
26-Nov	2	3	4	2	2	3	3	A	2	2	2	2	2	2	2	2	10	2	2	5	3	3	2	3	2.8	10.4
27-Nov	3	3	4	4	4	4	A	4	5	7	7	6	5	5	5	12	4	4	3	4	5	6	7	8	5.1	11.8
28-Nov	8	7	6	4	2	A	1	1	1	2	4	1	1	1	1	1	1	2	2	2	2	1	1	1	2.2	7.8
29-Nov	1	1	1	2	A	2	2	3	3	4	4	4	4	4	4	4	9	4	4	5	5	5	5	5	3.7	8.8
30-Nov	4	4	3	A	4	3	3	2	2	2	3	3	2	2	2	2	3	3	2	2	2	3	3	3	2.7	4.5
3.5 3.5 3.4 3.3 3.3 3.5 3.1 2.9 3.1 3.5 3.2 3.5 6.4 3.3 3.5 4.9 4.2 3.9 3.3 3.3 3.3 3.5 4.1 3.4																									Diurnal Average	
9.1 8.7 8.3 7.7 8.2 11.7 12.0 7.5 13.4 12.6 13.1 12.1 84.6 13.2 12.5 21.9 11.7 12.4 10.6 8.8 10.2 12.3 20.4 9.3																									Diurnal Maximum	
C - Calibration A - Automated Daily Zero Span																										

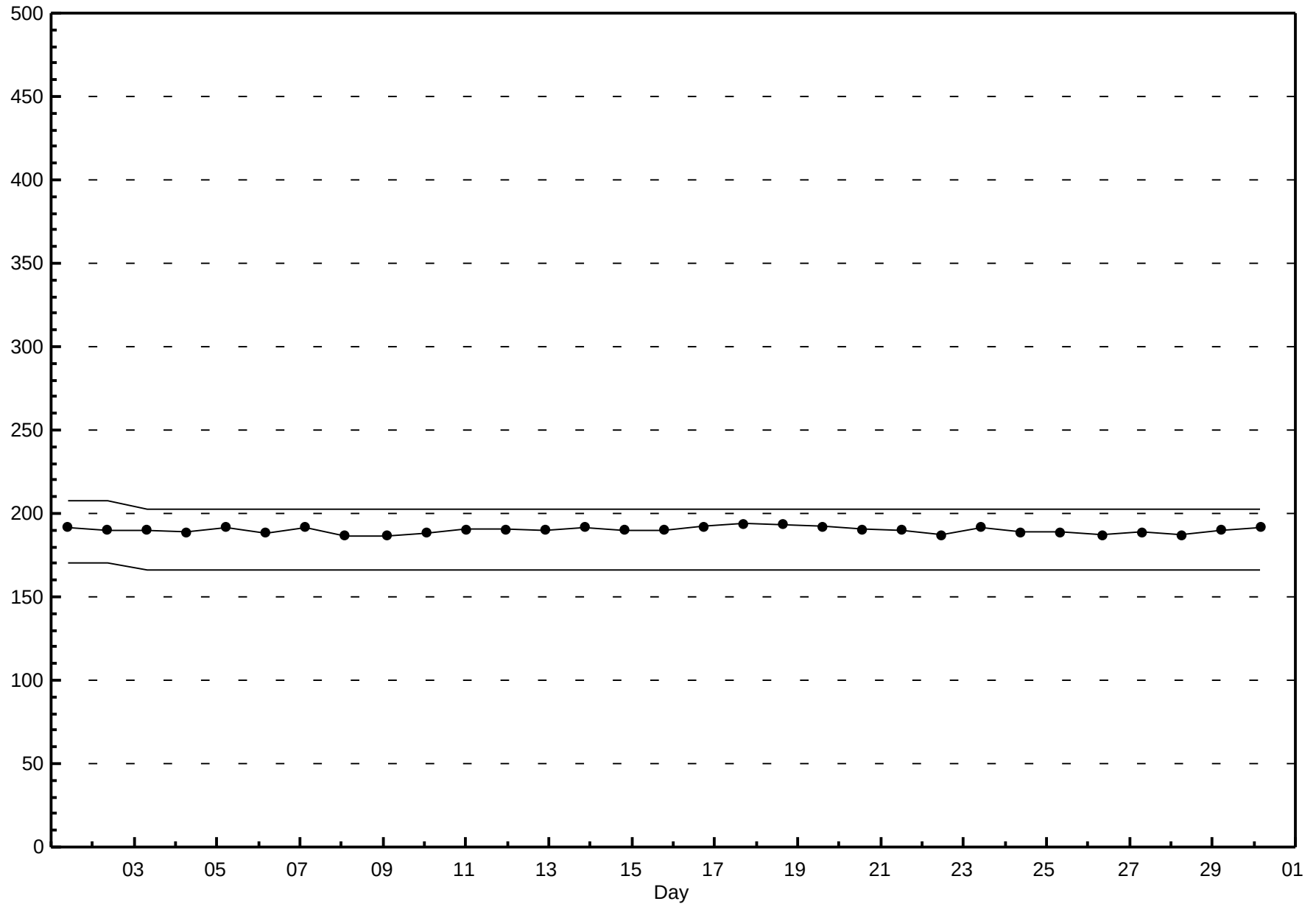
Hourly Maximums

Oxides of Nitrogen (NO_x) - ppb
Sunset House - November 2012



Span Responses

Oxides of Nitrogen (NO_x)
Sunset House - November 2012



Hourly Averages

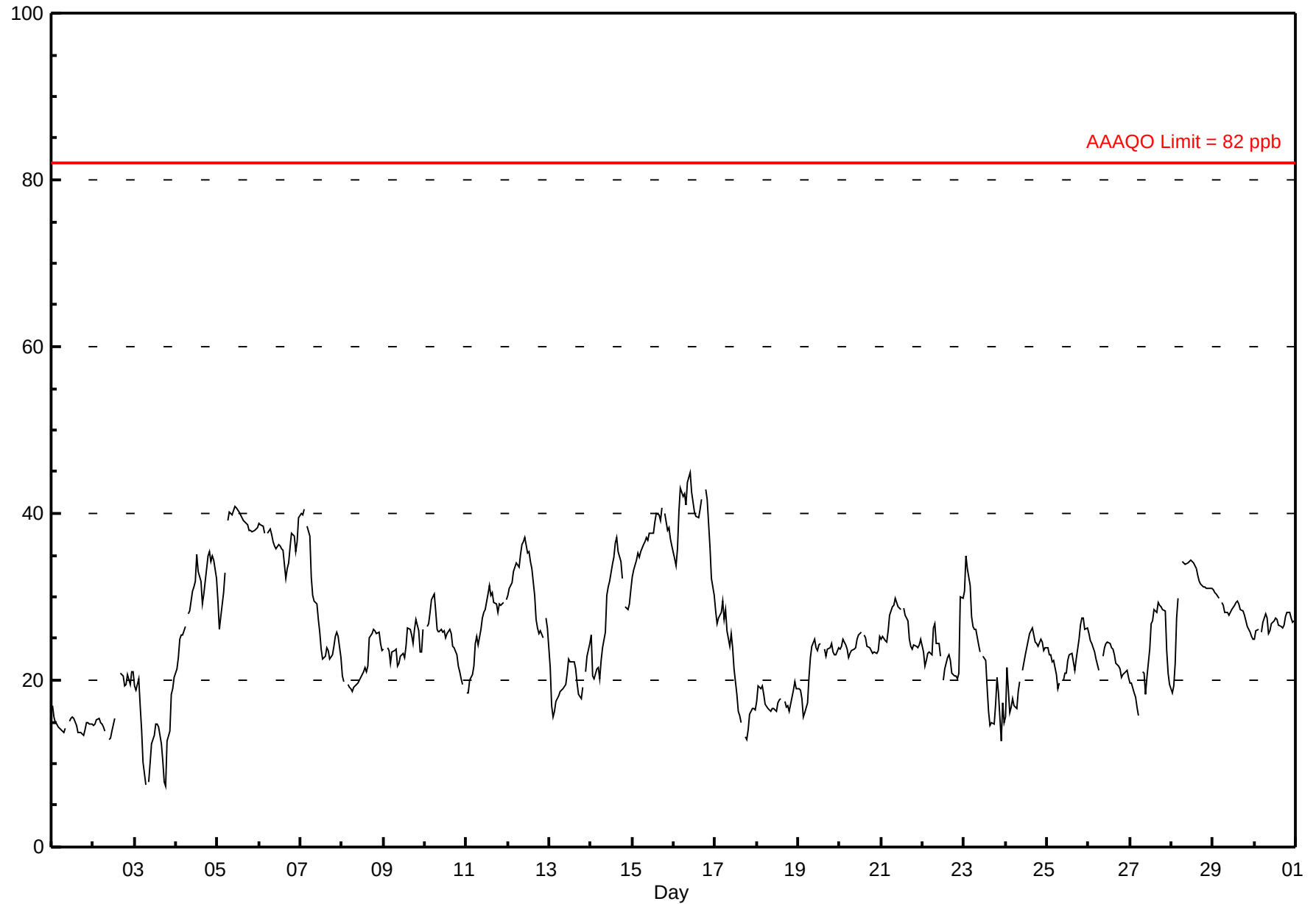
Ozone (O₃) - ppb

Sunset House - November 2012

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 44.9 ppb on Nov 16 10:00 Maximum Daily Average: 39.5 ppb on Nov 16																								Hours in Service: 720 Hours of Data: 686 Hours of Missing Data: 34 Hours of Calibration: 34 Percent Operational Time: 100.0		
Minimum Value: 7 ppb on Nov 3 19:00 Maximum Diurnal Average: 26.8 ppb at hour 14 Monthly Average: 25.53 ppb												Minimum Daily Average: 13.8 ppb on Nov 3 Minimum Diurnal Average: 24.3 ppb at hour 6 Percentiles: P ₁ = 12.3 P ₁₀ = 16.2 Q ₁ = 20.5 Median = 24.8 Q ₃ = 29.8 P ₉₀ = 36.6 P ₉₉ = 41.9														
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Nov	17	16	15	15	14	14	14	14	14	A	15	15	16	15	C	C	C	14	14	13	14	15	15	15	14.6	16.9
2-Nov	15	15	15	15	15	15	14	14	A	13	13	14	15	C	C	C	21	21	19	19	21	19	21	21	16.8	21.0
3-Nov	19	19	20	17	14	10	7	A	8	10	12	13	15	15	14	12	10	8	7	13	14	18	19	20	13.8	20.3
4-Nov	21	23	25	25	25	26	A	28	28	31	31	32	35	33	32	29	30	32	35	35	34	35	34	32	30.2	35.4
5-Nov	29	26	28	31	33	A	39	40	40	40	41	41	40	40	39	39	39	39	38	38	38	38	38	38	37.0	40.9
6-Nov	39	39	38	38	A	38	38	37	37	36	36	36	36	36	36	32	33	34	36	38	37	35	37	39	36.6	39.4
7-Nov	40	40	41	A	38	37	32	30	30	29	27	26	24	23	23	24	24	22	23	24	25	26	25	23	28.5	40.6
8-Nov	20	20	A	20	19	19	19	19	19	20	20	20	21	22	21	22	25	26	26	26	26	26	24	24	21.8	26.1
9-Nov	24	A	24	24	22	23	24	24	22	22	23	23	23	24	26	26	25	24	26	27	26	23	23	26	24.1	27.3
10-Nov	A	27	27	28	30	30	28	26	26	26	26	26	25	26	26	26	24	24	23	22	21	20	19	A	25.2	30.3
11-Nov	18	19	20	21	22	24	25	24	26	27	28	29	30	31	30	31	29	29	28	29	29	29	A	30	26.5	31.4
12-Nov	30	31	32	33	34	34	34	35	36	37	37	35	35	34	33	30	27	26	26	26	25	A	27	26	31.5	37.2
13-Nov	21	17	16	16	17	18	19	19	19	19	21	23	22	22	22	21	20	18	18	19	A	21	23	24	19.8	24.4
14-Nov	25	21	20	21	22	20	22	24	26	30	31	32	34	35	36	37	35	34	32	A	29	29	29	31	28.5	37.1
15-Nov	32	33	34	35	35	35	36	37	37	37	38	38	38	39	40	40	39	41	A	40	38	38	37	36	37.1	40.7
16-Nov	35	34	36	40	43	42	42	41	44	45	43	41	40	40	39	41	42	A	43	42	39	36	32	30	39.5	44.9
17-Nov	28	27	27	28	30	27	28	26	24	26	24	21	18	16	16	15	A	13	13	14	16	17	17	16	21.2	29.5
18-Nov	17	19	19	19	18	17	17	17	16	17	16	17	16	17	18	A	17	17	17	16	18	19	20	19	17.6	19.8
19-Nov	19	19	18	16	16	17	20	23	24	25	24	24	24	24	A	24	23	24	24	24	23	23	23	24	22.0	24.9
20-Nov	24	24	25	24	24	23	23	23	24	24	25	25	26	A	25	25	24	24	24	24	23	23	23	24	24.1	25.7
21-Nov	25	25	25	25	26	28	29	29	30	29	29	28	A	29	28	27	25	24	24	24	24	24	24	25	26.3	29.8
22-Nov	23	22	22	23	23	23	26	27	24	24	23	A	20	21	23	23	22	21	21	20	20	21	30	30	23.2	30.0
23-Nov	31	35	33	31	28	26	26	26	24	23	A	23	22	19	16	15	15	15	17	20	18	13	17	15	22.2	35.0
24-Nov	16	22	16	17	18	17	17	19	20	A	21	23	24	25	26	26	25	25	24	24	25	25	24	24	21.8	26.2
25-Nov	24	23	23	22	22	21	19	20	A	20	21	21	22	23	23	22	21	23	25	27	27	27	26	26	23.0	27.4
26-Nov	26	25	24	23	23	22	21	A	23	24	24	25	24	24	24	23	22	22	21	20	21	21	21	20	22.8	25.6
27-Nov	20	20	18	18	17	16	A	21	21	18	20	24	27	27	28	28	29	29	29	28	28	24	21	19	23.1	29.3
28-Nov	18	19	22	28	30	A	34	34	34	34	34	34	34	34	33	33	32	31	31	31	31	31	31	31	30.7	34.5
29-Nov	31	30	30	30	A	29	29	28	28	28	28	28	28	29	29	29	29	28	28	27	26	26	25	25	28.3	30.8
30-Nov	25	26	26	A	26	27	28	27	26	26	27	27	27	27	27	26	26	27	28	28	28	27	27	27	26.8	28.1
24.6 24.6 24.8 24.4 24.4 24.3 25.4 26.1 26.0 26.5 26.2 26.3 26.4 26.8 26.8 26.4 25.8 24.6 24.8 25.6 25.8 25.2 25.3 25.6																								Diurnal Average		
40.0 39.9 40.6 40.2 43.1 42.0 42.4 41.0 43.7 44.9 42.5 41.3 40.2 39.8 39.9 40.5 41.7 40.7 42.8 41.6 38.8 38.3 38.2 39.4																								Diurnal Maximum		
C - Calibration A - Automated Daily Zero Span Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 82 ppb 24-hr na																										

Hourly Averages

Ozone (O₃) - ppb
Sunset House - November 2012



Hourly Maximums

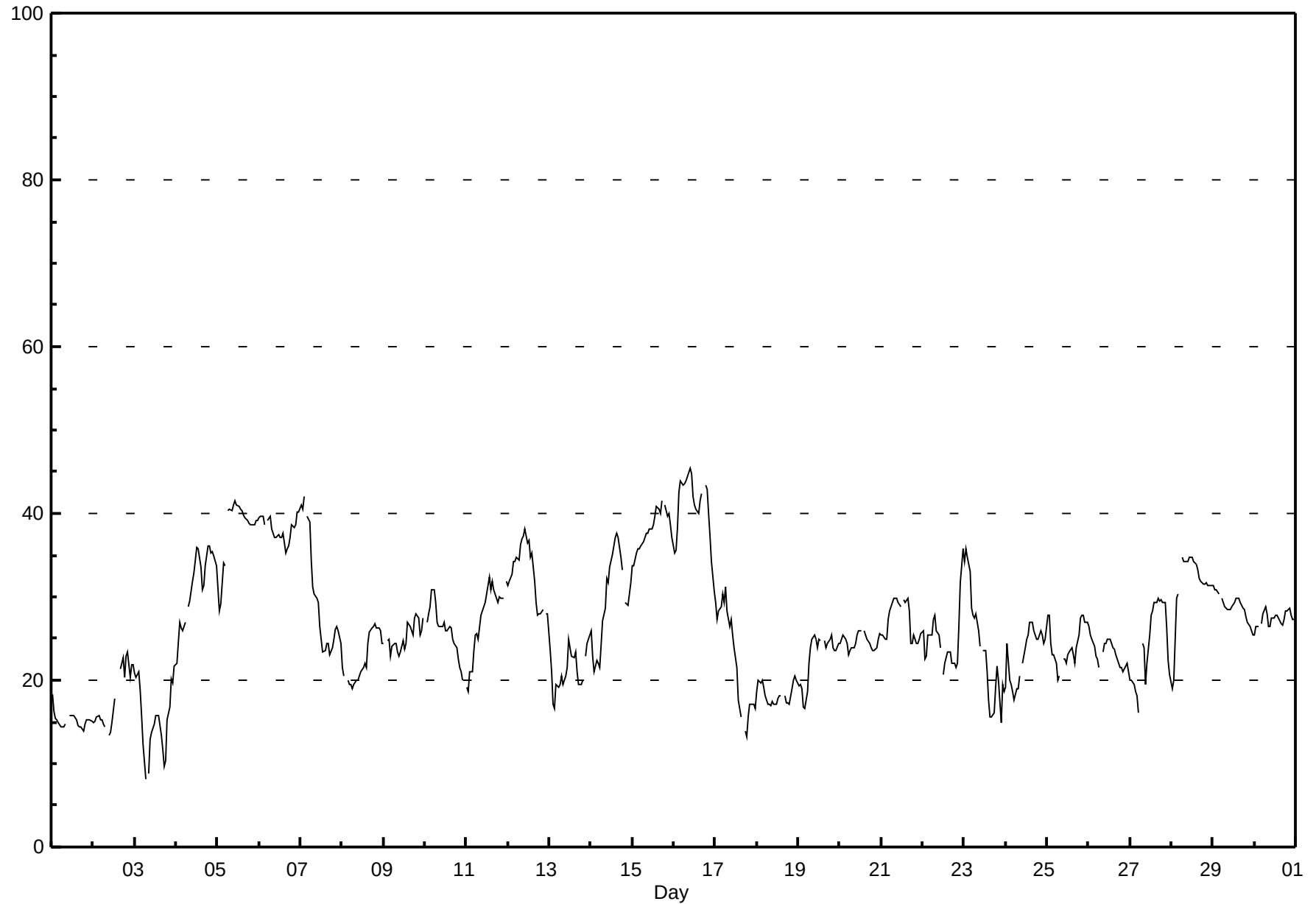
Ozone (O₃) - ppb

Sunset House - November 2012

Maximum Value: 45.4 ppb on Nov 16 10:00																				Maximum Daily Average: 40.7 ppb on Nov 16					Hours in Service: 720		
Minimum Value: 8 ppb on Nov 3 07:00																				Minimum Daily Average: 15.2 ppb on Nov 1					Hours of Data: 686		
Maximum Diurnal Average: 27.7 ppb at hour 15																				Minimum Diurnal Average: 25.3 ppb at hour 6					Hours of Missing Data: 34		
Monthly Average: 26.55 ppb																				Percentiles: P ₁ = 13.1 P ₁₀ = 17.1 Q ₁ = 21.5 Median = 25.4 Q ₃ = 30.8 P ₉₀ = 37.6 P ₉₉ = 43.4					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-Nov	18	16	15	15	15	14	14	14	15	A	16	16	16	16	15	C	C	C	14	14	14	15	15	15	15	15.2	18.3
2-Nov	15	15	16	16	15	15	15	14	A	13	14	15	18	C	C	C	21	23	20	23	23	20	22	22	17.8	23.3	
3-Nov	21	20	21	19	16	12	8	A	9	13	14	15	16	16	16	13	12	10	10	15	17	20	20	22	15.4	21.6	
4-Nov	22	25	27	26	26	27	A	29	29	32	33	34	36	36	34	31	31	34	36	36	35	36	35	34	31.4	36.2	
5-Nov	31	28	29	34	34	A	40	41	40	41	42	41	41	41	40	40	40	39	39	39	39	39	39	39	38.0	41.5	
6-Nov	40	40	40	39	A	39	40	38	38	37	37	37	37	37	38	35	36	36	37	39	38	39	40	40	38.1	40.2	
7-Nov	41	41	42	A	40	39	34	31	30	30	29	26	25	23	24	24	24	23	24	25	26	26	26	24	29.5	42.0	
8-Nov	22	21	A	20	20	20	19	20	20	20	21	21	21	22	21	24	26	26	26	27	26	26	26	24	22.6	26.8	
9-Nov	24	A	25	25	23	24	24	24	23	23	23	25	24	24	27	26	26	25	27	28	27	25	26	27	25.2	27.9	
10-Nov	A	27	28	29	31	31	29	27	26	26	26	27	26	26	26	26	25	24	24	23	22	21	20	A	26.0	30.9	
11-Nov	19	19	21	21	23	25	26	25	28	28	29	29	31	32	31	32	31	30	29	30	30	30	A	32	27.5	32.3	
12-Nov	31	32	33	34	34	35	34	36	37	37	38	36	37	35	35	32	29	28	28	28	28	A	28	28	32.8	38.2	
13-Nov	24	21	17	17	20	19	20	21	20	21	21	25	24	23	23	23	21	19	19	20	A	23	24	25	21.3	25.4	
14-Nov	26	23	21	22	22	21	24	27	29	32	32	34	35	36	37	38	37	35	33	A	29	29	30	32	29.8	37.6	
15-Nov	34	34	35	36	36	36	37	37	38	38	38	38	39	40	41	41	40	42	A	41	40	40	39	37	38.0	41.5	
16-Nov	35	36	38	42	44	43	44	44	44	45	45	42	41	41	40	41	42	A	43	43	40	37	34	31	40.7	45.4	
17-Nov	29	27	28	29	30	29	31	28	26	27	25	24	22	18	17	16	A	14	13	16	17	17	17	17	22.5	31.3	
18-Nov	19	20	20	20	19	18	17	17	17	18	17	17	18	18	18	A	18	17	17	17	19	20	21	20	18.3	20.5	
19-Nov	19	20	19	17	17	19	22	24	25	25	25	24	25	25	A	25	24	24	25	25	24	23	23	24	22.8	25.4	
20-Nov	24	25	25	25	24	23	23	24	24	24	25	26	26	A	26	25	25	24	24	24	23	23	24	25	24.6	25.9	
21-Nov	25	25	25	25	27	28	29	30	30	30	29	29	A	30	29	30	28	24	24	25	24	24	25	26	27.1	29.8	
22-Nov	26	23	23	25	25	25	27	28	26	25	24	A	21	22	23	23	23	22	22	21	22	26	32	36	24.9	35.7	
23-Nov	34	36	35	33	29	28	27	28	26	24	A	24	24	21	18	16	16	16	19	22	20	15	20	19	23.8	35.7	
24-Nov	19	24	20	20	19	18	19	19	21	A	22	24	25	25	27	27	26	25	25	25	26	25	24	25	23.0	26.9	
25-Nov	28	28	24	23	23	22	20	21	A	22	22	22	23	23	24	23	22	24	25	27	28	28	27	27	24.2	27.9	
26-Nov	26	25	25	24	23	23	21	A	23	24	24	25	25	24	24	24	23	22	22	22	21	22	22	21	23.3	26.4	
27-Nov	20	20	20	19	18	16	A	24	24	20	22	25	28	28	29	29	30	29	30	29	29	26	22	21	24.3	29.8	
28-Nov	19	20	25	30	30	A	35	34	34	34	35	35	35	34	34	33	32	32	31	31	32	31	31	31	31.3	34.7	
29-Nov	31	31	31	30	A	30	29	29	28	28	28	29	29	30	30	30	29	29	28	28	27	26	26	25	28.8	31.3	
30-Nov	25	26	26	A	27	28	29	28	26	26	27	27	28	28	27	27	27	27	28	28	29	28	27	27	27.4	28.9	
25.8 25.7 26.0 25.5 25.3 25.3 26.4 27.2 27.0 27.4 27.1 27.3 27.3 27.6 27.7 27.5 26.9 25.5 25.7 26.6 26.8 26.3 26.4 26.8																									Diurnal Average		
41.1 40.6 42.0 42.5 44.0 43.5 43.6 43.9 44.4 45.4 44.8 42.0 41.0 40.5 40.9 41.5 42.5 41.5 43.4 42.9 40.0 40.1 40.1 40.2																									Diurnal Maximum		
C - Calibration A - Automated Daily Zero Span																											

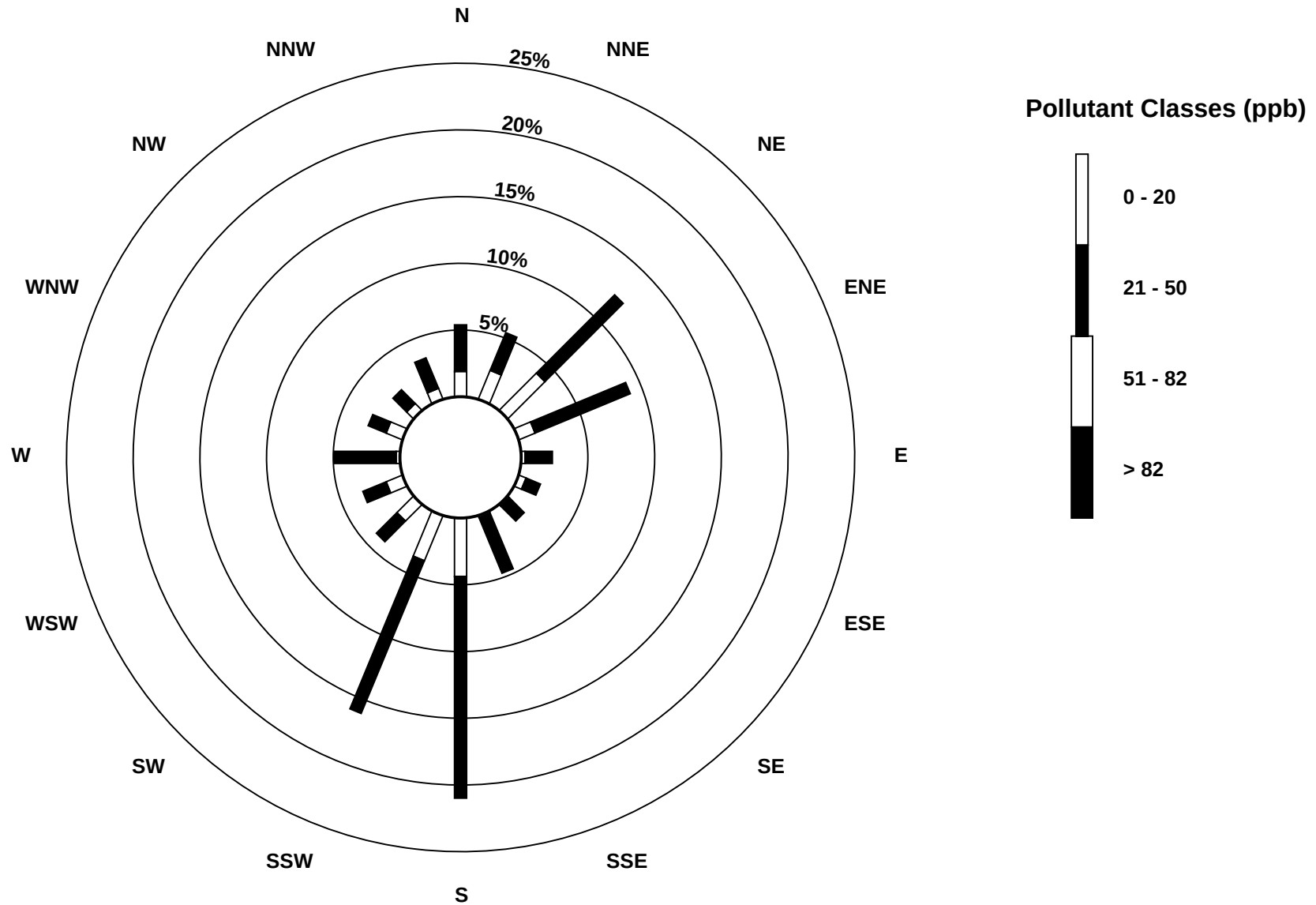
Hourly Maximums

Ozone (O₃) - ppb
Sunset House - November 2012



Pollutant Rose

Ozone (O₃) - ppb
Sunset House - November 2012



Eight Hour Running Averages

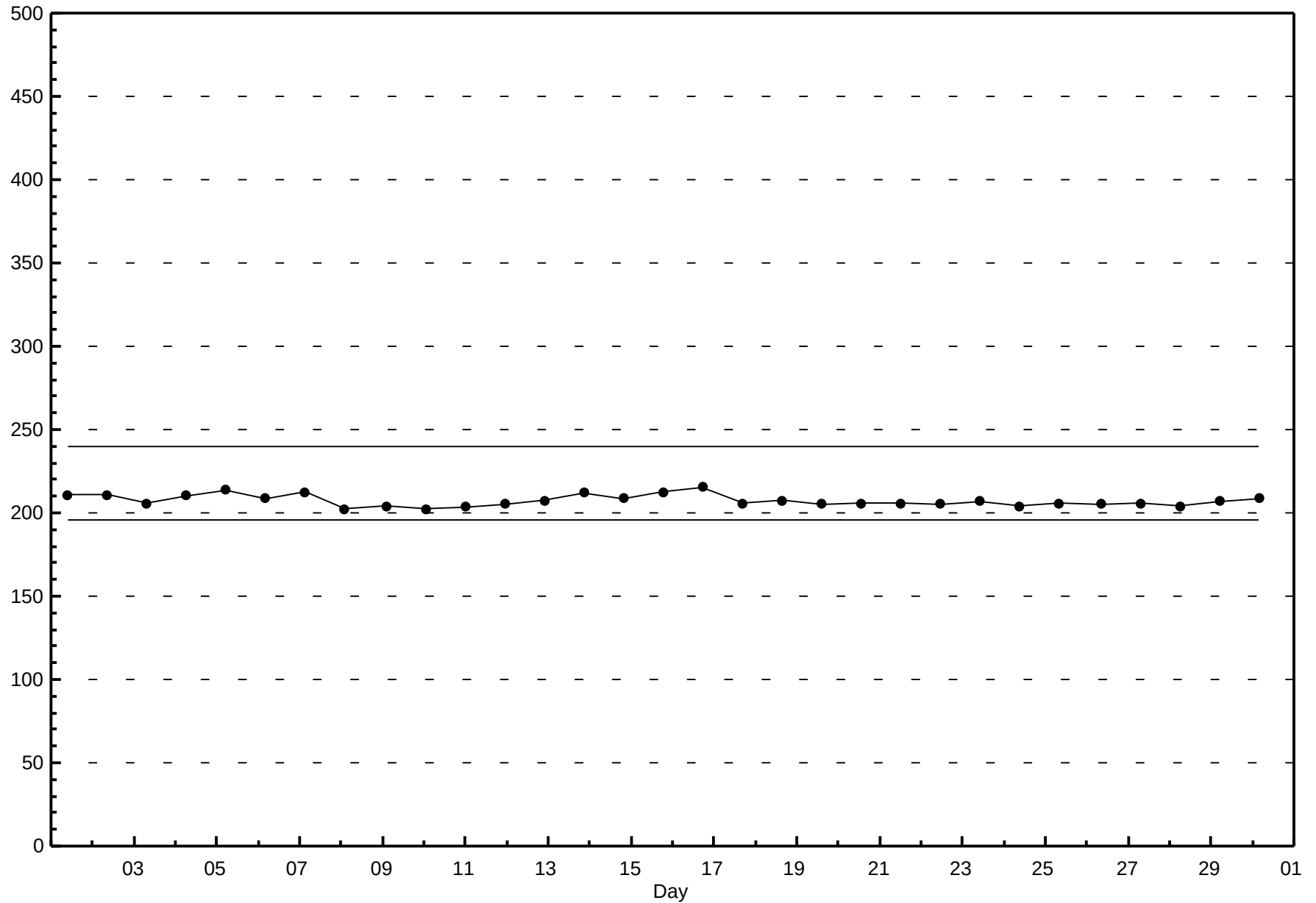
Ozone (O₃) - ppb

Sunset House - November 2012

Maximum Value: 42.6 ppb on Nov 16 12:00																								Hours in Service: 720
Minimum Value: 10.7 ppb on Nov 3 12:00																								Hours of Data: 713
Percentiles: P ₁ = 12.1 P ₁₀ = 16.7 Q ₁ = 20.7 Median = 24.4 Q ₃ = 29.8 P ₉₀ = 36.7 P ₉₉ = 41.5																								Hours of Missing Data: 7
																								Hours of Calibration: 7
																								Percent Operational Time: 100.0
Day	Hourly Period Ending At (MST)																							Daily Maximum
1-Nov	17	17	17	17	16	16	15	15	14	14	14	14	15	15	15	15	15	14	14	14	14	14	14	16.8
2-Nov	14	14	15	15	15	15	15	15	15	15	14	14	14	14	N	N	N	N	N	N	N	20	20	20.3
3-Nov	20	20	20	20	19	18	16	15	14	12	11	11	11	11	12	12	13	13	12	12	12	12	13	20.1
4-Nov	15	17	19	21	22	23	24	25	26	27	28	29	30	31	31	31	32	32	32	33	33	33	34	33.5
5-Nov	33	33	32	31	31	30	31	32	34	36	38	39	40	40	40	40	40	40	39	39	39	39	38	40.2
6-Nov	38	38	38	38	38	38	38	38	38	37	37	37	37	37	36	36	35	35	35	35	35	35	36	38.3
7-Nov	37	38	38	38	39	39	38	37	35	34	32	31	29	28	26	26	25	24	24	23	23	24	24	38.9
8-Nov	24	23	23	23	22	21	20	19	19	19	19	19	20	20	20	21	21	22	23	23	24	25	25	25.2
9-Nov	25	25	25	24	24	23	23	23	23	23	23	23	23	23	23	24	24	24	25	25	26	26	25	25.7
10-Nov	25	26	26	26	26	27	28	28	28	28	28	27	27	26	26	26	26	25	25	24	24	23	22	28.0
11-Nov	21	20	20	20	20	20	21	22	23	24	25	26	27	28	28	29	29	30	30	30	30	29	29	29.8
12-Nov	29	30	30	31	31	32	32	33	34	34	35	35	35	35	35	35	34	32	31	30	28	28	26	35.4
13-Nov	25	24	23	21	20	20	19	18	18	18	19	19	20	20	21	21	21	21	21	20	20	20	20	25.4
14-Nov	21	22	22	22	22	22	22	22	22	23	25	26	27	29	31	33	34	34	34	35	34	33	31	34.9
15-Nov	31	31	31	32	32	33	34	35	35	36	36	37	37	37	38	38	38	39	39	39	40	39	38	39.5
16-Nov	38	37	37	37	37	38	38	39	40	42	42	43	42	42	42	42	41	41	41	41	41	40	38	42.6
17-Nov	36	35	33	31	30	29	28	28	27	27	27	26	24	23	21	20	19	18	16	15	15	15	15	35.7
18-Nov	15	16	17	18	18	18	18	18	18	17	17	17	17	17	17	17	17	17	17	17	17	18	18	18.0
19-Nov	18	18	18	18	18	18	18	18	18	19	20	21	22	23	24	24	24	24	24	24	24	24	24	24.1
20-Nov	24	24	24	24	24	24	24	24	24	24	24	24	24	24	25	25	25	25	25	24	24	24	24	24.9
21-Nov	24	24	24	24	25	25	26	26	27	27	28	28	29	29	29	29	28	27	26	26	26	25	24	29.0
22-Nov	24	24	24	23	23	23	24	24	24	24	24	24	24	24	23	23	22	22	22	21	21	21	22	24.5
23-Nov	24	26	28	29	30	31	30	30	29	27	26	25	25	23	22	20	19	18	18	17	17	16	16	30.5
24-Nov	16	17	17	17	17	17	17	17	18	18	18	19	20	21	22	24	24	24	25	25	25	25	24	25.0
25-Nov	24	24	24	24	23	23	22	22	21	21	21	20	20	21	21	22	22	22	23	23	24	24	25	25.3
26-Nov	26	26	26	26	25	24	24	23	23	23	23	23	24	24	24	24	24	23	23	23	22	22	21	26.1
27-Nov	21	21	20	20	19	19	18	18	19	18	19	20	21	23	23	24	25	27	28	28	28	28	26	28.4
28-Nov	25	23	23	22	23	22	24	26	29	31	33	34	34	34	34	34	34	33	33	32	32	31	31	34.2
29-Nov	31	31	31	31	31	30	30	30	29	29	29	28	29	29	29	29	29	29	29	29	28	28	27	31.1
30-Nov	26	26	26	26	26	26	26	26	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27.3
38.2 38.2 38.4 38.5 38.6 38.9 38.5 39.1 40.2 41.6 42.5 42.6 42.3 42.0 41.6 41.6 41.3 40.8 40.8 40.9 40.7 40.1 39.1 38.5																								Diurnal Maximums
N - Not Valid																								

Span Responses

Ozone (O₃)
Sunset House - November 2012



Hourly Averages

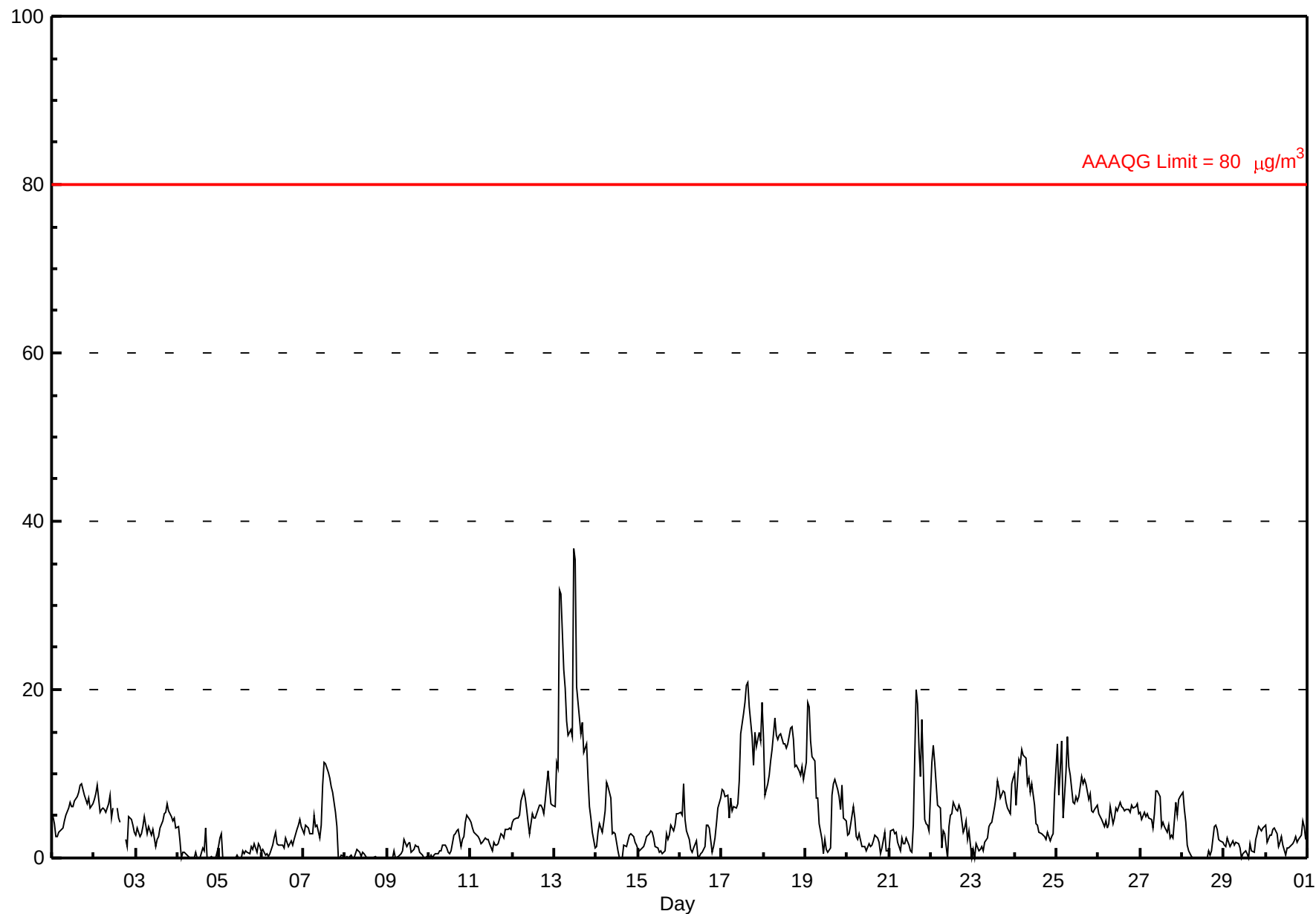
PM2.5 (PM_{2.5}) - µg/m³

Sunset House - November 2012

Number of Exceedences: 1-hr: 0 24-hr: 0 Maximum Value: 36.9 µg/m ³ on Nov 13 12:00 Minimum Value: 0 µg/m ³ on Nov 4 08:00 Maximum Diurnal Average: 5.8 µg/m ³ at hour 17 Monthly Average: 4.60 µg/m ³																								Hours in Service: 720 Hours of Data: 717 Hours of Missing Data: 3 Hours of Calibration: 0 Percent Operational Time: 99.6		
Maximum Daily Average: 16.0 µg/m ³ on Nov 13 Minimum Daily Average: 0.2 µg/m ³ on Nov 8 Minimum Diurnal Average: 3.7 µg/m ³ at hour 10 Percentiles: P ₁ = 0.0 P ₁₀ = 0.2 Q ₁ = 1.3 Median = 3.3 Q ₃ = 6.2 P ₉₀ = 10.8 P ₉₉ = 20.3																										
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-Nov	5	4	3	3	3	3	4	4	5	6	7	6	6	7	7	8	9	9	7	7	6	7	6	6	5.8	8.9
2-Nov	7	8	9	5	6	6	6	6	6	7	5	6	N	6	5	4	M	M	2	1	5	5	4	3	5.3	8.7
3-Nov	3	4	3	3	4	5	3	4	3	3	3	1	2	3	4	4	5	5	7	6	5	4	5	4	3.8	6.5
4-Nov	4	2	0	1	1	0	0	0	0	0	1	0	0	0	1	1	4	0	0	0	0	0	0	1	0.6	3.7
5-Nov	2	3	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	1	2	1	2	1	0.7	3.0
6-Nov	1	1	0	0	0	0	2	2	3	2	2	2	2	1	2	1	2	2	2	2	3	4	5	4	1.9	4.6
7-Nov	3	4	4	4	3	3	5	4	4	2	4	9	11	11	10	9	8	8	5	4	0	0	0	0	4.8	11.3
8-Nov	0	0	0	0	0	0	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.1
9-Nov	0	0	0	0	1	0	0	0	1	1	2	1	2	2	1	1	2	1	1	1	0	0	0	0	0.7	2.2
10-Nov	0	0	0	0	1	0	1	1	2	1	1	1	0	1	3	3	3	3	1	2	2	4	5	5	1.7	5.1
11-Nov	4	4	3	3	3	2	2	2	2	2	2	2	1	2	1	1	2	3	3	2	3	3	4	3	2.5	4.3
12-Nov	4	5	5	5	5	7	8	7	6	4	3	5	5	5	5	6	6	6	5	7	10	8	6	6	5.8	10.4
13-Nov	6	11	11	32	31	22	20	16	15	15	14	37	35	20	17	15	16	12	14	10	6	5	3	1	16.0	36.9
14-Nov	1	3	4	3	4	6	9	8	7	3	3	3	1	0	0	0	2	1	2	3	3	3	2	1	3.0	8.9
15-Nov	1	1	1	1	2	3	3	3	3	2	1	1	1	1	1	1	3	2	3	4	3	4	5	5	2.3	5.3
16-Nov	5	5	9	5	3	2	1	1	1	2	0	0	1	1	1	4	4	3	1	1	2	4	6	7	2.9	8.7
17-Nov	8	8	7	7	5	7	6	6	6	6	9	15	17	19	21	21	18	14	11	15	13	15	14	18	11.9	20.9
18-Nov	14	8	9	10	11	13	17	15	14	15	15	14	14	13	14	15	16	14	11	11	10	10	11	9	12.5	16.6
19-Nov	11	19	18	14	12	12	7	7	4	2	1	2	1	1	1	7	9	9	8	7	6	9	5	4	7.3	18.5
20-Nov	3	3	4	6	5	3	2	3	1	1	1	1	2	1	2	2	3	2	2	0	1	3	1	1	2.2	6.2
21-Nov	1	3	3	3	3	2	1	2	2	2	2	1	1	1	4	20	18	13	10	16	5	4	4	3	5.2	20.0
22-Nov	11	13	11	9	6	6	1	3	3	0	4	5	5	7	6	6	6	6	3	4	4	2	3	0	5.2	13.4
23-Nov	1	0	2	1	1	1	1	2	2	4	4	4	6	7	9	8	7	8	8	7	6	5	9	10	4.7	9.5
24-Nov	10	6	12	11	13	12	12	9	9	8	9	6	4	4	3	3	3	3	2	3	2	3	3	8	6.5	12.9
25-Nov	14	7	11	14	5	10	14	11	10	7	6	7	7	7	10	9	9	9	7	8	6	6	6	6	8.5	14.4
26-Nov	5	5	5	4	4	4	4	6	4	5	6	6	7	6	6	6	6	6	5	6	6	6	6	5	5.3	6.6
27-Nov	5	5	5	5	5	5	5	4	5	8	8	7	4	4	4	3	4	2	3	2	7	5	7	7	5.0	8.0
28-Nov	8	6	4	2	1	0	0	0	0	0	0	0	0	0	0	1	0	1	4	4	3	2	2	2	1.6	7.8
29-Nov	2	1	2	1	2	2	2	2	2	1	0	1	1	0	0	2	1	1	2	3	4	3	3	4	1.7	3.8
30-Nov	4	2	3	3	3	4	3	1	2	2	1	0	1	1	1	2	2	2	2	2	3	4	4	2	2.3	4.4
4.8 4.7 4.9 5.1 4.7 4.7 4.6 4.3 4.1 3.7 3.9 4.8 4.7 4.4 4.6 5.5 5.8 5.1 4.4 4.6 4.3 4.3 4.3 4.3																								Diurnal Average		
14.3 18.5 18.0 31.8 31.4 22.3 20.2 16.2 14.7 15.3 14.7 36.9 35.5 20.3 20.5 20.9 18.4 14.4 13.6 16.4 13.2 14.9 13.9 18.4																								Diurnal Maximum		
M - Maintenance N - Not Valid																										
Alberta Ambient Air Quality Guideline (AAQG): 1-hr 80 µg/m ³ Alberta Ambient Air Quality Objective (AAQO): 24-hr 30 µg/m ³																										

