



Peace AirShed Zone Association

Ambient Air Monitoring Network Summary

Continuous Ambient Air Quality Monitoring Program
Monthly Report
November 2011

Operations and Reporting



December 30th, 2011

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

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

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

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

Company	Facility	LSD	AENV 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
Barrick Energy Inc.	Sturgeon/Valleyview	02-02-069-22-W5	1633-02-00
Birchcliff Energy Ltd.	Pouce Coupe	03-22-078-12-W6	252529-00-00
Bonavista Energy Corporation	Rycroft	08-25-077-06-W6	11351-02-00
	Spirit River	08-34-077-06-W6	11096-02-00
Canadian Natural Resources Limited	Bonanza	11-25-081-11-W6	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	Hythe Brainard	11-18-074-12-W6	10910-02-02
	Sexsmith	04-08-075-07-W6	10002-01-00
Galleon Energy Inc.	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
Grande Prairie Generation Inc.	Northern Prairie Power Project	04-19-073-08-W6	238762-00-02
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
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
Taq North Ltd.	Valhalla	13-21-076-09-W6	17620-01-01
Weyerhaeuser Canada	Grande Prairie Pulp and Wood Plant	01-14-070-05-W6	113-02-00

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

Continuous Monitoring: Five (5) Stations including Henry Pirker (Grande Prairie), Evergreen Park, Smoky Heights, Beaverlodge and Valleyview.

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

Henry Pirker Station:

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

Evergreen Park Station:

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

Valleyview Station:

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

Passive Monitoring - 46 Stations throughout the PAZA zone:

There were four duplicate sites sampled in the month of November: Hythe, Wapiti, Crooked Creek, McLellan. 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 0.7 ppb, with a mean of 0.3 ppb.
- Monthly average concentrations for NO₂ passives ranged from 0.6 ppb to 11.8 ppb, with a mean of 1.9 ppb.
- Monthly average concentrations for O₃ passives ranged from 22.7 ppb to 36.6 ppb, with a mean of 29.4 ppb.
- Monthly average and mean concentrations for H₂S passives were 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
Program Manager

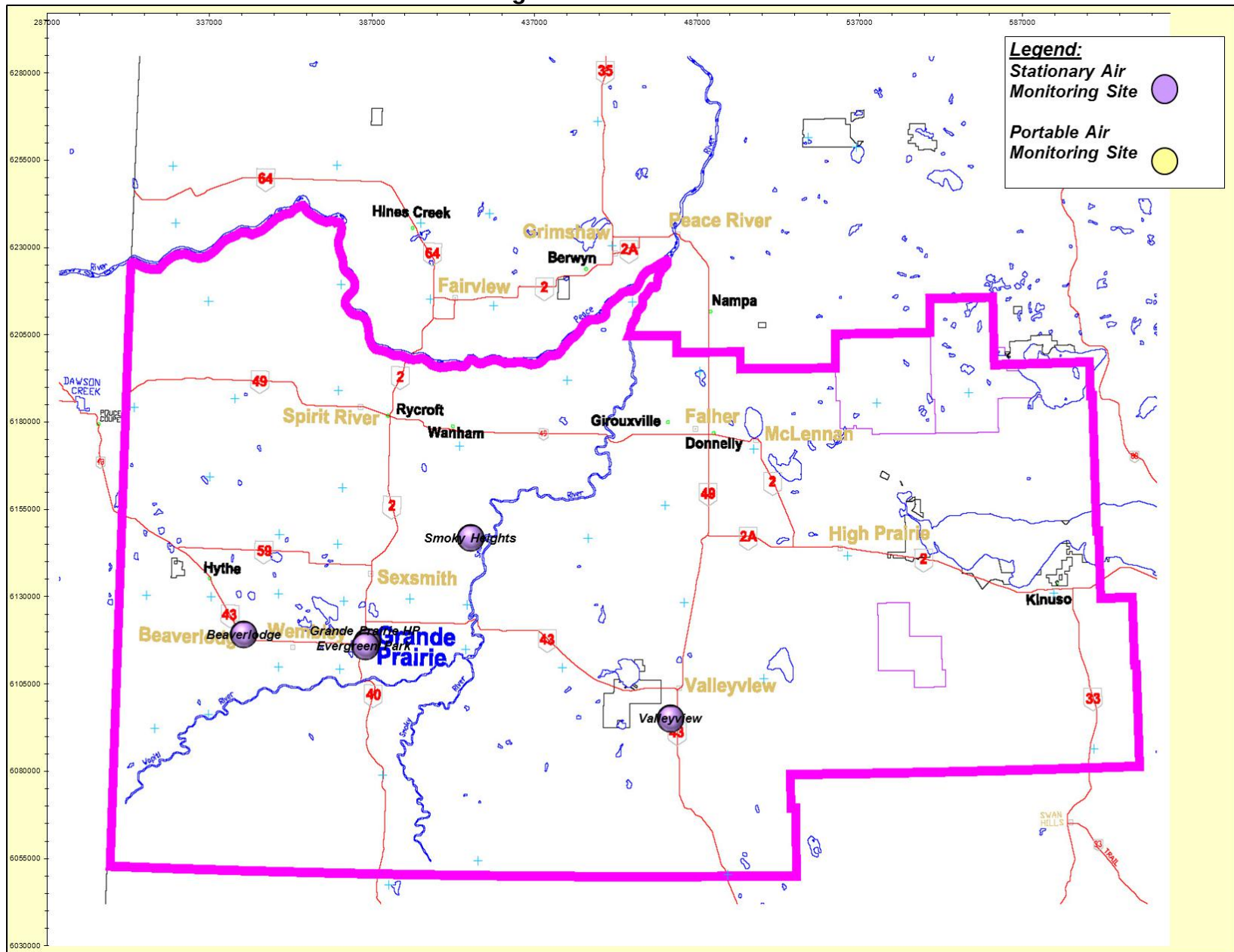


Patrick Andersen, B.Sc.
FOCUS AQM Data Specialist



Jeff Cooper, C.Tech.
AQM Operations Manager

Location of PAZA Continuous Monitoring Stations



PAZA Monthly Continuous Data Summary

Nov-2011Peace 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	0.4	0	0	9.4	Nov-21 23:00	2.1	Nov-21	100%
SO ₂ (ppb)	172	48	Evergreen Park	0.2	0	0	7.1	Nov-27 16:00	0.6	Nov-27	100%
SO ₂ (ppb)	172	48	Smoky Heights	0.4	0	0	7.1	Nov-30 09:00	1.0	Nov-25	100%
SO ₂ (ppb)	172	48	Beaverlodge	0.3	0	0	4.6	Nov-23 04:00	1.8	Nov-21	100%
SO ₂ (ppb)	172	48	Valleyview	0.5	0	0	8.7	Nov-08 04:00	2.3	Nov-08	100%
NO (ppb)			Henry Pirker	8.4	0	0	139.8	Nov-23 21:00	46.5	Nov-23	100%
NO ₂ (ppb)	159	106	Henry Pirker	13.8	0	0	45.6	Nov-23 02:00	26.7	Nov-23	100%
NO _x (ppb)			Henry Pirker	22.3	0	0	176.7	Nov-23 21:00	73.4	Nov-23	100%
NO (ppb)			Beaverlodge	0.8	0	0	32.6	Nov-21 10:00	6.4	Nov-21	100%
NO ₂ (ppb)	159	106	Beaverlodge	4.9	0	0	26.2	Nov-23 09:00	13.9	Nov-23	100%
NO _x (ppb)			Beaverlodge	5.7	0	0	49.9	Nov-21 10:00	19.4	Nov-21	100%
O ₃ (ppb)	82		Henry Pirker	17.3	0	-	38.2	Nov-27 11:00	32.6	Nov-13	100%
O ₃ (ppb) - 8-hr			Henry Pirker		0				34.0	Nov-13	
O ₃ (ppb)	82		Beaverlodge	26.9	0	-	41.8	Nov-25 13:00	36.0	Nov-26	100%
O ₃ (ppb) - 8-hr			Beaverlodge		0				39.9	Nov-25	
CO (ppm)	13		Henry Pirker	0.23	0	-	1.1	Nov-29 10:00	0.4	Nov-23	100%
CO (ppm) - 8-hr	5		Henry Pirker		0				0.7	Nov-29	
THC (ppm)			Henry Pirker	2.13	-	-	4.4	Nov-09 04:00	2.6	Nov-09	100%
TRS (ppb)			Henry Pirker	0.4	-	-	4.7	Nov-04 11:00	0.8	Nov-04	100%
TRS (ppb)			Evergreen Park	0.6	-	-	3.2	Nov-22 11:00	1.0	Nov-24	100%
TRS (ppb)			Smoky Heights	0.3	-	-	1.5	Nov-30 03:00	0.6	Nov-23	100%
H ₂ S (ppb)	10	3	Valleyview	0.2	0	0	7.7	Nov-02 20:00	1.2	Nov-29	100%
PM2.5 (µg/m3)	80	30	Henry Pirker	10.9	0	0	73.6	Nov-23 22:00	28.1	Nov-23	90%
PM2.5 (µg/m3)	80	30	Evergreen Park	4.9	0	0	38.0	Nov-22 01:00	15.6	Nov-22	99%
PM2.5 (µg/m3)	80	30	Smoky Heights	5.5	0	0	59.2	Nov-08 20:00	17.8	Nov-22	99%
PM2.5 (µg/m3)	80	30	Beaverlodge	7.8	0	0	39.3	Nov-22 02:00	23.4	Nov-21	100%

PAZA Monthly Continuous Data Summary – continued

Nov-2011Peace Airshed Zone Association							Maximum Recorded Values				
							1-hr		24-hr / 8-hr		
RH (%)			Henry Pirker	66.1	-	-	87.0	Nov-30 02:00	77.3	Nov-17	100%
RH (%)			Evergreen Park	69.5	-	-	94.9	Nov-30 03:00	86.5	Nov-23	100%
RH (%)			Beaverlodge	75.9	-	-	100.0	Nov-23 00:00	94.7	Nov-23	100%
RH (%)			Valleyview	70.3	-	-	96.7	Nov-11 11:00	93.1	Nov-11	100%
SR (W/m²)			Henry Pirker	32.6	-	-	303.4	Nov-04 13:00	68.7	Nov-04	100%
Temp (°C)			Henry Pirker	-5.5	-	-	9.7	Nov-27 04:00	3.7	Nov-10	100%
Temp (°C)			Evergreen Park	-5.0	-	-	11.1	Nov-27 04:00	4.2	Nov-10	100%
Temp (°C)			Smoky Heights	-6.7	-	-	7.9	Nov-10 14:00	2.2	Nov-10	100%
Temp (°C)			Beaverlodge	-5.1	-	-	8.7	Nov-10 14:00	4.0	Nov-10	100%
Temp (°C)			Valleyview	-4.0	-	-	10.2	Nov-02 17:00	5.0	Nov-02	100%
WSPD s (km/hr)			Henry Pirker	9.0	-	-	41.0	Nov-13 13:00	26.9	Nov-13	100%
WSPD s (km/hr)			Evergreen Park	6.6	-	-	31.0	Nov-25 11:00	20.9	Nov-13	100%
WSPD s (km/hr)			Smoky Heights	13.7	-	-	42.0	Nov-01 15:00	23.7	Nov-13	100%
WSPD s (km/hr)			Beaverlodge	11.6	-	-	50.0	Nov-25 11:00	27.8	Nov-13	100%
WSPD s (km/hr)			Valleyview	5.5	-	-	27.0	Nov-25 11:00	11.3	Nov-13	100%
WSPD v (km/hr)			Henry Pirker	3.8	-	-	40.0	Nov-13 13:00	25.8	Nov-13	100%
WSPD v (km/hr)			Evergreen Park	3.2	-	-	31.0	Nov-25 11:00	20.3	Nov-13	100%
WSPD v (km/hr)			Smoky Heights	5.9	-	-	41.0	Nov-01 15:00	22.7	Nov-13	100%
WSPD v (km/hr)			Beaverlodge	4.0	-	-	50.0	Nov-25 11:00	27.1	Nov-13	100%
WSPD v (km/hr)			Valleyview	1.6	-	-	27.0	Nov-25 12:00	9.8	Nov-13	100%
WDIR			Henry Pirker	WSW	-	-	-	-	-	-	100%
WDIR			Evergreen Park	W	-	-	-	-	-	-	100%
WDIR			Smoky Heights	WSW	-	-	-	-	-	-	100%
WDIR			Beaverlodge	WSW	-	-	-	-	-	-	100%
WDIR			Valleyview	SW	-	-	-	-	-	-	100%

Continuous Network Equipment Summary

PAZA – Henry Pirker Station

General Station Issues

Routine monthly calibrations were performed on November 15th (TRS, CO & THC) and November 16th (SO₂, NO_x & O₃).. Maintenance was performed on the PM_{2.5} on November 17th, 18th and 25th. Maintenance was performed on the CO analyzer on November 21st.

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	Zero-air cylinder replaced November 21 st .
THC	TEI	51-CLT	No operational issues observed.
TRS	TEI	45C/43C	No operational issues observed.
PM _{2.5}	R&P	1400AB	Sixty-five (65) hours were flagged invalid due to negative readings in addition to analyzer problems likely caused by control board failure. Investigation is ongoing.
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 9th (TRS) and November 24th (SO₂). SO₂ calibration was attempted on November 9th with equipment trouble postponing completion until the 24th. Maintenance was done on the TEOM on November 28th.

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	Five (5) hours were flagged invalid due to negative readings.
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 calibrations were performed on November 28th (SO₂ & TRS). Maintenance was performed on the TEOM on November 28th.

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	Four (4) hours were 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 20th (SO₂, NO_x, O₃). Maintenance was performed on the TEOM on November 20th.

Parameter	Make	Model	Notes
SO ₂	TEI	43CTL	No operational issues observed.
NO _x /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 was flagged invalid due to negative readings.
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 23rd (SO₂ & H₂S).

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
Henry Pirker Station
Monthly Summary Tables, Graphs and
Roses

Hourly Averages

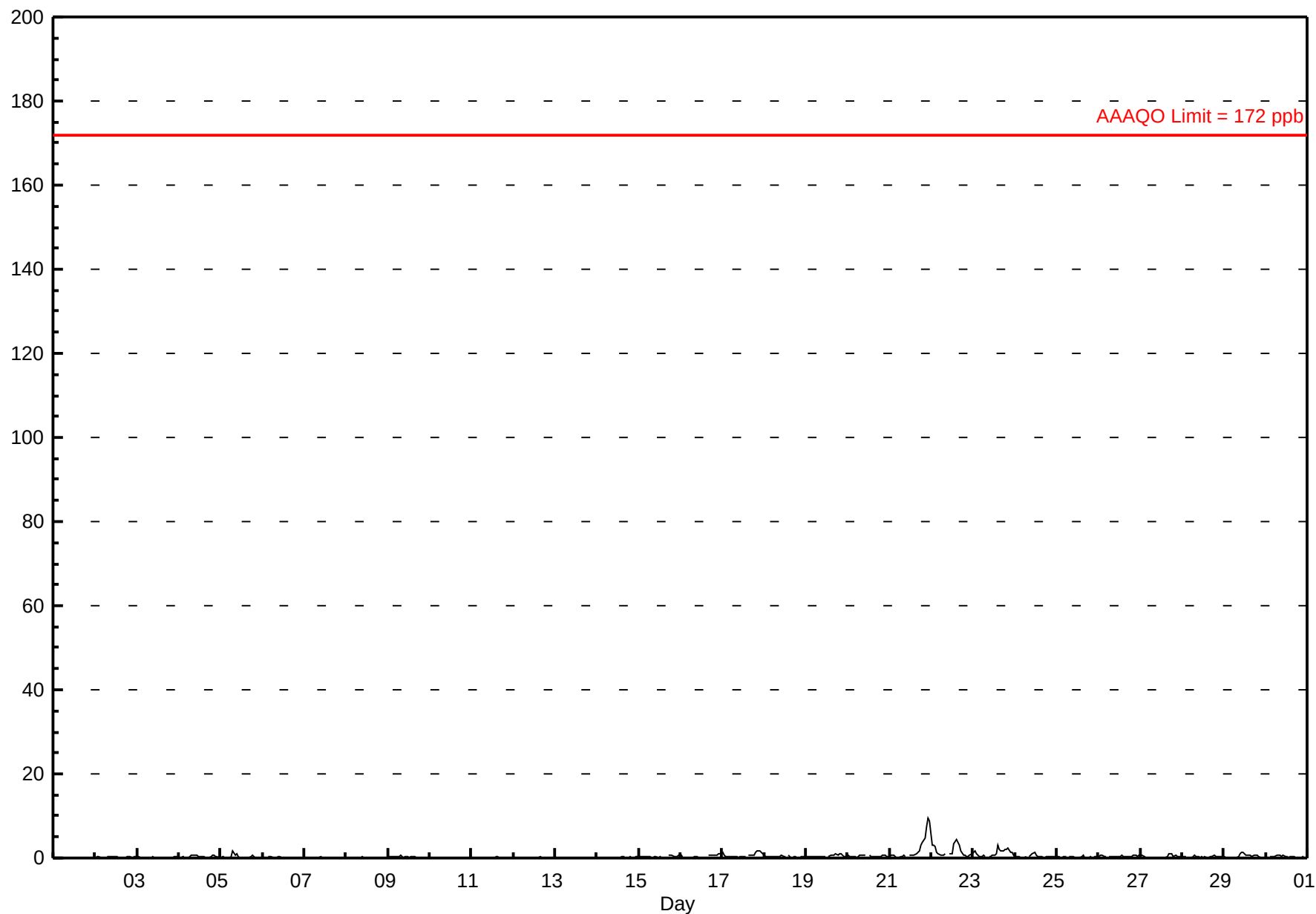
Sulphur Dioxide (SO₂) - ppb

Henry Pirker - November 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 9.4 ppb on Nov 21 23:00 Maximum Daily Average: 2.1 ppb on Nov 21																				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 1 01:00 Maximum Diurnal Average: 0.6 ppb at hour 23 Monthly Average: 0.37 ppb Minimum Daily Average: 0.0 ppb on Nov 13 Minimum Diurnal Average: 0.1 ppb at hour 6 Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.2 Q ₃ = 0.4 P ₉₀ = 0.8 P ₉₉ = 3.7																										
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	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
2-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	0.5
3-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
4-Nov	0	0	0	0	A	0	0	1	1	1	1	0	0	0	0	0	0	0	0	1	1	0	0	0	0.3	0.8
5-Nov	0	0	0	A	0	0	0	2	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0.3	1.7
6-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	0.3
7-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
8-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	0.2
9-Nov	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	A	0.2	0.6
10-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
11-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	0.3
12-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	0.2
13-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
14-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	0.1	0.4
15-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	1	1	0	0	0	1	0.3	0.7
16-Nov	1	0	0	0	0	0	0	0	0	0	0	C	C	C	0	A	1	1	1	1	1	1	1	1	0.4	1.0
17-Nov	2	1	0	0	0	0	0	0	0	0	0	0	0	0	A	1	1	1	1	1	2	2	1	1	0.7	1.8
18-Nov	1	0	0	0	0	0	0	0	0	0	1	0	0	A	1	0	0	0	0	0	0	0	0	0	0.3	0.8
19-Nov	0	0	0	0	0	0	0	0	0	0	0	0	A	0	1	1	1	1	1	1	1	1	0	0	0.5	1.0
20-Nov	1	0	0	0	0	0	0	1	1	1	1	A	1	0	0	0	0	0	0	0	1	1	1	0	0.4	0.7
21-Nov	0	1	1	0	0	0	0	0	1	0	A	1	1	1	1	1	1	2	3	4	5	8	9	9	2.1	9.4
22-Nov	3	3	3	1	1	1	1	1	1	A	1	1	1	3	4	4	3	2	1	1	0	0	1	1	1.6	4.2
23-Nov	2	2	1	0	0	0	1	0	A	0	0	1	1	1	3	2	2	2	2	2	2	1	1	1	1.2	3.1
24-Nov	0	0	0	0	0	0	0	A	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0.4	1.4
25-Nov	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0.2	0.6
26-Nov	0	1	1	0	0	A	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1	1	0	1	0.4	0.8
27-Nov	0	1	0	0	A	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	1	0	0	0	0.3	1.0
28-Nov	0	0	0	A	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0.3	0.6
29-Nov	0	0	A	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0.4	1.2
30-Nov	0	A	0	0	0	0	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.8
																								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
Henry Pirker - November 2011



Hourly Maximums

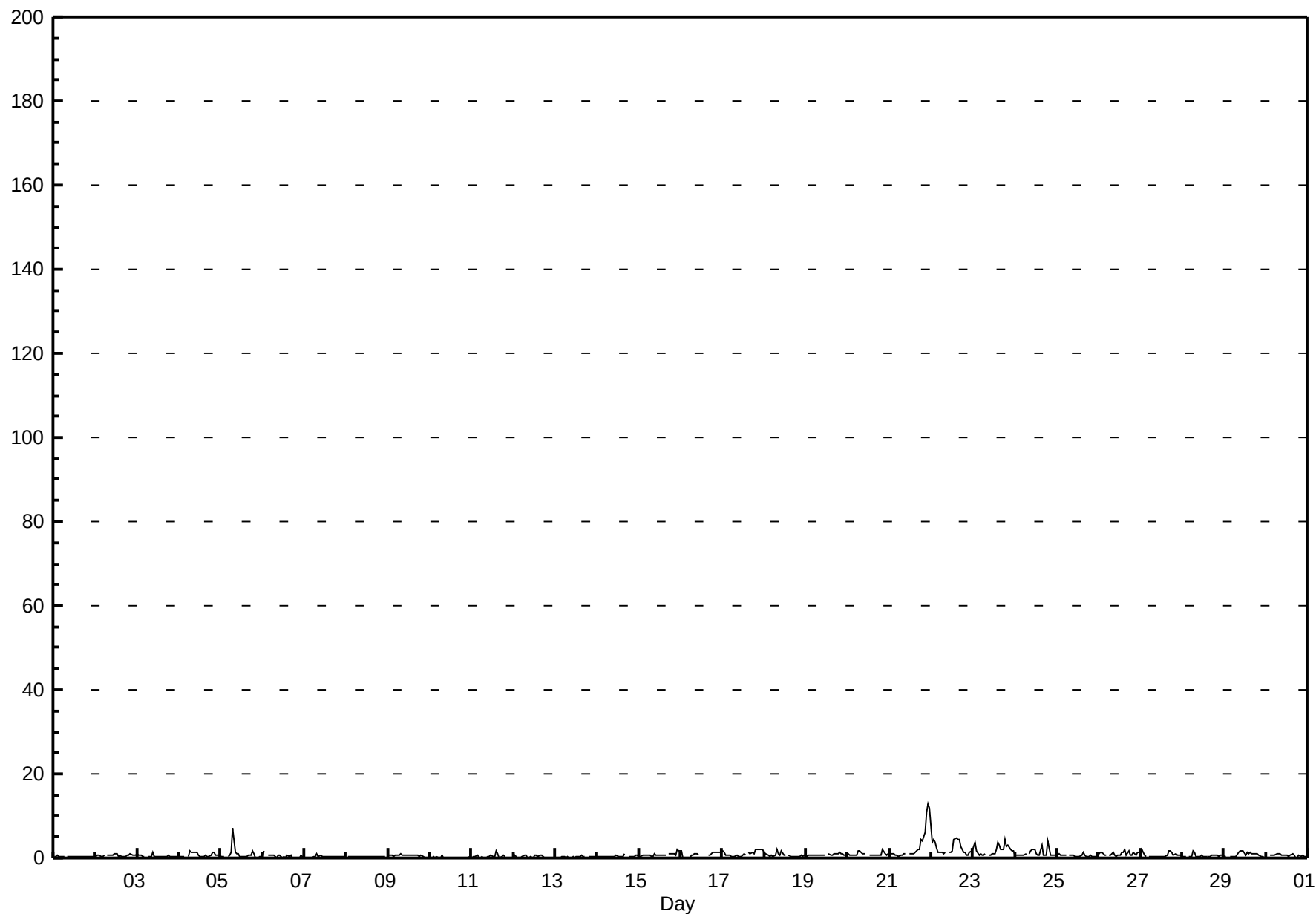
Sulphur Dioxide (SO₂) - ppb

Henry Pirker - November 2011

Maximum Value: 12.7 ppb on Nov 21 23:00																				Maximum Daily Average: 3.0 ppb on Nov 21					Hours in Service: 720		
Minimum Value: 0 ppb on Nov 13 10:00																				Minimum Daily Average: 0.1 ppb on Nov 10					Hours of Data: 686		
Maximum Diurnal Average: 1.1 ppb at hour 23																				Minimum Diurnal Average: 0.4 ppb at hour 6					Hours of Missing Data: 34		
Monthly Average: 0.78 ppb																				Percentiles: P ₁ = 0.0 P ₁₀ = 0.2 Q ₁ = 0.3 Median = 0.6 Q ₃ = 0.9 P ₉₀ = 1.5 P ₉₉ = 4.4					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	0	0	1	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.7	
2-Nov	0	1	1	0	1	1	A	1	1	1	1	1	1	0	1	0	0	1	1	1	1	1	1	1	1	0.6	1.2
3-Nov	1	1	1	0	0	A	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0.4	1.2	
4-Nov	0	0	0	0	A	0	2	1	1	1	1	1	0	0	0	1	0	0	1	1	1	1	1	1	0.8	1.8	
5-Nov	0	0	0	A	0	1	1	7	1	1	1	0	0	0	0	0	1	1	2	1	0	0	0	0	0.9	7.2	
6-Nov	0	2	A	1	1	1	1	0	0	1	1	0	0	0	1	0	1	0	0	0	0	0	1	0	0.4	1.6	
7-Nov	0	A	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.1	
8-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	0.3	0.4	
9-Nov	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	0	A	0	0.6	1.2	
10-Nov	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.1	0.5	
11-Nov	0	0	0	1	0	0	0	0	0	0	0	1	0	0	2	1	0	0	1	0	A	0	0	0	0.3	1.6	
12-Nov	0	1	0	0	0	0	1	1	0	0	0	0	1	1	0	1	1	0	0	A	0	0	0	0	0.3	0.6	
13-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	A	0	0	0	0	0	0.3	0.8	
14-Nov	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	A	0	0	0	0	1	1	0.5	0.9	
15-Nov	0	0	1	1	1	1	1	0	0	1	1	1	1	1	1	1	A	1	1	1	1	1	2	2	0.8	2.0	
16-Nov	2	0	0	0	0	0	1	1	1	1	1	C	C	C	1	A	1	1	1	1	1	1	1	1	0.8	1.6	
17-Nov	2	1	1	1	1	0	0	0	1	0	0	0	1	1	A	1	1	1	1	2	2	2	2	2	1.1	2.1	
18-Nov	1	1	1	0	1	0	1	2	1	1	2	1	1	A	1	0	0	0	0	0	0	1	0	1	0.7	1.9	
19-Nov	0	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	2	1	1	1	1	0.8	1.5	
20-Nov	1	1	1	1	1	1	2	2	1	1	1	A	1	1	1	1	1	1	1	1	2	1	1	1	0.9	2.1	
21-Nov	1	1	1	1	1	0	1	1	1	1	A	1	1	1	1	2	2	2	5	4	6	11	13	12	3.0	12.7	
22-Nov	4	4	4	2	1	1	1	1	1	A	1	1	2	4	5	4	4	3	1	1	1	1	1	2	2.3	4.8	
23-Nov	3	4	2	1	1	1	1	1	A	1	1	1	1	2	4	3	2	2	4	3	3	2	2	2	1.9	4.2	
24-Nov	1	1	1	1	1	1	1	A	1	2	2	2	1	1	1	3	1	1	1	4	1	1	1	1	1.0	4.1	
25-Nov	1	1	1	1	1	1	A	1	1	1	0	0	0	0	1	1	1	0	0	1	0	0	0	0	0.5	1.2	
26-Nov	1	1	1	1	1	A	1	1	1	1	0	1	1	1	1	2	1	2	1	1	1	1	1	1	1.0	1.9	
27-Nov	1	2	1	0	A	0	0	0	0	0	0	0	0	0	0	1	2	2	1	1	1	1	1	1	0.7	2.1	
28-Nov	0	0	0	A	0	0	2	1	0	0	1	1	0	0	0	0	0	1	1	1	1	0	1	1	0.6	1.7	
29-Nov	0	0	A	0	0	0	0	0	1	2	2	2	1	1	1	1	1	1	1	1	1	0	0	0	0.8	1.7	
30-Nov	0	A	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	0	0	1	0	1	0	0	0.6	1.1	
0.7 0.9 0.7 0.5 0.5 0.4 0.7 1.0 0.7 0.7 0.7 0.7 0.6 0.7 0.8 1.0 0.8 0.8 0.9 1.0 0.9 1.0 1.1 1.1																									Diurnal Average		
3.7 4.2 3.7 2.2 1.4 1.3 1.8 7.2 1.3 1.7 1.9 2.0 1.8 4.3 4.8 4.3 4.2 2.7 4.5 4.2 6.2 10.7 12.7 11.7																									Diurnal Maximum		
C - Calibration A - Automated Daily Zero Span																											

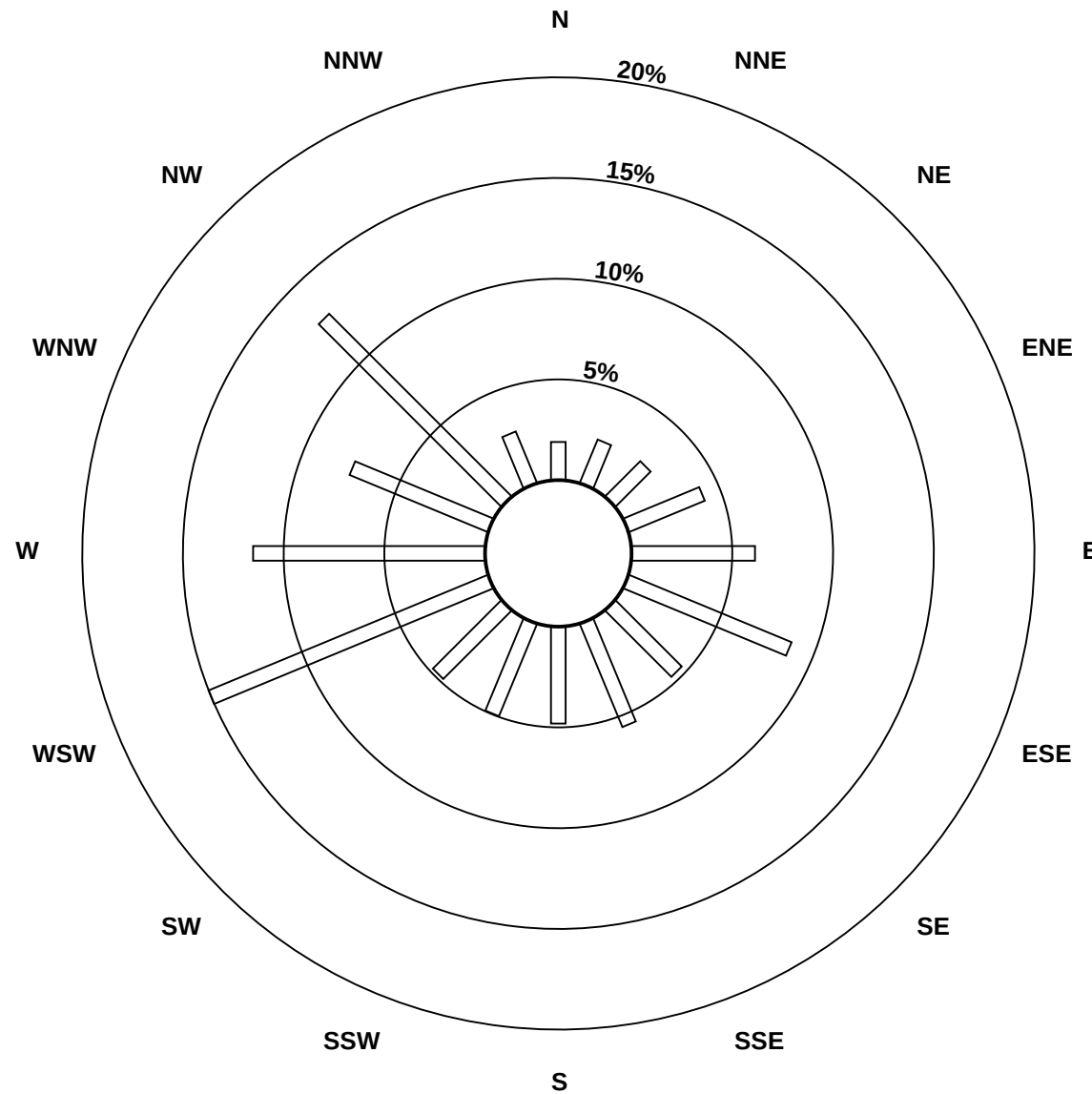
Hourly Maximums

Sulphur Dioxide (SO₂) - ppb
Henry Pirker - November 2011

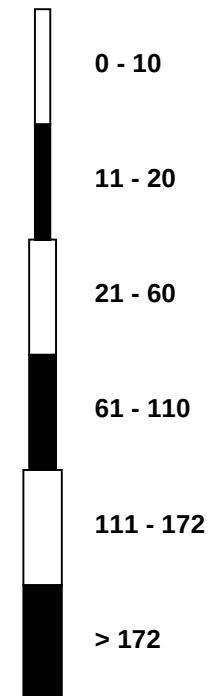


Pollutant Rose

Sulphur Dioxide (SO₂) - ppb
Henry Pirker - November 2011

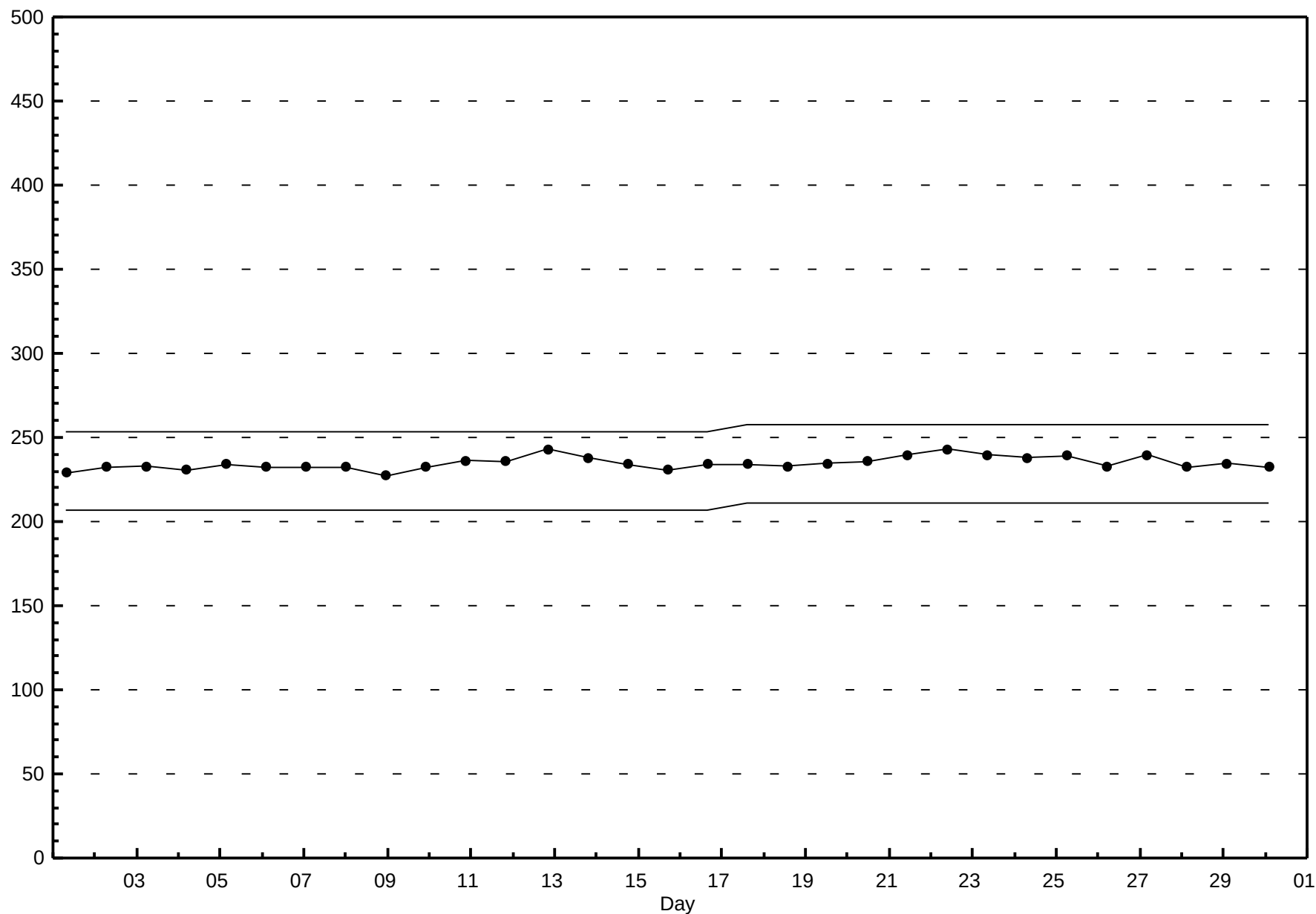


Pollutant Classes (ppb)



Span Responses

Sulphur Dioxide (SO₂)
Henry Pirker - November 2011

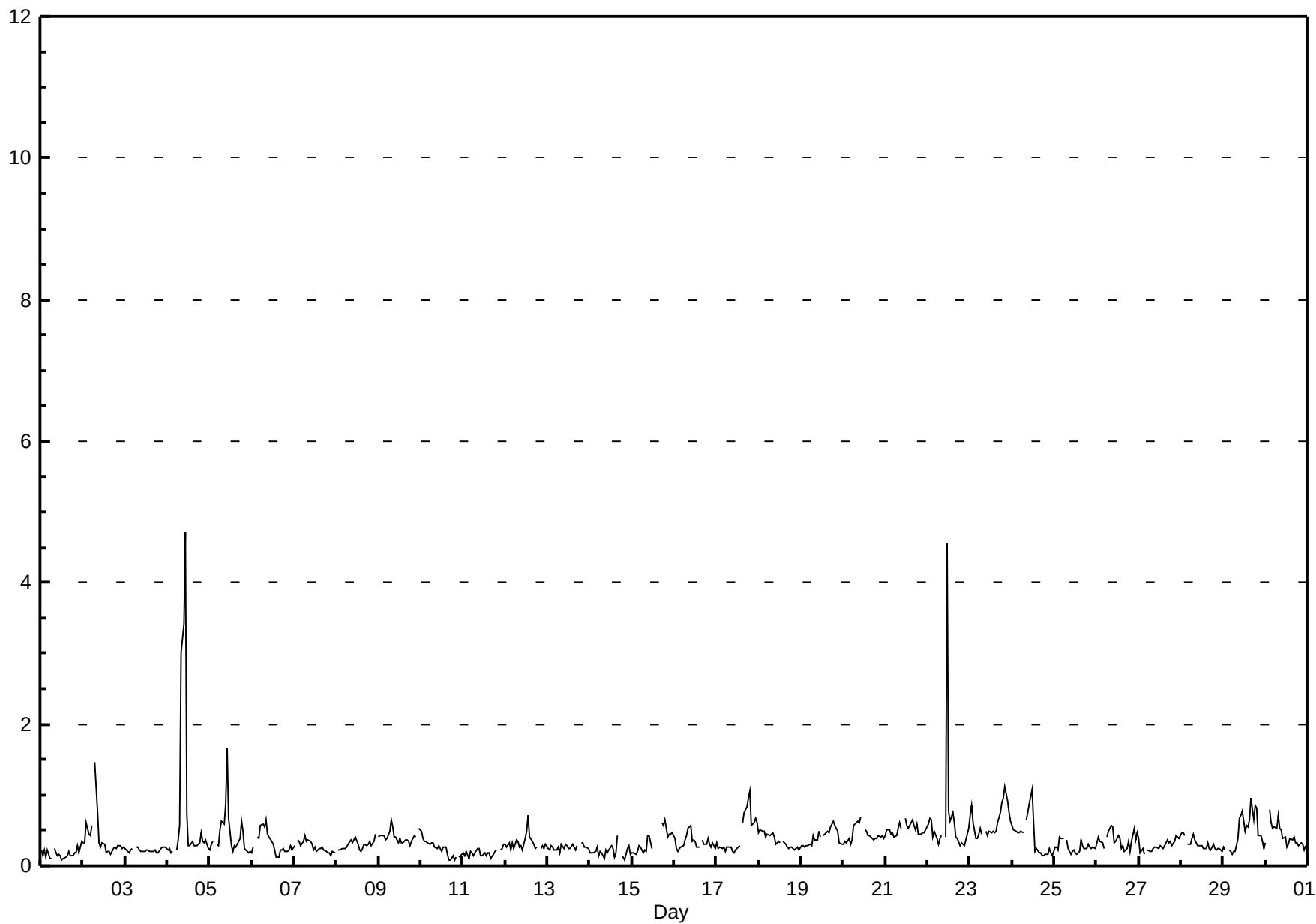


Hourly Averages

Total Reduced Sulphur (TRS) - ppb

Henry Pirker - November 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 4.7 ppb on Nov 4 11:00 Maximum Daily Average: 0.8 ppb on Nov 4																			Hours in Service: 720 Hours of Data: 685 Hours of Missing Data: 35 Hours of Calibration: 35 Percent Operational Time: 100.0							
Minimum Value: 0 ppb on Nov 10 18:00 Maximum Diurnal Average: 0.5 ppb at hour 11 Monthly Average: 0.37 ppb																			Minimum Daily Average: 0.2 ppb on Nov 1 Minimum Diurnal Average: 0.3 ppb at hour 15 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 = 1.0							
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	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3
2-Nov	0	0	1	0	0	1	A	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	1.5
3-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
4-Nov	0	0	0	0	A	0	0	1	3	3	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0.8	4.7
5-Nov	0	0	0	A	0	0	1	1	1	1	2	1	0	0	0	0	0	0	1	0	0	0	0	0	0.4	1.7
6-Nov	0	0	A	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.6
7-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	0.3	0.4
8-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	0.3	0.4
9-Nov	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.4	0.6
10-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	A	0	0	0.2	0.5
11-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	0.3
12-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	A	0	0	0	0	0.3	0.7
13-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	0.3
14-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
15-Nov	0	0	0	0	0	0	0	0	0	0	0	C	C	C	C	A	1	1	1	1	0	0	0	0	0.3	0.6
16-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	0.3	0.6
17-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	1	1	1	1	1	1	1	1	0.4	1.1
18-Nov	0	1	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	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	A	0	0	0	0	1	1	1	1	0	0	0	0.4	0.6
20-Nov	0	0	0	0	0	0	1	1	1	1	1	A	1	0	0	0	0	0	0	0	0	0	0	0	0.4	0.7
21-Nov	0	1	1	0	0	0	0	1	1	1	A	1	1	1	1	1	1	1	1	0	0	0	0	1	0.5	0.7
22-Nov	1	1	1	0	0	0	0	0	0	A	0	5	1	1	1	1	0	0	0	0	0	0	0	1	0.6	4.5
23-Nov	1	1	1	0	0	0	1	0	A	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	0.6	1.1
24-Nov	1	1	0	0	0	0	0	A	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0.4	1.1
25-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
26-Nov	0	0	0	0	0	A	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0.4	0.6
27-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
28-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	0.3	0.5
29-Nov	0	0	A	0	0	0	0	0	0	0	1	1	1	0	1	1	1	1	1	1	1	0	0	0	0.5	1.0
30-Nov	0	A	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.8
																								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 Maximums

Total Reduced Sulphur (TRS) - ppb

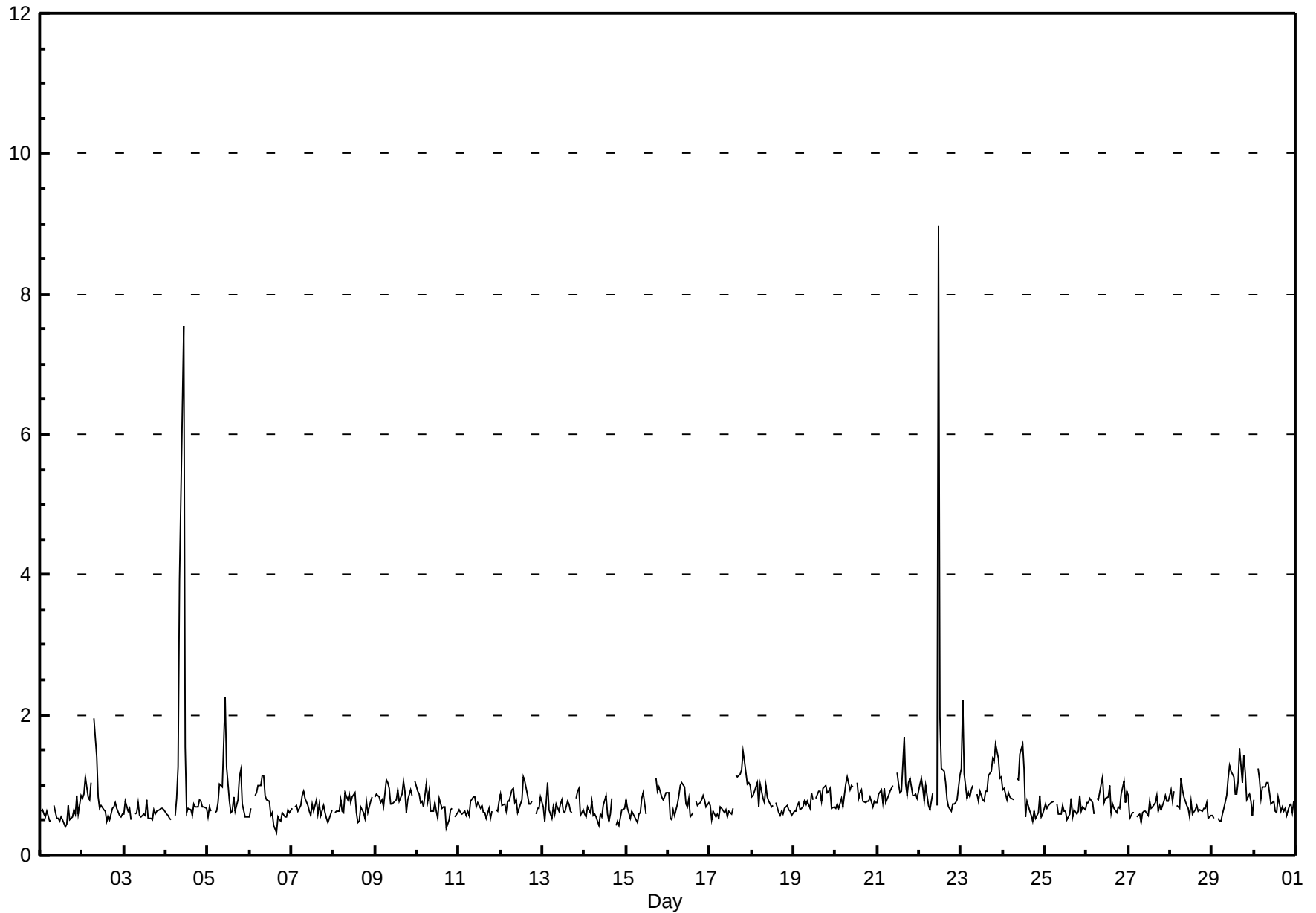
Henry Pirker - November 2011

Maximum Value: 9.0 ppb on Nov 22 12:00																			Maximum Daily Average: 1.4 ppb on Nov 4																			Hours in Service: 720	
Minimum Value: 0 ppb on Nov 6 16:00																			Minimum Daily Average: 0.6 ppb on Nov 1																			Hours of Data: 685	
Maximum Diurnal Average: 1.1 ppb at hour 12																			Minimum Diurnal Average: 0.7 ppb at hour 23																			Hours of Missing Data: 35	
Monthly Average: 0.80 ppb																			Percentiles: P ₁ = 0.4 P ₁₀ = 0.5 Q ₁ = 0.6 Median = 0.7 Q ₃ = 0.9 P ₉₀ = 1.0 P ₉₉ = 1.9																			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	1	1	1	1	0	0	A	1	1	1	0	1	1	0	0	1	1	1	1	1	1	1	1	0.6	0.9													
2-Nov	1	1	1	1	1	1	A	2	1	1	1	1	1	1	0	1	0	1	1	1	1	1	1	1	0.8	2.0													
3-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	0.6	0.8													
4-Nov	1	1	1	1	A	1	1	1	4	6	8	2	1	1	1	1	1	1	1	1	1	1	1	1	1.4	7.5													
5-Nov	1	1	1	A	1	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	2.3													
6-Nov	1	1	A	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	0	1	1	1	1	1	0.7	1.1													
7-Nov	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	0.7	0.9													
8-Nov	A	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	1	1	A	0.7	0.9													
9-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													
10-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	A	1	1	0.7	1.0													
11-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	0.7	0.8													
12-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	0.8	1.1													
13-Nov	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	0.7	1.0													
14-Nov	1	1	1	1	1	1	1	1	0	1	1	1	1	1	0	1	1	A	0	0	0	1	1	1	0.6	0.9													
15-Nov	1	1	1	1	1	1	0	1	1	1	1	C	C	C	C	A	1	1	1	1	1	1	1	1	0.7	1.1													
16-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	1.0													
17-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	1.5													
18-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	0.8	1.0													
19-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	0.8	1.0													
20-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	0.8	1.1													
21-Nov	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	2	1	1	1	1	1	1	1	1	1.0	1.7													
22-Nov	1	1	1	1	1	1	1	1	1	A	1	9	2	1	1	1	1	1	1	1	1	1	1	1	1.3	9.0													
23-Nov	1	2	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1.1	2.2													
24-Nov	1	1	1	1	1	1	1	A	1	1	1	2	1	1	1	1	1	0	1	1	1	1	1	1	0.8	1.6													
25-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	0.7	0.9													
26-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	0.8	1.1													
27-Nov	1	1	1	1	A	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	0.9													
28-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	0.7	1.1													
29-Nov	1	1	A	1	0	0	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	0.9	1.5													
30-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	0.8	1.2													
0.8 0.8 0.8 0.7 0.7 0.7 0.8 0.9 1.0 1.0 1.0 1.1 0.8 0.7 0.7 0.8 0.8 0.7 0.8 0.8 0.8 0.8 0.7 0.8																									Diurnal Average														
1.2 2.2 1.2 1.1 1.0 1.0 1.1 2.0 3.9 6.4 7.5 9.0 2.0 1.2 1.2 1.7 1.5 1.2 1.4 1.5 1.6 1.4 1.1 1.1																									Diurnal Maximum														
C - Calibration																									A - Automated Daily Zero Span														

Hourly Maximums

Total Reduced Sulphur (TRS) - ppb

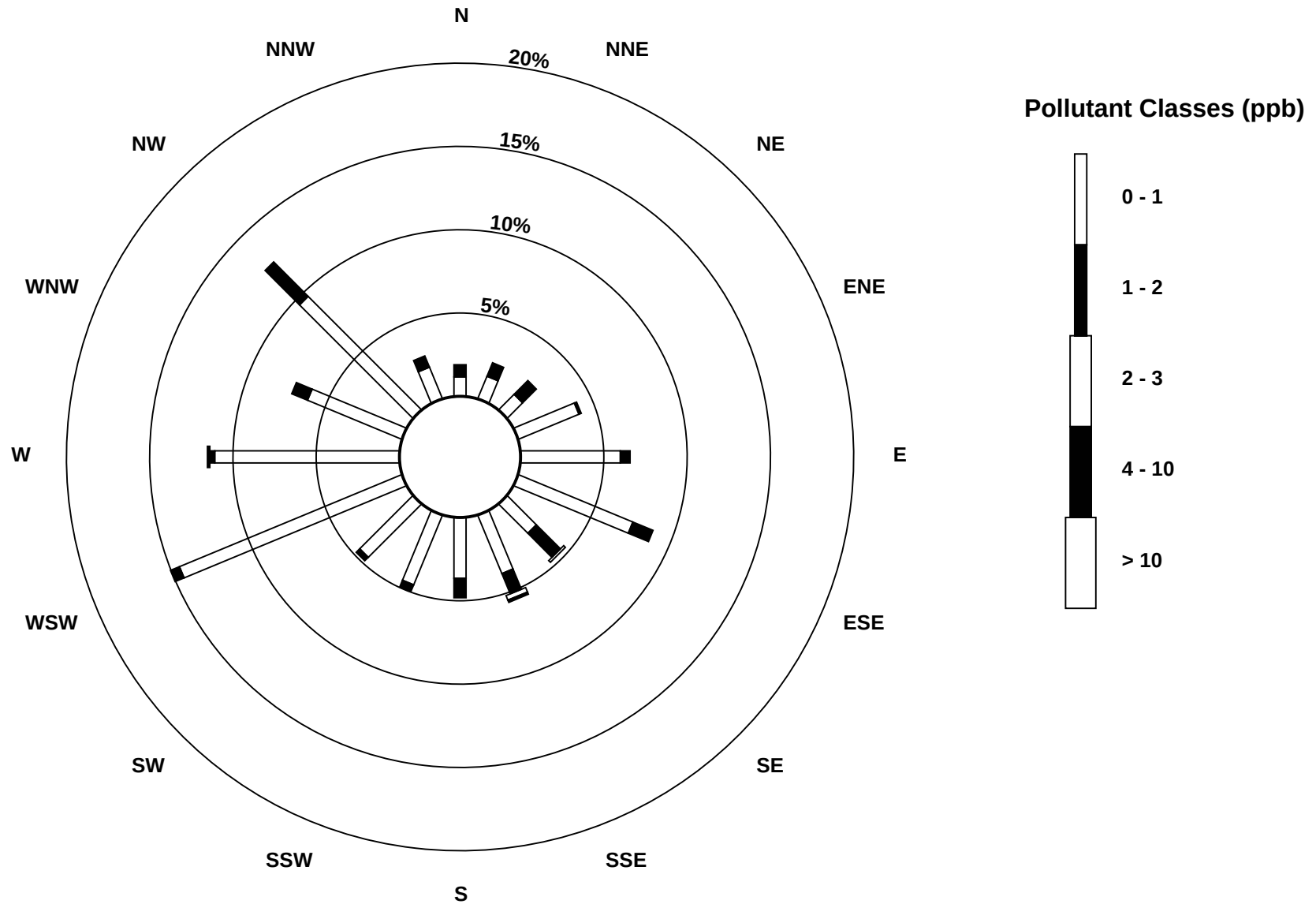
Henry Pirker - November 2011



Pollutant Rose

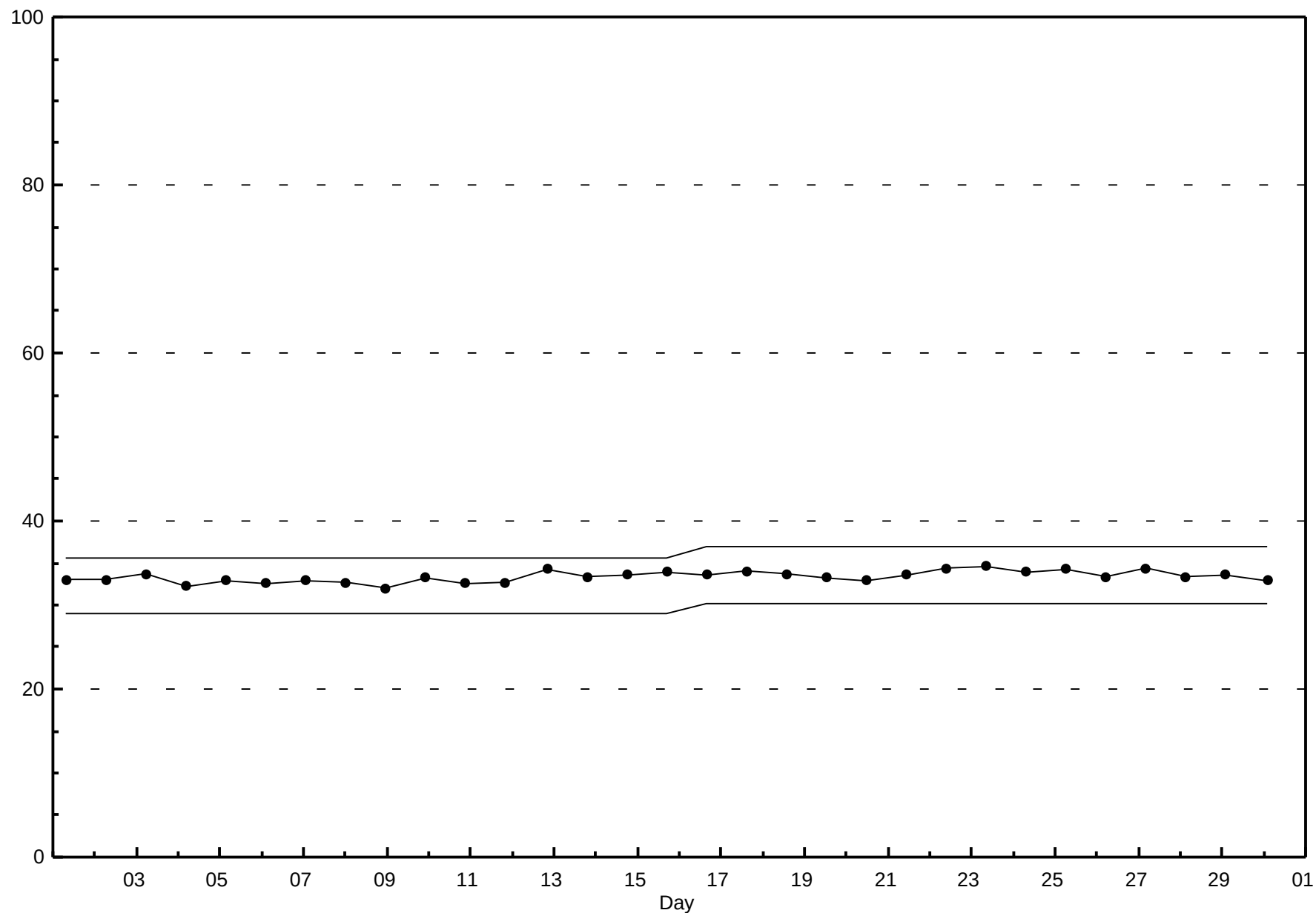
Total Reduced Sulphur (TRS) - ppb

Henry Pirker - November 2011



Span Responses

Total Reduced Sulphur (TRS)
Henry Pirker - November 2011



Hourly Averages

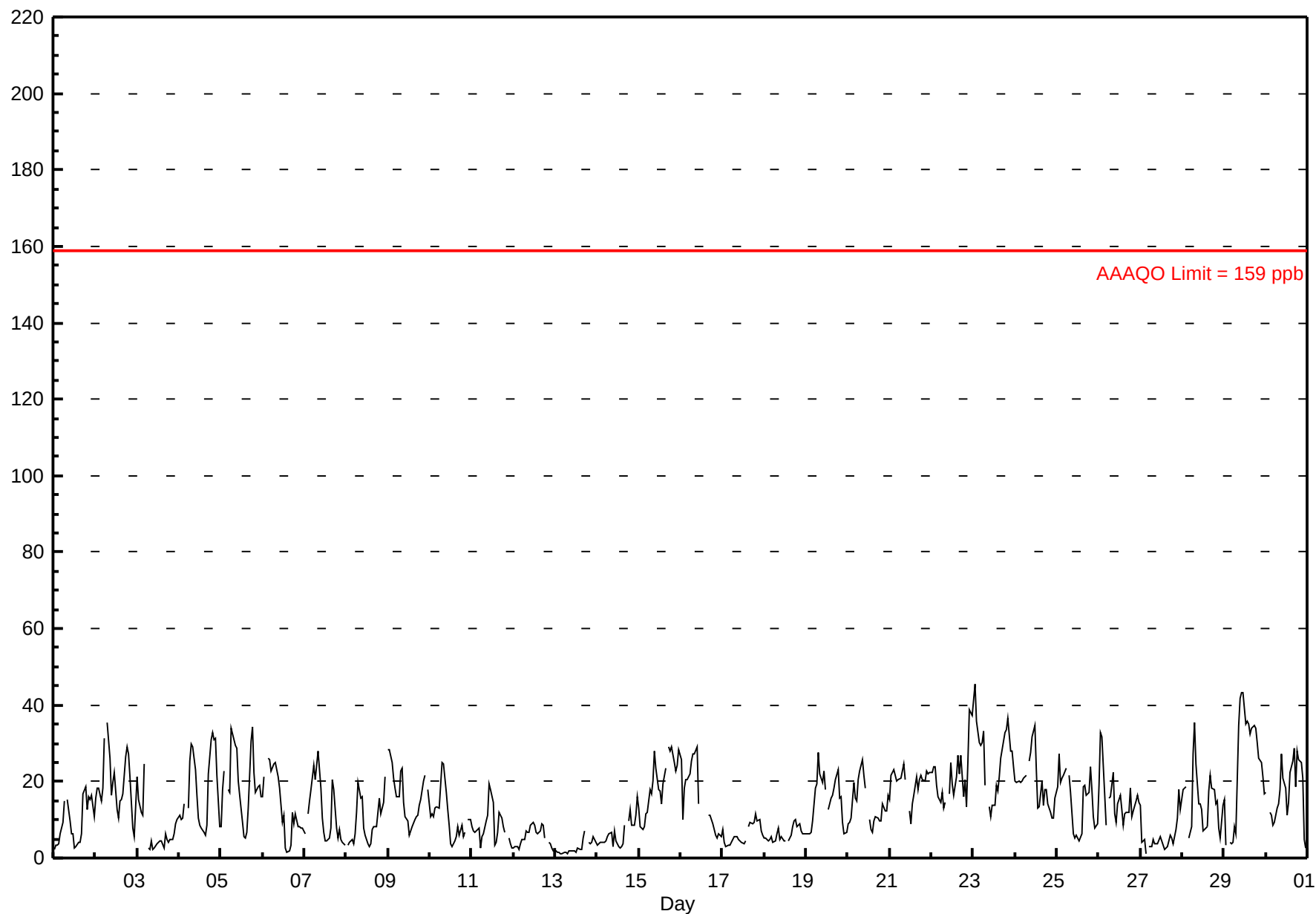
Nitrogen Dioxide (NO₂) - ppb

Henry Pirker - November 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 45.6 ppb on Nov 23 02:00 Maximum Daily Average: 26.7 ppb on Nov 23																								Hours in Service: 720 Hours of Data: 685 Hours of Missing Data: 35 Hours of Calibration: 35 Percent Operational Time: 100.0			
Minimum Value: 1 ppb on Nov 13 04:00 Maximum Diurnal Average: 18.6 ppb at hour 9 Monthly Average: 13.82 ppb																								Minimum Daily Average: 2.7 ppb on Nov 13 Minimum Diurnal Average: 8.8 ppb at hour 14 Percentiles: P ₁ = 1.4 P ₁₀ = 3.8 Q ₁ = 6.3 Median = 12.0 Q ₃ = 20.1 P ₉₀ = 26.6 P ₉₉ = 37.0			
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
1-Nov	2	3	3	4	6	9	15	A	15	10	6	6	2	3	4	4	6	17	19	13	16	15	16	11	9.0	18.5	
2-Nov	16	18	18	15	18	31	A	35	26	16	20	22	13	11	15	15	17	27	29	27	21	8	6	13	19.1	35.5	
3-Nov	21	15	12	11	25	A	2	2	4	2	2	4	4	5	4	3	6	5	4	5	5	7	9	10	7.3	24.8	
4-Nov	11	10	10	14	A	13	25	30	29	23	16	11	9	8	7	6	9	22	31	33	31	31	22	8	17.8	32.8	
5-Nov	8	18	23	A	18	17	34	32	29	29	20	16	9	6	5	7	13	31	34	22	17	19	19	16	19.2	34.2	
6-Nov	16	21	A	26	26	23	25	25	23	21	18	9	11	2	1	2	3	12	9	12	8	8	8	8	13.9	26.3	
7-Nov	6	A	12	15	18	24	20	24	28	18	10	7	5	4	5	8	20	18	8	5	7	5	4	4	12.0	28.0	
8-Nov	A	3	4	5	4	6	12	20	16	16	8	6	4	3	4	7	8	8	12	16	12	15	21	A	9.5	21.4	
9-Nov	28	28	25	21	18	16	16	23	24	15	11	10	6	7	8	10	11	11	14	15	20	21	A	18	16.3	28.4	
10-Nov	11	11	11	13	13	13	19	25	25	17	13	8	4	3	4	6	8	6	9	6	7	A	10	10	10.9	24.8	
11-Nov	8	7	7	7	8	3	6	6	10	11	19	18	15	3	4	7	12	11	8	7	A	5	4	2	8.1	19.3	
12-Nov	2	3	3	2	4	5	5	7	7	7	8	9	9	7	6	7	9	9	5	A	4	4	3	2	5.5	9.4	
13-Nov	2	1	1	1	1	1	1	1	2	2	2	2	2	3	2	2	5	7	A	4	4	4	6	4	2.7	7.0	
14-Nov	3	4	4	4	4	4	6	7	7	3	7	5	3	3	3	4	9	A	10	13	9	8	11	16	6.3	16.1	
15-Nov	13	8	7	8	12	12	18	17	20	28	24	18	17	14	19	23	A	29	28	29	25	23	24	28	19.4	29.2	
16-Nov	26	10	18	21	20	22	25	27	27	29	14	C	C	C	C	C	11	11	9	7	6	5	6	6	15.9	29.2	
17-Nov	7	4	3	3	3	4	5	6	6	5	4	4	4	4	A	8	9	9	9	11	10	10	7	6	6.2	11.4	
18-Nov	5	5	4	5	6	4	4	6	8	5	6	4	5	A	5	6	8	10	10	8	9	7	6	6	6.2	10.0	
19-Nov	6	6	6	7	10	18	20	28	22	20	23	18	A	A	13	16	16	18	21	23	16	16	9	6	7	15.0	27.8
20-Nov	9	9	10	20	16	15	20	23	26	22	18	A	10	7	7	10	11	10	10	10	14	12	12	16	13.8	25.7	
21-Nov	15	22	23	22	20	20	21	23	25	20	A	12	9	14	17	21	18	20	22	21	20	23	22	22	19.7	24.6	
22-Nov	22	24	24	19	16	15	17	13	15	A	17	25	20	17	21	27	22	27	16	21	13	25	39	37	21.3	38.7	
23-Nov	41	46	36	30	30	30	33	19	A	13	11	14	14	19	18	21	26	30	33	34	37	28	28	24	26.7	45.6	
24-Nov	20	20	20	20	20	21	22	A	25	27	32	35	23	13	14	20	14	18	18	14	12	10	11	16	19.3	34.8	
25-Nov	19	27	20	21	22	24	A	21	17	7	5	6	5	5	6	19	19	16	17	24	18	11	8	9	15.0	27.4	
26-Nov	19	33	32	16	8	A	16	16	22	12	9	14	16	13	9	12	12	12	18	11	12	15	16	15	15.6	32.9	
27-Nov	14	4	5	1	A	3	3	5	4	4	4	6	5	3	2	3	5	6	5	4	8	10	18	13	5.7	18.0	
28-Nov	18	18	19	A	5	8	27	35	25	14	14	13	7	8	8	18	22	18	18	14	15	8	5	14	15.3	35.4	
29-Nov	15	3	A	4	4	4	8	6	35	42	43	43	35	36	35	32	34	34	34	30	26	25	21	17	24.7	43.4	
30-Nov	17	A	12	11	9	9	13	14	18	27	21	18	11	15	22	25	29	19	28	26	25	21	5	3	17.3	28.8	
13.9 13.7 13.3 12.4 13.0 13.4 15.7 17.7 18.6 16.0 14.1 13.0 9.8 8.8 9.7 12.0 13.6 16.3 16.9 15.7 14.7 13.6 12.9 12.4																								Diurnal Average			
41.2 45.6 36.0 30.3 29.6 31.3 34.0 35.5 34.6 41.8 43.4 43.4 34.9 35.8 35.1 32.4 34.1 34.5 34.2 33.5 36.6 31.2 38.7 37.4																								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 2011



Hourly Maximums

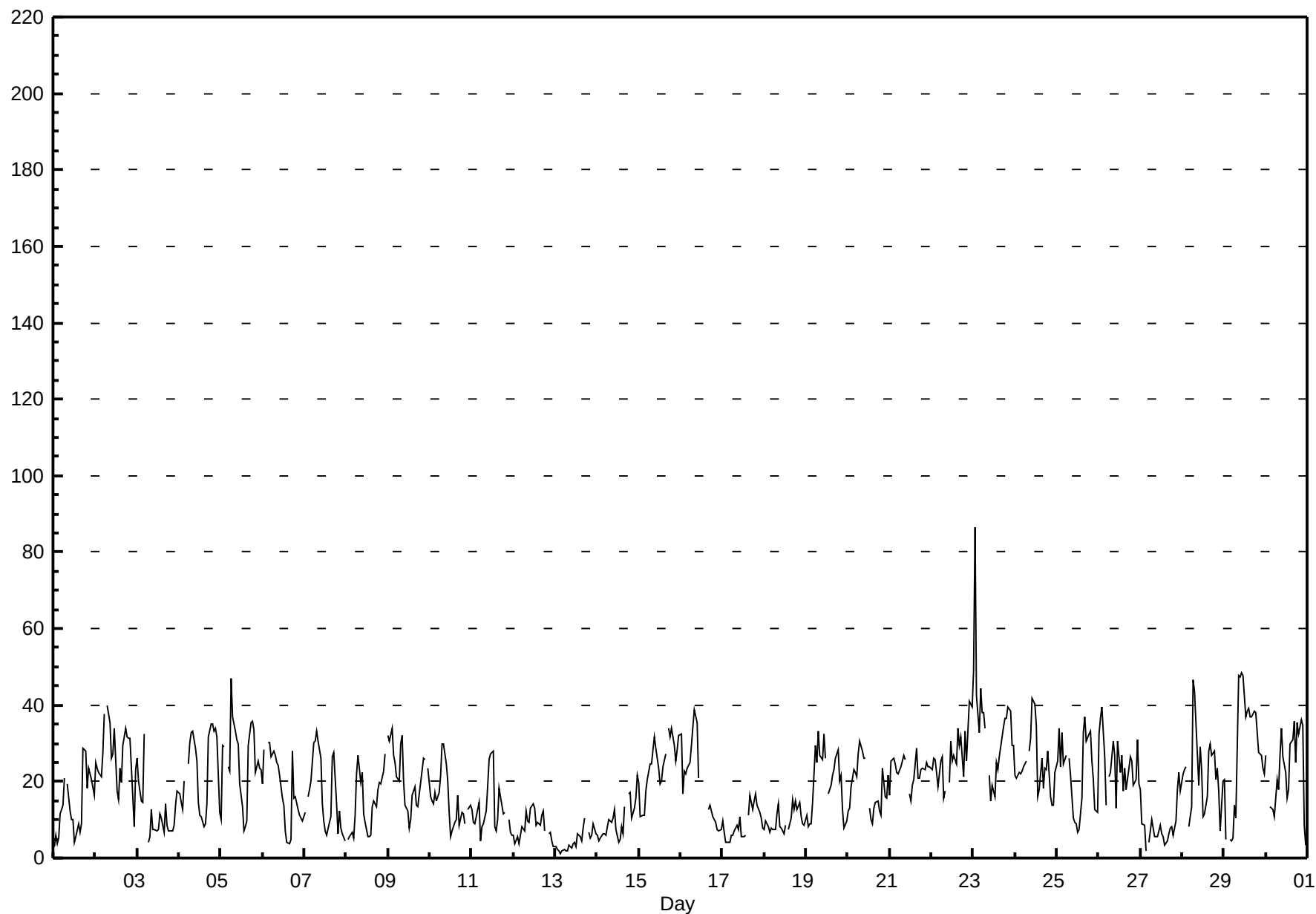
Nitrogen Dioxide (NO₂) - ppb

Henry Pirker - November 2011

Maximum Value: 86.5 ppb on Nov 23 02:00																								Maximum Daily Average: 34.1 ppb on Nov 23										Hours in Service: 720	
Minimum Value: 1 ppb on Nov 13 04:00																								Minimum Daily Average: 4.4 ppb on Nov 13										Hours of Data: 685	
Maximum Diurnal Average: 23.8 ppb at hour 9																								Minimum Diurnal Average: 12.9 ppb at hour 14										Hours of Missing Data: 35	
Monthly Average: 18.62 ppb																								Percentiles: P ₁ = 2.0 P ₁₀ = 6.0 Q ₁ = 9.3 Median = 17.5 Q ₃ = 26.1 P ₉₀ = 32.9 P ₉₉ = 46.8										Hours of Calibration: 35	
																								Percent Operational Time: 100.0											
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum									
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24											
1-Nov	3	6	4	5	12	14	21	A	19	12	10	10	4	6	9	7	9	29	28	18	24	22	21	17	13.4	28.7									
2-Nov	25	24	22	21	28	38	A	40	36	26	27	34	18	15	24	20	29	34	32	31	31	16	8	23	26.1	39.9									
3-Nov	26	20	15	15	32	A	4	6	13	8	8	7	8	11	11	7	14	8	7	7	7	8	14	18	11.9	32.5									
4-Nov	17	15	13	20	A	25	30	33	33	29	25	15	11	11	8	9	14	32	35	35	33	34	32	12	22.6	35.2									
5-Nov	10	29	29	A	24	23	47	37	33	31	30	20	14	7	8	10	29	35	36	34	23	26	24	23	25.2	46.9									
6-Nov	19	28	A	30	30	26	28	27	25	24	22	16	14	7	4	4	5	28	16	16	13	11	11	10	17.9	30.2									
7-Nov	12	A	16	18	20	30	30	33	30	26	14	10	7	6	9	11	27	28	14	6	12	8	6	5	16.5	33.3									
8-Nov	A	5	6	7	5	11	22	27	20	22	12	9	6	5	6	13	15	13	18	20	19	23	27	A	14.1	27.1									
9-Nov	32	31	34	27	25	21	20	30	32	20	14	12	8	10	16	19	14	14	17	20	26	26	A	23	21.3	34.0									
10-Nov	16	15	14	17	15	17	22	30	30	24	20	12	6	7	9	10	16	9	12	12	9	A	13	14	15.1	30.0									
11-Nov	13	9	9	13	15	5	8	9	12	19	26	27	28	8	7	10	18	14	12	12	A	10	7	6	12.8	27.8									
12-Nov	6	4	6	4	6	8	7	12	10	9	13	14	13	9	9	9	11	12	7	A	6	7	5	3	8.2	14.1									
13-Nov	3	2	2	1	2	2	2	2	3	3	4	4	3	6	5	4	8	10	A	7	5	6	9	7	4.4	10.3									
14-Nov	6	4	5	6	6	6	8	10	9	11	13	7	4	5	8	6	13	A	17	17	10	13	16	22	9.7	21.6									
15-Nov	20	11	11	11	18	20	25	25	28	32	29	23	19	20	24	27	A	34	32	34	29	25	28	32	24.2	34.0									
16-Nov	32	17	23	22	23	25	30	34	39	35	21	C	C	C	C	C	13	14	11	10	9	8	7	7	20.0	38.7									
17-Nov	10	7	4	4	4	6	6	7	9	7	11	6	6	6	A	11	16	13	15	17	14	12	10	8	9.0	16.8									
18-Nov	8	10	8	7	8	7	7	11	14	8	8	6	9	A	8	11	15	13	15	13	14	11	9	9	9.9	15.2									
19-Nov	11	8	9	9	15	29	25	33	27	26	32	26	A	17	19	22	23	26	28	20	22	13	8	10	19.9	33.1									
20-Nov	12	13	19	23	23	21	27	31	28	26	26	A	13	10	9	13	14	15	12	11	23	16	15	21	18.4	30.5									
21-Nov	16	25	26	25	22	22	24	25	27	26	A	17	15	19	20	29	21	21	23	23	23	25	24	24	22.7	28.9									
22-Nov	23	26	26	22	19	25	26	16	17	A	20	31	25	27	25	34	30	32	21	33	25	33	41	40	26.8	41.0									
23-Nov	49	86	42	33	44	38	38	34	A	22	15	19	16	25	23	26	29	34	37	36	40	39	29	30	34.1	86.5									
24-Nov	22	21	22	22	23	24	26	A	28	31	42	40	35	16	18	26	18	23	23	28	16	14	14	22	24.1	41.9									
25-Nov	25	34	24	33	25	27	A	26	22	10	9	9	7	7	16	33	37	30	32	33	25	21	12	12	22.2	36.8									
26-Nov	33	37	39	27	14	A	21	22	30	27	13	31	23	27	18	24	18	23	26	26	19	21	31	19	24.6	39.3									
27-Nov	18	9	9	2	A	4	10	8	5	5	5	8	6	5	4	4	6	8	8	6	10	18	22	18	8.7	22.3									
28-Nov	22	23	24	A	8	14	47	44	36	19	29	23	11	12	16	28	30	27	28	20	24	18	7	20	22.9	46.7									
29-Nov	20	5	A	5	5	5	14	11	48	47	48	48	37	39	39	37	37	38	38	33	28	27	24	22	28.4	48.4									
30-Nov	27	A	13	13	13	11	21	18	27	34	27	22	16	18	30	31	36	25	36	33	36	35	9	4	23.1	36.0									
18.5 18.7 16.9 15.7 17.2 18.1 21.3 22.9 23.8 21.4 19.7 18.1 13.5 12.9 14.3 17.0 19.6 22.2 21.9 21.1 19.8 18.7 16.6 16.5																								Diurnal Average											
49.1 86.5 42.4 32.9 44.2 38.1 46.9 43.7 47.7 47.2 48.4 47.8 37.0 38.5 39.3 36.9 37.0 38.4 38.0 36.5 39.7 38.5 41.0 39.6																								Diurnal Maximum											
C - Calibration A - Automated Daily Zero Span																																			

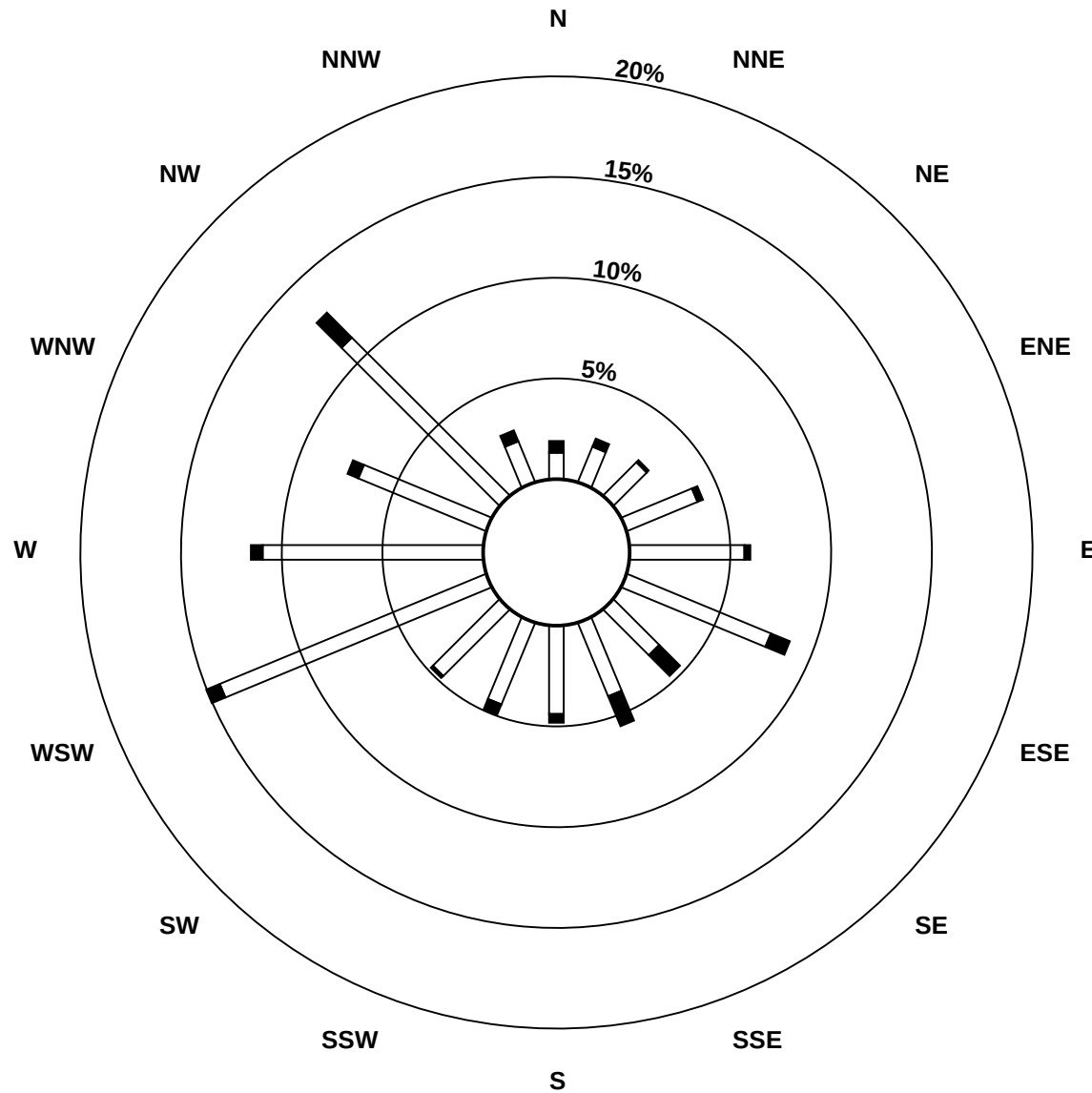
Hourly Maximums

Nitrogen Dioxide (NO₂) - ppb
Henry Pirker - November 2011

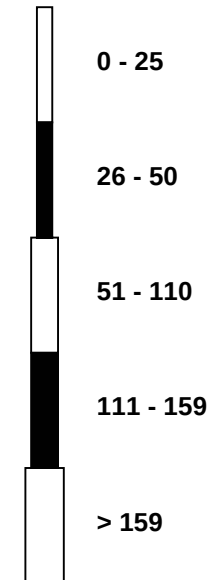


Pollutant Rose

Nitrogen Dioxide (NO₂) - ppb
Henry Pirker - November 2011

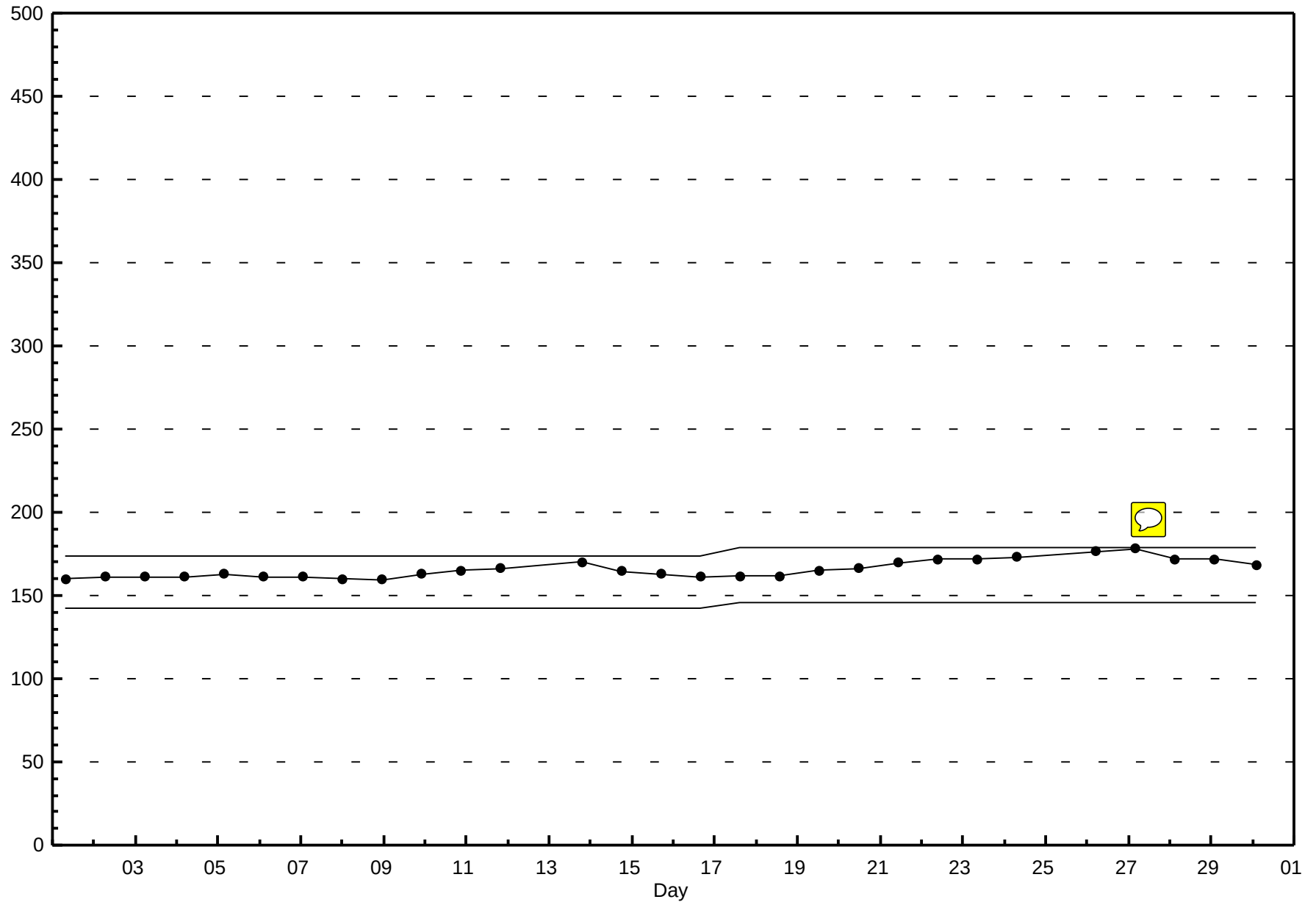


Pollutant Classes (ppb)



Span Responses

Nitrogen Dioxide (NO₂)
Henry Pirker - November 2011



Hourly Averages

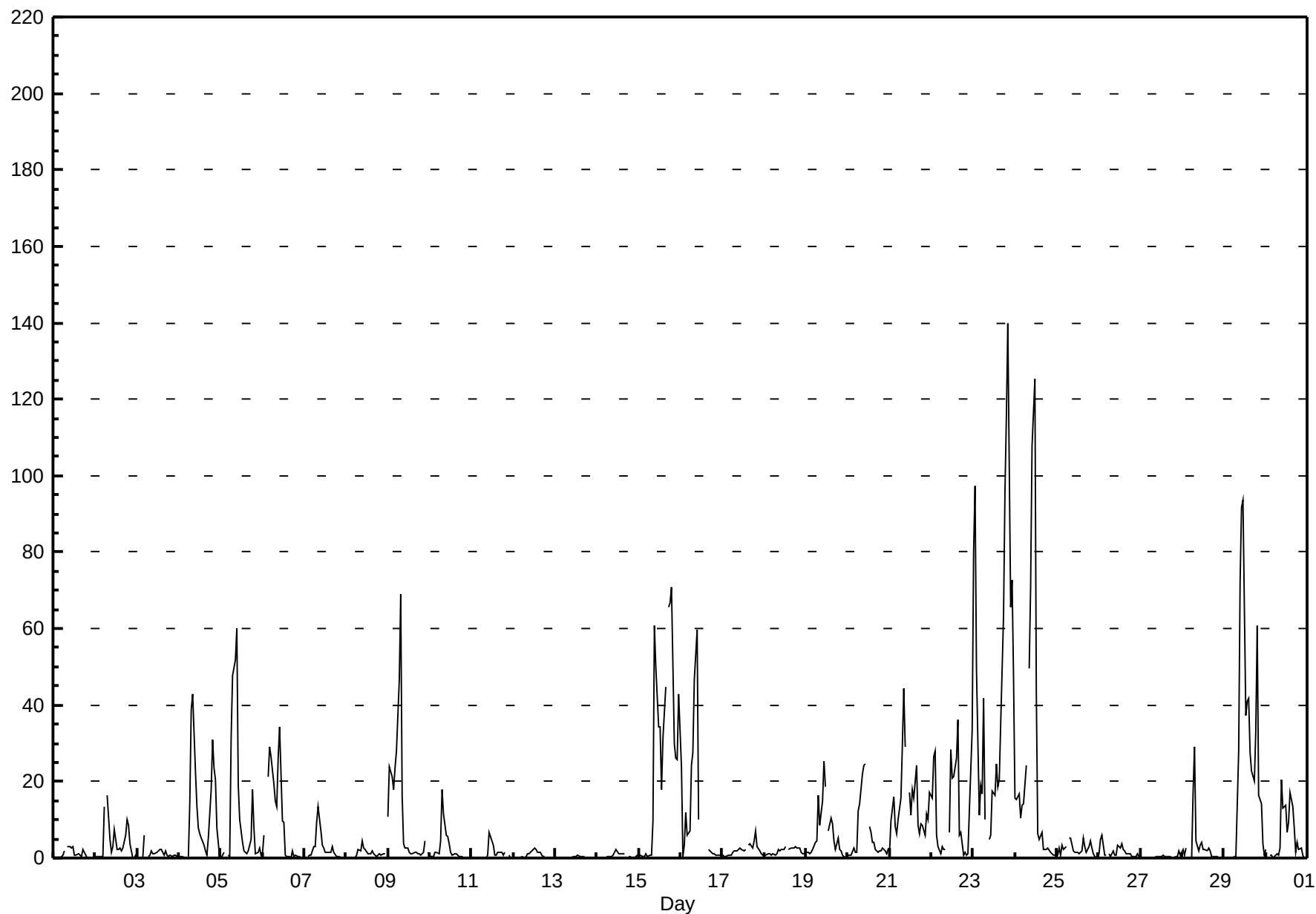
Nitrogen Oxide (NO) - ppb

Henry Pirker - November 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 139.8 ppb on Nov 23 21:00 Maximum Daily Average: 46.5 ppb on Nov 23																				Hours in Service: 720 Hours of Data: 685 Hours of Missing Data: 35 Hours of Calibration: 35 Percent Operational Time: 100.0						
Minimum Value: 0 ppb on Nov 1 03:00 Maximum Diurnal Average: 17.3 ppb at hour 10 Monthly Average: 8.36 ppb										Minimum Daily Average: 0.2 ppb on Nov 13 Minimum Diurnal Average: 3.6 ppb at hour 4 Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.5 Median = 1.6 Q ₃ = 6.9 P ₉₀ = 24.5 P ₉₉ = 92.9																
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Nov	0	0	0	0	0	1	2	A	3	3	3	3	1	1	1	1	1	2	1	0	0	0	0	0	0.9	3.0
2-Nov	0	0	0	0	0	14	A	16	5	2	3	8	2	2	3	2	2	6	10	9	4	0	0	1	3.9	16.3
3-Nov	0	0	0	0	6	A	1	1	2	1	1	2	2	2	2	1	2	1	0	1	0	1	1	1	1.1	5.8
4-Nov	1	0	0	0	A	1	14	39	43	22	14	8	6	5	3	2	1	5	18	31	24	20	8	0	11.5	42.9
5-Nov	0	1	1	A	1	0	31	48	52	60	19	10	4	2	1	1	2	5	18	8	1	2	3	1	11.7	59.9
6-Nov	1	6	A	21	29	26	19	15	14	26	34	10	9	1	0	0	0	2	1	1	0	0	0	0	9.4	34.5
7-Nov	0	A	0	1	1	3	3	9	14	7	3	3	2	2	1	1	3	2	0	0	0	0	0	0	2.4	13.6
8-Nov	A	0	0	0	0	0	1	2	2	4	3	2	1	1	1	2	1	0	1	1	1	1	1	A	1.2	4.5
9-Nov	11	24	21	18	24	28	47	69	16	4	3	2	1	1	1	1	1	1	1	1	1	5	A	1	12.3	68.8
10-Nov	0	0	0	2	1	1	5	18	12	6	6	4	1	1	1	1	1	0	0	0	0	A	0	0	2.6	17.7
11-Nov	0	0	0	0	0	0	0	0	0	1	7	6	3	1	1	1	2	1	1	1	A	1	0	0	1.1	6.6
12-Nov	0	0	0	0	0	0	0	0	1	1	1	2	3	2	1	2	1	0	0	A	0	0	0	0	0.7	2.6
13-Nov	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	A	0	0	0	0	0	0.2	0.8
14-Nov	0	0	0	0	0	0	0	0	0	1	2	2	1	1	1	1	1	A	0	0	0	0	0	1	0.6	2.1
15-Nov	1	1	0	1	1	0	1	1	10	61	50	34	34	18	31	45	A	66	67	71	30	26	26	43	26.8	70.9
16-Nov	24	0	3	12	6	7	24	27	47	60	10	C	C	C	C	C	2	2	1	1	1	1	1	1	12.1	59.7
17-Nov	1	0	1	1	1	1	1	2	2	2	2	2	2	2	A	3	4	3	5	7	3	2	1	1	2.1	7.2
18-Nov	1	1	1	1	1	1	1	1	2	2	2	2	3	A	2	3	2	2	3	2	3	1	1	1	1.8	2.9
19-Nov	2	1	1	1	2	4	4	16	9	15	25	19	A	7	11	9	5	2	5	2	2	1	0	0	6.3	25.4
20-Nov	1	1	1	3	2	1	12	14	22	24	25	A	8	7	4	4	2	2	2	2	3	2	1	2	6.3	24.5
21-Nov	1	10	16	8	6	10	16	30	44	29	A	17	11	18	16	24	9	6	9	9	6	12	10	17	14.5	44.3
22-Nov	16	26	28	6	3	1	3	2	2	A	7	28	21	21	26	36	6	7	1	1	1	1	12	33	12.6	36.3
23-Nov	80	97	50	11	19	17	42	10	A	5	6	17	16	24	19	21	35	63	96	116	140	65	73	48	46.5	139.8
24-Nov	16	15	17	10	14	14	24	A	50	71	108	125	43	7	5	7	2	2	2	3	1	1	1	1	23.4	125.5
25-Nov	1	3	1	3	2	3	A	5	5	2	2	2	2	1	2	5	3	2	3	4	3	1	0	0	2.3	5.2
26-Nov	1	5	6	1	1	A	1	0	2	1	1	3	2	4	2	2	1	1	1	0	0	0	1	0	1.6	5.9
27-Nov	0	0	0	0	A	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	2	1	0.4	2.0
28-Nov	2	1	3	A	0	0	0	17	29	4	2	3	4	2	2	3	2	0	0	0	0	0	0	0	3.4	29.1
29-Nov	0	0	A	0	0	0	0	0	28	72	92	94	37	41	42	28	23	20	33	61	16	14	4	1	26.4	93.7
30-Nov	2	A	1	1	0	0	1	1	3	21	13	14	7	9	17	14	8	1	4	2	3	1	0	0	5.3	20.6
5.6 6.9 5.4 3.6 4.3 4.8 9.7 12.7 13.5 17.3 15.3 15.1 8.2 6.6 7.1 7.6 4.2 7.1 9.8 11.6 8.4 5.5 5.0 5.3																									Diurnal Average	
80.3 97.3 49.7 21.2 29.0 27.8 46.7 68.8 51.7 72.3 107.6 125.5 43.1 40.9 41.7 44.6 35.0 65.6 95.8 115.8 139.8 65.5 72.8 47.8																									Diurnal Maximum	
C - Calibration A - Automated Daily Zero Span																										

Hourly Averages

Nitrogen Oxide (NO) - ppb
Henry Pirker - November 2011



Hourly Maximums

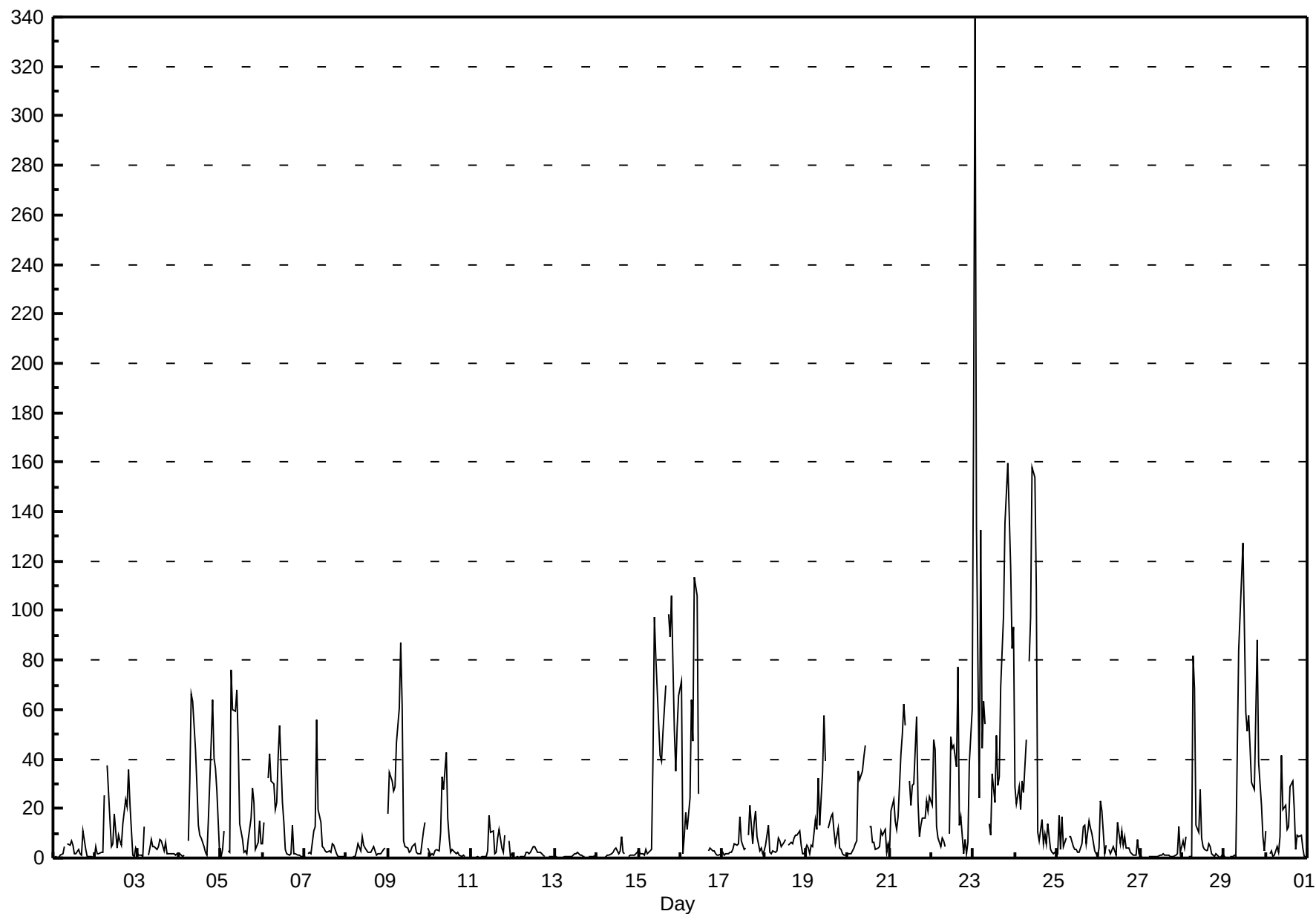
Nitrogen Oxide (NO) - ppb

Henry Pirker - November 2011

Maximum Value: 339.7 ppb on Nov 23 02:00																				Maximum Daily Average: 89.9 ppb on Nov 23										Hours in Service: 720	
Minimum Value: 0 ppb on Nov 1 04:00																				Minimum Daily Average: 0.7 ppb on Nov 13										Hours of Data: 685	
Maximum Diurnal Average: 29.8 ppb at hour 10																				Minimum Diurnal Average: 7.0 ppb at hour 4										Hours of Missing Data: 35	
Monthly Average: 16.13 ppb																				Percentiles: P ₁ = 0.0 P ₁₀ = 0.5 Q ₁ = 1.5 Median = 4.4 Q ₃ = 16.6 P ₉₀ = 47.1 P ₉₉ = 131.3										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	0	1	0	0	1	1	4	A	6	5	7	5	2	2	4	1	1	11	4	0	0	0	0	0	2.5	10.9					
2-Nov	4	2	1	3	3	26	A	37	15	5	6	18	4	9	7	5	14	24	20	36	22	1	0	4	11.6	37.3					
3-Nov	2	1	1	0	12	A	1	4	7	5	5	3	4	8	7	3	6	2	1	1	1	2	1	2	3.6	12.5					
4-Nov	1	1	1	1	A	7	31	66	64	44	29	13	9	8	5	3	1	15	47	64	40	37	27	0	22.4	66.1					
5-Nov	0	3	11	A	3	3	76	60	59	68	46	14	8	2	3	1	8	16	28	22	4	6	15	6	20.1	76.1					
6-Nov	6	14	A	32	42	31	30	20	22	41	54	23	14	3	2	1	2	13	1	2	1	1	0	1	15.5	53.8					
7-Nov	0	A	1	2	2	11	13	56	20	14	5	4	3	2	3	2	6	5	1	0	1	1	1	0	6.7	55.8					
8-Nov	A	0	0	0	0	0	3	6	3	9	5	4	2	2	2	4	5	1	1	2	1	4	4	A	2.7	8.5					
9-Nov	18	35	31	27	29	46	60	87	62	7	5	4	2	3	5	6	2	2	2	2	11	14	A	A	20.2	86.8					
10-Nov	1	1	1	3	4	3	11	33	27	42	16	8	2	3	2	2	3	1	0	1	0	A	0	0	7.2	42.5					
11-Nov	0	0	0	0	0	0	0	0	0	3	17	10	11	2	2	8	12	4	2	9	A	7	1	2	4.0	17.5					
12-Nov	0	0	0	0	1	1	0	2	2	2	2	5	4	3	3	2	1	1	1	A	0	0	0	0	1.5	4.7					
13-Nov	0	0	0	0	0	0	0	0	0	0	1	1	1	2	1	1	0	0	A	0	0	0	0	1	0.7	2.4					
14-Nov	0	0	0	0	0	0	1	1	1	2	4	4	2	3	9	3	2	A	0	1	1	1	1	3	1.7	8.5					
15-Nov	4	2	2	1	4	2	3	4	40	97	81	54	41	39	51	70	A	99	89	106	52	35	53	66	43.2	105.8					
16-Nov	72	2	9	19	11	24	64	47	114	106	26	C	C	C	C	C	3	4	3	3	2	1	1	2	26.9	113.5					
17-Nov	2	1	2	2	2	2	3	6	5	6	17	7	4	4	A	9	21	6	15	19	9	3	4	2	6.5	21.4					
18-Nov	3	5	13	2	2	3	2	3	8	7	4	6	8	A	5	7	6	8	9	9	11	5	2	2	5.7	13.4					
19-Nov	5	4	2	5	4	16	12	32	13	34	58	39	A	12	16	18	11	6	12	4	4	2	1	1	13.5	57.6					
20-Nov	2	2	2	4	6	7	35	32	35	41	46	A	13	13	6	7	4	4	4	11	9	11	2	6	13.1	45.5					
21-Nov	3	19	24	15	12	17	42	50	62	54	A	31	21	29	30	57	23	9	13	16	16	23	19	25	26.5	62.2					
22-Nov	21	48	44	13	8	4	8	7	5	A	10	49	44	46	37	77	13	17	2	7	2	6	39	60	24.6	77.4					
23-Nov	179	340	134	24	132	45	63	54	A	14	9	34	23	50	29	33	69	98	136	148	160	117	85	93	89.9	339.7					
24-Nov	29	22	29	20	31	27	48	A	80	97	158	154	109	10	7	16	6	10	6	14	3	2	2	3	38.2	157.7					
25-Nov	2	17	3	17	4	8	A	9	9	5	3	3	2	2	6	13	14	6	15	12	10	7	3	0	7.4	17.3					
26-Nov	4	23	19	2	5	A	4	1	5	3	1	14	6	11	5	9	4	4	2	2	1	1	8	1	5.9	23.3					
27-Nov	2	0	0	0	A	0	1	0	0	1	0	1	1	2	1	1	1	0	0	0	1	2	13	2	1.4	13.0					
28-Nov	7	4	9	A	0	0	82	68	13	10	27	8	4	4	3	6	4	1	0	2	1	0	0	2	11.2	81.6					
29-Nov	0	0	A	0	0	0	1	0	84	98	113	127	59	51	58	44	31	28	57	88	39	21	9	3	39.7	127.5					
30-Nov	11	A	1	3	0	1	5	2	8	41	19	21	11	13	29	31	20	4	9	9	9	4	0	0	11.1	41.5					
13.2 19.5 12.2 7.0 11.4 10.2 21.6 24.6 26.6 29.8 26.7 23.8 14.9 12.2 12.1 15.1 10.1 13.7 16.7 20.4 14.2 10.9 10.1 10.1																									Diurnal Average						
178.9 339.7 134.1 32.1 132.3 46.5 81.6 86.8 113.5 105.8 157.7 153.7 109.0 51.5 57.7 77.4 69.2 98.8 135.6 147.7 159.6 117.4 84.7 93.1																									Diurnal Maximum						
C - Calibration																									A - Automated Daily Zero Span						

Hourly Maximums

Nitrogen Oxide (NO) - ppb
Henry Pirker - November 2011



Hourly Averages

Oxides of Nitrogen (NO_x) - ppb

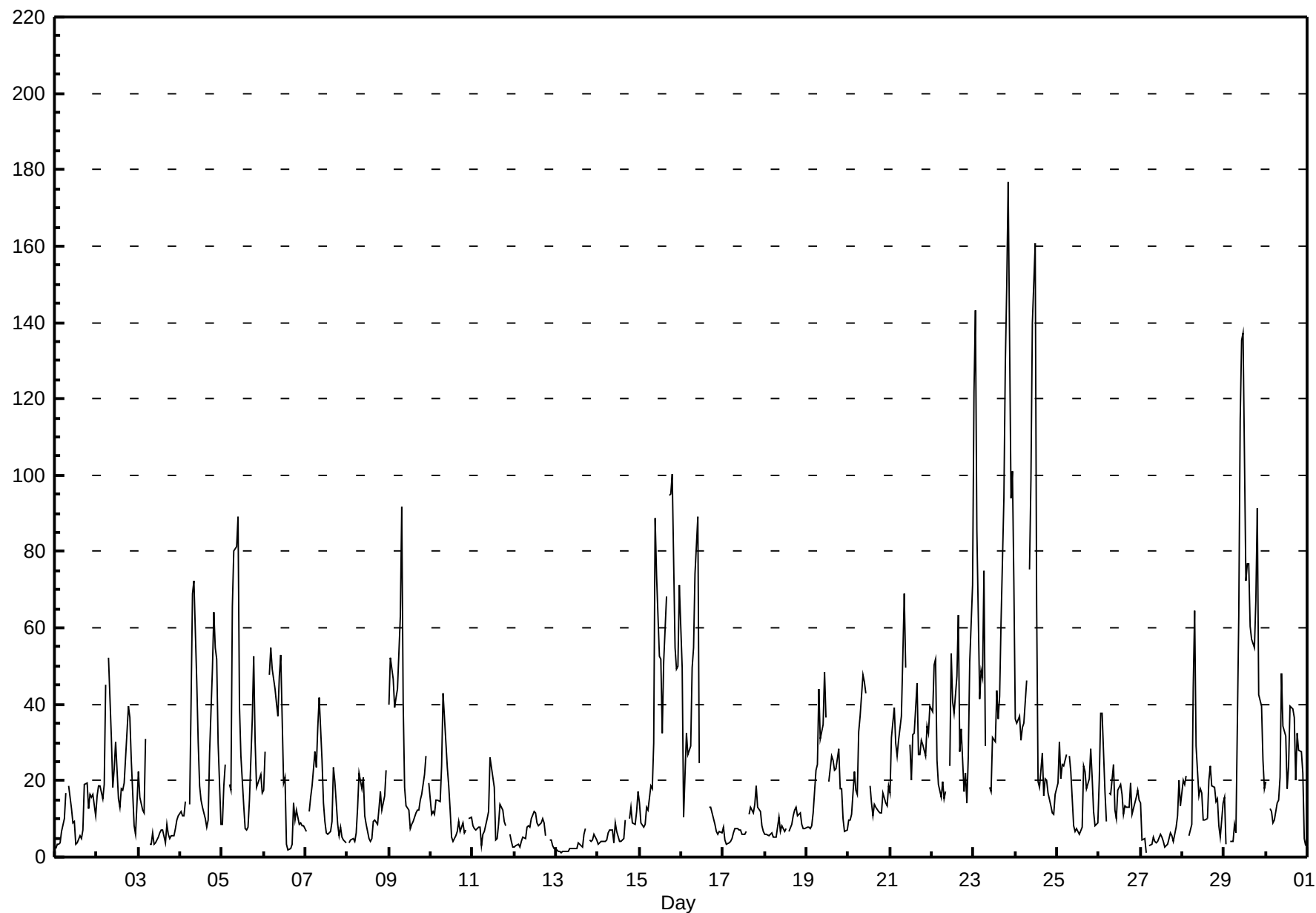
Henry Pirker - November 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 176.7 ppb on Nov 23 21:00 Maximum Daily Average: 73.4 ppb on Nov 23																					Hours in Service: 720 Hours of Data: 685 Hours of Missing Data: 35 Hours of Calibration: 35 Percent Operational Time: 100.0					
Minimum Value: 1 ppb on Nov 13 04:00 Minimum Daily Average: 3.0 ppb on Nov 13 Maximum Diurnal Average: 33.5 ppb at hour 10 Minimum Diurnal Average: 15.5 ppb at hour 14 Monthly Average: 22.33 ppb Percentiles: P ₁ = 1.5 P ₁₀ = 4.2 Q ₁ = 7.4 Median = 14.0 Q ₃ = 27.6 P ₉₀ = 50.1 P ₉₉ = 134.5																										
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	2	3	4	4	7	10	17	A	19	13	9	9	3	4	5	5	7	19	20	13	16	16	16	11	10.1	19.6
2-Nov	16	19	19	15	19	45	A	52	31	18	23	30	15	13	18	17	20	33	40	36	25	8	6	14	23.2	52.0
3-Nov	22	16	12	12	31	A	3	3	6	3	4	5	6	7	7	4	9	6	5	6	6	7	10	11	8.8	31.0
4-Nov	12	11	11	15	A	14	40	69	72	46	30	19	15	13	10	8	10	27	49	64	55	52	30	9	29.6	72.4
5-Nov	9	19	24	A	19	18	65	80	81	89	39	27	13	8	7	8	15	36	52	30	18	21	22	17	31.2	88.9
6-Nov	18	27	A	48	55	49	44	40	37	47	53	19	21	3	2	2	4	14	10	12	9	9	8	8	23.5	54.9
7-Nov	7	A	12	16	19	28	23	34	42	25	14	9	6	6	7	9	24	20	9	5	8	5	4	4	14.6	41.9
8-Nov	A	4	4	5	4	7	13	22	18	21	11	8	5	4	5	9	10	9	13	17	12	16	23	A	10.9	22.6
9-Nov	40	52	47	39	42	44	63	92	40	18	14	12	8	9	9	12	12	12	15	16	22	26	A	19	28.8	91.8
10-Nov	11	12	11	15	15	15	24	43	37	23	19	12	5	4	6	7	9	7	9	6	7	A	10	10	13.8	42.8
11-Nov	8	7	7	8	8	3	6	7	10	12	26	24	18	4	5	8	14	12	9	8	A	6	4	3	9.5	26.1
12-Nov	3	3	3	3	4	5	5	8	8	8	10	12	11	9	8	9	10	9	6	A	5	4	3	2	6.5	12.0
13-Nov	2	2	2	1	1	2	2	1	2	2	2	2	2	4	3	3	6	8	A	5	4	4	6	4	3.0	7.5
14-Nov	3	4	4	4	4	5	6	7	7	4	9	7	4	4	4	5	10	A	10	13	9	9	12	17	7.0	17.1
15-Nov	14	9	8	9	13	12	19	18	30	89	74	53	52	32	51	68	A	95	95	100	55	49	50	71	46.3	100.3
16-Nov	50	10	22	33	27	29	50	55	74	89	25	C	C	C	C	C	13	13	10	8	7	6	7	6	28.0	89.2
17-Nov	8	5	3	4	4	5	6	7	8	7	7	6	6	7	A	11	13	12	14	19	13	12	8	7	8.3	18.7
18-Nov	6	6	5	6	6	5	5	8	10	7	8	7	7	A	7	9	11	12	13	11	12	8	8	7	8.0	13.0
19-Nov	8	8	7	8	12	23	24	44	31	35	48	37	A	20	26	25	23	23	28	18	18	10	7	7	21.3	48.4
20-Nov	10	10	11	22	17	16	33	37	48	46	43	A	19	14	11	14	13	12	12	12	17	14	13	19	20.1	47.8
21-Nov	17	31	39	30	27	31	37	53	69	49	A	30	20	32	32	46	27	27	31	29	26	34	32	40	34.3	69.0
22-Nov	38	50	52	25	19	16	20	15	17	A	24	53	41	38	47	63	28	34	17	22	14	26	51	71	34.0	71.1
23-Nov	122	143	86	42	49	47	75	29	A	18	17	31	30	44	36	42	61	94	129	150	177	94	101	72	73.4	176.7
24-Nov	36	35	37	30	34	35	46	A	75	99	140	161	66	20	18	27	16	20	20	17	14	12	11	17	42.9	160.6
25-Nov	19	30	20	24	24	27	A	27	22	8	7	8	7	6	8	24	22	18	20	28	21	12	8	9	17.4	30.1
26-Nov	20	38	38	17	9	A	17	17	24	12	10	17	19	16	11	14	13	13	19	11	13	16	18	15	17.3	37.8
27-Nov	14	4	5	1	A	3	3	5	4	4	4	6	5	4	3	3	5	6	6	4	8	11	20	13	6.2	20.1
28-Nov	20	19	21	A	5	8	44	65	29	16	18	17	10	10	10	20	24	19	18	15	15	8	5	14	18.7	64.7
29-Nov	16	3	A	4	4	4	9	6	63	114	135	137	72	77	77	60	57	55	67	91	43	40	25	18	51.2	137.4
30-Nov	20	A	13	12	9	10	14	15	21	48	34	32	18	24	40	39	37	20	32	28	28	22	5	3	22.7	47.9
19.6 20.7 18.9 16.1 17.4 18.3 25.5 30.6 32.3 33.5 29.5 28.2 18.1 15.5 16.9 19.7 17.9 23.6 26.8 27.4 23.3 19.2 18.1 17.9 121.8 143.1 85.8 47.8 54.9 49.3 75.0 91.8 81.3 114.4 139.8 160.6 72.4 76.9 77.0 68.3 61.4 94.9 128.9 149.6 176.7 93.8 101.0 71.8																										
C - Calibration A - Automated Daily Zero Span																										

Hourly Averages

Oxides of Nitrogen (NO_x) - ppb

Henry Pirker - November 2011



Hourly Maximums

Oxides of Nitrogen (NO_x) - ppb

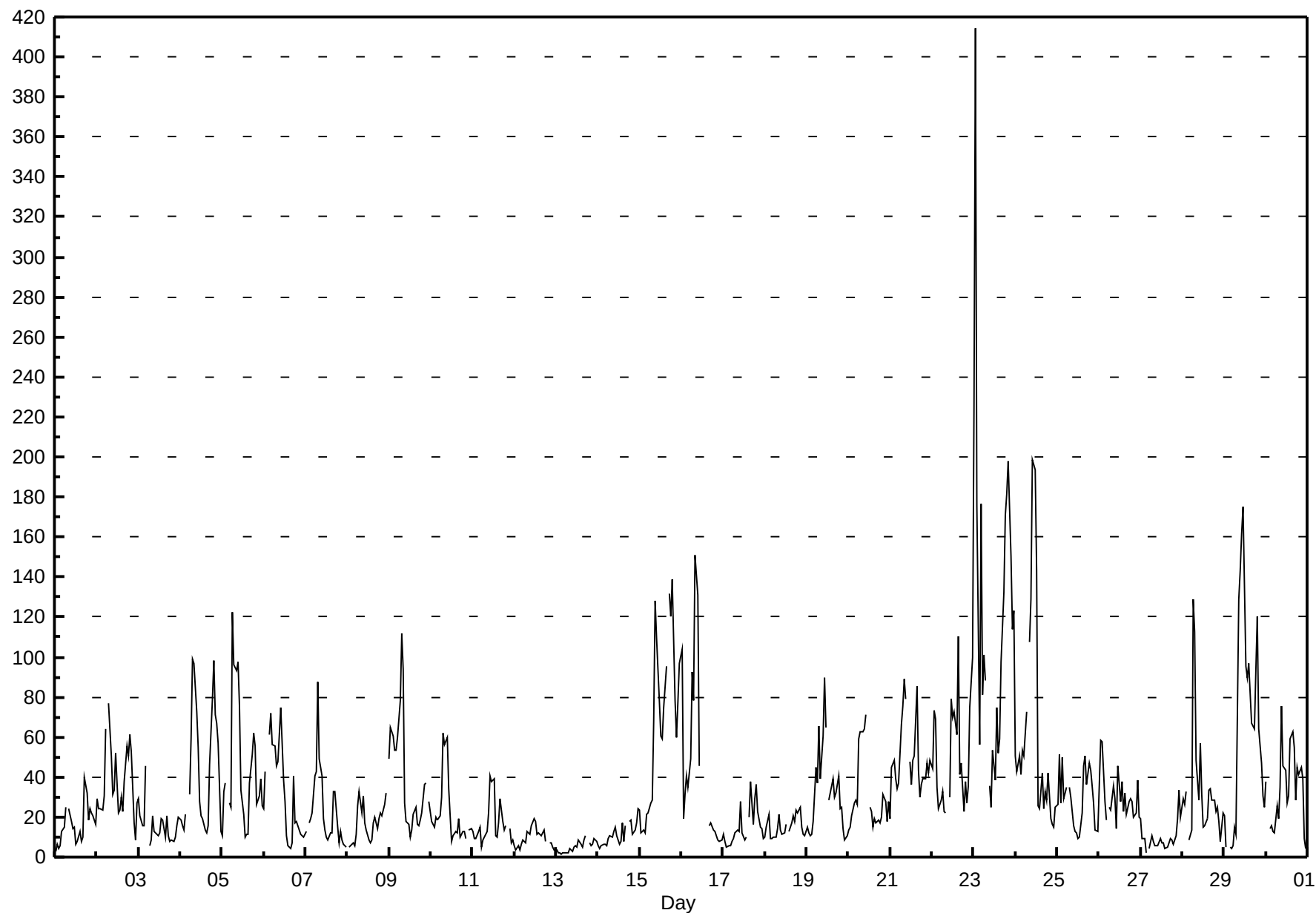
Henry Pirker - November 2011

Maximum Value: 414.4 ppb on Nov 23 02:00																					Maximum Daily Average: 122.8 ppb on Nov 23					Hours in Service: 720	
Minimum Value: 1 ppb on Nov 13 04:00																					Minimum Daily Average: 5.1 ppb on Nov 13					Hours of Data: 685	
Maximum Diurnal Average: 50.1 ppb at hour 10																					Minimum Diurnal Average: 22.5 ppb at hour 4					Hours of Missing Data: 35	
Monthly Average: 34.34 ppb																					Percentiles: P ₁ = 2.1 P ₁₀ = 7.1 Q ₁ = 12.0 Median = 22.1 Q ₃ = 43.4 P ₉₀ = 75.3 P ₉₉ = 175.3					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	3	7	4	5	13	15	25	A	24	18	14	15	6	8	13	8	10	40	32	19	24	22	21	17	15.7	39.8	
2-Nov	29	24	24	24	31	64	A	77	51	31	33	52	22	23	30	23	38	56	50	61	53	17	9	27	36.9	76.9	
3-Nov	29	21	15	15	45	A	5	9	20	13	12	11	12	19	18	10	21	11	8	9	8	10	15	20	15.5	45.5	
4-Nov	19	16	13	21	A	32	59	99	97	73	55	28	21	19	13	12	15	46	79	98	71	67	57	13	44.5	99.2	
5-Nov	11	33	37	A	27	25	122	96	93	97	75	34	21	10	11	11	37	51	62	56	26	31	39	26	44.9	122.5	
6-Nov	24	43	A	61	72	56	55	46	48	61	75	38	28	11	6	5	7	41	17	18	14	12	11	10	32.9	74.5	
7-Nov	13	A	17	19	22	41	43	87	49	41	19	14	10	9	12	12	32	32	15	7	13	8	7	5	22.9	87.3	
8-Nov	A	5	6	7	6	11	26	33	22	31	17	13	8	7	8	17	20	14	19	22	21	26	32	A	16.9	33.0	
9-Nov	49	64	60	53	54	60	79	112	94	27	18	16	10	13	21	25	16	15	18	22	36	37	A	28	40.4	112.1	
10-Nov	18	17	15	20	18	20	30	62	57	60	34	21	8	11	12	12	19	10	13	13	9	A	13	14	22.0	62.2	
11-Nov	13	9	9	13	15	5	9	10	13	22	41	38	39	11	10	17	30	18	13	16	A	14	7	8	16.5	40.6	
12-Nov	6	4	6	4	6	8	7	13	12	12	16	19	18	12	12	11	12	13	8	A	7	7	5	3	9.6	19.1	
13-Nov	3	2	2	1	2	2	2	2	4	3	5	6	5	9	6	5	9	11	A	7	5	6	10	8	5.1	11.0	
14-Nov	6	4	5	6	7	6	9	11	10	13	15	11	6	8	17	8	16	A	18	18	11	14	17	24	11.3	24.3	
15-Nov	24	12	14	12	21	22	27	29	68	128	109	77	61	59	75	96	A	132	120	139	78	60	78	97	66.8	138.6	
16-Nov	104	19	31	41	35	49	92	78	151	131	45	C	C	C	C	C	16	17	14	13	11	8	8	9	45.9	150.8	
17-Nov	11	8	5	6	6	8	9	12	13	12	28	12	9	10	A	20	38	16	29	36	23	15	14	10	15.2	38.1	
18-Nov	10	15	21	9	10	10	10	14	21	13	11	12	16	A	13	17	21	18	24	22	25	15	11	11	15.2	25.0	
19-Nov	15	12	11	12	18	45	37	65	39	60	89	65	A	29	35	39	30	32	40	24	25	14	9	11	32.9	89.5	
20-Nov	14	15	21	27	29	27	59	62	63	64	71	A	25	23	15	20	17	19	17	20	32	27	18	28	30.9	71.1	
21-Nov	19	45	48	39	34	37	66	75	89	79	A	48	36	48	51	86	44	30	36	39	39	47	42	48	49.0	89.2	
22-Nov	44	74	69	35	24	28	33	23	22	A	30	79	69	73	61	110	41	47	23	38	27	36	75	99	50.4	110.3	
23-Nov	226	414	176	56	177	81	101	89	A	35	25	53	38	75	52	59	97	133	171	181	198	150	114	123	122.8	414.4	
24-Nov	51	43	51	41	53	50	72	A	108	129	199	194	143	26	24	42	24	33	28	42	19	16	15	25	62.1	198.9	
25-Nov	26	51	27	50	29	35	A	35	30	15	13	12	9	10	22	46	51	36	47	43	35	27	14	13	29.4	51.4	
26-Nov	35	59	58	28	19	A	25	23	35	29	14	45	28	38	23	32	21	27	29	28	20	22	38	20	30.3	58.6	
27-Nov	19	9	9	2	A	5	10	8	6	6	6	10	7	7	5	5	7	9	9	7	11	19	34	20	9.9	33.6	
28-Nov	29	27	32	A	9	14	129	112	49	29	57	31	15	15	19	34	34	28	28	22	25	18	7	22	34.2	128.8	
29-Nov	21	5	A	5	5	6	15	11	129	143	162	175	96	90	97	82	67	64	94	120	64	47	31	25	67.4	175.5	
30-Nov	38	A	15	16	13	12	26	19	35	75	46	44	27	31	59	62	55	29	45	41	45	39	9	4	34.0	75.3	
31.3 37.7 28.7 22.5 28.5 27.7 42.3 46.9 50.1 50.1 46.0 41.9 28.4 25.0 26.5 31.9 29.1 35.4 38.2 40.7 33.6 28.7 26.2 26.4																										Diurnal Average	
225.8 414.4 175.8 61.4 176.9 81.4 128.8 112.5 150.8 142.9 198.9 193.7 143.3 89.8 97.1 110.3 97.4 132.5 170.8 181.4 198.2 149.9 113.6 123.2																										Diurnal Maximum	
C - Calibration A - Automated Daily Zero Span																											

