



Peace Airshed Zone Association

Ambient Air Monitoring Network Summary

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

Operations and Reporting



October 28th, 2013

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

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

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

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

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

Company	Facility	LSD	EPEA Approval Number
Canfor Forest Products	Gold Creek	13-26-067-05-W6	00010446-02-00
	Teepee Creek	SE-2-074-04-W6	00001635-02-00
	Grande Prairie	SW-23-071-06-W6	152645-01-00
Conocophillips Canada Energy Partnership	Wembley	06-19-073-08-W6	00000212-01-00
Devon Canada	NW Belloy (Dunvegan)	16-36-079-03-W6	00009810-02-00
	Eaglesham (South)	02-14-077-25-W5	00047669-01-00
	North Normanville	03-36-079-23-W5	00047455-01-00
	West Culp	05-34-078-25-W6	00136284-00-00
	Cecil	08-15-084-08-W6	00010032-02-00
Encana Corporation	Sexsmith	04-08-075-07-W6	00010002-01-00
Enerplus Resources	Pouce Coupe	SW-06-069-21-W5	1464-02-03
Grande Prairie Generation Inc.	Northern Prairie Power Project	04-19-073-08-W6	00238762-00-00
Long Run Exploration	Eaglesham	01-25-076-01-W6	00241532-00-00
	Kakut	14-12-075-03-W6	00248469-00-00
	Donnelly	06-01-077-21-W5	00000087-02-00
	Puskwaskau	03-26-074-01-W6	00017524-01-00
Longview Oil Corp.	Sunset House	06-22-070-20-W5	138884-01-00
Penn West Petroleum Ltd.	Tangent	13-29-080-23-W5	00001746-02-00
	Pouce Coupe	16-07-078-11-W6	00000614-01-00

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

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

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

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

Henry Pirker Station:

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

Evergreen Park Station:

- ◆ The measured ambient air quality was within the AAAQO for the Evergreen Park station.
- ◆ All analyzers and 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 except for PM_{2.5}, which had one (1) 1-hour exceedence of the AAAQO guideline:
 - o Sept 12 21:00 121.8 µg/m³ Alberta Environment Reference # 275140
- ◆ All analyzers and 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 and 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 and sensors at the Valleyview station had an operational uptime greater than 90% for the month of September.

Sunset House Station:

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

Falher Station:

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

Passive Monitoring - 46 Stations throughout the PAZA zone:

There were five duplicate sites sampled in the month of September: Boone Creek, Wanham, Shaftesbury, McLennan, and Girouxville 3. The passive sample analyses were performed by MAXXAM Analytics Inc.

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

- Monthly average concentrations for SO₂ passives ranged from 0.1 ppb to 0.6 ppb, with a mean of 0.2 ppb.
- Monthly average concentrations for NO₂ passives ranged from 0.1 ppb to 5.0 ppb, with a mean of 0.8 ppb.
- Monthly average concentrations for O₃ passives ranged from 9.4 ppb to 27.3 ppb, with a mean of 17.4 ppb.
- Monthly average concentrations for H₂S were between 0.1 And 0.2 pbb, with a mean of 0.2 ppb.

If you have any questions or concerns, please contact Patrick Andersen at 403.505.1041 or the PAZA office at 780.833.4343.

On Behalf of the
Peace Airshed Zone Association

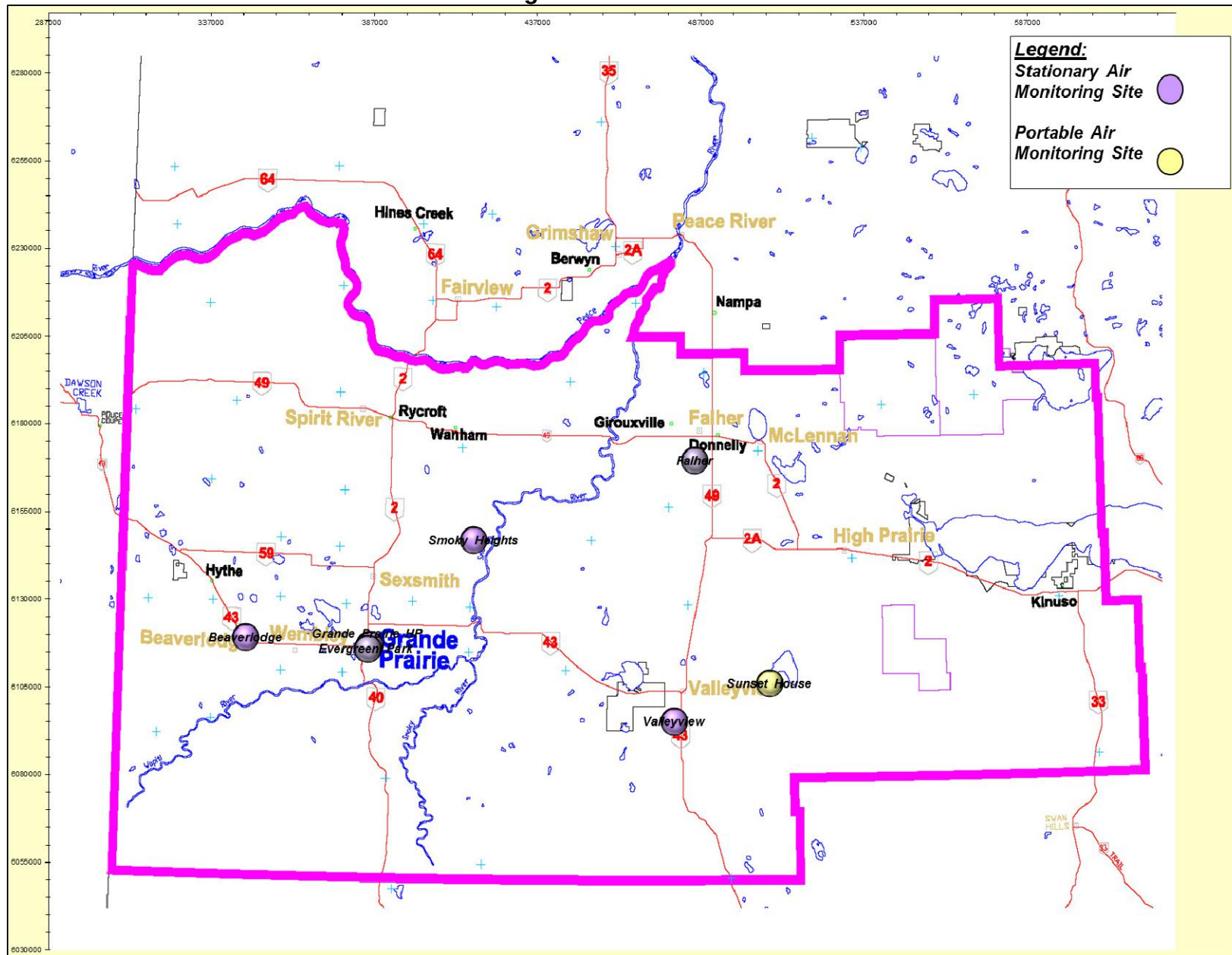


Patrick Andersen, B.Sc.
Program Manager



Jeff Cooper, C.Tech.
AQM Operations Manager

Location of PAZA Continuous Monitoring Stations



PAZA Monthly Continuous Data Summary

Sep-2013Peace 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	0.2	0	0	7.2	Sep-18 08:00	1.3	Sep-18	100%
SO ₂ (ppb)	172	48	Evergreen Park	0.2	0	0	3.8	Sep-07 11:00	0.3	Sep-27	100%
SO ₂ (ppb)	172	48	Smoky Heights	0.3	0	0	5.5	Sep-30 18:00	2.1	Sep-30	100%
SO ₂ (ppb)	172	48	Beaverlodge	0.2	0	0	2.6	Sep-02 13:00	0.5	Sep-16	100%
SO ₂ (ppb)	172	48	Valleyview	0.6	0	0	10.5	Sep-16 15:00	2.1	Sep-17	100%
SO ₂ (ppb)	172	48	Sunset House	0.3	0	0	3.4	Sep-11 11:00	0.7	Sep-03	100%
SO ₂ (ppb)	172	48	Falher	0.1	0	0	0.8	Sep-21 12:00	0.2	Sep-11	100%
NO (ppb)			Henry Pirker	2.2	0	0	57.6	Sep-12 08:00	8.9	Sep-26	100%
NO ₂ (ppb)	159	106	Henry Pirker	6.5	0	0	31.2	Sep-20 21:00	10.6	Sep-20	100%
NO _x (ppb)			Henry Pirker	8.8	0	0	78.1	Sep-12 08:00	15.8	Sep-26	100%
NO (ppb)			Beaverlodge	0.4	0	0	10.4	Sep-03 08:00	1.0	Sep-03	100%
NO ₂ (ppb)	159	106	Beaverlodge	2.6	0	0	10.9	Sep-15 07:00	4.0	Sep-15	100%
NO _x (ppb)			Beaverlodge	3.0	0	0	14.9	Sep-03 08:00	4.7	Sep-15	100%
NO (ppb)			Sunset House	0.1	0	0	1.4	Sep-03 11:00	0.3	Sep-26	100%
NO ₂ (ppb)	159	106	Sunset House	1.2	0	0	5.4	Sep-04 03:00	2.2	Sep-15	100%
NO _x (ppb)			Sunset House	1.2	0	0	5.5	Sep-04 03:00	2.3	Sep-15	100%
O ₃ (ppb)	82		Henry Pirker	19.7	0	-	51.5	Sep-15 16:00	27.3	Sep-09	100%
O ₃ (ppb) - 8-hr			Henry Pirker		0				42.0	Sep-11	
O ₃ (ppb)	82		Beaverlodge	23.7	0	-	45.6	Sep-15 19:00	30.6	Sep-04	100%
O ₃ (ppb) - 8-hr			Beaverlodge		0				38.9	Sep-15	
O ₃ (ppb)	82		Sunset House	26.0	0	-	49.7	Sep-12 01:00	37.4	Sep-20	100%
O ₃ (ppb) - 8-hr			Sunset House		0				46.2	Sep-12	
CO (ppm)	13		Henry Pirker	0.12	0	-	0.6	Sep-23 08:00	0.2	Sep-03	100%
CO (ppm) - 8-hr	5		Henry Pirker		0				0.3	Sep-04	

PAZA Monthly Continuous Data Summary – continued

Sep-2013Peace Airshed Zone Association							Maximum Recorded Values				
							1-hr		24-hr / 8-hr		
THC (ppm)			Henry Pirker	2.0	-	-	3.7	Sep-10 22:00	2.2	Sep-12	100%
CH ₄ (ppm)			Henry Pirker	2.0	-	-	3.7	Sep-10 22:00	2.2	Sep-12	100%
NMHC (ppm)			Henry Pirker	0.00	-	-	0.1	Sep-24 23:00	0.0	Sep-10	100%
TRS (ppb)			Henry Pirker	0.4	-	-	1.5	Sep-19 09:00	0.6	Sep-11	100%
TRS (ppb)			Evergreen Park	0.3	-	-	1.3	Sep-19 09:00	0.4	Sep-06	100%
TRS (ppb)			Smoky Heights	0.1	-	-	0.7	Sep-30 17:00	0.3	Sep-30	100%
TRS (ppb)			Sunset House	0.3	-	-	0.5	Sep-11 15:00	0.4	Sep-11	100%
H ₂ S (ppb)	10	3	Valleyview	0.1	0	0	3.8	Sep-12 22:00	0.1	Sep-09	100%
H ₂ S (ppb)	10	3	Falher	0.3	0	0	3.4	Sep-10 23:00	0.7	Sep-16	100%
PM _{2.5} (µg/m3)	80	30	Henry Pirker	6.7	0	0	29.4	Sep-08 01:00	16.6	Sep-12	100%
PM _{2.5} (µg/m3)	80	30	Evergreen Park	4.2	0	0	34.0	Sep-15 11:00	12.1	Sep-15	99%
PM _{2.5} (µg/m3)	80	30	Smoky Heights	5.0	1	0	121.8	Sep-12 21:00	19.6	Sep-12	100%
PM _{2.5} (µg/m3)	80	30	Beaverlodge	7.1	0	0	19.0	Sep-28 20:00	14.5	Sep-28	98%
PM _{2.5} (µg/m3)	80	30	Sunset House	3.1	0	0	36.1	Sep-15 18:00	12.6	Sep-15	94%
RH (%)			Henry Pirker	61.3	-	-	89.9	Sep-19 07:00	78.4	Sep-16	100%
RH (%)			Evergreen Park	66.0	-	-	95.2	Sep-07 07:00	84.1	Sep-16	100%
RH (%)			Beaverlodge	69.1	-	-	100.0	Sep-03 05:00	89.1	Sep-16	100%
RH (%)			Valleyview	71.2	-	-	100.0	Sep-01 04:00	85.9	Sep-16	100%
SR (W/m ²)			Henry Pirker	148.7	-	-	628.9	Sep-01 13:00	209.1	Sep-02	100%
Temp (°C)			Henry Pirker	13.8	-	-	32.0	Sep-12 16:00	19.9	Sep-08	100%
Temp (°C)			Evergreen Park	13.2	-	-	31.4	Sep-12 17:00	19.5	Sep-08	100%
Temp (°C)			Smoky Heights	12.6	-	-	31.1	Sep-12 16:00	19.3	Sep-04	100%
Temp (°C)			Beaverlodge	13.3	-	-	32.1	Sep-12 17:00	21.0	Sep-12	100%
Temp (°C)			Valleyview	13.3	-	-	31.3	Sep-12 17:00	19.7	Sep-08	100%
Temp (°C)			Sunset House	13.3	-	-	29.6	Sep-12 16:00	21.1	Sep-12	100%
Temp (°C)			Falher	12.8	-	-	32.4	Sep-12 16:00	19.7	Sep-12	100%

PAZA Monthly Continuous Data Summary – continued

Sep-2013Peace Airshed Zone Association							Maximum Recorded Values				
							1-hr		24-hr / 8-hr		
WSPD s (km/hr)			Henry Pirker	8.4	-	-	31.0	Sep-16 19:00	16.7	Sep-17	100%
WSPD s (km/hr)			Evergreen Park	8.7	-	-	48.0	Sep-16 19:00	18.9	Sep-17	100%
WSPD s (km/hr)			Smoky Heights	12.6	-	-	45.0	Sep-16 21:00	22.4	Sep-17	100%
WSPD s (km/hr)			Beaverlodge	9.3	-	-	32.0	Sep-08 16:00	16.1	Sep-04	100%
WSPD s (km/hr)			Valleyview	3.1	-	-	18.0	Sep-17 15:00	11.4	Sep-17	100%
WSPD s (km/hr)			Sunset House	9.9	-	-	26.0	Sep-28 23:00	17.2	Sep-20	100%
WSPD s (km/hr)			Falher	12.3	-	-	39.0	Sep-17 04:00	25.9	Sep-17	100%
WSPD v (km/hr)			Henry Pirker	3.2	-	-	30.0	Sep-16 19:00	15.4	Sep-17	100%
WSPD v (km/hr)			Evergreen Park	4.6	-	-	48.0	Sep-16 19:00	15.5	Sep-17	100%
WSPD v (km/hr)			Smoky Heights	6.3	-	-	45.0	Sep-16 21:00	19.2	Sep-17	100%
WSPD v (km/hr)			Beaverlodge	2.8	-	-	32.0	Sep-08 16:00	14.9	Sep-04	100%
WSPD v (km/hr)			Valleyview	1.2	-	-	17.0	Sep-17 15:00	9.8	Sep-17	100%
WSPD v (km/hr)			Sunset House	6.0	-	-	26.0	Sep-28 23:00	16.5	Sep-20	100%
WSPD v (km/hr)			Falher	3.8	-	-	39.0	Sep-17 04:00	24.8	Sep-17	100%
WDIR			Henry Pirker	WSW	-	-	-	-	-	-	100%
WDIR			Evergreen Park	W	-	-	-	-	-	-	100%
WDIR			Smoky Heights	WSW	-	-	-	-	-	-	100%
WDIR			Beaverlodge	W	-	-	-	-	-	-	100%
WDIR			Valleyview	W	-	-	-	-	-	-	100%
WDIR			Sunset House	S	-	-	-	-	-	-	100%
WDIR			Falher	S	-	-	-	-	-	-	100%

Continuous Network Equipment Summary

PAZA – Henry Pirker Station

General Station Issues

Routine monthly calibrations were performed on September 10th (CO, TRS, THC) and 12th (SO₂, NO_x, O₃).

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/CH ₄ /NMHC	TEI	55I	No operational issues observed.
TRS	TEI	45C/43C	No operational issues observed.
PM _{2.5}	Sharp	5030	No operational issues observed.
RH	Met One	083D	No operational issues observed.
ET	Met One	083D	No operational issues observed.
SR	Met One	096-1	No operational issues observed.
WS / WD	Met One	010C/020C	No operational issues observed.

PAZA – Evergreen Park Station

General Station Issues

Routine monthly calibration performed on September 27th (SO₂, TRS).

Parameter	Make	Model	Notes
SO ₂	TEI	43i	No operational issues observed.
TRS	TEI	43C	No operational issues observed.
PM _{2.5}	R&P	1400AB	Seven (7) hours were invalidated due to negative swings.
ET	Met One/Gill	083D	No operational issues observed.
RH	Met One/Gill		No operational issues observed.
WS / WD	Met One/ Gill		No operational issues observed.

PAZA – Smoky Heights Station

General Station Issues

Routine monthly calibration performed on September 30th (SO₂, TRS).

Parameter	Make	Model	Notes
SO ₂	TEI	43C	No operational issues observed.
TRS	TEI	43C	No operational issues observed.
PM _{2.5}	R&P	1400AB	One (1) exceedence of the 1-hour guideline recorded. AE Reference #275140.
ET	Met One	083D	No operational issues observed.
WS / WD	Met One	010C/020C	No operational issues observed.

PAZA – Beaverlodge Station

General Station Issues

Routine monthly calibrations performed on September 23rd (NO_x, O₃) and 26th (SO₂, PM_{2.5}).

Parameter	Make	Model	Notes
SO ₂	TEI	43CTL	No operational issues observed.
NOx/NO/NO ₂	TEI	42C	No operational issues observed.
O ₃	TEI	49C	No operational issues observed.
PM _{2.5}	R&P	1400AB	Analyzer failed to collect valid data for 15 hours on September 16 th and 17 th .
ET	n/a	n/a	Two hours invalidated due to loose connection
RH	n/a	n/a	Two hours invalidated due to loose connection
WS / WD	Blue Sky	857	No operational issues observed.

PAZA – Valleyview Station

General Station Issues

Routine monthly calibrations were performed on September 12th (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 – Portable-Sunset House Station

General Station Issues

Routine monthly calibrations were performed on September 11th (SO₂, NO_x), 9th (TRS) and 12th (O₃)

Parameter	Make	Model	Notes
SO ₂	TEI	43i	No operational issues observed.
O ₃	TEI	49C	No operational issues observed.
TRS	TEI	39C	No operational issues observed.
PM _{2.5}	R&P	1400AB	Fourty-Four (44) hours of data invalidated due to negative swings.
ET	Gill	Met Pak 3	No operational issues observed.
WS / WD	Gill	Met Pak 3	No operational issues observed.

PAZA – Falher Station

General Station Issues

Routine monthly calibrations were performed on September 28th (SO₂ & H₂S).

Parameter	Make	Model	Notes
SO ₂	TEI	43i	No operational issues observed.
H ₂ S	Thermo	450i	No operational issues observed.
ET	Gill	RM Young 5103	No operational issues observed.
WS / WD	Gill	RM Young 5103	No operational issues observed.

PAZA

Henry Pirker Station

Monthly Summary Tables, Graphs and
Roses

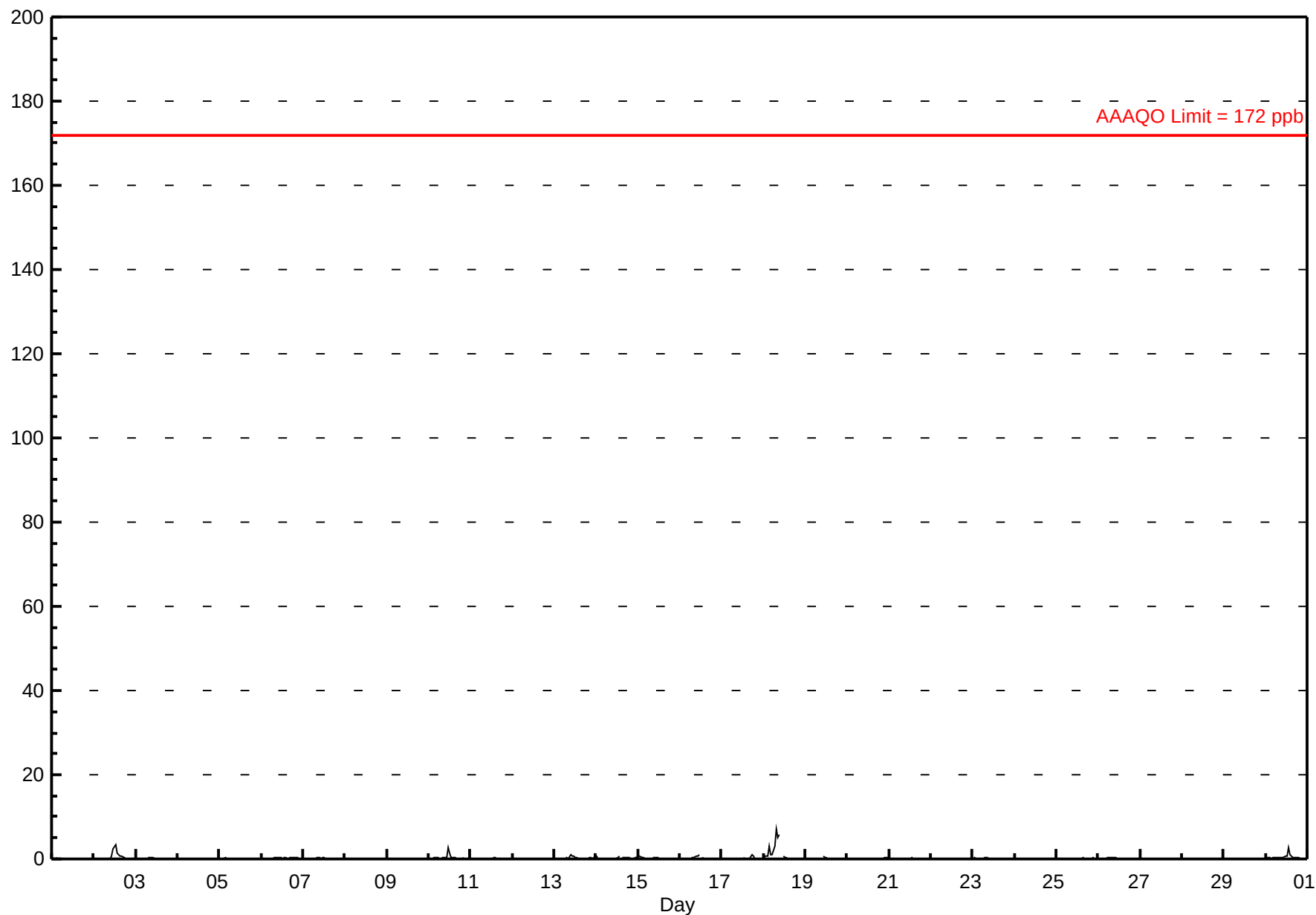
Hourly Averages

Sulphur Dioxide (SO₂) - ppb
Henry Pirker - September 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																				Hours in Service: 720						
Maximum Value: 7.2 ppb on Sep 18 08:00																				Maximum Daily Average: 1.3 ppb on Sep 18		Hours of Data: 684				
Minimum Value: 0 ppb on Sep 1 06:00																				Minimum Daily Average: 0.0 ppb on Sep 9		Hours of Missing Data: 36				
Maximum Diurnal Average: 0.4 ppb at hour 10																				Minimum Diurnal Average: 0.1 ppb at hour 23		Hours of Calibration: 36				
Monthly Average: 0.16 ppb																				Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.1 Q ₃ = 0.1 P ₉₀ = 0.3 P ₉₉ = 2.6		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	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.2
2-Sep	0	0	0	A	0	0	0	0	0	0	1	2	3	1	1	1	1	0	0	0	0	0	0	0	0.4	3.3
3-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	0.3
4-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	0.1	0.1
5-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
6-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	0.2	0.5
7-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	0.3
8-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
9-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
10-Sep	0	0	0	0	0	0	0	0	0	0	0	3	1	1	0	0	0	0	A	0	0	0	0	0	0.3	2.6
11-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	0.1	0.2
12-Sep	0	0	0	0	0	0	0	0	0	0	C	C	C	C	0	0	A	0	0	0	0	0	0	0	0.0	0.1
13-Sep	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	A	0	0	0	0	0	0	0	1	0.2	1.1
14-Sep	1	0	0	0	0	0	0	0	0	0	0	0	0	1	A	0	0	0	0	0	0	0	0	0	0.2	0.8
15-Sep	1	1	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.2	0.5
16-Sep	0	0	0	0	0	0	0	0	0	1	1	1	A	0	0	0	0	0	0	0	0	0	0	0	0.2	0.9
17-Sep	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	1	1	0	0	0	0	0.1	0.9
18-Sep	0	1	1	3	1	1	3	7	5	6	A	1	0	0	0	0	0	0	0	0	0	0	0	0	1.3	7.2
19-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	0.1	0.5
20-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	0.3
21-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	0.5
22-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
23-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	0.3
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	0.0	0.1
25-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	0.2
26-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	0.3
27-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	0.1
28-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	0.1
29-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	0.2
30-Sep	0	0	0	0	0	0	0	0	0	0	0	1	1	3	1	0	0	0	0	0	0	A	0	0	0.4	2.7
0.1 0.1 0.1 0.2 0.1 0.1 0.2 0.4 0.3 0.4 0.2 0.4 0.3 0.3 0.2 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1																									Diurnal Average	
0.8 0.6 0.7 3.0 0.9 1.0 3.1 7.2 5.1 5.6 0.7 2.6 3.3 2.7 1.1 0.5 0.6 0.9 0.7 0.3 0.3 0.3 0.3 0.8																									Diurnal Maximum	
C - Calibration A - Automated Daily Zero Span																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb 30-day 11 ppb																										

Hourly Averages

Sulphur Dioxide (SO₂) - ppb
Henry Pirker - September 2013



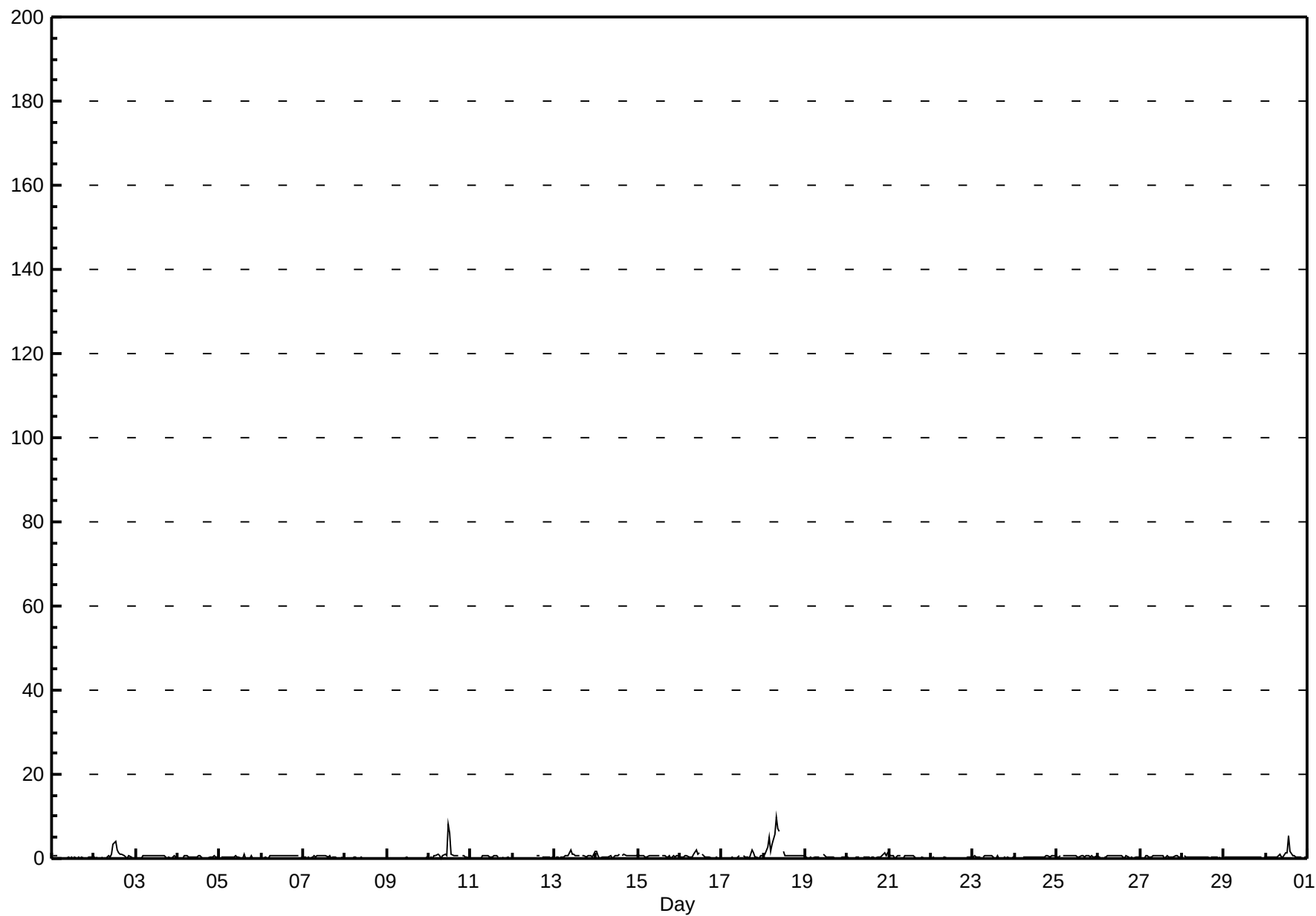
Hourly Maximums

Sulphur Dioxide (SO₂) - ppb
Henry Pirker - September 2013

Maximum Value: 9.7 ppb on Sep 18 08:00																			Maximum Daily Average: 2.2 ppb on Sep 18										Hours in Service: 720	
Minimum Value: 0 ppb on Sep 11 20:00																			Minimum Daily Average: 0.2 ppb on Sep 22										Hours of Data: 684	
Maximum Diurnal Average: 1.0 ppb at hour 12																			Minimum Diurnal Average: 0.3 ppb at hour 23										Hours of Missing Data: 36	
Monthly Average: 0.49 ppb																			Percentiles: P ₁ = 0.0 P ₁₀ = 0.1 Q ₁ = 0.2 Median = 0.4 Q ₃ = 0.5 P ₉₀ = 0.7 P ₉₉ = 5.3										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	1	1	1	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.6				
2-Sep	0	0	0	A	0	0	0	0	1	0	1	4	4	2	2	1	1	1	0	0	1	0	0	0	0.8	4.0				
3-Sep	0	0	A	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	1	0	0.4	0.8				
4-Sep	0	A	0	0	1	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	0	0	0.3	0.6				
5-Sep	A	0	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	0	1	0	0	0	0	A	0.3	1.1				
6-Sep	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	0	0.5	0.7				
7-Sep	0	0	0	0	0	0	1	0	1	1	1	1	1	1	0	1	0	0	0	0	0	A	0	0	0.4	0.7				
8-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				
9-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				
10-Sep	0	0	0	1	1	1	1	0	1	1	1	8	6	1	1	1	1	1	A	1	1	0	0	0	1.1	8.0				
11-Sep	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	0	A	0	0	0	0	0	0	0.3	0.7				
12-Sep	0	0	0	0	0	0	0	0	0	0	C	C	C	C	1	1	A	0	0	0	0	0	0	0	0.2	0.7				
13-Sep	0	0	0	0	0	0	1	1	1	2	1	1	1	1	1	A	1	1	0	1	1	1	0	2	0.6	2.0				
14-Sep	2	1	0	0	0	0	0	0	1	0	0	1	1	1	A	1	1	1	1	1	1	1	1	1	0.5	1.5				
15-Sep	1	1	1	1	0	0	1	1	1	1	1	1	1	A	1	1	0	0	1	0	1	0	1	1	0.5	1.0				
16-Sep	0	0	0	1	1	1	0	1	1	2	1	1	A	1	0	0	0	0	0	0	0	0	0	0	0.5	2.0				
17-Sep	0	0	0	0	0	0	0	0	0	0	1	A	1	0	0	0	0	0	2	1	0	0	1	1	0.4	2.1				
18-Sep	1	1	3	5	2	4	6	10	7	7	A	2	1	1	1	1	1	1	1	1	1	1	1	1	2.2	9.7				
19-Sep	0	0	0	1	0	0	0	0	0	A	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.0				
20-Sep	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	1	2	1	1	0.4	1.5				
21-Sep	1	1	1	0	0	1	1	A	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0.4	1.0				
22-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	0.2	0.3				
23-Sep	0	1	0	0	0	A	0	1	1	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0.3	0.7				
24-Sep	0	0	0	0	A	0	0	1	1	1	1	1	1	0	0	0	0	0	1	1	0	1	1	1	0.4	0.5				
25-Sep	0	0	1	A	1	1	1	1	1	1	1	1	0	0	1	1	0	1	1	0	1	0	0	1	0.5	0.6				
26-Sep	0	0	A	0	0	1	1	1	1	1	1	1	1	1	0	0	1	0	0	0	0	0	0	0	0.4	0.7				
27-Sep	0	A	0	1	1	0	0	1	1	1	1	1	1	1	0	1	0	0	0	0	1	1	0	0	0.4	0.5				
28-Sep	A	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0.4	0.5				
29-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	0.4	0.5				
30-Sep	0	0	0	0	0	0	0	1	1	0	0	1	1	5	2	1	1	0	0	0	0	A	0	0	0.9	5.5				
																									Diurnal Average					
																									Diurnal Maximum					
C - Calibration																														
A - Automated Daily Zero Span																														

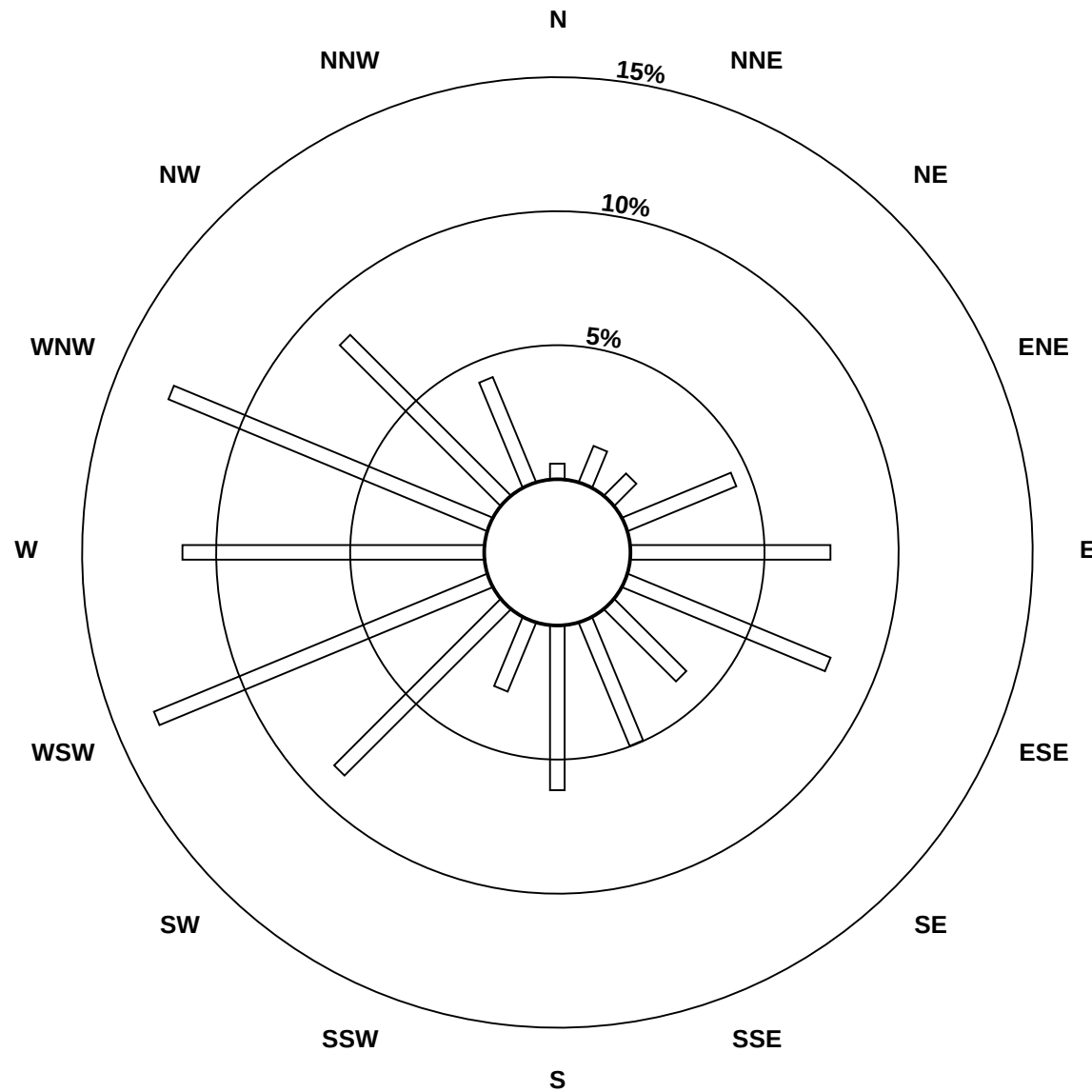
Hourly Maximums

Sulphur Dioxide (SO₂) - ppb
Henry Pirker - September 2013

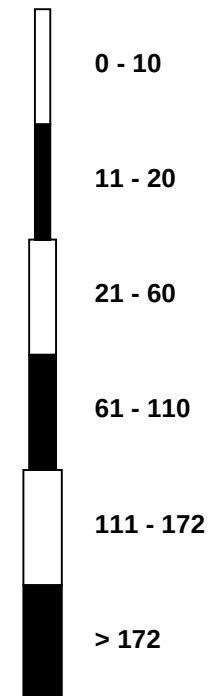


Pollutant Rose

Sulphur Dioxide (SO₂) - ppb
Henry Pirker - September 2013

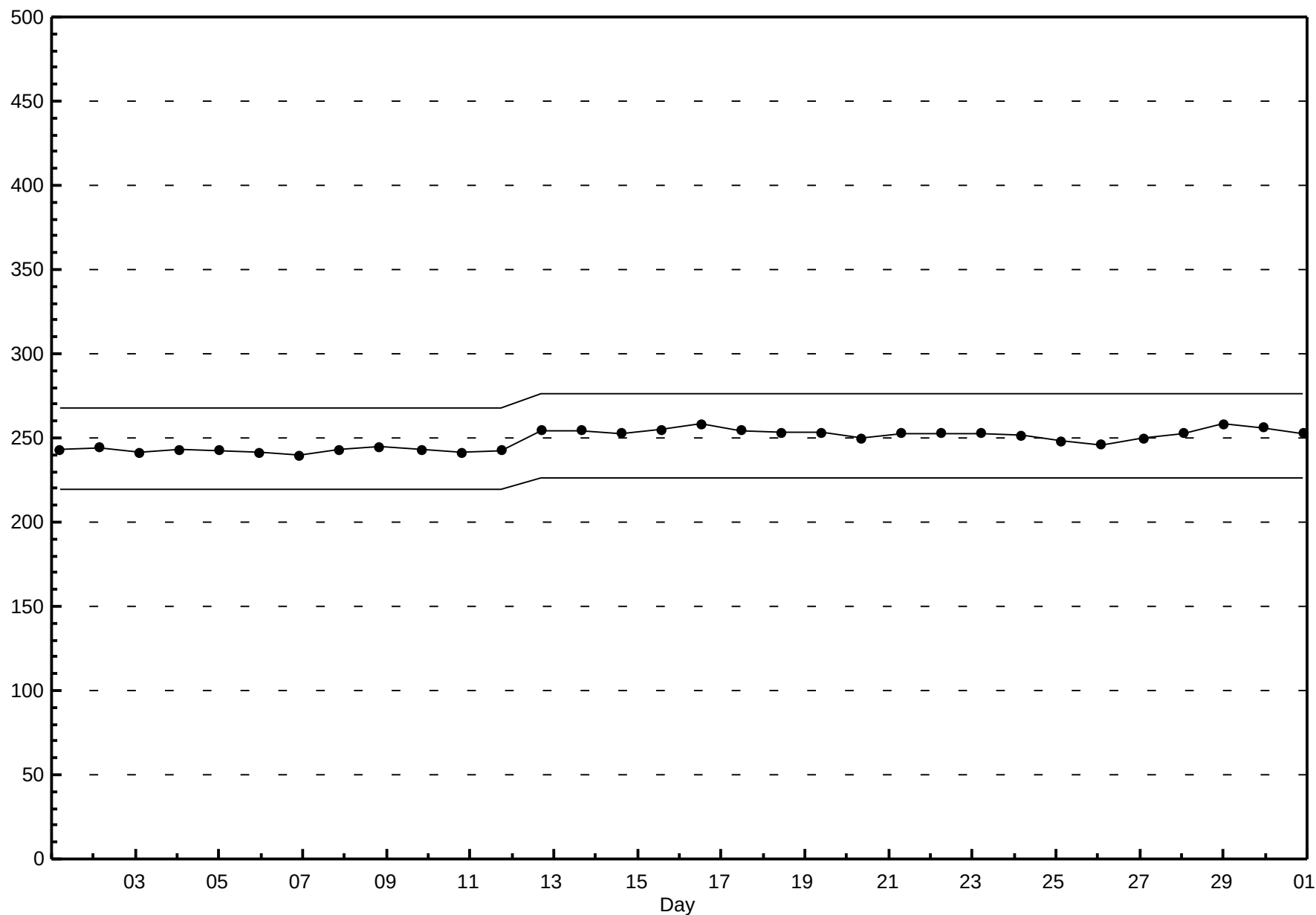


Pollutant Classes (ppb)



Span Responses

Sulphur Dioxide (SO₂)
Henry Pirker - September 2013

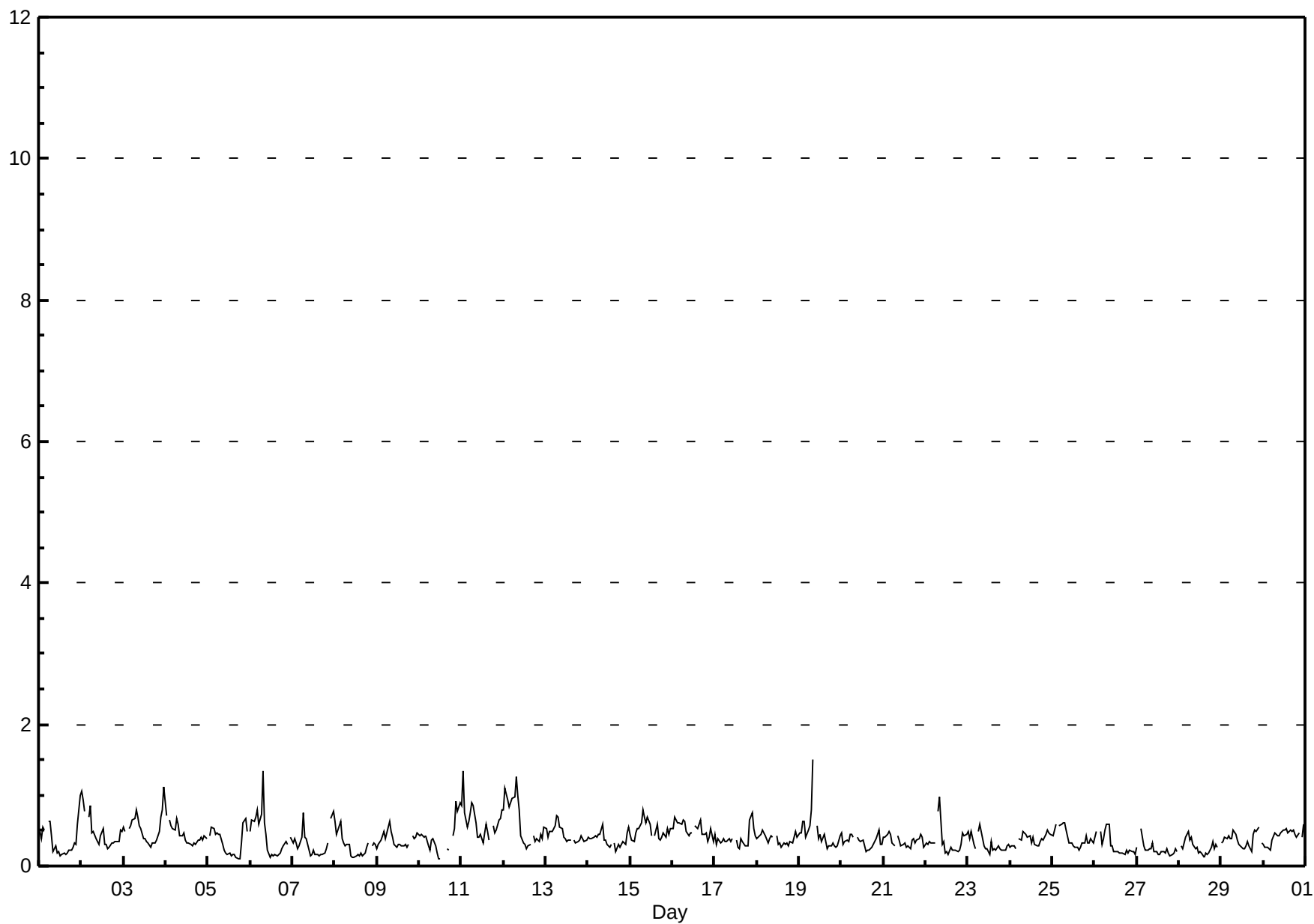


Hourly Averages

Total Reduced Sulphur (TRS) - ppb

Henry Pirker - September 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																				Hours in Service: 720							
Maximum Value: 1.5 ppb on Sep 19 09:00																				Maximum Daily Average: 0.6 ppb on Sep 11		Hours of Data: 685					
Minimum Value: 0 ppb on Sep 10 12:00																				Minimum Daily Average: 0.2 ppb on Sep 27		Hours of Missing Data: 35					
Maximum Diurnal Average: 0.6 ppb at hour 8																				Minimum Diurnal Average: 0.3 ppb at hour 17		Hours of Calibration: 35					
Monthly Average: 0.40 ppb																				Percentiles: P ₁ = 0.1 P ₁₀ = 0.2 Q ₁ = 0.3 Median = 0.4 Q ₃ = 0.5 P ₉₀ = 0.6 P ₉₉ = 1.1		Percent Operational Time: 100.0					
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Sep	0	0	1	1	A	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.4	1.0	
2-Sep	1	1	1	A	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0.5	1.1	
3-Sep	1	0	A	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	1	1	1	0.5	1.1	
4-Sep	1	A	1	1	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.7	
5-Sep	A	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	A	0.3	0.7
6-Sep	0	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.4	1.3	
7-Sep	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	1	0.3	0.8	
8-Sep	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.3	0.6	
9-Sep	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.4	0.6	
10-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	C	C	C	0	0	A	0	1	1	1	1	0.4	0.9	
11-Sep	1	1	1	1	1	1	1	1	1	0	0	0	0	0	1	0	0	A	1	0	0	1	1	1	0.6	1.3	
12-Sep	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	A	0	0	0	0	0	0	1	0.6	1.3	
13-Sep	1	0	0	0	0	1	1	1	1	1	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.4	0.7	
14-Sep	0	0	0	0	0	0	0	0	1	0	0	0	0	0	A	0	0	0	0	0	0	0	0	1	0.4	0.6	
15-Sep	0	0	0	0	1	1	1	1	1	1	1	0	A	0	1	0	0	0	0	0	0	1	0	1	0.5	0.8	
16-Sep	1	1	1	1	1	1	1	1	0	0	0	0	A	1	1	1	1	0	0	0	0	0	1	0	0.5	0.7	
17-Sep	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	1	1	0	0.4	0.8	
18-Sep	0	0	0	1	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.5	
19-Sep	0	0	1	1	0	1	1	1	2	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	1.5
20-Sep	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0.3	0.5	
21-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	0.4	0.5	
22-Sep	0	0	0	0	0	0	A	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.0	
23-Sep	0	0	0	0	0	A	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.6	
24-Sep	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0.4	0.5	
25-Sep	0	1	1	A	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.6	
26-Sep	0	0	A	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.6	
27-Sep	0	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.5	
28-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	0.3	0.5	
29-Sep	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1	A	0	0.4	0.6	
30-Sep	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	1	0	1	0	0	0	A	0	1	0.4	0.6	
0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.6 0.5 0.4 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.4 0.4 0.4 0.5																								Diurnal Average			
1.1 1.3 0.9 0.8 0.9 1.0 1.0 1.3 1.5 0.8 0.7 0.6 0.5 0.6 0.6 0.6 0.6 0.6 0.5 0.6 0.5 0.6 0.9 0.8 1.1																								Diurnal Maximum			
C - Calibration A - Automated Daily Zero Span																											
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb																											



Hourly Maximums

Total Reduced Sulphur (TRS) - ppb

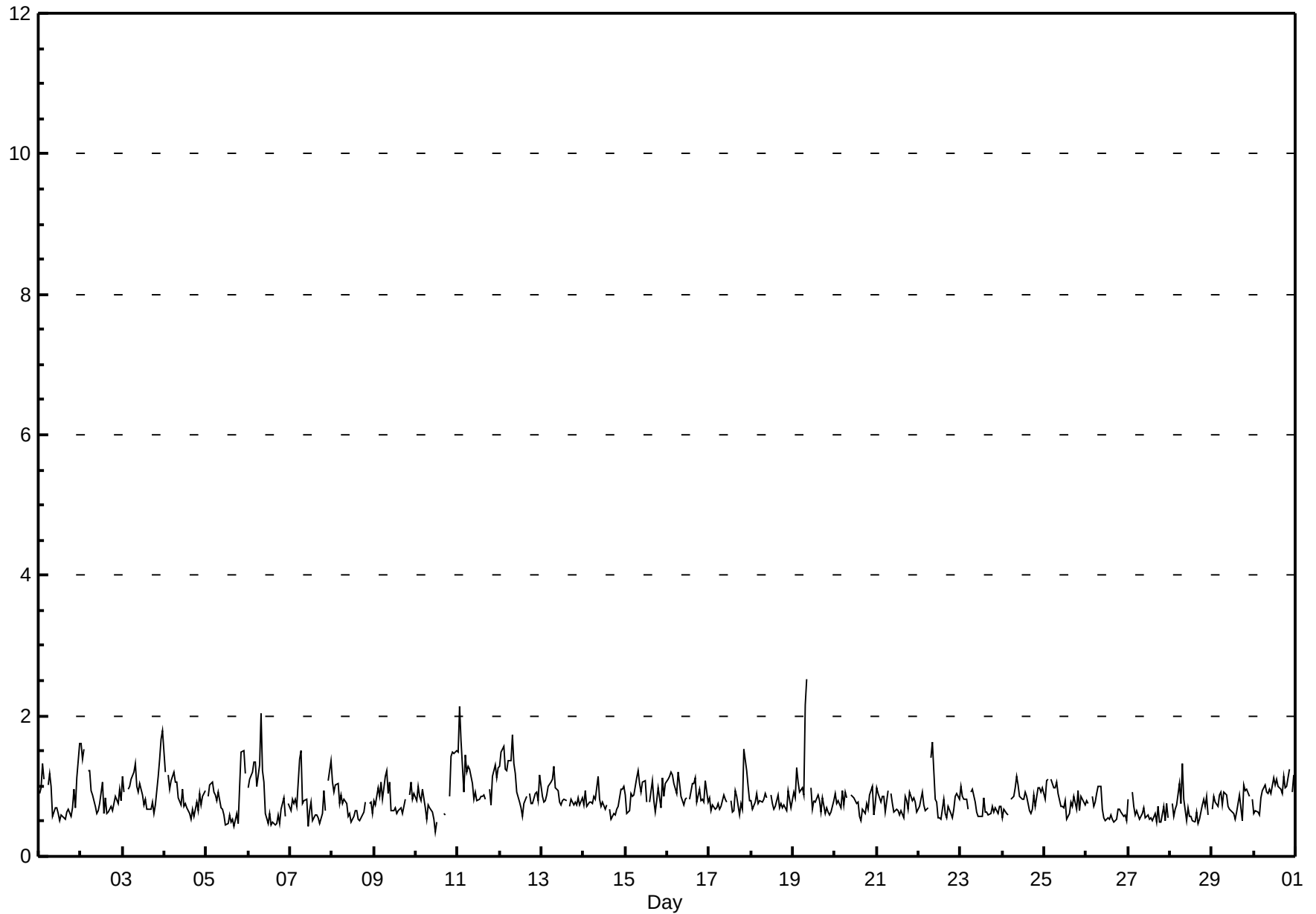
Henry Pirker - September 2013

Maximum Value: 2.5 ppb on Sep 19 09:00																				Maximum Daily Average: 1.1 ppb on Sep 11										Hours in Service: 720									
Minimum Value: 0 ppb on Sep 10 12:00																				Minimum Daily Average: 0.6 ppb on Sep 27										Hours of Data: 685									
Maximum Diurnal Average: 1.1 ppb at hour 8																				Minimum Diurnal Average: 0.7 ppb at hour 17										Hours of Missing Data: 35									
Monthly Average: 0.83 ppb																				Percentiles: P ₁ = 0.5 P ₁₀ = 0.6 Q ₁ = 0.7 Median = 0.8 Q ₃ = 0.9 P ₉₀ = 1.1 P ₉₉ = 1.6										Hours of Calibration: 35									
																				Percent Operational Time: 100.0																			
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24															
1-Sep	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	0.8	1.6													
2-Sep	2	1	2	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.6													
3-Sep	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	1.0	1.8													
4-Sep	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.2													
5-Sep	A	1	1	1	1	1	1	1	1	1	1	0	0	1	0	1	0	1	0	1	1	2	1	A	0.8	1.5													
6-Sep	1	1	1	1	1	1	1	2	1	1	1	0	1	0	0	0	0	1	0	1	1	1	A	1	0.9	2.0													
7-Sep	1	1	1	1	1	1	2	1	1	1	0	1	1	1	1	1	1	0	1	1	1	A	1	1	0.8	1.5													
8-Sep	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	A	1	1	1	0.7	1.0													
9-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	0.8	1.2													
10-Sep	1	1	1	1	1	1	1	1	1	1	1	0	0	C	C	C	1	1	A	1	1	1	1	2	0.8	1.5													
11-Sep	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1.1	2.1													
12-Sep	1	1	2	1	1	1	1	2	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1.1	1.7													
13-Sep	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	0.9	1.3													
14-Sep	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	0.8	1.1													
15-Sep	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	0.9	1.2													
16-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	1.0	1.2													
17-Sep	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	2	1	1	0.8	1.5													
18-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	0.8	0.9													
19-Sep	1	1	1	1	1	1	1	2	3	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	2.5													
20-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	0.8	1.0													
21-Sep	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.0													
22-Sep	1	1	1	1	1	1	A	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.6													
23-Sep	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.0													
24-Sep	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.1													
25-Sep	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.1													
26-Sep	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	0.7	1.0													
27-Sep	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	0	1	1	1	1	0.6	0.9													
28-Sep	A	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	1	1	1	1	1	1	A	0.7	1.3													
29-Sep	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	0.8	1.0													
30-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	0.9	1.2													
0.9 0.9 1.0 0.9 0.9 0.9 1.0 1.1 1.0 0.8 0.7 0.7 0.7 0.7 0.7 0.7 0.7 0.7 0.7 0.7 0.8 0.9 0.9 0.9 0.9																									Diurnal Average														
1.6 2.1 1.6 1.3 1.4 1.4 1.5 2.2 2.5 1.2 1.1 1.1 1.1 1.1 1.0 1.1 1.1 1.1 1.1 1.0 1.0 1.5 1.5 1.7 1.8																									Diurnal Maximum														
C - Calibration																									A - Automated Daily Zero Span														

Hourly Maximums

Total Reduced Sulphur (TRS) - ppb

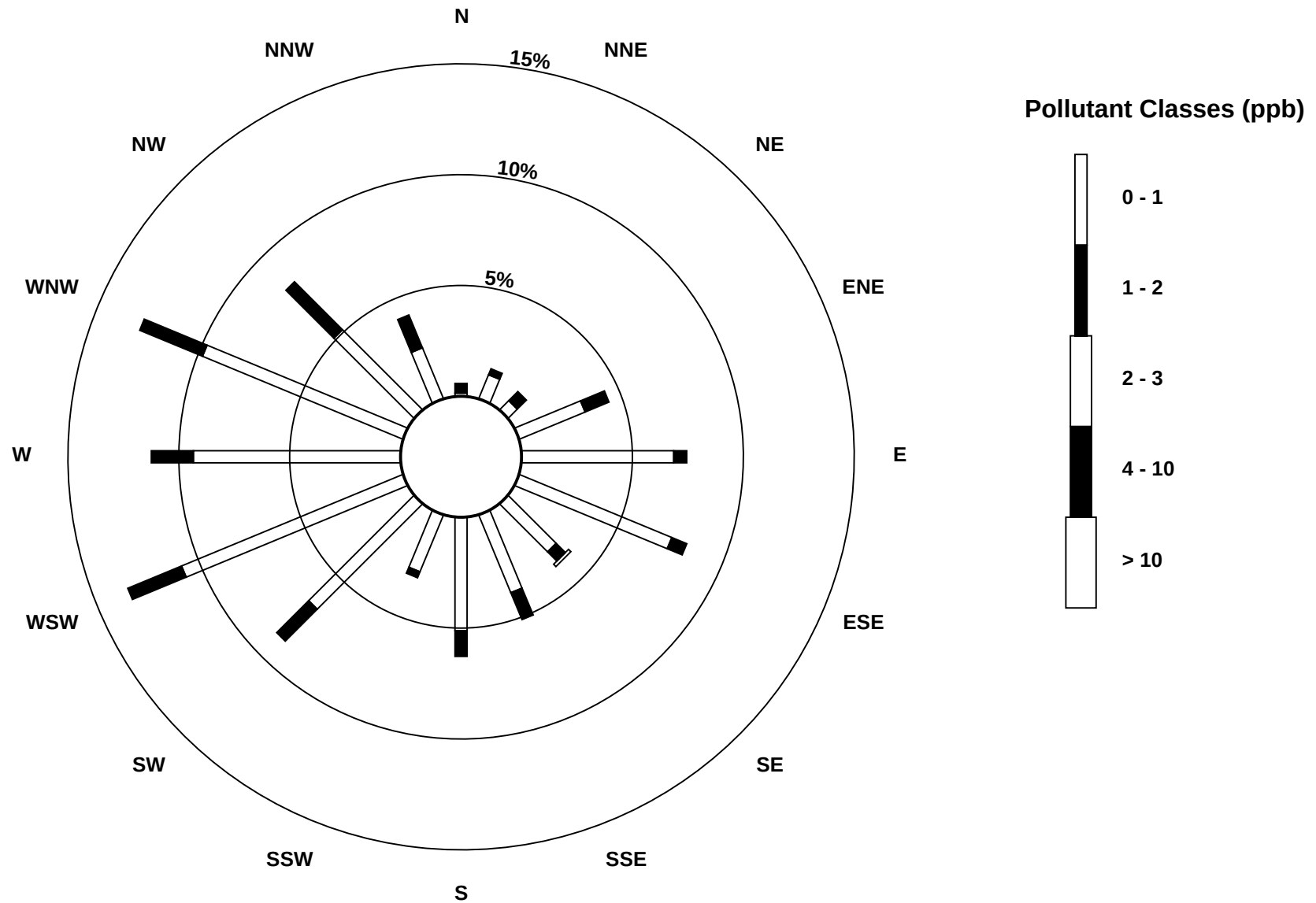
Henry Pirker - September 2013

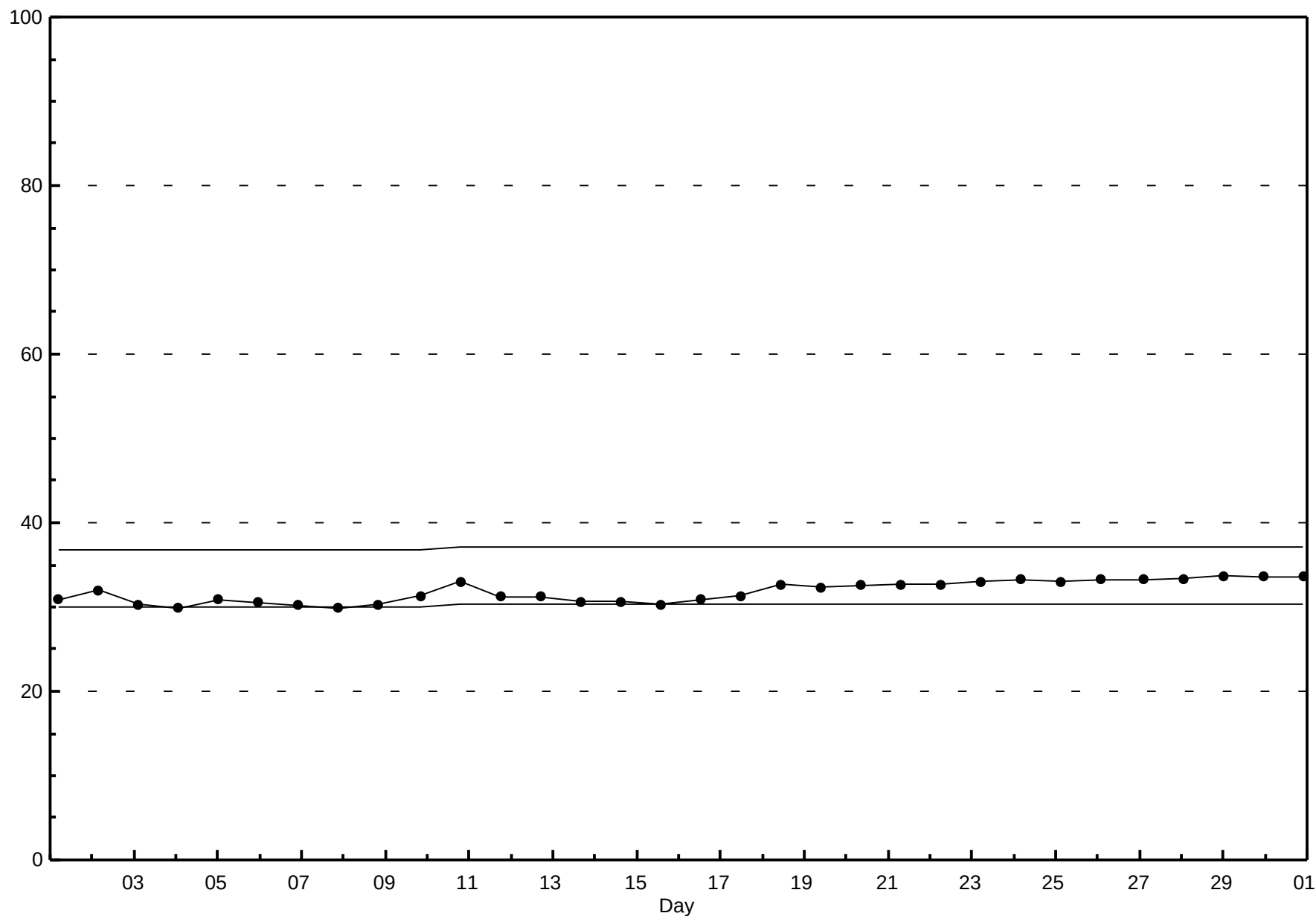


Pollutant Rose

Total Reduced Sulphur (TRS) - ppb

Henry Pirker - September 2013





Hourly Averages

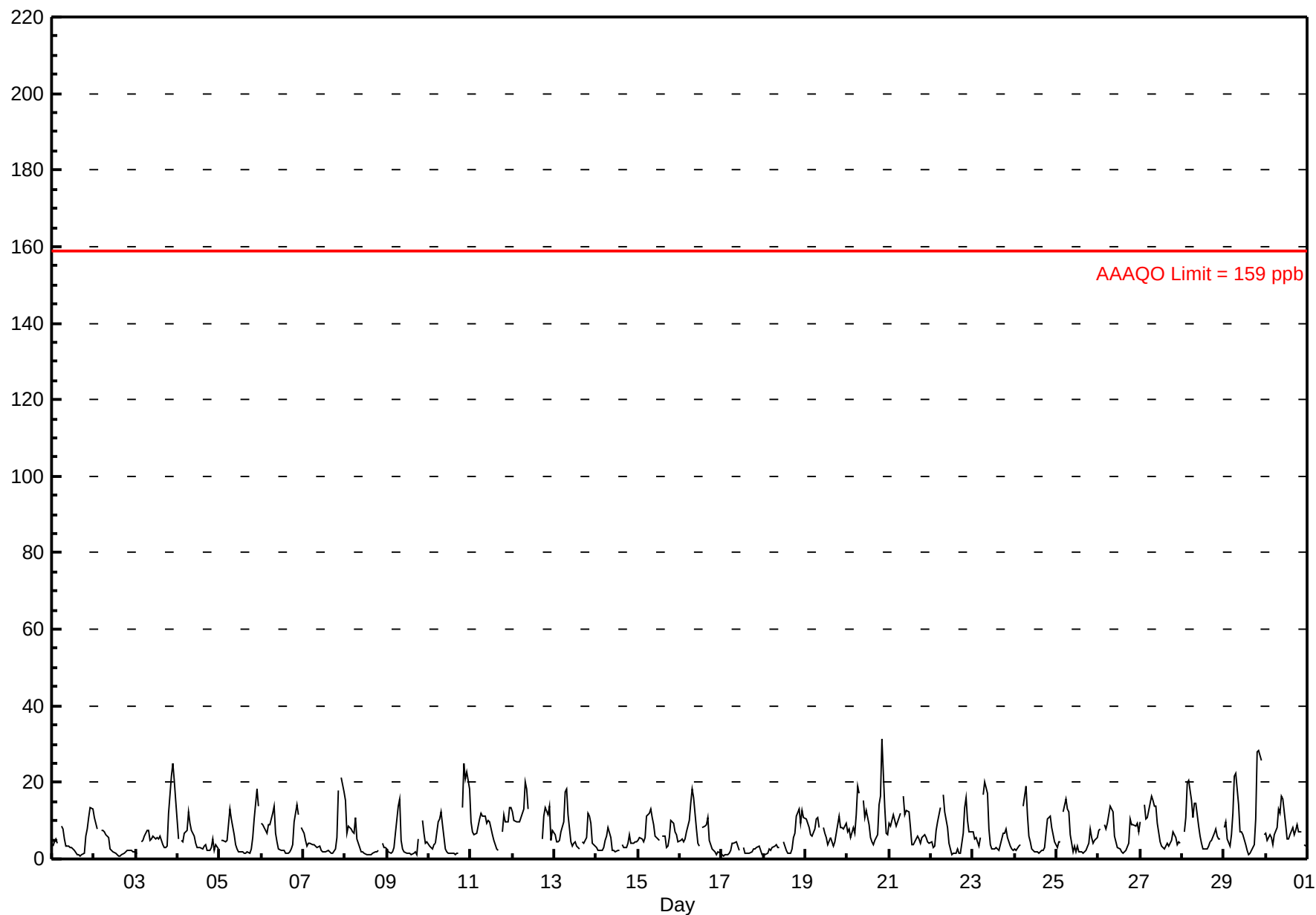
Nitrogen Dioxide (NO₂) - ppb

Henry Pirker - September 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 31.2 ppb on Sep 20 21:00 Maximum Daily Average: 10.6 ppb on Sep 20																				Hours in Service: 720 Hours of Data: 682 Hours of Missing Data: 38 Hours of Calibration: 38 Percent Operational Time: 100.0						
Minimum Value: 1 ppb on Sep 2 16:00 Maximum Diurnal Average: 12.2 ppb at hour 8 Monthly Average: 6.54 ppb										Minimum Daily Average: 2.3 ppb on Sep 17 Minimum Diurnal Average: 2.8 ppb at hour 15 Percentiles: P ₁ = 1.0 P ₁₀ = 1.7 Q ₁ = 2.7 Median = 5.2 Q ₃ = 9.1 P ₉₀ = 13.3 P ₉₉ = 21.9																
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	4	5	4	A	9	8	5	3	3	3	3	2	1	1	1	1	1	2	6	8	11	13	13	4.9	13.3
2-Sep	11	9	8	A	7	7	7	6	6	3	2	2	1	1	1	1	1	2	2	2	2	2	2	2	3.8	10.8
3-Sep	2	1	A	4	5	6	8	8	5	5	6	5	6	5	6	4	3	3	3	12	22	25	21	15	7.8	25.1
4-Sep	5	A	5	4	7	8	12	9	8	6	4	3	3	3	3	3	4	2	2	3	5	2	4	3	4.7	12.5
5-Sep	A	5	5	4	5	9	13	10	6	4	3	2	2	2	1	1	2	1	3	6	10	18	14	A	5.8	18.4
6-Sep	9	9	7	7	9	9	12	14	7	4	3	2	2	2	2	1	2	2	4	10	14	11	A	8	6.6	14.3
7-Sep	7	5	3	4	4	4	4	3	3	3	2	2	2	2	2	2	2	2	2	6	18	A	21	18	5.2	21.2
8-Sep	15	7	8	8	7	7	11	5	3	2	2	2	1	1	1	1	1	2	2	A	4	3	3	3	4.3	15.2
9-Sep	3	2	2	2	3	7	14	16	5	3	2	1	1	1	1	1	2	1	5	A	10	7	4	4	4.2	15.6
10-Sep	3	3	3	4	4	10	10	12	9	3	2	2	2	2	1	1	1	1	A	13	25	21	23	18	7.5	24.9
11-Sep	10	7	6	7	8	11	12	11	11	9	10	10	6	5	4	2	2	A	7	12	10	10	13	13	8.6	13.5
12-Sep	12	10	10	10	10	11	13	20	18	13	C	C	C	C	C	C	C	5	11	13	12	14	5	7	--	20.0
13-Sep	7	4	5	5	7	10	18	18	12	4	3	4	4	3	2	A	5	4	6	12	11	9	4	3	7.0	18.4
14-Sep	3	2	2	2	3	5	6	8	6	2	2	2	2	2	A	4	3	3	4	6	4	4	4	5	3.7	8.2
15-Sep	5	6	5	5	6	11	12	13	11	9	6	5	5	A	6	6	3	3	5	10	9	7	6	4	6.9	12.9
16-Sep	5	5	5	5	7	10	15	18	16	8	4	3	A	8	9	9	11	5	3	2	2	1	2	2	6.7	18.3
17-Sep	1	1	1	1	2	2	4	4	5	3	2	A	3	2	2	1	2	2	3	3	3	3	2	1	2.3	4.7
18-Sep	1	1	2	3	2	3	3	4	3	3	A	4	3	2	1	2	3	6	7	11	13	9	13	11	4.8	13.2
19-Sep	10	9	8	6	6	8	10	11	8	A	8	7	6	4	6	4	4	4	9	11	8	8	8	9	7.5	11.3
20-Sep	7	8	6	8	7	11	19	17	A	15	11	13	9	5	4	4	5	6	14	16	31	13	7	6	10.6	31.2
21-Sep	9	9	12	10	9	10	12	A	17	12	13	12	8	4	4	5	6	5	4	6	6	5	4	4	8.1	16.5
22-Sep	4	3	3	8	10	13	A	17	12	8	4	3	1	1	2	2	2	2	7	13	16	10	7	7	6.8	16.8
23-Sep	7	5	6	3	6	A	17	20	17	8	4	3	3	3	3	2	4	7	7	8	5	3	3	2	6.3	20.1
24-Sep	3	2	3	4	A	14	19	12	6	5	2	2	2	2	2	2	2	3	7	10	11	8	6	4	5.7	19.1
25-Sep	3	5	5	A	12	16	13	12	6	2	3	2	3	2	2	1	2	2	4	8	6	4	5	6	5.4	15.6
26-Sep	7	8	A	9	8	9	12	14	12	6	4	3	2	2	2	2	2	4	10	9	9	9	9	7	6.9	13.8
27-Sep	10	A	14	11	11	13	16	15	14	14	9	4	3	3	3	4	3	4	5	7	6	4	4	4	7.9	16.5
28-Sep	A	7	11	20	21	15	11	14	14	9	6	4	3	2	2	3	4	5	7	8	6	5	5	A	8.3	20.6
29-Sep	8	10	5	3	6	12	22	22	14	7	7	6	4	2	1	1	2	4	10	28	28	26	A	6	10.3	28.4
30-Sep	7	5	6	6	4	6	8	13	12	16	16	9	5	5	6	8	6	8	9	7	7	A	4	3	7.7	16.4
6.3 5.4 5.7 5.9 6.9 9.1 11.8 12.2 9.3 6.5 5.2 4.3 3.4 2.8 2.8 2.9 3.0 3.4 5.6 9.0 11.0 9.1 7.7 6.8																								Diurnal Average		
15.2 10.0 14.2 19.9 20.6 15.6 21.8 22.3 18.4 16.4 15.8 12.6 8.8 8.4 8.7 9.1 10.9 7.6 14.3 28.1 31.2 25.5 22.6 18.1																								Diurnal Maximum		
C - Calibration A - Automated Daily Zero Span																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 159 ppb 24-hr 106 ppb																										

Hourly Averages

Nitrogen Dioxide (NO₂) - ppb
Henry Pirker - September 2013



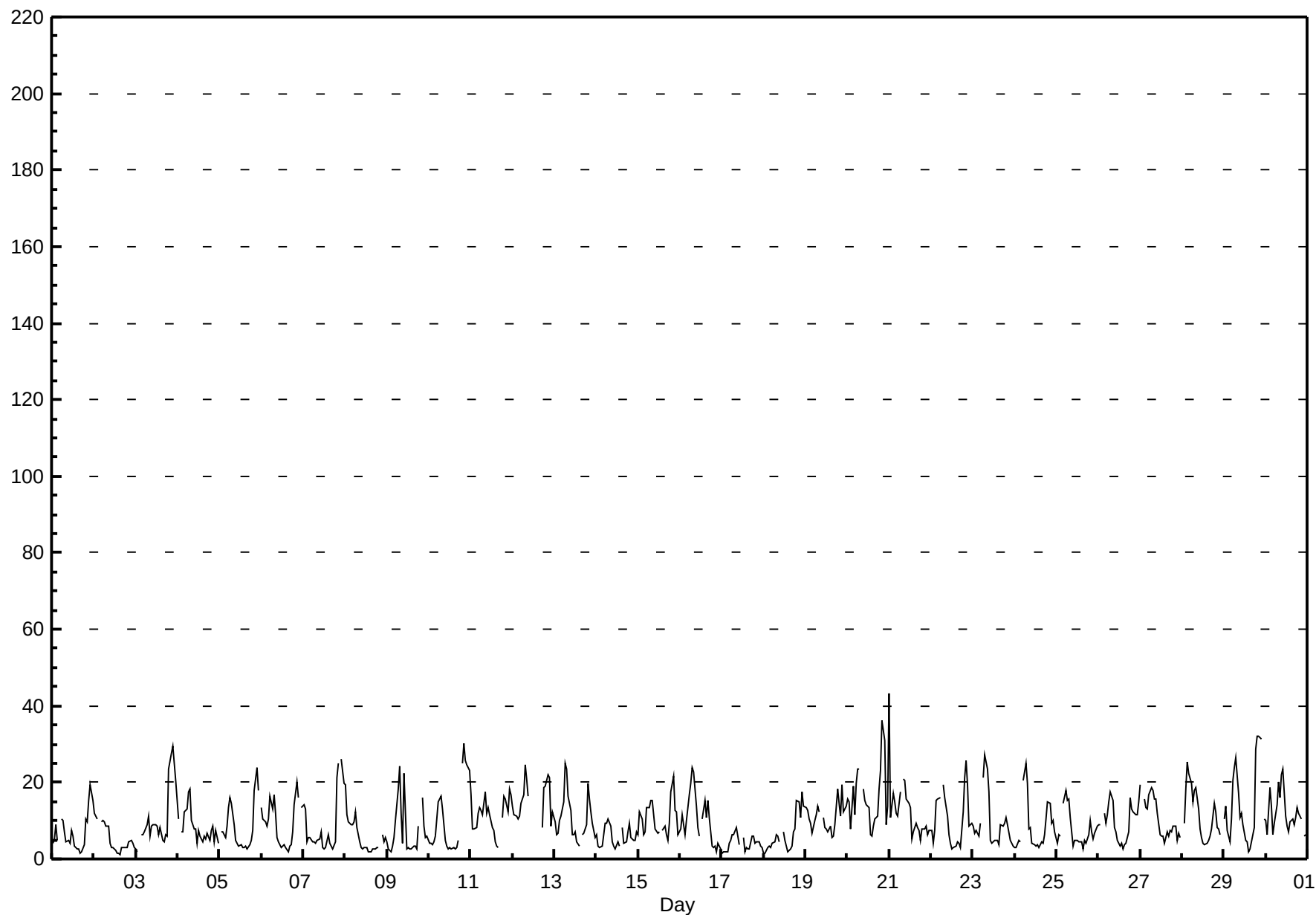
Hourly Maximums

Nitrogen Dioxide (NO₂) - ppb Henry Pirker - September 2013

Maximum Value: 43.3 ppb on Sep 21 01:00																				Maximum Daily Average: 16.1 ppb on Sep 20					Hours in Service: 720	
Minimum Value: 1 ppb on Sep 2 16:00																				Minimum Daily Average: 4.1 ppb on Sep 17					Hours of Data: 682	
Maximum Diurnal Average: 16.2 ppb at hour 8																				Minimum Diurnal Average: 4.5 ppb at hour 14					Hours of Missing Data: 38	
Monthly Average: 9.62 ppb																				Percentiles: P ₁ = 2.0 P ₁₀ = 3.0 Q ₁ = 4.5 Median = 8.0 Q ₃ = 13.4 P ₉₀ = 18.6 P ₉₉ = 30.0					Hours of Calibration: 38	
																				Percent Operational Time: 100.0						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Sep	4	5	9	5	A	10	10	7	4	5	4	7	6	3	3	2	2	2	4	11	10	15	19	15	7.1	19.4
2-Sep	12	11	11	A	10	10	10	9	9	4	3	3	2	2	2	1	3	3	3	3	4	5	4	3	5.4	11.8
3-Sep	3	2	A	6	7	7	9	11	6	9	9	9	9	7	8	5	5	6	6	24	28	30	25	21	10.8	29.5
4-Sep	11	A	7	7	12	13	18	18	10	8	8	4	7	6	4	6	5	7	5	7	9	5	8	4	8.2	18.1
5-Sep	A	7	7	6	9	14	16	14	9	5	4	4	4	3	3	3	3	4	5	8	18	24	18	A	8.4	23.8
6-Sep	14	10	10	8	11	17	13	17	12	6	5	3	4	4	3	2	3	4	7	14	20	16	A	14	9.3	20.0
7-Sep	14	13	5	6	6	5	5	4	5	5	7	3	3	3	6	4	4	3	4	21	25	A	26	20	8.5	26.1
8-Sep	20	12	10	9	9	10	12	8	5	3	3	3	3	2	2	2	3	3	3	3	A	7	4	6	6.0	19.6
9-Sep	5	3	2	4	6	10	18	24	12	4	22	3	3	3	2	3	4	2	9	A	16	9	6	6	7.5	24.1
10-Sep	4	4	4	5	6	15	16	17	13	5	3	3	3	3	3	2	3	5	A	25	30	26	25	23	10.5	30.3
11-Sep	17	8	8	8	12	14	13	12	18	12	14	12	8	7	5	4	3	A	11	16	16	12	18	17	11.4	18.2
12-Sep	14	12	11	11	11	14	17	25	21	16	C	C	C	C	C	C	C	8	19	19	22	21	9	12	--	24.6
13-Sep	10	6	7	10	11	15	25	24	16	13	6	6	7	4	4	A	7	7	9	20	16	12	9	5	10.8	25.1
14-Sep	6	3	3	4	6	9	9	10	8	5	3	3	5	3	A	8	4	4	7	9	5	5	5	7	5.9	10.4
15-Sep	6	12	10	6	7	13	13	15	15	11	8	7	7	A	7	8	6	5	9	17	22	13	12	6	10.5	21.7
16-Sep	8	12	9	6	10	17	20	24	23	14	8	6	A	10	15	11	15	11	3	3	3	2	4	2	10.3	23.9
17-Sep	2	2	2	2	4	5	6	6	8	6	4	A	5	2	3	2	2	6	6	4	5	4	3	3	4.1	8.1
18-Sep	1	1	3	3	3	4	5	6	6	4	A	7	5	4	2	2	4	7	8	15	15	11	17	14	6.5	17.5
19-Sep	13	13	10	9	7	10	11	14	12	A	11	8	8	7	8	5	6	9	18	14	11	19	12	14	11.0	19.4
20-Sep	15	15	8	19	11	20	23	23	A	18	15	14	13	6	6	9	10	11	18	23	36	31	9	14	16.1	36.4
21-Sep	43	11	17	15	12	11	17	A	21	20	16	14	13	5	7	9	8	7	5	8	8	8	6	7	12.7	43.3
22-Sep	7	4	7	15	15	16	A	19	16	11	6	4	2	3	4	4	4	3	12	21	26	19	8	9	10.4	25.9
23-Sep	8	7	7	6	9	A	21	27	23	17	5	4	5	5	5	4	9	8	9	11	9	5	4	3	9.3	27.2
24-Sep	3	3	5	5	A	20	25	20	8	8	4	4	3	4	3	4	4	6	10	15	14	9	10	7	8.5	24.9
25-Sep	4	6	6	A	14	18	15	16	11	3	5	5	5	4	4	3	5	4	6	10	7	5	7	8	7.5	17.9
26-Sep	9	9	A	12	9	11	15	17	15	8	7	5	3	4	2	4	4	7	16	13	12	11	11	15	9.7	17.4
27-Sep	19	A	16	13	13	17	19	18	16	16	12	6	6	6	4	7	6	7	7	8	8	5	7	5	10.5	19.5
28-Sep	A	9	18	25	22	20	15	18	19	13	8	5	4	4	4	5	6	8	15	12	8	8	6	A	11.5	25.4
29-Sep	10	14	7	4	10	21	24	26	17	11	12	9	5	5	2	3	5	8	29	32	32	31	A	11	14.3	32.2
30-Sep	10	7	19	14	6	9	14	20	16	22	24	11	8	7	10	10	9	11	13	12	10	A	6	6	12.0	23.6
10.4 7.9 8.5 8.7 9.6 12.9 15.0 16.2 12.9 9.8 8.4 6.2 5.6 4.5 4.7 4.8 5.2 6.1 9.6 13.8 15.4 13.2 10.7 9.9																									Diurnal Average	
43.3 14.9 18.7 25.4 22.4 20.6 25.1 27.2 23.3 21.9 23.6 14.4 13.5 10.4 15.2 10.9 15.4 11.2 28.8 31.9 36.4 31.3 26.1 23.1																									Diurnal Maximum	
C - Calibration A - Automated Daily Zero Span																										

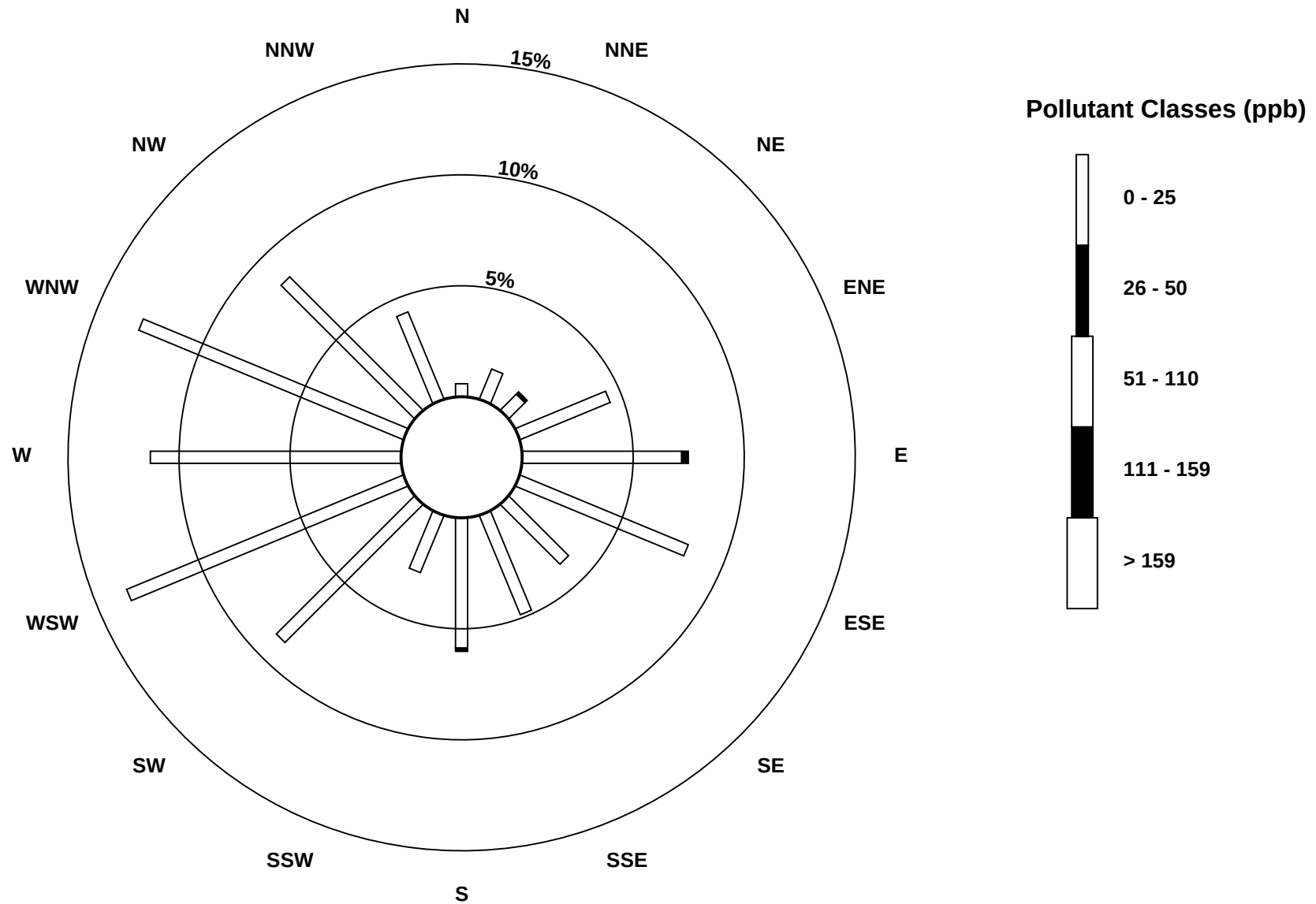
Hourly Maximums

Nitrogen Dioxide (NO₂) - ppb
Henry Pirker - September 2013



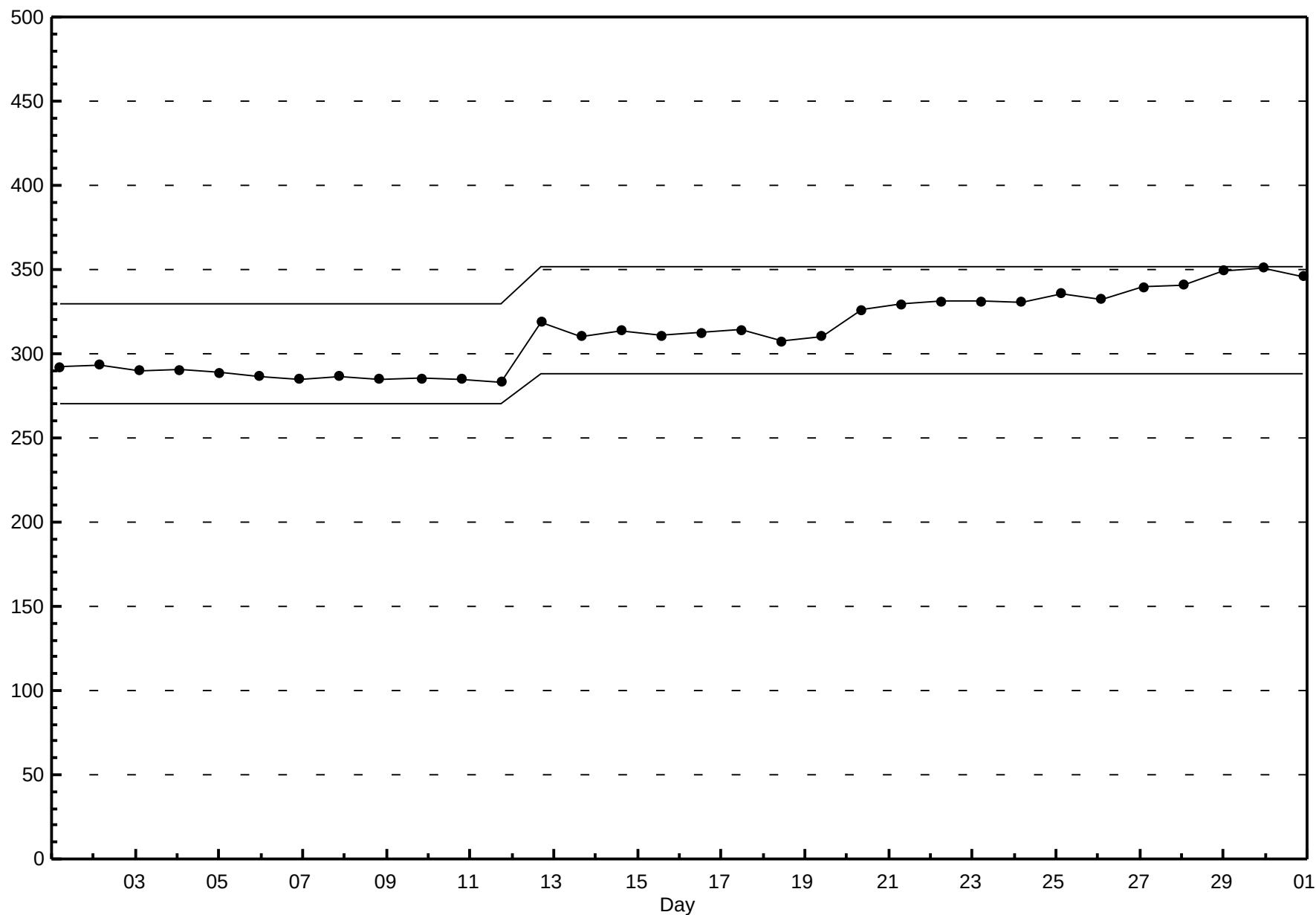
Pollutant Rose

Nitrogen Dioxide (NO₂) - ppb
Henry Pirker - September 2013



Span Responses

Nitrogen Dioxide (NO₂)
Henry Pirker - September 2013



Hourly Averages

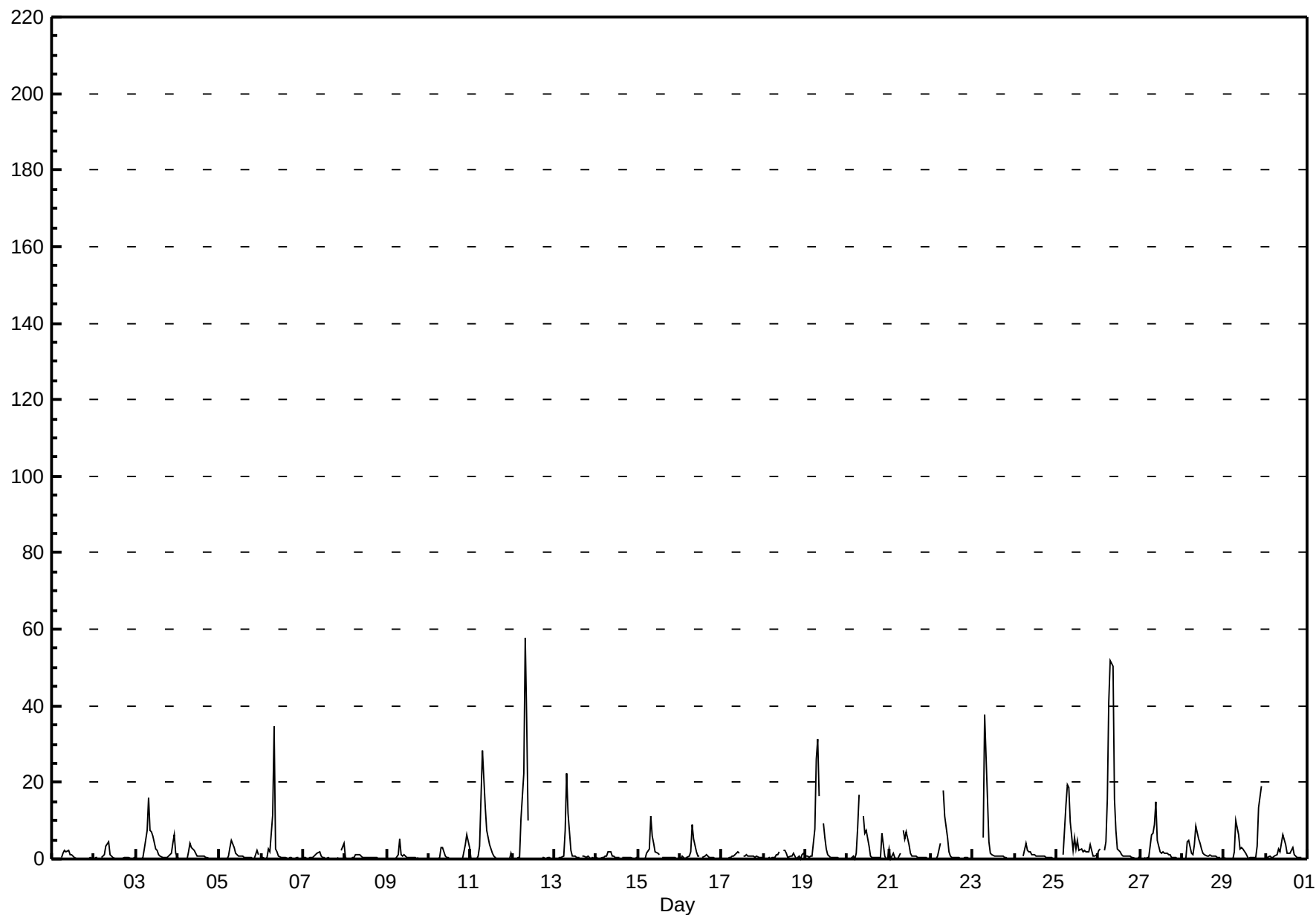
Nitrogen Oxide (NO) - ppb

Henry Pirker - September 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 57.6 ppb on Sep 12 08:00 Maximum Daily Average: 8.9 ppb on Sep 26																					Hours in Service: 720 Hours of Data: 682 Hours of Missing Data: 38 Hours of Calibration: 38 Percent Operational Time: 100.0					
Minimum Value: 0 ppb on Sep 1 02:00 Maximum Diurnal Average: 14.0 ppb at hour 8 Monthly Average: 2.17 ppb										Minimum Daily Average: 0.4 ppb on Sep 8 Minimum Diurnal Average: 0.2 ppb at hour 3 Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 0.5 Q ₃ = 1.5 P ₉₀ = 5.1 P ₉₉ = 33.9																
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	0	0	0	0	A	0	1	2	2	2	1	1	1	0	0	0	0	0	0	0	0	0	1	0	0.6	2.4
2-Sep	0	0	0	A	0	1	1	3	4	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.7	4.3
3-Sep	0	0	A	0	0	3	8	16	7	7	6	3	2	1	1	0	0	0	0	1	2	4	6	2	3.0	16.2
4-Sep	0	A	0	0	0	0	2	4	3	2	2	1	1	1	1	1	0	0	0	0	0	0	0	0	0.8	4.0
5-Sep	A	0	0	0	0	1	3	5	3	2	1	1	1	1	0	0	0	0	0	0	0	2	1	A	1.0	4.9
6-Sep	0	0	0	0	2	2	12	34	3	2	1	0	0	0	0	0	0	0	0	0	0	1	A	0	2.6	34.5
7-Sep	0	0	0	0	0	0	1	1	1	2	1	0	0	0	0	0	0	0	0	0	0	A	2	4	0.7	4.1
8-Sep	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	1	0	0	A	0	0	0	0.4	1.2
9-Sep	0	0	0	0	0	0	1	5	1	1	1	0	0	0	0	0	0	0	0	A	0	0	0	0	0.5	5.1
10-Sep	0	0	0	0	0	0	0	3	3	1	0	0	0	0	0	0	0	0	A	0	2	4	6	3	1.0	6.2
11-Sep	0	0	0	0	1	3	16	28	13	7	6	4	1	1	0	0	0	A	0	0	0	0	0	1	3.6	28.4
12-Sep	0	0	0	0	0	10	22	58	36	10	C	C	C	C	C	C	C	0	0	0	0	1	0	0	--	57.6
13-Sep	0	0	0	0	0	1	8	22	12	2	1	1	1	0	0	A	1	1	0	1	0	0	0	0	2.3	22.3
14-Sep	0	0	0	0	0	1	1	2	2	1	1	0	1	1	A	1	0	0	0	0	0	0	0	0	0.5	1.9
15-Sep	0	0	0	0	0	1	2	11	6	4	2	2	1	A	0	0	0	0	0	0	0	1	0	0	1.4	11.1
16-Sep	0	1	0	0	0	1	2	9	5	2	1	1	A	0	1	1	1	1	0	0	0	0	0	0	1.1	8.9
17-Sep	0	0	0	0	0	0	1	1	2	2	2	A	1	1	1	1	1	1	1	0	1	1	0	0	0.7	1.8
18-Sep	0	0	0	0	0	0	1	1	1	2	A	2	2	1	1	1	1	1	1	0	1	0	1	2	0.8	2.1
19-Sep	1	1	1	1	1	8	26	31	17	A	9	5	3	1	0	1	0	0	0	0	0	0	0	0	4.6	31.5
20-Sep	0	0	0	1	0	1	8	17	A	11	7	7	3	1	0	0	1	0	1	0	7	1	0	0	2.9	16.6
21-Sep	2	0	2	0	0	0	2	A	7	5	7	4	2	1	1	1	1	1	0	0	0	0	0	0	1.6	7.4
22-Sep	0	0	0	0	1	4	A	18	11	6	2	1	0	0	0	0	0	0	0	0	0	0	0	0	2.0	17.8
23-Sep	0	0	0	0	0	A	6	38	16	5	1	1	1	1	1	1	1	1	0	0	0	0	0	0	3.1	37.6
24-Sep	0	0	0	0	A	1	4	2	2	2	1	1	1	1	1	1	1	1	1	0	1	0	0	0	0.8	4.0
25-Sep	0	0	0	A	1	14	19	19	10	2	6	3	5	2	3	2	2	2	2	4	2	1	1	1	4.3	19.4
26-Sep	2	3	A	2	5	16	41	52	50	16	7	3	2	1	1	1	1	1	1	0	1	0	0	0	8.9	52.0
27-Sep	1	A	0	0	0	0	6	7	9	15	5	2	1	2	2	2	1	1	0	0	0	0	0	0	2.4	15.0
28-Sep	A	0	0	4	5	1	1	4	9	5	4	3	2	1	1	1	1	1	1	1	0	0	0	A	2.0	8.5
29-Sep	0	0	0	0	0	0	2	10	6	3	3	3	1	1	0	0	0	0	0	3	13	19	A	0	2.9	18.9
30-Sep	0	0	1	1	0	1	1	3	2	4	6	4	1	1	2	3	1	1	0	0	0	A	0	0	1.4	6.3
0.3 0.2 0.2 0.4 0.7 2.5 6.8 14.0 8.5 4.3 3.0 1.9 1.2 0.8 0.6 0.6 0.5 0.5 0.4 0.5 1.1 1.2 0.7 0.5																								Diurnal Average		
2.4 2.6 1.6 4.4 4.9 15.7 41.0 57.6 50.5 15.8 9.4 7.3 4.8 2.4 2.6 3.1 2.2 1.8 1.7 3.7 13.4 18.9 6.3 4.1																								Diurnal Maximum		
C - Calibration A - Automated Daily Zero Span																										

Hourly Averages

Nitrogen Oxide (NO) - ppb
Henry Pirker - September 2013



Hourly Maximums

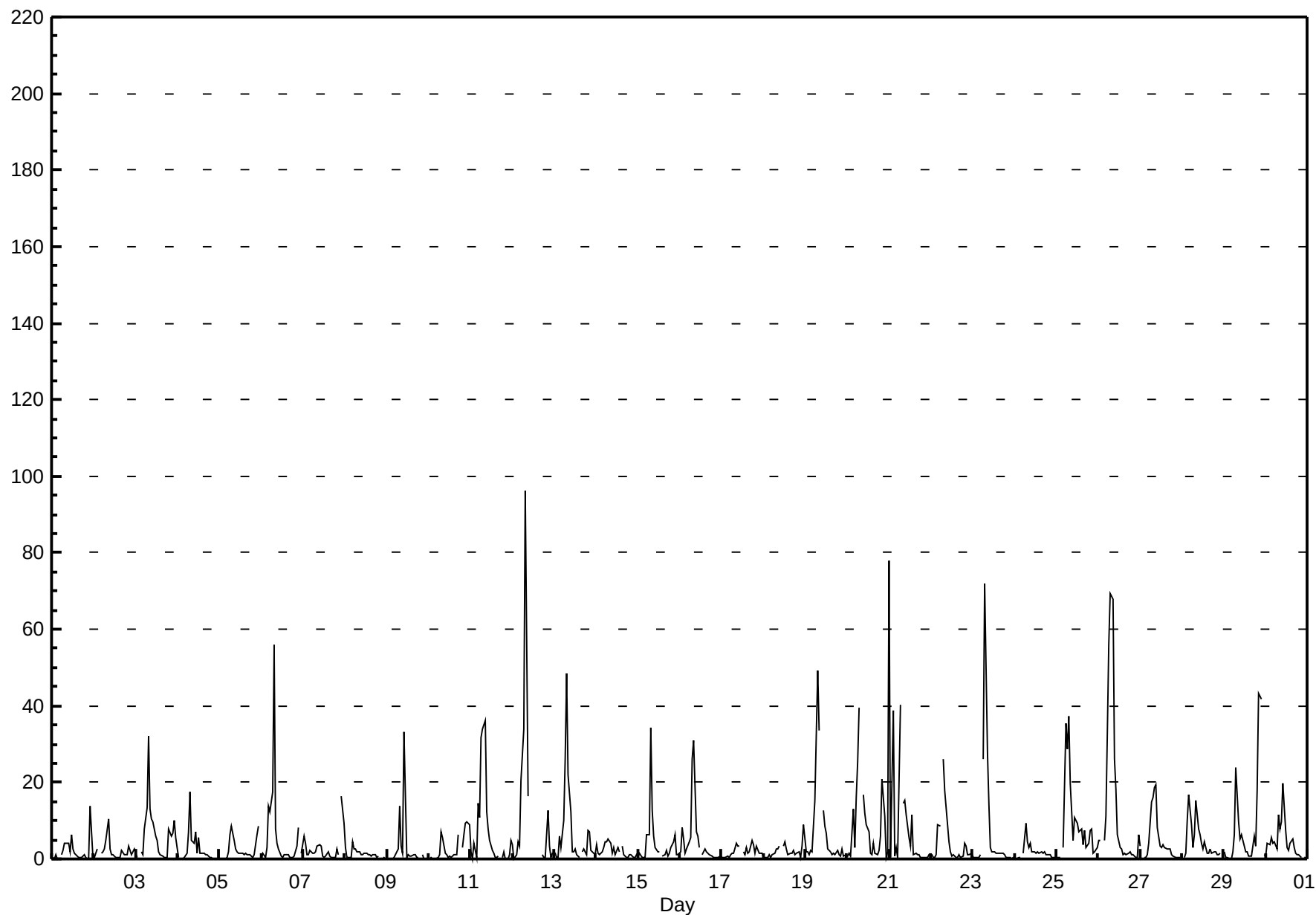
Nitrogen Oxide (NO) - ppb

Henry Pirker - September 2013

Maximum Value: 96.4 ppb on Sep 12 08:00																				Maximum Daily Average: 14.1 ppb on Sep 26					Hours in Service: 720	
Minimum Value: 0 ppb on Sep 29 04:00																				Minimum Daily Average: 1.3 ppb on Sep 8					Hours of Data: 682	
Maximum Diurnal Average: 25.9 ppb at hour 8																				Minimum Diurnal Average: 1.3 ppb at hour 19					Hours of Missing Data: 38	
Monthly Average: 5.29 ppb																				Percentiles: P ₁ = 0.1 P ₁₀ = 0.5 Q ₁ = 0.7 Median = 1.7 Q ₃ = 4.9 P ₉₀ = 12.9 P ₉₉ = 55.5					Hours of Calibration: 38	
																									Percent Operational Time: 100.0	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Sep	0	0	1	0	A	1	2	4	4	4	2	6	2	1	1	0	0	0	1	0	0	0	14	0	2.1	13.8
2-Sep	0	2	2	A	1	2	2	5	10	3	1	1	1	1	1	0	2	1	1	1	3	1	2	3	2.0	10.3
3-Sep	1	0	A	2	1	8	13	32	13	11	10	6	5	2	1	1	1	1	1	8	6	7	10	6	6.2	32.0
4-Sep	0	A	0	0	1	1	7	18	5	4	7	1	5	2	1	1	1	1	1	0	0	0	0	0	2.5	17.6
5-Sep	A	0	0	0	0	2	6	8	5	2	2	1	2	1	1	1	1	1	1	1	1	6	8	A	2.4	8.5
6-Sep	0	1	1	3	14	12	17	56	8	4	2	1	1	1	1	1	1	1	1	1	3	8	A	2	6.0	56.0
7-Sep	6	4	1	1	2	1	1	2	3	4	3	1	1	1	2	1	0	0	0	2	1	A	16	9	2.8	16.4
8-Sep	3	1	1	1	4	3	2	2	2	1	1	1	1	1	1	1	1	1	1	1	A	0	0	0	1.3	4.4
9-Sep	0	0	0	0	0	1	3	14	3	2	33	1	1	1	1	1	1	0	1	A	1	0	0	0	2.8	33.1
10-Sep	0	0	0	0	0	0	1	7	5	2	1	1	1	1	1	1	1	6	A	3	6	9	10	9	2.8	9.5
11-Sep	2	0	4	1	15	11	32	34	36	12	8	5	2	2	1	1	1	A	0	2	0	0	1	5	7.5	36.2
12-Sep	4	0	1	4	3	21	34	96	57	16	C	C	C	C	C	C	C	1	1	1	13	3	0	1	--	96.4
13-Sep	2	0	1	6	3	10	26	48	22	12	2	2	2	1	1	A	2	3	1	8	7	2	2	1	7.1	48.3
14-Sep	4	1	1	2	3	4	4	5	4	2	3	1	3	2	A	3	1	1	1	1	1	0	1	1	2.1	5.3
15-Sep	1	1	1	0	1	6	6	34	13	6	3	2	2	A	1	1	2	1	1	3	4	6	1	1	4.3	34.5
16-Sep	2	8	5	1	3	4	5	26	31	7	6	3	A	1	2	2	2	1	1	1	0	0	0	1	4.9	31.1
17-Sep	0	0	1	1	1	1	1	1	4	3	3	A	2	1	3	1	2	5	4	1	3	1	2	1	1.9	4.9
18-Sep	0	0	1	1	1	1	1	2	3	3	A	3	4	3	1	1	1	2	1	1	2	0	3	9	2.1	8.8
19-Sep	2	2	1	2	2	15	33	49	34	A	13	9	7	3	2	1	2	1	2	1	1	3	1	1	8.0	49.1
20-Sep	1	2	1	13	3	16	25	40	A	17	12	9	7	2	1	4	2	1	2	6	21	11	0	2	8.6	39.6
21-Sep	78	0	39	1	3	0	40	A	14	15	12	5	4	12	1	1	1	1	1	1	1	1	0	1	10.1	77.9
22-Sep	1	0	0	1	9	9	A	26	18	9	4	2	1	1	1	1	1	1	1	4	3	1	1	1	4.2	26.0
23-Sep	1	0	1	0	1	A	26	72	27	14	3	2	2	2	1	1	1	1	1	1	1	1	0	0	7.0	72.1
24-Sep	0	0	0	0	A	2	9	4	3	4	2	2	1	2	1	2	2	2	1	1	1	1	1	0	1.8	9.4
25-Sep	0	1	0	A	3	35	29	37	20	5	11	10	9	7	8	4	7	3	4	7	8	1	2	3	9.4	37.1
26-Sep	5	5	A	5	11	33	56	69	68	26	18	6	3	2	1	1	1	1	2	1	1	0	1	7	14.1	69.4
27-Sep	3	A	1	1	1	4	15	16	19	19	8	3	3	4	3	3	2	2	1	1	1	1	0	4.8	19.3	
28-Sep	A	0	1	10	17	9	3	6	15	8	6	4	2	5	1	1	3	1	2	2	1	1	1	A	4.7	16.8
29-Sep	2	1	0	0	0	2	6	24	10	5	6	5	2	2	1	1	1	6	3	18	43	42	A	1	7.9	43.1
30-Sep	1	4	4	5	4	4	3	12	8	10	20	7	3	2	4	5	3	1	1	1	1	A	0	0	4.5	19.8
4.3 1.3 2.4 2.2 3.8 7.6 14.2 25.9 16.0 7.9 7.2 3.6 2.8 2.2 1.6 1.6 1.6 1.7 1.3 2.7 4.7 3.9 2.8 2.4																									Diurnal Average	
77.9 8.2 38.9 13.1 16.8 35.3 56.0 96.4 67.7 26.2 33.1 10.2 9.2 11.7 8.0 5.1 7.5 6.2 3.9 17.8 43.1 41.8 16.4 9.5																									Diurnal Maximum	
C - Calibration A - Automated Daily Zero Span																										

Hourly Maximums

Nitrogen Oxide (NO) - ppb
Henry Pirker - September 2013



Hourly Averages

Oxides of Nitrogen (NO_x) - ppb

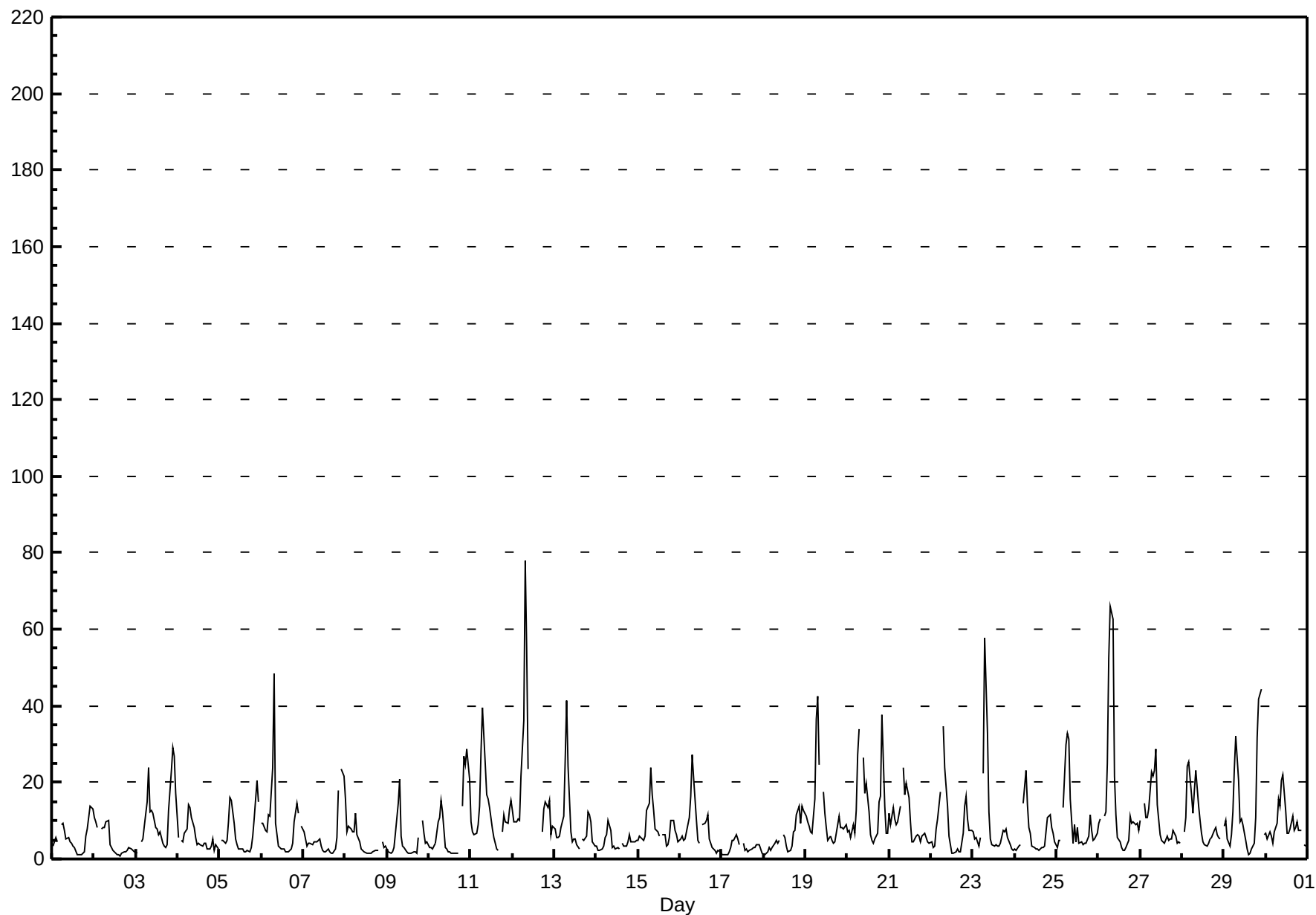
Henry Pirker - September 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 78.1 ppb on Sep 12 08:00 Maximum Daily Average: 15.8 ppb on Sep 26																					Hours in Service: 720 Hours of Data: 682 Hours of Missing Data: 38 Hours of Calibration: 38 Percent Operational Time: 100.0						
Minimum Value: 1 ppb on Sep 2 16:00 Maximum Diurnal Average: 26.3 ppb at hour 8 Monthly Average: 8.76 ppb										Minimum Daily Average: 3.0 ppb on Sep 17 Minimum Diurnal Average: 3.5 ppb at hour 15 Percentiles: P ₁ = 1.1 P ₁₀ = 2.1 Q ₁ = 3.4 Median = 5.9 Q ₃ = 10.5 P ₉₀ = 16.9 P ₉₉ = 47.0																	
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	5	4	A	9	9	8	5	6	4	4	3	3	1	1	1	1	2	6	8	11	14	13	5.5	13.9	
2-Sep	11	10	8	A	8	8	8	10	10	4	3	2	2	1	1	1	1	2	2	2	3	2	2	2	4.5	10.9	
3-Sep	2	1	A	4	5	9	15	24	12	12	12	8	8	6	7	4	3	3	4	13	23	29	27	17	10.8	29.0	
4-Sep	5	A	5	4	7	8	14	13	11	8	6	4	4	4	3	4	4	3	2	3	5	2	4	3	5.5	14.3	
5-Sep	A	5	5	4	5	10	16	15	9	5	4	3	3	2	2	2	2	2	3	6	10	21	15	A	6.7	20.6	
6-Sep	9	9	7	7	11	11	24	48	9	6	3	3	3	3	2	2	2	3	4	10	15	12	A	8	9.2	48.4	
7-Sep	7	5	3	4	4	4	4	4	5	5	3	2	2	2	3	2	2	2	3	6	18	A	23	22	5.9	23.5	
8-Sep	16	7	8	8	7	7	12	6	4	3	2	2	2	2	2	2	2	2	2	2	A	4	3	3	4.7	15.6	
9-Sep	3	2	2	2	3	7	15	21	6	3	3	2	2	2	2	2	2	1	5	A	10	7	4	4	4.7	20.7	
10-Sep	3	3	3	3	4	10	11	15	12	3	2	2	2	2	2	1	2	2	A	14	27	25	29	21	8.5	28.8	
11-Sep	10	7	6	7	9	14	28	39	25	17	16	13	8	6	4	3	2	A	7	12	10	9	13	15	12.2	39.4	
12-Sep	13	10	10	10	10	22	36	78	55	24	C	C	C	C	C	C	C	C	7	13	15	13	15	6	9	--	78.1
13-Sep	8	5	6	6	8	11	26	41	24	7	5	5	5	4	3	A	5	5	6	12	12	10	4	3	9.6	41.3	
14-Sep	3	2	2	2	3	5	7	10	7	3	3	2	3	3	A	4	3	3	4	6	4	4	5	5	4.2	10.1	
15-Sep	5	6	5	5	6	13	15	24	17	13	8	7	6	A	6	6	3	4	6	10	10	8	6	5	8.4	24.0	
16-Sep	5	6	5	5	7	11	16	27	21	10	5	4	A	9	9	10	12	5	3	3	2	1	2	2	7.9	27.2	
17-Sep	1	1	1	1	2	3	5	5	6	5	4	A	4	2	3	2	2	3	3	3	4	4	3	2	3.0	6.3	
18-Sep	1	1	2	3	2	3	4	5	4	5	A	7	6	4	2	2	4	7	7	11	14	9	14	13	5.6	14.0	
19-Sep	11	10	9	7	7	16	37	43	25	A	18	12	8	5	6	5	4	5	9	11	8	8	8	9	12.1	42.5	
20-Sep	7	8	6	9	7	13	27	34	A	27	17	20	12	6	5	4	5	7	15	17	38	14	7	7	13.4	37.7	
21-Sep	12	9	13	10	9	10	14	A	24	17	20	16	10	5	4	6	6	6	4	6	7	6	5	4	9.6	23.9	
22-Sep	5	3	3	8	10	17	A	35	24	14	6	4	2	2	2	3	2	2	7	14	16	11	7	7	8.8	34.6	
23-Sep	7	5	6	3	6	A	22	58	33	12	5	4	3	4	3	3	4	7	7	8	6	4	3	2	9.4	57.7	
24-Sep	3	2	4	4	A	14	23	14	8	7	4	3	3	3	2	3	3	4	7	11	12	8	7	4	6.5	23.1	
25-Sep	3	5	5	A	13	30	33	31	16	4	9	5	8	4	5	4	4	4	6	12	8	5	5	7	9.7	32.7	
26-Sep	9	11	A	11	12	25	53	66	63	22	12	6	4	3	2	2	3	5	11	9	10	9	9	7	15.8	65.9	
27-Sep	10	A	14	11	11	13	23	22	23	29	14	6	5	5	4	6	5	5	5	7	6	4	4	4	10.3	28.7	
28-Sep	A	7	11	24	25	17	12	18	23	14	10	7	4	4	3	4	5	6	7	8	6	6	5	A	10.4	25.4	
29-Sep	8	10	5	3	6	12	24	32	20	10	10	9	5	3	1	2	3	4	11	32	42	44	A	6	13.2	44.5	
30-Sep	7	5	7	6	4	7	9	16	14	21	22	13	7	7	8	11	7	8	10	7	7	A	4	3	9.1	22.1	
6.7 5.7 6.0 6.4 7.6 11.6 18.6 26.3 17.8 10.8 8.2 6.2 4.7 3.6 3.5 3.6 3.6 4.0 6.1 9.5 12.2 10.4 8.5 7.4 15.6 10.5 14.4 24.2 25.4 29.9 52.7 78.1 62.8 28.7 22.1 19.9 12.2 8.8 9.5 11.3 11.7 8.3 14.8 31.6 41.8 44.5 28.8 21.7																								Diurnal Average	Diurnal Maximum		
C - Calibration A - Automated Daily Zero Span																											

Hourly Averages

Oxides of Nitrogen (NO_x) - ppb

Henry Pirker - September 2013



Hourly Maximums

Oxides of Nitrogen (NO_x) - ppb

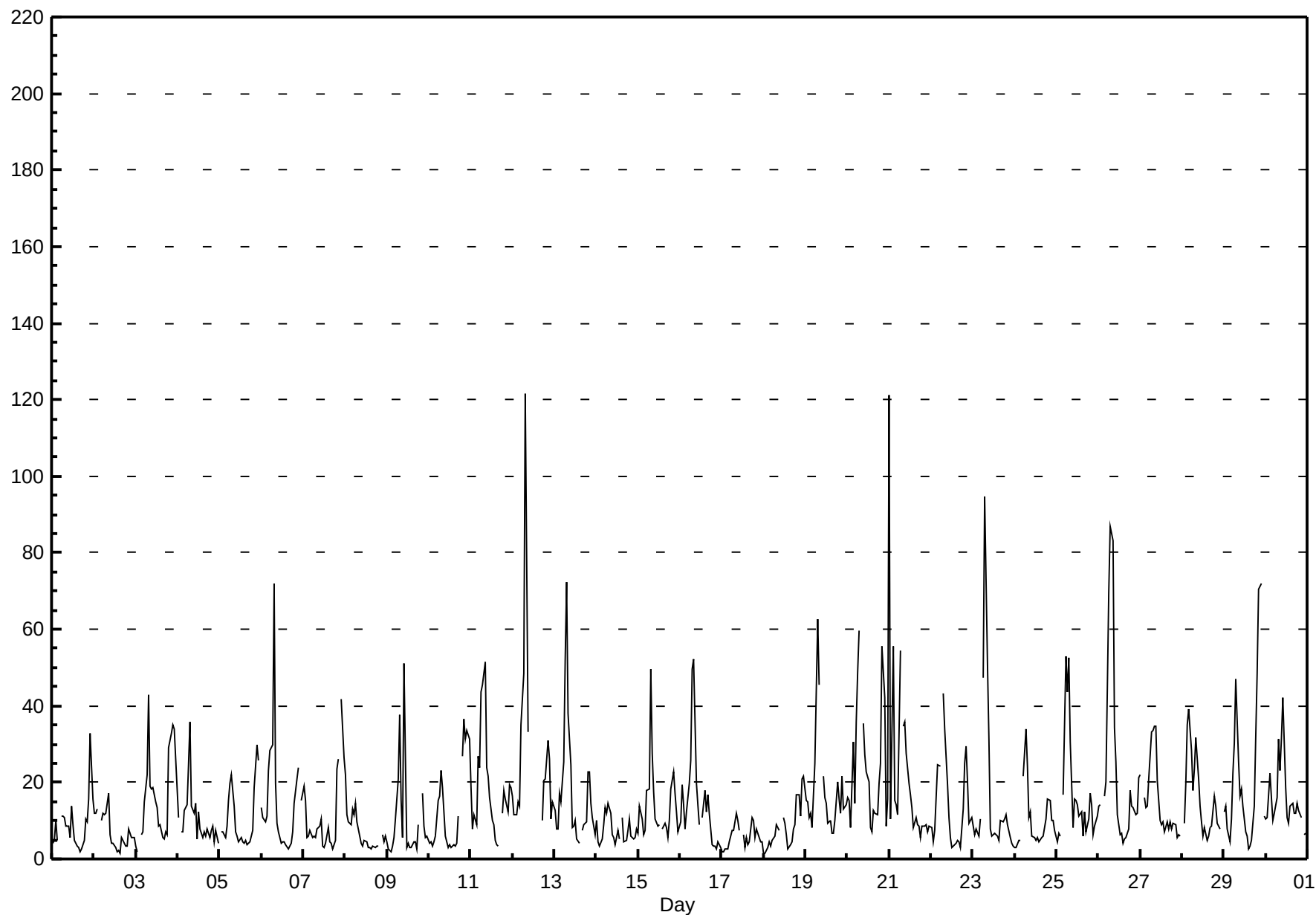
Henry Pirker - September 2013

Maximum Value: 121.4 ppb on Sep 12 08:00																					Maximum Daily Average: 24.0 ppb on Sep 20										Hours in Service: 720	
Minimum Value: 1 ppb on Sep 2 16:00																					Minimum Daily Average: 5.9 ppb on Sep 17										Hours of Data: 682	
Maximum Diurnal Average: 41.4 ppb at hour 8																					Minimum Diurnal Average: 6.2 ppb at hour 15										Hours of Missing Data: 38	
Monthly Average: 14.58 ppb																					Percentiles: P ₁ = 2.0 P ₁₀ = 3.9 Q ₁ = 5.8 Median = 10.0 Q ₃ = 17.0 P ₉₀ = 31.3 P ₉₉ = 70.2										Hours of Calibration: 38	
																					Percent Operational Time: 100.0											
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24								
1-Sep	4	5	10	5	A	11	11	11	9	8	6	14	9	5	3	3	2	2	5	10	10	15	33	15	9.1	32.9						
2-Sep	12	12	13	A	10	12	11	12	17	7	4	4	3	2	2	1	6	4	3	3	8	5	6	6	7.1	17.0						
3-Sep	3	2	A	6	7	15	22	43	19	18	18	15	13	8	9	5	5	7	6	29	33	35	34	26	16.6	43.0						
4-Sep	11	A	7	7	13	14	24	36	14	12	15	5	12	8	5	7	6	8	5	7	8	4	7	4	10.5	35.7						
5-Sep	A	7	7	6	8	15	20	22	14	7	6	4	5	4	4	5	4	5	6	8	18	30	26	A	10.5	30.0						
6-Sep	14	11	10	11	23	28	30	72	20	9	7	4	4	4	4	3	4	4	7	14	21	24	A	15	14.9	72.1						
7-Sep	19	15	6	6	8	5	6	6	8	9	11	4	3	4	8	5	4	3	5	23	26	A	42	26	10.9	41.9						
8-Sep	22	11	10	9	13	12	15	10	6	4	3	5	5	3	3	3	4	3	3	3	A	7	4	6	7.1	22.2						
9-Sep	5	3	2	4	6	10	21	38	15	6	51	3	4	3	3	4	4	2	9	A	17	8	6	6	10.0	51.0						
10-Sep	4	4	4	5	6	15	16	23	19	6	4	3	4	3	4	3	4	11	A	27	36	31	33	31	13.0	36.5						
11-Sep	18	8	11	9	27	24	44	45	52	24	22	16	10	9	5	4	4	A	12	18	16	12	19	19	18.6	51.6						
12-Sep	17	12	11	15	14	35	48	121	79	33	C	C	C	C	C	C	C	10	21	21	31	26	10	15	--	121.4						
13-Sep	13	8	8	17	15	25	52	72	38	25	8	9	10	5	4	A	7	9	10	23	23	15	11	6	17.9	72.2						
14-Sep	10	4	3	5	9	14	12	14	12	6	6	4	8	5	A	11	4	5	7	10	6	5	5	8	7.6	14.5						
15-Sep	7	14	10	6	7	18	18	50	28	17	10	9	9	A	8	9	8	5	10	18	23	17	12	7	14.0	49.6						
16-Sep	10	19	14	8	12	20	26	50	52	20	14	9	A	11	18	12	17	12	4	3	3	2	4	3	15.0	52.1						
17-Sep	2	2	2	2	4	6	7	7	12	10	7	A	6	3	6	4	4	11	10	6	8	5	5	4	5.9	12.1						
18-Sep	1	2	3	4	3	5	6	9	8	7	A	11	9	6	3	4	4	8	9	17	17	11	21	22	8.3	21.6						
19-Sep	15	15	11	12	8	25	44	63	45	A	22	16	15	10	10	7	7	10	20	16	12	22	13	14	18.7	62.8						
20-Sep	16	15	8	31	15	36	49	60	A	35	27	23	20	8	7	13	12	12	20	25	55	42	9	16	24.0	59.5						
21-Sep	121	11	56	15	14	11	55	A	35	36	28	20	17	13	8	11	9	8	5	8	8	9	7	8	22.4	121.2						
22-Sep	8	4	7	16	25	24	A	43	34	19	11	5	3	3	4	5	4	3	13	25	29	20	9	11	14.3	43.1						
23-Sep	8	6	8	6	10	A	48	95	51	31	8	6	7	6	6	5	10	10	10	11	9	5	4	3	15.9	94.7						
24-Sep	3	3	5	5	A	22	34	24	11	12	6	5	5	6	4	6	6	8	10	16	15	10	10	7	10.1	33.8						
25-Sep	4	7	6	A	17	53	44	52	30	8	16	15	14	11	12	6	12	7	10	17	14	6	8	11	16.7	53.1						
26-Sep	14	14	A	16	20	44	70	87	83	34	25	12	6	7	4	5	5	8	18	14	13	11	12	21	23.7	86.7						
27-Sep	22	A	16	13	14	21	33	33	35	35	20	10	9	10	7	10	8	10	8	9	9	5	6	6	15.2	34.8						
28-Sep	A	9	20	35	39	28	18	24	32	21	14	10	6	8	5	6	8	9	16	14	9	9	8	A	15.8	39.1						
29-Sep	12	14	8	4	10	23	30	47	25	16	18	14	7	6	2	3	5	14	32	48	71	72	A	11	21.5	72.0						
30-Sep	10	11	22	16	10	12	16	31	23	31	42	18	11	9	14	15	12	12	14	13	11	A	6	7	15.9	42.1						
14.5		8.9	10.7	10.5	13.2	20.1	28.6	41.4	28.4	17.5	15.3	9.7	8.4	6.5	6.2	6.2	6.5	7.6	10.7	15.8	19.3	16.7	13.3	12.0	Diurnal Average							
121.2		19.4	55.7	35.1	39.1	53.1	69.7	121.4	83.1	35.8	51.0	22.6	20.0	13.4	17.8	14.7	16.9	13.6	31.7	48.4	70.6	72.0	41.9	31.4	Diurnal Maximum							
C - Calibration		A - Automated Daily Zero Span																														

