



Peace AirShed Zone Association

Ambient Air Monitoring Network Summary

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

Operations and Reporting

FOCUS
AIR QUALITY MONITORING

November 3rd, 2011

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

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

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

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

Company	Facility	LSD	AENV Number	Approval
Advantage Oil & Gas Ltd.	Sunset House	06-22-0707-20-W5	138884-01-00	
	Glacier	05-02-076-13-W6	262479-00-00	
AltaGas Ltd.	Pouce Coupe	03-03-081-13-W6	247673-00-00	
	Ante Creek	02-26-068-25-W5	266694-00-00	
	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	00000029-01-00	
	Progress/Gordondale	01-01-077-10-W6	00010036-02-00	
	Gold Creek	13-26-067-05-W6	00010446-02-00	
	Teepee Creek	SE-2-074-04-W6	00001635-02-00	

Conocophillips Canada Energy Partnership	Wembley	06-19-073-08-W6	00000212-01-00
Devon Canada	Tangent	16-20-080-24-W5	00011346-01-00
	NW Belloy (Dunvegan)	16-36-079-03-W6	00009810-02-00
	Eaglesham (South)	02-14-077-25-W5	00047669-01-00
	Puskwaskau	03-26-074-01-W6	00017524-01-00
	North Normanville	03-36-079-23-W5	00047455-01-00
	West Culp	05-34-078-25-W6	00136284-00-00
	Cecil	08-15-084-08-W6	00010032-02-00
EnCana Corporation	Hythe Brainard	11-18-074-12-W6	00010910-02-00
	Sexsmith	04-08-075-07-W6	00010002-01-00
Galleon Energy Inc.	Eaglesham	01-25-076-01-W6	00241532-00-00
	Kakut	14-12-075-03-W6	00248469-00-00
	Donnelly	06-01-077-21-W5	00000087-02-00
Grande Prairie Generation Inc.	Northern Prairie Power Project	04-19-073-08-W6	00238762-00-00
Penn West Petroleum Ltd.	Tangent	13-29-080-23-W5	00001746-02-00
	Pouce Coupe	16-07-078-11-W6	00000614-01-00
Spectra Energy Midstream Corporation	Fourth Creek	16-11-082-09-W6	00000263-01-00
Suncor Energy Inc.	Progress	07-22-078-09-W6	00011428-02-00
Taq North Ltd.	Valhalla	13-21-076-09-W6	00017620-01-00
Weyerhaeuser Canada	Grande Prairie Pulp and Wood Plant	01-14-070-05-W6	00000113-02-00

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

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

During the month of **September** 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 September.

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 September

Smoky Heights Station:

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

Beaverlodge Station:

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

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 September.

Passive Monitoring - 44 Stations throughout the PAZA zone:

There were four duplicate sites sampled in the month of September: Wanham, Grand Prairie I, Fitzsimmons and Jean Cote. The passive sample analyses were performed by MAXXAM Analytics Inc.

A summary of the passive data collected are reported as follows:

- Monthly average concentrations for SO₂ passives ranged from 0.1 ppb to 0.6 ppb, with a mean of 0.2 ppb.
- Monthly average concentrations for NO₂ passives ranged from 0.2 ppb to 3.2 ppb, with a mean of 0.7 ppb.
- Monthly average concentrations for O₃ passives ranged from 13.7 ppb to 27.4 ppb, with a mean of 20.8 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

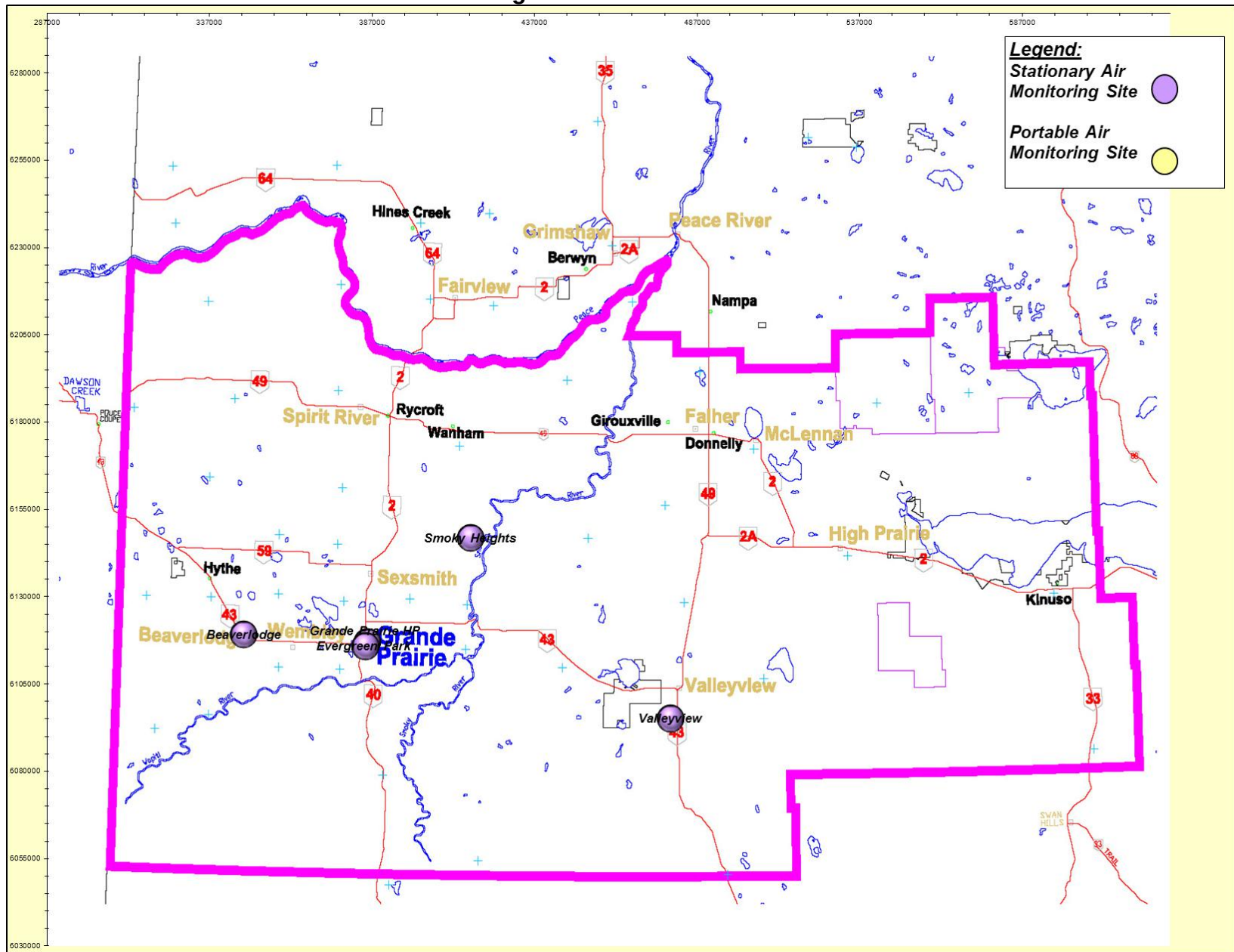


Patrick Andersen, B.Sc.
FOCUS AQM Data Specialist



Jeff Cooper, CTech
AQM Operations Manager

Location of PAZA Continuous Monitoring Stations



PAZA Monthly Continuous Data Summary

Sep-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	0.1	0	0	1.5	Sep-29 11:00	0.2	Sep-21	99%
SO ₂ (ppb)	172	48	Evergreen Park	0.5	0	0	12.5	Sep-30 18:00	2.7	Sep-09	100%
SO ₂ (ppb)	172	48	Smoky Heights	0.1	0	0	3.6	Sep-19 08:00	0.4	Sep-19	96%
SO ₂ (ppb)	172	48	Beaverlodge	0.1	0	0	1.6	Sep-10 22:00	0.4	Sep-14	100%
SO ₂ (ppb)	172	48	Valleyview	0.9	0	0	80.7	Sep-17 12:00	10.8	Sep-17	100%
NO (ppb)			Henry Pirker	2.5	0	0	40.2	Sep-06 08:00	5.9	Sep-07	99%
NO ₂ (ppb)	159	106	Henry Pirker	6.4	0	0	25.0	Sep-10 21:00	10.9	Sep-22	99%
NO _x (ppb)			Henry Pirker	8.9	0	0	56.8	Sep-06 08:00	16.1	Sep-07	99%
NO (ppb)			Beaverlodge	0.5	0	0	26.0	Sep-12 08:00	3.0	Sep-14	100%
NO ₂ (ppb)	159	106	Beaverlodge	2.4	0	0	14.5	Sep-12 06:00	5.0	Sep-29	100%
NO _x (ppb)			Beaverlodge	2.9	0	0	35.9	Sep-12 08:00	7.0	Sep-14	100%
O ₃ (ppb)	82		Henry Pirker	19.0	0	-	45.8	Sep-23 17:00	27.5	Sep-24	99%
O ₃ (ppb) - 8-hr			Henry Pirker		0				41.2	Sep-23	
O ₃ (ppb)	82		Beaverlodge	22.7	0	-	43.4	Sep-23 17:00	29.8	Sep-22	100%
O ₃ (ppb) - 8-hr			Beaverlodge		0				39.8	Sep-23	
CO (ppm)	13		Henry Pirker	0.14	0	-	0.7	Sep-07 22:00	0.3	Sep-07	99%
CO (ppm) - 8-hr	5		Henry Pirker		0				0.4	Jul-18	
THC (ppm)			Henry Pirker	2.22	-	-	4.4	Sep-01 04:00	2.6	Sep-08	99%
TRS (ppb)			Henry Pirker	0.3	-	-	8.9	Sep-16 16:00	0.8	Sep-08	99%
TRS (ppb)			Evergreen Park	0.5	-	-	1.9	Sep-09 19:00	0.8	Sep-09	100%
TRS (ppb)			Smoky Heights	0.2	-	-	0.8	Sep-08 23:00	0.5	Sep-08	96%
H ₂ S (ppb)	10	3	Valleyview	0.2	0	0	6.5	Sep-07 22:00	0.7	Sep-17	100%
PM2.5 (µg/m3)	80	30	Henry Pirker	5.6	0	0	41.3	Sep-14 16:00	13.5	Sep-14	90%
PM2.5 (µg/m3)	80	30	Evergreen Park	3.4	0	0	39.3	Sep-28 09:00	11.1	Sep-09	100%
PM2.5 (µg/m3)	80	30	Smoky Heights	3.6	0	0	34.2	Sep-15 07:00	10.5	Sep-08	96%
PM2.5 (µg/m3)	80	30	Beaverlodge	5.0	0	0	22.2	Sep-14 21:00	12.2	Sep-14	100%

PAZA Monthly Continuous Data Summary – continued

Sep-2011Peace Airshed Zone Association							Maximum Recorded Values				
							1-hr		24-hr / 8-hr		
RH (%)			Henry Pirker	61.6	-	-	90.5	Sep-09 06:00	77.2	Sep-15	99%
RH (%)			Evergreen Park	65.5	-	-	97.5	Sep-14 10:00	83.1	Sep-15	100%
RH (%)			Beaverlodge	63.6	-	-	100.0	Sep-14 07:00	84.7	Sep-15	100%
RH (%)			Valleyview	68.4	-	-	98.3	Sep-15 23:00	83.8	Sep-15	100%
SR (W/m ²)			Henry Pirker	118.6	-	-	575.3	Sep-07 13:00	171.5	Sep-07	99%
Temp (°C)			Henry Pirker	12.4	-	-	30.1	Sep-08 18:00	19.9	Sep-08	99%
Temp (°C)			Evergreen Park	12.2	-	-	29.6	Sep-08 18:00	19.6	Sep-08	100%
Temp (°C)			Smoky Heights	11.6	-	-	28.6	Sep-08 17:00	18.3	Sep-08	96%
Temp (°C)			Beaverlodge	12.1	-	-	29.7	Sep-08 17:00	20.7	Sep-08	100%
Temp (°C)			Valleyview	12.6	-	-	30	Sep-08 17:00	19.3	Sep-09	100%
WSPD s (km/hr)			Henry Pirker	10.6	-	-	42.0	Sep-30 13:00	20.7	Sep-30	100%
WSPD s (km/hr)			Evergreen Park	6.2	-	-	27.0	Sep-28 09:00	13.9	Sep-28	100%
WSPD s (km/hr)			Smoky Heights	12.7	-	-	45.0	Sep-30 13:00	23.2	Sep-28	96%
WSPD s (km/hr)			Beaverlodge	11.9	-	-	47.0	Sep-23 15:00	23.7	Sep-28	100%
WSPD s (km/hr)			Valleyview	4.4	-	-	21.0	Sep-23 15:00	8.4	Sep-16	100%
WSPD v (km/hr)			Henry Pirker	5.1	-	-	41.0	Sep-30 13:00	18.7	Sep-30	99%
WSPD v (km/hr)			Evergreen Park	3.9	-	-	26.0	Sep-28 09:00	13.5	Sep-17	100%
WSPD v (km/hr)			Smoky Heights	8.3	-	-	44.0	Sep-30 13:00	22.1	Sep-28	96%
WSPD v (km/hr)			Beaverlodge	5.5	-	-	47.0	Sep-23 15:00	22.8	Sep-28	100%
WSPD v (km/hr)			Valleyview	1.7	-	-	20.0	Sep-23 17:00	7.8	Sep-16	100%
WDIR			Henry Pirker	WSW	-	-	-	-	-	-	99%
WDIR			Evergreen Park	W	-	-	-	-	-	-	100%
WDIR			Smoky Heights	WSW	-	-	-	-	-	-	96%
WDIR			Beaverlodge	WSW	-	-	-	-	-	-	100%
WDIR			Valleyview	WSW	-	-	-	-	-	-	100%

Continuous Network Equipment Summary

PAZA – Henry Pirker Station

General Station Issues

Routine monthly calibrations were performed on September 16th (TRS, CO & THC), September 18th (PM_{2.5}), and September 19th (SO₂, NO_x & O₃). PM_{2.5} maintenance performed on September 19th.

Parameter	Make	Model	Notes
SO ₂	TEI	43C	No operational issues observed.
NOx/NO/NO ₂	TEI	42C	No operational issues observed.
O ₃	TEI	49C	No operational issues observed.
CO	TEI	48C	No operational issues observed.
THC	TEI	51-CLT	Power outage on September 14 th and September 16 th caused flameout.
TRS	TEI	45C/43C	No operational issues observed.
PM _{2.5}	R&P	1400AB	Seventy-three (73) hours were flagged invalid due to negative readings.
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 September 15th (SO₂, TRS, PM_{2.5}).

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	Two (2) 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 September 22nd (SO₂, TRS & PM_{2.5}).

Parameter	Make	Model	Notes
SO ₂	TEI	43C	Twenty-Seven (27) hours invalid due to power failure. No other operational issues observed.
TRS	TEI	43C	Twenty-Seven (27) hours invalid due to power failure. No other operational issues observed.
PM _{2.5}	R&P	1400AB	Twenty-Seven (27) hours invalid due to power failure. No other operational issues observed.
ET	Met One	083D	Twenty-Seven (27) hours invalid due to power failure. No other operational issues observed.
WS / WD	Met One	010C/020C	Twenty-Seven (27) hours invalid due to power failure. No other operational issues observed.

PAZA – Beaverlodge Station

General Station Issues

Routine monthly calibrations performed on September 7th (SO₂, NO_x, O₃) and September 13th (PM_{2.5}).

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	Two (2) hours were 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 September 26th (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

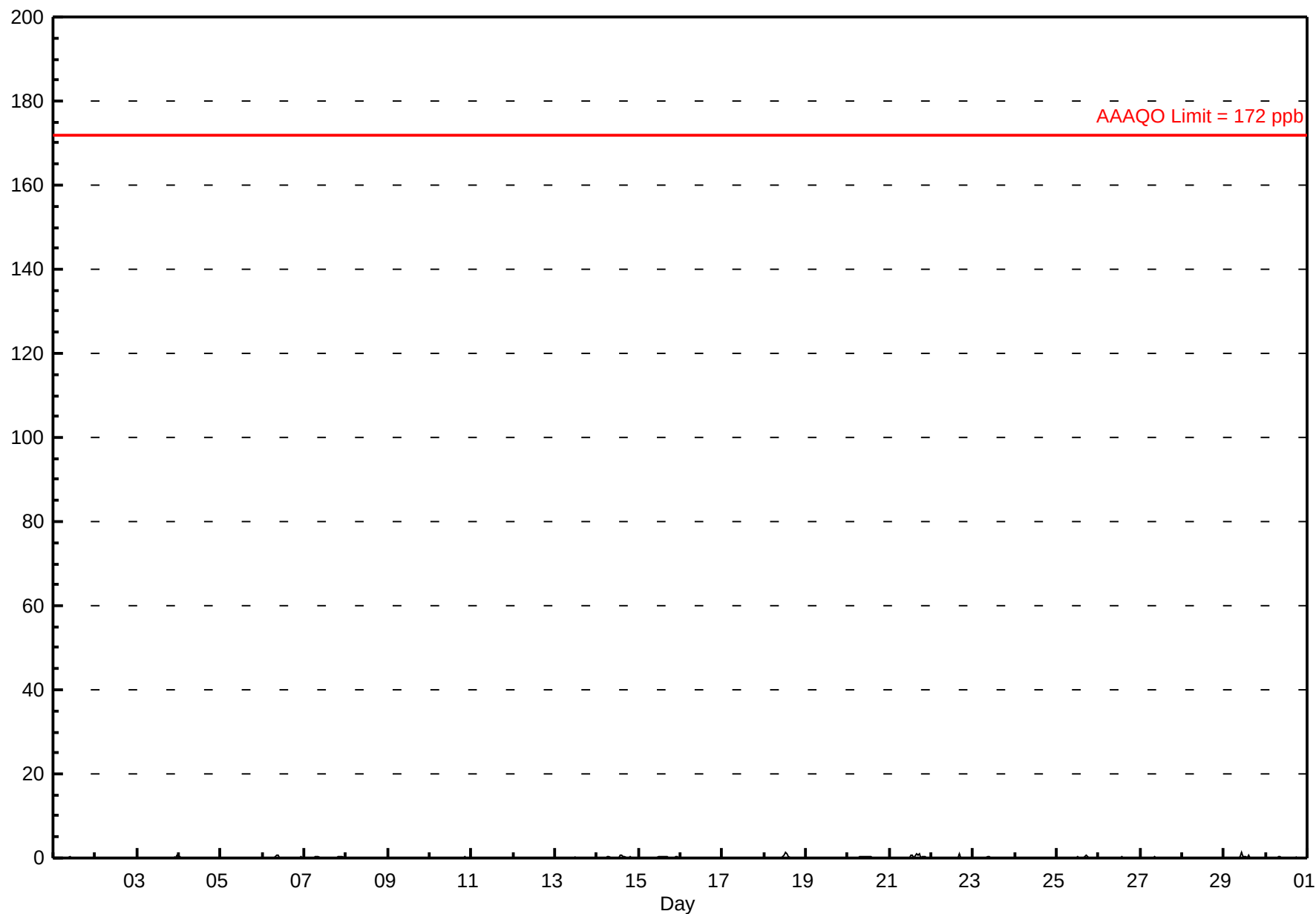
Hourly Averages

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

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																				Hours in Service: 720						
Maximum Value: 1.5 ppb on Sep 29 11:00																				Maximum Daily Average: 0.2 ppb on Sep 21		Hours of Data: 681				
Minimum Value: 0 ppb on Sep 1 01:00																				Minimum Daily Average: 0.0 ppb on Sep 5		Hours of Missing Data: 39				
Maximum Diurnal Average: 0.1 ppb at hour 13																				Minimum Diurnal Average: 0.0 ppb at hour 6		Hours of Calibration: 35				
Monthly Average: 0.05 ppb																				Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 0.0 P ₉₀ = 0.2 P ₉₉ = 0.8		Percent Operational Time: 99.4				
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.0	0.4
2-Sep	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	0.1
3-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	1	0.1	0.8
4-Sep	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	0.3
5-Sep	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
6-Sep	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0.1	0.7
7-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0.1	0.3
8-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.0	0.1
9-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.0	0.1
10-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.0	0.5
11-Sep	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
12-Sep	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
13-Sep	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.3
14-Sep	0	0	0	0	0	0	0	0	0	A	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0.1	0.7
15-Sep	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.4
16-Sep	0	N	N	N	N	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
17-Sep	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
18-Sep	0	0	0	0	0	A	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0.2	1.4
19-Sep	0	0	0	0	A	0	0	0	C	C	C	C	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
20-Sep	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.4
21-Sep	0	0	A	0	0	0	0	0	0	0	0	0	1	1	0	1	1	1	0	0	0	0	0	0	0.2	1.1
22-Sep	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0.0	0.9
23-Sep	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
24-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.0	0.0
25-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	A	0	0	0.1	0.8
26-Sep	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
27-Sep	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	0.3
28-Sep	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
29-Sep	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	A	0	0	0	0	0	0	0.2	1.5
30-Sep	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
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 0.1 0.0 0.0 0.0 0.1 0.0 0.0																								Diurnal Average		
0.3 0.1 0.1 0.1 0.1 0.1 0.2 0.4 0.6 0.7 1.5 0.8 1.4 1.0 0.6 1.1 0.9 1.0 0.1 0.4 0.5 0.4 0.3 0.8																								Diurnal Maximum		
C - Calibration N - Not Valid A - Automated Daily Zero Span																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb 30-day 11 ppb																										

Hourly Averages

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



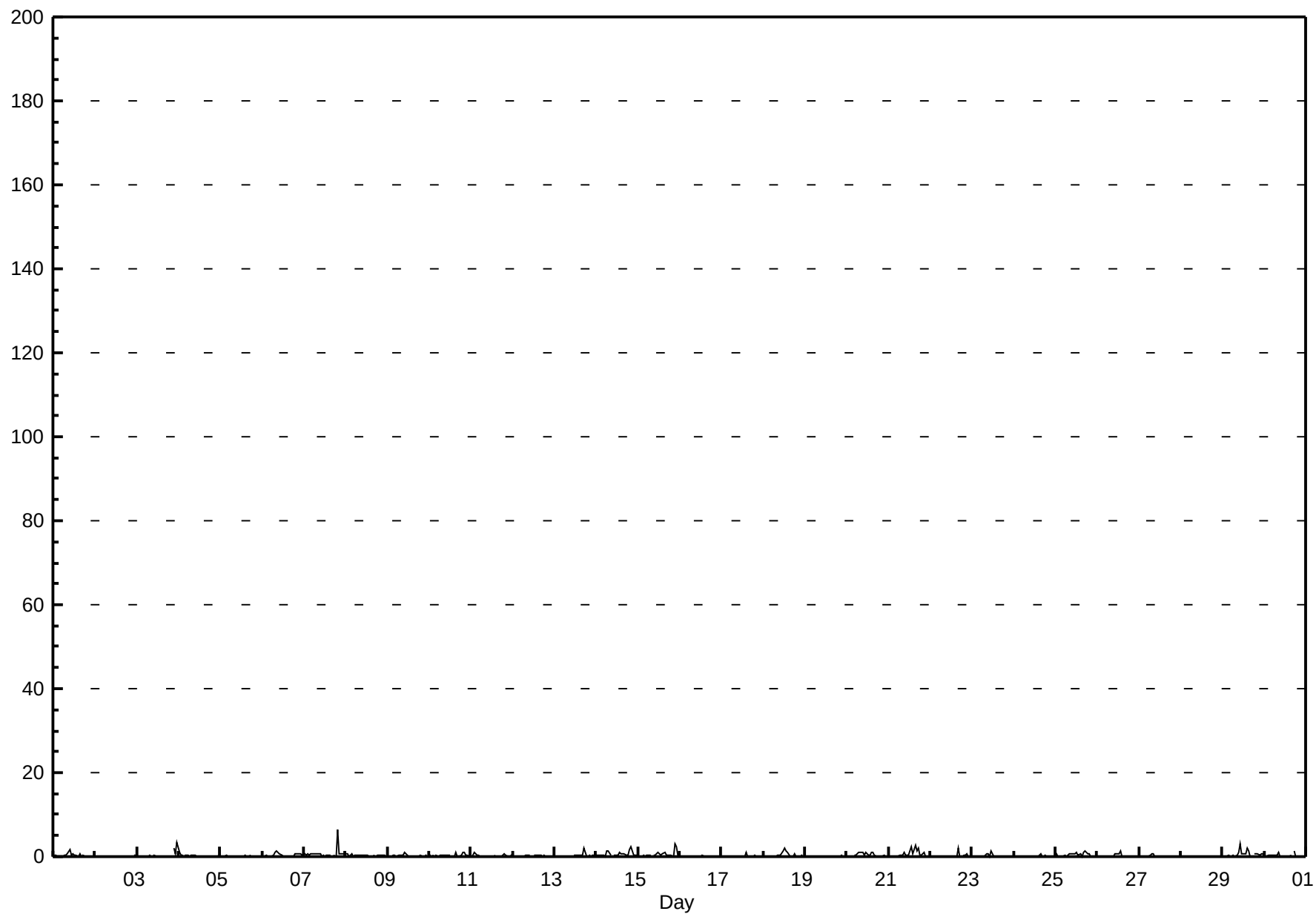
Hourly Maximums

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

Maximum Value: 6.3 ppb on Sep 7 20:00																				Maximum Daily Average: 0.7 ppb on Sep 21					Hours in Service: 720																							
Minimum Value: 0 ppb on Sep 1 03:00																				Minimum Daily Average: 0.0 ppb on Sep 28					Hours of Data: 681																							
Maximum Diurnal Average: 0.5 ppb at hour 20																				Minimum Diurnal Average: 0.1 ppb at hour 2					Hours of Missing Data: 39																							
Monthly Average: 0.29 ppb																				Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.1 Q ₃ = 0.5 P ₉₀ = 0.6 P ₉₉ = 2.4					Hours of Calibration: 35																							
																				Percent Operational Time: 99.4																												
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																								
1-Sep	0	0	0	0	0	0	0	0	1	2	0	1	0	0	0	1	0	0	0	0	0	0	A	0	0.3	1.8																						
2-Sep	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	0.5																						
3-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	2	1	3	0.3	3.5																						
4-Sep	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.2	1.0																						
5-Sep	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	0.4																						
6-Sep	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	A	0	1	1	1	1	0	0.4	1.5																						
7-Sep	1	0	1	0	1	1	1	1	1	1	0	0	0	0	0	0	A	0	0	6	1	1	1	1	0.7	6.3																						
8-Sep	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.3	0.6																						
9-Sep	0	0	0	0	0	0	0	0	0	0	1	0	0	0	A	0	0	0	0	0	0	0	0	0	0.2	1.0																						
10-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	1	0	0	0	1	1	0	0	0	0.4	0.9																						
11-Sep	0	0	1	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	1	1	0	0	0	0	0.2	1.0																						
12-Sep	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.5																						
13-Sep	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	2	0	0	0	0	0	0	0.3	1.9																						
14-Sep	0	0	0	0	0	0	1	1	0	A	0	0	0	1	1	1	1	0	0	2	2	0	0	0	0.7	2.4																						
15-Sep	0	0	0	0	0	0	0	0	A	0	0	1	1	0	1	1	0	0	0	0	0	3	2	0	0.6	3.0																						
16-Sep	0	N	N	N	N	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3																						
17-Sep	0	0	0	0	0	0	A	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0.1	0.9																						
18-Sep	0	0	0	0	0	A	0	0	0	0	0	1	2	1	1	0	0	0	1	0	0	0	0	0	0.4	1.9																						
19-Sep	0	0	0	0	A	0	0	0	C	C	C	C	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.5																						
20-Sep	0	0	0	A	0	0	1	1	1	1	0	1	0	0	1	1	0	0	0	0	0	0	0	0	0.4	1.0																						
21-Sep	0	0	A	0	0	0	0	0	0	1	0	0	1	2	1	3	1	2	1	1	1	0	0	0	0.7	2.8																						
22-Sep	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	1	0	0	0.2	2.0																						
23-Sep	A	0	0	0	0	0	0	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	A	0.2	1.4																						
24-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	A	0	0.1	0.6																						
25-Sep	1	0	0	0	0	0	0	0	1	1	1	1	1	0	1	0	1	2	1	1	0	A	0	0	0.4	1.5																						
26-Sep	0	0	0	0	0	0	0	0	0	0	1	1	1	2	0	0	0	0	0	0	A	0	0	0	0.2	1.5																						
27-Sep	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.1	0.5																						
28-Sep	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	0.1																						
29-Sep	0	0	0	0	0	0	0	0	0	1	3	1	1	1	2	2	0	A	1	1	1	0	1	1	0.6	3.0																						
30-Sep	0	0	1	1	1	1	1	1	1	0	0	0	0	0	0	0	A	1	0	0	0	0	0	0	0.3	1.5																						
Diurnal Average																									0.1	0.1	0.2	0.2	0.1	0.1	0.3	0.3	0.4	0.4	0.4	0.4	0.3	0.4	0.3	0.4	0.3	0.3	0.2	0.5	0.3	0.3	0.3	0.3
Diurnal Maximum																									1.0	0.5	1.0	0.5	0.6	0.6	1.3	1.3	1.5	1.8	3.0	1.5	1.9	2.5	2.0	2.8	2.0	2.0	0.5	6.3	2.4	3.0	2.5	3.5
C - Calibration																									N - Not Valid					A - Automated Daily Zero Span																		

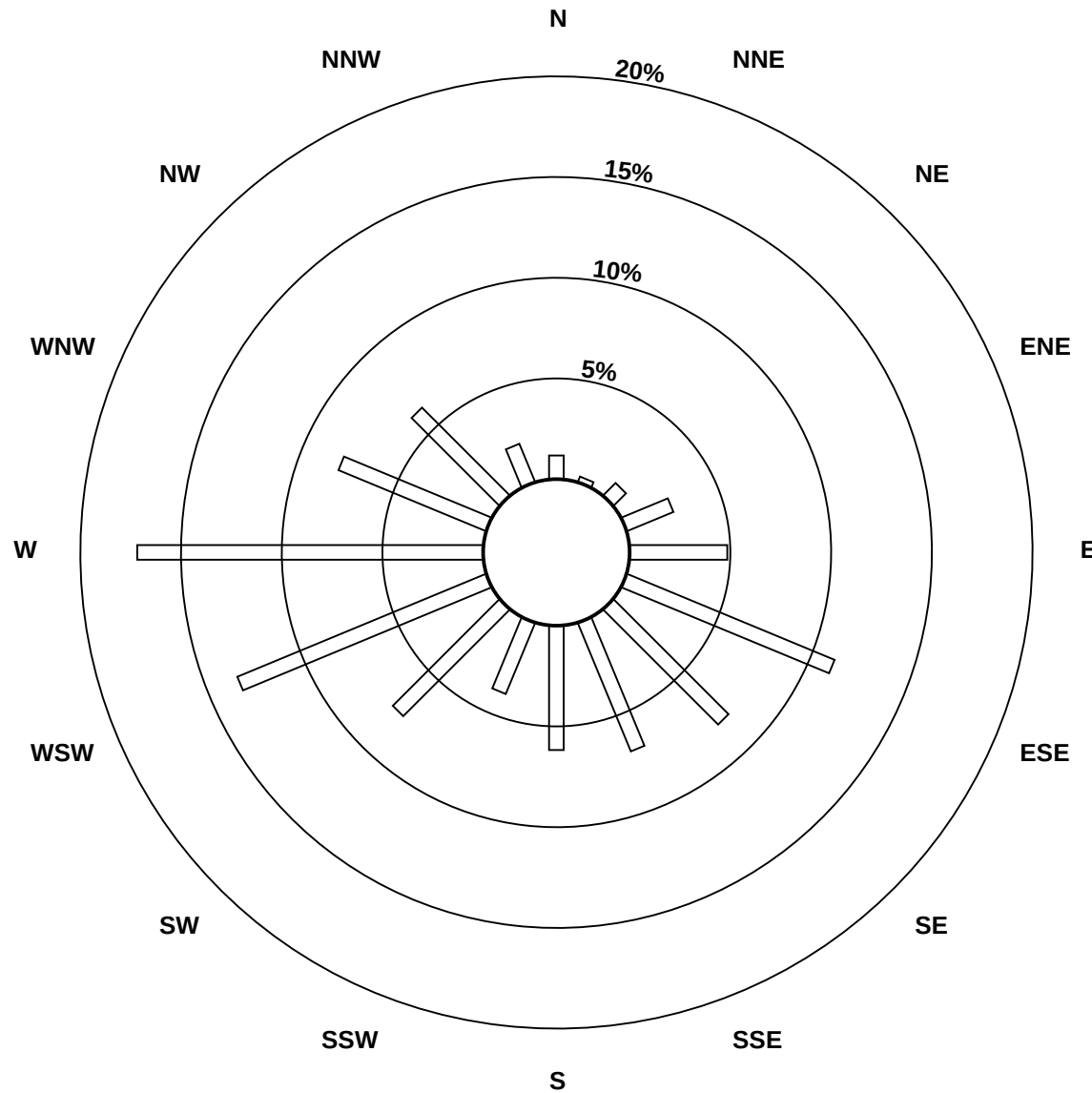
Hourly Maximums

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

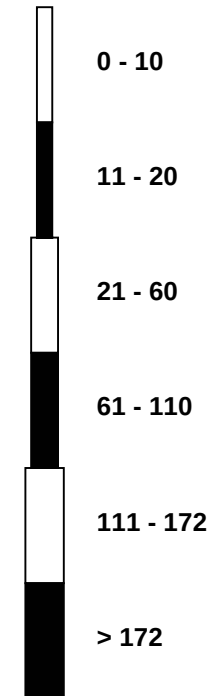


Pollutant Rose

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

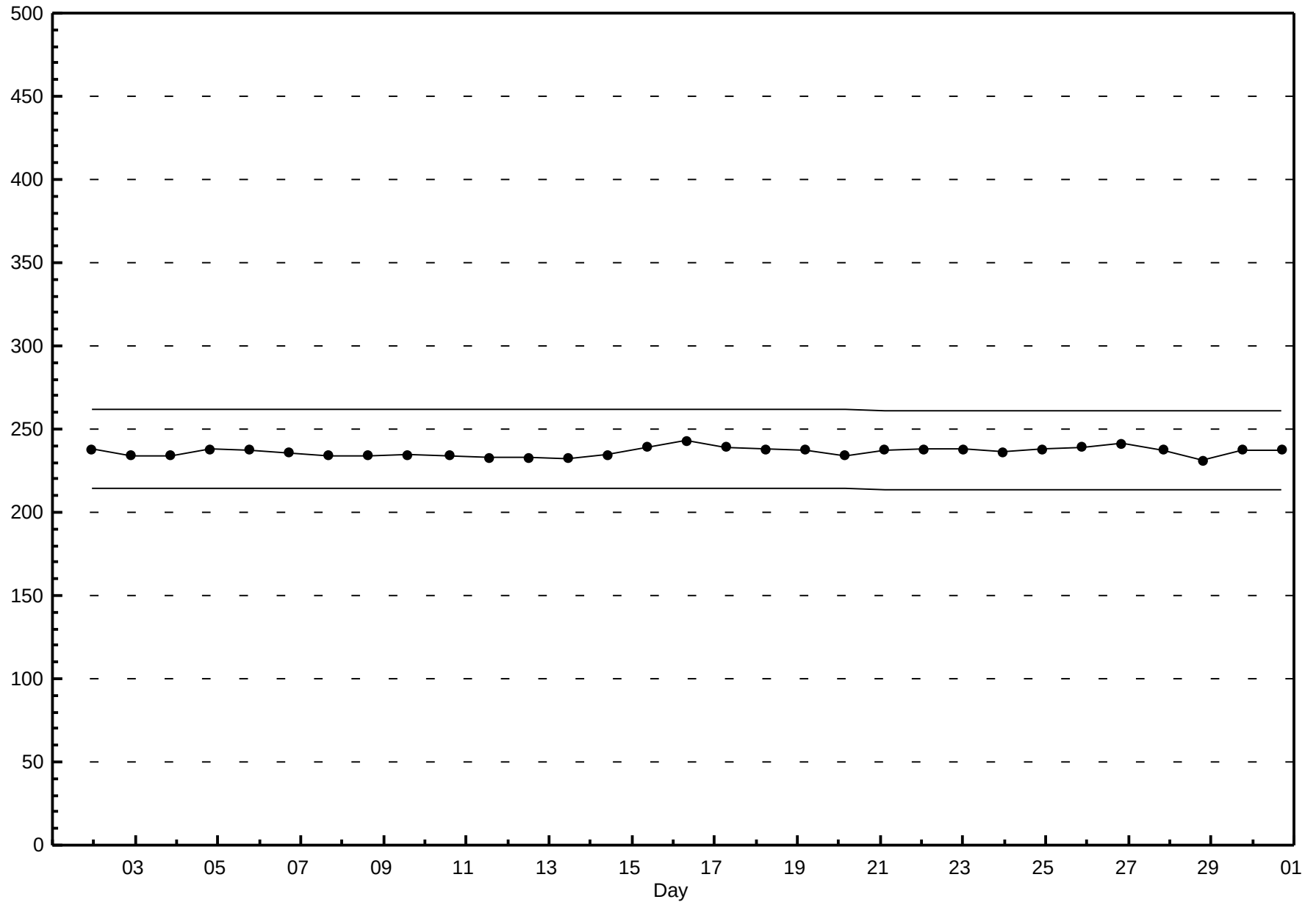


Pollutant Classes (ppb)



Span Responses

Sulphur Dioxide (SO₂)
Henry Pirker - September 2011



Hourly Averages

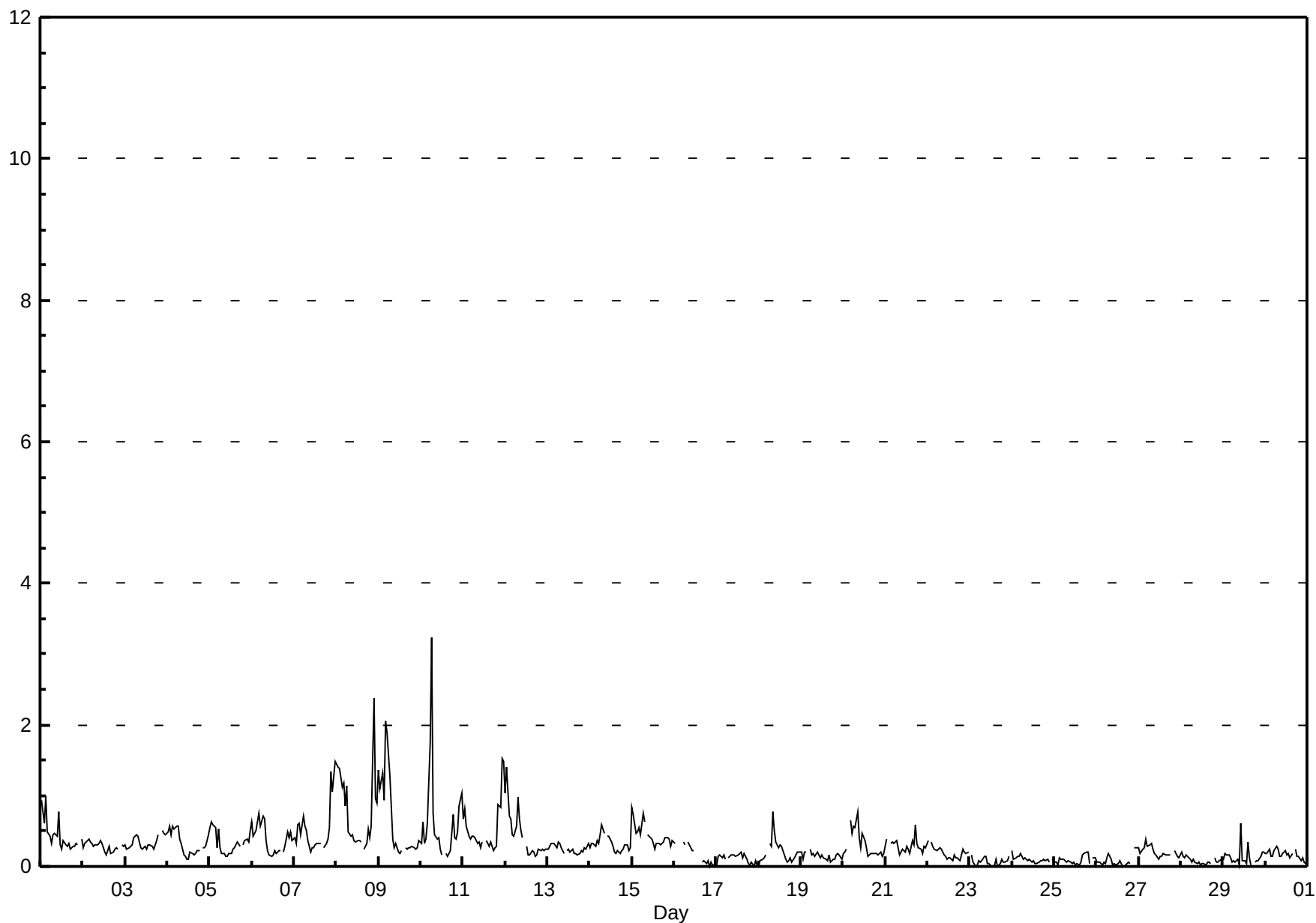
Total Reduced Sulphur (TRS) - ppb

Henry Pirker - September 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 3.2 ppb on Sep 10 07:00 Maximum Daily Average: 0.8 ppb on Sep 8																				Hours in Service: 720 Hours of Data: 682 Hours of Missing Data: 38 Hours of Calibration: 34 Percent Operational Time: 99.4						
Minimum Value: 0 ppb on Sep 17 22:00 Maximum Diurnal Average: 0.5 ppb at hour 7 Monthly Average: 0.30 ppb										Minimum Daily Average: 0.1 ppb on Sep 23 Minimum Diurnal Average: 0.2 ppb at hour 17 Percentiles: P ₁ = 0.0 P ₁₀ = 0.1 Q ₁ = 0.1 Median = 0.2 Q ₃ = 0.4 P ₉₀ = 0.6 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-Sep	1	1	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	A	0	0.4	1.0
2-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.3	0.4
3-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	0	0	0.3	0.5
4-Sep	0	1	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.3	0.6
5-Sep	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0.3	0.6
6-Sep	1	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0.4	0.7
7-Sep	0	0	1	1	0	1	1	1	0	0	0	0	0	0	0	0	A	0	0	0	1	1	1	1	0.5	1.5
8-Sep	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	A	0	0	1	0	1	2	1	1	0.8	2.4
9-Sep	1	1	1	1	2	2	1	1	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.6	2.0
10-Sep	0	1	0	0	1	2	3	1	0	0	0	0	0	A	0	0	0	0	1	0	0	0	1	1	0.6	3.2
11-Sep	1	1	1	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	1	1	2	1	0.5	1.5
12-Sep	1	1	1	1	0	0	1	1	1	1	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.4	1.4
13-Sep	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.3
14-Sep	0	0	0	0	0	0	0	1	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.6
15-Sep	1	1	0	0	1	0	1	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.8
16-Sep	0	N	N	N	N	0	0	A	0	0	0	0	C	C	0	C	0	0	0	0	0	0	0	0	--	0.4
17-Sep	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
18-Sep	0	0	0	0	0	A	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.8
19-Sep	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
20-Sep	0	0	0	A	1	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.8
21-Sep	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0.3	0.6
22-Sep	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4
23-Sep	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0.1	0.2
24-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.1	0.2
25-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.1	0.2
26-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.1	0.3
27-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.2	0.4
28-Sep	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
29-Sep	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	A	0	0	0	0	0	0	0.1	0.6
30-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0.2	0.3
0.4 0.4 0.4 0.4 0.4 0.4 0.5 0.4 0.3 0.2 0.3 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.3 0.4 0.3 0.4																									Diurnal Average	
1.4 1.4 1.4 1.1 2.0 1.9 3.2 1.0 0.8 0.5 0.8 0.5 0.4 0.4 0.3 0.4 0.4 0.6 0.7 0.4 0.9 2.4 1.5 1.5																									Diurnal Maximum	
C - Calibration N - Not Valid A - Automated Daily Zero Span																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb																										

Hourly Averages

Total Reduced Sulphur (TRS) - ppb
Henry Pirker - September 2011

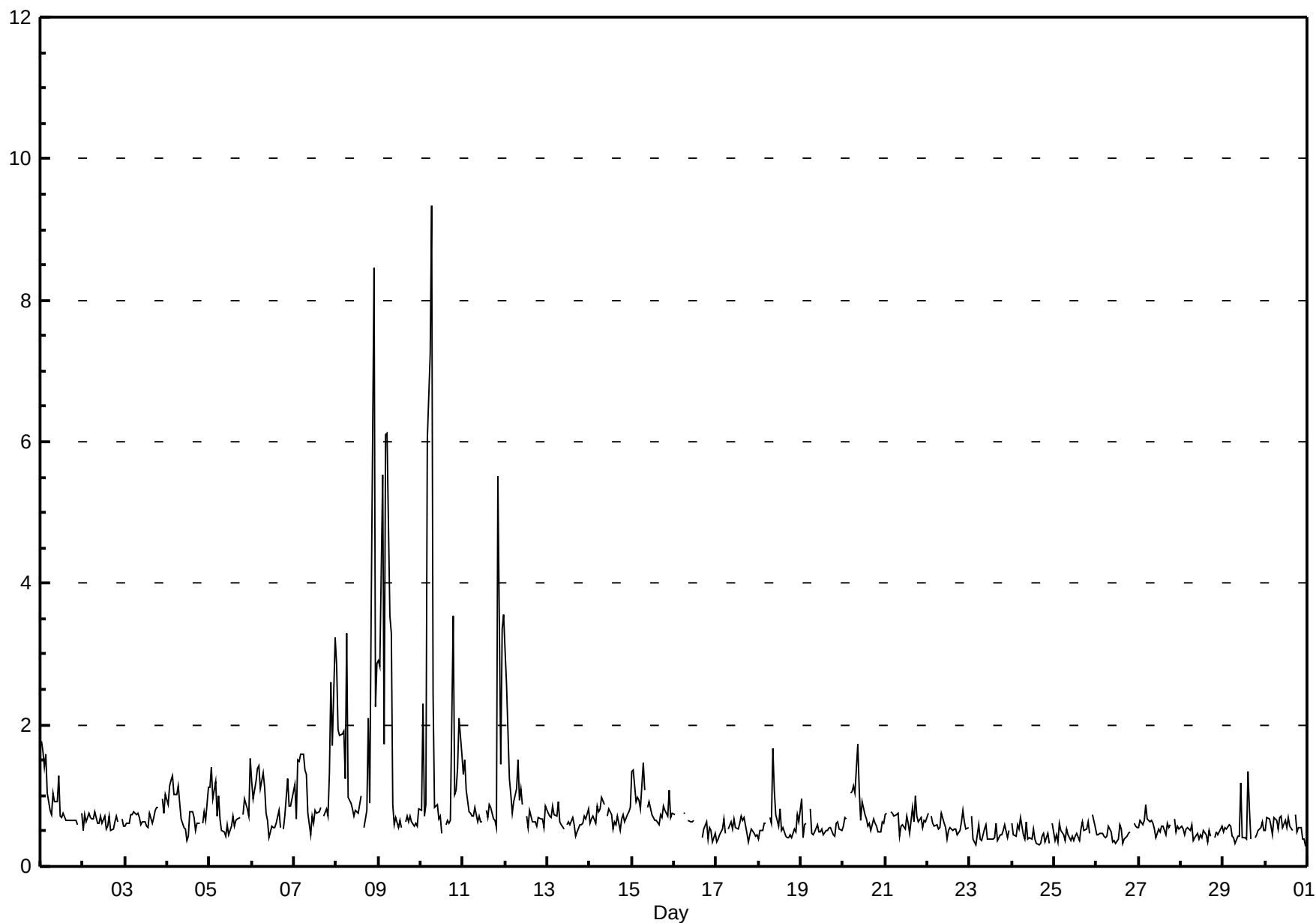


Hourly Maximums

Total Reduced Sulphur (TRS) - ppb

Henry Pirker - September 2011

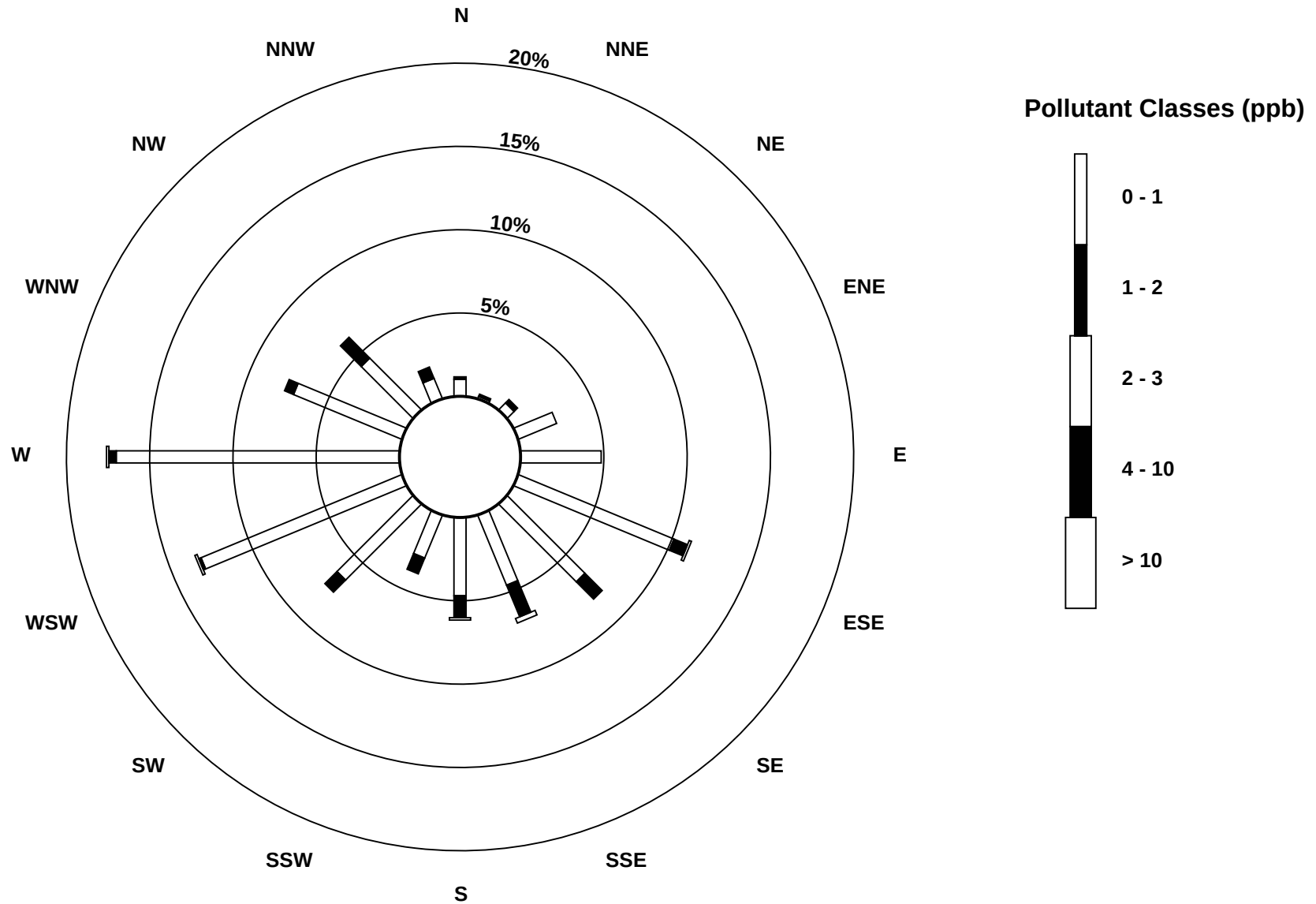
Maximum Value: 9.3 ppb on Sep 10 07:00																				Maximum Daily Average: 2.0 ppb on Sep 10										Hours in Service: 720	
Minimum Value: 0 ppb on Oct 1 00:00																				Minimum Daily Average: 0.5 ppb on Sep 24										Hours of Data: 682	
Maximum Diurnal Average: 1.2 ppb at hour 7																				Minimum Diurnal Average: 0.6 ppb at hour 17										Hours of Missing Data: 38	
Monthly Average: 0.82 ppb																				Percentiles: P ₁ = 0.3 P ₁₀ = 0.4 Q ₁ = 0.5 Median = 0.6 Q ₃ = 0.8 P ₉₀ = 1.2 P ₉₉ = 5.4										Hours of Calibration: 34	
																				Percent Operational Time: 99.4											
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24							
1-Sep	2	2	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	0.9	1.8					
2-Sep	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	0.6	0.8					
3-Sep	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	0.7	1.0					
4-Sep	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	1	A	1	1	1	1	0.8	1.3					
5-Sep	1	1	1	1	1	1	1	1	0	0	1	0	1	1	1	1	1	1	A	1	1	1	1	2	0.8	1.5					
6-Sep	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	A	A	1	1	1	1	1	1	0.9	1.4					
7-Sep	1	1	2	1	2	2	1	1	1	0	1	1	1	1	1	1	A	1	1	1	1	3	2	3	1.2	3.2					
8-Sep	3	2	2	2	2	1	3	1	1	1	1	1	1	1	1	A	1	1	2	1	4	8	2	3	1.9	8.5					
9-Sep	3	3	6	2	6	6	4	3	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1.8	6.1					
10-Sep	1	2	1	1	6	7	9	2	1	1	1	1	0	A	1	1	1	1	4	1	1	1	2	2	2.0	9.3					
11-Sep	1	2	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	6	1	3	4	1.3	5.5					
12-Sep	3	3	1	1	1	1	1	2	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1.0	3.1					
13-Sep	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	0	0	1	1	1	1	1	1	0.7	0.9					
14-Sep	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.0					
15-Sep	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.5					
16-Sep	1	N	N	N	N	1	1	A	1	1	1	1	C	C	1	C	0	1	1	0	1	1	0	0	--	0.8					
17-Sep	0	0	0	1	1	0	A	1	1	1	1	1	1	1	1	1	1	0	0	0	1	0	0	0	0.5	0.7					
18-Sep	0	1	1	1	1	A	1	1	2	1	1	1	1	1	1	0	0	0	0	0	1	0	1	1	0.6	1.7					
19-Sep	1	0	1	1	A	1	0	0	0	1	0	0	1	0	1	1	1	1	0	0	1	1	1	0	0.5	1.0					
20-Sep	1	1	1	A	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	0.8	1.7					
21-Sep	1	1	A	1	1	1	1	1	0	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	0.7	1.0					
22-Sep	1	A	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	0	1	1	1	1	1	1	0.6	0.8					
23-Sep	A	1	0	0	0	1	0	0	1	1	0	0	0	0	0	1	0	0	0	1	1	0	1	A	0.5	0.7					
24-Sep	1	0	0	1	1	1	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	A	1	0.5	0.7					
25-Sep	0	0	0	1	1	0	0	1	0	0	0	0	0	0	0	1	1	1	1	1	0	A	1	1	0.5	0.7					
26-Sep	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1	0	0	0	0	0	A	1	1	1	0.5	0.6					
27-Sep	1	1	1	1	1	1	1	1	1	1	0	1	0	1	1	0	1	1	1	A	1	0	1	1	0.6	0.9					
28-Sep	1	1	0	1	1	1	1	0	0	0	0	0	0	1	0	0	1	0	A	0	0	0	0	1	0.5	0.6					
29-Sep	0	1	1	1	1	0	0	0	0	0	1	0	0	0	1	1	0	A	0	0	1	1	1	1	0.6	1.3					
30-Sep	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	A	1	0	1	1	0	0	0	0.6	0.7					
1.0		1.0	1.0	0.9	1.2	1.2	1.2	0.9	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.6	1.0	1.0	0.9	1.0	Diurnal Average						
3.1		2.8	5.5	1.9	6.1	7.2	9.3	3.3	1.7	1.1	1.3	0.9	0.8	0.9	1.3	0.9	0.8	1.0	3.5	1.0	5.5	8.5	3.3	3.6	Diurnal Maximum						
C - Calibration		N - Not Valid										A - Automated Daily Zero Span																			



Pollutant Rose

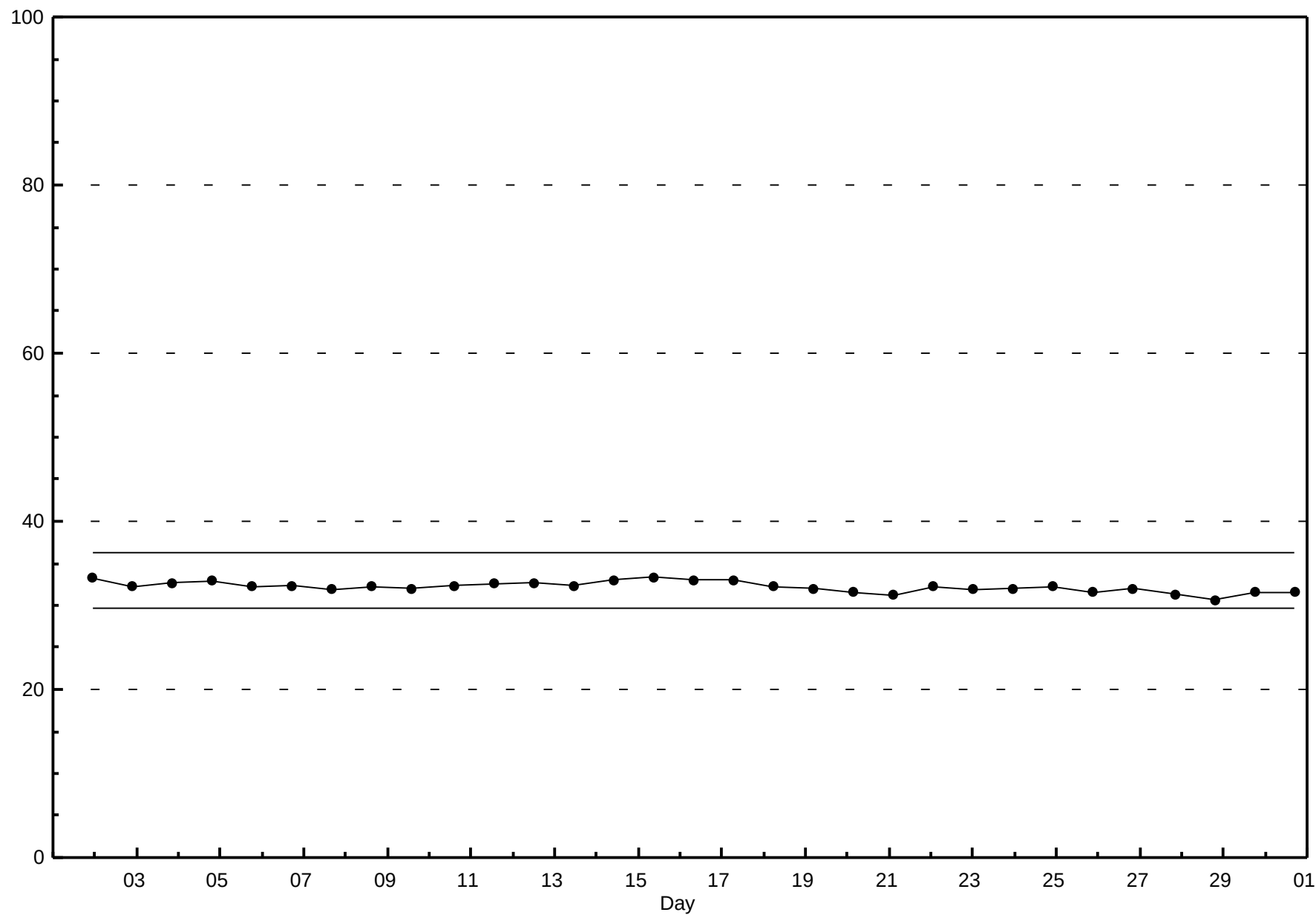
Total Reduced Sulphur (TRS) - ppb

Henry Pirker - September 2011



Span Responses

Total Reduced Sulphur (TRS)
Henry Pirker - September 2011



Hourly Averages

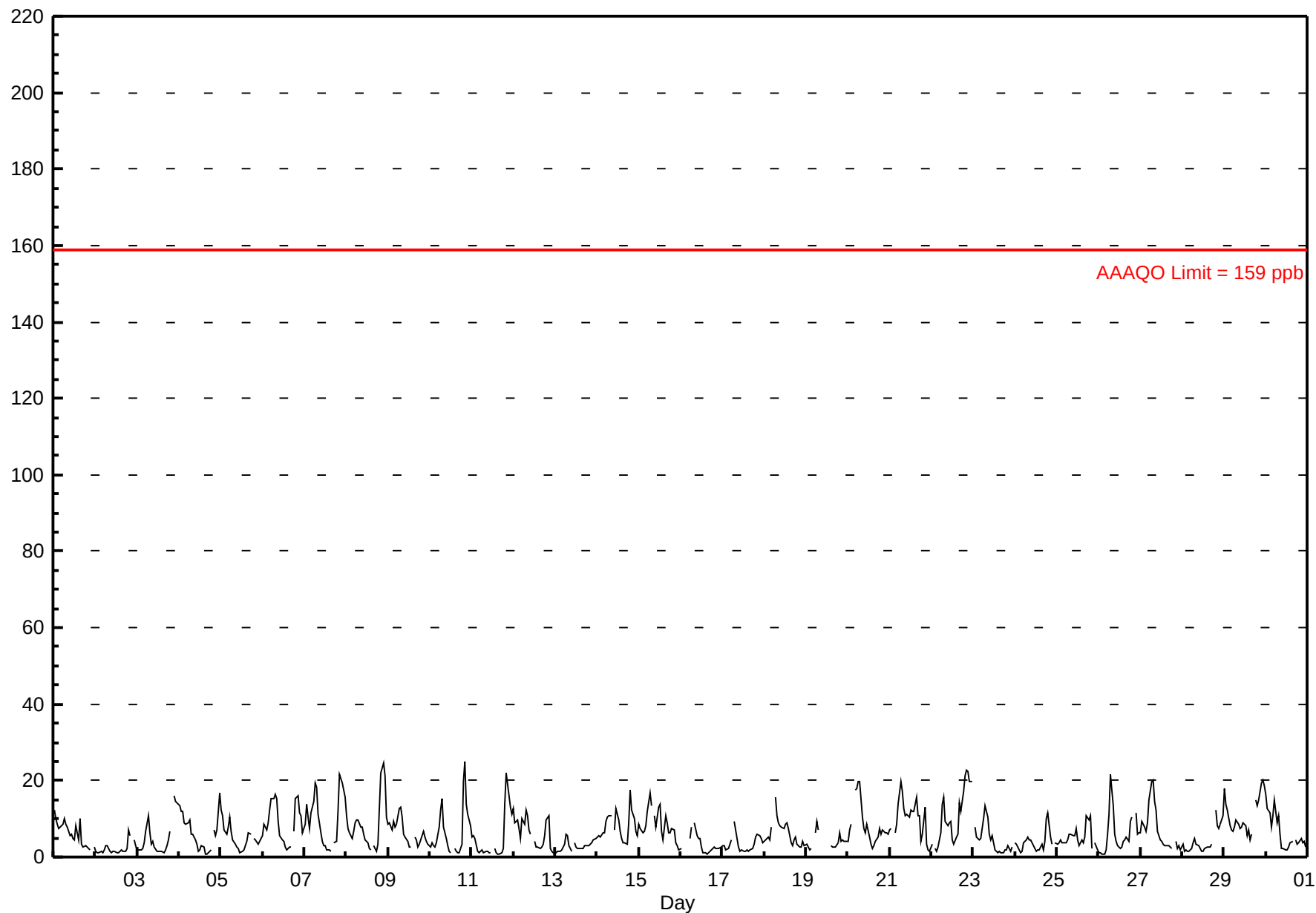
Nitrogen Dioxide (NO₂) - ppb

Henry Pirker - September 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 25.0 ppb on Sep 10 21:00 Maximum Daily Average: 10.9 ppb on Sep 22																					Hours in Service: 720 Hours of Data: 679					
Minimum Value: 1 ppb on Sep 11 17:00 Maximum Diurnal Average: 10.9 ppb at hour 8 Monthly Average: 6.37 ppb																					Hours of Missing Data: 41 Hours of Calibration: 37 Percent Operational Time: 99.4					
Minimum Daily Average: 2.2 ppb on Sep 2 Minimum Diurnal Average: 3.3 ppb at hour 15 Percentiles: P ₁ = 0.9 P ₁₀ = 1.6 Q ₁ = 2.6 Median = 4.8 Q ₃ = 8.8 P ₉₀ = 13.2 P ₉₉ = 21.7																										
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-Sep	12	10	9	8	8	9	10	9	8	6	6	5	5	8	5	10	3	3	3	3	2	2	A	3	6.3	12.4
2-Sep	2	1	1	2	1	2	3	3	2	1	2	1	1	1	1	2	2	2	2	7	5	A	4	3	2.2	7.0
3-Sep	2	2	2	2	4	7	11	6	3	4	2	2	2	2	1	1	2	3	4	7	A	16	14	14	4.9	16.0
4-Sep	13	12	12	9	9	9	10	6	6	5	3	1	2	3	3	1	1	1	2	A	7	6	7	17	6.3	16.8
5-Sep	12	11	7	6	8	10	7	5	3	3	2	1	1	2	3	4	6	6	A	5	5	3	4	5	5.2	12.2
6-Sep	5	9	7	9	12	15	15	17	15	9	5	4	4	3	2	2	3	A	7	15	16	12	11	6	8.9	16.6
7-Sep	9	14	11	8	11	15	19	18	11	6	4	3	3	2	2	2	A	4	4	12	22	20	19	16	10.2	21.8
8-Sep	11	7	6	5	7	9	10	10	8	8	6	4	4	2	2	A	3	2	3	13	22	25	21	11	8.6	24.6
9-Sep	9	9	7	9	8	8	13	13	10	6	5	4	3	3	A	5	4	3	3	5	7	5	4	3	6.4	13.1
10-Sep	3	4	3	3	4	8	12	15	8	5	3	1	1	A	2	1	1	1	3	20	25	14	11	8	6.8	25.0
11-Sep	5	5	5	1	1	1	2	1	2	1	1	1	A	2	1	1	1	1	2	14	22	16	13	11	4.9	22.1
12-Sep	13	9	10	7	5	10	9	12	11	7	6	A	4	3	2	2	3	3	6	10	11	2	1	1	6.4	12.6
13-Sep	1	1	2	2	2	3	6	6	3	2	A	4	3	2	2	2	2	3	3	3	4	4	4	5	2.9	5.9
14-Sep	5	6	5	6	6	9	10	11	11	A	7	13	10	7	5	4	4	3	9	17	12	10	7	6	7.9	17.4
15-Sep	9	7	7	7	8	12	17	14	A	11	8	13	14	7	4	11	9	6	6	8	7	4	3	2	8.4	16.8
16-Sep	2	N	N	N	N	5	8	A	9	6	5	5	3	1	1	1	1	1	2	2	2	2	3	3.2	8.8	
17-Sep	3	3	2	2	3	4	A	9	5	3	2	2	2	1	2	2	2	2	4	5	6	6	5	4	3.4	9.3
18-Sep	4	5	5	4	8	A	16	11	9	8	7	9	9	7	4	3	5	5	4	3	3	4	3	3	6.1	15.6
19-Sep	3	2	2	2	A	6	9	7	C	C	C	C	C	C	3	2	3	3	4	6	4	4	4	4	--	9.4
20-Sep	4	7	9	A	17	18	20	20	11	8	6	9	5	3	2	3	4	5	7	6	7	7	6	6	8.3	19.8
21-Sep	7	8	A	6	9	14	20	17	13	11	11	11	12	12	12	15	11	11	4	6	13	3	2	2	10.0	19.7
22-Sep	4	A	2	1	2	7	14	16	9	8	9	9	4	4	5	6	14	12	17	21	23	23	20	20	10.9	22.7
23-Sep	A	8	5	5	5	7	10	14	10	6	4	6	2	2	1	1	1	1	2	2	3	2	3	A	4.5	13.6
24-Sep	4	3	2	1	1	4	4	5	4	5	4	2	2	2	2	3	2	4	10	12	5	3	A	4	3.9	11.7
25-Sep	3	4	4	4	4	4	4	6	6	6	6	7	4	3	4	4	5	11	10	11	2	A	4	2	5.1	10.9
26-Sep	1	1	1	1	2	6	11	22	13	6	4	3	2	3	4	4	5	4	9	10	A	12	6	6	5.9	21.7
27-Sep	6	9	8	7	9	15	20	20	15	12	7	5	4	3	3	3	3	3	2	A	4	2	3	2	7.1	20.0
28-Sep	3	2	2	2	1	2	4	5	3	3	2	2	2	2	2	2	3	3	A	12	8	7	9	11	4.0	12.3
29-Sep	18	14	12	8	7	7	8	10	9	8	8	9	8	6	7	4	6	A	15	13	15	20	20	19	10.8	20.1
30-Sep	16	13	12	8	11	15	9	11	6	2	2	2	2	3	4	4	A	4	3	4	5	4	4	3	6.3	16.3
6.6 6.6 5.6 4.8 6.2 8.3 10.7 10.9 8.0 5.8 5.0 4.9 4.1 3.5 3.3 3.7 3.8 3.9 5.4 9.0 9.6 8.4 7.7 6.8																									Diurnal Average	
17.9 13.9 12.2 9.4 17.4 17.8 19.8 21.7 15.3 12.3 11.3 13.2 13.8 12.0 12.1 15.5 14.3 11.9 17.2 21.4 25.0 24.6 21.3 19.7																									Diurnal Maximum	
C - Calibration N - Not Valid A - Automated Daily Zero Span																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 159 ppb 24-hr 106 ppb																										

Hourly Averages

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



Hourly Maximums

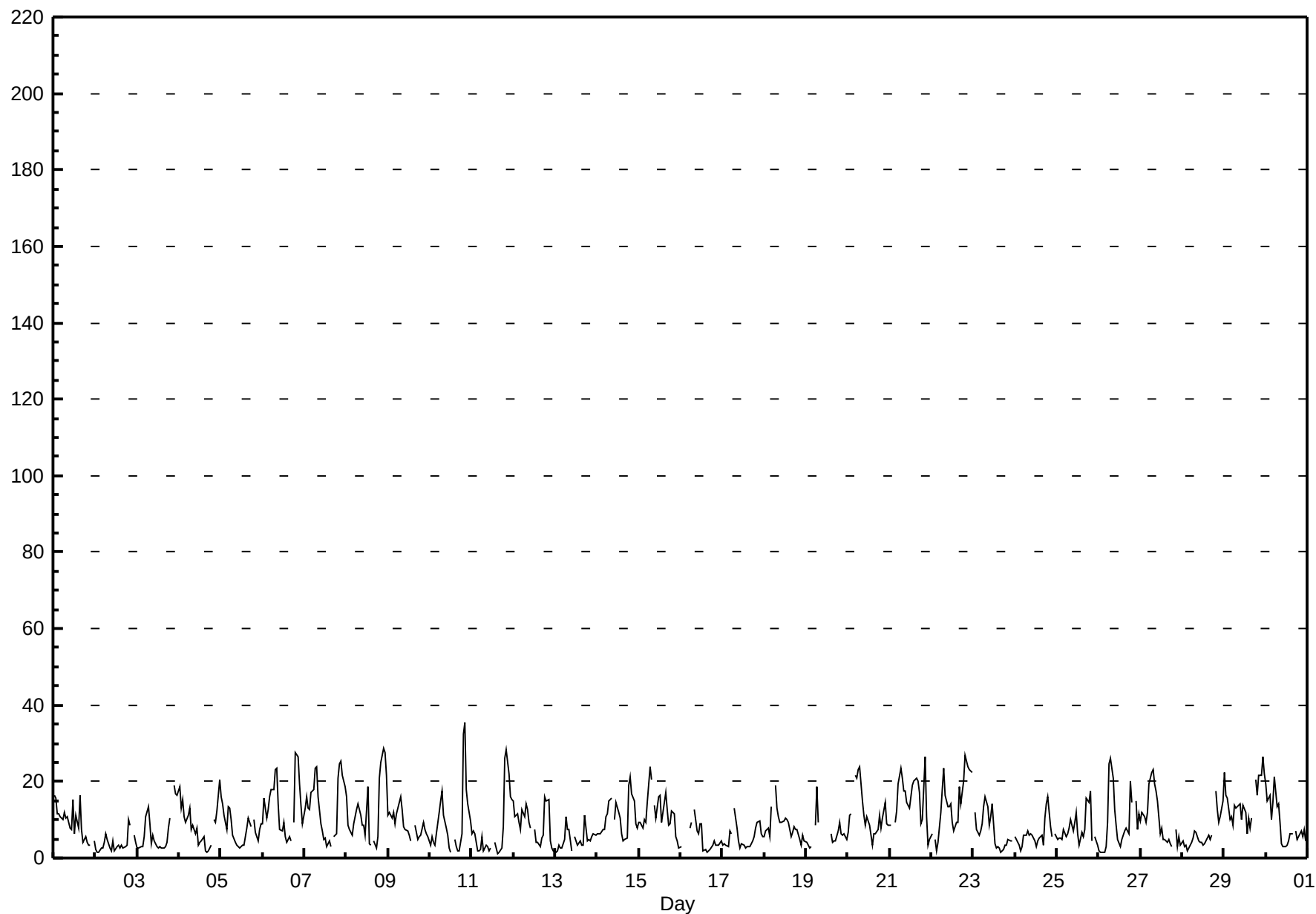
Nitrogen Dioxide (NO₂) - ppb

Henry Pirker - September 2011

Maximum Value: 35.3 ppb on Sep 10 21:00																				Maximum Daily Average: 14.9 ppb on Sep 21					Hours in Service: 720	
Minimum Value: 1 ppb on Sep 11 16:00																				Minimum Daily Average: 3.8 ppb on Sep 2					Hours of Data: 679	
Maximum Diurnal Average: 14.4 ppb at hour 7																				Minimum Diurnal Average: 5.5 ppb at hour 14					Hours of Missing Data: 41	
Monthly Average: 9.21 ppb																				Percentiles: P ₁ = 1.5 P ₁₀ = 3.0 Q ₁ = 4.5 Median = 7.5 Q ₃ = 12.5 P ₉₀ = 18.5 P ₉₉ = 26.6					Hours of Calibration: 37	
																									Percent Operational Time: 99.4	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Sep	17	16	12	12	11	10	12	11	11	8	7	15	7	11	8	17	8	4	6	4	4	3	A	5	9.3	16.5
2-Sep	2	2	2	2	3	4	7	5	3	2	5	2	3	3	2	3	2	3	3	10	8	A	6	4	3.8	10.0
3-Sep	2	2	3	3	5	11	13	9	4	6	5	3	2	3	2	2	3	4	8	11	A	19	17	16	6.7	19.0
4-Sep	19	13	15	11	10	11	13	8	9	6	8	3	4	4	5	2	1	2	3	A	10	9	12	21	8.7	20.5
5-Sep	16	14	11	7	13	13	10	6	4	3	3	2	3	3	5	8	10	8	A	10	7	4	7	9	7.9	16.0
6-Sep	9	16	11	13	16	18	18	23	23	14	7	7	9	6	4	6	5	A	9	28	27	20	14	9	13.5	27.8
7-Sep	13	16	13	13	17	18	24	24	16	9	7	5	5	3	4	3	A	5	6	21	25	25	22	19	13.6	25.4
8-Sep	16	8	7	6	9	11	13	14	11	9	9	6	19	4	3	A	4	2	5	21	25	29	28	22	12.2	28.9
9-Sep	11	12	10	12	9	12	15	16	13	8	7	7	6	5	A	8	7	5	5	6	10	8	6	6	8.8	16.0
10-Sep	3	6	4	4	7	12	15	18	11	8	6	3	2	A	5	3	2	2	7	32	35	18	14	10	9.7	35.3
11-Sep	7	7	7	2	2	2	6	2	3	3	2	2	A	4	2	1	1	2	8	26	28	22	16	15	7.5	28.4
12-Sep	15	11	11	9	7	13	11	14	13	9	8	A	7	4	4	3	5	6	16	15	15	4	2	2	9.0	16.2
13-Sep	2	2	3	2	2	5	11	7	7	2	A	5	4	3	4	3	3	11	4	5	4	5	6	6	4.9	11.3
14-Sep	6	7	6	7	7	11	11	15	16	A	10	15	12	10	6	4	5	5	19	21	17	15	9	8	10.6	21.2
15-Sep	9	9	8	10	9	15	24	21	A	14	10	16	17	9	12	17	12	9	9	12	11	5	4	2	11.6	23.8
16-Sep	3	N	N	N	N	8	9	A	13	7	6	9	9	2	2	1	2	2	3	4	3	3	4	4	5.1	12.5
17-Sep	4	4	4	3	7	6	A	13	8	4	3	4	3	2	3	3	3	4	5	8	9	10	6	6	5.3	13.0
18-Sep	5	7	8	5	14	A	19	13	11	9	9	10	11	10	9	5	7	8	7	7	5	3	6	4	8.5	19.0
19-Sep	4	3	2	3	A	8	19	9	C	C	C	C	C	C	6	4	4	4	7	9	6	6	6	5	--	18.7
20-Sep	7	11	12	A	21	21	23	24	15	11	8	11	8	6	3	6	6	7	11	8	10	14	9	8	11.5	23.8
21-Sep	9	8	A	9	12	20	24	21	18	18	14	13	16	19	20	21	20	17	9	10	27	11	3	5	14.9	26.5
22-Sep	6	A	5	2	4	12	18	24	17	13	13	14	9	7	9	9	18	14	20	27	26	24	23	23	14.7	26.8
23-Sep	A	12	7	6	7	9	13	16	13	8	11	14	4	2	3	3	1	2	3	3	5	4	4	A	7.0	16.0
24-Sep	5	5	3	2	3	6	6	7	6	6	6	4	3	4	5	6	3	10	14	16	8	6	A	6	6.2	16.0
25-Sep	5	5	5	5	7	5	6	8	10	7	9	12	6	3	7	5	7	16	14	17	4	A	5	3	7.7	17.4
26-Sep	2	1	1	1	3	9	25	26	21	13	9	5	3	5	6	7	8	6	20	14	A	15	7	11	9.6	26.3
27-Sep	10	12	11	9	12	19	23	23	20	18	15	6	8	5	5	4	5	4	3	A	7	3	5	3	10.0	23.0
28-Sep	4	3	3	2	2	4	5	7	7	4	4	4	3	4	5	6	5	6	A	18	12	9	11	15	6.3	17.5
29-Sep	23	17	15	10	11	8	14	13	14	14	10	14	12	6	10	8	10	A	21	16	22	22	27	22	14.7	26.5
30-Sep	20	15	16	10	15	21	13	14	9	4	3	3	3	4	6	6	A	7	5	5	7	5	7	5	9.0	21.2
8.7 8.7 7.8 6.5 8.8 11.1 14.4 14.1 11.6 8.5 7.7 7.7 7.2 5.5 5.9 6.1 6.1 6.4 9.1 13.8 13.5 11.6 10.4 9.4																									Diurnal Average	
22.5 16.5 16.3 12.7 21.5 21.2 24.7 26.3 23.4 17.7 14.8 16.2 18.7 19.0 20.0 20.8 20.0 17.3 20.7 32.3 35.3 28.9 27.7 22.5																									Diurnal Maximum	
C - Calibration N - Not Valid A - Automated Daily Zero Span																										

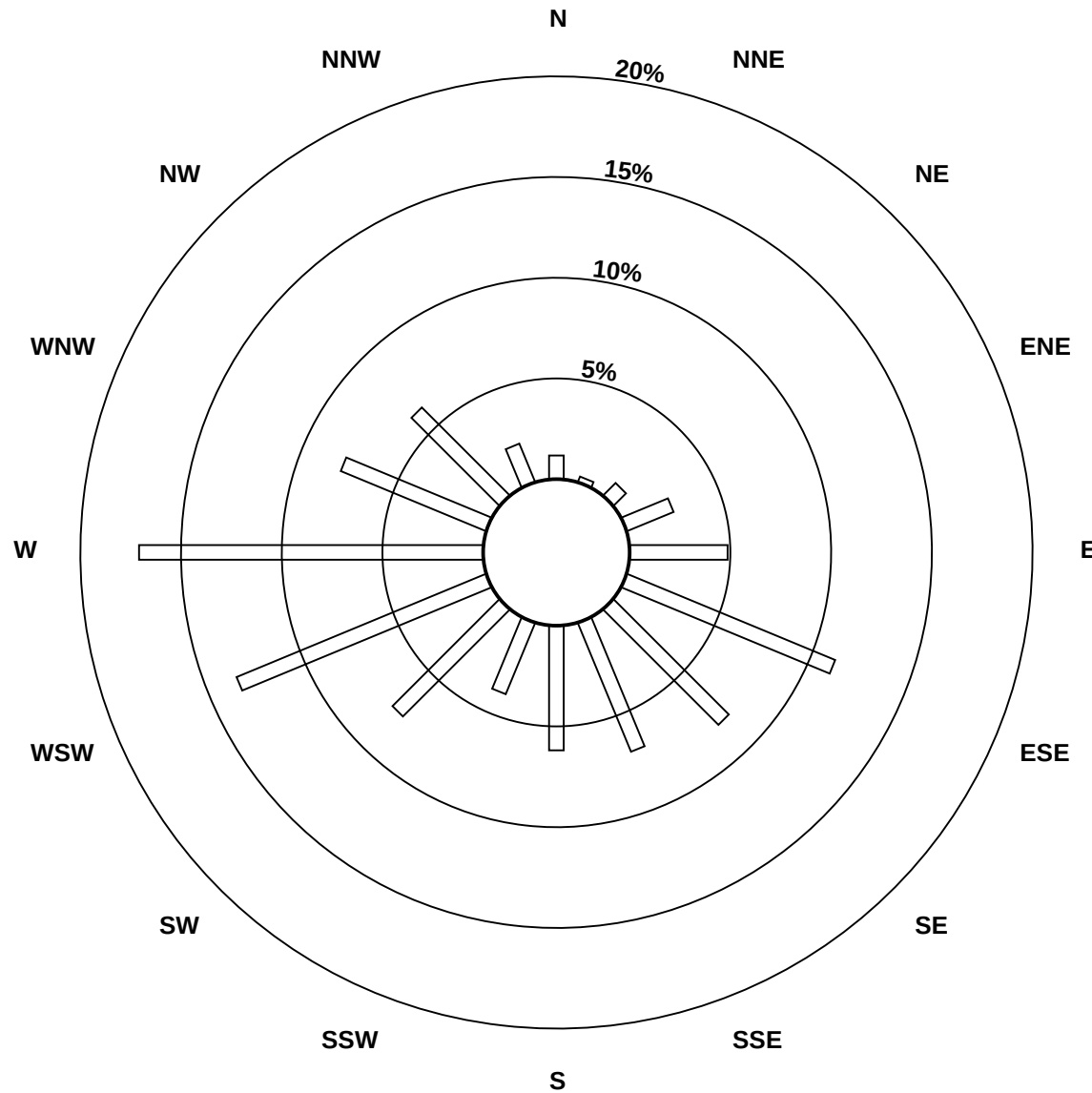
Hourly Maximums

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

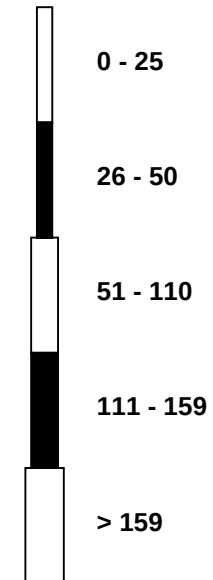


Pollutant Rose

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

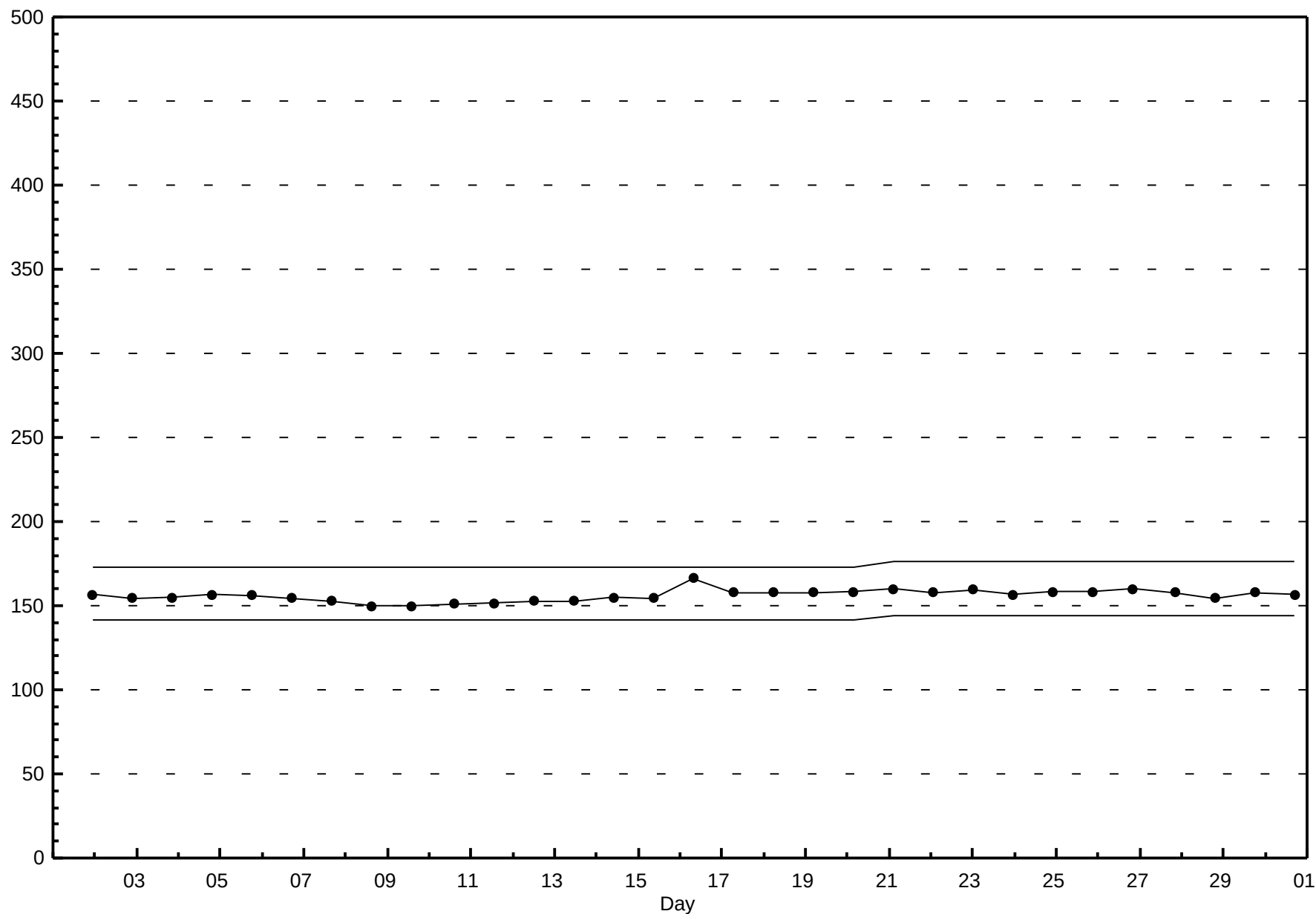


Pollutant Classes (ppb)



Span Responses

Nitrogen Dioxide (NO₂)
Henry Pirker - September 2011



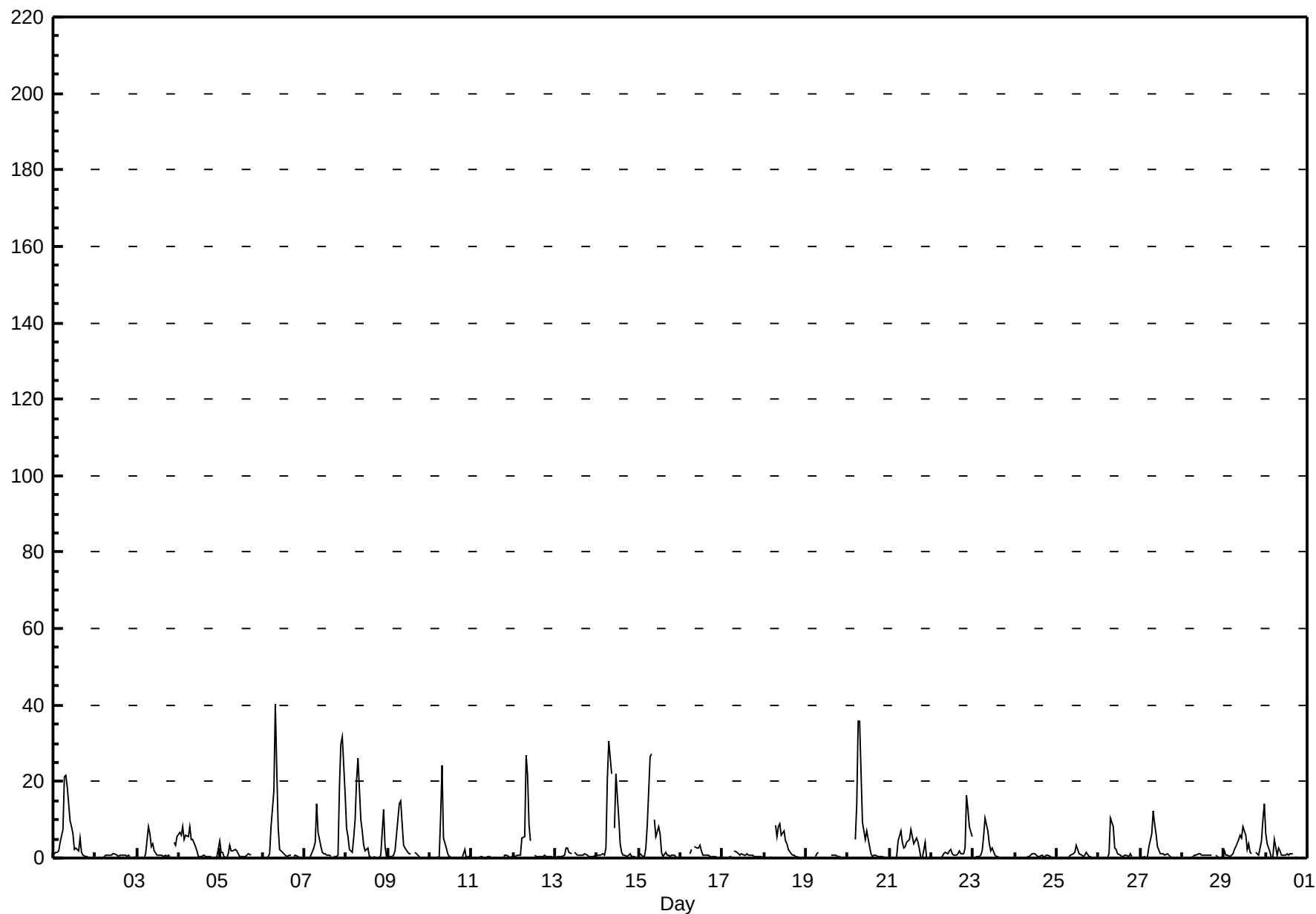
Hourly Averages

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

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 40.2 ppb on Sep 6 08:00 Maximum Daily Average: 5.9 ppb on Sep 7																					Hours in Service: 720 Hours of Data: 679 Hours of Missing Data: 41 Hours of Calibration: 37 Percent Operational Time: 99.4					
Minimum Value: 0 ppb on Sep 2 02:00 Maximum Diurnal Average: 11.5 ppb at hour 8 Monthly Average: 2.49 ppb																					Minimum Daily Average: 0.2 ppb on Sep 11 Minimum Diurnal Average: 0.5 ppb at hour 4 Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.2 Median = 0.6 Q ₃ = 2.1 P ₉₀ = 6.9 P ₉₉ = 26.5					
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-Sep	1	2	1	2	4	7	21	22	19	10	8	6	2	3	2	5	2	1	1	0	0	0	A	0	5.1	21.7
2-Sep	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	A	0	0	0.5	1.1
3-Sep	0	0	0	0	0	1	8	6	3	4	2	1	1	1	1	1	1	1	1	0	A	4	3	6	1.9	8.3
4-Sep	7	6	8	5	6	6	8	5	5	3	2	0	0	0	1	0	1	0	0	A	0	0	0	4	3.0	8.2
5-Sep	2	1	0	0	1	3	2	2	2	2	1	1	0	0	1	1	1	1	A	0	0	0	0	0	0.9	3.5
6-Sep	0	0	0	0	1	8	17	40	23	8	2	2	1	1	0	1	1	A	1	1	0	0	0	0	4.7	40.2
7-Sep	0	0	0	0	1	3	4	14	7	3	2	1	1	1	1	1	A	1	1	1	19	30	32	17	5.9	31.8
8-Sep	8	6	2	1	5	10	20	26	10	7	3	2	2	0	0	A	0	0	0	0	1	13	3	0	5.3	26.1
9-Sep	0	0	0	1	2	6	14	15	9	3	3	2	1	1	A	1	1	1	0	0	0	0	0	0	2.7	15.0
10-Sep	0	0	0	0	0	0	11	24	5	3	1	0	0	A	0	0	0	0	0	1	2	0	0	0	2.2	24.3
11-Sep	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	1	1	0	0	0	0.2	0.9
12-Sep	0	0	1	1	1	5	6	27	22	9	5	A	1	1	0	0	0	0	1	1	0	0	0	0	3.5	26.9
13-Sep	0	0	0	0	0	1	2	3	2	1	A	1	1	1	1	1	1	1	1	0	0	0	1	1	0.8	2.6
14-Sep	1	1	1	1	1	3	21	31	22	A	8	22	11	4	1	1	1	0	1	1	1	0	0	0	5.7	30.7
15-Sep	1	1	0	0	2	9	26	27	A	10	6	8	6	2	0	1	1	1	1	1	1	0	0	0	4.5	27.2
16-Sep	0	N	N	N	N	1	2	A	3	2	3	3	2	1	1	1	1	0	0	0	0	0	0	0	1.1	3.3
17-Sep	0	0	0	0	0	0	A	2	2	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0.6	1.9
18-Sep	0	0	0	0	0	A	9	6	8	9	6	7	4	4	2	1	1	1	0	0	0	0	0	0	2.6	8.9
19-Sep	0	0	0	0	A	0	1	2	C	C	C	C	C	C	1	1	1	1	0	0	0	0	0	0	--	1.6
20-Sep	0	0	0	A	5	14	36	36	9	7	5	7	3	1	1	1	1	1	0	0	0	0	0	0	5.5	35.9
21-Sep	0	0	A	0	0	4	7	4	2	3	4	5	7	6	4	5	4	2	0	0	4	0	0	0	2.7	7.4
22-Sep	0	A	0	0	0	0	0	1	1	1	2	2	1	1	1	1	2	1	1	3	17	13	8	6	2.7	16.5
23-Sep	A	0	0	0	1	2	6	10	7	4	2	3	1	0	0	0	0	0	0	0	0	0	0	A	1.6	10.3
24-Sep	0	0	0	0	0	0	0	0	1	1	1	1	1	1	0	1	0	0	1	1	0	0	A	0	0.4	1.1
25-Sep	0	0	0	0	0	0	0	1	1	1	1	3	2	1	1	1	1	1	1	0	0	A	0	0	0.6	3.5
26-Sep	0	0	0	0	0	0	1	10	8	3	2	1	1	0	0	1	1	0	1	0	A	0	0	0	1.3	10.3
27-Sep	0	0	0	0	0	3	7	12	9	6	3	1	1	1	1	1	1	0	0	A	0	0	0	0	2.1	12.4
28-Sep	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	A	1	0	0	0	0	0.5	1.2
29-Sep	2	1	1	0	1	1	2	3	5	6	5	8	6	2	4	1	1	A	1	1	1	4	10	14	3.5	14.1
30-Sep	6	4	2	0	0	5	1	3	2	1	1	1	1	1	1	1	A	0	0	0	0	0	0	0	1.3	6.3
1.0 0.8 0.6 0.5 1.2 3.2 8.1 11.5 6.7 3.9 2.9 3.3 2.2 1.2 0.9 1.0 0.8 0.6 0.5 0.5 1.7 2.4 2.1 1.7																									Diurnal Average	
8.0 6.0 8.1 5.0 6.1 14.2 35.8 40.2 23.5 9.9 8.2 22.0 10.6 5.6 3.7 5.2 4.0 2.3 1.3 2.6 18.5 29.7 31.8 16.8																									Diurnal Maximum	
C - Calibration N - Not Valid A - Automated Daily Zero Span																										

Hourly Averages

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



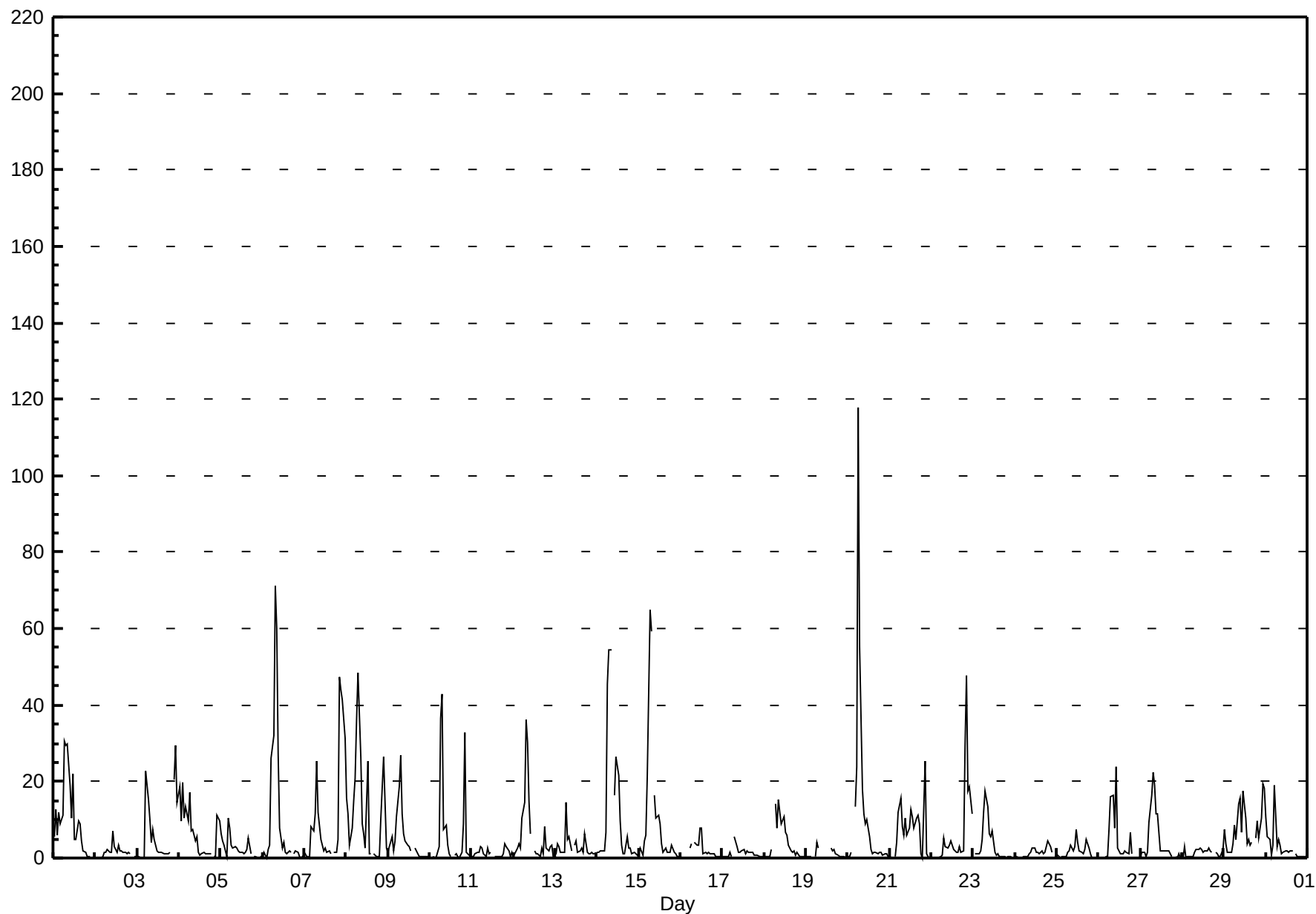
Hourly Maximums

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

Maximum Value: 117.9 ppb on Sep 20 07:00																				Maximum Daily Average: 12.5 ppb on Sep 8										Hours in Service: 720	
Minimum Value: 0 ppb on Sep 20 00:00																				Minimum Daily Average: 1.3 ppb on Sep 24										Hours of Data: 679	
Maximum Diurnal Average: 19.9 ppb at hour 8																				Minimum Diurnal Average: 1.8 ppb at hour 19										Hours of Missing Data: 41	
Monthly Average: 5.68 ppb																				Percentiles: P ₁ = 0.0 P ₁₀ = 0.4 Q ₁ = 0.8 Median = 1.8 Q ₃ = 5.6 P ₉₀ = 15.4 P ₉₉ = 54.5										Hours of Calibration: 37	
																				Percent Operational Time: 99.4											
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24							
1-Sep	5	13	6	12	9	11	31	30	30	19	10	22	5	5	10	9	5	2	1	0	0	0	A	0	10.2	30.5					
2-Sep	0	0	0	0	0	1	1	2	1	1	7	3	1	3	2	2	1	1	1	1	1	A	1	0	1.5	7.0					
3-Sep	0	0	0	0	0	23	15	10	4	8	5	2	1	1	1	1	1	1	1	1	A	20	29	15	6.2	29.4					
4-Sep	19	10	20	11	14	10	17	7	8	4	6	1	1	1	1	1	1	1	1	A	0	0	11	10	6.7	19.6					
5-Sep	6	5	3	1	10	8	3	2	3	3	2	1	1	1	1	2	5	1	A	0	0	0	0	0	2.7	10.3					
6-Sep	0	1	0	2	3	26	32	71	60	27	8	3	4	1	1	2	1	A	1	2	1	1	0	0	10.8	71.3					
7-Sep	1	1	0	0	8	7	12	25	12	5	4	2	2	1	2	1	A	1	1	5	47	44	41	31	11.1	47.4					
8-Sep	16	12	4	8	15	21	36	48	27	9	7	3	26	1	1	A	1	0	0	0	10	27	15	3	12.5	48.4					
9-Sep	2	3	6	2	4	11	19	27	12	6	4	4	3	2	A	3	2	1	1	0	0	0	0	1	4.8	26.9					
10-Sep	0	0	0	0	1	3	37	43	8	9	3	1	0	A	1	1	0	0	1	9	33	1	1	1	6.7	42.7					
11-Sep	0	1	1	1	1	3	2	1	0	3	1	2	A	0	0	0	0	0	1	4	3	2	0	1	1.3	3.7					
12-Sep	1	1	3	4	3	11	14	36	30	15	7	A	2	1	1	0	3	1	8	2	2	3	3	0	6.5	36.1					
13-Sep	1	4	3	1	1	2	15	5	6	2	A	3	5	2	2	2	1	7	1	1	1	1	1	1	3.0	14.7					
14-Sep	1	1	2	2	2	7	46	54	55	A	17	27	22	10	3	1	1	6	3	3	1	1	1	1	11.5	54.6					
15-Sep	1	3	1	4	6	21	65	59	A	16	10	11	9	4	1	2	1	1	1	3	1	1	0	0	9.8	64.7					
16-Sep	0	N	N	N	N	2	4	A	4	3	3	8	8	1	2	1	1	1	1	1	0	0	0	0	2.3	7.9					
17-Sep	0	0	0	0	1	0	A	6	3	1	1	2	2	1	2	2	1	1	1	1	1	0	0	0	1.4	5.6					
18-Sep	0	0	0	0	2	A	14	8	15	12	9	11	7	6	3	2	1	2	1	1	0	0	0	0	4.3	15.4					
19-Sep	0	0	0	0	A	0	4	2	C	C	C	C	C	C	3	2	2	1	1	0	0	0	0	0	--	3.9					
20-Sep	0	0	1	A	13	24	118	55	18	12	9	10	6	2	1	1	1	1	1	1	1	1	1	0	12.2	117.9					
21-Sep	0	0	A	0	4	12	16	8	6	10	6	8	13	11	8	11	11	9	1	0	25	1	0	0	7.0	25.4					
22-Sep	0	A	0	0	0	0	1	5	3	3	3	4	3	2	1	1	3	1	2	30	48	18	19	12	7.0	47.8					
23-Sep	A	1	1	1	2	5	12	18	14	7	5	7	2	1	1	0	0	0	0	0	0	0	0	A	3.6	17.7					
24-Sep	0	0	0	0	0	0	0	1	1	1	2	2	1	1	1	2	1	1	3	4	3	1	A	0	1.3	4.4					
25-Sep	1	1	0	0	1	1	1	2	3	2	3	8	4	2	1	1	2	5	2	1	0	A	0	0	1.8	7.5					
26-Sep	0	0	0	0	0	0	8	16	17	8	24	3	1	1	1	2	2	1	7	1	A	0	0	0	4.0	23.9					
27-Sep	0	1	1	1	1	9	16	22	19	12	11	2	2	2	2	2	2	1	0	A	0	0	1	0	4.8	22.2					
28-Sep	0	3	0	0	0	0	1	1	2	2	2	2	1	2	2	2	2	1	A	1	1	0	0	2	1.4	2.8					
29-Sep	8	4	1	2	1	4	9	5	14	16	7	18	10	4	5	3	4	A	5	10	5	11	19	18	7.9	19.2					
30-Sep	11	6	5	1	3	19	3	5	4	1	1	2	2	2	2	2	A	1	1	0	1	0	0	0	3.1	19.2					
2.6		2.5	2.1	2.0	3.9	8.4	19.0	19.9	13.4	7.7	6.4	6.1	5.2	2.6	2.2	2.2	2.2	1.9	1.8	3.1	6.8	4.9	5.3	3.4	Diurnal Average						
18.5		12.6	19.6	11.8	15.0	26.0	117.9	71.3	60.0	27.4	23.9	26.5	25.5	10.8	9.6	10.5	11.3	8.8	8.3	29.6	47.8	43.9	41.3	31.2	Diurnal Maximum						
C - Calibration		N - Not Valid						A - Automated Daily Zero Span																							

Hourly Maximums

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



Hourly Averages

Oxides of Nitrogen (NO_x) - ppb

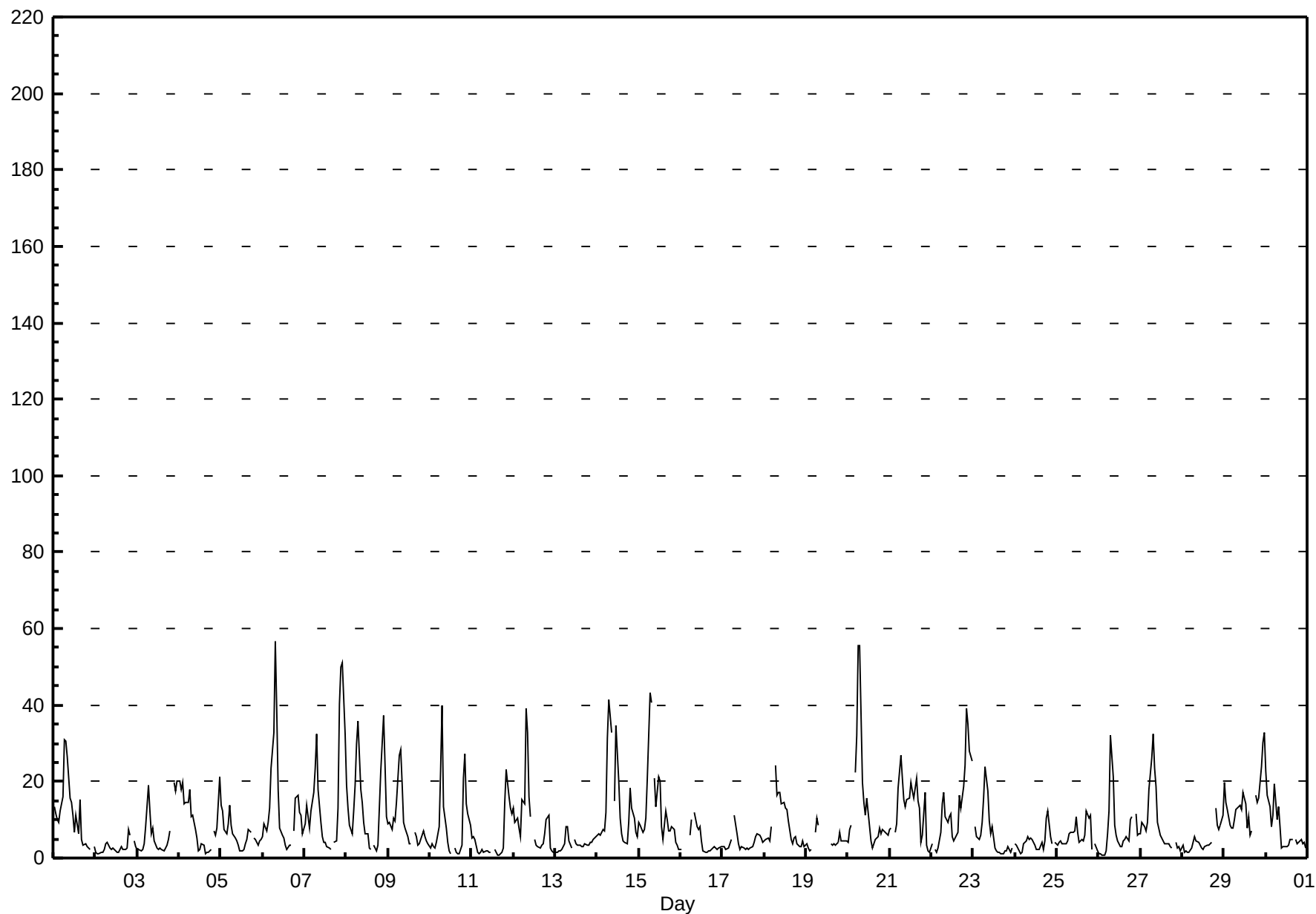
Henry Pirker - September 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 56.8 ppb on Sep 6 08:00 Maximum Daily Average: 16.1 ppb on Sep 7																				Hours in Service: 720 Hours of Data: 679 Hours of Missing Data: 41 Hours of Calibration: 37 Percent Operational Time: 99.4						
Minimum Value: 1 ppb on Sep 26 04:00 Maximum Diurnal Average: 22.4 ppb at hour 8 Monthly Average: 8.90 ppb										Minimum Daily Average: 2.8 ppb on Sep 2 Minimum Diurnal Average: 4.3 ppb at hour 15 Percentiles: P ₁ = 1.1 P ₁₀ = 2.0 Q ₁ = 3.2 Median = 5.8 Q ₃ = 11.6 P ₉₀ = 19.8 P ₉₉ = 41.0																
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-Sep	14	12	10	9	12	16	31	31	26	16	14	11	7	11	6	15	5	3	4	3	3	2	A	3	11.5	31.1
2-Sep	2	1	1	2	1	2	4	4	2	2	3	2	2	1	2	3	2	2	3	8	6	A	5	3	2.8	7.6
3-Sep	2	2	2	2	4	8	19	12	6	8	4	2	2	2	2	2	2	4	5	7	A	20	18	20	6.8	20.0
4-Sep	20	18	20	14	15	14	18	11	11	7	5	2	2	4	3	1	1	2	2	A	7	6	8	21	9.3	21.1
5-Sep	14	12	8	6	9	14	9	6	5	5	3	2	2	2	4	5	8	7	A	5	5	3	4	5	6.2	13.9
6-Sep	6	9	7	9	13	24	33	57	39	18	8	6	5	3	2	3	4	A	7	16	16	12	11	6	13.6	56.8
7-Sep	9	14	11	8	12	17	23	32	18	10	6	4	4	3	3	2	A	4	4	13	40	50	51	32	16.1	51.2
8-Sep	19	13	8	6	12	19	30	36	18	15	9	6	6	3	2	A	3	2	3	13	23	37	24	11	13.9	37.3
9-Sep	9	9	7	10	10	14	27	28	19	9	8	6	4	4	A	7	5	3	4	5	7	5	4	4	9.1	28.2
10-Sep	3	4	3	3	4	8	23	40	13	8	4	2	1	A	2	2	1	1	3	21	27	14	11	8	9.0	39.8
11-Sep	5	6	5	1	1	2	2	1	2	2	2	1	A	2	1	1	1	1	2	14	23	16	13	12	5.1	23.0
12-Sep	13	9	10	8	6	15	14	39	33	16	11	A	5	3	3	3	3	4	6	10	11	3	2	1	9.9	39.3
13-Sep	1	2	2	2	2	4	8	8	5	3	A	5	4	3	3	3	3	4	3	3	4	4	5	6	3.8	8.4
14-Sep	6	6	6	8	7	12	31	41	33	A	15	35	20	11	6	5	4	4	9	18	13	11	7	6	13.6	41.5
15-Sep	9	8	7	7	10	20	43	41	A	21	14	21	20	8	5	12	10	7	7	8	8	4	3	2	12.9	43.2
16-Sep	2	N	N	N	N	6	10	A	12	8	8	8	5	2	2	2	2	2	3	3	3	2	3	3	4.4	11.9
17-Sep	3	3	2	3	4	5	A	11	6	4	2	3	3	2	3	2	3	3	4	5	6	6	5	4	4.0	11.2
18-Sep	4	5	5	5	8	A	24	16	17	17	14	14	13	13	10	5	4	5	6	4	3	3	4	3	8.8	24.1
19-Sep	4	3	2	2	A	7	10	9	C	C	C	C	C	C	4	3	4	3	4	7	4	5	4	4	--	10.5
20-Sep	4	7	9	A	23	32	56	55	20	15	11	15	8	4	3	4	5	6	8	6	8	7	6	6	13.8	55.6
21-Sep	7	8	A	7	9	18	27	21	15	14	15	16	20	18	16	21	15	13	4	6	17	3	2	2	12.8	27.0
22-Sep	4	A	2	1	2	7	14	17	11	9	11	12	6	4	6	7	16	13	19	24	39	35	28	25	13.6	39.3
23-Sep	A	8	6	5	6	9	16	24	18	10	6	8	3	2	1	2	1	1	2	2	3	2	3	A	6.2	23.9
24-Sep	4	3	2	1	1	4	5	6	5	5	5	4	2	2	2	4	2	5	11	12	6	4	A	4	4.3	12.4
25-Sep	3	4	5	4	4	4	5	6	7	7	7	11	7	4	5	4	6	12	10	11	2	A	4	2	5.8	12.4
26-Sep	1	1	1	1	2	6	12	32	21	9	6	4	3	3	5	5	6	5	10	11	A	12	6	6	7.3	32.0
27-Sep	6	9	8	7	9	18	26	33	23	19	9	6	5	4	4	4	4	3	3	A	4	2	3	2	9.2	32.5
28-Sep	3	2	2	2	2	2	4	5	4	4	3	2	2	3	3	3	4	4	A	13	9	7	9	11	4.6	12.9
29-Sep	20	15	13	8	8	8	10	13	13	14	13	17	14	8	11	6	7	A	16	15	16	24	30	33	14.3	32.7
30-Sep	23	16	13	8	11	20	10	13	8	3	3	3	3	3	5	5	A	5	4	4	5	4	4	3	7.6	22.6
7.6 7.5 6.3 5.3 7.4 11.6 18.8 22.4 14.7 9.8 7.9 8.2 6.3 4.8 4.3 4.8 4.7 4.6 5.9 9.6 11.3 10.8 9.9 8.5																									Diurnal Average	
22.6 18.0 19.9 14.1 22.5 32.0 55.6 56.8 38.8 20.7 15.4 34.6 20.1 17.6 15.8 20.7 16.3 13.2 18.6 24.1 40.4 50.1 51.2 32.7																									Diurnal Maximum	
C - Calibration N - Not Valid A - Automated Daily Zero Span																										

Hourly Averages

Oxides of Nitrogen (NO_x) - ppb

Henry Pirker - September 2011



Hourly Maximums

Oxides of Nitrogen (NO_x) - ppb

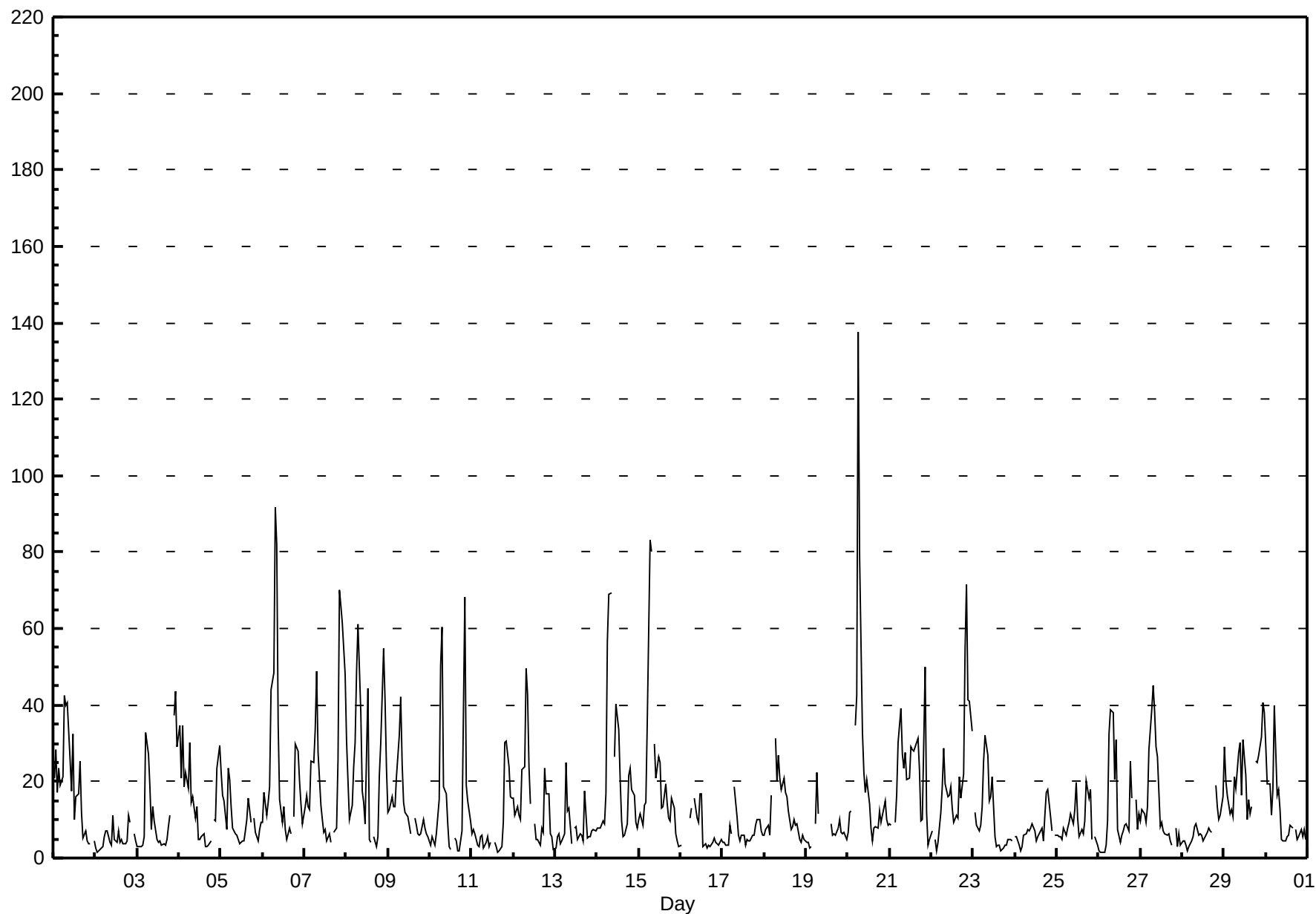
Henry Pirker - September 2011

Maximum Value: 137.5 ppb on Sep 20 07:00																					Maximum Daily Average: 24.2 ppb on Sep 7				Hours in Service: 720									
Minimum Value: 1 ppb on Sep 26 04:00																					Minimum Daily Average: 5.2 ppb on Sep 2				Hours of Data: 679									
Maximum Diurnal Average: 33.4 ppb at hour 8																					Minimum Diurnal Average: 7.9 ppb at hour 18				Hours of Missing Data: 41									
Monthly Average: 14.55 ppb																					Percentiles: P ₁ = 2.0 P ₁₀ = 3.4 Q ₁ = 5.5 Median = 9.5 Q ₃ = 18.5 P ₉₀ = 31.1 P ₉₉ = 69.7				Hours of Calibration: 37									
																					Percent Operational Time: 99.4													
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum								
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24										
1-Sep	21	28	17	23	19	21	42	40	40	26	18	33	10	16	17	25	12	5	7	4	4	4	A	4	19.0	42.4								
2-Sep	2	1	2	2	3	5	7	7	4	3	11	5	4	7	4	5	4	4	4	11	9	A	7	4	5.2	11.3								
3-Sep	3	3	3	4	5	33	27	19	8	13	10	5	4	4	3	4	3	5	8	11	A	37	44	29	12.4	43.7								
4-Sep	35	21	35	19	22	18	30	15	16	11	13	5	5	5	7	3	3	3	4	A	10	10	23	29	14.8	34.6								
5-Sep	23	17	15	8	24	21	14	8	7	6	5	4	5	4	7	10	16	9	A	11	7	4	8	9	10.3	23.5								
6-Sep	9	17	11	15	19	44	49	92	82	35	15	10	13	7	5	8	6	A	11	30	28	20	14	9	23.8	91.6								
7-Sep	14	16	14	13	25	25	34	49	28	14	10	7	8	4	6	4	A	7	8	26	70	66	62	48	24.2	70.3								
8-Sep	31	20	10	14	24	30	48	61	38	18	15	9	44	5	4	A	5	3	6	22	30	55	42	24	24.2	61.1								
9-Sep	12	13	16	14	14	21	32	42	25	14	12	11	9	6	A	10	9	6	6	6	10	8	7	5	13.4	42.1								
10-Sep	3	5	4	4	7	15	50	60	19	17	9	3	2	A	5	4	2	2	7	38	68	19	15	10	16.1	68.2								
11-Sep	7	7	7	3	3	6	6	3	4	5	3	4	A	4	3	1	2	3	9	30	31	24	16	16	8.5	30.5								
12-Sep	16	11	14	11	10	23	24	50	43	24	14	A	9	5	5	3	8	7	24	17	17	6	5	2	15.1	49.6								
13-Sep	3	6	6	4	4	6	25	12	13	4	A	8	8	5	7	6	4	17	5	6	6	7	8	7	7.7	25.1								
14-Sep	8	8	8	10	9	17	57	69	69	A	27	40	34	20	10	6	6	9	22	24	18	16	9	8	21.8	69.4								
15-Sep	10	12	9	14	15	36	83	80	A	30	21	27	25	13	14	19	14	10	10	16	13	7	4	3	21.0	83.2								
16-Sep	3	N	N	N	N	11	13	A	16	11	10	17	17	3	4	2	3	3	4	5	4	4	4	5	7.2	16.9								
17-Sep	4	4	4	4	8	7	A	19	11	6	4	6	6	3	5	4	4	6	6	8	10	10	7	6	6.6	18.7								
18-Sep	6	7	8	6	16	A	31	20	27	21	18	21	17	16	12	7	8	10	8	9	5	4	6	5	12.7	31.5								
19-Sep	4	4	2	3	A	9	23	12	C	C	C	C	C	C	9	6	6	6	8	10	7	6	7	5	--	22.5								
20-Sep	7	12	12	A	35	42	138	79	33	23	17	21	14	8	4	8	8	8	12	9	11	15	10	8	23.2	137.5								
21-Sep	9	8	A	9	17	30	39	27	23	28	21	21	29	28	28	30	31	23	10	10	50	12	3	5	21.4	50.1								
22-Sep	7	A	5	2	4	12	19	29	19	16	17	19	13	9	11	11	21	16	22	54	72	41	41	33	21.4	71.7								
23-Sep	A	12	8	7	9	14	26	32	27	15	16	21	5	3	3	3	2	2	3	3	5	5	5	A	10.3	31.9								
24-Sep	5	5	3	2	3	6	6	7	7	8	9	7	4	5	6	8	4	11	17	18	11	7	A	6	7.3	17.9								
25-Sep	6	6	5	5	8	6	8	10	12	9	13	20	11	5	7	6	10	20	16	18	5	A	5	3	9.3	20.0								
26-Sep	2	1	1	1	3	10	32	39	38	21	31	7	4	6	7	9	9	7	26	16	A	15	8	12	13.3	38.9								
27-Sep	10	13	11	10	14	28	39	45	38	29	26	8	10	7	6	6	6	4	3	A	8	3	6	3	14.5	45.0								
28-Sep	4	4	3	2	3	4	6	8	9	6	6	6	5	5	7	8	7	7	A	19	14	10	11	16	7.4	19.0								
29-Sep	29	20	17	12	13	11	21	18	28	30	17	31	22	10	15	11	14	A	26	25	27	32	41	38	22.0	40.6								
30-Sep	29	19	20	11	18	40	16	18	13	5	4	5	5	6	9	8	A	8	5	5	7	5	7	5	11.7	39.9								
11.1 10.8 9.7 8.2 12.6 19.0 32.6 33.4 24.8 15.9 13.9 13.5 12.2 8.0 8.0 8.2 8.2 7.9 10.6 16.5 19.8 16.2 15.1 12.4																									Diurnal Average									
34.6 28.3 34.6 23.3 34.5 44.1 137.5 91.6 82.0 35.2 31.1 40.2 44.3 28.3 28.0 30.0 31.2 23.0 25.5 54.4 71.7 66.1 61.5 48.2																									Diurnal Maximum									
C - Calibration																									N - Not Valid					A - Automated Daily Zero Span				