Hourly Averages

PM2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Sunset House - November 2012



Hourly Maximums

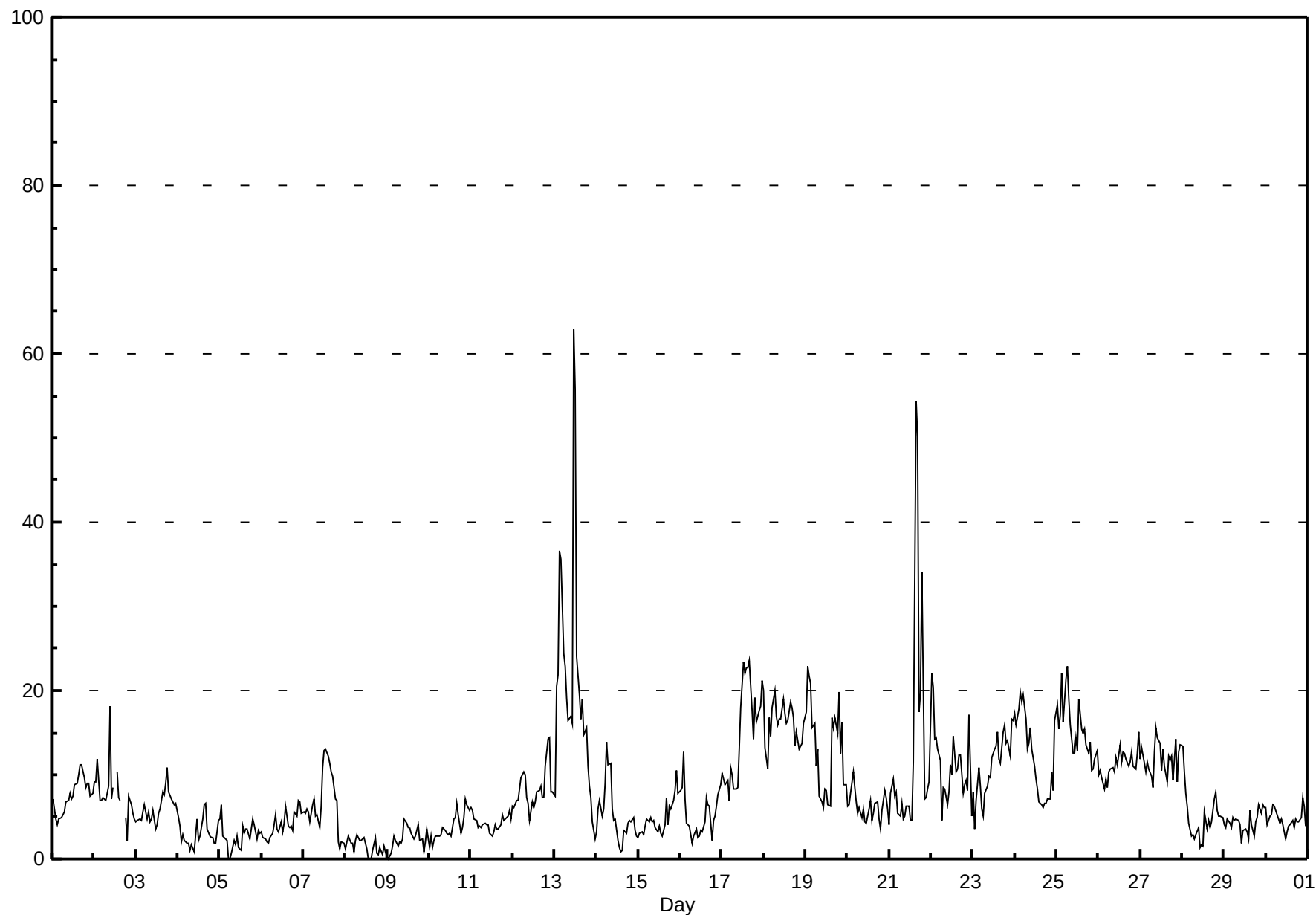
PM2.5 (PM_{2.5}) - µg/m³

Sunset House - November 2012

Maximum Value: 62.9 μg/m ³ on Nov 13 12:00																				Maximum Daily Average: 20.8 μg/m ³ on Nov 13										Hours in Service: 720	
Minimum Value: 0 μg/m ³ on Nov 5 06:00																				Minimum Daily Average: 1.5 μg/m ³ on Nov 8										Hours of Data: 717	
Maximum Diurnal Average: 10.2 μg/m ³ at hour 17																				Minimum Diurnal Average: 6.8 μg/m ³ at hour 11										Hours of Missing Data: 3	
Monthly Average: 8.15 μg/m ³																				Percentiles: P ₁ = 0.5 P ₁₀ = 2.3 Q ₁ = 3.9 Median = 6.5 Q ₃ = 10.9 P ₉₀ = 16.3 P ₉₉ = 33.1										Hours of Calibration: 0	
																														Percent Operational Time: 99.6	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24							
1-Nov	7	6	5	4	5	5	5	6	7	7	8	7	8	9	9	10	11	11	10	9	9	9	7	8	7.5	11.3					
2-Nov	9	9	12	7	7	7	7	7	9	18	7	9	N	10	7	7	M	M	5	2	7	6	5	5	7.8	18.2					
3-Nov	4	5	5	5	6	7	5	6	4	5	6	4	4	6	6	8	8	9	11	8	7	7	6	7	6.0	10.9					
4-Nov	5	4	2	3	2	2	2	1	2	1	3	5	2	3	5	6	7	4	3	3	3	2	2	5	3.1	6.7					
5-Nov	5	6	3	2	2	0	0	1	2	2	3	1	1	4	3	3	4	2	4	5	4	2	3	3	2.7	6.4					
6-Nov	3	2	2	2	2	3	3	4	5	4	3	4	3	4	6	4	4	4	3	6	5	7	7	5	4.0	6.9					
7-Nov	6	5	6	6	4	6	7	5	5	4	6	11	13	13	12	11	10	10	7	7	2	1	2	2	6.8	13.0					
8-Nov	1	2	3	2	2	1	2	3	2	2	2	2	1	0	0	0	1	3	1	1	1	0	1	1	1.5	2.9					
9-Nov	0	0	1	1	3	2	2	2	2	2	5	4	4	4	3	2	3	3	4	2	2	1	2	3	2.4	4.8					
10-Nov	1	3	1	2	3	3	3	3	4	3	3	3	3	3	5	5	7	5	3	4	5	7	6	6	3.7	7.1					
11-Nov	6	6	5	5	4	4	4	4	4	4	4	3	3	3	4	4	4	4	5	5	5	5	6	5	4.3	6.0					
12-Nov	6	6	7	7	8	10	10	10	7	7	5	7	6	7	8	8	9	7	7	11	14	14	8	8	8.2	14.3					
13-Nov	8	21	22	37	36	24	23	19	16	17	16	63	56	24	20	17	19	15	16	11	9	7	4	2	20.8	62.9					
14-Nov	3	6	7	5	6	9	14	11	11	6	5	5	2	1	1	1	3	3	4	4	4	5	3	3	5.1	14.0					
15-Nov	3	3	3	3	4	5	4	5	4	5	4	3	4	3	3	4	7	4	6	6	7	8	11	8	4.8	10.6					
16-Nov	8	8	13	7	4	4	3	2	3	4	2	3	3	3	4	7	6	6	2	5	5	6	8	9	5.3	12.7					
17-Nov	10	10	9	9	7	11	10	8	8	8	13	18	23	22	23	23	24	18	14	19	16	18	18	21	15.0	23.5					
18-Nov	20	13	11	17	15	18	20	17	16	17	17	19	17	16	16	19	18	17	13	15	13	13	14	16	16.1	20.0					
19-Nov	17	23	22	21	16	16	11	13	8	7	6	8	8	6	6	17	16	17	15	20	12	16	9	9	13.3	23.0					
20-Nov	6	7	8	10	9	7	5	6	5	6	4	4	6	7	5	5	7	7	5	4	6	8	7	6	6.2	10.3					
21-Nov	4	8	10	7	8	5	5	7	5	5	6	6	5	5	11	54	50	17	20	34	7	7	8	9	12.7	54.5					
22-Nov	22	20	14	14	13	12	5	9	8	6	8	11	10	15	10	11	12	12	8	9	9	8	17	5	11.2	22.1					
23-Nov	8	4	7	11	9	6	5	8	9	10	10	12	13	13	15	12	11	15	16	14	14	12	17	16	11.1	16.6					
24-Nov	17	16	18	20	19	19	17	13	14	16	13	11	9	8	7	7	6	7	7	7	7	10	8	16	12.1	19.9					
25-Nov	18	15	17	22	16	21	23	19	16	13	12	14	13	19	15	15	15	14	12	14	11	11	12	13	15.5	22.9					
26-Nov	10	11	10	8	9	9	10	11	11	10	12	11	14	12	13	12	12	11	11	13	11	11	13	15	11.2	15.2					
27-Nov	12	13	11	10	12	11	10	8	13	16	14	14	10	13	11	9	12	12	12	9	14	9	13	14	11.8	15.6					
28-Nov	13	10	8	6	4	3	3	2	3	4	1	2	2	6	4	5	4	4	7	8	6	5	5	5	5.0	13.5					
29-Nov	4	4	5	4	4	5	5	5	5	4	2	3	4	3	2	6	4	3	4	5	6	5	6	6	4.4	6.4					
30-Nov	6	4	5	5	7	6	5	5	4	5	4	2	3	4	4	5	4	5	4	4	5	7	6	4	4.7	7.3					
8.2 8.3 8.3 8.8 8.1 8.0 7.6 7.3 7.1 7.2 6.8 9.0 8.6 8.2 7.9 9.9 10.2 8.6 8.0 8.7 7.6 7.7 7.9 7.8																								Diurnal Average							
22.1 23.0 21.8 36.6 35.6 24.4 22.9 19.2 16.4 18.2 16.6 62.9 55.8 24.1 22.6 54.5 50.1 17.7 19.7 34.1 16.2 17.7 18.2 21.2																								Diurnal Maximum							
M - Maintenance N - Not Valid																															

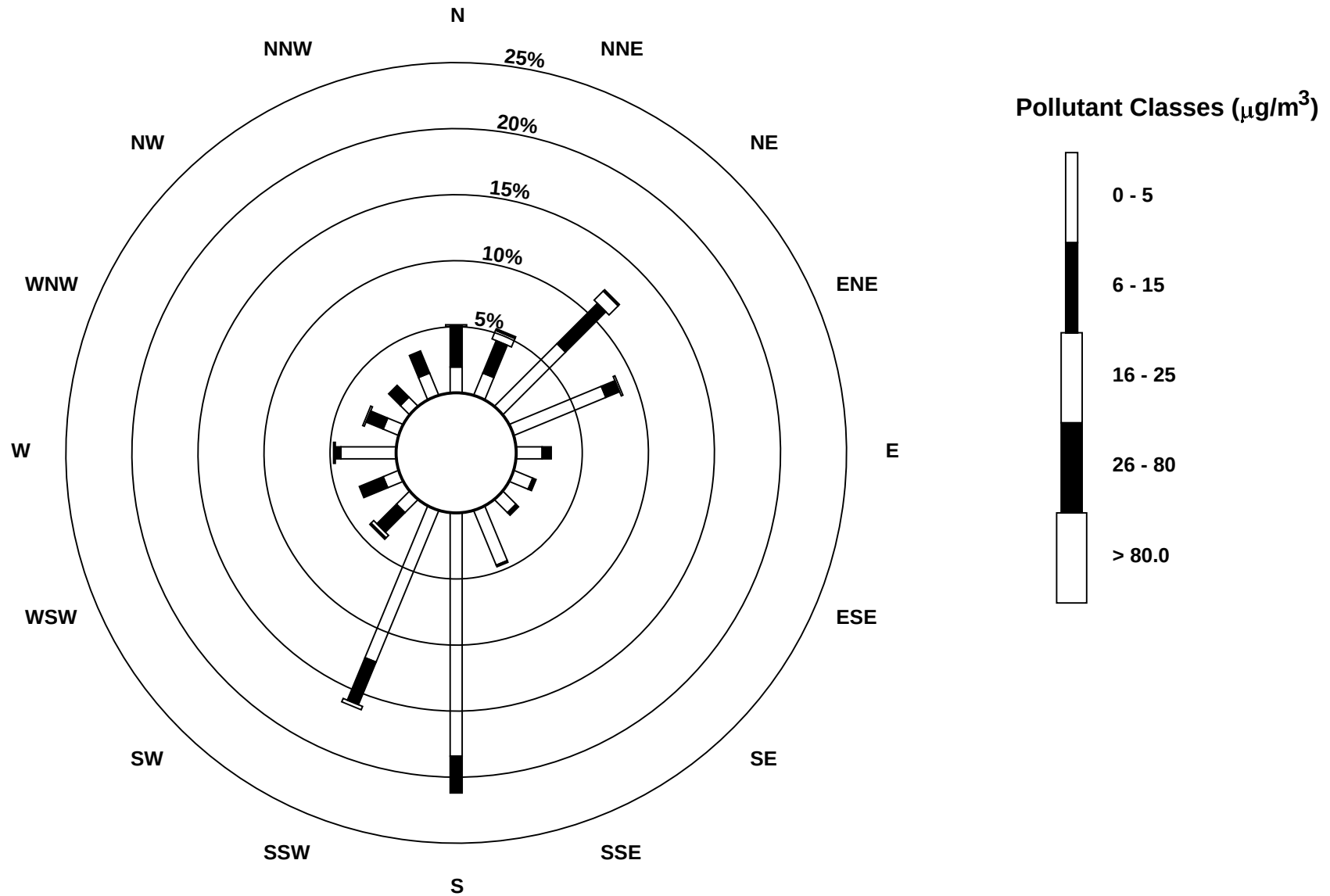
Hourly Maximums

PM2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Sunset House - November 2012



Pollutant Rose

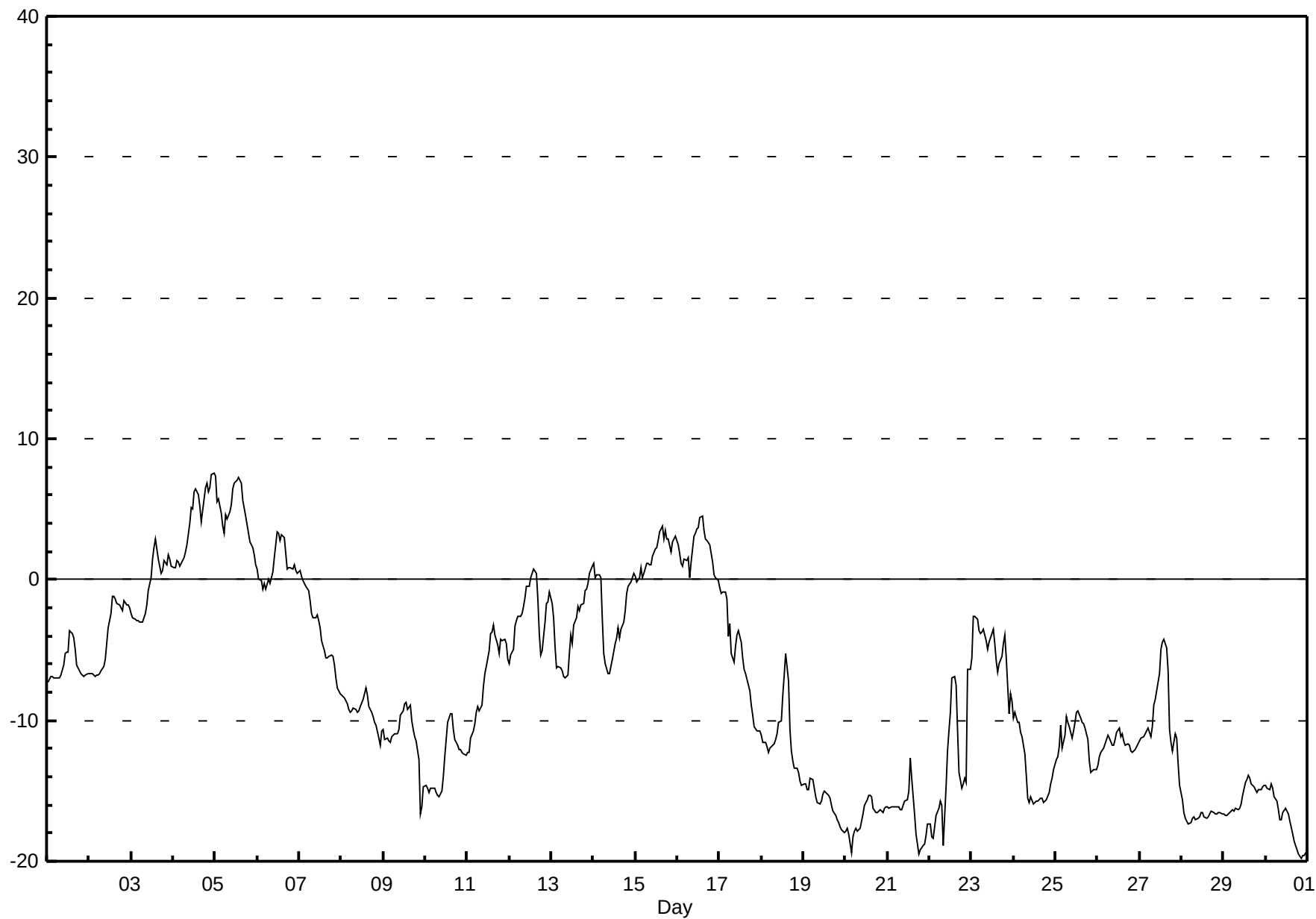
PM_{2.5} (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Sunset House - November 2012



Number of Exceedences (AAAQO): Maximum Value: 7.5 °C on Nov 5 00:00																					1-hr: 0 24-hr: 0 Maximum Daily Average: 4.8 °C on Nov 5					Hours in Service: 720 Hours of Data: 720 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0				
Minimum Value: -20 °C on Nov 30 21:00 Maximum Diurnal Average: -5.9 °C at hour 14 Monthly Average: -7.63 °C																					Minimum Daily Average: -17.1 °C on Nov 30 Minimum Diurnal Average: -8.5 °C at hour 9 Percentiles: P ₁ = -19.2 P ₁₀ = -16.5 Q ₁ = -14.3 Median = -8.1 Q ₃ = -1.8 P ₉₀ = 1.9 P ₉₉ = 6.7									
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-Nov	-7	-7	-7	-7	-7	-7	-7	-7	-7	-6	-5	-5	-5	-4	-4	-4	-5	-6	-6	-7	-7	-7	-7	-7	-7	-6.1	-3.7			
2-Nov	-7	-7	-7	-7	-7	-7	-7	-6	-6	-6	-5	-3	-2	-1	-1	-1	-2	-2	-2	-2	-1	-2	-2	-2	-2	-3.9	-1.2			
3-Nov	-2	-3	-3	-3	-3	-3	-3	-3	-2	-2	-1	0	1	2	3	1	1	0	1	1	1	2	1	1	1	-0.4	2.9			
4-Nov	1	1	1	1	1	1	2	2	2	4	5	5	6	6	6	5	4	5	7	7	6	7	7	8	4.2	7.5				
5-Nov	7	6	6	5	4	3	5	4	5	5	6	7	7	7	7	7	6	4	4	3	3	2	2	1	4.8	7.3				
6-Nov	1	0	0	-1	0	-1	0	0	0	1	2	3	3	3	3	3	2	1	1	1	1	1	1	0	1.0	3.4				
7-Nov	1	0	0	0	0	-1	-2	-2	-3	-3	-2	-3	-3	-4	-5	-6	-6	-5	-5	-5	-6	-7	-8	-8	-3.5	0.7				
8-Nov	-8	-8	-8	-9	-9	-9	-9	-9	-9	-9	-9	-9	-8	-8	-8	-8	-9	-9	-10	-10	-10	-11	-12	-11	-9.3	-7.7				
9-Nov	-11	-11	-11	-12	-12	-11	-11	-11	-11	-11	-10	-9	-9	-9	-9	-9	-10	-11	-11	-11	-13	-17	-16	-15	-11.2	-8.7				
10-Nov	-15	-15	-15	-15	-15	-15	-15	-15	-15	-15	-14	-13	-11	-10	-10	-10	-11	-11	-12	-12	-12	-12	-12	-12	-13.0	-9.5				
11-Nov	-12	-12	-11	-11	-10	-9	-9	-9	-9	-8	-7	-6	-5	-4	-4	-3	-4	-5	-5	-4	-4	-4	-5	-6	-6.9	-3.3				
12-Nov	-6	-5	-5	-3	-3	-3	-3	-2	-2	-1	0	0	0	0	1	0	-1	-4	-5	-5	-3	-2	-2	-1	-2.3	0.8				
13-Nov	-2	-3	-5	-6	-6	-6	-6	-7	-7	-7	-5	-4	-5	-3	-3	-2	-2	-2	-2	-1	-1	0	0	1	-3.4	0.9				
14-Nov	1	0	0	0	0	-3	-5	-6	-7	-7	-6	-6	-5	-4	-3	-4	-4	-3	-2	-1	-1	0	0	0	-2.6	1.2				
15-Nov	0	0	0	1	0	0	1	1	1	1	2	2	2	3	3	4	3	3	3	3	2	3	3	3	1.9	3.8				
16-Nov	2	2	1	1	1	1	2	0	1	3	3	4	4	4	5	4	3	3	2	2	1	0	0	0	2.1	4.5				
17-Nov	-1	-1	-1	-1	-1	-4	-3	-5	-6	-5	-4	-4	-4	-6	-6	-7	-7	-8	-9	-10	-10	-11	-11	-11	-5.6	-0.6				
18-Nov	-11	-12	-12	-12	-12	-12	-12	-12	-11	-11	-10	-10	-8	-7	-5	-7	-11	-12	-13	-13	-13	-14	-14	-15	-11.2	-5.3				
19-Nov	-15	-15	-15	-15	-14	-14	-15	-15	-16	-16	-16	-15	-15	-15	-16	-16	-16	-16	-17	-17	-17	-18	-18	-18	-15.8	-14.1				
20-Nov	-18	-18	-18	-19	-18	-18	-18	-18	-18	-17	-17	-16	-16	-15	-15	-15	-16	-17	-17	-16	-16	-17	-16	-16	-16.9	-15.3				
21-Nov	-16	-16	-16	-16	-16	-16	-16	-16	-16	-16	-16	-16	-15	-13	-14	-17	-18	-19	-19	-19	-19	-19	-18	-17	-16.7	-12.7				
22-Nov	-17	-18	-18	-18	-17	-16	-16	-16	-19	-15	-12	-11	-9	-7	-7	-8	-11	-14	-15	-15	-14	-14	-6	-6	-13.3	-6.4				
23-Nov	-6	-3	-3	-3	-4	-4	-4	-4	-4	-5	-4	-4	-4	-5	-6	-7	-6	-5	-5	-4	-6	-10	-8	-9	-4.9	-2.6				
24-Nov	-10	-9	-10	-10	-11	-11	-12	-14	-16	-16	-15	-16	-16	-16	-16	-16	-16	-16	-16	-16	-15	-15	-14	-14	-13.9	-9.4				
25-Nov	-13	-13	-12	-10	-12	-11	-10	-10	-10	-11	-11	-10	-9	-9	-10	-10	-10	-11	-11	-13	-14	-14	-14	-13	-11.3	-9.3				
26-Nov	-13	-13	-12	-12	-12	-11	-11	-11	-12	-12	-11	-11	-11	-11	-11	-11	-12	-12	-12	-12	-12	-12	-12	-12	-11.7	-10.5				
27-Nov	-11	-11	-11	-11	-11	-11	-11	-10	-9	-9	-8	-7	-5	-4	-4	-5	-6	-11	-12	-12	-11	-11	-13	-15	-9.5	-4.3				
28-Nov	-16	-17	-17	-17	-17	-17	-17	-17	-17	-17	-17	-17	-16	-17	-17	-17	-17	-16	-17	-17	-17	-17	-17	-17	-16.7	-15.7				
29-Nov	-17	-17	-17	-17	-16	-16	-16	-16	-16	-16	-16	-16	-15	-14	-14	-14	-14	-14	-15	-15	-15	-15	-15	-15	-15.5	-13.9				
30-Nov	-15	-15	-15	-15	-15	-15	-16	-16	-17	-17	-17	-16	-16	-17	-17	-18	-19	-19	-19	-19	-20	-20	-20	-19	-17.1	-14.5				
																									Diurnal Average					
																									Diurnal Maximum					

Hourly Averages

External Temperature (ET) - °C
Sunset House - November 2012



Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Sunset House - November 2012

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	16	11	12	12	12	12	9	9	8	4	6	5	3	4	4	5	9	8	8	8	7	5	3	3.3	18.6
Dir	166	170	171	177	172	176	174	181	187	203	245	233	201	239	299	295	310	353	4	9	5	13	43	35	186.1	166.4
2 Spd	1	3	4	4	4	4	5	5	5	7	8	7	5	7	7	7	8	12	14	9	16	15	13	13	5.2	15.8
Dir	304	330	7	28	32	46	52	90	104	90	118	130	112	84	104	91	65	104	108	106	172	170	167	174	114.8	171.7
3 Spd	13	13	11	15	14	16	24	24	26	27	19	18	20	19	12	12	11	18	19	17	19	17	15	11	16.9	26.8
Dir	177	179	180	189	192	195	187	189	187	183	200	190	195	195	214	211	207	203	189	190	181	185	190	196	191.1	183.3
4 Spd	13	14	13	13	13	14	13	12	16	15	17	20	20	23	21	21	22	24	27	29	28	28	28	22	19.3	28.7
Dir	194	188	191	193	188	182	180	184	173	175	180	173	167	168	185	183	175	174	175	180	180	181	180	184	179.6	179.6
5 Spd	14	9	11	11	10	14	16	14	20	20	24	25	26	23	25	21	22	19	16	12	11	11	10	9	15.4	26.2
Dir	202	199	246	264	263	235	264	264	270	267	271	273	275	279	281	282	277	271	271	262	254	264	267	223	264.6	274.6
6 Spd	9	9	8	8	9	9	11	12	14	13	11	12	12	10	2	4	7	9	11	12	11	12	15	18	6.3	17.7
Dir	216	206	208	198	195	196	195	184	182	191	188	188	192	177	72	35	54	55	62	70	66	128	138	122	160.6	122.0
7 Spd	17	16	16	14	15	15	11	10	11	13	16	20	19	18	18	17	15	16	14	14	13	14	12	12	13.2	19.5
Dir	126	125	91	79	86	69	45	42	36	32	40	42	38	33	32	34	35	38	35	33	50	48	42	51	52.3	41.7
8 Spd	11	10	10	11	12	14	14	14	15	15	17	16	15	15	14	15	15	14	12	11	10	8	8	9	12.2	16.7
Dir	44	48	57	45	47	49	55	68	66	68	71	67	72	74	73	72	79	71	66	74	97	88	88	100	67.6	71.0
9 Spd	9	11	13	6	8	7	5	6	5	7	8	4	1	5	3	3	3	1	4	4	2	4	5	5	2.8	13.3
Dir	95	116	136	63	34	67	76	101	50	51	45	114	332	12	211	309	298	243	202	184	203	158	188	189	97.0	136.0
10 Spd	7	8	10	12	14	15	17	16	15	16	15	13	15	16	16	16	16	20	25	25	26	26	23	23	16.6	25.7
Dir	189	190	186	184	179	179	179	178	186	184	190	203	187	188	188	190	186	192	186	184	184	181	181	181	185.2	180.9
11 Spd	23	22	21	20	21	19	18	16	18	18	16	15	15	14	13	12	13	9	11	9	8	7	6	6	14.3	22.9
Dir	178	183	184	189	185	186	187	193	183	193	198	202	199	206	205	202	199	198	188	209	213	221	206	202	193.0	177.7
12 Spd	9	10	11	13	12	12	14	18	15	13	11	11	9	10	10	6	5	4	5	5	5	9	9	6	9.6	18.3
Dir	197	188	184	183	189	181	190	185	189	184	194	196	192	187	201	207	192	196	164	160	198	197	195	215	189.7	185.0
13 Spd	2	6	10	10	7	9	8	7	5	7	3	4	5	5	8	6	10	9	6	7	9	13	13	15	1.5	15.0
Dir	265	16	24	32	51	49	31	39	17	28	71	262	231	232	205	237	199	198	215	215	201	187	202	197	196.1	196.7
14 Spd	8	6	11	8	7	18	14	12	11	8	3	6	8	9	9	8	11	15	19	17	15	15	15	15	5.6	18.8
Dir	217	216	202	233	250	345	8	2	21	9	229	210	205	192	185	174	171	193	184	182	188	188	192	197	200.9	184.2
15 Spd	14	16	16	15	16	14	15	14	14	15	14	13	14	11	11	11	10	11	10	10	9	8	10	11	12.4	16.2
Dir	201	194	197	201	194	197	203	203	204	204	209	217	200	206	200	198	183	191	178	176	175	183	184	178	196.2	196.8
16 Spd	13	11	10	12	11	7	9	9	12	16	20	21	18	16	18	18	16	19	22	21	21	19	22	22	15.7	22.5
Dir	188	190	175	167	171	146	154	156	160	166	173	175	176	175	167	163	155	151	153	159	163	169	177	177	167.5	177.1
17 Spd	19	19	20	20	8	1	4	7	7	6	11	12	4	10	11	9	8	3	5	7	7	5	5	7	1.3	19.9
Dir	183	182	176	179	157	87	124	58	60	33	42	43	26	18	28	37	38	335	13	303	310	294	279	285	91.3	176.3
18 Spd	10	2	4	4	5	3	5	7	4	3	3	4	5	5	5	6	8	9	10	11	13	15	16	20	3.2	19.9
Dir	289	283	250	227	241	258	220	216	230	204	17	301	357	355	354	345	28	58	54	54	62	56	55	57	31.0	56.7
19 Spd	15	18	11	15	14	13	12	8	7	7	5	5	4	4	4	3	4	4	5	7	9	6	7	8	6.3	18.1
Dir	53	64	45	51	51	42	37	17	352	346	316	341	304	326	337	1	10	333	334	0	12	322	293	295	17.5	64.1
20 Spd	4	6	5	3	5	6	6	5	5	5	6	6	6	6	5	3	4	3	2	1	4	3	8	9	3.2	9.4
Dir	267	288	291	215	243	270	268	245	268	264	266	273	273	288	283	277	265	264	248	63	29	205	28	34	280.9	33.8
21 Spd	12	9	7	13	15	14	12	10	10	11	10	10	8	10	10	8	8	7	4	8	8	6	5	6	8.8	14.6
Dir	40	58	55	61	67	68	61	53	52	56	45	59	38	30	9	358	35	44	40	53	55	52	66	57	49.5	67.0
22 Spd	2	5	3	3	2	2	8	4	2	11	12	13	12	6	8	5	5	2	1	5	3	1	12	11	4.8	13.2
Dir	234	218	228	184	201	132	164	186	70	171	177	182	187	191	193	186	173	175	329	360	242	289	193	205	187.9	181.7

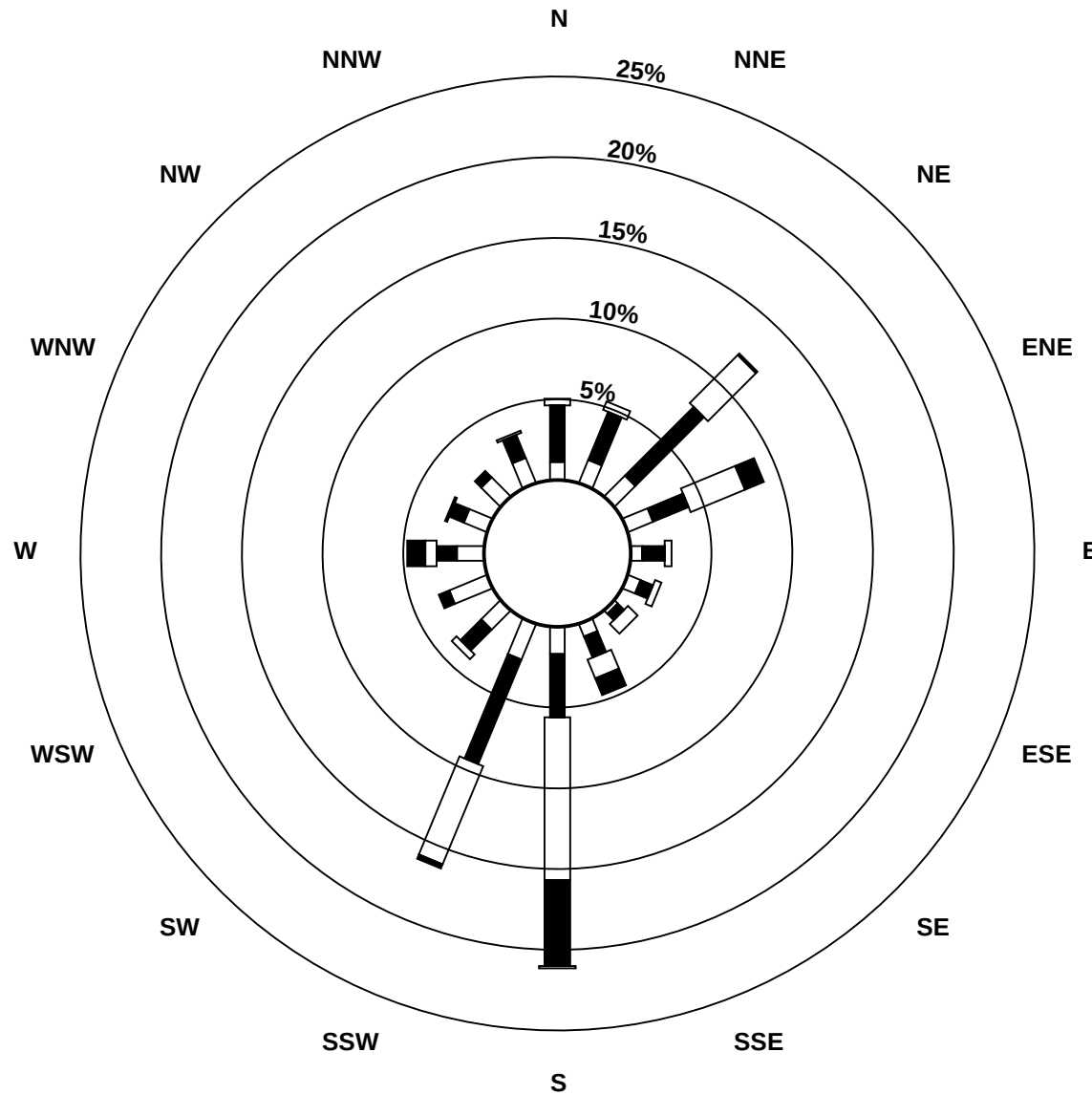
Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Sunset House - November 2012

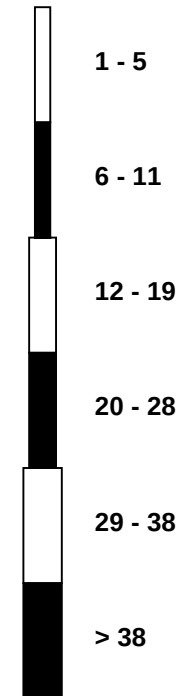
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
23 Spd	13	23	27	27	21	23	27	21	18	22	25	26	14	7	6	7	17	15	13	10	5	1	6	6	14.0	27.3	
Dir	200	178	163	160	166	171	175	185	189	188	184	188	209	249	229	219	195	198	197	205	244	279	10	0	185.6	160.5	
24 Spd	6	7	7	4	5	5	7	6	8	5	6	6	5	4	3	2	2	2	4	5	4	1	3	5	2.7	7.5	
Dir	18	332	8	312	320	336	337	345	355	316	313	332	311	310	277	337	327	205	191	186	153	156	86	82	335.2	354.9	
25 Spd	6	2	4	7	4	3	5	4	5	3	2	3	3	2	3	2	2	4	3	13	11	5	2	4	1.3	12.7	
Dir	76	61	246	207	20	208	231	247	241	286	28	283	288	252	309	237	281	7	340	4	21	44	246	209	316.7	4.3	
26 Spd	5	4	2	3	1	4	6	7	9	9	7	7	7	7	4	6	5	4	1	4	4	7	5	6	1.6	8.6	
Dir	184	200	184	86	247	85	51	16	44	46	49	37	4	359	347	7	41	42	173	222	212	202	210	202	42.6	44.4	
27 Spd	7	7	7	9	12	12	12	16	16	13	13	12	10	9	8	8	7	5	3	1	11	14	17	14	5.5	16.7	
Dir	202	197	197	195	195	199	199	182	187	188	189	195	204	203	208	208	209	192	165	360	23	43	38	35	186.8	38.1	
28 Spd	13	11	10	11	9	11	14	20	22	22	22	21	20	20	20	17	14	12	13	13	12	13	12	12	14.9	22.2	
Dir	36	38	38	33	37	46	59	65	66	73	73	71	71	71	67	62	55	50	54	60	56	62	66	67	60.1	72.7	
29 Spd	9	9	9	6	4	5	5	2	5	9	9	7	9	11	9	8	6	11	12	9	5	2	4	5	5.6	11.8	
Dir	66	56	63	80	69	70	55	74	140	154	140	132	155	154	166	123	110	125	124	116	102	54	60	60	113.8	125.0	
30 Spd	4	5	4	1	6	7	7	8	8	6	6	8	10	9	9	9	8	7	7	8	9	8	8	8	6.5	9.7	
Dir	24	36	66	340	319	346	341	351	339	343	330	357	355	358	352	358	2	2	11	24	29	37	31	40	4.2	355.1	
Spd	4.6	5.0	4.9	4.7	3.8	3.1	3.6	3.6	3.4	4.1	3.9	3.9	3.8	2.4	2.1	1.6	2.2	3.0	4.0	3.3	3.3	4.1	4.1	4.1	Diurnal Average		
Dir	169.1	166.2	164.7	164.4	165.0	152.7	163.3	164.3	163.1	166.4	172.2	180.3	189.2	183.9	195.2	186.6	159.2	159.8	154.3	149.6	149.9	157.0	159.6	156.7	Diurnal Maximum		
Spd	22.9	22.8	27.0	27.3	21.4	22.6	27.3	24.4	25.7	26.8	25.3	25.9	26.2	22.6	25.2	20.8	21.9	23.7	27.3	28.7	28.2	27.6	28.0	22.5	Diurnal Maximum		
Dir	177.7	177.7	162.9	160.5	166.0	171.1	175.1	189.3	187.2	183.3	184.2	188.4	274.6	278.6	281.1	281.7	175.3	174.3	175.4	179.6	179.6	180.6	180.2	181.0			
Maximum Speed Value: 29 km/h on Nov 4 20:00							Minimum Speed Value: 1 km/h on Nov 9 13:00													Hours in Service:				720			
Maximum Daily Speed Average: 19.3 km/h on Nov 4							Minimum Daily Speed Average: 1.3 km/h on Nov 25													Hours of Data:				720			
Maximum Diurnal Speed Average: 5.0 km/h at hour 2							Minimum Diurnal Speed Average: 1.6 km/h at hour 16													Hours of Missing Data:				0			
Monthly Average Velocity: 3.55 km/h 165.35 deg							Speed Percentiles: P ₁ = 1.3 P ₁₀ = 3.6 Q ₁ = 5.6 Median = 9.5 Q ₃ = 14.3 P ₉₀ = 19.0 P ₉₉ = 27.2													Percent Operational Time:				100.0			
All monthly, daily, and diurnal averages have been calculated using vector methods																											
Frequency Distribution																											
Speed Range (km/h)																											
Direction	0 to 5		5 to 11		11 to 19		19 to 28		28 to 38		> 38		Total														
North	14		43		6		0		0		0		63														
NorthEast	21		69		54		5		0		0		149														
East	13		17		18		5		0		0		53														
SouthEast	6		16		8		2		0		0		32														
South	19		57		121		48		3		0		248														
SouthWest	32		35		17		0		0		0		84														
West	22		15		7		9		0		0		53														
NorthWest	22		16		0		0		0		0		38														
Total	149		268		231		69		3		0		720														