Hourly Maximums

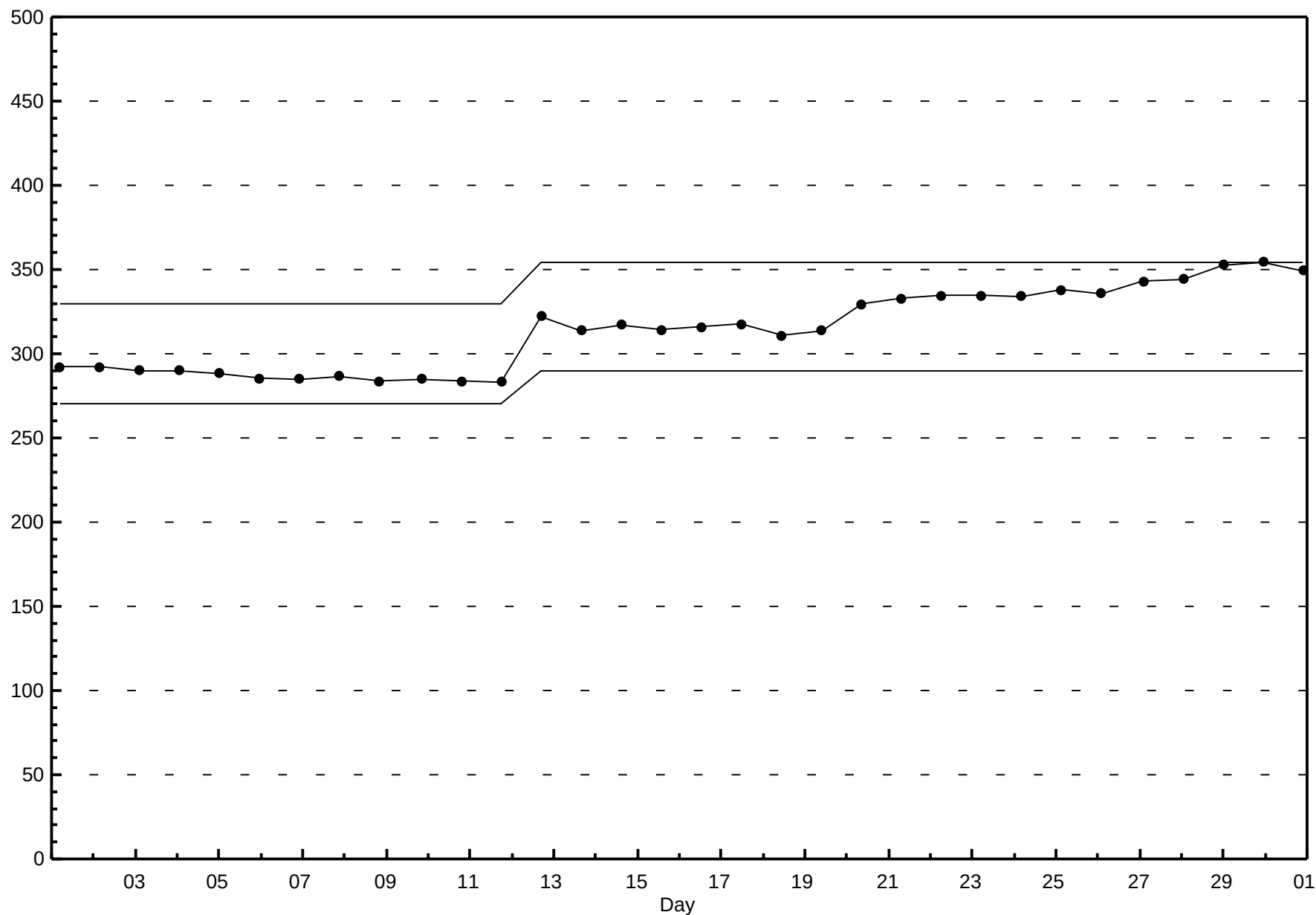
Oxides of Nitrogen (NO_x) - ppb

Henry Pirker - September 2013



Span Responses

Oxides of Nitrogen (NO_x)
Henry Pirker - September 2013



Hourly Averages

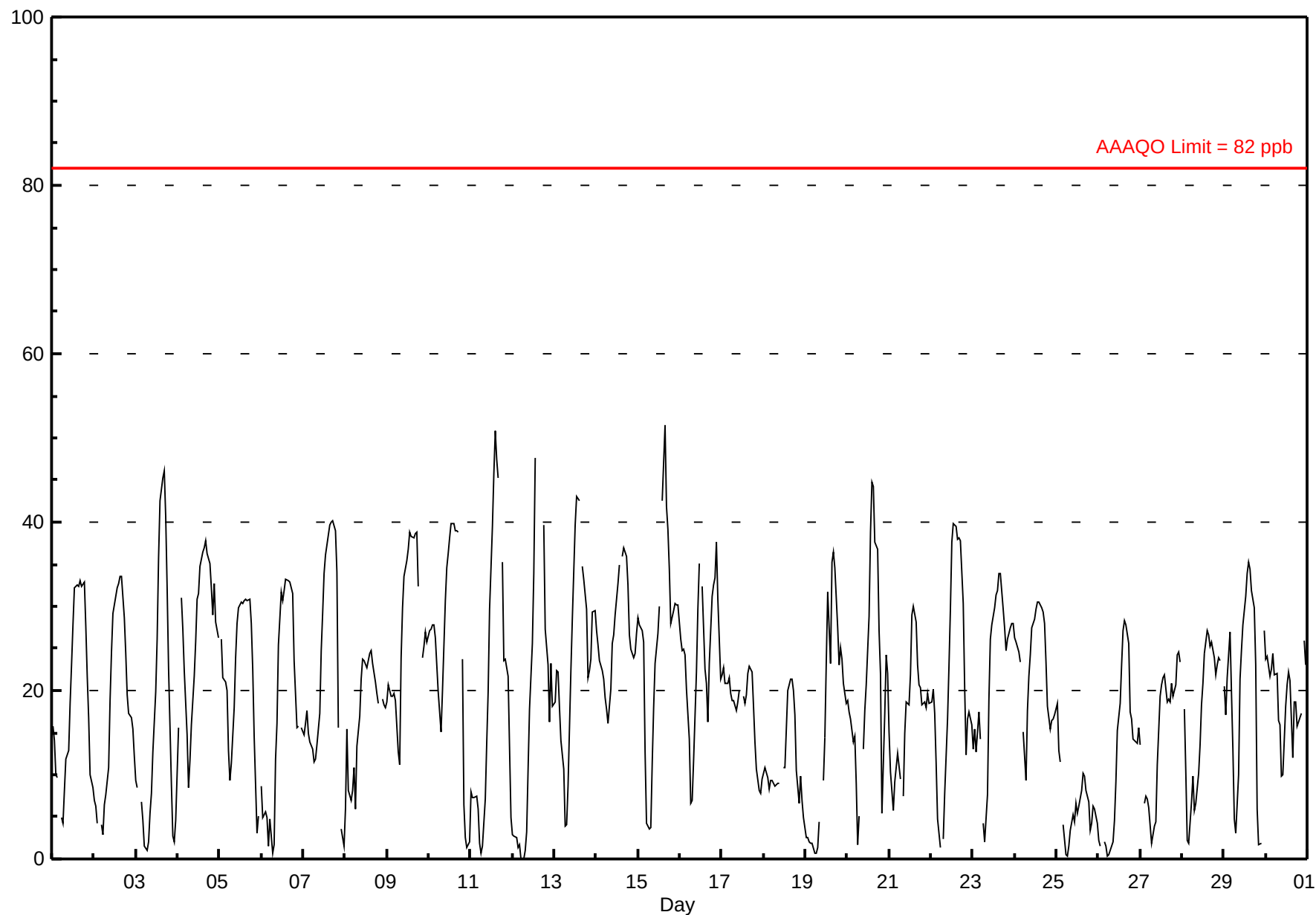
Ozone (O₃) - ppb

Henry Pirker - September 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 51.5 ppb on Sep 15 16:00 Maximum Daily Average: 27.3 ppb on Sep 9																								Hours in Service: 720 Hours of Data: 685 Hours of Missing Data: 35 Hours of Calibration: 35 Percent Operational Time: 100.0			
Minimum Value: 0 ppb on Sep 12 07:00 Maximum Diurnal Average: 31.9 ppb at hour 16 Monthly Average: 19.70 ppb												Minimum Daily Average: 6.4 ppb on Sep 25 Minimum Diurnal Average: 7.0 ppb at hour 7 Percentiles: P ₁ = 0.6 P ₁₀ = 4.2 Q ₁ = 10.2 Median = 19.8 Q ₃ = 27.8 P ₉₀ = 34.6 P ₉₉ = 45.2															
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	16	14	10	10	A	5	4	8	12	13	19	23	28	32	32	32	33	32	33	28	22	17	10	8	19.2	33.0	
2-Sep	7	6	4	A	4	3	6	8	11	19	25	29	31	32	33	33	34	29	24	20	17	17	15	12	18.2	33.6	
3-Sep	9	9	A	7	5	2	1	2	5	8	13	20	26	36	42	45	46	41	32	23	9	3	2	5	16.9	46.2	
4-Sep	16	A	31	27	22	15	9	12	16	22	26	31	31	35	37	37	38	36	35	32	29	33	28	26	27.1	37.9	
5-Sep	A	26	21	21	20	13	9	11	18	24	28	30	31	30	31	31	31	31	28	23	15	3	5	A	21.8	30.9	
6-Sep	9	5	6	5	2	5	1	2	12	16	25	32	31	32	33	33	33	32	32	24	16	16	A	16	18.0	33.3	
7-Sep	15	16	18	15	14	13	11	12	14	17	25	29	34	36	38	40	40	40	39	34	16	A	4	2	22.6	40.2	
8-Sep	6	15	8	7	8	11	6	13	17	21	24	24	23	24	25	23	21	20	18	A	19	18	18	17.1	24.7		
9-Sep	19	21	19	19	20	19	13	11	24	30	34	35	37	39	38	38	39	39	32	A	24	25	27	26	27.3	38.8	
10-Sep	27	27	28	28	26	20	18	15	20	31	35	36	38	40	40	39	39	39	A	24	7	3	1	2	25.3	39.8	
11-Sep	8	7	7	7	6	2	1	2	7	14	20	30	39	46	51	47	45	A	35	23	24	22	13	5	20.1	50.8	
12-Sep	3	3	3	1	2	0	0	1	3	11	18	26	34	48	C	C	C	C	40	27	23	16	23	18	14.9	47.7	
13-Sep	19	22	22	18	14	11	4	4	9	22	28	34	40	43	43	A	35	33	30	22	22	24	29	30	24.2	43.0	
14-Sep	27	25	24	22	21	19	18	16	20	26	27	29	33	35	A	36	37	36	33	27	25	24	24	27	26.5	37.0	
15-Sep	29	28	27	26	13	4	4	4	11	18	23	27	30	A	43	52	42	39	34	28	29	30	30	30	26.1	51.5	
16-Sep	26	25	25	24	20	14	7	7	12	22	30	35	A	32	23	21	16	23	31	33	33	38	31	21	23.9	37.6	
17-Sep	22	23	21	21	22	20	19	19	18	19	20	A	19	19	19	22	23	22	18	14	11	8	8	9	18.0	22.9	
18-Sep	10	11	10	8	9	9	9	9	9	9	A	11	11	15	20	21	21	20	17	11	7	10	7	5	11.7	21.4	
19-Sep	3	3	2	2	2	1	1	1	4	A	9	14	23	32	23	35	36	35	27	23	25	24	21	19	15.9	36.4	
20-Sep	19	17	17	14	15	9	2	5	A	13	18	21	29	39	45	44	38	37	27	22	5	17	24	22	21.6	44.8	
21-Sep	15	10	6	9	11	13	10	A	8	15	19	18	22	29	30	28	23	21	20	18	19	18	20	18	17.3	30.1	
22-Sep	19	20	17	11	5	1	A	2	8	17	23	30	38	40	39	38	38	38	30	20	12	17	17	16	21.6	39.8	
23-Sep	13	15	13	17	14	A	4	2	8	19	26	28	30	31	32	34	34	30	27	25	26	27	28	28	22.3	33.9	
24-Sep	26	26	25	23	A	15	9	18	22	24	27	29	30	31	31	30	29	28	23	18	15	16	17	17	23.0	30.6	
25-Sep	18	13	12	A	4	0	0	1	3	5	4	7	5	6	8	10	10	8	7	3	4	6	6	4	6.4	18.5	
26-Sep	2	1	A	2	2	0	0	1	2	5	9	15	18	23	27	28	28	26	17	17	14	14	14	16	12.3	28.3	
27-Sep	14	A	7	7	7	6	2	3	4	4	11	19	21	21	22	19	19	19	21	19	21	24	25	23	14.7	24.6	
28-Sep	A	18	10	2	2	7	10	6	7	10	14	18	21	24	27	27	25	26	24	22	23	24	24	A	16.8	27.1	
29-Sep	21	17	22	27	20	13	5	3	10	21	25	28	31	34	35	34	32	30	23	6	2	2	A	27	20.3	35.3	
30-Sep	24	24	22	22	24	22	22	17	16	10	10	18	21	22	21	12	19	19	16	16	17	A	26	23	19.2	25.9	
15.7 16.0 15.5 14.5 11.9 9.3 7.0 7.4 11.3 16.7 21.1 25.0 27.7 31.2 31.7 31.9 31.2 29.6 26.8 21.3 17.6 17.7 17.8 16.9																								Diurnal Average			
28.6 27.7 31.1 27.8 26.2 21.9 22.0 18.8 24.0 30.7 34.6 36.3 39.6 47.7 50.8 51.5 46.2 40.7 39.6 34.1 33.3 37.6 30.8 30.1																								Diurnal Maximum			
C - Calibration A - Automated Daily Zero Span																											
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 82 ppb 24-hr na																											

Hourly Averages

Ozone (O₃) - ppb
Henry Pirker - September 2013



Hourly Maximums

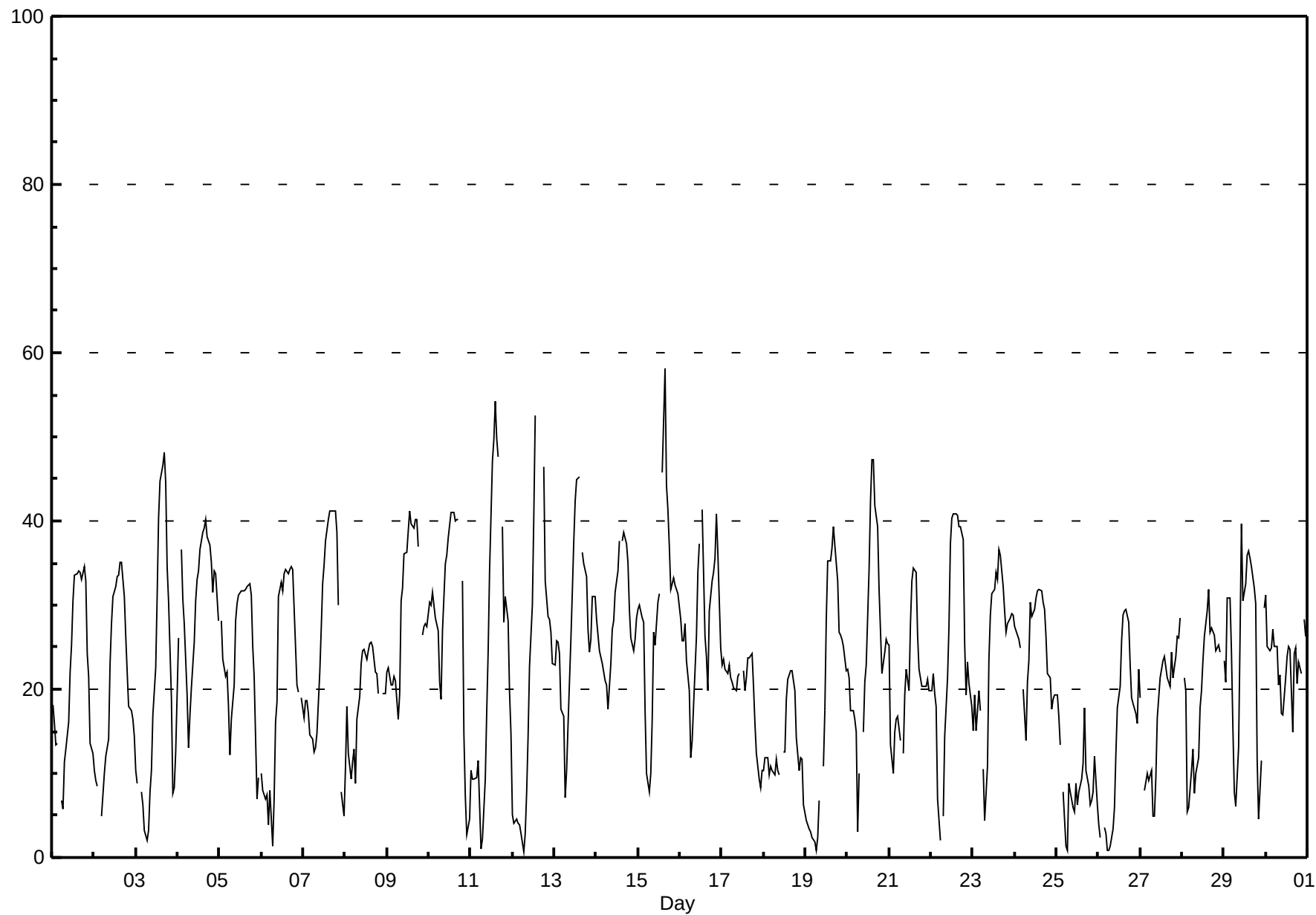
Ozone (O₃) - ppb

Henry Pirker - September 2013

Maximum Value: 58.2 ppb on Sep 15 16:00																								Maximum Daily Average: 30.7 ppb on Sep 4								Hours in Service: 720	
Minimum Value: 1 ppb on Sep 12 07:00																								Minimum Daily Average: 9.0 ppb on Sep 25								Hours of Data: 685	
Maximum Diurnal Average: 34.0 ppb at hour 16																								Minimum Diurnal Average: 9.8 ppb at hour 7								Hours of Missing Data: 35	
Monthly Average: 22.68 ppb																								Percentiles: P ₁ = 1.4 P ₁₀ = 7.6 Q ₁ = 14.0 Median = 22.8 Q ₃ = 30.9 P ₉₀ = 37.1 P ₉₉ = 47.4								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	18	16	13	14	A	7	6	11	13	16	22	25	31	34	34	34	34	33	35	33	24	22	14	12	21.7	34.6							
2-Sep	10	9	9	A	5	7	10	12	14	23	28	31	32	33	34	35	35	31	26	22	18	17	16	14	20.6	35.1							
3-Sep	10	9	A	8	6	3	2	3	8	10	17	22	31	40	45	47	48	45	35	31	19	8	8	12	20.3	48.2							
4-Sep	26	A	37	31	28	19	13	17	20	26	31	33	34	37	39	39	40	38	37	35	32	34	34	28	30.7	40.2							
5-Sep	A	28	24	22	22	18	12	16	21	28	30	31	32	32	32	32	32	33	31	25	22	7	9	A	24.4	32.6							
6-Sep	10	8	7	7	4	8	1	7	16	19	31	33	32	34	34	34	34	35	34	30	21	20	A	19	20.7	34.5							
7-Sep	17	19	19	17	15	14	13	13	15	22	27	33	35	38	40	41	41	41	41	39	30	A	8	5	25.2	41.2							
8-Sep	11	18	12	9	11	13	9	16	19	23	25	25	24	25	26	25	22	22	19	A	20	19	19	19	19.0	25.5							
9-Sep	22	23	20	20	21	21	16	19	31	32	36	36	39	41	40	39	40	40	37	A	26	27	28	27	29.7	41.1							
10-Sep	30	30	32	30	28	27	21	19	27	35	36	38	40	41	41	40	40	40	A	33	15	7	3	5	28.6	41.0							
11-Sep	10	9	9	10	11	6	1	2	9	17	24	34	47	50	54	50	48	A	39	28	31	28	20	15	24.1	54.2							
12-Sep	5	4	5	4	4	3	1	3	8	14	23	30	40	53	C	C	C	C	46	33	29	28	27	23	19.1	52.6							
13-Sep	23	26	26	24	18	17	7	10	16	26	31	37	42	45	45	A	36	35	33	27	24	26	31	31	27.7	45.3							
14-Sep	28	26	25	23	22	21	21	18	23	27	28	32	34	38	A	38	39	37	35	30	26	25	26	28	28.2	38.6							
15-Sep	29	30	28	28	17	10	8	10	16	27	25	30	31	A	46	58	44	41	37	32	33	32	32	31	29.5	58.2							
16-Sep	28	26	26	28	23	20	12	14	18	26	34	37	A	41	26	24	20	29	33	34	36	41	36	25	27.7	41.3							
17-Sep	23	24	22	22	23	21	21	20	20	21	22	A	22	20	21	24	24	24	20	16	12	9	8	10	19.6	24.3							
18-Sep	10	12	12	10	11	10	10	12	10	10	A	13	13	19	21	22	22	21	20	14	10	12	12	6	13.5	22.2							
19-Sep	4	4	3	3	2	2	1	2	7	A	11	18	28	35	35	37	39	37	33	27	26	26	25	22	18.6	39.3							
20-Sep	22	21	17	17	16	15	3	10	A	15	21	23	34	42	47	47	42	39	32	27	22	24	26	25	25.7	47.3							
21-Sep	25	13	10	15	16	17	14	A	12	19	22	20	28	33	34	34	26	22	21	20	20	20	21	20	21.1	34.3							
22-Sep	20	22	19	18	7	2	A	5	14	21	27	37	40	41	41	41	39	39	38	25	19	23	21	18	25.2	40.8							
23-Sep	15	19	15	20	17	A	10	4	11	24	29	31	32	34	33	37	36	32	29	27	28	28	29	29	24.8	36.6							
24-Sep	27	27	26	25	A	20	14	21	23	30	29	30	31	32	32	32	30	30	26	22	21	18	19	19	25.4	31.8							
25-Sep	19	17	13	A	8	1	1	9	8	6	5	9	6	8	9	11	18	10	9	6	7	8	12	6	9.0	19.3							
26-Sep	4	2	A	4	3	1	1	1	3	6	12	18	20	26	29	29	30	28	23	19	18	17	16	22	14.5	29.5							
27-Sep	19	A	8	9	10	9	10	5	5	9	17	21	22	23	24	21	21	20	24	21	24	26	26	29	17.6	28.5							
28-Sep	A	21	20	5	6	10	13	8	10	12	18	20	23	26	29	32	27	27	26	25	25	25	24	A	19.7	31.9							
29-Sep	23	21	31	31	24	15	8	6	13	26	40	31	33	36	37	36	35	32	30	12	5	12	A	30	24.5	39.6							
30-Sep	31	25	25	25	27	25	25	21	22	17	17	21	24	25	25	15	24	25	21	23	22	A	28	26	23.4	31.1							
18.7 18.2 18.3 17.1 14.6 12.6 9.8 10.9 14.9 20.3 24.7 27.5 30.4 33.8 34.0 34.0 33.4 31.7 30.1 25.3 22.3 21.1 20.6 20.0																								Diurnal Average									
31.1 30.0 36.6 30.9 28.5 26.9 25.0 20.9 30.6 35.0 39.6 38.0 47.1 52.6 54.2 58.2 48.2 44.5 46.4 38.6 35.6 40.8 36.3 31.3																								Diurnal Maximum									
C - Calibration A - Automated Daily Zero Span																																	

Hourly Maximums

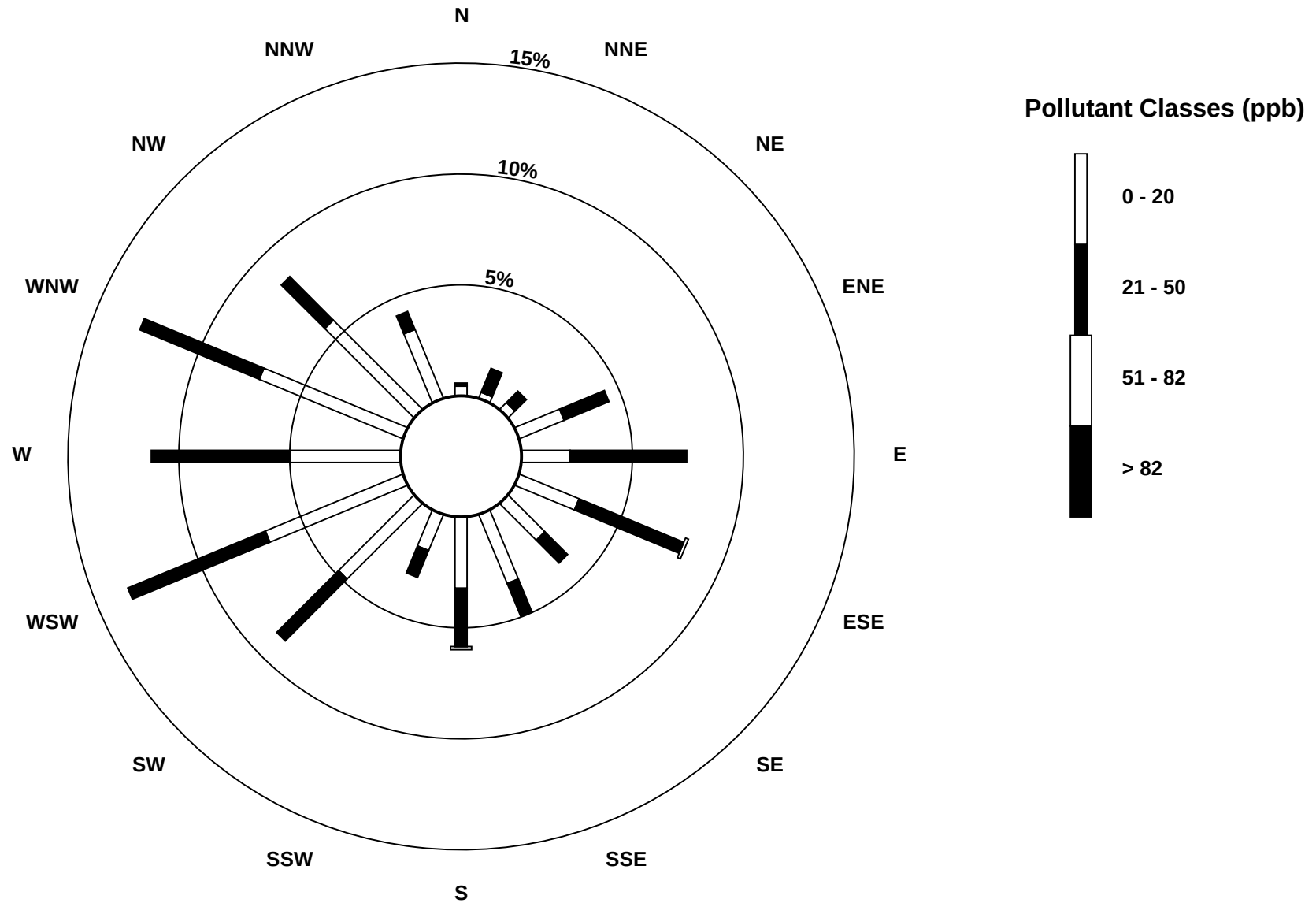
Ozone (O₃) - ppb
Henry Pirker - September 2013



Pollutant Rose

Ozone (O₃) - ppb

Henry Pirker - September 2013



Eight Hour Running Averages

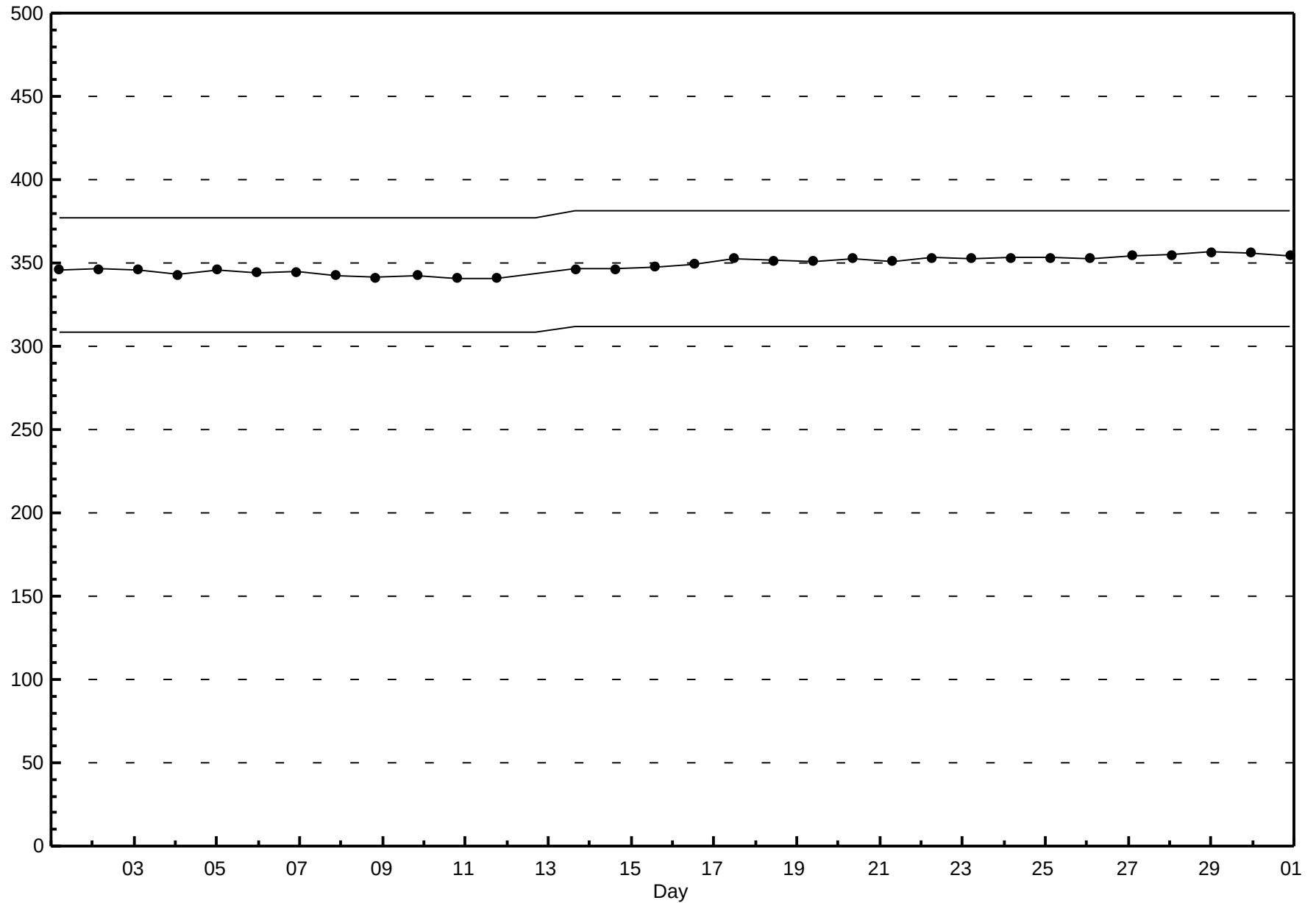
Ozone (O₃) - ppb

Henry Pirker - September 2013

Maximum Value: 42.0 ppb on Sep 11 19:00																								Hours in Service: 720	
Minimum Value: 1.3 ppb on Sep 26 09:00																								Hours of Data: 713	
Percentiles: P ₁ = 1.8 P ₁₀ = 7.1 Q ₁ = 13.2 Median = 19.5 Q ₃ = 26.2 P ₉₀ = 31.4 P ₉₉ = 38.2																								Hours of Missing Data: 7	
																								Hours of Calibration: 7	
																								Percent Operational Time: 100.0	
Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Sep	22	20	17	15	15	13	11	10	9	9	10	12	14	17	21	24	27	29	31	31	31	29	26	23	31.4
2-Sep	20	16	13	11	8	6	6	5	6	8	11	13	16	20	23	27	29	31	31	29	28	26	24	21	30.7
3-Sep	18	15	14	12	11	8	6	5	4	4	5	7	10	14	19	24	30	34	36	36	34	30	25	20	36.4
4-Sep	16	13	13	13	15	17	18	19	19	19	19	19	20	23	26	29	32	34	35	35	35	35	34	32	35.1
5-Sep	31	30	28	26	25	22	20	17	18	17	18	19	20	23	25	28	29	30	30	29	27	24	21	19	31.4
6-Sep	16	12	9	7	5	5	4	4	4	6	8	12	15	19	23	27	29	31	32	31	29	27	26	24	32.1
7-Sep	21	19	17	16	16	15	15	14	14	14	15	17	19	22	26	29	32	35	37	38	35	35	30	25	37.7
8-Sep	20	16	12	8	7	8	8	9	11	11	13	15	17	19	21	23	23	23	23	22	22	22	21	20	23.4
9-Sep	19	19	19	19	19	19	18	18	18	19	21	23	25	28	31	34	36	37	37	37	36	34	32	30	37.4
10-Sep	29	27	26	26	27	26	25	24	23	23	24	25	27	29	32	35	37	38	39	37	32	27	22	16	38.7
11-Sep	12	7	7	5	5	5	5	5	5	6	7	10	14	20	26	32	37	40	42	41	39	35	30	24	42.0
12-Sep	18	16	12	9	6	4	2	2	2	3	5	8	12	17	20	23	N	N	N	N	N	N	N	25	24.6
13-Sep	24	24	21	20	19	18	16	14	13	13	14	16	19	23	28	31	35	37	37	35	32	30	28	28	36.7
14-Sep	27	26	25	25	25	25	23	22	21	21	21	22	23	25	26	29	32	33	34	34	33	31	30	29	34.0
15-Sep	28	27	26	26	25	22	20	17	15	13	13	13	15	17	22	29	33	36	38	38	38	37	36	33	38.2
16-Sep	31	29	28	27	26	24	21	18	17	16	17	18	18	21	23	25	26	26	26	26	27	27	28	28	31.0
17-Sep	29	29	28	26	25	22	21	21	20	20	19	19	19	19	19	19	20	21	20	20	18	17	16	14	29.0
18-Sep	13	11	10	9	9	9	9	9	9	9	9	9	10	12	14	16	17	17	17	17	16	14	12	12	17.2
19-Sep	10	8	6	5	4	3	2	2	2	2	3	5	8	12	15	20	25	26	28	29	30	29	28	26	29.6
20-Sep	24	22	21	19	18	16	14	12	11	11	11	12	14	18	24	30	31	34	35	35	32	29	27	24	35.0
21-Sep	21	18	15	14	14	14	12	10	9	10	12	13	15	17	20	21	23	24	24	24	24	22	21	20	23.9
22-Sep	19	19	19	18	16	14	13	11	9	9	10	12	17	22	25	29	33	35	36	35	32	29	26	24	36.3
23-Sep	20	18	15	15	15	15	13	11	11	11	13	14	17	18	22	26	29	31	31	30	30	29	29	28	30.7
24-Sep	27	27	26	26	26	24	22	20	20	19	20	21	22	24	26	28	29	29	29	27	26	24	22	21	29.2
25-Sep	19	17	16	16	14	12	9	7	5	4	3	3	3	4	5	6	7	7	8	7	7	7	7	6	19.2
26-Sep	5	4	4	4	3	3	2	1	1	2	3	4	6	9	13	16	19	22	23	23	23	21	20	18	23.0
27-Sep	16	15	13	12	11	10	8	6	5	5	6	7	9	11	13	15	17	19	20	20	20	20	21	21	21.3
28-Sep	22	22	20	18	15	12	10	8	8	7	7	9	12	14	16	18	21	23	24	24	25	25	24	24	24.8
29-Sep	23	22	22	22	22	20	18	16	15	15	15	16	17	20	23	27	30	31	31	28	25	21	18	17	31.1
30-Sep	16	15	15	18	21	24	23	22	21	19	18	17	17	17	17	16	17	18	18	18	18	17	18	19	23.6
Diurnal Maximums																									
N - Not Valid																									

Span Responses

Ozone (O₃)
Henry Pirker - September 2013



Hourly Averages

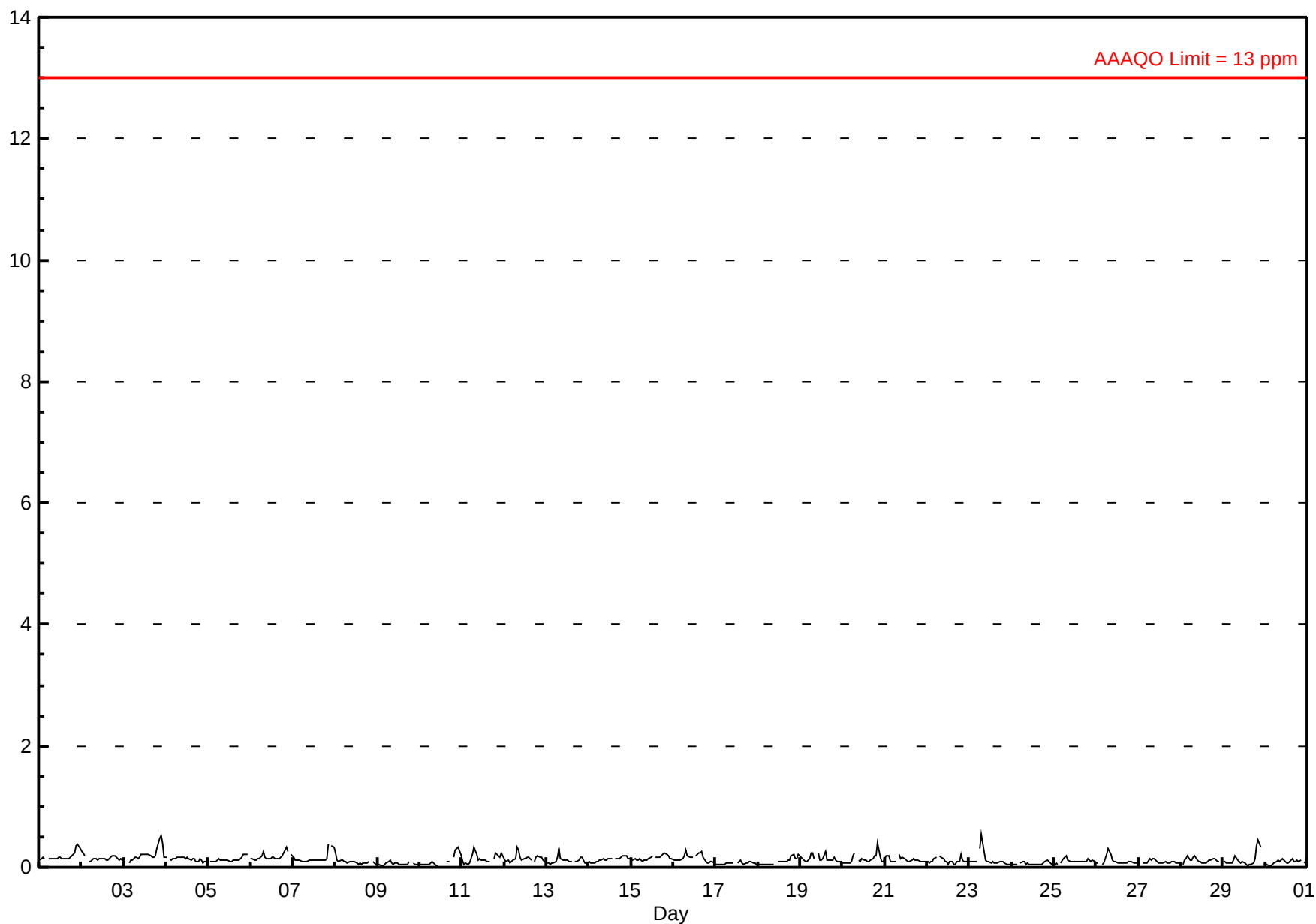
Carbon Monoxide (CO) - ppm

Henry Pirker - September 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 0.56 ppm on Sep 23 08:00 Maximum Daily Average: 0.21 ppm on Sep 3																								Hours in Service: 720 Hours of Data: 684 Hours of Missing Data: 36 Hours of Calibration: 36 Percent Operational Time: 100.0			
Minimum Value: 0.0 ppm on Sep 30 03:00 Maximum Diurnal Average: 0.19 ppm at hour 8 Monthly Average: 0.124 ppm												Minimum Daily Average: 0.06 ppm on Sep 9 Minimum Diurnal Average: 0.08 ppm at hour 4 Percentiles: P ₁ = 0.04 P ₁₀ = 0.06 Q ₁ = 0.08 Median = 0.11 Q ₃ = 0.15 P ₉₀ = 0.20 P ₉₉ = 0.38															
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	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	0.1	0.2	0.1	A	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.4	0.4	0.3	0.18	0.39	
2-Sep	0.3	0.2	0.2	A	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.15	0.27	
3-Sep	0.1	0.1	A	0.1	0.1	0.1	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.5	0.5	0.4	0.2	0.21	0.53	
4-Sep	0.2	A	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.14	0.18	
5-Sep	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	0.2	0.2	0.2	A	0.13	0.21	
6-Sep	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.3	0.2	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.3	A	0.2	0.17	0.33	
7-Sep	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	0.4	A	0.3	0.3	0.15	0.38	
8-Sep	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	A	0.1	0.1	0.1	0.09	0.25	
9-Sep	0.1	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	A	0.1	0.1	0.0	0.0	0.06	0.11	
10-Sep	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	C	C	C	C	0.1	0.1	0.1	A	0.2	0.3	0.3	0.3	0.2	0.11	0.33	
11-Sep	0.1	0.1	0.1	0.0	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	A	0.1	0.2	0.2	0.2	0.2	0.2	0.15	0.34	
12-Sep	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.3	0.2	0.1	0.1	0.2	0.2	0.2	0.1	A	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.15	0.34	
13-Sep	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	A	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.12	0.31	
14-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	0.2	0.2	A	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.13	0.20	
15-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	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.15	0.24	
16-Sep	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.15	0.29	
17-Sep	0.1	0.0	0.0	0.0	0.0	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	0.07	0.11	
18-Sep	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	A	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.2	0.10	0.22	
19-Sep	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	A	0.2	0.1	0.1	0.1	0.3	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.14	0.26	
20-Sep	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	A	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.4	0.2	0.1	0.1	0.13	0.40
21-Sep	0.1	0.2	0.2	0.1	0.1	0.1	0.1	A	0.2	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.13	0.22	
22-Sep	0.1	0.1	0.1	0.1	0.1	0.2	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	0.2	0.1	0.1	0.1	0.1	0.11	0.21	
23-Sep	0.1	0.1	0.1	0.1	0.1	A	0.3	0.6	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.12	0.56	
24-Sep	0.1	0.1	0.1	0.1	A	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.07	0.11	
25-Sep	0.0	0.1	0.1	A	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	0.2	0.1	0.1	0.1	0.1	0.10	0.18	
26-Sep	0.1	0.1	A	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	0.1	0.1	0.1	0.1	0.1	0.10	0.30	
27-Sep	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	0.1	0.1	0.1	0.09	0.14	
28-Sep	A	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	A	0.12	0.20	
29-Sep	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	0.0	0.0	0.0	0.0	0.1	0.1	0.4	0.4	0.3	A	0.1	0.12	0.44	
30-Sep	0.1	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	A	0.1	0.1	0.1	0.09	0.14	
0.11 0.09 0.09 0.08 0.09 0.10 0.14 0.19 0.14 0.12 0.12 0.12 0.11 0.11 0.11 0.11 0.11 0.11 0.11 0.13 0.17 0.19 0.16 0.14 0.12																								Diurnal Average			
0.27 0.24 0.19 0.14 0.20 0.16 0.30 0.56 0.28 0.17 0.23 0.21 0.21 0.21 0.26 0.24 0.25 0.18 0.21 0.37 0.48 0.53 0.40 0.33																								Diurnal Maximum			
C - Calibration A - Automated Daily Zero Span																											
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 13 ppm 24-hr na																											

Hourly Averages

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



Hourly Maximums

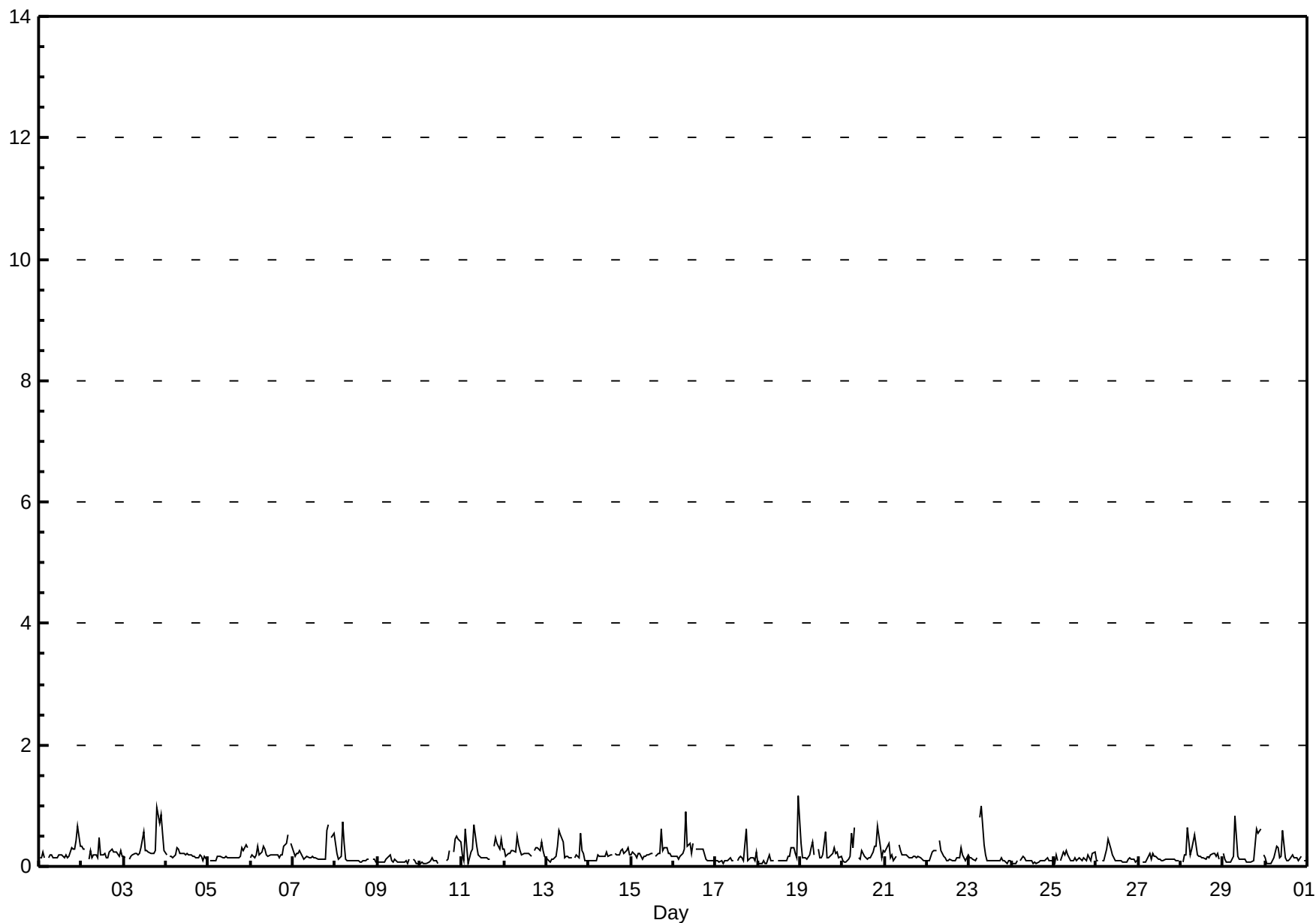
Carbon Monoxide (CO) - ppm

Henry Pirker - September 2013

Maximum Value: 1.16 ppm on Sep 19 00:00																					Maximum Daily Average: 0.32 ppm on Sep 3				Hours in Service: 720	
Minimum Value: 0.0 ppm on Sep 17 05:00																					Minimum Daily Average: 0.09 ppm on Sep 9				Hours of Data: 684	
Maximum Diurnal Average: 0.35 ppm at hour 8																					Minimum Diurnal Average: 0.13 ppm at hour 4				Hours of Missing Data: 36	
Monthly Average: 0.195 ppm																					Percentiles: P ₁ = 0.06 P ₁₀ = 0.09 Q ₁ = 0.11 Median = 0.15 Q ₃ = 0.22 P ₉₀ = 0.33 P ₉₉ = 0.79				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	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.1	0.2	0.1	0.2	0.3	0.3	0.3	0.4	0.7	0.3	0.23	0.66
2-Sep	0.3	0.3	0.3	A	0.1	0.3	0.1	0.2	0.2	0.1	0.5	0.2	0.2	0.2	0.1	0.1	0.2	0.3	0.2	0.2	0.2	0.2	0.3	0.2	0.22	0.49
3-Sep	0.2	0.1	A	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.6	0.3	0.3	0.2	0.2	0.2	0.2	0.3	1.0	0.7	0.8	0.6	0.3	0.32	0.97
4-Sep	0.2	A	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.1	0.2	0.1	0.18	0.30
5-Sep	A	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.3	0.3	0.3	0.3	A	0.17	0.35
6-Sep	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.3	0.4	0.5	A	0.4	0.24	0.53
7-Sep	0.2	0.2	0.2	0.2	0.3	0.2	0.1	0.1	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.6	0.7	A	0.5	0.6	0.23	0.68
8-Sep	0.4	0.2	0.1	0.2	0.7	0.4	0.1	0.1	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	0.16	0.74
9-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	0.1	0.1	0.1	0.09	0.20
10-Sep	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	C	C	C	C	0.1	0.1	0.3	A	0.2	0.4	0.5	0.4	0.4	0.18	0.49
11-Sep	0.2	0.1	0.6	0.1	0.1	0.2	0.3	0.7	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	A	0.3	0.5	0.4	0.3	0.4	0.3	0.26	0.69
12-Sep	0.3	0.2	0.2	0.2	0.3	0.3	0.2	0.5	0.4	0.3	0.2	0.2	0.2	0.2	0.2	0.2	A	0.3	0.3	0.3	0.3	0.4	0.3	0.2	0.26	0.50
13-Sep	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.6	0.5	0.4	0.1	0.2	0.2	0.1	0.1	A	0.1	0.2	0.2	0.6	0.3	0.2	0.1	0.1	0.22	0.59
14-Sep	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	A	0.2	0.2	0.2	0.3	0.3	0.2	0.3	0.3	0.2	0.19	0.30
15-Sep	0.2	0.2	0.2	0.1	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.6	0.3	0.3	0.3	0.2	0.2	0.2	0.22	0.62
16-Sep	0.2	0.2	0.2	0.1	0.2	0.2	0.3	0.9	0.3	0.4	0.2	0.4	A	0.3	0.3	0.3	0.3	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.24	0.89
17-Sep	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	A	0.1	0.2	0.2	0.1	0.1	0.6	0.1	0.1	0.2	0.1	0.1	0.2	0.14	0.62
18-Sep	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	A	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.2	0.2	1.2	0.17	1.16
19-Sep	0.4	0.2	0.2	0.1	0.1	0.2	0.3	0.4	0.2	A	0.3	0.1	0.1	0.2	0.6	0.1	0.1	0.2	0.2	0.3	0.2	0.2	0.1	0.2	0.22	0.56
20-Sep	0.1	0.1	0.1	0.1	0.2	0.5	0.3	0.6	A	0.2	0.1	0.3	0.2	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.7	0.3	0.1	0.3	0.24	0.66
21-Sep	0.2	0.3	0.4	0.1	0.2	0.1	0.2	A	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	0.18	0.38
22-Sep	0.1	0.1	0.2	0.2	0.3	0.3	A	0.4	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.2	0.2	0.1	0.2	0.17	0.43
23-Sep	0.1	0.1	0.1	0.1	0.2	A	0.8	1.0	0.4	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.19	1.01
24-Sep	0.1	0.1	0.1	0.1	A	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.10	0.16
25-Sep	0.1	0.2	0.1	A	0.1	0.2	0.2	0.3	0.2	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.2	0.2	0.15	0.25
26-Sep	0.1	0.1	A	0.1	0.1	0.2	0.3	0.4	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.14	0.44
27-Sep	0.1	A	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.12	0.22
28-Sep	A	0.1	0.2	0.2	0.6	0.2	0.3	0.4	0.5	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.1	A	0.22	0.63
29-Sep	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.8	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.4	0.6	0.6	0.6	A	0.2	0.22	0.84
30-Sep	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.3	0.1	0.2	0.6	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.1	0.1	0.2	A	0.1	0.1	0.16	0.60
0.16 0.13 0.15 0.13 0.18 0.19 0.23 0.35 0.23 0.17 0.19 0.17 0.15 0.14 0.15 0.14 0.14 0.20 0.19 0.29 0.28 0.25 0.21 0.23																									Diurnal Average	
0.39 0.28 0.61 0.23 0.74 0.55 0.80 1.01 0.52 0.40 0.60 0.58 0.27 0.27 0.56 0.28 0.28 0.62 0.35 0.97 0.70 0.84 0.66 1.16																									Diurnal Maximum	
C - Calibration A - Automated Daily Zero Span																										

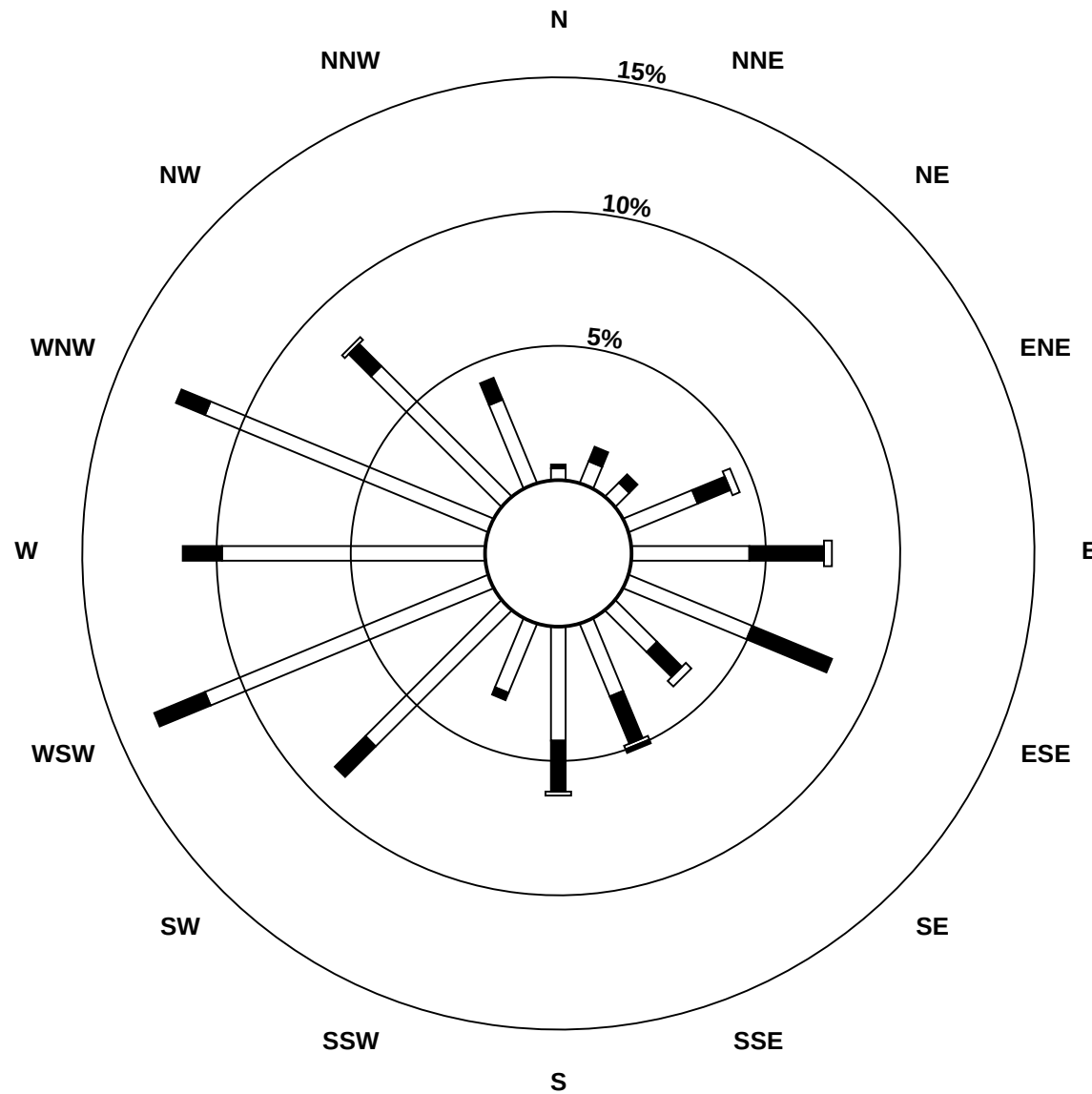
Hourly Maximums

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

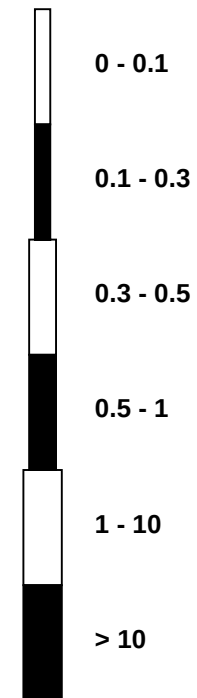


Pollutant Rose

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



Pollutant Classes (ppm)



Eight Hour Running Averages

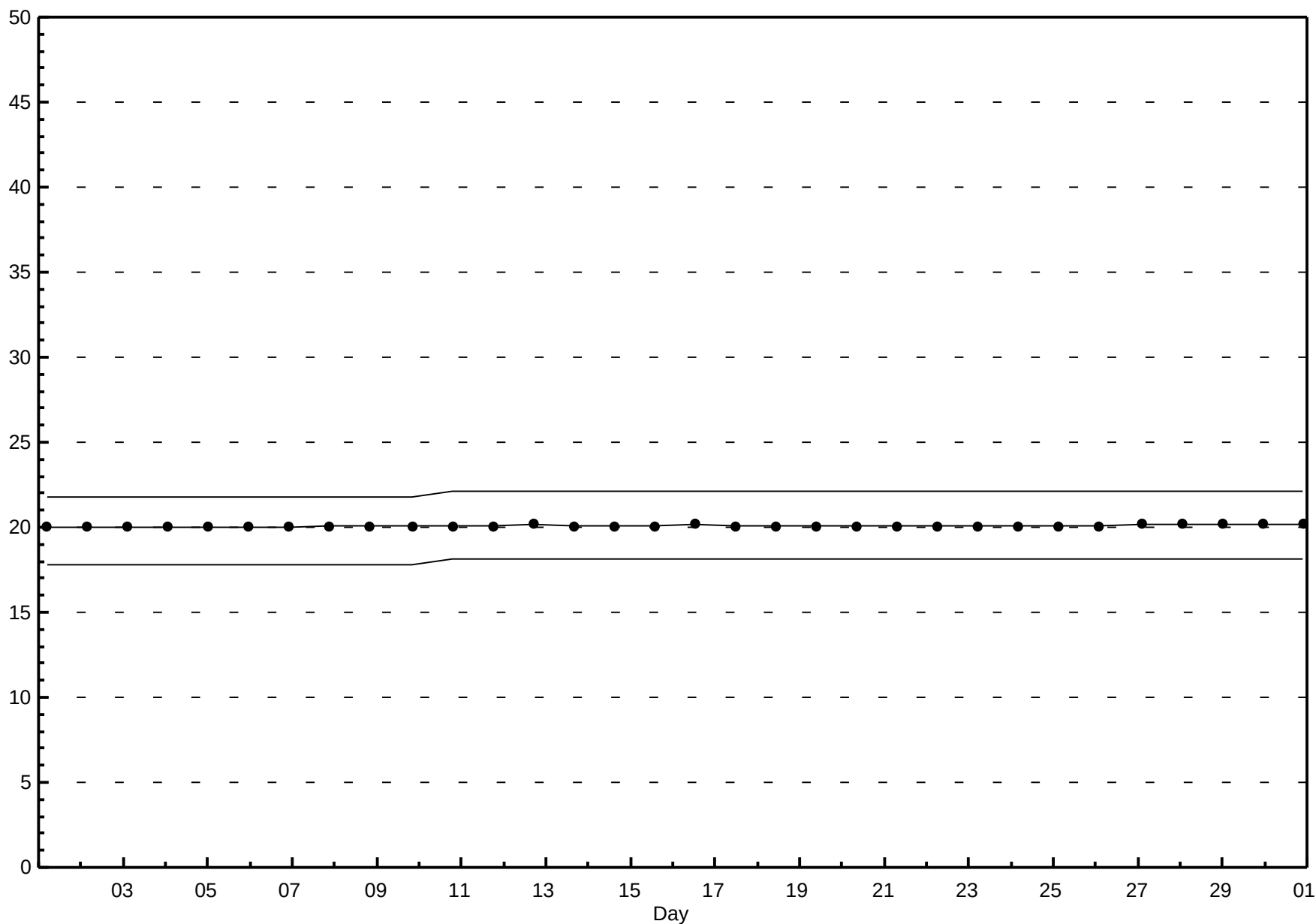
Carbon Monoxide (CO) - ppm

Henry Pirker - September 2013

Number of Exceedences (AAAQO): 8-hr: 0 Maximum Value: 0.32 ppm on Sep 4 02:00																								Hours in Service: 720 Hours of Data: 712	
Minimum Value: 0.04 ppm on Sep 30 06:00																								Hours of Missing Data: 8 Hours of Calibration: 8	
Percentiles: P ₁ = 0.05 P ₁₀ = 0.07 Q ₁ = 0.09 Median = 0.12 Q ₃ = 0.15 P ₉₀ = 0.18 P ₉₉ = 0.28																								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	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	0.2	0.2	0.2	0.2	0.2	0.25
2-Sep	0.3	0.3	0.3	0.3	0.3	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	0.2	0.2	0.2	0.2	0.2	0.28
3-Sep	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	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.30
4-Sep	0.3	0.3	0.3	0.3	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.32
5-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	0.2	0.17
6-Sep	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.22
7-Sep	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	0.2	0.2	0.2	0.2	0.22
8-Sep	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	0.1	0.24
9-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	0.07
10-Sep	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	N	N	N	N	N	N	N	N	0.2	0.2	0.2	0.21
11-Sep	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.21
12-Sep	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.19
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	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.15
14-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	0.2	0.2	0.2	0.2	0.2	0.2	0.17
15-Sep	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	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.19
16-Sep	0.2	0.2	0.2	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	0.1	0.1	0.20
17-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	0.09
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	0.2	0.16
19-Sep	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.18
20-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	0.2	0.2	0.2	0.2	0.17
21-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	0.18
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	0.1	0.1	0.1	0.1	0.1	0.14
23-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	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.22
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	0.1	0.1	0.1	0.08
25-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
26-Sep	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	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.16
27-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	0.11
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	0.14
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	0.21
30-Sep	0.2	0.2	0.2	0.1	0.1	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	0.1	0.1	0.21
0.30 0.32 0.32 0.29 0.26 0.23 0.19 0.19 0.22 0.22 0.22 0.22 0.22 0.20 0.20 0.20 0.20 0.20 0.19 0.21 0.24 0.28 0.30 0.30																									
Diurnal Maximums																									
N - Not Valid																									
Alberta Ambient Air Quality Objectives (AAAQO): 8-hr 5 ppm																									

Span Responses

Carbon Monoxide (CO)
Henry Pirker - September 2013



Hourly Averages

Total Hydrocarbons (THC) - ppm

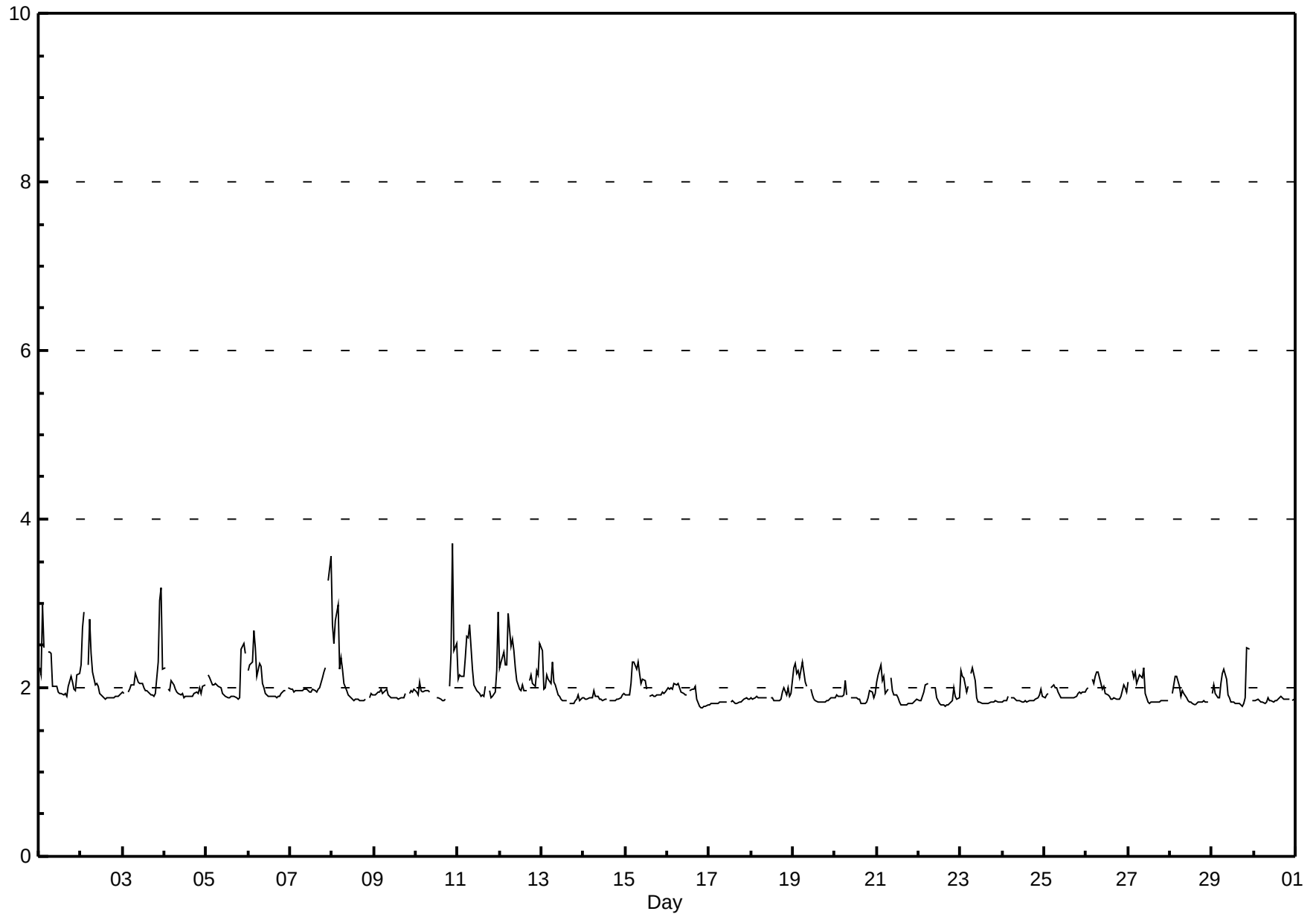
Henry Pirker - September 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 3.71 ppm on Sep 10 22:00 Maximum Daily Average: 2.23 ppm on Sep 12																								Hours in Service: 720 Hours of Data: 685 Hours of Missing Data: 35 Hours of Calibration: 35 Percent Operational Time: 100.0		
Minimum Value: 1.8 ppm on Sep 16 21:00 Maximum Diurnal Average: 2.12 ppm at hour 6 Monthly Average: 1.987 ppm												Minimum Daily Average: 1.83 ppm on Sep 17 Minimum Diurnal Average: 1.87 ppm at hour 17 Percentiles: P ₁ = 1.79 P ₁₀ = 1.83 Q ₁ = 1.86 Median = 1.92 Q ₃ = 2.02 P ₉₀ = 2.22 P ₉₉ = 2.97														
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	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	2.2	3.0	2.5	A	2.4	2.4	2.4	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	2.0	2.1	2.1	2.0	2.0	2.2	2.2	2.14	2.99
2-Sep	2.3	2.7	2.9	A	2.3	2.8	2.4	2.2	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.10	2.91
3-Sep	1.9	1.9	A	1.9	2.0	2.0	2.0	2.2	2.1	2.1	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	2.3	3.0	3.2	2.2	2.11	3.19
4-Sep	2.2	A	2.0	2.0	2.1	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	1.9	2.0	1.9	2.0	2.0	1.97	2.23
5-Sep	A	2.2	2.1	2.0	2.0	2.1	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.5	2.5	2.4	A	2.03	2.53
6-Sep	2.2	2.3	2.3	2.7	2.5	2.1	2.3	2.3	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	A	2.0	2.07	2.68
7-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	1.9	2.0	2.0	2.0	2.0	2.0	2.1	2.2	2.2	A	3.3	3.6	2.12	3.57
8-Sep	2.8	2.5	2.8	3.0	2.2	2.4	2.2	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.8	1.9	A	1.9	1.9	1.9	2.09	2.98
9-Sep	1.9	1.9	1.9	2.0	2.0	1.9	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	2.0	1.9	2.0	1.92	1.98
10-Sep	1.9	1.9	2.1	2.0	2.0	2.0	2.0	2.0	2.0	C	C	C	1.9	1.9	1.9	1.9	1.9	1.9	A	2.0	2.4	3.7	2.4	2.5	2.10	3.71
11-Sep	2.1	2.2	2.1	2.1	2.4	2.6	2.6	2.8	2.2	2.0	2.0	2.0	1.9	1.9	1.9	1.9	2.0	A	2.0	1.9	1.9	2.0	2.2	2.9	2.15	2.89
12-Sep	2.2	2.3	2.4	2.3	2.3	2.9	2.5	2.6	2.4	2.2	2.1	2.0	2.0	2.0	2.0	2.0	A	2.1	2.2	2.1	2.0	2.2	2.2	2.5	2.23	2.89
13-Sep	2.4	2.0	2.0	2.2	2.1	2.0	2.3	2.1	2.0	1.9	1.9	1.9	1.8	1.8	1.8	A	1.8	1.8	1.8	1.8	1.9	1.9	1.9	1.9	1.96	2.44
14-Sep	1.9	1.9	1.9	1.9	1.9	1.9	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.8	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.88	1.97
15-Sep	1.9	1.9	1.9	2.0	2.3	2.3	2.2	2.3	2.2	2.1	2.1	2.1	2.0	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	1.9	2.0	2.02	2.30
16-Sep	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.0	1.9	1.9	1.9	1.9	A	2.0	2.0	2.0	2.0	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.93	2.05
17-Sep	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	A	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.9	1.9	1.9	1.83	1.89
18-Sep	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	1.8	1.8	1.8	1.9	2.0	1.9	2.0	1.9	1.9	1.89	2.01
19-Sep	2.2	2.3	2.2	2.2	2.1	2.3	2.2	2.1	2.0	A	2.0	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.9	1.99	2.30
20-Sep	1.9	1.9	1.9	1.9	1.9	1.9	2.1	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.9	2.0	2.0	1.9	1.9	1.89	2.09
21-Sep	2.1	2.2	2.3	2.1	2.1	1.9	2.0	A	2.1	2.0	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.93	2.27
22-Sep	1.9	1.8	1.9	2.0	2.0	2.1	A	2.0	2.0	2.0	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	2.0	1.9	1.9	1.9	1.89	2.05
23-Sep	2.2	2.1	2.1	2.0	2.0	A	2.2	2.2	2.1	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.93	2.23
24-Sep	1.8	1.8	1.9	1.9	A	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.9	1.9	2.0	1.9	1.86	1.98
25-Sep	1.9	1.9	1.9	A	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.92	2.04
26-Sep	2.0	2.0	A	2.1	2.0	2.1	2.2	2.2	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	1.9	1.98	2.19
27-Sep	2.1	A	2.2	2.1	2.2	2.1	2.2	2.1	2.1	2.2	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.9	1.8	1.9	1.9	1.96	2.23
28-Sep	A	1.9	2.0	2.1	2.1	2.0	1.9	2.0	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	A	1.89	2.14
29-Sep	1.9	2.0	1.9	1.9	1.9	2.1	2.2	2.2	2.1	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	2.5	2.5	A	1.8	1.96	2.47
30-Sep	1.8	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.9	1.9	1.9	1.8	1.8	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	1.85	1.91
2.06 2.05 2.12 2.08 2.07 2.12 2.11 2.09 2.02 1.96 1.93 1.90 1.88 1.88 1.87 1.87 1.87 1.87 1.89 1.90 1.98 2.07 2.06 2.07																								Diurnal Average		
2.75 2.71 2.99 2.98 2.47 2.89 2.60 2.75 2.43 2.24 2.10 2.08 2.01 2.04 1.99 1.99 2.02 2.08 2.16 2.18 2.47 3.71 3.27 3.57																								Diurnal Maximum		
C - Calibration A - Automated Daily Zero Span																										

Hourly Averages

Total Hydrocarbons (THC) - ppm

Henry Pirker - September 2013



Hourly Maximums

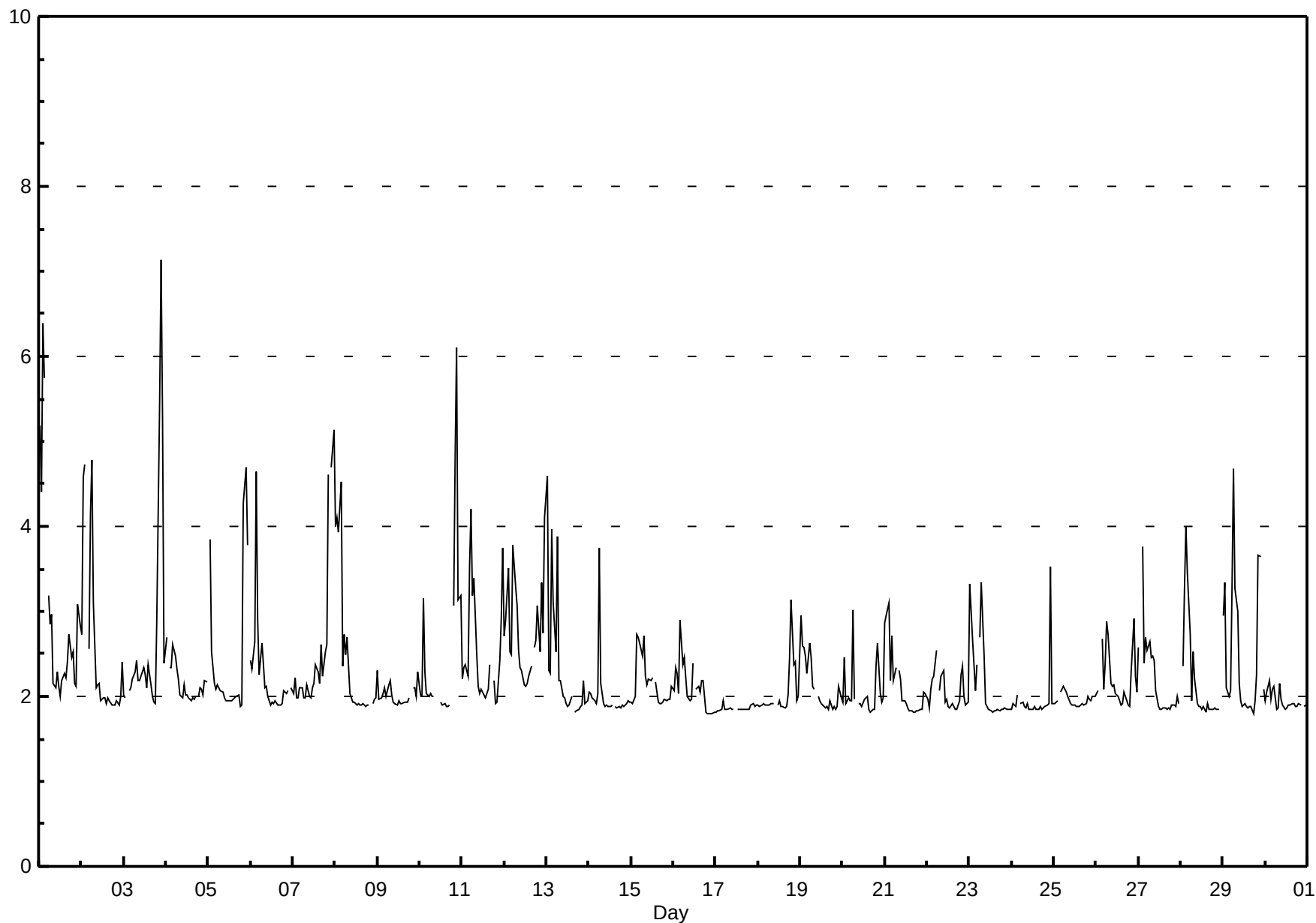
Total Hydrocarbons (THC) - ppm

Henry Pirker - September 2013

Maximum Value: 7.14 ppm on Sep 3 22:00																				Maximum Daily Average: 2.98 ppm on Sep 1					Hours in Service: 720		
Minimum Value: 1.8 ppm on Sep 16 20:00																				Minimum Daily Average: 1.86 ppm on Sep 17					Hours of Data: 685		
Maximum Diurnal Average: 2.69 ppm at hour 3																				Minimum Diurnal Average: 1.95 ppm at hour 16					Hours of Missing Data: 35		
Monthly Average: 2.261 ppm																				Percentiles: P ₁ = 1.82 P ₁₀ = 1.85 Q ₁ = 1.90 Median = 2.00 Q ₃ = 2.30 P ₉₀ = 2.95 P ₉₉ = 5.17					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	5.2	4.4	6.4	5.7	A	3.2	2.8	3.0	2.1	2.1	2.3	2.1	2.0	2.2	2.3	2.2	2.4	2.7	2.5	2.5	2.2	2.1	3.1	2.8	2.98	6.39	
2-Sep	2.7	4.6	4.7	A	2.6	4.2	4.8	3.1	2.1	2.1	2.2	2.0	2.0	2.0	1.9	2.0	2.0	1.9	1.9	1.9	2.0	1.9	2.0	2.4	2.55	4.78	
3-Sep	2.0	2.0	A	2.1	2.1	2.2	2.3	2.4	2.2	2.2	2.2	2.3	2.3	2.1	2.4	2.1	2.0	1.9	1.9	2.9	5.5	7.1	5.3	2.4	2.69	7.14	
4-Sep	2.7	A	2.3	2.3	2.6	2.5	2.3	2.2	2.0	2.0	2.1	2.0	2.0	2.0	1.9	2.0	2.0	2.0	2.0	2.1	2.1	2.0	2.2	2.2	2.16	2.70	
5-Sep	A	3.8	2.5	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	1.9	1.9	1.9	2.0	2.0	2.0	2.0	1.9	1.9	4.3	4.7	3.8	A	2.42	4.69	
6-Sep	2.4	2.3	2.6	4.6	2.9	2.3	2.6	2.4	2.1	2.1	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.1	2.0	2.1	A	2.1	2.26	4.64	
7-Sep	2.0	2.2	2.0	2.0	2.1	2.1	2.0	2.0	2.1	2.0	2.0	2.1	2.2	2.4	2.3	2.2	2.6	2.2	2.5	2.6	4.6	A	4.7	5.1	2.52	5.13	
8-Sep	4.0	4.1	3.9	4.5	2.4	2.7	2.5	2.7	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	2.0	2.0	2.43	4.52	
9-Sep	2.3	2.0	2.0	2.0	2.1	2.0	2.1	2.2	2.0	1.9	1.9	1.9	2.0	1.9	1.9	1.9	1.9	1.9	1.9	2.0	A	2.1	2.1	2.0	2.3	2.02	2.31
10-Sep	2.0	2.0	3.2	2.3	2.0	2.0	2.0	2.0	2.0	C	C	C	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	3.1	4.8	6.1	3.1	3.2	2.56	6.10
11-Sep	2.2	2.3	2.4	2.2	3.5	4.2	3.2	3.4	2.5	2.1	2.0	2.1	2.0	2.0	2.0	2.1	2.4	A	2.2	1.9	1.9	2.4	2.9	3.8	2.51	4.21	
12-Sep	2.7	2.9	3.5	2.5	2.5	3.8	3.3	3.1	2.5	2.3	2.3	2.1	2.1	2.1	2.2	2.4	A	2.6	2.7	3.1	2.5	3.3	2.7	4.1	2.76	4.11	
13-Sep	4.6	2.3	2.3	4.0	3.1	2.5	3.9	2.2	2.2	2.0	2.0	1.9	1.9	1.9	2.0	A	1.8	1.8	1.8	1.9	1.9	2.2	1.9	1.9	2.35	4.60	
14-Sep	2.1	2.0	2.0	2.0	1.9	2.0	3.8	2.2	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.01	3.75	
15-Sep	1.9	1.9	2.0	2.7	2.7	2.6	2.5	2.7	2.2	2.1	2.2	2.2	2.2	A	2.2	1.9	1.9	1.9	1.9	2.0	1.9	2.0	2.0	2.1	2.17	2.73	
16-Sep	2.1	2.3	2.3	2.0	2.9	2.4	2.5	2.2	2.0	1.9	2.0	2.4	A	2.1	2.1	2.0	2.2	2.2	1.8	1.8	1.8	1.8	1.8	1.8	2.10	2.90	
17-Sep	1.8	1.8	1.8	1.8	1.9	1.9	1.8	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	1.8	1.8	1.8	1.9	1.9	1.9	1.9	1.9	1.9	1.86	1.94	
18-Sep	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	1.9	1.9	2.0	2.4	3.1	2.4	2.4	2.0	2.0	2.03	3.14	
19-Sep	2.9	2.6	2.6	2.5	2.3	2.6	2.5	2.1	2.1	A	2.0	2.0	1.9	1.9	1.9	1.9	1.8	2.0	1.9	1.9	1.9	1.9	2.1	2.0	2.13	2.94	
20-Sep	1.9	2.5	1.9	2.0	2.0	1.9	3.0	2.0	A	1.9	1.9	1.9	2.0	2.0	2.0	1.8	1.8	1.8	1.9	2.4	2.6	2.0	1.9	2.0	2.05	3.02	
21-Sep	2.9	3.0	3.1	2.2	2.7	2.2	2.3	A	2.3	2.2	2.0	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	2.1	2.0	2.14	3.09	
22-Sep	2.0	1.9	2.1	2.2	2.2	2.5	A	2.1	2.2	2.3	1.9	2.0	1.9	1.9	1.9	1.9	1.8	1.9	1.9	2.3	2.4	2.0	1.9	1.9	2.04	2.54	
23-Sep	3.3	3.0	2.7	2.1	2.4	A	2.7	3.3	2.5	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.9	1.9	1.9	1.8	1.9	2.16	3.33	
24-Sep	1.9	1.9	1.9	2.0	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	3.5	1.9	1.96	3.53		
25-Sep	1.9	1.9	2.0	A	2.1	2.1	2.1	2.1	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	1.96	2.11	
26-Sep	2.0	2.1	A	2.7	2.1	2.4	2.9	2.7	2.2	2.1	2.1	2.0	2.0	1.9	1.9	1.9	2.0	1.9	1.9	1.9	2.3	2.9	2.2	2.0	2.19	2.92	
27-Sep	2.6	A	3.8	2.4	2.7	2.5	2.6	2.5	2.5	2.4	2.1	1.9	1.8	1.9	1.9	1.9	1.8	1.9	1.9	1.9	1.9	1.9	2.0	1.9	2.19	3.76	
28-Sep	A	2.3	3.2	4.0	3.5	2.7	2.0	2.5	2.2	1.9	1.9	1.9	1.9	1.9	1.8	1.9	1.8	1.9	1.9	1.9	1.9	1.8	1.8	A	2.21	4.01	
29-Sep	3.0	3.3	2.1	2.0	2.1	3.3	4.7	3.3	3.0	2.1	1.9	1.9	1.9	1.9	1.9	1.9	1.8	2.0	2.3	3.7	3.6	A	2.1	2.50	4.67		
30-Sep	2.0	2.1	2.2	2.0	2.1	2.1	1.9	1.9	2.2	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	1.95	2.19	
2.54 2.56 2.69 2.61 2.41 2.52 2.65 2.40 2.17 2.05 2.01 1.99 1.96 1.95 1.97 1.95 1.96 1.97 1.99 2.15 2.47 2.56 2.45 2.35																									Diurnal Average		
5.19 4.58 6.39 5.75 3.52 4.21 4.78 3.39 3.00 2.43 2.30 2.39 2.25 2.38 2.37 2.36 2.61 2.74 2.65 3.14 5.48 7.14 5.27 5.13																									Diurnal Maximum		
C - Calibration A - Automated Daily Zero Span																											

Hourly Maximums

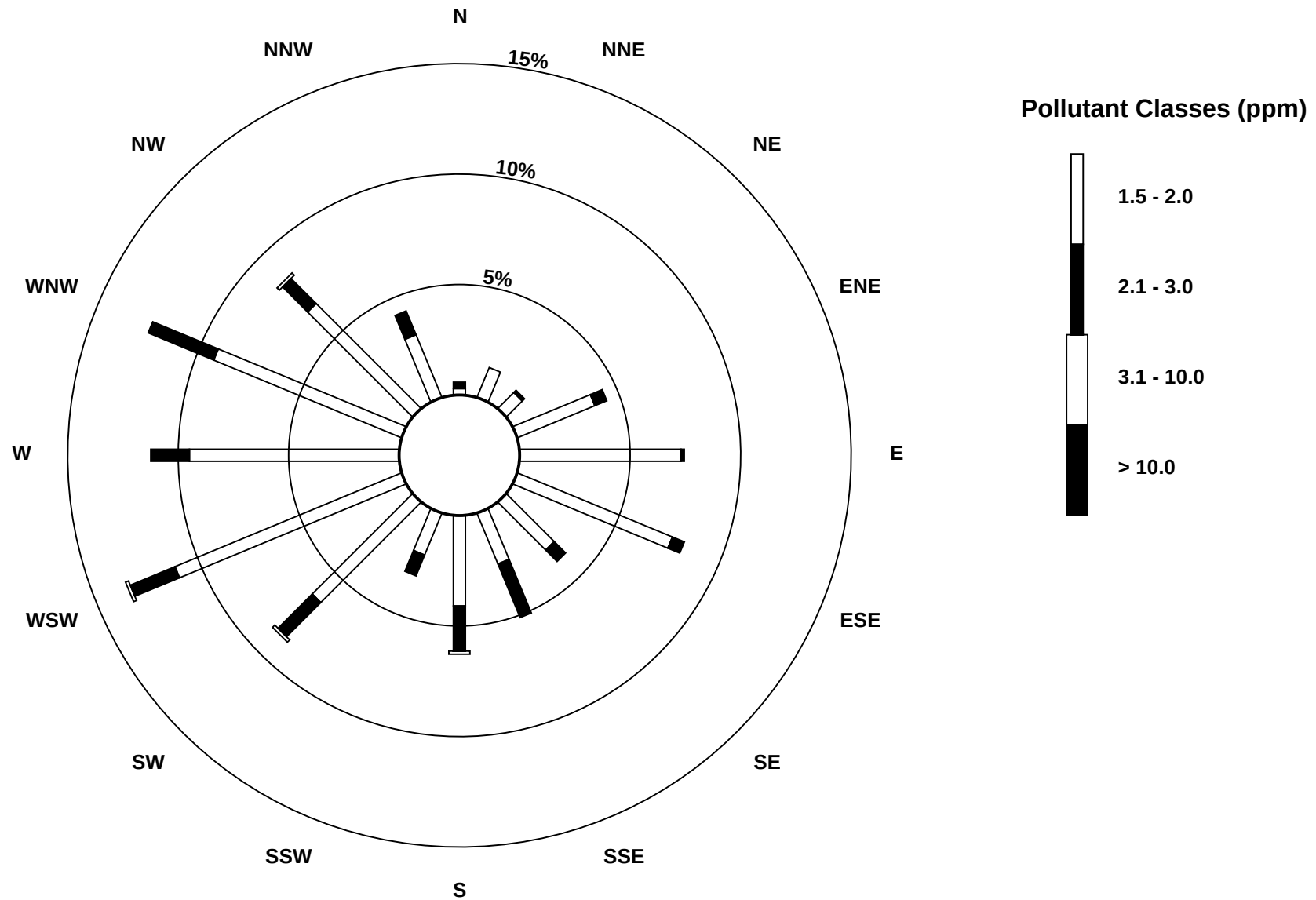
Total Hydrocarbons (THC) - ppm
Henry Pirker - September 2013



Pollutant Rose

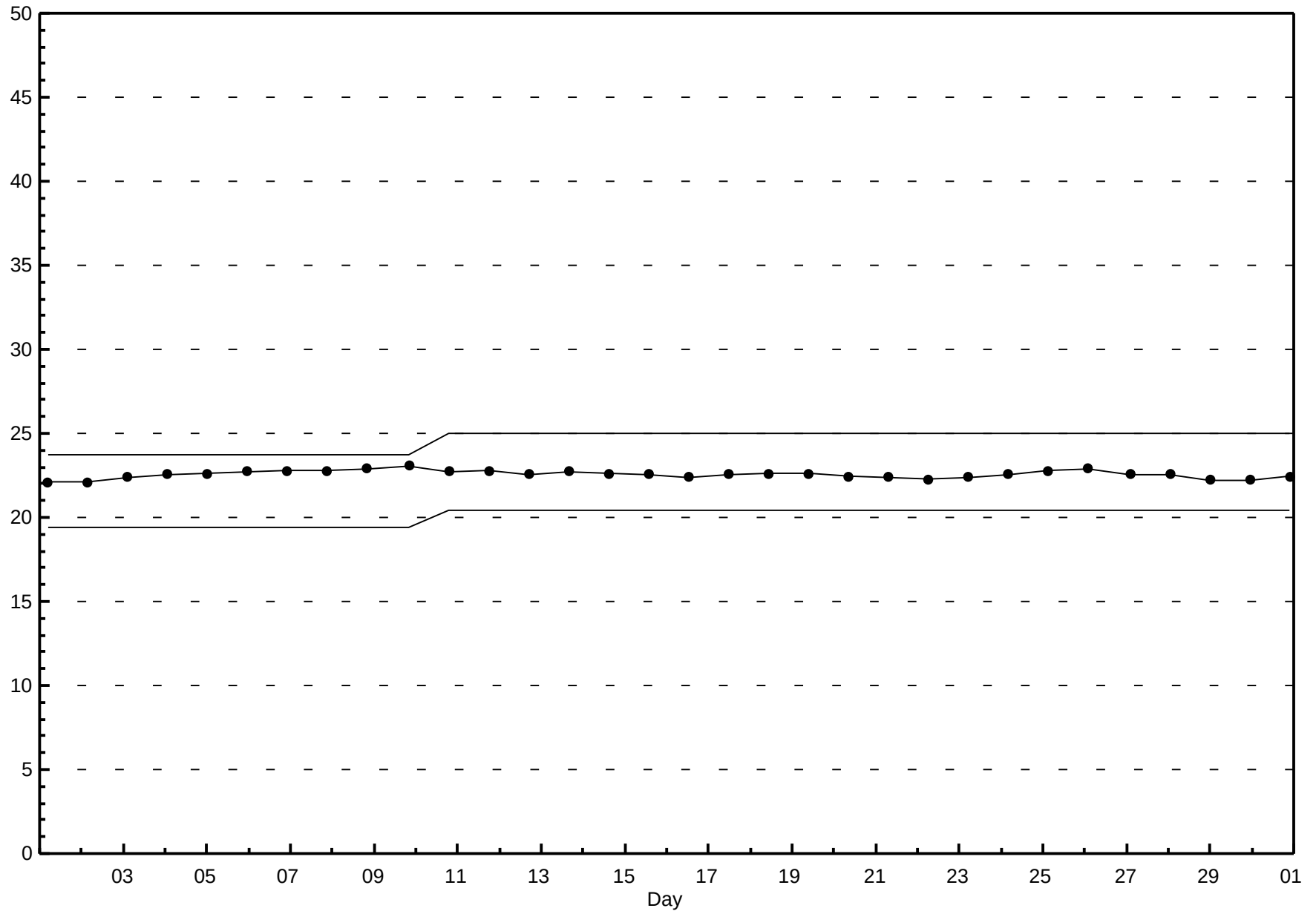
Total Hydrocarbons (THC) - ppm

Henry Pirker - September 2013



Span Responses

Total Hydrocarbons (THC)
Henry Pirker - September 2013



Hourly Averages

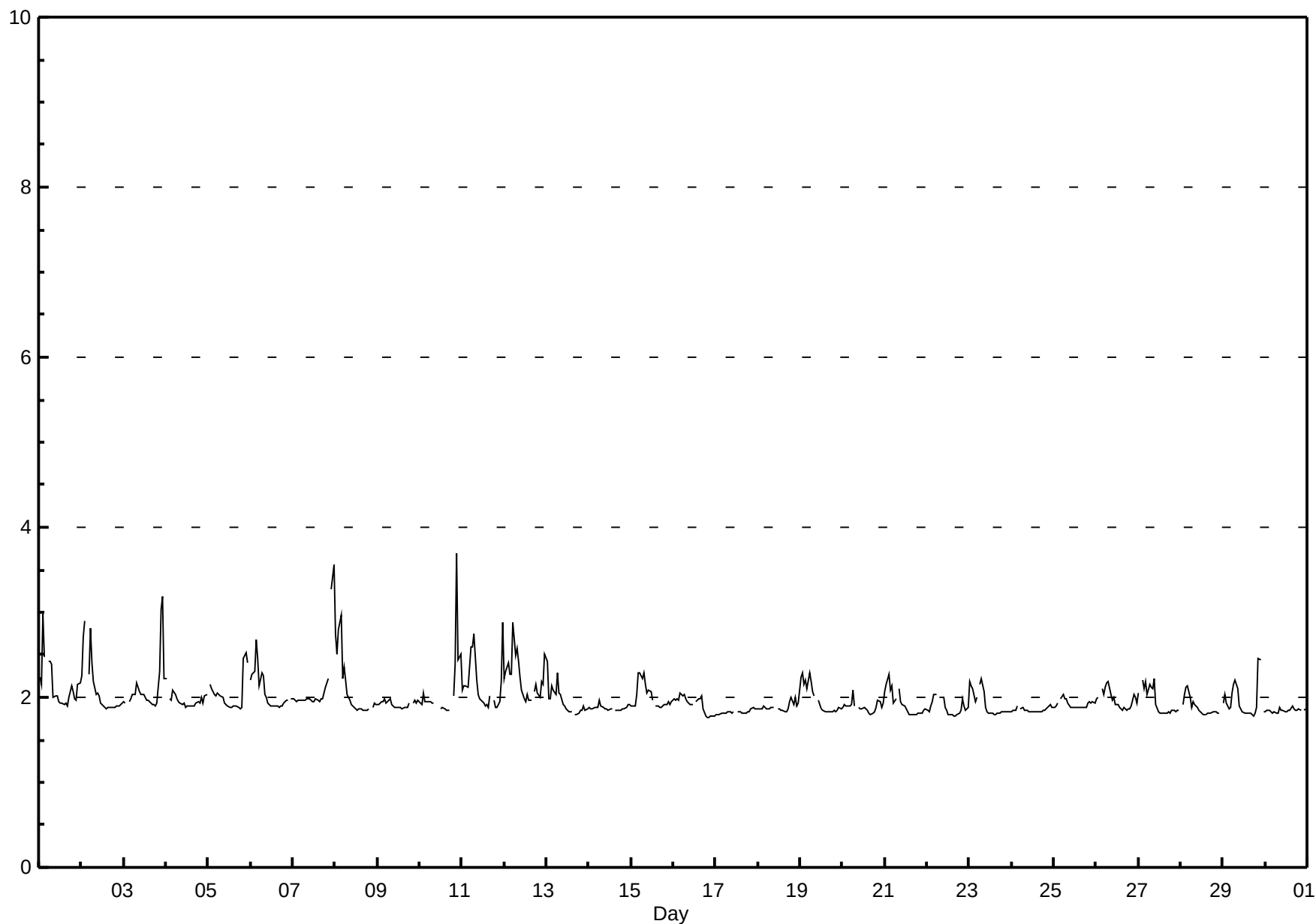
Methane (CH₄) - ppm

Henry Pirker - September 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 3.69 ppm on Sep 10 22:00 Maximum Daily Average: 2.22 ppm on Sep 12																								Hours in Service: 720 Hours of Data: 685 Hours of Missing Data: 35 Hours of Calibration: 35 Percent Operational Time: 100.0			
Minimum Value: 1.8 ppm on Sep 16 21:00 Minimum Daily Average: 1.83 ppm on Sep 17 Maximum Diurnal Average: 2.11 ppm at hour 6 Minimum Diurnal Average: 1.86 ppm at hour 17 Monthly Average: 1.981 ppm Percentiles: P ₁ = 1.78 P ₁₀ = 1.82 Q ₁ = 1.86 Median = 1.91 Q ₃ = 2.02 P ₉₀ = 2.22 P ₉₉ = 2.97																											
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
1-Sep	2.2	2.2	3.0	2.5	A	2.4	2.4	2.4	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	2.0	2.1	2.1	2.0	2.0	2.2	2.2	2.14	2.99	
2-Sep	2.3	2.7	2.9	A	2.3	2.8	2.4	2.2	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.10	2.90	
3-Sep	1.9	1.9	A	1.9	2.0	2.0	2.0	2.2	2.1	2.1	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	2.3	3.0	3.2	2.2	2.11	3.18	
4-Sep	2.2	A	2.0	2.0	2.1	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	1.9	2.0	1.9	2.0	2.0	1.96	2.23	
5-Sep	A	2.2	2.1	2.0	2.0	2.1	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.5	2.5	2.4	A	2.03	2.53	
6-Sep	2.2	2.3	2.3	2.7	2.5	2.1	2.3	2.2	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	A	2.0	2.07	2.67	
7-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	1.9	2.0	2.0	2.0	2.0	2.0	2.1	2.2	2.2	A	3.3	3.6	2.12	3.56	
8-Sep	2.7	2.5	2.8	3.0	2.2	2.4	2.2	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.8	1.9	A	1.9	1.9	1.9	2.09	2.97	
9-Sep	1.9	1.9	1.9	2.0	2.0	1.9	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	2.0	1.9	2.0	1.92	1.98	
10-Sep	1.9	1.9	2.1	1.9	1.9	1.9	1.9	1.9	1.9	C	C	C	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	2.0	2.4	3.7	2.4	2.5	2.09	3.69
11-Sep	2.1	2.1	2.1	2.1	2.4	2.6	2.6	2.7	2.2	2.0	2.0	2.0	1.9	1.9	1.9	1.9	2.0	A	2.0	1.9	1.9	1.9	2.2	2.9	2.14	2.88	
12-Sep	2.2	2.3	2.4	2.3	2.3	2.9	2.5	2.6	2.4	2.2	2.1	2.0	2.0	2.0	2.0	2.0	A	2.1	2.1	2.0	2.0	2.2	2.1	2.5	2.22	2.88	
13-Sep	2.4	2.0	2.0	2.1	2.1	2.0	2.3	2.1	2.0	1.9	1.9	1.9	1.8	1.8	1.8	A	1.8	1.8	1.8	1.8	1.9	1.9	1.8	1.9	1.95	2.43	
14-Sep	1.9	1.9	1.9	1.9	1.9	1.9	2.0	1.9	1.9	1.9	1.9	1.8	1.9	1.9	A	1.8	1.8	1.8	1.8	1.9	1.9	1.9	1.9	1.9	1.87	1.97	
15-Sep	1.9	1.9	1.9	2.0	2.3	2.3	2.2	2.3	2.2	2.0	2.1	2.1	2.0	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.01	2.29	
16-Sep	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	A	2.0	2.0	2.0	2.0	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.92	2.05	
17-Sep	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	A	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.9	1.9	1.9	1.83	1.88	
18-Sep	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	1.8	1.8	1.8	1.8	1.9	1.9	2.0	1.9	1.9	1.9	1.89	2.00	
19-Sep	2.2	2.3	2.2	2.2	2.1	2.3	2.2	2.1	2.0	A	2.0	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.9	1.98	2.29	
20-Sep	1.9	1.9	1.9	1.9	1.9	1.9	2.1	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.9	2.0	1.9	1.9	1.89	2.08	
21-Sep	2.1	2.1	2.3	2.1	2.1	1.9	2.0	A	2.1	2.0	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.93	2.26	
22-Sep	1.8	1.8	1.9	1.9	2.0	2.0	A	2.0	2.0	2.0	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	2.0	1.9	1.9	1.9	1.88	2.04	
23-Sep	2.2	2.1	2.1	1.9	2.0	A	2.2	2.2	2.1	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.92	2.22	
24-Sep	1.8	1.8	1.8	1.9	A	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.9	1.9	1.9	1.9	1.85	1.91	
25-Sep	1.9	1.9	1.9	A	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.92	2.03	
26-Sep	2.0	2.0	A	2.1	2.0	2.1	2.2	2.2	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.8	1.9	1.8	1.9	1.9	1.9	2.0	2.0	1.9	1.97	2.18	
27-Sep	2.1	A	2.2	2.1	2.2	2.0	2.1	2.1	2.2	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.95	2.22	
28-Sep	A	1.9	2.0	2.1	2.1	2.0	1.9	2.0	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	A	1.89	2.13	
29-Sep	1.9	2.0	1.9	1.9	1.9	2.0	2.2	2.2	2.1	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	2.5	2.4	A	1.8	1.96	2.46	
30-Sep	1.8	1.8	1.9	1.8	1.8	1.8	1.8	1.8	1.9	1.8	1.8	1.8	1.8	1.8	1.9	1.9	1.9	1.9	1.9	1.9	A	1.8	1.9	1.9	1.85	1.90	
2.05 2.04 2.11 2.07 2.06 2.11 2.10 2.08 2.01 1.95 1.92 1.90 1.88 1.87 1.87 1.87 1.86 1.87 1.89 1.90 1.98 2.06 2.05 2.06																								Diurnal Average			
2.75 2.71 2.99 2.97 2.46 2.88 2.59 2.74 2.42 2.23 2.09 2.07 2.00 2.03 1.98 1.98 2.01 2.07 2.15 2.18 2.46 3.69 3.26 3.56																								Diurnal Maximum			
C - Calibration A - Automated Daily Zero Span																											

Hourly Averages

Methane (CH₄) - ppm
Henry Pirker - September 2013



Hourly Maximums

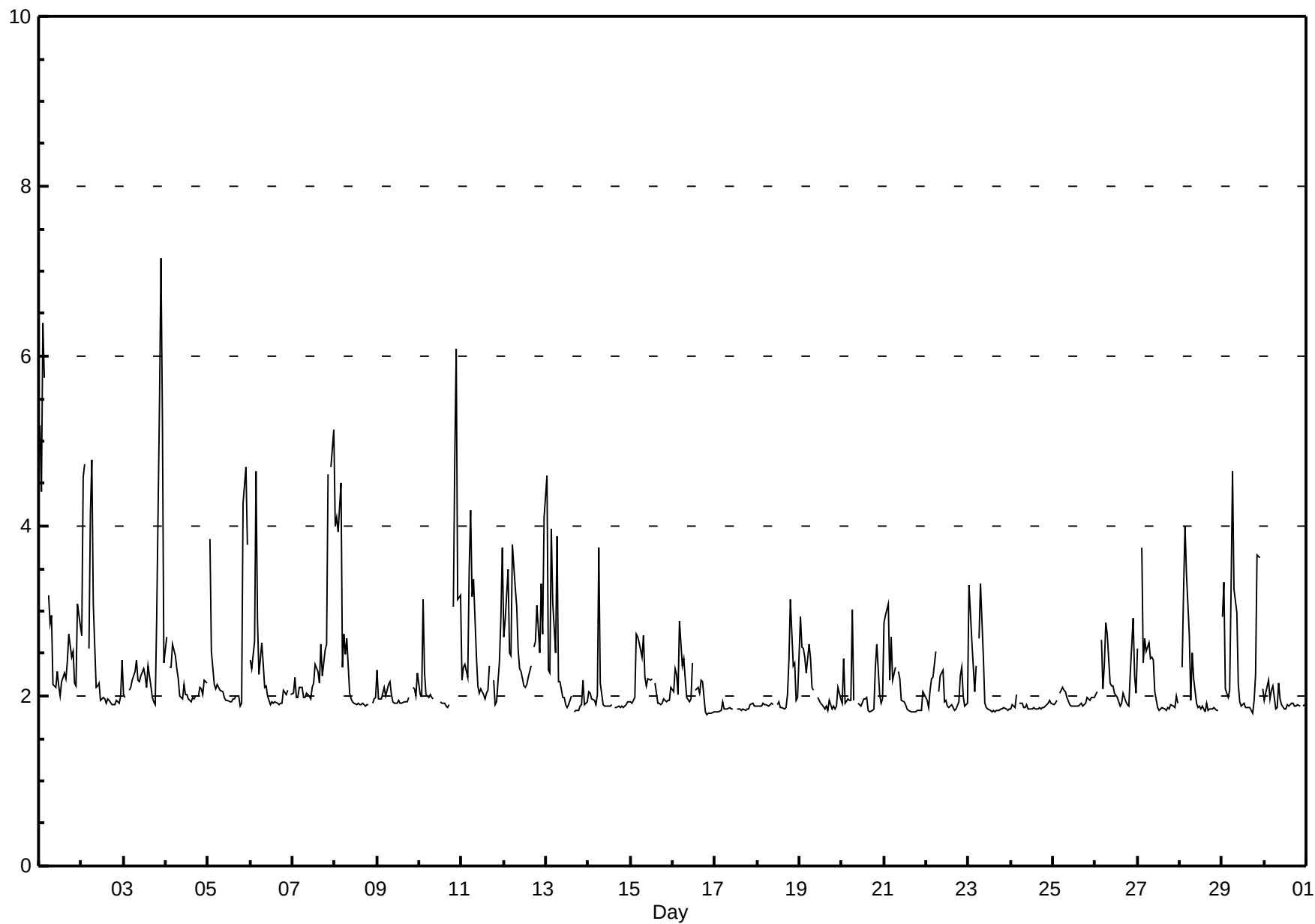
Methane (CH₄) - ppm

Henry Pirker - September 2013

Maximum Value: 7.15 ppm on Sep 3 22:00																					Maximum Daily Average: 2.97 ppm on Sep 1					Hours in Service: 720	
Minimum Value: 1.8 ppm on Sep 16 20:00																					Minimum Daily Average: 1.85 ppm on Sep 17					Hours of Data: 685	
Maximum Diurnal Average: 2.68 ppm at hour 3																					Minimum Diurnal Average: 1.94 ppm at hour 16					Hours of Missing Data: 35	
Monthly Average: 2.251 ppm																					Percentiles: P ₁ = 1.80 P ₁₀ = 1.85 Q ₁ = 1.90 Median = 1.99 Q ₃ = 2.30 P ₉₀ = 2.94 P ₉₉ = 5.16					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	5.2	4.4	6.4	5.7	A	3.2	2.8	3.0	2.1	2.1	2.3	2.1	2.0	2.2	2.3	2.2	2.4	2.7	2.5	2.5	2.1	2.1	3.1	2.8	2.97	6.39	
2-Sep	2.7	4.6	4.7	A	2.6	4.2	4.8	3.1	2.1	2.1	2.2	2.0	2.0	2.0	1.9	2.0	2.0	1.9	1.9	1.9	2.0	1.9	2.0	2.4	2.55	4.78	
3-Sep	2.0	2.0	A	2.1	2.1	2.2	2.3	2.4	2.2	2.2	2.2	2.3	2.2	2.1	2.4	2.1	2.0	1.9	1.9	2.9	5.5	7.1	5.3	2.4	2.69	7.15	
4-Sep	2.7	A	2.3	2.3	2.6	2.5	2.3	2.2	2.0	2.0	2.1	2.0	2.0	2.0	1.9	2.0	2.0	2.0	2.0	2.1	2.1	2.0	2.2	2.2	2.15	2.69	
5-Sep	A	3.9	2.5	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	1.9	1.9	1.9	2.0	2.0	2.0	2.0	1.9	1.9	4.3	4.7	3.8	A	2.42	4.69	
6-Sep	2.4	2.3	2.6	4.6	2.9	2.2	2.6	2.4	2.1	2.1	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.1	2.0	2.1	A	2.0	2.25	4.64	
7-Sep	2.0	2.2	2.0	2.0	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.1	2.2	2.4	2.3	2.1	2.6	2.2	2.5	2.6	4.6	A	4.7	5.1	2.52	5.13	
8-Sep	4.0	4.1	3.9	4.5	2.3	2.7	2.5	2.7	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	2.0	2.0	2.42	4.52	
9-Sep	2.3	2.0	2.0	2.0	2.1	2.0	2.1	2.2	2.0	1.9	1.9	1.9	2.0	1.9	1.9	1.9	1.9	1.9	2.0	A	2.1	2.1	2.0	2.3	2.02	2.31	
10-Sep	2.0	2.0	3.1	2.3	2.0	2.0	2.0	2.0	2.0	C	C	C	1.9	1.9	1.9	1.9	1.9	1.9	A	3.1	4.8	6.1	3.1	3.2	2.55	6.08	
11-Sep	2.2	2.3	2.4	2.2	3.5	4.2	3.2	3.4	2.5	2.1	2.0	2.1	2.0	2.0	2.0	2.1	2.4	A	2.2	1.9	1.9	2.4	2.9	3.7	2.50	4.19	
12-Sep	2.7	2.9	3.5	2.5	2.5	3.8	3.3	3.0	2.5	2.3	2.3	2.1	2.1	2.1	2.2	2.3	A	2.6	2.6	3.1	2.5	3.3	2.7	4.1	2.75	4.10	
13-Sep	4.6	2.3	2.3	4.0	3.1	2.5	3.9	2.2	2.2	2.0	2.0	1.9	1.9	1.9	2.0	A	1.8	1.8	1.8	1.9	1.9	2.2	1.9	1.9	2.34	4.59	
14-Sep	2.0	2.0	2.0	1.9	1.9	2.0	3.7	2.1	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.01	3.74	
15-Sep	1.9	1.9	2.0	2.7	2.7	2.6	2.5	2.7	2.2	2.1	2.2	2.2	2.2	A	2.2	1.9	1.9	1.9	1.9	2.0	1.9	2.0	2.0	2.1	2.16	2.73	
16-Sep	2.1	2.3	2.3	2.0	2.9	2.4	2.4	2.2	2.0	1.9	2.0	2.4	A	2.1	2.1	2.0	2.2	2.2	1.8	1.8	1.8	1.8	1.8	1.8	2.09	2.88	
17-Sep	1.8	1.8	1.8	1.8	1.9	1.8	1.8	1.8	1.9	1.8	1.8	A	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.8	1.9	1.9	1.9	1.9	1.85	1.94	
18-Sep	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	A	1.9	1.9	1.9	1.9	1.9	2.0	2.4	3.1	2.4	2.4	1.9	2.0	2.02	3.13	
19-Sep	2.9	2.6	2.6	2.5	2.3	2.6	2.4	2.1	2.1	A	2.0	2.0	1.9	1.9	1.9	1.9	1.8	2.0	1.9	1.9	1.9	1.9	2.1	2.0	2.12	2.94	
20-Sep	1.9	2.4	1.9	2.0	1.9	1.9	3.0	2.0	A	1.9	1.9	1.9	2.0	2.0	2.0	1.8	1.8	1.8	1.8	2.3	2.6	2.0	1.9	2.0	2.04	3.02	
21-Sep	2.9	2.9	3.1	2.2	2.7	2.2	2.3	A	2.3	2.2	2.0	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	2.0	2.0	2.13	3.08		
22-Sep	2.0	1.9	2.1	2.2	2.2	2.5	A	2.0	2.2	2.3	1.9	2.0	1.9	1.9	1.9	1.9	1.8	1.8	1.9	2.2	2.3	2.0	1.9	1.9	2.03	2.52	
23-Sep	3.3	3.0	2.7	2.1	2.4	A	2.7	3.3	2.5	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.8	1.8	1.8	2.15	3.31	
24-Sep	1.9	1.9	1.9	2.0	A	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.8	1.9	1.8	1.8	1.9	1.8	1.9	1.9	1.9	2.0	1.9	1.88	2.01		
25-Sep	1.9	1.9	1.9	A	2.0	2.1	2.1	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	1.95	2.10		
26-Sep	2.0	2.1	A	2.7	2.1	2.4	2.9	2.7	2.1	2.1	2.1	2.0	2.0	1.9	1.9	1.9	2.0	1.9	1.9	1.9	2.3	2.9	2.2	2.0	2.18	2.91	
27-Sep	2.6	A	3.7	2.4	2.7	2.5	2.6	2.4	2.5	2.4	2.0	1.9	1.8	1.8	1.9	1.9	1.8	1.9	1.8	1.9	1.9	1.9	2.0	1.9	2.18	3.75	
28-Sep	A	2.3	3.2	4.0	3.4	2.7	2.0	2.5	2.2	1.9	1.9	1.9	1.8	1.9	1.8	1.9	1.8	1.8	1.8	1.9	1.8	1.8	1.8	A	2.20	4.00	
29-Sep	2.9	3.3	2.1	2.0	2.1	3.3	4.6	3.2	3.0	2.1	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	2.0	2.2	3.7	3.6	A	2.1	2.49	4.65	
30-Sep	1.9	2.0	2.2	2.0	2.1	2.1	1.9	1.9	2.1	2.0	1.9	1.8	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	1.94	2.18	
2.53 2.55 2.68 2.60 2.40 2.51 2.64 2.39 2.16 2.04 2.00 1.98 1.95 1.95 1.97 1.94 1.96 1.96 1.98 2.14 2.47 2.56 2.39 2.34																									Diurnal Average		
5.19 4.58 6.39 5.75 3.49 4.19 4.78 3.38 2.99 2.42 2.29 2.38 2.24 2.38 2.36 2.35 2.61 2.73 2.65 3.13 5.47 7.15 5.26 5.13																									Diurnal Maximum		
C - Calibration																									A - Automated Daily Zero Span		

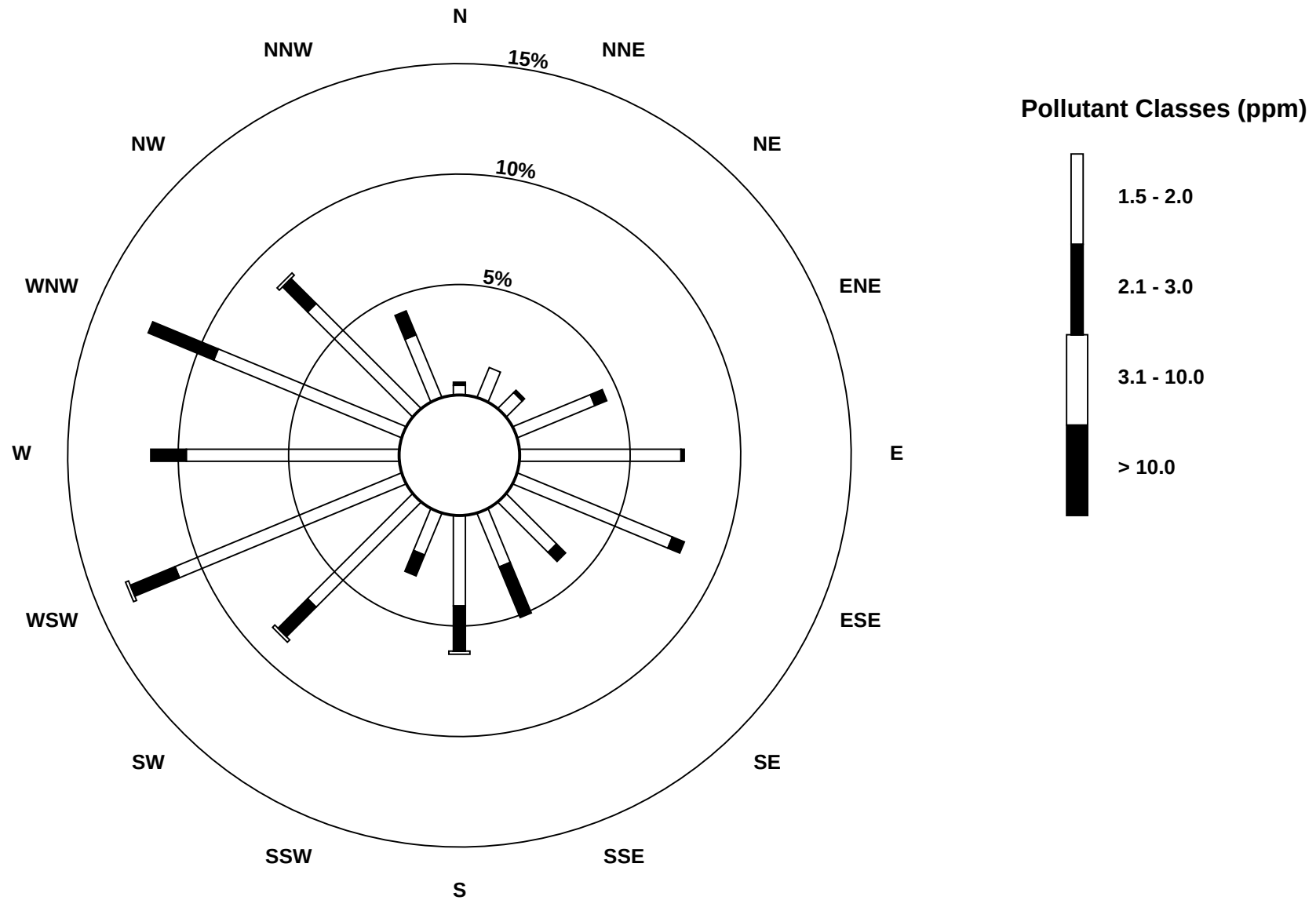
Hourly Maximums

Methane (CH₄) - ppm
Henry Pirker - September 2013



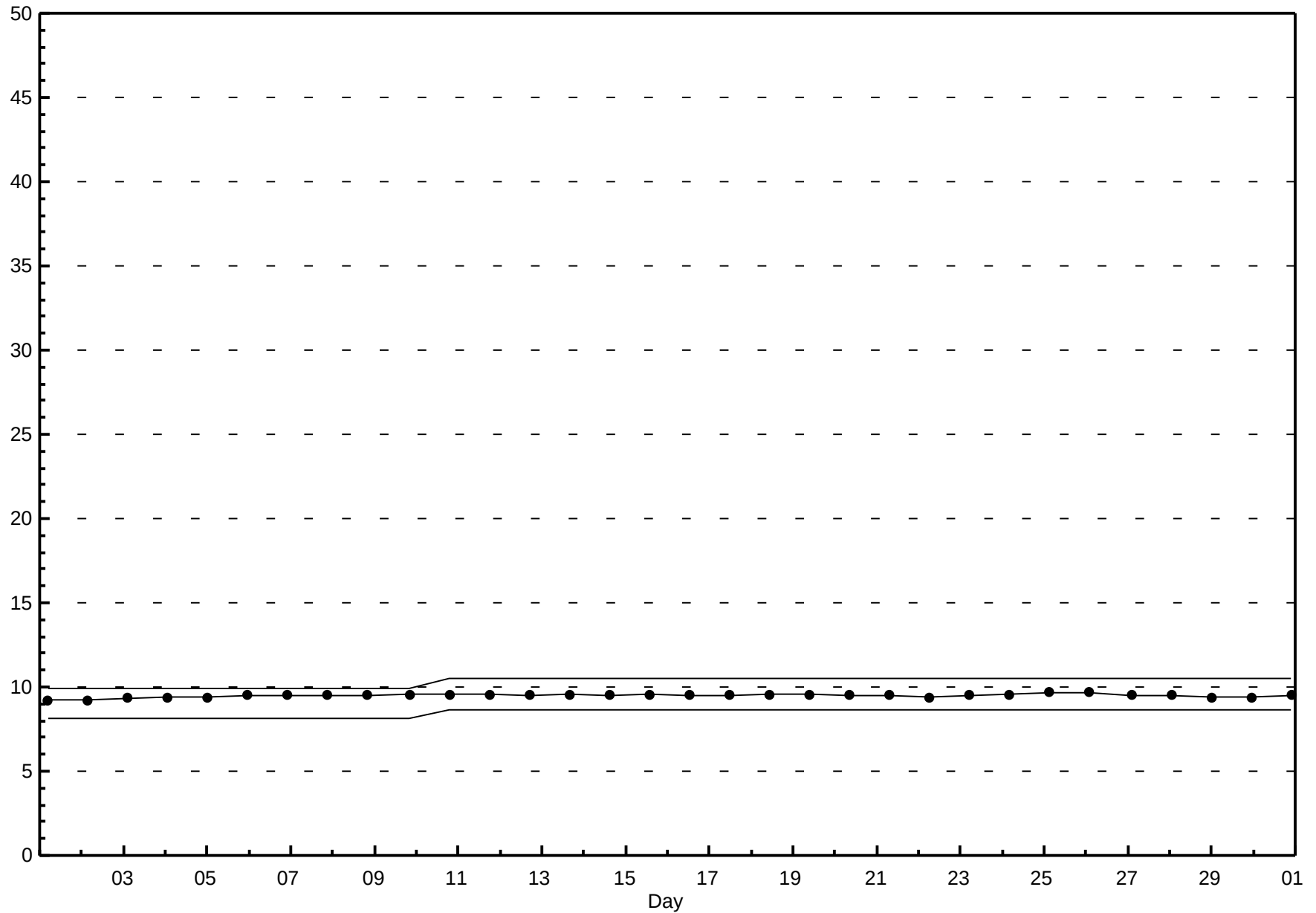
Pollutant Rose

Methane (CH₄) - ppm
Henry Pirker - September 2013



Span Responses

Methane (CH₄)
Henry Pirker - September 2013

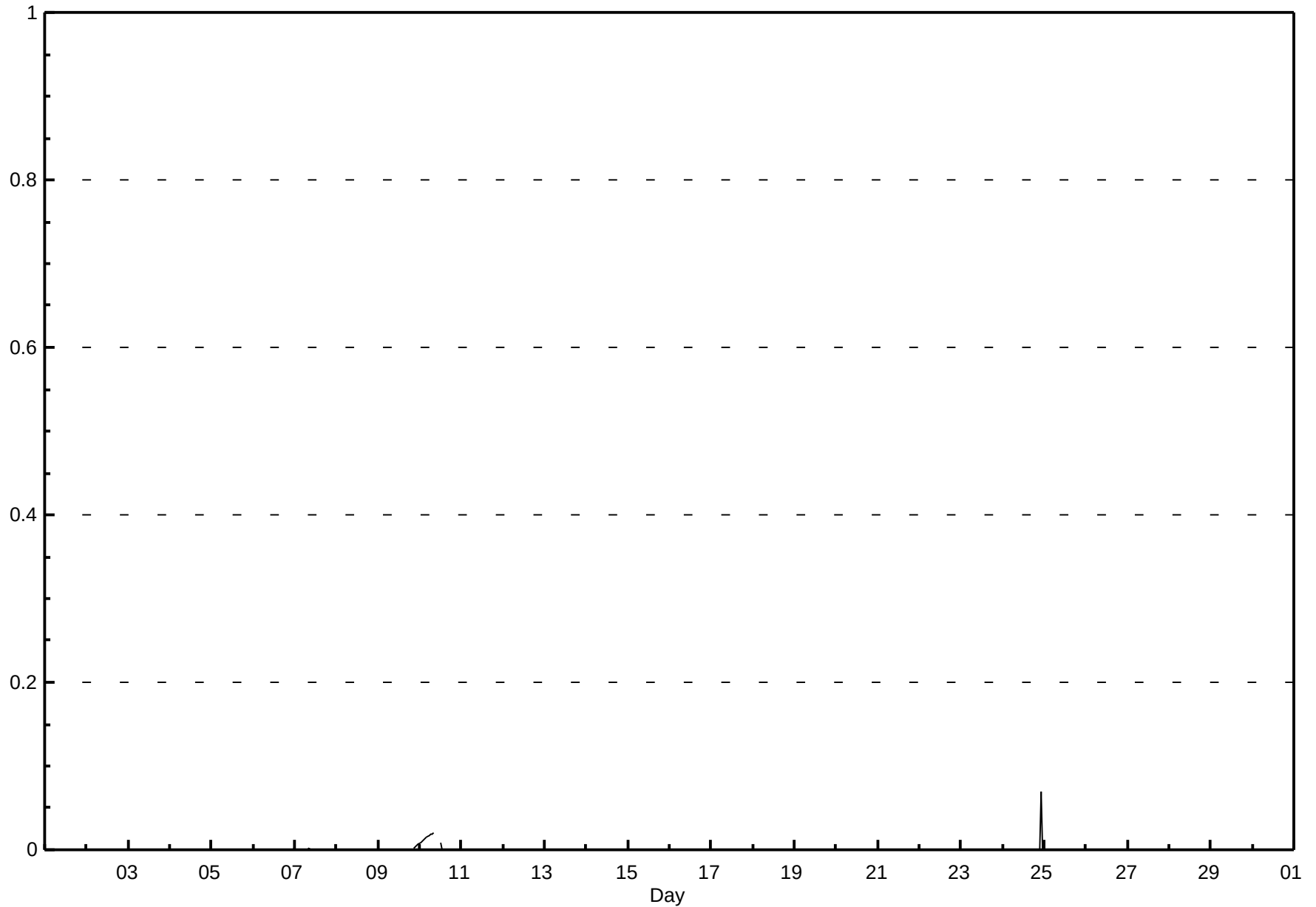


Hourly Averages

Non Methane Hydrocarbon (NMHC) - ppm

Henry Pirker - September 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 0.07 ppm on Sep 24 23:00 Maximum Daily Average: 0.01 ppm on Sep 10																								Hours in Service: 720 Hours of Data: 685 Hours of Missing Data: 35 Hours of Calibration: 35 Percent Operational Time: 100.0		
Minimum Value: 0.0 ppm on Sep 1 01:00 Maximum Diurnal Average: 0.00 ppm at hour 23 Monthly Average: 0.000 ppm												Minimum Daily Average: 0.00 ppm on Sep 2 Minimum Diurnal Average: 0.00 ppm at hour 16 Percentiles: P ₁ = 0.00 P ₁₀ = 0.00 Q ₁ = 0.00 Median = 0.00 Q ₃ = 0.00 P ₉₀ = 0.00 P ₉₉ = 0.01														
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
2-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
4-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
5-Sep	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.00	0.00
6-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.00	0.00
7-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.00	0.00
8-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	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.00	0.00
9-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	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.00	0.01
10-Sep	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	C	C	C	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.01	0.02
11-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	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
12-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	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
13-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	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
14-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	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
15-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	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
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	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
17-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
18-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
19-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
20-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
21-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
22-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
23-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
24-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.00	0.07
25-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
26-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
27-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
28-Sep	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.00	0.00
29-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.00	0.00
30-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.00	0.00
0.00 0.00																								Diurnal Average		
0.01 0.01 0.01 0.01 0.01 0.02 0.02 0.02 0.02 0.00 0.00 0.00 0.01 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.07 0.01																								Diurnal Maximum		
C - Calibration A - Automated Daily Zero Span																										



Hourly Maximums

Non Methane Hydrocarbon (NMHC) - ppm

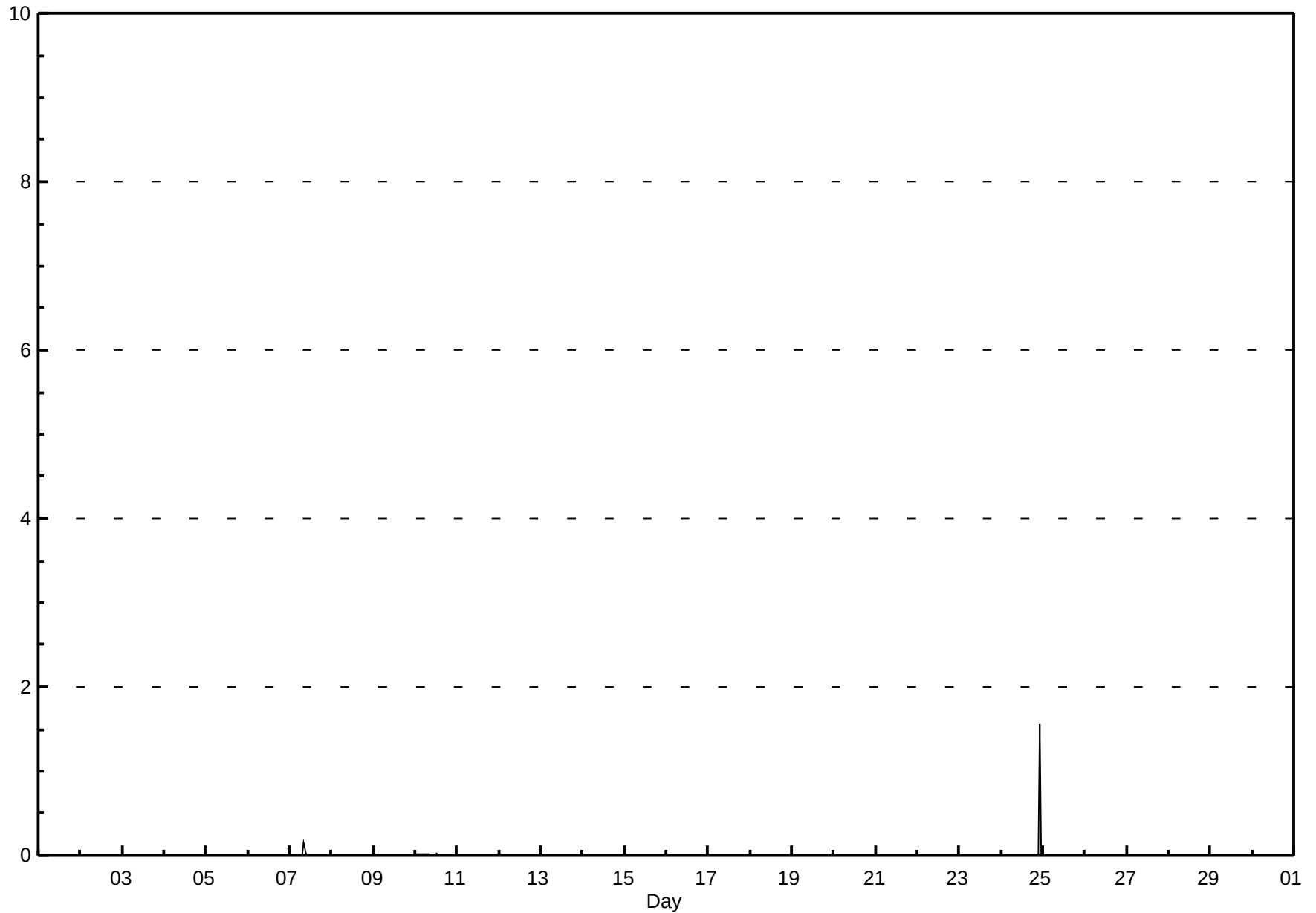
Henry Pirker - September 2013

Maximum Value: 1.56 ppm on Sep 24 23:00																					Maximum Daily Average: 0.07 ppm on Sep 24					Hours in Service: 720	
Minimum Value: 0.0 ppm on Sep 10 14:00																					Minimum Daily Average: 0.00 ppm on Sep 2					Hours of Data: 685	
Maximum Diurnal Average: 0.06 ppm at hour 23																					Minimum Diurnal Average: 0.00 ppm at hour 15					Hours of Missing Data: 35	
Monthly Average: 0.004 ppm																					Percentiles: P ₁ = 0.00 P ₁₀ = 0.00 Q ₁ = 0.00 Median = 0.00 Q ₃ = 0.00 P ₉₀ = 0.00 P ₉₉ = 0.02					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	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	
2-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	
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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	
4-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	
5-Sep	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.00	0.00	
6-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.1	0.00	0.08	
7-Sep	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.01	0.15	
8-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	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.00	0.00	
9-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	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.00	0.01	
10-Sep	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	C	C	C	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.01	0.03	
11-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	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	
12-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	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	
13-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	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	
14-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	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	
15-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	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	
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	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	
17-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	
18-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	
19-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	
20-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	
21-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	
22-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	
23-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	
24-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	0.0	0.07	1.56	
25-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	
26-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	
27-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	
28-Sep	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.00	0.00	
29-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.00	0.00	
30-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.00	0.00	
0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.01 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00																									Diurnal Average		
0.01 0.01 0.01 0.01 0.02 0.02 0.02 0.02 0.15 0.00 0.00 0.00 0.03 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.01 1.56 0.08																									Diurnal Maximum		
C - Calibration A - Automated Daily Zero Span																											

Hourly Maximums

Non Methane Hydrocarbon (NMHC) - ppm

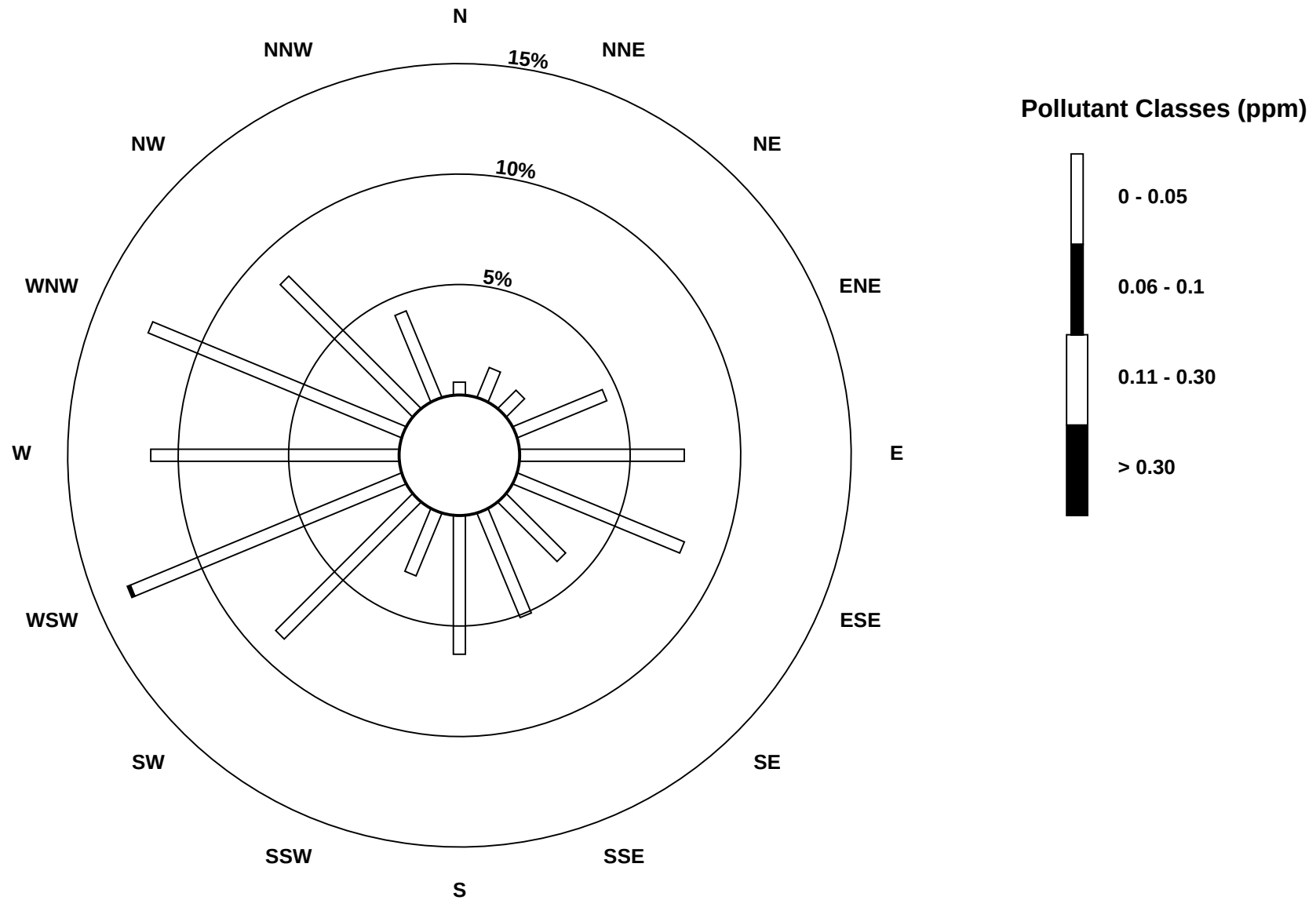
Henry Pirker - September 2013

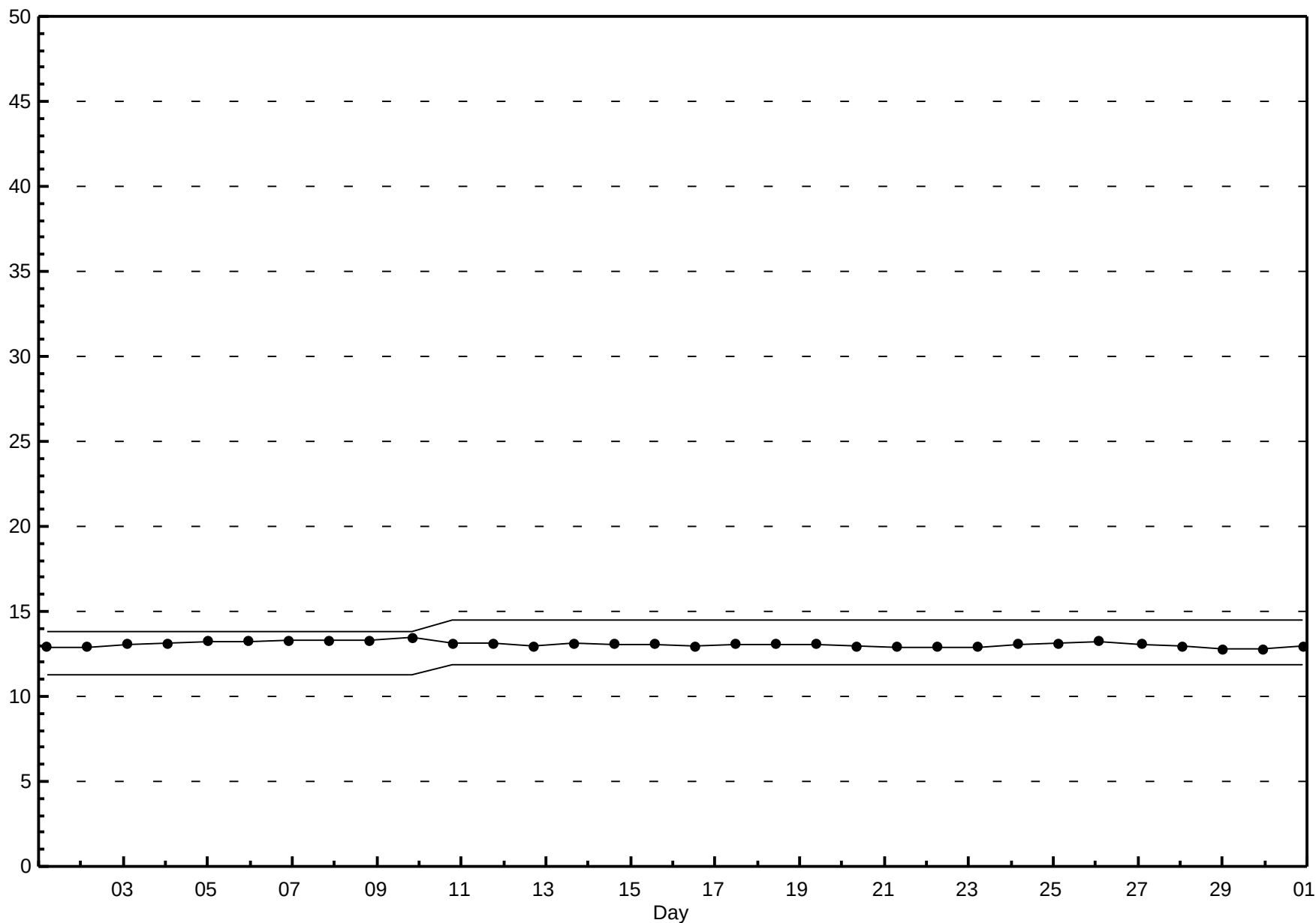


Pollutant Rose

Non Methane Hydrocarbon (NMHC) - ppm

Henry Pirker - September 2013



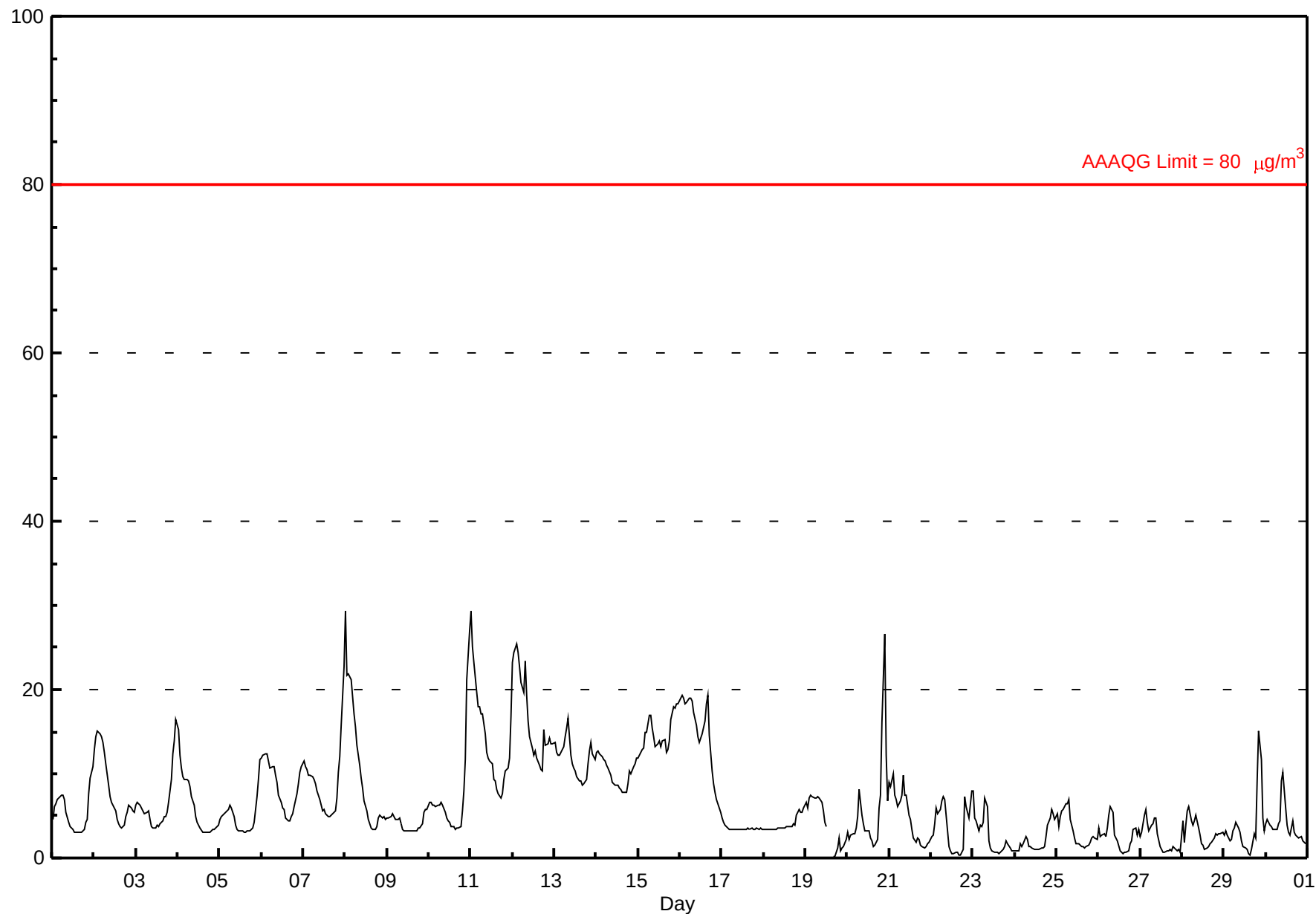


Hourly Averages

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

Henry Pirker - September 2013

Number of Exceedences: 1-hr: 0 24-hr: 0 Maximum Value: 29.4 µg/m ³ on Sep 8 01:00 Maximum Daily Average: 16.6 µg/m ³ on Sep 12																								Hours in Service: 720 Hours of Data: 717 Hours of Missing Data: 3 Hours of Calibration: 3 Percent Operational Time: 100.0		
Minimum Value: 0 µg/m ³ on Sep 19 17:00 Maximum Diurnal Average: 9.3 µg/m ³ at hour 1 Monthly Average: 6.73 µg/m ³ Minimum Daily Average: 2.1 µg/m ³ on Sep 24 Minimum Diurnal Average: 4.2 µg/m ³ at hour 17 Percentiles: P ₁ = 0.6 P ₁₀ = 1.4 Q ₁ = 3.2 Median = 4.9 Q ₃ = 9.4 P ₉₀ = 14.4 P ₉₉ = 24.0																										
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	6	7	7	7	7	7	7	5	4	4	4	3	3	3	3	3	3	3	4	5	8	9	11	5.4	10.8
2-Sep	13	14	15	15	14	14	13	11	9	7	7	6	6	5	4	4	4	4	5	5	6	6	6	6	8.2	15.0
3-Sep	6	7	6	6	6	5	5	6	5	4	4	4	4	4	4	4	5	5	5	7	9	12	14	16	6.3	16.5
4-Sep	15	12	11	10	9	9	9	9	7	6	5	4	4	4	3	3	3	3	3	3	3	3	4	4	6.1	15.2
5-Sep	5	5	5	5	6	6	6	6	5	4	3	3	3	3	3	3	3	3	3	4	4	7	9	12	4.9	11.7
6-Sep	12	12	12	12	12	11	11	11	10	9	8	7	6	6	5	4	4	5	5	6	8	9	10	11	8.5	12.4
7-Sep	12	11	11	10	10	10	9	9	8	7	6	6	6	5	5	5	5	5	6	7	10	12	16	23	8.8	22.8
8-Sep	29	22	22	21	19	17	16	13	11	10	8	7	6	5	4	4	3	3	4	5	5	5	5	5	10.3	29.4
9-Sep	5	5	5	5	5	5	5	5	4	3	3	3	3	3	3	3	3	3	3	4	4	5	6	6	4.2	5.8
10-Sep	7	7	6	6	6	6	6	7	6	5	5	4	4	4	4	3	4	4	4	6	8	12	21	27	7.1	26.9
11-Sep	29	25	23	20	18	18	17	17	15	13	12	11	11	9	9	8	8	7	8	9	10	11	12	17	14.1	29.3
12-Sep	23	24	25	24	23	21	20	23	19	16	14	13	12	13	12	11	11	10	15	13	14	14	14	14	16.6	25.4
13-Sep	14	13	12	12	13	13	14	15	17	12	11	11	10	10	9	9	9	9	9	11	13	14	12	12	11.8	16.6
14-Sep	13	13	12	12	12	11	11	11	10	9	9	9	9	8	8	8	8	8	9	10	10	11	11	12	10.1	12.8
15-Sep	12	12	13	13	15	15	17	17	15	14	13	13	14	13	14	14	13	13	14	17	18	18	18	18	14.7	18.4
16-Sep	19	19	19	18	19	19	19	19	17	16	14	14	14	15	16	18	19	14	10	9	8	7	7	5	14.8	19.4
17-Sep	5	4	4	4	3	3	3	3	3	3	3	3	3	3	3	3	3	4	3	3	4	3	4	3	3.6	4.8
18-Sep	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	4	5	6	5	5	6	4.0	5.9
19-Sep	7	6	7	7	7	7	7	7	7	7	6	4	4	C	C	C	0	0	1	2	1	1	1	2	4.4	7.4
20-Sep	3	2	3	3	3	4	5	8	5	4	3	3	3	2	2	1	2	2	6	8	16	27	12	7	5.6	26.7
21-Sep	9	9	10	7	7	6	7	7	10	7	7	5	5	3	2	2	2	2	1	1	1	1	2	2	4.9	10.0
22-Sep	3	3	4	6	5	6	7	7	7	3	1	1	1	1	1	1	0	0	1	7	6	5	5	8	3.7	8.0
23-Sep	8	5	4	3	4	4	4	7	6	2	1	1	1	1	1	1	1	1	2	2	1	1	1	1	2.6	8.0
24-Sep	1	1	1	2	1	2	3	2	1	1	1	1	1	1	1	1	1	1	2	4	5	6	5	5	2.1	5.8
25-Sep	5	4	5	6	6	6	6	7	5	3	2	2	2	2	1	1	1	1	2	2	3	2	2	2	3.3	7.0
26-Sep	4	3	3	3	3	4	5	6	5	3	2	2	1	1	1	1	1	1	2	2	3	4	3	3	2.6	6.1
27-Sep	3	3	5	6	4	3	4	4	5	5	3	1	1	1	1	1	1	1	1	1	1	1	1	1	2.4	5.8
28-Sep	4	2	4	6	6	4	4	4	5	3	3	2	1	1	1	1	2	2	2	3	3	3	3	3	3.0	6.0
29-Sep	3	3	3	2	2	3	4	4	4	3	2	1	1	1	0	0	1	3	2	9	15	12	5	3	3.6	15.1
30-Sep	4	5	4	4	3	3	3	4	4	9	10	6	4	3	3	4	3	3	2	2	2	2	2	2	3.9	10.1
9.3 8.6 8.8 8.6 8.3 8.2 8.4 8.7 7.8 6.6 5.9 5.2 4.9 4.6 4.4 4.4 4.2 4.2 4.7 5.7 6.7 7.6 7.5 8.2																								Diurnal Average		
29.4 25.2 25.4 24.4 22.6 20.8 19.6 23.4 19.4 16.4 14.4 13.7 14.3 14.7 16.2 18.4 19.4 14.5 15.2 16.5 18.0 26.7 21.2 26.9																								Diurnal Maximum		
C - Calibration Alberta Ambient Air Quality Guideline (AAQG): 1-hr 80 µg/m ³ Alberta Ambient Air Quality Objective (AAQO): 24-hr 30 µg/m ³																										