Hourly Maximums

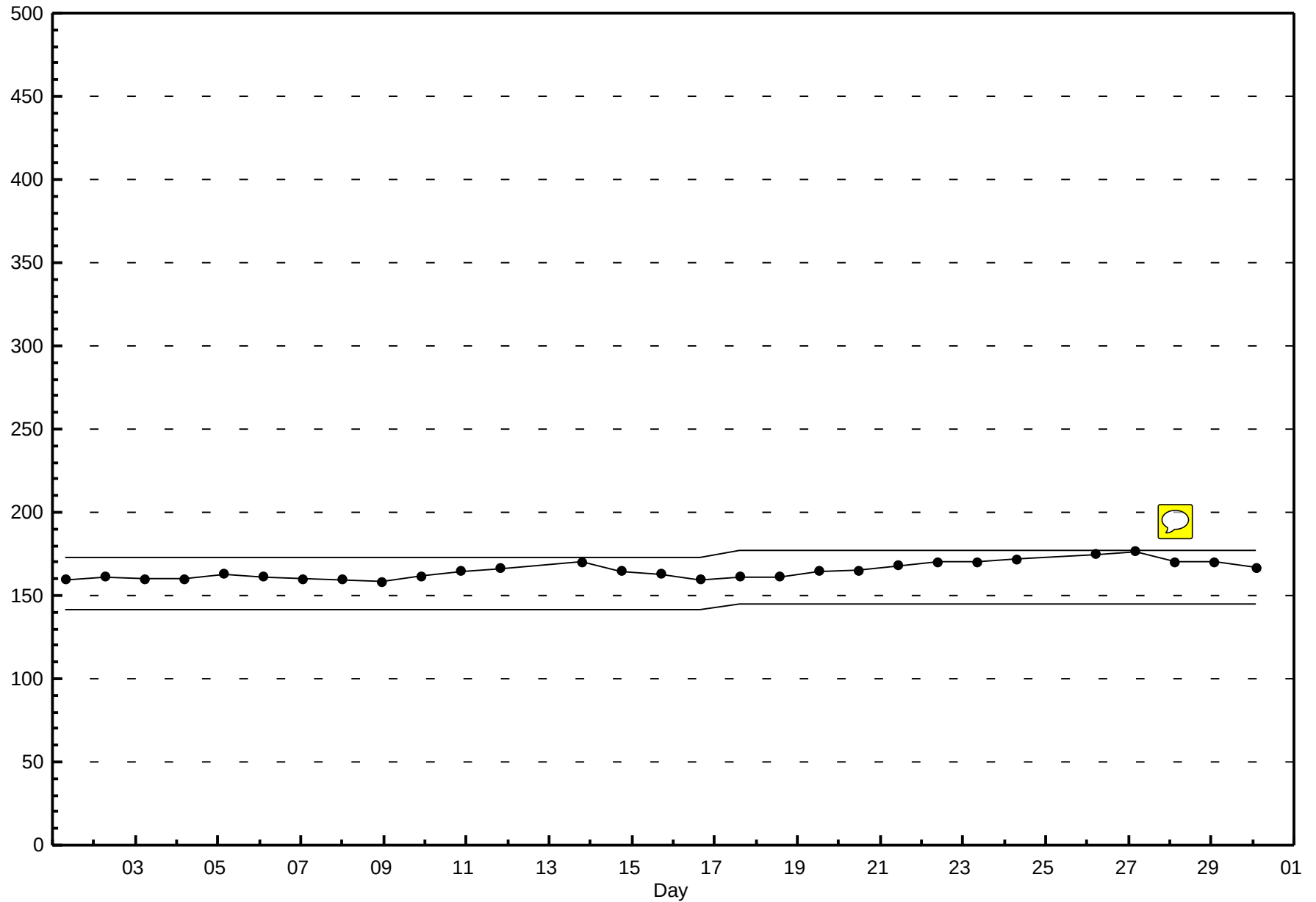
Oxides of Nitrogen (NO_x) - ppb

Henry Pirker - November 2011



Span Responses

Oxides of Nitrogen (NO_x)
Henry Pirker - November 2011



Hourly Averages

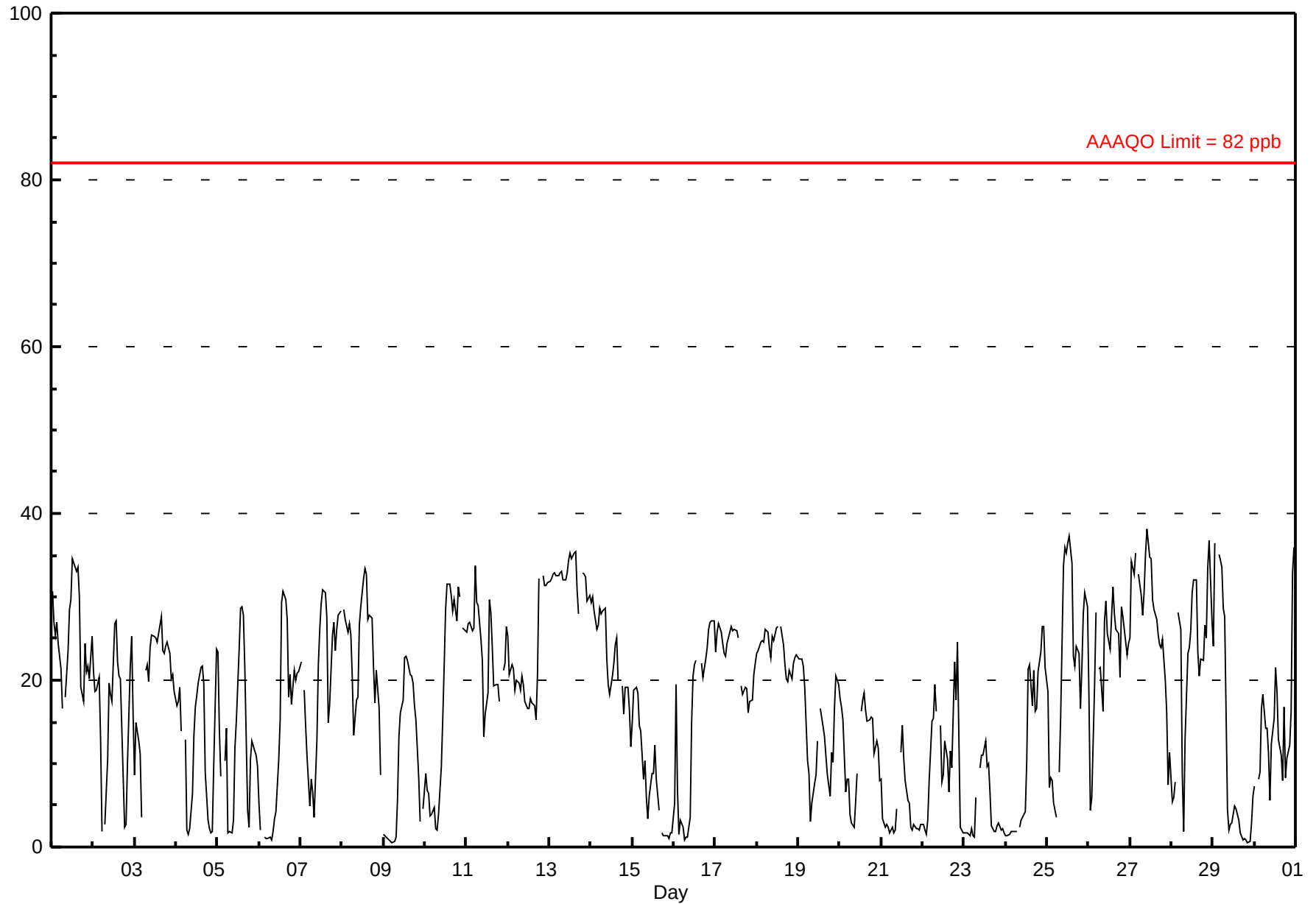
Ozone (O₃) - ppb

Henry Pirker - November 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 38.2 ppb on Nov 27 11:00 Maximum Daily Average: 32.6 ppb on Nov 13																								Hours in Service: 720 Hours of Data: 688 Hours of Missing Data: 32 Hours of Calibration: 32 Percent Operational Time: 100.0																								
Minimum Value: 1 ppb on Nov 9 06:00 Maximum Diurnal Average: 23.6 ppb at hour 14 Monthly Average: 17.30 ppb												Minimum Daily Average: 4.5 ppb on Nov 21 Minimum Diurnal Average: 12.6 ppb at hour 9 Percentiles: P ₁ = 0.8 P ₁₀ = 2.1 Q ₁ = 8.1 Median = 18.8 Q ₃ = 25.6 P ₉₀ = 30.1 P ₉₉ = 35.9																																				
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	31	27	25	27	24	21	17	A	18	24	28	30	35	34	33	34	30	19	18	24	21	22	20	25	25.5	34.5																						
2-Nov	21	19	19	20	13	2	A	3	10	20	18	17	27	27	22	21	20	8	2	3	10	22	25	16	15.9	27.0																						
3-Nov	9	15	13	11	3	A	21	22	20	24	25	25	25	26	28	24	23	24	25	23	20	21	19	20.4	27.5																							
4-Nov	17	17	19	14	A	13	2	1	2	6	13	17	18	20	21	22	19	9	3	2	2	2	10	24	11.9	23.7																						
5-Nov	23	14	9	A	10	14	2	2	2	3	12	15	24	29	29	28	21	4	2	10	13	12	11	10	13.0	28.9																						
6-Nov	5	2	A	1	1	1	1	1	2	3	4	10	15	29	31	30	27	18	21	17	21	20	21	21	13.2	30.7																						
7-Nov	22	A	19	15	11	5	8	7	4	13	22	26	29	31	31	28	15	17	25	27	24	26	28	28	19.9	30.8																						
8-Nov	A	28	27	26	27	25	20	13	18	18	27	29	32	33	33	27	28	27	22	17	21	17	9	A	23.9	33.5																						
9-Nov	1	1	1	1	1	1	1	1	6	13	16	18	23	23	22	21	21	20	17	15	8	3	A	5	10.3	22.9																						
10-Nov	9	7	6	4	4	5	2	2	4	10	15	22	29	31	32	30	28	30	27	31	30	A	26	26	17.8	31.5																						
11-Nov	26	27	27	26	26	34	29	29	25	22	13	16	19	30	28	24	19	19	20	17	A	21	22	26	23.7	33.7																						
12-Nov	25	21	22	21	19	20	20	19	21	19	17	17	17	18	17	17	15	21	32	A	33	31	31	32	21.9	32.5																						
13-Nov	32	32	33	33	32	33	33	33	32	32	33	34	35	34	35	35	31	28	A	33	33	32	29	30	32.6	35.5																						
14-Nov	29	30	28	26	27	29	28	28	29	23	20	18	20	22	24	25	20	A	19	16	19	19	16	12	23.0	29.9																						
15-Nov	15	19	19	18	15	14	8	10	6	3	6	9	9	12	8	4	A	2	1	1	1	1	2	2	8.1	19.2																						
16-Nov	5	19	7	2	3	2	1	1	1	4	15	21	22	22	C	C	22	20	23	24	26	27	27	27	14.6	27.2																						
17-Nov	23	26	27	26	24	23	23	24	26	26	26	26	26	25	A	19	18	19	19	16	18	18	21	22	22.7	26.8																						
18-Nov	23	24	25	25	25	26	26	24	23	25	25	26	26	A	26	24	22	20	20	21	20	22	23	23	23.6	26.5																						
19-Nov	23	23	23	22	19	10	9	3	5	8	9	13	A	17	14	13	11	9	6	11	10	17	20	19	13.6	22.5																						
20-Nov	18	17	15	7	8	8	4	3	2	5	9	A	16	18	18	16	15	15	16	16	11	13	12	8	11.7	18.4																						
21-Nov	8	3	2	3	2	2	2	2	2	5	A	11	14	11	8	6	5	2	2	3	2	2	2	3	4.5	14.5																						
22-Nov	3	2	2	3	8	15	15	20	16	A	15	8	9	13	11	7	11	9	22	18	25	13	2	2	10.8	24.5																						
23-Nov	2	2	2	1	2	1	1	6	A	9	11	11	13	10	10	7	3	2	2	2	3	2	2	2	4.6	12.7																						
24-Nov	1	1	2	2	2	2	2	A	2	3	4	4	10	21	22	17	21	16	17	21	23	26	26	22	11.7	26.5																						
25-Nov	19	7	8	8	5	3	A	9	16	34	36	35	37	37	34	23	22	24	23	17	21	28	30	29	22.0	37.3																						
26-Nov	18	4	6	20	28	A	21	22	16	27	30	26	24	28	31	28	26	26	20	29	28	25	23	24	23.0	31.1																						
27-Nov	25	34	33	35	A	33	30	28	30	35	38	35	35	30	28	27	25	24	24	25	20	16	7	11	27.4	38.2																						
28-Nov	5	6	8	A	28	26	9	2	13	23	24	26	30	32	32	23	20	23	22	27	25	33	37	27	21.9	36.8																						
29-Nov	24	36	A	35	34	34	29	28	4	2	3	3	5	5	4	3	2	1	1	1	1	3	6	6	11.4	36.4																						
30-Nov	7	A	8	9	17	18	14	14	11	6	12	15	21	19	13	11	8	17	8	11	12	16	33	36	14.7	35.9																						
																								16.2	16.6	15.5	15.7	15.0	15.0	13.5	12.7	12.6	15.4	18.1	19.4	22.2	23.6	23.0	20.6	19.0	16.3	15.8	16.5	17.4	17.5	18.6	18.5	Diurnal Average
																								31.9	36.4	32.7	35.3	34.4	33.7	32.9	33.1	32.0	35.1	38.2	35.3	36.5	37.3	35.3	35.5	30.8	29.7	32.2	32.9	32.7	33.4	36.8	35.9	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 2011



Hourly Maximums

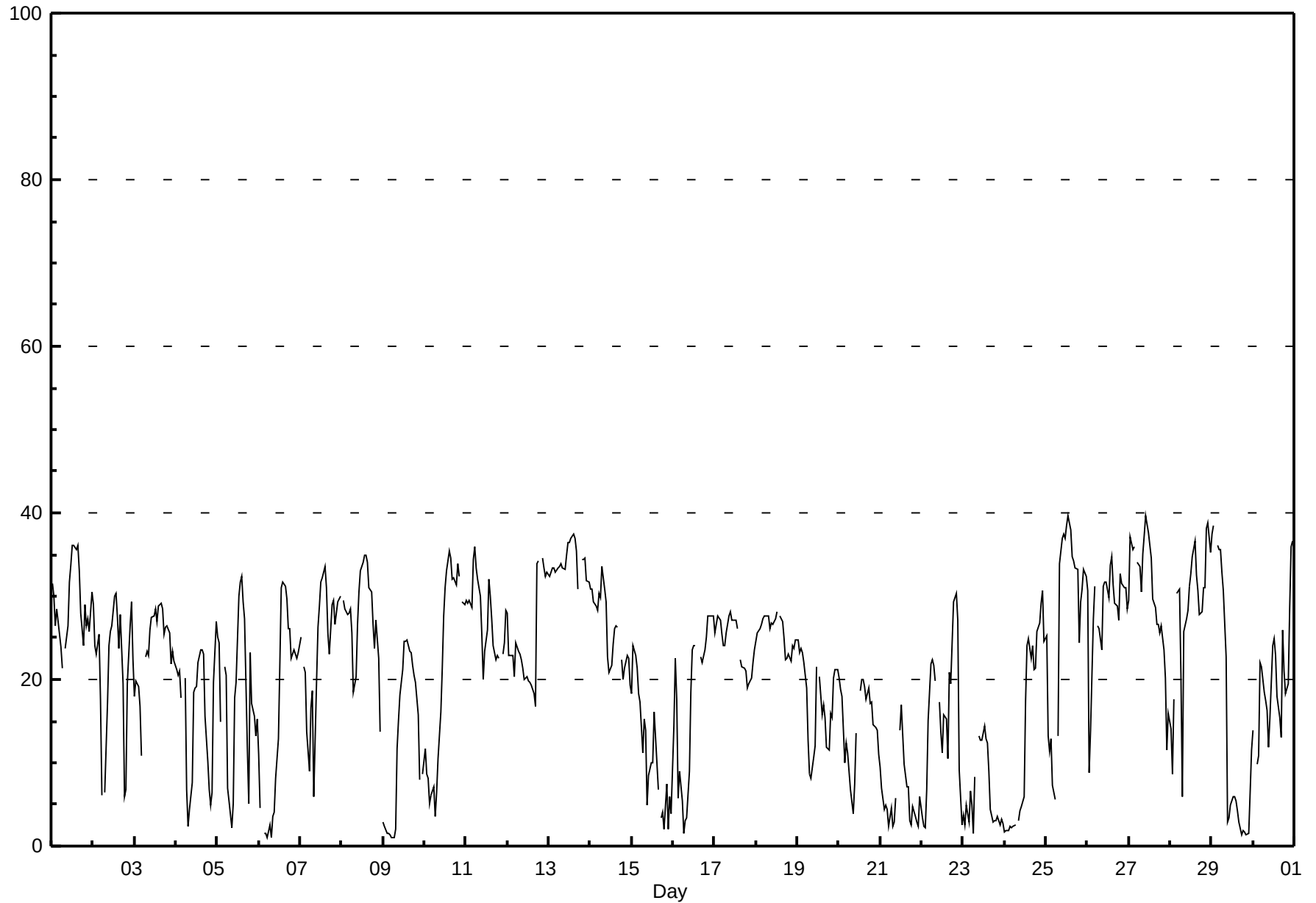
Ozone (O₃) - ppb

Henry Pirker - November 2011

Maximum Value: 39.7 ppb on Nov 27 11:00																								Maximum Daily Average: 34.1 ppb on Nov 13										Hours in Service: 720	
Minimum Value: 1 ppb on Nov 9 06:00																								Minimum Daily Average: 6.1 ppb on Nov 21										Hours of Data: 688	
Maximum Diurnal Average: 26.2 ppb at hour 14																								Minimum Diurnal Average: 16.1 ppb at hour 8										Hours of Missing Data: 32	
Monthly Average: 20.79 ppb																								Percentiles: P ₁ = 1.5 P ₁₀ = 4.3 Q ₁ = 12.9 Median = 22.8 Q ₃ = 28.8 P ₉₀ = 33.4 P ₉₉ = 37.8										Hours of Calibration: 32	
																								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	31	30	26	28	27	24	21	A	24	26	32	34	36	36	36	36	33	28	24	29	26	27	26	31	29.2	36.0									
2-Nov	29	24	23	25	18	6	A	6	17	24	26	27	30	30	27	24	28	19	6	7	19	26	29	22	21.5	30.3									
3-Nov	18	20	19	17	11	A	23	23	23	26	27	28	28	27	29	29	28	25	26	26	26	22	23	22	23.8	29.1									
4-Nov	21	20	21	18	A	20	7	2	4	8	19	19	19	22	24	24	23	16	10	7	5	6	20	27	15.7	26.9									
5-Nov	25	24	15	A	21	20	7	6	2	5	18	20	30	32	32	29	27	12	5	23	17	16	13	15	18.1	32.3									
6-Nov	11	5	A	2	2	1	3	1	4	4	8	13	22	31	32	31	30	26	26	23	24	23	23	23	15.9	31.7									
7-Nov	25	A	22	21	14	9	17	19	6	20	26	29	32	32	34	31	26	23	29	30	27	28	29	30	24.2	33.5									
8-Nov	A	30	29	28	28	29	26	18	20	27	31	33	34	35	35	34	31	31	27	24	27	23	14	A	27.7	34.9									
9-Nov	3	2	1	1	1	1	1	2	12	15	18	21	25	25	25	23	23	22	21	20	16	8	A	9	12.8	24.7									
10-Nov	12	9	8	5	6	7	3	6	10	16	21	28	31	33	35	35	32	32	31	34	32	A	29	29	21.1	35.4									
11-Nov	29	29	30	29	34	36	33	32	30	25	20	23	26	32	30	27	24	22	23	22	A	23	24	28	27.6	36.0									
12-Nov	28	23	23	23	20	24	23	23	22	21	20	20	20	20	19	18	17	34	34	A	35	33	32	33	24.7	34.5									
13-Nov	32	33	33	33	33	33	34	34	33	33	35	36	36	37	37	37	35	31	A	34	34	35	32	32	34.1	37.4									
14-Nov	31	31	29	29	28	30	30	34	31	29	23	21	22	24	26	26	26	A	22	20	21	23	23	19	26.0	33.5									
15-Nov	18	24	23	21	18	17	11	15	14	5	8	10	10	16	13	7	A	3	4	2	7	2	6	4	11.3	24.1									
16-Nov	14	23	18	6	9	6	2	3	3	9	18	24	24	24	C	C	23	22	24	25	28	28	28	28	17.5	27.7									
17-Nov	26	27	28	27	25	24	24	26	28	28	27	27	27	26	A	22	22	21	21	19	20	20	22	24	24.4	28.2									
18-Nov	25	26	26	27	27	28	28	28	26	27	27	27	28	A	28	27	25	22	23	23	22	24	24	25	25.6	28.1									
19-Nov	25	23	24	23	22	19	13	9	8	11	12	22	A	20	16	17	15	12	11	16	15	20	21	21	17.2	24.7									
20-Nov	20	19	18	10	12	11	9	7	4	7	14	A	19	20	20	19	18	19	17	17	15	14	14	11	14.5	20.2									
21-Nov	9	7	4	5	4	2	5	2	3	6	A	14	17	13	10	7	7	3	3	5	4	3	2	6	6.1	17.0									
22-Nov	3	2	2	7	15	22	22	22	20	A	17	14	11	16	15	10	21	19	29	30	30	27	9	3	16.0	30.3									
23-Nov	4	3	5	3	7	5	2	8	A	13	13	13	14	13	12	9	4	3	3	3	4	3	3	3	6.4	14.4									
24-Nov	2	2	2	2	2	2	2	A	3	4	5	6	17	24	25	23	24	21	21	26	27	29	31	25	14.1	30.7									
25-Nov	25	13	11	13	7	6	A	13	34	37	37	37	38	40	38	35	34	33	33	24	29	31	33	32	27.6	39.6									
26-Nov	31	9	14	27	31	A	26	26	24	31	32	32	30	34	35	31	29	29	27	33	32	31	31	29	28.3	34.7									
27-Nov	30	37	36	36	A	34	34	31	35	37	40	38	36	35	30	29	27	27	26	27	23	20	12	16	30.1	39.7									
28-Nov	14	9	18	A	30	31	21	6	26	27	28	31	33	35	37	33	31	28	28	31	31	38	39	35	27.7	38.7									
29-Nov	38	38	A	36	36	36	33	31	23	3	3	5	6	6	5	4	3	1	2	2	1	1	6	12	14.4	38.5									
30-Nov	14	A	10	11	22	22	18	17	16	12	15	24	25	23	18	15	13	26	21	18	20	29	36	37	20.1	36.7									
20.5 19.3 18.5 18.3 18.3 18.0 17.0 16.1 17.4 18.5 21.4 23.2 25.1 26.2 25.8 23.9 23.4 21.1 19.9 20.7 21.2 21.2 21.9 21.7																									Diurnal Average										
37.5 38.5 35.5 36.2 35.7 36.0 33.6 33.9 35.1 37.3 39.7 37.6 38.4 39.6 37.9 36.9 35.4 33.9 34.2 34.4 34.5 38.2 38.7 36.7																									Diurnal Maximum										
C - Calibration A - Automated Daily Zero Span																																			

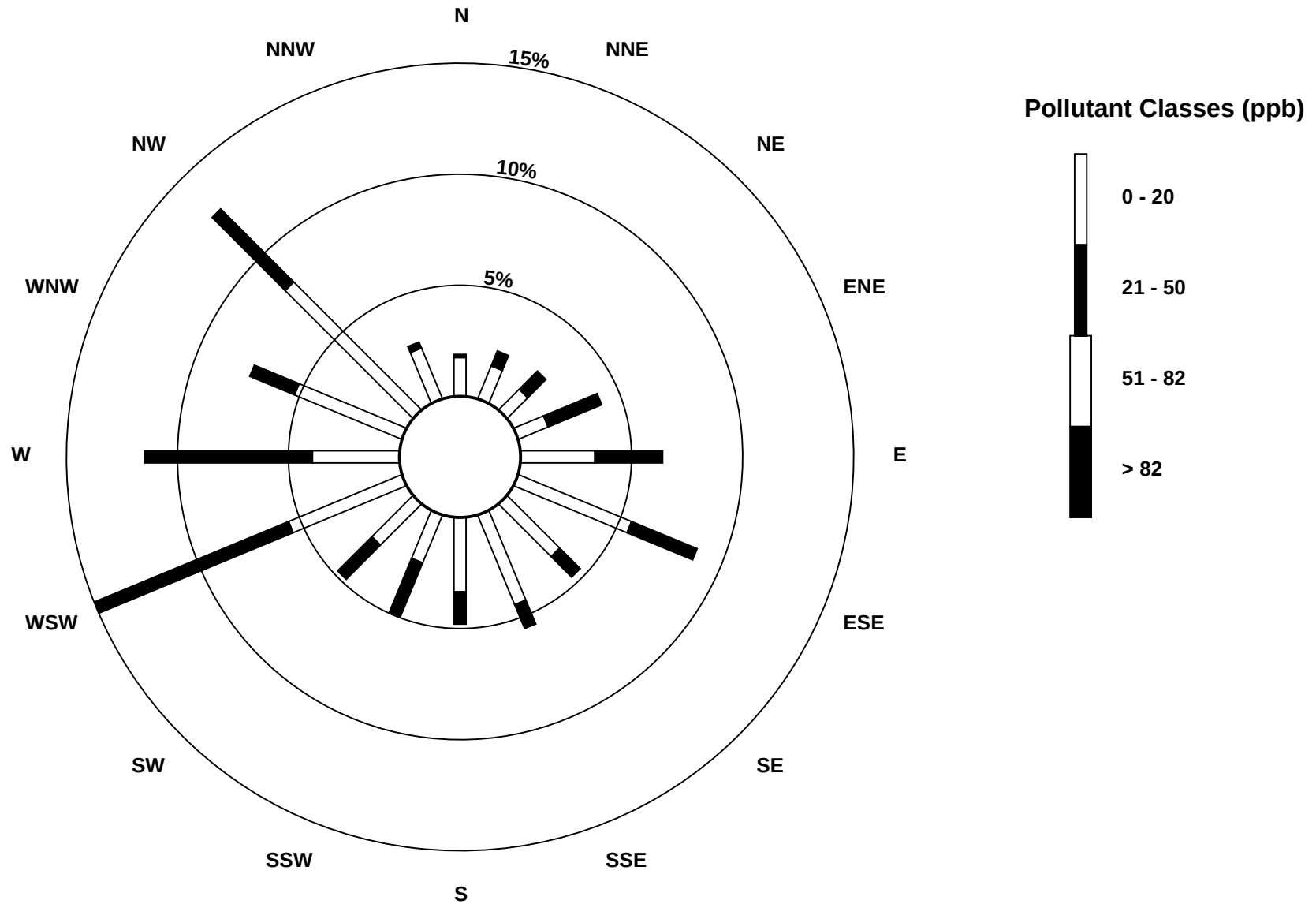
Hourly Maximums

Ozone (O₃) - ppb
Henry Pirker - November 2011



Pollutant Rose

Ozone (O₃) - ppb
Henry Pirker - November 2011



Eight Hour Running Averages

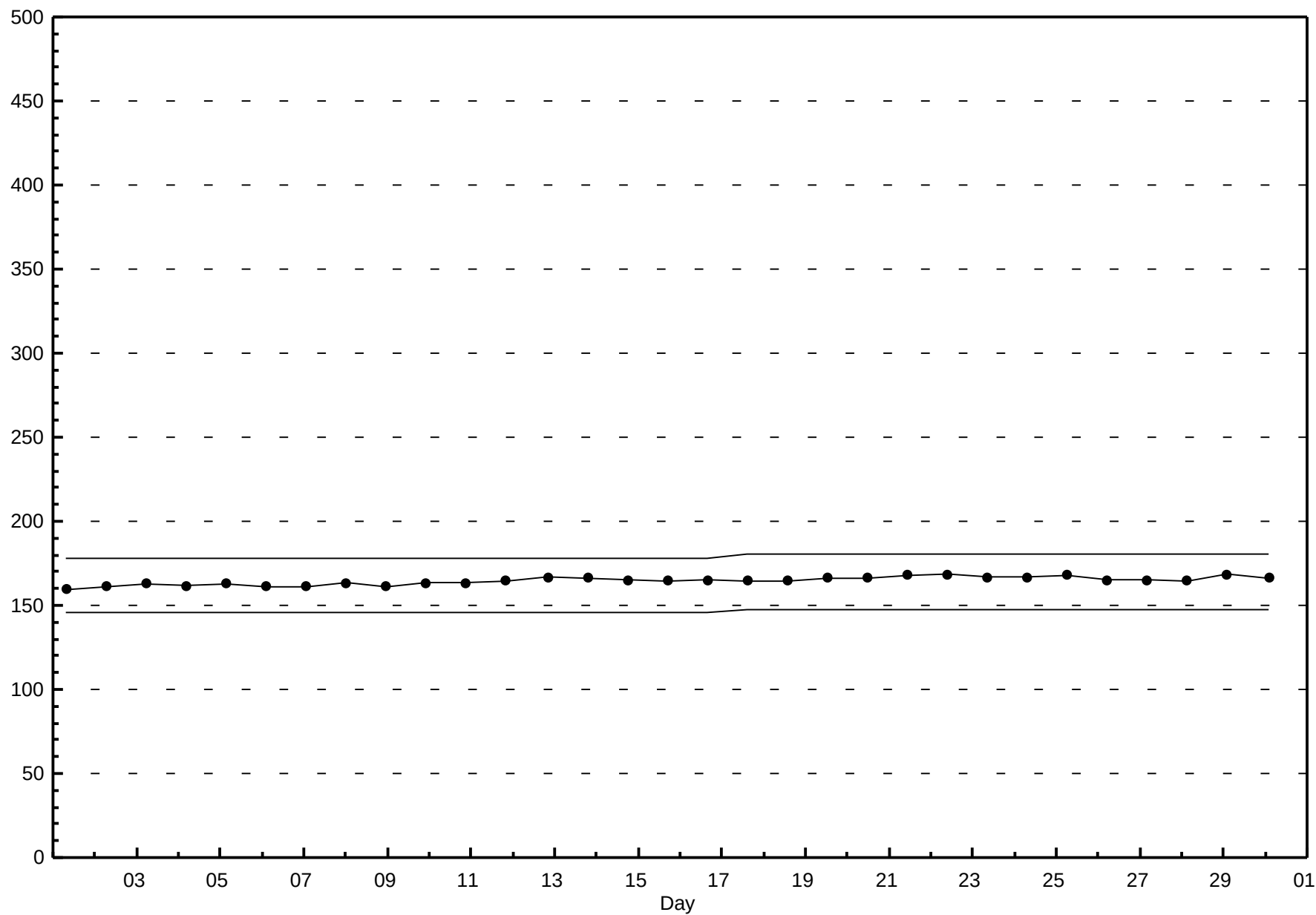
Ozone (O₃) - ppb

Henry Pirker - November 2011

Maximum Value: 34.0 ppb on Nov 13 16:00																								Hours in Service: 720	
Minimum Value: 0.9 ppb on Nov 9 07:00																								Hours of Data: 720	
																								Hours of Missing Data: 0	
Percentiles: P ₁ = 1.6 P ₁₀ = 4.7 Q ₁ = 10.2 Median = 18.1 Q ₃ = 24.6 P ₉₀ = 28.5 P ₉₉ = 33.1																								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	32	31	30	29	28	27	25	25	23	22	23	23	25	26	29	29	31	30	29	28	27	25	23	22	31.5
2-Nov	21	21	21	21	20	17	17	14	12	12	12	14	17	18	20	21	20	18	16	14	14	14	14	13	21.5
3-Nov	12	13	14	15	14	13	13	13	15	16	18	20	23	23	24	25	25	25	25	25	25	24	23	22	25.1
4-Nov	21	21	20	19	18	17	14	12	10	8	7	8	9	10	12	15	17	17	16	14	12	10	9	9	21.4
5-Nov	9	10	11	12	13	15	14	11	7	6	6	7	9	11	14	18	20	20	19	18	17	15	13	10	20.2
6-Nov	8	8	9	8	6	4	3	2	1	2	2	3	5	8	12	16	19	21	23	24	24	23	22	21	24.2
7-Nov	20	20	20	20	18	16	14	12	10	10	10	12	14	17	20	23	24	25	25	25	25	24	24	24	25.3
8-Nov	25	27	27	27	27	27	26	24	23	22	22	22	23	24	25	27	28	30	29	28	26	24	21	20	29.6
9-Nov	16	13	10	7	4	2	1	1	1	3	5	7	10	13	15	18	19	20	20	20	18	16	15	13	20.4
10-Nov	11	9	8	6	5	6	5	5	4	5	6	8	11	14	18	22	25	27	29	30	30	30	29	28	29.9
11-Nov	28	28	28	27	26	27	28	28	28	27	26	24	23	23	23	22	21	21	22	22	22	21	20	21	28.0
12-Nov	22	22	22	23	22	22	22	21	20	20	20	19	19	18	18	18	17	17	19	20	22	24	26	28	27.8
13-Nov	30	32	32	32	32	32	32	33	33	33	33	33	33	33	34	34	34	33	33	33	33	33	32	31	34.0
14-Nov	31	31	31	30	29	29	28	28	28	27	26	25	24	23	23	23	22	21	21	21	21	20	19	17	31.0
15-Nov	17	17	17	17	17	16	15	15	14	12	10	9	8	8	8	7	7	7	7	5	4	3	2	1	17.3
16-Nov	2	4	5	5	5	5	5	5	5	3	4	6	8	11	12	14	18	20	22	22	23	24	24	25	24.5
17-Nov	25	25	26	26	26	25	25	25	25	25	25	25	25	25	26	25	24	23	22	20	19	18	18	19	26.1
18-Nov	19	20	21	22	23	24	24	25	24	25	25	25	25	25	25	25	25	24	24	23	22	22	22	21	25.2
19-Nov	21	22	22	22	22	21	19	16	14	12	11	9	8	9	10	11	12	12	12	12	11	11	12	13	22.2
20-Nov	14	15	16	15	15	14	12	10	8	7	6	6	7	8	10	12	14	15	16	16	16	15	14	13	16.4
21-Nov	12	11	9	8	6	5	4	3	2	2	2	4	5	7	8	8	9	8	8	6	5	4	3	3	12.3
22-Nov	2	2	2	2	3	5	6	8	10	11	13	14	14	14	13	11	10	10	11	12	14	14	13	13	14.5
23-Nov	12	11	8	6	3	2	2	2	2	3	5	6	8	9	10	10	9	8	7	6	5	4	3	2	11.6
24-Nov	2	2	2	2	2	2	2	2	2	2	2	3	4	7	10	10	13	14	16	18	20	20	21	22	21.6
25-Nov	21	20	19	17	15	12	10	9	8	12	16	20	24	29	30	31	32	31	29	27	25	24	24	24	32.2
26-Nov	24	21	19	20	20	19	18	17	17	20	23	24	24	24	25	26	27	27	26	26	27	27	26	25	27.4
27-Nov	25	26	28	28	28	30	31	31	32	32	33	33	33	33	32	32	32	30	29	27	25	24	21	19	33.0
28-Nov	17	14	12	11	12	13	13	12	13	16	18	19	19	20	23	25	26	26	26	26	26	26	26	27	32.5
29-Nov	27	29	30	31	33	33	31	31	29	24	21	17	13	10	7	4	3	3	3	3	2	2	1	2	26.8
30-Nov	3	3	4	5	7	10	11	13	13	12	13	13	14	14	14	14	13	15	14	13	12	12	15	18	17.6
31.5 31.9 32.0 32.1 32.5 32.5 32.4 32.6 32.6 32.6 32.8 32.8 33.1 33.4 33.7 34.0 33.8 33.3 33.4 33.2 32.8 32.5 31.7 30.9																									Diurnal Maximums

Span Responses

Ozone (O₃)
Henry Pirker - November 2011



Hourly Averages

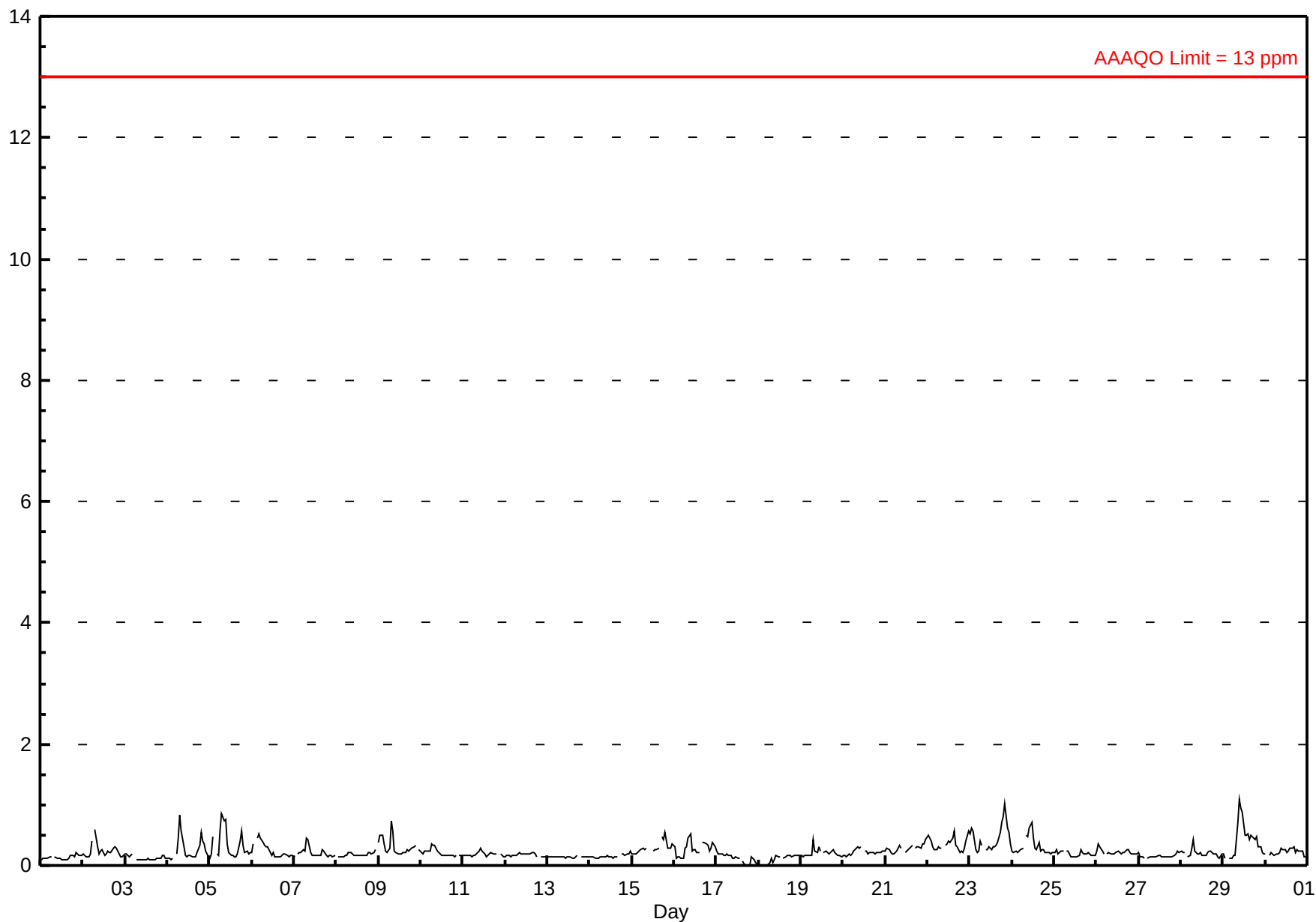
Carbon Monoxide (CO) - ppm

Henry Pirker - November 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 1.08 ppm on Nov 29 10:00 Maximum Daily Average: 0.44 ppm on Nov 23																								Hours in Service: 720 Hours of Data: 685 Hours of Missing Data: 35 Hours of Calibration: 34 Percent Operational Time: 99.9		
Minimum Value: 0.0 ppm on Nov 17 18:00 Minimum Daily Average: 0.10 ppm on Nov 18 Maximum Diurnal Average: 0.32 ppm at hour 8 Minimum Diurnal Average: 0.19 ppm at hour 4 Monthly Average: 0.230 ppm Percentiles: P ₁ = 0.00 P ₁₀ = 0.13 Q ₁ = 0.15 Median = 0.20 Q ₃ = 0.26 P ₉₀ = 0.37 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	0.1	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	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.13	0.21
2-Nov	0.2	0.2	0.1	0.1	0.2	0.4	A	0.6	0.3	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.2	0.2	0.1	0.2	0.23	0.59
3-Nov	0.2	0.2	0.2	0.2	0.2	A	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.13	0.20
4-Nov	0.1	0.1	0.1	0.1	A	0.2	0.4	0.8	0.6	0.3	0.2	0.1	0.2	0.2	0.1	0.1	0.1	0.2	0.3	0.5	0.4	0.4	0.2	0.1	0.26	0.83
5-Nov	0.1	0.2	0.5	A	0.2	0.2	0.6	0.9	0.7	0.8	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.4	0.6	0.3	0.2	0.2	0.2	0.2	0.33	0.85
6-Nov	0.2	0.4	A	0.5	0.5	0.5	0.4	0.3	0.3	0.3	0.3	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.25	0.53
7-Nov	0.1	A	0.2	0.2	0.2	0.3	0.2	0.4	0.4	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	0.1	0.2	0.21	0.44
8-Nov	A	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	A	0.18	0.26
9-Nov	0.4	0.5	0.5	0.4	0.2	0.2	0.3	0.7	0.6	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.3	0.3	0.3	0.3	A	0.3	0.31	0.74
10-Nov	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	0.1	0.2	A	0.2	0.2	0.21	0.35
11-Nov	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.18	0.27
12-Nov	0.1	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	A	0.1	0.2	0.1	0.1	0.17	0.21
13-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	0.2	0.2	A	0.1	0.1	0.1	0.1	0.1	0.14	0.17
14-Nov	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.15	0.24
15-Nov	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	C	C	C	0.2	0.3	0.3	0.3	A	0.5	0.4	0.5	0.3	0.3	0.3	0.4	0.29	0.54
16-Nov	0.3	0.1	0.1	0.1	0.1	0.1	0.3	0.3	0.4	0.5	0.2	0.3	0.3	0.2	0.2	A	0.4	0.4	0.4	0.3	0.2	0.3	0.4	0.3	0.27	0.52
17-Nov	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	A	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.11	0.23
18-Nov	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.1	0.1	A	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.10	0.18
19-Nov	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.4	0.2	0.2	0.3	0.2	A	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.1	0.21	0.43
20-Nov	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.22	0.31
21-Nov	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.3	A	0.2	0.2	0.3	0.3	0.3	M	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.28	0.44
22-Nov	0.5	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	A	0.3	0.4	0.4	0.4	0.4	0.6	0.3	0.3	0.2	0.2	0.2	0.3	0.4	0.6	0.35	0.58
23-Nov	0.5	0.6	0.6	0.3	0.2	0.2	0.4	0.3	A	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.5	0.7	0.8	1.0	0.6	0.5	0.4	0.44	1.03
24-Nov	0.2	0.2	0.2	0.2	0.2	0.3	0.3	A	0.5	0.5	0.6	0.7	0.4	0.3	0.3	0.4	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.31	0.72
25-Nov	0.2	0.3	0.2	0.2	0.2	0.2	A	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.19	0.27
26-Nov	0.2	0.4	0.3	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.22	0.37
27-Nov	0.2	0.1	0.2	0.1	A	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.16	0.23
28-Nov	0.2	0.2	0.2	A	0.1	0.2	0.3	0.4	0.2	0.2	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	0.2	0.21	0.42
29-Nov	0.2	0.1	A	0.1	0.1	0.1	0.2	0.2	0.7	1.1	1.0	0.9	0.5	0.5	0.5	0.4	0.5	0.5	0.4	0.5	0.3	0.3	0.2	0.2	0.41	1.08
30-Nov	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.3	0.2	0.2	0.3	0.3	0.3	0.2	0.3	0.2	0.2	0.2	0.1	0.1	0.23	0.32
																								Diurnal Average		
																								Diurnal Maximum		
C - Calibration M - Maintenance 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 2011



Hourly Maximums

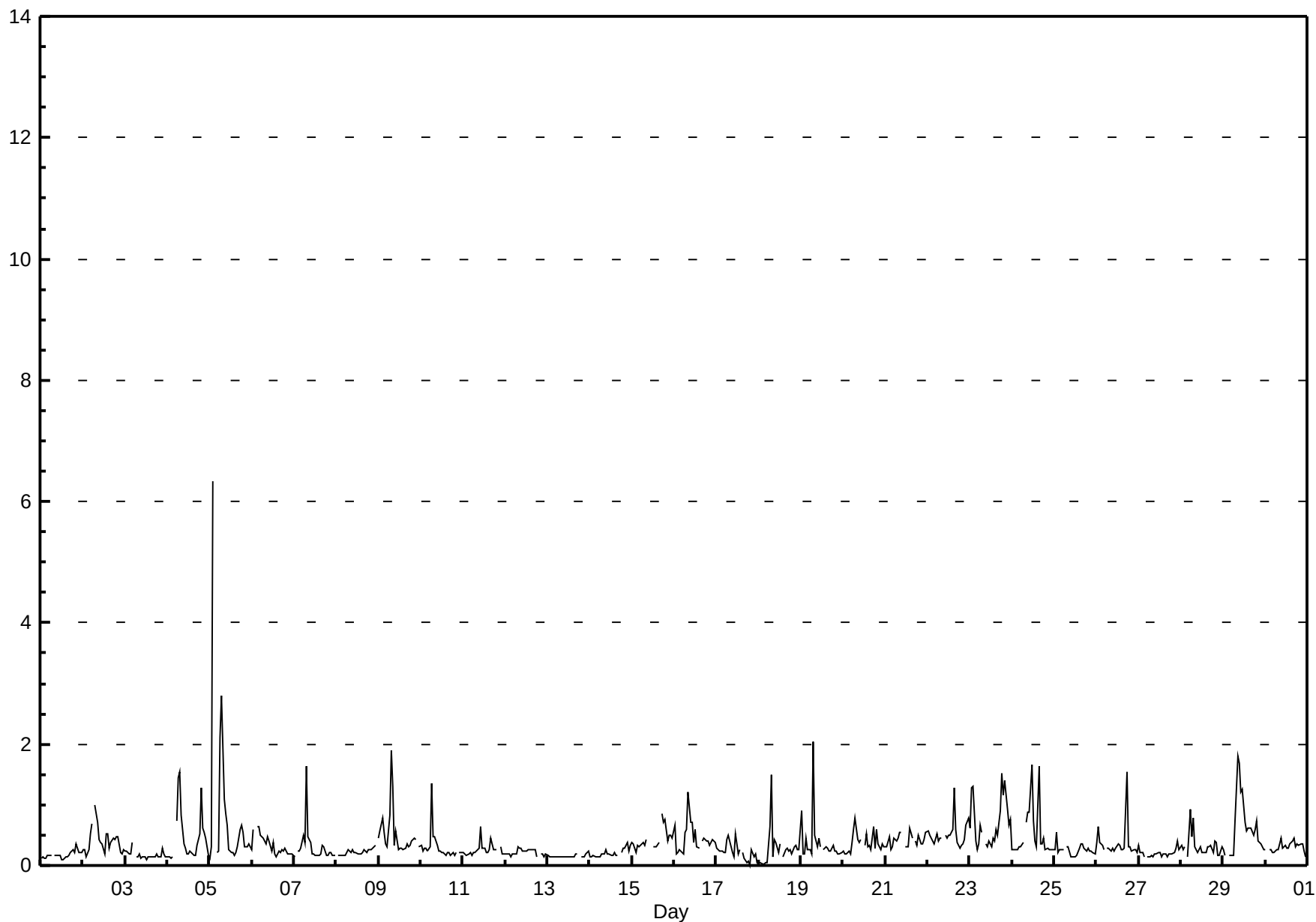
Carbon Monoxide (CO) - ppm

Henry Pirker - November 2011

Maximum Value: 6.33 ppm on Nov 5 03:00																					Maximum Daily Average: 0.83 ppm on Nov 5					Hours in Service: 720	
Minimum Value: 0.0 ppm on Nov 17 20:00																					Minimum Daily Average: 0.16 ppm on Nov 13					Hours of Data: 685	
Maximum Diurnal Average: 0.74 ppm at hour 8																					Minimum Diurnal Average: 0.26 ppm at hour 5					Hours of Missing Data: 35	
Monthly Average: 0.363 ppm																					Percentiles: P ₁ = 0.05 P ₁₀ = 0.15 Q ₁ = 0.20 Median = 0.26 Q ₃ = 0.40 P ₉₀ = 0.62 P ₉₉ = 1.64					Hours of Calibration: 34	
																					Percent Operational Time: 99.9						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Nov	0.1	0.1	0.1	0.1	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.2	0.4	0.3	0.2	0.2	0.17	0.35	
2-Nov	0.3	0.3	0.2	0.3	0.5	0.7	A	1.0	0.7	0.4	0.4	0.3	0.2	0.5	0.5	0.3	0.4	0.4	0.4	0.5	0.5	0.2	0.2	0.3	0.41	1.00	
3-Nov	0.2	0.2	0.2	0.2	0.4	A	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.2	0.1	0.18	0.38	
4-Nov	0.1	0.1	0.1	0.1	A	0.7	1.5	1.5	0.8	0.4	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.5	1.3	0.6	0.5	0.5	0.2	0.47	1.54	
5-Nov	0.1	0.3	6.3	A	0.2	0.2	2.1	2.8	1.1	0.9	0.7	0.3	0.2	0.2	0.2	0.2	0.3	0.6	0.7	0.6	0.3	0.3	0.4	0.3	0.83	6.33	
6-Nov	0.3	0.6	A	0.7	0.7	0.5	0.5	0.4	0.3	0.5	0.4	0.2	0.4	0.2	0.1	0.2	0.2	0.3	0.2	0.3	0.2	0.2	0.2	0.2	0.34	0.65	
7-Nov	0.1	A	0.2	0.2	0.3	0.5	0.4	1.6	0.5	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.31	1.63	
8-Nov	A	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.3	0.3	0.3	0.3	0.3	A	0.22	0.33	
9-Nov	0.5	0.6	0.8	0.6	0.4	0.3	0.8	1.9	1.3	0.3	0.6	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.5	0.4	A	0.3	0.52	1.90	
10-Nov	0.3	0.2	0.3	0.3	0.2	0.3	1.3	0.5	0.5	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.31	1.34	
11-Nov	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.6	0.3	0.3	0.2	0.2	0.3	0.4	0.3	0.3	0.3	A	0.3	0.2	0.2	0.26	0.64	
12-Nov	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	0.1	A	0.2	0.2	0.1	0.2	0.22	0.30	
13-Nov	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	A	0.1	0.1	0.2	0.2	0.2	0.16	0.23	
14-Nov	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.3	0.3	0.4	0.2	0.3	0.20	0.37	
15-Nov	0.4	0.4	0.2	0.3	0.3	0.3	0.4	0.3	0.4	C	C	C	0.3	0.3	0.3	0.4	A	0.9	0.7	0.8	0.4	0.5	0.5	0.5	0.43	0.86	
16-Nov	0.7	0.2	0.2	0.3	0.2	0.2	0.6	0.6	1.2	0.7	0.7	0.4	0.6	0.3	0.3	A	0.4	0.4	0.4	0.4	0.3	0.4	0.4	0.4	0.45	1.22	
17-Nov	0.3	0.3	0.2	0.2	0.2	0.2	0.4	0.5	0.3	0.2	0.2	0.5	0.2	0.3	A	0.2	0.1	0.1	0.1	0.0	0.3	0.2	0.2	0.1	0.22	0.52	
18-Nov	0.1	0.1	0.0	0.0	0.0	0.1	0.7	1.5	0.1	0.4	0.4	0.2	0.4	A	0.2	0.3	0.3	0.3	0.2	0.2	0.2	0.3	0.3	0.3	0.28	1.50	
19-Nov	0.9	0.2	0.2	0.4	0.3	0.3	0.2	2.0	0.5	0.3	0.5	0.3	A	0.2	0.3	0.3	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.38	2.04	
20-Nov	0.2	0.2	0.2	0.2	0.2	0.4	0.6	0.8	0.4	0.4	0.4	A	0.3	0.5	0.3	0.3	0.3	0.3	0.6	0.3	0.6	0.4	0.3	0.4	0.38	0.78	
21-Nov	0.3	0.3	0.5	0.3	0.3	0.4	0.4	0.4	0.6	0.5	A	0.3	0.3	0.3	0.6	0.5	M	0.4	0.3	0.5	0.4	0.4	0.4	0.5	0.41	0.62	
22-Nov	0.6	0.5	0.5	0.4	0.4	0.5	0.4	0.4	0.5	A	0.5	0.4	0.5	0.5	0.6	1.3	0.6	0.4	0.3	0.3	0.4	0.4	0.7	0.8	0.51	1.29	
23-Nov	0.6	1.3	1.3	0.4	0.3	0.4	0.7	0.5	A	0.4	0.3	0.4	0.3	0.5	0.4	0.6	0.5	0.9	1.5	1.2	1.4	0.9	0.7	0.8	0.70	1.51	
24-Nov	0.3	0.3	0.3	0.3	0.3	0.3	0.4	A	0.7	0.9	0.9	1.7	0.7	0.4	0.3	1.6	0.4	0.4	0.5	0.3	0.3	0.3	0.3	0.3	0.51	1.66	
25-Nov	0.3	0.6	0.2	0.3	0.3	0.3	A	0.3	0.3	0.1	0.1	0.1	0.1	0.2	0.3	0.3	0.3	0.3	0.2	0.3	0.2	0.2	0.2	0.2	0.25	0.55	
26-Nov	0.4	0.6	0.4	0.3	0.3	A	0.3	0.3	0.2	0.3	0.2	0.3	0.4	0.3	0.3	0.3	0.3	1.6	0.3	0.3	0.2	0.3	0.3	0.2	0.36	1.55	
27-Nov	0.3	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.4	0.3	0.21	0.39	
28-Nov	0.3	0.3	0.3	A	0.2	0.9	0.5	0.8	0.3	0.2	0.3	0.3	0.2	0.2	0.2	0.3	0.3	0.3	0.2	0.4	0.4	0.2	0.2	0.3	0.33	0.92	
29-Nov	0.3	0.2	A	0.2	0.2	0.2	0.2	0.7	1.8	1.7	1.2	1.3	0.7	0.6	0.6	0.6	0.6	0.5	0.6	0.7	0.4	0.4	0.3	0.3	0.61	1.79	
30-Nov	0.3	A	0.3	0.3	0.2	0.2	0.3	0.2	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.2	0.1	0.30	0.45	
0.30 0.31 0.50 0.26 0.26 0.32 0.49 0.74 0.50 0.41 0.38 0.35 0.29 0.28 0.28 0.36 0.30 0.39 0.36 0.39 0.34 0.32 0.30 0.28																								Diurnal Average			
0.91 1.28 6.33 0.65 0.65 0.92 2.12 2.79 1.79 1.68 1.21 1.66 0.74 0.56 0.62 1.65 0.61 1.55 1.51 1.28 1.39 0.93 0.66 0.78																								Diurnal Maximum			
C - Calibration M - Maintenance A - Automated Daily Zero Span																											

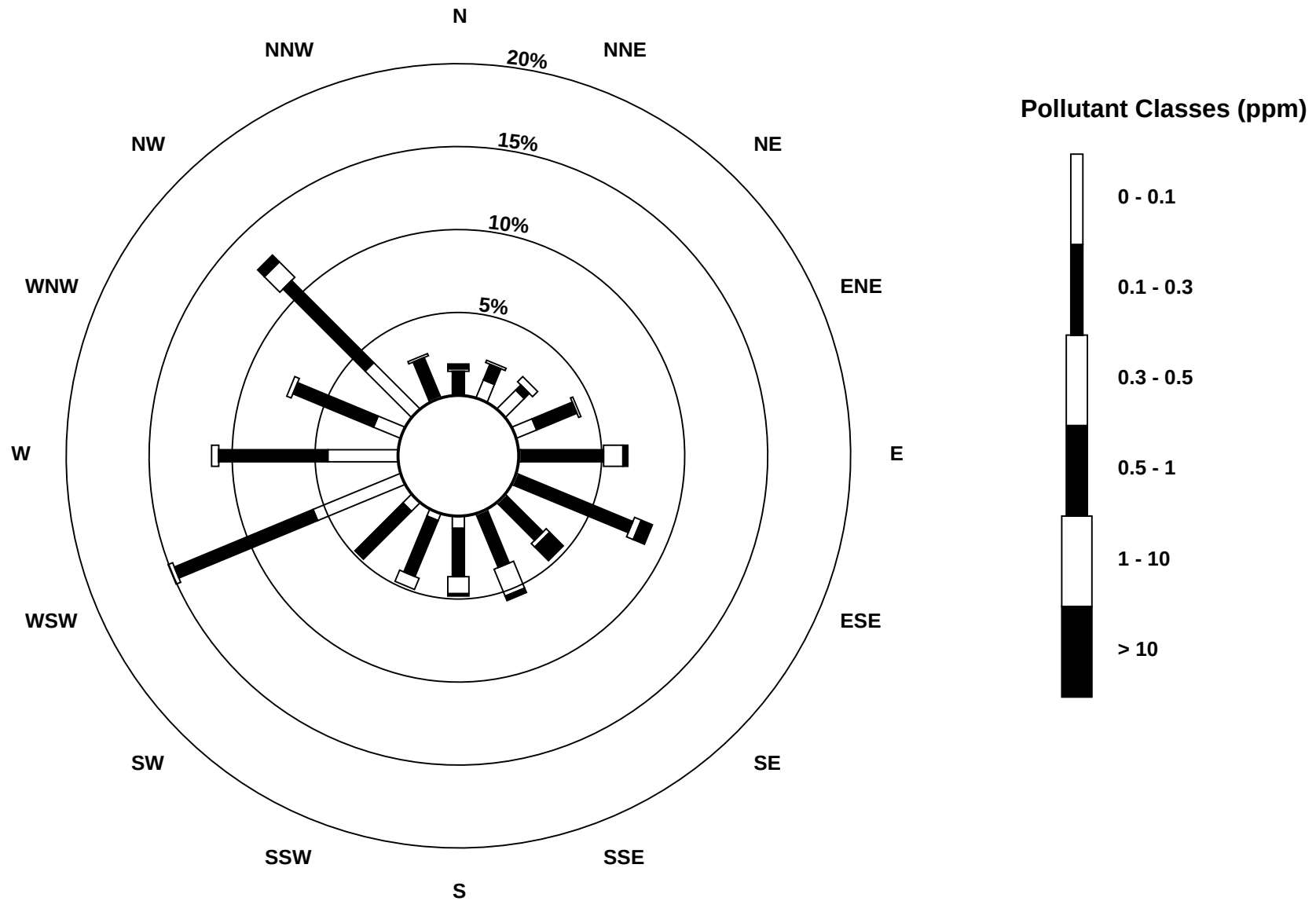
Hourly Maximums

Carbon Monoxide (CO) - ppm
Henry Pirker - November 2011



Pollutant Rose

Carbon Monoxide (CO) - ppm
Henry Pirker - November 2011



Eight Hour Running Averages

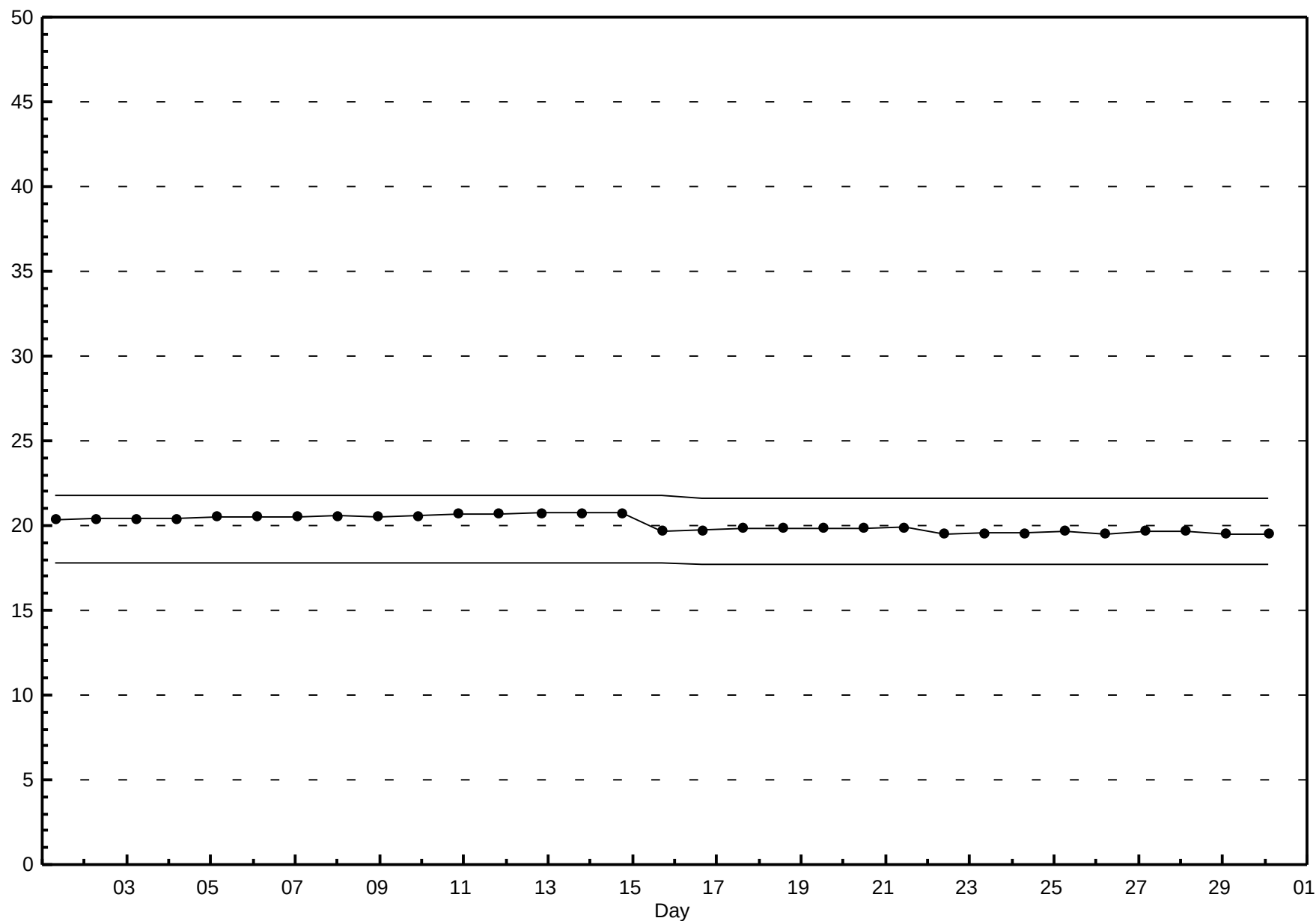
Carbon Monoxide (CO) - ppm

Henry Pirker - November 2011

Number of Exceedences (AAAQO): 8-hr: 0 Maximum Value: 0.70 ppm on Nov 29 16:00																								Hours in Service: 720 Hours of Data: 713		
Minimum Value: 0.01 ppm on Nov 18 00:00																								Hours of Missing Data: 7 Hours of Calibration: 7		
Percentiles: P ₁ = 0.01 P ₁₀ = 0.13 Q ₁ = 0.16 Median = 0.21 Q ₃ = 0.27 P ₉₀ = 0.36 P ₉₉ = 0.60																								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	0.1	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	0.2	0.2	0.2	0.2	0.17
2-Nov	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	0.2	0.2	0.2	0.2	0.2	0.2	0.31
3-Nov	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.22
4-Nov	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.3	0.4	0.4	0.4	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.38
5-Nov	0.3	0.3	0.3	0.3	0.2	0.2	0.3	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.54
6-Nov	0.3	0.3	0.2	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.40
7-Nov	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.28
8-Nov	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.21
9-Nov	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	0.3	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.42
10-Nov	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.27
11-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	0.2	0.2	0.2	0.2	0.21
12-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	0.2	0.2	0.2	0.2	0.20
13-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	0.15
14-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	0.2	0.2	0.2	0.2	0.2	0.2	0.19
15-Nov	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	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.38
16-Nov	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.37
17-Nov	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.31
18-Nov	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.16
19-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	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.27
20-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	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	0.27
21-Nov	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	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.33
22-Nov	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.40
23-Nov	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.5	0.6	0.6	0.6	0.6	0.6	0.62
24-Nov	0.6	0.6	0.5	0.4	0.3	0.3	0.3	0.2	0.3	0.3	0.4	0.4	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.3	0.3	0.3	0.2	0.2	0.2	0.61
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	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.23
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	0.2	0.2	0.2	0.2	0.25
27-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	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.21
28-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	0.2	0.2	0.2	0.2	0.24
29-Nov	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.4	0.4	0.5	0.6	0.6	0.7	0.7	0.7	0.6	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.70
30-Nov	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	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.33
0.61 0.56 0.50 0.43 0.43 0.43 0.43 0.40 0.46 0.54 0.52 0.53 0.57 0.62 0.66 0.70 0.67 0.59 0.53 0.48 0.55 0.59 0.62 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 2011



Hourly Averages

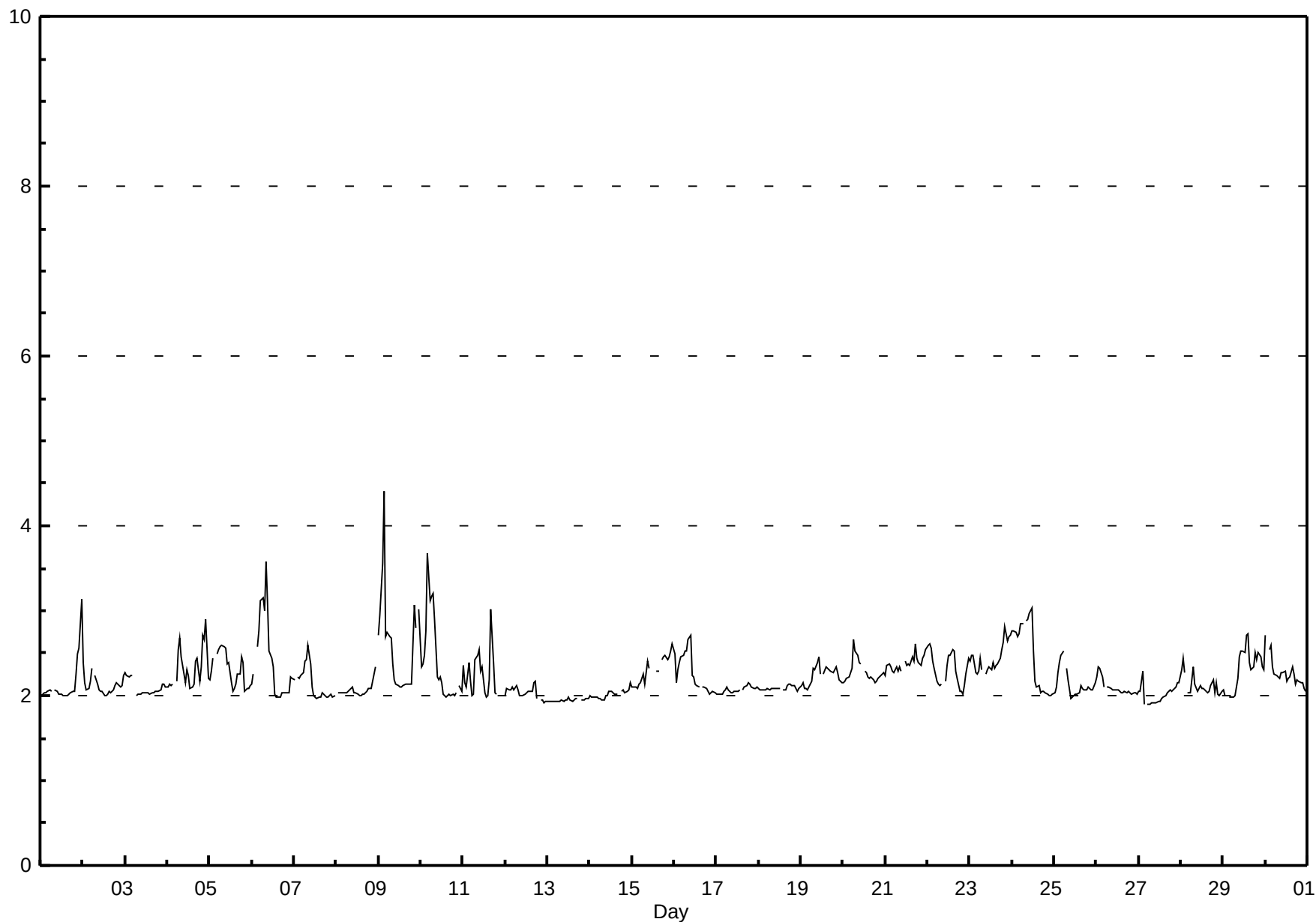
Total Hydrocarbons (THC) - ppm

Henry Pirker - November 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 4.40 ppm on Nov 9 04:00 Maximum Daily Average: 2.57 ppm on Nov 9																								Hours in Service: 720		
Minimum Value: 1.9 ppm on Nov 27 06:00 Minimum Daily Average: 1.95 ppm on Nov 13 Maximum Diurnal Average: 2.31 ppm at hour 9 Minimum Diurnal Average: 2.12 ppm at hour 14 Monthly Average: 2.217 ppm Percentiles: P ₁ = 1.92 P ₁₀ = 1.99 Q ₁ = 2.04 Median = 2.12 Q ₃ = 2.33 P ₉₀ = 2.54 P ₉₉ = 3.14																								Hours of Data: 686		
																								Hours of Missing Data: 34		
																								Hours of Calibration: 34		
																								Percent Operational Time: 100.0		
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
1-Nov	2.0	2.0	2.0	2.0	2.1	2.1	2.0	A	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.2	2.5	2.6	3.1	2.13	3.14	
2-Nov	2.4	2.2	2.1	2.1	2.2	2.3	A	2.2	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.2	2.12	2.39	
3-Nov	2.3	2.2	2.2	2.2	2.2	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.1	2.1	2.1	2.1	2.09	2.27	
4-Nov	2.1	2.1	2.1	2.1	A	2.2	2.6	2.7	2.5	2.3	2.2	2.3	2.2	2.1	2.1	2.1	2.4	2.4	2.2	2.3	2.7	2.7	2.9	2.32	2.90	
5-Nov	2.2	2.3	2.4	A	2.5	2.5	2.6	2.6	2.6	2.6	2.4	2.4	2.2	2.1	2.1	2.1	2.3	2.3	2.5	2.4	2.1	2.1	2.1	2.31	2.60	
6-Nov	2.1	2.2	A	2.6	2.8	3.1	3.2	3.0	3.6	3.1	2.5	2.4	2.3	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.2	2.2	2.41	3.58	
7-Nov	2.2	A	2.2	2.2	2.2	2.3	2.4	2.4	2.6	2.4	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.13	2.59	
8-Nov	A	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.3	2.3	A	2.07	2.33	
9-Nov	2.7	2.9	3.6	4.4	2.7	2.8	2.7	2.7	2.4	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	3.1	2.8	A	3.0	2.57	4.40	
10-Nov	2.3	2.4	2.5	2.8	3.7	3.1	3.2	3.2	2.9	2.2	2.2	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.1	2.0	2.39	3.68	
11-Nov	2.4	2.1	2.1	2.4	2.2	2.0	2.0	2.4	2.5	2.5	2.3	2.3	2.0	2.0	2.0	2.2	3.0	2.4	2.0	2.0	A	2.0	2.0	2.21	3.01	
12-Nov	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.2	2.2	2.0	A	1.9	1.9	1.9	2.03	2.17	
13-Nov	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	1.9	1.9	2.0	2.0	A	1.9	1.9	2.0	2.0	1.95	1.98	
14-Nov	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.1	2.0	2.0	2.1	2.02	2.15	
15-Nov	2.1	2.1	2.1	2.1	2.1	2.1	2.3	2.1	2.3	2.4	2.3	C	C	C	2.3	2.3	A	2.4	2.5	2.5	2.4	2.5	2.5	2.30	2.61	
16-Nov	2.5	2.1	2.3	2.4	2.5	2.5	2.5	2.5	2.7	2.7	2.2	2.2	2.1	2.1	2.1	A	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.26	2.72	
17-Nov	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.0	2.0	2.0	2.1	2.1	2.1	A	2.1	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.07	2.16	
18-Nov	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	A	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.09	2.13	
19-Nov	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.3	2.3	2.4	2.5	2.3	A	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.2	2.24	2.45	
20-Nov	2.2	2.2	2.2	2.2	2.3	2.3	2.7	2.5	2.5	2.4	2.4	A	2.3	2.3	2.2	2.2	2.2	2.2	2.1	2.2	2.2	2.2	2.3	2.28	2.66	
21-Nov	2.2	2.4	2.4	2.3	2.3	2.3	2.3	2.3	2.3	2.3	A	2.4	2.4	2.4	2.4	2.5	2.4	2.6	2.4	2.4	2.4	2.5	2.5	2.38	2.61	
22-Nov	2.6	2.6	2.6	2.4	2.3	2.2	2.1	2.1	2.1	A	2.2	2.3	2.5	2.5	2.5	2.5	2.3	2.2	2.1	2.0	2.0	2.1	2.2	2.4	2.31	2.60
23-Nov	2.4	2.5	2.5	2.3	2.3	2.3	2.4	2.3	A	2.3	2.3	2.3	2.3	2.4	2.3	2.4	2.4	2.4	2.5	2.6	2.8	2.6	2.7	2.7	2.44	2.82
24-Nov	2.8	2.8	2.7	2.7	2.7	2.9	2.8	A	2.9	2.9	3.0	3.0	2.5	2.2	2.1	2.1	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.45	3.04	
25-Nov	2.0	2.1	2.3	2.4	2.5	2.5	A	2.3	2.2	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.14	2.53	
26-Nov	2.2	2.3	2.3	2.2	2.1	A	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.09	2.34	
27-Nov	2.1	2.1	2.3	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.2	2.2	2.01	2.28	
28-Nov	2.3	2.4	2.3	A	2.0	2.0	2.2	2.3	2.1	2.0	2.1	2.1	2.1	2.1	2.1	2.0	2.1	2.1	2.2	2.0	2.2	2.0	2.0	2.13	2.44	
29-Nov	2.1	2.0	A	2.0	2.0	2.0	2.0	2.0	2.2	2.5	2.5	2.5	2.5	2.7	2.7	2.4	2.3	2.3	2.5	2.4	2.5	2.5	2.3	2.3	2.32	2.73
30-Nov	2.7	A	2.5	2.6	2.3	2.3	2.2	2.2	2.2	2.3	2.3	2.3	2.2	2.2	2.2	2.3	2.3	2.1	2.2	2.2	2.2	2.1	2.1	2.0	2.26	2.71
2.24 2.23 2.28 2.31 2.29 2.28 2.31 2.30 2.31 2.26 2.20 2.20 2.15 2.12 2.13 2.14 2.17 2.17 2.16 2.15 2.20 2.20 2.20 2.23																								Diurnal Average		
2.76 2.95 3.56 4.40 3.68 3.12 3.17 3.20 3.58 3.11 2.97 3.04 2.53 2.71 2.73 2.52 3.01 2.61 2.54 2.63 3.07 2.80 2.90 3.14																								Diurnal Maximum		
C - Calibration A - Automated Daily Zero Span																										

Hourly Averages

Total Hydrocarbons (THC) - ppm
Henry Pirker - November 2011



Hourly Maximums

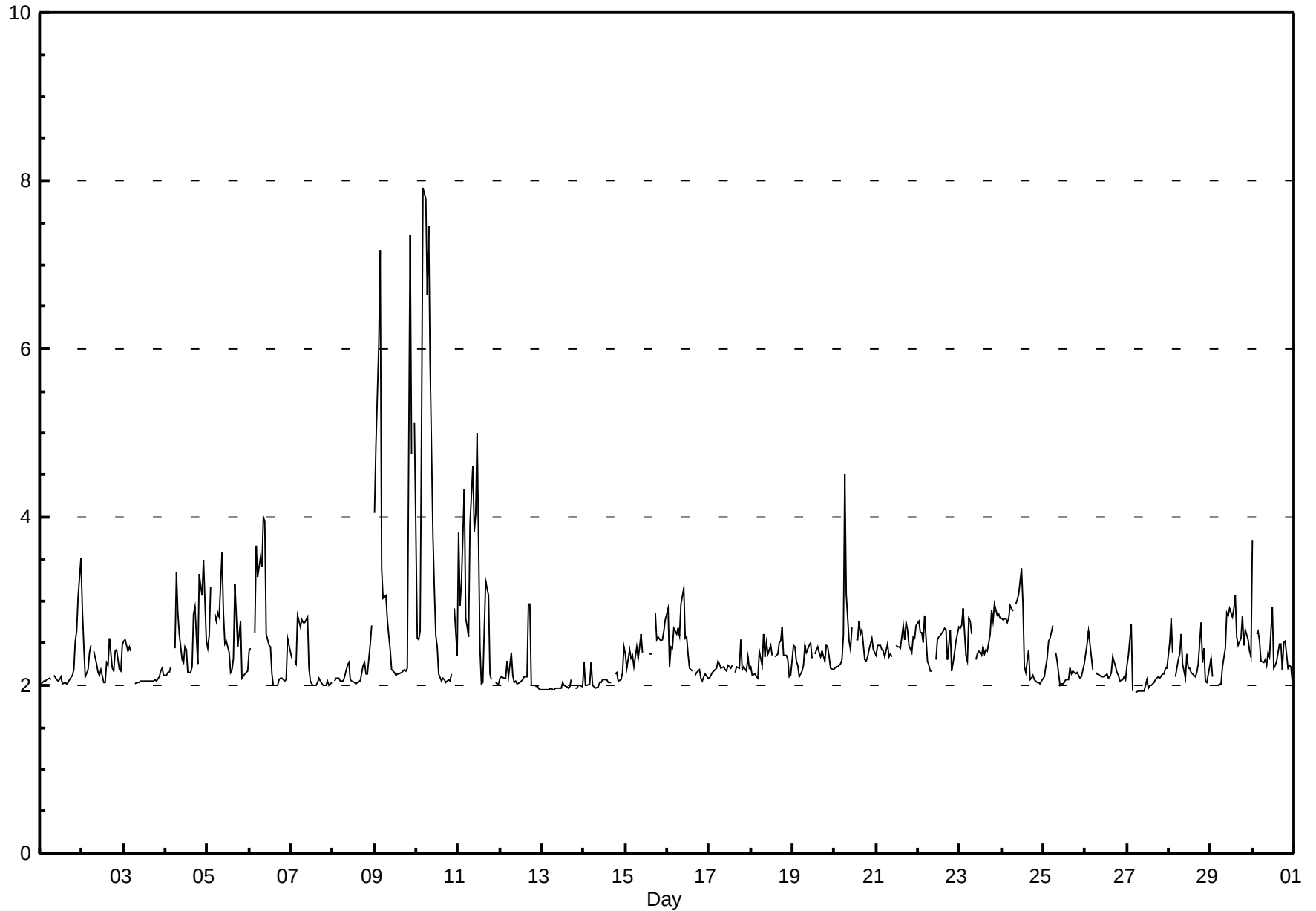
Total Hydrocarbons (THC) - ppm

Henry Pirker - November 2011

Maximum Value: 7.91 ppm on Nov 10 05:00																					Maximum Daily Average: 3.58 ppm on Nov 10				Hours in Service: 720	
Minimum Value: 1.9 ppm on Nov 27 06:00																					Minimum Daily Average: 1.97 ppm on Nov 13				Hours of Data: 686	
Maximum Diurnal Average: 2.67 ppm at hour 7																					Minimum Diurnal Average: 2.20 ppm at hour 14				Hours of Missing Data: 34	
Monthly Average: 2.442 ppm																					Percentiles: P ₁ = 1.94 P ₁₀ = 2.02 Q ₁ = 2.09 Median = 2.27 Q ₃ = 2.54 P ₉₀ = 2.90 P ₉₉ = 5.85				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	2.0	2.0	2.1	2.1	2.1	2.1	2.1	A	2.1	2.1	2.0	2.1	2.1	2.0	2.0	2.0	2.0	2.1	2.1	2.2	2.5	2.6	3.1	3.5	2.22	3.52
2-Nov	2.9	2.5	2.1	2.2	2.4	2.5	A	2.4	2.3	2.1	2.1	2.2	2.0	2.0	2.3	2.2	2.6	2.2	2.2	2.4	2.4	2.2	2.2	2.5	2.30	2.90
3-Nov	2.5	2.5	2.4	2.5	2.4	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.1	2.16	2.55
4-Nov	2.1	2.2	2.2	2.2	A	2.4	3.3	2.9	2.6	2.3	2.3	2.5	2.4	2.1	2.2	2.2	2.9	2.9	2.2	3.3	3.2	3.1	3.5	2.5	2.59	3.50
5-Nov	2.4	2.6	3.2	A	2.8	2.8	2.9	2.8	3.6	2.8	2.5	2.5	2.4	2.2	2.2	2.3	3.2	2.5	2.6	2.8	2.1	2.1	2.1	2.2	2.59	3.58
6-Nov	2.4	2.4	A	2.6	3.7	3.3	3.5	3.4	4.0	3.9	2.6	2.5	2.4	2.1	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.6	2.5	2.62	4.01
7-Nov	2.3	A	2.3	2.2	2.8	2.7	2.8	2.7	2.8	2.8	2.2	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.0	2.0	2.0	2.1	2.0	2.0	2.26	2.83
8-Nov	A	2.1	2.1	2.1	2.0	2.1	2.1	2.1	2.2	2.3	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.2	2.3	2.1	2.1	2.5	2.7	A	2.15	2.71
9-Nov	4.1	4.9	6.1	7.2	3.4	3.0	3.1	2.8	2.6	2.4	2.2	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.2	7.4	4.8	A	5.1	3.40	7.36
10-Nov	2.6	2.5	2.6	5.1	7.9	7.8	6.6	7.5	5.8	3.8	3.1	2.6	2.5	2.1	2.1	2.1	2.1	2.0	2.1	2.0	2.1	A	2.9	2.4	3.58	7.91
11-Nov	3.8	2.9	3.2	4.3	2.8	2.7	2.6	3.9	4.6	3.8	4.0	5.0	2.4	2.0	2.0	2.7	3.2	3.1	2.1	2.1	A	2.0	2.0	2.0	3.02	5.01
12-Nov	2.1	2.1	2.1	2.1	2.3	2.1	2.4	2.1	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	3.0	3.0	2.0	A	2.0	2.0	2.0	2.0	2.16	2.97
13-Nov	2.0	2.0	1.9	1.9	1.9	2.0	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	A	2.0	2.0	2.0	2.0	2.0	1.97	2.07
14-Nov	2.3	2.0	2.0	2.0	2.3	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.0	2.0	2.0	A	2.1	2.2	2.1	2.1	2.1	2.5	2.08	2.45
15-Nov	2.4	2.2	2.4	2.3	2.4	2.2	2.5	2.3	2.5	2.6	2.4	C	C	C	2.4	2.4	A	2.9	2.5	2.6	2.5	2.5	2.6	2.8	2.47	2.86
16-Nov	2.9	2.2	2.5	2.4	2.7	2.6	2.7	2.6	3.0	3.2	2.6	2.6	2.4	2.2	2.2	A	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.41	3.16
17-Nov	2.1	2.1	2.2	2.2	2.2	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.2	A	2.1	2.2	2.2	2.5	2.2	2.2	2.2	2.3	2.2	2.22	2.53
18-Nov	2.2	2.1	2.1	2.1	2.1	2.4	2.2	2.6	2.3	2.5	2.4	2.5	2.4	A	2.3	2.4	2.5	2.5	2.7	2.4	2.3	2.3	2.1	2.1	2.33	2.69
19-Nov	2.5	2.5	2.3	2.2	2.1	2.2	2.2	2.5	2.4	2.5	2.5	2.3	A	2.4	2.5	2.4	2.3	2.4	2.3	2.5	2.5	2.3	2.2	2.2	2.35	2.51
20-Nov	2.2	2.2	2.2	2.3	2.3	2.6	4.5	3.1	2.5	2.4	2.7	A	2.5	2.6	2.8	2.6	2.7	2.3	2.3	2.3	2.4	2.6	2.4	2.4	2.56	4.52
21-Nov	2.4	2.5	2.5	2.4	2.4	2.3	2.5	2.3	2.4	2.3	A	2.5	2.5	2.5	2.4	2.7	2.5	2.7	2.7	2.5	2.4	2.6	2.6	2.7	2.49	2.74
22-Nov	2.8	2.6	2.6	2.5	2.8	2.3	2.2	2.2	2.2	A	2.3	2.5	2.6	2.6	2.6	2.7	2.7	2.3	2.7	2.2	2.3	2.4	2.5	2.7	2.49	2.83
23-Nov	2.7	2.7	2.9	2.4	2.3	2.8	2.8	2.6	A	2.3	2.4	2.4	2.4	2.5	2.4	2.4	2.4	2.6	2.9	2.8	3.0	2.8	2.9	2.8	2.61	2.97
24-Nov	2.8	2.8	2.8	2.7	2.8	3.0	2.9	A	3.0	3.0	3.1	3.4	3.0	2.2	2.2	2.4	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.1	2.54	3.40
25-Nov	2.1	2.2	2.3	2.5	2.6	2.7	A	2.4	2.3	2.0	2.0	2.0	2.0	2.1	2.1	2.2	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.3	2.20	2.71
26-Nov	2.4	2.5	2.6	2.3	2.2	A	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.3	2.2	2.2	2.1	2.0	2.1	2.1	2.1	2.19	2.64
27-Nov	2.2	2.4	2.7	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	2.1	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.08	2.74
28-Nov	2.5	2.8	2.4	A	2.1	2.3	2.4	2.6	2.3	2.1	2.4	2.2	2.2	2.2	2.1	2.1	2.1	2.3	2.8	2.3	2.4	2.1	2.0	2.2	2.29	2.79
29-Nov	2.3	2.1	A	2.0	2.0	2.0	2.0	2.2	2.4	2.9	2.8	2.9	2.8	2.9	3.1	2.6	2.5	2.6	2.8	2.5	2.7	2.5	2.4	2.3	2.50	3.06
30-Nov	3.7	A	2.6	2.6	2.5	2.3	2.3	2.3	2.2	2.4	2.3	2.9	2.2	2.2	2.3	2.5	2.5	2.2	2.5	2.5	2.2	2.2	2.2	2.1	2.43	3.73
2.54 2.45 2.55 2.63 2.65 2.62 2.67 2.66 2.63 2.51 2.39 2.44 2.28 2.20 2.22 2.26 2.36 2.35 2.33 2.29 2.46 2.37 2.35 2.43																								Diurnal Average		
4.05 4.87 6.06 7.16 7.91 7.78 6.65 7.45 5.84 3.95 4.04 5.01 2.97 2.91 3.06 2.72 3.24 3.07 2.90 3.31 7.36 4.75 3.50 5.11																								Diurnal Maximum		
C - Calibration A - Automated Daily Zero Span																										

Hourly Maximums

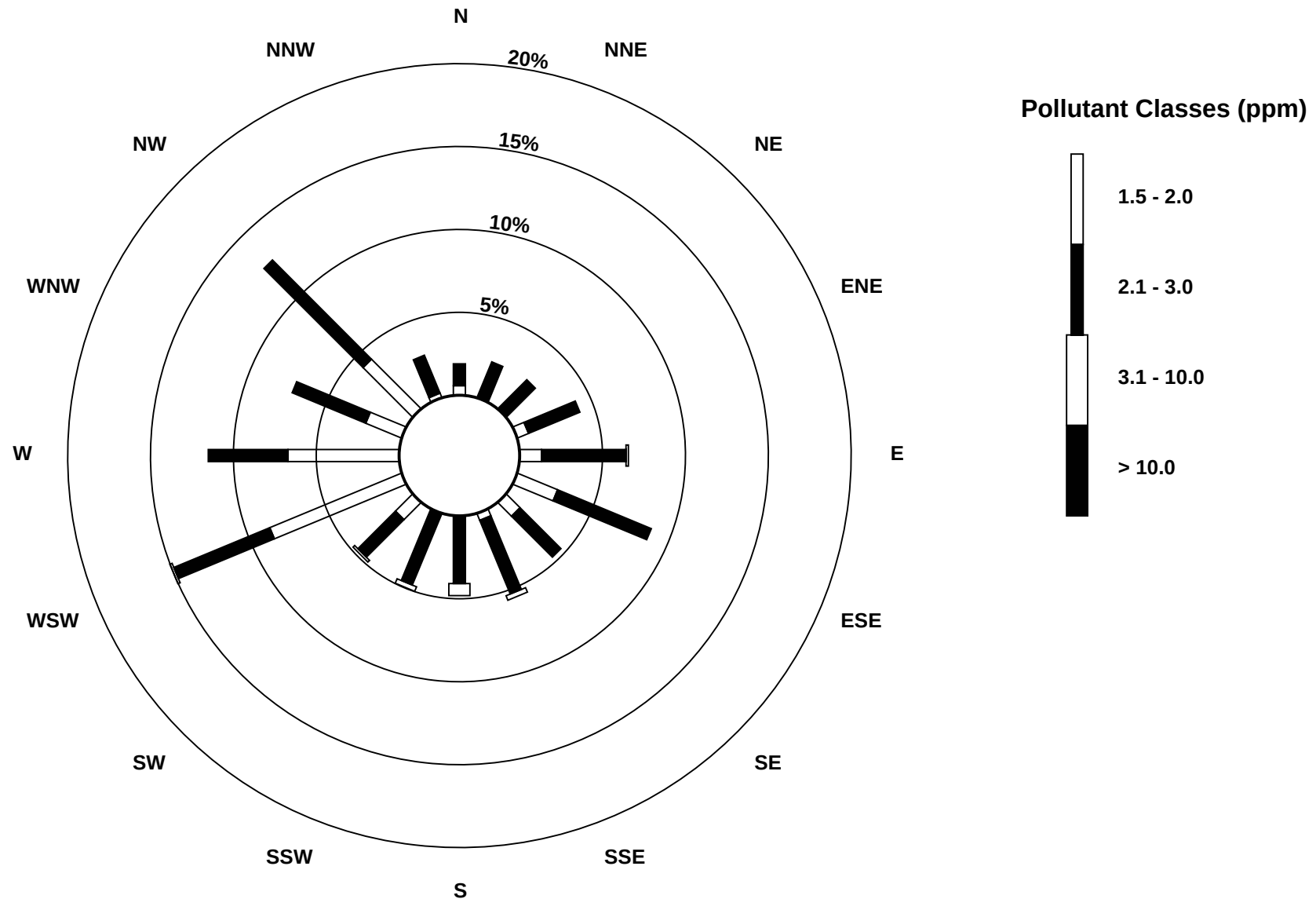
Total Hydrocarbons (THC) - ppm
Henry Pirker - November 2011



Pollutant Rose

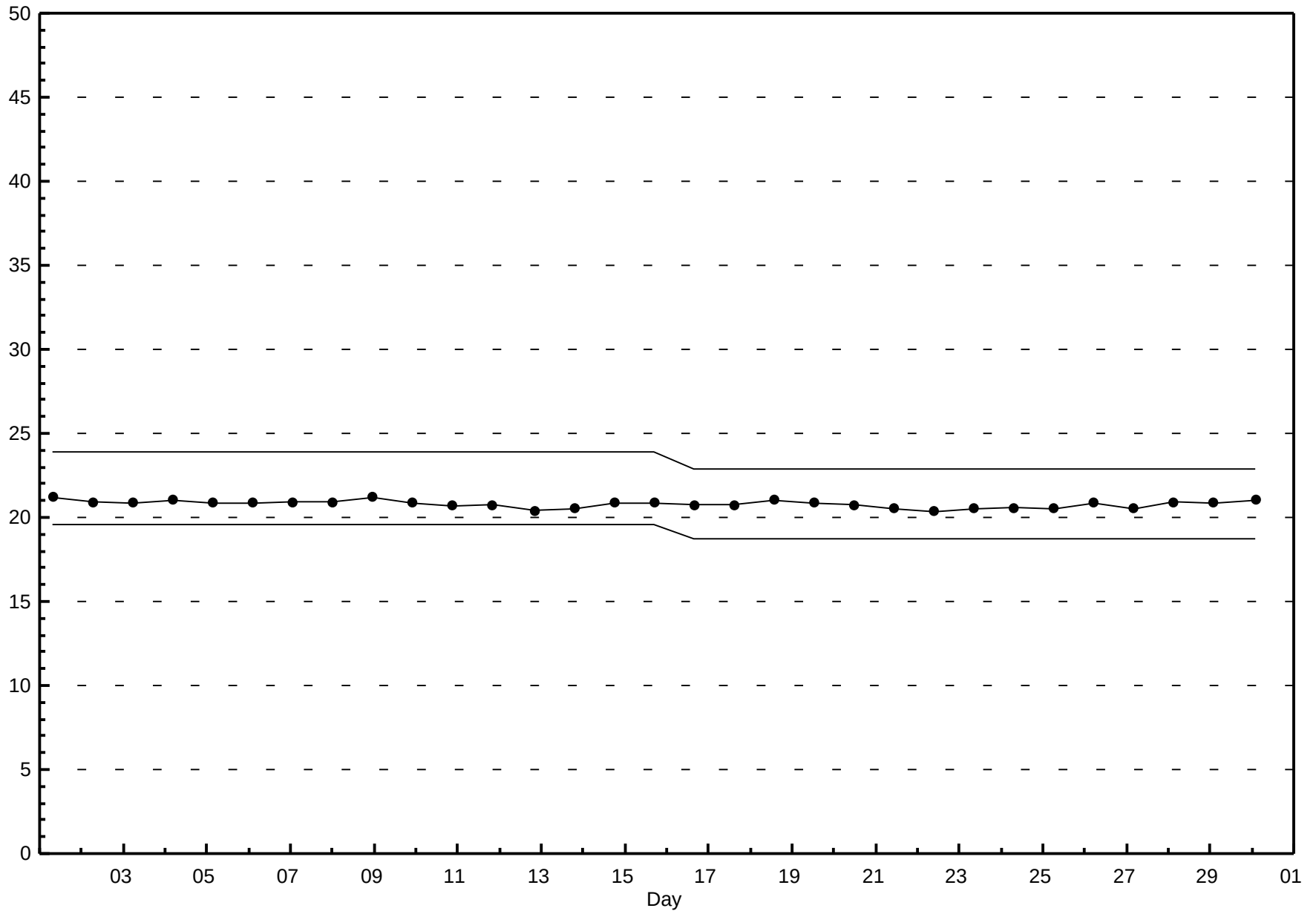
Total Hydrocarbons (THC) - ppm

Henry Pirker - November 2011



Span Responses

Total Hydrocarbons (THC)
Henry Pirker - November 2011

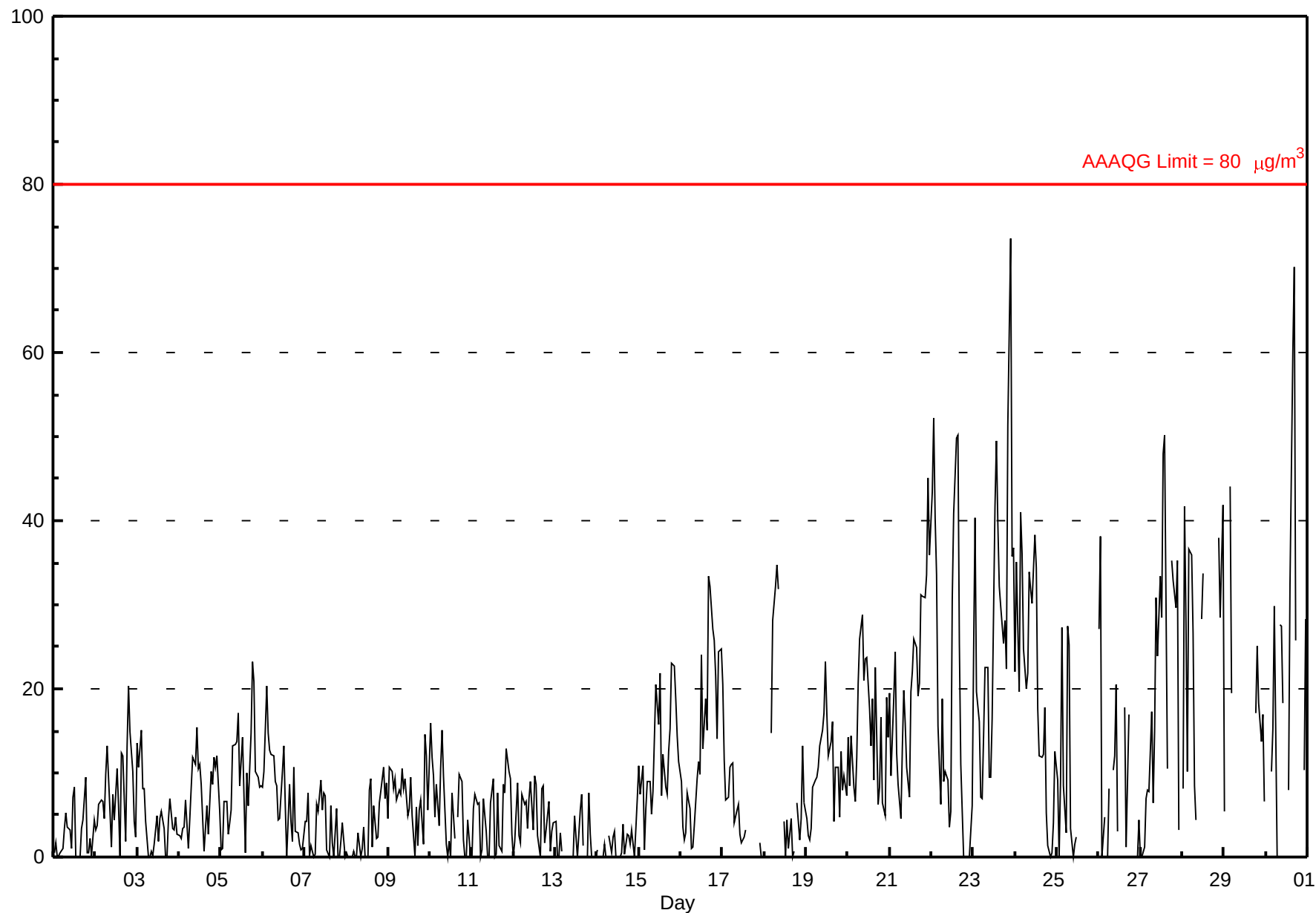


Hourly Averages

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

Henry Pirker - November 2011

Number of Exceedences: 1-hr: 0 24-hr: 0 Maximum Value: 73.6 µg/m³ on Nov 23 22:00																				Maximum Daily Average: 28.1 µg/m³ on Nov 23										Hours in Service: 720 Hours of Data: 645 Hours of Missing Data: 75 Hours of Calibration: 0 Percent Operational Time: 89.6			
Minimum Value: 0 µg/m³ on Nov 1 03:00 Maximum Diurnal Average: 14.0 µg/m³ at hour 13 Monthly Average: 10.90 µg/m³																				Minimum Daily Average: 1.6 µg/m³ on Nov 14 Minimum Diurnal Average: 8.7 µg/m³ at hour 6 Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 2.6 Median = 7.6 Q ₃ = 14.7 P ₉₀ = 28.1 P ₉₉ = 49.1													
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	1	2	0	0	1	1	3	5	4	3	1	7	8	0	N	0	3	4	10	1	0	2	0	4	2.7	9.6							
2-Nov	3	4	6	7	7	5	10	13	5	1	8	4	11	6	0	12	12	2	13	20	15	10	4	2	7.5	20.3							
3-Nov	14	11	15	8	8	4	0	0	1	0	2	5	2	5	5	3	0	0	4	7	3	3	5	3	4.5	15.1							
4-Nov	2	2	3	4	7	1	5	8	12	11	15	11	11	9	1	3	6	3	10	9	12	11	12	5	7.2	15.5							
5-Nov	1	1	7	7	3	4	6	13	13	14	17	9	14	8	0	10	6	15	23	21	10	9	8	8	9.5	23.2							
6-Nov	8	10	20	15	13	12	12	9	8	4	5	10	13	6	0	9	4	2	11	3	3	1	1	1	7.5	20.3							
7-Nov	4	4	8	0	1	0	0	6	5	9	6	8	7	1	0	6	2	0	6	0	0	2	4	0	3.3	9.2							
8-Nov	1	0	0	0	1	0	0	3	0	1	4	0	0	8	9	1	6	2	2	6	8	11	7	9	3.3	10.6							
9-Nov	5	11	10	8	9	7	8	8	10	8	9	5	6	10	5	0	6	1	6	7	1	15	12	6	7.1	14.6							
10-Nov	16	12	10	5	9	4	11	15	10	2	0	2	0	8	2	N	5	10	9	2	0	0	4	0	5.8	15.9							
11-Nov	0	6	7	6	6	0	1	7	3	0	0	6	9	0	0	8	1	1	9	8	13	10	9	3	4.7	12.9							
12-Nov	0	2	9	3	2	7	6	7	3	7	9	3	10	9	3	0	8	9	2	3	7	1	3	4	4.8	9.7							
13-Nov	4	0	0	3	1	N	0	0	0	0	0	5	2	0	6	8	1	N	0	8	3	0	0	0	1.8	7.6							
14-Nov	1	N	0	0	1	0	N	3	1	2	3	0	0	0	0	4	0	3	2	2	3	0	3	7	1.6	7.0							
15-Nov	11	7	11	1	6	9	9	5	8	14	21	16	22	7	12	8	8	12	15	23	23	19	14	11	12.2	23.0							
16-Nov	9	4	2	3	8	6	1	1	4	9	11	10	24	13	19	15	33	32	27	26	22	14	24	25	14.2	33.4							
17-Nov	20	12	7	7	11	11	11	4	6	6	3	2	2	3	M	M	4	N	N	N	N	2	0	N	--	20.5							
18-Nov	N	N	N	N	15	28	32	35	32	M	M	4	0	4	1	5	0	1	N	6	2	5	13	6	--	34.8							
19-Nov	5	3	2	3	8	9	10	11	13	15	17	23	17	12	14	16	4	11	11	5	13	8	10	7	10.2	23.2							
20-Nov	14	8	14	8	7	12	21	26	29	21	24	24	18	13	19	9	23	6	8	17	7	5	19	14	15.2	28.8							
21-Nov	20	10	19	24	12	9	5	13	20	16	11	7	20	22	26	25	19	21	31	31	31	34	45	36	21.0	45.1							
22-Nov	43	52	40	34	16	6	19	9	10	9	4	5	30	41	50	50	25	11	0	0	0	0	0	6	19.2	52.1							
23-Nov	24	40	20	16	7	7	14	23	23	9	10	16	42	49	40	32	30	25	28	22	51	74	36	37	28.1	73.6							
24-Nov	22	35	20	41	36	25	20	22	34	32	30	38	34	18	12	12	12	18	5	1	0	1	4	13	20.2	41.0							
25-Nov	9	0	9	27	9	3	27	25	3	0	2	2	N	N	N	N	N	N	N	N	M	M	N	N	--	27.4							
26-Nov	27	38	0	5	N	0	8	N	10	12	20	3	N	26	N	18	1	17	N	N	0	0	0	4	10.6	38.1							
27-Nov	0	0	1	7	8	8	17	6	15	31	24	33	29	48	50	10	N	N	35	33	30	35	3	N	20.2	50.1							
28-Nov	8	42	28	10	37	36	27	9	4	N	N	28	34	N	N	N	N	N	N	N	38	28	42	--	41.8								
29-Nov	6	N	N	44	19	N	N	N	N	N	N	N	N	N	N	N	N	N	17	25	18	14	17	7	--	44.1							
30-Nov	N	N	N	10	15	30	0	N	28	27	18	N	N	8	32	60	70	26	N	31	N	N	10	28	--	70.1							
9.9 12.1 9.9 10.6 9.7 8.7 10.1 10.6 10.8 9.8 10.0 10.3 14.0 12.3 12.8 13.0 11.2 9.6 11.9 12.1 10.5 11.5 10.3 10.7																								Diurnal Average									
43.5 52.1 40.3 44.1 36.6 36.0 32.1 34.8 33.9 31.9 30.2 38.2 41.7 49.5 50.1 60.0 70.1 32.2 35.2 32.9 51.3 73.6 45.1 41.8																								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

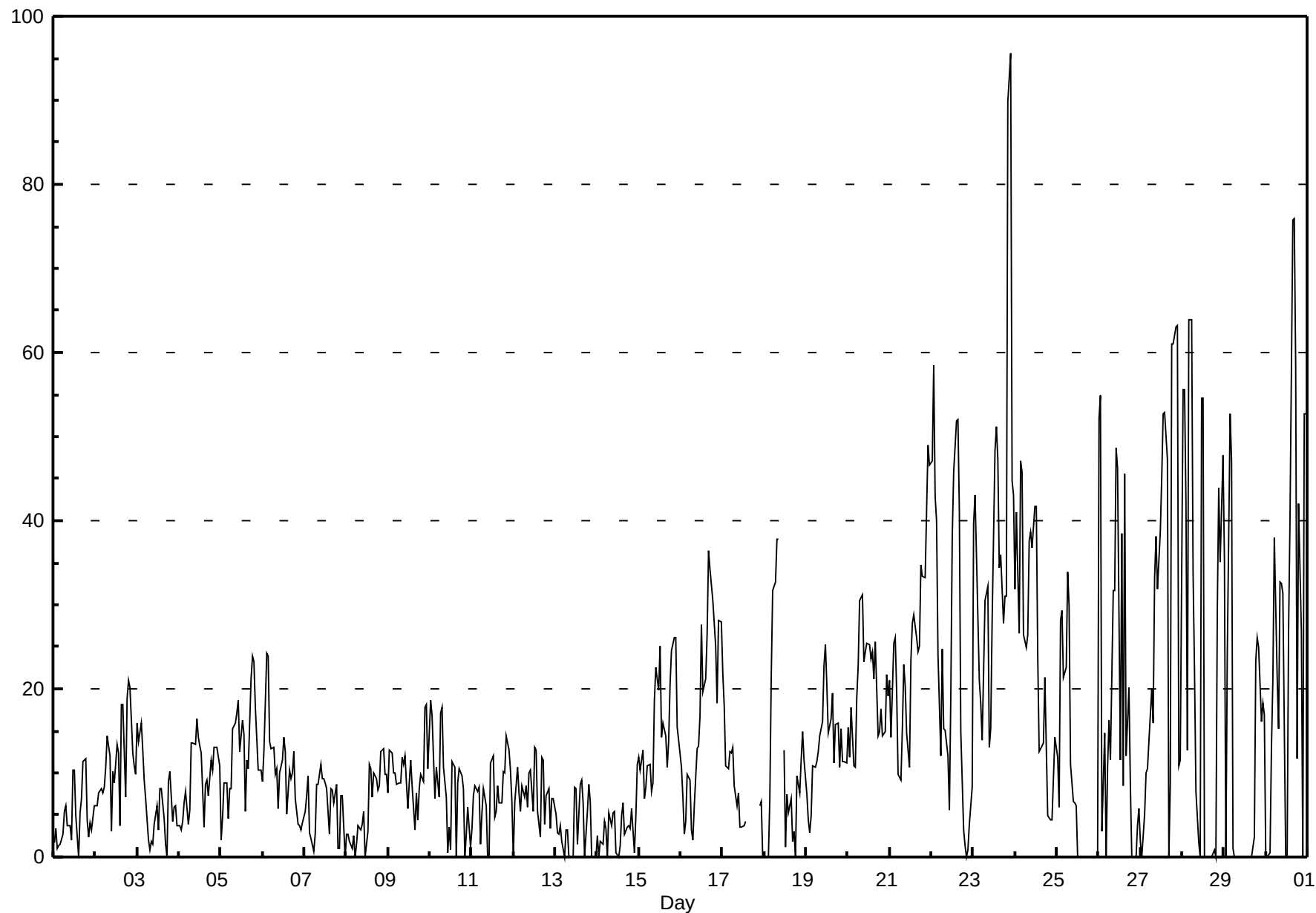
Henry Pirker - November 2011

Maximum Value: 95.6 µg/m³ on Nov 23 22:00																					Maximum Daily Average: 37.2 µg/m³ on Nov 23					Hours in Service: 720	
Minimum Value: 0 µg/m³ on Nov 1 15:00																					Minimum Daily Average: 3.4 µg/m³ on Nov 14					Hours of Data: 710	
Maximum Diurnal Average: 17.1 µg/m³ at hour 21																					Minimum Diurnal Average: 12.6 µg/m³ at hour 10					Hours of Missing Data: 10	
Monthly Average: 14.39 µg/m³																					Percentiles: P ₁ = 0.0 P ₁₀ = 0.7 Q ₁ = 4.5 Median = 10.3 Q ₃ = 18.8 P ₉₀ = 35.1 P ₉₉ = 62.7					Hours of Calibration: 0	
																					Percent Operational Time: 98.6						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Nov	2	3	1	1	2	3	5	6	4	4	2	10	10	5	0	5	7	11	12	4	2	4	3	6	4.7	11.7	
2-Nov	6	6	8	8	8	8	11	14	12	3	10	9	13	12	4	18	18	7	19	21	20	12	11	10	11.2	21.0	
3-Nov	16	14	16	13	9	7	2	1	2	1	4	6	3	8	8	5	1	0	9	10	4	6	6	4	6.5	16.0	
4-Nov	4	3	4	6	8	4	6	13	14	13	16	14	13	12	4	9	9	7	12	10	13	13	13	11	9.7	16.4	
5-Nov	2	5	9	9	5	8	8	15	16	17	19	13	16	15	5	12	10	21	24	23	18	10	10	10	12.5	24.0	
6-Nov	9	13	24	24	14	13	13	10	11	6	10	12	14	13	5	10	9	10	13	7	4	4	3	4	10.5	24.2	
7-Nov	5	7	10	3	2	1	3	9	9	11	9	9	9	8	3	8	8	6	9	1	1	7	7	0	6.1	11.1	
8-Nov	3	3	2	1	2	0	1	4	3	4	5	0	3	11	10	7	10	9	8	8	12	13	10	10	5.8	12.8	
9-Nov	8	13	12	10	10	9	9	9	12	11	12	6	9	12	8	3	8	4	8	10	9	18	18	11	9.9	18.2	
10-Nov	19	17	12	7	11	7	17	18	11	7	1	4	1	11	11	0	9	11	10	8	0	3	6	1	8.3	18.6	
11-Nov	3	7	8	8	8	2	5	8	6	0	0	11	12	5	5	8	6	6	10	10	14	13	10	7	7.3	14.4	
12-Nov	0	6	11	8	5	8	7	8	6	10	10	5	13	13	5	2	12	11	4	7	8	3	7	7	7.5	13.1	
13-Nov	5	3	3	4	2	0	3	3	0	0	0	8	8	2	9	9	6	0	5	9	7	0	0	0	3.6	9.1	
14-Nov	3	0	2	2	4	3	0	5	4	5	5	1	0	1	5	6	3	4	4	3	6	1	5	11	3.4	11.1	
15-Nov	12	10	13	7	8	11	11	8	9	19	23	20	25	14	16	14	11	14	20	25	26	26	15	14	15.4	26.2	
16-Nov	11	7	3	4	10	9	3	2	6	13	13	17	28	20	21	26	36	34	30	28	25	18	28	28	17.6	36.4	
17-Nov	22	18	11	11	13	12	13	8	6	8	4	4	4	4	M	M	6	N	N	N	N	6	7	0	8.6	21.8	
18-Nov	0	0	0	7	21	32	33	38	38	M	M	13	1	7	5	7	2	3	0	10	8	12	15	12	11.9	37.8	
19-Nov	7	4	3	5	11	11	11	13	14	16	23	25	21	15	16	20	11	16	16	11	15	11	11	11	13.2	25.2	
20-Nov	15	12	18	11	11	19	23	31	31	23	24	25	25	23	24	21	26	14	15	18	14	15	22	19	20.0	31.3	
21-Nov	21	14	25	26	20	10	9	15	23	20	15	11	23	28	29	26	24	25	35	33	33	41	49	47	25.1	49.1	
22-Nov	47	59	43	40	24	12	25	15	15	12	6	19	38	46	52	52	41	15	3	1	0	1	4	8	24.1	58.5	
23-Nov	40	43	36	21	18	14	22	31	32	13	15	28	48	51	47	34	36	28	31	31	90	96	45	43	37.2	95.6	
24-Nov	32	41	27	47	46	26	25	26	38	39	37	42	42	24	13	13	14	21	13	5	4	4	9	14	25.1	47.1	
25-Nov	12	6	28	29	21	22	34	30	11	7	6	6	0	0	0	0	0	0	0	0	M	M	0	0	9.7	33.9	
26-Nov	52	55	3	15	0	11	16	11	32	32	49	46	12	39	9	46	12	20	9	0	0	0	4	6	19.8	54.9	
27-Nov	2	0	5	10	11	14	20	16	33	38	32	39	45	53	53	47	0	9	61	61	63	63	11	12	29.0	63.2	
28-Nov	56	56	42	13	64	64	34	22	8	2	0	55	55	0	0	0	0	0	1	0	29	44	35	48	26.1	63.9	
29-Nov	35	0	24	53	47	1	0	0	0	0	0	0	0	0	0	0	0	2	23	26	25	16	18	17	12.0	52.7	
30-Nov	0	0	1	13	21	38	22	15	33	32	31	0	0	27	40	76	76	58	12	42	27	0	53	53	27.9	75.9	
14.9 14.2 13.4 13.8 14.5 12.6 13.0 13.5 14.5 12.6 13.1 15.2 16.4 15.9 14.1 16.8 13.7 12.7 14.3 14.6 17.1 15.9 14.5 14.1																									Diurnal Average		
55.6 58.5 42.9 52.7 63.9 63.9 33.9 37.8 37.8 38.6 48.7 54.6 54.6 52.7 52.9 75.8 75.9 58.3 61.0 61.0 89.8 95.6 52.7 52.7																									Diurnal Maximum		
M - Maintenance N - Not Valid																											

Hourly Maximums

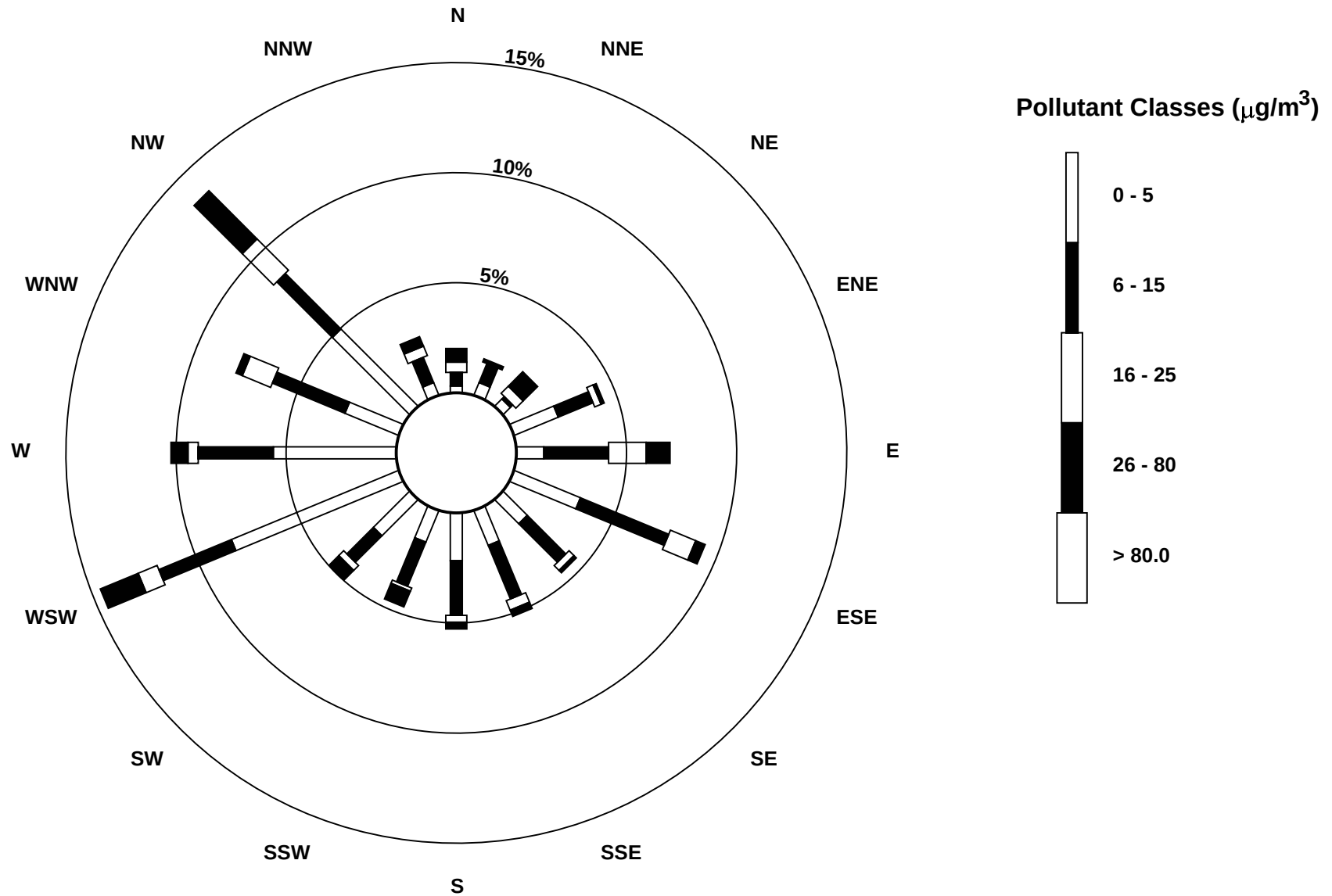
Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$

Henry Pirker - November 2011



Pollutant Rose

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Henry Pirker - November 2011