Hourly Maximums

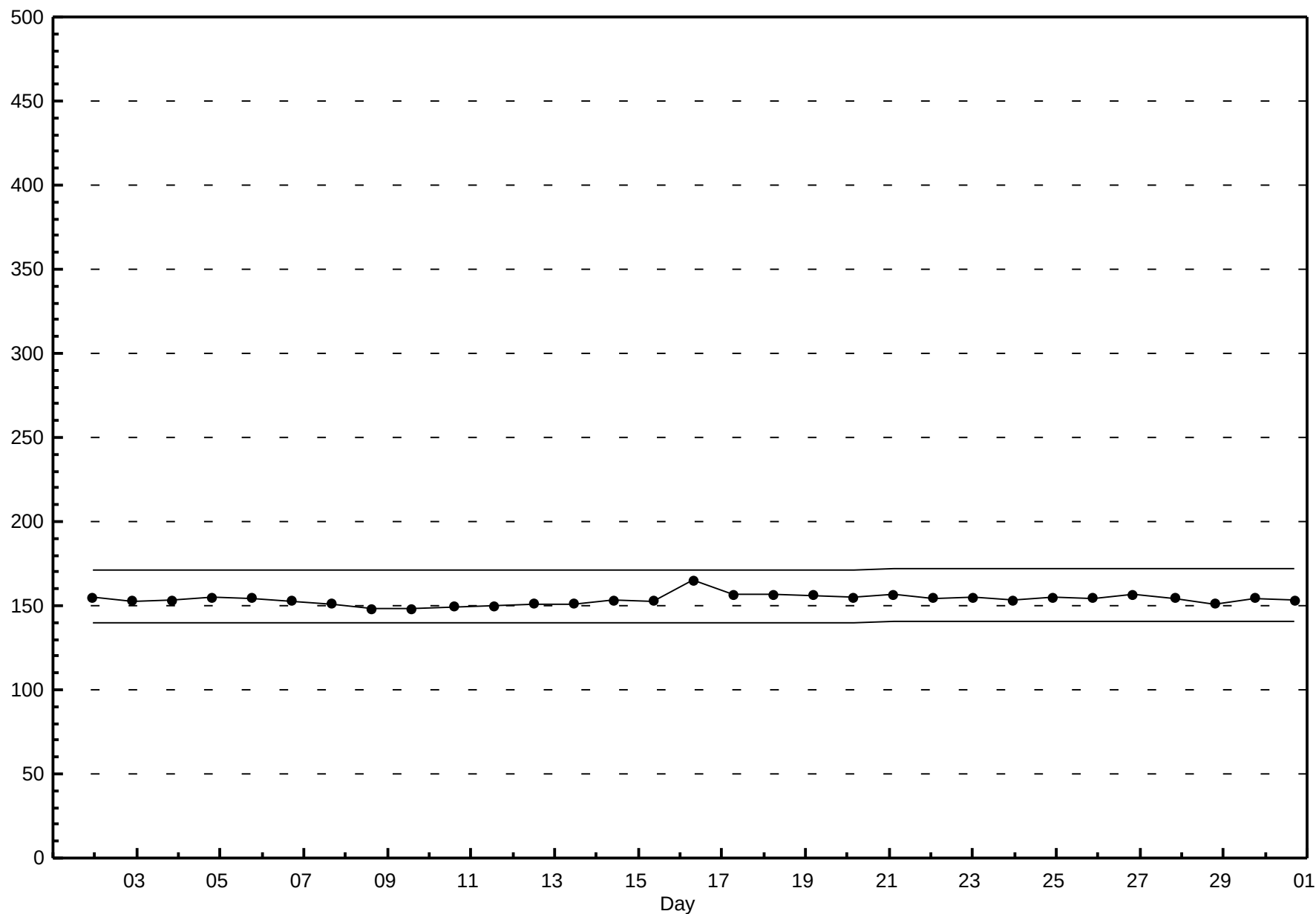
Oxides of Nitrogen (NO_x) - ppb

Henry Pirker - September 2011



Span Responses

Oxides of Nitrogen (NO_x)
Henry Pirker - September 2011



Hourly Averages

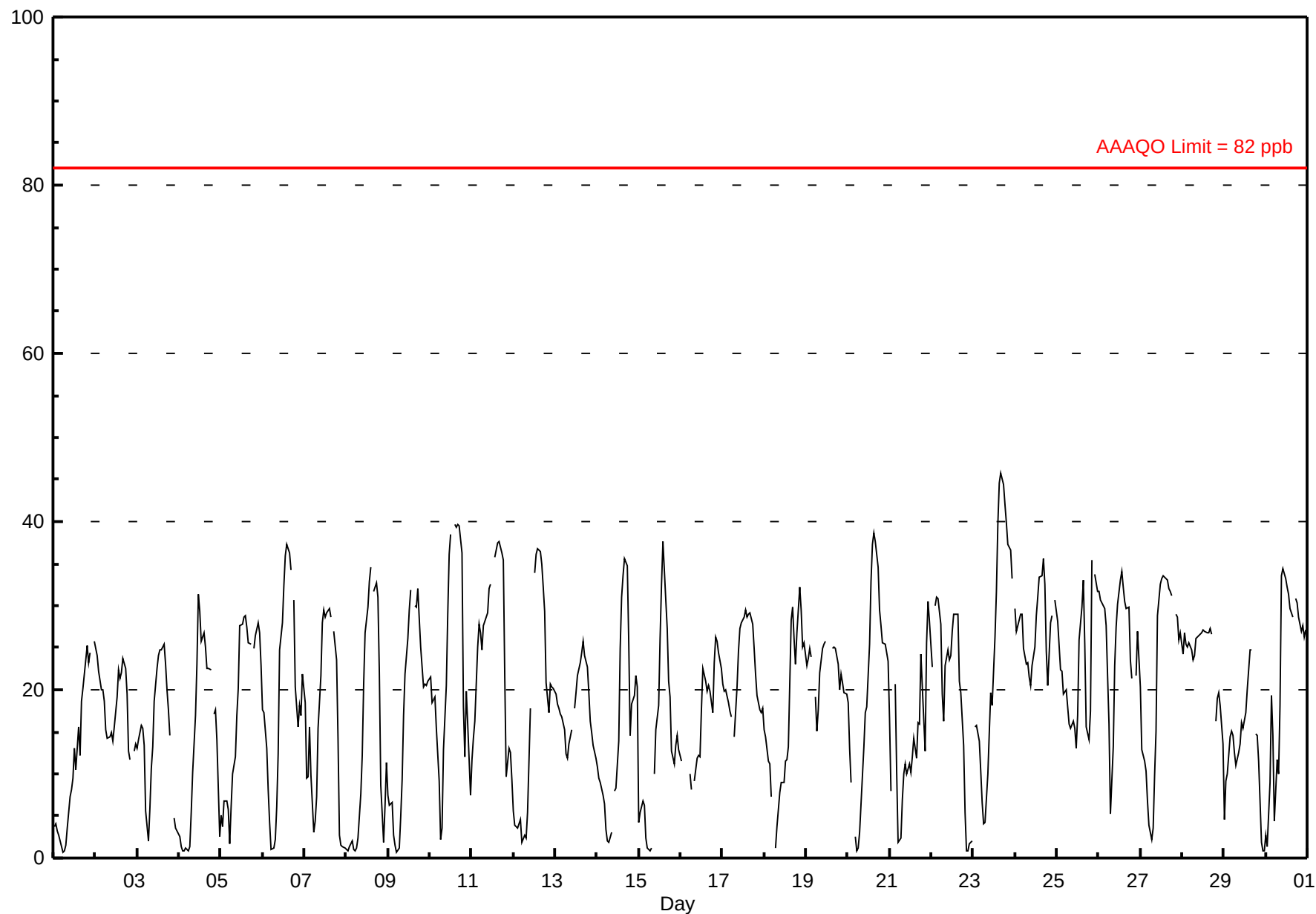
Ozone (O₃) - ppb

Henry Pirker - September 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 45.8 ppb on Sep 23 17:00 Maximum Daily Average: 27.5 ppb on Sep 24																								Hours in Service: 720 Hours of Data: 682 Hours of Missing Data: 38 Hours of Calibration: 34 Percent Operational Time: 99.4		
Minimum Value: 1 ppb on Sep 9 06:00 Maximum Diurnal Average: 29.2 ppb at hour 16 Monthly Average: 19.00 ppb																								Minimum Daily Average: 11.3 ppb on Sep 1 Minimum Diurnal Average: 8.2 ppb at hour 7 Percentiles: P ₁ = 0.9 P ₁₀ = 3.5 Q ₁ = 11.6 Median = 19.8 Q ₃ = 26.8 P ₉₀ = 32.0 P ₉₉ = 39.7		
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-Sep	4	4	3	3	2	1	1	2	4	7	8	9	13	11	16	12	19	20	24	25	23	24	A	26	11.3	25.7
2-Sep	25	24	22	20	20	19	15	14	14	15	14	16	19	22	21	22	24	23	20	13	12	A	13	13	18.2	24.9
3-Sep	13	14	16	16	13	6	2	6	11	13	19	23	24	25	25	25	23	20	18	15	A	5	4	3	14.6	25.5
4-Sep	3	1	1	1	1	1	1	5	10	17	23	31	29	26	27	25	23	23	22	A	17	18	14	3	14.0	31.3
5-Sep	5	4	7	7	6	2	6	10	12	17	20	28	28	29	29	28	26	25	A	25	26	28	27	23	18.1	28.8
6-Sep	18	17	13	8	4	1	1	2	6	12	25	28	32	36	37	36	34	A	31	20	16	18	17	22	18.9	37.3
7-Sep	18	9	10	16	10	3	4	7	15	22	28	29	29	29	30	29	A	27	24	14	3	1	1	1	15.6	29.6
8-Sep	1	1	1	2	1	1	1	2	8	12	21	27	30	33	35	A	32	33	31	22	9	2	6	11	14.0	34.6
9-Sep	8	6	7	3	2	1	1	5	9	17	22	26	29	32	A	30	30	32	28	25	20	21	20	21	17.2	32.1
10-Sep	22	18	19	19	15	9	2	3	13	21	29	36	38	A	40	39	40	40	36	18	12	20	16	7	22.3	39.7
11-Sep	12	14	16	25	28	27	25	28	29	29	32	33	A	36	37	37	38	36	35	22	10	13	13	9	25.3	37.7
12-Sep	6	4	4	4	5	2	3	2	5	12	18	A	34	36	37	36	35	32	29	21	17	21	20	20	17.5	36.8
13-Sep	19	18	18	17	17	15	12	12	14	15	A	18	20	22	23	24	26	24	23	20	16	15	13	12	18.0	25.7
14-Sep	11	10	9	7	7	3	2	2	3	A	8	8	14	25	31	33	36	35	26	15	18	19	22	20	15.8	35.6
15-Sep	4	5	7	6	2	1	1	1	A	10	15	18	26	33	38	31	27	21	19	13	11	13	15	13	14.4	37.7
16-Sep	11	N	N	N	N	10	8	A	9	12	12	12	18	23	21	20	21	20	17	23	26	26	24	23	17.7	26.2
17-Sep	21	20	20	18	17	17	A	14	20	25	27	28	29	29	29	29	29	28	25	22	19	18	17	18	22.6	29.4
18-Sep	15	14	12	11	7	A	1	4	6	8	9	12	12	13	28	30	26	23	27	32	30	25	26	16.5	32.3	
19-Sep	23	24	25	24	A	19	15	18	22	25	25	26	C	C	C	25	25	25	23	20	22	21	20	20	22.3	25.8
20-Sep	18	13	9	A	3	1	1	3	10	13	17	18	25	33	37	39	38	35	29	28	26	26	24	23	20.4	38.7
21-Sep	17	8	A	21	10	2	2	7	10	11	10	11	10	12	14	12	16	16	24	20	13	26	30	28	14.4	30.5
22-Sep	23	A	30	31	31	28	19	16	23	25	23	24	27	29	29	29	21	20	13	5	1	1	2	2	19.7	31.0
23-Sep	A	16	16	14	10	7	4	4	10	15	20	18	26	32	40	45	46	44	42	40	37	37	33	A	25.2	45.8
24-Sep	30	27	28	29	29	25	23	23	22	21	23	25	29	31	33	33	36	33	25	20	28	29	A	31	27.5	35.6
25-Sep	28	25	22	22	19	20	18	16	15	16	15	13	17	26	30	33	25	16	14	18	35	A	34	32	22.2	35.5
26-Sep	32	31	30	30	28	22	16	5	13	23	27	30	33	34	32	31	30	30	24	21	A	22	27	24	25.8	34.1
27-Sep	20	13	12	10	7	4	2	4	10	15	29	32	33	34	33	33	32	32	31	A	29	29	26	27	21.6	33.6
28-Sep	24	27	25	25	26	25	24	24	26	26	27	27	27	27	27	27	27	27	A	16	19	20	18	14	24.1	27.2
29-Sep	5	9	10	14	15	15	13	11	13	14	16	15	17	20	22	25	25	A	15	15	11	2	1	1	13.2	24.8
30-Sep	3	1	9	19	15	4	12	10	18	34	34	33	32	31	30	29	A	31	30	29	27	28	26	27	22.3	34.4
15.1 13.5 14.3 15.1 12.5 9.9 8.2 9.0 13.1 17.3 20.6 22.5 25.0 27.3 29.1 29.2 28.9 27.5 25.0 20.4 19.1 18.9 18.2 17.2																								Diurnal Average		
31.6 30.6 30.3 31.0 30.9 27.9 24.8 27.6 28.6 33.6 34.4 36.2 38.5 36.1 39.7 44.5 45.8 44.4 42.0 39.8 37.3 36.6 33.8 31.7																								Diurnal Maximum		
C - Calibration N - Not Valid A - Automated Daily Zero Span																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 82 ppb 24-hr na																										

Hourly Averages

Ozone (O₃) - ppb
Henry Pirker - September 2011



Hourly Maximums

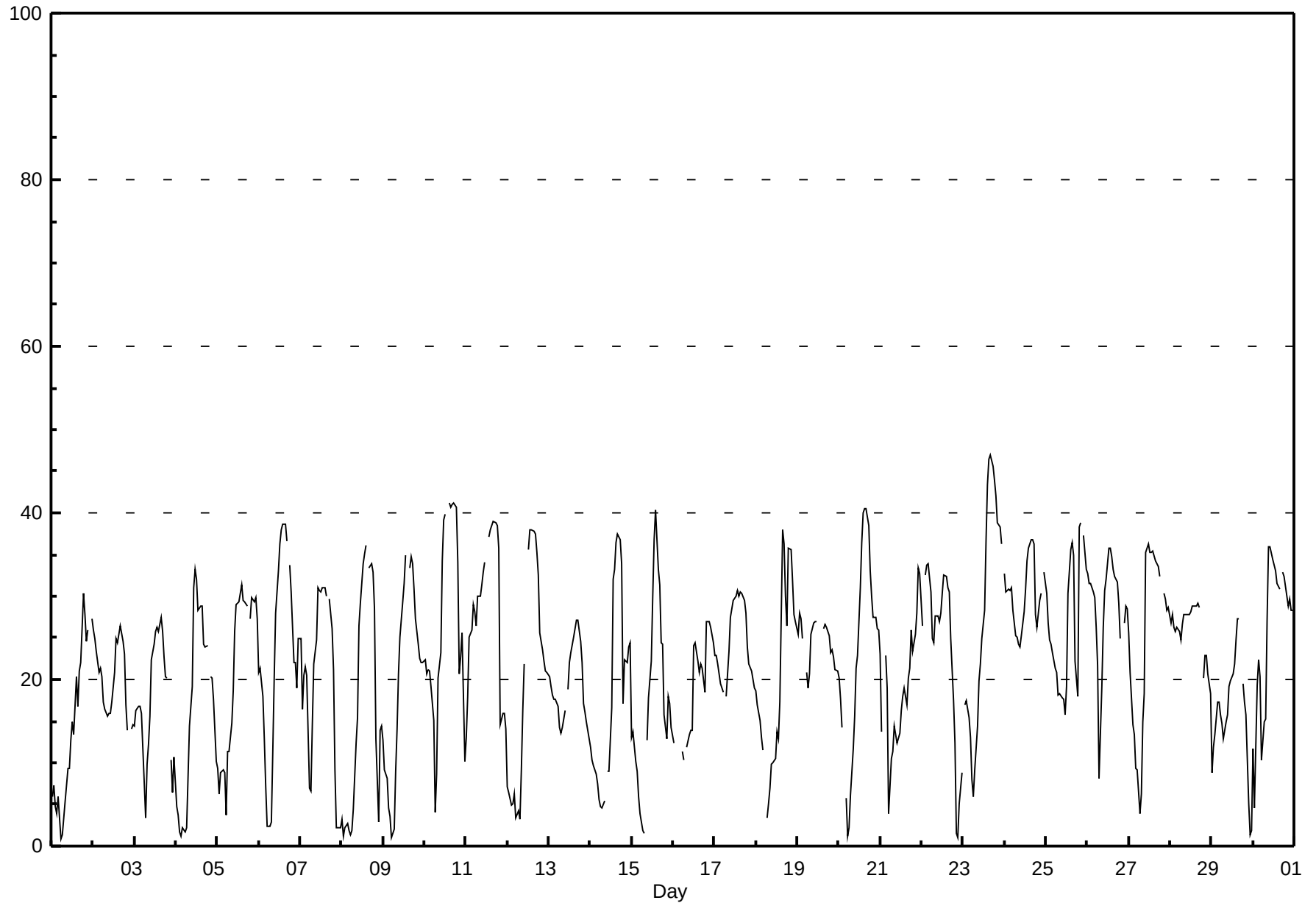
Ozone (O₃) - ppb

Henry Pirker - September 2011

Maximum Value: 46.9 ppb on Sep 23 17:00																					Maximum Daily Average: 30.2 ppb on Sep 24										Hours in Service: 720	
Minimum Value: 1 ppb on Sep 1 06:00																					Minimum Daily Average: 13.7 ppb on Sep 1										Hours of Data: 682	
Maximum Diurnal Average: 31.9 ppb at hour 17																					Minimum Diurnal Average: 10.6 ppb at hour 7										Hours of Missing Data: 38	
Monthly Average: 21.90 ppb																					Percentiles: P ₁ = 1.3 P ₁₀ = 6.3 Q ₁ = 14.4 Median = 22.8 Q ₃ = 29.6 P ₉₀ = 35.2 P ₉₉ = 40.9										Hours of Calibration: 34	
																					Percent Operational Time: 99.4											
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24								
1-Sep	6	7	5	4	6	1	1	3	5	9	9	13	15	13	20	17	21	22	30	28	25	26	A	27	13.7	30.4						
2-Sep	26	25	23	21	21	20	17	16	16	16	16	17	21	25	24	25	26	25	23	17	14	A	14	15	20.2	26.4						
3-Sep	14	16	17	17	16	12	3	10	12	16	22	24	26	26	26	27	26	23	20	20	A	10	7	11	17.4	27.5						
4-Sep	5	4	2	1	2	2	2	8	14	19	31	33	32	28	29	29	24	24	24	A	20	20	18	10	16.6	33.3						
5-Sep	9	6	9	9	9	4	11	11	15	19	26	29	29	30	31	29	29	29	A	27	30	29	30	27	20.8	31.4						
6-Sep	21	21	18	13	7	2	2	3	11	20	28	33	36	38	39	39	37	A	34	31	22	22	19	25	22.6	38.7						
7-Sep	25	16	21	21	20	7	7	15	22	25	31	31	31	31	31	30	A	30	26	21	9	2	2	2	19.8	31.1						
8-Sep	3	1	2	3	2	1	2	4	12	15	26	29	34	35	36	A	33	34	33	28	13	3	14	14	16.5	36.0						
9-Sep	13	9	8	5	4	1	2	9	14	21	25	29	32	35	A	33	35	34	31	27	24	22	22	22	19.9	34.8						
10-Sep	22	21	21	21	19	15	4	9	20	23	34	39	40	A	41	41	41	41	41	34	21	23	26	10	26.4	41.2						
11-Sep	13	18	25	26	29	28	27	30	30	31	33	34	A	37	38	38	39	39	38	36	15	16	16	14	28.3	39.0						
12-Sep	7	6	5	5	6	3	4	3	9	16	22	A	36	38	38	38	37	35	32	26	24	22	21	21	19.8	37.9						
13-Sep	20	19	18	18	18	17	14	14	14	16	A	19	22	23	25	26	27	27	25	22	17	16	15	13	19.4	27.1						
14-Sep	12	10	10	9	7	6	5	5	5	A	9	9	17	32	33	36	37	37	34	17	22	22	24	24	18.4	37.4						
15-Sep	13	14	10	9	6	4	2	2	A	13	18	22	30	37	40	33	31	24	24	16	13	18	17	14	17.8	40.4						
16-Sep	12	N	N	N	N	11	10	A	12	13	14	14	24	24	22	21	22	21	18	27	27	27	26	24	19.6	26.9						
17-Sep	23	23	22	19	19	18	A	18	23	27	28	29	30	31	30	30	30	29	28	24	22	21	20	19	24.6	30.6						
18-Sep	19	17	15	13	11	A	3	5	7	10	10	10	14	13	17	38	36	30	26	36	36	32	28	27	19.7	38.0						
19-Sep	25	28	27	25	A	21	19	21	25	27	27	27	C	C	C	26	27	26	25	23	23	23	21	21	24.4	27.9						
20-Sep	20	18	14	A	6	1	2	6	12	16	21	23	31	36	40	41	40	38	33	30	27	27	26	26	23.3	40.6						
21-Sep	23	14	A	23	19	4	10	11	14	13	12	14	16	18	19	17	20	21	26	23	25	28	33	33	19.1	33.5						
22-Sep	26	A	33	34	34	30	25	24	28	28	27	28	30	33	32	31	30	25	17	12	1	1	5	9	23.7	34.0						
23-Sep	A	17	17	15	13	8	6	9	14	20	22	25	28	37	43	46	47	46	44	42	39	38	36	A	27.9	46.9						
24-Sep	33	31	31	31	31	28	25	25	24	24	25	28	31	34	36	37	37	36	28	26	29	30	A	33	30.2	36.8						
25-Sep	30	27	25	24	23	21	21	18	18	18	18	16	19	30	36	36	35	22	18	38	39	A	37	33	26.2	38.8						
26-Sep	33	32	31	31	30	26	22	8	19	26	31	32	36	36	35	33	32	32	29	25	A	27	29	29	28.8	35.8						
27-Sep	26	21	15	13	9	9	4	6	15	18	35	36	35	35	35	34	34	33	32	A	30	30	28	29	24.5	36.3						
28-Sep	27	28	26	26	26	26	25	27	28	28	28	28	28	29	29	29	29	29	A	20	23	23	21	18	26.0	29.1						
29-Sep	9	12	13	17	17	16	15	13	15	16	19	20	21	22	25	27	27	A	19	17	16	5	1	2	15.9	27.3						
30-Sep	12	5	19	22	20	10	15	15	27	36	36	34	34	33	32	31	A	33	32	31	29	30	28	28	25.8	35.9						
18.2 16.6 17.2 17.0 15.4 12.2 10.6 12.0 16.7 20.0 23.6 25.1 27.7 30.0 31.5 31.7 31.9 30.2 28.3 25.9 22.7 21.2 20.9 20.0																									Diurnal Average							
32.8 31.6 32.6 33.8 34.0 26.5 30.0 30.0 35.9 35.9 39.1 39.8 37.9 43.4 46.4 46.9 45.6 43.9 42.0 38.9 38.4 37.3 33.2																									Diurnal Maximum							
C - Calibration N - Not Valid A - Automated Daily Zero Span																																

Hourly Maximums

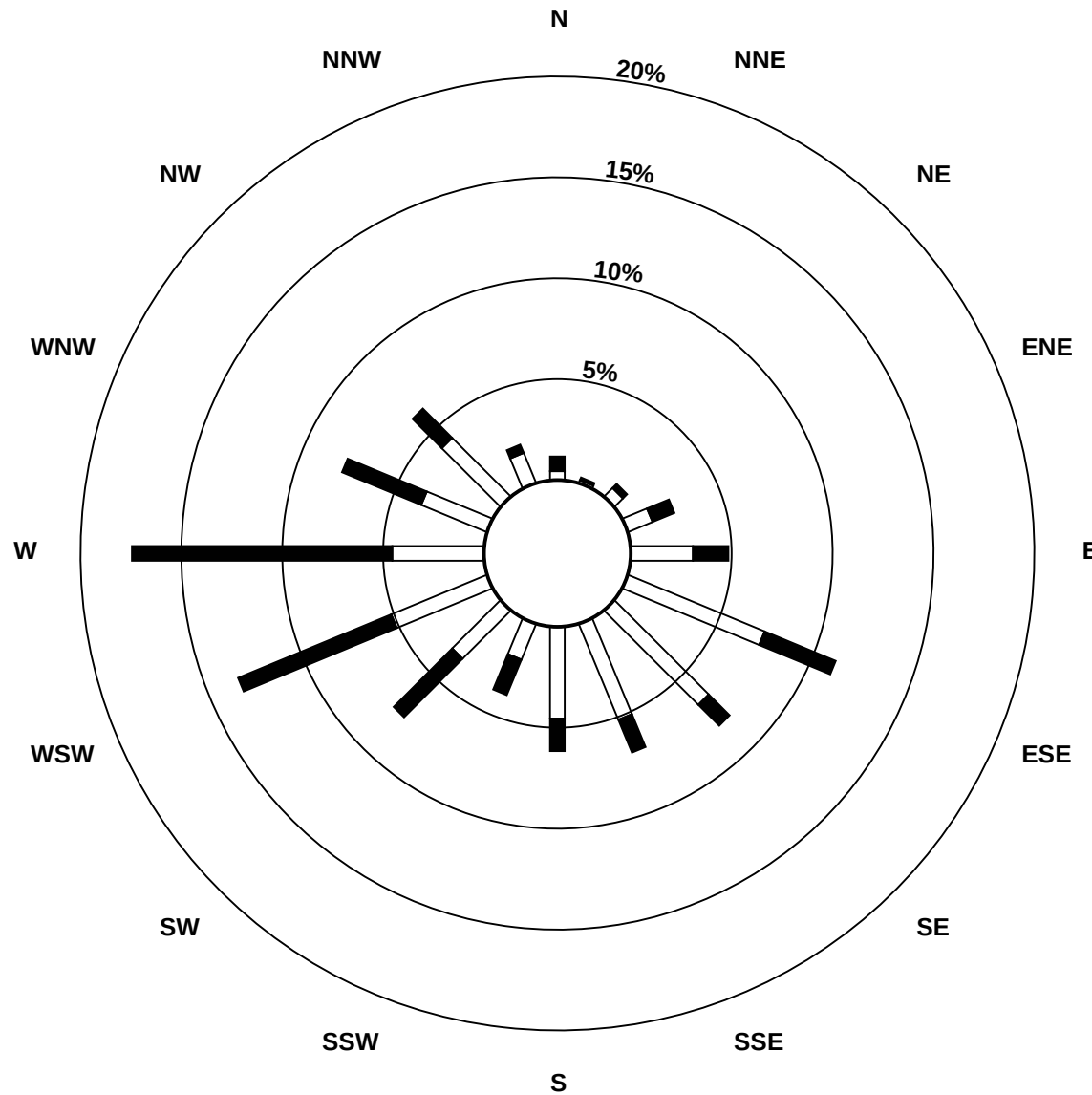
Ozone (O₃) - ppb
Henry Pirker - September 2011



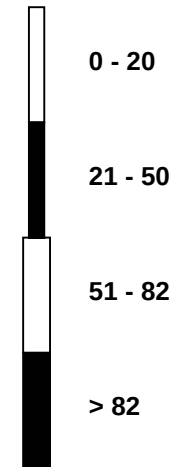
Pollutant Rose

Ozone (O₃) - ppb

Henry Pirker - September 2011



Pollutant Classes (ppb)



Eight Hour Running Averages

Ozone (O₃) - ppb

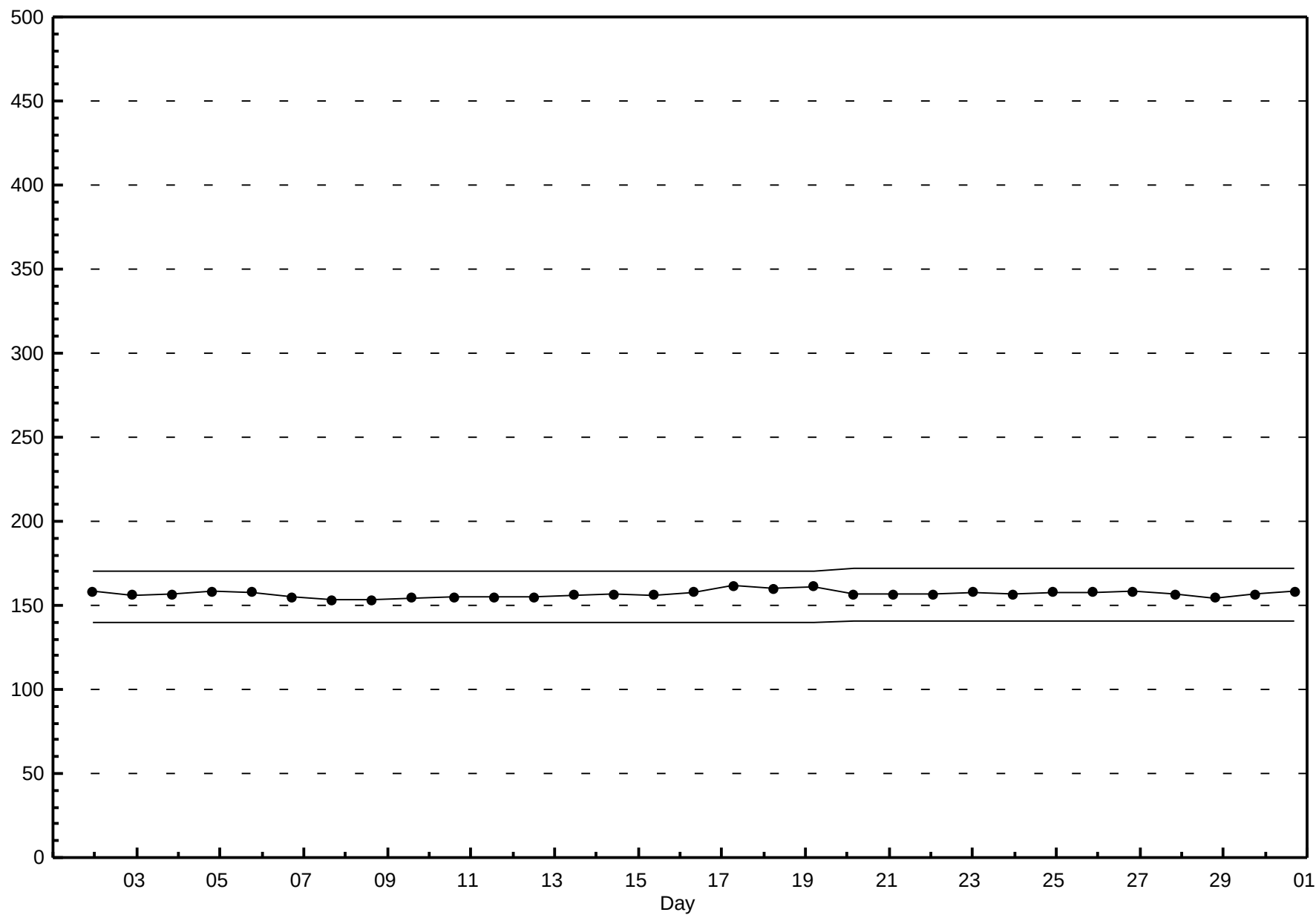
Henry Pirker - September 2011

Maximum Value: 41.2 ppb on Sep 23 22:00																								Hours in Service: 720	
Minimum Value: 1.2 ppb on Sep 8 07:00																								Hours of Data: 706	
Percentiles: P ₁ = 1.7 P ₁₀ = 6.8 Q ₁ = 12.7 Median = 20.0 Q ₃ = 25.6 P ₉₀ = 29.6 P ₉₉ = 37.1																								Hours of Missing Data: 14	
																								Hours of Calibration: 6	
																								Percent Operational Time: 98.9	
Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Sep	16	12	9	7	5	4	2	2	2	3	3	4	6	7	9	10	12	13	15	17	19	20	21	23	23.0
2-Sep	24	24	24	23	23	22	21	20	19	17	16	16	16	16	17	18	19	20	21	20	19	19	18	17	24.4
3-Sep	15	14	13	14	14	13	12	11	10	10	11	11	13	15	18	20	22	23	23	22	21	19	16	12	22.9
4-Sep	9	7	4	2	2	2	2	2	3	5	7	11	15	18	21	24	25	26	26	25	23	22	20	17	25.8
5-Sep	14	12	10	9	8	6	5	6	7	8	10	13	15	19	22	24	25	26	27	27	27	27	26	26	27.4
6-Sep	25	23	22	20	17	14	11	8	7	6	8	10	14	18	22	27	30	33	34	32	30	28	25	23	33.6
7-Sep	20	19	16	16	15	13	12	10	9	11	13	15	17	21	24	26	28	29	28	26	22	18	14	10	28.7
8-Sep	9	6	3	2	1	1	1	1	2	4	6	9	13	17	21	24	27	30	31	31	28	23	19	18	31.4
9-Sep	15	12	9	6	6	5	5	4	4	5	7	10	14	18	20	24	27	29	30	30	28	27	26	25	29.7
10-Sep	24	22	21	20	19	18	16	14	12	13	14	16	19	20	26	31	35	37	38	36	32	31	28	24	38.5
11-Sep	20	17	14	15	17	18	19	22	24	26	28	29	29	30	32	33	34	35	36	34	31	28	25	22	36.0
12-Sep	18	14	10	8	7	6	4	4	4	5	6	7	11	16	21	25	30	33	34	33	31	29	26	24	34.2
13-Sep	23	21	19	19	19	18	17	16	15	15	15	15	15	16	18	19	21	22	22	23	22	21	20	19	22.6
14-Sep	17	15	13	12	10	9	8	6	5	5	5	5	6	9	13	18	22	24	26	27	27	27	25	24	27.3
15-Sep	20	16	14	13	11	9	6	4	3	4	5	7	10	15	20	24	25	26	27	26	24	22	19	17	26.6
16-Sep	15	14	13	N	N	N	N	N	N	N	N	11	12	13	15	16	17	18	19	20	21	22	22	22	22.5
17-Sep	22	22	23	22	21	20	19	18	18	19	20	21	23	25	25	27	28	28	28	27	26	25	23	22	28.5
18-Sep	20	19	17	16	14	14	11	9	8	7	7	6	7	7	9	12	15	17	19	21	24	26	28	27	27.6
19-Sep	26	26	26	26	25	24	22	21	21	21	21	21	22	22	N	N	N	N	N	N	23	23	23	22	26.4
20-Sep	21	20	18	17	15	12	9	7	6	6	7	8	11	15	20	24	28	30	32	33	33	32	30	29	33.0
21-Sep	26	23	22	21	18	15	12	10	9	9	9	8	8	9	11	11	12	13	14	16	16	18	20	22	25.9
22-Sep	23	23	24	26	28	29	27	25	25	25	25	24	23	23	25	26	26	25	24	22	18	15	11	8	28.7
23-Sep	6	6	6	7	9	9	10	10	10	10	10	11	13	16	21	26	30	34	37	39	41	41	40	40	41.2
24-Sep	38	35	33	32	30	29	27	27	26	25	24	24	24	25	26	27	29	30	31	30	30	30	29	29	37.6
25-Sep	28	27	26	27	25	24	23	21	20	19	18	17	16	17	19	21	22	22	22	22	25	24	25	25	27.6
26-Sep	26	28	30	32	31	30	27	24	22	21	20	21	21	23	25	28	30	31	30	29	29	27	26	25	31.9
27-Sep	24	21	20	18	17	15	11	9	8	8	10	13	16	20	24	27	30	32	33	33	32	31	30	29	32.6
28-Sep	28	27	27	26	26	26	25	25	25	25	26	26	26	26	26	27	27	27	27	25	24	23	22	20	28.2
29-Sep	17	14	14	14	13	12	12	11	12	13	14	14	14	15	16	18	19	20	20	20	19	16	13	10	20.1
30-Sep	7	6	5	6	6	7	8	9	11	15	18	20	22	26	28	30	32	32	31	30	30	29	28	28	31.9
37.6 35.1 33.1 31.9 30.8 29.6 27.4 26.8 25.8 25.8 27.7 28.7 28.8 30.1 31.8 33.2 34.7 37.4 38.5 39.3 40.6 41.2 40.4 39.9																									
Diurnal Maximums																									
N - Not Valid																									

Span Responses

Ozone (O₃)

Henry Pirker - September 2011



Hourly Averages

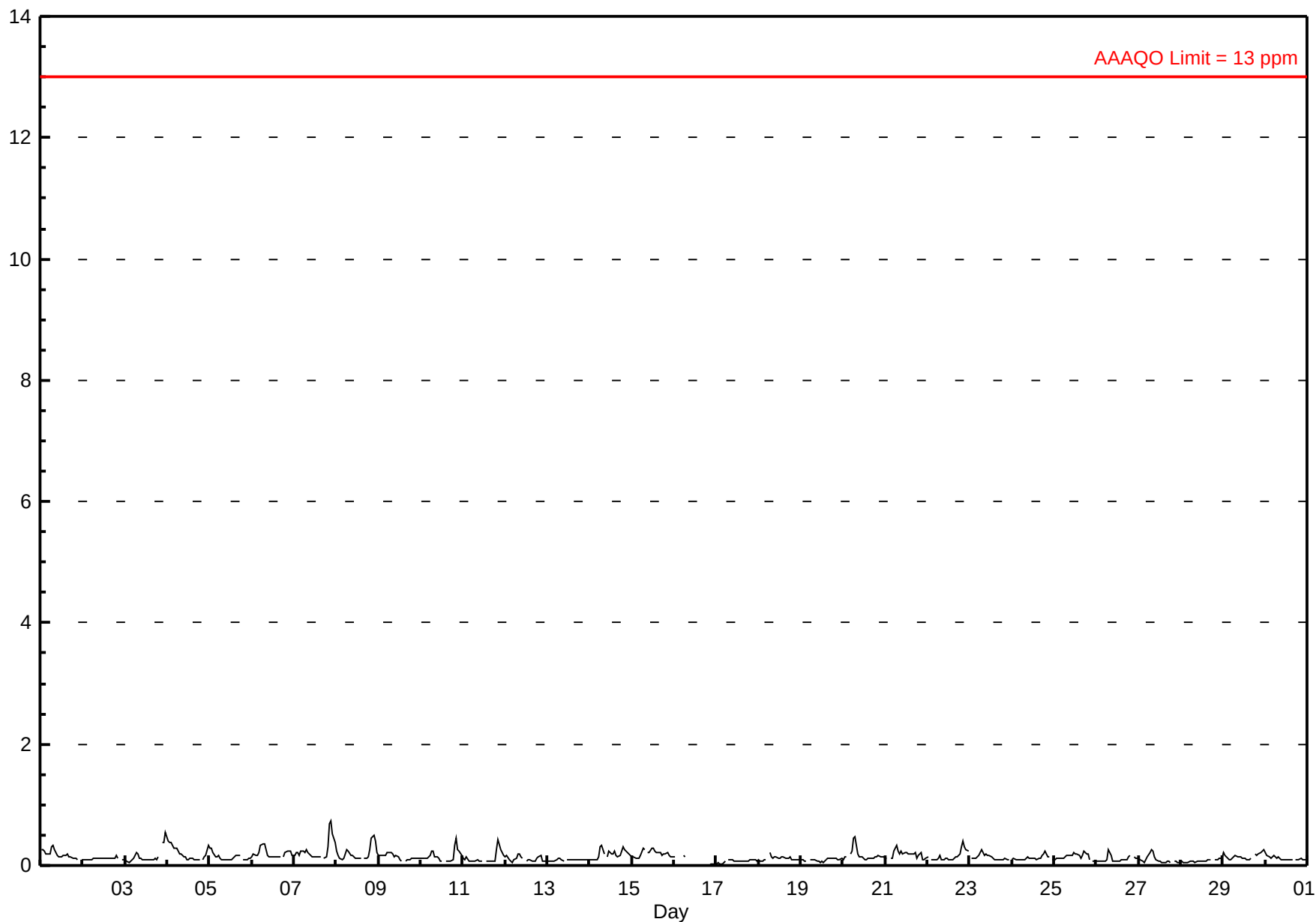
Carbon Monoxide (CO) - ppm

Henry Pirker - September 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 0.73 ppm on Sep 7 22:00 Maximum Daily Average: 0.25 ppm on Sep 7																					Hours in Service: 720						
Minimum Value: 0.0 ppm on Sep 16 12:00 Minimum Daily Average: 0.07 ppm on Sep 17 Maximum Diurnal Average: 0.20 ppm at hour 8 Minimum Diurnal Average: 0.11 ppm at hour 4 Monthly Average: 0.141 ppm Percentiles: P ₁ = -0.01 P ₁₀ = 0.07 Q ₁ = 0.09 Median = 0.12 Q ₃ = 0.17 P ₉₀ = 0.24 P ₉₉ = 0.46																					Hours of Data: 683						
																					Hours of Missing Data: 37						
																					Hours of Calibration: 33						
																					Percent Operational Time: 99.4						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Sep	0.3	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	A	0.1	0.18	0.32
2-Sep	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	0.1	A	0.1	0.1	0.11	0.15	
3-Sep	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	A	0.4	0.4	0.6	0.15	0.55	
4-Sep	0.4	0.4	0.4	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	A	0.1	0.1	0.2	0.3	0.20	0.41	
5-Sep	0.3	0.3	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	A	0.1	0.1	0.1	0.1	0.1	0.14	0.29	
6-Sep	0.1	0.2	0.2	0.2	0.2	0.3	0.4	0.4	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	A	0.1	0.2	0.2	0.2	0.2	0.2	0.20	0.36	
7-Sep	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	A	0.1	0.1	0.3	0.7	0.7	0.5	0.4	0.25	0.73	
8-Sep	0.2	0.2	0.1	0.1	0.1	0.2	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	A	0.1	0.1	0.1	0.3	0.5	0.5	0.4	0.2	0.20	0.50	
9-Sep	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	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	0.14	0.22	
10-Sep	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	A	0.1	0.1	0.1	0.1	0.1	0.3	0.5	0.3	0.2	0.2	0.16	0.46	
11-Sep	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	A	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.4	0.3	0.2	0.2	0.12	0.42	
12-Sep	0.1	0.2	0.1	0.1	0.0	0.1	0.1	0.2	0.2	0.1	0.1	A	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.11	0.20	
13-Sep	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	A	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.09	0.13	
14-Sep	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.3	0.2	A	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.19	0.32	
15-Sep	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.3	A	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.19	0.29	
16-Sep	0.1	N	N	N	N	0.2	0.1	A	0.1	C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--	0.16	
17-Sep	0.0	0.0	0.0	0.0	0.0	0.1	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	0.1	0.1	0.07	0.10	
18-Sep	0.1	0.1	0.1	0.1	0.1	A	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	0.12	0.21	
19-Sep	0.1	0.1	0.1	0.1	A	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.09	0.13	
20-Sep	0.1	0.2	0.1	A	0.2	0.2	0.4	0.5	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.17	0.47	
21-Sep	0.1	0.1	A	0.1	0.1	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.1	0.1	0.1	0.18	0.34	
22-Sep	0.1	A	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.3	0.4	0.3	0.2	0.2	0.16	0.40	
23-Sep	A	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	A	0.14	0.26	
24-Sep	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	0.1	A	0.1	0.12	0.23	
25-Sep	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.1	A	0.1	0.1	0.15	0.23	
26-Sep	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	A	0.1	0.1	0.1	0.10	0.26	
27-Sep	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	A	0.1	0.1	0.1	0.1	0.10	0.25	
28-Sep	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	A	0.1	0.1	0.1	0.1	0.08	0.12	
29-Sep	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	A	0.2	0.2	0.2	0.2	0.2	0.3	0.15	0.27	
30-Sep	0.2	0.2	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	A	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.12	0.21	
																									Diurnal Average		
																									Diurnal Maximum		
C - Calibration N - Not Valid A - Automated Daily Zero Span																											
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 13 ppm 24-hr na																											

Hourly Averages

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



Hourly Maximums

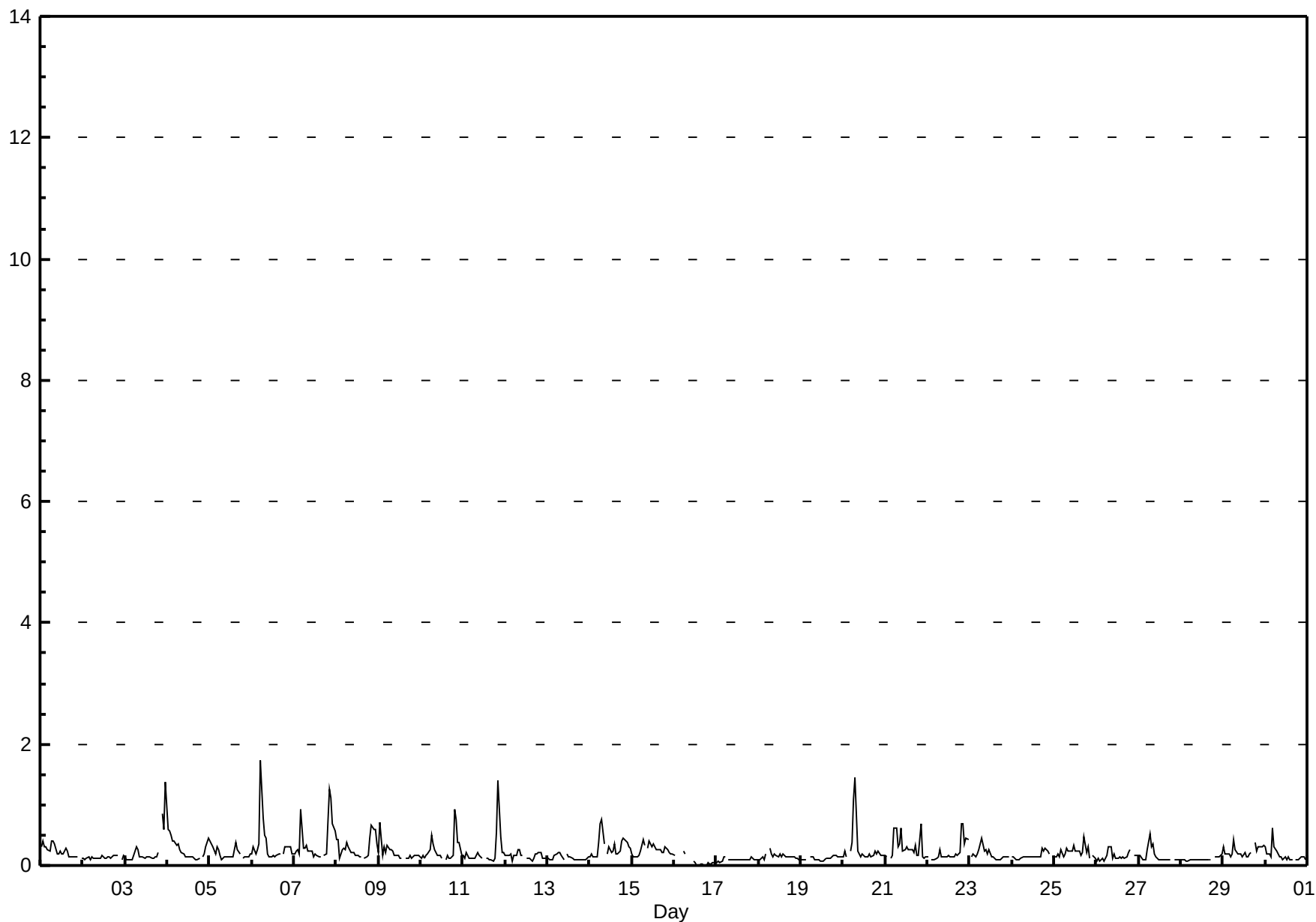
Carbon Monoxide (CO) - ppm

Henry Pirker - September 2011

Maximum Value: 1.73 ppm on Sep 6 06:00																					Maximum Daily Average: 0.39 ppm on Sep 7				Hours in Service: 720		
Minimum Value: 0.0 ppm on Sep 16 14:00																					Minimum Daily Average: 0.10 ppm on Sep 17				Hours of Data: 683		
Maximum Diurnal Average: 0.34 ppm at hour 21																					Minimum Diurnal Average: 0.14 ppm at hour 17				Hours of Missing Data: 37		
Monthly Average: 0.212 ppm																					Percentiles: P ₁ = 0.02 P ₁₀ = 0.10 Q ₁ = 0.12 Median = 0.16 Q ₃ = 0.24 P ₉₀ = 0.36 P ₉₉ = 1.08				Hours of Calibration: 33		
																					Percent Operational Time: 99.4						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Sep	0.3	0.4	0.3	0.3	0.2	0.2	0.4	0.4	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	A	0.1	0.24	0.40
2-Sep	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	A	A	0.1	0.2	0.13	0.16
3-Sep	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.2	0.2	A	0.8	0.6	1.4	0.25	1.39	
4-Sep	0.6	0.6	0.5	0.4	0.4	0.3	0.4	0.3	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	A	0.1	0.2	0.3	0.5	0.26	0.59	
5-Sep	0.4	0.4	0.3	0.2	0.3	0.3	0.2	0.1	0.2	0.1	0.2	0.1	0.1	0.2	0.3	0.4	0.3	0.2	A	0.1	0.1	0.2	0.2	0.2	0.21	0.40	
6-Sep	0.2	0.3	0.2	0.2	0.4	1.7	0.8	0.5	0.5	0.2	0.1	0.1	0.2	0.1	0.2	0.2	0.2	A	0.2	0.3	0.3	0.3	0.3	0.2	0.33	1.73	
7-Sep	0.2	0.2	0.3	0.2	0.9	0.3	0.3	0.3	0.2	0.2	0.2	0.1	0.2	0.2	0.1	0.1	A	0.2	0.2	0.7	1.3	1.1	0.7	0.6	0.39	1.27	
8-Sep	0.4	0.4	0.1	0.3	0.3	0.3	0.4	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.1	0.2	0.2	0.4	0.7	0.6	0.6	0.4	0.30	0.66	
9-Sep	0.2	0.7	0.2	0.3	0.2	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.1	0.1	A	0.1	0.1	0.1	0.2	0.1	0.2	0.2	0.2	0.2	0.21	0.71	
10-Sep	0.1	0.2	0.1	0.2	0.2	0.3	0.5	0.4	0.3	0.2	0.2	0.2	0.1	A	0.1	0.2	0.1	0.1	0.1	0.2	0.9	0.8	0.4	0.4	0.2	0.26	0.94
11-Sep	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	A	0.1	0.1	0.1	0.1	0.1	0.1	0.6	1.4	0.5	0.2	0.2	0.23	1.40	
12-Sep	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.3	0.3	0.2	0.2	A	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.16	0.27	
13-Sep	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	A	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.13	0.22	
14-Sep	0.2	0.2	0.2	0.2	0.1	0.4	0.7	0.8	0.4	A	0.2	0.3	0.2	0.2	0.3	0.2	0.2	0.2	0.4	0.4	0.4	0.4	0.3	0.3	0.31	0.75	
15-Sep	0.2	0.1	0.1	0.1	0.2	0.2	0.4	0.3	A	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.25	0.44	
16-Sep	0.2	N	N	N	N	0.2	0.2	A	0.2	C	C	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	--	0.23	
17-Sep	0.1	0.1	0.1	0.1	0.1	0.1	A	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.10	0.15	
18-Sep	0.1	0.1	0.1	0.1	0.2	A	0.3	0.2	0.1	0.2	0.2	0.1	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.15	0.29	
19-Sep	0.1	0.1	0.1	0.1	A	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.2	0.2	0.12	0.16	
20-Sep	0.1	0.2	0.1	A	0.2	0.4	1.1	1.4	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.28	1.45	
21-Sep	0.2	0.1	A	0.1	0.2	0.6	0.6	0.3	0.3	0.6	0.2	0.3	0.3	0.3	0.3	0.3	0.2	0.3	0.2	0.2	0.7	0.2	0.1	0.2	0.29	0.69	
22-Sep	0.2	A	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.7	0.7	0.4	0.4	0.4	0.23	0.70	
23-Sep	A	0.2	0.2	0.2	0.2	0.3	0.3	0.4	0.2	0.2	0.2	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	A	0.19	0.44	
24-Sep	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	0.3	0.2	0.3	0.2	0.2	A	0.1	0.16	0.29	
25-Sep	0.1	0.1	0.2	0.1	0.3	0.1	0.2	0.3	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.5	0.2	0.3	0.1	A	0.2	0.1	0.22	0.47	
26-Sep	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.3	0.1	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.3	A	0.2	0.2	0.2	0.15	0.32	
27-Sep	0.2	0.2	0.1	0.1	0.1	0.3	0.5	0.3	0.4	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	A	0.1	0.1	0.1	0.1	0.16	0.52	
28-Sep	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	A	0.1	0.2	0.2	0.2	0.11	0.20	
29-Sep	0.3	0.2	0.2	0.2	0.1	0.2	0.4	0.2	0.2	0.2	0.2	0.1	0.2	0.1	0.1	0.2	0.2	A	0.4	0.2	0.3	0.3	0.3	0.3	0.24	0.42	
30-Sep	0.3	0.2	0.2	0.1	0.6	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	A	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.17	0.62	
0.19 0.21 0.17 0.16 0.22 0.28 0.34 0.31 0.22 0.19 0.17 0.17 0.16 0.15 0.16 0.15 0.15 0.14 0.16 0.17 0.28 0.34 0.27 0.23 0.24																									Diurnal Average		
0.59 0.71 0.50 0.40 0.93 1.73 1.09 1.45 0.45 0.61 0.40 0.33 0.35 0.30 0.35 0.39 0.26 0.47 0.40 0.94 1.40 1.12 0.68 1.39																									Diurnal Maximum		
C - Calibration N - Not Valid A - Automated Daily Zero Span																											

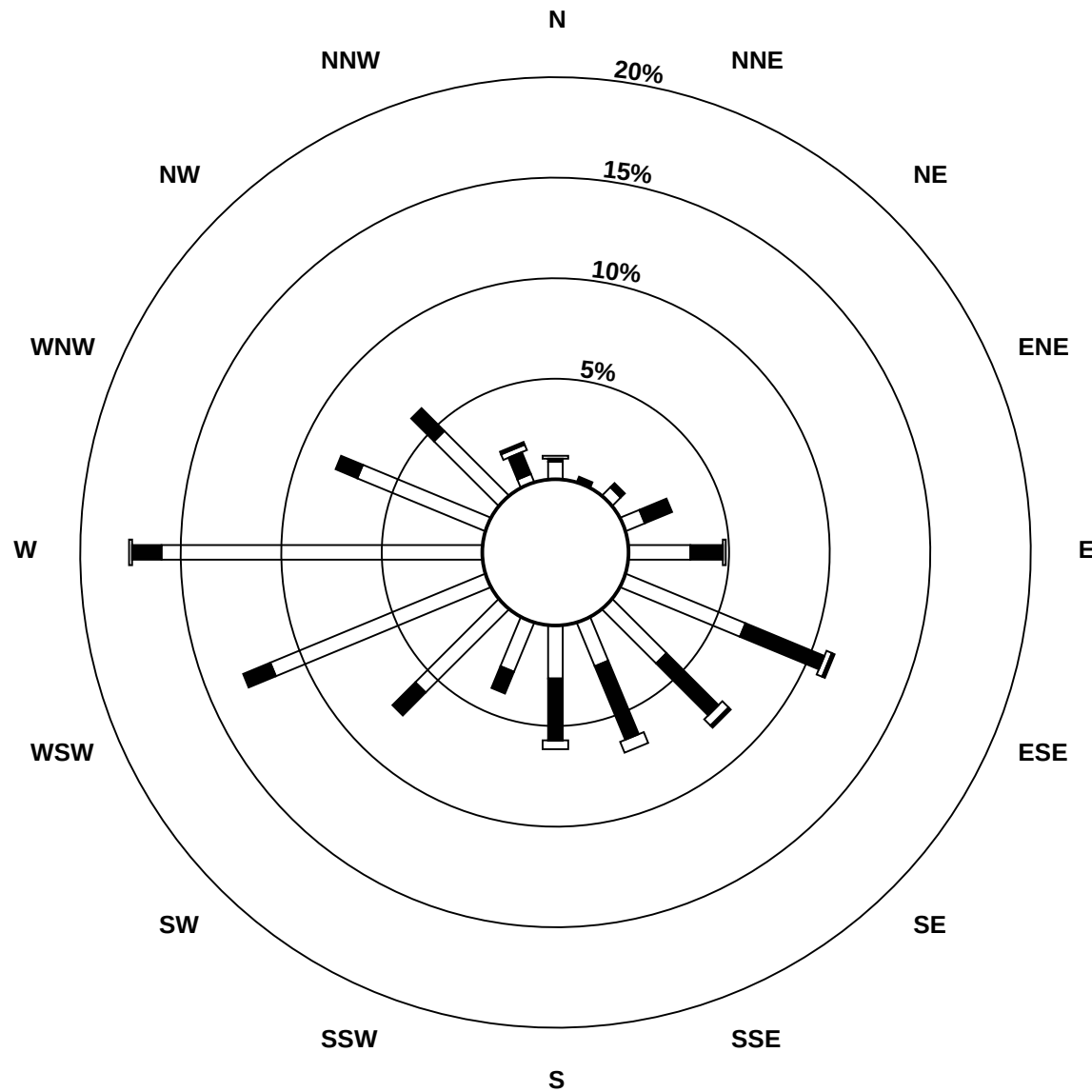
Hourly Maximums

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

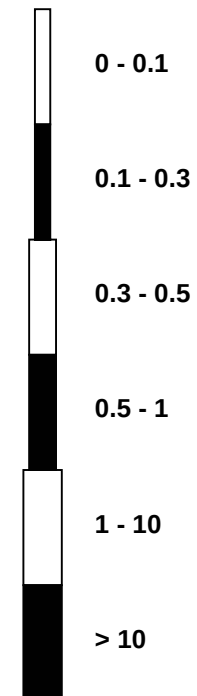


Pollutant Rose

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



Pollutant Classes (ppm)



Eight Hour Running Averages

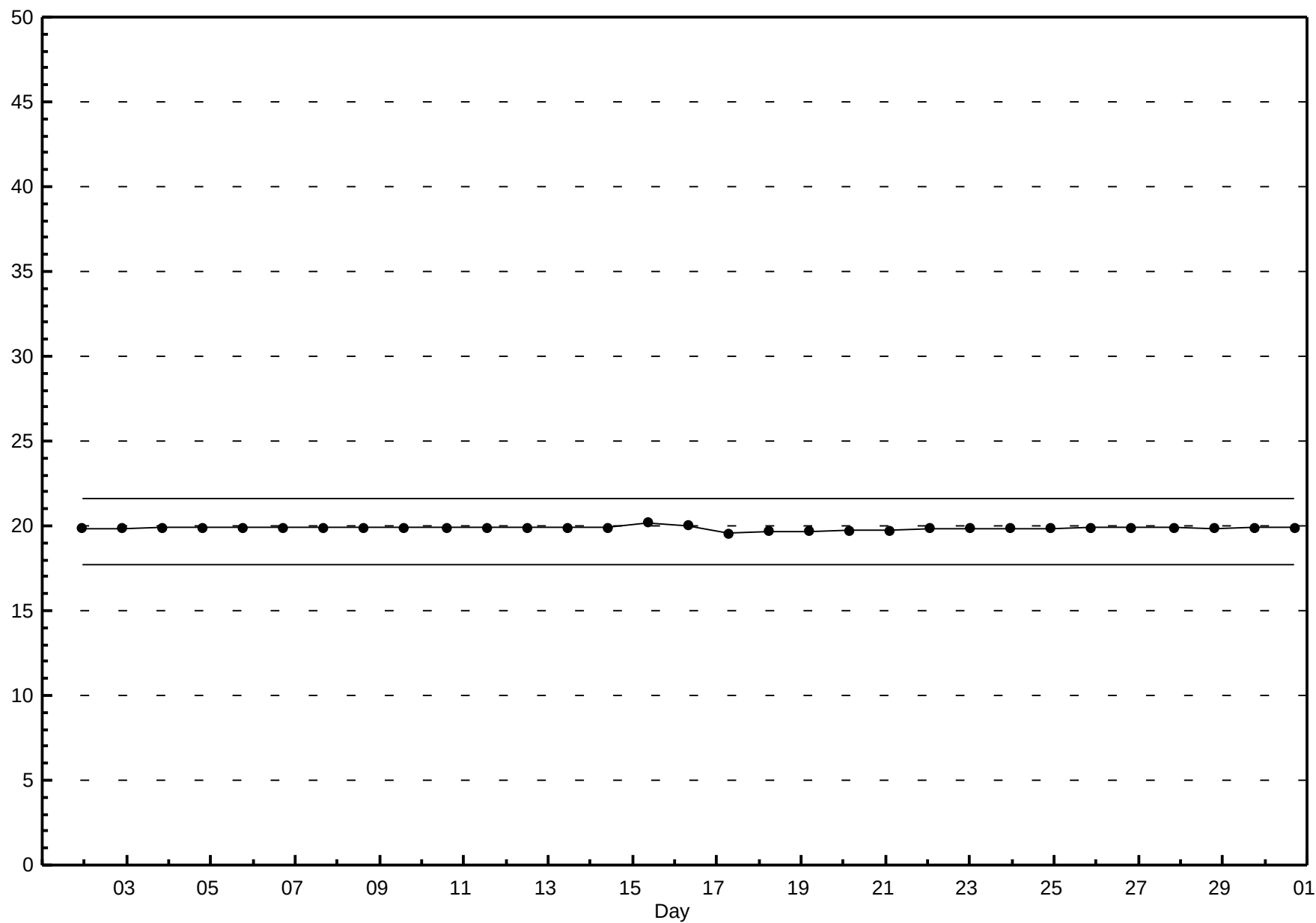
Carbon Monoxide (CO) - ppm

Henry Pirker - September 2011

Number of Exceedences (AAAQO): 8-hr: 0 Maximum Value: 0.42 ppm on Sep 8 00:00																								Hours in Service: 720	
Minimum Value: 0.00 ppm on Sep 16 16:00																								Hours of Data: 708	
Percentiles: P ₁ = 0.00 P ₁₀ = 0.08 Q ₁ = 0.10 Median = 0.13 Q ₃ = 0.18 P ₉₀ = 0.22 P ₉₉ = 0.38																								Hours of Missing Data: 12	
																								Hours of Calibration: 3	
																								Percent Operational Time: 98.8	
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-Sep	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.25
2-Sep	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.12
3-Sep	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	0.2	0.3	0.25
4-Sep	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	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.40
5-Sep	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.22
6-Sep	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.25
7-Sep	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.3	0.4	0.4	0.42
8-Sep	0.4	0.4	0.4	0.4	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.40
9-Sep	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	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.29
10-Sep	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.21
11-Sep	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	0.2	0.2	0.2	0.23
12-Sep	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	0.1	0.1	0.1	0.21
13-Sep	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	0.10
14-Sep	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.23
15-Sep	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.25
16-Sep	0.2	0.2	0.2	N	N	N	N	N	N	N	N	N	N	N	N	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.17
17-Sep	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	0.1	0.1	0.1	0.1	0.1	0.1	0.09
18-Sep	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
19-Sep	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.12
20-Sep	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.26
21-Sep	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.23
22-Sep	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	0.25
23-Sep	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.26
24-Sep	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	0.16
25-Sep	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.18
26-Sep	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	0.13
27-Sep	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.16
28-Sep	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	0.10
29-Sep	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	0.20
30-Sep	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	0.21
0.39 0.40 0.39 0.40 0.39 0.37 0.36 0.31 0.29 0.26 0.26 0.25 0.24 0.25 0.24 0.23 0.23 0.23 0.22 0.21 0.24 0.33 0.38 0.42																									
Diurnal Maximums																									
N - Not Valid																									
Alberta Ambient Air Quality Objectives (AAAQO): 8-hr 5 ppm																									

Span Responses

Carbon Monoxide (CO)
Henry Pirker - September 2011



Hourly Averages

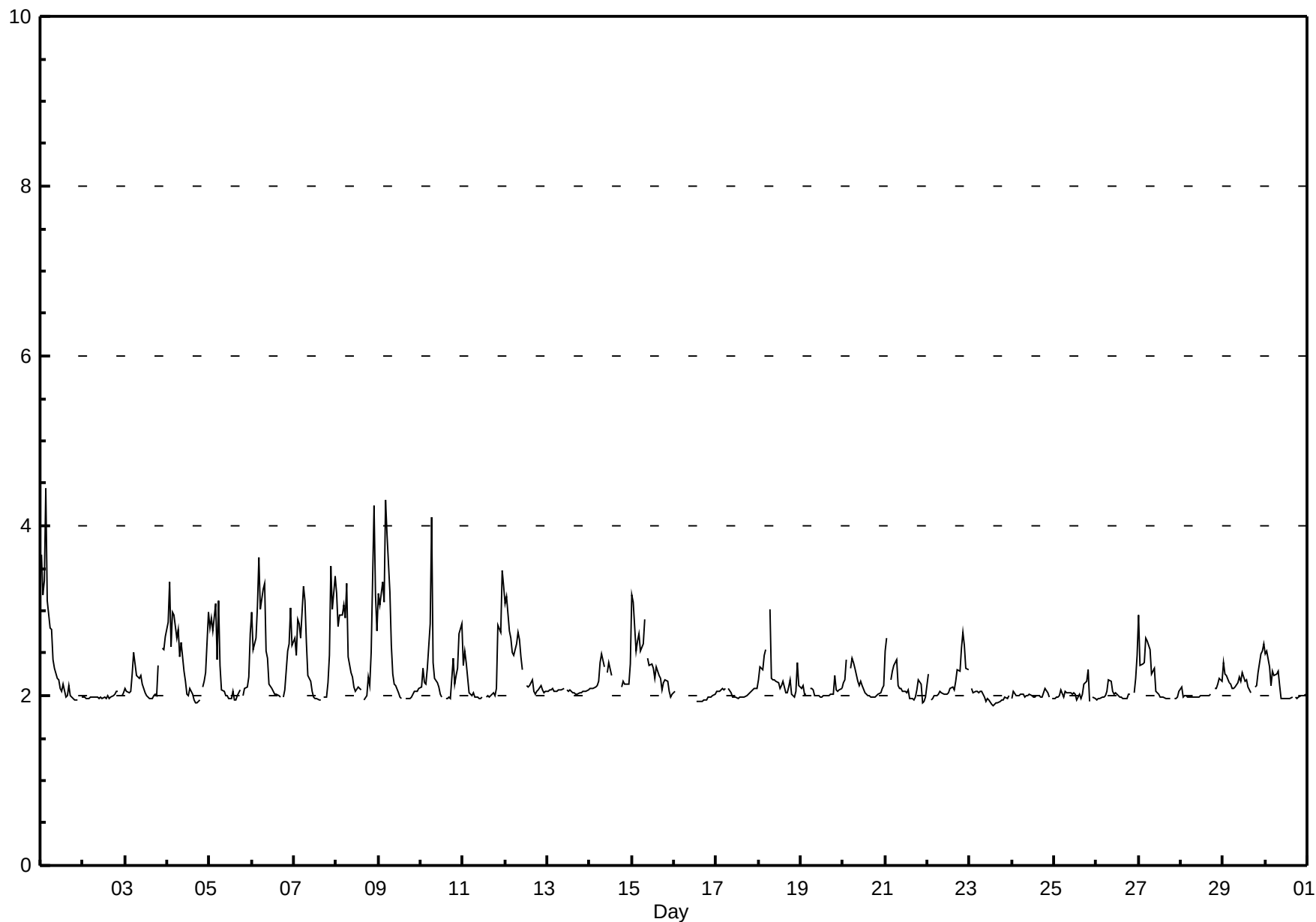
Total Hydrocarbons (THC) - ppm

Henry Pirker - September 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 4.44 ppm on Sep 1 04:00 Maximum Daily Average: 2.59 ppm on Sep 8																					Hours in Service: 720 Hours of Data: 675 Hours of Missing Data: 45 Hours of Calibration: 33 Percent Operational Time: 98.3					
Minimum Value: 1.9 ppm on Sep 23 14:00 Maximum Diurnal Average: 2.49 ppm at hour 7 Monthly Average: 2.216 ppm										Minimum Daily Average: 1.98 ppm on Sep 23 Minimum Diurnal Average: 2.00 ppm at hour 16 Percentiles: P ₁ = 1.92 P ₁₀ = 1.97 Q ₁ = 1.99 Median = 2.06 Q ₃ = 2.28 P ₉₀ = 2.73 P ₉₉ = 3.62																
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Sep	3.7	3.2	3.4	4.4	3.1	2.8	2.8	2.4	2.3	2.2	2.2	2.1	2.0	2.1	2.0	2.0	2.1	2.0	2.0	2.0	1.9	2.0	A	2.0	2.46	4.44
2-Sep	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	1.99	2.05	
3-Sep	2.1	2.1	2.0	2.1	2.3	2.5	2.2	2.2	2.2	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.4	A	2.6	2.5	2.7	2.18	2.70
4-Sep	2.9	3.3	2.6	3.0	2.9	2.7	2.8	2.5	2.6	2.3	2.2	2.0	2.0	2.1	2.0	1.9	1.9	1.9	2.0	A	2.1	2.2	2.3	3.0	2.40	3.34
5-Sep	2.8	2.9	2.8	3.1	2.4	3.1	2.4	2.1	2.1	2.0	2.0	2.0	2.0	2.1	1.9	1.9	2.0	2.1	A	2.0	2.1	2.1	2.2	2.7	2.29	3.11
6-Sep	3.0	2.5	2.7	3.0	3.6	3.0	3.3	3.3	2.5	2.4	2.1	2.1	2.1	2.0	2.0	2.0	2.0	A	2.0	2.1	2.5	2.6	3.0	2.6	2.55	3.63
7-Sep	2.7	2.5	2.9	2.9	2.7	3.3	3.1	2.6	2.2	2.2	2.0	2.0	2.0	2.0	1.9	2.0	A	2.0	2.0	2.1	2.5	3.5	3.0	3.4	2.50	3.53
8-Sep	3.2	2.8	2.9	2.9	3.1	2.9	3.3	2.5	2.3	2.2	2.1	2.1	2.1	2.1	2.1	A	1.9	2.0	2.2	2.1	2.5	4.2	3.2	2.8	2.59	4.24
9-Sep	3.2	3.1	3.3	3.1	4.3	3.9	3.2	2.6	2.3	2.1	2.1	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.1	2.1	2.49	4.31
10-Sep	2.1	2.3	2.2	2.1	2.3	2.8	4.1	2.4	2.2	2.1	2.1	2.0	2.0	A	2.0	2.0	2.0	2.0	2.4	2.1	2.2	2.3	2.7	2.8	2.32	4.10
11-Sep	2.3	2.5	2.4	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.8	2.8	3.5	3.3	2.25	3.48
12-Sep	3.1	3.2	2.8	2.7	2.5	2.5	2.6	2.8	2.7	2.5	2.3	A	2.1	2.1	2.1	2.2	2.1	2.0	2.1	2.1	2.1	2.1	2.0	2.0	2.37	3.17
13-Sep	2.0	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	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.05	2.09
14-Sep	2.1	2.1	2.1	2.1	2.1	2.2	2.4	2.5	2.3	A	2.3	2.4	2.2	N	2.1	M	M	M	2.1	2.2	2.1	2.1	2.1	2.4	2.20	2.49
15-Sep	3.2	3.1	2.5	2.6	2.7	2.5	2.6	2.9	A	2.4	2.4	2.4	2.3	2.2	2.3	2.2	2.2	2.1	2.2	2.2	2.2	2.1	2.0	2.0	2.41	3.19
16-Sep	2.1	N	N	N	N	N	N	N	N	2.0	C	C	C	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	--	2.05
17-Sep	2.0	2.1	2.0	2.1	2.1	2.1	A	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	2.1	2.1	2.1	2.1	2.03	2.09
18-Sep	2.2	2.3	2.3	2.5	2.5	A	3.0	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.2	2.0	2.0	2.1	2.2	2.0	2.0	2.1	2.4	2.1	2.22	3.02
19-Sep	2.1	2.1	2.0	2.0	A	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.2	2.1	2.1	2.1	2.1	2.04	2.23
20-Sep	2.2	2.2	2.4	A	2.3	2.4	2.4	2.3	2.2	2.1	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.13	2.44
21-Sep	2.5	2.7	A	2.2	2.3	2.4	2.4	2.1	2.1	2.1	2.1	2.0	2.0	2.1	2.0	2.0	1.9	2.0	2.1	2.2	2.1	1.9	1.9	2.0	2.13	2.68
22-Sep	2.3	A	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.2	2.3	2.3	2.6	2.7	2.6	2.3	2.3	2.17	2.74
23-Sep	A	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	A	1.98	2.08
24-Sep	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.0	A	2.0	2.00	2.08
25-Sep	2.0	2.0	2.0	2.0	2.1	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.2	2.3	1.9	A	2.0	2.0	2.03	2.31
26-Sep	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.2	2.2	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.2	2.5	2.04	2.48
27-Sep	3.0	2.4	2.4	2.4	2.7	2.6	2.5	2.3	2.3	2.3	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	2.0	2.20	2.95
28-Sep	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.2	2.2	2.03	2.20
29-Sep	2.4	2.3	2.2	2.2	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.3	2.2	2.2	2.1	2.1	2.0	A	2.1	2.1	2.3	2.5	2.5	2.6	2.22	2.60
30-Sep	2.5	2.5	2.3	2.1	2.3	2.2	2.3	2.3	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.10	2.52
2.46 2.44 2.37 2.41 2.45 2.43 2.49 2.29 2.18 2.13 2.09 2.06 2.04 2.03 2.02 2.00 2.00 2.01 2.06 2.10 2.16 2.28 2.30 2.34																								Diurnal Average		
3.67 3.34 3.36 4.44 4.31 3.89 4.10 3.32 2.65 2.47 2.35 2.39 2.33 2.21 2.34 2.25 2.20 2.31 2.44 2.56 2.82 4.24 3.48 3.41																								Diurnal Maximum		
C - Calibration				M - Maintenance				N - Not Valid				A - Automated Daily Zero Span														

Hourly Averages

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



Hourly Maximums

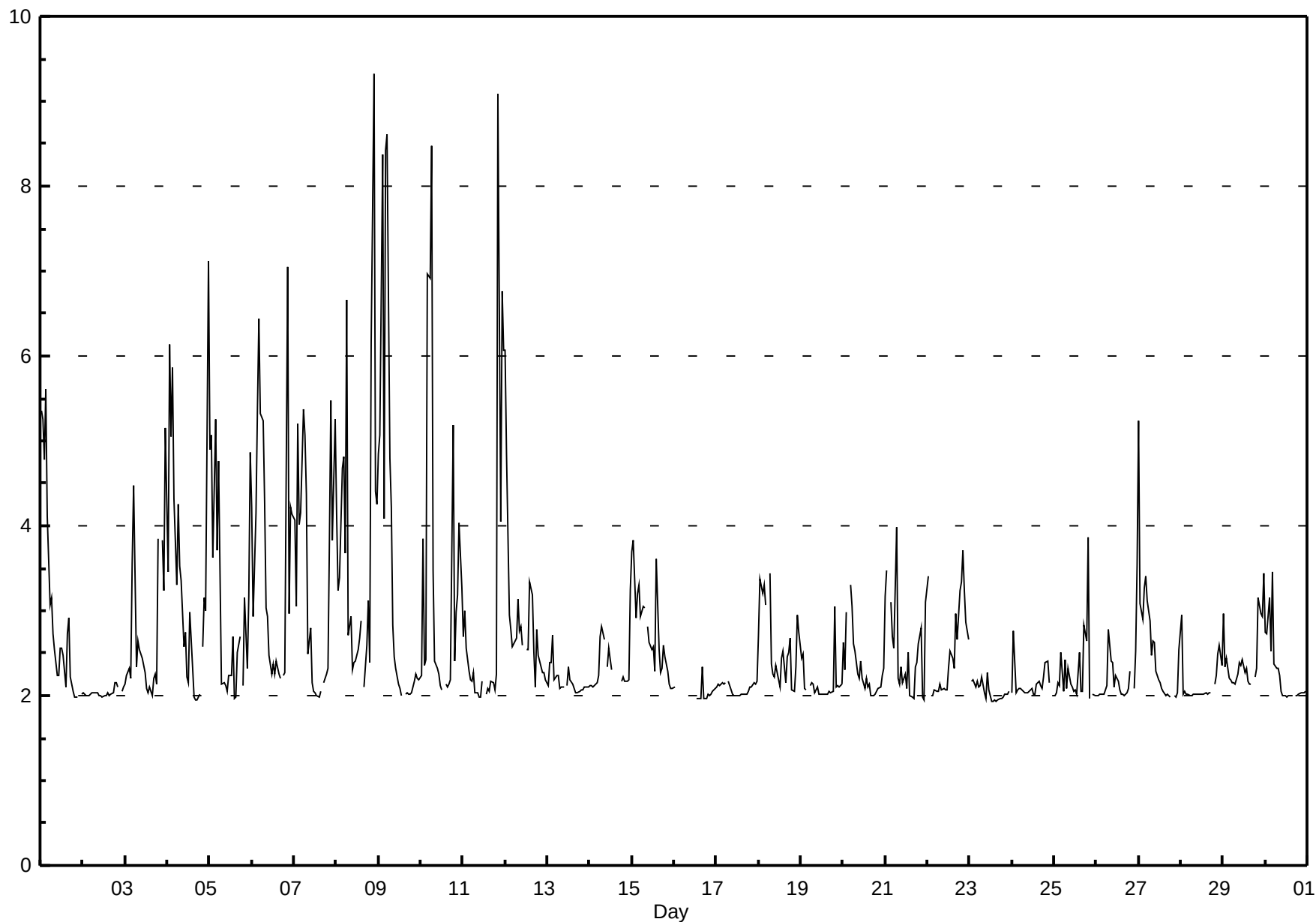
Total Hydrocarbons (THC) - ppm

Henry Pirker - September 2011

Maximum Value: 9.32 ppm on Sep 8 22:00																					Maximum Daily Average: 3.73 ppm on Sep 8					Hours in Service: 720	
Minimum Value: 1.9 ppm on Sep 23 14:00																					Minimum Daily Average: 2.04 ppm on Sep 2					Hours of Data: 675	
Maximum Diurnal Average: 3.36 ppm at hour 5																					Minimum Diurnal Average: 2.14 ppm at hour 16					Hours of Missing Data: 45	
Monthly Average: 2.654 ppm																					Percentiles: P ₁ = 1.95 P ₁₀ = 2.01 Q ₁ = 2.05 Median = 2.22 Q ₃ = 2.74 P ₉₀ = 3.84 P ₉₉ = 6.80					Hours of Calibration: 33	
																										Percent Operational Time: 98.3	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Sep	5.4	5.2	4.8	5.6	4.1	3.1	3.2	2.7	2.6	2.2	2.2	2.6	2.6	2.5	2.1	2.7	2.9	2.2	2.0	2.0	2.0	2.1	2.0	A	2.0	2.99	5.61
2-Sep	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.2	2.2	2.1	A	2.0	2.1	2.04	2.16	
3-Sep	2.1	2.2	2.3	2.2	3.6	4.5	2.3	2.6	2.5	2.5	2.4	2.3	2.1	2.0	2.1	2.0	2.2	2.3	2.1	3.8	A	3.8	3.2	5.2	2.72	5.15	
4-Sep	3.5	6.1	5.1	5.9	4.3	3.3	4.2	3.5	3.3	2.6	2.8	2.2	2.2	3.0	2.3	2.0	2.0	2.0	2.0	A	2.6	3.2	3.0	7.1	3.39	7.11	
5-Sep	4.9	5.1	3.6	5.3	3.7	4.8	3.4	2.1	2.1	2.1	2.0	2.2	2.2	2.7	2.0	2.0	2.5	2.7	A	2.1	3.2	2.3	3.2	4.9	3.10	5.26	
6-Sep	4.2	2.9	4.1	5.4	6.4	5.3	5.2	4.3	3.0	2.9	2.5	2.3	2.4	2.3	2.4	2.3	2.2	A	2.2	2.3	7.0	3.0	4.2	4.1	3.61	7.05	
7-Sep	4.1	3.1	5.2	4.0	4.2	5.4	5.1	4.4	2.5	2.8	2.2	2.1	2.0	2.0	2.0	2.0	A	2.1	2.3	2.3	3.8	5.5	3.8	5.3	3.39	5.48	
8-Sep	4.1	3.2	3.4	4.7	4.8	3.7	6.7	2.7	2.9	2.3	2.4	2.4	2.5	2.7	2.9	A	2.1	2.6	3.1	2.4	6.2	9.3	4.4	4.3	3.73	9.32	
9-Sep	4.8	5.1	8.4	4.1	8.4	8.6	4.8	4.2	2.8	2.5	2.3	2.1	2.1	2.0	A	2.0	2.0	2.0	2.0	2.0	2.2	2.3	2.2	2.2	3.53	8.62	
10-Sep	2.2	3.8	2.4	2.4	7.0	6.9	8.5	3.5	2.4	2.3	2.2	2.1	2.1	A	2.1	2.1	2.1	2.2	5.2	2.4	3.0	3.2	4.0	3.3	3.37	8.48	
11-Sep	2.7	3.0	2.6	2.3	2.2	2.2	2.3	2.0	2.0	2.0	2.0	2.2	A	2.0	2.1	2.1	2.2	2.1	2.1	2.3	9.1	4.1	6.8	6.1	2.96	9.09	
12-Sep	6.1	4.9	2.9	2.8	2.6	2.6	2.7	3.1	2.8	2.8	2.6	A	2.5	2.5	3.3	3.2	2.5	2.1	2.8	2.5	2.3	2.3	2.3	2.2	2.89	6.07	
13-Sep	2.1	2.4	2.4	2.7	2.2	2.2	2.2	2.1	2.1	2.1	A	2.1	2.3	2.2	2.1	2.1	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.17	2.71	
14-Sep	2.1	2.1	2.1	2.1	2.2	2.2	2.7	2.8	2.7	A	2.3	2.6	2.3	N	2.2	M	M	M	2.2	2.2	2.2	2.2	2.2	3.3	2.35	3.25	
15-Sep	3.7	3.8	2.9	3.2	3.3	2.9	3.0	3.0	A	2.8	2.6	2.5	2.6	2.3	3.6	2.5	2.3	2.3	2.6	2.5	2.3	2.1	2.1	2.1	2.75	3.83	
16-Sep	2.1	N	N	N	N	N	N	N	N	2.1	C	C	C	2.0	2.0	2.0	2.3	2.0	2.0	2.0	2.0	2.0	2.0	2.1	--	2.33	
17-Sep	2.1	2.1	2.1	2.2	2.1	2.1	A	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.2	2.08	2.18	
18-Sep	2.7	3.4	3.2	3.3	3.1	A	3.4	2.4	2.3	2.2	2.3	2.2	2.1	2.4	2.5	2.1	2.5	2.5	2.7	2.1	2.1	2.3	2.9	2.7	2.59	3.44	
19-Sep	2.4	2.5	2.1	2.1	A	2.1	2.2	2.1	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	3.1	2.1	2.1	2.1	2.1	2.15	3.05	
20-Sep	2.6	2.3	3.0	A	3.3	3.0	2.6	2.5	2.2	2.2	2.4	2.2	2.1	2.2	2.1	2.1	2.0	2.0	2.0	2.1	2.1	2.1	2.2	2.3	2.34	3.30	
21-Sep	3.2	3.5	A	3.1	2.7	2.6	4.0	2.2	2.1	2.3	2.1	2.3	2.1	2.5	2.0	2.0	2.0	2.3	2.4	2.6	2.8	2.0	2.0	3.1	2.51	3.99	
22-Sep	3.4	A	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.3	2.5	2.4	2.3	3.0	2.7	3.2	3.3	3.7	3.2	2.9	2.7	2.54	3.72	
23-Sep	A	2.2	2.2	2.1	2.2	2.1	2.1	2.2	2.0	2.0	2.3	2.1	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	A	2.05	2.27	
24-Sep	2.0	2.8	2.0	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.1	2.2	2.1	2.1	2.2	2.4	2.4	2.2	A	2.0	2.13	2.77	
25-Sep	2.0	2.0	2.2	2.1	2.5	2.0	2.4	2.1	2.3	2.1	2.1	2.1	2.1	2.0	2.5	2.0	2.1	2.8	2.6	3.9	2.0	A	2.0	2.0	2.26	3.86	
26-Sep	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.8	2.4	2.4	2.1	2.2	2.2	2.1	2.0	2.0	2.0	2.0	2.1	2.3	A	2.1	2.5	3.5	2.22	3.55	
27-Sep	5.2	3.1	2.9	3.3	3.4	3.1	2.9	2.5	2.6	2.6	2.3	2.2	2.2	2.1	2.1	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	2.5	2.56	5.23	
28-Sep	2.9	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.1	2.2	2.5	2.6	2.3	2.13	2.94	
29-Sep	3.0	2.3	2.4	2.2	2.2	2.1	2.2	2.1	2.2	2.4	2.4	2.4	2.3	2.3	2.2	2.1	2.1	A	2.2	2.3	3.1	3.0	2.9	3.4	2.44	3.44	
30-Sep	2.7	2.7	3.2	2.5	3.5	2.4	2.3	2.3	2.2	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.26	3.46	
3.19 3.14 3.05 3.06 3.36 3.20 3.24 2.65 2.38 2.30 2.24 2.19 2.18 2.22 2.25 2.14 2.19 2.19 2.37 2.40 2.95 2.82 2.79 3.14																								Diurnal Average			
6.07 6.14 8.38 5.86 8.42 8.62 8.48 4.38 3.35 2.94 2.75 2.56 2.57 2.98 3.61 3.19 2.97 2.84 5.19 3.86 9.09 9.32 6.77 7.11																								Diurnal Maximum			
C - Calibration M - Maintenance N - Not Valid A - Automated Daily Zero Span																											

Hourly Maximums

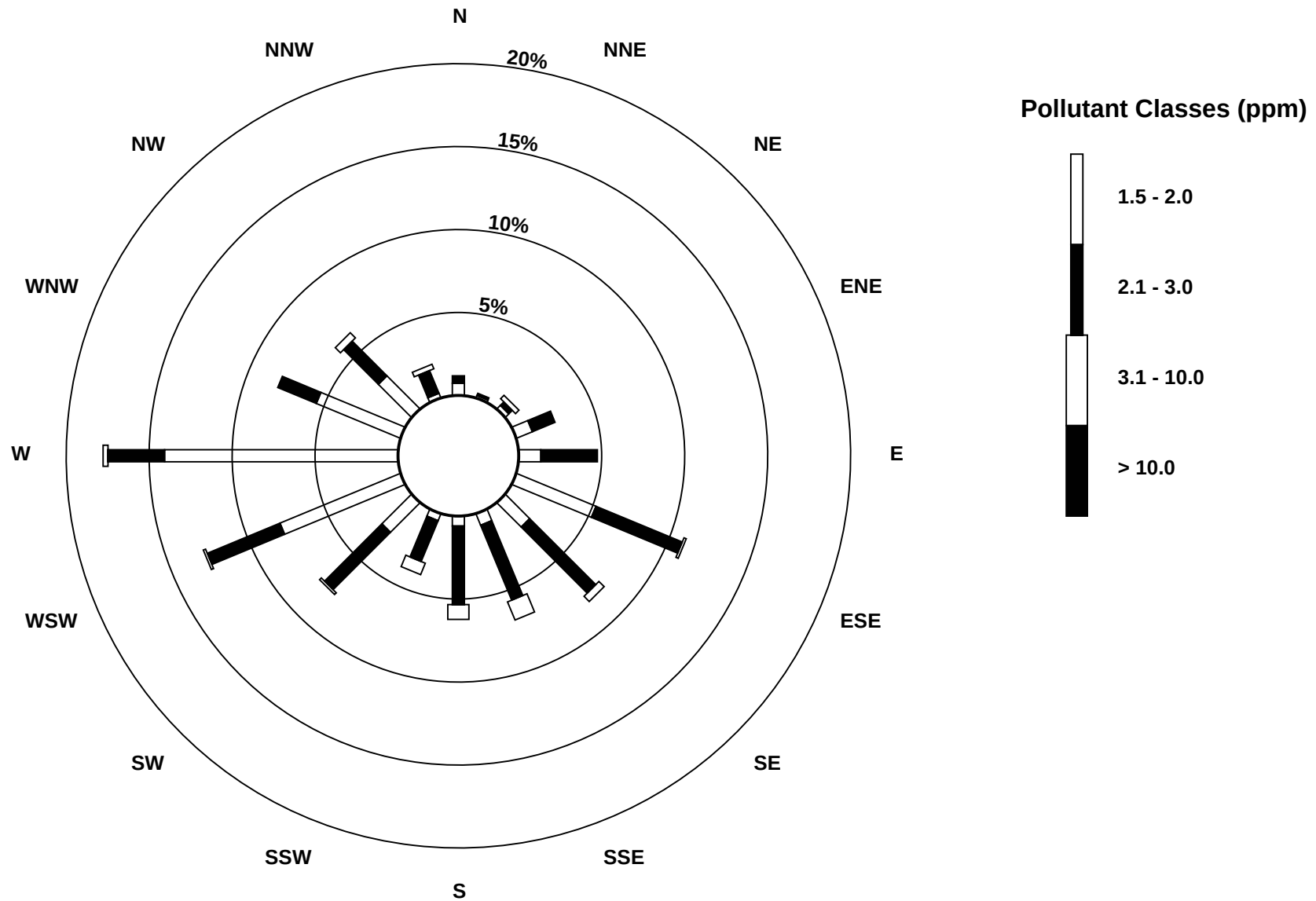
Total Hydrocarbons (THC) - ppm
Henry Pirker - September 2011



Pollutant Rose

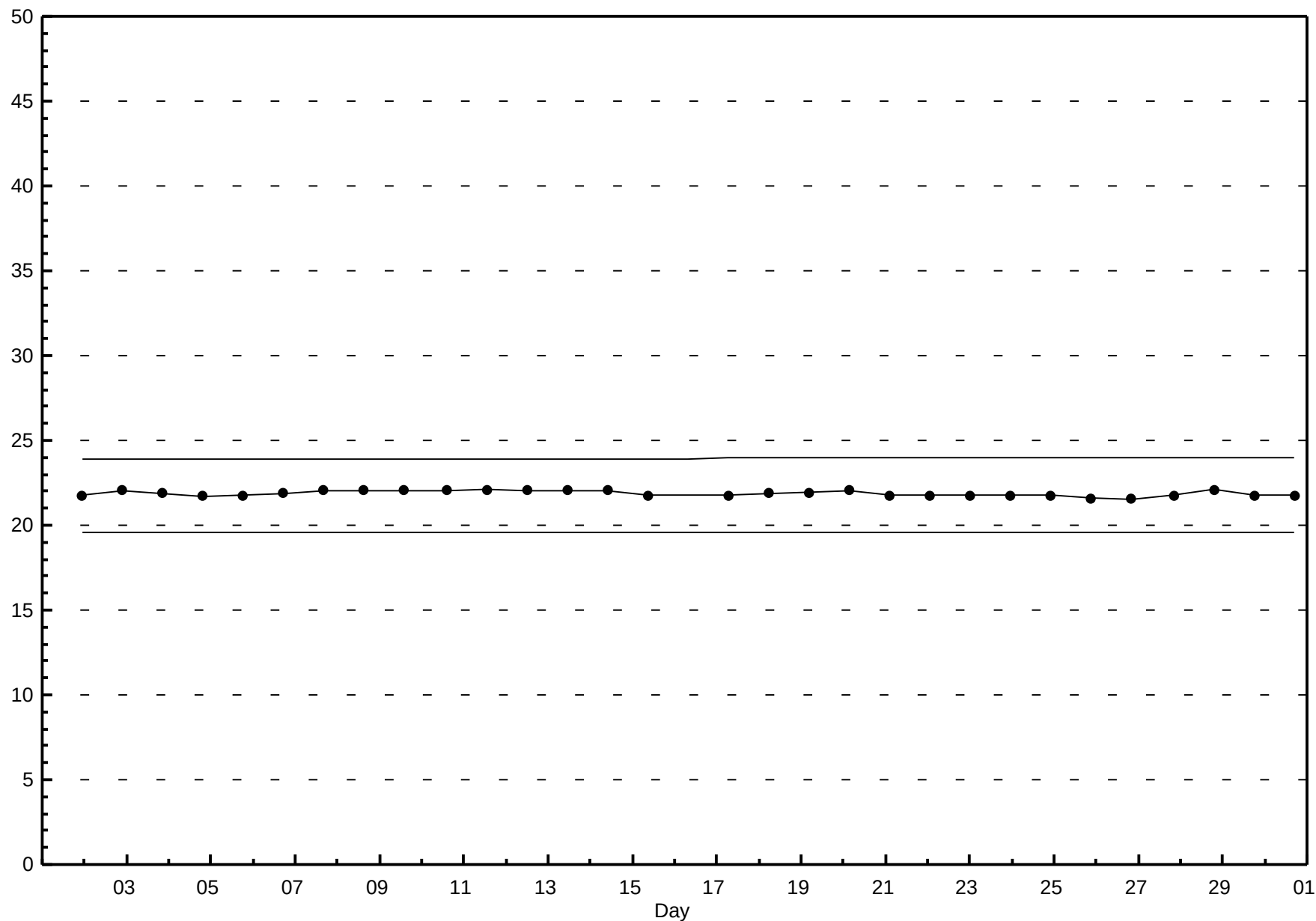
Total Hydrocarbons (THC) - ppm

Henry Pirker - September 2011



Span Responses

Total Hydrocarbons (THC)
Henry Pirker - September 2011

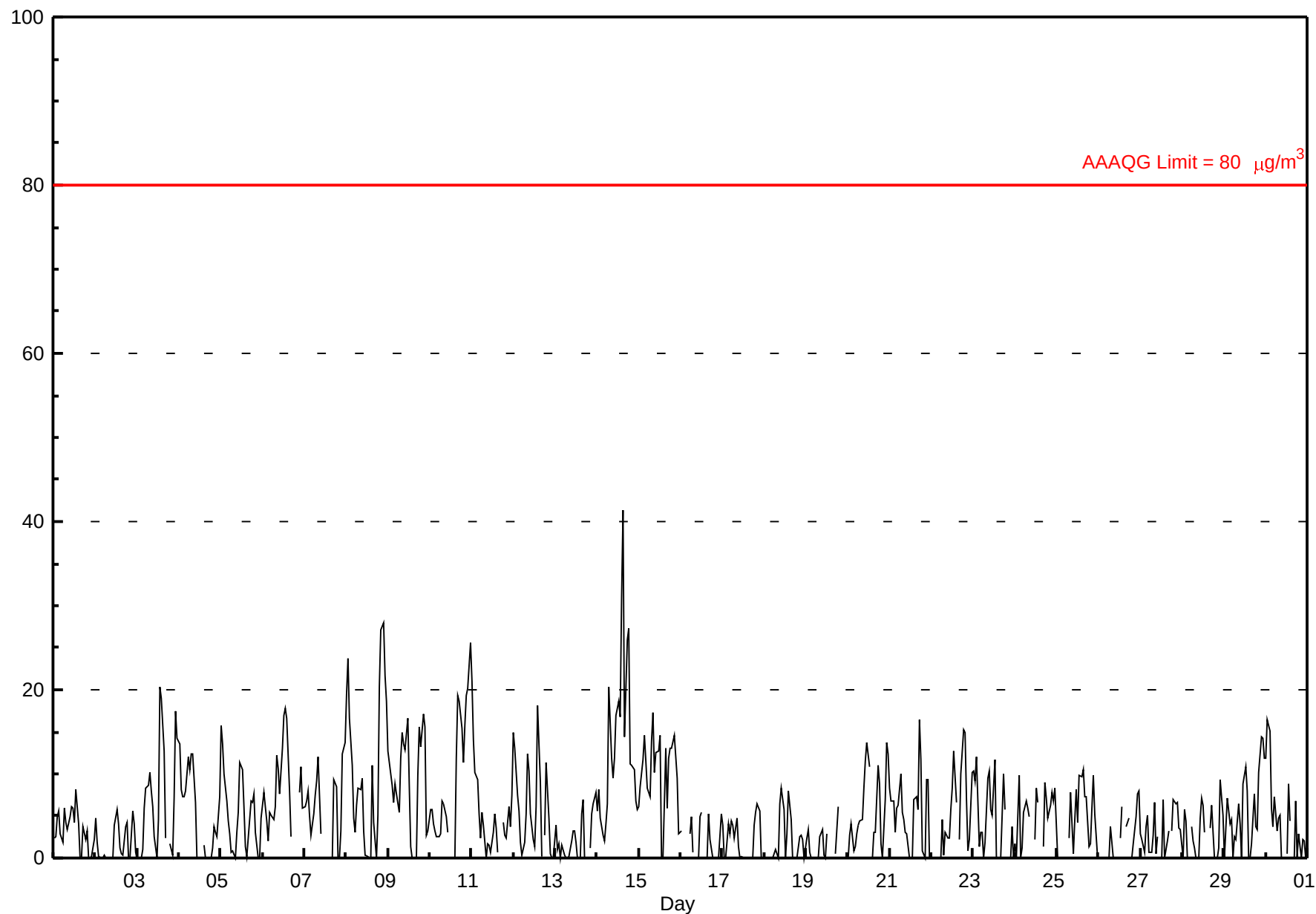


Hourly Averages

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

Henry Pirker - September 2011

Number of Exceedences: 1-hr: 0 24-hr: 0 Maximum Value: 41.3 µg/m³ on Sep 14 16:00 Minimum Value: 0 µg/m³ on Sep 1 16:00 Maximum Diurnal Average: 7.6 µg/m³ at hour 18 Monthly Average: 5.55 µg/m³																								Hours in Service: 720 Hours of Data: 644 Hours of Missing Data: 76 Hours of Calibration: 0 Percent Operational Time: 89.4		
Maximum Daily Average: 13.5 µg/m³ on Sep 14 Minimum Daily Average: 1.8 µg/m³ on Sep 2 Minimum Diurnal Average: 3.5 µg/m³ at hour 6 Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.8 Median = 4.3 Q ₃ = 8.2 P ₉₀ = 13.0 P ₉₉ = 24.8																										
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-Sep	2	2	5	6	3	2	6	4	3	5	6	6	4	8	4	0	0	4	2	3	0	0	0	2	3.3	8.2
2-Sep	5	2	0	0	0	0	0	0	N	0	0	4	6	4	1	0	0	4	4	0	0	6	4	1	1.8	5.8
3-Sep	0	0	0	1	6	8	9	10	8	6	3	0	5	20	19	13	2	N	N	2	0	7	18	14	6.9	20.3
4-Sep	14	8	7	7	8	12	11	12	12	7	0	N	N	N	1	0	N	N	0	1	4	3	3	7	6.2	13.5
5-Sep	16	13	10	7	4	3	1	1	0	3	5	11	11	6	1	0	2	7	7	8	3	0	0	5	5.2	15.8
6-Sep	6	8	4	2	5	5	5	6	12	11	8	13	17	18	17	8	3	N	N	N	N	8	11	6	8.6	17.8
7-Sep	6	7	8	5	3	5	7	9	12	3	N	N	N	0	N	N	0	9	9	0	0	3	12	14	5.9	13.6
8-Sep	19	24	17	11	5	3	6	8	8	9	3	0	0	0	0	11	4	0	5	20	27	28	22	19	10.4	27.9
9-Sep	13	11	9	7	9	8	5	12	15	14	13	17	9	1	0	0	0	10	16	13	17	16	3	3	9.1	17.2
10-Sep	6	6	4	3	3	3	3	7	6	5	3	N	N	N	0	12	19	19	15	11	16	19	20	26	9.8	25.6
11-Sep	21	14	10	9	5	2	5	4	0	2	2	1	3	5	4	1	N	N	4	3	2	6	4	7	5.2	21.1
12-Sep	15	13	7	6	2	0	2	5	12	10	5	2	1	6	18	9	0	N	3	11	5	0	0	0	5.8	18.1
13-Sep	4	1	2	0	2	0	0	0	0	2	3	3	2	0	0	5	7	0	0	N	1	5	6	8	2.3	7.7
14-Sep	6	8	5	3	2	4	6	20	12	9	12	17	19	17	31	41	14	26	27	11	11	11	7	6	13.5	41.3
15-Sep	6	8	12	14	12	8	7	14	17	10	13	13	14	0	0	13	6	12	13	13	15	12	9	3	10.2	17.3
16-Sep	3	N	N	N	N	3	5	1	N	0	0	5	5	N	N	0	5	2	0	N	N	N	0	5	--	5.4
17-Sep	4	0	0	4	3	4	4	2	5	1	0	0	0	0	N	0	0	0	4	5	6	6	0	0	2.1	6.5
18-Sep	0	0	0	0	0	0	1	0	0	6	8	6	0	3	8	5	0	0	0	0	3	3	2	0	1.9	8.2
19-Sep	2	3	1	0	0	0	0	0	3	3	0	0	3	M	M	3	N	1	6	N	N	0	N	N	--	6.0
20-Sep	0	3	4	1	1	3	4	4	5	8	11	14	11	N	0	3	3	11	9	2	0	7	14	12	5.6	13.8
21-Sep	8	7	7	3	6	6	10	5	5	3	3	0	0	0	7	7	6	16	12	1	0	9	9	0	5.4	16.4
22-Sep	0	N	N	N	N	0	5	0	3	2	2	6	8	13	7	N	2	10	15	15	7	1	2	10	5.7	15.2
23-Sep	10	9	12	1	3	3	0	2	10	10	6	5	12	0	N	N	0	10	6	N	N	0	4	0	5.1	12.1
24-Sep	2	0	10	0	1	5	7	6	5	N	N	2	8	7	N	N	1	9	7	5	6	8	7	8	5.2	9.9
25-Sep	0	N	N	N	0	0	N	2	8	0	5	8	4	10	10	10	7	7	1	2	6	10	5	0	4.8	10.5
26-Sep	0	N	0	0	0	N	0	4	0	N	N	N	2	6	N	N	4	5	N	0	2	5	8	8	--	7.9
27-Sep	3	2	1	4	5	1	1	3	7	1	3	N	0	7	0	2	3	N	3	7	6	7	4	3	3.2	7.0
28-Sep	0	6	4	0	N	4	2	1	0	0	5	7	6	3	N	N	3	6	0	0	0	1	9	5	3.0	9.3
29-Sep	0	4	7	4	5	0	3	2	6	4	0	9	11	8	0	0	2	8	4	3	10	14	14	12	5.4	14.4
30-Sep	12	16	15	6	4	7	3	5	5	0	N	N	1	9	4	N	0	7	0	3	0	2	2	0	4.8	16.4
6.1 6.8 5.9 3.8 3.5 3.5 4.0 5.1 6.4 4.9 4.5 6.2 6.0 6.0 6.0 6.3 3.5 7.6 6.4 5.6 5.7 6.8 6.9 6.4																								Diurnal Average		
21.1 23.7 16.6 14.5 11.6 12.0 10.5 20.4 17.3 13.6 12.9 17.0 18.7 20.3 31.0 41.3 19.2 25.9 27.4 20.4 27.1 27.9 21.8 25.6																								Diurnal Maximum		
M - Maintenance N - Not Valid																										
Alberta Ambient Air Quality Guideline (AAQG): 1-hr 80 µg/m³ Alberta Ambient Air Quality Objective (AAAQO): 24-hr 30 µg/m³																										

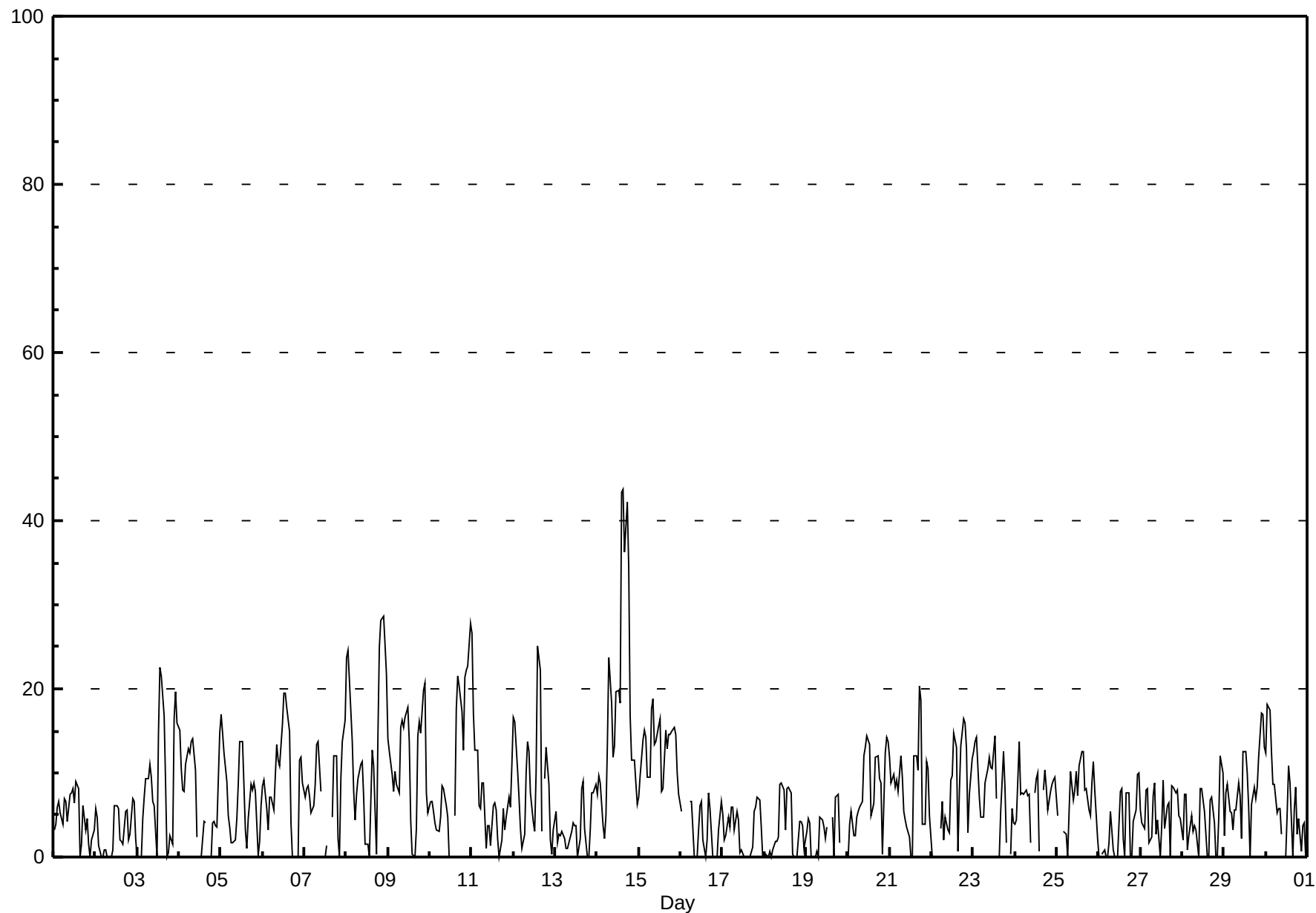


Hourly Maximums

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

Henry Pirker - September 2011

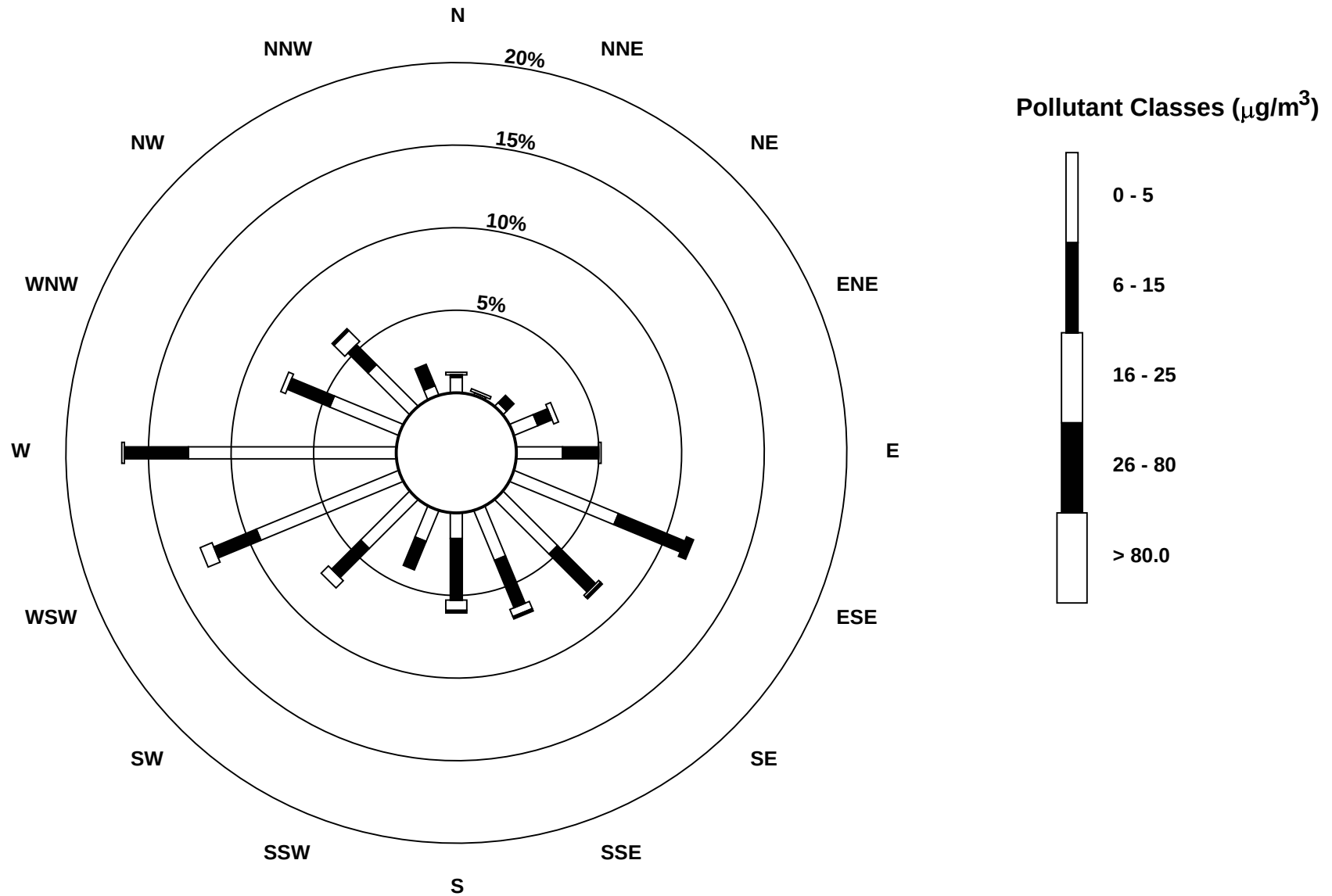
Maximum Value: 43.7 μg/m³ on Sep 14 16:00																								Hours in Service: 720		
Maximum Daily Average: 17.9 μg/m³ on Sep 14																								Hours of Data: 684		
Minimum Value: 0 μg/m³ on Sep 1 22:00																								Hours of Missing Data: 36		
Maximum Diurnal Average: 8.7 μg/m³ at hour 18																								Hours of Calibration: 0		
Monthly Average: 7.43 μg/m³																								Percent Operational Time: 95.0		
Minimum Daily Average: 2.6 μg/m³ on Sep 19																										
Minimum Diurnal Average: 4.9 μg/m³ at hour 6																										
Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 3.0 Median = 6.4 Q ₃ = 10.2 P ₉₀ = 15.0 P ₉₉ = 28.0																										
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-Sep	3	4	6	7	5	4	7	7	4	7	8	8	6	9	8	0	2	6	3	5	2	0	2	3	4.8	9.0
2-Sep	6	5	1	0	0	1	1	0	N	0	1	6	6	6	2	2	2	5	6	2	3	7	7	2	3.0	6.9
3-Sep	0	0	0	5	7	9	9	11	10	7	6	0	15	22	22	17	9	0	1	3	2	16	20	16	8.5	22.5
4-Sep	15	11	8	8	11	13	12	14	14	10	2	N	N	0	4	4	N	0	0	4	4	4	3	15	7.5	15.1
5-Sep	17	15	12	9	5	3	2	2	2	5	9	14	14	8	3	1	5	9	8	9	8	0	2	6	6.9	16.9
6-Sep	9	9	6	3	7	7	6	10	13	12	11	16	20	20	18	15	4	0	N	N	0	12	12	9	9.8	19.6
7-Sep	7	8	8	7	5	6	9	13	14	8	N	N	0	1	N	N	5	12	12	2	0	9	14	16	7.9	16.2
8-Sep	24	25	21	14	8	4	7	9	11	11	7	2	2	0	6	13	11	0	14	25	28	29	25	22	13.3	28.6
9-Sep	14	13	10	8	10	9	8	15	16	15	17	18	14	4	0	0	3	14	16	15	20	21	8	5	11.4	20.8
10-Sep	7	7	5	4	3	3	5	8	8	6	5	0	N	N	5	18	22	20	17	13	21	22	23	28	11.3	27.9
11-Sep	27	17	13	13	6	6	9	9	1	4	4	1	6	6	6	2	0	2	6	3	5	7	6	11	7.0	26.6
12-Sep	17	16	10	7	3	1	3	10	14	12	8	4	3	10	25	22	3	N	9	13	9	2	0	3	8.9	25.1
13-Sep	5	2	3	3	3	2	1	1	2	3	4	4	4	0	2	8	9	3	0	0	3	8	8	9	3.6	9.0
14-Sep	7	10	9	4	2	5	13	24	18	12	13	20	20	18	43	44	36	42	34	17	12	12	9	6	17.9	43.7
15-Sep	7	10	14	15	14	10	10	18	19	13	14	16	16	8	8	15	13	15	15	15	15	15	10	8	12.9	18.9
16-Sep	5	N	N	N	N	7	7	3	0	0	3	6	7	2	0	2	8	6	0	N	N	0	3	7	3.6	7.7
17-Sep	5	2	3	5	4	6	6	3	5	4	1	1	0	0	0	0	0	1	5	6	7	7	4	0	3.1	7.1
18-Sep	0	0	0	1	0	1	2	2	2	9	9	8	3	8	8	0	0	0	0	0	4	4	4	1	3.1	8.8
19-Sep	3	5	4	0	0	0	1	0	5	4	4	2	4	M	M	5	0	7	7	2	N	0	0	N	2.6	7.4
20-Sep	0	4	5	3	2	5	5	6	7	12	13	14	13	5	6	6	12	12	9	9	0	12	14	14	7.9	14.4
21-Sep	12	9	10	8	9	8	12	10	5	4	4	2	0	0	12	12	10	20	19	4	4	11	11	5	8.4	20.3
22-Sep	0	0	N	N	N	3	7	2	5	3	3	9	10	15	13	1	8	13	16	16	13	3	7	12	7.5	16.4
23-Sep	13	14	14	7	5	5	5	9	11	12	11	11	14	7	N	0	5	13	8	2	N	0	6	4	7.9	14.4
24-Sep	4	4	14	7	8	7	8	7	7	2	N	8	9	10	1	N	8	10	8	6	8	9	9	10	7.4	13.7
25-Sep	5	N	N	N	3	3	0	5	10	7	8	10	7	11	13	13	8	8	6	5	9	11	8	2	7.2	12.6
26-Sep	0	N	0	1	0	0	2	5	1	0	N	0	8	8	2	0	8	8	0	0	4	6	10	10	3.3	10.1
27-Sep	6	4	3	8	8	2	2	7	9	3	4	0	4	9	3	6	6	0	8	8	8	8	5	5	5.3	9.1
28-Sep	2	7	7	1	2	5	3	4	3	0	8	8	7	5	0	0	7	7	4	0	0	5	12	10	4.5	12.1
29-Sep	3	8	9	5	5	3	6	6	9	7	2	13	13	10	6	0	6	8	7	8	12	17	17	13	8.0	17.2
30-Sep	12	18	17	13	9	9	5	6	6	3	N	0	5	11	9	0	6	8	3	5	1	4	4	0	6.6	18.1
7.8 8.3 7.9 6.1 5.2 4.9 5.7 7.5 8.0 6.5 6.8 7.1 8.2 7.7 8.4 7.6 7.4 8.7 8.4 6.9 7.4 8.6 8.7 8.6																								Diurnal Average		
26.6 24.6 21.0 15.2 14.2 13.0 13.3 23.7 18.9 15.4 16.7 19.6 19.8 22.5 43.4 43.7 36.3 42.2 34.4 24.9 28.2 28.6 25.3 27.9																								Diurnal Maximum		
M - Maintenance N - Not Valid																										