Hourly Maximums

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

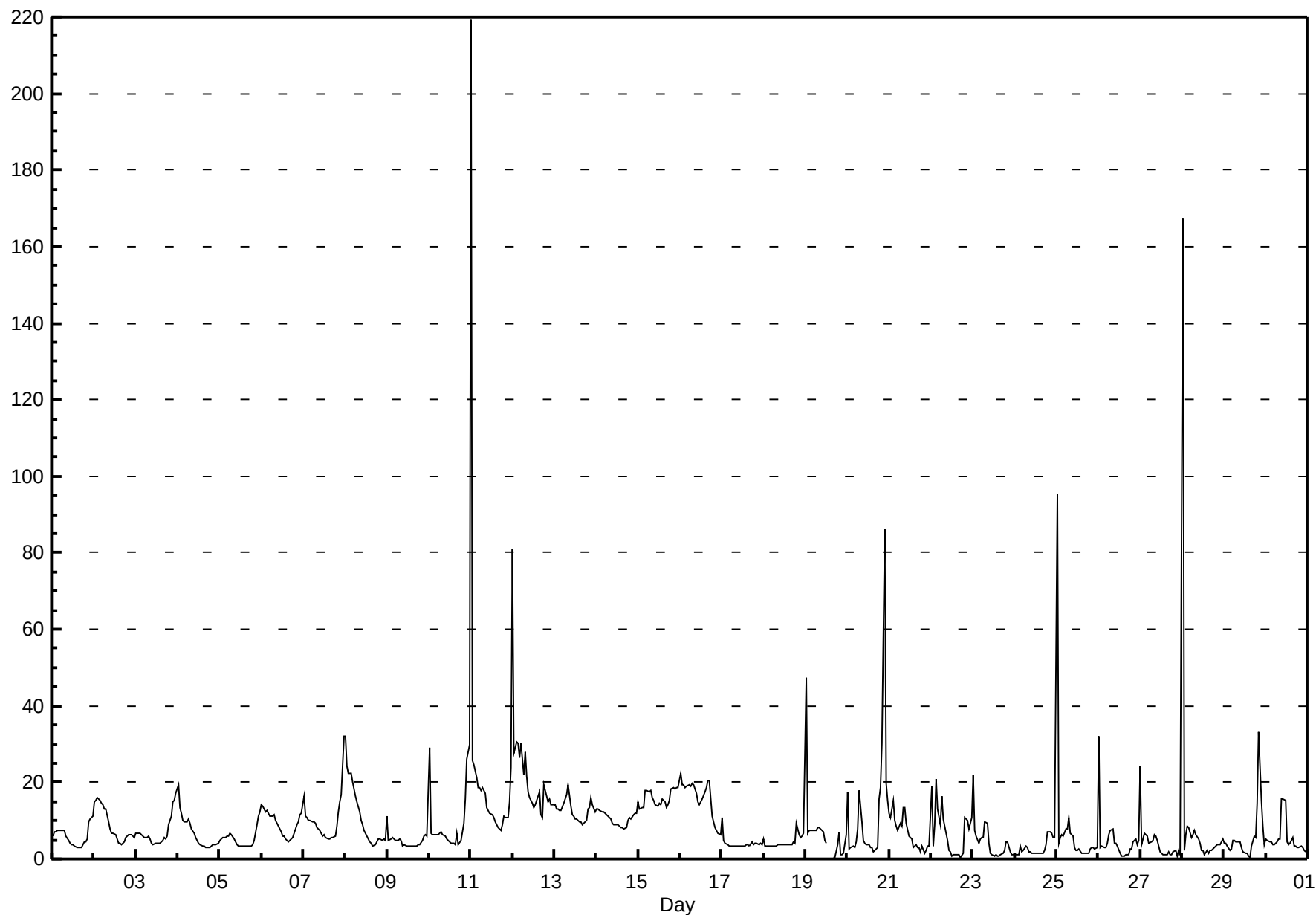
Henry Pirker - September 2013

Maximum Value: 219.4 μg/m³ on Sep 11 01:00																					Maximum Daily Average: 23.2 μg/m³ on Sep 11					Hours in Service: 720	
Minimum Value: 0 μg/m³ on Sep 19 17:00																					Minimum Daily Average: 2.9 μg/m³ on Sep 24					Hours of Data: 717	
Maximum Diurnal Average: 32.8 μg/m³ at hour 1																					Minimum Diurnal Average: 4.8 μg/m³ at hour 17					Hours of Missing Data: 3	
Monthly Average: 8.84 μg/m³																					Percentiles: P ₁ = 0.9 P ₁₀ = 2.1 Q ₁ = 3.6 Median = 5.9 Q ₃ = 11.3 P ₉₀ = 17.3 P ₉₉ = 23.6					Hours of Calibration: 3	
																					Percent Operational Time: 100.0						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Sep	6	7	7	8	8	8	8	7	6	5	4	4	4	3	3	3	3	3	4	4	5	10	10	11	5.9	11.2	
2-Sep	15	15	16	15	15	14	13	13	10	8	7	7	6	5	4	4	4	4	5	6	7	7	6	6	8.8	16.0	
3-Sep	7	7	7	6	6	5	6	6	5	4	4	4	4	4	4	5	6	5	6	9	11	15	15	17	7.0	17.0	
4-Sep	20	14	12	10	10	10	10	9	8	7	6	5	4	4	3	3	3	3	3	3	4	4	4	4	6.7	19.6	
5-Sep	5	5	6	6	6	6	7	6	5	4	4	3	3	3	3	3	3	3	3	4	5	9	11	12	5.3	12.2	
6-Sep	14	14	12	13	12	11	11	11	10	9	8	7	6	6	5	5	5	5	6	7	9	10	12	12	9.2	14.1	
7-Sep	16	11	11	10	10	10	10	9	8	7	7	6	6	6	5	5	5	6	6	9	12	15	17	32	10.0	32.0	
8-Sep	32	24	22	22	20	18	16	15	12	10	9	8	6	5	4	4	3	4	5	5	5	5	5	5	11.1	32.2	
9-Sep	11	5	5	5	5	5	5	5	5	3	4	3	3	3	3	3	3	3	4	4	5	6	6	6	4.7	11.4	
10-Sep	29	7	7	7	6	7	7	7	7	6	5	5	4	4	4	4	7	4	5	7	9	16	26	30	9.1	29.9	
11-Sep	219	26	25	21	19	19	18	19	17	13	13	12	12	11	10	9	8	7	9	11	11	11	15	24	23.2	219.4	
12-Sep	81	28	31	30	27	30	22	28	22	17	16	15	14	14	15	18	11	11	19	18	15	16	14	14	21.8	80.8	
13-Sep	14	13	13	13	13	15	16	17	20	14	12	11	11	10	10	10	9	9	10	13	13	16	14	12	12.7	19.5	
14-Sep	13	13	13	12	12	12	12	11	10	9	9	9	9	9	8	8	8	8	10	11	10	12	12	12	10.5	13.1	
15-Sep	15	13	13	14	18	18	17	18	16	15	14	14	14	14	16	15	13	14	15	18	19	18	19	19	15.8	18.8	
16-Sep	22	20	19	19	19	20	19	20	19	17	15	14	15	16	18	19	21	20	11	10	8	7	7	6	15.8	22.5	
17-Sep	11	5	4	4	3	3	3	3	3	3	3	3	3	3	4	4	3	4	4	4	4	4	4	4	4.0	10.6	
18-Sep	5	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	4	9	6	6	6	7	7	4.4	9.2	
19-Sep	47	7	7	8	8	7	7	8	8	7	7	5	4	C	C	C	0	1	4	7	1	1	2	6	7.3	47.2	
20-Sep	18	3	3	3	3	4	8	18	10	5	4	4	4	3	3	2	2	3	16	19	30	86	20	15	11.8	86.1	
21-Sep	12	11	15	10	8	7	9	9	14	14	9	6	6	5	3	4	3	3	2	3	2	2	3	3	6.8	15.4	
22-Sep	19	3	9	21	13	9	16	10	8	5	2	2	1	1	1	1	1	1	2	11	10	10	8	11	7.3	21.0	
23-Sep	22	7	6	4	5	6	5	10	9	4	2	1	1	1	1	1	1	2	2	4	5	2	1	1	4.3	22.0	
24-Sep	1	1	1	3	2	2	3	3	2	2	2	1	2	1	1	2	2	2	4	7	7	7	6	6	2.9	7.3	
25-Sep	95	4	6	6	6	8	8	11	7	6	3	2	2	2	2	2	2	2	2	3	3	3	3	3	7.9	95.3	
26-Sep	32	3	3	3	3	4	6	7	8	4	4	3	2	1	1	1	1	1	3	2	5	5	4	5	4.6	32.2	
27-Sep	24	4	7	6	6	4	4	5	6	6	5	2	1	1	1	1	2	1	1	2	2	1	2	1	4.0	24.3	
28-Sep	167	2	6	8	8	5	6	7	6	5	4	2	2	1	2	2	2	2	3	3	4	4	4	5	11.0	167.4	
29-Sep	4	4	3	2	3	5	5	5	4	5	3	2	1	1	1	1	3	6	6	15	33	15	8	4	5.8	33.1	
30-Sep	5	5	4	4	4	4	4	5	5	16	16	15	5	4	4	5	3	3	3	3	3	3	2	2	5.4	15.6	
32.8 9.4 9.9 9.9 9.3 9.3 9.5 10.2 9.2 7.9 6.7 6.0 5.3 5.1 5.0 5.0 4.8 4.8 5.8 7.7 8.8 10.8 8.8 9.8																									Diurnal Average		
219.4 27.6 30.7 30.0 26.6 30.3 21.9 28.1 21.6 17.5 16.0 15.4 14.9 15.5 17.6 18.8 20.5 20.4 19.3 18.7 33.1 86.1 26.1 32.0																									Diurnal Maximum		
C - Calibration																											

Hourly Maximums

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

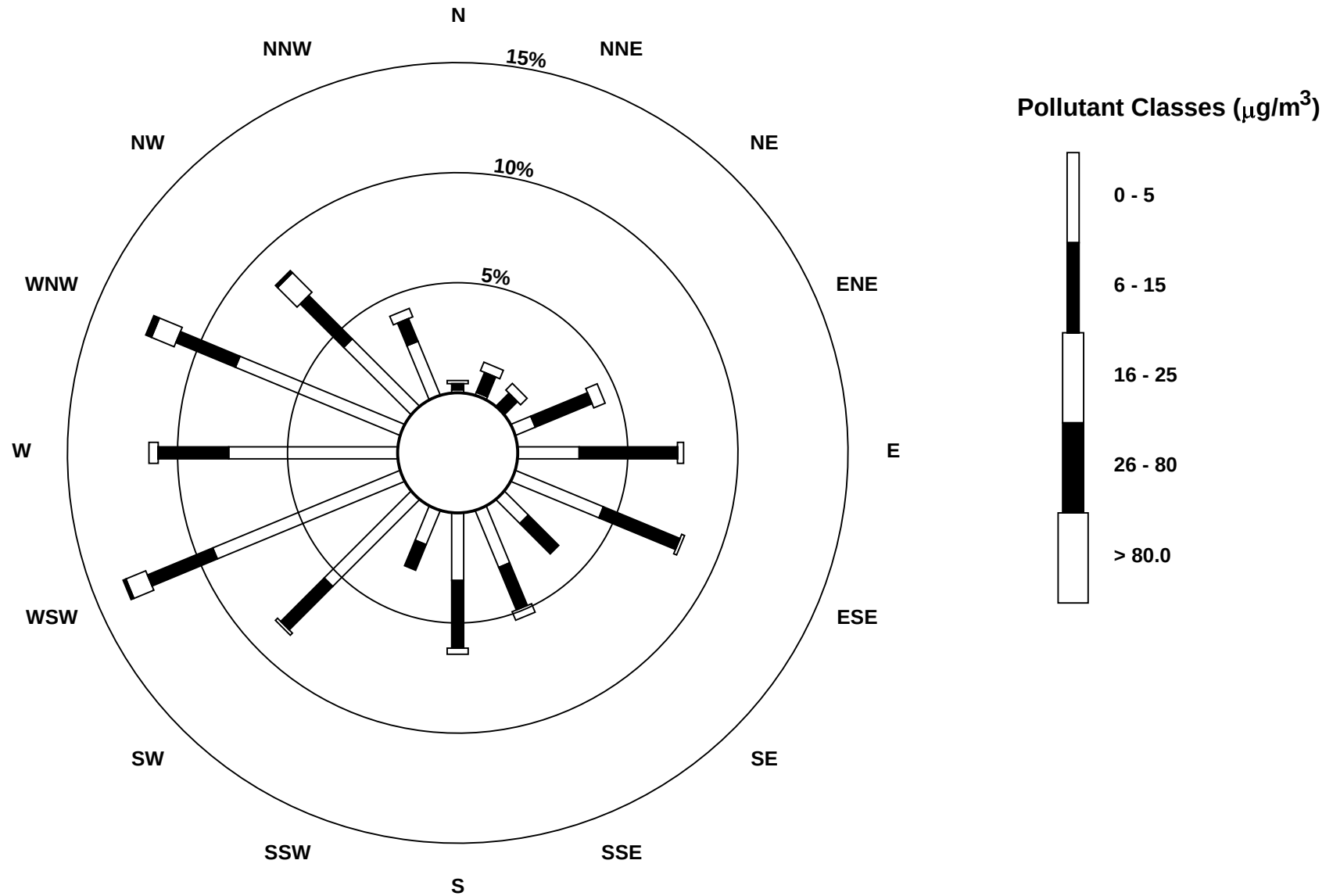
Henry Pirker - September 2013



Pollutant Rose

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

Henry Pirker - September 2013



Hourly Averages

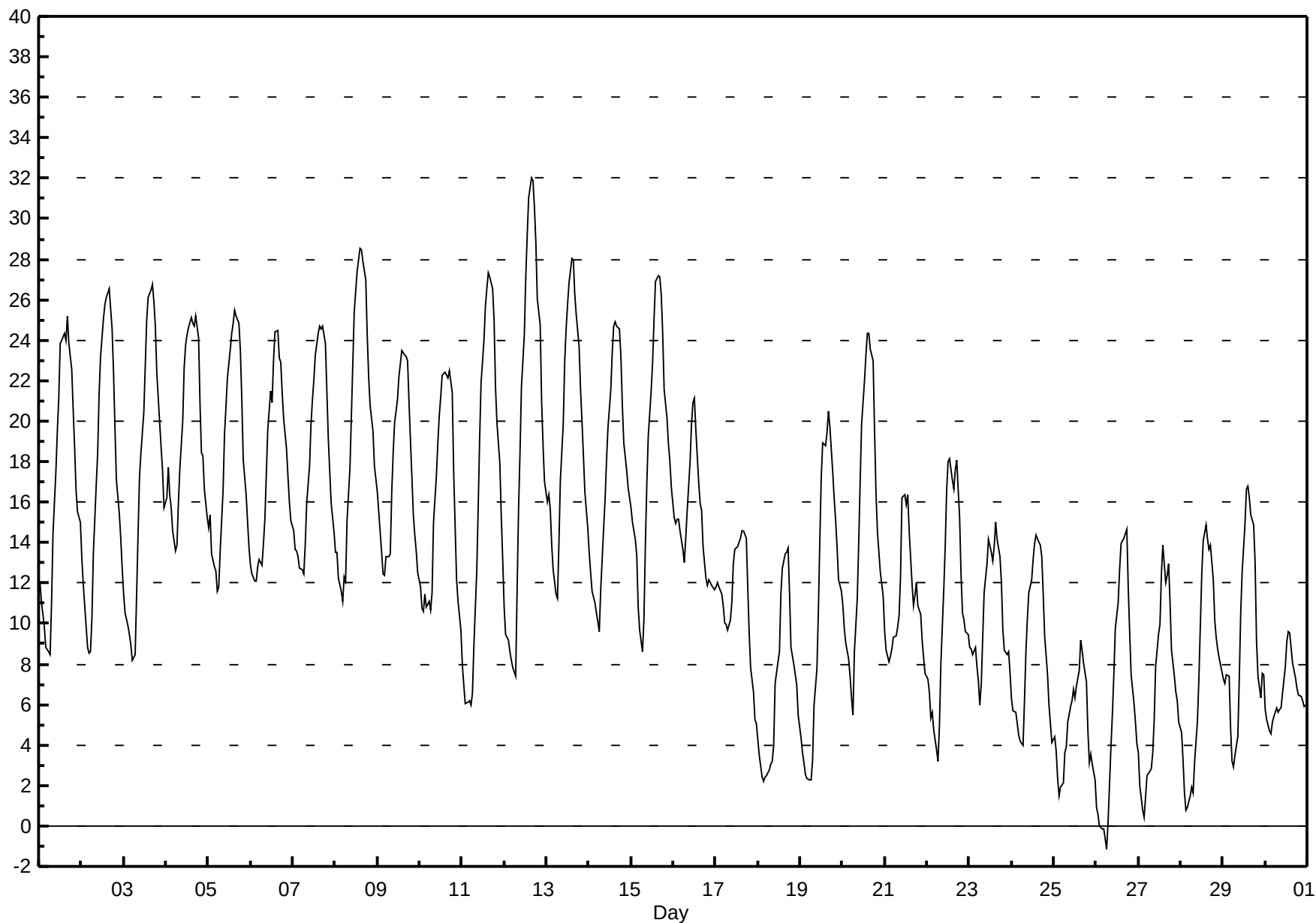
External Temperature (ET) - °C

Henry Pirker - September 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 32.0 °C on Sep 12 16:00 Maximum Daily Average: 19.9 °C on Sep 8																								Hours in Service: 720 Hours of Data: 720		
Minimum Value: -1 °C on Sep 26 07:00 Minimum Daily Average: 4.9 °C on Sep 25 Maximum Diurnal Average: 20.4 °C at hour 15 Minimum Diurnal Average: 7.6 °C at hour 7 Monthly Average: 13.75 °C Percentiles: P ₁ = 0.5 P ₁₀ = 4.8 Q ₁ = 8.6 Median = 13.3 Q ₃ = 18.8 P ₉₀ = 24.3 P ₉₉ = 28.3																								Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0		
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
1-Sep	12	11	10	10	9	9	8	11	14	18	19	21	24	24	24	25	24	23	21	19	17	16	15	17.0	25.2	
2-Sep	13	12	11	9	9	9	10	13	17	18	21	23	25	26	26	26	27	25	22	20	17	15	14	13	17.6	26.5
3-Sep	11	10	10	9	9	8	8	11	14	17	18	20	23	25	26	26	27	26	25	22	20	19	18	16	17.5	26.7
4-Sep	16	18	16	16	15	14	14	16	18	20	23	24	24	25	25	25	25	24	21	18	18	17	15	19.6	25.2	
5-Sep	15	15	13	13	13	12	12	14	17	19	21	22	24	24	25	25	25	23	21	18	16	15	14	18.4	25.5	
6-Sep	13	12	12	12	13	13	13	14	15	17	20	22	21	23	24	24	23	23	21	20	19	17	16	15	17.6	24.5
7-Sep	15	14	14	13	13	13	12	14	16	18	20	21	22	23	24	25	25	25	24	21	19	18	16	15	18.2	24.7
8-Sep	14	14	12	12	11	12	12	15	18	20	23	25	27	28	29	28	28	27	24	22	21	20	18	17	19.9	28.5
9-Sep	17	16	14	12	12	13	13	13	16	18	20	21	22	23	23	23	23	23	21	19	15	14	14	13	17.5	23.5
10-Sep	12	11	11	11	11	11	11	12	15	17	19	20	21	22	22	22	22	23	21	17	15	12	11	10	15.8	22.5
11-Sep	8	7	6	6	6	6	7	9	13	16	19	22	24	26	27	27	27	27	25	22	20	18	15	13	16.4	27.3
12-Sep	11	9	9	9	8	8	7	12	16	18	22	24	27	29	31	32	32	31	29	26	25	21	19	17	19.7	32.0
13-Sep	16	16	16	14	13	11	11	14	17	20	23	25	26	27	28	28	26	25	24	22	20	18	17	15	19.6	28.0
14-Sep	14	13	12	11	11	10	10	12	15	16	18	20	22	23	25	25	25	25	23	21	19	18	17	16	17.3	24.9
15-Sep	16	15	14	13	11	10	9	10	14	17	19	21	23	25	27	27	27	26	24	22	20	19	18	17	18.5	27.2
16-Sep	15	15	15	15	15	14	13	14	16	18	20	21	21	20	17	16	16	14	12	12	12	12	12	12	15.2	21.1
17-Sep	12	12	12	11	11	10	10	10	10	11	13	14	14	14	14	15	15	14	12	10	8	7	5	5	11.1	14.6
18-Sep	4	3	2	2	2	2	3	3	3	4	7	8	9	11	13	13	14	14	12	9	8	7	7	5	7.0	13.7
19-Sep	4	4	3	3	2	2	2	3	6	8	11	14	17	19	19	19	20	20	17	16	15	14	12	12	11.0	20.5
20-Sep	11	10	9	8	7	6	5	9	11	14	17	20	22	23	24	24	24	23	20	16	14	13	12	11	14.8	24.3
21-Sep	10	9	8	8	9	9	9	10	10	12	16	16	16	16	15	12	11	11	12	11	10	9	8	8	11.1	16.4
22-Sep	7	7	5	6	5	4	3	5	8	12	14	17	18	18	17	17	18	18	15	12	11	10	10	9	11.0	18.2
23-Sep	9	9	8	9	8	7	6	7	11	12	13	14	13	13	14	15	14	13	12	10	9	8	9	8	10.5	15.0
24-Sep	6	6	6	5	5	4	4	6	9	10	11	12	13	14	14	14	14	13	11	9	7	6	5	4	8.8	14.4
25-Sep	4	4	2	1	2	2	4	4	5	6	6	7	6	7	8	9	9	8	7	5	3	4	3	2	4.9	9.2
26-Sep	1	1	0	0	0	-1	-1	0	4	6	7	10	11	13	14	14	14	15	12	10	7	6	5	4	6.3	14.7
27-Sep	4	2	1	0	1	3	3	3	4	5	8	9	10	12	14	12	12	13	11	9	7	7	6	5	6.7	13.9
28-Sep	5	3	2	1	1	1	2	2	3	5	7	10	12	14	15	14	14	14	12	10	9	9	8	8	7.5	14.9
29-Sep	7	7	7	7	5	3	3	4	4	7	10	13	15	17	17	16	15	15	13	9	7	6	8	7	9.3	16.8
30-Sep	6	5	5	5	5	5	6	6	6	6	7	8	9	10	10	8	8	7	7	6	6	6	6	6	6.6	9.6
																								Diurnal Average		
																								Diurnal Maximum		

Hourly Averages

External Temperature (ET) - °C
Henry Pirker - September 2013



Hourly Averages

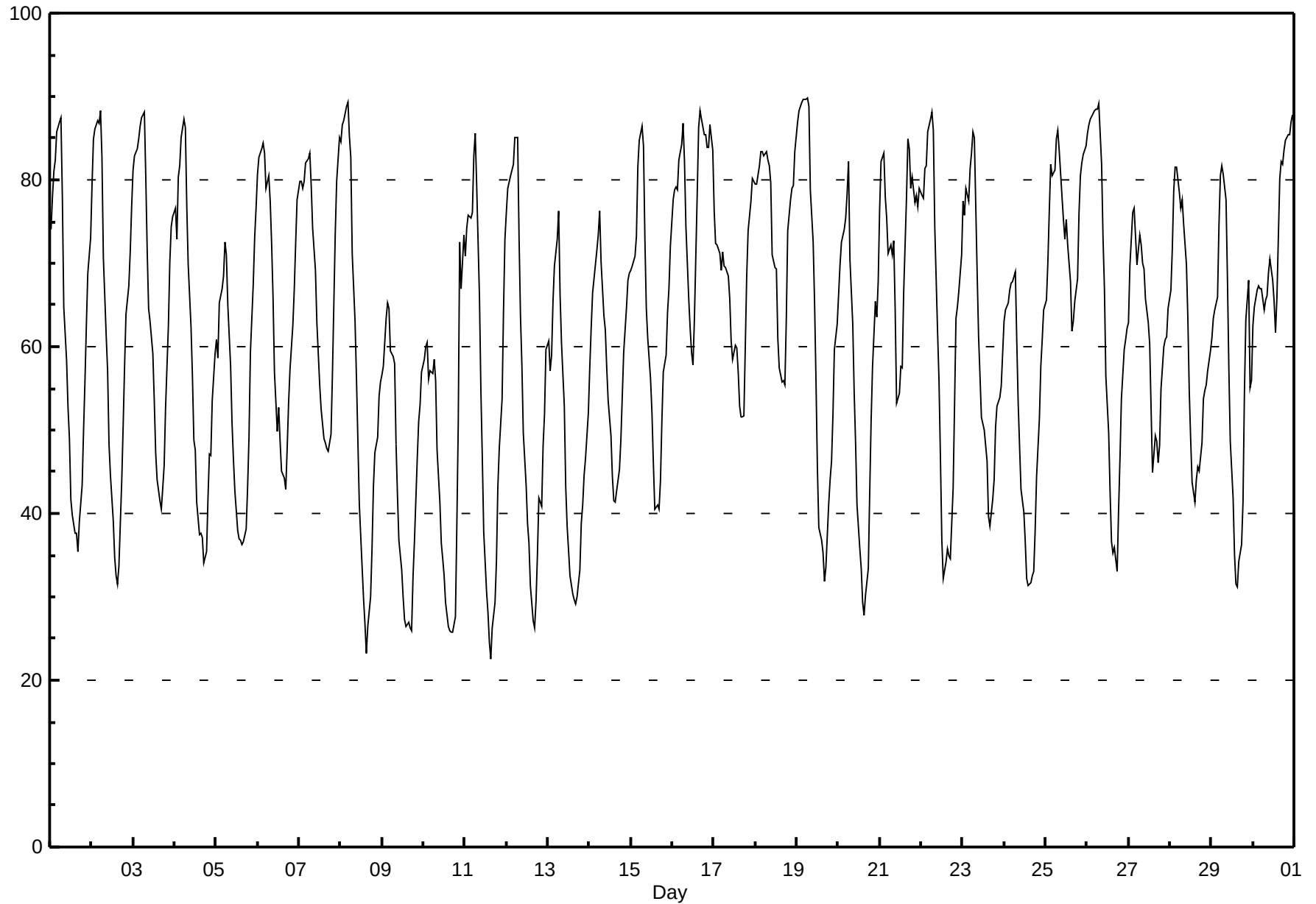
Relative Humidity (RH) - %

Henry Pirker - September 2013

Number of Exceedences (AAQO): 1-hr: 0 24-hr: 0 Maximum Value: 89.9 % on Sep 19 07:00 Maximum Daily Average: 78.4 % on Sep 16																								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 11 16:00 Maximum Diurnal Average: 79.5 % at hour 7 Monthly Average: 61.31 %												Minimum Daily Average: 45.2 % on Sep 9 Minimum Diurnal Average: 41.9 % at hour 15 Percentiles: P ₁ = 26.2 P ₁₀ = 35.8 Q ₁ = 47.7 Median = 63.0 Q ₃ = 76.5 P ₉₀ = 83.8 P ₉₉ = 88.7														
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	74	78	81	82	86	87	87	78	65	58	53	49	42	40	38	38	35	39	43	50	56	63	69	73	61.0	87.4
2-Sep	79	85	86	87	87	88	83	71	61	57	48	45	39	35	33	32	34	44	51	58	64	67	71	77	61.7	88.3
3-Sep	81	83	84	85	86	87	88	80	72	65	63	59	54	47	44	41	41	43	46	53	63	70	74	76	66.0	88.2
4-Sep	77	73	80	82	85	87	86	77	70	62	56	49	48	41	37	38	37	34	35	42	47	47	54	59	58.5	87.3
5-Sep	61	59	65	67	69	72	71	65	58	51	46	43	38	37	37	36	37	38	43	49	59	67	73	77	54.9	76.6
6-Sep	81	83	84	84	83	79	81	78	72	66	57	50	53	49	45	44	43	48	53	57	63	67	72	78	65.3	84.5
7-Sep	80	80	79	80	82	83	83	79	74	69	63	59	55	53	49	48	48	47	50	57	65	74	80	85	67.6	85.0
8-Sep	85	87	87	89	89	85	83	71	63	56	49	41	34	30	27	23	26	30	36	43	47	49	54	56	55.8	89.3
9-Sep	57	58	63	65	65	60	59	58	48	42	37	33	30	27	26	27	26	26	32	37	47	51	53	57	45.2	65.2
10-Sep	58	60	61	56	57	57	58	56	48	41	36	35	33	29	26	26	26	26	28	39	51	73	67	73	46.6	73.3
11-Sep	71	74	76	75	76	83	86	79	66	55	47	38	31	28	25	23	26	29	34	43	48	54	64	73	54.3	85.6
12-Sep	76	79	81	81	82	85	85	73	64	58	50	43	39	36	31	27	26	30	35	42	41	48	52	60	55.1	85.1
13-Sep	61	57	59	65	70	73	76	66	60	53	43	39	36	33	30	30	29	30	33	39	41	44	47	52	48.6	76.3
14-Sep	57	62	66	70	72	73	76	70	64	62	57	54	49	44	42	41	43	45	49	54	59	65	68	69	58.9	76.2
15-Sep	69	70	71	73	82	85	86	84	73	64	61	56	52	46	40	41	40	44	51	57	59	64	67	72	62.8	86.4
16-Sep	78	79	79	79	82	84	87	82	74	66	62	59	58	63	78	86	88	87	85	85	84	84	87	84	78.4	88.3
17-Sep	76	72	72	71	69	71	70	69	68	66	61	59	60	60	57	53	52	52	60	68	74	77	80	80	66.6	80.1
18-Sep	80	80	82	83	83	83	83	82	82	80	71	69	69	61	57	56	56	55	63	74	78	79	79	83	73.7	83.5
19-Sep	87	88	89	89	90	90	90	89	79	73	65	56	45	38	37	35	32	34	41	44	46	52	60	63	62.9	89.9
20-Sep	66	70	73	74	76	78	82	71	63	55	48	41	36	33	29	28	30	33	43	51	58	65	63	68	55.6	82.2
21-Sep	76	82	83	78	75	71	72	71	73	64	53	54	58	58	67	78	85	84	79	80	77	78	77	79	73.0	85.0
22-Sep	78	78	81	82	86	87	88	86	74	62	56	47	37	32	34	36	35	35	43	53	63	65	67	71	61.5	88.2
23-Sep	77	76	79	77	81	83	86	85	69	61	56	52	50	48	46	40	38	42	44	50	53	54	55	59	60.9	85.8
24-Sep	63	64	65	67	68	68	69	61	53	48	43	40	37	32	31	32	33	33	38	44	51	58	61	64	51.0	69.1
25-Sep	66	70	76	82	80	81	85	86	84	78	75	73	75	72	68	62	63	65	68	76	81	82	83	84	75.7	86.0
26-Sep	86	87	87	88	88	88	89	89	82	73	67	56	50	42	37	35	36	33	40	47	54	60	61	62	64.0	89.1
27-Sep	63	70	76	77	73	70	73	72	70	69	66	63	60	53	45	49	49	46	48	55	60	61	61	65	62.2	76.6
28-Sep	67	72	79	82	82	79	77	78	75	70	63	54	49	44	41	44	46	45	48	54	55	55	57	59	61.4	81.6
29-Sep	61	63	64	66	75	81	82	81	78	68	57	49	42	35	31	31	34	36	41	54	63	68	55	56	57.2	81.8
30-Sep	63	65	67	67	67	67	64	66	66	69	71	68	65	62	66	80	82	82	83	85	85	85	87	88	72.9	87.7
71.7 73.4 75.8 76.8 78.2 78.9 79.5 75.1 68.2 62.0 56.1 51.1 47.4 43.6 41.9 42.0 42.5 43.8 48.2 54.7 59.7 64.2 66.6 70.0																								Diurnal Average		
87.0 88.3 88.9 89.3 89.6 89.7 89.9 89.1 83.5 79.7 75.3 72.9 75.3 72.2 78.3 86.2 88.3 87.4 85.4 85.3 85.4 85.4 86.9 87.7																								Diurnal Maximum		

Hourly Averages

Relative Humidity (RH) - %
Henry Pirker - September 2013

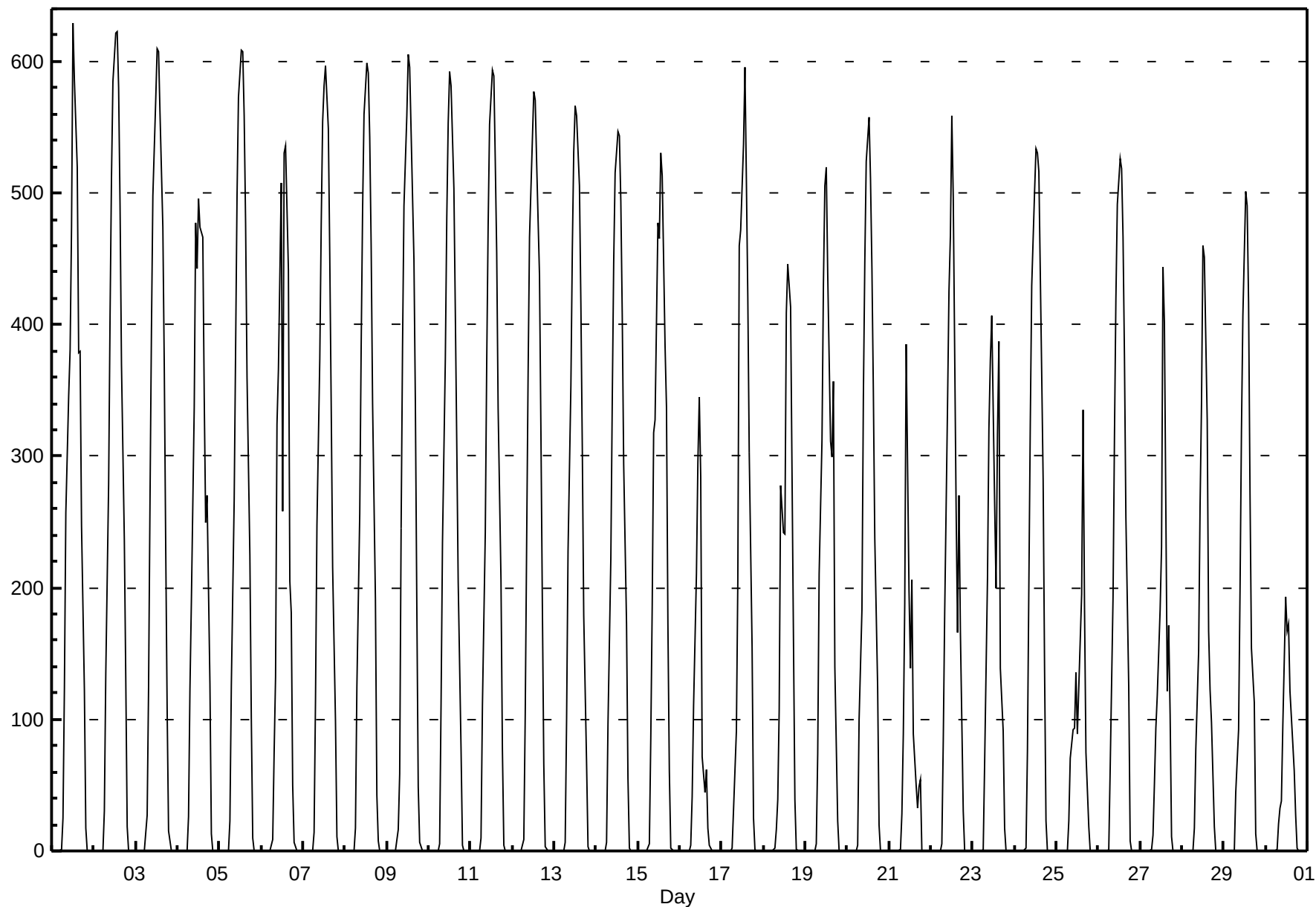


Hourly Averages

Solar Radiation (SR) - W/m²

Henry Pirker - September 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 628.9 W/m ² on Sep 1 13:00 Maximum Daily Average: 209.1 W/m ² on Sep 2																								Hours in Service: 720 Hours of Data: 720 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0		
Minimum Value: 0 W/m ² on Sep 1 01:00 Minimum Daily Average: 42.2 W/m ² on Sep 30 Maximum Diurnal Average: 475.0 W/m ² at hour 14 Minimum Diurnal Average: 0.0 W/m ² at hour 1 Monthly Average: 148.70 W/m ² Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 16.7 Q ₃ = 292.2 P ₉₀ = 495.2 P ₉₉ = 607.4																										
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
1-Sep	0	0	0	0	0	1	25	124	257	346	381	474	629	586	520	379	379	247	123	18	0	0	0	0	187.0	628.9
2-Sep	0	0	0	0	0	0	30	135	279	407	511	584	621	623	580	490	370	236	132	18	0	0	0	0	209.1	622.8
3-Sep	0	0	0	0	0	0	27	124	266	395	498	571	609	608	560	474	368	232	108	16	0	0	0	0	202.3	609.4
4-Sep	0	0	0	0	0	0	26	123	190	337	478	443	496	475	466	345	250	270	127	13	0	0	0	0	168.3	495.9
5-Sep	0	0	0	0	0	0	22	126	267	382	498	573	609	607	559	478	360	224	101	10	0	0	0	0	200.6	608.9
6-Sep	0	0	0	0	0	0	8	75	132	324	366	507	259	531	536	442	205	181	50	6	0	0	0	0	151.0	536.3
7-Sep	0	0	0	0	0	0	14	115	248	374	476	554	581	597	549	451	339	216	98	11	0	0	0	0	192.6	596.7
8-Sep	0	0	0	0	0	0	17	125	256	383	487	559	598	591	542	460	340	191	42	7	0	0	0	0	191.7	598.3
9-Sep	0	0	0	0	0	0	16	59	246	383	490	559	605	596	547	449	339	188	49	6	0	0	0	0	188.8	605.4
10-Sep	0	0	0	0	0	0	5	112	234	375	480	553	592	582	503	409	310	205	78	5	0	0	0	0	185.1	592.0
11-Sep	0	0	0	0	0	0	10	110	242	371	475	552	593	589	524	455	337	206	77	4	0	0	0	0	189.4	593.3
12-Sep	0	0	0	0	0	0	9	105	235	361	467	540	577	571	523	437	318	187	66	4	0	0	0	0	183.3	576.6
13-Sep	0	0	0	0	0	0	7	101	228	354	457	531	566	559	505	416	306	179	66	3	0	0	0	0	178.3	566.4
14-Sep	0	0	0	0	0	0	6	96	222	343	447	515	547	543	493	407	294	173	56	2	0	0	0	0	172.7	547.0
15-Sep	0	0	0	0	0	0	5	86	187	317	327	478	465	530	513	384	338	172	61	2	0	0	0	0	161.1	530.2
16-Sep	0	0	0	0	0	0	4	41	110	211	295	345	284	72	45	62	17	4	0	0	0	0	0	0	62.2	345.1
17-Sep	0	0	0	0	0	0	2	31	91	205	460	472	537	596	510	421	303	155	25	1	0	0	0	0	158.7	596.0
18-Sep	0	0	0	0	0	0	2	17	39	108	278	241	241	409	446	413	286	162	39	1	0	0	0	0	111.8	445.9
19-Sep	0	0	0	0	0	0	5	74	211	312	431	505	519	439	311	299	357	140	23	0	0	0	0	0	151.1	519.4
20-Sep	0	0	0	0	0	0	5	100	183	345	446	524	557	511	442	349	237	125	19	0	0	0	0	0	160.1	557.2
21-Sep	0	0	0	0	0	0	1	29	88	187	385	197	138	206	89	50	32	49	54	0	0	0	0	0	62.8	385.2
22-Sep	0	0	0	0	0	0	5	83	181	340	426	467	559	497	261	167	270	167	30	0	0	0	0	0	143.9	558.6
23-Sep	0	0	0	0	0	0	2	67	207	321	373	406	265	200	317	388	139	91	17	0	0	0	0	0	116.4	406.3
24-Sep	0	0	0	0	0	0	3	76	203	326	430	501	534	530	517	363	282	139	23	0	0	0	0	0	163.6	533.8
25-Sep	0	0	0	0	0	0	0	23	70	92	93	135	89	125	195	335	186	74	19	0	0	0	0	0	59.9	335.0
26-Sep	0	0	0	0	0	0	1	62	193	316	420	492	526	518	466	375	254	125	8	0	0	0	0	0	156.5	525.9
27-Sep	0	0	0	0	0	0	1	12	51	93	118	183	231	444	401	121	172	105	11	0	0	0	0	0	80.9	443.6
28-Sep	0	0	0	0	0	0	0	18	77	152	263	339	460	451	328	167	123	98	18	0	0	0	0	0	104.0	460.4
29-Sep	0	0	0	0	0	0	0	44	92	198	318	407	501	491	416	272	154	113	13	0	0	0	0	0	125.8	501.3
30-Sep	0	0	0	0	0	0	1	21	33	38	95	194	167	172	121	82	60	28	2	0	0	0	0	0	42.2	193.6
0.0 0.0 0.0 0.0 0.0 0.0 8.7 77.1 177.3 289.9 389.0 446.8 465.3 475.0 426.2 344.7 257.5 156.1 51.2 4.2 0.0 0.0 0.0 0.0																								Diurnal Average		
0.0 0.0 0.0 0.0 0.0 0.5 30.3 134.9 278.6 407.2 511.5 584.3 628.9 622.8 580.4 490.5 379.3 270.1 132.3 18.2 0.0 0.0 0.0 0.0																								Diurnal Maximum		



Hourly Averages

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

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1 Spd	1	2	2	3	5	5	6	6	4	4	5	5	3	4	6	6	2	8	8	6	6	2	5	5	3.6	7.9
Dir	253	238	178	195	176	179	175	192	261	277	243	237	283	182	188	183	191	173	176	155	148	130	155	152	187.3	175.9
2 Spd	2	2	3	4	3	3	4	3	4	6	6	9	8	11	10	7	4	12	12	11	10	9	7	7	2.3	11.8
Dir	248	223	295	293	317	231	207	228	301	312	304	317	316	310	318	322	4	79	87	84	74	91	84	65	3.6	78.7
3 Spd	5	5	5	4	2	3	3	4	3	2	4	5	3	1	4	4	6	8	7	3	3	2	2	5	1.1	7.5
Dir	67	52	49	25	355	331	320	265	261	241	183	181	158	172	170	151	122	125	110	98	72	60	318	326	103.2	124.6
4 Spd	10	16	7	9	4	2	3	5	10	11	10	14	15	16	16	14	14	16	14	10	10	13	8	8	10.0	16.4
Dir	268	250	262	238	232	219	241	308	262	250	233	226	232	260	251	248	252	282	286	294	286	285	264	251	258.5	249.9
5 Spd	8	8	7	7	8	9	10	11	15	16	22	22	21	18	15	12	13	11	9	7	3	4	3	3	9.6	22.3
Dir	240	249	232	232	235	233	233	236	248	253	260	273	287	289	279	278	284	303	320	348	328	299	338	325	269.4	273.0
6 Spd	4	4	4	1	2	5	1	2	6	6	8	8	7	7	9	10	12	9	8	4	4	6	5	6	3.9	12.2
Dir	302	328	284	242	329	333	222	8	101	70	104	118	122	119	114	110	109	116	116	111	103	99	98	105	102.8	109.0
7 Spd	6	5	6	6	6	9	10	11	11	11	9	12	13	11	9	7	9	8	5	2	3	2	2	2	5.7	13.0
Dir	95	72	89	93	85	92	109	112	124	135	136	145	166	183	198	176	177	184	184	201	128	169	174	253	140.4	166.2
8 Spd	2	3	1	2	2	5	2	7	9	12	17	19	20	21	22	25	24	24	25	21	18	13	10	13	12.8	24.7
Dir	255	258	319	334	299	255	248	240	255	253	267	280	288	275	271	272	262	253	266	269	255	246	238	260	264.6	265.6
9 Spd	11	11	10	7	11	10	7	8	12	18	21	19	17	19	20	21	19	15	12	12	7	8	9	6	12.4	20.6
Dir	253	248	252	260	262	272	258	268	285	273	284	287	290	288	293	279	282	294	276	265	294	247	240	254	275.1	283.9
10 Spd	6	4	5	6	8	7	9	6	4	9	15	14	15	14	14	13	11	8	6	2	2	2	3	3	6.7	15.1
Dir	268	324	294	251	262	265	260	279	277	286	285	282	282	311	312	327	332	326	346	21	78	214	338	299	295.8	285.5
11 Spd	4	4	3	3	0	4	5	4	4	4	3	2	2	5	5	5	5	6	5	6	7	5	2	0	2.2	6.9
Dir	299	297	301	308	57	161	161	164	199	221	244	190	161	171	172	189	196	178	142	104	104	113	103	270	172.1	104.2
12 Spd	4	2	3	2	3	3	3	1	3	4	5	7	5	5	5	5	6	8	7	8	7	6	3	5	2.9	8.1
Dir	300	308	299	325	296	282	281	311	265	248	205	204	184	168	164	170	178	175	187	235	265	291	301	255	229.6	174.6
13 Spd	4	6	6	3	5	6	3	4	5	9	2	2	3	1	2	4	12	11	8	5	5	4	7	7	3.0	11.6
Dir	242	281	267	288	345	303	260	322	312	317	292	285	69	263	307	29	32	25	21	19	51	67	57	67	356.2	32.0
14 Spd	7	6	5	5	6	6	3	5	5	9	8	9	10	13	14	14	12	12	10	10	12	10	11	10	8.5	14.0
Dir	63	60	56	58	54	57	75	84	115	110	105	114	94	94	96	104	94	110	97	87	88	87	95	97	91.3	103.6
15 Spd	8	7	7	3	2	3	3	3	3	4	3	4	4	4	5	7	9	10	8	6	7	7	7	5	3.1	10.1
Dir	95	91	88	101	295	279	306	296	285	275	220	232	171	150	134	114	118	94	94	104	80	73	85	62	101.4	93.8
16 Spd	3	3	4	2	3	4	3	3	5	9	5	4	1	8	10	10	7	23	30	29	28	28	15	19	7.3	30.5
Dir	53	53	66	29	11	309	328	47	22	24	68	110	316	233	257	237	219	237	256	256	263	275	270	254	263.4	255.8
17 Spd	20	22	20	17	17	15	17	16	14	18	24	24	21	22	21	19	17	15	15	9	9	7	8	9	15.4	24.3
Dir	268	279	284	281	282	287	278	287	292	291	295	304	318	323	323	319	319	325	338	327	339	339	323	316	302.8	294.6
18 Spd	10	9	7	6	7	8	6	6	6	3	3	6	5	6	7	2	3	2	4	2	7	6	2	2	2.8	10.0
Dir	318	315	321	323	318	336	332	312	335	325	274	233	234	283	282	338	299	170	170	132	151	155	102	69	302.3	318.3
19 Spd	3	4	3	3	4	5	5	5	7	7	6	7	9	11	11	11	10	8	8	8	8	8	6	6	6.5	11.4
Dir	157	168	184	159	165	151	141	138	126	138	136	141	142	145	143	130	120	116	103	100	96	113	131	114	131.6	143.4
20 Spd	7	7	9	4	1	1	1	2	2	1	1	1	3	2	3	7	10	10	2	1	2	7	8	2	2.4	10.3
Dir	126	117	117	124	115	62	113	115	129	150	137	89	152	152	158	111	98	93	85	106	171	311	315	325	111.0	97.8
21 Spd	0	2	1	3	3	2	4	2	3	2	3	2	5	10	16	12	9	9	11	9	9	9	8	9	4.9	16.4
Dir	317	312	269	297	191	247	234	88	186	225	286	280	311	295	291	276	238	229	222	230	231	231	217	213	249.4	290.9
22 Spd	8	8	4	3	4	4	3	2	3	5	6	5	11	14	12	10	8	7	5	4	5	5	5	4	4.2	13.8
Dir	221	239	209	176	154	128	124	64	174	239	243	231	235	230	238	238	233	245	285	323	309	340	323	328	240.3	230.0

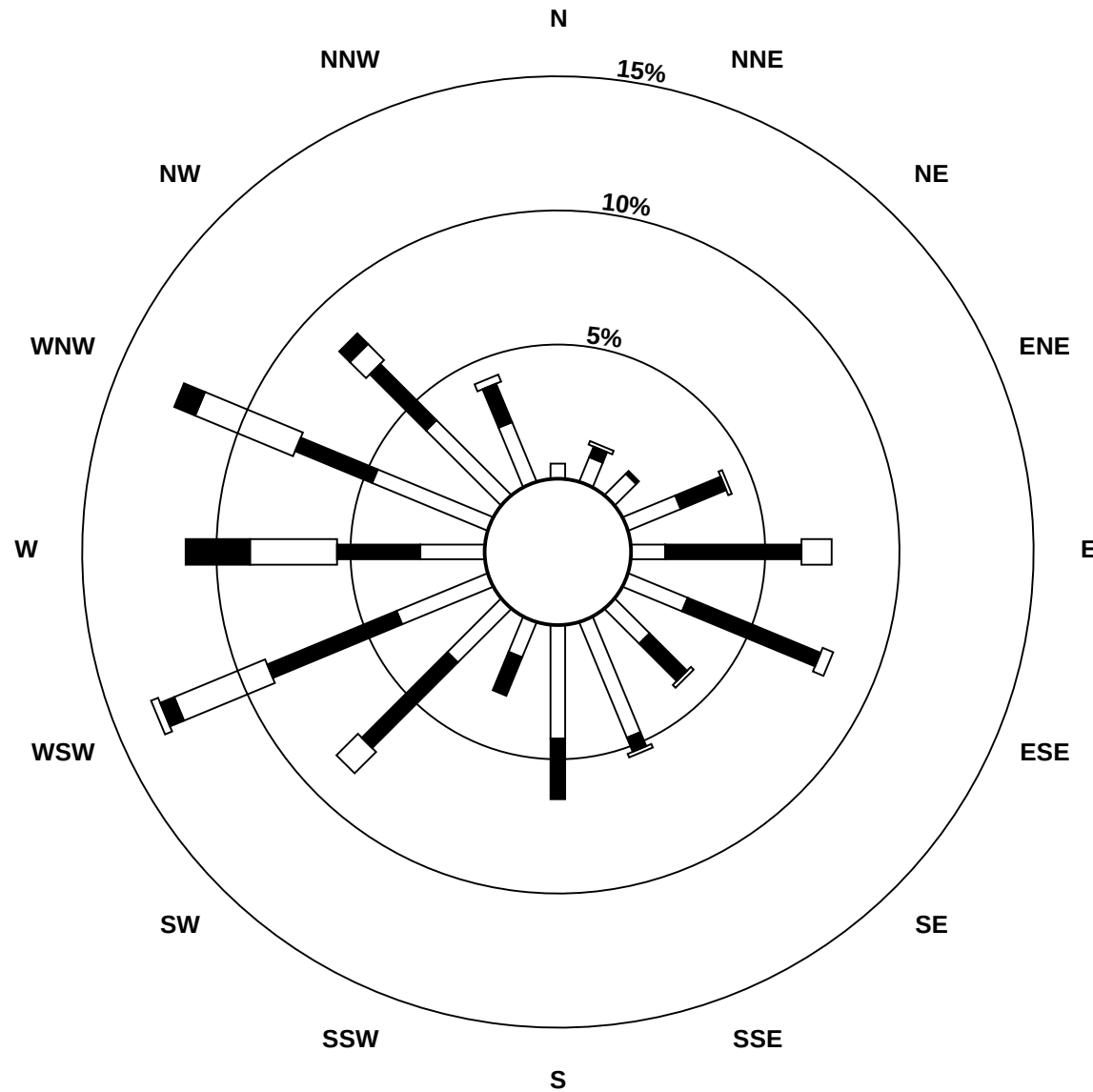
Hourly Averages

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

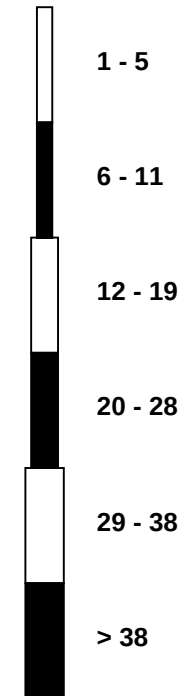
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
23 Spd	2	2	4	5	4	4	2	3	4	9	12	17	20	21	20	19	12	11	11	10	11	12	13	10	9.0	21.1	
Dir	270	286	224	184	177	158	154	165	193	254	245	246	262	268	256	258	266	246	241	235	238	226	234	237	244.1	268.5	
24 Spd	9	9	8	10	10	9	12	14	10	12	14	18	19	20	20	19	19	19	15	12	8	8	8	8	12.3	20.4	
Dir	234	223	223	210	227	236	220	232	257	239	247	258	255	266	265	269	264	275	267	265	242	248	252	282	251.9	265.7	
25 Spd	8	5	5	3	3	3	4	5	8	13	14	14	12	14	14	16	14	11	7	6	6	5	5	5	8.0	15.9	
Dir	264	292	324	246	291	226	294	242	291	297	297	298	298	303	303	294	304	302	294	293	309	299	304	312	295.2	294.4	
26 Spd	4	4	3	4	5	2	3	3	3	6	6	8	8	7	8	7	7	10	11	12	7	6	6	2	4.8	11.9	
Dir	340	333	266	237	241	236	222	223	239	201	174	177	198	217	233	208	192	248	255	256	231	203	209	157	224.9	256.0	
27 Spd	5	4	4	5	4	3	5	5	6	5	10	17	18	18	21	18	17	16	17	10	11	13	9	8	8.7	20.5	
Dir	135	113	158	173	167	154	167	166	174	190	225	240	239	245	245	250	247	263	258	249	247	232	223	225	232.2	244.9	
28 Spd	4	2	5	3	3	4	4	1	3	6	7	8	9	9	11	11	12	12	11	12	11	11	11	9	6.9	11.9	
Dir	239	238	149	110	108	116	105	64	84	114	113	111	106	115	109	96	97	94	92	95	99	104	102	105	104.9	94.9	
29 Spd	5	2	14	16	8	4	1	1	4	4	3	5	4	8	10	12	11	5	3	3	2	2	7	6	2.8	15.6	
Dir	111	243	262	260	286	216	268	249	170	168	268	202	227	268	266	277	292	337	31	82	93	38	78	83	262.8	259.8	
30 Spd	6	9	8	7	10	8	11	8	3	5	4	6	6	11	10	13	13	11	9	7	8	10	10	7	2.5	13.2	
Dir	87	75	74	76	80	85	94	94	141	313	332	341	305	290	281	249	281	277	277	284	257	269	286	289	302.3	249.4	
Spd	2.0	2.2	1.9	2.0	1.8	1.7	2.0	1.8	2.5	3.9	4.8	5.4	5.4	6.3	6.7	5.5	3.9	3.5	3.4	2.6	1.7	2.3	1.4	1.6	Diurnal Average		
Dir	255.9	271.7	263.2	247.9	261.3	250.5	225.7	238.5	250.4	259.3	256.6	253.5	258.7	264.8	263.3	258.6	260.0	255.3	258.5	259.9	244.0	250.4	245.0	256.8	Diurnal Maximum		
Spd	20.0	21.8	19.5	17.1	16.8	14.6	16.9	15.6	14.5	18.2	24.3	23.8	21.4	22.0	21.7	24.5	23.6	24.4	30.5	28.7	27.9	27.6	15.2	19.0	Diurnal Maximum		
Dir	268.4	279.0	284.1	281.3	282.1	287.1	278.5	286.9	247.7	290.9	294.6	304.0	286.8	323.1	270.7	272.1	261.7	252.7	255.8	256.4	263.4	275.4	269.9	254.0			
Maximum Speed Value: 30 km/h on Sep 16 19:00							Minimum Speed Value: 0 km/h on Sep 11 05:00													Hours in Service: 720							
Maximum Daily Speed Average: 15.4 km/h on Sep 17							Minimum Daily Speed Average: 1.1 km/h on Sep 3													Hours of Data: 720							
Maximum Diurnal Speed Average: 6.7 km/h at hour 15							Minimum Diurnal Speed Average: 1.4 km/h at hour 23													Hours of Missing Data: 0							
Monthly Average Velocity: 3.15 km/h 256.65 deg							Speed Percentiles: P ₁ = 0.9 P ₁₀ = 2.4 Q ₁ = 3.8 Median = 6.6 Q ₃ = 10.5 P ₉₀ = 15.5 P ₉₉ = 24.2													Percent Operational Time: 100.0							
All monthly, daily, and diurnal averages have been calculated using vector methods																											
Frequency Distribution																											
Speed Range (km/h)																											
Direction	0 to 5		5 to 11		11 to 19		19 to 28		28 to 38		> 38		Total														
North	10		9		1		0		0		0		20														
NorthEast	19		11		2		0		0		0		32														
East	24		59		18		0		0		0		101														
SouthEast	29		41		3		0		0		0		73														
South	50		26		2		0		0		0		78														
SouthWest	38		56		22		2		0		0		118														
West	39		56		56		27		2		0		180														
NorthWest	56		40		15		7		0		0		118														
Total	265		298		119		36		2		0		720														

Wind Rose

Wind Speed (WS) (km/h)
Henry Pirker - September 2013



Wind Speed Classes (km/h)



Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Henry Pirker - September 2013

Maximum Speed: 31 km/h on Sep 16 19:00																				Maximum Daily Speed Average: 16.7 km/h on Sep 17										Hours in Service: 720	
Minimum Speed: 1 km/h on Sep 20 05:00																				Minimum Daily Speed Average: 4.5 km/h on Sep 20										Hours of Data: 720	
Maximum Diurnal Speed Average: 12.5 km/h at hour 15																				Minimum Diurnal Speed Average: 5.5 km/h at hour 5										Hours of Missing Data: 0	
Monthly Average Speed: 8.38 km/h																				Percentiles: P ₁ = 1.9 P ₁₀ = 3.4 Q ₁ = 4.6 Median = 7.0 Q ₃ = 10.9 P ₉₀ = 15.6 P ₉₉ = 24.5										Percent Operational Time: 100.0	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24							
1-Sep	4	3	3	4	5	5	6	6	5	5	5	5	4	6	7	7	4	8	8	6	6	3	5	6	5.2	8.0					
2-Sep	3	3	3	4	4	4	5	4	5	6	7	10	9	11	11	9	8	12	12	12	11	9	7	7	7.3	12.2					
3-Sep	5	5	5	4	3	4	4	5	4	3	5	6	5	4	6	6	6	8	7	4	4	3	3	5	4.7	8.0					
4-Sep	11	17	8	9	5	5	5	7	11	11	11	14	16	17	16	15	15	17	14	11	10	13	8	8	11.3	17.4					
5-Sep	8	8	7	7	8	9	10	11	15	16	22	23	22	18	16	13	13	12	9	7	4	4	4	4	11.3	23.0					
6-Sep	4	5	4	2	3	5	3	4	6	6	8	9	7	8	10	10	12	9	8	4	4	6	5	6	6.2	12.5					
7-Sep	6	5	6	6	6	9	10	11	11	11	10	13	14	12	10	7	9	8	5	3	3	2	3	3	7.7	13.8					
8-Sep	3	4	2	2	2	6	3	7	9	13	17	19	20	22	22	25	24	25	25	22	18	13	10	13	13.6	25.0					
9-Sep	11	11	10	8	11	11	7	8	12	18	21	19	17	19	20	21	20	16	12	12	8	8	10	7	13.2	21.2					
10-Sep	7	5	6	6	9	7	9	6	5	9	16	14	15	15	15	13	11	9	6	3	3	2	3	3	8.2	15.5					
11-Sep	4	4	4	3	2	4	5	4	5	5	4	4	5	6	6	6	6	6	6	6	7	5	3	2	4.6	7.0					
12-Sep	4	2	3	2	3	3	3	2	4	5	6	8	6	5	5	5	6	8	7	8	8	7	5	5	5.0	8.2					
13-Sep	4	7	6	4	6	6	4	4	6	9	5	5	5	5	5	6	12	12	9	5	5	4	8	8	6.2	12.2					
14-Sep	7	6	6	5	6	6	3	5	6	9	9	9	11	14	14	14	13	12	10	10	12	10	11	10	9.1	14.3					
15-Sep	8	7	7	4	2	4	3	3	4	4	3	5	5	6	6	8	9	10	8	6	7	7	7	5	5.8	10.3					
16-Sep	4	3	4	3	4	5	4	4	5	9	6	5	4	9	12	11	8	23	31	29	28	28	15	19	11.4	30.7					
17-Sep	20	22	20	17	17	15	17	16	15	18	25	24	22	22	22	20	17	15	15	10	9	7	8	9	16.7	24.6					
18-Sep	10	9	7	6	7	8	7	6	7	5	4	7	7	7	7	5	5	4	5	4	7	6	6	3	6.1	10.1					
19-Sep	3	4	3	4	4	5	5	5	7	7	6	7	10	12	12	11	11	8	8	8	8	9	7	6	7.1	11.8					
20-Sep	7	7	9	4	1	1	2	3	3	1	2	2	4	3	4	8	10	10	2	3	4	8	8	2	4.5	10.5					
21-Sep	1	2	2	3	4	4	6	3	4	4	5	3	6	10	17	13	9	10	11	9	9	9	8	9	6.8	16.7					
22-Sep	8	8	5	4	5	4	4	4	4	5	7	6	12	15	13	11	8	8	5	4	5	5	5	4	6.6	14.7					
23-Sep	2	3	5	5	5	4	3	3	4	9	13	18	21	21	21	20	13	11	11	10	11	12	13	11	10.3	21.5					
24-Sep	9	9	8	10	10	9	12	14	10	13	14	19	20	21	20	20	20	19	16	12	8	8	8	9	13.2	21.1					
25-Sep	9	6	5	3	3	4	4	6	9	13	14	15	13	14	15	16	14	11	7	6	6	5	5	5	8.6	16.1					
26-Sep	4	4	4	4	5	3	3	3	4	6	6	9	9	8	9	9	8	11	11	12	7	6	6	3	6.5	12.0					
27-Sep	5	4	4	5	4	3	5	6	6	6	10	17	19	18	21	18	18	17	17	10	11	13	9	8	10.6	21.2					
28-Sep	5	4	5	3	3	4	5	3	4	6	7	9	9	9	11	12	12	12	11	12	11	11	11	9	7.9	12.0					
29-Sep	6	5	14	16	8	5	4	3	4	4	4	5	5	9	11	13	11	5	4	3	3	3	7	7	6.7	15.8					
30-Sep	6	9	8	7	10	9	11	8	5	5	5	7	7	11	11	14	13	11	9	7	8	11	10	7	8.7	13.7					
6.3 6.4 6.1 5.6 5.5 5.7 5.7 5.8 6.5 8.2 9.3 10.5 11.0 11.9 12.5 12.1 11.5 11.6 10.3 8.6 8.1 8.0 7.3 6.8																									Diurnal Average						
20.2 21.9 19.7 17.2 17.0 14.6 17.0 15.7 14.9 18.4 24.6 24.1 22.0 22.4 22.2 24.9 24.4 24.7 30.7 28.9 28.1 27.9 15.5 19.2																									Diurnal Maximum						
All monthly, daily, and diurnal averages have been calculated using scalar methods																															

Hourly Standard Deviations

Wind Direction (WD) - deg

Henry Pirker - September 2013

Maximum Value: 94.2 deg on Sep 16 13:00																				Hours in Service: 720					
Minimum Value: 5.4 deg on Sep 11 20:00																				Hours of Data: 720					
																				Hours of Missing Data: 0					
Percentiles: P ₁ = 6.4 P ₁₀ = 8.6 Q ₁ = 11.4 Median = 17.1 Q ₃ = 31.4 P ₉₀ = 52.7 P ₉₉ = 87.5																				Hours of Calibration: 0					
																				Percent Operational Time: 100.0					
Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Sep	72	48	57	44	13	8	8	14	41	15	30	33	54	66	41	27	67	17	7	12	7	42	10	8	72.5
2-Sep	59	32	25	29	31	57	47	40	18	20	24	16	23	18	22	41	73	15	11	11	13	9	16	19	72.7
3-Sep	18	21	21	22	58	32	31	27	32	54	49	42	65	88	58	46	37	20	12	51	21	60	65	19	87.7
4-Sep	30	20	28	15	36	79	74	37	20	14	20	13	18	21	15	17	17	10	7	13	9	9	19	14	78.6
5-Sep	23	19	9	9	9	10	9	10	13	9	11	15	13	16	19	16	14	21	9	13	34	17	39	61	60.9
6-Sep	17	17	26	66	44	10	81	59	17	23	19	21	19	25	29	22	13	15	12	12	11	14	11	9	81.2
7-Sep	10	10	9	8	12	10	8	9	14	16	22	21	21	24	31	29	17	20	15	34	49	17	37	58	58.3
8-Sep	52	38	48	40	34	12	33	11	11	11	10	13	11	12	13	10	15	9	8	6	8	8	8	13	52.2
9-Sep	11	14	12	29	9	16	10	25	11	11	10	12	14	14	10	15	14	9	10	12	25	12	10	26	29.4
10-Sep	26	53	25	14	14	13	10	18	20	14	14	15	15	21	17	17	17	25	19	29	23	44	21	41	52.7
11-Sep	21	20	32	24	92	18	12	18	27	35	50	68	76	33	39	49	40	14	32	5	12	7	17	91	91.5
12-Sep	10	39	17	23	21	28	31	49	32	23	31	24	45	35	28	26	27	9	8	17	32	33	57	24	56.8
13-Sep	41	30	30	49	39	18	35	27	20	16	75	77	67	94	88	58	20	16	11	18	17	19	15	14	93.8
14-Sep	13	15	15	14	11	12	36	13	22	15	20	19	17	13	14	14	14	15	8	8	7	6	6	6	36.0
15-Sep	6	8	7	55	45	14	38	24	24	25	49	39	49	38	38	21	21	12	17	14	11	9	8	13	54.8
16-Sep	18	17	18	57	56	55	42	53	28	16	32	47	94	34	34	20	23	20	8	7	8	8	10	7	94.2
17-Sep	9	7	7	6	9	6	7	7	7	8	10	9	13	12	9	13	10	12	8	19	13	15	11	9	19.1
18-Sep	8	8	12	9	10	10	15	11	15	56	53	31	38	30	28	84	59	82	17	67	10	15	82	59	84.4
19-Sep	29	8	17	26	11	16	11	12	15	21	21	21	22	20	16	17	13	23	8	8	8	8	14	15	28.8
20-Sep	10	9	8	16	14	46	28	84	44	41	67	73	52	64	57	27	12	9	20	72	50	17	17	48	83.5
21-Sep	68	45	61	52	49	69	47	63	50	73	65	52	30	11	10	14	14	12	9	9	8	8	11	10	72.8
22-Sep	10	12	51	48	24	22	44	58	33	29	20	41	17	21	20	19	23	18	18	8	9	25	12	23	58.4
23-Sep	37	75	25	27	27	20	35	33	32	18	17	15	13	11	11	17	18	13	12	9	10	8	9	8	75.4
24-Sep	9	9	9	14	7	20	8	10	21	14	16	15	13	15	16	18	14	10	8	7	11	9	11	25	24.6
25-Sep	14	19	13	37	33	27	22	26	32	13	9	11	10	9	9	10	8	10	10	17	10	10	8	15	36.8
26-Sep	23	22	38	23	18	64	25	28	43	23	27	25	32	35	26	42	29	24	11	9	13	14	11	48	64.1
27-Sep	19	24	16	12	43	29	10	14	13	38	17	13	10	12	14	11	13	14	8	9	9	11	11	8	42.9
28-Sep	51	66	16	19	16	24	42	68	55	17	16	22	18	25	17	11	8	8	7	6	7	7	8	9	68.4
29-Sep	60	75	13	8	22	47	73	93	37	19	49	29	36	32	28	20	14	22	38	15	41	54	9	16	93.5
30-Sep	11	9	9	13	9	14	12	16	72	28	35	23	26	10	16	15	10	17	13	11	13	17	11	21	71.7
72.5 75.4 60.8 65.8 91.5 78.6 81.2 93.5 71.7 72.8 75.3 77.4 94.2 93.8 88.0 84.4 72.7 82.0 37.7 71.7 49.6 60.5 82.4 91.3																									

PAZA

Evergreen Park Station

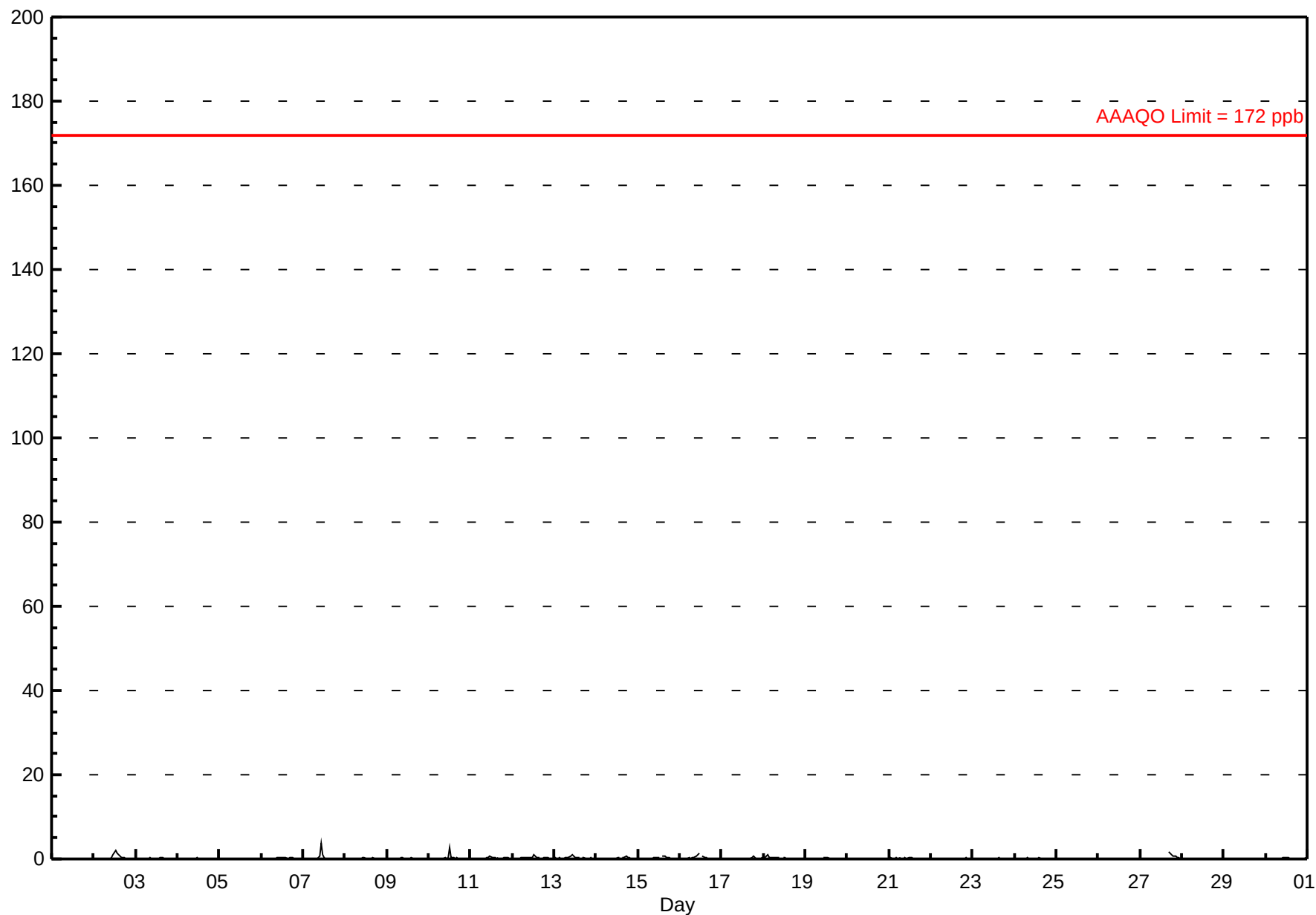
Monthly Summary Tables, Graphs and
Roses

Sulphur Dioxide (SO₂) - ppb
Evergreen Park - September 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 3.8 ppb on Sep 7 11:00 Maximum Daily Average: 0.3 ppb on Sep 27																								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: 0.4 ppb at hour 13 Monthly Average: 0.15 ppb												Minimum Daily Average: 0.0 ppb on Sep 1 Minimum Diurnal Average: 0.1 ppb at hour 23 Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.1 Q ₃ = 0.2 P ₉₀ = 0.3 P ₉₉ = 1.2														
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	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
2-Sep	0	0	0	A	0	0	0	0	0	0	0	1	2	2	1	1	0	0	0	0	0	0	0	0	0.3	2.0
3-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	0.3
4-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
5-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	0.1
6-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	0.2	0.4
7-Sep	0	0	0	0	0	0	0	0	0	1	4	1	0	0	0	0	0	0	0	0	0	A	0	0	0.3	3.8
8-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
9-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
10-Sep	0	0	0	0	0	0	0	0	0	0	0	1	3	1	0	0	0	0	A	0	0	0	0	0	0.2	2.9
11-Sep	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	A	0	0	0	0	0	0	0.2	0.8
12-Sep	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	A	0	0	0	0	0	0	0	0.3	1.1
13-Sep	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	A	0	0	0	0	0	0	0	0	0.3	0.9
14-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	1	0	0	0	0	0	0	0.2	0.5
15-Sep	0	0	0	0	0	0	0	0	0	0	0	0	A	1	1	0	0	0	0	0	0	0	0	0	0.2	0.6
16-Sep	0	0	0	0	0	0	0	0	0	1	1	1	A	1	0	0	0	0	0	0	0	0	0	0	0.3	1.3
17-Sep	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	1	0	0	0	0	0	0.1	0.7
18-Sep	0	0	1	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.1
19-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
20-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	0.2
21-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	0.3
22-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	0.3
23-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
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	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
26-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
27-Sep	0	A	0	0	0	0	0	0	0	0	0	0	C	C	C	C	2	1	1	1	1	1	0	0	0.3	1.8
28-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	0.1
29-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	0.1
30-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	0.4
																								Diurnal Average		
																								Diurnal Maximum		
C - Calibration A - Automated Daily Zero Span																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb 30-day 11 ppb																										

Hourly Averages

Sulphur Dioxide (SO₂) - ppb
Evergreen Park - September 2013



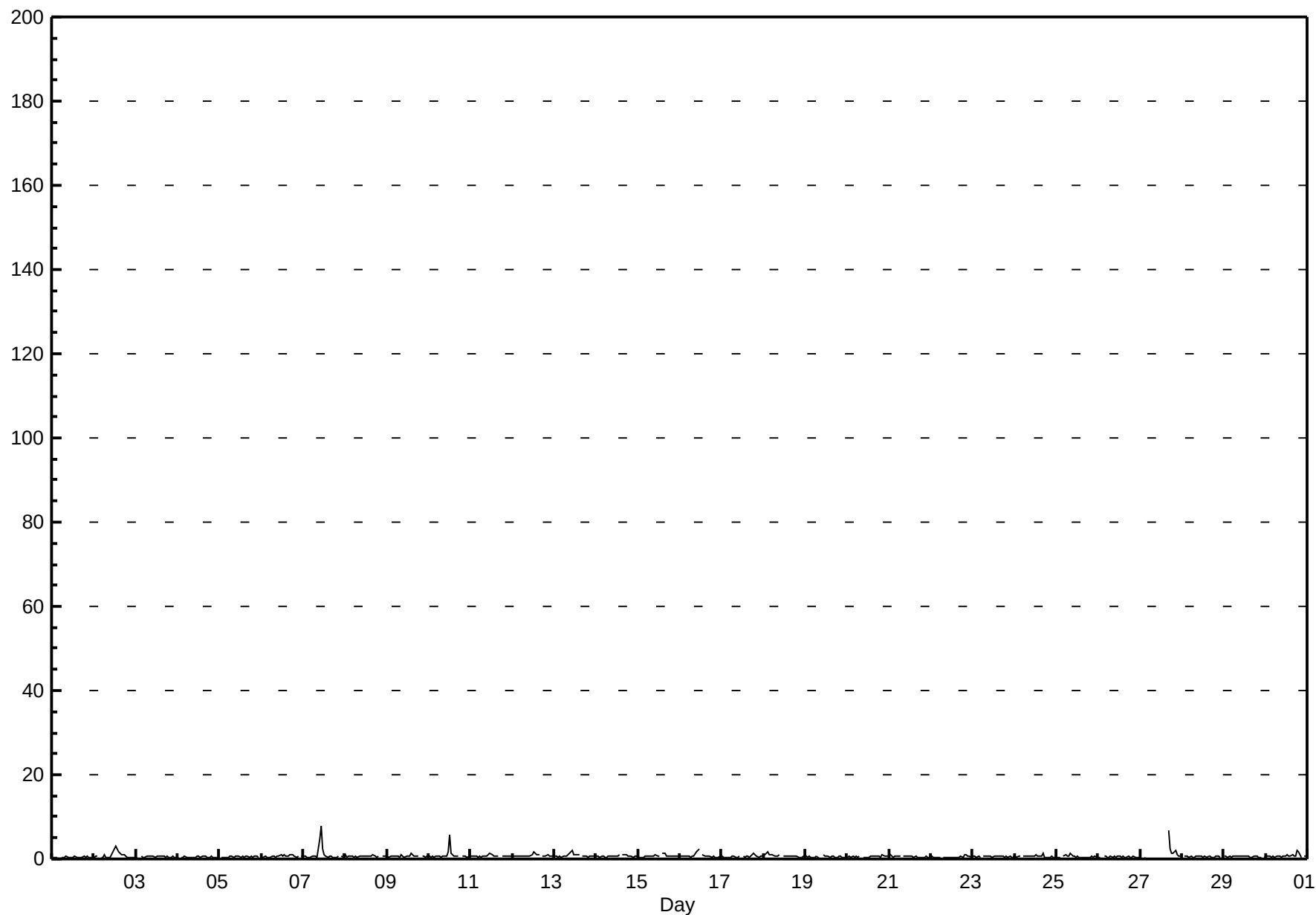
Hourly Maximums

Sulphur Dioxide (SO₂) - ppb Evergreen Park - September 2013

Maximum Value: 7.7 ppb on Sep 7 11:00																				Maximum Daily Average: 1.1 ppb on Sep 7					Hours in Service: 720	
Minimum Value: 0 ppb on Sep 27 06:00																				Minimum Daily Average: 0.4 ppb on Sep 1					Hours of Data: 684	
Maximum Diurnal Average: 1.0 ppb at hour 13																				Minimum Diurnal Average: 0.5 ppb at hour 5					Hours of Missing Data: 36	
Monthly Average: 0.65 ppb																				Percentiles: P ₁ = 0.0 P ₁₀ = 0.4 Q ₁ = 0.5 Median = 0.6 Q ₃ = 0.7 P ₉₀ = 0.9 P ₉₉ = 2.4					Hours of Calibration: 36	
																				Percent Operational Time: 100.0						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Sep	0	0	0	0	A	0	0	0	1	0	0	0	0	1	0	0	0	0	1	0	1	0	0	0	0.4	0.7
2-Sep	0	1	1	A	1	0	1	0	0	0	1	2	3	2	1	1	1	1	1	0	0	0	0	0	0.9	3.1
3-Sep	0	0	A	1	0	0	1	1	1	1	1	1	1	1	1	1	1	0	1	0	0	1	0	0	0.5	0.8
4-Sep	0	A	0	0	1	0	0	0	0	0	0	1	1	0	1	1	1	0	0	1	0	0	0	0	0.5	0.8
5-Sep	A	0	0	0	0	0	1	1	0	1	1	1	1	1	0	1	1	0	1	0	1	1	0	A	0.5	0.8
6-Sep	0	0	1	0	0	0	1	1	0	1	1	1	1	1	1	1	1	1	1	1	0	1	A	1	0.6	1.0
7-Sep	1	1	0	0	0	1	1	1	0	5	8	2	1	1	1	1	1	0	0	0	1	A	1	0	1.1	7.7
8-Sep	1	1	1	1	1	0	1	0	1	1	1	1	1	1	1	1	1	1	0	1	A	1	1	1	0.6	1.0
9-Sep	1	0	1	1	1	1	1	0	1	1	0	1	1	1	1	1	1	1	1	A	1	1	0	1	0.6	1.2
10-Sep	1	0	1	0	1	1	1	0	1	1	1	2	6	1	1	1	1	1	A	1	1	1	0	1	0.9	5.6
11-Sep	1	1	1	1	0	1	0	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	0.7	1.4
12-Sep	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	A	1	1	1	1	1	1	1	0.8	1.7
13-Sep	1	1	0	1	0	1	1	1	1	2	2	1	1	1	1	A	1	1	1	0	1	1	1	1	0.8	2.0
14-Sep	1	1	0	1	1	0	0	1	1	1	1	1	1	1	A	1	1	1	1	1	1	0	1	1	0.7	1.0
15-Sep	0	0	0	0	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	0.7	1.3
16-Sep	1	1	1	1	1	1	0	1	1	2	2	2	A	1	1	1	1	1	0	1	0	0	0	1	0.7	2.3
17-Sep	1	1	0	0	0	0	1	1	0	0	1	A	1	0	1	1	0	1	1	1	1	0	1	1	0.6	1.3
18-Sep	1	1	2	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	0	0	0	1	0.8	1.8
19-Sep	1	0	1	0	0	0	1	1	0	A	1	1	1	1	0	1	1	0	0	1	1	0	0	1	0.6	0.9
20-Sep	0	1	0	1	0	1	0	1	A	1	0	0	0	1	1	1	1	1	1	0	1	1	1	1	0.5	0.9
21-Sep	1	1	0	1	1	1	1	A	1	1	1	1	1	1	0	1	0	0	0	0	0	1	0	0	0.6	0.9
22-Sep	1	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	0	0.5	0.9
23-Sep	1	1	0	1	0	A	1	1	1	1	1	0	1	1	1	1	1	1	0	1	0	1	0	0	0.6	0.8
24-Sep	1	0	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	0	1	0	0	0.6	1.3
25-Sep	0	0	0	A	1	1	1	1	1	1	1	0	1	0	0	0	0	0	0	0	1	0	1	0	0.5	1.4
26-Sep	0	0	A	1	1	0	0	1	0	1	0	1	0	0	1	0	0	1	0	0	1	0	0	0	0.5	0.8
27-Sep	1	A	0	0	0	0	0	0	0	0	0	0	C	C	C	C	7	2	1	1	2	1	1	1	0.9	6.8
28-Sep	A	1	1	1	0	1	0	0	1	1	1	1	0	1	0	1	1	0	0	1	1	1	0	A	0.6	0.8
29-Sep	1	1	0	1	0	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	0	0	A	0	0.6	0.8
30-Sep	1	1	1	0	1	0	1	1	1	1	1	1	1	1	1	1	1	1	2	2	0	A	1	1	0.7	2.1
0.6 0.5 0.5 0.5 0.5 0.5 0.5 0.6 0.6 0.8 1.0 0.8 1.0 0.7 0.7 0.7 0.9 0.7 0.7 0.6 0.6 0.5 0.5 0.5																									Diurnal Average	
1.1 1.0 1.8 1.1 0.9 1.0 0.9 0.8 1.4 4.6 7.7 2.3 5.6 2.4 1.7 1.3 6.8 2.4 2.1 1.8 1.9 0.9 0.7 0.8																									Diurnal Maximum	
C - Calibration																									A - Automated Daily Zero Span	

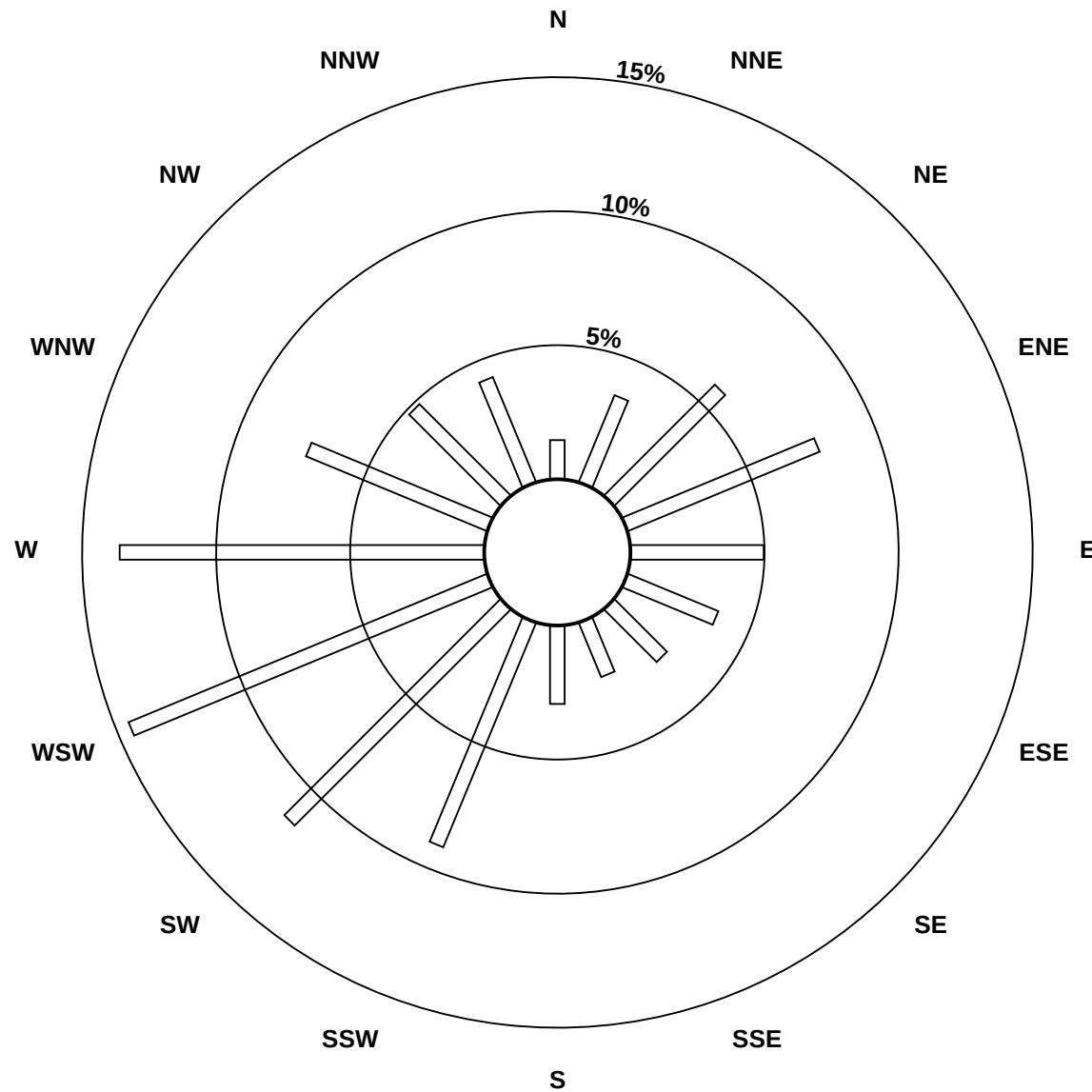
Hourly Maximums

Sulphur Dioxide (SO₂) - ppb
Evergreen Park - September 2013

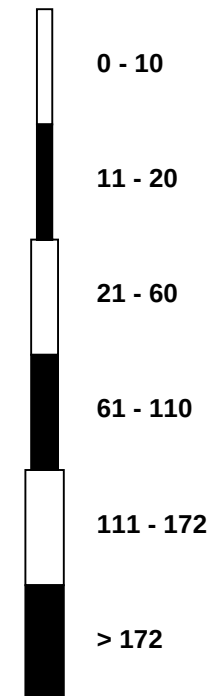


Pollutant Rose

Sulphur Dioxide (SO₂) - ppb
Evergreen Park - September 2013

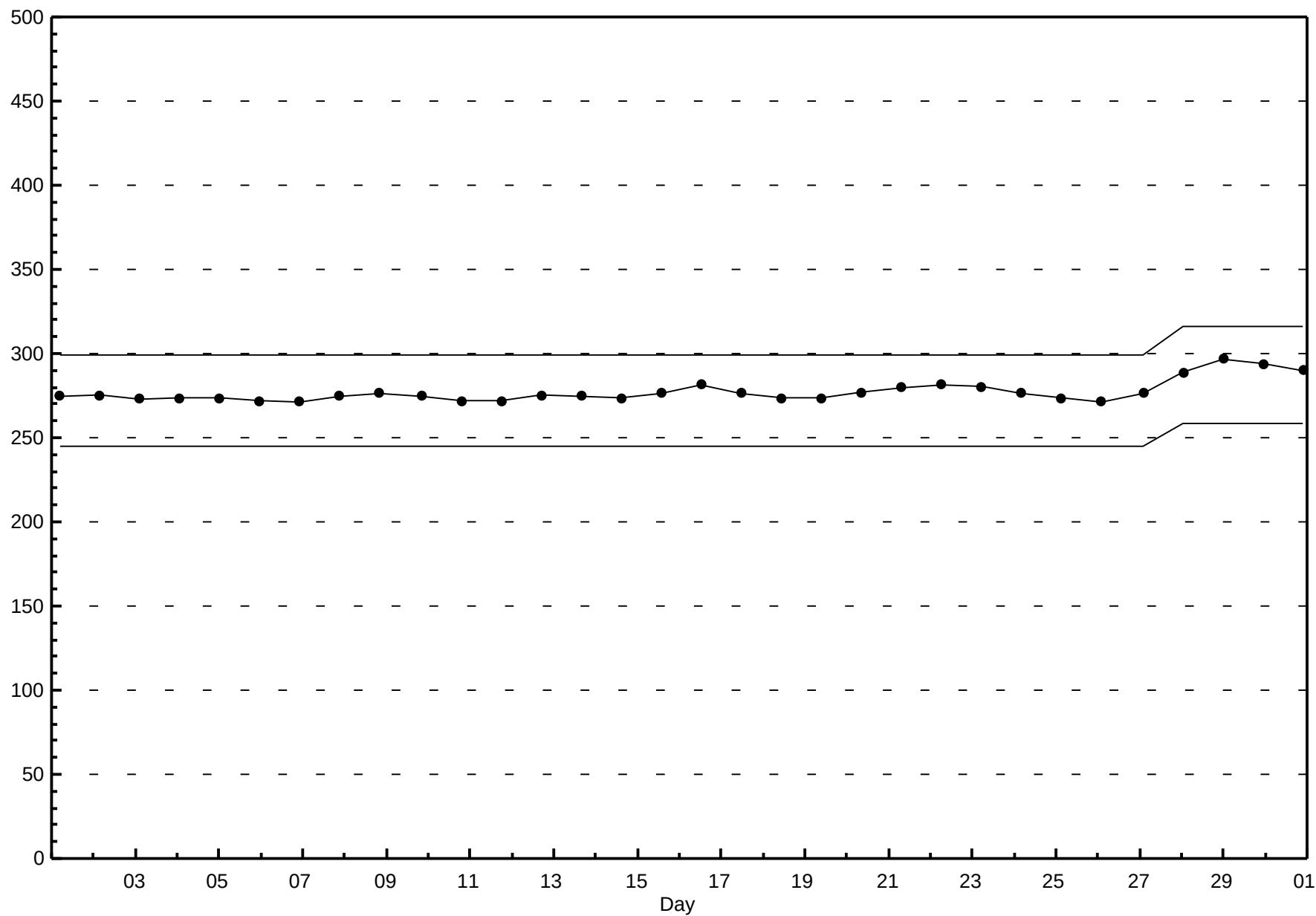


Pollutant Classes (ppb)



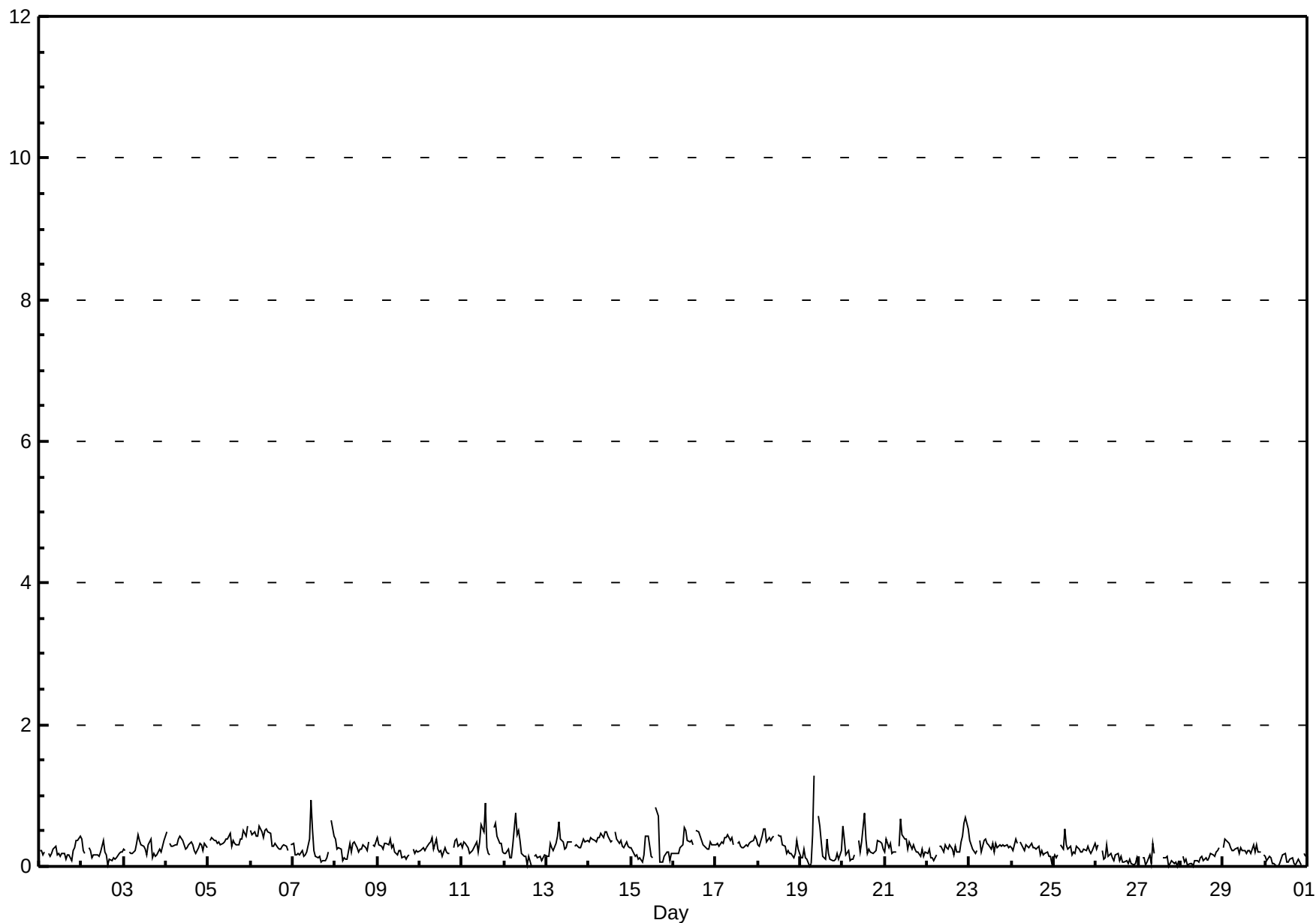
Span Responses

Sulphur Dioxide (SO₂)
Evergreen Park - September 2013



Hourly Averages

Total Reduced Sulphur (TRS) - ppb
Evergreen Park - September 2013



Hourly Maximums

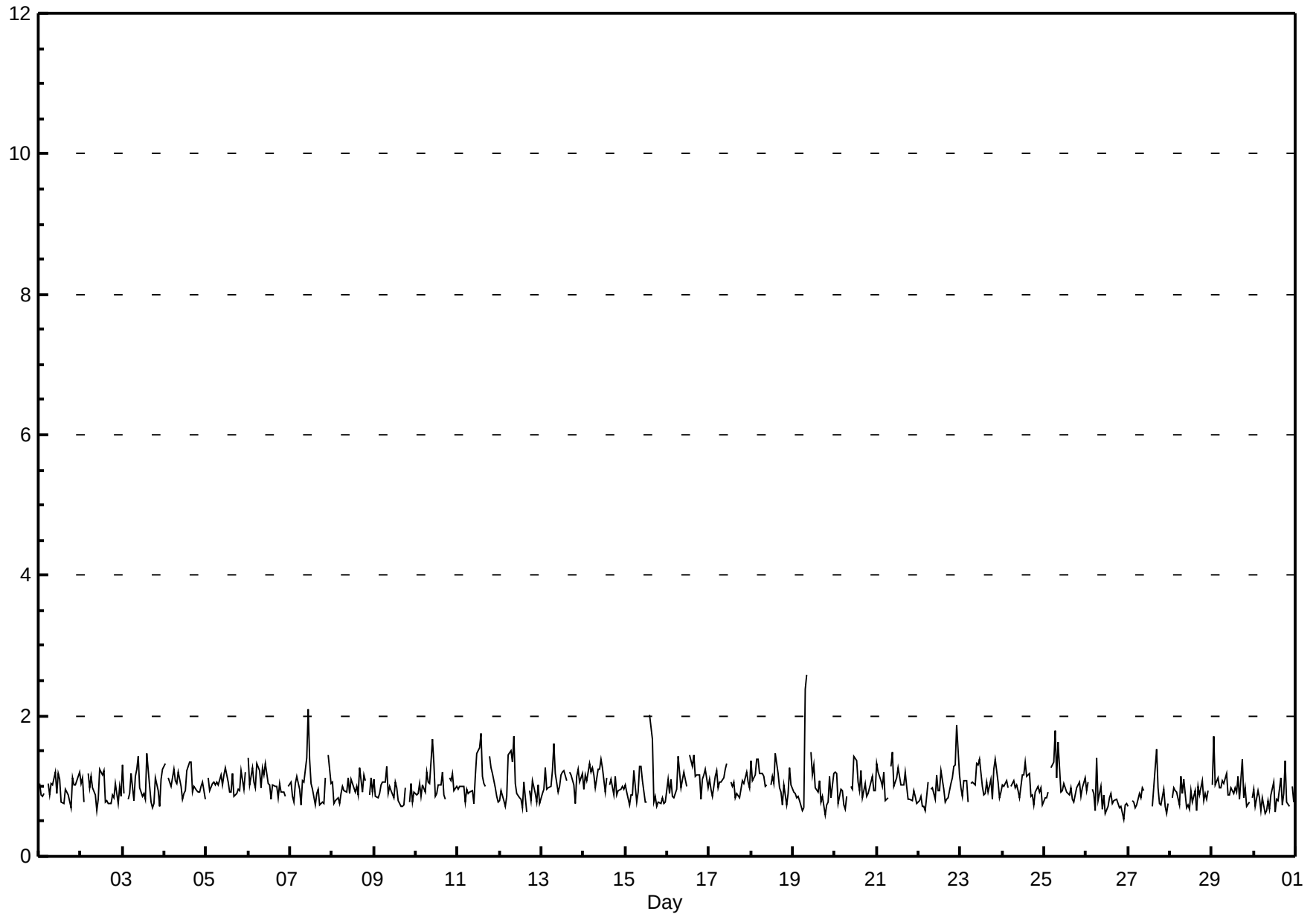
Total Reduced Sulphur (TRS) - ppb

Evergreen Park - September 2013

Maximum Value: 2.6 ppb on Sep 19 09:00																				Maximum Daily Average: 1.1 ppb on Sep 16										Hours in Service: 720	
Minimum Value: 1 ppb on Sep 26 22:00																				Minimum Daily Average: 0.8 ppb on Sep 26										Hours of Data: 684	
Maximum Diurnal Average: 1.2 ppb at hour 9																				Minimum Diurnal Average: 0.9 ppb at hour 18										Hours of Missing Data: 36	
Monthly Average: 1.00 ppb																				Percentiles: P ₁ = 0.6 P ₁₀ = 0.8 Q ₁ = 0.8 Median = 1.0 Q ₃ = 1.1 P ₉₀ = 1.3 P ₉₉ = 1.7										Hours of Calibration: 36	
																						Percent Operational Time: 100.0									
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum					
1-Sep	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.2					
2-Sep	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.2					
3-Sep	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.5					
4-Sep	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.1	1.3					
5-Sep	A	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	1.3					
6-Sep	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1.1	1.4					
7-Sep	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	A	1	1.0	2.1					
8-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	1.0	1.3					
9-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	0.9	1.3					
10-Sep	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1.0	1.7					
11-Sep	1	1	1	1	1	1	1	1	1	1	1	1	2	2	1	1	1	A	1	1	1	1	1	1	1.1	1.8					
12-Sep	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1.0	1.7					
13-Sep	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1.1	1.6					
14-Sep	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	2	2	1	1	1	1	1	1	1	1.1	1.4					
15-Sep	1	1	1	1	1	1	1	1	1	1	1	1	1	A	2	2	1	1	1	1	1	1	1	1	1.0	2.0					
16-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	1.1	1.4					
17-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	1.0	1.3					
18-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	1.1	1.5					
19-Sep	1	1	1	1	1	1	1	2	3	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.1	2.6					
20-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	1.0	1.4					
21-Sep	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.5					
22-Sep	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1.0	1.9					
23-Sep	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.4					
24-Sep	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.3					
25-Sep	1	1	1	A	1	1	2	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.8					
26-Sep	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.4					
27-Sep	1	A	1	1	1	1	1	1	1	1	C	C	C	C	1	1	2	1	1	1	1	1	1	1	0.9	1.5					
28-Sep	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	0.9	1.1					
29-Sep	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1.0	1.7					
30-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	0.8	1.4					
1.0 1.0 0.9 1.0 1.0 1.0 1.1 1.1 1.2 1.1 1.1 1.1 1.0 1.0 1.0 1.0 0.9 0.9 0.9 0.9 1.0 1.0 1.0 0.9																								Diurnal Average							
1.4 1.7 1.3 1.4 1.4 1.5 1.8 2.4 2.6 1.7 2.1 1.5 1.6 1.8 2.0 1.7 1.5 1.4 1.4 1.3 1.4 1.3 1.9 1.2																								Diurnal Maximum							
C - Calibration																								A - Automated Daily Zero Span							

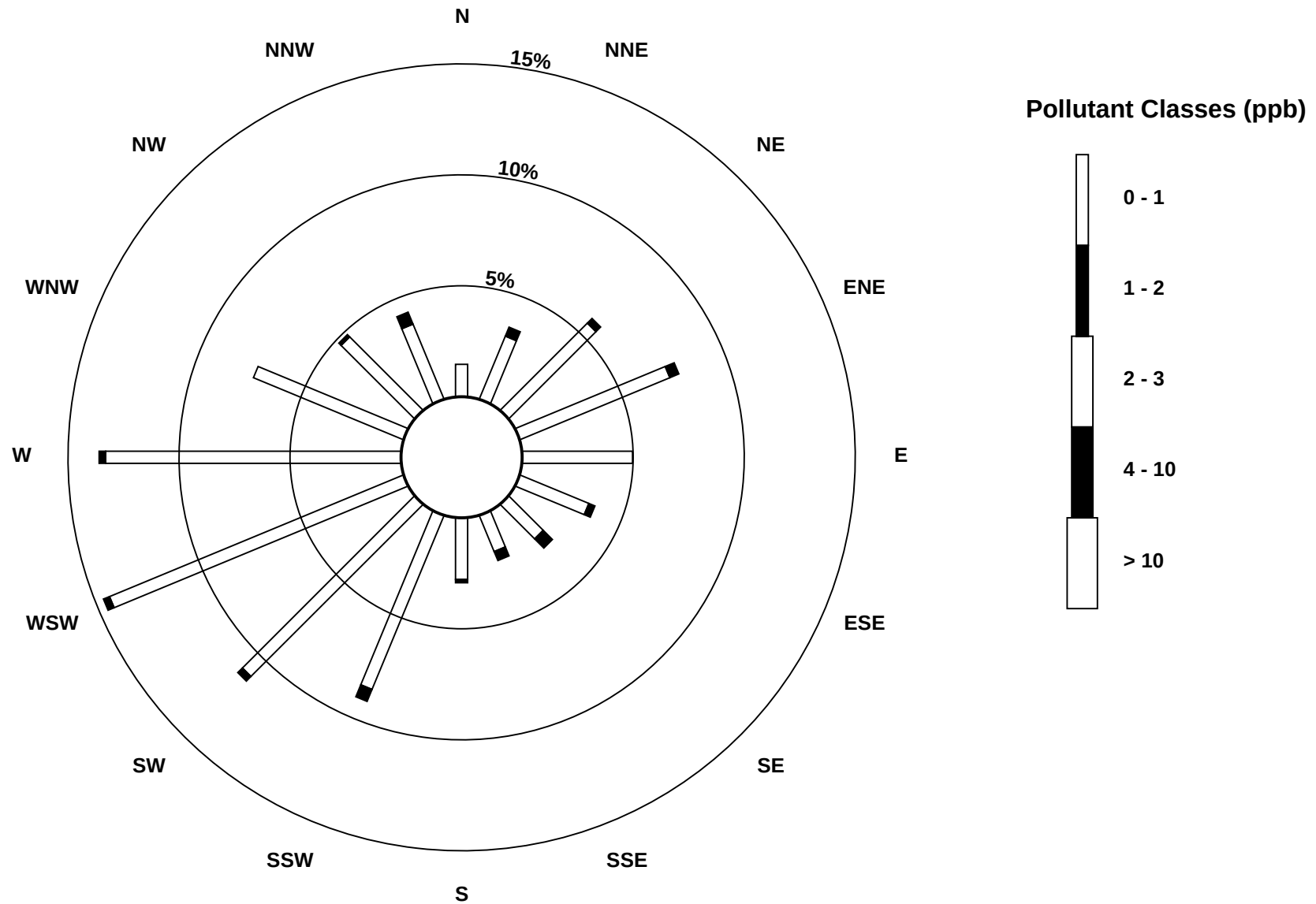
Hourly Maximums

Total Reduced Sulphur (TRS) - ppb
Evergreen Park - September 2013



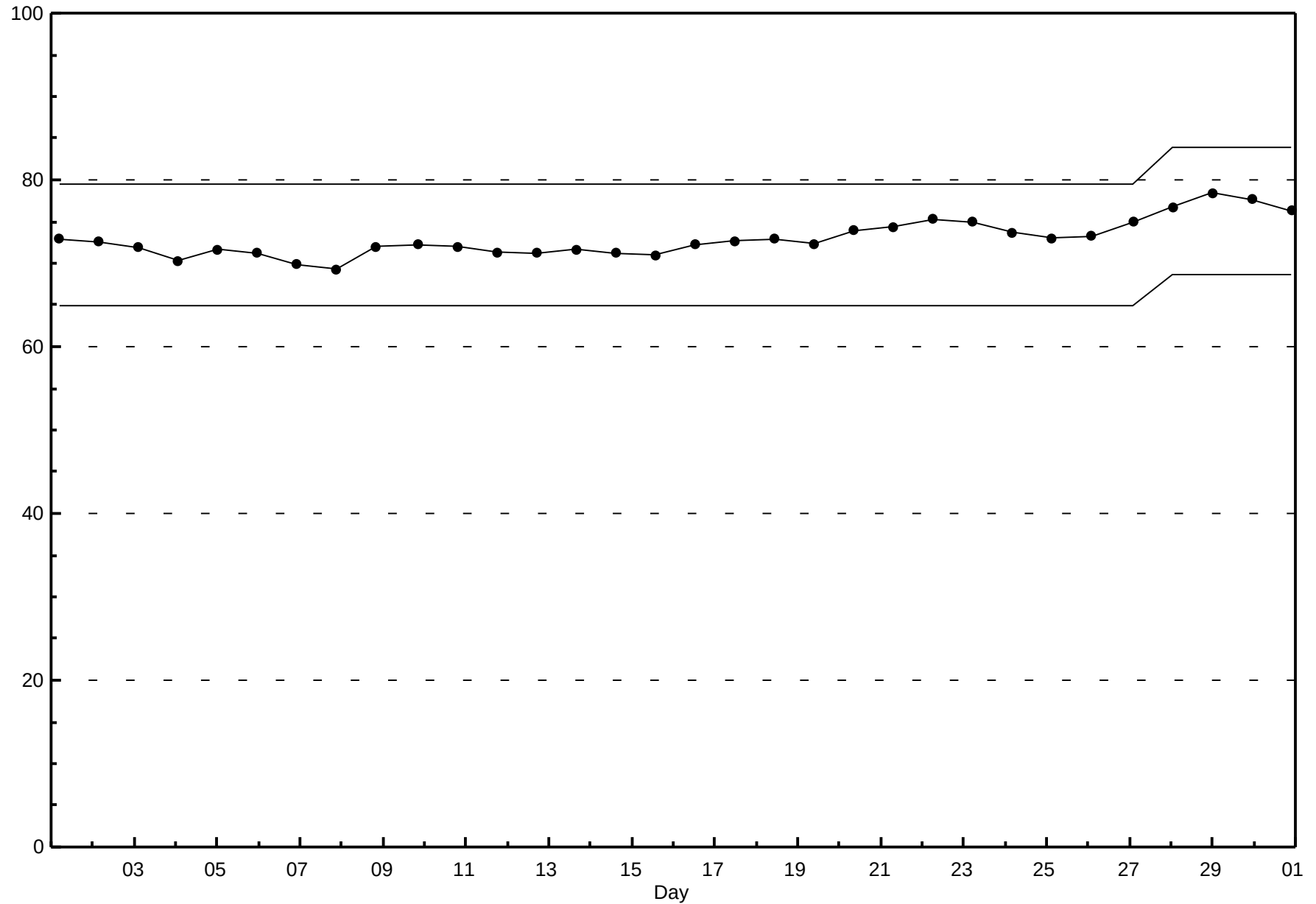
Pollutant Rose

Total Reduced Sulphur (TRS) - ppb
Evergreen Park - September 2013



Span Responses

Total Reduced Sulphur (TRS)
Evergreen Park - September 2013

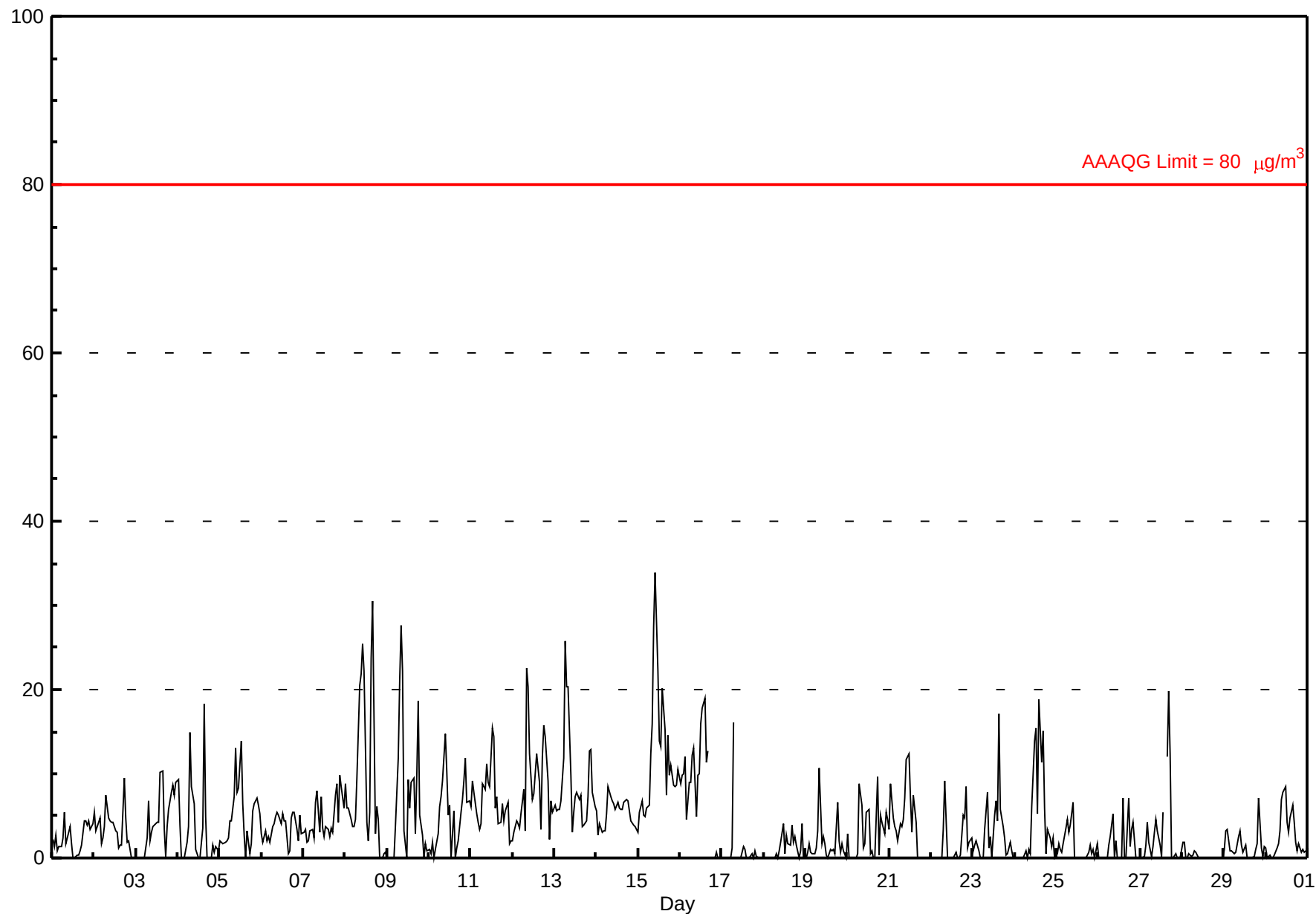


Hourly Averages

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

Evergreen Park - September 2013

Number of Exceedences: 1-hr: 0 24-hr: 0 Maximum Value: 34.0 µg/m³ on Sep 15 11:00 Minimum Value: 0 µg/m³ on Sep 1 13:00 Maximum Diurnal Average: 8.3 µg/m³ at hour 9 Monthly Average: 4.24 µg/m³																								Hours in Service: 720 Hours of Data: 712 Hours of Missing Data: 8 Hours of Calibration: 0 Percent Operational Time: 98.9		
Maximum Daily Average: 12.1 µg/m³ on Sep 15 Minimum Daily Average: 0.3 µg/m³ on Sep 28 Minimum Diurnal Average: 1.8 µg/m³ at hour 5 Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.5 Median = 3.0 Q ₃ = 6.1 P ₉₀ = 9.9 P ₉₉ = 22.6																										
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	2	1	3	1	1	1	2	6	2	3	4	2	0	0	0	0	1	2	4	4	4	4	3	4	2.3	5.5
2-Sep	6	3	4	5	2	2	4	7	5	4	4	4	3	3	1	2	2	9	5	2	2	0	0	0	3.3	9.5
3-Sep	0	0	0	0	0	0	2	7	2	3	4	4	4	4	10	10	3	0	4	6	8	9	7	9	4.1	10.3
4-Sep	9	4	0	0	0	2	4	15	8	6	1	0	0	0	4	18	5	0	0	0	1	1	1	1	3.4	18.3
5-Sep	2	2	2	2	2	2	4	4	7	13	8	8	14	6	3	0	3	0	2	6	7	7	6	5	4.8	13.9
6-Sep	3	2	3	2	2	2	4	4	5	5	5	4	5	4	4	0	1	5	5	5	3	2	5	3	3.6	5.5
7-Sep	3	3	2	2	3	3	2	7	8	3	7	4	2	4	3	3	4	3	7	9	4	10	8	6	4.6	9.9
8-Sep	9	6	6	5	4	4	5	9	20	22	25	22	4	2	5	24	31	3	6	5	0	0	0	1	9.1	30.5
9-Sep	0	0	0	0	0	4	12	21	28	22	3	0	9	6	9	10	3	10	19	5	3	0	2	1	6.9	27.6
10-Sep	1	1	2	0	1	3	6	7	9	15	10	5	6	0	6	0	1	2	5	7	9	12	7	7	5.1	14.7
11-Sep	6	9	8	5	4	3	4	9	8	11	9	9	15	14	6	7	4	4	6	4	6	7	2	2	6.8	15.5
12-Sep	2	3	4	4	4	5	8	3	22	20	12	7	8	10	12	9	3	12	16	14	9	2	7	5	8.5	22.5
13-Sep	6	6	6	6	7	12	26	20	20	10	3	5	7	8	7	8	4	4	4	7	13	13	8	6	9.0	25.8
14-Sep	6	3	4	3	3	3	5	8	7	7	6	6	7	6	6	6	7	7	7	6	4	4	4	3	5.3	8.4
15-Sep	3	5	7	5	5	6	6	12	16	27	34	22	14	13	20	15	7	14	10	11	9	8	9	11	12.1	34.0
16-Sep	9	10	10	12	5	9	9	12	13	5	10	10	16	18	19	11	13	N	N	0	0	1	0	N	9.1	18.9
17-Sep	0	0	0	0	0	0	1	16	N	0	0	0	1	1	0	0	0	1	0	1	0	0	0	0	0.9	16.1
18-Sep	0	0	0	0	0	0	0	1	0	1	2	4	1	3	2	2	4	2	2	2	0	1	4	0	1.2	4.2
19-Sep	0	1	2	1	1	0	1	3	11	2	2	2	0	0	1	1	1	1	7	2	1	2	1	0	1.7	10.7
20-Sep	3	0	0	0	0	0	1	9	6	1	2	5	6	0	1	0	0	10	0	5	4	3	5	5	2.8	9.7
21-Sep	3	9	5	4	3	2	4	4	5	7	12	12	7	3	8	4	0	0	0	N	0	N	0	0	4.1	12.4
22-Sep	0	0	0	0	0	0	0	3	9	0	0	0	N	0	1	0	0	0	5	5	8	1	2	2	1.6	9.1
23-Sep	1	1	2	1	0	0	0	3	8	1	3	0	5	7	4	17	6	4	2	0	1	2	1	0	2.9	17.1
24-Sep	0	0	0	0	0	0	1	0	1	1	6	14	15	5	19	11	15	6	1	3	2	1	2	0	4.3	18.8
25-Sep	1	2	1	1	2	4	5	3	4	7	0	0	0	0	0	0	0	0	1	1	1	1	0	2	1.4	6.6
26-Sep	0	0	0	0	0	0	1	2	5	0	2	0	0	0	7	0	0	7	1	3	4	0	0	0	1.4	7.1
27-Sep	0	0	0	1	4	2	0	1	3	5	3	2	0	5	M	12	20	12	0	0	1	0	0	0	3.1	19.8
28-Sep	2	2	0	0	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.8
29-Sep	1	3	3	1	1	1	0	1	3	3	1	1	2	0	0	0	0	0	1	2	7	1	0	1	1.4	7.1
30-Sep	1	0	0	0	0	0	1	2	3	7	8	8	4	3	5	6	4	2	1	2	1	1	1	1	2.6	8.4
2.6 2.5 2.4 2.0 1.8 2.4 4.0 6.7 8.3 7.1 6.2 5.4 5.4 4.2 5.6 5.9 4.7 4.1 4.2 4.1 3.7 3.2 2.9 2.6																								Diurnal Average		
9.4 9.7 10.0 12.0 6.8 11.9 25.8 21.1 27.6 27.4 34.0 22.2 15.9 17.7 20.2 23.7 30.5 14.5 18.6 14.4 12.7 12.8 8.6 10.6																								Diurnal Maximum		
M - Maintenance N - Not Valid																										
Alberta Ambient Air Quality Guideline (AAQG): 1-hr 80 µg/m³ Alberta Ambient Air Quality Objective (AAQO): 24-hr 30 µg/m³																										



Hourly Maximums

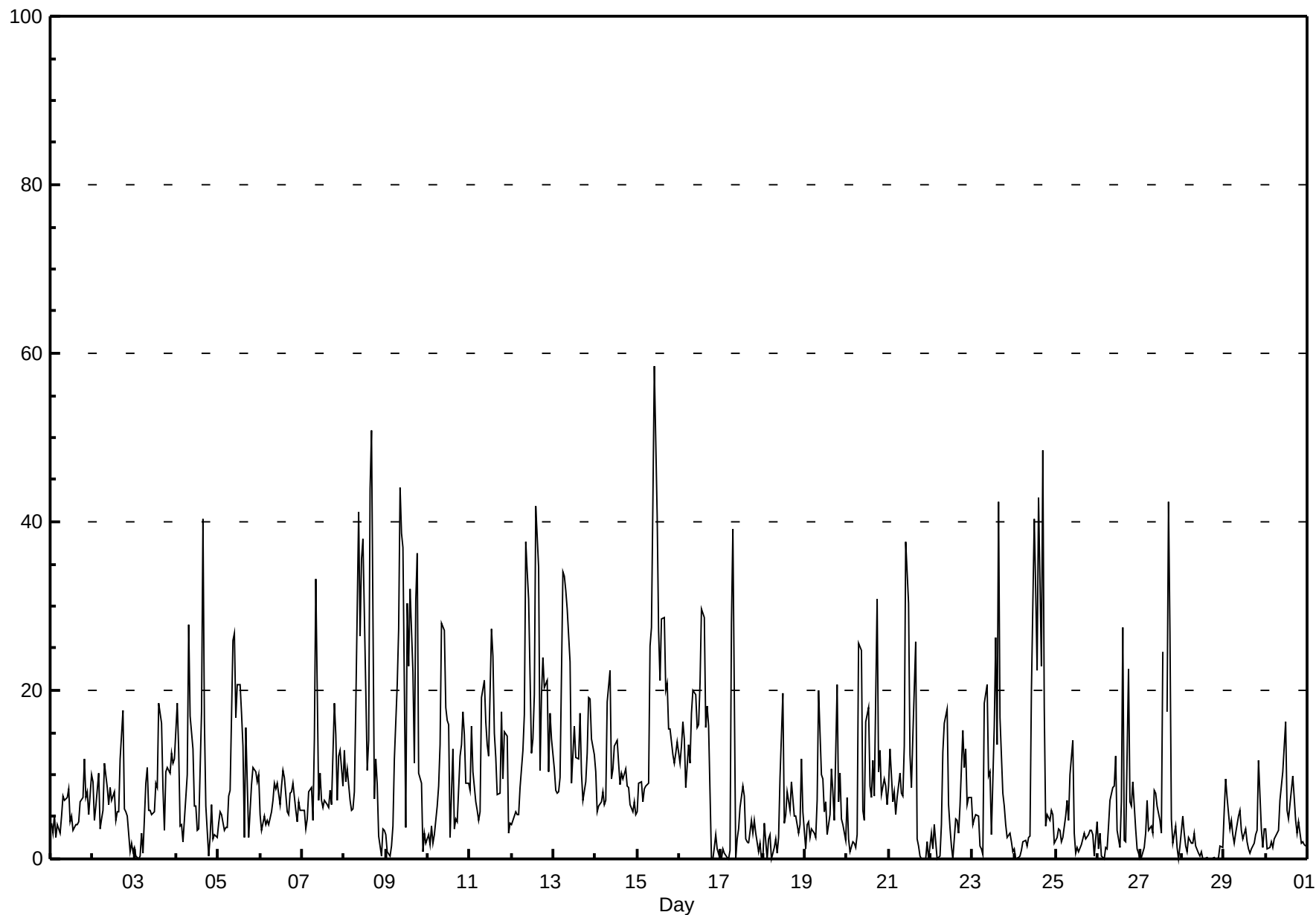
Particulate Matter 2.5 (PM_{2.5}) - µg/m³

Evergreen Park - September 2013

Maximum Value: 58.5 μg/m³ on Sep 15 11:00																								Maximum Daily Average: 19.9 μg/m³ on Sep 15										Hours in Service: 720	
Minimum Value: 0 μg/m³ on Sep 3 03:00																								Minimum Daily Average: 1.1 μg/m³ on Sep 28										Hours of Data: 719	
Maximum Diurnal Average: 17.0 μg/m³ at hour 9																								Minimum Diurnal Average: 4.1 μg/m³ at hour 4										Hours of Missing Data: 1	
Monthly Average: 9.30 μg/m³																								Percentiles: P ₁ = 0.0 P ₁₀ = 1.1 Q ₁ = 3.1 Median = 6.5 Q ₃ = 12.2 P ₉₀ = 20.8 P ₉₉ = 42.0										Hours of Calibration: 0	
Percent Operational Time: 99.9																																			
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum									
1-Sep	4	3	5	3	4	3	5	7	7	7	8	4	5	3	4	4	4	7	7	12	7	8	5	10	5.8	11.9									
2-Sep	9	5	6	10	4	5	6	11	8	6	8	7	8	5	6	6	12	18	6	6	5	1	2	1	6.6	17.7									
3-Sep	1	0	0	0	3	1	9	11	6	6	5	6	9	8	18	16	8	3	10	11	10	13	11	12	7.5	18.5									
4-Sep	18	13	4	4	2	7	10	28	17	13	6	6	3	4	17	40	16	6	0	3	6	2	3	3	9.7	40.4									
5-Sep	4	6	5	3	4	4	7	8	26	27	17	21	21	17	13	3	16	3	6	9	11	10	9	10	10.8	26.7									
6-Sep	5	3	5	4	5	4	6	7	9	8	9	6	9	10	10	6	5	8	8	9	6	4	7	6	6.6	10.4									
7-Sep	6	6	4	5	8	8	5	14	33	7	10	7	6	7	7	6	8	7	18	15	7	12	13	9	9.4	33.3									
8-Sep	13	9	11	7	6	6	8	18	41	27	36	38	20	10	14	44	51	7	12	9	3	0	4	3	16.5	50.8									
9-Sep	3	1	0	2	4	12	21	27	44	39	37	4	30	23	32	22	11	31	36	10	9	1	3	2	16.8	44.1									
10-Sep	3	2	4	2	3	6	9	14	28	27	18	16	16	3	13	4	5	4	12	14	17	15	9	9	10.5	27.9									
11-Sep	8	16	10	7	6	5	6	19	21	16	14	12	27	24	15	12	8	8	17	9	15	15	3	4	12.4	27.2									
12-Sep	4	5	6	5	5	8	13	17	38	34	31	13	14	19	42	35	10	19	24	20	21	10	17	14	17.7	41.9									
13-Sep	11	8	8	8	10	34	34	32	30	23	9	12	16	12	12	17	10	7	9	13	19	19	14	12	15.8	34.0									
14-Sep	10	6	6	7	8	6	7	19	22	9	11	13	14	11	9	10	9	11	9	8	7	6	7	5	9.6	22.3									
15-Sep	6	9	9	7	8	9	9	25	27	42	58	41	27	21	28	29	20	21	15	15	12	11	13	14	19.9	58.5									
16-Sep	11	13	16	14	8	14	11	17	20	19	16	16	21	30	29	16	18	16	0	0	1	3	1	0	12.9	29.7									
17-Sep	0	1	1	0	0	1	28	39	0	2	4	6	9	7	2	2	2	5	3	5	3	1	2	0	5.1	39.2									
18-Sep	0	4	0	2	3	0	1	2	1	3	10	20	4	5	8	6	9	7	5	5	3	4	12	6	5.0	19.6									
19-Sep	1	4	4	3	4	3	3	7	20	10	9	6	7	3	5	11	8	5	21	7	10	5	4	2	6.7	20.6									
20-Sep	7	2	1	2	2	1	3	26	25	6	5	16	18	9	7	12	7	31	10	13	8	9	9	7	9.8	30.9									
21-Sep	9	13	7	8	5	7	10	8	7	13	38	30	12	8	15	26	2	2	0	0	0	0	2	0	9.3	37.6									
22-Sep	3	1	4	2	0	0	4	13	16	18	6	4	2	0	5	5	3	6	15	11	13	6	7	7	6.3	17.9									
23-Sep	4	5	5	5	2	1	1	18	21	10	10	3	16	26	14	42	17	8	6	4	3	3	2	1	9.4	42.4									
24-Sep	1	0	0	0	1	2	2	2	3	3	20	40	32	22	43	23	48	18	4	5	5	6	5	2	12.0	48.5									
25-Sep	3	4	3	2	3	5	7	5	10	14	3	1	1	1	2	2	3	2	3	3	3	3	0	4	3.6	14.1									
26-Sep	1	3	0	0	1	1	4	7	8	9	12	3	1	7	28	2	2	23	7	6	9	4	1	1	5.9	27.5									
27-Sep	0	0	1	3	7	3	4	3	8	8	6	5	3	25	M	17	42	27	5	2	4	1	0	2	7.7	42.4									
28-Sep	5	3	2	1	3	2	2	3	2	1	0	1	0	0	0	0	0	0	0	0	0	0	2	1	1.1	5.1									
29-Sep	6	9	7	4	5	3	2	3	5	6	3	2	4	2	1	1	1	2	3	3	12	4	1	4	3.8	11.7									
30-Sep	4	1	1	2	1	2	3	3	7	9	10	16	6	5	6	10	7	5	3	4	2	2	2	2	4.7	16.3									
5.4 5.2 4.6 4.1 4.1 5.5 7.9 13.8 17.0 14.1 14.3 12.5 12.0 11.0 13.9 14.2 12.2 10.4 9.2 7.7 7.7 5.9 5.7 5.0																								Diurnal Average											
18.4 15.8 16.3 14.3 9.7 34.0 33.6 39.2 44.1 42.4 58.5 40.7 32.1 29.7 42.9 43.8 50.8 30.9 36.2 20.4 21.1 18.9 17.2 14.3																								Diurnal Maximum											
M - Maintenance																																			