Wind Rose

Wind Speed (WS) (km/h)
Sunset House - November 2012



Wind Speed Classes (km/h)



Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Sunset House - November 2012

Maximum Speed: 29 km/h on Nov 4 20:00																				Maximum Daily Speed Average: 19.5 km/h on Nov 4										Hours in Service: 720	
Minimum Speed: 2 km/h on Nov 26 19:00																				Minimum Daily Speed Average: 4.8 km/h on Nov 25										Hours of Data: 720	
Maximum Diurnal Speed Average: 11.8 km/h at hour 12																				Minimum Diurnal Speed Average: 9.3 km/h at hour 16										Hours of Missing Data: 0	
Monthly Average Speed: 10.75 km/h																				Percentiles: P ₁ = 2.3 P ₁₀ = 4.2 Q ₁ = 6.1 Median = 9.7 Q ₃ = 14.5 P ₉₀ = 19.1 P ₉₉ = 27.3										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-Nov	19	16	11	12	12	12	12	10	9	9	5	6	6	3	5	4	6	9	8	8	8	7	5	3	8.5	18.8					
2-Nov	2	4	4	5	5	4	5	5	5	7	8	7	6	7	8	7	9	13	14	10	16	15	13	13	8.0	16.2					
3-Nov	13	13	12	16	15	16	25	24	26	27	19	19	20	19	12	12	11	18	19	17	19	17	15	11	17.2	27.0					
4-Nov	13	15	13	13	13	14	13	12	16	15	18	20	20	23	21	21	22	24	27	29	28	28	28	22	19.5	28.9					
5-Nov	14	9	12	11	11	15	16	15	20	20	25	25	27	23	25	21	22	19	16	12	12	11	10	9	16.7	26.5					
6-Nov	9	9	8	9	9	9	11	12	14	13	12	12	12	10	5	4	7	9	11	12	11	13	15	18	10.5	17.9					
7-Nov	17	16	16	15	15	16	12	11	11	13	16	20	19	18	18	17	16	16	14	14	14	15	13	12	15.1	19.7					
8-Nov	11	10	10	11	12	14	14	15	15	15	17	16	15	15	14	15	16	14	12	11	10	8	8	9	12.8	16.9					
9-Nov	9	11	13	6	9	7	6	7	6	8	8	5	4	5	4	3	3	2	4	4	2	4	5	5	5.8	13.3					
10-Nov	7	8	10	12	14	16	17	16	15	16	15	13	15	16	16	16	16	20	25	25	26	26	23	23	16.8	25.8					
11-Nov	23	22	21	20	21	19	18	16	18	18	16	15	15	14	13	13	13	10	11	9	8	7	6	6	14.7	23.0					
12-Nov	9	10	11	13	12	12	14	18	15	13	11	11	9	10	10	6	5	4	5	5	6	9	9	6	9.8	18.3					
13-Nov	3	7	11	10	7	9	8	7	6	7	4	5	5	5	9	7	10	10	7	7	9	13	13	15	8.0	15.2					
14-Nov	8	7	11	8	8	19	14	12	11	8	4	6	8	9	9	8	11	15	19	17	15	15	15	16	11.4	19.0					
15-Nov	14	16	16	15	16	15	15	15	14	15	14	13	14	11	11	12	10	11	11	10	9	8	11	11	12.8	16.3					
16-Nov	13	12	11	12	11	7	9	9	12	17	20	21	18	16	18	18	16	19	22	22	21	20	22	23	16.1	22.6					
17-Nov	19	19	20	20	9	6	6	7	8	6	11	12	7	10	11	10	8	5	5	7	7	5	6	7	9.7	19.9					
18-Nov	10	6	4	5	5	4	5	7	5	4	4	5	6	5	6	6	8	9	10	11	13	15	16	20	7.8	20.0					
19-Nov	15	18	11	16	15	13	12	9	7	7	6	6	4	4	4	4	5	4	5	7	9	6	7	8	8.4	18.2					
20-Nov	4	6	5	4	5	6	6	6	5	5	6	6	6	7	5	3	4	4	2	2	5	4	8	9	5.1	9.5					
21-Nov	12	9	8	14	15	14	12	10	10	11	10	10	8	10	10	8	8	7	4	8	8	6	5	6	9.3	14.7					
22-Nov	4	5	4	3	3	4	8	5	4	11	12	13	13	6	8	5	6	3	4	5	4	5	13	11	6.6	13.4					
23-Nov	14	23	27	28	22	23	28	21	19	22	25	26	14	9	8	8	17	15	14	10	6	4	6	7	16.5	27.6					
24-Nov	6	7	7	4	6	5	7	7	8	6	6	7	5	4	3	3	2	2	4	5	4	2	4	5	4.9	7.6					
25-Nov	6	4	4	8	5	4	5	4	7	3	3	3	3	2	3	3	2	4	4	13	11	6	3	4	4.8	12.9					
26-Nov	5	5	4	5	3	4	6	7	9	9	8	7	7	7	5	6	5	4	2	4	4	7	6	6	5.5	8.7					
27-Nov	7	7	7	9	12	13	12	16	16	13	13	12	10	9	8	8	7	5	4	2	11	14	17	14	10.3	16.7					
28-Nov	13	11	10	11	9	11	14	20	22	22	22	21	20	20	20	17	14	12	13	13	12	13	12	13	15.3	22.4					
29-Nov	9	9	9	6	4	5	5	4	6	10	9	7	10	11	9	9	7	11	12	9	5	3	4	5	7.5	12.1					
30-Nov	4	5	4	2	6	7	7	8	8	7	6	8	10	9	9	9	8	7	8	8	9	8	8	8	7.2	9.8					
10.5 10.6 10.5 10.7 10.3 10.8 11.5 11.1 11.6 11.8 11.7 11.8 11.2 10.6 10.2 9.3 9.8 10.2 10.5 10.5 10.7 10.4 10.9 10.9																									Diurnal Average						
23.0 23.3 27.2 27.6 21.7 22.8 27.5 24.5 25.8 27.0 25.4 26.1 26.5 22.8 25.4 21.0 22.0 23.8 27.4 28.9 28.5 27.7 28.2 22.6																									Diurnal Maximum						
All monthly, daily, and diurnal averages have been calculated using scalar methods																															

Hourly Standard Deviations

Wind Direction (WD) - deg

Sunset House - November 2012

Maximum Value: 95.0 deg on Nov 9 13:00																			Hours in Service: 720						
Minimum Value: 3.1 deg on Nov 10 02:00																			Hours of Data: 720						
																			Hours of Missing Data: 0						
Percentiles: P ₁ = 4.0 P ₁₀ = 5.6 Q ₁ = 7.4 Median = 10.5 Q ₃ = 17.6 P ₉₀ = 32.3 P ₉₉ = 81.3																			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-Nov	8	8	12	10	8	8	8	8	10	15	25	12	18	33	12	19	13	18	6	9	6	11	13	29	32.6
2-Nov	68	24	10	17	17	12	13	14	22	11	10	9	29	27	24	17	21	25	8	25	12	9	11	10	68.0
3-Nov	8	10	12	8	11	10	6	5	5	7	7	9	7	8	10	9	13	15	9	7	5	7	6	10	15.2
4-Nov	6	9	8	8	7	6	6	7	4	4	7	7	5	5	8	7	6	6	5	6	8	6	7	8	9.3
5-Nov	10	11	25	19	16	12	11	10	9	11	10	10	9	8	8	9	9	10	11	12	14	11	16	20	24.7
6-Nov	12	12	15	10	12	6	8	6	7	9	11	7	9	8	60	20	7	8	9	10	14	14	8	9	60.2
7-Nov	10	9	12	10	7	9	10	7	6	6	8	7	9	7	7	7	7	8	7	8	10	10	10	11	12.3
8-Nov	15	12	13	10	10	7	7	8	8	7	9	9	9	8	12	8	7	6	8	6	17	11	6	15	17.4
9-Nov	10	11	5	25	22	19	33	23	8	8	11	32	95	44	46	17	12	27	10	7	38	20	6	4	95.0
10-Nov	4	3	6	5	6	5	5	6	7	6	11	10	11	11	9	9	7	6	6	6	4	5	5	4	11.5
11-Nov	4	4	4	4	4	5	6	10	8	4	8	11	9	11	9	11	8	8	7	9	9	12	11	11	12.3
12-Nov	4	6	7	6	5	8	9	5	6	6	8	8	9	5	8	10	9	9	17	11	22	10	7	21	21.7
13-Nov	31	23	14	17	9	8	12	17	22	11	60	26	25	19	23	31	13	18	25	16	12	8	12	7	59.8
14-Nov	23	33	7	16	20	23	8	18	13	14	38	13	13	15	12	11	13	9	10	6	7	9	8	6	38.3
15-Nov	6	5	6	5	6	7	8	7	5	7	8	10	6	11	12	8	13	11	8	5	11	13	43	9	42.5
16-Nov	6	8	13	7	5	17	4	7	6	6	7	7	7	9	10	7	9	6	5	7	5	5	5	4	17.1
17-Nov	5	4	4	4	32	92	55	37	38	38	10	9	72	13	10	7	18	45	29	13	11	23	13	11	92.2
18-Nov	9	92	27	33	25	59	29	16	24	30	51	43	31	23	14	21	12	9	11	5	6	4	4	5	92.2
19-Nov	6	7	17	11	8	7	9	14	14	15	23	36	32	19	27	24	12	18	16	13	18	21	13	10	36.5
20-Nov	17	23	21	47	17	13	13	18	15	20	18	17	19	18	26	33	21	27	31	49	20	40	14	8	48.5
21-Nov	9	11	13	7	6	6	6	6	6	6	8	8	15	10	10	7	6	12	11	8	5	8	9	10	15.4
22-Nov	82	17	25	12	76	55	7	43	88	8	8	11	12	15	15	18	30	74	88	30	52	86	22	19	88.4
23-Nov	23	13	8	9	10	7	7	13	13	11	6	7	23	30	33	24	15	12	7	14	35	68	23	46	67.6
24-Nov	17	17	7	38	16	19	17	19	7	27	17	18	13	37	34	44	41	39	11	12	21	44	22	11	44.1
25-Nov	23	73	28	31	45	74	18	20	39	41	74	51	21	50	26	54	49	18	24	8	7	37	61	20	74.3
26-Nov	13	23	70	67	76	16	17	11	9	7	10	14	8	7	19	13	21	19	73	17	14	8	13	10	76.4
27-Nov	18	11	10	10	9	6	7	4	6	6	4	10	12	9	15	7	10	11	55	83	9	7	4	6	83.3
28-Nov	4	4	6	6	6	9	6	7	7	7	6	5	8	7	7	10	11	12	9	6	5	6	4	6	11.7
29-Nov	10	10	9	14	18	23	14	48	39	10	15	16	21	14	21	17	29	8	12	11	14	49	10	12	49.4
30-Nov	12	14	6	80	17	12	9	14	17	16	17	15	10	10	16	7	5	12	12	9	6	11	8	6	80.0
	81.9	92.2	69.8	80.0	76.4	92.2	55.3	47.8	88.4	40.9	73.9	50.6	95.0	49.9	60.2	53.7	48.5	73.6	88.2	83.3	52.3	86.1	61.4	46.2	

PAZA

Monthly Passive Data Summary

PAZA Passive Results for November 2012

Station Number	Station Name	SO2 ppb	O3 ppb	NO2 ppb	H2S ppb	Site Legal
Duplicates						
1a	Silver Valley	0.5	31.2	1.5		
1b	Silver Valley	0.7	30.5	2.4		
2a	Bay Tree	0.4	29.2	2.1		
2b	Bay Tree	0.3	28.9	1.3		
9a	Spirit River	0.5	33.1	1.7		
9b	Spirit River	0.2	30.0	1.0		
34a	Puskwaskau	0.1	29.4	1.0		
34b	Puskwaskau	0.1	23.5	1.0		
63a	Girouxville 3				0.2	
63b	Girouxville 3				0.2	

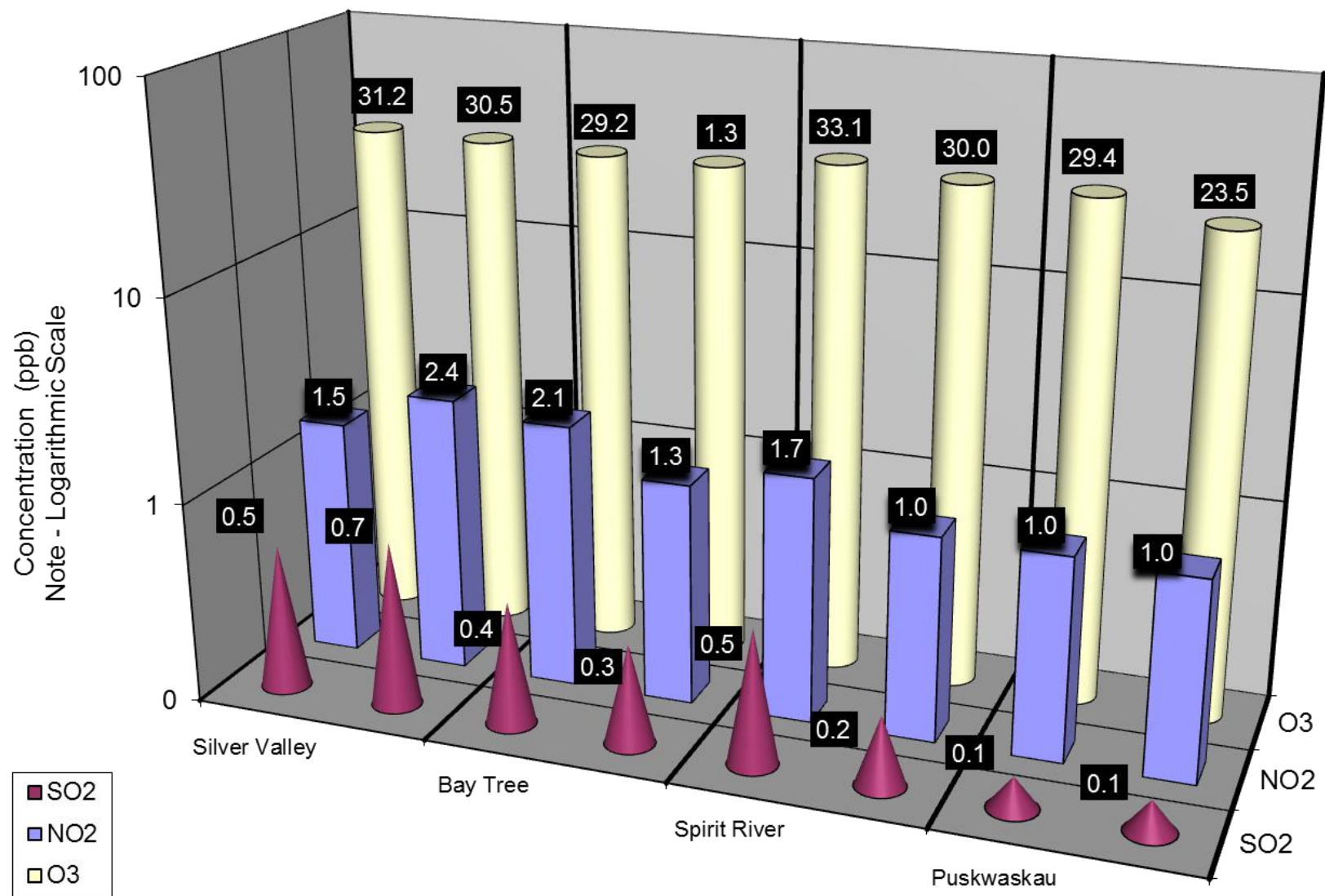
1	Silver Valley	0.6	30.9	2.0		08-27-081-11 W6M
2	Bay Tree	0.4	29.1	1.7		13-16-078-13 W6M
3	Fourth Creek	0.3	34.5	1.4		04-13-082-07 W6M
4	Gordondale	0.5	32.6	1.7		04-34-078-10 W6M
5	Boone Creek	0.5	28.1	1.7		16-36-074-11 W6M
7	Steeprock Creek	0.4	34.0	1.9		09-35-072-13 W6M
9	Spirit River	0.3	31.6	1.4		08-12-079-07 W6M
10	Woking	0.5	31.9	1.4		01-13-076-07 W6M
11	Webber Creek	0.6	31.2	2.1		09-36-074-09 W6M
12	Hythe	0.6	31.2	2.2		14-36-072-11 W6M
14	Sylvester	0.3	26.9	1.9		08-06-069-12 W6M
16	Beaverlodge	0.5	29.7	3.5		15-36-071-10 W6M
17	Poplar	0.6	28.6	2.4		13-06-073-08 W6M
18	Saddle Hills	0.3	31.6	1.7		04-25-074-07 W6M
19	Wanham	0.4	30.6	0.9		16-22-077-03 W6M
20	Shaftesbury	0.2	28.9	1.2		04-03-082-23 W5M
21	Eaglesham	0.2	32.2	1.2		16-21-079-25 W5M
23	Bear Lake	0.5	30.5	2.6		15-31-072-06 W6M

PAZA Passive Results for November 2012 (Continued)

24	Wembley	0.4	29.1	2.7	12-31-070-08 W6M
25	Pinto Creek	0.4	26.6	1.9	04-24-069-11 W6M
26	Flyingshot	0.5	25.6	3.7	15-36-070-07 W6M
27	Grande Prairie I	0.6	20.3	10.1	08-15-071-06 W6M
28	Clairmont Lake	0.6	32.8	2.2	09-06-073-04 W6M
29	Smoky Heights	0.4	27.5	3.0	04-06-075-02 W6M
30	Fitzsimmons	0.3	26.6	1.9	15-36-072-03 W6M
32	Gold Creek	0.3	17.2	3.5	06-33-067-05 W6M
33	Wapiti	0.3	27.0	2.1	02-25-071-03 W6M
34	Puskwaskau	0.1	26.5	1.0	15-35-074-25 W5M
35	Jean Cote	0.2	28.9	1.0	12-35-079-21 W5M
36	Guy	0.3	29.8	1.1	03-04-076-22 W5M
37	Crooked Creek	0.2	26.6	2.6	16-01-071-26 W5M
38	Karr Creek	0.1	19.4	1.1	10-16-065-02 W6M
39	Clouston Creek	0.2	30.6	1.1	12-01-073-22 W5M
40	McLennan	0.4	35.9	1.8	03-29-077-19 W5M
41	Valleyview	0.5	32.5	1.7	09-30-069-22 W5M
42	Sunset House	0.3	30.2	0.9	05-32-070-19 W5M
43	High Prairie	0.2	31.3	1.6	16-13-074-17 W5M
44	Peavine	0.2	25.8	1.0	03-05-079-15 W5M
45	Gift Lake	0.2	28.9	1.0	0.1 10-07-079-12 W5M
46	Little Smoky	0.3	23.6	3.5	12-01-065-21 W5M
47	Kinuso	0.2	27.1	0.8	12-10-073-10 W5M
48	Deer Mountain	0.2	28.5	1.1	15-22-068-09 W5M
49	Grande Prairie HP	0.4	19.1	8.6	17-26-071-06 W6M
62	East Prairie	0.1	27.2	0.8	13-02-072-15 W5M
63	Girouxville 3			0.2	14-02-077-23 W5M
64	Girouxville 4			0.2	4-08-077-22 W5M

*BDL = Below Detection Level

*N/S - No sample



Duplicate Summary Chart

Passive Summary for November 2012

Stats	Sulphur Dioxide SO ₂	Ozone O ₃	Nitrogen Dioxide NO ₂	Hydrogen Sulphide H ₂ S
	ppb	ppb	ppb	ppb

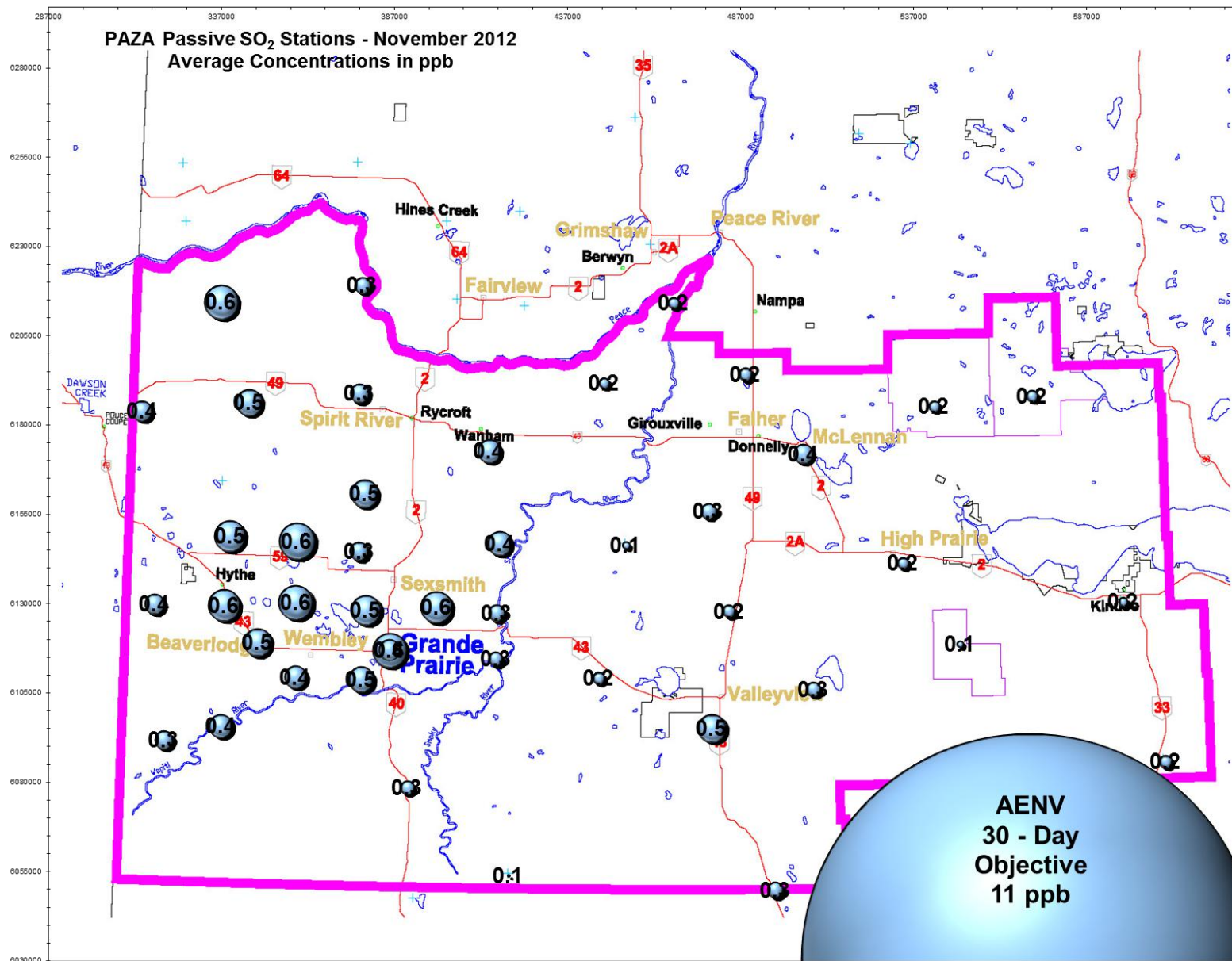
Passive Summary for November 2012 (PAZA Zone)				
Mean	0.4	28.6	2.2	0.2
Standard Deviation	0.1	4.0	1.8	0.0
Minimum	0.1	17.2	0.8	0.1
Minimum At	Karr Creek (#38)	Gold Creek (#32)	Kinuso (#47)	Gift Lake (#45)
Maximum	0.6	35.9	10.1	0.2
Maximum At	Webber Creek (#11)	McLennan (#40)	Grande Prairie I (#27)	Girouxville 4

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

	SO ₂	O ₃	NO ₂
PAZA Beaverlodge station	0.7	22.9	6.6
PAZA Beaverlodge passive	0.5	29.7	3.5

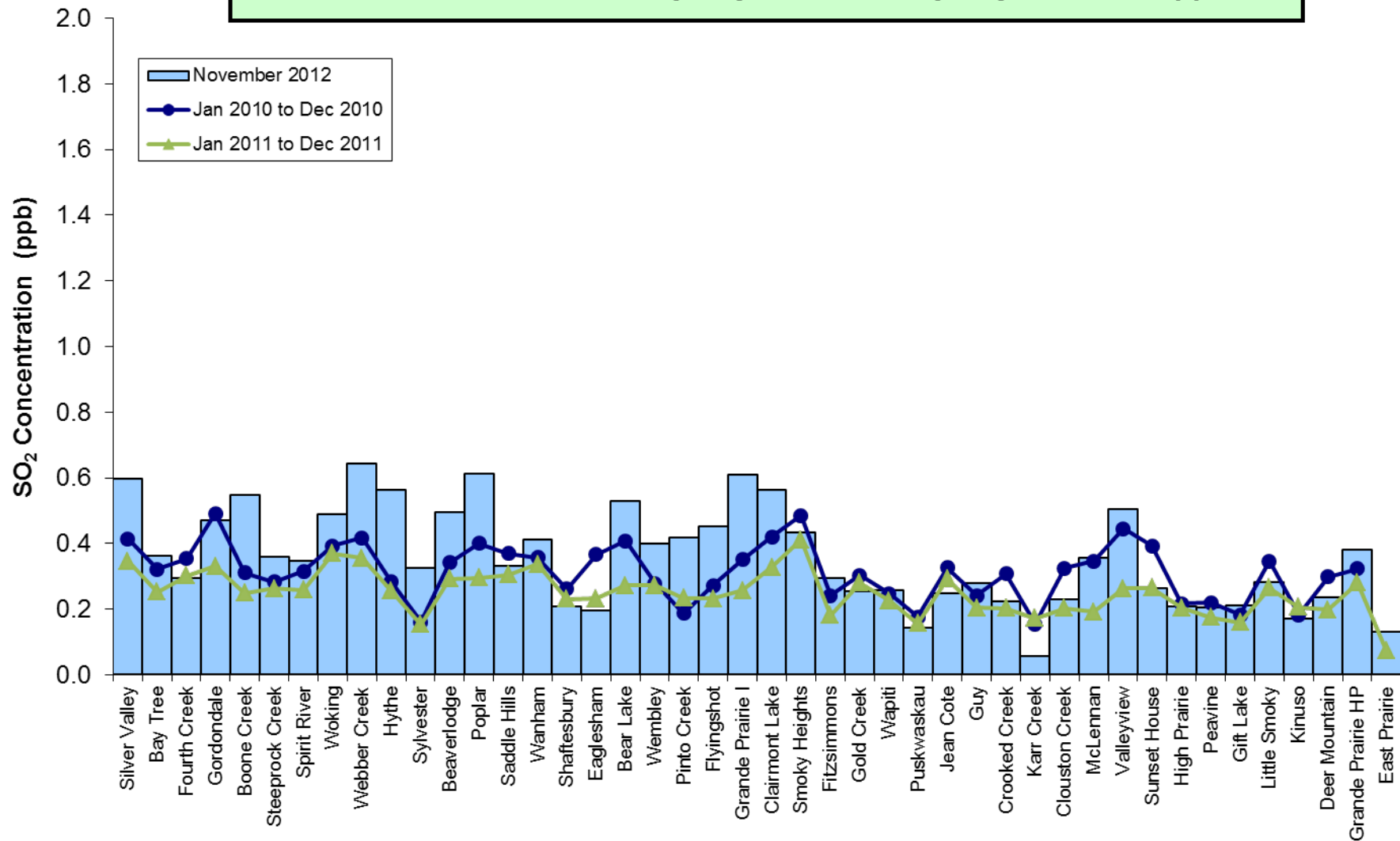
Comparison between Continuous and Passive monitoring at Henry Pirker (passive #49 Grande Prairie HP)

	SO ₂	O ₃	NO ₂
PAZA Henry Pirker station	0.6	15.0	14.3
PAZA Grande Prairie passive	0.4	19.1	8.6

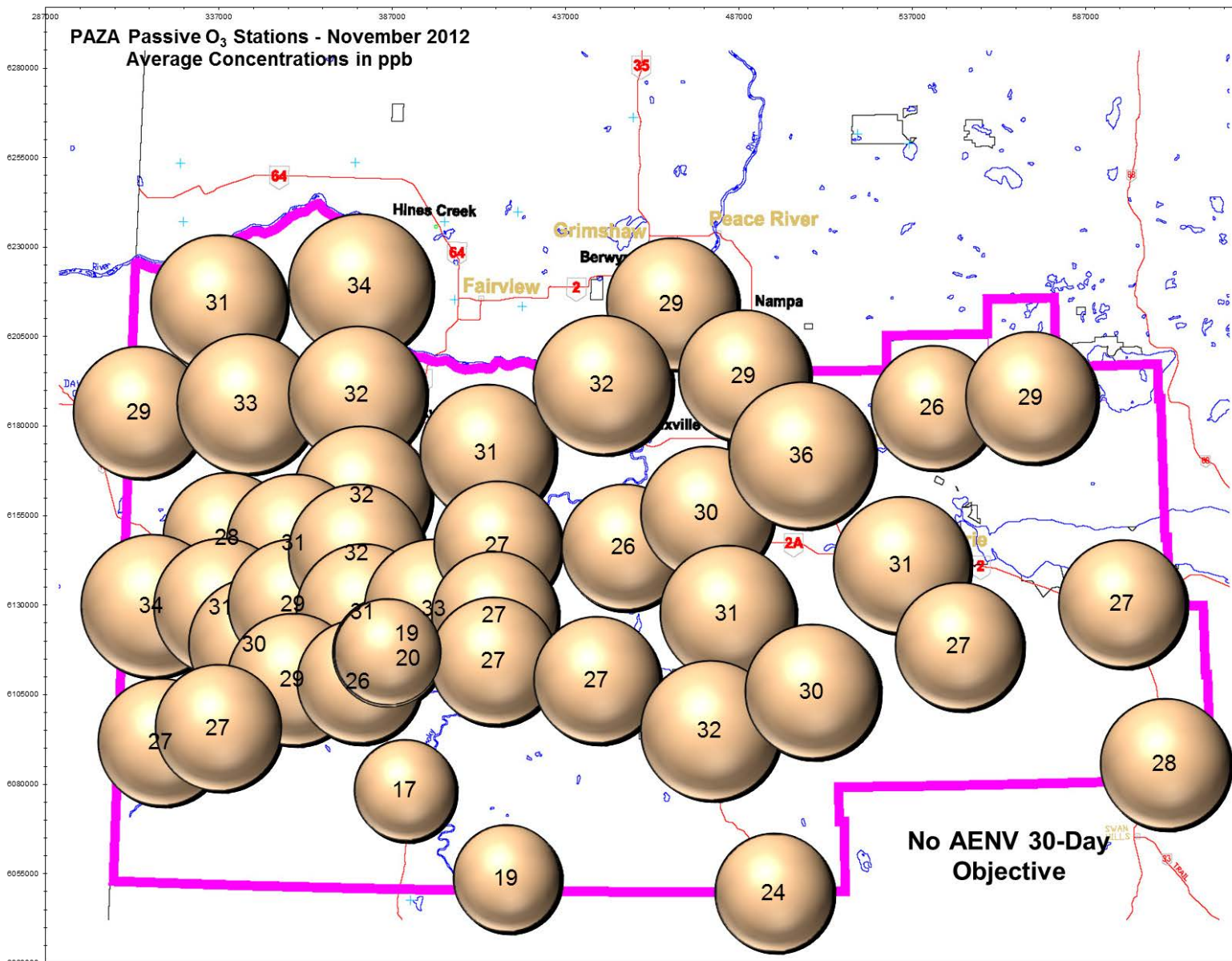


SO₂ Bubble Chart

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

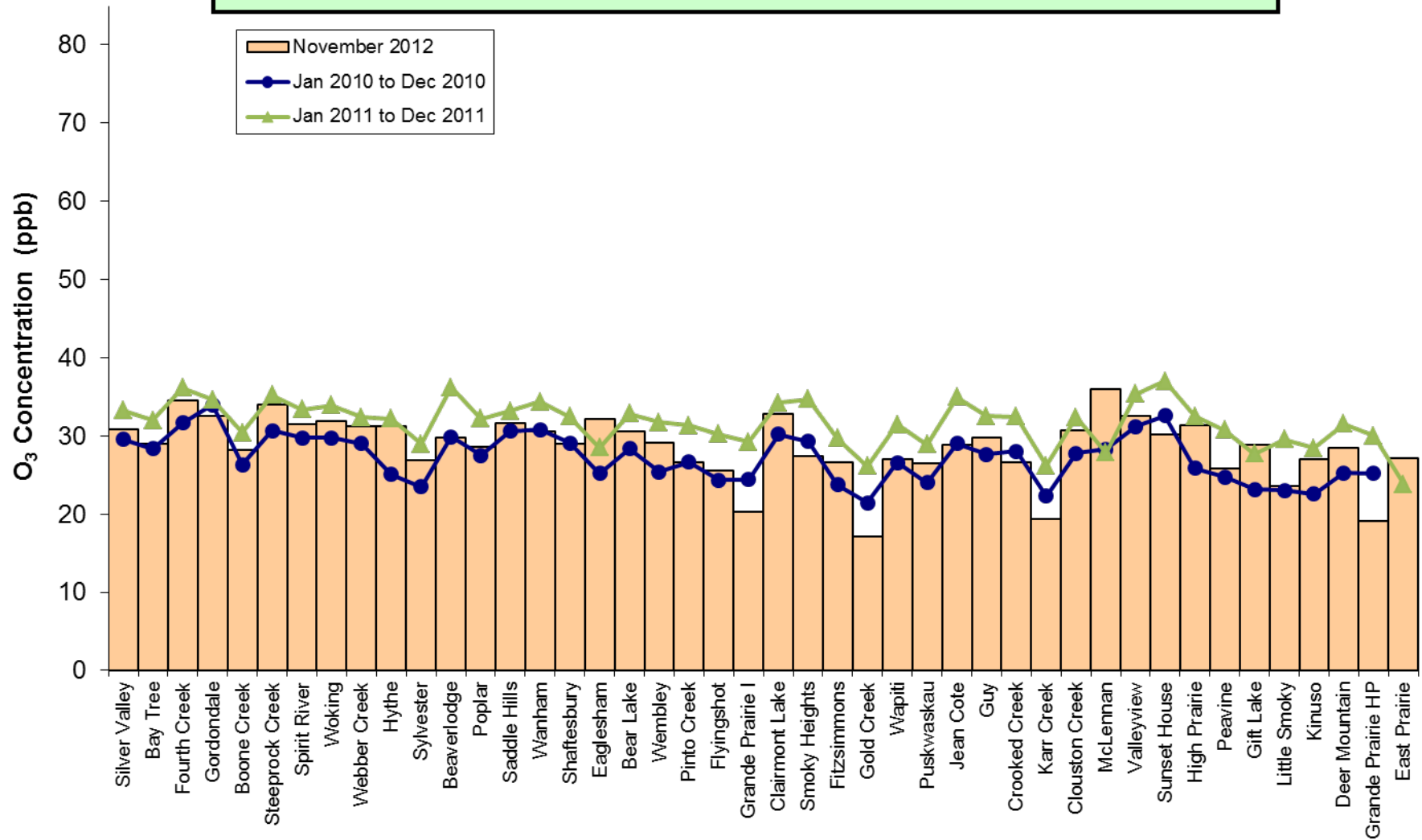


SO₂ Summary Chart



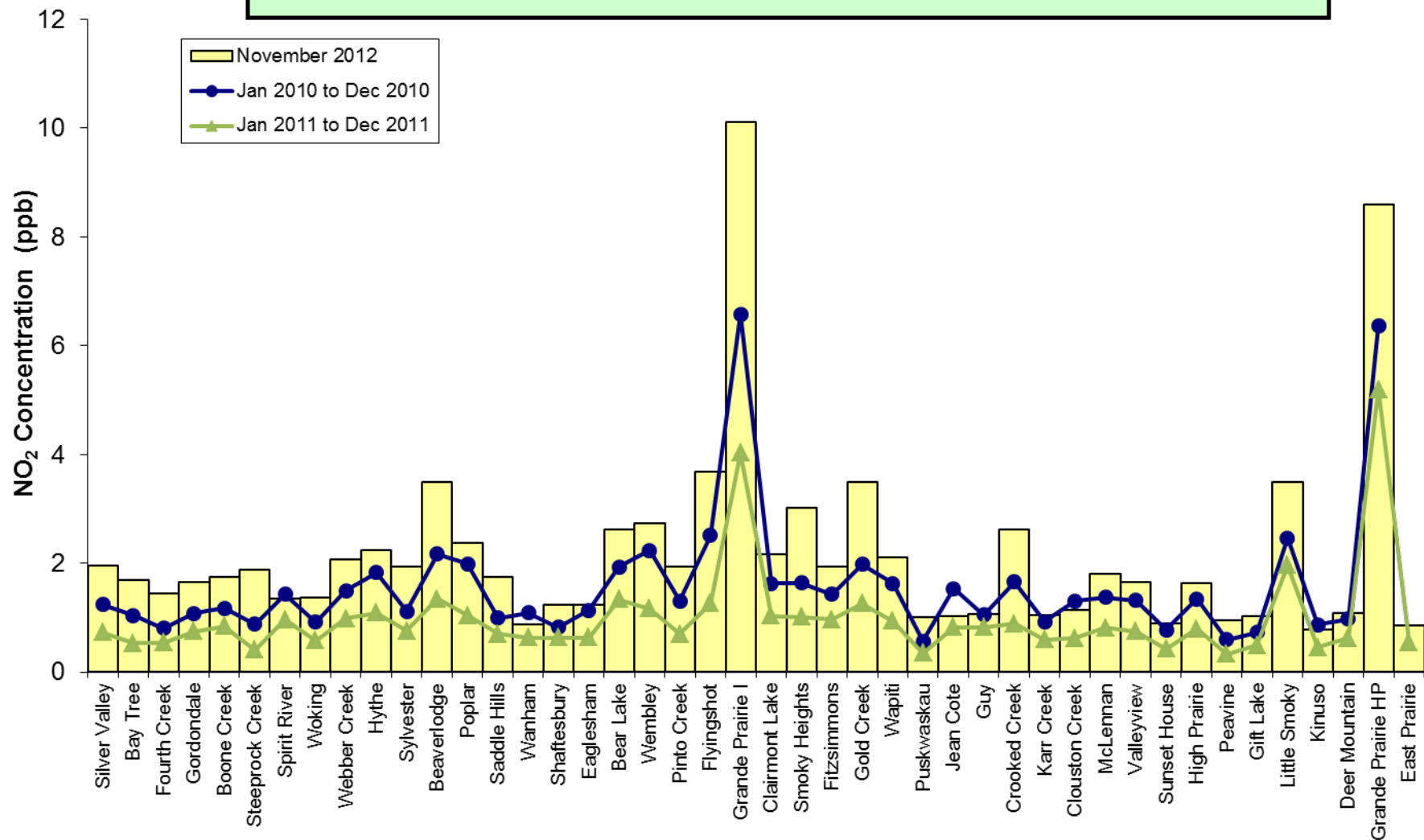
O₃ Bubble Chart

Alberta Ambient Air Quality Objective - No Annual O₃ Objective

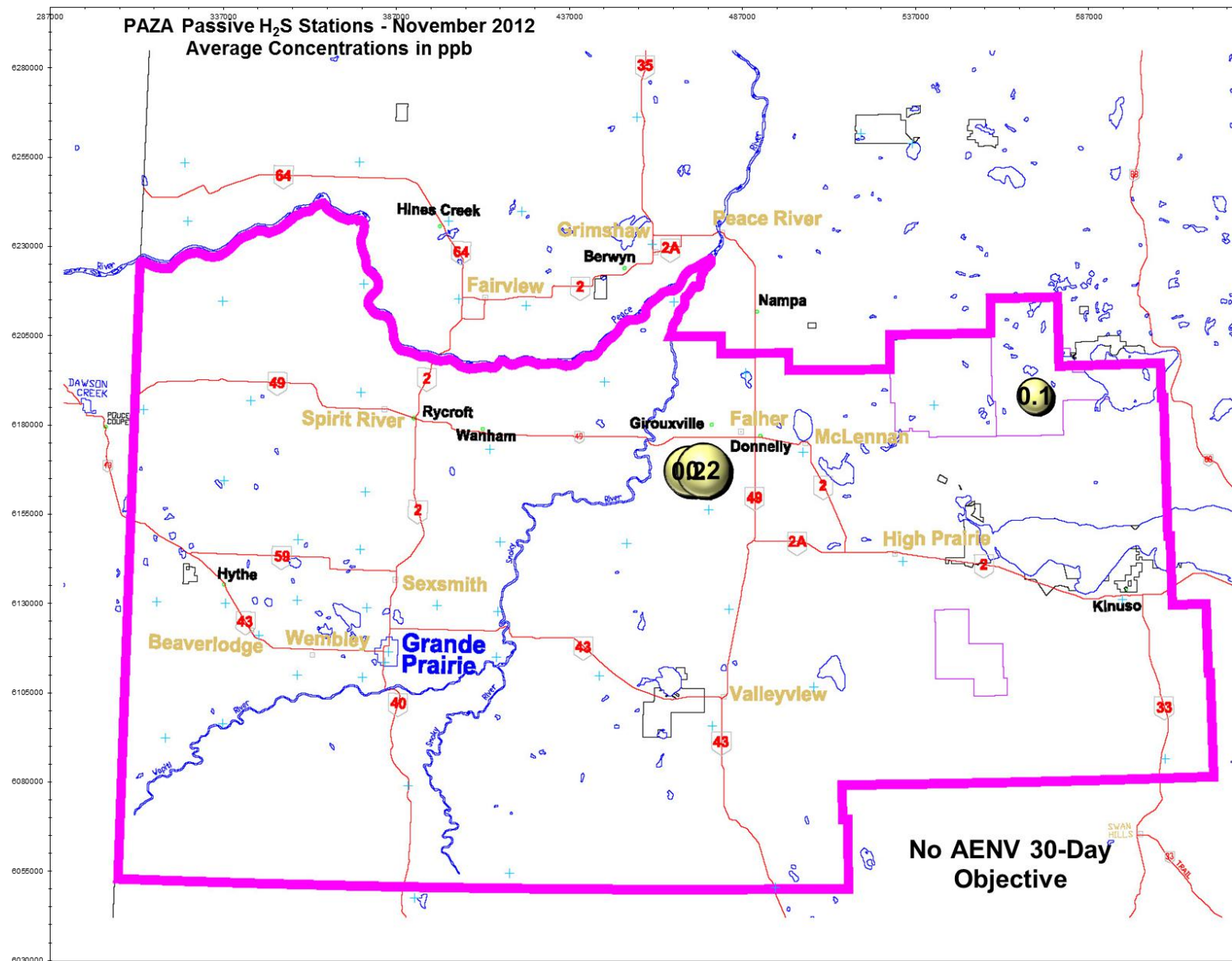


O₃ Summary Chart

Alberta Ambient Air Quality Objective - Annual NO₂ Objective is 24 ppb



NO₂ Summary Chart



H₂S Bubble Chart

PAZA

ALBERTA ENVIRONMENT AND SUSTAINABLE RESOURCES INCIDENT REPORT

November 2012

Air Monitoring Directive Exceedence Report

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

Reference Number:	265001	Reported To (AENV Contact):	Carsten
Date & Time Incident Reported to AENV:	November 16, 2012 15:39 MST	Reported By:	Focus-Lee Loran
Reported on Behalf of:	PAZA	Approval Number (if applicable):	Not applicable
Location(s) of Incident:	Evergreen Park Air Quality Station		
Start Date & Time of Incident:	November 16, 2012 14:00 MST	End Date & Time of Incident:	November 16, 2012 15:00 MST
Reason or Nature of Incident:			
The PM_{2.5} analyzer exceeded the Alberta Air Quality Ambient Guideline limit for a 1-hour average of PM_{2.5} which is 80 µg/m³. November 16, 2012 14:00–15:00 MST PM_{2.5} = 103.0 µg/m³ WS = 5.3 km/h WD = 17.9 deg			
Immediate Actions Taken:			
Confirmed validity of data and reported to AESRD Environmental Service Response Centre.			
Investigation Details:			
Operation of the PM _{2.5} analyzer appeared to be normal during the time of this report.			
Actions Taken to Prevent Reoccurrence (if any):			
Not applicable			
Additional Actions Required (if any):			
Not applicable			
Report Completed By:	Lee Loran	Date Report Submitted:	November 26, 2012
7-Day Letter Due Date:	November 23, 2012		