Pollutant Rose

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

Henry Pirker - September 2011



Hourly Averages

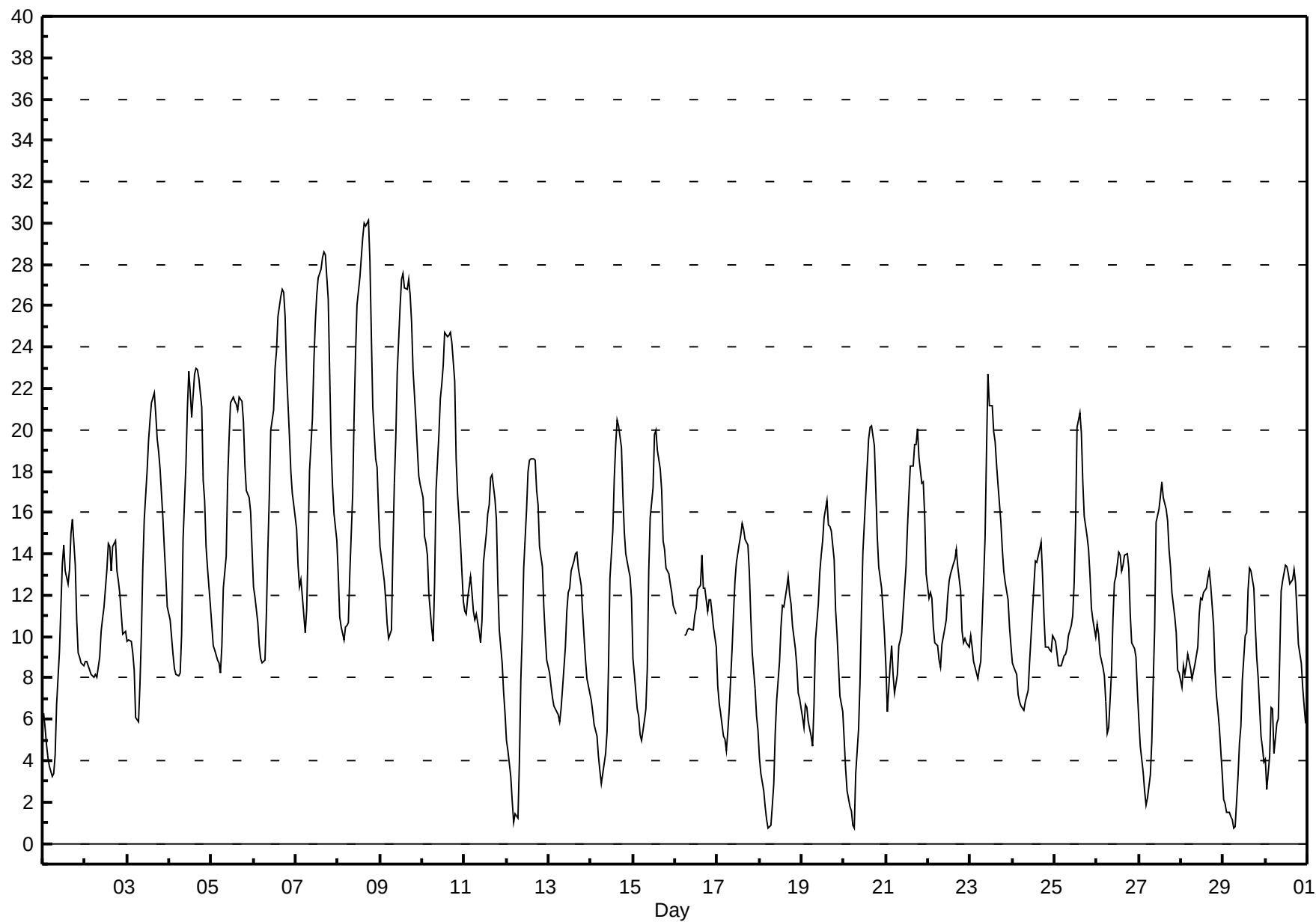
External Temperature (ET) - °C

Henry Pirker - September 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 30.1 °C on Sep 8 18:00 Maximum Daily Average: 19.9 °C on Sep 8																								Hours in Service: 720 Hours of Data: 716 Hours of Missing Data: 4 Hours of Calibration: 0 Percent Operational Time: 99.4		
Minimum Value: 1 °C on Sep 20 07:00 Maximum Diurnal Average: 18.2 °C at hour 17 Monthly Average: 12.36 °C												Minimum Daily Average: 6.1 °C on Sep 29 Minimum Diurnal Average: 6.5 °C at hour 6 Percentiles: P ₁ = 1.2 P ₁₀ = 5.4 Q ₁ = 8.5 Median = 11.5 Q ₃ = 15.7 P ₉₀ = 20.7 P ₉₉ = 28.3														
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-Sep	6	6	5	4	4	3	3	4	7	9	11	14	14	13	13	13	15	16	13	11	9	9	9	9	9.2	15.7
2-Sep	9	9	9	8	8	8	8	8	9	10	11	11	13	14	14	13	14	15	13	13	12	10	10	10	10.9	14.6
3-Sep	10	10	10	9	8	6	6	8	10	13	16	18	19	20	21	22	21	20	19	18	16	14	13	11	14.1	21.8
4-Sep	11	10	9	8	8	8	8	10	15	18	21	23	22	21	23	23	23	23	21	18	17	14	13	12	15.7	23.0
5-Sep	11	10	9	9	9	8	10	12	14	17	20	21	22	21	21	21	22	21	20	18	17	17	16	14	15.9	21.6
6-Sep	12	12	11	10	9	9	9	11	14	17	20	21	23	24	25	26	27	27	25	23	20	18	17	16	17.7	26.8
7-Sep	15	13	12	13	12	10	11	14	18	21	23	25	26	27	28	28	29	28	26	23	19	17	16	15	19.7	28.6
8-Sep	13	11	10	10	10	11	11	13	17	21	24	26	27	28	29	30	30	30	28	25	21	19	18	16	19.9	30.1
9-Sep	14	14	13	12	11	10	10	14	17	20	23	26	27	28	27	27	27	26	25	23	20	19	18	17	19.5	27.6
10-Sep	17	15	14	14	12	10	10	13	17	20	21	22	23	25	24	25	25	24	22	19	17	16	15	12	18.0	24.7
11-Sep	11	11	12	13	12	11	11	11	10	10	11	14	15	16	16	18	18	17	16	13	10	9	7	6	12.4	17.9
12-Sep	5	4	3	2	1	1	1	4	8	10	13	16	18	19	19	19	19	17	16	14	13	11	10	9	10.6	18.6
13-Sep	8	8	7	7	6	6	6	7	7	9	11	12	12	13	14	14	14	13	12	11	10	9	8	7	9.7	14.1
14-Sep	7	6	6	5	4	3	3	3	4	5	9	13	15	18	19	21	20	19	17	15	14	13	13	12	11.0	20.5
15-Sep	9	8	7	6	5	5	6	6	8	13	16	17	20	20	19	18	17	15	14	13	13	13	12	12	12.2	20.0
16-Sep	11	N	N	N	N	10	10	10	10	10	10	11	11	12	12	14	12	12	11	12	12	11	10	10	11.2	14.0
17-Sep	8	7	6	5	5	4	5	7	9	11	13	14	14	15	15	15	15	14	13	11	9	7	6	5	9.8	15.4
18-Sep	4	3	3	2	1	1	1	2	3	5	7	9	10	11	11	12	13	12	12	11	9	9	7	7	6.9	12.9
19-Sep	6	6	7	7	6	5	5	7	10	12	13	14	15	16	17	15	15	15	14	11	10	9	7	6	10.3	16.6
20-Sep	5	4	3	2	2	1	1	3	5	8	11	14	17	18	20	20	20	19	17	15	13	12	11	10	10.5	20.2
21-Sep	9	6	9	10	8	7	8	10	10	10	11	13	15	17	18	18	19	19	20	19	17	18	16	13	13.4	20.1
22-Sep	12	12	12	10	10	10	9	9	10	10	11	12	13	13	14	14	14	13	12	10	10	10	10	9	11.2	14.2
23-Sep	10	10	9	8	8	8	9	11	15	19	23	21	21	20	19	18	17	16	14	13	13	12	10	10	13.9	22.7
24-Sep	9	9	8	7	7	7	6	7	7	7	9	11	12	14	14	14	15	13	11	9	10	9	9	10	9.8	14.6
25-Sep	10	9	9	9	9	9	9	9	10	11	11	13	16	20	21	20	18	16	15	14	13	11	11	10	12.5	20.8
26-Sep	11	10	9	9	8	7	5	6	8	11	13	13	14	14	13	13	14	14	13	11	10	9	9	7	10.5	14.1
27-Sep	6	5	3	3	2	2	3	5	8	10	16	16	17	17	17	16	16	14	13	12	11	10	8	8	10.0	17.5
28-Sep	8	9	8	9	9	8	8	8	9	9	11	12	12	12	12	13	13	12	11	8	7	6	6	3	9.3	13.2
29-Sep	2	2	2	2	1	1	1	1	3	5	6	8	10	10	12	13	13	12	11	9	8	5	5	4	6.1	13.3
30-Sep	4	3	4	7	7	4	6	6	9	12	13	13	13	13	13	13	13	13	11	10	9	8	7	6	8.9	13.4
9.0 8.3 7.8 7.5 7.0 6.5 6.6 8.0 10.1 12.2 14.2 15.8 17.0 17.7 18.0 18.2 18.2 17.5 16.3 14.4 13.0 11.8 10.9 9.9 16.7 14.9 14.5 13.9 12.1 11.2 11.3 14.4 18.0 20.7 23.6 26.0 27.3 28.3 29.3 30.0 29.8 30.1 28.2 24.5 21.1 19.1 18.2 17.4																								Diurnal Average		
																								Diurnal Maximum		
N - Not Valid																										

Hourly Averages

External Temperature (ET) - °C
Henry Pirker - September 2011



Hourly Averages

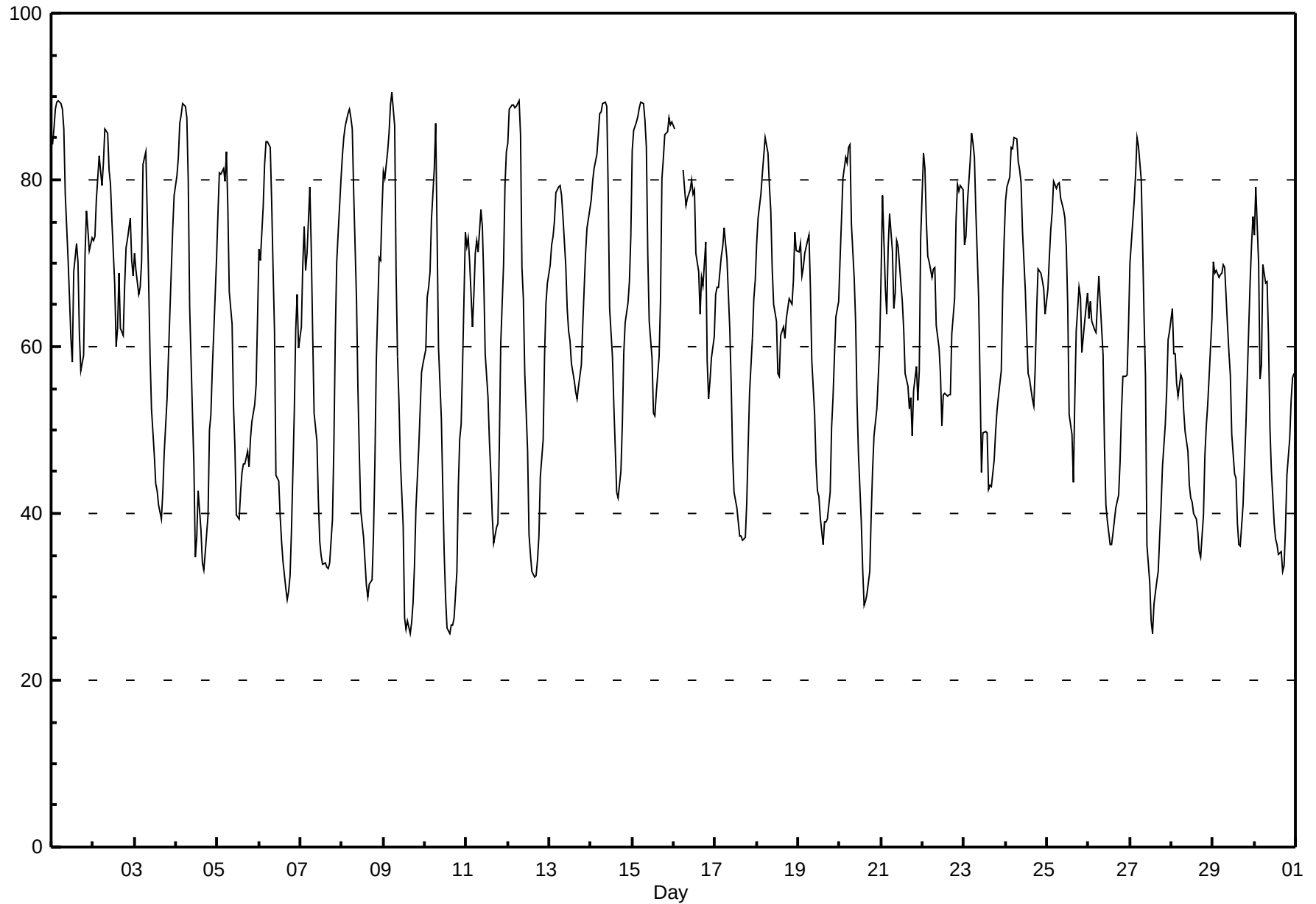
Relative Humidity (RH) - %

Henry Pirker - September 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 90.5 % on Sep 9 06:00 Maximum Daily Average: 77.2 % on Sep 15																				Hours in Service: 720 Hours of Data: 716 Hours of Missing Data: 4 Hours of Calibration: 0 Percent Operational Time: 99.4						
Minimum Value: 26 % on Sep 10 15:00 Minimum Daily Average: 49.1 % on Sep 28 Maximum Diurnal Average: 79.9 % at hour 6 Minimum Diurnal Average: 43.1 % at hour 17 Monthly Average: 61.55 % Percentiles: P ₁ = 27.0 P ₁₀ = 37.2 Q ₁ = 48.8 Median = 63.4 Q ₃ = 74.4 P ₉₀ = 83.4 P ₉₉ = 89.1																										
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-Sep	84	86	88	89	89	89	88	86	78	71	66	61	58	69	72	70	62	57	59	71	76	74	71	73	74.6	89.4
2-Sep	73	73	78	83	81	79	82	86	86	81	80	75	67	60	62	69	62	61	67	72	73	75	70	68	73.5	86.1
3-Sep	71	69	66	67	70	82	83	76	68	59	53	47	44	43	41	39	43	47	50	54	64	69	74	78	60.7	83.4
4-Sep	81	83	87	88	89	89	87	80	65	52	46	35	37	43	38	34	33	35	40	50	52	57	62	71	59.7	89.2
5-Sep	76	81	81	81	80	83	77	67	63	53	48	40	39	43	45	46	46	48	46	49	51	53	55	63	58.8	83.4
6-Sep	72	70	77	82	85	85	84	77	69	62	45	44	40	37	34	31	30	31	33	38	52	62	66	60	56.8	84.6
7-Sep	62	70	74	69	71	79	72	62	52	49	42	37	35	34	34	34	33	34	39	48	61	70	74	80	54.8	79.9
8-Sep	83	85	86	88	88	88	86	78	66	55	47	40	37	34	31	30	32	32	37	46	58	71	70	76	60.2	88.5
9-Sep	81	80	83	86	89	90	86	69	59	54	46	38	27	26	27	26	27	29	34	40	48	52	57	58	54.8	90.5
10-Sep	60	66	67	69	75	81	87	73	60	51	43	35	30	26	26	27	27	28	33	43	49	51	58	74	51.6	86.8
11-Sep	72	73	70	62	66	71	73	71	76	74	68	59	54	49	45	40	36	38	39	48	60	70	79	83	61.6	83.4
12-Sep	84	88	89	89	89	89	90	85	69	66	57	48	37	35	33	32	33	34	37	44	49	59	65	68	61.3	89.6
13-Sep	70	72	73	75	78	79	79	78	76	70	65	62	61	58	56	55	54	55	58	62	67	71	74	76	67.7	79.3
14-Sep	78	80	81	83	85	88	88	89	89	89	79	65	59	53	48	43	42	45	51	59	63	65	68	73	69.2	89.4
15-Sep	84	86	87	88	89	89	89	87	84	71	63	59	52	52	54	59	66	80	83	85	86	87	87	87	77.2	89.4
16-Sep	86	N	N	N	N	81	79	77	78	79	80	78	79	71	69	64	68	67	73	58	54	56	59	61	70.9	86.1
17-Sep	66	67	67	71	72	74	72	70	62	55	47	43	41	39	37	37	37	37	41	48	55	61	66	68	55.6	74.2
18-Sep	72	75	78	81	83	85	83	79	76	69	65	63	57	57	61	62	61	63	65	66	65	68	74	72	70.1	85.0
19-Sep	71	72	68	69	71	73	73	67	58	52	46	43	42	39	36	39	39	39	42	50	54	59	64	65	55.6	73.3
20-Sep	70	75	80	83	82	84	84	75	68	63	53	47	39	33	29	29	30	33	40	45	49	53	56	60	56.8	84.2
21-Sep	69	78	67	64	72	76	72	65	67	73	72	68	66	62	57	55	52	54	49	55	58	54	57	73	63.8	78.2
22-Sep	83	81	75	71	70	68	69	70	63	60	57	50	54	54	54	54	54	62	66	75	79	79	79	79	67.0	83.3
23-Sep	72	73	77	82	86	84	83	76	66	56	45	50	50	50	43	43	43	47	50	52	54	57	67	73	61.6	85.6
24-Sep	78	79	80	84	84	85	85	82	81	80	74	67	61	57	56	54	53	57	64	69	69	68	67	64	70.8	85.1
25-Sep	67	71	74	76	80	79	79	80	78	77	75	72	65	52	50	44	54	62	67	66	59	61	63	67	67.3	79.9
26-Sep	63	65	63	62	62	65	68	65	59	48	41	39	36	36	38	39	41	42	46	52	56	56	57	63	52.7	68.4
27-Sep	70	72	78	81	85	84	80	72	63	56	36	32	27	26	29	32	33	37	41	46	51	55	61	62	54.5	85.1
28-Sep	65	59	59	56	54	57	56	52	50	47	43	42	41	40	39	38	35	35	40	47	51	53	56	63	49.1	64.7
29-Sep	70	69	69	68	69	69	70	70	63	59	57	49	45	44	39	36	36	41	46	50	56	68	72	76	57.9	75.5
30-Sep	73	79	70	56	58	70	68	68	61	50	45	39	37	36	35	35	33	34	38	45	49	54	56	57	51.9	79.1
73.6 75.2 75.7 75.9 77.7 79.9 79.1 74.4 68.4 62.6 56.1 50.8 47.2 45.2 44.0 43.2 43.1 45.5 49.1 54.6 59.0 62.9 66.2 69.7																								Diurnal Average		
86.1 88.4 88.9 89.3 89.4 90.5 89.6 89.1 89.4 88.7 80.1 78.3 78.8 71.2 72.4 70.1 68.4 80.2 82.6 85.5 85.8 87.4 86.6 87.0																								Diurnal Maximum		
N - Not Valid																										

Hourly Averages

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



Hourly Averages

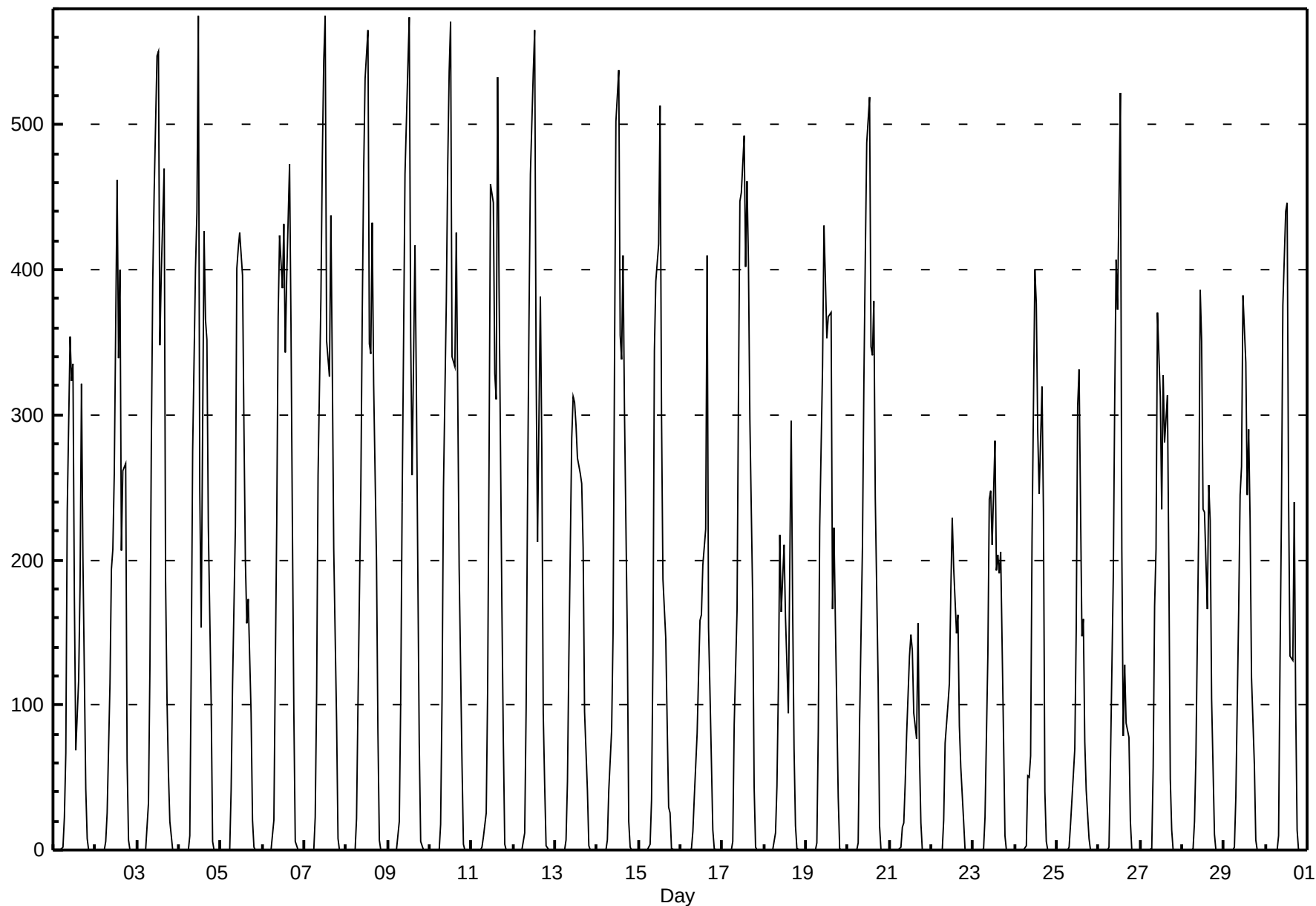
Solar Radiation (SR) - W/m²

Henry Pirker - September 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 575.3 W/m ² on Sep 7 13:00 Maximum Daily Average: 171.5 W/m ² on Sep 7																								Hours in Service: 720 Hours of Data: 716 Hours of Missing Data: 4 Hours of Calibration: 0 Percent Operational Time: 99.4		
Minimum Value: 0 W/m ² on Sep 1 01:00 Minimum Daily Average: 41.5 W/m ² on Sep 21 Maximum Diurnal Average: 390.3 W/m ² at hour 13 Minimum Diurnal Average: 0.0 W/m ² at hour 1 Monthly Average: 118.56 W/m ² Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 12.9 Q ₃ = 222.8 P ₉₀ = 378.4 P ₉₉ = 541.2																										
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-Sep	0	0	0	0	0	2	23	67	234	354	323	336	175	69	117	183	321	202	42	8	0	0	0	0	102.3	353.6
2-Sep	0	0	0	0	0	0	6	25	115	194	207	259	462	340	400	207	261	266	62	7	0	0	0	0	117.1	462.0
3-Sep	0	0	0	0	0	0	32	124	279	392	454	548	551	348	398	470	186	104	53	19	0	0	0	0	165.0	550.6
4-Sep	0	0	0	0	0	0	10	126	275	401	440	575	249	154	426	366	352	223	101	6	0	0	0	0	154.4	575.2
5-Sep	0	0	0	0	0	0	41	114	223	401	415	426	396	291	200	156	173	95	21	2	0	0	0	0	123.0	425.7
6-Sep	0	0	0	0	0	0	21	125	225	367	424	387	432	343	395	473	362	222	95	5	0	0	0	0	161.5	472.9
7-Sep	0	0	0	0	0	0	23	108	259	380	478	544	575	351	327	438	331	207	88	7	0	0	0	0	171.5	575.3
8-Sep	0	0	0	0	0	0	22	100	247	369	468	532	565	349	343	432	322	200	81	7	0	0	0	0	168.2	564.9
9-Sep	0	0	0	0	0	0	20	105	240	350	466	539	574	354	259	417	317	193	73	6	0	0	0	0	163.1	574.2
10-Sep	0	0	0	0	0	0	18	104	249	379	473	537	572	340	333	426	315	195	60	4	0	0	0	0	166.9	571.6
11-Sep	0	0	0	0	0	0	2	8	26	111	271	459	446	329	311	533	390	167	76	4	0	0	0	0	130.6	533.1
12-Sep	0	0	0	0	0	0	12	98	243	364	466	536	565	333	212	382	277	95	45	3	0	0	0	0	151.3	565.2
13-Sep	0	0	0	0	0	0	7	48	133	284	313	309	293	270	260	252	208	96	41	3	0	0	0	0	104.9	312.7
14-Sep	0	0	0	0	0	0	7	41	83	149	332	502	538	355	339	410	303	147	19	2	0	0	0	0	134.5	537.6
15-Sep	0	0	0	0	0	0	4	34	135	344	392	417	513	301	187	145	86	29	25	1	0	0	0	0	109.0	513.1
16-Sep	0	N	N	N	N	0	1	12	37	81	121	158	162	196	221	410	153	109	13	1	0	0	0	0	83.8	410.0
17-Sep	0	0	0	0	0	0	6	86	165	313	447	453	492	402	461	405	297	172	44	1	0	0	0	0	156.1	492.2
18-Sep	0	0	0	0	0	0	12	44	112	218	164	210	160	128	94	296	169	69	17	1	0	0	0	0	70.6	296.2
19-Sep	0	0	0	0	0	0	5	82	222	333	430	393	353	368	370	166	222	157	36	1	0	0	0	0	130.8	430.1
20-Sep	0	0	0	0	0	0	5	88	209	322	409	487	519	347	341	378	243	116	17	0	0	0	0	0	145.1	518.7
21-Sep	0	0	0	0	0	0	2	16	19	46	79	134	149	138	94	77	157	66	19	0	0	0	0	0	41.5	156.7
22-Sep	0	0	0	0	0	0	0	21	74	100	115	178	229	195	149	163	85	57	20	0	0	0	0	0	57.8	229.5
23-Sep	0	0	0	0	0	0	1	23	135	241	247	210	282	193	203	191	206	78	9	0	0	0	0	0	84.2	282.0
24-Sep	0	0	0	0	0	0	3	51	50	65	215	400	377	288	246	319	233	41	6	0	0	0	0	0	95.6	399.8
25-Sep	0	0	0	0	0	0	0	2	18	52	70	153	306	331	147	159	75	41	8	0	0	0	0	0	56.7	331.0
26-Sep	0	0	0	0	0	0	2	59	187	310	407	372	522	208	79	127	87	78	20	0	0	0	0	0	102.5	522.3
27-Sep	0	0	0	0	0	0	1	57	168	207	371	313	235	328	281	314	194	49	13	0	0	0	0	0	105.5	370.9
28-Sep	0	0	0	0	0	0	1	19	65	228	387	351	235	233	166	252	228	104	11	0	0	0	0	0	94.9	386.6
29-Sep	0	0	0	0	0	0	2	36	165	245	265	383	337	245	290	228	119	59	7	0	0	0	0	0	99.2	382.6
30-Sep	0	0	0	0	0	0	0	10	129	231	375	440	446	244	133	130	240	101	14	0	0	0	0	0	103.9	445.9
0.0 0.0 0.0 0.0 0.0 0.1 9.7 61.2 157.4 261.0 334.2 384.7 390.3 279.0 259.4 296.9 230.4 124.6 37.9 2.9 0.0 0.0 0.0 0.0																								Diurnal Average		
0.0 0.0 0.0 0.0 0.0 1.5 40.8 126.3 279.0 401.0 478.1 575.2 575.3 401.7 461.5 533.1 389.6 266.3 101.2 19.4 0.0 0.0 0.0 0.0																								Diurnal Maximum		
N - Not Valid																										

Hourly Averages

Solar Radiation (SR) - W/m²
Henry Pirker - September 2011



Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Henry Pirker - September 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	5	5	5	5	5	5	5	4	5	8	7	8	7	7	3	8	10	12	20	17	13	13	13	12	5.4	19.6
Dir	162	164	167	161	145	158	151	175	143	126	127	127	136	288	315	143	194	232	255	244	232	234	237	252	205.0	255.0
2 Spd	16	17	16	15	17	15	16	14	16	19	16	21	19	19	19	16	17	20	11	5	8	7	10	8	13.8	21.1
Dir	255	259	266	266	280	287	281	285	292	298	309	313	310	308	283	309	296	283	291	248	240	231	232	248	283.8	313.4
3 Spd	8	6	6	6	6	5	5	7	7	6	9	11	15	14	18	18	17	12	10	5	5	1	1	3	7.0	18.4
Dir	262	239	228	238	226	169	149	167	168	206	206	232	247	248	247	267	265	263	260	247	215	161	3	143	237.1	267.3
4 Spd	6	3	4	3	4	2	4	4	3	5	8	14	13	7	11	25	27	23	16	10	7	6	1	4	6.2	27.2
Dir	155	135	121	114	116	108	151	169	177	251	204	223	238	245	268	280	268	263	276	275	255	285	261	135	249.2	268.4
5 Spd	4	5	2	4	1	4	7	10	11	11	9	8	5	5	5	5	3	1	9	9	4	7	4	2	3.5	11.3
Dir	156	167	194	219	138	201	228	231	233	236	246	251	212	155	93	21	64	151	277	301	282	278	249	218	235.5	236.1
6 Spd	5	3	2	1	1	3	4	3	5	7	12	13	13	16	12	15	14	11	9	7	6	5	7	6	6.5	15.9
Dir	186	179	323	155	185	140	160	175	164	175	220	220	217	215	219	252	239	234	230	225	185	157	176	156	210.9	214.6
7 Spd	4	2	2	3	1	5	4	4	8	11	15	20	19	17	16	13	11	8	7	2	1	2	2	0	6.0	19.7
Dir	160	142	207	228	150	152	168	231	237	229	248	244	240	255	269	272	278	286	306	306	113	348	336	278	249.3	243.7
8 Spd	3	4	4	3	2	0	4	5	5	3	5	5	7	8	9	8	6	3	3	5	2	3	5	3	3.0	9.2
Dir	324	306	309	280	307	311	171	152	229	250	240	218	208	206	216	254	297	272	189	180	186	160	179	291	229.2	216.1
9 Spd	3	0	2	1	2	2	5	5	6	8	10	15	21	22	24	24	18	27	22	17	9	8	8	11	10.6	27.2
Dir	330	203	139	311	257	172	200	230	228	234	229	248	261	268	268	252	248	279	266	260	246	240	240	258	255.7	279.0
10 Spd	10	7	9	8	3	1	2	3	3	2	7	11	10	8	9	6	4	4	2	3	4	3	2	4	3.7	10.9
Dir	258	240	266	281	323	166	274	340	322	259	278	317	327	289	309	321	316	317	125	100	81	77	27	304	298.7	316.6
11 Spd	5	3	6	10	11	10	8	18	19	18	12	5	4	7	9	11	7	7	5	2	2	4	2	3	5.2	18.9
Dir	321	293	358	50	59	70	34	351	10	8	10	6	298	317	302	305	278	288	319	342	116	114	117	211	357.8	10.4
12 Spd	2	1	5	4	4	3	4	4	5	7	7	5	4	4	3	5	6	4	6	5	6	11	12	11	0.9	12.4
Dir	213	184	292	307	325	343	305	226	231	236	234	224	206	183	223	194	116	100	74	79	84	69	72	83	129.4	72.4
13 Spd	9	9	8	8	10	10	11	12	13	13	12	12	13	14	16	17	17	16	15	15	14	11	10	10	12.1	16.8
Dir	82	76	79	79	83	94	91	95	105	114	111	100	102	102	105	101	104	110	108	113	115	110	108	99	101.3	100.7
14 Spd	10	10	10	7	3	3	1	3	4	4	2	2	3	3	2	2	4	8	6	6	6	6	6	5	3.7	10.2
Dir	104	99	97	100	113	115	282	186	259	283	312	183	159	160	133	113	100	122	103	94	95	90	87	94	108.7	103.6
15 Spd	3	1	4	3	4	3	1	3	3	2	2	2	2	3	4	9	13	5	7	6	10	11	14	12	3.9	14.5
Dir	41	36	303	337	299	346	264	330	299	277	266	206	99	84	172	229	247	303	288	297	278	279	260	260	273.3	259.7
16 Spd	10	N	N	N	8	11	12	14	15	18	18	17	26	31	34	34	28	21	13	21	23	16	11	10	17.4	34.3
Dir	255	N	N	N	267	257	248	244	244	247	242	251	290	292	296	297	303	300	303	274	270	270	272	270	276.6	296.2
17 Spd	11	10	12	11	7	7	10	7	16	24	30	28	27	27	28	29	29	23	17	14	13	9	9	8	16.6	29.7
Dir	260	259	249	257	271	292	266	275	263	264	267	265	268	271	260	265	267	275	261	255	254	244	237	244	263.5	267.1
18 Spd	4	2	5	4	4	3	5	6	6	4	5	6	6	3	7	15	10	10	11	16	13	10	8	10	5.2	15.9
Dir	270	281	178	172	146	162	140	142	131	140	119	134	133	143	206	239	237	198	201	263	230	207	195	214	199.9	263.3
19 Spd	7	6	8	8	8	11	8	11	18	25	28	29	23	25	23	26	26	18	14	16	10	8	7	7	15.5	29.0
Dir	235	195	254	258	273	266	279	273	277	268	272	282	278	285	282	284	264	263	260	255	254	240	231	240	267.9	281.8
20 Spd	2	3	3	4	5	4	4	5	6	7	4	8	12	12	12	11	12	10	11	11	10	9	6	6	7.0	12.4
Dir	241	139	145	139	131	135	130	128	149	122	153	136	143	161	155	153	141	123	110	112	115	113	107	136	134.4	154.7
21 Spd	2	2	7	5	2	2	4	6	6	6	6	7	9	10	9	12	13	8	12	7	7	19	17	9	3.0	19.2
Dir	148	126	121	126	314	50	108	117	103	113	123	130	140	124	124	135	132	130	173	169	291	297	303	304	139.7	297.4
22 Spd	5	9	16	14	10	10	6	8	14	11	10	11	7	7	5	8	3	4	4	4	3	3	3	3	5.0	15.6
Dir	234	261	280	288	276	259	251	260	247	240	264	257	188	163	177	147	168	169	173	172	330	333	4	70	246.9	280.4

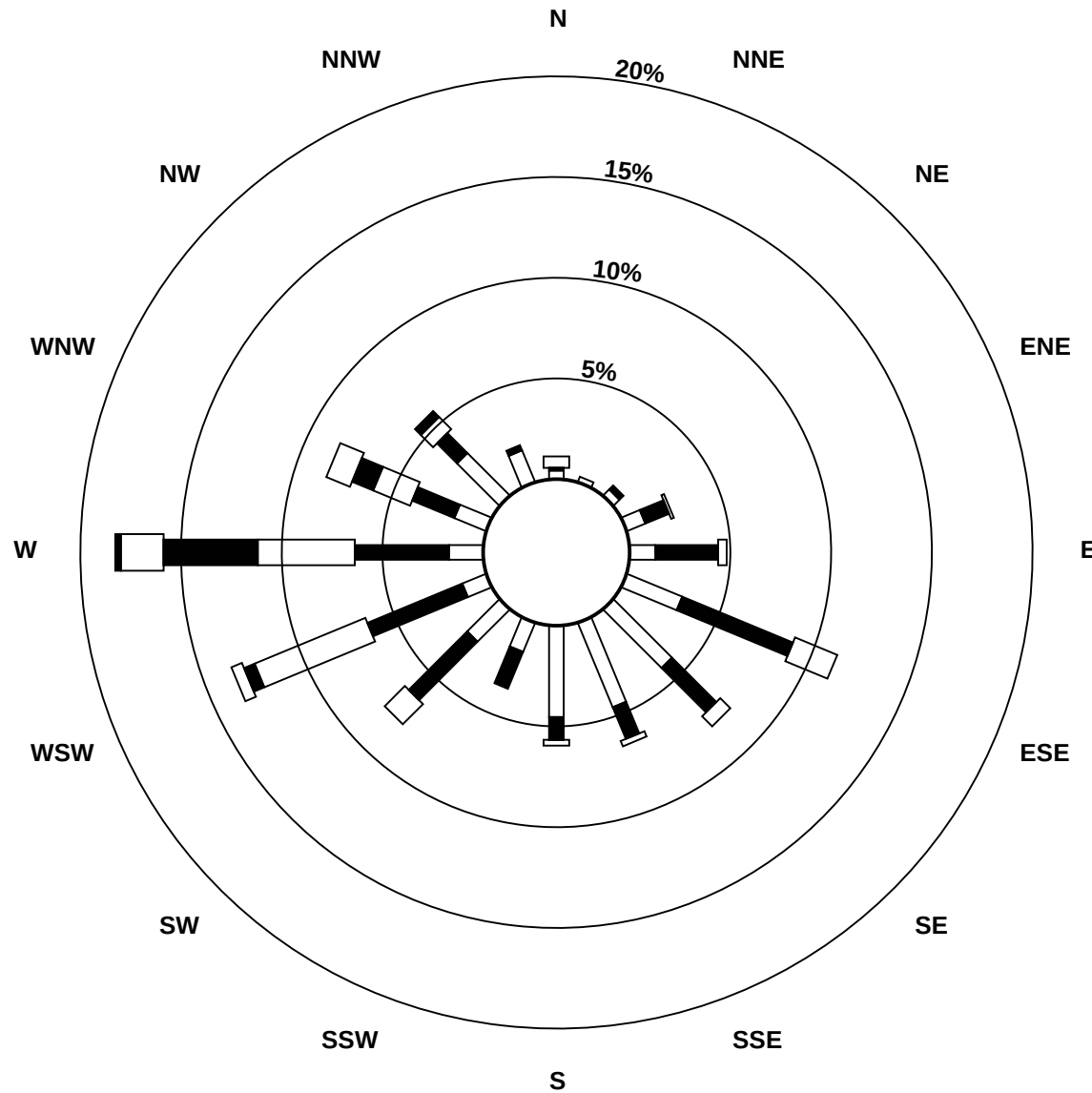
Hourly Averages

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

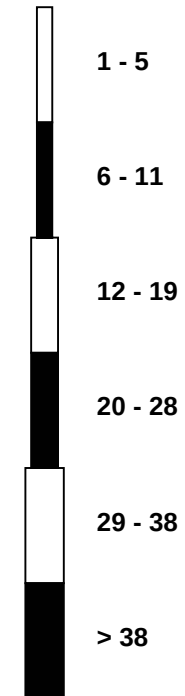
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
23 Spd	5	8	8	9	10	11	8	10	13	12	12	17	22	26	31	31	32	30	23	16	15	16	13	12	7.3	31.6	
Dir	108	118	110	111	114	114	115	120	123	131	182	320	319	309	299	294	299	296	286	289	273	284	270	260	290.3	299.4	
24 Spd	3	4	12	12	12	13	12	11	10	10	12	11	10	5	5	5	4	5	5	6	8	11	9	8	3.3	12.8	
Dir	279	223	278	274	280	258	246	235	244	229	249	251	277	269	212	153	118	71	68	65	72	88	78	94	248.4	257.8	
25 Spd	9	7	6	7	2	9	5	8	4	10	12	9	12	14	8	17	8	4	4	9	14	11	12	16	2.0	17.0	
Dir	111	122	128	135	143	121	135	99	102	113	117	130	118	119	197	267	333	341	287	248	287	302	265	267	167.2	266.8	
26 Spd	18	18	18	19	17	13	7	1	6	4	2	4	7	9	11	13	11	9	9	7	7	9	5	5	3.0	19.4	
Dir	259	268	271	282	274	264	279	278	178	223	187	170	125	119	112	105	119	111	106	111	123	157	169	174	207.3	281.7	
27 Spd	5	1	5	3	6	4	6	6	7	6	12	10	18	29	31	35	37	36	26	25	15	13	6	6	12.3	36.6	
Dir	183	286	324	161	168	146	145	151	174	177	236	231	246	253	261	262	258	257	269	255	246	252	323	224	248.5	257.8	
28 Spd	4	11	10	18	32	26	24	25	32	29	30	32	29	26	23	22	22	20	11	10	9	7	6	3	18.7	32.5	
Dir	219	260	251	258	259	260	262	267	267	266	270	279	280	272	278	273	271	275	262	246	237	225	225	139	265.5	267.3	
29 Spd	3	3	6	6	8	10	10	10	6	5	6	6	4	5	7	7	8	9	5	4	1	2	0	2	4.7	10.4	
Dir	112	110	112	115	102	95	102	113	142	168	166	196	169	173	127	99	96	88	52	61	143	139	313	113	116.1	101.6	
30 Spd	1	0	5	5	3	8	11	11	15	32	37	41	41	36	34	32	34	28	25	20	18	17	16	13	18.1	41.0	
Dir	74	66	113	109	101	315	320	312	312	282	272	274	271	270	263	259	263	259	264	263	255	249	239	245	268.6	270.9	
Spd	2.5	2.2	2.4	2.3	2.4	1.9	2.4	2.5	4.1	5.7	7.5	8.2	8.0	8.2	9.2	9.9	9.0	8.0	6.4	5.5	4.9	3.7	3.3	3.3	Diurnal Average		
Dir	225.5	221.4	247.6	247.7	256.5	233.1	228.0	230.8	241.6	244.7	247.8	256.2	257.0	260.6	260.9	264.7	263.0	264.9	261.2	252.1	244.3	246.5	241.7	234.6	Diurnal Maximum		
Spd	18.2	18.2	18.3	19.4	31.9	26.3	24.5	25.4	32.5	31.9	36.9	40.7	41.0	36.3	34.5	34.6	36.6	36.0	26.4	25.1	23.0	19.2	17.5	16.4	Diurnal Maximum		
Dir	258.8	268.0	271.0	281.7	258.5	259.7	261.8	267.4	267.3	281.9	272.0	273.6	270.9	270.1	263.0	262.3	257.8	256.6	268.9	255.4	269.7	297.4	303.1	267.0			
Maximum Speed Value: 41 km/h on Sep 30 13:00							Minimum Speed Value: 0 km/h on Sep 29 23:00													Hours in Service:				720			
Maximum Daily Speed Average: 18.7 km/h on Sep 30							Minimum Daily Speed Average: 0.9 km/h on Sep 8													Hours of Data:				717			
Maximum Diurnal Speed Average: 9.9 km/h at hour 16							Minimum Diurnal Speed Average: 1.9 km/h at hour 6													Hours of Missing Data:				3			
Monthly Average Velocity: 5.06 km/h 252.59 deg							Speed Percentiles: P ₁ = 0.7 P ₁₀ = 2.6 Q ₁ = 4.5 Median = 7.9 Q ₃ = 12.8 P ₉₀ = 21.1 P ₉₉ = 33.7													Percent Operational Time:				99.6			
All monthly, daily, and diurnal averages have been calculated using vector methods																											
N - Not Valid																											
Frequency Distribution																											
Speed Range (km/h)																											
Direction	0 to 5		5 to 11		11 to 19		19 to 28		28 to 38		> 38		Total														
North	10		1		4		0		0		0		15														
NorthEast	8		3		1		0		0		0		12														
East	16		49		17		0		0		0		82														
SouthEast	54		56		14		0		0		0		124														
South	43		31		4		0		0		0		78														
SouthWest	19		61		32		2		0		0		114														
West	25		52		73		40		25		2		217														
NorthWest	34		19		9		7		6		0		75														
Total	209		272		154		49		31		2		717														

Wind Rose

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



Wind Speed Classes (km/h)



Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Henry Pirker - September 2011

Maximum Speed: 42 km/h on Sep 30 13:00																				Maximum Daily Speed Average: 20.7 km/h on Sep 30						Hours in Service: 720	
Minimum Speed: 2 km/h on Sep 10 06:00																				Minimum Daily Speed Average: 4.9 km/h on Sep 8						Hours of Data: 717	
Maximum Diurnal Speed Average: 16.5 km/h at hour 16																				Minimum Diurnal Speed Average: 6.4 km/h at hour 2						Hours of Missing Data: 3	
Monthly Average Speed: 10.60 km/h																				Percentiles: P ₁ = 2.4 P ₁₀ = 3.6 Q ₁ = 5.2 Median = 8.4 Q ₃ = 13.1 P ₉₀ = 21.3 P ₉₉ = 34.1						Percent Operational Time: 99.6	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Sep	5	5	5	5	5	5	5	4	5	8	7	9	8	8	5	8	11	13	20	18	13	13	13	12	8.8	19.8	
2-Sep	16	17	16	15	17	16	16	14	16	19	16	21	20	19	19	16	18	20	11	6	8	7	10	8	15.1	21.3	
3-Sep	8	6	6	6	6	5	5	7	8	7	10	12	15	15	18	19	17	12	10	6	6	4	3	4	9.0	18.8	
4-Sep	6	3	5	3	4	4	4	5	4	6	8	15	14	8	12	26	28	24	17	11	7	6	3	4	9.3	27.6	
5-Sep	4	5	4	5	3	4	7	10	11	12	10	8	6	5	6	5	4	4	9	9	6	7	5	4	6.4	11.6	
6-Sep	5	3	3	3	3	4	4	3	5	7	12	13	14	16	13	17	15	11	10	8	8	5	7	6	8.2	16.9	
7-Sep	5	3	4	4	3	5	5	6	9	12	15	20	20	18	16	13	11	8	7	3	2	2	2	2	8.1	20.1	
8-Sep	3	4	4	4	3	2	4	5	5	4	6	6	8	9	10	9	7	3	3	5	2	3	5	4	4.9	10.1	
9-Sep	3	4	2	2	2	3	5	6	6	8	10	15	22	23	24	25	19	27	22	17	9	9	8	11	11.9	27.4	
10-Sep	10	8	9	9	4	2	3	4	3	3	8	11	11	9	10	7	5	5	3	3	4	3	4	4	6.0	11.3	
11-Sep	5	4	7	10	12	11	10	19	19	19	13	7	6	8	11	12	8	8	5	4	2	4	3	3	8.6	19.5	
12-Sep	3	3	5	4	4	3	4	4	5	7	7	6	6	6	6	6	8	5	6	5	6	11	13	11	6.0	12.6	
13-Sep	9	9	8	8	10	11	12	12	13	14	12	12	13	14	16	17	17	17	15	15	14	12	11	10	12.5	17.1	
14-Sep	10	10	10	7	3	3	3	4	4	4	4	4	5	5	5	4	5	8	6	6	6	6	6	5	5.7	10.3	
15-Sep	3	3	4	4	4	4	3	4	5	4	4	4	4	5	5	10	13	7	8	6	10	11	15	12	6.4	14.6	
16-Sep	11	N	N	N	9	12	12	14	15	18	19	18	27	31	35	34	28	21	13	21	23	17	12	11	18.9	34.5	
17-Sep	11	10	12	11	9	8	10	7	16	24	30	29	28	28	28	30	29	23	17	14	13	10	9	8	17.2	30.1	
18-Sep	4	4	5	4	4	4	5	6	6	5	5	7	6	4	8	16	11	10	12	17	14	10	9	10	7.7	16.7	
19-Sep	7	6	8	8	8	11	8	11	18	26	29	30	23	25	26	23	26	26	18	15	16	10	8	7	16.4	29.5	
20-Sep	3	3	4	4	5	4	4	5	6	8	6	8	13	12	13	12	13	11	11	11	10	9	6	6	7.8	12.8	
21-Sep	4	3	7	6	4	3	5	7	6	6	7	7	10	10	9	12	13	9	12	7	9	19	18	10	8.5	19.3	
22-Sep	5	9	16	14	10	11	7	8	14	12	10	11	8	7	6	8	3	4	4	4	3	3	3	3	7.7	15.7	
23-Sep	5	8	9	9	10	11	9	10	13	13	12	18	22	26	31	32	32	31	24	16	15	17	14	12	16.6	31.9	
24-Sep	5	5	13	12	13	13	13	11	10	10	12	11	11	6	6	6	6	6	5	6	9	11	9	8	9.0	13.0	
25-Sep	9	7	6	8	6	10	6	8	6	10	13	9	12	14	13	17	9	5	7	10	14	11	12	17	10.0	17.3	
26-Sep	18	18	19	20	17	13	7	4	6	5	6	6	8	9	11	13	11	9	9	7	7	9	6	5	10.1	19.5	
27-Sep	5	5	8	5	6	7	7	7	7	6	12	11	18	29	32	35	37	36	27	25	16	13	7	7	15.4	36.9	
28-Sep	5	11	10	18	32	27	25	26	33	30	30	32	29	27	23	22	22	20	11	10	9	8	7	3	19.7	32.8	
29-Sep	4	4	6	6	8	10	10	10	6	6	6	7	6	6	8	8	9	9	5	5	5	3	4	3	6.4	10.5	
30-Sep	4	4	5	5	4	9	11	11	16	32	37	41	42	37	35	32	34	28	25	20	18	17	16	13	20.7	41.6	
6.6 6.4 7.6 7.7 7.6 7.7 7.6 8.4 10.0 11.4 12.6 13.7 14.5 14.6 15.3 16.5 15.7 14.0 11.7 10.4 9.5 9.0 8.1 7.5																								Diurnal Average			
18.4 18.4 18.7 19.5 32.0 26.5 24.7 25.7 32.8 32.2 37.3 41.4 41.6 36.7 34.8 34.9 36.9 36.2 26.7 25.3 23.2 19.3 17.6 16.8																								Diurnal Maximum			
N - Not Valid																											
All monthly, daily, and diurnal averages have been calculated using scalar methods																											

Hourly Standard Deviations

Wind Direction (WD) - deg
Henry Pirker - September 2011

Maximum Value: 95.8 deg on Sep 6 04:00																				Hours in Service: 720					
Minimum Value: 5.3 deg on Sep 20 20:00																				Hours of Data: 717					
																				Hours of Missing Data: 3					
Percentiles: P ₁ = 6.0 P ₁₀ = 7.8 Q ₁ = 10.2 Median = 15.6 Q ₃ = 29.5 P ₉₀ = 56.8 P ₉₉ = 89.0																				Hours of Calibration: 0					
																				Percent Operational Time: 99.6					
Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Sep	10	16	14	11	11	8	10	18	29	16	19	21	19	20	66	17	22	19	10	11	8	9	10	11	65.6
2-Sep	8	7	7	6	10	8	10	9	7	9	9	9	12	11	14	15	19	9	7	29	11	11	9	17	29.2
3-Sep	17	17	17	13	24	12	14	10	14	30	24	24	17	18	16	13	12	9	11	33	21	78	77	30	77.9
4-Sep	10	16	29	20	14	48	27	51	41	31	23	21	22	31	30	14	9	10	11	11	23	26	74	20	73.6
5-Sep	31	31	66	37	75	27	28	12	12	14	17	27	33	27	28	20	43	69	15	12	40	15	32	55	74.6
6-Sep	27	24	75	96	66	52	30	29	21	21	12	12	16	14	20	28	21	18	14	14	32	23	10	15	95.8
7-Sep	30	45	67	22	77	14	42	56	18	15	14	12	14	16	13	18	17	18	11	72	63	59	69	91	90.9
8-Sep	38	13	33	47	58	94	28	11	36	32	22	35	22	21	25	30	37	50	31	9	15	47	20	42	94.3
9-Sep	56	90	30	78	52	67	17	22	16	19	17	15	13	13	10	11	19	7	10	7	12	9	8	8	90.2
10-Sep	9	21	18	20	67	66	57	42	33	67	40	17	25	27	25	43	51	36	77	24	17	30	57	19	76.6
11-Sep	24	80	36	17	12	17	38	13	14	10	16	56	63	35	34	21	36	25	18	60	31	8	50	46	80.1
12-Sep	41	61	8	17	24	29	11	20	15	14	19	31	48	52	80	32	44	41	13	11	28	10	11	9	79.7
13-Sep	10	10	10	11	10	9	8	8	10	11	14	16	17	12	13	11	11	10	10	8	8	8	8	7	16.5
14-Sep	8	6	6	8	29	30	80	33	34	38	74	64	71	68	78	75	46	14	10	6	6	7	8	14	79.5
15-Sep	21	74	20	41	20	41	83	54	54	75	64	75	69	68	39	19	12	51	34	15	12	11	8	7	83.4
16-Sep	7	N	N	N	12	11	8	8	9	8	9	9	15	6	6	6	7	7	6	12	7	12	12	15	15.4
17-Sep	9	17	10	12	38	19	11	21	10	9	9	12	12	13	12	14	10	8	8	7	9	10	9	11	38.1
18-Sep	48	68	18	15	16	26	22	14	14	37	30	23	23	63	29	18	25	16	16	21	17	7	8	12	67.9
19-Sep	20	30	26	14	12	5	16	10	8	10	7	11	10	11	13	10	11	7	7	9	8	11	9	16	30.0
20-Sep	84	28	25	11	8	13	31	14	21	15	46	21	15	16	16	22	12	10	6	5	6	7	13	22	84.4
21-Sep	70	63	9	36	59	66	25	13	29	19	16	14	11	10	11	9	11	21	8	11	48	7	7	19	69.8
22-Sep	21	14	7	7	14	13	18	29	11	17	10	14	33	18	27	28	45	16	21	12	27	15	20	20	44.6
23-Sep	18	12	13	10	10	8	10	10	6	20	16	37	10	11	8	8	7	6	7	9	7	11	12	14	36.9
24-Sep	61	63	16	13	10	10	13	11	13	13	11	17	21	36	41	47	53	25	19	13	10	8	10	13	63.1
25-Sep	13	23	19	40	79	30	67	28	70	17	10	14	9	9	46	10	21	32	63	35	12	17	16	13	78.6
26-Sep	7	10	11	7	6	7	15	86	19	66	84	63	32	25	13	10	15	11	10	8	8	6	27	17	86.3
27-Sep	17	89	73	76	14	59	18	19	12	15	21	15	13	12	11	8	8	6	8	8	13	10	31	30	89.5
28-Sep	54	18	14	7	6	7	8	8	8	8	9	9	10	9	9	14	10	9	13	9	16	16	26	27	54.4
29-Sep	46	27	12	13	12	8	8	10	22	28	25	33	40	33	26	19	14	10	22	29	80	82	93	52	93.4
30-Sep	78	93	40	13	57	11	10	10	10	8	8	10	9	9	8	7	8	7	7	8	8	11	7	9	92.6
84.4 92.6 74.6 95.8 78.6 94.3 83.4 86.3 69.9 75.2 83.8 75.1 70.9 68.0 79.7 74.9 52.8 69.4 76.6 72.2 80.2 81.8 93.4 90.9																									
N - Not Valid																									

PAZA

Evergreen Park Station

Monthly Summary Tables, Graphs and
Roses

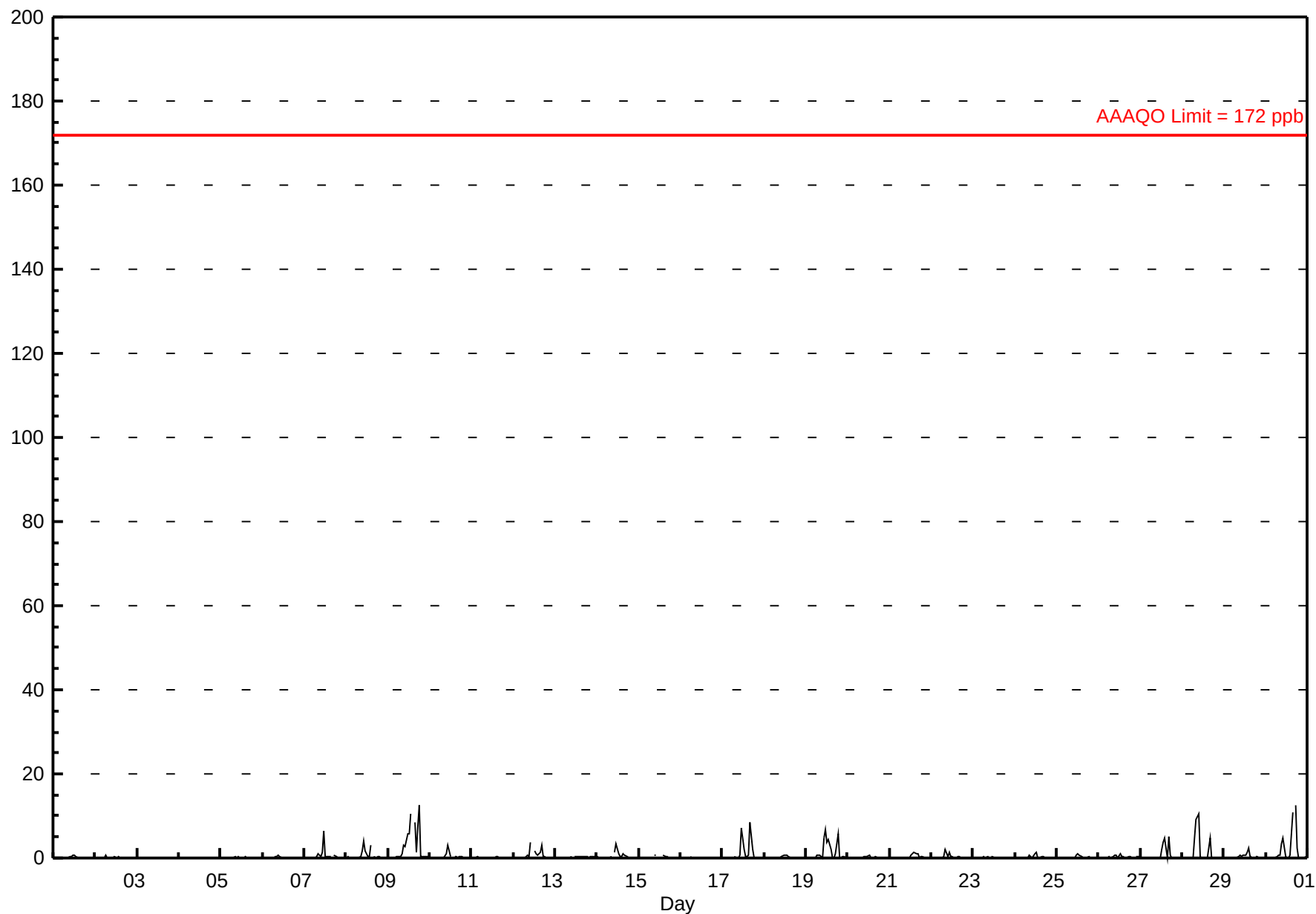
Hourly Averages

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

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 12.5 ppb on Sep 30 18:00 Maximum Daily Average: 2.7 ppb on Sep 9																								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 Sep 1 06:00 Maximum Diurnal Average: 1.4 ppb at hour 12 Monthly Average: 0.47 ppb												Minimum Daily Average: 0.0 ppb on Sep 4 Minimum Diurnal Average: 0.0 ppb at hour 5 Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.1 Q ₃ = 0.2 P ₉₀ = 0.8 P ₉₉ = 8.2														
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-Sep	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	A	0	0.1	0.6
2-Sep	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.1	0.5
3-Sep	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	0.2
4-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.0	0.1
5-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0.1	0.4
6-Sep	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0.1	0.6
7-Sep	0	0	0	0	0	0	0	0	1	0	1	6	0	0	0	0	A	1	0	0	0	0	0	0	0.5	6.3
8-Sep	0	0	0	0	0	0	0	0	0	2	4	2	0	0	3	A	0	0	0	0	0	0	0	0	0.6	4.2
9-Sep	0	0	0	0	0	0	0	0	1	3	3	6	6	11	A	8	1	8	12	0	0	0	0	0	2.7	12.4
10-Sep	0	0	0	0	0	0	0	0	0	1	3	2	0	A	0	0	0	0	0	0	0	0	0	0	0.4	3.1
11-Sep	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
12-Sep	0	0	0	0	0	0	0	0	1	0	4	A	2	1	1	1	3	0	0	0	0	0	0	0	0.6	3.6
13-Sep	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4
14-Sep	0	0	0	0	0	0	0	0	0	A	1	3	1	0	0	1	1	0	0	0	0	0	0	0	0.4	3.3
15-Sep	0	0	0	0	0	0	0	0	A	1	1	C	C	C	1	0	0	0	0	0	0	0	0	0	0.2	0.7
16-Sep	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
17-Sep	0	0	0	0	0	0	A	0	0	0	1	7	2	0	0	1	8	2	0	0	0	0	0	0	1.0	8.4
18-Sep	0	0	0	0	0	A	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0.1	0.8
19-Sep	0	0	0	0	A	0	1	1	1	0	5	7	4	5	2	0	0	1	6	0	0	0	0	0	1.3	6.8
20-Sep	0	0	0	A	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0.1	0.6
21-Sep	0	0	A	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0.2	1.3
22-Sep	0	A	0	0	0	0	0	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.9
23-Sep	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0.1	0.4
24-Sep	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0	0	0	0	0	0	0	0	A	0	0.2	1.2
25-Sep	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	A	0	0	0.2	1.0
26-Sep	0	0	0	0	0	0	0	0	0	1	1	0	1	0	0	0	0	0	0	0	A	0	0	0	0.2	1.0
27-Sep	0	0	0	0	0	0	0	0	0	0	0	0	2	4	5	0	5	1	0	A	0	0	0	0	0.8	5.1
28-Sep	0	0	0	0	0	0	0	5	9	10	0	0	0	0	0	2	5	0	A	0	0	0	0	0	1.4	10.4
29-Sep	0	0	0	0	0	0	0	0	0	1	0	1	1	1	2	0	0	A	0	0	0	0	0	0	0.3	2.3
30-Sep	0	0	0	0	0	0	0	1	1	3	5	0	0	0	1	11	A	13	2	0	0	0	0	0	1.6	12.5
0.1 0.1 0.0 0.0 0.0 0.1 0.1 0.3 0.6 0.9 1.1 1.4 0.9 1.0 0.6 1.0 1.0 1.0 0.8 0.1 0.1 0.1 0.1 0.1																								Diurnal Average		
0.3 0.2 0.1 0.2 0.2 0.2 0.5 4.9 9.3 10.4 4.7 7.0 5.9 10.6 4.6 11.0 8.4 12.5 12.4 0.4 0.2 0.3 0.3 0.3																								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 - September 2011



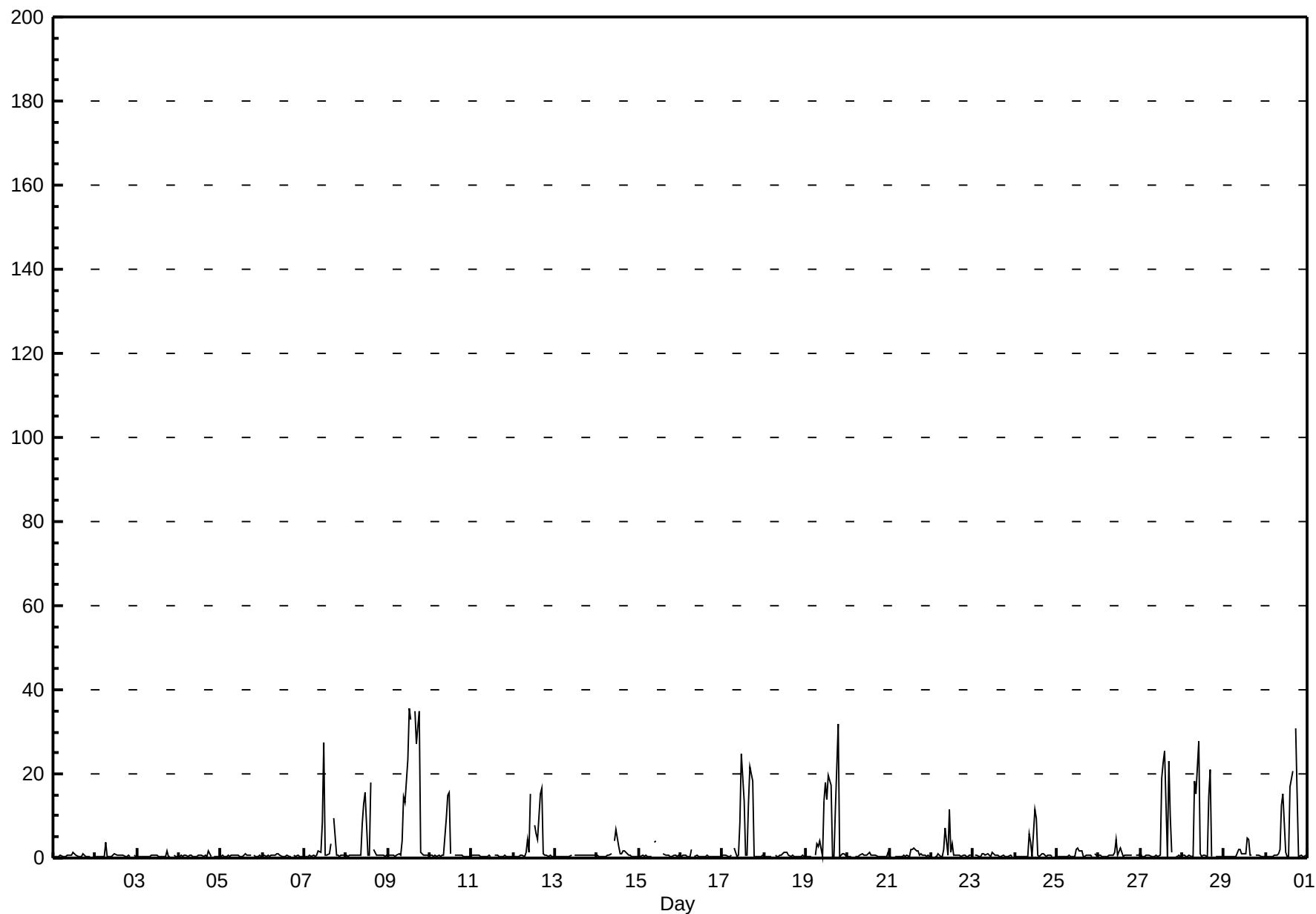
Hourly Maximums

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

Maximum Value: 35.5 ppb on Sep 9 13:00																				Maximum Daily Average: 11.3 ppb on Sep 9					Hours in Service: 720	
Minimum Value: 0 ppb on Sep 19 03:00																				Minimum Daily Average: 0.5 ppb on Sep 3					Hours of Data: 686	
Maximum Diurnal Average: 5.7 ppb at hour 12																				Minimum Diurnal Average: 0.4 ppb at hour 3					Hours of Missing Data: 34	
Monthly Average: 2.14 ppb																				Percentiles: P ₁ = 0.3 P ₁₀ = 0.4 Q ₁ = 0.4 Median = 0.5 Q ₃ = 0.8 P ₉₀ = 3.7 P ₉₉ = 30.5					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-Sep	0	0	0	0	1	0	0	0	1	1	1	1	1	1	0	0	0	1	0	0	0	0	A	0	0.5	1.2
2-Sep	0	0	0	0	0	0	4	0	0	0	1	1	1	1	1	1	1	0	0	1	0	A	1	1	0.6	3.6
3-Sep	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	2	0	0	A	1	0	0	0.5	1.6
4-Sep	0	1	0	1	1	0	1	1	0	0	0	1	1	1	0	1	0	2	0	A	0	0	0	0	0.5	1.7
5-Sep	0	1	0	0	1	0	1	1	1	1	1	0	0	1	1	1	1	1	A	1	0	0	1	0	0.6	0.9
6-Sep	0	1	0	1	0	1	1	1	1	1	1	0	0	0	1	0	0	A	1	0	1	0	0	0	0.6	1.1
7-Sep	1	0	0	1	0	1	0	1	2	1	8	27	1	1	1	3	A	9	1	1	0	1	1	1	2.7	27.4
8-Sep	1	0	1	1	1	1	1	1	1	8	13	16	1	1	18	A	2	1	1	1	1	1	0	1	2.9	17.8
9-Sep	1	1	1	1	0	1	1	1	4	14	13	23	35	33	A	35	27	31	35	1	1	1	1	1	11.3	35.5
10-Sep	1	1	0	1	1	1	0	1	1	10	15	15	1	A	1	1	1	1	1	0	0	0	0	0	2.2	15.4
11-Sep	1	1	1	1	1	0	0	0	0	1	1	0	A	1	1	1	0	0	0	1	0	0	0	0	0.5	0.8
12-Sep	0	0	0	0	1	1	0	1	4	1	15	A	8	6	4	15	17	1	1	1	0	1	0	0	3.4	16.6
13-Sep	0	0	0	0	0	0	0	0	0	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	0.6	0.8
14-Sep	1	0	0	0	0	0	1	1	1	A	4	7	3	1	1	2	2	1	1	1	0	0	0	0	1.2	6.6
15-Sep	0	0	1	0	1	0	0	0	A	4	4	C	C	C	1	1	1	1	0	0	1	1	0	1	0.9	4.0
16-Sep	0	1	1	1	0	0	2	A	0	1	0	0	0	0	1	1	0	0	1	0	0	0	0	0	0.5	2.1
17-Sep	1	1	1	0	0	1	A	2	0	1	9	25	14	1	1	13	22	18	0	0	0	0	0	1	4.8	24.7
18-Sep	0	0	0	0	0	A	1	0	1	1	1	1	1	1	0	1	0	0	0	0	0	0	1	0	0.6	1.5
19-Sep	0	0	0	0	A	1	3	3	4	0	14	18	14	20	17	0	0	11	32	0	1	1	1	0	6.2	31.8
20-Sep	0	0	0	A	0	0	0	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	1	0.6	1.3
21-Sep	0	0	A	0	0	0	0	0	1	0	1	0	2	2	2	2	2	1	1	1	1	1	1	0	0.8	2.3
22-Sep	0	A	0	1	1	0	0	2	7	1	11	1	3	1	1	1	1	0	1	1	0	0	1	1	1.5	11.4
23-Sep	A	1	1	0	0	1	1	1	1	1	0	1	1	1	1	0	0	1	0	0	0	1	0	A	0.6	1.3
24-Sep	0	0	0	0	0	0	0	1	6	4	0	12	9	1	0	1	1	1	0	1	1	0	A	0	1.7	11.6
25-Sep	0	0	0	0	0	0	0	1	0	1	0	2	2	2	2	0	1	1	1	1	0	A	1	0	0.7	2.5
26-Sep	1	1	0	0	0	0	1	1	1	1	5	1	2	1	0	1	1	1	1	1	A	1	1	1	0.9	4.5
27-Sep	1	1	0	1	1	1	0	0	1	1	1	1	19	23	26	0	23	10	1	A	0	0	1	0	4.8	25.6
28-Sep	1	1	0	0	1	0	0	18	15	28	1	0	1	1	0	15	21	0	A	0	0	0	0	0	4.6	27.8
29-Sep	0	0	0	0	0	0	0	0	2	2	1	1	1	5	4	1	1	A	1	1	1	0	0	0	1.0	4.6
30-Sep	0	1	0	0	0	1	1	1	2	12	15	1	0	0	17	21	A	31	15	0	1	0	0	1	5.3	30.7
0.5 0.5 0.4 0.5 0.5 0.5 0.8 1.4 2.0 3.3 4.7 5.7 4.5 3.7 3.6 4.0 4.5 4.5 3.4 0.5 0.5 0.5 0.5 0.5																								Diurnal Average		
1.3 0.8 0.6 0.8 0.9 0.8 3.6 18.1 15.4 27.8 15.3 27.4 35.5 33.0 25.6 34.8 27.0 31.3 34.8 1.4 0.8 0.9 0.9 1.3																								Diurnal Maximum		
C - Calibration A - Automated Daily Zero Span																										

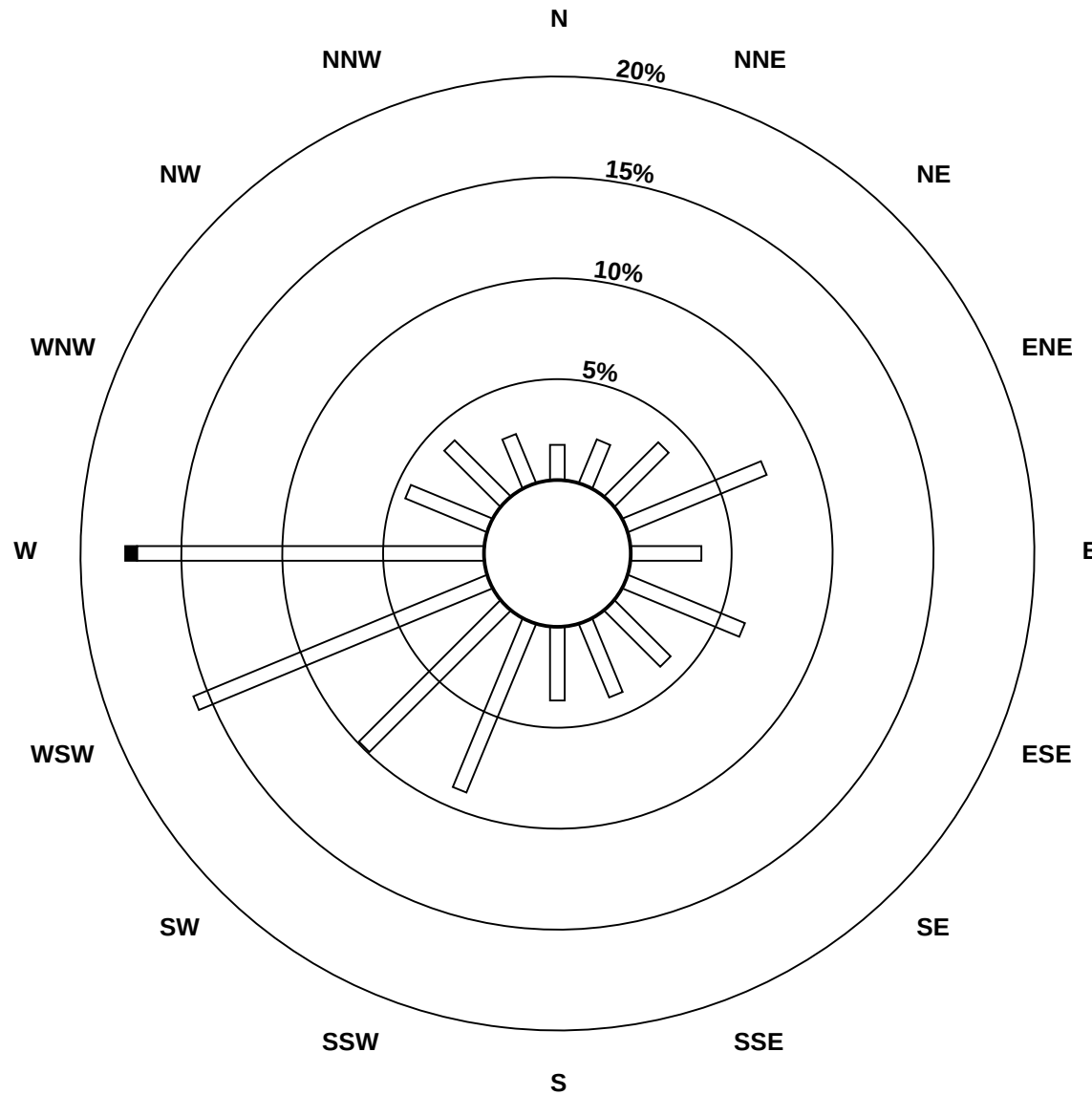
Hourly Maximums

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

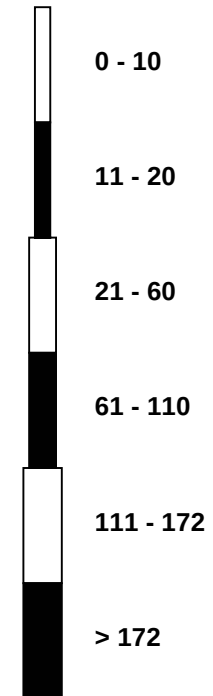


Pollutant Rose

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

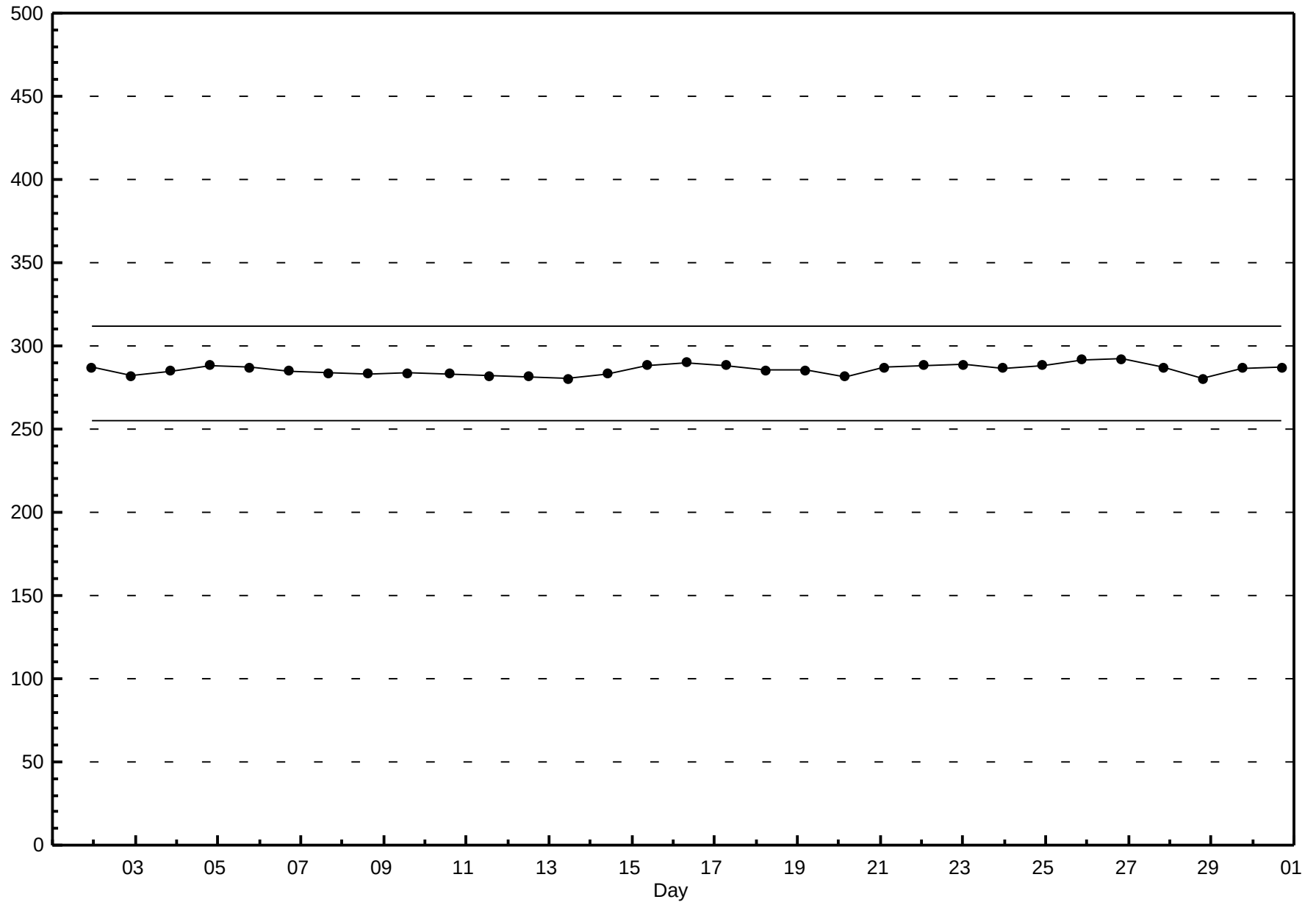


Pollutant Classes (ppb)



Span Responses

Sulphur Dioxide (SO₂)
Evergreen Park - September 2011



Hourly Averages

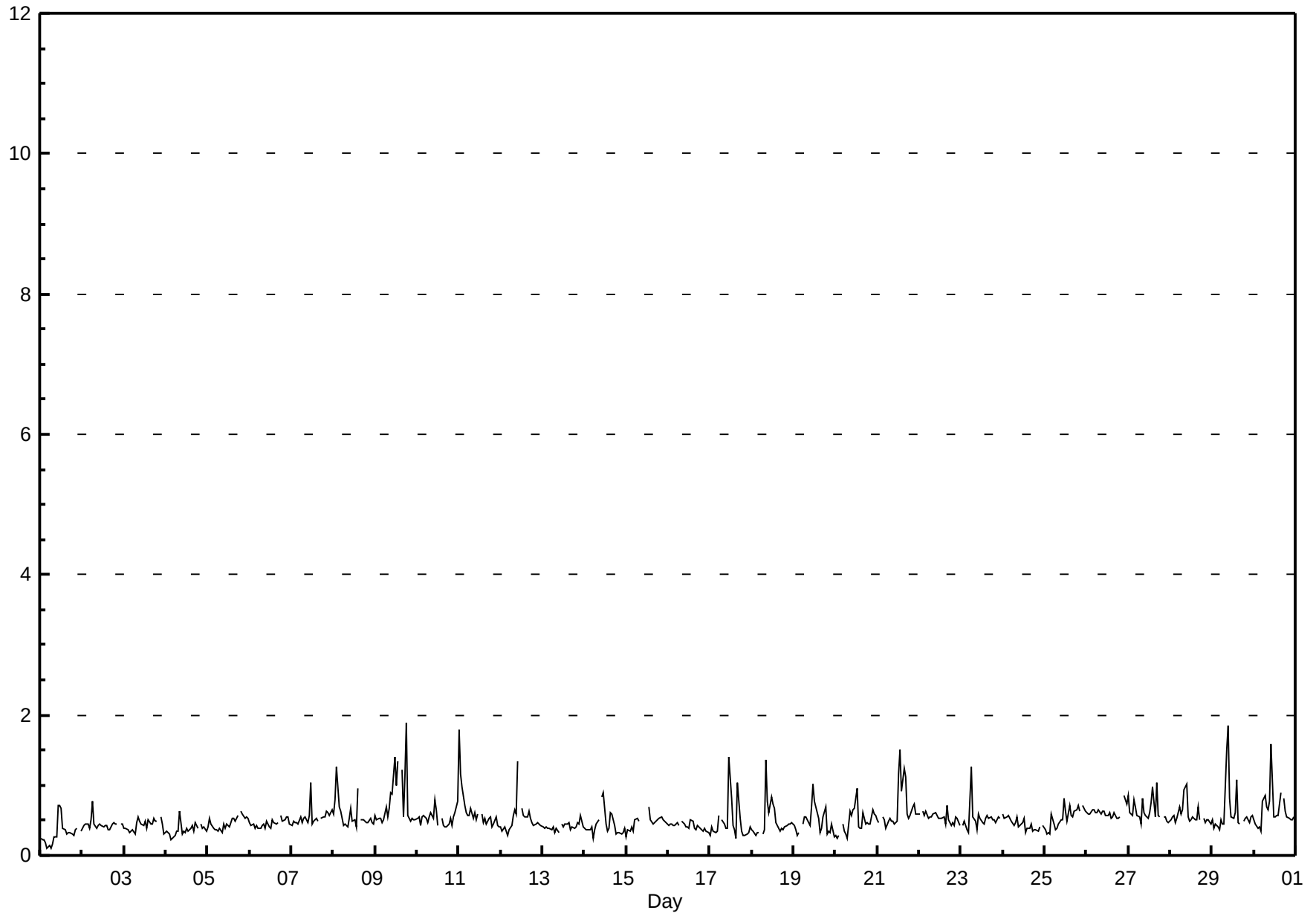
Total Reduced Sulphur (TRS) - ppb

Evergreen Park - September 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																				Hours in Service: 720						
Maximum Value: 1.9 ppb on Sep 9 19:00																				Maximum Daily Average: 0.8 ppb on Sep 9		Hours of Data: 685				
Minimum Value: 0 ppb on Sep 1 05:00																				Minimum Daily Average: 0.3 ppb on Sep 1		Hours of Missing Data: 35				
Maximum Diurnal Average: 0.6 ppb at hour 12																				Minimum Diurnal Average: 0.4 ppb at hour 5		Hours of Calibration: 35				
Monthly Average: 0.52 ppb																				Percentiles: P ₁ = 0.2 P ₁₀ = 0.3 Q ₁ = 0.4 Median = 0.5 Q ₃ = 0.6 P ₉₀ = 0.7 P ₉₉ = 1.4		Percent Operational Time: 100.0				
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Sep	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	A	0	0.3	0.7
2-Sep	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.4	0.8
3-Sep	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	1	0	0	A	1	0	0	0.4	0.6
4-Sep	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.4	0.6
5-Sep	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	A	1	1	1	1	1	0.5	0.6
6-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	A	1	0	1	1	1	0	0.5	0.6
7-Sep	0	0	0	0	0	1	0	1	1	0	1	1	0	0	1	0	A	1	1	1	1	1	1	1	0.5	1.0
8-Sep	1	1	1	1	1	1	0	0	0	1	1	0	1	0	1	A	1	0	0	0	0	1	0	0	0.6	1.3
9-Sep	1	0	1	1	0	1	1	1	1	1	1	1	1	1	A	1	1	1	2	1	0	1	1	1	0.8	1.9
10-Sep	1	1	0	1	1	1	0	1	1	1	1	1	0	A	1	0	0	0	0	1	0	1	1	1	0.5	0.8
11-Sep	2	1	1	1	1	1	1	1	1	1	1	1	A	1	0	1	0	1	1	0	0	1	0	0	0.6	1.8
12-Sep	0	0	0	0	0	0	0	1	1	1	1	A	1	1	1	1	1	1	0	0	0	0	0	0	0.5	1.4
13-Sep	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	1	0	0.4	0.6
14-Sep	0	0	0	0	0	0	0	0	1	A	1	1	0	0	0	1	1	0	0	0	0	0	0	0	0.4	0.9
15-Sep	0	0	0	0	0	1	1	0	A	C	C	C	C	C	1	1	0	0	0	1	1	1	0	0	0.5	0.7
16-Sep	0	0	0	0	0	0	0	A	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0.4	0.5
17-Sep	0	0	0	0	0	1	A	1	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0	0	0.5	1.4
18-Sep	0	0	0	0	0	A	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0.5	1.4
19-Sep	0	0	0	0	A	0	1	1	1	0	1	1	1	1	1	0	0	1	1	0	0	0	0	0	0.5	1.0
20-Sep	0	0	0	A	0	0	0	0	1	1	1	1	1	0	0	0	1	0	0	0	0	1	1	1	0.5	0.9
21-Sep	1	0	A	1	1	0	0	1	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.5
22-Sep	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	0	0	0	1	1	0	0.5	0.7
23-Sep	A	0	0	0	0	1	1	1	0	0	1	1	0	0	1	1	1	1	1	1	0	1	1	A	0.5	1.3
24-Sep	1	1	1	1	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	A	0	0.4	0.6
25-Sep	0	0	0	0	1	0	0	0	0	1	1	1	1	0	1	1	1	1	1	1	1	A	1	1	0.5	0.8
26-Sep	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	0.6	0.9
27-Sep	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	A	1	1	0	0	0.6	1.0
28-Sep	1	1	1	0	1	1	1	1	1	1	1	0	1	1	1	1	1	1	A	1	0	1	0	0	0.6	1.0
29-Sep	1	0	0	0	0	0	0	0	2	2	1	1	1	1	1	0	0	A	0	1	1	0	1	1	0.6	1.9
30-Sep	1	0	0	0	0	1	1	1	1	1	2	1	1	1	1	1	A	1	1	1	1	1	1	1	0.6	1.6
0.5 0.5 0.5 0.4 0.4 0.5 0.5 0.5 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5																								Diurnal Average		
1.8 1.2 1.3 0.8 0.7 0.8 1.3 0.7 1.5 1.9 1.6 1.4 1.2 1.5 1.1 1.3 1.1 1.1 1.9 0.7 0.7 0.9 0.8 0.8																								Diurnal Maximum		
C - Calibration A - Automated Daily Zero Span																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb																										

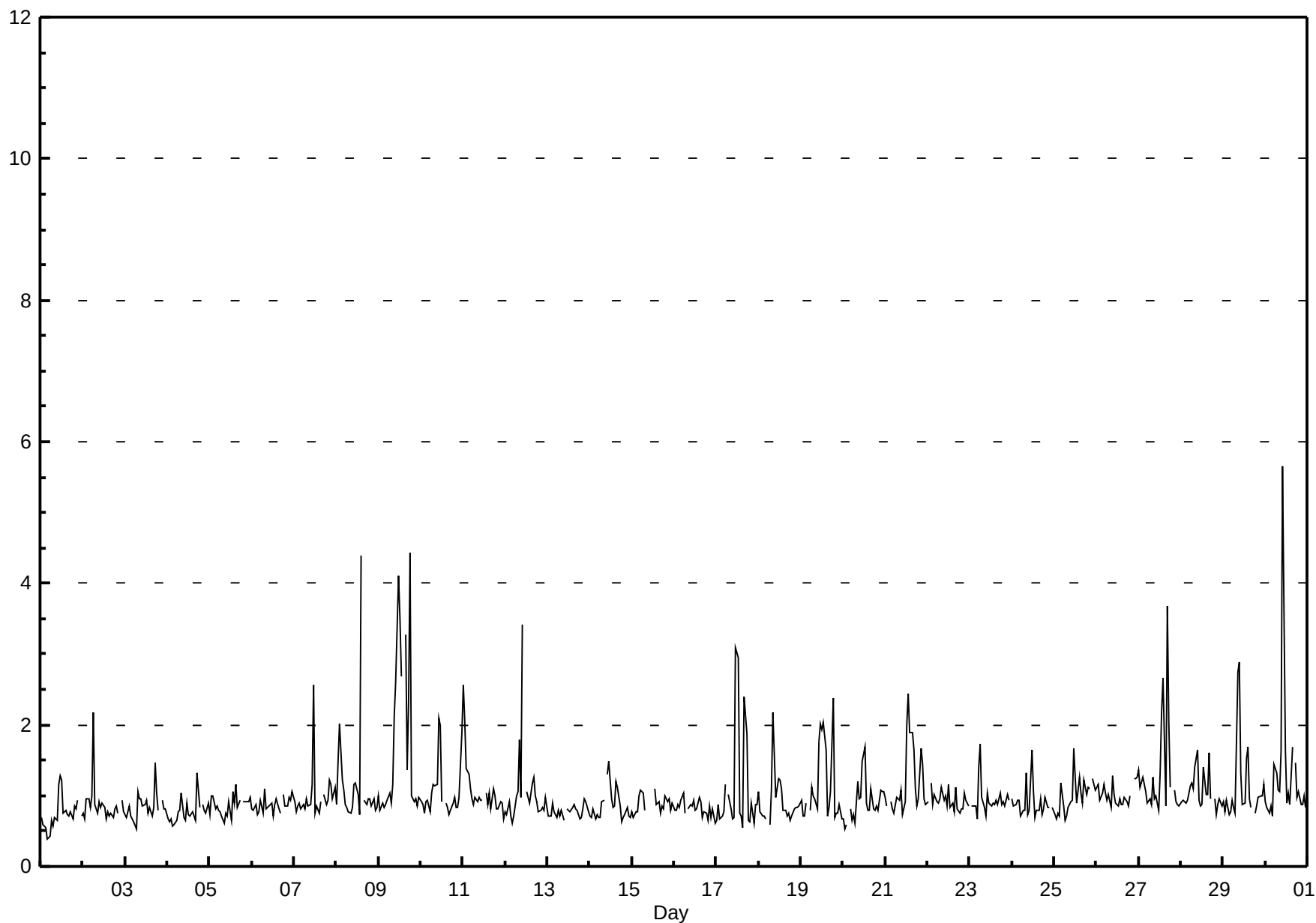
Hourly Averages

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



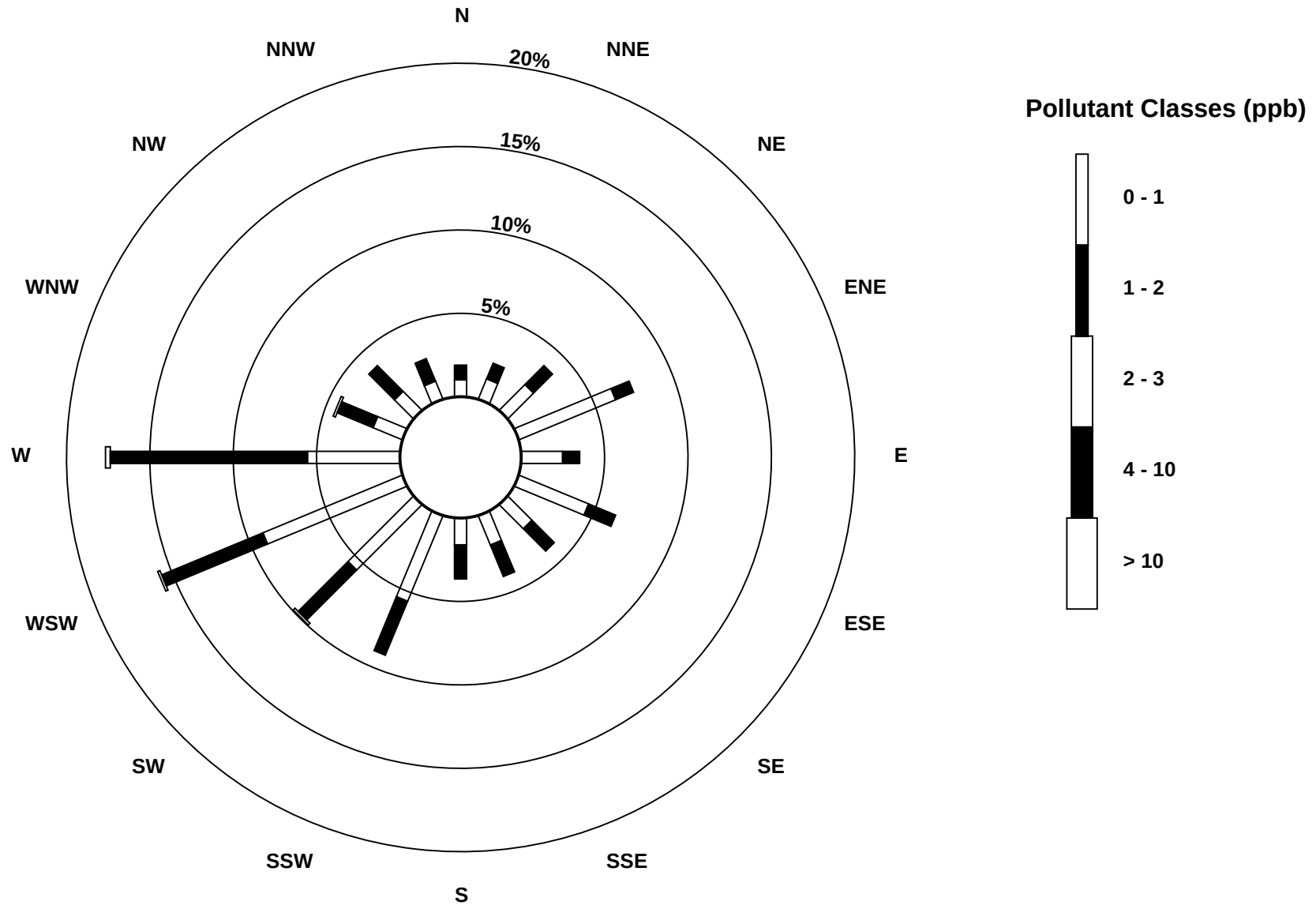
Hourly Maximums

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



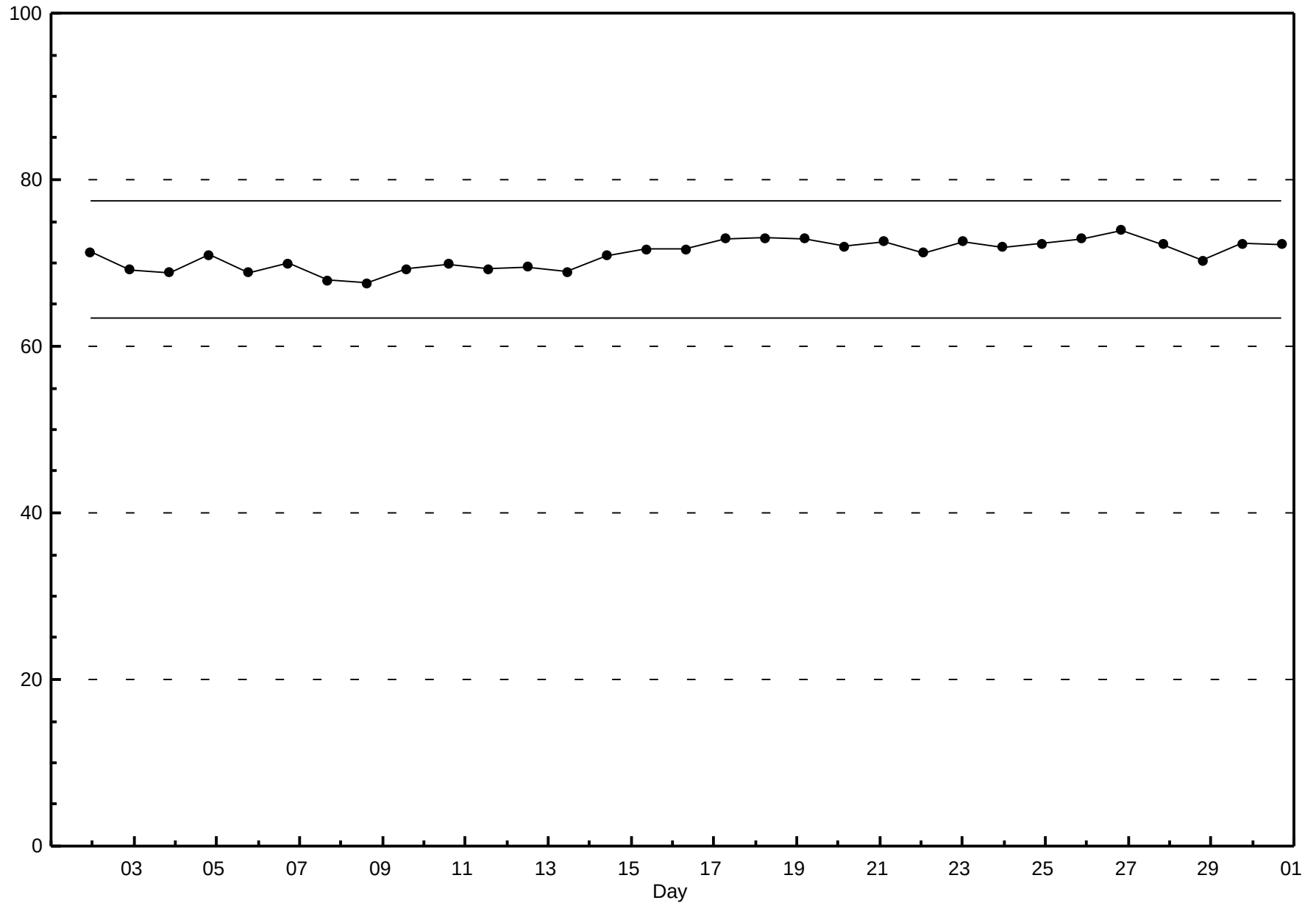
Pollutant Rose

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



Span Responses

Total Reduced Sulphur (TRS)
Evergreen Park - September 2011



Hourly Averages

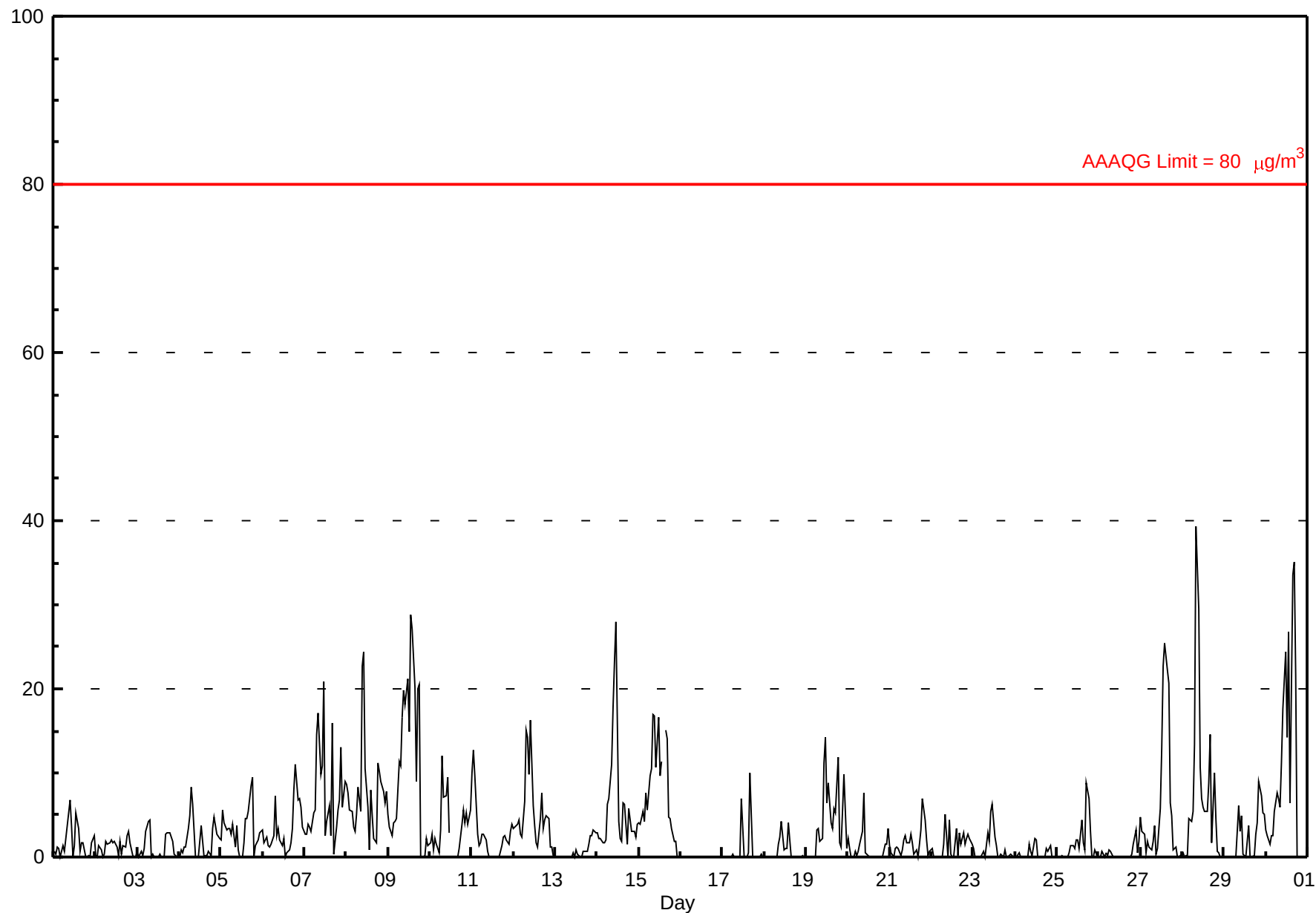
Particulate Matter 2.5 (PM_{2.5}) - µg/m³

Evergreen Park - September 2011

Number of Exceedences: 1-hr: 0 24-hr: 0 Maximum Value: 39.3 µg/m³ on Sep 28 09:00 Minimum Value: 0 µg/m³ on Sep 1 05:00 Maximum Diurnal Average: 6.2 µg/m³ at hour 11 Monthly Average: 3.43 µg/m³																								Hours in Service: 720 Hours of Data: 718 Hours of Missing Data: 2 Hours of Calibration: 0 Percent Operational Time: 99.7		
Maximum Daily Average: 11.1 µg/m³ on Sep 9 Minimum Daily Average: 0.0 µg/m³ on Sep 16 Minimum Diurnal Average: 1.4 µg/m³ at hour 4 Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 1.6 Q ₃ = 4.3 P ₉₀ = 9.4 P ₉₉ = 26.7																										
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-Sep	1	0	1	1	0	1	1	2	4	7	4	0	1	5	3	1	2	2	0	0	0	0	2	2	1.7	6.9
2-Sep	0	0	1	1	0	0	2	2	2	2	2	2	1	0	2	0	1	1	3	3	2	0	0	0	1.1	3.0
3-Sep	1	0	1	0	1	3	4	4	0	0	0	0	0	0	0	0	3	3	3	3	2	0	0	0	1.2	4.5
4-Sep	0	1	1	1	1	3	5	8	6	0	0	0	2	4	0	0	0	1	0	3	5	4	3	2	2.1	8.3
5-Sep	2	6	4	3	3	3	3	4	1	4	1	0	0	2	5	5	5	8	9	0	1	2	3	3	3.2	9.4
6-Sep	3	2	2	1	1	2	3	7	2	3	2	1	2	0	0	1	2	3	8	11	7	7	6	4	3.4	11.0
7-Sep	3	3	4	4	3	5	6	15	17	10	11	21	3	4	6	3	16	0	4	6	7	13	6	9	7.3	20.8
8-Sep	9	8	6	5	4	3	5	8	5	23	24	10	6	1	8	5	2	2	11	10	9	8	6	8	7.8	24.5
9-Sep	5	4	3	4	4	5	11	11	17	20	18	21	15	29	27	20	9	20	21	0	0	0	2	1	11.1	28.9
10-Sep	2	3	1	2	2	1	3	12	7	7	9	3	N	0	0	0	0	1	4	6	4	5	4	6	3.5	12.0
11-Sep	10	13	10	3	1	2	3	3	2	1	0	0	0	0	0	0	0	1	2	3	2	2	3	4	2.6	12.8
12-Sep	3	4	4	4	3	2	7	15	14	10	16	6	4	2	1	4	8	3	4	5	5	1	1	0	5.3	16.2
13-Sep	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	1	1	1	1	3	3	3	3	0.7	3.3
14-Sep	3	2	2	2	2	2	6	7	11	18	23	28	4	2	2	6	6	2	6	4	3	3	2	4	6.3	28.0
15-Sep	4	4	5	4	8	6	10	11	17	17	11	17	10	11	N	15	14	5	4	3	2	2	0	0	7.8	16.9
16-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
17-Sep	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	10	0	0	0	0	0	0	0	0.8	10.1
18-Sep	0	0	0	0	0	0	0	0	0	2	2	4	1	1	1	4	0	0	0	0	0	0	0	0	0.6	4.2
19-Sep	0	0	0	0	0	0	3	3	2	2	11	14	6	9	4	3	6	5	12	2	1	5	10	1	4.2	14.3
20-Sep	2	1	0	0	1	0	1	2	3	8	0	0	0	0	0	0	0	0	0	0	0	2	2	3	1.0	7.6
21-Sep	1	1	0	1	1	1	0	1	2	3	2	2	3	2	0	1	0	1	3	7	4	2	0	1	1.6	7.0
22-Sep	1	0	0	0	0	0	0	2	5	0	4	0	0	0	3	0	3	2	3	2	2	3	2	2	1.4	5.1
23-Sep	1	0	0	0	0	0	1	0	3	2	5	6	2	1	0	0	0	0	1	0	0	0	0	0	1.0	6.3
24-Sep	0	0	0	0	0	0	0	0	2	1	0	2	2	0	0	0	0	0	1	1	1	0	0	0	0.4	2.2
25-Sep	0	0	0	0	0	0	0	0	1	1	1	2	2	1	4	2	1	9	7	3	0	0	1	0	1.5	8.9
26-Sep	0	0	1	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2	3	0	2	0.4	3.2
27-Sep	5	3	3	0	2	1	1	2	4	0	1	6	13	23	25	22	21	6	5	1	1	0	0	0	6.0	25.5
28-Sep	0	0	0	0	5	4	5	13	39	30	11	7	6	5	5	9	15	2	10	5	1	0	0	0	7.2	39.3
29-Sep	0	0	0	0	0	0	0	0	6	3	5	0	0	2	4	0	0	0	3	4	9	7	5	5	2.2	8.9
30-Sep	3	2	2	3	3	5	8	7	6	11	18	24	14	27	6	34	35	22	0	0	0	0	0	0	9.6	35.1
																								Diurnal Average		
																								Diurnal Maximum		
N - Not Valid																										
Alberta Ambient Air Quality Guideline (AAAQG): 1-hr 80 µg/m³ Alberta Ambient Air Quality Objective (AAAQO): 24-hr 30 µg/m³																										

Hourly Averages

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



Hourly Maximums

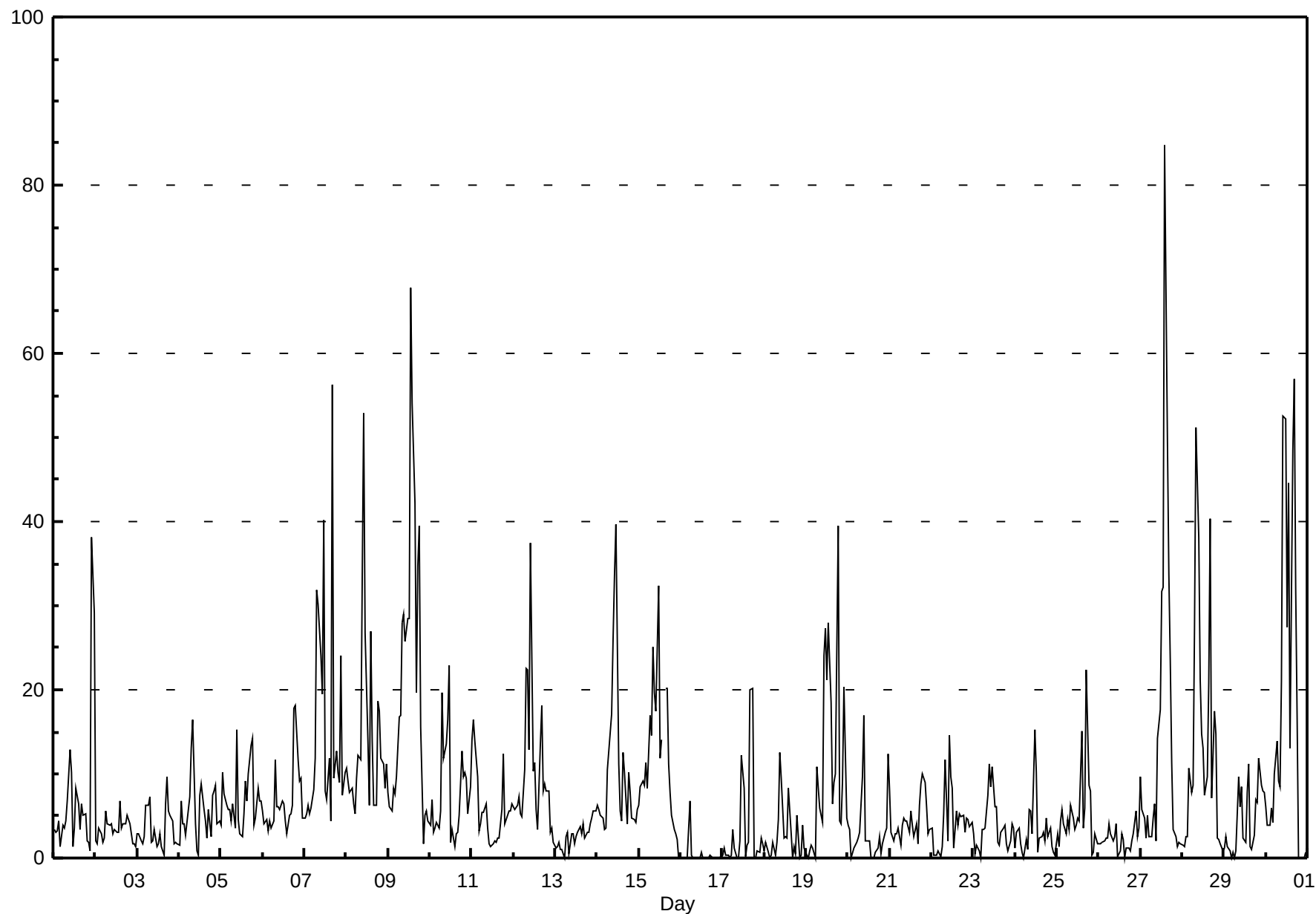
Particulate Matter 2.5 (PM_{2.5}) - µg/m³

Evergreen Park - September 2011

Maximum Value: 84.8 μg/m³ on Sep 27 15:00																				Maximum Daily Average: 21.2 μg/m³ on Sep 9					Hours in Service: 720				
Minimum Value: 0 μg/m³ on Sep 13 06:00																				Minimum Daily Average: 0.3 μg/m³ on Sep 16					Hours of Data: 719				
Maximum Diurnal Average: 13.6 μg/m³ at hour 11																				Minimum Diurnal Average: 3.4 μg/m³ at hour 5					Hours of Missing Data: 1				
Monthly Average: 7.60 μg/m³																				Percentiles: P ₁ = 0.0 P ₁₀ = 0.6 Q ₁ = 2.1 Median = 4.3 Q ₃ = 8.7 P ₉₀ = 17.7 P ₉₉ = 52.4					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-Sep	3	3	3	4	1	4	4	4	7	13	10	1	4	8	7	3	7	5	5	2	2	1	38	29	7.0	38.2			
2-Sep	2	2	4	3	2	2	6	4	4	4	3	3	3	7	4	4	4	5	5	4	4	2	2	1	3.4	6.8			
3-Sep	3	3	2	2	3	6	6	7	2	2	3	1	2	3	1	0	7	10	6	5	4	2	2	2	3.5	9.7			
4-Sep	2	7	4	4	3	6	7	13	17	4	1	0	7	9	6	4	2	6	3	7	8	9	4	4	5.7	16.5			
5-Sep	4	10	8	6	6	6	4	7	4	15	5	3	3	5	9	7	10	13	14	4	5	8	7	7	7.0	15.3			
6-Sep	6	4	5	3	4	3	4	12	6	6	6	7	7	4	3	5	5	6	18	18	12	9	9	5	7.0	18.2			
7-Sep	5	5	6	5	6	8	12	32	30	24	19	40	8	7	12	4	56	9	13	10	9	24	8	10	15.2	56.3			
8-Sep	11	9	8	8	7	5	9	12	12	33	53	27	14	6	27	14	6	6	19	17	12	11	8	11	14.4	52.9			
9-Sep	8	6	6	8	8	10	17	17	28	29	26	28	28	68	54	42	20	35	39	16	2	5	6	4	21.2	67.8			
10-Sep	4	7	3	4	4	3	6	20	12	14	17	23	2	3	1	3	3	5	13	10	10	9	5	8	7.8	22.8			
11-Sep	14	17	14	10	3	4	5	5	6	4	2	1	2	2	2	2	2	6	12	4	5	6	6	7	5.8	16.5			
12-Sep	6	6	6	7	5	5	11	23	22	13	37	10	11	6	3	14	18	8	9	8	8	3	4	2	10.2	37.5			
13-Sep	1	1	2	1	1	0	3	3	1	3	3	2	3	3	4	3	4	2	3	3	4	5	6	6	2.7	5.5			
14-Sep	6	6	5	5	3	4	11	13	17	26	34	40	11	6	4	13	10	4	10	8	5	5	4	6	10.6	39.7			
15-Sep	6	8	9	9	11	8	17	15	25	20	17	32	12	14	N	20	20	11	8	5	3	3	2	0	12.0	32.3			
16-Sep	0	0	0	0	0	7	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0.3	6.7			
17-Sep	0	1	0	0	0	0	3	1	0	0	2	12	8	0	2	2	20	20	0	0	1	1	2	2	3.3	20.2			
18-Sep	1	2	1	0	0	2	0	2	5	13	9	2	3	2	8	3	0	1	0	5	0	0	4	1	2.7	12.6			
19-Sep	0	0	1	2	1	0	11	8	6	4	24	27	21	28	18	7	9	10	39	4	4	9	20	5	10.8	39.5			
20-Sep	4	3	0	1	2	2	2	3	10	17	2	2	2	0	0	0	1	1	3	0	2	3	4	12	3.2	17.0			
21-Sep	8	3	2	3	3	4	2	4	5	4	4	3	6	4	3	4	2	6	9	10	9	6	3	3	4.5	10.0			
22-Sep	4	0	0	0	1	0	1	5	12	2	15	10	8	1	6	4	5	5	5	3	5	5	4	4	4.4	14.6			
23-Sep	3	1	2	1	0	3	3	4	7	11	8	11	6	6	2	2	3	4	4	2	1	2	4	4	3.9	11.2			
24-Sep	1	3	4	2	1	0	2	1	6	6	3	15	10	1	2	3	3	2	5	3	4	1	1	0	3.2	15.3			
25-Sep	3	1	4	6	4	3	5	3	6	5	3	4	5	4	15	4	6	22	9	8	0	1	3	2	5.2	22.3			
26-Sep	2	2	2	2	2	2	4	3	2	3	4	0	1	3	2	0	1	1	1	2	3	6	3	4	2.2	5.5			
27-Sep	10	6	5	2	5	3	3	5	7	2	14	18	32	32	85	50	34	23	11	3	3	1	2	2	14.8	84.8			
28-Sep	2	1	3	3	11	8	9	27	51	38	21	15	13	7	10	21	40	7	17	15	2	2	2	1	13.6	51.2			
29-Sep	1	3	1	1	0	1	0	1	10	6	8	2	2	8	11	1	1	3	7	7	12	9	8	8	4.6	11.9			
30-Sep	6	4	4	6	4	10	14	9	8	21	53	52	28	45	13	48	57	32	17	0	0	0	0	1	18.0	57.0			
4.1 4.1 3.7 3.6 3.4 4.0 6.0 8.7 10.9 11.4 13.6 13.1 8.7 9.6 10.9 9.5 11.9 9.0 10.1 6.1 4.6 4.9 5.6 5.0																									Diurnal Average				
14.1 16.5 13.8 9.7 11.4 9.9 17.0 31.9 51.2 38.2 52.9 52.1 31.6 67.8 84.8 49.7 57.0 34.8 39.5 18.2 11.9 24.1 38.2 29.2																									Diurnal Maximum				
N - Not Valid																													