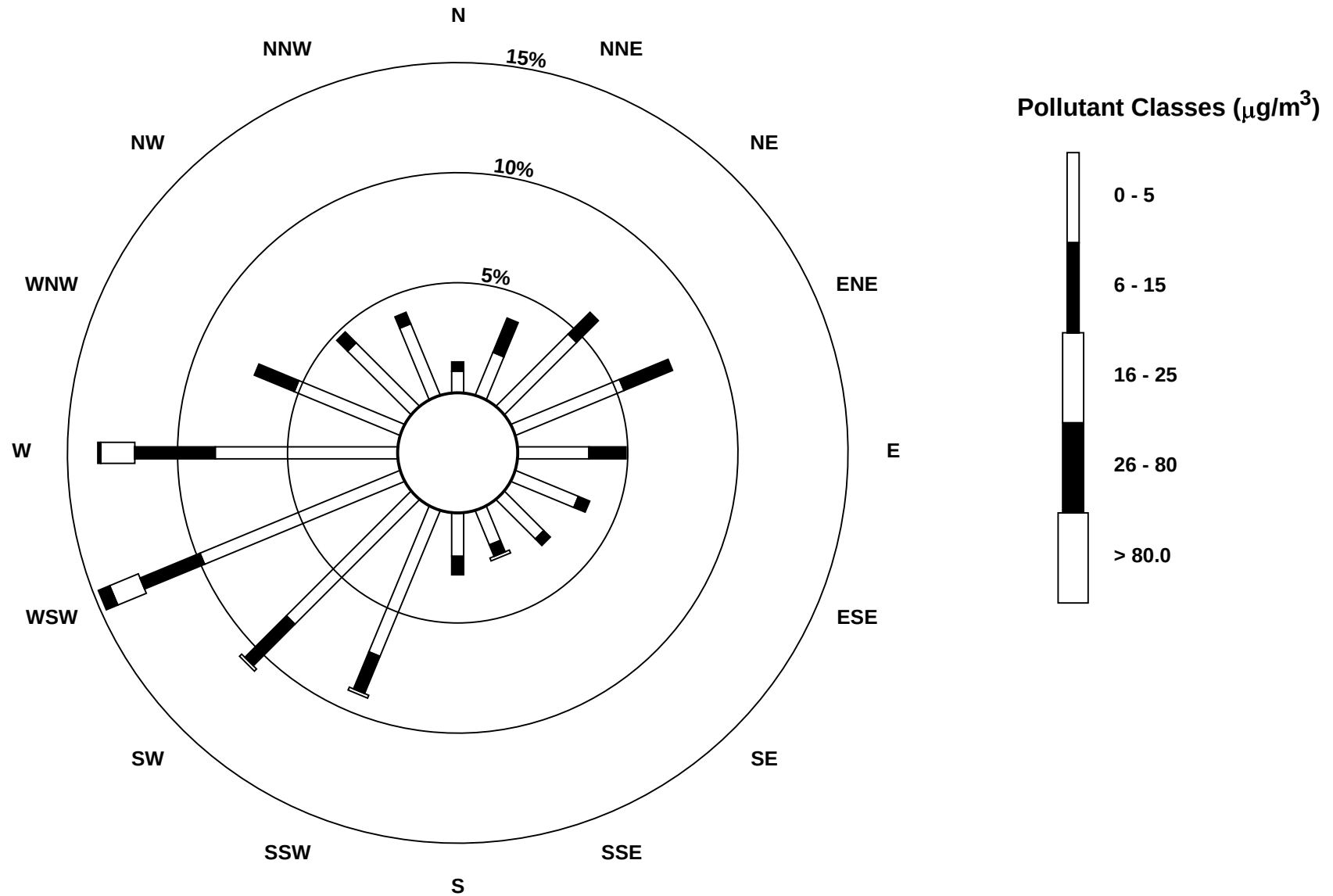
Hourly Maximums

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Evergreen Park - September 2013



Pollutant Rose

Particulate Matter 2.5 (PM_{2.5}) - µg/m³
Evergreen Park - September 2013



Hourly Averages

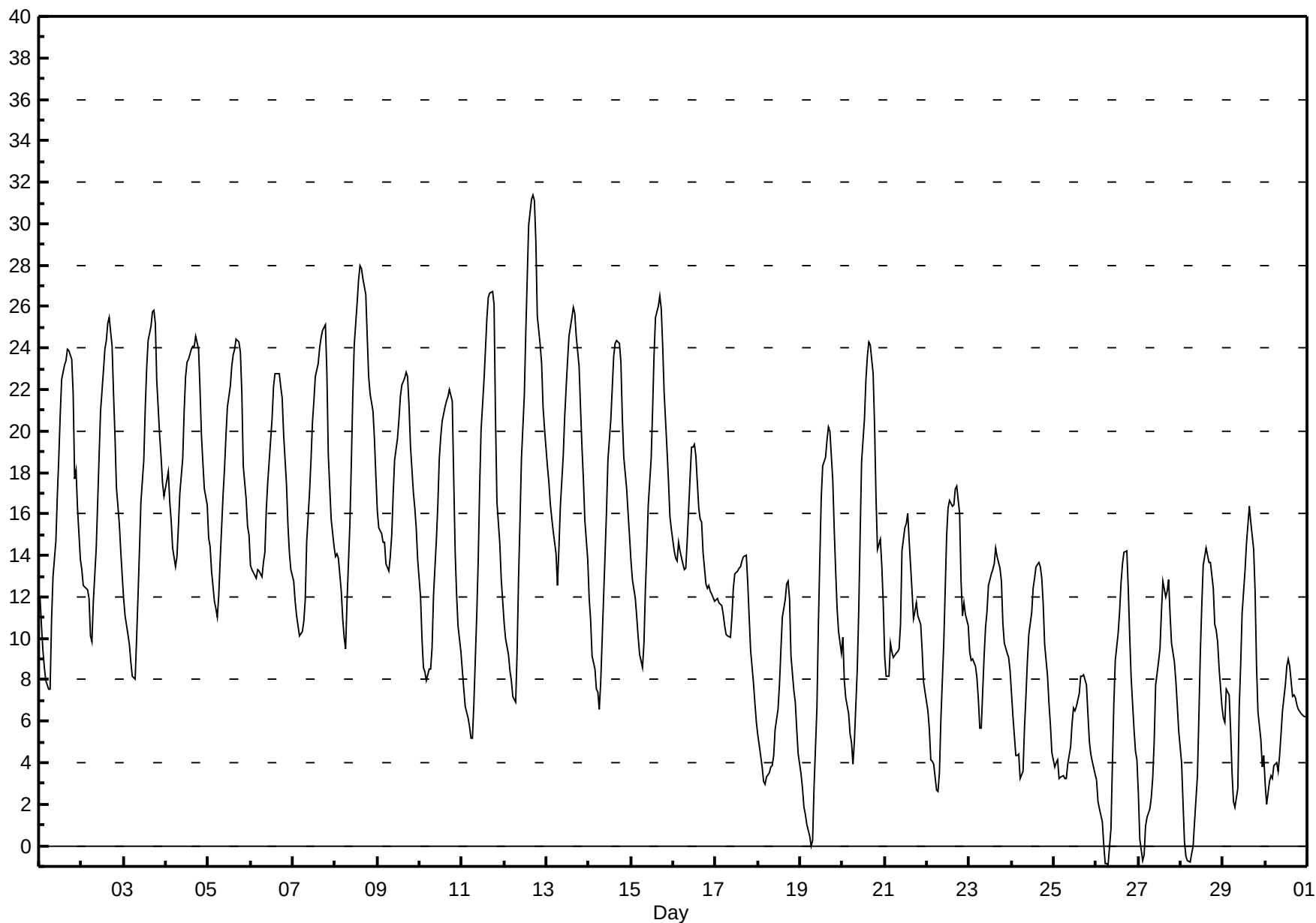
External Temperature (ET) - °C

Evergreen Park - September 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 31.4 °C on Sep 12 17:00 Maximum Daily Average: 19.5 °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 26 08:00 Minimum Daily Average: 5.2 °C on Sep 25 Maximum Diurnal Average: 19.7 °C at hour 17 Minimum Diurnal Average: 6.9 °C at hour 7 Monthly Average: 13.18 °C Percentiles: P ₁ = -0.5 P ₁₀ = 4.0 Q ₁ = 8.1 Median = 12.8 Q ₃ = 18.1 P ₉₀ = 23.3 P ₉₉ = 27.8																										
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	12	11	9	9	8	8	8	11	13	15	17	19	21	22	23	23	24	24	23	22	18	18	16	14	16.1	23.9
2-Sep	13	13	12	12	12	10	10	12	14	17	19	21	23	24	24	25	26	24	22	20	17	16	14	13	17.2	25.5
3-Sep	12	11	10	10	9	8	8	10	12	14	17	19	21	23	24	25	26	26	25	22	20	19	18	17	16.9	25.8
4-Sep	18	18	17	16	14	13	14	15	17	19	21	23	23	23	24	24	24	25	24	22	20	18	17	16	19.4	24.6
5-Sep	15	14	13	12	11	11	12	14	17	18	20	21	22	23	24	24	24	24	24	22	18	17	15	15	18.0	24.4
6-Sep	14	13	13	13	13	13	13	14	14	16	18	20	21	22	23	23	23	22	22	20	17	15	14	13	17.0	22.8
7-Sep	13	12	11	11	10	10	11	12	15	17	19	20	21	23	23	24	25	25	25	23	19	17	16	14	17.3	25.1
8-Sep	14	14	14	12	11	10	9	12	16	19	22	24	26	27	28	28	27	27	25	23	22	21	20	18	19.5	28.0
9-Sep	16	15	15	15	15	14	13	14	15	17	19	20	21	22	22	23	23	23	21	19	17	16	15	14	17.6	22.9
10-Sep	12	10	9	8	8	9	8	10	12	15	16	19	20	20	21	21	22	22	21	18	14	12	11	9	14.5	22.0
11-Sep	8	8	7	6	6	5	5	7	11	14	17	20	22	24	25	26	27	27	26	21	17	15	13	12	15.3	26.7
12-Sep	11	10	9	8	8	7	7	9	13	16	19	22	25	27	30	31	31	31	29	26	24	23	21	20	19.1	31.4
13-Sep	18	18	17	16	15	14	13	14	16	19	21	22	23	25	25	26	26	25	23	21	19	18	16	14	19.3	25.9
14-Sep	12	11	9	9	8	7	7	8	12	14	16	19	21	22	24	24	24	24	23	21	19	17	16	15	15.9	24.4
15-Sep	14	13	12	11	10	9	9	10	12	14	16	19	21	24	25	26	27	26	24	22	19	18	16	15	17.1	26.5
16-Sep	14	14	14	15	14	14	13	13	15	18	19	19	19	19	16	16	16	14	13	12	13	12	12	12	14.8	19.3
17-Sep	12	12	12	12	11	11	10	10	10	11	12	13	13	13	13	14	14	14	13	11	9	8	7	6	11.3	14.0
18-Sep	5	5	4	3	3	3	3	4	4	4	6	7	8	9	11	12	13	13	12	9	7	7	6	4	6.8	12.8
19-Sep	3	3	2	1	1	0	0	0	3	7	11	14	17	18	19	20	20	20	18	15	13	11	10	9	9.8	20.2
20-Sep	10	8	7	6	5	5	4	5	9	11	15	19	21	22	24	24	24	23	20	17	14	15	14	12	13.9	24.3
21-Sep	9	8	8	10	9	9	9	9	9	11	14	15	16	16	15	12	11	11	12	11	11	9	8	7	10.9	16.0
22-Sep	6	6	4	4	4	3	3	4	6	10	12	15	16	17	16	16	17	17	16	13	11	12	11	11	10.4	17.3
23-Sep	9	9	9	9	8	7	6	6	9	11	11	13	13	13	14	14	14	13	13	11	10	9	9	8	10.3	14.4
24-Sep	7	6	4	4	4	3	4	6	7	9	10	11	12	13	13	14	13	13	12	10	8	7	6	4	8.4	13.6
25-Sep	4	4	4	3	3	3	3	3	4	5	6	7	7	7	7	8	8	8	8	6	5	4	4	3	5.2	8.2
26-Sep	3	2	2	1	0	-1	-1	-1	1	4	7	9	10	11	13	14	14	14	12	10	8	6	5	4	6.1	14.2
27-Sep	3	0	-1	0	1	1	2	2	3	5	8	9	10	11	13	12	12	13	11	10	9	8	7	6	6.4	12.8
28-Sep	4	2	0	0	-1	-1	0	0	1	3	6	9	12	14	14	14	14	14	12	11	10	10	9	7	6.8	14.4
29-Sep	6	6	8	7	6	4	2	2	3	7	9	11	13	15	15	16	16	14	12	9	6	5	4	4	8.3	16.4
30-Sep	3	2	3	3	3	4	4	4	4	5	6	8	9	9	9	7	7	7	7	7	6	6	6	6	5.7	9.0
10.0 9.2 8.6 8.2 7.7 7.2 6.9 7.9 9.9 12.1 14.3 16.1 17.5 18.6 19.3 19.6 19.7 19.4 18.3 16.0 14.1 13.0 11.8 10.8																									Diurnal Average	
18.3 18.0 16.6 15.8 15.2 14.1 13.9 15.4 17.0 18.8 21.7 24.2 26.2 27.4 29.9 31.2 31.4 31.1 29.2 25.5 24.1 23.3 21.2 20.1																									Diurnal Maximum	

Hourly Averages

External Temperature (ET) - °C
Evergreen Park - September 2013



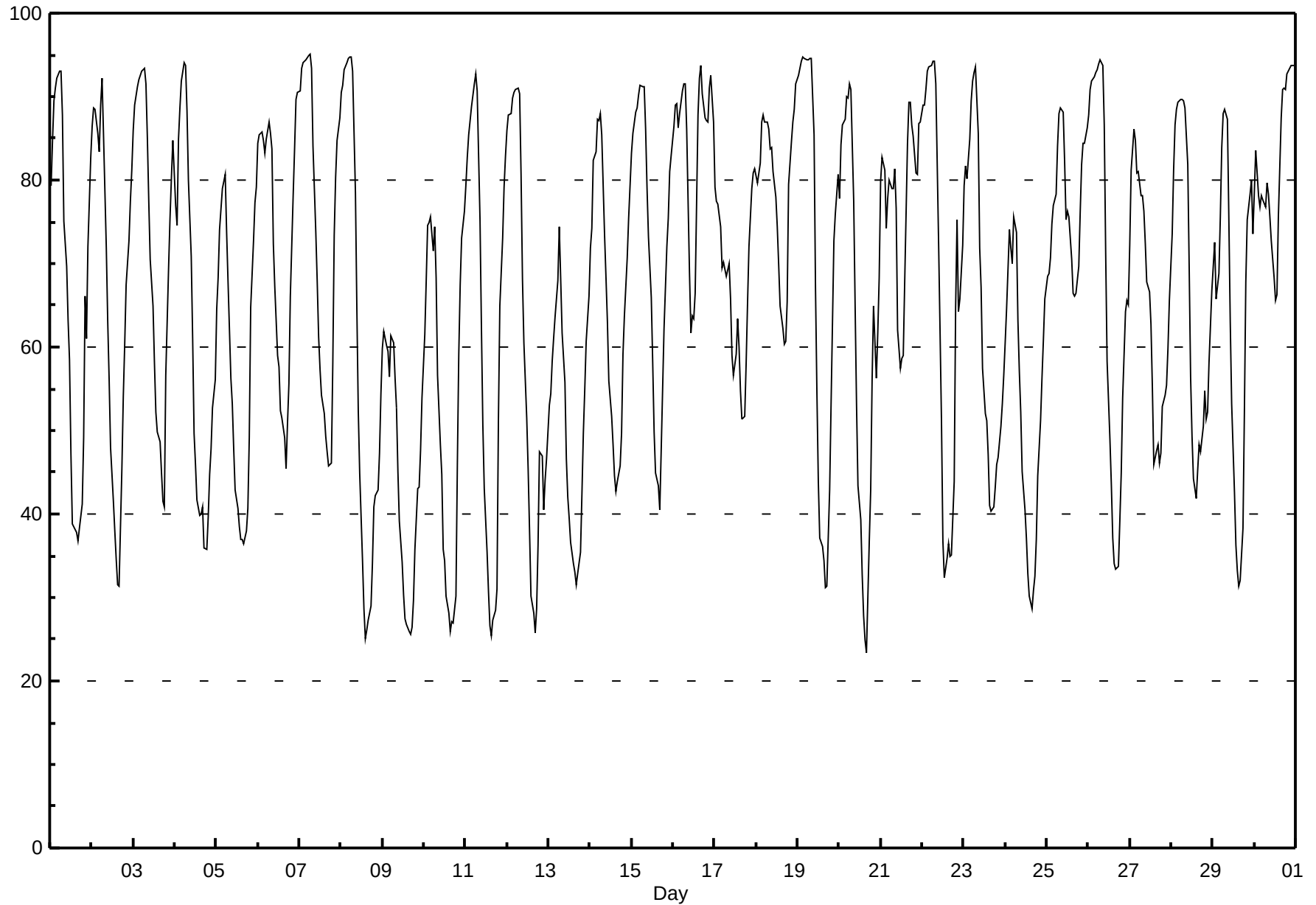
Hourly Averages

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

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 95.2 % on Sep 7 07:00 Maximum Daily Average: 84.1 % on Sep 16																					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 20 17:00 Maximum Diurnal Average: 86.0 % at hour 7 Monthly Average: 66.03 % Minimum Daily Average: 44.3 % on Sep 9 Minimum Diurnal Average: 43.6 % at hour 17 Percentiles: P ₁ = 26.0 P ₁₀ = 36.4 Q ₁ = 49.1 Median = 68.4 Q ₃ = 84.7 P ₉₀ = 91.0 P ₉₉ = 94.5																										
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	79	85	90	91	92	93	93	88	75	70	63	58	47	39	38	38	37	38	41	49	66	61	72	83	66.1	93.1
2-Sep	86	89	89	86	83	89	92	86	72	63	56	48	42	38	35	32	31	45	54	60	67	73	77	81	65.6	92.2
3-Sep	86	89	91	92	92	93	93	92	85	77	71	65	58	52	50	49	45	42	41	57	69	75	80	85	72.1	93.3
4-Sep	77	75	85	89	92	94	94	88	80	71	61	50	46	42	40	40	41	36	36	40	45	48	53	56	61.5	94.1
5-Sep	65	68	74	79	80	81	74	68	56	53	48	43	41	38	37	37	36	38	41	49	65	73	77	79	58.3	80.7
6-Sep	84	85	86	85	83	85	87	86	84	72	67	59	58	52	52	49	45	51	56	66	78	84	90	91	72.3	90.6
7-Sep	91	93	94	94	94	95	95	93	84	74	68	61	57	54	52	49	47	46	46	58	73	80	85	88	73.9	95.2
8-Sep	90	91	93	94	95	95	95	93	78	65	52	45	34	29	25	26	27	29	34	41	42	43	47	54	59.1	94.7
9-Sep	60	62	60	59	56	61	60	56	53	45	39	34	30	27	27	26	26	26	30	36	43	43	48	54	44.3	61.9
10-Sep	62	68	75	75	76	72	74	68	57	48	45	36	34	30	28	26	27	27	30	46	59	67	73	76	53.3	76.3
11-Sep	79	83	85	89	90	92	93	91	75	62	51	43	35	31	27	25	27	28	31	51	65	73	79	83	62.0	92.8
12-Sep	86	88	88	90	91	91	91	90	81	68	60	52	45	38	30	28	26	29	36	47	47	40	44	47	59.7	91.0
13-Sep	53	54	58	61	63	68	74	68	62	56	47	42	39	37	34	33	32	33	35	42	50	55	61	66	51.0	74.3
14-Sep	72	74	82	83	87	87	88	85	73	68	63	56	52	48	45	43	44	46	50	59	64	71	75	79	66.5	88.1
15-Sep	83	86	88	89	90	91	91	91	86	79	73	66	58	50	45	43	41	48	55	62	72	75	81	83	71.9	91.4
16-Sep	86	89	89	86	88	91	92	92	86	69	62	64	63	66	88	92	94	90	87	87	87	91	93	87	84.1	93.7
17-Sep	79	77	77	74	69	70	69	68	70	66	59	57	59	63	60	55	51	52	58	65	72	79	81	81	67.2	81.4
18-Sep	81	80	82	87	88	87	87	86	84	84	81	78	74	70	65	62	60	61	65	80	85	87	89	92	78.9	91.6
19-Sep	93	93	94	95	95	94	94	95	95	85	67	55	44	37	36	34	31	31	43	53	63	73	76	81	69.0	94.7
20-Sep	78	84	87	87	90	90	92	91	77	65	53	43	39	33	28	25	23	37	43	56	65	56	62	68	61.3	91.5
21-Sep	80	83	81	74	78	80	79	79	81	77	62	57	59	59	68	84	89	89	87	85	81	81	87	87	77.8	89.4
22-Sep	89	89	91	93	94	94	94	94	92	72	62	51	37	32	35	36	35	35	44	65	75	64	66	72	67.1	94.2
23-Sep	79	82	80	85	90	92	93	93	86	72	67	57	52	51	47	41	40	41	43	46	47	50	53	57	64.4	93.5
24-Sep	60	65	74	72	70	76	74	63	57	52	45	41	37	33	30	29	31	32	37	45	51	56	61	66	52.3	75.6
25-Sep	68	69	71	75	77	78	84	88	89	88	82	75	76	76	70	66	66	66	70	76	82	84	84	86	77.0	88.6
26-Sep	88	91	92	92	93	93	94	94	94	87	71	58	49	44	37	34	33	34	39	45	54	64	66	65	67.1	94.3
27-Sep	72	81	86	85	81	81	78	78	76	72	68	67	63	55	46	48	48	46	47	53	54	55	60	66	65.3	86.1
28-Sep	73	81	87	88	89	90	90	89	89	82	69	56	49	44	42	45	48	47	51	55	51	52	58	67	66.4	89.7
29-Sep	70	73	66	69	76	84	88	89	87	76	63	53	43	36	33	31	32	38	52	68	75	78	80	74	63.9	88.5
30-Sep	79	84	78	77	78	78	77	80	78	76	73	68	66	66	76	87	91	91	91	93	93	94	94	94	81.6	93.7
77.6 80.3 82.4 83.1 84.0 85.4 86.0 84.1 78.0 69.8 61.6 54.6 49.6 45.7 44.1 43.9 43.6 45.1 49.1 57.8 64.7 67.6 71.7 74.9																									Diurnal Average	
92.5 93.3 94.3 94.7 94.6 95.0 95.2 94.5 94.5 88.1 82.3 77.9 76.3 75.6 87.8 92.3 93.7 91.0 90.8 92.7 93.4 93.7 93.7 93.7																									Diurnal Maximum	

Hourly Averages

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



Hourly Averages

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

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1 Spd	0	0	1	2	0	1	1	0	5	4	4	5	4	6	6	6	2	6	5	2	1	4	3	1	2.3	6.4
Dir	173	47	208	196	209	195	225	238	324	267	238	210	244	244	203	235	234	187	160	144	178	180	191	41	215.8	187.0
2 Spd	2	1	2	6	4	7	3	5	8	9	4	9	13	11	13	9	8	12	9	9	9	6	6	8	2.7	13.4
Dir	271	205	268	290	234	207	194	241	262	279	312	316	320	325	324	324	331	74	79	68	65	76	70	66	339.9	324.2
3 Spd	6	4	1	1	1	1	3	6	4	4	5	5	2	3	6	6	6	6	4	2	1	0	1	0	1.3	6.3
Dir	63	46	12	240	217	212	217	214	289	276	217	216	244	170	159	186	122	107	118	43	44	5	221	301	175.3	185.6
4 Spd	17	23	10	7	0	2	4	4	8	10	14	22	28	27	23	19	14	18	15	13	13	11	12	7	12.7	27.6
Dir	267	262	253	232	62	200	227	268	264	256	235	244	250	258	259	255	267	293	300	295	286	271	255	259	261.9	249.8
5 Spd	1	1	2	3	2	5	7	12	20	27	31	32	29	21	20	18	16	13	11	2	1	1	2	2	10.2	32.5
Dir	242	257	240	208	239	213	231	229	248	257	258	264	259	281	288	313	289	322	329	342	208	31	208	284	269.6	263.6
6 Spd	3	1	3	2	3	2	5	1	3	7	4	5	3	5	3	5	10	9	3	1	0	1	1	2	1.9	9.8
Dir	224	223	243	221	309	335	202	105	70	75	84	146	57	97	86	83	130	124	113	77	52	40	45	92	110.5	130.2
7 Spd	1	3	1	0	2	4	2	3	3	8	10	11	14	12	9	8	10	7	3	1	0	0	0	1	3.5	13.7
Dir	41	43	12	13	22	76	123	74	100	141	148	154	171	186	173	197	198	193	235	130	89	240	39	204	163.7	170.9
8 Spd	1	1	1	0	0	0	1	0	5	16	17	21	25	27	26	32	38	37	31	24	26	18	15	11	15.1	37.9
Dir	226	236	282	84	155	216	214	236	245	248	261	266	284	285	281	259	256	259	273	271	261	247	245	256	264.3	256.3
9 Spd	11	10	12	14	11	4	12	12	17	25	25	23	23	22	25	25	23	19	14	11	6	14	11	5	15.2	25.2
Dir	265	260	257	246	259	288	254	263	260	264	273	295	282	289	285	281	281	277	263	257	245	256	257	261	270.9	272.6
10 Spd	2	3	1	1	2	1	1	4	7	12	16	17	15	19	19	22	11	8	3	1	0	1	1	2	5.7	21.5
Dir	319	24	25	206	291	282	112	316	285	262	252	290	296	308	293	340	345	343	15	187	247	216	199	225	303.1	340.5
11 Spd	0	0	1	2	0	2	2	4	5	4	2	1	1	6	7	5	6	5	3	1	0	1	1	0	2.0	6.6
Dir	186	238	217	209	64	211	207	214	195	204	232	12	151	186	210	181	200	157	134	50	235	48	47	29	191.2	209.5
12 Spd	1	0	0	0	0	1	2	1	3	9	8	8	8	6	3	6	8	7	7	3	6	13	7	6	4.2	12.6
Dir	41	218	213	284	196	224	207	212	240	244	217	208	207	228	244	191	222	203	213	229	255	260	277	282	231.4	259.6
13 Spd	6	8	7	7	5	4	4	8	11	9	5	2	4	3	4	7	11	13	8	2	1	0	2	1	3.0	13.4
Dir	271	274	310	289	299	282	240	261	268	333	1	344	334	57	342	25	42	49	46	28	18	39	39	353	334.5	48.5
14 Spd	1	0	1	1	1	1	1	1	3	6	6	6	8	13	13	14	14	13	7	6	8	5	4	4	5.4	13.9
Dir	13	262	48	41	43	48	214	55	64	77	64	90	79	80	90	98	91	110	90	67	75	68	69	66	83.0	91.1
15 Spd	4	2	1	1	0	1	1	2	3	6	5	5	4	3	5	7	8	8	7	3	4	4	4	3	1.5	8.3
Dir	70	47	30	245	23	220	216	245	260	248	249	233	200	166	156	114	100	86	86	85	67	71	62	59	115.7	100.1
16 Spd	2	1	3	1	1	2	1	1	2	5	8	2	8	16	12	12	7	38	48	44	39	22	17	24	10.8	47.6
Dir	34	27	71	57	9	280	29	19	22	38	85	112	257	249	245	254	219	253	258	260	263	267	260	251	258.5	258.3
17 Spd	22	16	15	15	19	16	21	18	14	18	25	26	30	26	31	29	27	20	14	12	6	5	5	8	15.5	31.3
Dir	258	269	278	281	275	274	270	277	301	295	301	308	338	341	339	340	339	340	342	348	19	45	349	325	312.2	338.7
18 Spd	14	10	8	6	9	8	3	6	10	8	6	7	5	6	3	4	1	3	3	1	1	1	0	2	3.4	14.4
Dir	340	332	333	337	329	340	358	310	331	321	236	247	264	243	310	84	24	146	114	87	138	177	58	14	320.8	340.3
19 Spd	2	1	4	3	0	0	0	1	4	4	6	9	12	12	11	8	10	7	3	2	2	1	1	2	3.6	12.3
Dir	196	195	213	213	215	171	142	51	66	120	144	142	152	160	138	129	119	126	79	69	75	160	123	66	136.6	160.3
20 Spd	2	3	3	2	3	1	0	1	2	3	2	1	2	2	3	6	9	8	4	1	3	11	5	2	1.2	10.6
Dir	116	71	72	46	67	52	20	280	52	47	358	103	141	174	147	135	117	78	85	38	209	271	288	196	100.6	271.5
21 Spd	0	3	3	6	6	2	4	2	2	2	2	2	4	9	20	16	13	13	16	13	13	10	8	5	6.0	20.1
Dir	24	210	248	245	203	197	246	139	225	216	306	351	303	314	277	274	259	228	227	230	225	215	223	220	244.6	277.4
22 Spd	3	2	1	1	2	1	1	1	1	5	8	7	18	24	16	9	7	8	2	0	1	3	5	3	4.4	23.6
Dir	224	203	99	72	195	84	205	3	42	217	216	207	231	240	242	252	268	275	301	277	282	329	310	212	241.7	240.3

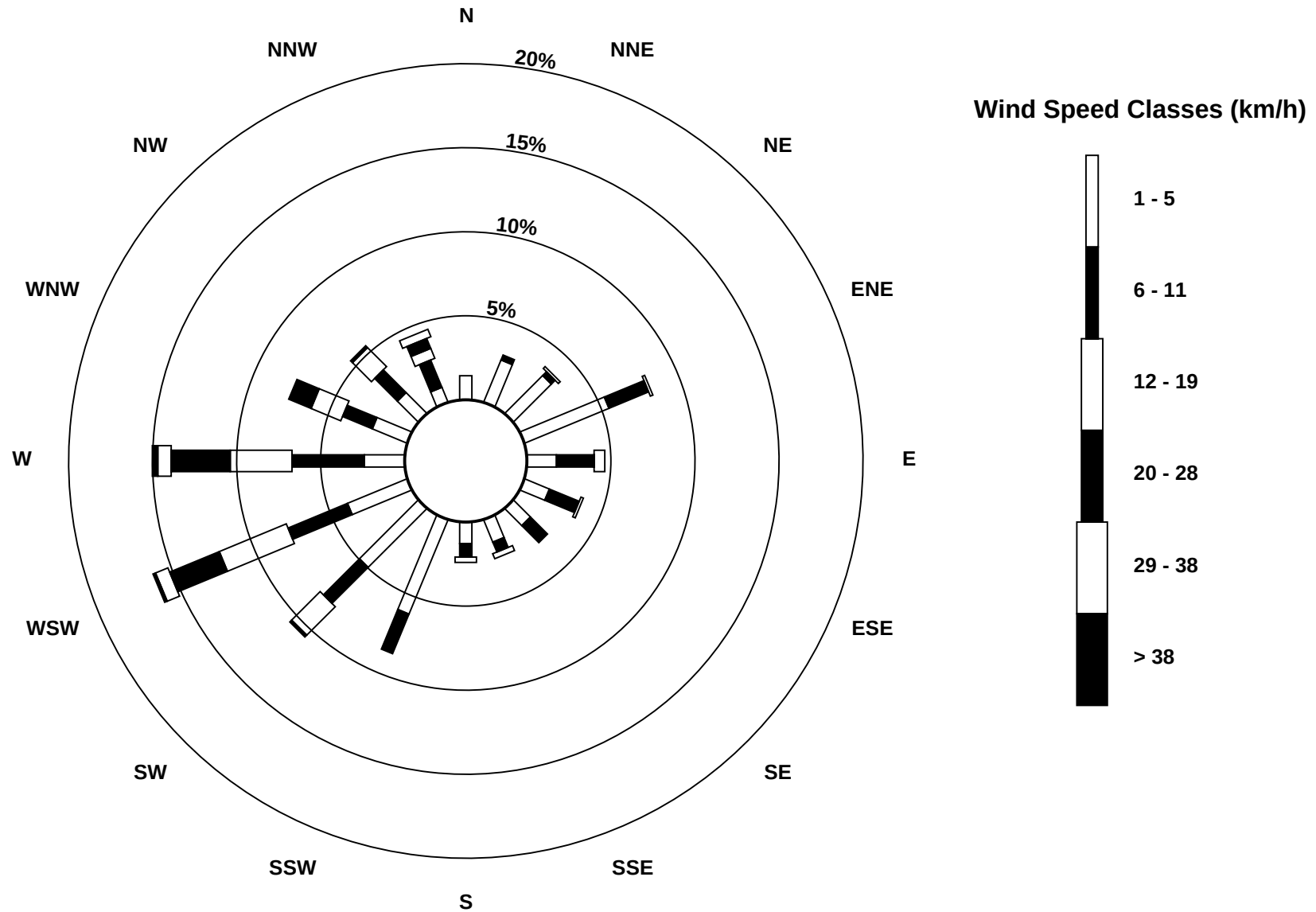
Hourly Averages

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

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
23 Spd	1	3	2	5	1	2	1	0	2	5	10	25	27	21	24	26	13	15	13	16	19	18	12	12	10.9	26.7	
Dir	196	206	223	195	228	213	42	47	216	270	251	251	253	266	258	252	271	243	241	244	239	233	245	240	247.9	252.6	
24 Spd	12	12	10	11	14	10	12	24	17	13	22	24	22	24	27	26	24	22	16	11	5	6	6	4	14.6	26.6	
Dir	239	223	220	219	225	217	227	230	229	220	259	257	260	244	274	272	272	274	265	255	257	254	256	251	249.7	274.3	
25 Spd	5	7	6	7	6	6	6	10	12	12	11	15	19	14	17	19	14	14	8	5	3	3	3	5	8.5	19.0	
Dir	291	277	297	253	268	273	270	255	258	256	292	315	330	313	318	300	308	318	290	277	254	252	268	268	292.7	299.7	
26 Spd	4	5	5	5	2	1	5	6	5	4	4	7	10	9	10	10	11	14	9	10	3	2	7	9	5.7	13.9	
Dir	256	316	276	232	227	291	244	221	246	222	179	160	206	242	259	232	227	250	262	255	225	200	203	200	234.1	249.8	
27 Spd	1	2	1	5	3	1	3	1	3	7	15	27	26	26	31	29	22	21	21	18	24	17	13	7	12.7	30.7	
Dir	84	56	206	223	225	156	196	158	206	214	232	244	245	252	257	257	254	260	267	250	240	242	230	216	246.3	257.5	
28 Spd	0	1	1	0	1	1	2	1	2	5	5	7	8	8	9	8	8	11	8	9	10	9	6	2	4.9	10.5	
Dir	126	142	61	208	78	53	65	26	61	66	104	122	118	120	104	96	86	89	86	90	103	104	82	68	96.0	88.9	
29 Spd	2	3	17	17	6	1	0	0	2	1	3	3	4	9	10	6	10	2	1	0	0	1	5	4	3.0	17.1	
Dir	123	292	265	262	259	137	79	188	162	226	288	8	282	313	302	289	315	326	56	328	38	42	57	75	289.7	265.4	
30 Spd	1	4	8	6	7	7	6	3	3	3	3	8	8	11	19	20	14	13	8	6	8	8	10	7	4.3	19.6	
Dir	52	65	71	72	69	84	116	79	255	317	273	304	322	282	257	254	265	272	271	270	270	274	289	295	280.7	253.8	
Spd	2.3	2.4	2.6	3.1	2.2	1.4	2.6	3.3	4.1	5.2	6.2	7.4	8.1	8.4	9.1	7.8	5.7	5.2	5.0	4.5	4.1	3.9	3.2	2.5	Diurnal Average		
Dir	272.9	272.4	269.4	251.3	263.3	251.6	237.3	249.3	263.6	259.7	254.7	260.2	266.4	268.4	273.0	271.9	271.5	266.3	269.1	265.9	253.2	250.7	255.9	255.7	Diurnal Maximum		
Spd	22.2	22.6	17.1	17.0	18.8	16.3	20.9	24.3	19.5	27.4	31.4	32.5	30.0	27.0	31.3	32.0	37.9	37.5	47.6	43.5	38.8	21.7	17.3	23.6	Diurnal Maximum		
Dir	258.3	262.3	265.4	262.4	274.5	274.3	269.8	229.9	248.3	257.3	258.4	263.6	337.7	257.5	338.7	259.4	256.3	252.6	258.3	260.0	263.2	267.5	259.6	251.2			
Maximum Speed Value: 48 km/h on Sep 16 19:00							Minimum Speed Value: 0 km/h on Sep 20 07:00													Hours in Service: 720							
Maximum Daily Speed Average: 15.5 km/h on Sep 17							Minimum Daily Speed Average: 1.2 km/h on Sep 11													Hours of Data: 720							
Maximum Diurnal Speed Average: 9.1 km/h at hour 15							Minimum Diurnal Speed Average: 1.4 km/h at hour 6													Hours of Missing Data: 0							
Monthly Average Velocity: 4.55 km/h 263.24 deg							Speed Percentiles: P ₁ = 0.1 P ₁₀ = 0.8 Q ₁ = 2.0 Median = 5.5 Q ₃ = 11.1 P ₉₀ = 19.5 P ₉₉ = 29.6													Percent Operational Time: 100.0							
All monthly, daily, and diurnal averages have been calculated using vector methods																											
Frequency Distribution																											
Speed Range (km/h)																											
Direction	0 to 5		5 to 11		11 to 19		19 to 28		28 to 38		> 38		Total														
North	24		4		4		4		3		0		39														
NorthEast	73		8		1		0		0		0		82														
East	38		31		6		0		0		0		75														
SouthEast	24		20		2		0		0		0		46														
South	34		14		3		0		0		0		51														
SouthWest	92		43		30		7		0		0		172														
West	36		53		45		44		10		3		191														
NorthWest	18		23		18		5		0		0		64														
Total	339		196		109		60		13		3		720														

Wind Rose

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



Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Evergreen Park - September 2013

Maximum Speed: 48 km/h on Sep 16 19:00																				Maximum Daily Speed Average: 18.9 km/h on Sep 17										Hours in Service: 720	
Minimum Speed: 0 km/h on Sep 8 06:00																				Minimum Daily Speed Average: 3.5 km/h on Sep 11										Hours of Data: 720	
Maximum Diurnal Speed Average: 15.8 km/h at hour 15																				Minimum Diurnal Speed Average: 3.9 km/h at hour 6										Hours of Missing Data: 0	
Monthly Average Speed: 8.72 km/h																				Percentiles: P ₁ = 0.6 P ₁₀ = 1.4 Q ₁ = 2.9 Median = 6.4 Q ₃ = 12.1 P ₉₀ = 20.4 P ₉₉ = 30.6										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	2	1	1	3	2	2	1	1	5	5	5	6	5	8	8	6	7	5	2	1	4	3	1		3.9	8.1					
2-Sep	3	1	3	7	5	7	3	5	9	11	6	11	14	13	15	11	11	12	10	9	6	7	8		8.2	14.9					
3-Sep	6	4	2	1	2	2	3	6	6	6	7	7	4	6	8	8	7	7	5	2	1	1	2	1	4.4	8.1					
4-Sep	17	24	12	7	2	3	5	4	8	10	15	23	28	28	23	20	15	18	16	14	13	12	12	8	14.1	28.3					
5-Sep	2	2	2	3	2	5	7	12	20	28	32	33	30	24	22	19	17	14	12	2	1	1	3	3	12.3	33.2					
6-Sep	3	2	4	3	4	4	5	1	3	8	6	6	4	7	6	5	10	9	3	2	1	1	1	2	4.1	10.4					
7-Sep	2	3	1	1	3	4	2	3	5	9	12	13	15	14	11	9	11	9	3	2	1	1	0	1	5.6	15.1					
8-Sep	1	1	1	1	1	0	1	0	6	16	18	22	27	28	27	33	38	37	32	25	26	19	15	12	16.1	38.2					
9-Sep	12	10	12	14	12	5	12	13	18	25	26	25	25	25	27	26	24	20	14	11	6	14	11	5	16.4	27.5					
10-Sep	3	4	2	1	3	1	1	5	8	13	16	18	17	20	20	22	12	9	4	2	1	1	1	2	7.8	22.1					
11-Sep	1	1	1	2	1	2	2	5	6	5	4	4	5	9	8	7	8	6	3	1	2	1	1	1	3.5	8.8					
12-Sep	1	1	1	1	0	1	2	2	4	10	9	9	8	7	6	7	9	8	8	4	6	13	9	6	5.4	12.8					
13-Sep	6	8	7	7	6	5	4	8	11	9	6	6	8	8	8	9	12	14	8	2	1	1	2	1	6.6	13.8					
14-Sep	2	1	2	2	2	1	2	2	4	7	7	8	10	14	14	15	15	13	7	6	9	5	4	4	6.4	15.2					
15-Sep	4	2	1	1	0	1	1	2	4	6	6	6	5	6	7	7	9	8	7	3	4	4	4	3	4.3	9.4					
16-Sep	3	1	4	3	2	3	2	2	2	6	10	6	9	16	13	13	7	38	48	44	39	22	18	24	14.0	48.0					
17-Sep	22	16	15	16	19	17	21	18	14	19	27	28	31	27	32	30	28	20	15	13	7	5	6	9	18.9	31.9					
18-Sep	15	10	9	7	9	9	4	6	10	9	7	8	7	7	7	5	5	3	2	2	2	2	1	3	6.4	14.8					
19-Sep	2	1	4	3	1	1	1	2	5	5	7	9	13	13	11	9	11	8	3	2	2	2	2	2	5.0	13.2					
20-Sep	3	3	3	3	3	2	1	1	3	4	3	4	6	6	7	7	9	8	5	3	3	12	6	2	4.5	12.2					
21-Sep	1	3	4	6	7	7	6	5	4	4	4	3	4	10	21	16	13	13	16	14	13	10	8	5	8.2	21.5					
22-Sep	3	2	2	2	3	2	2	2	2	5	8	8	20	24	17	9	9	9	2	1	1	4	5	4	6.0	24.5					
23-Sep	2	3	2	6	2	2	3	1	3	6	11	25	27	21	25	27	15	15	13	16	19	18	13	12	12.0	27.0					
24-Sep	13	12	10	11	14	10	12	24	17	13	23	25	23	25	28	28	25	22	16	11	5	6	6	5	16.0	27.7					
25-Sep	5	8	7	7	6	6	7	10	12	12	13	16	20	15	18	21	15	15	8	5	3	3	3	5	10.0	20.6					
26-Sep	4	5	5	5	2	2	5	6	6	5	6	9	11	11	12	11	13	14	9	10	4	3	7	9	7.2	14.2					
27-Sep	4	2	2	5	3	2	3	2	3	7	15	27	26	27	31	30	22	21	22	18	24	17	13	7	13.9	31.3					
28-Sep	3	2	2	1	2	2	2	2	3	6	6	8	10	10	11	9	8	11	8	9	11	10	6	3	5.9	10.8					
29-Sep	4	6	17	17	7	4	3	3	2	2	4	4	6	12	11	9	11	3	1	1	1	1	5	4	5.8	17.3					
30-Sep	3	4	8	6	8	7	6	3	6	4	6	9	9	12	19	20	14	13	9	7	8	9	11	8	8.7	19.8					
5.0 4.8 4.9 5.0 4.4 3.9 4.3 5.3 6.9 9.1 10.8 12.9 14.2 15.1 15.8 15.0 13.6 13.6 10.5 8.1 7.5 6.9 6.2 5.3																									Diurnal Average						
22.5 23.9 17.3 17.1 19.1 16.6 21.1 24.4 19.9 27.6 31.7 33.2 30.7 28.1 31.9 32.7 38.2 38.4 48.0 43.8 39.1 22.0 17.7 23.8																									Diurnal Maximum						
All monthly, daily, and diurnal averages have been calculated using scalar methods																															

Hourly Standard Deviations

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

Maximum Value: 98.5 deg on Sep 20 07:00																		Hours in Service: 720							
Minimum Value: 4.3 deg on Sep 24 05:00																		Hours of Data: 720							
																		Hours of Missing Data: 0							
Percentiles: P ₁ = 5.8 P ₁₀ = 10.6 Q ₁ = 16.9 Median = 31.3 Q ₃ = 59.6 P ₉₀ = 79.3 P ₉₉ = 95.1																		Hours of Calibration: 0							
																		Percent Operational Time: 100.0							
Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Sep	73	59	41	55	85	88	37	87	25	39	43	40	61	43	52	53	91	35	20	53	86	11	18	66	90.6
2-Sep	52	62	66	33	35	10	63	44	21	40	62	46	23	41	30	37	52	25	18	28	18	17	19	17	65.6
3-Sep	19	19	62	62	76	93	37	21	50	53	43	59	86	79	46	42	50	41	25	43	59	95	95	73	95.3
4-Sep	23	24	31	20	80	69	76	43	17	17	16	13	12	12	14	12	21	16	13	16	10	14	7	26	80.0
5-Sep	70	70	59	19	36	9	17	10	12	8	8	13	13	25	27	21	23	20	17	25	68	47	65	69	70.2
6-Sep	31	83	46	42	38	81	28	65	36	26	61	66	57	68	62	40	22	17	19	59	90	46	72	29	89.8
7-Sep	54	18	71	93	50	24	33	22	55	32	31	34	27	38	42	43	30	33	56	94	96	77	79	84	96.4
8-Sep	78	66	53	63	83	93	45	80	91	10	19	18	22	17	18	13	8	8	11	11	7	8	14	24	92.6
9-Sep	39	19	10	10	23	23	17	11	14	10	15	23	21	28	25	19	19	23	11	8	15	6	8	18	38.8
10-Sep	31	45	59	80	66	71	72	45	31	22	19	23	27	19	24	15	27	31	33	86	84	79	88	46	88.0
11-Sep	88	76	64	49	72	40	49	10	18	47	69	79	93	56	43	60	42	35	25	40	89	73	43	80	92.8
12-Sep	57	96	71	89	91	64	41	75	40	14	34	28	35	40	60	37	26	17	10	62	30	10	43	32	95.8
13-Sep	20	29	20	23	41	43	42	15	20	27	44	83	64	77	70	52	32	17	12	19	34	89	18	74	88.8
14-Sep	55	65	56	64	88	76	75	81	57	34	34	49	44	26	27	27	21	17	17	11	13	10	10	8	87.6
15-Sep	9	27	36	91	47	57	56	76	43	28	31	45	53	75	55	33	31	22	23	18	12	10	12	12	90.5
16-Sep	29	39	58	78	62	76	61	62	51	40	37	78	33	14	35	17	27	23	7	6	7	10	14	7	78.3
17-Sep	8	9	14	13	11	12	9	19	15	16	20	22	13	16	11	13	13	11	16	16	23	15	30	13	29.8
18-Sep	13	21	17	22	17	23	37	24	17	30	41	33	49	48	80	76	90	73	29	91	54	65	95	62	95.3
19-Sep	62	73	13	16	95	82	82	71	21	46	53	30	23	24	21	28	28	23	26	25	62	92	65	41	95.1
20-Sep	45	43	15	48	47	60	98	70	56	37	75	92	91	86	75	48	20	16	29	86	24	27	65	67	98.5
21-Sep	95	28	54	29	28	86	54	79	85	77	67	74	34	28	24	13	9	11	5	6	5	8	19	40	94.7
22-Sep	71	62	61	66	71	75	63	62	60	26	32	38	20	16	13	17	37	27	66	63	53	65	27	70	75.2
23-Sep	86	44	77	37	78	45	91	94	72	67	34	11	9	16	14	13	30	10	16	8	9	8	13	9	94.4
24-Sep	13	7	12	10	4	11	7	6	10	18	17	17	18	20	17	18	14	12	7	6	12	10	8	27	27.0
25-Sep	28	18	26	11	18	18	15	14	10	14	31	18	17	22	18	23	24	19	17	20	28	32	16	17	32.1
26-Sep	23	19	27	12	41	43	16	16	21	32	50	47	30	56	42	27	36	12	14	9	54	51	5	7	56.5
27-Sep	76	43	81	13	52	58	61	40	30	19	13	10	10	13	11	9	10	13	9	7	8	12	7	22	80.5
28-Sep	88	68	81	92	59	50	54	75	46	39	40	35	34	53	31	23	17	14	15	14	14	13	11	22	92.3
29-Sep	76	83	11	8	60	75	94	93	84	88	47	58	79	45	36	60	21	71	40	89	81	86	18	25	94.1
30-Sep	84	13	7	15	11	21	32	32	63	43	76	30	25	21	14	9	11	13	16	24	15	16	18	35	83.7
	94.7	95.8	81.2	93.3	95.1	93.3	98.5	94.4	91.1	87.8	75.6	92.1	92.8	85.7	79.5	75.8	90.6	72.7	65.8	93.8	96.4	95.3	95.3	84.1	

PAZA
Smoky Heights Station
Monthly Summary Tables, Graphs and
Roses

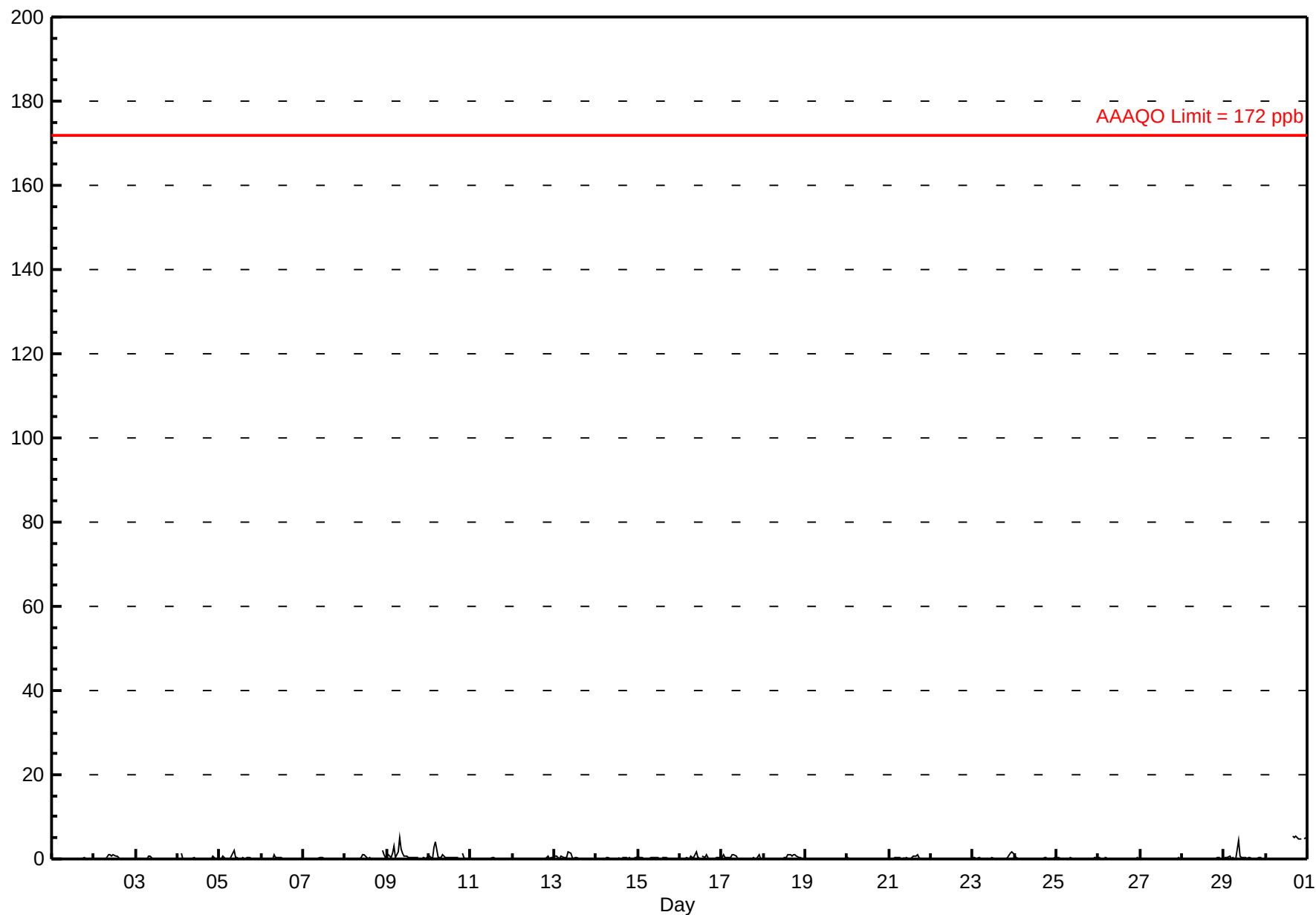
Hourly Averages

Sulphur Dioxide (SO₂) - ppb Smoky Heights - September 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 5.5 ppb on Sep 30 18:00 Maximum Daily Average: 2.1 ppb on Sep 30																				Hours in Service: 720 Hours of Data: 685 Hours of Missing Data: 35 Hours of Calibration: 35 Percent Operational Time: 100.0							
Minimum Value: 0 ppb on Sep 11 20:00 Minimum Daily Average: 0.0 ppb on Sep 27 Maximum Diurnal Average: 0.6 ppb at hour 9 Minimum Diurnal Average: 0.1 ppb at hour 6 Monthly Average: 0.28 ppb Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 0.1 Q ₃ = 0.2 P ₉₀ = 0.6 P ₉₉ = 4.8																											
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	0.2	
2-Sep	0	0	0	A	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0.3	1.2	
3-Sep	0	0	A	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.8	
4-Sep	0	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0.2	1.3	
5-Sep	A	0	1	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0.3	2.1	
6-Sep	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.2	1.2	
7-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	
8-Sep	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	A	2	1	0	0.3	1.9	
9-Sep	1	1	0	1	3	0	2	5	3	1	1	1	0	0	0	0	0	0	0	A	0	0	0	0	0.9	5.2	
10-Sep	1	0	0	3	4	0	0	0	1	0	0	0	0	0	0	0	0	0	A	1	0	0	0	0	0.6	4.0	
11-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	0.1	0.2	
12-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	1	0	0	0	0.1	0.7	
13-Sep	1	1	0	0	1	0	0	0	2	1	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.4	1.8	
14-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	0.2	0.4	
15-Sep	1	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.2	0.5	
16-Sep	0	0	0	0	0	0	1	0	0	2	0	0	A	1	0	1	0	0	0	0	0	0	0	0	0.3	1.6	
17-Sep	0	1	0	0	0	0	1	1	1	0	0	A	0	0	0	0	0	0	0	0	0	1	0	0	0.3	1.1	
18-Sep	0	0	0	0	0	0	0	0	0	0	0	A	0	0	1	1	1	1	1	1	0	0	0	0	0.3	1.1	
19-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	0.1	0.2	
20-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	0.2	
21-Sep	0	0	0	0	0	0	0	A	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0.2	0.9	
22-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	0.1	
23-Sep	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	1	0.3	1.8	
24-Sep	1	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	1.0	
25-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	0.2	
26-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	0.3	
27-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	0.3	
28-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	
29-Sep	0	0	0	1	0	0	0	0	4	1	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.4	4.3	
30-Sep	0	0	0	0	0	0	0	0	0	0	0	0	C	C	C	5	5	5	5	5	5	A	5	5	2.1	5.5	
0.2 0.2 0.2 0.2 0.4 0.1 0.2 0.4 0.6 0.3 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2																									Diurnal Average		
1.0 0.9 1.3 2.6 4.0 0.5 1.8 5.2 4.3 1.6 0.9 0.9 0.7 0.6 0.9 5.3 5.2 5.5 5.0 4.8 4.8 1.9 4.8 5.0 0.2 0.4 0.4																									Diurnal Maximum		
C - Calibration A - Automated Daily Zero Span																											
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb 30-day 11 ppb																											

Hourly Averages

Sulphur Dioxide (SO₂) - ppb
Smoky Heights - September 2013



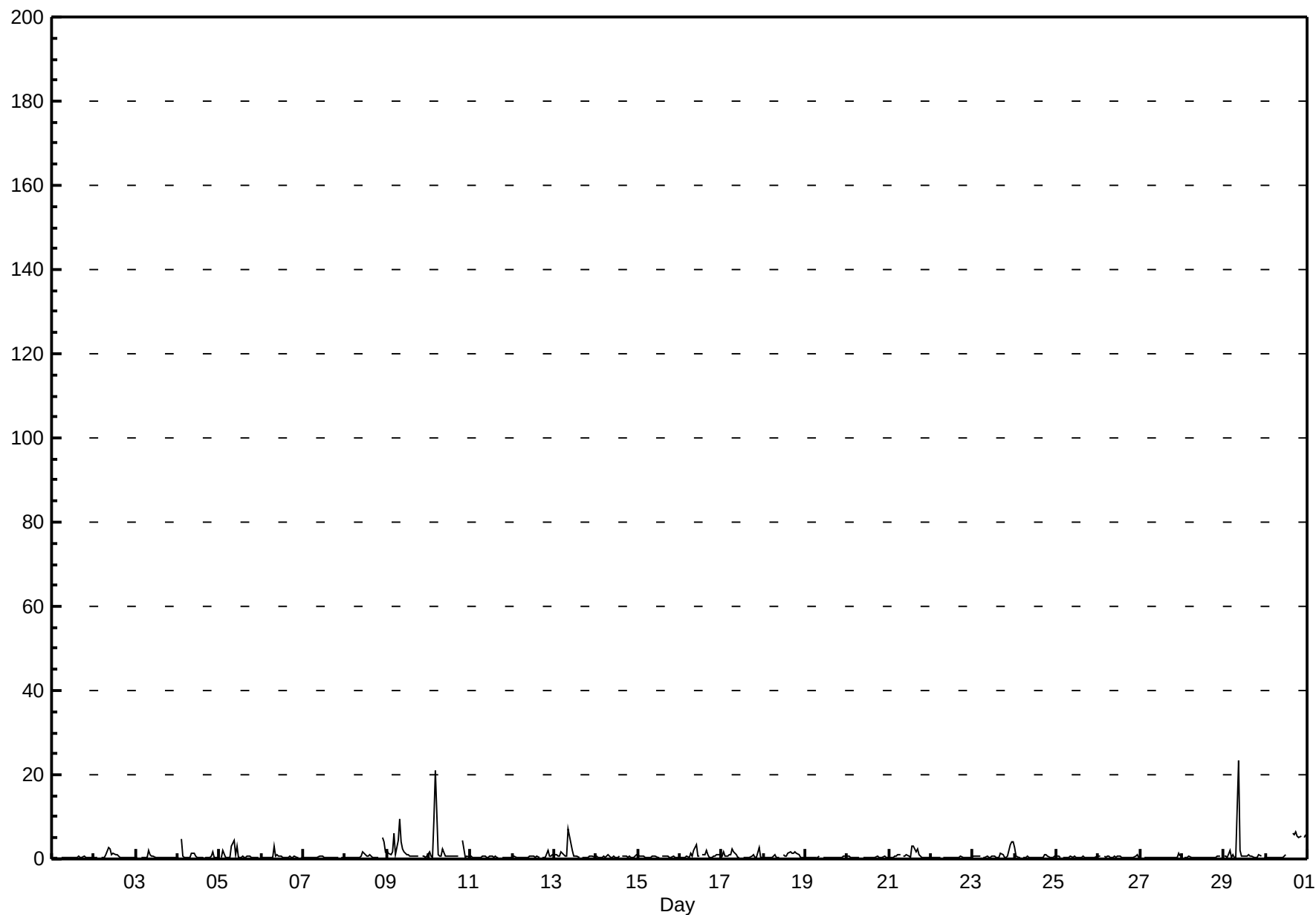
Hourly Maximums

Sulphur Dioxide (SO₂) - ppb Smoky Heights - September 2013

Maximum Value: 23.5 ppb on Sep 29 09:00																				Maximum Daily Average: 2.5 ppb on Sep 30										Hours in Service: 720	
Minimum Value: 0 ppb on Sep 4 16:00																				Minimum Daily Average: 0.3 ppb on Sep 22										Hours of Data: 685	
Maximum Diurnal Average: 2.0 ppb at hour 9																				Minimum Diurnal Average: 0.5 ppb at hour 6										Hours of Missing Data: 35	
Monthly Average: 0.81 ppb																				Percentiles: P ₁ = 0.2 P ₁₀ = 0.3 Q ₁ = 0.3 Median = 0.5 Q ₃ = 0.6 P ₉₀ = 1.2 P ₉₉ = 6.1										Hours of Calibration: 35	
																				Percent Operational Time: 100.0											
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24							
1-Sep	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0.4	0.6					
2-Sep	0	0	0	A	0	0	0	1	3	2	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0.7	2.6					
3-Sep	0	0	A	0	0	0	1	2	1	1	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0.5	1.9					
4-Sep	0	A	5	1	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	1	2	1	0	0	0.7	4.9					
5-Sep	A	0	2	0	0	0	0	3	4	1	3	0	0	1	0	1	1	1	0	0	0	0	0	A	0.9	4.4					
6-Sep	0	0	0	0	0	0	0	3	1	1	1	1	0	0	0	0	1	0	0	1	0	0	A	0	0.6	3.2					
7-Sep	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	A	0	0	0.4	0.6					
8-Sep	0	0	0	0	0	0	0	0	0	1	2	1	1	1	1	1	0	0	0	0	A	5	4	2	0.9	4.9					
9-Sep	2	1	1	2	6	1	4	9	4	2	2	1	1	1	1	1	1	1	1	A	1	1	0	1	1.9	9.4					
10-Sep	2	1	0	10	21	1	1	1	2	1	1	1	1	1	1	1	1	1	A	4	2	0	1	0	2.3	20.9					
11-Sep	1	0	0	0	0	0	0	1	1	0	0	1	1	0	1	0	0	A	0	0	0	0	0	0	0.4	0.8					
12-Sep	0	1	0	0	0	0	0	0	0	0	1	1	1	0	1	0	A	0	0	0	2	1	1	1	0.5	2.2					
13-Sep	1	1	1	1	2	1	1	1	7	4	2	1	1	1	0	A	1	0	0	0	1	1	1	0	1.1	7.0					
14-Sep	1	0	0	0	1	0	1	1	0	0	1	0	0	1	A	1	1	1	0	1	0	0	1	1	0.5	0.9					
15-Sep	1	1	1	1	0	0	0	0	1	1	1	1	0	A	1	1	1	1	0	0	1	0	0	1	0.5	0.9					
16-Sep	0	0	0	0	1	0	1	1	2	3	1	1	A	1	1	2	1	0	0	1	1	1	1	1	0.9	3.3					
17-Sep	1	2	1	1	1	1	2	2	1	0	0	A	0	0	0	0	0	1	1	0	0	3	0	0	0.8	2.6					
18-Sep	0	0	0	0	0	0	1	0	0	0	A	1	1	1	2	2	1	1	2	1	1	0	0	0	0.8	1.7					
19-Sep	0	0	0	0	0	0	0	0	1	A	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.4	0.5					
20-Sep	1	1	1	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0.4	0.6					
21-Sep	0	0	0	1	1	1	1	A	1	1	1	1	0	3	3	2	2	1	1	0	0	0	0	0	0.9	3.1					
22-Sep	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0.3	0.6					
23-Sep	1	1	1	1	1	A	0	0	1	0	0	1	1	0	0	0	1	1	0	0	1	3	4	4	1.0	4.2					
24-Sep	3	1	0	0	A	0	0	1	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	1	0.6	2.9					
25-Sep	1	1	0	A	0	0	0	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	1	0.5	0.7					
26-Sep	1	1	A	1	0	1	1	0	0	1	0	1	1	0	0	0	0	0	0	0	0	1	1	0	0.5	1.0					
27-Sep	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0.4	1.5					
28-Sep	A	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	A	0.4	0.8					
29-Sep	1	1	0	2	0	1	0	0	23	2	1	1	1	1	1	1	1	0	0	0	1	1	A	0	1.7	23.5					
30-Sep	0	0	0	0	0	0	0	0	0	0	0	1	C	C	C	6	6	6	5	5	5	A	5	6	2.5	6.5					
0.7 0.5 0.7 0.9 1.4 0.5 0.7 1.0 2.0 0.9 0.8 0.6 0.5 0.6 0.6 0.8 0.7 0.7 0.7 0.7 0.8 0.8 0.9 0.8																								Diurnal Average							
2.9 1.6 4.9 9.6 20.9 1.1 4.5 9.4 23.5 3.8 3.0 1.5 1.1 3.1 2.9 6.2 5.7 6.5 5.5 5.2 5.3 4.9 5.1 5.9																								Diurnal Maximum							
C - Calibration A - Automated Daily Zero Span																															

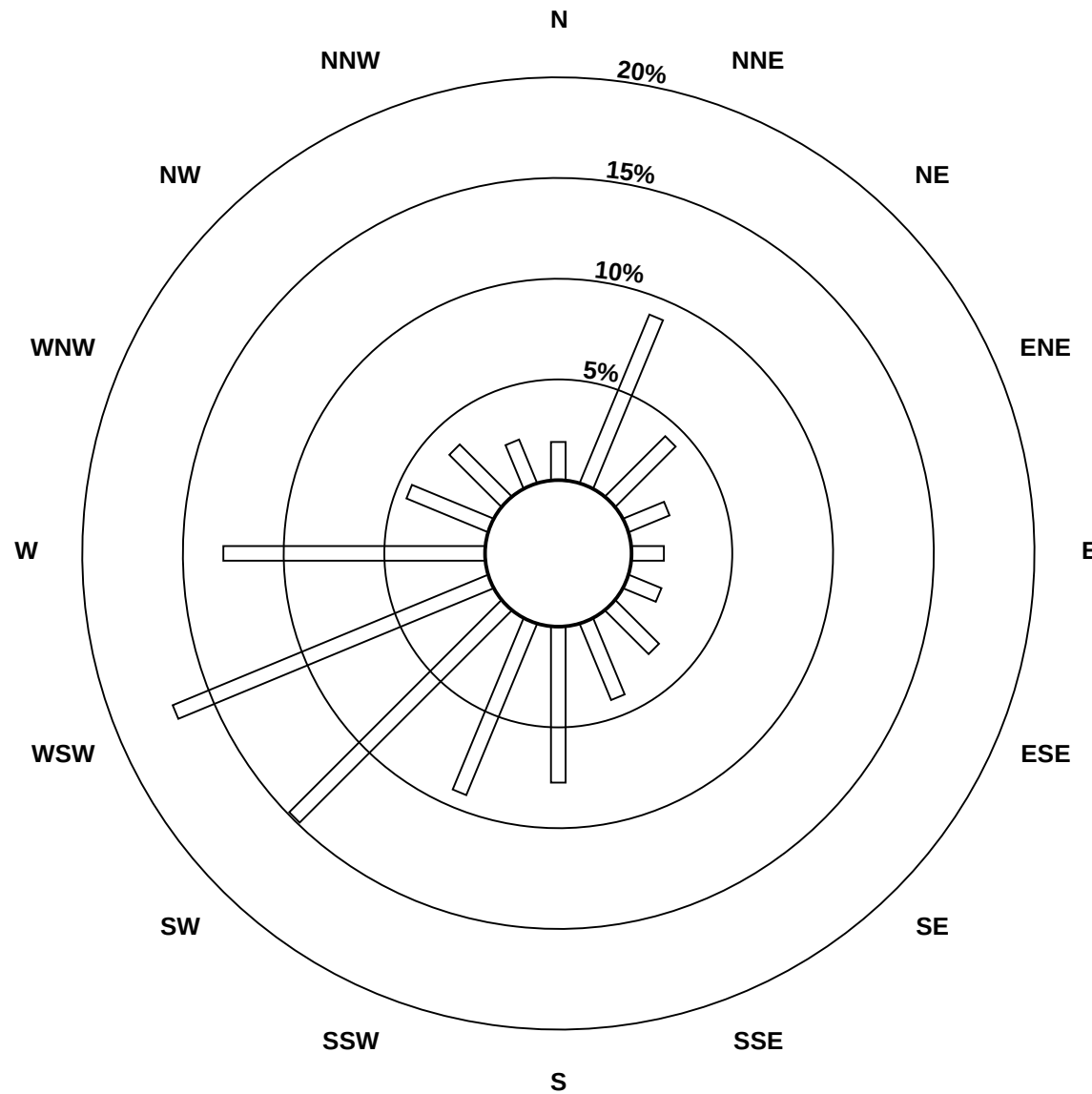
Hourly Maximums

Sulphur Dioxide (SO₂) - ppb
Smoky Heights - September 2013

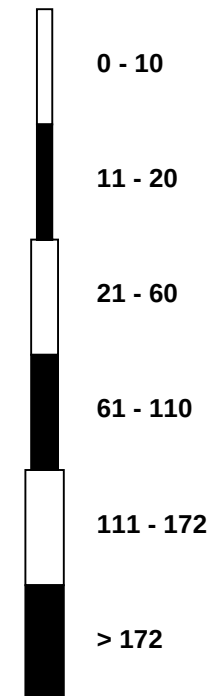


Pollutant Rose

Sulphur Dioxide (SO₂) - ppb
Smoky Heights - September 2013

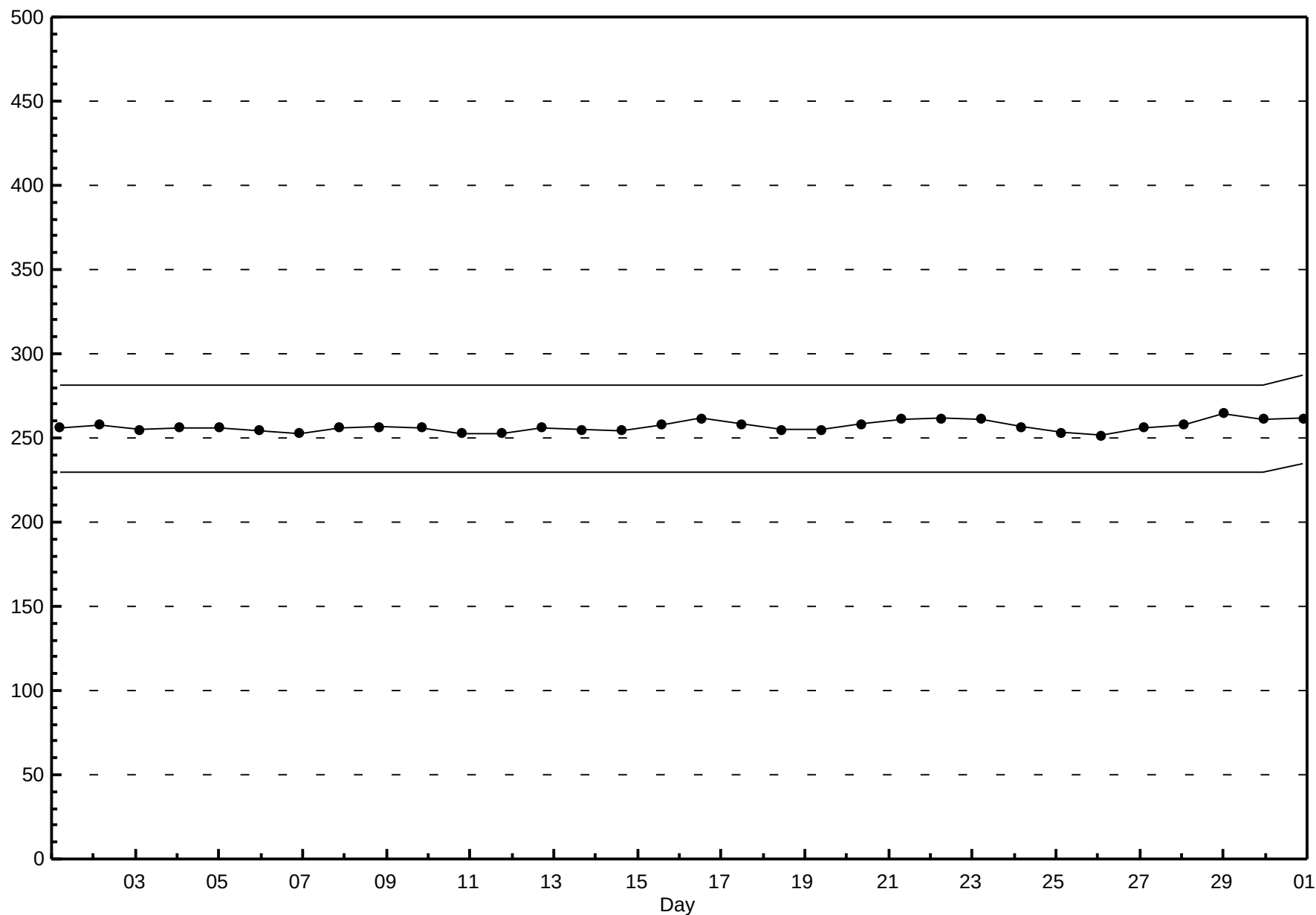


Pollutant Classes (ppb)



Span Responses

Sulphur Dioxide (SO₂)
Smoky Heights - September 2013



Hourly Averages

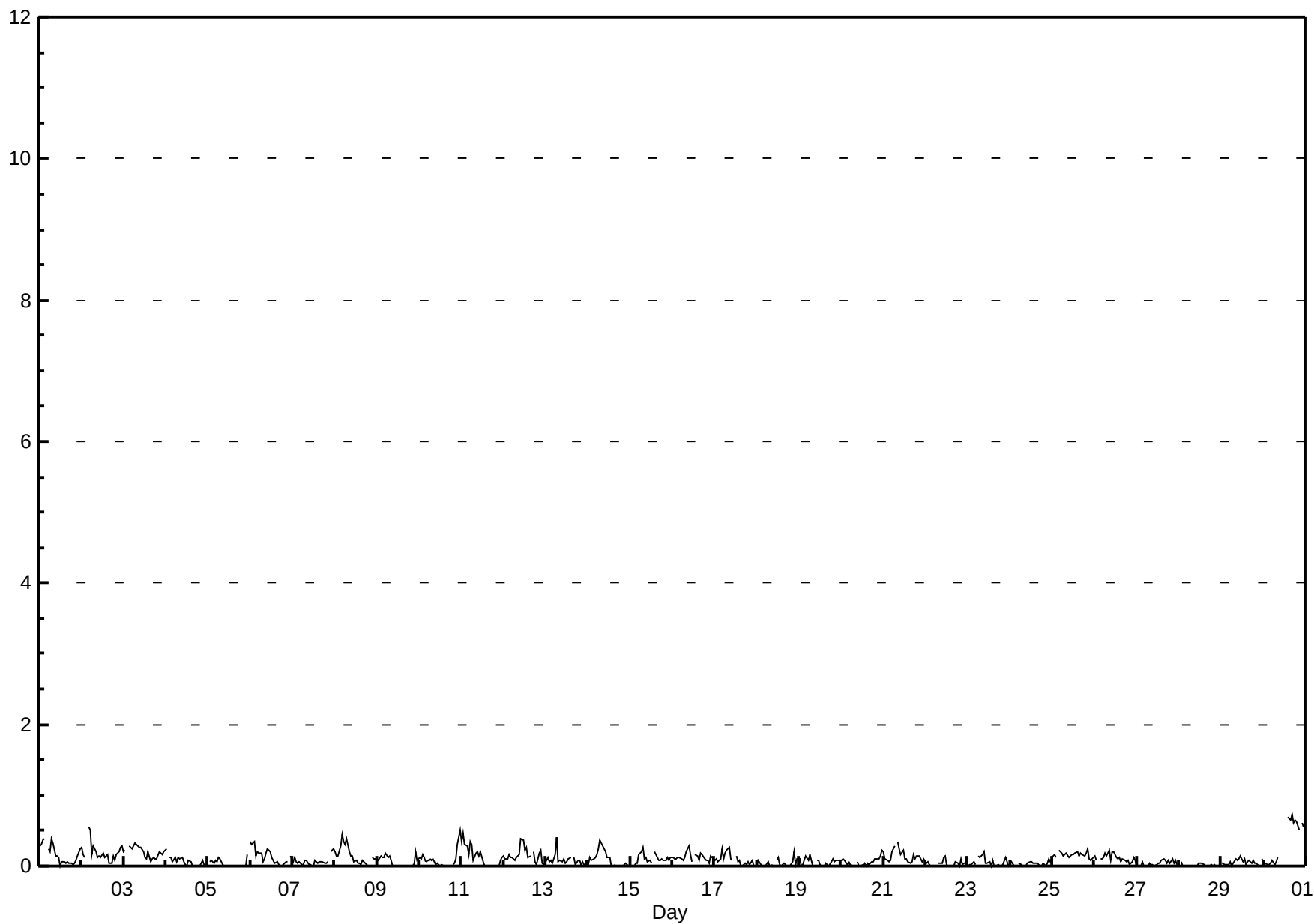
Total Reduced Sulphur (TRS) - ppb

Smoky Heights - September 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																				Hours in Service: 720						
Maximum Value: 0.7 ppb on Sep 30 17:00																				Maximum Daily Average: 0.3 ppb on Sep 30		Hours of Data: 683				
Minimum Value: 0 ppb on Sep 4 16:00																				Minimum Daily Average: 0.0 ppb on Sep 28		Hours of Missing Data: 37				
Maximum Diurnal Average: 0.1 ppb at hour 7																				Minimum Diurnal Average: 0.1 ppb at hour 14		Hours of Calibration: 37				
Monthly Average: 0.10 ppb																				Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.1 Q ₃ = 0.1 P ₉₀ = 0.2 P ₉₉ = 0.6		Percent Operational Time: 100.0				
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-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
2-Sep	0	0	0	A	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.6
3-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
4-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	0.1	0.3
5-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
6-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
7-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
8-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	0.4
9-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
10-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	1	0.1	0.5
11-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	0.1	0.5
12-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	0.4
13-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	0.4
14-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
15-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	0.3
16-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	0.3
17-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	0.3
18-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	0.2
19-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	0.2
20-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	0.2
21-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	0.3
22-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
23-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
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	0.0	0.1
25-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	0.2	0.2
26-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
27-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	0.1
28-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	0.1
29-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	0.1
30-Sep	0	0	0	0	0	0	0	0	0	C	C	C	C	C	1	1	1	1	1	1	1	A	1	1	0.3	0.7
0.1 0.1																								Diurnal Average		
0.3 0.5 0.4 0.4 0.6 0.5 0.4 0.4 0.3 0.3 0.4 0.4 0.2 0.3 0.7 0.6 0.7 0.6 0.7 0.6 0.5 0.2 0.6 0.6																								Diurnal Maximum		
C - Calibration A - Automated Daily Zero Span																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb																										

Hourly Averages

Total Reduced Sulphur (TRS) - ppb
Smoky Heights - September 2013



Hourly Maximums

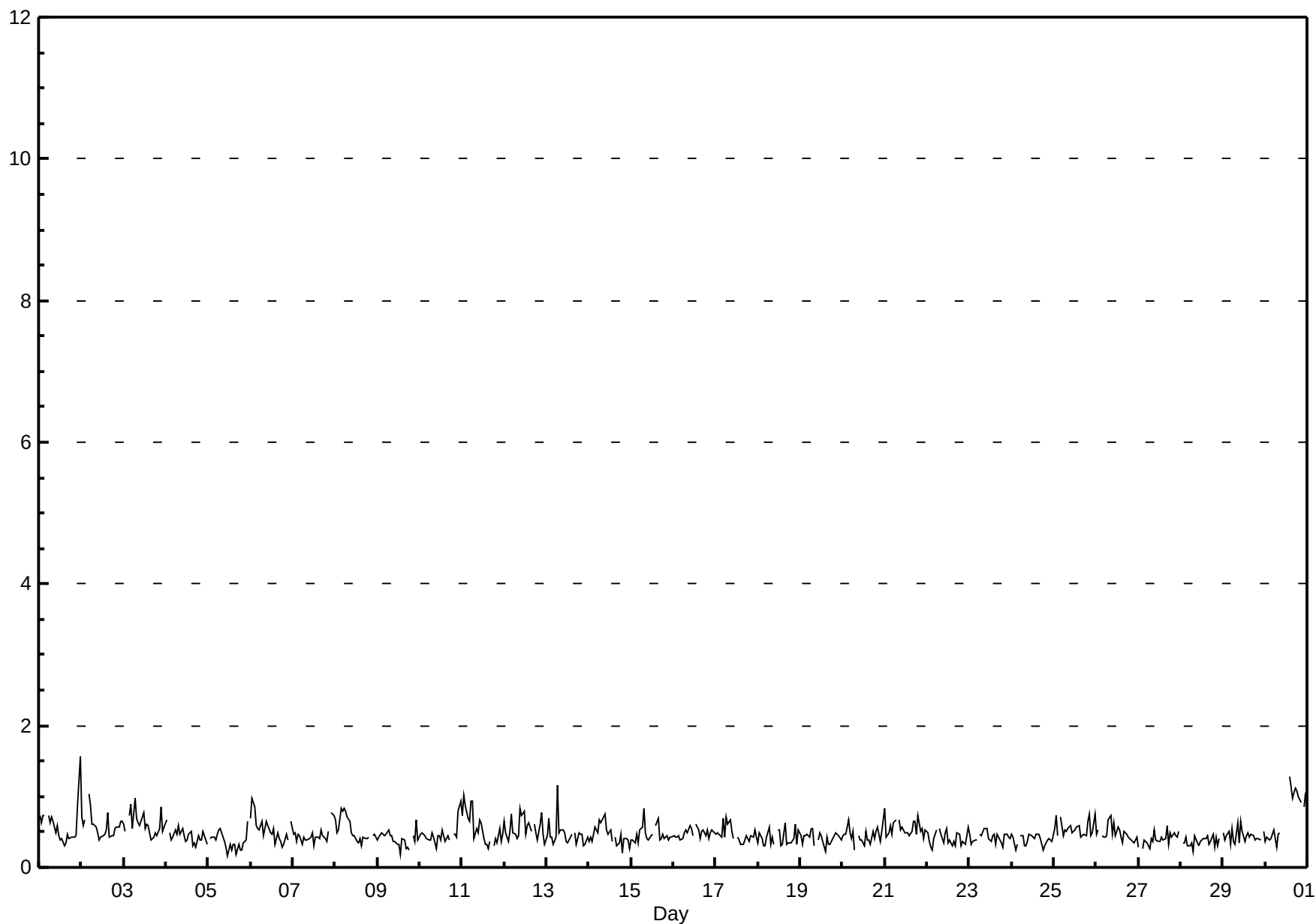
Total Reduced Sulphur (TRS) - ppb

Smoky Heights - September 2013

Maximum Value: 1.6 ppb on Sep 2 00:00																				Maximum Daily Average: 0.7 ppb on Sep 30										Hours in Service: 720									
Minimum Value: 0 ppb on Sep 5 12:00																				Minimum Daily Average: 0.4 ppb on Sep 28										Hours of Data: 683									
Maximum Diurnal Average: 0.6 ppb at hour 7																				Minimum Diurnal Average: 0.4 ppb at hour 13										Hours of Missing Data: 37									
Monthly Average: 0.48 ppb																				Percentiles: P ₁ = 0.2 P ₁₀ = 0.3 Q ₁ = 0.4 Median = 0.4 Q ₃ = 0.5 P ₉₀ = 0.7 P ₉₉ = 1.1										Hours of Calibration: 37									
																				Percent Operational Time: 100.0																			
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24															
1-Sep	1	1	1	1	A	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	2	0.6	1.6													
2-Sep	1	1	1	A	1	1	1	1	1	0	0	0	0	0	1	1	0	0	0	0	1	1	1	1	1	0.6	1.0												
3-Sep	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	1	1	1	1	0.6	1.0													
4-Sep	1	A	0	0	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0.4	0.7													
5-Sep	A	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	A	0.4	0.6													
6-Sep	1	1	1	1	1	1	1	0	1	1	1	0	0	1	0	0	0	0	0	0	0	0	A	1	0.5	1.0													
7-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	A	1	1	0.5	0.8													
8-Sep	1	0	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.5	0.8													
9-Sep	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	1	0	0.4	0.7													
10-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	A	0	0	0	1	1	0.5	0.9													
11-Sep	1	1	1	1	1	1	1	0	1	0	1	1	0	0	0	0	0	A	0	0	0	1	0	0	0.6	1.0													
12-Sep	1	0	0	1	1	0	0	0	0	1	1	1	0	1	1	1	A	1	0	0	1	1	0	0	0.6	0.8													
13-Sep	0	1	0	0	0	0	1	0	1	1	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.5	1.2													
14-Sep	0	0	0	1	1	0	1	1	1	1	1	0	1	0	A	0	0	0	0	0	0	0	0	0	0.5	0.7													
15-Sep	0	0	0	0	0	1	1	1	0	0	0	0	0	A	1	1	0	0	0	0	0	0	0	0	0.5	0.8													
16-Sep	0	0	0	0	0	0	0	1	0	1	1	0	A	1	1	0	1	1	0	1	0	0	1	0	0.5	0.6													
17-Sep	0	0	0	0	1	0	1	1	1	1	0	A	0	0	0	0	0	0	0	0	0	0	1	0	0.5	0.7													
18-Sep	0	0	0	0	0	0	1	0	0	0	A	1	1	0	0	1	0	0	0	0	0	1	0	1	0.4	0.6													
19-Sep	0	0	0	0	0	0	1	1	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.6													
20-Sep	0	0	0	1	0	0	1	0	A	0	0	0	0	1	0	0	0	1	0	1	1	0	1	1	0.5	0.7													
21-Sep	1	0	0	1	0	1	1	A	1	1	1	0	0	0	0	1	1	1	0	1	1	1	0	1	0.6	0.8													
22-Sep	0	0	0	0	0	1	A	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0.4	0.6													
23-Sep	0	0	0	0	0	A	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.6													
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	0.4	0.5													
25-Sep	1	1	0	A	1	0	1	1	1	1	0	0	1	1	1	0	0	0	0	1	1	0	0	1	0.5	0.8													
26-Sep	0	1	A	0	0	0	0	1	1	0	1	0	1	1	0	0	1	0	0	0	0	0	0	0	0.5	0.7													
27-Sep	0	A	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0.4	0.6													
28-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	0.4	0.5													
29-Sep	0	0	0	1	0	1	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	A	1	0.4	0.6													
30-Sep	0	0	0	0	0	1	0	0	0	C	C	C	C	C	1	1	1	1	1	1	1	A	1	1	0.7	1.3													
0.5 0.5 0.5 0.5 0.5 0.5 0.6 0.5 0.5 0.5 0.5 0.5 0.4 0.4 0.5 0.4 0.4 0.4 0.4 0.4 0.5 0.5 0.5 0.6																									Diurnal Average														
0.8 1.0 0.9 0.8 1.0 0.9 1.2 0.8 0.7 0.8 0.7 0.8 0.6 0.6 1.3 1.0 1.1 1.1 1.1 1.1 1.0 0.9 0.9 0.9 1.6																									Diurnal Maximum														
C - Calibration																									A - Automated Daily Zero Span														

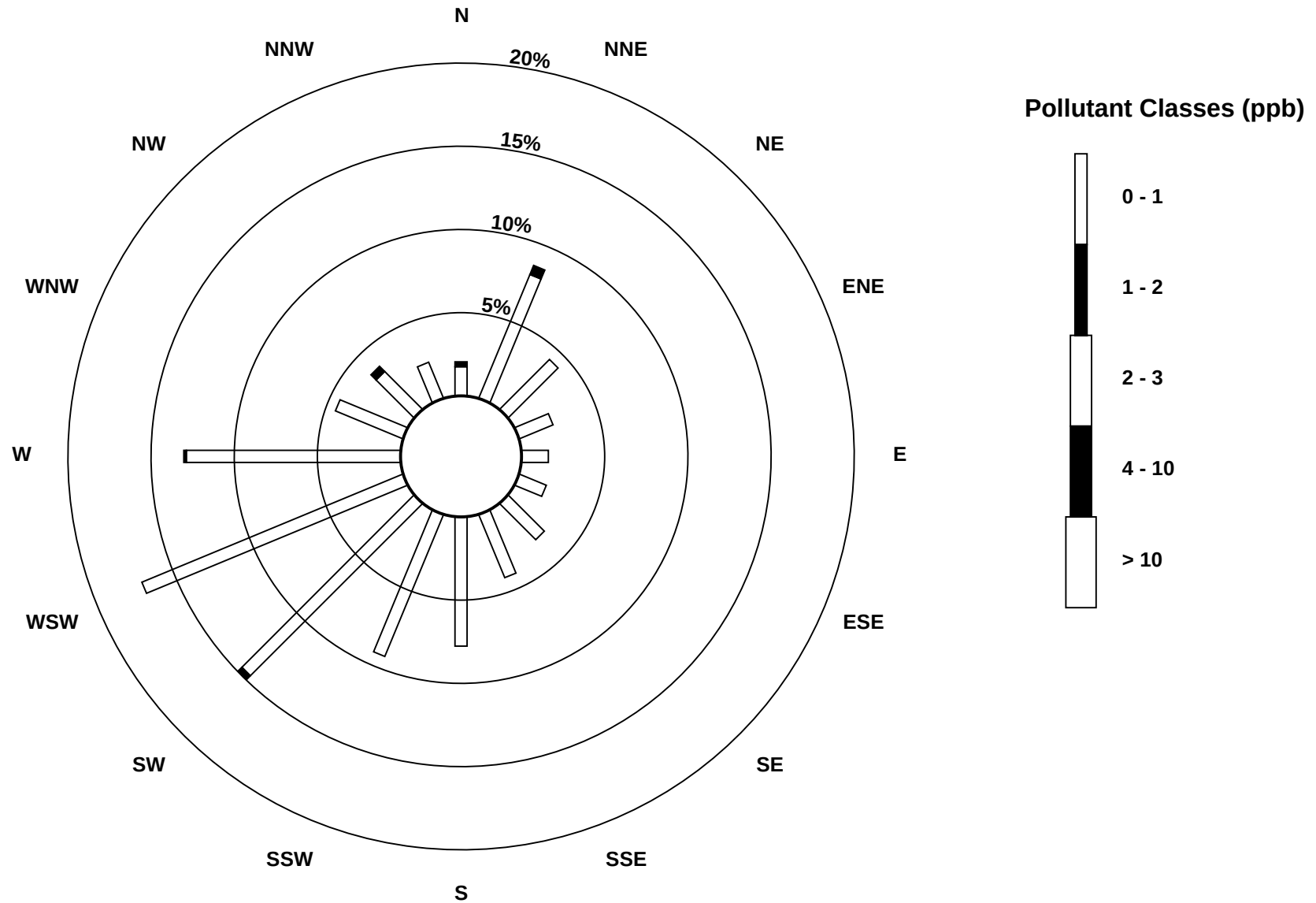
Hourly Maximums

Total Reduced Sulphur (TRS) - ppb
Smoky Heights - September 2013



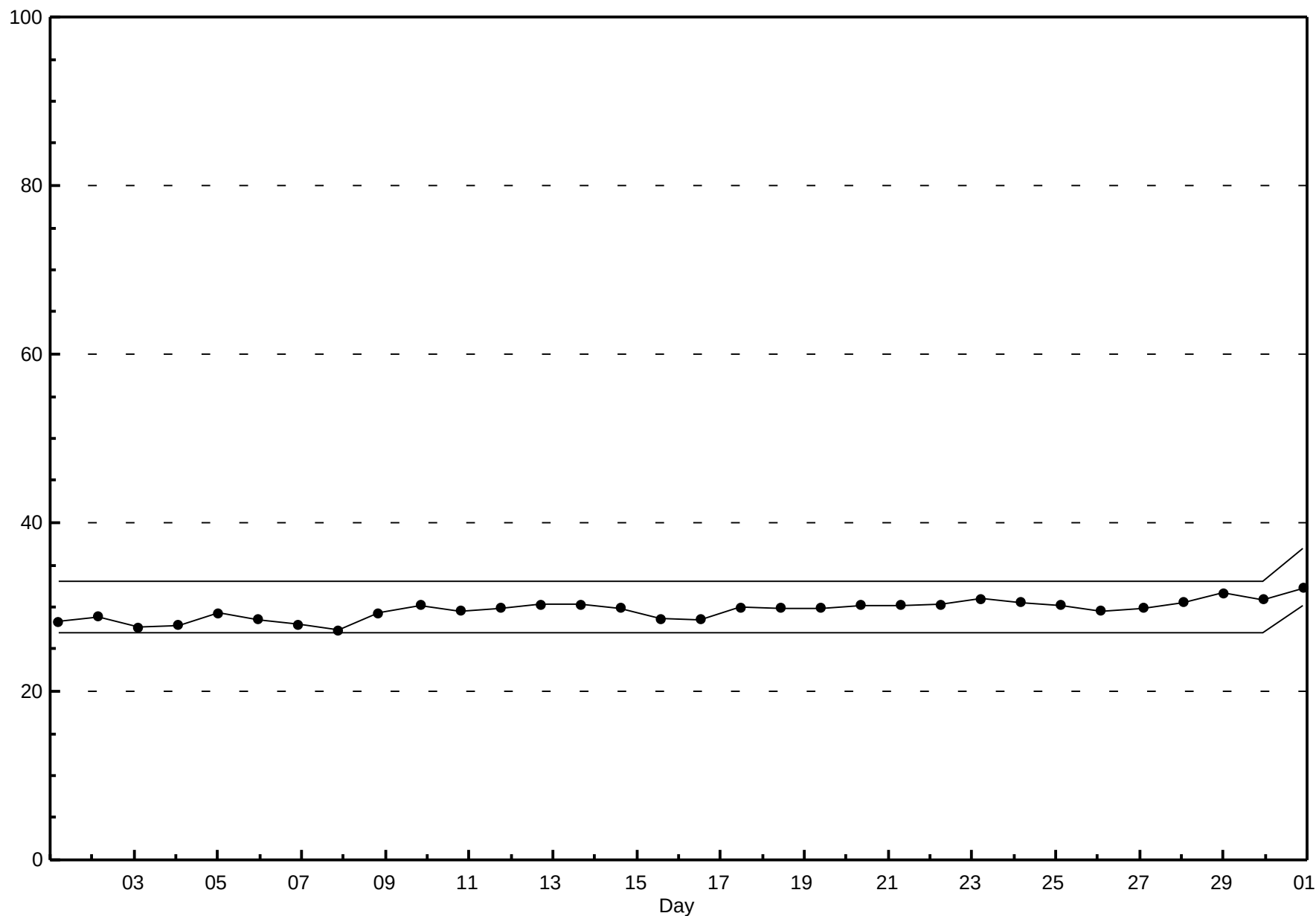
Pollutant Rose

Total Reduced Sulphur (TRS) - ppb
Smoky Heights - September 2013



Span Responses

Total Reduced Sulphur (TRS)
Smoky Heights - September 2013



Hourly Averages

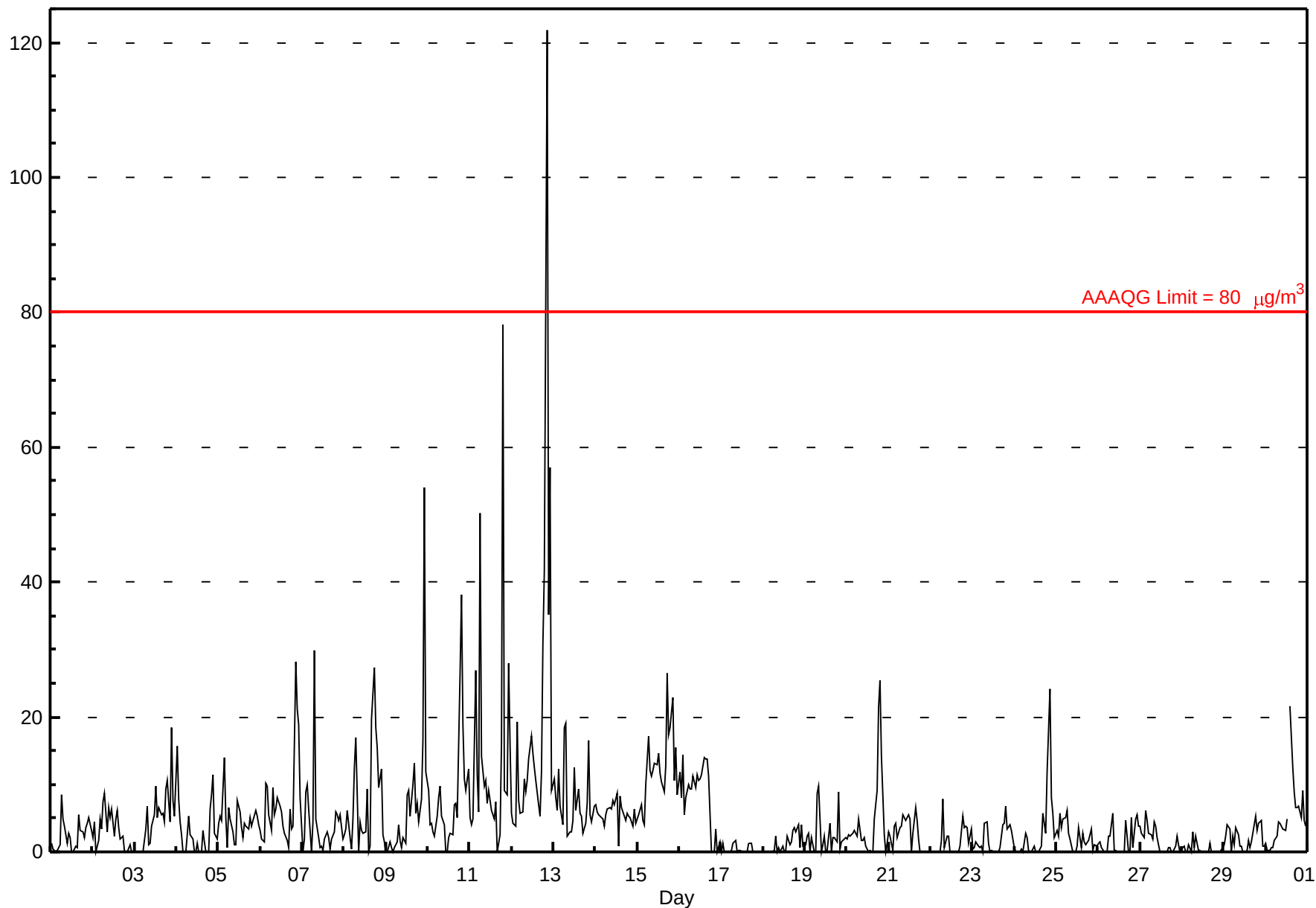
Particulate Matter 2.5 (PM_{2.5}) - µg/m³

Smoky Heights - September 2013

Number of Exceedences: 1-hr: 1 24-hr: 0 Maximum Value: 121.8 µg/m³ on Sep 12 21:00 Minimum Value: 0 µg/m³ on Sep 1 04:00 Maximum Diurnal Average: 11.0 µg/m³ at hour 21 Monthly Average: 5.04 µg/m³																					Maximum Daily Average: 19.6 µg/m³ on Sep 12 Minimum Daily Average: 0.3 µg/m³ on Sep 17 Minimum Diurnal Average: 2.6 µg/m³ at hour 6 Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.6 Median = 3.0 Q ₃ = 6.1 P ₉₀ = 11.4 P ₉₉ = 35.6				Hours in Service: 720 Hours of Data: 719 Hours of Missing Data: 1 Hours of Calibration: 0 Percent Operational Time: 99.9	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Sep	1	0	0	0	0	1	8	5	4	1	3	2	0	0	1	1	5	3	3	2	4	4	5	3	2.4	8.5
2-Sep	2	4	0	2	5	3	7	9	3	6	5	6	2	5	6	4	2	2	0	0	0	1	0	0	3.2	8.7
3-Sep	0	0	0	0	0	0	3	7	1	1	4	5	10	5	7	5	6	4	9	11	5	18	8	5	4.8	18.4
4-Sep	16	8	5	3	0	0	3	5	3	2	0	0	1	0	0	3	1	0	0	6	9	11	3	2	3.3	15.7
5-Sep	4	5	5	14	5	1	7	5	3	1	1	8	6	4	2	4	4	3	5	4	5	6	5	4	4.6	14.0
6-Sep	3	2	2	10	10	6	3	10	5	6	8	7	6	4	3	2	1	6	3	4	28	21	19	8	7.3	28.1
7-Sep	0	2	9	10	6	0	4	30	5	2	1	1	0	2	3	2	0	2	3	6	5	5	6	2	4.4	29.9
8-Sep	3	3	6	2	1	5	13	17	0	4	3	3	3	9	0	1	20	27	18	15	10	12	3	1	7.5	27.3
9-Sep	0	0	2	1	0	1	2	4	2	1	2	1	8	9	5	10	13	6	7	4	8	17	54	12	7.0	54.0
10-Sep	9	4	4	3	2	5	8	10	5	4	0	0	2	3	3	7	7	5	26	38	19	11	9	12	8.2	38.1
11-Sep	5	4	5	27	11	6	50	14	10	11	7	9	6	6	5	7	0	3	16	78	9	9	28	16	14.2	78.1
12-Sep	6	4	4	19	8	6	6	11	9	11	14	17	15	12	11	7	5	12	31	42	122	35	57	9	19.6	121.8
13-Sep	11	8	6	12	7	4	18	19	2	3	3	5	12	6	9	6	5	3	4	7	17	5	4	7	7.7	19.2
14-Sep	7	6	5	5	5	4	6	6	6	6	8	7	9	1	8	7	6	5	6	5	5	4	6	4	5.7	8.7
15-Sep	5	6	7	5	4	10	17	12	11	12	13	13	15	12	10	9	13	27	17	18	23	11	16	8	12.2	26.6
16-Sep	12	8	14	6	8	10	9	9	11	9	11	11	11	11	14	14	14	11	0	0	0	3	0	2	8.3	14.5
17-Sep	0	1	0	0	0	0	0	1	2	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0.3	1.7
18-Sep	0	0	0	0	0	0	0	2	0	1	0	1	0	0	2	1	2	3	4	3	4	1	4	1	1.2	4.1
19-Sep	1	2	3	0	2	0	0	9	10	0	1	2	0	0	4	0	2	2	1	9	0	1	2	2	2.3	9.8
20-Sep	2	3	2	3	3	3	2	5	2	2	2	1	0	0	0	0	5	9	21	25	14	3	0	1	4.5	25.5
21-Sep	3	2	0	4	4	2	4	4	6	5	5	5	5	0	3	7	5	2	0	0	0	0	0	0	2.7	6.5
22-Sep	0	0	0	0	0	0	2	8	1	2	2	0	0	0	0	0	0	1	5	4	4	4	1	3	1.5	7.9
23-Sep	0	1	2	1	1	1	0	4	4	1	0	0	0	0	0	0	1	4	4	7	3	4	3	2	1.8	6.9
24-Sep	1	0	0	0	0	0	3	2	0	0	0	1	0	0	0	1	6	4	3	12	24	8	6	2	3.0	24.2
25-Sep	3	2	6	4	5	5	6	3	2	0	0	0	1	4	1	3	1	1	2	2	3	0	1	1	2.3	6.1
26-Sep	1	2	1	0	0	0	2	2	6	0	0	0	0	0	0	0	5	0	0	5	1	5	5	4	1.6	5.6
27-Sep	4	3	2	6	5	3	2	2	4	4	2	0	0	0	0	0	1	1	0	0	1	2	1	0	1.8	6.1
28-Sep	1	1	0	0	1	0	3	1	2	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0.4	3.0
29-Sep	1	2	4	3	0	2	1	4	2	1	1	0	0	0	2	1	2	4	5	3	4	5	1	1	2.1	5.4
30-Sep	1	0	0	1	1	2	2	4	4	4	3	3	5	M	22	13	9	7	7	7	5	9	5	4	5.1	21.5
3.4 2.8 3.1 4.6 3.1 2.6 6.4 7.5 4.2 3.4 3.3 3.6 3.9 3.2 4.0 3.8 4.7 5.3 6.7 10.6 11.0 7.2 8.4 3.9																									Diurnal Average	
15.7 8.0 14.5 26.9 11.4 10.0 50.1 29.9 11.3 12.1 13.8 17.1 14.7 12.5 21.5 13.9 19.6 27.3 30.9 78.1 121.8 35.2 56.9 15.8																									Diurnal Maximum	
M - Maintenance																										
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}) - $\mu\text{g}/\text{m}^3$
Smoky Heights - September 2013



Hourly Maximums

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

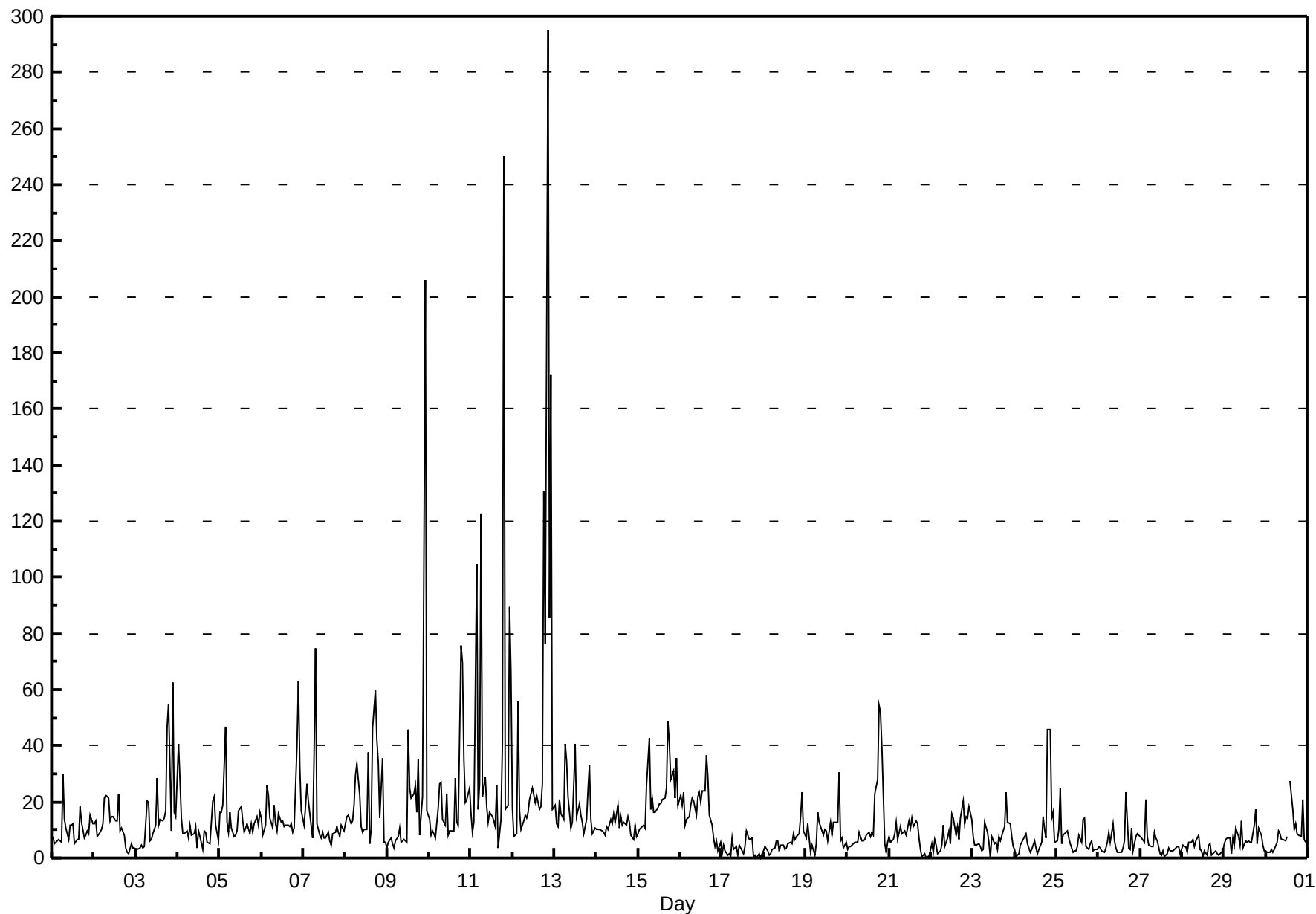
Smoky Heights - September 2013

Maximum Value: 295.1 μg/m ³ on Sep 12 21:00																								Maximum Daily Average: 46.9 μg/m ³ on Sep 12						Hours in Service: 720	
Minimum Value: 0 μg/m ³ on Sep 17 21:00																								Minimum Daily Average: 3.2 μg/m ³ on Sep 17						Hours of Data: 719	
Maximum Diurnal Average: 27.6 μg/m ³ at hour 20																								Minimum Diurnal Average: 8.4 μg/m ³ at hour 5						Hours of Missing Data: 1	
Monthly Average: 14.12 μg/m ³																								Percentiles: P ₁ = 0.5 P ₁₀ = 2.7 Q ₁ = 5.4 Median = 9.3 Q ₃ = 14.9 P ₉₀ = 25.7 P ₉₉ = 98.3						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	7	5	5	6	7	5	30	14	11	7	12	12	12	5	6	7	18	12	7	8	10	9	15	12	10.1	29.8					
2-Sep	12	13	8	9	10	12	22	22	22	13	15	15	13	13	23	10	11	8	4	2	2	5	3	3	11.3	23.0					
3-Sep	3	3	3	5	3	4	21	20	6	7	9	12	29	12	14	13	14	17	47	55	10	62	16	15	16.6	62.3					
4-Sep	41	28	14	9	8	10	7	12	8	9	11	4	10	8	3	10	9	6	5	13	20	22	12	6	11.8	40.6					
5-Sep	16	16	19	47	13	9	16	11	8	8	10	17	18	13	9	11	12	9	12	9	12	15	12	16	14.0	46.7					
6-Sep	14	8	12	26	22	14	11	19	12	10	16	13	13	11	12	12	11	12	9	11	39	63	33	17	17.5	63.3					
7-Sep	11	18	27	20	16	7	36	75	12	8	7	9	7	7	9	6	4	9	9	11	9	8	12	10	14.5	74.6					
8-Sep	12	15	15	12	13	19	29	34	22	11	9	10	10	38	5	10	46	60	42	34	14	36	6	6	21.2	60.1					
9-Sep	4	5	7	5	4	6	8	11	6	6	7	5	46	25	21	23	26	16	35	8	22	108	206	17	26.1	206.0					
10-Sep	14	8	9	9	7	18	26	27	14	12	23	8	10	10	10	29	13	12	76	69	35	20	21	25	21.0	75.5					
11-Sep	16	9	13	105	17	27	123	22	29	18	13	16	15	13	11	26	4	14	41	250	17	19	89	66	40.5	250.1					
12-Sep	18	8	9	56	17	10	13	16	14	16	21	25	22	20	22	17	18	26	131	76	295	85	172	17	46.9	295.1					
13-Sep	19	12	11	21	16	14	41	35	22	11	13	26	41	15	19	15	13	9	14	25	33	14	9	11	19.0	40.8					
14-Sep	10	10	10	10	9	8	11	10	14	12	16	13	19	11	15	12	13	12	15	13	8	7	12	8	11.5	18.6					
15-Sep	9	10	11	12	11	26	43	17	21	16	16	18	19	19	21	21	25	49	41	28	31	22	35	19	22.5	48.7					
16-Sep	22	19	23	12	13	15	19	22	20	15	22	23	20	24	24	37	29	15	12	7	4	6	2	5	17.1	36.6					
17-Sep	2	4	3	1	2	1	7	3	4	1	4	4	2	4	10	8	6	7	0	1	0	1	0	1	3.2	9.6					
18-Sep	3	4	3	1	1	3	4	6	6	2	5	5	3	3	5	5	5	9	7	8	9	15	24	10	6.0	23.5					
19-Sep	7	12	7	2	5	1	5	16	13	9	8	10	10	6	13	8	13	13	13	31	6	7	4	6	9.4	30.5					
20-Sep	3	4	4	5	6	5	5	9	6	6	6	8	9	8	9	8	23	28	54	52	39	5	2	5	13.0	54.4					
21-Sep	8	5	7	8	13	7	11	9	9	10	8	13	11	14	11	13	12	7	3	1	2	0	1	1	7.6	14.5					
22-Sep	5	2	7	4	2	2	5	12	4	7	9	5	16	14	8	11	7	14	21	12	15	14	18	14	9.5	20.5					
23-Sep	8	4	4	5	4	3	3	13	9	6	0	8	5	5	3	8	6	10	11	23	13	12	8	4	7.3	23.5					
24-Sep	3	1	2	4	5	7	9	5	4	2	3	6	4	1	3	6	15	10	7	46	46	14	16	5	9.3	45.6					
25-Sep	6	10	25	5	8	9	10	7	5	2	2	2	4	8	6	14	14	4	3	5	6	2	3	3	6.9	25.2					
26-Sep	4	4	2	2	4	6	9	6	12	6	4	2	2	2	4	6	23	4	3	11	3	8	9	8	5.9	23.5					
27-Sep	8	7	6	21	8	5	4	4	9	7	6	1	1	3	0	1	3	2	2	3	4	4	4	2	4.8	21.0					
28-Sep	5	4	4	2	5	5	7	4	6	8	3	2	1	3	1	4	5	1	2	3	2	1	2	3	3.4	7.9					
29-Sep	5	7	7	7	2	7	5	11	8	4	13	4	6	5	6	6	5	12	17	5	11	8	5	3	7.0	17.3					
30-Sep	2	2	2	3	2	3	6	10	8	6	7	6	8	M	28	17	10	12	8	8	8	21	6	5	8.2	27.6					
9.9 8.6 9.3 14.5 8.4 8.9 18.2 15.9 11.5 8.6 10.0 10.1 12.8 11.0 11.1 12.5 13.8 13.9 21.7 27.6 24.1 20.4 25.2 10.7																								Diurnal Average							
40.6 27.7 26.6 104.6 22.3 26.7 122.5 74.6 28.9 18.4 23.0 25.8 45.7 37.7 27.6 36.6 46.4 60.1 130.5 250.1 295.1 108.2 206.0 66.0																								Diurnal Maximum							
M - Maintenance																															

Hourly Maximums

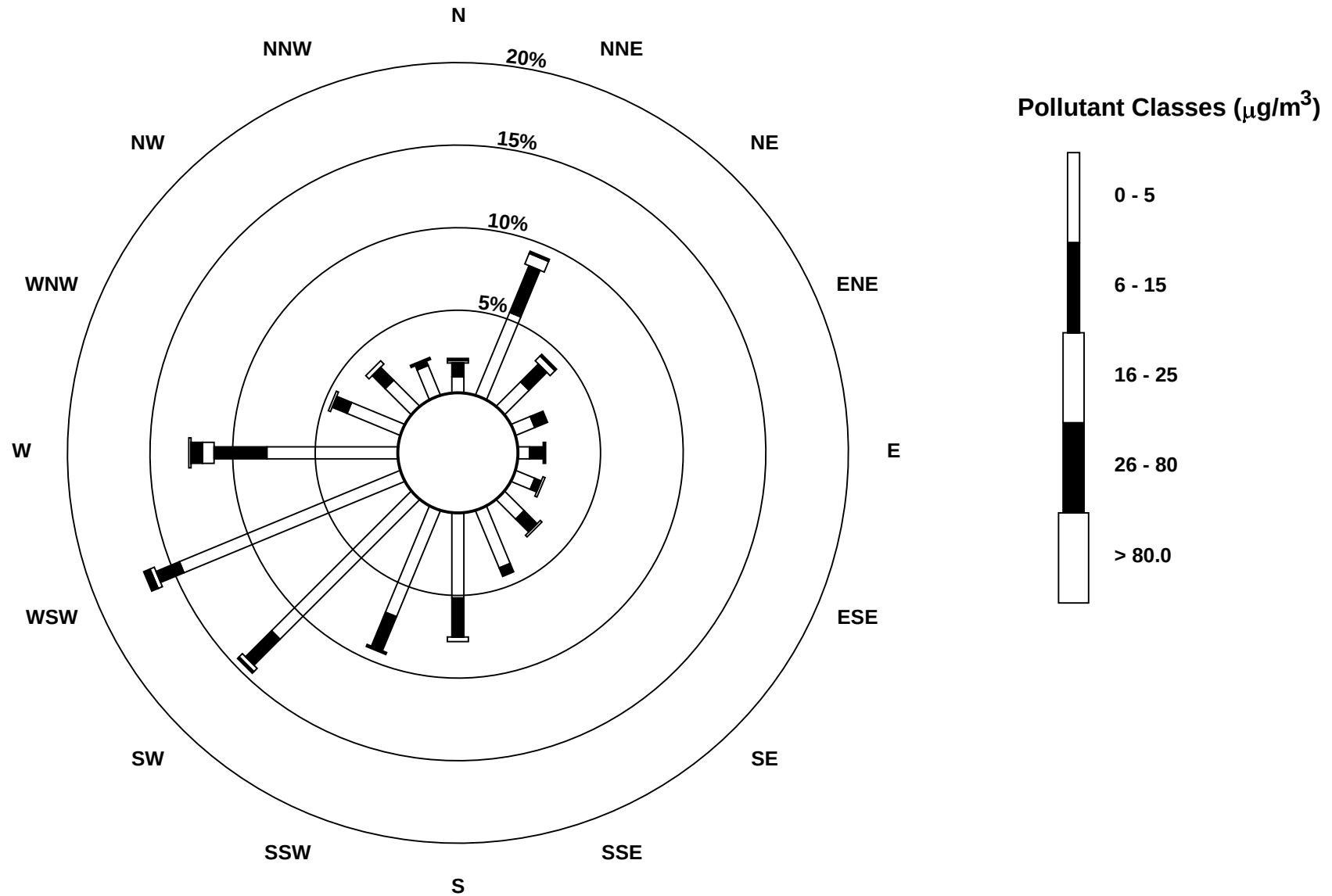
Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$

Smoky Heights - September 2013



Pollutant Rose

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Smoky Heights - September 2013



Hourly Averages

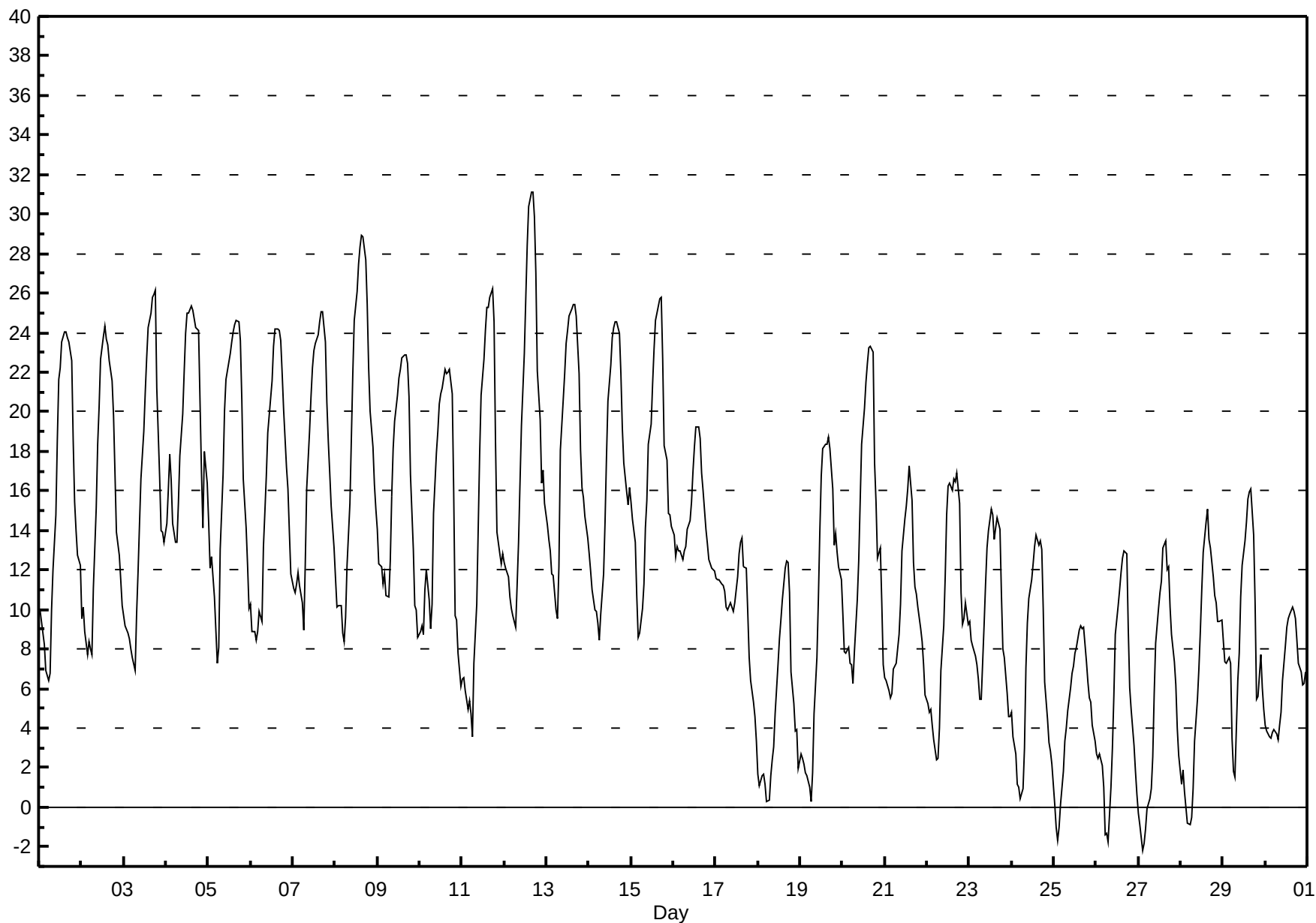
External Temperature (ET) - °C

Smoky Heights - September 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 31.1 °C on Sep 12 16:00 Maximum Daily Average: 19.3 °C on Sep 4																								Hours in Service: 720 Hours of Data: 720 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0		
Minimum Value: -2 °C on Sep 27 03:00 Maximum Diurnal Average: 19.9 °C at hour 16 Monthly Average: 12.62 °C												Minimum Daily Average: 4.8 °C on Sep 25 Minimum Diurnal Average: 6.2 °C at hour 7 Percentiles: P ₁ = -1.1 P ₁₀ = 3.3 Q ₁ = 7.7 Median = 12.0 Q ₃ = 17.4 P ₉₀ = 23.5 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	10	9	9	8	7	6	7	10	12	15	19	22	22	24	24	24	24	24	23	19	15	14	13	12	15.4	24.1
2-Sep	10	10	9	8	8	8	8	11	15	18	20	23	24	24	24	23	23	22	20	17	14	13	11	10	15.5	24.3
3-Sep	10	9	9	8	8	8	7	10	12	14	17	19	21	23	24	25	26	26	26	21	17	14	14	13	15.8	26.1
4-Sep	14	16	18	17	14	13	13	15	18	20	22	24	25	25	25	25	25	24	24	21	17	14	18	16	19.3	25.3
5-Sep	14	12	13	11	9	7	8	13	17	20	22	22	23	24	24	24	25	25	24	21	17	14	12	10	17.0	24.7
6-Sep	10	9	9	8	9	10	9	13	15	17	19	21	22	23	24	24	24	24	22	20	17	16	14	12	16.3	24.2
7-Sep	11	11	11	12	11	10	9	12	16	19	21	22	23	23	24	25	25	25	24	20	18	17	15	13	17.4	25.1
8-Sep	12	10	10	10	9	8	10	12	15	19	22	25	26	27	28	29	29	28	25	22	20	18	16	15	18.6	28.9
9-Sep	14	12	12	11	12	11	11	12	16	18	20	21	22	22	23	23	23	22	21	17	13	10	10	9	16.0	22.9
10-Sep	9	9	9	11	12	11	9	10	15	18	19	20	21	21	22	22	22	22	21	16	10	9	8	6	14.7	22.2
11-Sep	6	7	6	5	5	5	4	7	10	14	18	21	23	24	25	25	26	26	25	18	14	13	12	13	14.7	26.2
12-Sep	12	12	12	11	10	10	9	11	13	16	19	23	26	28	30	31	31	30	27	22	20	16	17	15	18.9	31.1
13-Sep	14	14	13	12	12	10	10	12	18	21	22	23	24	25	25	25	25	25	22	18	16	16	15	14	17.9	25.5
14-Sep	13	12	11	10	10	9	8	10	12	14	18	21	22	24	24	25	25	24	22	19	17	16	15	16	16.5	24.6
15-Sep	15	15	13	11	9	9	10	11	14	16	18	19	21	23	25	25	26	26	23	18	18	15	15	14	17.0	25.8
16-Sep	14	13	13	13	13	13	13	13	14	14	15	17	18	19	19	19	17	16	14	13	13	12	12	12	14.6	19.3
17-Sep	12	11	12	11	11	11	10	10	10	10	10	10	12	13	13	14	12	12	10	8	6	5	5	3	10.1	13.6
18-Sep	2	1	2	2	1	0	0	2	2	3	5	7	9	9	10	12	12	12	11	7	5	4	4	2	5.2	12.5
19-Sep	3	2	2	2	2	1	0	2	5	8	10	14	17	18	18	18	19	18	16	13	14	13	12	12	9.9	18.7
20-Sep	10	8	8	8	7	7	6	8	10	12	15	18	20	21	22	23	23	23	17	15	13	13	10	7	13.7	23.3
21-Sep	7	6	6	6	6	7	7	8	9	10	13	15	15	16	17	16	12	11	11	10	9	8	7	6	9.9	17.3
22-Sep	5	5	5	4	3	2	2	4	7	9	12	15	16	16	16	17	16	17	15	11	9	10	10	9	9.9	16.9
23-Sep	9	8	8	8	7	6	5	5	9	11	13	14	15	15	14	14	15	14	11	8	8	6	5	5	9.7	15.1
24-Sep	5	4	3	1	1	0	1	3	7	9	11	12	12	13	14	13	13	13	10	6	4	3	3	2	6.8	13.7
25-Sep	0	-1	-2	-1	0	2	3	4	5	6	7	7	8	8	9	9	9	9	7	6	6	5	4	3	4.8	9.1
26-Sep	3	2	3	2	1	-1	-1	-2	1	3	6	9	10	11	12	13	13	13	9	6	5	3	2	1	5.1	12.9
27-Sep	0	-1	-2	-2	-1	0	0	1	3	6	8	10	11	11	13	13	12	12	10	9	7	6	4	3	5.6	13.5
28-Sep	1	2	1	0	-1	-1	0	1	3	5	7	9	11	13	14	15	14	13	12	11	10	9	9	9	7.0	15.1
29-Sep	8	7	7	8	7	3	2	2	6	8	11	12	13	14	16	16	16	14	10	5	6	8	6	5	8.8	16.1
30-Sep	4	4	4	4	4	4	4	3	4	5	6	8	9	10	10	10	10	10	8	7	7	6	6	7	6.4	10.1
8.6 8.0 7.7 7.2 6.9 6.3 6.2 7.8 10.5 12.6 14.8 16.7 18.0 19.0 19.7 19.9 19.7 19.3 17.3 14.2 12.1 10.9 10.2 9.2 15.5 16.0 17.9 16.5 14.3 13.4 13.4 15.4 18.1 20.6 22.0 24.6 26.1 28.4 30.4 31.1 31.1 29.9 27.0 22.2 20.1 18.2 18.0 16.4																										Diurnal Average
																										Diurnal Maximum

Hourly Averages

External Temperature (ET) - °C
Smoky Heights - September 2013



Hourly Averages

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

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1 Spd	12	11	11	8	7	8	8	9	8	10	9	10	13	13	14	12	12	12	12	12	7	8	9	5	9.1	14.4
Dir	267	259	257	221	221	224	217	204	211	223	217	199	227	225	226	215	199	174	188	198	211	224	262	266	221.1	226.4
2 Spd	5	4	5	7	8	9	8	6	3	8	6	5	4	6	7	11	15	13	12	9	5	8	8	6	2.1	15.0
Dir	244	250	226	212	234	225	205	225	226	188	103	65	49	18	71	41	56	54	57	45	36	31	28	22	57.1	55.8
3 Spd	9	8	9	8	6	4	1	1	3	5	6	6	5	4	4	6	4	4	1	3	4	1	2	3	1.0	9.3
Dir	16	14	20	22	20	19	1	110	156	182	180	177	183	149	129	149	148	134	128	311	331	311	353	276	67.4	20.3
4 Spd	6	18	22	12	13	11	10	11	14	18	18	26	33	32	33	30	24	24	21	10	9	6	18	16	17.4	33.0
Dir	234	247	264	220	216	220	209	218	210	227	227	243	244	240	242	227	240	260	258	234	198	224	266	269	238.9	243.5
5 Spd	13	10	12	9	6	6	10	13	20	24	28	25	23	17	12	9	7	7	6	5	6	6	3	3	10.3	28.1
Dir	265	248	235	201	199	223	215	254	246	247	265	283	272	274	293	298	282	310	316	327	319	308	266	286	264.9	265.4
6 Spd	4	1	2	1	1	5	5	8	8	7	6	4	5	7	8	6	12	10	7	3	2	4	3	3	3.4	11.6
Dir	295	309	305	49	222	304	35	21	40	56	40	63	53	62	47	74	127	98	102	141	46	21	26	35	56.9	127.0
7 Spd	3	2	3	2	2	0	1	5	3	8	13	17	17	16	11	12	11	11	13	11	8	10	7	5	6.7	17.2
Dir	18	15	108	139	126	32	28	28	45	149	158	154	161	162	174	158	170	165	160	153	172	171	179	228	158.8	153.5
8 Spd	6	7	9	7	7	9	9	11	14	17	20	20	19	22	20	24	25	24	21	20	16	15	14	15	14.6	25.4
Dir	243	216	221	210	228	218	224	220	226	233	245	245	264	277	269	275	274	275	267	265	254	255	261	257	254.2	273.8
9 Spd	14	15	16	16	19	18	13	5	12	17	20	18	18	19	22	24	19	18	13	9	8	12	13	14	14.8	23.8
Dir	255	261	252	260	261	263	260	254	254	250	249	247	269	277	273	279	282	295	302	311	306	261	267	261	267.5	279.4
10 Spd	16	18	16	15	16	5	4	6	5	3	5	3	5	1	4	10	10	5	5	4	3	4	4	3	5.0	17.8
Dir	266	267	265	251	247	231	205	236	255	274	99	111	166	288	353	314	316	345	358	346	304	286	267	270	271.7	267.0
11 Spd	5	4	15	11	11	13	10	14	23	16	21	15	16	15	16	14	13	10	10	5	4	9	14	16	10.5	22.9
Dir	265	193	229	239	220	241	215	198	210	192	204	196	191	181	173	161	160	160	136	264	279	245	242	258	205.7	209.9
12 Spd	15	14	15	16	16	16	17	15	17	18	20	17	16	16	21	18	16	17	16	13	14	12	20	21	13.3	21.2
Dir	250	238	248	251	239	236	229	210	212	187	183	176	176	171	177	175	164	169	195	265	272	249	262	261	214.8	260.5
13 Spd	25	24	23	11	10	15	11	10	11	16	13	14	10	7	9	10	9	11	12	14	11	15	15	16	7.7	25.2
Dir	263	265	269	264	301	277	286	185	16	353	9	15	360	10	16	13	22	33	46	25	22	23	8	16	339.9	263.3
14 Spd	15	7	6	11	13	13	15	12	14	12	11	11	10	11	18	20	18	16	16	12	11	14	12	14	11.1	19.7
Dir	14	12	15	17	14	18	25	24	33	35	37	51	39	73	93	93	84	79	71	67	69	52	41	135	52.7	92.8
15 Spd	7	5	6	7	7	12	11	10	12	9	6	6	5	4	6	5	4	4	8	11	8	5	3	3	1.3	12.4
Dir	134	126	80	36	330	270	265	243	183	186	190	181	172	165	130	136	137	79	38	30	32	21	116	60	144.9	269.9
16 Spd	8	9	11	10	5	5	9	11	11	17	18	17	9	7	12	11	4	11	26	45	45	40	37	37	8.3	45.0
Dir	33	27	24	24	41	331	27	10	2	16	30	26	15	304	251	257	195	195	225	255	254	256	252	251	279.5	253.6
17 Spd	40	36	38	31	28	25	25	24	21	29	28	26	32	29	22	16	16	11	11	8	11	10	5	8	19.2	40.0
Dir	250	254	260	261	263	264	252	258	273	303	299	295	288	297	306	331	320	346	348	336	345	346	341	308	283.8	250.4
18 Spd	8	12	15	14	11	14	7	12	9	12	11	15	15	12	11	5	9	10	9	7	5	9	2	8	6.8	15.5
Dir	292	297	315	312	297	266	159	168	228	238	194	175	184	235	243	245	216	177	193	217	235	246	308	229	234.9	315.2
19 Spd	8	9	13	14	11	10	9	9	11	12	14	16	21	21	15	14	15	13	9	13	21	19	20	10	10.7	21.1
Dir	259	222	229	211	219	221	244	225	205	188	188	164	161	184	175	165	148	139	82	85	145	180	173	239	182.0	160.9
20 Spd	9	8	12	14	8	6	4	7	11	16	9	12	7	6	13	9	10	8	7	9	6	19	13	12	6.7	19.1
Dir	211	230	222	233	210	222	234	204	190	183	182	135	185	174	196	196	124	47	56	47	119	187	247	211	192.1	187.4
21 Spd	11	7	5	4	8	8	7	7	9	10	8	13	10	9	22	26	24	18	15	21	16	18	19	14	11.1	26.2
Dir	231	205	219	240	199	260	225	207	171	203	158	162	160	221	268	255	257	228	205	223	256	235	231	250	228.0	255.0
22 Spd	17	16	14	11	10	9	11	8	8	12	16	13	17	19	10	13	17	8	3	9	3	5	5	7	8.7	19.1
Dir	263	259	248	226	224	213	212	223	192	187	203	182	185	199	230	217	209	206	246	333	347	280	6	200	220.3	198.8