Air Monitoring Directive Exceedence Report

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

Reference Number:	265995	Reported To (AENV Contact):	Lisa
Date & Time Incident Reported to AENV:	December 27, 2012 15:38 MST	Reported By:	Focus-Patrick Andersen
Reported on Behalf of:	PAZA	Approval Number (if applicable):	Not applicable
Location(s) of Incident:	Henry Pirker Air Quality Station		
Start Date & Time of Incident:	November 01, 2012 01:00 MST	End Date & Time of Incident:	December 01, 2012 00:00 MST
Reason or Nature of Incident:			
THC analyzer sample pump failed on November 4 th . Replaced on November 8 th , returning an uptime of 84.9%.			
Immediate Actions Taken:			
Investigation Details:			
Actions Taken to Prevent Reoccurrence (if any):			
Spare pump to be kept on hand.			
Additional Actions Required (if any):			
Not applicable			
Report Completed By:	Patrick Andersen	Date Report Submitted:	December 27, 2012
7-Day Letter Due Date:	January 3, 2013		

November 2012 Calibration Reports

PAZA - Henry Pirker Station with the following calibrations:

SO₂, NO, NO₂, NO_x, O₃, CO, THC, TRS

PAZA – Evergreen Park Station with the following calibrations:

SO₂, TRS

PAZA – Smoky Heights Station with the following calibrations:

SO₂, TRS

PAZA – Beaverlodge Station with the following calibrations:

SO₂, NO, NO₂, NO_x, O₃

PAZA – Valleyview Station with the following calibrations:

SO₂ & H₂S

PAZA – Sunset House Station with the following calibrations:

SO₂, NO, NO₂, NO_x, O₃, TRS

Calibration Report

Parameter SO2

Air Monitoring Network PAZA



Station Information

Calibration Date	November 9, 2012		Previous Calibration	October 12, 2012	
Station Number	1		Station Location	Henry Pirker	
Reason:	Routine	☐ Install	☐ Removal	☐ Other:	
Start Time (MST)	9:20		End Time (MST)	13:11	
Barometric Pressure	0.922	ATM	Station Temperature	20.0	Deg C
Calibrator	Envionics		Serial Number	3474	
Cal Gas Conc	50.8	ppm	Cal Gas Cert Date	March 12, 2014	
			Cal Gas Cylinder #	LL107272	
DACS make	CR3000		DACS serial No.	5408	
DACS voltage range	0 - 1 volt		DACS channel #	10	
	Before			After	
Calculated slope	0.997549		Calculated slope	0.999085	
Calculated intercept	1.636753		Calculated intercept	2.282222	
Analyzer make	TEI 43C		Analyzer serial #	610816292	

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
Background	9.0		9.0	
Coefficient	0.788		0.793	
Pressure	651.8	mm Hg	647.0	mm Hg
Flow	0.505	lpm	0.502	lpm
Lamp Voltage	43488	Hz	44110	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)
4995	0.00	0.0	-0.1	N/A
4995	39.94	403.0	402.3	1.0018
4995	19.96	202.2	198.6	1.0183
4995	9.94	100.9	96.8	1.0420
4995	0.00	0.0	-0.1	As Found Zero
4995	39.94	403.0	398.5	As Found Span
Average Correction Factor				1.0207

Calculated value of As Found Response: 399.2 ppb Percent Change of As Found: 0.9%

	before calibration		after calibration	
Auto zero	0.1	ppb	0.1	ppb
Auto span	235.4	ppb	241.1	ppb

Notes: Slight adjust 80% point.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter SO2

Air Monitoring Network PAZA



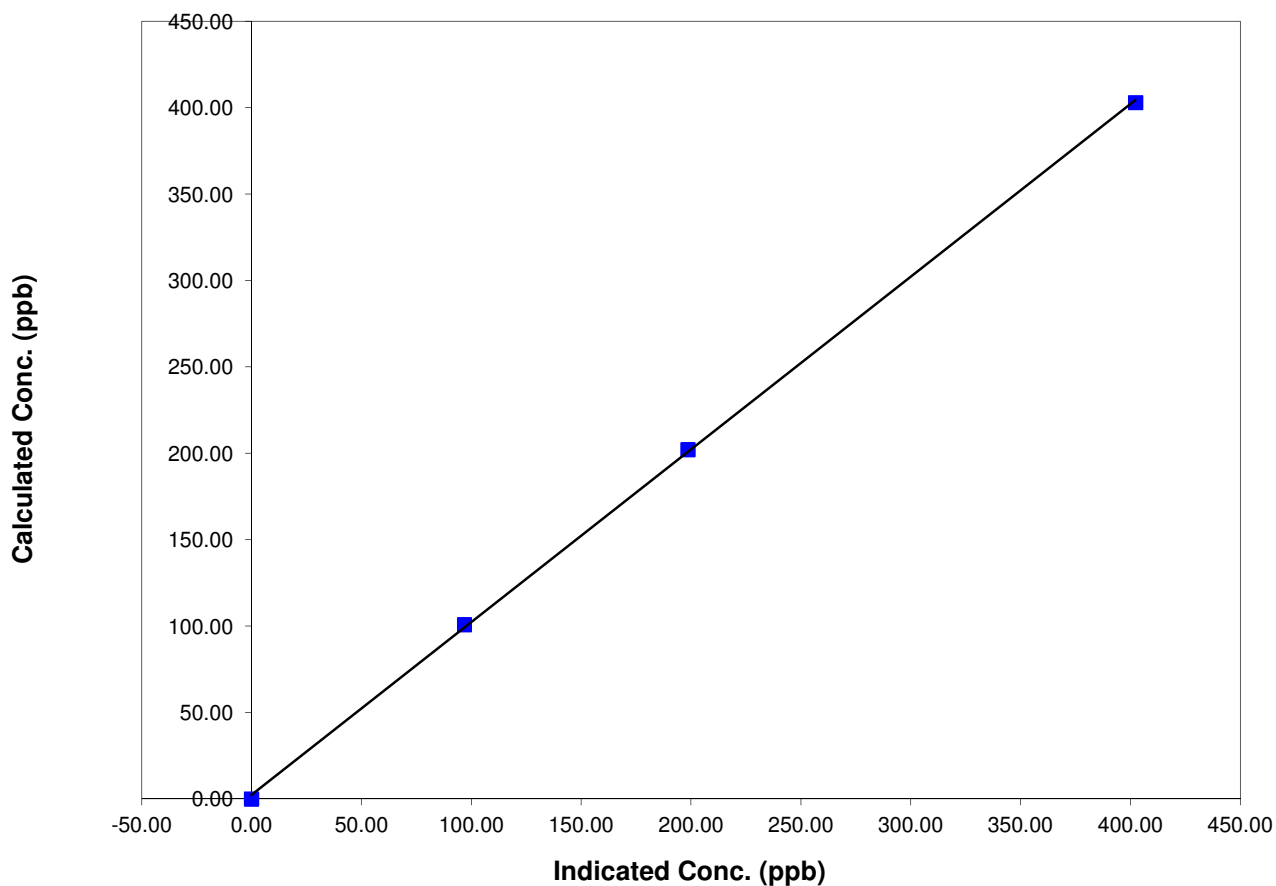
Station Information

Calibration Date	November 9, 2012	Previous Calibration	October 12, 2012
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	9:20	End Time (MST)	13:11
Analyzer make/model	TEI 43C	Analyzer serial #	610816292

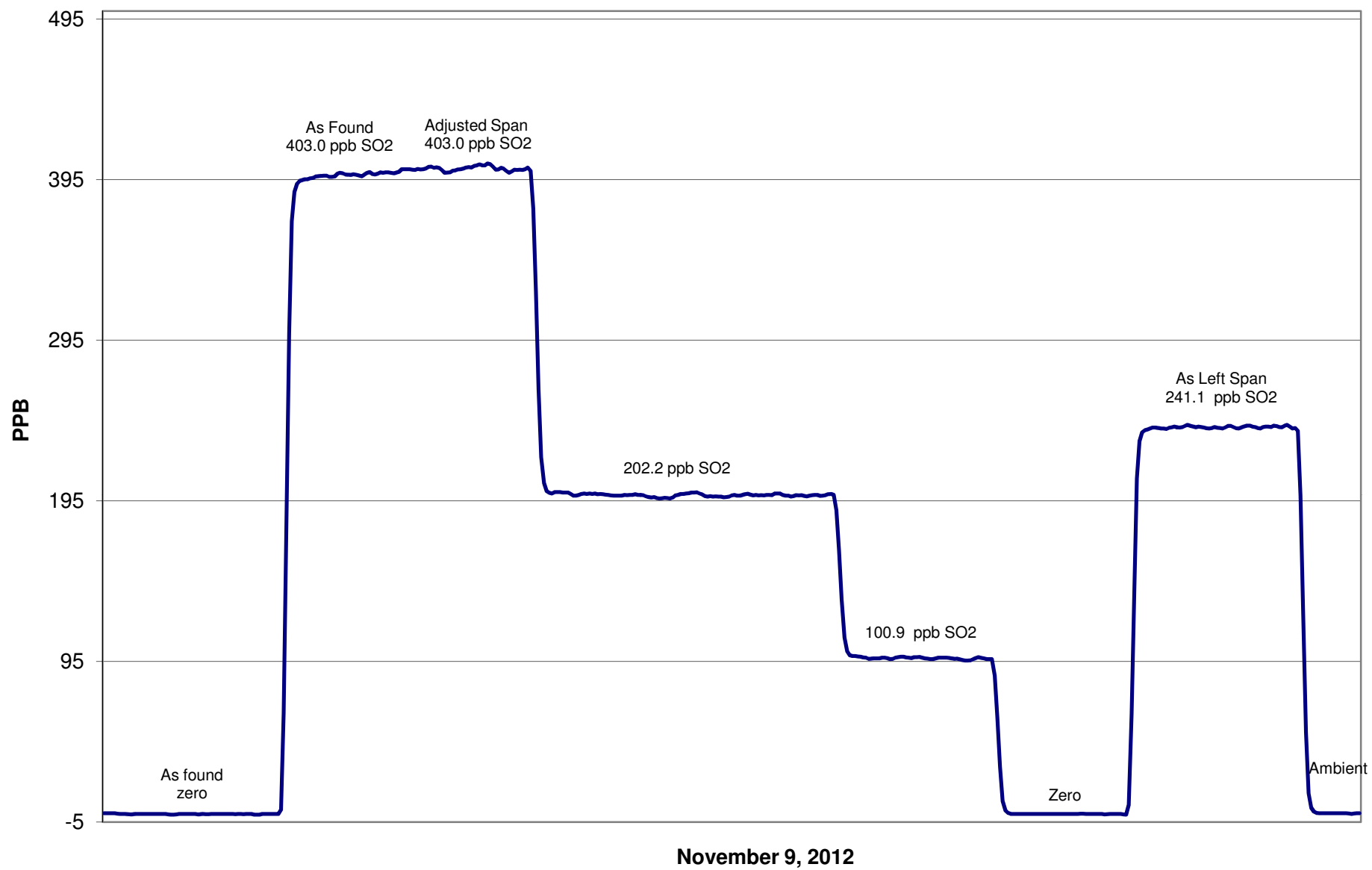
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.1	N/A		
403.0	402.3	1.0018	Correlation Coefficient	0.999863
202.2	198.6	1.0183		
100.9	96.8	1.0420	Slope	0.999085
			Intercept	2.282222

SO2 Calibration Curve



SO2 Calibration



Calibration Report

Parameter

NO_x-NO-NO₂

Air Monitoring Network

PAZA



Station Information

Calibration Date	November 9, 2012		Previous Calibration	October 12, 2012	
Station Number	1		Station Location	Henry Pirker	
Reason:	Routine	Installation	Removal	Other:	
Start Time (MST)	9:20		End Time (MST)	15:03	
Barometric Pressure	0.922	Atm	Station Temperature	20.0	Deg C
Calibrator	EnviroNics		Serial Number	3474	
NO Cal Gas Conc	51.2	ppm	Cal Gas Expiry Date	March 12, 2014	
NO _x Cal Gas Conc	51.2	ppm	Cal Gas Serial #	LL107272	

DACS Information

DACS make	CR3000		DACS serial No.	5408	
	Parameter	NO ₂	NO _x	NO	
Before	Data Slope	1.000216	1.000874	0.999861	
	Data Offset	-0.150835	1.638387	1.346596	
After	Data Slope	0.992736	0.998601	0.997797	
	Data Offset	-0.191499	1.911152	2.058694	
	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	12.8	mV	12.8	mV	
NO _x bkgnd	14.2	mV	13.3	mV	
NO coefficient	1.090		1.101		
NO _x coefficient	1.000		1.001		
NO ₂ conv temp	318.0	Deg C	318.0	Deg C	
PMT Temp	-2.5	Deg C	-2.5	Deg C	
PMT Volt	-768.0	mV	-768.0	mV	
R Cell Press	181.8	in Hg	182.1	in Hg	

Calibration Report

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



Calibration Date: November 9, 2012 Station Location: Henry Pirker

	Dilution flow rate (ccm)	Source gas flow rate (ccm)	Calculated NO _x conc (ppb)	Calculated NO conc (ppb)	Calculated NO ₂ conc (ppb)	Indicated NO _x conc (ppb)	Indicated NO conc (ppb)	Indicated NO ₂ conc (ppb)	NO _x Correction factor	NO Correction factor
zero	4995	0.00	0.0	0.0	0.0	0.1	0.0	0.0	N/A	N/A
1	4995	39.94	406.1	406.1	0.0	406.0	406.3	-0.4	1.0004	0.9997
2	4995	19.96	203.8	203.8	0.0	200.5	200.3	0.2	1.0164	1.0175
3	4995	9.94	101.7	101.7	0.0	98.4	98.4	0.0	1.0332	1.0331
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	0.0	406.0	406.3	-0.4	1.0004	0.9997
Average Correction Factor									1.0167	1.0168

As Found Concentrations: NO_x= 407.6 NO= 407.6 As Found Percent Change NO_x= 0.3% NO= 0.4%

Dilution Flow		4995	ccm	Source Gas Flow		39.94	ccm			
O ₃ Setpoint (ppb)	Indicated NO high point (ppb)	Indicated NO drop conc (ppb)	Calculated NO ₂ conc (ppb)	Indicated NO _x conc (ppb)	Indicated NO conc (ppb)	Indicated NO ₂ conc (ppb)	NO _x Correction factor	NO Correction factor	NO ₂ Correction factor	Converter Efficiency
0	0.0	0.0	0.0	0.1	0.0	0.0	N/A	N/A	N/A	N/A
NO point	405.1	405.1	0.0	405.5	405.1	0.3	0.9992	1.0000	N/A	N/A
300	405.1	95.6	309.6	407.4	95.6	312.0	0.9946	1.0000	0.9921	100.8%
200	405.1	194.8	210.3	406.4	194.8	211.8	0.9968	1.0000	0.9932	100.7%
100	405.1	294.2	111.0	406.6	294.2	112.5	0.9965	1.0000	0.9867	101.3%
Average Correction Factor							0.9959	1.0000	0.9907	100.9%

	Previous calibration				Current calibration			
Parameter	NO _x	NO ₂	NO		NO _x	NO ₂	NO	
Auto zero	-0.1	0.0	0.0	ppb	-0.2	-0.3	0.0	ppb
Auto span	168.4	169.5	1.2	ppb	320.7	319.0	2.0	ppb

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter NO₂

Air Monitoring Network PAZA



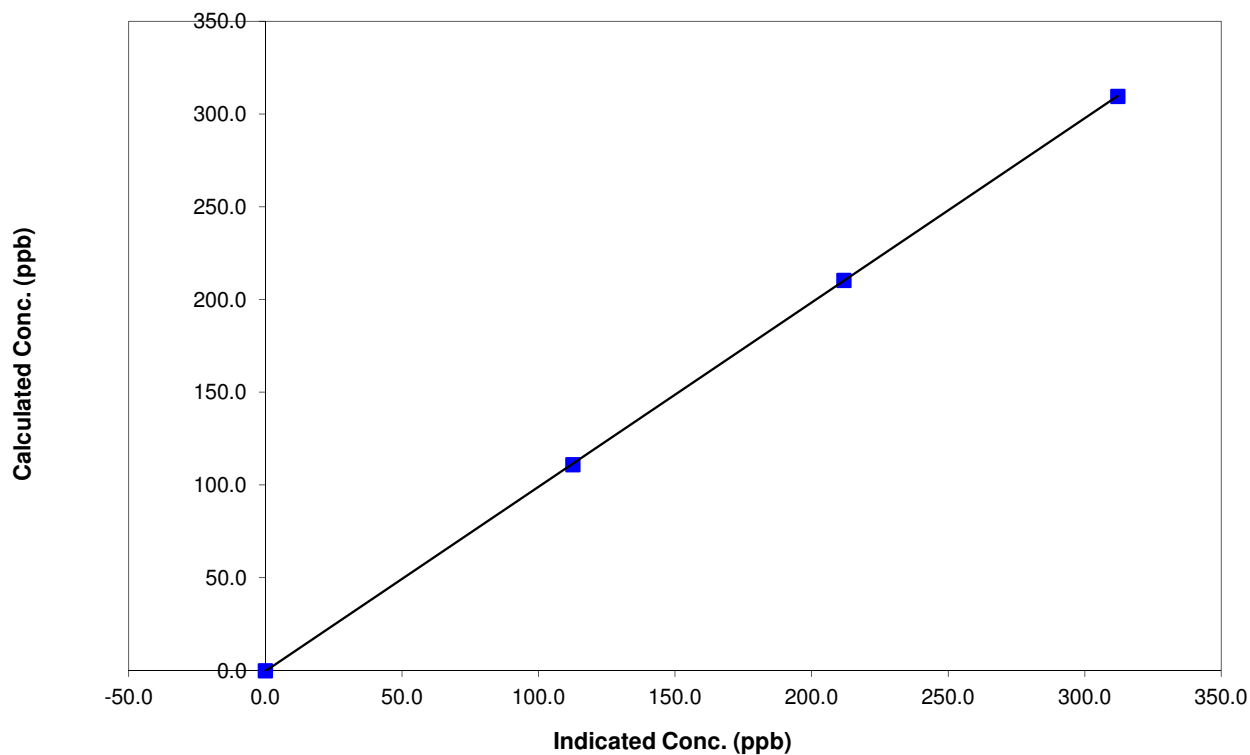
Station Information

Calibration Date	November 9, 2012	Previous Calibration	October 12, 2012
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	9:20	End Time (MST)	15:03
Analyzer make	TEI 42C	Analyzer serial #	508011073

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.0	N/A	Correlation Coefficient	0.999993
309.6	312.0	0.9921		
210.3	211.8	0.9932		
111.0	112.5	0.9867	Slope	0.992736
			Intercept	-0.191499

NO₂ Calibration Curve



Calibration Summary

Parameter NO_x

Air Monitoring Network PAZA



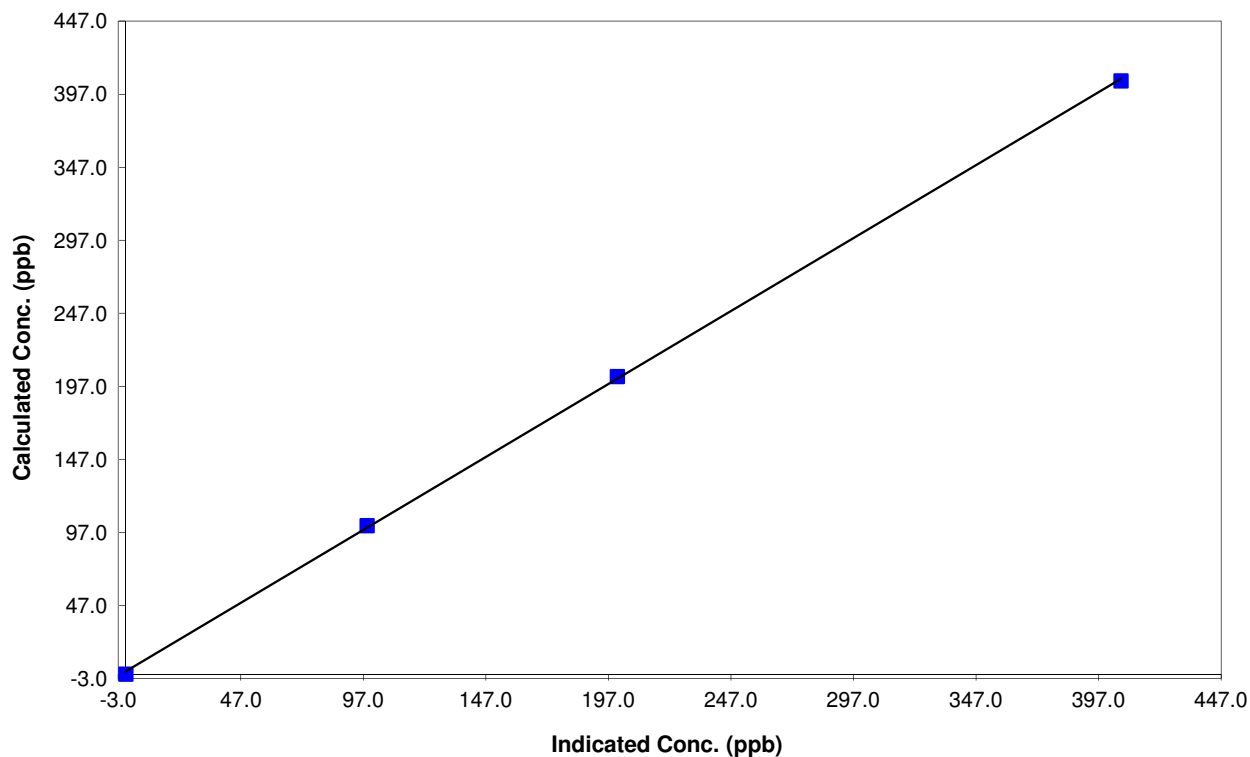
Station Information

Calibration Date	November 9, 2012	Previous Calibration	October 12, 2012
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	9:20	End Time (MST)	15:03
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	0.999886
406.1	406.0	1.0004		
203.8	200.5	1.0164		
101.7	98.4	1.0332	Slope	0.998601
			Intercept	1.911152

NO_x Calibration Curve



Calibration Summary

Parameter NO

Air Monitoring Network PAZA



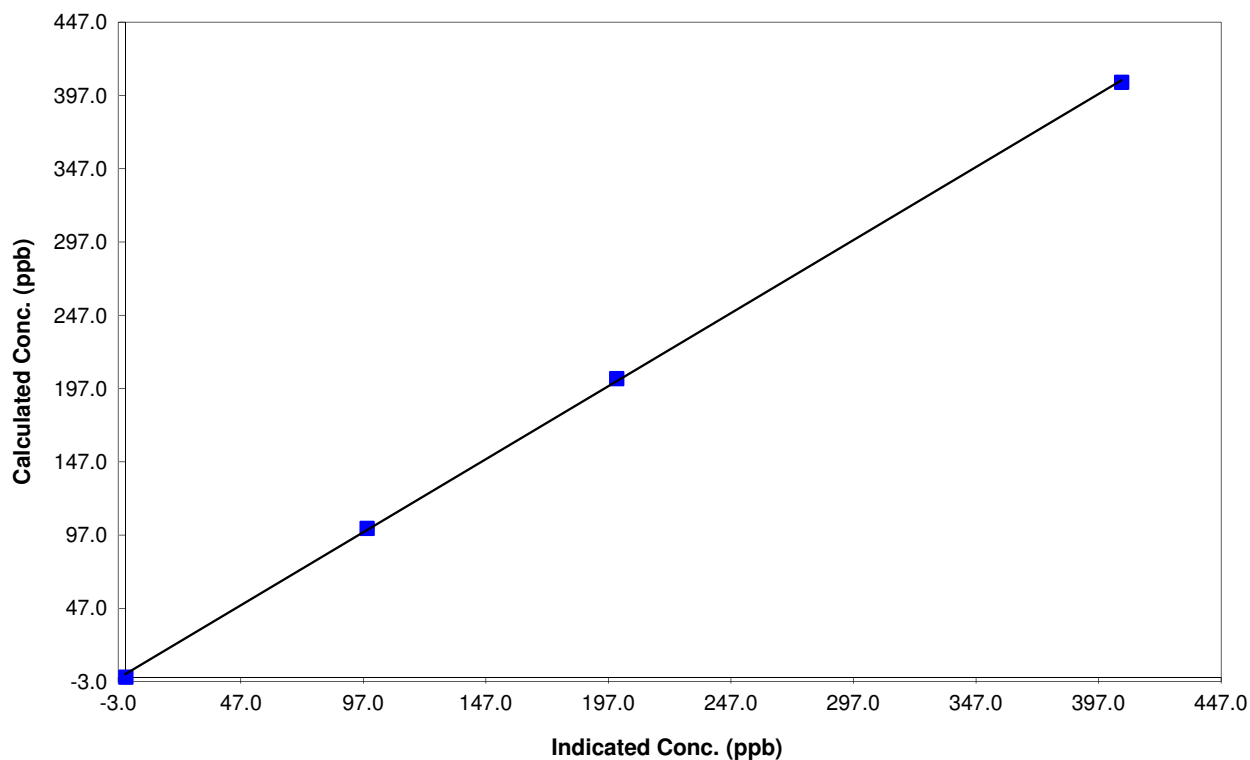
Station Information

Calibration Date	November 9, 2012	Previous Calibration	October 12, 2012
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	9:20	End Time (MST)	15:03
Analyzer make	TEI 42C	Analyzer serial #	508011073

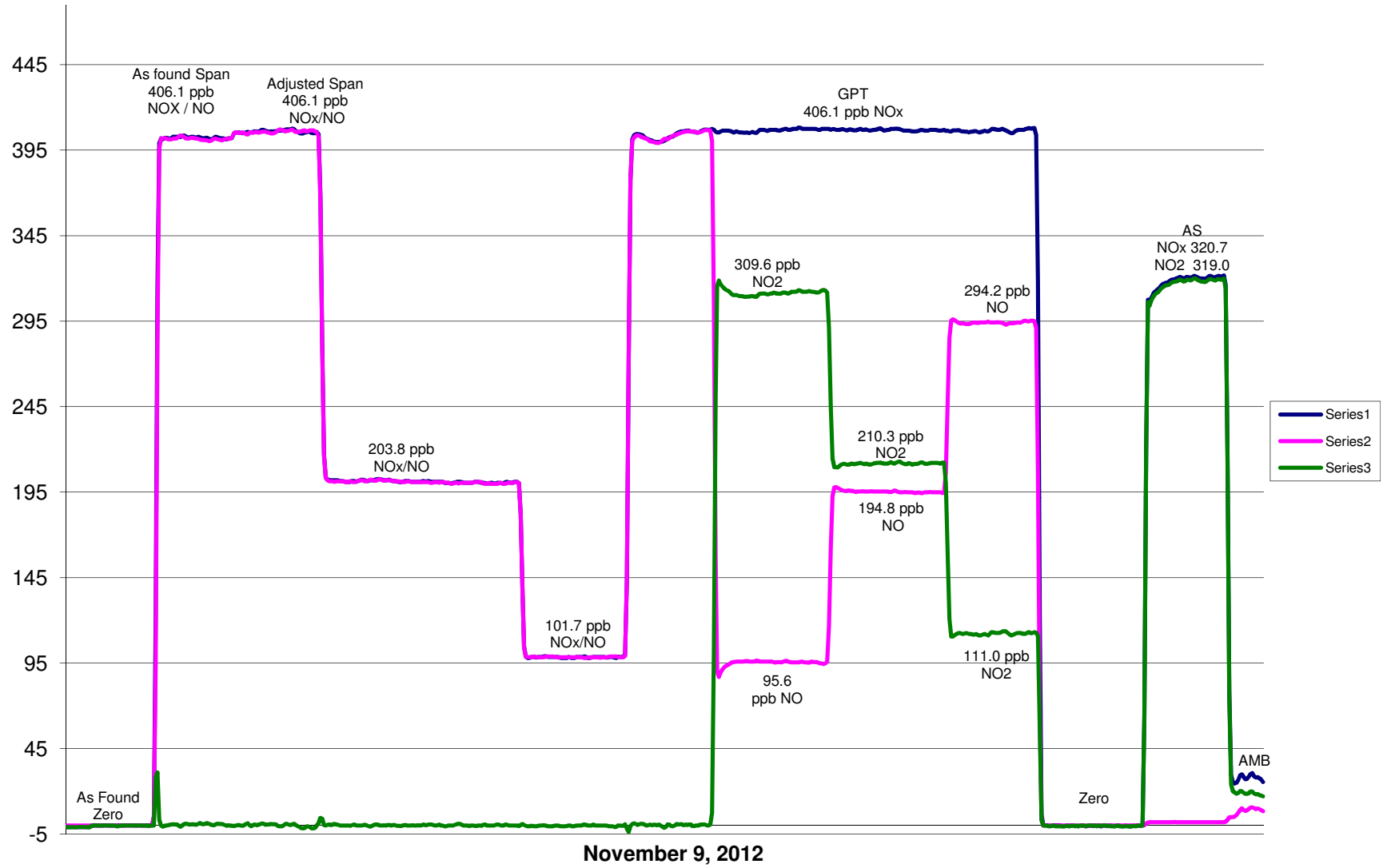
Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.0	N/A	Correlation Coefficient	0.999875
406.1	406.3	0.9997		
203.8	200.3	1.0175		
101.7	98.4	1.0331	Slope	0.997797
			Intercept	2.058694

NO Calibration Curve



PAZA NO_x Calibration



Calibration Report

Parameter 03

Air Monitoring Network PAZA



Station Information

Calibration Date	November 9, 2012	Previous Calibration	October 12, 2012
Station Number	1	Station Location	Henry Pirker
Reason:	☒ Routine	☐ Install	☐ Removal
		☐ Other:	
Start Time (MST)	13:50:00 PM	End Time (MST)	17:10
Barometric Pressure	0.922 atm	Station Temperature	20.0 Deg C
Calibrator	EnviroNics 6100	Serial Number	3474
Cal Gas Concentration	NA	Cal Gas Expiry Date	NA
DACS make	CR3000	DACS serial No.	5408
DACS voltage range	0 - 1 volt	DACS channel #	5
	Before		After
Calculated slope	0.990218	Calculated slope	0.994275
Calculated intercept	-0.098026	Calculated intercept	-0.269654
Analyzer make	TECO 49C	Analyzer serial #	607415761

	before		after	
Concentration range	500	ppb	500	ppb
offset	-0.7	ppb	-0.7	ppb
slope	1.177		1.177	
O3 Lamp temp	71.1	Deg C	71.1	Deg C
Intensities	77540/68410	mV	77530/68310	mV
Pressure	692.1	inches Hg	694.4	inches Hg
Flow A	0.725	ccm	0.728	ccm
Flow B	0.738	ccm	0.739	ccm

Calibration Data

Dilution air flow rate (cc/min)	Referenced concentration (ppb)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
5036	0	0.0	0.4	N/A
5036	300	309.6	311.9	0.9926
5036	200	210.3	211.4	0.9949
5036	100	111.0	112.0	0.9912
5036	0	0.0	0.4	As found zero
5036	300	309.6	311.9	As found span
Average Correction Factor				0.9929

Calculated value of As Found Response: 308.4 ppm Percent Change of As Found: -0.4%

	before calibration		after calibration	
Auto zero	0.3	ppb	0.3	ppb
Auto span	154.9	ppb	153.8	ppb

Notes: No adjustment.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter O3

Air Monitoring Network PAZA



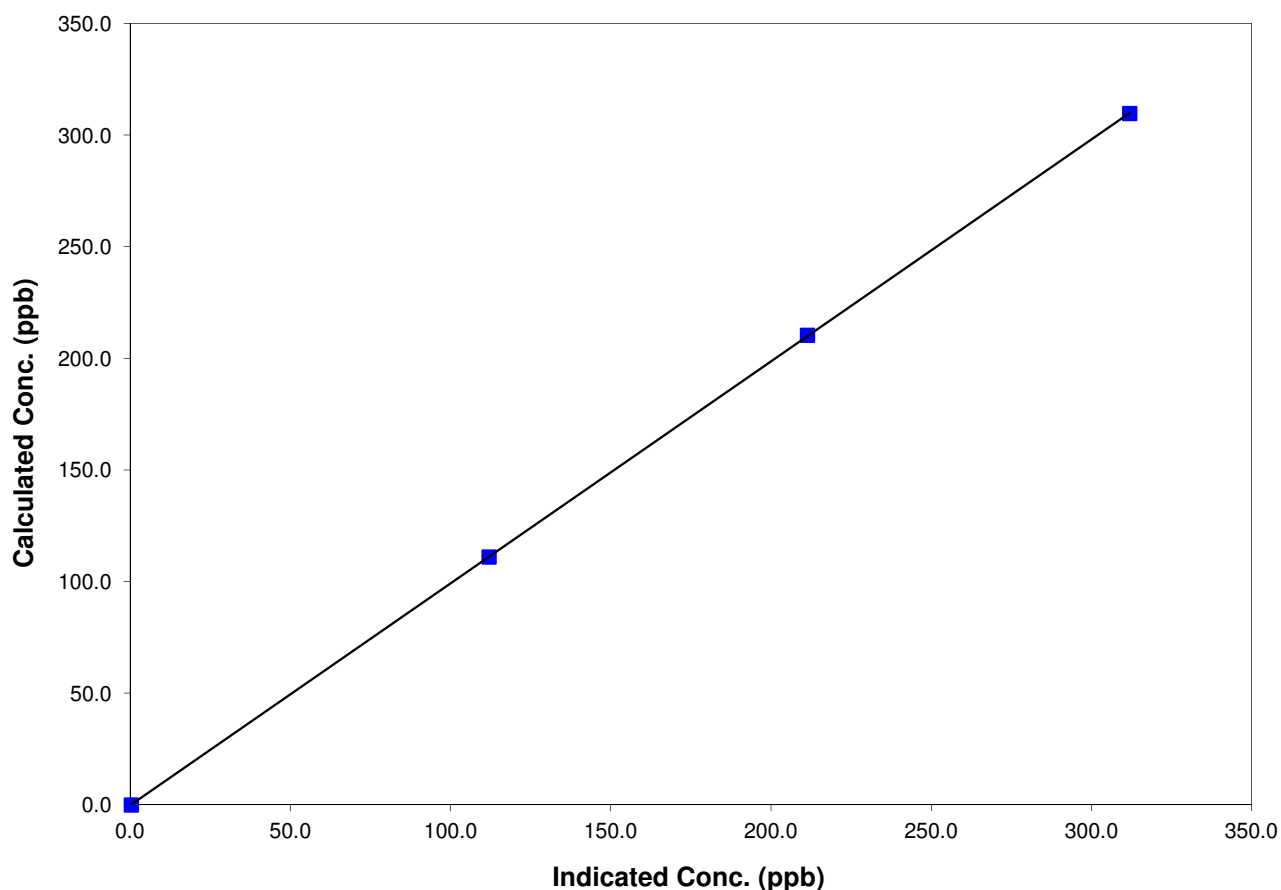
Station Information

Calibration Date	November 9, 2012	Previous Calibration	October 12, 2012
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	13:50:00 PM	End Time (MST)	17:10
Analyzer make/model	TECO 49C	Analyzer serial #	607415761

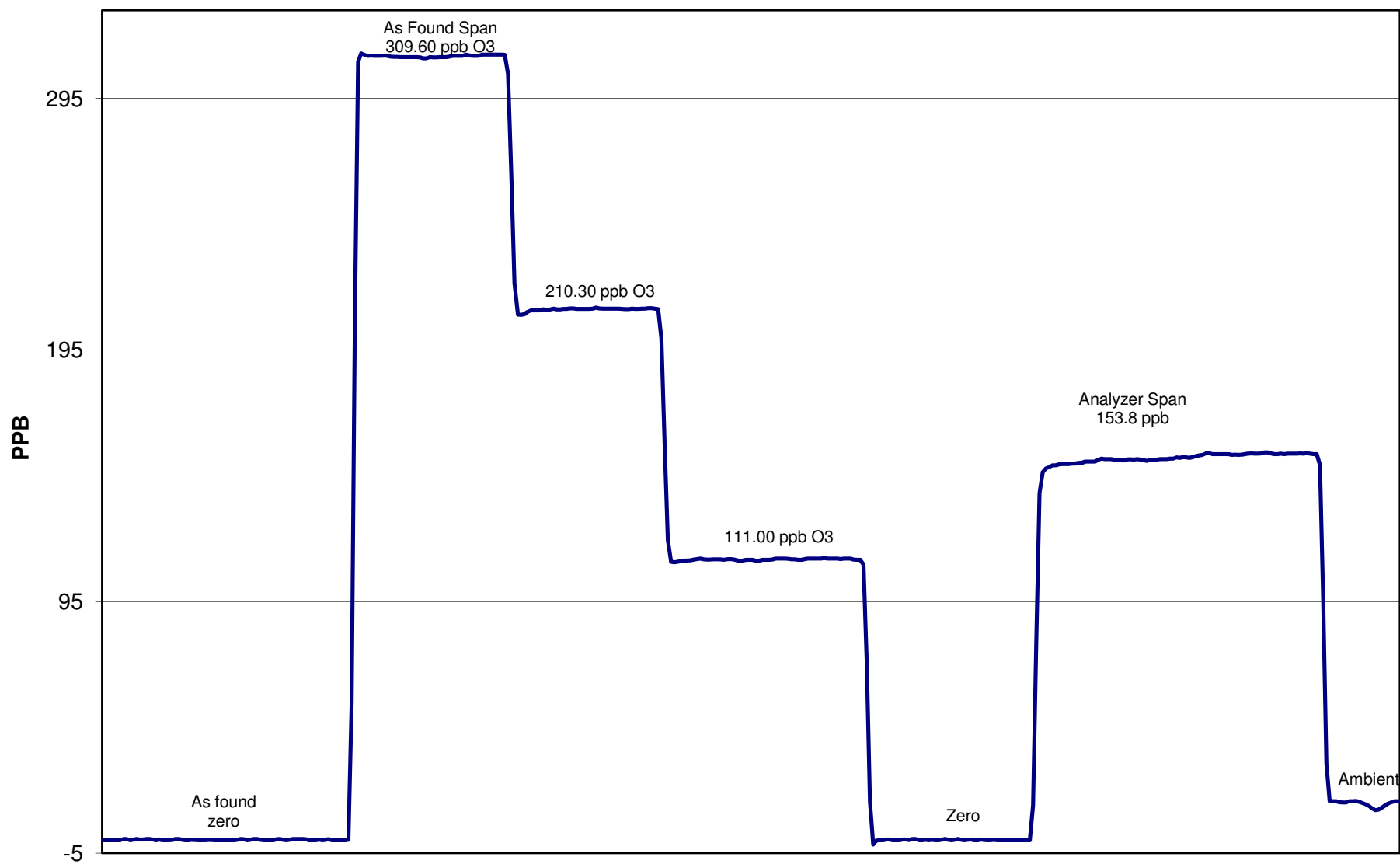
Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.4	NA		
309.6	311.9	0.9926	Correlation Coefficient	0.999995
210.3	211.4	0.9949		
111.0	112.0	0.9912	Slope	0.994275
			Intercept	-0.269654

O3 Calibration Curve



O3 Calibration



November 9, 2012

Calibration Report

Parameter CO

Air Monitoring Network PAZA



Station Information

Calibration Date	November 8, 2012	Previous Calibration	October 11, 2012
Station Number	1	Station Location	Henry Pirker
Reason:	Routine	Install	Removal
Start Time (MST)	10:30	End Time (MST)	14:18
Barometric Pressure	0.922 ATM	Station Temperature	21.0 Deg C
Calibrator	EnviroNics	Serial Number	3474
Cal Gas Conc	2898 ppm	Cal Gas Expiry Date	04/02/2013
DACS make	CR3000	Cal Gas Cylinder #	LL83909
DACS voltage range	0 - 1 volt	DACS serial No.	5408
	Before	DACS channel #	9
Calculated slope	0.998030		After
Calculated intercept	-0.240614	Calculated slope	1.000409
		Calculated intercept	-0.269917
Analyzer make	TEI Model 48C	Analyzer serial #	508011062

	before		after	
Concentration range	0 - 50	ppm	0 - 50	ppm
CO span setting	1.110		1.110	
CO zero setting	3.764		3.764	
Sample pressure	696.9	mm Hg	696.8	mm Hg
Sample Flow	1.140	LPM	1.140	LPM

Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4995	0.00	0.00	0.36	N/A
4995	69.94	40.02	40.31	0.9928
4995	34.95	20.14	20.38	0.9879
4995	18.95	10.95	11.11	0.9859
4995	0.00	0.00	0.36	As Found Zero
4995	69.95	40.02	40.31	As Found Span
Average Correction Factor				0.9888

Calculated value of As Found Response: 39.632 ppm Percent Change of As Found: 1.0%

	before calibration		after calibration	
Auto zero	0.03	ppm	0.03	ppm
Auto span	19.56	ppm	19.53	ppm

Notes: DAS reading 0.4 ppb above analyzer reading. Slight zero adjust.
New daily span cylinder installed following calibration.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter CO

Air Monitoring Network PAZA



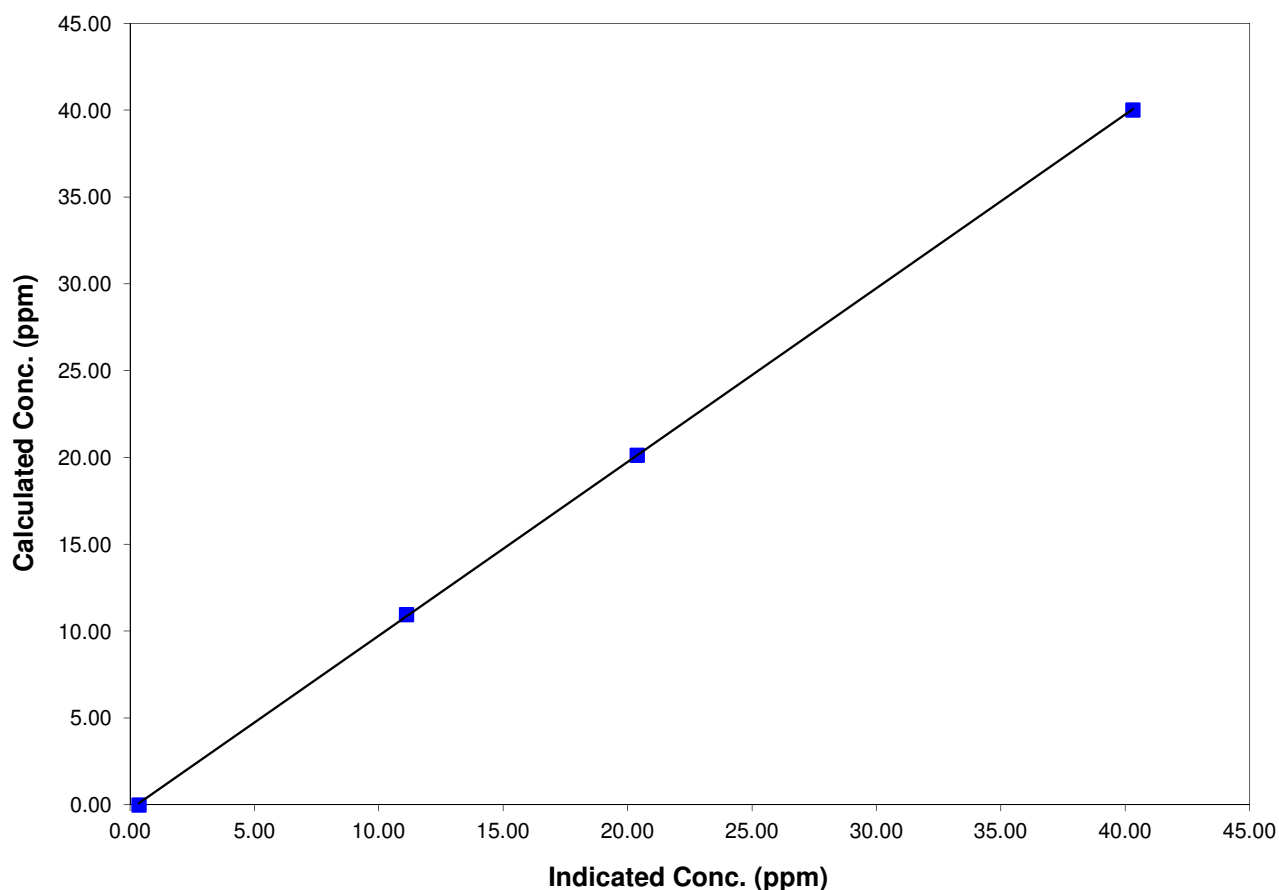
Station Information

Calibration Date	November 8, 2012	Previous Calibration	October 11, 2012
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	10:30	End Time (MST)	14:18
Analyzer make/model	TEI Model 48C	Analyzer serial #	508011062

Calibration Data

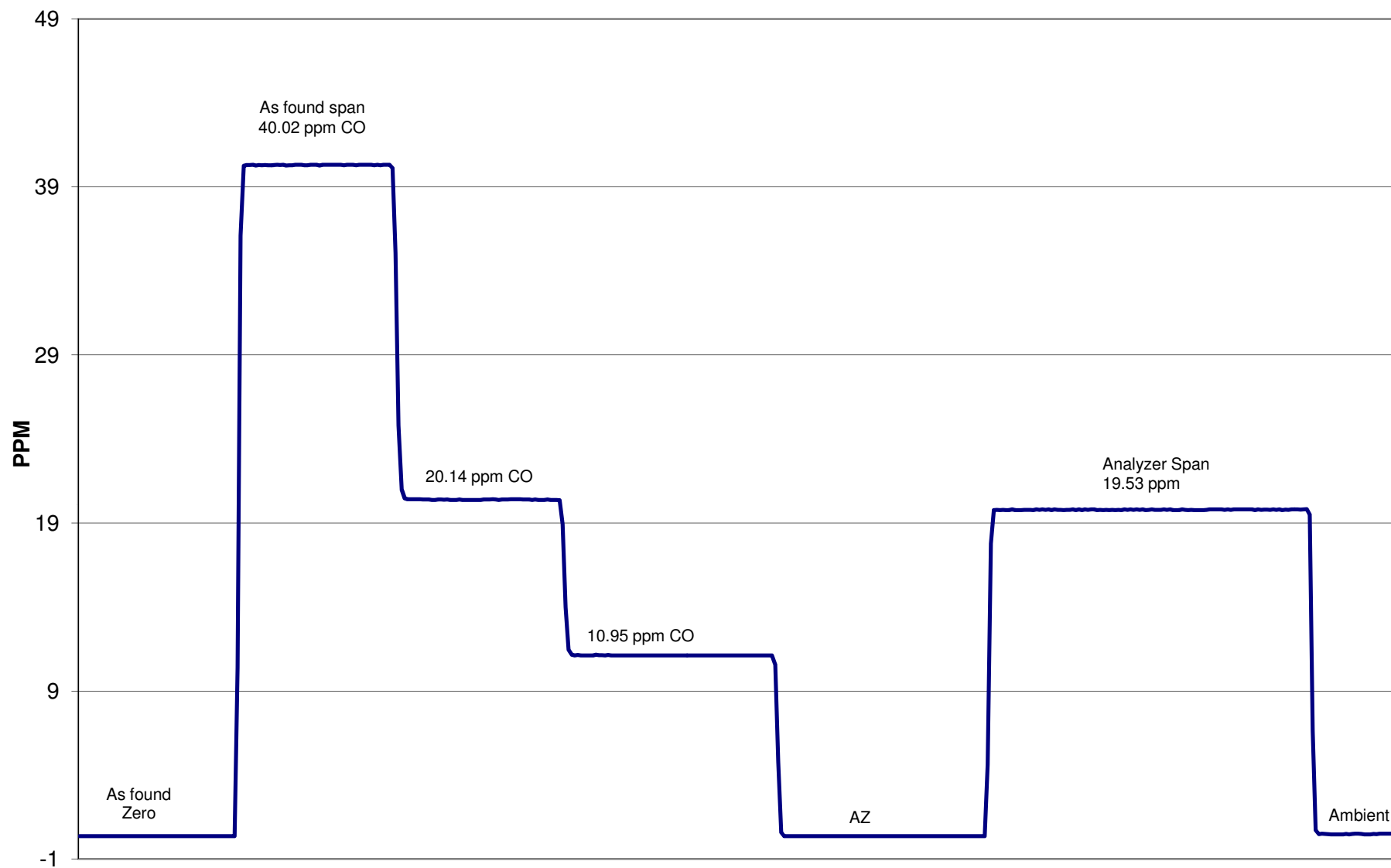
Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.356	N/A	Correlation Coefficient	0.999976
40.017	40.307	0.9928		
20.136	20.384	0.9879		
10.953	11.110	0.9859	Slope	1.000409
			Intercept	-0.269917

CO Calibration Curve



11.15 ppm CO

CO Calibration



November 8, 2012

Calibration Report

Parameter THC

Air Monitoring Network PAZA



Station Information

Calibration Date	November 9, 2012	Previous Calibration	October 10, 2012
Station Number	1	Station Location	Henry Pirker
Reason:	☐ Routine	☐ Install	☐ Removal
		☒ Other:	Maintenance
Start Time (MST)	15:50:00 PM	End Time (MST)	19:05
Barometric Pressure	0.922 ATM	Station Temperature	20.0 Deg C
Calibrator	EnviroNics 6100	Serial Number	3474
Cal Gas Concentration	404 ppm CH4/ 201 ppm C3H8	Cal Gas Expiry Date	04/02/2010
Cal Gas CH4 equiv	956.75 ppm	Cal Gas Cylinder #	ALM 004476
DACS make	CR3000	DACS serial No.	5408
DACS voltage range	0 - 1 volt	DACS channel #	9
	<u>Before</u>		<u>After</u>
Calculated slope	1.023724	Calculated slope	1.003296
Calculated intercept	-0.125765	Calculated intercept	0.016629
Analyzer make	TEI Model 51C-LT	Analyzer serial #	51CLT-79009-390

	before		after	
Concentration range	0 - 25	ppm	0 - 25	ppm
THC sample pressure	6.50	psi	6.50	psi
THC span counts	11511	capture	11511	capture
THC zero counts	1782	capture	1782	capture

Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
2995	0.00	0.00	0.07	N/A
2995	69.95	21.84	21.78	1.0027
2995	29.96	9.48	9.38	1.0103
2995	9.98	3.18	3.09	1.0296
2995	0.00	0.00	0.06	As Found Zero
2995	69.95	21.84	21.78	As Found Span
Average Correction Factor				1.0142

Calculated value of As Found Response: 22.108 ppm Percent Change of As Found: -1.2%

	before calibration		after calibration	
Auto zero	0.08	ppm	0.07	ppm
Auto span	22.47	ppm	22.73	ppm

Notes: No adjustment made.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter THC

Air Monitoring Network PAZA



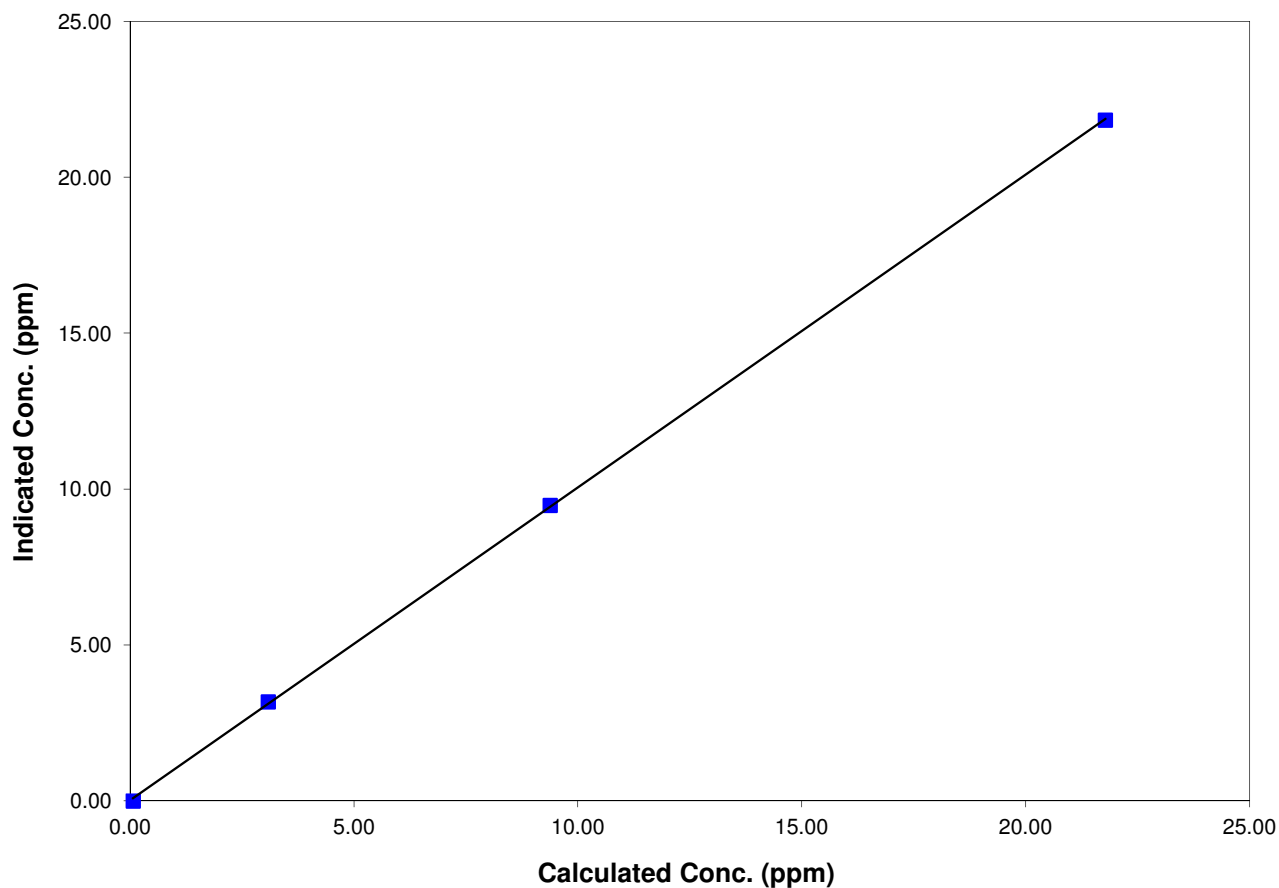
Station Information

Calibration Date	November 9, 2012	Previous Calibration	October 10, 2012
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	15:50:00 PM	End Time (MST)	19:05
Analyzer make/model	TEI Model 51C-LT	Analyzer serial #	51CLT-79009-390

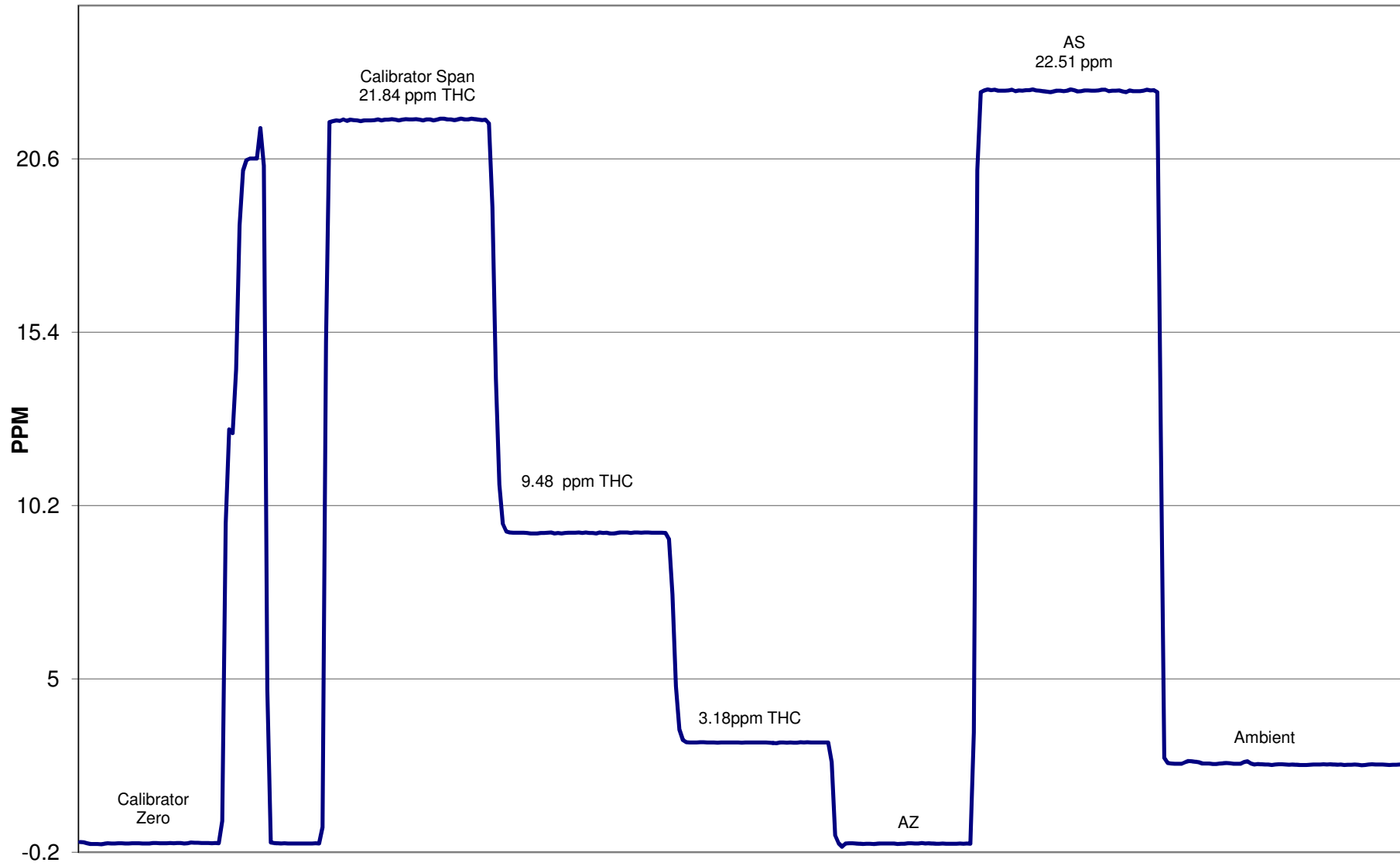
Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.067	N/A		
21.835	21.777	1.0027	Correlation Coefficient	0.999948
9.476	9.379	1.0103		
3.178	3.086	1.0296	Slope	1.003296
			Intercept	0.016629

THC Calibration Curve



THC Calibration



November 9, 2012

Calibration Report

Parameter TR5

Air Monitoring Network PAZA



Station Information

Calibration Date	November 08,2012	Previous Calibration	October 11,2012
Station Number	1	Station Location	Henry Pirker
Reason:	☒ Routine	☐ Install	☐ Removal
		☐ Other:	
Start Time (MST)	12:40	End Time (MST)	16:45
Barometric Pressure	0.922 ATM	Station Temperature	20.0 Deg C
Calibrator	EnviroNics 6100	Serial Number	3474
Cal Gas Conc	10.1 ppb	Cal Gas Expiry Date	05/11/2013
		Cal Gas Cylinder #	LL160692
DACS make	CR3000	DACS serial No.	5408
DACS voltage range	0 - 1 volt	DACS channel #	9
	Before		After
Calculated slope	0.981694	Calculated slope	0.975309
Calculated intercept	0.234833	Calculated intercept	0.217058
Analyzer make	TEI 45C	Analyzer serial #	630718528

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Coefficient	1.132		1.132	
Background	11.4		11.4	
Pressure	665.0	mm Hg	667.0	mm Hg
Flow	0.457	ccm	0.455	ccm
Lamp Voltage	822	V	822	V

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)		Correction factor (Cc/lc)
4995	0.00	0.00	0.16	N/A
4995	39.93	80.10	82.11	0.9755
4995	19.95	40.18	40.61	0.9894
8995	8.94	10.03	9.83	1.0197
4995	0.00	0.00	0.16	As Found Zero
4995	39.93	80.10	82.11	As Found Span
Average Correction Factor				0.9949

Calculated value of As Found Response: 80.7 ppb Percent Change of As Found: -0.7%

	before calibration		after calibration	
Auto zero	-0.29	ppb	0.33	ppb
Auto span	33.10	ppb	33.29	ppb

Notes: Sox scrubber checked. No adjustment made.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter TRS

Air Monitoring Network PAZA



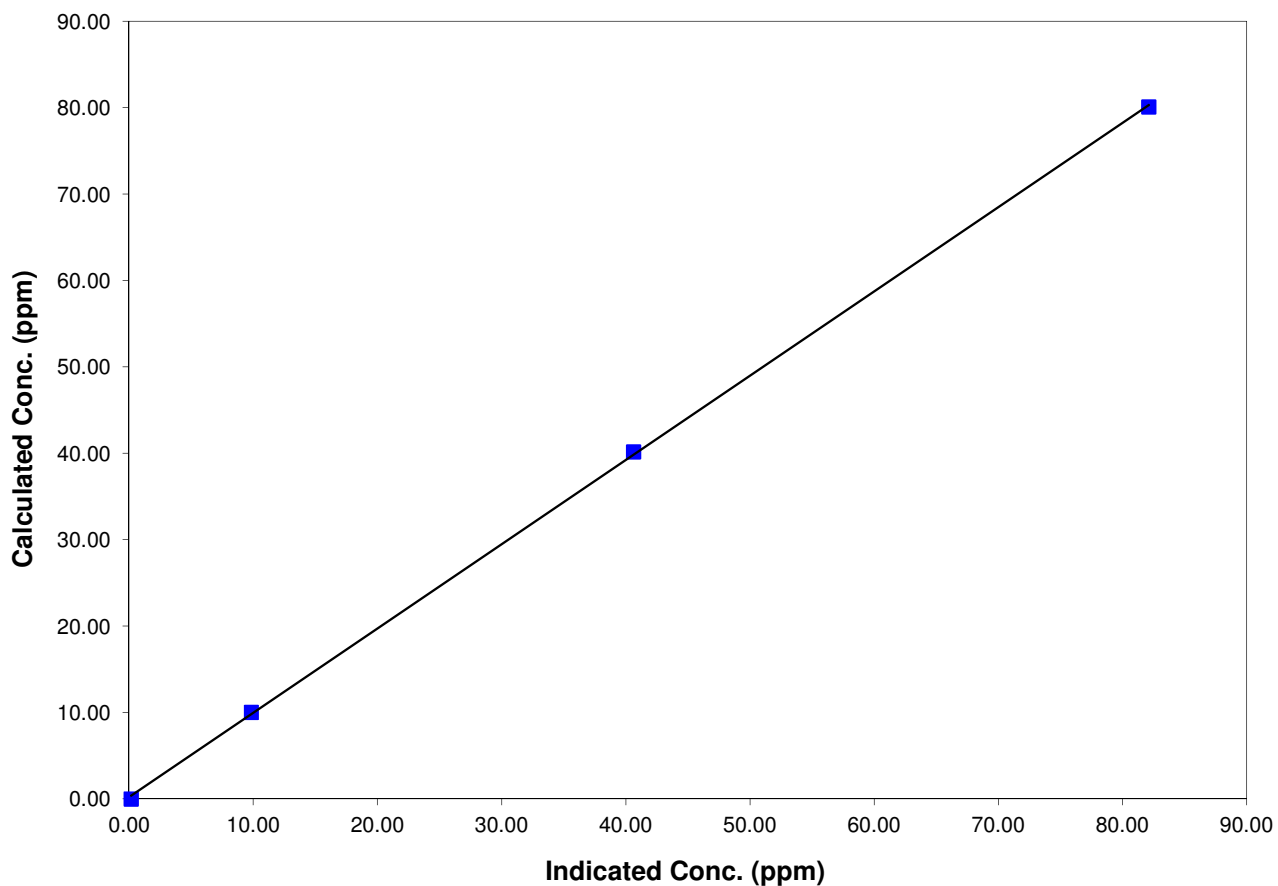
Station Information

Calibration Date	November 08,2012	Previous Calibration	October 11,2012
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	12:40	End Time (MST)	16:45
Analyzer make/model	TEI 45C	Analyzer serial #	630718528

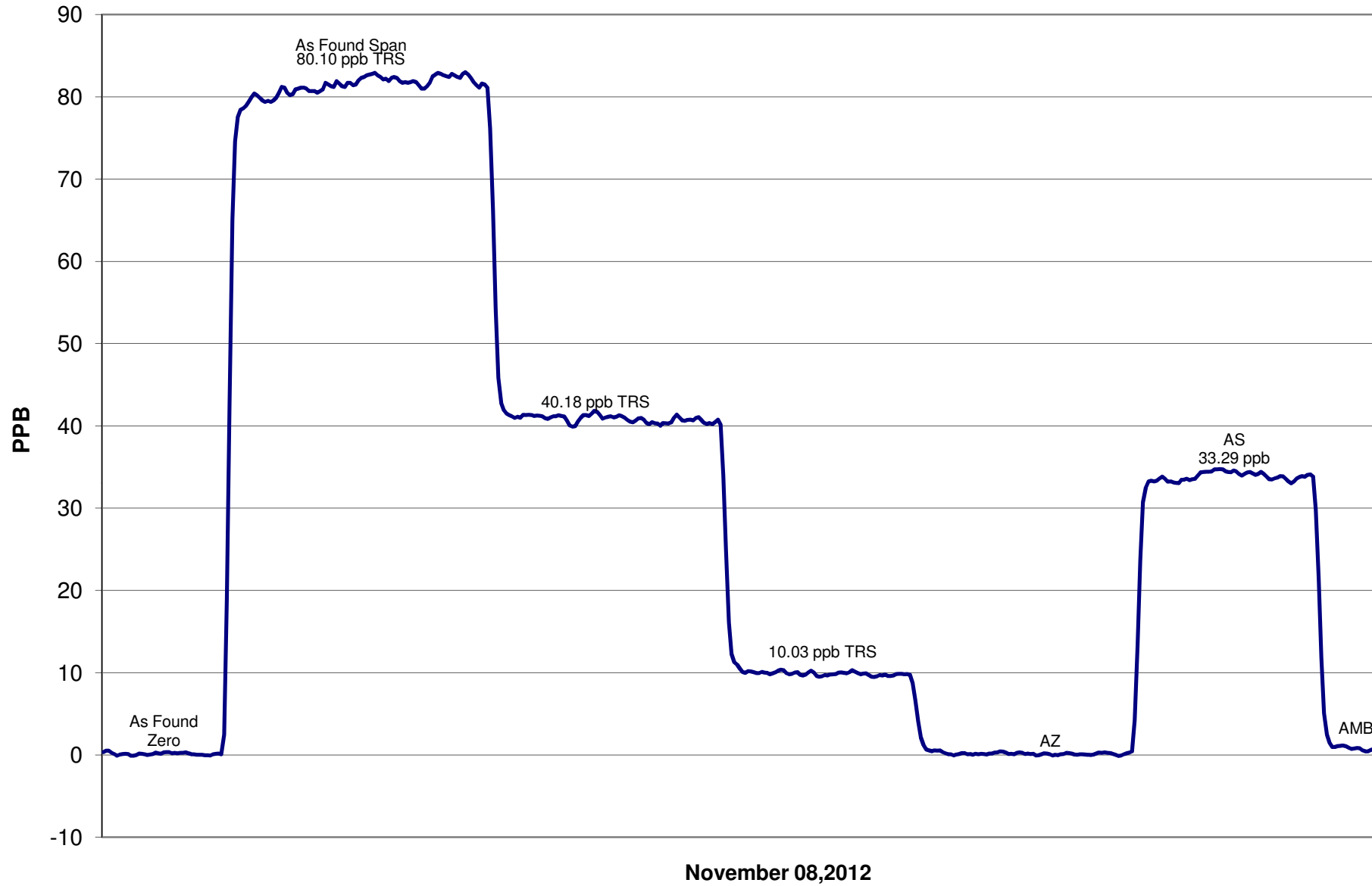
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.161	N/A	Correlation Coefficient	0.999908
80.099	82.112	0.9755		
40.179	40.607	0.9894		
10.028	9.835	1.0197	Slope	0.975309
			Intercept	0.217058

TRS Calibration Curve



TRS Calibration



Calibration Report



Parameter SO₂

Air Monitoring Network PAZA

Station Information

Calibration Date	November 20, 2012	Previous Calibration	October 25, 2012
Station Number	2	Station Location	Evergreen Park
Reason:	Routine	Install	Removal
		Other:	
Start Time (MST)	11:50	End Time (MST)	15:40
Barometric Pressure	0.924 ATM	Station Temperature	20.0 Deg C
Calibrator	EnviroNics	Serial Number	3474
Cal Gas Concentration	50.8 ppm	Cal Gas Expiry Date	12/03/2014
Correction factor	0.031409	Cal Gas Cylinder #	LL107272
DACS make	CR3000	DACS serial No.	5236
DACS voltage range	0 - 5 volt	DACS channel #	6
	Before		After
Calculated slope	0.993685	Calculated slope	1.004908
Calculated intercept	2.160997	Calculated intercept	1.320313
Analyzer make	Teco 43i	Analyzer serial #	701120008

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
Background	11.4		11.4	
coefficient	1.213		1.213	
Lamp Voltage	828	volts	826	volts
Chamber Temp	45.2	Deg C	45.2	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	668	mm Hg	667.7	mm Hg
Sample Flow	0.448	ccm	0.45	ccm
Lamp Intensity	89	%	90	%

Dilution air flow rate (cc/min)	Corrected gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4995	0.0	0.00	0.3	N/A
4995	39.93	402.9	400.4	1.0061
4995	19.97	202.3	199.0	1.0165
4995	9.97	101.2	97.9	1.0338
4995	0.0	0.0	0.5	As Found Zero
4995	39.93	402.9	400.4	As Found Span
Average Correction Factor				1.0188

Calculated value of As Found Response: 399.546 ppm Percent Change of As Found: 0.8%

	before calibration		after calibration	
Auto zero	0.0	ppm	0.2	ppm
Auto span	287.4	ppm	286.7	ppm

Notes: Slight adjust up on 80% point.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter SO2

Air Monitoring Network PAZA



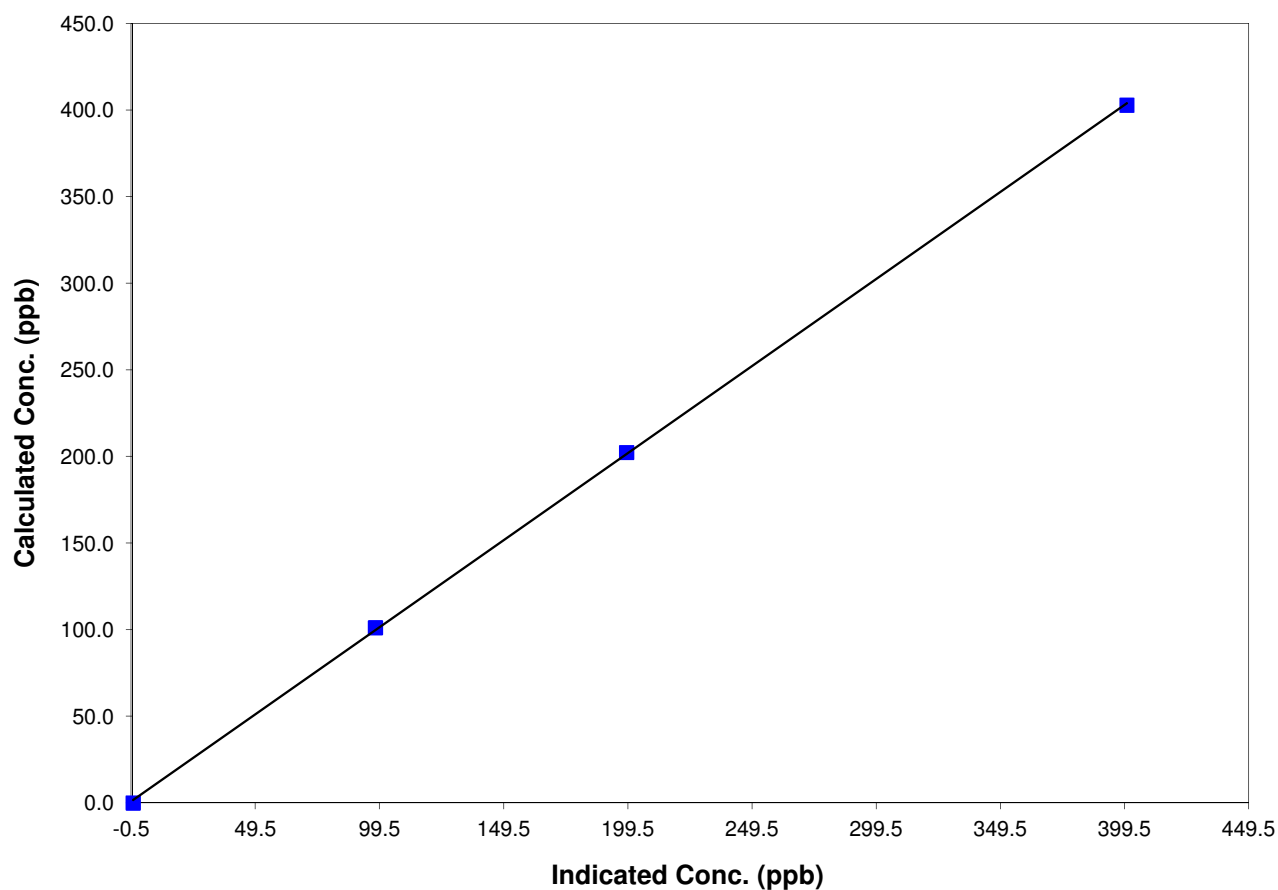
Station Information

Calibration Date	November 20, 2012	Previous Calibration	October 25, 2012
Station Number	2	Station Location	Evergreen Park
Start Time (MST)	11:50	End Time (MST)	15:40
Analyzer make/model	Teco 43i	Analyzer serial #	701120008

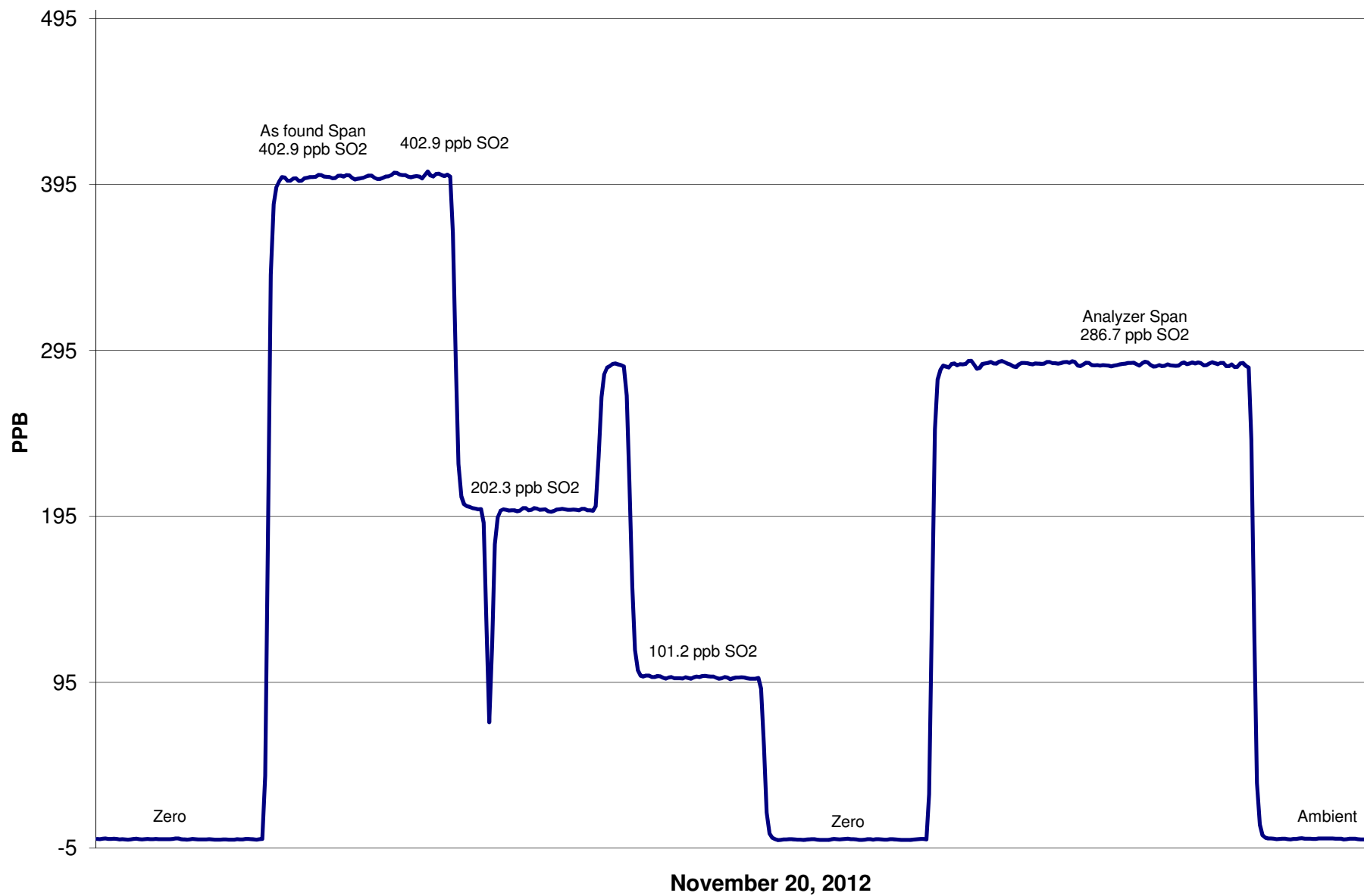
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.3	N/A	Correlation Coefficient	0.999925
402.9	400.4	1.0061		
202.3	199.0	1.0165		
101.2	97.9	1.0338	Slope	1.004908
			Intercept	1.320313

SO2 Calibration Curve



SO2 Calibration



Calibration Report



Parameter TRS

Air Monitoring Network PAZA

Station Information

Calibration Date	November 20, 2012	Previous Calibration	October 25, 2012
Station Number	2	Station Location	Evergreen Park
Reason:	☒ Routine	☐ Install	☐ Removal

Start Time (MST)	9:50	End Time (MST)	13:13
Barometric Pressure	0.924 ATM	Station Temperature	20.0 Deg C
Calibrator	EnviroNics	Serial Number	3474
Cal Gas Conc	10.1 ppm	Cal Gas Expiry Date	11/05/2013
Correction factor	0.031409	Cal Gas Cylinder #	LL160692
DACS make	CR3000	DACS serial No.	5236
DACS voltage range	0 - 5 volt	DACS channel #	5
	<u>Before</u>		<u>After</u>
Calculated slope	1.010210	Calculated slope	1.015584
Calculated intercept	-0.800254	Calculated intercept	-0.309443

Analyzer make	TEI Model 43C	Analyzer serial #	3.199E+13
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	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Background	33.1	ppb	33.1	ppb
coefficient	1.035		1.035	
Lamp Voltage	1025	volts	1024	volts
Chamber Temp	44.1	Deg C	44.1	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	640.2	mm Hg	640.5	mm Hg
Sample Flow	0.624	ccm	0.623	ccm
Lamp Intensity	31,560	mv	31,170	mv

Calibration Data

Dilution air flow rate (cc/min)	Corrected gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4995	0.00	0.00	0.5	N/A
4995	39.93	80.10	79.3	1.0104
4995	19.96	40.20	39.7	1.0119
8995	8.97	10.06	10.0	1.0015
4995	0.00	0.00	0.6	As Found Zero
4995	39.95	80.14	79.3	As Found Span
Average Correction Factor				1.0079

Calculated value of As Found Response: 78.68 ppm Percent Change of As Found: 1.8%

	before calibration		after calibration	
Auto zero	0.3	ppm	0.3	ppm
Auto span	81.6	ppm	78.4	ppm

Notes: No adjustment made.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter TRS

Air Monitoring Network PAZA



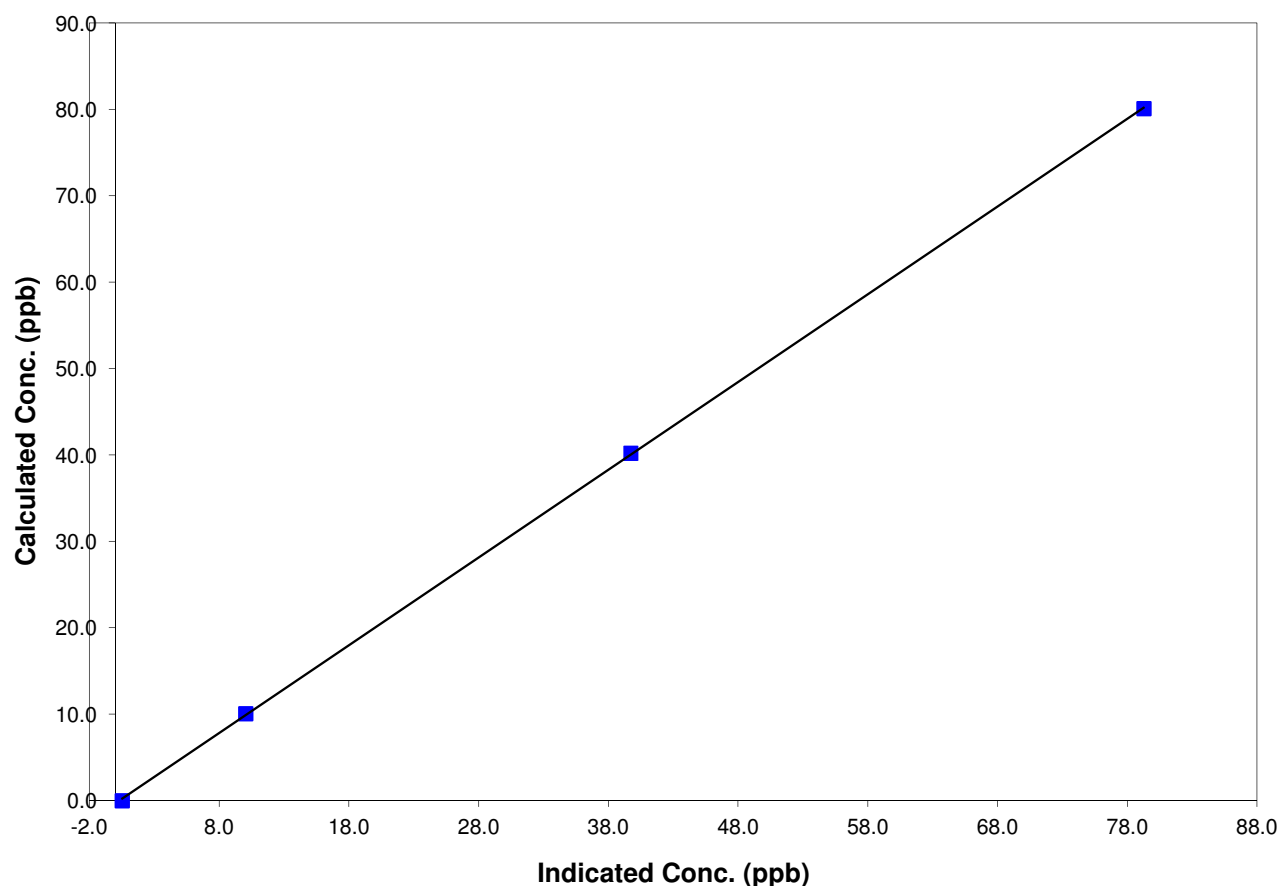
Station Information

Calibration Date	November 20, 2012	Previous Calibration	October 25, 2012
Station Number	2	Station Location	Evergreen Park
Start Time (MST)	9:50	End Time (MST)	13:13
Analyzer make/model	TEI Model 43C	Analyzer serial #	31990000000491