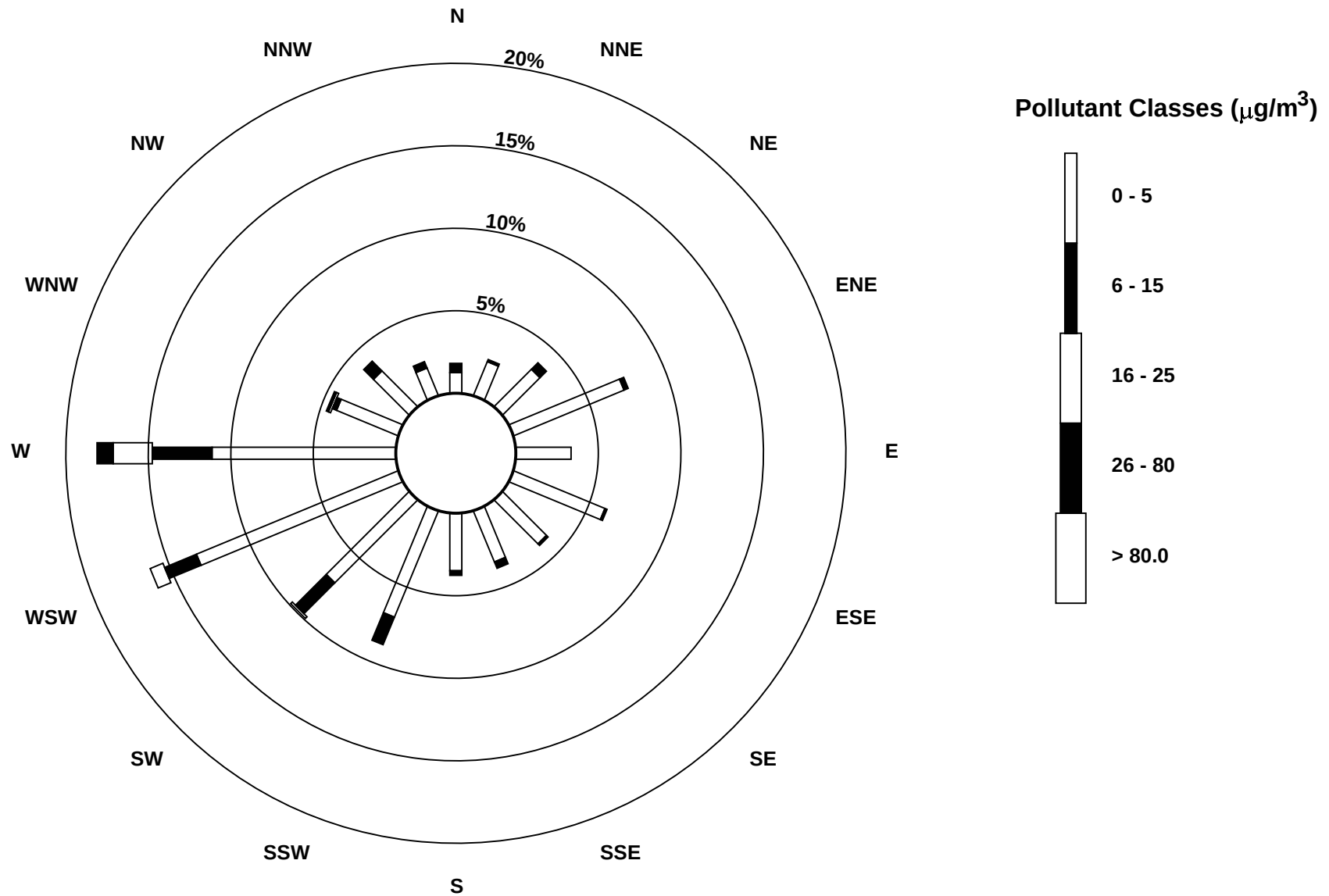
Hourly Maximums

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



Pollutant Rose

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



Hourly Averages

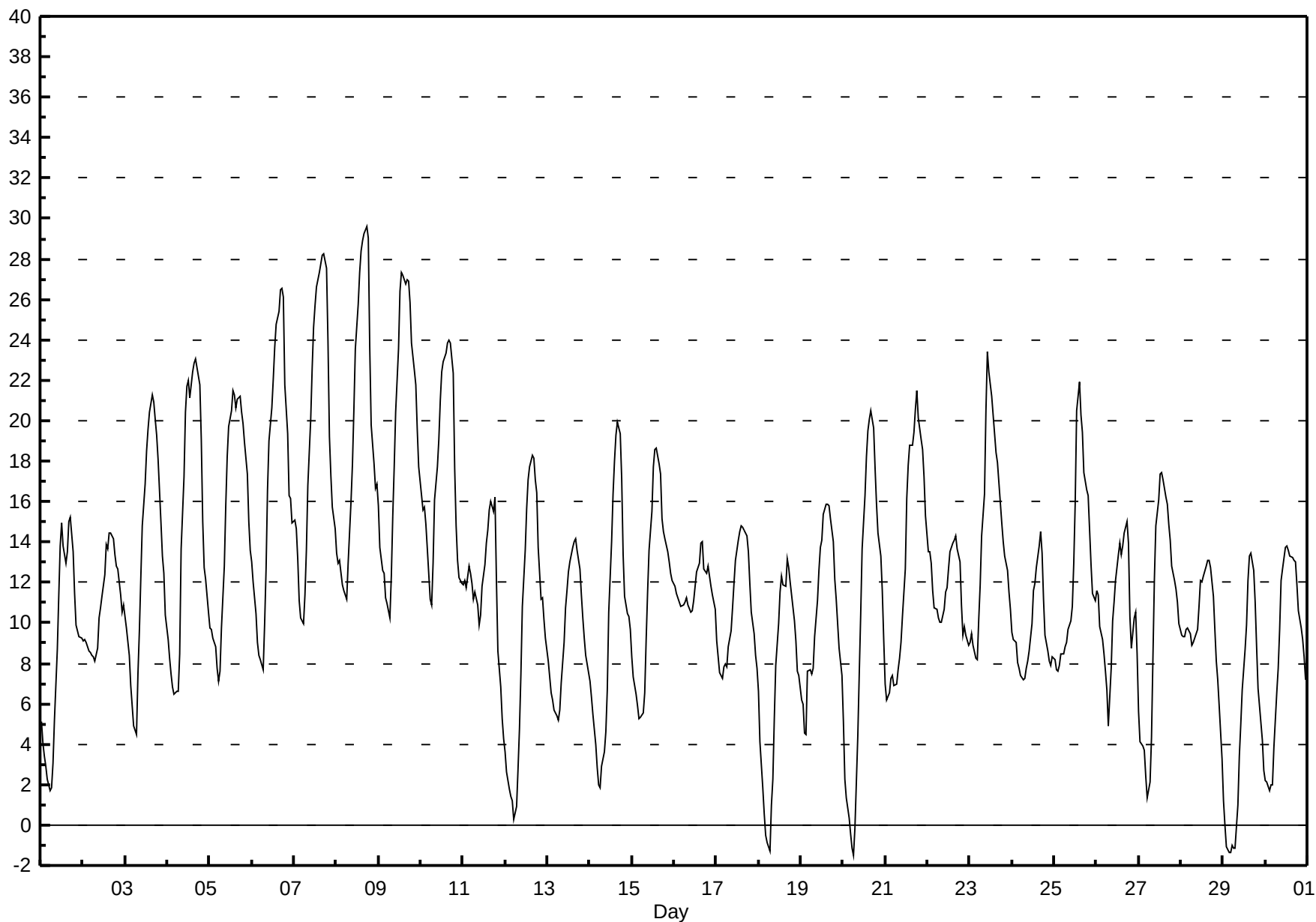
External Temperature (ET) - °C

Evergreen Park - September 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 29.6 °C on Sep 8 18:00 Maximum Daily Average: 19.6 °C on Sep 8																								Hours in Service: 720 Hours of Data: 720 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0			
Minimum Value: -1 °C on Sep 20 07:00 Minimum Daily Average: 4.9 °C on Sep 29 Maximum Diurnal Average: 18.3 °C at hour 17 Minimum Diurnal Average: 6.5 °C at hour 6 Monthly Average: 12.20 °C Percentiles: P ₁ = -1.1 P ₁₀ = 5.1 Q ₁ = 8.4 Median = 11.8 Q ₃ = 15.3 P ₉₀ = 20.5 P ₉₉ = 28.1																											
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-Sep	5	4	3	3	2	2	2	3	5	9	11	14	15	14	13	14	15	15	14	11	10	10	9	9	8.8	15.2	
2-Sep	9	9	9	9	9	8	8	8	9	10	11	11	12	14	14	14	14	14	13	13	13	11	11	11	11.0	14.4	
3-Sep	10	10	8	7	6	5	4	7	10	12	15	17	19	20	20	21	21	20	19	18	15	13	12	10	13.4	21.3	
4-Sep	9	8	7	7	6	7	7	8	14	17	20	22	22	21	22	23	23	23	22	19	15	13	12	11	14.9	23.0	
5-Sep	10	10	9	9	8	7	8	10	13	16	18	20	21	22	21	21	21	21	20	20	19	17	15	14	15.3	21.5	
6-Sep	13	12	10	9	8	8	8	10	13	17	19	21	22	24	25	25	26	27	26	22	19	16	16	15	17.1	26.5	
7-Sep	15	15	13	11	10	10	11	14	17	20	23	25	26	27	27	28	28	28	28	24	19	17	16	15	19.4	28.2	
8-Sep	13	13	13	12	12	11	11	13	16	18	21	24	26	27	28	29	29	30	29	24	20	18	17	17	19.6	29.6	
9-Sep	16	14	13	12	11	11	10	12	15	18	20	24	26	27	27	27	27	26	24	22	22	20	18	18	19.5	27.4	
10-Sep	16	16	16	15	14	11	11	13	16	18	19	21	22	23	23	24	24	24	22	18	15	13	12	12	17.4	24.0	
11-Sep	12	12	12	13	12	12	11	11	11	10	10	12	13	14	15	16	16	16	16	12	9	7	5	4	11.7	16.2	
12-Sep	4	3	2	1	1	0	1	3	5	8	11	14	16	17	18	18	18	17	16	14	11	11	10	9	9.5	18.3	
13-Sep	8	7	7	6	6	5	5	6	7	9	11	12	13	13	14	14	14	14	13	11	10	9	8	8	9.5	14.2	
14-Sep	7	6	5	4	3	2	2	3	4	5	7	11	14	16	18	19	20	19	17	13	11	10	10	10	9.9	20.0	
15-Sep	8	7	6	6	5	5	6	7	9	12	14	16	18	19	19	18	17	15	14	14	14	13	12	12	11.9	18.6	
16-Sep	12	11	11	11	11	11	11	11	11	11	11	11	12	13	13	14	14	13	12	13	12	12	11	11	11.8	14.0	
17-Sep	9	8	8	7	8	8	8	9	10	11	12	13	14	15	15	15	15	14	14	12	11	9	8	8	10.8	14.8	
18-Sep	7	4	2	1	-1	-1	-1	1	2	5	8	10	12	12	12	13	13	13	12	11	10	9	8	7	7.0	13.1	
19-Sep	6	6	5	5	8	8	7	8	9	11	13	14	14	15	16	16	16	15	14	12	11	10	9	7	10.6	15.9	
20-Sep	5	2	1	0	0	-1	-1	0	4	7	10	14	16	18	19	20	20	20	18	16	14	13	12	9	9.9	20.5	
21-Sep	7	6	7	7	7	7	7	8	8	9	10	13	16	18	19	19	19	21	21	20	19	19	17	15	13.3	21.5	
22-Sep	14	14	13	12	11	11	10	10	10	11	11	12	13	14	14	14	14	14	13	11	9	10	9	9	11.7	14.3	
23-Sep	9	9	9	8	8	10	12	14	16	20	23	22	21	20	19	18	18	16	15	14	13	13	12	11	14.7	23.4	
24-Sep	9	9	9	8	8	7	7	7	8	8	9	10	12	12	13	14	15	13	11	9	9	8	8	8	9.6	14.5	
25-Sep	8	8	8	8	8	8	9	9	10	10	11	13	16	21	22	20	19	17	17	16	15	13	11	11	12.8	21.9	
26-Sep	12	11	10	9	8	8	7	5	8	10	11	12	13	14	13	14	14	15	14	10	9	10	11	8	10.7	15.0	
27-Sep	6	4	4	4	2	1	2	4	8	12	15	16	17	17	17	16	16	15	14	13	12	12	11	10	10.4	17.5	
28-Sep	9	9	9	10	10	9	9	9	9	10	11	12	12	12	13	13	13	13	11	10	8	7	6	3	9.9	13.1	
29-Sep	1	0	-1	-1	-1	-1	-1	-1	1	3	5	7	9	10	12	13	13	13	13	11	9	7	5	4	3	4.9	13.4
30-Sep	2	2	2	2	2	4	7	8	10	12	13	14	14	14	13	13	13	13	12	11	10	9	8	7	8.9	13.8	
9.1 8.4 7.7 7.1 6.7 6.5 6.6 7.7 9.6 11.6 13.4 15.1 16.5 17.4 17.8 18.1 18.3 17.8 16.8 14.8 13.0 12.0 11.1 10.1																								Diurnal Average			
16.3 15.6 15.7 14.9 13.7 11.9 11.9 14.3 16.8 20.5 23.4 24.6 26.4 27.4 28.4 28.9 29.3 29.6 29.1 23.9 22.5 21.8 19.6 17.7																								Diurnal Maximum			

Hourly Averages

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



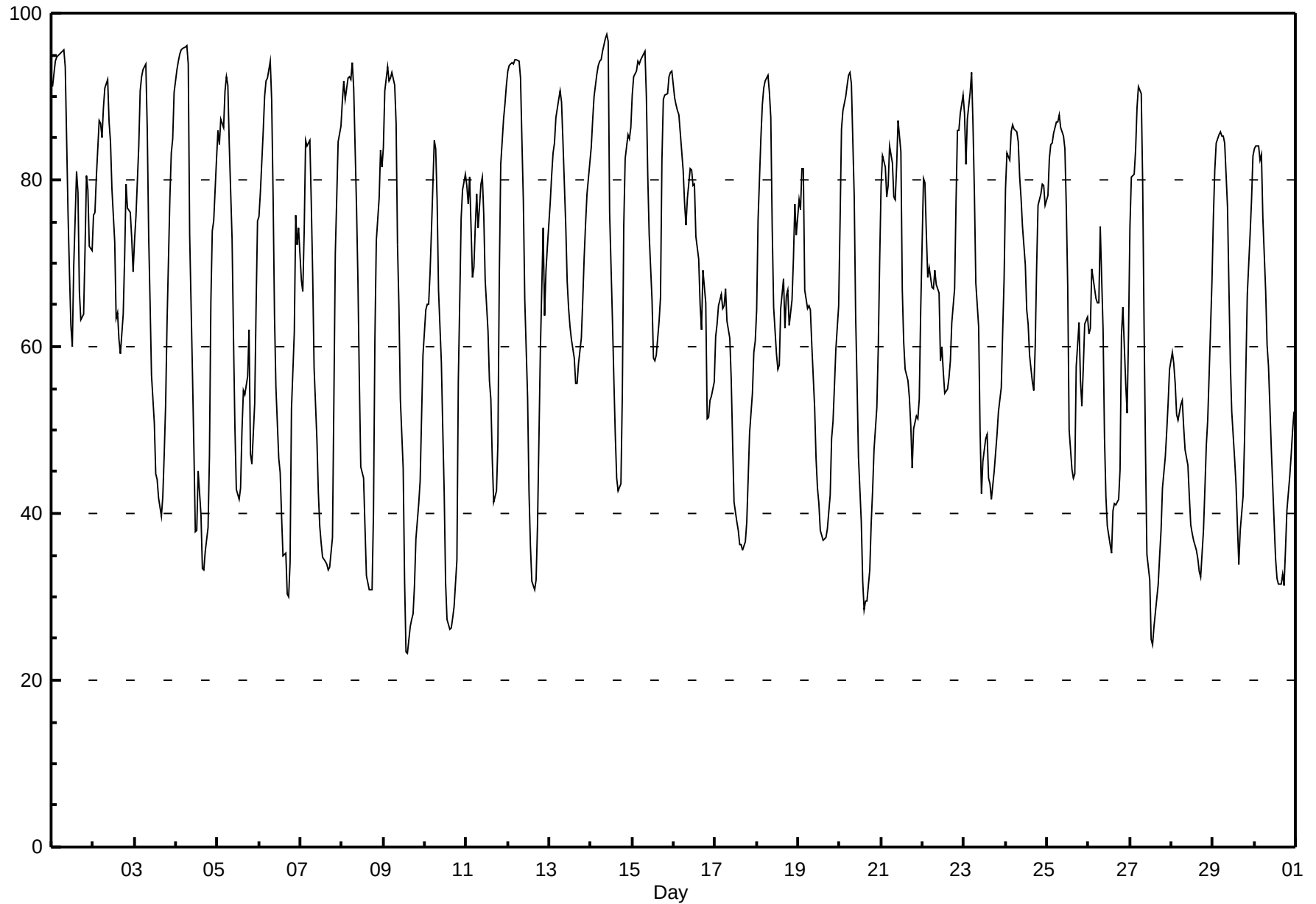
Hourly Averages

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

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 97.5 % on Sep 14 10:00 Maximum Daily Average: 83.1 % on Sep 15																								Hours in Service: 720 Hours of Data: 720 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0		
Minimum Value: 23 % on Sep 9 15:00 Maximum Diurnal Average: 84.4 % at hour 6 Monthly Average: 65.46 %												Minimum Daily Average: 46.7 % on Sep 28 Minimum Diurnal Average: 43.3 % at hour 17 Percentiles: P ₁ = 26.1 P ₁₀ = 36.9 Q ₁ = 49.7 Median = 65.9 Q ₃ = 83.0 P ₉₀ = 91.0 P ₉₉ = 95.6														
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-Sep	91	93	94	95	95	95	96	96	94	76	69	62	60	70	81	78	67	63	64	72	80	79	72	72	79.7	95.7
2-Sep	76	76	80	87	87	85	89	91	92	87	85	79	72	63	64	61	59	64	71	79	77	76	73	69	76.7	92.0
3-Sep	73	76	84	91	92	93	94	86	73	65	57	51	45	44	42	40	42	47	53	63	78	83	85	91	68.6	93.9
4-Sep	93	94	95	96	96	96	96	94	73	57	48	38	38	45	40	33	33	35	38	47	65	74	75	83	65.9	96.1
5-Sep	86	84	87	86	91	92	91	84	73	61	50	43	42	43	50	55	54	56	62	47	46	53	65	75	65.8	92.4
6-Sep	76	78	86	90	92	92	94	89	78	64	55	47	45	40	35	35	30	30	34	52	62	76	72	74	63.6	94.2
7-Sep	68	67	74	85	84	85	77	69	57	49	43	38	36	35	34	34	33	34	37	54	71	78	85	86	58.8	86.4
8-Sep	89	92	90	92	92	92	94	91	77	68	56	46	44	38	32	32	31	31	40	61	73	78	83	82	66.8	94.1
9-Sep	84	91	94	92	92	93	91	87	72	65	54	45	32	23	23	26	27	28	31	37	41	44	52	59	57.7	93.6
10-Sep	64	65	65	69	74	85	84	78	67	58	50	42	32	27	26	26	27	29	34	56	66	75	79	81	56.6	84.7
11-Sep	79	77	80	68	69	74	78	74	80	80	76	68	62	56	54	47	41	43	48	69	82	87	89	91	69.8	91.4
12-Sep	93	94	94	94	94	94	94	92	85	77	66	54	43	36	32	31	32	38	49	59	74	64	69	72	67.9	94.4
13-Sep	77	81	83	84	88	90	91	89	85	74	68	65	62	61	59	56	56	58	61	66	71	75	78	82	73.2	90.7
14-Sep	84	87	90	93	94	94	94	95	97	97	97	76	63	56	49	44	43	44	54	74	83	85	85	86	77.7	97.5
15-Sep	90	92	93	94	94	94	95	95	90	80	73	66	59	58	59	63	66	82	90	90	90	92	93	93	83.1	95.5
16-Sep	90	89	88	88	86	81	77	75	78	81	81	79	80	73	71	65	62	69	65	51	52	54	54	56	72.7	89.8
17-Sep	61	63	65	66	65	65	67	63	61	56	49	41	39	38	36	36	36	37	39	44	50	54	59	61	52.1	67.0
18-Sep	64	75	85	89	91	92	93	91	88	74	65	59	57	58	65	68	62	66	67	63	66	71	77	73	73.2	92.6
19-Sep	78	77	81	81	67	65	65	64	60	53	47	43	41	38	37	37	37	38	42	49	51	55	60	65	55.4	81.4
20-Sep	75	86	88	90	91	93	93	92	78	64	56	47	39	32	28	30	29	33	39	43	48	53	60	70	60.6	92.9
21-Sep	79	83	81	78	79	84	82	78	78	82	87	83	67	61	57	56	54	51	45	50	52	51	54	64	68.2	87.1
22-Sep	80	80	74	68	70	67	67	69	68	66	58	60	57	54	55	56	58	63	67	77	86	86	88	90	69.4	90.2
23-Sep	88	82	87	91	93	87	78	68	62	50	42	46	49	49	44	44	42	45	47	49	52	55	62	68	61.7	92.8
24-Sep	79	83	82	86	87	86	86	85	80	78	74	70	64	63	59	56	55	60	70	77	78	79	79	77	74.7	86.7
25-Sep	78	82	84	84	86	87	87	88	86	85	84	77	67	50	45	44	45	58	63	56	53	57	63	64	69.7	87.9
26-Sep	61	62	69	67	66	65	65	74	62	49	42	38	36	35	40	41	41	42	45	61	65	56	52	62	54.1	74.5
27-Sep	74	80	81	84	89	91	90	80	62	48	35	32	25	24	26	30	32	35	38	43	47	50	53	57	54.4	91.1
28-Sep	59	58	56	52	51	53	54	50	48	46	42	39	38	37	36	35	33	32	38	43	48	51	57	68	46.7	67.7
29-Sep	75	81	84	85	86	85	85	84	77	67	58	52	47	44	39	34	38	42	48	58	66	74	78	83	65.4	85.8
30-Sep	84	84	84	82	83	75	67	60	58	53	48	39	35	32	32	32	33	31	36	40	44	47	50	52	53.3	84.1
78.4 80.4 82.7 83.6 84.0 84.4 83.8 81.0 74.6 67.0 60.4 54.2 49.2 46.1 45.0 44.1 43.3 46.1 50.6 57.7 63.8 67.1 70.0 73.5																								Diurnal Average		
93.2 94.3 95.0 95.5 95.7 95.9 96.1 95.7 96.9 97.5 96.6 83.3 79.5 73.2 81.1 78.5 66.6 82.4 89.6 90.1 90.3 92.3 92.8 93.1																								Diurnal Maximum		

Hourly Averages

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



Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Evergreen Park - September 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	1	1	1	2	0	1	1	1	1	4	4	4	3	4	1	2	5	5	12	13	9	10	13	13	3.2	13.5
Dir	220	31	190	210	330	64	135	59	122	153	146	140	127	311	357	152	183	230	248	249	240	245	245	252	231.6	251.8
2 Spd	11	10	11	10	9	8	11	10	10	10	10	13	13	10	10	10	12	11	5	4	5	4	6	6	8.2	12.8
Dir	253	253	266	267	272	278	273	283	280	285	314	317	326	333	296	301	291	287	268	243	247	231	229	234	281.9	317.3
3 Spd	3	2	1	1	1	1	1	1	4	4	7	7	10	11	12	11	11	6	2	2	0	1	1	0	3.4	12.0
Dir	214	184	86	65	148	181	129	203	201	211	224	230	260	257	260	274	266	258	242	210	185	143	55	112	245.6	260.0
4 Spd	1	0	1	1	0	1	1	1	1	5	6	9	6	2	5	14	15	13	8	3	0	1	1	0	3.3	15.1
Dir	60	44	55	66	203	20	77	233	265	228	221	230	257	305	261	277	267	273	280	253	96	171	171	71	261.2	267.0
5 Spd	1	2	4	1	0	1	1	4	3	4	6	5	1	2	2	2	2	1	1	5	2	3	0	0	1.2	6.4
Dir	195	206	204	199	11	197	208	205	223	275	262	263	300	135	73	34	39	64	228	308	273	220	88	186	245.0	262.4
6 Spd	3	2	1	0	1	0	0	4	4	3	6	9	6	8	9	9	9	7	3	1	2	1	1	1	3.5	9.0
Dir	206	203	222	106	208	108	261	217	205	199	205	231	212	213	225	218	241	264	273	186	215	205	166	121	221.6	240.6
7 Spd	2	2	1	2	1	2	2	3	6	9	12	13	13	9	8	5	6	5	2	0	1	0	0	0	3.7	13.0
Dir	198	201	10	58	199	216	234	239	251	245	254	258	258	271	262	290	287	306	331	210	213	48	78	204	260.8	257.9
8 Spd	0	1	2	1	1	2	2	4	2	3	4	4	3	4	5	6	4	3	1	0	1	1	1	2	1.9	6.0
Dir	356	310	230	208	221	211	200	202	232	273	265	276	215	224	263	255	302	323	225	220	206	206	209	224	246.4	254.7
9 Spd	1	1	1	1	2	2	1	1	3	3	7	9	15	16	18	15	13	10	13	10	10	7	3	2	6.5	17.5
Dir	208	66	197	222	206	206	229	208	250	274	252	265	255	274	271	259	249	268	273	271	257	254	232	258	259.8	271.3
10 Spd	2	2	4	2	1	1	3	1	1	3	4	2	3	5	5	2	2	3	2	1	1	1	0	1	1.1	5.0
Dir	245	243	244	277	238	144	216	234	315	266	260	351	328	307	316	340	18	60	99	38	55	43	329	338	293.1	315.9
11 Spd	1	2	1	7	5	4	4	8	11	10	6	1	5	2	5	7	6	3	1	0	0	1	1	0	2.1	11.3
Dir	286	236	328	42	56	55	37	14	29	27	24	1	288	280	239	281	295	301	191	19	261	86	169	40	0.5	28.6
12 Spd	0	0	0	1	2	1	3	3	7	5	5	4	3	1	3	3	3	2	2	1	1	5	6	5	0.7	6.5
Dir	118	105	255	198	204	220	226	245	256	252	271	267	251	22	228	253	283	76	75	75	35	71	72	76	248.1	255.7
13 Spd	3	3	3	3	3	3	3	4	5	7	6	7	6	8	8	10	9	8	7	8	5	6	5	4	5.3	9.8
Dir	67	66	70	78	72	85	82	79	97	124	120	113	105	97	102	106	102	108	106	113	110	109	102	92	100.9	106.2
14 Spd	3	3	1	1	1	1	1	3	3	3	2	1	3	2	1	3	4	4	1	1	1	1	1	0	0.4	3.6
Dir	97	85	71	29	262	27	200	210	248	270	265	295	320	215	129	179	138	142	118	53	18	40	57	335	151.6	141.6
15 Spd	0	1	0	0	1	0	2	1	3	3	1	1	0	3	3	8	8	2	4	3	5	8	8	7	2.6	8.2
Dir	32	256	9	248	208	48	219	19	271	272	315	223	41	351	330	258	254	315	254	262	267	269	260	253	267.0	260.0
16 Spd	5	6	9	9	8	12	12	13	14	14	15	13	12	15	16	16	14	9	7	16	16	14	12	11	10.9	16.4
Dir	262	255	253	247	249	253	252	251	249	249	247	250	282	303	309	303	305	313	306	277	265	262	257	257	269.5	302.8
17 Spd	6	7	10	11	12	10	9	15	17	21	22	22	21	17	21	23	21	14	12	10	8	7	5	6	13.5	23.3
Dir	253	253	246	240	246	257	256	252	250	257	260	264	258	271	257	263	262	266	258	256	249	247	243	254	256.9	263.4
18 Spd	5	1	0	0	1	1	1	2	1	2	2	3	2	1	6	12	7	3	9	11	9	4	4	6	3.1	11.8
Dir	229	118	77	179	216	201	142	176	85	153	140	159	123	141	244	252	219	216	222	257	240	212	207	216	222.1	251.9
19 Spd	6	4	2	4	10	14	14	13	14	21	22	21	15	17	15	18	21	18	12	8	8	7	4	2	11.5	22.1
Dir	207	205	144	217	246	255	254	253	257	264	262	264	281	275	286	267	262	263	258	254	243	242	233	213	259.0	262.5
20 Spd	1	1	0	0	0	0	1	1	1	3	3	4	7	6	6	6	6	5	5	4	2	1	1	2	2.4	6.7
Dir	66	73	198	26	133	214	79	55	123	163	178	148	147	163	158	160	140	127	110	111	120	94	74	60	137.0	146.6
21 Spd	0	0	1	1	0	1	2	1	2	1	1	1	3	3	4	5	6	8	8	3	4	8	10	4	0.8	9.9
Dir	58	57	71	50	10	38	88	76	82	60	78	68	140	141	156	162	159	181	190	223	249	304	323	311	186.9	323.0
22 Spd	5	7	10	10	8	6	6	5	8	5	5	5	4	3	2	2	1	2	1	2	1	0	0	0	3.4	10.4
Dir	253	269	284	286	261	267	241	263	256	261	273	231	220	180	205	110	178	220	151	158	4	338	342	102	256.1	286.0

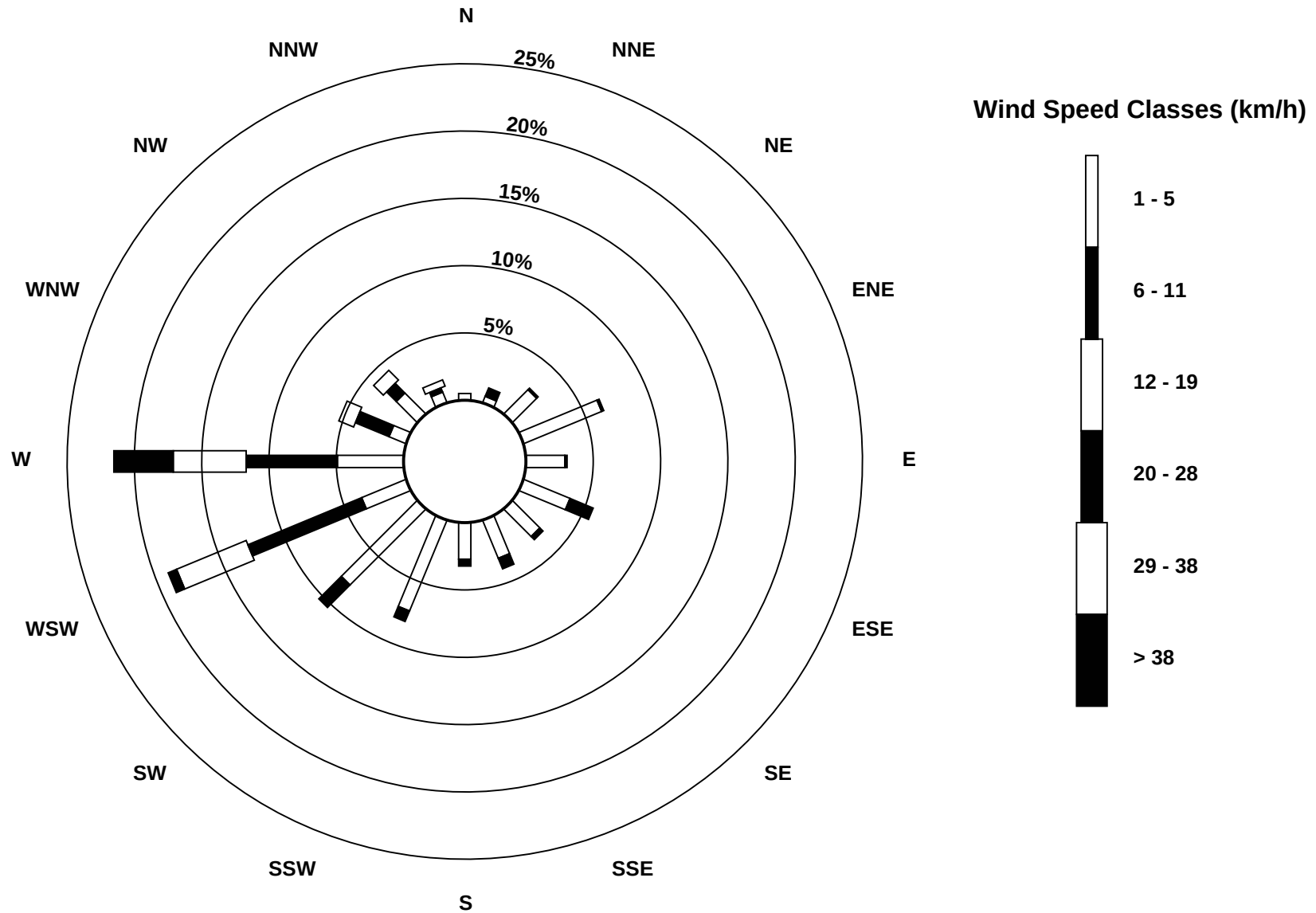
Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Evergreen Park - September 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	2	2	2	3	5	4	4	3	7	7	8	16	16	17	14	18	17	12	10	7	9	8	8	5.2	17.5						
Dir	127	107	107	90	105	167	161	151	156	185	200	327	339	330	313	307	305	303	291	291	287	283	278	266	296.5	305.1						
24 Spd	2	1	6	8	7	8	7	7	8	8	9	8	7	6	3	0	3	3	2	2	3	3	3	2	3.0	9.3						
Dir	228	205	271	275	276	265	245	239	251	244	259	261	276	278	288	141	56	66	59	68	71	71	70	115	263.6	259.0						
25 Spd	1	0	0	1	0	2	2	1	2	3	3	3	5	7	6	12	3	1	2	9	8	9	7	9	1.5	12.2						
Dir	125	150	98	152	16	125	137	38	74	95	108	144	120	123	234	269	291	2	232	273	294	295	284	277	261.8	268.7						
26 Spd	14	11	8	7	6	7	3	1	3	1	3	2	3	5	3	4	5	3	3	0	2	5	5	1	2.0	14.3						
Dir	261	264	268	277	275	276	276	113	199	188	218	172	100	136	94	105	122	103	110	104	182	182	195	225	227.4	260.6						
27 Spd	1	2	3	3	1	0	2	1	4	6	9	6	16	21	22	24	18	16	14	12	16	16	11	4	9.0	23.7						
Dir	199	211	311	186	223	179	165	167	211	220	247	239	260	256	260	266	268	263	260	252	252	250	255	219	253.8	265.6						
28 Spd	3	5	7	14	22	22	18	22	26	23	23	21	21	18	17	15	15	12	6	6	5	3	2	0	13.2	26.3						
Dir	220	231	252	259	260	259	259	265	266	267	271	280	279	270	271	275	271	277	258	251	222	225	211	166	265.2	265.7						
29 Spd	0	2	2	0	2	3	1	1	3	3	4	4	3	2	4	4	4	4	2	1	1	1	0	0	0.7	4.2						
Dir	154	53	65	58	60	75	84	107	244	221	220	212	208	172	120	122	75	77	45	328	231	351	24	328	127.4	211.9						
30 Spd	1	0	1	1	1	4	8	5	8	17	22	22	22	24	21	23	23	21	13	12	9	15	16	11	11.7	23.7						
Dir	50	73	71	59	5	314	319	320	305	280	275	276	280	274	272	269	270	271	272	260	256	248	246	240	272.4	274.2						
Spd	1.8	1.6	1.9	2.0	2.5	2.7	2.7	3.0	4.0	5.0	6.0	5.8	5.4	5.3	6.2	7.0	6.2	4.6	3.7	3.9	3.6	3.3	2.8	2.5	Diurnal Average							
Dir	236.8	240.7	259.5	260.6	255.0	255.2	250.8	252.8	254.9	252.5	254.6	259.7	269.3	271.7	267.9	267.0	266.6	271.0	257.3	259.1	252.1	252.7	250.7	248.0	Diurnal Maximum							
Spd	14.3	11.1	10.9	14.0	21.8	21.7	17.9	21.7	26.3	22.7	23.4	22.1	21.8	23.7	21.5	23.7	22.5	20.8	14.1	15.6	15.9	16.4	15.8	13.5								
Dir	260.6	263.8	265.8	259.4	260.1	259.0	259.5	264.8	265.7	266.9	270.6	276.4	280.2	274.2	260.2	265.6	269.8	270.8	260.4	276.8	264.5	250.3	245.8	251.8								
Maximum Speed Value: 26 km/h on Sep 28 09:00																		Minimum Speed Value: 0 km/h on Sep 1 05:00												Hours in Service:		720
Maximum Daily Speed Average: 13.5 km/h on Sep 17																		Minimum Daily Speed Average: 0.4 km/h on Sep 14												Hours of Data:		720
Maximum Diurnal Speed Average: 7.0 km/h at hour 16																		Minimum Diurnal Speed Average: 1.6 km/h at hour 2												Hours of Missing Data:		0
Monthly Average Velocity: 3.85 km/h 259.40 deg																		Speed Percentiles: P ₁ = 0.2 P ₁₀ = 0.6 Q ₁ = 1.4 Median = 3.8 Q ₃ = 8.2 P ₉₀ = 14.2 P ₉₉ = 22.3												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	24		1		1		0		0		0		26																			
NorthEast	55		3		1		0		0		0		59																			
East	69		12		0		0		0		0		81																			
SouthEast	52		7		0		0		0		0		59																			
South	51		9		0		0		0		0		60																			
SouthWest	103		43		5		0		0		0		151																			
West	43		87		70		30		0		0		230																			
NorthWest	28		15		11		0		0		0		54																			
Total	425		177		88		30		0		0		720																			

Wind Rose

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



Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Evergreen Park - September 2011

Maximum Speed: 27 km/h on Sep 28 09:00																				Maximum Daily Speed Average: 13.9 km/h on Sep 28										Hours in Service: 720																			
Minimum Speed: 1 km/h on Sep 15 01:00																				Minimum Daily Speed Average: 2.4 km/h on Sep 14										Hours of Data: 720																			
Maximum Diurnal Speed Average: 10.3 km/h at hour 16																				Minimum Diurnal Speed Average: 3.1 km/h at hour 2										Hours of Missing Data: 0																			
Monthly Average Speed: 6.23 km/h																				Percentiles: P ₁ = 1.0 P ₁₀ = 1.3 Q ₁ = 2.1 Median = 4.2 Q ₃ = 8.6 P ₉₀ = 14.6 P ₉₉ = 22.6										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-Sep	1	1	1	2	1	1	1	1	2	4	4	4	4	5	2	3	5	6	12	13	9	10	13	14	5.0	13.6																							
2-Sep	11	10	11	10	9	8	11	10	10	10	10	13	13	11	12	12	13	12	6	4	5	4	7	6	9.5	13.4																							
3-Sep	4	2	1	1	1	1	1	2	4	5	7	8	10	12	13	12	11	6	3	2	1	1	1	1	4.6	12.5																							
4-Sep	2	1	1	1	1	2	2	1	2	5	6	10	7	3	6	15	15	14	8	3	1	3	2	1	4.7	15.4																							
5-Sep	1	2	4	2	1	2	1	4	4	4	7	5	3	3	3	2	2	2	2	5	3	3	1	1	2.8	6.8																							
6-Sep	3	3	2	2	2	2	2	4	4	3	6	9	6	9	9	9	10	7	4	2	2	2	2	2	4.4	9.6																							
7-Sep	2	2	2	2	2	3	4	4	6	9	12	13	13	10	8	6	7	5	3	1	1	1	1	1	4.8	13.2																							
8-Sep	1	1	2	1	2	2	2	4	3	3	5	5	4	4	6	7	5	3	1	1	1	1	1	2	2.8	6.6																							
9-Sep	2	1	1	2	2	3	1	2	3	4	7	10	16	16	18	15	14	10	13	10	10	7	3	3	7.1	17.9																							
10-Sep	2	2	4	3	2	2	3	2	2	4	5	4	4	6	6	5	4	3	2	1	1	1	1	1	3.0	6.1																							
11-Sep	2	3	3	7	5	5	5	9	12	10	7	4	6	5	6	8	7	3	1	1	1	2	1	1	4.7	11.8																							
12-Sep	1	1	1	2	2	1	3	3	7	6	5	5	4	4	5	5	5	2	2	1	2	6	7	5	3.4	6.7																							
13-Sep	4	3	3	3	3	3	3	4	5	7	7	7	7	8	8	10	9	8	7	8	6	6	5	4	5.8	10.2																							
14-Sep	4	3	2	1	1	1	1	3	3	3	3	2	3	4	4	3	3	4	2	1	1	1	1	1	2.4	4.1																							
15-Sep	1	1	1	1	1	2	3	3	3	3	3	3	2	4	4	8	8	4	5	3	6	8	8	7	3.9	8.4																							
16-Sep	5	6	9	9	8	12	12	13	14	14	15	13	13	15	16	17	15	9	7	16	16	14	12	11	12.1	16.9																							
17-Sep	6	8	10	11	12	10	9	15	17	22	22	22	21	18	22	23	22	15	12	10	8	7	5	6	13.8	23.5																							
18-Sep	5	2	1	1	1	1	1	2	2	3	3	4	3	2	6	12	7	3	9	11	9	4	4	6	4.3	12.2																							
19-Sep	6	4	3	4	10	14	14	13	14	21	22	21	16	17	16	18	21	18	12	8	8	7	5	2	12.3	22.3																							
20-Sep	2	1	1	1	1	1	1	2	2	4	4	4	7	7	7	7	7	5	5	4	3	1	2	2	3.3	7.2																							
21-Sep	1	1	2	2	1	1	2	2	2	2	2	2	3	4	5	5	7	8	8	3	6	9	10	5	3.9	10.3																							
22-Sep	5	7	10	11	8	6	6	6	8	5	5	6	4	4	3	2	2	2	2	2	1	1	1	1	4.5	10.7																							
23-Sep	1	2	2	2	3	5	4	4	4	8	8	11	17	17	17	15	18	18	12	11	8	9	9	8	8.9	18.3																							
24-Sep	3	2	6	9	7	8	7	7	8	8	10	8	7	6	3	4	4	3	2	2	3	3	3	2	5.3	9.5																							
25-Sep	3	2	2	3	3	3	3	3	4	4	4	3	5	7	9	13	4	3	3	9	8	9	7	9	5.1	12.6																							
26-Sep	15	12	8	7	6	7	4	2	3	2	4	3	4	5	4	5	5	4	4	2	2	5	5	2	5.0	14.6																							
27-Sep	1	2	4	3	2	4	2	2	5	6	9	7	16	21	22	24	18	16	14	13	16	17	11	5	10.1	23.9																							
28-Sep	3	5	7	14	22	22	18	22	27	23	24	21	22	18	17	16	16	13	6	6	5	3	2	1	13.9	26.6																							
29-Sep	2	2	2	1	2	3	2	2	3	3	4	5	4	3	5	5	4	4	2	1	1	2	2	2	2.6	4.8																							
30-Sep	2	1	2	2	1	4	8	6	8	17	22	23	22	24	21	24	23	21	14	12	9	15	16	11	12.9	24.2																							
																									3.3	3.1	3.6	4.0	4.1	4.7	4.6	5.2	6.3	7.5	8.4	8.5	8.9	9.0	9.4	10.3	9.6	7.7	6.1	5.6	5.2	5.4	5.0	4.1	Diurnal Average
																									14.6	11.6	11.0	14.1	21.9	21.8	18.1	21.8	26.6	22.9	23.7	22.5	22.2	24.2	21.9	23.9	22.8	21.0	14.2	15.9	16.0	16.6	15.9	13.6	Diurnal Maximum
All monthly, daily, and diurnal averages have been calculated using scalar methods																																																	

Hourly Standard Deviations

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

Maximum Value: 98.2 deg on Sep 24 16:00																			Hours in Service: 720						
Minimum Value: 5.6 deg on Sep 30 23:00																			Hours of Data: 720						
																			Hours of Missing Data: 0						
Percentiles: P ₁ = 6.3 P ₁₀ = 9.0 Q ₁ = 13.9 Median = 24.8 Q ₃ = 58.3 P ₉₀ = 79.4 P ₉₉ = 94.8																			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-Sep	57	43	74	38	97	64	58	60	54	28	38	29	33	33	74	31	22	30	10	9	8	9	7	8	97.0
2-Sep	7	6	8	9	10	14	14	12	12	15	17	16	20	22	27	34	17	13	22	16	16	21	10	13	34.1
3-Sep	60	42	50	30	66	36	64	63	19	18	23	23	18	16	18	20	12	11	39	59	92	66	60	76	92.1
4-Sep	29	91	36	49	76	72	75	69	68	23	20	20	39	63	46	13	12	13	13	52	90	67	70	94	94.0
5-Sep	77	19	14	93	98	65	40	12	40	29	21	27	82	70	40	21	47	92	55	15	23	17	86	97	98.1
6-Sep	16	26	79	75	79	88	92	45	21	31	17	13	17	20	17	14	22	12	12	42	58	48	58	66	91.5
7-Sep	67	33	79	41	80	79	59	72	10	13	9	9	14	19	19	34	26	23	25	72	55	95	93	78	94.6
8-Sep	78	60	56	67	41	21	12	12	42	41	29	32	42	52	34	25	44	21	61	87	34	71	70	32	86.6
9-Sep	61	76	66	80	44	13	45	61	35	26	16	16	11	14	11	10	10	16	8	9	6	12	51	32	79.5
10-Sep	12	16	12	24	57	76	26	79	81	45	36	86	70	36	47	78	66	40	44	83	83	46	76	76	86.0
11-Sep	84	57	63	17	23	34	28	22	16	19	22	85	45	79	43	39	32	45	60	80	90	67	83	84	90.0
12-Sep	80	78	76	52	21	48	10	21	14	16	22	38	63	93	66	62	68	45	17	43	54	14	18	16	92.5
13-Sep	18	19	15	19	14	18	13	19	24	20	31	25	27	22	23	18	18	18	17	16	17	16	14	14	31.1
14-Sep	15	10	28	25	76	61	73	16	27	34	52	81	92	49	63	81	52	23	76	69	74	17	21	75	92.5
15-Sep	92	51	90	87	79	95	74	80	43	30	90	82	91	47	50	17	12	78	44	31	18	10	8	7	95.4
16-Sep	14	11	6	7	8	6	6	7	7	7	7	7	24	14	15	13	22	16	17	11	8	7	7	9	23.6
17-Sep	11	10	12	8	8	9	8	6	8	9	9	10	9	18	10	8	9	9	9	6	9	9	10	8	18.0
18-Sep	16	60	81	86	61	63	67	33	35	51	59	29	42	66	20	16	15	15	11	18	19	18	12	7	86.2
19-Sep	7	43	36	46	7	6	6	7	9	8	8	13	13	16	16	13	9	8	8	10	14	10	15	37	46.0
20-Sep	39	82	84	92	88	84	58	30	76	37	40	28	23	30	28	29	24	15	13	10	29	34	48	57	92.0
21-Sep	86	82	51	31	91	67	48	62	26	53	62	43	30	31	26	19	18	18	15	29	41	17	15	19	91.3
22-Sep	19	14	10	14	9	14	15	25	12	15	18	28	41	42	47	44	63	30	46	75	57	83	90	88	90.2
23-Sep	45	28	45	49	28	21	16	15	17	15	17	60	10	16	15	16	16	16	17	16	16	12	19	17	60.4
24-Sep	78	80	25	14	14	10	14	10	11	10	12	20	27	28	60	98	46	32	22	15	14	13	23	38	98.2
25-Sep	86	87	95	72	91	65	65	73	52	41	39	32	18	19	50	15	39	78	49	22	17	12	18	13	95.1
26-Sep	11	22	17	14	16	19	61	54	15	70	49	74	57	34	20	23	32	32	18	73	27	13	11	63	74.2
27-Sep	76	50	53	58	74	93	58	68	15	13	18	26	11	9	10	7	11	7	8	10	9	8	9	41	93.0
28-Sep	46	16	24	7	6	7	8	7	9	8	10	14	11	15	13	16	13	12	8	8	13	18	59	89	88.7
29-Sep	82	41	20	86	23	15	71	76	17	20	32	32	52	62	41	34	18	11	22	64	69	87	95	97	96.8
30-Sep	70	92	84	79	66	29	15	16	18	12	13	11	12	12	8	8	9	7	11	8	9	6	6	8	91.9
91.6 91.9 95.1 92.8 98.1 95.4 91.5 80.3 80.6 69.7 90.4 86.0 92.5 92.5 74.4 98.2 68.5 91.5 76.4 86.6 92.1 94.6 94.9 96.8																									

PAZA
Smoky Heights Station
Monthly Summary Tables, Graphs and
Roses

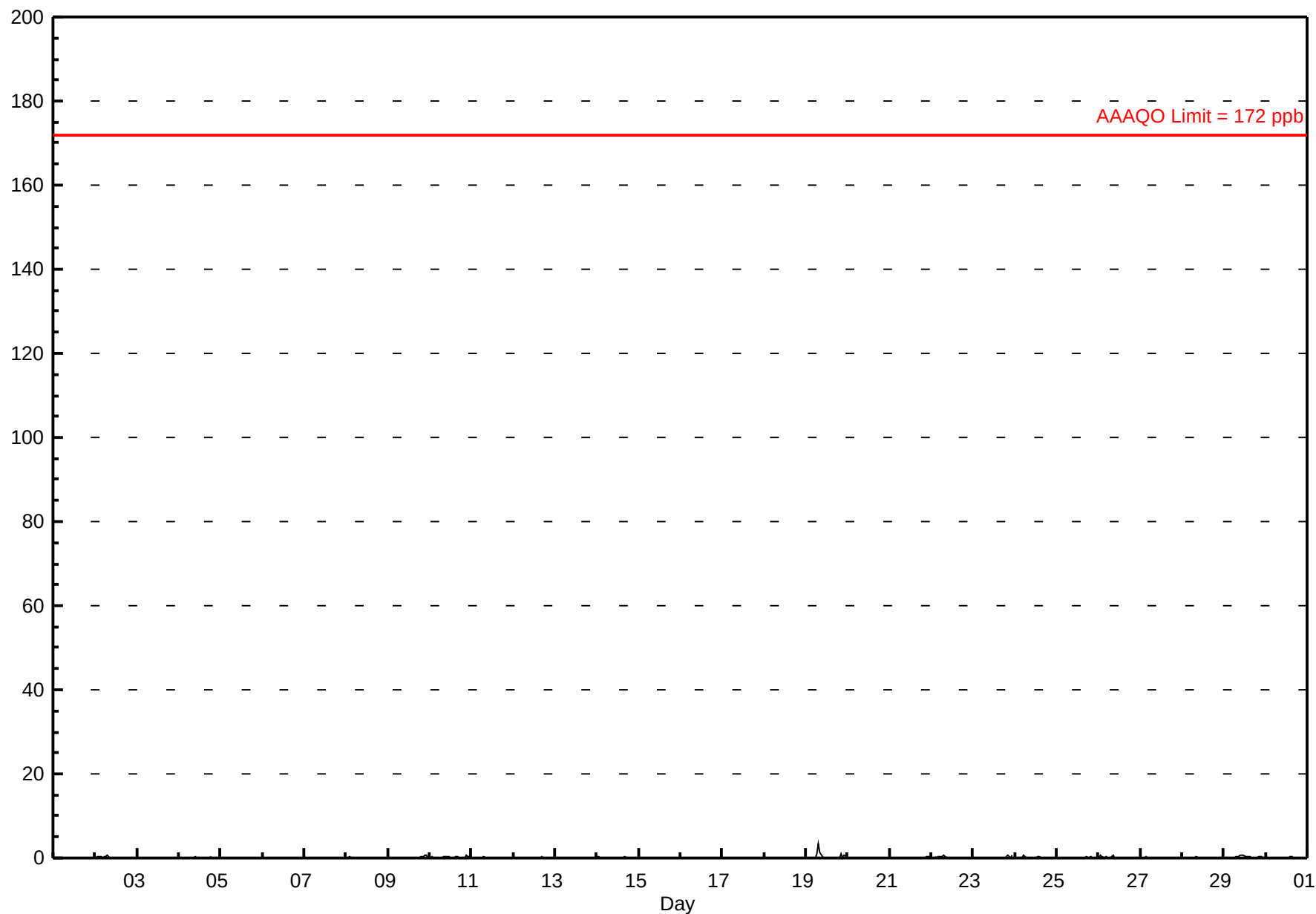
Hourly Averages

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

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 3.6 ppb on Sep 19 08:00 Maximum Daily Average: 0.4 ppb on Sep 19																								Hours in Service: 720 Hours of Data: 659 Hours of Missing Data: 61 Hours of Calibration: 34 Percent Operational Time: 96.3		
Minimum Value: 0 ppb on Sep 29 03:00 Minimum Daily Average: 0.0 ppb on Sep 6 Maximum Diurnal Average: 0.2 ppb at hour 8 Minimum Diurnal Average: 0.1 ppb at hour 24 Monthly Average: 0.08 ppb Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 0.1 P ₉₀ = 0.2 P ₉₉ = 0.7																										
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-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.0	0.1
2-Sep	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
3-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.0	0.1
4-Sep	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
5-Sep	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	0.1
6-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0.0	0.0
7-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0.0	0.1
8-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.0	0.3
9-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	1	1	0	0.1	0.7
10-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	1	0	0	0.2	0.8
11-Sep	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.0	0.4
12-Sep	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.5
13-Sep	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
14-Sep	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.4
15-Sep	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
16-Sep	0	0	0	0	0	0	0	A	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	0.0
17-Sep	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	0.0
18-Sep	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
19-Sep	0	0	0	0	A	0	1	4	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0.4	3.6
20-Sep	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1
21-Sep	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
22-Sep	0	A	0	0	0	0	0	1	0	0	C	C	C	C	0	0	0	0	0	0	0	0	0	0	0.1	0.5
23-Sep	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	A	0.1	0.8
24-Sep	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.1	0.6
25-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.1	0.4
26-Sep	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.1	0.6
27-Sep	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
28-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0.1	0.3
29-Sep	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	A	0	0	0	0	0	0	0.2	0.7
30-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0.1	0.3
																								Diurnal Average	Diurnal Maximum	
C - Calibration M - Maintenance N - Not Valid A - Automated Daily Zero Span																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb 30-day 11 ppb																										

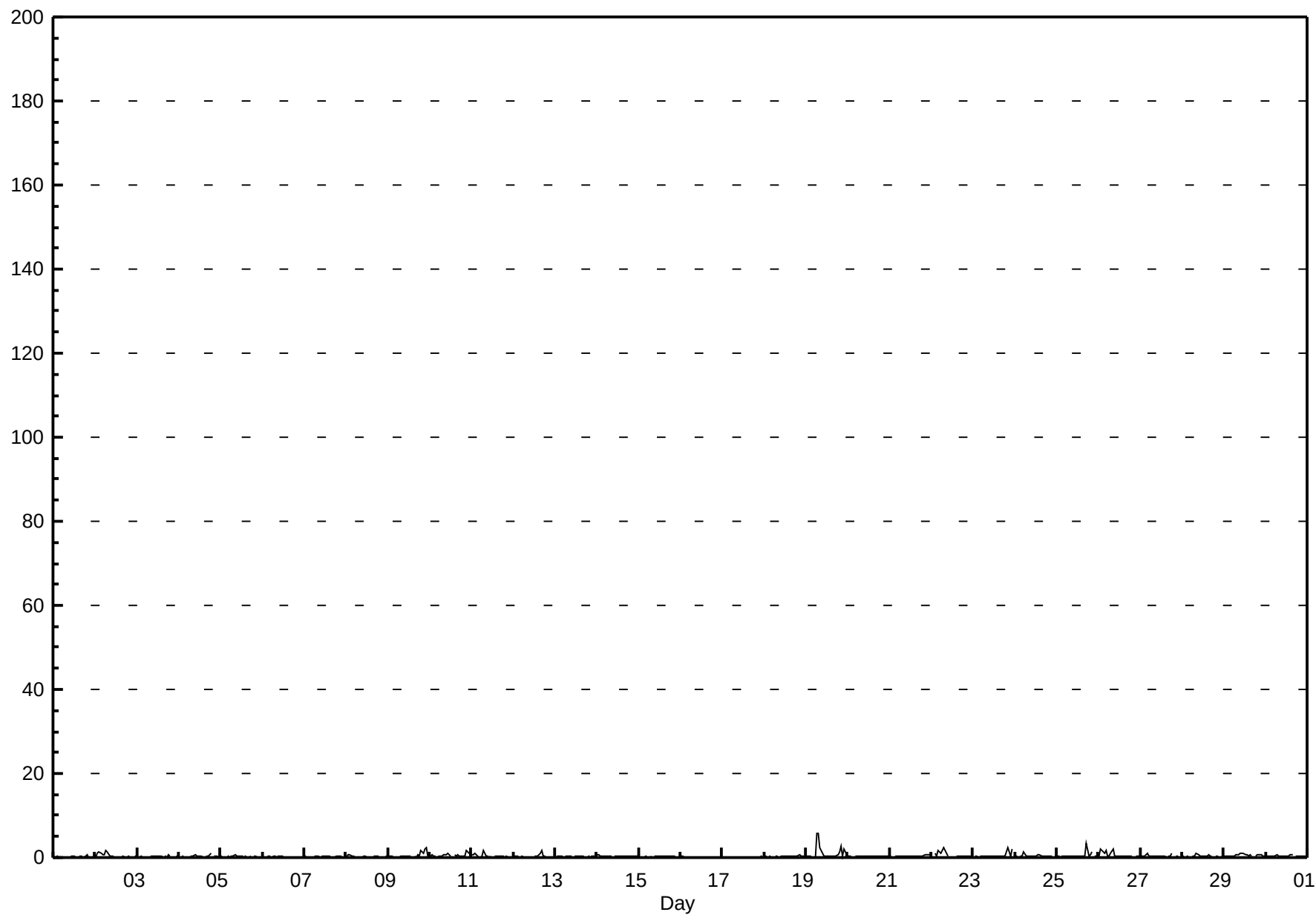
Hourly Averages

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



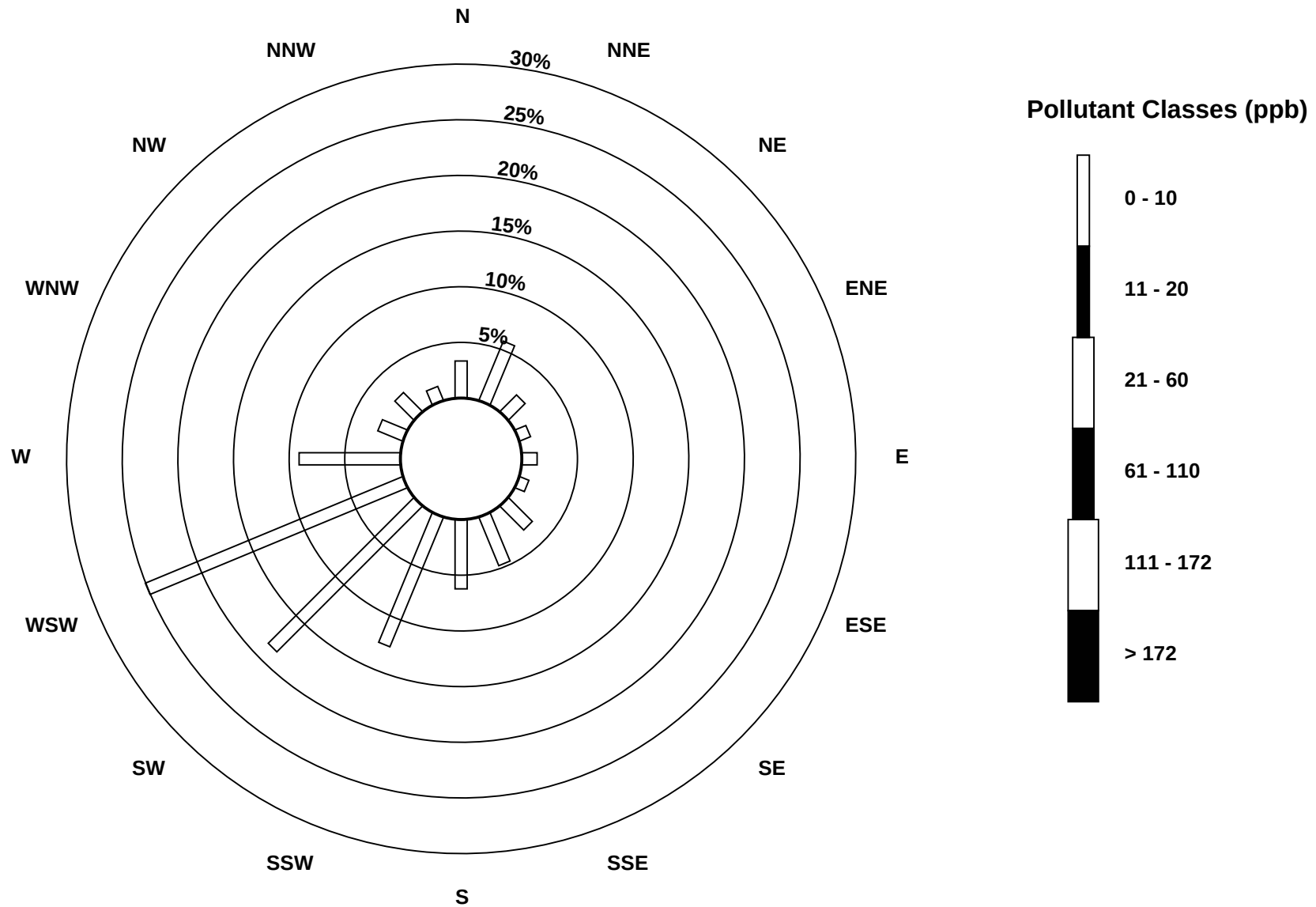
Hourly Maximums

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



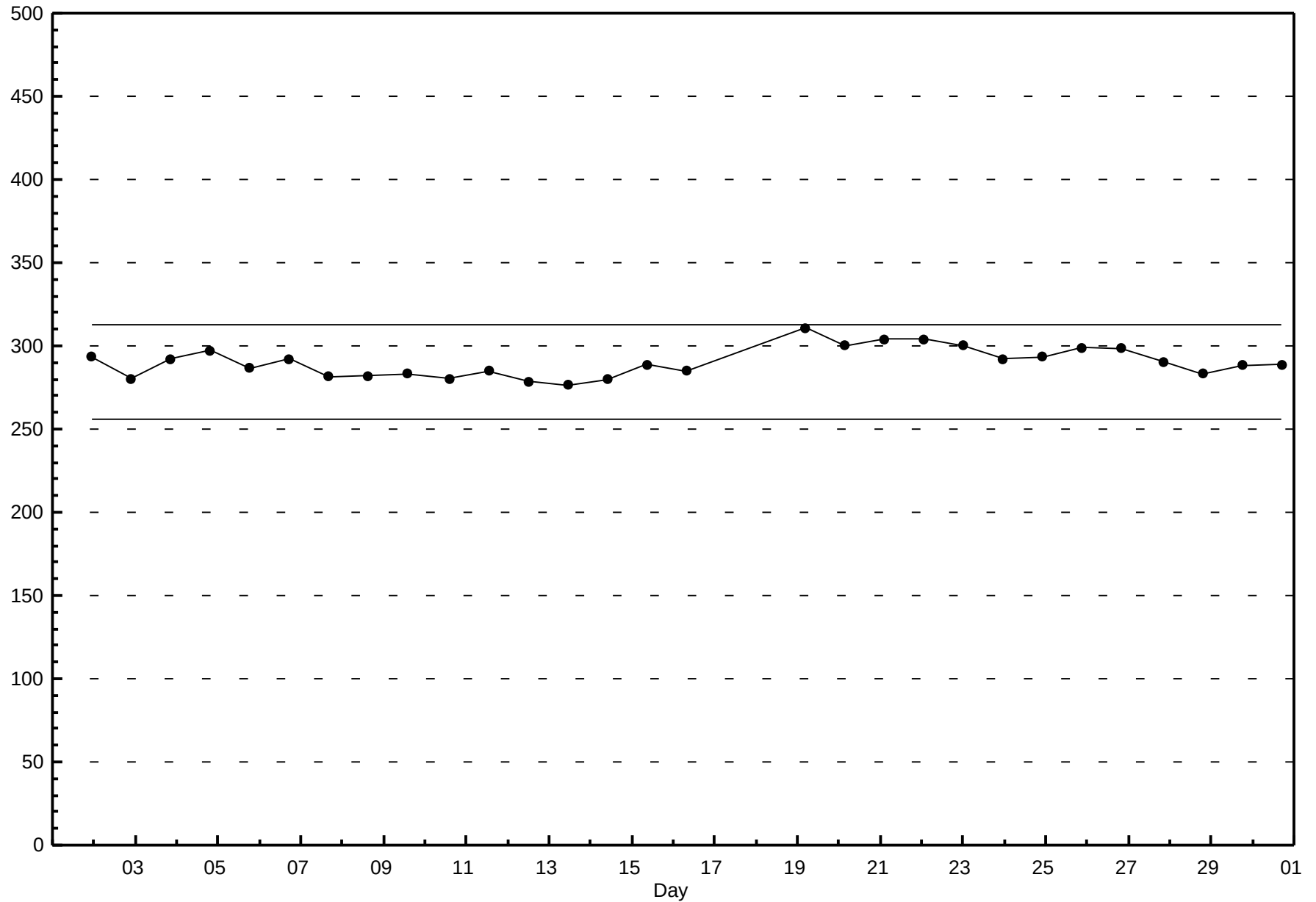
Pollutant Rose

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



Span Responses

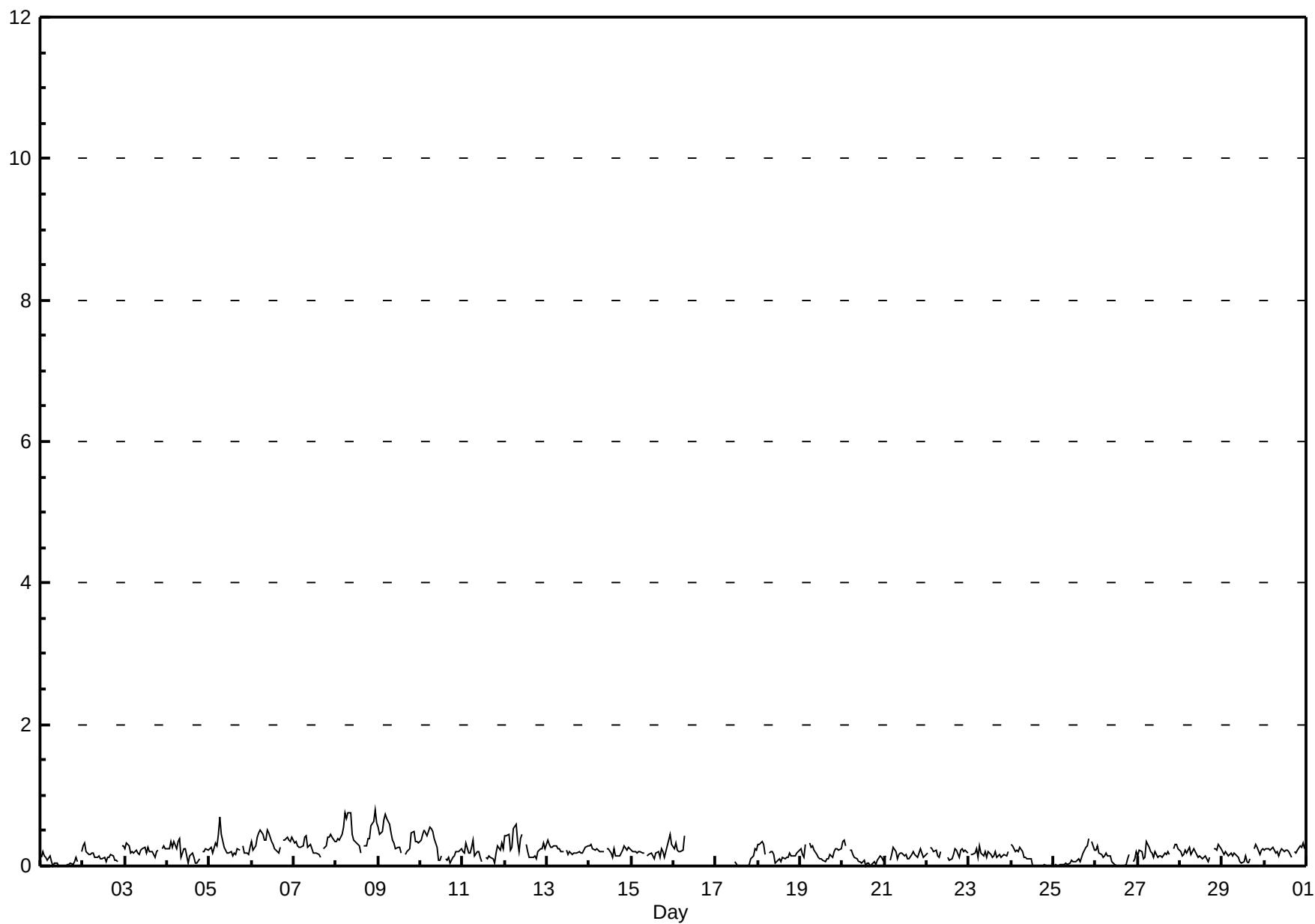
Sulphur Dioxide (SO₂)
Smoky Heights - September 2011



Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 0.8 ppb on Sep 8 23:00 Maximum Daily Average: 0.5 ppb on Sep 8																				Hours in Service: 720 Hours of Data: 660 Hours of Missing Data: 60 Hours of Calibration: 33 Percent Operational Time: 96.3						
Minimum Value: 0 ppb on Sep 1 08:00 Maximum Diurnal Average: 0.3 ppb at hour 6 Monthly Average: 0.21 ppb																				Minimum Daily Average: 0.1 ppb on Sep 1 Minimum Diurnal Average: 0.1 ppb at hour 16 Percentiles: P ₁ = 0.0 P ₁₀ = 0.1 Q ₁ = 0.1 Median = 0.2 Q ₃ = 0.3 P ₉₀ = 0.4 P ₉₉ = 0.7						
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-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.1	0.2
2-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.2	0.3
3-Sep	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
4-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.2	0.4
5-Sep	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0.3	0.7
6-Sep	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0.4	0.5
7-Sep	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
8-Sep	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	A	0	0	0	0	1	1	1	1	0.5	0.8
9-Sep	1	0	0	1	1	1	1	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.4	0.7
10-Sep	0	0	1	0	0	1	1	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.3	0.5
11-Sep	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4
12-Sep	0	0	0	0	0	1	1	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.6
13-Sep	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4
14-Sep	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3
15-Sep	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.5
16-Sep	0	0	0	0	0	0	0	A	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	0.4
17-Sep	N	N	N	N	N	N	N	N	N	N	M	0	0	0	0	0	0	0	0	0	0	0	0	0	--	0.2
18-Sep	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
19-Sep	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
20-Sep	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.4
21-Sep	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
22-Sep	0	A	0	0	0	0	0	0	0	C	C	C	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3
23-Sep	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
24-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.1	0.3
25-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.1	0.4
26-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.1	0.3
27-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.2	0.3
28-Sep	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
29-Sep	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
30-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0.2	0.3
0.3 0.3 0.3 0.2 0.2 0.3 0.3 0.2 0.2 0.2 0.2 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.2 0.2 0.2 0.2 0.3 0.2																									Diurnal Average	
0.5 0.5 0.5 0.7 0.7 0.8 0.7 0.8 0.8 0.5 0.5 0.3 0.3 0.3 0.2 0.2 0.3 0.3 0.4 0.5 0.6 0.6 0.8 0.6																									Diurnal Maximum	
C - Calibration M - Maintenance N - Not Valid 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 - September 2011



Hourly Maximums

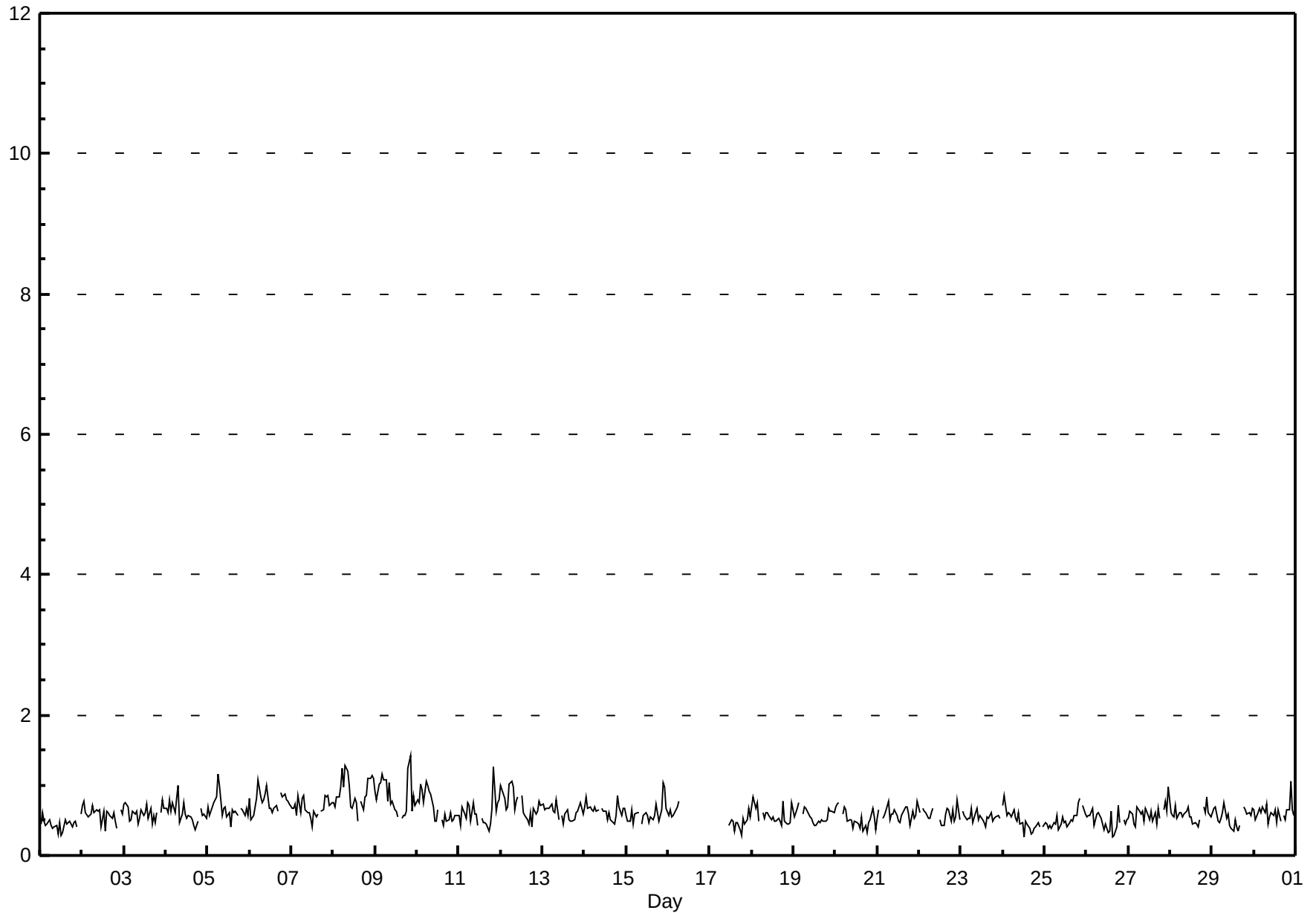
Total Reduced Sulphur (TRS) - ppb

Smoky Heights - September 2011

Maximum Value: 1.4 ppb on Sep 9 21:00																				Maximum Daily Average: 0.9 ppb on Sep 8					Hours in Service: 720	
Minimum Value: 0 ppb on Sep 26 16:00																				Minimum Daily Average: 0.4 ppb on Sep 1					Hours of Data: 660	
Maximum Diurnal Average: 0.7 ppb at hour 7																				Minimum Diurnal Average: 0.5 ppb at hour 14					Hours of Missing Data: 60	
Monthly Average: 0.61 ppb																				Percentiles: P ₁ = 0.3 P ₁₀ = 0.4 Q ₁ = 0.5 Median = 0.6 Q ₃ = 0.7 P ₉₀ = 0.8 P ₉₉ = 1.2					Hours of Calibration: 33	
																				Percent Operational Time: 96.3						
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-Sep	0	1	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	A	1	0.4	0.6
2-Sep	1	1	1	1	1	1	1	1	1	1	1	0	1	0	1	1	1	1	1	0	0	A	1	1	0.6	0.8
3-Sep	1	1	1	0	1	1	1	1	0	1	1	1	1	1	1	1	0	1	0	1	A	1	1	1	0.6	0.8
4-Sep	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	0	0	0	A	1	1	1	1	0.6	1.0
5-Sep	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	A	1	1	1	1	1	0.7	1.2
6-Sep	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	0.8	1.1
7-Sep	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	A	1	1	1	1	1	1	1	0.7	0.9
8-Sep	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	A	1	1	1	1	1	1	1	1	0.9	1.3
9-Sep	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	0	1	1	1	1	1	1	1	1	0.8	1.4
10-Sep	1	1	1	1	1	1	1	1	1	1	0	0	1	A	A	0	1	0	1	1	0	1	1	1	0.7	1.1
11-Sep	1	0	1	1	1	1	1	0	1	1	1	0	A	1	0	0	0	0	0	1	1	1	1	1	0.6	1.3
12-Sep	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	0	1	0	1	1	1	1	1	0.7	1.0
13-Sep	1	1	1	1	1	1	1	1	1	1	A	1	0	1	1	1	0	0	1	1	1	1	1	1	0.6	0.8
14-Sep	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	0	0	1	1	1	1	1	1	0.6	0.9
15-Sep	1	0	0	1	0	1	1	1	A	0	1	1	1	0	1	1	1	1	1	1	0	1	1	1	0.6	1.0
16-Sep	1	1	1	1	1	1	1	A	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	0.8
17-Sep	N	N	N	N	N	N	N	N	N	N	N	M	0	1	0	0	0	0	0	0	1	0	1	1	--	0.7
18-Sep	1	1	1	1	0	A	1	1	1	1	1	1	0	0	0	1	0	0	1	0	0	0	0	1	0.6	0.8
19-Sep	1	1	1	1	A	1	1	1	1	1	1	0	0	0	0	0	1	0	0	1	1	1	1	1	0.6	0.8
20-Sep	1	1	1	A	1	1	1	0	1	1	0	0	0	0	0	1	0	0	0	0	0	1	1	0	0.5	0.8
21-Sep	1	1	A	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	0	1	1	1	1	0.6	0.8
22-Sep	1	A	1	1	1	1	1	1	1	C	C	C	1	0	0	1	1	1	0	1	0	1	1	1	0.6	0.8
23-Sep	A	1	1	1	1	1	1	0	1	1	1	1	0	0	0	1	1	1	0	1	1	1	1	A	0.5	0.7
24-Sep	1	1	1	1	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.5	0.9
25-Sep	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1	0	1	1	1	1	A	1	1	0.5	0.8
26-Sep	1	1	1	1	0	1	1	1	1	0	0	0	0	0	1	0	0	0	1	0	A	1	0	1	0.5	0.7
27-Sep	1	1	1	0	0	1	1	1	1	0	1	1	1	1	0	1	0	1	1	A	1	1	1	1	0.6	1.0
28-Sep	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	A	1	1	1	1	1	0.6	0.8
29-Sep	1	1	1	0	0	1	1	1	1	1	0	0	0	0	0	0	0	A	1	1	1	1	1	1	0.5	0.7
30-Sep	1	1	1	1	1	1	1	1	0	1	1	1	1	0	1	0	A	1	1	1	1	1	1	1	0.6	1.1
0.7 0.7 0.7 0.6 0.6 0.7 0.7 0.7 0.7 0.6 0.6 0.6 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.6 0.6 0.7 0.7 0.7 0.6																									Diurnal Average	
1.0 0.9 1.0 1.0 1.2 1.2 1.2 1.3 1.2 1.0 1.0 0.7 0.8 0.7 0.7 0.7 0.8 0.7 0.6 0.9 1.2 1.4 1.1 1.1 1.1																									Diurnal Maximum	
C - Calibration M - Maintenance N - Not Valid A - Automated Daily Zero Span																										

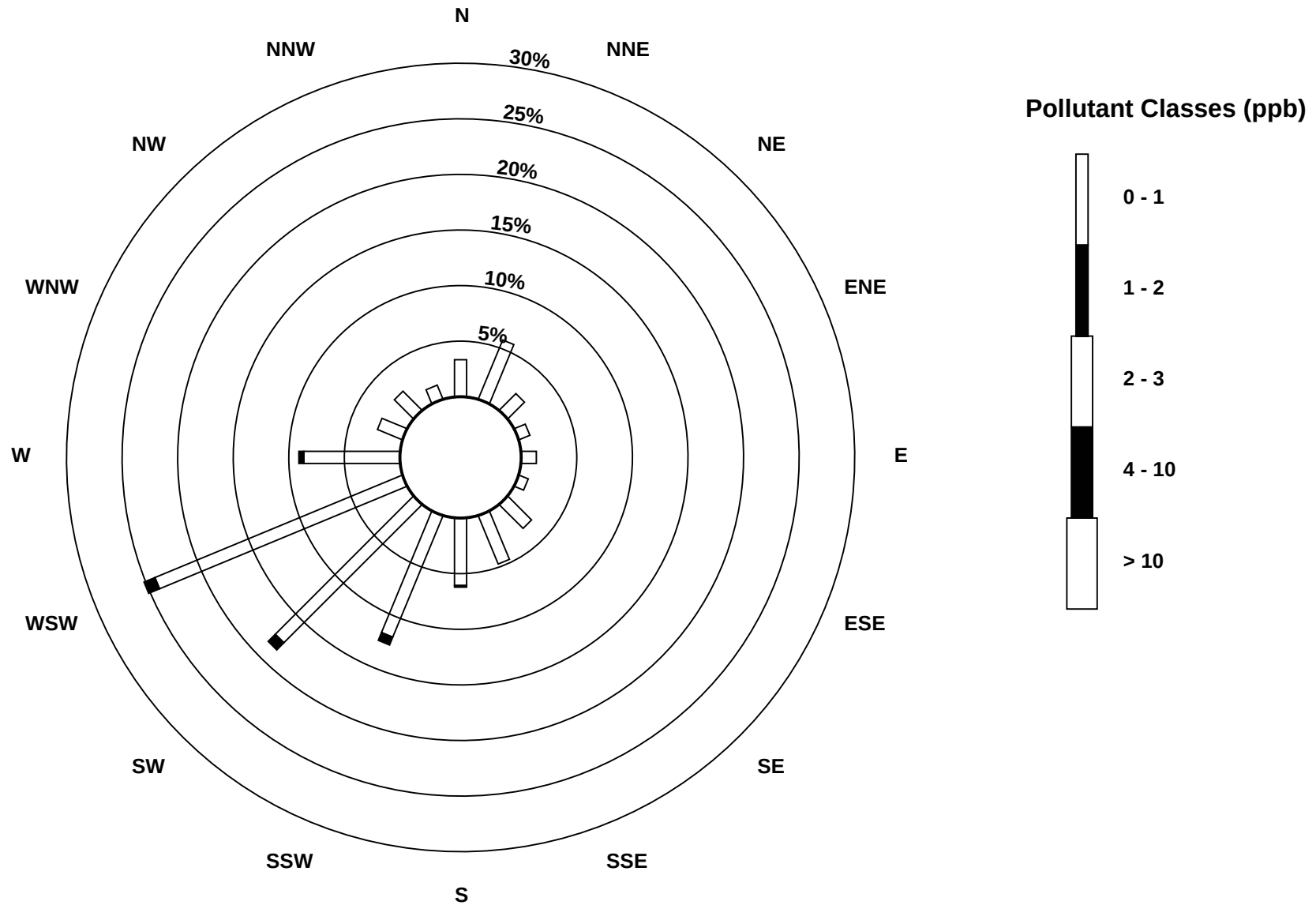
Hourly Maximums

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



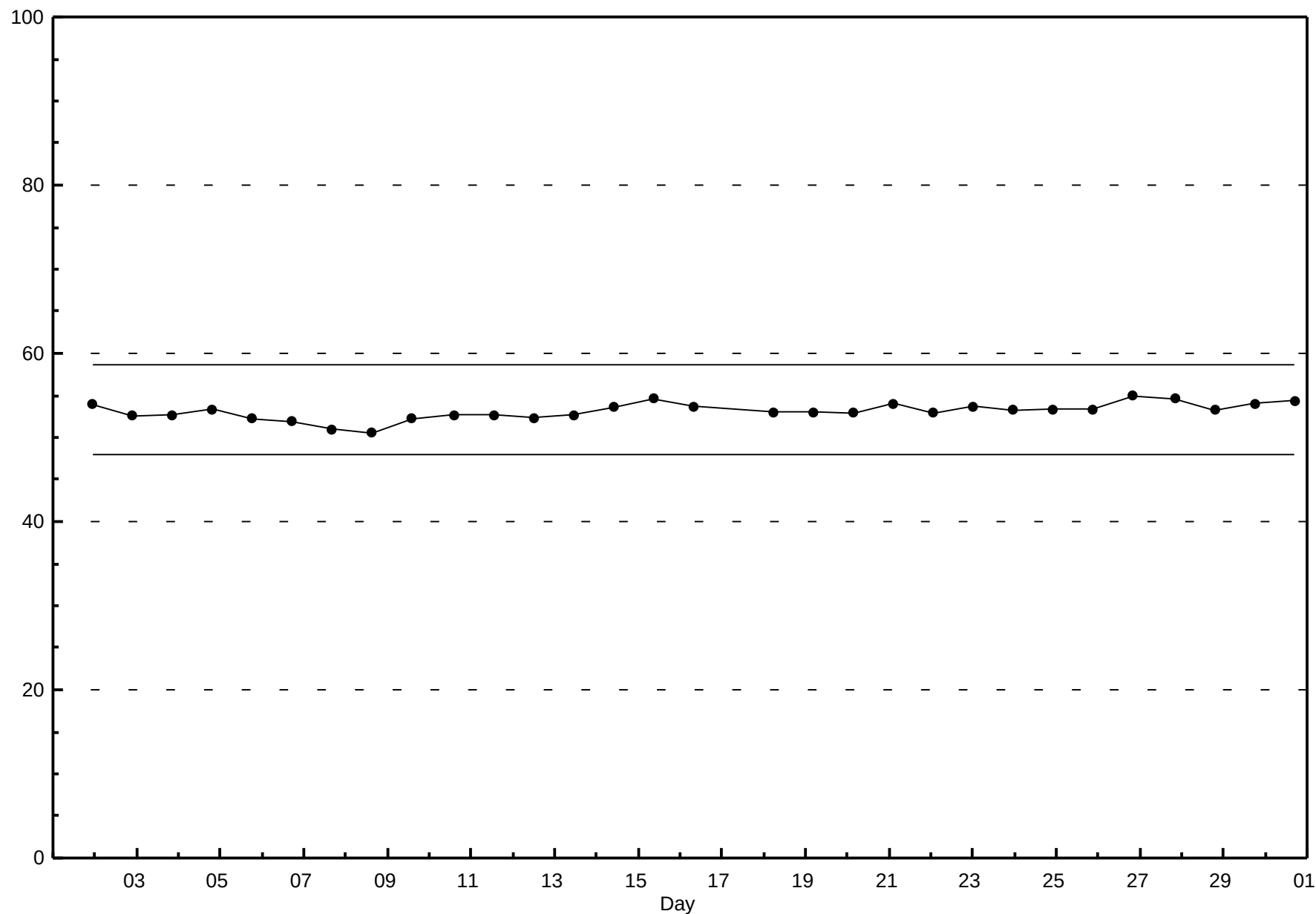
Pollutant Rose

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



Span Responses

Total Reduced Sulphur (TRS)
Smoky Heights - September 2011

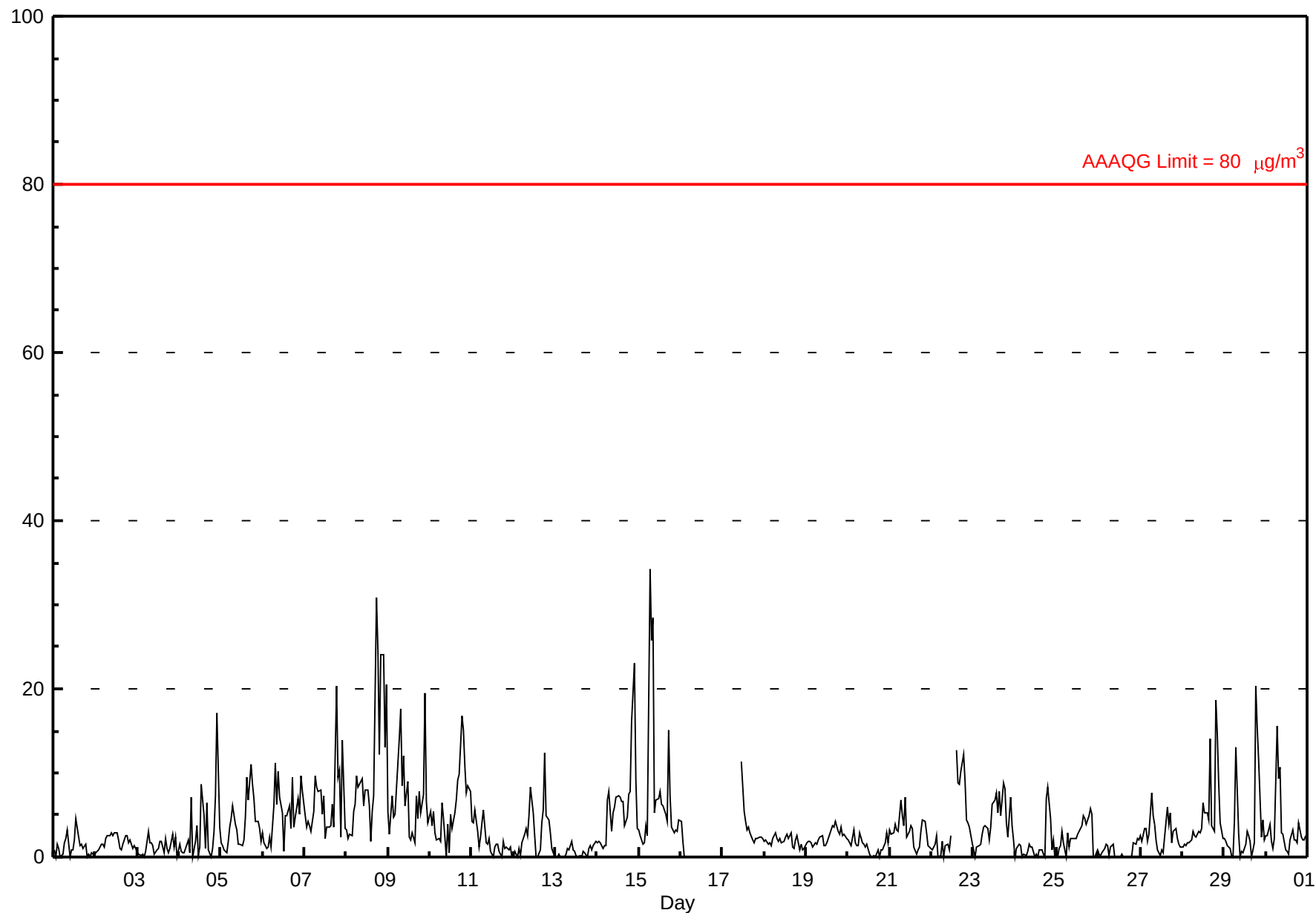


Hourly Averages

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

Smoky Heights - September 2011

Number of Exceedences: 1-hr: 0 24-hr: 0 Maximum Value: 34.2 µg/m³ on Sep 15 07:00 Minimum Value: 0 µg/m³ on Sep 1 05:00 Maximum Diurnal Average: 6.3 µg/m³ at hour 19 Monthly Average: 3.63 µg/m³																								Hours in Service: 720 Hours of Data: 690 Hours of Missing Data: 30 Hours of Calibration: 2 Percent Operational Time: 96.1		
Maximum Daily Average: 10.5 µg/m³ on Sep 8 Minimum Daily Average: 0.6 µg/m³ on Sep 13 Minimum Diurnal Average: 1.6 µg/m³ at hour 5 Percentiles: P ₁ = 0.0 P ₁₀ = 0.2 Q ₁ = 1.1 Median = 2.3 Q ₃ = 4.6 P ₉₀ = 8.0 P ₉₉ = 23.9																										
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-Sep	1	0	2	1	0	0	2	2	3	0	1	1	2	5	2	1	2	1	1	0	0	0	0	0	1.2	4.6
2-Sep	1	1	1	1	2	1	2	3	3	3	3	3	3	2	1	1	2	2	3	2	2	1	1	1	1.8	2.9
3-Sep	1	0	0	0	0	1	3	2	2	1	0	1	1	2	2	1	2	1	1	1	3	1	2	0	1.1	3.1
4-Sep	1	1	0	1	1	2	1	7	0	2	4	0	1	9	5	1	6	1	0	1	3	7	17	3	3.1	17.2
5-Sep	2	1	1	0	2	4	5	6	4	3	1	1	1	2	5	9	7	11	9	7	4	4	3	2	4.0	11.0
6-Sep	3	2	1	1	2	1	6	11	6	10	7	5	1	5	5	6	3	10	4	5	7	5	10	8	5.2	11.3
7-Sep	5	4	4	4	3	5	10	8	8	8	5	7	2	4	4	4	6	4	20	9	10	2	14	3	6.4	20.4
8-Sep	3	2	3	3	5	6	10	8	9	9	6	8	8	6	2	5	7	31	25	12	24	24	13	21	10.5	30.9
9-Sep	5	3	7	5	5	8	14	18	8	12	6	9	2	2	3	2	7	5	8	5	7	20	7	4	7.2	19.5
10-Sep	5	4	5	3	2	2	2	7	5	0	4	0	5	3	5	7	9	10	17	15	11	8	9	8	6.0	16.8
11-Sep	4	4	6	3	1	2	4	6	2	2	2	1	0	1	1	1	1	0	2	1	1	1	1	0	2.0	5.6
12-Sep	0	1	0	1	0	2	3	3	3	5	8	5	3	0	0	1	4	6	12	5	4	3	1	1	2.9	12.4
13-Sep	0	0	0	0	0	0	0	1	1	2	1	1	0	0	0	0	1	0	0	1	1	1	1	2	0.6	1.9
14-Sep	2	2	2	1	1	1	7	8	3	5	6	7	7	7	7	7	4	5	7	8	16	23	9	3	6.2	23.0
15-Sep	3	3	1	2	4	3	34	26	28	5	7	7	8	6	6	5	4	15	7	4	3	3	3	4	8.0	34.2
16-Sep	4	2	0	0	0	0	0	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	4.2
17-Sep	N	N	N	N	N	N	N	N	N	N	N	11	6	4	3	4	3	2	2	2	2	2	2	2	--	11.4
18-Sep	2	2	2	2	1	2	3	2	2	2	2	2	2	3	2	3	1	1	2	3	1	2	1	1	1.9	2.8
19-Sep	2	2	2	2	1	2	2	2	2	3	1	1	2	2	3	4	4	4	3	3	3	3	3	2	2.4	4.2
20-Sep	2	2	1	3	2	1	1	3	2	2	1	2	0	0	0	0	0	1	0	1	1	2	3	2	1.3	3.2
21-Sep	3	3	3	4	3	3	7	5	4	7	2	3	4	3	1	0	1	1	3	4	4	3	1	1	3.1	7.2
22-Sep	1	1	2	3	0	0	2	0	1	1	1	2	C	C	13	9	9	10	12	9	4	4	4	2	4.1	12.7
23-Sep	1	0	1	1	2	3	4	4	3	2	4	6	7	8	5	8	5	9	8	4	2	7	4	2	4.1	8.7
24-Sep	0	1	1	1	0	0	0	1	2	1	1	0	0	0	1	1	0	0	7	8	5	1	2	0	1.4	8.3
25-Sep	0	1	1	3	2	0	3	1	2	2	2	2	3	3	4	5	5	4	5	6	5	0	0	1	2.5	5.7
26-Sep	0	0	1	1	2	1	0	1	2	0	0	0	0	0	0	0	0	0	0	0	2	1	2	2	0.7	2.3
27-Sep	2	2	3	3	2	3	8	5	4	2	1	0	1	0	2	6	4	5	2	3	3	2	2	1	2.8	7.7
28-Sep	1	2	1	2	2	2	3	3	2	3	3	3	7	5	5	4	14	4	3	19	15	9	4	2	4.9	18.6
29-Sep	2	2	1	1	0	0	4	13	3	0	1	1	2	3	3	2	0	2	20	15	12	2	4	2	4.0	20.4
30-Sep	3	2	4	2	1	2	16	9	11	3	3	1	1	0	2	3	2	2	2	4	2	2	2	2	3.4	15.6
																								Diurnal Average	Diurnal Maximum	
C - Calibration M - Maintenance N - Not Valid Alberta Ambient Air Quality Guideline (AAAQG): 1-hr 80 µg/m³ Alberta Ambient Air Quality Objective (AAAQO): 24-hr 30 µg/m³																										



Hourly Maximums

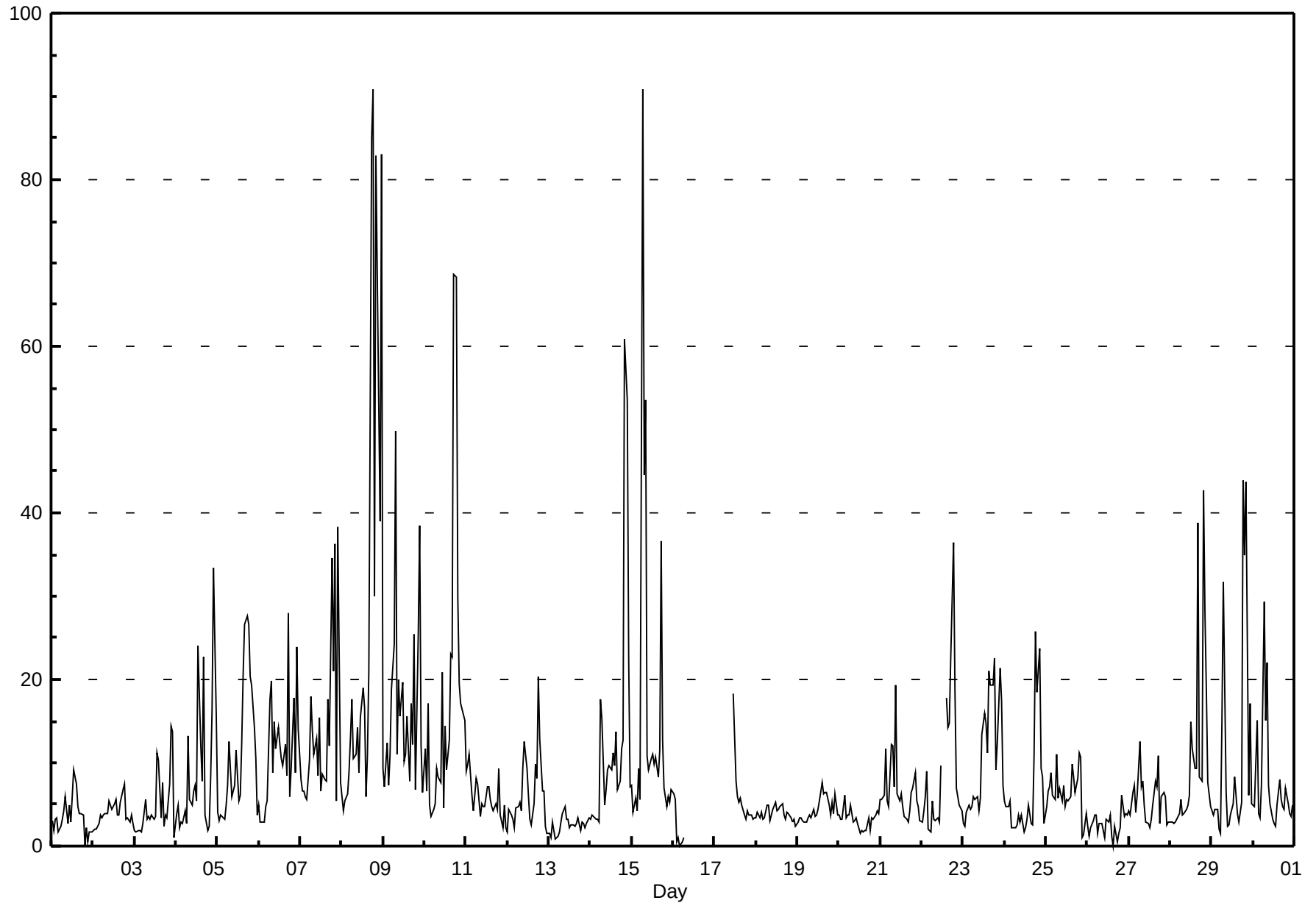
Particulate Matter 2.5 (PM_{2.5}) - µg/m³

Smoky Heights - September 2011

Maximum Value: 90.9 μg/m³ on Sep 8 19:00																					Maximum Daily Average: 27.5 μg/m³ on Sep 8					Hours in Service: 720	
Minimum Value: 0 μg/m³ on Sep 16 05:00																					Minimum Daily Average: 2.5 μg/m³ on Sep 13					Hours of Data: 690	
Maximum Diurnal Average: 17.0 μg/m³ at hour 19																					Minimum Diurnal Average: 3.9 μg/m³ at hour 5					Hours of Missing Data: 30	
Monthly Average: 8.81 μg/m³																					Percentiles: P ₁ = 0.7 P ₁₀ = 2.4 Q ₁ = 3.4 Median = 5.2 Q ₃ = 9.6 P ₉₀ = 18.6 P ₉₉ = 68.3					Hours of Calibration: 2	
																					Percent Operational Time: 96.1						
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-Sep	3	2	3	3	2	2	3	4	6	3	5	3	6	9	7	5	4	4	4	0	2	1	2	2	3.5	9.1	
2-Sep	2	2	2	3	4	3	4	4	4	5	5	4	5	6	4	4	5	7	7	3	3	3	4	3	4.0	7.4	
3-Sep	2	2	2	2	2	3	6	3	4	3	4	3	4	11	10	3	8	2	4	3	7	14	14	1	4.8	14.4	
4-Sep	4	5	2	3	3	4	3	13	6	5	7	7	5	24	12	8	23	4	2	2	8	16	33	15	8.9	33.5	
5-Sep	4	3	4	3	3	5	7	12	6	7	7	12	5	6	12	20	27	28	27	20	19	14	11	4	11.1	27.7	
6-Sep	5	3	3	3	5	5	18	20	9	15	12	14	12	11	10	12	8	28	6	9	18	9	24	14	11.3	27.9	
7-Sep	8	7	7	6	6	10	18	14	11	13	8	15	7	9	8	8	18	12	35	21	36	5	38	8	13.6	38.3	
8-Sep	6	4	5	6	9	13	18	10	11	14	9	15	19	17	6	11	21	85	91	30	83	53	39	83	27.5	90.9	
9-Sep	9	7	12	7	11	19	24	50	11	20	16	20	10	11	16	8	17	12	25	7	25	38	12	6	16.4	49.9	
10-Sep	12	7	17	5	3	4	5	9	8	8	21	5	14	9	13	23	23	69	68	30	20	17	16	15	17.5	68.6	
11-Sep	9	10	11	6	4	6	8	7	4	5	5	5	7	7	6	5	4	5	4	9	4	2	5	2	5.8	11.0	
12-Sep	2	4	4	3	2	5	5	5	4	9	12	9	6	3	3	5	10	8	20	13	7	7	2	2	6.3	20.4	
13-Sep	2	1	3	2	1	1	2	3	4	5	3	3	2	2	2	2	3	3	2	3	3	2	3	3	2.5	4.7	
14-Sep	3	4	3	3	3	3	18	15	5	7	9	10	9	11	10	14	7	8	12	13	61	54	22	7	12.9	60.8	
15-Sep	7	4	6	4	9	6	91	45	54	11	9	11	11	10	11	8	12	37	13	7	5	6	5	7	16.1	90.9	
16-Sep	6	6	1	1	0	1	1	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	6.3	
17-Sep	N	N	N	N	N	N	N	N	N	N	M	18	8	6	5	6	5	4	3	4	4	4	3	3	--	18.3	
18-Sep	3	4	3	4	3	3	5	5	3	4	4	5	4	4	5	5	4	3	4	4	3	3	3	2	3.9	5.2	
19-Sep	3	3	3	3	3	3	3	4	3	4	3	4	4	5	8	6	6	6	5	4	5	4	6	4	4.4	7.7	
20-Sep	4	3	3	6	3	4	4	5	3	3	3	3	2	2	2	2	2	3	2	3	3	4	4	4	3.2	6.1	
21-Sep	6	6	6	12	5	5	12	12	7	19	6	5	6	5	4	3	3	4	6	7	9	5	5	3	6.7	19.4	
22-Sep	3	4	6	9	2	2	5	3	3	3	3	10	C	C	18	14	15	22	36	19	7	6	5	4	9.1	36.4	
23-Sep	3	2	4	5	4	5	6	6	6	4	6	13	16	15	11	21	19	19	22	9	13	21	17	7	10.7	22.5	
24-Sep	5	5	5	5	2	2	2	2	4	3	4	2	2	3	5	3	3	11	26	19	24	9	8	3	6.5	25.7	
25-Sep	5	7	7	9	6	6	11	6	7	5	7	5	6	5	6	10	8	6	8	11	11	1	1	4	6.6	11.2	
26-Sep	2	1	2	3	4	4	2	3	3	2	1	3	3	4	1	0	2	1	1	2	6	3	4	4	2.5	6.1	
27-Sep	4	4	7	7	4	6	13	7	8	5	3	3	2	3	5	8	7	11	3	6	6	6	3	3	5.5	12.6	
28-Sep	3	3	3	3	3	4	6	4	4	4	5	6	15	12	9	9	39	8	8	43	28	19	8	5	10.4	42.8	
29-Sep	4	4	4	4	2	2	15	32	6	2	2	4	5	8	6	4	3	5	44	35	44	6	17	5	11.0	44.0	
30-Sep	5	5	15	4	3	7	29	15	22	7	5	3	3	2	5	8	6	5	4	7	5	4	4	5	7.4	29.3	
4.6 4.1 5.3 4.7 3.9 4.9 11.8 11.4 8.0 7.0 6.6 7.6 7.1 7.9 7.5 8.1 10.7 14.5 17.0 11.8 16.2 11.6 11.0 7.9																									Diurnal Average		
11.7 9.8 17.1 11.8 10.8 18.8 90.9 49.9 53.5 20.0 20.9 19.6 19.0 24.0 17.8 23.0 38.8 85.0 90.9 42.8 82.8 53.6 39.1 83.1																									Diurnal Maximum		
C - Calibration M - Maintenance N - Not Valid																											

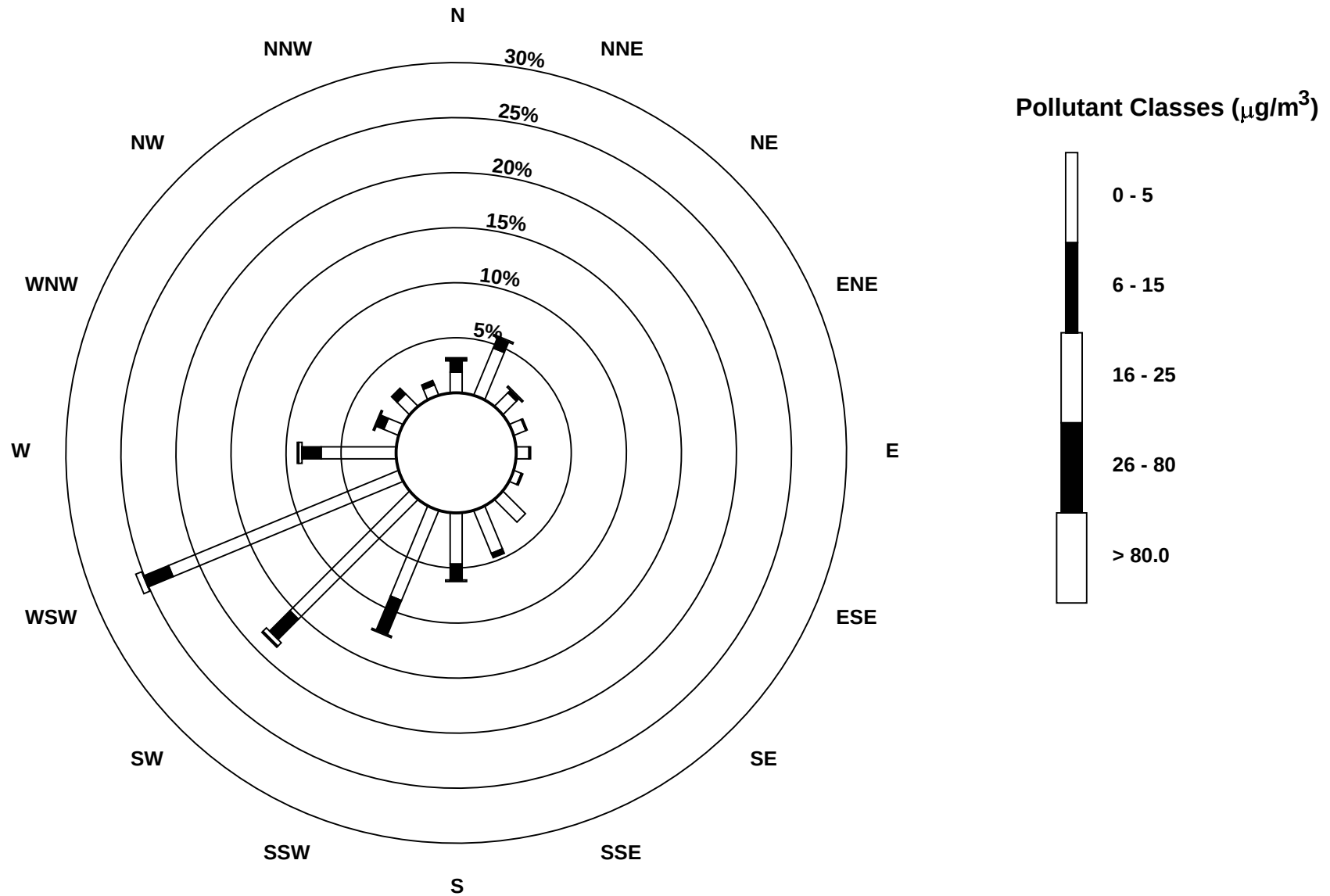
Hourly Maximums

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



Pollutant Rose

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



Hourly Averages

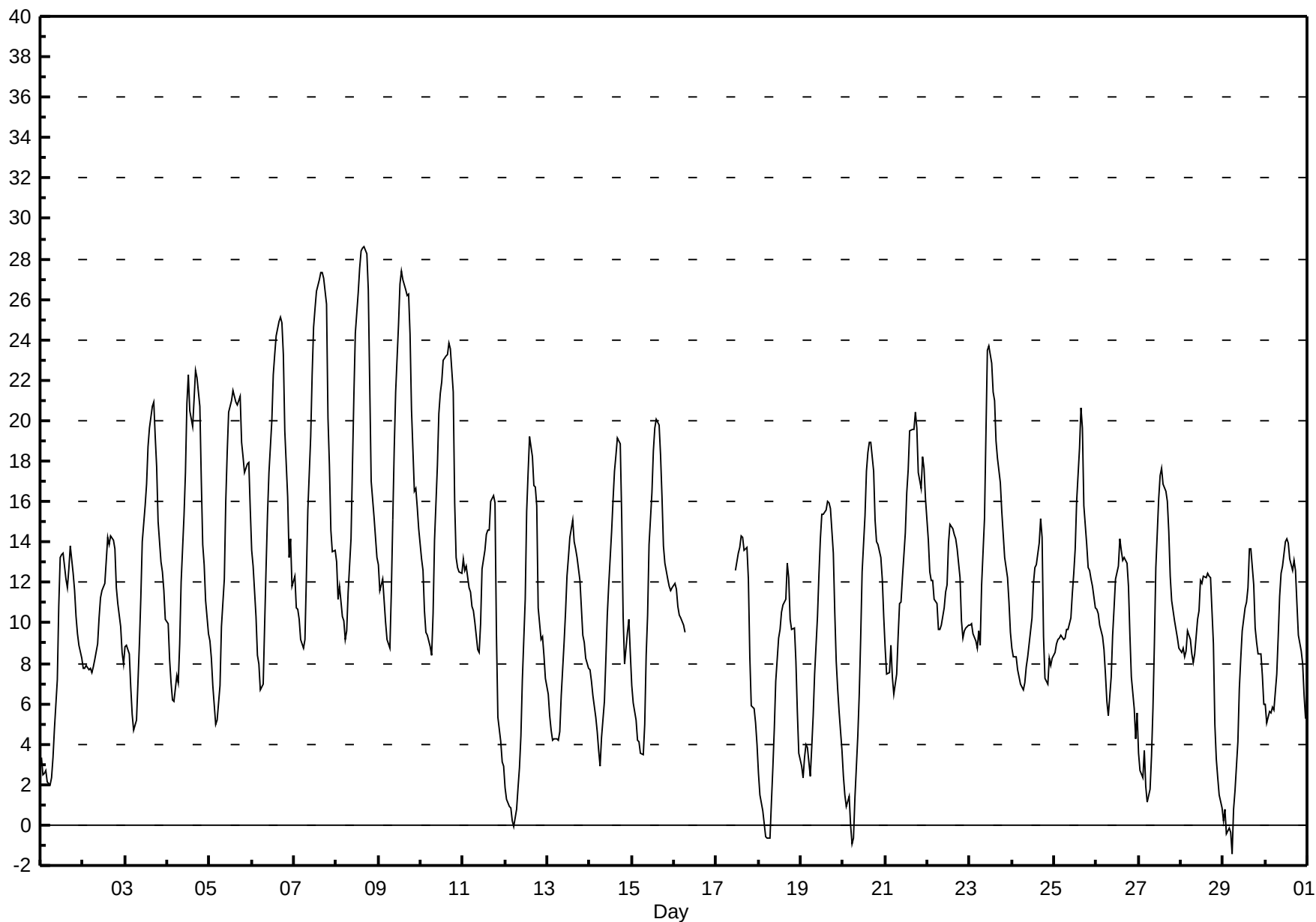
External Temperature (ET) - °C

Smoky Heights - September 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																				Hours in Service: 720						
Maximum Value: 28.6 °C on Sep 8 17:00																				Maximum Daily Average: 18.3 °C on Sep 8		Hours of Data: 692				
Minimum Value: -1 °C on Sep 29 06:00																				Minimum Daily Average: 5.9 °C on Sep 18		Hours of Missing Data: 28				
Maximum Diurnal Average: 18.0 °C at hour 17																				Minimum Diurnal Average: 5.8 °C at hour 6		Hours of Calibration: 0				
Monthly Average: 11.61 °C																				Percentiles: P ₁ = -0.5 P ₁₀ = 4.0 Q ₁ = 8.0 Median = 11.1 Q ₃ = 14.6 P ₉₀ = 20.0 P ₉₉ = 27.3		Percent Operational Time: 96.1				
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-Sep	3	2	3	3	2	2	2	3	5	7	11	13	13	13	12	12	13	14	12	12	10	9	9	8	8.1	13.8
2-Sep	8	8	8	8	8	8	8	8	9	10	11	12	12	13	14	14	14	14	14	12	11	10	9	8	10.4	14.3
3-Sep	9	9	8	7	5	5	5	7	9	11	14	16	17	19	20	21	21	19	18	15	13	12	12	10	12.6	20.9
4-Sep	10	8	7	6	6	7	7	9	12	15	17	21	22	21	20	21	22	22	21	17	14	13	11	9	14.2	22.5
5-Sep	9	8	7	5	5	6	7	10	12	16	18	20	21	21	21	21	21	21	19	18	17	18	18	16	14.9	21.5
6-Sep	14	13	10	8	8	7	7	10	13	15	17	20	22	23	24	25	25	25	23	19	16	13	14	12	16.0	25.1
7-Sep	12	11	11	10	9	9	9	12	16	19	22	25	26	26	27	27	27	27	26	20	18	15	14	14	18.0	27.3
8-Sep	13	11	12	10	10	9	10	11	14	18	21	24	26	28	28	29	29	28	26	22	17	15	14	13	18.3	28.6
9-Sep	13	12	12	11	10	9	9	12	15	19	21	25	27	27	27	27	26	26	24	21	17	17	16	15	18.1	27.4
10-Sep	13	13	11	10	9	9	8	10	14	18	20	21	22	23	23	23	24	24	21	16	13	13	13	12	16.0	23.8
11-Sep	13	13	13	12	12	11	11	10	9	9	10	13	14	14	15	15	16	16	16	9	5	4	3	3	11.0	16.3
12-Sep	2	1	1	1	0	0	1	2	3	4	7	11	16	17	19	18	17	17	16	11	9	9	8	7	8.2	19.2
13-Sep	6	5	5	4	4	4	4	5	6	9	11	12	13	14	15	14	14	13	12	11	9	9	8	8	9.0	15.1
14-Sep	8	7	6	5	5	4	3	4	6	8	10	12	14	16	18	18	19	19	15	10	8	10	10	8	10.2	19.2
15-Sep	7	6	5	4	4	4	3	5	8	10	14	16	19	20	20	20	18	16	14	13	12	12	12	12	11.4	20.1
16-Sep	12	12	11	10	10	10	10	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	11.9
17-Sep	N	N	N	N	N	N	N	N	N	N	M	13	13	14	14	14	14	14	12	8	6	6	5	4	--	14.3
18-Sep	3	1	1	0	-1	-1	-1	1	3	5	7	9	10	11	11	11	13	12	10	10	10	8	6	4	5.9	12.9
19-Sep	3	2	3	4	4	2	4	5	7	10	12	14	15	15	16	16	16	16	13	11	8	7	6	4	8.9	16.0
20-Sep	2	2	1	1	0	-1	-1	1	4	6	9	13	15	18	18	19	19	18	15	14	14	13	12	10	9.3	18.9
21-Sep	9	7	8	9	7	6	7	9	11	11	12	14	16	18	19	20	20	20	20	17	17	18	18	16	13.8	20.4
22-Sep	14	13	12	12	11	11	10	10	10	11	12	12	14	15	15	14	14	14	12	10	9	10	10	10	11.8	14.9
23-Sep	10	10	9	9	9	10	9	12	15	19	23	24	23	21	21	19	18	17	16	14	13	12	11	10	14.8	23.7
24-Sep	9	8	8	8	7	7	7	7	8	8	9	10	12	13	13	14	15	14	9	7	7	8	8	8	9.4	15.1
25-Sep	9	9	9	9	9	9	9	10	10	10	11	12	14	16	19	21	20	16	14	13	13	12	12	11	12.3	20.6
26-Sep	11	10	10	9	9	7	6	5	7	9	11	12	13	14	14	13	13	13	12	9	7	6	4	6	9.7	14.1
27-Sep	4	3	2	4	2	1	2	3	6	9	13	16	17	18	17	16	16	14	12	11	10	10	9	9	9.3	17.6
28-Sep	9	9	8	9	10	9	8	8	8	10	11	12	12	12	12	12	12	12	9	5	3	2	1	1	8.6	12.4
29-Sep	0	1	0	0	0	-1	1	2	4	7	8	10	11	11	12	14	14	12	10	9	8	8	7	6	6.3	13.7
30-Sep	6	5	6	6	6	6	7	9	11	12	13	14	14	14	13	13	13	13	11	9	9	8	6	5	9.6	14.2
		8.2	7.5	7.1	6.7	6.2	5.8	6.0	7.2	9.1	11.4	13.5	15.4	16.7	17.4	17.8	17.9	18.0	17.4	15.6	12.9	11.2	10.6	9.8	8.9	Diurnal Average
		14.1	12.8	12.8	12.1	11.5	11.0	10.6	12.3	15.6	19.3	23.5	24.7	26.8	27.6	28.4	28.5	28.6	28.3	26.4	21.7	17.8	18.2	17.9	16.2	Diurnal Maximum
M - Maintenance N - Not Valid																										

Hourly Averages

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



Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Smoky Heights - September 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	6	5	6	10	9	9	10	10	10	9	10	12	11	8	15	5	10	11	9	18	21	21	18	13	9.7	21.5
Dir	202	198	201	188	198	216	204	200	200	184	181	159	186	206	245	139	171	174	176	247	238	235	246	241	209.6	234.6
2 Spd	12	14	17	14	12	13	13	10	6	9	11	13	10	7	13	15	15	15	12	7	6	8	10	9	10.3	16.5
Dir	248	255	251	257	258	249	260	256	259	289	307	316	315	326	301	307	290	274	278	252	246	247	256	248	273.0	251.4
3 Spd	9	11	9	9	9	9	10	10	10	12	13	17	19	21	19	22	21	16	15	10	10	12	12	11	12.5	21.6
Dir	234	236	218	201	202	207	209	198	189	177	206	226	232	241	237	239	238	238	241	231	226	238	239	228	225.5	239.1
4 Spd	12	6	6	8	9	10	7	8	11	10	8	13	25	16	13	16	33	28	24	14	13	10	9	8	12.6	32.9
Dir	218	231	219	235	239	230	252	235	210	224	173	195	240	231	203	230	254	251	249	251	250	254	257	220	235.6	253.6
5 Spd	6	6	6	6	7	7	7	8	9	14	15	20	16	13	8	4	1	2	4	14	15	19	17	6	8.7	20.5
Dir	203	234	255	222	218	241	256	205	231	224	232	261	247	220	191	228	314	210	241	267	268	282	282	222	244.7	261.3
6 Spd	7	6	8	10	6	6	3	6	9	7	8	8	18	22	24	21	18	13	10	6	9	6	4	6	9.2	24.0
Dir	198	216	239	244	236	261	278	192	182	204	162	169	220	217	218	222	202	190	202	196	255	226	235	241	214.2	217.6
7 Spd	7	8	8	5	7	7	8	12	12	18	22	26	29	27	25	22	18	12	5	4	7	8	5	8	12.4	28.8
Dir	239	195	215	215	190	196	236	233	212	224	228	234	242	240	234	232	237	234	234	271	275	275	240	263	233.1	242.3
8 Spd	7	5	6	7	8	9	7	7	9	11	13	13	13	12	14	14	11	8	6	6	8	9	5	5	8.3	14.0
Dir	257	243	241	194	218	248	209	183	208	208	207	205	201	198	210	238	233	230	197	221	262	258	239	221	220.3	209.7
9 Spd	6	6	9	8	8	8	8	8	12	15	15	21	29	30	30	30	26	24	17	15	12	16	17	14	15.3	30.5
Dir	210	227	187	211	221	221	228	232	214	203	214	234	246	256	252	240	241	248	248	249	228	247	254	257	238.0	239.6
10 Spd	15	14	9	11	13	14	7	5	8	3	7	8	8	4	12	12	6	6	4	6	4	5	5	5	5.8	15.5
Dir	256	266	248	252	257	262	256	227	218	257	7	324	279	227	249	259	310	314	359	347	359	7	7	3	276.4	256.3
11 Spd	5	6	16	14	17	16	12	18	19	14	11	8	6	4	3	9	3	6	3	2	3	6	8	7	6.1	19.4
Dir	360	356	13	24	38	48	23	341	353	2	352	359	344	354	220	213	219	309	354	321	265	265	257	259	354.5	352.8
12 Spd	6	6	6	8	8	7	5	7	6	7	7	7	9	2	6	10	8	7	7	7	7	12	10	9	0.3	11.8
Dir	240	216	218	198	225	223	238	213	199	181	163	154	148	197	352	334	345	352	356	31	38	47	42	34	236.5	46.5
13 Spd	9	8	6	9	8	8	10	10	9	9	8	10	14	16	17	17	14	14	13	19	18	20	18	16	9.3	19.8
Dir	30	36	29	32	28	19	25	31	34	54	68	86	81	91	95	80	121	133	122	136	128	136	135	132	92.0	135.5
14 Spd	17	14	11	8	4	5	3	5	11	8	8	9	5	6	4	4	4	4	2	4	4	3	4	3	4.8	17.0
Dir	132	140	148	138	105	151	194	172	168	190	172	191	185	192	170	161	123	151	26	358	42	188	214	286	158.0	131.8
15 Spd	4	3	4	3	2	2	1	3	1	2	5	3	3	6	8	7	4	6	8	10	4	7	6	7	1.9	10.0
Dir	305	13	16	332	317	318	0	292	279	95	113	92	58	34	34	23	74	277	337	19	250	252	256	243	345.5	19.2
16 Spd	11	9	14	16	17	13	9	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	16.8
Dir	259	243	240	244	249	248	228	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	248.9
17 Spd	N	N	N	N	N	N	N	N	N	N	N	29	27	25	26	26	19	26	20	13	14	16	18	16	--	28.8
Dir	N	N	N	N	N	N	N	N	N	N	N	265	265	267	259	263	279	260	252	257	257	260	264	262	--	264.6
18 Spd	14	11	8	7	8	9	9	7	8	5	7	7	6	7	2	6	12	14	13	16	26	14	12	11	8.9	25.7
Dir	260	245	215	226	221	211	222	204	213	219	166	144	196	241	141	199	210	215	191	207	244	233	247	251	221.0	243.5
19 Spd	8	10	12	14	15	18	21	19	22	31	33	29	26	22	23	18	20	16	17	14	17	14	12	12	18.2	32.9
Dir	221	208	236	232	244	258	259	249	246	253	257	257	259	279	281	273	273	262	251	253	247	259	257	229	255.3	257.5
20 Spd	9	9	8	8	8	7	8	12	12	11	13	12	15	17	18	19	18	15	11	13	14	17	12	8	10.9	18.6
Dir	230	225	211	205	218	217	216	208	195	184	185	187	181	157	162	157	145	147	132	133	159	162	171	182	175.5	156.9
21 Spd	6	7	8	7	10	6	5	4	4	5	5	4	1	3	11	14	13	19	17	8	12	17	16	17	6.2	18.7
Dir	218	239	226	226	259	259	210	215	222	254	227	189	206	172	147	152	151	153	175	214	251	266	285	269	216.6	152.6
22 Spd	12	13	16	20	16	21	14	17	18	21	22	21	20	17	13	15	12	8	5	2	3	4	4	6	11.2	21.7
Dir	230	232	254	265	250	242	249	241	214	220	241	250	248	228	192	175	180	206	211	195	304	328	12	20	234.4	240.9