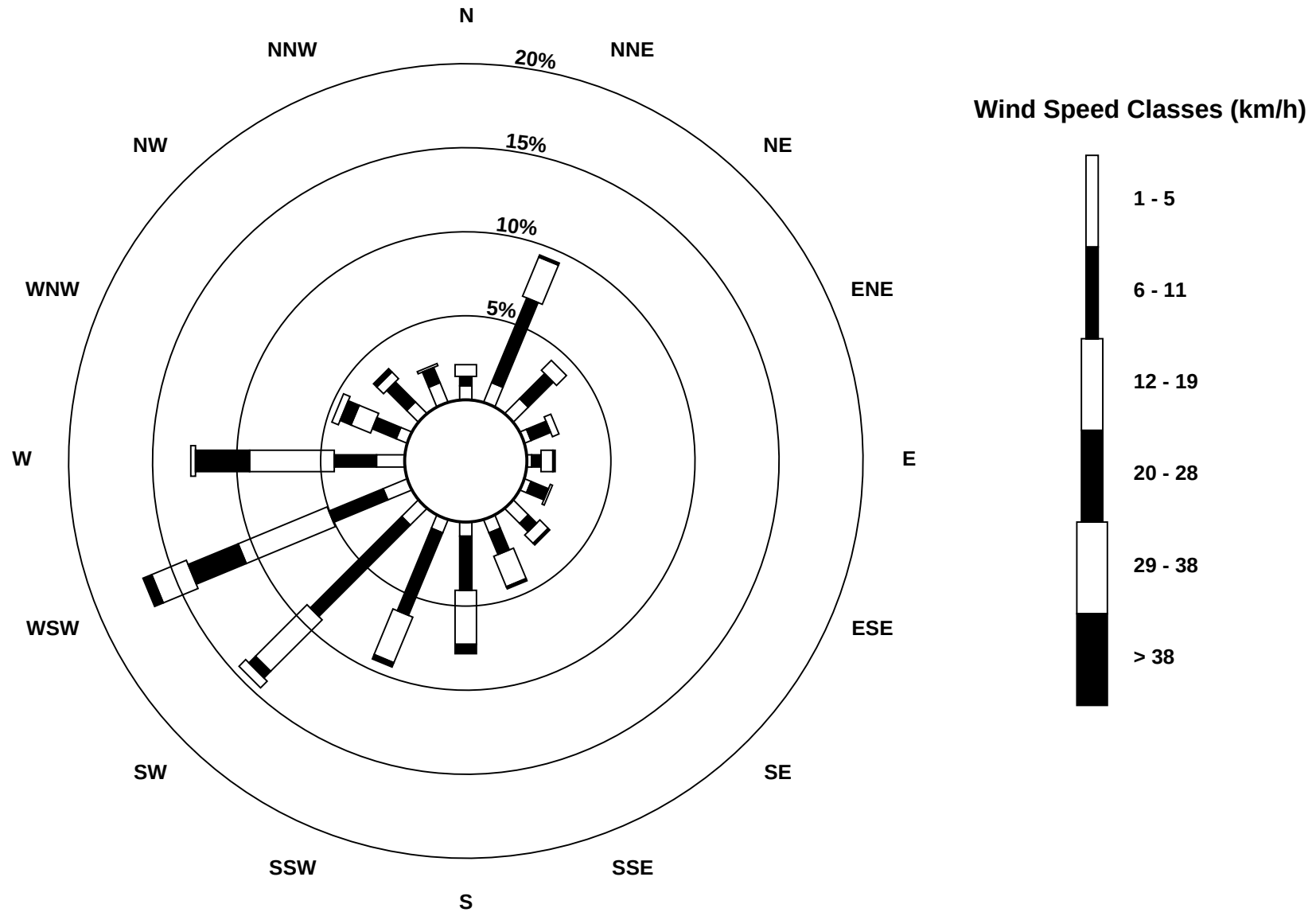
Hourly Averages

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

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
23 Spd	14	11	6	8	8	11	10	5	4	11	20	21	29	32	30	31	29	22	16	15	17	16	12	11	15.8	32.1	
Dir	277	284	259	230	238	251	242	208	186	221	240	240	236	243	244	248	251	235	241	235	248	258	259	252	244.6	242.6	
24 Spd	12	12	10	2	8	12	15	17	22	28	31	34	30	27	25	23	20	18	13	13	13	12	12	4	16.3	34.3	
Dir	248	232	223	183	290	262	218	213	227	237	240	244	239	238	242	249	268	258	256	264	269	274	279	318	245.9	243.6	
25 Spd	7	4	3	10	10	9	6	5	7	11	13	16	16	11	12	16	23	21	14	12	11	11	8	6	10.5	22.7	
Dir	274	265	271	266	266	272	266	246	283	295	296	291	298	272	277	278	294	287	308	303	272	252	262	264	281.9	294.5	
26 Spd	7	8	2	5	4	6	6	5	6	8	8	11	14	15	14	15	15	12	11	9	5	10	8	6	7.8	15.3	
Dir	263	260	241	215	217	228	237	251	194	178	164	186	196	198	206	232	219	186	159	200	213	253	246	201	210.6	198.4	
27 Spd	7	7	7	8	8	7	7	7	7	9	15	27	31	32	33	32	29	26	18	22	22	19	11	13	16.2	32.7	
Dir	212	228	233	219	204	196	201	189	191	193	216	239	235	233	241	243	241	243	241	243	244	238	251	248	233.7	240.6	
28 Spd	11	12	8	6	5	6	4	7	6	4	2	5	7	9	9	13	10	9	10	14	14	8	6	8	4.1	14.2	
Dir	229	226	196	207	218	239	238	268	268	197	172	138	124	126	114	137	124	74	73	100	113	87	61	104	142.4	112.8	
29 Spd	6	4	9	20	19	12	8	9	9	6	6	10	12	12	19	19	13	8	5	3	5	8	6	9	6.6	20.0	
Dir	109	157	225	252	265	224	231	251	246	230	183	223	240	233	257	260	258	292	306	334	11	28	34	26	252.7	251.9	
30 Spd	6	8	7	8	8	10	12	9	13	10	7	11	12	21	17	11	21	19	19	12	4	2	6	10	10.2	20.8	
Dir	22	32	34	24	29	28	23	26	32	34	27	14	16	11	357	323	322	356	13	25	12	342	324	13	10.3	11.4	
Spd	7.7	7.5	7.8	6.6	6.6	7.4	5.7	5.5	5.7	6.7	6.9	7.0	8.6	8.7	8.7	8.2	6.7	3.9	2.4	3.9	4.3	5.6	6.1	5.9	Diurnal Average		
Dir	261.0	255.2	254.7	249.1	251.1	251.5	238.2	228.8	227.4	227.3	225.6	224.7	229.4	235.0	240.4	241.2	241.2	239.0	241.8	268.0	257.8	252.4	263.4	258.6	Diurnal Maximum		
Spd	40.0	36.0	37.8	31.4	28.1	24.9	25.1	24.4	22.9	29.0	30.9	34.3	33.0	32.4	32.9	32.0	29.0	26.1	26.2	44.9	45.0	39.9	36.7	37.0			
Dir	250.4	253.7	260.3	260.9	263.2	263.9	252.3	258.4	209.9	302.6	240.1	243.6	243.5	239.6	241.8	243.3	250.7	242.7	224.9	254.5	253.6	255.6	252.4	250.5			
Maximum Speed Value: 45 km/h on Sep 16 21:00								Minimum Speed Value: 0 km/h on Sep 7 06:00												Hours in Service:				720			
Maximum Daily Speed Average: 19.2 km/h on Sep 17								Minimum Daily Speed Average: 1.0 km/h on Sep 3												Hours of Data:				720			
Maximum Diurnal Speed Average: 8.7 km/h at hour 14								Minimum Diurnal Speed Average: 2.4 km/h at hour 19												Hours of Missing Data:				0			
Monthly Average Velocity: 6.27 km/h 243.67 deg								Speed Percentiles: P ₁ = 1.2 P ₁₀ = 4.4 Q ₁ = 6.9 Median = 10.6 Q ₃ = 15.5 P ₉₀ = 21.2 P ₉₉ = 36.5												Percent Operational Time:				100.0			
All monthly, daily, and diurnal averages have been calculated using vector methods																											
Frequency Distribution																											
Speed Range (km/h)																											
Direction	0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total																				
North	15	26	17	1	0	0	59																				
NorthEast	14	34	23	0	0	0	71																				
East	4	15	6	1	0	0	26																				
SouthEast	14	13	8	1	0	0	36																				
South	9	46	48	7	0	0	110																				
SouthWest	15	90	58	21	16	0	200																				
West	18	31	66	37	10	4	166																				
NorthWest	12	20	13	4	3	0	52																				
Total	101	275	239	72	29	4	720																				

Wind Rose

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



Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Smoky Heights - September 2013

Maximum Speed: 45 km/h on Sep 16 21:00																				Maximum Daily Speed Average: 22.4 km/h on Sep 17										Hours in Service: 720	
Minimum Speed: 1 km/h on Sep 7 06:00																				Minimum Daily Speed Average: 4.7 km/h on Sep 3										Hours of Data: 720	
Maximum Diurnal Speed Average: 16.6 km/h at hour 15																				Minimum Diurnal Speed Average: 9.6 km/h at hour 8										Hours of Missing Data: 0	
Monthly Average Speed: 12.60 km/h																				Percentiles: P ₁ = 1.6 P ₁₀ = 5.0 Q ₁ = 7.5 Median = 11.4 Q ₃ = 16.0 P ₉₀ = 21.6 P ₉₉ = 36.6										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	12	11	11	8	7	8	8	9	8	10	9	11	13	14	15	12	13	12	12	12	7	9	9	5	10.3	15.0					
2-Sep	5	4	6	8	8	9	8	7	4	8	7	6	6	8	8	11	15	13	12	9	5	8	8	6	7.9	15.3					
3-Sep	9	9	9	8	6	4	1	1	3	5	6	7	6	4	5	6	5	5	1	3	4	1	2	4	4.7	9.5					
4-Sep	6	18	23	15	14	11	10	11	15	18	18	27	33	33	33	30	24	24	22	11	9	6	18	16	18.6	33.5					
5-Sep	14	10	12	9	6	7	10	13	20	24	29	26	23	18	13	10	8	8	7	5	6	7	4	3	12.1	28.5					
6-Sep	5	3	3	1	2	5	5	8	8	7	6	4	5	7	8	8	12	10	7	4	3	5	3	3	5.5	12.5					
7-Sep	3	3	3	2	2	1	1	5	4	8	14	18	17	17	12	13	11	11	13	11	8	10	8	5	8.2	17.5					
8-Sep	6	7	9	7	8	9	9	11	14	17	20	21	20	22	21	24	26	24	22	20	16	15	14	15	15.7	25.7					
9-Sep	14	15	16	16	19	18	13	7	12	17	20	19	19	20	22	24	20	18	13	9	8	12	13	14	15.8	24.2					
10-Sep	16	18	16	15	16	6	4	6	7	4	6	5	6	5	7	11	11	6	5	4	3	4	5	4	8.0	17.8					
11-Sep	5	5	16	11	11	13	10	14	23	17	21	16	17	16	18	15	14	10	10	7	4	9	15	16	13.0	23.1					
12-Sep	15	14	15	16	16	16	17	15	17	19	20	18	16	16	21	18	17	17	16	15	14	12	20	21	16.8	21.5					
13-Sep	25	24	23	15	16	16	15	12	15	16	14	16	13	9	11	11	10	11	12	15	11	15	15	16	14.8	25.2					
14-Sep	16	7	6	11	14	13	15	12	14	13	12	12	10	12	18	21	19	17	16	12	11	14	12	14	13.3	20.8					
15-Sep	7	5	7	8	7	12	11	11	12	10	7	6	6	5	7	6	4	4	8	11	9	5	4	4	7.3	12.5					
16-Sep	8	9	11	10	6	9	14	11	12	17	19	17	11	10	13	13	5	12	27	45	45	40	37	37	18.2	45.1					
17-Sep	40	36	38	31	28	25	25	24	21	29	28	27	32	30	23	17	17	12	11	9	11	10	6	8	22.4	40.0					
18-Sep	8	12	16	16	11	15	8	12	12	14	12	16	16	15	15	12	12	13	10	9	6	9	9	9	12.0	16.5					
19-Sep	9	9	13	14	11	10	9	9	11	13	15	17	22	21	16	14	16	13	11	15	21	20	20	15	14.3	22.0					
20-Sep	11	9	13	14	8	7	5	7	11	16	10	13	10	9	14	13	12	8	7	10	17	21	17	17	11.6	21.0					
21-Sep	12	9	5	4	8	9	8	8	10	10	9	14	10	12	23	27	25	18	15	21	17	18	19	15	13.5	26.6					
22-Sep	17	16	14	11	10	10	11	8	9	12	16	13	18	20	11	14	17	8	5	10	4	5	7	11	11.5	20.2					
23-Sep	15	11	7	8	9	12	12	6	5	12	21	22	30	33	31	31	29	22	16	15	17	16	13	11	16.7	32.7					
24-Sep	12	12	11	6	9	13	16	17	22	28	31	35	30	28	25	23	20	18	13	13	13	12	12	6	17.7	34.6					
25-Sep	7	4	4	10	10	9	6	5	8	11	14	16	16	11	13	16	24	22	14	12	11	11	8	6	11.2	23.9					
26-Sep	7	8	2	6	4	7	6	5	6	8	9	11	14	16	15	16	16	12	11	11	6	10	8	6	9.2	16.1					
27-Sep	7	7	7	8	8	7	7	7	7	9	17	27	32	33	33	32	29	26	18	22	22	19	11	13	17.1	33.4					
28-Sep	12	13	9	6	6	6	5	7	6	4	3	5	8	9	10	13	10	9	10	14	14	9	7	9	8.5	14.4					
29-Sep	6	5	10	21	19	12	9	9	9	7	9	11	13	14	19	20	14	9	5	3	5	9	6	9	10.5	20.8					
30-Sep	7	8	7	8	8	10	12	9	13	10	7	12	12	22	18	12	21	20	19	12	6	4	7	10	11.5	21.7					
11.2 10.7 11.4 10.8 10.2 10.3 9.7 9.6 11.2 13.1 14.3 15.5 16.2 16.3 16.6 16.4 15.8 13.8 12.2 12.2 11.1 11.5 11.2 10.9																									Diurnal Average						
40.0 36.1 37.9 31.5 28.2 25.0 25.1 24.5 23.1 29.3 31.1 34.6 33.5 32.7 33.4 32.3 29.3 26.1 27.3 45.1 45.1 40.0 36.8 37.1																									Diurnal Maximum						
All monthly, daily, and diurnal averages have been calculated using scalar methods																															

Hourly Standard Deviations

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

Maximum Value: 92.6 deg on Sep 6 02:00																			Hours in Service: 720						
Minimum Value: 2.2 deg on Sep 10 03:00																			Hours of Data: 720						
																			Hours of Missing Data: 0						
Percentiles: P ₁ = 3.3 P ₁₀ = 5.9 Q ₁ = 8.1 Median = 13.4 Q ₃ = 23.1 P ₉₀ = 42.0 P ₉₉ = 79.9																			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	5	4	4	22	6	6	7	5	10	9	13	20	18	19	17	14	22	10	4	6	30	14	11	14	29.6
2-Sep	12	22	20	22	8	20	7	58	50	15	43	50	50	38	34	21	10	10	8	9	7	7	7	7	58.4
3-Sep	8	9	9	8	7	9	53	40	28	22	29	23	31	38	52	25	25	30	36	27	17	71	38	35	71.5
4-Sep	15	13	6	35	15	14	10	20	15	6	8	10	9	7	8	9	7	12	6	18	12	25	4	6	35.0
5-Sep	8	14	12	16	14	14	9	15	7	9	10	11	16	18	22	25	39	31	13	6	13	15	55	56	56.2
6-Sep	42	93	59	25	68	28	8	13	16	15	18	39	21	15	22	37	23	13	7	37	16	18	12	19	92.6
7-Sep	20	14	37	47	42	84	17	6	49	18	12	11	14	19	29	22	17	10	12	5	9	7	8	22	83.7
8-Sep	6	8	6	13	12	6	4	4	9	9	8	9	17	11	16	11	9	6	8	6	6	4	2	6	16.6
9-Sep	6	7	5	5	3	3	11	80	30	8	9	13	13	13	13	10	18	9	5	9	14	8	8	3	80.0
10-Sep	4	2	2	10	6	60	40	34	41	54	33	61	62	86	59	25	26	38	10	10	13	36	19	28	86.3
11-Sep	29	56	20	11	6	11	16	6	8	13	11	21	16	22	29	22	19	12	9	43	23	25	12	3	55.7
12-Sep	4	8	5	6	5	4	7	9	7	13	7	12	10	15	8	11	14	11	8	26	8	16	8	10	25.8
13-Sep	3	3	8	53	61	36	50	41	48	16	27	32	42	43	35	26	15	15	8	13	6	8	6	7	61.4
14-Sep	7	8	8	9	7	6	7	6	7	13	18	14	17	30	16	19	14	11	6	6	7	10	15	15	29.5
15-Sep	10	16	19	33	27	8	7	18	14	12	24	24	26	44	33	54	32	18	11	7	12	25	62	53	62.4
16-Sep	9	6	7	7	46	68	80	12	23	11	16	12	42	52	23	42	45	15	18	5	4	3	4	4	79.7
17-Sep	3	4	4	5	5	4	4	4	10	8	8	9	9	14	14	17	13	18	12	11	11	12	39	19	39.3
18-Sep	7	9	13	25	22	19	29	22	41	30	33	19	28	39	49	89	47	44	30	41	46	18	87	19	88.7
19-Sep	12	6	5	7	8	11	6	9	8	14	12	25	17	12	13	8	17	8	39	30	11	19	8	53	53.1
20-Sep	38	37	17	15	21	28	38	23	8	9	29	33	43	50	23	49	29	14	19	24	74	27	43	60	74.3
21-Sep	24	39	18	51	15	28	32	27	33	19	23	22	11	39	14	9	6	8	9	11	22	6	6	14	50.7
22-Sep	5	6	7	11	17	17	9	9	11	12	16	18	22	20	23	21	7	10	46	9	76	12	52	54	76.1
23-Sep	32	13	44	17	20	28	33	56	51	12	10	11	10	11	7	7	9	7	5	9	7	3	7	4	56.2
24-Sep	11	10	18	81	28	12	16	4	6	7	7	7	11	11	11	13	7	10	4	4	5	6	12	48	80.6
25-Sep	6	15	65	7	5	6	6	18	26	9	15	11	13	13	19	15	18	18	7	10	7	7	7	9	64.8
26-Sep	6	6	53	24	23	11	16	13	20	12	30	18	16	19	20	19	21	17	7	34	21	13	7	20	52.6
27-Sep	22	10	13	9	12	8	6	9	13	8	23	8	7	8	11	7	6	4	5	6	5	6	16	11	23.4
28-Sep	8	17	14	11	21	10	15	9	19	18	46	23	18	18	19	16	10	12	7	15	7	31	27	19	46.3
29-Sep	19	39	26	18	4	18	36	14	13	27	43	15	20	31	13	12	23	9	10	22	17	10	7	7	42.8
30-Sep	7	13	10	6	10	8	8	8	8	17	18	13	14	17	20	18	13	21	14	9	53	80	18	12	80.2
42.0 92.6 64.8 80.6 67.6 83.7 79.7 80.0 50.6 54.4 46.3 60.6 62.3 86.3 58.6 88.7 47.3 43.8 45.6 43.0 76.1 80.2 87.3 60.1																									

PAZA
Beaverlodge Station
Monthly Summary Tables, Graphs and
Roses

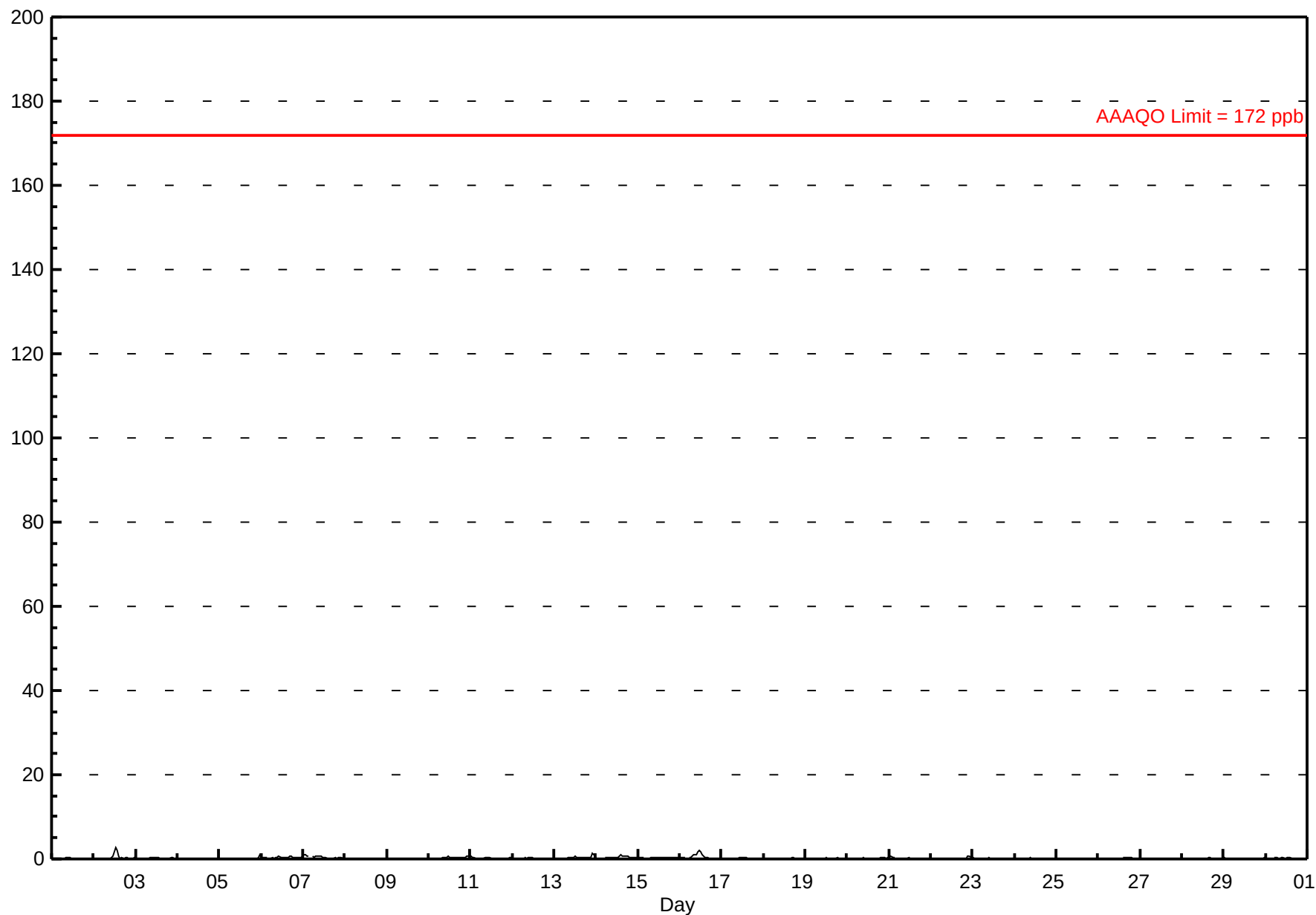
Hourly Averages

Sulphur Dioxide (SO₂) - ppb Beaverlodge - September 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 2.6 ppb on Sep 2 13:00 Maximum Daily Average: 0.5 ppb on Sep 16																				Hours in Service: 720 Hours of Data: 686 Hours of Missing Data: 34 Hours of Calibration: 34 Percent Operational Time: 100.0						
Minimum Value: 0 ppb on Sep 9 21:00 Maximum Diurnal Average: 0.3 ppb at hour 13 Monthly Average: 0.17 ppb										Minimum Daily Average: 0.0 ppb on Sep 4 Minimum Diurnal Average: 0.1 ppb at hour 4 Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.1 Q ₃ = 0.2 P ₉₀ = 0.4 P ₉₉ = 0.9																
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	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
2-Sep	0	0	0	0	A	0	0	0	0	0	0	1	3	2	1	0	0	0	0	0	0	0	0	0	0.4	2.6
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	0.2	0.3
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	1	0.1	0.9
6-Sep	1	0	0	0	A	0	0	0	0	0	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0.4	0.8
7-Sep	1	1	1	1	A	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	1.0
8-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
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	0.0	0.1
10-Sep	0	0	0	0	A	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	0.3	0.8
11-Sep	1	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.6
12-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
13-Sep	0	0	0	0	A	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1	0.3	1.4
14-Sep	0	0	0	0	A	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	0	0	0	0	0.4	0.9
15-Sep	0	0	1	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.5
16-Sep	0	0	0	0	A	0	0	1	1	1	2	2	2	1	0	0	0	0	0	0	0	0	0	0	0.5	2.1
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	0.1	0.4
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	0.3
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	0.1	0.4
20-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
21-Sep	0	1	1	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.7
22-Sep	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0.1	0.6
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	0.3
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	0.2
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	0.1
26-Sep	0	0	0	0	A	0	0	0	0	0	C	C	C	C	0	0	0	0	0	0	0	0	0	0	0.1	0.3
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	0.1
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	0.4
29-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
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	0.2	0.5
																									Diurnal Average	
																									Diurnal Maximum	
C - Calibration A - Automated Daily Zero Span																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb 30-day 11 ppb																										

Hourly Averages

Sulphur Dioxide (SO₂) - ppb
Beaverlodge - September 2013



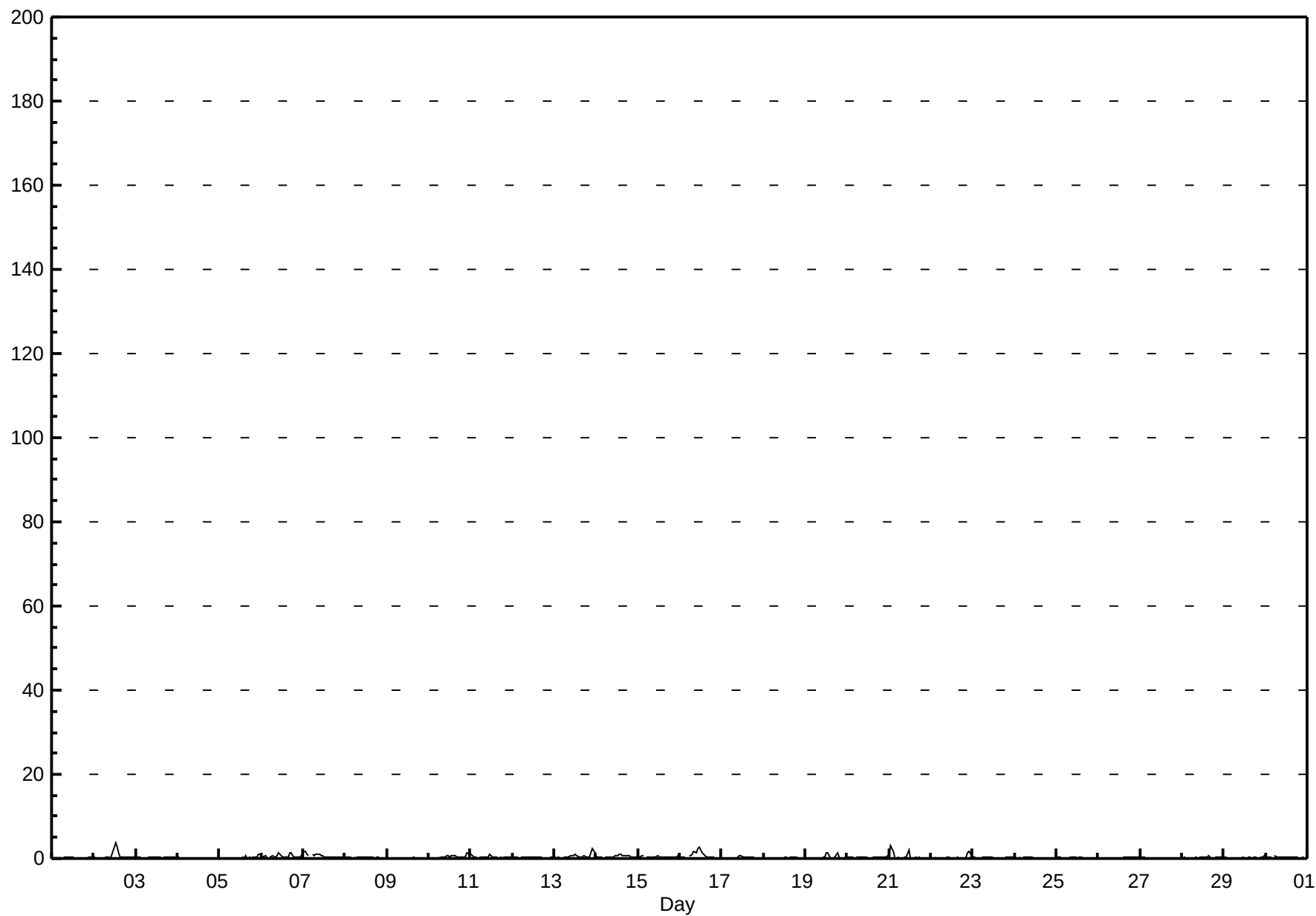
Hourly Maximums

Sulphur Dioxide (SO₂) - ppb Beaverlodge - September 2013

Maximum Value: 3.8 ppb on Sep 2 13:00																				Maximum Daily Average: 0.8 ppb on Sep 16					Hours in Service: 720	
Minimum Value: 0 ppb on Sep 26 09:00																				Minimum Daily Average: 0.1 ppb on Sep 4					Hours of Data: 686	
Maximum Diurnal Average: 0.5 ppb at hour 12																				Minimum Diurnal Average: 0.2 ppb at hour 7					Hours of Missing Data: 34	
Monthly Average: 0.31 ppb																				Percentiles: P ₁ = 0.1 P ₁₀ = 0.1 Q ₁ = 0.1 Median = 0.2 Q ₃ = 0.3 P ₉₀ = 0.6 P ₉₉ = 2.1					Hours of Calibration: 34	
																									Percent Operational Time: 100.0	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-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
2-Sep	0	0	0	0	A	0	0	0	0	0	1	2	4	3	1	0	0	0	0	0	0	0	0	0	0.6	3.8
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	0.3	0.5
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	1	0	0	0	0	0	0	1	1	0.3	1.1
6-Sep	1	0	1	0	A	0	1	0	0	1	1	1	0	0	0	0	1	1	1	0	0	0	0	1	0.6	1.5
7-Sep	2	2	1	1	A	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.6	1.7
8-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
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	0.2
10-Sep	0	0	0	0	A	0	0	0	0	0	1	1	0	1	1	1	0	0	0	0	0	0	1	1	0.4	1.3
11-Sep	1	1	0	0	A	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.1
12-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
13-Sep	0	0	0	0	A	0	0	0	0	1	1	1	1	1	0	0	0	1	0	0	0	1	2	1	0.6	2.2
14-Sep	0	0	0	0	A	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	0	0	0	0	0.5	1.1
15-Sep	0	0	1	1	A	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0.4	0.6
16-Sep	0	0	0	0	A	1	1	1	2	1	2	3	2	1	1	0	0	0	0	0	0	0	0	0	0.8	2.8
17-Sep	0	0	0	0	A	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0.2	0.7
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	0.5
19-Sep	0	0	0	0	A	0	0	0	0	0	0	0	1	1	0	0	0	0	1	0	0	0	0	0	0.3	1.5
20-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	0.3	0.7
21-Sep	1	3	2	0	A	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0.5	3.1
22-Sep	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	1	0.3	1.7
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	0.5
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	0.3
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	0.2	0.2
26-Sep	0	0	0	0	A	0	0	0	0	0	C	C	C	C	0	0	0	0	0	0	0	0	0	0	0.2	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	0.3
28-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
29-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
30-Sep	0	0	0	0	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.6
0.3 0.4 0.3 0.2 -- 0.2 0.2 0.2 0.3 0.3 0.4 0.5 0.5 0.4 0.3 0.3 0.3 0.3 0.3 0.2 0.2 0.3 0.4 0.4																									Diurnal Average	
1.7 3.1 1.6 0.8 -- 0.9 0.7 1.1 1.6 1.5 2.5 2.8 3.8 2.7 1.3 0.7 1.5 1.2 1.3 1.3 0.6 0.5 1.5 2.2 1.5																									Diurnal Maximum	
C - Calibration					A - Automated Daily Zero Span																					

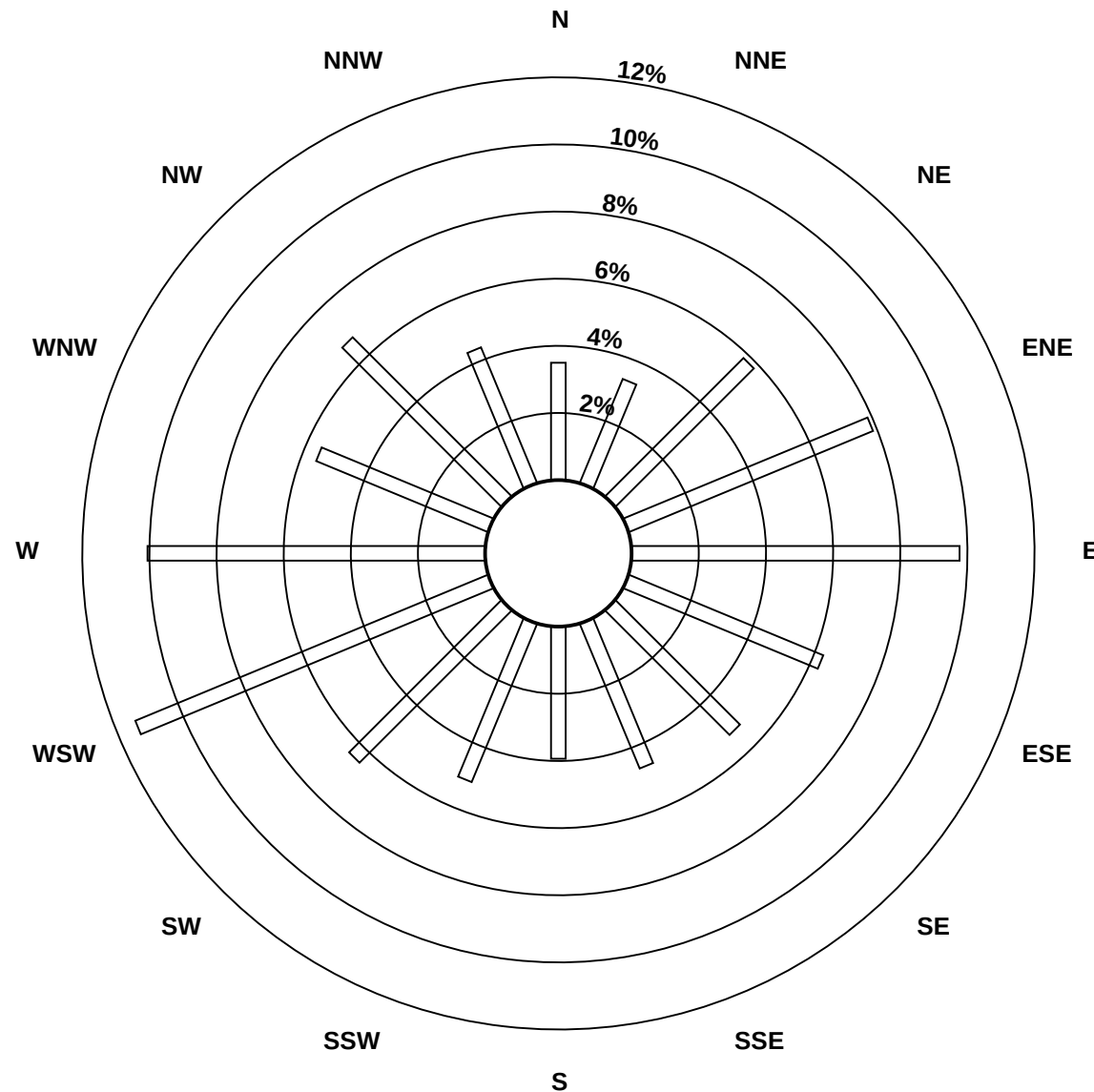
Hourly Maximums

Sulphur Dioxide (SO₂) - ppb
Beaverlodge - September 2013

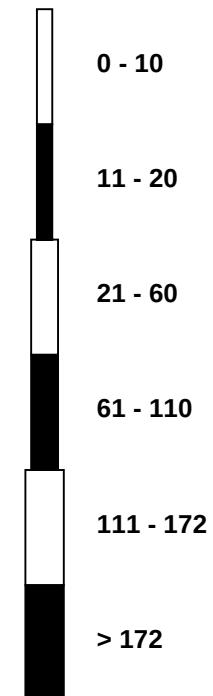


Pollutant Rose

Sulphur Dioxide (SO₂) - ppb
Beaverlodge - September 2013

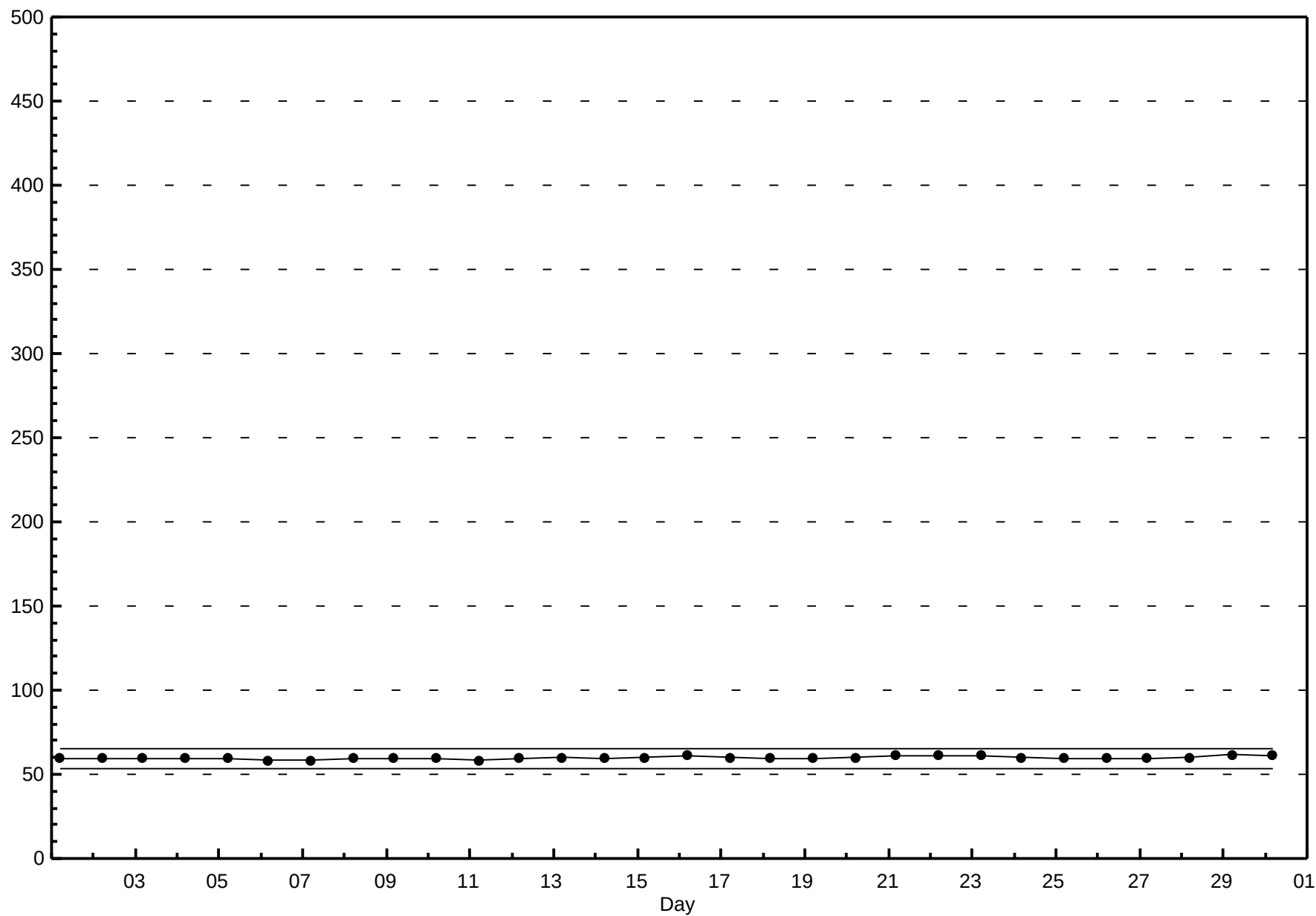


Pollutant Classes (ppb)



Span Responses

Sulphur Dioxide (SO₂)
Beaverlodge - September 2013



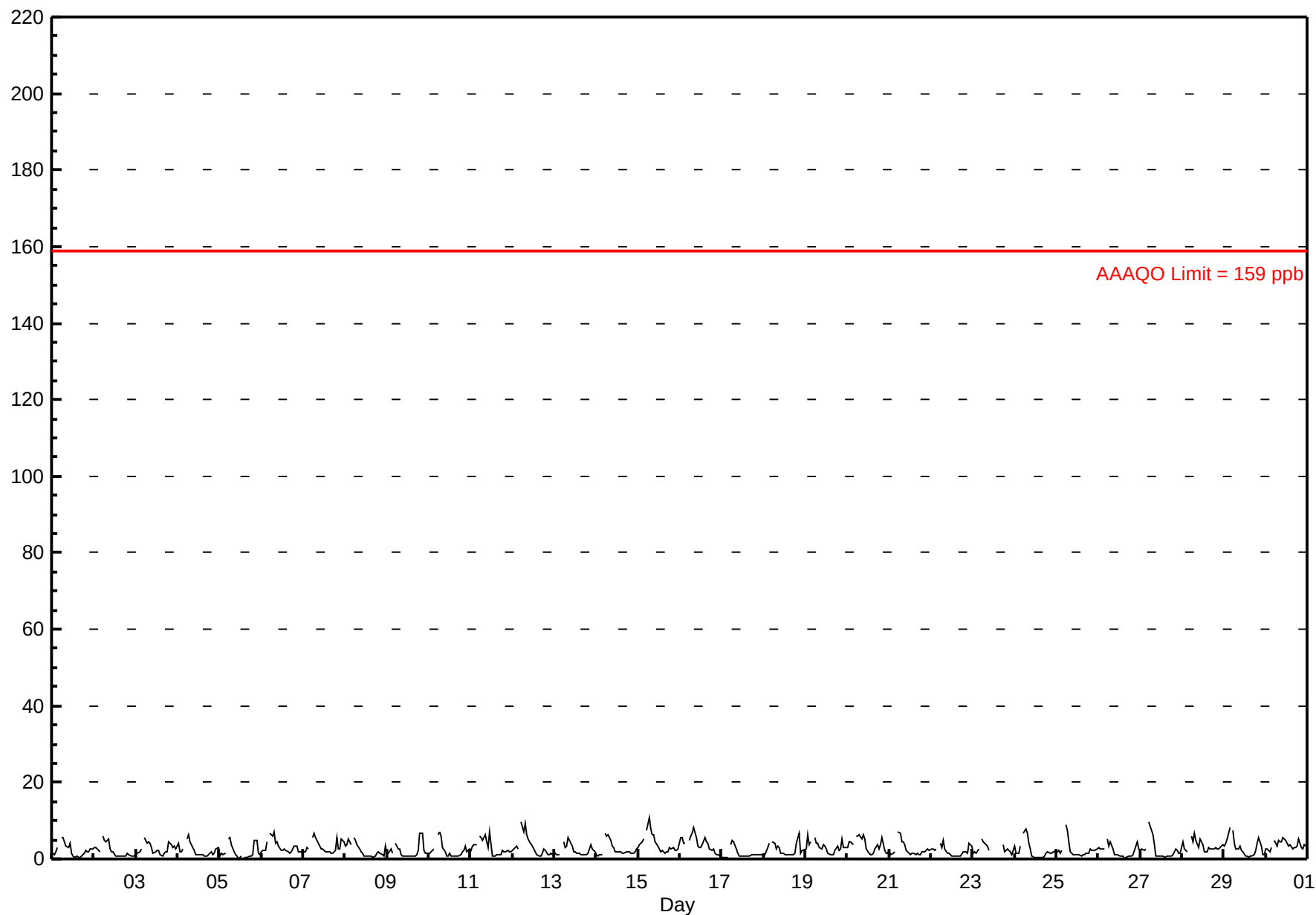
Hourly Averages

Nitrogen Dioxide (NO₂) - ppb Beaverlodge - September 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 10.9 ppb on Sep 15 07:00 Maximum Daily Average: 4.0 ppb on Sep 15																								Hours in Service: 720 Hours of Data: 682 Hours of Missing Data: 38 Hours of Calibration: 37 Percent Operational Time: 99.9		
Minimum Value: 0 ppb on Sep 5 12:00 Maximum Diurnal Average: 6.0 ppb at hour 6 Monthly Average: 2.64 ppb												Minimum Daily Average: 1.4 ppb on Sep 17 Minimum Diurnal Average: 1.2 ppb at hour 16 Percentiles: P ₁ = 0.4 P ₁₀ = 0.8 Q ₁ = 1.2 Median = 2.1 Q ₃ = 3.5 P ₉₀ = 5.4 P ₉₉ = 8.1														
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	1	1	2	3	A	6	6	5	3	3	4	1	1	1	0	0	1	2	2	2	2	3	3	2.2	5.7	
2-Sep	3	3	3	2	A	6	5	4	5	2	2	2	1	1	1	1	1	1	2	1	1	1	1	2.1	5.8	
3-Sep	1	2	2	3	A	6	4	5	4	3	2	2	2	2	1	1	1	2	2	4	4	3	3	2.6	5.7	
4-Sep	4	2	2	3	A	5	6	5	4	2	1	1	1	1	1	1	1	1	1	2	1	1	2	3	2.2	6.5
5-Sep	1	2	1	2	A	5	5	4	2	1	1	0	1	N	1	1	1	1	1	1	5	5	1	1	1.8	5.4
6-Sep	2	2	2	4	A	7	6	7	4	4	3	2	2	3	2	2	2	2	3	3	3	2	2	2	3.1	6.9
7-Sep	2	2	3	3	A	6	7	5	5	3	3	3	2	2	2	2	2	2	2	6	3	3	5	4	3.2	6.6
8-Sep	3	4	5	4	A	6	5	4	3	2	1	1	1	1	1	1	1	1	1	2	2	1	1	3	2.2	5.7
9-Sep	1	1	3	1	A	4	2	3	1	1	1	1	1	1	1	1	1	1	2	7	7	2	1	2	1.9	6.9
10-Sep	2	2	2	2	A	6	7	6	3	2	1	1	1	1	1	1	1	1	1	2	2	3	2	3	2.3	7.2
11-Sep	2	3	4	4	A	6	5	5	6	4	3	7	1	1	1	1	1	1	2	2	2	2	2	2	3.0	6.9
12-Sep	2	3	3	3	A	10	7	9	6	5	4	3	3	2	1	1	1	1	3	2	1	1	1	1	3.3	9.7
13-Sep	2	1	1	1	A	4	3	3	6	4	3	2	2	1	1	1	1	1	1	1	2	4	3	2	2.3	5.6
14-Sep	1	1	1	1	A	7	6	6	5	3	3	2	2	2	2	1	2	2	2	2	2	1	2	3	2.5	6.9
15-Sep	3	4	5	5	A	7	11	8	6	6	4	3	3	2	2	1	2	2	3	2	3	2	2	3	4.0	10.9
16-Sep	6	5	4	4	A	5	6	7	8	5	3	3	3	4	6	4	4	2	2	3	1	1	1	1	3.9	8.1
17-Sep	0	0	0	0	A	4	5	5	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.4	4.7
18-Sep	1	1	3	4	A	4	4	2	3	3	2	1	1	1	1	1	1	1	2	4	7	2	2	2	2.4	6.8
19-Sep	3	6	4	4	A	6	4	4	3	3	4	3	3	2	1	1	1	2	3	2	3	5	3	3	3.1	6.3
20-Sep	3	4	4	4	A	6	6	6	5	6	5	3	2	1	1	1	3	4	3	4	5	2	1	2	3.6	6.4
21-Sep	2	1	2	2	A	7	7	5	4	4	2	1	1	1	2	1	2	1	1	2	2	2	3	2	2.5	7.0
22-Sep	3	2	2	3	A	4	3	5	3	1	1	1	1	1	1	1	1	1	2	2	2	2	4	3	2.0	5.0
23-Sep	2	2	1	3	A	5	4	4	3	2	C	C	C	C	C	C	C	4	2	2	2	2	1	2	--	5.2
24-Sep	3	2	1	3	A	7	8	7	4	3	1	0	0	0	0	0	0	1	1	2	1	2	2	2	2.2	7.7
25-Sep	2	2	2	2	A	9	7	4	2	1	1	1	1	1	1	1	1	2	2	3	2	2	2	2	2.3	8.9
26-Sep	3	2	3	3	A	5	3	4	3	1	1	1	1	1	1	0	0	1	1	1	1	3	4	3	2.0	5.1
27-Sep	2	3	2	3	A	10	7	6	4	1	1	1	1	1	1	1	1	1	1	1	3	2	1	2	2.3	9.8
28-Sep	4	3	2	2	A	6	4	7	5	3	5	4	4	2	2	3	3	3	3	3	3	3	3	4	3.4	6.8
29-Sep	3	4	5	8	A	8	4	2	3	4	2	2	1	1	1	1	1	1	2	4	6	4	1	1	2.9	8.3
30-Sep	3	3	2	3	A	5	3	5	4	5	6	5	4	4	4	3	3	3	3	5	3	3	4	3	3.6	5.6
2.4 2.5 2.5 2.9 -- 6.0 5.4 5.1 4.0 3.0 2.4 2.0 1.6 1.4 1.3 1.2 1.3 1.5 1.8 2.7 2.7 2.3 2.2 2.2																								Diurnal Average		
5.8 6.3 5.2 8.3 -- 9.8 10.9 9.2 8.1 6.4 5.6 6.9 4.2 3.5 5.7 4.5 4.1 3.8 3.3 6.9 6.9 5.1 5.2 4.3																								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
Beaverlodge - September 2013



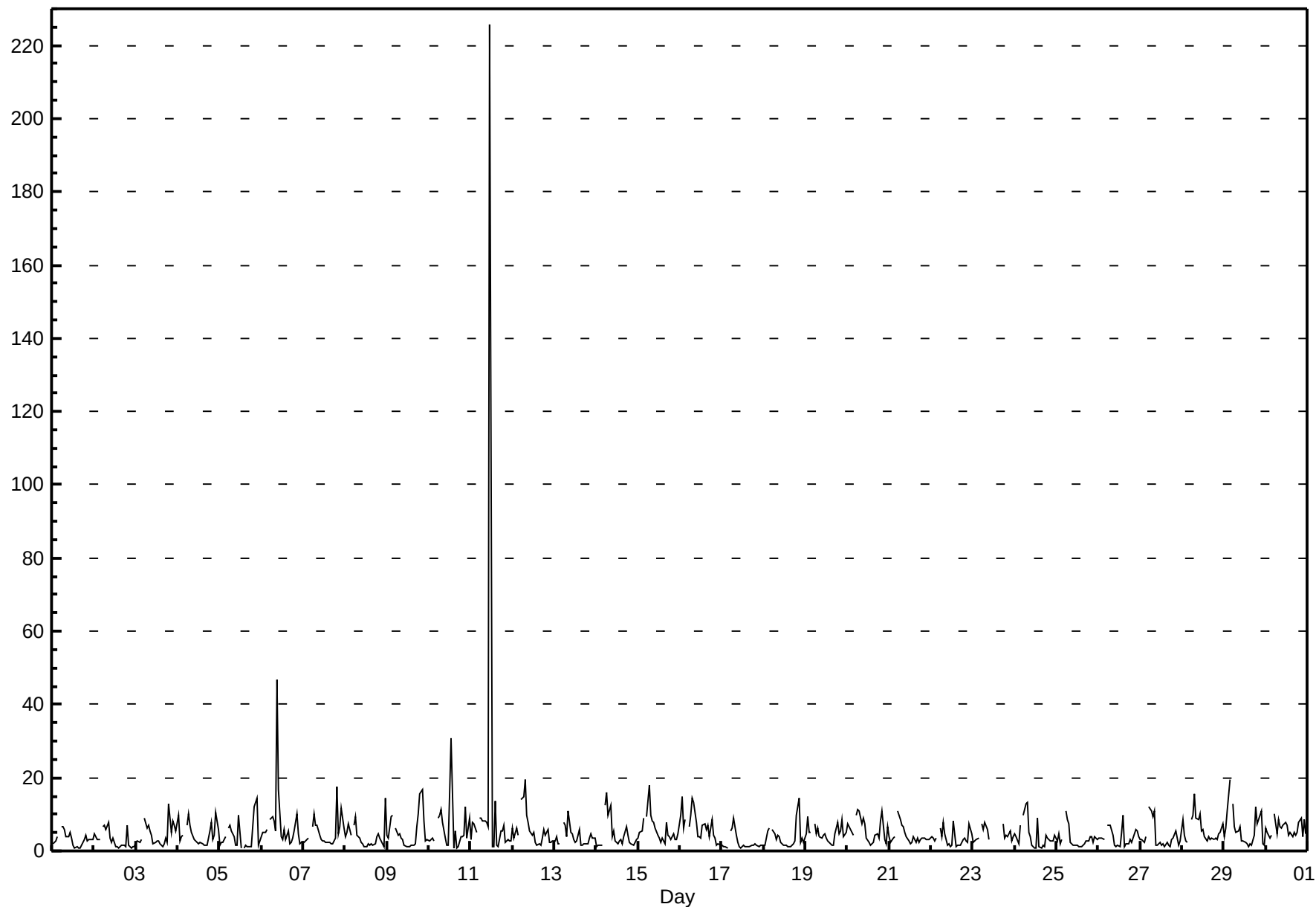
Hourly Maximums

Nitrogen Dioxide (NO₂) - ppb Beaverlodge - September 2013

Maximum Value: 225.7 ppb on Sep 11 12:00																				Maximum Daily Average: 15.0 ppb on Sep 11										Hours in Service: 720	
Minimum Value: 1 ppb on Sep 24 13:00																				Minimum Daily Average: 2.3 ppb on Sep 17										Hours of Data: 682	
Maximum Diurnal Average: 10.8 ppb at hour 12																				Minimum Diurnal Average: 2.2 ppb at hour 16										Hours of Missing Data: 38	
Monthly Average: 5.05 ppb																				Percentiles: P ₁ = 0.8 P ₁₀ = 1.4 Q ₁ = 2.2 Median = 3.7 Q ₃ = 6.4 P ₉₀ = 9.4 P ₉₉ = 17.3										Hours of Calibration: 37	
																				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	2	2	3	4	A	7	7	6	4	4	5	3	1	1	1	1	1	3	4	3	3	3	3	3	3.1	6.7					
2-Sep	5	4	3	3	A	7	7	6	8	3	2	3	1	1	1	1	2	1	1	7	2	1	1	1	3.1	7.8					
3-Sep	2	3	2	3	A	9	6	7	6	4	2	2	3	3	2	1	2	3	3	13	5	8	7	5	4.4	12.8					
4-Sep	10	3	4	4	A	7	10	7	5	3	3	2	2	2	2	2	2	2	6	8	3	4	11	6	4.6	10.6					
5-Sep	1	2	2	4	A	6	7	5	4	2	1	10	1	N	1	1	1	1	1	7	12	14	2	3	4.0	14.5					
6-Sep	4	5	5	6	A	9	9	8	6	47	17	4	3	6	3	5	2	2	3	6	10	5	2	2	7.4	46.9					
7-Sep	2	3	3	3	A	7	10	7	7	4	3	3	3	2	2	2	2	2	4	17	5	7	12	6	5.1	17.5					
8-Sep	4	5	7	4	A	7	9	4	4	2	2	1	1	2	1	2	2	2	4	4	3	2	1	14	3.9	14.3					
9-Sep	4	3	9	10	A	6	4	5	3	3	2	1	1	1	1	2	2	7	10	16	17	8	3	3	5.3	16.8					
10-Sep	3	3	3	3	A	9	10	11	8	3	1	2	15	31	1	6	1	1	4	4	4	12	4	9	6.4	30.8					
11-Sep	3	8	7	5	A	9	9	8	8	8	6	226	1	1	13	1	1	5	5	7	2	3	3	3	15.0	225.7					
12-Sep	6	3	6	4	A	14	15	20	10	8	5	4	5	2	2	2	2	3	6	4	6	3	2	3	5.9	19.5					
13-Sep	3	4	2	2	A	8	7	4	11	5	5	3	2	3	6	2	1	2	2	2	3	5	4	3	3.8	10.7					
14-Sep	1	1	2	2	A	12	16	10	13	4	5	3	2	3	3	2	4	7	4	2	2	2	2	3	4.6	15.8					
15-Sep	3	5	5	9	A	9	18	10	8	8	6	4	4	2	3	2	8	4	4	3	5	3	3	5	5.7	18.0					
16-Sep	10	15	6	8	A	7	10	15	13	8	4	4	4	7	7	6	7	4	8	4	4	2	2	2	6.8	14.9					
17-Sep	2	1	1	1	A	5	6	9	4	2	1	1	1	1	1	1	1	2	2	2	1	1	2	2	2.3	9.0					
18-Sep	1	2	6	6	A	6	5	3	4	4	2	2	2	1	1	1	2	2	3	10	14	2	4	2	3.7	14.3					
19-Sep	5	9	5	5	A	8	5	6	4	4	4	5	3	3	2	1	2	5	8	5	6	9	4	5	4.8	9.4					
20-Sep	7	7	6	4	A	10	11	11	7	9	8	3	2	1	2	2	4	5	4	8	11	3	2	6	5.9	11.5					
21-Sep	4	2	4	4	A	11	9	7	7	5	4	3	2	2	4	2	3	2	3	4	3	3	3	3	4.1	10.8					
22-Sep	4	4	3	4	A	6	4	8	5	2	2	1	1	8	1	1	1	2	3	4	3	2	7	5	3.5	8.1					
23-Sep	2	3	3	4	A	7	6	8	6	3	C	C	C	C	C	C	C	7	4	4	4	6	3	4	--	7.9					
24-Sep	5	4	2	7	A	10	13	13	5	4	1	1	1	9	1	1	1	1	4	4	3	3	3	4	4.4	13.2					
25-Sep	3	5	2	3	A	11	9	7	2	2	2	2	2	1	1	1	2	3	3	4	4	2	4	3	3.3	10.8					
26-Sep	4	4	4	3	A	7	7	7	4	2	1	1	1	5	10	1	2	2	3	2	3	6	5	4	3.8	9.9					
27-Sep	3	3	3	4	A	12	11	9	11	1	2	2	2	2	1	2	2	1	3	3	5	3	2	3	4.0	12.2					
28-Sep	9	4	3	2	A	8	10	16	9	9	10	5	6	4	3	4	3	3	3	3	3	5	5	7	5.9	15.8					
29-Sep	4	6	11	19	A	13	7	5	5	7	3	3	2	2	1	2	1	4	12	7	9	11	2	2	5.9	19.4					
30-Sep	6	5	3	4	A	10	5	9	7	6	7	8	7	4	5	4	5	4	5	8	9	4	9	5	6.1	10.0					
4.1		4.3	4.2	4.8	--	8.5	8.7	8.4	6.6	5.9	4.0	10.8	2.8	4.0	2.9	2.2	2.4	3.0	4.2	5.9	5.5	4.7	3.8	4.2	Diurnal Average						
9.9		14.9	10.9	19.4	--	13.9	18.0	19.5	13.3	46.9	16.6	225.7	15.5	30.8	13.5	5.9	7.7	7.4	12.0	17.5	16.8	14.5	11.6	14.3	Diurnal Maximum						
C - Calibration					N - Not Valid					A - Automated Daily Zero Span																					

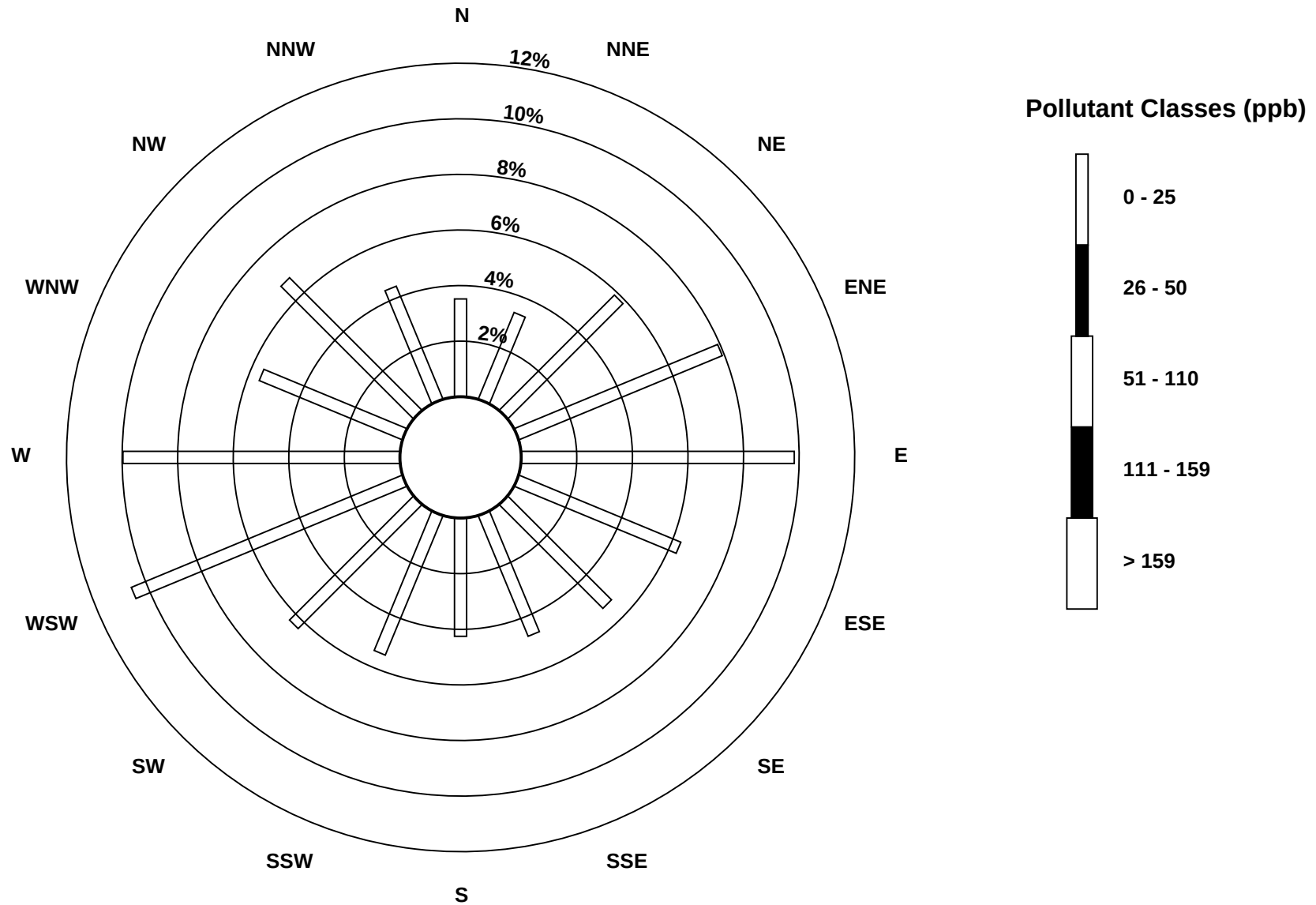
Hourly Maximums

Nitrogen Dioxide (NO₂) - ppb
Beaverlodge - September 2013



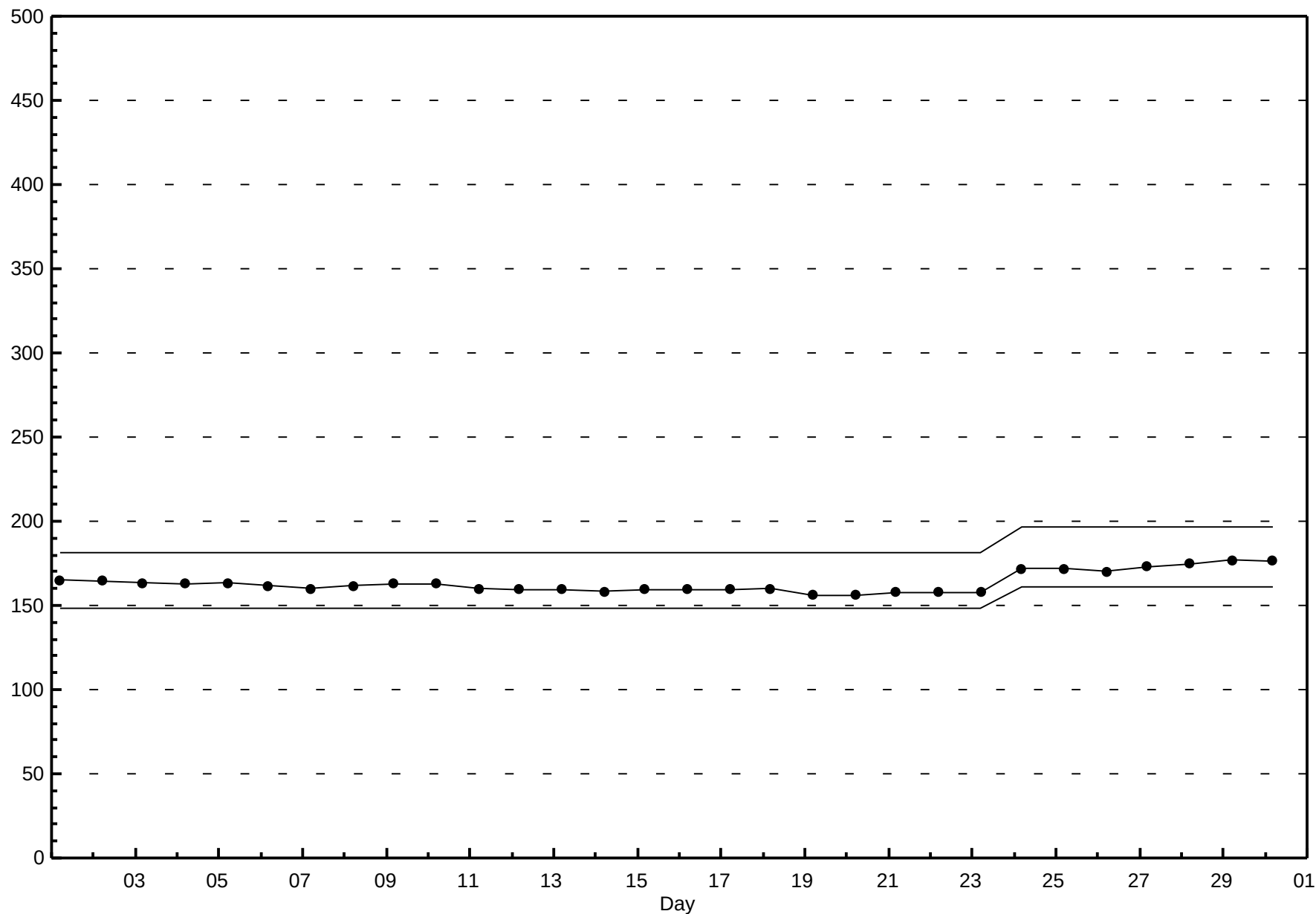
Pollutant Rose

Nitrogen Dioxide (NO₂) - ppb
Beaverlodge - September 2013



Span Responses

Nitrogen Dioxide (NO₂)
Beaverlodge - September 2013



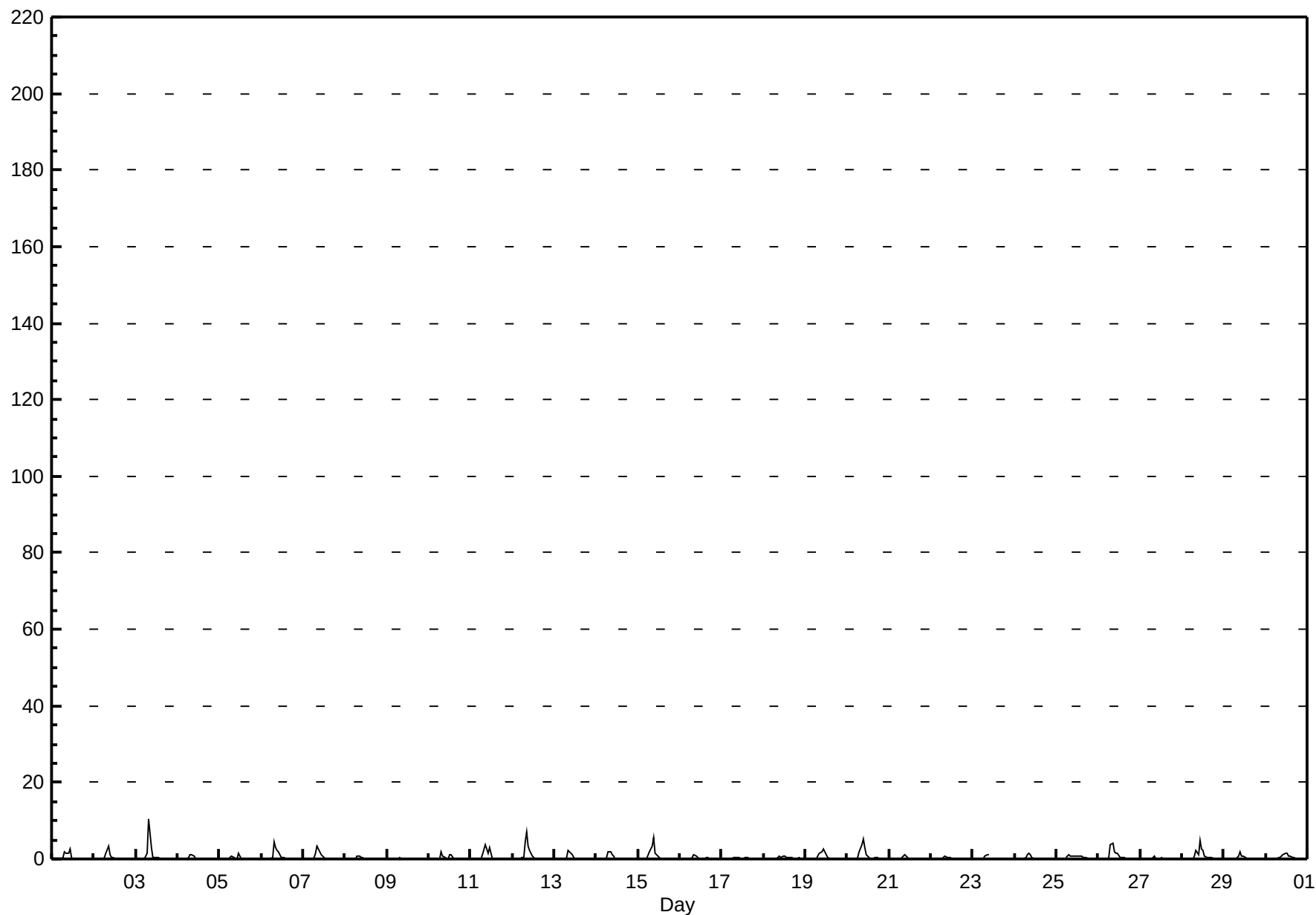
Hourly Averages

Nitrogen Oxide (NO) - ppb Beaverlodge - September 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 10.4 ppb on Sep 3 08:00 Maximum Daily Average: 1.0 ppb on Sep 3																								Hours in Service: 720 Hours of Data: 682 Hours of Missing Data: 38 Hours of Calibration: 37 Percent Operational Time: 99.9		
Minimum Value: 0 ppb on Sep 1 01:00 Maximum Diurnal Average: 2.0 ppb at hour 9 Monthly Average: 0.36 ppb												Minimum Daily Average: 0.0 ppb on Sep 9 Minimum Diurnal Average: 0.0 ppb at hour 1 Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 0.2 P ₉₀ = 0.9 P ₉₉ = 4.6														
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	0	2	2	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	2.6
2-Sep	0	0	0	0	A	0	0	2	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	3.5
3-Sep	0	0	0	0	A	0	2	10	7	3	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1.0	10.4
4-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	1.2
5-Sep	0	0	0	0	A	0	0	1	1	0	0	2	0	N	0	0	0	0	0	0	0	0	0	0	0.1	1.6
6-Sep	0	0	0	0	A	0	1	5	3	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0.6	4.6
7-Sep	0	0	0	0	A	0	0	1	3	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.4	3.3
8-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	0.1	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	0.0	0.2
10-Sep	0	0	0	0	A	0	0	2	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0.2	1.7
11-Sep	0	0	0	0	A	0	0	1	4	3	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0.5	3.8
12-Sep	0	0	0	0	A	0	0	4	7	3	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0.8	7.1
13-Sep	0	0	0	0	A	0	0	0	2	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	2.3
14-Sep	0	0	0	0	A	0	0	2	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	2.0
15-Sep	0	0	0	0	A	0	2	3	3	6	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0.7	5.7
16-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	1.2
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	0.5
18-Sep	0	0	0	0	A	0	0	0	0	1	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0.2	0.7
19-Sep	0	0	0	0	A	0	0	1	2	2	3	2	1	0	0	0	0	0	0	0	0	0	0	0	0.5	2.7
20-Sep	0	0	0	0	A	0	0	2	4	5	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0.7	5.2
21-Sep	0	0	0	0	A	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.0
22-Sep	0	0	0	0	A	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.7
23-Sep	0	0	0	0	A	0	0	1	1	1	C	C	C	C	C	C	C	C	0	0	0	0	0	0	--	1.0
24-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	1.5
25-Sep	0	0	0	0	A	0	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0.3	1.1
26-Sep	0	0	0	0	A	0	0	4	4	2	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0.7	4.2
27-Sep	0	0	0	0	A	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.8
28-Sep	0	0	0	0	A	0	0	1	2	1	5	3	2	1	1	0	0	0	0	0	0	0	0	0	0.7	4.7
29-Sep	0	0	0	0	A	0	0	0	1	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.8
30-Sep	0	0	0	0	A	0	0	0	0	1	1	1	2	1	1	0	0	0	0	0	0	0	0	0	0.3	1.7
0.0 0.0 0.0 0.0 -- 0.0 0.3 1.5 2.0 1.5 1.1 0.7 0.4 0.2 0.1 0.1 0.1 0.1 0.0 0.0 0.0 0.0 0.0 0.0																								Diurnal Average		
0.0 0.2 0.0 0.1 -- 0.3 1.8 10.4 7.1 5.7 4.7 3.2 2.3 1.2 0.6 0.4 0.5 0.4 0.1 0.1 0.3 0.0 0.0 0.0																								Diurnal Maximum		
C - Calibration N - Not Valid A - Automated Daily Zero Span																										

Hourly Averages

Nitrogen Oxide (NO) - ppb
Beaverlodge - September 2013



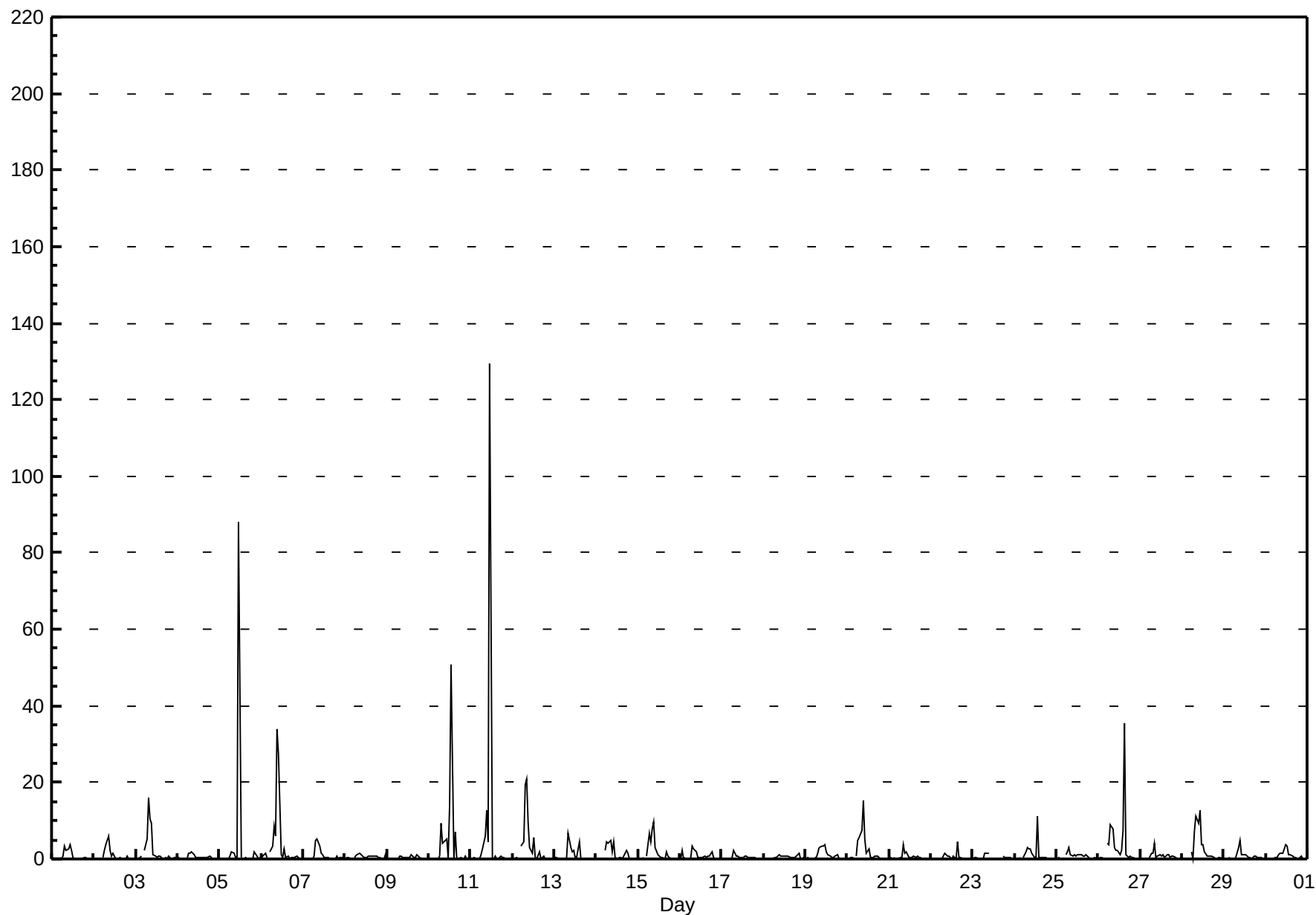
Hourly Maximums

Nitrogen Oxide (NO) - ppb Beaverlodge - September 2013

Maximum Value: 129.3 ppb on Sep 11 12:00																				Maximum Daily Average: 6.9 ppb on Sep 11					Hours in Service: 720	
Minimum Value: 0 ppb on Sep 1 01:00																				Minimum Daily Average: 0.3 ppb on Sep 9					Hours of Data: 682	
Maximum Diurnal Average: 8.7 ppb at hour 12																				Minimum Diurnal Average: 0.1 ppb at hour 1					Hours of Missing Data: 38	
Monthly Average: 1.64 ppb																				Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 0.3 Q ₃ = 0.9 P ₉₀ = 3.3 P ₉₉ = 18.8					Hours of Calibration: 37	
																				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	0	0	0	0	A	0	1	3	2	3	4	2	0	0	0	0	0	0	0	0	0	0	0	0	0.7	3.7
2-Sep	0	0	0	0	A	0	2	4	6	2	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0.8	6.1
3-Sep	0	0	0	1	A	2	5	16	10	9	1	1	0	1	1	0	0	0	0	1	0	0	1	1	2.2	16.2
4-Sep	0	0	0	0	A	0	2	2	2	1	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0.5	1.7
5-Sep	0	0	0	0	A	0	1	2	1	0	0	88	0	N	0	0	0	0	0	0	2	1	0	0	4.4	88.1
6-Sep	0	1	1	0	A	2	3	9	6	34	27	1	0	3	0	1	0	0	0	0	1	0	0	0	4.0	33.7
7-Sep	0	0	0	0	A	0	1	5	5	3	2	1	1	0	0	0	0	0	0	1	0	0	0	0	0.9	5.2
8-Sep	0	0	0	0	A	0	1	1	1	1	1	0	0	1	1	1	1	1	1	0	1	0	0	1	0.6	1.4
9-Sep	0	0	0	0	A	0	0	1	1	0	0	0	0	0	1	0	0	1	1	0	0	0	0	0	0.3	1.2
10-Sep	0	0	0	0	A	0	1	9	4	5	5	0	14	51	0	7	0	0	0	0	0	1	0	0	4.3	50.9
11-Sep	0	0	0	0	A	0	1	2	6	13	4	129	0	0	1	0	0	1	0	1	0	0	0	0	6.9	129.3
12-Sep	0	0	1	0	A	3	5	20	21	10	3	1	6	0	0	2	0	0	1	0	0	0	0	0	3.1	20.9
13-Sep	0	0	0	0	A	0	0	0	7	3	2	2	0	0	5	0	0	0	0	0	0	0	0	0	0.9	6.6
14-Sep	0	0	0	0	A	2	4	4	5	2	4	0	0	0	0	0	1	2	1	0	0	0	0	0	1.2	4.7
15-Sep	0	0	0	0	A	1	7	5	8	10	3	1	1	0	0	0	2	1	0	0	0	0	0	0	1.7	9.9
16-Sep	0	2	0	0	A	0	0	3	3	2	0	0	0	0	1	0	1	1	2	0	0	0	0	0	0.8	3.2
17-Sep	0	0	0	0	A	0	0	2	1	1	1	0	1	1	1	1	0	0	0	0	0	0	0	0	0.4	2.1
18-Sep	0	0	0	0	A	0	0	0	1	1	1	1	1	1	1	0	0	0	0	1	2	0	0	0	0.5	1.5
19-Sep	0	1	0	0	A	0	0	1	3	3	3	4	2	1	1	0	0	1	1	0	0	0	0	0	1.0	3.7
20-Sep	0	0	0	0	A	1	5	6	7	15	5	1	3	0	0	0	1	1	0	0	0	0	0	0	2.0	15.4
21-Sep	0	0	0	0	A	0	0	0	4	1	2	0	0	0	1	0	1	0	0	0	0	0	0	0	0.5	3.8
22-Sep	0	0	0	0	A	0	0	1	1	1	1	0	0	1	0	4	0	0	0	0	0	0	0	0	0.5	4.4
23-Sep	0	0	0	0	A	0	0	1	2	1	C	C	C	C	C	C	C	1	0	0	0	0	0	0	--	1.5
24-Sep	0	0	0	0	A	0	2	3	3	3	2	0	0	11	1	0	0	0	1	0	0	0	0	0	1.2	11.0
25-Sep	0	0	0	0	A	1	2	3	1	1	1	1	1	1	1	1	1	1	0	0	0	0	1	0	0.8	2.8
26-Sep	0	0	0	0	A	4	4	9	8	3	2	2	1	2	7	36	1	1	1	0	0	0	0	0	3.6	35.5
27-Sep	0	0	0	0	A	0	2	2	4	0	1	1	1	1	0	1	1	0	1	1	0	0	0	0	0.7	4.2
28-Sep	0	0	0	0	A	2	0	7	11	9	13	4	4	2	1	1	1	1	0	0	0	0	0	0	2.4	12.6
29-Sep	0	0	0	0	A	0	0	0	3	5	1	1	1	1	0	0	0	1	1	0	1	0	0	0	0.7	4.9
30-Sep	0	0	0	0	A	0	0	1	1	1	2	4	3	1	1	1	1	0	0	0	1	0	0	0	0.8	3.9
0.1		0.2	0.2	0.2	--	0.7	1.6	4.1	4.6	4.8	3.2	8.7	1.5	2.9	0.9	2.0	0.5	0.5	0.5	0.3	0.3	0.1	0.1	0.1	Diurnal Average	
0.4		2.3	1.3	0.9	--	4.0	6.8	19.6	20.9	33.7	27.5	129.3	14.2	50.9	7.5	35.5	1.8	2.4	1.7	0.9	1.9	0.7	0.5	0.9	Diurnal Maximum	
C - Calibration					N - Not Valid					A - Automated Daily Zero Span																

Hourly Maximums

Nitrogen Oxide (NO) - ppb
Beaverlodge - September 2013



Hourly Averages

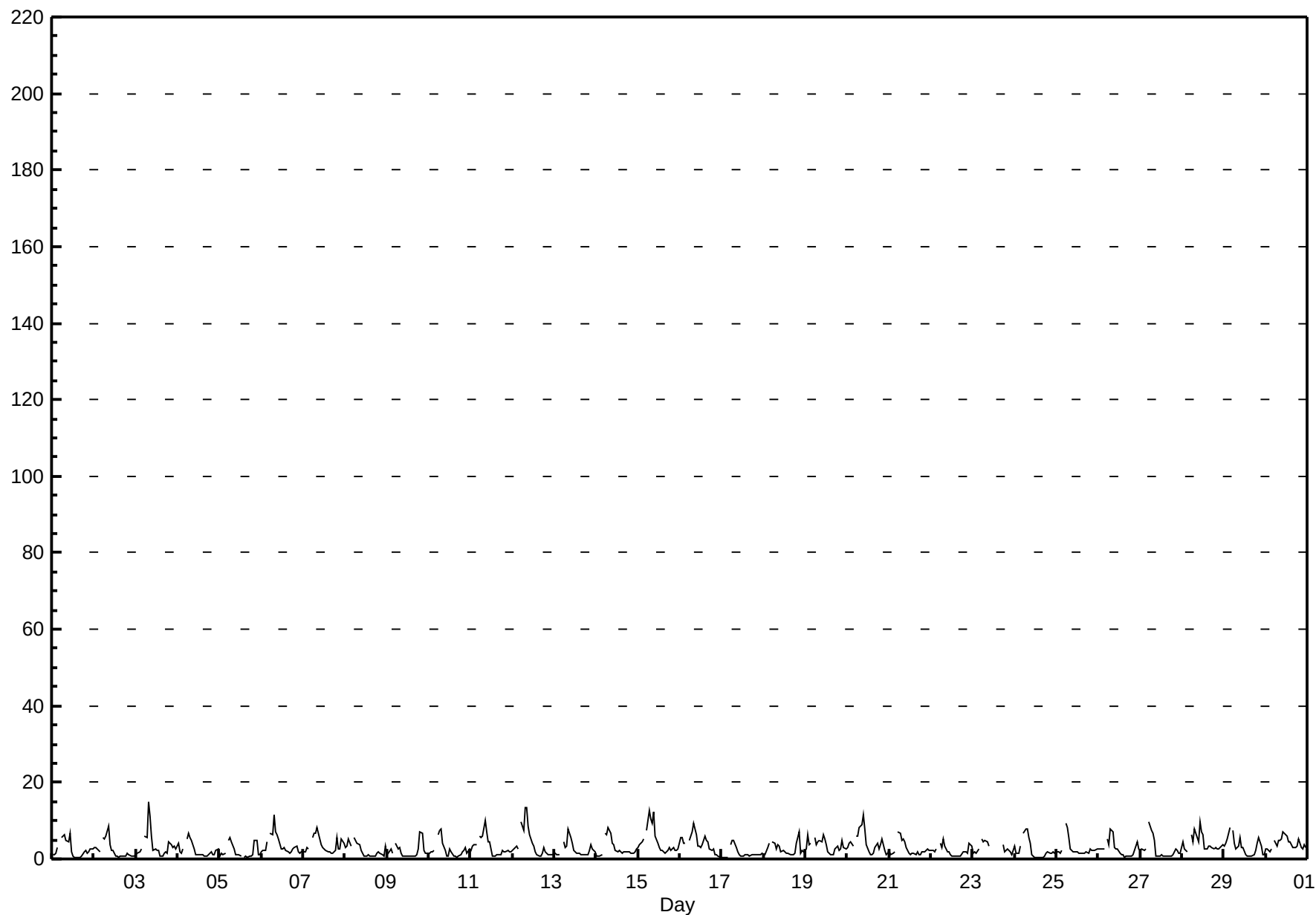
Oxides of Nitrogen (NO_x) - ppb

Beaverlodge - September 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																			Hours in Service: 720							
Maximum Value: 14.9 ppb on Sep 3 08:00																			Maximum Daily Average: 4.7 ppb on Sep 15		Hours of Data: 682					
Minimum Value: 0 ppb on Sep 17 04:00																			Minimum Daily Average: 1.5 ppb on Sep 17		Hours of Missing Data: 38					
Maximum Diurnal Average: 6.6 ppb at hour 8																			Minimum Diurnal Average: 1.3 ppb at hour 16		Hours of Calibration: 37					
Monthly Average: 2.96 ppb																			Percentiles: P ₁ = 0.4 P ₁₀ = 0.8 Q ₁ = 1.3 Median = 2.3 Q ₃ = 4.0 P ₉₀ = 6.1 P ₉₉ = 11.3		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	1	1	2	3	A	6	6	6	5	5	7	2	1	0	0	0	0	1	2	2	2	2	2	3	2.5	6.6
2-Sep	3	3	2	2	A	6	5	6	9	4	2	2	1	1	1	1	1	1	1	2	1	1	1	1	2.3	8.6
3-Sep	1	1	2	3	A	6	6	15	11	6	2	2	2	2	1	1	1	2	2	4	4	3	3	3	3.6	14.9
4-Sep	4	2	2	3	A	5	7	5	5	3	1	1	1	1	1	1	1	1	1	2	1	1	2	3	2.4	6.8
5-Sep	1	2	1	2	A	5	6	4	3	1	1	1	1	N	1	1	0	1	1	1	5	5	1	1	1.9	5.5
6-Sep	2	2	2	5	A	7	6	12	7	7	5	3	3	3	2	2	2	2	3	3	3	2	2	2	3.7	11.5
7-Sep	2	2	3	3	A	6	7	7	8	5	4	3	3	2	2	2	1	2	2	6	3	3	5	4	3.6	8.2
8-Sep	3	4	5	4	A	6	5	4	4	2	2	1	1	1	1	1	1	1	1	2	2	1	1	3	2.3	5.6
9-Sep	1	1	2	1	A	4	2	3	1	1	1	1	1	1	1	1	1	1	2	7	7	2	1	2	1.9	6.9
10-Sep	2	2	2	2	A	6	7	8	4	2	1	1	2	2	1	1	1	1	1	2	2	3	2	3	2.5	7.7
11-Sep	2	3	4	4	A	6	5	6	10	7	5	5	1	1	1	1	1	1	2	2	2	2	2	2	3.2	10.2
12-Sep	2	3	3	3	A	10	7	13	14	8	6	4	3	2	1	1	1	1	3	2	1	1	1	1	4.0	13.5
13-Sep	2	1	1	1	A	4	3	3	8	6	4	2	2	1	1	1	1	1	1	1	2	4	3	2	2.4	8.0
14-Sep	1	1	1	1	A	7	6	8	7	4	4	2	2	2	2	1	2	2	2	2	2	1	2	3	2.8	8.3
15-Sep	3	4	5	5	A	7	13	11	9	12	6	4	3	2	2	2	2	2	3	2	3	2	2	3	4.7	12.7
16-Sep	6	6	4	4	A	5	6	7	9	6	3	3	3	4	6	5	4	2	2	3	1	1	1	0	4.0	9.3
17-Sep	0	0	0	0	A	4	5	5	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.5	5.0
18-Sep	1	1	3	4	A	4	4	3	4	3	2	2	2	2	1	1	1	1	2	4	7	2	2	2	2.5	7.0
19-Sep	3	6	4	4	A	6	4	4	5	5	6	5	4	2	1	1	1	2	3	2	2	5	3	3	3.6	6.3
20-Sep	3	4	4	3	A	6	6	8	9	11	8	4	2	1	1	1	3	4	3	4	5	2	1	1	4.2	11.4
21-Sep	2	1	1	2	A	7	7	5	5	5	3	2	1	1	2	1	2	1	1	2	2	2	2	2	2.6	6.9
22-Sep	2	2	2	3	A	4	3	5	3	2	2	1	1	1	1	1	1	1	2	2	2	1	4	3	2.1	5.4
23-Sep	1	2	1	3	A	5	4	5	4	3	C	C	C	C	C	C	C	C	4	2	2	2	1	2	--	5.1
24-Sep	3	1	1	3	A	7	8	8	5	4	1	0	0	0	0	0	0	1	1	1	1	2	2	2	2.4	8.0
25-Sep	2	2	1	2	A	9	8	6	2	2	2	2	2	2	1	1	2	2	2	3	2	2	2	2	2.7	9.3
26-Sep	3	2	3	3	A	5	4	8	7	3	3	3	1	1	1	0	1	1	1	1	1	3	4	2	2.7	8.0
27-Sep	2	2	2	3	A	10	8	7	5	1	1	1	1	1	1	1	1	1	1	1	3	2	1	1	2.4	9.8
28-Sep	4	3	2	2	A	6	4	8	7	4	10	7	6	3	3	3	3	3	3	3	3	3	3	4	4.2	9.8
29-Sep	3	4	5	8	A	8	4	3	3	5	3	3	1	1	1	1	1	1	2	4	6	4	1	1	3.2	8.3
30-Sep	3	3	2	3	A	5	3	5	5	5	7	6	6	4	5	3	3	3	3	5	3	3	4	3	3.9	6.9
2.3 2.4 2.5 2.9 -- 6.0 5.6 6.6 6.1 4.5 3.5 2.6 2.0 1.6 1.4 1.3 1.3 1.5 1.8 2.6 2.7 2.2 2.1 2.2																									Diurnal Average	
5.7 6.3 5.2 8.3 -- 9.8 12.7 14.9 13.5 12.2 9.8 7.1 6.2 4.4 5.9 4.7 4.4 4.1 3.3 6.9 7.0 5.0 5.1 4.2																									Diurnal Maximum	
C - Calibration					N - Not Valid					A - Automated Daily Zero Span																

Hourly Averages

Oxides of Nitrogen (NO_x) - ppb
Beaverlodge - September 2013



Hourly Maximums

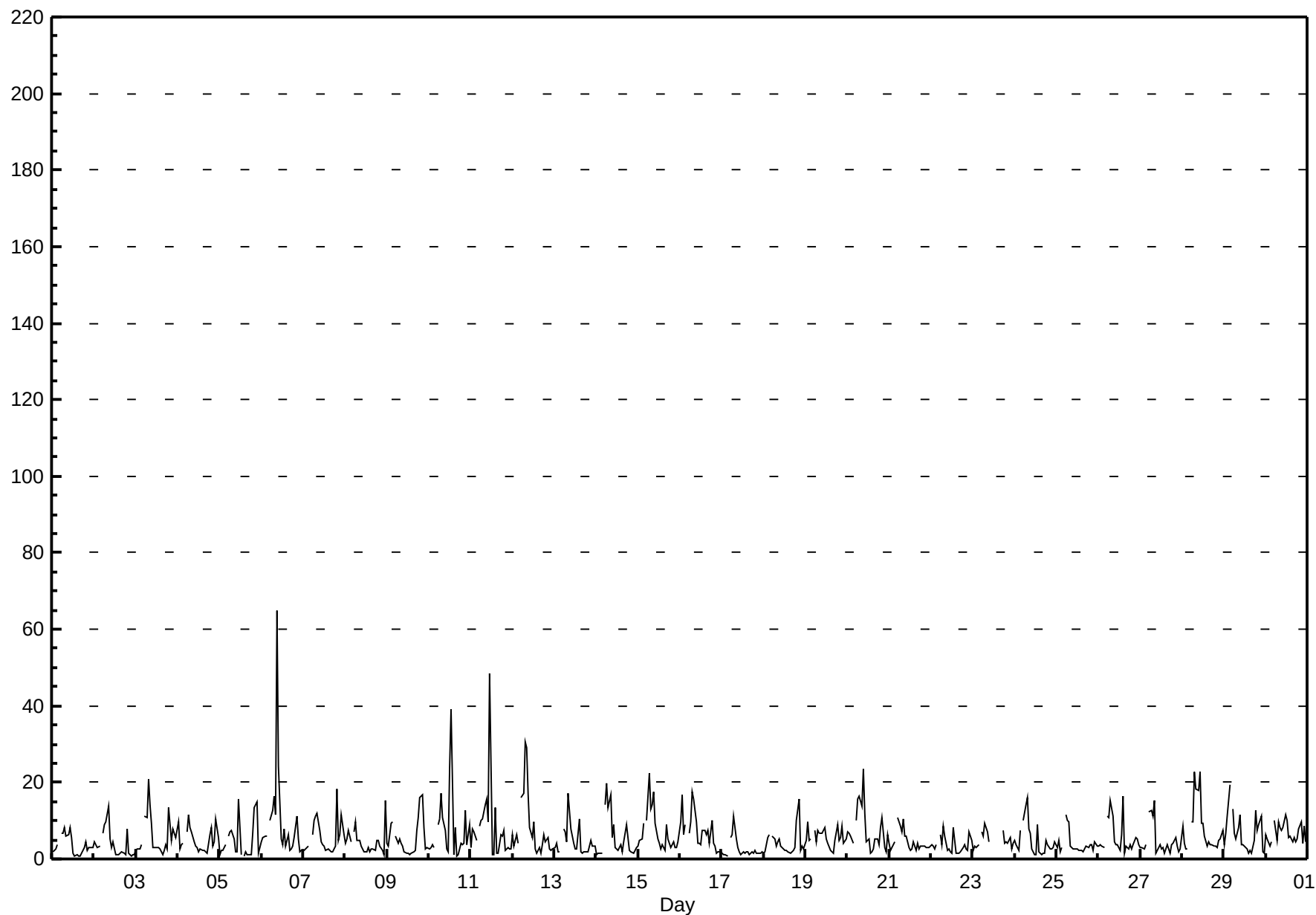
Oxides of Nitrogen (NO_x) - ppb

Beaverlodge - September 2013

Maximum Value: 64.7 ppb on Sep 6 10:00																				Maximum Daily Average: 9.6 ppb on Sep 6					Hours in Service: 720	
Minimum Value: 1 ppb on Sep 17 04:00																				Minimum Daily Average: 2.6 ppb on Sep 17					Hours of Data: 682	
Maximum Diurnal Average: 11.7 ppb at hour 8																				Minimum Diurnal Average: 2.6 ppb at hour 16					Hours of Missing Data: 38	
Monthly Average: 5.71 ppb																				Percentiles: P ₁ = 0.9 P ₁₀ = 1.6 Q ₁ = 2.5 Median = 3.9 Q ₃ = 7.3 P ₉₀ = 11.2 P ₉₉ = 23.7					Hours of Calibration: 37	
																				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	2	2	3	4	A	7	7	8	6	6	8	5	2	1	1	1	1	2	3	4	2	3	3	3	3.6	8.4
2-Sep	5	4	3	3	A	7	9	10	14	5	3	5	1	1	1	1	2	1	1	8	2	1	1	1	3.8	13.7
3-Sep	2	2	3	4	A	11	11	21	14	9	3	3	3	3	3	1	2	4	3	14	5	8	7	6	6.1	20.8
4-Sep	10	3	4	4	A	7	12	8	7	4	3	3	2	3	2	2	2	2	6	8	3	4	10	5	5.0	11.6
5-Sep	1	2	2	4	A	6	7	7	5	2	2	16	1	N	1	2	1	1	1	7	13	15	2	3	4.6	15.6
6-Sep	4	6	6	6	A	10	13	16	12	65	24	5	4	8	3	6	2	3	4	6	11	5	2	2	9.6	64.7
7-Sep	2	3	3	3	A	6	10	11	12	7	4	4	3	2	2	2	2	2	3	18	5	6	12	6	5.8	18.4
8-Sep	4	5	7	4	A	7	10	5	5	3	2	2	2	3	2	2	2	2	5	5	3	2	1	15	4.3	15.1
9-Sep	4	3	9	10	A	6	4	5	4	3	2	2	1	1	2	2	2	8	11	16	17	8	3	3	5.5	16.8
10-Sep	2	3	4	3	A	9	10	17	11	7	3	2	24	39	1	8	1	1	4	4	4	13	4	9	7.9	39.3
11-Sep	3	8	7	5	A	9	10	11	14	16	10	48	1	1	13	1	1	6	6	8	2	3	3	2	8.2	48.3
12-Sep	6	3	6	4	A	16	17	30	29	17	8	5	10	2	1	3	2	4	6	4	6	2	2	3	8.2	30.5
13-Sep	3	4	2	2	A	8	7	4	17	8	6	4	3	3	10	2	1	2	2	2	3	5	3	3	4.5	17.3
14-Sep	1	1	2	2	A	14	20	13	17	6	9	3	2	3	4	2	5	9	6	2	2	2	2	3	5.6	19.8
15-Sep	3	5	5	9	A	10	22	13	14	17	9	5	4	3	4	2	9	5	4	3	4	3	3	4	7.1	22.5
16-Sep	10	17	6	9	A	7	10	18	16	10	4	4	4	7	7	6	8	4	10	4	3	2	2	2	7.3	17.7
17-Sep	2	1	1	1	A	6	6	11	5	3	2	1	2	1	2	2	1	2	2	2	2	1	2	2	2.6	11.1
18-Sep	1	2	5	6	A	6	5	3	5	5	3	3	2	2	2	2	2	2	3	10	16	2	3	3	4.1	15.8
19-Sep	5	10	5	5	A	8	5	7	7	7	8	8	5	4	2	2	2	5	9	5	5	8	4	5	5.6	9.6
20-Sep	7	7	6	4	A	10	16	16	14	23	12	5	5	2	2	3	5	5	4	8	11	3	2	6	7.6	23.5
21-Sep	4	2	4	4	A	11	9	7	10	6	6	3	2	2	4	2	4	3	4	4	3	3	3	3	4.5	10.8
22-Sep	4	3	3	4	A	6	4	9	6	2	3	2	2	8	1	2	2	2	3	4	3	2	7	5	3.7	8.5
23-Sep	2	3	3	4	A	7	6	9	7	4	C	C	C	C	C	C	C	8	4	4	4	6	3	4	--	9.5
24-Sep	5	4	2	7	A	10	14	16	8	7	3	1	1	9	2	1	2	1	5	4	3	3	3	5	5.0	16.1
25-Sep	3	5	2	3	A	12	10	10	3	3	3	2	3	2	2	2	3	3	3	4	4	2	4	3	4.0	11.7
26-Sep	3	4	3	3	A	11	11	15	11	4	4	4	2	6	17	2	3	2	4	3	4	6	5	4	5.7	16.5
27-Sep	3	3	3	4	A	12	13	11	15	2	2	4	3	3	2	4	3	1	4	4	5	3	2	3	4.7	15.2
28-Sep	9	4	3	2	A	10	10	23	18	18	23	9	9	6	3	5	4	4	3	3	3	5	5	8	8.1	22.9
29-Sep	4	7	11	19	A	13	7	5	8	12	4	4	3	2	1	2	2	5	13	7	9	11	2	2	6.6	19.4
30-Sep	6	5	3	4	A	10	5	10	8	8	8	12	10	6	6	4	6	4	5	8	10	4	8	5	6.7	11.6
4.1 4.4 4.2 4.9 -- 9.0 9.9 11.7 10.8 9.7 6.2 6.0 4.0 4.8 3.6 2.6 2.8 3.4 4.6 6.1 5.6 4.7 3.8 4.2																										
9.9 16.9 11.1 19.4 -- 16.2 22.5 30.5 29.2 64.7 24.1 48.3 23.8 39.3 16.5 8.0 9.1 8.9 12.7 18.4 16.8 14.8 11.7 15.1																										
C - Calibration N - Not Valid A - Automated Daily Zero Span																										

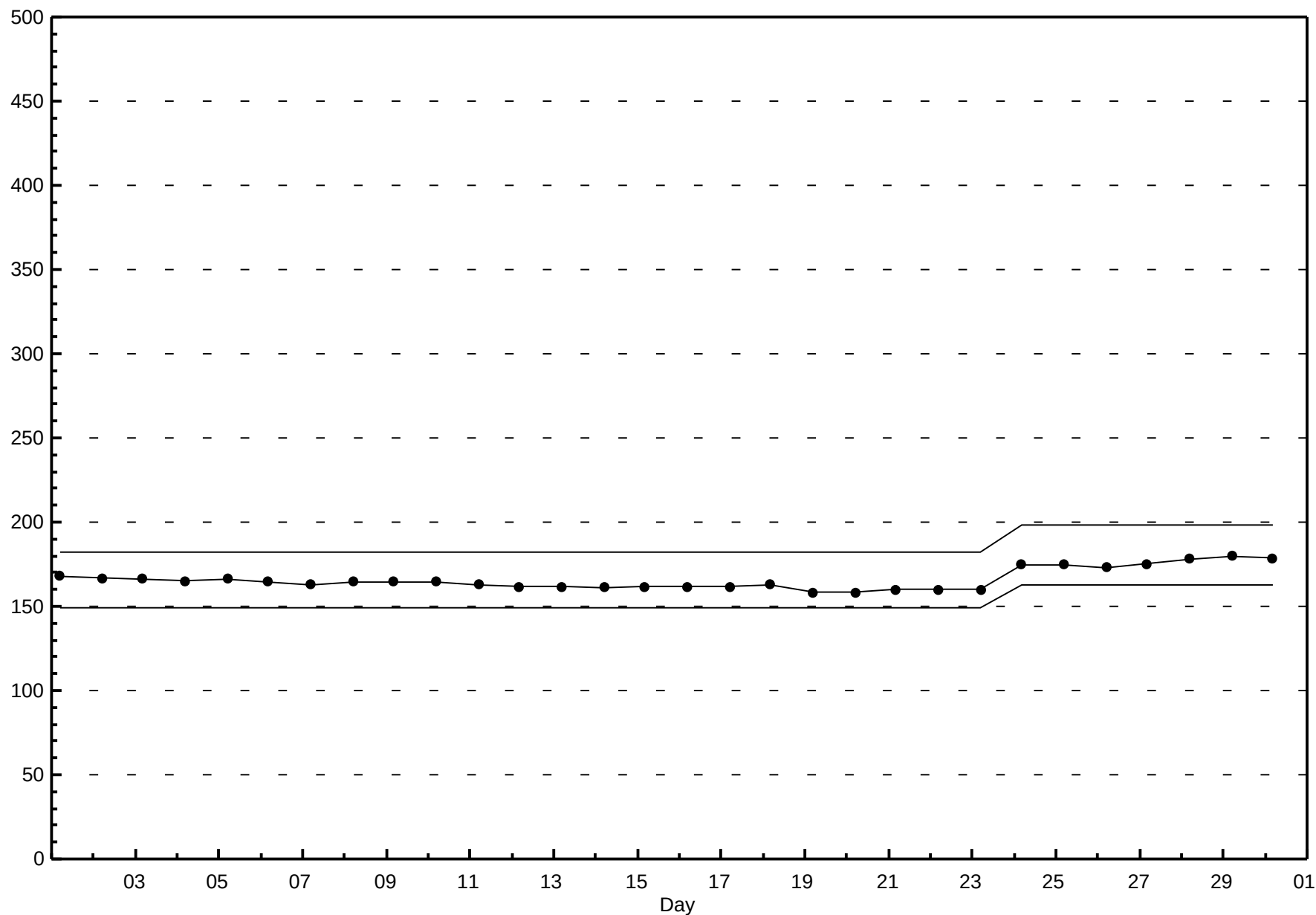
Hourly Maximums

Oxides of Nitrogen (NO_x) - ppb
Beaverlodge - September 2013



Span Responses

Oxides of Nitrogen (NO_x)
Beaverlodge - September 2013



Hourly Averages

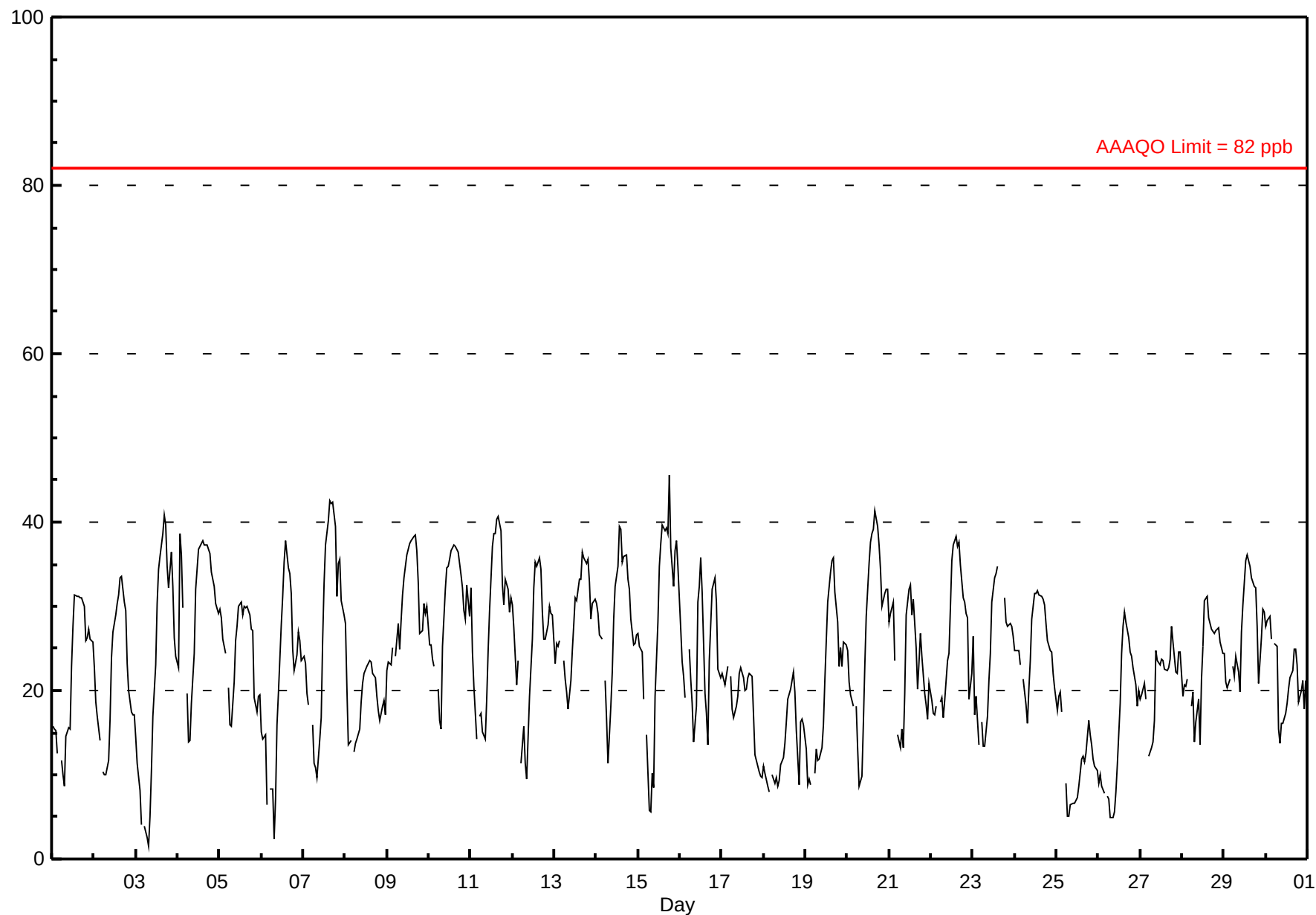
Ozone (O₃) - ppb

Beaverlodge - September 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 45.6 ppb on Sep 15 19:00 Maximum Daily Average: 30.6 ppb on Sep 4																								Hours in Service: 720 Hours of Data: 687 Hours of Missing Data: 33 Hours of Calibration: 33 Percent Operational Time: 100.0		
Minimum Value: 2 ppb on Sep 3 08:00 Maximum Diurnal Average: 31.5 ppb at hour 15 Monthly Average: 23.73 ppb												Minimum Daily Average: 11.4 ppb on Sep 25 Minimum Diurnal Average: 12.8 ppb at hour 8 Percentiles: P ₁ = 5.0 P ₁₀ = 11.4 Q ₁ = 17.2 Median = 23.7 Q ₃ = 30.5 P ₉₀ = 35.6 P ₉₉ = 40.7														
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	16	15	15	12	A	12	10	9	15	16	15	23	28	31	31	31	31	30	26	26	27	26	26	21.8	31.3	
2-Sep	23	19	17	14	A	10	10	10	12	17	24	27	29	30	31	33	34	31	30	23	20	17	17	21.5	33.6	
3-Sep	14	11	8	4	A	4	3	2	5	11	17	23	30	34	36	39	41	40	35	32	36	32	26	24	22.1	40.8
4-Sep	23	39	36	30	A	20	14	14	18	24	32	34	37	37	38	37	37	37	36	34	33	32	30	29	30.6	38.7
5-Sep	30	29	26	24	A	20	16	16	21	26	28	30	30	29	30	30	30	29	27	27	19	17	19	19	24.9	30.5
6-Sep	15	14	15	6	A	8	8	2	7	16	20	28	31	35	38	34	34	32	25	22	24	27	26	24	21.4	37.9
7-Sep	24	23	20	18	A	16	11	11	10	14	17	26	33	37	40	43	42	42	39	31	35	36	31	29	27.3	42.6
8-Sep	28	20	14	14	A	13	14	14	15	19	21	22	23	23	24	23	22	22	19	18	17	18	19	17	19.0	28.0
9-Sep	22	23	23	25	A	24	28	25	28	31	33	36	37	37	38	38	39	37	33	27	30	29	30	30.5	38.5	
10-Sep	25	25	24	23	A	20	17	16	25	32	35	35	36	37	37	37	37	36	34	32	30	28	32	29	29.6	37.3
11-Sep	32	25	20	14	A	17	17	15	14	19	25	30	37	39	39	40	41	39	33	30	33	32	29	31	28.3	40.7
12-Sep	30	28	21	24	A	11	16	11	10	14	19	26	32	35	35	36	34	29	26	26	28	30	29	29	25.2	35.8
13-Sep	23	26	25	26	A	24	21	20	18	21	25	28	31	31	33	33	36	36	35	36	33	29	30	31	28.3	36.5
14-Sep	30	29	27	26	A	21	17	11	18	22	28	32	35	40	39	35	36	36	33	32	28	25	26	27	28.5	39.5
15-Sep	27	25	25	19	A	15	6	6	10	8	19	28	35	37	40	39	39	39	46	37	32	37	38	35	27.9	45.6
16-Sep	27	23	22	19	A	25	21	19	14	18	30	32	36	32	20	17	14	24	32	33	33	31	23	22	24.6	35.7
17-Sep	22	21	21	23	A	22	18	17	18	19	22	23	21	20	20	21	22	22	17	12	12	10	10	10	18.4	22.9
18-Sep	11	10	9	8	A	10	9	10	9	9	11	12	14	16	19	20	21	22	20	15	9	16	17	16	13.6	22.2
19-Sep	13	9	10	9	A	10	13	12	12	13	16	21	26	30	34	35	36	32	28	23	25	23	26	26	20.9	35.8
20-Sep	25	21	20	18	A	18	13	9	10	16	23	29	35	38	39	39	41	39	37	34	30	32	32	32	27.4	41.4
21-Sep	28	29	31	24	A	15	13	15	13	20	29	32	33	29	31	25	20	23	27	24	20	18	17	21	23.3	32.6
22-Sep	19	17	17	18	A	19	19	17	19	24	24	30	35	37	38	37	38	35	31	31	29	29	19	22	26.2	38.2
23-Sep	26	17	19	14	A	16	13	13	17	21	24	31	33	34	35	C	C	C	31	28	28	28	28	26	24.2	34.7
24-Sep	25	25	25	23	A	21	18	16	20	24	28	31	32	32	31	31	31	30	28	26	25	24	22	20	25.6	31.8
25-Sep	18	19	20	18	A	9	5	5	6	7	7	7	7	9	12	12	12	13	16	15	14	12	11	10	11.4	19.8
26-Sep	9	10	9	8	A	7	7	5	5	6	8	11	18	24	28	29	28	26	25	24	23	21	18	20	16.0	29.2
27-Sep	19	20	21	19	A	12	13	14	16	25	24	23	24	23	23	22	23	24	28	26	22	22	25	24	21.4	27.6
28-Sep	19	21	21	21	A	18	20	14	16	19	14	21	25	31	31	29	28	27	27	27	27	27	26	24	23.2	31.1
29-Sep	24	21	20	21	A	23	22	24	22	20	27	30	35	36	35	35	33	32	32	28	21	26	30	29	27.3	36.1
30-Sep	28	28	29	26	A	26	25	15	14	16	16	17	19	20	21	22	25	25	23	19	20	21	18	21	21.5	28.9
22.5 21.4 20.2 18.3 -- 16.2 14.6 12.8 14.6 18.2 22.1 26.0 29.2 30.8 31.5 31.2 31.2 30.7 29.4 26.6 25.3 25.3 24.3 24.0																								Diurnal Average		
32.1 38.7 36.0 29.8 -- 25.5 28.0 24.9 28.3 32.1 34.6 36.1 37.2 39.5 40.1 42.6 42.2 42.4 45.6 37.0 36.5 36.6 37.8 34.7																								Diurnal Maximum		
C - Calibration A - Automated Daily Zero Span																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 82 ppb 24-hr na																										

Hourly Averages

Ozone (O₃) - ppb
Beaverlodge - September 2013



Hourly Maximums

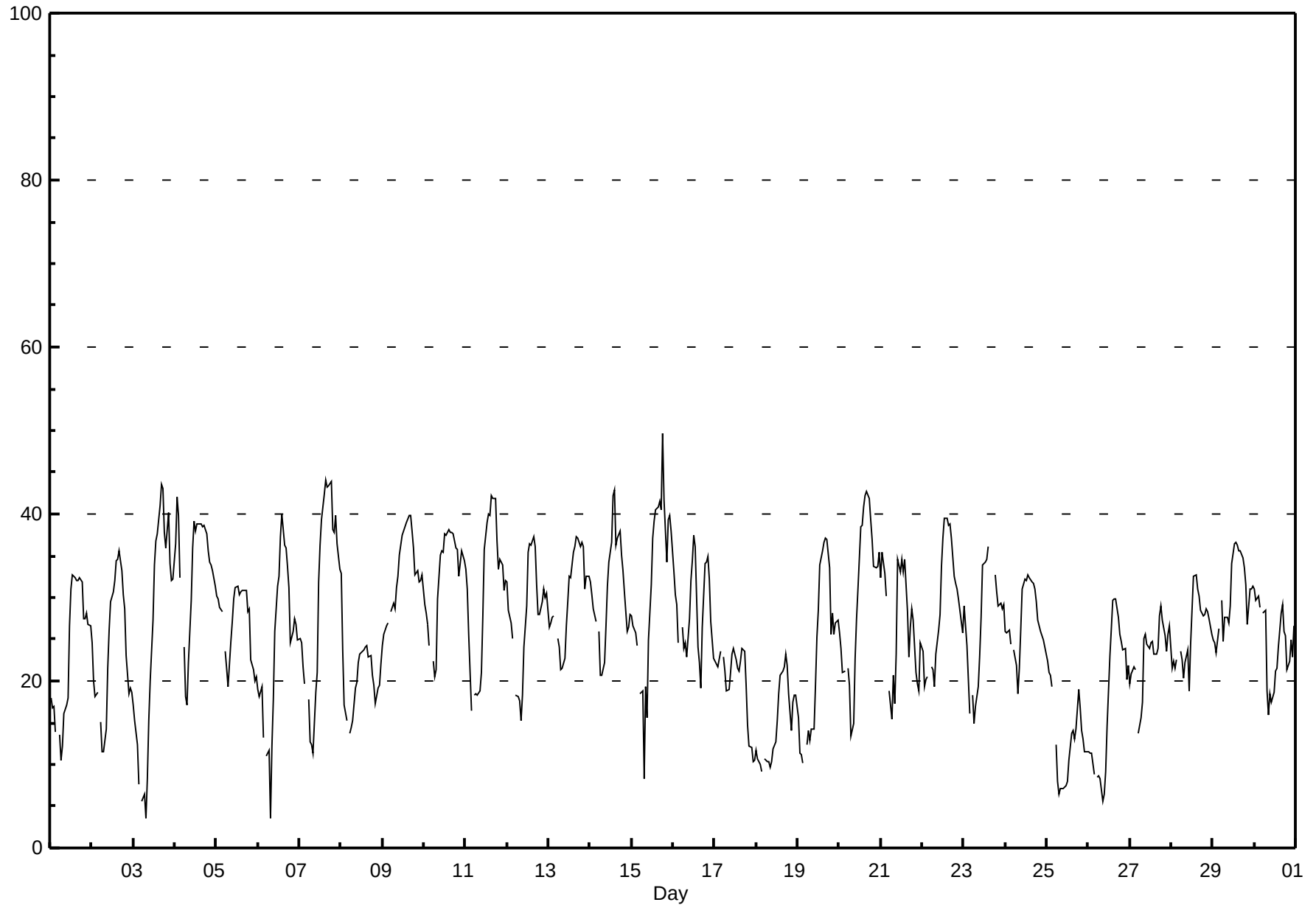
Ozone (O₃) - ppb

Beaverlodge - September 2013

Maximum Value: 49.7 ppb on Sep 15 19:00																				Maximum Daily Average: 33.7 ppb on Sep 4					Hours in Service: 720	
Minimum Value: 4 ppb on Sep 3 08:00																				Minimum Daily Average: 13.0 ppb on Sep 25					Hours of Data: 687	
Maximum Diurnal Average: 33.2 ppb at hour 15																				Minimum Diurnal Average: 16.2 ppb at hour 8					Hours of Missing Data: 33	
Monthly Average: 26.23 ppb																				Percentiles: P ₁ = 7.0 P ₁₀ = 14.0 Q ₁ = 20.4 Median = 26.6 Q ₃ = 32.7 P ₉₀ = 37.5 P ₉₉ = 43.0					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	18	17	17	14	A	14	10	12	16	17	18	27	31	33	32	32	32	32	27	28	28	27	27	23.5	32.7	
2-Sep	25	20	18	19	A	15	11	11	14	21	26	29	31	32	34	35	36	33	30	29	23	18	19	19	23.9	35.5
3-Sep	17	15	12	8	A	6	6	4	8	15	20	27	34	37	38	41	44	43	38	36	40	34	32	32	25.5	43.6
4-Sep	37	42	40	32	A	24	18	17	22	30	36	39	38	39	39	39	38	39	38	36	34	34	33	31	33.7	42.0
5-Sep	30	30	29	28	A	24	22	19	25	27	30	31	31	30	31	31	31	31	28	29	23	21	20	21	27.0	31.4
6-Sep	19	18	19	13	A	11	12	4	12	18	26	31	32	37	40	36	36	34	31	25	26	28	27	25	24.4	40.0
7-Sep	25	25	22	20	A	18	13	12	11	19	21	32	36	39	42	44	43	43	44	38	38	40	36	33	30.2	44.1
8-Sep	33	24	17	15	A	14	14	15	19	20	22	23	24	24	24	23	23	21	19	17	19	20	22	22	20.7	32.9
9-Sep	24	26	27	27	A	28	29	29	31	33	35	38	38	38	39	40	40	38	36	33	33	32	32	33	32.9	39.8
10-Sep	29	28	27	24	A	22	20	21	30	35	36	35	38	38	38	38	38	38	36	36	33	34	36	34	32.3	38.2
11-Sep	33	31	26	17	A	18	19	18	19	21	28	36	39	40	40	42	42	42	37	33	35	34	31	32	30.9	42.2
12-Sep	32	29	27	25	A	18	18	18	15	18	24	29	35	36	36	37	36	31	28	28	30	31	30	31	28.0	37.3
13-Sep	26	27	28	28	A	25	24	21	22	23	27	30	33	32	35	36	37	37	36	37	36	31	33	33	30.2	37.3
14-Sep	32	30	29	27	A	26	21	21	22	27	31	34	37	42	43	36	37	38	35	33	31	26	26	28	31.0	42.9
15-Sep	28	27	26	24	A	18	19	8	19	16	25	32	37	39	41	41	42	41	50	42	34	39	40	38	31.5	49.7
16-Sep	33	30	29	25	A	26	24	25	23	27	32	34	38	36	24	22	19	27	34	34	35	32	27	23	28.7	37.5
17-Sep	22	22	22	24	A	23	21	19	19	21	23	24	23	21	21	22	24	23	19	15	12	12	10	10	19.7	24.0
18-Sep	12	11	10	9	A	11	10	10	10	10	12	13	15	19	21	21	22	23	22	19	14	17	18	18	15.1	23.2
19-Sep	16	11	11	10	A	12	14	13	14	14	20	25	28	34	36	37	37	37	34	26	28	26	27	27	23.3	37.2
20-Sep	26	24	21	21	A	22	19	13	15	23	27	31	38	39	41	42	43	42	39	37	34	34	34	35	30.4	42.8
21-Sep	32	35	33	30	A	19	15	21	17	23	35	33	35	33	35	28	23	26	29	27	21	20	19	25	26.7	35.5
22-Sep	24	19	20	20	A	22	21	19	23	26	28	34	37	39	39	39	39	37	32	32	31	30	29	26	29.0	39.5
23-Sep	29	27	24	16	A	18	15	17	19	23	28	34	34	35	36	C	C	C	33	31	29	29	29	29	26.7	36.1
24-Sep	26	26	26	24	A	24	22	18	22	26	31	32	32	33	32	32	32	31	29	27	26	25	25	24	27.2	32.6
25-Sep	22	21	21	19	A	12	8	6	7	7	7	7	8	10	14	14	13	14	19	17	14	13	12	11	13.0	22.4
26-Sep	11	11	11	9	A	8	9	8	6	6	9	15	23	26	30	30	30	28	26	25	24	24	20	22	17.8	29.8
27-Sep	20	21	22	21	A	14	16	17	25	26	24	24	25	25	23	23	24	28	29	27	25	24	26	27	23.2	29.0
28-Sep	21	22	22	23	A	24	22	20	22	24	19	24	28	33	33	31	30	28	28	28	29	28	27	26	25.8	32.7
29-Sep	25	25	23	26	A	30	25	28	28	27	29	34	36	37	36	36	36	35	34	32	27	31	31	31	30.4	36.6
30-Sep	31	30	30	29	A	28	28	19	16	18	18	19	21	21	24	28	29	26	25	21	22	25	23	27	24.3	31.0
25.3 24.1 22.9 20.9 -- 19.1 17.6 16.2 18.4 21.4 24.9 28.5 31.2 32.6 33.2 33.0 32.9 32.7 31.7 29.2 27.7 27.3 26.6 26.6																								Diurnal Average		
36.5 42.0 39.8 32.5 -- 29.6 29.3 28.7 31.2 35.1 35.9 39.2 39.0 42.2 42.9 44.1 43.6 43.5 49.7 41.7 40.2 39.8 39.9 37.9																								Diurnal Maximum		
C - Calibration A - Automated Daily Zero Span																										

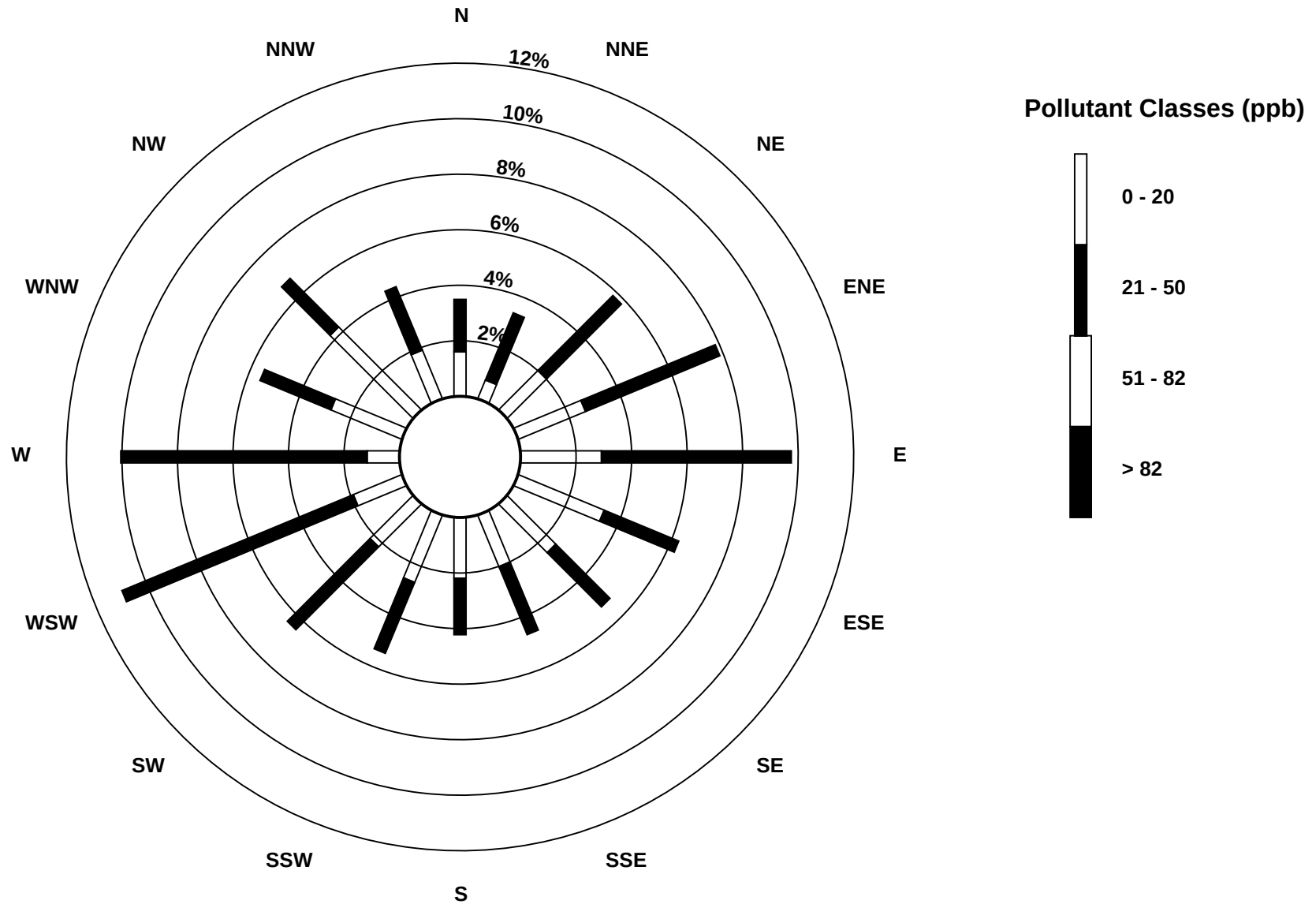
Hourly Maximums

Ozone (O₃) - ppb
Beaverlodge - September 2013



Pollutant Rose

Ozone (O₃) - ppb
Beaverlodge - September 2013



Eight Hour Running Averages

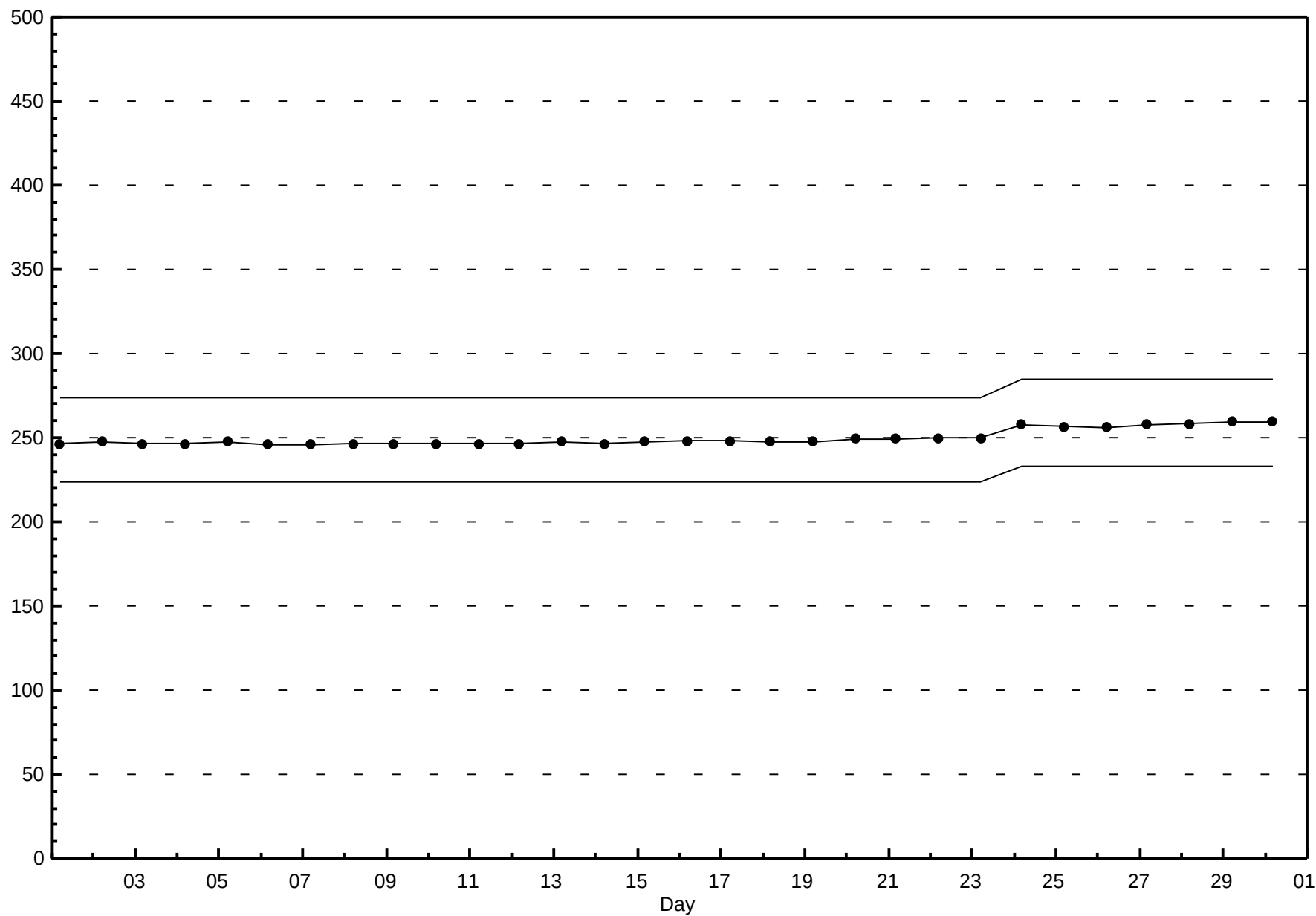
Ozone (O₃) - ppb

Beaverlodge - September 2013

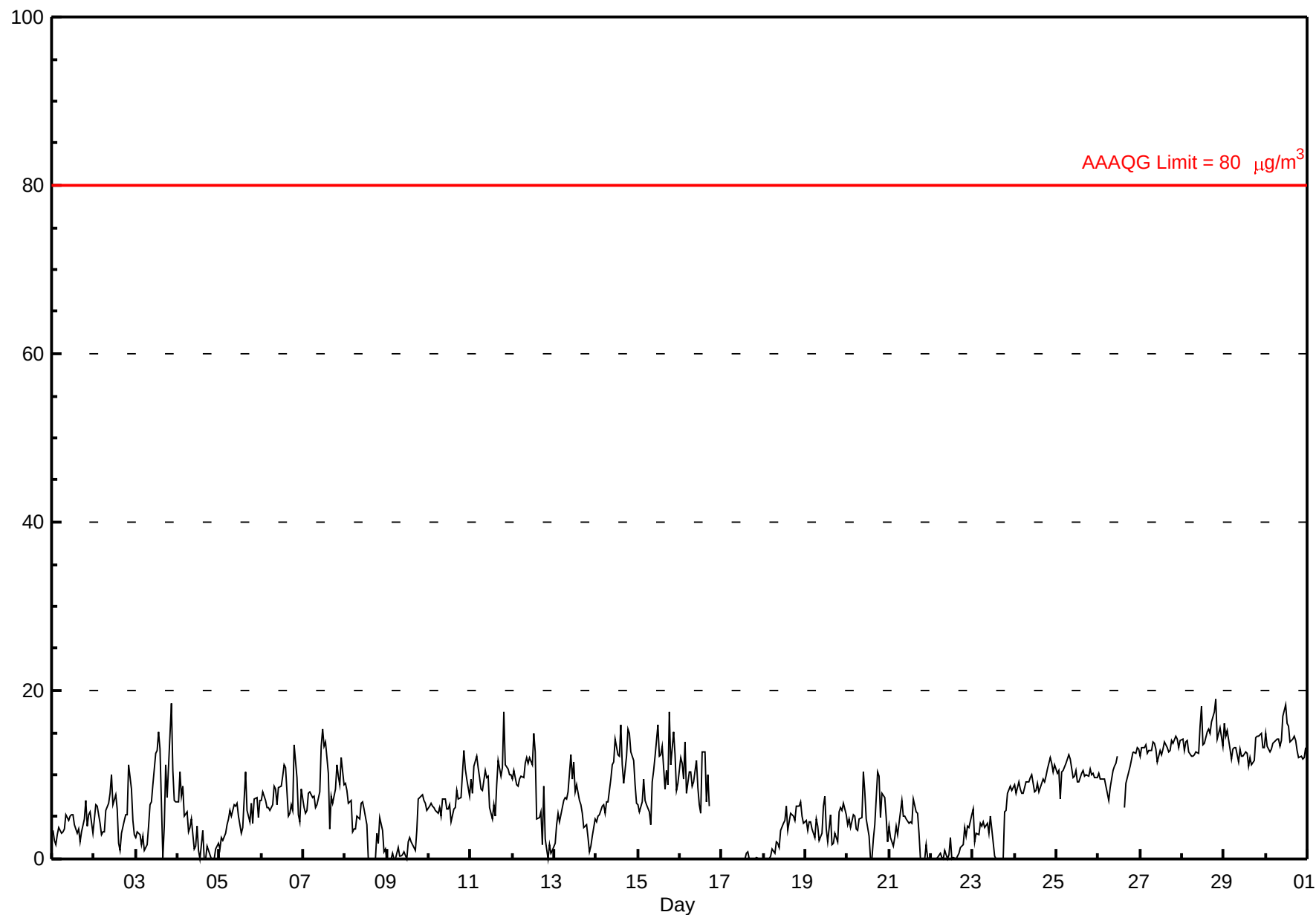
Maximum Value: 38.9 ppb on Sep 15 20:00																								Hours in Service: 720		
Minimum Value: 5.1 ppb on Sep 3 10:00																								Hours of Data: 714		
Percentiles: P ₁ = 6.6 P ₁₀ = 12.8 Q ₁ = 18.6 Median = 23.5 Q ₃ = 28.8 P ₉₀ = 33.5 P ₉₉ = 38.2																								Hours of Missing Data: 6		
																								Hours of Calibration: 6		
																								Percent Operational Time: 100.0		
Day	Hourly Period Ending At (MST)																								Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Sep	22	21	19	18	17	16	14	13	13	13	13	14	16	18	21	24	26	28	30	30	30	29	29	28	28	29.9
2-Sep	27	25	24	22	22	19	17	15	13	13	14	16	17	20	22	25	28	30	31	30	29	27	26	24	24	30.6
3-Sep	21	19	16	14	13	11	9	7	5	5	6	9	12	16	20	24	29	32	35	36	37	36	35	33	33	36.6
4-Sep	31	31	31	31	30	28	26	25	24	22	22	22	24	26	29	32	35	36	37	37	36	36	35	34	34	36.8
5-Sep	33	32	30	29	29	27	25	23	22	21	22	22	23	24	26	28	29	30	29	29	28	26	25	24	24	32.8
6-Sep	22	20	18	16	15	14	12	10	9	9	10	13	15	18	22	26	30	31	32	31	31	30	28	27	27	32.1
7-Sep	25	24	24	23	23	22	19	18	16	14	14	15	17	20	23	27	31	35	38	39	39	39	37	36	36	38.8
8-Sep	34	31	28	26	24	21	19	17	15	15	16	17	18	19	20	21	22	22	22	22	21	20	20	19	19	33.9
9-Sep	19	19	20	21	21	22	23	24	25	26	28	29	30	32	33	35	36	37	37	36	34	34	32	31	31	36.9
10-Sep	30	28	27	27	27	25	23	21	21	22	24	26	27	29	31	34	36	36	36	36	35	34	33	32	32	36.1
11-Sep	32	30	29	26	26	24	22	20	18	17	17	20	22	24	27	30	34	36	37	37	37	36	35	33	33	37.2
12-Sep	32	31	29	28	28	25	23	20	17	15	15	15	18	21	23	26	29	31	32	32	31	31	30	29	29	32.2
13-Sep	28	27	27	27	27	26	25	24	23	22	22	22	23	24	26	27	30	32	33	34	34	34	34	33	33	34.1
14-Sep	32	32	31	29	29	28	26	23	21	20	21	21	23	25	28	31	33	35	36	36	35	33	32	30	30	35.8
15-Sep	29	28	27	25	25	23	20	17	15	13	12	13	16	19	23	27	31	35	38	39	39	39	38	38	38	38.9
16-Sep	36	34	31	29	29	27	25	22	20	20	21	23	24	25	25	25	25	26	26	26	25	25	26	26	26	36.3
17-Sep	27	27	26	24	23	22	21	20	20	20	20	20	20	20	20	21	21	21	21	20	18	17	16	14	14	27.3
18-Sep	13	12	10	10	10	10	9	9	9	9	9	10	10	11	12	14	15	17	18	18	18	18	18	17	17	18.5
19-Sep	16	14	13	12	13	12	11	11	11	11	12	14	15	18	21	24	27	29	30	31	30	29	28	27	27	30.6
20-Sep	26	24	23	23	22	22	20	18	15	15	15	17	19	21	25	29	32	35	37	38	37	36	36	35	35	37.9
21-Sep	33	32	31	30	30	27	24	22	20	19	18	20	21	23	25	26	27	28	27	26	25	24	22	21	21	33.1
22-Sep	21	20	19	18	18	18	19	18	18	19	20	22	23	26	28	31	33	34	35	35	34	33	31	29	29	35.3
23-Sep	28	26	24	22	21	19	18	17	16	16	17	19	21	23	26	28	30	N	N	N	N	N	N	28	28	29.7
24-Sep	28	27	26	26	26	25	23	22	21	21	22	23	24	25	27	29	30	31	31	30	29	28	27	26	26	30.9
25-Sep	24	23	22	21	20	18	16	13	12	10	8	7	7	7	7	8	9	10	11	12	13	13	13	13	13	24.2
26-Sep	12	12	11	10	10	9	9	8	7	7	7	7	8	11	13	16	19	22	24	25	26	25	24	23	23	25.9
27-Sep	22	21	21	20	20	18	18	17	16	17	18	18	19	20	21	23	23	23	24	24	24	24	24	24	24	24.2
28-Sep	24	23	22	22	22	21	21	19	19	18	17	17	18	20	21	23	25	26	27	28	28	28	27	27	27	28.4
29-Sep	26	26	25	24	24	23	22	22	22	22	23	24	25	27	29	30	32	33	34	33	32	30	30	29	29	33.7
30-Sep	28	28	27	27	28	28	27	25	23	22	20	18	18	18	17	18	20	21	22	22	22	22	22	21	21	28.2
36.3 34.3 31.4 30.8 30.0 28.2 27.3 25.3 25.3 26.4 27.9 29.5 30.4 32.0 33.3 35.0 36.2 36.9 37.8 38.9 38.8 38.6 38.3 37.8																									Diurnal Maximums	
N - Not Valid																										