Calibration Data

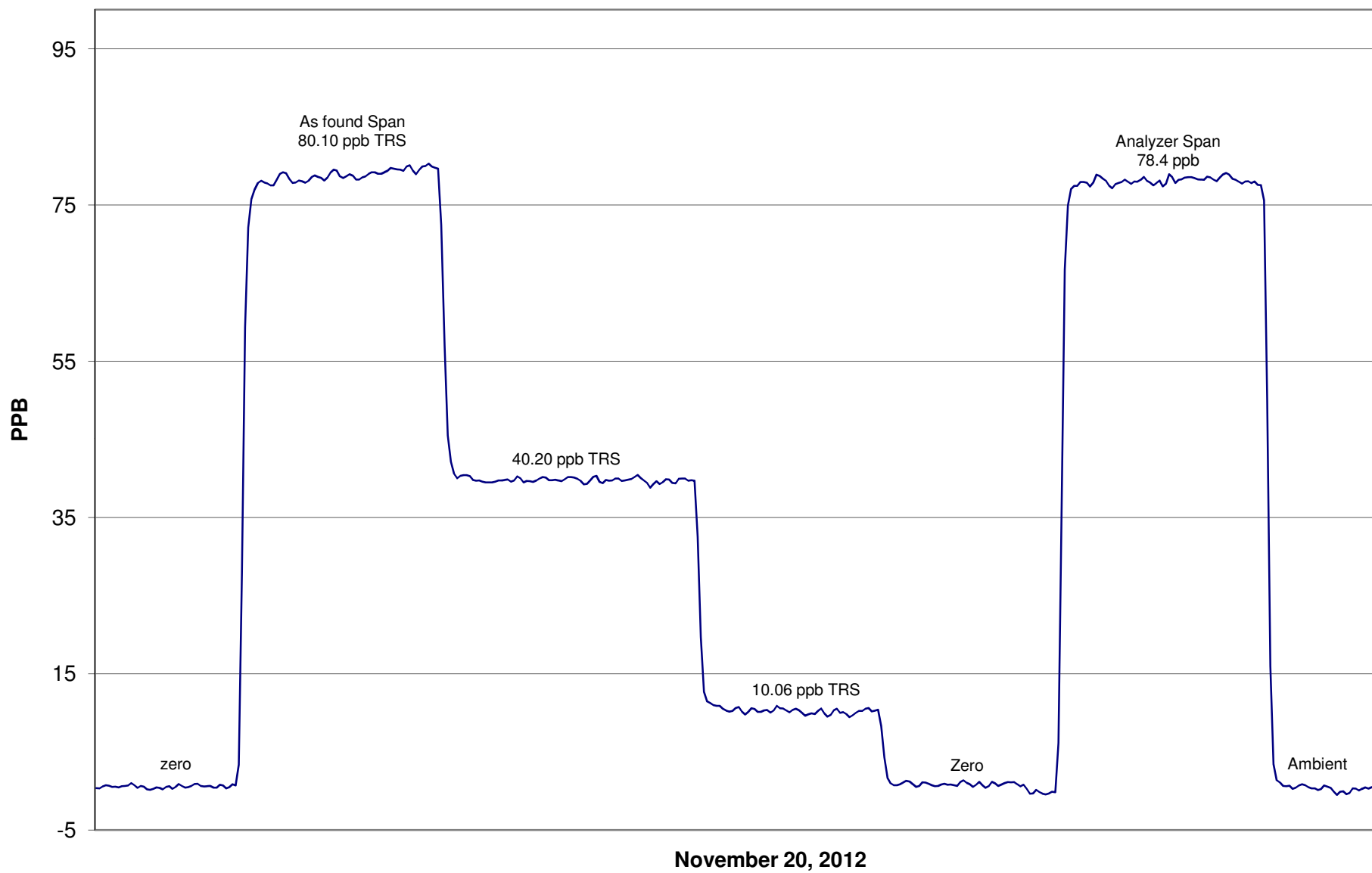
Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.5	N/A	Correlation Coefficient	0.999970
80.1	79.3	1.0104		
40.2	39.7	1.0119		
10.1	10.0	1.0015	Slope	1.015584
			Intercept	-0.309443

TRS Calibration Curve



As found Span
80.10 ppb TRS

TRS Calibration



Calibration Report



Parameter SO₂

Air Monitoring Network PAZA

Station Information

Calibration Date	November 16, 2012	Previous Calibration	October 3, 2012
Station Number	3	Station Location	Smokey Heights
Reason:	☒ Routine	☐ Install	☐ Removal
		☐ Other:	
Start Time (MST)	11:45	End Time (MST)	15:03
Barometric Pressure	0.920 ATM	Station Temperature	20.0 Deg C
Calibrator	EnviroNics 6100	Serial Number	3474
Cal Gas Concentration	50.8 ppm	Cal Gas Cert Date	12/03/2014
Correction factor	0.031273	Cal Gas Cylinder #	LL107272
DACS make	CR3000	DACS serial No.	5238
DACS voltage range	0 - 5 volt	DACS channel #	6
	Before		After
Calculated slope	0.997421	Calculated slope	0.996995
Calculated intercept	2.639700	Calculated intercept	1.983318
Analyzer make	Teco 43i	Analyzer serial #	701120009

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
Background	10.7		10.9	
coefficient	0.950		0.971	
Lamp Voltage	923	volts	923	volts
Chamber Temp	45	Deg C	45	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	664.2	mm Hg	663.3	mm Hg
Sample Flow	0.444	ccm	0.443	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	0.3	N/A
4995	39.93	402.87	403.3	0.9988
4995	19.97	202.29	199.4	1.0147
4995	9.97	101.19	97.5	1.0375
4995	0.0	0.00	0.3	As Found Zero
4995	39.93	402.87	392.5	As Found Span
Average Correction Factor				1.0170

Calculated value of As Found Response: 393.831 ppm Percent Change of As Found: 2.2%

	before calibration		after calibration	
Auto zero	0.4	ppb	0.3	ppb
Auto span	304.5	ppb	264.3	ppb

Notes: Slight span adjust

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter SO2

Air Monitoring Network PAZA



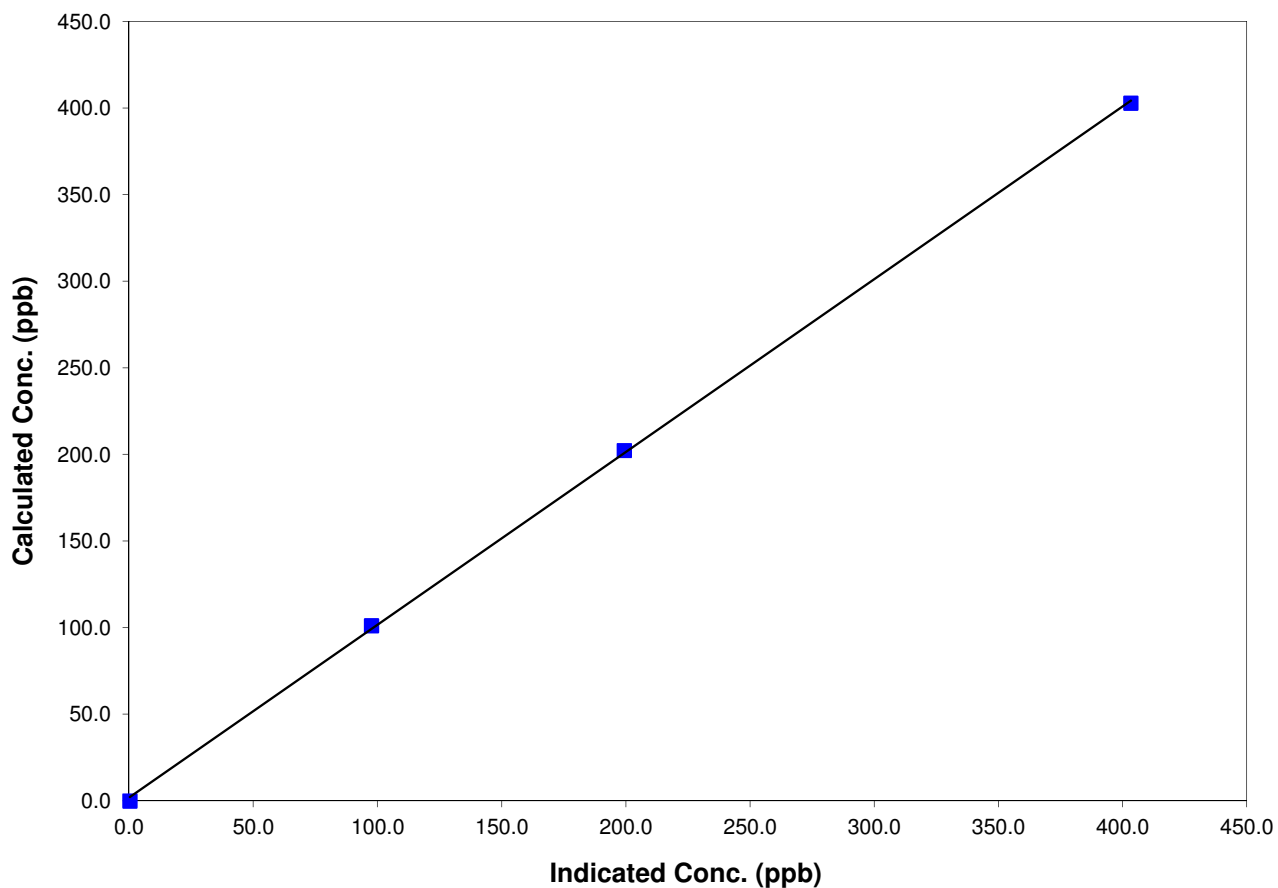
Station Information

Calibration Date	November 16, 2012	Previous Calibration	October 3, 2012
Station Number	3	Station Location	Smokey Heights
Start Time (MST)	11:45	End Time (MST)	15:03
Analyzer make/model	Teco 43i	Analyzer serial #	701120009

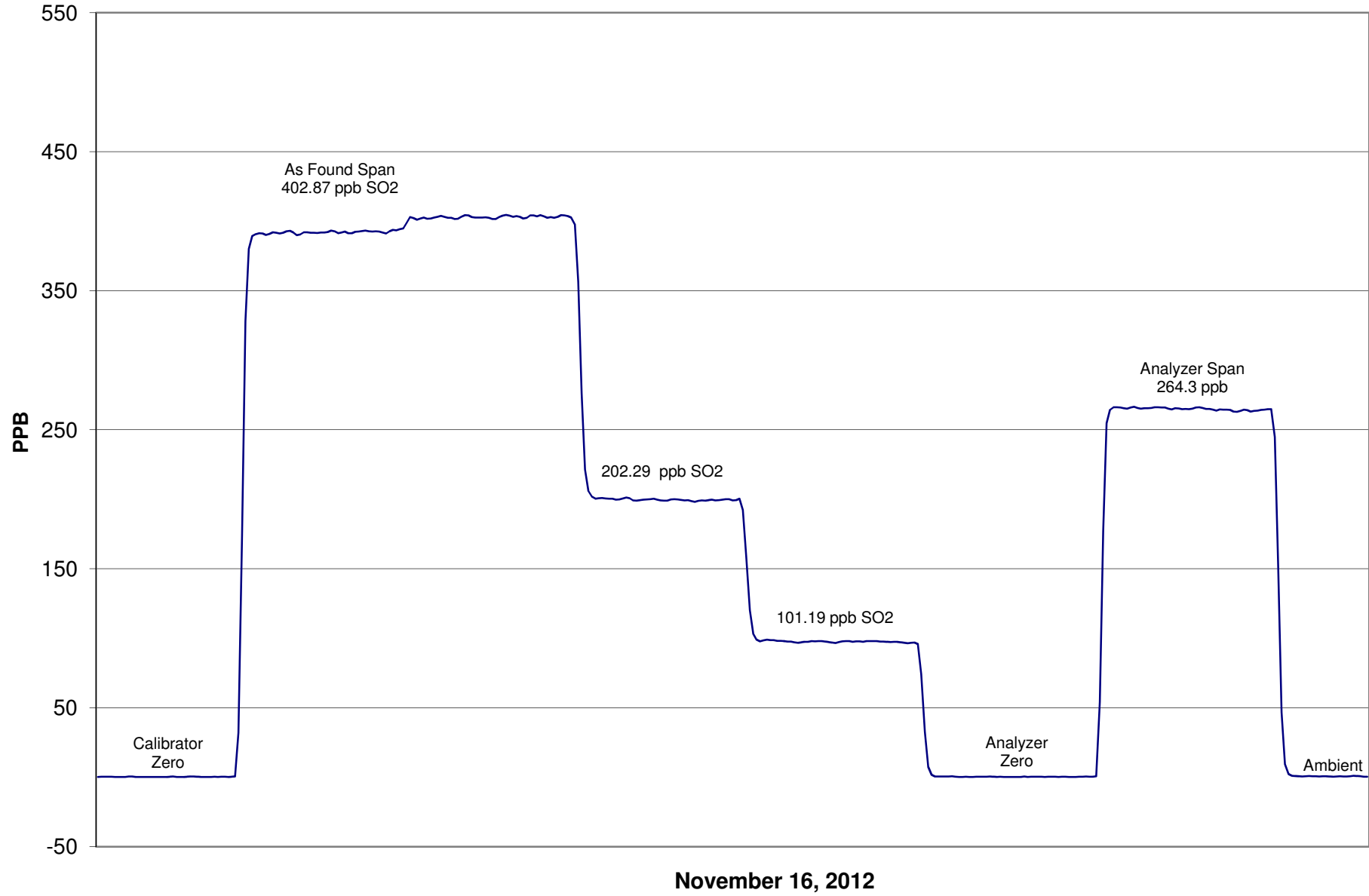
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.3	N/A	Correlation Coefficient	0.999854
402.9	403.3	0.9988		
202.3	199.4	1.0147		
101.2	97.5	1.0375	Slope	0.996995
			Intercept	1.983318

SO2 Calibration Curve



Smokey Heights SO₂ Calibration



Calibration Report



Parameter TR5

Air Monitoring Network PAZA

Station Information

Calibration Date	November 16, 2012	Previous Calibration	October 3, 2012
Station Number	3	Station Location	Smokey Heights
Reason:	☐ Routine	☐ Install	☐ Removal
		☒ Other:	Maintenance

Start Time (MST)	9:50	End Time (MST)	13:03
Barometric Pressure	0.920 ATM	Station Temperature	20.0 Deg C
Calibrator	EnviroNics 6100	Serial Number	3474
Cal Gas Conc	10.1 ppm	Cal Gas Expiry Date	11/05/2013
Correction factor	0.031273	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	1.001037	Calculated slope	0.995031
Calculated intercept	0.264876	Calculated intercept	0.114921

Analyzer make	TEI Model 43C	Analyzer serial #	0436610005
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	before		after	
Concentration range	100	ppb	100	ppb
Background	17.8	ppb	18.8	ppb
coefficient	0.933		0.951	
Lamp Voltage	805	volts	805	volts
Chamber Temp	43.5	Deg C	43.5	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	548.5	mm Hg	546.4	mm Hg
Sample Flow	0.596	ccm	0.601	ccm
Lamp Intensity	35,781	mv	35,222	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	80.4	0.9963
4995	19.97	40.22	40.3	0.9968
8995	8.96	10.05	9.7	1.0379
4995	0.0	0.00	0.1	As Found Zero
4995	39.94	80.12	77.8	As Found Span
Average Correction Factor				1.0103

Calculated value of As Found Response: 77.98 ppm Percent Change of As Found: 2.7%

	before calibration		after calibration	
Auto zero	0.0	ppm	0.2	ppm
Auto span	52.9	ppm	32.1	ppm

Notes: Slight span adjust.
SO2 scrubber checked after last cal point.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter TRS

Air Monitoring Network PAZA



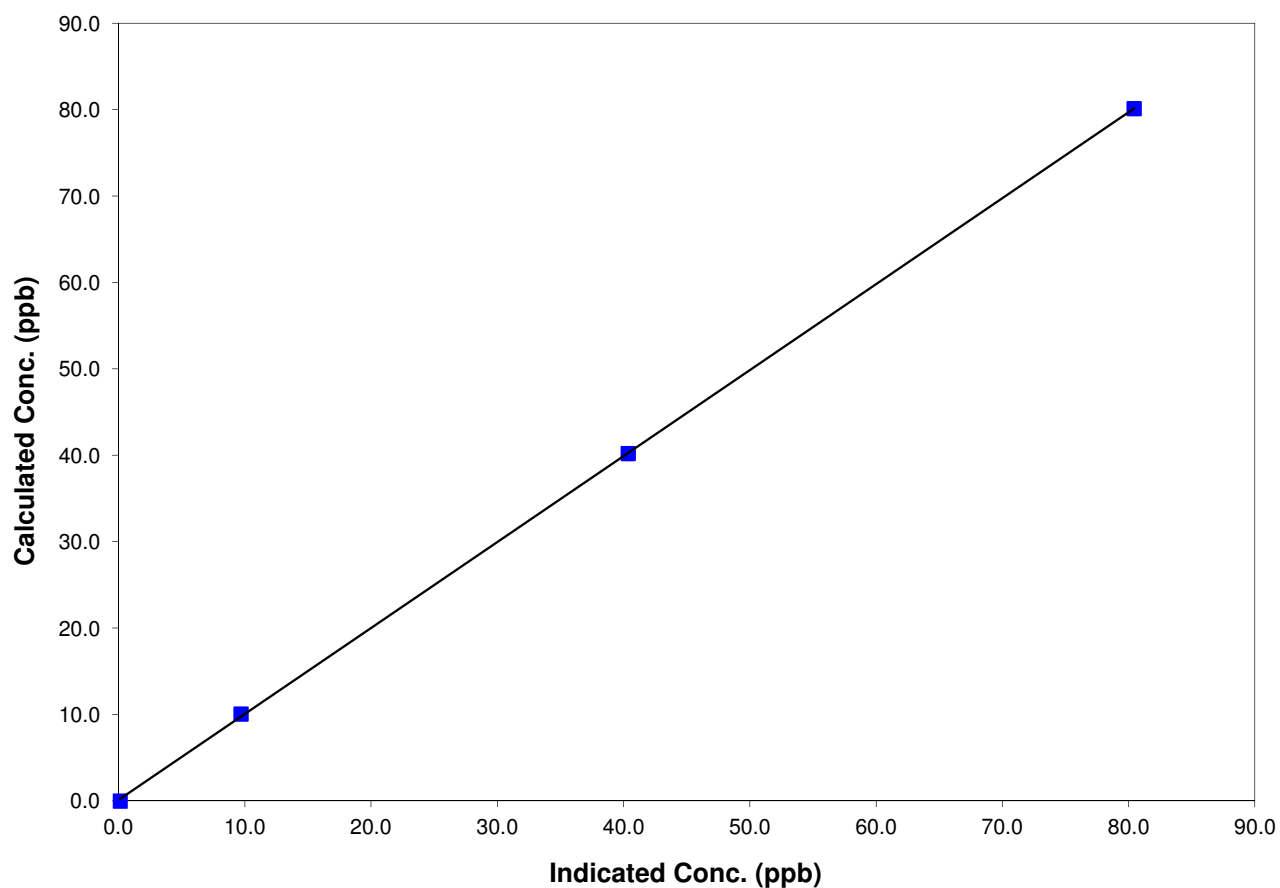
Station Information

Calibration Date	November 16, 2012	Previous Calibration	October 3, 2012
Station Number	3	Station Location	Smokey Heights
Start Time (MST)	9:50	End Time (MST)	13:03
Analyzer make/model	TEI Model 43C	Analyzer serial #	0436610005

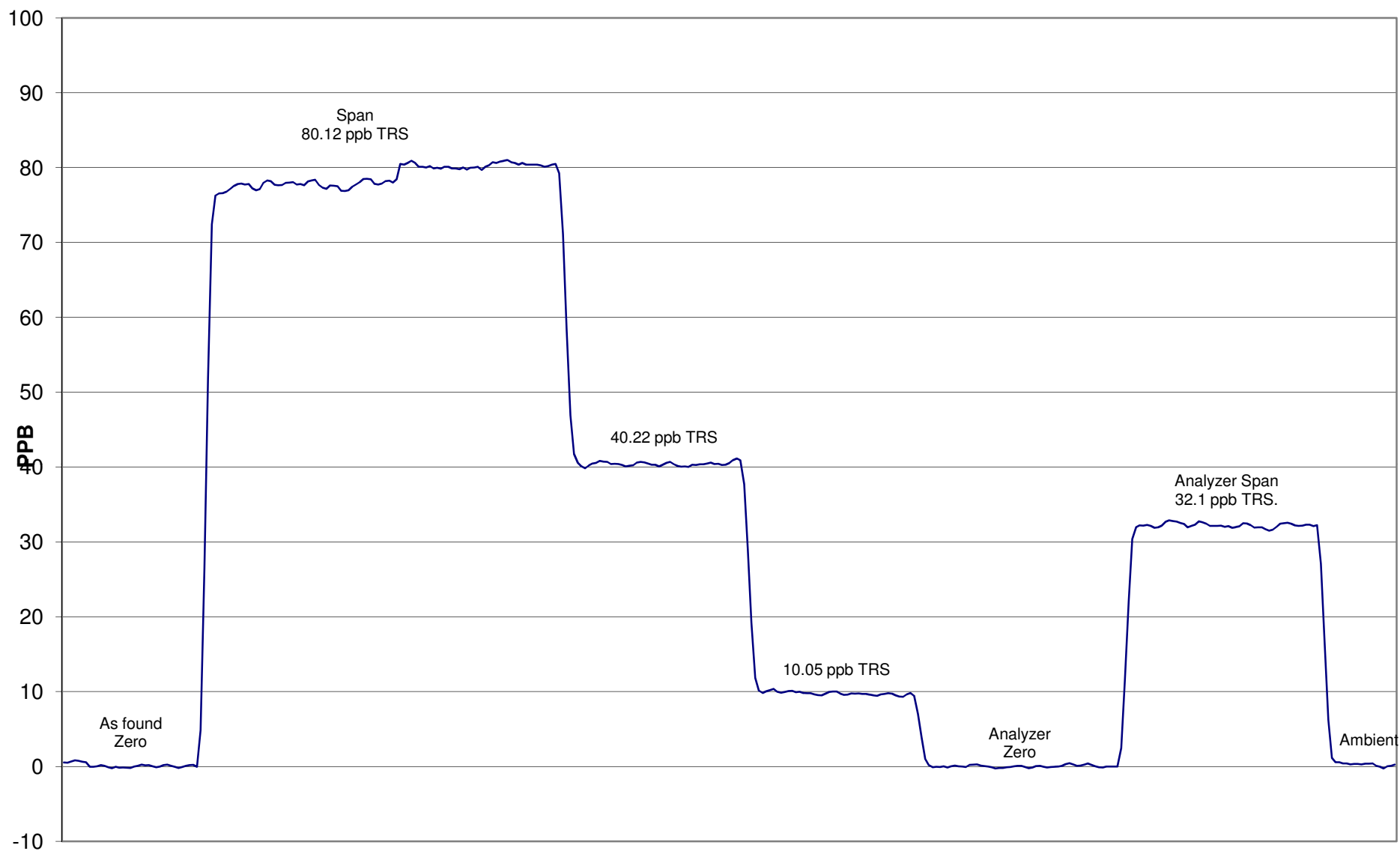
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.1	N/A	Correlation Coefficient	0.999961
80.1	80.4	0.9963		
40.2	40.3	0.9968		
10.1	9.7	1.0379	Slope	0.995031
			Intercept	0.114921

TRS Calibration Curve



Smokey Heights TRS Calibration



November 16, 2012

Calibration Report

Parameter SO2

Air Monitoring Network PAZA



Station Information

Calibration Date	November 14, 2012	Previous Calibration	October 15, 2012
Station Number	4	Station Location	Beaverlodge
Reason:	Routine	Install	Removal Other:
Start Time (MST)	15:20	End Time (MST)	18:21
Barometric Pressure	0.911 atm	Station Temperature	23.0 Deg C
Calibrator	EnviroNics 6100	Serial Number	3474
Cal Gas Concentration	10.8 ppm	Cal Gas Expiry Date	28/09/2012
Gas Cert Reference	FF14871		
DACS make	CR3000	DACS serial No.	5237
DACS voltage range	0 - 5 volt	DACS channel #	5
	<u>Before</u>		<u>After</u>
DACS Scale High	100	DACS slope	100
DACS Scale Low	0	DACS intercept	0
Calculated slope	1.001269	Calculated slope	1.009577
Calculated intercept	-0.016105	Calculated intercept	-0.124290
Analyzer make	TEI Model 43i-TLE	Analyzer serial #	713021137

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Background	2.43		2.43	
Coefficient	1.071		1.071	
PMT	-767.6	V	-767.6	V
UV Lamp Voltage	1052	V	1052	V
Chamber Temp	45.2	Deg C	45.2	Deg C
Pressure	663.1	mm Hg	664.3	mm Hg
Sample Flow	0.483	LPM	0.483	LPM
Lamp Intesity	96%	%	96%	%

Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4995	0.00	0.0	0.3	N/A
4995	39.93	85.7	85.0	1.0073
4995	19.97	43.0	42.7	1.0078
4995	9.97	21.5	21.3	1.0114
4995	0.00	0.0	0.3	As found zero
4995	39.93	85.7	85.0	As found span
Average Correction Factor				1.0089

Calculated value of As Found Response: 84.841 ppm Percent Change of As Found: 0.9%

	before calibration		after calibration	
Auto zero	0.3	ppb	0.2	ppb
Auto span	58.5	ppb	59.9	ppb

Notes: No adjustments made.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter SO2

Air Monitoring Network PAZA



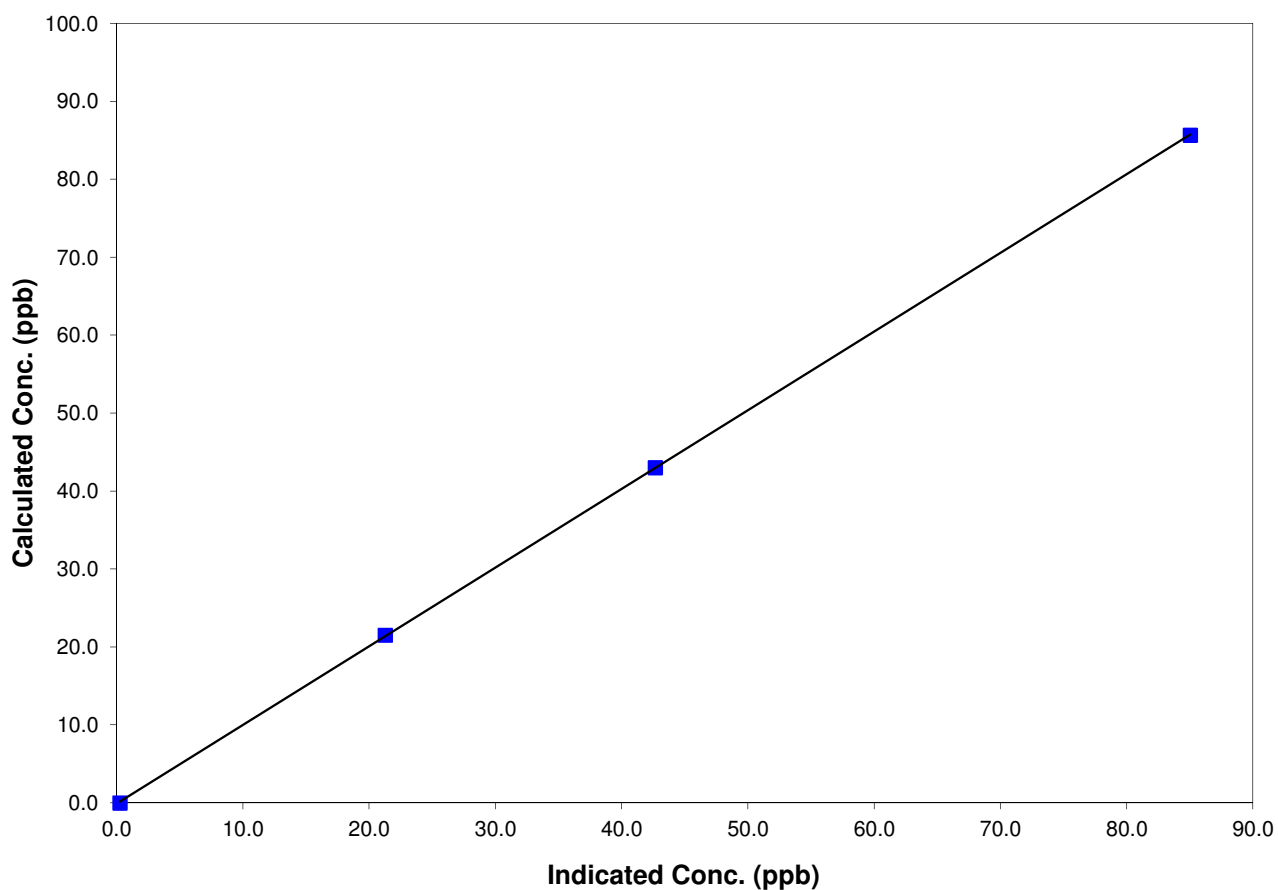
Station Information

Calibration Date	November 14, 2012	Previous Calibration	October 15, 2012
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	15:20	End Time (MST)	18:21
Analyzer make/model	TEI Model 43i-TLE	Analyzer serial #	713021137

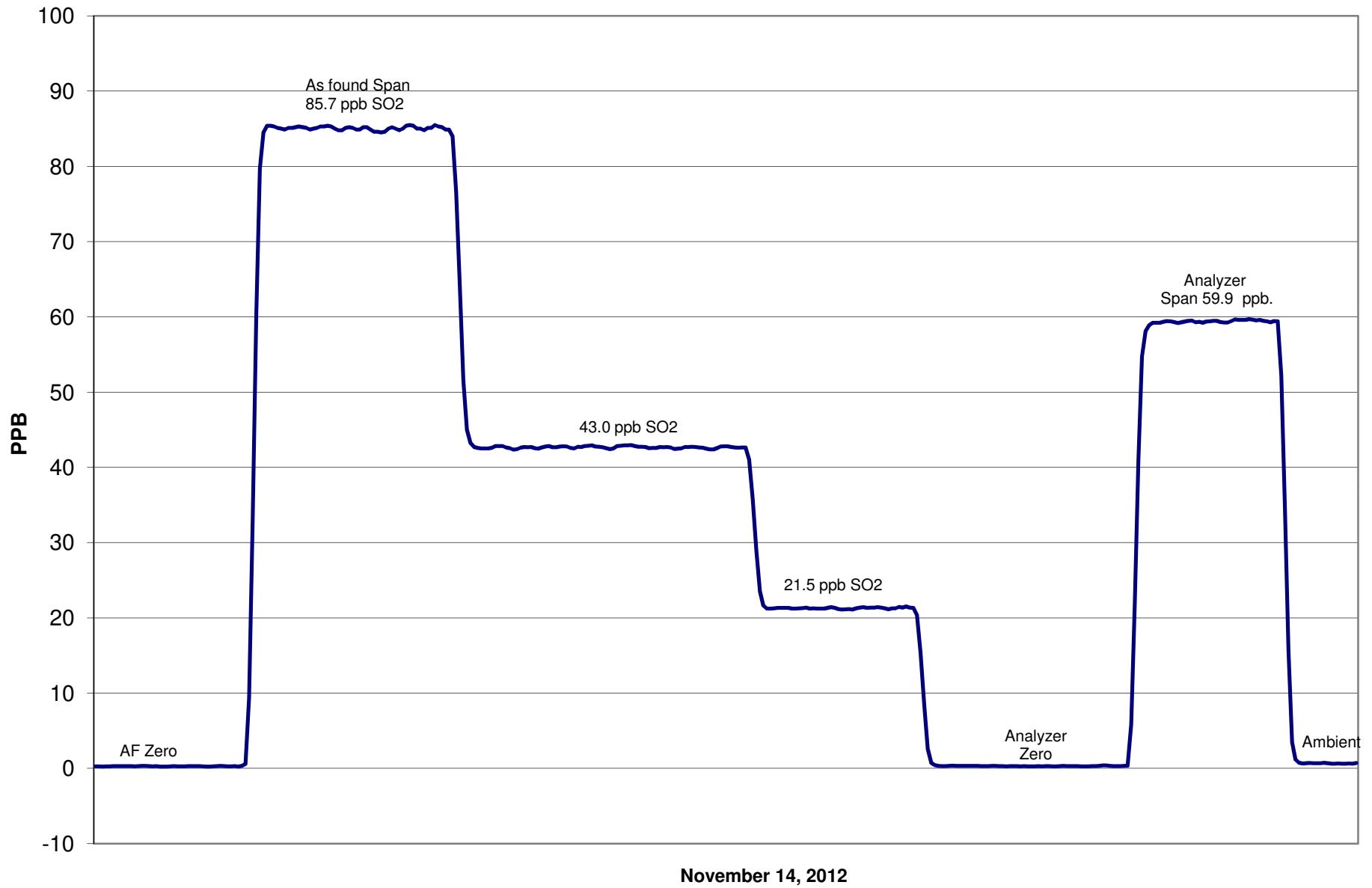
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.3	N/A	Correlation Coefficient	0.999986
85.7	85.0	1.0073		
43.0	42.7	1.0078		
21.5	21.3	1.0114	Slope	1.009577
			Intercept	-0.124290

SO2 Calibration Curve



SO2 Calibration



Calibration Report

Parameter

NO_x-NO-NO₂

Air Monitoring Network

PAZA



Station Information

Calibration Date	November 14, 2012	Previous Calibration	October 15, 2012		
Station Number	4	Station Location	Beaverlodge		
Reason:	Routine	Installation	Removal		
Other:					
Start Time (MST)	9:50	End Time (MST)	15:17		
Barometric Pressure	0.912	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	1.003988	0.998839	0.997601
	Data Offset	-0.298583	2.017913	2.000443
After	Data Slope	0.998512	1.001873	1.001147
	Data Offset	0.509575	1.426932	1.455315
Channel #		8	6	7
Voltage Range		0 - 5 VDC	0 - 5 VDC	0 - 5 VDC

Analyzer Information

Analyzer make/model	TEI 42i	Analyzer serial #	906535068	
Test Point	before		after	
Concentration range	0-500	ppb	0-500	ppb
NO offset	2.1	mV	2.1	mV
NOx bkgnd	2.6	mV	2.3	mV
NO coefficient	1.410		1.410	
NOx coefficient	0.998		0.998	
NO2 conv temp	326.0	Deg C	326.0	Deg C
PMT Temp	-2.8	Deg C	-2.8	Deg C
PMT Volt	-671.9	mV	-671.9	mV
R Cell Press	169.7	in Hg	170.5	in Hg
Sample Flow	0.794	ccm	0.799	ccm

Notes: No adjustment.

Calibration Report

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



Station Information

Calibration Date: November 14, 2012 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	-0.3	-0.1	-0.2	N/A	N/A
1	4995	39.94	406.1	406.1	0.0	404.6	405.0	-1.2	1.0039	1.0027
2	4995	19.97	203.9	203.9	0.0	201.4	201.1	-0.5	1.0121	1.0139
3	4995	9.97	102.0	102.0	0.0	99.3	99.4	-0.2	1.0276	1.0263
AFZ	4995	0.00	0.0	0.0	0.0	-0.3	-0.1	-0.2	0.0000	0.0000
AFS	4995	39.94	406.1	406.1	0.8	404.6	405.0	-1.2	1.0039	1.0027
Average Correction Factor									1.0145	1.0143

As Found Concentrations: NO_x= 406.8 NO= 407.1 As Found Percent Change NO_x= 0.2% NO= 0.2%

GPT Calibration Data

Dilution Flow 4995 ccm Source Gas Flow 39.94 ccm

O3 Setpoint (ppb)	Indicated NO high point (ppb)	Indicated NO drop conc (ppb)	Calculated NO2 conc (ppb)	Indicated NOx conc (ppb)	Indicated NO conc (ppb)	Indicated NO2 conc (ppb)	NOx Correction factor	NO Correction factor	NO2 Correction factor	Converter Efficiency
0	-0.1	-0.1	0.0	-0.3	-0.1	-0.2	N/A	N/A	N/A	N/A
NO point	404.6	404.6	0.0	404.1	404.6	-1.2	1.0012	1.0000	N/A	N/A
300	404.6	107.6	297.0	405.4	107.6	297.2	0.9980	1.0000	0.9993	100.1%
200	404.6	202.6	202.0	404.9	202.6	201.5	0.9992	1.0000	1.0023	99.8%
100	404.6	299.2	105.4	404.4	299.2	104.8	1.0003	1.0000	1.0061	99.4%
Average Correction Factor							0.9992	1.0000	1.0026	99.7%

AIC Data

	Previous calibration				Current calibration			
Parameter	NOx	NO2	NO		NOx	NO2	NO	
Auto zero	0.0	-0.1	0.0	ppb	0.0	-0.1	0.0	ppb
Auto span	205.5	203.2	1.6	ppb	212.1	210.3	1.1	ppb

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter NO₂

Air Monitoring Network PAZA



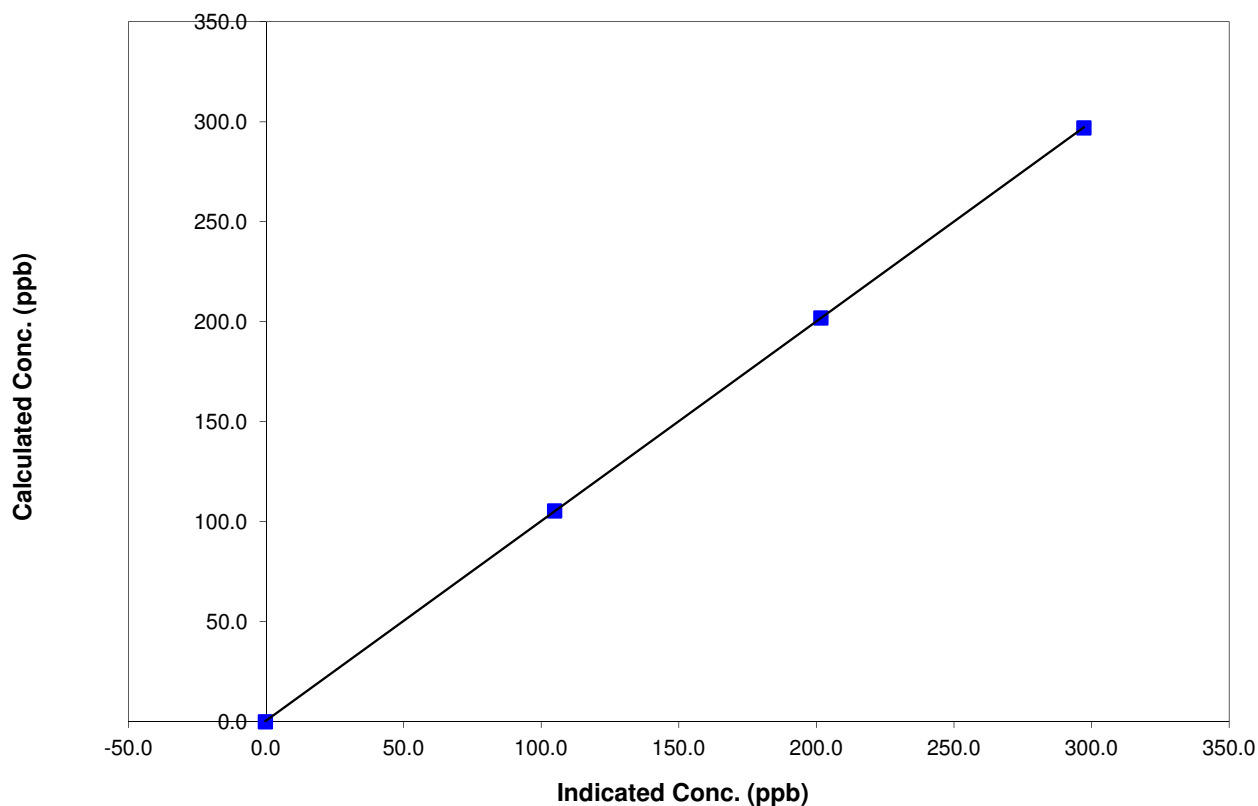
Station Information

Calibration Date	November 14, 2012	Previous Calibration	October 15, 2012
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	9:50	End Time (MST)	15:17
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	0.999994
297.0	297.2	0.9993		
202.0	201.5	1.0023		
105.4	104.8	1.0061	Slope	0.998512
			Intercept	0.509575

NO₂ Calibration Curve



Calibration Summary

Parameter NO_x

Air Monitoring Network PAZA



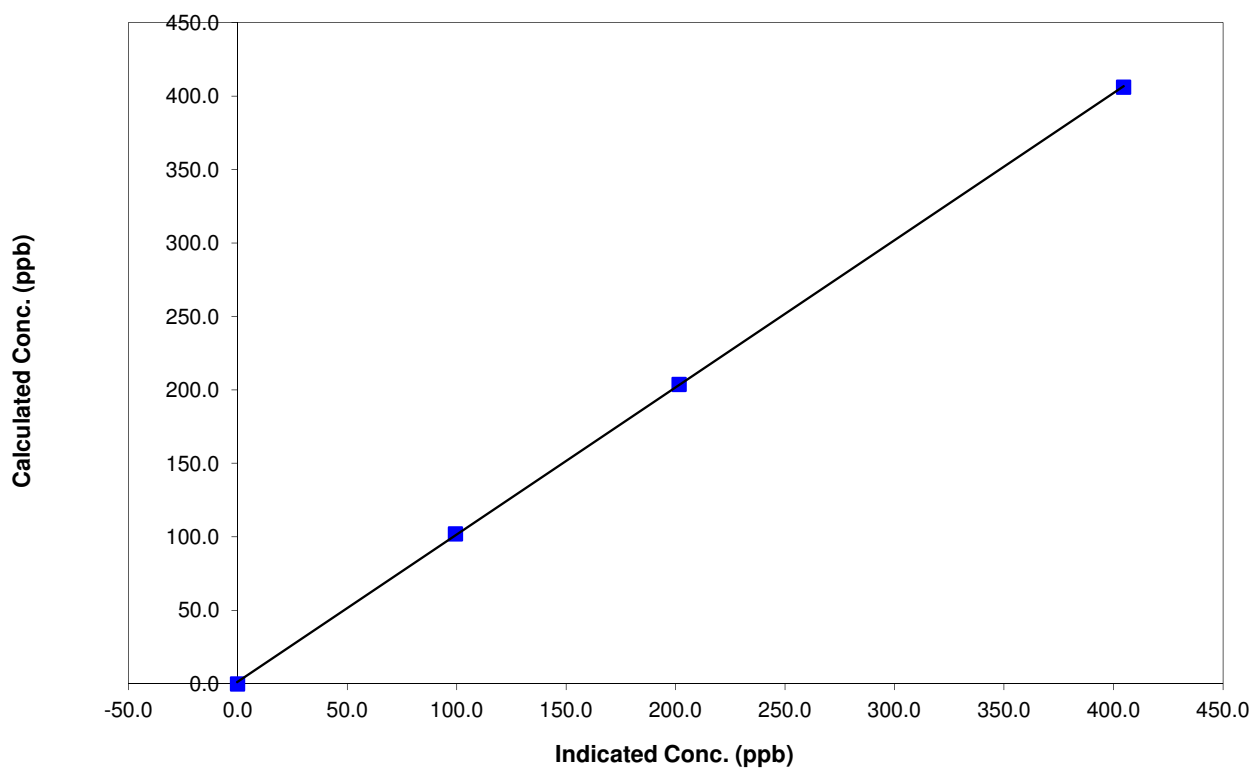
Station Information

Calibration Date	November 14, 2012	Previous Calibration	October 15, 2012
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	9:50	End Time (MST)	15:17
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	-0.3	N/A	Correlation Coefficient	0.999962
406.1	404.6	1.0039		
203.9	201.4	1.0121		
102.0	99.3	1.0276	Slope	1.001873
			Intercept	1.426932