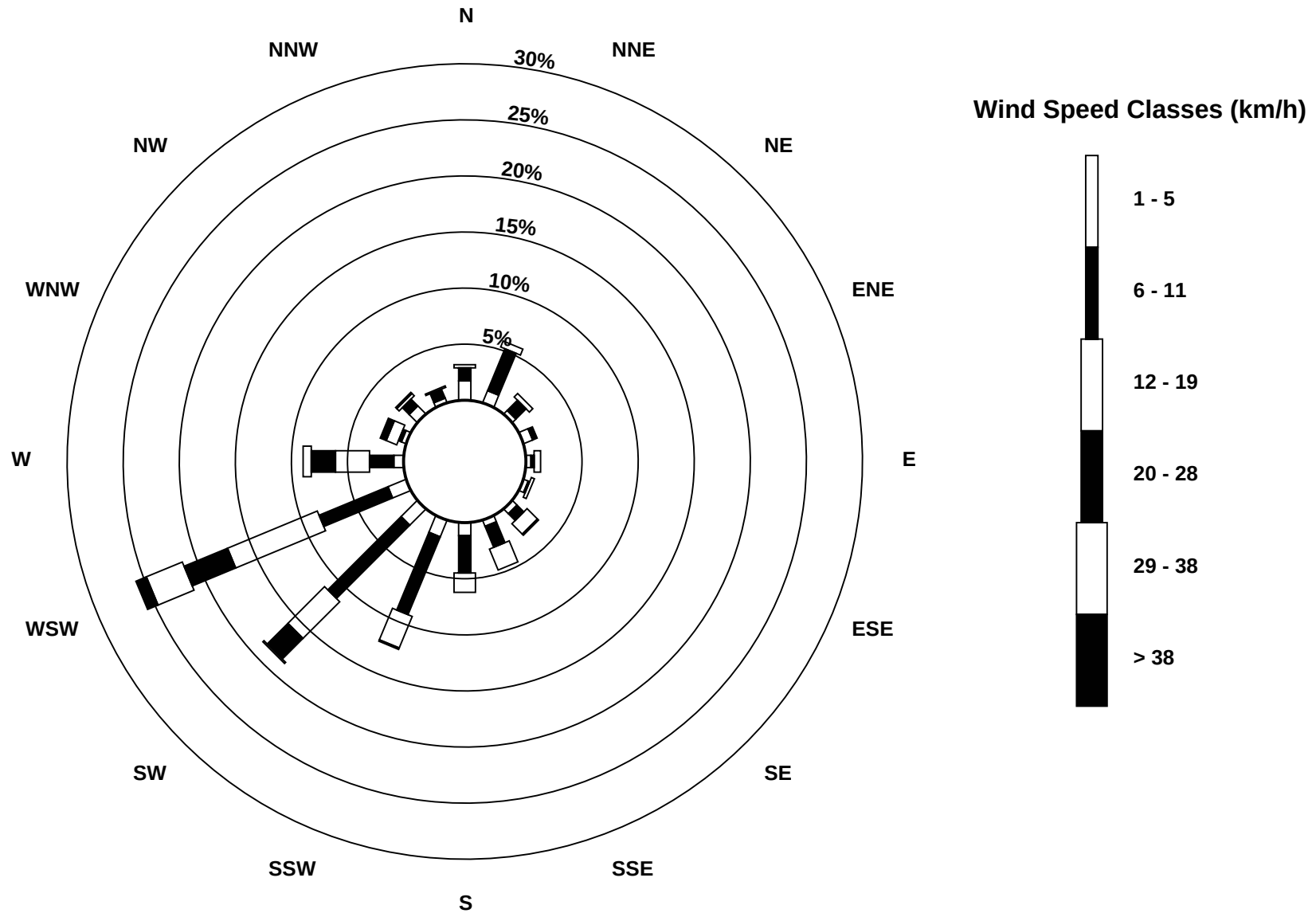
Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Smoky Heights - September 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	2	3	3	5	3	6	8	18	18	11	22	21	31	29	19	16	8	16	15	16	13	11	8.3	31.3
Dir	29	69	56	247	225	188	250	150	147	162	170	238	307	299	275	269	289	295	277	251	253	262	242	231	258.3	275.5
24 Spd	11	9	17	15	18	17	11	13	15	12	11	12	9	12	6	5	4	3	5	6	7	9	11	12	5.5	17.6
Dir	215	192	226	249	249	239	218	198	210	223	232	222	218	243	214	142	145	66	24	14	31	28	25	29	228.3	248.8
25 Spd	11	8	6	5	4	7	6	4	6	4	4	2	5	7	10	14	14	9	5	3	15	15	22	28	3.0	27.5
Dir	39	6	20	9	359	33	17	338	31	28	54	66	177	163	153	209	280	12	30	323	258	261	270	259	296.9	259.1
26 Spd	29	31	32	33	27	23	20	18	17	18	18	14	8	9	7	10	11	6	6	7	4	4	8	8	10.5	32.9
Dir	256	253	255	255	253	249	233	226	224	220	225	238	211	139	128	103	100	77	48	33	66	198	187	226	234.6	255.2
27 Spd	10	8	9	9	7	7	7	4	5	8	18	23	24	34	38	42	40	35	23	19	23	23	28	26	19.0	42.4
Dir	231	251	238	252	207	245	213	249	200	182	203	222	210	234	240	243	247	242	246	236	235	244	239	222	233.9	243.2
28 Spd	24	22	19	21	29	32	32	32	32	42	37	31	24	25	23	22	18	16	14	11	11	13	12	11	22.1	42.0
Dir	222	231	235	241	248	246	245	251	255	257	258	267	291	286	283	273	265	258	238	255	251	256	257	269	255.8	257.1
29 Spd	7	6	5	6	4	6	8	5	9	16	17	15	14	10	8	6	3	6	8	9	7	5	8	9	3.7	16.5
Dir	186	196	237	243	269	22	29	55	158	156	159	161	180	183	180	138	95	38	28	20	18	152	196	227	162.0	158.7
30 Spd	11	10	6	8	8	9	5	6	5	30	42	44	44	42	33	28	35	32	27	23	24	26	22	22	22.0	44.5
Dir	204	235	229	256	258	267	268	301	282	264	258	253	250	251	244	235	252	245	242	242	235	243	247	245	248.4	249.5
Spd	7.0	6.8	7.1	7.6	7.7	7.6	6.5	6.7	7.3	9.2	9.7	11.0	11.7	10.9	10.7	10.5	9.4	8.6	6.1	5.8	7.7	8.6	8.4	7.8	Diurnal Average	
Dir	232.2	234.2	236.8	240.5	242.4	243.1	242.8	232.7	219.2	222.9	223.5	235.0	239.5	239.7	235.2	234.8	239.7	239.3	237.6	245.4	244.9	246.5	249.8	244.3	Diurnal Maximum	
Spd	29.2	30.7	32.3	32.9	29.3	31.8	31.9	32.3	31.5	42.0	41.7	44.1	44.5	41.7	37.8	42.4	40.2	35.0	27.1	23.4	25.7	25.6	27.8	27.5	Diurnal Maximum	
Dir	255.7	253.2	254.6	255.2	247.7	246.4	245.4	251.3	254.6	257.1	258.5	253.3	249.5	250.8	239.8	243.2	247.1	241.5	242.2	241.6	243.5	242.7	238.8	259.1		
Maximum Speed Value: 44 km/h on Sep 30 13:00							Minimum Speed Value: 1 km/h on Sep 15 09:00													Hours in Service:				720		
Maximum Daily Speed Average: 22.1 km/h on Sep 28							Minimum Daily Speed Average: 0.3 km/h on Sep 15													Hours of Data:				692		
Maximum Diurnal Speed Average: 11.7 km/h at hour 13							Minimum Diurnal Speed Average: 5.8 km/h at hour 20													Hours of Missing Data:				28		
Monthly Average Velocity: 8.28 km/h 237.47 deg							Speed Percentiles: P ₁ = 2.0 P ₁₀ = 4.4 Q ₁ = 6.6 Median = 9.8 Q ₃ = 15.8 P ₉₀ = 22.7 P ₉₉ = 39.6													Percent Operational Time:				96.1		
All monthly, daily, and diurnal averages have been calculated using vector methods																										
M - Maintenance N - Not Valid																										
Frequency Distribution																										
		Speed Range (km/h)																								
Direction		0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total																		
North		13	24	3	1	0	0	41																		
NorthEast		9	31	6	0	0	0	46																		
East		5	5	5	0	0	0	15																		
SouthEast		7	13	20	1	0	0	41																		
South		10	59	28	0	0	0	97																		
SouthWest		18	109	76	40	11	2	256																		
West		11	42	63	30	20	5	171																		
NorthWest		9	9	5	2	0	0	25																		
Total		82	292	206	74	31	7	692																		

Wind Rose

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



Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Smoky Heights - September 2011

Maximum Speed: 45 km/h on Sep 30 13:00																					Maximum Daily Speed Average: 23.2 km/h on Sep 28					Hours in Service: 720	
Minimum Speed: 2 km/h on Sep 11 20:00																					Minimum Daily Speed Average: 5.3 km/h on Sep 15					Hours of Data: 692	
Maximum Diurnal Speed Average: 16.6 km/h at hour 13																					Minimum Diurnal Speed Average: 9.8 km/h at hour 7					Hours of Missing Data: 28	
Monthly Average Speed: 12.69 km/h																					Percentiles: P ₁ = 2.7 P ₁₀ = 5.3 Q ₁ = 7.2 Median = 10.4 Q ₃ = 16.3 P ₉₀ = 22.9 P ₉₉ = 39.7					Percent Operational Time: 96.1	
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-Sep	6	5	6	10	9	9	10	10	10	9	10	12	11	10	15	6	10	11	10	18	21	22	18	13	11.3	21.5	
2-Sep	12	14	17	14	12	13	13	10	6	10	12	14	11	7	13	16	15	15	12	8	7	9	10	9	11.6	16.6	
3-Sep	9	11	9	9	9	9	10	11	10	12	14	18	19	21	20	22	21	16	15	11	10	12	12	11	13.3	22.0	
4-Sep	12	7	6	8	10	10	7	9	11	10	9	15	26	16	13	18	33	28	25	14	13	11	9	8	13.7	33.0	
5-Sep	6	7	6	6	7	7	7	8	9	15	16	21	16	13	9	5	3	3	5	14	16	19	17	7	10.1	20.9	
6-Sep	7	6	9	11	7	6	4	6	9	7	9	11	19	22	24	21	19	13	10	8	9	8	5	6	10.7	24.2	
7-Sep	8	8	8	6	7	8	9	13	12	19	22	27	29	27	25	23	18	12	6	5	7	8	6	8	13.3	29.1	
8-Sep	7	6	6	8	9	9	7	7	9	11	13	13	13	12	15	14	11	9	6	6	8	9	5	5	9.2	14.9	
9-Sep	7	7	9	8	8	8	8	8	12	15	15	22	30	30	31	31	26	25	17	15	12	16	17	14	16.2	30.8	
10-Sep	16	14	9	11	13	14	8	5	8	7	10	10	10	7	13	12	7	7	4	6	4	5	5	5	8.7	15.7	
11-Sep	5	6	16	15	17	16	13	18	20	14	11	9	8	7	6	9	5	7	4	2	4	6	8	7	9.7	19.9	
12-Sep	6	7	6	8	8	8	5	7	6	7	8	8	9	7	8	11	9	7	7	7	7	12	10	9	7.7	11.9	
13-Sep	9	8	6	9	8	8	10	10	9	10	9	11	15	16	17	17	15	14	14	19	18	20	18	16	12.7	20.0	
14-Sep	17	14	11	8	5	6	4	5	11	9	8	9	6	7	6	6	5	5	4	5	5	4	4	3	6.9	17.1	
15-Sep	4	4	4	3	3	2	2	3	2	3	5	4	5	7	8	7	5	8	10	10	6	8	6	8	5.3	10.1	
16-Sep	12	9	14	16	17	13	9	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	16.8	
17-Sep	N	N	N	N	N	N	N	N	N	N	M	29	27	25	26	27	20	27	20	13	14	16	18	16	--	29.1	
18-Sep	14	11	9	7	8	9	9	7	9	5	8	7	7	7	4	7	13	14	13	16	26	14	12	11	10.3	25.8	
19-Sep	9	10	12	14	15	18	21	19	22	31	33	29	27	23	22	23	19	20	16	17	15	17	14	12	19.1	33.2	
20-Sep	9	9	8	8	8	7	9	12	12	11	13	12	15	17	18	19	18	16	11	13	14	17	12	8	12.4	18.9	
21-Sep	7	7	8	7	10	6	5	5	4	6	6	5	3	4	11	14	13	19	18	12	13	17	16	17	9.7	18.8	
22-Sep	13	13	16	20	16	21	14	17	18	21	22	21	20	17	14	15	12	9	5	3	4	4	4	6	13.6	21.9	
23-Sep	5	6	3	4	4	5	4	6	8	18	19	17	23	22	32	29	20	16	10	16	15	16	13	11	13.4	31.7	
24-Sep	11	9	18	15	18	17	12	13	15	12	12	12	10	12	7	6	5	4	5	6	8	9	11	12	10.8	17.7	
25-Sep	11	8	7	6	6	7	6	5	7	5	5	4	7	8	10	15	17	9	6	6	15	15	22	28	9.8	27.6	
26-Sep	29	31	32	33	28	23	20	18	17	18	19	15	10	10	9	10	12	6	7	7	4	5	9	8	15.8	33.0	
27-Sep	10	9	11	9	8	8	7	6	6	9	18	24	25	35	38	43	40	35	23	19	23	23	28	26	20.1	42.6	
28-Sep	25	22	19	21	29	32	32	32	32	42	37	32	24	25	23	22	18	16	14	12	11	13	13	11	23.2	42.2	
29-Sep	9	6	6	6	5	6	8	6	10	16	17	16	14	11	9	7	4	6	8	9	7	6	9	10	8.7	16.8	
30-Sep	11	10	6	8	8	10	10	7	9	30	42	44	45	42	33	29	35	33	27	24	24	26	22	22	23.1	44.7	
10.6 9.9 10.3 10.7 10.7 10.8 9.8 10.2 11.2 13.8 14.9 16.2 16.6 16.2 16.6 16.6 15.4 14.1 11.4 11.1 11.7 12.6 12.2 11.3																									Diurnal Average		
29.3 30.8 32.4 33.0 29.4 31.9 32.0 32.4 31.7 42.2 42.1 44.4 44.7 42.0 38.1 42.6 40.4 35.1 27.2 23.5 25.8 25.7 27.8 27.6																									Diurnal Maximum		
M - Maintenance N - Not Valid																											
All monthly, daily, and diurnal averages have been calculated using scalar methods																											

Hourly Standard Deviations

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

Maximum Value: 88.1 deg on Sep 12 14:00																			Hours in Service: 720						
Minimum Value: 1.6 deg on Sep 17 23:00																			Hours of Data: 692						
																			Hours of Missing Data: 28						
Percentiles: P ₁ = 3.3 P ₁₀ = 5.0 Q ₁ = 7.7 Median = 11.9 Q ₃ = 20.6 P ₉₀ = 34.9 P ₉₉ = 77.6																			Hours of Calibration: 0						
																			Percent Operational Time: 96.1						
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-Sep	11	7	8	7	8	6	7	7	8	11	17	12	10	28	15	31	12	10	16	9	7	4	5	5	31.1
2-Sep	6	4	4	4	7	5	5	6	11	19	16	14	19	18	19	15	14	8	11	18	9	8	4	11	19.5
3-Sep	5	5	5	3	6	5	5	4	9	8	23	11	12	13	14	11	11	7	9	8	7	14	9	6	23.1
4-Sep	10	22	24	15	9	13	23	18	8	13	18	26	11	10	7	24	5	6	5	7	4	11	4	9	25.9
5-Sep	19	23	15	26	14	19	10	14	11	9	17	12	16	16	23	33	76	60	38	16	11	6	6	23	76.3
6-Sep	19	23	20	22	33	26	66	16	9	16	25	36	11	8	8	12	13	12	20	40	18	45	31	20	65.8
7-Sep	38	16	25	21	14	11	32	19	13	8	7	10	8	10	7	11	9	8	23	19	12	3	30	13	37.8
8-Sep	24	32	14	26	16	11	13	9	15	9	12	13	14	18	19	16	17	20	4	22	4	4	12	19	31.9
9-Sep	19	13	10	12	6	7	9	10	5	8	13	10	10	8	11	9	8	10	10	5	8	6	9	8	18.8
10-Sep	10	5	17	6	4	3	55	22	11	67	43	35	46	70	26	19	40	27	21	9	18	21	10	11	69.6
11-Sep	10	9	13	7	13	11	22	11	12	12	15	29	56	67	81	18	74	31	26	35	26	14	6	7	81.0
12-Sep	13	10	13	12	5	10	22	17	11	12	14	15	20	88	43	25	14	12	11	12	15	9	9	7	88.1
13-Sep	11	9	9	9	8	10	7	8	10	15	19	24	14	17	17	10	21	6	9	9	6	7	4	4	23.9
14-Sep	4	5	5	14	29	27	45	21	13	21	23	23	43	45	53	49	47	25	83	34	28	31	20	20	83.4
15-Sep	12	28	5	20	38	49	69	34	78	56	29	60	71	34	25	19	38	47	38	12	54	22	26	14	78.1
16-Sep	16	8	5	4	4	6	14	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	15.9
17-Sep	N	N	N	N	N	N	N	N	N	N	M	8	9	7	10	20	18	5	4	8	4	4	2	3	19.7
18-Sep	4	19	10	6	9	6	9	16	22	25	26	22	12	28	80	25	29	15	6	18	4	7	13	8	80.3
19-Sep	38	16	8	3	11	3	3	6	5	5	7	9	16	16	12	10	9	5	6	7	5	3	12	14	37.8
20-Sep	10	9	12	9	9	7	13	6	7	9	12	9	11	13	11	10	11	7	11	12	8	4	9	19	18.9
21-Sep	21	11	13	18	6	17	17	36	24	25	26	37	77	51	12	8	6	6	11	51	24	5	13	15	77.0
22-Sep	13	8	8	5	7	8	13	9	8	8	6	8	10	10	17	8	9	18	32	43	35	27	11	13	42.8
23-Sep	11	17	54	36	33	22	25	27	18	5	9	45	13	16	9	6	15	9	30	5	7	5	14	6	53.8
24-Sep	9	7	11	12	4	9	13	13	7	10	12	14	30	18	34	34	39	52	18	10	9	10	9	8	52.5
25-Sep	21	26	21	48	45	15	21	42	23	48	60	69	38	25	20	24	35	18	32	61	17	11	4	5	68.9
26-Sep	5	4	5	4	5	4	8	6	6	10	12	16	50	37	32	14	9	12	16	16	34	30	10	21	50.4
27-Sep	9	14	31	14	24	16	27	55	32	17	12	16	12	13	7	5	5	4	11	8	5	6	4	7	55.1
28-Sep	5	9	9	6	4	6	4	4	5	5	5	13	9	10	10	9	7	6	8	8	6	4	5	12	12.9
29-Sep	39	13	18	12	26	16	6	36	32	8	10	15	16	19	20	22	37	11	7	6	14	44	29	25	43.7
30-Sep	9	9	15	15	11	13	78	34	85	9	8	7	6	6	6	8	5	7	4	4	4	7	7	4	84.8
38.5 31.9 53.8 48.0 44.7 49.4 77.7 55.1 84.8 66.9 59.7 68.9 77.0 88.1 81.0 48.9 76.3 59.8 83.4 61.0 54.4 44.9 31.4 24.8																									
M - Maintenance N - Not Valid																									

PAZA
Beaverlodge Station
Monthly Summary Tables, Graphs and
Roses

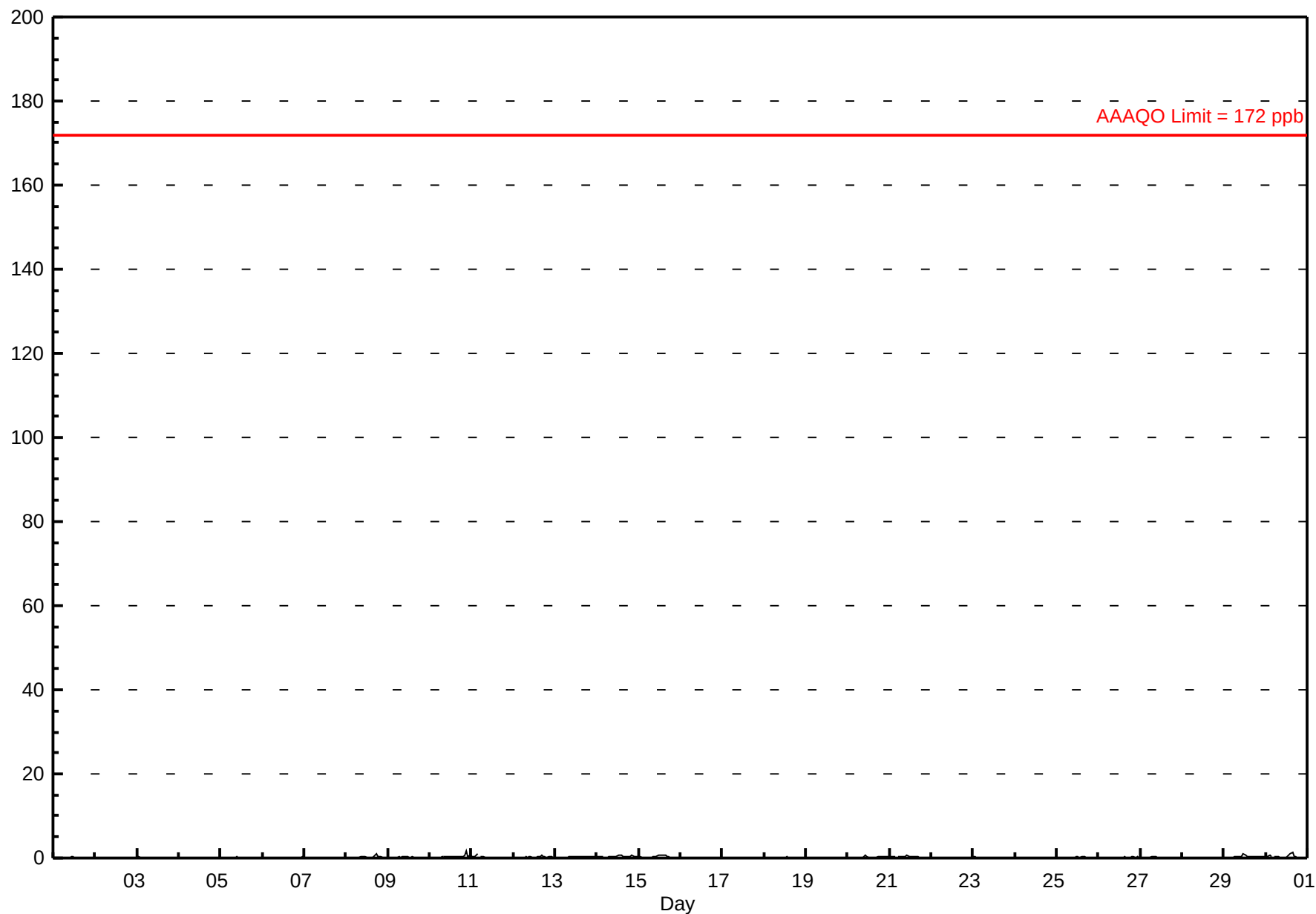
Hourly Averages

Sulphur Dioxide (SO₂) - ppb Beaverlodge - September 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 1.6 ppb on Sep 10 22:00 Maximum Daily Average: 0.4 ppb on Sep 14																				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 Sep 1 21:00 Maximum Diurnal Average: 0.2 ppb at hour 16 Monthly Average: 0.14 ppb										Minimum Daily Average: 0.0 ppb on Sep 19 Minimum Diurnal Average: 0.1 ppb at hour 6 Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.1 Q ₃ = 0.2 P ₉₀ = 0.4 P ₉₉ = 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-Sep	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
2-Sep	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1
3-Sep	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
4-Sep	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
5-Sep	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-Sep	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-Sep	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	C	C	C	0	0	0	0	0	0	0.1	0.1
8-Sep	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0.2	0.9
9-Sep	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
10-Sep	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	1	0.3	1.6
11-Sep	0	0	0	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.9
12-Sep	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	0.5
13-Sep	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.5
14-Sep	0	0	0	0	A	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	1	0	0	0	0.4	0.7
15-Sep	0	0	0	0	A	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0.3	0.7
16-Sep	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
17-Sep	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
18-Sep	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
19-Sep	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
20-Sep	0	0	0	0	A	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.8
21-Sep	0	0	0	0	A	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.6
22-Sep	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
23-Sep	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
24-Sep	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
25-Sep	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
26-Sep	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
27-Sep	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
28-Sep	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
29-Sep	0	0	0	0	A	0	0	0	0	0	0	1	1	0	0	0	0	1	0	0	0	0	0	0	0.3	0.9
30-Sep	0	0	1	0	A	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0.3	1.2
0.1 0.1 0.1 0.1 -- 0.1 0.1 0.1 0.1 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.1 0.1 0.1 0.1 0.1 0.1																									Diurnal Average	
0.4 0.4 0.5 0.9 -- 0.4 0.4 0.4 0.4 0.5 0.8 0.9 0.7 0.7 1.0 1.2 0.5 0.9 0.5 0.4 0.8 1.6 0.5 0.7																									Diurnal Maximum	
C - Calibration A - Automated Daily Zero Span																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb 30-day 11 ppb																										

Hourly Averages

Sulphur Dioxide (SO₂) - ppb
Beaverlodge - September 2011



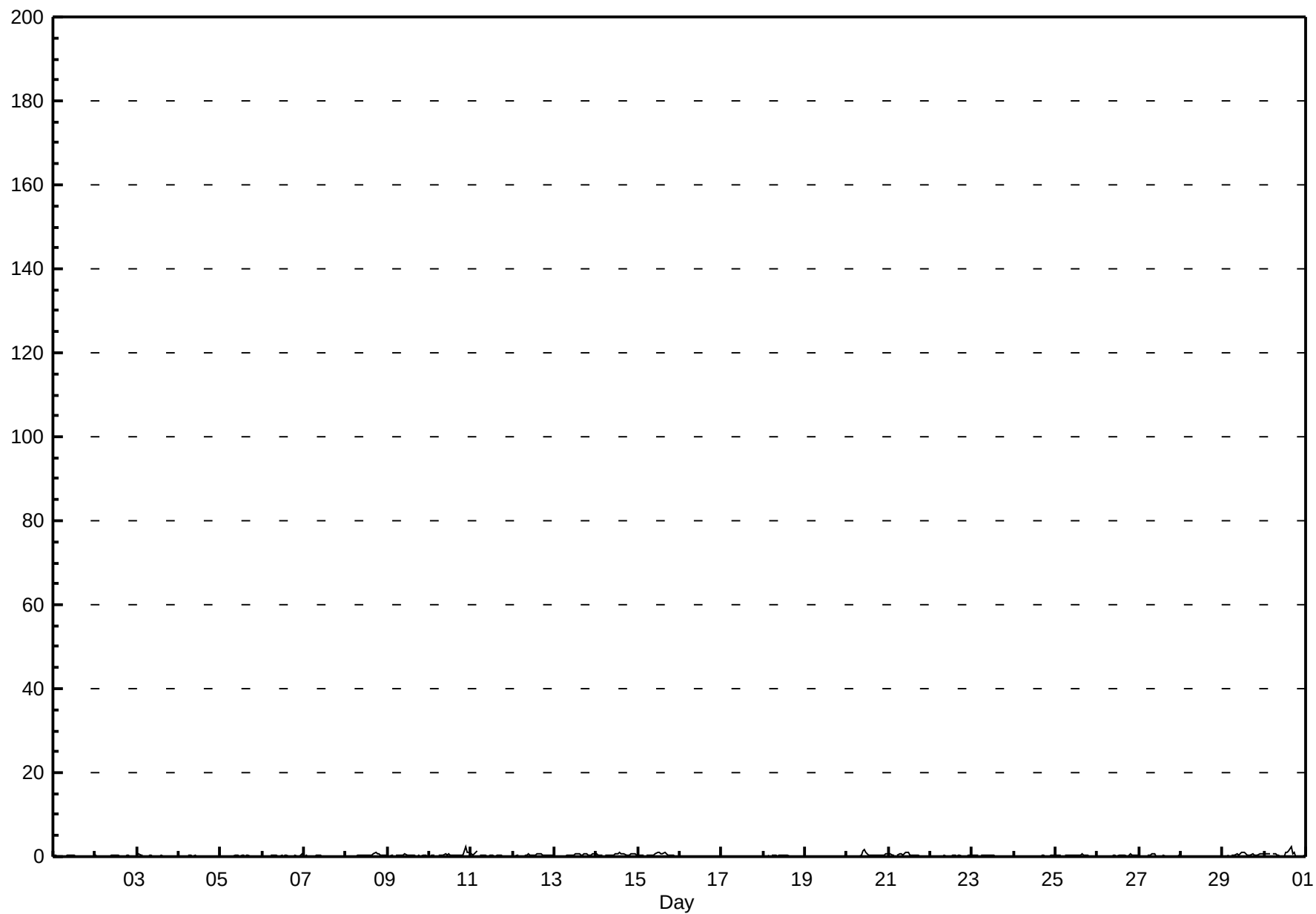
Hourly Maximums

Sulphur Dioxide (SO₂) - ppb Beaverlodge - September 2011

Maximum Value: 2.4 ppb on Sep 30 16:00																				Maximum Daily Average: 0.6 ppb on Sep 30					Hours in Service: 720	
Minimum Value: 0 ppb on Sep 2 22:00																				Minimum Daily Average: 0.1 ppb on Sep 28					Hours of Data: 687	
Maximum Diurnal Average: 0.3 ppb at hour 16																				Minimum Diurnal Average: 0.2 ppb at hour 6					Hours of Missing Data: 33	
Monthly Average: 0.26 ppb																				Percentiles: P ₁ = 0.1 P ₁₀ = 0.1 Q ₁ = 0.1 Median = 0.2 Q ₃ = 0.3 P ₉₀ = 0.5 P ₉₉ = 1.2					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-Sep	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
2-Sep	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3
3-Sep	0	1	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.6
4-Sep	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-Sep	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3
6-Sep	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.2	0.6
7-Sep	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	C	C	C	0	0	0	0	0	0	0.1	0.2
8-Sep	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0.3	1.1
9-Sep	0	0	0	0	A	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.6
10-Sep	0	0	0	0	A	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1	2	1	1	0.5	2.3
11-Sep	1	0	1	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.3
12-Sep	0	0	0	0	A	0	0	0	0	1	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0.4	0.7
13-Sep	0	0	0	0	A	0	0	0	0	0	0	0	1	1	1	0	0	1	1	0	0	1	1	1	0.4	0.6
14-Sep	1	0	0	0	A	0	0	0	0	0	0	1	1	1	1	1	1	0	0	0	1	1	1	0	0.5	0.9
15-Sep	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	1.0
16-Sep	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
17-Sep	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
18-Sep	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
19-Sep	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
20-Sep	0	0	0	0	A	0	0	0	0	1	2	1	0	0	0	0	0	0	0	0	0	0	1	1	0.4	1.7
21-Sep	1	1	0	0	A	0	1	1	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.4	1.0
22-Sep	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
23-Sep	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
24-Sep	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
25-Sep	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0.2	0.6
26-Sep	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0.2	0.5
27-Sep	0	0	0	0	A	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.8
28-Sep	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-Sep	0	0	0	0	A	0	0	0	1	0	1	1	1	1	0	0	0	1	0	0	0	1	1	1	0.5	1.1
30-Sep	1	1	1	1	A	1	1	0	0	0	0	0	1	1	1	2	1	1	0	0	0	0	0	0	0.6	2.4
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 0.3 0.3 0.3 0.3 0.2 0.2 0.2 0.3 0.3 0.2																								Diurnal Average		
0.6 0.6 0.7 1.3 -- 0.6 0.7 0.8 0.5 1.4 1.7 1.1 1.0 0.9 1.5 2.4 0.8 1.1 0.7 0.6 1.2 2.3 1.0 1.0																								Diurnal Maximum		
C - Calibration A - Automated Daily Zero Span																										

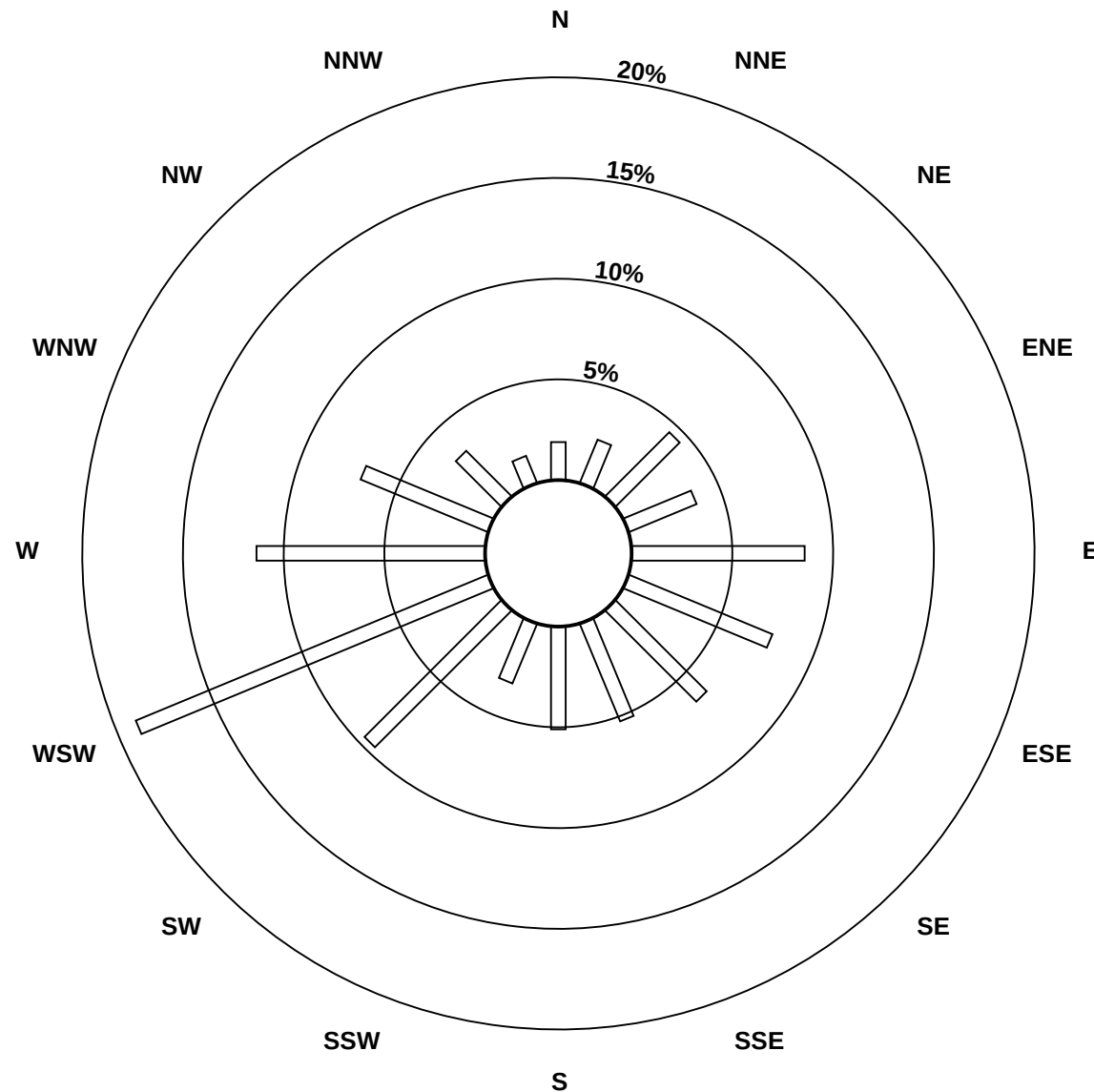
Hourly Maximums

Sulphur Dioxide (SO₂) - ppb
Beaverlodge - September 2011

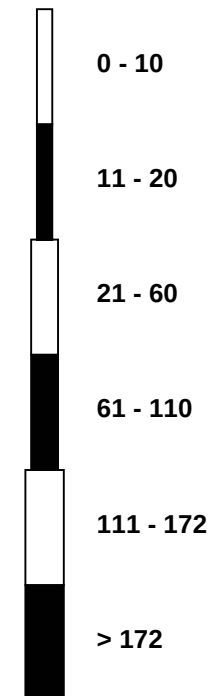


Pollutant Rose

Sulphur Dioxide (SO₂) - ppb
Beaverlodge - September 2011

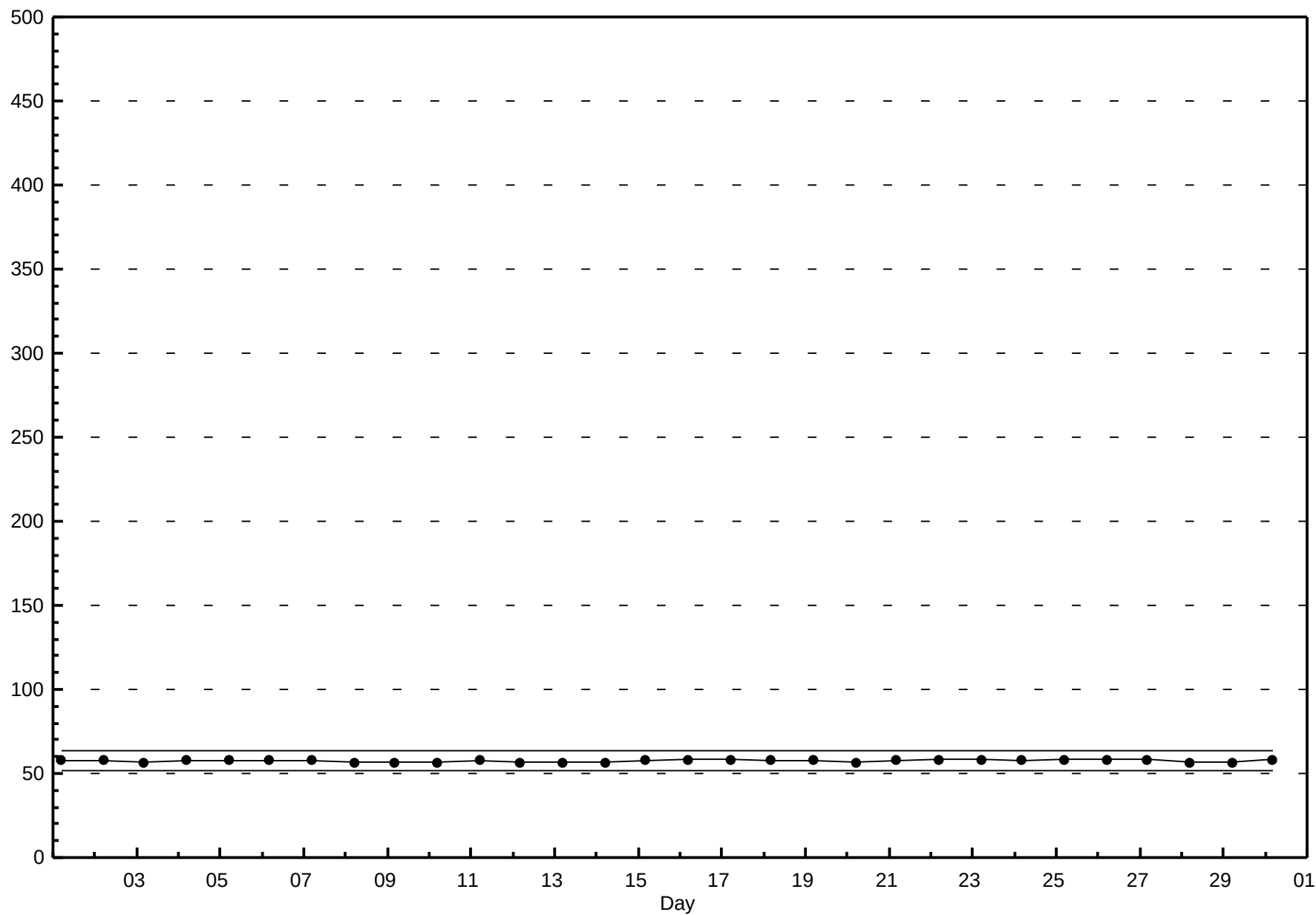


Pollutant Classes (ppb)



Span Responses

Sulphur Dioxide (SO₂)
Beaverlodge - September 2011



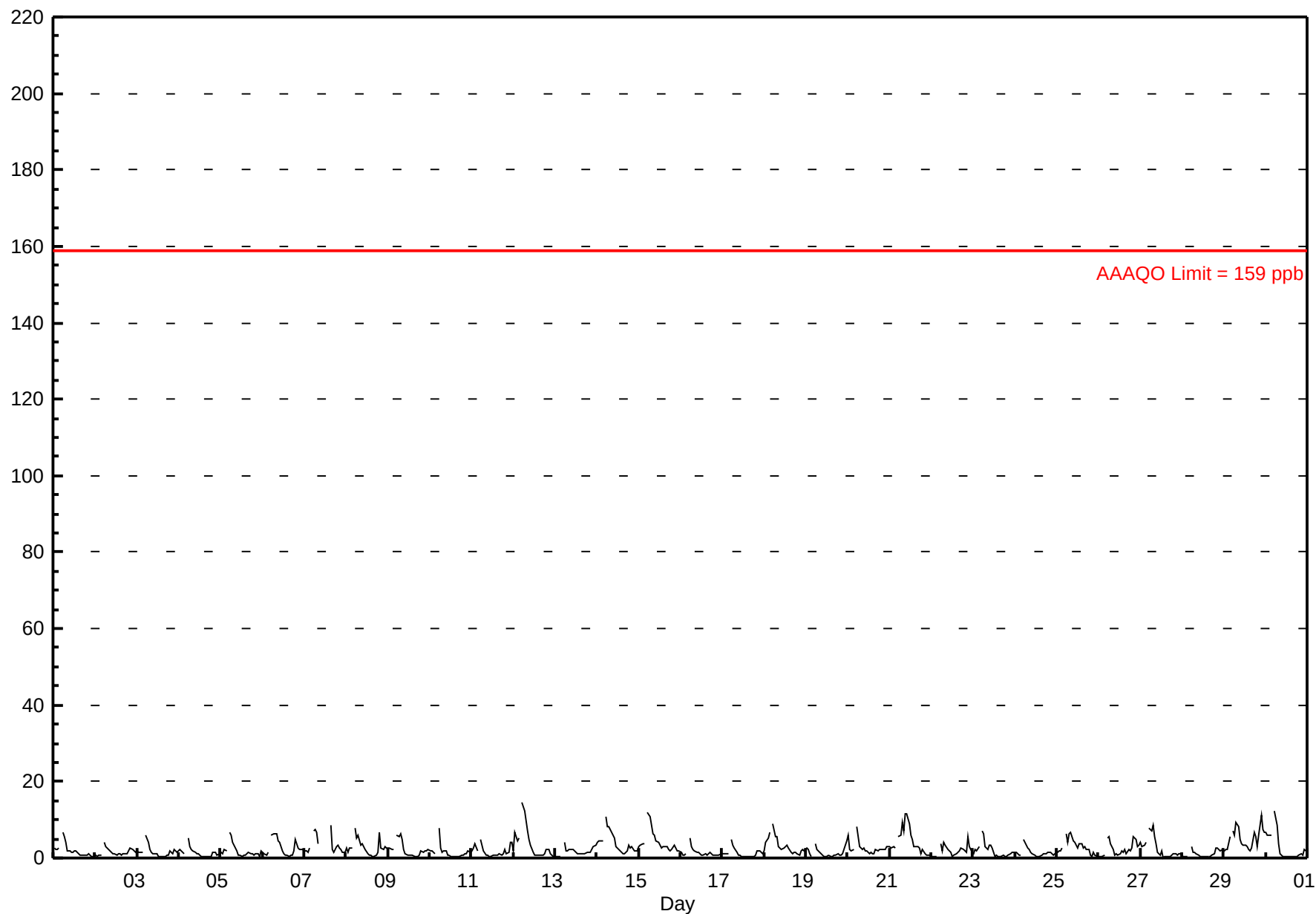
Hourly Averages

Nitrogen Dioxide (NO₂) - ppb Beaverlodge - September 2011

Number of Exceedences (AAAO): 1-hr: 0 24-hr: 0 Maximum Value: 14.5 ppb on Sep 12 06:00 Maximum Daily Average: 5.0 ppb on Sep 29																				Hours in Service: 720 Hours of Data: 684 Hours of Missing Data: 36 Hours of Calibration: 36 Percent Operational Time: 100.0						
Minimum Value: 0 ppb on Sep 27 14:00 Maximum Diurnal Average: 6.7 ppb at hour 6 Monthly Average: 2.38 ppb										Minimum Daily Average: 1.1 ppb on Sep 28 Minimum Diurnal Average: 1.1 ppb at hour 15 Percentiles: P ₁ = 0.3 P ₁₀ = 0.5 Q ₁ = 0.9 Median = 1.7 Q ₃ = 2.9 P ₉₀ = 5.7 P ₉₉ = 11.2																
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-Sep	3	2	2	3	A	7	5	4	2	2	2	2	2	2	1	1	1	1	1	1	1	1	0	0	1.9	6.6
2-Sep	1	0	1	1	A	4	3	3	2	2	1	1	1	1	1	1	1	1	1	2	3	2	2	2	1.5	4.1
3-Sep	2	2	2	2	A	6	4	2	2	1	1	1	0	0	0	0	0	1	1	2	1	2	2	1	1.6	5.8
4-Sep	2	2	1	1	A	5	3	2	2	2	1	1	1	0	0	0	0	0	0	1	1	1	1	1	1.4	5.1
5-Sep	1	1	2	2	A	7	6	4	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.8	6.5
6-Sep	1	1	1	1	A	6	6	6	6	4	4	2	1	1	1	0	1	1	2	5	3	2	2	2	2.6	6.4
7-Sep	2	2	2	3	A	7	7	7	4	C	C	C	C	C	C	9	2	1	3	3	3	2	2	2	--	8.7
8-Sep	3	1	3	3	A	8	5	6	3	4	3	2	1	1	1	0	0	1	1	7	3	2	3	3	2.7	7.7
9-Sep	3	3	2	2	A	6	5	6	5	2	1	1	1	1	1	0	0	1	1	2	1	2	2	2	2.2	6.4
10-Sep	2	2	2	1	A	8	2	1	2	2	1	1	0	0	0	0	0	0	1	1	1	1	2	2	1.4	7.8
11-Sep	2	3	4	2	A	5	3	2	1	1	0	1	1	1	1	1	1	1	1	2	1	2	4	4	1.8	4.8
12-Sep	2	7	5	5	A	14	12	10	7	5	4	1	1	1	1	1	1	1	1	2	2	1	1	1	3.7	14.5
13-Sep	0	0	0	0	A	4	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	2	3	4	1.6	3.9
14-Sep	4	4	4	4	A	11	8	8	7	6	5	3	2	2	1	1	1	2	3	3	3	2	2	2	3.9	10.9
15-Sep	3	3	4	4	A	12	11	9	6	6	5	4	3	3	3	3	3	2	2	2	3	3	2	2	4.2	11.9
16-Sep	2	1	1	1	A	5	3	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.4	5.1
17-Sep	1	1	1	1	A	5	3	3	1	1	1	0	0	0	0	0	0	0	1	1	2	2	1	1	1.2	4.7
18-Sep	2	4	5	7	A	9	5	5	3	3	2	3	3	3	3	1	1	1	2	1	1	2	2	2	3.1	8.9
19-Sep	3	2	1	0	A	4	2	2	2	1	0	0	1	1	0	0	1	1	1	1	1	1	2	5	1.4	4.5
20-Sep	6	2	2	2	A	8	6	3	2	3	2	2	1	1	1	1	2	2	2	2	2	2	3	3	2.6	8.1
21-Sep	3	3	3	3	A	6	6	9	7	12	12	9	6	5	3	3	3	3	1	2	1	1	1	1	4.4	11.7
22-Sep	0	0	0	1	A	4	2	4	3	2	2	1	1	1	1	2	2	2	2	2	1	6	3	1	1.9	5.6
23-Sep	1	2	2	3	A	7	6	3	2	3	3	3	0	1	1	1	1	1	0	0	1	1	2	1	2.0	7.2
24-Sep	2	1	1	1	A	5	3	2	2	2	1	1	1	1	0	1	1	1	1	2	2	1	1	1	1.4	4.8
25-Sep	1	2	2	3	A	6	4	6	7	4	4	3	3	4	4	3	3	2	2	1	1	1	1	0	2.9	6.6
26-Sep	0	0	0	1	A	5	5	4	2	1	1	1	1	2	1	2	1	2	2	2	6	5	3	3	2.3	5.5
27-Sep	4	3	4	4	A	8	7	9	6	4	2	1	2	0	0	0	0	1	1	1	1	1	1	1	2.6	8.6
28-Sep	0	0	0	0	A	3	1	1	1	1	0	0	1	0	0	0	0	1	1	3	3	2	2	2	1.1	3.1
29-Sep	2	2	2	6	A	7	6	9	8	5	4	3	3	3	2	2	3	7	6	3	6	11	7	7	5.0	11.3
30-Sep	7	6	6	6	A	12	9	4	1	1	1	0	0	0	0	0	0	0	0	1	1	1	2	2	2.7	12.2
2.2 2.2 2.2 2.4 -- 6.7 5.1 4.7 3.5 2.8 2.3 1.7 1.4 1.3 1.1 1.3 1.2 1.3 1.4 1.9 1.9 2.1 2.0 2.0																								Diurnal Average		
6.8 6.7 6.0 6.9 -- 14.5 12.5 9.8 8.4 11.7 11.6 8.9 6.1 5.0 3.7 8.7 3.0 6.8 5.7 6.7 6.0 11.3 7.3 6.7																								Diurnal Maximum		
C - Calibration A - Automated Daily Zero Span																										
Alberta Ambient Air Quality Objectives (AAAO): 1-hr 159 ppb 24-hr 106 ppb																										

Hourly Averages

Nitrogen Dioxide (NO₂) - ppb
Beaverlodge - September 2011



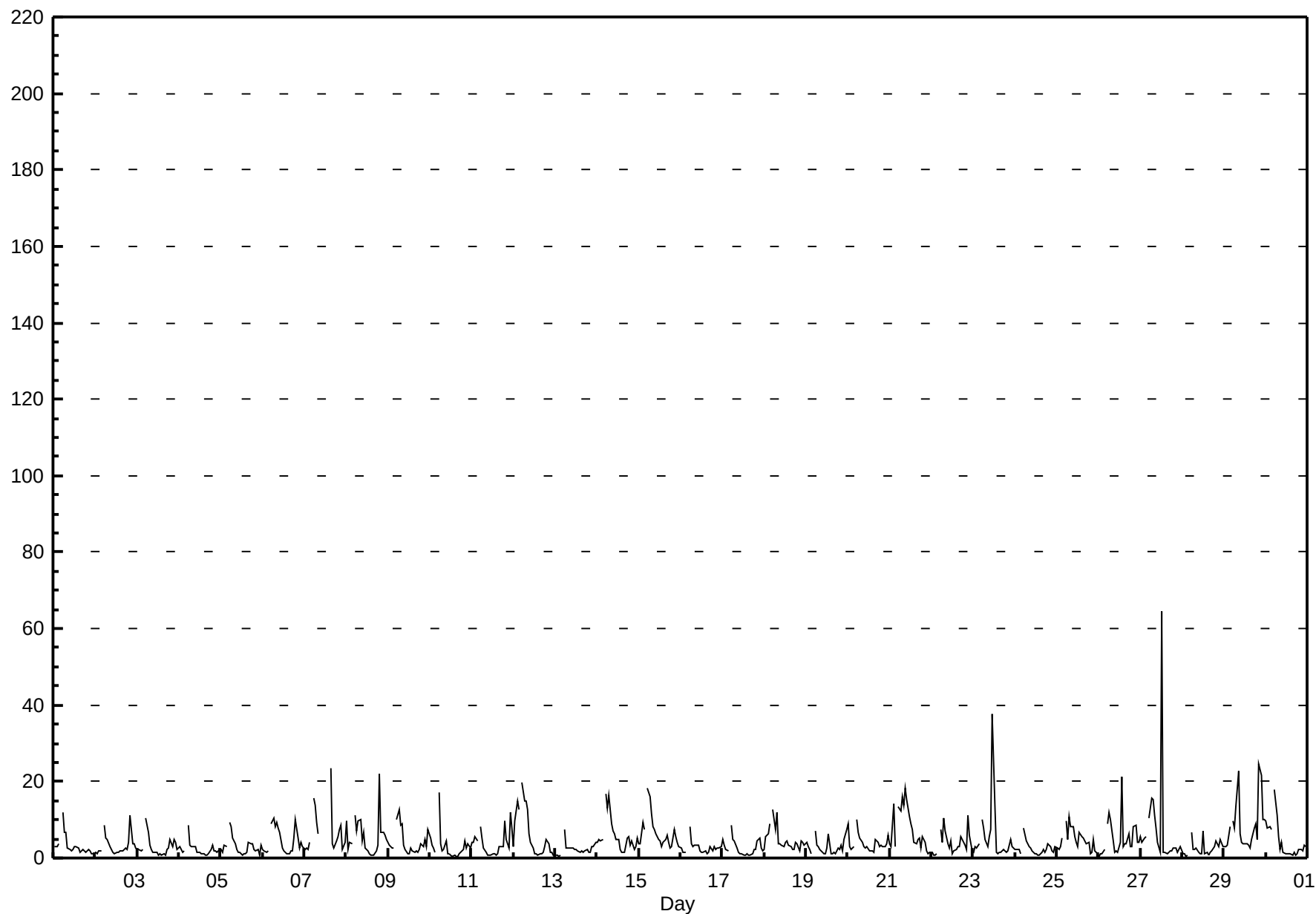
Hourly Maximums

Nitrogen Dioxide (NO₂) - ppb Beaverlodge - September 2011

Maximum Value: 64.4 ppb on Sep 27 13:00																				Maximum Daily Average: 8.4 ppb on Sep 29										Hours in Service: 720	
Minimum Value: 0 ppb on Sep 26 01:00																				Minimum Daily Average: 2.2 ppb on Sep 13										Hours of Data: 684	
Maximum Diurnal Average: 11.0 ppb at hour 6																				Minimum Diurnal Average: 1.9 ppb at hour 15										Hours of Missing Data: 36	
Monthly Average: 4.33 ppb																				Percentiles: P ₁ = 0.6 P ₁₀ = 1.1 Q ₁ = 1.7 Median = 2.9 Q ₃ = 5.0 P ₉₀ = 9.4 P ₉₉ = 21.7										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-Sep	3	3	3	4	A	12	7	7	3	2	2	2	3	3	2	1	2	2	2	2	2	2	1	1	3.0	11.8					
2-Sep	1	1	2	2	A	9	5	5	3	2	2	1	1	2	2	2	2	2	2	4	11	4	4	3	3.1	11.2					
3-Sep	2	2	2	2	A	10	7	3	2	2	1	2	1	1	1	1	1	2	2	5	3	5	4	2	2.8	10.3					
4-Sep	3	2	2	2	A	9	3	3	3	3	2	2	1	1	1	1	1	1	2	3	2	2	1	2	2.2	8.7					
5-Sep	2	2	3	3	A	9	8	5	4	2	2	1	1	1	1	1	4	4	4	2	2	2	1	3	3.0	9.5					
6-Sep	2	2	2	2	A	9	11	8	9	8	7	2	2	1	1	1	2	2	5	10	5	3	4	3	4.4	10.6					
7-Sep	2	2	2	4	A	16	14	9	6	C	C	C	C	C	C	24	4	2	4	6	7	9	2	4	--	23.6					
8-Sep	10	2	4	4	A	11	7	10	10	5	7	3	2	1	1	1	1	2	3	22	7	7	6	5	5.6	22.1					
9-Sep	4	4	2	2	A	10	13	9	9	4	2	1	1	3	2	2	2	1	2	4	3	5	3	7	4.1	12.6					
10-Sep	5	3	2	1	A	17	4	2	2	4	1	1	1	0	1	0	1	1	2	2	4	3	4	2	2.9	17.0					
11-Sep	4	4	6	5	A	8	5	2	1	1	1	1	1	1	1	1	3	3	3	10	5	3	12	8	3.8	11.8					
12-Sep	3	10	15	13	A	20	15	15	13	7	4	3	1	1	1	1	1	2	3	5	4	2	1	1	6.0	19.6					
13-Sep	1	1	1	1	A	7	3	3	3	3	3	2	2	2	1	2	2	2	2	2	2	3	3	4	2.2	7.4					
14-Sep	4	5	5	5	A	17	13	16	9	7	6	5	5	2	2	2	1	5	6	3	4	2	3	5	5.7	16.7					
15-Sep	4	4	9	7	A	18	16	11	8	8	6	5	4	3	4	5	6	4	3	3	8	5	4	3	6.4	18.2					
16-Sep	3	1	1	2	A	8	4	3	3	3	3	2	1	1	2	1	2	3	2	3	2	3	3	3	2.6	8.3					
17-Sep	5	3	2	2	A	9	5	4	2	2	1	1	1	1	1	1	1	1	2	2	4	5	3	2	2.6	8.7					
18-Sep	2	6	6	9	A	13	7	12	4	4	3	3	4	5	3	3	2	2	4	4	2	4	4	3	4.8	12.7					
19-Sep	4	3	2	1	A	7	3	3	2	1	1	1	3	6	1	1	1	1	3	2	3	2	5	8	2.9	7.6					
20-Sep	9	3	2	3	A	10	7	5	4	3	3	3	2	2	2	2	5	4	3	3	3	3	4	6	3.9	10.2					
21-Sep	4	3	14	3	A	13	12	16	14	18	15	11	9	8	4	4	5	5	3	6	4	2	1	2	7.6	18.1					
22-Sep	1	1	1	1	A	7	4	10	7	4	3	5	1	2	2	3	3	6	4	3	2	11	6	2	3.9	11.1					
23-Sep	1	3	2	4	A	10	8	5	3	6	7	38	13	1	1	1	1	2	2	1	2	5	3	3	5.4	37.7					
24-Sep	2	2	2	1	A	8	4	4	3	3	2	1	1	1	1	1	2	2	2	4	3	2	1	3	2.4	7.9					
25-Sep	3	2	3	5	A	10	5	11	8	8	5	4	3	7	6	5	4	4	4	1	1	5	2	1	4.7	11.0					
26-Sep	0	1	1	2	A	9	12	10	5	1	2	1	4	21	3	4	4	6	3	3	8	8	4	4	5.1	21.4					
27-Sep	5	4	5	6	A	10	16	15	11	8	4	2	64	1	2	1	2	2	2	3	3	1	2	3	7.5	64.4					
28-Sep	1	1	0	1	A	7	2	2	3	1	1	1	7	1	1	1	1	2	3	5	4	3	5	3	2.5	7.1					
29-Sep	3	3	3	8	A	10	8	14	23	6	4	4	4	4	4	3	5	8	9	5	25	22	10	10	8.4	24.6					
30-Sep	10	8	8	7	A	18	11	6	2	4	1	1	1	1	1	1	1	1	1	2	2	2	3	3	4.2	18.0					
3.5 3.0 3.8 3.7 -- 11.0 8.0 7.6 6.0 4.4 3.5 3.7 5.0 2.9 1.9 2.5 2.4 2.8 3.1 4.3 4.6 4.4 3.6 3.6																								Diurnal Average							
9.8 9.7 15.0 12.8 -- 19.6 16.0 16.3 22.9 18.1 15.3 37.7 64.4 21.4 5.6 23.6 6.1 8.0 8.9 22.1 24.6 21.8 11.8 9.9																								Diurnal Maximum							
C - Calibration A - Automated Daily Zero Span																															

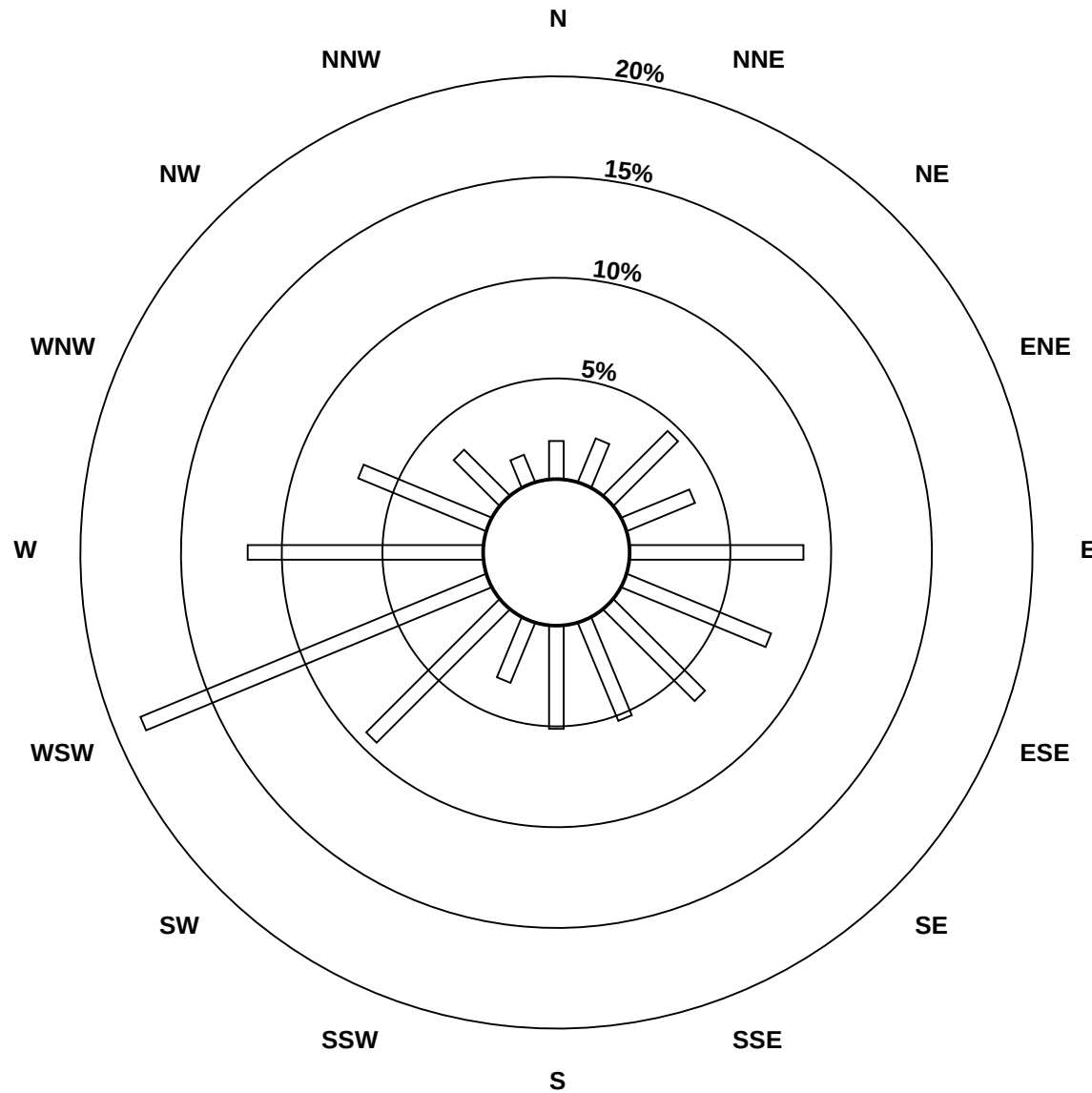
Hourly Maximums

Nitrogen Dioxide (NO₂) - ppb
Beaverlodge - September 2011

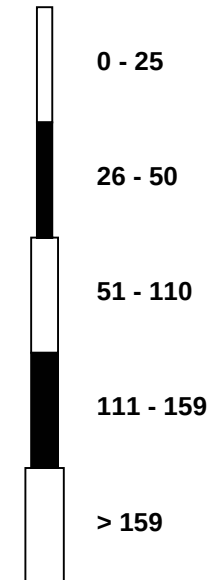


Pollutant Rose

Nitrogen Dioxide (NO₂) - ppb
Beaverlodge - September 2011

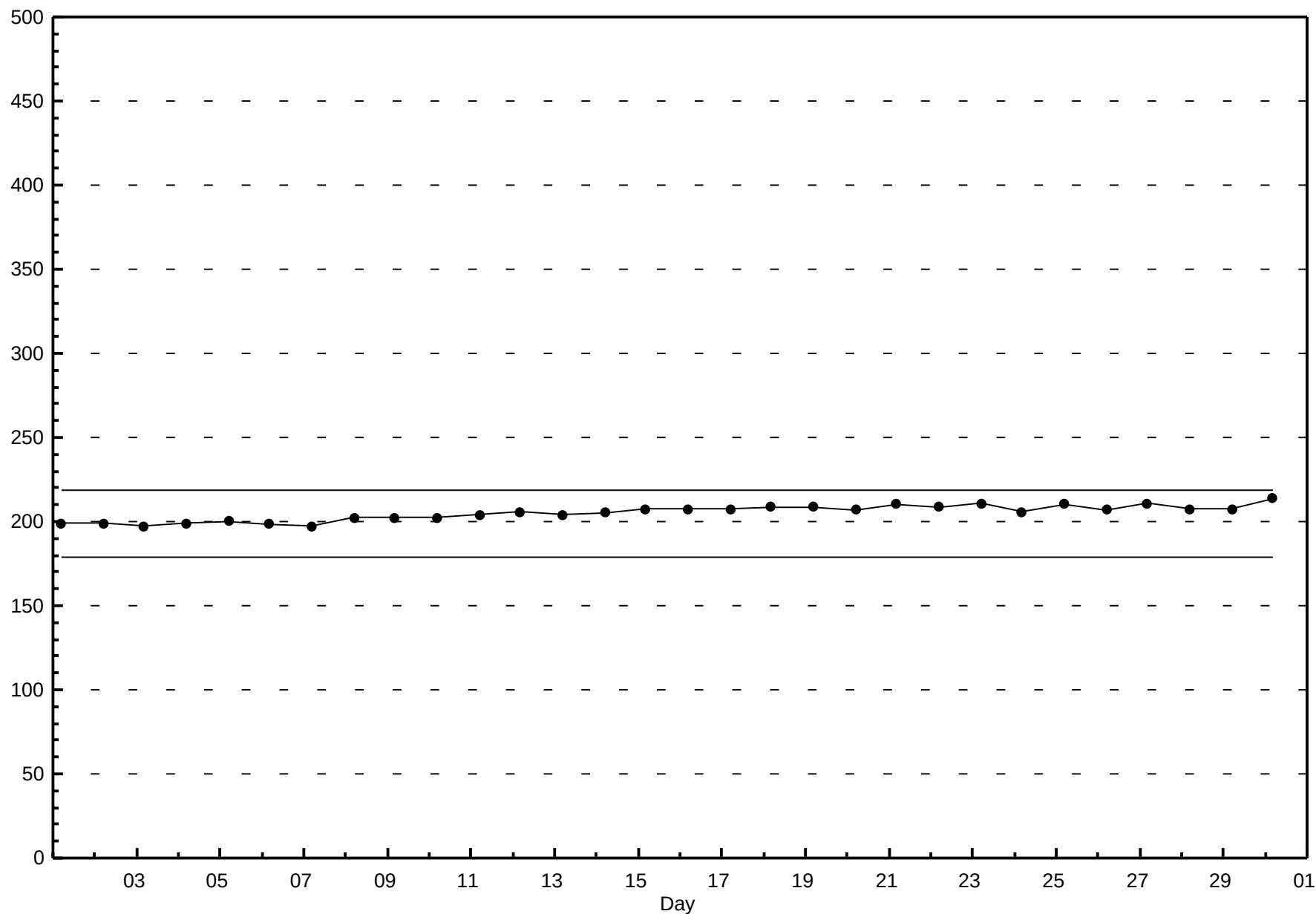


Pollutant Classes (ppb)



Span Responses

Nitrogen Dioxide (NO₂)
Beaverlodge - September 2011



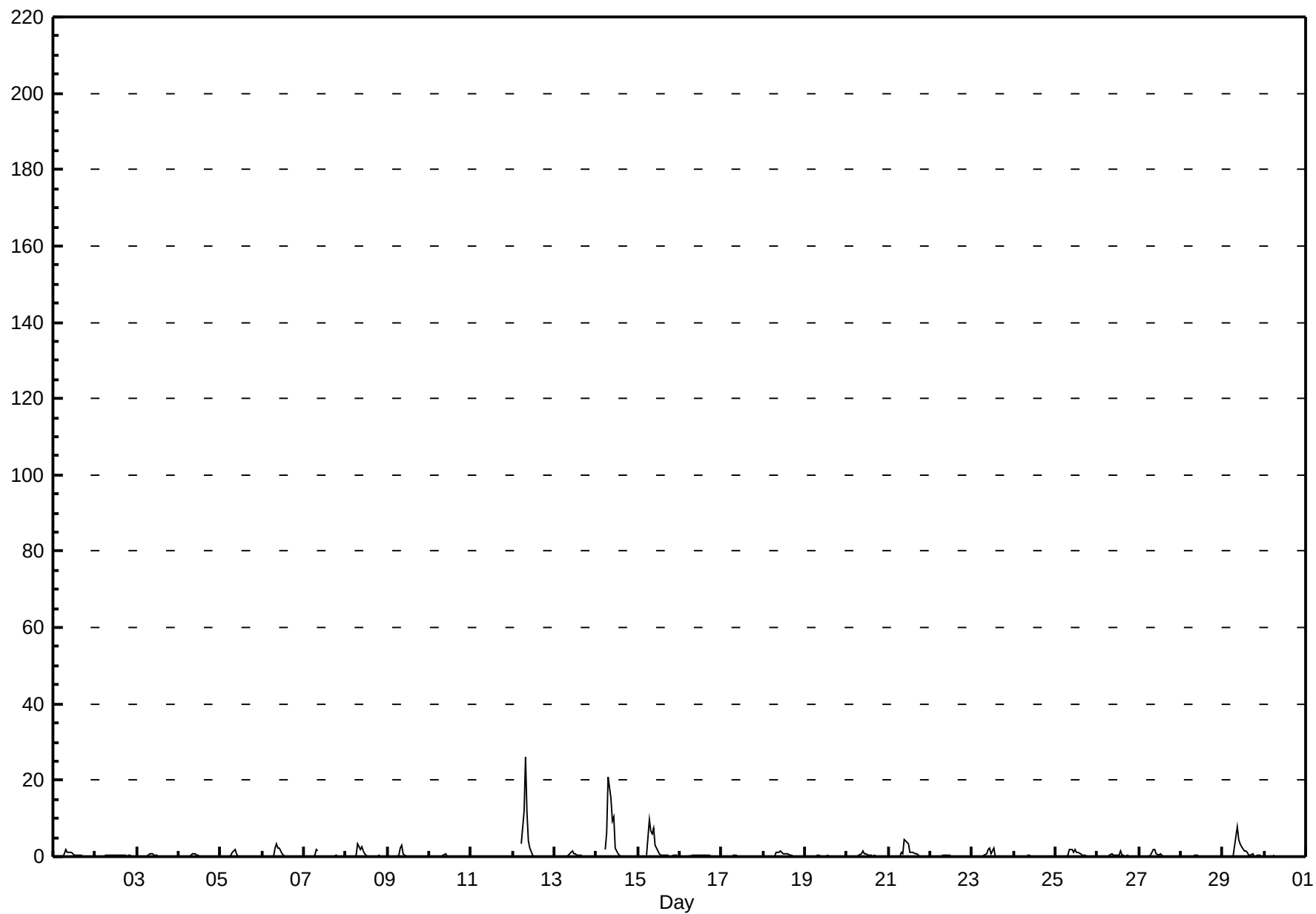
Hourly Averages

Nitrogen Oxide (NO) - ppb Beaverlodge - September 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 26.0 ppb on Sep 12 08:00 Maximum Daily Average: 3.0 ppb on Sep 14																				Hours in Service: 720 Hours of Data: 684 Hours of Missing Data: 36 Hours of Calibration: 36 Percent Operational Time: 100.0						
Minimum Value: 0 ppb on Sep 1 01:00 Maximum Diurnal Average: 2.6 ppb at hour 8 Monthly Average: 0.51 ppb										Minimum Daily Average: 0.0 ppb on Sep 11 Minimum Diurnal Average: 0.0 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 = 1.1 P ₉₉ = 9.6																
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-Sep	0	0	0	0	A	0	1	2	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.4	2.0
2-Sep	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
3-Sep	0	0	0	0	A	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.8
4-Sep	0	0	0	0	A	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.6
5-Sep	0	0	0	0	A	0	0	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.7
6-Sep	0	0	0	0	A	0	0	2	3	2	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0.5	3.3
7-Sep	0	0	0	0	A	0	0	2	1	C	C	C	C	C	C	0	0	0	0	0	0	0	0	0	--	2.0
8-Sep	0	0	0	0	A	0	0	3	2	3	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.5	3.5
9-Sep	0	0	0	0	A	0	0	2	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	2.8
10-Sep	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	0.7
11-Sep	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
12-Sep	0	0	0	0	A	3	12	26	11	4	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2.6	26.0
13-Sep	0	0	0	0	A	0	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0.3	1.4
14-Sep	0	0	0	0	A	2	6	21	15	10	10	2	1	0	0	0	0	0	0	0	0	0	0	0	3.0	21.0
15-Sep	0	0	0	0	A	0	10	7	6	7	3	2	1	0	0	0	0	0	0	0	0	0	0	0	1.6	9.7
16-Sep	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
17-Sep	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
18-Sep	0	0	0	0	A	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0.4	1.5
19-Sep	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
20-Sep	0	0	0	0	A	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.4
21-Sep	0	0	0	0	A	0	0	1	1	4	4	3	1	1	1	1	1	0	0	0	0	0	0	0	0.8	4.3
22-Sep	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
23-Sep	0	0	0	0	A	0	0	0	1	2	2	1	2	0	0	0	0	0	0	0	0	0	0	0	0.4	2.2
24-Sep	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
25-Sep	0	0	0	0	A	0	0	0	2	2	1	2	1	1	1	0	0	0	0	0	0	0	0	0	0.5	2.0
26-Sep	0	0	0	0	A	0	0	0	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0.2	1.6
27-Sep	0	0	0	0	A	0	0	1	2	2	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0.4	2.0
28-Sep	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-Sep	0	0	0	0	A	0	0	3	8	5	3	3	1	2	1	1	1	1	0	0	0	0	0	0	1.2	7.7
30-Sep	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
0.0 0.0 0.0 0.0 -- 0.2 1.1 2.6 2.2 1.8 1.3 0.7 0.4 0.4 0.3 0.2 0.2 0.2 0.1 0.0 0.0 0.0 0.0 0.0																								Diurnal Average		
0.1 0.1 0.1 0.2 -- 3.2 11.9 26.0 15.4 9.5 10.3 3.4 2.1 1.6 1.1 0.7 0.8 0.8 0.3 0.3 0.3 0.5 0.3 0.2 0.2																								Diurnal Maximum		
C - Calibration A - Automated Daily Zero Span																										

Hourly Averages

Nitrogen Oxide (NO) - ppb
Beaverlodge - September 2011



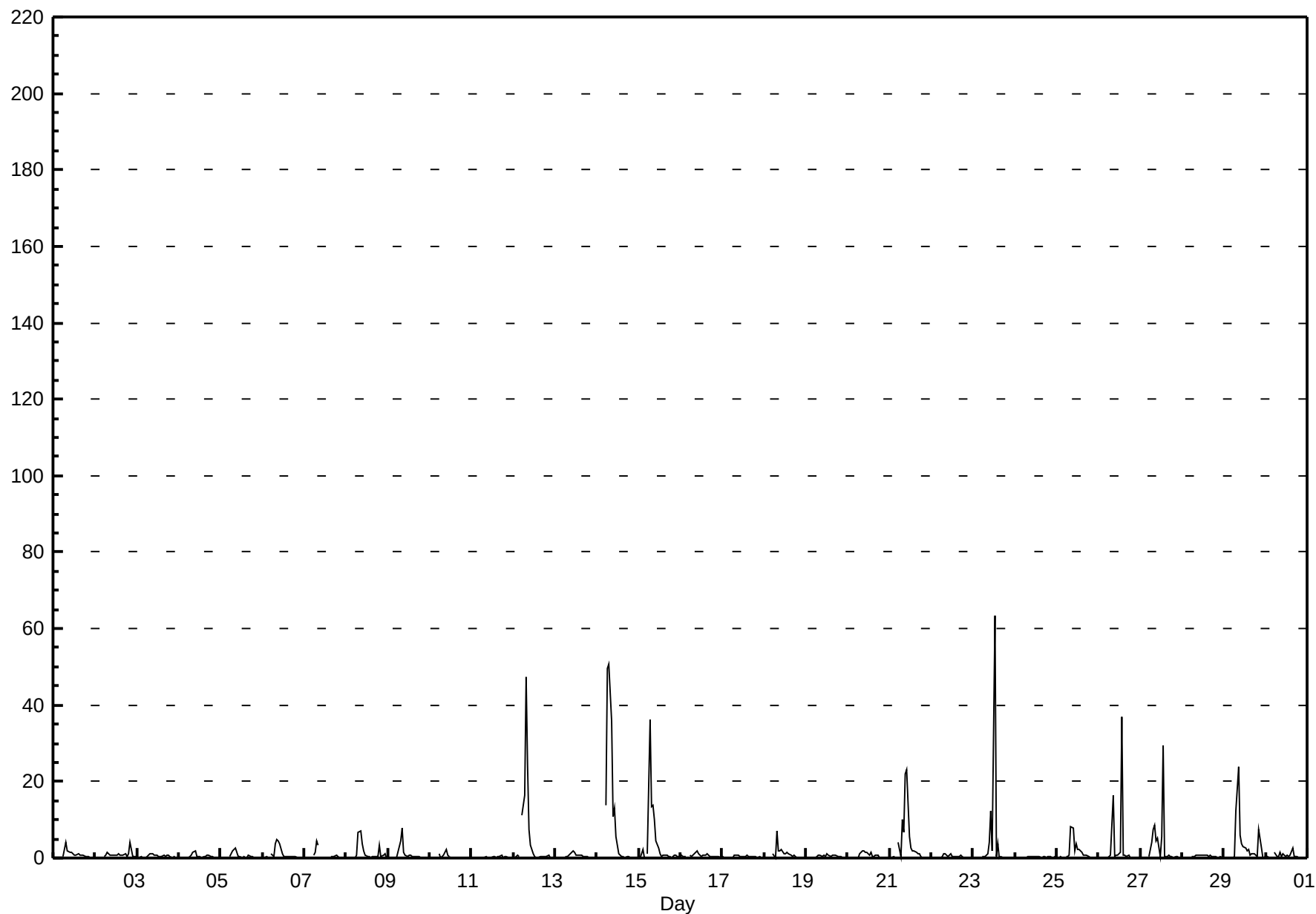
Hourly Maximums

Nitrogen Oxide (NO) - ppb Beaverlodge - September 2011

Maximum Value: 63.3 ppb on Sep 23 13:00																				Maximum Daily Average: 8.0 ppb on Sep 14					Hours in Service: 720	
Minimum Value: 0 ppb on Sep 13 04:00																				Minimum Daily Average: 0.2 ppb on Sep 11					Hours of Data: 684	
Maximum Diurnal Average: 6.2 ppb at hour 8																				Minimum Diurnal Average: 0.1 ppb at hour 4					Hours of Missing Data: 36	
Monthly Average: 1.58 ppb																				Percentiles: P ₁ = 0.0 P ₁₀ = 0.1 Q ₁ = 0.1 Median = 0.3 Q ₃ = 0.7 P ₉₀ = 2.4 P ₉₉ = 35.8					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-Sep	0	0	0	0	A	0	2	4	2	2	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0.8	4.2
2-Sep	0	0	0	0	A	0	1	1	1	1	1	1	1	1	1	1	1	1	0	1	4	0	0	0	0.8	4.2
3-Sep	0	0	0	0	A	0	1	1	1	1	1	1	0	0	0	1	0	1	1	0	0	0	0	0	0.5	1.2
4-Sep	0	0	0	0	A	0	0	1	2	2	1	1	0	0	0	0	1	1	0	0	0	0	0	0	0.4	1.8
5-Sep	0	0	0	0	A	0	1	2	3	2	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0.5	2.5
6-Sep	0	0	0	0	A	1	1	4	5	5	4	1	1	0	0	0	1	0	0	0	0	0	0	0	1.0	4.9
7-Sep	0	0	0	0	A	1	1	5	3	C	C	C	C	C	C	0	0	0	1	0	0	0	0	0	--	4.6
8-Sep	0	0	0	0	A	0	1	7	7	4	2	1	0	0	0	0	0	0	0	3	0	1	1	0	1.3	6.9
9-Sep	0	0	0	0	A	0	3	5	8	2	1	0	1	1	0	0	0	0	0	0	0	0	0	0	1.0	7.9
10-Sep	0	0	0	0	A	1	0	0	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	2.1
11-Sep	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0.2	0.6
12-Sep	0	0	1	0	A	11	16	47	24	7	3	1	0	0	0	0	0	0	0	1	1	0	0	0	5.0	47.3
13-Sep	0	0	0	0	A	0	0	0	1	2	2	1	1	1	1	1	0	0	0	0	0	0	0	0	0.5	1.7
14-Sep	0	0	0	0	A	14	50	51	36	11	13	6	1	1	0	0	0	0	0	0	0	0	0	0	8.0	50.9
15-Sep	0	0	2	0	A	1	36	13	14	10	5	3	1	0	1	1	1	0	0	0	1	1	0	0	4.0	36.0
16-Sep	1	0	0	0	A	1	0	1	1	2	1	1	1	1	1	1	1	1	0	0	0	0	1	0	0.6	2.0
17-Sep	0	0	0	0	A	0	0	1	1	1	0	0	0	0	1	0	1	0	1	0	0	0	0	0	0.3	0.7
18-Sep	0	0	0	0	A	1	0	7	2	2	2	1	1	1	1	1	1	1	0	0	0	0	0	0	1.0	7.1
19-Sep	0	0	0	0	A	0	0	1	1	1	1	0	1	1	0	1	1	1	0	0	1	0	0	0	0.4	1.3
20-Sep	0	0	0	0	A	0	0	1	2	2	1	1	1	1	0	0	1	1	0	0	0	0	0	0	0.6	2.0
21-Sep	0	0	0	0	A	4	0	10	7	22	23	6	3	2	2	1	1	1	0	0	0	0	0	0	3.6	23.0
22-Sep	0	0	0	0	A	0	0	1	1	1	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0.4	1.1
23-Sep	0	0	0	0	A	0	0	0	1	4	12	2	63	0	4	0	0	0	0	0	0	0	0	0	3.9	63.3
24-Sep	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
25-Sep	0	0	0	0	A	0	0	1	8	8	2	4	2	2	1	1	1	1	0	0	0	0	0	0	1.4	8.3
26-Sep	0	0	0	0	A	0	0	1	16	0	1	1	2	37	1	1	0	1	0	0	0	0	0	0	2.7	36.8
27-Sep	0	0	0	0	A	0	4	7	9	4	5	0	5	29	1	0	1	0	0	0	0	0	0	0	3.0	29.4
28-Sep	0	0	0	0	A	0	0	0	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0.4	0.9
29-Sep	0	0	0	0	A	0	0	12	24	6	4	3	2	2	2	1	1	1	1	0	8	3	0	0	3.1	24.0
30-Sep	1	0	0	0	A	1	0	0	1	0	1	1	1	1	1	3	0	0	0	0	0	0	0	0	0.6	2.8
0.1 0.1 0.2 0.1 -- 1.3 4.0 6.2 6.1 3.5 3.1 1.4 3.2 3.0 0.7 0.6 0.5 0.5 0.4 0.3 0.6 0.3 0.2 0.1																									Diurnal Average	
0.7 0.4 2.4 0.4 -- 14.0 49.7 50.9 35.8 21.8 23.0 5.7 63.3 36.8 3.5 2.8 1.3 1.3 0.9 3.4 7.6 2.5 1.1 0.4																									Diurnal Maximum	
C - Calibration A - Automated Daily Zero Span																										

Hourly Maximums

Nitrogen Oxide (NO) - ppb
Beaverlodge - September 2011



Hourly Averages

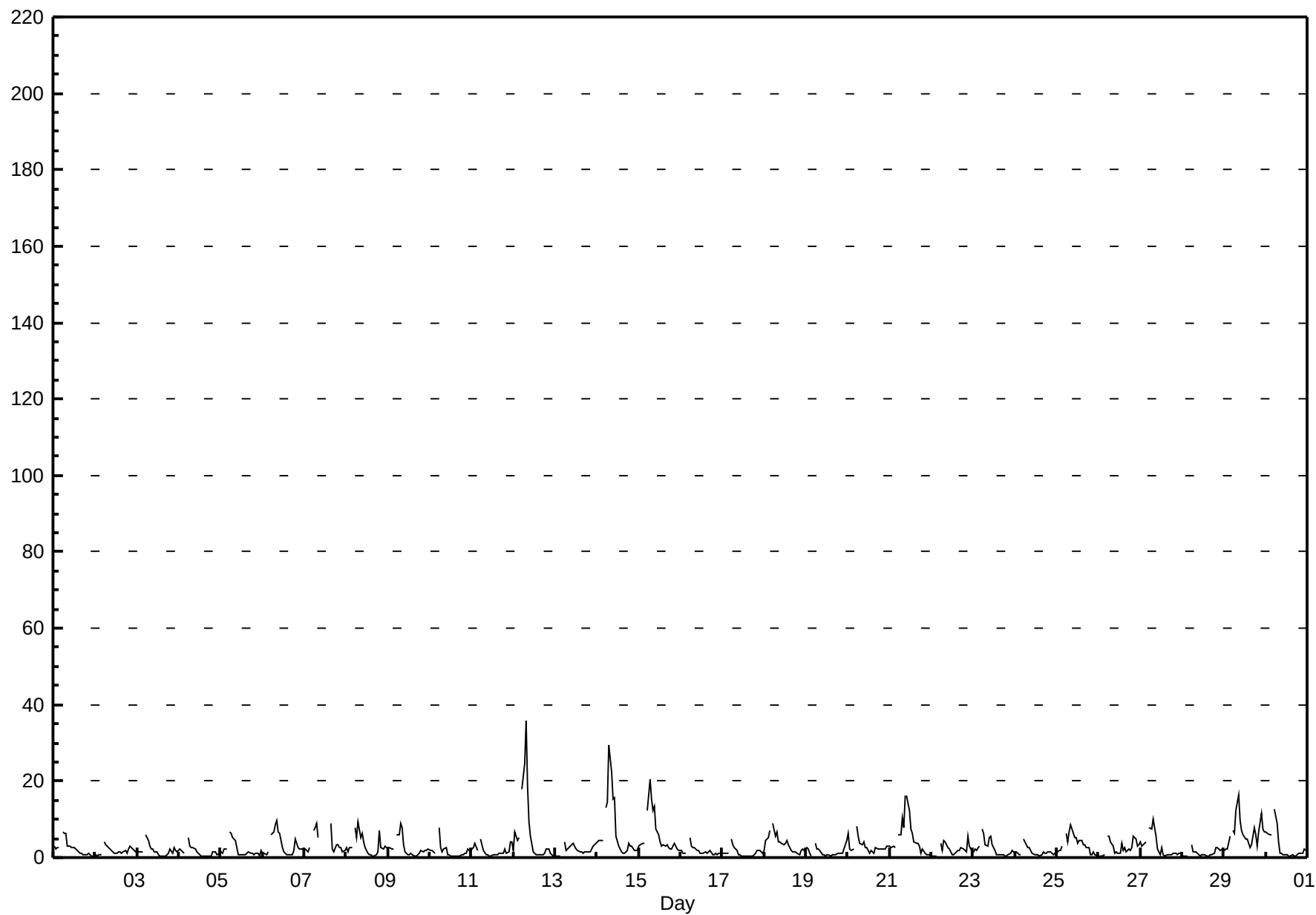
Oxides of Nitrogen (NO_x) - ppb

Beaverlodge - September 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 35.9 ppb on Sep 12 08:00 Maximum Daily Average: 7.0 ppb on Sep 14																				Hours in Service: 720 Hours of Data: 684 Hours of Missing Data: 36 Hours of Calibration: 36 Percent Operational Time: 100.0						
Minimum Value: 0 ppb on Sep 28 04:00 Minimum Daily Average: 1.2 ppb on Sep 28 Maximum Diurnal Average: 7.3 ppb at hour 8 Minimum Diurnal Average: 1.4 ppb at hour 17 Monthly Average: 2.92 ppb Percentiles: P ₁ = 0.3 P ₁₀ = 0.6 Q ₁ = 1.0 Median = 1.9 Q ₃ = 3.3 P ₉₀ = 6.4 P ₉₉ = 17.6																										
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Sep	3	2	2	3	A	7	6	6	3	3	3	3	2	2	1	1	1	1	1	1	1	1	0	0	2.4	6.8
2-Sep	1	0	1	1	A	4	3	3	2	2	1	1	1	1	1	1	2	2	1	2	3	2	2	2	1.8	4.2
3-Sep	2	2	2	2	A	6	4	3	2	2	2	1	1	0	0	0	0	1	1	2	1	2	2	1	1.8	5.9
4-Sep	2	2	1	1	A	5	3	3	3	2	1	1	1	0	0	0	0	0	0	2	1	1	1	1	1.5	5.1
5-Sep	1	1	2	2	A	7	6	5	5	3	1	1	1	1	1	1	2	1	1	1	1	1	0	2	2.0	6.6
6-Sep	1	1	1	1	A	6	7	9	10	7	6	3	2	1	1	1	1	1	2	5	3	2	2	2	3.2	9.8
7-Sep	2	2	2	3	A	7	8	9	5	C	C	C	C	C	C	9	2	1	3	3	3	2	2	2	--	8.9
8-Sep	3	2	3	3	A	8	5	9	5	6	4	3	1	1	1	0	0	1	2	7	3	2	3	3	3.2	9.4
9-Sep	3	3	2	2	A	6	6	9	8	3	2	1	1	1	1	1	1	1	1	2	1	2	2	2	2.5	8.8
10-Sep	2	2	2	1	A	8	3	2	2	3	1	1	1	0	0	0	0	0	1	1	1	1	2	2	1.5	8.0
11-Sep	2	3	4	2	A	5	3	2	1	1	0	1	1	1	1	1	1	1	1	2	1	2	4	4	1.9	4.9
12-Sep	2	7	5	5	A	18	24	36	19	9	6	2	1	1	1	1	1	1	1	2	2	1	1	1	6.3	35.9
13-Sep	0	0	0	0	A	4	2	2	3	3	4	3	2	2	1	1	1	1	1	1	1	2	3	4	1.9	3.9
14-Sep	4	4	4	4	A	13	15	29	22	15	16	6	3	2	2	1	1	2	4	3	3	2	2	2	7.0	29.3
15-Sep	3	3	4	4	A	12	21	15	12	13	8	6	4	3	3	3	3	3	2	2	4	3	2	2	5.9	20.6
16-Sep	2	1	1	1	A	5	3	3	3	2	2	1	1	1	1	1	1	2	1	1	1	1	1	1	1.6	5.3
17-Sep	1	1	1	1	A	5	3	3	2	1	1	1	0	0	0	0	0	0	1	1	2	2	1	1	1.3	4.7
18-Sep	2	4	5	7	A	9	6	7	4	4	4	3	4	4	3	2	2	1	2	1	1	2	2	2	3.5	9.0
19-Sep	3	2	1	0	A	4	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2	5	1.5	4.5
20-Sep	6	2	2	2	A	8	6	4	3	4	3	3	1	2	1	1	3	2	2	2	2	2	3	3	2.9	8.2
21-Sep	3	3	3	3	A	6	6	11	8	16	16	12	7	6	4	4	4	3	1	2	1	1	1	1	5.2	16.2
22-Sep	0	0	0	0	A	4	2	4	4	2	2	2	1	1	1	2	2	3	2	2	2	6	3	1	2.0	5.6
23-Sep	1	2	2	3	A	7	7	3	3	5	6	3	2	1	1	1	1	1	1	0	1	1	2	1	2.3	7.4
24-Sep	2	1	1	1	A	5	3	3	3	2	1	1	1	1	1	1	1	1	1	2	2	1	1	1	1.5	4.9
25-Sep	1	2	2	3	A	6	4	7	8	6	5	5	4	5	5	3	3	3	3	1	1	2	1	0	3.5	8.4
26-Sep	0	0	0	1	A	5	6	4	3	1	1	1	1	4	2	3	1	2	2	3	6	5	3	3	2.5	5.6
27-Sep	4	3	4	4	A	8	8	10	8	6	2	1	3	1	1	1	1	1	1	1	1	1	1	1	3.0	10.0
28-Sep	0	0	0	0	A	3	1	1	1	1	1	1	1	1	1	0	1	1	1	3	3	2	2	2	1.2	3.2
29-Sep	2	2	2	6	A	7	6	12	16	10	7	6	5	5	4	3	3	8	6	3	7	12	7	7	6.3	16.3
30-Sep	7	6	6	6	A	13	9	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2.8	12.6
2.2 2.2 2.2 2.4 -- 7.0 6.3 7.3 5.7 4.6 3.6 2.5 1.8 1.7 1.4 1.5 1.4 1.5 1.6 2.0 2.0 2.2 2.0 2.0																								Diurnal Average		
6.9 6.7 6.1 6.9 -- 17.9 24.5 35.9 22.4 16.2 15.9 12.4 7.5 6.3 4.6 8.9 3.7 7.7 6.0 7.1 6.6 11.7 7.5 6.7																								Diurnal Maximum		
C - Calibration A - Automated Daily Zero Span																										

Hourly Averages

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



Hourly Maximums

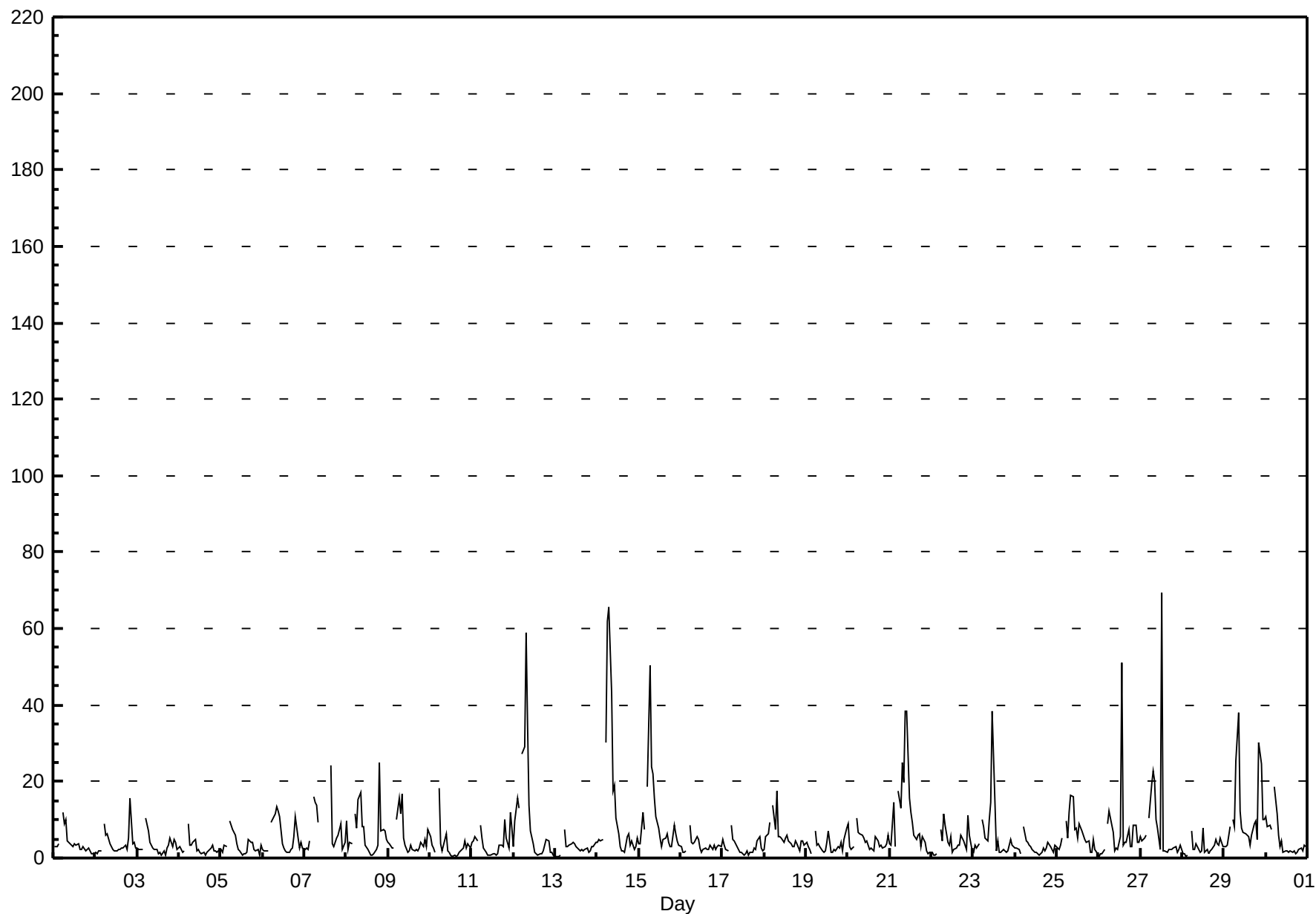
Oxides of Nitrogen (NO_x) - ppb

Beaverlodge - September 2011

Maximum Value: 69.4 ppb on Sep 27 13:00																				Maximum Daily Average: 13.5 ppb on Sep 14					Hours in Service: 720	
Minimum Value: 0 ppb on Sep 10 16:00																				Minimum Daily Average: 2.5 ppb on Sep 4					Hours of Data: 684	
Maximum Diurnal Average: 13.3 ppb at hour 8																				Minimum Diurnal Average: 2.5 ppb at hour 15					Hours of Missing Data: 36	
Monthly Average: 5.62 ppb																				Percentiles: P ₁ = 0.6 P ₁₀ = 1.4 Q ₁ = 2.1 Median = 3.3 Q ₃ = 5.8 P ₉₀ = 11.4 P ₉₉ = 41.0					Hours of Calibration: 36	
																									Percent Operational Time: 100.0	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Sep	3	3	3	4	A	12	9	10	4	4	3	3	4	4	4	2	2	3	2	2	3	2	1	1	3.8	12.1
2-Sep	2	1	2	2	A	9	6	6	4	3	2	2	2	2	2	3	2	3	2	5	16	4	4	3	3.8	15.6
3-Sep	2	2	2	2	A	10	7	4	3	3	2	2	1	1	1	2	1	3	3	5	3	5	4	2	3.2	10.4
4-Sep	3	2	2	2	A	9	3	3	4	5	2	2	2	1	2	1	2	2	3	3	2	2	1	2	2.5	8.8
5-Sep	2	2	3	3	A	10	9	7	6	4	2	2	1	1	1	2	5	4	4	2	2	2	1	3	3.4	9.6
6-Sep	2	2	2	2	A	9	11	12	14	12	11	4	3	2	1	1	2	3	6	11	5	3	4	3	5.3	13.6
7-Sep	2	3	2	4	A	16	15	14	9	C	C	C	C	C	C	24	4	3	5	6	8	9	2	4	--	24.1
8-Sep	10	2	4	4	A	12	8	15	17	8	8	3	2	1	1	1	1	2	3	25	7	7	7	5	6.7	25.1
9-Sep	4	4	3	2	A	10	16	12	17	5	3	1	2	3	2	2	2	2	2	4	3	5	3	7	5.0	16.9
10-Sep	6	3	3	1	A	18	4	2	3	6	2	2	1	1	1	0	1	1	2	3	5	3	4	3	3.2	18.4
11-Sep	4	4	6	5	A	9	5	3	2	1	1	1	1	1	1	1	3	3	3	10	5	3	12	8	4.0	11.9
12-Sep	3	10	16	13	A	27	29	59	35	14	7	4	1	1	1	1	1	2	3	5	4	2	2	1	10.5	58.9
13-Sep	0	0	0	1	A	7	3	3	3	4	4	4	3	2	2	2	2	2	2	2	2	3	3	4	2.6	7.4
14-Sep	4	5	5	5	A	30	62	66	43	18	19	10	6	3	2	2	1	5	6	4	5	2	3	5	13.5	65.6
15-Sep	4	4	12	7	A	19	50	24	22	16	11	8	5	3	5	5	6	4	3	3	8	6	4	3	10.1	50.3
16-Sep	3	2	2	2	A	9	4	4	4	5	5	3	2	2	3	2	2	3	2	3	2	3	3	3	3.2	8.7
17-Sep	5	3	2	2	A	9	5	5	3	2	2	1	1	1	2	1	1	1	3	2	5	5	3	2	2.9	8.7
18-Sep	2	6	6	9	A	14	8	18	6	5	5	4	5	6	4	4	3	3	5	4	2	4	4	3	5.7	17.6
19-Sep	4	3	2	1	A	7	3	4	3	2	1	2	4	7	1	2	2	2	3	3	4	2	5	8	3.2	7.7
20-Sep	9	3	2	3	A	10	7	6	6	5	4	4	2	3	2	2	5	5	3	3	3	3	4	6	4.4	10.3
21-Sep	4	3	15	3	A	18	13	25	20	38	39	16	12	9	6	5	6	6	3	6	4	2	1	2	11.1	38.6
22-Sep	1	1	1	1	A	7	4	12	8	4	3	6	2	2	3	3	3	6	4	3	2	11	6	2	4.2	11.7
23-Sep	2	3	3	4	A	10	8	5	4	10	15	38	14	2	5	1	2	2	2	1	2	5	3	3	6.3	38.5
24-Sep	3	3	2	1	A	8	5	4	4	3	2	2	2	1	1	2	3	2	3	4	3	2	2	3	2.7	8.1
25-Sep	3	2	3	5	A	10	5	12	16	16	8	8	5	9	7	6	5	4	4	1	2	5	2	1	6.1	16.4
26-Sep	0	1	1	2	A	9	12	10	7	2	3	2	5	51	4	4	4	7	3	3	8	9	4	4	6.8	50.9
27-Sep	6	4	5	6	A	11	19	23	20	10	8	2	69	2	2	2	2	2	2	3	3	2	2	3	9.1	69.4
28-Sep	1	1	0	1	A	7	2	2	4	2	2	2	8	1	2	1	2	2	3	5	4	3	5	3	2.8	7.9
29-Sep	3	3	3	8	A	10	8	25	38	12	8	7	6	6	6	3	6	9	10	5	30	25	10	10	10.9	38.2
30-Sep	11	8	8	7	A	19	12	6	3	4	2	2	2	1	2	1	2	1	1	2	3	2	3	3	4.6	18.8
3.6 3.1 4.0 3.8 -- 12.1 11.7 13.3 11.1 7.7 6.3 5.0 6.0 4.5 2.5 3.0 2.8 3.3 3.4 4.6 5.1 4.7 3.8 3.7																									Diurnal Average	
10.7 9.8 15.7 12.9 -- 30.1 61.9 65.6 43.3 38.4 38.6 38.5 69.4 50.9 7.1 24.1 6.5 8.8 9.6 25.1 30.2 24.7 11.9 10.0																									Diurnal Maximum	
C - Calibration A - Automated Daily Zero Span																										

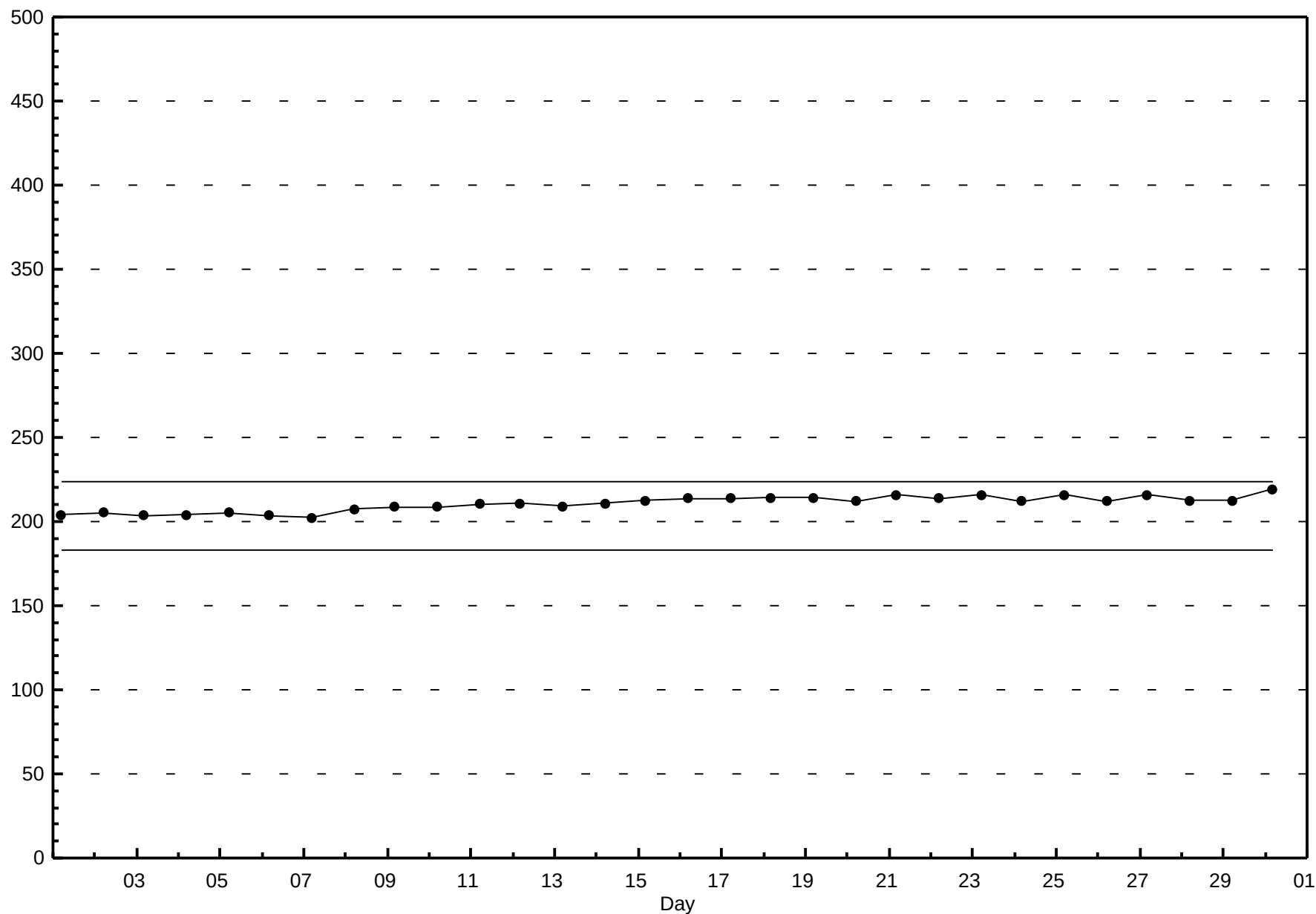
Hourly Maximums

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



Span Responses

Oxides of Nitrogen (NO_x)
Beaverlodge - September 2011



Hourly Averages

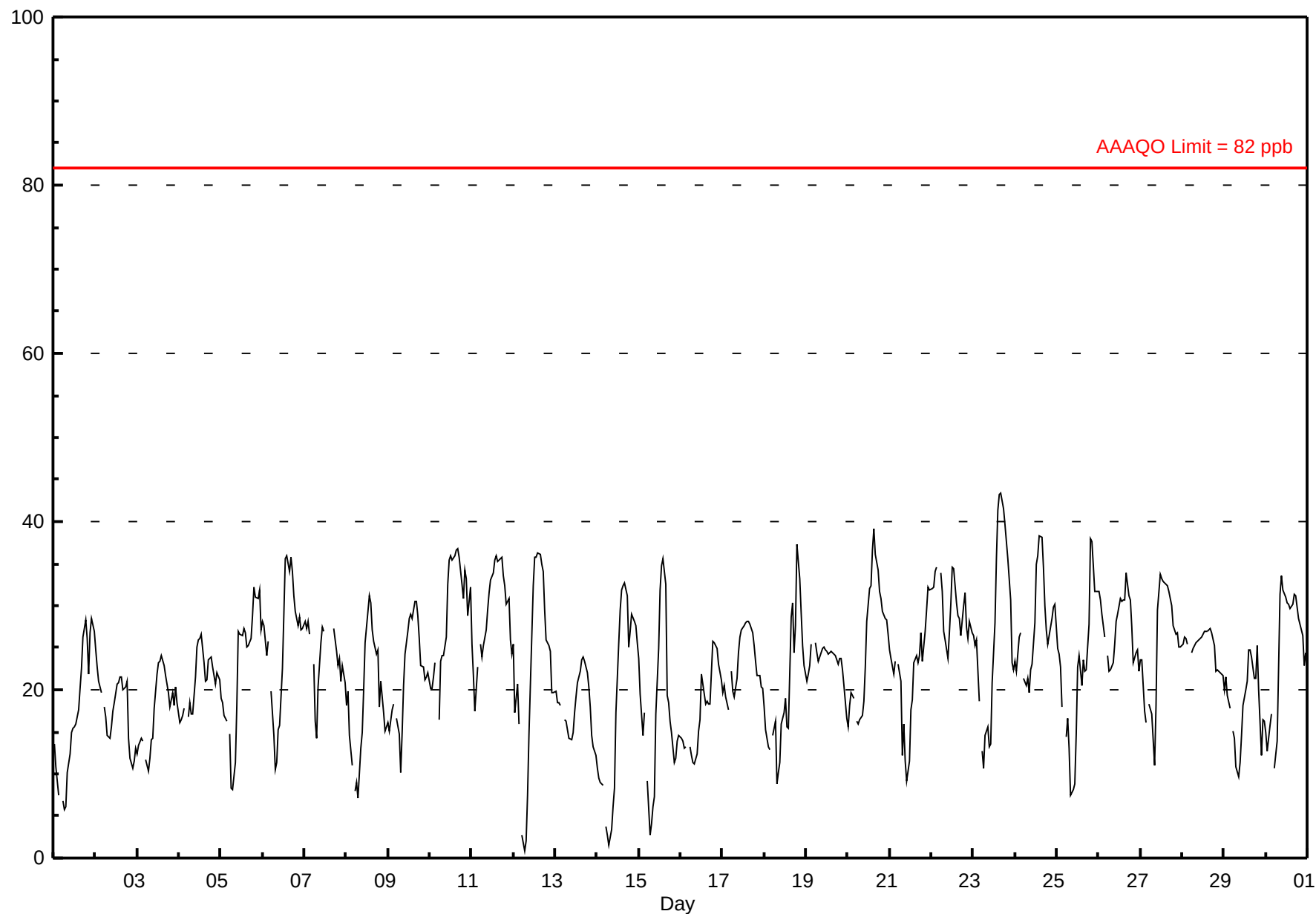
Ozone (O₃) - ppb

Beaverlodge - September 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 43.4 ppb on Sep 23 17:00 Maximum Daily Average: 29.8 ppb on Sep 22																								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 Sep 12 07:00 Maximum Diurnal Average: 29.0 ppb at hour 16 Monthly Average: 22.72 ppb												Minimum Daily Average: 16.9 ppb on Sep 1 Minimum Diurnal Average: 14.5 ppb at hour 8 Percentiles: P ₁ = 3.5 P ₁₀ = 12.6 Q ₁ = 17.3 Median = 23.3 Q ₃ = 27.8 P ₉₀ = 32.4 P ₉₉ = 37.9														
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-Sep	14	11	9	7	A	7	6	6	10	12	15	15	16	16	18	20	22	26	28	26	22	27	28	27	16.9	28.5
2-Sep	25	23	21	20	A	18	17	15	14	16	17	18	21	21	21	22	20	20	21	14	12	11	12	13	17.9	24.8
3-Sep	12	13	14	14	A	12	10	12	14	14	18	22	23	23	24	23	22	21	20	18	20	18	20	18	17.6	24.1
4-Sep	16	16	17	18	A	17	18	17	17	21	25	26	26	27	23	21	21	24	24	23	22	21	22	21	21.0	26.5
5-Sep	19	18	17	16	A	15	8	8	11	18	27	27	26	27	27	25	25	26	29	32	31	31	32	27	22.8	32.2
6-Sep	28	28	24	26	A	20	15	11	11	15	16	23	29	36	36	34	36	34	31	29	28	29	27	27	25.7	35.9
7-Sep	28	27	28	27	A	23	16	14	20	26	27	27	C	C	C	C	C	27	25	23	24	21	23	21	23.7	28.2
8-Sep	18	20	15	11	A	8	9	7	13	15	20	26	29	31	30	27	26	24	25	18	21	17	15	16	19.2	31.2
9-Sep	16	15	18	18	A	17	15	10	15	21	24	27	28	29	29	31	31	29	26	23	23	21	22	22	22.1	30.6
10-Sep	20	20	22	23	A	16	23	24	24	26	33	35	36	35	36	37	37	36	32	31	34	33	29	32	29.4	36.8
11-Sep	25	22	17	23	A	25	24	25	27	30	32	33	34	35	36	35	35	36	34	32	30	31	26	24	29.2	35.9
12-Sep	25	17	21	16	A	3	1	2	8	15	21	32	36	36	36	36	35	34	29	26	25	25	20	20	22.5	36.3
13-Sep	20	19	19	18	A	16	16	15	14	14	15	17	19	21	22	24	24	23	22	20	18	15	13	12	18.1	23.9
14-Sep	11	9	9	9	A	4	3	2	3	6	8	17	26	29	32	32	33	31	25	27	29	28	28	26	18.5	32.6
15-Sep	24	19	15	17	A	9	3	4	6	7	17	25	32	35	36	33	19	19	16	15	11	12	14	15	17.5	35.6
16-Sep	14	14	13	13	A	13	12	11	11	12	15	17	22	21	18	19	18	18	26	26	25	25	23	21	17.7	25.7
17-Sep	20	20	19	18	A	22	20	19	21	24	26	27	28	28	28	28	28	27	25	23	22	22	20	20	23.3	28.1
18-Sep	18	15	13	13	A	15	16	9	10	11	16	17	19	16	15	29	30	24	28	37	33	29	25	23	20.1	37.3
19-Sep	21	22	23	25	A	26	24	23	24	25	25	25	25	24	25	24	24	24	23	24	24	22	20	17	23.5	25.6
20-Sep	16	18	20	19	A	16	16	16	17	19	23	28	32	32	37	39	36	34	32	31	29	28	28	27	25.8	39.2
21-Sep	25	24	22	23	A	23	21	12	16	12	9	12	18	19	23	24	23	24	27	23	27	30	32	32	21.7	32.1
22-Sep	32	32	34	35	A	34	32	27	26	24	27	30	35	34	30	29	28	26	30	31	27	26	28	27	29.8	34.6
23-Sep	26	25	26	19	A	13	11	15	16	13	14	21	28	36	41	43	43	41	40	38	36	31	23	22	26.9	43.4
24-Sep	23	22	26	27	A	21	20	21	20	22	23	28	35	36	38	38	35	30	27	25	28	29	30	30	27.6	38.3
25-Sep	25	24	23	18	A	14	17	13	7	8	9	15	23	24	21	24	22	22	28	38	38	35	32	32	22.1	37.9
26-Sep	32	31	29	26	A	24	22	22	23	25	28	29	31	30	31	31	34	31	31	27	23	24	25	22	27.5	33.9
27-Sep	24	24	17	16	A	18	17	14	11	18	29	34	33	33	33	32	32	31	30	28	27	27	25	25	25.1	33.7
28-Sep	25	26	26	25	A	24	25	25	26	26	26	26	27	27	27	27	27	27	25	22	22	22	22	22	25.2	27.3
29-Sep	20	22	19	18	A	15	14	11	10	11	15	18	20	21	25	25	24	21	21	25	20	12	16	16	18.2	25.3
30-Sep	15	13	16	17	A	11	14	22	31	34	32	31	30	30	30	30	31	31	30	28	27	26	23	24	25.1	33.6
21.2 20.4 19.7 19.2 -- 16.6 15.5 14.5 15.9 18.0 21.0 24.3 27.1 28.0 28.5 29.0 28.4 27.5 27.0 26.2 25.2 24.2 23.4 22.7																								Diurnal Average		
32.0 32.2 34.1 34.6 -- 34.0 31.7 26.9 31.3 33.6 32.6 35.5 36.0 36.0 41.4 43.2 43.4 41.5 39.6 37.9 37.6 34.7 32.1 32.3																								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 - September 2011



Hourly Maximums

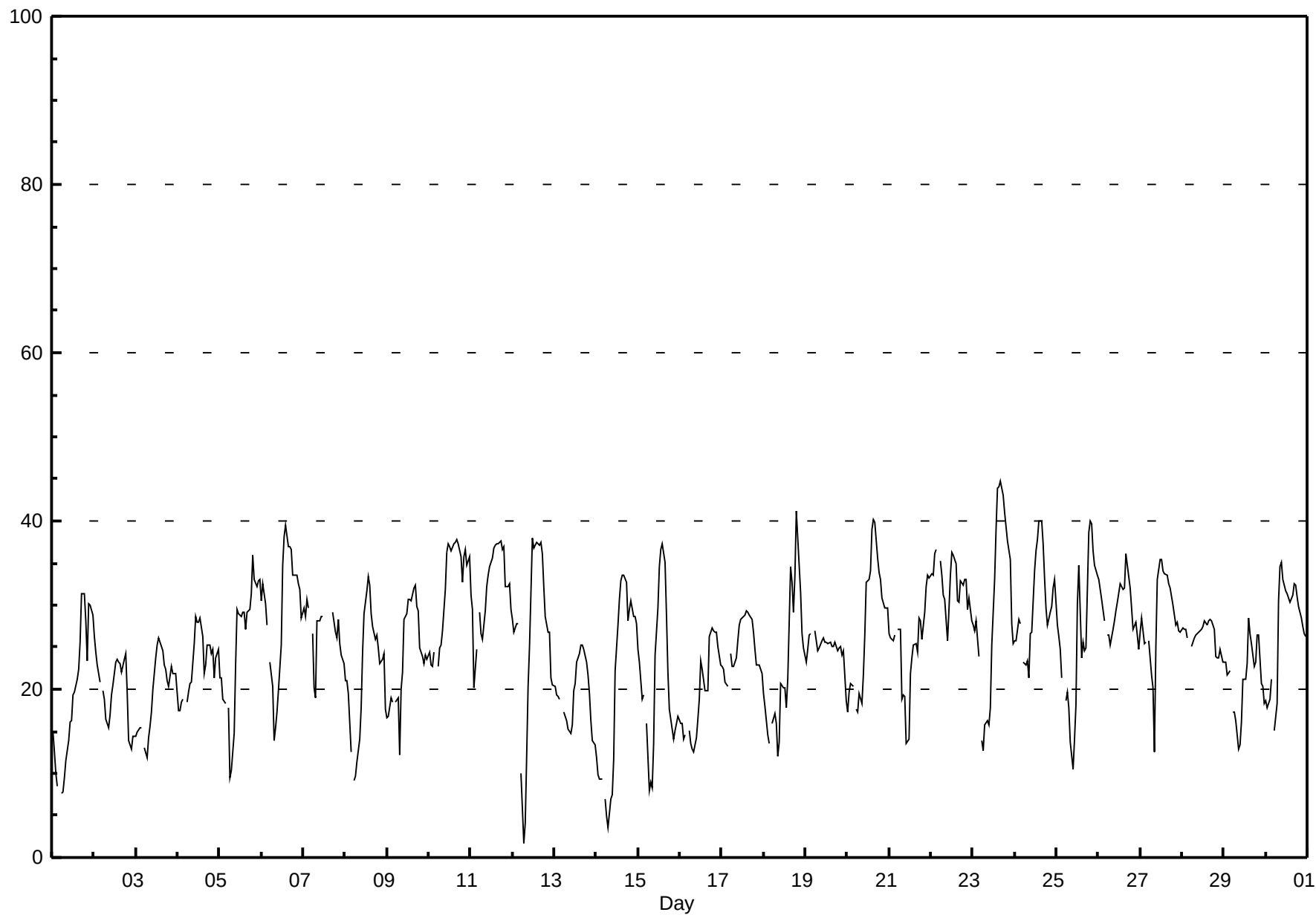
Ozone (O₃) - ppb

Beaverlodge - September 2011

Maximum Value: 44.8 ppb on Sep 23 17:00																								Maximum Daily Average: 32.5 ppb on Sep 22										Hours in Service: 720	
Minimum Value: 2 ppb on Sep 12 07:00																								Minimum Daily Average: 19.1 ppb on Sep 1										Hours of Data: 685	
Maximum Diurnal Average: 30.6 ppb at hour 15																								Minimum Diurnal Average: 17.8 ppb at hour 8										Hours of Missing Data: 35	
Monthly Average: 25.23 ppb																								Percentiles: P ₁ = 7.5 P ₁₀ = 14.9 Q ₁ = 20.2 Median = 25.6 Q ₃ = 30.5 P ₉₀ = 34.9 P ₉₉ = 39.8										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-Sep	15	12	10	9	A	8	8	10	12	14	16	16	19	20	21	22	26	31	31	28	23	30	30	29	19.1	31.4									
2-Sep	26	24	23	21	A	20	19	16	15	17	19	20	23	24	23	23	22	24	24	20	14	13	14	14	20.0	26.3									
3-Sep	14	15	15	15	A	13	12	14	16	17	20	24	25	26	26	25	23	22	21	20	23	22	22	22	19.7	26.2									
4-Sep	17	17	18	19	A	18	20	21	21	25	29	28	28	28	26	22	23	25	25	24	25	21	24	25	23.1	28.6									
5-Sep	21	21	19	18	A	18	9	10	15	23	29	29	29	29	29	27	29	29	31	36	33	32	33	33	25.4	35.9									
6-Sep	31	33	30	28	A	23	20	14	15	17	20	25	35	38	40	37	37	37	34	34	34	33	32	28	29.2	39.5									
7-Sep	30	29	31	30	A	27	20	19	28	28	29	29	C	C	C	C	C	29	27	26	28	25	24	23	26.7	30.7									
8-Sep	21	21	20	13	A	9	10	11	14	18	24	29	32	33	32	29	27	26	26	25	23	23	24	18	22.1	33.4									
9-Sep	17	17	19	19	A	19	19	12	20	22	28	29	31	31	31	32	32	30	29	25	24	23	24	23	24.1	32.4									
10-Sep	24	23	23	24	A	23	25	25	27	32	36	37	37	36	37	38	38	37	36	33	36	37	35	36	31.9	37.8									
11-Sep	31	29	20	25	A	29	27	26	29	32	34	35	36	37	37	37	37	38	37	37	32	32	33	30	32.1	37.6									
12-Sep	28	27	28	28	A	10	2	4	12	20	25	38	37	37	37	37	38	36	32	29	27	27	21	20	26.1	38.0									
13-Sep	20	19	19	19	A	17	17	16	15	15	16	20	21	23	24	25	25	25	23	22	19	16	14	13	19.3	25.3									
14-Sep	12	10	9	9	A	7	5	3	7	7	12	22	28	31	33	34	34	33	28	29	30	29	29	28	20.4	33.6									
15-Sep	25	23	19	19	A	16	8	9	8	13	24	30	35	37	37	35	29	22	18	16	14	15	16	17	21.1	37.3									
16-Sep	16	16	14	15	A	15	14	13	13	14	16	19	23	22	20	20	20	26	27	27	27	27	25	23	19.6	27.3									
17-Sep	23	22	21	20	A	24	23	23	24	26	28	28	29	29	29	29	29	28	27	25	23	23	22	22	25.0	29.2									
18-Sep	19	18	15	13	A	16	17	16	12	14	21	20	20	18	21	35	33	29	33	41	35	31	27	25	23.0	41.1									
19-Sep	23	25	26	27	A	27	26	25	25	26	26	26	26	26	26	25	25	26	25	25	25	24	25	19	25.0	27.0									
20-Sep	17	20	21	20	A	18	17	19	18	22	26	33	33	34	39	40	40	36	34	33	31	30	30	30	27.8	40.2									
21-Sep	27	26	26	26	A	27	27	19	19	19	14	14	22	24	25	25	24	29	28	26	29	32	34	33	25.0	33.6									
22-Sep	34	34	36	37	A	35	33	31	31	26	30	34	36	36	35	31	30	33	32	33	33	30	31	28	32.5	36.6									
23-Sep	28	27	28	24	A	14	13	16	16	16	18	25	33	39	44	44	45	43	41	39	38	35	28	26	29.5	44.8									
24-Sep	26	26	28	28	A	23	23	23	21	27	27	34	36	38	40	40	37	33	30	28	29	30	32	33	30.1	40.0									
25-Sep	28	26	25	21	A	19	20	18	14	10	14	18	30	35	24	26	25	25	39	40	40	37	35	34	26.0	40.0									
26-Sep	33	32	31	28	A	26	26	25	27	28	29	30	33	32	32	32	36	33	32	30	27	28	27	25	29.7	36.0									
27-Sep	27	28	25	26	A	26	22	20	12	25	33	36	35	34	34	34	33	32	31	30	28	28	27	27	28.3	35.5									
28-Sep	27	27	27	26	A	25	26	26	26	27	27	27	28	28	28	28	28	28	27	24	24	24	25	23	26.3	28.3									
29-Sep	23	23	22	22	A	17	17	16	13	13	16	21	21	23	29	27	25	23	23	27	26	21	20	18	21.2	28.5									
30-Sep	19	18	19	21	A	15	18	30	35	35	33	32	31	31	30	31	33	32	31	30	28	27	27	26	27.5	35.0									
23.4 23.0 22.2 21.6 -- 19.5 18.0 17.8 18.7 21.0 24.0 26.9 29.3 30.3 30.6 30.6 30.4 30.0 29.4 28.7 27.6 26.8 26.2 25.0																								Diurnal Average											
33.8 33.6 36.1 36.6 -- 35.2 33.5 31.2 34.5 35.0 36.3 38.0 36.9 39.0 43.8 44.1 44.8 43.0 41.0 39.6 36.7 34.7 35.7																								Diurnal Maximum											
C - Calibration																								A - Automated Daily Zero Span											