Span Responses

Ozone (O₃)
Beaverlodge - September 2013



Number of Exceedences: 1-hr: 0 24-hr: 0 Maximum Value: 19.0 µg/m³ on Sep 28 20:00																					Maximum Daily Average: 14.5 µg/m³ on Sep 28					Hours in Service: 720 Hours of Data: 702 Hours of Missing Data: 18 Hours of Calibration: 3 Percent Operational Time: 97.9	
Minimum Value: 0 µg/m³ on Sep 4 14:00 Maximum Diurnal Average: 8.5 µg/m³ at hour 21 Monthly Average: 7.12 µg/m³																					Minimum Daily Average: 1.2 µg/m³ on Sep 22 Minimum Diurnal Average: 5.8 µg/m³ at hour 16 Percentiles: P ₁ = 0.0 P ₁₀ = 0.6 Q ₁ = 3.6 Median = 6.7 Q ₃ = 10.7 P ₉₀ = 13.3 P ₉₉ = 17.4						
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	3	2	2	3	4	3	3	4	5	5	5	5	4	3	4	2	3	5	5	7	4	5	6	3	3.9	6.9	
2-Sep	5	6	6	4	3	3	3	6	7	8	10	6	8	6	2	1	3	5	5	5	11	8	5	3	5.4	11.3	
3-Sep	3	3	3	2	3	1	2	4	6	7	9	13	13	15	13	0	4	11	7	11	18	11	7	7	7.1	18.4	
4-Sep	7	10	7	9	5	6	3	4	5	1	1	4	1	0	3	0	0	2	0	0	0	0	1	2	3.0	10.3	
5-Sep	1	3	2	3	4	5	6	5	7	6	7	5	3	4	7	10	6	4	7	4	7	7	5	7	5.2	10.3	
6-Sep	7	8	7	6	6	6	6	9	8	6	8	9	10	11	11	5	5	6	6	14	10	5	4	8	7.6	13.6	
7-Sep	6	5	6	8	8	7	8	6	6	8	13	15	13	14	10	3	7	7	8	11	10	9	12	9	8.8	15.5	
8-Sep	9	8	7	7	3	4	4	5	5	7	7	6	4	0	0	0	0	0	3	2	5	3	1	1	3.7	9.0	
9-Sep	0	0	0	1	0	0	1	0	0	0	1	0	2	3	2	1	1	3	7	7	8	7	7	6	2.4	7.7	
10-Sep	6	7	6	6	6	5	6	5	7	7	6	6	6	4	6	6	8	7	7	10	13	11	10	7	7.1	12.9	
11-Sep	9	8	11	12	11	10	8	8	10	10	10	6	5	6	5	9	12	10	11	17	11	11	10	10	9.6	17.4	
12-Sep	10	10	9	9	9	10	10	11	12	11	12	11	15	13	5	5	6	2	9	2	0	2	1	1	7.6	14.9	
13-Sep	2	4	5	4	5	7	7	7	8	12	9	11	8	9	7	6	5	4	4	3	1	2	3	5	5.8	12.3	
14-Sep	4	5	5	6	6	5	7	7	9	11	11	14	12	12	16	11	9	12	15	15	13	12	9	7	9.8	15.9	
15-Sep	6	6	7	10	7	6	6	4	9	10	12	16	12	12	13	8	10	9	17	11	15	12	8	9	9.9	17.5	
16-Sep	12	11	9	14	8	10	10	9	9	12	8	6	5	13	13	7	10	6	N	N	N	N	N	N	9.6	14.0	
17-Sep	N	N	N	N	N	N	N	N	N	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	--	0.8	
18-Sep	0	0	0	0	0	1	1	2	2	1	3	4	5	6	3	5	5	5	5	6	6	7	5	4	3.3	6.8	
19-Sep	4	3	4	4	4	3	5	4	2	3	6	7	4	2	5	2	2	3	2	6	6	6	7	5	4.1	7.4	
20-Sep	4	5	4	5	5	4	3	5	5	10	8	5	3	0	0	2	4	10	10	5	8	7	5	2	5.0	10.3	
21-Sep	4	3	2	3	4	3	6	7	5	5	5	4	4	4	7	6	5	3	0	0	0	2	0	0	3.4	7.2	
22-Sep	0	0	0	0	0	1	0	0	1	0	0	3	0	0	0	0	1	1	2	4	3	4	4	5	1.2	5.3	
23-Sep	6	2	3	3	4	4	4	4	4	3	5	4	0	0	0	0	0	0	6	6	8	9	8	8	3.8	8.6	
24-Sep	9	8	9	8	8	8	9	9	9	10	10	8	8	9	8	9	10	9	10	11	12	11	10	11	9.3	12.1	
25-Sep	10	11	7	10	11	11	12	12	12	10	10	11	9	9	10	10	10	10	10	11	10	10	10	10	10.2	12.3	
26-Sep	10	9	9	10	9	8	7	8	10	11	11	12	C	C	C	6	9	10	11	12	13	13	13	13	10.3	13.1	
27-Sep	12	13	13	14	12	13	13	14	14	13	12	13	12	13	14	13	13	13	14	14	15	14	13	14	13.2	14.6	
28-Sep	14	13	14	14	13	12	12	13	13	13	16	18	14	14	15	15	15	16	17	19	14	15	16	13	14.5	19.0	
29-Sep	16	15	15	13	12	13	13	13	12	13	12	12	13	12	11	12	11	12	14	15	15	15	13	13	13.1	16.1	
30-Sep	15	13	13	13	14	14	14	14	13	14	17	18	16	16	14	14	15	14	13	12	12	12	12	13	14.0	18.3	
6.8 6.6 6.4 6.9 6.3 6.3 6.5 6.8 7.5 7.6 8.2 8.5 7.3 7.3 7.1 5.8 6.3 6.6 7.8 8.2 8.5 7.9 7.0 6.8																									Diurnal Average		
16.1 14.6 15.3 14.1 13.7 13.9 14.2 14.2 13.6 14.1 16.9 18.3 16.1 15.8 15.9 15.4 14.9 16.3 17.5 19.0 18.4 14.9 15.6 14.1																									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 Maximums

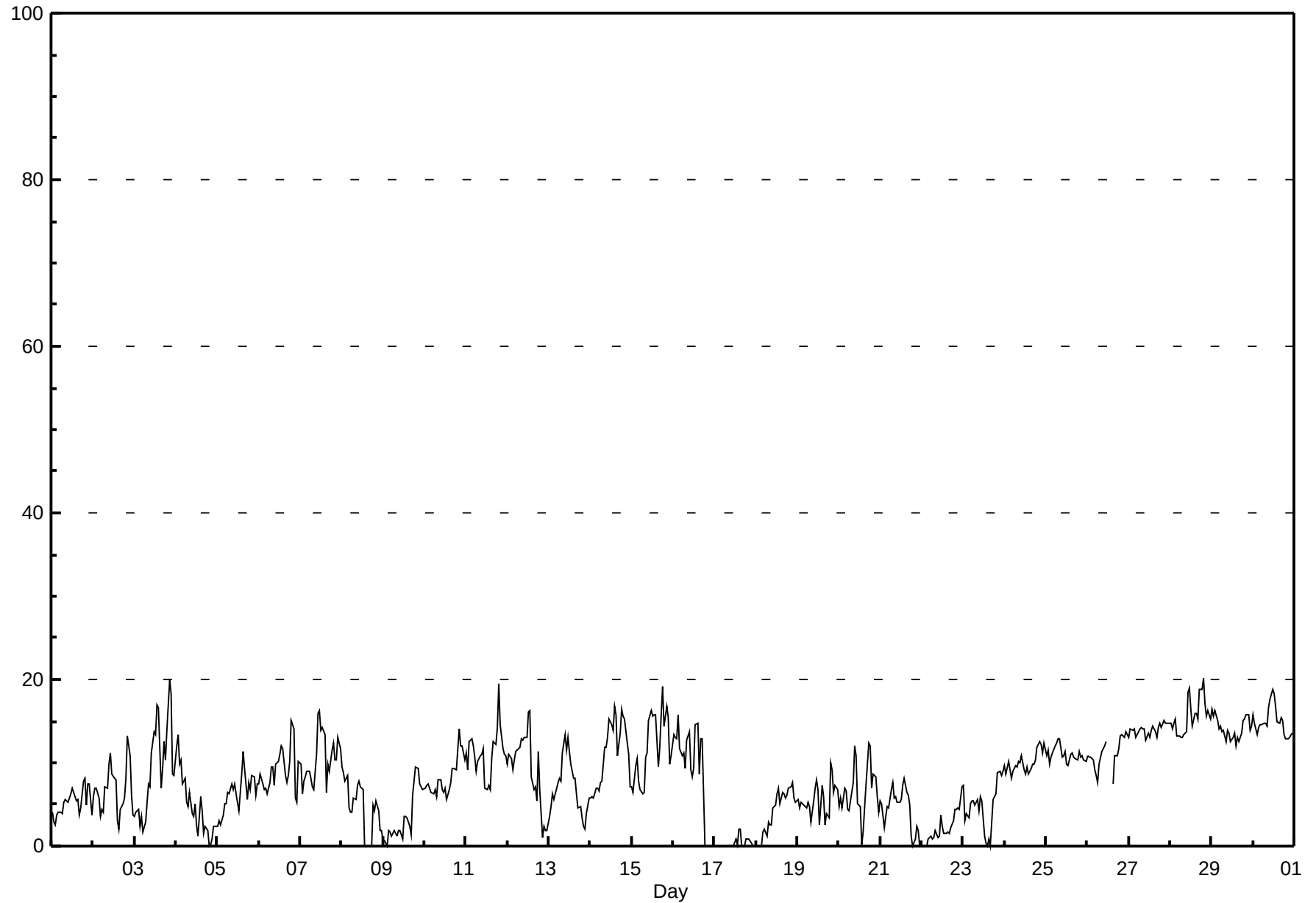
Particulate Matter 2.5 (PM_{2.5}) - µg/m³

Beaverlodge - September 2013

Maximum Value: 20.2 μg/m ³ on Sep 28 20:00																								Maximum Daily Average: 15.7 μg/m ³ on Sep 28										Hours in Service: 720	
Minimum Value: 0 μg/m ³ on Sep 4 20:00																								Minimum Daily Average: 0.3 μg/m ³ on Sep 17										Hours of Data: 717	
Maximum Diurnal Average: 9.6 μg/m ³ at hour 21																								Minimum Diurnal Average: 7.0 μg/m ³ at hour 6										Hours of Missing Data: 3	
Monthly Average: 8.20 μg/m ³																								Percentiles: P ₁ = 0.0 P ₁₀ = 1.6 Q ₁ = 4.8 Median = 7.8 Q ₃ = 12.1 P ₉₀ = 14.5 P ₉₉ = 18.7										Hours of Calibration: 3	
																								Percent Operational Time: 100.0											
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum									
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24											
1-Sep	4	3	2	4	4	4	4	5	6	5	6	6	7	6	5	6	4	5	8	8	5	7	7	4	5.2	8.2									
2-Sep	6	7	7	6	4	4	4	7	7	10	11	9	8	8	3	2	4	5	6	8	13	11	6	4	6.7	13.3									
3-Sep	4	4	4	2	4	2	3	5	7	7	11	14	13	17	17	7	9	13	10	14	20	18	9	8	9.3	19.9									
4-Sep	12	13	10	10	7	8	5	5	6	4	4	5	3	1	6	4	2	2	2	0	0	1	2	2	4.8	13.3									
5-Sep	2	3	2	4	5	5	6	6	7	7	8	6	4	7	9	11	9	6	8	7	8	8	6	7	6.4	11.3									
6-Sep	7	9	7	7	7	6	8	9	9	7	10	10	11	12	12	9	8	8	10	15	14	6	5	10	9.1	15.1									
7-Sep	10	6	8	8	9	9	8	7	7	11	16	16	14	14	13	6	10	9	12	12	10	10	13	12	10.5	16.3									
8-Sep	9	9	8	8	5	4	4	6	6	7	8	7	7	0	0	0	0	0	5	4	5	4	2	2	4.6	9.4									
9-Sep	1	1	0	2	2	1	2	2	1	2	2	1	4	4	3	2	1	6	8	9	9	7	7	7	3.5	9.4									
10-Sep	7	7	7	7	6	6	7	6	8	8	7	7	7	6	7	8	9	9	9	12	14	12	12	10	8.3	14.1									
11-Sep	11	9	13	13	12	11	9	10	11	11	12	7	7	7	7	10	13	12	14	19	15	12	11	11	11.1	19.5									
12-Sep	10	11	11	9	10	11	12	12	13	13	13	13	16	16	8	7	7	5	11	7	1	2	2	2	9.3	16.2									
13-Sep	4	5	6	6	6	8	8	8	11	13	12	13	11	10	8	8	6	5	5	3	2	2	4	6	7.1	13.4									
14-Sep	6	6	6	7	7	7	8	8	12	12	13	15	15	14	17	16	11	14	16	16	15	12	11	7	11.2	16.8									
15-Sep	7	6	10	10	8	7	6	6	11	11	15	16	16	16	16	9	12	16	19	14	17	15	10	11	11.9	19.2									
16-Sep	13	13	13	16	12	11	11	9	13	14	9	8	9	15	15	9	13	13	0	0	0	0	0	0	9.0	15.8									
17-Sep	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	2	0	0	1	1	1	0	0	0	0.3	2.1									
18-Sep	0	0	0	0	2	2	1	3	3	3	5	5	6	7	5	7	6	6	6	7	7	8	6	5	4.1	7.7									
19-Sep	6	5	5	5	5	5	5	5	3	5	7	8	7	3	7	6	3	4	3	10	9	6	7	7	5.6	9.9									
20-Sep	5	6	5	7	7	4	4	5	8	12	11	5	5	0	2	5	7	12	12	7	9	8	6	4	6.5	12.3									
21-Sep	5	5	2	4	5	5	7	8	6	6	5	5	6	7	8	7	6	5	1	0	1	2	2	0	4.4	8.1									
22-Sep	0	0	0	0	1	1	1	1	2	1	1	4	2	2	1	2	2	2	3	4	4	5	4	7	2.1	7.1									
23-Sep	7	3	4	3	5	5	5	5	6	4	6	5	1	0	0	1	0	6	6	6	9	9	8	9	4.8	8.9									
24-Sep	10	9	10	9	8	9	10	10	10	10	11	9	9	9	9	9	10	10	10	12	13	12	11	12	10.0	12.6									
25-Sep	11	12	10	11	11	12	12	13	13	11	11	11	10	10	11	11	11	10	10	11	11	11	10	10	11.0	12.9									
26-Sep	11	11	11	10	9	8	8	10	11	12	12	13	C	C	C	7	11	11	12	13	13	13	14	13	11.1	13.8									
27-Sep	13	14	14	14	13	13	14	14	14	14	13	13	13	14	14	14	13	14	15	14	15	15	15	15	14.0	15.1									
28-Sep	15	14	15	15	13	13	13	13	13	14	18	19	16	14	16	16	15	19	19	20	17	16	16	15	15.7	20.2									
29-Sep	17	16	16	15	14	14	14	14	13	14	14	13	13	14	12	13	13	14	15	15	16	16	14	14	14.2	16.5									
30-Sep	16	15	13	14	15	15	15	15	14	17	18	19	18	17	15	15	16	15	13	13	13	13	13	14	14.9	18.8									
7.6 7.4 7.3 7.6 7.2 7.0 7.1 7.6 8.3 8.8 9.5 9.4 8.9 8.6 8.6 7.6 7.7 8.5 9.0 9.5 9.6 8.8 7.8 7.6																									Diurnal Average										
16.5 15.6 16.3 15.8 14.5 14.6 14.8 14.8 14.3 16.5 18.5 19.0 18.4 17.0 16.8 16.0 15.5 18.7 19.2 20.2 19.9 18.4 16.3 15.2																									Diurnal Maximum										
C - Calibration																																			

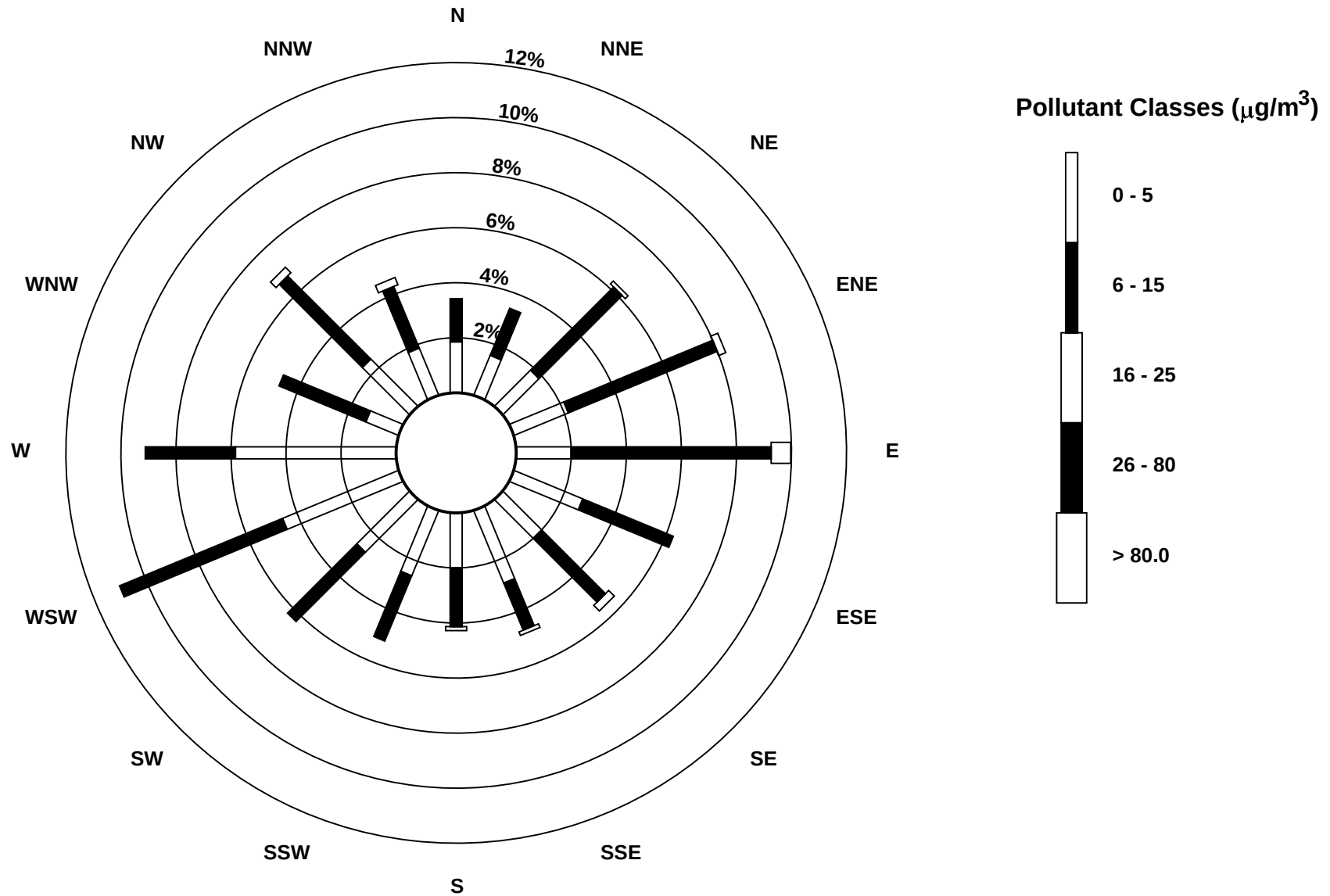
Hourly Maximums

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Beaverlodge - September 2013



Pollutant Rose

Particulate Matter 2.5 (PM_{2.5}) - µg/m³
Beaverlodge - September 2013



Hourly Averages

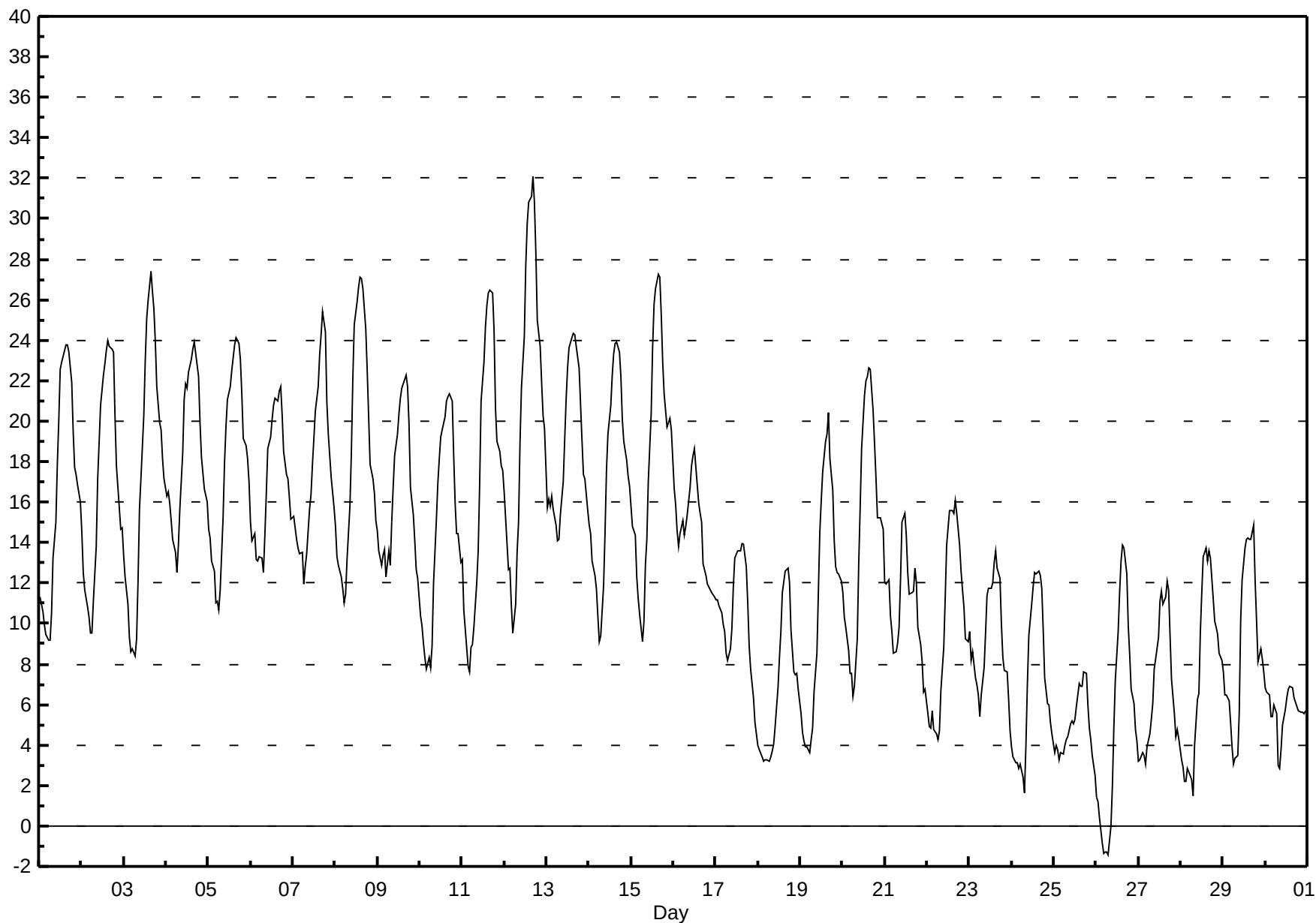
External Temperature (ET) - °C

Beaverlodge - September 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 32.1 °C on Sep 12 17:00 Maximum Daily Average: 21.0 °C on Sep 12																								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 26 08:00 Maximum Diurnal Average: 19.2 °C at hour 17 Monthly Average: 13.27 °C												Minimum Daily Average: 4.9 °C on Sep 25 Minimum Diurnal Average: 7.9 °C at hour 7 Percentiles: P ₁ = 1.1 P ₁₀ = 4.5 Q ₁ = 8.2 Median = 12.9 Q ₃ = 18.0 P ₉₀ = 22.5 P ₉₉ = 27.3														
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Sep	11	11	11	10	9	9	9	11	13	15	18	20	23	23	23	24	24	23	22	20	18	17	17	16	16.5	23.8
2-Sep	15	13	12	11	10	10	10	11	14	17	19	21	22	23	24	24	24	23	20	18	16	15	15	15	17.0	24.0
3-Sep	13	12	11	9	9	9	8	9	12	16	17	20	23	25	26	27	26	26	24	22	20	20	18	17	17.5	27.4
4-Sep	16	16	16	15	14	13	13	14	16	18	21	22	22	22	23	24	24	23	22	20	18	17	17	16	18.5	23.9
5-Sep	15	14	13	13	11	11	11	12	15	18	20	21	22	22	23	24	24	24	23	21	19	19	18	17	17.9	24.1
6-Sep	15	14	14	13	13	13	13	13	14	16	19	19	20	21	21	21	21	22	20	19	17	17	16	15	17.0	21.7
7-Sep	15	15	14	14	13	13	12	13	13	16	16	18	19	21	22	23	24	25	24	21	19	18	17	16	17.6	25.4
8-Sep	15	13	13	12	12	11	11	13	16	18	22	25	26	27	27	27	27	25	22	20	18	17	16	15	18.7	27.1
9-Sep	15	14	13	13	14	12	14	13	15	17	18	19	20	21	22	22	22	22	20	17	15	14	13	12	16.5	22.3
10-Sep	10	10	9	8	8	8	8	9	12	15	17	18	19	20	20	21	21	21	21	18	16	14	14	13	14.7	21.4
11-Sep	13	11	10	8	8	9	9	10	12	14	17	21	23	25	26	26	26	26	24	21	19	18	18	18	17.1	26.4
12-Sep	16	15	13	13	11	10	11	14	15	19	22	24	28	30	31	31	32	31	28	25	24	22	20	20	21.0	32.1
13-Sep	16	16	16	16	16	15	14	14	15	17	19	21	23	24	24	24	24	24	23	21	19	17	17	16	18.8	24.3
14-Sep	15	14	13	12	12	10	9	9	12	14	18	19	21	22	23	24	24	23	22	20	19	18	17	17	17.1	23.9
15-Sep	16	15	14	12	11	10	9	10	13	14	17	20	24	26	27	27	27	25	23	21	20	20	20	20	18.4	27.3
16-Sep	17	16	15	14	14	15	14	15	15	17	18	18	19	18	16	15	15	13	12	12	12	12	12	11	14.8	18.6
17-Sep	11	11	11	11	10	10	9	8	9	10	12	13	14	14	14	14	14	13	11	9	8	6	5	5	10.4	14.0
18-Sep	4	4	3	3	3	3	3	3	4	4	5	7	8	10	12	13	13	13	12	10	8	7	8	7	6.9	12.7
19-Sep	6	5	4	4	4	4	4	5	7	9	11	14	16	18	19	19	20	18	17	14	13	13	12	12	11.1	20.4
20-Sep	12	10	10	9	8	8	6	7	9	13	16	19	21	22	22	23	23	20	19	17	15	15	15	15	14.7	22.6
21-Sep	12	12	12	10	10	9	9	9	10	12	15	15	14	13	11	12	12	13	12	10	9	8	7	7	10.9	15.4
22-Sep	6	5	5	6	5	5	4	5	7	9	11	14	15	16	16	15	16	15	14	13	12	11	9	9	10.0	16.1
23-Sep	10	8	9	7	7	6	5	6	8	10	11	12	12	12	13	14	13	12	10	8	8	8	6	5	9.1	13.6
24-Sep	4	3	3	3	3	3	2	2	4	7	9	11	12	13	12	13	12	12	10	7	6	6	5	5	7.0	12.6
25-Sep	4	4	4	3	4	4	4	4	4	5	5	5	5	6	7	7	7	8	8	6	5	4	4	3	4.9	7.6
26-Sep	1	1	0	-1	-1	-1	-1	-1	0	2	5	7	10	12	13	14	14	12	10	8	7	6	5	4	5.2	13.8
27-Sep	3	3	4	3	3	4	5	5	6	8	8	9	11	12	11	11	12	12	9	7	6	4	5	4	6.9	12.1
28-Sep	3	3	2	2	3	3	2	1	4	6	7	10	12	13	14	13	14	13	11	10	10	9	9	8	7.6	13.8
29-Sep	8	6	6	6	5	4	3	3	3	6	10	12	14	14	14	14	14	15	12	10	8	9	8	8	8.9	14.9
30-Sep	7	7	7	5	5	6	6	3	3	4	5	6	6	7	7	7	6	6	6	6	6	6	6	6	5.7	6.9
																									Diurnal Average	
																									Diurnal Maximum	

Hourly Averages

External Temperature (ET) - °C
Beaverlodge - September 2013



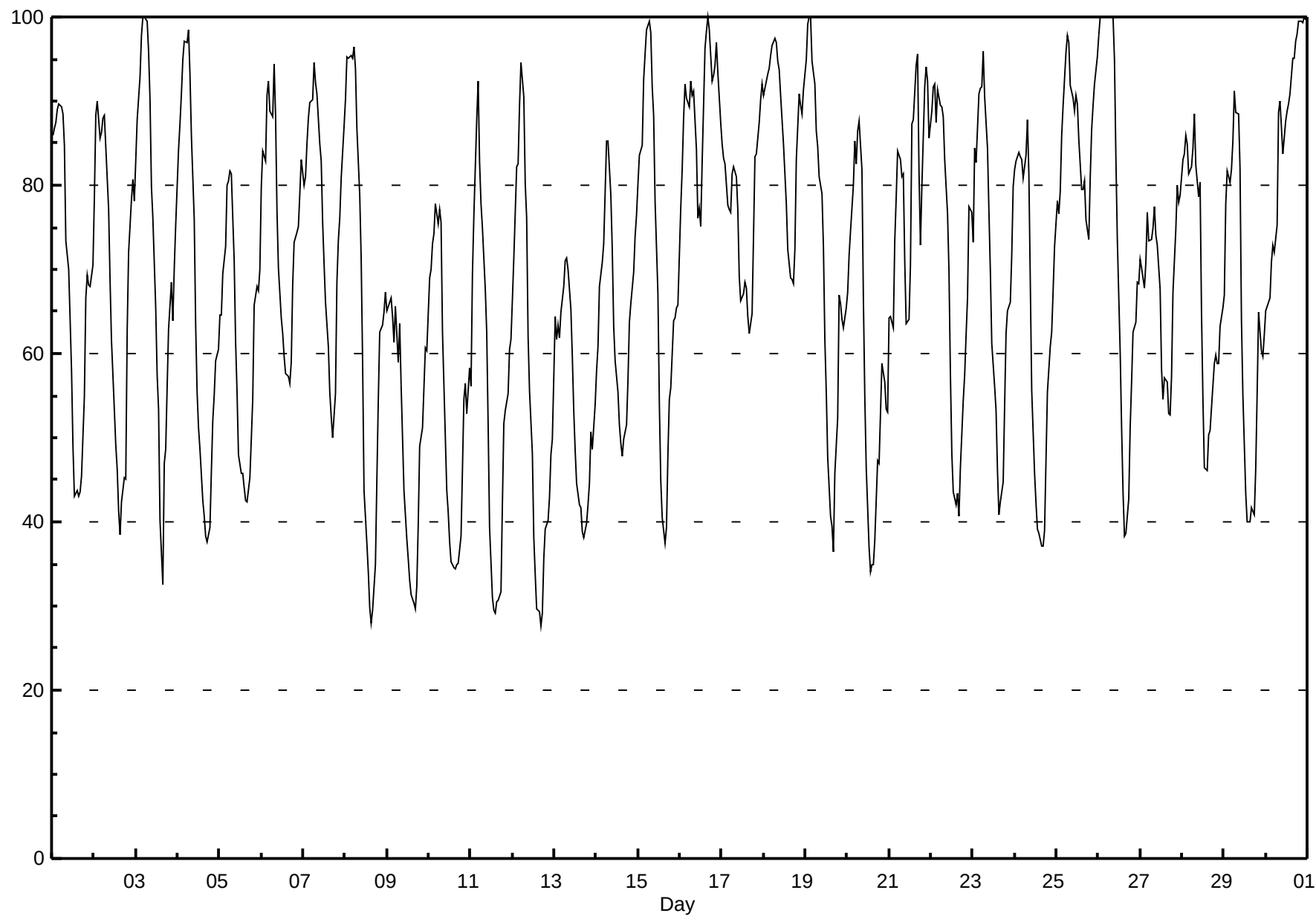
Hourly Averages

Relative Humidity (RH) - %
Beaverlodge - September 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																				Hours in Service: 720							
Maximum Value: 100.0 % on Sep 3 05:00																				Maximum Daily Average: 89.1 % on Sep 16				Hours of Data: 720			
Minimum Value: 28 % on Sep 12 17:00																				Minimum Daily Average: 50.3 % on Sep 9				Hours of Missing Data: 0			
Maximum Diurnal Average: 87.0 % at hour 7																				Minimum Diurnal Average: 49.0 % at hour 16				Hours of Calibration: 0			
Monthly Average: 69.10 %																				Percentiles: P ₁ = 29.7 P ₁₀ = 41.3 Q ₁ = 54.5 Median = 70.1 Q ₃ = 84.9 P ₉₀ = 92.7 P ₉₉ = 100.0				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	86	87	87	89	90	89	89	85	73	70	64	58	49	43	44	43	44	45	55	67	69	68	68	70	68.0	89.6	
2-Sep	79	88	90	86	86	88	88	85	77	69	62	57	49	46	41	38	42	45	45	63	72	78	81	78	68.1	90.1	
3-Sep	83	88	93	98	100	100	99	96	90	80	76	65	57	53	40	33	47	49	56	63	69	64	70	75	72.7	100.0	
4-Sep	84	87	91	95	97	97	98	93	86	76	63	55	51	49	43	41	38	38	39	46	52	55	59	61	66.5	98.4	
5-Sep	65	65	70	73	80	81	82	81	71	61	55	48	46	46	44	43	42	45	50	54	66	68	67	70	61.3	81.7	
6-Sep	80	84	83	91	92	89	88	94	88	77	70	64	62	60	58	57	56	59	68	73	74	75	79	83	75.3	94.4	
7-Sep	80	81	85	88	90	90	95	92	91	85	83	76	71	66	61	55	53	50	55	69	73	76	81	87	76.3	94.6	
8-Sep	90	95	95	95	95	96	94	87	79	71	59	44	37	34	30	28	30	35	45	54	62	63	65	67	64.7	96.4	
9-Sep	65	66	67	64	61	66	59	64	56	50	44	38	36	33	31	30	30	32	40	49	51	56	61	60	50.3	66.5	
10-Sep	69	70	73	74	78	75	77	76	63	50	44	41	38	35	35	34	35	35	38	46	55	56	53	58	54.5	77.8	
11-Sep	56	70	77	88	92	83	78	75	68	63	52	39	31	29	29	31	31	32	42	52	53	55	60	62	56.1	92.3	
12-Sep	66	71	82	83	89	95	90	80	76	62	56	48	38	34	30	29	28	29	36	39	40	43	48	50	55.9	94.6	
13-Sep	64	62	63	62	65	68	71	71	70	65	60	53	48	45	42	42	39	38	40	42	45	51	49	54	54.5	71.3	
14-Sep	58	61	68	71	73	79	85	85	79	72	63	59	55	52	49	48	50	52	57	64	66	70	74	76	65.2	85.3	
15-Sep	80	84	85	93	96	98	99	98	92	88	78	67	54	45	41	37	39	48	55	56	64	64	65	66	70.5	99.4	
16-Sep	77	82	88	92	90	89	92	91	91	84	76	77	75	83	96	98	100	98	92	93	94	97	93	88	89.1	99.9	
17-Sep	85	83	82	78	77	77	81	82	81	77	69	66	67	69	68	64	62	65	74	83	84	87	90	92	76.9	92.1	
18-Sep	91	91	93	94	95	97	97	97	95	94	91	85	81	78	72	69	69	68	72	83	91	89	88	91	86.4	97.5	
19-Sep	95	99	100	100	95	92	87	85	81	79	73	62	55	48	41	40	36	46	52	67	66	64	63	65	70.4	100.0	
20-Sep	67	72	75	80	85	83	86	88	82	67	55	46	37	34	35	35	38	47	47	53	59	57	53	53	59.7	87.7	
21-Sep	64	64	63	73	78	84	83	81	81	71	64	64	71	87	88	94	96	82	73	80	92	94	92	86	79.4	95.5	
22-Sep	89	92	92	88	91	89	89	88	83	77	70	58	48	44	42	43	41	46	54	57	62	67	77	77	69.4	92.0	
23-Sep	73	84	83	91	91	92	96	91	84	77	70	61	56	53	46	41	42	45	54	62	65	66	72	80	69.8	96.0	
24-Sep	82	83	84	83	83	81	84	88	81	68	56	46	42	39	39	37	37	39	47	55	61	63	67	73	63.3	87.7	
25-Sep	78	77	79	86	90	96	98	97	92	90	89	91	90	85	79	79	81	76	74	81	87	89	92	95	86.2	97.8	
26-Sep	98	100	100	100	100	100	100	100	100	95	83	74	60	51	44	38	39	43	51	57	63	64	69	68	74.8	100.0	
27-Sep	71	70	68	71	77	73	74	75	77	74	73	68	58	55	57	57	53	53	57	67	75	80	78	79	68.3	80.0	
28-Sep	83	84	86	85	81	82	84	88	82	79	80	65	55	47	46	50	51	54	59	60	59	59	63	65	68.6	88.4	
29-Sep	67	78	82	80	82	85	91	89	88	82	64	55	43	40	40	40	42	41	46	55	65	60	60	62	64.1	91.3	
30-Sep	65	66	67	71	73	72	75	89	90	87	84	88	89	90	91	95	95	97	98	100	99	99	100	100	86.6	100.0	
76.4 79.4 81.7 84.0 85.8 86.2 87.0 86.3 81.6 74.7 67.5 60.6 55.0 52.4 50.0 49.0 49.5 51.0 55.7 63.0 67.7 69.3 71.3 73.1																									Diurnal Average		
97.8 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 94.9 90.6 90.6 89.7 89.7 96.4 98.3 99.9 98.5 98.0 99.6 99.4 99.3 100.0 99.7																									Diurnal Maximum		

Hourly Averages

Relative Humidity (RH) - %
Beaverlodge - September 2013



Hourly Averages

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

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1 Spd	4	2	3	3	3	3	2	3	3	3	2	5	4	5	4	6	7	9	11	7	6	6	3	3	3.6	10.8
Dir	71	133	109	113	136	108	129	122	173	192	144	169	104	192	158	163	162	142	141	81	81	78	81	104	130	141
2 Spd	3	2	6	3	6	3	4	4	3	1	8	11	10	11	12	11	12	10	5	6	11	11	9	7	4.7	12.4
Dir	119	95	53	201	52	162	124	53	172	4	328	337	331	334	354	13	31	28	358	47	59	73	82	50	28	31
3 Spd	2	3	4	3	4	1	1	1	2	2	4	3	3	5	7	4	8	10	9	6	8	6	0	1	2.1	9.9
Dir	150	251	321	337	19	3	250	109	72	179	204	195	181	78	79	65	94	121	144	106	74	51	22	33	99	121
4 Spd	18	18	10	5	3	1	3	5	7	11	17	24	24	22	26	26	24	25	23	19	18	16	14	13	14.3	25.8
Dir	224	272	234	211	200	119	109	188	213	223	234	238	247	256	260	260	261	268	274	277	272	275	263	252	254	260
5 Spd	9	6	6	2	6	5	5	5	11	23	22	27	28	22	17	12	13	9	6	5	1	6	9	6	9.0	28.0
Dir	239	229	202	211	191	231	201	206	236	244	246	273	266	260	261	254	279	339	360	10	317	308	312	320	261	266
6 Spd	1	0	1	2	3	7	6	5	5	3	4	6	5	8	9	11	8	4	5	6	8	7	8	9	4.0	10.6
Dir	90	129	336	260	318	330	338	310	33	43	129	105	66	83	68	30	47	63	73	66	67	55	70	69	52	30
7 Spd	9	8	8	8	8	8	4	2	5	4	6	7	9	8	7	5	4	1	1	4	5	2	2	3	2.9	9.3
Dir	70	81	82	86	81	94	227	254	215	162	189	171	157	167	164	180	205	288	61	91	51	54	261	63	127	157
8 Spd	2	2	3	3	2	3	3	3	3	3	10	26	29	30	30	32	31	29	27	17	13	15	13	6	12.1	31.6
Dir	78	85	130	129	101	82	73	91	143	190	260	270	265	256	260	260	259	257	260	250	244	250	255	277	257	260
9 Spd	10	9	12	15	13	4	11	6	15	26	26	24	21	25	26	22	20	23	15	12	11	11	3	5	14.9	26.4
Dir	261	259	250	240	252	337	277	248	272	269	274	272	262	268	266	273	273	261	265	257	264	256	244	243	265	266
10 Spd	2	2	3	2	3	3	2	3	6	14	17	18	14	12	11	8	7	6	4	5	6	2	5	1	3.9	17.8
Dir	152	124	62	89	66	88	120	62	333	299	292	289	310	320	338	353	19	33	35	42	36	51	58	89	341	289
11 Spd	3	3	2	3	5	3	4	3	3	4	5	4	6	4	3	5	8	8	7	8	7	9	7	5	3.8	9.4
Dir	94	77	98	70	58	69	60	58	147	199	184	161	175	179	153	80	91	94	81	65	83	79	84	95	97	79
12 Spd	1	4	3	4	1	4	2	2	2	2	2	4	4	6	8	11	8	18	16	19	15	12	9	7	3.3	18.6
Dir	154	244	47	48	149	58	74	84	110	182	164	172	145	134	167	189	214	267	270	281	289	297	296	278	256	281
13 Spd	3	7	6	3	4	6	7	6	6	10	9	10	10	12	14	16	15	12	11	11	7	8	12	5	7.4	15.7
Dir	83	50	52	17	274	11	327	316	304	315	320	316	323	319	329	357	4	358	351	346	355	17	32	51	348	357
14 Spd	6	11	8	9	1	3	4	2	2	3	4	8	15	19	22	20	19	17	8	7	18	21	12	12	8.8	21.9
Dir	43	60	44	37	62	221	245	294	214	181	139	116	86	85	87	110	98	101	76	68	88	91	99	91	89	87
15 Spd	8	3	3	0	2	2	3	1	1	2	2	2	3	5	8	11	12	13	10	8	8	9	8	7	4.3	13.3
Dir	89	140	182	48	348	33	323	19	55	218	233	128	149	136	108	95	98	80	55	78	71	74	65	75	86	80
16 Spd	2	1	6	14	9	12	3	5	2	1	9	7	4	4	5	10	15	27	28	28	28	16	17	19	8.7	28.5
Dir	155	42	277	295	340	14	15	351	40	88	21	22	270	278	286	298	261	248	257	258	269	277	262	264	278	257
17 Spd	19	15	13	15	16	14	8	11	11	14	20	17	16	14	16	15	14	10	12	12	15	13	9	8	11.1	19.8
Dir	274	282	289	272	270	277	299	293	301	291	293	306	316	334	346	344	341	334	3	22	14	9	359	351	315	293
18 Spd	9	5	8	7	9	9	9	7	4	4	4	1	2	4	3	4	3	5	4	7	6	6	4	3	1.5	9.4
Dir	352	345	314	330	315	309	311	318	312	269	275	253	205	237	60	116	114	144	163	135	107	85	80	65	334	311
19 Spd	2	3	3	3	4	4	4	2	2	2	6	6	10	10	8	8	5	7	1	8	11	6	3	5	3.8	10.6
Dir	122	150	102	105	110	86	113	124	168	177	135	135	126	151	161	164	266	255	37	90	102	133	82	100	131	102
20 Spd	6	2	3	3	4	3	2	1	1	2	2	3	4	5	7	10	15	11	7	10	13	11	8	4	1.8	14.7
Dir	107	157	197	280	39	65	213	319	139	255	244	201	205	192	60	77	81	62	40	320	330	319	322	326	24	81
21 Spd	3	5	6	2	3	3	3	4	1	3	9	7	16	12	12	6	11	11	12	7	9	8	3	5	4.5	16.2
Dir	230	297	280	62	71	126	123	39	170	221	287	308	280	287	281	182	202	232	240	214	235	238	196	232	251	280
22 Spd	2	3	2	5	2	3	3	4	4	9	6	11	13	14	15	13	15	15	6	7	7	7	1	3	4.5	15.3
Dir	188	161	149	205	147	131	114	151	150	190	183	221	229	241	228	230	222	253	296	319	347	339	222	41	228	228

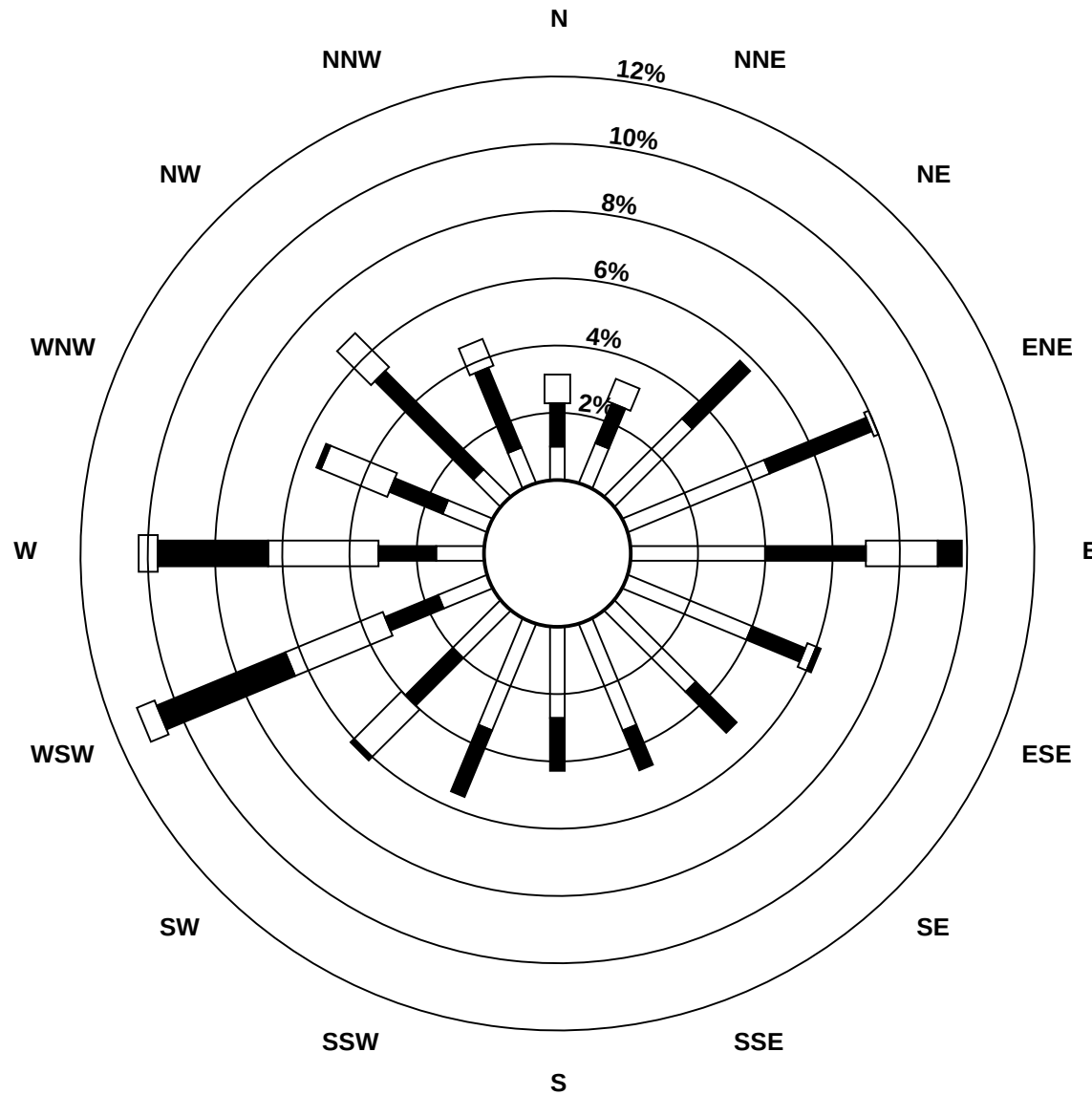
Hourly Averages

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

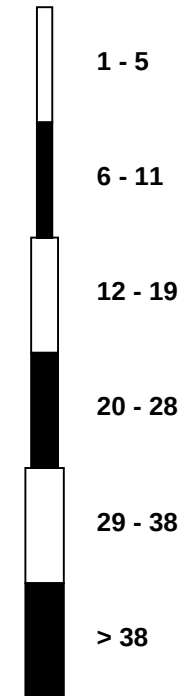
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
23 Spd	2	2	5	4	0	3	4	3	5	8	15	25	31	30	25	26	25	23	19	14	14	13	10	11	11.9	31.4
Dir	289	216	252	163	134	187	75	83	171	198	218	238	248	251	250	253	244	241	239	235	225	215	211	230	236	248
24 Spd	8	10	8	9	9	8	11	10	12	12	21	28	25	25	24	26	24	23	14	10	8	6	4	4	13.4	28.3
Dir	232	207	206	211	214	220	224	214	225	219	237	249	240	252	250	261	261	257	256	254	254	267	267	295	243	249
25 Spd	1	4	8	7	7	7	6	10	11	13	13	15	15	12	14	15	11	9	5	5	7	8	8	6	8.8	14.9
Dir	341	327	318	321	316	304	302	302	308	300	302	301	302	323	326	306	293	301	337	325	326	321	316	311	311	301
26 Spd	2	2	0	5	4	3	5	3	3	8	7	8	8	9	11	16	21	21	18	16	12	4	2	4	5.2	20.9
Dir	357	39	43	52	55	49	54	114	156	196	181	177	207	205	207	236	233	242	250	245	247	209	127	93	221	242
27 Spd	5	4	1	4	2	2	2	2	11	22	22	21	23	27	25	23	26	25	21	18	12	11	9	4	12.1	26.5
Dir	100	102	119	226	126	89	115	207	234	241	243	237	259	253	245	247	262	254	243	241	231	245	250	220	244	253
28 Spd	4	4	5	5	4	2	3	2	1	6	8	8	12	9	9	12	16	18	19	23	22	22	18	10	9.2	22.7
Dir	126	82	97	108	56	75	77	115	119	40	187	134	121	134	125	103	93	87	86	88	94	99	94	101	100	88
29 Spd	3	9	12	8	6	5	4	2	3	3	3	6	15	17	12	8	3	3	5	5	5	9	10	12	2.1	17.0
Dir	147	247	260	263	272	228	60	51	71	130	134	210	245	237	241	256	303	36	31	2	23	17	37	68	267	237
30 Spd	7	6	7	5	2	15	9	4	5	4	7	8	14	13	12	10	11	11	5	4	3	3	3	6	2.3	15.4
Dir	123	115	110	146	82	91	111	194	211	291	336	339	312	313	296	277	283	305	300	288	10	325	1	7	320	91
Spd	0.9	0.7	1.0	1.1	0.8	0.9	0.3	0.7	2.2	4.9	6.2	7.1	7.8	7.4	5.9	5.2	4.9	5.5	4.3	2.7	1.6	1.6	1.2	0.9	Diurnal Average	
Dir	178	246	267	255	318	36	329	283	242	247	253	256	258	258	263	262	261	263	272	286	326	343	355	7	Diurnal Maximum	
Spd	18.8	17.5	12.8	15.4	15.7	15.4	10.7	10.9	15.2	26.3	25.5	28.3	31.4	29.7	30.2	31.6	31.0	29.1	28.5	28.0	28.4	22.1	17.9	19.1	Diurnal Maximum	
Dir	274	272	289	240	270	91	224	293	272	269	274	249	248	251	260	260	259	257	257	258	269	99	94	264		
Maximum Speed Value: 32 km/h on Sep 8 16:00																								Hours in Service: 720		
Maximum Daily Speed Average: 14.9 km/h on Sep 4																								Hours of Data: 720		
Maximum Diurnal Speed Average: 7.8 km/h at hour 13																								Hours of Missing Data: 0		
Minimum Speed Value: 0 km/h on Sep 15 04:00																								Percent Operational Time: 100.0		
Minimum Daily Speed Average: 1.5 km/h on Sep 3																										
Minimum Diurnal Speed Average: 0.3 km/h at hour 7																										
Monthly Average Velocity: 2.82 km/h 264.4 deg																										
Speed Percentiles: P ₁ = 0.7 P ₁₀ = 2.3 Q ₁ = 3.4 Median = 6.8 Q ₃ = 11.8 P ₉₀ = 18.8 P ₉₉ = 29.3																										
All monthly, daily, and diurnal averages have been calculated using vector methods																										
Frequency Distribution																										
Speed Range (km/h)																										
Direction	0 to 5		5 to 11		11 to 19		19 to 28		28 to 38		> 38		Total													
North	14		23		15		0		0		0		52													
NorthEast	45		31		5		0		0		0		81													
East	54		46		17		6		0		0		123													
SouthEast	59		19		1		0		0		0		79													
South	37		24		1		0		0		0		62													
SouthWest	29		29		29		17		0		0		104													
West	20		22		41		33		12		0		128													
NorthWest	17		51		22		1		0		0		91													
Total	275		245		131		57		12		0		720													

Wind Rose

Wind Speed (WS) (km/h)
Beaverlodge - September 2013



Wind Speed Classes (km/h)



Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Beaverlodge - September 2013

Maximum Speed: 32 km/h on Sep 8 16:00																				Maximum Daily Speed Average: 16.1 km/h on Sep 4										Hours in Service: 720	
Minimum Speed: 1 km/h on Sep 26 03:00																				Minimum Daily Speed Average: 5.0 km/h on Sep 1										Hours of Data: 720	
Maximum Diurnal Speed Average: 14.2 km/h at hour 15																				Minimum Diurnal Speed Average: 4.8 km/h at hour 8										Hours of Missing Data: 0	
Monthly Average Speed: 9.31 km/h																				Percentiles: P ₁ = 2.0 P ₁₀ = 3.2 Q ₁ = 4.4 Median = 7.3 Q ₃ = 12.2 P ₉₀ = 19.1 P ₉₉ = 29.6										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	4	4	4	4	4	4	2	3	3	4	3	5	5	6	6	6	8	10	11	8	6	6	3	3	5.0	10.9					
2-Sep	4	2	6	5	6	4	5	5	4	4	9	11	10	12	13	12	13	10	5	8	11	12	9	8	7.8	12.7					
3-Sep	4	5	5	5	5	3	2	4	3	3	5	4	4	6	7	5	9	10	9	7	8	7	2	4	5.2	10.4					
4-Sep	19	19	14	6	5	3	4	6	7	11	17	24	24	22	26	26	24	26	23	19	18	16	14	13	16.1	26.1					
5-Sep	9	6	6	4	7	6	6	6	12	23	23	28	28	22	18	14	14	10	6	5	3	7	9	7	11.7	28.3					
6-Sep	2	1	2	4	3	7	8	6	6	4	5	7	6	8	9	11	8	4	5	6	8	7	8	9	6.0	10.7					
7-Sep	9	8	8	8	8	8	4	3	5	5	6	8	10	8	7	7	4	3	3	4	5	3	3	4	5.9	9.8					
8-Sep	3	3	3	3	2	3	3	3	3	4	10	26	30	30	30	32	31	29	28	18	13	15	13	8	14.3	31.7					
9-Sep	10	10	12	15	13	8	11	7	15	26	26	24	22	26	27	22	21	23	16	12	11	11	4	5	15.8	27.0					
10-Sep	3	3	4	3	3	3	3	4	8	14	18	18	14	12	12	8	8	7	4	5	6	3	5	2	7.2	18.1					
11-Sep	3	4	3	3	5	3	4	3	3	5	5	5	6	5	5	6	8	8	7	8	7	9	7	5	5.4	9.4					
12-Sep	3	4	4	4	2	4	3	2	3	2	3	4	5	8	10	11	10	18	16	19	15	12	9	8	7.5	18.7					
13-Sep	4	7	7	4	5	6	8	6	6	10	9	10	10	12	15	17	15	12	11	11	8	8	12	6	9.2	16.7					
14-Sep	6	11	9	9	3	3	4	4	4	4	5	8	15	19	22	21	19	17	8	8	18	21	13	12	10.9	22.3					
15-Sep	8	5	3	2	3	2	6	2	3	3	2	3	5	6	9	11	13	13	10	8	8	9	9	7	6.3	13.5					
16-Sep	2	3	7	15	11	12	4	7	4	2	9	7	5	6	7	11	16	27	29	28	29	16	17	19	12.2	28.6					
17-Sep	19	16	13	15	16	14	8	11	11	14	20	17	17	15	17	15	14	10	12	12	15	13	9	9	13.8	20.0					
18-Sep	9	5	8	7	9	9	9	7	5	4	5	3	3	5	6	5	5	5	5	7	7	6	5	4	5.9	9.4					
19-Sep	3	3	4	3	4	5	5	3	3	4	6	7	11	11	9	8	6	7	4	8	11	7	4	5	5.8	11.0					
20-Sep	6	3	4	4	4	4	3	4	3	3	4	4	5	5	8	10	15	11	8	10	13	11	8	5	6.5	15.1					
21-Sep	4	6	7	4	3	4	4	6	5	5	9	7	17	12	12	6	11	11	12	7	9	9	4	6	7.4	16.6					
22-Sep	3	3	4	5	3	3	4	4	5	9	7	11	14	15	16	13	16	15	6	7	8	7	3	3	7.8	15.9					
23-Sep	3	4	6	4	2	3	4	4	5	8	15	25	32	30	25	26	25	24	19	14	14	13	10	11	13.6	31.5					
24-Sep	8	10	8	9	9	8	11	10	12	12	22	29	26	26	24	26	24	23	14	10	8	6	5	6	14.5	28.8					
25-Sep	3	4	8	7	7	7	6	10	11	14	13	15	15	13	14	15	11	9	5	5	7	8	8	6	9.2	15.1					
26-Sep	4	3	1	5	4	3	5	3	3	8	7	9	9	10	12	16	21	21	18	16	12	5	3	4	8.4	21.0					
27-Sep	5	4	2	4	2	2	2	3	12	22	22	21	24	27	26	23	26	26	21	18	12	11	9	6	13.7	26.7					
28-Sep	5	4	5	5	5	4	3	3	3	7	9	8	12	9	9	13	16	18	19	23	22	22	18	11	10.5	22.7					
29-Sep	4	10	12	8	7	6	5	3	4	4	3	7	16	17	13	9	3	3	5	7	7	9	10	12	7.7	17.4					
30-Sep	9	6	8	6	5	16	13	4	5	5	7	9	14	13	13	10	11	11	6	4	4	4	5	7	8.1	15.9					
																									Diurnal Average						
																									Diurnal Maximum						
All monthly, daily, and diurnal averages have been calculated using scalar methods																															

Hourly Standard Deviations

Wind Direction (WD) - deg
Beaverlodge - September 2013

Maximum Value: 93.3 deg on Sep 25 01:00																			Hours in Service: 720						
Minimum Value: 2.2 deg on Sep 27 20:00																			Hours of Data: 720						
																			Hours of Missing Data: 0						
Percentiles: P ₁ = 3.4 P ₁₀ = 5.8 Q ₁ = 9.1 Median = 18.5 Q ₃ = 40.0 P ₉₀ = 58.1 P ₉₉ = 87.7																			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	23	44	29	18	43	44	31	27	18	19	52	31	55	38	48	32	30	18	10	23	6	8	15	14	55.0
2-Sep	26	30	15	73	10	38	39	14	57	89	22	18	22	21	20	22	12	7	16	48	8	23	20	34	89.1
3-Sep	57	69	41	53	40	74	79	80	76	43	25	39	50	37	22	46	27	16	6	32	9	33	93	82	92.7
4-Sep	8	24	60	20	79	64	38	34	18	9	9	9	5	7	7	9	8	5	4	7	8	6	8	11	79.0
5-Sep	9	13	11	86	26	46	28	40	58	5	9	11	10	11	17	45	26	19	9	36	82	41	6	31	85.6
6-Sep	69	84	66	51	43	43	53	43	23	46	35	41	22	11	17	7	14	25	19	9	12	5	12	8	83.7
7-Sep	9	6	8	6	8	19	30	45	16	38	24	29	19	29	32	43	58	74	87	16	9	61	62	75	87.2
8-Sep	53	39	16	16	18	21	11	15	32	27	20	7	8	7	7	6	6	6	5	8	8	9	6	51	53.1
9-Sep	15	24	18	6	15	61	11	72	36	5	7	12	16	12	13	15	17	9	5	7	7	6	75	45	75.5
10-Sep	45	58	57	35	28	24	37	55	42	8	10	10	16	20	22	31	25	15	13	11	7	45	26	65	65.5
11-Sep	37	38	43	39	12	26	24	19	21	17	29	43	25	50	75	49	18	10	9	11	8	4	7	16	75.3
12-Sep	59	23	48	27	66	44	27	43	40	57	57	30	41	47	30	14	40	5	6	5	5	10	14	47	65.7
13-Sep	44	8	13	57	28	39	15	6	9	12	15	14	19	17	18	20	10	12	7	5	18	9	7	66	65.7
14-Sep	20	10	37	6	82	61	17	79	65	35	40	24	12	10	11	12	8	9	9	10	3	3	8	6	82.5
15-Sep	6	50	33	88	49	71	62	91	81	27	41	58	54	52	23	15	10	8	7	13	6	7	12	15	91.0
16-Sep	46	83	34	21	42	20	48	50	88	63	14	28	49	44	54	8	10	6	4	4	6	8	4	4	87.7
17-Sep	3	6	5	4	4	6	5	12	7	6	8	15	15	15	17	14	15	13	11	7	4	8	13	13	16.7
18-Sep	8	16	11	13	7	6	6	13	18	27	49	74	67	39	66	40	75	25	41	22	20	10	32	18	75.1
19-Sep	41	17	20	15	21	17	37	28	52	54	19	19	13	18	34	21	35	12	81	10	9	28	75	19	81.0
20-Sep	13	54	42	74	31	69	46	92	68	52	49	73	57	49	37	15	15	3	25	26	11	10	6	66	92.4
21-Sep	45	44	19	79	57	39	36	58	74	46	16	19	14	12	19	15	7	9	6	14	6	17	57	23	79.4
22-Sep	56	31	61	26	44	35	36	12	25	19	34	17	12	17	15	12	10	12	6	12	22	6	81	61	81.0
23-Sep	69	66	43	18	84	48	14	37	14	20	24	6	5	7	10	12	6	6	4	13	7	5	7	8	84.3
24-Sep	9	6	5	5	6	12	13	12	7	7	9	11	12	14	11	10	10	5	3	4	3	11	41	58	58.2
25-Sep	93	55	3	9	5	6	6	5	6	12	10	8	8	11	12	8	10	12	22	13	5	5	4	14	93.3
26-Sep	52	23	91	9	14	9	10	27	33	12	14	18	27	20	22	15	9	4	4	5	6	39	40	17	91.1
27-Sep	9	19	61	32	32	23	34	41	13	4	5	6	10	7	8	7	7	8	4	2	10	9	58	45	60.8
28-Sep	40	24	24	21	13	74	35	65	82	39	36	12	13	21	26	12	6	5	3	4	3	4	4	16	81.6
29-Sep	40	21	10	9	54	48	40	63	48	34	40	36	19	11	17	20	38	27	6	48	71	23	7	10	70.6
30-Sep	37	21	35	31	93	21	52	31	20	32	22	34	8	10	7	13	11	4	25	43	53	37	55	41	93.3
	93.3	83.7	91.1	88.2	93.3	74.1	79.3	92.4	87.7	89.1	57.1	73.5	66.7	52.5	75.3	48.8	75.1	74.3	87.2	48.4	81.9	61.4	92.7	82.5	

PAZA
Valleyview Station
Monthly Summary Tables, Graphs and
Roses

Hourly Averages

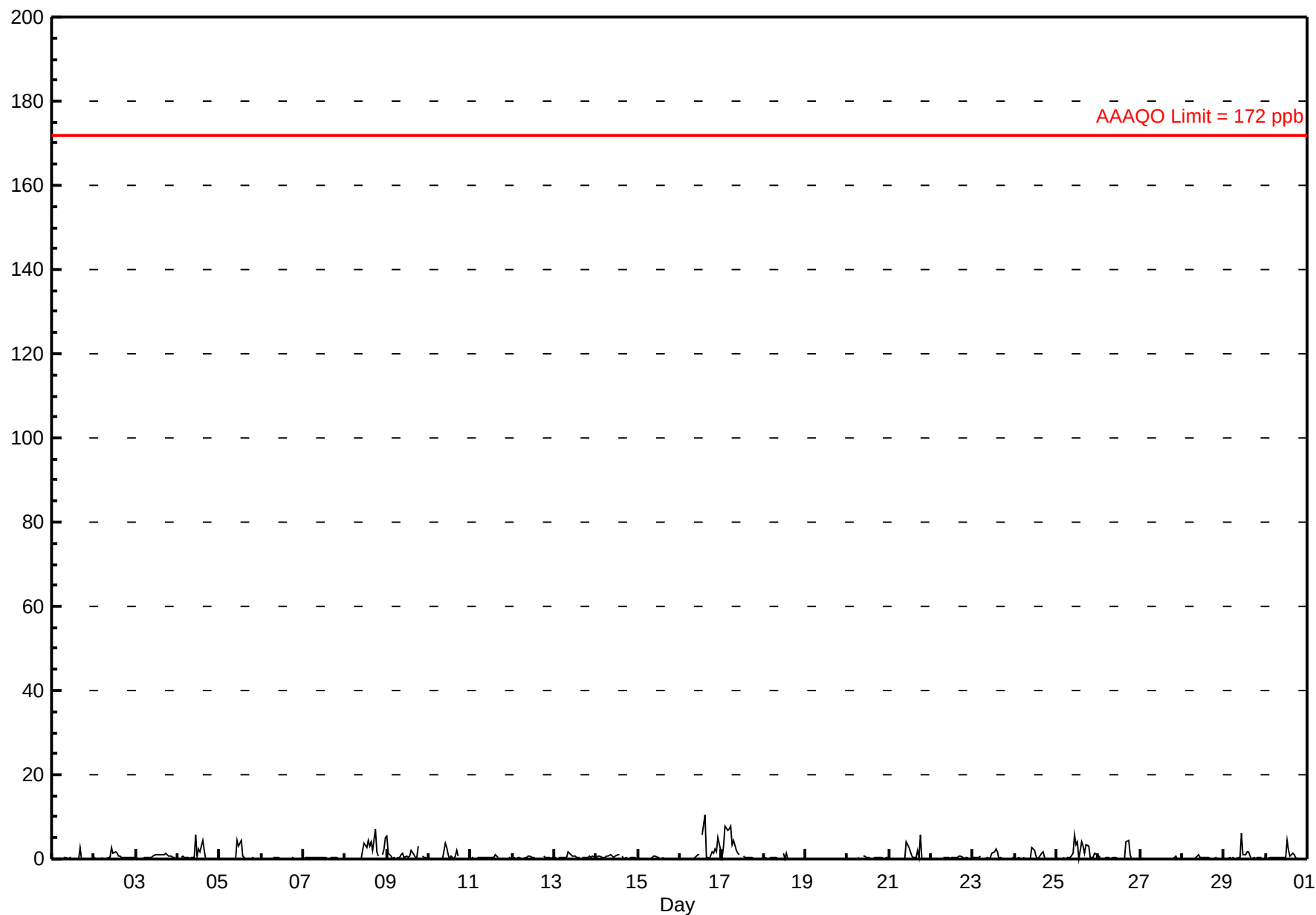
Sulphur Dioxide (SO₂) - ppb

Valleyview - September 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																				Hours in Service: 720						
Maximum Value: 10.5 ppb on Sep 16 15:00																				Maximum Daily Average: 2.1 ppb on Sep 17		Hours of Data: 685				
Minimum Value: 0 ppb on Sep 1 01:00																				Minimum Daily Average: 0.0 ppb on Sep 27		Hours of Missing Data: 35				
Maximum Diurnal Average: 1.6 ppb at hour 11																				Minimum Diurnal Average: 0.2 ppb at hour 22		Hours of Calibration: 35				
Monthly Average: 0.58 ppb																				Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.2 Q ₃ = 0.4 P ₉₀ = 1.5 P ₉₉ = 5.7		Percent Operational Time: 100.0				
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Sep	0	0	0		A	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0.2	2.6
2-Sep	0	0		A		0	0	0	0	0	3	1	2	1	1	1	0	0	0	0	0	0	0	0	0.6	2.6
3-Sep	0	0	A		0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0.6	1.2
4-Sep	0	A		0	1	0	0	0	0	0	6	1	2	2	4	2	0	0	0	0	0	0	0	0	0.8	5.6
5-Sep	A		0	0	0	0	0	0	0	0	4	3	5	1	0	0	0	0	0	0	0	0	0	A	0.6	4.5
6-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
7-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	0.5
8-Sep	0	0	0	0	0	0	0	0	0	0	2	4	3	4	3	4	2	7	2	1	A	1	3	5	1.8	7.1
9-Sep	6	1	1	0	0	0	0	0	1	1	0	1	0	1	2	1	0	0	3	A	1	0	0	0	0.9	5.6
10-Sep	0	0	0	0	0	0	0	0	0	4	3	1	0	1	0	1	2	1	A		0	0	0	0	0.5	3.8
11-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	A	0	0	0	0	0	0	0.3	1.0
12-Sep	0	0	0	0	0	0	0	0	0	1	1	0	0	0	C	C	C	C	1	0	0	0	0	0	0.3	0.7
13-Sep	0	0	0	0	0	0	0	0	2	1	1	1	1	0	0	A	1	0	0	0	1	0	1	0	0.5	1.6
14-Sep	0	1	1	0	0	0	1	1	1	1	0	1	1	1	A	1	0	0	0	0	0	0	0	0	0.5	1.1
15-Sep	0	0	0	0	0	0	0	0	0	1	1	0	0	A	0	0	0	0	0	0	0	0	0	0	0.1	0.8
16-Sep	0	0	0	0	0	0	0	0	0	1	1	1	A	6	11	0	0	0	2	1	2	2	5	2	1.5	10.5
17-Sep	0	3	8	7	7	8	3	4	2	1	1	A	1	0	0	0	0	0	0	0	0	0	0	0	2.1	7.9
18-Sep	0	0	0	0	0	0	0	0	0	0	0	A	1	0	1	0	0	0	0	0	0	0	0	0	0.2	1.4
19-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
20-Sep	0	0	0	0	0	0	0	0	A	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.8
21-Sep	0	0	0	0	0	0	0	A	0	0	4	3	2	1	0	0	2	0	6	0	0	0	0	0	0.8	5.8
22-Sep	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0.3	0.6
23-Sep	0	0	0	0	1	A	0	0	0	0	0	1	2	2	2	0	0	0	0	0	0	0	0	0	0.5	2.4
24-Sep	0	0	0	0	A	0	0	0	0	0	3	2	1	0	0	1	2	0	0	0	0	0	0	0	0.4	2.5
25-Sep	0	0	0	A	0	0	0	0	0	0	2	6	4	4	0	4	3	1	3	3	0	0	1	1	1.5	5.8
26-Sep	1	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	4	5	1	0	0	0	0	0	0.6	4.5
27-Sep	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0.0	0.6
28-Sep	A	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0.2	0.9
29-Sep	0	0	0	0	0	0	0	0	0	0	6	1	1	2	2	1	0	0	0	0	0	0	A	0	0.7	6.0
30-Sep	0	0	0	0	0	0	0	0	0	0	0	0	4	2	1	1	1	0	0	0	0	A	0	0	0.6	4.5
0.3 0.3 0.4 0.4 0.4 0.4 0.3 0.3 0.4 0.6 1.6 1.0 1.0 1.0 1.2 0.7 0.7 0.8 0.7 0.2 0.2 0.2 0.4 0.4																									Diurnal Average	
5.6 3.0 7.9 6.9 7.2 7.9 3.3 4.5 2.1 3.8 6.0 3.8 4.5 5.9 10.5 4.2 4.0 7.1 5.8 1.5 2.3 1.6 5.0 5.1																									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 2013



Hourly Maximums

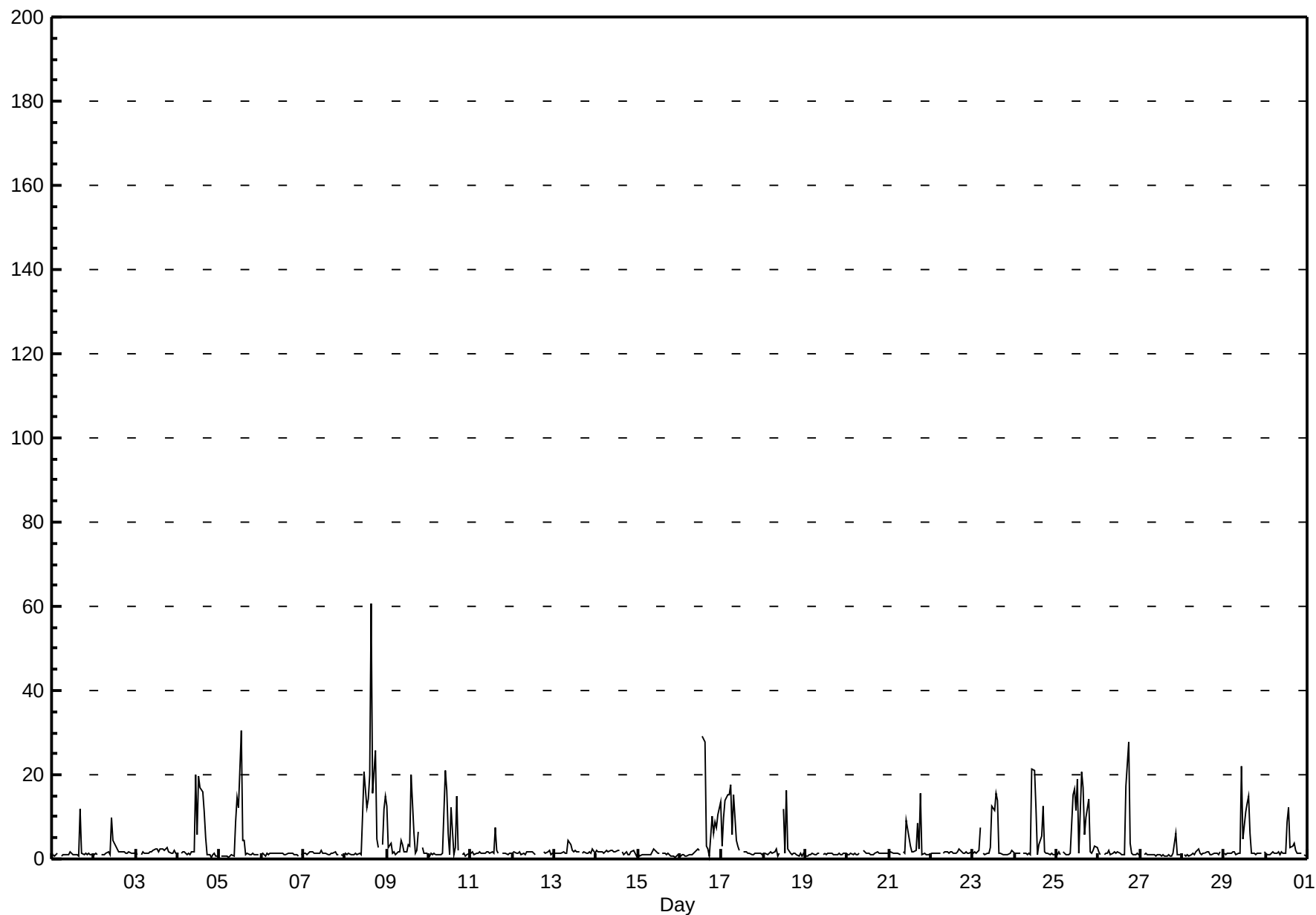
Sulphur Dioxide (SO₂) - ppb

Valleyview - September 2013

Maximum Value: 60.6 ppb on Sep 8 16:00																				Maximum Daily Average: 10.0 ppb on Sep 8										Hours in Service: 720									
Minimum Value: 0 ppb on Sep 4 20:00																				Minimum Daily Average: 1.1 ppb on Sep 15										Hours of Data: 685									
Maximum Diurnal Average: 6.3 ppb at hour 15																				Minimum Diurnal Average: 1.4 ppb at hour 7										Hours of Missing Data: 35									
Monthly Average: 2.99 ppb																				Percentiles: P ₁ = 0.6 P ₁₀ = 0.9 Q ₁ = 1.1 Median = 1.3 Q ₃ = 1.8 P ₉₀ = 7.5 P ₉₉ = 20.9										Hours of Calibration: 35									
																				Percent Operational Time: 100.0																			
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24															
1-Sep	1	1	1	1	A	1	1	1	1	1	2	1	1	1	1	1	12	1	1	1	1	1	1	1	1.5	11.7													
2-Sep	1	1	1	A	1	1	1	1	2	1	10	4	3	2	2	2	2	2	1	1	2	1	2	2	2.0	9.9													
3-Sep	2	1	A	1	2	1	1	1	2	2	2	2	2	2	2	3	2	2	3	2	1	1	2	2	1.8	2.7													
4-Sep	1	A	1	2	2	1	1	1	2	2	20	6	20	17	16	11	5	1	1	0	1	1	1	1	4.9	20.1													
5-Sep	A	1	1	1	1	1	1	1	1	9	15	12	30	4	5	1	1	1	1	1	1	1	1	A	4.1	30.5													
6-Sep	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	A	1	1.1	1.5													
7-Sep	1	1	1	1	2	2	1	1	1	1	2	1	1	1	1	1	1	1	2	1	1	A	1	1	1.3	1.9													
8-Sep	2	1	1	1	1	1	1	1	1	1	11	21	12	14	20	61	16	26	5	3	A	3	12	15	10.0	60.6													
9-Sep	13	3	4	1	2	1	2	2	5	3	2	2	3	3	20	6	2	2	7	A	3	1	1	1	3.8	19.8													
10-Sep	1	1	1	1	1	1	1	1	1	21	16	6	1	12	1	3	15	2	A	1	1	1	1	1	4.0	21.1													
11-Sep	1	2	1	1	1	2	1	1	1	2	2	1	2	1	7	2	1	A	1	1	1	1	1	1	1.6	7.3													
12-Sep	1	2	1	1	2	1	1	1	2	2	2	2	1	1	C	C	C	C	2	1	2	2	1	1	1.5	1.9													
13-Sep	1	1	1	1	1	2	1	1	4	3	2	2	2	2	2	A	1	2	1	1	2	1	2	1	1.8	4.5													
14-Sep	2	2	2	2	1	2	2	2	2	2	2	2	2	2	A	2	1	2	1	1	2	2	1	1	1.6	2.2													
15-Sep	1	1	1	1	1	1	1	1	2	2	2	1	1	A	1	1	1	1	1	1	1	0	1	1	1.1	2.2													
16-Sep	1	1	1	1	1	1	1	1	1	2	2	2	A	29	28	3	2	1	10	6	9	8	10	14	5.8	29.0													
17-Sep	3	10	14	15	15	18	6	15	4	3	2	A	2	2	2	1	1	1	1	1	1	1	1	1	5.3	17.7													
18-Sep	1	1	1	1	2	1	2	2	1	1	A	12	1	16	2	1	1	1	2	1	1	1	1	1	2.5	16.3													
19-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	1.1	1.5													
20-Sep	1	1	1	1	1	1	1	1	A	2	2	1	1	1	1	1	2	2	1	1	1	1	1	1	1.3	2.0													
21-Sep	1	2	1	1	1	1	1	A	2	1	9	5	3	2	2	2	9	2	16	1	1	1	1	1	2.9	15.7													
22-Sep	1	1	1	1	1	1	A	1	2	2	1	2	2	1	1	2	2	2	1	1	2	1	1	2	1.5	2.4													
23-Sep	1	2	1	2	7	A	1	1	1	1	3	13	11	15	14	1	1	1	1	1	1	1	2	2	3.8	15.4													
24-Sep	1	1	1	1	A	1	1	1	1	1	21	21	12	1	4	6	12	2	1	1	1	1	1	1	4.2	21.3													
25-Sep	1	2	1	A	2	1	1	1	1	15	16	11	19	1	21	17	6	10	14	2	1	2	3	3	6.6	20.8													
26-Sep	2	1	A	1	2	1	2	1	1	2	1	2	1	1	1	1	17	28	4	1	1	1	1	1	3.2	27.6													
27-Sep	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	6	1	1	1	1.2	5.9													
28-Sep	A	1	1	1	1	1	1	1	2	3	1	1	1	1	2	2	1	1	1	1	1	1	2	A	1.3	2.5													
29-Sep	1	1	1	1	1	2	2	1	1	1	22	5	11	13	15	6	1	1	1	1	1	1	A	2	4.1	22.2													
30-Sep	1	1	1	1	2	1	1	2	1	2	1	1	9	12	3	3	4	2	1	1	1	A	1	1	2.4	12.2													
1.7 1.6 1.7 1.7 2.0 1.8 1.4 1.8 1.7 3.1 6.0 4.9 5.5 5.7 6.3 5.1 4.2 3.6 2.9 1.5 1.7 1.5 2.0 2.2																									Diurnal Average														
12.6 10.0 14.0 15.3 15.2 17.7 5.9 15.4 4.6 21.1 22.2 21.0 30.5 29.0 27.7 60.6 17.4 27.6 15.7 6.0 8.8 7.5 11.9 15.1																									Diurnal Maximum														
C - Calibration																									A - Automated Daily Zero Span														

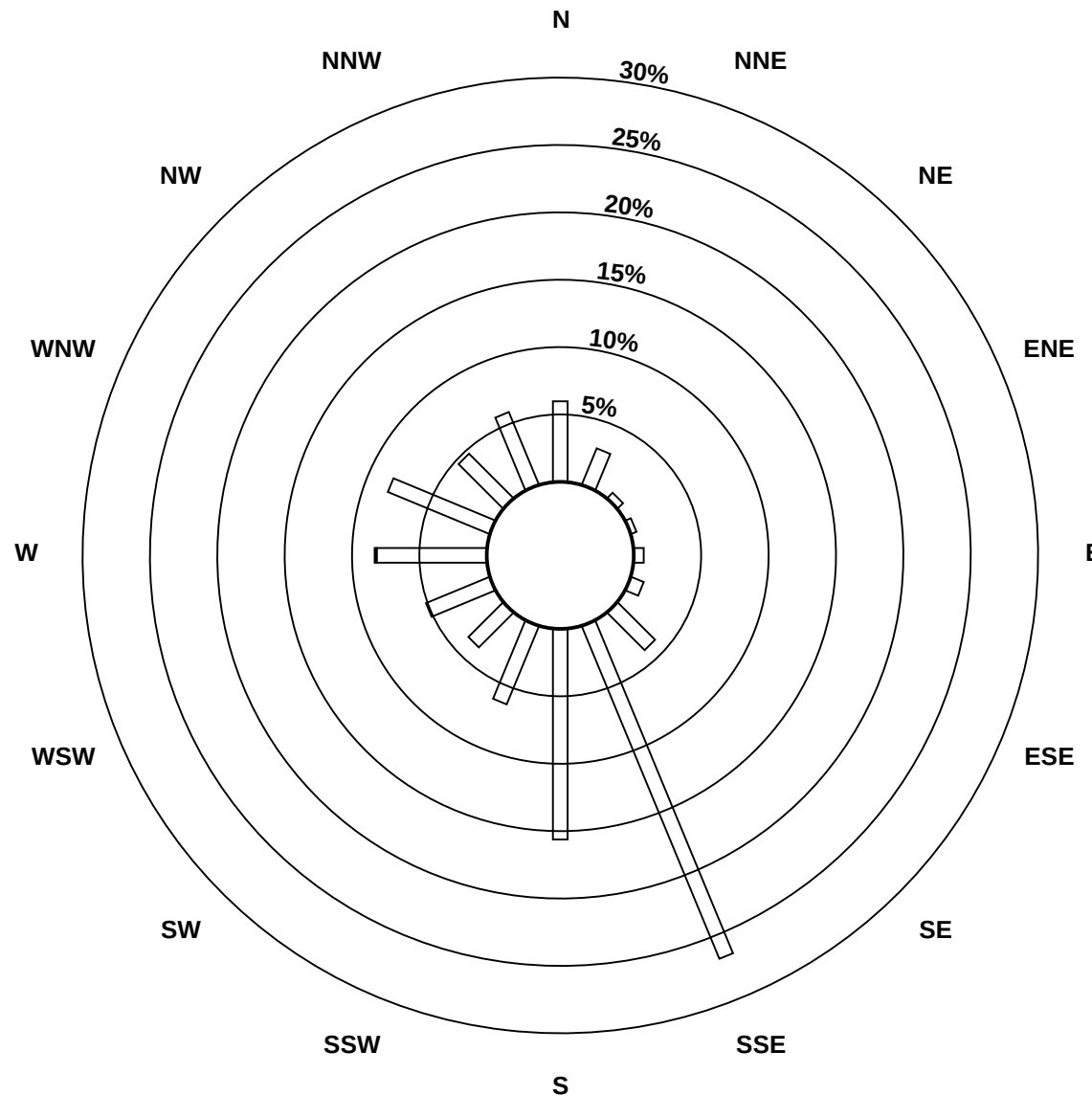
Hourly Maximums

Sulphur Dioxide (SO₂) - ppb
Valleyview - September 2013

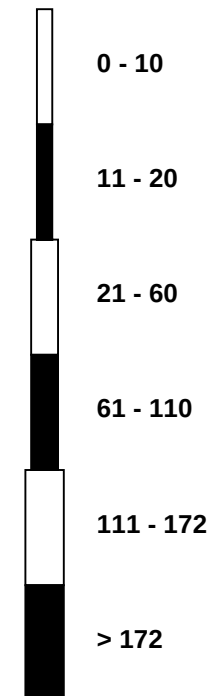


Pollutant Rose

Sulphur Dioxide (SO₂) - ppb
Valleyview - September 2013

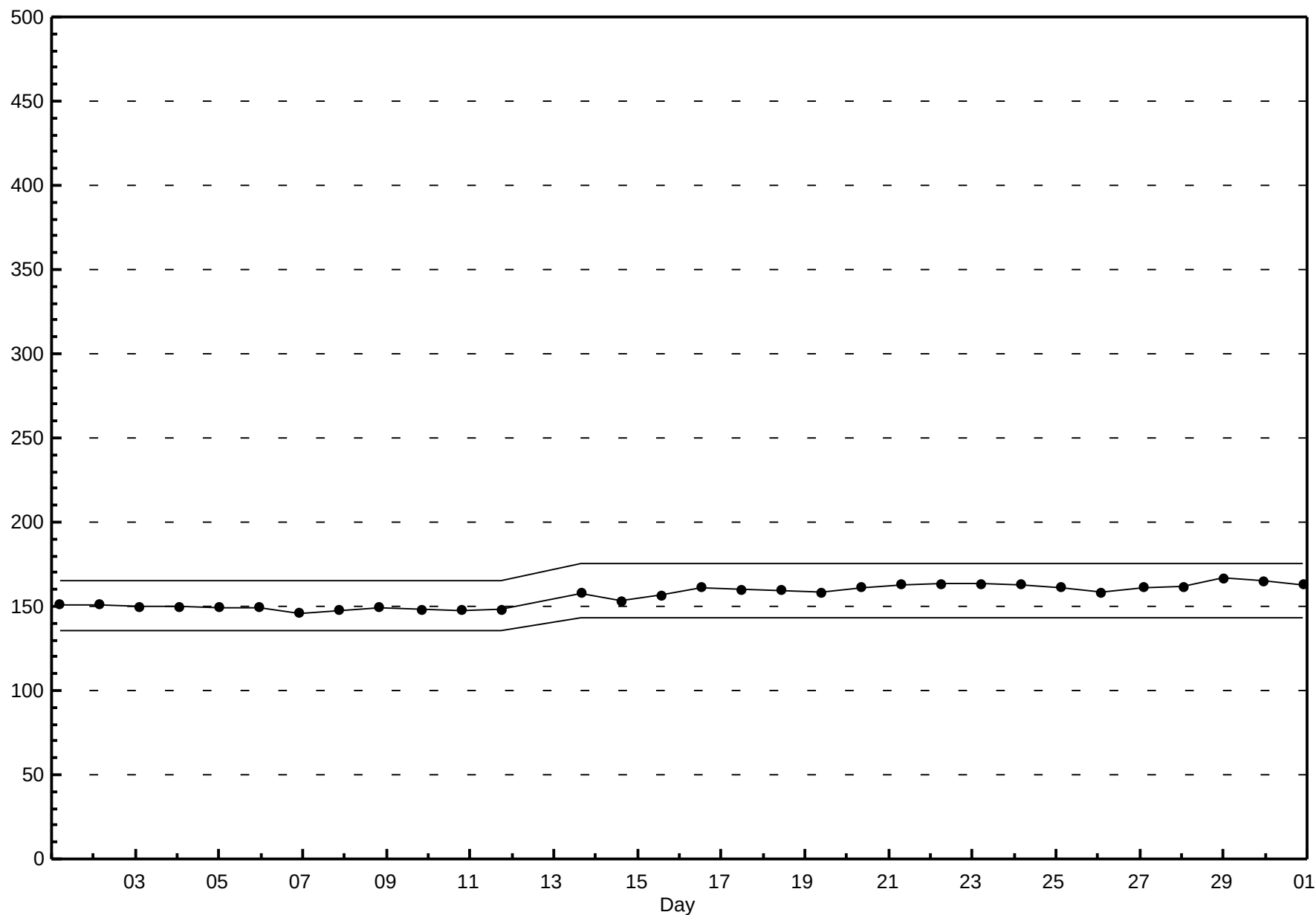


Pollutant Classes (ppb)



Span Responses

Sulphur Dioxide (SO₂)
Valleyview - September 2013



Hourly Averages

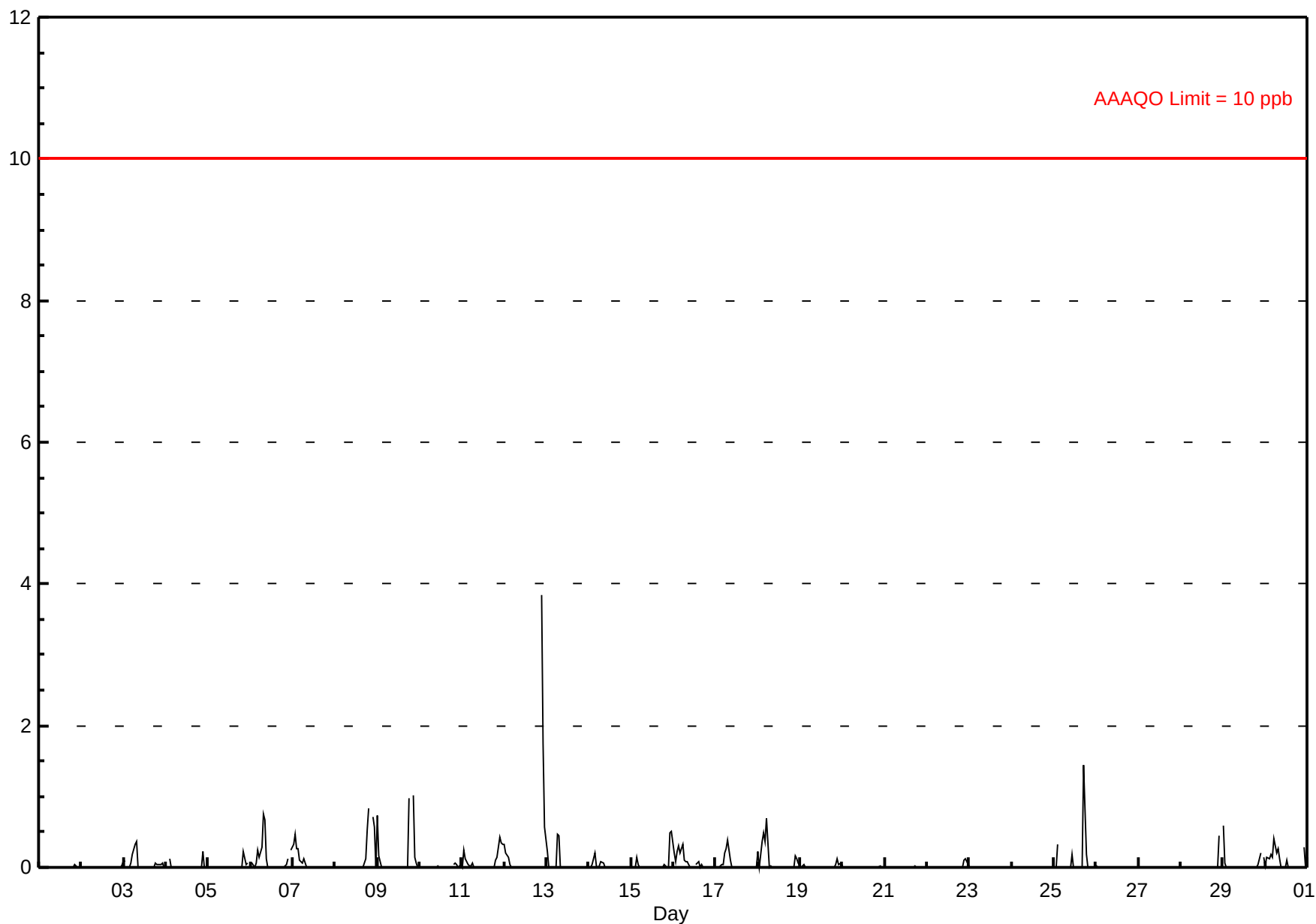
Hydrogen Sulphide (H₂S) - ppb

Valleyview - September 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																				Hours in Service: 720						
Maximum Value: 3.8 ppb on Sep 12 22:00																				Maximum Daily Average: 0.1 ppb on Sep 9		Hours of Data: 682				
Minimum Value: 0 ppb on Sep 1 01:00																				Minimum Daily Average: 0.0 ppb on Sep 23		Hours of Missing Data: 38				
Maximum Diurnal Average: 0.2 ppb at hour 22																				Minimum Diurnal Average: 0.0 ppb at hour 12		Hours of Calibration: 38				
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 = 0.1 P ₉₉ = 0.7		Percent Operational Time: 100.0				
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-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
2-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	0.0
3-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	0.4
4-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
5-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
6-Sep	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.1	0.7
7-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	0.5
8-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	A	1	1	0	0.1	0.8
9-Sep	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	A	1	0	0	0	0.1	1.0
10-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
11-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	0.4
12-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	C	C	C	C	C	C	C	C	4	2	1	--	3.8
13-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	0.5
14-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	0.2
15-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	1	0.1	0.5
16-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	0.3
17-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	0.4
18-Sep	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.7
19-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	0.0	0.1
20-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	0.0
21-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	0.0	0.0
22-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
23-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	0.0
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	0.0	0.0
25-Sep	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0.1	1.4
26-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	0.0
27-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	0.0
28-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	0.4
29-Sep	1	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	0.6
30-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	0.4
0.1 0.1 0.1 0.1 0.0 0.1 0.1 0.1 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.1 0.1 0.0 0.1 0.2 0.2 0.1																									Diurnal Average	
0.7 0.5 0.4 0.5 0.4 0.7 0.5 0.7 0.7 0.1 0.2 0.0 0.1 0.0 0.1 0.0 0.0 1.4 1.0 0.8 1.0 3.8 1.8 0.6																									Diurnal Maximum	
C - Calibration A - Automated Daily Zero Span																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb																										

Hourly Averages

Hydrogen Sulphide (H₂S) - ppb
Valleyview - September 2013



Hourly Maximums

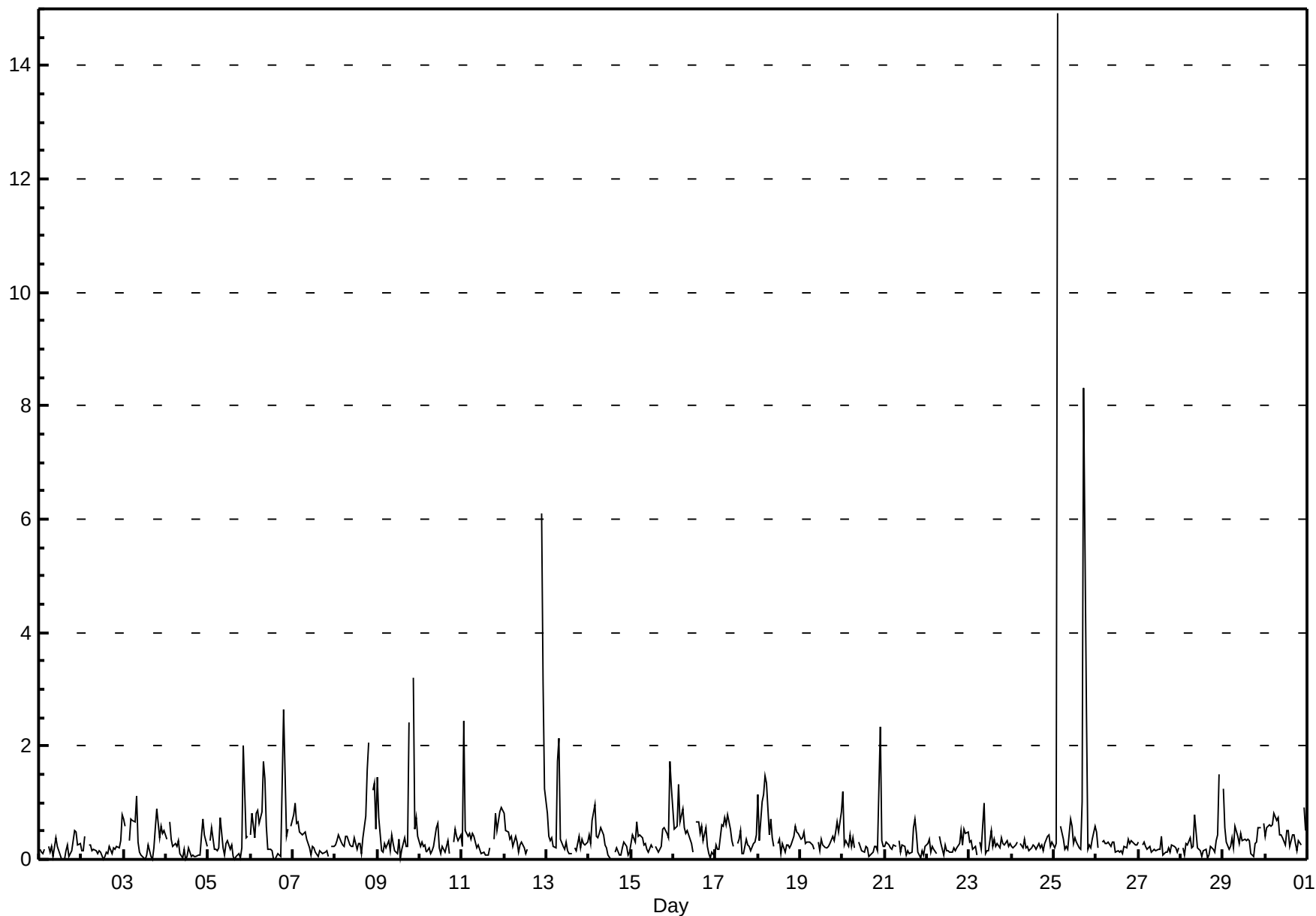
Hydrogen Sulphide (H₂S) - ppb

Valleyview - September 2013

Maximum Value: 14.9 ppb on Sep 25 03:00																				Maximum Daily Average: 1.4 ppb on Sep 25										Hours in Service: 720	
Minimum Value: 0 ppb on Sep 1 15:00																				Minimum Daily Average: 0.2 ppb on Sep 1										Hours of Data: 682	
Maximum Diurnal Average: 0.9 ppb at hour 3																				Minimum Diurnal Average: 0.2 ppb at hour 16										Hours of Missing Data: 38	
Monthly Average: 0.41 ppb																				Percentiles: P ₁ = 0.0 P ₁₀ = 0.1 Q ₁ = 0.2 Median = 0.3 Q ₃ = 0.4 P ₉₀ = 0.7 P ₉₉ = 2.6										Hours of Calibration: 38	
																				Percent Operational Time: 100.0											
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24							
1-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	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.2	0.8					
3-Sep	1	1	A	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	1	0.4	1.1					
4-Sep	0	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0.2	0.7					
5-Sep	A	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	A	0.3	2.0					
6-Sep	0	1	0	1	1	1	1	2	1	1	0	0	0	0	0	0	0	0	1	3	0	1	A	1	0.6	2.6					
7-Sep	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.3	1.0					
8-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	2	A	1	1	1	0.5	2.1					
9-Sep	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	A	3	1	1	0	0.6	3.2					
10-Sep	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	A	0	1	0	0	0	0.3	0.6					
11-Sep	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	1	1	1	1	1	0.5	2.4					
12-Sep	1	1	0	0	0	0	0	0	0	0	0	0	0	0	C	C	C	C	C	C	C	6	3	1	--	6.1					
13-Sep	1	0	0	0	0	0	2	2	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.4	2.1					
14-Sep	0	0	1	1	0	0	0	1	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.3	1.0					
15-Sep	0	0	0	1	0	0	0	0	0	0	0	0	0	A	0	0	0	0	1	1	0	0	2	1	0.4	1.7					
16-Sep	1	1	1	1	1	1	1	0	1	0	0	0	A	1	1	0	1	0	1	0	0	0	0	0	0.5	1.3					
17-Sep	0	0	0	1	1	1	1	1	1	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.8					
18-Sep	1	0	1	1	1	1	0	1	0	0	A	0	0	0	0	0	0	0	0	0	0	1	0	0	0.5	1.5					
19-Sep	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0.4	0.8					
20-Sep	1	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0.4	2.3					
21-Sep	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0.2	0.7					
22-Sep	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0.3	0.5					
23-Sep	0	0	0	0	0	A	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0.3	1.0					
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	0.3	0.4					
25-Sep	0	0	15	A	1	0	0	0	0	1	1	0	0	0	0	0	1	8	3	0	0	0	0	1	1.4	14.9					
26-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	0.3	0.5					
27-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					
28-Sep	A	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	A	0.3	1.5					
29-Sep	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	A	1	0.4	1.2					
30-Sep	0	1	1	1	1	1	1	1	0	0	0	0	1	1	0	0	0	0	0	0	0	A	1	0	0.5	0.9					
0.5 0.5 0.9 0.4 0.4 0.4 0.4 0.5 0.4 0.3 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.5 0.5 0.5 0.5 0.7 0.6 0.5																									Diurnal Average						
1.5 2.4 14.9 1.3 1.5 1.3 1.7 2.1 1.4 0.7 0.6 0.4 0.5 0.7 0.7 0.4 1.0 8.3 2.6 2.6 3.2 6.1 3.1 1.3																									Diurnal Maximum						
C - Calibration				A - Automated Daily Zero Span																											

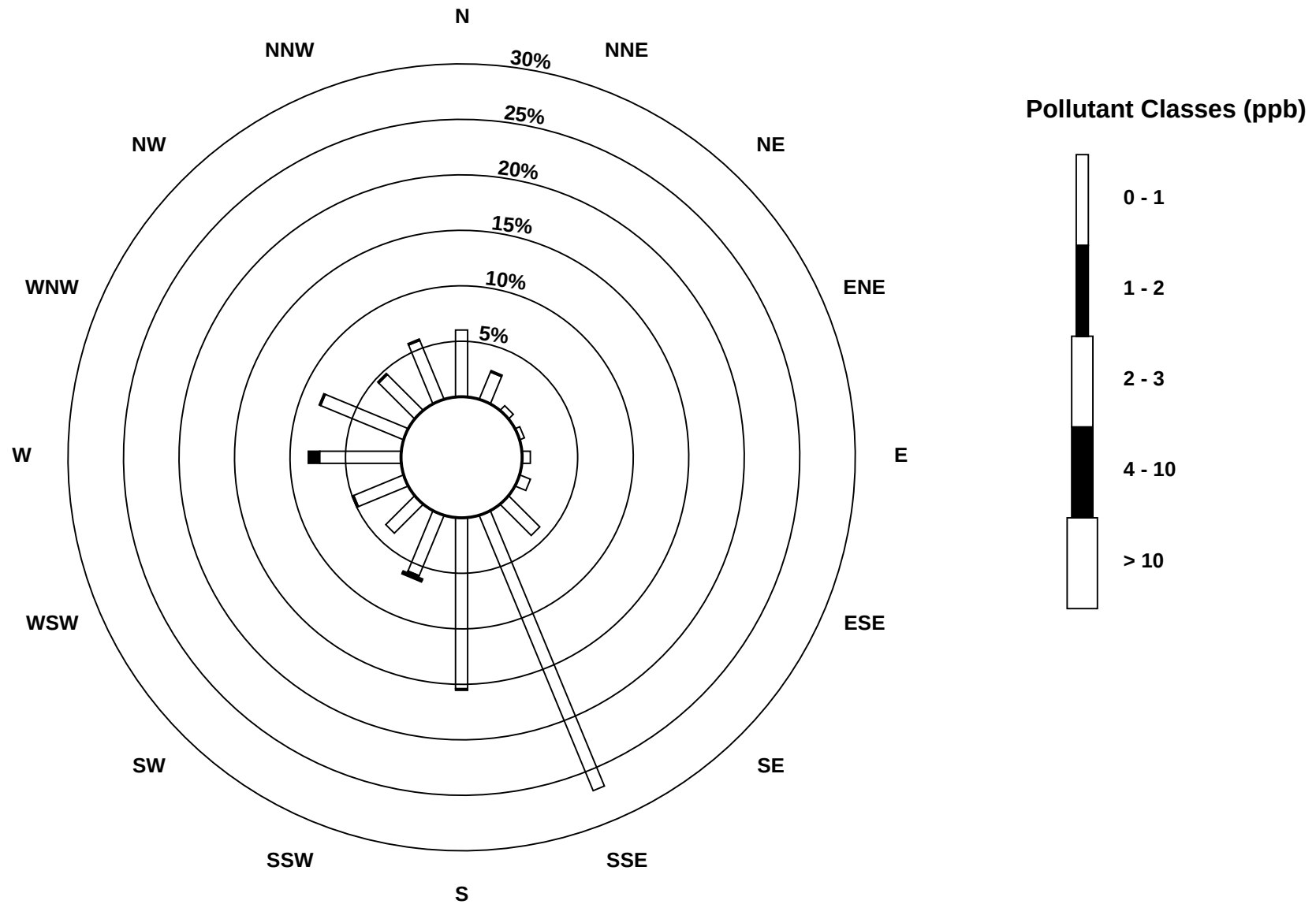
Hourly Maximums

Hydrogen Sulphide (H₂S) - ppb
Valleyview - September 2013



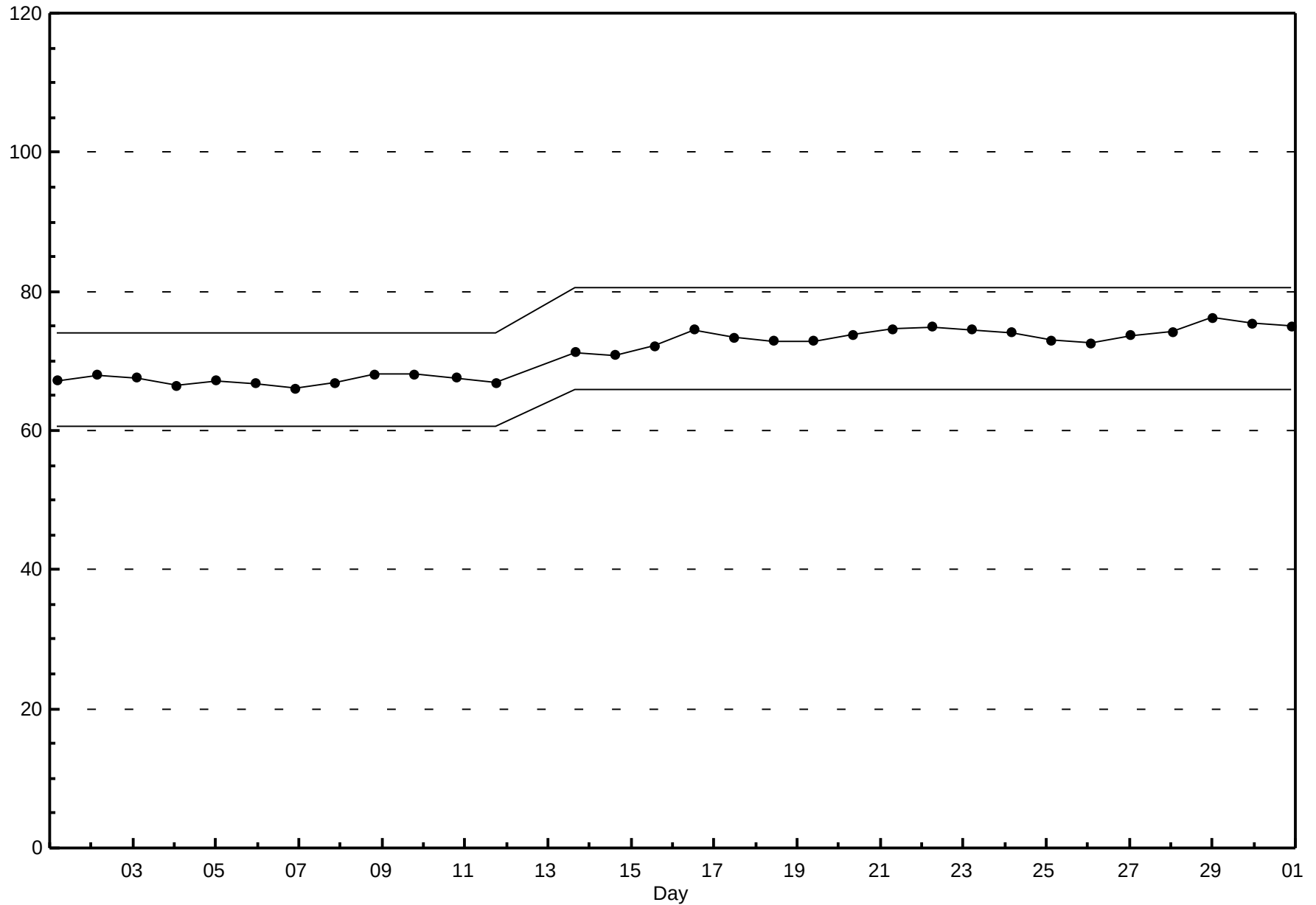
Pollutant Rose

Hydrogen Sulphide (H₂S) - ppb
Valleyview - September 2013



Span Responses

Hydrogen Sulphide (H₂S)
Valleyview - September 2013



Hourly Averages

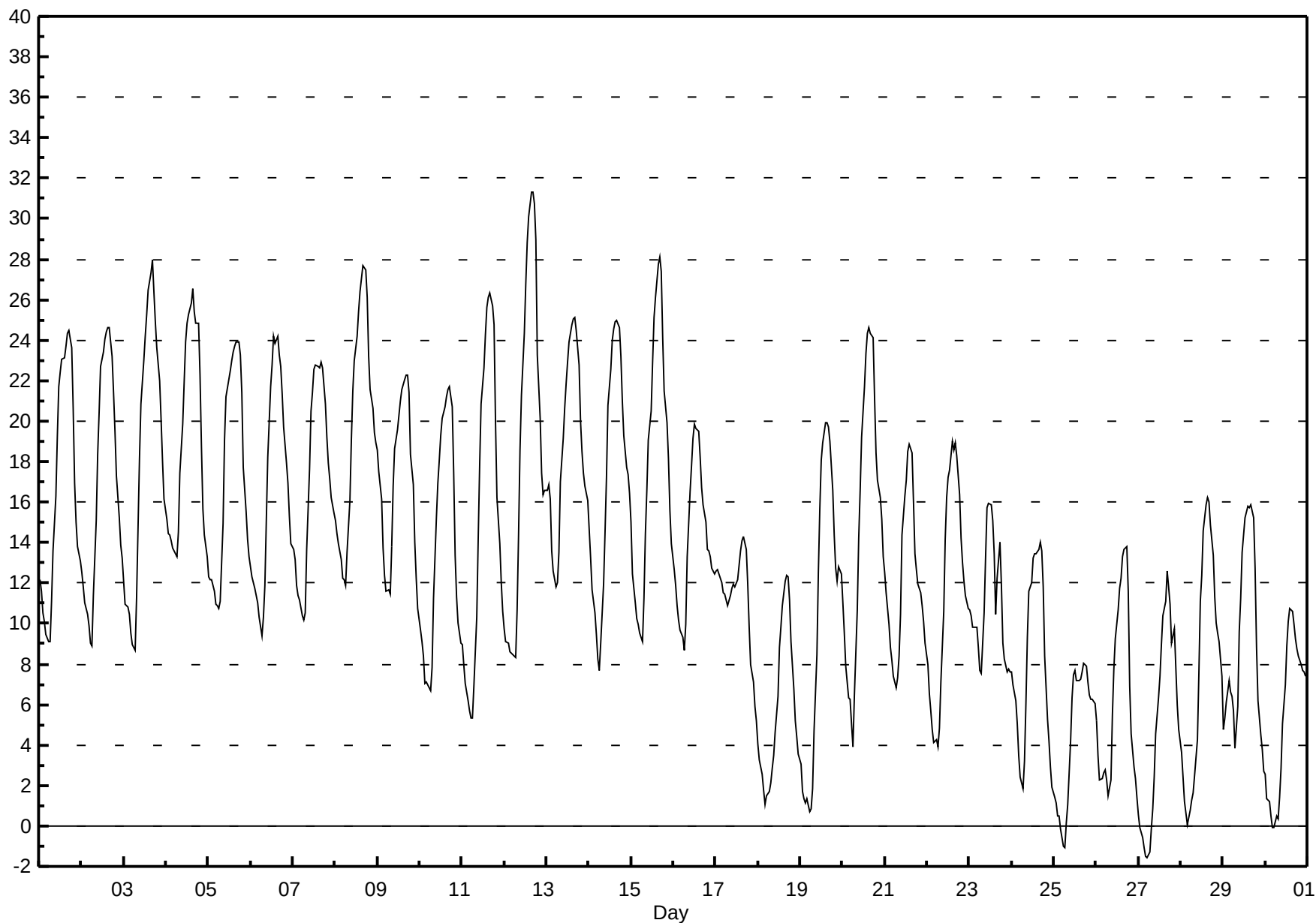
External Temperature (ET) - °C

Valleyview - September 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 31.3 °C on Sep 12 17:00 Maximum Daily Average: 19.7 °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: -2 °C on Sep 27 06:00 Minimum Daily Average: 4.4 °C on Sep 25 Maximum Diurnal Average: 20.1 °C at hour 17 Minimum Diurnal Average: 6.6 °C at hour 7 Monthly Average: 13.26 °C Percentiles: P ₁ = -0.2 P ₁₀ = 3.5 Q ₁ = 8.4 Median = 12.5 Q ₃ = 18.5 P ₉₀ = 23.3 P ₉₉ = 27.7																										
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	12	11	10	9	9	9	11	14	16	19	22	22	23	23	24	24	24	24	21	17	15	14	13	16.6	24.5
2-Sep	12	12	11	10	10	9	9	11	15	18	20	23	23	24	24	25	25	23	21	19	17	15	14	13	16.9	24.7
3-Sep	12	11	11	10	10	9	9	11	15	18	21	23	24	25	26	27	28	26	25	24	22	20	18	16	18.4	28.0
4-Sep	15	14	14	14	14	13	13	14	17	20	22	24	25	25	26	27	25	25	25	22	19	16	14	13	19.1	26.5
5-Sep	12	12	12	12	11	11	11	11	15	19	21	22	22	23	23	24	24	24	23	21	18	16	14	13	17.3	23.9
6-Sep	13	12	12	11	11	10	9	10	12	15	18	22	23	24	24	24	23	23	21	20	18	17	15	14	16.8	24.2
7-Sep	14	13	12	11	11	10	10	11	14	18	20	21	23	23	23	23	23	23	21	19	18	17	16	15	17.0	22.9
8-Sep	15	14	14	13	12	12	12	13	16	19	22	23	24	25	26	27	28	27	26	23	22	21	19	19	19.7	27.7
9-Sep	19	17	16	14	12	12	12	11	14	17	19	20	20	21	22	22	22	22	21	18	17	14	12	11	16.9	22.3
10-Sep	10	9	8	7	7	7	7	8	11	15	17	18	19	20	21	21	22	22	21	17	13	11	10	9	13.8	21.7
11-Sep	9	8	7	6	6	5	5	7	10	14	18	21	23	24	26	26	26	26	25	20	16	14	12	11	15.2	26.3
12-Sep	10	9	9	9	9	8	8	11	14	19	21	24	27	29	30	31	31	31	29	23	20	17	16	17	18.9	31.3
13-Sep	17	17	16	14	13	12	12	14	17	19	21	22	23	24	25	25	25	25	23	20	19	17	17	16	18.7	25.1
14-Sep	15	13	12	11	9	8	8	9	12	14	17	21	23	24	25	25	25	25	23	21	19	18	17	16	17.1	24.9
15-Sep	15	12	11	10	10	10	9	11	14	17	19	21	23	25	26	28	28	27	24	21	20	18	16	14	17.9	28.1
16-Sep	13	12	11	10	10	9	9	10	13	17	18	19	20	20	20	18	17	16	15	14	14	13	13	12	14.2	19.9
17-Sep	13	13	12	12	12	11	11	11	11	12	12	12	12	13	14	14	14	14	12	10	8	7	6	5	11.3	14.3
18-Sep	4	3	3	2	1	1	2	2	3	3	5	6	9	10	11	12	12	12	11	9	7	5	4	4	5.9	12.4
19-Sep	3	2	1	1	1	1	1	2	5	8	13	16	18	19	20	20	20	19	17	14	13	12	13	12	10.4	20.0
20-Sep	11	10	8	6	6	5	4	7	11	14	17	19	22	23	24	25	24	24	21	18	17	16	15	13	15.0	24.6
21-Sep	13	12	10	9	8	7	7	7	8	10	14	16	17	19	19	18	16	13	13	12	11	11	10	9	12.1	18.9
22-Sep	8	7	6	5	4	4	4	5	7	11	14	16	17	18	19	19	19	18	16	14	13	12	11	11	11.6	19.0
23-Sep	11	10	10	10	10	9	8	8	11	13	16	16	16	15	13	10	12	14	12	9	8	8	8	8	11.0	15.9
24-Sep	8	7	6	5	3	2	2	3	6	9	12	12	13	13	13	14	14	14	12	8	5	4	3	2	8.0	14.0
25-Sep	1	1	0	1	0	-1	-1	0	1	4	6	7	8	7	7	7	8	8	8	7	6	6	6	6	4.4	8.1
26-Sep	5	3	2	2	3	3	2	1	2	5	8	9	11	12	12	13	14	14	12	7	5	3	2	1	6.3	13.8
27-Sep	1	0	-1	-1	-1	-2	-1	0	1	2	5	6	7	9	10	11	13	12	11	9	10	8	6	5	5.0	12.6
28-Sep	4	2	1	1	0	1	1	2	2	4	8	11	12	15	16	16	16	15	13	11	10	10	9	7	7.8	16.2
29-Sep	5	5	6	7	7	6	6	4	6	10	11	14	15	16	16	16	16	15	13	9	6	4	4	3	9.1	15.8
30-Sep	3	1	1	0	0	0	0	0	1	3	5	7	9	10	11	11	10	9	9	8	8	8	8	7	5.4	10.8
10.0 9.2 8.4 7.7 7.2 6.8 6.6 7.5 10.0 12.8 15.2 17.1 18.4 19.3 19.8 20.1 20.1 19.7 18.2 15.7 13.8 12.5 11.5 10.6																								Diurnal Average		
18.6 17.5 16.1 14.1 13.7 13.4 13.3 14.5 17.4 19.9 22.0 24.3 26.7 28.8 30.1 31.3 31.3 30.8 29.0 23.6 22.0 20.6 19.4 18.9																								Diurnal Maximum		

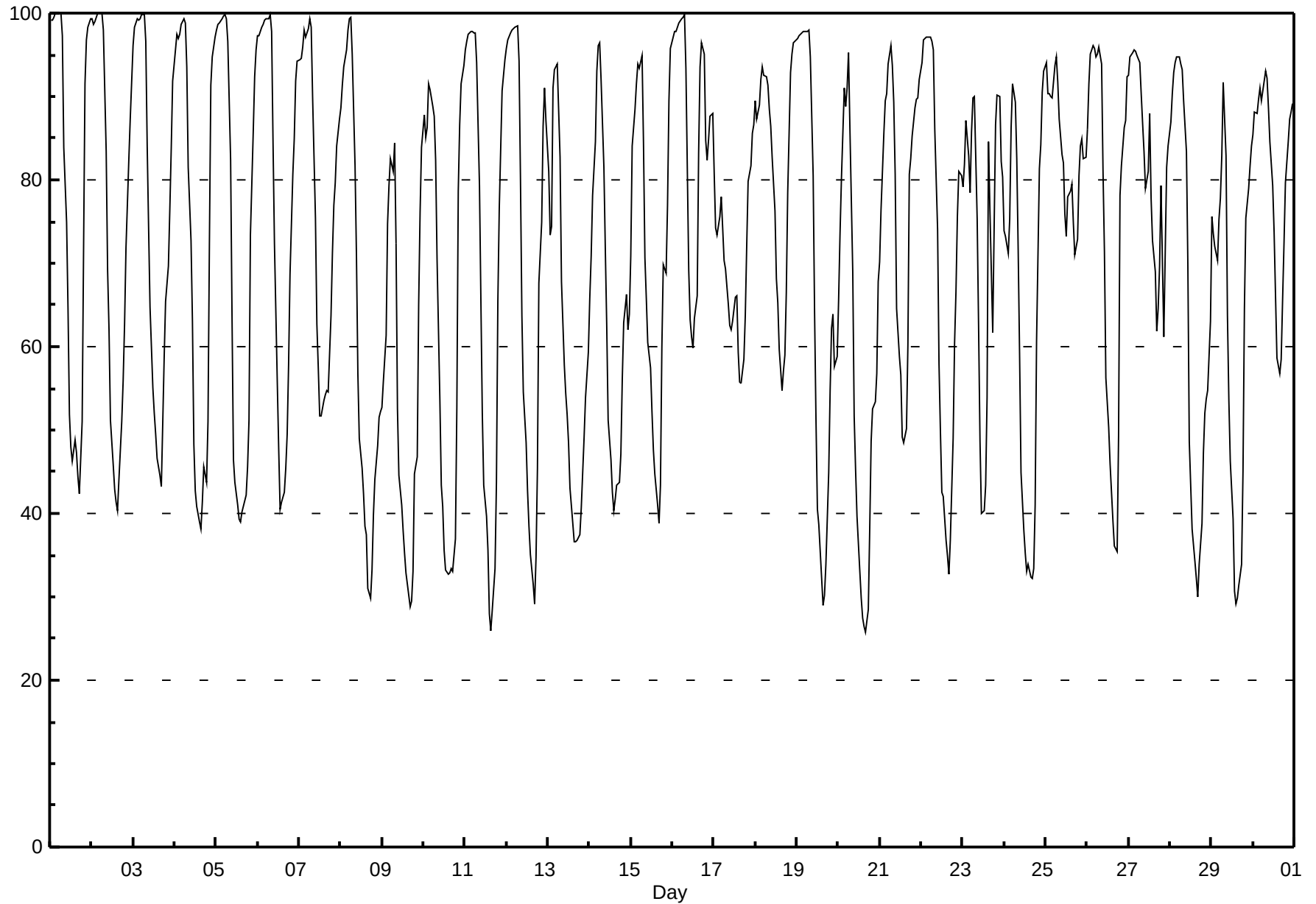
Hourly Averages

External Temperature (ET) - °C
Valleyview - September 2013



Hourly Averages

Relative Humidity (RH) - %
Valleyview - September 2013



Hourly Averages

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

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1 Spd	1	0	1	1	1	1	1	2	1	0	0	1	1	1	0	0	1	2	1	0	0	0	0	1	0.6	1.6
Dir	164	166	174	181	179	168	169	164	171	85	204	178	182	172	190	173	300	267	154	148	169	185	179	169	180	267
2 Spd	1	0	0	0	0	1	0	0	1	2	1	2	3	5	6	7	7	8	7	6	3	2	2	1	2.0	8.0
Dir	163	216	268	164	208	173	222	332	161	160	227	320	330	335	344	352	358	14	9	10	7	335	339	32	355	14
3 Spd	0	2	1	0	1	0	0	0	2	3	4	6	5	4	2	1	1	4	2	1	0	1	0	0	0.8	5.7
Dir	232	352	14	263	336	237	287	171	156	163	160	164	163	163	173	198	276	5	20	119	139	158	295	218	158	164
4 Spd	0	0	1	1	1	1	1	1	1	0	2	8	9	9	8	6	6	5	2	3	0	0	1	0	2.1	9.0
Dir	332	164	249	167	165	170	180	168	169	167	272	292	288	266	269	283	311	323	318	310	266	162	172	176	280	288
5 Spd	1	2	1	0	1	1	0	1	3	3	10	10	11	10	10	9	8	6	3	3	1	0	0	0	3.1	11.3
Dir	180	172	166	195	163	162	149	355	153	211	281	278	275	294	294	303	309	317	320	326	3	305	170	175	287	275
6 Spd	0	0	0	0	0	0	1	0	1	2	3	2	1	5	6	5	3	3	1	0	0	1	0	0	0.8	5.9
Dir	184	10	335	252	5	314	352	318	21	13	9	108	154	138	146	154	166	165	159	66	24	340	289	323	133	146
7 Spd	0	0	2	1	1	2	2	3	2	3	5	7	9	9	7	7	5	6	4	4	3	4	3	3	2.7	9.1
Dir	331	40	338	330	337	341	345	342	347	146	159	160	160	160	157	160	153	157	152	158	161	164	166	163	158	160
8 Spd	3	2	2	1	1	1	1	2	3	3	6	8	8	9	9	9	9	8	5	4	7	5	5	8	4.0	9.4
Dir	166	165	165	183	192	169	170	158	160	161	273	280	272	268	275	284	284	274	281	263	284	278	260	261	264	275
9 Spd	6	5	4	2	2	1	2	2	1	10	11	10	12	12	11	10	9	8	4	1	3	1	1	1	4.8	12.3
Dir	268	258	242	215	190	169	227	154	244	284	290	289	297	289	287	287	290	294	275	231	282	203	163	155	279	289
10 Spd	2	2	0	0	0	0	0	1	1	2	6	8	8	6	8	7	5	4	2	1	0	0	0	1	2.1	8.4
Dir	154	161	176	194	178	181	199	183	154	223	284	285	305	296	289	280	292	298	350	344	175	188	189	172	284	289
11 Spd	0	0	0	0	0	0	0	1	1	2	2	2	2	2	1	1	1	1	0	0	0	0	0	0	0.6	2.5
Dir	164	350	319	184	252	197	193	208	170	162	162	178	173	166	204	174	133	39	62	9	350	190	289	208	167	162
12 Spd	0	0	0	0	0	0	0	0	0	3	4	3	2	1	1	0	1	1	0	0	0	0	1	1	0.7	3.7
Dir	161	160	15	158	166	163	164	220	215	163	158	164	161	192	189	137	135	132	13	182	255	194	191	172	165	158
13 Spd	2	1	1	1	1	1	1	1	2	6	6	7	6	6	6	5	5	6	7	6	6	6	5	2	3.0	7.2
Dir	170	201	177	147	139	172	206	105	271	299	303	341	356	6	11	26	15	10	4	2	6	7	10	9	356	4
14 Spd	3	3	2	1	0	0	0	0	1	1	1	1	2	3	6	6	6	6	5	3	1	3	3	2	1.5	6.2
Dir	342	351	1	16	167	22	142	29	359	32	340	105	96	126	132	136	134	135	137	142	149	156	161	169	125	136
15 Spd	1	0	0	0	0	0	0	1	3	3	4	4	2	2	2	1	1	0	1	2	2	0	0	0	1.1	4.1
Dir	185	292	332	3	295	209	161	171	162	160	162	163	178	174	162	231	142	95	111	141	164	174	341	346	165	162
16 Spd	0	0	0	0	1	1	1	0	1	2	1	2	3	5	5	4	3	1	9	16	14	14	16	13	4.2	16.0
Dir	188	190	142	7	340	29	308	164	135	152	22	313	235	276	269	241	270	19	251	260	259	259	262	257	261	262
17 Spd	13	13	13	11	10	10	11	11	13	16	15	15	13	15	17	17	15	12	7	5	6	7	4	1	9.8	17.2
Dir	254	260	265	274	263	272	279	275	278	282	285	288	299	308	314	324	335	340	341	356	346	341	349	280	296	314
18 Spd	2	3	2	2	2	2	3	3	3	4	5	3	3	7	6	6	6	5	2	0	0	0	0	0	2.4	6.8
Dir	321	309	261	255	250	252	243	296	322	338	285	248	229	286	292	305	331	325	346	297	163	178	167	176	294	286
19 Spd	0	1	0	1	1	0	0	1	1	4	3	4	5	5	4	4	4	3	1	1	1	0	2	1	1.7	5.0
Dir	352	324	192	176	218	172	221	159	168	159	159	162	162	164	158	157	149	144	150	144	329	3	153	150	159	164
20 Spd	0	0	0	0	0	0	1	1	2	6	7	6	5	4	4	4	4	3	3	5	3	2	3	1	2.6	6.9
Dir	157	215	287	163	258	224	167	213	177	163	163	160	161	161	163	156	151	136	143	149	152	162	156	208	160	163
21 Spd	1	0	0	0	1	0	1	1	1	1	1	1	0	2	3	5	12	8	7	2	1	2	2	1	1.2	11.6
Dir	192	190	172	175	227	201	158	200	153	160	153	123	163	38	337	318	286	285	265	214	176	164	171	163	264	286
22 Spd	1	1	1	1	1	1	0	0	2	1	2	2	2	0	2	1	1	0	0	1	0	0	0	0	0.8	2.5
Dir	159	163	171	173	168	193	183	158	160	167	158	159	159	70	180	161	175	155	36	356	281	230	173	273	167	159