Hourly Averages

External Temperature (ET) - °C

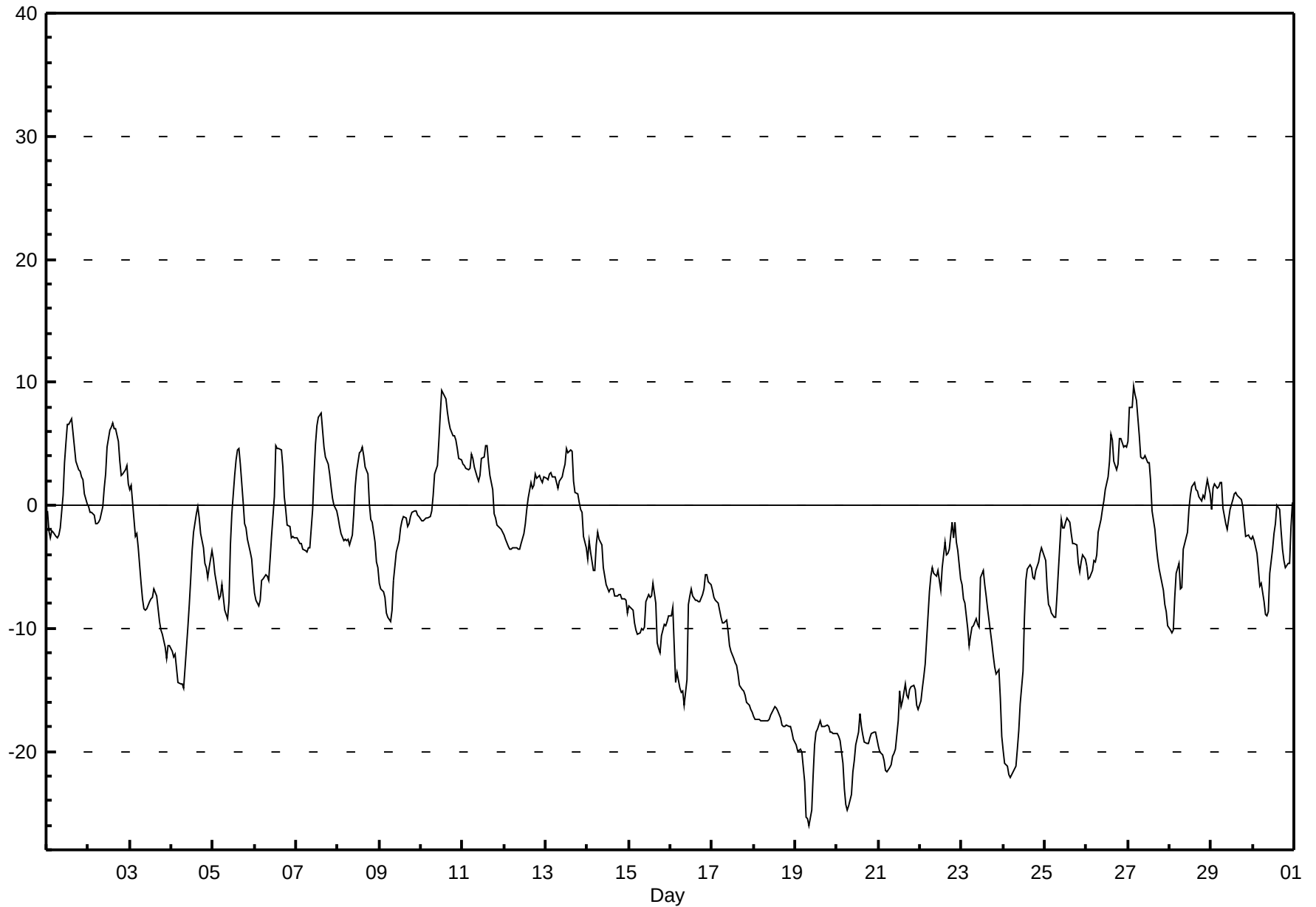
Henry Pirker - November 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 9.7 °C on Nov 27 04:00 Maximum Daily Average: 3.7 °C on Nov 10																								Hours in Service: 720 Hours of Data: 720 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0		
Minimum Value: -26 °C on Nov 19 09:00 Minimum Daily Average: -20.1 °C on Nov 19 Maximum Diurnal Average: -2.2 °C at hour 15 Minimum Diurnal Average: -7.9 °C at hour 8 Monthly Average: -5.47 °C Percentiles: P ₁ = -23.7 P ₁₀ = -17.9 Q ₁ = -9.7 Median = -4.0 Q ₃ = 0.3 P ₉₀ = 3.7 P ₉₉ = 7.6																										
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	-2	-3	-2	-2	-3	-3	-2	-2	1	4	5	7	7	7	6	5	4	3	3	2	2	1	0	1.5	7.1
2-Nov	0	-1	-1	-1	-1	-2	-1	-1	0	1	3	5	6	6	7	6	6	5	4	2	3	3	3	2	2.3	6.7
3-Nov	1	2	-1	-3	-2	-3	-6	-8	-8	-9	-8	-8	-8	-7	-7	-7	-8	-9	-10	-11	-11	-12	-11	-11	-7.0	1.6
4-Nov	-12	-12	-12	-13	-14	-14	-15	-15	-13	-10	-8	-6	-4	-2	-1	0	-1	-2	-3	-5	-5	-6	-5	-4	-7.6	-0.1
5-Nov	-4	-6	-6	-8	-7	-7	-7	-9	-9	-8	-3	-1	2	4	5	5	3	0	-1	-2	-3	-4	-4	-6	-3.2	4.6
6-Nov	-7	-8	-8	-8	-6	-6	-6	-6	-6	-4	-3	1	5	5	5	4	3	1	0	-2	-2	-3	-3	-3	-2.3	4.8
7-Nov	-3	-3	-3	-3	-4	-4	-4	-3	-3	0	3	5	6	7	7	6	5	4	3	3	1	1	0	0	0.9	7.4
8-Nov	-1	-2	-2	-3	-3	-3	-3	-3	-2	-1	2	3	4	4	5	4	3	2	0	-1	-1	-3	-5	-5	-0.4	4.8
9-Nov	-6	-7	-7	-7	-9	-9	-9	-9	-6	-5	-4	-3	-2	-1	-1	-1	-2	-1	-1	-1	0	0	-1	-1	-3.9	-0.4
10-Nov	-1	-1	-1	-1	-1	-1	0	1	2	3	5	7	9	9	9	8	7	6	6	6	5	5	4	4	3.7	9.3
11-Nov	3	3	3	3	3	4	4	3	2	2	2	4	4	5	5	3	2	1	-1	-1	-2	-2	-2	-2	2.0	4.8
12-Nov	-2	-3	-3	-4	-4	-3	-3	-3	-4	-4	-3	-2	-1	0	1	2	1	2	3	2	2	2	2	2	-0.9	2.6
13-Nov	2	2	3	3	2	2	2	1	2	2	3	3	5	4	5	4	2	1	1	0	0	-1	-3	-3	1.8	4.6
14-Nov	-4	-3	-4	-5	-5	-3	-2	-3	-3	-5	-6	-6	-7	-7	-7	-7	-7	-7	-7	-7	-8	-8	-8	-9	-5.8	-2.2
15-Nov	-8	-8	-9	-10	-10	-10	-10	-10	-10	-10	-8	-7	-8	-7	-6	-8	-11	-12	-12	-11	-10	-10	-9	-9	-9.3	-6.4
16-Nov	-9	-8	-11	-14	-14	-15	-15	-15	-16	-14	-8	-7	-7	-7	-8	-8	-8	-8	-7	-7	-6	-6	-6	-6	-9.6	-5.7
17-Nov	-7	-7	-8	-8	-9	-9	-10	-10	-9	-10	-11	-12	-12	-13	-13	-14	-15	-15	-15	-15	-16	-16	-17	-17	-12.0	-6.9
18-Nov	-17	-17	-17	-17	-18	-18	-18	-18	-18	-17	-17	-17	-16	-17	-17	-17	-18	-18	-18	-18	-18	-18	-18	-19	-17.5	-16.3
19-Nov	-19	-20	-20	-20	-20	-22	-25	-25	-26	-25	-22	-20	-18	-18	-17	-18	-18	-18	-18	-18	-18	-18	-19	-19	-20.1	-17.5
20-Nov	-19	-19	-19	-21	-23	-24	-25	-24	-24	-22	-21	-20	-18	-17	-18	-19	-19	-19	-19	-19	-19	-18	-18	-19	-20.1	-16.9
21-Nov	-20	-20	-20	-21	-22	-22	-21	-21	-20	-20	-20	-18	-15	-16	-16	-15	-15	-16	-15	-15	-15	-15	-16	-17	-17.9	-14.5
22-Nov	-16	-15	-14	-13	-11	-7	-6	-5	-6	-6	-5	-6	-7	-5	-3	-4	-4	-4	-1	-3	-1	-3	-4	-6	-6.4	-1.3
23-Nov	-7	-8	-8	-10	-11	-11	-10	-10	-9	-10	-10	-6	-5	-6	-7	-8	-9	-11	-12	-13	-14	-13	-16	-19	-10.1	-5.3
24-Nov	-20	-21	-21	-22	-22	-22	-21	-21	-20	-18	-16	-14	-9	-6	-5	-5	-5	-6	-6	-5	-5	-4	-3	-4	-12.6	-3.4
25-Nov	-4	-7	-8	-8	-9	-9	-9	-7	-5	-1	-2	-2	-1	-1	-1	-2	-3	-3	-3	-5	-5	-5	-4	-4	-4.6	-1.0
26-Nov	-5	-6	-6	-5	-4	-5	-4	-2	-1	0	0	1	2	4	6	5	4	3	3	5	5	5	5	5	0.6	5.8
27-Nov	5	8	8	10	9	9	6	4	4	4	4	3	4	2	0	-2	-3	-4	-5	-6	-7	-8	-9	-10	1.0	9.7
28-Nov	-10	-10	-10	-7	-6	-5	-7	-7	-4	-3	-2	0	1	1	2	1	1	1	0	1	1	1	2	1	-2.4	2.1
29-Nov	0	1	2	1	1	2	2	0	-1	-2	-1	0	0	1	1	1	1	1	0	-1	-2	-2	-3	-3	-0.1	1.8
30-Nov	-2	-3	-4	-5	-7	-6	-8	-9	-9	-9	-6	-4	-2	-2	0	0	-2	-4	-4	-5	-5	-5	-2	0	-4.2	0.3
																								Diurnal Average		
																								Diurnal Maximum		

Hourly Averages

External Temperature (ET) - °C

Henry Pirker - November 2011



Hourly Averages

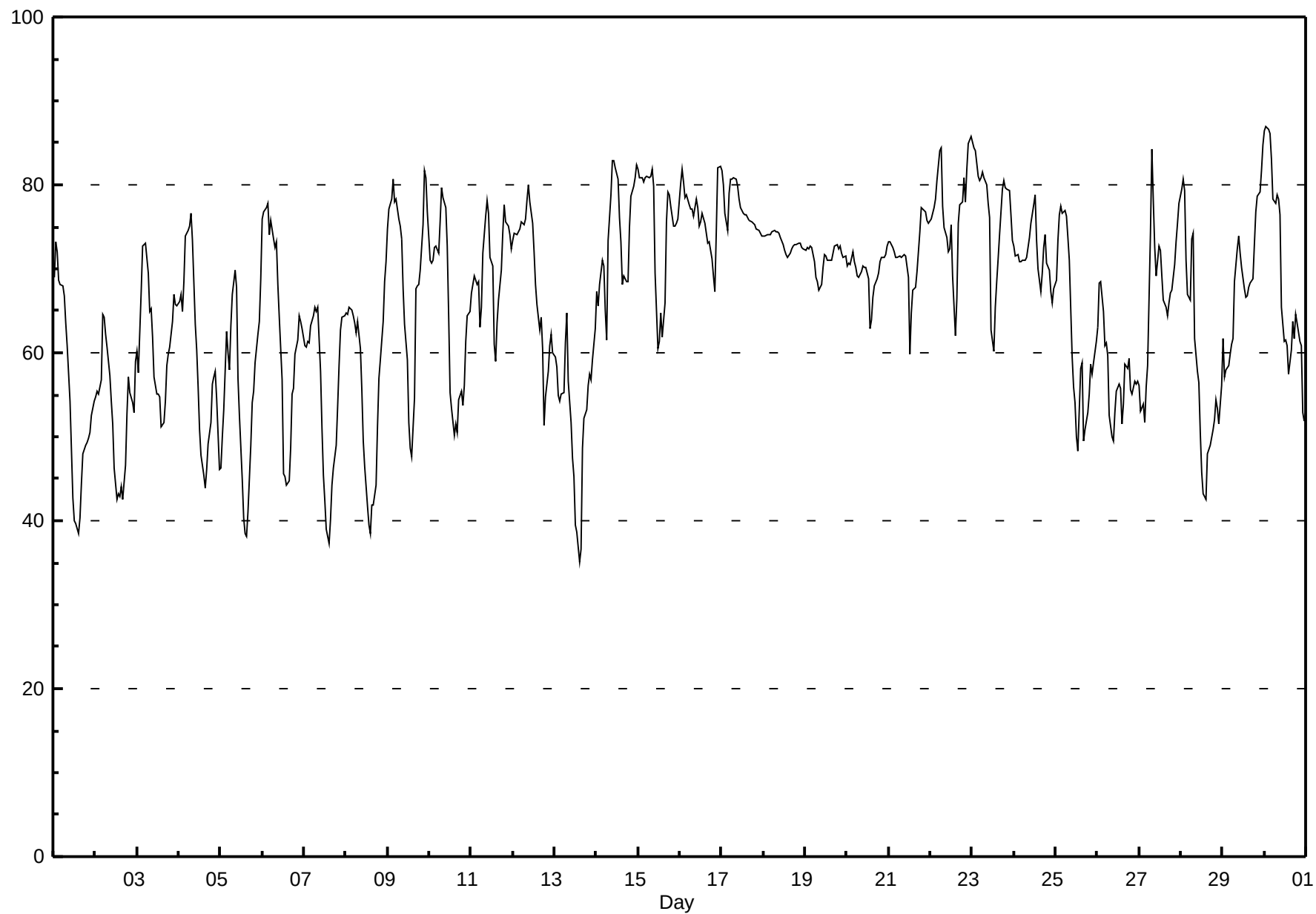
Relative Humidity (RH) - %

Henry Pirker - November 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 87.0 % on Nov 30 02:00 Maximum Daily Average: 77.3 % 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: 35 % on Nov 13 15:00 Maximum Diurnal Average: 72.0 % at hour 8 Monthly Average: 66.08 %												Minimum Daily Average: 52.5 % on Nov 13 Minimum Diurnal Average: 56.6 % at hour 15 Percentiles: P ₁ = 38.6 P ₁₀ = 50.0 Q ₁ = 57.9 Median = 68.4 Q ₃ = 74.4 P ₉₀ = 78.8 P ₉₉ = 84.8														
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	69	73	72	69	68	68	67	64	61	54	49	43	40	40	38	40	44	48	49	49	50	51	53	54	54.7	73.2
2-Nov	55	56	55	57	65	64	62	61	57	54	51	46	43	43	43	44	43	47	53	57	55	54	53	59	53.2	64.6
3-Nov	60	58	67	73	73	73	69	65	65	62	57	55	55	55	51	52	54	58	60	61	64	67	66	66	61.9	73.1
4-Nov	66	67	65	69	74	75	75	77	73	63	60	56	51	48	45	44	46	49	52	56	57	58	55	46	59.4	76.6
5-Nov	46	50	53	63	60	58	63	67	70	68	57	53	45	40	38	38	41	49	54	55	59	62	64	69	55.1	69.9
6-Nov	76	77	77	78	74	76	74	73	73	68	64	57	46	45	44	45	49	55	56	60	62	64	64	63	63.2	77.8
7-Nov	61	61	61	61	63	64	65	65	65	58	51	45	42	39	37	40	44	46	49	54	58	63	64	64	55.1	65.5
8-Nov	65	65	66	65	64	64	62	64	60	56	49	46	42	39	39	42	42	44	51	57	59	64	68	71	56.0	70.8
9-Nov	75	77	78	81	78	78	76	75	74	68	63	59	52	49	48	55	68	68	68	70	75	82	81	77	69.7	81.7
10-Nov	71	71	71	73	73	72	76	80	79	77	73	64	55	53	50	52	50	54	55	54	56	61	64	65	64.5	79.7
11-Nov	67	68	69	68	68	63	65	72	76	78	77	71	70	61	59	64	66	70	74	78	76	75	74	72	70.1	78.2
12-Nov	73	74	74	74	75	76	75	76	78	80	78	75	72	68	66	63	64	60	51	55	58	61	62	60	68.7	80.0
13-Nov	59	58	55	54	55	55	61	65	57	52	47	45	40	39	35	37	49	52	53	56	57	57	59	63	52.5	64.8
14-Nov	67	66	68	71	70	65	62	73	79	83	83	82	81	76	73	68	69	69	68	75	79	80	81	82	73.7	82.8
15-Nov	82	81	81	80	81	81	81	81	82	80	70	61	61	65	62	66	76	79	79	77	75	75	75	76	75.3	81.9
16-Nov	80	82	80	78	79	78	77	77	76	78	77	75	76	77	75	74	73	73	71	69	67	74	82	82	76.4	82.2
17-Nov	82	80	77	75	79	81	81	81	81	80	78	77	77	77	76	76	76	76	75	75	75	75	74	74	77.3	81.6
18-Nov	74	74	74	74	74	74	75	74	74	74	74	73	72	72	71	72	72	73	73	73	73	73	73	72	73.2	74.5
19-Nov	72	73	72	73	73	71	69	68	68	68	70	72	71	71	71	71	72	73	73	72	73	72	71	72	71.2	72.9
20-Nov	70	71	71	72	71	70	69	69	70	70	70	70	69	63	64	67	68	69	70	71	71	71	72	73	69.6	72.7
21-Nov	73	73	73	72	71	71	72	71	72	72	71	69	60	65	67	68	70	72	74	77	77	77	76	75	71.6	77.2
22-Nov	76	77	77	78	80	84	84	77	75	74	72	72	75	69	62	66	75	78	78	81	78	82	85	86	76.8	85.8
23-Nov	85	84	84	81	80	81	82	81	80	78	76	63	60	65	69	71	74	79	81	80	79	79	76	73	76.8	85.2
24-Nov	73	72	72	71	71	71	71	71	72	74	75	78	79	73	70	67	69	73	74	71	70	67	66	68	71.5	78.8
25-Nov	69	73	77	77	77	77	76	74	71	59	56	54	50	48	58	59	50	51	53	55	59	57	59	61	62.5	77.5
26-Nov	63	68	68	65	61	61	60	53	50	50	53	55	56	56	52	54	59	58	59	56	55	57	56	57	57.5	68.4
27-Nov	56	53	54	52	56	59	74	84	78	73	69	73	72	69	66	65	64	66	67	68	71	73	75	78	67.3	84.3
28-Nov	80	81	79	71	67	66	73	74	62	58	56	50	46	43	43	48	49	49	51	52	54	53	52	56	58.9	80.7
29-Nov	62	57	58	58	60	61	62	69	72	74	72	70	68	67	67	68	68	69	73	77	79	79	82	85	68.9	84.8
30-Nov	86	87	87	86	83	78	78	79	78	76	65	61	62	61	57	60	64	62	65	64	61	61	53	52	69.4	87.0
69.8 70.2 70.5 70.6 70.8 70.5 71.2 72.0 71.0 68.6 65.5 62.4 59.5 57.8 56.6 57.8 60.3 62.3 63.7 65.1 66.1 67.5 67.8 68.3																								Diurnal Average		
86.4 87.0 86.7 86.1 83.1 84.0 84.4 84.3 81.9 82.8 82.8 82.1 80.7 76.6 76.4 76.1 75.8 79.4 80.5 80.9 79.5 81.9 85.0 85.8																								Diurnal Maximum		

Hourly Averages

Relative Humidity (RH) - %
Henry Pirker - November 2011



Hourly Averages

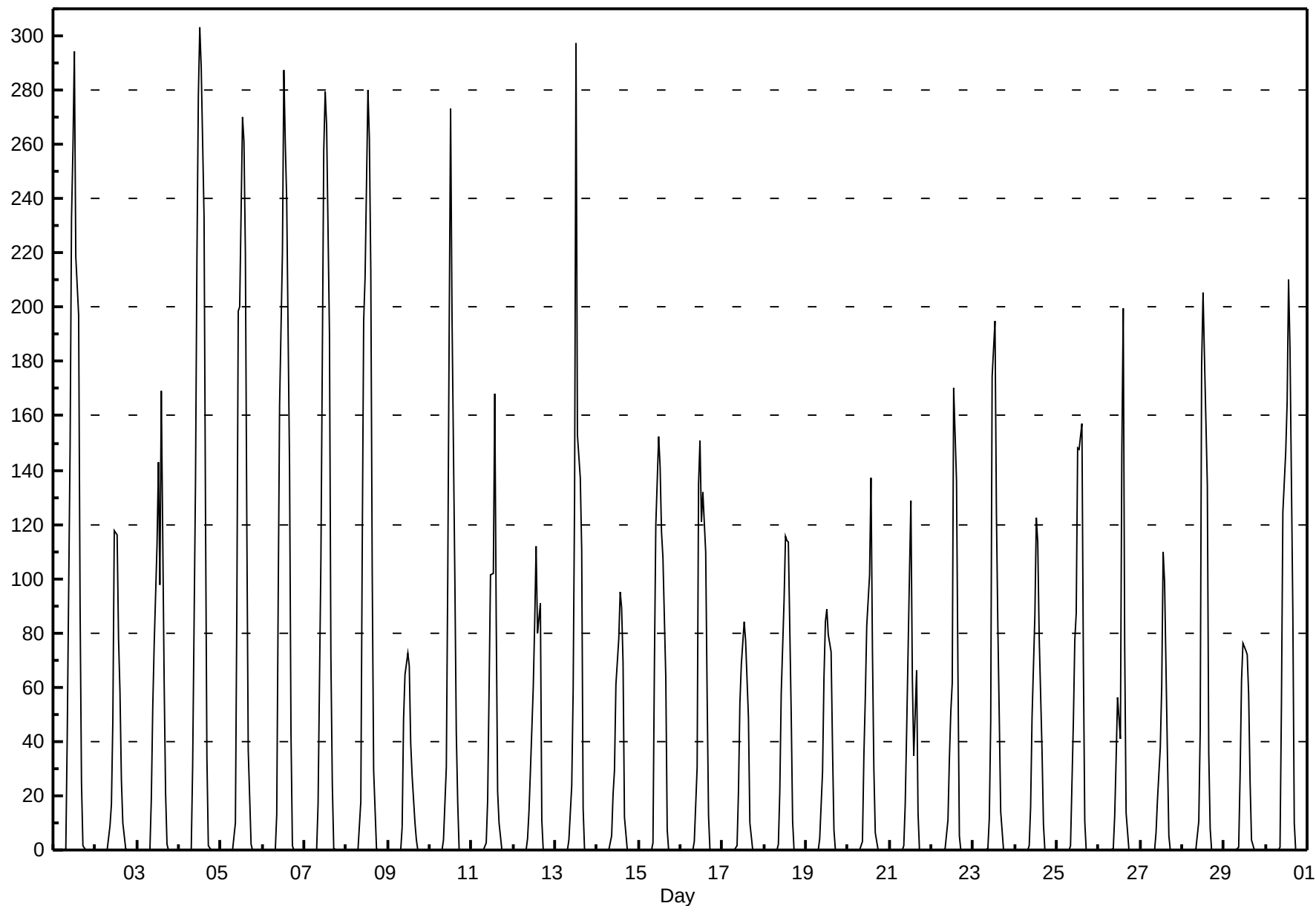
Solar Radiation (SR) - W/m²

Henry Pirker - November 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 303.4 W/m ² on Nov 4 13:00 Maximum Daily Average: 68.7 W/m ² on Nov 4																								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: 14.2 W/m ² on Nov 9 Maximum Diurnal Average: 157.7 W/m ² at hour 13 Minimum Diurnal Average: 0.0 W/m ² at hour 21 Monthly Average: 32.58 W/m ² Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 36.5 P ₉₀ = 119.7 P ₉₉ = 279.6																										
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	1	43	149	233	258	294	219	197	90	25	1	0	0	0	0	0	0	62.9	294.4
2-Nov	0	0	0	0	0	0	0	0	9	17	48	118	116	78	58	26	10	0	0	0	0	0	0	0	20.0	117.7
3-Nov	0	0	0	0	0	0	0	0	19	53	76	113	143	98	169	62	21	2	0	0	0	0	0	0	31.4	168.9
4-Nov	0	0	0	0	0	0	0	0	31	136	218	278	303	288	233	126	34	1	0	0	0	0	0	0	68.7	303.4
5-Nov	0	0	0	0	0	0	0	0	10	88	198	200	270	261	220	120	37	2	0	0	0	0	0	0	58.6	269.9
6-Nov	0	0	0	0	0	0	0	0	13	91	164	220	288	261	239	141	43	2	0	0	0	0	0	0	60.9	287.5
7-Nov	0	0	0	0	0	0	0	0	17	107	182	258	280	267	190	71	24	0	0	0	0	0	0	0	58.2	279.8
8-Nov	0	0	0	0	0	0	0	0	18	111	195	211	280	262	214	102	30	0	0	0	0	0	0	0	59.3	280.0
9-Nov	0	0	0	0	0	0	0	0	8	48	64	72	68	40	27	10	4	0	0	0	0	0	0	0	14.2	72.2
10-Nov	0	0	0	0	0	0	0	0	3	30	100	191	273	196	100	43	18	0	0	0	0	0	0	0	39.8	273.4
11-Nov	0	0	0	0	0	0	0	0	3	18	59	101	102	168	86	22	10	0	0	0	0	0	0	0	23.7	168.3
12-Nov	0	0	0	0	0	0	0	0	4	14	29	60	83	112	80	91	11	0	0	0	0	0	0	0	20.2	112.0
13-Nov	0	0	0	0	0	0	0	0	4	24	59	130	298	153	137	110	15	0	0	0	0	0	0	0	38.7	297.5
14-Nov	0	0	0	0	0	0	0	0	5	21	29	61	78	95	90	69	12	0	0	0	0	0	0	0	19.2	95.2
15-Nov	0	0	0	0	0	0	0	0	3	67	120	152	141	117	108	64	7	0	0	0	0	0	0	0	32.5	152.4
16-Nov	0	0	0	0	0	0	0	0	3	30	135	151	121	132	110	58	12	0	0	0	0	0	0	0	31.3	150.7
17-Nov	0	0	0	0	0	0	0	0	2	21	54	68	84	77	63	49	10	0	0	0	0	0	0	0	17.9	84.0
18-Nov	0	0	0	0	0	0	0	0	2	22	58	92	116	114	114	50	10	0	0	0	0	0	0	0	24.1	115.8
19-Nov	0	0	0	0	0	0	0	0	4	29	63	84	89	79	73	37	7	0	0	0	0	0	0	0	19.4	88.8
20-Nov	0	0	0	0	0	0	0	0	3	35	56	83	102	137	74	30	6	0	0	0	0	0	0	0	21.9	137.1
21-Nov	0	0	0	0	0	0	0	0	2	17	44	102	129	63	35	66	14	0	0	0	0	0	0	0	19.6	128.7
22-Nov	0	0	0	0	0	0	0	0	1	11	34	51	61	170	136	66	5	0	0	0	0	0	0	0	22.3	170.4
23-Nov	0	0	0	0	0	0	0	0	1	12	47	175	195	125	82	49	14	0	0	0	0	0	0	0	29.1	195.0
24-Nov	0	0	0	0	0	0	0	0	2	16	49	87	123	113	79	37	9	0	0	0	0	0	0	0	21.4	122.6
25-Nov	0	0	0	0	0	0	0	0	1	47	77	87	148	148	157	71	10	0	0	0	0	0	0	0	31.1	157.2
26-Nov	0	0	0	0	0	0	0	0	0	13	34	56	41	147	200	76	14	0	0	0	0	0	0	0	24.2	199.6
27-Nov	0	0	0	0	0	0	0	0	0	6	19	38	61	110	99	35	5	0	0	0	0	0	0	0	15.5	109.8
28-Nov	0	0	0	0	0	0	0	0	1	11	44	179	206	181	135	36	8	0	0	0	0	0	0	0	33.3	205.6
29-Nov	0	0	0	0	0	0	0	0	1	28	63	76	74	72	57	25	4	0	0	0	0	0	0	0	16.7	76.4
30-Nov	0	0	0	0	0	0	0	0	1	54	125	146	165	210	185	88	10	0	0	0	0	0	0	0	41.0	210.0
																								Diurnal Average		
																								Diurnal Maximum		

Hourly Averages

Solar Radiation (SR) - W/m^2
Henry Pirker - November 2011



Hourly Averages

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

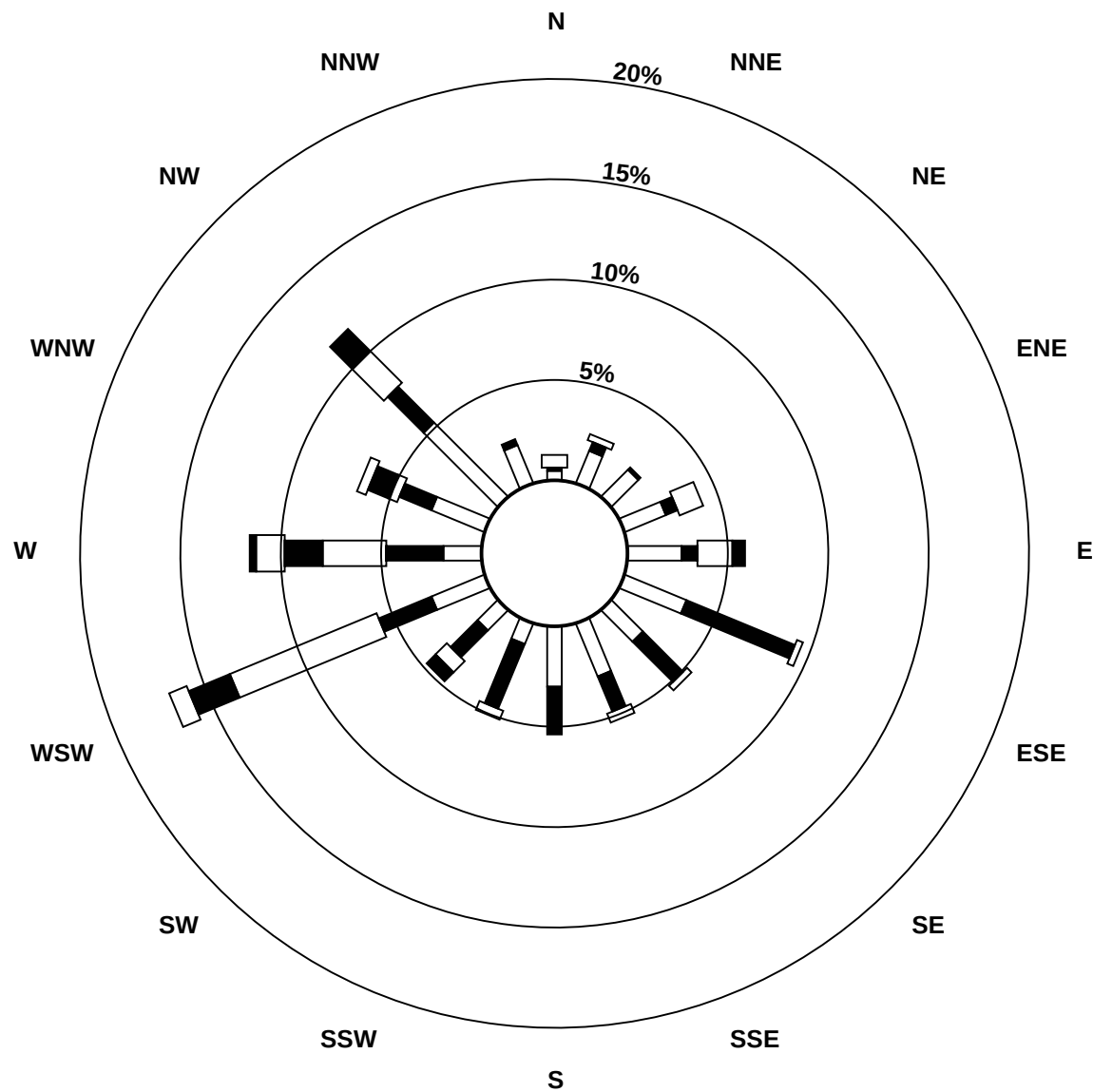
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1 Spd	16	7	9	15	15	15	14	15	17	19	24	22	37	30	25	30	24	12	8	7	7	6	6	7	15.1	36.9
Dir	271	271	259	255	249	248	240	241	250	252	250	250	264	268	267	266	258	254	226	217	172	196	188	180	252.1	264.5
2 Spd	6	6	7	3	2	4	4	5	7	9	8	8	9	8	8	6	6	5	4	3	3	12	7	1	3.1	12.3
Dir	146	123	124	104	172	131	136	114	118	119	125	118	122	103	102	77	83	30	343	359	300	301	317	214	106.5	300.9
3 Spd	2	5	3	3	5	24	27	24	18	22	23	23	24	23	23	22	18	16	14	14	11	9	12	10	14.9	27.1
Dir	196	246	287	301	250	313	318	313	309	312	310	297	298	303	301	312	305	297	316	324	309	303	278	259	304.1	318.4
4 Spd	9	8	8	3	4	4	4	2	4	3	7	6	5	6	7	8	8	7	4	2	6	4	10	11	4.6	10.5
Dir	258	257	264	203	178	153	156	117	143	164	165	186	162	153	163	178	172	199	253	238	207	209	203	209	195.2	208.7
5 Spd	6	4	5	8	8	4	4	5	5	6	7	5	8	8	6	5	5	4	5	6	6	6	5	4	4.0	8.3
Dir	179	146	164	186	186	189	135	129	143	154	167	183	211	213	183	172	156	159	169	225	282	291	302	314	187.5	211.1
6 Spd	2	2	3	2	3	4	4	4	4	1	3	4	3	13	18	15	9	10	12	10	12	10	9	10	4.2	18.2
Dir	274	325	135	149	148	149	171	168	170	220	319	302	276	304	313	315	315	275	271	249	253	230	197	203	264.5	313.3
7 Spd	8	6	7	5	4	4	8	5	9	11	12	13	20	22	20	17	8	11	17	20	14	13	16	17	9.3	22.0
Dir	186	129	138	117	118	131	175	171	185	191	204	234	243	252	248	246	252	263	267	260	252	253	250	253	234.2	251.7
8 Spd	19	14	12	14	14	13	11	9	14	13	18	24	26	30	26	18	18	19	15	13	13	6	1	2	14.7	29.9
Dir	254	243	246	245	247	250	242	258	256	251	259	259	266	275	274	291	277	267	256	251	251	260	216	299	260.6	275.2
9 Spd	1	3	3	2	4	1	3	2	4	6	8	8	12	10	10	11	11	11	7	2	0	2	5	2	4.2	12.3
Dir	151	158	170	179	330	287	292	110	92	97	111	102	108	109	112	108	109	114	116	111	91	274	175	219	114.9	108.3
10 Spd	3	3	4	4	5	4	3	6	8	4	14	18	25	28	30	26	18	21	16	17	13	12	6	6	11.4	30.5
Dir	297	253	288	219	195	164	195	237	207	281	248	255	265	275	282	282	268	272	259	273	257	259	219	215	261.9	282.3
11 Spd	7	7	7	4	9	17	11	8	6	5	2	1	5	11	10	13	9	12	12	14	13	10	8	10	3.7	16.8
Dir	207	214	209	218	266	251	236	181	160	183	348	248	306	314	325	23	16	11	349	354	17	360	340	346	316.7	251.2
12 Spd	8	12	10	7	1	8	6	8	9	11	11	12	12	11	11	13	9	9	16	13	17	18	22	25	5.5	25.1
Dir	319	307	320	321	333	128	161	121	116	123	133	136	141	146	153	150	168	200	233	233	251	250	240	249	203.5	248.7
13 Spd	28	29	31	33	30	33	34	36	25	26	31	39	40	35	33	26	21	15	19	20	18	18	11	7	25.8	40.4
Dir	250	251	257	257	258	258	266	275	270	267	269	277	279	287	297	282	256	251	251	251	250	255	241	268	265.8	278.8
14 Spd	6	12	9	8	9	15	19	19	19	25	12	18	20	20	20	16	10	10	8	6	5	3	3	3	10.9	25.0
Dir	293	268	259	272	257	258	272	269	264	310	354	312	314	308	313	309	304	284	293	282	303	316	25	73	293.4	309.8
15 Spd	3	6	5	5	5	2	3	4	4	2	3	4	4	4	3	4	3	2	4	3	4	5	5	3	0.8	6.2
Dir	73	97	98	111	82	86	186	165	183	261	280	283	296	312	292	304	313	270	318	301	309	308	257	12	304.1	96.8
16 Spd	5	6	5	4	4	3	3	3	0	2	3	5	8	14	15	17	18	18	23	20	17	20	19	23	8.4	22.8
Dir	303	301	320	325	345	320	323	345	39	113	102	81	91	98	94	94	93	93	86	88	98	92	92	92	85.6	86.3
17 Spd	18	17	15	13	15	14	14	16	15	11	13	12	13	10	7	5	6	6	5	5	6	3	2	1	9.7	18.0
Dir	86	82	81	80	75	70	66	72	72	60	62	62	61	61	59	43	34	35	27	20	26	35	42	47	65.4	86.0
18 Spd	2	2	3	3	2	2	2	1	1	1	1	1	2	2	2	1	2	1	2	3	3	3	2	3	1.8	3.1
Dir	35	27	26	24	32	34	42	42	43	52	56	69	59	74	80	75	76	71	65	76	81	85	91	91	59.5	25.9
19 Spd	2	1	2	2	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.2	2.4
Dir	80	75	88	88	107	270	304	311	303	336	278	276	287	252	222	229	229	226	250	291	319	313	312	297	304.2	88.0
20 Spd	1	1	1	1	1	1	1	1	1	0	1	1	1	1	2	1	1	1	1	1	1	1	1	1	0.3	1.6
Dir	277	265	264	279	312	305	334	6	151	328	61	55	39	56	112	68	80	104	99	81	62	63	82	92	56.0	111.5
21 Spd	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	2	1	1	1	0	1	0	0	0.2	1.8
Dir	120	33	2	358	7	158	171	303	313	309	309	301	299	252	315	179	193	163	211	304	334	180	36	84	275.0	193.4
22 Spd	1	1	0	1	1	4	10	14	8	4	2	3	3	6	2	4	6	7	9	5	10	3	2	3	1.3	13.9
Dir	89	37	200	90	93	116	110	103	105	112	90	270	252	183	269	319	293	260	234	264	229	229	214	124	182.8	102.5

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

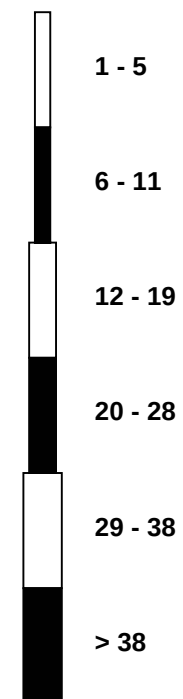
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
23 Spd	3	1	3	3	2	1	2	3	3	6	3	1	5	5	2	1	1	1	0	1	1	2	2	4	1.0	5.6	
Dir	102	104	87	323	14	346	339	56	67	119	120	254	326	13	320	323	306	314	8	137	146	10	10	311	25.6	118.5	
24 Spd	3	2	2	3	2	2	2	2	2	1	1	0	2	9	8	6	10	7	6	10	10	11	9	5	3.1	11.1	
Dir	313	328	335	308	333	324	315	325	318	318	315	320	120	118	117	94	111	117	110	110	107	109	116	113	103.2	109.5	
25 Spd	4	1	1	3	2	1	4	13	21	36	37	29	26	23	11	9	11	14	12	7	9	13	8	7	11.7	37.2	
Dir	118	295	316	254	238	179	238	249	248	258	259	261	263	278	307	273	279	274	252	251	264	245	274	203	260.6	259.3	
26 Spd	3	3	4	7	11	9	9	10	10	11	11	10	8	11	11	10	10	9	10	14	13	10	10	10	10	8.9	14.3
Dir	132	57	71	102	111	118	132	151	131	144	155	144	132	118	128	116	114	114	133	157	149	138	141	136	131.3	156.9	
27 Spd	7	11	11	25	25	20	21	13	18	21	24	15	18	18	19	18	15	9	3	1	1	1	1	0	9.5	25.2	
Dir	130	195	203	218	217	222	288	246	240	229	246	271	270	305	319	315	318	326	326	308	312	284	314	293	257.6	217.4	
28 Spd	1	1	1	9	11	7	4	6	11	14	14	7	12	13	15	12	12	6	6	4	5	12	11	3	7.5	14.8	
Dir	164	231	301	289	256	249	214	203	222	237	237	195	207	206	216	242	234	209	205	241	182	243	228	244	228.1	216.3	
29 Spd	5	12	19	19	18	18	17	5	2	2	3	3	1	3	3	4	3	3	4	5	5	4	4	4	4.8	19.2	
Dir	246	245	251	246	258	273	276	302	324	108	145	127	87	160	156	155	131	180	296	312	321	326	308	295	259.2	245.8	
30 Spd	3	5	4	6	8	11	9	6	8	5	7	8	10	8	4	6	6	8	6	5	8	5	14	22	6.4	22.3	
Dir	228	334	330	321	312	325	315	300	307	253	256	278	256	241	237	206	242	271	252	264	249	263	254	254	271.5	254.1	
Spd	2.4	2.5	2.6	3.6	3.7	3.9	4.0	2.9	3.5	4.2	5.0	5.6	6.8	6.2	5.4	4.3	3.1	3.4	3.6	3.4	3.3	3.3	3.2	2.9	Diurnal Average		
Dir	236.0	245.8	245.7	246.5	243.3	251.2	261.0	248.7	233.2	245.4	247.1	258.6	264.3	273.5	281.1	283.5	267.7	262.4	259.1	260.1	250.5	256.5	235.7	233.4	Diurnal Maximum		
Spd	27.7	28.7	31.3	32.9	30.2	33.2	33.8	35.5	25.1	35.9	37.2	39.0	40.4	35.1	32.6	29.6	24.2	20.7	22.8	20.1	18.1	19.8	21.9	25.1	Diurnal Maximum		
Dir	249.7	251.4	256.6	257.1	257.8	257.9	265.9	274.6	270.4	257.7	259.3	277.3	278.8	286.9	297.3	265.7	257.9	271.5	86.3	260.1	250.4	92.2	240.5	248.7			
Maximum Speed Value: 40 km/h on Nov 13 13:00							Minimum Speed Value: 0 km/h on Nov 20 10:00													Hours in Service:			720				
Maximum Daily Speed Average: 25.8 km/h on Nov 13							Minimum Daily Speed Average: 0.2 km/h on Nov 21													Hours of Data:			720				
Maximum Diurnal Speed Average: 6.8 km/h at hour 13							Minimum Diurnal Speed Average: 2.4 km/h at hour 1													Hours of Missing Data:			0				
Monthly Average Velocity: 3.75 km/h 255.94 deg							Speed Percentiles: P ₁ = 0.4 P ₁₀ = 0.9 Q ₁ = 2.7 Median = 6.4 Q ₃ = 12.3 P ₉₀ = 19.3 P ₉₉ = 34.8													Percent Operational Time:			100.0				
All monthly, daily, and diurnal averages have been calculated using vector methods																											
Frequency Distribution																											
Speed Range (km/h)																											
Direction	0 to 5		5 to 11		11 to 19		19 to 28		28 to 38		> 38		Total														
North	17		5		5		0		0		0		27														
NorthEast	32		6		6		0		0		0		44														
East	47		23		18		5		0		0		93														
SouthEast	34		43		9		0		0		0		86														
South	29		37		0		0		0		0		66														
SouthWest	25		29		27		9		0		0		90														
West	39		36		54		26		18		2		175														
NorthWest	84		23		16		15		1		0		139														
Total	307		202		135		55		19		2		720														

Wind Rose

Wind Speed (WS) (km/h)
Henry Pirker - November 2011



Wind Speed Classes (km/h)



Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Henry Pirker - November 2011

Maximum Speed: 41 km/h on Nov 13 13:00																				Maximum Daily Speed Average: 26.9 km/h on Nov 13										Hours in Service: 720																				
Minimum Speed: 1 km/h on Nov 19 08:00																				Minimum Daily Speed Average: 1.0 km/h on Nov 20										Hours of Data: 720																				
Maximum Diurnal Speed Average: 13.1 km/h at hour 14																				Minimum Diurnal Speed Average: 6.6 km/h at hour 1										Hours of Missing Data: 0																				
Monthly Average Speed: 9.00 km/h																				Percentiles: P ₁ = 1.0 P ₁₀ = 1.0 Q ₁ = 3.4 Median = 6.8 Q ₃ = 12.4 P ₉₀ = 19.7 P ₉₉ = 35.3										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	16	7	9	15	15	15	14	15	17	19	25	23	37	30	25	30	24	12	8	7	8	6	6	7	16.3	37.3																								
2-Nov	7	7	7	4	3	5	5	6	7	9	9	8	9	8	8	6	7	5	5	5	8	13	8	5	6.7	13.3																								
3-Nov	4	6	5	4	6	24	27	24	18	22	23	23	24	23	23	22	18	16	14	14	11	9	12	10	15.9	27.2																								
4-Nov	9	8	8	3	4	4	5	3	4	4	7	6	5	7	7	8	8	8	5	3	6	5	10	11	6.2	10.8																								
5-Nov	6	4	5	8	8	4	4	5	5	6	7	6	9	9	7	5	5	5	5	8	7	6	5	4	6.0	8.7																								
6-Nov	2	2	4	2	3	4	4	4	4	4	4	5	5	14	18	15	9	10	12	11	12	10	9	10	7.4	18.4																								
7-Nov	8	6	7	5	4	5	8	6	9	11	12	14	20	22	21	17	9	11	17	20	14	13	16	17	12.1	22.3																								
8-Nov	19	14	12	14	14	13	11	9	14	13	18	25	27	30	26	18	18	19	15	13	14	8	3	3	15.4	30.2																								
9-Nov	2	3	3	3	4	2	3	3	5	6	8	8	12	10	10	11	11	11	7	2	1	2	6	3	5.7	12.4																								
10-Nov	4	4	5	5	6	6	5	7	8	8	14	19	25	29	31	26	18	21	16	17	13	12	7	6	13.0	30.9																								
11-Nov	7	7	7	4	10	18	12	8	6	6	3	3	5	11	11	14	9	12	12	14	13	10	8	10	9.2	17.8																								
12-Nov	8	12	11	7	3	8	7	9	9	11	11	12	12	11	12	13	9	11	16	13	18	19	22	25	12.0	25.4																								
13-Nov	28	29	31	33	30	33	34	36	25	26	31	39	41	36	33	27	21	16	19	20	18	18	11	8	26.9	40.7																								
14-Nov	7	12	9	9	10	15	19	19	19	25	12	18	20	20	20	16	10	11	8	6	5	4	3	3	12.6	25.4																								
15-Nov	3	6	6	6	5	2	3	4	4	4	3	4	5	4	4	5	4	3	5	4	4	5	5	3	4.2	6.5																								
16-Nov	6	6	5	5	5	4	3	4	2	3	3	5	8	14	15	17	18	18	23	20	18	20	19	23	10.9	23.0																								
17-Nov	18	18	15	14	15	14	14	16	16	12	13	13	13	10	7	5	6	6	5	5	6	3	2	1	10.2	18.2																								
18-Nov	2	2	3	3	2	2	2	1	1	1	1	1	2	2	2	1	2	1	2	3	3	3	2	3	2.0	3.2																								
19-Nov	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.1	2.4																								
20-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1.0	1.7																								
21-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1.0	2.0																								
22-Nov	1	1	1	1	1	5	10	14	8	4	2	7	5	6	4	5	8	8	10	6	10	4	4	4	5.3	14.1																								
23-Nov	4	4	4	4	3	3	4	4	3	6	4	2	6	6	3	1	1	1	1	1	1	3	4	5	3.1	6.2																								
24-Nov	3	3	3	3	2	3	3	3	2	2	1	1	2	9	8	7	10	7	6	10	10	11	9	6	5.1	11.2																								
25-Nov	4	3	2	3	2	2	4	13	21	36	37	30	26	24	12	9	11	14	12	7	10	13	10	7	13.0	37.3																								
26-Nov	4	3	4	7	11	9	9	10	10	12	12	10	9	11	11	10	10	9	10	14	13	11	11	10	9.6	14.4																								
27-Nov	8	11	11	25	25	20	23	14	18	21	24	15	18	20	19	18	15	9	3	1	1	1	1	1	13.5	25.3																								
28-Nov	1	1	1	9	11	9	4	6	11	15	14	7	12	13	15	12	12	7	7	6	6	12	11	5	8.6	15.3																								
29-Nov	6	12	19	19	18	19	17	6	5	3	4	4	2	3	3	4	4	4	5	5	5	4	4	4	7.6	19.3																								
30-Nov	5	5	4	6	8	11	9	7	8	6	7	8	10	8	4	7	7	9	6	6	8	5	15	22	7.9	22.4																								
																									6.6	6.7	6.8	7.5	7.7	8.7	8.9	8.6	8.9	9.9	10.5	10.6	12.4	13.1	12.1	11.1	9.6	8.9	8.5	8.2	8.1	7.7	7.5	7.3	Diurnal Average	
																									27.8	28.8	31.5	33.0	30.3	33.3	34.1	35.8	25.3	36.1	37.3	39.4	40.7	35.5	33.0	30.1	24.3	20.9	23.0	20.2	18.2	19.9	22.0	25.4	Diurnal Maximum	
All monthly, daily, and diurnal averages have been calculated using scalar methods																																																		

Hourly Standard Deviations

Wind Direction (WD) - deg

Henry Pirker - November 2011

Maximum Value: 90.3 deg on Nov 29 09:00																		Hours in Service: 720							
Minimum Value: 4.7 deg on Nov 19 09:00																		Hours of Data: 720							
Percentiles: P ₁ = 5.5 P ₁₀ = 7.1 Q ₁ = 8.9 Median = 14.1 Q ₃ = 28.2 P ₉₀ = 50.8 P ₉₉ = 82.0																		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	6	21	12	6	6	7	7	6	7	8	7	10	9	8	11	10	5	8	13	21	24	14	8	9	23.6
2-Nov	12	14	10	65	61	62	50	22	12	14	11	11	12	12	15	19	35	30	39	70	77	22	23	90	90.3
3-Nov	74	45	51	59	24	5	6	6	8	7	7	11	10	8	9	9	9	8	7	5	6	8	8	9	73.6
4-Nov	11	13	9	20	35	34	47	18	25	22	18	23	31	21	20	16	8	26	51	84	17	14	12	11	84.0
5-Nov	20	22	18	16	14	28	19	17	12	10	10	16	16	19	33	18	16	17	14	36	11	15	18	8	36.2
6-Nov	51	37	31	24	15	14	10	12	10	72	17	22	48	14	9	10	13	13	13	11	9	7	14	11	72.3
7-Nov	19	10	12	11	18	30	7	49	6	7	10	14	9	10	12	12	11	10	8	6	7	9	8	6	48.5
8-Nov	8	7	9	8	7	7	8	12	7	10	8	8	9	9	8	8	7	7	7	8	11	71	71	35	71.4
9-Nov	54	25	26	61	14	81	28	89	22	19	11	13	8	10	11	10	10	7	13	31	83	47	18	61	89.1
10-Nov	50	30	17	30	15	56	51	30	16	54	12	8	10	9	9	6	8	7	8	7	8	11	9	8	56.3
11-Nov	11	11	8	29	25	22	20	14	10	46	68	68	23	11	18	18	12	12	8	11	15	12	10	9	68.2
12-Nov	13	6	11	9	77	13	16	14	9	7	10	10	12	11	11	10	14	30	8	11	11	8	7	8	77.3
13-Nov	6	6	6	6	6	6	8	7	7	7	8	9	7	9	8	20	7	7	7	7	7	7	7	31	31.4
14-Nov	30	12	12	26	36	7	7	9	6	12	19	7	7	8	7	6	8	10	10	15	19	23	33	68	67.7
15-Nov	30	19	18	19	14	54	38	20	31	55	29	13	7	24	23	36	62	53	28	28	19	10	25	52	62.0
16-Nov	17	14	9	16	29	50	38	14	82	42	22	13	11	7	8	7	7	8	7	7	7	6	7	7	81.9
17-Nov	7	7	7	8	8	8	8	9	10	12	10	10	11	13	13	16	13	13	9	10	11	14	18	19	18.6
18-Nov	19	12	12	11	13	20	15	16	19	16	18	16	18	17	13	17	11	11	13	11	9	8	7	7	20.4
19-Nov	10	10	6	11	13	74	24	19	5	28	35	28	26	39	41	19	13	30	20	18	8	7	6	9	73.5
20-Nov	10	8	10	21	16	10	39	32	28	87	52	29	23	24	21	23	17	14	16	18	26	39	29	38	87.3
21-Nov	24	48	35	32	51	46	77	48	17	26	19	27	23	17	69	30	18	66	59	43	84	29	76	66	83.8
22-Nov	38	39	67	25	21	34	21	8	11	16	76	70	55	21	70	28	45	24	15	45	14	37	72	45	75.8
23-Nov	41	87	34	45	46	80	68	21	29	28	30	58	38	24	35	55	34	58	73	73	41	73	81	32	86.8
24-Nov	27	50	59	23	23	26	45	20	21	50	60	88	39	6	9	16	6	14	9	6	7	6	9	13	88.2
25-Nov	31	80	64	40	37	78	48	9	8	6	5	6	7	14	20	12	20	10	14	12	13	6	30	16	79.9
26-Nov	47	45	23	11	7	11	9	15	7	8	8	15	18	8	14	7	10	7	15	5	12	15	12	9	47.0
27-Nov	20	16	20	7	6	6	27	21	8	9	13	13	8	25	6	6	7	12	14	14	13	26	24	72	72.1
28-Nov	32	49	67	11	17	48	17	26	12	10	14	14	14	11	14	10	7	25	20	73	37	11	9	65	72.5
29-Nov	46	18	6	6	7	8	9	48	90	45	40	42	58	38	30	25	25	39	48	17	25	13	18	16	90.3
30-Nov	59	27	35	8	9	8	11	16	9	31	17	11	14	16	15	13	22	13	21	33	12	34	47	6	59.2
	73.6	86.8	67.4	65.4	77.3	81.2	76.5	89.1	90.3	87.3	75.8	88.2	57.6	38.7	70.1	54.5	62.0	65.6	72.6	84.0	83.8	72.5	81.3	90.3	

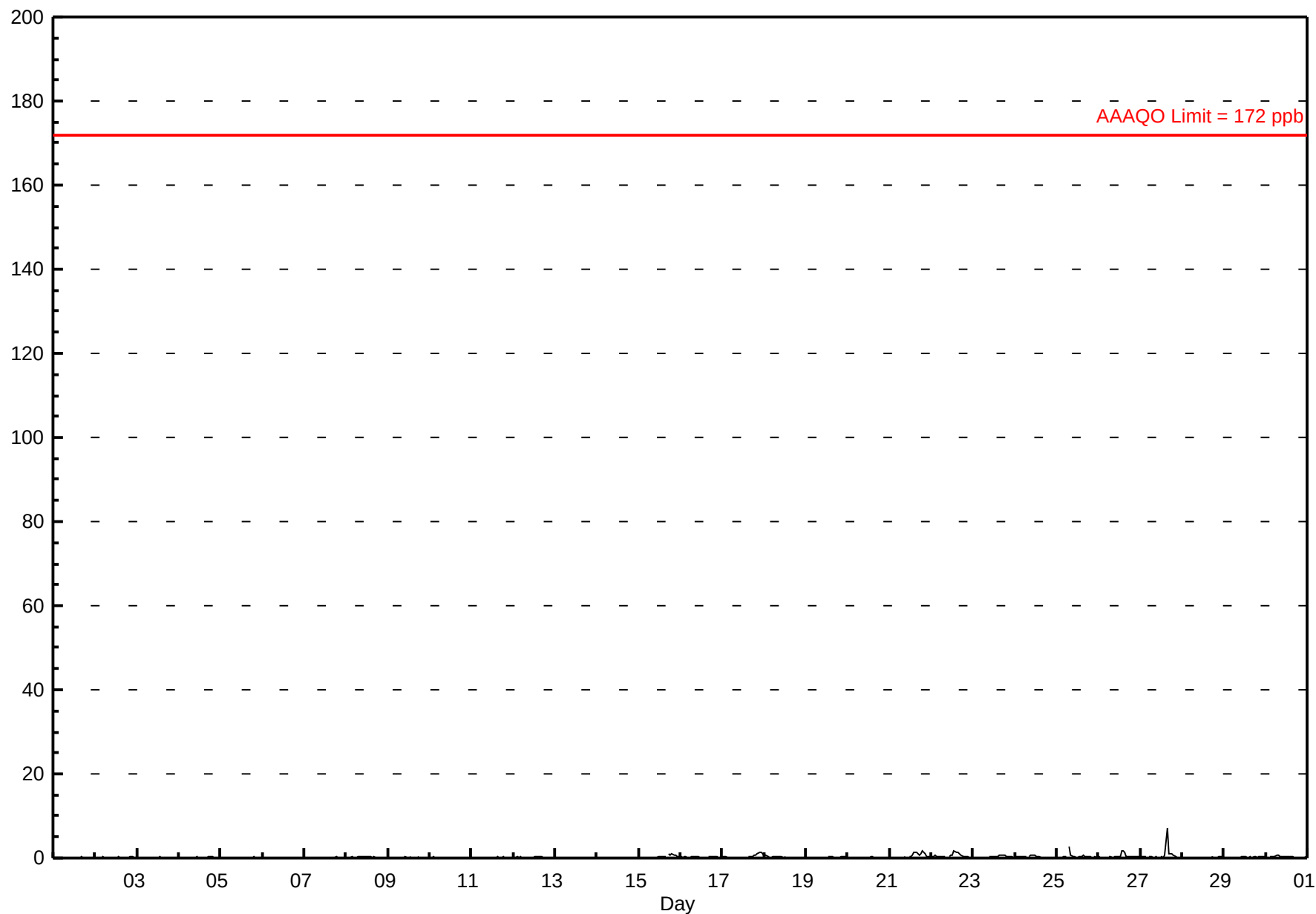
PAZA
Evergreen Park Station
Monthly Summary Tables, Graphs and
Roses

Sulphur Dioxide (SO₂) - ppb
Evergreen Park - November 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 7.1 ppb on Nov 27 16:00 Maximum Daily Average: 0.6 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 1 01:00 Maximum Diurnal Average: 0.6 ppb at hour 16 Monthly Average: 0.20 ppb																				Minimum Daily Average: 0.0 ppb on Nov 5 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 = 0.2 P ₉₀ = 0.4 P ₉₉ = 1.5						
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	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
2-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
3-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
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	0.1	0.2
5-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	0.2
6-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
7-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	0.2
8-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	0.2	0.3
9-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C	C	C	0	0	0	0	0	A	0	0.1	0.3
10-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C	C	0	0	0	0	0	A	0	0	0.1	0.2
11-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	0.1	0.2
12-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
13-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
14-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	0.1	0.2
15-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	1	1	1	1	0	0	0.3	0.9
16-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	0.5
17-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	1	1	1	1	1	1	0.4	1.2
18-Nov	0	1	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.2	0.7
19-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
20-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	0.1	0.2
21-Nov	0	0	0	0	0	0	0	0	0	0	A	0	0	1	1	1	1	1	1	2	1	0	0	0	0.5	1.9
22-Nov	0	0	1	0	0	0	0	0	0	A	1	1	1	2	1	1	1	1	0	0	0	0	0	0	0.6	1.7
23-Nov	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0.3	0.8
24-Nov	0	0	0	0	0	0	0	A	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0.3	0.7
25-Nov	0	0	0	0	0	0	A	3	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0.3	2.6
26-Nov	0	0	0	0	0	A	0	0	0	0	0	0	0	2	2	1	0	0	0	0	0	0	0	0	0.4	1.6
27-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	1	7	1	1	1	1	0	0	0	0	0.6	7.1
28-Nov	0	0	0	A	0	0	0	0	0	0	0	0	0	0	C	C	C	0	0	0	0	0	0	0	0.1	0.3
29-Nov	0	0	A	0	0	0	0	0	0	0	0	0	0	0	C	0	0	0	0	0	0	0	0	0	0.2	0.3
30-Nov	0	A	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.7
0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.2 0.1 0.1 0.2 0.2 0.2 0.3 0.3 0.6 0.3 0.3 0.2 0.3 0.2 0.2 0.2 0.1																									Diurnal Average	
0.3 0.7 0.7 0.5 0.4 0.5 0.7 2.6 0.6 0.6 0.7 0.7 0.8 1.7 1.6 7.1 1.2 1.1 0.9 1.9 1.1 1.2 1.2 0.9																									Diurnal Maximum	
C - Calibration A - Automated Daily Zero Span																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb 30-day 11 ppb																										

Hourly Averages

Sulphur Dioxide (SO₂) - ppb
Evergreen Park - November 2011



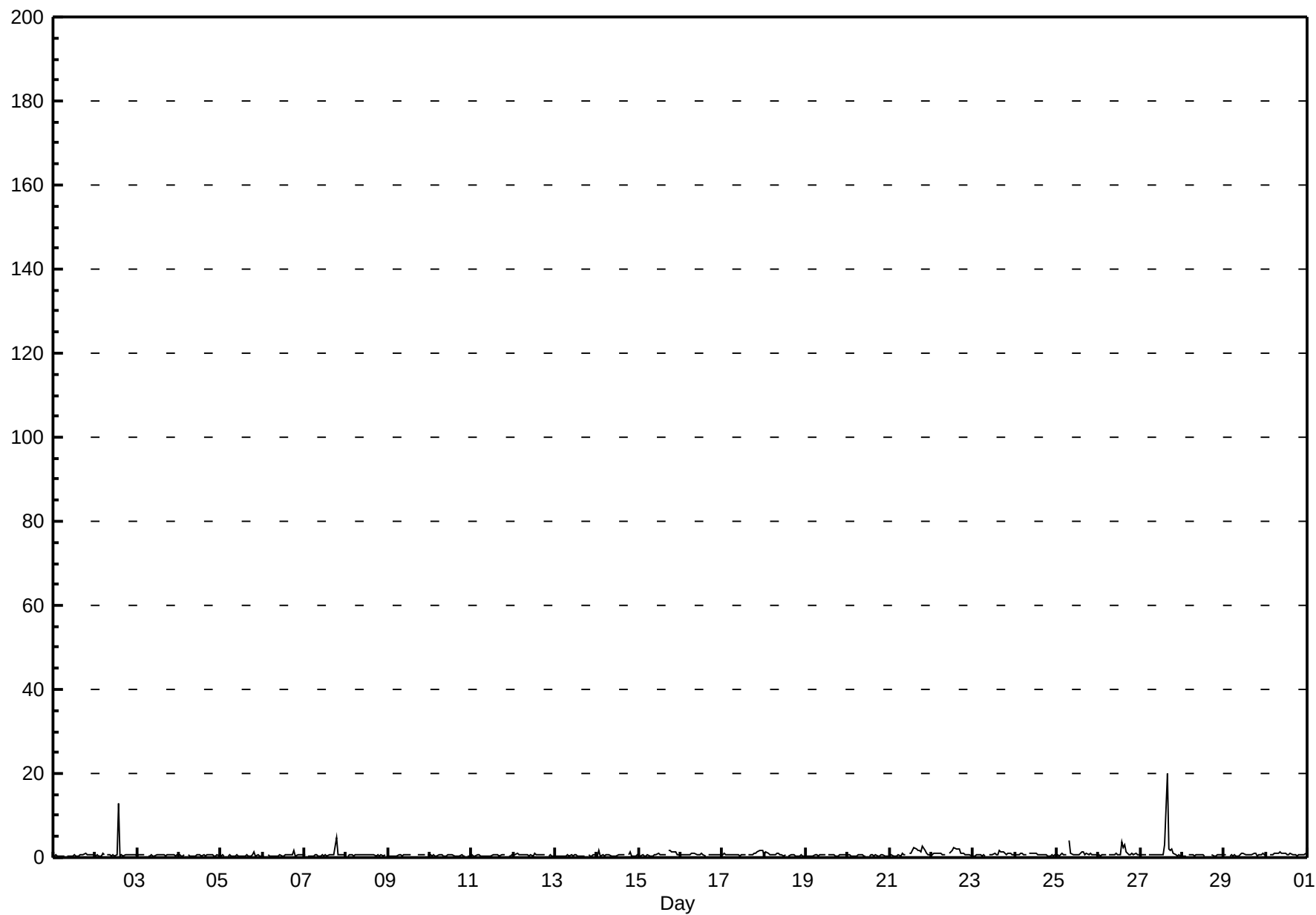
Hourly Maximums

Sulphur Dioxide (SO₂) - ppb Evergreen Park - November 2011

Maximum Value: 19.9 ppb on Nov 27 16:00																				Maximum Daily Average: 1.8 ppb on Nov 27										Hours in Service: 720									
Minimum Value: 0 ppb on Nov 13 02:00																				Minimum Daily Average: 0.5 ppb on Nov 13										Hours of Data: 683									
Maximum Diurnal Average: 1.6 ppb at hour 16																				Minimum Diurnal Average: 0.5 ppb at hour 1										Hours of Missing Data: 37									
Monthly Average: 0.73 ppb																				Percentiles: P ₁ = 0.3 P ₁₀ = 0.4 Q ₁ = 0.5 Median = 0.6 Q ₃ = 0.7 P ₉₀ = 1.0 P ₉₉ = 2.9										Hours of Calibration: 37									
																				Percent Operational Time: 100.0																			
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24															
1-Nov	0	1	0	0	0	0	0	A	0	0	0	0	1	1	0	1	1	1	1	1	1	1	1	1	0.5	0.9													
2-Nov	0	1	0	0	1	1	A	1	1	1	1	1	1	13	0	1	0	1	1	1	1	1	1	1	1.1	12.8													
3-Nov	0	1	1	1	1	A	0	0	1	0	0	1	1	1	1	1	0	1	1	1	1	1	0	1	0.6	0.8													
4-Nov	1	1	1	1	A	1	0	0	0	0	1	1	1	0	1	0	1	1	1	1	0	0	1	0	0.6	0.8													
5-Nov	0	1	0	A	0	1	0	0	0	1	0	0	0	0	0	1	0	0	1	1	0	1	0	0	0.5	1.2													
6-Nov	0	0	A	1	0	0	0	0	0	0	1	0	0	1	1	1	1	1	2	0	1	1	1	1	0.6	1.7													
7-Nov	1	A	0	0	0	0	1	1	0	0	1	0	1	0	1	1	1	1	5	1	1	1	1	1	0.7	4.6													
8-Nov	A	0	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	1	0	1	A	0.6	0.8													
9-Nov	0	0	0	0	0	0	1	1	0	1	1	1	1	1	C	C	C	1	1	1	1	1	A	1	0.6	0.8													
10-Nov	1	0	1	0	0	1	1	1	0	0	1	1	1	1	0	0	0	0	1	0	0	A	0	0	0.5	0.8													
11-Nov	1	0	0	1	1	0	0	0	0	0	0	0	1	1	1	1	0	1	1	1	A	0	0	1	0.5	0.8													
12-Nov	1	1	1	1	1	1	1	1	1	0	1	0	1	1	1	1	1	1	1	A	0	1	0	0	0.6	0.9													
13-Nov	0	0	0	0	0	0	0	1	0	1	0	1	1	0	0	1	0	0	A	1	0	0	1	1	0.5	0.7													
14-Nov	1	2	0	1	0	1	1	1	0	0	0	0	1	1	1	1	1	A	1	1	0	0	0	1	0.6	1.6													
15-Nov	0	0	1	0	0	1	0	0	0	1	1	1	1	1	1	1	A	2	2	1	1	1	1	1	0.8	1.8													
16-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	A	1	1	1	1	1	1	1	1	0.7	1.0													
17-Nov	1	1	1	1	1	1	1	1	1	1	0	1	1	1	A	1	1	1	1	1	1	2	2	2	0.9	1.8													
18-Nov	1	1	1	1	1	1	1	1	1	1	1	0	1	A	0	1	1	1	1	0	1	0	0	0	0.6	1.2													
19-Nov	0	0	0	0	0	1	1	0	1	1	1	1	A	1	1	1	1	1	1	0	1	1	1	1	0.6	0.8													
20-Nov	1	1	0	0	0	0	1	1	1	0	0	A	1	1	1	0	1	0	0	1	1	0	0	0	0.5	0.8													
21-Nov	0	1	0	0	0	1	0	1	1	1	A	1	1	2	2	2	2	2	2	3	2	1	1	1	1.1	2.7													
22-Nov	1	1	1	1	1	1	1	1	1	A	1	1	2	2	2	2	2	2	1	1	1	1	1	0	1.1	2.5													
23-Nov	0	0	1	1	1	0	1	0	A	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	0.8	1.5													
24-Nov	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	0	0	1	0	1	0.8	1.2													
25-Nov	1	1	1	1	1	1	A	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	4.0													
26-Nov	1	0	1	1	1	A	1	1	1	1	1	1	1	4	2	3	1	1	1	1	1	1	1	1	1.0	3.8													
27-Nov	1	1	1	1	A	1	1	1	1	1	1	1	1	1	3	20	2	2	2	1	1	0	1	0	1.8	19.9													
28-Nov	0	0	0	A	1	1	1	0	1	1	1	1	1	0	C	C	C	1	0	0	1	1	1	1	0.6	0.8													
29-Nov	1	1	A	0	1	0	1	0	0	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	0.7	1.0													
30-Nov	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	0.8	1.3													
0.5 0.6 0.6 0.6 0.6 0.6 0.6 0.7 0.6 0.6 0.6 0.7 0.7 1.2 0.9 1.6 0.8 0.8 1.0 0.8 0.7 0.7 0.6 0.6																									Diurnal Average														
0.8 1.6 1.1 1.0 1.0 0.9 1.1 4.0 1.3 1.1 1.2 1.2 1.5 12.8 2.9 19.9 2.0 1.6 4.6 2.7 1.8 1.7 1.8 1.8																									Diurnal Maximum														
C - Calibration																									A - Automated Daily Zero Span														

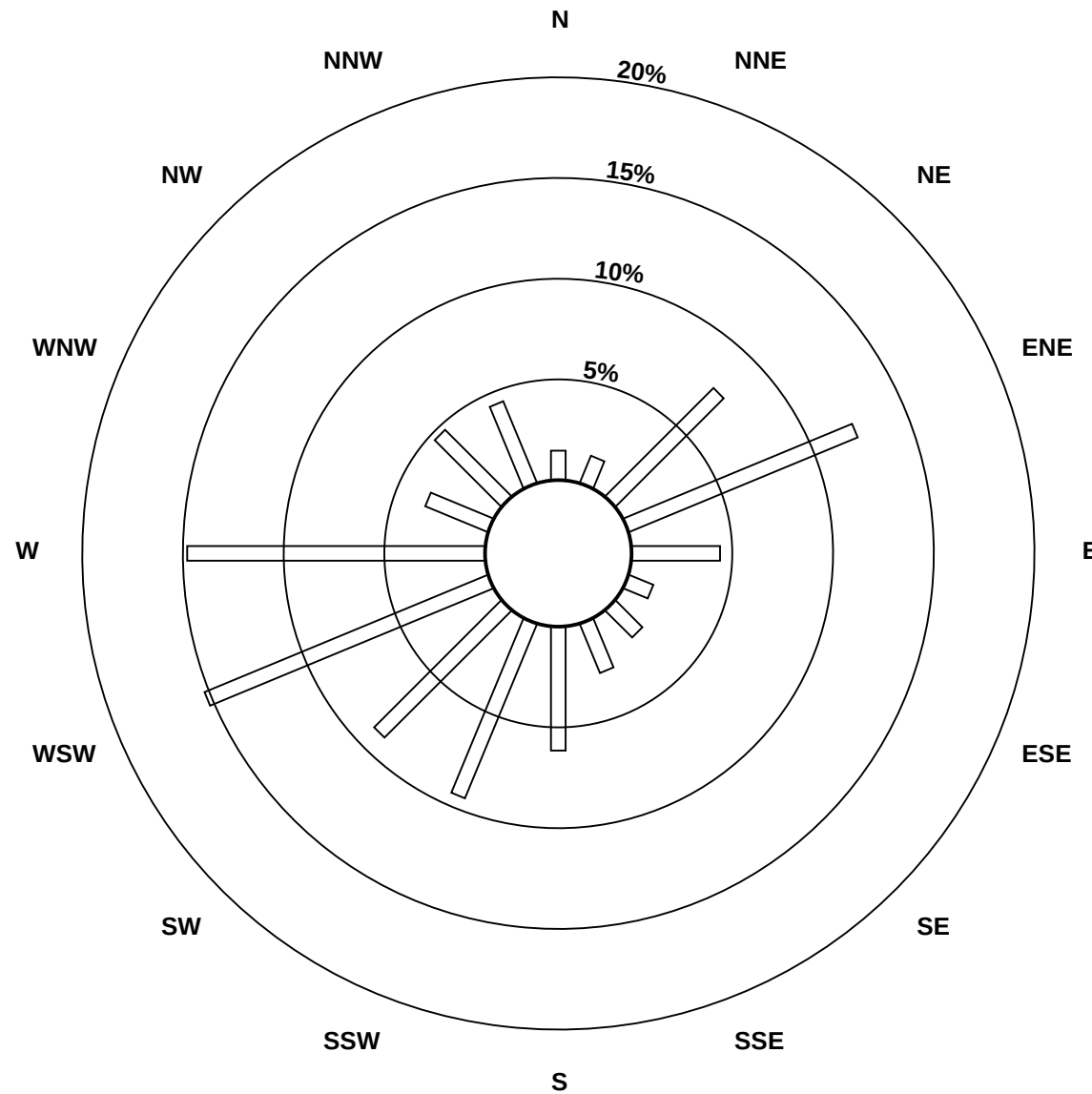
Hourly Maximums

Sulphur Dioxide (SO₂) - ppb
Evergreen Park - November 2011

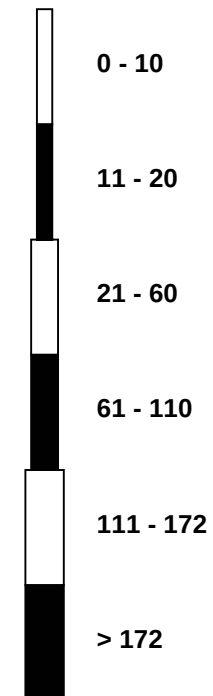


Pollutant Rose

Sulphur Dioxide (SO₂) - ppb
Evergreen Park - November 2011

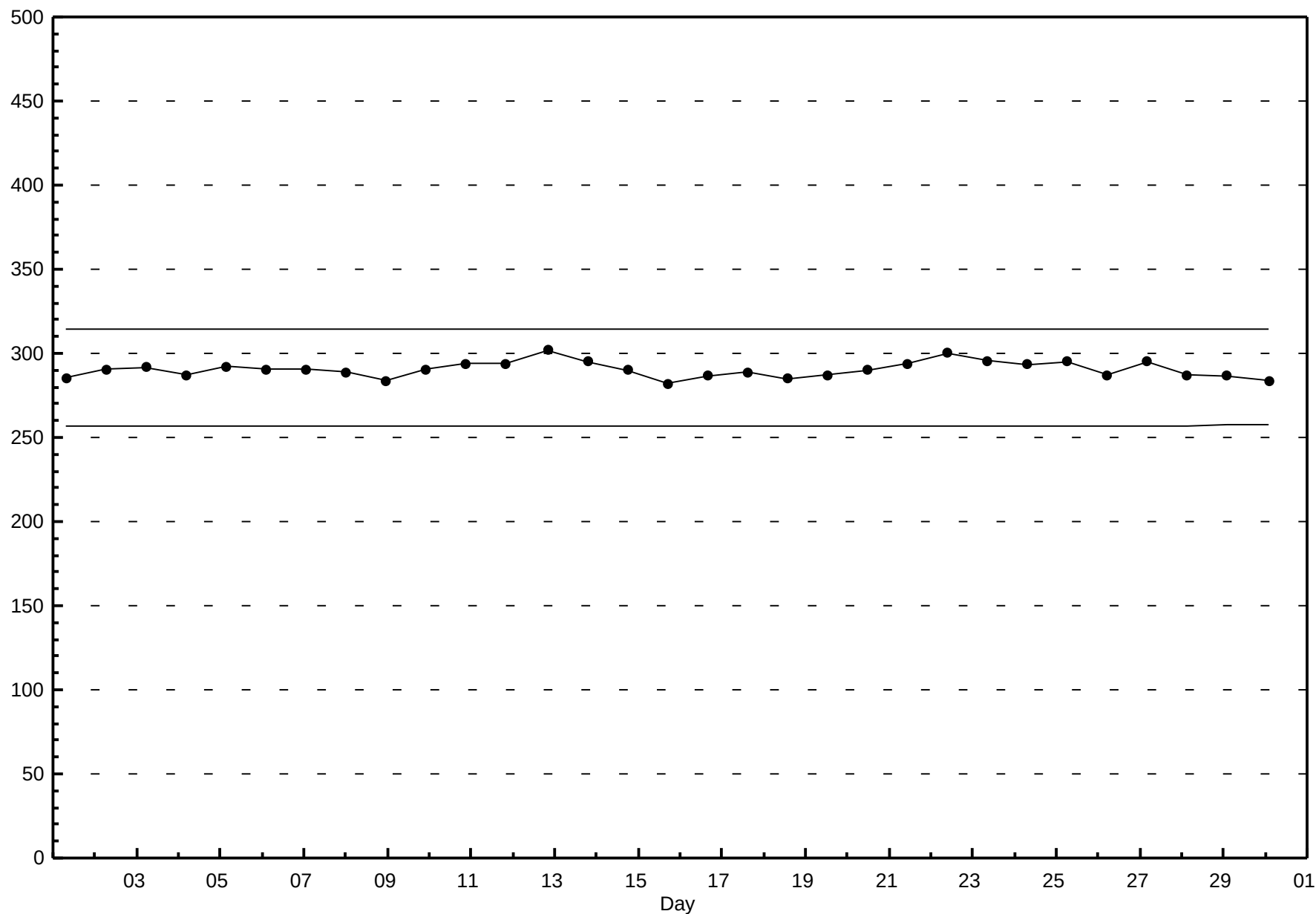


Pollutant Classes (ppb)



Span Responses

Sulphur Dioxide (SO₂)
Evergreen Park - November 2011



Hourly Averages

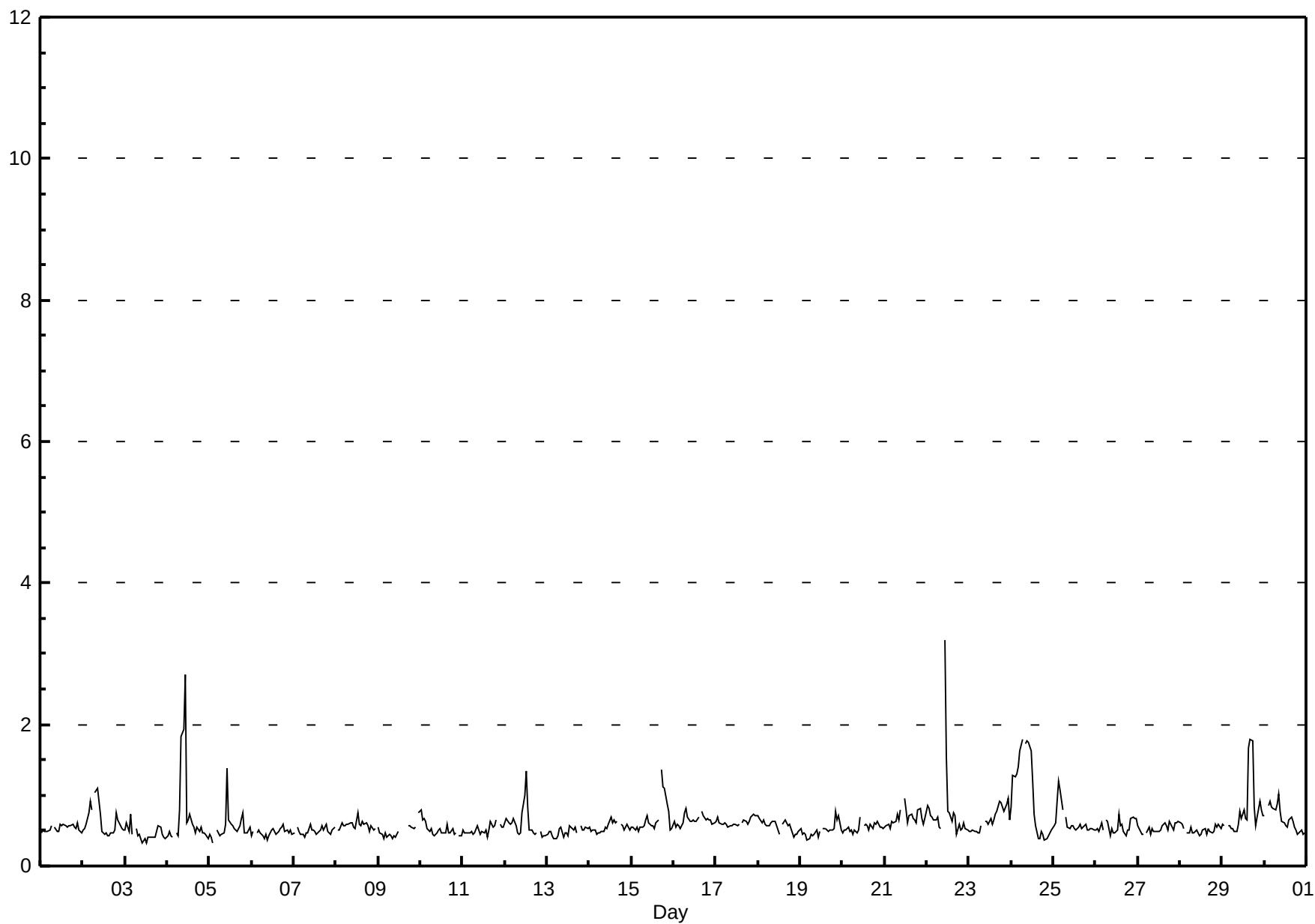
Total Reduced Sulphur (TRS) - ppb

Evergreen Park - November 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																				Hours in Service: 720						
Maximum Value: 3.2 ppb on Nov 22 11:00																				Maximum Daily Average: 1.0 ppb on Nov 24		Hours of Data: 684				
Minimum Value: 0 ppb on Nov 3 11:00																				Minimum Daily Average: 0.5 ppb on Nov 3		Hours of Missing Data: 36				
Maximum Diurnal Average: 0.8 ppb at hour 11																				Minimum Diurnal Average: 0.5 ppb at hour 24		Hours of Calibration: 36				
Monthly Average: 0.60 ppb																				Percentiles: P ₁ = 0.4 P ₁₀ = 0.4 Q ₁ = 0.5 Median = 0.5 Q ₃ = 0.6 P ₉₀ = 0.8 P ₉₉ = 1.8		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	0	1	0	0	0	1	1	A	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	0	0.5	0.6
2-Nov	1	1	1	1	1	1	A	1	1	1	1	0	0	0	0	0	0	0	1	1	1	1	1	1	0.6	1.1
3-Nov	1	1	0	1	0	A	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0.5	0.7
4-Nov	0	0	0	0	A	0	0	1	2	2	3	1	1	1	1	1	0	1	0	1	0	0	0	0	0.7	2.7
5-Nov	0	0	0	A	1	0	0	0	0	1	1	1	1	1	1	1	0	1	1	1	0	0	1	1	0.6	1.4
6-Nov	0	0	A	0	1	0	0	0	0	0	0	1	1	0	0	0	1	1	1	0	1	0	1	0	0.5	0.6
7-Nov	0	A	1	0	0	0	0	0	0	1	1	1	0	0	0	1	1	1	1	0	0	0	0	1	0.5	0.6
8-Nov	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	A	0.6	0.8
9-Nov	1	0	0	0	0	0	0	0	0	0	0	0	C	C	C	C	C	1	1	1	1	1	A	1	0.5	0.8
10-Nov	1	1	1	1	1	0	1	0	0	0	1	1	0	0	0	1	0	0	1	0	0	A	0	0	0.5	0.8
11-Nov	1	0	0	0	0	0	0	0	1	1	0	0	0	1	0	0	1	1	1	1	A	0	1	1	0.5	0.7
12-Nov	1	1	1	1	1	1	1	0	0	0	1	1	1	1	1	1	0	0	0	A	0	0	0	0	0.6	1.4
13-Nov	0	0	0	0	0	0	0	1	1	0	0	0	0	1	1	1	1	0	A	1	1	1	1	1	0.5	0.6
14-Nov	1	0	1	1	0	0	0	0	0	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	0.5	0.7
15-Nov	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	A	1	1	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	A	1	1	1	1	1	1	1	1	0.6	0.8
17-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	0.6	0.7
18-Nov	1	1	1	1	1	1	1	1	1	1	1	1	0	A	1	1	1	1	1	1	0	0	0	0	0.6	0.7
19-Nov	1	0	0	0	0	0	0	0	0	1	0	0	A	1	1	0	0	1	1	1	1	1	1	1	0.5	0.8
20-Nov	0	1	1	1	0	0	0	1	0	1	1	A	1	1	1	0	1	1	1	1	1	1	1	1	0.5	0.7
21-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	0.7	0.9
22-Nov	1	1	1	1	1	1	1	1	1	A	3	2	1	1	1	1	1	0	1	0	1	1	1	1	0.8	3.2
23-Nov	0	0	1	0	0	0	0	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.0
24-Nov	1	1	1	1	1	2	2	A	2	2	2	2	1	1	1	0	0	0	0	0	0	0	0	1	1.0	1.8
25-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	0.6	1.2
26-Nov	1	1	0	1	1	A	1	1	0	1	0	0	1	1	1	1	0	0	1	1	1	1	1	1	0.6	0.7
27-Nov	1	1	0	0	A	0	1	0	1	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	0.5	0.6
28-Nov	1	1	1	A	0	0	1	0	0	1	0	0	0	1	1	0	1	0	0	0	1	1	1	1	0.5	0.6
29-Nov	1	1	A	1	1	1	1	0	0	1	1	1	1	1	1	2	2	2	1	1	1	1	1	1	0.8	1.8
30-Nov	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	0	0	0.7	1.0
																								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 2011



Hourly Maximums

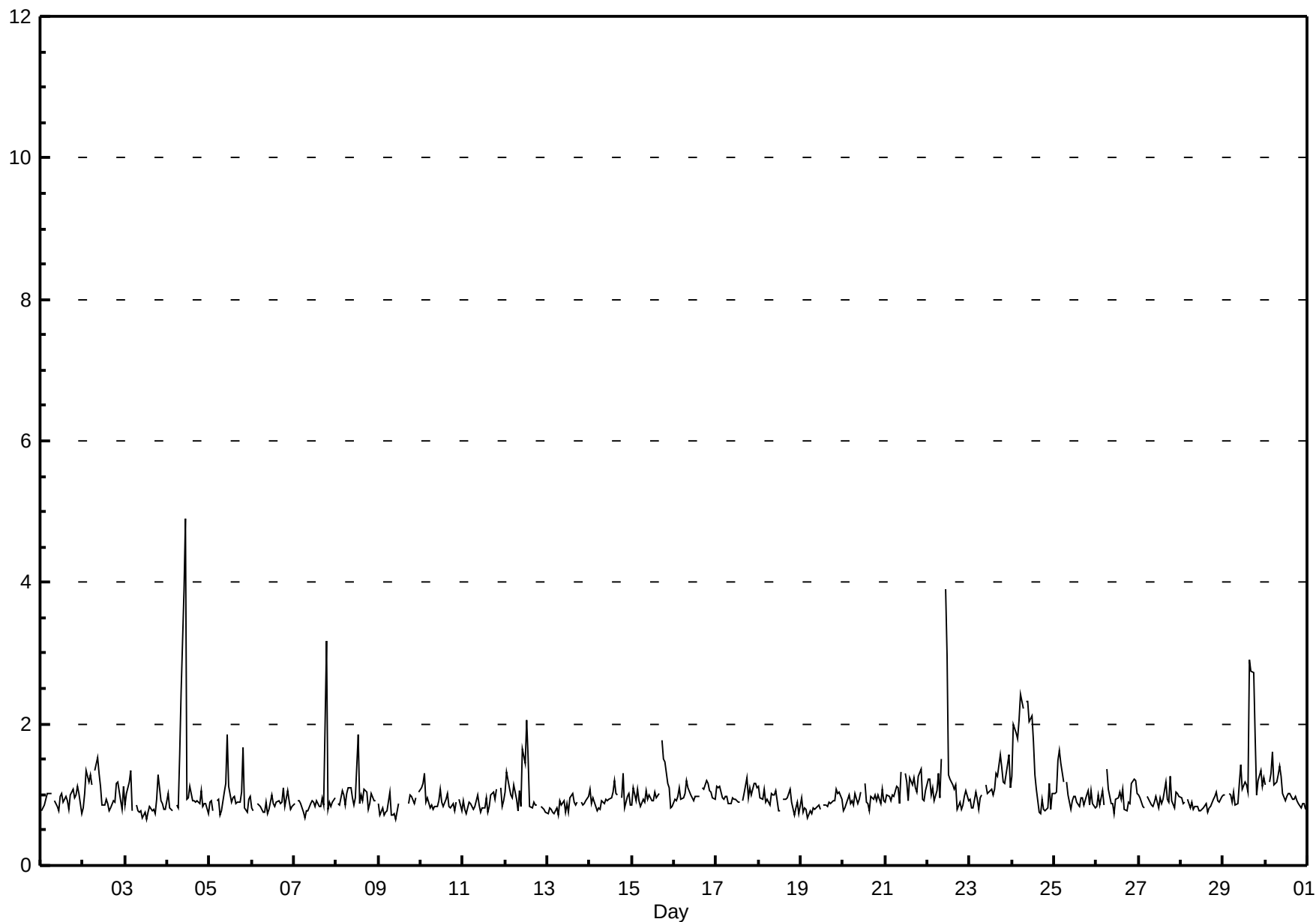
Total Reduced Sulphur (TRS) - ppb

Evergreen Park - November 2011

Maximum Value: 4.9 ppb on Nov 4 11:00																			Maximum Daily Average: 1.5 ppb on Nov 24							Hours in Service: 720	
Minimum Value: 1 ppb on Nov 9 11:00																			Minimum Daily Average: 0.8 ppb on Nov 9							Hours of Data: 684	
Maximum Diurnal Average: 1.2 ppb at hour 11																			Minimum Diurnal Average: 0.9 ppb at hour 24							Hours of Missing Data: 36	
Monthly Average: 1.01 ppb																			Percentiles: P ₁ = 0.7 P ₁₀ = 0.8 Q ₁ = 0.8 Median = 0.9 Q ₃ = 1.0 P ₉₀ = 1.3 P ₉₉ = 2.7							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	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.1	
2-Nov	1	1	1	1	1	1	A	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.5	
3-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	0.9	1.3	
4-Nov	1	1	1	1	A	1	1	2	2	4	5	1	1	1	1	1	1	1	1	1	1	1	1	1	1.3	4.9	
5-Nov	1	1	1	A	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	2	1	1	1	1	1.0	1.9	
6-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	1.1	
7-Nov	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	1	1	1	1	1	1.0	3.2	
8-Nov	A	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	A	1.0	1.8	
9-Nov	1	1	1	1	1	1	1	1	1	1	1	1	C	C	C	C	C	1	1	1	1	1	A	1	0.8	1.0	
10-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	0.9	1.3	
11-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	0.9	1.1	
12-Nov	1	1	1	1	1	1	1	1	1	1	2	1	2	2	1	1	1	1	1	A	1	1	1	1	1.1	2.0	
13-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	1.0	
14-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	
15-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	2	2	1	1	1	1	1	1.0	1.8	
16-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	1.0	1.2	
17-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	1.0	1.2	
18-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	0.9	1.1	
19-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	1.1	
20-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	
21-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	1.1	1.4	
22-Nov	1	1	1	1	1	1	1	1	2	A	4	3	1	1	1	1	1	1	1	1	1	1	1	1	1.3	3.9	
23-Nov	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	2	1	1	1	1	2	1	1.1	1.6	
24-Nov	1	2	2	2	2	2	2	A	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1.5	2.4	
25-Nov	1	1	1	2	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.6	
26-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	1.0	1.4	
27-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	1.3	
28-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	1.0	
29-Nov	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	3	3	3	2	1	1	1	1	1	1.3	2.9	
30-Nov	1	A	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.1	1.6	
1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.1 1.1 1.2 1.1 1.0 1.0 1.0 1.0 1.0 1.0 1.1 1.0 1.0 1.0 0.9																								Diurnal Average			
1.3 2.0 1.9 1.8 2.0 2.4 2.2 1.6 2.5 3.9 4.9 3.0 2.0 1.5 1.2 2.9 2.7 2.7 3.2 1.7 1.4 1.4 1.6 1.2																								Diurnal Maximum			
C - Calibration A - Automated Daily Zero Span																											

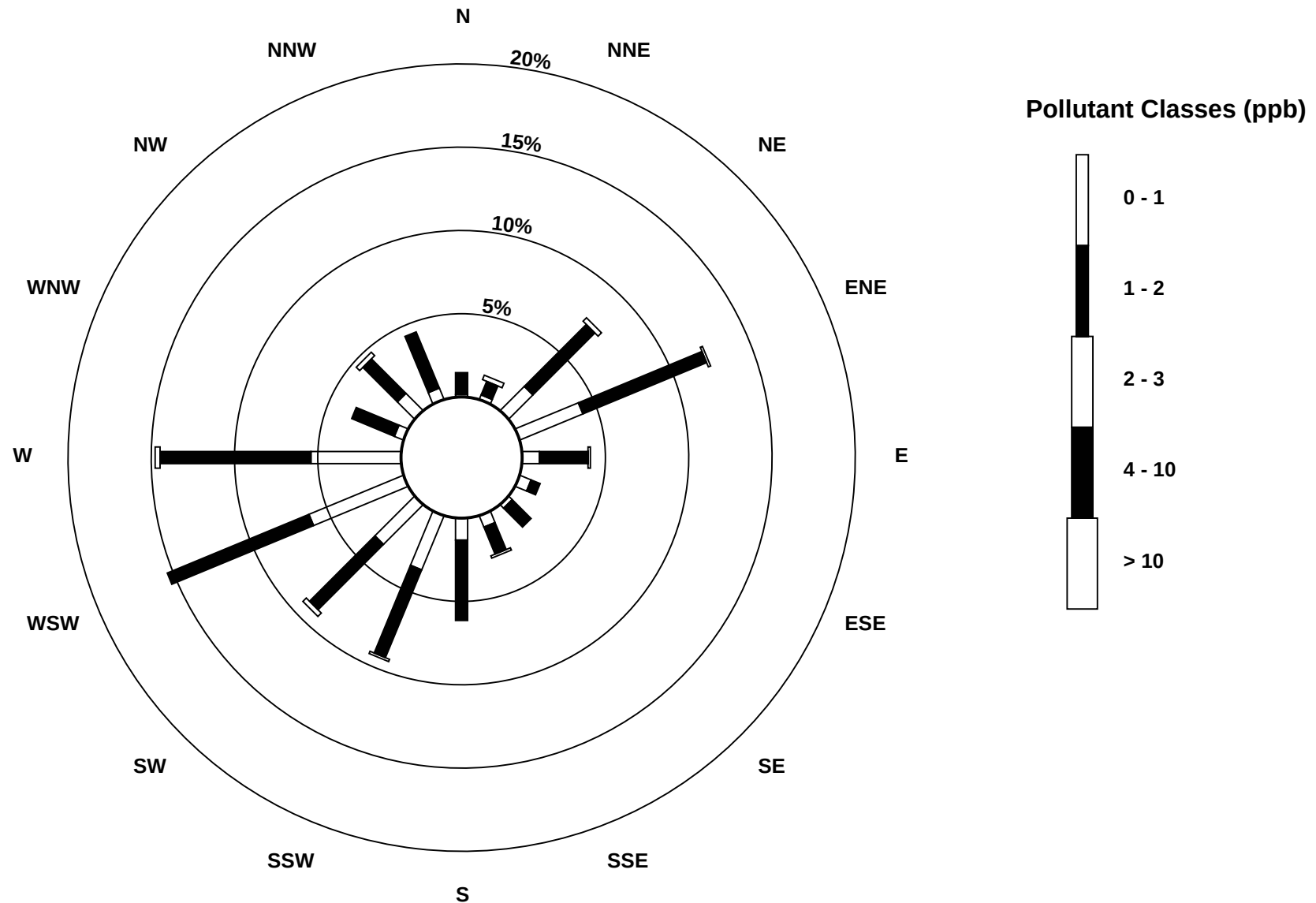
Hourly Maximums

Total Reduced Sulphur (TRS) - ppb
Evergreen Park - November 2011



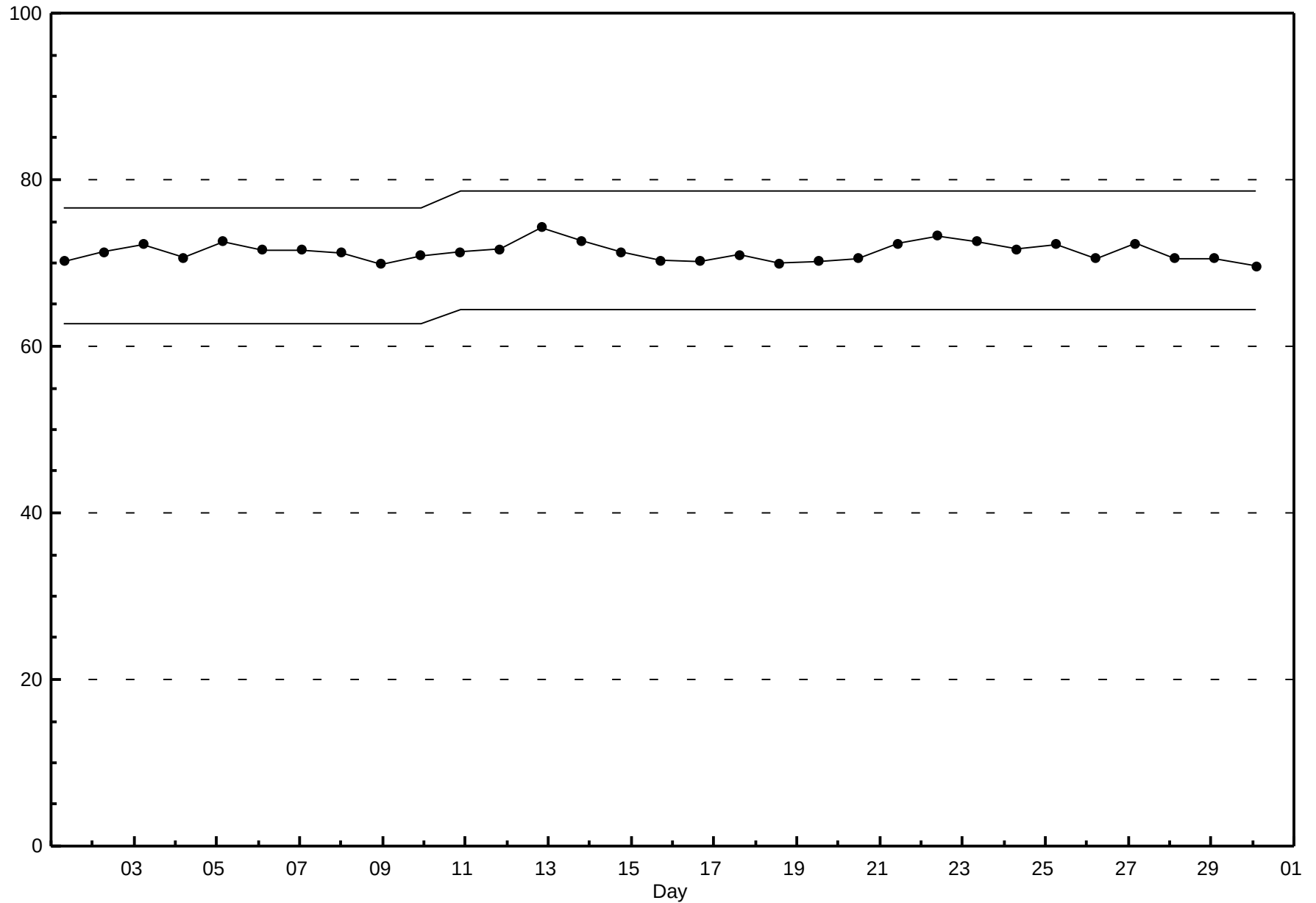
Pollutant Rose

Total Reduced Sulphur (TRS) - ppb
Evergreen Park - November 2011



Span Responses

Total Reduced Sulphur (TRS)
Evergreen Park - November 2011



Hourly Averages

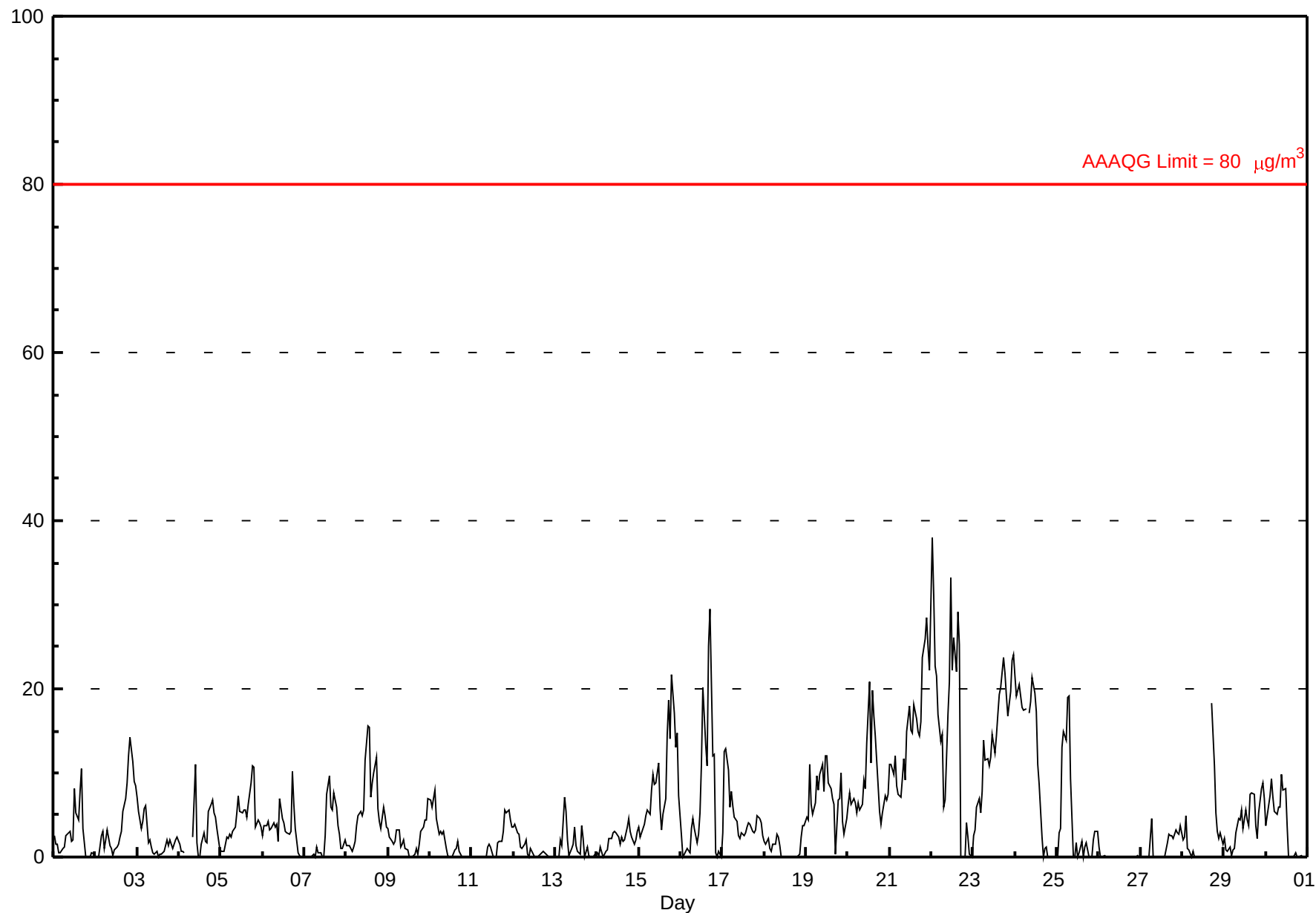
Particulate Matter 2.5 (PM_{2.5}) - µg/m³

Evergreen Park - November 2011

Number of Exceedences: 1-hr: 0 24-hr: 0 Maximum Value: 38.0 µg/m³ on Nov 22 01:00 Minimum Value: 0 µg/m³ on Nov 1 19:00 Maximum Diurnal Average: 6.5 µg/m³ at hour 17 Monthly Average: 4.94 µg/m³																								Hours in Service: 720 Hours of Data: 714 Hours of Missing Data: 6 Hours of Calibration: 0 Percent Operational Time: 99.2		
Maximum Daily Average: 15.6 µg/m³ on Nov 22 Minimum Daily Average: 0.1 µg/m³ on Nov 26 Minimum Diurnal Average: 4.1 µg/m³ at hour 24 Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.5 Median = 2.8 Q ₃ = 6.8 P ₉₀ = 13.9 P ₉₉ = 24.6																										
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	2	1	1	1	0	1	1	3	3	3	2	2	8	5	4	8	10	3	0	0	0	0	0	0	2.5	10.4
2-Nov	0	0	0	3	3	1	2	3	1	1	0	1	1	1	2	3	5	7	9	12	14	11	9	8	4.2	14.2
3-Nov	7	5	3	4	6	6	2	2	1	1	0	1	0	0	0	1	1	2	1	2	1	2	2	2	2.3	7.2
4-Nov	2	1	1	1	N	N	N	N	2	11	2	0	0	1	3	2	2	5	6	7	5	5	3	1	3.0	11.1
5-Nov	1	1	1	2	2	3	2	3	3	5	7	5	5	6	6	5	6	9	11	11	4	4	4	4	4.6	10.8
6-Nov	3	4	4	4	3	3	4	4	4	2	7	5	4	3	3	3	3	10	6	3	0	0	0	0	3.4	10.2
7-Nov	0	0	0	0	0	0	0	1	1	1	0	0	3	8	10	6	6	8	6	4	3	1	1	2	2.4	9.7
8-Nov	1	1	1	1	1	2	4	5	6	5	6	12	16	15	7	9	10	12	6	4	3	6	5	4	5.9	15.5
9-Nov	3	2	2	2	2	3	3	1	2	2	1	1	0	0	0	0	1	0	2	3	4	4	4	7	2.1	7.0
10-Nov	7	6	7	8	5	3	3	3	3	1	0	0	0	0	1	1	2	1	0	0	0	0	0	0	2.0	7.9
11-Nov	0	0	0	0	0	0	0	0	0	1	2	1	0	0	0	2	2	2	3	6	5	6	4	4	1.5	5.6
12-Nov	3	4	3	3	1	1	2	2	0	0	1	0	0	0	0	0	1	1	0	0	0	0	0	0	1.0	3.9
13-Nov	0	0	0	2	1	7	5	2	0	1	2	4	1	1	0	4	2	0	1	0	0	0	0	1	1.4	7.1
14-Nov	1	0	1	0	0	1	1	2	2	3	3	3	2	2	2	2	2	4	5	3	2	1	2	3	2.0	4.6
15-Nov	4	2	3	4	5	6	5	8	10	9	9	11	6	3	5	7	15	19	14	22	17	13	15	7	9.1	21.8
16-Nov	3	0	0	1	1	0	3	4	3	2	3	5	11	20	13	11	25	29	12	12	1	0	1	0	6.7	29.5
17-Nov	3	13	13	10	6	8	6	5	4	3	2	3	3	3	4	4	4	3	3	3	5	5	4	3	4.9	12.9
18-Nov	2	2	2	1	1	1	1	3	2	1	0	0	0	0	0	0	0	0	0	0	0	2	4	4	1.1	3.7
19-Nov	5	4	11	6	5	6	10	8	10	11	8	12	12	9	8	7	6	0	7	7	10	4	3	5	7.3	12.1
20-Nov	6	8	6	7	6	5	7	6	6	9	8	14	21	11	20	17	14	8	5	4	5	7	7	8	9.0	20.8
21-Nov	11	11	10	12	9	7	7	9	12	9	15	18	15	15	18	16	15	14	16	24	26	28	25	22	15.2	28.4
22-Nov	38	31	23	22	17	14	15	6	7	17	21	33	22	26	22	29	25	0	0	0	4	2	0	0	15.6	38.0
23-Nov	3	3	6	7	5	8	14	11	12	11	12	15	12	14	17	19	20	24	22	19	17	20	23	24	14.1	24.1
24-Nov	22	19	21	19	18	17	18	N	17	18	21	20	17	11	9	2	0	1	1	0	0	0	0	0	10.9	21.5
25-Nov	0	3	3	13	15	14	19	19	9	0	0	2	0	1	2	0	1	2	0	0	0	2	3	3	4.6	19.1
26-Nov	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	1.1
27-Nov	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	2	3	3	3	2	3	3	3	4	1.2	4.5
28-Nov	2	2	5	1	1	0	1	0	0	0	0	0	0	0	0	0	M	18	11	5	3	2	3	2	2.4	18.3
29-Nov	2	1	1	1	0	1	1	3	5	4	6	3	6	4	4	7	8	7	4	2	5	8	9	7	4.1	8.8
30-Nov	4	5	7	9	7	5	5	6	6	10	8	8	4	0	0	0	0	1	0	0	0	0	0	0	3.5	9.9
4.5 4.3 4.5 4.8 4.2 4.3 5.0 4.2 4.4 4.7 4.8 5.9 5.6 5.3 5.3 5.6 6.5 6.5 5.1 5.2 4.6 4.6 4.5 4.1																								Diurnal Average		
38.0 31.3 22.7 21.5 17.8 17.4 19.0 19.1 17.2 18.4 21.4 33.2 22.2 26.1 22.1 29.1 25.3 29.5 21.8 23.7 26.0 28.4 25.1 24.1																								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 2011



Hourly Maximums

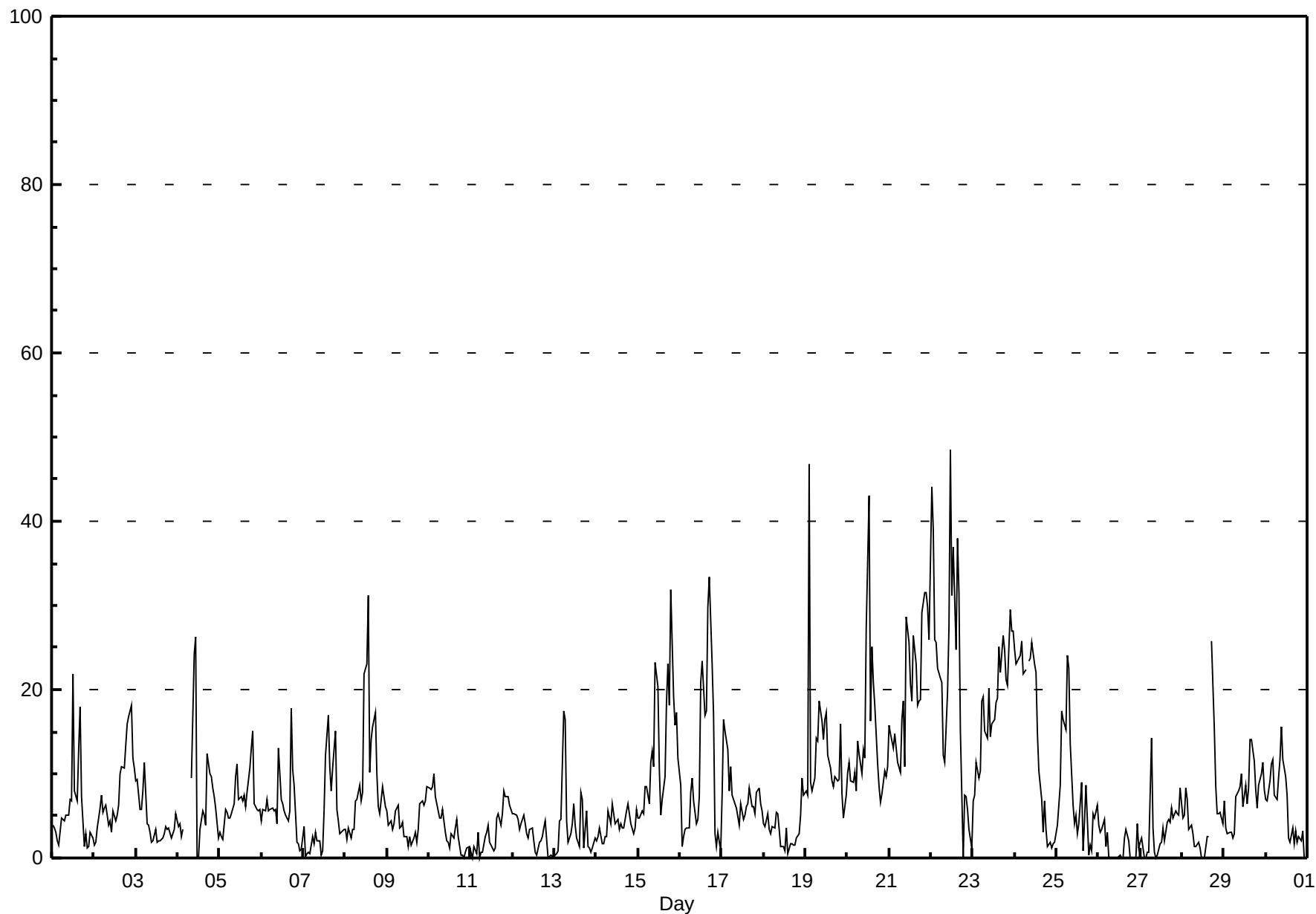
Particulate Matter 2.5 (PM_{2.5}) - µg/m³

Evergreen Park - November 2011

Maximum Value: 48.4 μg/m ³ on Nov 22 12:00																				Maximum Daily Average: 21.7 μg/m ³ on Nov 22										Hours in Service: 720									
Minimum Value: 0 μg/m ³ on Nov 4 12:00																				Minimum Daily Average: 1.4 μg/m ³ on Nov 26										Hours of Data: 714									
Maximum Diurnal Average: 10.5 μg/m ³ at hour 18																				Minimum Diurnal Average: 6.3 μg/m ³ at hour 24										Hours of Missing Data: 6									
Monthly Average: 8.08 μg/m ³																				Percentiles: P ₁ = 0.0 P ₁₀ = 1.1 Q ₁ = 2.9 Median = 5.5 Q ₃ = 10.4 P ₉₀ = 18.7 P ₉₉ = 36.4										Hours of Calibration: 0									
																				Percent Operational Time: 99.2																			
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24															
1-Nov	4	4	3	2	2	5	5	4	5	5	7	7	22	8	7	13	18	7	1	3	1	1	3	2	5.8	21.9													
2-Nov	2	2	4	6	7	5	6	6	4	4	3	6	4	5	6	10	11	11	13	16	17	18	12	11	7.9	18.2													
3-Nov	9	9	6	6	8	11	4	4	3	2	2	3	2	2	2	2	3	4	3	4	2	3	3	5	4.3	11.3													
4-Nov	4	4	3	3	N	N	N	N	9	24	26	0	0	3	6	5	4	12	10	10	8	7	6	2	7.4	26.3													
5-Nov	3	3	2	6	5	5	5	5	7	10	11	7	7	7	7	6	8	11	13	15	6	6	6	6	6.9	15.1													
6-Nov	4	6	6	7	6	6	6	6	6	4	13	7	7	6	5	4	6	18	10	9	2	2	1	1	6.0	17.7													
7-Nov	4	0	1	1	1	3	2	3	2	2	0	1	6	12	17	11	8	11	15	6	4	3	3	3	4.9	17.0													
8-Nov	3	2	4	2	3	3	7	7	9	7	8	22	23	31	10	14	16	17	10	6	5	8	7	6	9.6	31.1													
9-Nov	6	4	4	3	4	6	6	4	4	4	3	3	1	3	2	2	3	2	3	7	7	6	7	8	4.2	8.5													
10-Nov	8	8	8	10	7	6	5	5	6	3	2	2	1	3	2	4	5	3	0	0	0	1	1	1	3.8	9.9													
11-Nov	1	0	1	0	3	0	1	1	3	3	4	2	1	1	1	5	5	4	5	8	7	7	6	6	3.1	8.0													
12-Nov	5	5	5	5	3	4	5	4	3	2	3	4	2	1	0	2	2	3	4	4	0	0	0	0	2.8	5.3													
13-Nov	0	1	1	4	5	17	16	4	2	3	4	7	4	2	1	8	7	1	6	1	1	1	1	2	4.2	17.5													
14-Nov	2	3	4	2	2	3	3	6	4	7	5	4	5	3	4	4	4	6	7	5	4	3	4	6	4.0	6.5													
15-Nov	5	5	6	5	8	8	7	11	13	11	23	20	10	5	7	10	18	23	18	32	19	16	17	12	12.9	31.9													
16-Nov	9	1	3	3	4	4	8	9	7	4	5	7	21	23	17	17	30	33	23	17	3	1	3	1	10.5	33.3													
17-Nov	7	16	15	13	8	11	7	7	6	5	4	6	5	5	6	7	8	6	6	5	8	8	6	6	7.6	16.5													
18-Nov	4	4	5	3	3	4	4	6	5	3	1	1	1	4	0	2	2	2	2	2	3	5	9	7	3.4	9.4													
19-Nov	8	7	47	9	8	9	14	14	19	16	14	16	17	12	11	9	8	10	9	9	16	8	5	7	12.7	46.8													
20-Nov	10	11	9	9	10	8	14	12	10	13	12	27	43	16	25	21	18	11	8	7	8	10	10	11	13.9	43.1													
21-Nov	16	15	13	15	13	11	10	16	19	11	29	26	21	19	26	23	18	19	19	29	32	32	30	26	20.3	31.5													
22-Nov	44	39	26	26	23	21	21	12	11	20	27	48	31	37	25	38	32	15	0	7	7	6	3	1	21.7	48.4													
23-Nov	7	7	11	9	10	19	19	15	14	20	14	16	16	18	19	25	22	26	25	21	21	29	27	27	18.4	29.4													
24-Nov	25	23	24	24	26	22	22	N	23	24	26	23	22	15	10	7	3	7	3	1	2	1	2	2	14.6	25.8													
25-Nov	4	6	9	17	17	15	24	23	14	6	4	5	3	4	9	1	4	9	0	2	1	5	5	6	8.0	24.1													
26-Nov	4	3	3	5	1	3	0	0	0	0	0	0	0	0	0	2	3	2	0	0	0	4	1	1.4	4.6														
27-Nov	2	2	0	0	1	1	14	4	1	0	0	2	2	4	2	4	4	4	6	5	6	5	8	3.4	14.3														
28-Nov	5	5	8	7	3	4	3	1	1	2	1	0	0	0	3	3	M	26	15	8	5	5	6	4	5.0	25.8													
29-Nov	7	4	3	3	3	2	3	7	8	8	10	6	9	7	8	14	14	12	8	6	9	10	11	8	7.5	14.1													
30-Nov	7	7	9	11	12	7	7	9	12	16	12	10	7	2	2	3	2	3	2	3	2	3	0	0	6.2	15.5													
7.3 6.9 8.0 7.2 7.1 7.7 8.5 7.3 7.6 8.0 9.2 9.6 9.8 8.6 8.1 9.2 9.9 10.5 8.2 8.3 6.8 7.0 6.8 6.3																									Diurnal Average														
44.1 38.9 46.8 25.5 25.8 21.9 24.1 22.6 23.3 24.3 28.7 48.4 43.1 37.0 26.5 38.0 31.6 33.3 24.8 31.9 31.5 31.5 29.9 27.0																									Diurnal Maximum														
M - Maintenance N - Not Valid																																							

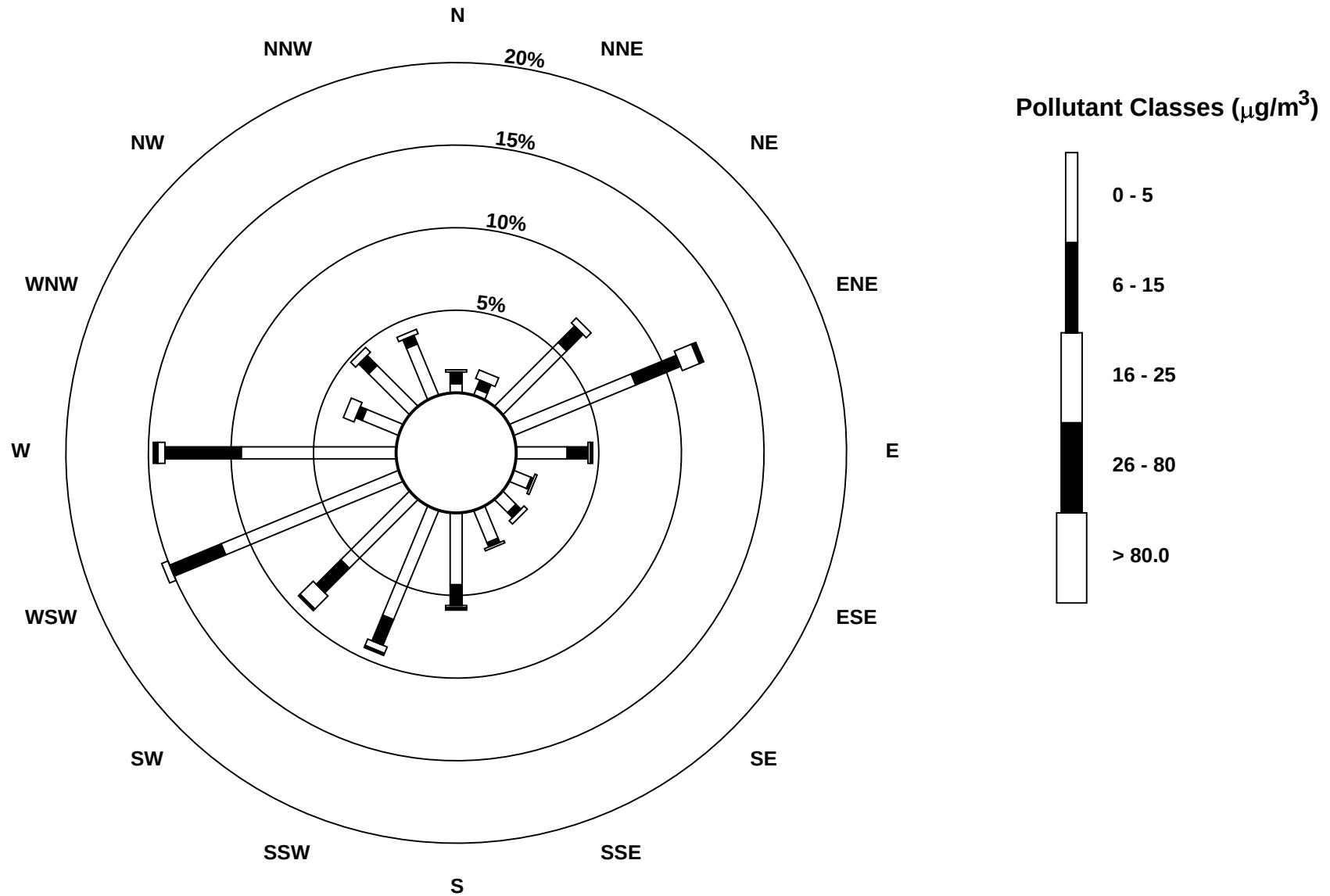
Hourly Maximums

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Evergreen Park - November 2011



Pollutant Rose

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Evergreen Park - November 2011