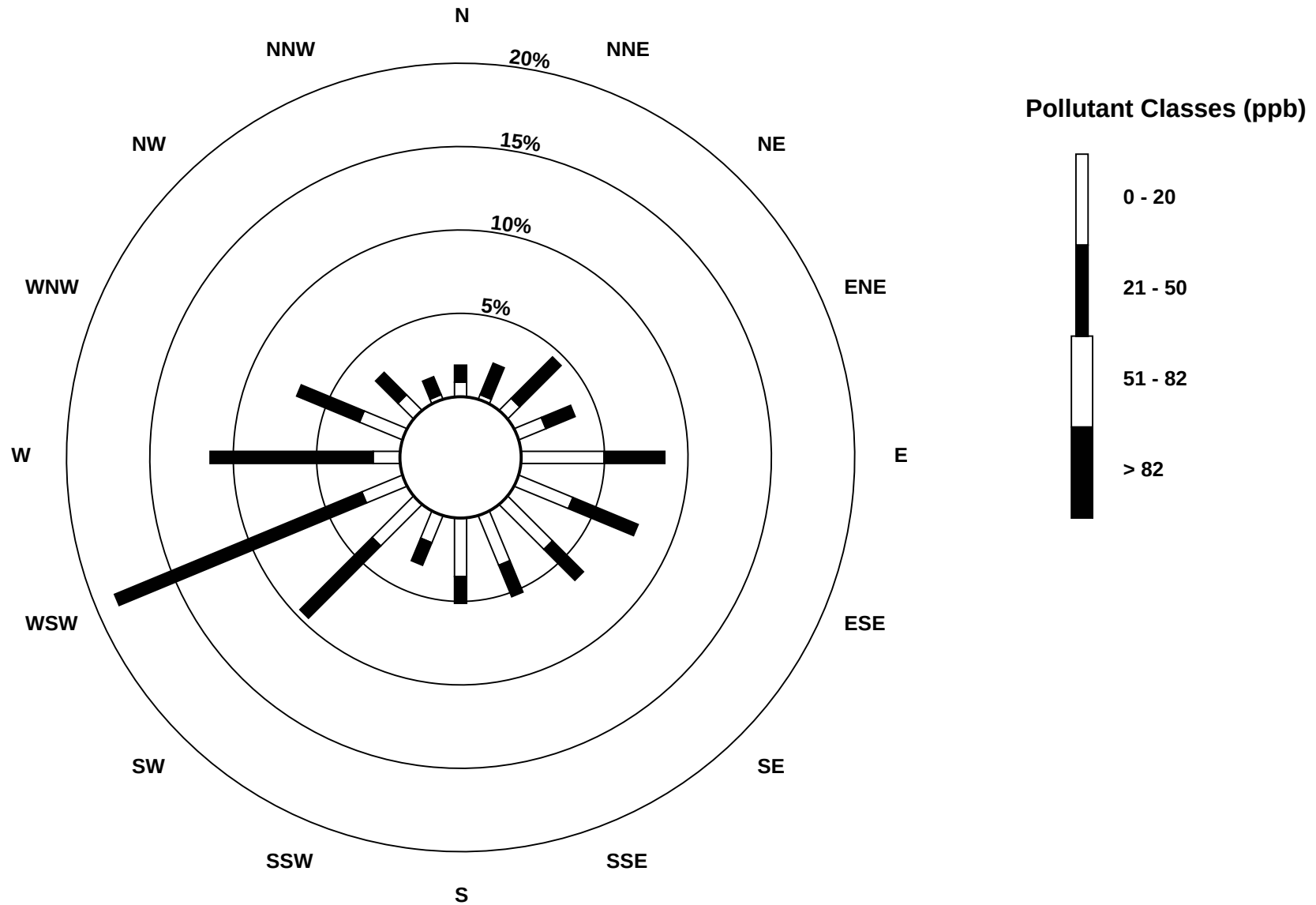
Hourly Maximums

Ozone (O₃) - ppb
Beaverlodge - September 2011



Pollutant Rose

Ozone (O₃) - ppb
Beaverlodge - September 2011



Eight Hour Running Averages

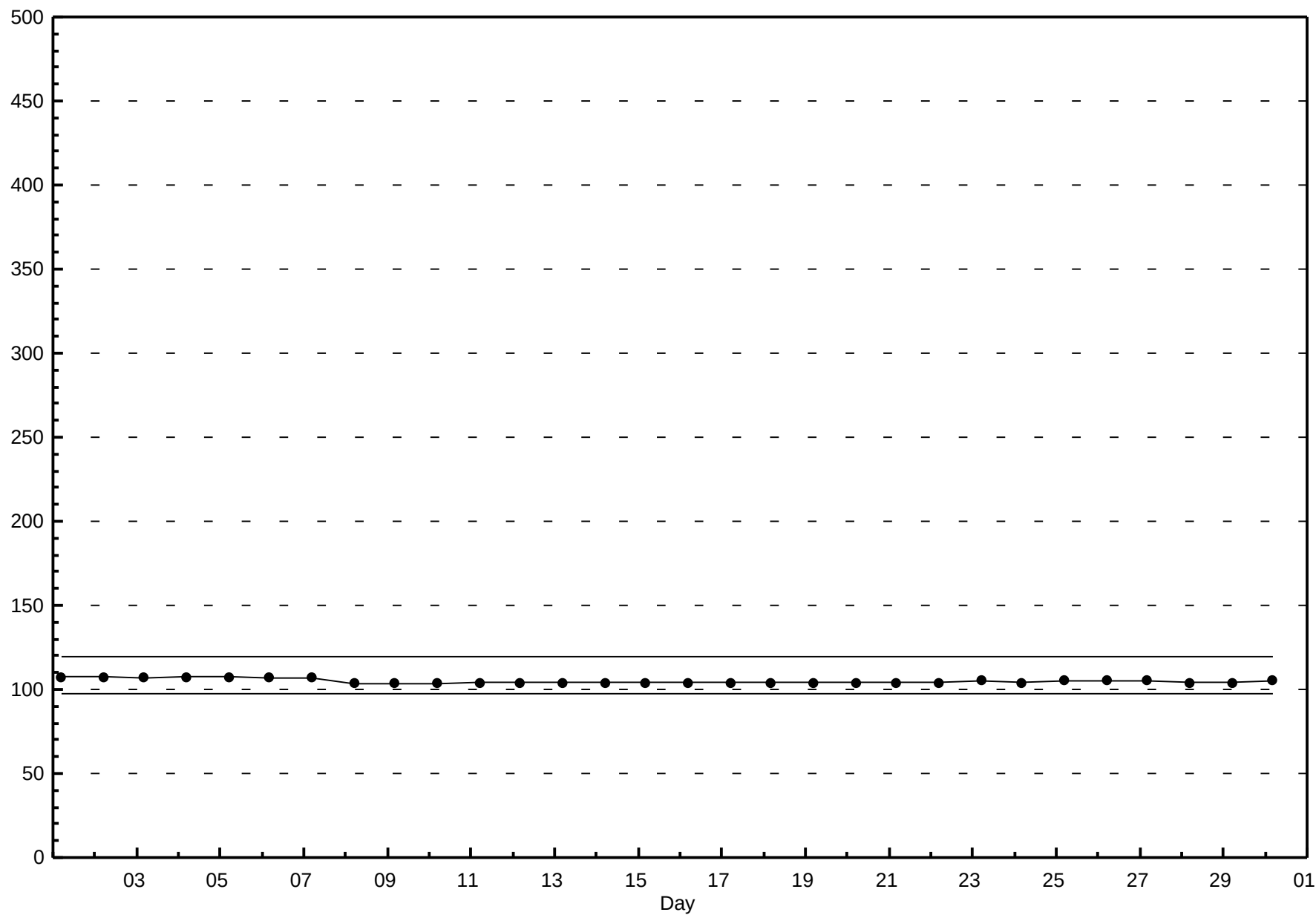
Ozone (O₃) - ppb

Beaverlodge - September 2011

Maximum Value: 39.8 ppb on Sep 23 21:00																								Hours in Service: 720	
Minimum Value: 5.0 ppb on Sep 14 11:00																								Hours of Data: 712	
																								Hours of Missing Data: 8	
Percentiles: P ₁ = 8.2 P ₁₀ = 13.9 Q ₁ = 17.6 Median = 22.8 Q ₃ = 27.2 P ₉₀ = 30.7 P ₉₉ = 35.5																								Hours of Calibration: 8	
																								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-Sep	19	17	15	14	14	12	10	9	8	8	9	10	11	12	14	15	17	19	20	22	22	24	25	26	25.9
2-Sep	26	26	25	24	24	23	21	20	18	17	17	16	17	17	18	19	20	20	21	20	19	18	16	15	26.2
3-Sep	14	14	13	13	13	13	13	13	13	13	13	15	16	17	19	20	21	22	22	22	21	21	20	20	22.2
4-Sep	19	18	18	18	18	18	17	17	17	18	19	20	21	22	23	23	24	24	24	24	23	22	22	22	24.1
5-Sep	22	21	20	20	19	18	16	15	13	13	15	16	18	19	21	24	25	26	27	27	28	28	29	29	29.2
6-Sep	30	30	29	28	28	26	24	22	19	17	16	16	17	19	22	25	28	30	32	33	33	32	31	30	33.1
7-Sep	29	28	28	28	28	27	25	23	22	22	22	22	22	22	N	N	N	N	N	N	N	N	24	23	29.1
8-Sep	23	22	20	19	18	16	14	13	12	11	12	14	16	19	21	24	26	27	27	26	25	24	22	20	27.3
9-Sep	19	18	17	17	16	16	16	16	15	16	17	18	20	21	23	25	27	28	29	28	27	26	26	24	28.6
10-Sep	23	22	22	22	21	21	21	21	22	23	24	26	27	30	31	33	34	36	36	35	35	34	34	33	35.6
11-Sep	32	30	28	27	26	25	24	23	23	24	27	28	29	30	31	33	34	35	35	35	34	34	32	31	34.8
12-Sep	30	27	26	24	23	19	15	12	10	9	9	12	15	19	23	27	31	33	34	34	32	31	29	27	34.4
13-Sep	25	23	21	21	20	19	18	18	17	16	16	15	16	17	17	18	20	21	22	22	22	21	20	18	24.8
14-Sep	17	15	13	12	11	10	8	7	6	5	5	6	9	12	15	19	23	26	28	29	30	30	29	28	29.8
15-Sep	27	26	24	23	22	20	16	13	10	9	9	10	13	16	20	24	25	27	27	25	23	20	17	15	27.2
16-Sep	14	14	13	13	14	14	14	13	13	12	13	13	14	15	16	17	18	18	20	21	21	22	22	23	22.8
17-Sep	23	23	22	21	21	20	20	20	20	21	22	23	23	24	25	26	27	27	27	27	26	25	24	23	27.5
18-Sep	22	21	19	18	17	16	16	14	13	12	13	13	14	14	14	17	19	21	22	25	27	28	29	29	29.5
19-Sep	28	27	27	25	24	24	23	24	24	24	25	25	25	24	24	25	25	25	24	24	24	24	23	22	27.6
20-Sep	21	20	20	19	19	18	17	17	17	18	18	19	21	23	25	28	31	33	34	34	34	33	32	31	34.1
21-Sep	29	28	27	26	25	25	23	21	20	18	17	15	15	15	15	16	17	19	21	23	24	25	26	27	29.3
22-Sep	28	29	30	32	32	33	33	32	31	30	29	28	29	29	29	29	30	30	30	31	30	29	28	28	33.0
23-Sep	28	28	27	26	25	23	21	19	18	16	14	14	16	19	23	26	30	33	37	39	40	39	37	34	39.8
24-Sep	32	29	28	26	25	24	23	23	23	23	22	22	24	26	28	30	32	33	33	33	32	31	30	29	33.4
25-Sep	28	27	27	26	25	23	22	19	17	14	12	12	13	14	15	16	18	20	22	25	27	28	30	31	30.7
26-Sep	32	33	33	32	31	29	28	27	25	25	25	25	26	26	27	29	30	31	31	31	30	29	28	27	33.1
27-Sep	26	25	23	22	22	21	20	19	17	16	18	20	22	24	26	28	30	32	32	31	31	30	29	28	32.1
28-Sep	27	27	26	26	26	25	25	25	25	25	25	26	26	26	26	26	27	27	27	26	26	25	24	24	27.2
29-Sep	23	22	21	21	21	20	18	17	15	14	13	13	14	15	16	18	20	21	22	23	23	22	21	20	22.8
30-Sep	18	17	17	16	15	15	14	15	18	21	23	25	26	28	30	31	31	31	30	30	30	29	28	28	31.0
31.9 33.0 33.1 31.7 32.3 33.0 32.9 32.2 31.3 30.1 29.1 28.5 29.2 30.0 31.5 32.8 34.4 35.6 36.7 38.8 39.8 39.1 36.9 34.3																									Diurnal Maximums
N - Not Valid																									

Span Responses

Ozone (O₃)
Beaverlodge - September 2011



Number of Exceedences: 1-hr: 0 24-hr: 0 Maximum Value: 22.2 µg/m³ on Sep 14 21:00 Maximum Daily Average: 12.2 µg/m³ on Sep 14																								Hours in Service: 720 Hours of Data: 713 Hours of Missing Data: 7 Hours of Calibration: 5 Percent Operational Time: 99.7		
Minimum Value: 0 µg/m³ on Sep 22 02:00 Maximum Diurnal Average: 5.8 µg/m³ at hour 21 Monthly Average: 5.02 µg/m³ Minimum Daily Average: 2.5 µg/m³ on Sep 24 Minimum Diurnal Average: 4.2 µg/m³ at hour 14 Percentiles: P ₁ = 0.1 P ₁₀ = 2.1 Q ₁ = 3.2 Median = 4.3 Q ₃ = 6.4 P ₉₀ = 9.1 P ₉₉ = 13.7																										
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-Sep	5	4	5	4	3	4	4	3	3	3	4	4	6	4	2	1	4	1	3	2	2	1	3	3	3.3	5.6
2-Sep	2	2	2	2	2	2	2	2	1	1	3	3	3	1	2	2	4	6	5	5	4	4	3	3	2.7	5.6
3-Sep	3	4	4	4	5	4	4	3	3	3	2	3	4	4	4	3	3	4	3	4	4	4	4	5	3.6	4.5
4-Sep	3	4	3	4	4	4	4	2	4	4	4	4	4	4	5	4	3	3	4	3	3	4	4	3	3.7	5.1
5-Sep	3	4	4	5	4	6	6	4	6	6	4	4	5	4	3	4	5	7	4	4	4	6	4	5	4.5	6.5
6-Sep	4	4	4	5	5	6	6	7	8	7	7	7	7	7	6	4	3	4	6	7	9	10	7	6	6.1	10.4
7-Sep	6	7	7	7	7	8	8	8	7	6	7	7	4	4	4	4	4	5	5	8	11	7	7	7	6.4	10.8
8-Sep	7	7	6	8	7	7	8	10	9	10	9	9	8	6	8	7	6	5	6	9	10	8	11	13	8.1	12.6
9-Sep	10	8	11	9	9	10	9	9	9	10	11	8	4	3	5	4	6	6	6	7	9	10	10	6	7.8	11.3
10-Sep	5	5	6	5	4	7	8	5	7	6	5	5	4	5	4	4	4	4	6	11	5	7	9	7	5.6	10.5
11-Sep	8	9	9	8	8	4	6	6	3	4	3	2	2	1	3	3	3	3	5	4	6	4	4	4	4.7	9.1
12-Sep	3	5	6	7	7	6	6	8	10	9	9	7	7	6	6	4	7	6	4	6	7	7	6	5	6.4	10.0
13-Sep	3	2	3	3	3	5	4	5	5	5	7	C	C	C	C	C	3	5	6	6	6	7	9	10	5.2	9.9
14-Sep	10	10	9	9	11	9	9	11	9	10	13	12	10	11	13	13	13	13	14	19	22	17	14	11	12.2	22.2
15-Sep	12	14	12	12	14	11	12	13	12	13	13	13	14	14	13	13	13	10	8	7	8	8	5	4	11.1	14.0
16-Sep	4	3	2	3	4	3	2	3	2	2	3	3	3	1	4	3	4	4	4	4	3	5	5	4	3.2	5.2
17-Sep	4	4	4	4	5	4	3	4	3	4	4	4	3	3	1	4	4	3	4	4	5	6	5	6	4.0	6.2
18-Sep	4	7	7	8	7	6	4	3	4	4	5	4	5	3	5	3	3	0	3	3	5	4	4	4	4.4	8.2
19-Sep	4	3	4	3	3	3	3	3	2	2	1	5	5	3	4	4	4	4	3	5	4	3	4	4	3.5	5.0
20-Sep	5	5	4	4	5	5	4	4	4	4	2	4	4	5	11	4	6	7	6	4	7	8	5	6	5.1	10.9
21-Sep	5	6	7	7	7	7	6	4	5	7	9	10	9	7	7	9	6	6	5	4	3	4	3	3	6.0	9.8
22-Sep	4	0	1	3	2	3	1	1	3	5	5	5	4	2	5	2	4	5	4	5	3	3	3	0	3.0	5.1
23-Sep	3	4	6	5	6	4	4	4	5	4	7	7	4	5	5	6	1	1	4	5	0	0	0	0	3.8	7.3
24-Sep	0	1	5	3	4	4	2	0	1	2	0	0	0	4	2	1	3	8	4	3	4	4	2	2	2.5	8.0
25-Sep	3	5	8	6	N	N	0	5	5	7	2	5	4	4	8	8	3	6	6	3	4	1	4	3	4.6	8.4
26-Sep	3	3	2	2	3	2	2	3	2	3	1	0	3	3	6	6	5	3	4	4	3	5	4	4	3.2	5.8
27-Sep	2	4	3	2	2	2	2	2	4	4	1	2	2	3	3	3	3	3	2	3	3	1	3	2	2.6	4.2
28-Sep	2	2	1	2	4	0	1	5	4	2	0	2	1	2	4	3	3	3	5	5	5	5	6	6	3.1	6.2
29-Sep	5	5	2	4	4	3	3	5	5	6	6	7	4	3	4	4	5	5	10	6	7	9	9	9	5.5	9.9
30-Sep	12	8	11	9	8	6	7	6	5	1	2	2	2	3	3	4	3	2	3	2	4	2	3	2	4.7	12.0
4.9 5.0 5.3 5.3 5.3 5.0 4.7 4.9 5.0 5.1 5.0 5.2 4.7 4.2 5.2 4.7 4.6 4.6 5.0 5.4 5.8 5.5 5.3 4.9																								Diurnal Average		
12.4 13.7 12.0 12.4 13.6 11.5 11.8 12.8 12.0 13.0 13.1 13.0 14.0 13.5 13.3 12.9 13.2 12.5 14.4 18.9 22.2 17.1 13.7 12.6																								Diurnal Maximum		
C - Calibration N - Not Valid																										
Alberta Ambient Air Quality Guideline (AAAQG): 1-hr 80 µg/m³ Alberta Ambient Air Quality Objective (AAAQO): 24-hr 30 µg/m³																										

Hourly Averages

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



Hourly Maximums

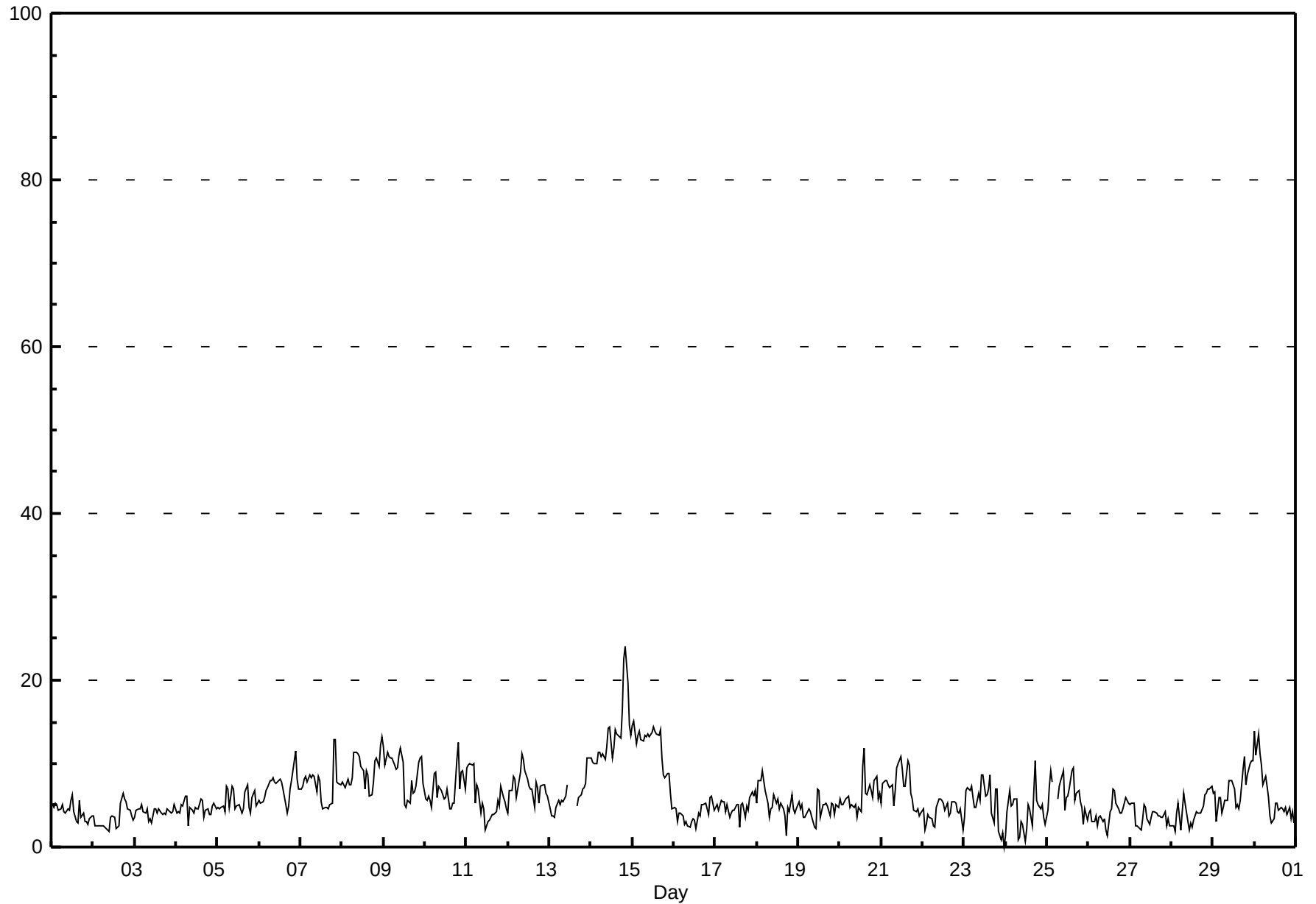
Particulate Matter 2.5 (PM_{2.5}) - µg/m³

Beaverlodge - September 2011

Maximum Value: 24.1 μg/m³ on Sep 14 21:00																				Maximum Daily Average: 13.5 μg/m³ on Sep 14					Hours in Service: 720	
Minimum Value: 0 μg/m³ on Sep 24 00:00																				Minimum Daily Average: 3.4 μg/m³ on Sep 2					Hours of Data: 713	
Maximum Diurnal Average: 6.8 μg/m³ at hour 21																				Minimum Diurnal Average: 5.6 μg/m³ at hour 14					Hours of Missing Data: 7	
Monthly Average: 6.13 μg/m³																				Percentiles: P ₁ = 1.3 P ₁₀ = 3.1 Q ₁ = 4.3 Median = 5.3 Q ₃ = 7.5 P ₉₀ = 10.3 P ₉₉ = 14.5					Hours of Calibration: 5	
																				Percent Operational Time: 99.7						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Sep	5	5	5	5	4	5	5	4	4	5	4	6	6	4	3	3	6	4	4	3	3	3	3	4	4.3	6.3
2-Sep	4	3	3	3	3	3	3	2	2	2	4	4	4	2	2	3	5	6	6	6	5	4	4	3	3.4	6.5
3-Sep	4	4	5	5	5	4	4	5	3	3	3	5	5	4	5	4	4	4	4	5	4	4	4	5	4.2	5.1
4-Sep	4	4	4	5	5	6	6	3	5	4	4	5	5	5	6	6	4	4	5	4	4	5	5	5	4.6	6.1
5-Sep	5	5	5	5	4	7	7	5	7	7	5	5	5	5	4	5	7	8	5	4	6	7	5	5	5.4	7.5
6-Sep	6	5	6	6	7	7	8	8	8	8	8	8	8	8	7	5	4	5	7	8	10	12	8	7	7.2	11.6
7-Sep	7	7	8	8	8	9	8	9	8	7	8	8	5	5	5	5	5	5	5	13	13	8	8	8	7.5	12.9
8-Sep	8	7	7	8	7	7	8	11	11	11	11	10	9	7	9	9	6	6	8	10	11	10	12	13	9.1	13.2
9-Sep	12	10	11	11	11	11	10	9	9	11	12	10	5	5	6	5	8	6	7	7	10	11	11	8	9.0	12.1
10-Sep	6	6	6	6	5	9	9	6	7	7	6	6	6	7	5	5	5	5	11	13	7	9	9	7	6.9	12.6
11-Sep	9	10	10	10	10	5	7	7	4	5	5	2	3	3	4	4	4	4	6	5	7	6	5	5	5.8	10.0
12-Sep	4	7	7	8	8	6	8	9	11	10	9	8	7	7	7	5	8	7	5	7	8	7	7	6	7.4	11.1
13-Sep	5	4	4	4	5	6	5	6	5	6	7	C	C	C	C	C	5	6	6	7	7	8	11	11	6.1	10.7
14-Sep	11	10	10	10	11	11	11	11	11	12	14	14	11	12	14	14	13	13	16	23	24	20	15	13	13.5	24.1
15-Sep	15	15	12	13	14	13	13	13	13	14	13	14	14	14	14	13	14	11	9	8	9	9	6	5	12.0	15.1
16-Sep	5	5	3	4	4	4	3	3	3	2	3	3	3	2	4	4	5	5	5	5	4	6	6	4	4.0	6.0
17-Sep	5	5	4	6	5	5	4	5	4	4	4	4	5	5	2	5	5	4	5	4	6	7	6	7	4.9	6.8
18-Sep	5	8	8	9	8	7	5	3	5	5	6	5	6	5	5	5	4	1	5	4	6	5	4	5	5.4	9.2
19-Sep	6	5	5	4	4	4	5	4	3	2	2	7	7	4	5	5	5	5	4	5	5	4	5	5	4.5	7.0
20-Sep	6	5	5	6	6	6	5	5	5	5	4	5	4	10	12	6	6	7	7	6	8	8	6	7	6.2	11.9
21-Sep	5	8	8	8	7	7	8	5	7	9	10	11	9	7	7	10	10	6	6	4	4	5	4	4	7.1	10.9
22-Sep	5	2	3	4	4	3	3	2	5	6	6	6	5	4	5	4	4	6	5	5	4	4	5	2	4.2	5.8
23-Sep	4	7	7	7	7	6	5	5	7	6	9	9	6	6	7	9	4	3	7	7	2	1	2	0	5.4	8.7
24-Sep	1	4	7	5	5	6	6	1	1	3	3	1	2	5	5	2	7	10	6	5	5	5	3	3	4.2	10.4
25-Sep	4	7	9	8	N	N	6	7	8	9	4	6	6	7	9	9	6	6	7	5	5	3	5	3	6.4	9.4
26-Sep	4	4	3	3	4	3	3	4	3	3	2	1	4	4	7	7	5	5	4	4	5	6	6	5	4.2	7.0
27-Sep	5	5	5	3	3	2	2	3	5	5	3	3	4	4	4	4	4	4	4	4	4	3	3	3	3.7	5.3
28-Sep	3	3	2	4	5	2	4	6	5	3	2	3	2	3	4	4	4	4	5	6	6	7	7	7	4.3	7.2
29-Sep	6	7	3	6	6	4	5	6	6	8	8	8	7	5	5	5	6	9	11	7	9	10	10	10	6.9	10.8
30-Sep	14	11	14	11	10	7	8	7	6	4	3	3	5	5	4	5	5	4	5	4	5	3	4	3	6.3	13.8
6.0 6.2 6.3 6.4 6.4 6.0 6.1 5.8 6.1 6.2 6.1 6.1 5.9 5.6 6.1 5.8 5.9 5.8 6.2 6.6 6.8 6.5 6.3 5.7																									Diurnal Average	
14.6 15.1 13.6 13.4 13.9 12.9 12.6 13.4 13.3 13.6 14.3 14.3 14.4 13.8 14.1 13.6 14.1 13.1 16.4 22.5 24.1 19.7 14.5 13.3																									Diurnal Maximum	
C - Calibration N - Not Valid																										

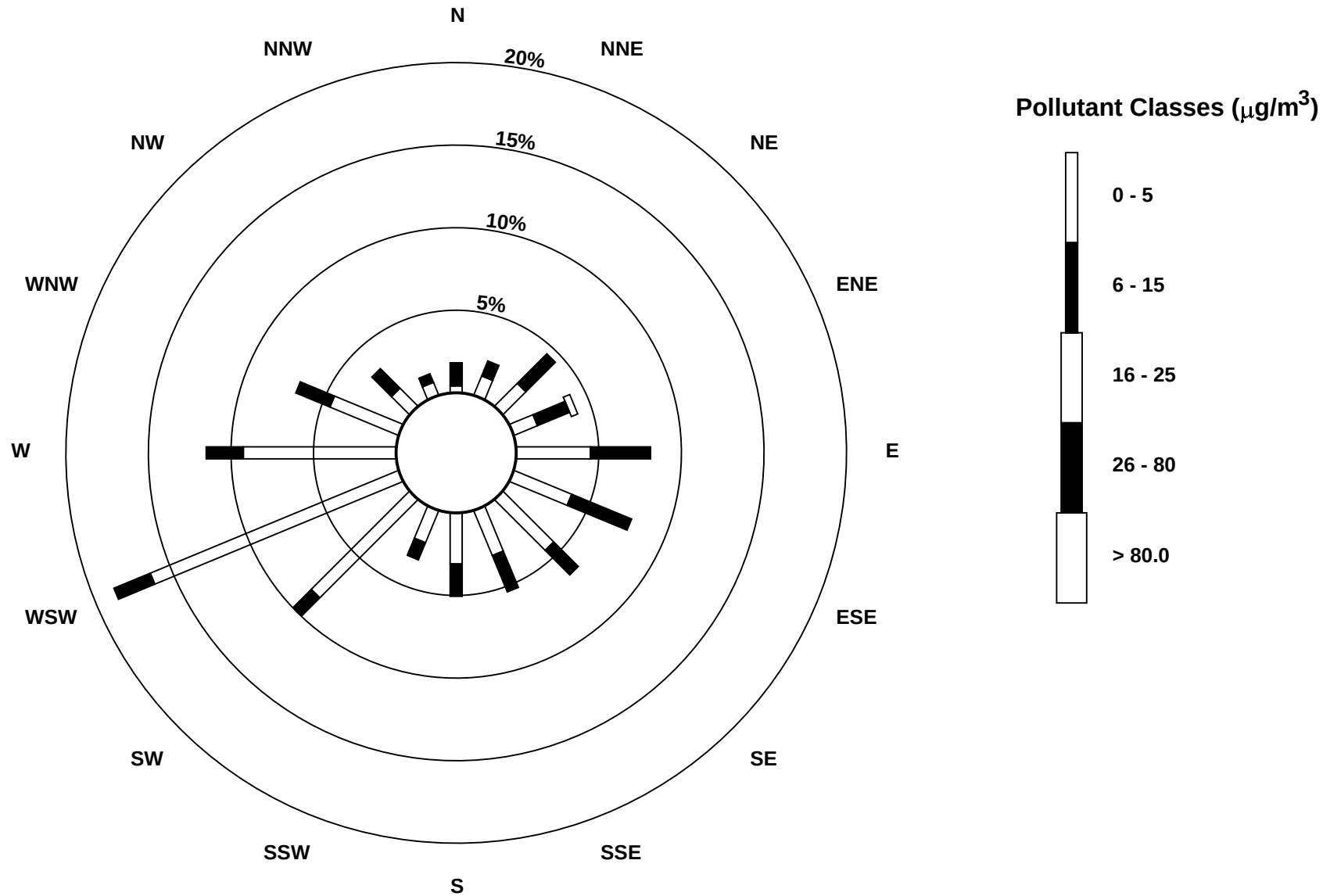
Hourly Maximums

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



Pollutant Rose

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



Hourly Averages

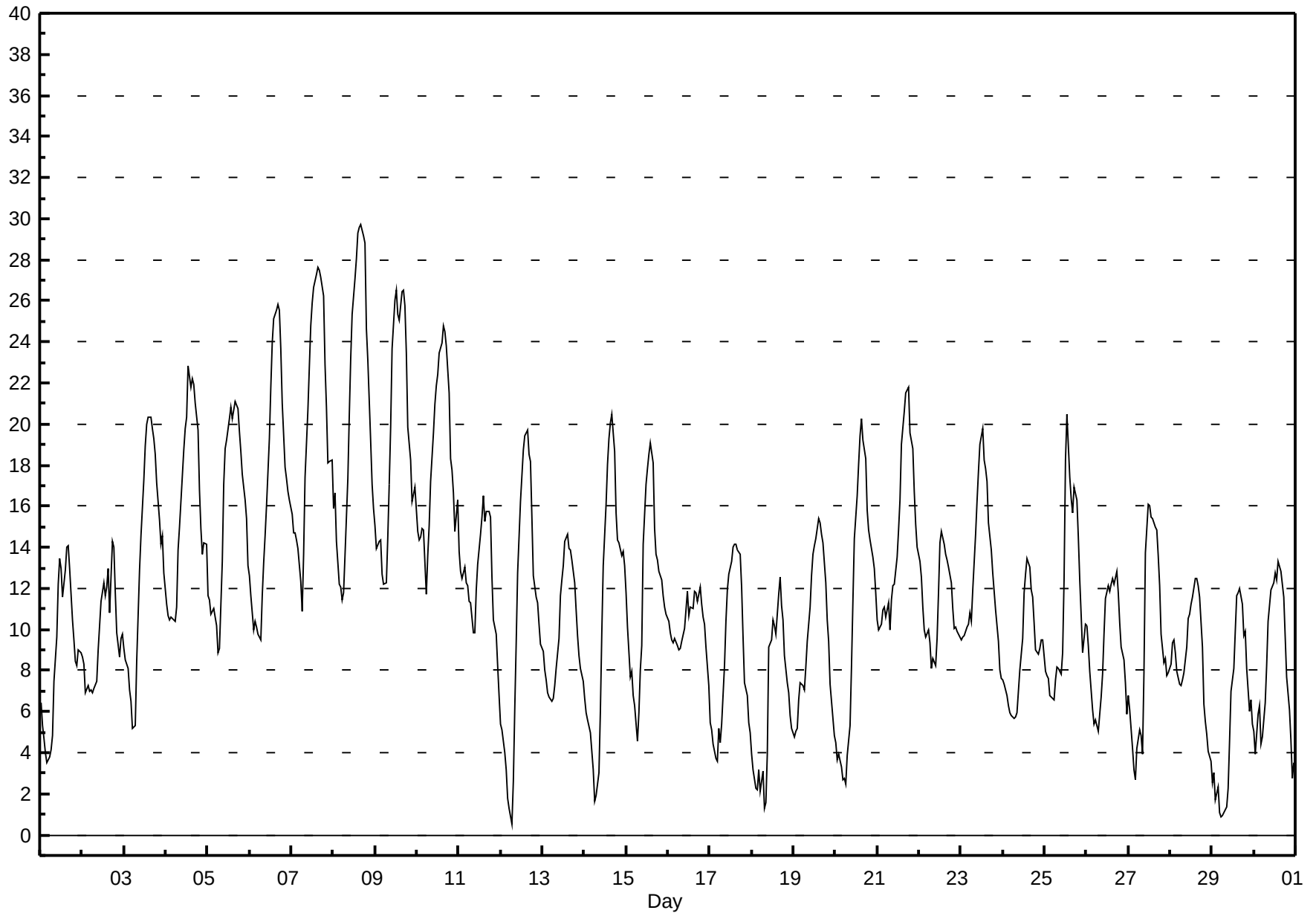
External Temperature (ET) - °C

Beaverlodge - September 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 29.7 °C on Sep 8 17:00 Maximum Daily Average: 20.7 °C on Sep 8																								Hours in Service: 720 Hours of Data: 720 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0		
Minimum Value: 1 °C on Sep 12 07:00 Minimum Daily Average: 5.8 °C on Sep 29 Maximum Diurnal Average: 17.7 °C at hour 16 Minimum Diurnal Average: 7.2 °C at hour 7 Monthly Average: 12.07 °C Percentiles: P ₁ = 1.3 P ₁₀ = 5.1 Q ₁ = 8.0 Median = 11.6 Q ₃ = 15.1 P ₉₀ = 19.9 P ₉₉ = 27.4																										
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
1-Sep	6	5	5	4	4	4	4	5	7	10	12	13	13	12	13	14	14	13	10	9	8	8	9	9	8.9	14.0
2-Sep	9	8	7	7	7	7	7	7	7	9	10	11	12	12	12	13	11	14	14	12	10	9	10	10	9.8	14.3
3-Sep	9	9	8	7	7	5	5	8	11	13	15	17	19	20	20	20	20	19	19	17	15	14	15	13	13.5	20.4
4-Sep	11	11	10	11	11	10	11	14	15	18	19	20	20	23	22	22	22	21	20	17	15	14	14	14	16.0	22.8
5-Sep	12	11	11	11	11	10	9	9	13	17	19	19	20	21	20	21	21	21	20	19	18	16	15	13	15.7	21.1
6-Sep	13	12	10	10	10	10	9	12	13	15	16	19	22	24	25	26	26	26	24	21	18	17	17	16	17.1	25.8
7-Sep	16	15	15	14	14	12	11	14	17	21	23	25	26	27	27	28	27	27	26	23	21	18	18	18	20.1	27.7
8-Sep	16	17	14	12	12	11	12	14	17	20	23	25	27	28	29	30	30	29	29	25	23	19	17	16	20.7	29.7
9-Sep	15	14	14	14	13	12	12	14	17	20	24	26	27	25	25	26	27	26	23	20	18	16	17	17	19.3	26.5
10-Sep	15	14	15	15	15	12	14	15	17	20	21	22	22	23	24	25	25	24	22	18	18	17	15	16	18.4	24.8
11-Sep	14	13	12	13	12	12	11	11	10	10	12	13	15	15	17	15	16	16	15	13	10	10	8	7	12.5	16.5
12-Sep	5	5	4	3	2	1	1	3	6	9	13	16	17	19	19	20	19	18	15	13	12	11	10	9	10.5	19.7
13-Sep	9	8	8	7	7	7	7	7	8	10	12	12	13	14	15	14	14	13	12	11	10	9	8	7	10.0	14.6
14-Sep	7	6	6	5	4	3	2	2	3	6	10	13	16	18	19	20	20	19	16	14	14	14	14	13	11.0	20.4
15-Sep	12	10	8	8	7	6	5	6	8	9	14	17	18	18	19	18	15	14	13	13	12	12	11	11	11.8	19.1
16-Sep	10	10	9	9	10	9	9	9	9	10	11	12	11	11	11	12	12	11	12	11	11	10	9	7	10.3	12.1
17-Sep	5	5	4	4	4	5	4	5	8	10	12	13	13	14	14	14	14	14	12	10	7	7	5	5	8.8	14.1
18-Sep	4	3	2	2	3	2	3	1	2	4	9	9	10	10	10	12	13	11	10	9	7	7	6	5	6.5	12.5
19-Sep	5	5	5	7	7	7	7	8	9	11	13	14	14	14	15	15	15	14	12	10	9	7	7	5	9.9	15.4
20-Sep	5	4	4	3	3	3	2	4	5	8	11	14	17	18	19	20	19	18	16	15	14	14	13	12	10.9	20.3
21-Sep	10	10	10	11	11	11	11	10	11	12	12	14	15	16	19	21	21	22	22	20	19	17	15	14	14.7	21.8
22-Sep	13	13	11	10	10	10	9	8	9	8	10	12	14	15	14	14	13	13	12	11	10	10	10	10	11.2	14.8
23-Sep	10	10	10	10	10	11	10	12	15	16	18	19	20	18	18	17	15	14	13	12	11	9	8	8	13.0	19.7
24-Sep	8	7	7	6	6	6	6	6	6	7	8	10	12	13	13	13	12	12	10	9	9	9	10	9	8.8	13.4
25-Sep	8	8	8	7	7	7	8	8	8	8	9	12	18	20	17	16	16	17	16	15	12	11	9	10	11.4	20.4
26-Sep	10	9	8	6	5	6	5	5	7	8	10	12	12	12	12	12	12	13	12	10	9	9	7	6	9.1	12.8
27-Sep	7	6	4	3	3	4	5	5	4	8	14	16	16	15	15	15	15	14	12	10	8	9	8	8	9.3	16.1
28-Sep	8	9	9	9	8	7	7	8	8	9	11	11	11	12	12	12	12	12	9	6	6	5	4	4	8.7	12.5
29-Sep	3	3	2	2	1	1	1	1	1	2	5	7	8	10	12	12	12	12	11	10	8	6	7	5	5.8	12.0
30-Sep	5	4	6	6	4	5	6	8	10	11	12	12	13	12	13	13	12	12	10	8	6	5	3	4	8.3	13.3
																								Diurnal Average		
																								Diurnal Maximum		

Hourly Averages

External Temperature (ET) - °C
Beaverlodge - September 2011



Hourly Averages

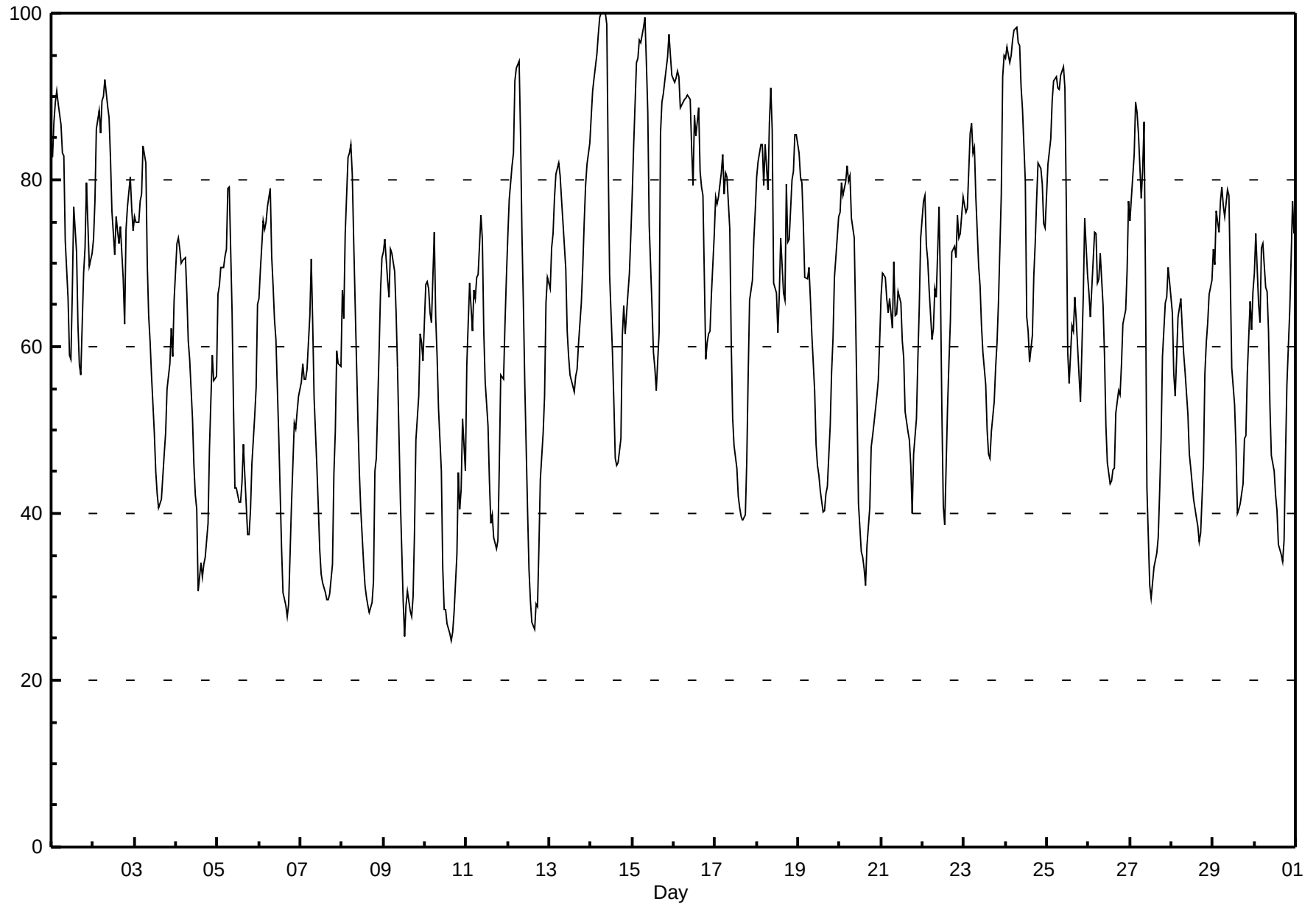
Relative Humidity (RH) - %

Beaverlodge - September 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 100.0 % on Sep 14 07:00 Maximum Daily Average: 84.7 % on Sep 15																								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 Sep 10 16:00 Maximum Diurnal Average: 79.3 % at hour 6 Monthly Average: 63.57 %												Minimum Daily Average: 46.0 % on Sep 10 Minimum Diurnal Average: 45.3 % at hour 16 Percentiles: P ₁ = 27.7 P ₁₀ = 38.4 Q ₁ = 49.9 Median = 65.2 Q ₃ = 77.0 P ₉₀ = 87.7 P ₉₉ = 98.1														
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-Sep	83	87	89	91	89	87	83	83	73	66	59	59	67	77	71	63	58	57	69	72	80	75	70	71	73.9	90.7
2-Sep	73	77	86	88	86	90	90	92	89	87	83	76	71	76	74	72	74	68	63	74	77	80	77	74	79.0	92.0
3-Sep	76	75	75	77	78	84	82	70	64	61	57	50	45	42	41	42	44	47	50	55	58	62	59	66	60.8	84.1
4-Sep	72	73	72	70	70	71	66	61	59	51	46	42	41	31	34	32	34	35	39	48	54	59	56	56	53.0	73.0
5-Sep	66	67	69	69	71	72	79	79	64	53	43	43	41	41	44	48	44	38	37	40	46	52	55	65	55.4	79.1
6-Sep	66	69	75	74	75	77	79	71	67	63	61	49	42	36	31	29	28	29	35	41	51	50	52	54	54.4	79.0
7-Sep	56	58	56	56	57	64	71	63	54	45	41	36	33	32	31	30	30	30	34	45	50	59	58	58	47.7	70.5
8-Sep	67	63	74	83	83	84	81	73	58	51	45	41	34	31	30	29	28	29	32	45	47	60	67	71	54.4	84.3
9-Sep	71	73	68	66	72	71	69	64	57	50	42	29	25	29	31	28	28	30	38	49	54	62	60	58	51.0	72.8
10-Sep	67	68	67	64	63	74	64	59	53	45	33	28	28	27	26	25	26	28	35	45	40	43	51	45	46.0	73.7
11-Sep	58	63	68	62	67	66	68	69	76	73	62	56	50	44	39	40	37	36	37	46	57	56	63	68	56.6	75.8
12-Sep	73	78	82	83	92	93	94	85	73	65	56	40	33	29	27	26	29	29	36	44	50	54	65	68	58.6	94.2
13-Sep	67	72	74	78	81	82	81	78	75	69	62	59	57	56	55	56	57	60	65	69	75	79	82	84	69.7	84.4
14-Sep	88	91	92	95	97	99	100	100	100	99	82	69	59	53	47	46	46	49	61	65	62	66	69	73	75.4	100.0
15-Sep	78	84	94	95	97	96	98	99	94	88	75	65	59	57	55	62	86	89	90	92	95	98	95	93	84.7	99.5
16-Sep	92	92	93	92	89	89	90	90	90	90	84	79	88	85	89	81	79	78	58	61	62	62	66	73	81.3	93.1
17-Sep	78	77	78	81	83	78	81	80	74	61	52	48	45	42	41	40	39	40	46	57	66	68	73	76	62.6	83.1
18-Sep	80	82	84	84	79	84	79	87	91	86	68	66	62	66	73	66	66	80	73	73	80	81	85	85	77.6	91.1
19-Sep	83	80	80	75	68	68	70	66	62	55	48	46	45	43	40	40	42	43	51	57	61	68	71	76	59.9	83.2
20-Sep	76	80	78	80	82	80	81	75	73	63	53	41	35	35	33	31	36	41	48	49	51	54	56	61	58.0	81.6
21-Sep	66	69	68	66	64	66	62	70	64	64	67	65	61	59	52	50	49	46	40	47	51	59	65	73	60.0	73.1
22-Sep	77	78	72	70	67	61	62	67	66	77	67	52	41	39	53	58	63	71	72	71	76	73	74	78	66.0	78.1
23-Sep	77	76	77	86	87	83	84	78	70	67	63	59	55	50	47	47	50	53	57	61	65	78	92	95	69.0	94.9
24-Sep	95	96	94	95	97	98	98	96	96	91	88	80	64	62	58	61	69	72	78	82	81	79	75	74	82.5	98.3
25-Sep	82	83	85	90	92	92	91	91	93	94	91	77	59	56	63	62	66	63	57	53	60	66	75	69	75.4	93.6
26-Sep	66	63	67	74	74	68	68	71	65	59	51	46	44	44	45	45	52	55	54	58	63	64	69	77	60.1	77.4
27-Sep	75	78	83	89	88	86	78	81	87	68	43	31	30	32	34	35	37	43	49	59	65	66	69	68	61.4	89.4
28-Sep	64	57	54	59	64	66	62	59	57	52	47	45	44	42	40	38	37	38	46	57	61	63	66	68	53.5	67.9
29-Sep	72	70	76	74	78	79	77	76	79	78	68	57	53	48	40	41	41	44	49	49	57	65	62	67	62.4	79.1
30-Sep	69	74	65	63	72	72	67	67	62	53	47	45	42	40	36	35	34	37	47	55	64	71	77	74	57.0	77.5
73.8 75.1 76.5 77.6 78.7 79.3 78.5 76.7 72.8 67.5 59.3 52.7 48.4 46.8 45.9 45.3 47.0 48.6 51.5 57.3 61.8 65.8 68.5 70.6																								Diurnal Average		
94.7 96.0 94.1 95.1 97.4 99.5 100.0 100.0 100.0 98.7 91.1 79.9 87.7 85.2 88.6 81.0 85.7 89.4 90.3 91.8 94.8 97.5 95.0 94.9																								Diurnal Maximum		

Hourly Averages

Relative Humidity (RH) - %
Beaverlodge - September 2011



Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Beaverlodge - September 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	4	4	5	4	5	4	5	5	7	8	9	8	7	4	3	10	17	28	28	19	12	12	15	16	6.6	28.0
Dir	133	139	125	100	107	116	140	133	153	148	157	166	248	322	110	181	241	248	236	233	228	242	251	251	216	248
2 Spd	18	15	12	11	19	17	17	17	14	17	19	18	17	16	16	17	11	8	12	10	8	2	7	8	12.5	18.8
Dir	259	266	279	280	283	277	284	284	288	296	307	307	296	297	295	283	300	300	276	246	245	186	223	212	282	283
3 Spd	5	4	5	6	7	3	2	3	5	6	8	12	18	25	22	19	20	18	18	9	5	6	8	3	8.0	25.2
Dir	170	169	165	170	164	108	107	139	201	176	198	222	250	267	259	239	252	258	255	254	234	241	247	174	236	267
4 Spd	4	4	4	3	4	4	2	2	3	10	11	14	11	33	30	36	33	34	25	13	2	2	3	5	9.1	36.5
Dir	92	89	107	89	104	118	87	54	121	183	199	224	233	265	263	258	256	252	254	247	210	81	263	236	246	258
5 Spd	1	1	4	10	1	7	3	2	3	6	14	10	6	5	8	6	5	21	18	22	12	9	11	2	4.8	22.5
Dir	137	136	216	245	215	222	173	89	107	222	248	248	212	143	106	104	244	265	288	276	295	323	322	208	259	276
6 Spd	2	1	4	3	4	3	3	2	2	6	7	7	9	9	20	23	21	18	16	9	1	4	5	3	4.9	22.9
Dir	24	123	137	136	91	149	196	151	186	178	158	142	180	200	259	249	233	239	272	265	159	162	110	143	219	249
7 Spd	2	3	3	5	0	2	3	2	7	12	19	29	31	30	25	23	25	21	8	3	2	4	3	2	8.5	30.9
Dir	93	100	127	212	234	152	165	114	200	220	229	246	253	258	265	266	269	267	292	24	37	64	71	356	252	253
8 Spd	3	5	2	4	4	3	3	5	3	3	4	6	10	12	7	11	12	17	3	0	5	3	2	3	2.0	16.9
Dir	62	55	165	61	63	84	137	122	186	175	196	166	219	244	244	268	271	270	301	360	320	353	192	91	240	270
9 Spd	5	4	2	5	3	2	4	4	4	6	14	27	29	27	22	33	32	31	19	14	11	5	6	11	10.7	32.6
Dir	52	91	109	49	75	131	133	116	167	188	228	250	262	259	245	245	250	253	248	245	245	251	292	266	247	245
10 Spd	2	8	8	2	34	23	10	11	9	10	17	15	11	9	7	5	7	6	5	6	7	4	1	6	2.7	33.8
Dir	227	223	233	339	82	116	318	315	299	287	288	299	289	317	338	32	55	58	79	54	47	41	36	305	349	82
11 Spd	4	1	6	14	1	4	12	16	25	20	11	5	4	4	3	4	5	3	3	1	6	6	2	2	5.5	25.1
Dir	4	97	23	29	141	358	344	6	23	12	5	339	301	356	318	325	239	235	255	47	38	43	37	45	6	23
12 Spd	4	0	2	1	1	1	1	3	5	5	5	3	5	3	3	5	7	8	9	10	7	12	22	24	3.8	24.2
Dir	44	322	34	247	188	263	94	273	289	262	239	286	322	47	118	35	19	36	27	29	43	57	70	80	44	80
13 Spd	29	22	13	11	11	11	16	11	15	16	17	17	19	24	28	25	24	23	17	16	15	15	17	13	17.6	28.8
Dir	88	89	84	76	79	90	95	95	94	95	93	86	90	91	92	99	99	97	98	99	96	92	97	91	92	88
14 Spd	10	8	4	2	0	1	0	1	3	1	3	3	3	3	6	8	8	11	7	8	8	7	8	3	4.0	11.1
Dir	88	79	91	134	213	261	6	126	267	180	176	166	146	121	82	89	94	115	104	74	78	78	69	74	95	115
15 Spd	3	6	3	2	3	1	4	6	4	5	4	4	5	5	4	13	4	11	10	10	7	8	7	9	4.3	12.9
Dir	236	297	41	360	39	312	263	3	301	291	35	287	298	6	272	263	263	311	317	311	286	252	261	253	295	263
16 Spd	6	9	10	9	9	9	7	9	11	12	18	24	24	25	22	24	19	14	30	22	20	19	13	8	14.3	30.3
Dir	240	234	236	239	234	234	251	254	233	238	257	282	294	292	294	290	299	294	260	256	260	252	249	247	267	260
17 Spd	7	8	7	4	1	7	5	5	12	29	33	35	37	37	36	34	33	31	25	16	8	8	5	6	17.4	37.1
Dir	224	231	227	229	236	251	219	224	243	263	258	266	259	265	261	263	254	260	257	253	249	242	224	201	255	265
18 Spd	2	3	4	4	3	5	3	3	5	7	4	4	6	8	8	15	17	11	16	18	9	5	6	7	4.7	18.1
Dir	144	77	118	91	84	59	106	190	214	47	167	174	143	185	200	215	205	188	226	258	238	176	180	204	196	258
19 Spd	5	10	7	10	16	16	15	15	26	37	36	32	28	25	29	30	30	25	16	19	17	6	4	5	18.4	36.8
Dir	225	222	225	239	250	252	253	254	256	262	266	268	266	271	270	262	253	244	246	249	235	211	130	130	256	262
20 Spd	4	5	3	3	4	4	3	4	5	3	6	12	14	13	13	16	17	17	14	14	13	6	5	3	7.5	16.7
Dir	142	125	77	110	84	106	119	155	157	184	161	167	161	154	156	138	124	116	108	101	110	98	91	135	130	124
21 Spd	3	2	3	1	4	6	4	3	3	2	2	4	7	8	16	17	17	14	17	12	22	16	13	15	2.4	22.4
Dir	142	97	112	38	66	84	122	142	97	125	157	149	116	111	120	119	117	177	202	243	290	303	292	273	171	290
22 Spd	17	22	23	13	15	30	21	12	10	6	8	12	12	13	11	8	6	4	3	8	5	5	7	6	7.7	29.6
Dir	264	263	263	257	264	260	254	263	252	172	227	275	252	232	171	150	155	137	326	334	37	13	31	59	255	260



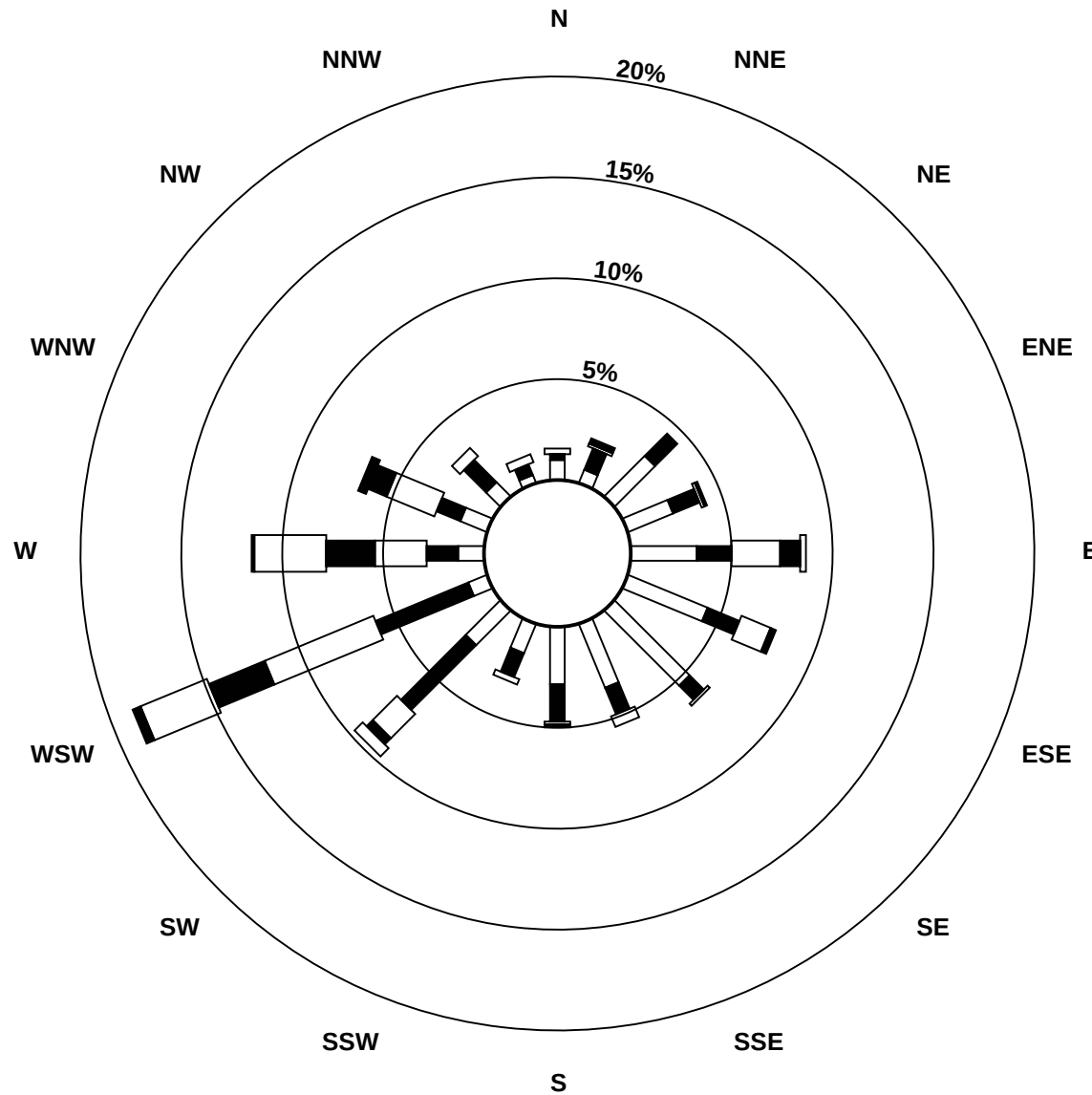
Hourly Averages

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

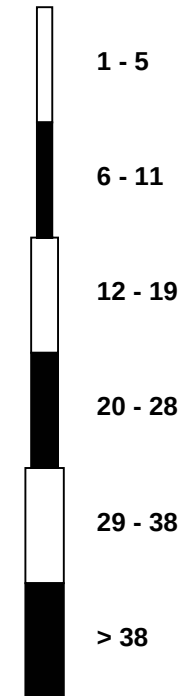
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
23 Spd	5	10	14	12	11	9	7	10	10	3	12	17	27	42	47	43	44	35	27	19	15	10	6	8	10.4	46.8
Dir	87	114	102	111	126	129	118	88	98	183	330	323	295	284	284	282	278	280	275	272	273	252	218	225	278	284
24 Spd	7	11	12	11	6	7	7	11	6	5	7	9	6	6	3	8	9	9	8	10	11	12	15	10	1.9	14.8
Dir	232	245	263	258	236	220	222	259	265	242	216	242	260	278	274	172	142	105	45	43	47	81	85	110	216	85
25 Spd	2	3	2	4	3	2	5	3	1	3	8	7	5	3	16	11	8	5	15	26	18	10	14	18	4.3	26.1
Dir	152	150	107	167	139	194	111	221	104	185	322	16	66	220	283	332	20	43	247	257	269	259	250	257	267	257
26 Spd	25	25	16	11	8	9	8	6	7	10	8	4	6	12	16	23	20	7	8	10	5	4	3	4	3.8	25.3
Dir	251	255	258	248	254	263	234	255	246	243	216	127	118	111	82	104	180	118	65	92	124	137	165	61	199	251
27 Spd	2	8	1	2	4	4	5	4	5	7	7	27	30	32	39	33	32	32	27	16	16	15	8	10	13.8	38.8
Dir	307	327	289	145	152	101	147	128	201	231	224	230	228	237	238	236	230	236	228	221	240	247	233	231	232	238
28 Spd	18	24	31	31	29	32	29	27	28	31	36	34	32	32	31	26	28	21	15	11	8	3	3	3	22.8	35.9
Dir	244	249	251	256	246	248	253	257	255	260	265	267	258	259	261	252	259	255	251	241	245	224	54	115	255	265
29 Spd	4	3	5	4	0	5	3	3	3	5	4	4	5	5	9	11	13	7	6	3	3	3	3	2	2.8	13.3
Dir	65	101	125	69	208	295	64	183	183	214	176	155	164	133	128	125	102	82	29	43	281	135	176	147	121	102
30 Spd	1	4	2	1	13	15	13	10	31	34	39	38	38	37	36	39	35	31	25	17	17	12	5	6	18.4	39.4
Dir	242	59	136	230	319	336	353	314	268	261	247	246	244	239	250	257	248	249	240	240	238	236	212	270	255	247
Spd	1.5	2.3	2.4	1.8	1.0	2.6	2.2	2.2	4.2	6.3	8.5	10.0	10.7	11.1	10.5	10.6	10.8	10.3	9.4	6.6	4.4	1.9	1.2	2.2	Diurnal Average	
Dir	211	227	223	236	211	235	244	262	248	247	249	254	253	257	256	248	244	250	253	256	261	249	225	217		
Spd	28.8	25.2	30.8	30.9	33.8	32.4	28.9	27.0	30.9	36.8	39.4	37.8	38.2	42.0	46.8	42.8	43.8	35.4	30.3	26.1	22.4	18.5	21.7	24.2	Diurnal Maximum	
Dir	88	255	251	256	82	248	253	257	268	262	247	246	244	284	284	282	278	280	260	257	290	252	70	80		
Maximum Speed Value: 47 km/h on Sep 23 15:00							Minimum Speed Value: 0 km/h on Sep 7 05:00													Hours in Service:				720		
Maximum Daily Speed Average: 22.8 km/h on Sep 28							Minimum Daily Speed Average: 1.9 km/h on Sep 29													Hours of Data:				720		
Maximum Diurnal Speed Average: 11.1 km/h at hour 14							Minimum Diurnal Speed Average: 1.0 km/h at hour 5													Hours of Missing Data:				0		
Monthly Average Velocity: 5.54 km/h 248.9 deg							Speed Percentiles: P ₁ = 0.6 P ₁₀ = 2.6 Q ₁ = 4.1 Median = 7.9 Q ₃ = 15.9 P ₉₀ = 27.0 P ₉₉ = 38.7													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	11		6		4		1		0		0		22													
NorthEast	31		23		3		1		0		0		58													
East	46		24		26		8		3		0		107													
SouthEast	60		21		10		1		0		0		92													
South	35		26		5		1		0		0		67													
SouthWest	29		56		30		9		10		3		137													
West	17		30		52		38		45		5		187													
NorthWest	12		18		17		3		0		0		50													
Total	241		204		147		62		58		8		720													

Wind Rose

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



Wind Speed Classes (km/h)



Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Beaverlodge - September 2011

Maximum Speed: 47 km/h on Sep 23 15:00																				Maximum Daily Speed Average: 23.7 km/h on Sep 28										Hours in Service: 720	
Minimum Speed: 1 km/h on Sep 14 08:00																				Minimum Daily Speed Average: 5.4 km/h on Sep 14										Hours of Data: 720	
Maximum Diurnal Speed Average: 19.7 km/h at hour 16																				Minimum Diurnal Speed Average: 7.5 km/h at hour 4										Hours of Missing Data: 0	
Monthly Average Speed: 11.94 km/h																				Percentiles: P ₁ = 2.1 P ₁₀ = 3.6 Q ₁ = 5.0 Median = 8.4 Q ₃ = 16.2 P ₉₀ = 27.5 P ₉₉ = 39.2										Percent Operational Time: 100.0	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24							
1-Sep	5	5	5	5	5	4	5	5	7	8	10	8	8	5	4	10	18	28	28	19	12	13	15	16	10.3	28.2					
2-Sep	18	15	12	11	19	17	17	17	14	17	19	18	18	17	16	17	11	9	12	10	8	3	7	8	13.7	18.9					
3-Sep	6	4	5	6	7	3	2	3	5	7	9	13	19	26	22	20	20	18	18	9	6	7	8	4	10.3	25.5					
4-Sep	4	4	4	4	4	5	3	3	3	10	12	14	12	33	31	37	33	35	25	13	4	3	4	8	12.8	36.7					
5-Sep	3	3	5	10	3	7	4	3	3	7	14	11	7	6	8	6	7	21	18	23	12	10	11	4	8.6	22.6					
6-Sep	5	3	5	4	5	5	4	3	4	6	7	8	9	11	22	23	21	18	16	9	5	5	5	4	8.6	23.2					
7-Sep	3	4	5	6	3	4	4	4	8	13	19	30	31	30	25	24	25	21	8	5	3	4	3	3	11.9	31.2					
8-Sep	4	5	4	4	4	3	3	5	3	3	5	7	11	13	10	13	12	17	3	4	5	4	5	4	6.4	17.1					
9-Sep	5	5	2	5	3	4	5	4	5	7	14	28	29	27	22	33	33	31	20	14	11	5	10	12	13.9	32.8					
10-Sep	4	8	8	8	34	30	12	11	9	11	17	16	12	11	10	7	8	7	5	6	7	5	3	6	10.5	33.8					
11-Sep	5	3	7	14	5	8	12	16	25	21	12	7	6	6	7	5	6	4	3	3	6	6	4	3	8.1	25.4					
12-Sep	5	3	2	2	2	3	1	4	5	5	5	5	6	6	5	7	8	8	9	10	7	12	22	24	6.9	24.2					
13-Sep	29	22	13	11	11	11	16	11	15	17	17	17	19	25	29	26	24	23	17	16	15	15	17	13	17.8	28.9					
14-Sep	10	8	4	2	2	2	2	1	3	2	3	4	4	5	7	8	9	11	7	8	8	7	8	4	5.4	11.2					
15-Sep	3	7	4	4	4	4	5	7	5	6	5	6	5	7	6	13	10	11	10	10	8	8	7	9	6.7	13.0					
16-Sep	6	9	10	9	9	9	7	9	11	12	19	24	24	26	22	24	19	14	30	22	20	19	13	8	15.6	30.4					
17-Sep	7	8	7	5	3	8	5	5	12	29	33	35	37	37	37	35	33	31	25	16	8	8	5	6	18.3	37.5					
18-Sep	3	4	4	5	3	5	3	4	5	7	6	5	6	8	8	15	17	11	17	20	9	6	6	7	7.7	19.7					
19-Sep	6	10	7	10	16	16	15	15	26	37	36	33	29	25	30	31	30	25	16	19	17	7	5	6	19.5	36.9					
20-Sep	5	5	3	3	4	4	3	4	5	3	6	12	14	14	13	16	17	17	14	14	13	6	5	4	8.6	16.9					
21-Sep	4	3	4	3	4	6	5	4	4	4	3	4	8	9	17	17	17	16	17	14	23	16	13	15	9.6	22.6					
22-Sep	17	22	23	13	15	30	21	13	12	7	9	12	12	13	12	8	6	4	5	8	5	5	7	6	11.9	29.7					
23-Sep	5	10	14	13	11	9	7	10	10	9	12	17	27	42	47	43	44	36	27	19	15	10	7	8	18.9	46.9					
24-Sep	7	11	12	11	6	7	7	11	6	5	8	10	7	7	6	8	9	9	8	10	11	13	15	11	8.9	14.9					
25-Sep	3	4	3	6	7	5	6	5	4	5	8	7	6	7	17	12	8	6	16	26	18	11	14	18	9.3	26.5					
26-Sep	25	25	16	11	8	9	8	6	7	10	9	6	7	12	16	23	21	8	8	10	6	5	3	4	11.1	25.4					
27-Sep	3	10	5	3	5	7	5	6	5	8	7	28	30	33	39	34	32	32	27	16	17	15	9	11	16.1	39.3					
28-Sep	18	24	31	31	29	32	29	27	28	31	36	35	32	32	32	26	28	21	15	11	8	4	5	4	23.7	36.1					
29-Sep	4	4	5	4	5	5	5	4	4	5	5	4	5	5	9	11	14	8	6	4	5	5	4	3	5.6	13.5					
30-Sep	4	6	5	3	13	15	14	11	31	34	40	38	39	38	36	39	36	31	25	17	17	12	6	9	21.7	39.7					
7.5 8.4 7.8 7.5 8.4 9.2 7.9 7.7 9.5 11.4 13.5 15.3 16.1 17.9 18.8 19.7 19.3 17.7 15.2 12.9 10.3 8.2 8.2 8.1																									Diurnal Average						
28.9 25.4 30.9 31.1 33.8 32.4 29.0 27.2 30.9 36.9 39.7 38.1 38.5 42.1 46.9 43.0 43.9 35.5 30.4 26.5 22.6 18.6 21.8 24.2																									Diurnal Maximum						
All monthly, daily, and diurnal averages have been calculated using scalar methods																															

Hourly Standard Deviations

Wind Direction (WD) - deg
Beaverlodge - September 2011

Maximum Value: 96.2 deg on Sep 27 03:00																				Hours in Service: 720					
Minimum Value: 2.3 deg on Sep 10 05:00																				Hours of Data: 720					
																				Hours of Missing Data: 0					
Percentiles: P ₁ = 3.5 P ₁₀ = 5.3 Q ₁ = 7.8 Median = 15.0 Q ₃ = 35.9 P ₉₀ = 60.6 P ₉₉ = 91.0																				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-Sep	21	26	11	11	13	10	13	19	18	14	17	15	31	49	35	13	25	6	4	4	4	7	7	10	48.7
2-Sep	5	5	9	4	7	6	5	5	4	7	9	10	18	9	11	10	10	25	6	8	5	51	43	17	51.3
3-Sep	31	22	19	19	20	13	32	38	15	19	14	14	20	9	12	11	8	6	6	8	67	28	10	40	66.8
4-Sep	17	10	24	36	32	44	48	54	45	18	25	14	15	8	6	6	5	5	6	10	73	62	72	50	73.1
5-Sep	64	67	28	7	84	19	38	47	35	20	16	17	39	33	11	18	60	8	7	6	9	9	7	57	84.4
6-Sep	77	79	54	64	48	57	47	49	60	26	16	25	18	36	23	10	9	8	7	16	73	34	24	43	78.6
7-Sep	56	19	55	51	92	60	37	56	36	17	8	9	7	8	10	11	6	4	13	53	40	13	12	58	91.7
8-Sep	34	11	53	17	10	19	31	15	22	38	25	21	26	30	56	35	21	10	20	88	31	55	73	27	87.5
9-Sep	15	20	50	15	23	55	30	13	24	16	16	13	9	7	8	7	6	6	5	3	8	49	65	21	65.2
10-Sep	81	11	7	50	2	39	28	7	6	15	8	17	22	39	44	60	29	23	19	9	8	70	79	36	80.6
11-Sep	45	89	48	7	88	63	17	14	8	12	21	51	66	49	76	43	20	24	19	85	7	8	77	66	88.6
12-Sep	36	76	41	94	85	82	77	45	10	21	23	59	36	73	79	62	35	10	9	4	9	12	6	5	93.8
13-Sep	5	4	7	6	7	7	8	10	8	11	8	9	10	11	9	9	5	5	4	5	4	3	3	5	11.0
14-Sep	4	6	14	23	93	66	92	48	40	46	41	56	58	62	29	25	33	7	18	4	5	5	5	77	93.2
15-Sep	25	30	14	69	26	74	66	30	57	37	46	72	40	46	57	8	72	6	10	6	18	6	8	10	74.0
16-Sep	10	2	2	4	5	7	9	7	5	5	8	12	6	6	6	5	7	11	5	4	4	6	7	8	12.2
17-Sep	23	13	20	56	90	39	47	51	12	6	7	8	9	8	10	11	8	6	5	6	4	8	24	14	90.4
18-Sep	48	25	20	23	33	27	11	29	22	50	56	24	16	10	14	10	8	6	18	27	16	24	12	9	56.1
19-Sep	72	21	20	4	9	5	4	6	4	5	6	8	14	10	9	10	6	5	7	4	5	42	47	24	71.7
20-Sep	32	25	32	36	16	19	19	28	16	26	15	13	12	12	16	11	7	4	4	4	4	12	30	30	36.0
21-Sep	34	52	50	94	26	10	40	57	64	65	68	25	27	39	9	7	5	30	6	31	9	13	17	9	94.4
22-Sep	6	5	5	6	6	4	8	19	41	29	17	11	17	15	22	11	20	20	70	7	17	14	7	12	69.8
23-Sep	9	7	12	12	10	13	16	9	15	60	14	12	9	5	4	6	5	5	8	6	8	16	11	7	60.3
24-Sep	7	9	6	7	6	5	7	8	12	16	23	34	37	38	76	25	16	12	9	3	5	10	5	35	76.0
25-Sep	67	51	76	45	73	74	25	67	85	62	20	28	47	61	17	19	24	26	64	10	6	13	8	8	84.6
26-Sep	4	6	9	13	9	14	14	16	20	15	28	50	43	15	8	12	19	25	9	14	36	41	47	48	50.1
27-Sep	67	54	96	82	54	54	39	52	11	33	28	10	9	11	9	7	8	6	5	6	14	11	27	14	96.2
28-Sep	12	5	4	6	4	4	4	6	5	8	6	7	7	8	8	12	10	6	6	8	9	52	87	27	86.6
29-Sep	49	47	15	23	86	29	62	31	48	22	33	35	27	38	16	9	12	19	15	50	57	51	38	72	85.7
30-Sep	86	61	63	91	20	13	17	28	4	6	7	7	7	6	11	7	6	4	4	5	7	9	53	57	91.2
86.0 88.6 96.2 94.4 93.2 82.3 91.5 67.1 84.6 64.6 68.2 72.3 65.8 73.1 79.0 62.2 71.9 30.3 69.8 87.5 73.3 69.8 86.6 76.5																									

PAZA
Valleyview Station
Monthly Summary Tables, Graphs and
Roses

Hourly Averages

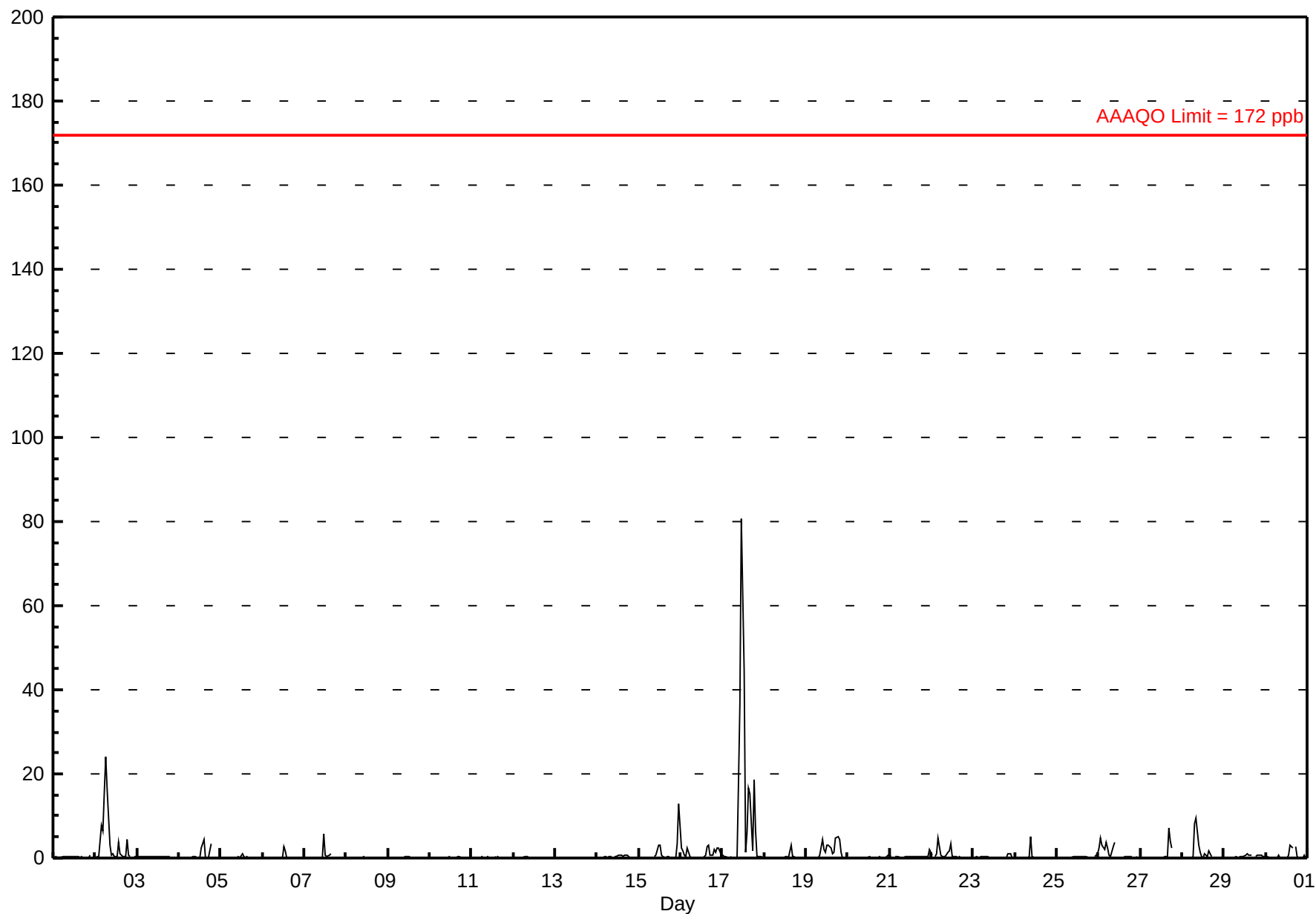
Sulphur Dioxide (SO₂) - ppb

Valleyview - September 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 80.7 ppb on Sep 17 12:00 Maximum Daily Average: 10.8 ppb on Sep 17																								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 Sep 4 21:00 Maximum Diurnal Average: 3.5 ppb at hour 12 Monthly Average: 0.90 ppb												Minimum Daily Average: 0.0 ppb on Sep 13 Minimum Diurnal Average: 0.2 ppb at hour 3 Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.1 Q ₃ = 0.3 P ₉₀ = 1.5 P ₉₉ = 16.0															
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-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	A	0	0.2	0.7	
2-Sep	0	0	0	8	6	16	24	16	3	1	1	0	0	4	1	1	0	0	4	1	0	A	A	0	0	3.8	24.0
3-Sep	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	
4-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	2	5	0	0	0	3	A	0	0	0	0	0.5	4.6	
5-Sep	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	A	0	0	0	0	0	0.1	0.9	
6-Sep	0	0	0	0	0	0	0	0	0	0	0	0	3	2	0	0	0	A	0	0	0	0	0	0	0.2	2.7	
7-Sep	0	0	0	0	0	0	0	0	0	0	0	6	1	0	1	1	A	0	0	0	0	0	0	0	0.4	5.7	
8-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.1	0.2	
9-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.1	0.4	
10-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	A	A	0	0	0	0	0	0	0	0	0	0.1	0.2	
11-Sep	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2	
12-Sep	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2	
13-Sep	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1	
14-Sep	0	0	0	0	0	0	0	0	0	A	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0.3	0.6	
15-Sep	0	0	0	0	0	0	0	0	A	0	1	3	3	1	0	0	0	0	0	0	0	0	3	13	1.1	13.0	
16-Sep	2	2	1	0	2	0	0	A	0	0	0	0	0	0	1	3	3	1	1	2	1	2	2	1	1.1	2.9	
17-Sep	1	0	0	0	0	0	A	0	0	18	37	81	44	1	6	16	15	2	19	7	0	0	0	0	10.8	80.7	
18-Sep	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0.2	3.0	
19-Sep	0	0	0	0	A	0	0	0	1	4	2	1	3	3	2	1	2	5	5	5	1	0	0	0	1.5	5.2	
20-Sep	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	0.5	
21-Sep	1	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.4	2.0	
22-Sep	1	A	0	1	5	1	0	0	0	1	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0.7	4.7	
23-Sep	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	A	0.2	1.1	
24-Sep	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.3	5.0	
25-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	1	0.2	1.1	
26-Sep	2	5	3	2	4	3	1	0	3	4	C	C	C	0	0	0	0	0	0	0	A	0	0	0	1.4	4.9	
27-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	4	2	A	0	0	0	0	0.7	7.2	
28-Sep	0	0	0	0	0	0	0	8	9	3	1	0	0	1	0	2	1	0	A	0	0	0	0	0	1.2	9.3	
29-Sep	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	A	0	1	1	1	0	0	0.4	1.0	
30-Sep	0	0	0	0	0	0	0	1	0	0	0	0	0	1	3	2	A	3	0	0	0	0	1	0	0.5	3.1	
0.3 0.3 0.2 0.4 0.7 0.7 1.0 1.0 0.7 1.4 1.7 3.5 2.1 0.6 0.8 1.1 1.2 0.6 1.4 0.6 0.2 0.2 0.3 0.7																								Diurnal Average			
2.3 4.9 3.2 7.7 6.5 15.5 24.0 16.3 9.3 17.6 36.6 80.7 44.4 3.6 6.3 16.5 15.2 4.9 18.6 6.6 1.3 2.4 3.3 13.0																								Diurnal Maximum			
C - Calibration A - Automated Daily Zero Span																											
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb 30-day 11 ppb																											

Hourly Averages

Sulphur Dioxide (SO₂) - ppb
Valleyview - September 2011



Hourly Maximums

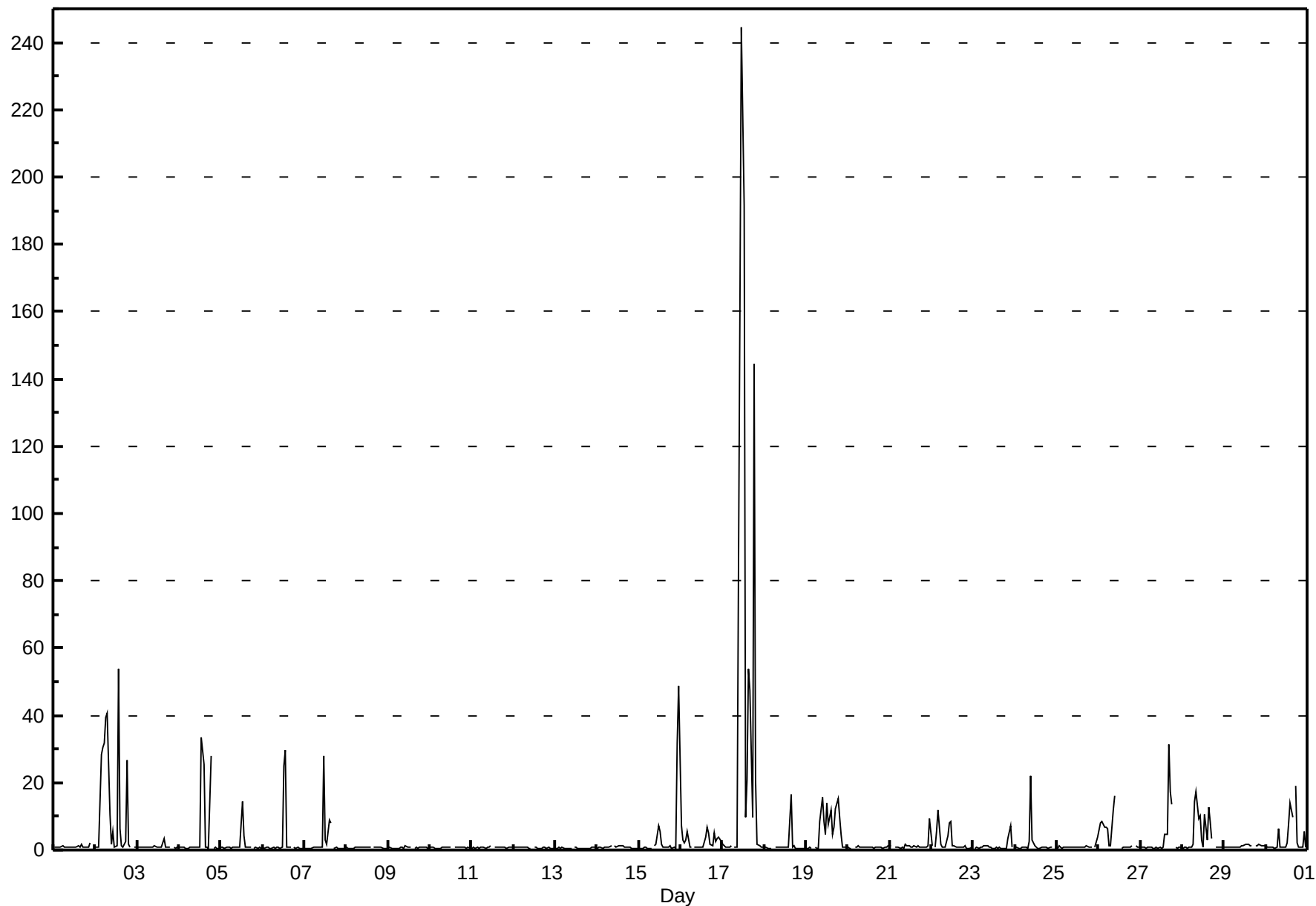
Sulphur Dioxide (SO₂) - ppb

Valleyview - September 2011

Maximum Value: 244.5 ppb on Sep 17 12:00																				Maximum Daily Average: 43.3 ppb on Sep 17										Hours in Service: 720	
Minimum Value: 0 ppb on Sep 6 23:00																				Minimum Daily Average: 0.6 ppb on Sep 13										Hours of Data: 686	
Maximum Diurnal Average: 11.3 ppb at hour 12																				Minimum Diurnal Average: 1.0 ppb at hour 3										Hours of Missing Data: 34	
Monthly Average: 3.81 ppb																				Percentiles: P ₁ = 0.3 P ₁₀ = 0.5 Q ₁ = 0.7 Median = 0.8 Q ₃ = 1.1 P ₉₀ = 6.6 P ₉₉ = 53.8										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-Sep	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	2	A	1	1.0	1.9					
2-Sep	1	1	1	28	31	32	39	41	10	2	5	1	1	54	6	1	1	3	27	1	1	A	1	1	12.6	53.8					
3-Sep	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	1	1	1	1	A	1	0	1	1.0	3.3					
4-Sep	1	1	1	1	0	1	1	1	1	1	1	1	1	34	25	1	1	1	28	A	0	1	0	0	4.4	33.7					
5-Sep	1	1	1	1	1	1	1	1	1	1	1	1	14	4	1	1	1	1	A	0	1	1	1	1	1.5	14.3					
6-Sep	1	1	1	1	0	0	1	0	1	1	1	1	25	30	1	1	1	A	1	0	1	1	0	0	3.0	29.7					
7-Sep	0	1	0	0	0	1	1	1	1	1	1	28	3	2	9	8	A	0	1	1	0	0	0	0	2.6	27.8					
8-Sep	1	0	0	0	0	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	0	0	0	0.7	1.0					
9-Sep	0	1	0	1	0	0	1	1	1	1	1	1	1	1	A	0	1	0	1	1	1	1	1	1	0.7	1.4					
10-Sep	1	1	1	0	0	0	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	0	1	1	0.7	0.8					
11-Sep	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	1.3					
12-Sep	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.0					
13-Sep	1	1	1	0	1	1	1	1	1	1	A	1	1	1	1	1	1	1	0	1	1	1	1	1	0.6	1.0					
14-Sep	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	1.5					
15-Sep	1	1	1	1	1	1	1	1	A	1	2	7	6	2	1	1	1	1	1	1	1	1	32	49	4.8	48.6					
16-Sep	7	3	2	3	5	1	1	A	1	1	1	1	1	1	4	7	5	2	1	5	3	3	4	3	2.8	7.1					
17-Sep	2	1	1	1	1	1	A	1	1	82	159	245	192	10	21	54	48	10	144	21	2	1	1	1	43.3	244.5					
18-Sep	1	1	1	0	0	A	1	1	1	1	1	1	1	1	17	1	1	0	1	0	0	1	0	1.4	16.6						
19-Sep	0	0	1	0	A	1	0	0	8	16	8	4	14	8	12	5	7	12	15	10	5	1	1	1	5.7	15.6					
20-Sep	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	0.8	1.1					
21-Sep	1	1	A	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	9	1.3	9.4					
22-Sep	1	A	1	6	12	2	1	1	1	4	8	9	1	1	1	1	1	1	1	1	1	0	1	1	2.4	11.8					
23-Sep	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	4	7	1	A	1.2	7.2					
24-Sep	1	1	1	1	1	1	1	1	3	22	3	1	1	1	1	1	1	1	1	1	1	1	A	1	1.8	21.9					
25-Sep	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	4	1.0	3.7					
26-Sep	6	8	8	7	7	6	1	1	12	16	C	C	C	1	1	1	1	1	1	1	A	1	1	1	4.1	16.3					
27-Sep	1	1	1	1	1	1	1	1	1	1	1	1	1	5	5	31	17	13	A	1	1	1	1	1	3.7	31.4					
28-Sep	1	1	1	0	1	1	2	14	17	9	10	3	1	11	3	13	8	3	A	1	1	1	1	1	4.4	17.5					
29-Sep	1	1	1	1	1	1	1	1	1	1	1	1	2	2	1	1	A	1	1	1	1	1	1	1	1.1	1.7					
30-Sep	1	1	1	1	1	0	1	6	1	1	1	1	2	8	14	10	A	19	2	1	1	1	6	1	3.4	18.9					
1.2 1.1 1.0 2.0 2.5 2.1 2.1 2.8 2.4 5.8 7.7 11.3 9.8 6.1 4.0 4.7 4.3 3.0 8.8 2.0 1.1 1.1 2.1 2.8																									Diurnal Average						
7.1 8.0 8.3 28.5 30.7 31.9 39.5 40.5 17.5 81.9 159.3 244.5 191.6 53.8 25.2 53.8 47.6 18.9 144.3 20.9 4.8 7.2 31.8 48.6																									Diurnal Maximum						
C - Calibration																									A - Automated Daily Zero Span						

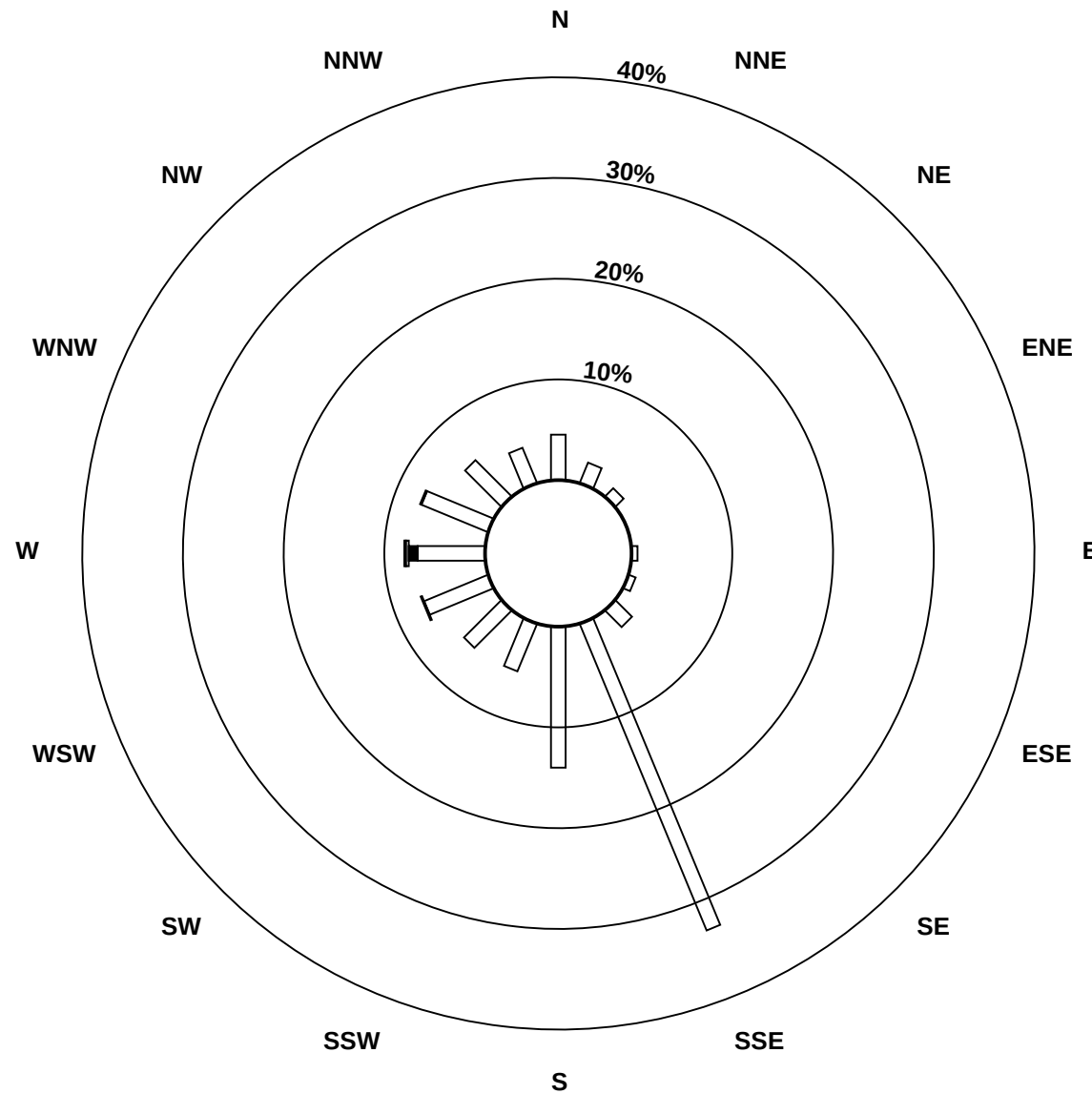
Hourly Maximums

Sulphur Dioxide (SO₂) - ppb
Valleyview - September 2011

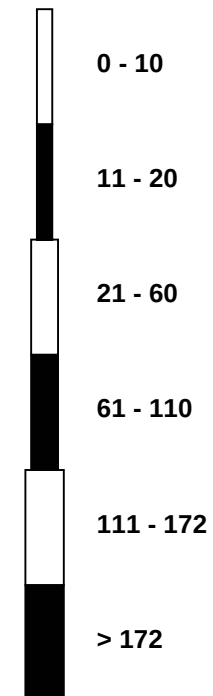


Pollutant Rose

Sulphur Dioxide (SO₂) - ppb
Valleyview - September 2011

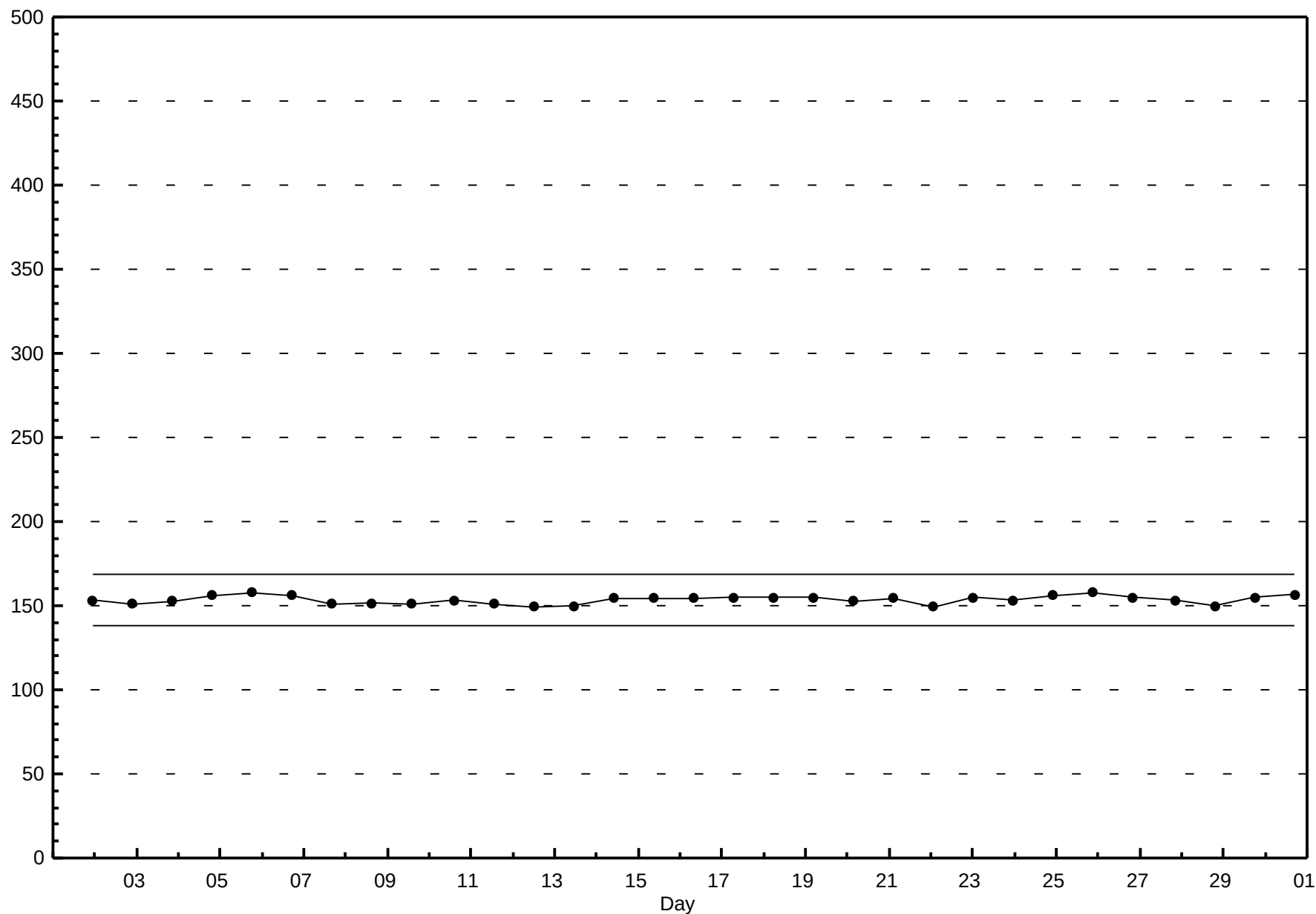


Pollutant Classes (ppb)



Span Responses

Sulphur Dioxide (SO₂)
Valleyview - September 2011



Hourly Averages

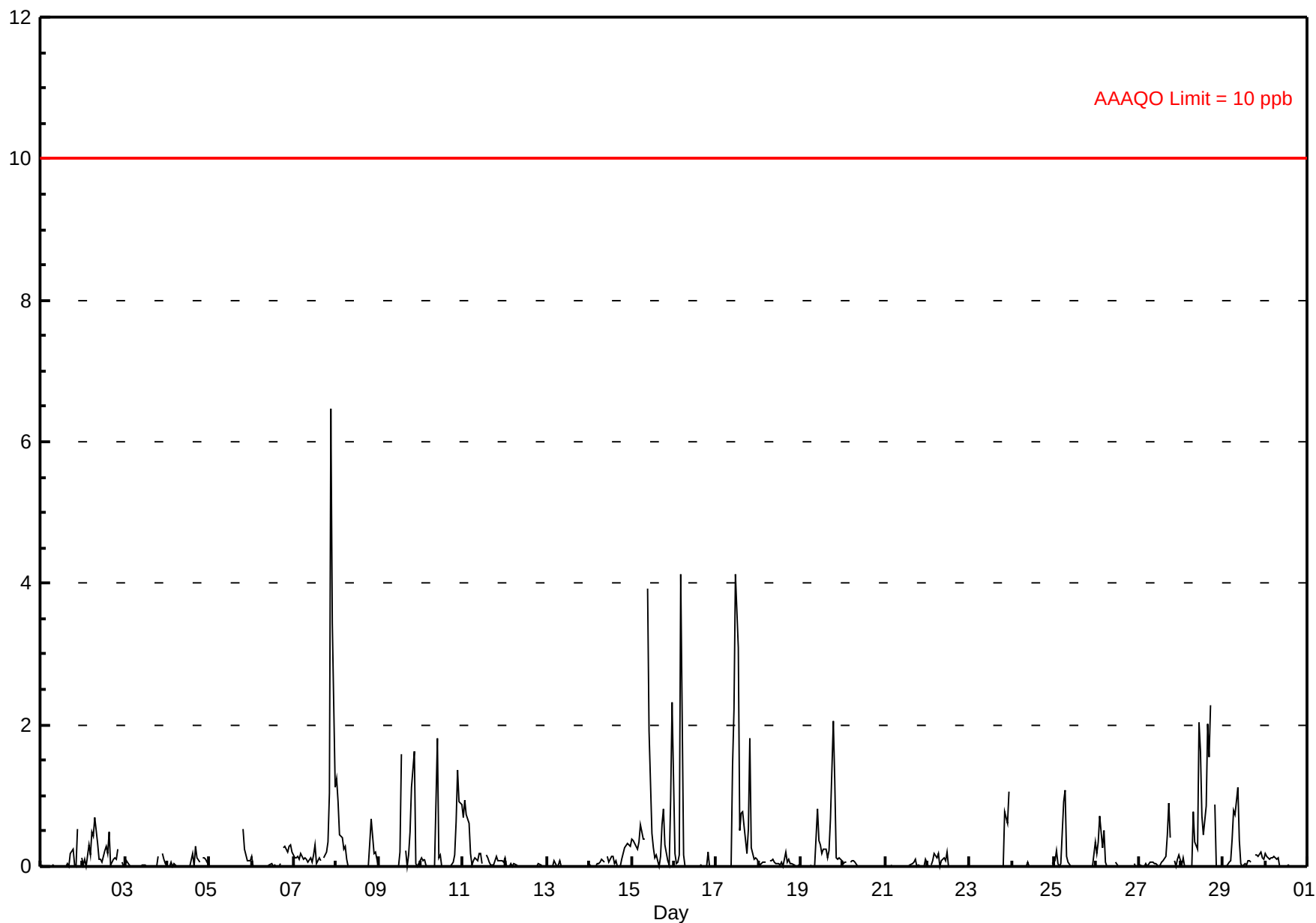
Hydrogen Sulphide (H₂S) - ppb

Valleyview - September 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																				Hours in Service: 720						
Maximum Value: 6.5 ppb on Sep 7 22:00																				Maximum Daily Average: 0.7 ppb on Sep 17		Hours of Data: 687				
Minimum Value: 0 ppb on Sep 1 02:00																				Minimum Daily Average: 0.0 ppb on Sep 24		Hours of Missing Data: 33				
Maximum Diurnal Average: 0.4 ppb at hour 22																				Minimum Diurnal Average: 0.1 ppb at hour 9		Hours of Calibration: 33				
Monthly Average: 0.18 ppb																				Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 0.1 P ₉₀ = 0.4 P ₉₉ = 2.0		Percent Operational Time: 100.0				
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	A	0	0.1	0.5
2-Sep	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	A	A	0	0	0.2	0.7
3-Sep	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	0.2
4-Sep	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	0.3
5-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	0	0	0	0	0.0	0.5
6-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0.1	0.3
7-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	1	6	3	1	0.6	6.5
8-Sep	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	1	0	0	0	0.2	1.2
9-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	2	A	0	0	0	0	1	2	0	0	0	0.2	1.6
10-Sep	0	0	0	0	0	0	0	0	0	2	0	0	A	0	0	0	0	0	0	0	1	1	1	1	0.3	1.8
11-Sep	1	1	1	1	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.9
12-Sep	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
13-Sep	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
14-Sep	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
15-Sep	0	0	0	0	0	1	0	0	A	4	2	0	0	0	0	0	0	1	1	0	0	0	1	2	0.7	3.9
16-Sep	0	0	0	0	4	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	4.1
17-Sep	0	0	0	0	0	0	A	0	0	1	2	4	3	1	1	1	1	0	1	2	0	0	0	0	0.7	4.1
18-Sep	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
19-Sep	0	0	0	0	A	0	0	0	0	1	0	0	0	0	0	0	0	1	2	1	0	0	0	0	0.3	2.1
20-Sep	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
21-Sep	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
22-Sep	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
23-Sep	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	A	0.1	1.1
24-Sep	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	0.1
25-Sep	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.1	1.1
26-Sep	0	0	1	0	1	0	0	0	0	C	C	0	0	0	0	0	0	0	0	0	A	0	0	0	0.1	0.7
27-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	A	0	0	0	0	0.1	0.9
28-Sep	0	0	0	0	0	0	0	1	1	0	2	2	1	0	1	2	2	2	A	1	0	0	0	0	0.6	2.3
29-Sep	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0.2	1.1
30-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0.0	0.2
0.1		0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.3	0.3	0.3	0.2	0.1	0.1	0.2	0.1	0.2	0.2	0.3	0.2	0.4	0.3	0.2	Diurnal Average	
1.2		0.9	0.7	0.6	4.1	0.9	1.1	0.8	1.1	3.9	2.2	4.1	3.1	1.6	0.9	2.0	1.5	2.3	2.1	1.8	1.6	6.5	3.4	2.3	Diurnal Maximum	
C - Calibration		A - Automated Daily Zero Span																								
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb																										

Hourly Averages

Hydrogen Sulphide (H₂S) - ppb
Valleyview - September 2011



Hourly Maximums

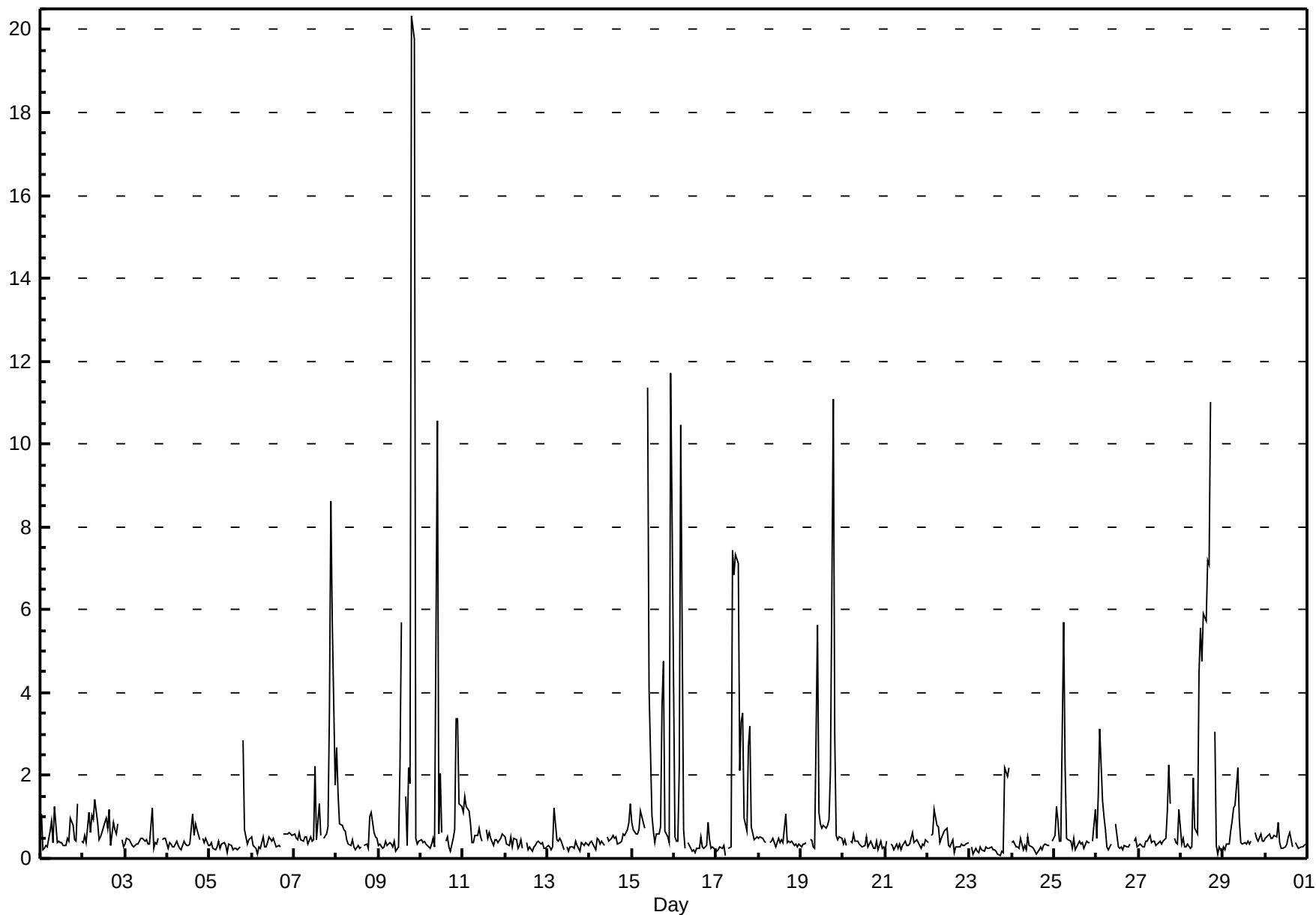
Hydrogen Sulphide (H₂S) - ppb

Valleyview - September 2011

Maximum Value: 20.3 ppb on Sep 9 20:00																				Maximum Daily Average: 2.7 ppb on Sep 28					Hours in Service: 720	
Minimum Value: 0 ppb on Sep 23 18:00																				Minimum Daily Average: 0.3 ppb on Sep 24					Hours of Data: 687	
Maximum Diurnal Average: 1.6 ppb at hour 10																				Minimum Diurnal Average: 0.5 ppb at hour 9					Hours of Missing Data: 33	
Monthly Average: 0.85 ppb																				Percentiles: P ₁ = 0.1 P ₁₀ = 0.2 Q ₁ = 0.3 Median = 0.4 Q ₃ = 0.6 P ₉₀ = 1.2 P ₉₉ = 10.4					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-Sep	1	0	0	0	0	1	1	0	1	0	0	0	0	0	0	0	1	1	0	0	0	1	A	0	0.6	1.3
2-Sep	0	1	0	1	1	1	1	1	1	0	1	1	1	1	1	0	1	1	1	1	1	A	0	0	0.7	1.4
3-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	A	0	0	0	0.4	1.2
4-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	A	0	0	0	0	0.4	1.1
5-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	3	1	0	0	0	0.4	2.9
6-Sep	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	A	1	1	1	1	1	1	0.4	0.6
7-Sep	1	0	0	1	0	0	1	1	0	1	0	0	2	0	1	1	A	0	1	1	4	9	6	2	1.4	8.6
8-Sep	3	2	1	1	1	1	0	0	0	0	0	0	0	0	0	A	0	0	0	1	1	1	1	0	0.6	2.7
9-Sep	0	0	0	0	0	0	0	0	0	0	0	0	2	6	A	2	0	0	2	2	20	20	0	0	2.6	20.3
10-Sep	0	0	0	0	0	0	0	0	0	11	1	2	1	A	0	1	0	0	0	1	3	3	1	1	1.3	10.6
11-Sep	1	2	1	1	1	0	0	1	1	1	1	0	A	1	0	1	0	0	0	0	0	0	1	1	0.6	1.5
12-Sep	1	0	0	1	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.5
13-Sep	0	0	0	0	1	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	1.2
14-Sep	0	0	0	0	0	0	0	0	0	A	1	0	0	1	0	1	0	0	0	1	1	1	1	1	0.5	1.3
15-Sep	1	1	1	1	1	1	1	1	A	11	4	1	1	0	1	1	1	4	5	1	1	0	12	8	2.4	11.7
16-Sep	1	0	0	2	10	1	0	A	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0.9	10.4
17-Sep	0	0	0	0	0	0	A	0	0	7	7	7	7	2	3	3	1	1	3	3	1	0	1	1	2.1	7.4
18-Sep	0	1	1	0	0	A	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0.4	1.1
19-Sep	0	0	0	0	A	0	0	0	0	6	1	1	1	1	1	1	1	2	11	3	1	0	1	0	1.4	11.1
20-Sep	0	0	0	A	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0.4	0.6
21-Sep	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0.3	0.6
22-Sep	0	A	1	1	1	1	1	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.5	1.2
23-Sep	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2	A	0.5	2.2
24-Sep	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.3	0.5
25-Sep	1	1	1	0	0	6	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	1	0.8	5.7
26-Sep	0	1	3	1	1	1	0	0	0	C	C	1	0	0	0	0	0	0	0	0	A	0	0	0	0.6	3.1
27-Sep	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	2	1	A	1	0	0	1	0.6	2.3
28-Sep	0	0	0	0	0	0	0	2	1	1	4	6	5	6	6	7	7	11	A	3	0	0	0	0	2.7	11.0
29-Sep	0	0	0	0	1	1	1	1	2	1	0	0	0	0	0	0	0	A	1	0	0	1	0	0	0.6	2.2
30-Sep	1	1	1	0	0	1	1	1	0	0	0	0	0	1	1	0	A	0	0	0	0	0	0	0	0.4	0.9
0.5 0.5 0.5 0.5 0.8 0.7 0.5 0.5 0.5 1.6 0.9 0.9 0.9 0.8 0.7 0.9 0.7 1.1 1.1 1.6 1.4 0.9 1.1 0.8																								Diurnal Average		
2.7 1.6 3.1 2.2 10.4 5.7 2.2 1.9 2.2 11.4 6.8 7.3 7.1 5.9 5.7 7.2 7.1 11.0 11.1 20.3 19.8 8.6 11.7 8.2																								Diurnal Maximum		
C - Calibration A - Automated Daily Zero Span																										