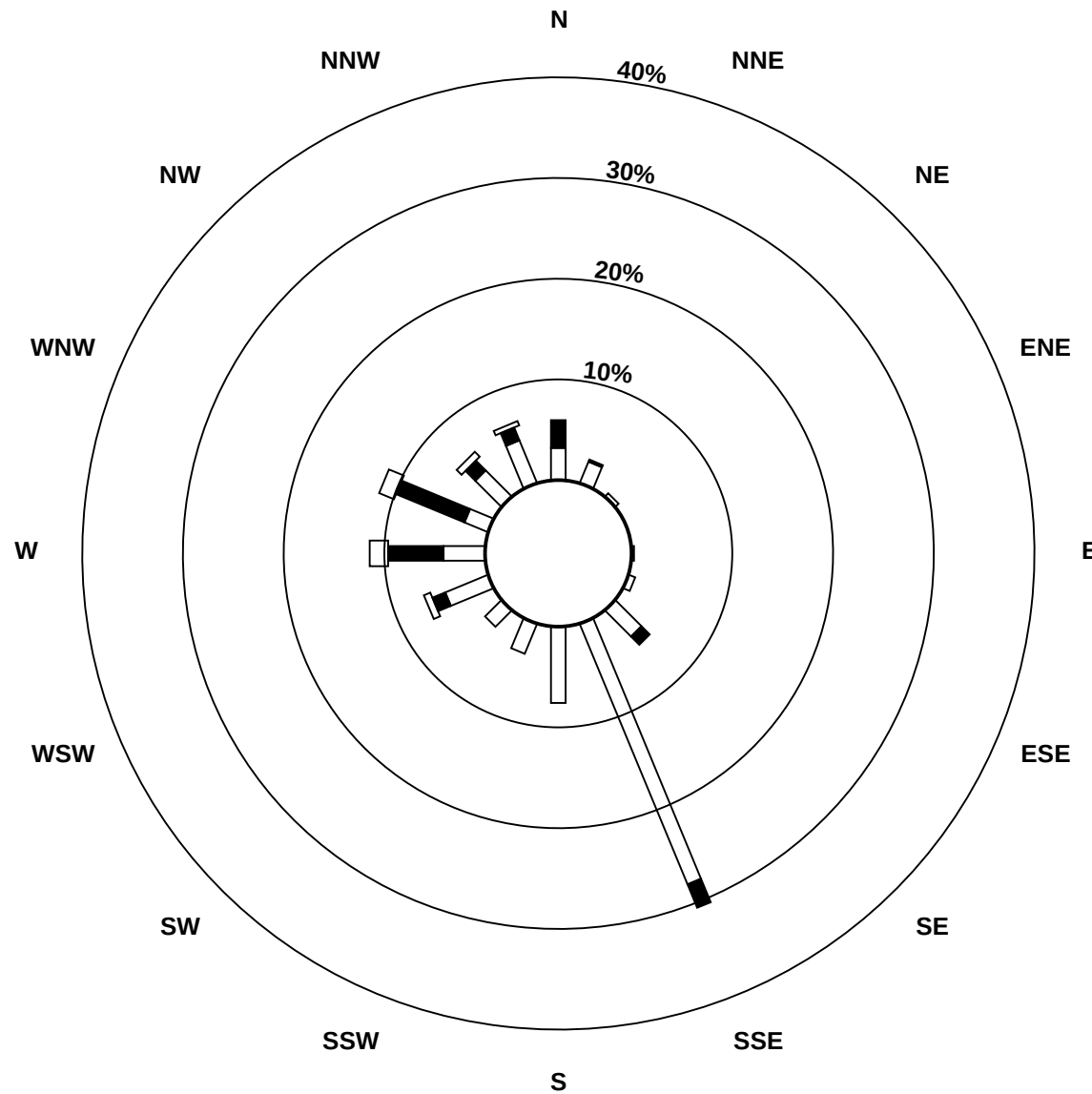
Hourly Averages

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

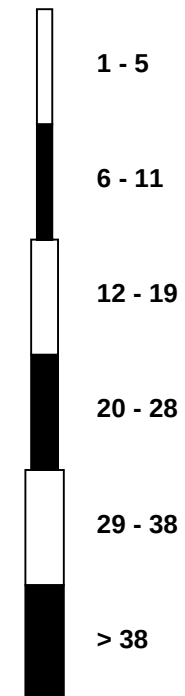
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
23 Spd	1	1	1	1	1	1	2	1	2	3	2	11	12	10	13	2	3	2	0	0	1	1	1	1	2.2	13.3	
Dir	221	165	174	177	224	153	163	158	159	159	199	256	254	269	261	192	163	166	172	193	158	175	196	147	233	261	
24 Spd	1	1	1	1	1	0	2	2	3	3	6	9	7	8	5	5	3	4	2	0	1	1	1	1	2.2	9.3	
Dir	171	172	170	162	160	180	172	161	155	161	254	257	250	247	238	267	254	249	242	183	166	173	175	165	231	257	
25 Spd	1	1	1	1	1	1	1	1	1	2	9	7	9	8	6	5	5	4	4	1	0	1	2	3	2.5	9.4	
Dir	158	188	82	166	219	165	157	170	158	244	273	272	285	312	281	287	289	271	263	227	183	188	250	249	271	285	
26 Spd	3	1	1	1	1	1	1	1	1	2	4	3	1	2	2	2	3	2	1	0	0	0	0	1	1.0	3.8	
Dir	249	200	159	156	161	161	162	166	167	188	245	248	170	180	191	167	273	262	118	168	183	232	174	184	208	245	
27 Spd	1	0	0	0	1	0	1	1	1	2	3	2	2	4	5	3	3	1	1	1	5	1	1	2	1.5	5.0	
Dir	202	172	184	172	173	184	170	187	181	167	166	161	169	188	215	206	194	178	161	208	243	202	186	166	192	215	
28 Spd	2	1	0	0	0	0	0	1	1	1	1	4	5	4	6	5	5	4	3	1	2	2	0	0	1.9	6.3	
Dir	171	163	180	196	212	166	299	295	266	196	138	161	160	161	158	156	165	155	145	140	150	154	155	209	160	158	
29 Spd	0	0	1	1	1	1	0	1	1	1	1	2	1	9	9	4	4	2	0	0	0	2	1	3	0.9	9.3	
Dir	208	176	173	208	184	139	80	152	159	168	302	135	231	287	286	339	14	20	137	190	18	353	6	329	306	287	
30 Spd	1	1	1	0	1	1	0	0	1	1	1	1	0	5	7	8	9	8	4	4	4	5	4	3	2.5	9.2	
Dir	328	25	356	1	3	341	48	151	2	181	162	173	207	289	283	279	282	286	304	320	318	285	282	306	292	282	
Spd	0.9	0.7	0.7	0.6	0.6	0.5	0.6	0.6	0.8	1.3	2.3	2.7	2.6	3.0	3.2	2.2	2.2	1.6	1.0	0.7	0.9	0.8	0.8	0.9	Diurnal Average		
Dir	234	246	249	231	230	231	234	219	202	214	253	253	255	269	268	278	293	306	297	285	277	262	247	241	Diurnal Maximum		
Spd	12.6	13.3	13.0	10.9	9.9	10.3	11.0	10.6	13.0	15.5	14.6	15.3	13.0	15.0	17.2	16.6	15.4	11.7	9.0	15.9	14.3	14.2	16.0	13.0	Diurnal Maximum		
Dir	254	260	265	274	263	272	279	275	278	282	285	288	299	308	314	324	335	340	251	260	259	259	262	257			
Maximum Speed Value: 17 km/h on Sep 17 15:00							Minimum Speed Value: 0 km/h on Sep 14 07:00													Hours in Service:				720			
Maximum Daily Speed Average: 9.8 km/h on Sep 17							Minimum Daily Speed Average: 0.6 km/h on Sep 1													Hours of Data:				720			
Maximum Diurnal Speed Average: 3.2 km/h at hour 15							Minimum Diurnal Speed Average: 0.5 km/h at hour 6													Hours of Missing Data:				0			
Monthly Average Velocity: 1.22 km/h 260.4 deg							Speed Percentiles: P ₁ = 0.1 P ₁₀ = 0.2 Q ₁ = 0.6 Median = 1.4 Q ₃ = 4.0 P ₉₀ = 7.8 P ₉₉ = 15.1													Percent Operational Time:				100.0			
All monthly, daily, and diurnal averages have been calculated using vector methods																											
Frequency Distribution																											
Speed Range (km/h)																											
Direction	0 to 5		5 to 11		11 to 19		19 to 28		28 to 38		> 38		Total														
North	60		20		1		0		0		0		81														
NorthEast	13		1		0		0		0		0		14														
East	10		0		0		0		0		0		10														
SouthEast	68		11		0		0		0		0		79														
South	277		11		0		0		0		0		288														
SouthWest	56		1		0		0		0		0		57														
West	48		57		19		0		0		0		124														
NorthWest	46		15		6		0		0		0		67														
Total	578		116		26		0		0		0		720														

Wind Rose

Wind Speed (WS) (km/h)
Valleyview - September 2013



Wind Speed Classes (km/h)



Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Valleyview - September 2013

Maximum Speed: 18 km/h on Sep 17 15:00																				Maximum Daily Speed Average: 11.4 km/h on Sep 17										Hours in Service: 720	
Minimum Speed: 0 km/h on Sep 2 02:00																				Minimum Daily Speed Average: 0.9 km/h on Sep 1										Hours of Data: 720	
Maximum Diurnal Speed Average: 6.5 km/h at hour 15																				Minimum Diurnal Speed Average: 1.1 km/h at hour 6										Hours of Missing Data: 0	
Monthly Average Speed: 3.10 km/h																				Percentiles: P ₁ = 0.1 P ₁₀ = 0.3 Q ₁ = 0.8 Median = 1.7 Q ₃ = 4.2 P ₉₀ = 8.1 P ₉₉ = 15.3										Percent Operational Time: 100.0	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24							
1-Sep	1	0	1	1	1	1	1	2	1	1	1	2	1	1	1	1	1	2	1	0	0	0	0	1	0.9	1.8					
2-Sep	1	0	1	1	0	1	1	0	2	2	2	3	4	5	6	7	7	8	7	6	3	2	2	1	3.0	8.2					
3-Sep	1	2	2	0	1	0	0	0	2	3	4	6	5	4	3	2	2	4	2	1	1	1	0	0	2.0	5.8					
4-Sep	1	0	2	1	1	1	1	2	1	1	3	8	10	9	8	6	6	5	2	3	0	0	1	0	3.1	9.6					
5-Sep	1	2	1	1	2	1	1	2	3	4	10	11	12	10	11	9	8	6	3	3	1	1	0	0	4.3	11.9					
6-Sep	0	0	1	1	1	1	1	0	1	2	3	2	2	6	6	5	4	3	1	0	0	1	0	1	1.8	6.1					
7-Sep	0	0	2	1	1	2	2	3	2	3	5	7	9	9	7	7	5	6	4	4	3	4	3	3	4.0	9.3					
8-Sep	3	2	2	1	1	1	1	2	3	3	7	8	8	9	10	10	10	8	5	4	8	5	5	8	5.2	9.9					
9-Sep	6	5	4	3	2	1	2	2	3	10	11	11	12	13	12	11	9	8	5	1	3	1	1	1	5.7	12.7					
10-Sep	2	2	0	0	0	0	0	1	1	3	7	8	9	7	9	8	6	4	2	1	0	0	0	1	3.0	8.9					
11-Sep	0	0	0	0	0	0	0	1	1	3	2	2	3	2	2	2	1	1	0	0	0	0	0	0	1.0	2.7					
12-Sep	0	0	0	0	0	0	0	0	1	3	4	3	2	1	1	1	1	1	1	1	1	2	1	1	1.1	3.8					
13-Sep	2	1	1	1	2	1	1	1	3	7	7	7	6	6	6	5	6	6	7	6	6	6	5	2	4.2	7.3					
14-Sep	3	3	2	2	0	1	0	0	1	1	2	2	3	4	6	6	6	6	5	3	1	3	3	2	2.8	6.4					
15-Sep	1	0	0	0	0	0	0	1	3	3	4	4	2	2	3	2	2	0	1	2	2	0	0	0	1.4	4.2					
16-Sep	0	0	0	0	1	1	1	1	1	2	2	3	3	5	5	4	4	2	10	16	15	14	16	13	5.1	16.3					
17-Sep	13	13	13	11	10	10	11	11	13	16	15	15	13	15	18	17	16	12	8	5	6	7	4	1	11.4	17.9					
18-Sep	3	3	2	2	3	2	3	3	4	5	5	4	4	8	7	7	6	6	2	0	0	0	0	0	3.3	7.6					
19-Sep	1	1	0	1	1	1	0	1	1	4	3	4	5	5	4	5	4	3	1	1	2	0	2	1	2.0	5.1					
20-Sep	1	0	0	0	0	0	1	2	2	6	7	6	5	4	4	4	4	3	3	5	3	2	3	1	2.8	7.0					
21-Sep	1	0	0	0	1	0	1	1	1	1	1	1	1	3	4	5	12	8	7	2	1	2	2	1	2.5	11.8					
22-Sep	1	1	1	1	1	1	0	0	2	2	3	3	3	3	3	2	1	0	0	1	1	1	0	1	1.3	3.5					
23-Sep	1	1	1	1	2	1	2	1	2	3	4	12	13	10	14	2	3	2	0	0	1	1	2	1	3.3	13.9					
24-Sep	1	1	1	1	1	0	2	2	3	3	7	10	8	9	5	6	3	4	2	0	1	1	1	1	3.1	9.7					
25-Sep	1	1	2	1	1	1	1	1	1	3	9	7	10	8	6	6	6	4	4	1	1	1	2	3	3.3	10.1					
26-Sep	3	1	1	1	1	1	1	1	1	2	5	4	2	3	3	2	4	2	1	0	0	1	0	1	1.7	4.6					
27-Sep	1	0	0	0	1	1	1	1	1	2	3	2	2	4	6	4	3	2	1	1	5	1	1	2	1.9	5.6					
28-Sep	2	1	0	0	0	0	0	1	1	1	2	4	5	4	6	5	5	4	3	1	2	2	1	1	2.2	6.5					
29-Sep	1	0	1	3	1	1	1	1	1	2	2	3	3	10	9	5	5	2	0	0	0	2	1	3	2.4	10.1					
30-Sep	1	1	1	1	1	1	1	1	1	1	1	1	1	5	7	8	9	8	4	5	4	5	4	3	3.1	9.3					
1.7 1.5 1.5 1.2 1.3 1.1 1.2 1.5 2.1 3.4 4.7 5.5 5.6 6.2 6.5 5.4 5.3 4.4 3.2 2.5 2.4 2.3 2.1 1.8																								Diurnal Average							
12.8 13.5 13.2 11.1 10.1 10.4 11.1 10.9 13.2 15.8 14.9 15.5 13.3 15.5 17.9 16.9 15.7 11.8 10.1 16.1 14.5 14.4 16.3 13.2																								Diurnal Maximum							
All monthly, daily, and diurnal averages have been calculated using scalar methods																															

Hourly Standard Deviations

Wind Direction (WD) - deg
Valleyview - September 2013

Maximum Value: 99.7 deg on Sep 6 08:00																								Hours in Service: 720	
Minimum Value: 5.9 deg on Sep 13 21:00																								Hours of Data: 720	
Percentiles: P ₁ = 6.6 P ₁₀ = 11.1 Q ₁ = 15.6 Median = 31.0 Q ₃ = 55.5 P ₉₀ = 77.1 P ₉₉ = 94.9																								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	7	66	26	44	25	36	12	11	50	78	84	46	50	53	48	53	71	42	11	77	76	47	13	23	84.4
2-Sep	22	84	62	79	74	32	88	88	51	28	67	83	54	32	31	16	38	12	8	7	7	12	42	58	88.1
3-Sep	80	54	91	67	83	74	86	65	13	15	16	12	20	28	31	57	69	12	30	34	39	44	84	59	90.6
4-Sep	83	93	78	24	15	30	20	49	52	72	50	16	22	23	22	28	13	10	19	8	82	55	47	37	93.5
5-Sep	27	14	61	59	57	71	87	86	14	46	15	15	19	19	18	17	17	15	13	15	70	74	78	85	86.8
6-Sep	57	79	68	80	95	97	64	100	63	30	20	55	53	34	17	19	16	12	38	56	64	91	80	78	99.7
7-Sep	48	96	39	38	29	11	13	10	16	50	14	12	11	11	12	14	16	11	9	10	11	8	8	10	95.5
8-Sep	9	9	8	34	46	6	8	11	14	18	47	20	20	19	17	16	15	12	12	8	10	9	11	7	47.0
9-Sep	10	13	15	31	33	34	49	14	61	12	16	17	18	16	17	16	17	15	18	17	21	43	31	31	61.0
10-Sep	19	19	43	33	30	62	64	39	40	60	24	19	28	33	20	18	31	25	13	84	15	36	42	52	84.3
11-Sep	46	93	58	71	69	58	67	46	37	16	21	41	37	35	66	71	66	27	41	62	77	73	95	64	95.0
12-Sep	35	39	87	18	49	24	34	67	96	18	11	18	19	63	55	90	44	31	77	84	65	72	36	49	95.6
13-Sep	27	29	21	16	51	60	21	57	77	22	21	22	28	31	27	23	27	10	6	6	6	9	7	25	77.3
14-Sep	12	11	14	58	39	87	89	43	41	56	74	77	53	41	19	18	13	9	7	8	40	10	11	14	88.6
15-Sep	55	60	65	81	62	40	43	12	11	15	12	15	39	33	27	50	58	40	38	15	10	75	45	68	81.4
16-Sep	52	36	58	58	56	93	78	46	39	33	77	51	43	19	15	19	44	79	37	10	10	10	11	10	92.8
17-Sep	9	10	11	12	12	10	10	12	11	11	11	10	12	14	16	11	11	9	9	8	12	11	17	67	66.9
18-Sep	29	27	25	23	35	24	15	23	34	35	31	42	57	32	26	34	23	14	13	75	59	54	60	72	75.3
19-Sep	89	70	48	18	69	82	56	30	49	14	28	13	12	13	30	15	14	11	13	66	80	80	13	25	89.3
20-Sep	51	92	73	49	73	67	28	32	31	8	10	14	14	18	13	14	14	10	7	7	9	44	32	60	91.6
21-Sep	37	64	35	24	52	56	54	33	38	26	49	74	77	61	37	28	13	14	17	37	17	13	12	12	77.1
22-Sep	27	11	12	47	59	37	58	73	24	49	32	42	50	93	53	47	58	47	51	78	81	59	64	78	92.9
23-Sep	58	54	35	50	60	27	18	11	30	21	48	14	16	21	18	37	9	17	46	22	28	26	36	20	59.8
24-Sep	19	13	13	16	45	59	8	28	13	14	42	18	37	26	35	33	47	21	12	90	16	33	16	16	90.5
25-Sep	20	20	72	24	30	39	21	33	15	51	14	21	22	16	21	20	15	17	23	26	32	58	20	34	72.1
26-Sep	25	38	15	18	18	16	13	15	18	37	45	44	70	60	74	48	56	46	19	36	61	49	44	53	74.4
27-Sep	43	64	48	25	24	25	29	37	22	22	8	15	16	26	29	34	32	21	13	40	32	23	23	18	63.9
28-Sep	8	33	55	75	78	88	68	79	65	49	47	24	15	15	15	15	8	10	8	27	20	25	91	68	91.3
29-Sep	62	67	75	62	26	40	95	54	46	79	71	41	87	24	21	44	21	18	41	46	95	57	82	35	94.9
30-Sep	79	85	65	83	84	79	73	76	65	40	29	25	84	19	15	13	11	11	23	16	15	18	22	18	84.6
	89.3	95.5	90.6	83.0	94.9	97.3	94.5	99.7	95.6	79.0	84.4	82.7	86.8	92.9	74.4	89.6	70.8	79.1	77.2	90.5	94.9	90.9	95.0	85.1	

PAZA

Portable – Sunset House Station

Monthly Summary Tables, Graphs and Roses

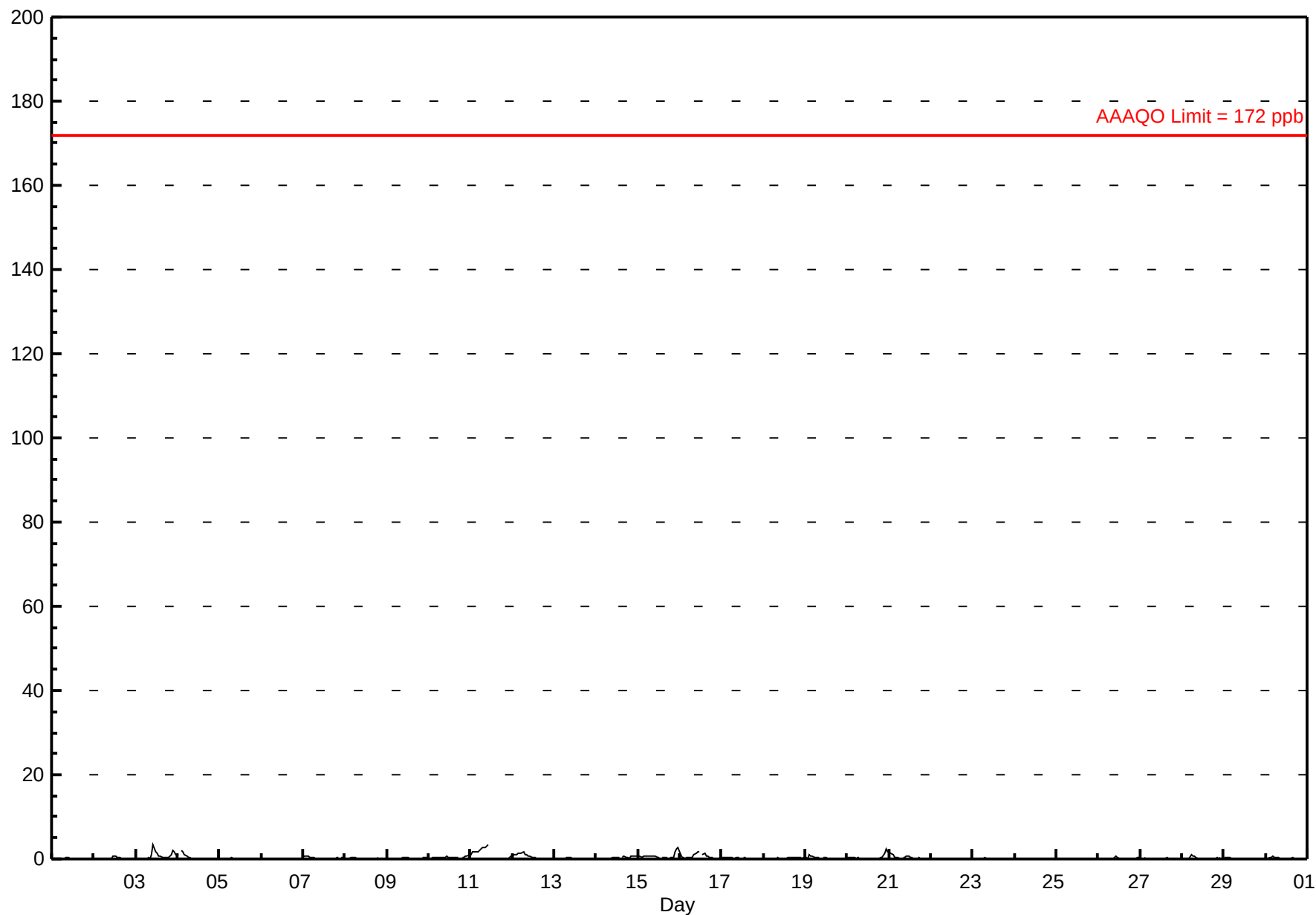
Hourly Averages

Sulphur Dioxide (SO₂) - ppb Sunset House - September 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 3.4 ppb on Sep 11 11:00 Maximum Daily Average: 0.7 ppb on Sep 3																				Hours in Service: 720 Hours of Data: 682 Hours of Missing Data: 38 Hours of Calibration: 38 Percent Operational Time: 100.0						
Minimum Value: 0 ppb on Sep 1 01:00 Maximum Diurnal Average: 0.5 ppb at hour 11 Monthly Average: 0.25 ppb										Minimum Daily Average: 0.0 ppb on Sep 24 Minimum Diurnal Average: 0.1 ppb at hour 19 Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.1 Q ₃ = 0.3 P ₉₀ = 0.6 P ₉₉ = 2.5																
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	0	0	0		A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.5
2-Sep	0	0		A	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0.1	0.6
3-Sep	0	0	A		0	0	0	0	0	1	3	2	1	1	1	0	0	0	0	0	1	2	2	1	0.7	3.2
4-Sep	1	A	2	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.9
5-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	0.3
6-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
7-Sep	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.2	0.8
8-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	0.2
9-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
10-Sep	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	A	0	0	1	1	1	0.4	0.9
11-Sep	1	2	2	2	2	2	2	3	3	3	3	C	C	C	C	C	C	C	0	0	0	0	0	1	--	3.4
12-Sep	1	1	1	1	1	1	2	1	1	1	1	0	0	0	0	0	A	0	0	0	0	0	0	0	0.6	1.7
13-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	0.3
14-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	1	0	0	0	1	1	1	1	0.3	0.7
15-Sep	1	1	0	1	1	1	1	1	1	1	1	0	0	A	0	0	0	0	0	0	0	2	2	3	0.7	2.6
16-Sep	1	0	0	0	0	0	0	0	1	1	2	2	A	1	1	1	1	0	0	0	0	0	0	0	0.6	1.7
17-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
18-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
19-Sep	0	0	1	1	1	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.9
20-Sep	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	1	2	2	0.4	2.5
21-Sep	2	1	1	0	0	0	0	A	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.4	1.6
22-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	0.2
23-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	0.3
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	0.0	0.0
25-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	0.0
26-Sep	0	0	A	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.7
27-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	0.1	0.3
28-Sep	A	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0.2	1.0
29-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
30-Sep	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.1	0.7
0.3 0.3 0.4 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.5 0.3 0.2 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.2 0.3 0.4 0.4																								Diurnal Average		
1.6 1.6 1.9 1.6 1.7 2.0 2.3 2.6 2.9 3.1 3.4 1.8 1.2 1.0 1.4 0.5 0.5 0.4 0.3 0.5 1.0 2.0 2.5 2.6																								Diurnal Maximum		
C - Calibration A - Automated Daily Zero Span																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb 30-day 11 ppb																										

Hourly Averages

Sulphur Dioxide (SO₂) - ppb
Sunset House - September 2013



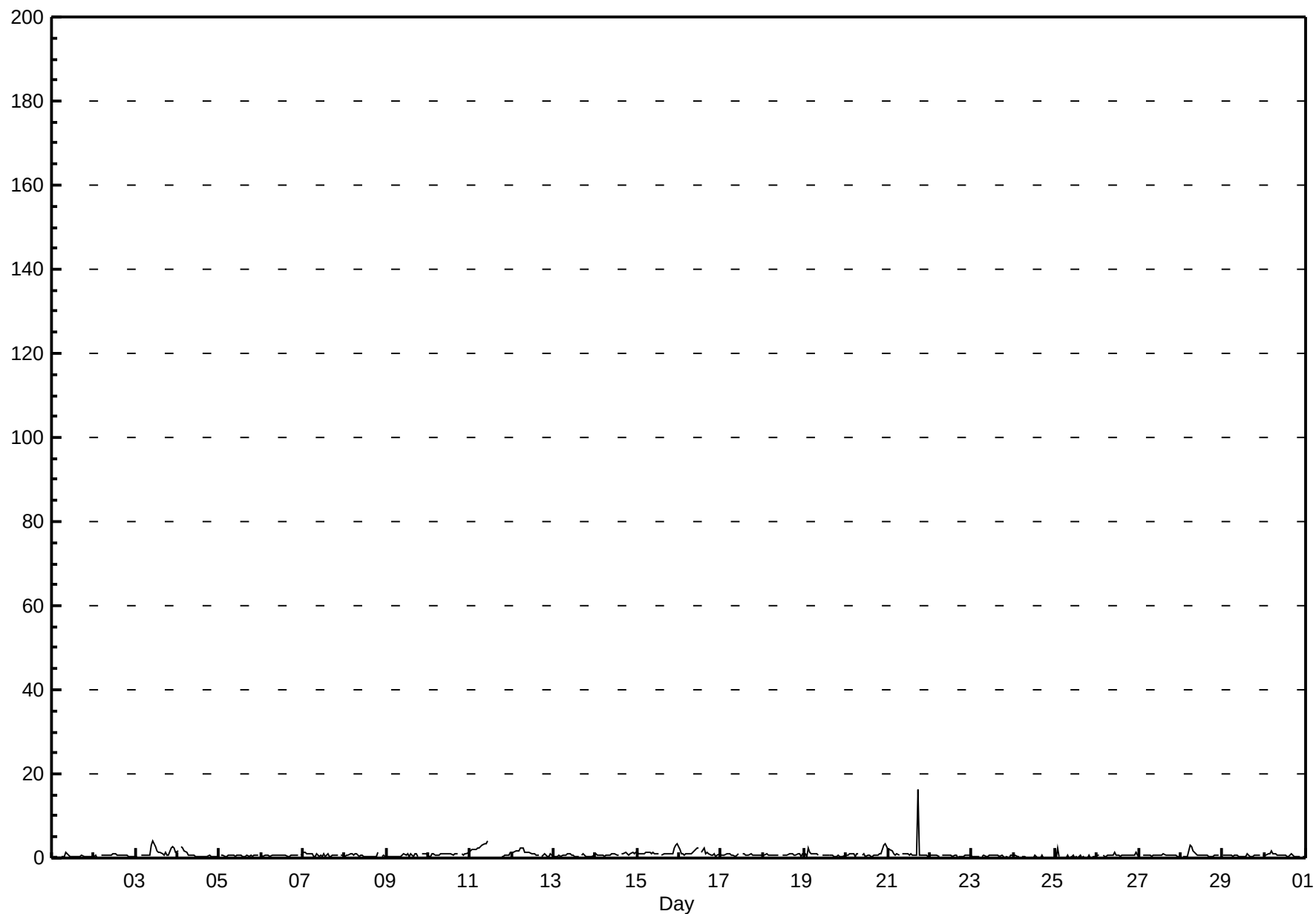
Hourly Maximums

Sulphur Dioxide (SO₂) - ppb Sunset House - September 2013

Maximum Value: 16.4 ppb on Sep 21 18:00																				Maximum Daily Average: 1.6 ppb on Sep 21										Hours in Service: 720	
Minimum Value: 0 ppb on Sep 23 20:00																				Minimum Daily Average: 0.3 ppb on Sep 24										Hours of Data: 682	
Maximum Diurnal Average: 1.2 ppb at hour 18																				Minimum Diurnal Average: 0.5 ppb at hour 19										Hours of Missing Data: 38	
Monthly Average: 0.80 ppb																				Percentiles: P ₁ = 0.1 P ₁₀ = 0.3 Q ₁ = 0.5 Median = 0.6 Q ₃ = 0.9 P ₉₀ = 1.3 P ₉₉ = 3.3										Hours of Calibration: 38	
																				Percent Operational Time: 100.0											
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24							
1-Sep	0	1	1	0	A	0	0	0	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0.4	1.3					
2-Sep	0	1	0	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0.6	1.2					
3-Sep	0	0	A	1	1	1	1	1	1	3	4	3	2	1	1	1	1	1	1	1	2	3	2	2	1.4	4.2					
4-Sep	2	A	3	2	2	1	1	1	1	1	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0.8	2.6					
5-Sep	A	1	1	0	0	1	1	1	1	0	1	1	1	0	0	0	1	0	1	0	1	1	1	A	0.6	0.7					
6-Sep	1	0	1	1	1	0	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	A	1	0.5	0.6					
7-Sep	2	1	1	1	1	1	0	0	1	0	1	0	1	0	1	0	0	1	1	1	1	A	1	1	0.8	1.5					
8-Sep	0	1	1	1	1	1	1	1	0	1	1	0	0	0	0	0	0	0	0	1	A	0	1	0	0.6	1.3					
9-Sep	0	0	0	0	0	0	0	0	0	1	1	1	1	0	1	0	1	1	0	A	1	1	1	1	0.7	1.0					
10-Sep	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	0.9	1.2					
11-Sep	2	2	2	2	2	2	3	3	3	3	4	C	C	C	C	C	C	C	0	0	1	1	1	1	--	4.0					
12-Sep	1	1	2	2	2	2	2	1	1	1	1	1	1	1	1	1	A	0	1	1	0	0	1	1	1.1	2.4					
13-Sep	0	0	0	1	0	1	1	1	1	1	1	1	0	0	0	A	1	1	0	0	0	0	0	1	0.6	0.9					
14-Sep	1	1	1	1	1	0	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	2	0.8	1.5					
15-Sep	2	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	2	3	3	1.3	3.4					
16-Sep	2	1	1	1	1	1	1	1	1	2	2	2	A	1	2	1	1	1	1	1	1	0	1	1	1.2	2.4					
17-Sep	1	1	1	1	1	1	1	1	0	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.0					
18-Sep	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	0	1	0.7	1.0					
19-Sep	1	0	2	1	1	1	1	1	1	A	1	1	1	1	1	1	1	0	0	1	0	0	0	1	0.8	2.4					
20-Sep	1	1	1	1	1	0	1	1	A	1	1	0	1	1	0	0	1	1	1	1	1	3	3	3	1.0	3.4					
21-Sep	2	2	2	1	1	1	1	A	1	1	1	1	1	1	1	1	1	16	1	1	1	1	1	0	1.6	16.4					
22-Sep	1	1	1	1	1	0	A	1	1	1	1	1	1	0	1	1	0	0	0	0	1	1	1	1	0.5	0.7					
23-Sep	1	1	0	0	0	A	0	1	0	1	1	1	1	1	1	1	0	1	0	0	0	0	1	1	0.5	0.7					
24-Sep	1	1	0	0	A	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0.3	0.6					
25-Sep	0	2	0	A	0	0	0	1	0	0	1	0	0	0	1	0	0	0	0	1	0	0	0	0	0.4	2.3					
26-Sep	1	1	A	1	0	0	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	0	0.7	1.3					
27-Sep	1	A	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0.6	1.1					
28-Sep	A	0	0	0	0	3	3	2	1	1	1	1	1	1	1	1	0	0	0	1	1	1	1	A	0.9	3.0					
29-Sep	1	1	1	1	1	1	0	1	1	0	0	0	0	0	1	1	0	0	1	1	1	1	A	1	0.6	0.9					
30-Sep	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	A	0	0	0.7	1.6					
0.9 0.8 0.9 0.9 0.8 0.9 0.9 0.8 0.8 0.9 1.0 0.8 0.7 0.6 0.7 0.6 0.6 1.2 0.5 0.6 0.7 0.8 0.9 0.9																									Diurnal Average						
2.1 2.3 2.6 2.3 2.3 3.0 2.9 3.1 3.3 3.4 4.2 2.7 1.8 1.4 2.4 1.0 1.4 16.4 0.9 1.3 2.4 3.0 3.4 3.4																									Diurnal Maximum						
C - Calibration																									A - Automated Daily Zero Span						

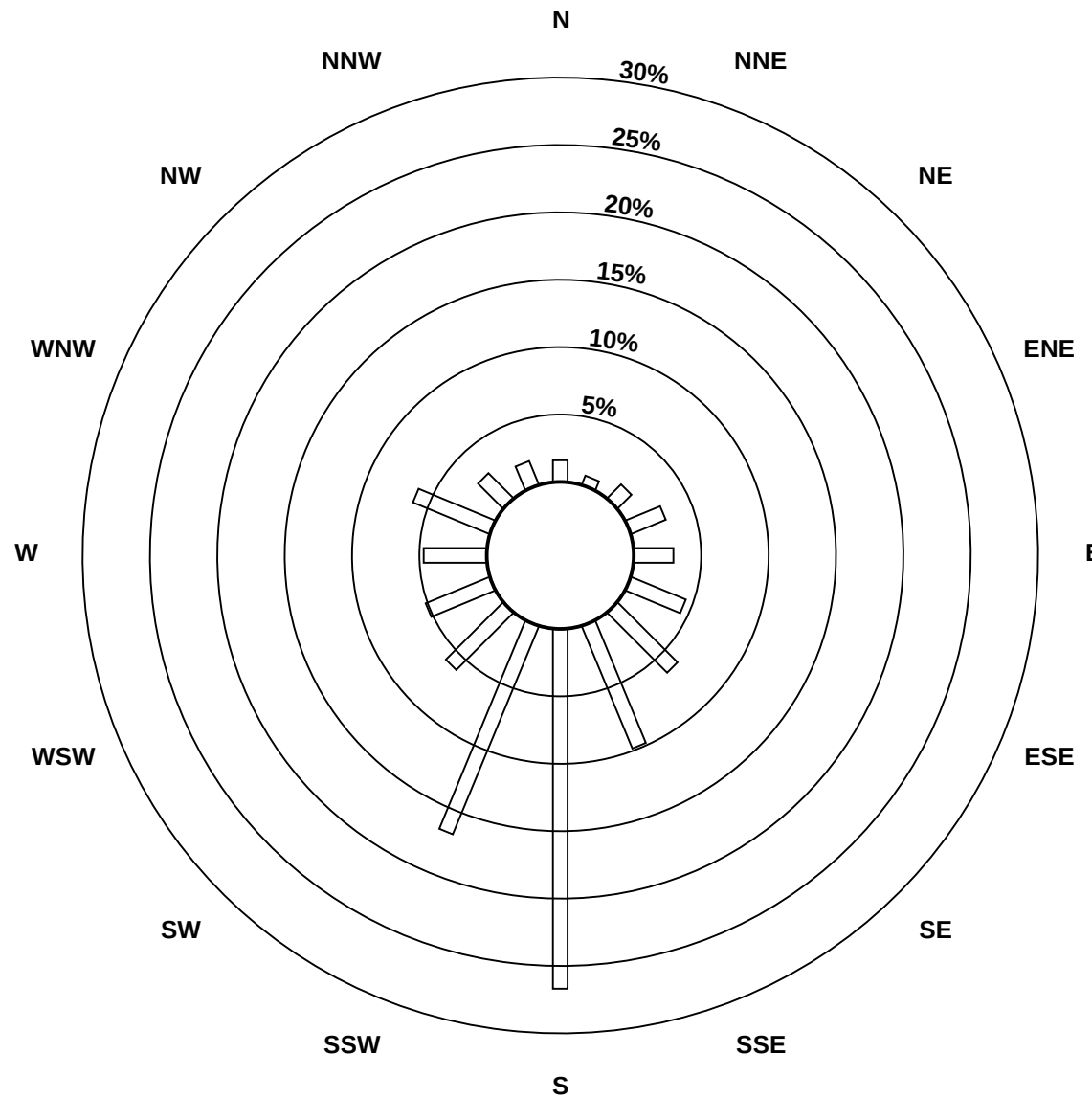
Hourly Maximums

Sulphur Dioxide (SO₂) - ppb
Sunset House - September 2013

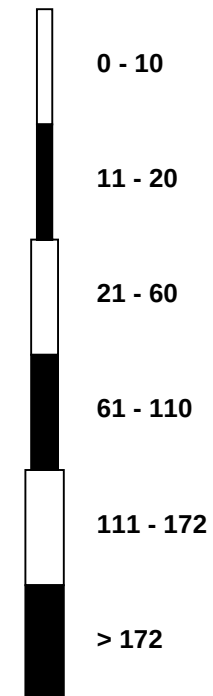


Pollutant Rose

Sulphur Dioxide (SO₂) - ppb
Sunset House - September 2013

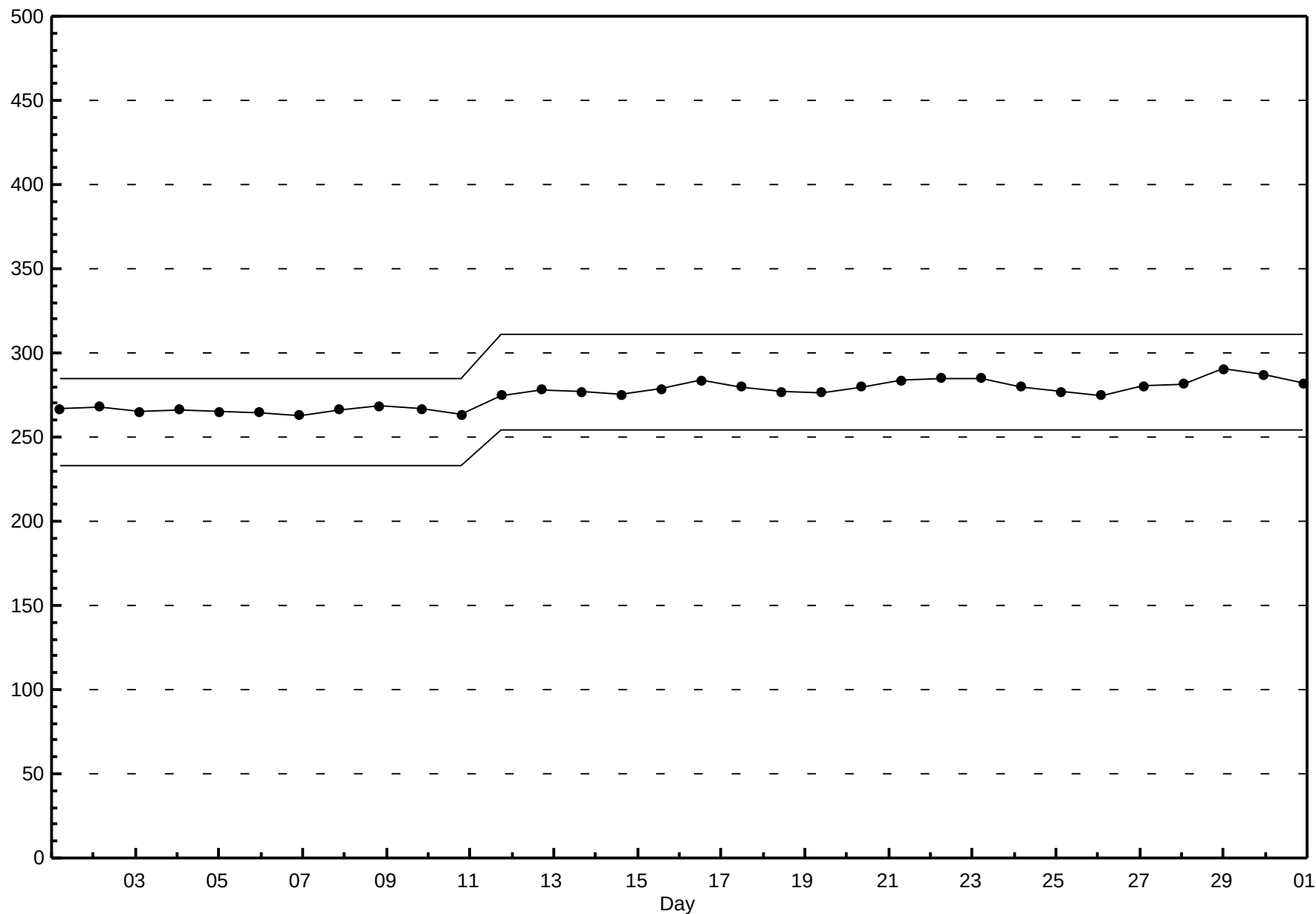


Pollutant Classes (ppb)



Span Responses

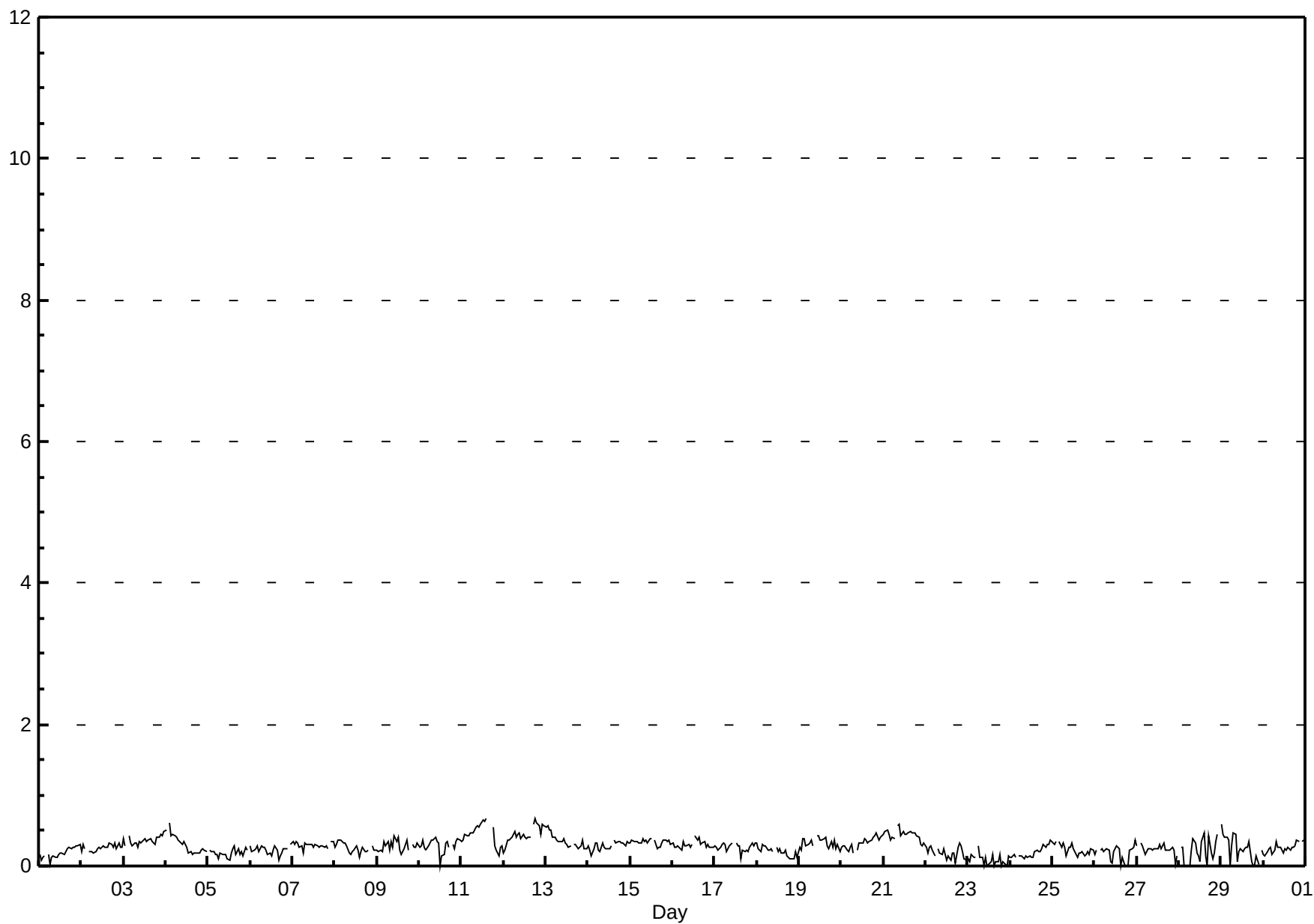
Sulphur Dioxide (SO₂)
Sunset House - September 2013



[illegible]

Hourly Averages

Total Reduced Sulphur (TRS) - ppb
Sunset House - September 2013



Hourly Maximums

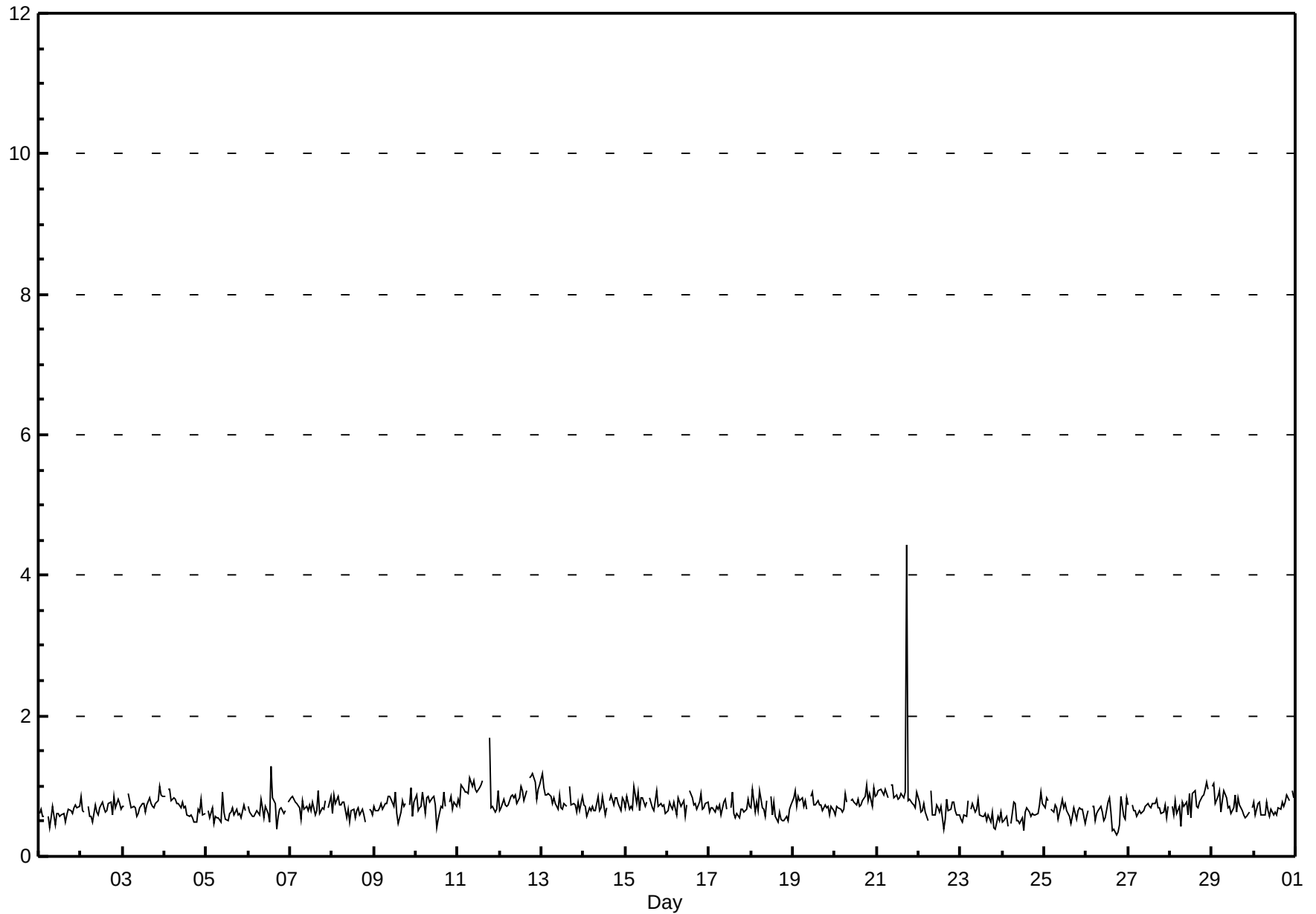
Total Reduced Sulphur (TRS) - ppb

Sunset House - September 2013

Maximum Value: 4.4 ppb on Sep 21 18:00																			Maximum Daily Average: 1.0 ppb on Sep 21										Hours in Service: 720	
Minimum Value: 0 ppb on Sep 26 18:00																			Minimum Daily Average: 0.6 ppb on Sep 23										Hours of Data: 686	
Maximum Diurnal Average: 0.8 ppb at hour 18																			Minimum Diurnal Average: 0.7 ppb at hour 16										Hours of Missing Data: 34	
Monthly Average: 0.72 ppb																			Percentiles: P ₁ = 0.4 P ₁₀ = 0.6 Q ₁ = 0.6 Median = 0.7 Q ₃ = 0.8 P ₉₀ = 0.9 P ₉₉ = 1.1										Hours of Calibration: 34	
																													Percent Operational Time: 100.0	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24						
1-Sep	1	1	1	1	A	1	0	1	1	0	1	1	1	1	1	0	1	1	1	1	1	1	1	1	0.6	0.7				
2-Sep	1	1	1	A	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	0.9				
3-Sep	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.0				
4-Sep	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	0.7	1.0				
5-Sep	A	1	1	1	0	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	0.6	0.9				
6-Sep	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	0	1	1	1	1	1	A	1	0.7	1.3				
7-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	0.7	0.9				
8-Sep	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	0	A	1	1	1	0.7	0.9				
9-Sep	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	A	1	1	1	1	0.7	1.0				
10-Sep	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	A	1	1	1	1	1	0.7	0.9				
11-Sep	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	C	C	C	2	1	1	1	1	1	0.9	1.7				
12-Sep	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	0.9	1.2				
13-Sep	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	0.8	1.2				
14-Sep	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	0.7	0.9				
15-Sep	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	0.8	1.0				
16-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	0.7	0.9				
17-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	0.9				
18-Sep	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	0	1	1	1	1	1	1	1	1	0.7	1.0				
19-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	0.8	0.9				
20-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	0.8	1.0				
21-Sep	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	4	1	1	1	1	1	1	1.0	4.4				
22-Sep	1	1	1	1	1	1	A	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	0.7	0.9				
23-Sep	1	0	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	0	1	0	0	1	1	1	0.6	0.8				
24-Sep	0	1	1	0	A	0	1	1	1	1	0	1	0	1	1	1	1	1	1	1	1	1	1	1	0.6	0.9				
25-Sep	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	0	0.7	0.8				
26-Sep	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	1	1	1	1	0.6	0.8				
27-Sep	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	0.8				
28-Sep	A	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	0.8	1.1				
29-Sep	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.0				
30-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	0.7	0.9				
0.7 0.7 0.7 0.7 0.7 0.7 0.7 0.8 0.7 0.7 0.7 0.7 0.7 0.7 0.7 0.7 0.7 0.8 0.7 0.7 0.7 0.7 0.7																								Diurnal Average						
1.2 1.0 1.0 1.0 0.9 1.0 0.9 1.1 1.0 1.1 1.0 0.9 1.0 1.3 1.1 0.9 1.0 4.4 1.7 1.2 1.1 1.1 1.0 1.0																								Diurnal Maximum						
C - Calibration A - Automated Daily Zero Span																														

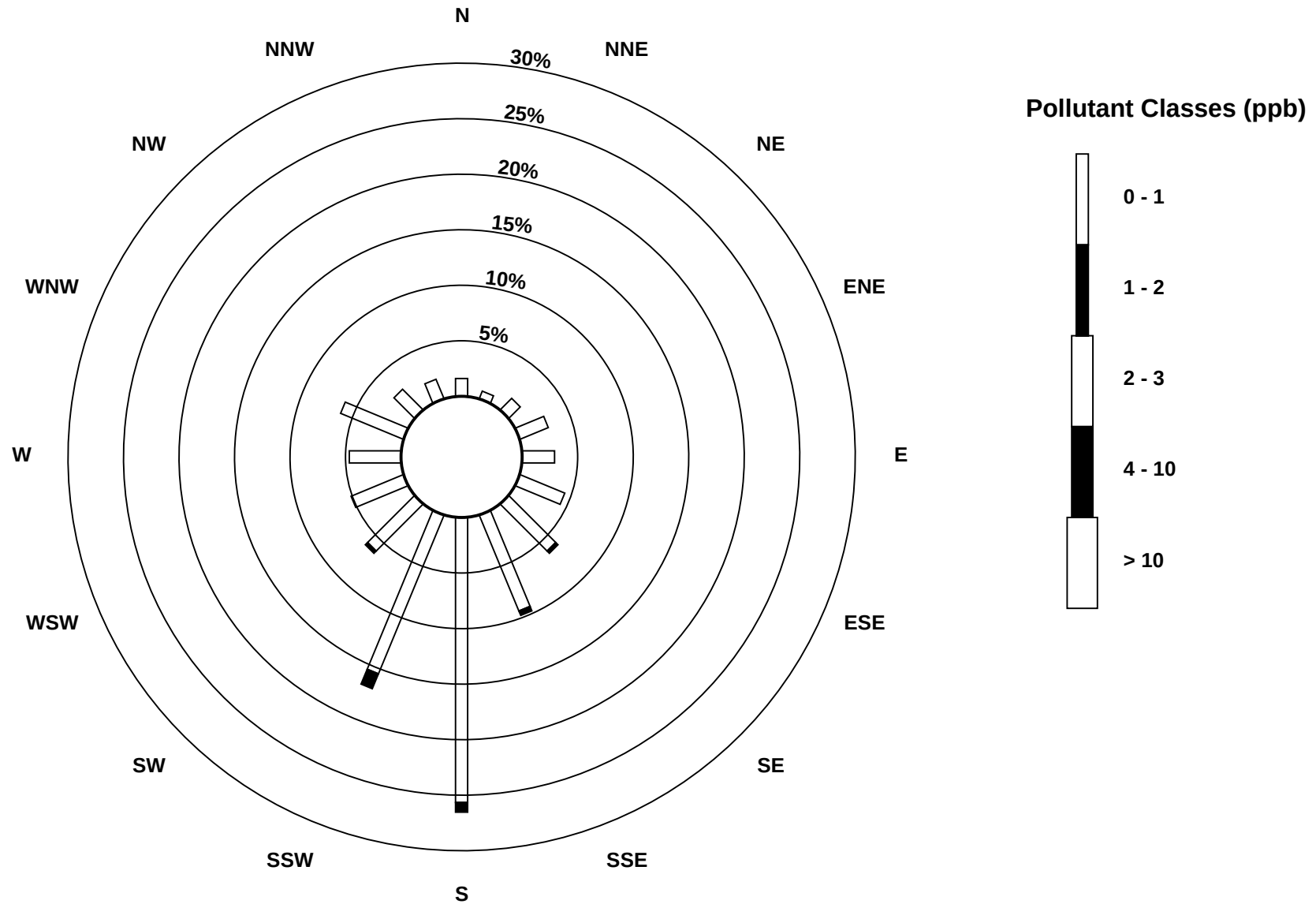
Hourly Maximums

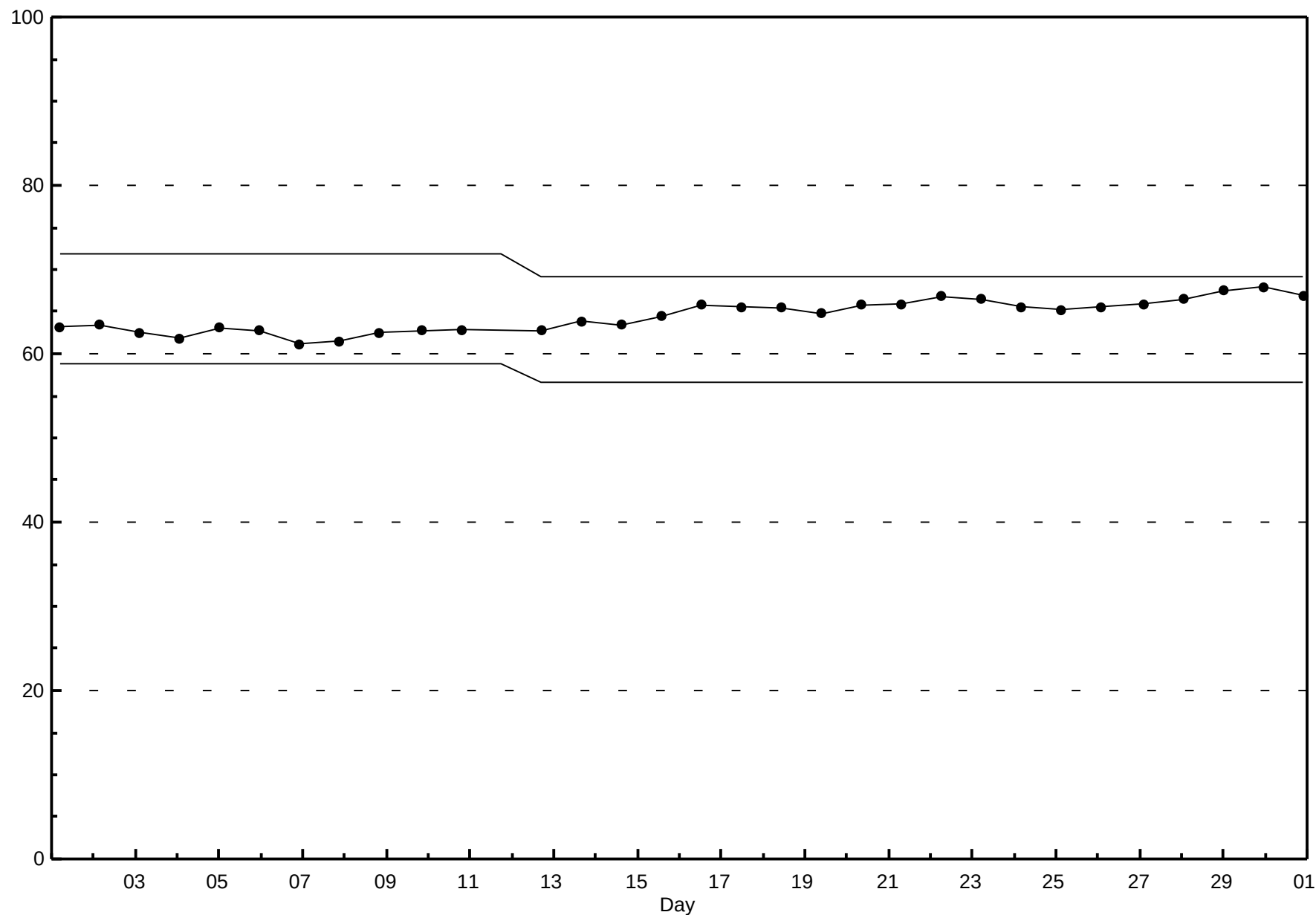
Total Reduced Sulphur (TRS) - ppb
Sunset House - September 2013



Pollutant Rose

Total Reduced Sulphur (TRS) - ppb
Sunset House - September 2013





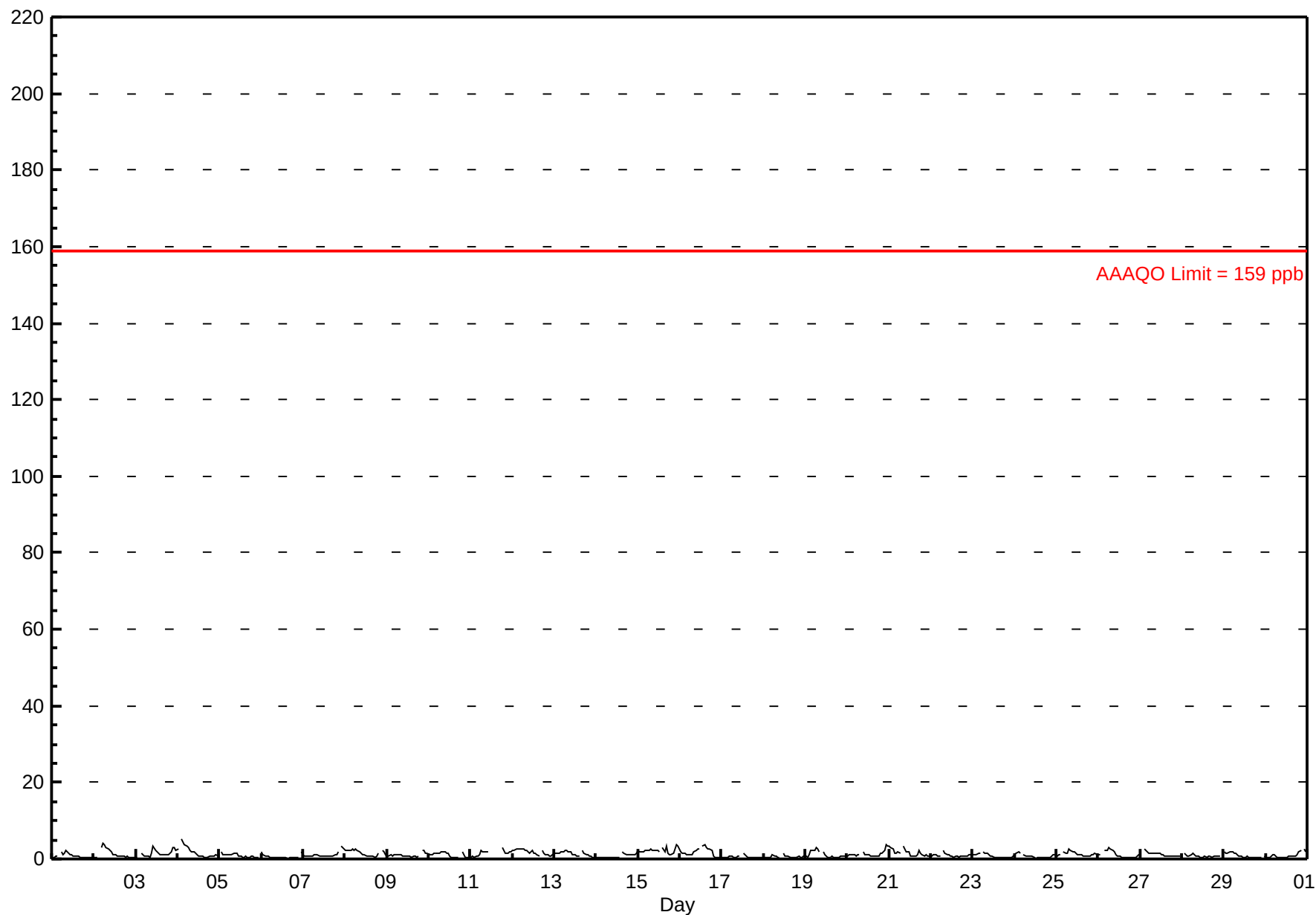
Hourly Averages

Nitrogen Dioxide (NO₂) - ppb Sunset House - September 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																				Hours in Service: 720						
Maximum Value: 5.4 ppb on Sep 4 03:00																				Maximum Daily Average: 2.2 ppb on Sep 15		Hours of Data: 682				
Minimum Value: 0 ppb on Sep 24 13:00																				Minimum Daily Average: 0.5 ppb on Sep 18		Hours of Missing Data: 38				
Maximum Diurnal Average: 1.6 ppb at hour 7																				Minimum Diurnal Average: 0.8 ppb at hour 16		Hours of Calibration: 38				
Monthly Average: 1.15 ppb																				Percentiles: P ₁ = 0.2 P ₁₀ = 0.4 Q ₁ = 0.6 Median = 0.9 Q ₃ = 1.6 P ₉₀ = 2.3 P ₉₉ = 3.6		Percent Operational Time: 100.0				
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Sep	0	1	1	1	A	2	1	2	2	2	1	1	1	1	1	1	1	0	1	1	0	0	0	0	0.8	2.1
2-Sep	0	0	0	A	3	4	4	3	3	2	2	1	1	1	1	1	1	1	1	1	1	0	0	0	1.3	4.0
3-Sep	0	0	A	2	1	1	1	1	1	2	3	2	2	1	1	1	1	1	1	1	2	3	3	2	1.4	3.3
4-Sep	2	A	5	5	4	3	3	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.7	5.4
5-Sep	A	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	0	0	0	A	0.9	2.0
6-Sep	2	1	1	1	1	1	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	A	2	0.6	1.8
7-Sep	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	A	3	3	1.1	3.4
8-Sep	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	0	1	1	A	2	2	1	1.5	2.4
9-Sep	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	2	2	2	1	1.0	2.2
10-Sep	1	1	1	1	1	1	2	2	2	2	1	1	1	1	0	0	0	1	A	2	1	1	0	0	1.1	1.9
11-Sep	0	1	1	1	1	1	2	2	2	2	2	C	C	C	C	C	C	C	3	2	2	2	2	2	--	3.1
12-Sep	2	2	3	3	3	2	2	2	2	2	2	2	1	2	1	1	A	2	1	1	1	1	1	1	1.8	2.7
13-Sep	2	2	1	1	2	2	2	2	2	2	1	1	1	1	1	A	2	1	1	1	1	1	1	0	1.3	2.2
14-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	2	1	1	1	1	1	1	1	2	0.7	1.9
15-Sep	2	2	2	2	2	2	2	2	2	2	2	2	2	A	3	2	3	1	1	1	1	3	4	3	2.2	3.6
16-Sep	2	1	2	1	1	1	1	1	2	2	2	3	A	3	4	3	3	2	2	1	1	0	0	0	1.8	3.6
17-Sep	0	0	0	0	1	1	1	0	1	1	1	A	2	1	1	0	0	0	0	0	0	1	0	0	0.6	1.7
18-Sep	0	0	0	0	0	1	1	1	1	0	A	1	1	1	1	0	0	0	0	0	1	0	0	1	0.5	1.3
19-Sep	1	0	1	2	2	2	3	3	2	A	2	1	1	1	0	1	1	0	0	1	1	1	1	1	1.2	2.9
20-Sep	1	1	1	1	1	1	1	1	A	2	1	1	1	1	1	1	1	1	1	1	1	2	4	3	1.3	3.7
21-Sep	3	3	2	2	2	2	2	A	3	3	2	2	1	1	1	1	1	2	1	1	1	1	1	1	1.6	3.3
22-Sep	1	1	1	1	1	1	A	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	2.1
23-Sep	1	1	1	2	1	A	2	1	1	1	1	1	0	0	1	0	0	0	0	0	0	0	1	1	0.8	1.7
24-Sep	1	1	2	2	A	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	1	1	1	0.7	1.8
25-Sep	1	1	1	A	2	1	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1.3	2.5
26-Sep	1	1	A	2	2	2	3	3	2	2	1	1	1	1	0	0	0	1	0	0	0	0	1	1	1.2	2.9
27-Sep	1	A	3	2	2	2	2	1	2	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1.2	2.6
28-Sep	A	2	1	1	1	1	1	1	1	0	0	0	1	1	1	1	1	0	1	1	1	1	1	A	0.8	1.5
29-Sep	2	1	1	2	2	2	2	2	1	1	1	0	1	1	0	0	0	0	0	0	0	0	A	1	0.9	1.9
30-Sep	1	0	0	1	1	1	1	0	0	0	0	0	0	1	1	1	1	1	1	2	2	A	2	2	0.9	2.5
																									Diurnal Average	
																									Diurnal Maximum	
C - Calibration A - Automated Daily Zero Span																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 159 ppb 24-hr 106 ppb																										

Hourly Averages

Nitrogen Dioxide (NO₂) - ppb
Sunset House - September 2013



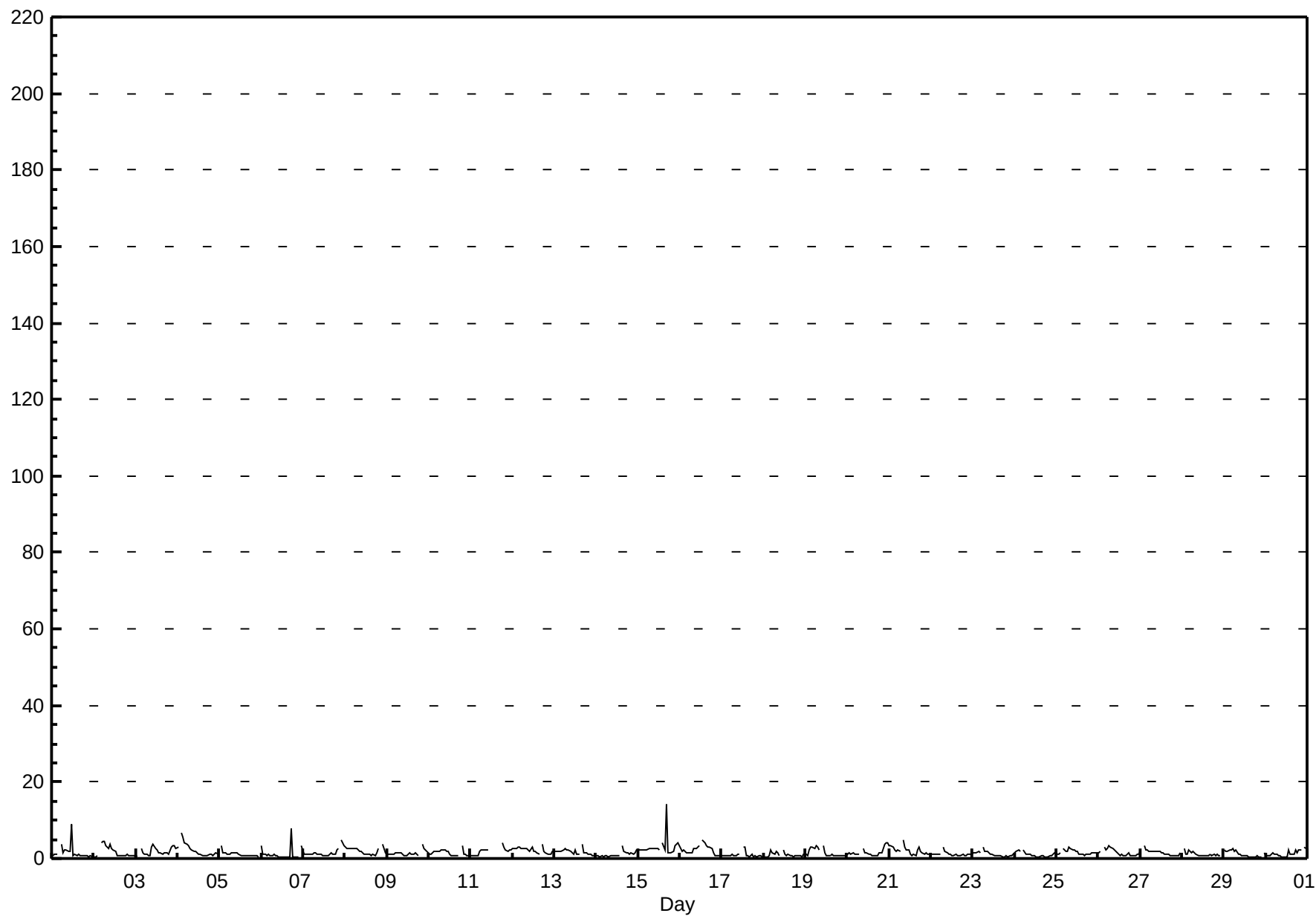
Hourly Maximums

Nitrogen Dioxide (NO₂) - ppb Sunset House - September 2013

Maximum Value: 14.1 ppb on Sep 15 17:00																				Maximum Daily Average: 3.1 ppb on Sep 15										Hours in Service: 720	
Minimum Value: 0 ppb on Sep 24 18:00																				Minimum Daily Average: 1.0 ppb on Sep 17										Hours of Data: 682	
Maximum Diurnal Average: 2.0 ppb at hour 7																				Minimum Diurnal Average: 1.1 ppb at hour 16										Hours of Missing Data: 38	
Monthly Average: 1.57 ppb																				Percentiles: P ₁ = 0.4 P ₁₀ = 0.6 Q ₁ = 0.8 Median = 1.3 Q ₃ = 2.1 P ₉₀ = 2.8 P ₉₉ = 4.8										Hours of Calibration: 38	
																														Percent Operational Time: 100.0	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24							
1-Sep	1	1	1	1	A	4	2	2	2	2	9	1	1	1	1	1	1	1	1	1	1	1	1	0	1.6	9.0					
2-Sep	0	0	1	A	4	4	4	3	3	4	3	2	2	1	1	1	1	1	1	1	1	1	1	1	1.7	4.4					
3-Sep	1	1	A	3	1	1	1	1	1	3	4	3	2	2	1	1	2	1	1	1	3	3	3	3	1.9	3.9					
4-Sep	3	A	7	5	4	4	3	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	2.1	6.8					
5-Sep	A	4	2	1	1	1	1	1	2	1	2	1	1	1	1	1	1	1	1	1	1	1	A	1.2	3.5						
6-Sep	3	1	1	1	1	1	1	1	1	1	1	1	0	1	0	0	0	8	1	1	1	0	A	3	1.2	7.9					
7-Sep	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	2	3	A	5	3	1.5	4.8					
8-Sep	3	3	2	3	3	3	3	3	2	2	1	1	1	1	1	1	1	1	1	3	A	4	3	2	2.0	3.8					
9-Sep	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	A	4	3	2	2	1.4	3.8					
10-Sep	1	1	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	A	3	1	1	1	1	1.4	3.4					
11-Sep	1	1	1	1	1	2	2	2	2	2	C	C	C	C	C	C	C	C	4	3	2	2	2	2	--	4.0					
12-Sep	2	3	3	3	3	3	3	2	3	2	2	3	2	2	1	1	A	4	2	1	1	1	1	2	2.2	3.7					
13-Sep	2	2	2	2	2	2	3	2	2	2	2	1	2	1	1	A	4	2	1	1	1	1	1	1	1.7	3.6					
14-Sep	1	1	1	1	0	1	1	1	1	1	1	1	1	1	A	3	2	2	1	1	1	1	1	2	1.0	3.2					
15-Sep	2	2	2	2	2	2	3	3	3	3	3	3	2	A	4	2	14	2	2	2	2	3	4	4	3.1	14.1					
16-Sep	3	2	2	2	2	1	1	2	2	3	3	3	A	5	4	4	3	3	2	1	1	1	1	1	2.2	4.7					
17-Sep	1	1	1	1	1	1	1	1	1	1	1	A	3	3	1	1	1	1	1	1	1	1	1	1	1.0	3.1					
18-Sep	0	0	1	1	2	2	1	2	2	1	A	2	1	1	1	1	1	1	1	1	1	1	1	1	1.0	2.4					
19-Sep	1	1	2	3	3	3	3	3	2	A	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1.6	3.3					
20-Sep	1	1	1	1	1	1	1	1	A	3	2	1	1	1	1	1	1	1	1	1	2	4	4	4	1.7	4.2					
21-Sep	3	3	3	2	2	2	2	A	5	3	2	2	1	1	1	1	2	3	2	1	1	1	1	1	2.0	4.8					
22-Sep	1	1	1	1	1	1	A	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.2	2.9					
23-Sep	1	1	2	2	2	A	3	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.2	3.0					
24-Sep	1	2	2	2	A	2	1	1	1	1	1	1	0	0	0	1	1	0	0	0	1	1	1	2	1.0	2.1					
25-Sep	1	1	1	A	3	2	2	3	2	2	2	2	2	1	1	1	1	1	1	1	1	1	2	2	1.6	3.0					
26-Sep	2	2	A	3	2	3	3	3	2	2	2	1	1	1	1	1	1	2	1	1	1	1	1	1	1.5	3.2					
27-Sep	2	A	3	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1.5	3.5					
28-Sep	A	2	1	1	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1.1	2.5					
29-Sep	2	2	2	2	2	3	2	2	1	1	1	1	1	1	1	1	0	1	1	1	1	1	A	2	1.2	2.6					
30-Sep	1	1	1	1	1	1	1	1	1	0	1	0	1	2	1	1	1	2	1	2	2	A	3	3	1.3	3.1					
																								Diurnal Average							
																								Diurnal Maximum							
C - Calibration																								A - Automated Daily Zero Span							

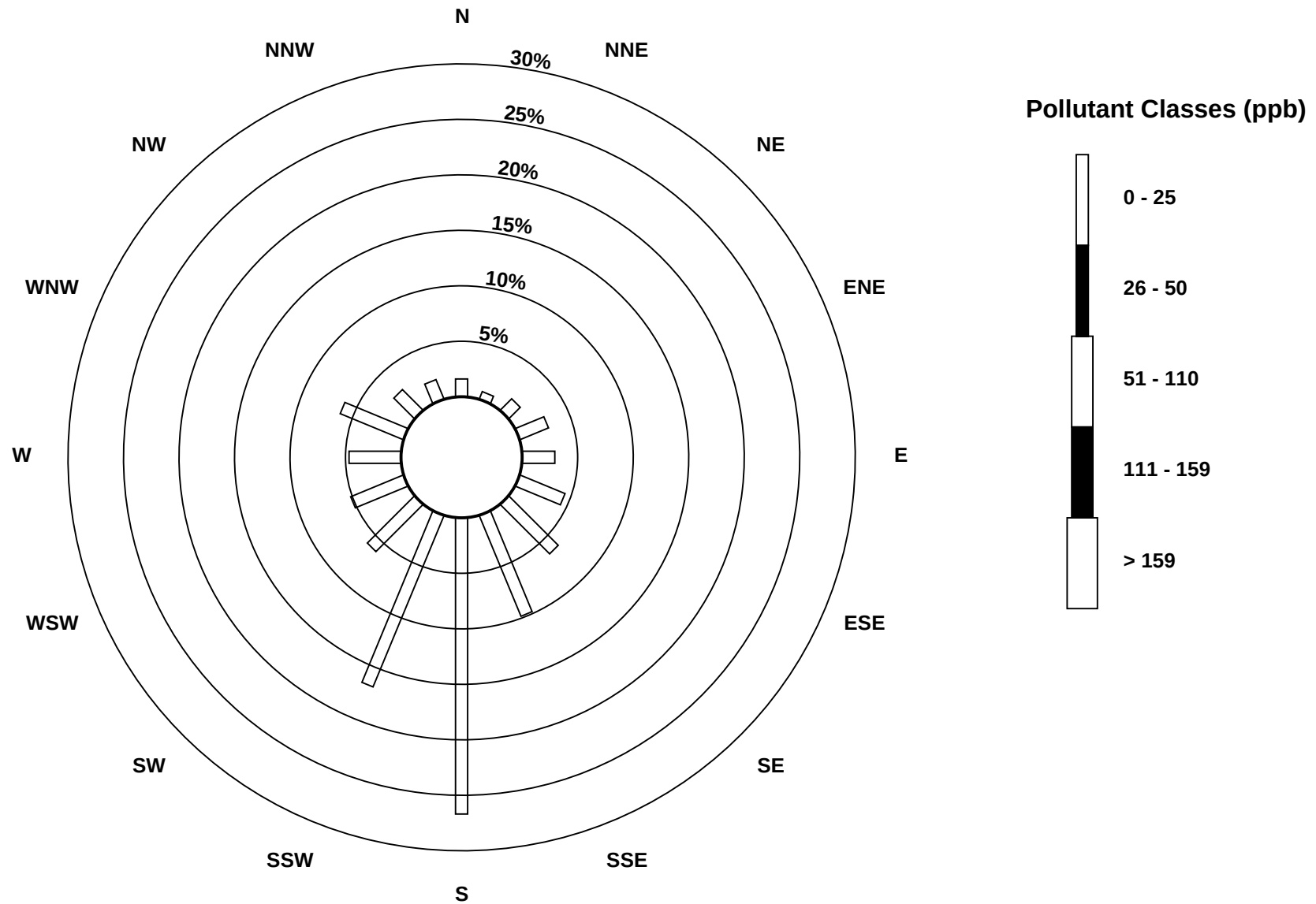
Hourly Maximums

Nitrogen Dioxide (NO₂) - ppb
Sunset House - September 2013



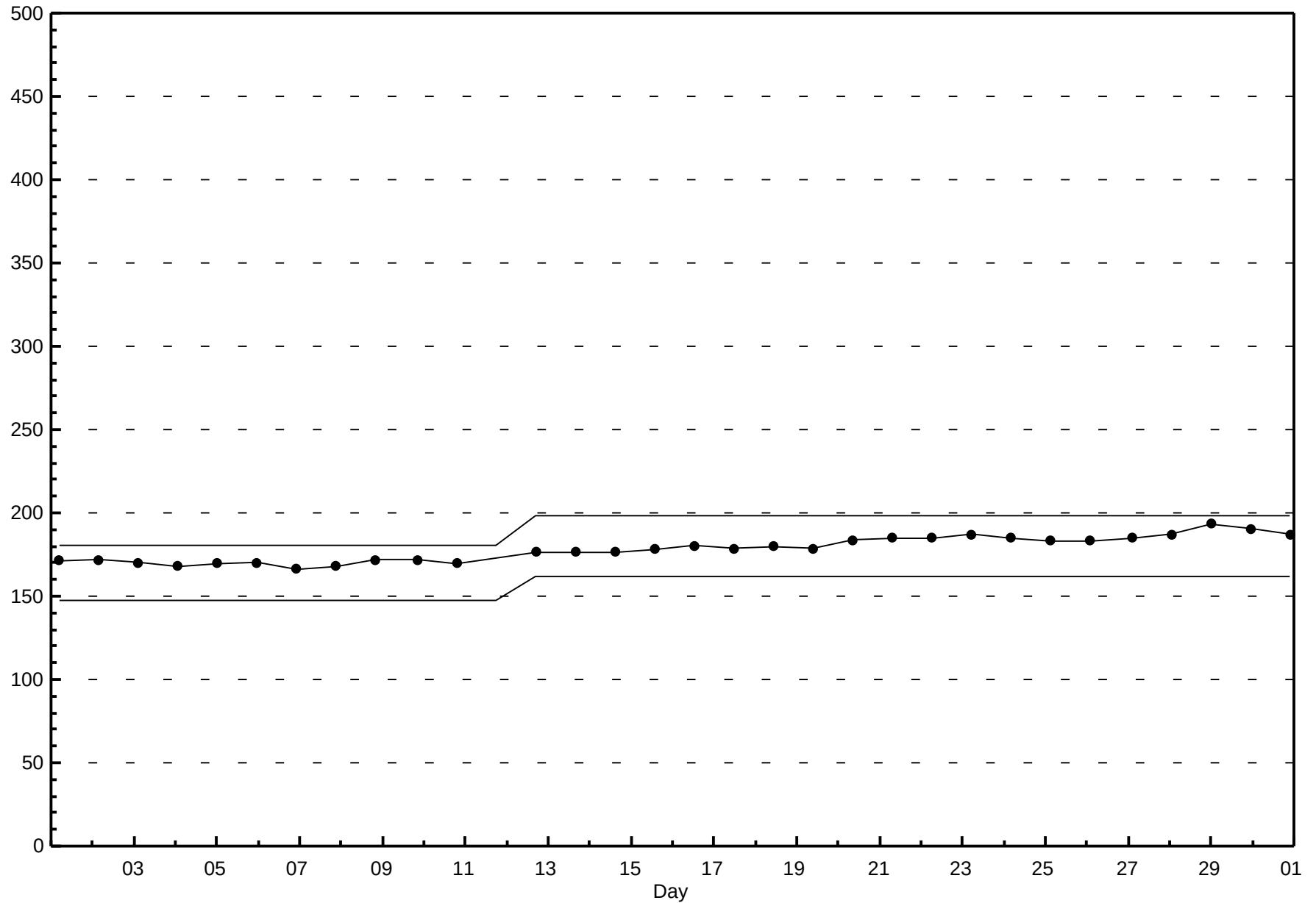
Pollutant Rose

Nitrogen Dioxide (NO₂) - ppb
Sunset House - September 2013



Span Responses

Nitrogen Dioxide (NO₂)
Sunset House - September 2013



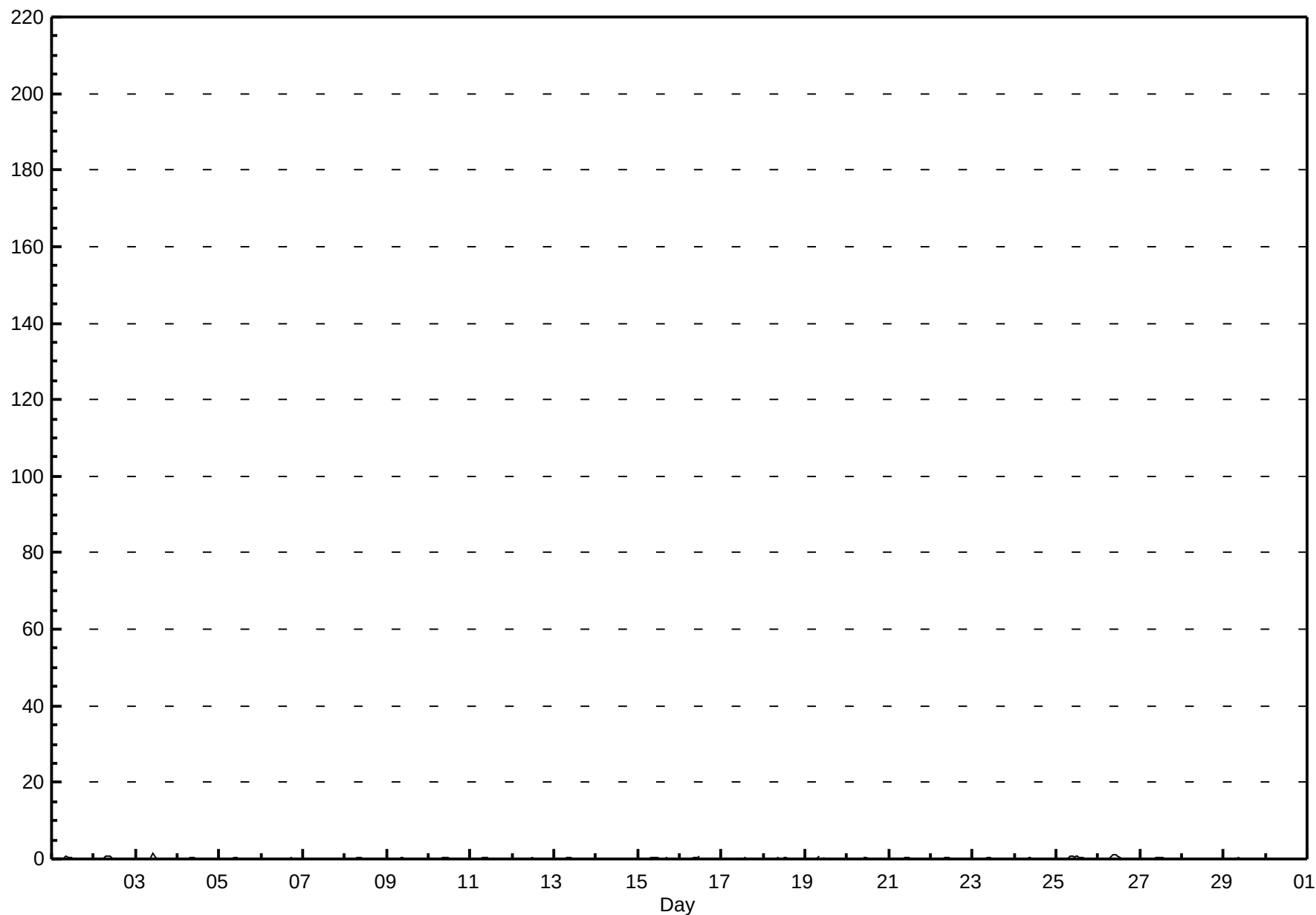
Hourly Averages

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

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 1.4 ppb on Sep 3 11:00 Maximum Daily Average: 0.3 ppb on Sep 26																				Hours in Service: 720 Hours of Data: 682 Hours of Missing Data: 38 Hours of Calibration: 38 Percent Operational Time: 100.0						
Minimum Value: 0 ppb on Sep 1 14:00 Maximum Diurnal Average: 0.3 ppb at hour 9 Monthly Average: 0.09 ppb																				Minimum Daily Average: 0.0 ppb on Sep 6 Minimum Diurnal Average: 0.0 ppb at hour 20 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 = 0.8						
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	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.6
2-Sep	0	0	0	A	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.7
3-Sep	0	0	A	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	1.4
4-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	0.1	0.2
5-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	0.3
6-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	0.2
7-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
8-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	0.5
9-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	0.2
10-Sep	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0.1	0.5
11-Sep	0	0	0	0	0	0	0	0	0	1	0	C	C	C	C	C	C	C	0	0	0	0	0	0	--	0.6
12-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
13-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	0.4
14-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
15-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	0.1	0.5
16-Sep	0	0	0	0	0	0	0	0	0	0	1	1	A	0	0	0	0	0	0	0	0	0	0	0	0.2	0.6
17-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
18-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	0.1	0.3
19-Sep	0	0	0	0	0	0	0	0	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.8
20-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	0.2
21-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
22-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	0.3
23-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	0.3
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	0.0	0.3
25-Sep	0	0	0	A	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0.2	0.8
26-Sep	0	0	A	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.3
27-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	0.1	0.4
28-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	0.1
29-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	0.2
30-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	0.2
0.0 0.0 0.0 0.0 0.0 0.0 0.1 0.2 0.3 0.3 0.3 0.2 0.1 0.1 0.1 0.1 0.1 0.0 0.0 0.0 0.0 0.0 0.0 0.0																								Diurnal Average		
0.1 0.1 0.1 0.1 0.1 0.1 0.2 0.6 1.1 1.3 1.4 0.8 0.6 0.5 0.4 0.3 0.5 0.2 0.1 0.1 0.1 0.1 0.1 0.1 0.1																								Diurnal Maximum		
C - Calibration A - Automated Daily Zero Span																										

Hourly Averages

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



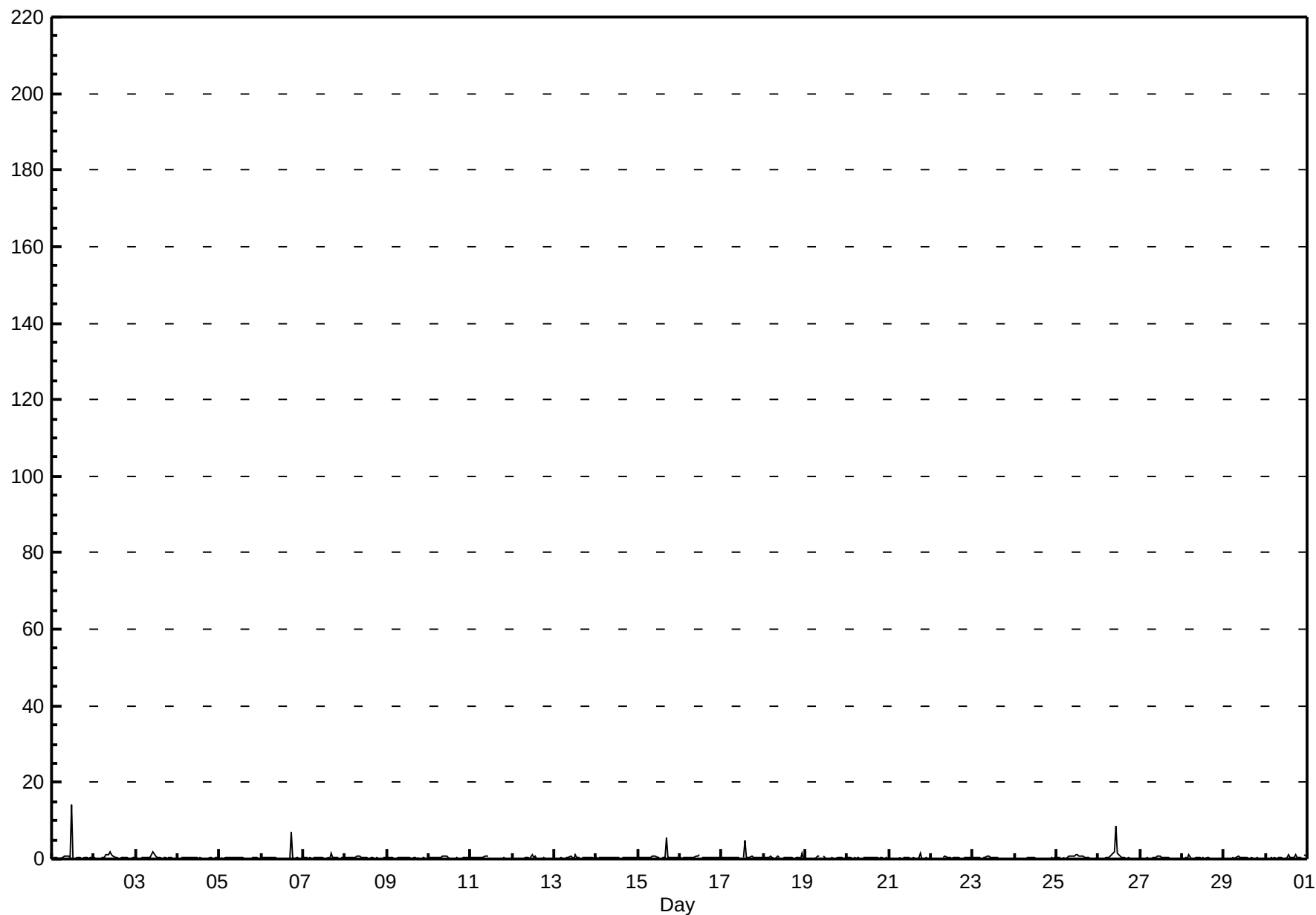
Hourly Maximums

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

Maximum Value: 14.2 ppb on Sep 1 12:00																				Maximum Daily Average: 0.9 ppb on Sep 1					Hours in Service: 720	
Minimum Value: 0 ppb on Sep 5 17:00																				Minimum Daily Average: 0.2 ppb on Sep 14					Hours of Data: 682	
Maximum Diurnal Average: 1.0 ppb at hour 12																				Minimum Diurnal Average: 0.2 ppb at hour 22					Hours of Missing Data: 38	
Monthly Average: 0.34 ppb																				Percentiles: P ₁ = 0.1 P ₁₀ = 0.2 Q ₁ = 0.2 Median = 0.2 Q ₃ = 0.3 P ₉₀ = 0.6 P ₉₉ = 1.9					Hours of Calibration: 38	
																				Percent Operational Time: 100.0						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Sep	0	0	0		A	0	0	1	1	1	1	14	0	0	0	0	0	0	0	0	0	0	0	0	0.9	14.2
2-Sep	0	0	0	A	0	0	0	1	1	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.4	1.8
3-Sep	0	0	A		0	0	0	0	0	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.9
4-Sep	0	A		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4
5-Sep	A		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0.2	0.4
6-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	A	0	0.5	7.1
7-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	A	0	0	0.3	1.7
8-Sep	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.3	0.7
9-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A		0	0	0	0.2	0.4
10-Sep	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	A		0	0	0	0	0.3	0.7
11-Sep	0	0	0	0	0	0	0	1	1	1	1	C	C	C	C	C	C	C	0	0	0	0	0	0	--	0.7
12-Sep	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	A	0	0	0	0	0	0	0	0.3	1.0
13-Sep	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	A	0	0	0	0	0	0	0	0	0.3	1.2
14-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	0.2	0.2
15-Sep	0	0	0	0	0	0	0	0	1	1	1	0	0	A	0	0	6	0	0	0	0	0	0	0	0.5	5.7
16-Sep	0	0	0	0	0	0	0	0	1	1	1	1	A	0	0	0	0	1	0	0	0	0	0	0	0.3	1.0
17-Sep	0	0	0	0	0	0	0	0	0	0	0	A	0	5	0	0	0	1	0	0	0	0	0	0	0.4	4.9
18-Sep	0	0	0	0	1	0	0	0	1	0	A	0	0	0	0	0	0	0	0	0	0	0	1	0	0.4	1.3
19-Sep	0	0	0	0	0	0	0	1	1	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.9
20-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	0.4
21-Sep	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0.3	1.3
22-Sep	0	0	0	0	0	0	A	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.6
23-Sep	0	0	0	0	0	A	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.6
24-Sep	0	0	0		A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4
25-Sep	0	0	0	A	0	0	0	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0.5	1.2
26-Sep	0	0	A		0	0	0	1	1	2	8	1	1	0	0	0	0	0	0	0	0	0	0	0	0.8	8.4
27-Sep	0	A		0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.6
28-Sep	A		0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0.2	1.2
29-Sep	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.2	0.6
30-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	A	1	1	0	0.4	1.2
																								Diurnal Average		
																								Diurnal Maximum		
C - Calibration A - Automated Daily Zero Span																										

Hourly Maximums

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



Hourly Averages

Oxides of Nitrogen (NO_x) - ppb

Sunset House - September 2013

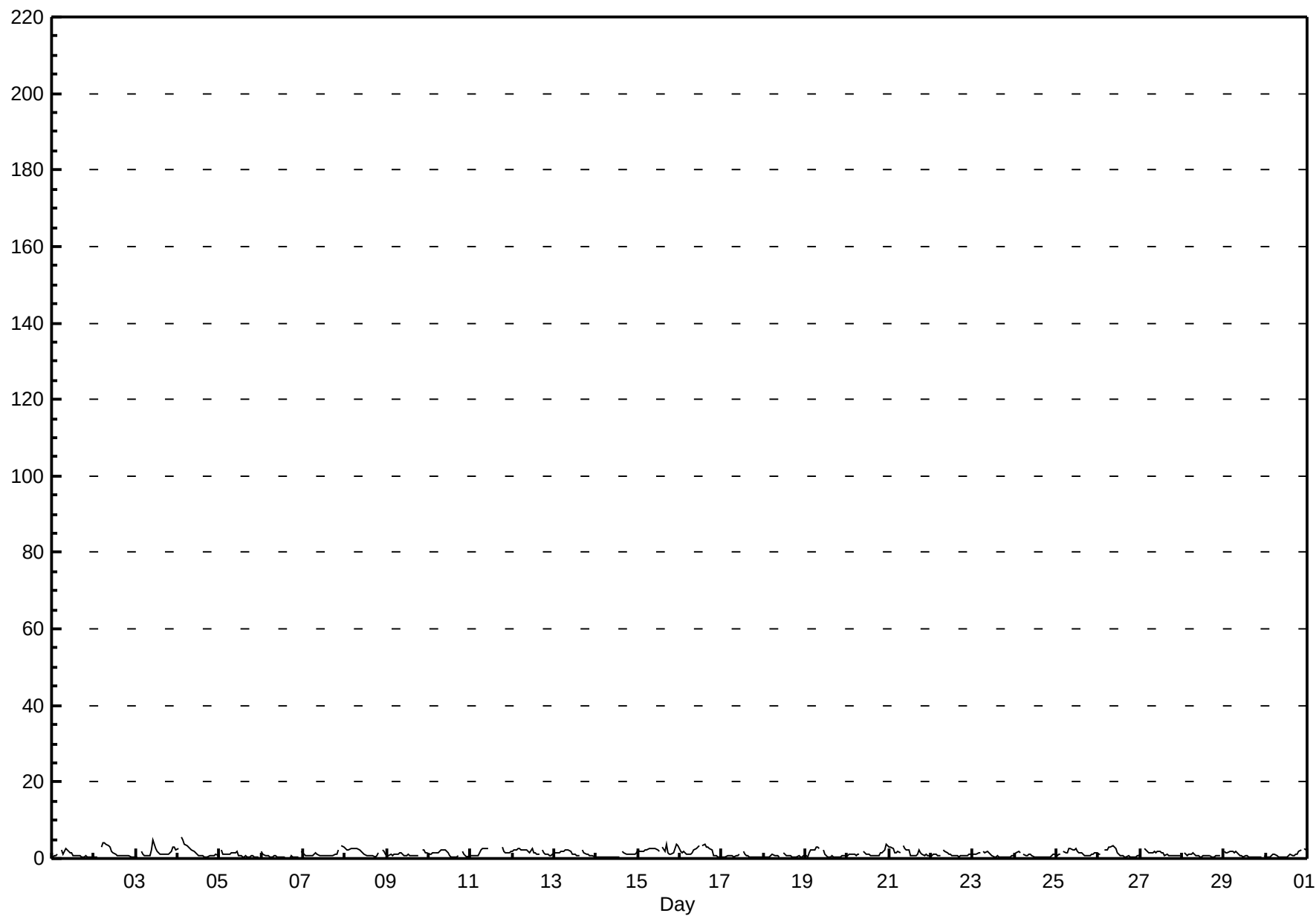
Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																				Hours in Service: 720						
Maximum Value: 5.5 ppb on Sep 4 03:00 Maximum Daily Average: 2.3 ppb on Sep 15																				Hours of Data: 682						
Minimum Value: 0 ppb on Sep 6 16:00 Minimum Daily Average: 0.6 ppb on Sep 6																				Hours of Missing Data: 38						
Maximum Diurnal Average: 1.8 ppb at hour 9 Minimum Diurnal Average: 0.8 ppb at hour 16																				Hours of Calibration: 38						
Monthly Average: 1.24 ppb Percentiles: P ₁ = 0.2 P ₁₀ = 0.4 Q ₁ = 0.6 Median = 1.0 Q ₃ = 1.7 P ₉₀ = 2.4 P ₉₉ = 3.7																				Percent Operational Time: 100.0						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Sep	0	1	1	1	A	2	1	2	3	2	1	2	1	1	1	1	1	1	1	1	1	0	0	0	1.0	2.6
2-Sep	0	0	0	A	3	4	4	4	3	3	2	1	1	1	1	1	1	1	1	1	1	0	0	0	1.4	4.1
3-Sep	0	0	A	2	1	1	1	1	1	2	5	2	2	1	1	1	1	1	1	1	2	3	3	2	1.6	4.8
4-Sep	3	A	5	5	4	3	3	3	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1.8	5.5
5-Sep	A	2	1	1	1	1	1	1	2	2	2	1	1	1	1	1	1	0	1	1	1	1	0	A	0.9	2.1
6-Sep	2	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	1	0	0	0	0	A	2	0.6	1.9
7-Sep	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	A	4	3	1.2	3.5
8-Sep	2	2	2	2	3	3	3	3	2	2	1	1	1	1	1	1	1	0	1	1	A	2	2	1	1.7	2.7
9-Sep	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	2	2	2	1	1.1	2.3
10-Sep	1	1	1	1	2	2	2	2	2	2	2	2	1	1	0	0	0	1	A	2	1	1	1	1	1.2	2.3
11-Sep	1	1	1	1	1	1	2	2	3	3	3	C	C	C	C	C	C	C	3	2	1	1	2	2	--	2.9
12-Sep	2	2	2	3	3	2	2	2	2	2	2	2	1	2	1	1	A	2	1	1	1	1	1	1	1.8	2.5
13-Sep	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	A	2	1	1	1	1	1	1	1	1.4	2.3
14-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	2	1	1	1	1	1	1	1	2	0.8	2.0
15-Sep	2	2	2	2	2	2	2	3	3	3	3	2	2	A	3	2	4	1	1	1	1	3	4	3	2.3	3.6
16-Sep	2	1	2	1	1	1	1	1	2	3	3	3	A	3	4	3	3	3	2	1	1	1	1	1	1.9	3.7
17-Sep	1	1	1	1	1	1	1	1	1	1	1	A	2	1	1	1	0	0	0	0	0	1	0	0	0.7	1.8
18-Sep	0	0	0	1	1	1	1	1	1	0	A	2	1	1	1	1	1	0	0	0	1	0	0	1	0.7	1.7
19-Sep	1	0	1	2	2	2	3	3	3	A	2	1	1	1	0	1	1	0	0	1	1	1	1	1	1.2	3.0
20-Sep	1	1	1	1	1	1	1	1	A	2	1	1	1	1	1	1	1	1	1	1	1	2	4	3	1.3	3.7
21-Sep	3	3	3	2	2	2	2	A	3	3	2	2	1	1	1	1	1	2	1	1	1	1	1	1	1.7	3.5
22-Sep	1	1	1	1	1	1	A	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	2.3
23-Sep	1	1	1	2	1	A	2	2	2	1	1	1	1	0	1	0	0	0	0	0	0	0	1	1	0.9	1.7
24-Sep	1	1	2	2	A	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	1	1	1	0.7	1.8
25-Sep	1	1	1	A	2	1	2	3	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1.5	2.8
26-Sep	1	1	A	2	2	2	3	3	3	3	2	2	1	1	1	0	0	1	0	0	0	0	1	1	1.4	3.3
27-Sep	1	A	3	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1.3	2.7
28-Sep	A	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	A	0.8	1.5
29-Sep	2	1	1	2	2	2	2	2	1	1	1	0	1	1	0	0	0	0	0	0	0	0	A	1	0.9	1.9
30-Sep	1	0	0	1	1	1	1	0	0	0	0	0	0	1	1	1	1	1	1	2	2	A	3	2	1.0	2.7
																								Diurnal Average	Diurnal Maximum	
																								1.2	3.5	

C - CalibrationA - Automated Daily Zero Span

C - Calibration A - Automated Daily Zero Span

Hourly Averages

Oxides of Nitrogen (NO_x) - ppb
Sunset House - September 2013



Hourly Maximums

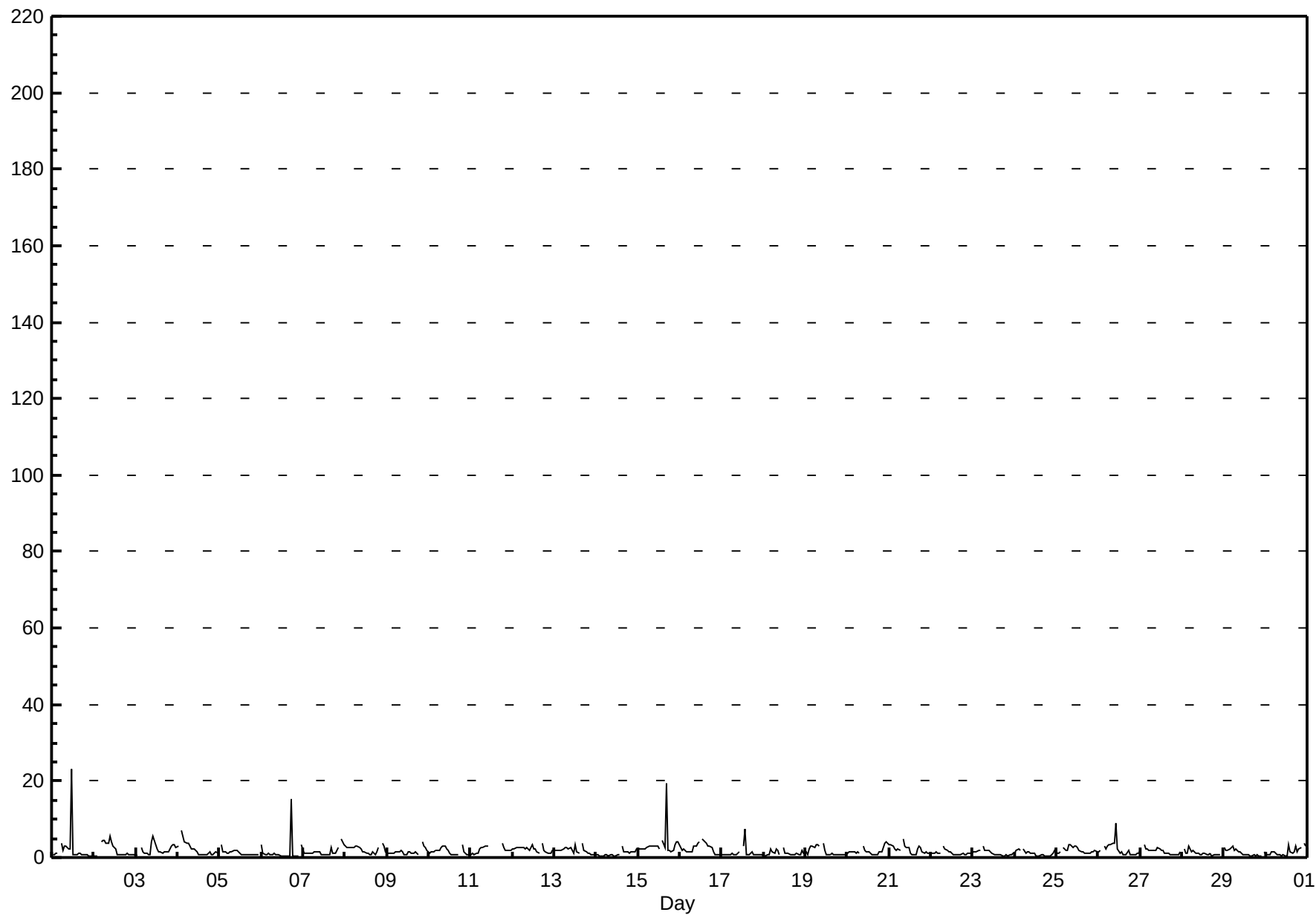
Oxides of Nitrogen (NO_x) - ppb

Sunset House - September 2013

Maximum Value: 23.3 ppb on Sep 1 12:00																				Maximum Daily Average: 3.4 ppb on Sep 15										Hours in Service: 720	
Minimum Value: 0 ppb on Sep 6 15:00																				Minimum Daily Average: 1.0 ppb on Sep 14										Hours of Data: 682	
Maximum Diurnal Average: 2.6 ppb at hour 12																				Minimum Diurnal Average: 1.1 ppb at hour 16										Hours of Missing Data: 38	
Monthly Average: 1.71 ppb																				Percentiles: P ₁ = 0.4 P ₁₀ = 0.6 Q ₁ = 0.8 Median = 1.3 Q ₃ = 2.2 P ₉₀ = 3.1 P ₉₉ = 5.3										Hours of Calibration: 38	
																														Percent Operational Time: 100.0	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24							
1-Sep	1	1	1	1	A	4	5	2	3	2	2	23	1	1	1	1	1	1	1	1	1	1	1	1	2.3	23.3					
2-Sep	1	1	1	A	4	5	5	4	4	5	4	3	2	1	1	1	1	1	1	1	1	1	1	1	2.0	5.5					
3-Sep	0	1	A	3	1	1	1	1	1	4	6	3	2	2	1	1	2	1	1	1	3	3	3	3	2.0	5.7					
4-Sep	3	A	7	6	4	4	4	3	2	2	2	1	1	1	1	1	1	1	1	1	1	1	2	1	2.1	6.9					
5-Sep	A	3	2	1	1	1	1	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	A	1.2	3.5						
6-Sep	3	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	15	1	1	0	0	A	3	1.5	15.2					
7-Sep	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1	2	1	1	2	3	A	5	3	1.5	4.9						
8-Sep	3	3	3	3	3	3	3	3	3	2	2	1	1	1	1	1	1	1	1	3	A	4	3	2	2.1	3.8					
9-Sep	1	1	1	1	1	1	1	2	2	1	1	1	1	2	1	1	2	1	1	A	4	3	2	2	1.5	3.9					
10-Sep	1	1	2	2	2	2	2	2	3	3	2	2	1	1	1	1	1	1	A	3	1	1	1	1	1.6	3.4					
11-Sep	1	1	1	1	1	2	3	3	3	3	3	C	C	C	C	C	C	C	4	3	2	2	2	2	--	3.9					
12-Sep	2	2	3	3	3	3	3	2	3	2	2	4	2	2	1	1	A	4	2	1	1	1	1	2	2.2	3.8					
13-Sep	2	2	2	2	2	2	3	3	2	2	2	1	3	1	1	A	4	2	1	1	1	1	1	1	1.8	3.7					
14-Sep	1	1	0	0	0	1	1	1	1	1	0	0	1	1	A	3	2	1	1	1	1	1	1	2	1.0	3.1					
15-Sep	2	2	2	2	2	2	3	3	3	3	3	3	2	A	4	2	19	2	2	2	2	3	4	4	3.4	19.2					
16-Sep	3	2	2	2	1	1	2	2	3	3	4	4	A	5	4	4	3	3	3	2	1	1	1	1	2.3	4.9					
17-Sep	1	1	1	1	1	1	1	1	1	1	1	A	3	7	1	1	1	1	1	1	1	1	1	1	1.2	7.4					
18-Sep	1	0	1	1	2	2	1	2	2	1	A	3	1	1	1	1	1	1	1	1	1	1	2	1	1.2	2.7					
19-Sep	1	1	2	3	3	3	3	3	3	A	4	2	1	1	1	1	1	1	1	1	1	1	1	1	1.6	3.7					
20-Sep	1	1	1	1	1	1	1	1	A	3	2	1	1	1	1	1	1	1	1	2	2	4	4	4	1.6	4.2					
21-Sep	3	3	3	2	2	2	2	A	5	3	3	3	1	1	1	1	2	3	3	1	1	1	1	1	2.1	5.0					
22-Sep	1	1	1	1	1	1	A	3	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1.2	3.0					
23-Sep	1	1	2	2	2	A	3	2	2	2	1	1	1	1	1	1	1	0	1	1	0	1	1	1	1.2	3.1					
24-Sep	1	2	2	2	A	2	1	1	1	1	1	1	0	0	1	1	1	0	0	0	0	1	1	2	1.1	2.2					
25-Sep	1	1	2	A	3	2	2	3	3	3	3	3	3	2	2	1	1	1	1	1	1	1	2	2	1.9	3.3					
26-Sep	2	2	A	3	2	3	3	3	4	4	9	2	1	1	1	1	1	2	1	1	1	1	1	1	2.1	9.1					
27-Sep	2	A	4	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1.6	3.5					
28-Sep	A	2	1	1	3	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1.1	3.1					
29-Sep	2	2	2	2	2	3	2	2	1	1	1	1	1	1	1	1	0	1	1	1	0	0	A	2	1.3	2.8					
30-Sep	1	1	1	1	1	1	1	1	1	0	1	1	1	3	1	1	1	3	2	2	2	A	4	3	1.5	3.8					
1.6 1.5 1.7 1.8 2.0 2.0 2.0 2.1 2.2 2.1 2.3 2.6 1.3 1.5 1.2 1.1 1.8 1.8 1.2 1.3 1.2 1.4 1.7 1.7																									Diurnal Average						
3.4 3.5 6.9 5.5 4.2 4.5 4.5 3.9 5.0 5.5 9.1 23.3 3.3 7.4 4.3 3.7 19.2 15.2 3.9 3.4 3.9 3.8 4.9 4.1																									Diurnal Maximum						
C - Calibration																									A - Automated Daily Zero Span						

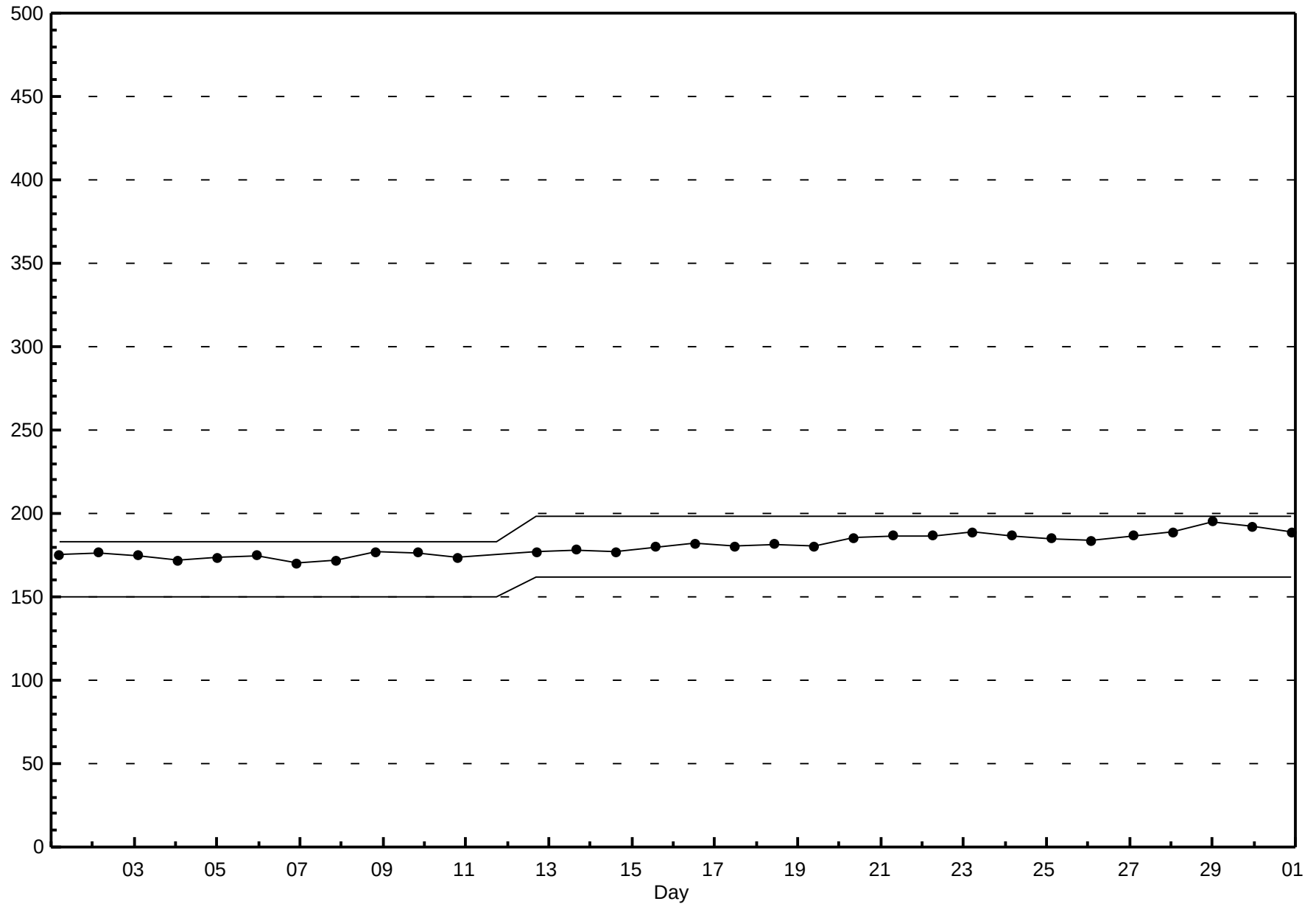
Hourly Maximums

Oxides of Nitrogen (NO_x) - ppb
Sunset House - September 2013



Span Responses

Oxides of Nitrogen (NO_x)
Sunset House - September 2013



Hourly Averages

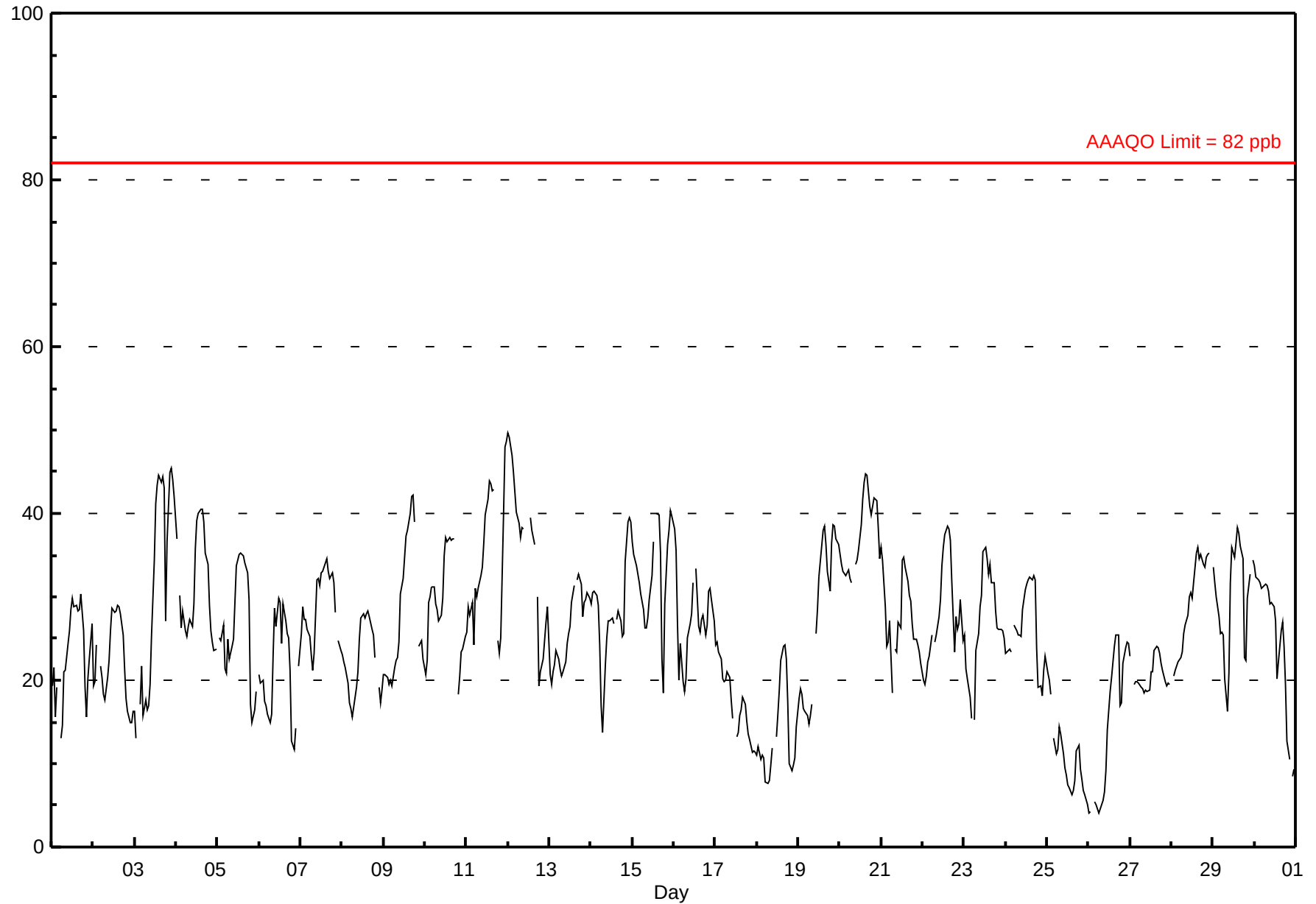
Ozone (O₃) - ppb

Sunset House - September 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 49.7 ppb on Sep 12 01:00 Maximum Daily Average: 37.4 ppb on Sep 20																								Hours in Service: 720 Hours of Data: 685 Hours of Missing Data: 35 Hours of Calibration: 35 Percent Operational Time: 100.0		
Minimum Value: 4 ppb on Sep 26 01:00 Minimum Daily Average: 10.8 ppb on Sep 25 Maximum Diurnal Average: 32.0 ppb at hour 16 Minimum Diurnal Average: 21.0 ppb at hour 7 Monthly Average: 26.02 ppb Percentiles: P ₁ = 5.4 P ₁₀ = 15.0 Q ₁ = 20.2 Median = 25.8 Q ₃ = 32.1 P ₉₀ = 37.4 P ₉₉ = 44.8																										
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	19	21	16	19	A	13	15	21	21	24	26	28	30	29	29	28	29	30	26	19	16	20	22	27	23.0	30.4
2-Sep	19	20	24	A	22	20	18	18	20	22	26	29	28	28	29	29	28	25	21	18	16	15	15	16	22.1	29.0
3-Sep	16	13	A	17	22	16	18	16	17	20	25	34	41	43	45	44	44	43	27	37	45	45	44	42	31.1	45.3
4-Sep	37	A	30	26	28	26	25	26	27	27	29	36	39	40	40	40	39	35	34	29	26	25	24	24	31.0	40.5
5-Sep	A	25	25	27	21	21	25	23	24	25	29	34	35	35	35	35	34	33	30	17	15	16	19	A	26.5	35.3
6-Sep	21	20	20	18	17	16	15	16	23	29	26	30	29	24	29	27	26	25	21	13	12	14	A	22	21.4	29.8
7-Sep	26	29	27	27	26	25	23	21	23	32	32	31	33	33	34	35	33	32	33	32	28	A	25	24	28.9	34.5
8-Sep	23	22	21	20	17	17	16	17	19	21	25	27	28	27	28	28	28	26	25	23	A	19	17	19	22.4	28.3
9-Sep	21	21	20	19	20	19	22	22	23	25	30	32	35	37	38	40	42	42	39	A	24	24	25	23	28.0	42.2
10-Sep	21	22	29	30	31	31	29	29	27	28	30	35	37	37	37	37	37	37	A	18	21	23	24	25	29.3	37.1
11-Sep	26	29	28	29	24	31	30	31	32	34	36	40	42	44	43	43	43	A	25	23	25	40	48	49	34.6	48.6
12-Sep	50	49	47	45	43	40	39	37	38	38	C	C	C	40	38	36	A	30	19	21	23	25	27	29	35.7	49.7
13-Sep	21	19	21	22	23	23	21	20	21	22	24	26	26	29	31	A	32	33	31	28	29	30	31	30	25.8	32.8
14-Sep	29	30	31	30	29	24	17	14	22	25	27	27	27	27	A	27	28	27	25	26	34	39	39	39	28.1	39.5
15-Sep	37	35	34	33	32	30	28	26	26	27	30	33	37	A	40	40	35	23	19	29	36	38	40	40	32.5	40.4
16-Sep	38	36	27	20	24	20	19	20	25	27	28	32	A	33	26	26	27	28	25	27	31	31	30	27	27.2	38.1
17-Sep	24	25	23	22	20	20	20	21	20	18	15	A	13	14	16	16	18	17	15	14	13	11	11	11	17.4	24.5
18-Sep	11	12	11	11	11	8	8	8	10	12	A	13	16	19	22	24	24	23	17	10	9	10	11	14	13.6	24.2
19-Sep	18	19	18	17	16	16	15	16	17	A	26	29	32	34	38	38	36	33	31	36	39	38	37	36	27.6	38.6
20-Sep	35	34	33	32	33	33	32	32	A	34	34	36	39	42	44	45	45	41	40	41	42	41	38	35	37.4	44.8
21-Sep	36	34	29	24	25	27	18	A	24	23	27	26	34	35	34	32	30	30	27	25	25	24	23	22	27.6	36.0
22-Sep	20	19	21	22	23	26	A	25	25	28	30	34	36	37	38	38	37	32	23	28	26	27	30	25	28.2	38.5
23-Sep	25	21	20	18	15	A	15	23	26	29	30	35	36	35	33	34	32	32	28	26	26	26	26	25	26.8	35.9
24-Sep	23	23	24	23	A	27	26	25	25	25	28	31	32	32	32	32	33	32	24	19	19	18	21	23	26.0	32.6
25-Sep	21	20	18	A	13	11	12	14	14	11	10	9	7	7	6	7	8	11	12	9	8	7	6	5	10.8	20.8
26-Sep	4	4	A	5	5	5	4	4	6	7	9	14	19	20	22	24	25	25	17	17	22	24	25	24	14.5	25.5
27-Sep	23	A	20	20	20	20	19	19	18	19	19	19	21	21	24	24	24	23	22	21	20	19	20	20	20.6	24.0
28-Sep	A	21	21	22	22	23	23	26	27	28	30	30	30	32	35	36	35	35	34	34	35	35	35	A	29.4	36.0
29-Sep	34	32	30	28	26	26	25	20	16	21	32	36	35	36	38	38	36	35	23	22	30	33	A	34	29.8	38.3
30-Sep	34	32	32	32	31	31	32	31	31	29	29	29	27	20	22	26	27	24	19	13	10	A	8	9	25.2	33.7
25.4 24.6 25.0 23.5 22.8 22.2 21.0 21.5 22.4 24.4 26.6 29.1 30.2 30.8 32.0 32.0 31.5 29.7 25.3 23.2 24.3 25.7 25.8 25.6																								Diurnal Average		
49.7 49.2 46.9 44.8 42.5 40.2 38.8 37.1 38.3 38.2 36.5 39.8 41.7 43.9 44.5 44.8 44.6 43.0 39.9 40.8 44.9 45.3 47.9 48.6																								Diurnal Maximum		
C - Calibration A - Automated Daily Zero Span Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 82 ppb 24-hr na																										