NO_x Calibration Curve



Calibration Summary

Parameter NO

Air Monitoring Network PAZA



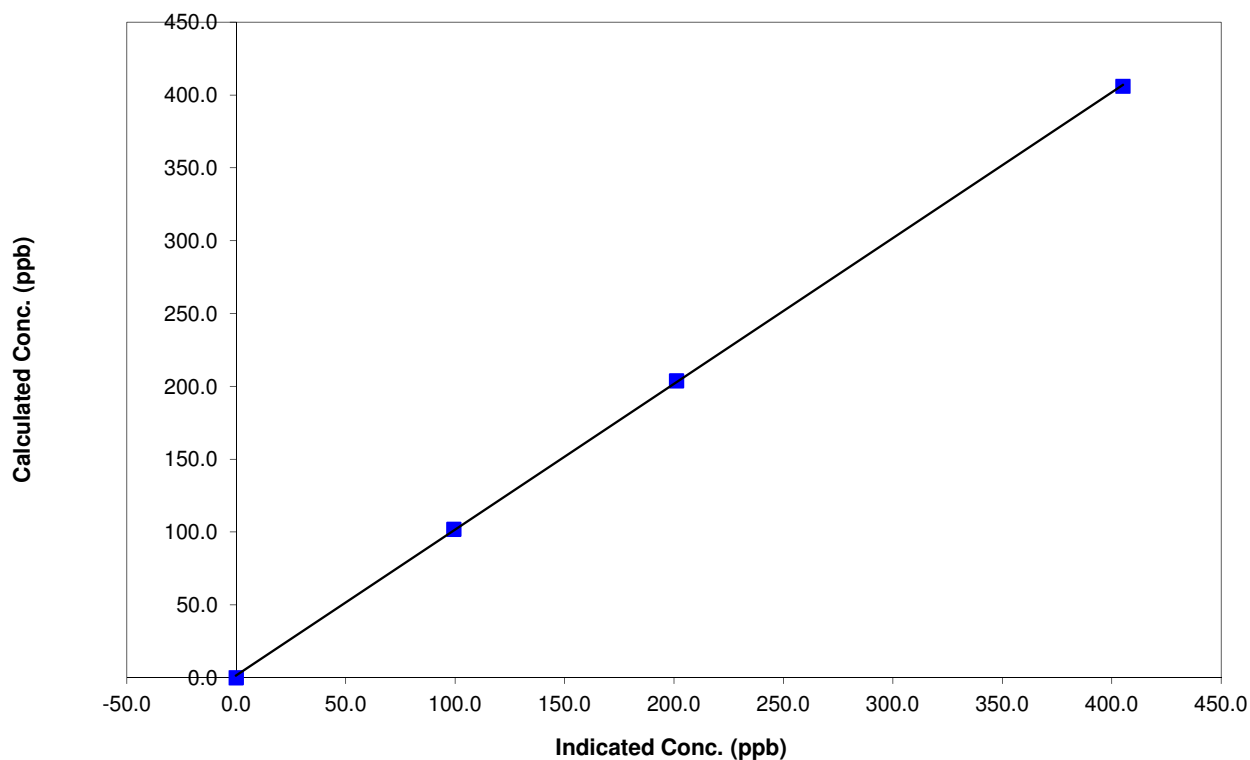
Station Information

Calibration Date	November 14, 2012	Previous Calibration	October 15, 2012
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	9:50	End Time (MST)	15:17
Analyzer make	TEI 42i	Analyzer serial #	906535068

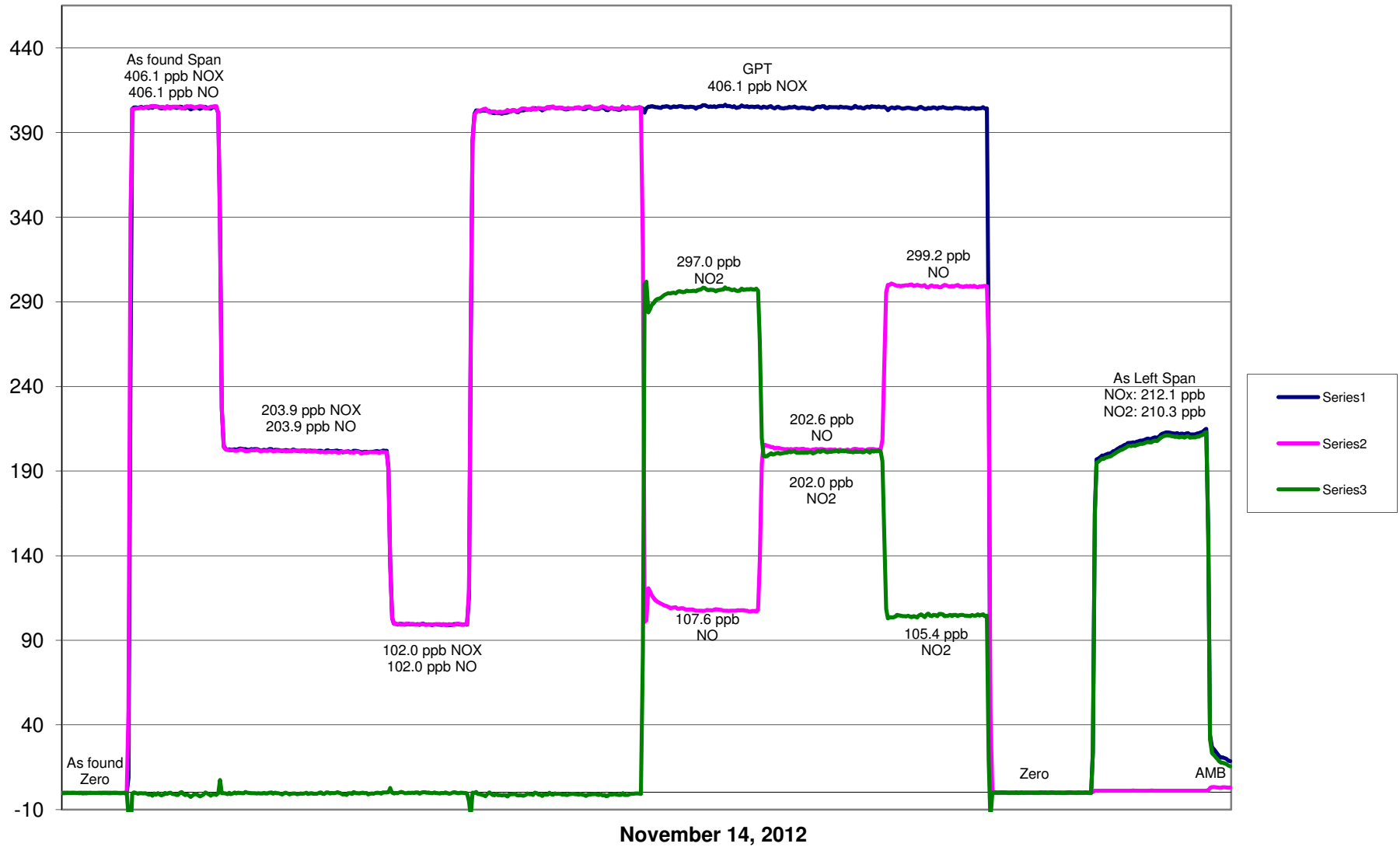
Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.1	N/A	Correlation Coefficient	0.999947
406.1	405.0	1.0027		
203.9	201.1	1.0139		
102.0	99.4	1.0263	Slope	1.001147
			Intercept	1.455315

NO Calibration Curve



PAZA Beaverlodge NO_x Calibration



Calibration Report



Parameter 03

Air Monitoring Network PAZA

Station Information

Calibration Date	November 14, 2012	Previous Calibration	October 15, 2012
Station Number	4	Station Location	Beaverlodge
Reason:	Routine	Install	Removal
		Other:	

Start Time (MST)	13:50:00 PM	End Time (MST)	16:32
Barometric Pressure	0.911 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	0.982647	Calculated slope	0.993586
Calculated intercept	0.056672	Calculated intercept	0.206550

Analyzer make	Teco 49C	Analyzer serial #	49C-76443-383
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	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
offset	-1.50	ppb	-1.50	ppb
slope	1.036		1.036	
Lamp temp	56.4	mV	56.4	mV
Lamp Intensity A/B	50788/54614	mV	50980/54000	mV
Pressure	685.1	mm Hg	685.6	mm Hg
Flow A	0.762	ccm	0.762	ccm
Flow B	0.712	ccm	0.712	ccm

Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
5035	0.0	0.0	0.4	N/A
5035	0.3	297.0	299.3	0.9922
5035	0.2	202.0	202.4	0.9978
5035	0.1	105.4	105.3	1.0006
5035	0.0	0.0	0.3	As found zero
5035	0.3	297.0	299.3	As found span
Average Correction Factor				0.9969

Calculated value of As Found Response: 293.9 ppm Percent Change of As Found: -1.1%

	before calibration		after calibration	
Auto zero	0.4	ppb	0.4	ppb
Auto span	110.0	ppb	114.2	ppb

Notes: No adjust

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter O3

Air Monitoring Network PAZA



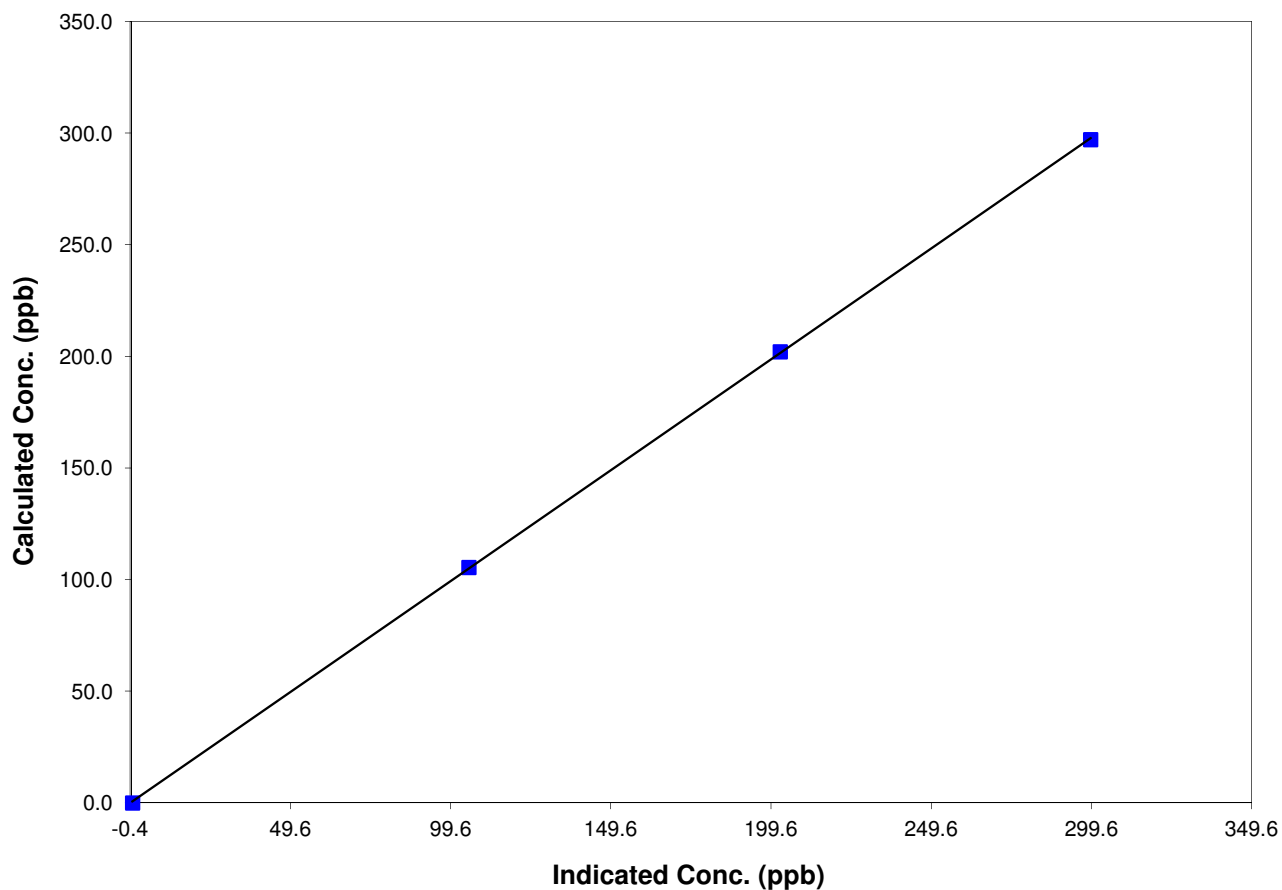
Station Information

Calibration Date	November 14, 2012	Previous Calibration	October 15, 2012
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	13:50:00 PM	End Time (MST)	16:32
Analyzer make/model	Teco 49C	Analyzer serial #	49C-76443-383

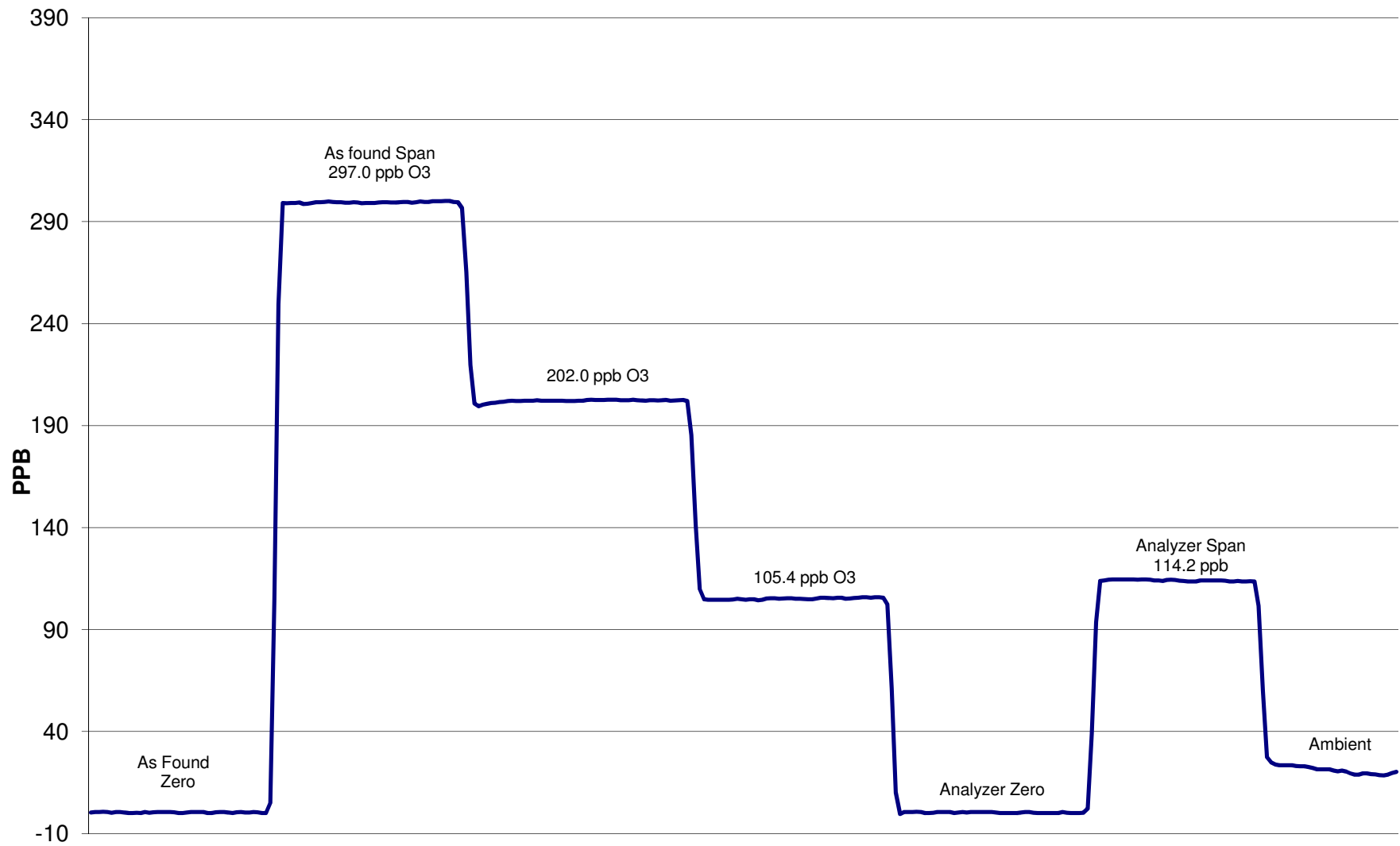
Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.4	NA		
297.0	299.3	0.9922	Correlation Coefficient	0.999971
202.0	202.4	0.9978		
105.4	105.3	1.0006	Slope	0.993586
			Intercept	0.206550

O3 Calibration Curve



O3 Calibration



November 14, 2012

Calibration Report

Parameter SO2

Air Monitoring Network PAZA



Station Information

Calibration Date	November 3, 2012	Previous Calibration	October 17, 2012
Station Number	6	Station Location	Valleyview
Reason:	Routine	Install	Removal
Start Time (MST)	9:20	End Time (MST)	11:56
Barometric Pressure	702.00 mmHg	Station Temperature	20.0 Deg C
Calibrator	EnviroNics 6100	Serial Number	3016
Cal Gas Concentration	50.8 ppm	Cal Gas Cert Date	12/03/2013
Gas Cylinder Num.	LL107272	Cal gas Exp. Date	12/03/2014
DACS make	CR3000	DACS serial No.	5409
DACS voltage range	0 - 5 volt	DACS channel #	4
	<u>Before</u>		<u>After</u>
DACS Scale High	500	DACS slope	500
DACS Scale Low	0	DACS intercept	0
Calculated slope	0.998637	Calculated slope	0.992296
Calculated intercept	2.027365	Calculated intercept	1.685774
Analyzer make	TEI 45C	Analyzer serial #	45C-57531-313

	<u>before</u>		<u>after</u>	
Concentration range	0 - 1000	ppb	0 - 1000	ppb
Background	32.6		33.4	
Coefficient	0.882		0.882	
UV Lamp Voltage	972	LPM	972	LPM
Chamber Temp	43.9	V	43.9	V
Perm Gas Temp	32.3	C	32.3	C
Pressure	598	in Hg	607.5	in Hg
Sample Flow	0.554	LPM	0.560	LPM
Lamp Intensity	48230	Hz	48096	Hz

Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4995	0.00	0.0	0.1	N/A
4995	39.94	403.0	405.3	0.9942
4995	19.97	202.3	201.1	1.0058
4995	9.94	100.9	98.3	1.0264
4995	0.00	0.0	0.1	As found zero
4995	39.94	403.0	405.3	As found span
Average Correction Factor				1.0088

Calculated value of As Found Response: 406.7 ppm Percent Change of As Found: -0.9%

	<u>before calibration</u>		<u>after calibration</u>	
Auto zero	0.0	ppm	0.0	ppm
Auto span	160.1	ppm	162.2	ppm

Notes: No adjustment.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter SO2

Air Monitoring Network PAZA



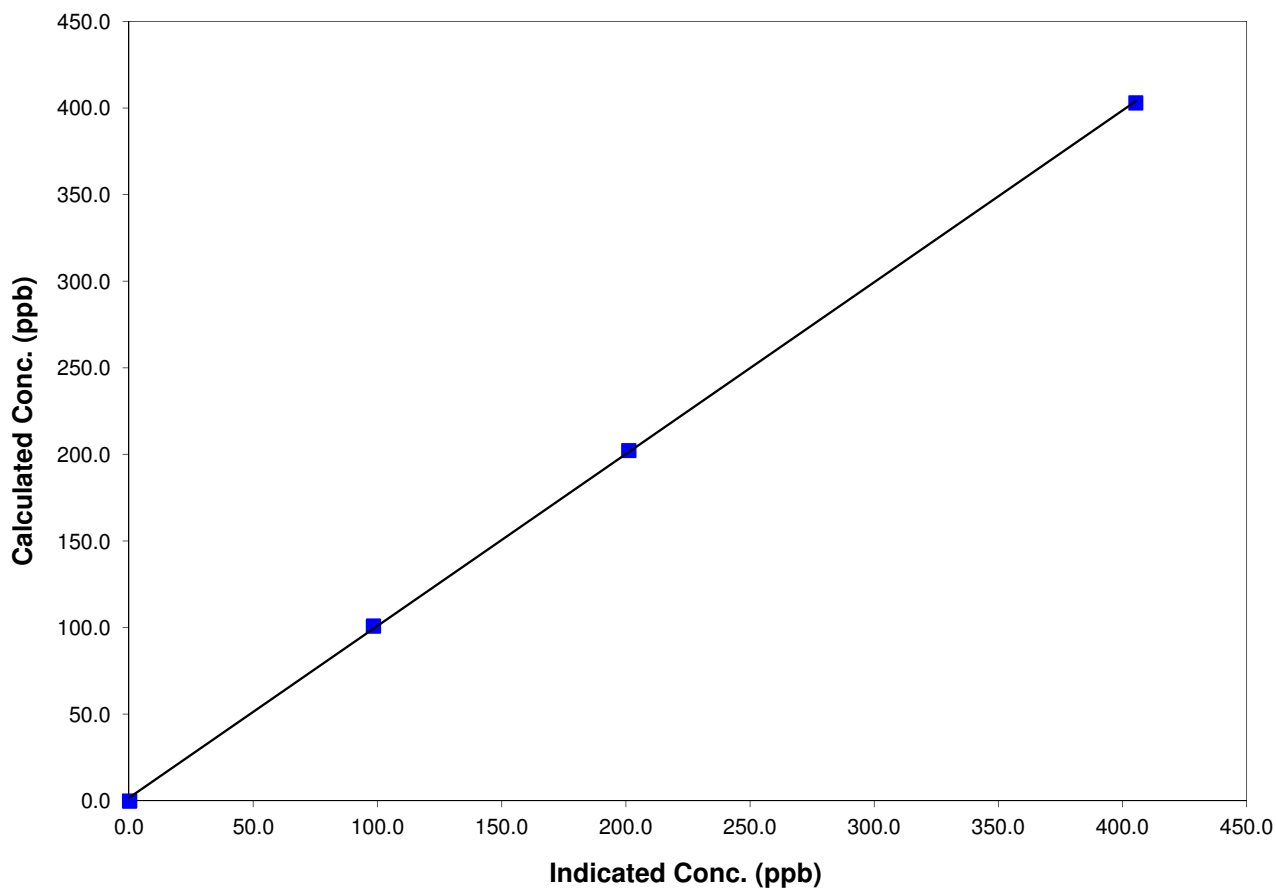
Station Information

Calibration Date	November 3, 2012	Previous Calibration	October 17, 2012
Station Number	6	Station Location	Valleyview
Start Time (MST)	9:20	End Time (MST)	14:42
Analyzer make/model	TEI 45C	Analyzer serial #	45C-57531-313

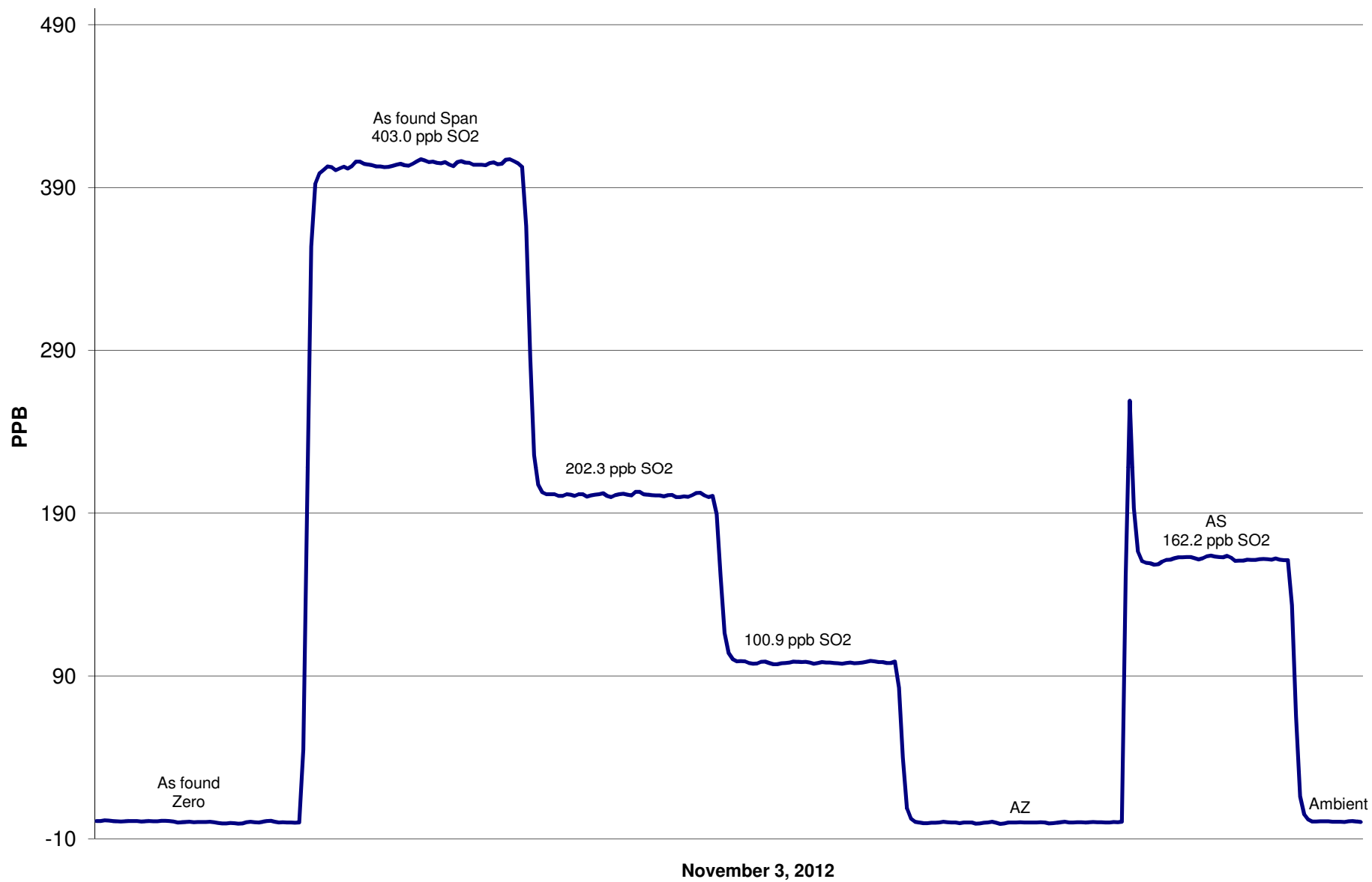
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.1	N/A	Correlation Coefficient	0.999912
403.0	405.3	0.9942		
202.3	201.1	1.0058		
100.9	98.3	1.0264	Slope	0.992296
			Intercept	1.685774

SO2 Calibration Curve



SO2 Calibration



Calibration Report

Parameter H2S

Air Monitoring Network PAZA



Station Information

Calibration Date	November 3, 2012	Previous Calibration	October 17, 2012
Station Number	6	Station Location	Valleyview
Reason:	Routine	Install	Removal
		Other:	

Start Time (MST)	7:35	End Time (MST)	10:28
Barometric Pressure	702.00 mm	Station Temperature	21.0 Deg C
Calibrator	EnviroNics 6100	Serial Number	LL160692
Cal Gas Concentration	10.1 ppm	Cal Gas Expiry Date	11/05/2013
Gas Cert Reference	15/05/2012		
DACS make	CR3000	DACS serial No.	5409
DACS voltage range	0 - 5 volt	DACS channel #	9
	Before		After
DACS Scale High	100	DACS slope	100
DACS Scale Low	0	DACS intercept	0
Calculated slope	0.996613	Calculated slope	0.995635
Calculated intercept	0.351984	Calculated intercept	0.018608

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

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Back Ground	7.7	ppb	7.8	ppb
Coefficient	1.040		1.040	
Lamp Voltage	784	V	784	V
Chamber Temp	45.1	c	45.1	c
Perm Oven Temp	44.33	c	44.33	c
Pressure	610.00	mm Hg	605.70	mm Hg
Sample Flow	0.413	ccm	0.411	ccm
Lamp Intensity	91.0	%	92.0	%

Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4995	0.00	0.0	0.2	N/A
4995	39.95	80.1	80.6	0.9939
4995	19.97	40.2	40.1	1.0033
8979	8.97	10.1	10.0	1.0091
4995	0.00	0.0	0.2	As found zero
4995	39.95	80.1	80.6	As found span
Average Correction Factor				1.0021

Calculated value of As Found Response: 80.48 ppm Percent Change of As Found: -0.4%

	before calibration		after calibration	
Auto zero	0.0	ppm	0.2	ppm
Auto span	70.6	ppm	72.3	ppm

Notes: No adjust 80% point.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter H2S

Air Monitoring Network PAZA



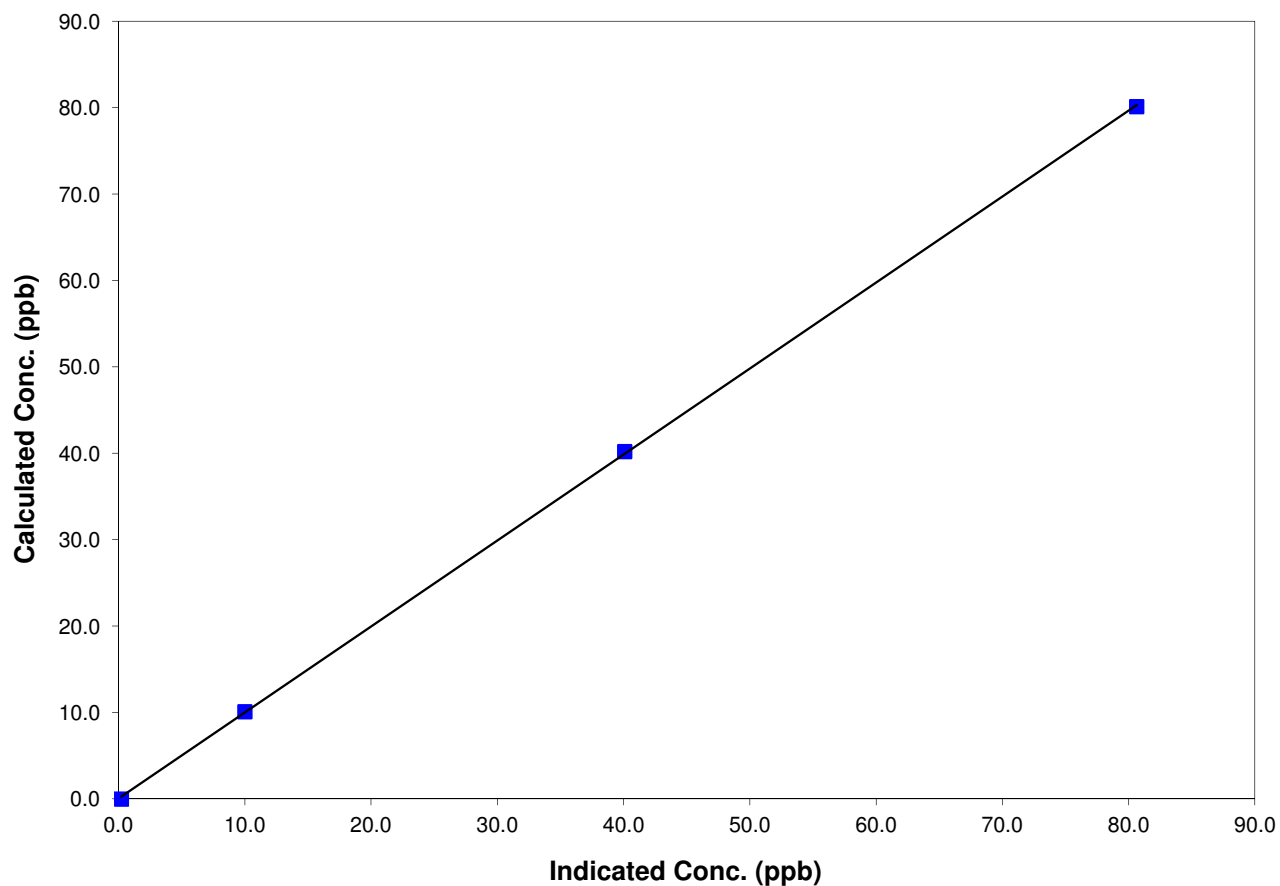
Station Information

Calibration Date	November 3, 2012	Previous Calibration	October 17, 2012
Station Number	6	Station Location	Valleyview
Start Time (MST)	7:35	End Time (MST)	10:28
Analyzer make/model	TEI Model 43i - APSCB	Analyzer serial #	701120010

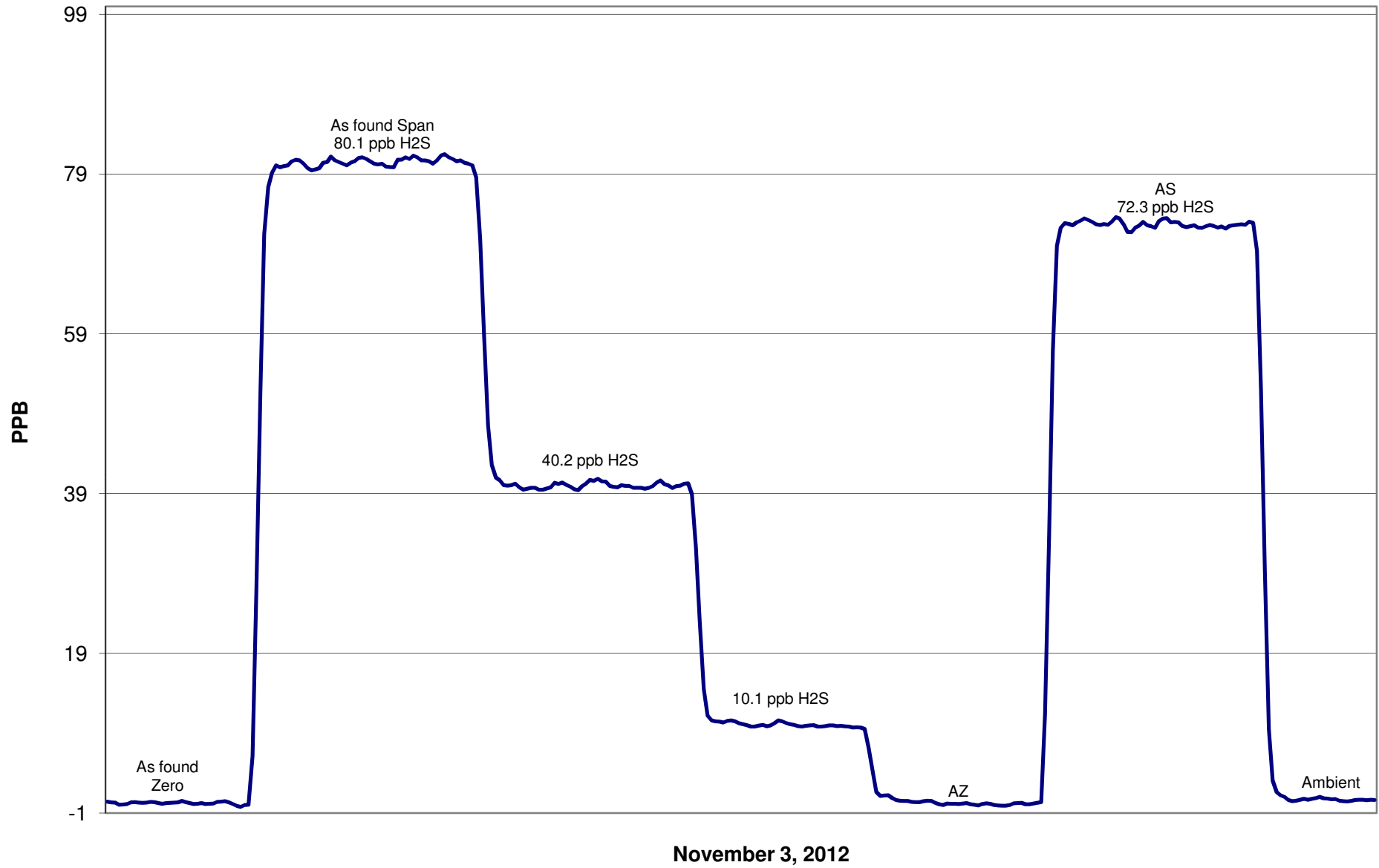
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.2	N/A	Correlation Coefficient	0.999953
80.1	80.6	0.9939		
40.2	40.1	1.0033		
10.1	10.0	1.0091	Slope	0.995635
			Intercept	0.018608

H2S Calibration Curve



H2S Calibration



Calibration Report

Parameter SO2

Air Monitoring Network PAZA



Station Information

Calibration Date	November 2, 2012	Previous Calibration	October 18, 2012
Station Number	9	Station Location	Sunset House
Reason:	Routine	Install	Removal
Start Time (MST)	9:20	End Time (MST)	12:40
Barometric Pressure	31.70 inches Hg	Station Temperature	19.7 Deg C
Calibrator	EnviroNics 6100	Serial Number	3016
Cal Gas Concentration	50.8 ppm	Cal Gas Expiry Date	06/04/2012
Gas Cert Reference	LL85275		
DACS make	CR3000	DACS serial No.	5407
DACS voltage range	0 - 5 Volt	DACS channel #	2
	<u>Before</u>		<u>After</u>
DACS Scale High	500	DACS slope	500
DACS Scale Low	0	DACS intercept	0
Calculated slope	0.997380	Calculated slope	0.995734
Calculated intercept	2.211021	Calculated intercept	2.675371
Analyzer make	TEI 43C	Analyzer serial #	609716238

	before		after	
Concentration range	0-500	ppb	0-500	ppb
Background	17.4		17.4	
Coefficient	0.997		0.997	
UV Lamp Voltage	835	V	835	V
Chamber Temp	44.9	C	44.9	C
Perm Gas Temp	45	C	45	C
Pressure	667.9	mm Hg	667.9	mm Hg
Sample Flow	0.486	LPM	0.485	LPM
Lamp Intesity	37023	Hz	37094	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	0.0	N/A
4995	39.93	402.9	403.2	0.9992
4995	19.97	202.3	199.2	1.0156
4995	9.96	101.1	96.2	1.0505
4995	0.00	0.0	0.0	As found zero
4995	39.93	402.9	403.3	As found span
Average Correction Factor				1.0218

Calculated value of As Found Response: 404.534 ppm Percent Change of As Found: -0.4%

	before calibration		after calibration	
Auto zero	0.3	ppm	0.3	ppm
Auto span	264.0	ppm	267.7	ppm

Notes: No span adjust.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter SO2

Air Monitoring Network PAZA



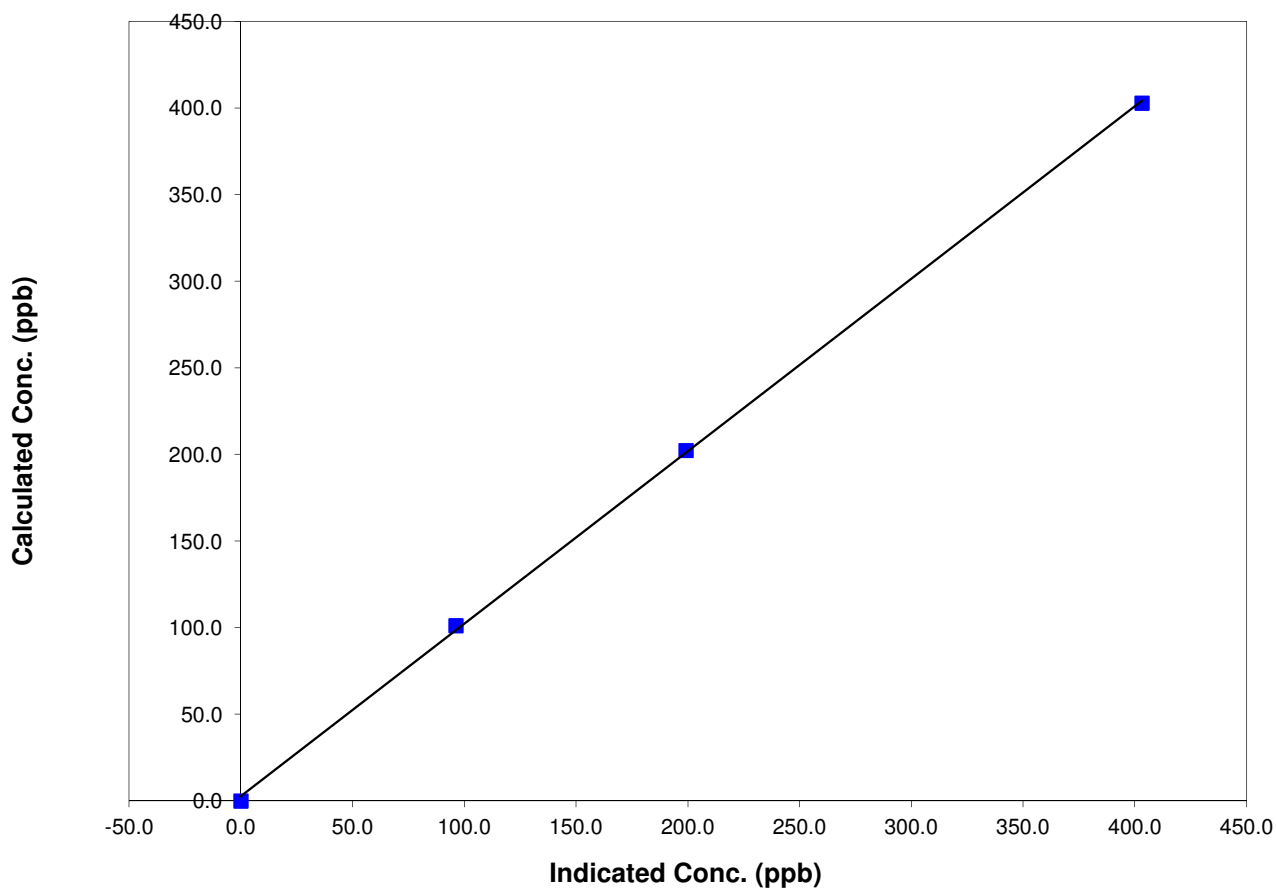
Station Information

Calibration Date	November 2, 2012	Previous Calibration	October 18, 2012
Station Number	9	Station Location	Sunset House
Start Time (MST)	9:20	End Time (MST)	12:40
Analyzer make/model	TEI 43C	Analyzer serial #	609716238