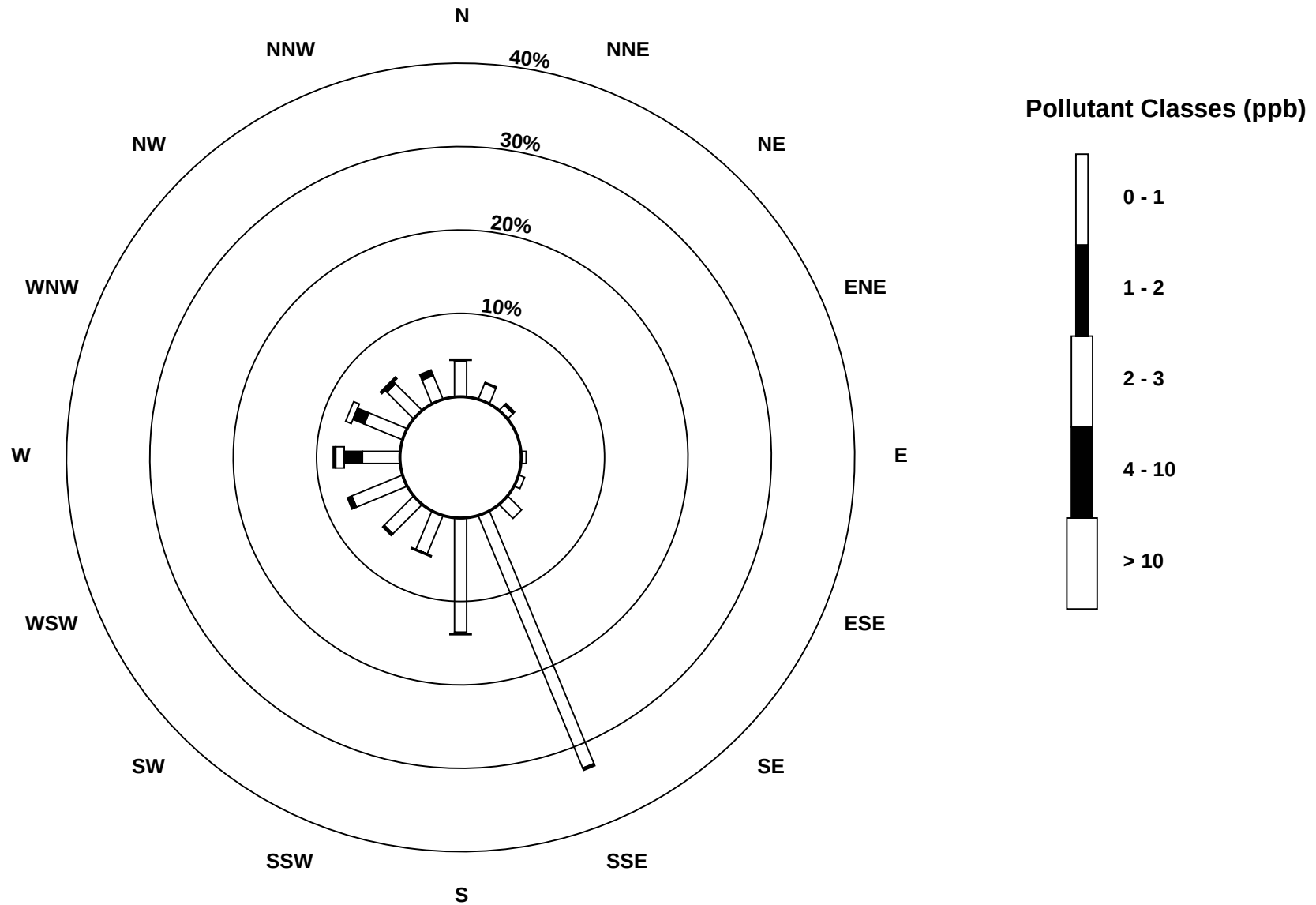
Hourly Maximums

Hydrogen Sulphide (H₂S) - ppb
Valleyview - September 2011



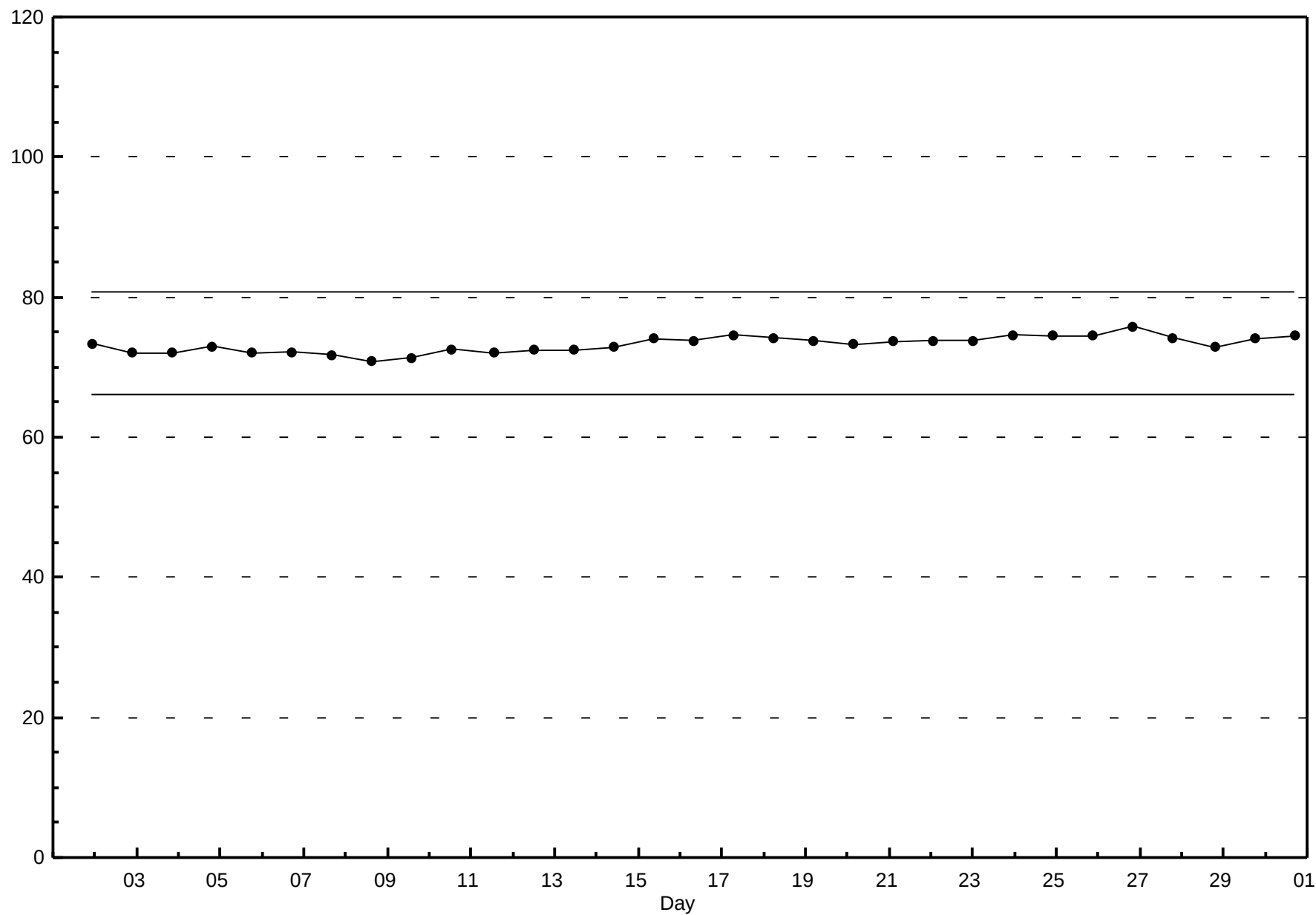
Pollutant Rose

Hydrogen Sulphide (H₂S) - ppb
Valleyview - September 2011



Span Responses

Hydrogen Sulphide (H₂S)
Valleyview - September 2011



Hourly Averages

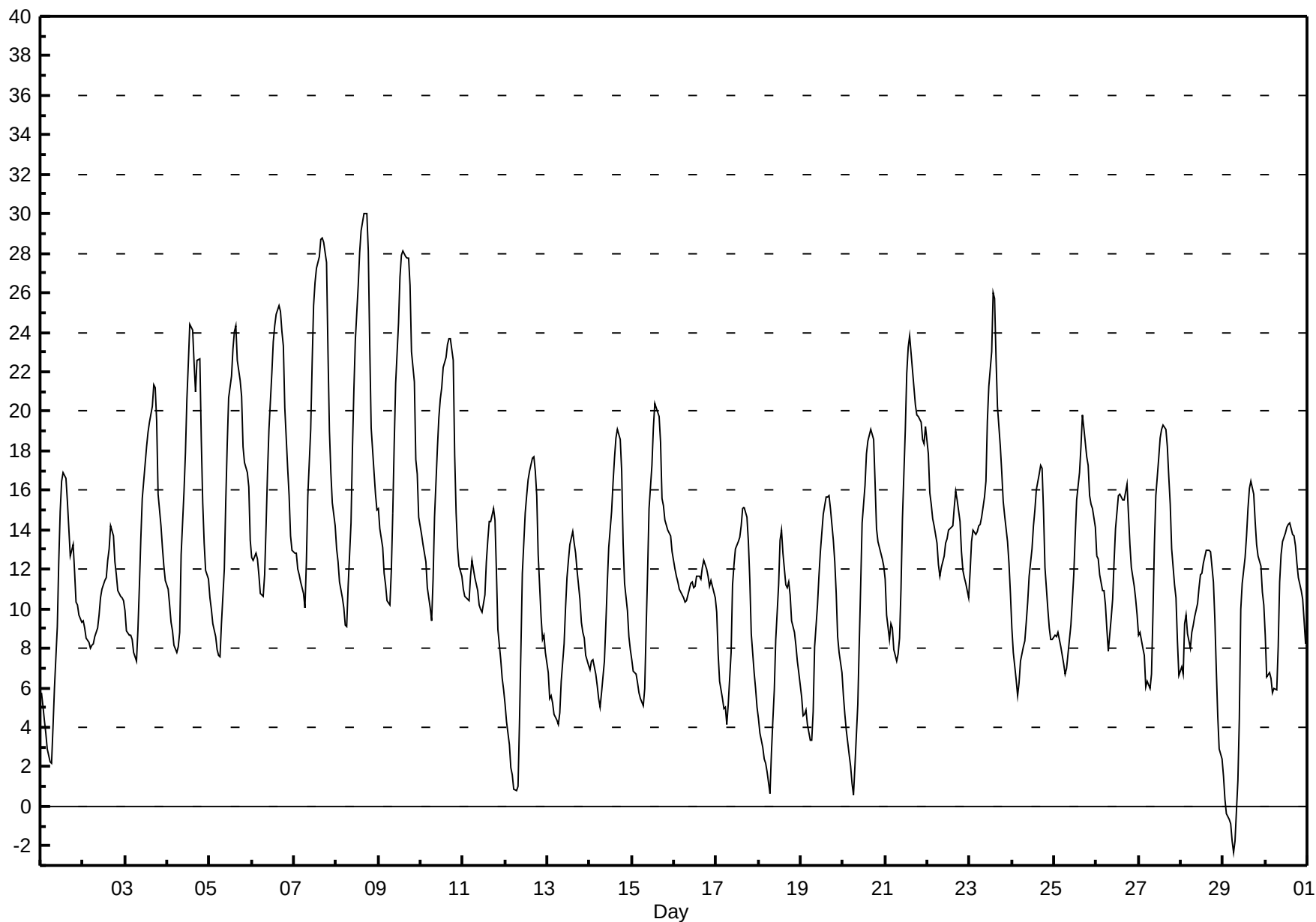
External Temperature (ET) - °C

Valleyview - September 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 30.0 °C on Sep 8 17:00 Maximum Daily Average: 19.3 °C on Sep 9																								Hours in Service: 720 Hours of Data: 720 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0		
Minimum Value: -2 °C on Sep 29 07:00 Maximum Diurnal Average: 18.6 °C at hour 16 Monthly Average: 12.62 °C												Minimum Daily Average: 7.3 °C on Sep 18 Minimum Diurnal Average: 6.8 °C at hour 7 Percentiles: P ₁ = 0.6 P ₁₀ = 5.6 Q ₁ = 8.7 Median = 12.0 Q ₃ = 15.7 P ₉₀ = 20.6 P ₉₉ = 28.4														
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Sep	6	5	4	4	3	2	2	4	6	9	12	15	16	17	17	15	14	13	13	12	10	10	10	9	9.6	16.9
2-Sep	9	9	9	8	8	8	8	9	9	10	11	11	11	12	12	13	14	14	12	12	11	11	11	10	10.5	14.2
3-Sep	10	9	9	9	8	8	7	9	11	14	16	17	18	19	19	20	21	21	20	16	14	13	12	11	13.8	21.3
4-Sep	11	10	9	9	8	8	8	9	13	16	18	21	22	24	24	22	21	23	23	19	15	13	12	12	15.4	24.4
5-Sep	11	10	9	9	8	8	8	9	12	15	18	21	22	23	24	24	23	22	21	18	17	17	16	13	15.7	24.4
6-Sep	13	12	13	13	12	11	11	12	14	17	19	22	24	24	25	25	25	24	23	20	17	16	14	13	17.4	25.4
7-Sep	13	13	12	12	11	11	10	12	16	19	22	25	27	27	28	29	29	29	28	23	19	17	15	14	19.2	28.8
8-Sep	13	12	11	11	10	9	9	11	14	18	21	24	26	28	29	30	30	30	28	23	19	17	16	15	19.0	30.0
9-Sep	15	14	13	12	11	10	10	12	15	18	21	25	27	28	28	28	28	28	26	23	21	18	17	15	19.3	28.1
10-Sep	14	13	13	12	11	10	9	11	15	18	20	21	21	22	23	23	24	24	23	18	15	13	12	12	16.5	23.7
11-Sep	11	11	11	10	12	12	12	12	11	10	10	10	11	12	13	14	14	15	15	12	9	7	6	6	11.1	15.1
12-Sep	5	4	3	2	2	1	1	1	4	8	12	15	16	17	17	18	18	17	16	13	10	8	9	8	9.3	17.7
13-Sep	7	5	6	5	5	4	4	5	6	8	10	12	12	13	14	13	13	12	10	9	9	9	8	7	8.6	13.9
14-Sep	7	7	7	7	6	5	5	6	7	9	11	13	15	16	18	19	19	19	17	13	11	10	9	8	11.0	19.1
15-Sep	7	7	7	6	6	5	5	6	9	12	15	17	19	20	20	20	18	16	15	15	14	14	14	13	12.5	20.4
16-Sep	12	12	11	11	11	11	10	10	11	11	11	11	11	12	12	12	12	12	12	12	11	11	11	11	11.3	12.4
17-Sep	10	8	6	5	5	5	4	5	8	11	12	13	13	14	14	15	15	15	13	11	9	7	6	5	9.6	15.1
18-Sep	4	4	3	2	2	2	1	3	4	6	8	11	13	14	13	11	11	11	11	9	9	8	7	7	7.3	13.9
19-Sep	6	5	5	5	4	3	3	5	8	10	12	13	14	15	16	16	16	15	13	12	11	9	8	7	9.5	15.7
20-Sep	6	5	4	3	2	1	1	2	5	8	11	14	16	18	18	19	19	19	16	14	13	13	13	12	10.5	19.1
21-Sep	11	10	8	9	9	8	7	8	9	11	15	19	22	23	24	22	21	20	20	20	19	19	18	19	15.5	23.8
22-Sep	18	16	15	15	14	13	12	12	12	13	13	14	14	14	14	15	16	15	14	13	12	12	11	11	13.7	17.8
23-Sep	12	13	14	14	14	14	14	15	16	16	20	21	23	26	26	23	20	18	17	15	15	13	12	11	16.8	26.0
24-Sep	9	8	6	6	6	7	8	8	9	10	12	13	14	15	16	17	17	17	15	12	10	9	8	8	10.9	17.3
25-Sep	9	9	9	8	8	7	7	7	8	9	10	12	14	15	17	18	20	19	18	17	16	15	15	14	12.5	19.8
26-Sep	13	13	12	11	11	10	9	8	10	11	12	14	16	16	16	16	16	16	15	13	12	11	10	10	12.4	16.3
27-Sep	9	9	8	8	6	6	6	7	10	13	16	18	19	19	19	19	18	17	15	13	11	11	8	7	12.1	19.3
28-Sep	7	7	9	10	9	8	9	9	10	10	11	12	12	12	13	13	13	13	11	9	7	5	3	2	9.3	13.0
29-Sep	2	0	0	-1	-1	-2	-2	-2	1	4	10	11	13	14	15	16	16	16	14	13	13	12	11	10	7.7	16.4
30-Sep	9	7	7	6	6	6	6	8	11	13	13	14	14	14	14	14	14	13	12	12	11	10	9	8	10.5	14.4
9.5 8.8 8.4 8.0 7.6 7.1 6.8 7.7 9.8 12.0 14.1 15.9 17.2 18.2 18.6 18.6 18.5 18.0 16.9 14.7 13.0 11.9 11.1 10.3																								Diurnal Average		
17.8 15.9 15.3 14.6 14.2 14.2 14.6 15.8 19.1 22.4 25.3 26.8 28.0 29.1 29.6 30.0 30.0 28.1 23.3 21.5 18.6 18.4 19.3																								Diurnal Maximum		

Hourly Averages

External Temperature (ET) - °C
Valleyview - September 2011



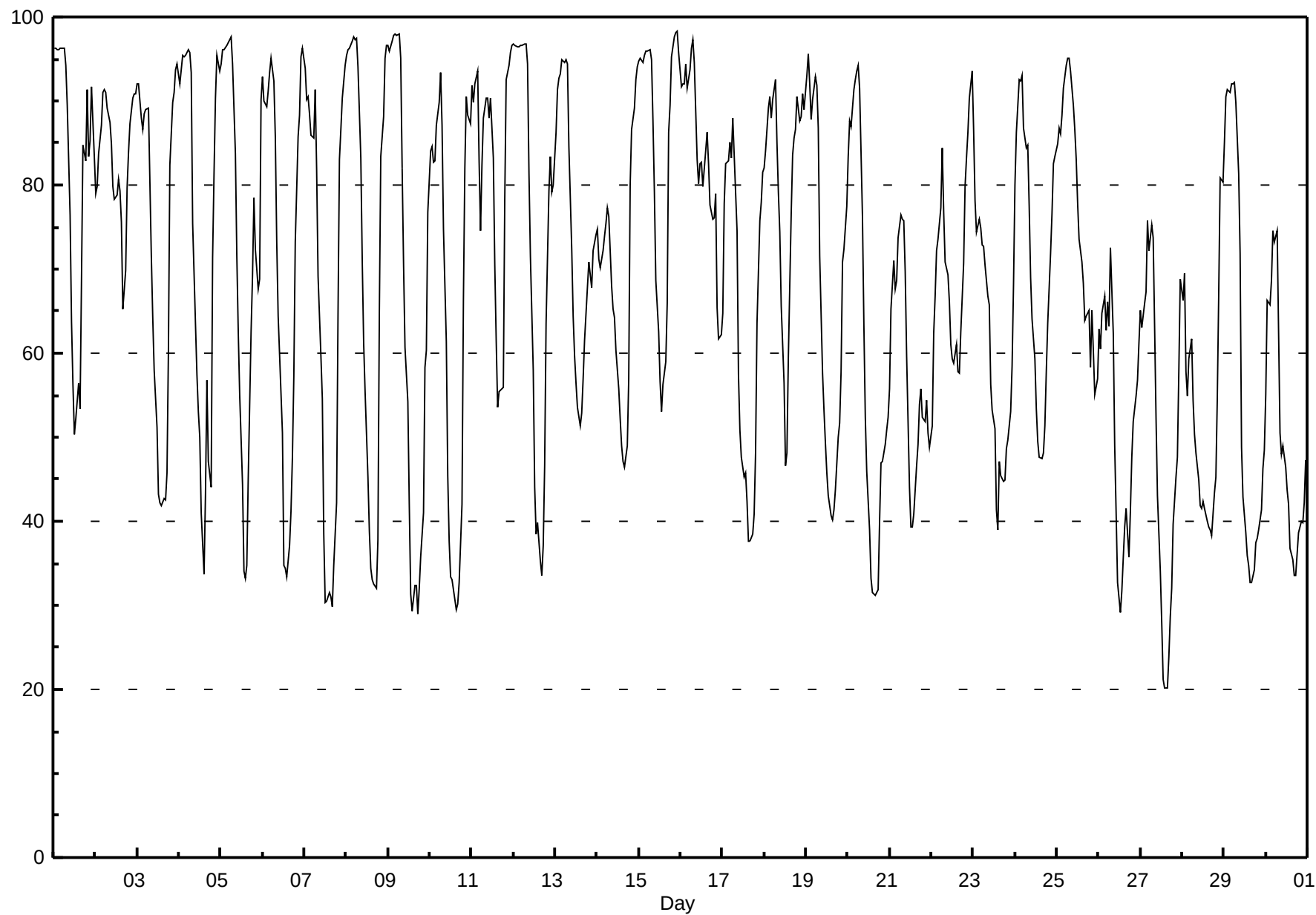
Hourly Averages

Relative Humidity (RH) - %
Valleyview - September 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 98.3 % on Sep 15 23:00 Maximum Daily Average: 83.8 % on Sep 15																								Hours in Service: 720 Hours of Data: 720 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0		
Minimum Value: 20 % on Sep 27 15:00 Maximum Diurnal Average: 87.5 % at hour 7 Monthly Average: 68.38 %												Minimum Daily Average: 49.4 % on Sep 27 Minimum Diurnal Average: 44.9 % at hour 15 Percentiles: P ₁ = 29.2 P ₁₀ = 38.6 Q ₁ = 50.3 Median = 70.8 Q ₃ = 87.9 P ₉₀ = 94.4 P ₉₉ = 97.7														
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-Sep	96	96	96	96	96	96	96	94	89	76	64	56	50	52	56	53	69	85	83	91	83	85	92	83	80.7	96.3
2-Sep	79	80	84	87	91	91	91	89	88	85	80	78	79	81	79	76	65	70	80	84	87	90	91	91	83.1	91.4
3-Sep	92	92	88	87	88	89	89	80	71	64	58	51	43	42	42	43	43	46	60	82	90	91	94	94	71.7	94.5
4-Sep	92	94	95	95	95	96	96	93	76	63	57	53	50	41	34	43	57	47	44	71	81	90	95	94	73.1	96.2
5-Sep	94	96	96	97	97	97	98	94	84	72	62	55	44	34	33	35	45	62	69	78	72	68	69	90	72.6	97.7
6-Sep	93	90	89	91	93	95	92	86	73	64	60	50	35	34	33	37	41	48	57	73	86	88	95	96	71.0	96.2
7-Sep	94	90	90	88	86	86	91	82	69	60	55	39	30	31	31	31	30	35	42	65	83	87	90	94	65.8	94.3
8-Sep	95	96	96	97	98	97	98	94	83	71	61	55	45	39	34	33	33	32	38	65	83	88	95	97	71.8	97.6
9-Sep	97	96	97	98	98	98	98	95	82	70	61	54	42	31	29	32	32	29	32	36	41	58	60	77	64.3	97.9
10-Sep	84	85	83	83	87	90	93	87	75	61	45	38	33	33	31	29	30	33	42	66	82	90	88	87	64.9	93.4
11-Sep	92	90	92	94	83	75	82	88	90	90	88	90	83	70	62	54	55	56	56	78	93	94	96	97	81.1	96.6
12-Sep	97	97	96	96	97	97	97	97	94	81	72	58	44	39	40	35	34	37	47	64	79	83	79	80	72.4	96.8
13-Sep	86	91	93	93	95	95	95	94	85	72	64	60	56	54	51	53	57	61	68	71	69	68	72	74	74.1	94.9
14-Sep	75	71	70	72	74	75	77	76	68	65	64	60	56	52	49	47	47	49	57	80	87	89	92	94	68.7	94.0
15-Sep	95	95	95	95	96	96	96	95	88	79	69	63	57	53	56	59	66	86	90	95	98	98	98	96	83.8	98.3
16-Sep	92	92	92	94	91	94	96	97	95	83	80	82	83	80	84	86	83	78	76	76	79	65	62	62	83.4	97.2
17-Sep	65	78	83	83	85	83	88	84	75	57	51	48	45	46	42	38	38	38	41	48	64	76	78	81	63.0	87.9
18-Sep	82	84	89	90	88	90	93	85	79	74	66	56	47	48	60	77	83	86	87	90	88	88	91	89	79.6	92.6
19-Sep	93	96	92	88	90	93	92	87	71	58	53	49	46	43	41	40	41	44	50	52	58	71	72	78	66.5	95.5
20-Sep	83	88	87	91	93	94	94	91	76	63	52	46	39	33	31	31	31	32	40	47	47	49	51	52	60.1	94.3
21-Sep	56	65	71	68	69	74	76	76	76	70	60	44	39	39	41	47	49	54	56	52	52	54	51	49	57.8	76.5
22-Sep	51	62	67	72	74	77	84	77	71	69	66	61	59	59	61	58	58	63	71	80	83	86	90	94	70.5	93.6
23-Sep	87	78	74	76	75	73	73	71	67	66	56	53	51	41	39	47	45	45	45	49	50	53	58	68	60.0	86.7
24-Sep	80	86	93	92	93	87	84	85	77	69	64	59	53	49	48	47	48	51	58	63	72	77	83	83	71.0	93.1
25-Sep	85	87	86	88	92	94	95	95	94	89	87	83	78	74	71	68	64	64	65	58	65	60	55	57	77.3	95.1
26-Sep	63	61	65	67	63	66	63	73	62	49	41	33	29	32	36	39	41	36	41	48	52	55	57	61	51.3	72.5
27-Sep	65	63	66	67	76	72	75	74	63	52	43	34	28	21	20	20	24	29	32	40	45	48	58	69	49.4	75.8
28-Sep	66	70	58	55	59	62	54	50	48	45	42	42	42	41	40	39	39	38	43	45	55	67	81	80	52.6	80.8
29-Sep	85	91	91	91	92	92	92	90	81	72	49	43	39	36	35	33	33	34	37	38	39	41	46	49	59.5	92.1
30-Sep	55	66	66	69	75	73	75	63	50	48	49	46	44	42	37	35	34	33	36	39	40	40	42	47	50.2	74.6
82.3 84.2 84.7 85.4 86.3 86.5 87.5 84.7 76.7 68.0 60.6 54.7 49.0 45.7 44.9 45.6 47.1 50.0 54.7 64.2 70.1 73.3 76.1 78.8																								Diurnal Average		
96.8 96.6 97.2 97.7 97.9 97.8 97.9 97.2 94.6 90.4 88.0 90.4 83.2 80.7 84.0 86.2 83.5 86.3 89.5 95.2 97.6 98.1 98.3 96.7																								Diurnal Maximum		

Hourly Averages

Relative Humidity (RH) - %
Valleyview - September 2011



Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Valleyview - September 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	2	2	2	1	1	1	1	2	2	4	4	5	5	3	2	6	1	0	1	0	4	3	1	4	1.7	5.9
Dir	166	165	174	182	166	178	173	164	161	163	163	165	163	164	167	224	215	344	134	213	310	263	174	250	186	224
2 Spd	2	3	7	8	7	8	7	7	7	7	10	9	9	8	7	8	10	6	6	6	2	1	1	2	5.6	10.1
Dir	236	234	249	268	254	269	258	272	291	298	292	298	286	285	287	283	304	300	254	248	232	184	168	158	275	292
3 Spd	2	2	3	3	3	2	3	4	4	4	4	5	5	4	8	5	3	2	1	1	1	1	1	1	2.5	7.7
Dir	163	159	161	158	157	166	163	160	159	161	168	157	209	216	248	243	211	204	176	161	174	179	184	170	186	248
4 Spd	2	1	1	1	0	1	1	1	4	4	4	3	3	2	5	2	1	3	3	1	1	0	1	1	1.3	5.0
Dir	170	173	182	195	206	167	210	170	160	161	163	164	158	211	265	305	233	292	261	165	194	160	171	173	195	265
5 Spd	1	1	1	0	1	1	3	2	3	3	4	3	2	3	1	2	0	1	0	3	1	1	1	1	0.9	3.7
Dir	176	195	180	249	176	210	161	171	160	161	157	152	199	228	187	113	109	348	12	331	358	330	41	157	169	157
6 Spd	1	2	2	2	0	2	2	3	4	3	2	2	7	3	4	2	2	1	1	1	0	1	1	1	1.6	7.5
Dir	185	178	179	166	194	165	171	162	161	162	153	141	260	232	236	178	161	159	163	180	228	196	185	173	187	260
7 Spd	2	2	1	1	1	1	1	2	3	3	2	6	9	8	7	3	4	2	1	0	0	1	1	0	1.5	9.4
Dir	166	176	176	167	175	194	168	159	157	162	151	267	267	258	275	249	305	34	85	166	305	183	200	290	238	267
8 Spd	0	0	1	1	1	0	1	2	3	2	3	2	2	2	2	1	1	2	2	0	1	1	1	1	1.0	2.9
Dir	16	258	177	234	187	192	164	159	158	165	161	157	169	164	169	148	173	296	308	165	189	176	167	164	173	158
9 Spd	1	0	0	1	1	0	1	2	3	3	3	3	3	12	12	10	7	7	2	6	4	2	2	1	2.4	12.5
Dir	173	171	254	163	219	198	166	157	160	162	163	158	254	282	288	294	295	284	260	298	261	182	193	163	265	282
10 Spd	1	2	2	1	2	1	1	1	2	1	9	8	7	6	7	6	3	1	0	0	0	0	1	1	1.4	9.3
Dir	150	162	157	171	194	188	170	153	154	319	330	308	304	283	310	325	3	51	106	133	35	168	340	335	306	330
11 Spd	0	0	1	3	7	12	7	2	13	18	15	11	8	8	6	4	3	2	3	1	1	1	1	2	4.4	18.2
Dir	251	221	163	5	6	7	28	28	342	4	6	7	356	344	349	342	4	252	252	179	178	181	176	162	358	4
12 Spd	1	0	0	1	1	0	1	2	2	2	2	1	6	6	7	9	10	10	3	0	0	4	6	4	2.2	10.5
Dir	171	219	312	292	228	313	179	176	169	171	167	21	313	310	315	324	343	350	27	17	355	1	5	6	336	350
13 Spd	0	2	2	1	1	1	1	1	1	4	7	6	7	7	7	8	7	6	4	4	6	5	3	3	3.2	8.1
Dir	307	352	357	4	88	29	27	351	98	141	143	140	133	131	127	134	140	153	159	150	154	152	143	145	137	134
14 Spd	3	4	4	4	6	6	5	4	7	8	7	5	4	4	3	3	2	3	2	1	0	1	0	0	3.4	7.8
Dir	146	146	157	162	162	165	168	157	162	163	165	163	165	164	168	178	167	166	161	146	245	357	188	320	162	163
15 Spd	0	1	0	0	1	1	0	0	1	1	2	2	1	0	7	6	5	6	1	1	3	1	2	10	1.1	10.1
Dir	310	329	229	233	157	279	333	277	144	312	5	334	23	289	7	352	252	303	45	111	156	185	252	267	303	267
16 Spd	9	6	2	2	6	3	1	1	3	9	13	13	13	13	15	13	11	10	9	7	7	11	9	9	7.8	15.1
Dir	264	259	198	241	271	236	171	172	230	254	254	247	245	249	267	274	275	290	287	281	258	271	269	257	262	267
17 Spd	6	2	2	1	2	2	2	2	3	9	14	15	15	11	12	14	14	12	9	5	2	2	1	2	5.3	15.2
Dir	248	178	172	170	165	161	158	158	159	264	272	278	273	291	282	276	274	292	290	266	203	184	171	168	267	278
18 Spd	2	3	2	3	2	1	1	2	2	3	3	3	4	4	3	6	1	3	3	3	3	2	2	2	2.2	5.9
Dir	161	161	160	163	166	174	181	160	164	158	158	167	161	167	163	265	342	162	164	164	164	160	166	160	170	265
19 Spd	1	1	2	2	1	2	2	2	3	14	19	17	16	16	15	16	12	11	7	6	3	2	2	2	5.9	18.6
Dir	166	152	162	160	176	167	171	160	236	279	282	284	282	274	287	293	287	277	271	266	234	162	157	153	273	282
20 Spd	2	1	1	1	1	1	0	1	4	5	6	4	6	6	6	6	5	6	3	4	3	4	5	6	3.6	6.2
Dir	151	168	169	164	205	190	231	176	158	162	163	161	165	163	160	157	158	151	148	153	161	167	167	167	161	160
21 Spd	4	2	3	3	3	3	2	2	1	1	2	4	5	5	5	4	4	4	5	8	6	3	3	13	3.1	12.6
Dir	167	204	173	170	170	187	175	173	176	178	163	166	165	165	161	156	153	162	167	165	164	160	234	287	177	287
22 Spd	12	9	4	3	2	3	2	2	2	2	3	3	2	3	3	2	1	1	1	2	3	1	0	0	1.5	12.4
Dir	309	325	325	296	278	313	221	239	325	284	267	269	213	164	159	134	118	36	11	21	351	353	212	186	300	309

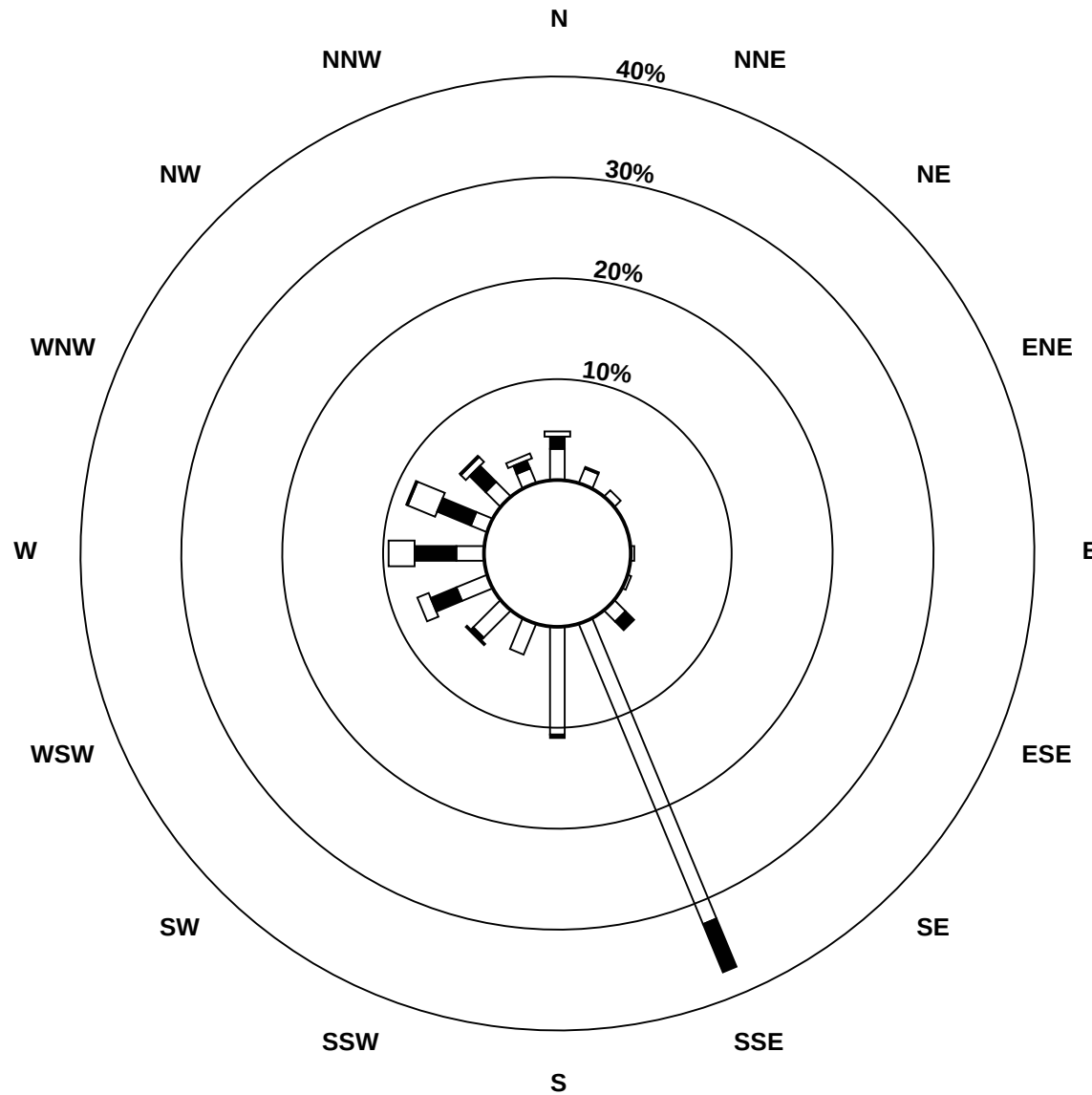
Hourly Averages

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

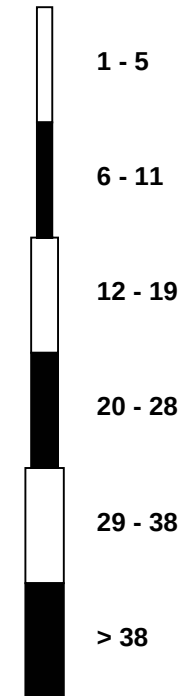
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24					
23 Spd	3	5	5	4	5	5	4	4	5	5	6	7	5	7	18	19	20	15	9	8	5	6	2	1	2.1	20.3			
Dir	167	163	164	168	169	166	169	166	166	163	165	164	165	183	322	332	325	330	304	312	282	280	277	180	276	325			
24 Spd	2	1	1	2	1	1	1	1	3	4	4	5	5	5	1	2	2	3	4	4	5	3	1	3	1.4	4.7			
Dir	156	167	198	159	155	219	171	162	246	284	322	321	338	348	22	86	45	36	12	10	341	5	352	351	346	321			
25 Spd	1	2	1	0	1	1	1	0	0	2	0	1	1	0	1	1	2	2	2	2	1	5	6	2	0.5	6.3			
Dir	27	356	26	317	346	235	321	2	355	161	139	179	162	29	152	171	225	208	160	165	297	296	314	284	277	314			
26 Spd	3	3	5	4	4	2	3	0	2	4	3	4	2	5	3	2	4	7	7	6	6	3	3	2	2.1	6.9			
Dir	236	268	287	250	276	230	249	178	236	290	279	258	157	163	148	137	138	158	158	160	160	162	164	157	195	158			
27 Spd	4	4	3	4	1	3	1	2	4	7	7	6	8	12	17	19	13	10	9	2	3	3	1	2	4.5	18.8			
Dir	172	166	180	168	174	167	177	163	160	163	167	174	222	227	250	254	268	279	264	217	231	232	188	164	225	254			
28 Spd	2	2	4	4	2	3	2	8	13	18	20	19	16	16	16	14	11	9	2	4	1	1	2	2	7.1	19.9			
Dir	164	150	236	235	196	201	258	270	269	280	283	286	293	294	298	281	289	287	267	247	214	176	185	183	277	283			
29 Spd	1	0	1	0	1	2	2	2	1	1	8	9	7	6	6	7	5	4	4	4	5	4	5	2	3.0	8.8			
Dir	207	178	245	229	266	338	336	343	266	173	164	162	162	168	159	159	153	147	153	162	160	168	169	166	164	162			
30 Spd	1	1	2	2	1	1	1	3	7	3	15	15	13	12	16	13	13	11	7	5	6	8	8	1	5.6	15.6			
Dir	242	181	172	185	184	212	208	278	345	12	323	311	295	295	277	254	263	254	252	243	246	254	251	210	277	277			
Spd	1.2	0.9	1.2	1.2	1.1	0.9	0.9	1.2	1.3	1.8	2.4	2.7	3.5	3.7	4.4	4.1	3.3	2.6	1.7	1.3	1.4	1.2	1.0	1.3	Diurnal Average				
Dir	214	202	199	200	205	209	190	193	205	237	254	253	254	253	275	273	281	281	253	229	217	228	220	228	Diurnal Maximum				
Spd	12.4	8.6	7.4	8.1	6.9	11.7	6.6	8.3	13.2	18.4	19.9	18.6	16.0	16.2	18.5	18.8	20.3	14.6	9.3	8.5	6.5	10.8	9.3	12.6	Diurnal Maximum				
Dir	309	325	249	268	254	7	258	270	342	280	283	286	293	294	322	254	325	330	290	312	258	271	269	287					
Maximum Speed Value: 20 ppb on Sep 23 17:00																		Minimum Speed Value: 0 ppb on Sep 22 23:00										Hours in Service: 720	
Maximum Daily Speed Average: 7.8 ppb on Sep 16																		Minimum Daily Speed Average: 0.5 ppb on Sep 8										Hours of Data: 720	
Maximum Diurnal Speed Average: 4.4 ppb at hour 15																		Minimum Diurnal Speed Average: 0.9 ppb at hour 6										Hours of Missing Data: 0	
Monthly Average Velocity: 1.71 ppb 245.6 deg																		Speed Percentiles: P ₁ = 0.2 P ₁₀ = 0.6 Q ₁ = 1.3 Median = 2.6 Q ₃ = 5.5 P ₉₀ = 9.3 P ₉₉ = 18.3										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	42		11		4		0		0		0		57																
NorthEast	16		1		0		0		0		0		17																
East	7		0		0		0		0		0		7																
SouthEast	53		14		0		0		0		0		67																
South	271		38		0		0		0		0		309																
SouthWest	63		4		3		0		0		0		70																
West	42		51		35		1		0		0		129																
NorthWest	30		21		12		1		0		0		64																
Total	524		140		54		2		0		0		720																

Wind Rose

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



Wind Speed Classes (km/h)



Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Valleyview - September 2011

Maximum Speed: 21 km/h on Sep 23 15:00																				Maximum Daily Speed Average: 8.4 km/h on Sep 16										Hours in Service: 720	
Minimum Speed: 1 km/h on Sep 12 02:00																				Minimum Daily Speed Average: 1.6 km/h on Sep 8										Hours of Data: 720	
Maximum Diurnal Speed Average: 8.0 km/h at hour 15																				Minimum Diurnal Speed Average: 2.2 km/h at hour 7										Hours of Missing Data: 0	
Monthly Average Speed: 4.35 km/h																				Percentiles: P ₁ = 0.7 P ₁₀ = 1.0 Q ₁ = 1.6 Median = 2.9 Q ₃ = 5.8 P ₉₀ = 9.5 P ₉₉ = 18.9										Percent Operational Time: 100.0	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24							
1-Sep	2	2	2	1	2	1	2	2	3	4	5	5	5	3	2	7	2	2	1	1	6	3	1	4	2.8	7.0					
2-Sep	2	3	7	8	7	8	7	7	8	7	10	9	9	8	7	9	10	7	6	6	3	1	1	2	6.4	10.5					
3-Sep	2	2	3	3	3	3	3	4	4	4	4	5	6	6	8	6	4	3	1	1	1	1	1	1	3.3	8.4					
4-Sep	2	1	1	1	1	1	1	1	4	4	4	3	3	4	5	3	2	3	3	1	1	1	1	1	2.2	5.3					
5-Sep	1	1	1	1	1	1	3	2	3	4	4	3	4	4	3	3	1	1	2	3	1	2	1	1	2.1	4.2					
6-Sep	1	2	2	2	1	2	2	3	4	3	3	3	8	3	5	3	2	2	1	1	1	1	1	1	2.3	8.1					
7-Sep	2	2	1	2	1	1	1	2	3	3	2	7	10	8	7	4	4	2	1	1	1	1	1	1	2.8	9.7					
8-Sep	1	1	1	1	1	1	1	2	3	2	3	3	2	2	2	2	2	2	2	1	1	1	1	1	1.6	3.0					
9-Sep	1	1	1	1	1	1	1	2	3	3	3	3	6	13	13	10	8	7	3	7	5	2	2	1	4.1	12.9					
10-Sep	1	2	2	1	2	2	1	1	2	4	10	8	8	7	8	6	4	2	1	1	1	1	2	1	3.3	9.5					
11-Sep	1	1	1	4	7	12	7	6	13	18	15	11	9	8	6	5	4	3	4	1	1	1	1	2	5.9	18.4					
12-Sep	1	1	1	1	1	1	1	2	2	3	2	3	7	7	8	9	10	11	3	1	1	4	6	4	3.7	10.9					
13-Sep	1	3	3	1	1	1	1	2	1	4	7	6	7	7	7	8	7	6	4	4	6	5	3	3	4.2	8.2					
14-Sep	3	4	4	4	6	6	5	4	7	8	7	5	4	4	3	3	2	3	2	1	1	1	1	1	3.7	7.9					
15-Sep	1	1	1	1	1	1	1	1	2	3	2	3	3	3	7	7	6	7	3	1	3	1	2	10	2.9	10.4					
16-Sep	9	6	3	3	6	3	1	1	3	10	13	13	13	13	15	14	11	10	9	7	7	11	9	9	8.4	15.3					
17-Sep	6	2	2	2	2	2	2	2	3	10	14	16	15	12	13	14	14	12	9	5	2	2	2	2	6.9	15.8					
18-Sep	2	3	2	3	2	1	1	2	2	3	3	4	4	4	3	7	2	3	3	3	3	2	2	2	2.7	6.8					
19-Sep	1	1	2	2	2	2	2	2	4	14	19	17	16	16	16	16	12	11	7	6	4	2	2	2	7.5	18.9					
20-Sep	2	1	1	1	1	1	1	1	4	5	6	5	6	6	6	6	6	6	3	4	4	4	5	6	3.7	6.3					
21-Sep	4	2	3	3	3	3	2	2	2	1	3	4	6	5	5	4	4	4	5	8	6	3	4	13	4.2	13.1					
22-Sep	13	9	4	4	3	3	2	2	2	3	4	3	3	3	3	3	2	1	1	2	3	2	1	1	3.2	12.6					
23-Sep	3	5	5	4	5	5	4	4	5	5	6	7	5	8	21	19	21	15	9	9	5	6	2	2	7.5	21.1					
24-Sep	2	2	1	2	1	2	1	1	4	5	5	6	5	6	4	3	3	4	5	4	5	3	2	3	3.2	5.8					
25-Sep	2	3	2	1	1	2	2	1	1	2	2	2	2	2	1	2	3	2	2	3	2	6	7	3	2.4	6.6					
26-Sep	4	4	6	4	4	2	3	1	2	4	4	5	3	5	3	2	4	7	7	6	6	3	3	2	3.9	7.0					
27-Sep	4	4	4	4	2	3	1	2	4	7	8	7	9	13	18	19	14	10	9	2	3	3	1	2	6.4	19.1					
28-Sep	2	2	4	4	3	3	2	8	13	19	20	19	16	17	17	14	12	9	3	4	2	1	2	2	8.3	20.3					
29-Sep	1	1	1	1	1	2	2	2	1	2	8	9	8	6	6	7	6	4	4	4	5	4	5	3	3.8	8.9					
30-Sep	2	1	2	2	1	2	2	5	7	4	16	15	13	13	16	14	14	12	7	5	6	8	8	2	7.4	16.4					
2.6 2.4 2.4 2.4 2.4 2.6 2.2 2.6 4.0 5.5 7.1 7.0 7.3 7.2 8.0 7.6 6.5 5.7 4.0 3.4 3.1 2.9 2.7 2.9																								Diurnal Average							
12.6 9.0 7.5 8.3 7.0 11.8 7.3 8.5 13.3 18.7 20.3 19.1 16.4 16.7 21.1 19.1 20.6 14.8 9.5 8.7 6.6 11.0 9.4 13.1																								Diurnal Maximum							
All monthly, daily, and diurnal averages have been calculated using scalar methods																															

Hourly Standard Deviations

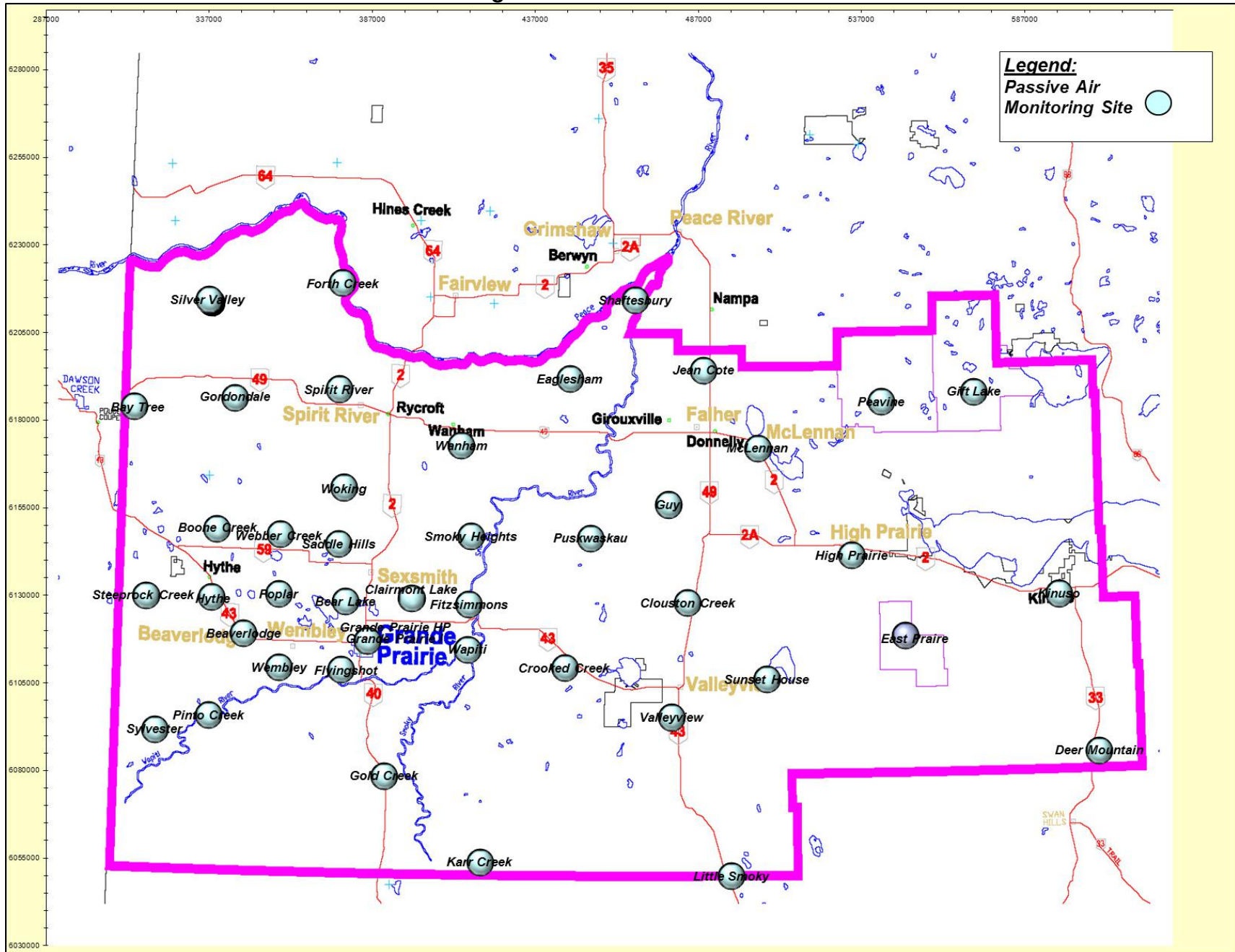
Wind Direction (WD) - deg
Valleyview - September 2011

Maximum Value: 95.4 deg on Sep 22 23:00																		Hours in Service: 720							
Minimum Value: 4.9 deg on Sep 27 02:00																		Hours of Data: 720							
Percentiles: P ₁ = 6.2 P ₁₀ = 9.3 Q ₁ = 12.5 Median = 20.8 Q ₃ = 47.0 P ₉₀ = 67.8 P ₉₉ = 91.9																		Hours of Missing Data: 0							
																		Hours of Calibration: 0							
																		Percent Operational Time: 100.0							
Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Sep	8	8	16	30	16	45	37	20	15	14	15	12	13	14	19	37	66	95	45	71	87	33	24	27	95.3
2-Sep	29	29	9	12	12	11	10	13	16	19	15	18	15	19	20	14	19	36	15	9	18	32	22	15	35.6
3-Sep	10	7	7	7	10	7	6	7	12	13	17	16	40	41	32	34	41	35	30	10	42	22	19	6	41.7
4-Sep	6	15	40	37	61	63	58	72	19	11	15	17	27	58	21	53	49	28	44	20	17	79	59	40	79.2
5-Sep	54	50	59	64	44	54	14	29	11	14	15	21	54	52	83	54	70	44	87	59	67	81	70	30	86.6
6-Sep	54	12	19	10	66	8	18	11	8	11	17	41	30	48	39	30	12	18	33	33	66	60	51	38	66.2
7-Sep	7	12	25	17	50	24	64	19	12	17	23	47	16	24	22	50	32	26	31	75	89	61	53	82	88.8
8-Sep	90	55	58	63	57	57	15	14	30	29	19	31	30	28	29	48	47	47	34	63	57	31	29	9	90.0
9-Sep	34	88	73	74	54	70	15	10	13	17	16	18	64	15	15	14	15	16	63	19	41	17	19	68	87.8
10-Sep	64	24	16	25	21	18	17	59	33	88	13	24	31	39	25	31	49	41	62	66	93	80	85	83	92.6
11-Sep	67	92	68	65	16	7	35	74	9	8	10	12	16	27	26	46	72	59	19	26	20	49	15	7	91.6
12-Sep	25	56	62	53	45	61	43	14	17	23	59	89	31	39	39	27	18	18	20	94	92	14	6	7	93.6
13-Sep	78	43	23	77	50	78	53	34	50	17	14	16	16	16	15	9	13	13	11	8	8	9	8	8	77.8
14-Sep	9	10	11	9	9	8	12	7	11	9	13	16	20	23	40	28	20	10	14	46	65	35	72	91	91.4
15-Sep	76	25	71	68	44	64	80	81	66	71	57	63	80	86	20	38	41	27	78	50	15	25	80	14	86.0
16-Sep	10	19	43	48	18	26	19	18	38	12	9	13	11	13	11	10	13	12	12	11	10	10	9	13	48.5
17-Sep	24	24	11	16	15	18	12	23	13	36	14	15	17	17	18	20	12	13	12	17	27	17	11	11	36.4
18-Sep	8	7	8	7	6	18	17	48	59	17	22	18	18	11	10	45	82	14	7	8	9	20	13	11	82.1
19-Sep	50	15	10	12	16	10	9	10	47	12	10	13	15	17	17	15	15	11	10	17	30	22	30	27	50.0
20-Sep	10	30	26	25	41	43	58	80	11	10	12	17	13	14	12	12	13	9	7	9	10	8	7	7	80.5
21-Sep	9	29	10	9	14	27	13	15	33	48	31	13	13	11	11	9	10	8	8	7	6	9	41	15	48.2
22-Sep	10	19	27	58	62	35	40	33	47	51	44	46	44	17	22	29	64	60	18	28	17	74	95	87	95.4
23-Sep	11	9	13	12	8	7	9	9	10	11	6	7	8	31	33	10	9	10	11	12	18	14	48	45	47.6
24-Sep	42	76	49	16	62	48	30	51	47	39	33	34	37	49	82	61	52	22	23	11	12	21	39	19	82.0
25-Sep	59	34	76	94	84	76	71	87	95	23	93	67	77	91	50	77	50	38	19	48	85	63	22	43	95.2
26-Sep	52	37	22	34	25	38	11	74	58	33	60	64	69	25	19	15	11	11	9	8	7	11	5	36	74.0
27-Sep	22	5	24	12	78	12	73	40	8	8	10	20	30	26	20	10	16	10	14	17	13	26	49	38	77.8
28-Sep	18	35	22	29	25	21	72	15	10	10	10	12	13	14	17	16	17	16	36	10	29	42	20	17	71.7
29-Sep	64	66	59	53	63	50	17	51	52	76	11	10	12	11	14	12	12	9	13	11	10	12	8	43	75.6
30-Sep	66	69	24	27	35	71	50	55	19	41	14	13	17	15	19	13	12	14	10	16	12	9	13	41	71.1
	90.0	91.6	75.7	93.9	84.2	77.7	80.1	87.5	95.2	88.0	93.5	88.9	79.9	91.0	82.8	77.2	82.1	95.3	86.6	93.6	92.6	80.5	95.4	91.4	

PAZA

Monthly Passive Data Summary

Location of PAZA Passive Monitoring Stations



PAZA Passive Results for September 2011

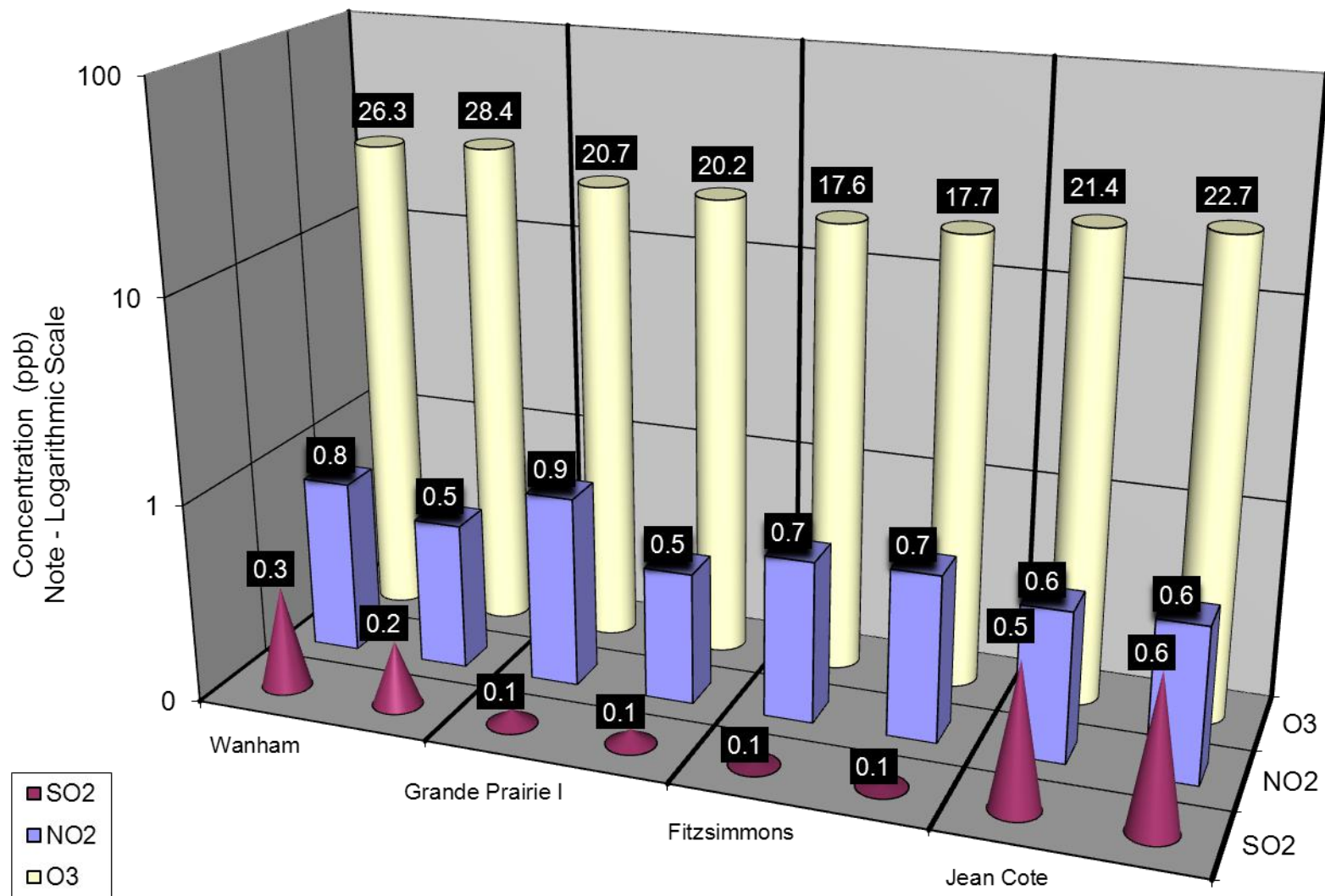
Station Number	Station Name	SO2 ppb	O3 ppb	NO2 ppb	Site Legal
Duplicates					
19a	Wanham	0.3	26.3	0.8	
19b	Wanham	0.2	28.4	0.5	
27a	Grande Prairie I	0.1	20.7	0.9	
27b	Grande Prairie I	0.1	20.2	0.5	
30a	Fitzsimmons	0.1	17.6	0.7	
30b	Fitzsimmons	0.1	17.7	0.7	
35a	Jean Cote	0.5	21.4	0.6	
35b	Jean Cote	0.6	22.7	0.6	
1	Silver Valley	0.2	23.2	0.6	08-27-081-11 W6M
2	Bay Tree	0.2	21.5	0.5	13-16-078-13 W6M
3	Fourth Creek	0.2	25.7	0.7	04-13-082-07 W6M
4	Gordondale	0.3	27.4	0.7	04-34-078-10 W6M
5	Boone Creek	0.1	18.3	0.9	16-36-074-11 W6M
7	Steepprock Creek	0.1	22.4	0.3	09-35-072-13 W6M
9	Spirit River	0.1	23.3	0.8	08-12-079-07 W6M
10	Woking	0.2	24.8	0.7	01-13-076-07 W6M
11	Webber Creek	0.2	19.8	0.7	09-36-074-09 W6M
12	Hythe	0.2	20.7	1.3	14-36-072-11 W6M
14	Sylvester	BDL	17.7	0.7	08-06-069-12 W6M
16	Beaverlodge	0.1	25.4	1.1	15-36-071-10 W6M
17	Poplar	0.1	19.7	0.7	13-06-073-08 W6M
18	Saddle Hills	0.2	22.8	0.4	04-25-074-07 W6M
19	Wanham	0.3	27.4	0.7	16-22-077-03 W6M
20	Shaftesbury	0.2	23.3	0.4	04-03-082-23 W5M
21	Eaglesham	0.2	17.7	0.3	16-21-079-25 W5M
23	Bear Lake	0.1	20.1	1.1	15-31-072-06 W6M

PAZA Passive Results for September 2011 (Continued)

24	Wembley	0.1	17.8	0.8	12-31-070-08 W6M
25	Pinto Creek	0.1	19.0	0.6	04-24-069-11 W6M
26	Flyingshot	0.1	18.3	1.0	15-36-070-07 W6M
27	Grande Prairie I	0.1	20.5	0.7	08-15-071-06 W6M
28	Clairmont Lake	0.1	17.5	1.1	09-06-073-04 W6M
29	Smoky Heights	0.2	25.8	0.8	04-06-075-02 W6M
30	Fitzsimmons	0.1	17.7	0.7	15-36-072-03 W6M
32	Gold Creek	0.2	16.9	1.3	06-33-067-05 W6M
33	Wapiti	0.1	18.6	0.8	02-25-071-03 W6M
34	Puskwaskau	0.1	16.6	0.3	15-35-074-25 W5M
35	Jean Cote	0.6	22.1	0.6	12-35-079-21 W5M
36	Guy	0.1	21.8	0.5	03-04-076-22 W5M
37	Crooked Creek	0.1	21.0	0.8	16-01-071-26 W5M
38	Karr Creek	0.4	13.7	0.5	10-16-065-02 W6M
39	Clouston Creek	0.1	20.0	0.5	12-01-073-22 W5M
40	McLennan	0.1	21.3	0.6	03-29-077-19 W5M
41	Valleyview	0.1	23.1	N/S	09-30-069-22 W5M
42	Sunset House	0.2	26.2	0.4	05-32-070-19 W5M
43	High Prairie	0.1	21.1	0.5	16-13-074-17 W5M
44	Peavine	0.1	18.7	0.2	03-05-079-15 W5M
45	Gift Lake	0.1	16.1	0.4	10-07-079-12 W5M
46	Little Smoky	0.3	15.5	N/S	12-01-065-21 W5M
47	Kinuso	0.3	18.0	0.4	12-10-073-10 W5M
48	Deer Mountain	0.1	22.2	0.7	15-22-068-09 W5M
49	Grande Prairie HP	0.2	22.0	3.2	17-26-071-06 W6M
50	East Prairie	0.1	17.4	0.4	13-02-072-15 W5M

*BDL = Below Detection Level

*N/S - No sample



Duplicate Summary Chart

Passive Summary for September 2011

Stats	Sulphur Dioxide SO ₂	Ozone O ₃	Nitrogen Dioxide NO ₂
	ppb	ppb	ppb

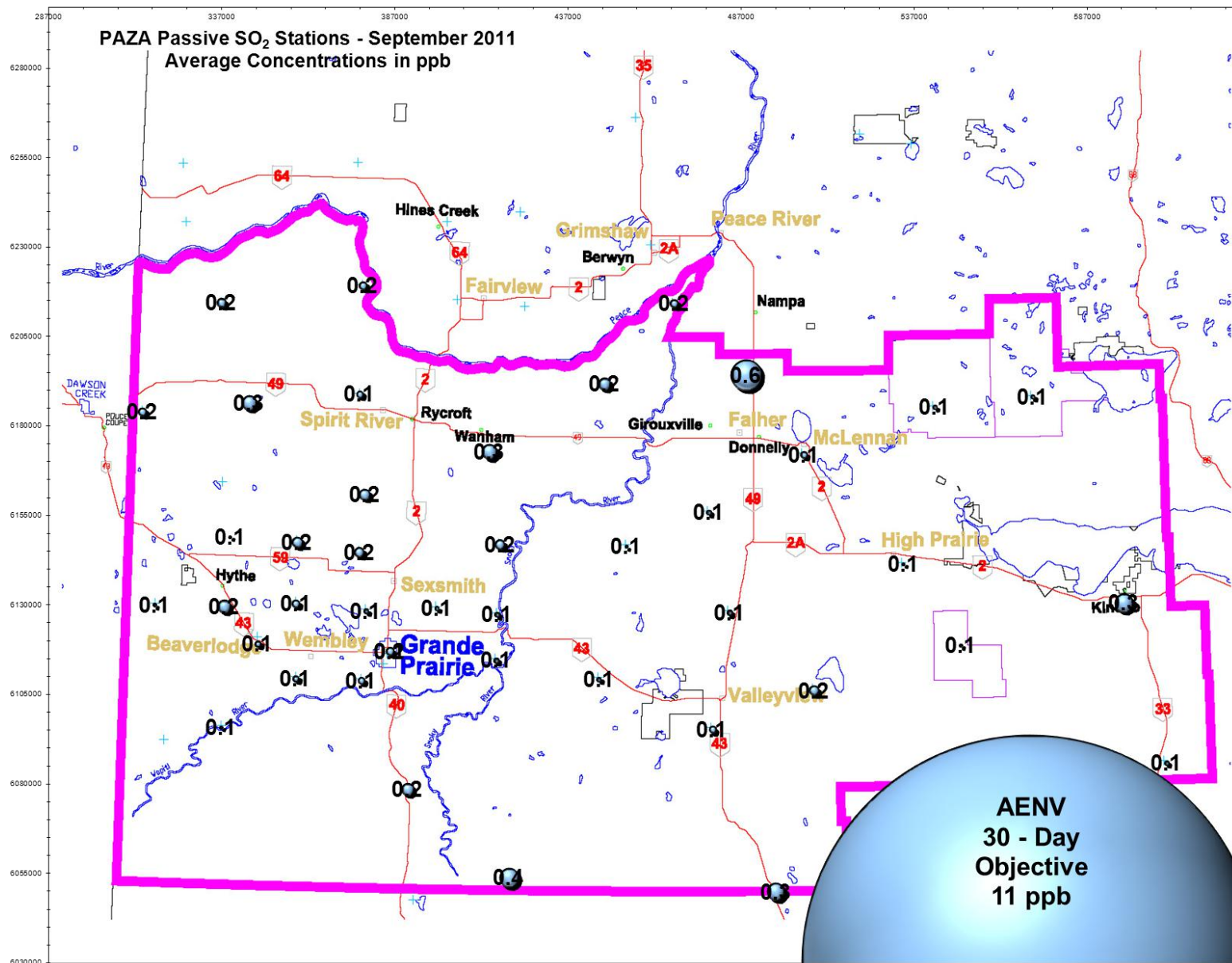
Passive Summary for September 2011 (PAZA Zone)			
Mean	0.2	20.8	0.7
Standard Deviation	0.1	3.3	0.5
Minimum	0.1	13.7	0.2
Minimum At	Boone Creek (#5)	Karr Creek (#38)	Peavine (#44)
Maximum	0.6	27.4	3.2
Maximum At	Jean Cote (#35)	Gordondale (#4)	Grande Prairie HP

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

	SO ₂	O ₃	NO ₂
PAZA Beaverlodge station	0.1	22.7	2.4
PAZA Beaverlodge passive	0.1	25.4	1.1

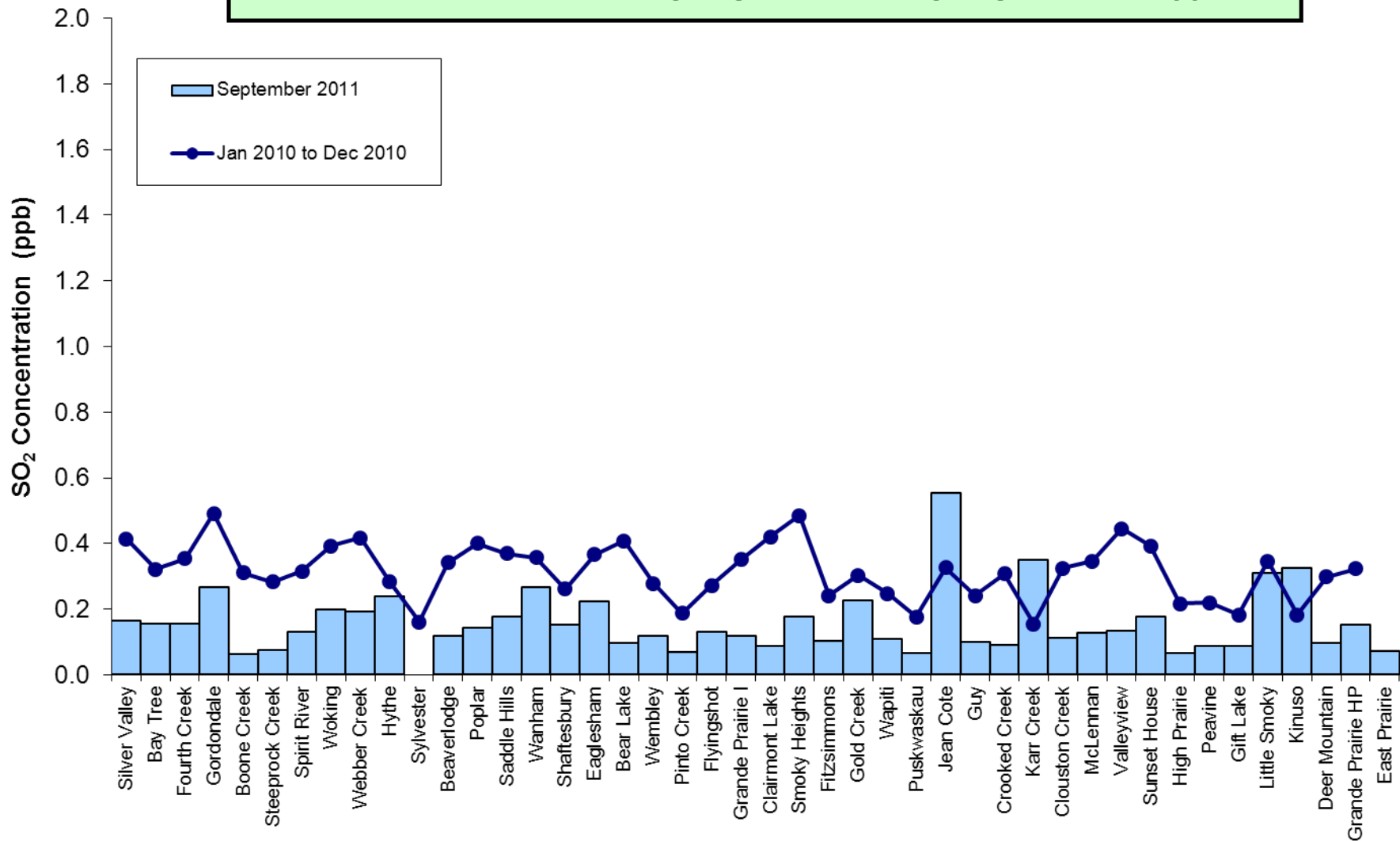
Comparison between Continuous and Passive monitoring at Henry Pirker (passive #49 Grande Prairie HP)

	SO ₂	O ₃	NO ₂
PAZA Henry Pirker station	0.1	19.0	6.4
PAZA Grande Prairie passive	0.2	22.0	3.2



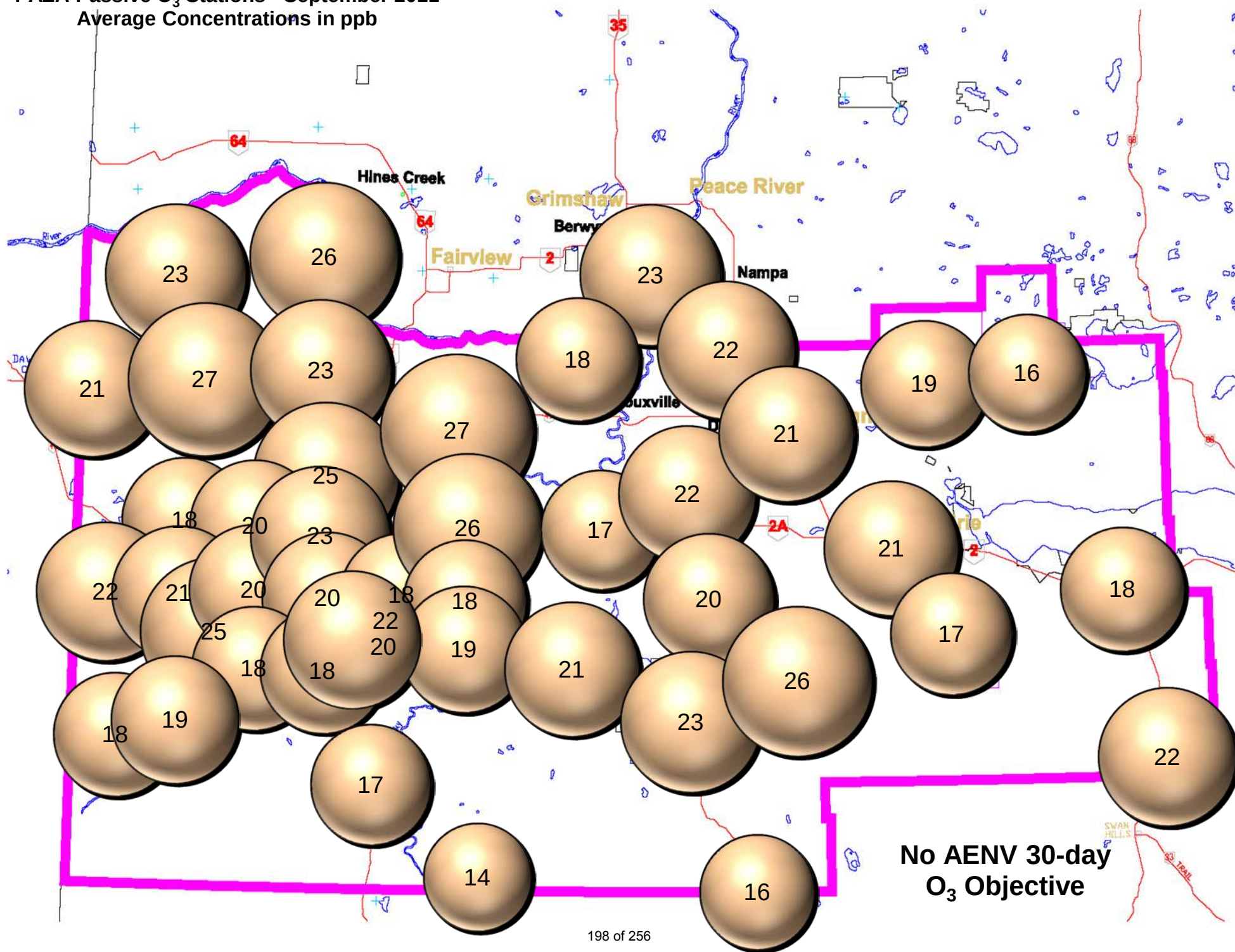
SO₂ Bubble Chart

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

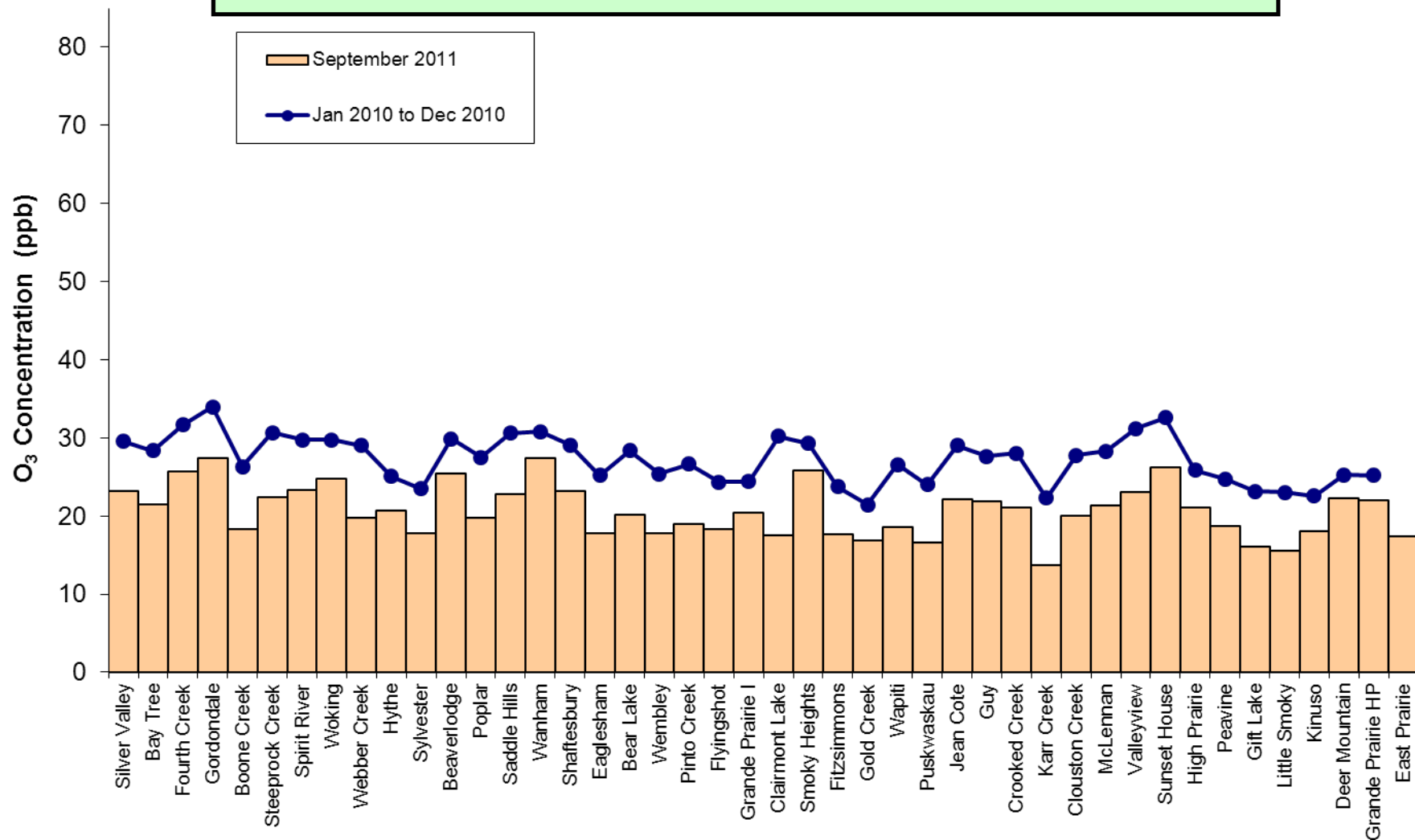


SO₂ Summary Chart

PAZA Passive O₃ Stations - September 2011
Average Concentrations in ppb

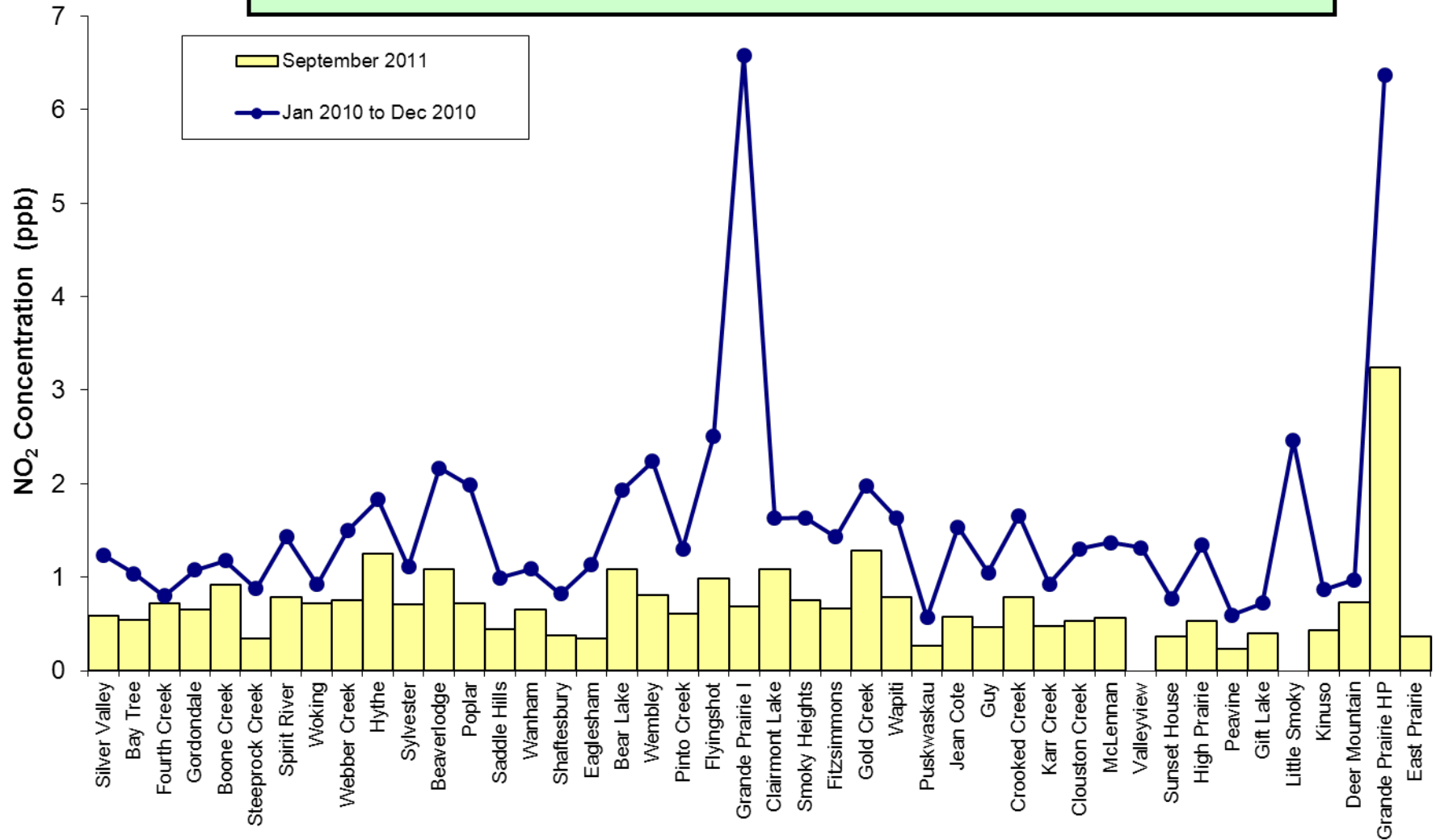


Alberta Ambient Air Quality Objective - No Annual O₃ Objective



O₃ Summary Chart

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



NO₂ Summary Chart

September 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, PM_{2.5}

PAZA – Smoky Heights Station with the following calibrations:

SO₂, TRS, PM_{2.5}

PAZA – Beaverlodge Station with the following calibrations:

SO₂, NO, NO₂, NO_x, O₃, PM_{2.5}

PAZA – Valleyview Station with the following calibrations:

SO₂ & H₂S

Calibration Report

Parameter SO2

Air Monitoring Network PASZA



Station Information

Calibration Date	September 19, 2011	Previous Calibration	August 16, 2011
Station Number	1	Station Location	Henry Pirker
Reason:	☒ Routine	☐ Install	☐ Removal
			☐ Other:
Start Time (MST)	8:22	End Time (MST)	11:28
Barometric Pressure	0.922 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	0.999609	Calculated slope	0.998587
Calculated intercept	-2.341183	Calculated intercept	-1.355977
Analyzer make	TEI 43C	Analyzer serial #	610816292

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
Background	9.0		9.0	
Coefficient	0.790		0.786	
Pressure	643.2	mm Hg	642.5	mm Hg
Flow	0.483	lpm	0.482	lpm
Lamp Voltage	44107	Hz	43616	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	0.0	N/A
4989	39.84	394.5	395.6	0.9972
4989	19.91	198.0	200.7	0.9863
4989	9.93	98.9	101.4	0.9752
4989	0.00	0.0	0.0	As Found Zero
4989	39.84	394.5	395.3	As Found Span
Average Correction Factor				0.9862

Calculated value of As Found Response: 392.7 ppb Percent Change of As Found: 0.5%

	before calibration		after calibration	
Auto zero	0.1	ppb	0.1	ppb
Auto span	248.1	ppb	237.7	ppb

Notes:

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter SO2

Air Monitoring Network PASZA



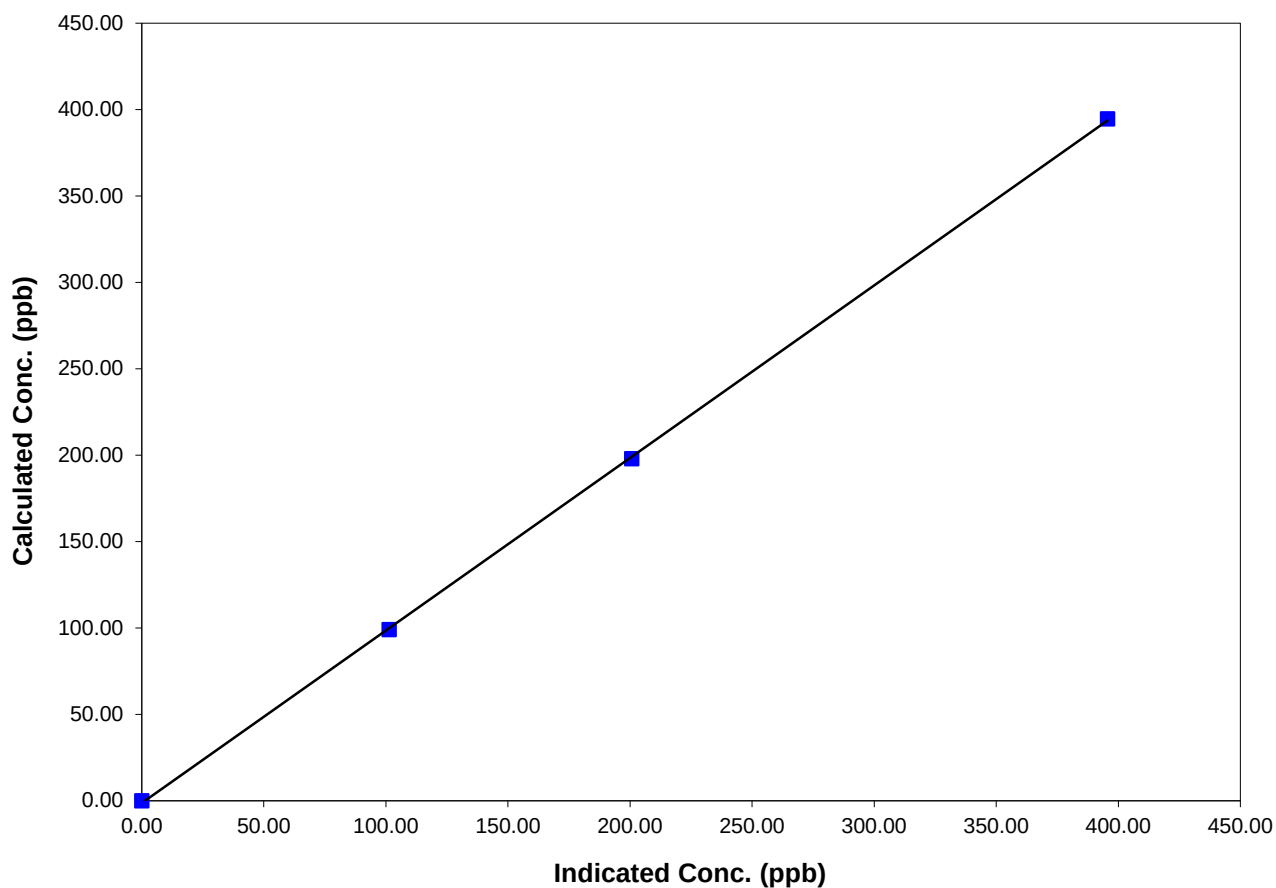
Station Information

Calibration Date	September 19, 2011	Previous Calibration	August 16, 2011
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	8:22	End Time (MST)	11:28
Analyzer make/model	TEI 43C	Analyzer serial #	610816292

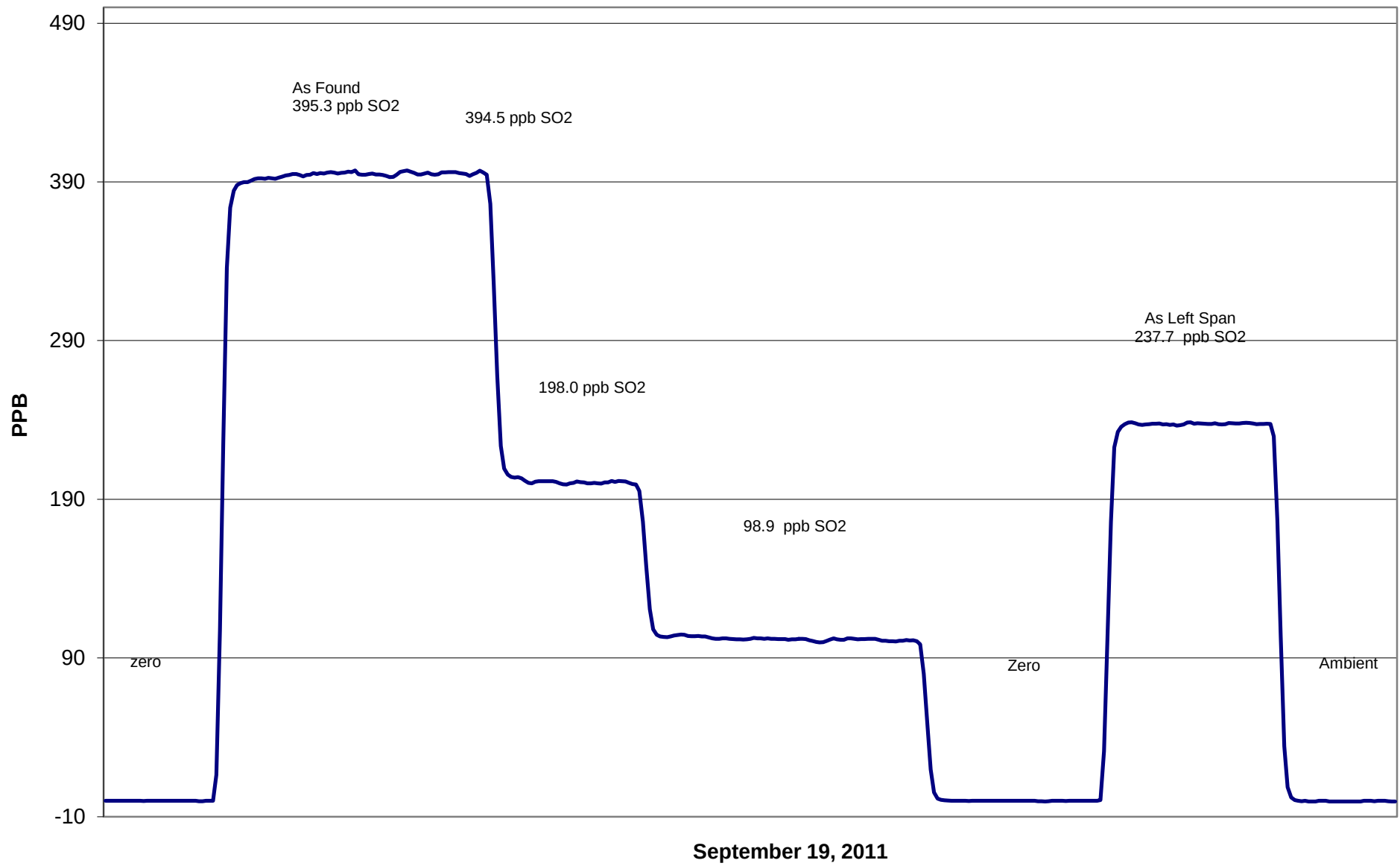
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.0	N/A	Correlation Coefficient	0.999945
394.5	395.6	0.9972		
198.0	200.7	0.9863		
98.9	101.4	0.9752	Slope	0.998587
			Intercept	-1.355977

SO2 Calibration Curve



SO2 Calibration



Calibration Report

Parameter

NO_x-NO-NO₂

Air Monitoring Network

PASZA



Station Information

Calibration Date	September 19, 2011	Previous Calibration	August 16, 2011
Station Number	1	Station Location	Henry Pirker
Reason:	☒ Routine	☐ Installation	☐ Removal
Other:			
Start Time (MST)	8:20	End Time (MST)	14:04
Barometric Pressure	0.922 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
-----------	--------	-----------------	------

	Parameter	NO2	NOx	NO
Before	Data Slope	1.000773	1.002310	1.002676
	Data Offset	0.005016	-2.814795	-2.765565
After	Data Slope	1.008469	1.003803	1.004286
	Data Offset	0.697069	-3.053327	-2.978236
	Channel #	8	6	7
	Voltage Range	0 - 5 VDC	0 - 5 VDC	0 - 5 VDC

Analyzer Information

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

Test Point	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
NO offset	10.0	mV	10.1	mV
NOx bkgnd	10.3	mV	10.7	mV
NO coefficient	0.748		0.741	
NOx coefficient	1.000		1.001	
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	173.5	in Hg	173.9	in Hg

Calibration Report

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



Calibration Date: September 19, 2011 Station Location: Henry Pirker

	Dilution flow rate (ccm)	Source gas flow rate (ccm)	Calculated NOx conc (ppb)	Calculated NO conc (ppb)	Calculated NO2 conc (ppb)	Indicated NOx conc (ppb)	Indicated NO conc (ppb)	Indicated NO2 conc (ppb)	NOx Correction factor	NO Correction factor
zero	4989	0.00	0.0	0.0	0.0	0.4	0.0	0.3	N/A	N/A
1	4989	39.84	415.9	415.9	0.0	416.0	415.6	0.5	0.9997	1.0008
2	4989	19.91	208.7	208.7	0.0	212.2	212.2	-0.1	0.9836	0.9836
3	4989	9.94	104.4	104.4	0.0	109.8	110.0	-0.2	0.9504	0.9489
AFZ	4989	0.00	0.0	0.0	0.0	0.4	0.0	0.3	0.0000	0.0000
AFS	4989	39.83	415.8	415.8	0.0	419.6	419.2	0.3	0.9910	0.9919
Average Correction Factor									0.9779	0.9778

As Found Concentrations: NO_x= 416.4 NO= 416.4 As Found Percent Change NO_x= 0.1% NO= 0.1%

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	0.4	0.0	0.3	N/A	N/A	N/A	N/A
NO point	416.2	416.2	0.0	416.1	416.2	-0.1	1.0001	1.0000	N/A	N/A
300	416.2	170.7	245.5	414.1	170.7	243.5	1.0051	1.0000	1.0080	99.2%
200	416.2	248.2	168.0	413.5	248.2	165.5	1.0065	1.0000	1.0154	98.5%
100	416.2	324.2	92.0	413.3	324.2	89.1	1.0070	1.0000	1.0322	96.9%
Average Correction Factor							1.0062	1.0000	1.0185	98.2%

	Previous calibration				Current calibration			
Parameter	NOx	NO2	NO		NOx	NO2	NO	
Auto zero	-0.1	0.0	0.0	ppb	0.1	-0.1	0.0	ppb
Auto span	168.4	169.5	1.2	ppb	157.9	156.9	1.0	ppb

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter NO₂

Air Monitoring Network PASZA



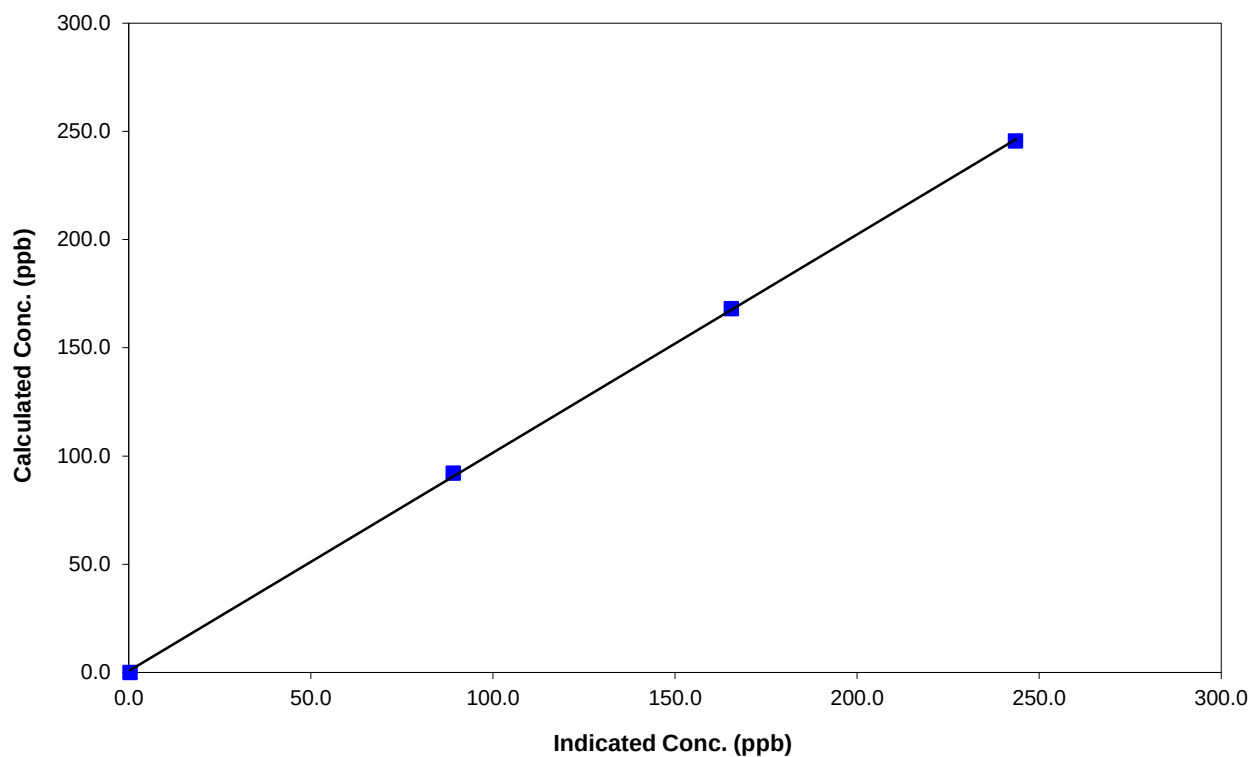
Station Information

Calibration Date	September 19, 2011	Previous Calibration	August 16, 2011
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	8:20	End Time (MST)	14:04
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	0.999880
245.5	243.5	1.0080		
168.0	165.5	1.0154	Slope	1.008469
92.0	89.1	1.0322		
			Intercept	0.697069

NO₂ Calibration Curve



Calibration Summary

Parameter NO_x

Air Monitoring Network PASZA



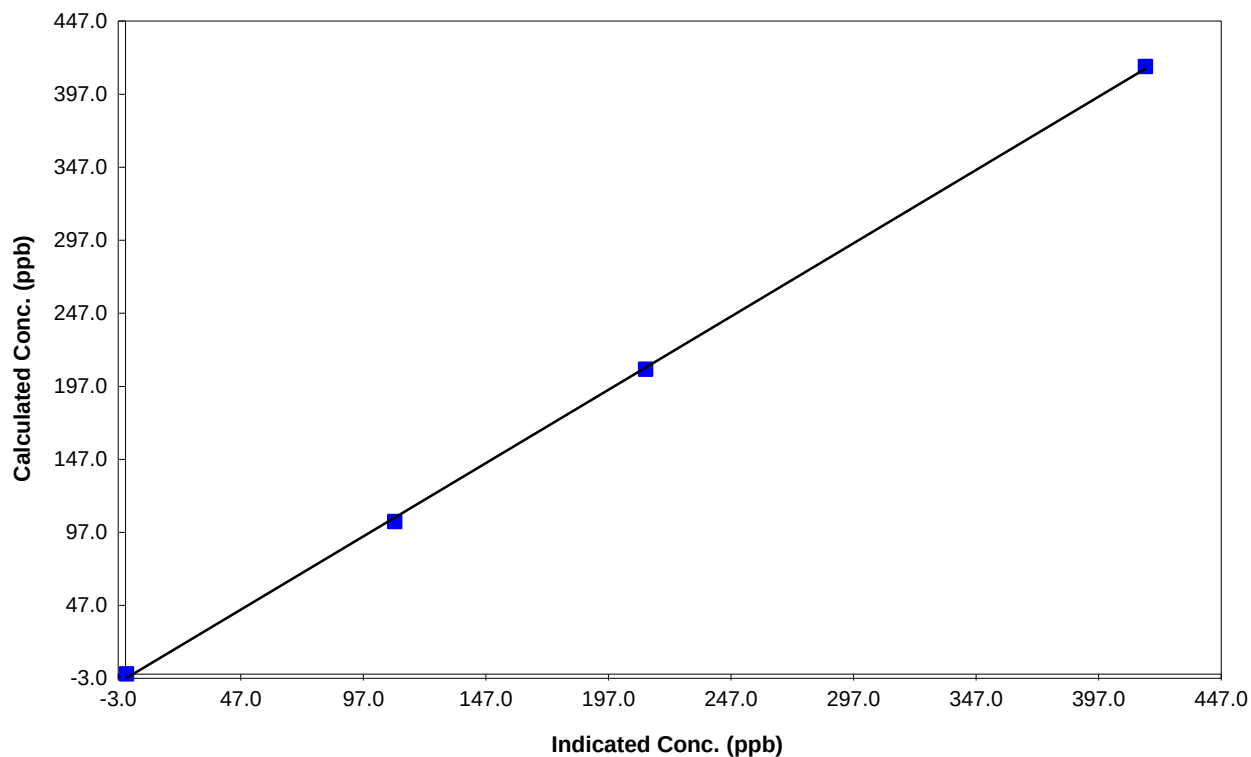
Station Information

Calibration Date	September 19, 2011	Previous Calibration	August 16, 2011
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	8:20	End Time (MST)	14:04
Analyzer make	TEI 42C	Analyzer serial #	508011073

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.4	N/A	Correlation Coefficient	0.999806
415.9	416.0	0.9997		
208.7	212.2	0.9836		
104.4	109.8	0.9504	Slope	1.003803
			Intercept	-3.053327

NO_x Calibration Curve



Calibration Summary

Parameter NO

Air Monitoring Network PASZA



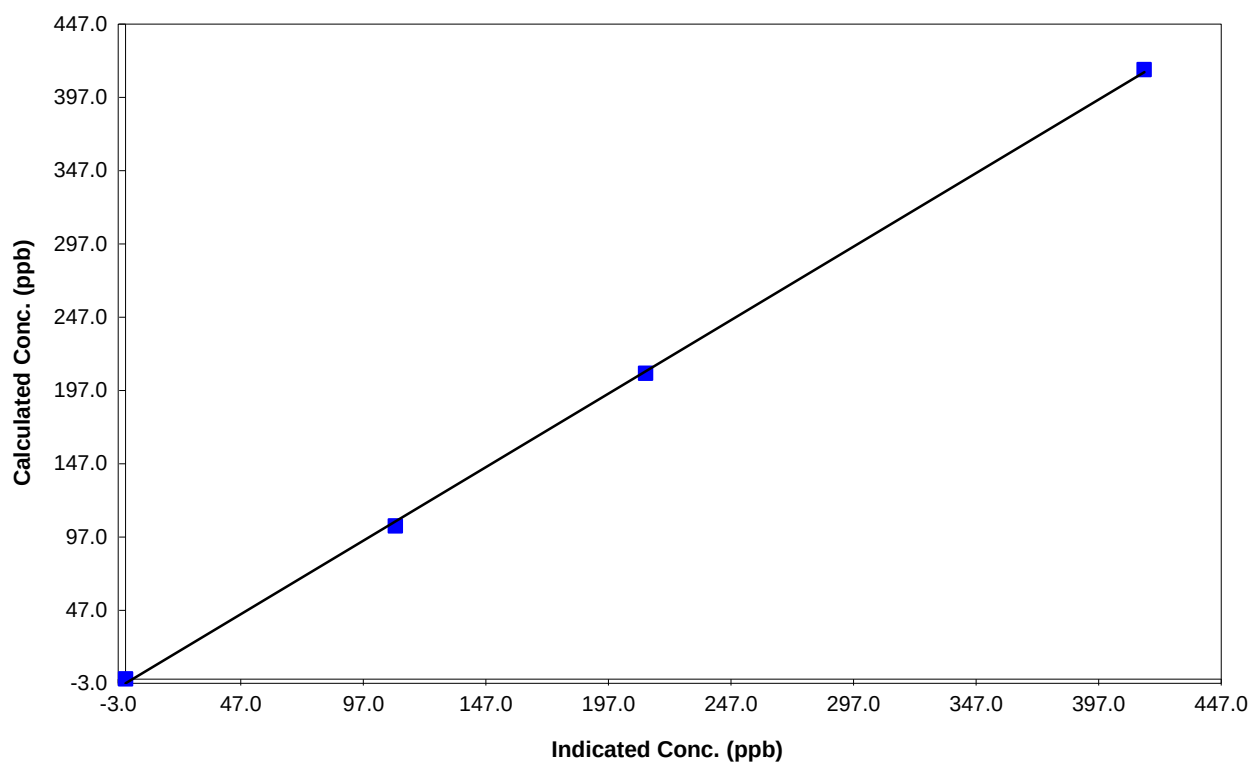
Station Information

Calibration Date	September 19, 2011	Previous Calibration	August 16, 2011
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	8:20	End Time (MST)	14:04
Analyzer make	TEI 42C	Analyzer serial #	508011073

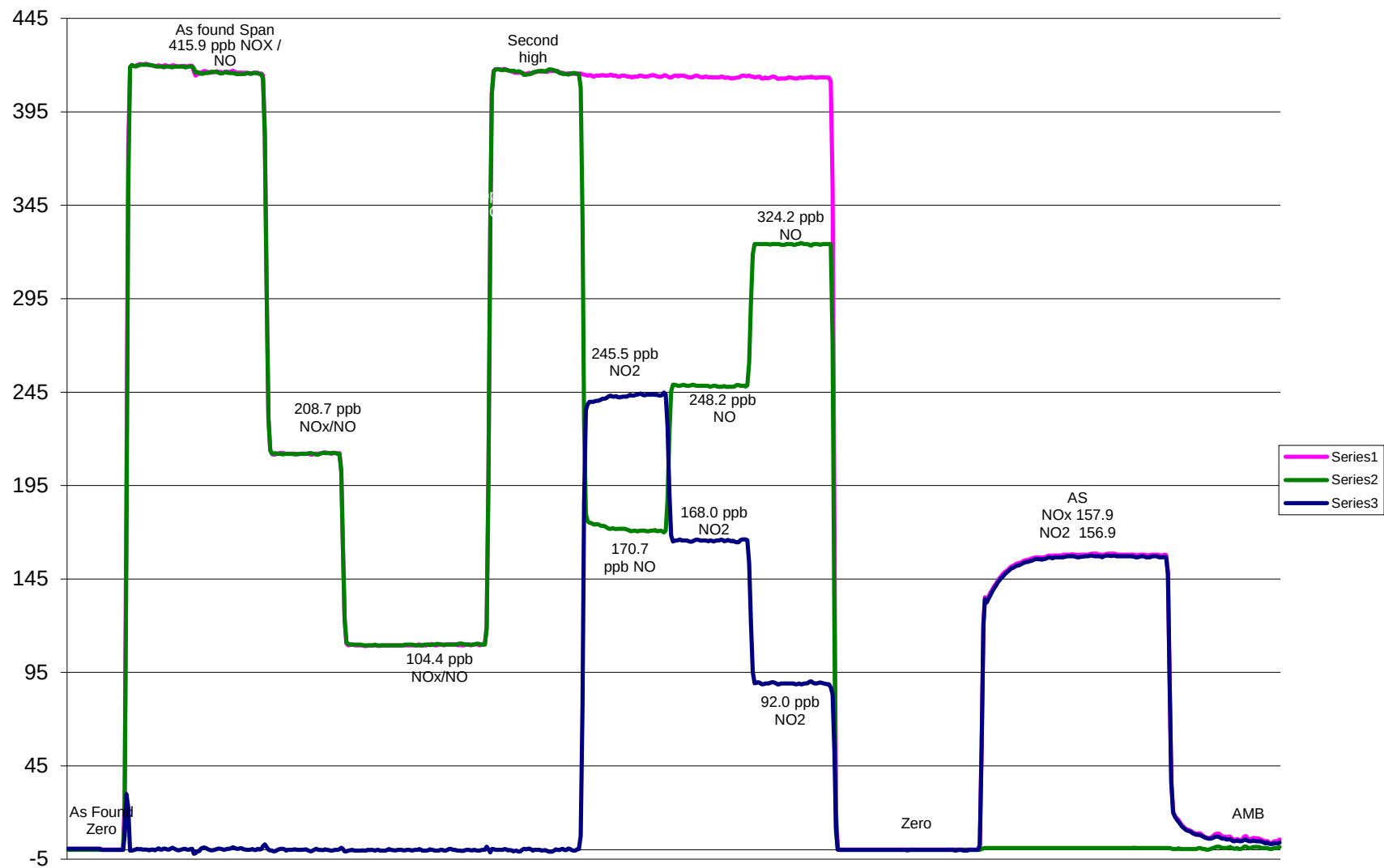
Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.0	N/A	Correlation Coefficient	0.999757
415.9	415.6	1.0008		
208.7	212.2	0.9836		
104.4	110.0	0.9489	Slope	1.004286
			Intercept	-2.978236

NO Calibration Curve



PASZA NO_x Calibration



September 19, 2011

Calibration Report

Parameter 03

Air Monitoring Network PASZA



Station Information

Calibration Date	September 19, 2011	Previous Calibration	August 16, 2011
Station Number	1	Station Location	Henry Pirker
Reason:	☒ Routine	☐ Install	☐ Removal
		☐ Other:	
Start Time (MST)	12:00	End Time (MST)	15:04
Barometric Pressure	0.922 atm	Station Temperature	20.0 Deg C
Calibrator	EnviroNics 6100	Serial Number	3474
Cal Gas Concentration	NA	Cal Gas Expiry Date	NA
DACS make	CR3000	DACS serial No.	5408
DACS voltage range	0 - 1 volt	DACS channel #	5
	Before		After
Calculated slope	1.000631	Calculated slope	0.998457
Calculated intercept	-0.089633	Calculated intercept	0.806108
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	697.6	inches Hg	702.9	inches Hg
Flow A	0.726	ccm	0.728	ccm
Flow B	0.742	ccm	0.746	ccm

Calibration Data

Referenced concentration (ppb)	Dilution air flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
0	4989	0.0	0.2	N/A
300	4989	245.5	246.1	0.9978
200	4989	168.0	166.7	1.0079
100	4989	92.0	90.1	1.0213
0	4989	0.0	0.2	As found zero
300	4989	245.5	246.1	As found span
Average Correction Factor				1.0090

Calculated value of As Found Response: 245.9 ppm Percent Change of As Found: 0.2%

	before calibration		after calibration	
Auto zero	0.3	ppb	0.3	ppb
Auto span	163.8	ppb	156.1	ppb

Notes: No adjustment made.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter O3

Air Monitoring Network PASZA



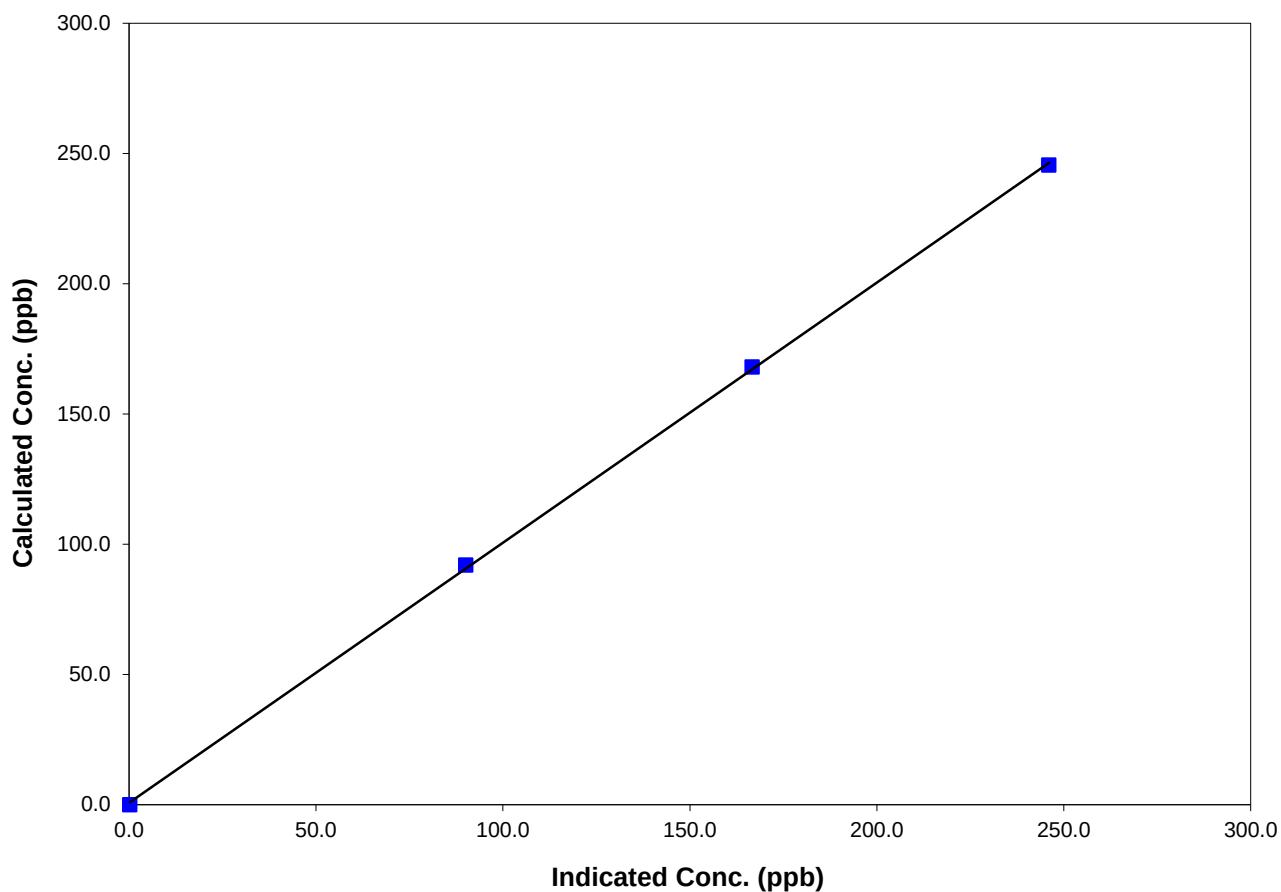
Station Information

Calibration Date	September 19, 2011	Previous Calibration	August 16, 2011
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	12:00	End Time (MST)	15:04
Analyzer make/model	TECO 49C	Analyzer serial #	607415761

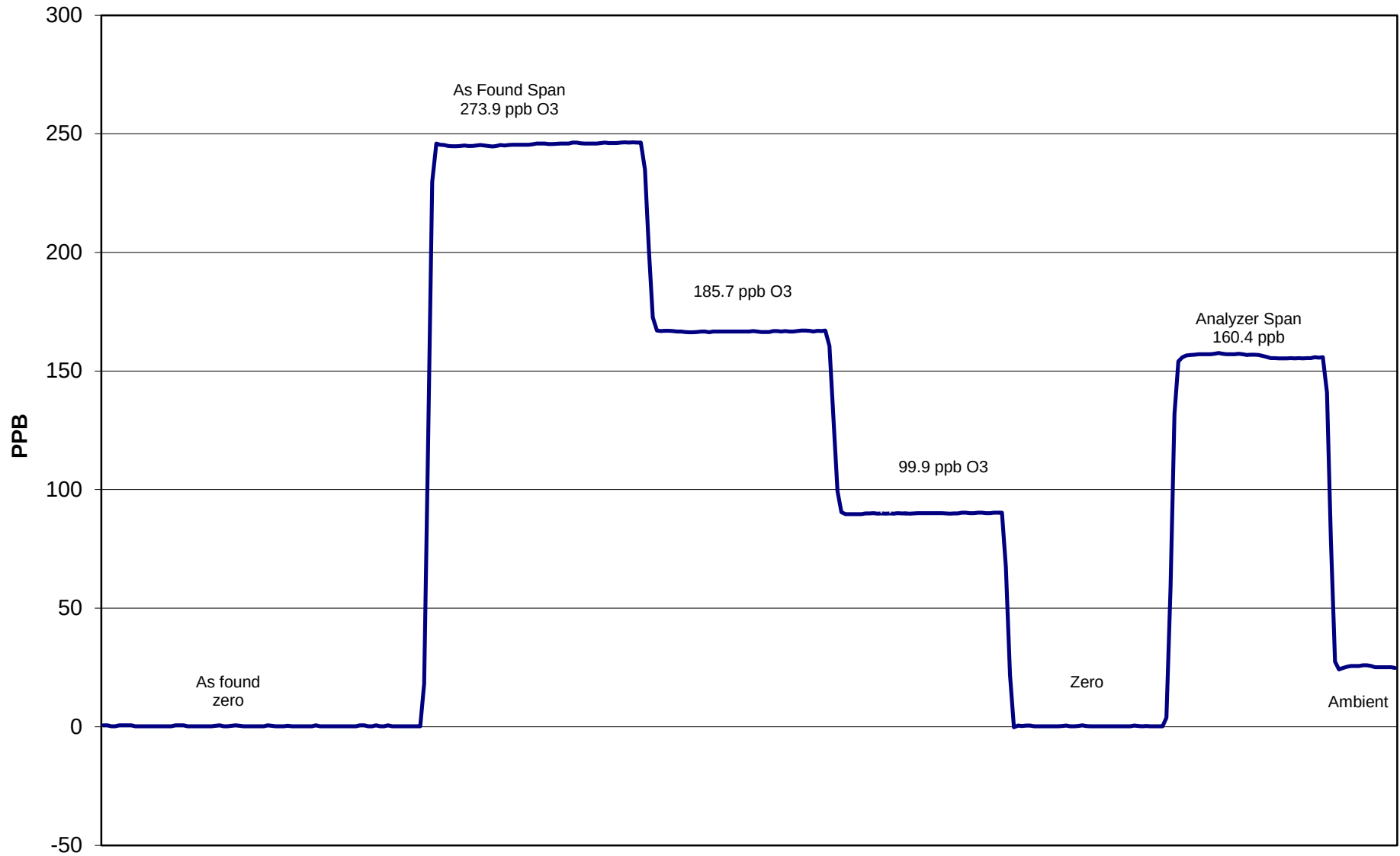
Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.2	NA	Correlation Coefficient	0.999873
245.5	246.1	0.9978		
168.0	166.7	1.0079		
92.0	90.1	1.0213	Slope	0.998457
			Intercept	0.806108

O3 Calibration Curve



O3 Calibration



September 19, 2011

Calibration Report

Parameter CO

Air Monitoring Network PASZA



Station Information

Calibration Date	September 16, 2011	Previous Calibration	August 15, 2011
Station Number	1	Station Location	Henry Pirker
Reason:	☒ Routine	☐ Install	☐ Removal
		☐ Other:	
Start Time (MST)	8:55	End Time (MST)	11:11
Barometric Pressure	0.921 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	1.000970	Calculated slope	1.001216
Calculated intercept	-0.453505	Calculated intercept	-0.493571
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	0.951		1.148	
Sample pressure	676.2	mm Hg	675.8	mm Hg
Sample Flow	1.134	LPM	1.134	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	0.43	N/A
4989	39.85	23.77	24.21	0.9820
4989	19.91	11.92	12.43	0.9596
4989	9.93	5.96	6.51	0.9154
4989	0.00	0.00	0.43	As Found Zero
4989	39.85	23.77	24.21	As Found Span
Average Correction Factor				0.9523

Calculated value of As Found Response: 23.350 ppm Percent Change of As Found: 1.8%

	before calibration		after calibration	
Auto zero	0.03	ppm	0.03	ppm
Auto span	19.56	ppm	19.68	ppm

Notes: _____

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter CO

Air Monitoring Network PASZA



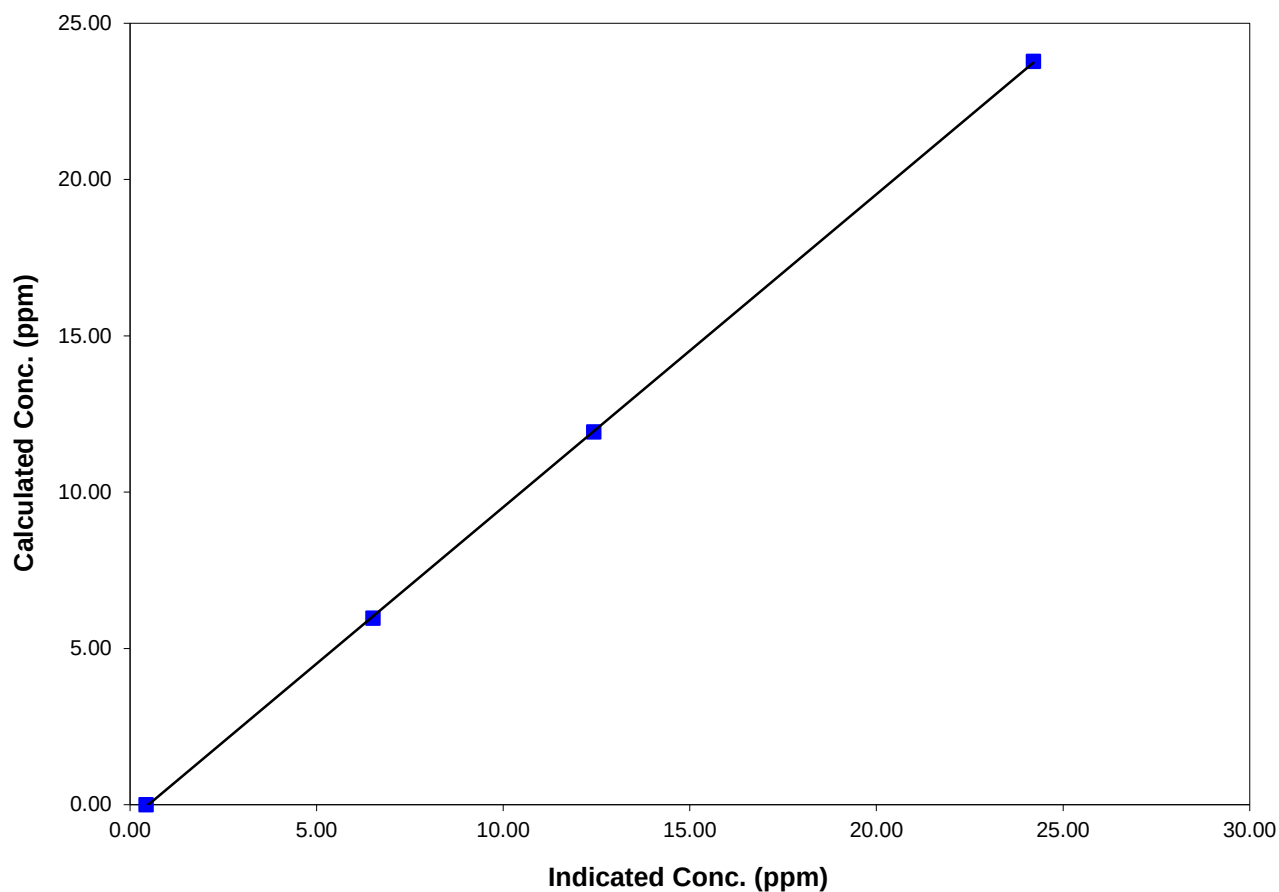
Station Information

Calibration Date	September 16, 2011	Previous Calibration	August 15, 2011
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	8:55	End Time (MST)	11:11
Analyzer make/model	TEI Model 48C	Analyzer serial #	508011062