Hourly Averages

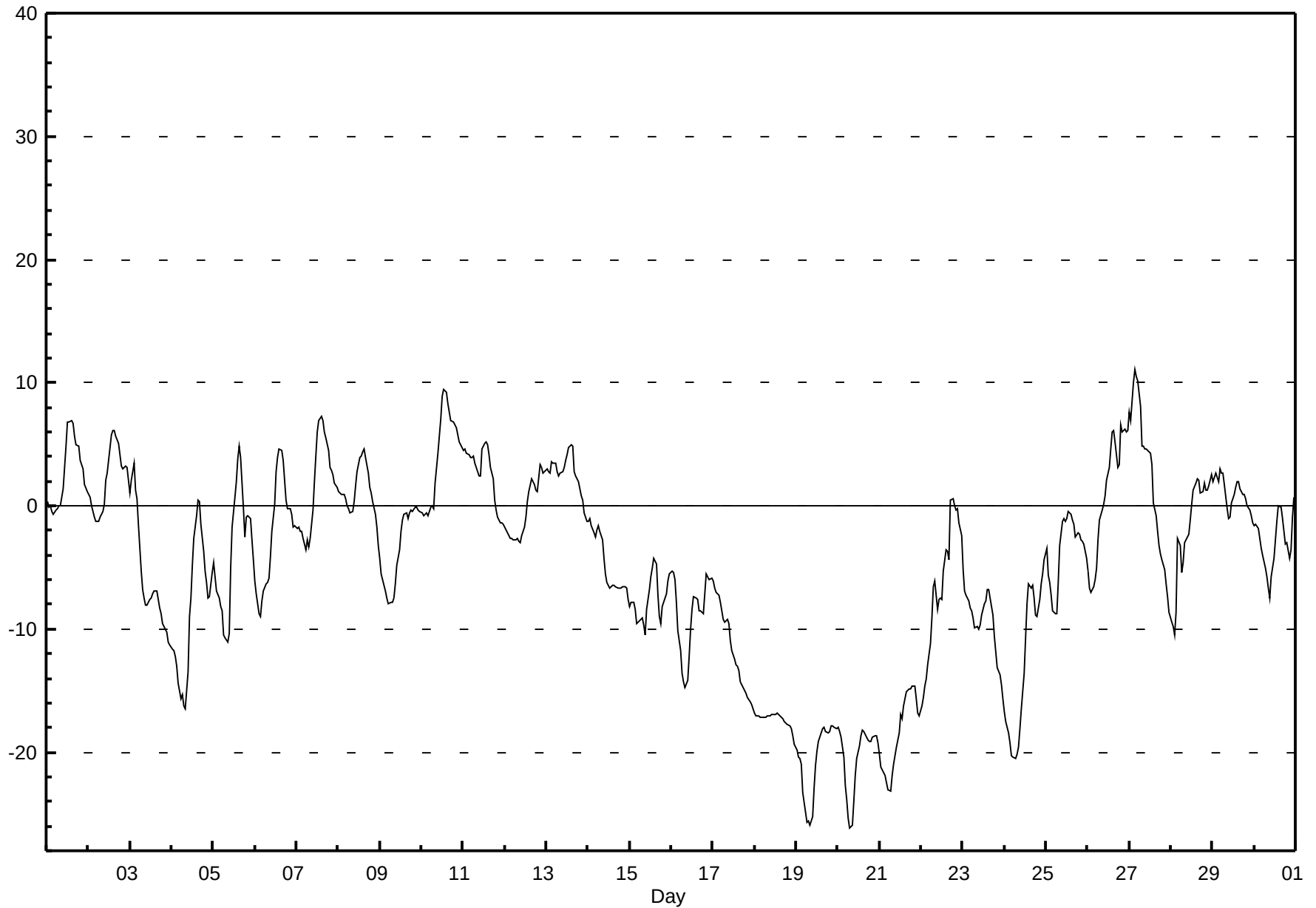
External Temperature (ET) - °C

Evergreen Park - November 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 11.1 °C on Nov 27 04:00 Maximum Daily Average: 4.2 °C on Nov 10																									Hours in Service: 720 Hours of Data: 720 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0	
Minimum Value: -26 °C on Nov 20 08:00 Minimum Daily Average: -20.7 °C on Nov 19 Maximum Diurnal Average: -2.1 °C at hour 15 Minimum Diurnal Average: -7.4 °C at hour 8 Monthly Average: -4.99 °C Percentiles: P ₁ = -25.1 P ₁₀ = -17.8 Q ₁ = -9.1 Median = -3.2 Q ₃ = 1.0 P ₉₀ = 4.3 P ₉₉ = 8.7																										
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	0	0	0	0	-1	0	0	0	0	1	3	5	7	7	7	7	6	5	5	4	3	3	2	1	2.7	7.0
2-Nov	1	1	0	-1	-1	-1	-1	-1	0	0	2	3	5	6	6	6	6	5	4	3	3	3	3	2	2.2	6.2
3-Nov	1	2	3	1	1	-1	-5	-7	-8	-8	-8	-8	-7	-7	-7	-7	-8	-8	-9	-10	-10	-10	-11	-11	-5.9	3.4
4-Nov	-12	-12	-12	-13	-14	-16	-15	-16	-16	-14	-9	-7	-5	-3	-1	0	0	-1	-4	-5	-6	-8	-7	-5	-8.4	0.4
5-Nov	-5	-6	-7	-7	-8	-8	-11	-11	-11	-10	-5	-2	1	2	4	5	4	0	-2	-1	-1	-1	-3	-4	-3.7	4.8
6-Nov	-6	-7	-9	-9	-8	-7	-6	-6	-6	-4	-2	0	3	4	5	5	4	2	0	0	0	-1	-2	-2	-2.2	4.6
7-Nov	-2	-2	-2	-2	-3	-4	-3	-3	-3	0	2	4	6	7	7	7	6	6	4	3	3	3	2	1	1.6	7.3
8-Nov	1	1	1	1	1	0	0	-1	0	0	2	3	4	4	4	5	4	3	2	1	0	-1	-2	-3	1.2	4.6
9-Nov	-4	-6	-6	-7	-7	-8	-8	-8	-7	-6	-5	-4	-2	-1	-1	-1	-1	-1	0	0	0	0	0	-1	-3.5	-0.1
10-Nov	-1	-1	-1	-1	-1	0	0	0	2	4	6	7	9	9	9	8	8	7	7	7	6	6	5	5	4.2	9.5
11-Nov	4	5	4	4	4	4	4	3	3	2	2	5	5	5	5	4	3	2	0	0	-1	-1	-1	-1	2.7	5.1
12-Nov	-2	-2	-2	-3	-3	-3	-3	-3	-3	-3	-2	-2	-1	0	1	2	2	2	1	1	3	3	3	3	-0.4	3.4
13-Nov	3	3	3	4	4	3	3	2	3	3	3	4	4	5	5	5	3	2	2	1	1	0	-1	-1	2.6	4.9
14-Nov	-1	-1	-2	-2	-3	-2	-2	-2	-3	-4	-6	-6	-7	-7	-6	-6	-7	-7	-7	-7	-7	-7	-7	-8	-4.7	-1.0
15-Nov	-8	-8	-8	-8	-10	-9	-9	-9	-10	-10	-8	-7	-6	-5	-4	-5	-7	-9	-10	-8	-7	-7	-6	-5	-7.7	-4.3
16-Nov	-5	-5	-6	-8	-10	-12	-14	-14	-15	-14	-12	-10	-8	-7	-7	-8	-8	-9	-9	-7	-6	-6	-6	-6	-8.9	-5.3
17-Nov	-6	-7	-7	-7	-8	-8	-9	-9	-9	-10	-11	-12	-12	-13	-13	-13	-14	-15	-15	-15	-16	-16	-16	-16	-11.6	-6.1
18-Nov	-17	-17	-17	-17	-17	-17	-17	-17	-17	-17	-17	-17	-17	-17	-17	-17	-17	-18	-18	-18	-18	-18	-19	-19	-17.4	-16.8
19-Nov	-20	-20	-21	-21	-23	-25	-26	-26	-26	-25	-23	-21	-20	-19	-18	-18	-18	-18	-18	-18	-18	-18	-18	-18	-20.7	-17.8
20-Nov	-18	-18	-19	-20	-23	-24	-25	-26	-26	-24	-22	-21	-19	-19	-18	-18	-19	-19	-19	-19	-19	-19	-19	-19	-20.5	-18.0
21-Nov	-20	-21	-22	-22	-22	-23	-23	-22	-21	-20	-20	-18	-17	-17	-16	-15	-15	-15	-15	-15	-15	-16	-17	-17	-18.5	-14.6
22-Nov	-16	-16	-15	-14	-13	-11	-9	-7	-6	-8	-8	-7	-8	-5	-4	-4	-4	0	1	0	0	0	-1	-2	-6.6	0.5
23-Nov	-5	-7	-7	-8	-8	-9	-9	-10	-10	-10	-10	-9	-8	-8	-7	-7	-8	-9	-11	-12	-13	-14	-14	-16	-9.4	-5.2
24-Nov	-17	-17	-18	-19	-20	-20	-21	-20	-20	-18	-17	-14	-11	-8	-6	-7	-6	-7	-9	-9	-8	-6	-6	-4	-12.9	-4.4
25-Nov	-3	-6	-6	-7	-9	-9	-9	-6	-3	-1	-1	-1	-1	0	-1	-1	-1	-3	-2	-2	-3	-3	-3	-4	-3.6	-0.4
26-Nov	-5	-7	-7	-7	-6	-5	-3	-1	0	0	1	2	3	5	6	6	5	3	3	7	6	6	6	6	1.0	6.5
27-Nov	8	7	10	11	10	10	8	5	5	5	5	4	4	3	0	-1	-2	-3	-4	-4	-5	-6	-7	-9	2.2	11.1
28-Nov	-9	-10	-10	-9	-3	-3	-5	-5	-3	-3	-2	-1	0	1	2	2	2	1	1	2	1	1	2	3	-1.9	2.6
29-Nov	2	2	3	2	3	3	3	2	0	-1	-1	0	1	2	2	2	1	1	1	1	0	0	-1	-1	1.0	3.0
30-Nov	-2	-1	-2	-3	-3	-4	-5	-6	-7	-7	-6	-4	-3	-1	0	0	-1	-2	-3	-3	-4	-4	-1	1	-3.0	0.7
	-5.5	-5.8	-6.1	-6.4	-6.7	-7.0	-7.4	-7.4	-7.3	-6.8	-5.6	-4.5	-3.3	-2.6	-2.1	-2.1	-2.8	-3.5	-4.1	-4.2	-4.3	-4.5	-4.8	-5.1	Diurnal Average	
	7.6	6.9	10.1	11.1	10.5	10.1	8.0	4.8	4.9	4.6	5.6	7.1	8.9	9.5	9.2	8.3	7.6	6.9	6.8	6.6	6.3	6.2	6.0	6.1	Diurnal Maximum	

Hourly Averages

External Temperature (ET) - °C
Evergreen Park - November 2011



Hourly Averages

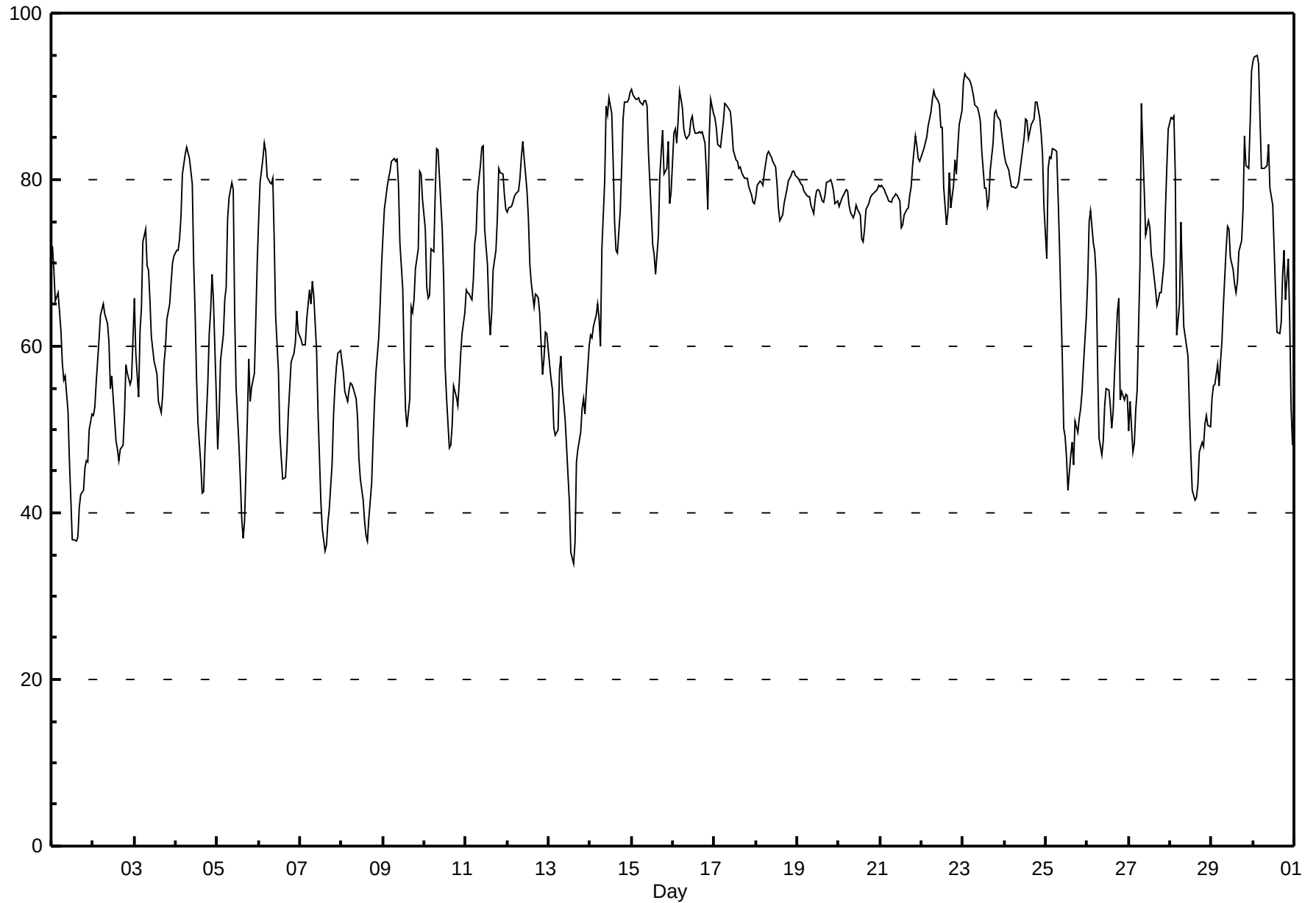
Relative Humidity (RH) - %

Evergreen Park - November 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 94.9 % on Nov 30 03:00 Maximum Daily Average: 86.5 % on Nov 23																								Hours in Service: 720 Hours of Data: 720 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0		
Minimum Value: 34 % on Nov 13 15:00 Minimum Daily Average: 49.8 % on Nov 13 Maximum Diurnal Average: 75.9 % at hour 8 Minimum Diurnal Average: 59.5 % at hour 15 Monthly Average: 69.45 % Percentiles: P ₁ = 36.7 P ₁₀ = 48.4 Q ₁ = 57.0 Median = 72.8 Q ₃ = 80.9 P ₉₀ = 86.6 P ₉₉ = 92.2																										
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	72	69	65	66	66	62	58	56	56	52	46	42	37	37	37	41	42	43	45	46	46	50	52	51.0	72.0	
2-Nov	52	53	56	61	64	64	65	64	63	61	55	56	51	49	48	46	48	52	58	57	55	56	61	55.9	65.1	
3-Nov	66	59	54	62	65	73	74	70	69	66	61	58	57	57	53	52	54	58	60	63	65	68	70	71	62.7	74.1
4-Nov	72	71	73	76	81	83	84	83	82	79	70	64	56	51	46	42	43	48	56	62	64	69	65	54	65.6	83.8
5-Nov	48	52	58	61	66	67	75	78	80	79	64	55	48	44	39	37	39	51	58	53	55	57	63	70	58.3	79.7
6-Nov	75	80	82	84	83	80	80	79	80	73	64	57	50	47	44	44	48	52	55	58	59	60	64	62	65.0	84.5
7-Nov	61	60	60	60	63	67	65	68	66	59	52	47	42	38	35	36	39	41	46	52	55	57	59	59	53.7	67.8
8-Nov	58	57	55	53	55	56	55	55	54	52	46	44	42	39	37	37	39	44	49	53	57	61	65	70	51.3	69.7
9-Nov	73	76	79	80	81	82	83	82	82	79	72	67	59	52	50	54	65	64	66	69	72	81	81	78	72.0	82.6
10-Nov	74	67	66	66	72	71	78	84	83	77	74	68	58	54	48	48	51	55	54	53	56	59	62	64	64.2	83.8
11-Nov	67	66	66	66	68	72	74	78	82	84	84	74	70	64	61	64	69	72	75	81	81	81	78	76	73.1	84.0
12-Nov	76	77	77	77	78	78	79	80	83	85	83	79	75	70	68	65	66	66	66	64	57	58	62	61	72.0	84.5
13-Nov	58	56	55	50	49	50	57	59	55	51	48	45	41	35	34	36	46	48	50	53	54	52	55	60	49.8	59.9
14-Nov	61	61	62	64	65	63	60	72	80	89	88	90	88	82	75	71	71	76	81	87	89	89	90	91	76.9	90.5
15-Nov	91	90	90	90	90	89	89	90	90	89	83	76	72	71	69	73	80	83	86	81	81	85	77	78	83.0	90.9
16-Nov	86	86	84	87	91	89	86	85	85	85	87	88	86	86	86	86	86	86	84	81	76	85	90	88	85.8	90.7
17-Nov	87	86	84	84	85	87	89	89	89	88	86	84	82	82	81	81	81	80	80	80	79	78	77	77	83.3	89.1
18-Nov	78	79	80	80	79	81	83	83	83	83	82	82	79	77	75	76	77	78	79	80	81	81	81	81	79.9	83.4
19-Nov	80	80	80	79	79	78	78	78	77	76	78	79	79	79	78	77	78	80	80	80	80	79	77	78	78.5	80.1
20-Nov	77	77	78	78	79	79	77	76	75	76	77	76	76	73	72	74	76	77	78	78	78	79	79	79	76.9	79.3
21-Nov	79	79	79	78	78	77	77	78	78	78	78	77	74	75	76	76	77	78	79	82	85	84	83	82	78.7	85.2
22-Nov	83	84	84	85	86	88	90	91	90	90	89	86	86	79	75	76	81	77	79	82	81	84	87	88	84.2	90.7
23-Nov	92	93	92	92	92	91	90	89	89	88	87	83	79	79	77	78	81	84	88	88	88	87	86	84	86.5	92.6
24-Nov	83	82	81	80	79	79	79	79	80	81	82	85	87	87	85	87	87	87	89	89	88	86	83	77	83.4	89.2
25-Nov	71	81	83	83	84	83	83	78	72	59	50	49	47	43	47	48	46	51	50	51	53	55	58	64	62.0	83.8
26-Nov	68	75	76	72	71	68	58	49	47	49	53	55	55	53	50	52	57	64	66	54	55	54	54	54	58.7	76.2
27-Nov	50	53	47	48	52	55	70	89	84	79	73	75	74	71	70	67	65	66	66	66	70	76	82	86	68.1	89.1
28-Nov	87	87	88	81	61	65	75	68	62	60	59	52	47	43	41	42	43	47	48	48	51	52	51	50	58.7	87.6
29-Nov	54	55	55	58	55	58	61	65	72	74	74	71	69	67	67	68	71	73	77	85	82	81	87	93	69.7	93.0
30-Nov	94	95	95	94	87	81	81	82	82	84	79	77	72	66	62	62	63	69	72	66	70	63	52	48	74.8	94.9
																								Diurnal Average		
																								Diurnal Maximum		

Hourly Averages

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



Hourly Averages

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

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1 Spd	11	9	13	12	9	12	12	14	13	17	19	19	21	24	24	22	15	9	9	3	4	4	3	3	12.0	23.9
Dir	268	270	263	258	256	255	242	246	249	254	257	254	270	252	250	253	253	243	232	190	187	196	199	198	251.5	252.5
2 Spd	2	1	1	1	0	1	1	1	1	2	2	3	3	3	3	3	1	2	1	1	2	4	1	1	0.8	3.7
Dir	158	146	159	8	245	78	207	134	89	59	87	55	62	64	63	74	60	24	347	349	259	272	247	209	63.2	272.1
3 Spd	0	4	3	3	5	13	15	14	11	11	14	12	13	13	14	15	14	9	9	7	6	4	4	4	8.4	15.1
Dir	262	222	267	270	260	315	319	321	309	313	319	312	309	323	327	331	330	308	321	321	315	288	248	250	312.4	331.2
4 Spd	5	5	3	3	1	1	2	2	1	1	2	5	3	3	4	3	3	4	1	0	0	1	5	6	1.9	6.4
Dir	256	273	267	218	162	64	193	61	53	44	206	215	192	152	172	171	196	201	190	184	247	157	207	211	206.0	211.4
5 Spd	4	1	2	1	1	1	2	0	1	0	1	4	4	4	3	2	2	1	1	4	5	3	0	1	1.7	4.9
Dir	181	180	193	207	205	151	67	167	205	176	194	193	204	204	210	213	172	187	180	221	250	267	272	204	204.6	250.1
6 Spd	2	1	0	0	1	1	0	1	2	3	3	5	8	10	8	6	4	5	5	7	8	7	6	8	3.4	9.9
Dir	202	209	268	112	196	79	191	208	208	205	243	247	254	279	302	308	333	268	249	254	254	230	204	217	252.9	278.9
7 Spd	7	9	7	3	1	1	2	1	4	9	7	8	15	20	20	20	16	17	11	12	10	14	14	15	9.1	19.9
Dir	207	208	203	194	91	64	192	104	194	211	203	222	253	259	257	256	253	260	265	256	268	256	253	259	246.0	255.9
8 Spd	17	15	15	16	15	13	11	11	13	15	16	19	21	19	19	18	13	10	11	12	9	4	1	2	12.8	20.8
Dir	256	253	250	258	255	258	252	252	254	251	256	260	269	276	277	266	274	265	261	261	258	269	218	59	260.8	269.4
9 Spd	0	0	1	0	1	1	0	1	2	2	3	3	4	3	3	3	3	3	1	1	0	1	1	1	1.3	3.8
Dir	197	45	69	139	54	43	6	59	54	67	72	68	89	87	88	85	99	101	57	51	334	291	194	219	79.8	88.9
10 Spd	2	3	3	4	4	3	1	1	5	8	11	15	22	21	21	15	17	16	14	12	12	10	7	6	9.1	22.1
Dir	325	271	275	248	204	199	71	153	211	245	254	253	264	269	276	273	263	265	272	263	266	260	227	226	260.2	263.5
11 Spd	8	8	8	6	2	6	8	2	4	3	1	1	3	7	8	7	4	7	6	5	7	5	4	7	1.5	8.3
Dir	221	225	225	216	271	253	239	180	182	204	49	267	329	330	337	31	39	34	31	34	27	29	2	342	316.1	239.1
12 Spd	6	6	7	4	1	2	2	2	3	4	5	6	5	5	5	6	5	7	4	7	13	17	18	21	3.7	21.4
Dir	335	320	326	324	268	175	173	98	109	122	137	143	140	159	164	173	180	204	192	216	252	251	245	245	225.0	245.4
13 Spd	23	21	21	23	24	29	28	25	23	24	25	25	22	22	17	25	18	15	18	18	18	15	10	8	20.3	29.1
Dir	255	253	254	266	268	265	269	278	273	266	265	273	270	288	291	267	262	259	256	257	257	258	244	236	265.4	265.3
14 Spd	11	11	7	9	9	11	12	16	16	15	7	10	11	10	10	9	7	5	6	4	1	1	1	0	7.1	16.0
Dir	252	260	266	262	258	264	271	273	268	308	9	328	322	315	319	316	311	282	271	268	266	337	119	59	287.3	267.9
15 Spd	1	1	1	0	2	2	1	1	2	3	2	1	2	2	1	1	1	2	2	1	1	2	4	2	0.6	4.2
Dir	53	86	91	77	55	76	158	185	207	224	239	275	316	302	329	348	291	218	219	216	216	220	225	304	240.2	224.6
16 Spd	3	5	4	2	1	1	1	0	2	2	3	3	4	5	6	7	8	8	10	9	9	8	9	10	3.8	10.1
Dir	315	283	290	330	338	211	259	259	68	47	55	70	73	74	73	75	72	74	72	84	88	87	83	82	71.3	82.2
17 Spd	10	11	12	11	11	11	12	12	13	13	14	15	14	13	11	10	11	9	9	8	10	10	9	8	10.8	15.1
Dir	84	81	78	78	73	66	64	66	68	64	63	61	60	59	58	47	42	42	38	40	42	46	48	51	60.2	61.0
18 Spd	7	6	6	6	7	6	6	5	5	5	5	5	5	5	6	6	6	5	5	6	5	4	4	4	5.2	7.1
Dir	49	36	39	41	38	46	50	43	47	44	55	74	68	70	67	65	63	67	60	72	79	75	73	69	57.1	49.0
19 Spd	5	4	4	1	1	1	2	3	1	1	4	5	4	5	3	4	2	2	0	2	4	4	5	5	1.6	5.3
Dir	65	61	72	73	225	231	231	254	256	187	240	271	266	258	251	242	213	208	208	235	274	297	303	295	264.3	257.9
20 Spd	5	5	4	1	1	1	0	1	1	1	2	3	5	5	2	3	2	3	2	3	2	1	1	1	0.8	5.5
Dir	282	260	252	203	236	210	140	166	52	52	77	59	58	70	56	62	73	74	77	73	69	71	109	139	63.3	260.4
21 Spd	0	0	0	0	0	1	1	0	1	1	3	4	5	8	1	3	3	2	1	2	2	1	1	1	1.0	7.6
Dir	214	221	32	261	125	199	10	47	7	241	235	285	280	269	294	210	204	211	30	311	230	187	54	70	256.1	268.5
22 Spd	1	2	1	3	4	2	3	5	1	3	1	7	3	3	1	4	4	13	10	5	5	9	5	1	2.1	13.1
Dir	84	58	127	69	70	178	88	79	94	222	326	261	210	211	291	272	268	245	237	238	231	222	206	159	228.9	244.7

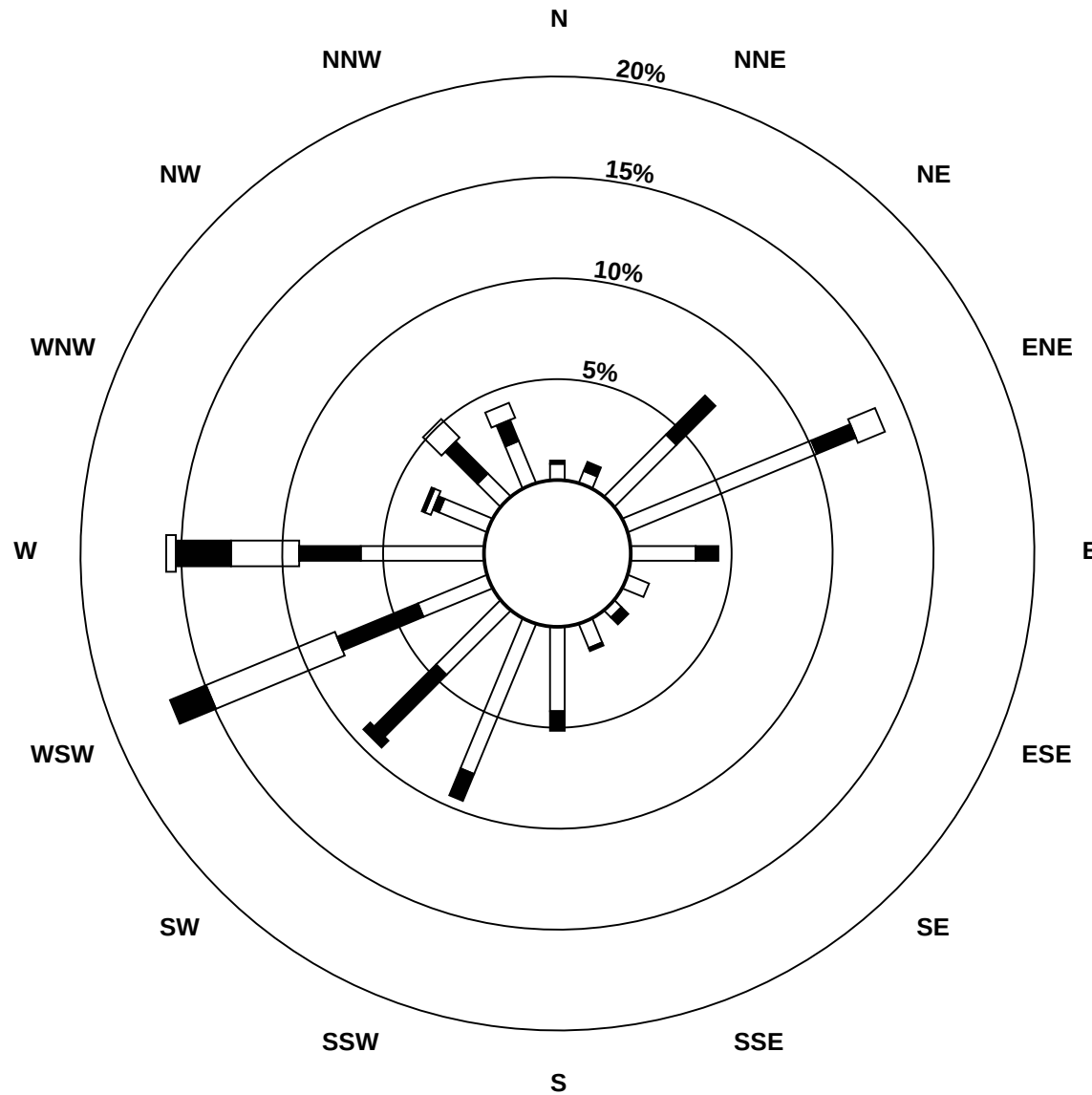
Hourly Averages

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

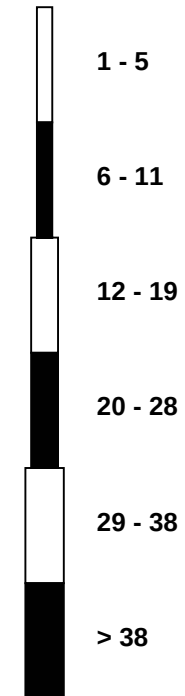
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24							
23 Spd	1	0	3	2	3	2	3	3	1	3	2	2	2	3	0	2	1	1	0	1	1	0	3	1	1.0	3.5					
Dir	36	296	70	52	62	93	43	69	62	96	96	2	19	36	159	300	283	219	127	84	181	245	28	225	55.0	61.5					
24 Spd	1	0	1	0	1	1	0	1	1	0	1	0	2	3	3	3	3	1	2	2	3	3	1	3	1.0	2.9					
Dir	328	108	335	203	7	313	271	34	18	65	17	233	47	55	53	62	85	49	61	65	70	80	54	177	61.0	55.4					
25 Spd	2	1	1	4	4	3	4	12	17	27	31	29	26	19	10	9	5	2	8	8	10	10	5	2	10.1	31.1					
Dir	160	329	281	260	259	260	251	256	252	255	263	264	265	279	292	273	277	272	245	242	249	253	246	176	260.9	262.6					
26 Spd	1	1	2	3	2	1	3	4	5	6	6	6	5	6	6	3	2	1	3	6	6	6	4	4	3.3	6.4					
Dir	71	51	66	71	71	123	175	178	167	174	178	175	172	134	145	116	83	103	169	174	168	172	171	176	155.8	174.3					
27 Spd	5	5	11	24	24	21	13	12	15	18	21	17	9	13	13	12	9	7	5	4	4	2	1	1	8.3	24.0					
Dir	179	207	225	233	234	233	271	252	247	239	247	253	281	303	344	340	338	342	328	333	330	269	332	176	260.4	234.0					
28 Spd	1	1	2	3	10	3	3	6	10	9	9	5	9	11	10	11	8	7	8	8	4	9	7	10	6.4	11.0					
Dir	217	202	60	260	255	231	214	213	224	221	224	205	216	219	223	244	235	215	225	220	201	222	224	238	225.8	244.1					
29 Spd	4	8	12	11	19	12	10	4	2	1	0	2	1	1	1	1	1	1	4	2	2	1	2	3	3.7	18.9					
Dir	210	252	249	256	250	257	267	265	45	179	187	184	193	92	167	147	89	222	263	263	297	258	351	317	253.5	250.4					
30 Spd	3	2	3	3	5	4	5	3	4	4	5	7	6	6	5	5	7	3	3	1	4	5	18	23	4.9	23.5					
Dir	236	323	337	335	299	308	290	311	279	240	258	268	257	241	235	217	225	219	226	262	232	241	253	252	256.9	252.3					
Spd	2.3	2.8	2.7	3.1	3.3	3.3	3.0	2.6	3.2	4.0	4.2	4.8	5.0	4.9	4.0	3.9	2.9	2.7	2.8	2.5	2.7	3.0	2.6	2.9	Diurnal Average						
Dir	248.3	253.6	255.6	256.8	256.6	259.7	267.9	267.3	253.7	252.3	257.2	262.1	270.6	277.8	285.4	279.2	276.5	262.3	263.4	255.2	258.7	249.4	239.0	240.6	Diurnal Maximum						
Spd	23.4	21.4	20.8	23.9	24.0	29.1	28.0	24.5	22.7	27.4	31.1	29.0	26.2	23.9	23.7	24.8	17.7	16.6	17.8	17.8	17.6	16.6	18.1	23.5							
Dir	255.4	252.8	254.0	232.8	234.0	265.3	269.3	277.5	273.1	255.0	262.6	264.0	265.0	252.5	249.7	267.2	262.1	260.4	256.1	256.8	256.5	250.8	252.8	252.3							
Maximum Speed Value: 31 km/h on Nov 25 11:00																		Minimum Speed Value: 0 km/h on Nov 23 19:00												Hours in Service: 720	
Maximum Daily Speed Average: 20.3 km/h on Nov 13																		Minimum Daily Speed Average: 0.6 km/h on Nov 24												Hours of Data: 720	
Maximum Diurnal Speed Average: 5.0 km/h at hour 13																		Minimum Diurnal Speed Average: 2.3 km/h at hour 1												Hours of Missing Data: 0	
Monthly Average Velocity: 3.22 km/h 261.67 deg																		Speed Percentiles: P ₁ = 0.2 P ₁₀ = 0.8 Q ₁ = 1.7 Median = 4.2 Q ₃ = 8.9 P ₉₀ = 15.1 P ₉₉ = 24.5												Percent Operational Time: 100.0	
All monthly, daily, and diurnal averages have been calculated using vector methods																															
Frequency Distribution																															
Speed Range (km/h)																															
Direction	0 to 5		5 to 11		11 to 19		19 to 28		28 to 38		> 38		Total																		
North	15		4		2		0		0		0		21																		
NorthEast	65		31		7		0		0		0		103																		
East	65		19		3		0		0		0		87																		
SouthEast	17		5		0		0		0		0		22																		
South	69		10		0		0		0		0		79																		
SouthWest	82		49		8		5		0		0		144																		
West	63		40		60		30		4		0		197																		
NorthWest	34		19		14		0		0		0		67																		
Total	410		177		94		35		4		0		720																		

Wind Rose

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



Wind Speed Classes (km/h)



Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Evergreen Park - November 2011

Maximum Speed: 31 km/h on Nov 25 11:00																				Maximum Daily Speed Average: 20.9 km/h on Nov 13										Hours in Service: 720	
Minimum Speed: 1 km/h on Nov 24 12:00																				Minimum Daily Speed Average: 1.9 km/h on Nov 24										Hours of Data: 720	
Maximum Diurnal Speed Average: 9.4 km/h at hour 14																				Minimum Diurnal Speed Average: 5.3 km/h at hour 1										Hours of Missing Data: 0	
Monthly Average Speed: 6.62 km/h																				Percentiles: P ₁ = 1.0 P ₁₀ = 1.5 Q ₁ = 2.2 Median = 4.5 Q ₃ = 9.1 P ₉₀ = 15.3 P ₉₉ = 24.8										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	11	9	13	12	9	12	12	14	13	17	19	19	22	24	24	22	15	9	9	4	4	4	3	3	12.6	24.3					
2-Nov	2	2	2	2	1	2	2	2	2	2	3	3	3	3	3	3	2	2	2	3	4	4	2	2	2.5	4.4					
3-Nov	2	4	3	3	5	14	15	14	12	12	14	13	14	13	14	16	14	9	9	7	6	5	5	4	9.5	15.7					
4-Nov	5	5	3	3	1	2	3	2	1	1	3	6	4	4	5	4	4	4	1	2	1	1	5	7	3.1	6.5					
5-Nov	4	2	2	2	2	2	3	2	2	1	2	4	4	4	3	2	3	1	1	4	5	3	1	2	2.5	5.0					
6-Nov	2	1	1	1	1	1	1	2	2	3	4	5	8	10	9	7	4	5	6	8	8	7	6	8	4.6	10.4					
7-Nov	7	9	7	3	2	1	3	2	4	9	7	9	15	20	20	20	16	17	11	12	10	14	14	15	10.3	20.2					
8-Nov	17	15	15	16	15	13	11	11	14	15	16	20	21	20	19	19	13	10	11	12	9	4	2	2	13.2	21.1					
9-Nov	1	1	1	1	1	1	1	2	2	2	3	3	4	3	3	3	3	3	2	2	1	1	2	2	2.0	4.0					
10-Nov	2	4	3	4	4	3	3	3	5	8	11	16	22	21	21	15	17	16	14	12	12	10	7	6	10.0	22.3					
11-Nov	8	8	8	6	4	7	8	2	4	4	1	2	4	8	8	8	4	7	6	6	8	5	5	7	5.7	8.4					
12-Nov	6	6	7	4	2	2	2	3	3	4	6	6	5	5	5	6	5	7	4	7	13	17	18	22	7.0	21.6					
13-Nov	24	22	21	23	24	29	28	25	23	24	25	25	23	22	18	25	18	15	18	18	18	15	10	8	20.9	29.3					
14-Nov	11	11	7	9	9	12	13	16	16	17	8	11	11	10	10	9	7	5	6	4	2	2	2	1	8.7	17.0					
15-Nov	1	3	2	1	2	2	1	1	2	3	2	2	2	2	2	2	2	2	2	2	1	2	4	2	2.0	4.3					
16-Nov	4	5	5	3	3	2	2	2	3	2	3	3	4	5	6	7	8	8	10	9	9	8	9	10	5.5	10.3					
17-Nov	11	11	12	11	11	11	12	12	13	13	14	15	14	13	11	10	11	9	9	9	10	10	9	9	11.3	15.3					
18-Nov	7	6	6	6	7	6	6	5	5	5	5	5	6	6	6	6	6	5	5	7	5	4	4	4	5.5	7.3					
19-Nov	5	4	4	1	1	1	2	3	1	1	5	5	4	5	3	4	3	2	1	2	4	4	5	5	3.2	5.4					
20-Nov	5	6	4	1	1	2	1	2	1	1	2	3	5	5	3	3	2	3	3	3	2	2	1	1	2.7	5.6					
21-Nov	1	1	1	1	1	2	1	1	1	2	3	4	6	8	2	3	3	2	2	2	2	2	1	1	2.3	7.7					
22-Nov	2	2	1	3	5	4	4	5	3	3	2	7	6	4	2	4	6	13	10	6	6	9	5	2	4.7	13.1					
23-Nov	2	1	3	2	4	3	3	3	2	4	2	2	3	3	1	3	2	2	2	3	2	3	3	3	2.5	3.8					
24-Nov	2	2	2	1	1	2	1	1	1	1	1	1	2	3	3	3	3	2	2	2	3	3	2	3	1.9	3.0					
25-Nov	3	3	2	4	4	3	5	12	18	28	31	29	26	19	11	9	5	3	9	8	10	10	5	2	10.8	31.3					
26-Nov	1	2	2	3	2	2	3	5	5	6	6	6	5	6	7	4	2	2	4	7	6	6	4	4	4.2	6.6					
27-Nov	5	5	12	24	24	21	15	13	15	18	21	17	10	16	14	12	10	7	5	4	4	3	2	2	11.6	24.2					
28-Nov	2	2	3	5	10	3	3	6	10	9	9	5	9	11	11	11	8	7	8	8	5	9	8	10	7.2	11.1					
29-Nov	4	9	12	11	19	12	11	6	2	2	2	2	1	1	2	2	2	2	4	3	2	1	2	3	4.9	18.9					
30-Nov	4	2	3	3	5	5	5	3	4	5	5	7	6	6	5	5	7	4	3	2	4	5	18	24	5.9	23.5					
5.3 5.4 5.6 5.7 6.0 6.1 6.0 5.9 6.3 7.4 7.9 8.5 9.1 9.4 8.4 8.3 6.9 6.1 6.0 5.8 5.9 5.8 5.5 5.7																									Diurnal Average						
23.5 21.5 21.0 24.0 24.2 29.3 28.2 24.8 22.9 27.6 31.3 29.2 26.3 24.3 23.9 25.2 17.8 16.7 17.9 17.9 17.7 16.8 18.1 23.5																									Diurnal Maximum						
All monthly, daily, and diurnal averages have been calculated using scalar methods																															

Hourly Standard Deviations

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

Maximum Value: 98.5 deg on Nov 24 10:00																			Hours in Service: 720						
Minimum Value: 3.5 deg on Nov 25 22:00																			Hours of Data: 720						
																			Hours of Missing Data: 0						
Percentiles: P ₁ = 4.6 P ₁₀ = 6.9 Q ₁ = 11.0 Median = 18.9 Q ₃ = 48.6 P ₉₀ = 75.2 P ₉₉ = 92.5																			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	7	10	7	5	4	5	7	6	6	6	7	7	13	10	7	8	8	7	11	28	23	11	44	47	46.6
2-Nov	43	50	77	59	89	56	85	79	80	31	38	17	13	17	18	54	75	43	57	68	89	47	92	79	91.5
3-Nov	83	52	34	17	13	33	13	15	16	16	16	18	19	17	16	15	12	14	13	15	16	17	16	11	82.8
4-Nov	11	10	23	19	59	59	79	24	66	16	82	16	51	34	26	34	18	25	81	91	89	50	73	8	90.8
5-Nov	10	55	29	91	65	61	67	81	59	79	59	15	20	24	36	38	17	64	72	15	12	29	88	50	90.7
6-Nov	23	30	82	74	48	61	82	69	67	12	13	15	14	19	22	21	18	19	14	12	6	16	9	4	82.3
7-Nov	6	6	7	14	67	64	43	50	55	5	12	17	11	8	10	7	7	7	11	7	11	8	6	7	66.7
8-Nov	5	6	7	6	5	5	5	6	5	6	7	8	10	11	10	8	8	6	7	5	6	15	74	30	74.3
9-Nov	89	82	73	87	59	63	84	17	10	18	17	19	21	26	23	21	23	21	50	41	94	45	44	58	93.7
10-Nov	64	25	33	30	13	55	62	83	37	19	10	7	8	11	9	9	6	7	10	10	7	11	12	8	83.1
11-Nov	8	5	4	6	72	56	12	28	16	42	72	70	71	24	14	26	15	15	12	13	15	17	26	14	72.5
12-Nov	11	19	18	19	49	33	29	27	16	18	30	19	28	25	21	14	13	18	16	11	9	7	6	7	49.3
13-Nov	6	7	8	7	7	7	7	9	8	6	7	10	10	12	13	12	7	7	6	6	6	5	10	8	13.4
14-Nov	12	7	7	5	5	6	8	9	8	30	26	18	18	16	19	15	17	14	9	10	47	47	51	78	78.3
15-Nov	31	52	89	88	17	28	64	37	17	10	43	49	32	43	32	60	75	29	46	81	73	30	9	39	89.4
16-Nov	39	20	23	31	72	75	76	92	75	49	24	17	19	17	14	11	11	13	11	17	10	12	14	14	92.3
17-Nov	12	12	11	14	13	12	11	11	13	12	9	10	11	12	13	14	11	11	10	11	10	9	11	11	14.2
18-Nov	15	11	13	13	13	13	15	14	15	13	20	22	22	21	19	14	15	15	14	14	19	16	12	13	22.3
19-Nov	8	10	10	42	50	37	29	12	31	44	20	12	17	13	25	14	31	41	83	63	13	15	13	13	82.6
20-Nov	14	9	8	47	76	49	71	68	47	36	24	25	25	30	37	24	29	21	26	21	26	42	59	62	75.6
21-Nov	94	86	77	84	86	85	69	77	64	75	28	38	35	12	93	29	29	52	82	49	51	50	52	64	93.9
22-Nov	58	33	68	17	26	68	45	16	62	22	80	25	68	41	64	37	40	5	7	18	34	7	8	70	80.3
23-Nov	86	89	43	22	10	44	57	16	56	34	46	51	37	34	84	72	68	91	94	80	68	94	37	80	94.1
24-Nov	65	81	76	86	72	70	82	92	68	98	59	95	25	11	17	17	21	64	63	32	28	23	73	42	98.5
25-Nov	52	68	54	21	18	20	25	7	5	6	7	7	5	10	28	12	16	53	8	9	5	3	37	46	68.3
26-Nov	53	69	33	13	28	60	23	16	12	11	14	17	21	18	19	23	30	53	60	9	10	11	16	16	68.8
27-Nov	20	17	11	6	6	6	34	16	8	7	6	10	22	36	12	12	15	19	25	16	19	50	75	59	75.4
28-Nov	83	90	36	87	7	38	41	8	4	8	12	11	12	9	12	9	10	8	8	14	54	5	9	9	90.4
29-Nov	23	22	6	6	5	6	17	69	27	78	81	55	43	78	47	49	76	63	26	26	33	33	24	17	80.7
30-Nov	46	48	24	32	22	20	15	31	36	32	14	7	11	10	14	9	4	70	56	56	20	15	6	4	70.0
93.9 90.4 89.4 90.7 89.4 85.0 84.7 92.5 79.6 98.5 81.9 94.7 71.0 78.5 93.0 71.9 75.7 90.7 93.8 90.8 93.7 94.1 91.5 80.4																									

PAZA
Smoky Heights Station
Monthly Summary Tables, Graphs and
Roses

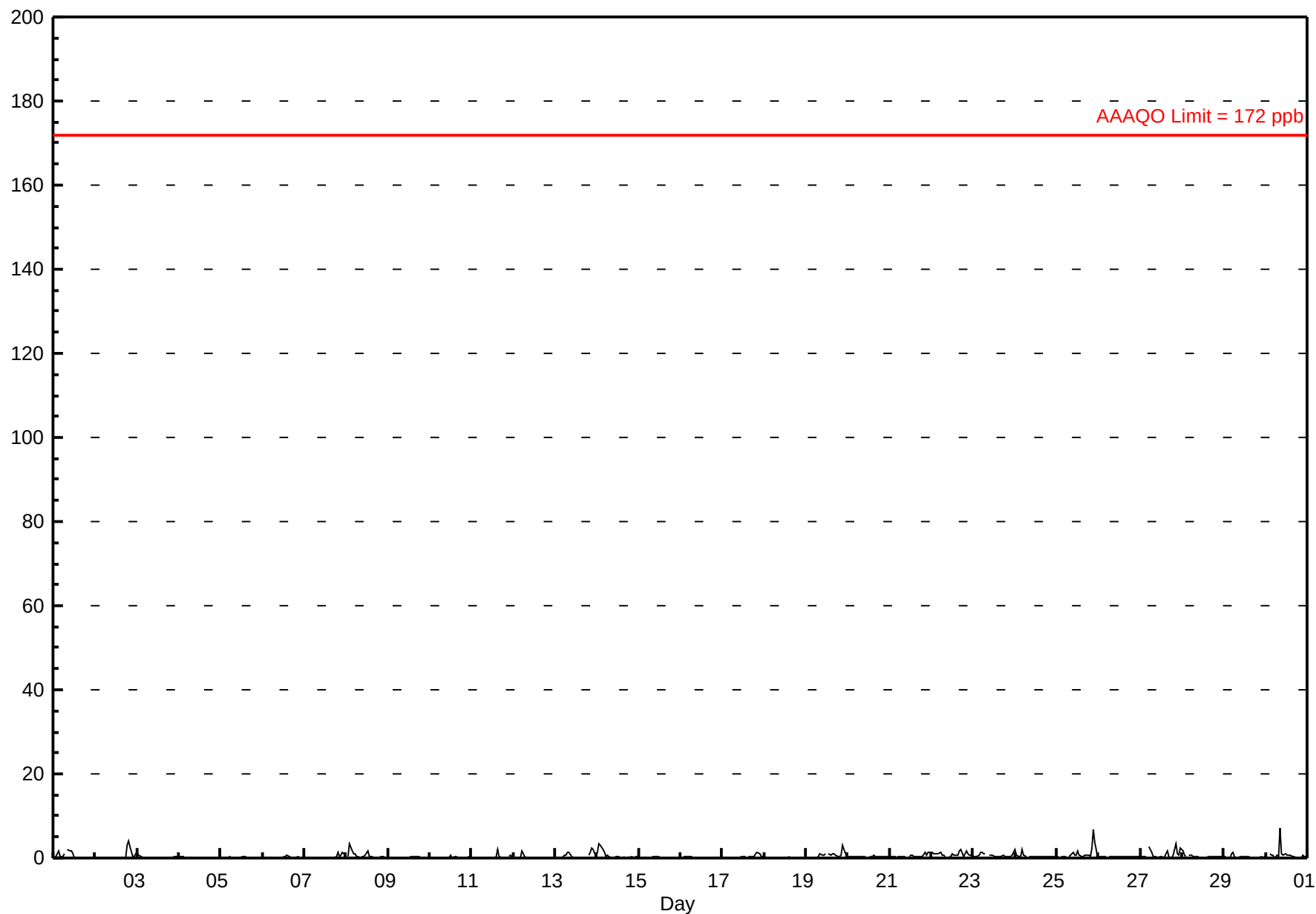
Hourly Averages

Sulphur Dioxide (SO₂) - ppb Smoky Heights - November 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 7.1 ppb on Nov 30 09:00 Maximum Daily Average: 1.0 ppb on Nov 25																				Hours in Service: 720 Hours of Data: 685 Hours of Missing Data: 35 Hours of Calibration: 35 Percent Operational Time: 100.0						
Minimum Value: 0 ppb on Nov 6 06:00 Maximum Diurnal Average: 0.7 ppb at hour 22 Monthly Average: 0.40 ppb										Minimum Daily Average: 0.1 ppb on Nov 18 Minimum Diurnal Average: 0.3 ppb at hour 8 Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 0.2 Q ₃ = 0.4 P ₉₀ = 1.0 P ₉₉ = 3.3																
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	0	0	1	2	0	0	1	A	2	2	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0.5	2.2
2-Nov	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	3	4	3	0	0	1	0.5	4.2
3-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	1.3
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	0.1	0.4
5-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	0.3
6-Nov	0	0	A	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0.1	0.6
7-Nov	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	1	1	1	0.2	1.5
8-Nov	A	0	3	2	1	1	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	A	0.6	3.3
9-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	0.3
10-Nov	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	A	0	0	0.1	0.6
11-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	A	0	1	0	0.2	2.1
12-Nov	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.1	1.7
13-Nov	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	A	1	1	2	2	0	0.5	2.3
14-Nov	1	3	3	2	1	0	1	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0.7	3.5
15-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	0.5
16-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	0.4
17-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	1	1	1	0	0.3	1.3
18-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	0.2
19-Nov	0	0	0	0	0	0	0	0	1	1	1	1	A	1	1	1	1	1	0	0	1	3	2	1	0.7	2.9
20-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	0.3	0.7
21-Nov	0	0	0	0	0	0	0	0	0	0	A	0	1	1	0	1	0	0	0	0	1	1	1	1	0.5	1.5
22-Nov	1	1	1	1	1	1	1	1	0	A	0	0	1	1	1	1	2	2	0	1	2	1	1	1	0.9	2.0
23-Nov	0	0	0	1	1	1	1	1	A	1	1	1	0	0	0	0	0	1	0	0	0	0	1	1	0.6	1.4
24-Nov	2	1	0	0	2	1	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	2.2
25-Nov	0	0	0	0	0	0	A	0	1	1	1	1	2	1	0	0	1	1	1	0	2	7	4	0	1.0	6.8
26-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
27-Nov	0	0	0	0	A	3	1	0	0	0	0	0	0	0	0	2	0	0	0	0	1	3	1	2	0.7	3.4
28-Nov	2	1	0	A	1	1	0	0	0	0	C	C	C	C	0	0	0	0	0	0	0	0	0	0	0.4	1.8
29-Nov	0	0	A	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.2
30-Nov	0	A	1	1	1	0	1	0	7	1	1	1	1	1	1	0	0	0	0	0	0	1	0	0	0.8	7.1
																									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
Smoky Heights - November 2011



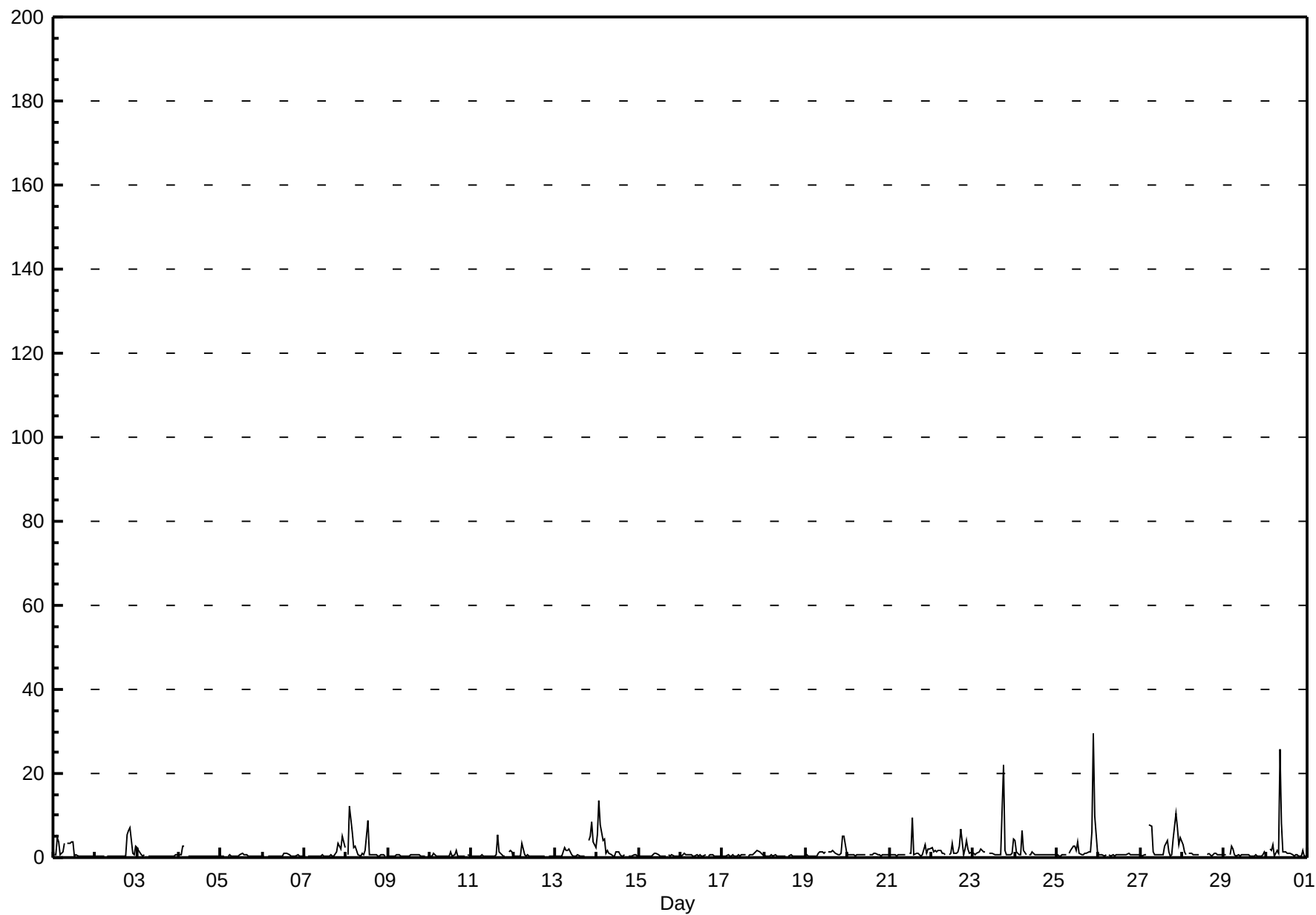
Hourly Maximums

Sulphur Dioxide (SO₂) - ppb Smoky Heights - November 2011

Maximum Value: 29.5 ppb on Nov 25 22:00																				Maximum Daily Average: 3.1 ppb on Nov 25					Hours in Service: 720	
Minimum Value: 0 ppb on Nov 7 04:00																				Minimum Daily Average: 0.4 ppb on Nov 18					Hours of Data: 685	
Maximum Diurnal Average: 2.4 ppb at hour 22																				Minimum Diurnal Average: 0.7 ppb at hour 8					Hours of Missing Data: 35	
Monthly Average: 1.16 ppb																				Percentiles: P ₁ = 0.2 P ₁₀ = 0.3 Q ₁ = 0.4 Median = 0.6 Q ₃ = 0.9 P ₉₀ = 2.2 P ₉₉ = 9.6					Hours of Calibration: 35	
																				Percent Operational Time: 100.0						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Nov	1	1	5	4	1	1	4	A	3	3	4	4	0	1	0	0	0	0	0	0	0	0	0	0	1.5	4.8
2-Nov	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	6	7	7	1	1	3	1.3	7.3
3-Nov	2	2	1	0	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.6	2.5
4-Nov	1	1	3	3	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.6	2.8
5-Nov	0	0	0	A	0	1	0	0	1	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0.5	0.9
6-Nov	0	0	A	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	1	0	0	0	0.5	1.1
7-Nov	0	A	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	1	3	3	2	5	2	1.0	5.1
8-Nov	A	1	12	6	2	3	2	1	0	1	1	2	9	1	1	1	1	1	1	0	1	1	0	A	2.0	12.2
9-Nov	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1	1	1	1	1	0	1	0	A	0	0.5	0.7
10-Nov	0	0	1	1	0	0	0	0	0	0	0	0	1	0	1	2	0	0	0	1	0	A	1	0	0.5	1.6
11-Nov	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	6	1	1	0	0	A	1	2	1	0.8	5.6
12-Nov	0	0	0	0	0	3	1	0	1	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.5	3.4
13-Nov	0	0	0	0	0	2	2	2	2	1	0	0	0	1	0	0	0	0	A	4	5	8	4	2	1.6	8.5
14-Nov	5	13	8	4	4	1	2	1	1	0	0	1	1	1	0	0	1	A	0	0	1	1	1	0	2.1	13.4
15-Nov	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	A	1	0	1	0	0	0	0	0.5	0.9
16-Nov	0	1	1	1	1	1	1	0	0	1	0	1	0	0	1	A	0	1	1	0	0	0	0	0	0.5	1.0
17-Nov	0	0	0	1	0	0	1	0	1	1	0	1	1	1	A	1	1	1	1	2	2	1	1	1	0.7	1.6
18-Nov	1	0	0	0	1	0	1	0	0	0	0	0	1	A	0	1	0	0	0	0	0	0	0	0	0.4	0.6
19-Nov	1	0	0	0	0	0	0	1	1	1	1	1	A	1	1	2	1	1	1	1	1	5	5	1	1.3	5.1
20-Nov	1	1	1	1	0	1	1	1	1	1	1	A	1	1	1	1	1	1	1	0	1	1	1	1	0.7	1.1
21-Nov	1	1	1	1	0	1	1	1	1	1	A	1	1	9	1	1	1	1	1	1	3	1	2	2	1.3	9.4
22-Nov	2	1	2	1	2	2	1	1	1	A	1	1	3	1	1	1	3	7	1	2	4	2	1	1	1.8	6.8
23-Nov	1	1	1	1	2	2	1	1	A	1	1	1	1	1	1	1	1	22	2	1	1	1	1	4	2.1	21.9
24-Nov	4	1	1	1	6	2	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.2	6.5
25-Nov	1	0	0	1	1	1	A	1	2	3	3	2	4	1	1	1	1	1	1	2	6	29	10	1	3.1	29.5
26-Nov	1	1	1	0	1	A	1	0	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.6	1.0
27-Nov	1	0	1	1	A	8	7	1	1	1	1	1	1	1	3	4	1	0	1	5	11	7	3	5	2.7	10.6
28-Nov	3	1	1	A	1	1	1	1	1	1	C	C	C	C	1	1	1	0	1	1	1	1	1	1	0.9	3.1
29-Nov	1	1	A	1	3	2	1	0	1	0	1	1	1	1	1	0	0	0	1	0	0	0	1	1	0.7	2.8
30-Nov	1	A	2	2	3	1	2	1	26	8	1	1	1	1	1	1	0	1	1	0	0	2	0	0	2.5	25.7
1.0 1.1 1.6 1.1 1.2 1.3 1.1 0.7 1.6 1.0 0.8 0.8 1.1 0.9 0.7 1.0 0.7 1.5 0.8 1.2 1.8 2.4 1.5 1.1																									Diurnal Average	
5.4 13.4 12.2 6.0 6.5 7.9 7.5 1.6 25.7 8.3 3.8 3.9 8.7 9.4 2.8 5.6 2.6 21.9 5.6 6.5 10.6 29.5 9.8 4.9																									Diurnal Maximum	
C - Calibration A - Automated Daily Zero Span																										

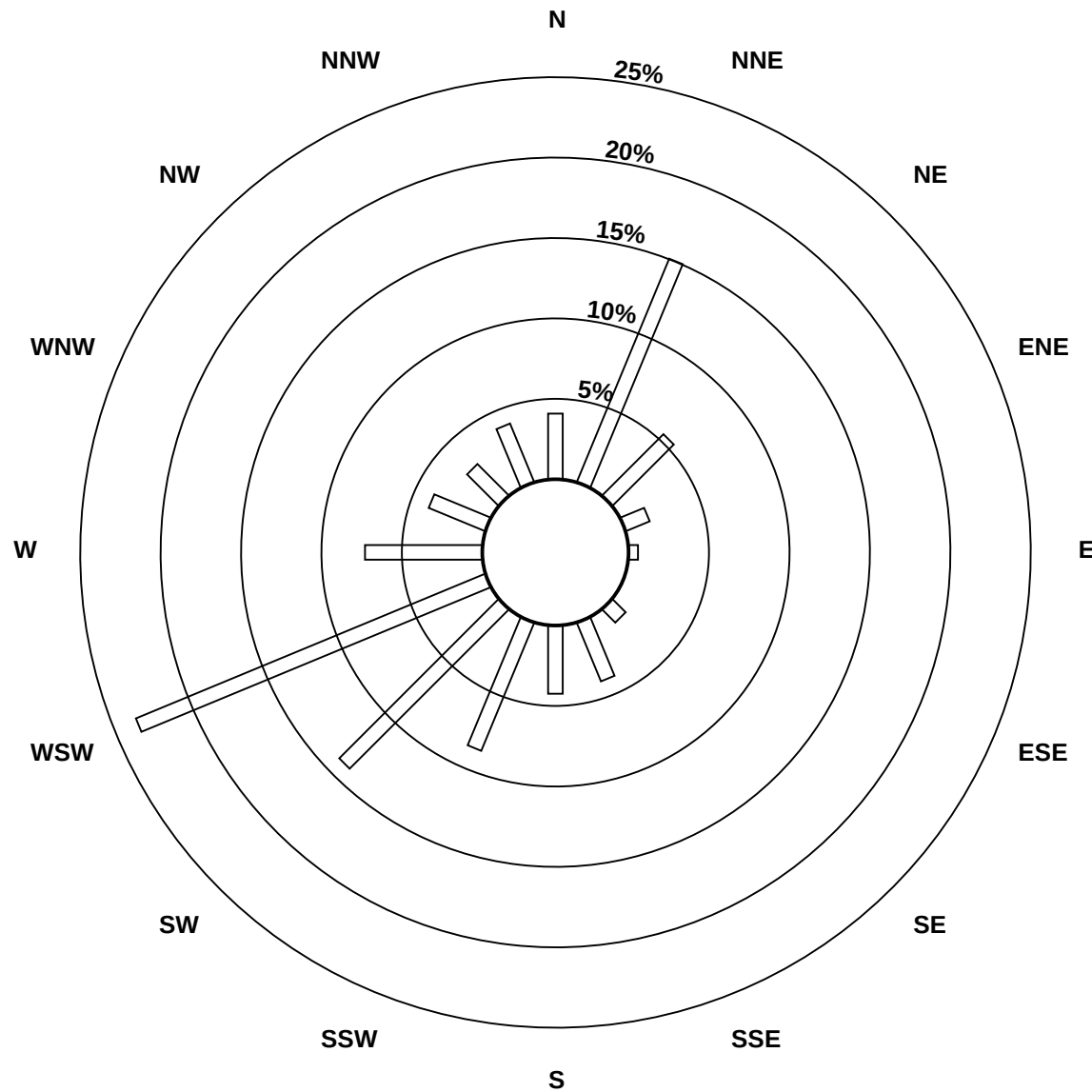
Hourly Maximums

Sulphur Dioxide (SO₂) - ppb
Smoky Heights - November 2011

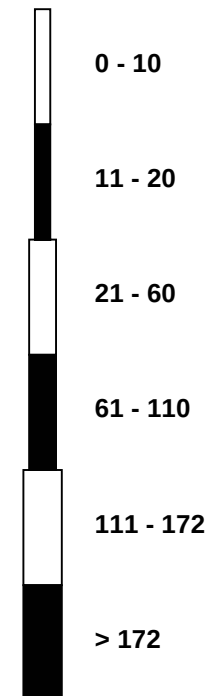


Pollutant Rose

Sulphur Dioxide (SO₂) - ppb
Smoky Heights - November 2011

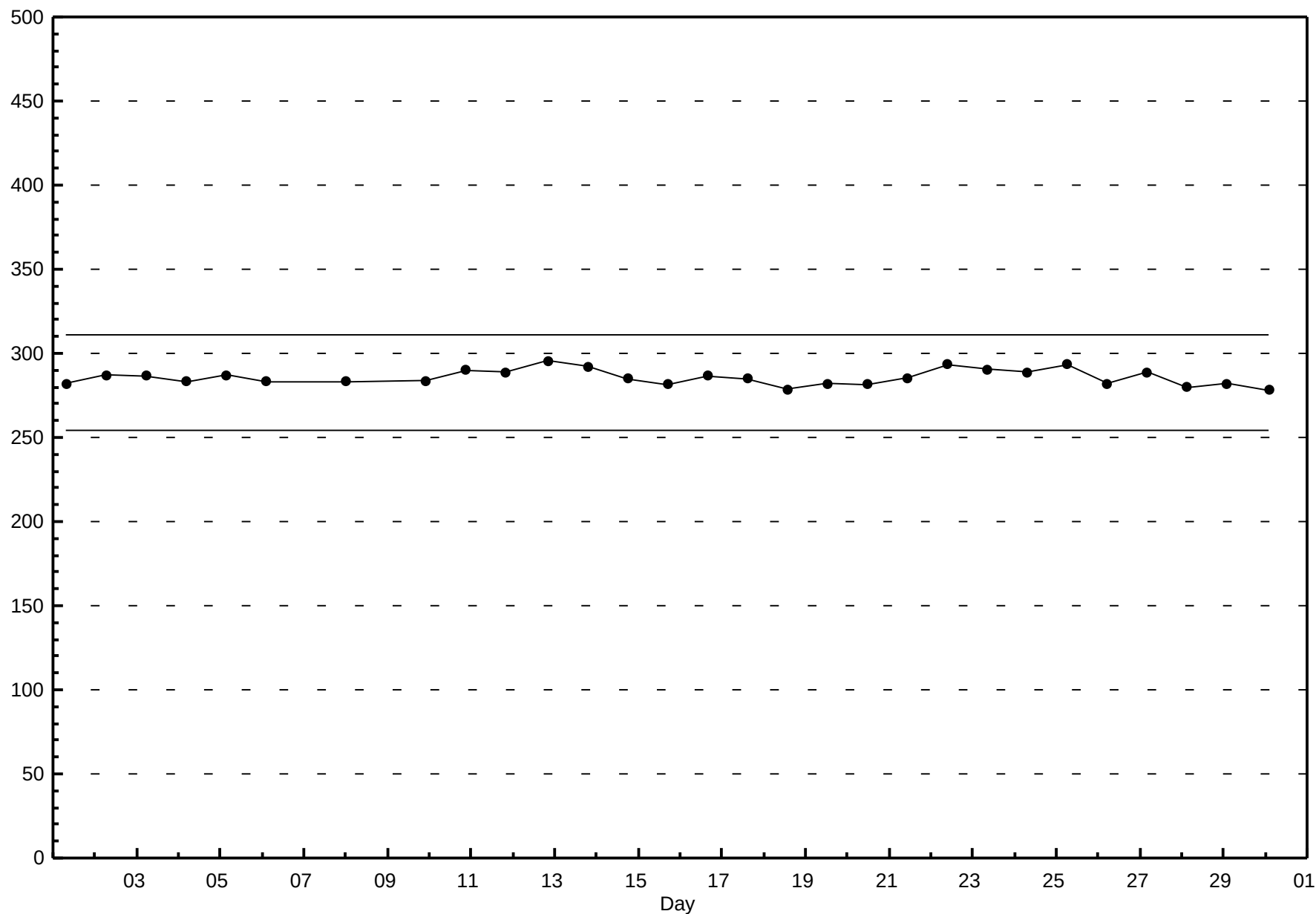


Pollutant Classes (ppb)



Span Responses

Sulphur Dioxide (SO₂)
Smoky Heights - November 2011



Hourly Averages

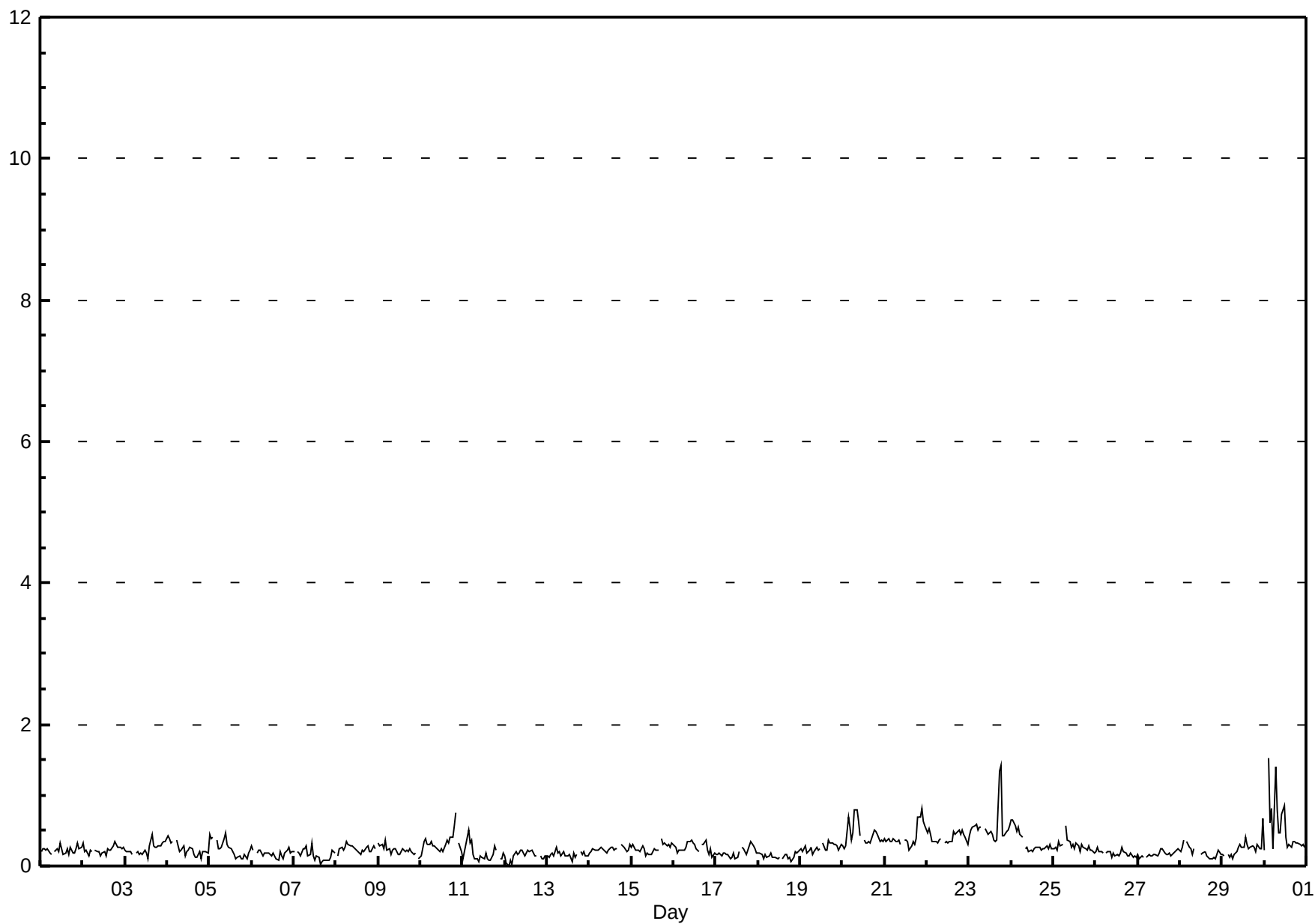
Total Reduced Sulphur (TRS) - ppb

Smoky Heights - November 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 1.5 ppb on Nov 30 03:00 Maximum Daily Average: 0.6 ppb on Nov 23																				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 12 03:00 Maximum Diurnal Average: 0.3 ppb at hour 3 Monthly Average: 0.26 ppb										Minimum Daily Average: 0.1 ppb on Nov 18 Minimum Diurnal Average: 0.2 ppb at hour 15 Percentiles: P ₁ = 0.1 P ₁₀ = 0.1 Q ₁ = 0.2 Median = 0.2 Q ₃ = 0.3 P ₉₀ = 0.4 P ₉₉ = 0.8																	
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	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	
2-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	
3-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	0.4	
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	0.4	
5-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	
6-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	
7-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	
8-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	0.2	0.3	
9-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	0.4	
10-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	A	0	0	0.3	0.8	
11-Nov	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	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	A	0	0	0	0	0.1	0.2	
13-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	
14-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	0.3	
15-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	0.4	
16-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	0.3	0.4	
17-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	0.3	
18-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	0.2	
19-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	
20-Nov	0	0	0	1	1	0	0	1	1	1	0	A	0	0	0	0	0	0	0	1	0	0	0	0	0	0.4	0.8
21-Nov	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	1	1	1	1	1	0.4	0.8	
22-Nov	0	1	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0.4	0.5	
23-Nov	0	1	1	1	1	1	1	1	A	1	0	0	0	0	0	0	0	1	1	0	0	0	1	1	0.6	1.4	
24-Nov	1	1	1	0	1	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.7	
25-Nov	0	0	0	0	0	0	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.6	
26-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	
27-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	0.2	
28-Nov	0	0	0	A	0	0	0	0	0	C	C	C	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4	
29-Nov	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0.2	0.7	
30-Nov	0	A	2	1	1	0	1	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.5	1.5	
																									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
Smoky Heights - November 2011



Hourly Maximums

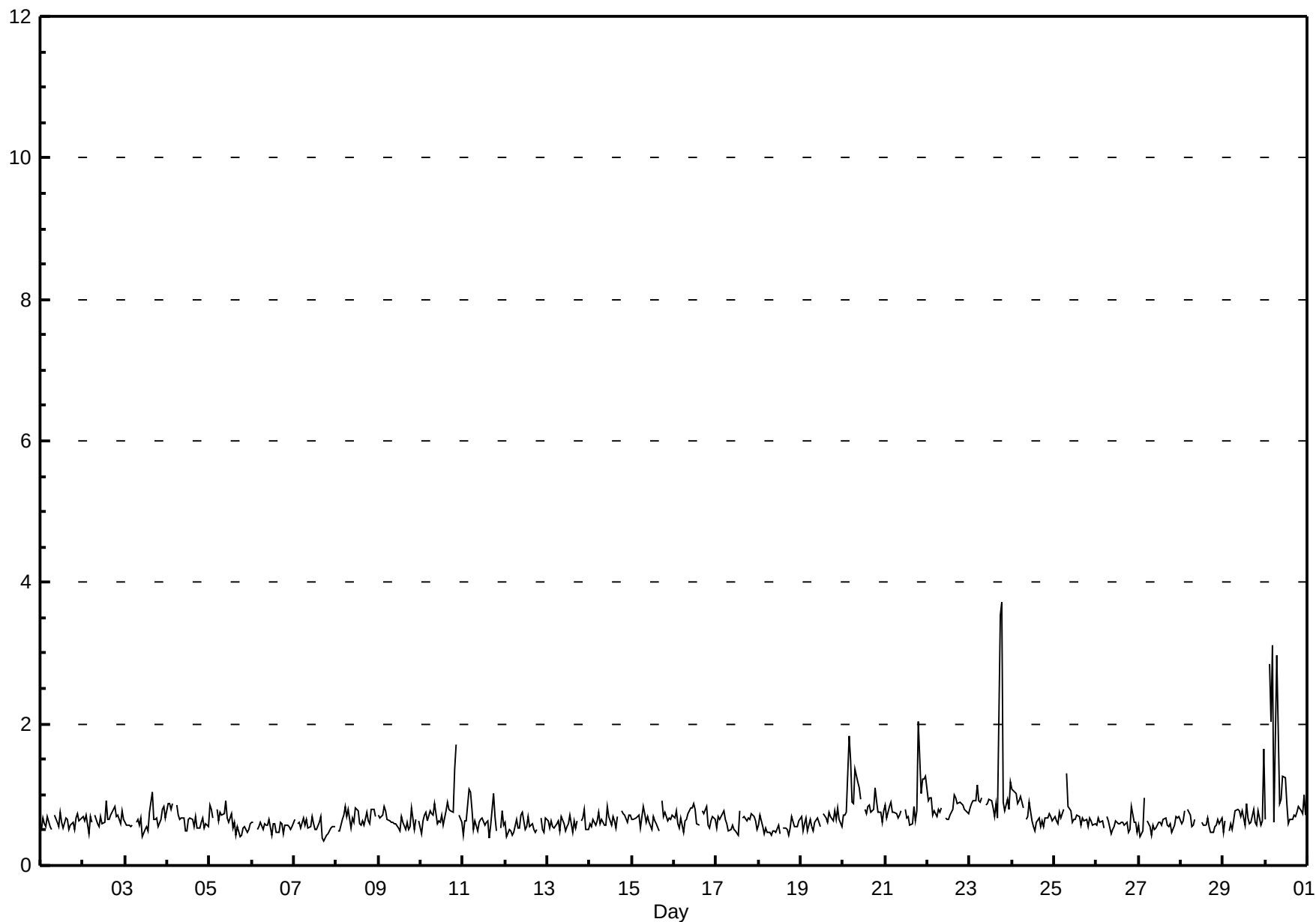
Total Reduced Sulphur (TRS) - ppb

Smoky Heights - November 2011

Maximum Value: 3.7 ppb on Nov 23 19:00																			Maximum Daily Average: 1.2 ppb on Nov 30											Hours in Service: 720																			
Minimum Value: 0 ppb on Nov 7 18:00																			Minimum Daily Average: 0.5 ppb on Nov 18											Hours of Data: 686																			
Maximum Diurnal Average: 0.8 ppb at hour 5																			Minimum Diurnal Average: 0.6 ppb at hour 15											Hours of Missing Data: 34																			
Monthly Average: 0.69 ppb																			Percentiles: P ₁ = 0.4 P ₁₀ = 0.5 Q ₁ = 0.6 Median = 0.6 Q ₃ = 0.7 P ₉₀ = 0.9 P ₉₉ = 2.0											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	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.6	0.8																							
2-Nov	1	1	1	0	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	0.9																							
3-Nov	1	1	1	1	1	A	1	1	1	1	0	1	1	0	1	1	1	1	1	1	1	1	1	1	0.6	1.0																							
4-Nov	1	1	1	1	A	1	1	1	1	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	0.7	0.9																							
5-Nov	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	0	1	0	0	1	1	0	1	1	0.6	0.9																							
6-Nov	1	1	A	1	1	1	1	1	1	1	1	0	1	1	0	0	1	1	0	1	1	1	1	1	0.6	0.7																							
7-Nov	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	1	1	1	0.6	0.7																							
8-Nov	A	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	0.7	0.8																							
9-Nov	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	A	1	0.6	0.8																							
10-Nov	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	A	1	1	0.8	1.7																							
11-Nov	0	1	1	1	1	1	1	1	0	1	1	1	1	1	1	0	1	1	1	0	A	1	1	1	0.7	1.1																							
12-Nov	1	0	1	0	0	0	1	1	1	1	1	1	1	1	1	1	1	0	1	A	1	1	0	1	0.6	0.7																							
13-Nov	1	1	1	1	1	1	1	0	1	1	0	1	1	1	0	1	1	1	A	1	1	1	1	1	0.6	0.8																							
14-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	0.7	0.8																							
15-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	A	1	1	1	1	1	1	1	0.7	0.9																							
16-Nov	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	0.7	0.9																							
17-Nov	1	1	1	1	1	1	1	0	1	1	1	0	0	1	A	1	1	1	1	1	1	1	1	1	0.6	0.8																							
18-Nov	1	1	1	0	1	0	0	0	0	0	0	1	0	A	1	1	1	1	0	1	1	1	1	1	0.5	0.7																							
19-Nov	1	0	1	1	0	1	1	0	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	0.6	0.8																							
20-Nov	1	1	1	2	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.8																							
21-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	0.9	2.0																							
22-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	0.8	1.0																							
23-Nov	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	4	4	1	1	1	1	1	1.1	3.7																							
24-Nov	1	1	1	1	1	1	1	A	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	0.7	1.1																							
25-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	0.7	1.3																							
26-Nov	1	1	1	1	1	A	1	1	0	1	1	1	1	1	1	1	1	1	0	1	1	1	0	0	0.6	0.8																							
27-Nov	1	0	0	1	A	1	1	0	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	0.6	1.0																							
28-Nov	1	1	1	A	1	1	1	1	1	C	C	C	1	1	1	1	1	0	0	1	1	1	1	1	0.6	0.8																							
29-Nov	0	1	A	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	0.7	1.6																							
30-Nov	1	A	3	2	3	1	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.2	3.1																							
0.7		0.7		0.8		0.8		0.8		0.7		0.7		0.7		0.6		0.7		0.6		0.6		0.6		0.7		0.8		0.7		0.7		0.7		0.7		Diurnal Average											
1.1		1.1		2.8		2.0		3.1		1.0		3.0		1.9		1.2		1.1		1.3		1.2		0.9		0.9		0.8		1.0		1.0		3.5		3.7		2.0		1.7		1.2		1.2		1.6		Diurnal Maximum	
C - Calibration		A - Automated Daily Zero Span																																															

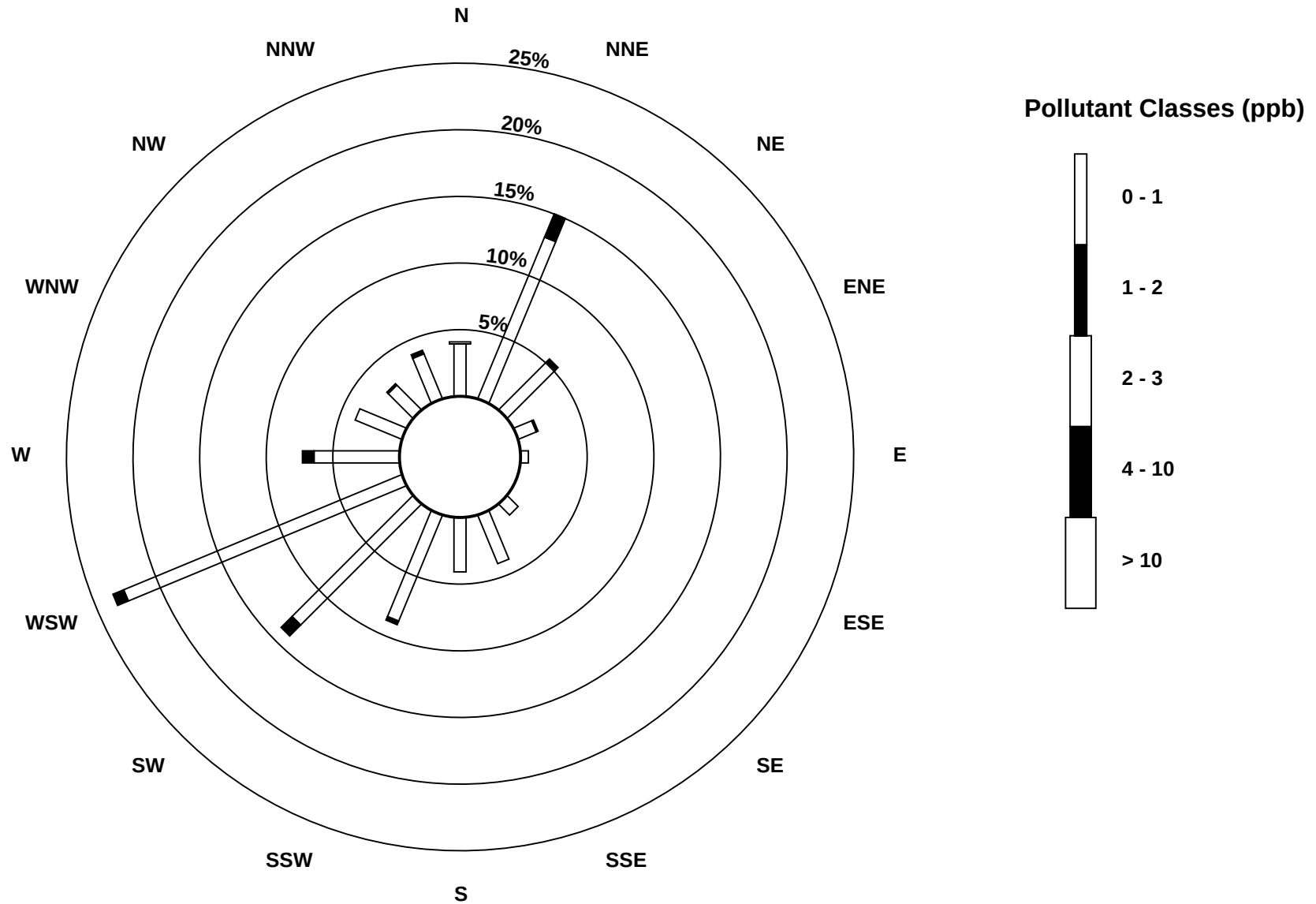
Hourly Maximums

Total Reduced Sulphur (TRS) - ppb
Smoky Heights - November 2011



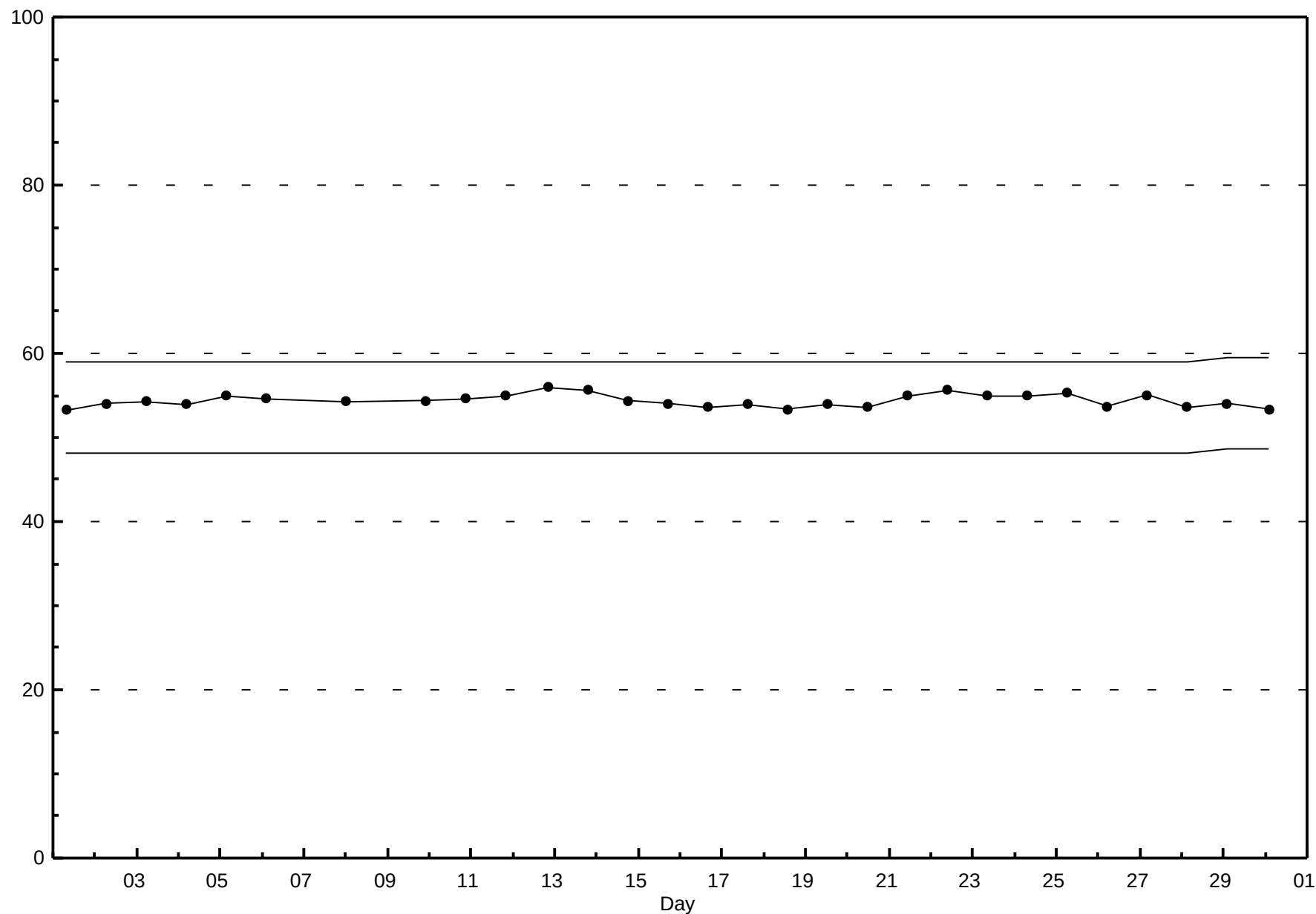
Pollutant Rose

Total Reduced Sulphur (TRS) - ppb
Smoky Heights - November 2011



Span Responses

Total Reduced Sulphur (TRS)
Smoky Heights - November 2011

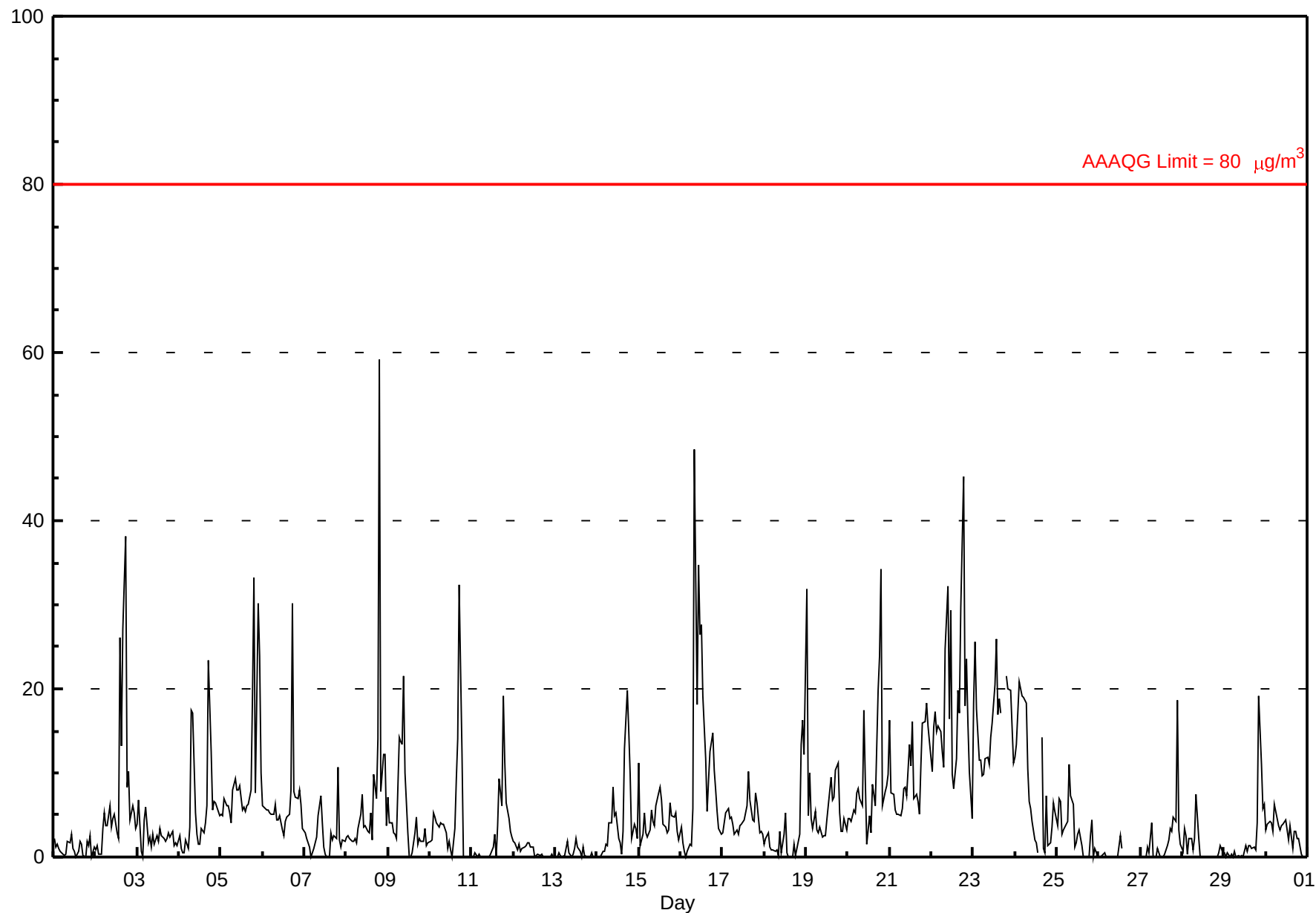


Hourly Averages

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

Smoky Heights - November 2011

Number of Exceedences: 1-hr: 0 24-hr: 0 Maximum Value: 59.2 µg/m³ on Nov 8 20:00 Minimum Value: 0 µg/m³ on Nov 1 23:00 Maximum Diurnal Average: 9.6 µg/m³ at hour 20 Monthly Average: 5.49 µg/m³																					Maximum Daily Average: 17.8 µg/m³ on Nov 22 Minimum Daily Average: 0.2 µg/m³ on Nov 26 Minimum Diurnal Average: 3.6 µg/m³ at hour 4 Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 1.0 Median = 3.2 Q ₃ = 6.8 P ₉₀ = 14.8 P ₉₉ = 32.7					Hours in Service: 720 Hours of Data: 714 Hours of Missing Data: 6 Hours of Calibration: 0 Percent Operational Time: 99.2	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Nov	2	1	1	1	1	0	0	0	2	2	3	1	0	1	2	2	0	0	2	1	2	0	1	1.1	2.8		
2-Nov	1	1	0	0	3	5	4	4	6	4	5	5	3	2	26	13	27	38	8	10	4	6	5	3	7.8	38.1	
3-Nov	4	7	1	0	4	6	2	2	1	3	2	2	2	3	3	2	2	2	3	2	3	1	2	1	2.5	6.8	
4-Nov	2	1	1	1	2	1	4	17	17	5	3	2	2	3	3	4	6	23	13	6	7	6	6	5	5.8	23.4	
5-Nov	5	5	7	6	6	5	4	8	9	8	8	8	6	6	5	6	6	8	19	33	8	30	24	10	10.1	33.3	
6-Nov	6	6	6	6	5	5	5	6	4	4	5	3	2	4	5	5	8	30	8	7	7	8	6	3	6.5	30.2	
7-Nov	3	2	2	1	0	1	2	2	5	7	4	1	0	0	0	3	2	3	2	11	2	1	2	2	2.4	10.6	
8-Nov	2	3	2	2	2	2	2	3	5	7	3	4	3	3	5	2	10	7	14	59	8	12	12	4	7.4	59.2	
9-Nov	7	4	4	3	3	2	14	14	13	21	10	3	0	0	0	3	5	2	2	2	3	1	2	2	5.0	21.5	
10-Nov	2	2	5	5	4	4	4	4	4	3	1	2	1	0	3	9	14	32	12	0	0	0	0	0	4.6	32.3	
11-Nov	0	0	1	0	0	0	0	0	0	0	0	0	1	3	0	4	9	6	19	11	6	5	3	2	3.0	19.1	
12-Nov	2	2	1	1	1	1	1	1	2	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.7	1.8	
13-Nov	0	0	1	0	0	0	1	2	0	0	0	1	2	1	1	0	1	0	0	0	0	0	0	0	0.5	2.3	
14-Nov	0	0	0	1	1	1	1	4	4	8	5	5	2	2	0	3	13	20	15	10	2	4	3	2	4.5	19.9	
15-Nov	11	1	3	5	3	2	3	6	4	4	6	8	8	7	4	4	3	3	6	5	5	5	3	2	4.6	11.1	
16-Nov	4	2	1	0	1	2	1	6	48	18	35	27	28	19	12	5	9	12	15	10	8	5	3	3	11.4	48.5	
17-Nov	3	4	5	6	5	5	4	3	3	3	4	4	4	5	6	10	7	4	4	8	7	3	3	3	4.7	10.2	
18-Nov	2	2	3	1	1	1	1	1	0	3	0	3	5	1	0	0	0	1	0	1	3	13	16	12	2.9	16.3	
19-Nov	32	5	10	5	3	5	3	3	4	2	3	3	4	6	10	7	7	10	11	5	3	3	5	3	6.3	31.8	
20-Nov	4	4	4	6	5	8	8	7	6	18	9	2	5	3	9	7	6	20	24	34	6	8	8	10	9.2	34.2	
21-Nov	16	8	7	6	5	5	5	6	8	8	7	13	11	16	7	7	7	5	11	16	16	18	16	14	9.9	18.2	
22-Nov	10	15	17	15	16	15	12	11	25	32	16	29	10	8	12	20	17	30	45	18	24	16	10	5	17.8	45.3	
23-Nov	18	26	18	11	12	10	10	12	12	11	14	16	20	26	17	19	17	N	N	21	20	20	15	11	16.2	25.9	
24-Nov	12	13	21	20	19	19	18	10	7	6	4	2	2	0	N	14	1	1	7	1	2	4	6	5	8.5	20.8	
25-Nov	4	7	7	3	3	4	4	11	7	6	1	2	3	3	1	0	0	0	0	3	4	0	1	0	3.1	11.0	
26-Nov	0	0	0	1	0	0	0	0	0	0	0	0	3	1	N	0	0	0	0	0	0	0	0	0	0.2	2.5	
27-Nov	0	0	0	0	1	1	4	0	0	0	1	0	0	0	0	1	2	3	3	5	4	19	3	1	2.1	18.6	
28-Nov	1	3	3	0	2	2	1	2	7	2	0	0	M	M	0	0	0	0	0	0	0	0	1	1	1.2	7.4	
29-Nov	0	0	1	0	0	0	1	0	0	0	0	0	1	1	1	1	1	1	1	4	19	11	6	6	2.3	19.1	
30-Nov	3	4	4	4	3	6	5	4	3	4	4	4	3	2	4	1	3	3	2	2	0	0	0	0	2.9	6.2	
																									Diurnal Average		
																									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

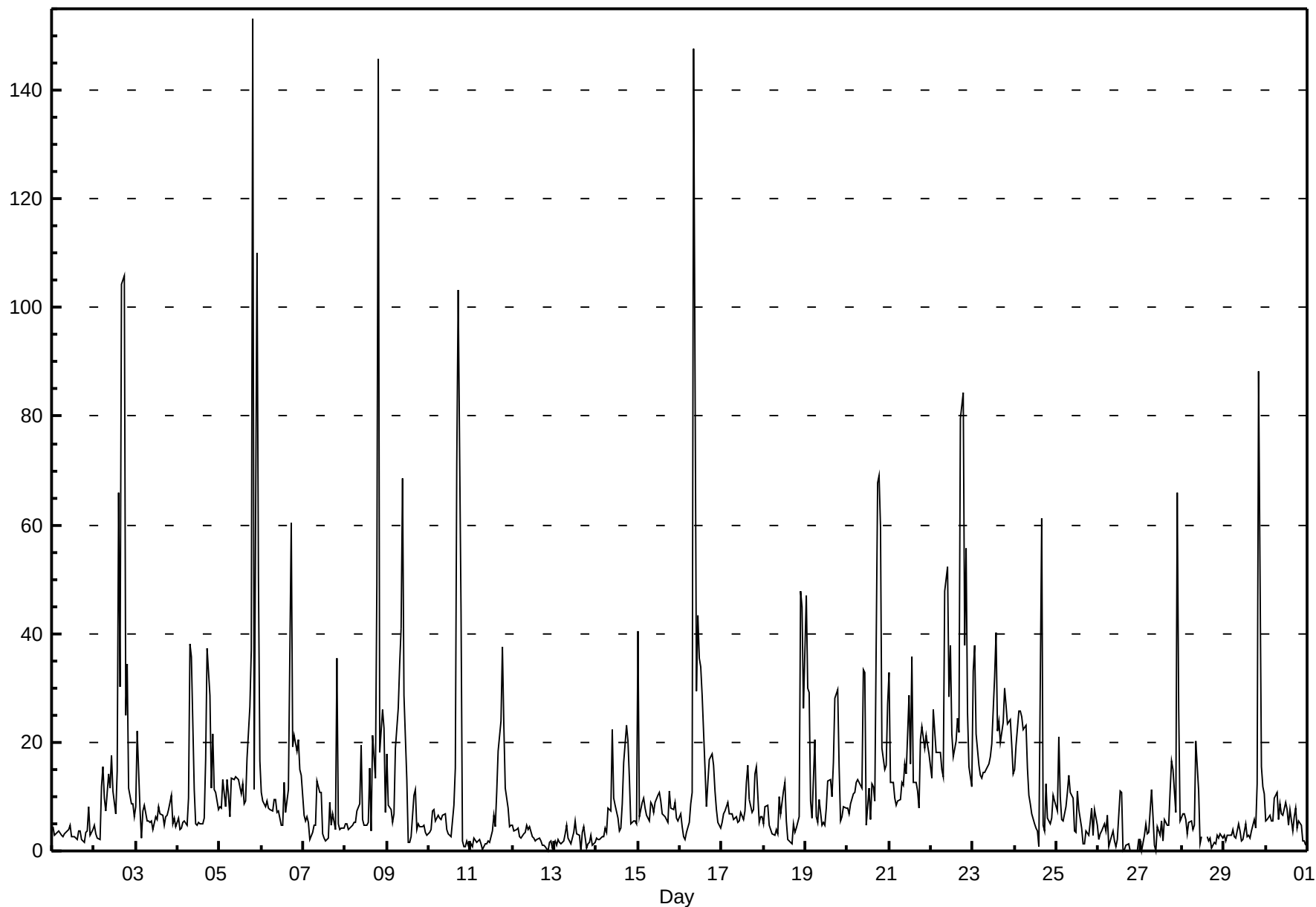
Smoky Heights - November 2011

Maximum Value: 153.2 μg/m ³ on Nov 5 20:00																								Maximum Daily Average: 30.2 μg/m ³ on Nov 22				Hours in Service: 720	
Minimum Value: 0 μg/m ³ on Nov 26 15:00																								Minimum Daily Average: 2.3 μg/m ³ on Nov 13				Hours of Data: 718	
Maximum Diurnal Average: 23.6 μg/m ³ at hour 20																								Minimum Diurnal Average: 6.8 μg/m ³ at hour 4				Hours of Missing Data: 2	
Monthly Average: 11.90 μg/m ³																								Percentiles: P ₁ = 0.0 P ₁₀ = 2.0 Q ₁ = 3.7 Median = 6.7 Q ₃ = 13.2 P ₉₀ = 25.8 P ₉₉ = 102.7				Hours of Calibration: 0	
																								Percent Operational Time: 99.7					
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24					
1-Nov	5	3	3	3	4	3	3	3	4	4	5	3	3	3	2	4	4	2	2	3	4	8	3	4	3.4	8.1			
2-Nov	5	3	2	2	12	16	10	7	14	12	18	11	7	15	66	30	104	106	25	34	12	9	9	6	22.2	105.9			
3-Nov	8	22	8	2	7	8	5	6	5	5	4	6	6	8	7	7	5	6	6	8	10	5	6	4	6.9	22.0			
4-Nov	6	4	4	5	6	5	10	38	36	11	5	5	5	5	5	6	17	37	29	12	21	11	11	8	12.5	38.1			
5-Nov	8	8	13	8	13	10	6	13	13	14	13	13	11	12	9	9	17	26	37	153	11	110	50	17	24.9	153.2			
6-Nov	11	9	8	9	8	8	7	10	10	7	7	5	5	13	7	11	36	60	19	21	18	21	15	14	14.1	60.3			
7-Nov	7	6	6	5	2	3	5	5	13	11	11	3	2	2	2	9	5	7	4	35	5	4	4	4	6.7	35.4			
8-Nov	5	5	4	4	5	5	5	7	9	20	6	5	5	5	15	4	21	13	49	146	18	26	23	7	17.1	145.8			
9-Nov	18	8	8	5	7	19	26	34	41	68	29	13	2	2	3	10	11	4	5	4	4	5	3	3	13.9	68.5			
10-Nov	3	4	7	8	6	7	6	6	7	7	4	3	3	3	8	15	71	103	44	2	1	1	2	0	13.3	103.3			
11-Nov	1	1	2	2	2	2	1	0	1	1	2	2	4	7	4	11	18	24	38	23	12	8	4	5	7.3	37.6			
12-Nov	5	4	4	4	3	2	3	3	5	4	4	3	2	2	2	2	2	1	1	1	0	1	2	0	2.5	4.7			
13-Nov	2	1	2	2	1	2	3	5	2	1	2	3	5	3	3	0	3	4	1	1	2	3	1	1	2.3	5.4			
14-Nov	2	2	2	3	3	4	3	8	7	22	10	8	6	4	4	9	16	23	20	13	5	6	5	5	8.0	23.0			
15-Nov	41	6	9	10	8	7	6	9	8	7	9	10	11	9	7	6	6	5	11	8	8	9	6	6	9.2	40.5			
16-Nov	7	4	3	2	3	5	9	11	148	29	43	35	34	29	15	8	12	17	18	16	11	8	5	4	19.8	147.6			
17-Nov	5	7	7	9	7	7	7	6	6	5	6	7	6	7	12	16	10	7	8	14	15	5	6	6	8.0	15.7			
18-Nov	5	8	8	5	4	3	3	4	3	10	7	11	13	5	2	2	1	5	3	4	6	48	45	26	9.7	47.7			
19-Nov	47	30	29	9	6	21	6	5	10	5	5	5	8	13	13	10	16	28	30	15	5	6	8	8	14.2	47.1			
20-Nov	8	7	9	11	11	13	13	13	12	33	33	5	12	6	12	12	9	68	69	60	19	15	16	27	20.4	69.2			
21-Nov	33	13	13	10	8	9	9	13	12	16	14	29	16	36	13	13	11	8	21	23	19	21	20	18	16.5	35.7			
22-Nov	14	26	22	18	18	18	15	14	48	52	28	38	21	17	20	24	22	80	84	38	56	25	15	12	30.2	84.3			
23-Nov	33	38	22	16	14	13	15	15	15	16	17	20	32	40	22	24	20	24	30	27	23	24	19	14	22.2	40.1			
24-Nov	15	20	26	26	25	22	23	15	10	9	7	5	4	4	1	61	5	4	12	6	5	6	10	9	13.7	61.3			
25-Nov	7	21	10	6	6	8	11	14	11	10	4	3	11	8	4	1	1	4	3	5	8	3	8	5	7.1	21.0			
26-Nov	2	3	4	5	4	7	1	2	4	2	1	2	11	11	0	0	1	1	0	0	0	0	0	2	2.6	11.2			
27-Nov	2	0	3	5	3	3	11	6	1	0	4	3	5	2	6	5	5	11	17	15	7	66	26	6	8.9	66.0			
28-Nov	7	7	6	3	5	5	4	5	20	11	1	3	M	M	3	2	2	1	2	1	3	2	3	2	4.5	20.3			
29-Nov	3	2	3	3	3	4	3	2	5	4	2	2	5	3	3	2	4	6	4	12	88	15	12	10	8.3	88.4			
30-Nov	6	6	7	6	5	10	11	6	9	7	6	9	8	5	8	4	6	8	4	5	5	2	2	1	6.0	10.8			
10.6 9.2 8.4 6.8 6.9 8.3 8.0 9.5 16.3 13.4 10.2 9.0 9.0 9.5 9.3 10.6 15.4 23.1 19.8 23.6 13.4 15.8 11.3 7.9																								Diurnal Average					
47.1 37.9 29.3 25.9 24.6 22.3 26.4 38.1 147.6 68.5 43.3 37.9 33.8 40.1 66.0 61.3 104.2 105.9 84.3 153.2 88.4 110.0 50.3 27.2																								Diurnal Maximum					
M - Maintenance																													

Hourly Maximums

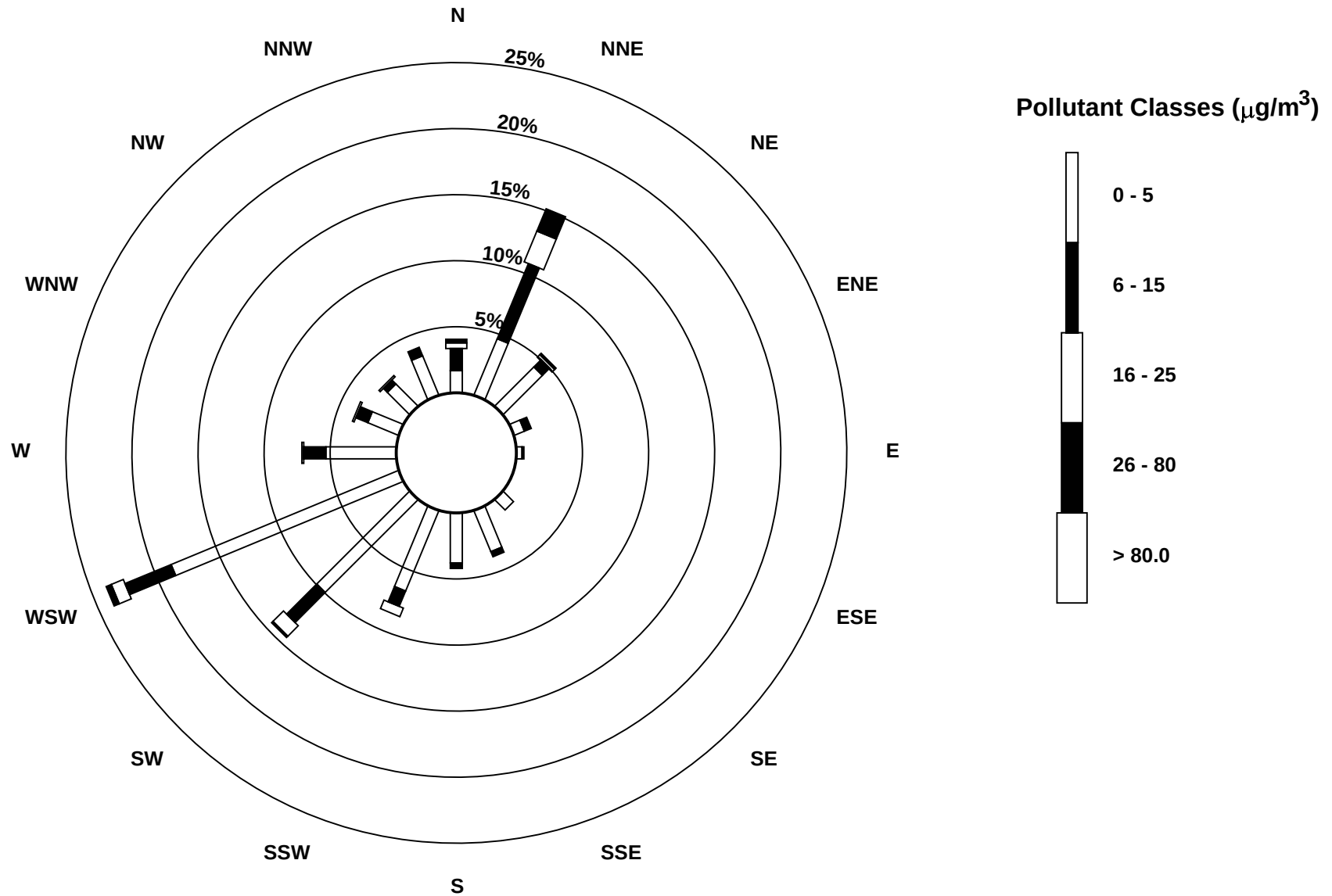
Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$

Smoky Heights - November 2011



Pollutant Rose

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Smoky Heights - November 2011



Hourly Averages

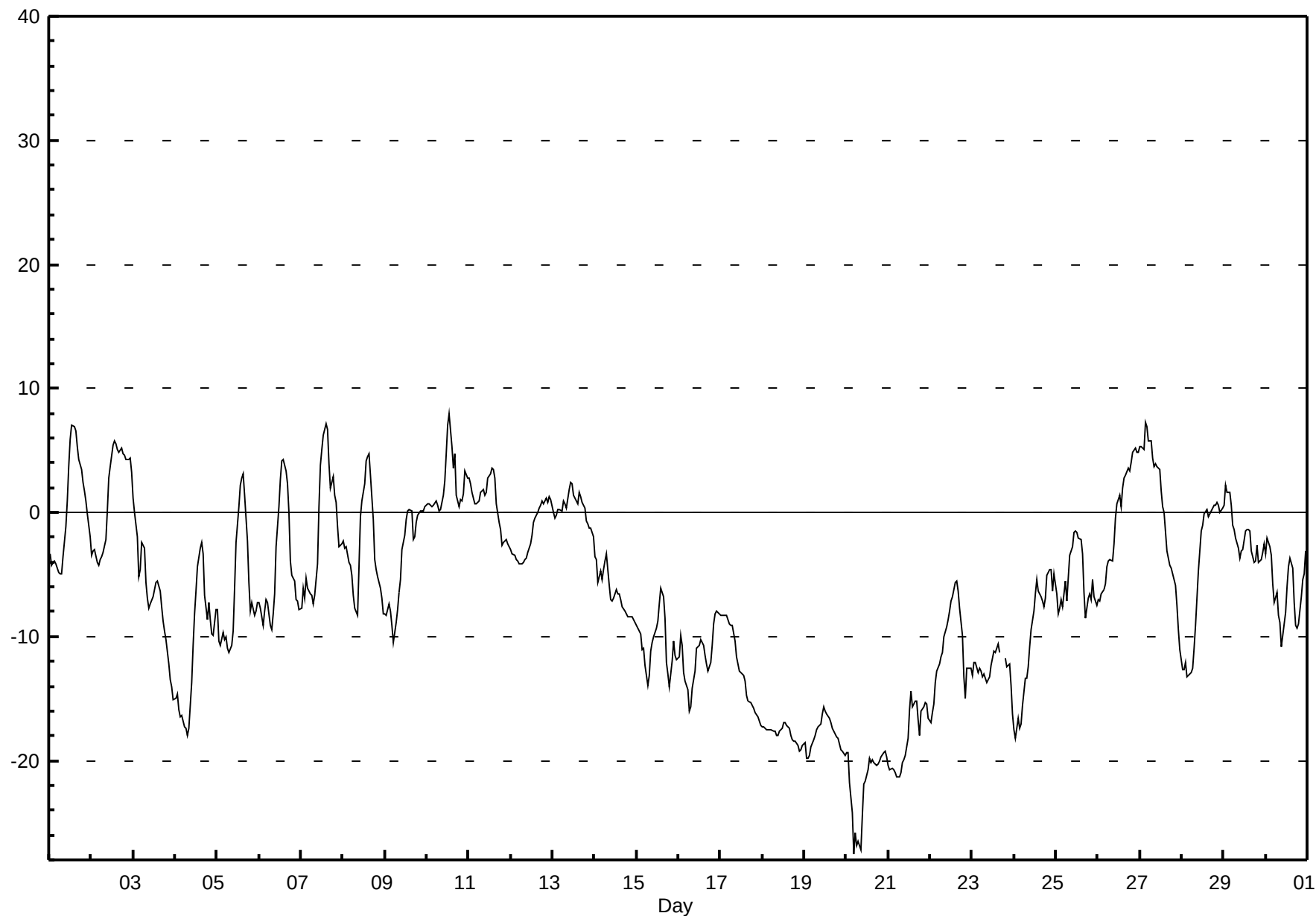
External Temperature (ET) - °C

Smoky Heights - November 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 7.9 °C on Nov 10 14:00 Maximum Daily Average: 2.2 °C on Nov 10																								Hours in Service: 720 Hours of Data: 718 Hours of Missing Data: 2 Hours of Calibration: 0 Percent Operational Time: 99.7		
Minimum Value: -27 °C on Nov 20 05:00 Maximum Diurnal Average: -3.4 °C at hour 15 Monthly Average: -6.68 °C												Minimum Daily Average: -21.9 °C on Nov 20 Minimum Diurnal Average: -8.8 °C at hour 8 Percentiles: P ₁ = -21.9 P ₁₀ = -17.5 Q ₁ = -12.1 Median = -6.5 Q ₃ = -0.3 P ₉₀ = 2.7 P ₉₉ = 6.9														
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	-3	-4	-4	-4	-4	-5	-5	-5	-4	-1	1	4	6	7	7	7	5	4	3	2	2	1	0	-2	0.3	7.1
2-Nov	-3	-3	-3	-4	-4	-4	-4	-3	-2	0	3	4	5	6	6	5	5	5	5	5	4	4	4	3	1.4	5.7
3-Nov	1	0	-2	-5	-5	-2	-3	-6	-7	-8	-7	-7	-6	-6	-6	-6	-8	-9	-10	-10	-12	-14	-14	-15	-6.9	1.1
4-Nov	-15	-15	-16	-17	-16	-17	-17	-18	-17	-14	-11	-8	-6	-4	-3	-2	-3	-7	-9	-7	-9	-10	-10	-8	-10.8	-2.4
5-Nov	-8	-10	-11	-10	-10	-10	-11	-11	-11	-10	-6	-2	0	2	3	3	1	-2	-6	-8	-7	-8	-8	-7	-6.1	3.2
6-Nov	-7	-8	-9	-8	-7	-7	-9	-9	-8	-7	-3	0	3	4	4	3	2	0	-4	-5	-5	-7	-7	-8	-4.2	4.3
7-Nov	-8	-6	-7	-5	-6	-7	-7	-7	-7	-4	0	4	5	6	7	7	4	2	3	1	1	-1	-3	-3	-1.2	7.1
8-Nov	-2	-3	-3	-4	-4	-5	-7	-8	-8	-4	0	1	2	4	5	5	3	-1	-4	-5	-5	-6	-7	-8	-2.7	4.8
9-Nov	-8	-8	-7	-8	-9	-10	-9	-8	-6	-5	-3	-2	-1	0	0	0	-2	-2	-1	0	0	0	0	0	-3.7	0.5
10-Nov	1	1	1	1	1	1	1	0	0	1	3	5	7	8	5	4	5	1	0	1	1	1	3	3	2.2	7.9
11-Nov	3	2	2	1	1	1	1	2	2	1	2	3	3	4	4	3	1	-1	-1	-3	-2	-2	-3	-3	0.8	3.5
12-Nov	-3	-3	-3	-4	-4	-4	-4	-4	-4	-4	-3	-3	-2	-1	-1	0	0	1	1	1	1	1	1	1	-1.6	1.2
13-Nov	0	0	0	0	0	0	1	1	0	2	2	2	1	1	1	2	1	1	0	-1	-1	-1	-1	-2	0.4	2.4
14-Nov	-4	-4	-6	-5	-5	-5	-4	-3	-6	-7	-7	-7	-6	-7	-7	-7	-8	-8	-8	-8	-8	-8	-9	-9	-6.5	-3.3
15-Nov	-9	-9	-10	-11	-11	-12	-14	-13	-11	-10	-10	-9	-9	-7	-6	-7	-8	-12	-13	-14	-12	-10	-12	-12	-10.5	-6.2
16-Nov	-12	-10	-11	-13	-14	-14	-16	-16	-14	-13	-11	-11	-11	-10	-11	-12	-12	-13	-12	-11	-9	-8	-8	-8	-11.6	-8.0
17-Nov	-8	-8	-8	-8	-9	-9	-9	-9	-10	-12	-12	-13	-13	-13	-14	-15	-15	-15	-16	-16	-16	-16	-17	-17	-12.5	-8.2
18-Nov	-17	-17	-17	-18	-18	-18	-18	-18	-18	-18	-18	-17	-17	-17	-17	-17	-18	-18	-18	-18	-19	-19	-19	-19	-17.9	-16.9
19-Nov	-19	-20	-20	-20	-19	-18	-18	-18	-17	-17	-16	-16	-16	-16	-17	-17	-17	-18	-18	-18	-19	-19	-19	-20	-17.9	-15.6
20-Nov	-19	-19	-22	-24	-27	-26	-27	-26	-27	-24	-22	-22	-21	-20	-20	-20	-20	-20	-20	-20	-20	-19	-19	-20	-21.9	-19.2
21-Nov	-20	-21	-21	-21	-21	-21	-21	-21	-20	-20	-20	-18	-16	-14	-16	-15	-15	-17	-18	-16	-16	-15	-15	-17	-18.1	-14.4
22-Nov	-17	-16	-15	-14	-13	-12	-12	-11	-10	-9	-9	-8	-7	-7	-6	-6	-6	-8	-10	-13	-15	-13	-13	-13	-10.9	-5.5
23-Nov	-13	-12	-12	-13	-13	-13	-13	-13	-14	-14	-13	-12	-11	-11	-11	-11	-11	N	N	-12	-12	-12	-14	-16	-12.6	-10.6
24-Nov	-17	-18	-17	-17	-17	-16	-13	-13	-12	-11	-9	-8	-7	-5	-6	-7	-7	-8	-7	-5	-5	-5	-6	-5	-10.1	-4.6
25-Nov	-7	-8	-8	-7	-8	-6	-7	-5	-4	-3	-2	-1	-2	-2	-2	-3	-6	-8	-7	-7	-7	-5	-7	-7	-5.4	-1.5
26-Nov	-7	-7	-7	-6	-6	-4	-4	-4	-4	-3	0	1	1	1	2	3	3	4	3	4	5	5	5	5	-0.4	5.2
27-Nov	5	5	5	7	7	6	6	4	4	4	4	3	2	0	0	-3	-4	-4	-4	-5	-6	-8	-9	-11	0.4	7.2
28-Nov	-13	-13	-12	-13	-13	-13	-13	-11	-9	-5	-3	-2	-1	0	0	0	0	0	1	1	1	1	0	0	-4.9	0.8
29-Nov	1	2	2	2	1	-1	-1	-2	-3	-4	-3	-3	-2	-1	-1	-2	-3	-4	-4	-3	-4	-4	-3	-3	-1.8	2.2
30-Nov	-3	-2	-3	-3	-6	-7	-6	-8	-9	-11	-10	-8	-6	-4	-4	-5	-7	-9	-9	-9	-7	-5	-5	-3	-6.3	-2.1
-7.8 -7.9 -8.1 -8.4 -8.6 -8.6 -8.8 -8.8 -8.6 -7.6 -6.1 -5.0 -4.1 -3.5 -3.4 -3.8 -4.7 -5.7 -6.3 -6.6 -6.7 -6.8 -7.1 -7.4																								Diurnal Average		
5.3 5.3 5.1 7.2 6.9 5.8 5.7 4.4 3.7 4.0 3.7 4.8 7.0 7.9 7.1 6.7 5.3 5.2 4.8 4.6 4.8 5.2 4.9 4.9																								Diurnal Maximum		
N - Not Valid																										