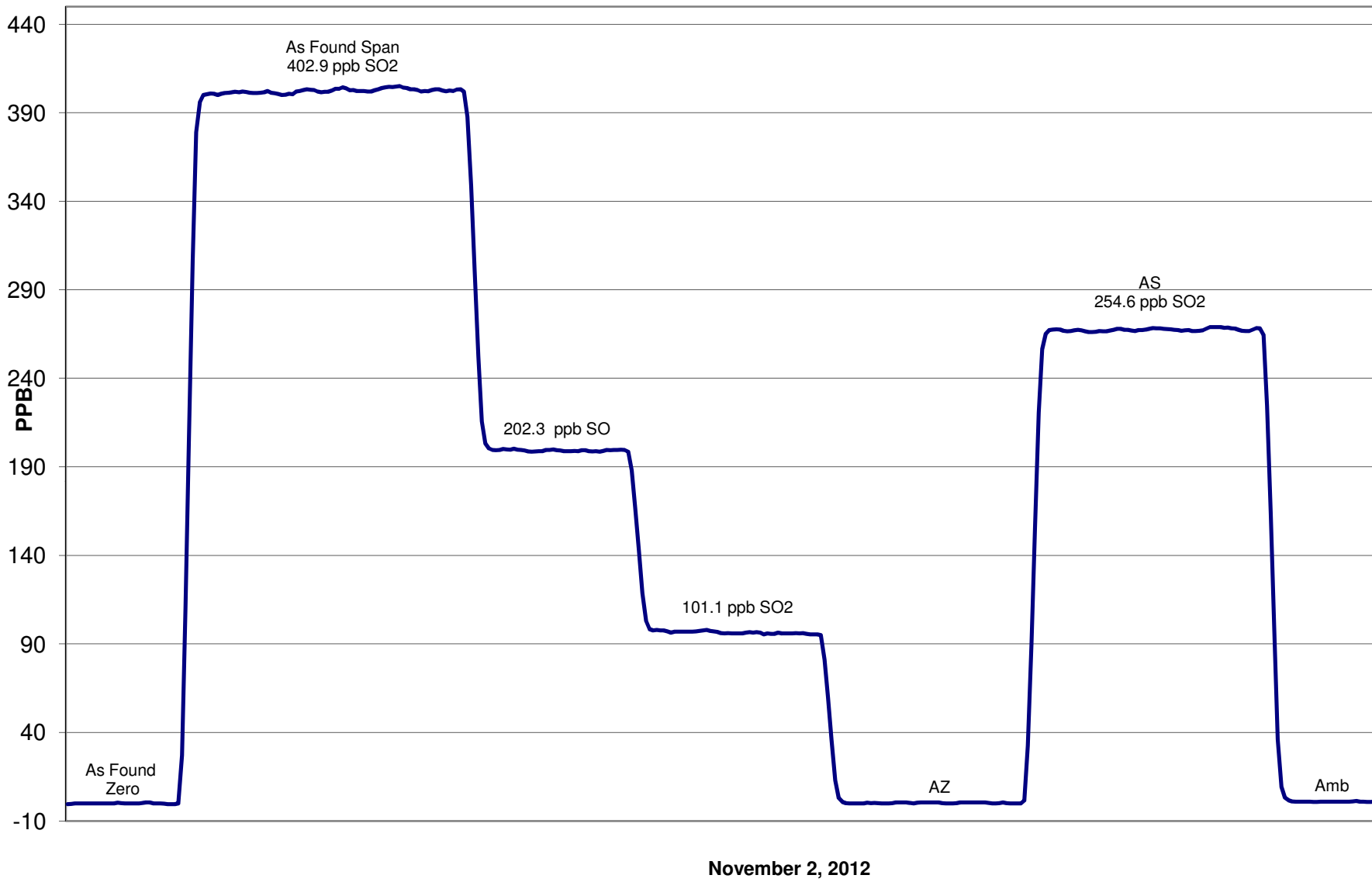
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.0	N/A		
402.9	403.2	0.9992	Correlation Coefficient	0.999809
202.3	199.2	1.0156		
101.1	96.2	1.0505	Slope	0.995734
			Intercept	2.675371

SO2 Calibration Curve



SO2 Calibration



Calibration Report

Parameter

NO_x-NO-NO₂

Air Monitoring Network

PAZA



Station Information

Calibration Date	November 2, 2012	Previous Calibration	October 18, 2012		
Station Number	9	Station Location	Sunset House		
Reason:	Routine	Install	Removal		
Other:					
Start Time (MST)	9:20	End Time (MST)	14:12		
Barometric Pressure	0.916	Atm	Station Temperature	20.0	Deg C
Calibrator	Envionics	Serial Number	3016		
NO Cal Gas Conc	51.2	ppm	Cal Gas Expiry Date	March 12, 2014	
NOx Cal Gas Conc	51.2	ppm	Cal Gas Serial #	LL107272	

DACS Information

DACS make	CR3000	DACS serial No.	5407	
Parameter		NO2	NOx	NO
Before	Data Slope	0.997406	0.995483	0.999584
	Data Offset	0.081802	0.777580	0.803215
After	Data Slope	1.000837	0.995916	0.998349
	Data Offset	0.707708	1.714903	1.648429
Channel #		5	3	4
Voltage Range		0 - 5 VDC	0 - 5 VDC	0 - 5 VDC

Analyzer Information

Analyzer make/model	TEI 42i	Analyzer serial #	0701120011	
Test Point	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
NO offset	5.0	mV	5.0	mV
NOx bkgnd	5.9	mV	5.4	mV
NO coefficient	1.109		1.101	
NOx coefficient	1.003		0.999	
NO2 conv temp	325.0	Deg C	325.0	Deg C
PMT Temp	-2.8	Deg C	-2.8	Deg C
PMT Volt	-805.1	mV	-805.2	mV
R Cell Press	175.7	in Hg	176.9	in Hg
Sample Flow	0.779	ccm	0.784	ccm

NOTES: Slight span adjust.
Third point interrupted by power failure.

Calibration Report

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



Station Information

Calibration Date: November 2, 2012 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	0.5	0.5	0.0	N/A	N/A
1	4995	39.93	406.0	406.0	0.0	407.1	406.1	-0.8	0.9975	0.9998
2	4995	19.97	203.9	203.9	0.0	201.9	201.4	-0.5	1.0100	1.0121
3	4995	9.96	101.9	101.9	0.0	98.4	98.4	0.0	1.0359	1.0359
AFZ	4995	0.00	0.0	0.0	0.0	0.5	0.5	0.0	0.0000	0.0000
AFS	4995	39.93	406.0	406.0	0.0	412.6	410.1	0.7	0.9841	0.9901
Average Correction Factor									1.0144	1.0160

As Found Concentrations: NO_x= 412.8 NO= 410.4 As Found Percent Change NO_x= 1.7% NO= 1.1%

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	0.5	0.5	0.0	0.5	0.5	0.0	N/A	N/A	N/A	N/A
NO point	404.2	404.2	0.0	405.0	404.2	-1.2	0.9980	1.0000	N/A	N/A
300	404.2	114.7	289.5	405.0	114.7	288.7	0.9979	1.0000	1.0027	99.7%
200	404.2	207.4	196.8	406.0	207.4	196.4	0.9955	1.0000	1.0019	99.8%
100	404.2	298.7	105.4	404.0	298.7	103.2	1.0004	1.0000	1.0214	97.9%
Average Correction Factor							0.9979	1.0000	1.0087	99.1%

AIC Data

	Previous calibration				Current calibration			
Parameter	NOx	NO2	NO		NOx	NO2	NO	
Auto zero	0.8	0.2	0.7	ppb	0.4	-0.3	0.7	ppb
Auto span	169.8	167.0	2.2	ppb	184.5	181.6	1.9	ppb

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter NO₂

Air Monitoring Network PAZA



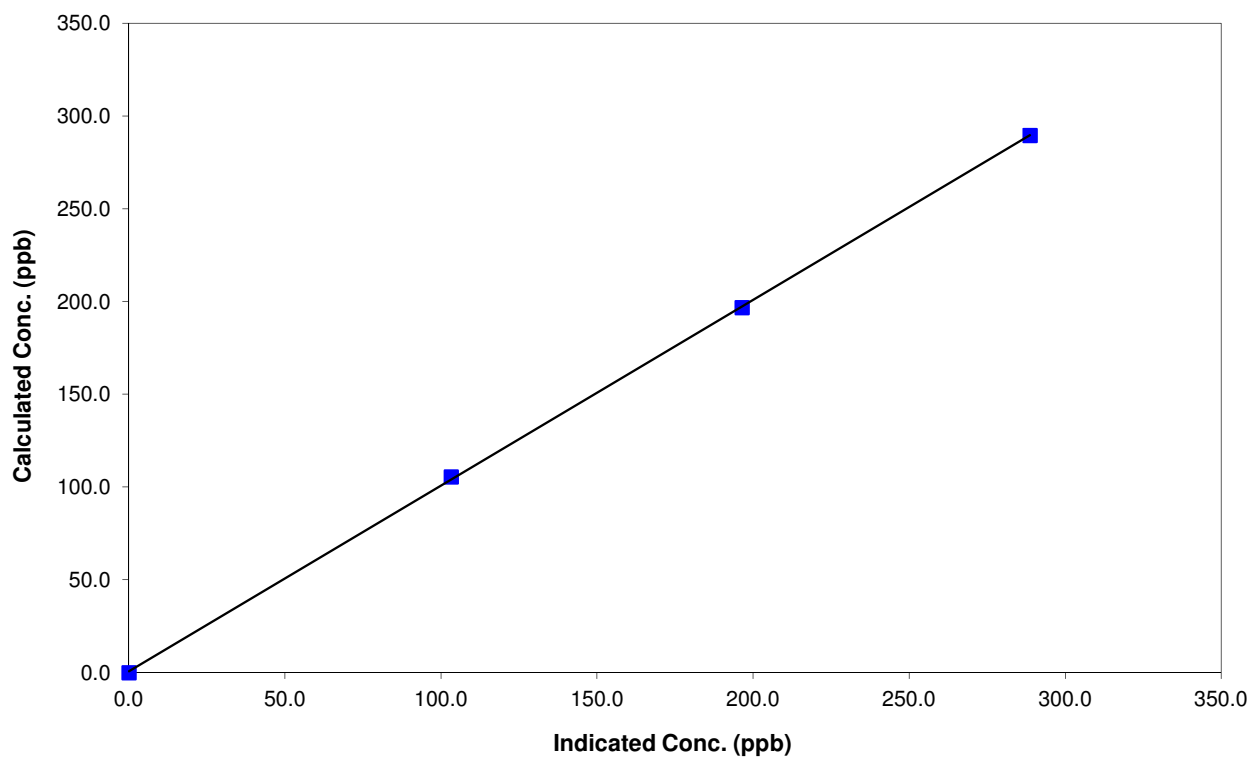
Station Information

Calibration Date	November 2, 2012	Previous Calibration	October 18, 2012
Station Number	9	Station Location	Sunset House
Start Time (MST)	9:20	End Time (MST)	14:12
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	0.999938
289.5	288.7	1.0027		
196.8	196.4	1.0019		
105.4	103.2	1.0214	Slope	1.000837
			Intercept	0.707708

NO₂ Calibration Curve



Calibration Summary

Parameter NO_x

Air Monitoring Network PAZA



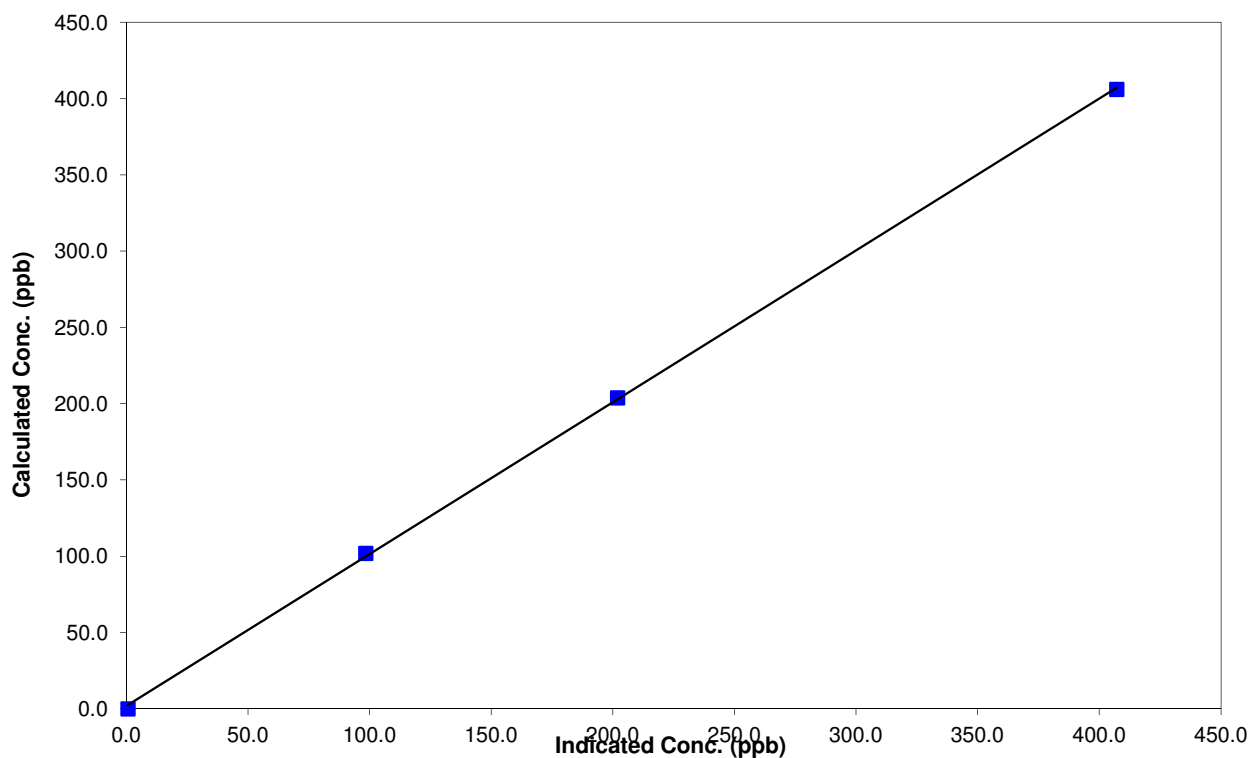
Station Information

Calibration Date	November 2, 2012	Previous Calibration	October 18, 2012
Station Number	9	Station Location	Sunset House
Start Time (MST)	9:20	End Time (MST)	14:12
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	0.5	N/A	Correlation Coefficient	0.999862
406.0	407.1	0.9975		
203.9	201.9	1.0100		
101.9	98.4	1.0359	Slope	0.995916
			Intercept	1.714903

NO_x Calibration Curve



Calibration Summary

Parameter NO

Air Monitoring Network PAZA



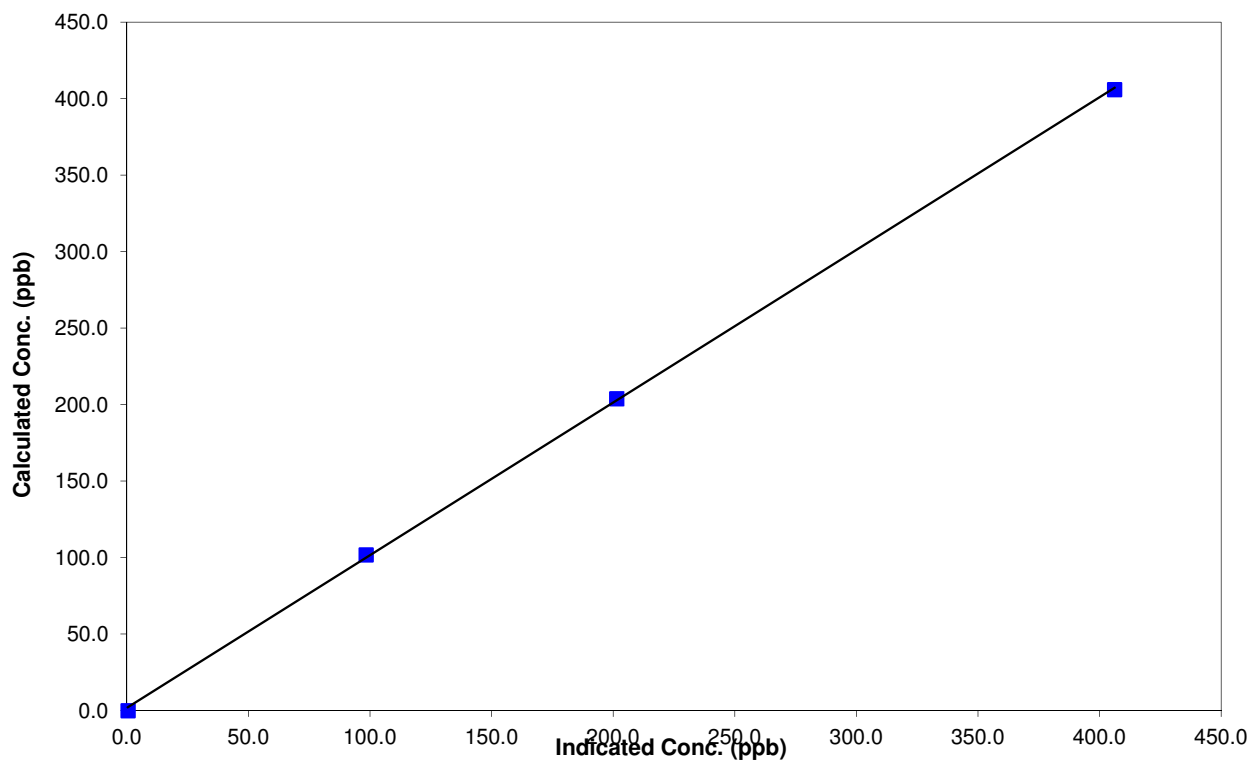
Station Information

Calibration Date	November 2, 2012	Previous Calibration	October 18, 2012
Station Number	9	Station Location	Sunset House
Start Time (MST)	9:20	End Time (MST)	14:12
Analyzer make	TEI 42i	Analyzer serial #	0701120011

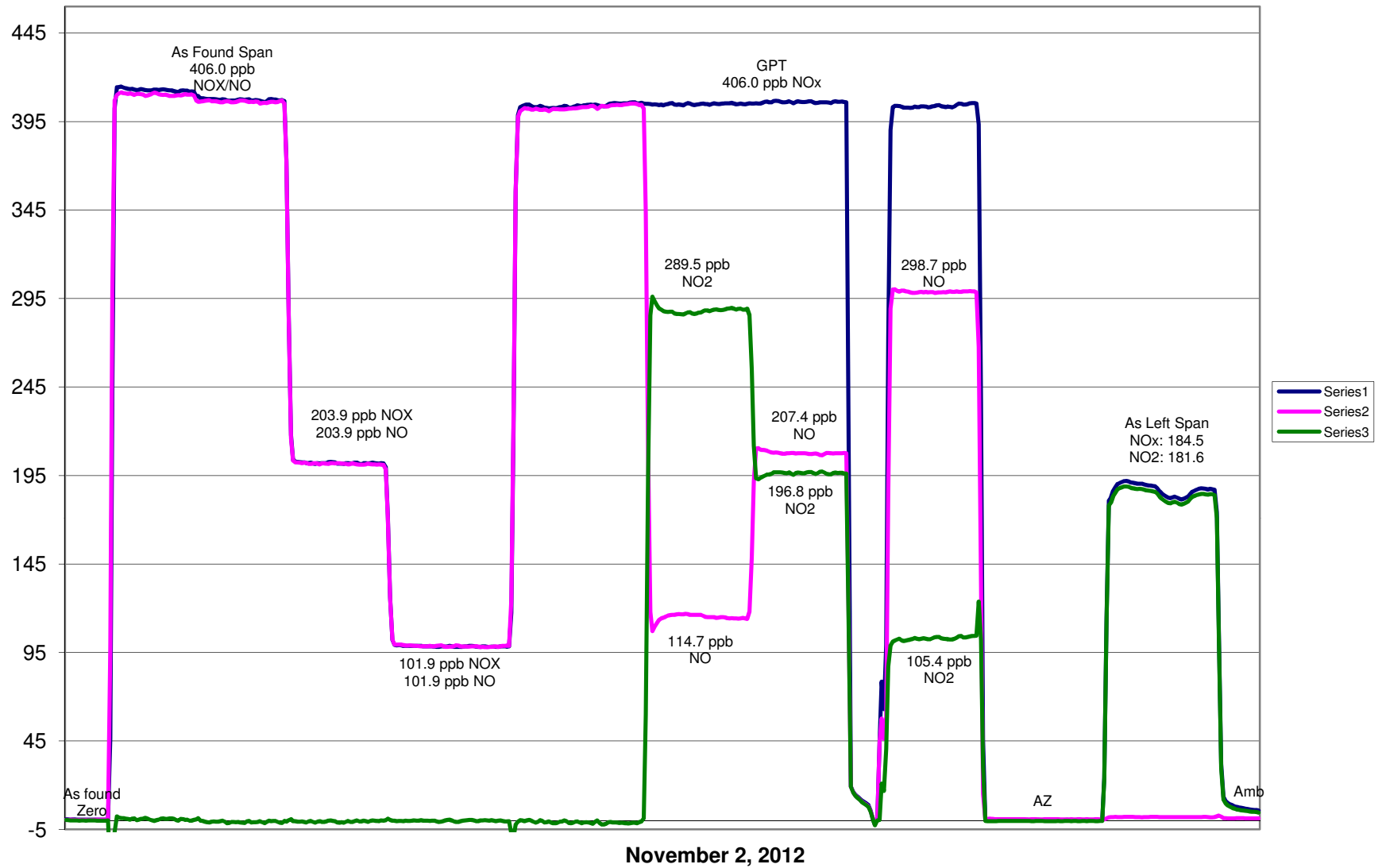
Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.5	N/A	Correlation Coefficient	0.999877
406.0	406.1	0.9998		
203.9	201.4	1.0121		
101.9	98.4	1.0359	Slope	0.998349
			Intercept	1.648429

NO Calibration Curve



PASZA Sunset House NO_x Calibration



Calibration Report



Parameter 03
Air Monitoring Network PAZA

Station Information

Calibration Date	November 2, 2012	Previous Calibration	October 18, 2012
Station Number	9	Station Location	Sunset House
Reason:	Routine	☐ Install ☐ Removal remove	Other:

Start Time (MST)	13:00:00 PM	End Time (MST)	16:00
Barometric Pressure	0.916 atm	Station Temperature	15.7 Deg C
Calibrator	EnviroNics 6100	Serial Number	3474

DACS make	CR3000	DACS serial No.	5407
DACS voltage range	0 - 5 Volts	DACS channel #	6
	Before		After
Calculated slope	0.993037	Calculated slope	0.980549
Calculated intercept	0.521785	Calculated intercept	1.127105

Analyzer make	TEI Model 49C	Analyzer serial #	49C-0609716240
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	before		after	
Concentration range	0-500	ppb	0-500	ppb
Offset	0.3	ppb	0.3	ppb
Span	1.035		1.035	
Cell A intensity	92195	Hz	88567	Hz
Cell B intensity	84328	Hz	82248	Hz
Pressure	687.70	in Hg	678.00	in Hg
CellA Flow	0.941	ccm	0.926	ccm
Cell B Flow	0.723	cmm	0.715	cmm

Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
5040	0.00	0.0	0.1	N/A
5040	0.30	289.5	295.2	0.9808
5040	0.20	196.8	198.8	0.9898
5040	0.10	105.4	104.7	1.0066
5040	0.00	0.0	0.1	As found zero
5040	0.30	289.5	295.2	As found span
Average Correction Factor				0.9924

Calculated value of As Found Response: 293.5 ppm Percent Change of As Found: 1.4%

	before calibration		after calibration	
Auto zero	0.6	ppb	1.2	ppb
Auto span	137.7	ppb	217.9	ppb

Notes: No adjust.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter O3

Air Monitoring Network PAZA



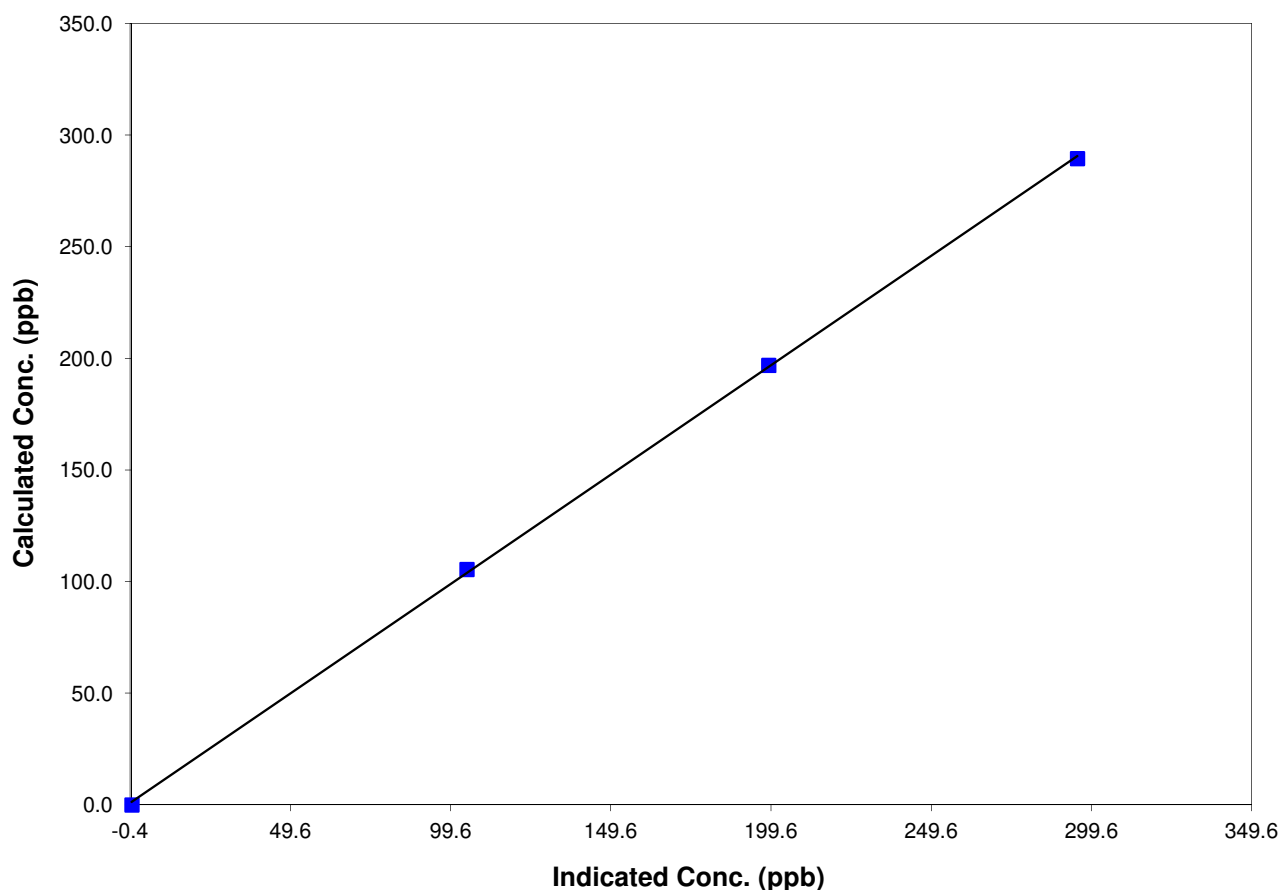
Station Information

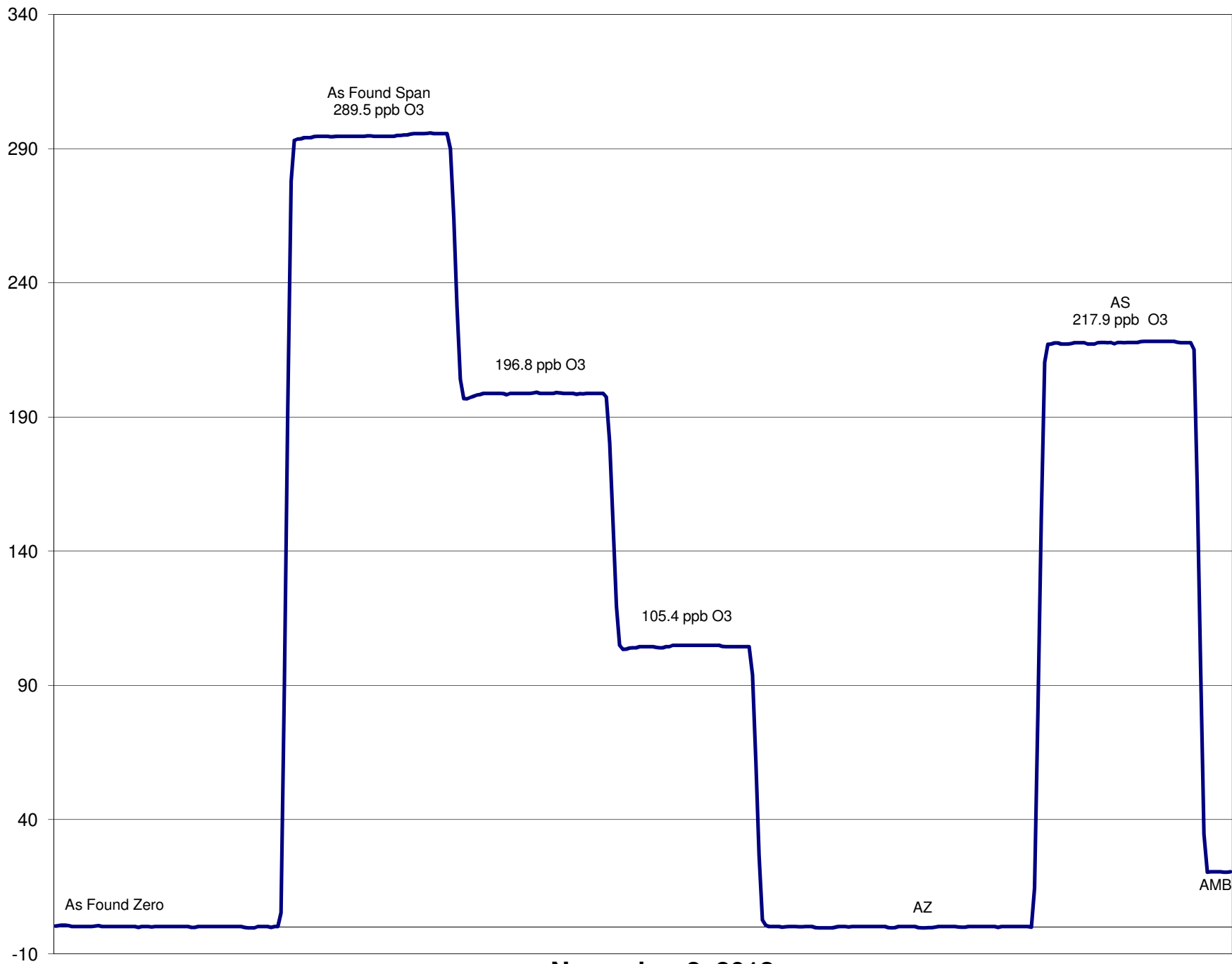
Calibration Date	November 2, 2012	Previous Calibration	October 18, 2012
Station Number	9	Station Location	Sunset House
Start Time (MST)	13:00:00 PM	End Time (MST)	16:00
Analyzer make/model	TEI Model 49C	Analyzer serial #	49C-0609716240

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.1	NA		
289.5	295.2	0.9808	Correlation Coefficient	0.999874
196.8	198.8	0.9898		
105.4	104.7	1.0066	Slope	0.980549
			Intercept	1.127105

O3 Calibration Curve





November 2, 2012

Calibration Report



Parameter TRS

Air Monitoring Network PAZA

Station Information

Calibration Date	November 2, 2012	Previous Calibration	October 18, 2012
Station Name	PAZA Rover	Station Location	Sunset House
Reason:	Routine	Install	Removal
Start Time (MST)	14:49:00 PM	End Time (MST)	17:45
Barometric Pressure	27.5 inches Hg	Station Temperature	20.0 Deg C
Calibrator	Enviroics 6100	Serial Number	3474
Cal Gas Concentration	10.1 ppm	Cal Gas Expiry Date	03/09/2011
Gas Cert Reference	BLM001434		
DACS make	CR3000	DACS serial No.	5407
DACS voltage range	0 - 5 Volt	DACS channel #	1
	<u>Before</u>		<u>After</u>
DACS Scale High	100	DACS slope	100
DACS Scale Low	0	DACS intercept	0
Calculated slope	0.994357	Calculated slope	0.989382
Calculated intercept	0.826974	Calculated intercept	1.156528
Analyzer make	TEI 43C	Analyzer serial #	609716238

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Background	14.3	ppb	14.6	ppb
Coefficient	1.369		1.399	
Lamp Voltage	793	V	793	V
Chamber Temp	43.8	C	43.8	C
Perm gas Temp	45.0	C	45.0	C
Pressure	649.8	mmHg	649.0	mmHg
Sample Flow	0.439	ccm	0.440	ccm
Lamp Intensity	35160.0	Hz	34160.0	Hz

Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4995	0.0	0.0	-0.7	N/A
4995	39.94	80.1	80.2	0.9987
4995	19.96	40.2	38.6	1.0408
8995	8.94	10.0	8.9	1.1296
4995	0.00	0.0	-0.7	As found zero
4995	39.94	80.1	80.2	As found span
Average Correction Factor				1.0563

Calculated value of As Found Response: 81.26 ppm Percent Change of As Found: -1.4%

	before calibration		after calibration	
Auto zero	-0.6	ppm	0.3	ppm
Auto span	69.6	ppm	65.0	ppm

Notes: Internal sample pump seized on arrival. Bypass & install rebuilt Thomas 617 external pump.
Lamp intensity bouncing from 31000 to 39000. May need optic work soon. Will make sure to have lamp & socket available.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter TRS

Air Monitoring Network PAZA



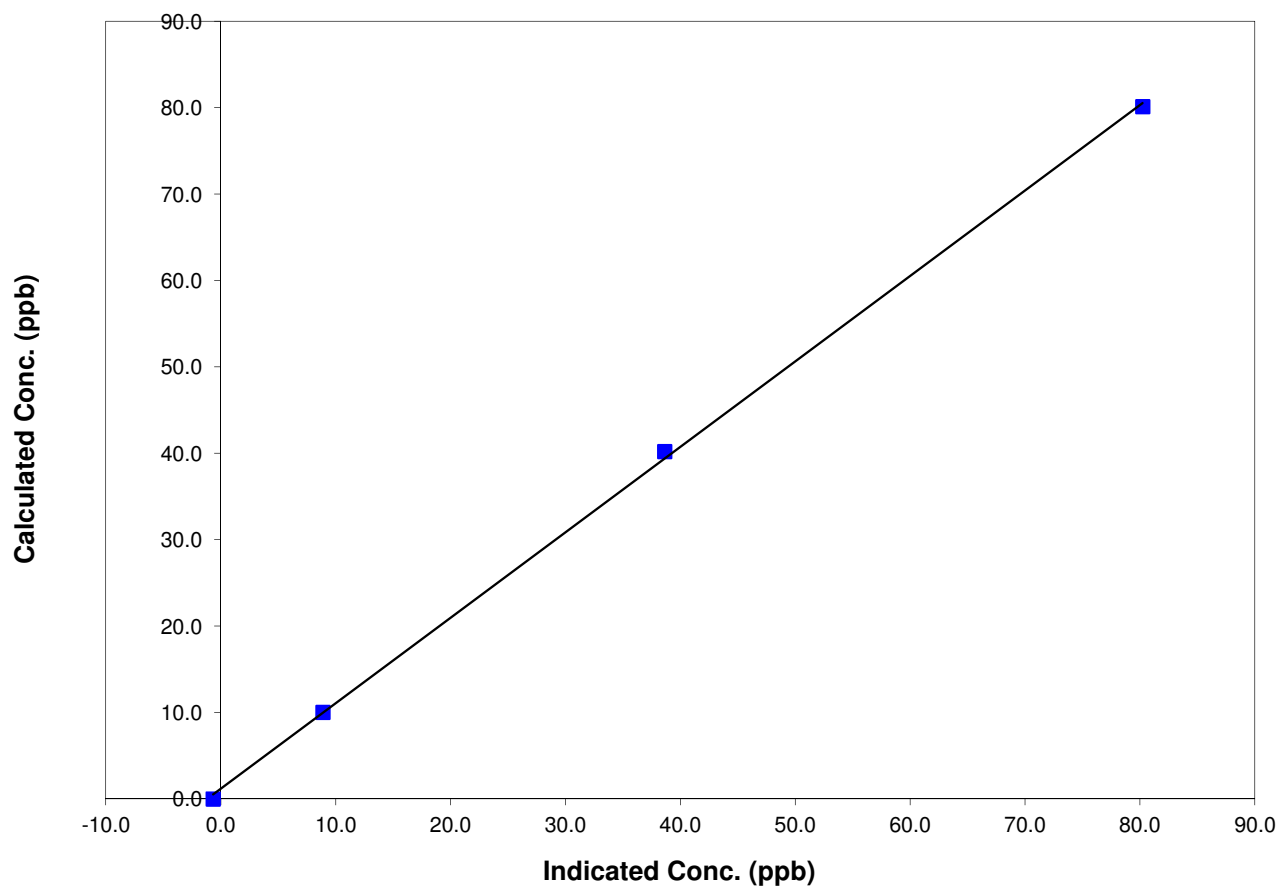
Station Information

Calibration Date	November 2, 2012	Previous Calibration	October 18, 2012
Station Number	PAZA Rover	Station Location	Sunset House
Start Time (MST)	14:49:00 PM	End Time (MST)	17:45
Analyzer make/model	TEI 43C	Analyzer serial #	609716238

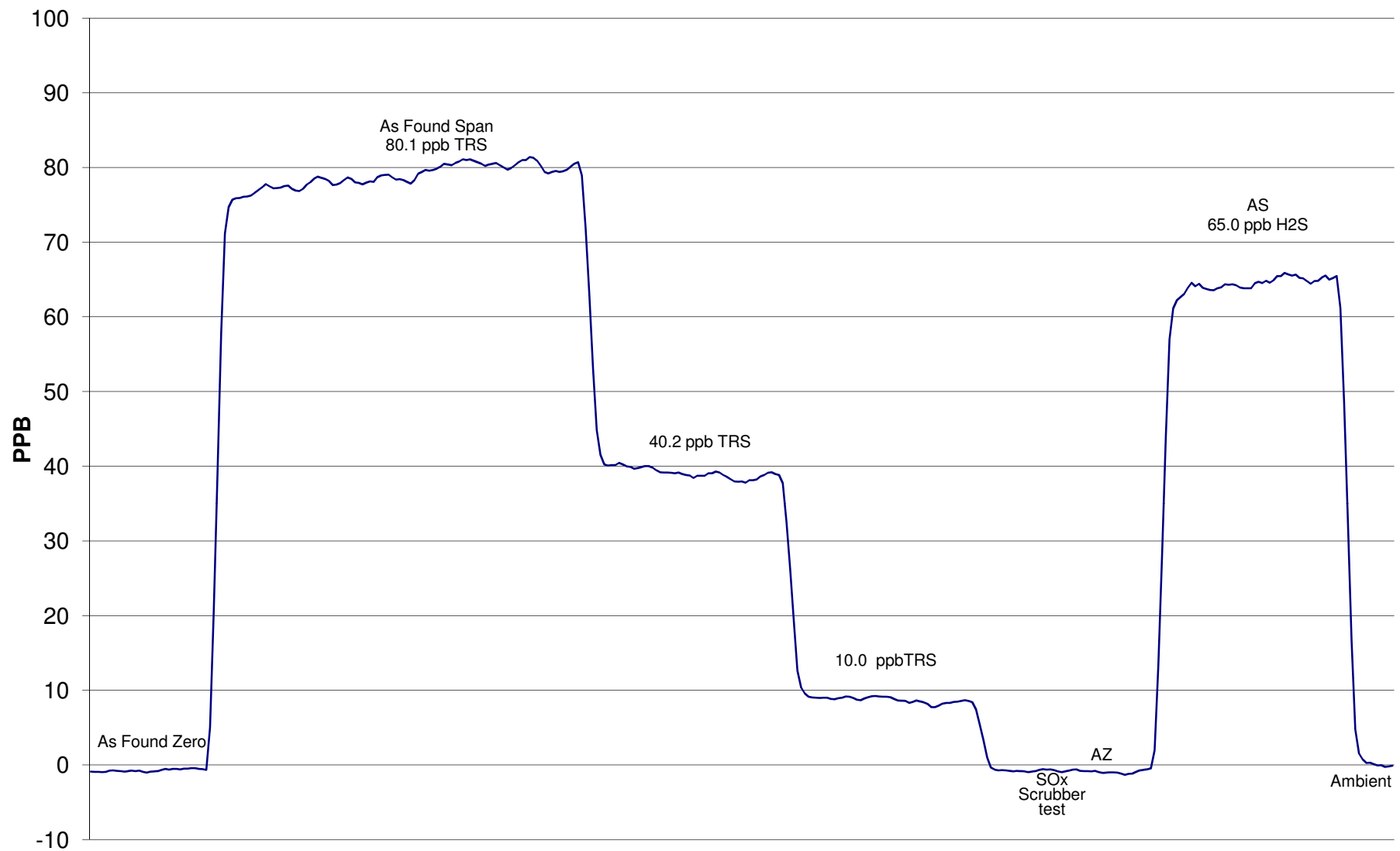
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.7	N/A	Correlation Coefficient	0.999712
80.1	80.2	0.9987		
40.2	38.6	1.0408		
10.0	8.9	1.1296	Slope	0.989382
			Intercept	1.156528

TRS Calibration Curve



TRS Calibration



November 2, 2012