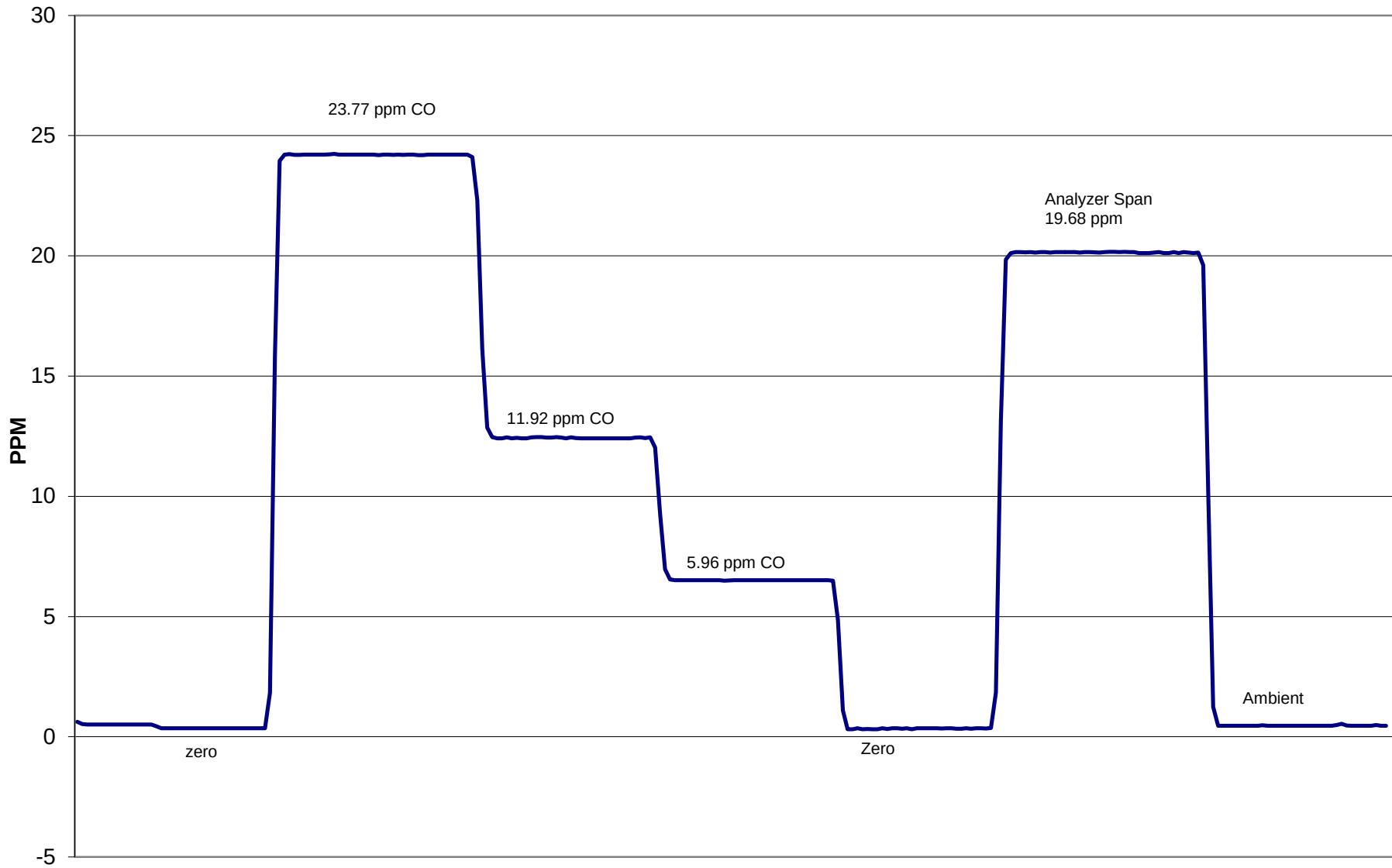
Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.433	N/A	Correlation Coefficient	0.999970
23.773	24.209	0.9820		
11.925	12.427	0.9596		
5.959	6.510	0.9154	Slope	1.001216
			Intercept	-0.493571

CO Calibration Curve



CO Calibration



September 16, 2011

Calibration Report

Parameter THC

Air Monitoring Network PASZA



Station Information

Calibration Date	September 16, 2011	Previous Calibration	August 15, 2011
Station Number	1	Station Location	Henry Pirker
Reason:	☒ Routine	☐ Install	☐ Removal
			☐ Other:
Start Time (MST)	10:27	End Time (MST)	12:56
Barometric Pressure	0.913 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	1.066619	Calculated slope	1.071076
Calculated intercept	-0.039183	Calculated intercept	-0.078568
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	0.07	N/A
4989	69.79	21.01	19.72	1.0659
4989	29.87	9.07	8.47	1.0707
4989	9.92	3.02	2.95	1.0245
4989	0.00	0.00	0.07	As Found Zero
4989	69.79	21.01	19.72	As Found Span
Average Correction Factor				1.0537

Calculated value of As Found Response: 20.920 ppm Percent Change of As Found: 0.4%

	before calibration		after calibration	
Auto zero	0.10	ppm	-0.04	ppm
Auto span	22.27	ppm	21.59	ppm

Notes:

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter THC

Air Monitoring Network PASZA



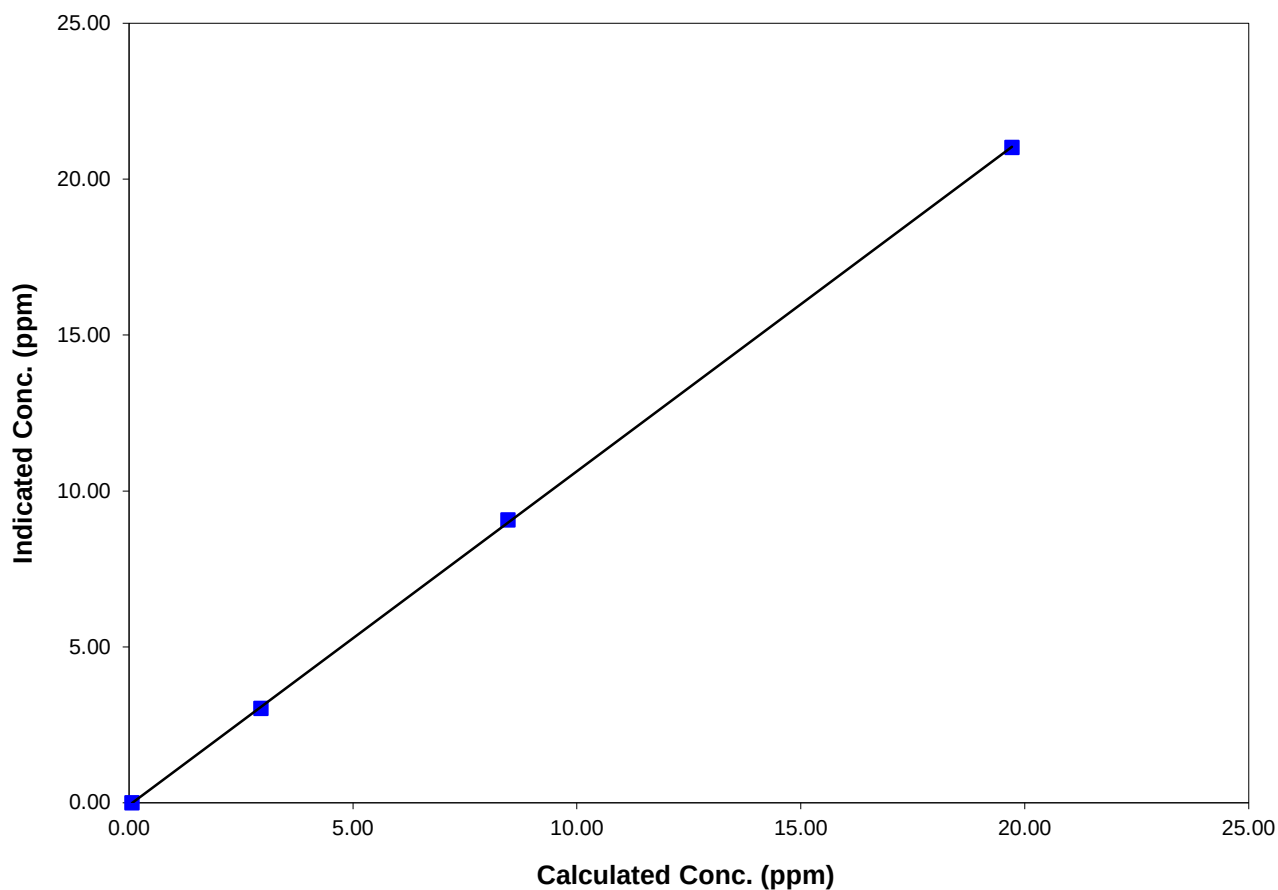
Station Information

Calibration Date	September 16, 2011	Previous Calibration	August 15, 2011
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	10:27	End Time (MST)	12:56
Analyzer make/model	TEI Model 51C-LT	Analyzer serial #	51CLT-79009-390

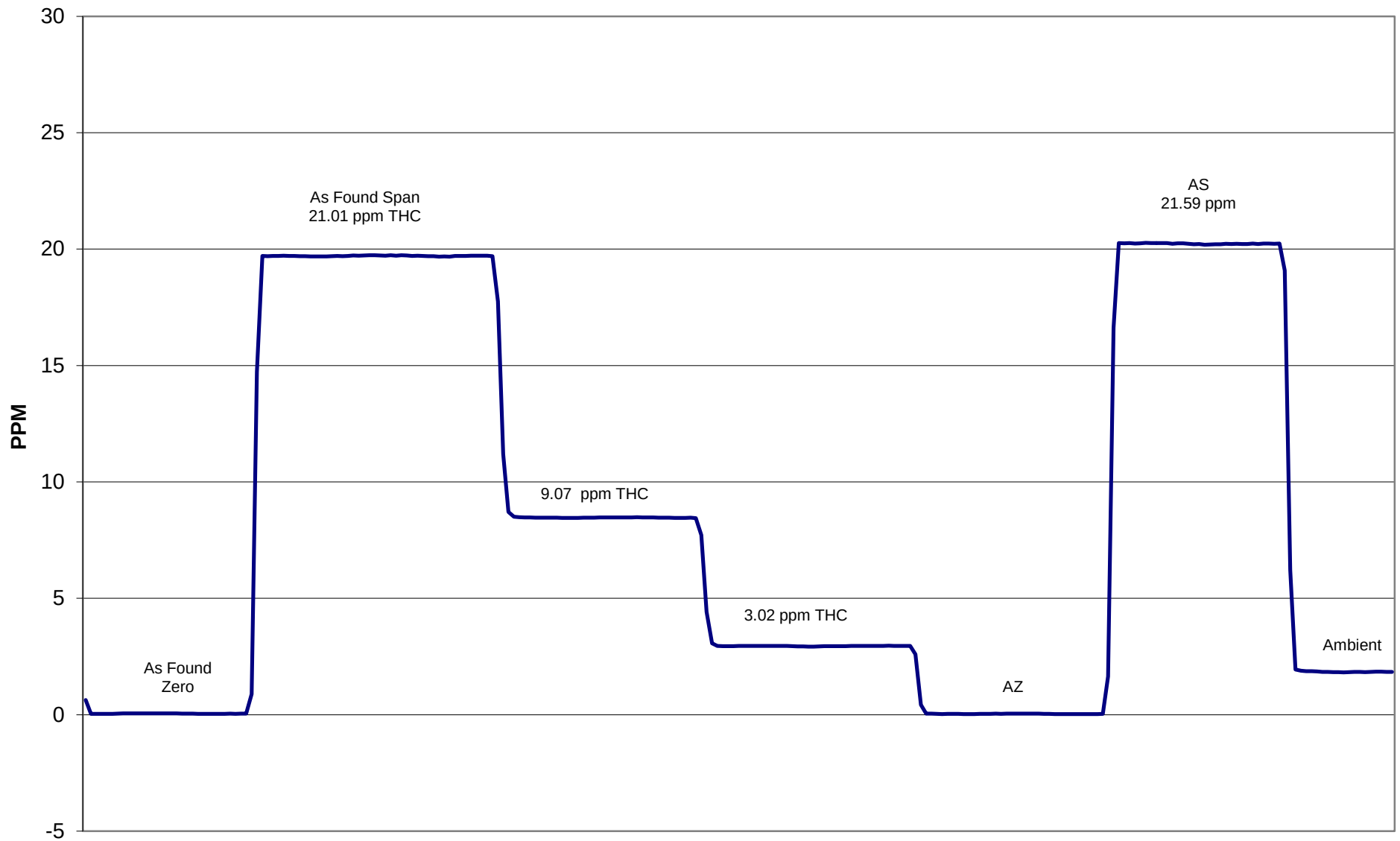
Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.067	N/A		
21.014	19.715	1.0659	Correlation Coefficient	0.999962
9.066	8.467	1.0707		
3.023	2.950	1.0245	Slope	1.071076
			Intercept	-0.078568

THC Calibration Curve

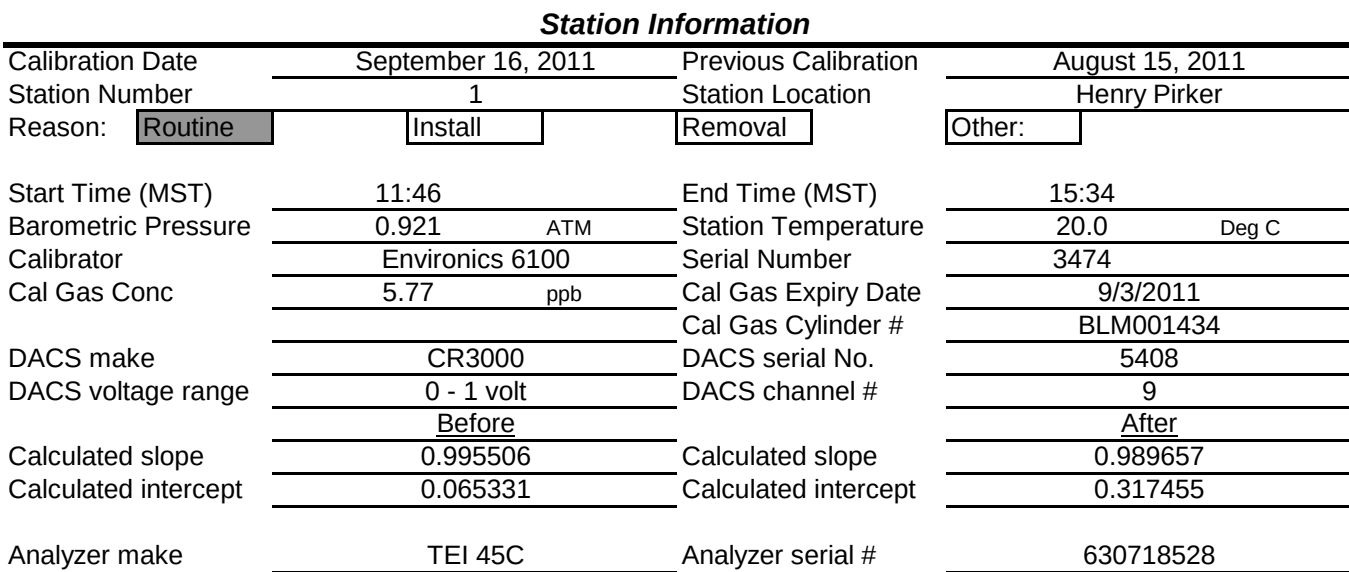


THC Calibration



September 16, 2011

Parameter	TRS
Air Monitoring Network	



	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Coefficient	1.099		1.093	
Background	11.2		11.2	
Pressure	654.0	mm Hg	647.7	mm Hg
Flow	0.455	ccm	0.453	ccm
Lamp Voltage	818	v	820	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	-0.24	N/A
4989	69.78	79.59	80.29	0.9913
4989	34.88	40.06	39.74	1.0082
4989	8.96	10.34	10.29	1.0055
4989	0.00	0.00	-0.24	As Found Zero
4989	69.78	79.59	80.29	As Found Span
Average Correction Factor				1.0017

Calculated value of As Found Response:	80.2 ppb	Percent Change of As Found:	-0.8%
--	----------	-----------------------------	-------

	before calibration		after calibration	
Auto zero	-0.29	ppb	0.26	ppb
Auto span	33.10	ppb	33.97	ppb

Notes: _____

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter TRS

Air Monitoring Network PASZA



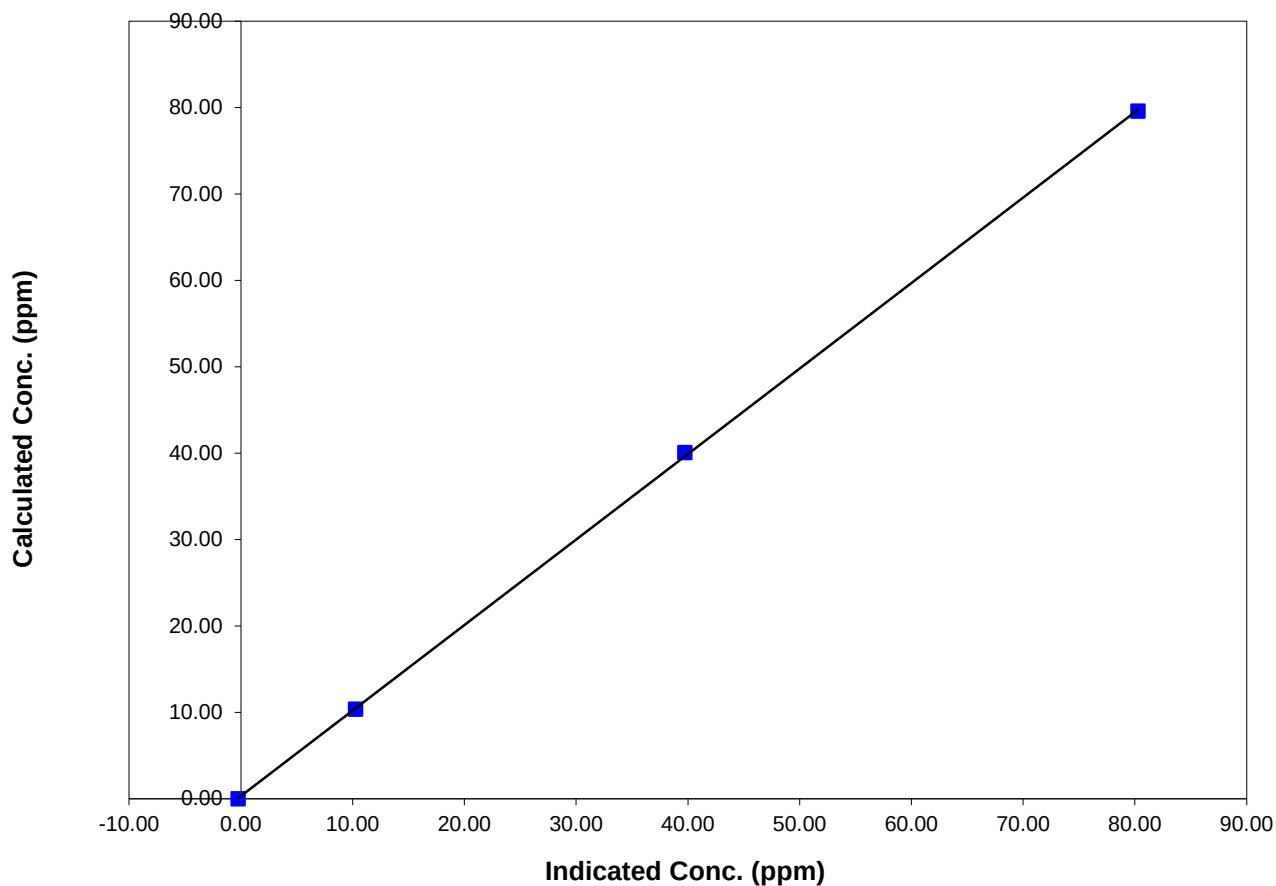
Station Information

Calibration Date	September 16, 2011	Previous Calibration	August 15, 2011
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	11:46	End Time (MST)	15:34
Analyzer make/model	TEI 45C	Analyzer serial #	630718528

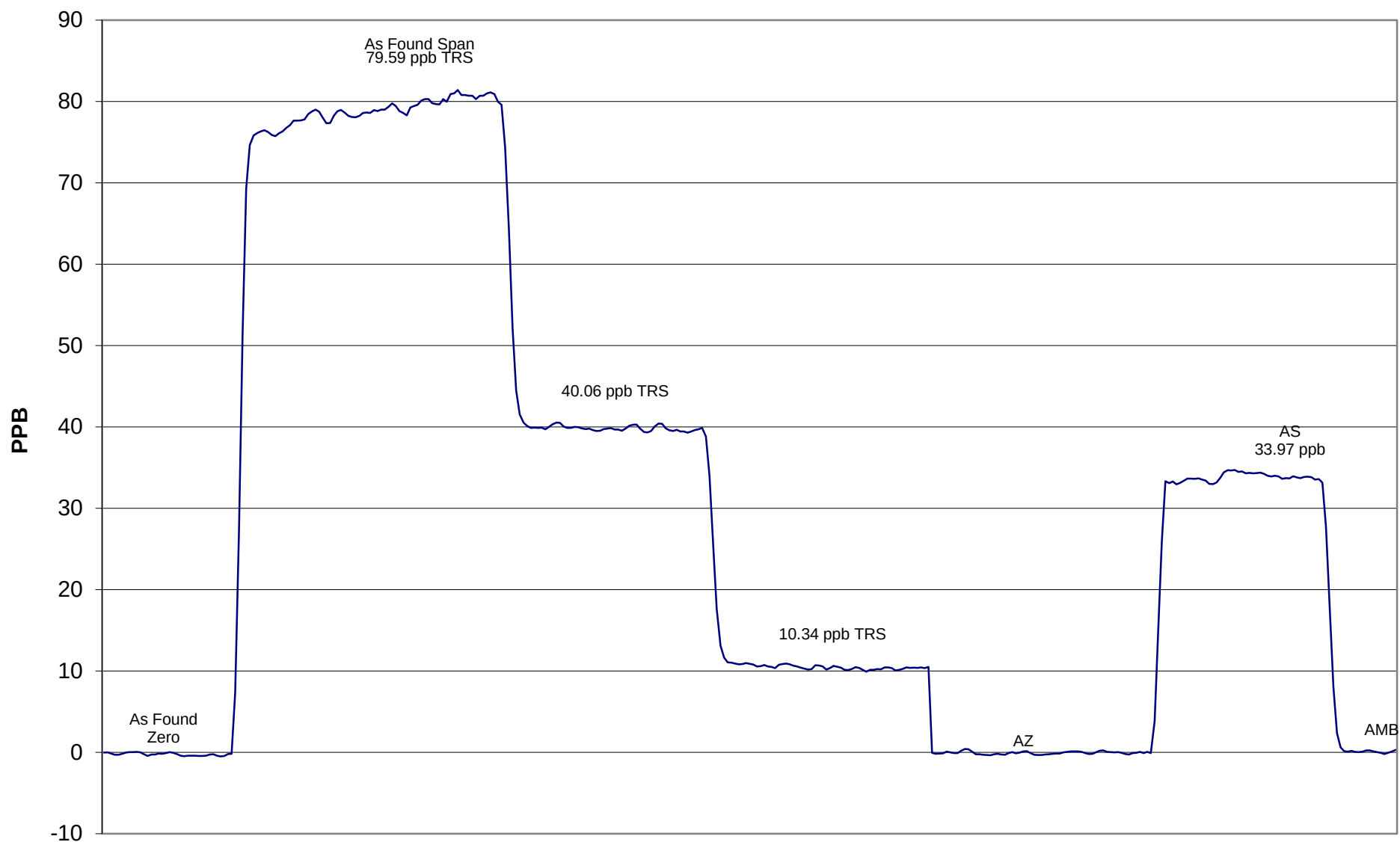
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	-0.243	N/A		
79.590	80.291	0.9913	Correlation Coefficient	0.999937
40.060	39.736	1.0082		
10.344	10.287	1.0055	Slope	0.989657
			Intercept	0.317455

TRS Calibration Curve



TRS Calibration



September 16, 2011

Calibration Report



Parameter SO₂
Air Monitoring Network PASZA

Station Information

Calibration Date	September 15, 2011	Previous Calibration	August 23, 2011
Station Number	2	Station Location	Evergreen Park
Reason:	☒ Routine	☐ Install	☐ Removal
			Other:
Start Time (MST)	11:40	End Time (MST)	14:24
Barometric Pressure	0.916 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	0.031137	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	0.997314	Calculated slope	1.002837
Calculated intercept	-0.494047	Calculated intercept	-0.994000
Analyzer make	Teco 43i	Analyzer serial #	701120008

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
Background	11.1		11.1	
coefficient	1.06		1.06	
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	661.9	mm Hg	663.5	mm Hg
Sample Flow	0.45	ccm	0.452	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	0.4	N/A
4989	39.84	394.5	394.3	1.0006
4989	20.15	200.3	200.5	0.9993
4989	10.10	100.6	102.3	0.9838
4989	0.0	0.0	0.4	As Found Zero
4989	39.84	394.5	394.3	As Found Span
Average Correction Factor				0.9946

Calculated value of As Found Response: 392.318 ppm Percent Change of As Found: 0.6%

	before calibration		after calibration	
Auto zero	0.6	ppm	0.4	ppm
Auto span	292.7	ppm	291.0	ppm

Notes: No adjustment made.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter SO2

Air Monitoring Network PASZA



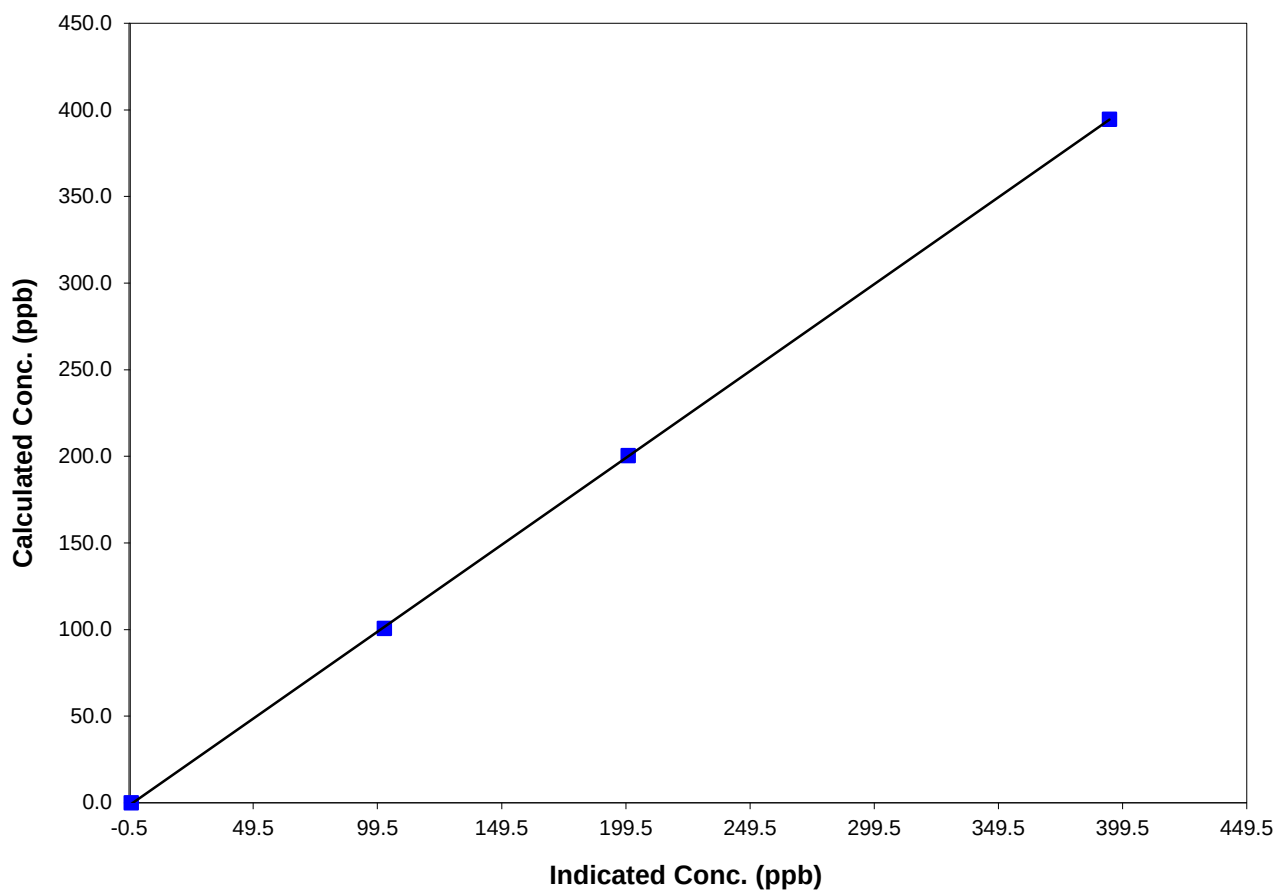
Station Information

Calibration Date	September 15, 2011	Previous Calibration	August 23, 2011
Station Number	2	Station Location	Evergreen Park
Start Time (MST)	11:40	End Time (MST)	14:24
Analyzer make/model	Teco 43i	Analyzer serial #	701120008

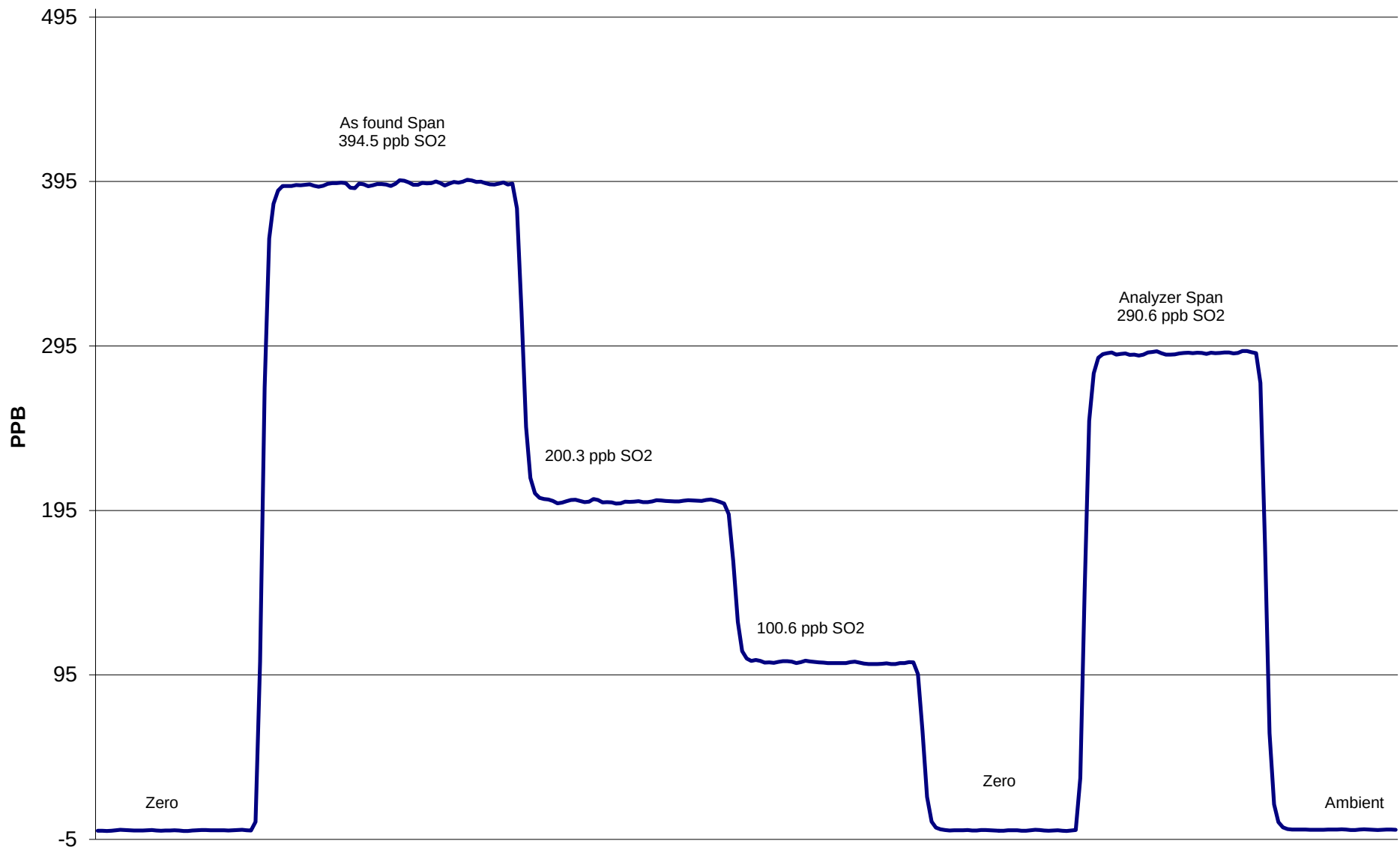
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.4	N/A	Correlation Coefficient	0.999984
394.5	394.3	1.0006		
200.3	200.5	0.9993		
100.6	102.3	0.9838	Slope	1.002837
			Intercept	-0.994000

SO2 Calibration Curve



SO2 Calibration



September 15, 2011

Calibration Report



Parameter TRIS

Air Monitoring Network PASZA

Station Information

Calibration Date	September 15, 2011	Previous Calibration	August 23, 2011
Station Number	2	Station Location	Evergreen Park
Reason:	☒ Routine	☐ Install	☐ Removal
			☐ Other:
Start Time (MST)	9:36	End Time (MST)	12:52
Barometric Pressure	0.916 ATM	Station Temperature	20.0 Deg C
Calibrator	EnviroNics	Serial Number	3474
Cal Gas Conc	5.77 ppm	Cal Gas Expiry Date	9/3/2011
Correction factor	0.031137	Cal Gas Cylinder #	BLM001434
DACS make	CR3000	DACS serial No.	5236
DACS voltage range	0 - 5 volt	DACS channel #	5
	<u>Before</u>		<u>After</u>
Calculated slope	1.004012	Calculated slope	0.998319
Calculated intercept	-0.218202	Calculated intercept	0.194202

Analyzer make TEI Model 43C Analyzer serial # 436610005

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Background	19.3	ppb	19.4	ppb
coefficient	0.952		0.952	
Lamp Voltage	807	volts	807	volts
Chamber Temp	45	Deg C	45	Deg C
Perm Gas Temp	45.01	Deg C	45.01	Deg C
Pressure	642.4	mm Hg	637.2	mm Hg
Sample Flow	0.476	ccm	0.473	ccm
Lamp Intensity	45,400	mv	45,540	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)
4989	0.00	0.00	-0.1	N/A
4989	69.79	79.60	79.7	0.9992
4989	34.87	40.05	39.7	1.0099
4989	8.96	10.34	10.2	1.0113
4989	0.00	0.00	0.0	As Found Zero
4989	69.79	79.60	79.6	As Found Span
Average Correction Factor				1.0068

Calculated value of As Found Response: 79.69 ppm Percent Change of As Found: **-0.1%**

	before calibration		after calibration	
Auto zero	0.2	ppm	0.0	ppm
Auto span	71.9	ppm	73.4	ppm

Notes: No adjustments made. Sox scrubber material was checked and found to be good.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter TRS

Air Monitoring Network PASZA



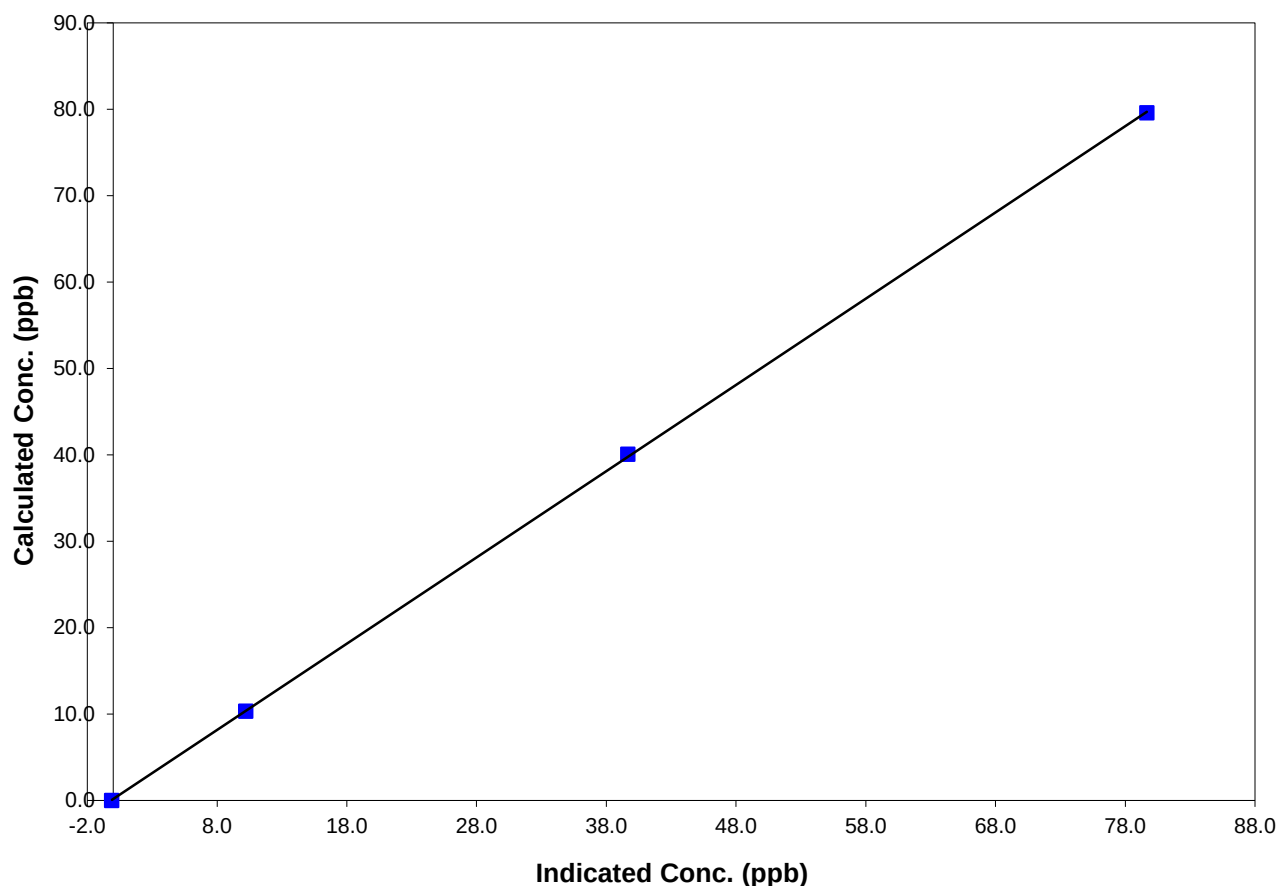
Station Information

Calibration Date	September 15, 2011	Previous Calibration	August 23, 2011
Station Number	2	Station Location	Evergreen Park
Start Time (MST)	9:36	End Time (MST)	12:52
Analyzer make/model	TEI Model 43C	Analyzer serial #	436610005

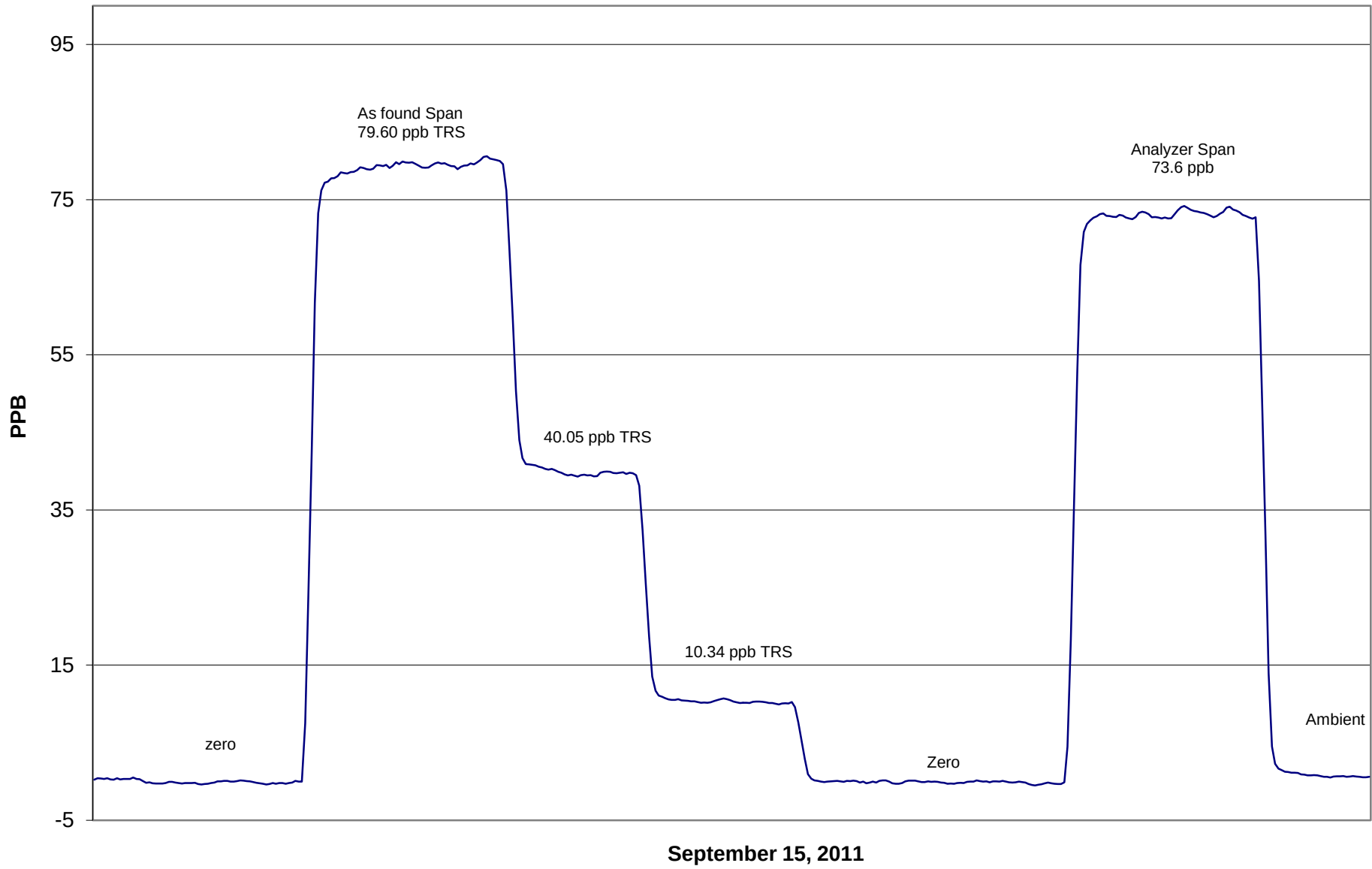
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.1	N/A	Correlation Coefficient	0.999975
79.6	79.7	0.9992		
40.0	39.7	1.0099		
10.3	10.2	1.0113	Slope	0.998319
			Intercept	0.194202

TRS Calibration Curve



TRS Calibration



AB TEOM PM2.5 Calibration



STATION: Evergreen Park
 LOCATION: PASZA - Grande Prairie

OPERATOR: Grover Christiansen
 DATE: 15-Sep-11

MONITOR INFO / PARAMETER VALUES:

Make/Model	TEOM AB
Configuration	PM2.5
Serial Number	21554
Site Number	2
Inlet Type	PM 10 / SCC
FAdj. Main Setting	1.000
FAdj. Aux. Setting	1.000
T-Case Indicated / Set Point	40/40
T-Air Indicated / Set Point	40/40
T-Cap Indicated / Set Point	40/40
Splitter Assembly Alignment (cm)	15.5

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

RECENT CALIBRATION AND AUDIT HISTORY

Previous Audit	23-Aug-11
Previous Calibration	NA

PUMP CAPACITY CHECK *	PASS
-----------------------	------

* capacity test or pump on timed test utilized to verify pump integrity

"FAIL" indicates that pump requires service.

LEAK CHECK	Indicated Flow (lpm)	
	Main	Auxiliary
PUMP ON	0.040	0.050
PUMP OFF	-0.010	-0.010
NET	0.050	0.060
LIMITS	<0.15	<0.60

	Ambient Temp. (^o C)	Ambient Pres. (atm)	Ko *	Bypass flow (lpm)	Sample flow (lpm)
SET POINT (S)	na	na	16147	13.67	3.000
INDICATED (I)	19.8	0.920	16147	13.67	3.000
MEASURED (AF)	20.0	0.922	16147	13.68	3.000
MEASURED (M)	20.0	0.922	16238	13.68	3.000
DIFFERENCE (M-I)	0.2	0.002	0.6%	0.07	0.13
LIMITS	± 2^o C	± 0.005 atm	± 2.5 %	± 1.0 L/min	± 0.2 L/min

As Found Data
 Adjusted Data

Ko Audit Filter data

Weight: 0.11251

Serial #: CVK 3316

COMMENTS: PASS.

Sample filter changed & allowed to stabilize.

Wrong O rings sent up for PM2.5 head. Will replace PM2.5 head with spare until proper parts arrive.

Cleaned Sample Head

Sample Head Inspection/Cleaning: Large In Line Filter Inspection & Or Cleaning:

Calibration Report



Parameter SO₂

Air Monitoring Network PASZA

Station Information

Calibration Date	September 22, 2011	Previous Calibration	August 27, 2011
Station Number	3	Station Location	Smokey Heights
Reason:	☒ Routine	☐ Install	☐ Removal
		☐ Other:	
Start Time (MST)	10:35	End Time (MST)	13:28
Barometric Pressure	0.919 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	0.031239	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	0.997394	Calculated slope	1.002041
Calculated intercept	-2.453177	Calculated intercept	-1.728444
Analyzer make	Teco 43i	Analyzer serial #	701120009

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
Background	9.9		9.9	
coefficient	0.969		0.969	
Lamp Voltage	920	volts	920	volts
Chamber Temp	45	Deg C	45	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	667.2	mm Hg	666.6	mm Hg
Sample Flow	0.440	ccm	0.440	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	0.2	N/A
4989	39.84	394.53	394.7	0.9996
4989	19.91	197.95	200.0	0.9896
4989	9.94	99.02	102.1	0.9701
4989	0.0	0.00	0.2	As Found Zero
4989	39.84	394.53	393.7	As Found Span
Average Correction Factor				0.9864

Calculated value of As Found Response: 390.041 ppm Percent Change of As Found: 1.1%

	before calibration		after calibration	
Auto zero	0.4	ppb	0.2	ppb
Auto span	304.5	ppb	303.8	ppb

Notes: No adjust.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter SO2

Air Monitoring Network PASZA



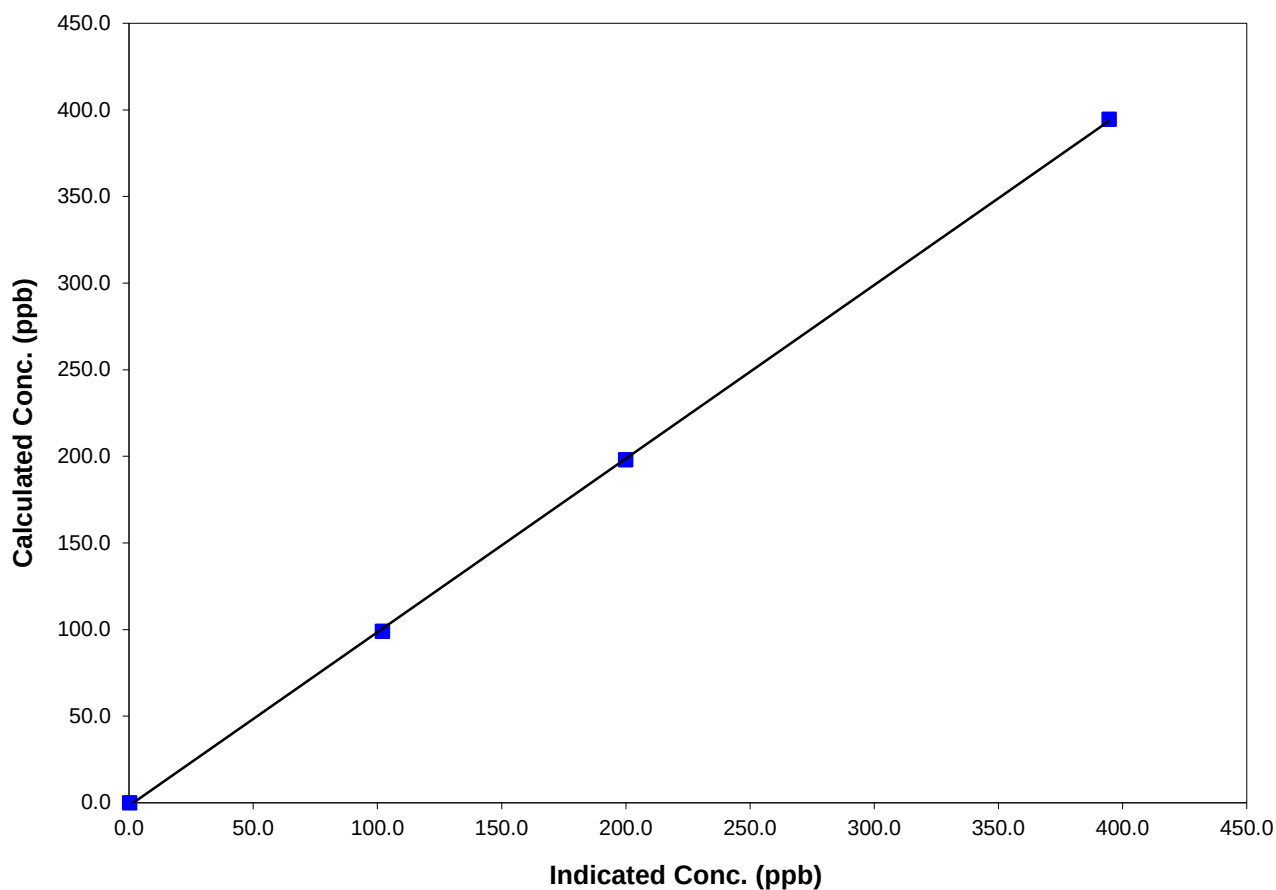
Station Information

Calibration Date	September 22, 2011	Previous Calibration	August 27, 2011
Station Number	3	Station Location	Smokey Heights
Start Time (MST)	10:35	End Time (MST)	13:28
Analyzer make/model	Teco 43i	Analyzer serial #	701120009

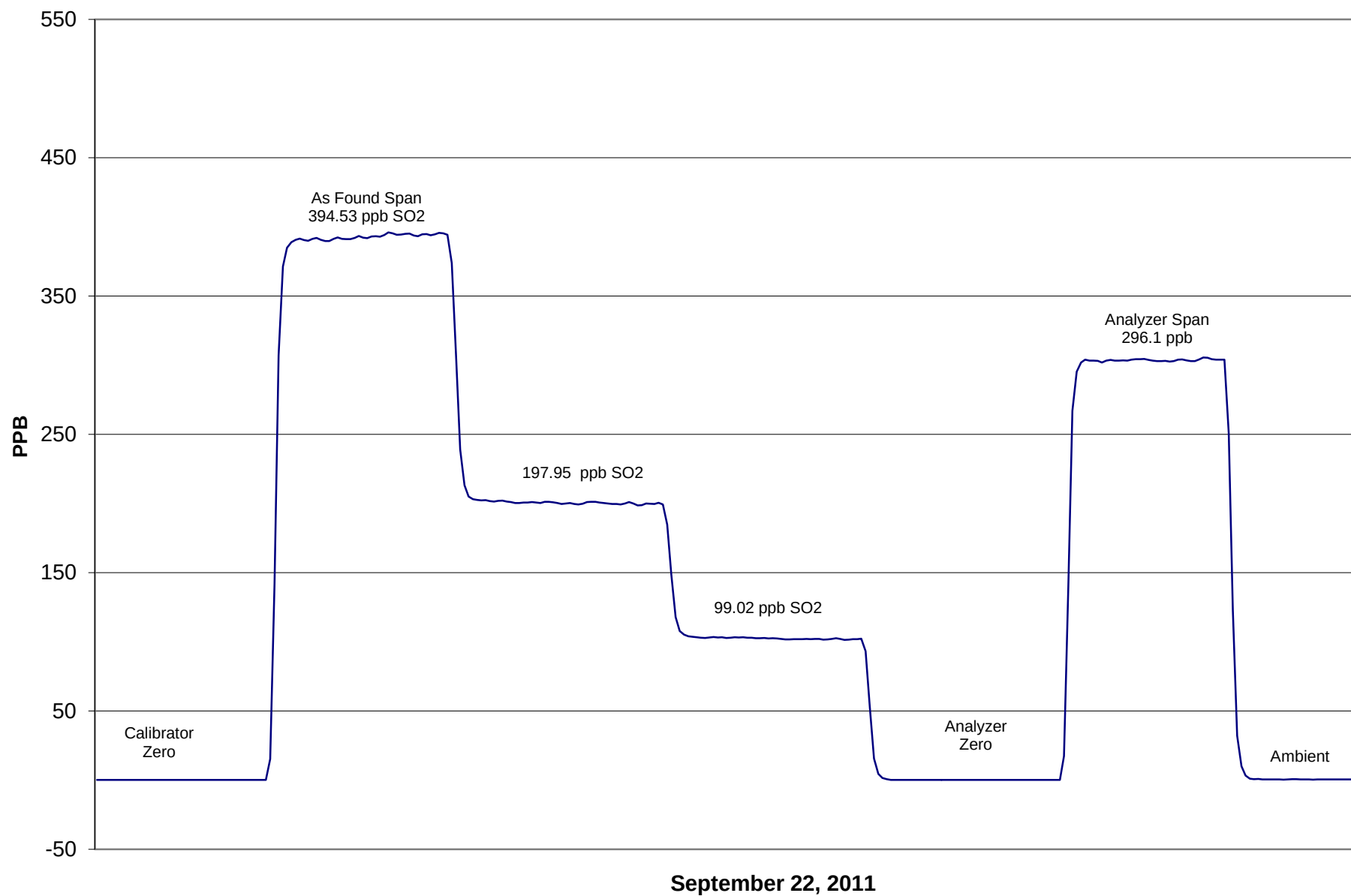
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.2	N/A	Correlation Coefficient	0.999932
394.5	394.7	0.9996		
198.0	200.0	0.9896		
99.0	102.1	0.9701	Slope	1.002041
			Intercept	-1.728444

SO2 Calibration Curve



Smokey Heights SO₂ Calibration



Calibration Report



Parameter TRS

Air Monitoring Network PASZA

Station Information

Calibration Date	September 22, 2011	Previous Calibration	August 29, 2011
Station Number	3	Station Location	Smokey Heights
Reason:	Routine	Install	Removal
		Other:	
Start Time (MST)	9:06	End Time (MST)	11:39
Barometric Pressure	0.919 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	0.031239	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	0.999186	Calculated slope	1.003218
Calculated intercept	-0.014731	Calculated intercept	-0.206610

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		0.953	
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	548.5	mm Hg	548.7	mm Hg
Sample Flow	0.593	ccm	0.593	ccm
Lamp Intensity	35,627	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	0.1	N/A
4989	69.80	79.61	79.5	1.0019
4989	34.88	40.06	40.3	0.9935
4989	8.96	10.34	10.6	0.9779
4989	0.0	0.00	0.1	As Found Zero
4989	69.80	79.61	79.5	As Found Span
Average Correction Factor				0.9911

Calculated value of As Found Response: 79.32 ppm Percent Change of As Found: **0.4%**

	before calibration		after calibration	
Auto zero	0.0	ppm	0.0	ppm
Auto span	52.9	ppm	54.0	ppm

Notes: _____

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter TRS

Air Monitoring Network PASZA



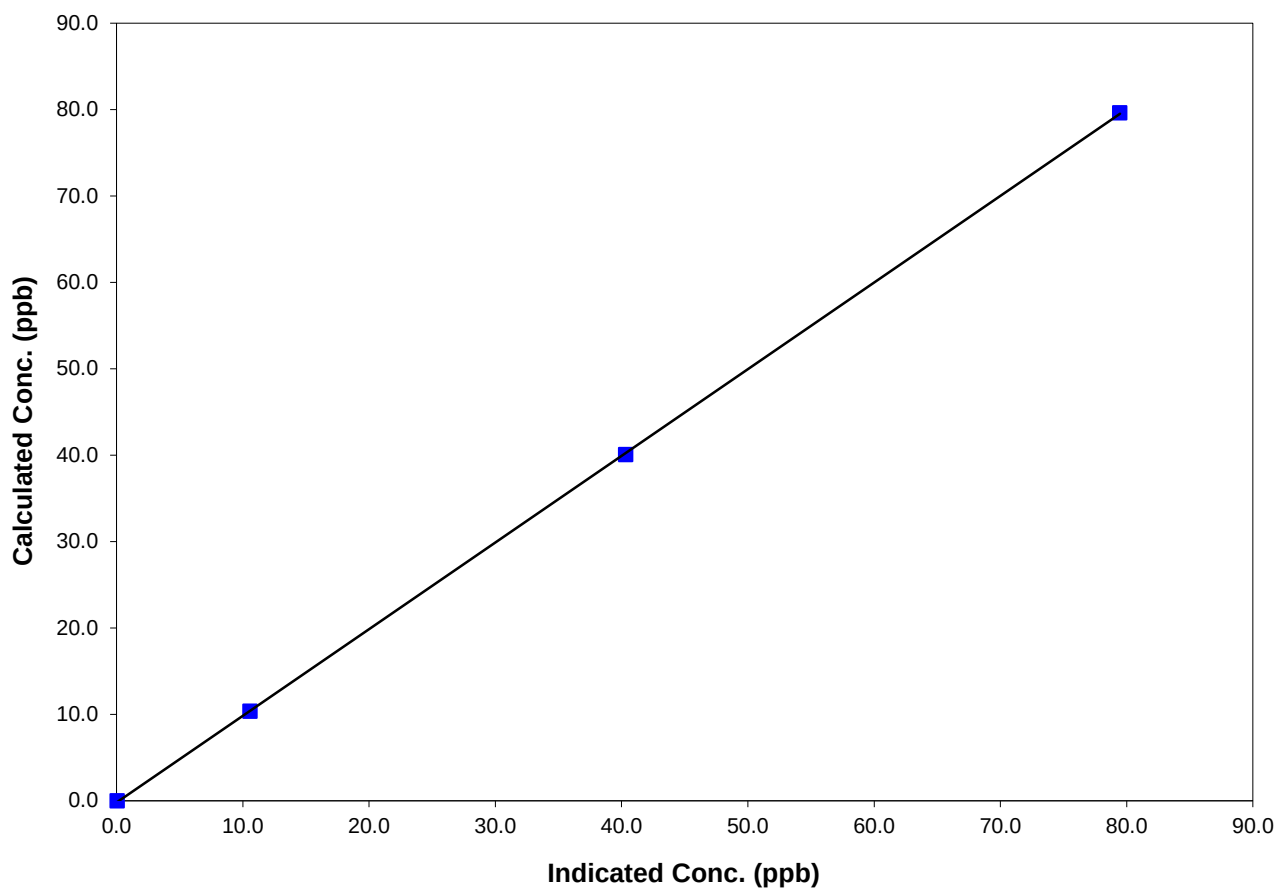
Station Information

Calibration Date	September 22, 2011	Previous Calibration	August 29, 2011
Station Number	3	Station Location	Smokey Heights
Start Time (MST)	9:06	End Time (MST)	11:39
Analyzer make/model	TEI Model 43C	Analyzer serial #	0436610005

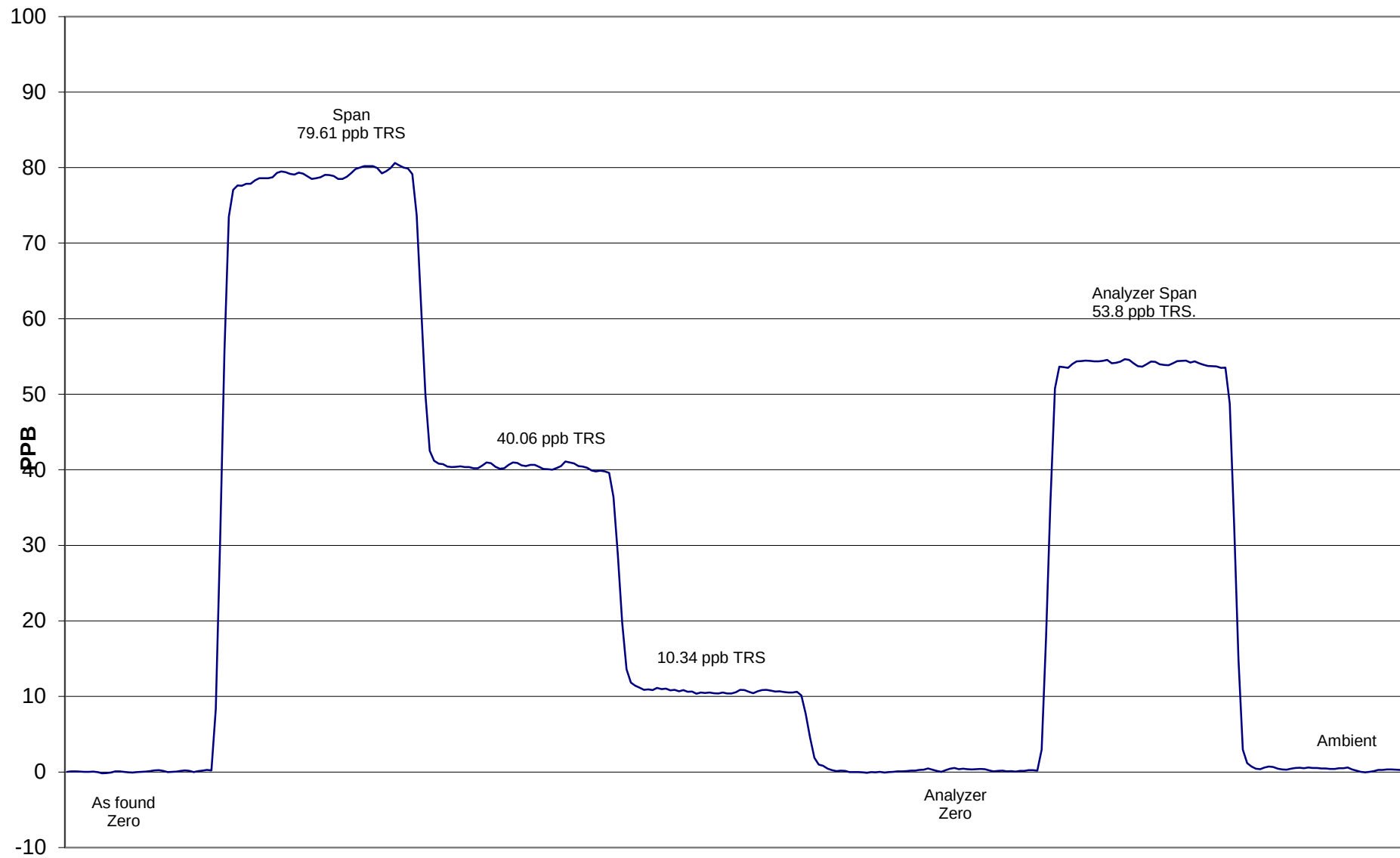
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.1	N/A	Correlation Coefficient	0.999982
79.6	79.5	1.0019		
40.1	40.3	0.9935		
10.3	10.6	0.9779	Slope	1.003218
			Intercept	-0.206610

TRS Calibration Curve



Smokey Heights TRS Calibration



September 22, 2011

AB TEOM PM2.5 Calibration



STATION: **Smokey Heights**
 LOCATION: PASZA - Grande Prairie

OPERATOR: Grover Christensen
 DATE: 22-Sep-11

MONITOR INFO / PARAMETER VALUES:

Make/Model	TEOM AB
Configuration	PM2.5
Serial Number	24634
Site Number	3
Inlet Type	PM 10 / SCC
FAdj. Main Setting	1.000
FAdj. Aux. Setting	1.000
T-Case Indicated / Set Point	40/40
T-Air Indicated / Set Point	40/40
T-Cap Indicated / Set Point	40/40
Splitter Assembly Alignment (cm)	15.5

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

RECENT CALIBRATION AND AUDIT HISTORY

Previous Audit	19-Aug-11
Previous Calibration	NA

PUMP CAPACITY CHECK *	PASS
-----------------------	------

* capacity test or pump on timed test utilized to verify pump integrity

"FAIL" indicates that pump requires service.

LEAK CHECK	Indicated Flow (lpm)	
	Main	Auxiliary
PUMP ON	0.010	0.020
PUMP OFF	0.010	0.010
NET	0.000	0.010
LIMITS	<0.15	<0.60

	Ambient Temp. (^o C)	Ambient Pres. (atm)	Ko *	Bypass flow (lpm)	Sample flow (lpm)
SET POINT (S)	na	na	12122	13.67	3.000
INDICATED (I)	15.2	0.919	X	13.67	3.000
MEASURED (AF)	14.4	0.920		13.68	3.020
MEASURED (M)	14.4	0.920	12200	13.68	3.020
DIFFERENCE (M-I)	-0.8	0.001	0.6%	0.07	0.02
LIMITS	± 2^o C	± 0.005 atm	± 2.5 %	± 1.0 L/min	± 0.2 L/min

As Found Data
 Adjusted Data

Ko Audit Filter data

Weight: 0.11251

Serial #: CVK 3316

COMMENTS: PASS

Heads cleaned.

Sample Head Inspection/Cleaning:

Large In Line Filter Inspection & Or Replacement:

Calibration Report

Parameter SO2

Air Monitoring Network PASZA



Station Information

Calibration Date	September 7, 2011	Previous Calibration	August 4, 2011
Station Number	4	Station Location	Beaverlodge
Reason:	Routine	Install	Removal
			Other:
Start Time (MST)	15:02	End Time (MST)	18:10
Barometric Pressure	0.919 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	0.997362	Calculated slope	0.986812
Calculated intercept	-0.690407	Calculated intercept	-0.628332
Analyzer make	TEI Model 43i-TLE	Analyzer serial #	713021137

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Background	2.44		2.43	
Coefficient	1.082		1.082	
PMT	-767.8	V	-767.6	V
UV Lamp Voltage	1045	V	1043	V
Chamber Temp	45	Deg C	45.2	Deg C
Pressure	667.6	mm Hg	672.8	mm Hg
Sample Flow	0.492	LPM	0.497	LPM
Lamp Intesity	98%	%	98%	%

Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4989	0.00	0.0	0.1	N/A
4989	39.83	80.0	81.4	0.9827
4989	19.90	40.1	41.7	0.9632
4989	9.93	20.1	21.4	0.9379
4989	0.00	0.0	0.1	As found zero
4989	39.83	80.0	81.4	As found span
Average Correction Factor				0.9613

Calculated value of As Found Response: 80.364 ppm Percent Change of As Found: -0.5%

	before calibration		after calibration	
Auto zero	-0.3	ppb	-0.5	ppb
Auto span	58.0	ppb	56.6	ppb

Notes: _____

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter SO2

Air Monitoring Network PASZA



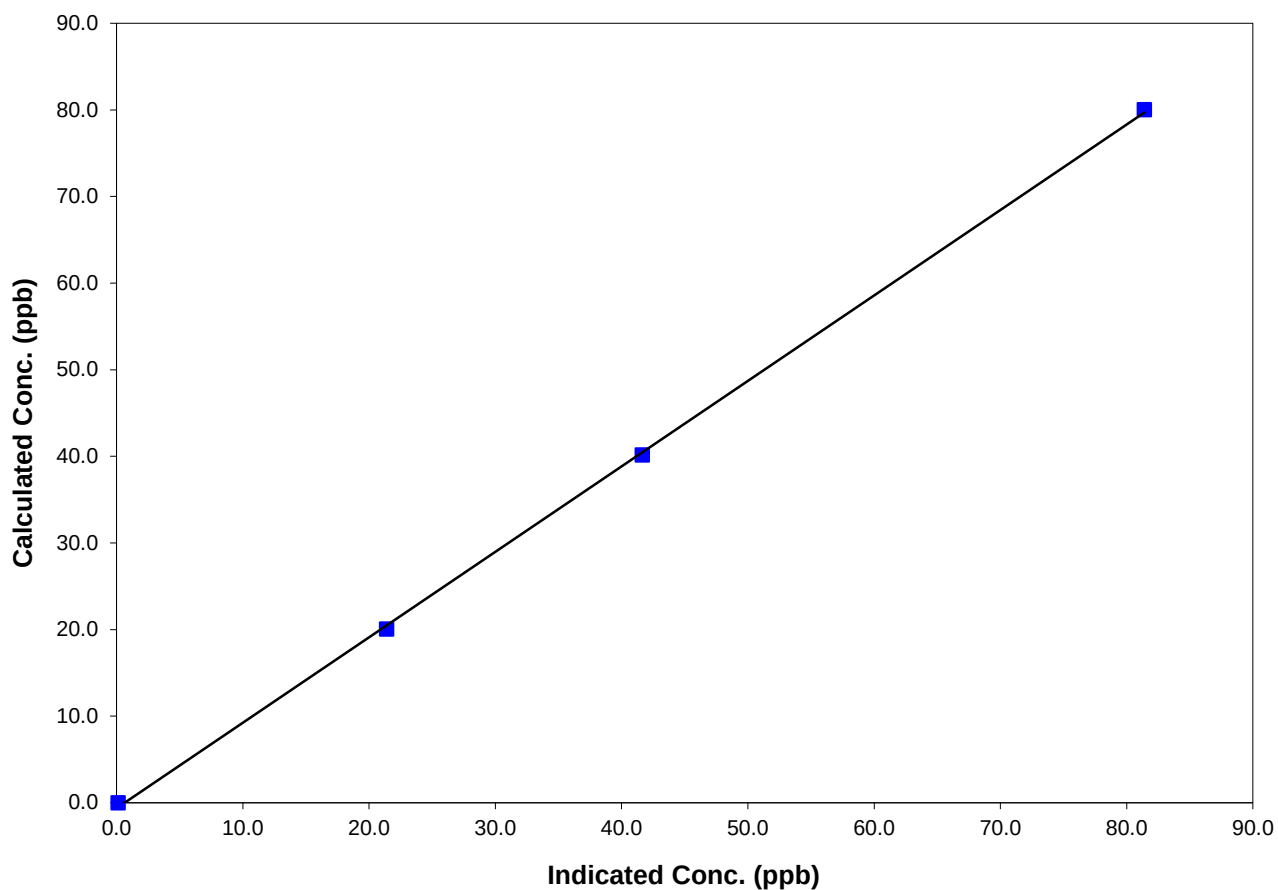
Station Information

Calibration Date	September 7, 2011	Previous Calibration	August 4, 2011
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	15:02	End Time (MST)	18:10
Analyzer make/model	TEI Model 43i-TLE	Analyzer serial #	713021137

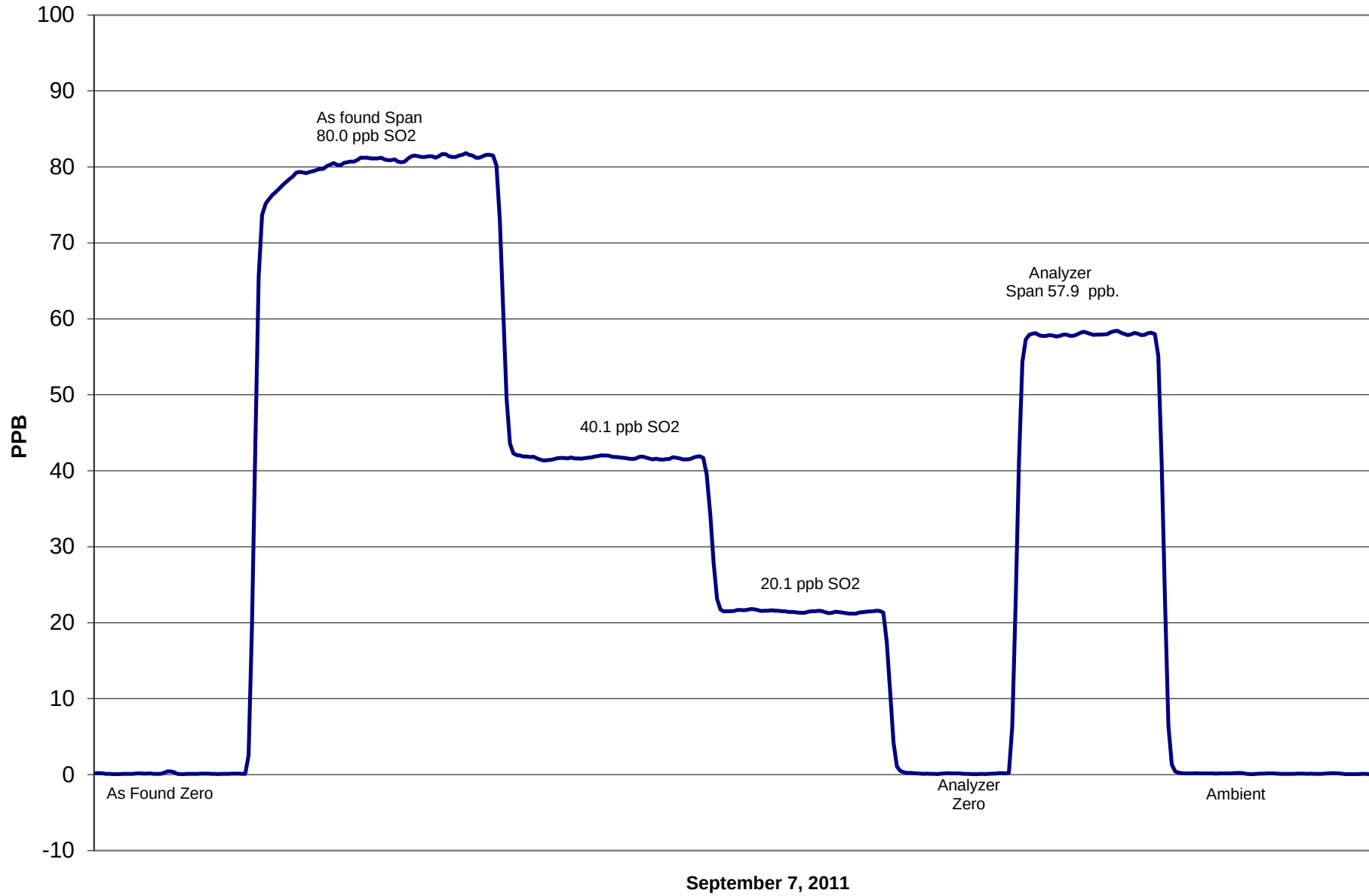
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.1	N/A	Correlation Coefficient	0.999824
80.0	81.4	0.9827		
40.1	41.7	0.9632		
20.1	21.4	0.9379	Slope	0.986812
			Intercept	-0.628332

SO2 Calibration Curve



SO2 Calibration



Parameter

Air Monitoring Network

NO_x-NO-NO₂

PASZA



Station Information

Calibration Date	September 7, 2011			Previous Calibration	August 4, 2011	
Station Number	4			Station Location	BeaverLodge	
Reason:	☒ Routine	☐ Installation	☐ Removal	Other:		
Start Time (MST)	9:30			End Time (MST)	15:42	
Barometric Pressure	0.919		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. _____

Parameter		NO2	NOx	NO
Before	Data Slope	0.987655	1.002929	1.003245
	Data Offset	-1.040197	-0.948328	-1.010192
After	Data Slope	0.990504	1.003733	1.004322
	Data Offset	-0.453641	-1.089955	-0.886324
Channel #		8	6	7
Voltage Range		0 - 5 VDC	0 - 5 VDC	0 - 5 VDC

Analyzer Information

Analyzer make/model	TEI 42i	Analyzer serial #	906535068	
Test Point	before		after	
Concentration range	0-500	ppb	0-500	ppb
NO offset	2.1	mV	2.2	mV
NOx bkgnd	2.5	mV	2.6	mV
NO coefficient	1.324		1.344	
NOx coefficient	0.999		0.999	
NO2 conv temp	324.7	Deg C	322.9	Deg C
PMT Temp	-3.0	Deg C	-3.0	Deg C
PMT Volt	-671.9	mV	-671.9	mV
R Cell Press	159.4	in Hg	157.0	in Hg
Sample Flow	0.729	ccm	0.706	ccm

Calibration Report

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



Station Information

Calibration Date: September 7, 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	0.0	-0.2	0.0	N/A	N/A
1	4989	38.85	405.7	405.7	0.0	405.2	404.9	0.0	1.0012	1.0019
2	4989	19.92	208.8	208.8	0.0	208.2	207.4	0.0	1.0030	1.0067
3	4989	9.93	104.3	104.3	0.0	107.1	107.0	-0.2	0.9740	0.9743
AFZ	4989	0.00	0.0	0.0	0.0	0.0	-0.2	0.0	0.0000	0.0000
AFS	4989	38.85	405.7	405.7	0.8	398.1	397.8	0.2	1.0189	1.0198
Average Correction Factor									0.9927	0.9943

As Found Concentrations: NO_x= 397.2 NO= 396.9 As Found Percent Change NO_x= -2.1% NO= -2.2%

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	-0.2	-0.2	0.0	0.0	-0.2	0.0	N/A	N/A	N/A	N/A
NO point	405.1	405.1	0.0	405.1	405.1	-0.2	1.0000	1.0000	N/A	N/A
300	405.1	174.4	230.7	408.2	174.4	233.1	0.9925	1.0000	0.9894	101.1%
200	405.1	250.5	154.6	407.4	250.5	156.4	0.9945	1.0000	0.9885	101.2%
100	405.1	324.9	80.2	407.4	324.9	82.3	0.9944	1.0000	0.9750	102.6%
Average Correction Factor							0.9938	1.0000	0.9843	101.6%

AIC Data

	Previous calibration				Current calibration			
Parameter	NOx	NO2	NO		NOx	NO2	NO	
Auto zero	-0.2	-0.3	-0.2	ppb	-0.1	-0.2	-0.1	ppb
Auto span	238.0	235.5	1.6	ppb	214.0	211.7	1.7	ppb

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter NO₂

Air Monitoring Network PASZA



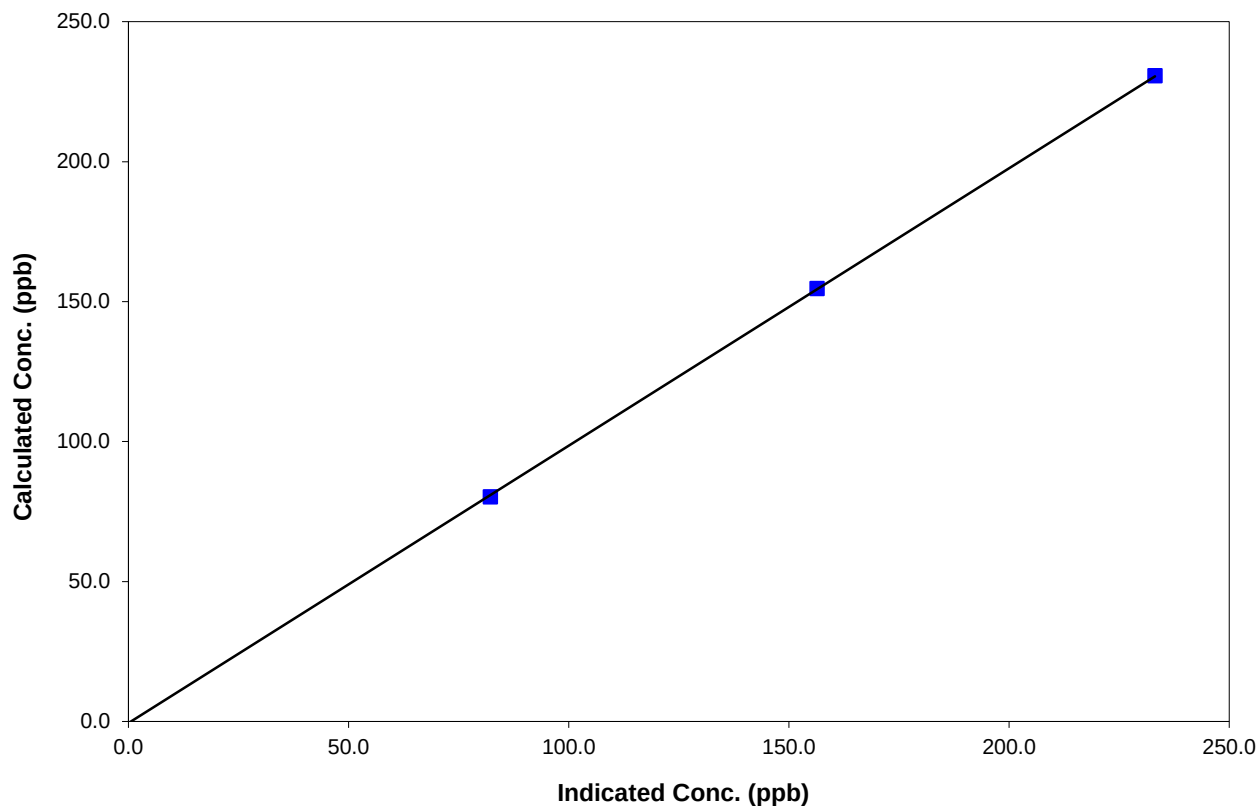
Station Information

Calibration Date	September 7, 2011	Previous Calibration	August 4, 2011
Station Number	4	Station Location	BeaverLodge
Start Time (MST)	9:30	End Time (MST)	15:42
Analyzer make	TEI 42i	Analyzer serial #	906535068

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.0	N/A	Correlation Coefficient	0.999967
230.7	233.1	0.9894		
154.6	156.4	0.9885		
80.2	82.3	0.9750	Slope	0.990504
			Intercept	-0.453641

NO₂ Calibration Curve



Calibration Summary

Parameter NO_x

Air Monitoring Network PASZA



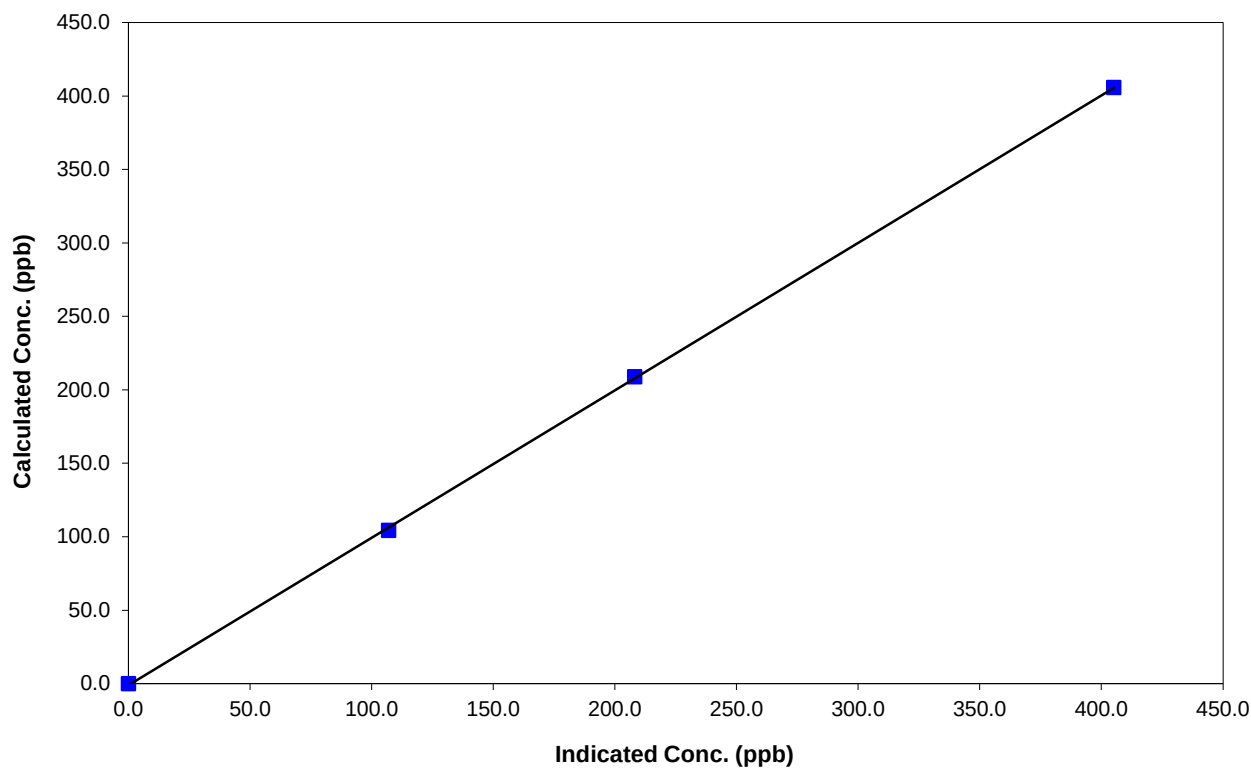
Station Information

Calibration Date	September 7, 2011	Previous Calibration	August 4, 2011
Station Number	4	Station Location	BeaverLodge
Start Time (MST)	9:30	End Time (MST)	15:42
Analyzer make	TEI 42i	Analyzer serial #	906535068

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.0	N/A	Correlation Coefficient	0.999928
405.7	405.2	1.0012		
208.8	208.2	1.0030		
104.3	107.1	0.9740	Slope	1.003733
			Intercept	-1.089955

NO_x Calibration Curve



Calibration Summary

Parameter NO

Air Monitoring Network PASZA



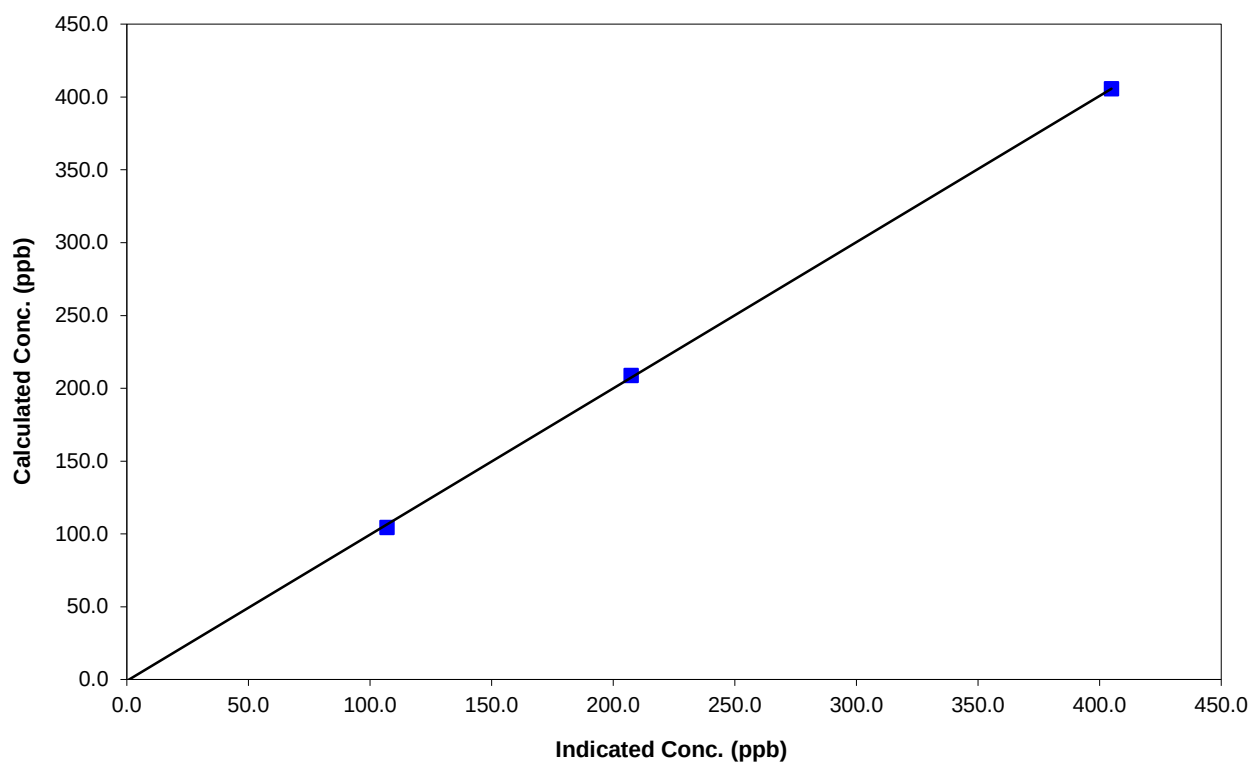
Station Information

Calibration Date	September 7, 2011	Previous Calibration	August 4, 2011
Station Number	4	Station Location	BeaverLodge
Start Time (MST)	9:30	End Time (MST)	15:42
Analyzer make	TEI 42i	Analyzer serial #	906535068

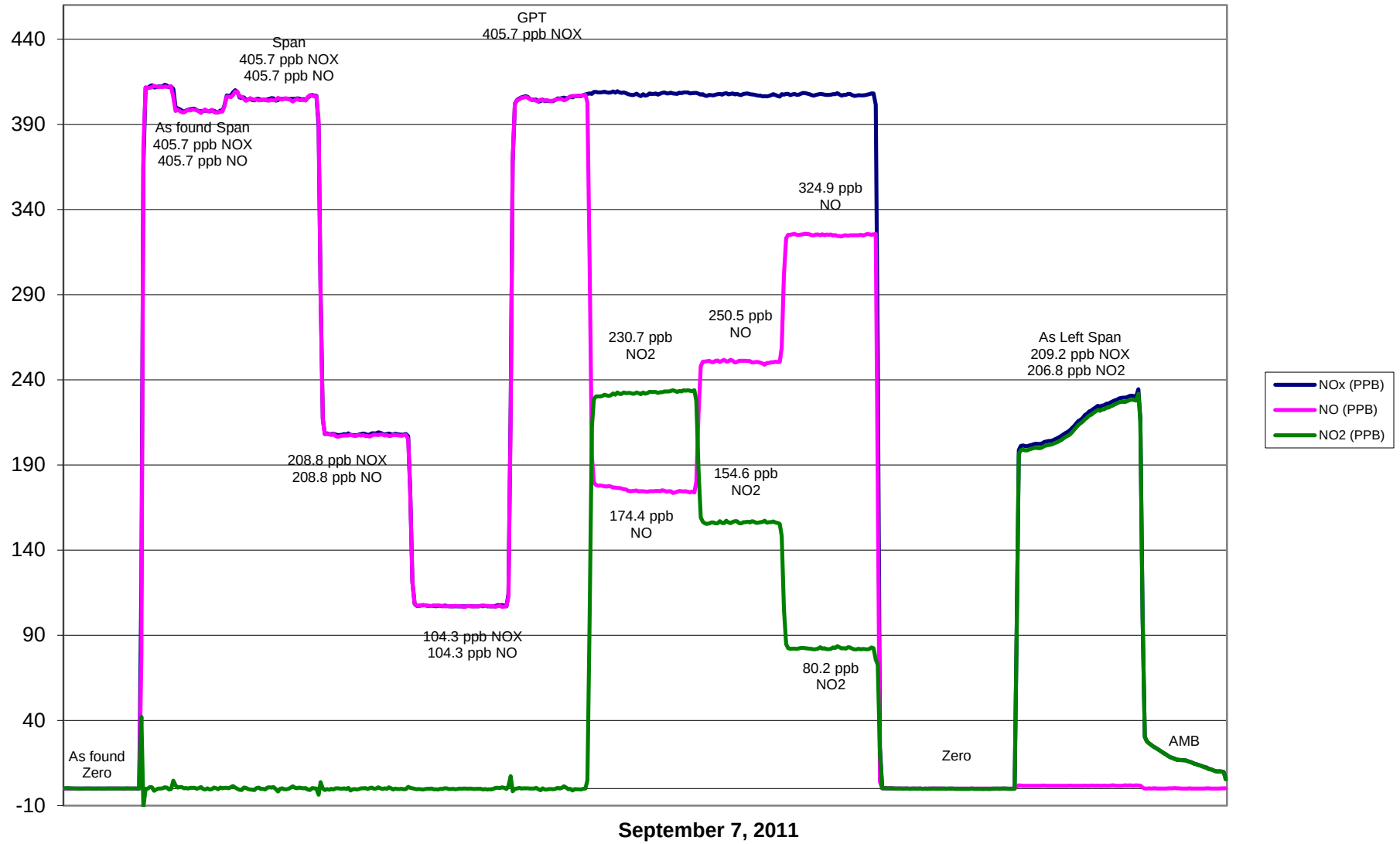
Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.2	N/A	Correlation Coefficient	0.999906
405.7	404.9	1.0019		
208.8	207.4	1.0067		
104.3	107.0	0.9743	Slope	1.004322
			Intercept	-0.886324

NO Calibration Curve



PASZA Beaverlodge NO_x Calibration



Calibration Report

Parameter 03

Air Monitoring Network PASZA



Station Information

Calibration Date	September 7, 2011	Previous Calibration	August 4, 2011
Station Number	4	Station Location	Beaverlodge
Reason:	Routine	Install	Removal
		Other:	

Start Time (MST)	12:43	End Time (MST)	16:45
Barometric Pressure	0.919 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	0.985440	Calculated slope	0.982190
Calculated intercept	-0.155854	Calculated intercept	-0.631546

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

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
offset	-1.60	ppb	-1.50	ppb
slope	1.019		0.987	
Lamp temp	56.3	mV	56.3	mV
Lamp Intensity A/B	57984/59549	mV	58029/59625	mV
Pressure	690.7	mm Hg	690.5	mm Hg
Flow A	0.766	ccm	0.766	ccm
Flow B	0.715	ccm	0.715	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	0.4	N/A
4989	250	230.7	235.5	0.9796
4989	150	154.6	157.8	0.9797
4989	80	80.2	82.8	0.9684
4989	0	0.0	0.4	As found zero
4989	250	230.7	242.7	As found span
Average Correction Factor				0.9759

Calculated value of As Found Response: 238.6 ppm Percent Change of As Found: **3.4%**

	before calibration		after calibration	
Auto zero	0.1	ppb	-0.5	ppb
Auto span	114.3	ppb	104.6	ppb

Notes: Cal went well, no adjustments required

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter O3

Air Monitoring Network PASZA



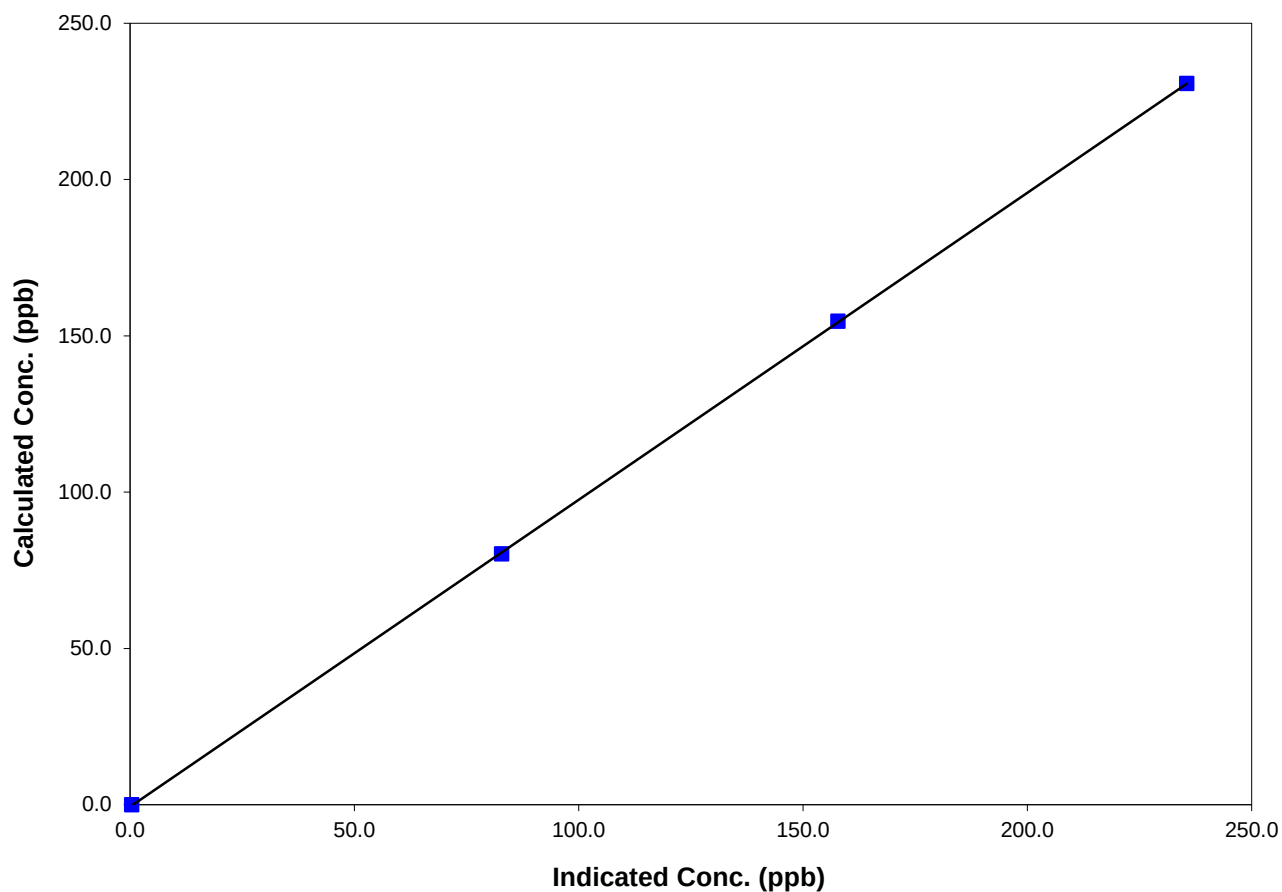
Station Information

Calibration Date	September 7, 2011	Previous Calibration	August 4, 2011
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	12:43	End Time (MST)	16:45
Analyzer make/model	Teco 49C	Analyzer serial #	49C-76443-383

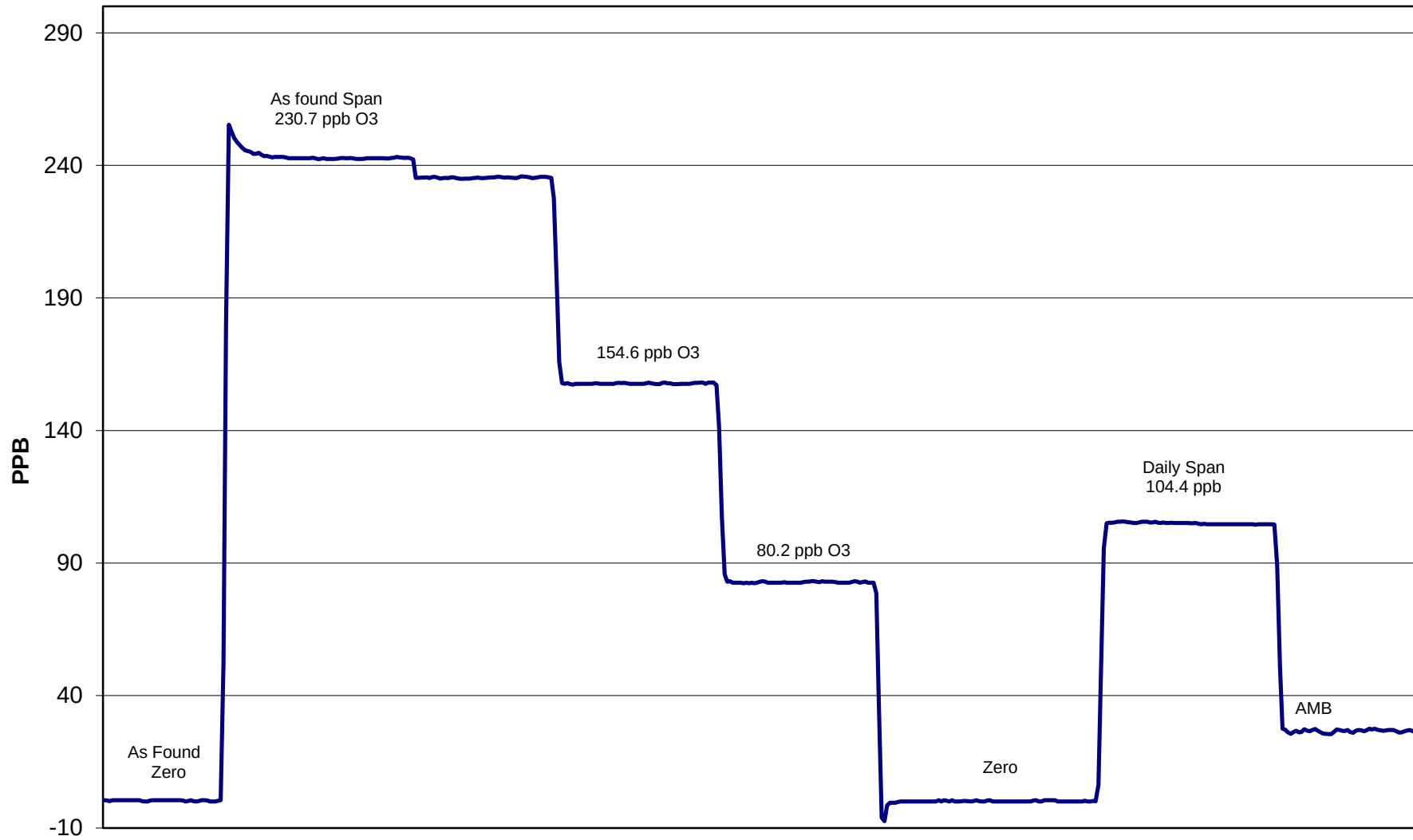
Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.4	NA	Correlation Coefficient	0.999987
230.7	235.5	0.9796		
154.6	157.8	0.9797		
80.2	82.8	0.9684	Slope	0.982190
			Intercept	-0.631546

O3 Calibration Curve



O3 Calibration



September 7, 2011

FDMS TEOM PM2.5 AUDIT



STATION: BeaverLodge
 LOCATION: PASZA - Grande Prairie

OPERATOR: Grover Christiansen
 DATE: 13-Sep-11

MONITOR INFO / PARAMETER VALUES:

Make/Model	TEOM AB
Configuration	PM2.5
Serial Number	AMU1649
Site Number	4
Inlet Type	PM 10 / SCC
FAdj. Main Setting	1.000
FAdj. Aux. Setting	1.000
T-Case Indicated / Set Point	30/30
T-Air Indicated / Set Point	30/30
T-Cap Indicated / Set Point	30/30
Splitter Assembly Alignment (cm)	15.5

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

RECENT CALIBRATION AND AUDIT HISTORY

Previous Audit	14-Jul-11
Previous Calibration	

PUMP CAPACITY CHECK *	PASS
-----------------------	------

* capacity test or pump on timed test utilized to verify pump integrity

"FAIL" indicates that pump requires service.

LEAK CHECK	Indicated Flow (lpm)	
	Main	Auxiliary
PUMP ON	-0.090	0.120
PUMP OFF	0.010	0.010
NET	-0.100	0.110
LIMITS	<0.15	<0.60

	Ambient Temp. (^o C)	Ambient Pres. (atm)	Ko *	Bypass flow (lpm)	Sample flow (lpm)
SET POINT (S)	na	na	14287	13.67	3.00
INDICATED (I)	12.9	0.922		13.67	3.00
MEASURED (AF)	13.0	0.923		13.78	3.01
MEASURED (M)	13.0	0.923	14184	13.67	3.01
DIFFERENCE (M-I)	0.1	0.001	-0.7%	0.00	0.01
LIMITS	± 2^o C	± 0.005 atm	± 2.5 %	± 1.0 L/min	± 0.2 L/min

As Found Data
 Adjusted Data

Ko Audit Filter data Weight: 0.11477 Serial #: CVK 3532

COMMENTS: PASS

Sample Head was cleaned.

Reference leak check: Main: -0.10 Aux: 0.13

PASS

Sample Head Inspection Or Cleaning: TEOM / FDMS IN LINE FILTER INSPECTION OR REPLAC

Calibration Report

Parameter SO2
Air Monitoring Network

PASZA



Station Information

Calibration Date	September 26, 2011	Previous Calibration	August 21, 2011
Station Number	6	Station Location	Valleyview
Reason:	☒ Routine	☐ Install	☐ Removal
		☐ Other:	
Start Time (MST)	10:10	End Time (MST)	12:45
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	1.000180	Calculated slope	1.007971
Calculated intercept	-1.390492	Calculated intercept	-2.072773
Analyzer make	TEI 45C	Analyzer serial #	45C-57531-313

	before		after	
Concentration range	0 - 1000	ppb	0 - 1000	ppb
Background	28.3		28.3	
Coefficient	0.857		0.857	
UV Lamp Voltage	950	LPM	949	LPM
Chamber Temp	44.4	V	44.5	V
Perm Gas Temp	35.1	C	35.1	C
Pressure	603.8	in Hg	611.5	in Hg
Sample Flow	0.561	LPM	0.560	LPM
Lamp Intensity	48647	Hz	48142	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	0.4	N/A
4989	39.84	394.5	392.5	1.0051
4989	19.89	197.8	199.4	0.9919
4989	9.94	99.0	101.7	0.9734
4989	0.00	0.0	0.4	As found zero
4989	39.84	394.5	392.5	As found span
Average Correction Factor				0.9901

Calculated value of As Found Response: 390.766 ppm Percent Change of As Found: 1.0%

	before calibration		after calibration	
Auto zero	0.0	ppm	0.0	ppm
Auto span	155.5	ppm	157.1	ppm

Notes: No adjustment made.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter SO2

Air Monitoring Network PASZA



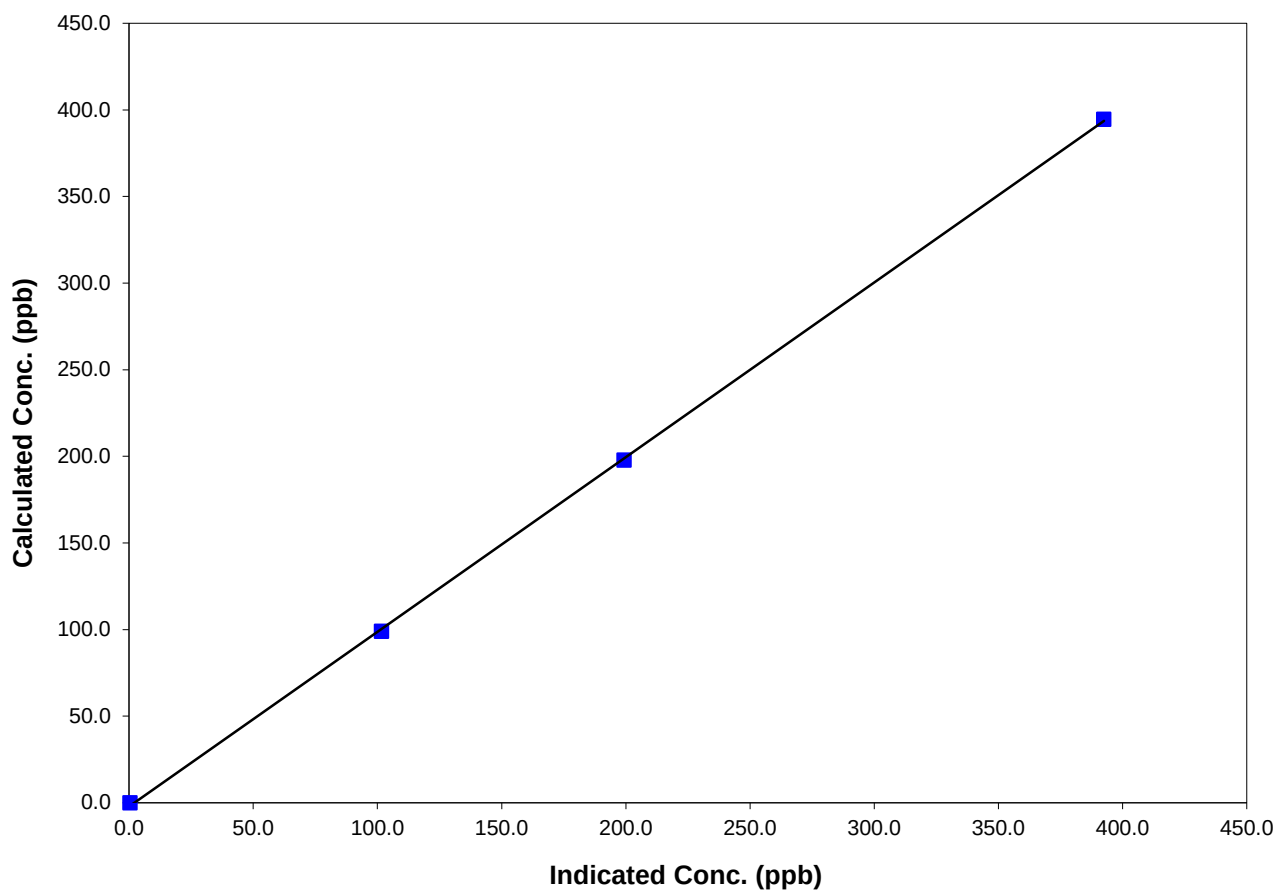
Station Information

Calibration Date	September 26, 2011	Previous Calibration	August 21, 2011
Station Number	6	Station Location	Valleyview
Start Time (MST)	10:10	End Time (MST)	14:42
Analyzer make/model	TEI 45C	Analyzer serial #	45C-57531-313

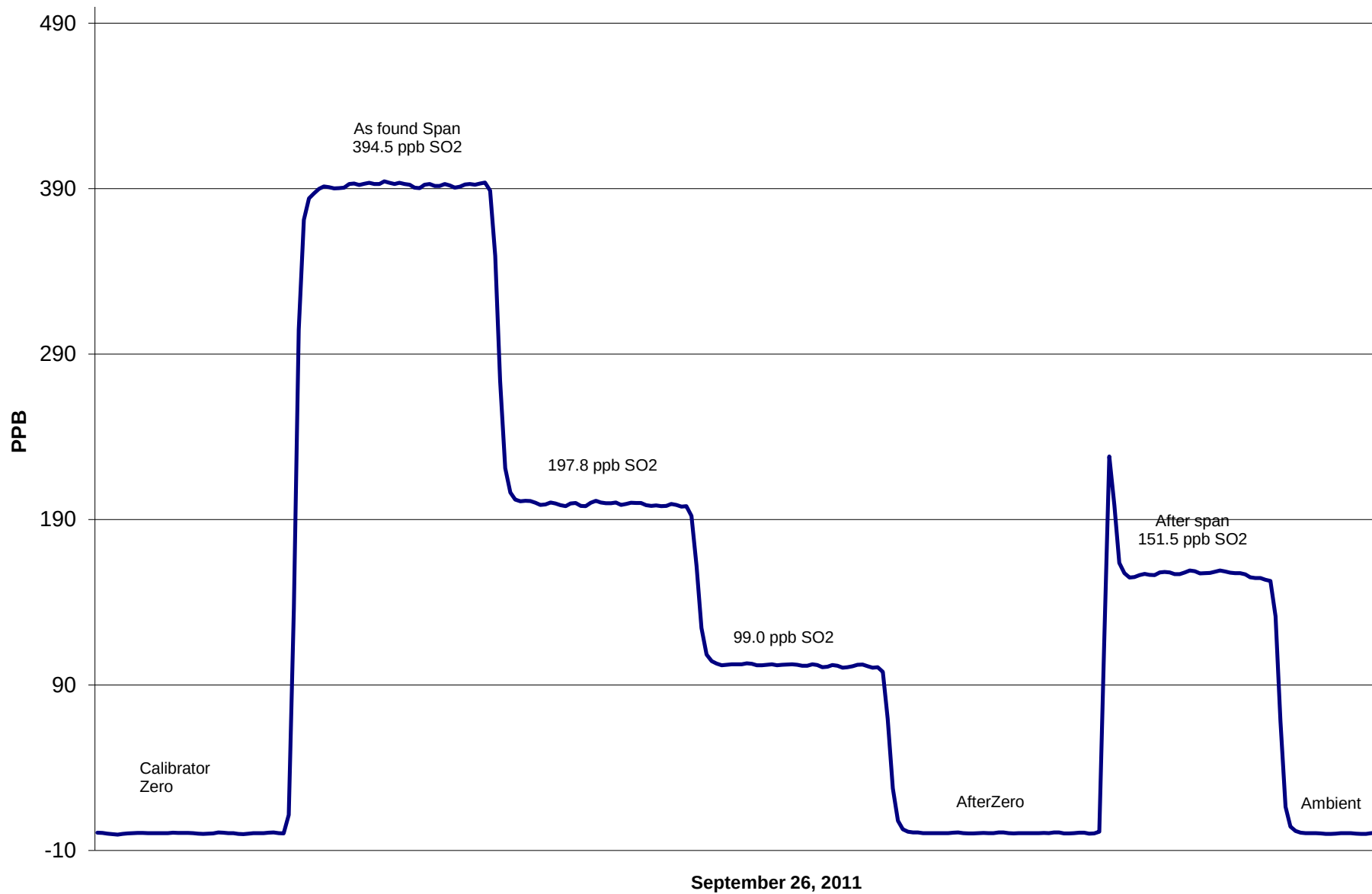
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.4	N/A	Correlation Coefficient	0.999918
394.5	392.5	1.0051		
197.8	199.4	0.9919		
99.0	101.7	0.9734	Slope	1.007971
			Intercept	-2.072773

SO2 Calibration Curve



SO2 Calibration



Calibration Report

Parameter H2S
Air Monitoring Network

PASZA



Station Information

Calibration Date	September 26, 2011	Previous Calibration	August 21, 2011
Station Number	6	Station Location	Valleyview
Reason:	☒ Routine	☐ Install	☐ Removal
		☐ Other:	
Start Time (MST)	8:50	End Time (MST)	11:26
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	1.003698	Calculated slope	0.992523
Calculated intercept	0.162699	Calculated intercept	-0.055421
Analyzer make	TEI Model 43i - APSCB	Analyzer serial #	701120010

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Back Ground	7.2	ppb	7.2	ppb
Coefficient	1.377		1.377	
Lamp Voltage	785	v	786	v
Chamber Temp	45.01	c	44.9	c
Perm Oven Temp	45.01	c	45.00	c
Pressure	623.40	mm Hg	623.10	mm Hg
Sample Flow	.422	ccm	.421	ccm
Lamp Intensity	92.0	%	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	0.0	N/A
4989	69.79	79.6	80.3	0.9918
4989	34.87	40.0	40.4	0.9917
4989	8.96	10.3	10.5	0.9806
4989	0.00	0.0	0.0	As found zero
4989	69.79	79.6	80.3	As found span
Average Correction Factor				0.9880

Calculated value of As Found Response: 80.71 ppm Percent Change of As Found: -1.4%

	before calibration		after calibration	
Auto zero	0.0	ppm	0.1	ppm
Auto span	70.6	ppm	73.9	ppm

Notes:

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter H2S

Air Monitoring Network PASZA



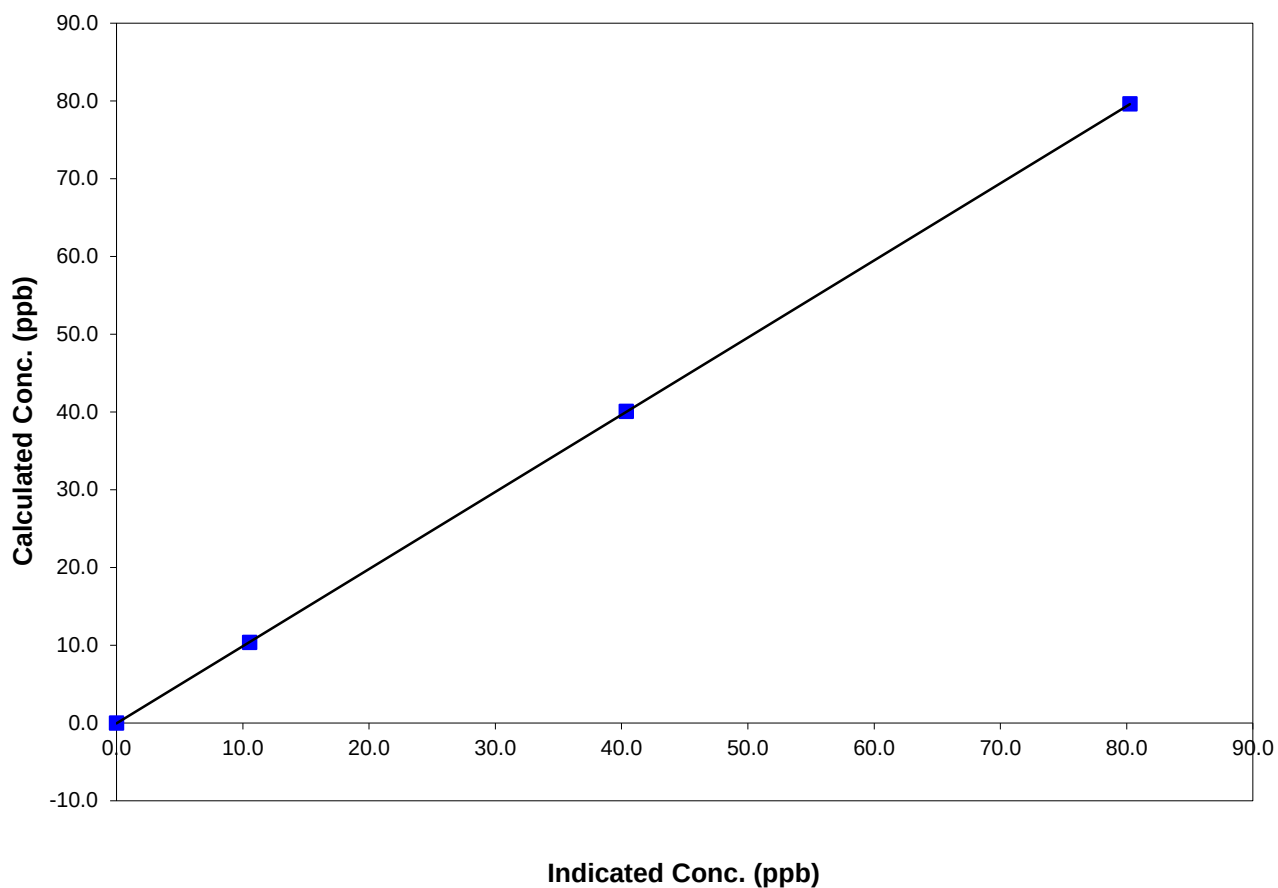
Station Information

Calibration Date	September 26, 2011	Previous Calibration	August 21, 2011
Station Number	6	Station Location	Valleyview
Start Time (MST)	8:50	End Time (MST)	11:26
Analyzer make/model	TEI Model 43i - APSCB	Analyzer serial #	701120010

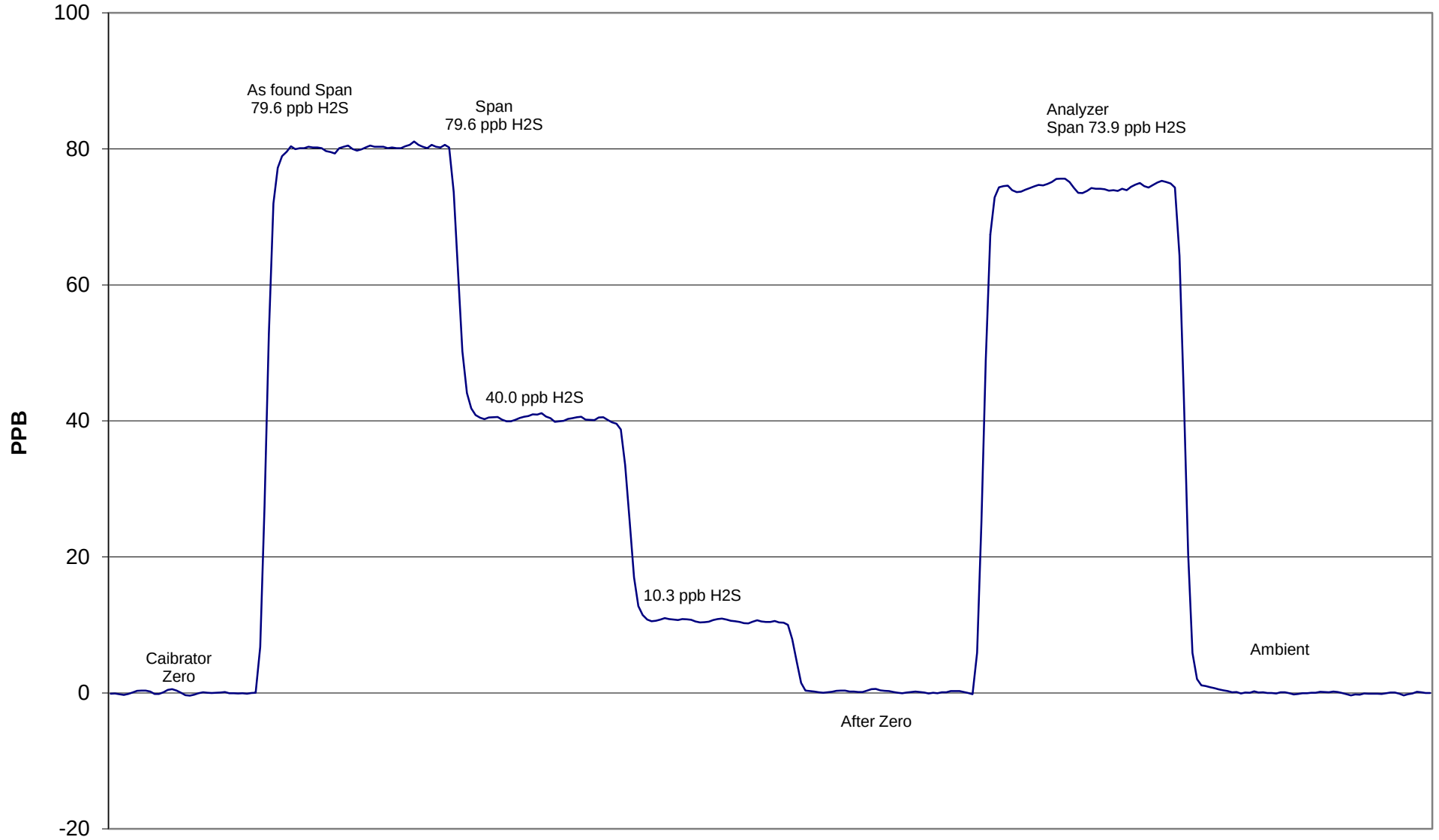
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.0	N/A	Correlation Coefficient	0.999998
79.6	80.3	0.9918		
40.0	40.4	0.9917		
10.3	10.5	0.9806	Slope	0.992523
			Intercept	-0.055421

H2S Calibration Curve



H2S Calibration



September 26, 2011