Hourly Averages

External Temperature (ET) - °C
Smoky Heights - November 2011



Hourly Averages

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

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1 Spd	16	16	18	19	20	16	15	15	19	24	23	24	34	38	41	39	39	32	25	20	16	14	9	1	21.6	41.4
Dir	241	242	251	258	258	239	236	245	247	247	232	235	248	253	253	248	245	235	229	228	213	195	195	255	241.3	252.8
2 Spd	0	2	2	4	6	4	4	4	3	6	7	3	3	4	5	6	7	9	10	10	11	13	13	9	3.1	13.0
Dir	314	148	197	294	280	212	226	245	283	231	197	175	88	56	30	20	13	7	358	357	347	326	339	20	340.3	339.2
3 Spd	4	6	5	7	12	10	18	13	17	18	19	20	21	19	18	20	20	18	15	12	10	12	12	9	13.1	20.9
Dir	347	284	244	259	250	321	315	306	304	298	306	295	299	305	308	310	301	305	298	288	260	248	268	263	295.0	299.1
4 Spd	10	14	13	12	13	11	10	5	10	12	12	17	19	21	23	24	16	15	18	15	12	15	12	16	12.6	24.1
Dir	240	249	255	256	270	265	204	221	224	218	212	181	180	182	194	185	195	212	220	222	261	259	220	208	216.8	184.9
5 Spd	14	9	12	6	10	11	10	10	10	9	10	12	13	15	16	14	9	5	4	7	7	6	10	10	9.6	15.8
Dir	211	204	207	221	262	254	254	253	224	241	243	217	227	233	222	229	232	241	247	240	228	228	242	237	231.9	222.3
6 Spd	10	9	10	10	10	10	8	9	9	9	8	12	14	15	18	15	8	4	9	11	12	11	5	8	9.3	18.0
Dir	231	217	224	189	192	193	222	214	234	228	217	222	231	260	258	269	293	257	207	236	252	246	208	236	232.8	257.8
7 Spd	11	11	11	13	10	13	16	14	14	10	12	22	28	28	29	27	16	14	21	14	21	17	16	20	16.7	29.1
Dir	220	211	205	203	228	237	222	225	236	257	218	215	238	237	235	241	242	244	234	240	238	242	246	248	233.1	234.6
8 Spd	22	23	25	22	20	18	14	13	13	14	23	18	19	29	29	27	16	13	13	13	14	16	15	14	18.3	29.3
Dir	251	259	257	260	251	247	241	243	261	258	247	246	253	262	261	255	276	241	255	257	256	262	261	258	255.2	262.0
9 Spd	15	11	9	11	9	8	8	7	5	3	4	6	4	11	12	12	13	12	13	13	12	13	10	12	6.7	15.0
Dir	264	258	214	219	234	239	238	236	239	292	21	33	90	143	145	156	151	159	182	193	219	221	204	209	203.5	263.9
10 Spd	14	15	14	13	16	18	17	14	10	11	14	19	21	20	8	7	10	3	1	7	6	7	10	12	9.7	21.3
Dir	213	229	237	205	204	214	236	219	209	240	240	245	262	262	348	17	301	53	300	257	267	250	257	192	238.4	262.5
11 Spd	13	10	8	8	10	8	10	10	8	6	7	5	3	3	9	8	14	14	15	15	12	14	14	14	3.6	15.3
Dir	205	214	242	278	235	244	192	199	222	208	252	180	140	6	352	345	21	358	5	10	7	348	337	333	309.9	10.0
12 Spd	15	14	10	8	6	5	4	9	11	10	12	15	17	16	17	19	19	16	18	16	21	21	26	25	8.2	26.0
Dir	333	338	340	345	11	74	95	130	158	150	160	168	162	162	164	169	178	184	191	211	226	238	238	237	196.1	238.3
13 Spd	21	22	21	21	19	20	32	38	30	31	40	36	36	31	23	25	14	16	14	13	15	16	14	18	22.5	39.9
Dir	240	240	241	244	248	245	252	255	256	261	268	267	274	290	283	292	305	278	253	245	253	254	246	236	260.7	268.1
14 Spd	19	18	17	18	19	19	17	12	16	18	16	7	13	14	14	15	16	11	10	6	4	4	7	6	8.2	19.0
Dir	253	258	258	246	261	259	254	284	26	24	21	2	322	310	301	299	307	307	302	196	173	70	48	35	294.4	259.3
15 Spd	4	4	4	5	4	4	3	7	6	10	13	12	14	12	11	10	10	10	10	8	9	10	9	9	6.0	13.6
Dir	32	339	8	7	15	359	14	254	245	225	233	237	243	218	204	214	247	260	255	245	228	224	222	226	241.0	243.1
16 Spd	14	16	15	10	4	3	4	5	6	8	8	8	10	14	15	16	18	19	20	19	15	16	20	22	8.4	22.3
Dir	255	260	265	255	208	298	350	7	24	26	31	31	28	30	32	27	27	30	33	27	40	47	47	47	21.4	47.2
17 Spd	22	22	22	20	24	25	25	25	25	28	27	29	27	22	22	22	23	21	21	22	23	22	22	20	22.7	29.4
Dir	43	50	59	58	59	54	55	44	40	41	44	46	49	39	31	20	23	23	23	19	19	22	22	24	38.4	46.2
18 Spd	18	16	14	14	15	14	15	13	12	12	11	11	10	11	11	9	9	9	9	9	8	9	9	12	11.6	18.3
Dir	24	19	15	16	19	24	25	23	31	26	31	26	30	37	32	40	36	31	37	35	45	33	27	25	27.4	23.8
19 Spd	11	9	11	11	10	9	8	9	9	9	7	4	9	6	7	7	6	5	5	6	6	4	4	4	3.5	11.3
Dir	20	41	60	71	69	40	47	47	45	46	56	137	168	166	211	269	280	347	359	355	342	319	277	211	40.4	19.8
20 Spd	4	2	5	3	4	3	1	4	4	5	5	8	10	12	13	12	9	9	10	9	9	8	9	8	5.5	12.6
Dir	225	135	220	271	264	329	44	26	25	14	46	28	21	31	16	17	22	18	20	18	25	26	24	20	17.9	16.2
21 Spd	8	8	8	8	7	7	6	6	6	10	10	10	9	7	2	2	4	10	11	10	9	7	6	3	2.3	10.8
Dir	7	9	7	5	9	14	10	3	23	25	26	21	15	17	78	91	161	197	203	240	219	207	212	230	1.5	202.6
22 Spd	2	2	3	3	4	12	18	17	15	13	13	11	4	6	10	12	12	5	11	4	4	9	5	2	3.7	17.9
Dir	293	55	24	30	29	26	25	20	20	17	19	12	77	185	190	222	256	3	24	350	276	258	217	238	4.4	25.2

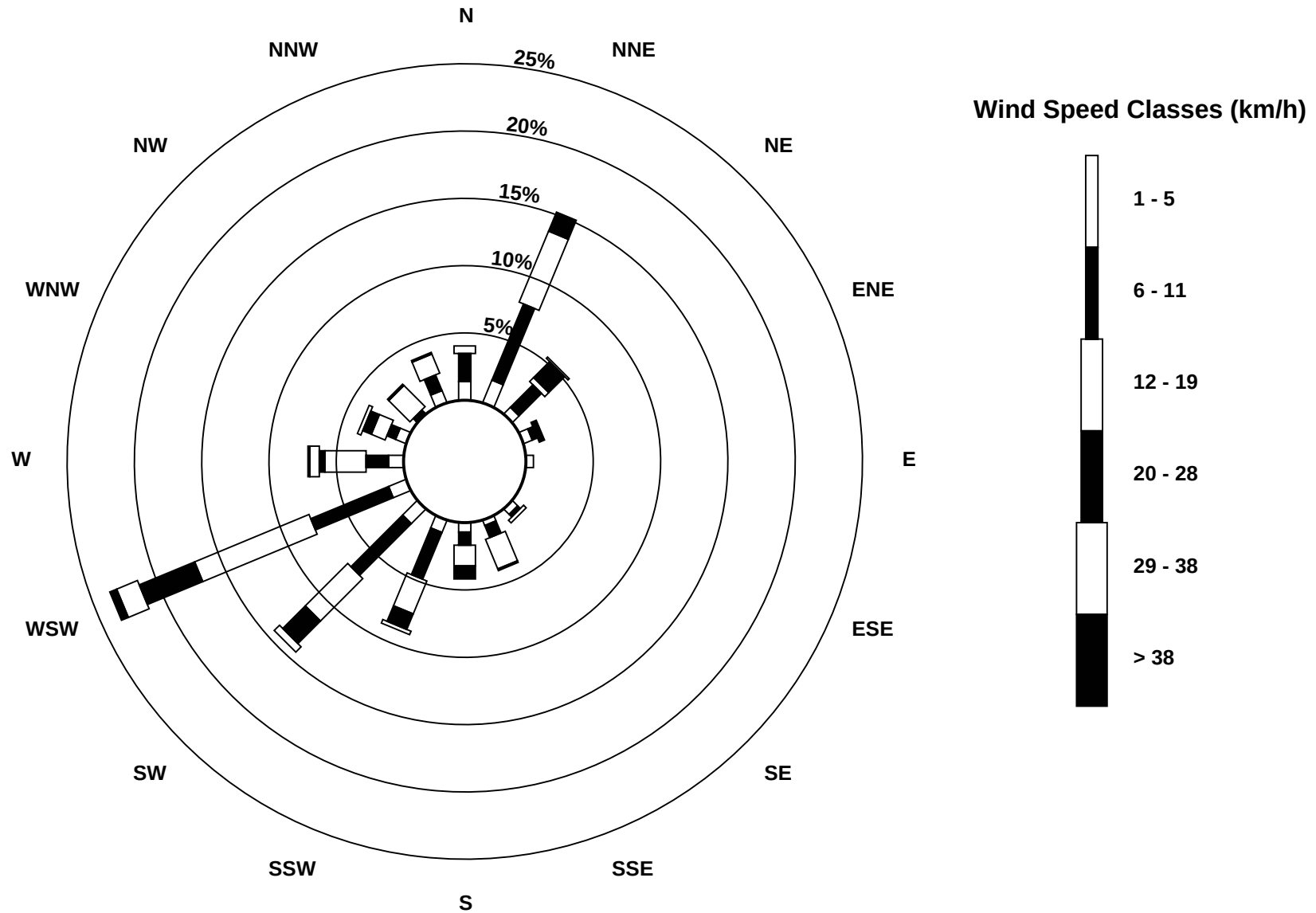
Hourly Averages

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

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24					
23 Spd	6	9	12	11	13	17	15	16	14	13	13	14	12	12	12	9	9	9	3	4	8	9	8	5	7.8	17.4			
Dir	20	19	18	20	17	28	23	25	33	36	31	33	27	18	26	25	36	23	71	204	215	224	251	234	23.0	28.4			
24 Spd	6	5	6	8	6	8	5	6	7	6	5	4	4	3	5	1	2	2	8	11	12	8	5	8	4.8	11.8			
Dir	226	222	243	258	222	204	222	241	249	243	239	226	216	271	202	333	257	176	160	158	170	170	245	244	216.0	170.4			
25 Spd	4	4	5	6	9	10	12	16	23	29	38	41	33	31	19	11	10	13	19	15	17	21	18	15	16.2	41.2			
Dir	267	339	261	224	231	232	220	241	239	237	245	251	259	290	288	257	240	240	251	254	251	257	250	195	250.2	251.1			
26 Spd	13	16	11	8	7	11	9	5	3	13	18	21	21	12	13	17	18	17	15	14	18	23	23	22	13.2	23.3			
Dir	233	261	186	176	199	173	166	168	134	165	166	177	182	155	150	144	155	165	155	155	164	170	169	168	170.8	170.1			
27 Spd	22	19	17	20	18	19	33	27	21	28	23	23	12	19	17	18	20	11	8	2	4	8	4	2	9.5	33.3			
Dir	174	184	188	201	234	251	256	248	225	231	252	241	304	325	327	347	346	339	335	343	31	25	17	265	255.5	255.9			
28 Spd	8	14	15	11	8	11	10	4	6	16	21	24	24	27	26	29	30	27	24	29	26	25	26	27	18.9	29.9			
Dir	258	256	253	242	227	239	238	170	210	184	215	218	212	210	208	210	220	215	211	212	213	207	212	227	217.3	220.2			
29 Spd	26	33	33	31	27	21	16	18	23	19	19	13	14	14	11	12	10	15	17	15	6	10	1	10	15.0	32.7			
Dir	239	232	238	246	238	231	232	238	236	248	260	249	260	263	254	254	251	266	295	309	43	20	355	276	250.7	237.9			
30 Spd	11	12	10	16	12	12	8	10	10	13	14	18	21	21	20	18	15	17	14	18	22	25	28	30	13.0	29.5			
Dir	283	335	356	345	324	324	341	230	230	244	228	238	231	232	222	214	259	258	229	213	248	249	252	258	253.3	257.6			
Spd	6.4	6.4	6.1	5.7	6.0	5.0	5.2	5.3	4.7	5.4	6.5	7.2	7.6	7.6	6.7	6.4	5.6	4.8	4.7	5.1	5.8	6.1	5.9	6.0	Diurnal Average				
Dir	250.5	256.4	250.7	253.6	254.4	258.5	257.3	257.8	258.0	256.3	252.7	242.4	250.2	261.6	255.1	256.6	270.5	264.8	254.2	247.9	244.4	249.0	249.1	242.8	Diurnal Maximum				
Spd	25.9	32.7	32.7	30.5	26.6	24.7	33.3	37.9	30.3	30.8	39.9	41.2	35.9	37.6	41.4	38.7	39.1	32.3	25.0	28.8	26.2	25.1	28.1	29.5	Diurnal Maximum				
Dir	238.8	232.2	237.9	246.2	238.1	54.1	255.9	255.4	255.6	261.3	268.1	251.1	274.0	253.3	252.8	247.9	244.7	234.9	228.8	211.5	213.3	207.2	252.4	257.6					
Maximum Speed Value: 41 km/h on Nov 1 15:00																				Minimum Speed Value: 0 km/h on Nov 2 01:00					Hours in Service: 720				
Maximum Daily Speed Average: 22.7 km/h on Nov 13																				Minimum Daily Speed Average: 2.3 km/h on Nov 24					Hours of Data: 720				
Maximum Diurnal Speed Average: 7.6 km/h at hour 13																				Minimum Diurnal Speed Average: 4.7 km/h at hour 19					Hours of Missing Data: 0				
Monthly Average Velocity: 5.89 km/h 253.67 deg																				Speed Percentiles: P ₁ = 1.7 P ₁₀ = 4.4 Q ₁ = 8.2 Median = 12.0 Q ₃ = 17.7 P ₉₀ = 22.9 P ₉₉ = 37.8					Percent Operational Time: 100.0				
All monthly, daily, and diurnal averages have been calculated using vector methods																													
Frequency Distribution																													
Speed Range (km/h)																													
Direction	0 to 5		5 to 11		11 to 19		19 to 28		28 to 38		> 38		Total																
North	14		47		26		6		0		0		93																
NorthEast	12		39		32		21		2		0		106																
East	9		2		0		0		0		0		11																
SouthEast	5		2		10		0		0		0		17																
South	9		21		23		14		0		0		67																
SouthWest	17		82		82		42		12		1		236																
West	13		33		57		22		16		4		145																
NorthWest	8		6		25		6		0		0		45																
Total	87		232		255		111		30		5		720																

Wind Rose

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



Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Smoky Heights - November 2011

Maximum Speed: 42 km/h on Nov 1 15:00																				Maximum Daily Speed Average: 23.7 km/h on Nov 13										Hours in Service: 720	
Minimum Speed: 2 km/h on Nov 20 07:00																				Minimum Daily Speed Average: 6.3 km/h on Nov 24										Hours of Data: 720	
Maximum Diurnal Speed Average: 16.8 km/h at hour 14																				Minimum Diurnal Speed Average: 11.9 km/h at hour 5										Hours of Missing Data: 0	
Monthly Average Speed: 13.69 km/h																				Percentiles: P ₁ = 3.0 P ₁₀ = 5.3 Q ₁ = 8.5 Median = 12.3 Q ₃ = 17.9 P ₉₀ = 23.2 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	16	16	18	19	20	16	15	15	19	24	23	24	34	38	42	39	39	33	25	20	16	14	10	6	22.6	41.7					
2-Nov	3	3	5	5	6	6	5	5	4	7	7	4	5	5	5	6	7	10	11	10	11	13	15	10	6.9	14.7					
3-Nov	7	9	6	7	12	12	19	14	17	18	20	20	21	20	18	20	20	19	15	12	10	12	12	9	14.6	21.3					
4-Nov	10	14	13	12	13	11	11	5	10	12	12	17	20	22	24	24	16	16	19	18	15	15	12	16	14.8	24.4					
5-Nov	14	9	12	6	10	11	10	10	11	10	11	13	14	15	16	14	9	5	5	7	8	7	10	10	10.2	15.9					
6-Nov	11	9	10	10	10	10	9	9	10	9	8	12	14	16	18	15	9	5	10	11	12	11	6	8	10.6	18.5					
7-Nov	11	11	11	13	11	13	16	14	14	10	13	22	28	29	29	27	16	14	21	14	21	18	16	21	17.3	29.2					
8-Nov	22	23	25	22	20	18	14	13	13	14	23	18	19	30	29	28	16	13	13	13	14	16	15	15	18.6	29.5					
9-Nov	15	12	9	11	9	8	8	7	5	5	4	6	6	11	12	12	13	12	14	13	12	13	11	13	10.0	15.0					
10-Nov	14	15	14	13	17	18	17	14	10	11	14	20	22	20	10	8	13	4	4	7	6	8	11	12	12.6	21.5					
11-Nov	13	10	9	8	10	8	10	10	8	7	7	5	4	4	10	9	14	14	15	16	12	14	14	15	10.2	15.5					
12-Nov	15	14	10	8	6	5	4	9	11	10	12	15	17	16	17	19	19	17	18	17	21	21	26	25	14.7	26.0					
13-Nov	21	22	21	21	19	20	32	38	30	31	40	36	36	31	23	26	15	16	14	13	15	16	14	18	23.7	40.1					
14-Nov	19	19	17	18	19	19	17	13	16	18	16	8	14	14	14	15	16	11	10	7	4	5	7	6	13.5	19.0					
15-Nov	4	4	5	5	5	4	4	7	6	10	13	12	14	13	12	10	10	10	10	8	10	10	9	9	8.5	13.6					
16-Nov	14	16	15	10	5	7	5	5	7	8	8	8	10	14	15	16	18	19	20	19	15	17	20	22	13.0	22.4					
17-Nov	22	23	23	21	24	25	25	26	25	28	27	30	27	22	22	22	23	21	21	22	23	22	22	20	23.5	29.5					
18-Nov	18	16	14	14	15	14	15	13	12	12	11	11	11	11	10	10	9	9	9	8	9	9	9	12	11.8	18.4					
19-Nov	11	10	11	11	10	9	8	9	9	9	7	6	9	7	9	7	6	5	6	6	6	4	4	4	7.6	11.4					
20-Nov	5	3	5	3	5	6	2	4	4	5	6	8	10	12	13	12	9	9	10	9	9	8	9	8	7.2	12.6					
21-Nov	8	8	8	8	7	7	6	6	6	10	10	10	9	7	4	3	6	10	11	11	10	8	6	3	7.6	10.9					
22-Nov	2	3	3	3	4	12	18	17	15	13	14	11	6	6	10	13	13	9	11	6	5	9	5	3	8.7	18.0					
23-Nov	7	9	12	11	13	17	15	16	15	14	13	14	12	12	12	10	9	9	5	5	9	9	8	5	10.9	17.5					
24-Nov	6	6	7	8	6	8	5	6	7	6	6	5	4	3	5	3	3	3	8	11	12	8	6	9	6.3	11.8					
25-Nov	4	4	5	7	9	11	12	16	24	29	38	41	34	31	19	12	11	13	19	15	17	21	18	15	17.6	41.3					
26-Nov	13	16	12	8	8	11	9	5	5	13	18	21	21	13	13	17	18	17	16	14	18	23	23	22	14.8	23.4					
27-Nov	22	19	17	20	19	19	34	28	21	28	24	23	19	19	18	18	20	11	9	4	6	8	5	4	17.4	34.4					
28-Nov	8	14	15	11	10	12	10	6	11	16	22	24	24	27	26	29	30	27	25	29	26	25	26	28	20.1	30.1					
29-Nov	26	33	33	31	27	21	16	18	23	19	19	13	14	14	11	12	11	16	17	17	8	11	8	16	18.2	33.0					
30-Nov	12	14	11	17	12	14	15	12	10	14	15	18	21	22	20	18	15	18	14	18	22	25	28	30	17.2	29.6					
12.5 12.7 12.6 12.0 11.9 12.4 13.0 12.4 12.6 13.9 15.4 15.9 16.6 16.8 16.3 15.8 14.5 13.1 13.5 12.7 12.7 13.3 12.9 13.1																								Diurnal Average							
26.0 32.7 33.0 30.6 26.7 24.8 34.4 38.0 30.4 30.8 40.1 41.3 36.1 37.8 41.7 38.9 39.2 32.7 25.1 28.9 26.3 25.1 28.2 29.6																								Diurnal Maximum							
All monthly, daily, and diurnal averages have been calculated using scalar methods																															

Hourly Standard Deviations

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

Maximum Value: 87.2 deg on Nov 28 09:00																		Hours in Service: 720							
Minimum Value: 2.6 deg on Nov 27 06:00																		Hours of Data: 720							
Percentiles: P ₁ = 3.1 P ₁₀ = 4.5 Q ₁ = 6.0 Median = 8.7 Q ₃ = 15.7 P ₉₀ = 32.7 P ₉₉ = 72.4																		Hours of Missing Data: 0							
																		Hours of Calibration: 0							
																		Percent Operational Time: 100.0							
Day	Hourly Period Ending At (MST)																								Daily Maximum
1-Nov	4	3	6	5	4	6	6	3	4	3	9	6	7	6	7	6	4	9	6	5	6	7	14	86	85.6
2-Nov	86	52	73	43	28	46	42	31	45	32	23	38	51	31	18	16	12	15	11	9	8	8	29	14	86.1
3-Nov	60	47	47	14	7	33	21	23	16	11	14	9	11	15	12	9	9	8	8	10	12	10	8	17	60.1
4-Nov	11	4	5	8	4	20	18	11	7	5	7	7	10	11	18	9	5	18	20	35	37	11	12	4	36.7
5-Nov	3	9	4	14	7	3	8	7	21	12	16	7	15	11	8	8	12	12	53	18	26	21	18	6	52.7
6-Nov	23	17	9	9	7	5	8	8	15	7	12	13	11	26	13	7	17	32	16	5	8	7	23	11	32.1
7-Nov	4	13	9	7	8	10	9	10	19	10	13	8	8	8	6	5	5	11	4	12	6	9	9	8	19.1
8-Nov	7	3	3	3	5	6	9	11	8	10	5	10	7	8	8	6	7	9	13	5	6	4	4	7	13.1
9-Nov	4	20	13	13	10	13	8	11	10	39	19	9	48	8	7	10	9	10	8	8	6	5	7	6	48.2
10-Nov	7	6	8	13	4	11	10	10	11	15	8	10	7	7	32	45	53	46	84	17	8	14	24	4	84.5
11-Nov	7	7	20	9	13	19	3	13	6	23	22	15	21	42	12	11	6	12	11	10	9	12	7	9	42.0
12-Nov	7	9	8	10	15	29	11	8	8	8	8	6	6	8	6	5	5	13	5	5	6	3	4	4	28.9
13-Nov	3	3	5	4	5	8	8	3	4	4	6	5	7	8	6	17	17	12	8	8	7	8	6	3	17.5
14-Nov	5	4	5	4	3	4	4	24	6	5	6	19	21	9	9	8	5	6	10	35	25	43	7	10	43.5
15-Nov	31	30	38	11	16	25	61	13	18	10	9	7	5	10	13	18	8	8	11	9	14	8	16	16	61.2
16-Nov	7	4	6	8	31	63	46	18	14	6	5	6	6	5	5	7	3	4	5	5	10	6	8	5	62.6
17-Nov	6	8	8	7	7	5	6	11	5	5	5	5	6	7	8	5	5	5	4	5	5	5	5	5	11.1
18-Nov	5	5	5	6	6	5	5	6	6	6	7	8	11	7	7	9	7	5	6	6	5	11	4	5	10.8
19-Nov	7	14	10	7	11	9	6	6	10	8	7	59	13	27	33	12	38	14	10	9	8	27	12	22	59.3
20-Nov	42	56	12	11	12	57	51	13	22	16	16	11	6	6	5	8	5	5	7	6	5	6	6	6	56.7
21-Nov	6	7	9	11	10	10	12	15	15	6	7	6	10	17	75	51	51	6	6	19	16	9	8	14	75.3
22-Nov	59	40	7	9	7	6	5	6	8	8	8	8	60	10	6	19	14	51	8	40	42	18	28	55	60.0
23-Nov	61	10	5	6	5	5	8	8	5	19	8	7	10	6	7	16	10	9	57	53	8	16	17	21	61.4
24-Nov	28	21	23	5	12	8	20	11	6	11	9	25	26	22	13	67	49	53	26	5	6	11	42	22	67.2
25-Nov	28	42	23	24	9	15	8	14	5	3	5	3	14	5	6	19	13	6	8	14	6	4	14	13	42.1
26-Nov	19	5	28	7	33	13	13	31	51	8	4	4	6	18	13	4	7	4	5	4	8	4	4	4	51.0
27-Nov	5	4	3	8	17	3	13	12	6	4	21	9	49	10	21	11	12	16	38	83	67	12	56	69	82.8
28-Nov	15	6	8	12	32	26	16	53	87	8	18	11	7	5	7	3	6	5	5	5	4	4	3	10	87.2
29-Nov	4	3	7	4	6	6	10	11	5	4	8	19	14	10	16	12	21	17	9	39	56	48	80	53	79.5
30-Nov	26	24	21	7	20	38	74	30	13	19	20	7	11	15	6	8	10	11	11	8	7	4	4	4	74.3
86.1 55.6 72.7 43.1 32.8 62.6 74.3 52.8 87.2 39.0 22.7 59.3 60.0 42.0 75.3 67.2 52.8 52.7 84.5 82.8 67.2 47.9 79.5 85.6																									

PAZA
Beaverlodge Station
Monthly Summary Tables, Graphs and
Roses

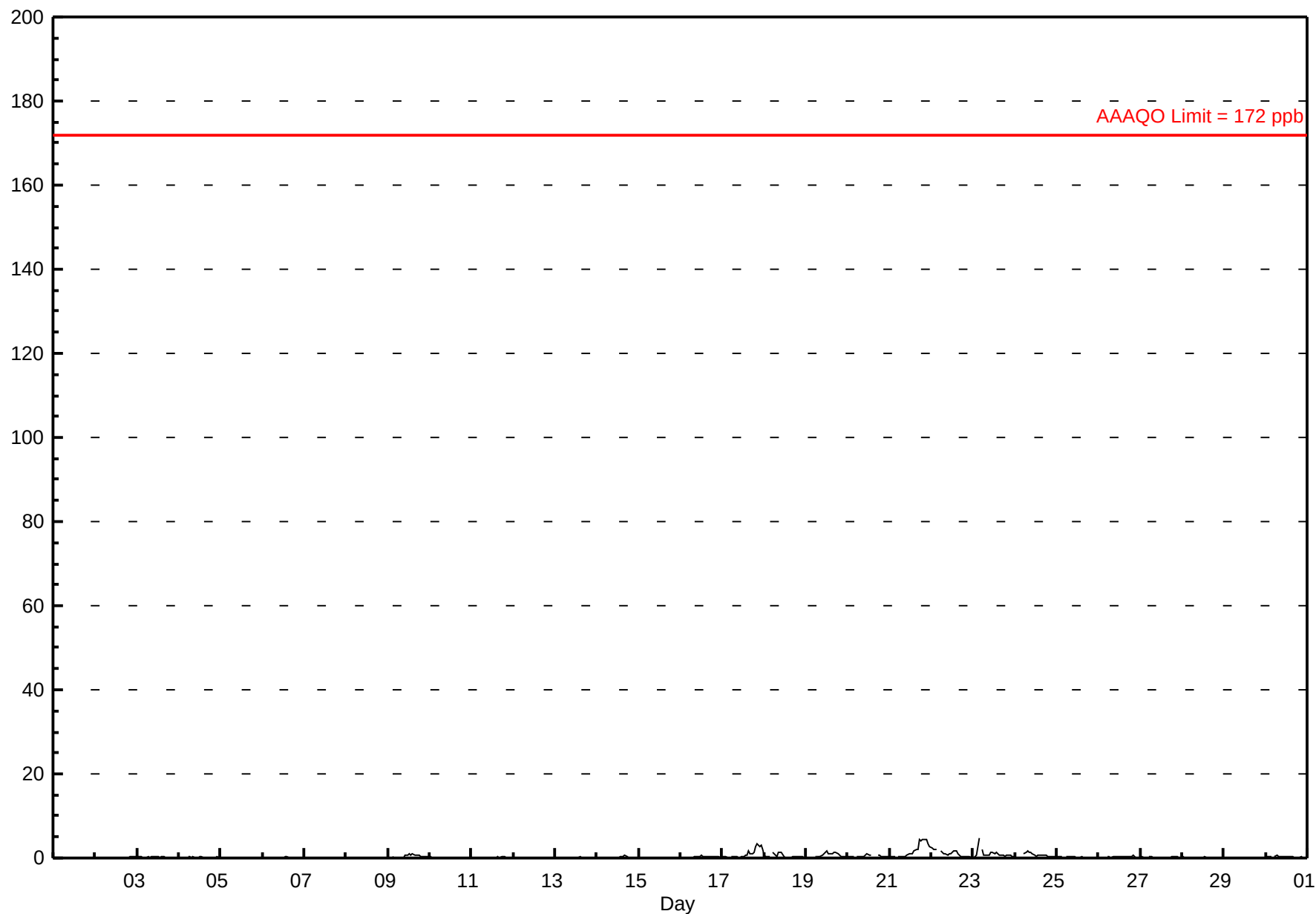
Hourly Averages

Sulphur Dioxide (SO₂) - ppb Beaverlodge - November 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 4.6 ppb on Nov 23 04:00 Maximum Daily Average: 1.8 ppb on Nov 21																				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 7 20:00 Maximum Diurnal Average: 0.4 ppb at hour 21 Monthly Average: 0.33 ppb										Minimum Daily Average: 0.0 ppb on Nov 7 Minimum Diurnal Average: 0.2 ppb at hour 3 Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 0.1 Q ₃ = 0.3 P ₉₀ = 0.8 P ₉₉ = 3.3																
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	0	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
2-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
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	0.4
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	0.1	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	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
7-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
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	0.2
9-Nov	0	0	0	0	A	0	0	0	0	0	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0.4	0.9
10-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
11-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	0.5
12-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
13-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
14-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0.1	0.6
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	0.1
16-Nov	0	0	0	0	A	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0.2	0.6
17-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	1	1	2	1	1	1	3	3	3	3	2	1.0	3.4
18-Nov	1	0	0	0	A	1	1	0	1	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0.5	1.5
19-Nov	0	0	0	0	A	0	0	0	0	1	1	1	2	1	1	1	1	1	1	1	0	0	0	0	0.7	1.7
20-Nov	0	0	0	0	A	0	0	0	0	0	1	1	1	1	C	C	C	1	1	0	0	0	0	0	0.4	0.9
21-Nov	0	0	0	0	A	0	0	0	0	0	1	1	1	1	2	2	2	4	4	5	4	5	4	3	1.8	4.6
22-Nov	2	2	2	2	A	2	1	1	1	1	1	1	1	2	2	1	1	0	0	0	0	0	0	0	1.1	2.4
23-Nov	0	0	1	5	A	2	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	0	0	0	0.9	4.6
24-Nov	0	0	0	0	A	1	1	2	1	1	1	1	0	1	1	1	1	1	1	0	0	0	0	0	0.7	1.6
25-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	0.5
26-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0.3	0.6
27-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
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	0.2
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	0.1	0.2
30-Nov	0	0	0	0	A	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.5
0.2 0.2 0.2 0.4 -- 0.3 0.3 0.2 0.3 0.3 0.3 0.3 0.3 0.4 0.4 0.4 0.3 0.4 0.4 0.4 0.4 0.4 0.3																									Diurnal Average	
2.4 2.1 2.1 4.6 -- 1.9 1.5 1.6 1.4 1.5 1.4 1.4 1.4 1.7 1.7 1.7 2.1 2.2 4.3 4.0 4.6 4.4 4.5 3.5 2.8																									Diurnal Maximum	
C - Calibration A - Automated Daily Zero Span																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb 30-day 11 ppb																										

Hourly Averages

Sulphur Dioxide (SO₂) - ppb
Beaverlodge - November 2011



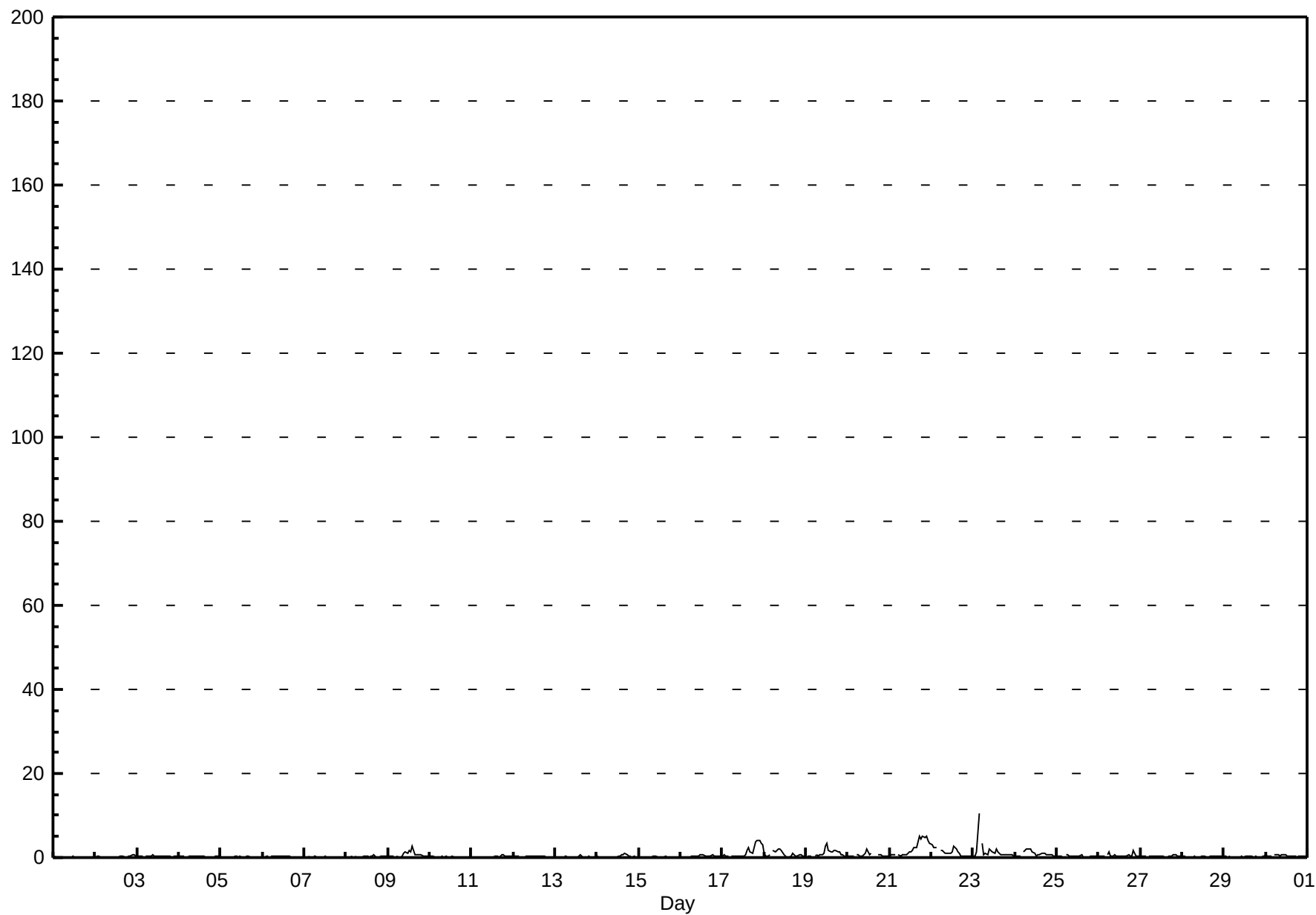
Hourly Maximums

Sulphur Dioxide (SO₂) - ppb Beaverlodge - November 2011

Maximum Value: 10.7 ppb on Nov 23 04:00																				Maximum Daily Average: 2.2 ppb on Nov 21					Hours in Service: 720	
Minimum Value: 0 ppb on Nov 8 19:00																				Minimum Daily Average: 0.1 ppb on Nov 7					Hours of Data: 687	
Maximum Diurnal Average: 0.7 ppb at hour 4																				Minimum Diurnal Average: 0.3 ppb at hour 2					Hours of Missing Data: 33	
Monthly Average: 0.51 ppb																				Percentiles: P ₁ = 0.1 P ₁₀ = 0.1 Q ₁ = 0.2 Median = 0.2 Q ₃ = 0.5 P ₉₀ = 1.2 P ₉₉ = 4.1					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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
2-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0.2	0.6
3-Nov	0	0	0	0	A	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	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	0.2	0.5
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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3
7-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
8-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0.2	0.7
9-Nov	0	0	0	0	A	0	0	0	0	1	1	1	2	1	3	1	1	1	1	1	0	0	0	0	0.7	2.7
10-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
11-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0.2	0.7
12-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
13-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	0.2	0.7
14-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0.3	0.9
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	0.2	0.2
16-Nov	0	0	0	0	A	0	0	0	0	0	0	1	1	1	0	0	0	0	1	0	0	0	0	0	0.3	0.8
17-Nov	0	1	0	0	A	0	0	0	0	0	0	0	0	1	2	3	1	1	2	4	4	4	3	3	1.4	4.2
18-Nov	1	0	0	1	A	2	1	2	2	2	2	1	0	0	0	1	1	0	0	1	1	0	0	0	0.8	2.0
19-Nov	0	0	0	0	A	0	1	0	1	1	1	3	3	2	1	1	2	2	1	1	1	1	0	0	1.0	3.4
20-Nov	0	0	0	0	A	1	1	0	0	1	1	2	1	1	C	C	C	1	1	1	0	0	0	0	0.6	2.1
21-Nov	0	1	1	1	A	1	0	1	1	1	1	1	1	2	2	2	4	5	5	5	5	5	4	4	2.2	5.2
22-Nov	3	2	2	2	A	2	2	1	1	1	1	1	1	3	2	1	1	1	0	0	0	0	0	0	1.3	2.9
23-Nov	0	1	1	11	A	3	1	1	1	2	2	1	1	2	1	1	1	1	1	1	1	1	0	0	1.5	10.7
24-Nov	0	0	0	0	A	1	2	2	2	2	1	1	0	1	1	1	1	1	1	1	1	0	0	0	0.9	2.1
25-Nov	0	0	0	0	A	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0.3	0.6
26-Nov	0	0	0	0	A	1	1	0	0	1	0	0	0	0	0	0	0	1	0	0	2	0	0	0	0.5	1.6
27-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0.3	0.6
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	0.2	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	1	0	0	0	A	1	1	1	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.7
Diurnal Average																										
Diurnal Maximum																										
C - Calibration A - Automated Daily Zero Span																										

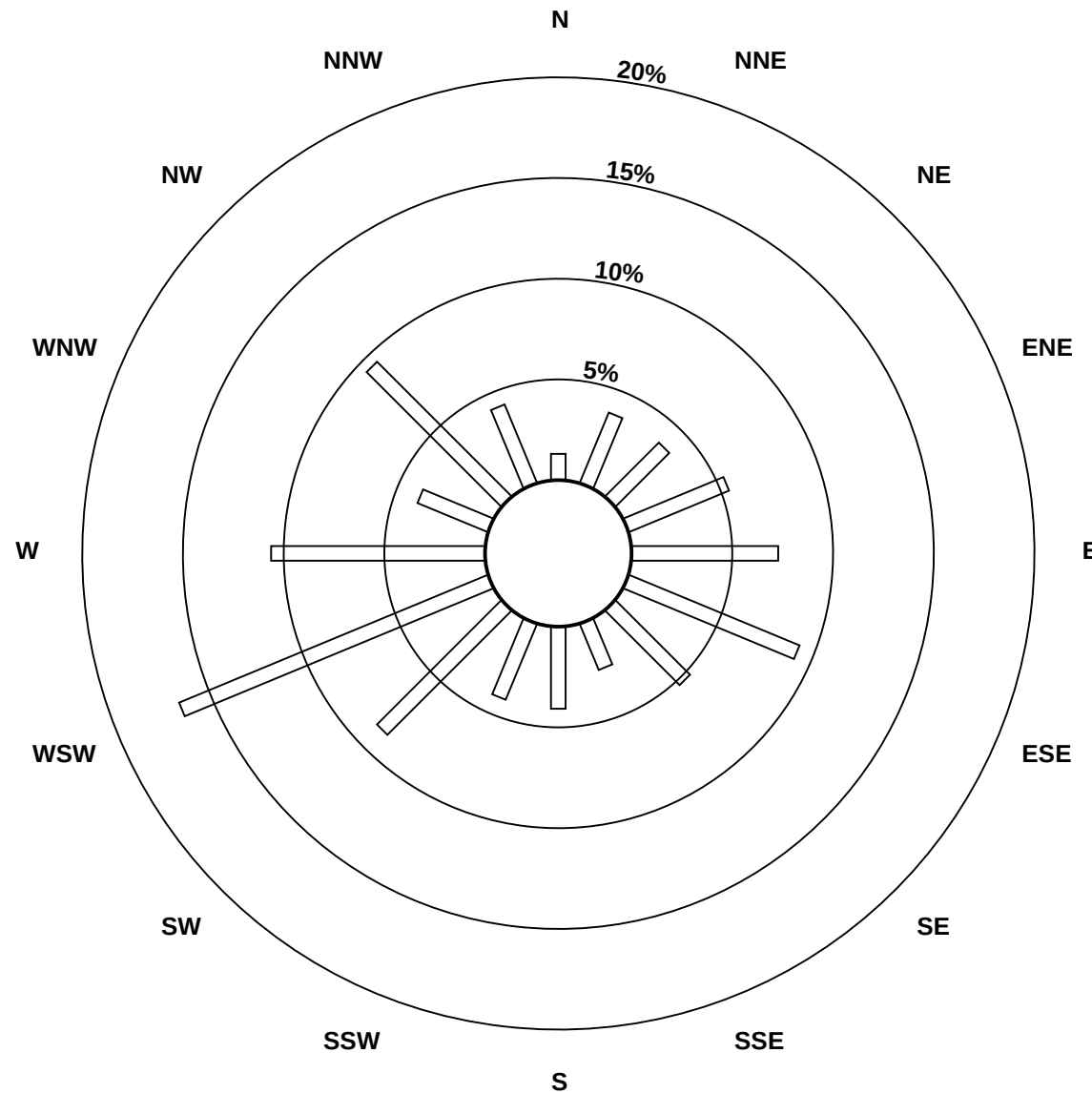
Hourly Maximums

Sulphur Dioxide (SO₂) - ppb
Beaverlodge - November 2011

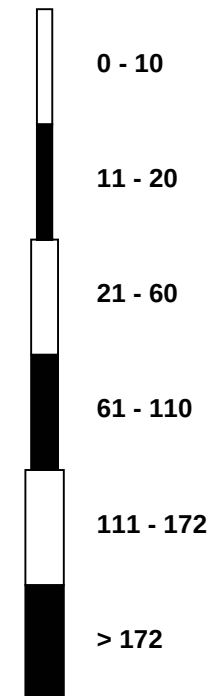


Pollutant Rose

Sulphur Dioxide (SO₂) - ppb
Beaverlodge - November 2011

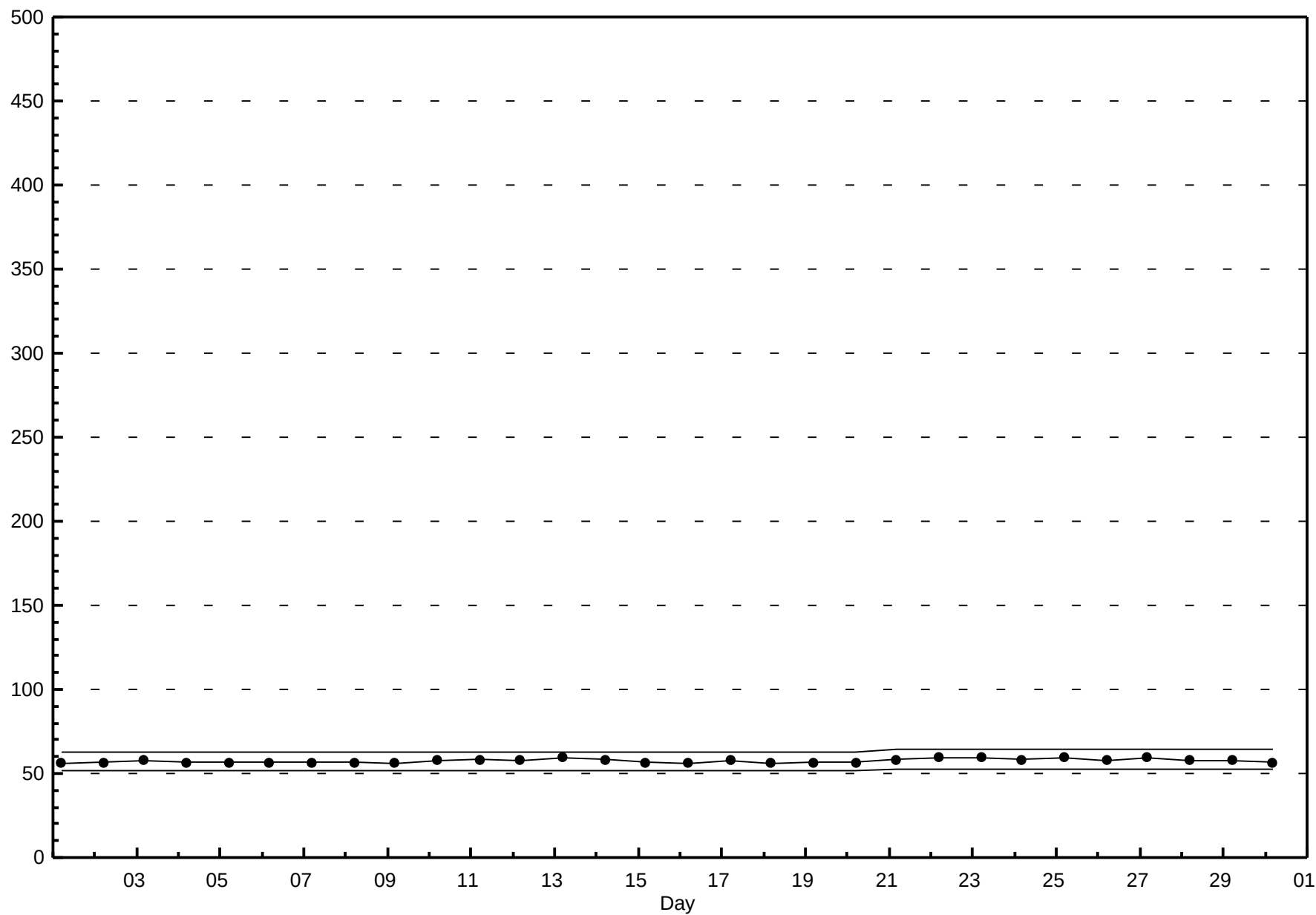


Pollutant Classes (ppb)



Span Responses

Sulphur Dioxide (SO₂)
Beaverlodge - November 2011



Hourly Averages

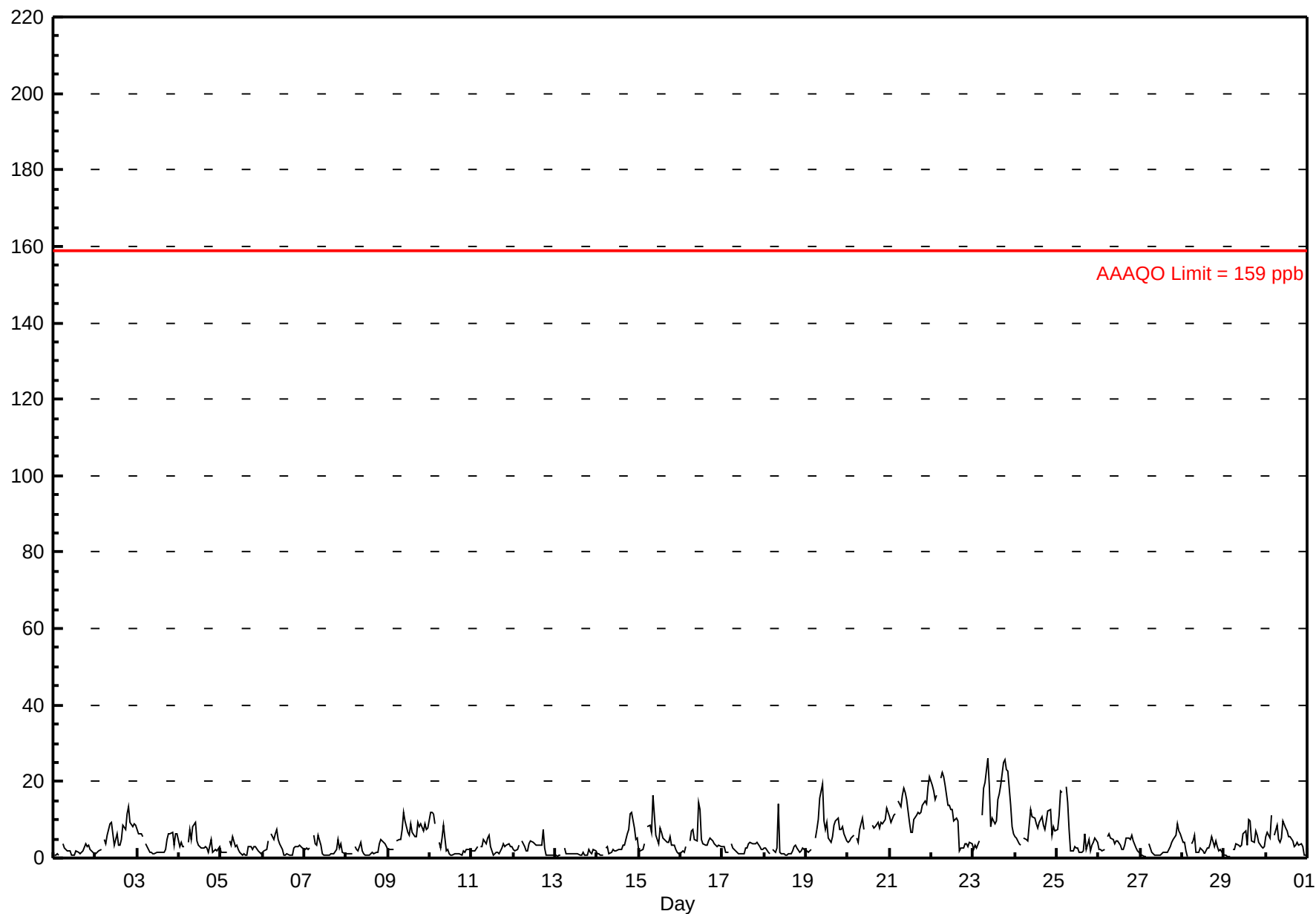
Nitrogen Dioxide (NO₂) - ppb

Beaverlodge - November 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 26.2 ppb on Nov 23 09:00 Maximum Daily Average: 13.9 ppb on Nov 23																				Hours in Service: 720 Hours of Data: 686						
Minimum Value: 0 ppb on Nov 27 04:00 Minimum Daily Average: 1.2 ppb on Nov 13 Maximum Diurnal Average: 7.2 ppb at hour 9 Minimum Diurnal Average: 3.4 ppb at hour 14 Monthly Average: 4.89 ppb Percentiles: P ₁ = 0.6 P ₁₀ = 1.1 Q ₁ = 1.8 Median = 3.3 Q ₃ = 6.5 P ₉₀ = 10.9 P ₉₉ = 21.0																				Hours of Missing Data: 34 Hours of Calibration: 34 Percent Operational Time: 100.0						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Nov	1	1	1	1	A	4	2	2	2	2	1	1	1	2	1	1	1	2	4	3	3	2	2	1	1.8	3.7
2-Nov	1	1	2	2	A	5	4	6	9	9	6	3	6	3	3	5	9	8	12	13	9	8	9	8	6.2	13.3
3-Nov	7	6	6	6	A	4	2	2	1	1	1	2	1	1	2	2	2	5	6	6	7	3	6	6	3.8	7.5
4-Nov	3	4	3	3	A	4	7	5	8	9	5	3	3	2	3	3	3	2	5	2	2	2	2	3	3.7	9.2
5-Nov	2	2	1	1	A	4	3	6	3	3	2	1	1	1	1	1	3	3	2	3	3	2	1	1	2.2	5.8
6-Nov	2	2	2	5	A	6	5	6	8	5	4	2	1	1	1	1	1	1	2	3	3	3	3	3	3.0	7.6
7-Nov	2	3	2	2	A	6	4	3	6	3	1	1	1	1	1	1	1	1	2	5	2	4	1	1	2.4	6.0
8-Nov	1	1	1	1	A	3	2	2	4	2	1	1	1	1	1	1	1	2	1	4	5	4	4	3	2.0	5.0
9-Nov	2	2	2	2	A	4	5	5	8	12	10	7	6	9	7	6	6	9	8	9	7	9	7	8	6.5	12.0
10-Nov	12	12	12	9	A	4	3	5	9	2	2	1	1	1	1	1	1	1	1	2	1	2	2	2	3.8	12.0
11-Nov	2	2	2	3	A	3	3	5	4	5	6	3	1	1	2	1	1	3	4	3	3	4	3	3	2.9	6.0
12-Nov	2	2	2	3	A	4	3	2	2	4	4	4	4	3	3	3	4	7	3	1	1	1	1	1	2.8	7.3
13-Nov	1	1	1	1	A	3	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	2	2	1.2	2.6
14-Nov	1	1	1	1	A	3	3	1	2	2	2	2	2	2	2	3	3	6	7	11	12	8	5	5	3.7	11.9
15-Nov	2	2	2	4	A	8	8	7	17	11	6	4	8	7	5	5	4	4	6	3	3	2	2	1	5.2	16.6
16-Nov	1	2	1	3	A	5	7	8	5	4	14	13	5	4	3	3	5	5	5	4	3	3	3	3	4.7	14.5
17-Nov	3	3	1	1	A	4	3	2	1	1	1	1	1	3	3	4	4	4	4	4	4	3	2	2	2.6	4.1
18-Nov	3	3	1	1	A	2	1	3	14	2	1	1	1	1	1	1	2	3	3	2	2	2	3	2	2.4	14.0
19-Nov	2	1	2	2	A	5	7	10	16	19	10	7	9	5	4	6	8	10	10	7	8	8	6	4	7.3	19.4
20-Nov	4	5	5	6	A	5	4	7	11	7	C	C	C	C	8	8	8	9	8	9	9	10	13	12	7.9	13.2
21-Nov	11	9	11	12	A	15	14	16	18	17	15	9	7	7	10	11	12	12	12	14	15	14	19	21	13.1	21.2
22-Nov	19	18	15	17	A	21	22	21	19	14	14	13	13	10	10	10	2	3	2	4	4	3	4	4	11.3	22.3
23-Nov	2	3	3	4	A	11	18	20	26	19	8	10	9	10	15	17	19	25	26	23	23	14	8	6	13.9	26.2
24-Nov	5	5	4	3	A	5	5	5	9	13	11	11	9	8	9	11	8	7	10	12	13	6	8	7	8.0	12.7
25-Nov	7	11	18	17	A	19	15	7	2	2	3	3	3	1	1	2	6	2	5	2	3	4	5	4	6.2	18.8
26-Nov	2	2	2	2	A	5	6	5	5	4	4	5	3	2	2	3	5	5	5	6	5	3	2	1	3.7	6.2
27-Nov	1	1	0	0	A	4	2	1	1	1	1	1	1	2	1	2	2	3	4	5	6	9	7	6	2.6	9.1
28-Nov	4	4	2	1	A	4	4	6	1	2	3	2	2	1	2	3	4	6	3	4	3	2	2	1	2.9	5.8
29-Nov	1	1	0	1	A	2	2	4	3	3	3	6	7	3	10	10	4	4	7	6	4	3	3	3	3.9	10.2
30-Nov	6	7	5	11	A	6	8	5	4	5	10	8	7	6	6	4	3	3	4	3	4	3	1	1	5.2	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
Beaverlodge - November 2011



Hourly Maximums

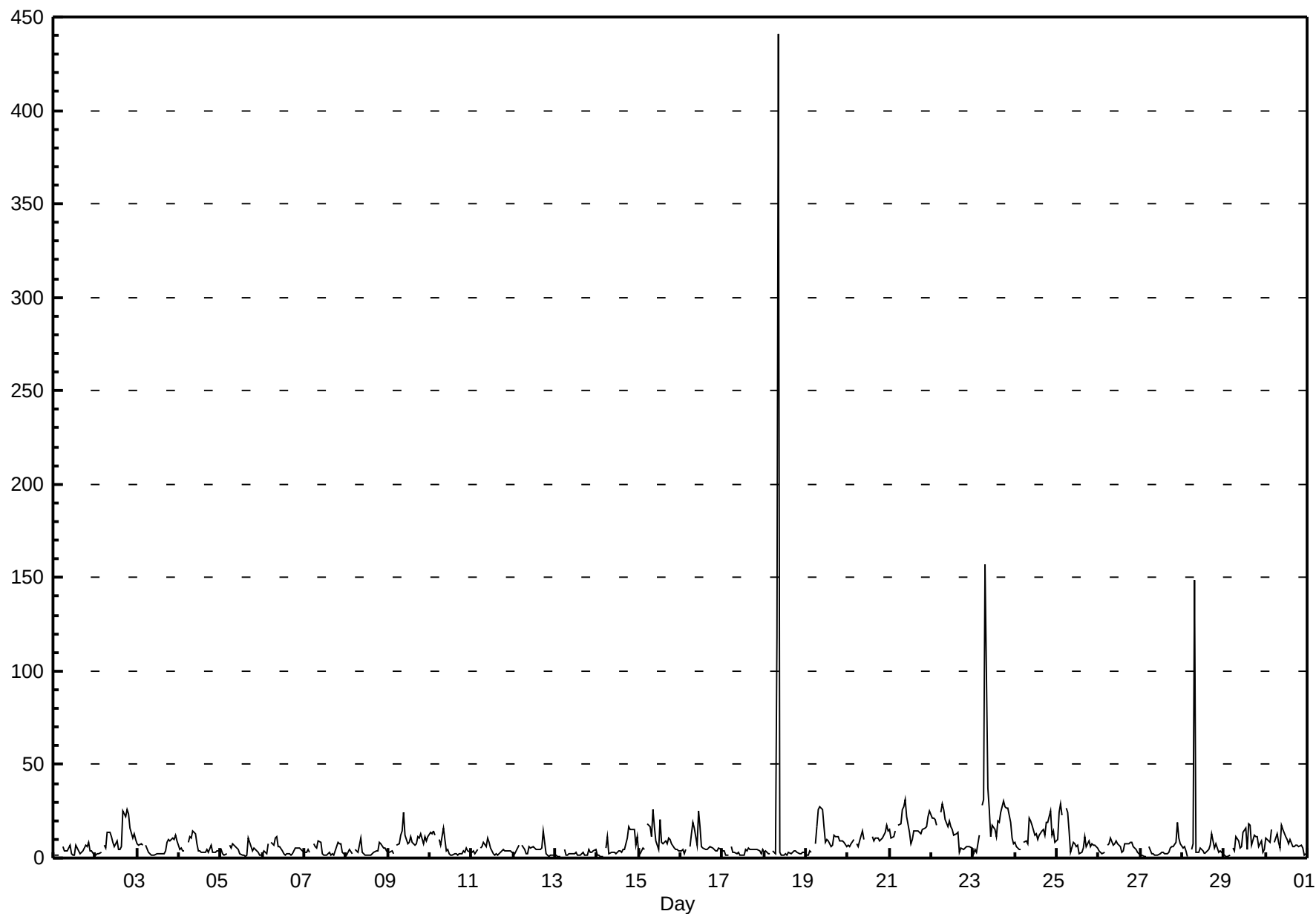
Nitrogen Dioxide (NO₂) - ppb

Beaverlodge - November 2011

Maximum Value: 440.9 ppb on Nov 18 09:00																				Maximum Daily Average: 26.8 ppb on Nov 18										Hours in Service: 720	
Minimum Value: 1 ppb on Nov 13 02:00																				Minimum Daily Average: 2.4 ppb on Nov 13										Hours of Data: 686	
Maximum Diurnal Average: 25.9 ppb at hour 9																				Minimum Diurnal Average: 4.9 ppb at hour 14										Hours of Missing Data: 34	
Monthly Average: 8.74 ppb																				Percentiles: P ₁ = 0.9 P ₁₀ = 1.8 Q ₁ = 3.0 Median = 5.5 Q ₃ = 10.3 P ₉₀ = 16.8 P ₉₉ = 30.8										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	2	1	2	1	A	6	3	4	3	7	2	2	2	7	4	2	3	4	7	6	8	3	4	2	3.7	8.0					
2-Nov	1	2	2	3	A	7	5	13	14	11	8	6	9	5	4	6	25	22	26	24	16	11	13	10	10.7	25.8					
3-Nov	8	7	8	7	A	7	3	2	2	2	2	3	2	2	2	2	4	8	10	9	10	10	12	9	5.7	12.0					
4-Nov	5	6	4	4	A	8	12	10	14	13	7	4	4	3	3	3	5	3	7	3	3	3	4	4	5.8	14.3					
5-Nov	4	2	2	2	A	7	5	8	6	6	4	2	1	2	1	2	10	6	4	5	5	3	2	1	3.9	10.4					
6-Nov	2	4	2	8	A	8	7	10	12	6	6	4	2	1	2	3	2	2	4	6	6	5	5	4	4.8	11.8					
7-Nov	3	3	4	3	A	7	6	5	9	8	2	2	2	1	3	2	2	2	6	8	8	8	3	1	4.3	9.3					
8-Nov	2	3	4	2	A	5	4	3	11	3	2	1	1	2	2	2	3	4	4	8	8	5	6	4	3.9	10.5					
9-Nov	3	3	4	3	A	7	8	12	14	24	13	7	8	12	8	7	8	11	11	13	8	11	9	11	9.3	24.3					
10-Nov	14	13	15	12	A	10	7	11	16	4	5	2	1	2	3	3	2	2	2	4	3	5	4	3	6.2	16.0					
11-Nov	3	4	2	4	A	5	6	9	6	11	8	5	2	2	2	2	2	4	5	4	4	4	4	3	4.4	11.0					
12-Nov	3	2	5	7	A	7	4	2	3	6	5	6	5	4	5	5	6	15	8	2	1	2	1	1	4.6	14.8					
13-Nov	2	1	1	1	A	5	2	2	2	2	2	2	3	2	1	2	3	2	1	4	3	3	4	5	2.4	4.8					
14-Nov	1	1	1	1	A	5	12	2	3	3	3	2	4	4	3	4	5	11	17	15	15	15	6	11	6.3	17.1					
15-Nov	2	2	5	4	A	19	17	11	26	17	9	5	20	9	8	9	8	10	10	7	5	5	4	4	9.4	26.2					
16-Nov	4	5	2	5	A	6	13	19	16	7	25	16	6	5	4	5	5	6	5	4	4	4	5	4	7.7	25.4					
17-Nov	4	4	2	2	A	6	3	3	3	3	2	2	2	5	4	5	4	4	4	4	5	4	3	5	3.5	6.0					
18-Nov	3	4	2	2	A	4	2	118	441	3	2	1	2	2	3	2	3	4	4	3	2	3	3	3	26.8	440.9					
19-Nov	2	2	4	3	A	8	17	26	27	26	17	8	10	9	6	7	12	11	12	9	9	9	8	6	10.8	27.3					
20-Nov	7	6	7	10	A	7	6	9	14	10	C	C	C	C	11	9	10	10	9	10	11	13	17	14	10.1	17.5					
21-Nov	16	11	12	14	A	17	18	26	28	31	22	14	8	10	14	15	14	14	13	15	16	17	22	25	17.0	31.3					
22-Nov	21	21	21	18	A	25	29	26	21	17	20	17	15	13	13	14	3	5	4	5	6	6	6	5	14.4	29.0					
23-Nov	3	4	3	12	A	28	31	157	37	26	11	18	15	12	20	19	25	30	27	27	27	19	11	8	24.8	157.4					
24-Nov	9	6	5	4	A	8	9	8	21	20	17	12	13	10	12	14	15	12	19	19	25	12	14	9	12.8	25.3					
25-Nov	10	24	29	23	A	27	24	15	3	8	8	6	7	2	3	5	11	6	9	6	7	7	7	6	11.0	28.9					
26-Nov	4	3	2	3	A	7	8	11	7	7	9	7	6	3	4	7	7	8	8	9	6	5	3	2	5.9	10.5					
27-Nov	2	2	1	1	A	6	3	2	2	2	2	2	3	3	2	2	3	5	6	6	8	19	11	7	4.4	19.3					
28-Nov	6	6	4	1	A	5	7	148	3	3	5	5	4	3	4	4	7	13	6	8	5	3	4	2	11.1	148.4					
29-Nov	2	1	1	2	A	5	4	11	9	5	6	14	16	4	18	17	7	12	12	12	6	9	3	5	7.9	18.0					
30-Nov	11	10	8	15	A	8	13	8	5	17	15	12	10	7	10	6	6	7	7	6	7	5	2	2	8.6	17.4					
5.3 5.4 5.5 5.9 -- 9.4 9.6 23.1 25.9 10.3 8.3 6.4 6.4 4.9 5.9 6.2 7.4 8.5 8.9 8.8 8.2 7.7 6.7 5.9																									Diurnal Average						
21.1 24.3 28.9 23.0 -- 28.2 30.9 157.4 440.9 31.3 25.4 17.9 20.3 12.5 19.8 19.0 24.9 30.4 27.5 26.6 27.1 19.3 22.0 25.2																									Diurnal Maximum						
C - Calibration					A - Automated Daily Zero Span																										

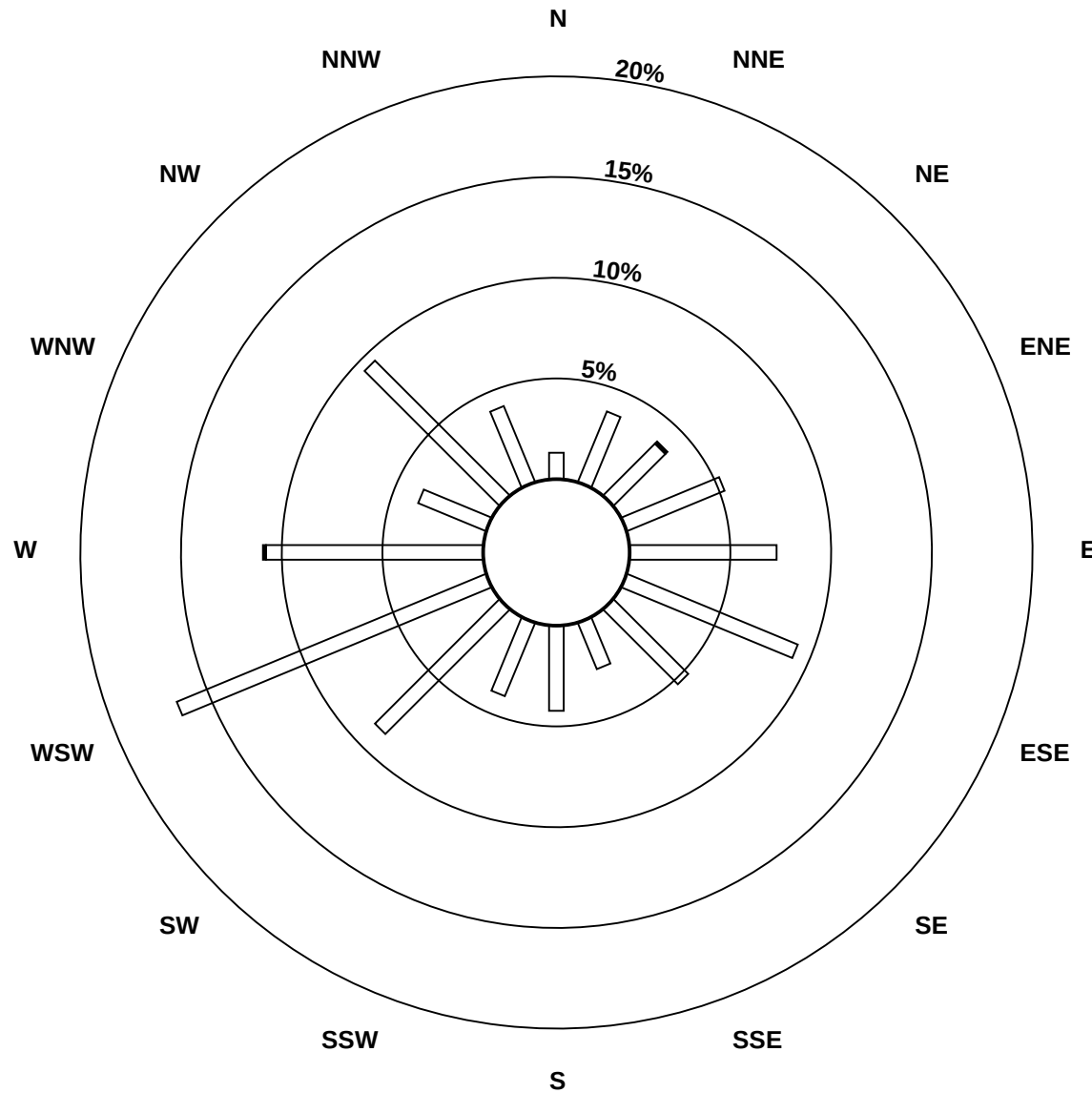
Hourly Maximums

Nitrogen Dioxide (NO₂) - ppb
Beaverlodge - November 2011

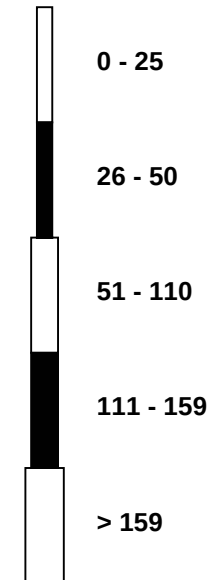


Pollutant Rose

Nitrogen Dioxide (NO₂) - ppb
Beaverlodge - November 2011

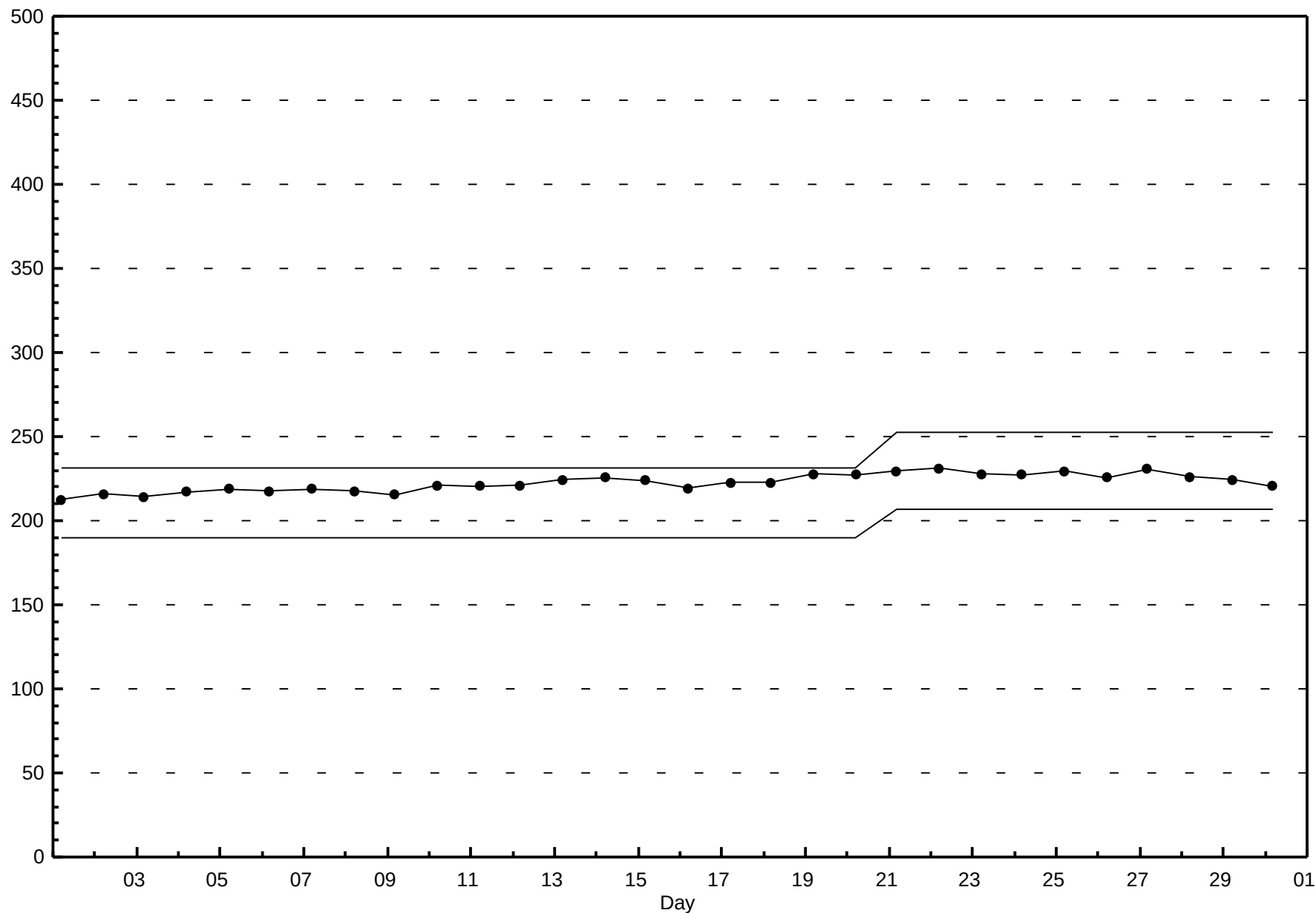


Pollutant Classes (ppb)



Span Responses

Nitrogen Dioxide (NO₂)
Beaverlodge - November 2011



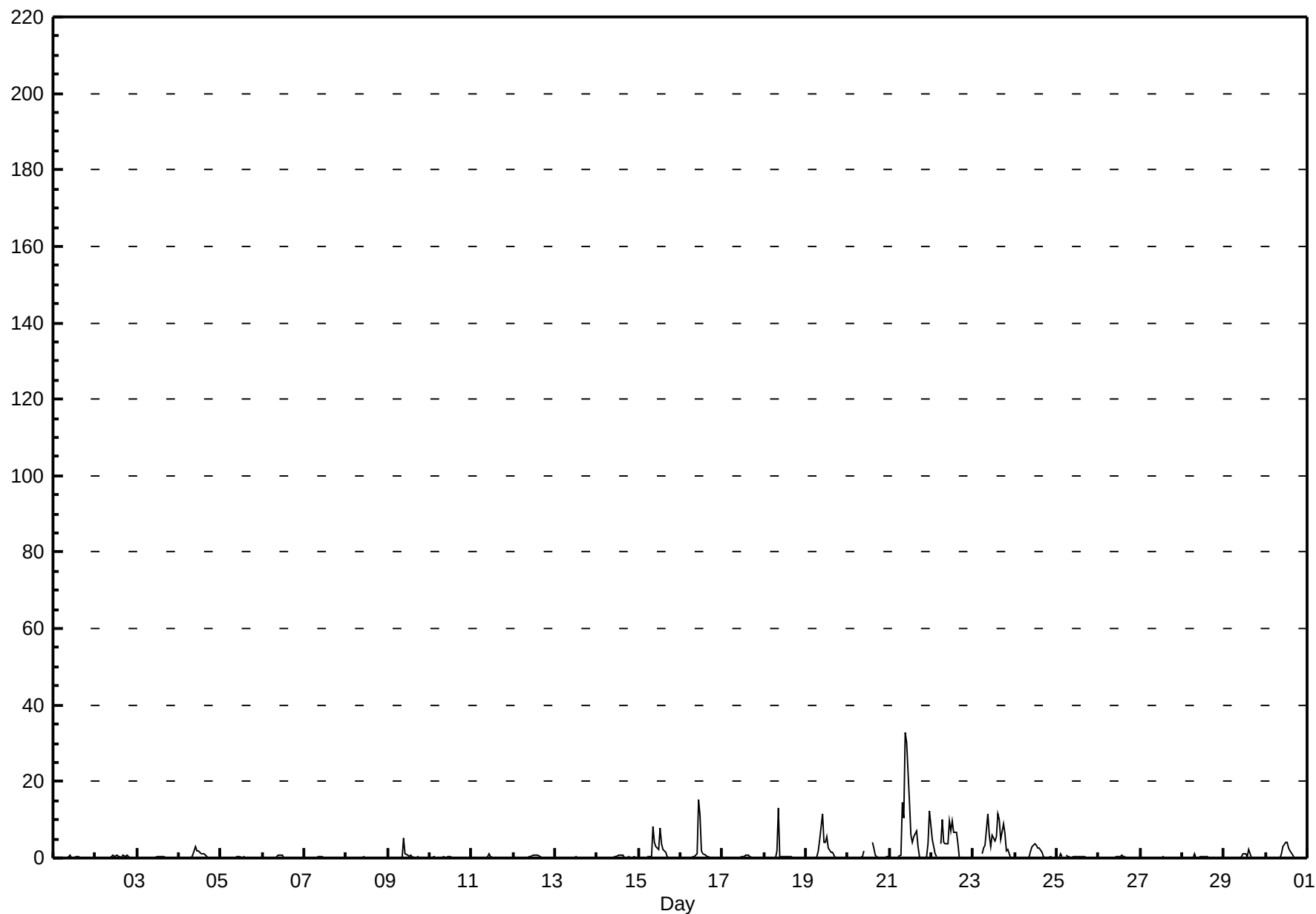
Hourly Averages

Nitrogen Oxide (NO) - ppb Beaverlodge - November 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 32.6 ppb on Nov 21 10:00 Maximum Daily Average: 6.4 ppb on Nov 21																					Hours in Service: 720 Hours of Data: 686					
Minimum Value: 0 ppb on Nov 5 02:00 Maximum Diurnal Average: 2.8 ppb at hour 11 Monthly Average: 0.84 ppb																					Minimum Daily Average: 0.1 ppb on Nov 27 Minimum Diurnal Average: 0.1 ppb at hour 4 Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.1 Q ₃ = 0.3 P ₉₀ = 2.0 P ₉₉ = 12.2		Hours of Missing Data: 34 Hours of Calibration: 34 Percent Operational Time: 100.0			
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Nov	0	0	0	0	A	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.6
2-Nov	0	0	0	0	A	0	0	0	0	1	1	0	1	0	0	0	1	0	1	0	0	0	0	0	0.2	0.8
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	0.1	0.3
4-Nov	0	0	0	0	A	0	0	0	1	3	2	2	1	1	1	1	0	0	0	0	0	0	0	0	0.5	2.9
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	0.4
6-Nov	0	0	0	0	A	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.9
7-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
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	0.2
9-Nov	0	0	0	0	A	0	0	0	0	5	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0.5	5.4
10-Nov	0	0	1	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.5
11-Nov	0	0	0	0	A	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.0
12-Nov	0	0	0	0	A	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0.2	0.9
13-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
14-Nov	0	0	0	0	A	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0.2	0.7
15-Nov	0	0	0	0	A	0	0	0	8	4	3	2	8	4	2	1	0	0	0	0	0	0	0	0	1.5	8.3
16-Nov	0	0	0	0	A	0	0	0	0	1	15	11	2	1	1	1	0	0	0	0	0	0	0	0	1.4	15.2
17-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0.2	0.9
18-Nov	0	0	0	0	A	0	0	2	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.8	13.2
19-Nov	0	0	0	0	A	0	0	2	5	12	4	4	6	3	2	1	1	0	0	0	0	0	0	0	1.7	11.7
20-Nov	0	0	0	0	A	0	0	0	0	2	C	C	C	C	4	3	1	0	0	0	0	0	0	0	0.6	4.1
21-Nov	0	0	0	0	A	0	1	15	10	33	30	15	6	4	6	7	3	0	0	0	0	0	4	12	6.4	32.6
22-Nov	5	3	1	0	A	4	10	4	4	4	10	7	10	7	7	4	0	0	0	0	0	0	0	0	3.4	10.0
23-Nov	0	0	0	0	A	1	3	3	12	6	3	6	4	5	11	10	5	9	6	2	2	0	0	0	3.9	11.7
24-Nov	0	0	0	0	A	0	0	0	0	2	3	4	3	3	3	2	0	0	0	0	0	0	0	0	0.9	3.6
25-Nov	0	0	1	0	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.9
26-Nov	0	0	0	0	A	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0.1	0.6
27-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
28-Nov	0	0	0	0	A	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.0
29-Nov	0	0	0	0	A	0	0	0	0	0	0	1	1	0	2	1	0	0	0	0	0	0	0	0	0.3	2.2
30-Nov	0	0	0	0	A	0	0	0	0	1	3	4	4	3	2	1	0	0	0	0	0	0	0	0	0.8	4.2
0.2 0.1 0.1 0.1 -- 0.2 0.5 0.9 1.9 2.6 2.8 2.1 1.8 1.3 1.5 1.2 0.5 0.4 0.3 0.1 0.1 0.1 0.2 0.5																									Diurnal Average	
5.0 3.1 0.9 0.4 -- 3.7 10.0 14.5 13.2 32.6 30.2 14.6 9.6 6.8 11.4 10.1 4.8 8.9 6.5 1.8 2.3 0.5 3.6 12.4																									Diurnal Maximum	
C - Calibration A - Automated Daily Zero Span																										

Hourly Averages

Nitrogen Oxide (NO) - ppb
Beaverlodge - November 2011



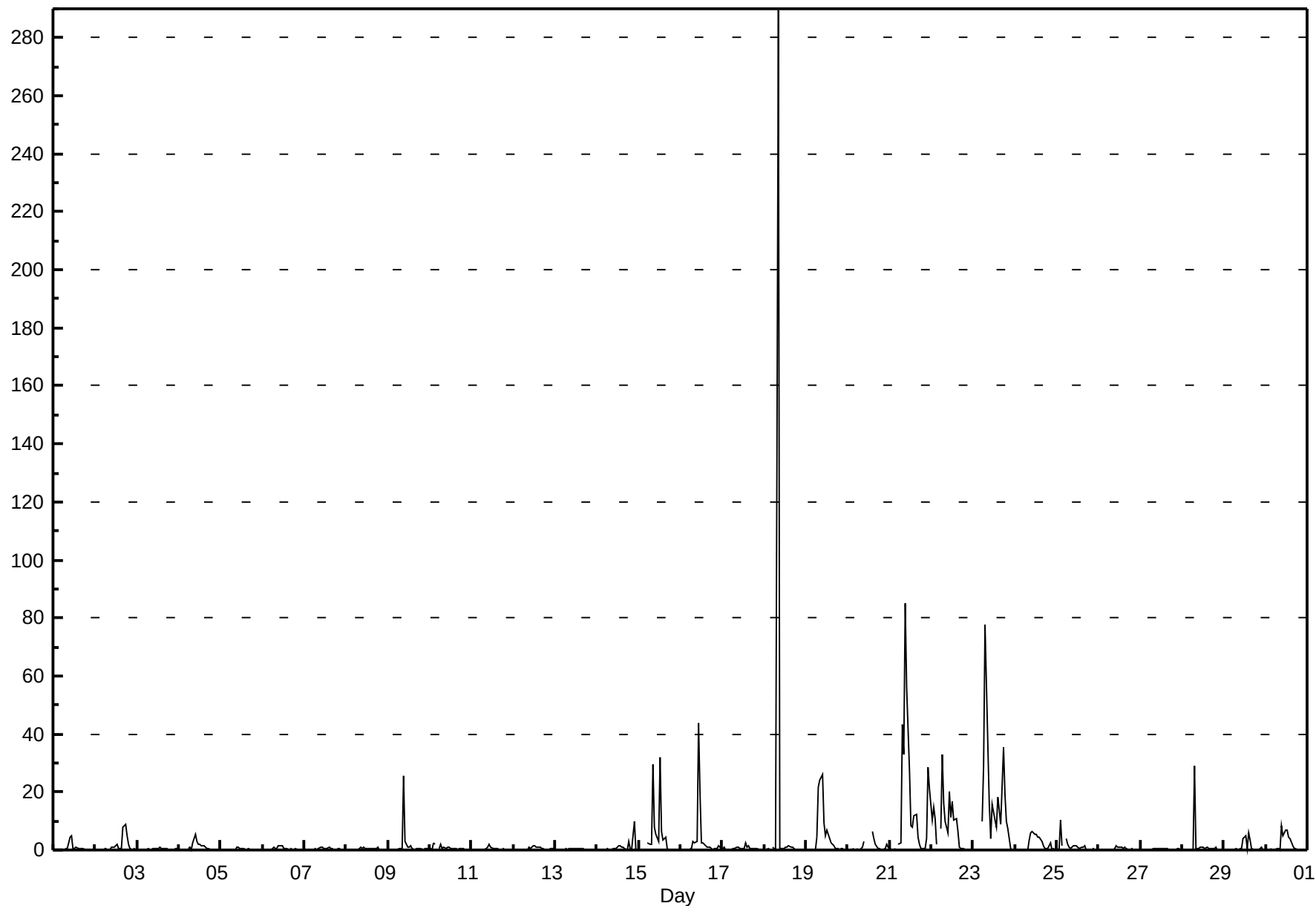
Hourly Maximums

Nitrogen Oxide (NO) - ppb Beaverlodge - November 2011

Maximum Value: 289.7 ppb on Nov 18 09:00																				Maximum Daily Average: 18.9 ppb on Nov 18										Hours in Service: 720	
Minimum Value: 0 ppb on Nov 26 03:00																				Minimum Daily Average: 0.3 ppb on Nov 5										Hours of Data: 686	
Maximum Diurnal Average: 14.6 ppb at hour 9																				Minimum Diurnal Average: 0.3 ppb at hour 4										Hours of Missing Data: 34	
Monthly Average: 2.96 ppb																				Percentiles: P ₁ = 0.1 P ₁₀ = 0.1 Q ₁ = 0.2 Median = 0.4 Q ₃ = 1.0 P ₉₀ = 5.5 P ₉₉ = 42.9										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	0	0	0	A	0	0	0	0	4	5	1	1	1	1	0	1	0	0	0	0	0	0	0	0.7	5.0					
2-Nov	0	0	0	0	A	0	0	0	0	1	1	1	2	1	0	0	8	9	5	2	1	0	0	0	1.4	8.8					
3-Nov	0	0	0	0	A	0	0	0	0	0	0	1	1	1	0	0	1	0	0	0	0	0	0	0	0.3	0.8					
4-Nov	0	0	0	0	A	0	1	0	2	6	3	2	2	1	1	1	1	0	0	0	0	0	0	0	1.0	5.6					
5-Nov	0	0	0	0	A	0	0	0	0	1	1	1	1	0	0	0	1	0	0	0	0	0	0	0	0.3	1.0					
6-Nov	0	0	0	0	A	0	1	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0.4	1.3					
7-Nov	0	0	0	0	A	0	0	0	1	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0.4	1.1					
8-Nov	0	0	0	0	A	0	0	0	1	0	1	0	0	1	0	0	0	1	1	0	0	0	0	0	0.3	0.9					
9-Nov	0	0	0	0	A	0	0	0	1	26	3	1	1	1	1	0	0	1	0	0	0	0	0	0	1.6	25.7					
10-Nov	1	0	2	2	A	0	2	1	1	1	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0.7	2.2					
11-Nov	0	0	0	0	A	0	0	0	0	1	2	1	0	0	0	1	0	0	0	0	0	0	0	0	0.4	1.7					
12-Nov	0	0	0	0	A	0	0	0	0	1	1	1	1	1	1	1	0	1	0	0	0	0	0	0	0.5	1.4					
13-Nov	0	0	0	0	A	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0.3	0.6					
14-Nov	0	0	0	0	A	0	0	0	0	0	1	1	2	2	1	1	0	0	3	1	0	10	0	0	1.0	9.7					
15-Nov	0	0	0	0	A	2	2	2	29	8	5	3	32	7	4	4	1	0	0	0	0	0	0	0	4.4	32.1					
16-Nov	0	0	0	0	A	0	1	3	2	3	44	20	3	2	2	1	1	1	0	0	1	1	1	1	3.7	43.5					
17-Nov	1	1	0	0	A	0	0	0	1	1	0	0	1	3	1	1	1	0	0	0	1	0	0	0	0.6	2.7					
18-Nov	0	0	1	0	A	1	0	136	290	1	0	1	1	1	1	1	1	0	0	0	0	0	0	0	18.9	289.7					
19-Nov	0	0	0	0	A	0	4	22	24	26	9	5	7	6	3	2	1	0	0	0	0	0	0	0	4.8	26.1					
20-Nov	0	0	0	1	A	1	0	0	1	3	C	C	C	C	6	4	2	0	0	0	0	0	2	1	1.2	6.2					
21-Nov	1	0	0	0	A	2	2	43	33	85	56	27	8	8	12	12	4	2	0	0	0	4	28	21	15.3	84.8					
22-Nov	10	15	11	2	A	7	33	16	10	6	20	11	17	10	11	7	1	0	1	0	0	0	0	0	8.2	32.7					
23-Nov	0	0	0	0	A	10	29	78	36	16	4	16	10	8	18	14	9	35	19	10	7	0	0	0	13.9	77.8					
24-Nov	0	0	0	0	A	0	0	0	4	6	7	5	5	4	5	3	1	0	1	0	3	0	0	0	2.0	6.6					
25-Nov	0	0	10	1	A	4	2	1	0	2	2	1	1	1	1	1	1	0	0	0	0	0	0	0	1.3	10.4					
26-Nov	0	0	0	0	A	0	0	0	0	0	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0.4	1.3					
27-Nov	0	0	0	0	A	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	0	0	0.3	0.7					
28-Nov	0	0	0	0	A	0	0	29	1	0	1	1	1	1	1	0	0	1	0	1	0	0	0	0	1.7	28.9					
29-Nov	0	0	0	0	A	0	0	1	0	0	1	4	5	1	6	3	0	0	0	0	0	1	0	0	1.0	5.9					
30-Nov	1	0	0	1	A	0	0	1	0	8	5	7	7	4	4	1	0	0	0	0	0	0	0	0	1.8	8.2					
0.5		0.6	0.9	0.3	--	1.0	2.7	11.2	14.6	7.0	6.1	4.0	3.8	2.3	2.8	2.1	1.3	1.8	1.1	0.6	0.5	0.7	1.2	0.9	Diurnal Average						
10.3		14.7	10.7	2.2	--	9.8	32.7	136.0	289.7	84.8	56.1	27.4	32.1	10.3	18.1	13.6	8.8	35.3	19.4	10.1	7.3	9.7	28.5	21.1	Diurnal Maximum						
C - Calibration					A - Automated Daily Zero Span																										

Hourly Maximums

Nitrogen Oxide (NO) - ppb
Beaverlodge - November 2011



Hourly Averages

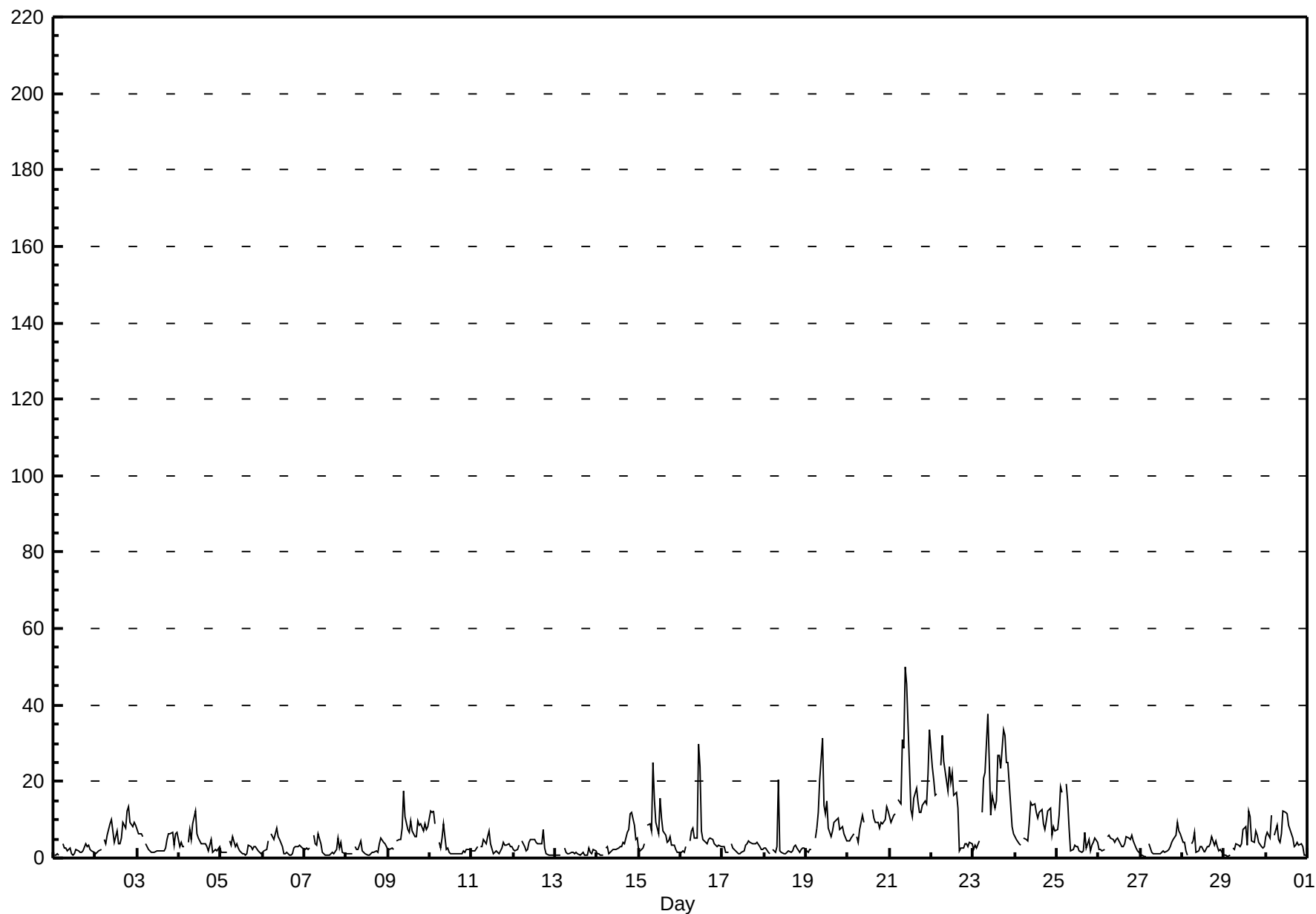
Oxides of Nitrogen (NO_x) - ppb

Beaverlodge - November 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 49.9 ppb on Nov 21 10:00 Maximum Daily Average: 19.4 ppb on Nov 21																					Hours in Service: 720 Hours of Data: 686					
Minimum Value: 0 ppb on Nov 27 04:00 Maximum Diurnal Average: 8.9 ppb at hour 9 Monthly Average: 5.72 ppb																					Hours of Missing Data: 34 Hours of Calibration: 34 Percent Operational Time: 100.0					
Minimum Daily Average: 1.3 ppb on Nov 13 Minimum Diurnal Average: 3.9 ppb at hour 3 Percentiles: P ₁ = 0.6 P ₁₀ = 1.2 Q ₁ = 1.9 Median = 3.6 Q ₃ = 7.0 P ₉₀ = 12.5 P ₉₉ = 32.2																										
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	1	1	1	1	A	4	3	2	2	3	1	1	1	2	2	1	1	2	4	3	3	2	2	1	1.9	3.8
2-Nov	1	1	2	2	A	5	4	6	9	10	7	4	7	4	4	5	9	8	12	14	9	8	9	9	6.5	13.6
3-Nov	8	7	6	6	A	4	2	2	1	1	1	2	2	2	2	2	2	5	6	6	7	3	6	7	3.9	7.5
4-Nov	3	4	3	3	A	4	7	5	9	12	6	5	4	4	4	4	3	2	5	2	2	2	2	3	4.2	12.1
5-Nov	2	2	1	1	A	4	3	6	3	4	3	2	1	1	1	1	3	3	2	3	3	2	1	1	2.3	5.8
6-Nov	2	2	2	5	A	6	5	6	8	6	5	3	1	1	1	1	1	1	3	3	3	3	3	3	3.2	7.8
7-Nov	2	3	2	3	A	6	4	3	6	4	2	1	1	1	1	1	1	1	2	5	3	4	2	1	2.5	6.4
8-Nov	1	1	1	1	A	3	2	2	4	2	1	1	1	1	1	2	1	2	2	4	5	4	4	3	2.2	5.0
9-Nov	2	2	2	2	A	5	5	5	8	17	11	8	7	10	7	6	6	10	8	9	7	9	7	8	7.0	17.4
10-Nov	12	12	12	9	A	4	3	5	9	2	3	1	1	1	1	1	1	1	1	2	2	2	2	2	4.0	12.2
11-Nov	2	2	2	3	A	3	3	5	4	6	7	4	1	1	2	1	1	3	4	3	3	4	3	3	3.0	7.0
12-Nov	2	2	2	4	A	4	3	2	2	4	5	5	5	4	4	4	4	8	3	1	1	1	1	1	3.0	7.5
13-Nov	1	1	1	1	A	3	1	1	1	1	2	1	2	1	1	1	2	1	1	2	2	1	2	2	1.3	2.7
14-Nov	1	1	1	1	A	3	3	1	2	2	2	2	3	3	3	4	4	7	7	12	12	8	5	5	4.0	11.9
15-Nov	2	2	2	4	A	9	9	7	25	15	9	6	15	10	7	6	4	4	6	3	3	2	2	1	6.7	24.9
16-Nov	2	2	1	3	A	5	7	8	5	5	30	24	7	5	4	4	5	5	5	4	3	3	3	3	6.2	29.7
17-Nov	3	3	1	2	A	4	3	2	1	1	1	1	2	3	4	4	4	4	4	4	4	3	2	2	2.7	4.3
18-Nov	3	3	1	1	A	2	1	3	21	2	1	1	1	1	2	2	2	3	3	3	2	2	3	2	2.8	20.5
19-Nov	2	2	2	2	A	5	8	12	20	31	14	11	15	8	6	7	9	10	10	8	8	8	6	4	9.1	31.2
20-Nov	4	5	5	6	A	5	4	8	11	9	C	C	C	C	13	10	9	9	8	9	9	10	14	12	8.5	13.6
21-Nov	11	9	11	12	A	15	14	31	29	50	46	24	13	11	16	18	15	12	12	14	15	14	22	34	19.4	49.9
22-Nov	24	21	16	17	A	24	32	25	23	17	24	20	22	17	17	13	2	3	3	4	4	3	4	4	14.7	32.2
23-Nov	2	3	3	4	A	12	21	22	38	25	11	16	13	15	27	27	24	34	32	25	25	14	8	6	17.7	37.7
24-Nov	5	5	4	3	A	5	5	5	9	14	14	14	12	10	12	13	9	7	10	12	13	6	8	7	8.8	14.4
25-Nov	7	11	19	17	A	19	15	8	2	2	4	3	3	2	2	2	7	2	5	2	3	4	5	4	6.4	19.3
26-Nov	2	2	2	2	A	5	6	5	5	4	5	5	4	3	3	4	6	5	5	6	5	3	2	1	3.9	6.2
27-Nov	1	1	0	0	A	4	2	1	1	1	1	1	1	2	2	2	2	3	4	5	6	9	7	6	2.7	9.2
28-Nov	4	4	2	1	A	4	5	7	2	2	3	3	2	2	3	3	4	6	3	5	3	2	2	1	3.0	6.8
29-Nov	1	1	1	1	A	2	2	4	3	3	4	7	8	4	12	11	4	4	7	6	4	3	3	3	4.2	12.4
30-Nov	6	7	5	11	A	6	9	5	4	6	12	12	11	8	7	5	3	3	4	4	4	3	1	1	6.0	12.4
4.0 4.0 3.9 4.2 -- 6.2 6.4 6.8 8.9 8.8 8.0 6.5 5.8 4.7 5.6 5.5 5.0 5.6 6.0 6.0 5.7 4.8 4.7 4.7																								Diurnal Average		
23.9 20.6 18.5 17.1 -- 24.4 32.2 30.9 37.7 49.9 45.6 23.8 22.3 16.5 26.7 26.9 23.7 33.6 32.2 24.9 24.8 14.3 22.1 33.6																								Diurnal Maximum		
C - Calibration A - Automated Daily Zero Span																										

Hourly Averages

Oxides of Nitrogen (NO_x) - ppb
Beaverlodge - November 2011



Hourly Maximums

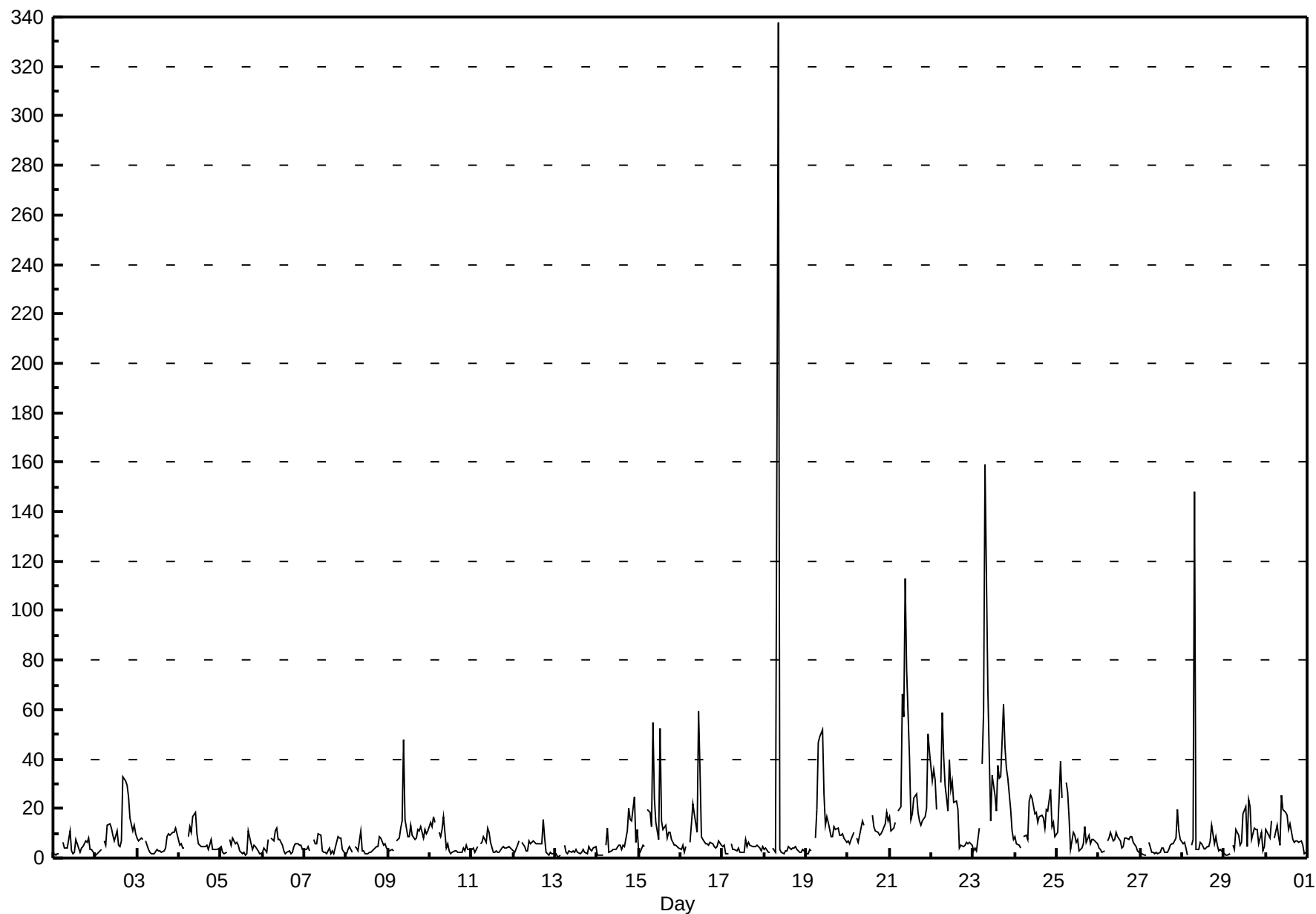
Oxides of Nitrogen (NO_x) - ppb

Beaverlodge - November 2011

Maximum Value: 337.5 ppb on Nov 18 09:00																					Maximum Daily Average: 34.6 ppb on Nov 23										Hours in Service: 720	
Minimum Value: 1 ppb on Nov 13 02:00																					Minimum Daily Average: 2.6 ppb on Nov 13										Hours of Data: 686	
Maximum Diurnal Average: 27.8 ppb at hour 8																					Minimum Diurnal Average: 5.7 ppb at hour 1										Hours of Missing Data: 34	
Monthly Average: 10.66 ppb																					Percentiles: P ₁ = 1.1 P ₁₀ = 2.2 Q ₁ = 3.3 Median = 5.8 Q ₃ = 11.0 P ₉₀ = 20.0 P ₉₉ = 65.3										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	2	1	2	2	A	7	4	4	4	11	3	2	2	7	4	3	4	4	7	6	8	3	4	2	4.2	11.0						
2-Nov	1	2	2	3	A	7	5	14	14	12	9	7	11	5	5	7	33	31	30	25	16	11	14	10	11.9	32.7						
3-Nov	8	7	8	7	A	7	3	2	2	2	3	3	3	2	3	4	9	10	10	11	10	12	10	10	6.0	12.2						
4-Nov	5	6	4	4	A	9	12	10	17	18	10	6	5	5	4	4	5	3	7	3	3	3	4	4	6.6	18.3						
5-Nov	5	2	2	2	A	7	5	8	6	7	5	3	2	2	1	2	11	6	4	5	5	3	2	1	4.2	11.0						
6-Nov	2	4	2	8	A	8	7	11	12	7	8	5	3	2	2	3	2	2	4	6	6	5	5	4	5.2	12.3						
7-Nov	3	3	4	3	A	8	6	5	10	9	3	2	2	2	4	2	3	2	6	9	8	8	3	2	4.7	9.9						
8-Nov	2	3	4	2	A	5	4	3	11	3	3	2	2	2	3	4	4	5	8	8	5	6	4	4	4.1	11.0						
9-Nov	3	3	4	3	A	7	8	12	15	48	15	8	9	13	9	7	8	12	11	13	8	12	10	11	10.8	47.6						
10-Nov	14	13	17	14	A	10	9	12	17	4	6	3	2	3	3	3	2	2	2	4	3	5	4	4	6.7	16.8						
11-Nov	3	4	2	4	A	6	6	9	6	12	10	7	2	2	3	2	3	4	5	4	4	4	4	3	4.8	12.3						
12-Nov	3	2	5	7	A	7	4	3	3	7	6	7	6	6	6	6	6	16	8	2	1	2	2	2	5.1	15.5						
13-Nov	2	1	1	1	A	5	2	2	3	2	3	2	3	2	2	2	4	2	2	4	3	3	4	5	2.6	4.9						
14-Nov	1	1	1	1	A	5	12	2	3	3	3	3	5	5	4	5	5	11	20	16	15	25	7	11	7.2	25.0						
15-Nov	2	2	5	4	A	20	18	13	55	24	15	8	53	15	11	13	8	11	10	7	5	5	4	4	13.6	54.6						
16-Nov	4	5	2	5	A	6	14	22	18	10	59	36	8	8	6	5	5	7	5	5	4	5	7	5	10.9	59.2						
17-Nov	4	5	2	2	A	6	3	3	3	4	2	2	2	8	4	6	5	4	5	5	5	4	3	5	4.0	7.5						
18-Nov	3	4	2	2	A	4	2	170	338	4	2	2	3	3	4	3	4	4	4	3	2	3	3	3	24.9	337.5						
19-Nov	2	2	4	3	A	8	20	47	49	52	26	13	17	15	9	8	13	12	12	9	9	10	8	6	15.3	51.8						
20-Nov	7	6	7	10	A	8	6	9	15	13	C	C	C	C	17	13	11	10	9	10	11	14	18	15	11.1	18.3						
21-Nov	17	11	12	15	A	19	20	66	57	113	76	41	16	18	24	26	19	15	13	15	17	20	50	43	31.4	112.9						
22-Nov	31	35	32	20	A	31	59	41	29	19	40	28	31	23	23	20	4	5	4	5	6	6	6	5	21.9	58.7						
23-Nov	3	4	3	12	A	38	59	159	68	41	15	33	25	19	38	32	33	62	45	36	33	19	11	8	34.6	159.0						
24-Nov	9	6	5	4	A	8	9	8	23	25	24	18	18	14	17	17	16	12	19	19	28	13	14	9	14.6	27.8						
25-Nov	10	24	39	24	A	31	26	16	4	10	9	6	7	3	4	6	13	6	9	6	7	7	7	6	12.2	39.0						
26-Nov	4	3	2	3	A	7	8	11	7	7	10	9	7	4	4	8	8	8	8	9	6	5	3	2	6.2	10.5						
27-Nov	2	2	1	1	A	6	3	2	2	2	2	2	4	4	2	3	4	5	6	6	8	20	11	7	4.6	19.9						
28-Nov	6	6	4	1	A	5	7	148	4	4	6	6	5	3	5	5	7	13	6	8	5	3	4	2	11.4	148.3						
29-Nov	2	1	1	2	A	5	4	12	9	5	6	18	21	5	24	21	7	12	12	12	6	10	3	5	8.8	23.8						
30-Nov	11	10	8	15	A	8	13	9	5	25	20	18	17	12	14	7	6	7	7	6	7	5	2	3	10.3	25.2						
5.7 6.0 6.3 6.2 -- 10.2 12.0 27.8 26.9 16.8 13.8 10.3 10.1 7.3 8.6 8.2 8.5 10.1 9.9 9.3 8.6 8.3 7.8 6.7																									Diurnal Average							
31.3 35.5 39.0 24.1 -- 37.9 59.5 169.7 337.5 112.9 76.3 41.0 52.5 22.7 37.7 32.1 33.0 62.0 45.2 36.5 32.5 25.0 50.4 43.2																									Diurnal Maximum							
C - Calibration					A - Automated Daily Zero Span																											

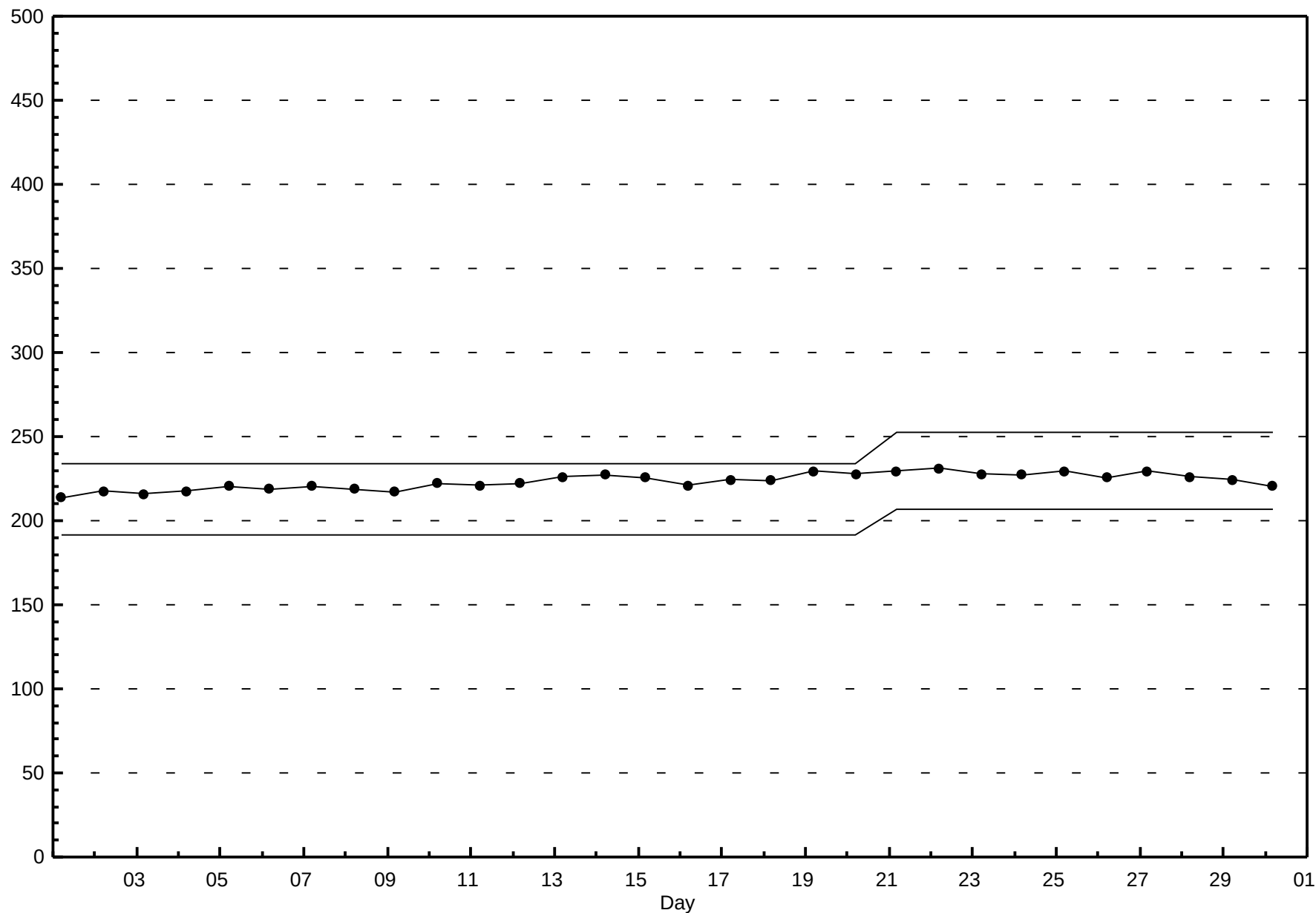
Hourly Maximums

Oxides of Nitrogen (NO_x) - ppb
Beaverlodge - November 2011



Span Responses

Oxides of Nitrogen (NO_x)
Beaverlodge - November 2011



Hourly Averages

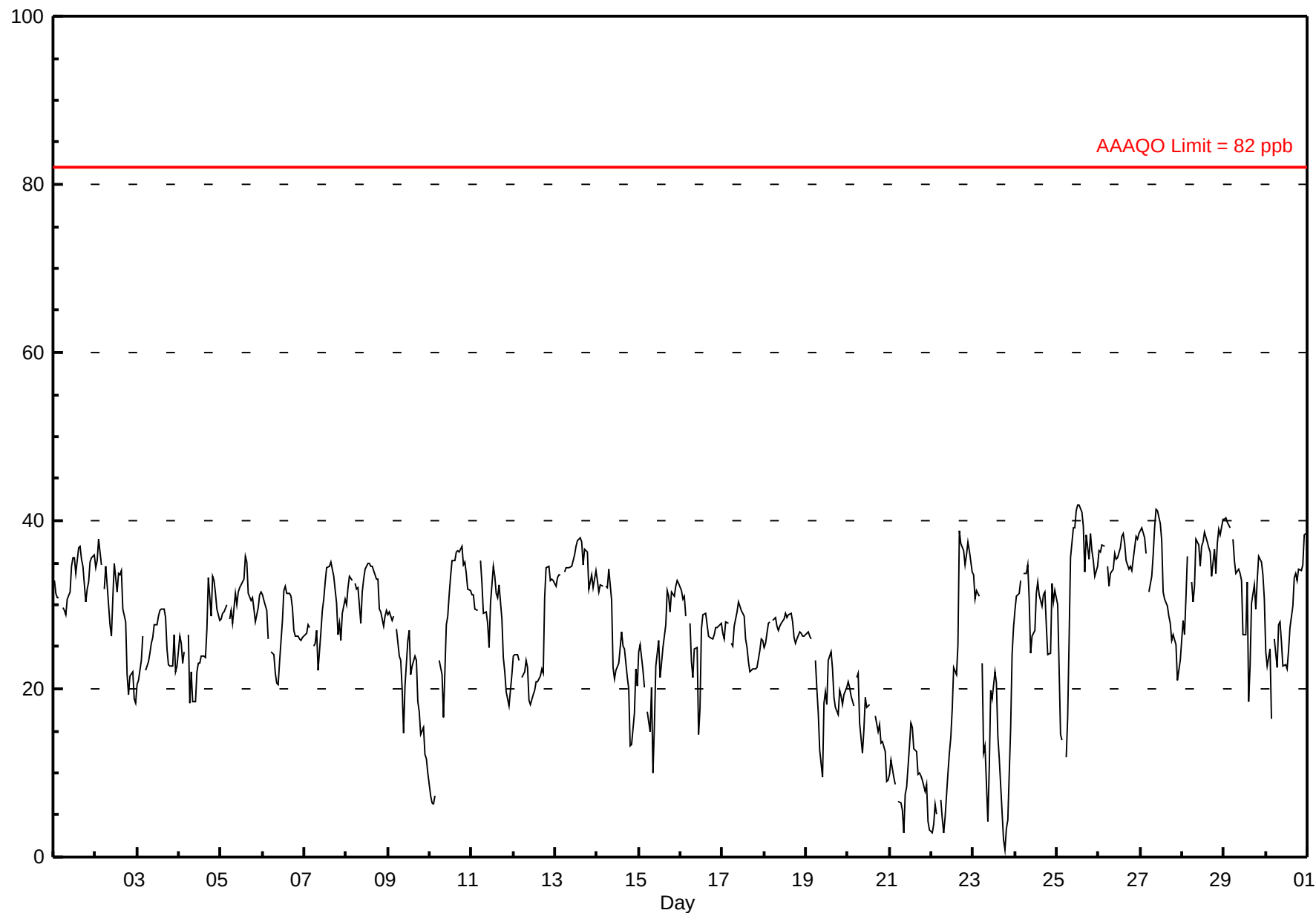
Ozone (O₃) - ppb

Beaverlodge - November 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 41.8 ppb on Nov 25 13:00 Maximum Daily Average: 36.0 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: 1 ppb on Nov 23 19:00 Maximum Diurnal Average: 29.6 ppb at hour 14 Monthly Average: 26.88 ppb												Minimum Daily Average: 9.1 ppb on Nov 21 Minimum Diurnal Average: 24.2 ppb at hour 9 Percentiles: P ₁ = 3.6 P ₁₀ = 14.8 Q ₁ = 22.4 Median = 28.0 Q ₃ = 33.0 P ₉₀ = 36.0 P ₉₉ = 40.1														
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	33	31	31	31	A	30	29	29	31	32	35	36	36	34	37	37	35	35	30	32	33	35	36	36	33.1	37.0
2-Nov	34	35	38	35	A	32	35	32	28	26	31	35	32	34	33	34	29	28	22	19	21	22	19	18	29.2	37.8
3-Nov	21	21	23	26	A	22	23	24	25	26	28	28	29	29	29	29	25	23	23	23	27	22	23	25.1	29.5	
4-Nov	26	25	23	24	A	26	18	22	19	18	22	23	23	24	24	24	27	33	29	33	33	31	29	28	25.5	33.4
5-Nov	28	29	29	30	A	28	29	28	31	30	32	32	33	33	36	35	31	31	31	29	28	30	31	31	30.7	35.8
6-Nov	31	31	29	26	A	24	24	22	21	21	23	28	32	32	31	31	31	30	27	26	26	26	26	26	27.2	32.1
7-Nov	26	27	28	27	A	25	25	27	22	27	29	31	33	34	35	35	34	33	30	26	28	26	29	31	29.1	35.1
8-Nov	30	32	33	33	A	33	32	32	28	32	33	34	35	35	35	34	33	33	29	29	28	29	29	29	31.9	34.9
9-Nov	29	29	28	29	A	27	24	23	20	15	20	26	27	22	23	24	23	19	17	15	15	12	12	10	21.2	29.1
10-Nov	7	6	6	7	A	23	23	22	17	28	29	31	33	35	35	36	36	36	37	35	35	34	32	32	26.8	36.9
11-Nov	31	31	29	29	A	35	33	29	29	28	25	30	35	33	31	31	32	28	24	22	20	18	20	22	28.1	35.3
12-Nov	24	24	24	23	A	21	22	23	23	19	18	19	20	21	21	21	22	22	31	34	35	33	33	33	24.6	34.6
13-Nov	32	33	34	34	A	34	34	34	34	35	35	36	37	38	38	37	35	37	36	32	33	33	32	34	34.7	38.0
14-Nov	33	32	32	32	A	32	32	34	31	23	21	22	23	25	27	25	25	21	20	13	13	17	22	20	25.1	34.2
15-Nov	24	25	22	20	A	17	15	20	10	16	23	26	21	23	25	28	32	31	29	32	31	32	33	32	24.7	33.0
16-Nov	32	31	31	29	A	28	23	21	25	25	15	18	27	29	29	28	26	26	26	27	27	27	27	28	26.2	31.7
17-Nov	27	26	28	28	A	25	25	27	29	30	30	29	29	26	25	23	22	22	22	22	23	25	26	26	25.9	30.4
18-Nov	25	25	28	28	A	28	29	27	27	27	28	28	29	29	29	29	28	26	25	26	27	27	26	26	27.3	29.0
19-Nov	27	27	26	26	A	23	20	17	13	10	18	20	18	23	24	22	19	18	17	20	19	18	19	20	20.2	26.8
20-Nov	21	20	19	18	A	21	22	16	12	15	19	18	18	C	C	C	17	15	16	14	14	13	9	9	16.3	21.8
21-Nov	10	12	9	9	A	7	6	6	3	7	8	13	16	15	13	13	10	10	10	9	8	9	4	3	9.1	15.9
22-Nov	3	4	6	5	A	7	5	3	5	10	12	14	18	23	22	25	39	37	36	35	36	37	36	34	19.6	38.9
23-Nov	34	31	32	31	A	23	12	13	4	11	20	19	22	21	14	12	9	2	1	3	4	15	24	27	16.7	33.6
24-Nov	29	31	31	33	A	34	34	35	31	24	26	27	31	33	31	30	31	31	28	24	24	33	30	32	30.1	34.7
25-Nov	30	22	15	14	A	12	17	26	36	39	39	41	42	42	41	39	34	38	35	38	36	35	33	35	32.2	41.8
26-Nov	37	36	37	37	A	35	32	34	34	36	35	36	37	38	39	37	35	34	34	34	35	38	38	39	36.0	38.5
27-Nov	39	39	38	36	A	32	33	36	39	41	41	40	38	31	31	30	29	28	26	26	25	21	22	23	32.4	41.4
28-Nov	28	26	31	36	A	33	30	32	38	37	35	37	37	39	37	37	36	33	37	34	37	39	38	40	35.1	40.2
29-Nov	40	40	40	39	A	38	35	34	34	34	33	26	26	33	19	23	30	32	29	33	36	35	33	31	32.8	40.3
30-Nov	24	23	25	16	A	26	23	28	28	26	23	23	22	25	27	30	33	34	33	34	34	35	38	38	28.1	38.4
27.2 26.8 26.9 26.4 -- 26.1 24.8 25.2 24.2 24.9 26.2 27.5 28.6 29.6 29.0 29.0 28.5 27.6 26.5 26.0 26.3 27.0 27.0 27.2																								Diurnal Average		
40.2 40.3 39.8 39.2 -- 37.8 35.3 35.9 39.1 41.4 41.2 41.3 41.8 41.8 41.1 39.3 38.9 38.3 36.9 38.4 37.3 39.0 38.3 40.2																								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 2011



Hourly Maximums

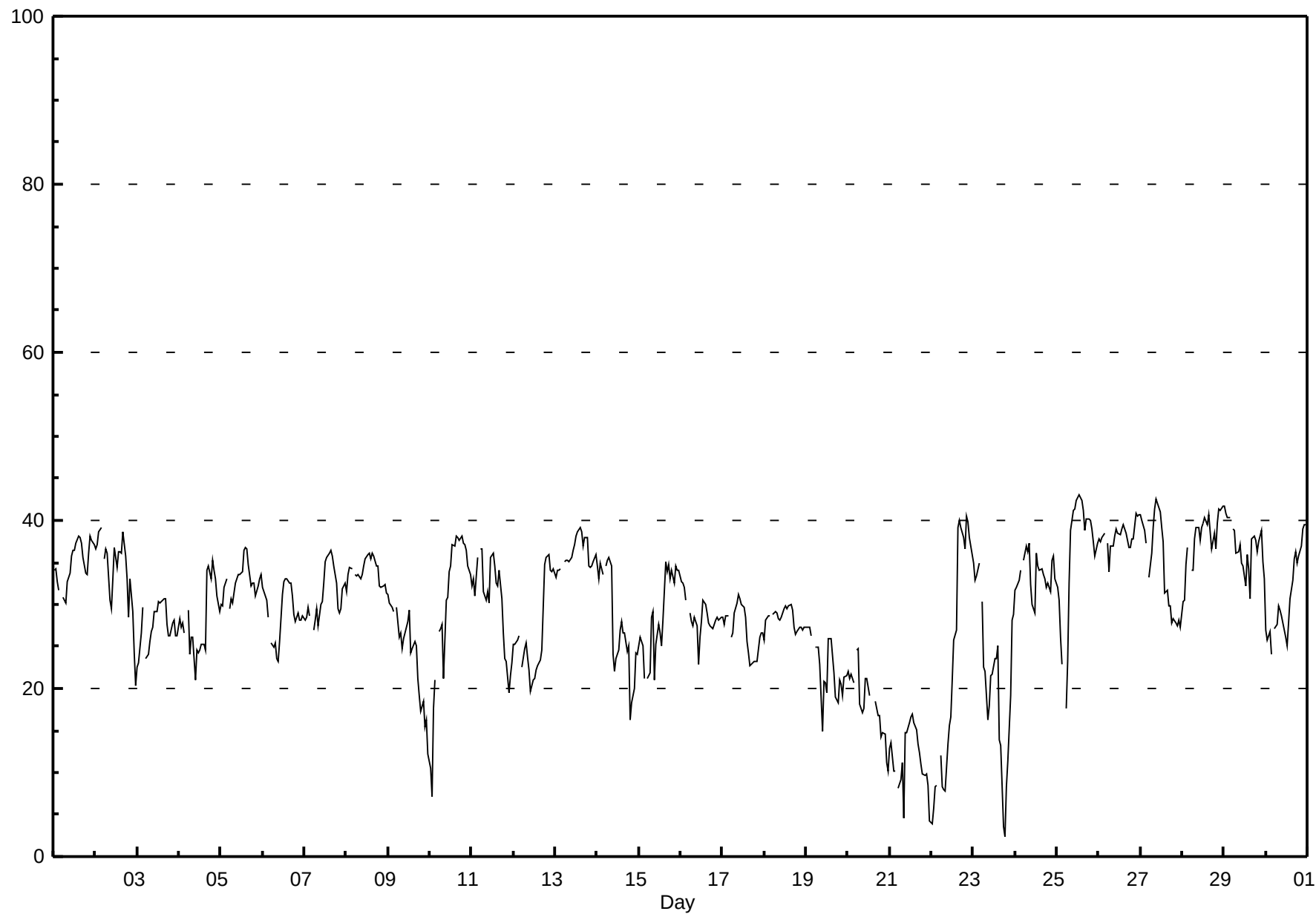
Ozone (O₃) - ppb

Beaverlodge - November 2011

Maximum Value: 43.1 ppb on Nov 25 14:00																				Maximum Daily Average: 38.2 ppb on Nov 26					Hours in Service: 720	
Minimum Value: 2 ppb on Nov 23 19:00																				Minimum Daily Average: 11.7 ppb on Nov 21					Hours of Data: 687	
Maximum Diurnal Average: 31.7 ppb at hour 14																				Minimum Diurnal Average: 28.1 ppb at hour 7					Hours of Missing Data: 33	
Monthly Average: 29.49 ppb																				Percentiles: P ₁ = 7.7 P ₁₀ = 19.1 Q ₁ = 25.5 Median = 30.4 Q ₃ = 35.3 P ₉₀ = 38.2 P ₉₉ = 41.5					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	34	34	33	32	A	31	31	30	33	34	36	36	37	38	38	37	36	34	34	36	38	38	37	34.9	38.2	
2-Nov	37	37	39	39	A	35	37	36	30	30	33	37	34	36	36	39	36	33	28	33	29	24	20	33.7	39.1	
3-Nov	23	23	27	30	A	24	24	26	27	27	29	29	30	30	31	31	28	26	26	28	28	26	26	27.3	30.7	
4-Nov	28	27	28	27	A	29	24	26	26	21	25	24	25	25	25	34	35	33	35	34	33	31	29	28.2	35.3	
5-Nov	30	30	32	33	A	30	31	30	33	33	34	34	34	37	37	37	35	32	33	33	31	32	33	34	32.8	36.8
6-Nov	32	31	30	28	A	25	25	25	23	23	26	31	33	33	33	33	31	29	28	29	28	28	29	29.0	33.0	
7-Nov	28	28	30	29	A	27	28	29	27	30	30	32	35	36	36	36	36	35	33	30	29	30	32	33	31.2	36.4
8-Nov	31	34	34	34	A	33	33	34	33	34	34	35	36	36	35	36	36	35	35	32	32	32	32	31	33.9	36.0
9-Nov	31	30	30	29	A	30	26	27	25	26	27	28	29	24	25	26	25	21	19	17	18	15	16	12	24.2	31.1
10-Nov	10	7	18	21	A	27	27	28	21	31	31	34	35	37	37	38	38	38	38	37	37	36	35	34	30.2	38.1
11-Nov	32	33	31	36	A	37	37	32	31	32	30	36	36	35	33	32	34	31	27	24	23	19	21	23	30.5	36.6
12-Nov	25	25	26	26	A	23	25	25	24	22	20	21	21	22	23	23	25	30	35	36	36	34	34	34	26.7	35.9
13-Nov	33	34	34	34	A	35	35	35	35	36	36	37	38	39	39	39	37	38	38	35	34	35	35	36	36.0	39.2
14-Nov	35	33	35	34	A	34	35	36	35	24	22	24	25	27	28	27	27	24	25	16	18	20	24	24	27.4	35.7
15-Nov	25	26	25	21	A	21	22	29	29	21	25	28	27	25	28	35	34	35	33	34	33	35	34	34	28.6	35.1
16-Nov	33	33	32	30	A	29	28	27	29	28	23	26	28	31	30	29	28	28	27	28	28	29	28	29	28.6	32.8
17-Nov	28	28	29	29	A	26	27	29	30	31	31	30	30	29	26	24	23	23	23	23	23	26	27	27	26.9	31.1
18-Nov	26	28	29	29	A	29	29	29	28	28	30	30	29	30	30	29	27	26	27	27	27	27	27	27	28.3	30.1
19-Nov	27	27	27	26	A	25	25	25	23	15	21	21	19	26	26	24	22	19	18	21	21	19	21	22	22.6	27.3
20-Nov	22	21	22	21	A	25	25	18	17	18	21	21	19	C	C	C	18	17	17	14	15	15	11	10	18.3	24.7
21-Nov	13	14	10	10	A	8	9	11	5	15	15	16	17	17	16	15	13	12	11	10	10	8	4	4	11.7	16.9
22-Nov	4	6	8	8	A	12	8	8	8	13	16	17	21	26	27	39	40	39	38	37	41	40	38	36	23.0	40.6
23-Nov	35	33	33	35	A	30	23	22	16	18	21	22	24	24	25	14	13	4	2	8	11	19	28	29	21.3	34.9
24-Nov	32	32	33	34	A	35	37	36	37	32	30	29	36	35	34	34	34	33	32	33	32	35	36	33	33.6	37.4
25-Nov	32	31	26	23	A	18	23	33	39	41	41	42	43	43	42	41	39	40	40	40	39	38	36	37	36.0	43.1
26-Nov	38	37	38	38	A	37	34	37	37	38	39	38	38	39	39	39	38	37	37	38	38	41	40	41	38.2	40.9
27-Nov	41	40	39	37	A	33	36	39	41	43	42	41	39	38	31	32	30	30	28	28	28	27	28	27	34.7	42.5
28-Nov	30	31	35	37	A	34	34	38	39	39	38	39	40	40	40	41	39	37	38	37	40	41	41	42	37.7	41.7
29-Nov	42	41	40	40	A	39	39	36	36	37	35	35	32	36	34	31	38	38	38	36	38	39	35	33	36.8	41.7
30-Nov	27	26	27	24	A	27	28	30	29	29	28	26	25	28	31	33	35	36	35	36	37	39	39	40	31.0	39.5
28.8 28.7 29.3 29.1 -- 28.3 28.1 28.8 28.2 28.2 28.9 29.9 30.5 31.7 31.5 31.6 31.3 30.1 29.3 28.7 29.3 29.7 29.6 29.0																								Diurnal Average		
41.7 40.9 40.4 40.3 -- 39.1 38.7 39.2 41.3 42.5 42.0 42.4 42.8 43.1 42.4 41.2 40.0 40.2 40.1 40.0 40.6 41.4 41.2 41.7																								Diurnal Maximum		
C - Calibration A - Automated Daily Zero Span																										

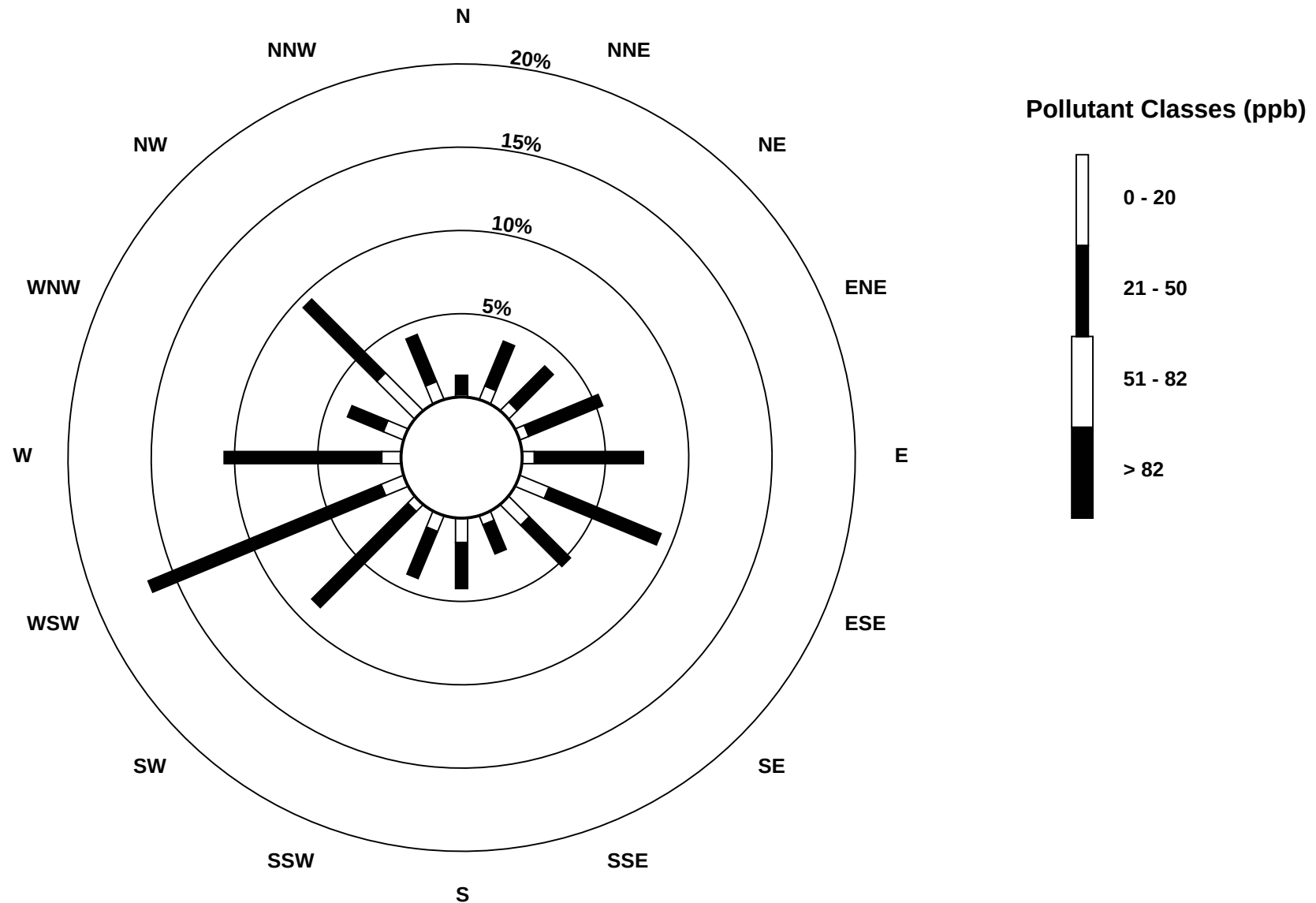
Hourly Maximums

Ozone (O₃) - ppb
Beaverlodge - November 2011



Pollutant Rose

Ozone (O₃) - ppb
Beaverlodge - November 2011



Eight Hour Running Averages

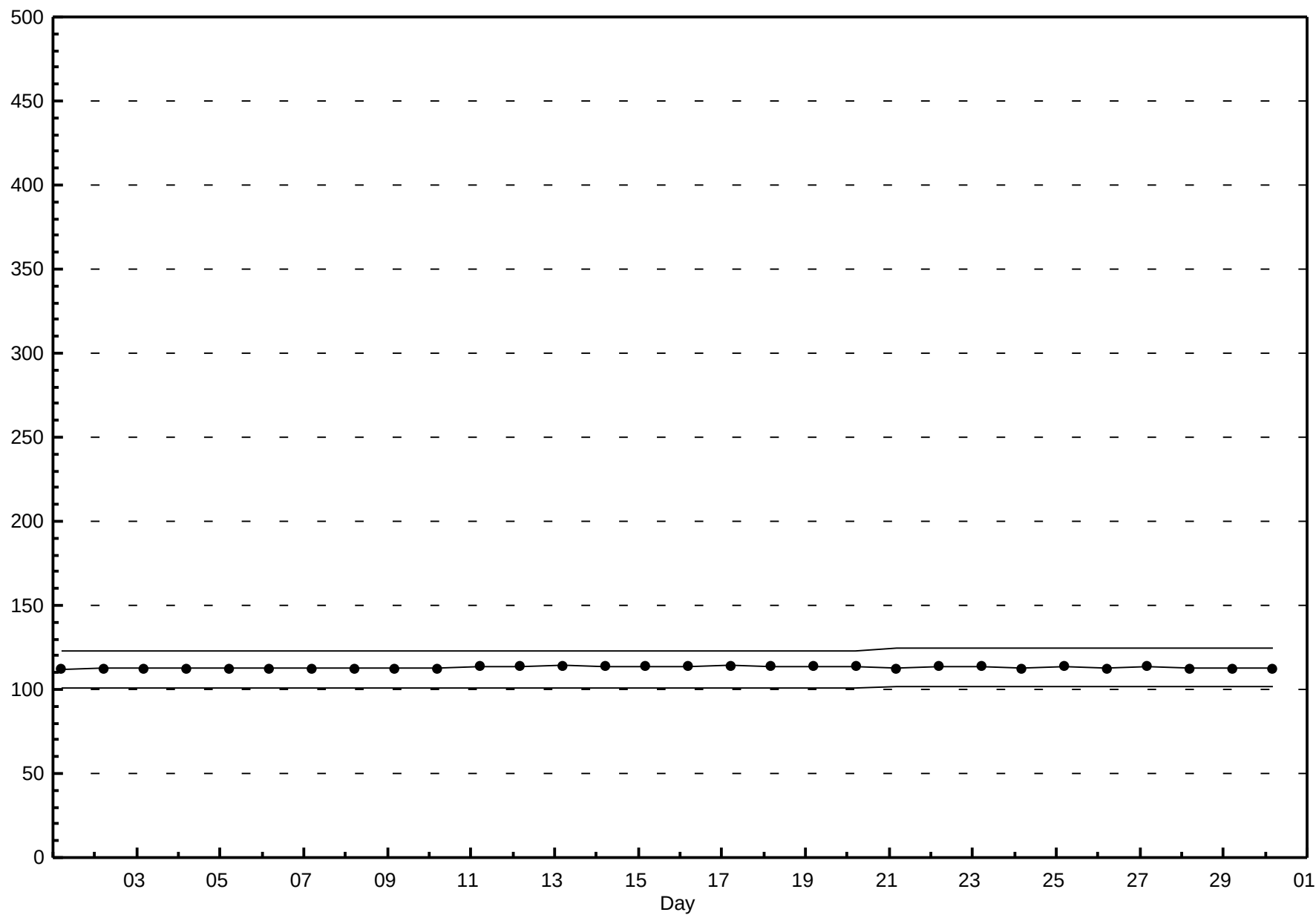
Ozone (O₃) - ppb

Beaverlodge - November 2011

Maximum Value: 39.9 ppb on Nov 25 16:00																								Hours in Service: 720		
Minimum Value: 4.6 ppb on Nov 22 06:00																								Hours of Data: 714		
																								Hours of Missing Data: 6		
Percentiles: P ₁ = 5.6 P ₁₀ = 17.1 Q ₁ = 22.8 Median = 27.9 Q ₃ = 32.3 P ₉₀ = 35.6 P ₉₉ = 39.0																								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	35	34	33	33	33	32	31	31	30	30	31	31	32	32	33	34	35	35	35	34	34	34	34	34	34	35.4
2-Nov	34	34	35	35	36	35	35	34	33	32	31	31	31	31	31	32	32	32	31	29	28	26	24	22	22	35.5
3-Nov	21	20	21	21	21	22	22	23	24	24	25	25	26	27	27	28	28	28	28	27	26	26	25	24	24	28.3
4-Nov	24	24	24	24	24	24	24	24	23	22	21	21	21	21	22	22	23	25	26	27	28	29	30	31	31	30.5
5-Nov	31	30	30	30	29	29	29	29	29	29	30	30	30	31	32	33	33	33	33	32	32	31	31	30	30	32.8
6-Nov	30	30	30	30	30	29	28	27	25	24	23	23	24	25	26	27	29	30	30	30	29	29	28	27	27	30.3
7-Nov	27	26	26	27	27	26	26	27	26	26	26	27	27	29	30	31	32	33	33	33	32	31	30	30	30	33.2
8-Nov	29	29	29	30	31	31	32	32	32	32	32	32	33	33	33	33	34	34	34	34	33	32	31	31	31	34.2
9-Nov	30	29	29	29	29	29	28	27	26	24	23	22	23	22	22	22	22	23	23	21	20	19	17	15	15	29.9
10-Nov	13	12	10	10	9	10	12	14	15	18	21	25	26	27	29	31	33	34	35	36	36	36	35	35	35	35.8
11-Nov	34	33	32	32	31	31	32	31	31	30	30	30	30	30	30	30	31	31	31	30	28	26	24	23	23	33.9
12-Nov	22	22	22	22	22	23	23	23	23	22	21	21	21	21	20	20	20	21	22	24	26	27	29	30	30	30.3
13-Nov	32	33	33	33	33	33	33	34	34	34	34	35	35	35	36	36	36	37	37	36	36	35	34	34	34	36.7
14-Nov	34	33	33	33	33	32	32	32	32	31	29	28	27	26	26	25	24	24	24	22	21	20	20	19	19	33.7
15-Nov	19	20	20	21	22	22	21	21	19	17	17	18	18	19	20	21	24	26	27	28	29	30	31	32	32	31.5
16-Nov	32	31	32	31	31	31	29	28	27	26	24	22	23	23	24	24	24	25	26	27	27	27	27	27	27	31.7
17-Nov	27	27	27	27	27	27	27	27	27	28	28	28	28	28	28	28	28	27	26	25	24	23	23	23	23	28.2
18-Nov	24	24	25	26	26	27	27	27	27	28	28	28	28	28	28	28	28	28	28	28	27	27	27	26	26	28.4
19-Nov	26	26	26	26	26	26	25	24	22	19	18	17	17	17	18	19	19	20	20	20	20	20	19	19	19	26.4
20-Nov	19	19	20	19	19	20	20	20	18	18	18	18	18	17	16	N	N	N	N	N	N	15	14	13	13	20.3
21-Nov	12	12	11	10	10	9	9	8	7	7	7	7	8	9	10	11	12	12	12	12	11	10	9	8	8	12.4
22-Nov	7	6	6	5	5	5	5	5	5	6	7	8	9	11	13	16	20	24	27	29	32	33	35	36	36	36.4
23-Nov	36	35	34	34	34	31	28	25	21	18	16	15	16	15	16	15	16	15	12	10	8	8	9	11	11	35.7
24-Nov	13	17	21	24	27	30	31	32	33	32	31	30	30	30	30	29	29	30	30	30	29	29	29	29	29	32.6
25-Nov	29	28	26	25	25	22	20	19	20	23	26	30	31	35	38	40	40	40	39	39	38	37	36	36	36	39.9
26-Nov	36	36	36	36	36	36	35	35	35	35	35	35	35	35	36	37	37	36	36	36	36	36	36	36	36	36.7
27-Nov	36	37	37	38	38	37	37	36	36	37	37	37	37	37	37	36	35	33	31	30	28	27	26	25	25	38.1
28-Nov	25	25	25	27	27	28	30	31	32	34	34	35	35	36	37	37	37	36	37	36	36	36	36	37	37	37.1
29-Nov	37	38	39	39	40	39	39	38	37	36	35	33	33	32	30	28	28	28	27	28	29	30	32	33	33	39.6
30-Nov	32	31	30	28	27	25	24	23	24	24	24	25	25	25	25	25	26	27	28	30	31	33	34	35	35	35.0
37.3 38.2 38.6 39.3 39.6 39.4 39.0 38.0 37.2 36.5 37.0 37.5 37.5 37.5 38.2 39.9 39.7 39.6 39.1 38.8 38.1 37.3 36.4 36.8																									Diurnal Maximums	
N - Not Valid																										

Span Responses

Ozone (O₃)
Beaverlodge - November 2011



Hourly Averages

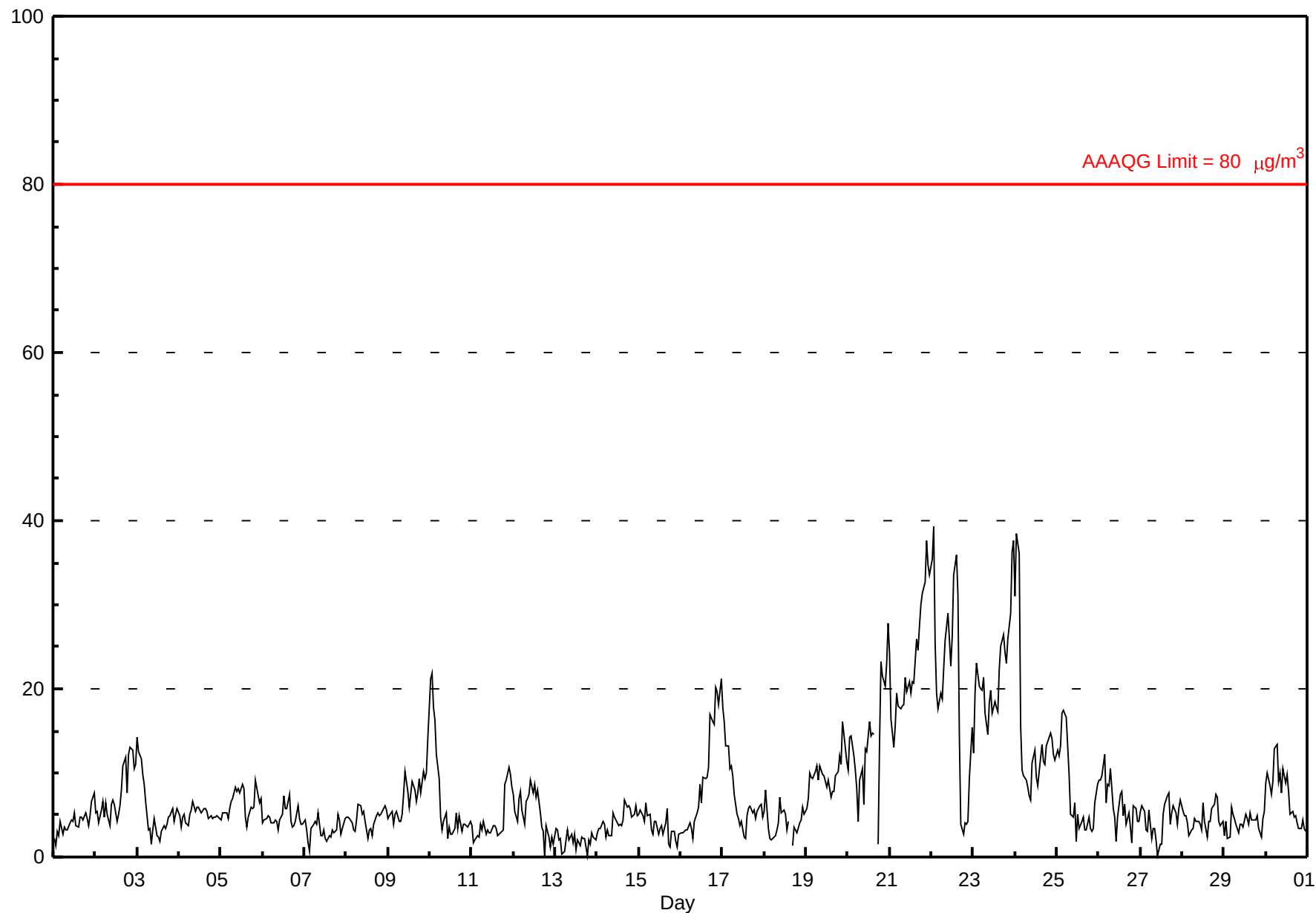
Particulate Matter 2.5 (PM_{2.5}) - µg/m³

Beaverlodge - November 2011

Number of Exceedences: 1-hr: 0 24-hr: 0 Maximum Value: 39.3 µg/m³ on Nov 22 02:00																								Maximum Daily Average: 23.4 µg/m³ on Nov 21										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 12 19:00 Maximum Diurnal Average: 9.8 µg/m³ at hour 2 Monthly Average: 7.77 µg/m³																								Minimum Daily Average: 2.0 µg/m³ on Nov 13 Minimum Diurnal Average: 6.6 µg/m³ at hour 9 Percentiles: P ₁ = 1.2 P ₁₀ = 2.6 Q ₁ = 3.7 Median = 5.2 Q ₃ = 9.2 P ₉₀ = 17.5 P ₉₉ = 35.9													
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	1	3	3	4	3	4	3	3	4	4	4	5	4	3	5	5	4	5	5	4	5	7	8	4.1	7.6											
2-Nov	5	5	4	6	7	5	7	5	4	6	7	6	4	5	6	8	11	12	8	12	13	13	11	11	7.5	13.1											
3-Nov	14	13	12	10	9	7	3	3	2	3	5	3	2	2	3	4	3	4	5	5	6	4	5	6	5.5	14.2											
4-Nov	5	4	5	5	4	4	5	6	7	5	6	6	6	5	6	6	5	5	5	5	5	5	5	5	5.1	6.6											
5-Nov	4	5	5	5	5	6	7	7	8	8	8	8	9	8	5	4	5	6	6	6	9	7	6	7	6.4	9.2											
6-Nov	4	4	5	5	5	4	4	4	4	3	4	5	7	6	6	7	4	4	4	4	6	5	4	4	4.7	7.4											
7-Nov	4	3	2	1	3	4	4	4	5	3	3	3	2	2	3	2	3	3	3	5	4	3	3	5	3.2	5.3											
8-Nov	5	5	5	4	3	3	4	6	6	5	5	4	2	3	3	2	4	5	5	5	5	6	6	6	4.5	6.2											
9-Nov	5	5	5	4	5	5	4	4	5	7	10	8	6	7	9	8	7	8	9	8	10	9	10	14	7.2	14.1											
10-Nov	21	22	18	16	12	9	5	3	4	5	2	4	3	3	3	5	3	5	3	4	4	4	4	4	6.9	21.8											
11-Nov	4	2	2	3	2	4	3	4	3	3	3	3	4	4	3	3	3	3	3	9	9	11	10	8	4.4	10.7											
12-Nov	7	5	4	7	8	6	4	7	7	7	9	8	9	7	8	5	4	3	0	4	2	1	2	2	5.3	9.2											
13-Nov	3	3	2	2	0	1	2	3	2	3	2	3	1	2	1	2	2	2	0	2	2	3	2	2	2.0	3.3											
14-Nov	3	3	3	4	4	2	3	3	3	5	5	4	4	4	4	4	7	6	6	6	5	5	6	5	4.4	6.9											
15-Nov	5	6	5	4	6	5	5	3	3	4	4	3	3	4	3	4	6	1	1	3	3	2	1	3	3.7	6.4											
16-Nov	3	3	3	3	3	4	3	2	4	5	6	9	7	9	9	10	11	17	16	16	20	20	18	21	9.3	21.2											
17-Nov	18	16	13	13	10	11	10	7	5	5	4	4	2	2	5	6	6	5	6	5	5	6	6	5	7.3	17.8											
18-Nov	5	8	3	2	2	2	2	3	4	7	5	6	5	3	4	N	1	4	3	3	4	4	6	5	4.1	7.9											
19-Nov	6	7	10	9	9	10	11	9	11	10	10	9	8	9	7	8	8	10	10	12	11	16	15	11	9.9	16.2											
20-Nov	10	14	14	12	10	8	4	9	11	6	13	12	16	14	15	15	M	2	14	23	21	20	23	28	13.7	27.8											
21-Nov	24	17	13	16	19	18	18	18	18	21	20	21	20	21	21	26	25	27	30	31	33	38	35	34	23.4	37.6											
22-Nov	35	39	25	19	18	19	19	22	26	29	26	23	26	34	36	31	14	4	3	4	4	4	9	15	20.2	39.3											
23-Nov	12	19	23	20	20	20	21	17	15	18	20	17	19	18	17	22	25	26	24	23	26	29	36	38	22.0	37.5											
24-Nov	31	38	36	16	10	10	9	8	7	7	11	13	9	9	10	13	11	11	13	14	15	14	12	12	14.2	38.4											
25-Nov	13	12	13	17	17	17	13	10	5	5	6	2	5	3	4	5	3	3	5	3	3	3	7	9	7.7	17.4											
26-Nov	9	9	10	12	6	9	8	11	6	5	2	5	7	8	5	6	4	5	4	2	6	6	4	4	6.4	12.3											
27-Nov	5	6	6	3	3	6	2	3	3	2	0	2	1	5	6	7	8	4	5	6	5	4	6	7	4.4	7.7											
28-Nov	5	5	5	4	3	3	3	5	4	4	4	3	7	4	2	4	4	6	6	7	7	4	4	4	4.5	7.4											
29-Nov	3	4	2	2	6	5	5	4	3	4	4	4	5	5	4	5	4	4	4	5	3	2	5	5	4.1	5.9											
30-Nov	9	10	8	7	9	13	13	9	10	8	11	9	10	8	5	5	5	5	4	3	3	4	3	3	7.3	13.4											
9.4 9.8 8.8 7.9 7.5 7.4 6.9 6.8 6.6 7.0 7.3 6.9 7.1 7.3 7.3 8.1 6.9 6.8 7.0 8.0 8.5 8.6 9.0 9.6																								Diurnal Average													
35.5 39.3 36.1 20.3 20.0 19.8 21.4 22.4 25.7 28.9 26.0 22.6 26.2 33.5 36.0 31.2 25.2 27.5 30.1 31.4 32.6 37.6 36.3 37.5																								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 2011



Hourly Maximums

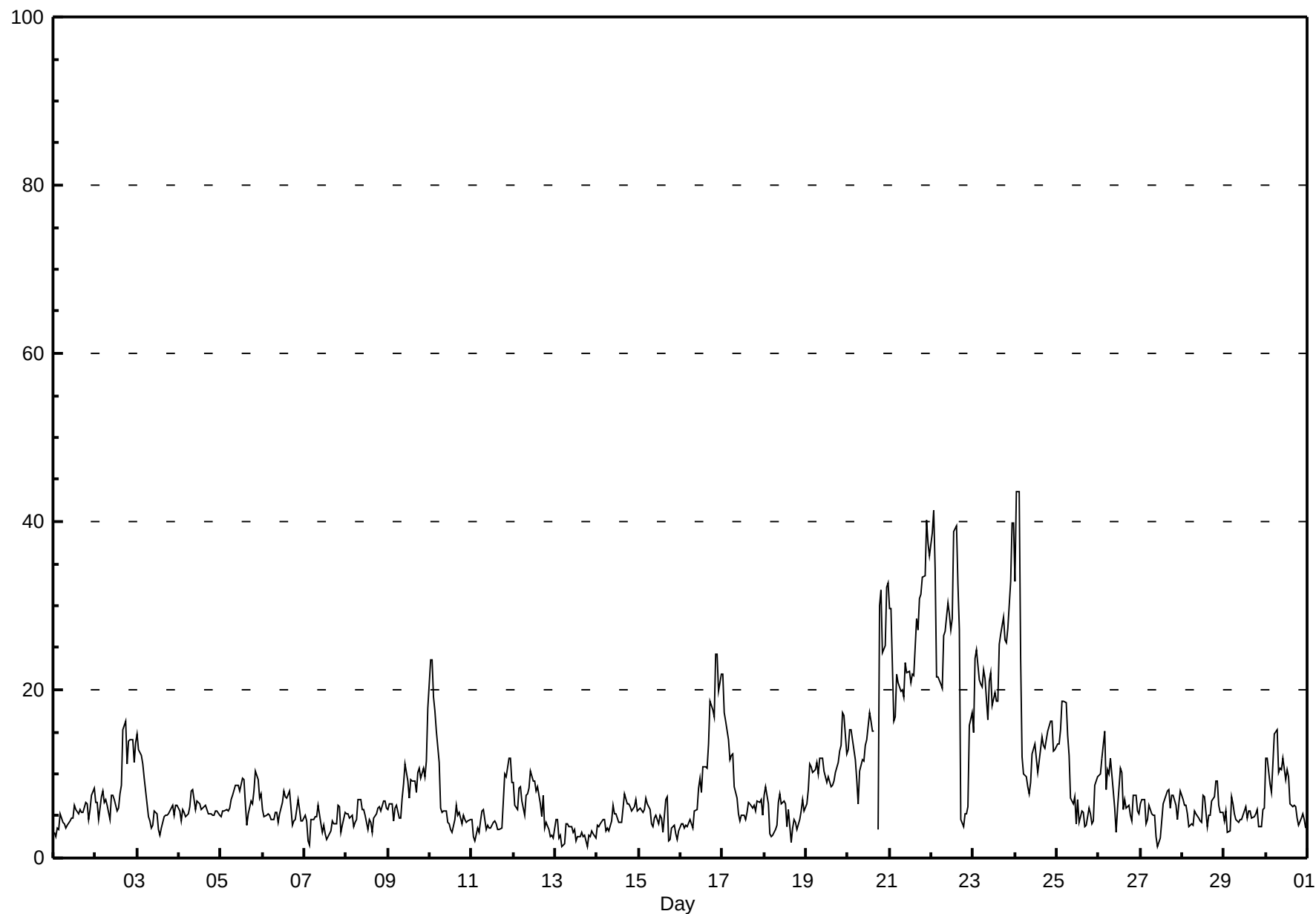
Particulate Matter 2.5 (PM_{2.5}) - µg/m³

Beaverlodge - November 2011

Maximum Value: 43.6 μg/m ³ on Nov 24 03:00																					Maximum Daily Average: 26.0 μg/m ³ on Nov 21					Hours in Service: 720	
Minimum Value: 1 μg/m ³ on Nov 13 05:00																					Minimum Daily Average: 2.9 μg/m ³ on Nov 13					Hours of Data: 719	
Maximum Diurnal Average: 11.5 μg/m ³ at hour 2																					Minimum Diurnal Average: 7.9 μg/m ³ at hour 9					Hours of Missing Data: 1	
Monthly Average: 9.10 μg/m ³																					Percentiles: P ₁ = 2.1 P ₁₀ = 3.5 Q ₁ = 4.6 Median = 6.2 Q ₃ = 10.4 P ₉₀ = 19.8 P ₉₉ = 39.1					Hours of Calibration: 0	
																					Percent Operational Time: 99.9						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Nov	3	3	4	3	5	4	4	4	4	4	5	5	6	6	5	6	5	5	7	7	5	6	8	8	5.0	8.2	
2-Nov	7	7	5	7	8	7	7	6	5	7	8	7	6	6	8	9	15	16	11	14	14	14	11	14	9.0	16.3	
3-Nov	15	13	12	11	9	8	5	4	4	4	6	5	3	3	4	5	5	5	5	6	6	5	6	6	6.5	14.8	
4-Nov	6	4	6	6	5	5	6	8	8	6	7	7	6	6	6	6	6	5	5	5	5	6	6	5	5.8	8.2	
5-Nov	5	6	6	6	6	6	7	7	9	9	9	8	9	9	6	4	5	7	6	8	10	9	7	8	7.2	10.4	
6-Nov	6	5	5	5	5	5	5	6	5	4	5	7	8	7	7	8	6	4	4	5	7	6	4	4	5.5	8.0	
7-Nov	5	4	2	2	5	5	5	5	6	4	3	4	3	2	3	3	4	4	4	6	6	3	4	6	4.1	6.2	
8-Nov	5	5	5	5	4	4	5	7	7	6	6	5	3	5	4	3	5	5	6	6	6	7	7	6	5.2	7.0	
9-Nov	6	6	6	4	6	6	5	5	7	9	11	9	7	9	9	9	8	10	11	10	11	10	12	18	8.5	17.9	
10-Nov	24	23	19	17	15	11	6	5	6	6	4	4	3	3	5	6	5	5	4	5	5	4	4	5	8.2	23.6	
11-Nov	5	3	2	4	3	4	6	6	3	4	4	4	4	4	4	3	3	4	7	10	10	12	12	9	5.3	11.9	
12-Nov	9	6	6	8	8	7	5	8	8	8	10	9	9	8	8	7	5	7	4	4	3	3	3	2	6.5	10.4	
13-Nov	5	5	2	3	1	2	4	4	4	4	3	3	2	3	3	3	3	3	1	3	3	3	3	2	2.9	4.6	
14-Nov	4	4	4	5	5	3	4	3	4	6	5	5	4	4	4	6	8	6	6	6	6	6	7	6	5.1	7.7	
15-Nov	6	6	5	6	7	7	6	4	4	5	5	4	5	5	3	7	7	2	2	4	4	3	2	3	4.6	7.2	
16-Nov	4	4	4	4	4	5	4	3	6	6	8	9	8	11	11	11	14	19	18	17	24	24	20	22	10.7	24.3	
17-Nov	22	17	16	14	12	12	12	8	7	5	4	5	5	5	5	7	6	6	6	6	7	7	7	5	8.6	21.8	
18-Nov	7	8	7	3	3	3	3	4	7	8	7	7	6	4	6	2	4	5	4	3	5	6	7	6	5.1	8.5	
19-Nov	6	8	11	11	10	10	11	10	12	12	10	10	9	10	8	9	9	10	11	13	13	17	17	12	10.9	17.2	
20-Nov	13	15	15	13	12	9	6	10	12	12	13	14	17	16	15	15	M	3	30	32	24	25	32	33	16.9	32.8	
21-Nov	30	30	16	17	22	21	20	20	19	23	22	22	21	22	22	28	27	31	31	33	34	40	37	36	26.0	40.1	
22-Nov	39	41	34	22	22	21	20	26	27	30	29	27	28	39	39	33	27	5	4	5	5	6	16	17	23.4	41.3	
23-Nov	15	24	25	21	21	20	22	21	16	21	22	18	20	19	19	25	27	29	26	26	27	33	40	40	24.0	39.9	
24-Nov	33	43	44	24	12	10	10	9	8	9	12	14	12	10	12	14	13	13	14	15	16	16	13	13	16.2	43.6	
25-Nov	14	14	15	19	19	18	15	12	7	6	7	4	7	4	6	5	4	4	6	5	4	4	9	10	9.1	18.7	
26-Nov	10	10	12	15	8	10	10	12	8	6	3	6	11	10	6	7	6	6	5	4	8	8	6	5	8.0	15.0	
27-Nov	7	7	7	4	5	6	5	5	5	3	1	2	4	7	7	8	8	6	8	7	6	5	7	8	5.7	8.2	
28-Nov	7	6	6	5	4	4	4	6	5	5	4	4	7	7	4	5	5	7	7	9	9	6	5	5	5.8	9.2	
29-Nov	4	6	3	3	7	7	5	5	4	5	5	5	6	5	6	6	5	5	5	6	4	4	6	6	5.0	7.2	
30-Nov	12	12	9	8	11	15	15	10	11	10	12	9	10	10	6	6	6	6	5	4	5	5	5	3	8.6	15.3	
11.0 11.5 10.4 9.1 8.7 8.5 8.1 8.1 7.9 8.2 8.4 8.1 8.4 8.6 8.3 8.9 8.7 8.1 8.8 9.4 9.7 10.1 10.7 10.8																									Diurnal Average		
38.6 43.5 43.6 23.8 21.9 20.9 22.3 26.4 26.9 30.4 29.0 27.2 28.4 38.9 39.4 32.5 27.2 30.9 31.3 33.5 33.5 40.1 39.9 39.8																									Diurnal Maximum		
M - Maintenance																											

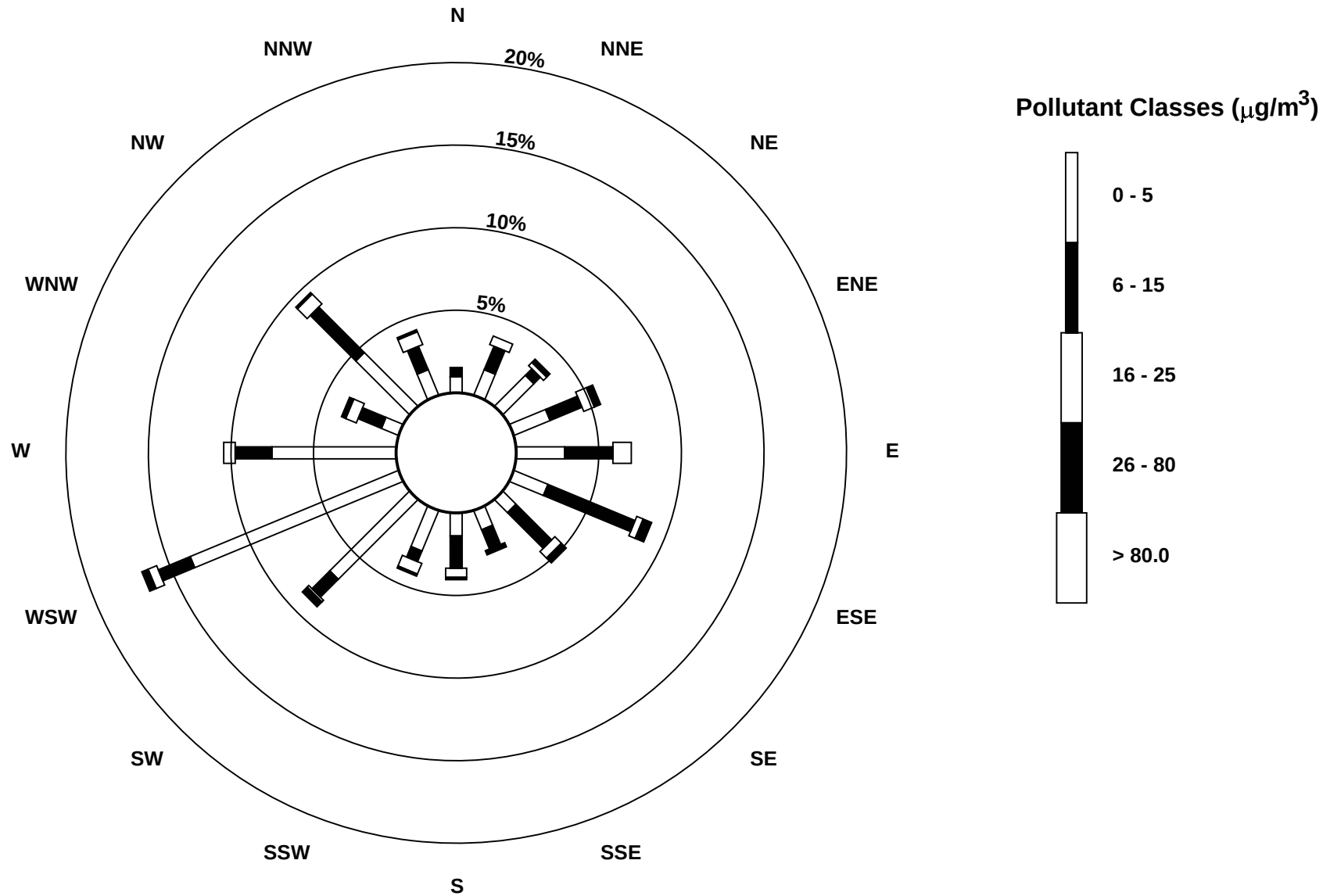
Hourly Maximums

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Beaverlodge - November 2011



Pollutant Rose

Particulate Matter 2.5 (PM_{2.5}) - µg/m³
Beaverlodge - November 2011

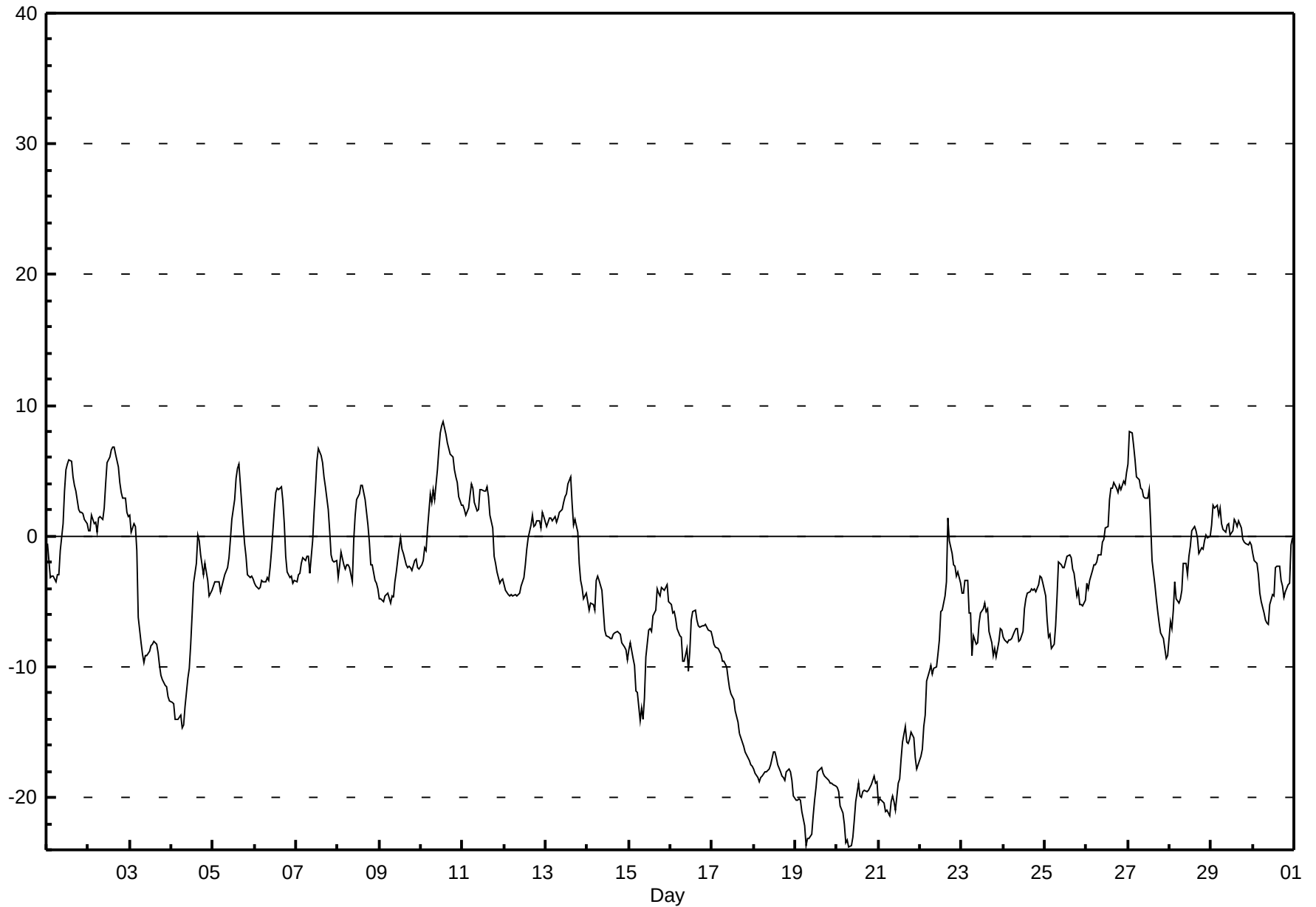


FOCUS
AIR QUALITY MONITORING

Hourly Averages

External Temperature (ET) - °C

Beaverlodge - November 2011



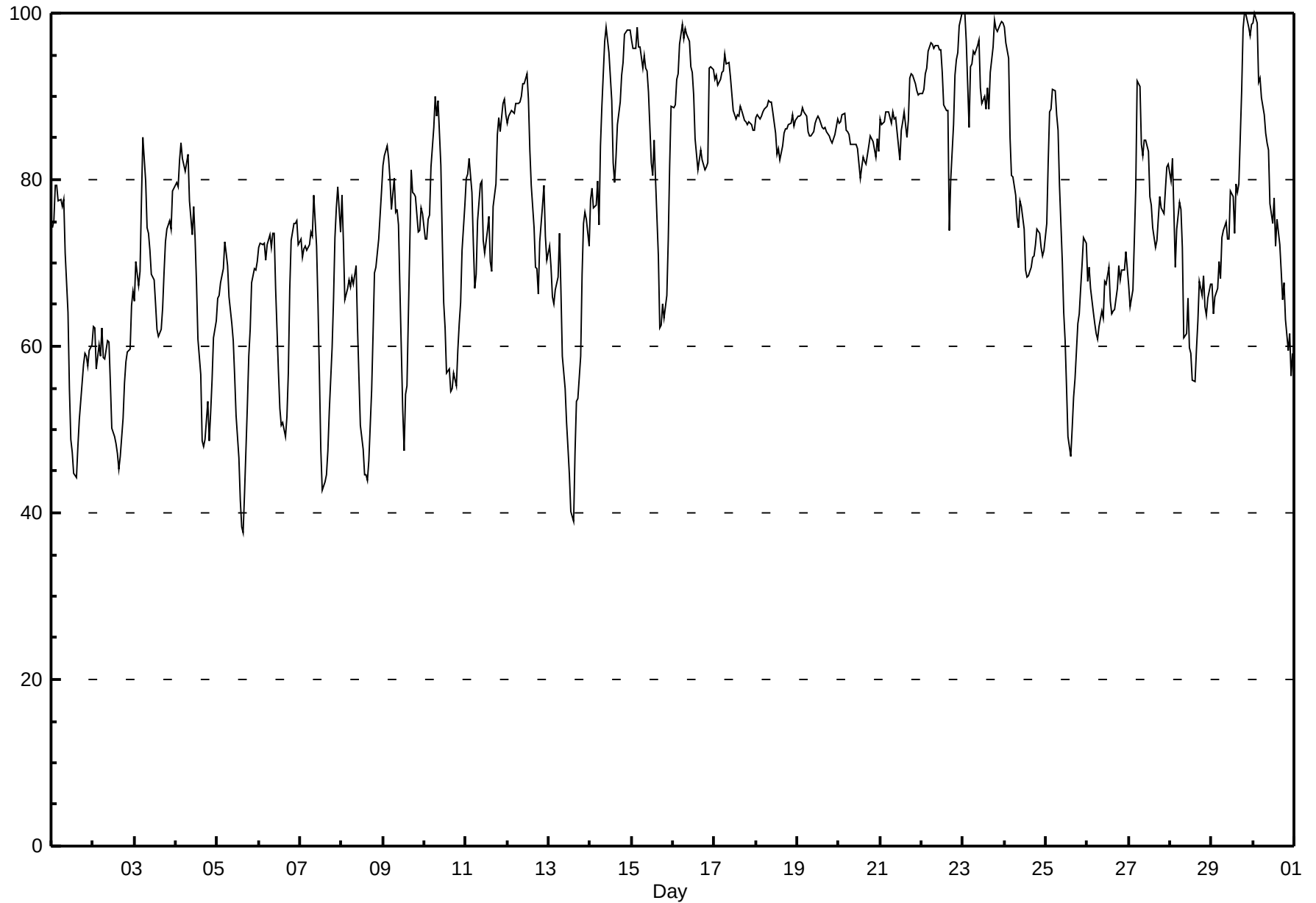
Hourly Averages

Relative Humidity (RH) - %
Beaverlodge - November 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 100.0 % on Nov 23 00:00 Maximum Daily Average: 94.7 % on Nov 23																								Hours in Service: 720 Hours of Data: 720 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0		
Minimum Value: 38 % on Nov 5 16:00 Minimum Daily Average: 56.6 % on Nov 2 Maximum Diurnal Average: 81.6 % at hour 7 Minimum Diurnal Average: 66.6 % at hour 15 Monthly Average: 75.90 % Percentiles: P ₁ = 43.7 P ₁₀ = 56.0 Q ₁ = 66.9 Median = 76.7 Q ₃ = 87.3 P ₉₀ = 93.1 P ₉₉ = 98.6																										
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Nov	74	75	79	79	77	78	77	78	71	64	55	49	47	45	44	48	51	53	58	59	59	58	59	60	62.4	79.4
2-Nov	62	62	57	60	59	62	59	59	61	61	56	50	49	48	47	45	47	51	56	58	59	60	65	67	56.6	66.6
3-Nov	65	70	67	69	77	85	80	74	74	72	69	68	65	62	61	62	65	69	73	74	75	74	79	79	71.1	85.1
4-Nov	80	79	82	84	82	81	82	83	77	73	77	73	67	61	57	49	48	49	53	49	52	56	61	63	67.4	84.5
5-Nov	66	66	68	69	73	71	70	66	63	61	56	52	47	42	38	38	42	53	59	62	68	69	69	70	59.9	72.5
6-Nov	72	72	72	72	70	72	73	72	74	74	67	57	53	50	51	49	52	57	67	73	75	75	75	72	66.5	75.2
7-Nov	73	71	72	72	72	72	74	73	78	72	65	57	48	43	44	45	47	52	60	66	73	77	79	74	64.9	79.1
8-Nov	78	72	66	67	68	67	68	67	70	62	56	50	48	45	45	44	46	55	62	69	70	73	76	79	62.6	78.6
9-Nov	82	83	84	83	80	77	80	76	76	75	67	52	48	54	55	72	81	79	78	78	74	74	77	76	73.3	84.1
10-Nov	73	73	75	76	81	86	90	88	90	82	73	65	62	57	57	55	55	57	55	60	63	65	72	77	70.2	90.1
11-Nov	80	81	83	78	72	67	69	75	79	80	73	71	74	76	70	69	77	80	85	87	86	89	90	88	78.3	89.6
12-Nov	87	88	88	88	88	89	89	89	90	91	92	93	90	84	79	74	69	69	66	72	77	79	73	70	82.3	92.7
13-Nov	72	69	66	65	67	68	74	67	59	55	51	48	45	40	39	47	53	54	59	69	75	76	75	72	61.0	76.1
14-Nov	78	79	77	77	80	75	84	89	97	98	97	95	90	82	80	83	87	89	93	94	97	98	98	98	88.0	98.3
15-Nov	97	96	96	98	96	96	93	95	93	93	90	82	81	85	80	71	62	63	65	63	66	73	82	89	83.5	98.3
16-Nov	89	89	92	93	96	99	97	98	98	97	94	93	90	85	81	82	84	82	81	82	82	93	94	93	90.1	98.6
17-Nov	92	93	91	92	93	93	95	94	94	92	90	88	87	88	88	89	88	87	87	87	87	87	86	86	89.8	95.2
18-Nov	87	88	87	88	88	89	89	89	89	89	88	86	83	84	82	84	86	86	86	87	87	88	87	87	86.8	89.4
19-Nov	88	88	88	89	88	88	86	85	85	86	87	87	88	87	86	86	86	86	85	85	84	85	85	87	86.4	88.6
20-Nov	87	87	88	88	86	86	85	84	84	84	84	84	80	82	83	82	82	84	85	85	85	83	85	83	84.4	88.0
21-Nov	87	87	87	88	88	88	87	88	87	87	86	82	86	87	88	85	87	92	93	92	92	91	90	90	88.2	92.7
22-Nov	90	91	93	93	95	96	96	96	96	96	96	96	93	89	88	88	74	80	87	92	94	95	98	100	92.3	100.0
23-Nov	100	100	97	86	94	94	95	95	96	97	91	89	90	88	91	89	93	96	99	98	98	99	99	99	94.7	100.0
24-Nov	98	96	95	85	81	80	78	75	74	77	77	74	69	68	68	70	71	71	72	74	74	72	71	72	76.8	98.4
25-Nov	75	82	88	88	91	91	88	86	79	70	64	61	55	49	47	50	54	56	63	64	67	70	73	72	70.1	90.8
26-Nov	68	69	67	64	63	61	61	62	64	63	68	67	70	65	64	64	64	67	70	68	69	69	71	69	66.2	71.3
27-Nov	67	65	67	73	79	92	91	84	83	85	85	83	78	77	74	72	73	75	78	77	76	79	82	82	78.1	91.9
28-Nov	80	83	76	69	74	77	76	72	61	61	66	60	59	56	56	60	63	68	66	69	65	64	66	67	67.2	82.6
29-Nov	67	64	66	67	70	68	73	74	75	73	73	79	78	74	80	78	79	91	98	100	100	98	97	99	80.0	100.0
30-Nov	99	100	99	92	92	90	88	86	84	84	77	75	78	72	75	72	69	66	68	63	60	61	56	59	77.7	100.0
80.4 80.6 80.4 79.8 80.7 81.3 81.6 80.6 80.1 78.5 75.6 72.2 69.8 67.4 66.6 66.7 67.9 70.5 73.5 75.2 76.2 77.6 79.0 79.3																								Diurnal Average		
100.0 100.0 98.9 98.3 96.2 98.6 96.9 98.2 97.5 98.3 96.7 95.6 92.9 88.9 91.0 88.8 93.0 95.9 99.1 100.0 99.9 98.7 99.1 100.0																								Diurnal Maximum		

Hourly Averages

Relative Humidity (RH) - %
Beaverlodge - November 2011



Hourly Averages

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

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1 Spd	15	5	9	14	15	11	13	13	15	18	27	32	37	43	39	37	23	17	8	7	9	4	3	5	16.2	43.1
Dir	280	254	249	253	252	245	252	239	246	238	246	251	249	247	250	256	259	252	200	205	204	181	92	73	247	247
2 Spd	6	7	5	3	4	4	5	5	7	6	7	12	11	9	11	3	4	4	5	7	10	3	3	5	3.8	12.0
Dir	100	67	58	117	201	90	86	101	103	106	110	108	115	84	100	99	35	13	14	325	331	76	228	161	87	108
3 Spd	2	0	8	10	16	22	23	21	19	19	20	17	18	18	18	16	15	9	8	4	4	4	6	6	12.1	23.5
Dir	105	72	262	269	309	321	324	322	326	328	322	317	312	316	309	309	311	306	315	324	319	312	289	280	314	324
4 Spd	6	6	1	5	4	4	4	6	4	5	7	6	6	6	8	5	10	19	7	7	9	11	6	13	3.9	19.3
Dir	276	276	346	55	68	75	139	90	134	143	171	162	160	158	170	179	234	262	203	233	231	222	211	237	206	262
5 Spd	7	4	2	1	1	15	15	9	7	8	6	7	8	6	9	9	10	11	10	6	1	2	0	1	5.7	14.6
Dir	233	208	49	260	322	257	265	275	277	256	246	234	219	224	249	260	273	250	256	256	99	62	85	232	253	257
6 Spd	2	1	1	3	2	2	3	2	2	3	3	5	20	18	14	23	23	24	14	12	7	7	3	5	5.8	23.8
Dir	88	149	196	143	159	72	73	120	81	54	76	260	278	291	296	272	270	264	255	248	225	208	178	178	263	264
7 Spd	6	6	7	9	10	10	9	11	10	18	24	25	20	24	26	33	26	29	10	8	10	7	7	9	14.0	33.3
Dir	193	179	189	225	220	221	235	238	223	227	235	236	226	248	255	258	266	261	257	226	242	215	232	251	240	258
8 Spd	5	9	18	6	10	11	12	3	2	8	29	33	33	29	19	15	19	21	19	13	8	3	0	3	12.9	32.8
Dir	255	267	265	248	257	252	255	237	93	245	256	264	261	261	290	290	261	254	256	261	279	290	79	61	263	261
9 Spd	3	2	4	3	5	3	2	5	4	4	11	16	12	9	13	12	10	7	4	6	1	2	4	4	4.8	15.7
Dir	99	117	63	106	70	105	109	69	87	144	104	109	107	142	116	113	108	164	204	268	123	173	177	179	118	109
10 Spd	2	4	5	4	5	14	2	6	7	19	23	30	33	34	26	28	30	33	30	13	13	9	8	5	14.7	34.2
Dir	124	39	287	211	155	240	61	217	217	252	260	255	262	265	273	262	257	255	262	263	248	259	241	230	256	265
11 Spd	8	9	4	9	13	24	12	6	2	2	3	9	13	11	9	16	9	12	17	16	15	13	11	11	6.5	23.7
Dir	247	241	219	227	231	231	227	197	82	217	269	272	278	310	340	7	2	352	341	352	324	314	309	306	295	231
12 Spd	13	12	9	7	2	5	10	12	14	14	13	13	11	11	11	9	2	6	8	23	28	20	29	24	5.0	28.9
Dir	313	310	331	329	109	122	111	104	112	123	127	126	123	148	158	170	193	234	243	240	238	243	255	247	209	255
13 Spd	23	28	28	27	30	37	40	39	40	40	42	38	42	36	33	30	16	29	21	8	11	14	2	9	27.1	42.4
Dir	243	245	248	247	245	255	263	262	264	266	265	269	272	273	270	257	249	263	259	229	240	254	212	241	259	265
14 Spd	7	2	2	2	0	12	15	21	19	17	16	16	18	17	16	14	7	5	2	1	2	4	2	3	7.4	21.5
Dir	248	48	173	240	142	265	275	267	283	318	317	314	309	313	314	307	313	303	254	142	94	55	68	92	299	267
15 Spd	3	2	1	1	2	2	3	4	2	2	3	2	3	4	5	14	9	9	9	9	5	12	11	9	3.0	14.3
Dir	104	72	167	197	51	298	306	7	242	78	88	88	100	76	232	237	241	238	242	254	237	263	281	258	251	237
16 Spd	6	3	4	5	4	7	2	2	4	2	3	4	12	15	22	28	34	37	45	44	43	37	36	36	16.4	44.9
Dir	288	304	329	10	8	34	23	49	65	124	172	118	107	103	97	94	92	90	92	89	87	80	79	77	86	92
17 Spd	37	38	36	34	35	36	36	32	26	27	30	28	18	16	15	14	16	16	17	16	15	13	10	7	22.1	38.1
Dir	73	72	75	74	71	67	63	59	49	48	52	55	40	13	25	21	21	24	29	32	34	31	16	347	53	72
18 Spd	6	6	8	10	10	8	6	5	7	7	6	5	6	8	10	12	15	11	7	9	14	19	17	13	7.4	19.2
Dir	326	352	12	17	24	25	29	40	35	35	40	88	105	111	119	105	100	95	75	82	86	95	92	88	72	95
19 Spd	13	12	5	6	2	5	4	4	5	8	11	9	8	6	9	8	6	8	9	10	7	5	5	4	4.0	12.8
Dir	94	104	127	130	232	300	316	314	319	299	317	333	315	348	313	319	318	310	311	314	321	327	302	251	323	94
20 Spd	8	6	1	5	8	5	5	2	3	2	3	2	3	6	7	3	3	5	8	7	5	3	3	4	0.5	8.2
Dir	265	266	33	21	7	18	53	121	171	188	75	346	195	283	271	263	179	124	111	110	123	143	189	150	129	7
21 Spd	5	4	2	1	0	2	0	2	2	4	5	5	8	4	5	5	7	3	4	2	3	2	1	2	0.5	7.8
Dir	89	128	127	244	194	227	323	309	295	326	303	328	317	27	314	200	185	135	63	54	64	38	237	341	347	317
22 Spd	2	1	3	4	5	4	6	5	5	7	5	2	3	6	7	16	28	19	16	11	8	5	4	4	5.8	28.3
Dir	240	283	239	202	186	260	242	193	221	244	314	337	121	173	218	220	247	227	231	226	222	149	83	116	225	247

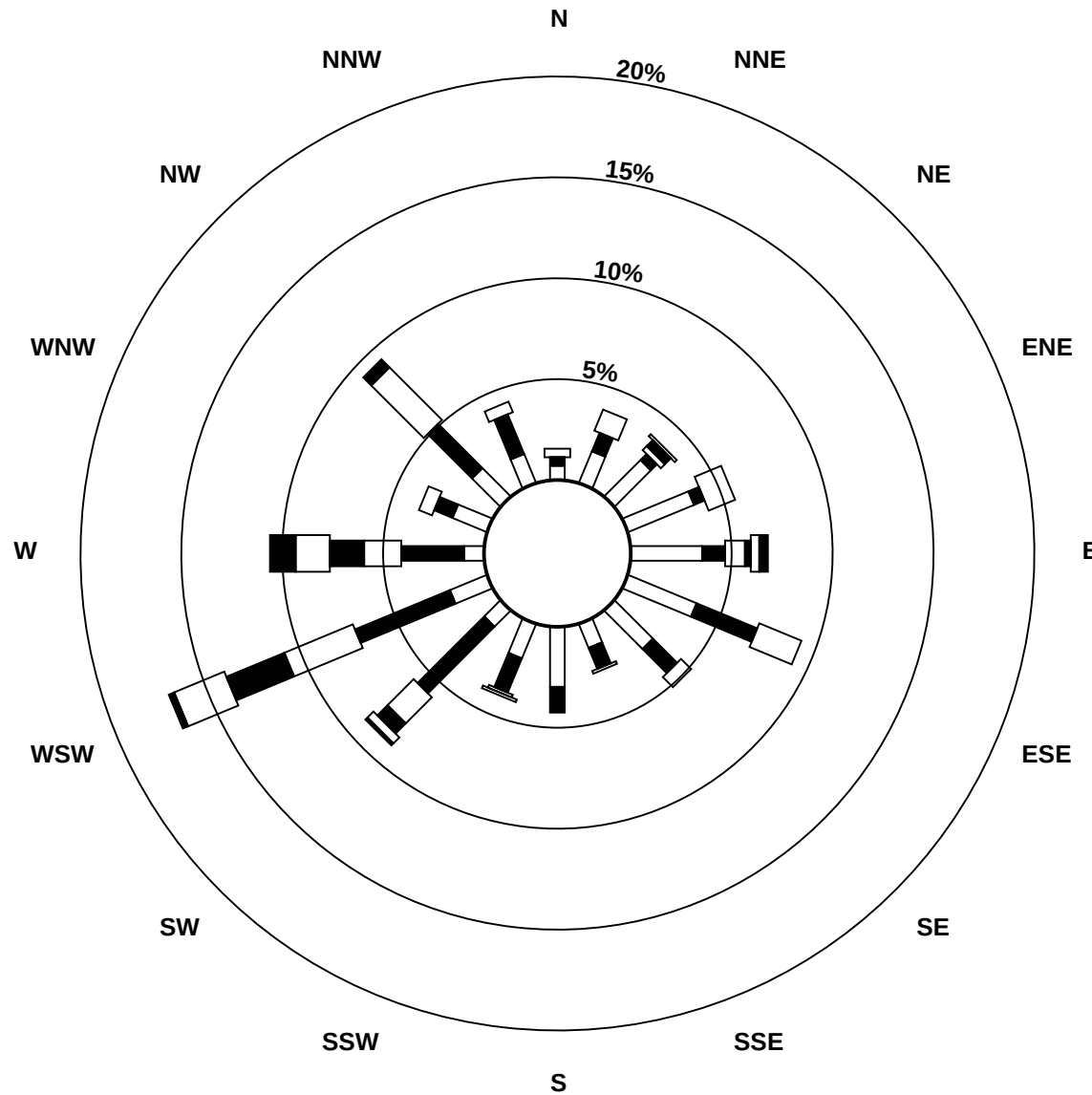
Hourly Averages

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

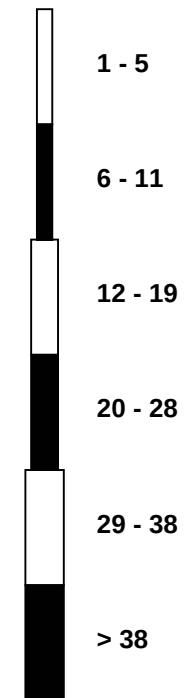
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
23 Spd	5	6	6	2	2	3	5	3	6	6	4	3	6	5	8	3	3	1	4	1	2	3	5	3	0.6	7.7
Dir	108	99	66	128	257	296	269	335	263	279	269	321	335	22	276	188	30	303	40	97	166	102	72	143	342	276
24 Spd	4	4	3	5	5	3	3	5	4	4	6	6	9	10	10	11	12	10	10	9	9	11	6	4	6.6	11.9
Dir	102	144	113	124	165	91	120	91	109	124	124	127	111	117	115	124	111	111	118	130	128	110	130	140	119	111
25 Spd	2	5	3	4	3	2	9	16	31	38	50	49	43	32	28	23	8	11	6	7	2	3	2	4	14.6	49.5
Dir	186	289	17	298	345	12	255	254	247	252	262	267	269	271	270	266	240	256	202	213	205	152	174	185	260	262
26 Spd	6	3	8	6	12	14	12	11	11	14	11	13	11	14	13	16	11	7	9	9	9	11	9	4	9.1	16.2
Dir	206	100	65	101	105	126	137	126	127	149	150	131	108	103	90	112	135	115	114	129	117	147	180	62	123	112
27 Spd	5	35	39	33	21	16	22	23	32	36	31	27	19	15	16	16	13	13	15	12	8	7	5	1	14.2	39.3
Dir	189	223	216	209	226	263	254	247	234	227	244	248	273	318	329	322	327	321	311	319	344	329	351	41	255	216
28 Spd	5	6	10	26	16	11	11	18	30	22	13	10	7	13	16	12	13	13	13	3	4	5	6	19	12.0	30.1
Dir	257	244	247	247	242	232	230	235	258	251	223	185	193	219	225	211	238	231	228	173	192	258	236	236	235	258
29 Spd	25	32	29	29	22	23	6	13	6	11	7	2	5	4	2	5	4	1	5	8	9	5	7	4	8.3	31.8
Dir	244	251	251	254	244	256	235	258	343	279	320	63	55	35	139	37	28	332	308	284	286	352	319	339	267	251
30 Spd	4	8	6	8	8	7	7	12	12	10	3	2	2	2	7	11	15	11	1	6	6	7	15	17	4.9	17.3
Dir	299	303	334	335	318	342	338	318	320	306	141	186	101	146	209	217	243	244	154	218	229	229	243	237	269	237
Spd	1.9	2.6	2.6	3.4	2.7	4.1	3.7	3.8	4.6	6.4	6.9	6.4	6.8	6.3	6.1	6.2	5.4	6.3	3.1	2.1	1.4	0.8	1.1	2.0	Diurnal Average	
Dir	239	243	246	239	244	263	268	263	261	256	259	257	263	269	268	259	260	259	258	251	233	190	234	222	Diurnal Maximum	
Spd	36.7	38.1	39.3	34.1	35.4	36.9	39.5	38.5	40.4	39.7	49.5	48.5	43.0	43.1	38.9	37.1	33.6	36.8	44.9	44.1	43.2	37.0	35.8	35.7	Diurnal Maximum	
Dir	73	72	216	74	71	255	263	262	264	266	262	267	269	247	250	256	92	90	92	89	87	80	79	77		
Maximum Speed Value: 50 km/h on Nov 25 11:00																								Hours in Service: 720		
Maximum Daily Speed Average: 27.1 km/h on Nov 13																								Hours of Data: 720		
Maximum Diurnal Speed Average: 6.9 km/h at hour 11																								Hours of Missing Data: 0		
Minimum Speed Value: 0 km/h on Nov 5 23:00																								Percent Operational Time: 100.0		
Minimum Daily Speed Average: 0.5 km/h on Nov 21																										
Minimum Diurnal Speed Average: 0.8 km/h at hour 22																										
Monthly Average Velocity: 3.95 km/h 256.7 deg																										
Speed Percentiles: P ₁ = 0.7 P ₁₀ = 2.3 Q ₁ = 4.3 Median = 8.0 Q ₃ = 14.6 P ₉₀ = 27.5 P ₉₉ = 43.0																										
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	12		18		7		0		0		0		37													
NorthEast	30		13		7		3		4		0		57													
East	48		27		20		2		10		4		111													
SouthEast	37		27		11		0		0		0		75													
South	32		22		1		0		0		0		55													
SouthWest	18		61		28		17		9		2		135													
West	15		42		34		21		28		12		152													
NorthWest	29		32		31		6		0		0		98													
Total	221		242		139		49		51		18		720													

Wind Rose

Wind Speed (WS) (km/h)
Beaverlodge - November 2011



Wind Speed Classes (km/h)



Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Beaverlodge - November 2011

Maximum Speed: 50 km/h on Nov 25 11:00																				Maximum Daily Speed Average: 27.8 km/h on Nov 13										Hours in Service: 720	
Minimum Speed: 2 km/h on Nov 6 02:00																				Minimum Daily Speed Average: 4.2 km/h on Nov 21										Hours of Data: 720	
Maximum Diurnal Speed Average: 15.2 km/h at hour 16																				Minimum Diurnal Speed Average: 8.3 km/h at hour 23										Hours of Missing Data: 0	
Monthly Average Speed: 11.63 km/h																				Percentiles: P ₁ = 2.0 P ₁₀ = 3.3 Q ₁ = 5.1 Median = 8.1 Q ₃ = 14.6 P ₉₀ = 27.6 P ₉₉ = 43.1										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	15	7	9	14	15	11	13	13	15	18	27	32	38	43	39	37	23	18	8	7	9	6	4	6	17.8	43.3					
2-Nov	6	7	5	4	5	6	5	6	7	6	7	12	11	9	11	4	6	5	6	8	11	6	5	5	6.9	12.1					
3-Nov	3	2	8	10	17	23	24	22	20	20	20	17	18	19	18	17	15	9	8	4	4	4	6	6	13.0	23.7					
4-Nov	6	6	3	6	4	4	5	6	4	5	7	6	6	6	9	5	11	20	8	7	9	11	6	13	7.2	19.5					
5-Nov	7	4	4	5	5	15	15	9	7	8	6	7	8	7	9	9	10	12	10	6	2	2	3	3	7.1	14.6					
6-Nov	3	2	3	3	3	3	4	2	3	4	3	6	20	18	14	23	23	24	14	12	7	7	3	5	8.7	23.9					
7-Nov	6	6	8	9	10	10	9	11	10	18	24	25	20	24	27	33	27	29	10	8	10	8	7	10	15.0	33.3					
8-Nov	5	10	18	7	11	11	12	4	4	9	29	33	33	30	19	15	19	21	19	13	9	5	2	3	14.2	33.0					
9-Nov	3	3	4	3	5	3	4	5	4	5	11	16	13	10	13	12	10	7	4	6	2	2	4	4	6.4	15.8					
10-Nov	3	4	5	5	6	14	5	6	7	19	23	31	33	34	26	28	31	33	30	13	13	10	8	5	16.4	34.5					
11-Nov	9	10	4	9	13	24	12	6	3	2	3	9	13	11	10	16	9	12	18	16	15	14	11	11	10.9	23.7					
12-Nov	13	12	9	7	3	5	10	12	14	14	13	13	12	11	11	9	3	6	9	24	28	20	29	24	13.0	29.0					
13-Nov	23	28	28	27	30	37	40	39	40	40	43	38	42	36	34	30	17	29	22	8	11	15	5	9	27.8	42.5					
14-Nov	7	3	4	3	2	12	15	22	20	17	16	16	18	18	16	14	7	5	3	2	2	4	3	4	9.7	21.6					
15-Nov	4	3	2	2	3	4	5	5	5	3	3	3	3	4	6	15	9	9	9	9	5	12	11	9	5.9	14.7					
16-Nov	6	5	5	5	5	7	3	3	4	3	4	6	12	15	22	28	34	37	45	44	43	37	36	36	18.6	44.9					
17-Nov	37	38	36	34	36	36	36	32	26	27	30	28	19	16	15	15	16	16	17	16	15	13	10	7	23.7	38.2					
18-Nov	6	6	8	10	10	8	6	5	7	7	6	5	7	8	10	12	15	12	7	10	14	19	17	13	9.5	19.2					
19-Nov	13	12	5	6	3	5	6	5	6	8	11	9	8	7	9	8	6	9	9	10	8	5	5	5	7.3	12.9					
20-Nov	8	7	3	6	8	6	5	3	3	3	3	2	3	6	7	3	3	6	8	7	5	4	4	4	4.9	8.4					
21-Nov	5	4	2	2	2	2	3	4	3	5	5	6	8	6	6	5	8	5	5	3	3	3	2	3	4.2	8.1					
22-Nov	3	5	5	5	6	4	6	6	6	8	7	9	4	6	8	17	28	19	16	11	9	6	4	5	8.5	28.4					
23-Nov	6	7	6	3	5	4	6	4	8	8	4	4	6	5	8	4	5	5	4	3	4	3	6	4	5.2	8.4					
24-Nov	5	4	3	5	5	4	4	5	4	5	6	6	9	10	11	11	12	11	11	9	9	11	7	4	7.2	12.1					
25-Nov	3	6	4	5	4	3	9	16	31	38	50	49	43	32	28	23	9	11	8	8	5	5	3	5	16.7	49.6					
26-Nov	7	5	8	7	13	14	12	11	11	14	11	13	11	15	14	16	11	7	9	9	9	11	9	4	10.4	16.3					
27-Nov	8	35	39	33	21	17	23	23	32	36	31	27	19	18	16	16	14	13	15	12	8	8	8	3	19.7	39.4					
28-Nov	6	6	10	26	17	11	11	18	30	23	14	10	7	13	16	12	13	14	13	5	6	5	7	19	13.1	30.4					
29-Nov	25	32	29	29	22	23	7	14	6	12	8	6	5	5	3	5	5	2	5	9	9	6	7	5	11.5	32.0					
30-Nov	7	9	7	8	8	8	8	12	12	11	3	3	3	3	7	11	15	11	2	6	6	8	15	18	8.3	17.6					
8.6 9.6 9.6 10.0 9.8 11.3 10.7 10.9 11.7 13.1 14.3 14.9 15.0 14.9 14.7 15.2 13.8 13.9 11.7 10.2 9.8 9.1 8.3 8.4																									Diurnal Average						
36.8 38.2 39.4 34.2 35.5 37.1 39.6 38.6 40.5 39.8 49.6 48.6 43.1 43.3 39.1 37.2 33.7 36.9 44.9 44.2 43.3 37.1 35.8 35.7																									Diurnal Maximum						
All monthly, daily, and diurnal averages have been calculated using scalar methods																															

Hourly Standard Deviations

Wind Direction (WD) - deg
Beaverlodge - November 2011

Maximum Value: 91.3 deg on Nov 5 05:00																		Hours in Service: 720							
Minimum Value: 1.9 deg on Nov 8 19:00																		Hours of Data: 720							
																		Hours of Missing Data: 0							
Percentiles: P ₁ = 2.7 P ₁₀ = 4.4 Q ₁ = 6.6 Median = 13.7 Q ₃ = 34.5 P ₉₀ = 59.0 P ₉₉ = 87.1																		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	3	53	10	3	3	4	5	3	3	4	5	7	6	4	6	5	5	10	18	17	11	49	35	28	52.6
2-Nov	19	11	18	36	46	51	32	33	9	25	24	6	6	15	14	51	48	52	51	39	42	73	77	24	76.7
3-Nov	59	81	19	13	14	7	8	6	7	9	9	12	9	11	9	13	7	5	10	14	19	32	17	14	81.4
4-Nov	8	10	62	13	25	34	36	8	19	12	10	13	13	13	11	49	53	8	13	10	10	6	18	4	62.1
5-Nov	19	18	80	88	91	3	5	4	11	6	18	16	19	39	19	14	13	7	5	65	56	69	87	86	91.3
6-Nov	38	58	60	37	40	42	46	42	31	62	39	38	9	12	9	9	4	4	4	4	12	14	17	22	61.6
7-Nov	12	22	15	11	7	16	40	12	7	5	6	7	11	6	6	4	7	6	11	14	6	17	14	17	40.2
8-Nov	54	46	5	52	53	6	6	64	63	15	10	7	6	8	11	7	11	3	2	5	13	76	90	29	89.9
9-Nov	36	41	28	30	21	31	47	12	24	36	18	7	18	25	9	7	15	21	13	17	66	52	13	19	65.5
10-Nov	48	35	35	38	28	41	79	22	12	8	5	6	6	8	7	5	4	4	6	7	7	9	32	18	79.3
11-Nov	24	11	43	7	16	5	12	17	48	62	67	11	9	15	15	7	13	6	9	9	9	5	6	5	67.3
12-Nov	6	7	12	26	78	11	18	5	5	5	6	7	11	13	9	5	74	32	25	5	3	5	5	6	78.0
13-Nov	4	2	3	3	2	6	5	4	4	4	5	5	5	5	10	5	8	5	11	9	8	8	87	11	87.4
14-Nov	53	32	64	79	78	5	7	4	21	7	7	6	5	8	6	6	10	18	55	31	28	13	37	24	78.5
15-Nov	22	39	49	84	64	64	57	27	75	46	29	29	33	32	67	15	10	6	13	12	15	8	11	10	84.4
16-Nov	15	53	39	19	35	9	90	77	17	46	43	44	9	4	4	3	3	4	2	3	3	4	3	3	90.4
17-Nov	3	3	4	4	4	3	4	5	8	4	4	4	13	8	8	6	6	4	4	4	4	5	15	14	14.6
18-Nov	8	19	8	3	5	5	7	4	5	5	6	21	8	5	5	4	3	5	20	13	8	3	5	4	21.4
19-Nov	6	6	17	16	44	13	53	60	52	19	15	5	9	28	10	8	11	5	5	7	8	13	15	14	59.6
20-Nov	5	9	87	16	13	38	36	34	28	39	30	50	46	12	16	54	20	19	8	8	9	31	16	15	86.6
21-Nov	9	19	21	81	86	41	88	56	64	31	20	45	17	71	56	15	9	49	16	47	32	81	63	73	88.0
22-Nov	75	78	59	26	40	44	23	27	25	22	54	75	57	27	33	21	4	5	5	6	31	47	29	29	77.8
23-Nov	20	24	7	65	76	66	51	52	34	51	60	58	22	18	28	42	82	86	59	85	64	33	28	45	86.0
24-Nov	37	23	21	21	19	30	38	16	20	39	12	10	12	6	13	7	12	28	25	20	16	13	30	32	39.0
25-Nov	46	45	61	71	51	63	25	8	3	5	4	4	4	4	6	6	29	13	37	29	83	53	58	46	82.7
26-Nov	51	52	8	29	13	5	13	10	6	6	8	14	9	6	13	7	12	14	19	13	18	17	13	37	51.7
27-Nov	63	2	4	3	8	14	18	4	7	3	6	12	6	28	7	4	10	7	6	8	13	30	85	86	86.3
28-Nov	65	24	38	8	16	8	8	7	8	13	10	15	25	9	7	17	7	9	16	59	52	65	40	6	65.3
29-Nov	4	6	6	6	4	3	38	32	15	20	27	72	18	39	46	18	48	65	31	8	12	35	7	32	72.1
30-Nov	63	14	19	8	9	27	21	6	5	51	23	53	39	50	9	10	5	5	80	27	15	60	7	11	80.3
74.7 81.4 86.6 88.3 91.3 65.5 90.4 76.5 75.1 61.9 67.3 74.9 56.6 71.5 67.1 54.4 81.5 86.0 80.3 85.0 82.7 80.7 89.9 86.3																									

PAZA
Valleyview Station
Monthly Summary Tables, Graphs and
Roses

Hourly Averages

Sulphur Dioxide (SO₂) - ppb

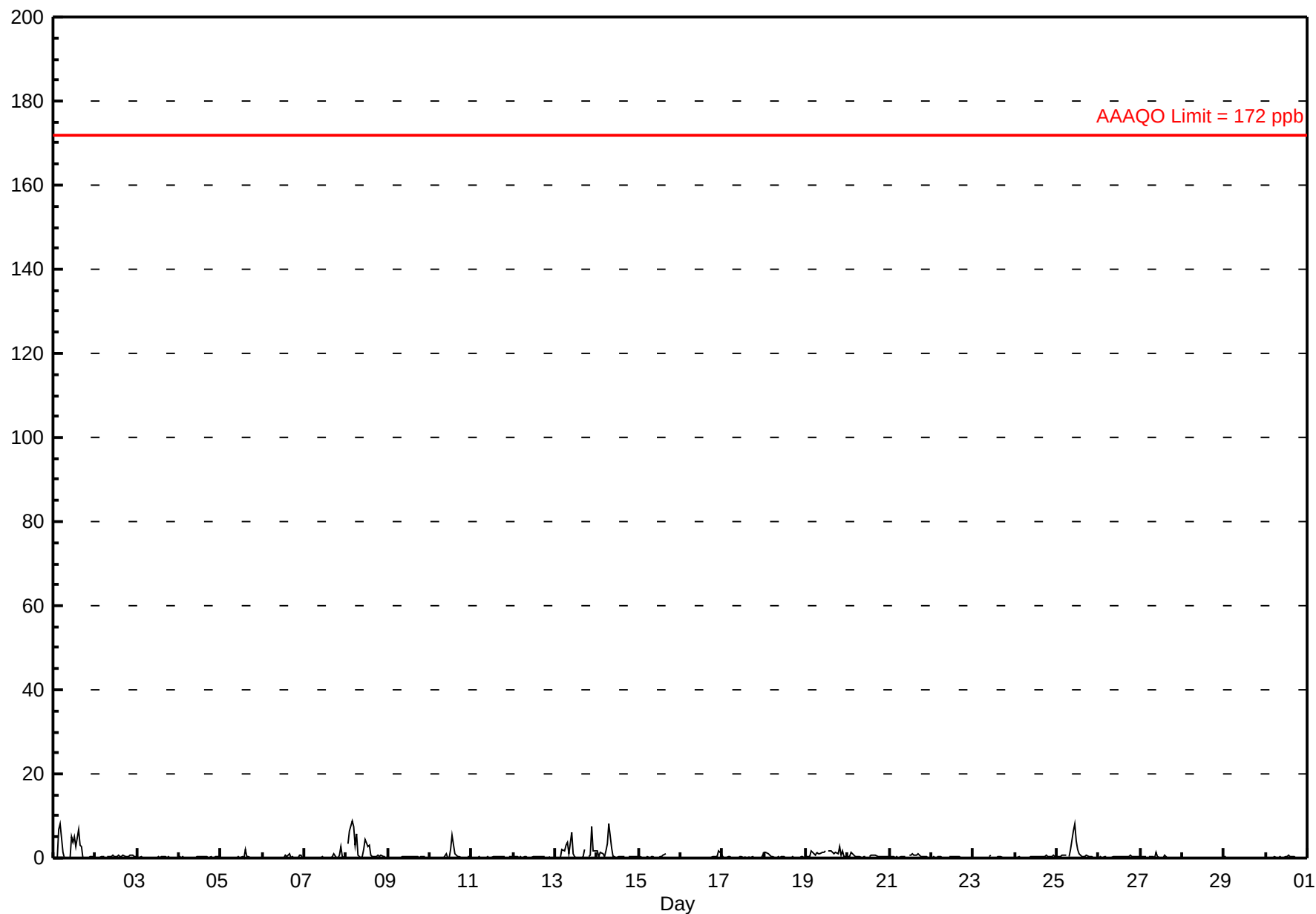
Valleyview - November 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																			Hours in Service: 720							
Maximum Value: 8.7 ppb on Nov 8 04:00																			Maximum Daily Average: 2.3 ppb on Nov 8				Hours of Data: 687			
Minimum Value: 0 ppb on Nov 1 01:00																			Minimum Daily Average: 0.1 ppb on Nov 28				Hours of Missing Data: 33			
Maximum Diurnal Average: 0.8 ppb at hour 5																			Minimum Diurnal Average: 0.2 ppb at hour 21				Hours of Calibration: 33			
Monthly Average: 0.50 ppb																			Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 0.2 Q ₃ = 0.4 P ₉₀ = 1.0 P ₉₉ = 6.7				Percent Operational Time: 100.0			
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Nov	0	0	0	7	8	1	0	A	0	0	5	4	5	3	7	3	3	0	0	0	0	0	0	0	2.0	8.0
2-Nov	0	0	0	0	0	0	A	0	0	0	1	0	0	1	0	0	1	0	0	0	1	1	0	0	0.4	0.6
3-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	0.3
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	0.4
5-Nov	0	0	0	A	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0.2	2.0
6-Nov	0	0	A	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1	1	0	0.2	1.1
7-Nov	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	3	0	0	0.3	2.6
8-Nov	A	3	6	9	7	3	6	1	0	0	2	4	3	3	1	0	0	0	1	0	1	0	0	A	2.3	8.7
9-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
10-Nov	0	0	0	0	0	0	0	0	0	1	0	0	2	5	1	1	0	0	0	0	0	A	A	0	0.5	5.3
11-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	0.3
12-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	0.5
13-Nov	0	0	0	0	2	2	3	4	1	6	1	0	0	0	0	0	0	2	A	0	1	8	2	2	1.5	7.6
14-Nov	2	0	1	1	0	2	3	8	2	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	1.0	8.1
15-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	A	0	0	0	0	0	0	0	0.2	1.0
16-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	2	1	0.2	1.7
17-Nov	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	0.6
18-Nov	1	1	1	1	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.3	1.5
19-Nov	0	0	0	2	1	1	1	1	1	1	2	A	2	2	1	1	1	1	1	3	1	2	0	0	1.2	2.8
20-Nov	0	0	1	1	0	0	0	0	0	0	A	0	1	1	1	1	0	0	0	0	0	0	0	0	0.4	1.4
21-Nov	0	0	0	0	0	0	0	0	0	0	A	1	1	1	1	1	1	1	0	0	0	0	0	0	0.4	0.9
22-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
23-Nov	0	0	0	0	0	0	0	0	A	0	1	C	C	0	0	0	0	0	0	0	0	0	0	0	0.2	0.8
24-Nov	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0.3	0.5
25-Nov	0	0	0	1	1	1	A	0	2	6	8	4	2	1	0	0	0	1	0	0	0	0	0	0	1.3	8.0
26-Nov	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0.3	0.7
27-Nov	0	0	0	0	A	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0.2	1.3
28-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
29-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
30-Nov	0	A	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0.2	0.5
																								Diurnal Average	Diurnal Maximum	
																								0.2	1.7	
																								0.3	3.3	
																								0.5	6.5	
																								0.8	8.7	
																								0.8	8.0	
																								0.4	3.0	
																								0.6	5.6	
																								0.6	8.1	
																								0.3	2.4	
																								0.7	6.5	
																								0.8	8.0	
																								0.7	4.4	
																								0.6	5.0	
																								0.7	5.3	
																								0.7	6.8	
																								0.5	2.9	
																								0.4	2.6	
																								0.4	1.9	
																								0.2	0.9	
																								0.3	2.8	
																								0.2	0.7	
																								0.6	7.6	
																								0.3	1.7	
																								0.3	1.7	
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																										

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
Valleyview - November 2011



Hourly Maximums

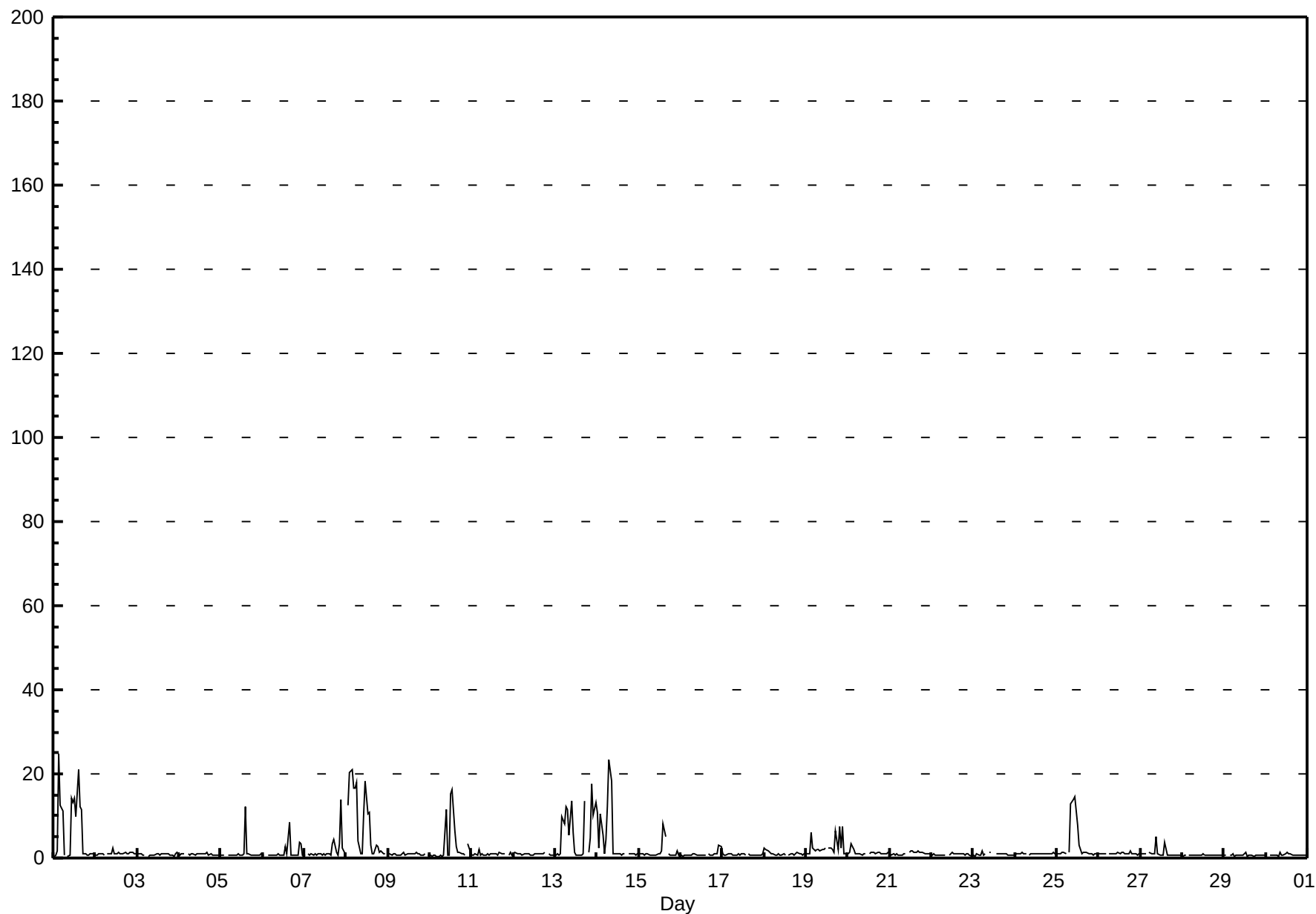
Sulphur Dioxide (SO₂) - ppb

Valleyview - November 2011

Maximum Value: 24.7 ppb on Nov 1 04:00																				Maximum Daily Average: 8.0 ppb on Nov 8					Hours in Service: 720	
Minimum Value: 0 ppb on Nov 1 01:00																				Minimum Daily Average: 0.7 ppb on Nov 28					Hours of Data: 687	
Maximum Diurnal Average: 2.8 ppb at hour 4																				Minimum Diurnal Average: 1.1 ppb at hour 19					Hours of Missing Data: 33	
Monthly Average: 1.94 ppb																				Percentiles: P ₁ = 0.5 P ₁₀ = 0.6 Q ₁ = 0.8 Median = 0.9 Q ₃ = 1.1 P ₉₀ = 3.0 P ₉₉ = 18.1					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	1	2	25	12	11	1	A	0	1	14	13	14	10	21	12	12	1	1	1	1	1	1	1	6.8	24.7
2-Nov	1	1	1	1	1	1	A	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1.2	2.3
3-Nov	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	0.8	1.3
4-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
5-Nov	1	1	1	A	1	1	1	1	1	1	1	1	1	1	12	1	1	1	1	1	1	1	1	1	1.3	12.3
6-Nov	1	1	A	1	1	1	1	1	1	1	1	1	1	3	1	9	1	1	1	1	1	4	3	1	1.4	8.6
7-Nov	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	5	1	1	4	14	2	1	1.9	13.9
8-Nov	A	13	20	21	17	17	18	4	1	1	10	18	11	11	3	1	1	3	3	1	2	1	1	A	8.0	21.2
9-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	0.9	1.3
10-Nov	1	0	1	1	0	0	1	0	1	12	1	1	15	16	7	3	1	1	1	1	1	A	3	1	3.0	16.2
11-Nov	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	0.9	2.1
12-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	1.0	1.4
13-Nov	1	1	1	1	10	8	12	11	5	13	6	1	1	1	1	1	1	14	A	1	5	18	10	13	5.9	17.5
14-Nov	11	2	10	5	1	4	12	23	18	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	4.4	23.3
15-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	2	8	5	A	1	1	1	1	1	2	1	1.4	8.1
16-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	3	3	0.9	3.0
17-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	1.1
18-Nov	2	2	2	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1.0	2.3
19-Nov	1	1	1	6	3	2	2	2	2	2	2	A	2	2	2	2	2	7	2	7	2	7	1	1	2.7	7.5
20-Nov	1	1	3	2	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1.2	3.5
21-Nov	1	1	1	1	1	1	1	1	1	1	A	1	2	2	1	1	2	1	1	1	1	1	1	1	1.1	1.8
22-Nov	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0.9	1.2
23-Nov	1	1	1	1	1	2	1	1	A	1	1	C	C	1	1	1	1	1	1	1	1	1	1	1	0.9	1.7
24-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	1.0	1.5
25-Nov	1	1	1	1	2	1	A	1	13	14	15	11	8	3	1	1	1	1	1	1	1	1	1	1	3.6	14.7
26-Nov	1	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	1.7
27-Nov	1	1	1	1	A	1	1	1	1	5	1	1	1	1	4	1	1	1	1	1	1	1	1	1	1.1	5.0
28-Nov	0	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	0.9
29-Nov	1	1	A	1	1	1	0	1	1	1	1	1	1	0	1	1	1	0	1	1	1	1	1	1	0.8	1.3
30-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
1.2 1.3 2.1 2.8 2.3 2.2 2.2 2.2 2.1 2.3 2.4 2.4 2.5 2.4 2.7 1.8 1.5 1.7 1.1 1.1 1.2 2.2 1.5 1.4																								Diurnal Average		
10.9 12.5 20.4 24.7 16.8 16.7 17.9 23.3 18.4 13.7 14.7 18.2 15.2 16.2 20.9 12.1 11.6 13.6 2.6 7.5 4.6 17.5 10.3 13.3																								Diurnal Maximum		
C - Calibration A - Automated Daily Zero Span																										

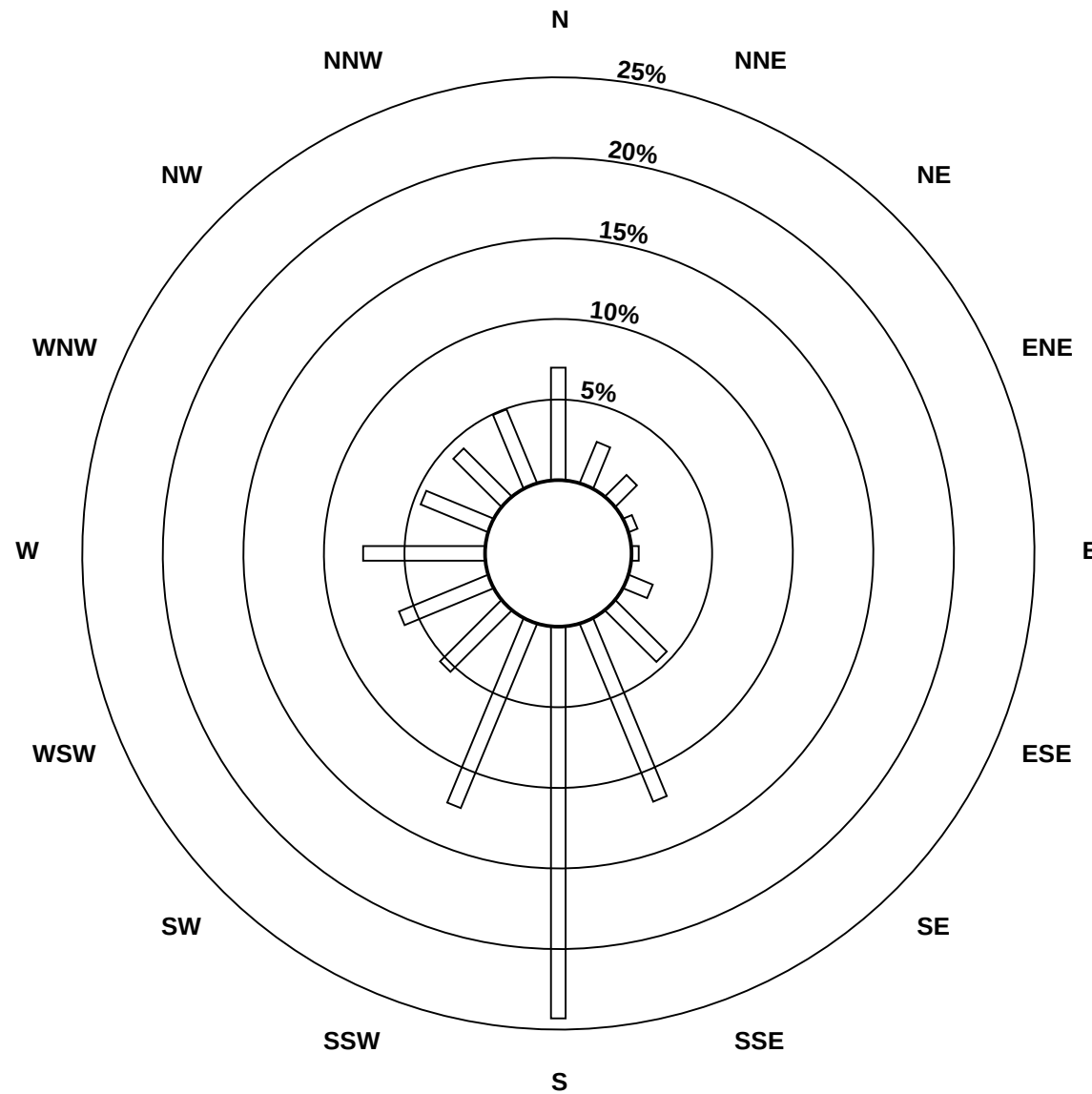
Hourly Maximums

Sulphur Dioxide (SO₂) - ppb
Valleyview - November 2011

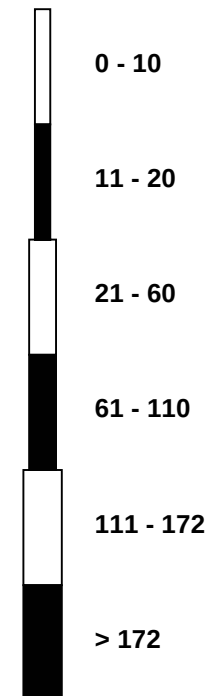


Pollutant Rose

Sulphur Dioxide (SO₂) - ppb
Valleyview - November 2011

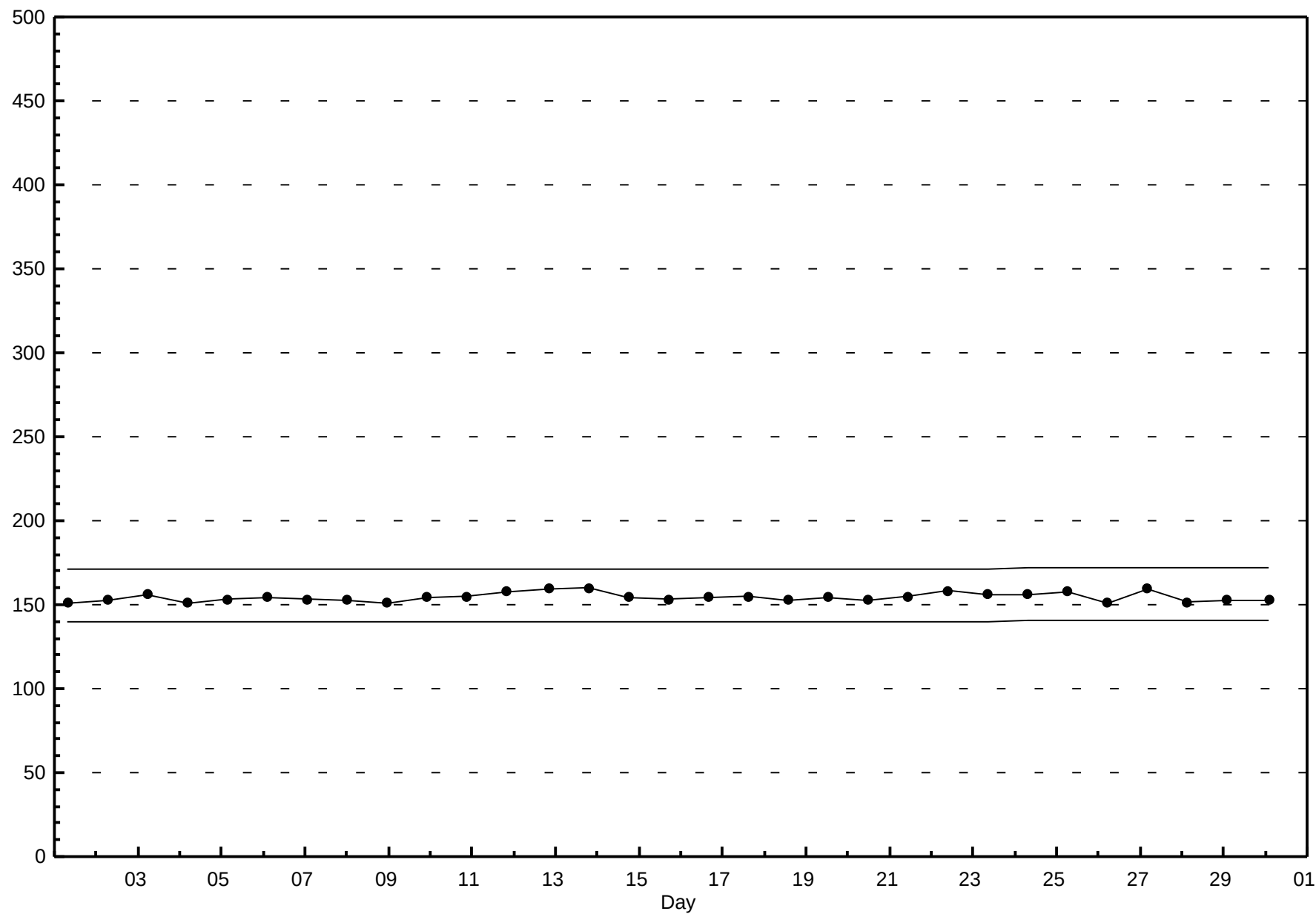


Pollutant Classes (ppb)



Span Responses

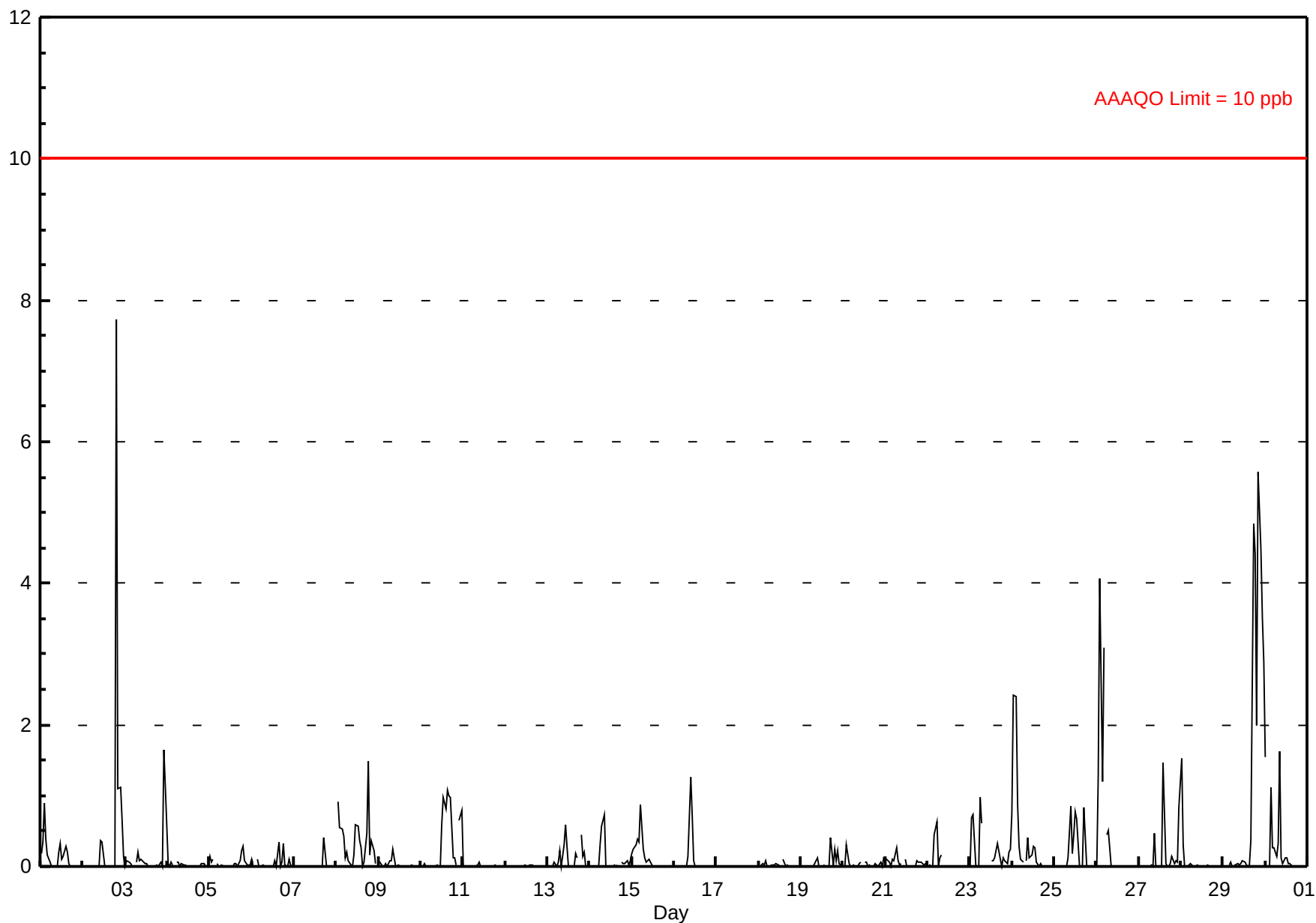
Sulphur Dioxide (SO₂)
Valleyview - November 2011



[illegible]

Hourly Averages

Hydrogen Sulphide (H₂S) - ppb
Valleyview - November 2011



Hourly Maximums

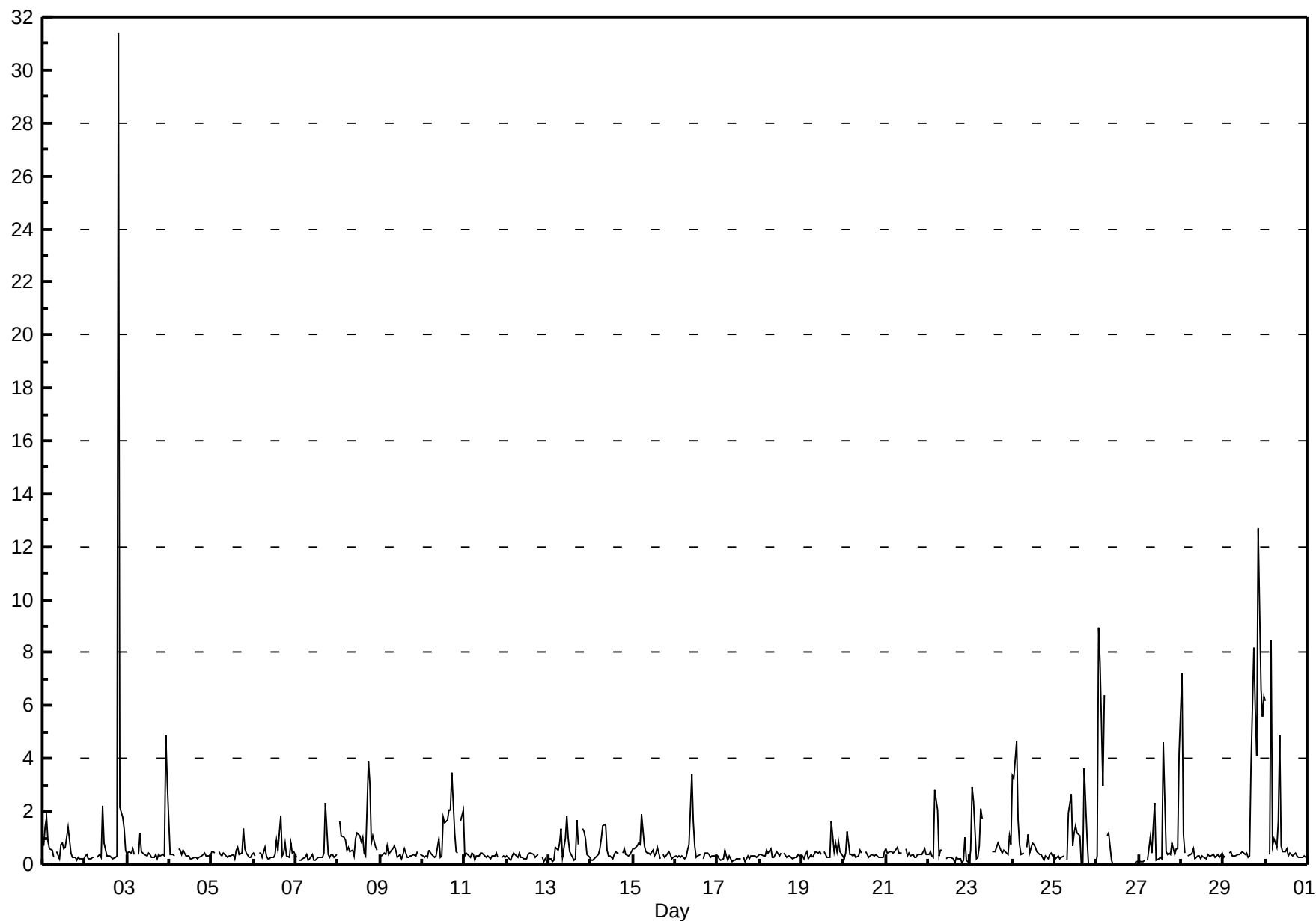
Hydrogen Sulphide (H₂S) - ppb

Valleyview - November 2011

Maximum Value: 31.4 ppb on Nov 2 20:00																				Maximum Daily Average: 2.6 ppb on Nov 29										Hours in Service: 720	
Minimum Value: 0 ppb on Nov 25 16:00																				Minimum Daily Average: 0.3 ppb on Nov 17										Hours of Data: 686	
Maximum Diurnal Average: 1.6 ppb at hour 20																				Minimum Diurnal Average: 0.4 ppb at hour 16										Hours of Missing Data: 34	
Monthly Average: 0.73 ppb																				Percentiles: P ₁ = 0.0 P ₁₀ = 0.2 Q ₁ = 0.3 Median = 0.4 Q ₃ = 0.5 P ₉₀ = 1.4 P ₉₉ = 7.1										Hours of Calibration: 34	
																														Percent Operational Time: 100.0	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24							
1-Nov	1	1	2	1	1	1	0	A	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0.6	1.8					
2-Nov	0	0	0	0	0	0	A	0	0	0	2	1	0	0	0	0	0	0	0	31	2	2	1	1	2.0	31.4					
3-Nov	0	0	0	1	0	A	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	3	0.7	4.9					
4-Nov	0	0	0	0	A	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.6					
5-Nov	0	0	0	A	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	1	0	0	0	0	0.4	1.4					
6-Nov	0	0	A	0	0	0	1	0	0	0	0	0	0	1	1	2	0	0	1	0	0	1	0	0	0.5	1.9					
7-Nov	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0.4	2.3					
8-Nov	A	2	1	1	1	1	1	0	1	0	1	1	1	1	1	0	0	4	3	1	1	1	1	A	1.0	3.9					
9-Nov	0	0	0	0	1	0	1	1	1	1	0	0	0	0	1	0	0	0	0	0	0	0	A	0	0.4	0.7					
10-Nov	0	0	0	0	1	0	0	0	0	1	0	0	2	2	2	2	2	3	1	1	0	A	2	2	1.0	3.5					
11-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	0.3	0.4					
12-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	0.3	0.4					
13-Nov	0	0	0	0	1	1	1	1	0	1	2	1	0	0	0	0	2	1	A	1	1	1	0	0	0.7	1.9					
14-Nov	0	0	0	0	0	1	1	1	2	1	0	0	0	0	0	0	0	A	0	1	0	0	0	1	0.5	1.5					
15-Nov	1	1	1	1	1	2	1	0	0	0	0	1	0	0	1	0	A	0	0	0	0	0	0	0	0.5	1.9					
16-Nov	0	0	0	0	0	0	0	1	1	3	2	1	0	0	0	A	0	0	0	0	0	0	0	0	0.6	3.4					
17-Nov	0	0	0	0	1	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.3	0.5					
18-Nov	0	0	0	0	1	0	1	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.4	0.6					
19-Nov	0	0	0	0	0	0	0	0	0	0	1	0	A	0	0	0	0	2	0	1	1	1	0	0	0.5	1.6					
20-Nov	0	0	1	0	0	0	0	0	0	1	0	A	1	0	0	0	0	0	0	0	0	0	0	0	0.4	1.3					
21-Nov	1	0	0	0	0	1	1	0	0	0	A	1	0	0	0	0	0	0	0	0	0	1	1	0	0.4	0.7					
22-Nov	0	0	0	0	3	2	0	1	1	A	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0.5	2.8					
23-Nov	1	3	2	0	0	1	2	2	A	C	C	C	0	0	1	1	1	1	0	1	0	0	1	1	0.9	2.9					
24-Nov	3	3	5	2	1	0	0	A	1	1	0	1	1	1	1	0	0	0	0	0	0	0	0	0	1.0	4.7					
25-Nov	0	0	0	0	0	0	A	0	2	3	1	1	1	1	1	0	0	4	1	0	0	0	0	0	0.7	3.6					
26-Nov	0	9	8	3	6	A	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.3	8.9					
27-Nov	0	0	0	0	A	0	1	0	1	2	0	0	0	0	5	1	0	0	0	1	0	1	1	4	0.9	4.6					
28-Nov	7	1	0	A	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.7	7.2					
29-Nov	0	0	A	0	0	0	0	0	0	0	0	1	0	0	0	0	4	8	6	4	13	7	6	6	2.6	12.7					
30-Nov	6	A	0	8	1	1	1	2	5	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1.3	8.5					
																									Diurnal Average						
																									Diurnal Maximum						
C - Calibration																									A - Automated Daily Zero Span						

Hourly Maximums

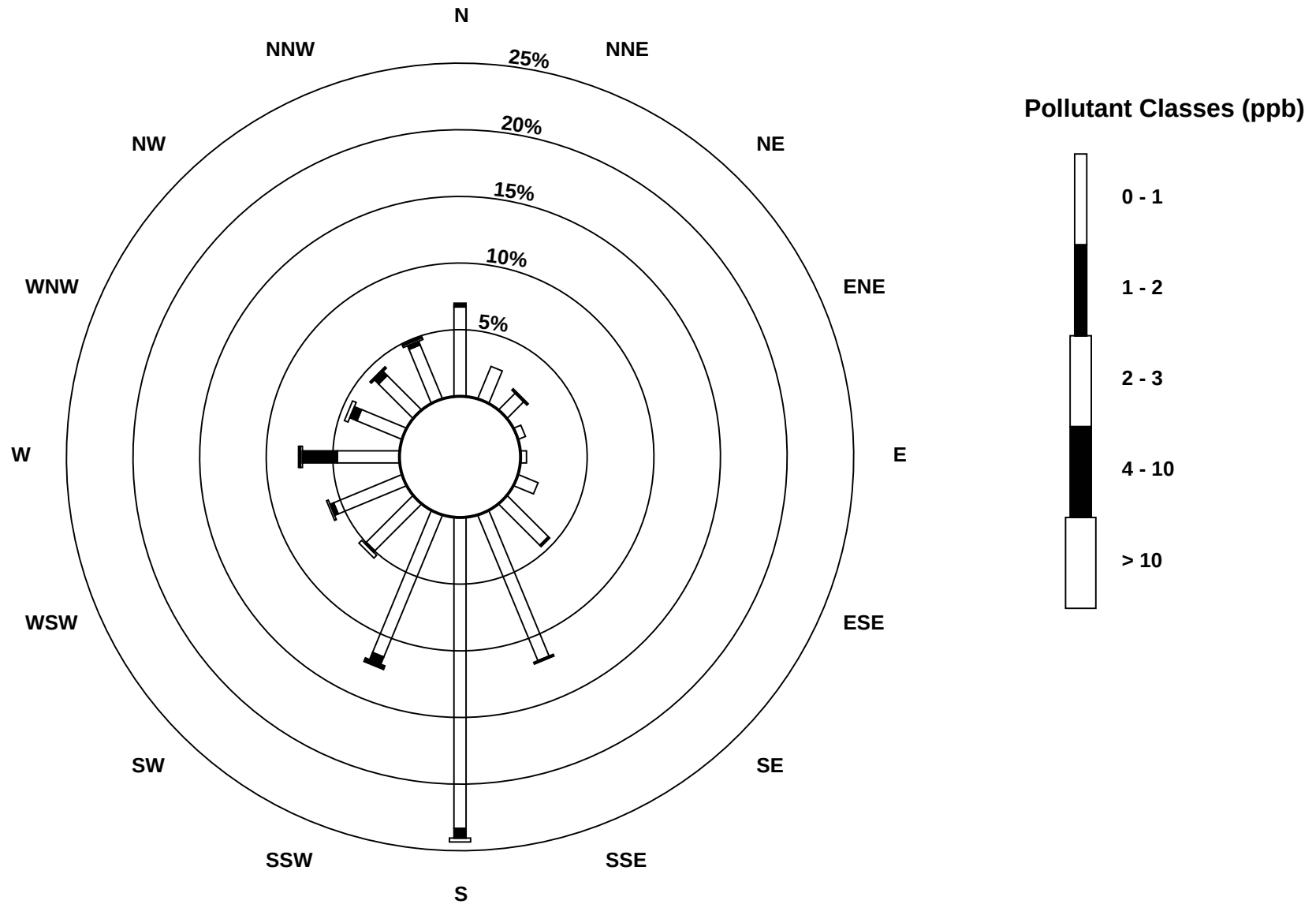
Hydrogen Sulphide (H₂S) - ppb
Valleyview - November 2011



Pollutant Rose

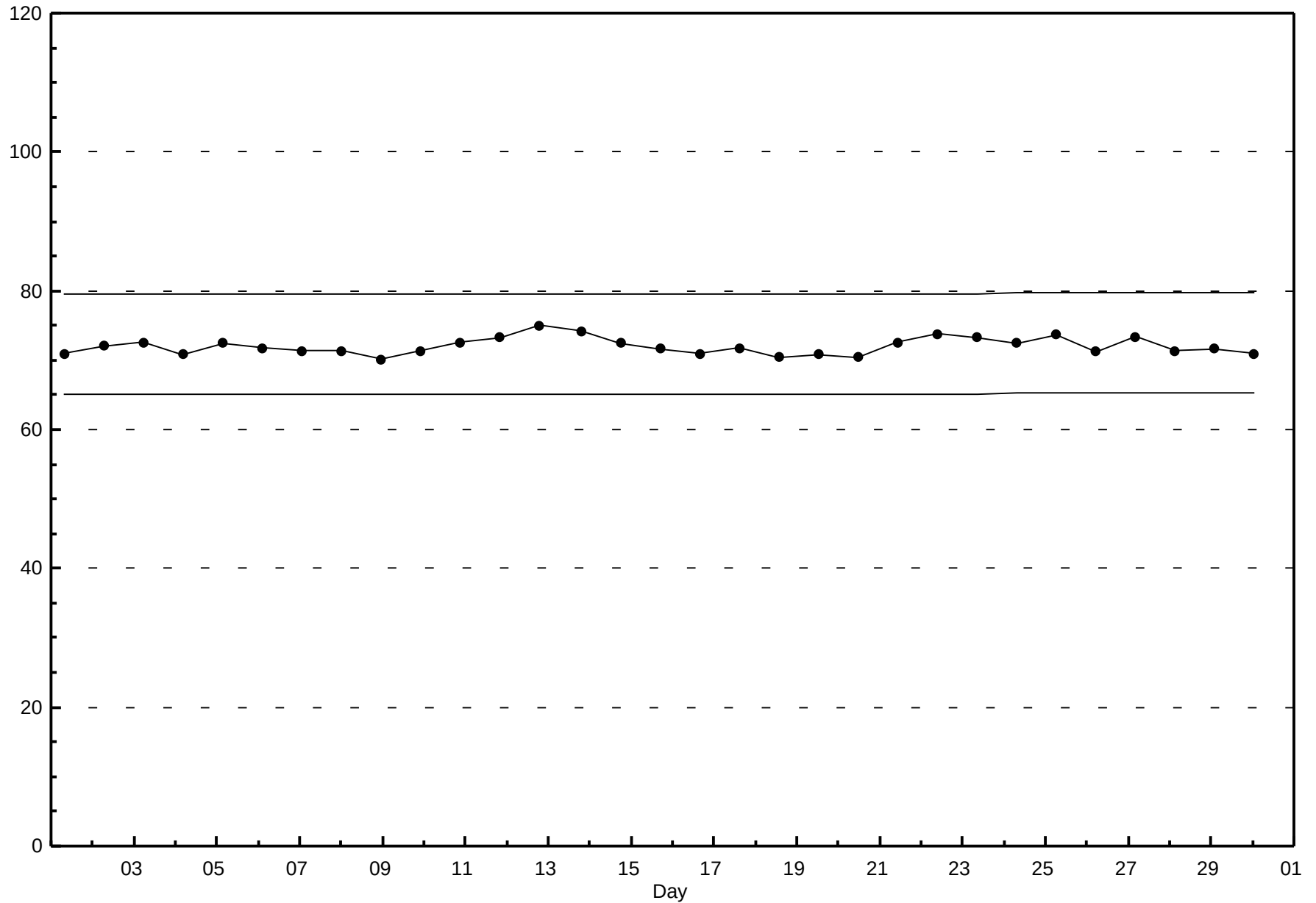
Hydrogen Sulphide (H_2S) - ppb

Valleyview - November 2011



Span Responses

Hydrogen Sulphide (H₂S)
Valleyview - November 2011



Hourly Averages

External Temperature (ET) - °C

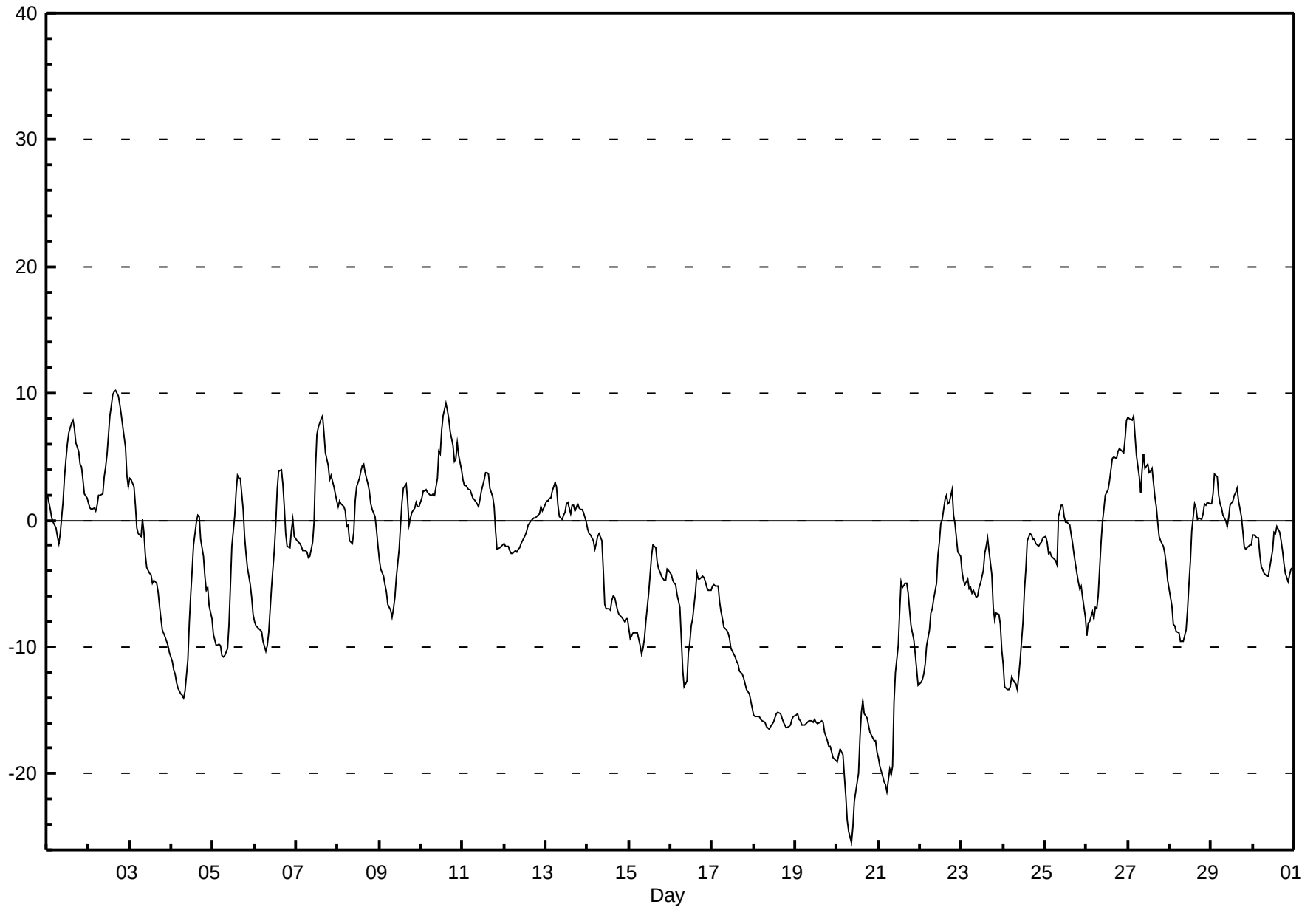
Valleyview - November 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 10.2 °C on Nov 2 17:00 Maximum Daily Average: 5.0 °C on Nov 2																									Hours in Service: 720 Hours of Data: 720 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0	
Minimum Value: -25 °C on Nov 20 09:00 Minimum Daily Average: -19.1 °C on Nov 20 Maximum Diurnal Average: -0.6 °C at hour 16 Minimum Diurnal Average: -6.6 °C at hour 8 Monthly Average: -3.97 °C Percentiles: P ₁ = -21.5 P ₁₀ = -15.4 Q ₁ = -8.3 Median = -2.4 Q ₃ = 1.2 P ₉₀ = 3.8 P ₉₉ = 9.0																										
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	0	0	-1	-1	-2	-1	2	3	5	6	7	8	8	7	6	5	4	4	3	2	2	3.0	7.9
2-Nov	1	1	1	1	1	1	2	2	2	3	4	5	8	9	10	10	10	10	9	8	7	6	4	3	5.0	10.2
3-Nov	3	3	3	1	-1	-1	-1	0	-1	-3	-4	-4	-4	-5	-5	-5	-6	-7	-8	-9	-9	-10	-10	-10	-3.8	3.3
4-Nov	-11	-12	-12	-13	-13	-14	-14	-14	-13	-11	-8	-6	-4	-2	0	0	0	-1	-3	-4	-5	-5	-7	-8	-7.5	0.5
5-Nov	-9	-9	-10	-10	-10	-11	-11	-11	-10	-8	-5	-2	0	2	4	3	3	1	-1	-3	-4	-5	-6	-7	-4.9	3.5
6-Nov	-8	-8	-8	-9	-9	-10	-10	-10	-9	-7	-5	-2	0	2	4	4	3	1	-1	-2	-2	-1	0	-1	-3.7	4.0
7-Nov	-2	-2	-2	-2	-2	-2	-3	-3	-3	-2	0	4	7	7	8	8	7	5	4	3	4	3	3	1	1.8	8.2
8-Nov	1	1	1	1	1	0	0	-2	-2	-1	2	3	3	4	4	4	4	3	2	1	1	0	-1	-2	1.2	4.4
9-Nov	-3	-4	-4	-5	-6	-7	-7	-8	-7	-6	-4	-2	0	1	2	3	2	0	0	1	1	1	1	1	-2.1	2.8
10-Nov	2	2	2	2	2	2	2	2	2	3	5	5	7	8	9	9	8	7	6	5	5	6	5	4	4.7	9.3
11-Nov	3	3	3	2	2	2	2	2	1	1	2	2	3	4	4	4	3	2	1	-1	-2	-2	-2	-2	1.5	3.8
12-Nov	-2	-2	-2	-2	-3	-3	-2	-3	-2	-2	-2	-1	-1	-1	0	0	0	0	0	0	1	1	1	1	-1.0	1.1
13-Nov	1	2	2	2	2	3	3	1	0	0	0	1	1	1	0	1	1	1	1	1	1	1	1	0	1.1	2.9
14-Nov	-1	-1	-1	-2	-2	-2	-1	-1	-2	-4	-7	-7	-7	-7	-6	-6	-6	-7	-7	-7	-8	-8	-8	-8	-4.8	-0.8
15-Nov	-9	-9	-9	-9	-9	-9	-10	-11	-10	-9	-8	-6	-4	-3	-2	-2	-3	-4	-4	-4	-5	-5	-4	-4	-6.3	-2.0
16-Nov	-4	-5	-5	-5	-6	-7	-9	-12	-13	-13	-10	-10	-8	-8	-6	-4	-5	-5	-4	-5	-5	-5	-6	-6	-6.8	-4.1
17-Nov	-5	-5	-5	-5	-6	-7	-8	-8	-9	-9	-9	-10	-11	-11	-11	-11	-12	-12	-12	-13	-13	-14	-14	-15	-9.9	-5.1
18-Nov	-15	-15	-15	-16	-16	-16	-16	-16	-16	-16	-16	-16	-16	-15	-15	-15	-16	-16	-16	-16	-16	-16	-16	-15	-15.8	-15.1
19-Nov	-15	-15	-16	-16	-16	-16	-16	-16	-16	-16	-16	-16	-16	-16	-16	-16	-16	-17	-17	-18	-18	-18	-19	-19	-16.5	-15.3
20-Nov	-19	-18	-18	-19	-20	-22	-24	-25	-25	-24	-22	-21	-20	-17	-15	-14	-15	-16	-16	-17	-17	-17	-17	-18	-19.1	-14.3
21-Nov	-19	-19	-20	-21	-21	-21	-20	-20	-19	-14	-12	-10	-7	-5	-5	-5	-5	-6	-7	-8	-9	-11	-12	-13	-12.9	-4.9
22-Nov	-13	-13	-12	-11	-10	-9	-7	-7	-6	-5	-3	-2	0	0	2	2	1	1	2	0	0	-1	-3	-3	-4.0	2.4
23-Nov	-4	-5	-5	-5	-5	-5	-6	-6	-6	-6	-5	-5	-4	-3	-2	-1	-2	-4	-7	-8	-7	-7	-8	-10	-5.3	-1.4
24-Nov	-11	-13	-13	-13	-13	-12	-13	-13	-13	-12	-11	-8	-6	-4	-2	-1	-1	-1	-1	-2	-2	-2	-2	-1	-7.2	-1.0
25-Nov	-1	-2	-3	-3	-3	-3	-3	-4	0	1	1	0	0	0	0	-1	-2	-3	-4	-5	-5	-5	-6	-8	-2.4	1.2
26-Nov	-9	-8	-8	-7	-8	-7	-7	-6	-2	0	1	2	2	3	4	5	5	5	5	6	6	5	6	8	0.1	7.9
27-Nov	8	8	8	8	7	5	3	2	4	5	4	4	4	4	4	2	1	0	-1	-2	-2	-3	-4	-5	2.7	8.3
28-Nov	-6	-7	-8	-8	-9	-9	-10	-10	-10	-9	-7	-5	-3	-1	1	1	0	0	0	0	1	1	1	1	-3.8	1.4
29-Nov	1	2	4	3	2	1	1	0	0	0	0	1	2	2	2	3	2	0	-1	-2	-2	-2	-2	-2	0.6	3.7
30-Nov	-1	-1	-1	-1	-3	-4	-4	-4	-4	-4	-4	-2	-1	-1	-1	-1	-2	-2	-3	-4	-5	-4	-4	-4	-2.8	-0.5
	-4.8	-5.0	-5.2	-5.3	-5.8	-6.1	-6.4	-6.6	-6.4	-5.6	-4.5	-3.4	-2.3	-1.4	-0.7	-0.6	-1.1	-2.0	-2.6	-3.3	-3.6	-3.8	-4.2	-4.7	Diurnal Average	
	8.1	8.0	7.9	8.3	6.6	5.1	3.4	2.2	4.0	5.2	5.4	5.2	8.3	9.1	10.0	10.2	10.2	9.8	9.1	8.3	7.5	6.1	6.5	7.9	Diurnal Maximum	

Hourly Averages

External Temperature (ET) - °C

Valleyview - November 2011



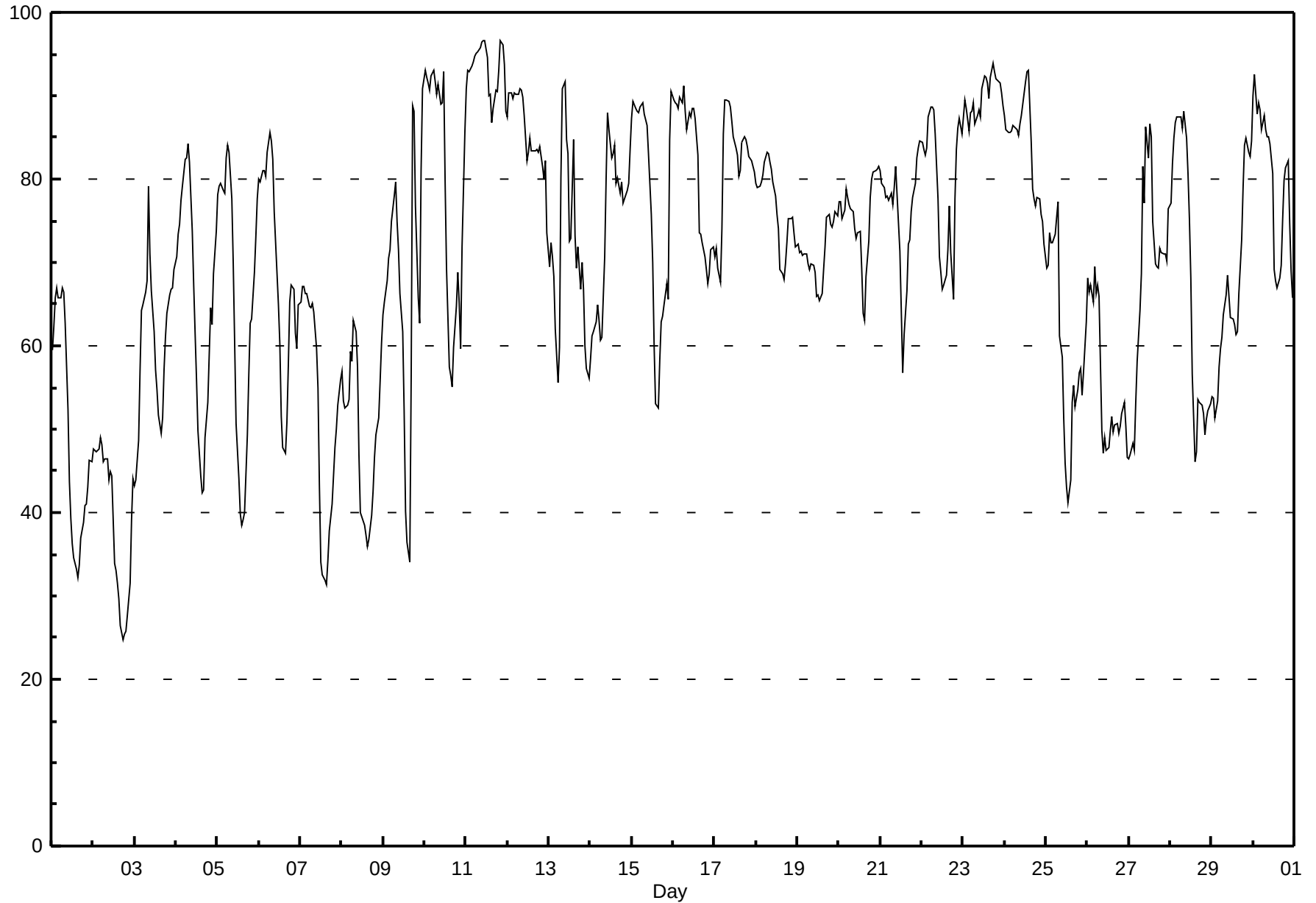
Hourly Averages

Relative Humidity (RH) - %
Valleyview - November 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 96.7 % on Nov 11 11:00 Maximum Daily Average: 93.1 % on Nov 11																								Hours in Service: 720 Hours of Data: 720 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0		
Minimum Value: 25 % on Nov 2 18:00 Minimum Daily Average: 38.9 % on Nov 2 Maximum Diurnal Average: 77.9 % at hour 8 Minimum Diurnal Average: 59.7 % at hour 16 Monthly Average: 70.31 % Percentiles: P ₁ = 31.5 P ₁₀ = 47.1 Q ₁ = 59.9 Median = 72.2 Q ₃ = 83.5 P ₉₀ = 89.1 P ₉₉ = 94.9																										
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	59	62	66	67	66	66	67	66	63	52	44	39	36	35	33	32	34	37	39	41	41	43	46	46	49.2	66.9
2-Nov	48	48	47	48	49	48	46	46	47	44	45	44	34	33	32	30	27	25	25	26	28	32	39	44	38.9	49.0
3-Nov	43	44	49	57	64	65	66	68	79	71	67	62	57	55	52	50	51	57	61	64	66	67	67	69	60.4	79.1
4-Nov	71	73	75	77	79	82	83	84	82	74	67	61	56	50	44	42	43	49	53	59	65	63	69	74	65.6	84.3
5-Nov	78	79	80	79	78	83	84	83	78	70	60	51	44	40	38	39	40	49	56	63	63	69	73	78	64.8	84.1
6-Nov	80	80	81	81	80	83	86	85	82	76	72	65	60	51	48	47	51	58	65	67	67	62	60	65	68.8	85.6
7-Nov	65	67	67	66	66	65	65	65	64	60	55	43	34	33	32	31	34	38	41	44	48	50	53	56	51.8	67.1
8-Nov	57	53	53	53	54	59	58	63	62	57	47	40	39	38	37	36	37	40	43	47	49	51	56	60	49.5	63.1
9-Nov	64	65	68	71	72	75	78	80	75	71	66	62	52	40	37	34	57	89	88	77	66	63	81	91	67.5	90.8
10-Nov	93	92	91	91	92	93	92	90	91	89	89	93	80	69	57	56	55	60	65	69	65	60	72	86	78.8	93.1
11-Nov	91	93	93	94	94	95	95	95	96	96	97	97	95	90	90	87	88	91	91	93	97	96	94	88	93.1	96.7
12-Nov	88	90	90	90	90	90	90	91	91	90	88	82	83	85	83	83	83	84	83	84	82	80	82	73	85.7	90.8
13-Nov	70	72	71	68	62	56	60	80	91	92	85	83	73	73	85	73	69	72	67	70	67	60	57	56	71.3	91.7
14-Nov	58	61	62	63	65	63	61	61	71	80	88	86	83	83	84	79	80	78	80	77	78	79	79	84	74.2	87.9
15-Nov	87	89	88	88	88	89	89	88	87	86	83	76	70	60	53	53	58	63	64	65	67	66	85	91	76.4	90.5
16-Nov	89	89	89	88	90	89	91	88	86	88	87	88	88	87	83	74	73	72	71	69	67	69	71	72	81.7	91.2
17-Nov	71	72	69	68	74	85	90	90	89	89	87	85	84	83	80	81	84	85	85	84	83	82	82	81	81.7	89.6
18-Nov	80	79	79	80	80	82	83	83	82	81	80	78	76	74	69	69	68	70	72	75	75	75	73	72	76.5	83.2
19-Nov	72	71	71	71	71	71	70	69	70	70	69	66	66	65	66	69	72	75	76	75	74	75	76	76	71.1	76.1
20-Nov	77	77	75	76	79	78	77	76	76	74	73	74	74	69	64	63	68	72	78	80	81	81	81	82	75.2	81.6
21-Nov	81	80	79	78	78	77	78	77	79	81	78	71	64	57	61	67	72	73	76	78	79	83	84	85	75.7	84.6
22-Nov	84	84	83	84	87	89	89	88	85	78	71	69	67	67	68	72	77	71	66	78	84	86	87	85	79.1	88.7
23-Nov	87	90	88	86	88	88	89	87	88	88	87	91	92	92	91	90	92	94	93	92	92	92	90	89	89.9	93.9
24-Nov	88	86	86	86	86	86	86	86	85	87	88	90	92	93	93	84	79	78	77	78	78	76	75	72	83.9	93.0
25-Nov	69	70	74	72	72	73	75	77	61	59	51	46	43	41	44	53	55	53	55	57	57	54	57	63	59.7	77.3
26-Nov	68	66	67	65	70	66	67	66	50	47	49	48	48	50	52	50	50	51	50	50	52	53	50	47	55.5	69.5
27-Nov	46	47	48	47	53	58	64	69	82	77	86	83	87	85	75	70	70	69	72	71	71	71	70	76	68.6	86.6
28-Nov	77	82	85	87	87	88	87	86	88	85	81	75	68	57	46	47	54	53	53	52	49	51	52	53	68.5	88.1
29-Nov	54	54	51	53	57	60	61	64	66	69	66	63	63	62	61	62	66	73	79	84	85	83	83	85	66.8	84.9
30-Nov	90	93	88	89	88	86	88	86	85	85	84	81	69	68	67	68	70	75	80	81	82	75	69	66	79.7	92.6
																								Diurnal Average		
																								Diurnal Maximum		

Hourly Averages

Relative Humidity (RH) - %
Valleyview - November 2011



Hourly Averages

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

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1 Spd	13	12	12	10	9	6	3	3	3	6	14	15	15	12	15	14	11	7	5	5	6	4	3	6	7.3	15.5
Dir	285	284	274	266	263	250	205	196	193	234	266	274	265	263	268	267	260	240	219	172	176	172	172	174	255	265
2 Spd	5	6	7	5	5	7	5	3	7	2	1	1	7	4	5	5	3	3	1	1	2	2	2	2	3.7	7.3
Dir	168	167	165	172	175	171	177	178	171	157	235	209	175	177	170	160	141	154	173	209	198	191	169	176	171	165
3 Spd	3	1	3	1	1	1	1	6	15	14	18	15	14	14	13	13	12	9	7	5	4	5	5	3	6.9	17.7
Dir	144	165	253	180	193	183	170	293	314	312	319	311	308	314	300	299	296	292	313	312	308	295	287	265	303	319
4 Spd	5	3	3	2	2	2	2	2	1	1	6	7	6	5	4	3	2	1	1	1	3	4	2	2	2.8	6.5
Dir	246	233	235	212	202	184	197	200	207	199	165	171	167	167	176	164	171	168	215	181	174	181	212	207	188	171
5 Spd	2	2	2	3	1	1	1	2	2	3	3	5	3	2	2	4	2	0	0	1	1	1	1	1	1.6	4.7
Dir	201	206	203	202	223	204	197	193	191	189	176	184	182	181	235	297	315	190	355	189	187	173	188	167	201	184
6 Spd	1	2	2	3	2	1	1	1	2	3	4	2	2	3	9	6	5	1	1	1	2	4	3	3	1.6	8.6
Dir	181	204	197	191	202	206	205	193	170	182	183	184	149	267	304	299	328	161	215	195	192	243	217	175	226	304
7 Spd	4	5	5	7	6	6	5	5	3	5	5	6	11	14	9	7	4	4	4	4	5	5	2	2	4.7	13.8
Dir	190	180	176	172	172	173	176	175	176	171	181	194	231	242	240	234	239	256	241	239	245	246	212	223	211	242
8 Spd	4	11	13	15	14	8	6	2	4	2	5	13	16	12	14	12	8	5	5	5	7	6	4	2	7.4	15.8
Dir	265	273	271	270	266	256	251	154	159	160	267	278	276	279	288	296	305	287	278	248	267	262	242	219	271	276
9 Spd	2	2	2	2	2	1	0	0	2	1	1	1	2	10	9	9	9	8	6	11	10	9	8	7	4.7	11.1
Dir	202	192	180	194	198	195	285	157	142	212	180	147	140	169	165	167	172	165	167	171	172	172	174	173	172	171
10 Spd	6	4	5	2	2	2	4	3	1	3	1	3	7	10	16	12	10	3	2	2	1	8	10	1	3.3	15.8
Dir	177	176	174	190	191	183	178	190	198	242	186	161	264	272	280	280	282	277	329	160	237	315	283	227	255	280
11 Spd	2	3	6	6	3	3	1	1	1	2	1	1	1	2	1	4	6	4	8	10	13	13	13	14	2.6	13.9
Dir	129	190	180	173	186	166	156	2	343	356	351	102	110	165	179	14	3	319	4	6	3	1	351	344	360	344
12 Spd	9	11	8	9	7	3	2	2	3	4	6	9	9	9	10	10	10	10	10	7	6	4	3	3	3.0	10.7
Dir	340	328	318	328	347	3	116	125	149	154	156	166	167	167	166	168	163	170	172	173	175	175	178	199	175	328
13 Spd	4	5	3	2	10	6	17	16	13	15	16	17	16	19	17	19	12	14	6	0	4	14	10	6	9.8	18.9
Dir	205	206	218	203	267	252	269	265	258	271	279	286	293	306	321	318	301	269	295	12	270	264	256	256	279	318
14 Spd	5	7	8	6	3	6	11	12	12	12	13	15	7	2	8	11	7	6	2	1	1	1	0	0	4.7	14.6
Dir	253	251	255	249	218	255	269	275	275	355	11	12	358	4	330	316	319	310	327	356	46	144	125	228	312	358
15 Spd	2	1	1	1	0	1	4	1	0	1	3	4	4	3	2	1	2	2	3	2	2	3	6	3	1.1	6.3
Dir	344	357	207	244	324	356	342	326	10	138	158	175	177	218	218	208	150	164	176	191	170	179	245	166	198	245
16 Spd	4	3	2	1	1	1	1	1	0	1	1	2	1	3	2	4	2	6	12	15	11	11	10	9	3.5	15.0
Dir	173	164	168	193	195	256	138	206	201	339	174	145	329	335	13	103	93	111	130	127	129	125	121	119	128	127
17 Spd	9	10	12	13	5	5	6	9	9	10	11	12	13	12	14	11	9	8	8	9	9	10	12	12	8.0	13.8
Dir	117	120	124	123	79	82	47	54	55	54	50	50	49	50	54	52	22	20	16	16	12	9	11	15	52	54
18 Spd	11	11	10	10	10	9	10	9	10	9	8	7	7	7	6	5	5	3	4	3	2	2	3	8	6.1	11.1
Dir	14	11	12	9	7	9	359	356	1	6	10	5	10	21	60	61	63	59	41	17	12	14	112	126	19	14
19 Spd	8	8	8	8	6	8	10	7	6	8	9	9	9	7	5	3	2	6	4	5	2	2	2	1	4.6	9.6
Dir	133	144	126	142	146	144	144	133	143	155	164	165	151	146	142	142	139	275	286	276	295	229	159	184	153	144
20 Spd	2	1	2	1	1	1	2	1	1	1	1	2	4	1	3	1	2	2	3	4	4	4	1	3	0.8	4.1
Dir	151	159	257	201	185	178	163	190	173	187	302	18	339	47	128	354	3	7	359	0	1	5	2	343	1	339
21 Spd	2	0	0	0	0	1	0	0	2	2	4	5	7	6	4	4	2	2	4	5	4	2	3	1	2.2	6.6
Dir	342	331	266	198	168	176	301	149	176	207	199	192	176	185	187	190	220	191	177	179	180	198	203	212	190	176
22 Spd	1	1	1	0	2	4	2	1	2	7	8	6	6	5	5	4	4	4	7	3	3	3	3	3	2.5	7.6
Dir	214	281	255	278	351	356	347	212	235	178	177	181	202	185	172	171	175	218	239	155	164	164	181	178	190	177

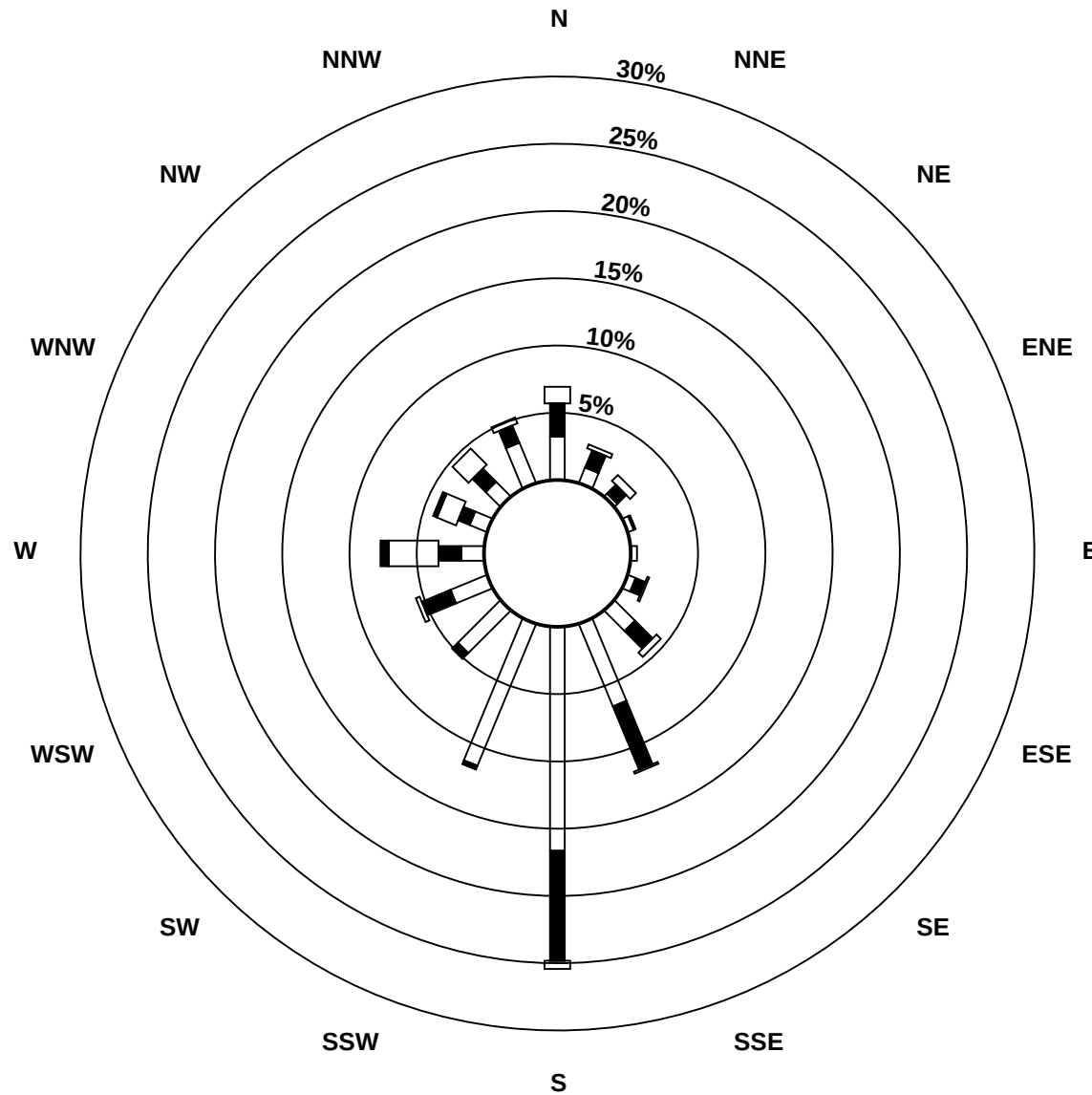
Hourly Averages

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

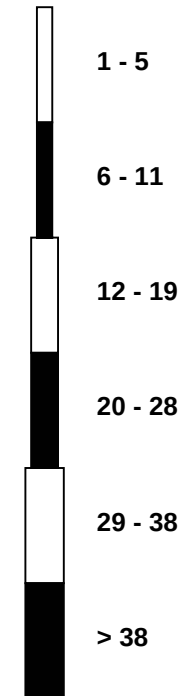
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
23 Spd	1	1	1	1	1	1	1	0	1	2	3	4	4	1	1	3	1	6	4	4	1	1	1	0	1.1	6.3
Dir	229	282	197	222	238	277	306	242	49	13	341	349	348	10	120	323	27	357	346	344	149	147	196	340	342	357
24 Spd	1	0	1	1	1	1	1	1	0	1	1	2	0	1	5	9	6	7	12	10	7	9	9	8	3.8	12.0
Dir	326	258	184	183	208	191	230	211	222	286	195	178	202	171	167	172	163	156	169	164	168	167	171	176	171	169
25 Spd	7	8	7	8	6	5	2	2	14	21	27	27	27	26	20	12	3	2	2	3	3	4	1	3	7.1	27.3
Dir	181	175	172	177	171	174	203	203	266	277	274	276	280	282	293	313	305	252	186	187	160	166	198	154	261	276
26 Spd	2	1	1	1	1	2	1	1	6	10	11	12	11	9	9	10	7	7	10	12	11	11	14	12	6.7	13.8
Dir	358	181	312	136	186	297	350	204	180	169	166	167	167	165	164	166	163	169	172	170	170	171	171	173	170	171
27 Spd	11	11	8	9	5	4	2	1	13	7	7	5	3	3	9	15	14	12	10	5	6	6	5	1	2.5	14.9
Dir	174	176	181	177	194	221	256	192	305	245	180	183	168	206	306	334	329	356	333	303	328	337	333	205	277	334
28 Spd	2	2	3	4	3	2	3	3	2	3	2	3	4	4	5	6	6	6	5	6	7	7	6	6	3.8	7.0
Dir	296	197	207	193	195	206	202	194	197	177	196	188	175	158	166	179	174	179	179	187	182	182	178	180	184	182
29 Spd	4	3	7	4	4	3	2	1	2	3	1	2	1	1	1	0	0	1	1	1	0	0	1	2	1.6	7.1
Dir	180	197	231	213	198	215	224	173	193	185	201	199	215	173	157	197	22	347	51	331	165	199	269	215	206	231
30 Spd	3	2	3	4	6	3	2	2	2	2	2	3	3	5	4	4	4	4	3	3	2	4	4	5	1.7	5.6
Dir	227	319	10	322	332	354	7	278	268	231	208	230	220	236	214	184	175	179	190	195	183	180	187	168	221	332
Spd	1.5	1.7	2.2	2.1	1.6	1.3	1.2	1.1	1.7	1.7	2.1	2.3	2.8	2.9	2.6	2.3	1.7	1.4	1.1	1.4	1.4	1.6	1.7	1.8	Diurnal Average	
Dir	200	212	212	205	228	213	239	237	256	249	246	247	255	253	257	274	279	246	224	177	188	209	209	179	Diurnal Maximum	
Spd	12.7	11.6	13.4	14.5	13.7	9.1	16.7	16.1	15.3	21.3	27.3	27.3	27.1	26.3	19.7	18.9	14.4	14.3	12.4	15.0	13.2	14.5	13.8	13.9	Diurnal Maximum	
Dir	285	284	271	270	266	9	269	265	314	277	274	276	280	282	293	318	329	269	130	127	3	264	171	344		
Maximum Speed Value: 27 ppb on Nov 25 12:00																		Minimum Speed Value: 0 ppb on Nov 5 18:00						Hours in Service: 720		
Maximum Daily Speed Average: 9.8 ppb on Nov 13																		Minimum Daily Speed Average: 0.8 ppb on Nov 23						Hours of Data: 720		
Maximum Diurnal Speed Average: 2.9 ppb at hour 14																		Minimum Diurnal Speed Average: 1.1 ppb at hour 19						Hours of Missing Data: 0		
Monthly Average Velocity: 1.59 ppb 232.3 deg																		Speed Percentiles: P ₁ = 0.2 P ₁₀ = 1.0 Q ₁ = 1.9 Median = 3.8 Q ₃ = 7.6 P ₉₀ = 11.7 P ₉₉ = 18.4						Percent Operational Time: 100.0		
All monthly, daily, and diurnal averages have been calculated using vector methods																										
Frequency Distribution																										
Speed Range (ppb)																										
Direction	0 to 5		5 to 11		11 to 19		19 to 28		28 to 38		> 38		Total													
North	49		26		12		0		0		0		87													
NorthEast	8		8		4		0		0		0		20													
East	5		3		0		0		0		0		8													
SouthEast	34		21		5		0		0		0		60													
South	193		90		9		0		0		0		292													
SouthWest	83		12		1		0		0		0		96													
West	29		25		30		5		0		0		89													
NorthWest	28		20		19		1		0		0		68													
Total	429		205		80		6		0		0		720													

Wind Rose

Wind Speed (WS) (km/h)
Valleyview - November 2011



Wind Speed Classes (km/h)



Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Valleyview - November 2011

Maximum Speed: 27 km/h on Nov 25 11:00																				Maximum Daily Speed Average: 11.3 km/h on Nov 13										Hours in Service: 720	
Minimum Speed: 1 km/h on Nov 9 08:00																				Minimum Daily Speed Average: 2.2 km/h on Nov 5										Hours of Data: 720	
Maximum Diurnal Speed Average: 7.9 km/h at hour 13																				Minimum Diurnal Speed Average: 3.7 km/h at hour 8										Hours of Missing Data: 0	
Monthly Average Speed: 5.53 km/h																				Percentiles: P ₁ = 0.7 P ₁₀ = 1.4 Q ₁ = 2.2 Median = 4.0 Q ₃ = 7.8 P ₉₀ = 11.9 P ₉₉ = 19.6										Percent Operational Time: 100.0	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24							
1-Nov	13	12	12	10	9	6	3	3	3	7	14	15	16	13	15	14	12	7	5	5	6	4	4	6	8.8	15.9					
2-Nov	5	6	7	5	5	7	5	3	7	3	3	2	7	4	5	5	3	3	2	2	2	2	2	3	4.1	7.3					
3-Nov	3	2	3	2	1	1	2	7	15	15	18	15	15	15	13	14	12	9	7	5	5	6	5	4	8.0	17.9					
4-Nov	5	3	3	2	2	2	2	2	1	2	6	7	7	6	4	4	2	1	2	2	3	4	2	2	3.2	6.7					
5-Nov	2	2	2	3	1	1	1	2	2	3	3	5	3	3	3	4	2	1	1	1	1	2	1	1	2.2	4.8					
6-Nov	1	2	2	3	2	1	1	1	2	3	4	2	2	6	9	7	5	2	1	1	3	4	4	3	3.0	8.9					
7-Nov	4	5	5	7	6	6	5	5	3	5	5	6	11	14	10	7	4	5	4	4	5	5	3	3	5.7	14.1					
8-Nov	5	11	13	15	14	8	7	2	4	3	6	13	16	12	14	12	8	6	5	5	7	6	5	3	8.4	16.0					
9-Nov	2	2	2	2	2	1	1	1	2	1	1	1	3	10	9	9	8	6	11	10	9	8	7	7	5.0	11.1					
10-Nov	7	4	5	2	2	3	4	3	2	5	2	3	8	11	16	12	10	4	3	2	2	8	10	3	5.4	16.1					
11-Nov	2	3	7	7	3	3	2	2	2	3	2	1	2	2	1	4	6	4	8	11	13	13	13	14	5.3	14.0					
12-Nov	10	11	8	9	7	3	2	2	3	4	6	9	9	10	10	10	11	10	10	7	6	4	3	3	6.9	10.8					
13-Nov	4	5	3	2	11	6	17	16	13	15	16	17	17	20	17	19	12	15	7	2	6	15	10	6	11.3	19.7					
14-Nov	5	7	8	6	3	6	11	12	12	13	12	13	15	8	3	9	11	7	7	3	1	2	1	1	7.3	14.9					
15-Nov	2	2	1	1	2	1	4	2	1	1	3	4	4	3	2	2	2	2	3	2	2	3	7	3	2.5	6.8					
16-Nov	4	3	3	2	2	1	1	1	1	2	2	3	2	3	3	4	2	7	13	15	11	12	10	9	4.7	15.2					
17-Nov	9	10	12	13	6	6	7	9	9	10	11	13	13	12	14	11	10	8	8	9	9	10	12	12	10.2	13.9					
18-Nov	11	11	10	10	10	9	10	9	10	9	8	7	7	8	6	6	5	3	4	4	3	2	3	8	7.2	11.2					
19-Nov	8	8	8	8	6	9	10	7	6	8	9	9	9	7	5	3	2	6	4	5	2	2	2	2	6.1	9.8					
20-Nov	2	1	2	1	2	1	2	1	1	1	2	2	4	4	4	2	3	2	3	4	4	4	1	3	2.3	4.2					
21-Nov	2	1	1	1	1	1	1	1	2	2	4	5	7	6	4	4	2	2	4	5	4	2	3	1	2.7	6.6					
22-Nov	1	2	1	2	3	5	2	2	3	7	8	6	6	5	5	4	4	4	8	3	3	3	3	3	3.8	7.7					
23-Nov	1	1	2	2	2	2	2	2	1	3	3	4	4	1	2	3	2	7	5	4	2	2	1	1	2.4	6.6					
24-Nov	2	2	1	1	1	1	1	1	1	1	1	2	1	2	5	9	6	7	12	10	7	9	9	8	4.3	12.1					
25-Nov	7	8	7	8	6	5	2	2	14	21	27	27	27	27	20	12	4	2	2	3	3	4	1	4	10.2	27.5					
26-Nov	3	1	2	2	1	2	2	1	6	10	11	12	11	9	10	10	7	7	10	12	11	11	14	12	7.4	13.9					
27-Nov	11	11	8	9	5	4	3	2	14	9	7	5	3	3	11	15	15	12	10	5	6	6	5	2	7.5	15.1					
28-Nov	3	2	3	4	3	2	3	3	2	3	2	3	4	4	5	6	6	6	5	6	7	7	6	6	4.1	7.0					
29-Nov	4	3	7	4	4	3	2	2	3	3	2	2	1	2	2	1	1	2	1	2	1	1	1	2	2.3	7.3					
30-Nov	3	4	3	5	6	3	3	3	3	2	2	3	4	5	4	4	4	4	4	3	3	4	4	5	3.7	5.6					
4.7 4.8 5.1 4.9 4.3 3.7 3.8 3.7 5.0 5.8 6.7 7.2 7.9 7.7 7.8 7.4 6.1 5.4 5.4 5.0 5.0 5.6 5.1 4.6																									Diurnal Average						
12.8 11.7 13.5 14.7 13.9 9.1 17.1 16.4 15.5 21.4 27.5 27.5 27.3 26.6 20.0 19.2 14.6 14.7 12.5 15.2 13.4 14.9 13.9 14.0																									Diurnal Maximum						
All monthly, daily, and diurnal averages have been calculated using scalar methods																															

Hourly Standard Deviations

Wind Direction (WD) - deg
Valleyview - November 2011

Maximum Value: 99.7 deg on Nov 13 20:00																		Hours in Service: 720							
Minimum Value: 4.9 deg on Nov 2 00:00																		Hours of Data: 720							
																		Hours of Missing Data: 0							
Percentiles: P ₁ = 5.3 P ₁₀ = 7.5 Q ₁ = 9.3 Median = 14.4 Q ₃ = 31.7 P ₉₀ = 59.5 P ₉₉ = 92.2																		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	8	6	8	8	9	12	10	10	34	14	14	13	16	14	15	11	22	30	10	8	13	11	5	34.1
2-Nov	8	5	6	7	8	6	9	7	5	23	66	63	9	13	10	11	10	12	42	75	49	44	49	50	75.1
3-Nov	39	73	36	50	40	25	34	44	9	8	9	16	16	21	13	11	10	10	8	13	15	12	9	21	73.4
4-Nov	10	9	10	10	10	14	12	14	27	55	19	11	14	15	13	20	11	21	40	56	16	7	14	9	55.5
5-Nov	9	13	17	11	15	37	21	9	10	12	22	9	14	13	56	20	14	80	92	32	16	19	22	55	91.8
6-Nov	40	26	11	8	9	13	19	16	18	13	10	17	23	72	17	19	10	54	19	21	14	39	40	10	72.0
7-Nov	5	8	7	5	7	8	10	8	11	8	11	19	19	13	18	15	18	26	15	13	18	15	26	24	26.2
8-Nov	55	8	8	7	10	10	25	23	21	29	60	10	10	17	10	11	10	14	17	21	8	8	11	11	59.8
9-Nov	16	6	10	5	6	21	66	62	23	36	22	37	49	8	9	9	10	10	12	7	8	5	6	6	65.9
10-Nov	17	17	7	14	19	13	13	17	74	69	63	14	35	11	11	10	9	27	52	26	67	28	10	64	74.2
11-Nov	22	16	18	8	48	10	60	62	82	60	91	51	67	20	70	75	14	10	14	10	10	9	8	8	91.2
12-Nov	20	8	9	11	9	20	31	13	15	12	13	9	9	9	8	8	9	7	8	6	7	9	7	14	31.3
13-Nov	17	13	21	31	46	31	16	11	8	9	8	10	10	18	9	11	23	14	18	100	68	13	10	9	99.7
14-Nov	17	8	6	11	22	11	11	10	11	32	8	8	11	26	56	12	9	12	13	46	53	25	79	90	90.1
15-Nov	19	65	56	36	87	16	13	37	89	26	16	15	15	31	36	41	16	12	13	24	27	23	37	9	88.8
16-Nov	9	10	37	26	49	94	59	53	86	45	65	21	32	20	50	18	57	34	8	8	9	7	8	9	93.9
17-Nov	14	12	9	8	36	32	19	8	8	9	9	10	9	9	8	10	15	9	8	6	9	7	7	8	36.3
18-Nov	7	8	7	10	7	8	11	7	8	8	10	10	12	21	25	18	14	15	8	10	58	48	31	7	57.7
19-Nov	11	12	10	13	15	11	11	11	14	12	13	12	15	14	16	21	25	20	27	21	53	49	20	29	53.4
20-Nov	14	42	49	38	21	21	11	27	30	47	71	37	8	79	21	57	19	45	14	14	13	12	30	11	79.0
21-Nov	14	85	86	65	89	77	95	87	19	13	10	16	8	9	12	22	36	13	14	14	23	16	10	19	95.3
22-Nov	27	76	85	93	70	36	77	77	43	9	7	7	23	14	10	8	9	19	29	9	23	8	10	38	92.9
23-Nov	49	44	59	26	46	69	60	96	57	57	53	12	14	66	37	26	49	16	22	37	44	61	55	95	96.2
24-Nov	64	80	17	41	17	39	49	56	84	60	19	10	77	61	11	5	8	9	7	8	7	9	7	7	84.1
25-Nov	7	7	10	10	7	8	24	23	15	7	7	7	8	8	10	8	19	35	14	8	21	9	54	24	54.0
26-Nov	77	35	78	67	32	40	57	79	8	5	6	6	7	7	8	8	7	11	7	7	6	6	5	8	79.1
27-Nov	9	8	9	7	12	22	54	54	21	38	9	12	16	21	36	9	10	12	6	18	14	17	23	46	54.3
28-Nov	73	32	15	6	16	29	10	27	17	23	8	11	11	10	10	9	8	9	7	7	7	7	7	7	73.2
29-Nov	9	17	13	16	6	25	32	59	49	40	67	36	53	31	19	79	96	86	73	40	66	87	61	24	96.3
30-Nov	17	58	30	24	8	22	86	43	48	23	38	26	30	14	22	8	6	8	11	10	24	17	11	11	85.5
	76.8	84.6	85.8	92.9	89.3	93.9	95.3	96.2	88.8	68.7	91.2	62.5	76.6	79.0	70.2	79.0	96.3	85.7	91.8	99.7	67.6	87.3	79.0	95.1	

PAZA

Monthly Passive Data Summary

This map displays the Peace River region, including the Peace River and Spirit River. It shows various monitoring sites marked with black dots and labels, such as Silver Valley, Forth Creek, Spirit River, Rycroft, Woking, Hythe, Beaver Lake, Wembley, Grand Prairie, Wapiti, Gold Creek, Karl Creek, Little Smoky, Valleyview, Sunset House, Crooked Creek, Wapiti, Grand Prairie, Wembley, Beaver Lake, Hythe, Steeprock Creek, Mythe, Foplar, Bear Lake, Clairmont Lake, Fitzsimmons, Smoky Heights, Puskwaskau, Clouston Creek, Kinnuso, East Prairie, High Prairie, High Prairie, Donnelly, McLennan, Girouxville 3 & 4, Guy, Girouxville, Falher, Nampa, Jean Cote, Eaglesham, Shattisbury, Berwyn, Grimshaw, Fairview, Hines Creek, and Peace River. The map also shows major roads like Highway 64, Highway 49, Highway 2, Highway 2A, Highway 43, Highway 40, Highway 33, and Highway 1. A legend in the top right corner indicates that black dots represent 'Passive Air Monitoring Site'.

PAZA Passive Results for November 2011

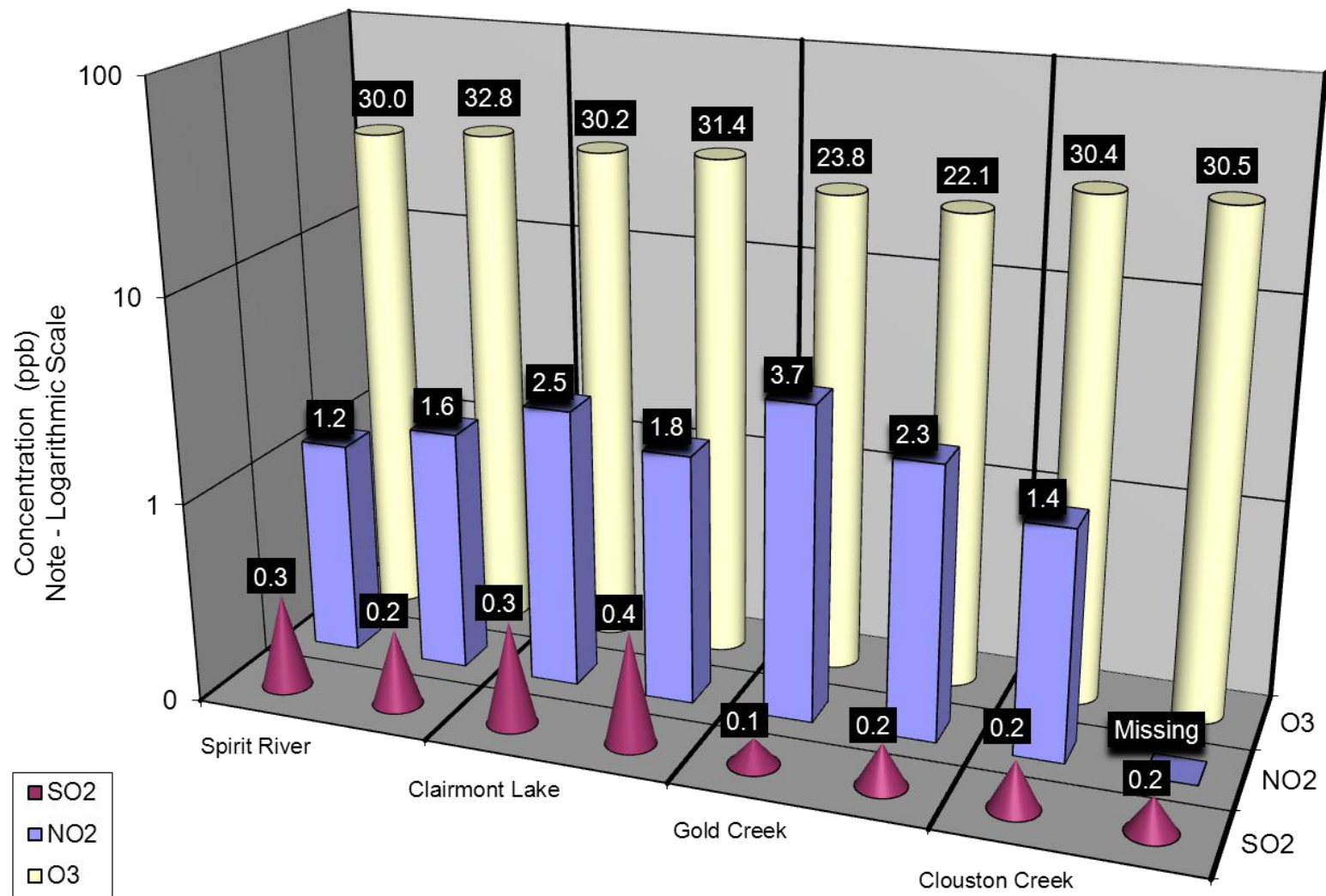
Station Number	Station Name	SO2 ppb	O3 ppb	NO2 ppb	H2S ppb	Site Legal
Duplicates						
9a	Spirit River	0.3	30.0	1.2		
9b	Spirit River	0.2	32.8	1.6		
28a	Clairmont Lake	0.3	30.2	2.5		
28b	Clairmont Lake	0.4	31.4	1.8		
32a	Gold Creek	0.1	23.8	3.7		
32b	Gold Creek	0.2	22.1	2.3		
39a	Clouston Creek	0.2	30.4	1.4		
39b	Clouston Creek	0.2	30.5	Missing		
63a	Girouxville 3				0.2	
63b	Girouxville 3				0.2	
1	Silver Valley	0.4	32.5	1.3		08-27-081-11 W6M
2	Bay Tree	0.2	32.1	0.9		13-16-078-13 W6M
3	Fourth Creek	0.2	33.0	0.9		04-13-082-07 W6M
4	Gordondale	0.6	36.6	1.5		04-34-078-10 W6M
5	Boone Creek	0.4	27.9	1.6		16-36-074-11 W6M
7	Steeprock Creek	0.3	35.2	0.9		09-35-072-13 W6M
9	Spirit River	0.3	31.4	1.4		08-12-079-07 W6M
10	Woking	0.4	33.1	1.2		01-13-076-07 W6M
11	Webber Creek	0.7	31.6	1.4		09-36-074-09 W6M
12	Hythe	0.3	31.4	1.4		14-36-072-11 W6M
14	Sylvester	0.1	29.5	1.6		08-06-069-12 W6M
16	Beaverlodge	0.2	33.3	2.4		15-36-071-10 W6M
17	Poplar	0.3	29.0	1.8		13-06-073-08 W6M
18	Saddle Hills	0.3	32.5	1.4		04-25-074-07 W6M
19	Wanham	0.3	32.3	1.3		16-22-077-03 W6M
20	Shaftesbury	0.2	30.3	1.2		04-03-082-23 W5M
21	Eaglesham	0.3	27.8	1.2		16-21-079-25 W5M
23	Bear Lake	0.3	29.9	1.9		15-31-072-06 W6M

PAZA Passive Results for November 2011 (Continued)

24	Wembley	0.3	27.1	2.2	12-31-070-08 W6M
25	Pinto Creek	0.2	29.4	1.1	04-24-069-11 W6M
26	Flyingshot	0.3	27.4	2.6	15-36-070-07 W6M
27	Grande Prairie I	0.2	25.0	7.9	08-15-071-06 W6M
28	Clairmont Lake	0.3	30.8	2.1	09-06-073-04 W6M
29	Smoky Heights	0.4	28.4	2.0	04-06-075-02 W6M
30	Fitzsimmons	0.2	25.5	1.9	15-36-072-03 W6M
32	Gold Creek	0.1	23.0	3.0	06-33-067-05 W6M
33	Wapiti	0.3	30.8	2.1	02-25-071-03 W6M
34	Puskwaskau	0.1	26.0	0.6	15-35-074-25 W5M
35	Jean Cote	0.2	33.5	1.2	12-35-079-21 W5M
36	Guy	0.3	30.3	1.0	03-04-076-22 W5M
37	Crooked Creek	0.1	23.0	3.0	16-01-071-26 W5M
38	Karr Creek	0.1	22.7	1.0	10-16-065-02 W6M
39	Clouston Creek	0.2	30.4	1.4	12-01-073-22 W5M
40	McLennan	0.2	30.4	1.4	03-29-077-19 W5M
41	Valleyview	0.4	33.0	1.8	09-30-069-22 W5M
42	Sunset House	0.4	36.1	0.7	05-32-070-19 W5M
43	High Prairie	0.2	27.8	1.5	16-13-074-17 W5M
44	Peavine	0.1	24.8	0.8	03-05-079-15 W5M
45	Gift Lake	0.2	24.1	1.1	10-07-079-12 W5M
46	Little Smoky	0.2	26.4	4.1	12-01-065-21 W5M
47	Kinuso	0.2	27.4	1.0	12-10-073-10 W5M
48	Deer Mountain	0.3	31.1	1.1	15-22-068-09 W5M
49	Grande Prairie HP	0.3	22.9	11.8	17-26-071-06 W6M
62	East Prairie	0.1	29.1	0.7	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 2011

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

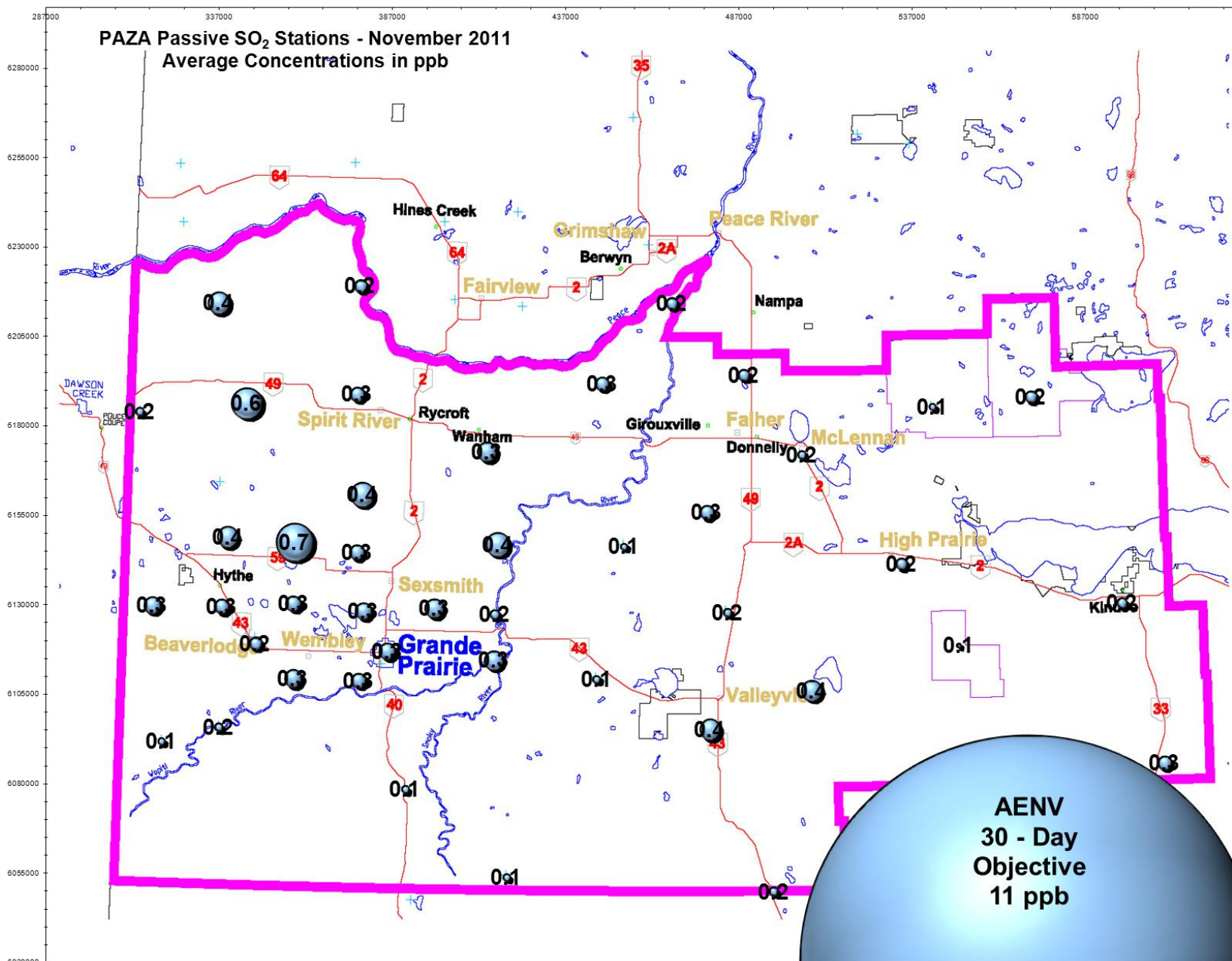
Passive Summary for November 2011 (PAZA Zone)				
Mean	0.3	29.4	1.9	0.2
Standard Deviation	0.1	3.6	1.9	0.0
Minimum	0.1	22.7	0.6	0.2
Minimum At	East Prairie (#62)	Karr Creek (#38)	Puskwaskau (#34)	Girouxville 3
Maximum	0.7	36.6	11.8	0.2
Maximum At	Webber Creek (#11)	Gordondale (#4)	Grande Prairie HP	Girouxville 4

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

	SO ₂	O ₃	NO ₂
PAZA Beaverlodge station	0.3	26.9	4.9
PAZA Beaverlodge passive	0.2	33.3	2.4

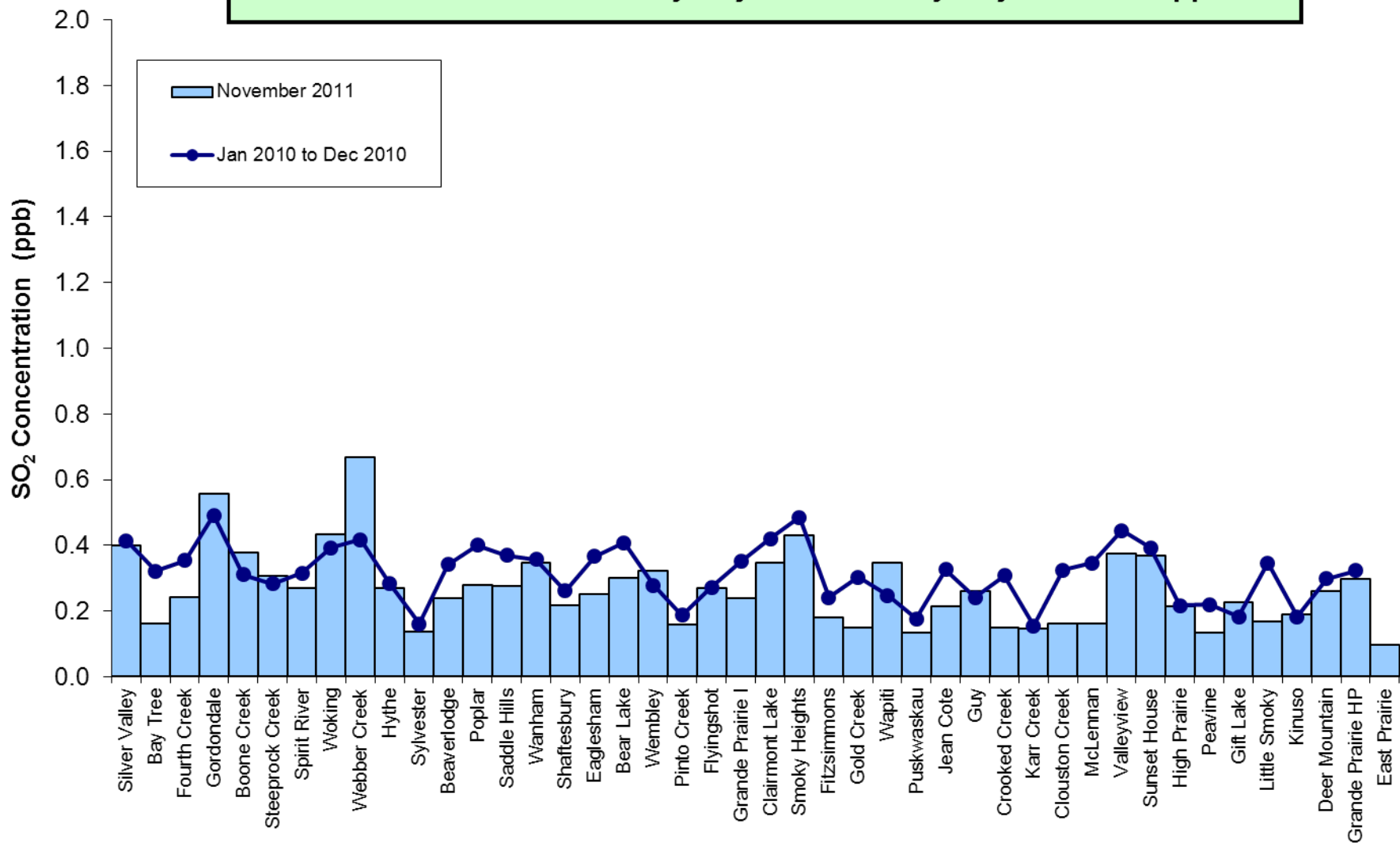
Comparison between Continuous and Passive monitoring at Henry Pirker (passive #49 Grande Prairie HP)

	SO ₂	O ₃	NO ₂
PAZA Henry Pirker station	0.4	17.3	13.9
PAZA Grande Prairie passive	0.3	22.9	11.8

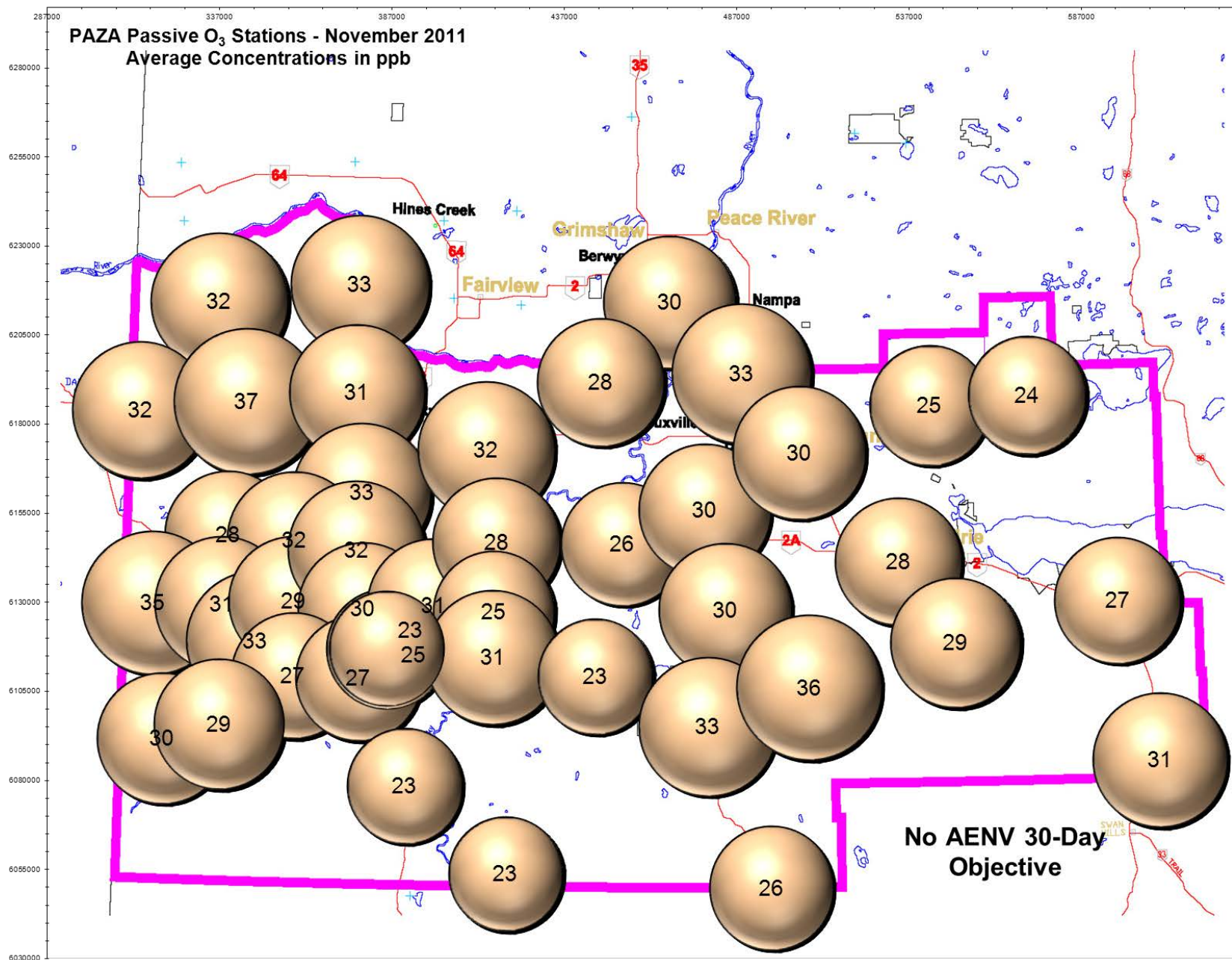


SO₂ Bubble Chart

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

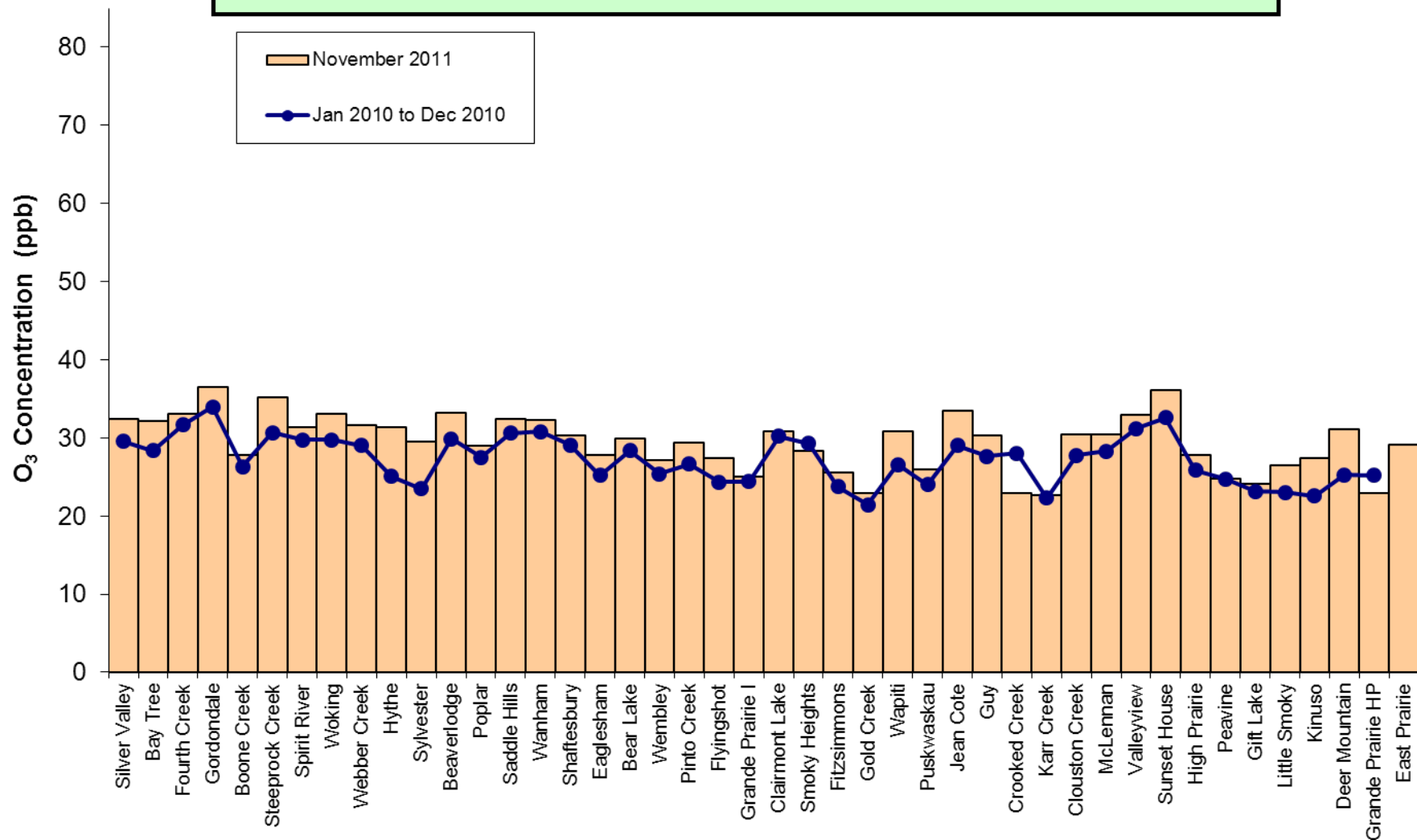


SO₂ Summary Chart



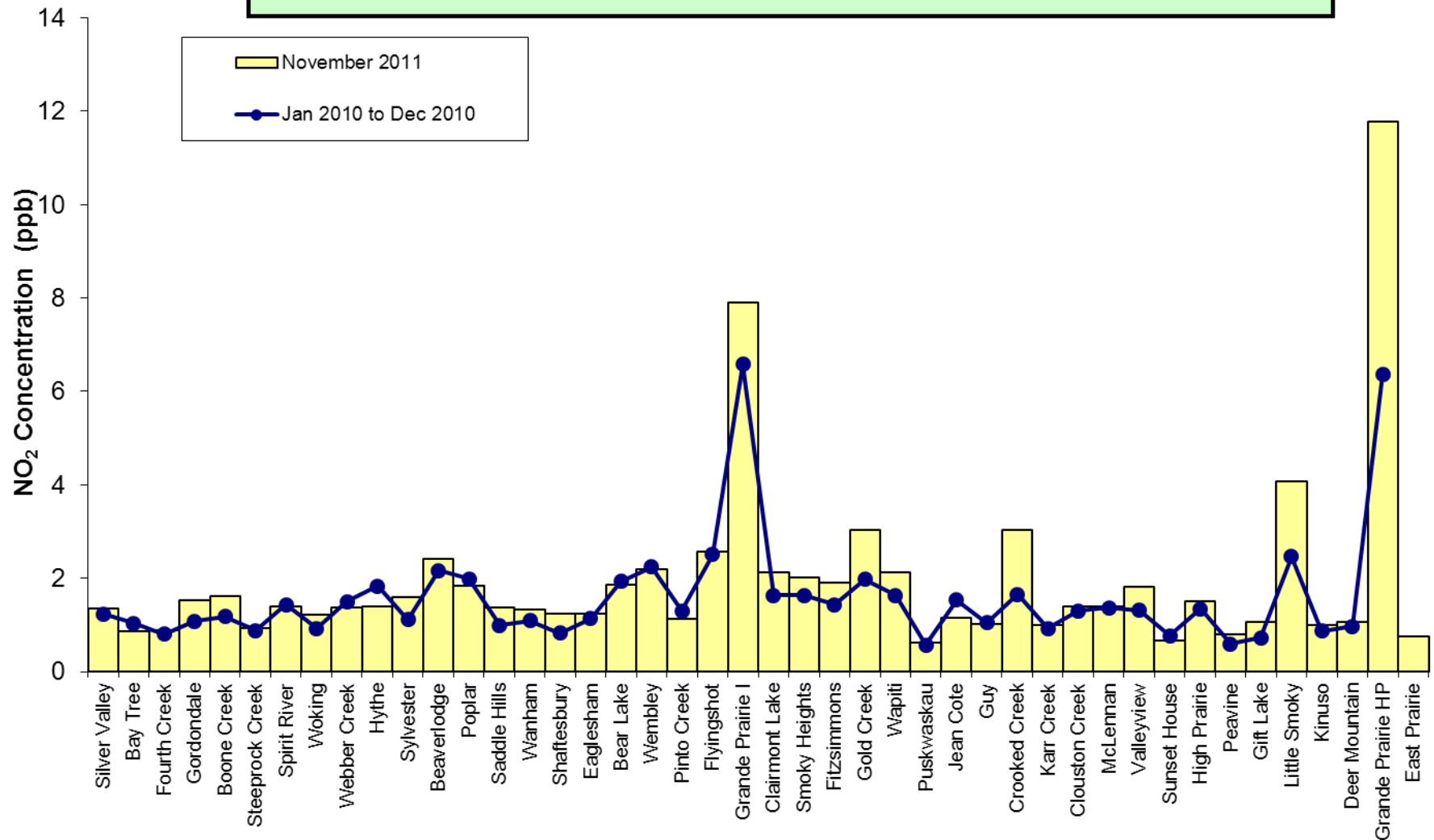
O₃ Bubble Chart

Alberta Ambient Air Quality Objective - No Annual O₃ Objective

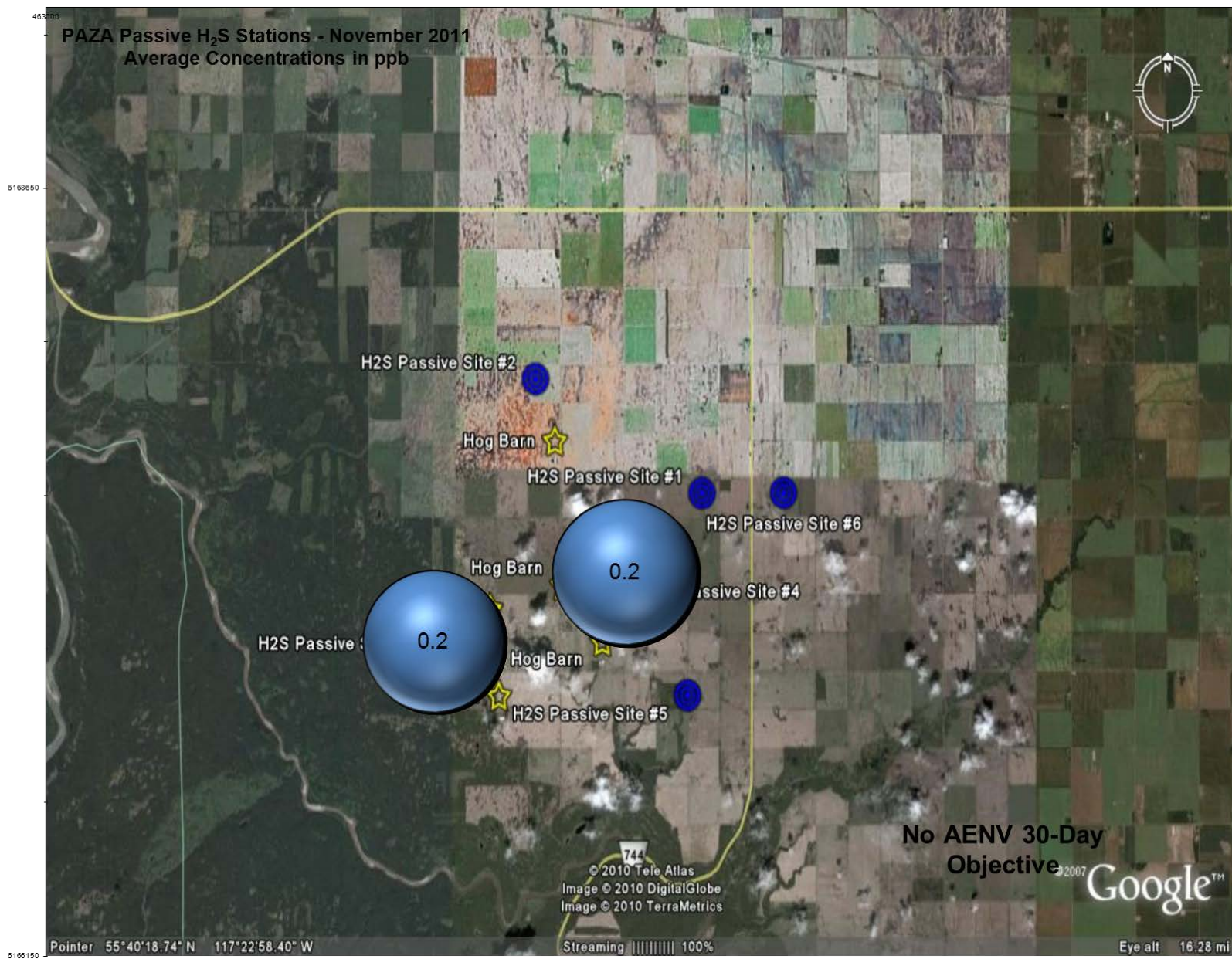


O₃ Summary Chart

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



NO₂ Summary Chart



H₂S Bubble Chart

November 2011 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

Calibration Report

Parameter SO2

Air Monitoring Network PASZA



Station Information

Calibration Date	November 16, 2011		Previous Calibration	October 13, 2011	
Station Number	1		Station Location	Henry Pirker	
Reason:	☒ Routine	☐ Install	☐ Removal	☐ Other:	
Start Time (MST)	10:49		End Time (MST)	13:58	
Barometric Pressure	0.928	ATM	Station Temperature	20.0	Deg C
Calibrator	EnviroNics		Serial Number	3474	
Cal Gas Conc	49.8	ppm	Cal Gas Cert Date	3/28/2013	
			Cal Gas Cylinder #	LL85275	
DACS make	CR3000		DACS serial No.	5408	
DACS voltage range	0 - 1 volt		DACS channel #	10	
	Before			After	
Calculated slope	1.001412		Calculated slope	1.002510	
Calculated intercept	-1.225401		Calculated intercept	-1.900543	
Analyzer make	TEI 43C		Analyzer serial #	610816292	

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
Background	9.0		9.0	
Coefficient	0.786		0.781	
Pressure	645.3	mm Hg	639.5	mm Hg
Flow	0.498	lpm	0.495	lpm
Lamp Voltage	44280	Hz	446776	Hz

Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
4989	0.00	0.0	-0.2	N/A
4989	39.84	394.5	394.4	1.0003
4989	19.91	198.0	200.2	0.9887
4989	9.93	98.9	102.8	0.9623
4989	0.00	0.0	-0.2	As Found Zero
4989	39.84	394.5	389.4	As Found Span
Average Correction Factor				0.9838

Calculated value of As Found Response: 388.9 ppb Percent Change of As Found: 1.4%

	before calibration		after calibration	
Auto zero	0.1	ppb	0.1	ppb
Auto span	248.1	ppb	234.5	ppb

Notes: Small span adjust was done...

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter SO2

Air Monitoring Network PASZA



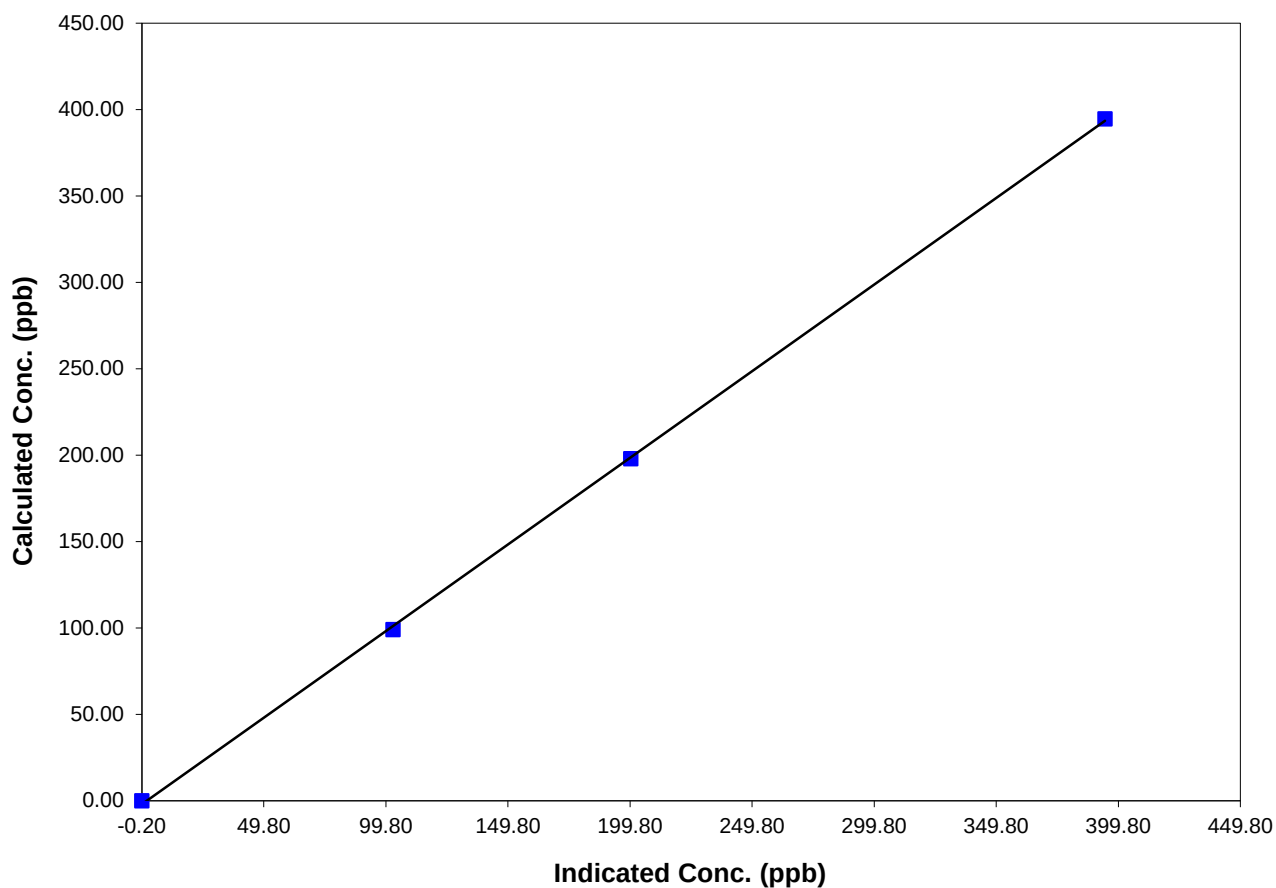
Station Information

Calibration Date	November 16, 2011	Previous Calibration	October 13, 2011
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	10:49	End Time (MST)	13:58
Analyzer make/model	TEI 43C	Analyzer serial #	610816292

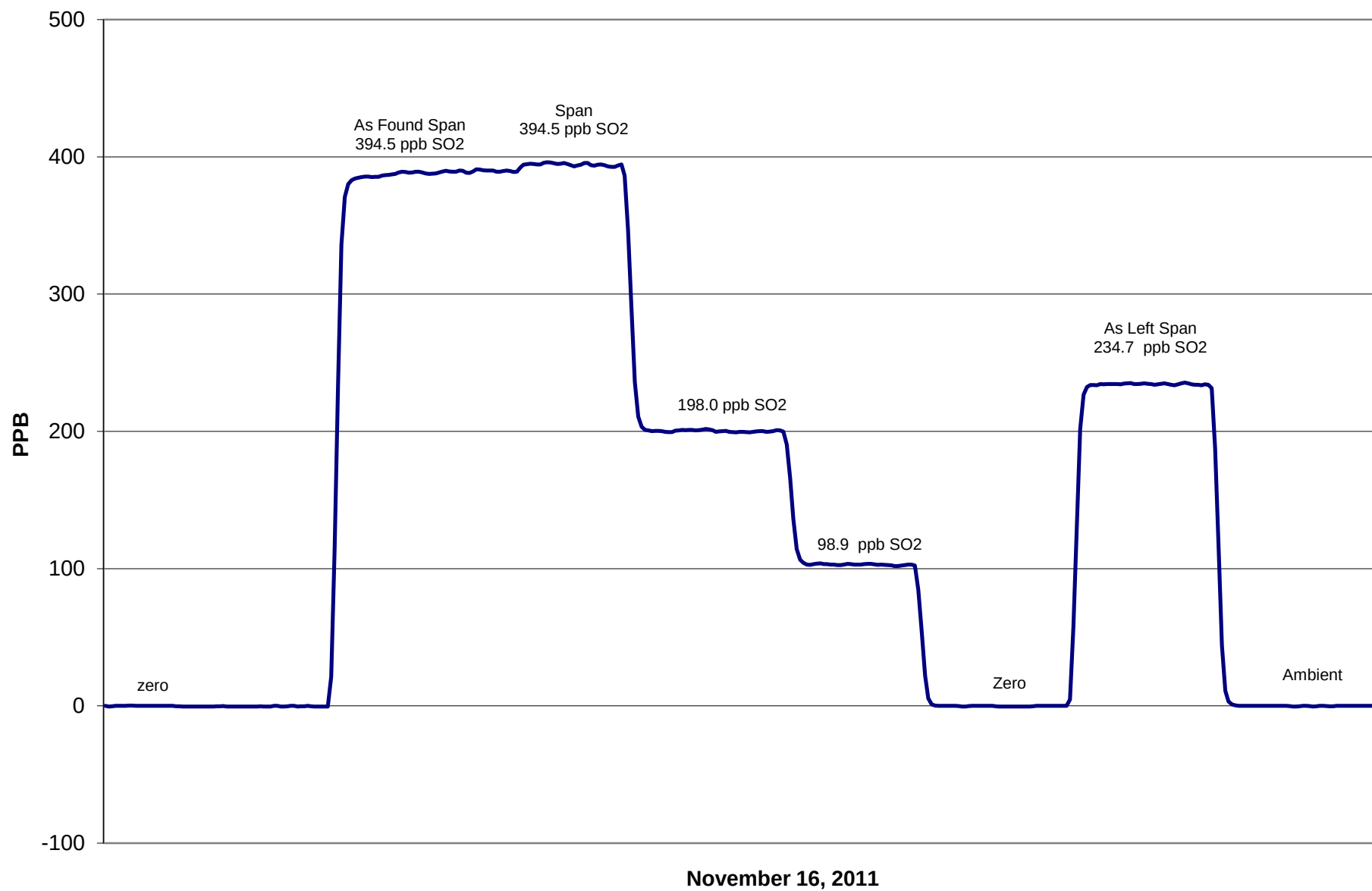
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.2	N/A	Correlation Coefficient	0.999870
394.5	394.4	1.0003		
198.0	200.2	0.9887		
98.9	102.8	0.9623	Slope	1.002510
			Intercept	-1.900543

SO2 Calibration Curve



SO2 Calibration



Calibration Report

Parameter

NO_x-NO-NO₂

Air Monitoring Network

PASZA



Station Information

Calibration Date	November 16, 2011		Previous Calibration	October 13, 2011	
Station Number	1		Station Location	Henry Pirker	
Reason:	☒ Routine	☐ Installation	☐ Removal	Other: _____	
Start Time (MST)	11:00		End Time (MST)	15:52	
Barometric Pressure	0.928	Atm	Station Temperature	20.0	Deg C
Calibrator	EnviroNics		Serial Number	3474	
NO Cal Gas Conc	52.5	ppm	Cal Gas Expiry Date	March 28, 2013	
NOx Cal Gas Conc	52.5	ppm	Cal Gas Serial #	LL85275	

DACS Information

DACS make	CR3000		DACS serial No.	5408	
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	Parameter	NO2	NOx	NO
Before	Data Slope	0.995474	1.003261	1.004000
	Data Offset	-0.027494	-2.575438	-2.565750
After	Data Slope	1.000238	1.004726	1.003467
	Data Offset	0.044423	-2.717888	-2.451270
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	
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Test Point	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
NO offset	10.1	mV	10.0	mV
NOx bkgnd	10.5	mV	10.4	mV
NO coefficient	0.742		0.733	
NOx coefficient	1.002		1.000	
NO2 conv temp	318.0	Deg C	318.0	Deg C
PMT Temp	-2.5	Deg C	-2.5	Deg C
PMT Volt	-786.0	mV	-786.0	mV
R Cell Press	174.1	in Hg	169.9	in Hg

Calibration Report

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



Station Information

Calibration Date: **November 16, 2011**

Station Location: **Henry Pirkner**

Calibration Data

	Dilution flow rate (ccm)	Source gas flow rate (ccm)	Calculated NOx conc (ppb)	Calculated NO conc (ppb)	Calculated NO2 conc (ppb)	Indicated NOx conc (ppb)	Indicated NO conc (ppb)	Indicated NO2 conc (ppb)	NOx Correction factor	NO Correction factor
zero	4989	0.00	0.0	0.0	0.0	0.3	0.0	0.2	N/A	N/A
1	4989	39.84	415.9	415.9	0.0	415.4	415.7	-0.3	1.0012	1.0005
2	4989	19.91	208.7	208.7	0.0	211.6	211.5	0.0	0.9863	0.9868
3	4989	9.94	104.4	104.4	0.0	109.1	109.1	-0.1	0.9566	0.9570
AFZ	4989	0.00	0.0	0.0	0.0	0.2	0.0	0.1	0.0000	0.0000
AFS	4989	39.83	415.8	415.8	0.0	421.8	420.1	1.6	0.9859	0.9898
Average Correction Factor									0.9814	0.9814

As Found Concentrations: NO_x= 419.0 NO= 417.5 As Found Percent Change NO_x= 0.8% NO= 0.4%

GPT Calibration Data

Dilution Flow 4989 ccm Source Gas Flow 39.85 ccm

O3 Setpoint (ppb)	Indicated NO high point (ppb)	Indicated NO drop conc (ppb)	Calculated NO2 conc (ppb)	Indicated NOx conc (ppb)	Indicated NO conc (ppb)	Indicated NO2 conc (ppb)	NOx Correction factor	NO Correction factor	NO2 Correction factor	Converter Efficiency
0	0.0	0.0	0.0	0.3	0.0	0.2	N/A	N/A	N/A	N/A
NO point	415.3	415.3	0.0	415.0	415.3	-0.3	1.0007	1.0000	N/A	N/A
300	415.3	193.8	221.5	415.3	193.8	221.6	1.0000	1.0000	0.9995	100.0%
200	415.3	269.9	145.3	415.0	269.9	145.1	1.0006	1.0000	1.0014	99.9%
100	415.3	337.0	78.3	414.9	337.0	77.9	1.0010	1.0000	1.0052	99.5%
Average Correction Factor							1.0005	1.0000	1.0020	99.8%

AIC Data

	Previous calibration				Current calibration			
Parameter	NOx	NO2	NO		NOx	NO2	NO	
Auto zero	-0.1	0.0	0.0	ppb	-0.1	-0.2	0.0	ppb
Auto span	168.4	169.5	1.2	ppb	160.8	159.9	1.0	ppb

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter NO₂

Air Monitoring Network PASZA



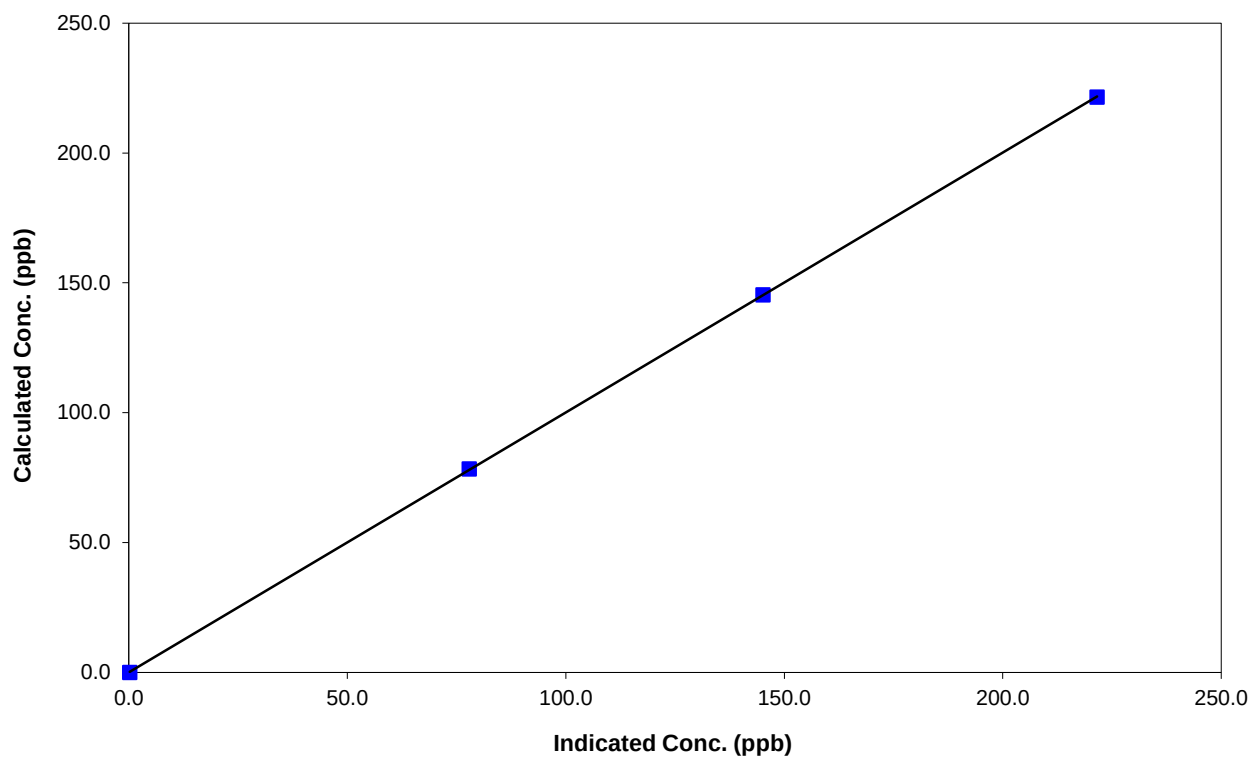
Station Information

Calibration Date	November 16, 2011	Previous Calibration	October 13, 2011
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	11:00	End Time (MST)	15:52
Analyzer make	TEI 42C	Analyzer serial #	508011073

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.2	N/A	Correlation Coefficient	0.999991
221.5	221.6	0.9995		
145.3	145.1	1.0014		
78.3	77.9	1.0052	Slope	1.000238
			Intercept	0.044423

NO₂ Calibration Curve



Calibration Summary

Parameter NO_x

Air Monitoring Network PASZA



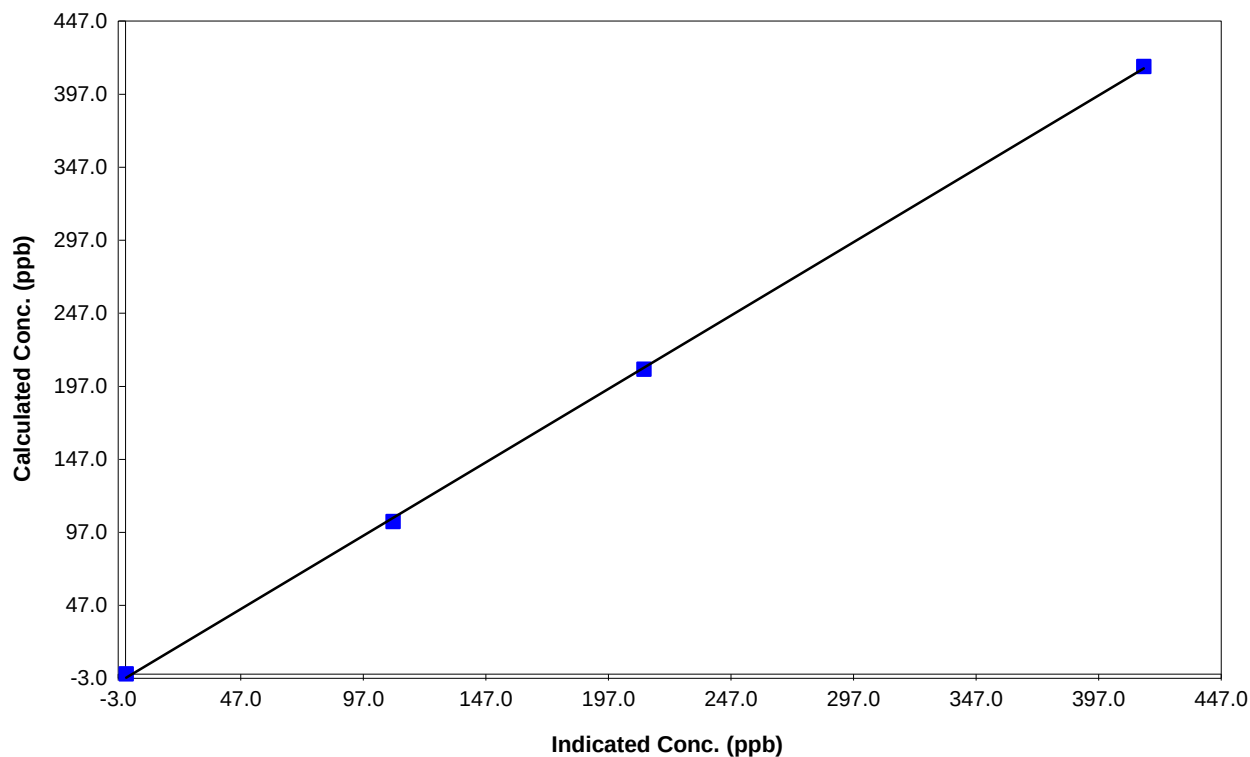
Station Information

Calibration Date	November 16, 2011	Previous Calibration	October 13, 2011
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	11:00	End Time (MST)	15:52
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	0.3	N/A	Correlation Coefficient	0.999837
415.9	415.4	1.0012		
208.7	211.6	0.9863		
104.4	109.1	0.9566	Slope	1.004726
			Intercept	-2.717888

NO_x Calibration Curve



Calibration Summary

Parameter NO

Air Monitoring Network PASZA



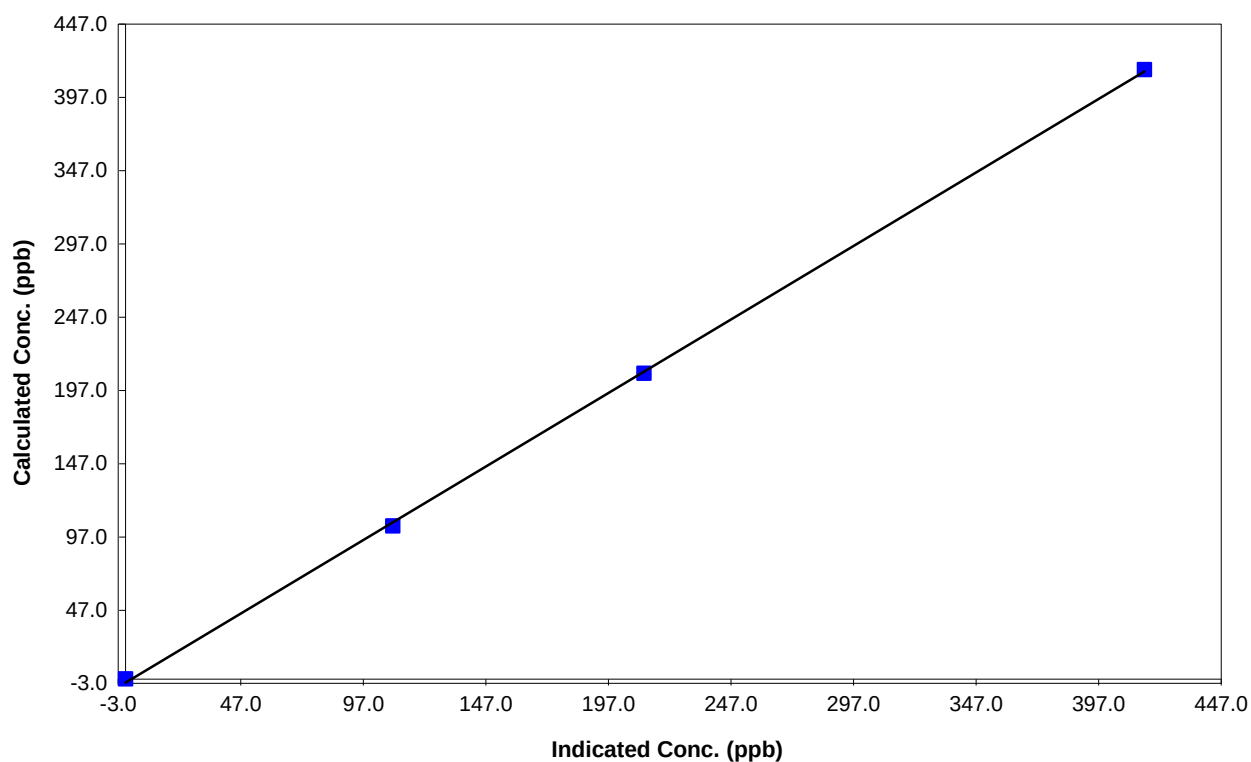
Station Information

Calibration Date	November 16, 2011	Previous Calibration	October 13, 2011
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	11:00	End Time (MST)	15:52
Analyzer make	TEI 42C	Analyzer serial #	508011073

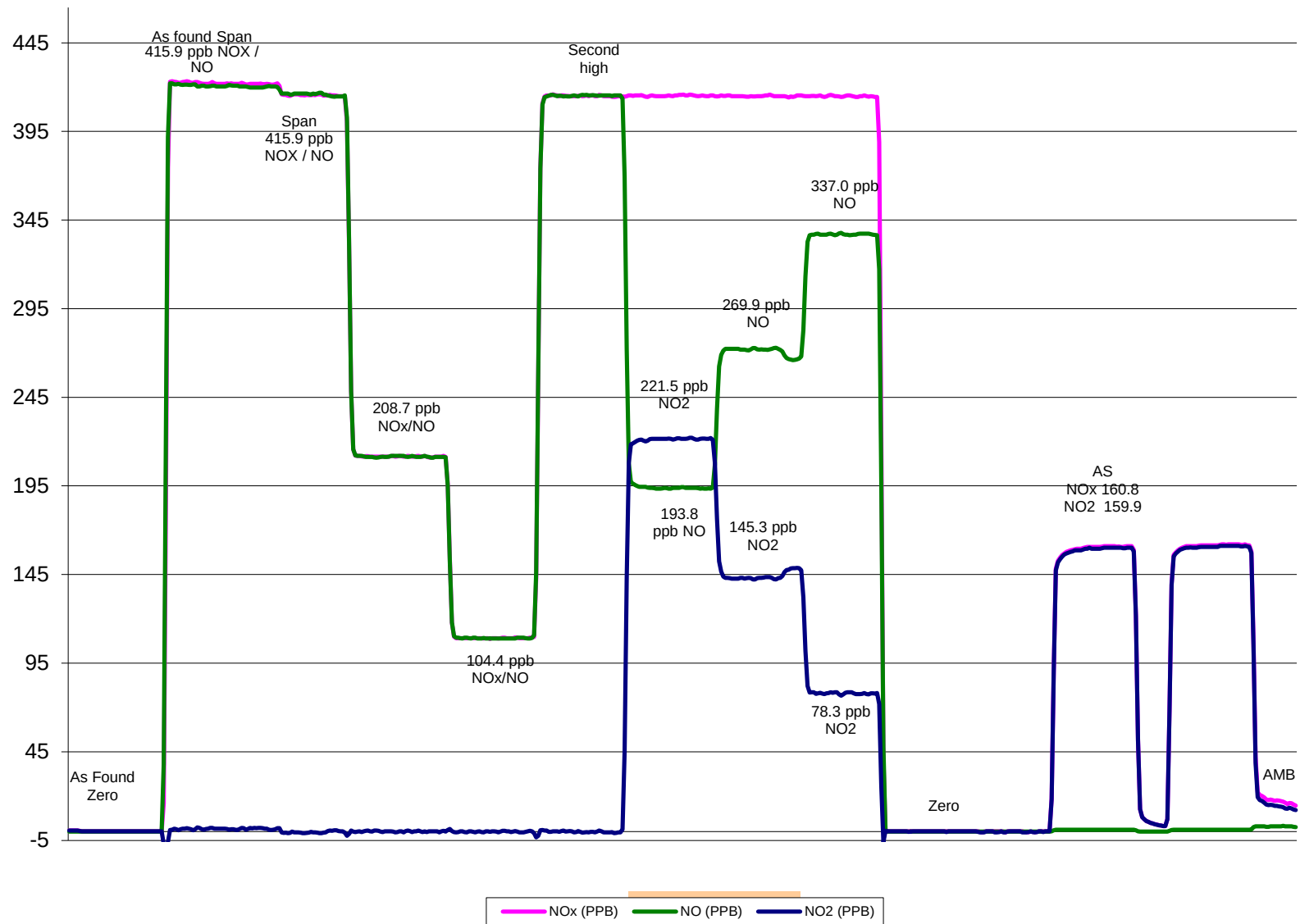
Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.0	N/A	Correlation Coefficient	0.999835
415.9	415.7	1.0005		
208.7	211.5	0.9868		
104.4	109.1	0.9570	Slope	1.003467
			Intercept	-2.451270

NO Calibration Curve



PASZA NO_x Calibration



Calibration Report

Parameter 03

Air Monitoring Network PASZA



Station Information

Calibration Date	November 16, 2011	Previous Calibration	October 13, 2011
Station Number	1	Station Location	Henry Pirker
Reason:	☒ Routine	☐ Install	☐ Removal
		☐ Other:	
Start Time (MST)	14:00:00 PM	End Time (MST)	16:16
Barometric Pressure	0.922 atm	Station Temperature	20.0 Deg C
Calibrator	Envionics 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	1.004939	Calculated slope	1.010873
Calculated intercept	-0.135245	Calculated intercept	0.234438
Analyzer make	TECO 49C	Analyzer serial #	607415761
	before		after
Concentration range	500	ppb	500 ppb
offset	-0.6	ppb	-0.6 ppb
slope	1.011		1.011
O3 Lamp temp	71.1	Deg C	71.1 Deg C
Intensities	83230/72987	mV	83573/73208 mV
Pressure	691.3	inches Hg	698.4 inches Hg
Flow A	0.722	ccm	0.723 ccm
Flow B	0.739	ccm	0.740 ccm

Calibration Data

Referenced concentration (ppb)	Dilution air flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
0	4989	0.0	0.1	N/A
300	4989	221.5	218.5	1.0140
200	4989	145.3	144.8	1.0034
100	4989	78.3	76.0	1.0304
0	4989	0.0	0.1	As found zero
300	4989	221.5	218.4	As found span
Average Correction Factor				1.0159

Calculated value of As Found Response: 219.2 ppm Percent Change of As Found: -1.0%

	before calibration		after calibration	
Auto zero	0.3	ppb	0.3	ppb
Auto span	156.4	ppb	162.9	ppb

Notes: No adjustment made. Auto cal kicked in after last point.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter O3

Air Monitoring Network PASZA



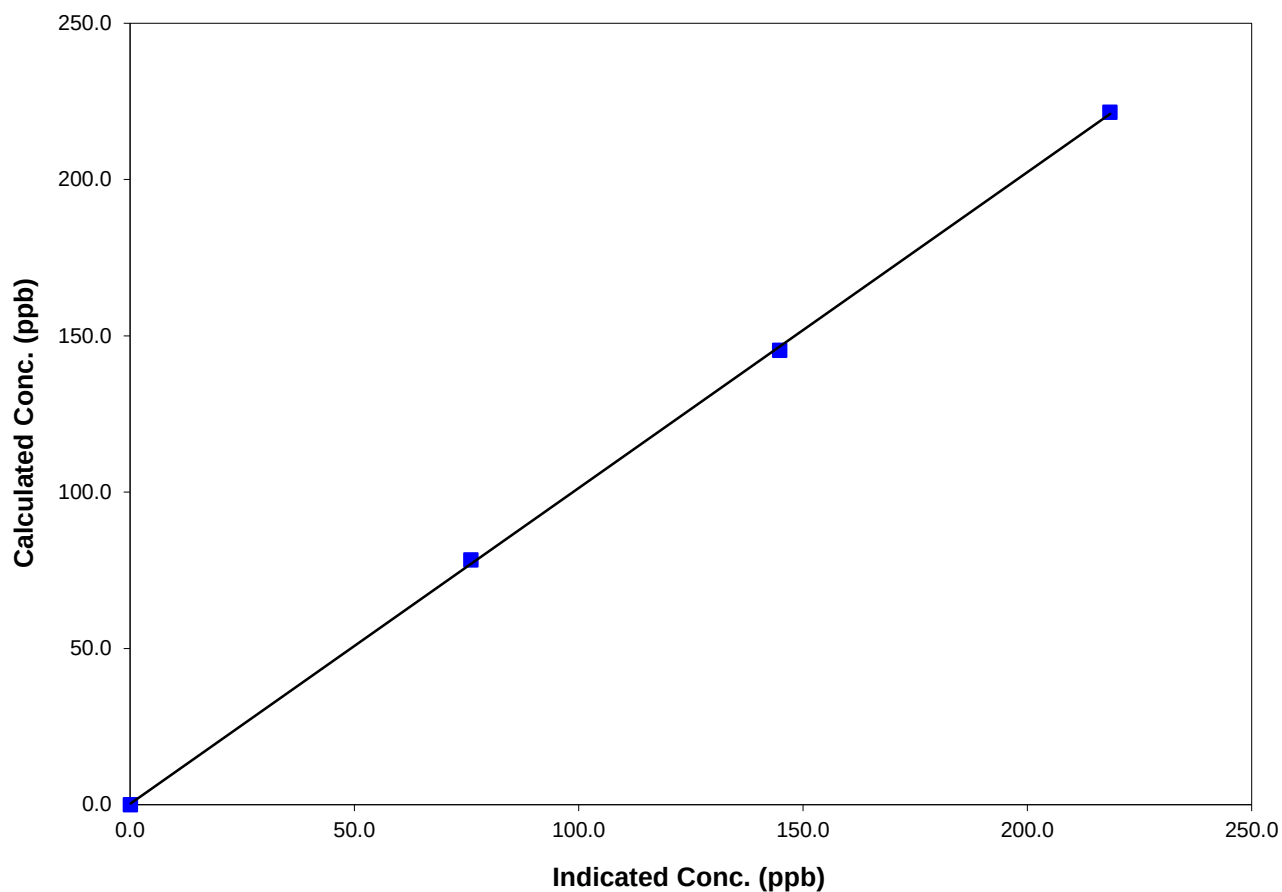
Station Information

Calibration Date	November 16, 2011	Previous Calibration	October 13, 2011
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	14:00:00 PM	End Time (MST)	16:16
Analyzer make/model	TECO 49C	Analyzer serial #	607415761

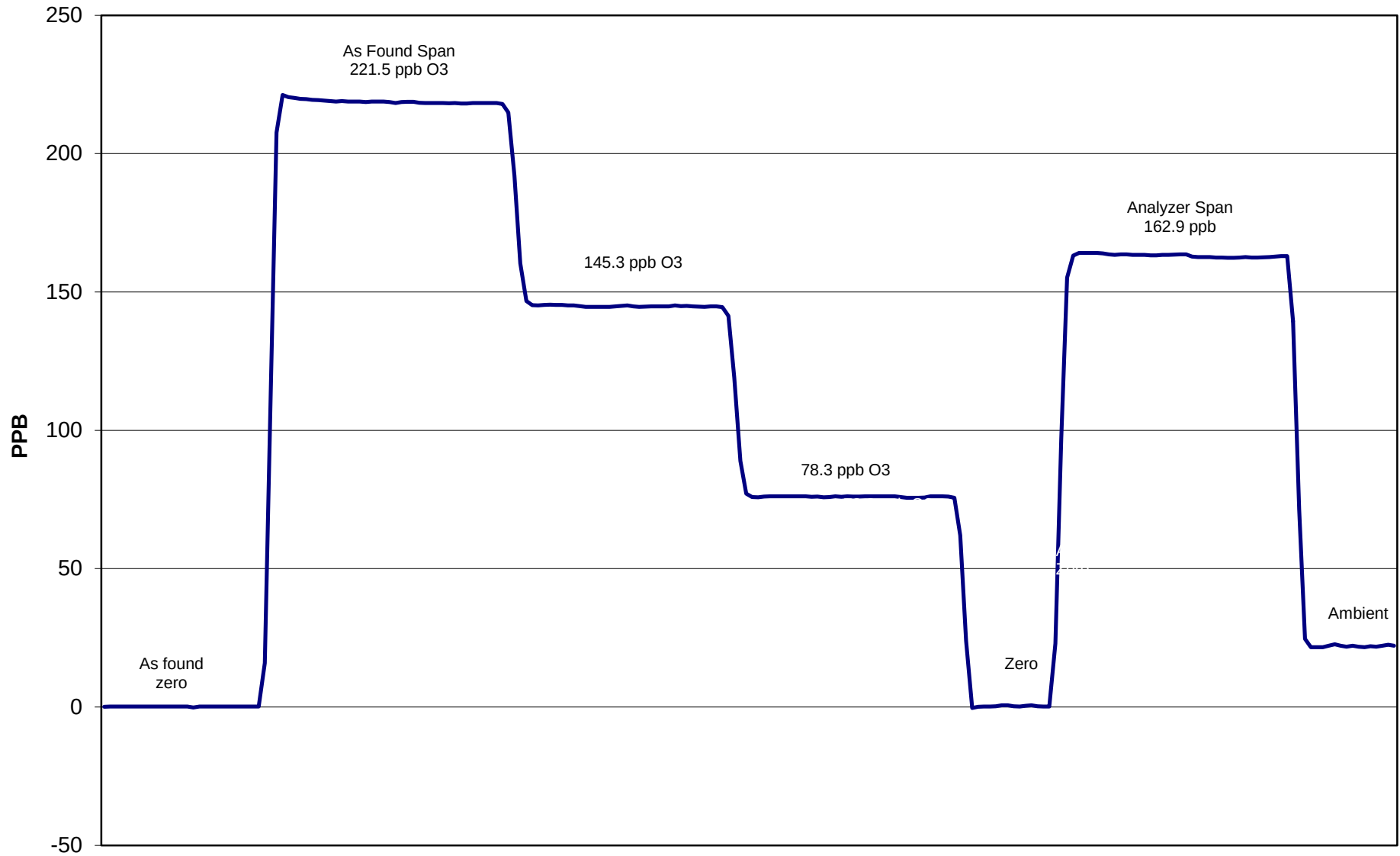
Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.1	NA	Correlation Coefficient	0.999864
221.5	218.5	1.0140		
145.3	144.8	1.0034		
78.3	76.0	1.0304	Slope	1.010873
			Intercept	0.234438

O3 Calibration Curve



O3 Calibration



November 16, 2011

Calibration Report

Parameter CO

Air Monitoring Network PASZA



Station Information

Calibration Date	November 15, 2011	Previous Calibration	October 12, 2011
Station Number	1	Station Location	Henry Pirker
Reason:	☒ Routine	☐ Install	☐ Removal
		☐ Other:	
Start Time (MST)	9:40	End Time (MST)	12:02
Barometric Pressure	0.923 ATM	Station Temperature	21.0 Deg C
Calibrator	EnviroNics	Serial Number	3474
Cal Gas Conc	3000 ppm	Cal Gas Expiry Date	AUG 28/05
		Cal Gas Cylinder #	AAL20565
DACS make	CR3000	DACS serial No.	5408
DACS voltage range	0 - 1 volt	DACS channel #	9
	Before		After
Calculated slope	0.999867	Calculated slope	1.001221
Calculated intercept	-0.472087	Calculated intercept	-0.474542
Analyzer make	TEI Model 48C	Analyzer serial #	508011062

	before		after	
Concentration range	0 - 50	ppm	0 - 50	ppm
CO span setting	1.088		1.088	
CO zero setting	1.308		1.308	
Sample pressure	684.3	mm Hg	677.7	mm Hg
Sample Flow	1.144	LPM	1.137	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)
4989	0.00	0.00	0.36	N/A
4989	39.85	23.77	24.16	0.9839
4989	19.91	11.92	12.43	0.9591
4989	9.93	5.96	6.55	0.9098
4989	0.00	0.00	0.90	As Found Zero
4989	39.85	23.77	24.16	As Found Span
Average Correction Factor				0.9510

Calculated value of As Found Response: 22.787 ppm Percent Change of As Found: 4.1%

	before calibration		after calibration	
Auto zero	0.03	ppm	0.03	ppm
Auto span	19.56	ppm	19.70	ppm

Notes: _____

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter CO

Air Monitoring Network PASZA



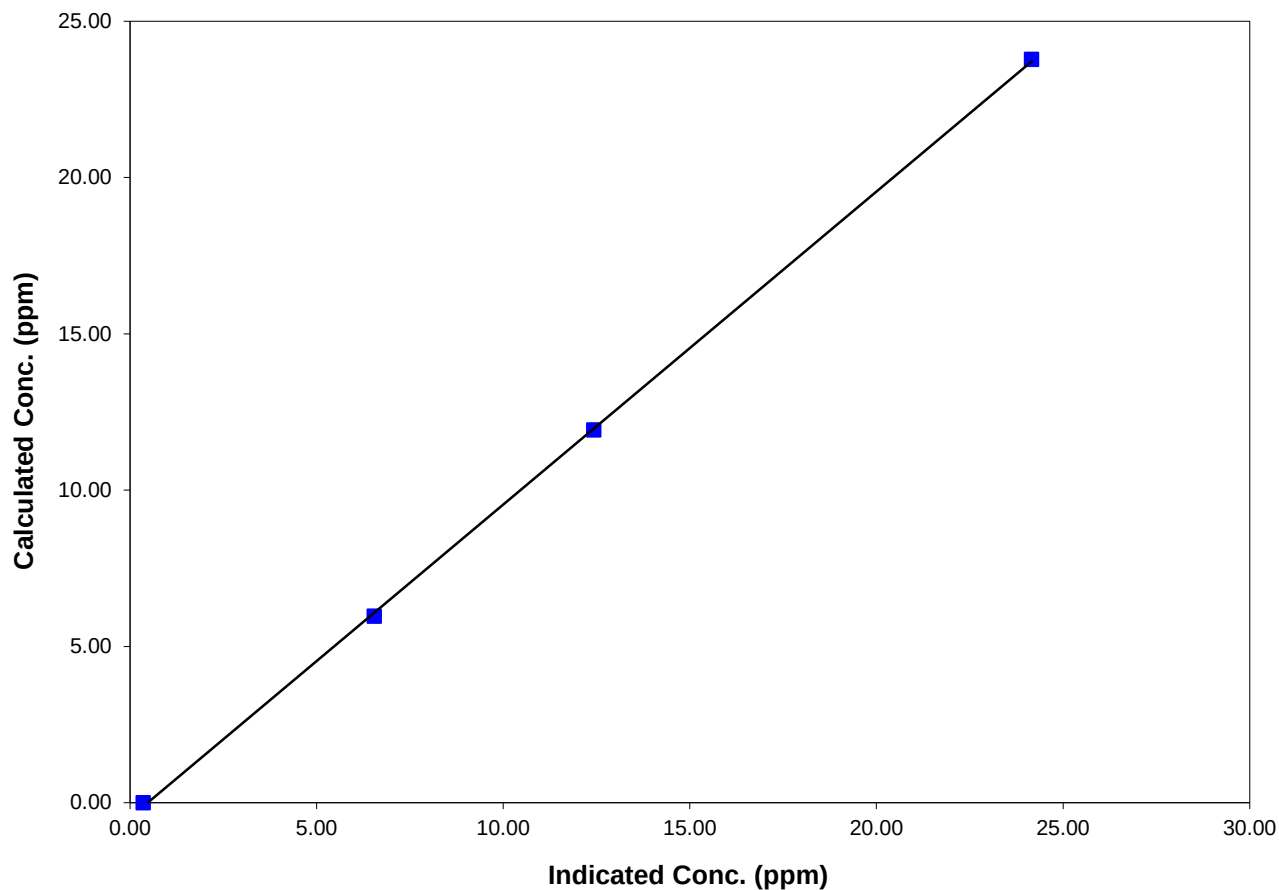
Station Information

Calibration Date	November 15, 2011	Previous Calibration	October 12, 2011
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	9:40	End Time (MST)	12:02
Analyzer make/model	TEI Model 48C	Analyzer serial #	508011062

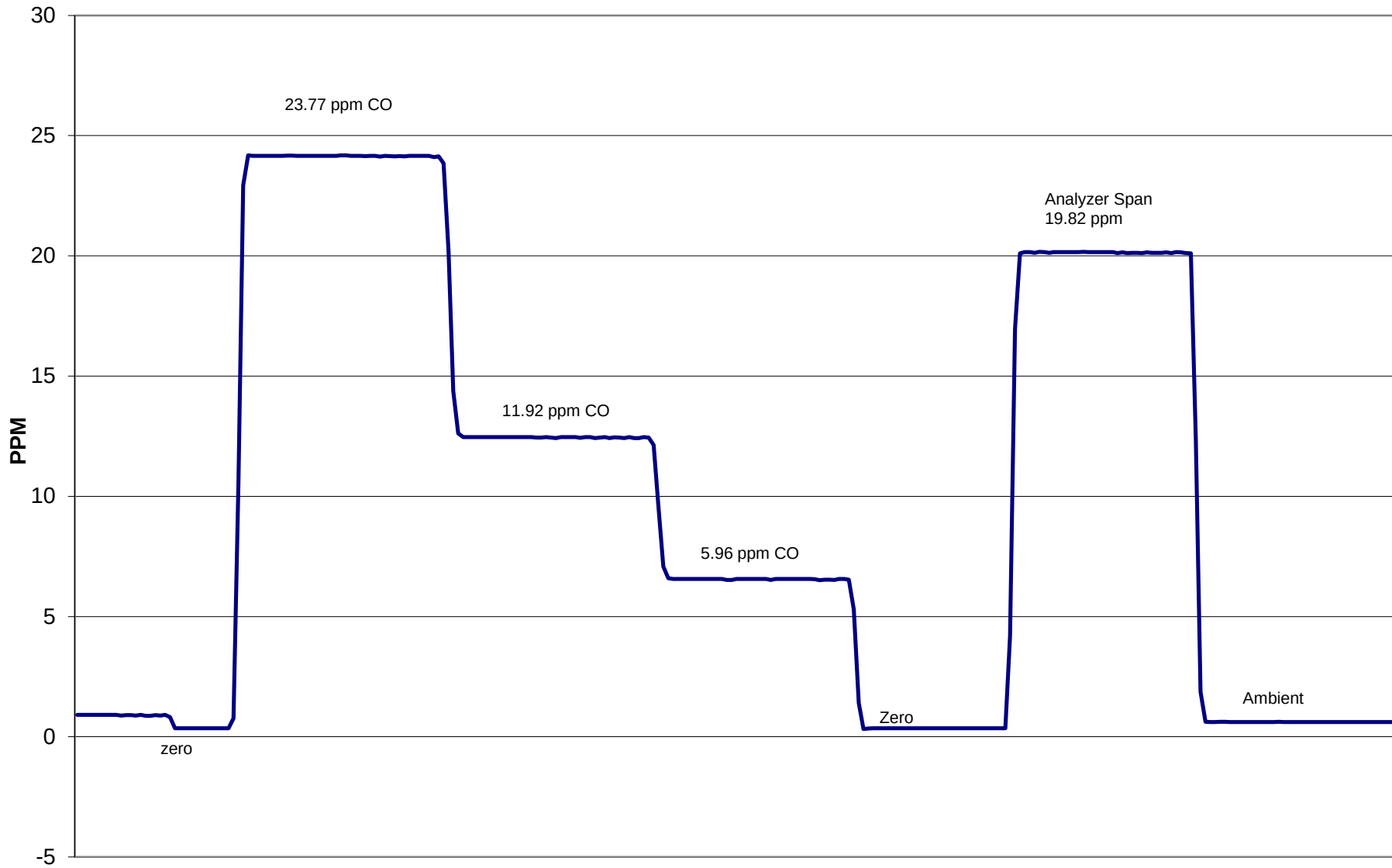
Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.358	N/A	Correlation Coefficient	0.999888
23.773	24.161	0.9839		
11.925	12.433	0.9591		
5.959	6.550	0.9098	Slope	1.001221
			Intercept	-0.474542

CO Calibration Curve



CO Calibration



November 15, 2011

Calibration Report

Parameter THC

Air Monitoring Network PASZA



Station Information

Calibration Date	November 15, 2011		Previous Calibration	October 12, 2011	
Station Number	1		Station Location	Henry Pirker	
Reason:	☒ Routine	☐ Install	☐ Removal	☐ Other:	
Start Time (MST)	11:00		End Time (MST)	13:55	
Barometric Pressure	0.923	ATM	Station Temperature	20.0	Deg C
Calibrator	EnviroNics 6100		Serial Number	3474	
Cal Gas Concentration	701 ppm CH4/ 299 ppm C3H8		Cal Gas Expiry Date	2/4/2010	
Cal Gas CH4 equiv	1523.25	ppm	Cal Gas Cylinder #	ALM 004476	
DACS make	CR3000		DACS serial No.	5408	
DACS voltage range	0 - 1 volt		DACS channel #	9	
	Before			After	
Calculated slope	1.062131		Calculated slope	1.057011	
Calculated intercept	-0.055840		Calculated intercept	-0.060751	
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	9616	capture	9616	capture
THC zero counts	447	capture	447	capture

Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4989	0.00	0.00	0.05	N/A
4989	69.79	21.01	19.96	1.0529
4989	29.87	9.07	8.57	1.0583
4989	9.92	3.02	2.98	1.0155
4989	0.00	0.00	0.05	As Found Zero
4989	69.79	21.01	19.96	As Found Span
Average Correction Factor				1.0422

Calculated value of As Found Response: 21.095 ppm Percent Change of As Found: -0.4%

	before calibration		after calibration	
Auto zero	0.10	ppm	-0.03	ppm
Auto span	21.83	ppm	20.85	ppm

Notes:

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter THC

Air Monitoring Network PASZA



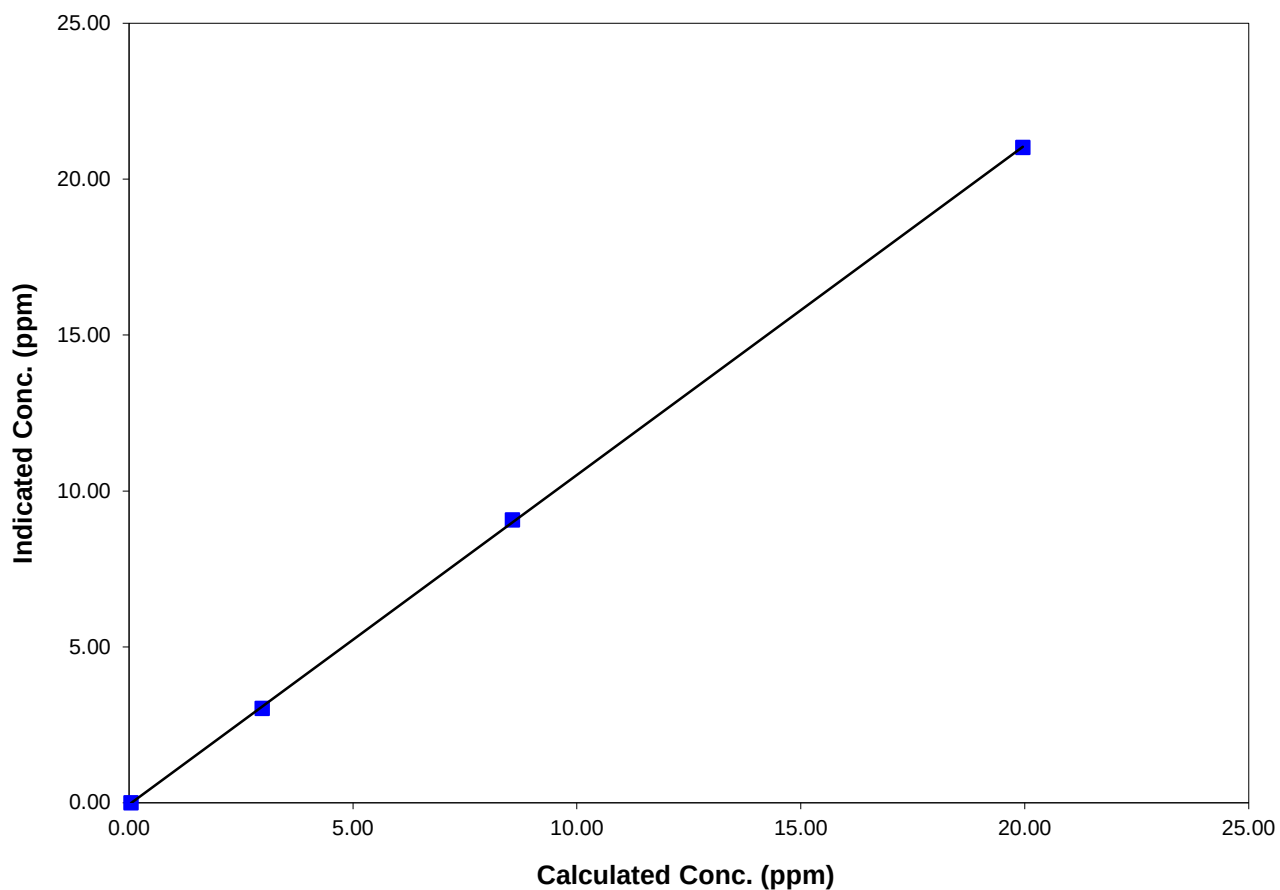
Station Information

Calibration Date	November 15, 2011	Previous Calibration	October 12, 2011
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	11:00	End Time (MST)	13:55
Analyzer make/model	TEI Model 51C-LT	Analyzer serial #	51CLT-79009-390

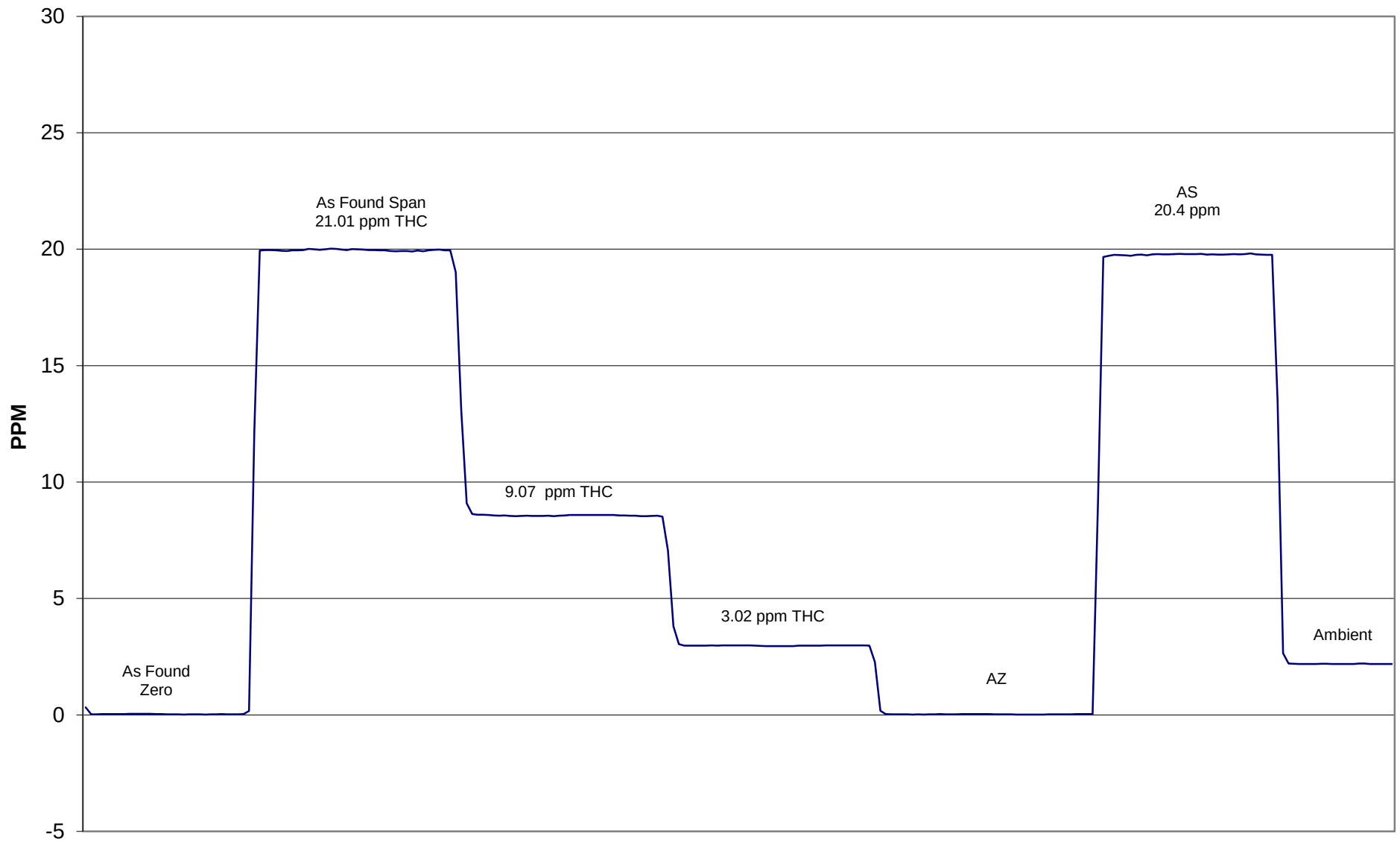
Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.046	N/A		
21.014	19.959	1.0529	Correlation Coefficient	0.999962
9.066	8.566	1.0583		
3.023	2.977	1.0155	Slope	1.057011
			Intercept	-0.060751

THC Calibration Curve

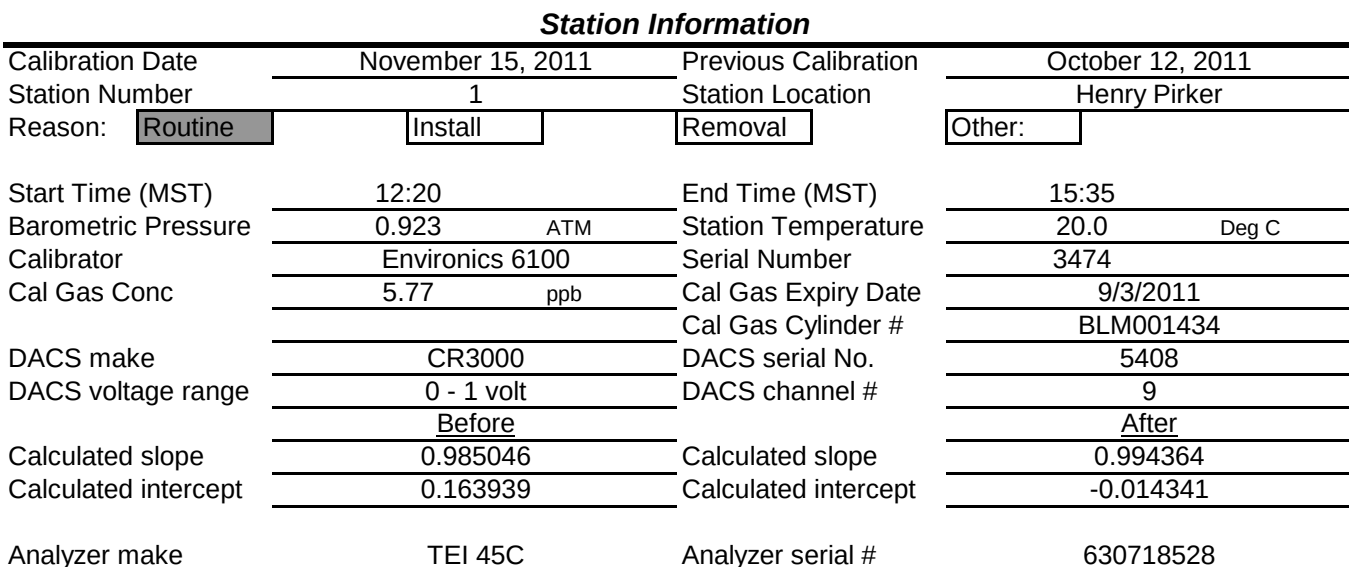


THC Calibration



November 15, 2011

Parameter	TRS
Air Monitoring Network	



Concentration range Coefficient Background Pressure Flow Lamp Voltage	before		after	
	0 - 100	ppb	0 - 100	ppb
	1.086		1.107	
	11.0		11.1	
	656.8	mm Hg	665.2	mm Hg
	0.455	ccm	0.459	ccm
	822	v	822	v

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
4988	0.00	0.00	0.11	N/A
4989	69.78	79.59	80.38	0.9901
4989	34.88	40.06	39.54	1.0130
4989	8.96	10.34	10.75	0.9623
4989	0.00	0.00	0.08	As Found Zero
4989	69.78	79.59	76.79	As Found Span
Average Correction Factor				0.9885

Calculated value of As Found Response:	75.7 ppb	Percent Change of As Found:	4.9%
--	----------	-----------------------------	------

	before calibration		after calibration	
Auto zero	-0.29	ppb	0.16	ppb
Auto span	33.10	ppb	34.26	ppb

Notes: Span adjusted...

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter TRS

Air Monitoring Network PASZA



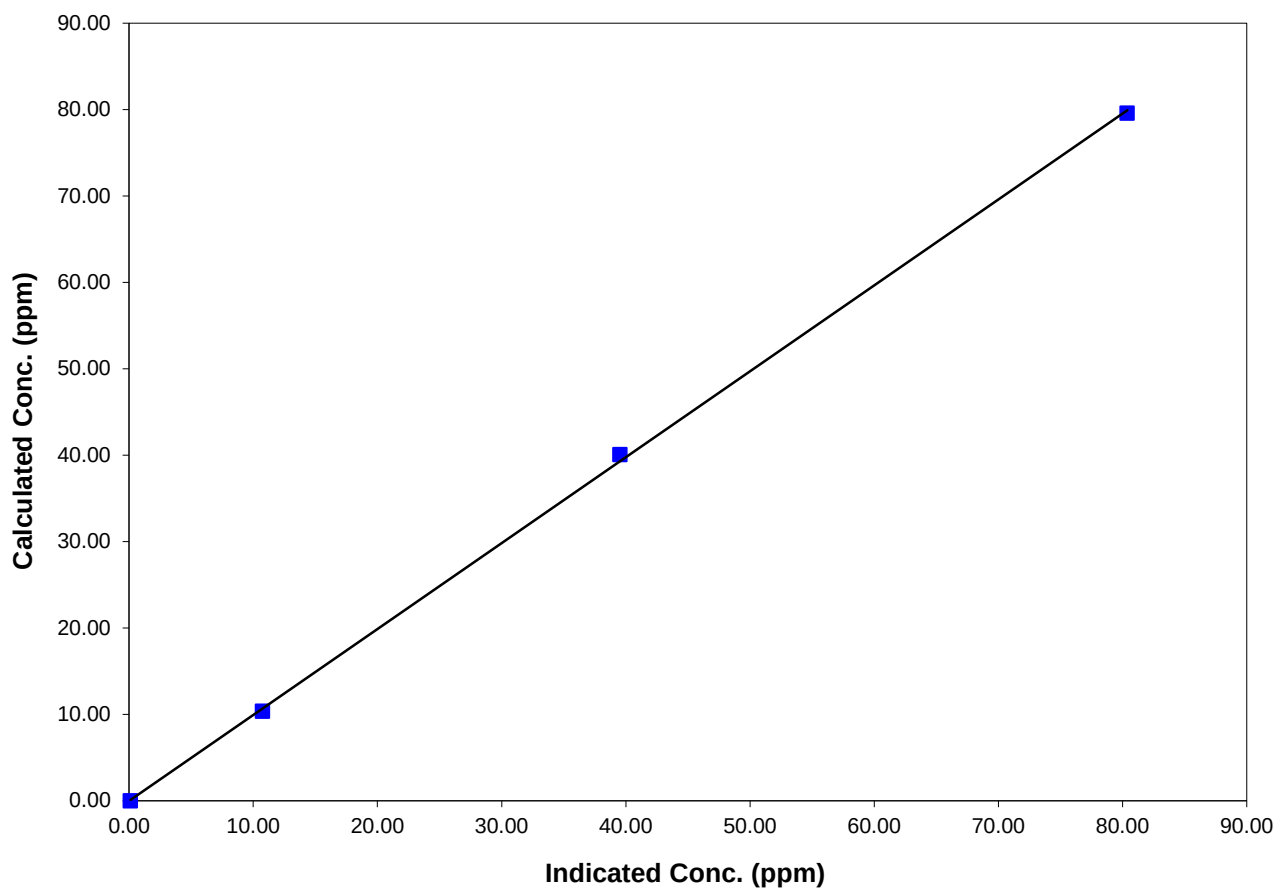
Station Information

Calibration Date	November 15, 2011	Previous Calibration	October 12, 2011
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	12:20	End Time (MST)	15:35
Analyzer make/model	TEI 45C	Analyzer serial #	630718528

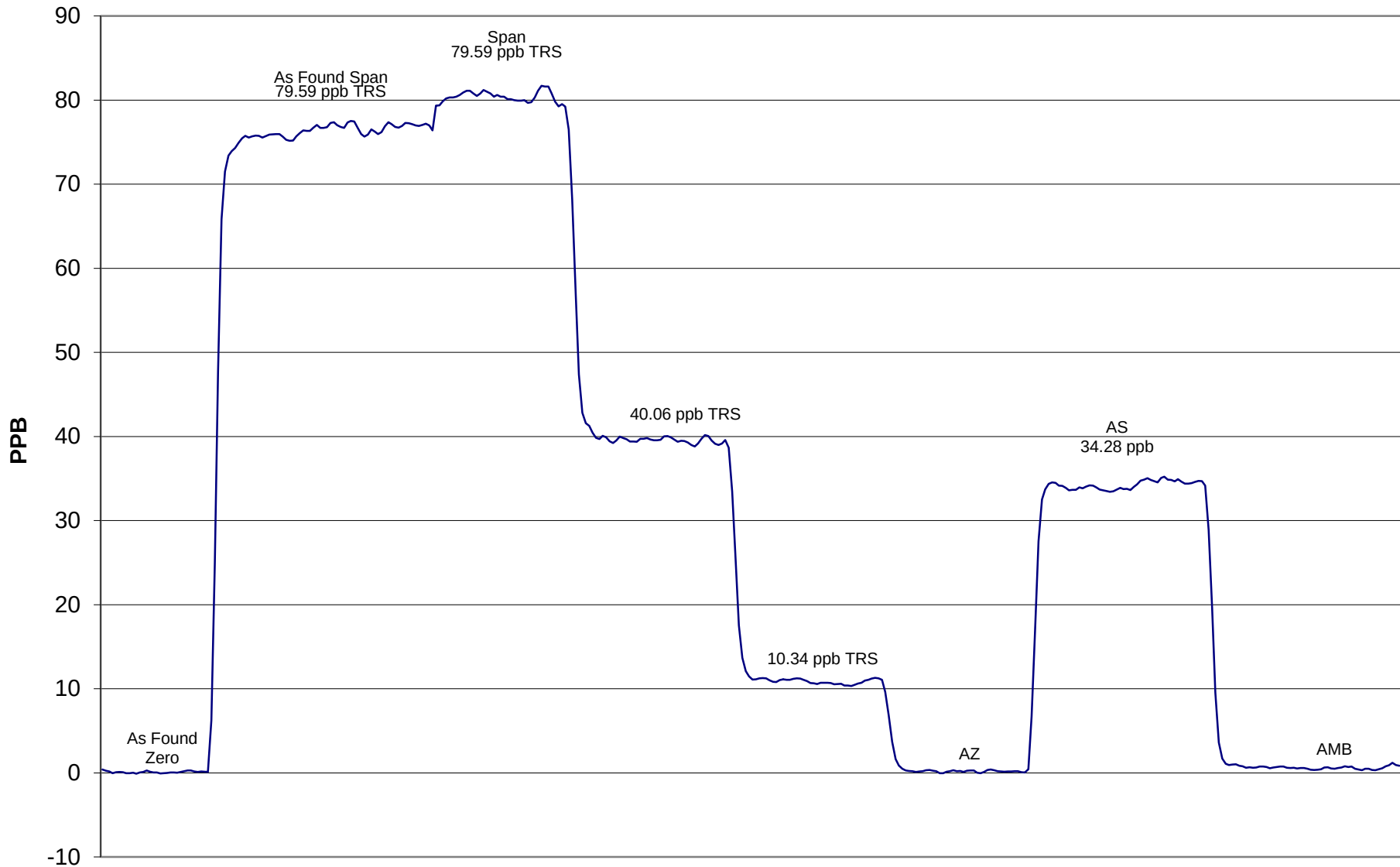
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.111	N/A	Correlation Coefficient	0.999793
79.590	80.384	0.9901		
40.060	39.545	1.0130		
10.344	10.750	0.9623	Slope	0.994364
			Intercept	-0.014341

TRS Calibration Curve



TRS Calibration



November 15, 2011

Calibration Report



Parameter SO₂
Air Monitoring Network PASZA

Station Information

Calibration Date	November 28, 2011	Previous Calibration	October 24, 2011
Station Number	2	Station Location	Evergreen Park
Reason:	Routine	Install	Removal
Start Time (MST)	14:30	End Time (MST)	17:13
Barometric Pressure	0.921 ATM	Station Temperature	20.0 Deg C
Calibrator	Envionics	Serial Number	3474
Cal Gas Concentration	49.8 ppm	Cal Gas Expiry Date	3/28/2013
Correction factor	0.031307	Cal Gas Cylinder #	SGAL3245
DACS make	CR3000	DACS serial No.	5236
DACS voltage range	0 - 5 volt	DACS channel #	6
	<u>Before</u>		<u>After</u>
Calculated slope	0.998962	Calculated slope	0.999622
Calculated intercept	-1.408999	Calculated intercept	-1.341013
Analyzer make	Teco 43i	Analyzer serial #	701120008

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
Background	11.2		11.1	
coefficient	1.079		1.069	
Lamp Voltage	830	volts	830	volts
Chamber Temp	45.2	Deg C	45.2	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	672.8	mm Hg	668.3	mm Hg
Sample Flow	0.458	ccm	0.455	ccm
Lamp Intensity	90	%	90	%

Dilution air flow rate (cc/min)	Corrected gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4989	0.0	0.00	0.5	N/A
4989	39.84	394.5	396.0	0.9963
4989	20.15	200.3	200.9	0.9969
4989	10.10	100.6	103.6	0.9710
4989	0.0	0.0	0.6	As Found Zero
4989	39.84	394.5	396.0	As Found Span
Average Correction Factor				0.9881

Calculated value of As Found Response: 393.631 ppm Percent Change of As Found: 0.2%

	before calibration		after calibration	
Auto zero	0.6	ppm	0.8	ppm
Auto span	292.7	ppm	286.5	ppm

Notes:

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter SO2

Air Monitoring Network PASZA



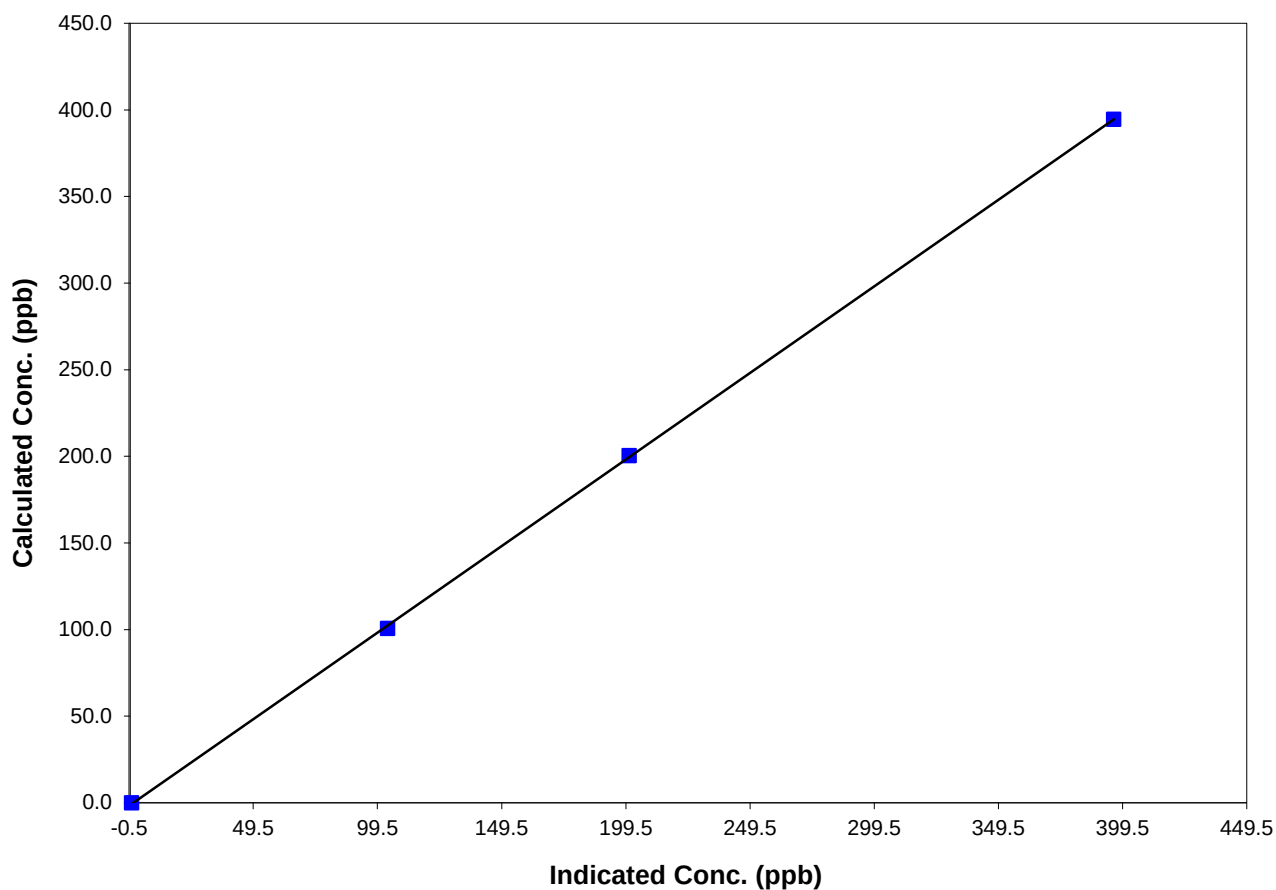
Station Information

Calibration Date	November 28, 2011	Previous Calibration	October 24, 2011
Station Number	2	Station Location	Evergreen Park
Start Time (MST)	14:30	End Time (MST)	17:13
Analyzer make/model	Teco 43i	Analyzer serial #	701120008

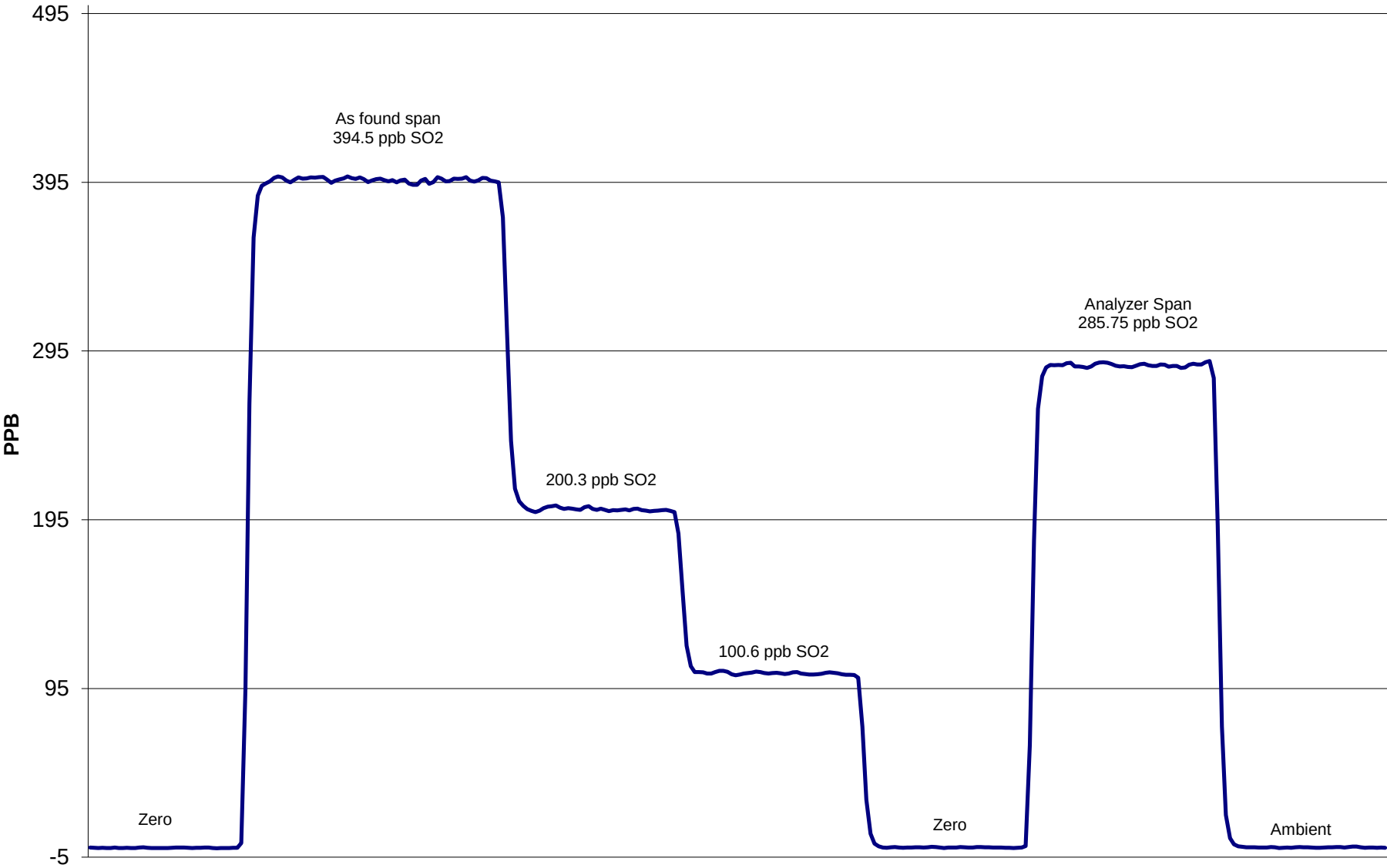
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.5	N/A	Correlation Coefficient	0.999954
394.5	396.0	0.9963		
200.3	200.9	0.9969		
100.6	103.6	0.9710	Slope	0.999622
			Intercept	-1.341013

SO2 Calibration Curve



SO2 Calibration



November 28, 2011

Calibration Report



Parameter TRS

Air Monitoring Network PASZA

Station Information

Calibration Date	November 9, 2011	Previous Calibration	October 24, 2011
Station Number	2	Station Location	Evergreen Park
Reason:	☒ Routine	☐ Install	☐ Removal
		☐ Other:	
Start Time (MST)	12:37	End Time (MST)	13:30
Barometric Pressure	0.923 ATM	Station Temperature	20.0 Deg C
Calibrator	EnviroNics	Serial Number	3016
Cal Gas Conc	5.02 ppm	Cal Gas Expiry Date	7/22/2011
Correction factor	0.031375	Cal Gas Cylinder #	BLM1715
DACS make	CR3000	DACS serial No.	5236
DACS voltage range	0 - 5 volt	DACS channel #	5
	<u>Before</u>		<u>After</u>
Calculated slope	1.001741	Calculated slope	0.992455
Calculated intercept	-0.081784	Calculated intercept	0.350549

Analyzer make TEI Model 43C Analyzer serial # 436610005

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Background	18.6	ppb	18.6	ppb
coefficient	0.922		0.922	
Lamp Voltage	807	volts	812	volts
Chamber Temp	45	Deg C	44.3	Deg C
Perm Gas Temp	45.01	Deg C	44.97	Deg C
Pressure	645.5	mm Hg	648.3	mm Hg
Sample Flow	0.473	ccm	0.480	ccm
Lamp Intensity	45,520	mv	45,249	mv

Calibration Data

Dilution air flow rate (cc/min)	Corrected gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4995	0.00	0.00	0.3	N/A
4996	79.92	79.04	79.5	0.9936
4996	39.96	39.83	39.4	1.0121
4996	9.96	9.99	9.3	1.0780
4995	0.00	0.00	0.3	As Found Zero
4996	79.92	79.04	79.5	As Found Span
Average Correction Factor				1.0279

Calculated value of As Found Response: 79.35 ppm Percent Change of As Found: **-0.4%**

	before calibration		after calibration	
Auto zero	0.2	ppm	0.5	ppm
Auto span	71.9	ppm	71.0	ppm

Notes: No adjustments required

Calibration Performed By: Virginia McKergow

Calibration Summary

Parameter TRS

Air Monitoring Network PASZA



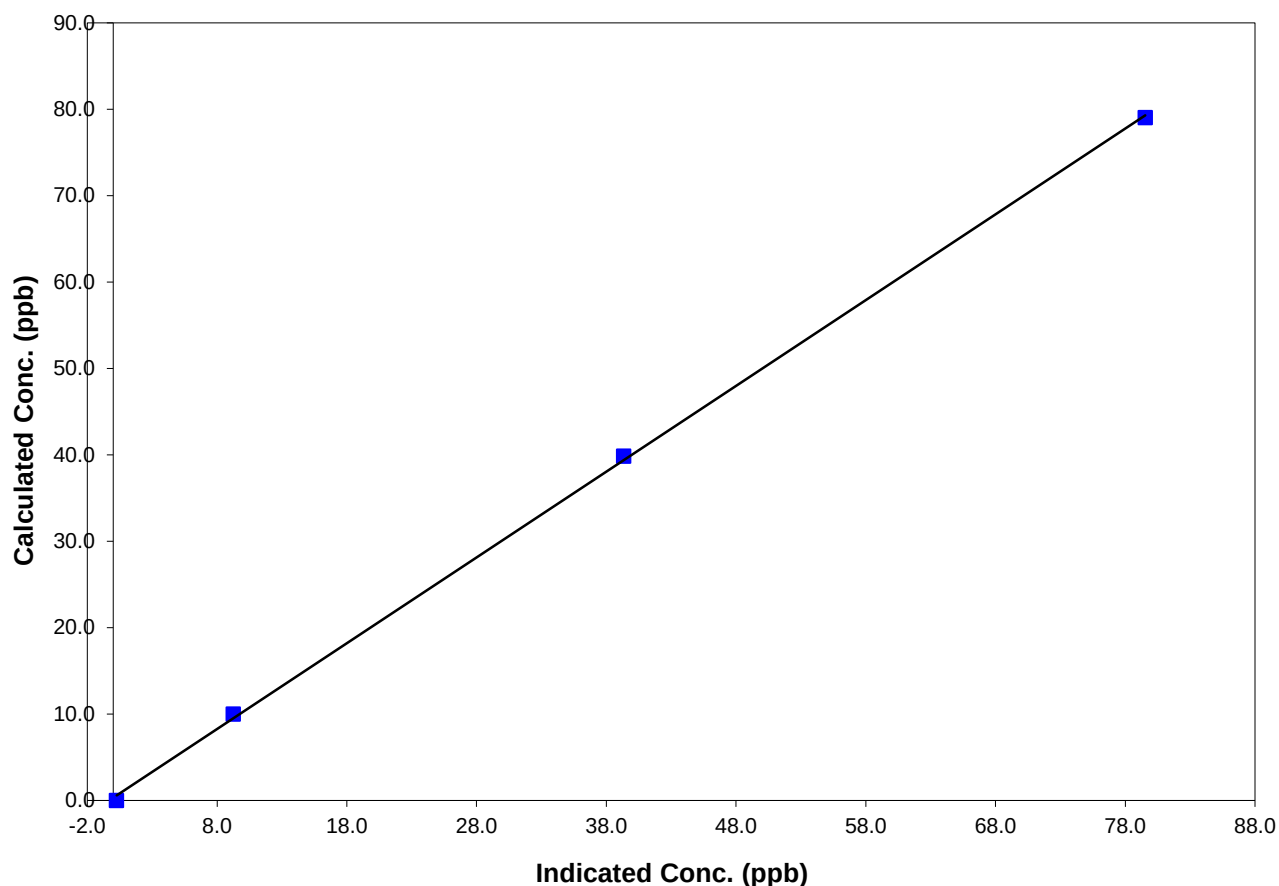
Station Information

Calibration Date	November 9, 2011	Previous Calibration	October 24, 2011
Station Number	2	Station Location	Evergreen Park
Start Time (MST)	12:37	End Time (MST)	13:30
Analyzer make/model	TEI Model 43C	Analyzer serial #	436610005

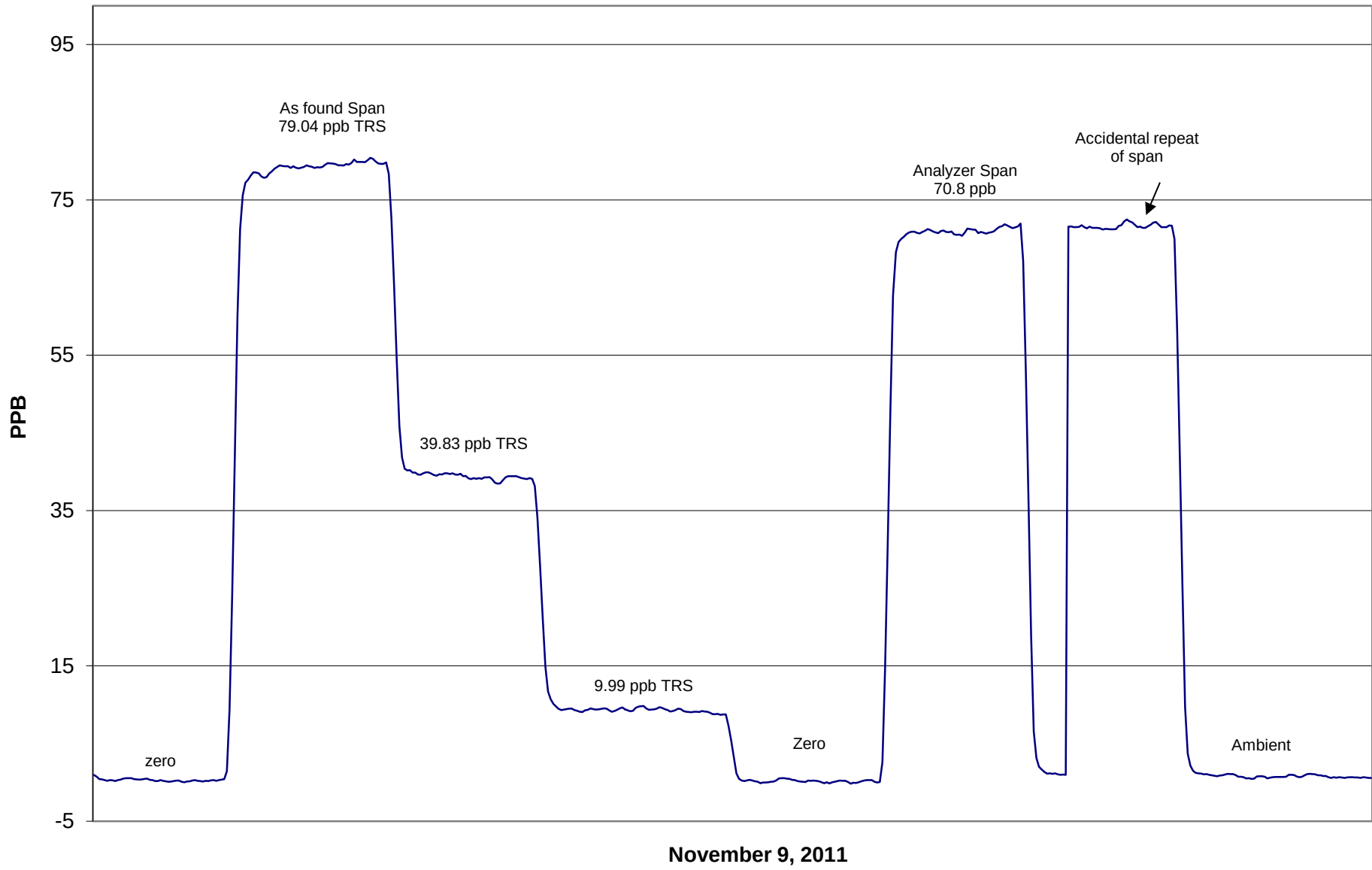
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.3	N/A	Correlation Coefficient	0.999786
79.0	79.5	0.9936		
39.8	39.4	1.0121		
10.0	9.3	1.0780	Slope	0.992455
			Intercept	0.350549

TRS Calibration Curve



TRS Calibration



Calibration Report



Parameter SO₂

Air Monitoring Network PASZA

Station Information

Calibration Date	November 28, 2011	Previous Calibration	October 25, 2011
Station Number	3	Station Location	Smoky Heights
Reason:	Routine	Install	Removal
		Other:	
Start Time (MST)	10:50	End Time (MST)	13:30
Barometric Pressure	0.927 ATM	Station Temperature	20.0 Deg C
Calibrator	EnviroNics 6100	Serial Number	3474
Cal Gas Concentration	49.8 ppm	Cal Gas Cert Date	3/28/2011
Correction factor	0.031511	Cal Gas Cylinder #	LL85275
DACS make	CR3000	DACS serial No.	5238
DACS voltage range	0 - 5 volt	DACS channel #	6
	<u>Before</u>		<u>After</u>
Calculated slope	0.999893	Calculated slope	1.000169
Calculated intercept	-2.121968	Calculated intercept	-2.333834
Analyzer make	Teco 43i	Analyzer serial #	701120009

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
Background	10		9.9	
coefficient	0.978		0.978	
Lamp Voltage	920	volts	920	volts
Chamber Temp	45	Deg C	45	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	672	mm Hg	674.7	mm Hg
Sample Flow	0.440	ccm	0.444	ccm
Lamp Intensity	88	%	87	%

Calibration Data

Dilution air flow rate (cc/min)	Corrected gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4989	0.0	0.00	0.4	N/A
4989	39.84	394.53	395.8	0.9967
4989	19.91	197.95	201.1	0.9845
4989	9.94	99.02	103.4	0.9572
4989	0.0	0.00	0.4	As Found Zero
4989	39.84	394.53	395.8	As Found Span
Average Correction Factor				0.9795

Calculated value of As Found Response: 393.248 ppm Percent Change of As Found: **0.3%**

	before calibration		after calibration	
Auto zero	0.4	ppb	0.4	ppb
Auto span	304.5	ppb	280.1	ppb

Notes: No adjust.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter SO2

Air Monitoring Network PASZA



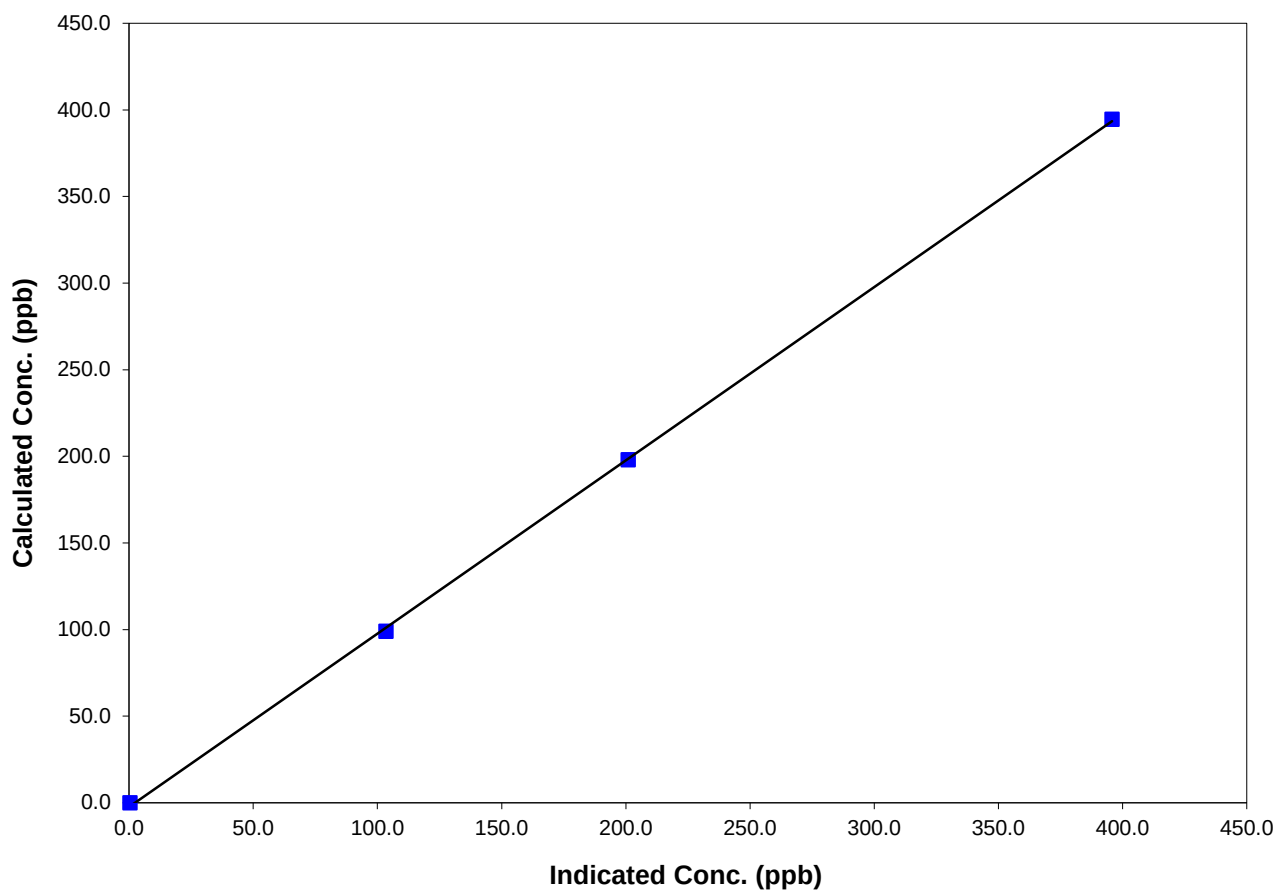
Station Information

Calibration Date	November 28, 2011	Previous Calibration	October 25, 2011
Station Number	3	Station Location	Smoky Heights
Start Time (MST)	10:50	End Time (MST)	13:30
Analyzer make/model	Teco 43i	Analyzer serial #	701120009

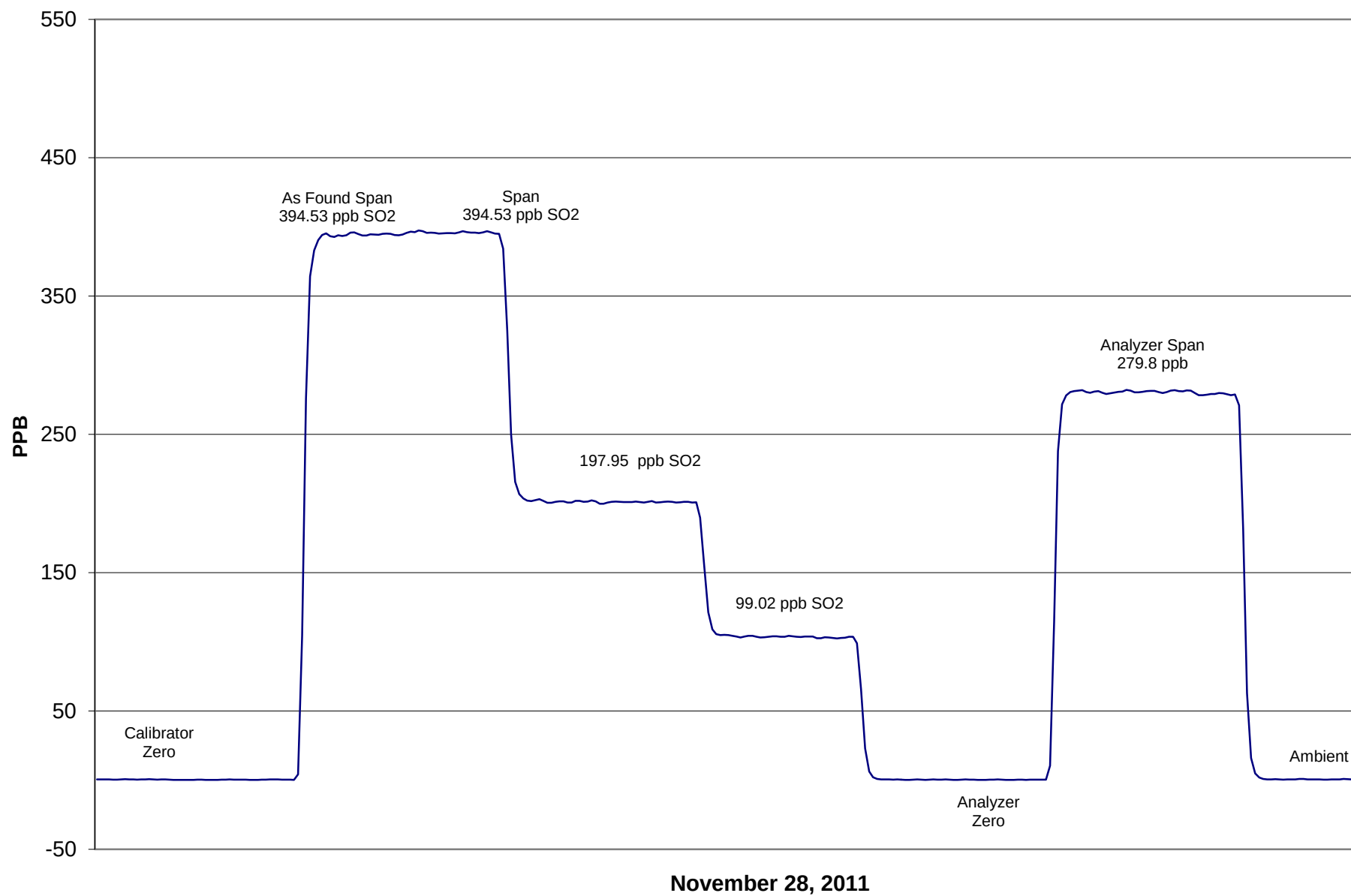
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.4	N/A	Correlation Coefficient	0.999884
394.5	395.8	0.9967		
198.0	201.1	0.9845		
99.0	103.4	0.9572	Slope	1.000169
			Intercept	-2.333834

SO2 Calibration Curve



Smokey Heights SO₂ Calibration



Calibration Report



Parameter TRS

Air Monitoring Network PASZA

Station Information

Calibration Date	November 28, 2011	Previous Calibration	October 26, 2011
Station Number	3	Station Location	Smokey Heights
Reason:	Routine	Install	Removal
		Other:	
Start Time (MST)	9:20	End Time (MST)	12:10
Barometric Pressure	0.927 ATM	Station Temperature	20.0 Deg C
Calibrator	EnviroNics 6100	Serial Number	3474
Cal Gas Conc	5.77 ppm	Cal Gas Expiry Date	9/3/2011
Correction factor	0.031511	Cal Gas Cylinder #	BLM001434
DACS make	CR3000	DACS serial No.	5238
DACS voltage range	0 - 5 volt	DACS channel #	5
	<u>Before</u>		<u>After</u>
Calculated slope	0.994397	Calculated slope	1.008209
Calculated intercept	-0.233635	Calculated intercept	-0.475020

Analyzer make TEI Model 43C Analyzer serial # 0436610005

	before		after	
Concentration range	100	ppb	100	ppb
Background	17.4	ppb	17.4	ppb
coefficient	0.953		0.946	
Lamp Voltage	797	volts	797	volts
Chamber Temp	44	Deg C	44.99	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	551.3	mm Hg	537	mm Hg
Sample Flow	0.595	ccm	0.586	ccm
Lamp Intensity	35,521	mv	35,430	mv

Dilution air flow rate (cc/min)	Corrected gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4989	0.0	0.00	0.3	N/A
4989	69.80	79.61	79.2	1.0047
4989	34.88	40.06	40.6	0.9871
4989	8.96	10.34	10.7	0.9632
4989	0.0	0.00	0.3	As Found Zero
4989	69.80	79.61	79.2	As Found Span
Average Correction Factor				0.9850

Calculated value of As Found Response: 78.29 ppm Percent Change of As Found: 1.7%

	before calibration		after calibration	
Auto zero	0.0	ppm	0.0	ppm
Auto span	52.9	ppm	53.6	ppm

Notes: Slight span adjust

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter TRS

Air Monitoring Network PASZA



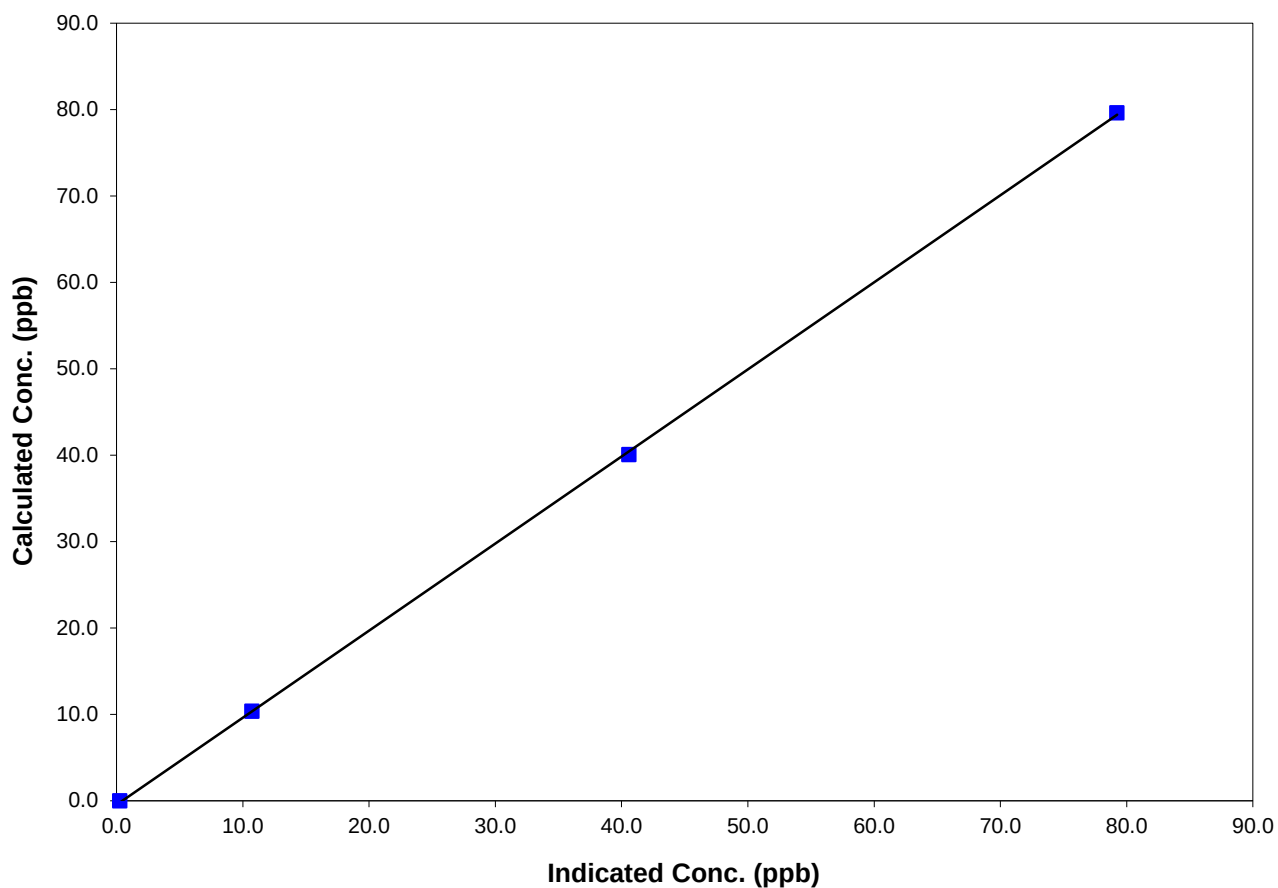
Station Information

Calibration Date	November 28, 2011	Previous Calibration	October 26, 2011
Station Number	3	Station Location	Smokey Heights
Start Time (MST)	9:20	End Time (MST)	12:10
Analyzer make/model	TEI Model 43C	Analyzer serial #	0436610005

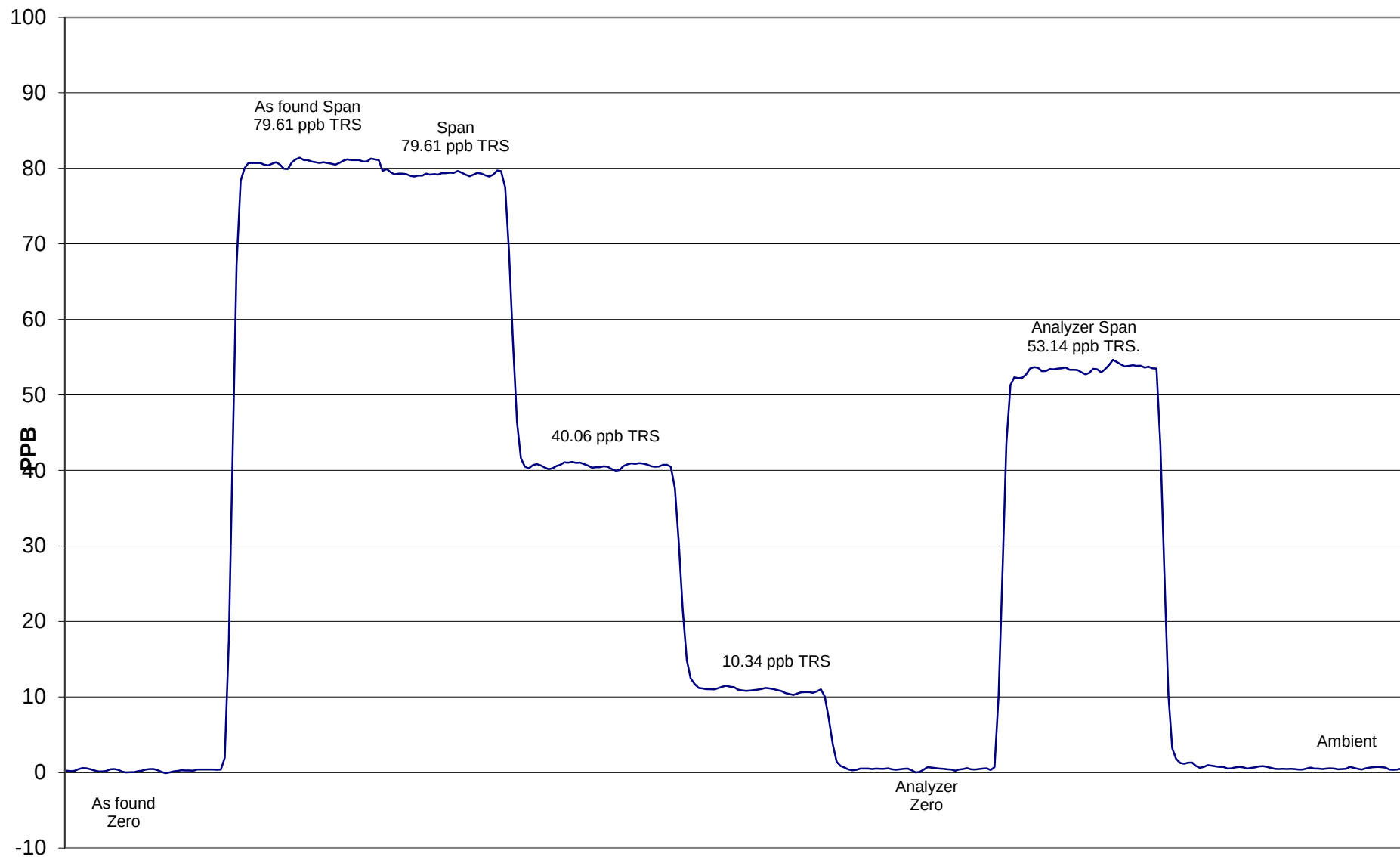
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.3	N/A	Correlation Coefficient	0.999942
79.6	79.2	1.0047		
40.1	40.6	0.9871		
10.3	10.7	0.9632	Slope	1.008209
			Intercept	-0.475020

TRS Calibration Curve



Smokey Heights TRS Calibration



November 28, 2011

Calibration Report

Parameter SO2
Air Monitoring Network

PASZA



Station Information

Calibration Date	November 20, 2011	Previous Calibration	October 11, 2011
Station Number	4	Station Location	Beaverlodge
Reason:	Routine	Install	Removal
		Other:	
Start Time (MST)	14:34	End Time (MST)	17:09
Barometric Pressure	0.905 atm	Station Temperature	23.0 Deg C
Calibrator	EnviroNics 6100	Serial Number	3474
Cal Gas Concentration	10.1 ppm	Cal Gas Expiry Date	1/25/2010
Gas Cert Reference	SAGL 671		
DACS make	CR3000	DACS serial No.	5237
DACS voltage range	0 - 5 volt	DACS channel #	5
	Before		After
DACS Scale High	100	DACS slope	100
DACS Scale Low	0	DACS intercept	0
Calculated slope	0.998704	Calculated slope	1.006756
Calculated intercept	-0.610357	Calculated intercept	-0.875637
Analyzer make	TEI Model 43i-TLE	Analyzer serial #	713021137

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Background	2.44		2.45	
Coefficient	1.063		1.08	
PMT	-767.8	V	-767.6	V
UV Lamp Voltage	1056	V	1052	V
Chamber Temp	45	Deg C	45.2	Deg C
Pressure	657.7	mm Hg	661.6	mm Hg
Sample Flow	0.485	LPM	0.488	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)
4989	0.00	0.0	0.3	N/A
4989	39.83	80.0	80.0	1.0002
4989	19.90	40.1	41.1	0.9759
4989	9.93	20.1	21.4	0.9390
4989	0.00	0.0	0.3	As found zero
4989	39.83	80.0	78.5	As found span
Average Correction Factor				0.9717

Calculated value of As Found Response: 77.479 ppm Percent Change of As Found: 3.1%

	before calibration		after calibration	
Auto zero	-0.3	ppb	-0.5	ppb
Auto span	58.2	ppb	58.0	ppb

Notes: Slight adjust first point.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter SO2

Air Monitoring Network PASZA



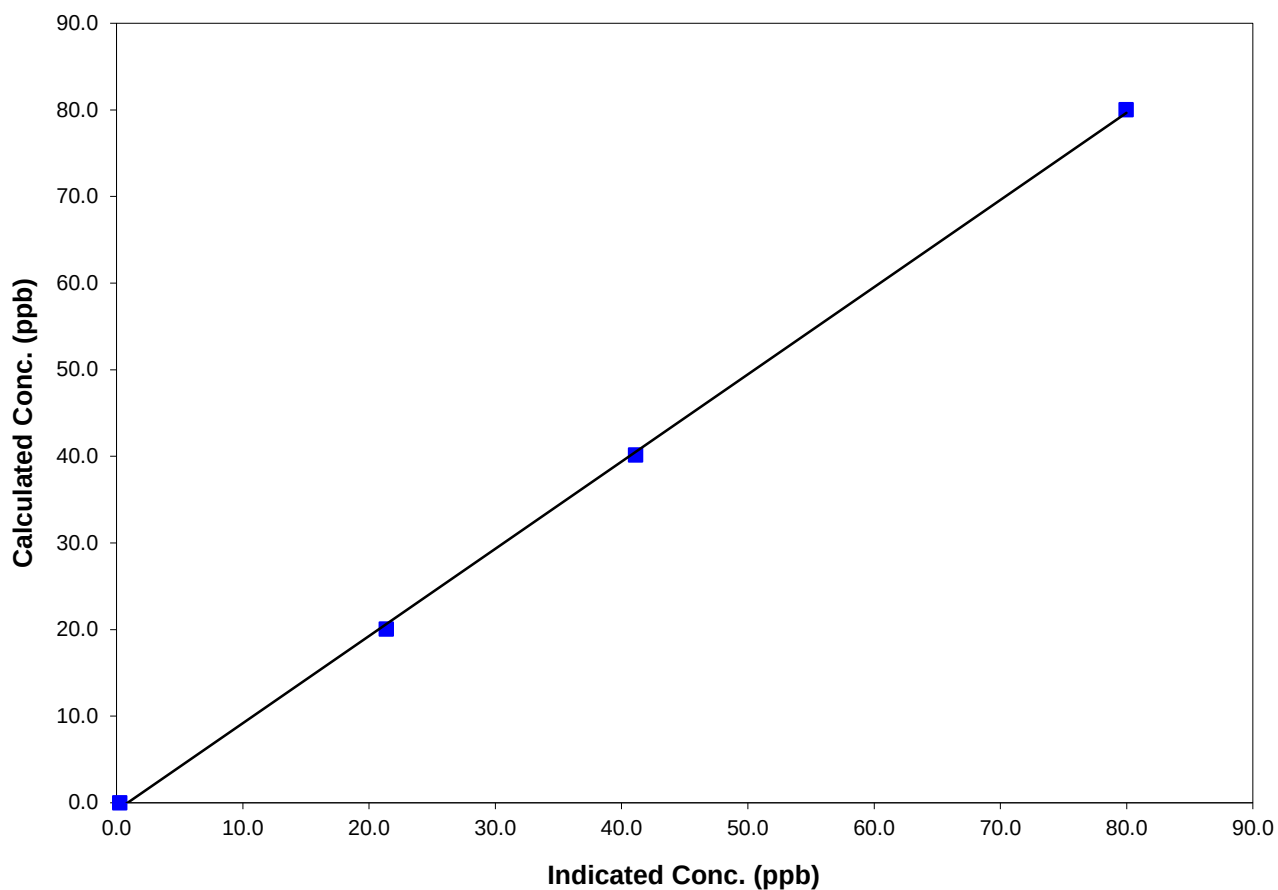
Station Information

Calibration Date	November 20, 2011	Previous Calibration	October 11, 2011
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	14:34	End Time (MST)	17:09
Analyzer make/model	TEI Model 43i-TLE	Analyzer serial #	713021137

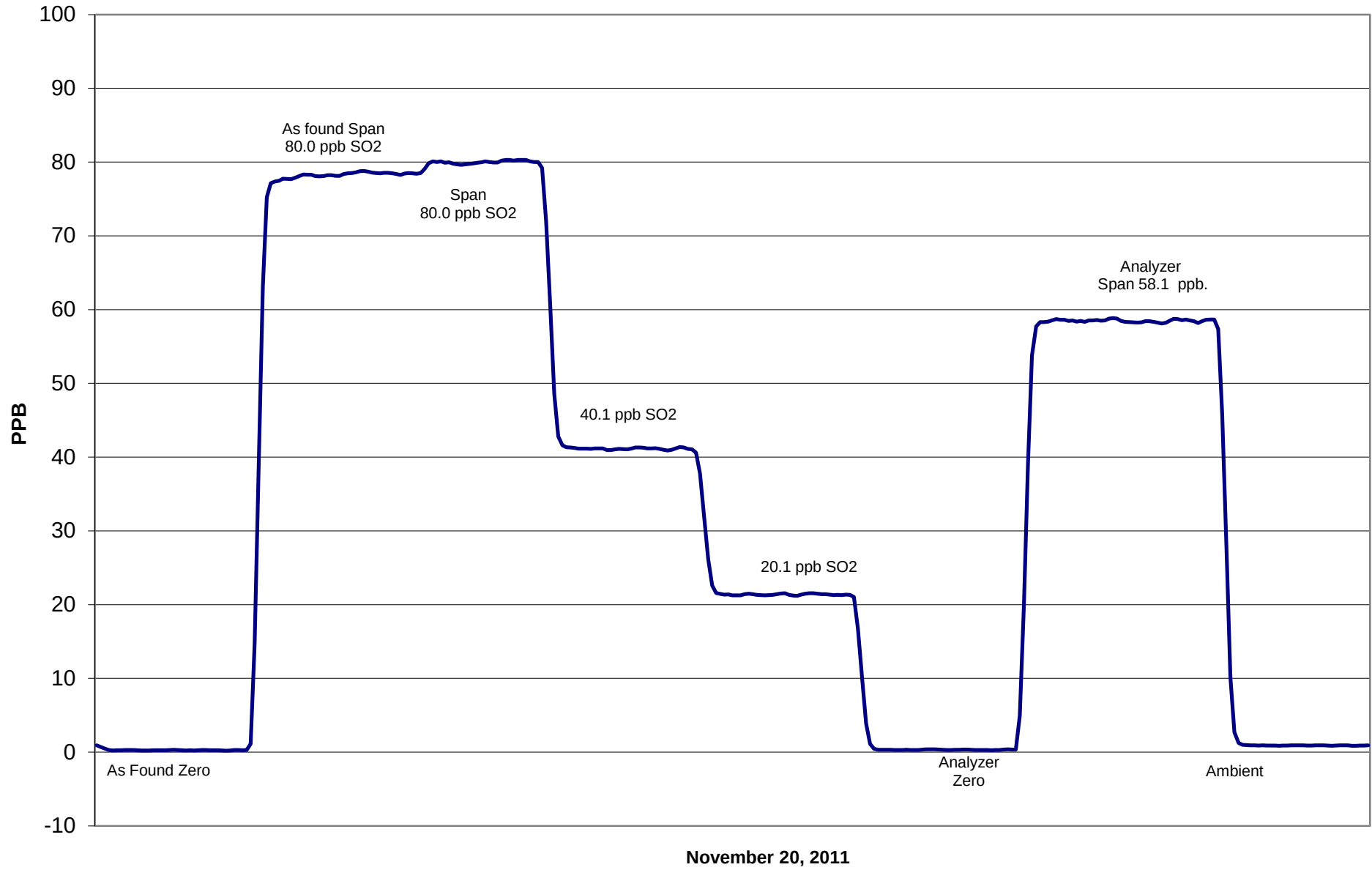
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.3	N/A	Correlation Coefficient	0.999721
80.0	80.0	1.0002		
40.1	41.1	0.9759		
20.1	21.4	0.9390	Slope	1.006756
			Intercept	-0.875637

SO2 Calibration Curve



SO2 Calibration



Calibration Report

Parameter

NO_x-NO-NO₂

Air Monitoring Network

PASZA



Station Information

Calibration Date	November 20, 2011		Previous Calibration	October 6, 2011	
Station Number	4		Station Location	BeaverLodge	
Reason:	Routine	Installation	Removal	Other:	
Start Time (MST)	10:20		End Time (MST)	14:15	
Barometric Pressure	0.905	Atm	Station Temperature	23.0	Deg C
Calibrator	EnviroNics		Serial Number	2844	
NO Cal Gas Conc	52.5	ppm	Cal Gas Expiry Date	March 28, 2013	
NOx Cal Gas Conc	52.5	ppm	Cal Gas Serial #	LL8575	

DACS Information

DACS make	AP1000		DACS serial No.		
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Parameter		NO2	NOx	NO
Before	Data Slope	1.000416	1.002392	1.001460
	Data Offset	-0.036631	-1.302744	-0.972551
After	Data Slope	1.005464	1.001015	1.000749
	Data Offset	0.601760	-0.575022	-0.358099
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	
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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	2.7	mV
NO coefficient	1.344		1.342	
NOx coefficient	0.999		1.002	
NO2 conv temp	325.7	Deg C	326.8	Deg C
PMT Temp	-3.0	Deg C	-2.9	Deg C
PMT Volt	-671.9	mV	-671.2	mV
R Cell Press	155.5	in Hg	155.8	in Hg
Sample Flow	0.693	ccm	0.700	ccm

Calibration Report

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



Station Information

Calibration Date: November 20, 2011 Station Location: BeaverLodge

Calibration Data

	Dilution flow rate (ccm)	Source gas flow rate (ccm)	Calculated NOx conc (ppb)	Calculated NO conc (ppb)	Calculated NO2 conc (ppb)	Indicated NOx conc (ppb)	Indicated NO conc (ppb)	Indicated NO2 conc (ppb)	NOx Correction factor	NO Correction factor
zero	4989	0.00	0.0	0.0	0.0	0.1	-0.1	0.1	N/A	N/A
1	4989	38.85	405.7	405.7	0.0	406.2	406.3	-0.3	0.9986	0.9985
2	4989	19.92	208.8	208.8	0.0	207.5	206.9	-0.2	1.0064	1.0091
3	4989	9.93	104.3	104.3	0.0	106.5	106.6	-0.2	0.9792	0.9788
AFZ	4989	0.00	0.0	0.0	0.0	0.1	-0.1	0.1	0.0000	0.0000
AFS	4989	38.85	405.7	405.7	0.8	406.2	406.3	-0.3	0.9986	0.9985
Average Correction Factor									0.9947	0.9955

As Found Concentrations: NO_x= 404.8 NO= 405.4 As Found Percent Change NO_x= -0.2% NO= -0.1%

GPT Calibration Data

Dilution Flow 4989 ccm Source Gas Flow 38.86 ccm

O3 Setpoint (ppb)	Indicated NO high point (ppb)	Indicated NO drop conc (ppb)	Calculated NO2 conc (ppb)	Indicated NOx conc (ppb)	Indicated NO conc (ppb)	Indicated NO2 conc (ppb)	NOx Correction factor	NO Correction factor	NO2 Correction factor	Converter Efficiency
0	-0.1	-0.1	0.0	0.1	-0.1	0.1	N/A	N/A	N/A	N/A
NO point	407.4	407.4	0.0	406.9	407.4	-0.7	1.0012	1.0000	N/A	N/A
300	407.4	191.7	215.7	406.7	191.7	214.4	1.0017	1.0000	1.0062	99.4%
200	407.4	261.6	145.8	406.3	261.6	144.2	1.0027	1.0000	1.0107	98.9%
100	407.4	328.8	78.6	405.6	328.8	76.6	1.0045	1.0000	1.0257	97.5%
Average Correction Factor							1.0030	1.0000	1.0142	98.6%

AIC Data

	Previous calibration				Current calibration			
Parameter	NOx	NO2	NO		NOx	NO2	NO	
Auto zero	-0.2	-0.3	-0.2	ppb	0.0	-0.2	-0.1	ppb
Auto span	238.0	235.5	1.6	ppb	231.8	229.6	1.5	ppb

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter NO₂

Air Monitoring Network PASZA



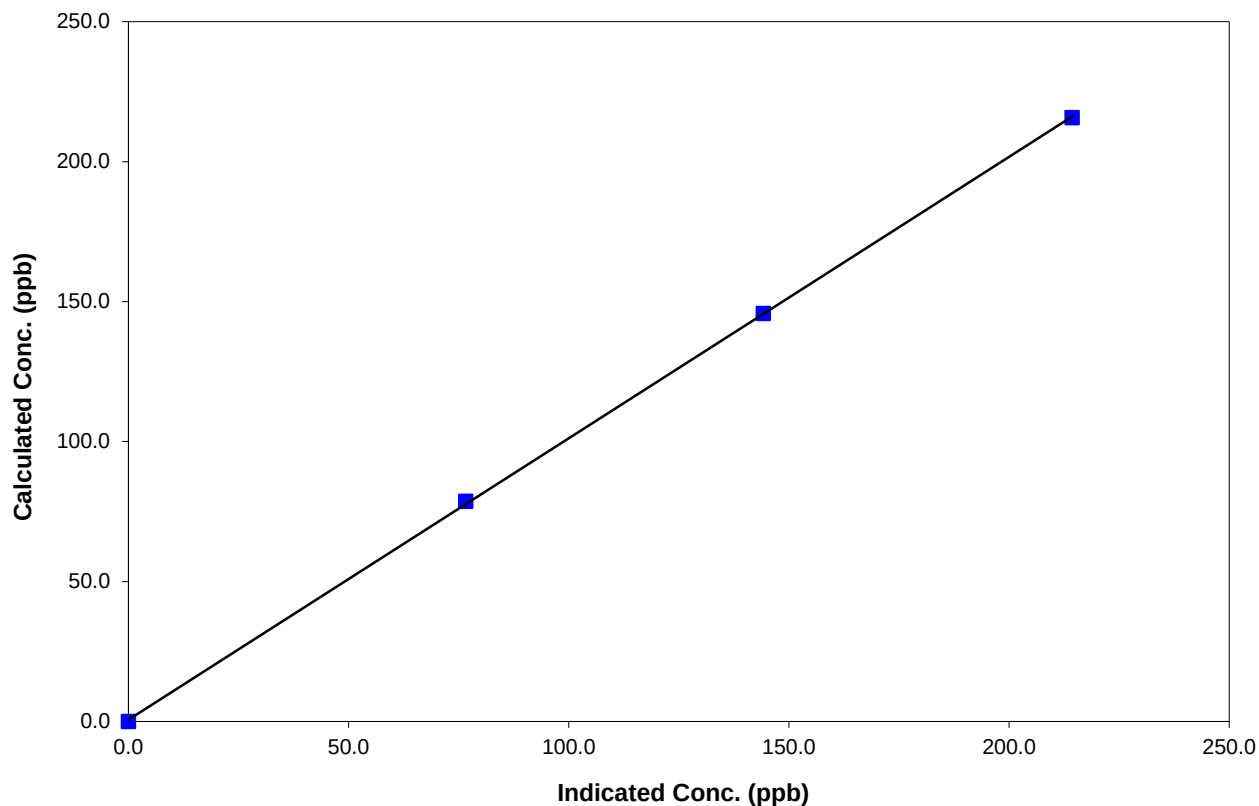
Station Information

Calibration Date	November 20, 2011	Previous Calibration	October 6, 2011
Station Number	4	Station Location	BeaverLodge
Start Time (MST)	10:20	End Time (MST)	14:15
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	0.999939
215.7	214.4	1.0062		
145.8	144.2	1.0107		
78.6	76.6	1.0257	Slope	1.005464
			Intercept	0.601760

NO₂ Calibration Curve



Calibration Summary

Parameter NO_x

Air Monitoring Network PASZA



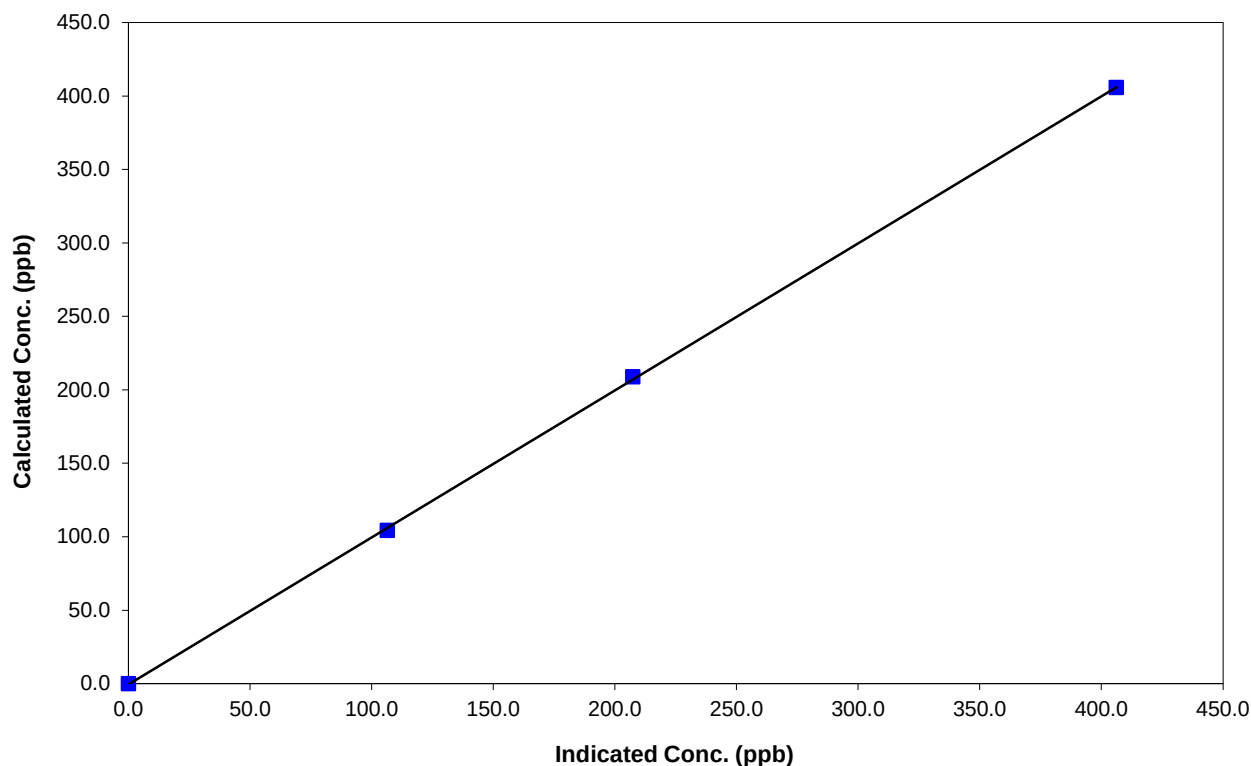
Station Information

Calibration Date	November 20, 2011	Previous Calibration	October 6, 2011
Station Number	4	Station Location	BeaverLodge
Start Time (MST)	10:20	End Time (MST)	14:15
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	0.999930
405.7	406.2	0.9986		
208.8	207.5	1.0064		
104.3	106.5	0.9792	Slope	1.001015
			Intercept	-0.575022

NO_x Calibration Curve



Calibration Summary

Parameter NO

Air Monitoring Network PASZA



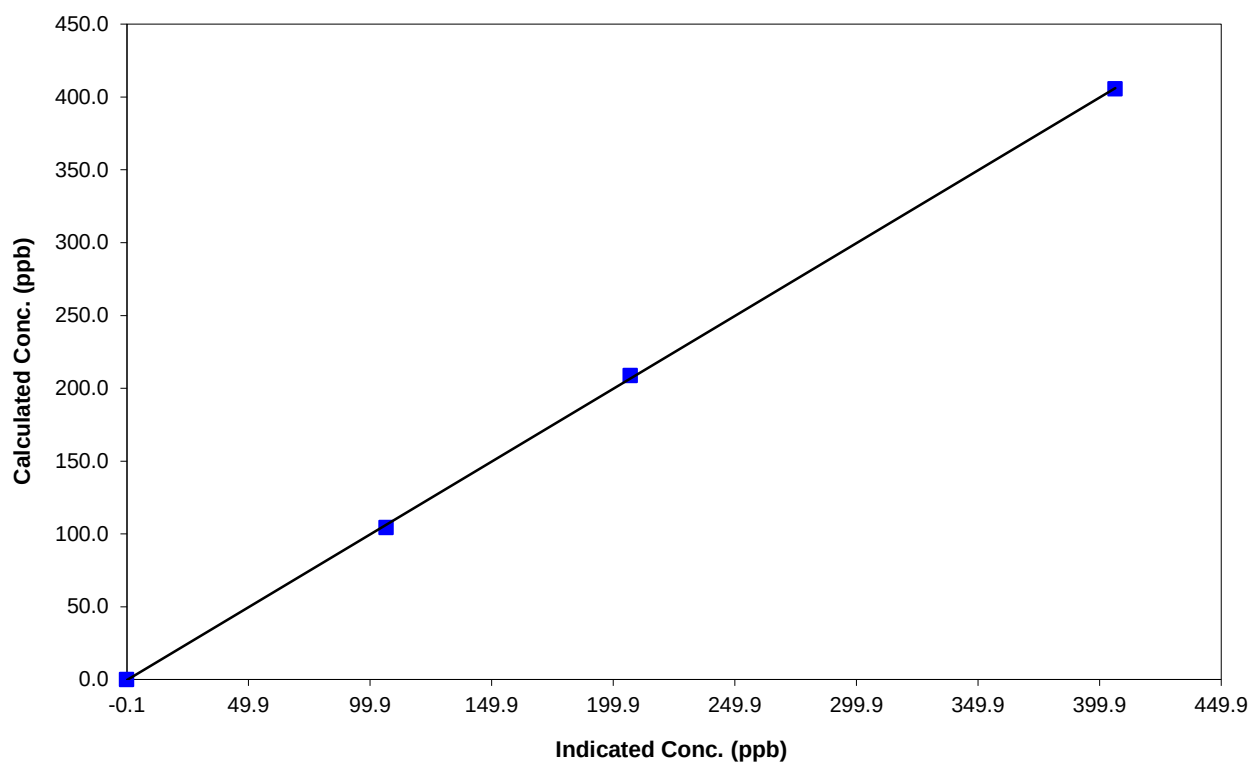
Station Information

Calibration Date	November 20, 2011	Previous Calibration	October 6, 2011
Station Number	4	Station Location	BeaverLodge
Start Time (MST)	10:20	End Time (MST)	14:15
Analyzer make	TEI 42i	Analyzer serial #	906535068

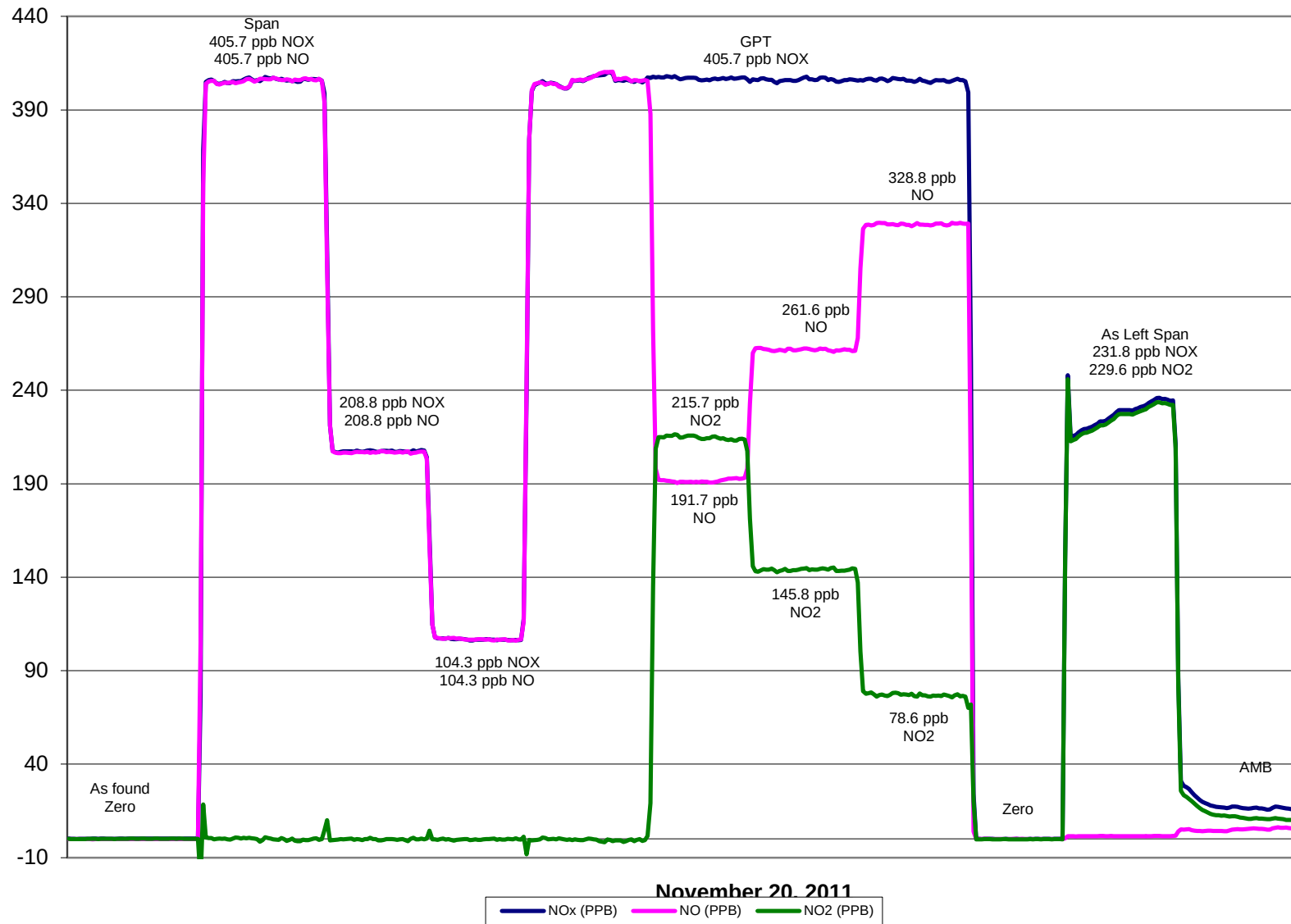
Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.1	N/A	Correlation Coefficient	0.999902
405.7	406.3	0.9985		
208.8	206.9	1.0091		
104.3	106.6	0.9788	Slope	1.000749
			Intercept	-0.358099

NO Calibration Curve



PASZA Beaverlodge NO_x Calibration



Calibration Report

Parameter 03

Air Monitoring Network PASZA



Station Information

Calibration Date	November 20, 2011	Previous Calibration	October 6, 2011
Station Number	4	Station Location	Beaverlodge
Reason:	Routine	Install	Removal
		Other:	

Start Time (MST)	13:10	End Time (MST)	15:40
Barometric Pressure	0.905 atm	Station Temperature	23.0 Deg C
Calibrator	EnviroNics 6100	Serial Number	3474
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	1.000054	Calculated slope	1.028008
Calculated intercept	1.976143	Calculated intercept	-2.225420

Analyzer make	Teco 49C	Analyzer serial #	49C-76443-383
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	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
offset	-1.70	ppb	-1.60	ppb
slope	1.030		1.030	
Lamp temp	56.3	mV	56.3	mV
Lamp Intensity A/B	58146/59595	mV	58029/59625	mV
Pressure	675.2	mm Hg	673.5	mm Hg
Flow A	0.76	ccm	0.759	ccm
Flow B	0.706	ccm	0.705	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)
4989	0.0	0.0	0.4	N/A
4989	220.0	215.7	211.4	1.0202
4989	150.0	145.8	142.8	1.0211
4989	80.0	78.6	82.2	0.9568
4989	0.0	0.0	0.4	As found zero
4989	220.0	215.7	211.4	As found span
Average Correction Factor				0.9993

Calculated value of As Found Response: 213.0 ppm Percent Change of As Found: **-1.3%**

	before calibration		after calibration	
Auto zero	0.1	ppb	-1.9	ppb
Auto span	114.3	ppb	111.7	ppb

Notes: Ozone lamp/generator is deteriorating. Have ordered calibrator parts.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter O3

Air Monitoring Network PASZA



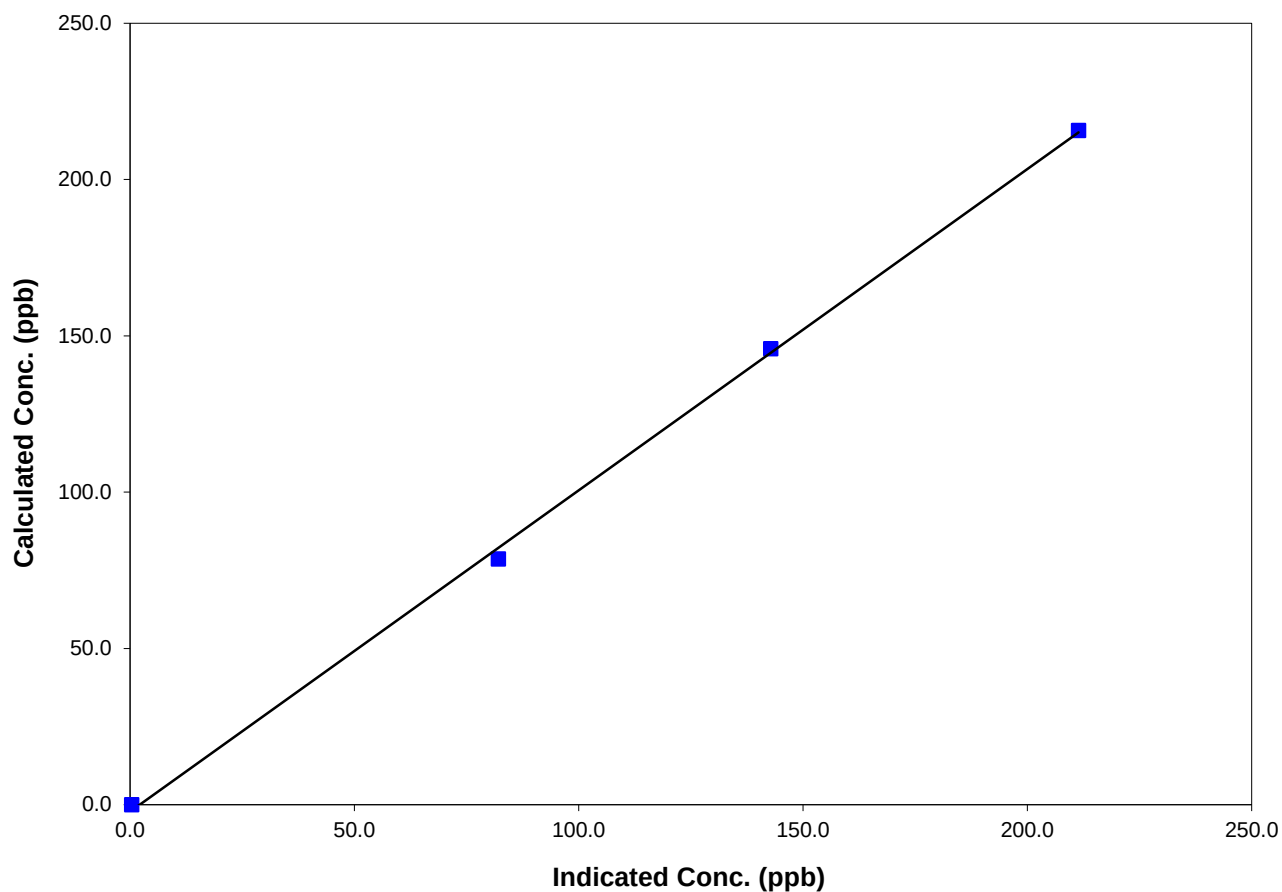
Station Information

Calibration Date	November 20, 2011	Previous Calibration	October 6, 2011
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	13:10	End Time (MST)	15:40
Analyzer make/model	Teco 49C	Analyzer serial #	49C-76443-383

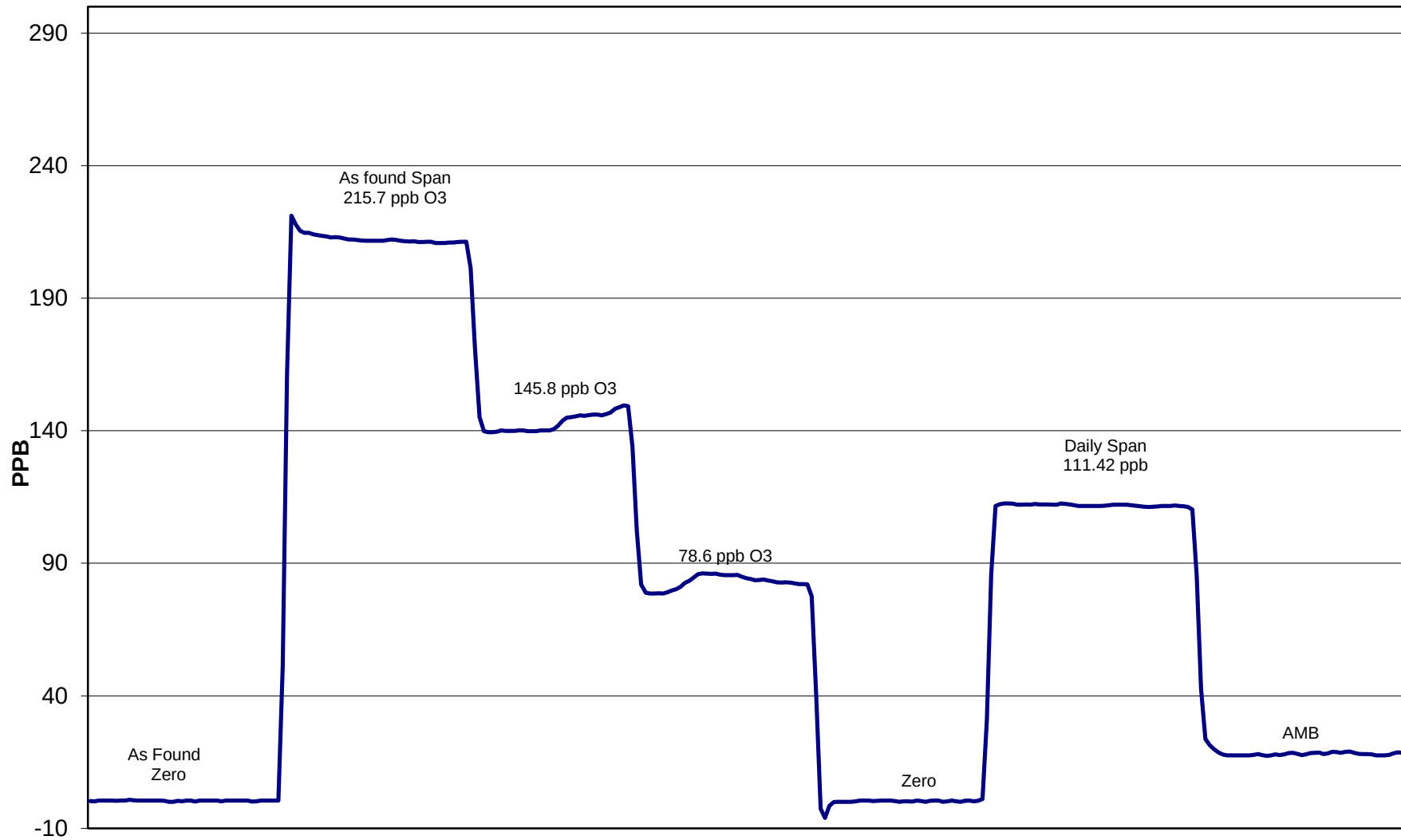
Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.4	NA	Correlation Coefficient	0.999283
215.7	211.4	1.0202		
145.8	142.8	1.0211		
78.6	82.2	0.9568	Slope	1.028008
			Intercept	-2.225420

O3 Calibration Curve



O3 Calibration



November 20, 2011

Calibration Report

Parameter SO2
Air Monitoring Network

PASZA



Station Information

Calibration Date	November 23, 2011	Previous Calibration	October 27, 2011
Station Number	6	Station Location	Valleyview
Reason:	☒ Routine	☐ Install	☐ Removal
			☐ Other:
Start Time (MST)	10:52	End Time (MST)	13:04
Barometric Pressure	702.00 mmHg	Station Temperature	20.0 Deg C
Calibrator	EnviroNics 6100	Serial Number	3474
Cal Gas Concentration	49.8 ppm	Cal Gas Cert Date	7/23/2010
Gas Cert Reference	SGAL3245		
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	0.997303	Calculated slope	1.004851
Calculated intercept	-2.662659	Calculated intercept	-2.338781
Analyzer make	TEI 45C	Analyzer serial #	45C-57531-313

	before		after	
Concentration range	0 - 1000	ppb	0 - 1000	ppb
Background	27.9		30.1	
Coefficient	0.865		0.865	
UV Lamp Voltage	957	LPM	957	LPM
Chamber Temp	44.4	V	44.5	V
Perm Gas Temp	35.1	C	35.1	C
Pressure	594.7	in Hg	602.9	in Hg
Sample Flow	0.556	LPM	0.560	LPM
Lamp Intensity	48221	Hz	48127	Hz

Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4989	0.00	0.0	0.0	N/A
4989	39.84	394.5	393.6	1.0024
4989	19.89	197.8	200.7	0.9851
4989	9.94	99.0	102.9	0.9623
4989	0.00	0.0	0.0	As found zero
4989	39.84	394.5	393.5	As found span
Average Correction Factor				0.9833

Calculated value of As Found Response: 389.713 ppm Percent Change of As Found: 1.2%

	before calibration		after calibration	
Auto zero	0.0	ppm	0.0	ppm
Auto span	155.5	ppm	159.2	ppm

Notes: Slight adjustment zero. No span adjust

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter SO2

Air Monitoring Network PASZA



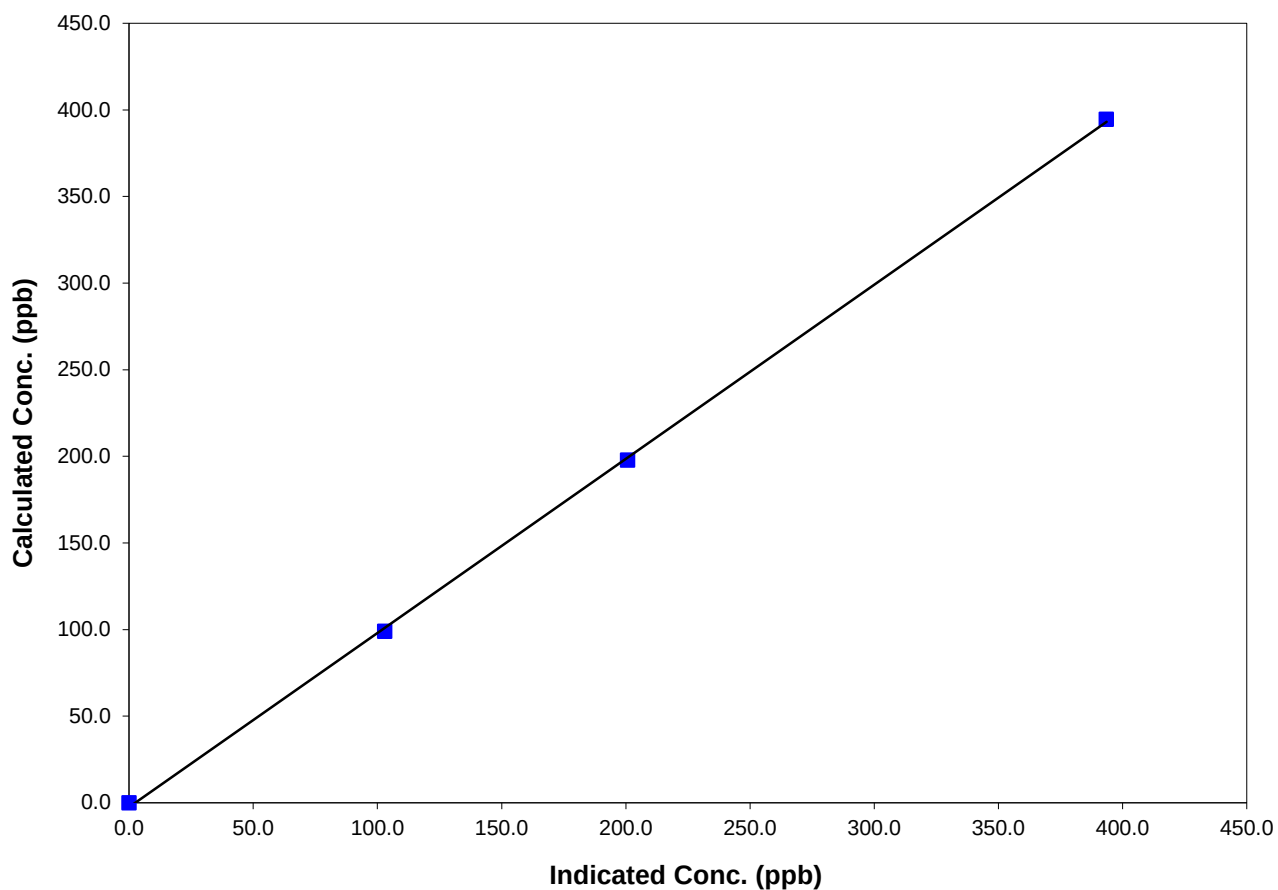
Station Information

Calibration Date	November 23, 2011	Previous Calibration	October 27, 2011
Station Number	6	Station Location	Valleyview
Start Time (MST)	10:52	End Time (MST)	14:42
Analyzer make/model	TEI 45C	Analyzer serial #	45C-57531-313

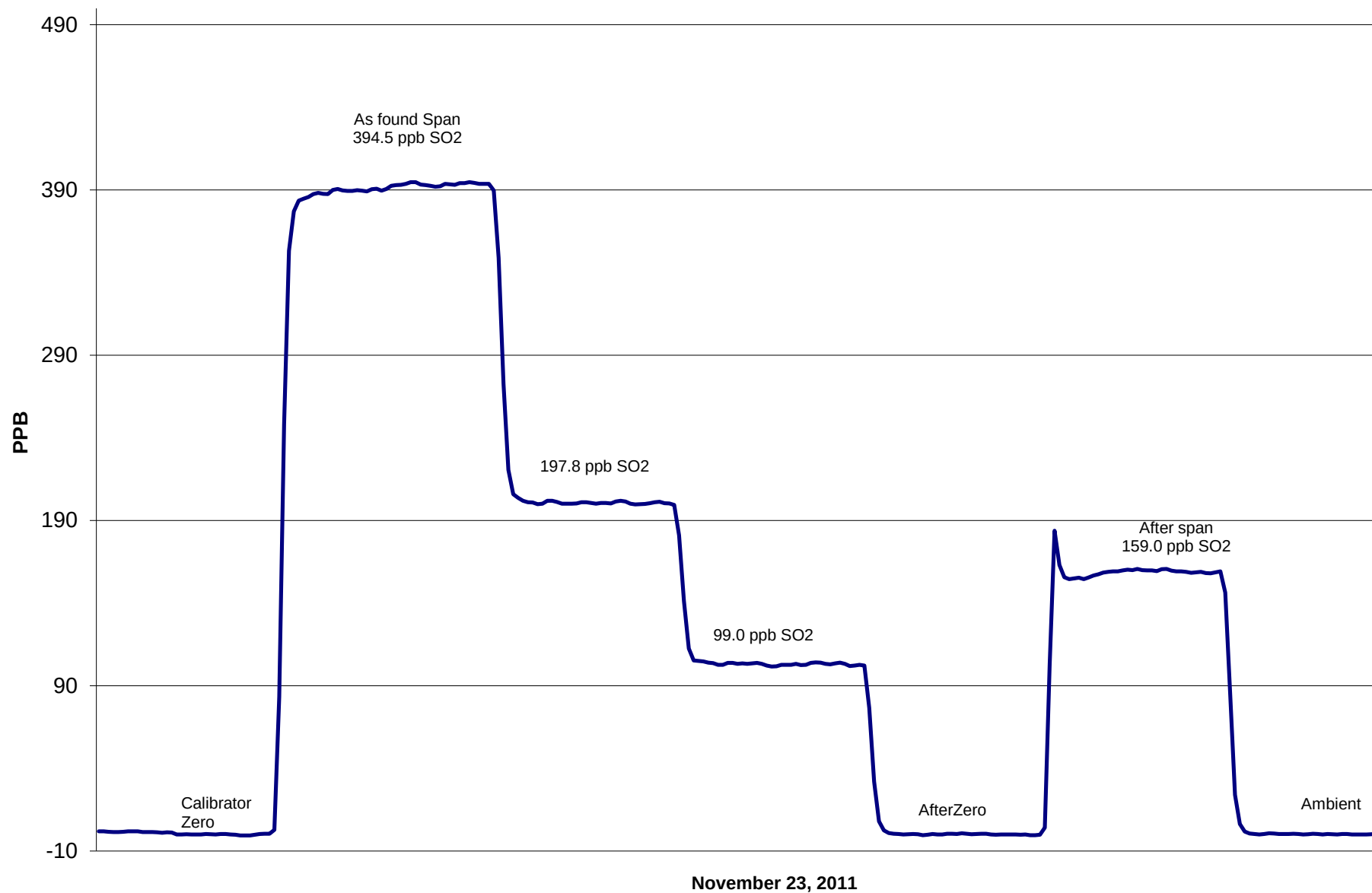
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.0	N/A	Correlation Coefficient	0.999836
394.5	393.6	1.0024		
197.8	200.7	0.9851		
99.0	102.9	0.9623	Slope	1.004851
			Intercept	-2.338781

SO2 Calibration Curve



SO2 Calibration



Calibration Report

Parameter H2S

Air Monitoring Network PASZA



Station Information

Calibration Date	November 23, 2011	Previous Calibration	October 27, 2011
Station Number	6	Station Location	Valleyview
Reason:	☒ Routine	☐ Install	☐ Removal
		☐ Other:	
Start Time (MST)	9:30	End Time (MST)	11:46
Barometric Pressure	702.00 mm	Station Temperature	21.0 Deg C
Calibrator	EnviroNics 6100	Serial Number	3474
Cal Gas Concentration	5.77 ppm	Cal Gas Expiry Date	9/3/2012
Gas Cert Reference	BLM001434		
DACS make	CR3000	DACS serial No.	5409
DACS voltage range	0 - 5 volt	DACS channel #	9
	<u>Before</u>		<u>After</u>
DACS Scale High	100	DACS slope	100
DACS Scale Low	0	DACS intercept	0
Calculated slope	1.002151	Calculated slope	1.003340
Calculated intercept	-0.169276	Calculated intercept	-0.376791
Analyzer make	TEI Model 43i - APSCB	Analyzer serial #	701120010

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Back Ground	7.0	ppb	7.1	ppb
Coefficient	1.343		1.343	
Lamp Voltage	785	v	786	v
Chamber Temp	45.01	c	44.9	c
Perm Oven Temp	45.01	c	45.00	c
Pressure	611.50	mm Hg	610.40	mm Hg
Sample Flow	.415	ccm	.420	ccm
Lamp Intensity	91.0	%	91.0	%

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)
4989	0.00	0.0	0.4	N/A
4989	69.79	79.6	79.8	0.9974
4989	34.87	40.0	40.0	1.0000
4989	8.96	10.3	10.8	0.9539
4989	0.00	0.0	0.4	As found zero
4989	69.79	79.6	79.8	As found span
Average Correction Factor				0.9838

Calculated value of As Found Response: 79.45 ppm Percent Change of As Found: 0.2%

	before calibration		after calibration	
Auto zero	0.0	ppm	-0.1	ppm
Auto span	70.6	ppm	73.8	ppm

Notes:

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter H2S

Air Monitoring Network PASZA



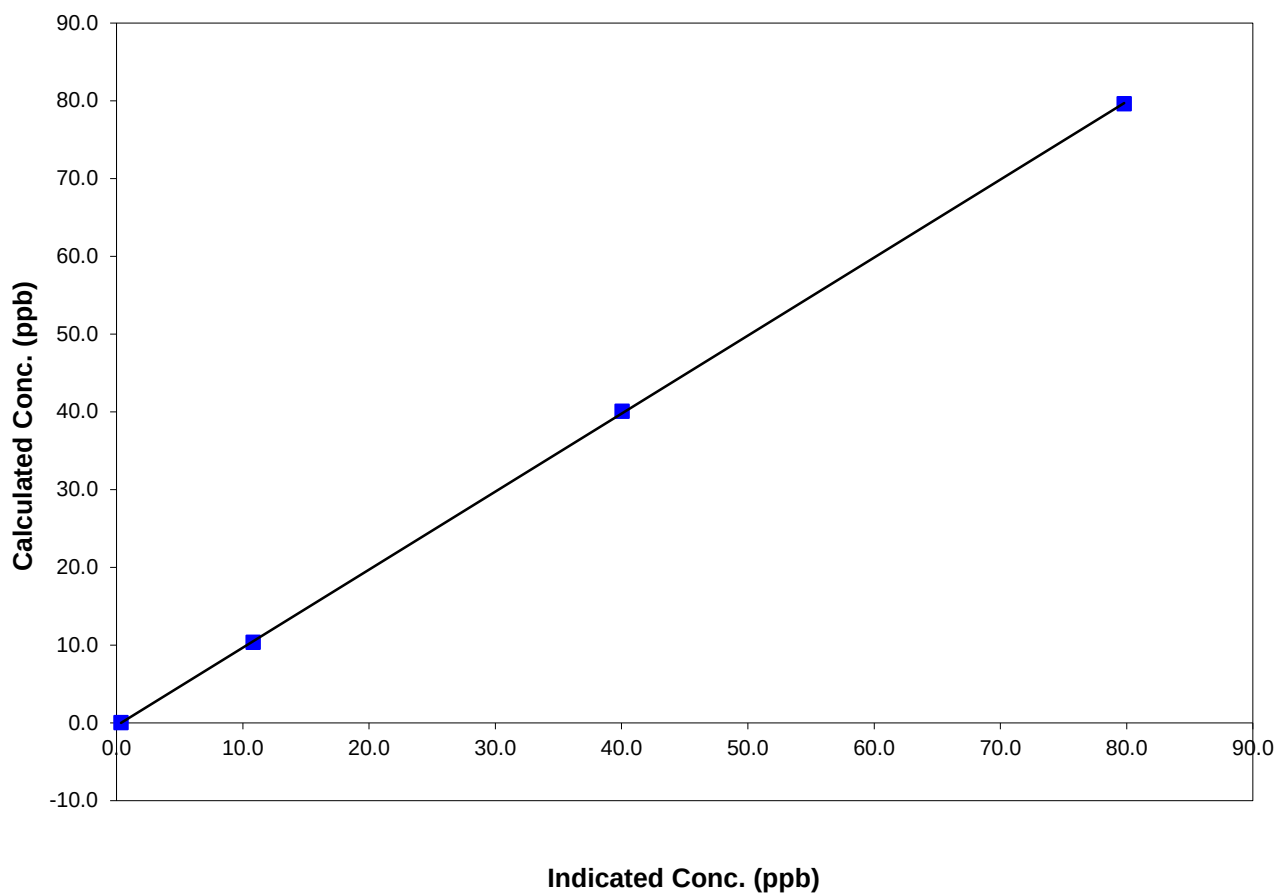
Station Information

Calibration Date	November 23, 2011	Previous Calibration	October 27, 2011
Station Number	6	Station Location	Valleyview
Start Time (MST)	9:30	End Time (MST)	11:46
Analyzer make/model	TEI Model 43i - APSCB	Analyzer serial #	701120010

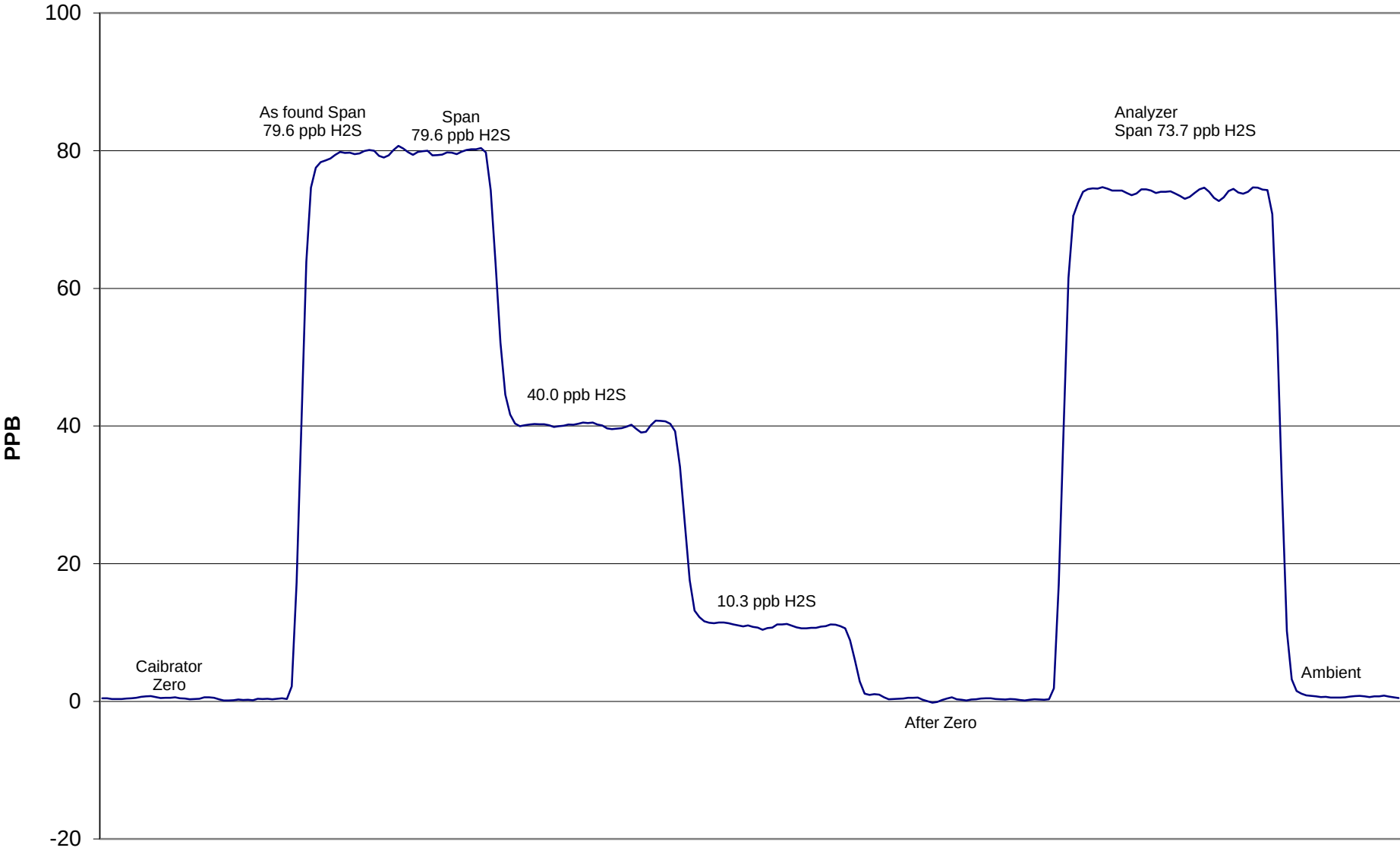
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.4	N/A	Correlation Coefficient	0.999975
79.6	79.8	0.9974		
40.0	40.0	1.0000		
10.3	10.8	0.9539	Slope	1.003340
			Intercept	-0.376791

H2S Calibration Curve



H2S Calibration



November 23, 2011