Hourly Averages

Ozone (O₃) - ppb
Sunset House - September 2013



Hourly Maximums

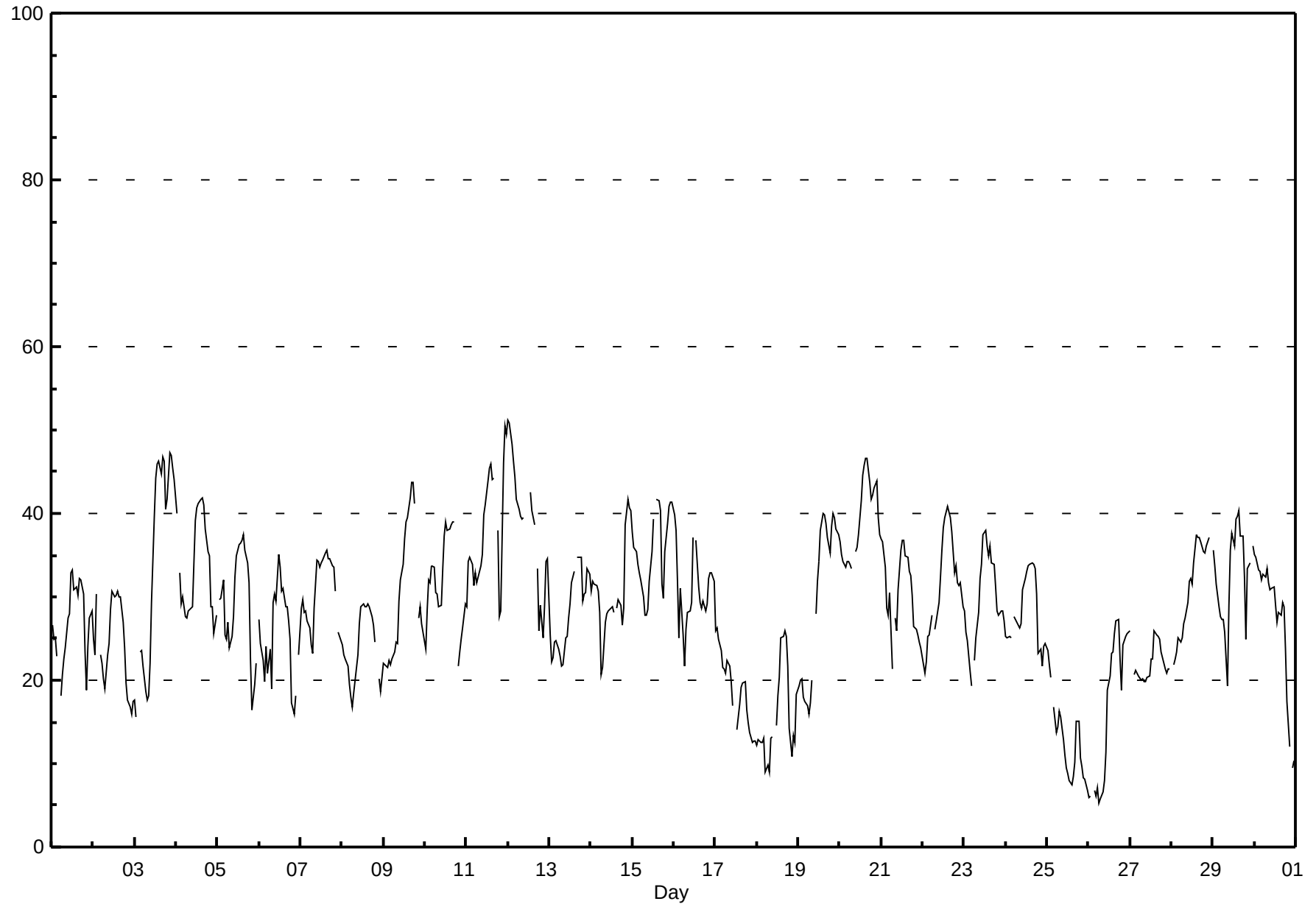
Ozone (O₃) - ppb

Sunset House - September 2013

Maximum Value: 51.3 ppb on Sep 12 01:00																				Maximum Daily Average: 39.2 ppb on Sep 20					Hours in Service: 720	
Minimum Value: 5 ppb on Sep 26 07:00																				Minimum Daily Average: 12.7 ppb on Sep 25					Hours of Data: 685	
Maximum Diurnal Average: 34.0 ppb at hour 15																				Minimum Diurnal Average: 23.3 ppb at hour 7					Hours of Missing Data: 35	
Monthly Average: 28.49 ppb																				Percentiles: P ₁ = 6.8 P ₁₀ = 17.4 Q ₁ = 23.0 Median = 28.7 Q ₃ = 34.3 P ₉₀ = 39.6 P ₉₉ = 46.7					Hours of Calibration: 35	
																				Percent Operational Time: 100.0						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Sep	27	25	25	23	A	18	21	22	24	27	28	33	33	31	31	30	32	32	30	23	19	24	27	28	26.7	33.3
2-Sep	25	23	30	A	23	22	20	19	23	24	28	31	30	30	31	30	30	27	24	20	18	17	16	17	24.3	30.7
3-Sep	18	16	A	23	24	22	19	18	18	22	29	40	44	46	46	45	47	46	40	42	47	47	45	44	34.2	47.4
4-Sep	40	A	33	29	30	28	28	28	29	29	34	39	41	41	42	42	41	38	35	35	29	29	26	28	33.6	41.8
5-Sep	A	30	30	32	25	25	27	24	25	28	32	35	36	36	37	37	36	34	32	23	16	20	22	A	29.2	37.4
6-Sep	27	24	22	20	24	21	24	19	29	30	29	35	34	31	31	29	29	27	25	17	16	18	A	23	25.4	35.1
7-Sep	29	30	28	28	27	26	24	23	29	34	34	33	34	34	35	36	35	35	34	34	31	A	26	25	30.6	35.7
8-Sep	24	23	23	22	20	18	17	18	22	23	27	29	29	29	29	29	29	28	27	25	A	20	19	20	23.8	29.2
9-Sep	22	22	22	22	22	23	23	25	24	30	32	34	37	39	40	42	44	44	41	A	27	29	27	26	30.2	43.7
10-Sep	24	28	32	32	34	34	30	30	29	29	33	37	39	38	38	39	39	39	A	22	23	25	26	29	31.7	39.0
11-Sep	29	34	35	34	31	33	32	32	34	35	40	41	44	45	46	44	44	A	38	28	28	46	51	50	38.0	50.5
12-Sep	51	51	48	46	44	42	41	40	39	39	C	C	C	43	40	39	A	33	26	29	25	29	34	35	38.7	51.3
13-Sep	25	22	23	25	25	24	23	22	22	25	25	27	29	32	33	A	35	35	35	29	30	31	33	33	27.9	34.8
14-Sep	31	32	31	31	31	28	21	22	27	28	28	29	29	28	A	29	30	29	27	29	39	42	41	40	30.4	41.7
15-Sep	38	36	35	34	33	32	30	28	28	28	32	35	39	A	42	41	40	31	30	35	39	41	41	41	35.3	41.7
16-Sep	40	38	32	25	31	25	22	26	28	28	29	37	A	37	31	29	29	30	28	29	32	33	33	32	30.6	39.8
17-Sep	26	26	25	24	22	21	21	22	22	20	17	A	14	16	17	19	20	20	16	15	14	13	13	13	18.9	26.2
18-Sep	12	13	12	13	13	9	10	9	13	13	A	15	18	20	25	25	26	25	22	14	11	13	13	18	15.8	25.9
19-Sep	19	20	20	18	17	17	16	17	20	A	28	32	34	38	40	40	39	37	35	38	40	39	38	37	29.6	40.1
20-Sep	37	35	34	34	34	34	34	33	A	35	36	37	42	45	46	47	47	44	42	42	43	44	40	37	39.2	46.6
21-Sep	37	37	34	29	28	30	21	A	27	26	31	36	37	37	35	35	33	33	30	27	26	25	25	24	30.5	36.9
22-Sep	22	21	22	25	25	28	A	26	27	29	32	36	38	39	41	40	40	38	33	34	32	31	32	29	31.3	40.9
23-Sep	28	26	25	21	19	A	22	25	28	32	34	37	38	36	35	36	34	34	31	28	28	28	28	27	29.7	38.0
24-Sep	25	25	25	25	A	28	27	27	26	27	31	32	33	34	34	34	34	33	30	23	24	22	24	24	28.1	34.1
25-Sep	24	22	20	A	17	14	14	16	16	13	11	10	9	8	7	8	10	15	15	11	10	8	8	7	12.7	23.6
26-Sep	6	6	A	7	6	7	5	6	7	8	11	19	20	23	23	26	27	27	23	19	24	25	26	26	16.4	27.3
27-Sep	26	A	21	21	21	21	20	20	20	20	20	21	23	22	26	25	25	25	23	23	21	21	21	21	22.1	26.0
28-Sep	A	22	23	23	25	25	25	27	28	29	32	32	31	34	37	37	37	37	35	35	36	37	37	A	31.1	37.4
29-Sep	36	34	32	29	28	27	27	26	19	29	36	38	36	39	40	40	37	37	32	25	33	34	A	36	32.6	40.4
30-Sep	35	35	33	33	32	33	32	33	32	31	31	31	29	27	28	28	29	29	24	17	12	A	9	10	27.6	35.1
27.9 27.0 27.7 26.0 25.4 24.6 23.3 23.6 24.6 26.7 29.0 31.8 32.2 33.0 34.0 33.8 33.6 32.5 29.8 26.5 26.7 28.2 27.9 27.9																								Diurnal Average		
51.3 50.9 48.4 46.2 44.4 41.7 40.5 39.6 39.3 39.5 39.8 41.0 44.2 45.9 46.3 46.6 46.8 46.3 41.7 42.1 47.4 46.9 50.5 49.5																								Diurnal Maximum		
C - Calibration A - Automated Daily Zero Span																										

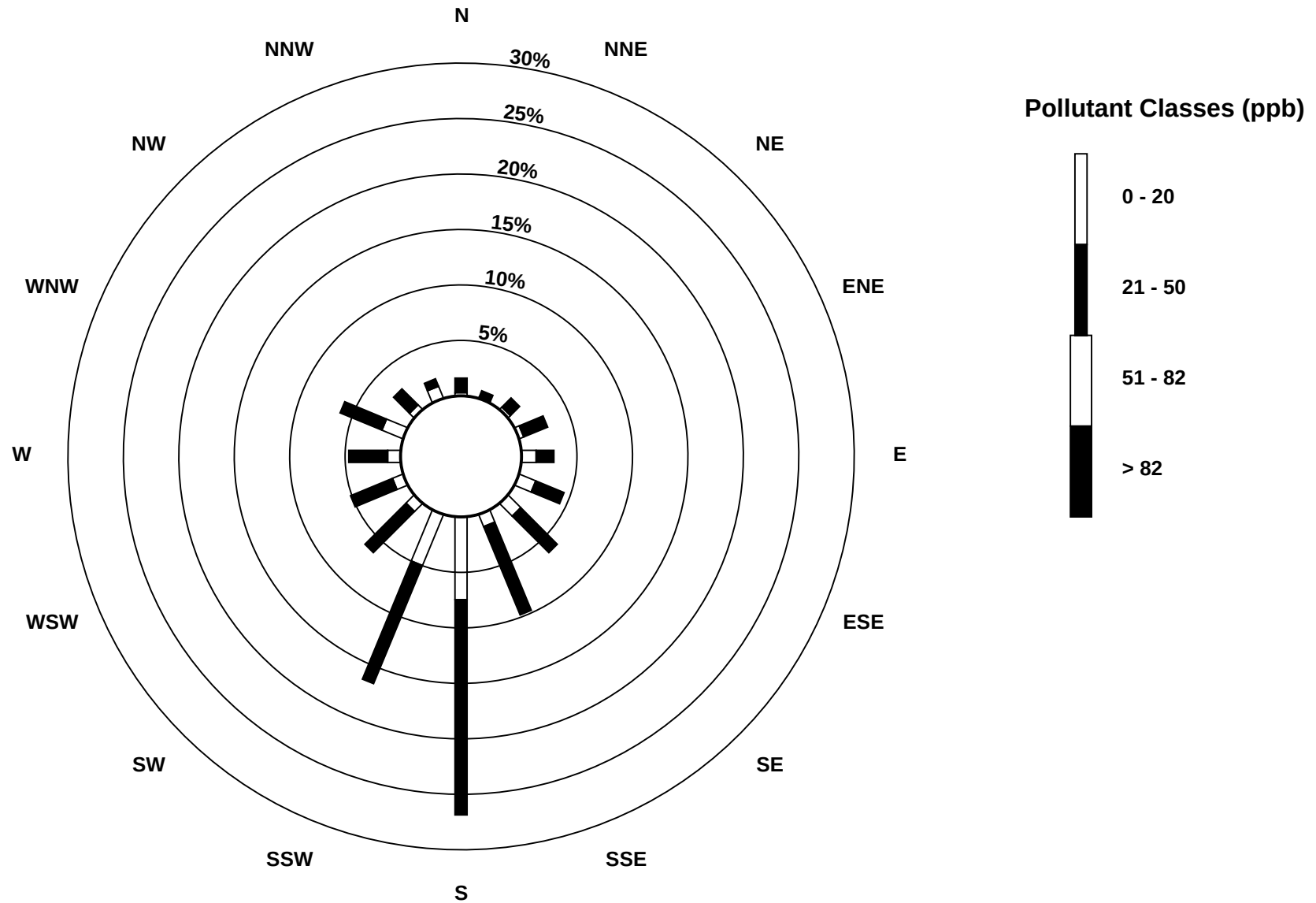
Hourly Maximums

Ozone (O₃) - ppb
Sunset House - September 2013



Pollutant Rose

Ozone (O₃) - ppb
Sunset House - September 2013



Eight Hour Running Averages

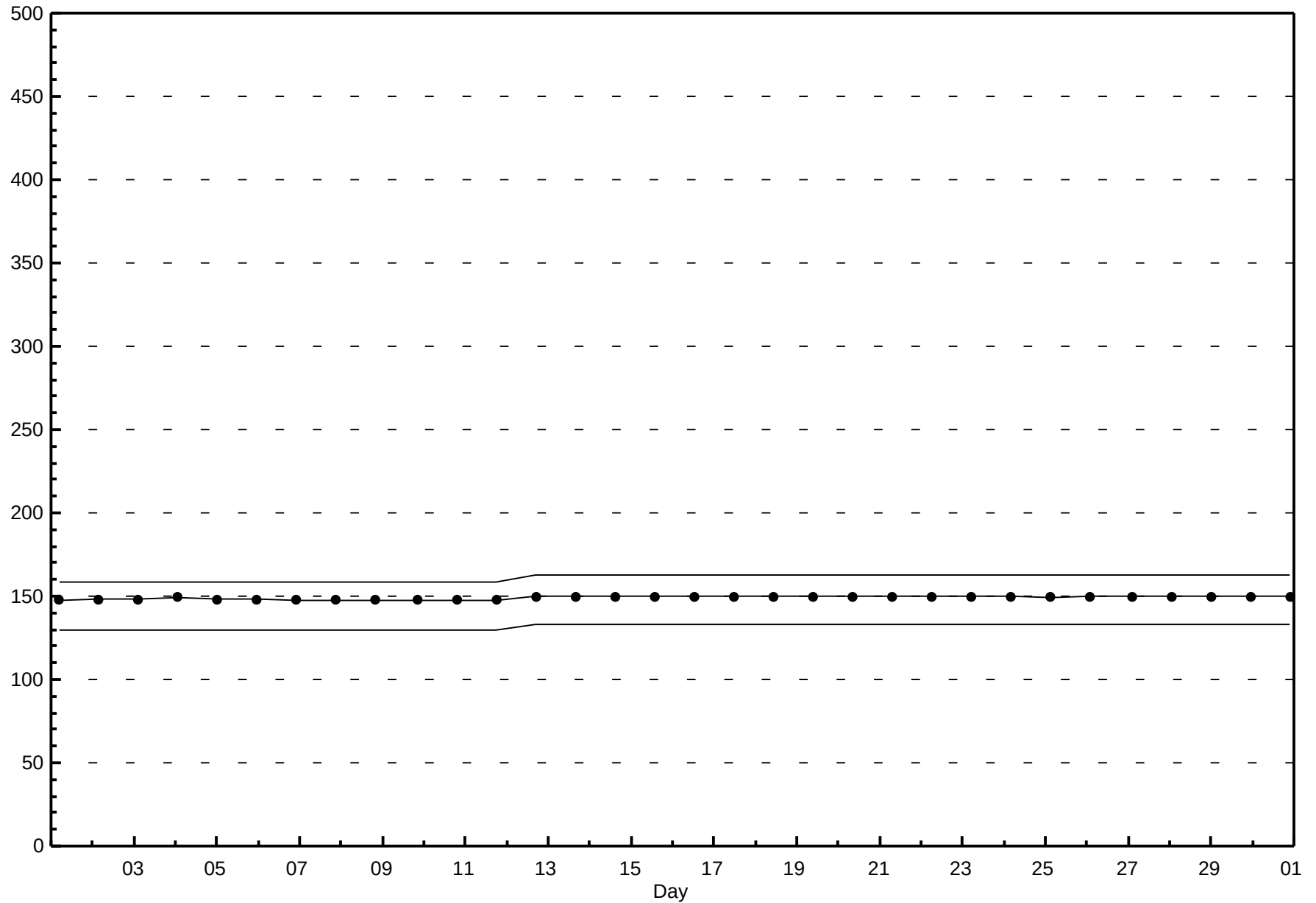
Ozone (O₃) - ppb

Sunset House - September 2013

Maximum Value: 46.2 ppb on Sep 12 06:00																								Hours in Service: 720	
Minimum Value: 4.6 ppb on Sep 26 08:00																								Hours of Data: 713	
Percentiles: P ₁ = 5.5 P ₁₀ = 16.4 Q ₁ = 21.2 Median = 26.1 Q ₃ = 31.3 P ₉₀ = 35.5 P ₉₉ = 42.2																								Hours of Missing Data: 7	
																								Hours of Calibration: 7	
																								Percent Operational Time: 100.0	
Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Sep	22	21	19	20	20	20	18	18	18	18	20	21	22	24	26	27	28	29	29	28	26	25	24	24	28.7
2-Sep	22	21	21	21	22	22	22	20	20	21	21	22	23	24	25	26	27	28	27	26	24	23	21	19	27.8
3-Sep	18	16	16	16	16	16	17	17	17	18	19	21	23	27	30	34	37	40	40	40	41	41	41	41	41.2
4-Sep	40	40	40	39	36	33	31	28	27	27	27	28	29	31	33	35	36	37	38	37	36	34	31	29	40.0
5-Sep	28	27	25	25	24	24	24	24	24	24	24	25	27	29	30	32	33	34	34	32	29	27	25	23	33.9
6-Sep	21	20	18	18	19	18	18	18	18	19	20	21	23	24	26	27	28	27	26	24	22	21	20	19	27.6
7-Sep	19	19	20	22	24	26	26	26	25	26	26	27	28	29	30	32	33	33	33	33	32	32	31	29	33.0
8-Sep	28	27	25	23	22	21	20	19	19	18	19	20	21	23	24	26	27	27	27	27	27	25	24	22	28.0
9-Sep	21	21	20	19	20	20	20	21	21	21	23	24	26	28	30	32	35	37	38	39	38	36	34	31	39.1
10-Sep	28	25	24	25	26	27	27	28	29	29	29	30	31	31	32	33	35	36	37	34	32	30	28	26	36.6
11-Sep	25	24	24	26	26	27	28	29	29	30	31	32	35	36	38	39	41	42	40	38	35	35	35	36	41.6
12-Sep	37	39	41	44	46	46	45	44	42	41	40	39	N	N	N	N	N	N	N	31	30	27	26	25	46.2
13-Sep	24	23	23	23	23	23	22	21	21	22	22	23	23	24	25	26	27	29	30	30	31	31	30	30	30.6
14-Sep	30	30	30	30	30	29	28	26	25	24	24	23	23	23	24	26	27	27	27	27	28	30	31	32	32.2
15-Sep	33	34	35	36	36	35	33	32	31	30	29	29	30	30	31	33	34	34	32	32	32	32	32	32	36.2
16-Sep	33	34	36	34	33	31	28	25	24	23	23	24	24	26	27	28	28	29	28	28	28	28	28	28	35.5
17-Sep	28	27	27	27	25	24	23	22	21	21	20	19	18	17	17	16	16	16	16	15	15	15	14	14	27.8
18-Sep	13	12	12	11	11	11	10	10	10	10	10	10	11	12	14	17	19	20	20	19	19	17	16	15	20.2
19-Sep	14	14	14	14	15	16	17	17	17	16	17	19	21	24	27	31	33	33	34	35	36	36	36	36	36.3
20-Sep	36	36	36	36	35	34	34	33	33	33	33	33	34	35	37	39	40	41	41	42	42	42	42	40	42.3
21-Sep	39	38	37	35	33	31	29	28	26	24	24	24	26	27	29	29	30	31	31	31	30	28	27	26	39.2
22-Sep	24	23	22	22	22	22	22	22	23	24	25	27	29	31	32	33	35	35	34	34	32	31	30	28	35.3
23-Sep	27	26	25	24	23	22	20	20	20	21	22	25	28	29	31	32	33	33	33	32	31	30	29	28	33.3
24-Sep	27	26	25	25	24	24	24	25	25	25	26	27	27	28	29	30	31	31	31	29	28	26	25	24	31.5
25-Sep	22	21	20	20	19	18	17	16	15	13	12	12	11	10	10	9	8	8	8	9	9	9	9	8	22.2
26-Sep	8	7	6	6	5	5	5	5	5	5	6	7	8	10	13	15	18	20	21	21	22	22	22	23	22.5
27-Sep	22	22	22	22	22	22	21	20	19	19	19	19	19	19	20	21	21	22	22	23	22	22	22	21	22.5
28-Sep	21	20	20	20	21	21	22	22	23	24	25	26	27	28	30	31	32	33	33	34	34	35	35	35	34.8
29-Sep	34	34	33	33	31	30	29	27	25	24	24	25	26	28	29	32	34	36	35	33	32	32	31	30	35.7
30-Sep	30	30	31	32	33	32	32	32	31	31	31	30	30	29	27	27	26	26	24	22	20	20	18	16	32.6
Diurnal Maximums																									
N - Not Valid																									

Span Responses

Ozone (O₃)
Sunset House - September 2013



Hourly Averages

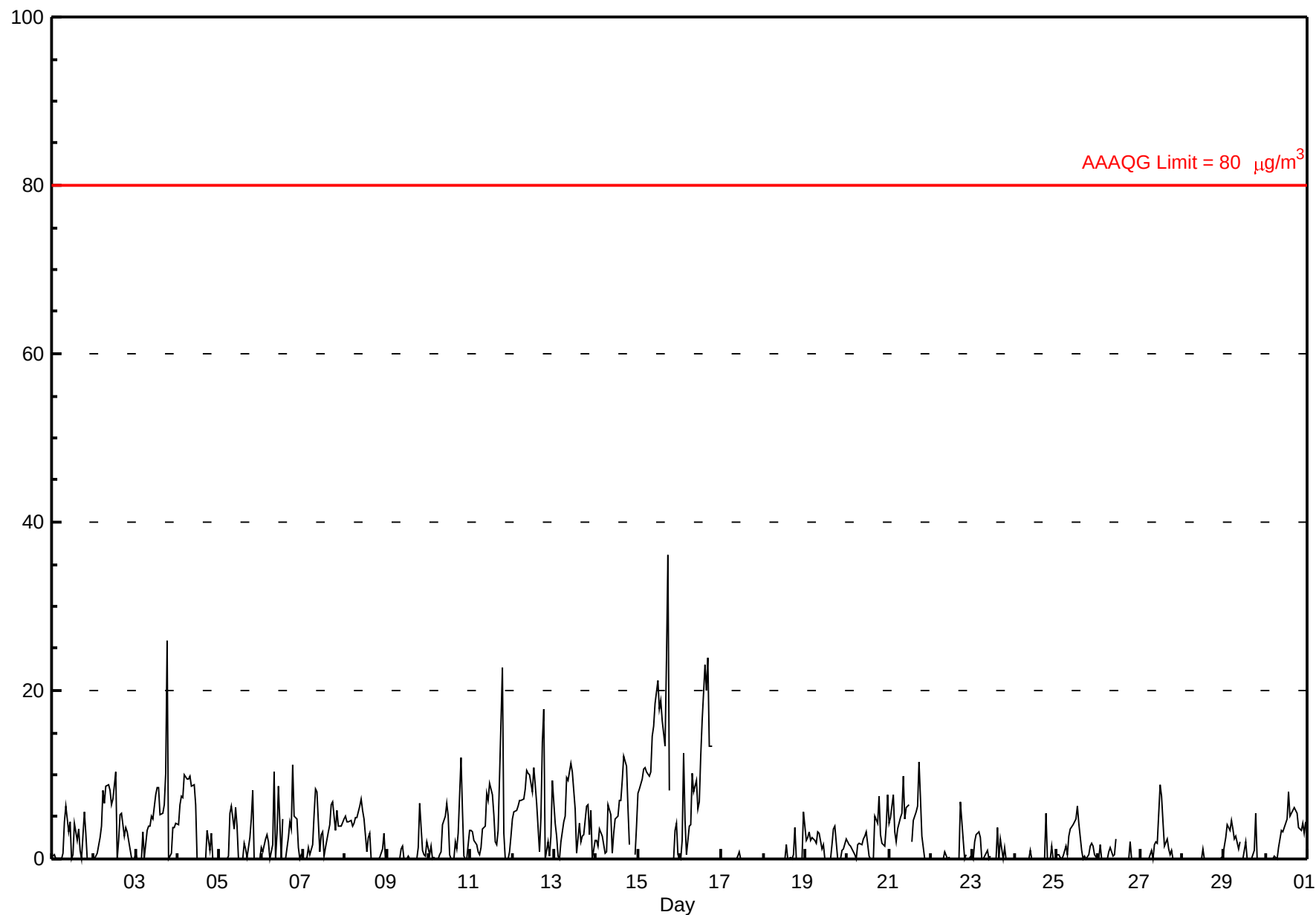
PM2.5 (PM_{2.5}) - µg/m³

Sunset House - September 2013

Number of Exceedences: 1-hr: 0 24-hr: 0 Maximum Value: 36.1 µg/m³ on Sep 15 18:00 Minimum Value: 0 µg/m³ on Sep 1 03:00 Maximum Diurnal Average: 6.6 µg/m³ at hour 19 Monthly Average: 3.10 µg/m³																					Maximum Daily Average: 12.6 µg/m³ on Sep 15 Minimum Daily Average: 0.1 µg/m³ on Sep 28 Minimum Diurnal Average: 0.9 µg/m³ at hour 21 Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 1.6 Q ₃ = 4.7 P ₉₀ = 8.2 P ₉₉ = 20.8					Hours in Service: 720 Hours of Data: 675 Hours of Missing Data: 45 Hours of Calibration: 0 Percent Operational Time: 93.8	
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	0	0	1	4	6	3	4	0	1	4	2	3	1	0	6	3	0	0	0	0	1.7	6.3	
2-Sep	0	0	1	3	4	8	7	9	9	8	6	7	10	0	2	5	5	3	4	3	2	0	0	0	4.0	10.3	
3-Sep	1	0	0	0	3	0	3	4	4	5	5	8	9	8	5	5	6	10	26	0	1	4	4	4	4.8	25.9	
4-Sep	4	6	8	7	10	9	10	10	9	9	6	0	N	N	0	0	0	3	1	3	0	0	0	0	4.3	10.0	
5-Sep	0	0	0	0	0	0	5	6	4	6	4	0	0	0	2	1	0	3	5	8	0	0	0	0	1.8	8.1	
6-Sep	1	1	2	3	2	0	2	10	0	3	9	0	5	N	0	3	4	4	11	5	5	1	0	1	3.1	11.2	
7-Sep	0	0	0	1	0	2	5	8	8	1	3	3	0	1	3	4	6	7	3	6	4	4	4	5	3.3	8.2	
8-Sep	5	4	4	5	4	4	5	5	6	7	6	5	1	2	3	0	0	N	N	0	0	1	3	0	3.2	7.2	
9-Sep	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1	7	1	1	0	2	0.6	6.6	
10-Sep	1	1	0	0	0	0	1	1	4	5	7	5	0	0	0	2	1	3	12	6	0	0	0	3	2.2	12.0	
11-Sep	3	3	2	2	1	1	1	4	4	8	7	9	8	5	2	2	3	16	23	3	0	0	1	3	4.6	22.7	
12-Sep	5	6	6	6	7	7	7	8	10	10	10	8	11	9	7	1	5	14	18	0	2	0	3	9	7.0	17.8	
13-Sep	4	3	0	0	2	4	5	10	9	11	10	8	6	1	4	2	3	3	6	6	3	6	0	2	4.6	11.4	
14-Sep	2	2	3	3	2	1	1	6	5	1	3	5	5	7	7	9	12	11	6	2	N	N	0	4	4.4	12.2	
15-Sep	8	8	9	11	11	10	10	10	15	16	18	21	18	19	16	13	24	36	8	N	0	3	4	1	12.6	36.1	
16-Sep	0	2	13	5	1	4	4	10	8	9	6	7	12	16	23	20	24	13	13	N	N	N	0	0	9.1	23.9	
17-Sep	N	N	0	0	0	N	N	N	0	0	1	0	0	0	0	0	N	0	N	0	0	0	N	N	--	0.9	
18-Sep	N	N	N	0	0	0	0	0	0	0	0	0	0	2	0	0	0	4	0	0	0	0	0	6	0.5	5.6	
19-Sep	2	2	3	2	2	2	2	3	3	1	2	0	0	0	0	2	4	4	0	0	0	1	1	2	1.6	3.9	
20-Sep	2	2	2	1	0	0	2	2	2	2	3	3	0	0	0	0	5	4	7	3	2	1	4	8	2.3	7.7	
21-Sep	4	5	8	3	2	4	5	5	10	5	6	6	N	2	5	6	6	12	7	3	0	0	0	N	4.7	11.6	
22-Sep	N	N	N	N	N	0	0	0	1	0	0	0	N	0	0	0	0	7	2	0	0	N	0	1	--	6.8	
23-Sep	0	2	3	3	3	0	0	0	1	0	0	N	N	0	4	0	2	0	1	0	0	0	N	0	0.9	3.7	
24-Sep	0	0	0	0	0	0	0	0	0	1	0	N	0	0	0	0	0	0	5	0	0	2	0	0	0.3	5.4	
25-Sep	0	1	0	0	0	1	1	3	4	4	4	5	6	4	1	0	0	0	1	2	2	2	1	0	1.7	6.2	
26-Sep	0	2	0	0	0	0	1	1	0	1	2	N	N	N	0	N	N	0	2	0	0	0	0	0	0.5	2.3	
27-Sep	0	0	0	0	0	0	1	0	2	2	2	9	7	4	2	2	1	1	1	0	0	0	N	0	1.5	8.8	
28-Sep	N	0	N	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0.1	1.3	
29-Sep	2	3	4	3	5	4	2	3	1	2	N	0	2	0	0	0	0	1	5	0	0	0	0	0	1.6	5.5	
30-Sep	0	0	0	0	0	0	0	1	2	3	3	4	5	8	5	6	6	6	5	4	3	4	3	4	3.1	8.0	
																									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

PM2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Sunset House - September 2013



Hourly Maximums

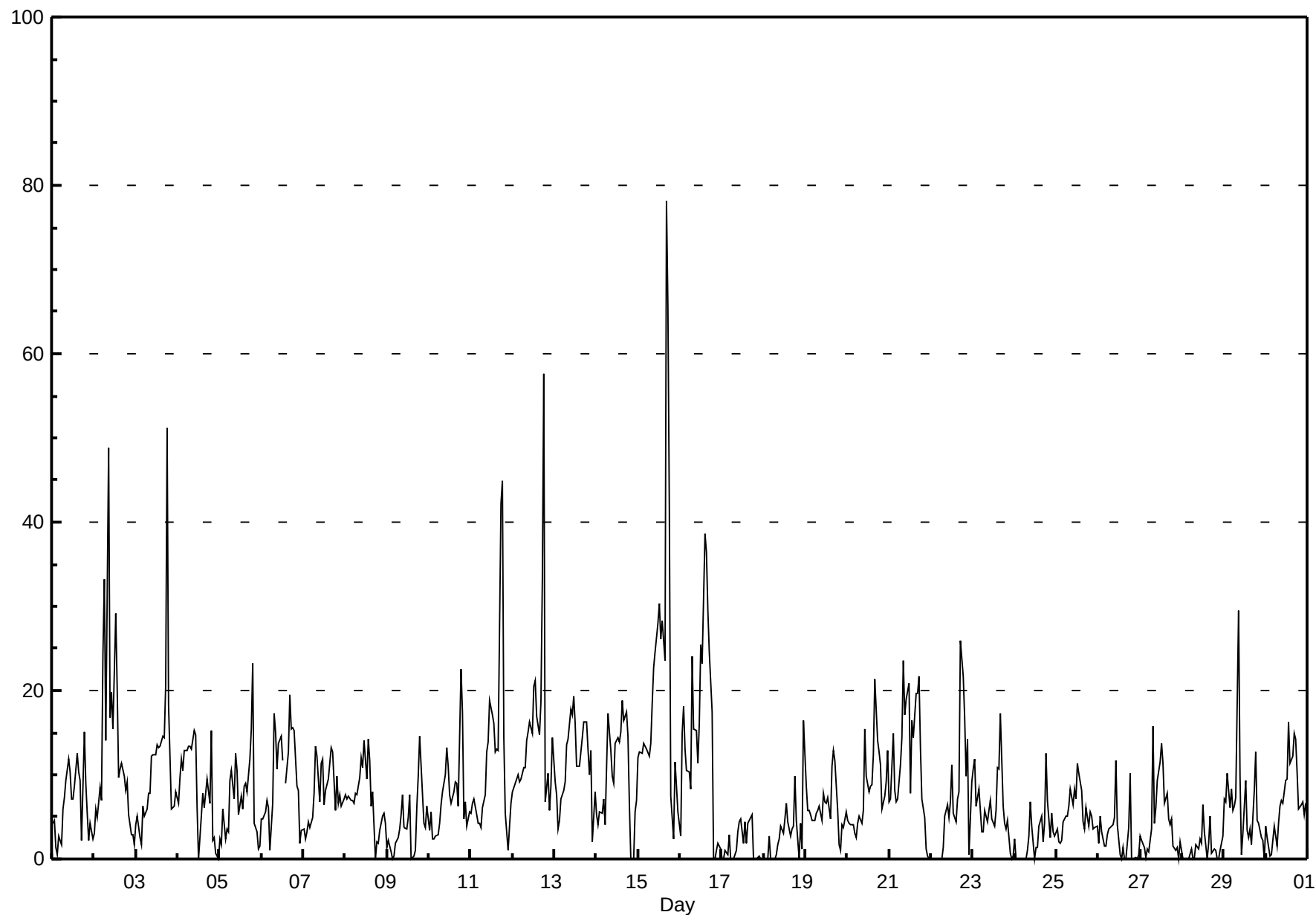
PM2.5 (PM_{2.5}) - µg/m³

Sunset House - September 2013

Maximum Value: 78.2 µg/m³ on Sep 15 17:00																								Maximum Daily Average: 21.9 µg/m³ on Sep 15				Hours in Service: 720	
Minimum Value: 0 µg/m³ on Sep 5 00:00																								Minimum Daily Average: 1.3 µg/m³ on Sep 28				Hours of Data: 719	
Maximum Diurnal Average: 15.6 µg/m³ at hour 19																								Minimum Diurnal Average: 3.2 µg/m³ at hour 23				Hours of Missing Data: 1	
Monthly Average: 8.11 µg/m³																								Percentiles: P ₁ = 0.0 P ₁₀ = 0.5 Q ₁ = 3.0 Median = 6.3 Q ₃ = 11.4 P ₉₀ = 16.0 P ₉₉ = 40.3				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	4	5	1	0	3	2	6	7	9	12	10	7	7	9	13	10	9	2	15	9	5	2	4	2	6.5	15.1			
2-Sep	3	6	5	9	7	24	33	14	49	17	20	16	29	20	10	11	11	10	8	9	5	3	3	2	13.4	48.7			
3-Sep	4	5	3	2	6	5	6	8	8	12	12	12	14	13	13	15	14	21	51	18	6	6	6	8	11.2	51.2			
4-Sep	7	10	12	10	13	13	13	13	13	15	15	6	0	3	8	6	8	9	7	15	2	3	1	0	8.4	15.3			
5-Sep	2	2	6	2	4	3	9	10	7	13	11	5	7	6	9	9	8	12	15	23	4	3	1	2	7.2	23.2			
6-Sep	5	5	6	7	6	1	7	17	15	11	14	15	12	N	9	13	19	15	16	15	9	8	2	3	9.9	19.5			
7-Sep	4	2	3	4	4	5	8	13	12	7	11	12	7	8	9	11	13	13	6	10	7	8	6	7	7.9	13.4			
8-Sep	8	7	7	7	7	7	8	8	10	12	11	14	9	14	12	6	8	0	2	2	3	5	5	4	7.4	14.2			
9-Sep	1	2	1	0	0	2	3	4	5	8	4	4	5	8	0	0	1	6	10	15	8	4	4	6	4.1	14.7			
10-Sep	3	6	2	2	3	3	4	6	8	10	13	11	8	7	8	9	9	6	23	18	5	7	4	6	7.5	22.5			
11-Sep	5	7	7	5	4	4	4	6	8	13	14	19	17	16	13	13	13	42	45	14	5	1	4	7	11.9	44.9			
12-Sep	8	8	9	10	9	10	11	11	14	15	16	15	21	21	17	15	19	33	58	7	10	6	9	14	15.2	57.6			
13-Sep	9	8	4	5	7	8	9	14	14	18	17	19	16	11	11	13	14	16	16	13	10	13	2	8	11.5	19.3			
14-Sep	5	4	6	5	7	4	11	17	13	10	9	14	14	14	15	19	16	17	15	6	0	0	6	7	9.8	18.7			
15-Sep	12	13	13	14	13	13	12	14	18	23	25	28	30	26	28	24	78	66	42	7	2	11	9	6	21.9	78.2			
16-Sep	3	15	18	13	11	10	8	24	15	15	11	16	25	23	39	36	29	25	17	0	0	1	2	1	15.0	38.6			
17-Sep	0	0	1	1	3	0	0	0	1	3	4	5	2	4	2	4	4	5	0	0	0	0	0	0	1.7	5.2			
18-Sep	0	0	0	3	0	0	0	1	2	2	4	3	5	7	4	3	4	4	10	5	0	4	1	16	3.2	16.4			
19-Sep	9	6	6	5	5	5	5	6	6	5	8	7	7	7	5	11	13	12	6	2	1	4	4	6	6.1	12.9			
20-Sep	5	4	4	4	3	2	4	5	4	6	15	10	8	9	9	12	21	14	13	11	6	7	9	13	8.3	21.3			
21-Sep	7	7	15	8	7	7	11	14	24	17	19	21	8	16	14	20	20	22	13	7	5	1	0	0	11.8	23.6			
22-Sep	0	0	0	0	0	0	0	1	5	6	5	7	11	5	4	7	8	26	22	17	10	14	1	9	6.6	26.0			
23-Sep	11	12	6	8	6	3	3	6	4	6	7	5	4	6	11	11	17	6	4	4	5	1	0	0	6.0	17.2			
24-Sep	2	0	0	0	0	0	0	1	3	7	4	0	1	1	4	5	2	4	13	7	3	5	3	3	2.8	12.6			
25-Sep	4	2	2	2	4	5	5	6	8	7	8	7	11	10	8	4	4	6	4	6	5	4	4	4	5.4	11.3			
26-Sep	2	5	3	2	2	3	4	4	4	5	12	4	0	0	1	0	0	4	10	0	0	0	0	0	2.7	11.6			
27-Sep	3	2	1	0	1	1	4	16	4	6	9	12	14	11	7	8	5	4	5	2	1	1	0	2	4.9	15.7			
28-Sep	0	0	0	0	0	1	0	0	2	1	2	2	6	3	0	2	5	1	1	1	0	0	1	3	1.3	6.5			
29-Sep	7	7	10	6	8	6	6	7	29	10	0	3	9	3	3	3	2	8	13	5	4	2	2	0	6.5	29.5			
30-Sep	4	3	0	1	2	4	2	4	6	7	7	9	9	16	11	12	15	14	10	6	6	7	5	7	7.0	16.3			
4.5 5.0 5.1 4.5 4.8 5.0 6.5 8.6 10.7 9.9 10.6 10.2 10.6 10.3 9.9 10.4 13.0 14.1 15.6 8.4 4.3 4.4 3.2 4.9																								Diurnal Average					
12.0 15.0 18.2 13.8 13.4 24.3 33.1 24.1 48.7 22.7 24.6 28.0 30.4 26.2 38.6 36.5 78.2 65.7 57.6 23.2 10.2 14.3 9.1 16.4																								Diurnal Maximum					
N - Not Valid																													

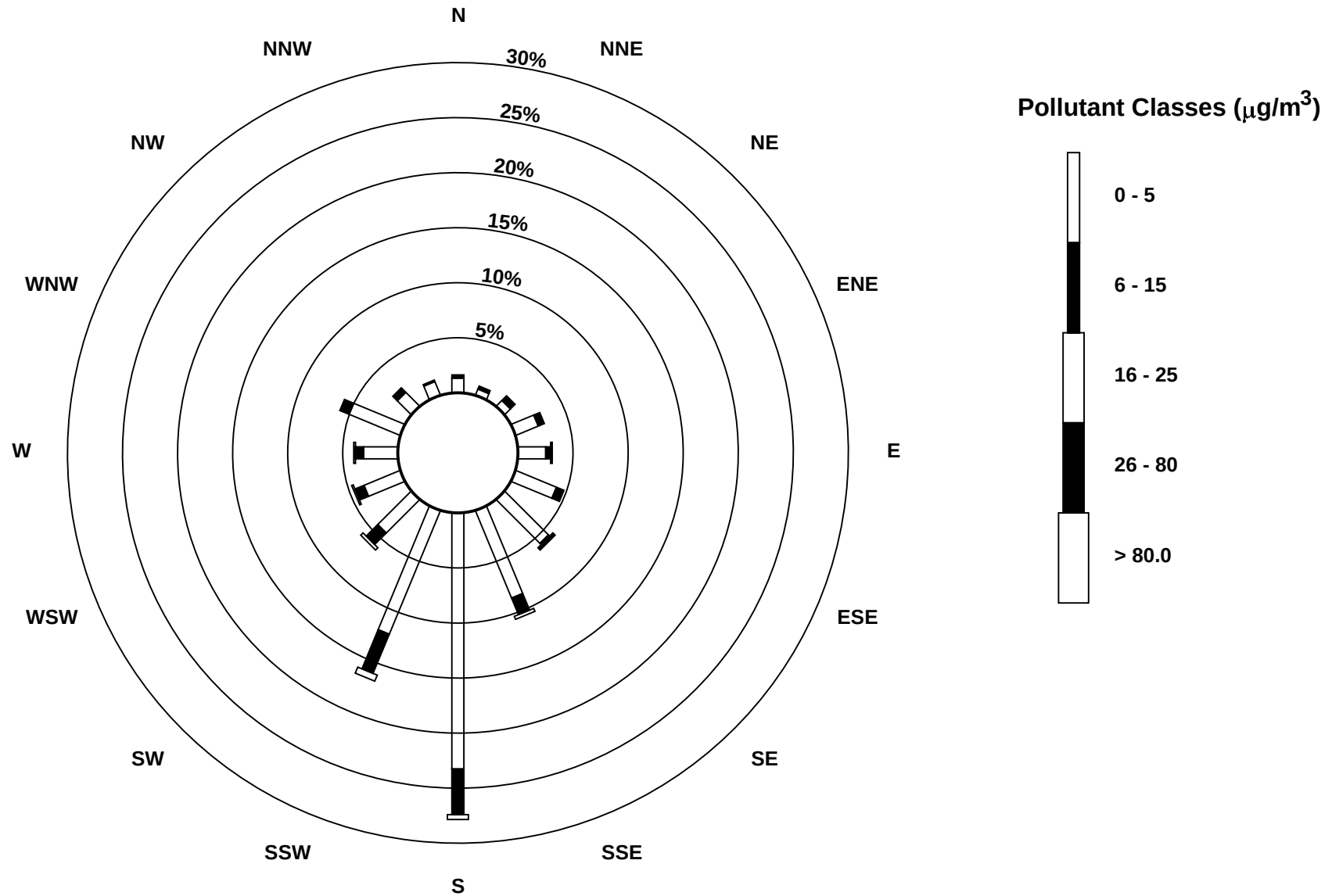
Hourly Maximums

PM_{2.5} (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Sunset House - September 2013



Pollutant Rose

PM2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Sunset House - September 2013



Hourly Averages

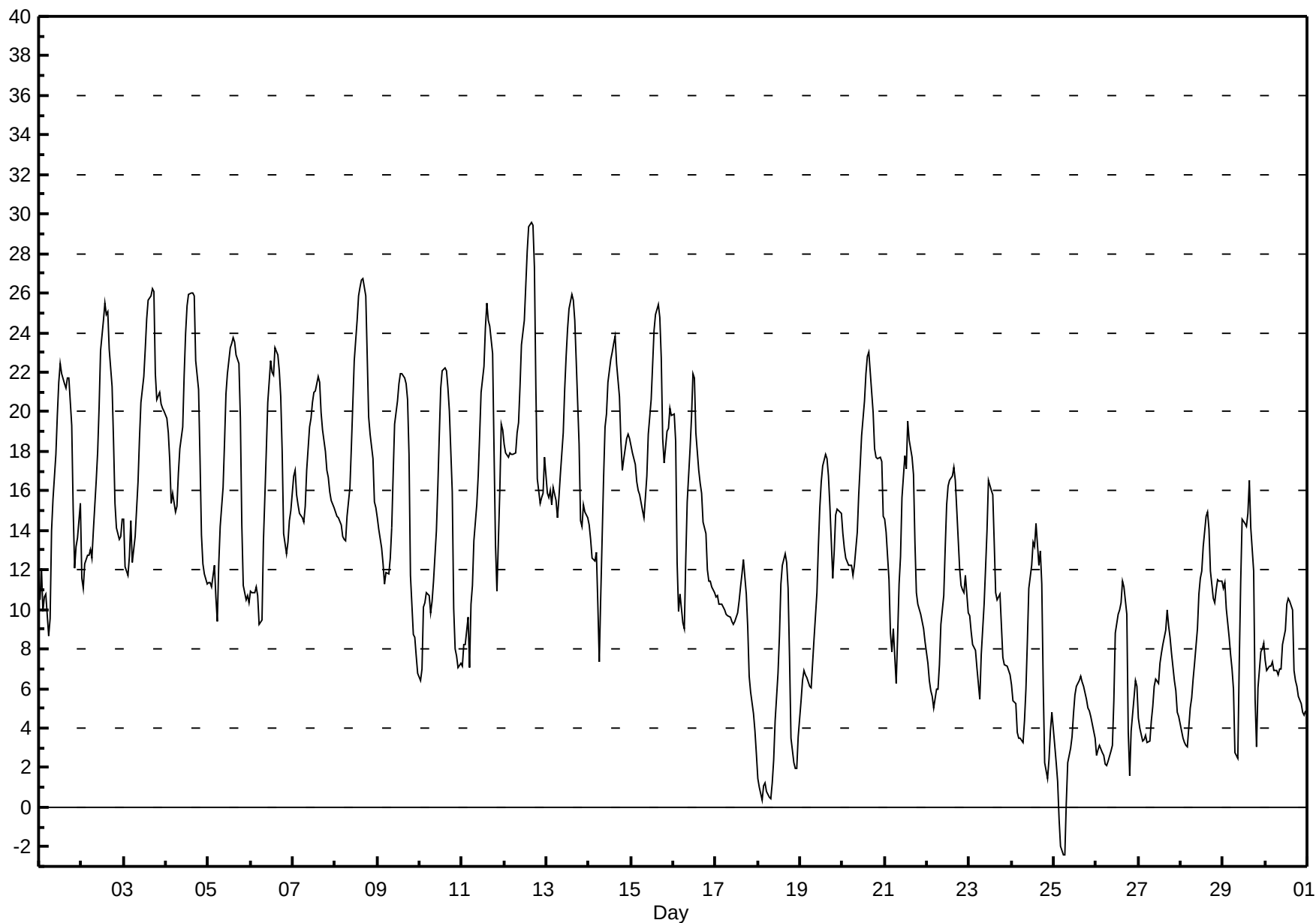
External Temperature (ET) - °C

Sunset House - September 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 29.6 °C on Sep 12 16:00 Maximum Daily Average: 21.1 °C on Sep 12																								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 25 07:00 Maximum Diurnal Average: 19.2 °C at hour 15 Monthly Average: 13.28 °C												Minimum Daily Average: 3.3 °C on Sep 25 Minimum Diurnal Average: 8.9 °C at hour 7 Percentiles: P ₁ = 0.4 P ₁₀ = 4.7 Q ₁ = 8.3 Median = 13.1 Q ₃ = 18.0 P ₉₀ = 22.1 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	10	12	10	11	11	9	10	14	16	18	20	22	22	22	21	21	22	22	19	15	12	13	14	15	15.8	22.4
2-Sep	12	11	12	13	13	13	13	14	17	18	20	23	25	26	25	25	23	21	19	15	14	14	14	15	17.2	25.5
3-Sep	15	12	12	13	15	12	14	15	16	19	20	22	23	25	26	26	26	26	22	21	21	20	20	20	19.2	26.2
4-Sep	20	19	18	15	16	15	15	17	18	19	22	24	25	26	26	26	26	23	21	18	14	12	12	11	19.1	26.0
5-Sep	11	11	11	12	11	9	12	14	16	18	21	22	23	23	24	24	23	22	20	14	11	10	11	10	16.1	23.8
6-Sep	11	11	11	11	11	9	9	13	16	18	20	23	22	22	23	23	22	21	18	14	13	13	15	15	16.0	23.2
7-Sep	17	17	16	15	15	15	14	15	17	19	20	20	21	21	22	22	20	19	18	17	17	16	16	15	17.6	21.8
8-Sep	15	15	15	14	14	14	14	15	16	18	20	23	25	26	26	27	27	26	23	20	19	18	15	15	19.0	26.8
9-Sep	15	14	13	12	11	12	12	13	14	17	19	21	21	22	22	22	21	21	18	12	9	9	8	7	15.1	22.0
10-Sep	6	7	10	10	11	11	10	10	11	14	16	19	21	22	22	22	21	20	16	10	8	8	7	7	13.4	22.2
11-Sep	7	8	8	10	7	10	11	13	15	17	19	21	22	24	26	25	24	23	18	13	11	16	19	19	16.1	25.5
12-Sep	18	18	18	18	18	18	18	19	19	21	23	25	26	28	29	30	29	27	21	17	15	16	16	18	21.1	29.6
13-Sep	16	16	16	15	16	15	15	16	17	19	21	23	24	25	26	26	25	23	18	14	14	15	15	15	18.5	25.9
14-Sep	14	14	13	12	13	10	7	11	17	19	20	21	23	23	23	24	22	21	18	17	18	19	19	19	17.4	23.8
15-Sep	18	18	17	16	16	16	15	15	16	17	19	21	22	24	25	25	25	23	19	17	19	19	20	20	19.2	25.5
16-Sep	20	19	12	10	11	9	9	13	15	18	20	22	22	19	17	16	16	14	14	12	11	11	11	11	14.7	21.9
17-Sep	11	11	10	10	10	10	10	10	10	9	9	9	10	10	11	12	13	11	9	7	6	5	4	3	9.1	12.5
18-Sep	1	1	0	1	1	1	0	0	1	2	4	7	9	11	12	13	12	11	8	3	2	2	2	4	4.6	12.8
19-Sep	5	6	7	7	7	6	6	7	9	11	13	15	16	17	18	18	17	15	12	13	15	15	15	15	11.8	17.8
20-Sep	14	13	13	12	12	12	12	12	14	16	17	19	21	22	23	23	22	20	18	18	18	18	17	15	16.6	23.0
21-Sep	15	14	11	9	8	9	6	9	11	13	16	18	17	20	19	18	17	13	11	10	10	9	9	8	12.4	19.5
22-Sep	7	6	6	6	5	6	6	7	9	11	13	15	16	17	17	17	17	15	12	11	11	11	12	10	10.9	17.2
23-Sep	10	9	8	8	7	6	5	8	10	12	14	17	16	16	13	11	11	11	9	8	7	7	7	7	9.8	16.5
24-Sep	6	5	5	4	4	3	3	4	6	8	11	12	13	13	14	12	13	11	6	2	1	2	4	5	7.1	14.3
25-Sep	3	2	1	-1	-2	-2	-2	0	2	3	4	5	6	6	6	7	6	6	5	5	5	5	4	4	3.3	6.6
26-Sep	3	3	3	3	3	2	2	2	3	3	5	9	10	10	10	11	11	10	4	2	4	6	6	6	5.4	11.5
27-Sep	4	4	3	3	4	3	3	4	5	6	6	6	7	8	8	9	10	9	9	8	6	6	5	5	6.0	9.9
28-Sep	4	3	3	3	3	5	6	6	7	9	11	12	12	13	15	15	14	12	11	10	11	11	11	11	9.1	14.9
29-Sep	11	11	10	9	8	7	6	3	2	7	11	15	14	14	15	17	14	12	5	3	6	8	8	8	9.4	16.6
30-Sep	7	7	7	7	7	7	7	7	7	7	8	9	10	11	10	10	7	6	6	6	5	5	5	5	7.2	10.5
10.9 10.6 10.0 9.6 9.4 9.1 8.9 10.2 11.8 13.6 15.5 17.2 18.2 18.9 19.2 19.1 18.5 17.1 14.2 11.7 11.1 11.3 11.3 11.2																									Diurnal Average	
19.9 19.0 17.7 17.9 17.8 17.9 19.0 19.4 21.2 23.4 24.6 26.4 28.2 29.3 29.6 29.4 27.3 22.8 20.6 21.0 20.4 20.2 20.0																									Diurnal Maximum	

Hourly Averages

External Temperature (ET) - °C
Sunset House - September 2013



Hourly Averages

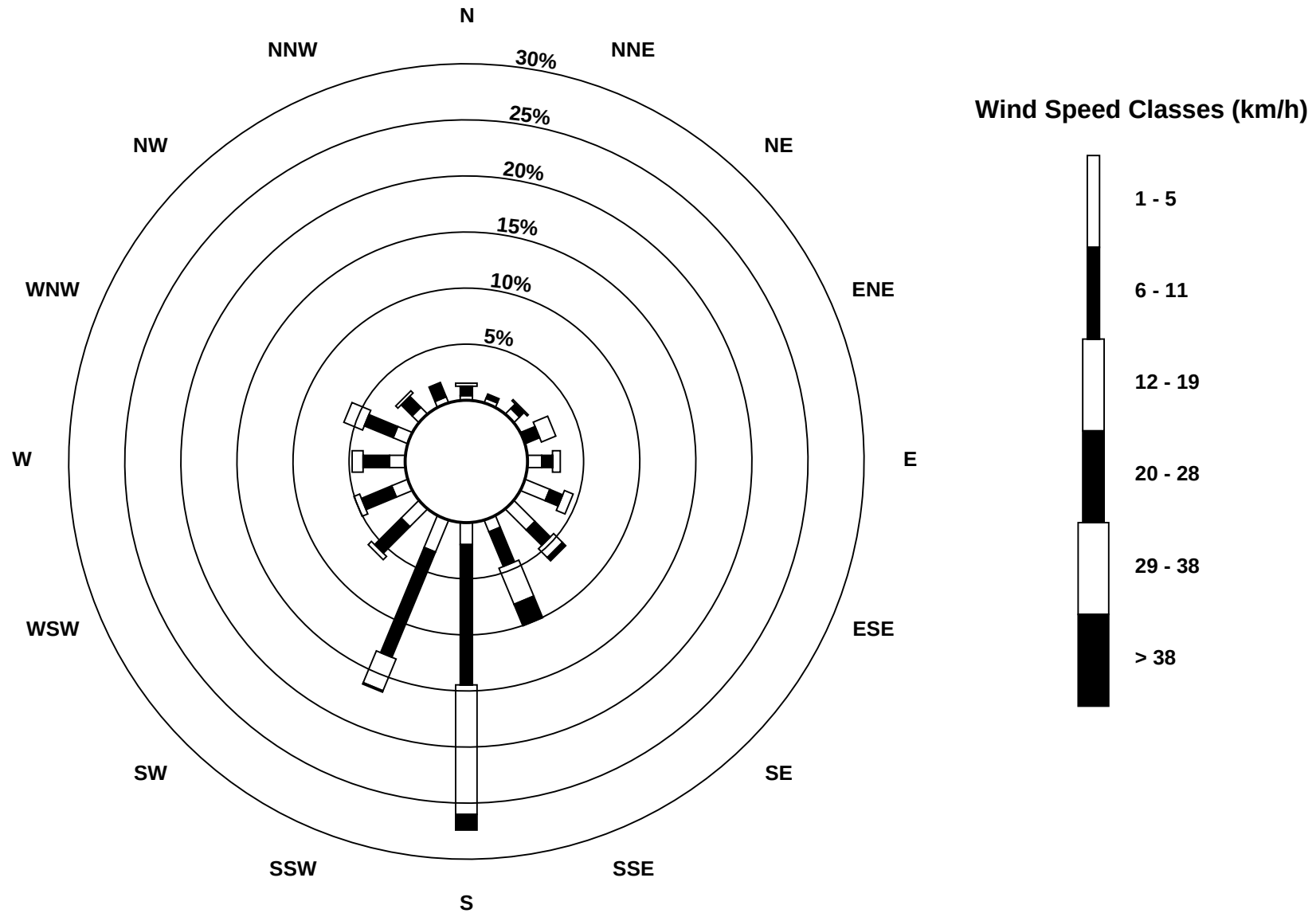
Wind Speed (km/h)
Wind Direction (deg)
Sunset House - September 2013

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1 Spd	6	7	6	8	7	7	6	11	10	7	6	5	3	3	5	5	4	5	6	8	9	10	9	11	6.6	10.8
Dir	186	186	172	190	190	175	182	189	193	200	229	229	237	215	198	213	215	204	190	181	172	177	171	169	189.7	169.1
2 Spd	8	9	9	7	11	12	12	11	7	7	6	5	7	7	7	7	13	14	10	8	10	9	12	14	0.9	13.9
Dir	156	168	172	220	191	186	193	192	210	215	223	295	306	351	333	321	3	10	26	48	61	65	62	87	115.1	86.5
3 Spd	11	3	6	4	10	5	12	11	15	15	19	19	17	11	10	8	5	2	2	10	17	18	21	20	9.9	20.6
Dir	91	32	65	153	175	206	186	198	190	188	187	191	196	196	209	190	199	182	132	150	159	160	162	167	175.9	162.0
4 Spd	19	17	11	11	14	14	14	14	11	9	7	9	12	10	10	11	8	6	6	2	4	5	4	3	6.5	18.8
Dir	177	179	197	191	198	191	189	188	200	211	240	274	284	271	276	283	293	297	308	150	142	137	137	143	213.6	177.5
5 Spd	6	6	8	8	4	6	9	10	7	7	8	13	12	13	12	9	8	7	3	3	2	2	4	2	4.1	13.3
Dir	168	188	182	184	165	185	190	187	214	230	264	294	283	287	287	273	280	294	315	119	116	118	129	124	238.1	286.6
6 Spd	4	4	6	5	2	3	2	3	6	8	8	9	6	4	10	11	7	8	7	5	5	6	8	12	5.7	12.3
Dir	128	148	142	130	96	110	92	46	81	117	109	109	166	139	138	140	122	149	164	120	86	93	117	131	124.7	131.3
7 Spd	17	19	14	13	13	12	10	5	8	15	17	16	19	19	20	19	14	10	11	14	20	20	20	20	14.7	20.5
Dir	149	153	154	142	143	154	157	135	153	169	176	179	177	171	183	187	171	167	172	169	172	178	178	179	168.0	183.1
8 Spd	19	19	19	18	19	17	17	17	15	10	9	9	8	7	8	11	9	9	5	3	6	4	5	5	8.9	19.2
Dir	177	177	179	182	182	185	187	192	199	221	229	237	250	256	255	289	285	285	272	234	269	242	190	196	207.8	177.0
9 Spd	5	4	5	7	8	7	6	7	6	6	10	8	10	11	12	10	11	11	5	2	4	5	4	6	4.8	12.3
Dir	205	211	202	200	195	205	215	211	224	248	291	267	282	280	280	276	284	292	281	153	132	139	140	154	244.3	280.0
10 Spd	6	7	8	11	10	11	8	8	8	7	6	6	6	5	5	5	5	6	1	3	3	6	7	7	3.7	10.8
Dir	174	177	197	195	202	201	190	197	203	224	232	257	329	326	321	289	304	292	17	117	120	127	130	139	205.5	201.3
11 Spd	6	8	8	8	7	11	11	13	14	14	11	10	10	7	3	4	4	2	3	1	5	12	18	18	8.1	17.8
Dir	159	180	178	183	182	185	182	177	188	190	192	199	199	227	223	175	179	154	128	93	123	162	167	169	179.6	169.2
12 Spd	18	17	17	18	17	17	17	16	18	19	16	16	12	7	6	6	4	6	6	8	7	7	6	6	11.6	18.8
Dir	171	173	178	179	181	180	178	183	185	185	199	197	201	216	212	198	183	170	150	142	155	158	192	195	181.9	184.9
13 Spd	5	7	8	7	6	8	8	7	6	6	8	8	8	8	5	7	7	9	7	8	11	15	14	12	1.6	15.2
Dir	194	199	197	198	213	202	209	217	236	276	316	312	350	354	334	344	355	354	3	40	41	56	65	76	354.5	56.2
14 Spd	13	15	15	14	13	3	1	3	4	3	7	13	13	11	11	11	13	10	10	9	17	24	26	25	9.8	25.8
Dir	79	76	69	76	106	37	94	95	30	75	83	74	64	74	80	69	68	75	82	106	135	145	149	152	98.0	149.4
15 Spd	22	20	17	15	16	15	15	16	16	15	12	10	10	10	9	10	2	2	2	8	13	15	15	15	11.9	21.6
Dir	156	161	167	167	167	172	177	192	197	198	200	200	188	189	182	174	200	92	109	162	167	164	166	170	174.8	155.5
16 Spd	15	8	4	3	5	2	3	3	3	3	4	3	1	3	5	6	8	5	10	13	14	14	13	13	4.6	15.3
Dir	174	177	52	103	49	86	123	165	250	311	284	281	277	263	228	235	238	275	215	237	235	244	247	253	230.7	174.2
17 Spd	11	13	13	16	14	11	13	13	15	15	12	15	17	15	18	15	16	10	8	6	8	8	8	5	11.2	18.0
Dir	252	259	261	267	272	267	271	276	281	284	283	295	293	294	304	314	310	317	338	341	342	344	344	323	292.0	303.5
18 Spd	5	6	3	5	6	3	4	5	5	6	7	7	7	6	7	9	6	5	1	4	4	5	6	9	3.0	9.2
Dir	330	331	291	300	292	255	239	264	258	277	239	254	241	271	275	306	321	329	345	136	118	126	133	183	268.7	183.1
19 Spd	11	14	16	17	15	13	14	15	15	13	13	13	15	15	11	10	8	8	10	14	19	23	25	24	14.1	24.8
Dir	188	177	176	177	179	181	180	179	182	181	184	191	193	190	191	174	160	141	132	138	159	162	166	168	173.3	165.6
20 Spd	20	18	18	18	17	18	22	23	24	21	18	14	12	10	9	10	11	10	13	22	25	25	21	10	16.5	25.2
Dir	171	167	167	168	172	170	176	181	185	194	192	193	175	183	182	184	166	155	149	151	159	158	170	196	172.8	158.2
21 Spd	15	11	5	6	6	7	5	6	4	2	2	1	6	6	8	7	6	12	5	7	10	11	11	10	3.8	14.8
Dir	183	198	183	148	173	187	161	186	179	200	207	252	61	48	31	17	287	288	237	209	200	200	193	196	195.2	182.7
22 Spd	8	9	8	8	9	11	12	13	15	13	11	7	9	9	9	5	1	3	4	6	7	6	8	4	7.4	14.7
Dir	195	187	186	187	184	184	178	176	180	181	184	205	192	183	181	221	235	102	84	88	148	171	183	169	179.4	179.9

FOCUS
AIR QUALITY MONITORING

Wind Rose

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



Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Sunset House - September 2013

Maximum Speed: 26 km/h on Sep 28 23:00																				Maximum Daily Speed Average: 17.2 km/h on Sep 20										Hours in Service: 720	
Minimum Speed: 1 km/h on Sep 30 23:00																				Minimum Daily Speed Average: 5.8 km/h on Sep 25										Hours of Data: 720	
Maximum Diurnal Speed Average: 11.5 km/h at hour 23																				Minimum Diurnal Speed Average: 6.7 km/h at hour 19										Hours of Missing Data: 0	
Monthly Average Speed: 9.93 km/h																				Percentiles: P ₁ = 2.1 P ₁₀ = 4.4 Q ₁ = 6.2 Median = 9.1 Q ₃ = 13.0 P ₉₀ = 16.9 P ₉₉ = 24.3										Percent Operational Time: 100.0	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24							
1-Sep	6	7	7	8	8	7	6	11	10	8	6	5	4	4	6	6	5	6	6	8	9	10	9	11	7.1	10.8					
2-Sep	8	9	9	7	11	12	12	11	7	7	6	7	7	8	8	8	14	14	11	9	10	9	12	14	9.5	14.2					
3-Sep	11	5	6	5	10	6	13	11	15	16	19	20	17	12	10	9	6	3	2	10	18	18	21	20	11.8	20.7					
4-Sep	19	17	12	11	14	14	14	14	11	10	8	10	13	11	10	11	9	6	6	4	4	5	4	3	10.0	18.9					
5-Sep	6	7	8	8	5	6	9	10	8	7	9	13	12	14	12	10	9	8	3	3	2	2	4	2	7.3	13.8					
6-Sep	4	5	6	5	3	4	3	4	8	9	8	10	7	5	11	12	7	9	7	5	5	6	9	12	6.8	12.4					
7-Sep	17	19	14	13	13	12	10	6	8	15	17	17	19	19	21	19	14	10	11	14	20	20	20	20	15.4	20.9					
8-Sep	19	19	19	18	19	18	17	17	15	10	9	9	8	8	9	11	9	9	5	4	6	5	5	5	11.4	19.3					
9-Sep	5	5	5	7	8	7	7	7	6	8	10	9	11	12	13	11	11	11	5	3	4	5	4	6	7.5	13.0					
10-Sep	6	7	8	11	11	11	10	9	9	7	7	7	7	6	6	6	5	6	3	3	3	6	7	7	7.0	11.2					
11-Sep	6	8	8	8	7	11	11	13	14	14	11	10	11	7	4	5	4	2	3	2	5	12	18	18	8.8	17.9					
12-Sep	18	17	17	18	17	17	17	16	19	19	16	16	13	8	6	6	4	6	6	9	7	8	6	6	12.2	18.9					
13-Sep	5	8	8	7	7	8	8	7	6	7	8	9	9	8	7	8	8	9	7	8	11	15	14	12	8.5	15.4					
14-Sep	14	15	15	15	13	4	1	3	4	4	8	13	14	12	11	11	14	11	10	10	18	24	26	25	12.2	25.8					
15-Sep	22	20	17	15	16	15	16	16	16	15	12	10	11	10	9	10	3	2	2	8	13	15	15	15	12.6	21.7					
16-Sep	15	9	4	3	6	3	3	3	3	4	4	4	2	4	5	6	8	6	10	14	14	15	14	13	7.3	15.3					
17-Sep	12	13	13	16	15	12	14	13	16	15	12	15	17	15	18	16	16	10	8	6	8	8	8	6	12.7	18.2					
18-Sep	6	7	3	6	6	4	5	5	5	6	7	8	8	7	9	9	6	5	3	4	5	5	6	9	6.0	9.3					
19-Sep	11	14	16	17	15	13	14	15	15	13	13	13	16	15	11	10	8	8	10	14	19	23	25	24	14.7	24.9					
20-Sep	20	18	18	18	17	18	22	23	24	21	18	14	12	11	10	11	11	10	13	22	25	25	21	10	17.2	25.3					
21-Sep	15	11	5	6	6	8	6	6	4	3	3	3	6	7	8	8	6	12	5	7	10	11	11	10	7.3	14.9					
22-Sep	8	9	8	8	9	11	13	13	15	13	11	8	9	10	9	6	1	3	4	7	7	6	8	5	8.4	14.8					
23-Sep	6	6	5	5	6	8	6	10	11	10	7	8	10	11	11	12	8	12	9	11	11	9	7	9	8.8	12.1					
24-Sep	10	9	9	11	11	11	11	13	14	10	9	11	10	10	8	6	6	6	5	5	7	6	6	5	8.8	13.9					
25-Sep	7	9	6	6	6	6	6	7	7	6	6	6	5	5	6	7	7	4	3	7	5	5	5	4	5.8	8.8					
26-Sep	4	5	7	7	7	7	7	7	7	8	8	8	8	7	9	7	6	5	7	9	10	12	14	14	8.0	14.4					
27-Sep	12	13	13	13	13	11	12	13	13	11	15	13	10	14	12	11	9	11	12	12	10	11	9	10	11.8	15.3					
28-Sep	11	11	11	10	10	13	13	13	13	13	16	17	15	15	15	16	14	12	13	17	22	25	26	24	15.2	26.2					
29-Sep	24	19	14	12	7	4	3	6	4	2	4	5	5	8	10	9	10	5	3	6	9	11	12	13	8.5	24.4					
30-Sep	11	10	14	14	15	14	17	19	14	12	13	10	5	5	5	8	11	4	3	4	5	2	1	2	9.2	18.6					
11.3 11.0 10.2 10.3 10.3 9.8 10.2 10.6 10.6 10.0 10.2 10.3 10.1 9.6 9.7 9.5 8.4 7.5 6.7 8.1 10.1 11.1 11.5 11.2																									Diurnal Average						
24.4 19.8 18.9 18.3 19.1 17.9 21.9 22.9 23.9 21.4 19.2 19.7 19.3 19.0 20.9 19.3 15.9 14.1 13.4 21.9 25.0 25.3 26.2 24.9																									Diurnal Maximum						
All monthly, daily, and diurnal averages have been calculated using scalar methods																															

Hourly Standard Deviations

Wind Direction (WD) - deg
Sunset House - September 2013

Maximum Value: 87.7 deg on Sep 16 13:00																			Hours in Service: 720						
Minimum Value: 2.9 deg on Sep 30 03:00																			Hours of Data: 720						
																			Hours of Missing Data: 0						
Percentiles: P ₁ = 3.5 P ₁₀ = 5.2 Q ₁ = 7.5 Median = 13.5 Q ₃ = 22.6 P ₉₀ = 32.6 P ₉₉ = 69.3																			Hours of Calibration: 0						
																			Percent Operational Time: 100.0						
Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Sep	17	18	15	8	9	9	14	6	8	16	18	31	59	46	25	16	23	16	14	4	5	4	7	4	58.7
2-Sep	11	5	10	21	15	6	6	7	16	15	27	50	32	33	29	22	10	12	6	7	9	6	8	12	50.0
3-Sep	25	70	30	51	6	38	9	8	8	10	10	9	11	19	22	23	28	40	26	5	5	5	4	6	70.4
4-Sep	5	5	20	15	5	5	5	6	12	17	30	24	18	28	22	20	22	11	11	69	12	9	14	20	69.0
5-Sep	13	9	5	6	19	6	8	8	16	21	24	13	17	16	18	23	23	18	35	19	23	34	13	15	35.4
6-Sep	27	19	11	13	41	32	59	47	33	10	16	26	34	45	26	18	32	34	12	7	22	15	11	6	58.9
7-Sep	5	5	5	9	5	5	4	33	28	9	12	13	13	11	12	13	10	7	7	6	6	6	5	5	32.8
8-Sep	5	3	4	5	4	5	5	6	8	13	16	17	23	29	30	14	16	17	29	25	24	30	14	15	30.3
9-Sep	13	21	16	9	8	29	17	12	18	32	17	25	25	19	20	28	15	14	36	44	14	11	8	13	44.1
10-Sep	11	14	22	9	19	17	40	17	19	19	26	32	40	44	47	28	31	21	72	20	7	5	6	11	72.0
11-Sep	7	5	11	6	4	4	4	3	6	8	11	17	18	28	61	50	37	25	18	28	11	9	6	5	60.8
12-Sep	5	4	4	3	3	4	4	5	5	7	9	10	17	21	20	18	20	6	17	10	18	16	29	14	28.8
13-Sep	16	14	7	13	20	9	8	10	20	24	24	24	26	24	35	24	17	8	19	10	6	9	7	10	34.9
14-Sep	9	7	6	16	9	57	58	22	20	37	16	10	13	18	19	18	13	9	9	11	7	5	4	5	57.6
15-Sep	6	6	6	5	4	6	7	8	9	9	11	15	19	18	19	13	52	24	26	12	4	5	6	6	52.1
16-Sep	5	62	28	33	35	42	31	22	37	55	29	44	88	29	20	24	15	27	12	16	18	17	24	19	87.7
17-Sep	20	17	20	16	17	17	14	15	13	10	12	11	9	11	10	17	12	15	10	10	8	7	9	17	20.3
18-Sep	17	17	35	18	22	29	22	23	34	26	22	28	26	29	36	19	32	22	87	46	30	22	49	10	87.3
19-Sep	5	4	5	6	5	4	5	4	6	9	11	16	17	18	21	14	9	10	3	6	6	6	5	6	21.2
20-Sep	6	5	5	5	7	6	5	5	6	7	10	12	16	22	22	19	9	8	5	4	5	6	9	22	22.3
21-Sep	8	10	29	23	26	18	18	15	14	36	56	65	20	30	15	22	22	13	23	14	6	6	8	5	64.8
22-Sep	7	8	8	14	8	11	5	6	7	10	12	28	29	28	27	41	76	23	15	20	18	10	6	34	76.5
23-Sep	24	26	21	17	28	19	19	8	10	16	29	30	24	24	25	53	13	8	9	5	5	13	12	10	52.9
24-Sep	9	8	7	4	6	6	6	7	10	13	18	22	25	28	27	31	28	18	30	20	6	8	20	33	33.4
25-Sep	17	6	17	12	10	10	6	10	17	16	18	17	26	19	17	13	16	26	28	5	13	9	9	10	28.5
26-Sep	8	8	8	9	12	15	12	11	13	14	19	31	31	44	25	37	29	20	19	6	4	3	6	8	43.9
27-Sep	28	5	3	4	7	7	10	6	8	11	9	8	14	13	13	14	17	12	8	6	8	10	13	8	27.6
28-Sep	5	6	7	4	19	5	4	5	7	8	9	11	11	16	17	12	10	7	6	7	5	6	7	6	18.7
29-Sep	8	13	13	14	20	22	24	25	26	62	86	72	52	36	18	32	14	31	25	18	11	7	3	6	86.0
30-Sep	9	8	3	5	4	9	5	5	13	24	9	19	43	37	41	27	40	43	36	26	17	36	52	37	51.5
27.6 70.4 34.5 50.8 40.5 56.6 58.9 46.7 36.6 61.6 86.0 72.3 87.7 46.2 60.8 52.9 76.5 42.5 87.3 69.0 29.6 36.5 51.5 37.3																									

PAZA

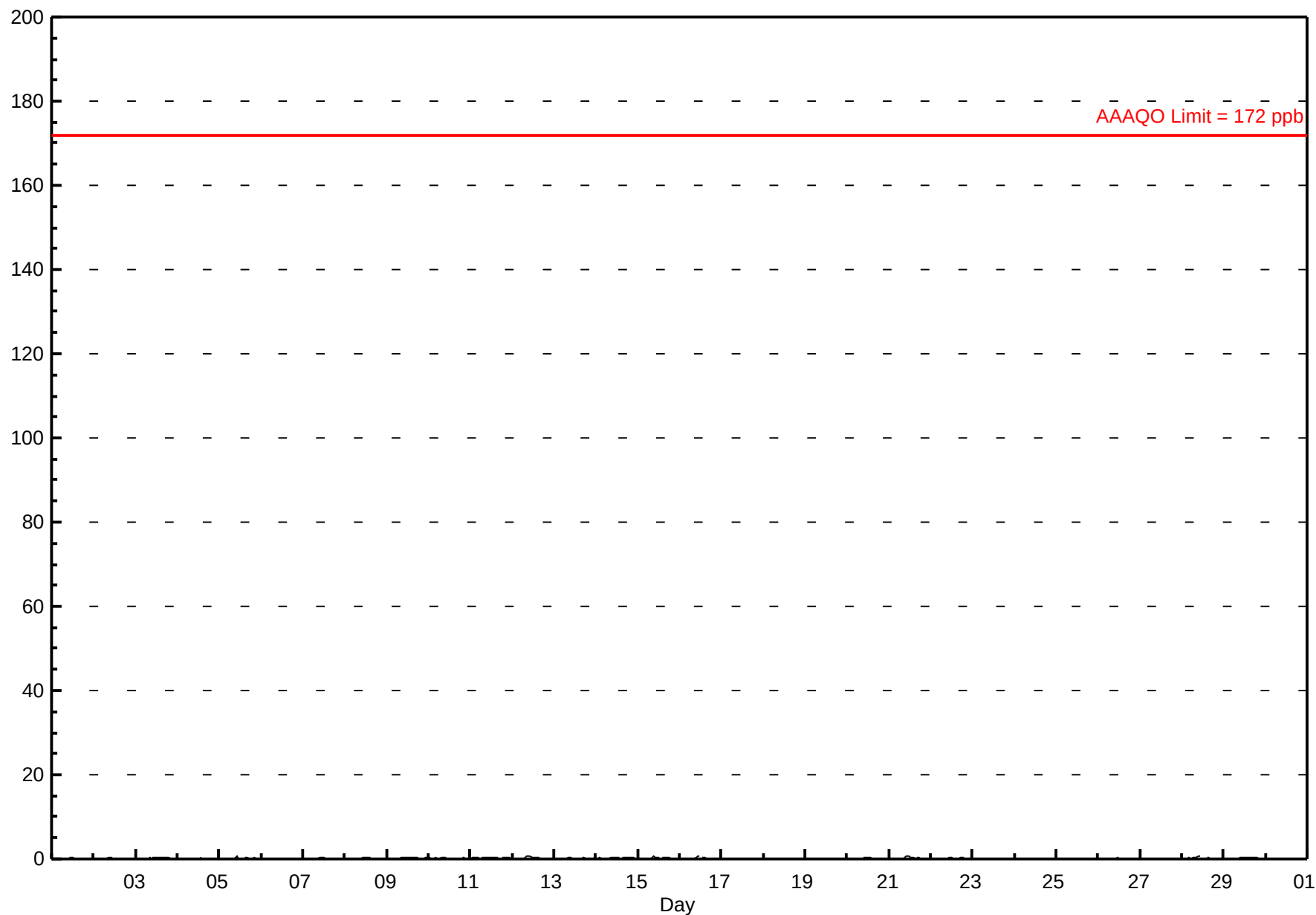
Falher Station

Monthly Summary Tables, Graphs and
Roses

Hourly Averages

Sulphur Dioxide (SO₂) - ppb

Falher - September 2013



Hourly Maximums

Sulphur Dioxide (SO₂) - ppb

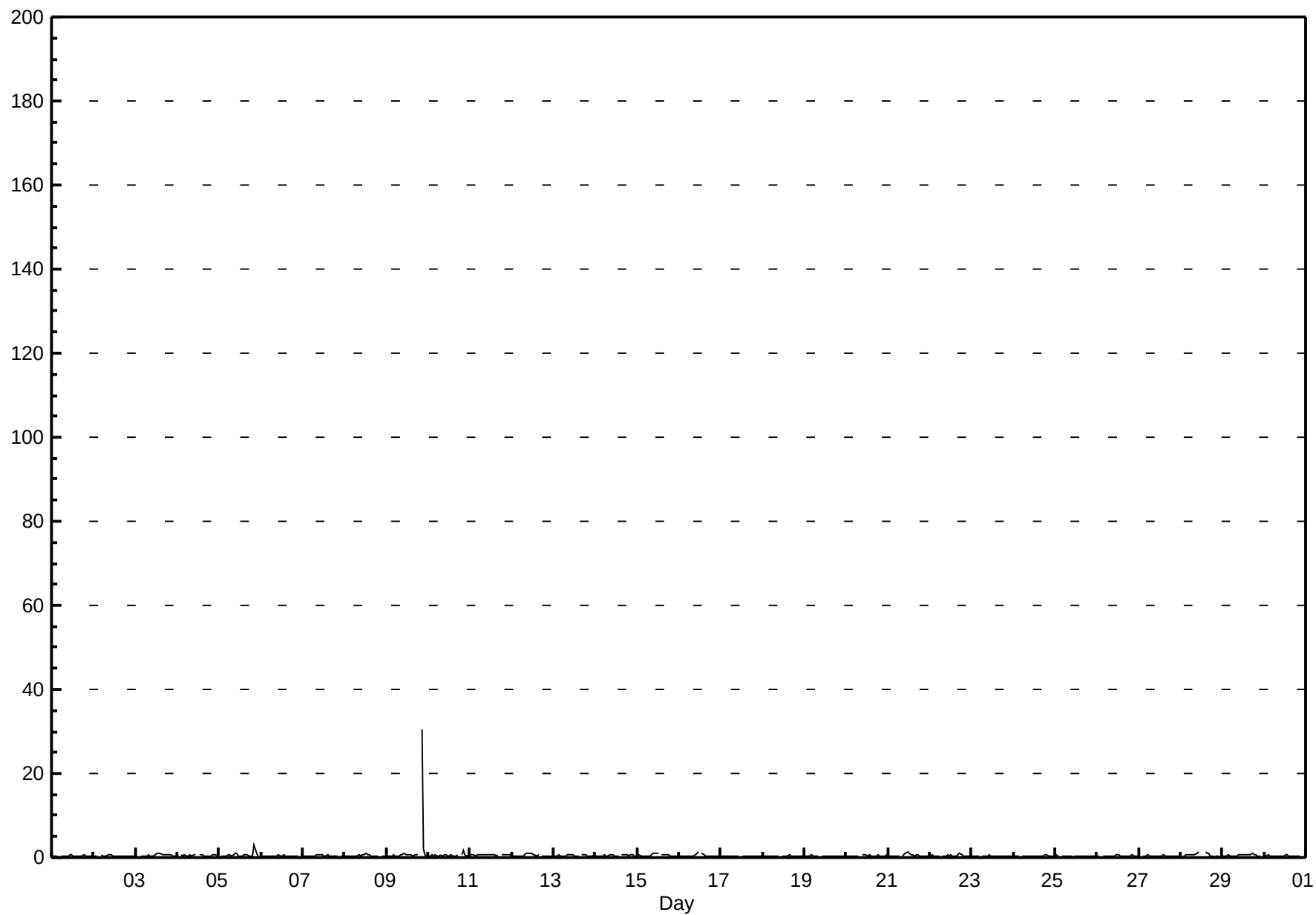
Falher - September 2013

Maximum Value: 30.6 ppb on Sep 9 21:00																				Maximum Daily Average: 1.9 ppb on Sep 9										Hours in Service: 720	
Minimum Value: 0 ppb on Sep 30 23:00																				Minimum Daily Average: 0.3 ppb on Sep 25										Hours of Data: 683	
Maximum Diurnal Average: 1.6 ppb at hour 21																				Minimum Diurnal Average: 0.4 ppb at hour 23										Hours of Missing Data: 37	
Monthly Average: 0.53 ppb																				Percentiles: P ₁ = 0.2 P ₁₀ = 0.3 Q ₁ = 0.4 Median = 0.4 Q ₃ = 0.5 P ₉₀ = 0.7 P ₉₉ = 1.4										Hours of Calibration: 35	
																				Percent Operational Time: 99.7											
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24							
1-Sep	0	0	0	0	A	0	0	0	0	0	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0.4	0.5					
2-Sep	0	0	0	A	1	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.6					
3-Sep	0	0	A	0	0	0	0	1	0	0	0	1	1	1	1	1	1	1	1	1	1	0	1	1	0.6	1.1					
4-Sep	1	A	1	0	1	0	0	1	0	1	1	N	N	1	1	0	1	1	1	0	1	1	1	0	0.5	0.7					
5-Sep	A	1	0	0	0	1	1	0	1	1	1	0	0	0	1	1	1	0	0	0	3	1	0	A	0.7	3.0					
6-Sep	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	A	1	0.4	0.6					
7-Sep	0	0	0	0	0	0	0	0	1	1	1	1	0	0	1	0	0	0	0	0	0	A	0	0	0.5	0.8					
8-Sep	0	0	0	0	0	0	0	0	1	0	1	1	1	1	1	0	0	0	0	0	A	0	1	0	0.5	0.9					
9-Sep	0	0	0	0	1	0	0	0	1	1	1	1	1	1	1	1	1	1	1	A	31	2	1	0	1.9	30.6					
10-Sep	0	0	1	0	1	0	0	1	0	1	1	0	0	1	0	0	0	1	A	1	2	1	0	1	0.6	1.8					
11-Sep	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	0	1	A	1	1	1	1	1	1	0.6	0.7					
12-Sep	1	0	0	0	0	0	0	1	1	1	1	1	1	1	0	1	A	0	0	0	0	0	0	0	0.6	1.1					
13-Sep	0	0	0	1	0	0	0	0	1	1	1	1	0	0	0	A	1	1	1	0	0	0	0	1	0.5	0.7					
14-Sep	0	0	0	0	0	1	0	0	1	1	1	0	0	0	A	1	1	1	1	0	1	1	0	0	0.5	0.8					
15-Sep	1	1	0	0	0	0	0	0	1	1	1	1	1	A	1	1	1	1	1	0	1	0	0	0	0.6	1.0					
16-Sep	0	0	0	0	0	0	1	0	0	1	1	1	A	1	1	0	0	0	0	0	0	0	0	0	0.5	1.4					
17-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	0.4	0.5					
18-Sep	0	0	0	0	0	0	0	1	0	0	A	0	0	0	0	1	0	0	0	0	0	0	0	0	0.4	0.5					
19-Sep	0	0	0	0	1	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.5					
20-Sep	0	0	0	0	0	0	0	0	A	1	1	1	0	1	0	0	0	0	1	0	1	0	0	1	0.5	0.7					
21-Sep	0	0	0	0	0	0	0	A	0	1	1	1	1	1	1	0	1	1	0	0	0	0	0	0	0.5	1.3					
22-Sep	0	1	0	0	0	0	A	0	0	0	1	0	1	0	0	0	1	1	1	0	0	0	0	0	0.5	0.9					
23-Sep	0	0	0	0	0	A	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.5					
24-Sep	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0.4	0.5					
25-Sep	1	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.5					
26-Sep	0	0	A	0	0	0	0	0	0	0	0	1	1	0	0	0	1	1	0	0	1	0	0	0	0.4	0.6					
27-Sep	0	A	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0.4	0.6					
28-Sep	A	0	0	1	1	1	1	1	1	1	1	C	C	C	1	1	1	0	0	0	0	0	0	A	0.6	1.4					
29-Sep	0	0	0	1	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	0	1	A	0	0.6	0.9					
30-Sep	0	0	1	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	A	0	0	0	0.4	0.7					

Hourly Maximums

Sulphur Dioxide (SO₂) - ppb

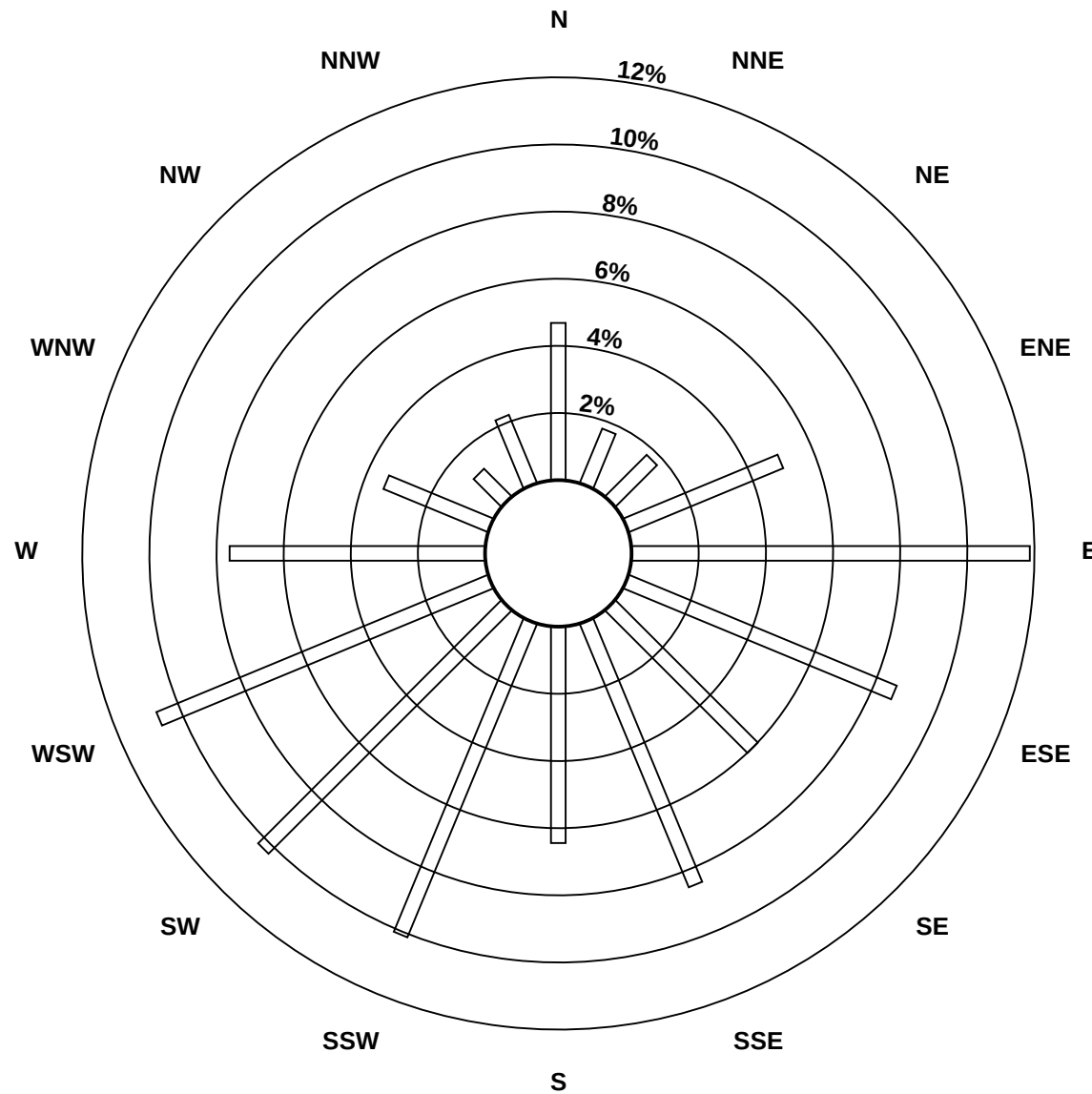
Falher - September 2013



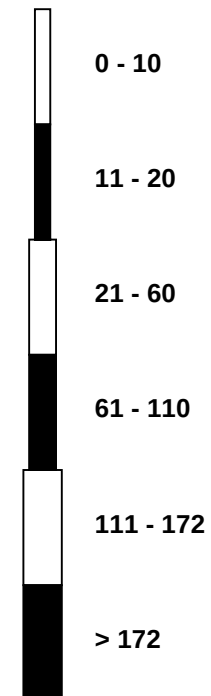
Pollutant Rose

Sulphur Dioxide (SO₂) - ppb

Falher - September 2013

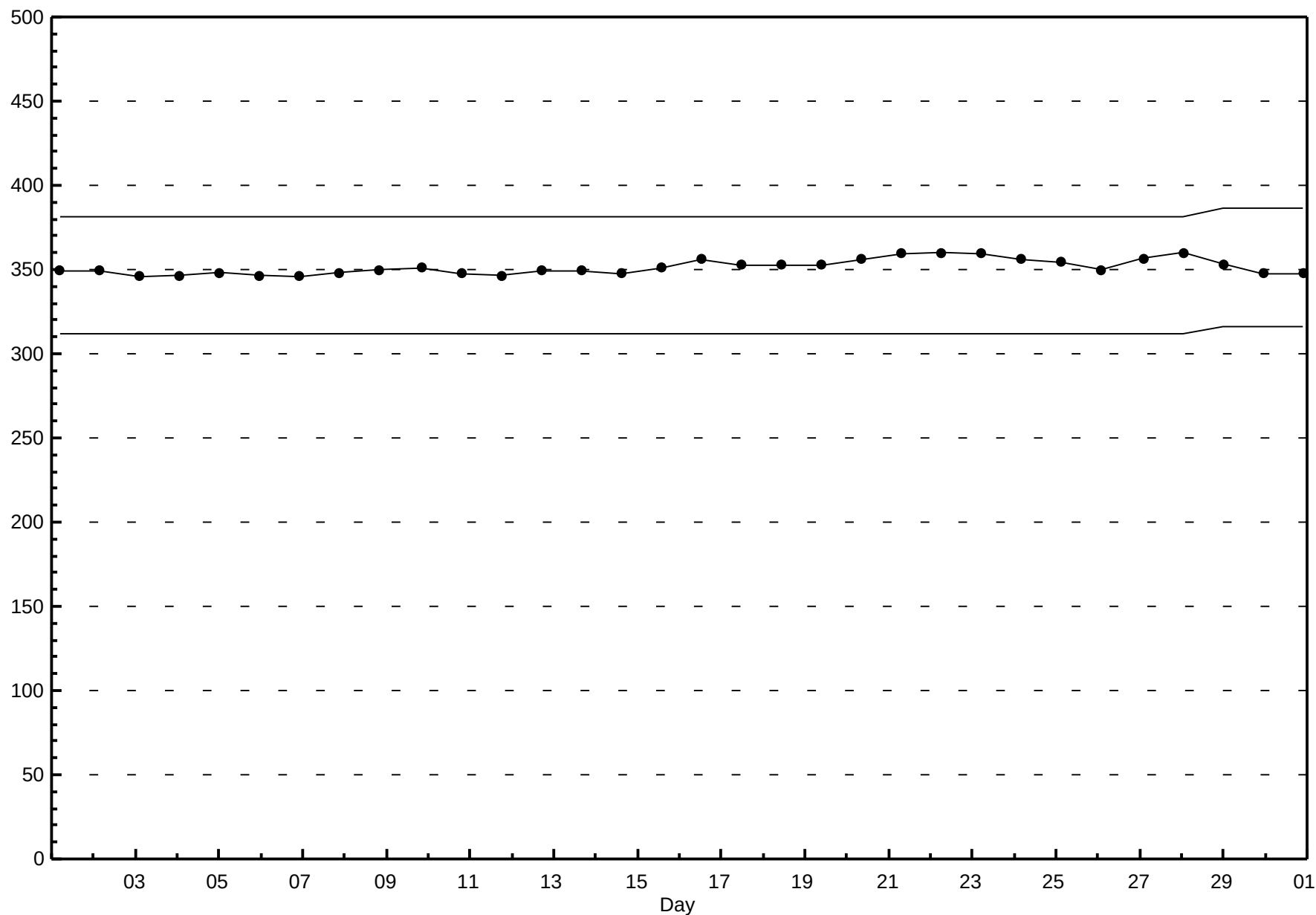


Pollutant Classes (ppb)



Span Responses

Sulphur Dioxide (SO₂)
Falher - September 2013



Hourly Averages

Hydrogen Sulphide (H₂S) - ppb

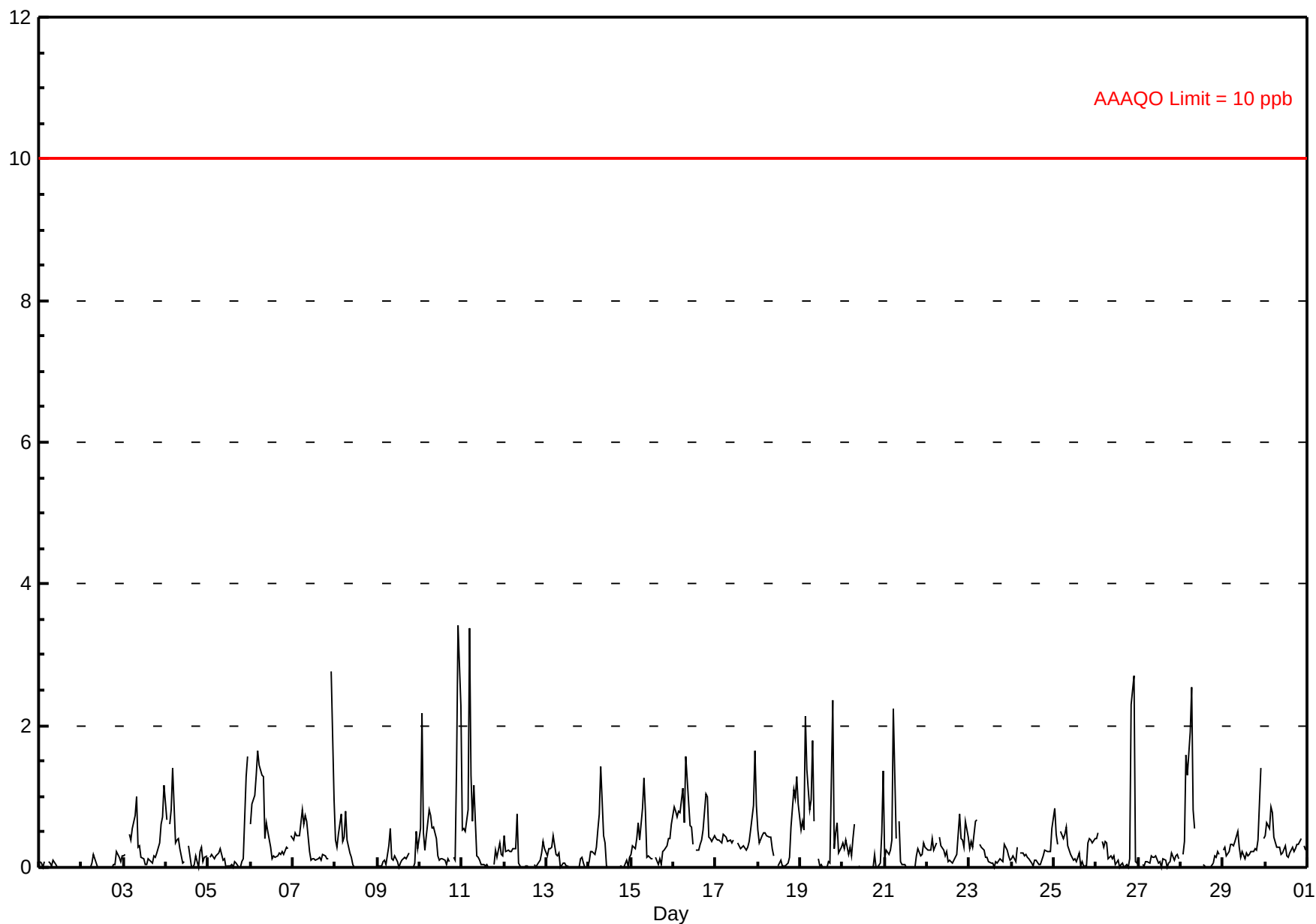
Falher - September 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																				Hours in Service: 720							
Maximum Value: 3.4 ppb on Sep 10 23:00																				Maximum Daily Average: 0.7 ppb on Sep 16				Hours of Data: 682			
Minimum Value: 0 ppb on Sep 1 03:00																				Minimum Daily Average: 0.0 ppb on Sep 1				Hours of Missing Data: 38			
Maximum Diurnal Average: 0.6 ppb at hour 5																				Minimum Diurnal Average: 0.1 ppb at hour 13				Hours of Calibration: 36			
Monthly Average: 0.32 ppb																				Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 0.2 Q ₃ = 0.4 P ₉₀ = 0.7 P ₉₉ = 2.3				Percent Operational Time: 99.7			
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-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	0.1	
2-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	
3-Sep	0	0	A		0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0.4	1.2	
4-Sep	1	A	1	1	1	0	0	0	0	0		N	N	0	0	0	0	0	0	0	0	0	0	0	0.3	1.4	
5-Sep	A		0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	1	2	A	0.2	1.6	
6-Sep	1	1	1	1	2	1	1	1	0	1	1	0	0	0	0	0	0	0	0	0	0				0.6	1.7	
7-Sep	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	A	3	1	0.5	2.8	
8-Sep	0	0		1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0		A	0	0	0	0.2	0.8	
9-Sep	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0		A			1	0	0.1	0.6	
10-Sep	1	2	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0		A		0	1	3	2	0.7	3.4	
11-Sep	1	1	1	1	3	1	1	1	0	0	0	0	0	0	0	0		A		0	0	0	0	0	0.5	3.4	
12-Sep	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0		A		0	0	0	0	0	0	0.2	0.7	
13-Sep	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	
14-Sep	0	0	0	0	0	1	1	1	0	0	0	0	0		A		0	0	0	0	0	0	0	0	0.2	1.4	
15-Sep	0	0	0	0	1	0	1	1	1	0	0	0		A		0	0	0	0	0	0	0	0	1	0.4	1.3	
16-Sep	1	1	1	1	1	1	1	2	1	1	1	0	A	0	0	0	0	1	1	1	0	0	0	0	0.7	1.6	
17-Sep	0	0	0	0	0	0	0	0	0	0	0		A	0	0	0	0	0	0	0	1	1	2	1	0.5	1.6	
18-Sep	1	0	0	0	0	0	0	0	0		A	0	0	0	0	0	0	0	0	1	1	1	1	1	0.4	1.3	
19-Sep	1	1	1	2	1	1	1	2	1	A		0	0	0	0	0	0	0	2	0	0	1	0	0	0.6	2.4	
20-Sep	0	0	0	0	0	0	0	1	A		0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.2	1.4	
21-Sep	0	0		0	0	2		A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	2.2	
22-Sep	0	0		0	0		A		0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0.3	0.8	
23-Sep	0	0		1	1	A			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.7	
24-Sep	0	0		0	A		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.2	0.5	
25-Sep	1	0		A		0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.8	
26-Sep	0	0	A		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	3	0	0	0.4	2.7	
27-Sep	0	A		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2	
28-Sep	A			0	2	1	2	3	1	1	C	C	C	C	0	0	0	0	0	0	0	0	0	A	0.6	2.5	
29-Sep	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	A	0	0.3	1.4	
30-Sep	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A			0	0.4	0.8	
																									Diurnal Average		
																									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

Hydrogen Sulphide (H₂S) - ppb

Falher - September 2013



Hourly Maximums

Hydrogen Sulphide (H₂S) - ppb

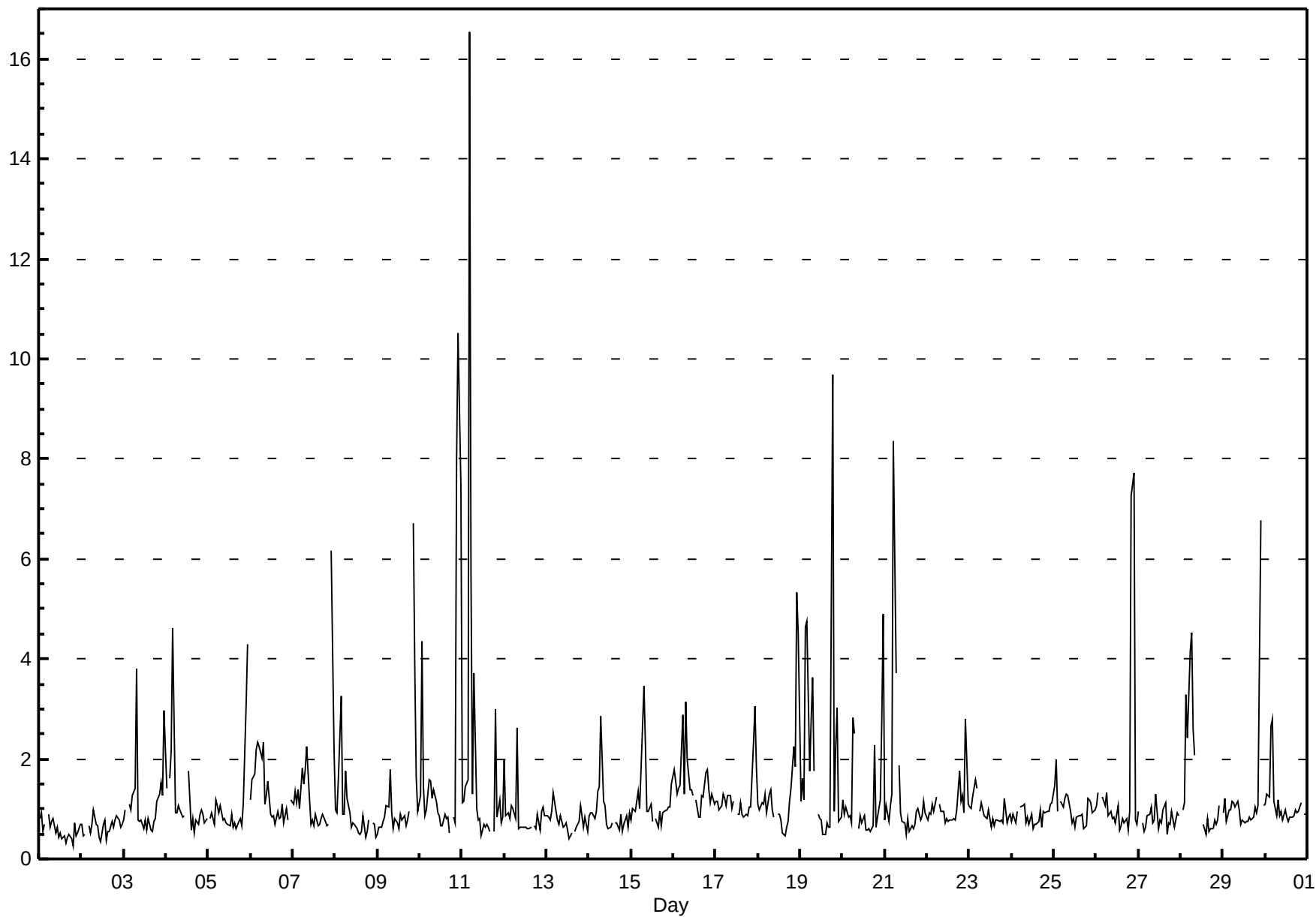
Falher - September 2013

Maximum Value: 16.5 ppb on Sep 11 05:00																				Maximum Daily Average: 2.2 ppb on Sep 10					Hours in Service: 720	
Minimum Value: 0 ppb on Sep 1 20:00																				Minimum Daily Average: 0.6 ppb on Sep 1					Hours of Data: 682	
Maximum Diurnal Average: 2.0 ppb at hour 5																				Minimum Diurnal Average: 0.7 ppb at hour 15					Hours of Missing Data: 38	
Monthly Average: 1.21 ppb																				Percentiles: P ₁ = 0.4 P ₁₀ = 0.6 Q ₁ = 0.7 Median = 0.9 Q ₃ = 1.2 P ₉₀ = 1.8 P ₉₉ = 7.4					Hours of Calibration: 36	
																				Percent Operational Time: 99.7						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Sep	1	1	1	1	A	1	1	1	1	1	1	0	1	0	0	0	0	0	0	0	1	0	1	1	0.6	0.9
2-Sep	1	0	0	A	1	1	1	1	1	1	0	0	1	1	0	1	1	1	1	1	1	1	1	1	0.6	1.0
3-Sep	1	1	A	1	1	1	1	4	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	3	1.1	3.8
4-Sep	1	A	2	2	5	1	1	1	1	1	1	N	N	2	1	1	1	1	1	1	1	1	1	1	1.2	4.6
5-Sep	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	4	A	1.1	4.3
6-Sep	1	2	2	2	2	2	2	2	1	1	2	1	1	1	1	1	1	1	1	1	1	1	A	1	1.3	2.3
7-Sep	1	1	1	1	1	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	A	6	2	1.3	6.2
8-Sep	1	1	2	3	1	1	2	1	1	1	1	1	1	1	1	1	1	0	1	1	A	1	1	0	0.9	3.3
9-Sep	0	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	A	7	4	2	1	1.3	6.7
10-Sep	1	4	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	A	1	1	8	11	7	2.2	10.5
11-Sep	1	1	1	2	17	6	1	4	1	1	1	0	1	1	1	1	1	A	1	3	1	1	1	1	2.0	16.5
12-Sep	2	1	1	1	1	1	1	3	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	0.9	2.6
13-Sep	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	A	1	1	1	1	1	1	1	1	0.8	1.3
14-Sep	1	1	1	1	1	1	1	3	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	0.9	2.9
15-Sep	1	1	1	1	1	1	3	3	2	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1.2	3.4
16-Sep	2	2	1	1	1	3	1	3	2	1	1	1	A	1	1	1	1	1	2	2	1	1	1	1	1.5	3.2
17-Sep	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	2	3	2	1.2	3.1
18-Sep	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	0	1	1	1	1	2	2	5	5	1.4	5.3
19-Sep	1	2	1	5	5	2	3	4	2	A	1	1	1	0	0	1	1	1	10	1	2	3	1	1	2.0	9.7
20-Sep	1	1	1	1	1	1	3	3	A	1	1	1	1	1	1	1	1	1	2	1	1	1	3	5	1.3	4.9
21-Sep	1	1	1	1	1	8	4	A	2	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1.3	8.3
22-Sep	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	3	1	1.1	2.8
23-Sep	1	1	1	2	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.6
24-Sep	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.1
25-Sep	1	2	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	2.0
26-Sep	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	7	8	1	1	1.5	7.7
27-Sep	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	0.8	1.3
28-Sep	A	1	1	3	2	4	5	3	2	C	C	C	C	1	0	1	1	1	1	1	1	1	1	A	1.6	4.5
29-Sep	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	7	A	1	1.2	6.8
30-Sep	1	1	1	3	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1.1	2.8
1.1 1.2 1.0 1.5 2.0 1.7 1.5 1.8 1.2 0.9 0.8 0.8 0.7 0.8 0.7 0.7 0.7 0.7 0.7 1.2 1.0 1.4 2.0 1.9 1.6																									Diurnal Average	
2.0 4.3 1.7 4.6 16.5 8.3 4.5 3.8 2.3 1.4 1.6 1.3 1.1 1.7 1.1 1.1 1.3 1.2 9.7 3.0 7.3 8.0 10.5 7.5																									Diurnal Maximum	
C - Calibration N - Not Valid A - Automated Daily Zero Span																										

Hourly Maximums

Hydrogen Sulphide (H₂S) - ppb

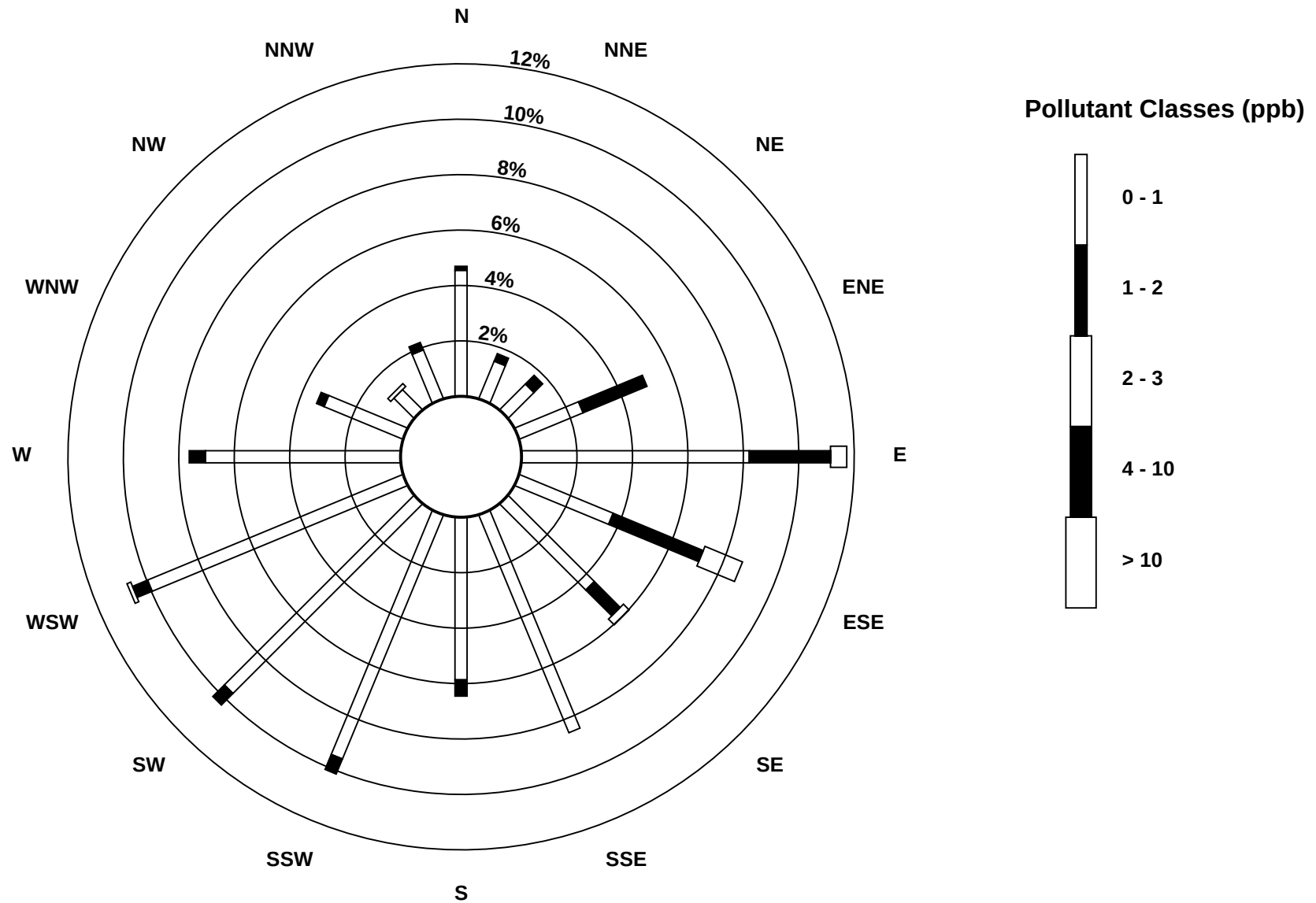
Falher - September 2013



Pollutant Rose

Hydrogen Sulphide (H₂S) - ppb

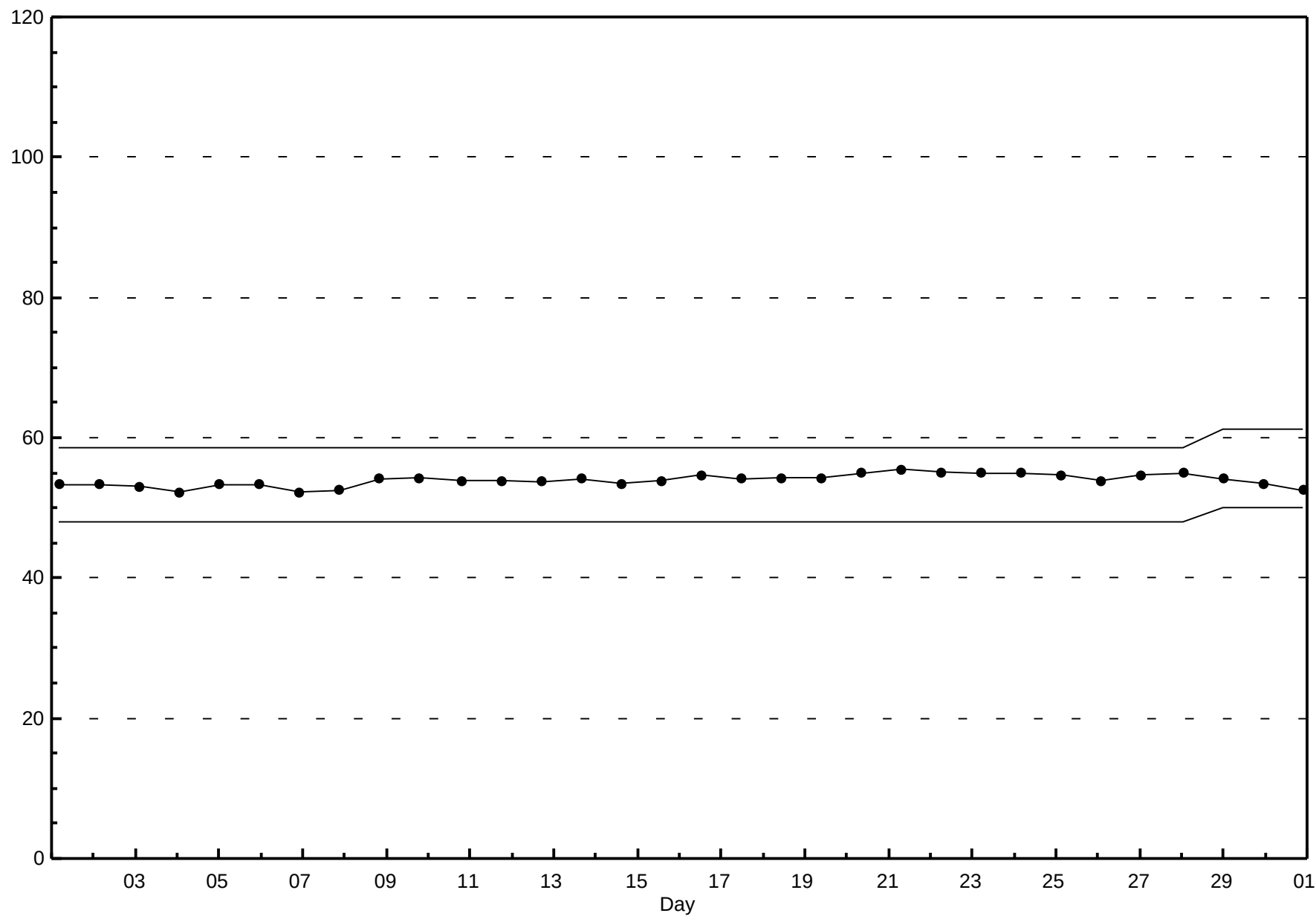
Falher - September 2013



Span Responses

Hydrogen Sulphide (H_2S)

Falher - September 2013



Hourly Averages

External Temperature (ET) - °C

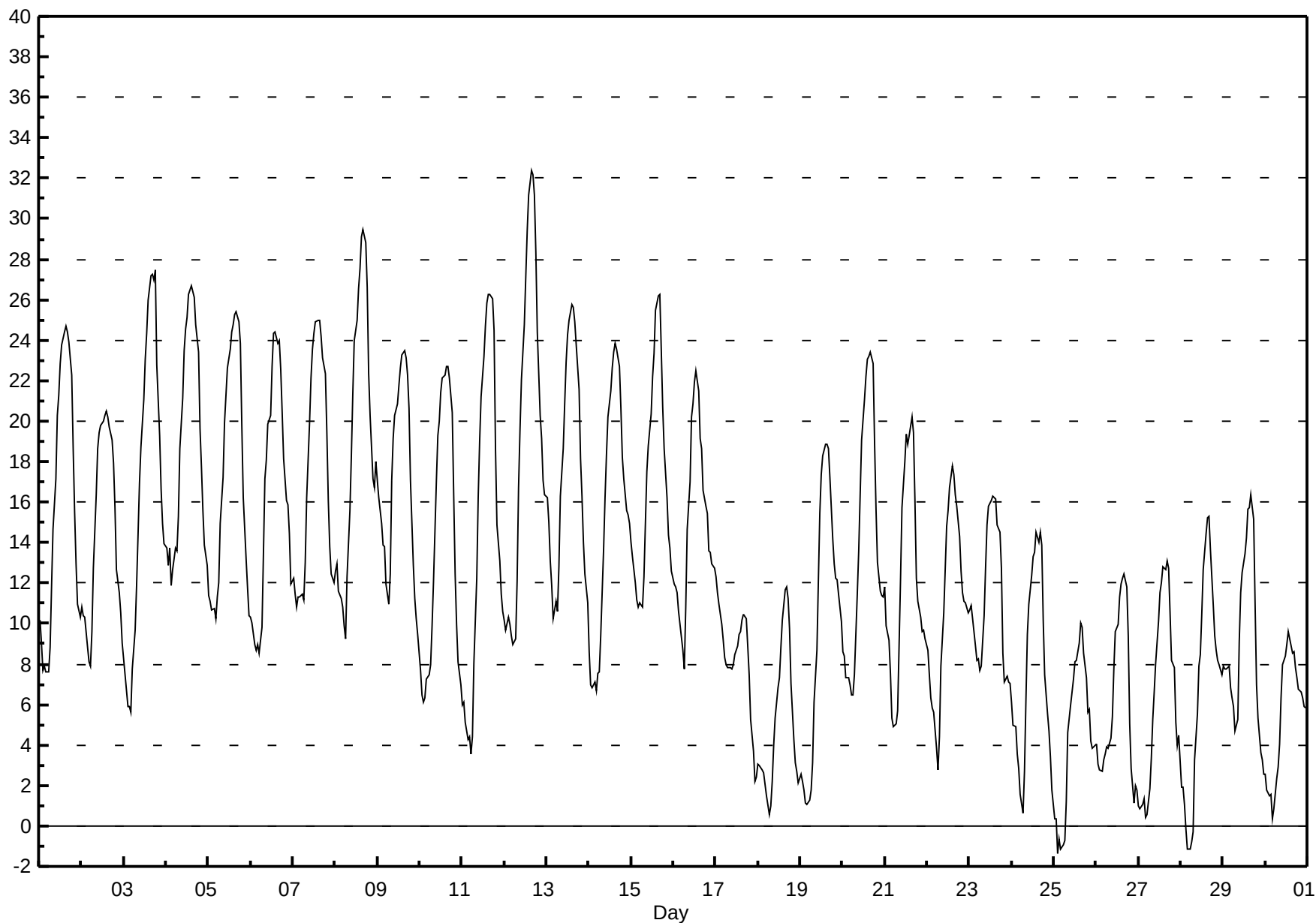
Falher - September 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 32.4 °C on Sep 12 16:00 Maximum Daily Average: 19.7 °C on Sep 12																								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 25 03:00 Minimum Daily Average: 4.4 °C on Sep 25 Maximum Diurnal Average: 20.2 °C at hour 16 Minimum Diurnal Average: 6.5 °C at hour 6 Monthly Average: 12.81 °C Percentiles: P ₁ = -0.7 P ₁₀ = 3.5 Q ₁ = 7.7 Median = 11.8 Q ₃ = 18.3 P ₉₀ = 23.5 P ₉₉ = 28.9																										
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	10	9	8	8	8	8	9	12	15	17	20	21	23	24	24	25	24	24	22	19	15	13	11	10	15.8	24.7
2-Sep	11	10	10	9	8	8	10	13	16	19	19	20	20	20	20	20	20	19	18	16	13	12	10	9	14.6	20.5
3-Sep	8	7	6	6	6	8	10	12	14	17	19	21	23	24	26	27	27	27	27	23	19	17	15	14	16.8	27.4
4-Sep	14	13	14	12	13	14	14	15	19	21	24	25	25	26	27	26	26	25	23	20	18	16	14	13	18.9	26.7
5-Sep	11	11	11	11	10	11	12	15	17	20	21	23	24	24	25	25	25	25	24	20	16	13	12	10	17.4	25.4
6-Sep	10	10	9	9	9	9	10	13	17	18	20	20	23	24	24	24	24	23	20	18	16	16	14	12	16.4	24.4
7-Sep	12	11	11	11	11	11	11	13	16	20	22	24	24	25	25	25	24	23	22	19	16	14	12	12	17.4	25.0
8-Sep	13	13	12	11	11	10	9	12	16	18	21	24	25	27	28	29	29	29	27	22	20	17	17	18	19.1	29.5
9-Sep	17	16	15	14	14	12	11	12	17	19	20	21	22	23	23	23	23	22	21	17	13	11	10	9	16.9	23.5
10-Sep	8	6	6	6	7	7	8	10	12	17	19	20	21	22	22	23	23	22	20	16	12	10	8	7	14.0	22.7
11-Sep	6	6	5	4	4	4	4	8	12	16	19	21	23	25	26	26	26	26	24	19	15	13	11	11	14.8	26.3
12-Sep	10	10	10	10	9	9	9	12	17	20	22	25	27	29	31	32	32	31	28	24	20	19	17	16	19.7	32.4
13-Sep	16	15	13	12	10	11	11	13	16	19	21	23	24	25	26	26	25	24	22	18	16	14	12	11	17.6	25.8
14-Sep	9	7	7	7	7	8	8	9	14	16	18	20	21	23	23	24	24	23	21	18	17	16	15	15	15.4	23.8
15-Sep	14	13	12	11	11	11	11	12	15	17	19	20	22	23	26	26	26	24	21	19	16	14	14	13	17.1	26.2
16-Sep	12	12	12	11	10	9	8	11	15	17	20	21	22	22	21	19	19	17	16	15	14	14	13	13	15.0	22.5
17-Sep	12	12	11	10	9	8	8	8	8	8	8	8	9	9	10	10	10	10	9	7	5	4	2	2	8.3	12.3
18-Sep	3	3	3	3	2	2	1	1	2	4	5	7	7	9	10	12	12	11	10	7	4	3	3	2	5.2	11.8
19-Sep	3	2	2	1	1	1	2	3	6	9	12	15	17	18	19	19	19	17	14	13	12	12	11	10	10.0	18.9
20-Sep	9	8	7	7	7	6	6	7	11	14	16	19	21	22	23	23	23	23	19	16	13	12	11	11	14.0	23.4
21-Sep	12	10	9	8	5	5	5	6	9	12	16	18	19	19	19	20	19	16	12	11	10	10	10	9	12.1	20.2
22-Sep	9	7	6	6	6	4	3	4	8	11	13	15	16	17	18	17	16	16	14	13	12	11	11	11	10.9	17.8
23-Sep	11	11	10	9	8	8	8	8	10	13	15	16	16	16	16	16	15	15	13	9	7	7	7	7	11.3	16.3
24-Sep	6	5	5	4	3	2	1	3	6	9	11	12	13	14	14	14	15	14	10	7	6	5	3	2	7.6	14.5
25-Sep	0	0	-1	-1	-1	-1	-1	1	5	6	7	7	8	8	9	10	10	9	7	6	6	4	4	4	4.4	10.0
26-Sep	4	3	3	3	3	4	4	4	4	5	8	10	10	11	12	12	12	12	9	5	3	1	2	2	6.1	12.4
27-Sep	1	1	1	1	0	1	2	3	5	7	8	10	11	12	13	13	13	13	11	8	8	5	4	4	6.5	13.1
28-Sep	2	2	1	0	-1	-1	-1	0	3	6	8	8	10	13	14	15	15	14	11	9	9	8	8	7	6.7	15.3
29-Sep	8	8	8	8	7	6	6	5	5	9	12	13	13	14	16	16	16	15	11	7	5	4	3	3	9.0	16.4
30-Sep	3	2	1	2	0	1	2	3	4	6	8	8	9	10	9	9	9	8	7	7	7	6	6	6	5.5	9.6
																								Diurnal Average		
																								Diurnal Maximum		

Hourly Averages

External Temperature (ET) - °C

Falher - September 2013



Hourly Averages

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

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1 Spd	13	8	8	7	8	10	8	8	11	8	5	6	9	12	15	13	12	15	13	10	14	10	10	8	8.8	14.7
Dir	172	151	146	154	156	165	162	174	209	221	212	197	214	226	236	232	219	210	205	192	181	164	160	148	191	236
2 Spd	8	7	8	9	8	6	4	8	11	12	13	16	19	16	18	15	17	19	18	8	11	12	10	8	6.5	19.2
Dir	144	140	160	147	150	160	172	227	257	311	352	354	351	0	357	352	352	2	5	357	341	8	16	14	356	351
3 Spd	6	5	2	4	5	8	9	7	5	4	10	10	11	9	6	4	3	5	2	1	7	4	5	12	1.9	12.4
Dir	8	5	283	329	2	69	92	128	205	234	187	199	202	221	253	234	214	229	290	77	103	101	90	122	165	122
4 Spd	11	10	7	9	12	12	10	10	10	11	17	23	25	24	24	25	23	18	15	13	13	13	9	11	11.4	25.2
Dir	125	126	172	120	134	162	148	145	194	227	233	232	229	247	242	241	242	234	232	215	206	182	177	179	210	229
5 Spd	11	11	11	13	12	13	11	9	9	19	22	22	19	19	16	14	13	11	8	4	2	6	6	8	7.8	21.6
Dir	180	175	164	164	164	192	192	221	240	243	242	256	262	277	277	280	273	276	267	268	335	127	104	92	233	242
6 Spd	3	4	5	7	5	2	8	9	10	12	14	14	14	14	12	13	14	17	14	13	12	9	8	8	8.9	17.1
Dir	70	89	75	49	143	226	357	14	55	112	97	87	87	107	106	83	76	57	66	62	68	85	91	103	79	57
7 Spd	13	11	10	12	12	12	12	12	13	12	17	20	22	22	24	21	20	21	19	13	11	11	11	11	13.7	23.8
Dir	98	92	82	96	84	95	100	104	115	135	149	151	158	163	144	158	153	140	142	137	128	121	120	121	131	144
8 Spd	11	11	11	11	11	10	7	9	11	11	11	12	12	13	15	16	18	20	12	14	13	12	13	15	7.5	19.6
Dir	120	133	114	120	130	123	126	143	190	214	235	257	242	241	240	252	257	265	270	270	257	235	233	237	224	265
9 Spd	14	13	11	10	11	10	9	7	9	12	8	9	14	17	19	23	22	21	17	11	8	8	6	7	11.8	23.3
Dir	235	233	233	256	251	232	230	239	266	272	275	238	259	267	262	267	276	279	280	260	250	247	252	210	257	267
10 Spd	6	10	10	5	3	5	4	1	7	5	9	9	10	12	12	13	12	12	8	3	2	7	6	6	2.6	13.2
Dir	113	109	154	167	56	129	141	190	255	282	289	298	266	286	281	275	282	276	278	267	52	118	125	102	257	275
11 Spd	7	6	8	7	9	7	9	9	11	12	12	12	10	9	8	8	6	7	8	13	15	14	12	11	7.0	14.8
Dir	95	94	91	76	95	70	72	110	123	154	163	175	192	199	216	198	194	179	153	115	107	107	96	99	130	107
12 Spd	13	13	14	12	12	12	13	11	17	17	15	11	10	9	8	8	11	14	12	12	7	10	2	8	6.8	17.5
Dir	103	96	100	96	96	98	96	113	146	162	175	192	194	238	244	247	236	212	199	190	200	209	281	238	163	162
13 Spd	8	8	4	3	8	12	11	11	17	19	15	15	16	11	12	14	17	20	16	13	16	12	10	3	9.9	20.3
Dir	243	249	236	224	263	300	296	312	340	348	357	357	1	0	333	330	337	341	350	357	360	26	47	4	339	341
14 Spd	4	4	8	7	4	8	8	5	14	18	17	17	19	20	20	18	20	20	14	16	19	18	18	17	12.7	20.2
Dir	334	9	18	10	22	48	69	105	94	106	96	103	100	101	104	109	109	105	97	85	87	98	97	102	93	105
15 Spd	16	14	13	13	14	15	12	14	14	19	15	11	12	10	8	7	9	15	13	13	12	10	11	11	11.3	18.8
Dir	97	100	97	97	97	100	102	102	116	145	158	150	146	155	146	165	132	101	97	92	85	96	83	73	112	145
16 Spd	8	8	8	9	9	2	5	6	4	6	3	6	6	1	10	14	9	9	8	16	24	30	34	34	5.1	34.0
Dir	66	66	74	64	57	231	347	324	342	19	300	13	70	34	238	234	241	224	207	211	202	233	242	242	235	242
17 Spd	33	35	38	39	35	36	32	26	25	26	26	25	27	32	30	28	26	25	19	14	13	10	7	11	24.8	38.9
Dir	241	243	249	251	253	252	255	263	259	256	257	256	264	276	284	285	288	289	288	292	281	277	251	262	263	251
18 Spd	14	12	11	9	12	13	10	10	13	13	12	12	10	10	9	9	9	7	3	7	11	13	12	12	5.4	13.6
Dir	259	257	255	249	255	258	247	234	240	250	262	248	244	277	285	271	296	317	6	69	86	89	93	84	258	259
19 Spd	11	12	12	10	10	10	9	7	11	15	15	20	24	20	19	18	15	11	12	16	18	18	14	13	12.1	23.6
Dir	85	88	85	96	115	114	111	94	131	140	143	156	165	177	169	169	162	141	107	102	106	105	96	99	128	165
20 Spd	14	13	12	15	15	16	16	17	21	25	23	19	13	13	10	12	7	10	15	16	14	13	12	10	12.1	25.2
Dir	93	90	88	92	91	91	99	98	139	153	158	163	172	185	194	182	155	139	99	94	91	94	110	119	124	153
21 Spd	12	10	8	2	6	6	11	6	4	5	7	5	7	9	8	13	16	20	13	13	14	9	11	13	6.9	20.3
Dir	185	218	262	1	169	112	153	121	182	159	228	248	290	275	267	268	262	248	226	197	195	184	198	194	218	248
22 Spd	14	14	13	14	13	10	10	13	11	9	8	8	13	10	17	14	7	4	7	9	9	8	5	2	7.6	17.3
Dir	204	202	203	200	192	150	149	148	153	166	167	196	153	131	206	223	221	126	91	90	94	94	129	327	170	206

Hourly Averages

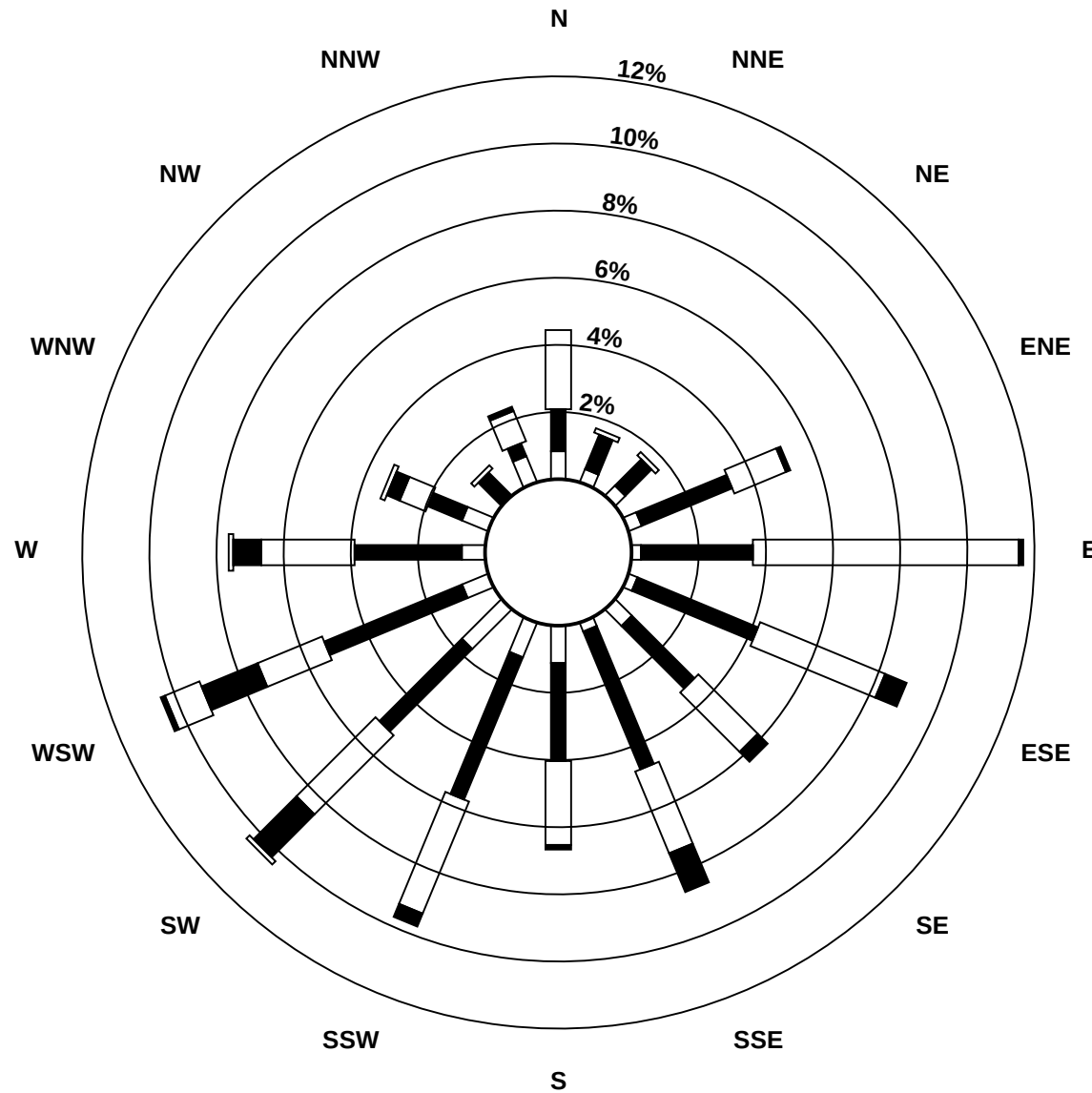
Wind Speed (km/h)
Wind Direction (deg)
Falher - September 2013

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
23 Spd	6	7	8	7	8	9	10	10	9	9	13	20	19	22	20	19	25	21	16	11	14	14	13	12	11.8	25.2
Dir	360	300	269	233	203	192	161	164	170	193	235	232	236	229	245	233	219	230	227	213	197	203	214	216	221	219
24 Spd	10	11	14	10	11	10	13	13	14	24	25	22	21	20	16	15	16	11	5	6	4	4	5	6	11.1	24.7
Dir	212	202	194	185	181	156	138	154	175	218	224	237	229	223	229	230	233	245	268	223	231	242	239	253	213	224
25 Spd	2	2	5	5	7	6	3	2	7	12	11	10	11	10	9	7	6	7	10	7	8	9	5	6	6.2	11.7
Dir	267	199	183	217	207	214	184	209	269	262	269	274	255	246	250	248	251	226	223	200	210	213	209	231	236	262
26 Spd	3	5	4	2	4	5	4	7	5	7	7	10	10	12	12	13	12	11	10	13	13	14	15	15	7.4	15.1
Dir	237	223	218	250	181	192	183	180	193	197	194	188	190	167	201	184	191	181	162	118	107	113	140	131	168	131
27 Spd	16	15	15	15	12	12	12	12	13	14	16	22	27	26	21	22	19	14	17	15	15	14	15	14	14.1	27.2
Dir	130	129	134	142	151	143	151	160	180	170	165	192	214	224	223	212	214	194	205	199	204	191	190	192	185	214
28 Spd	10	11	7	10	11	10	10	10	12	10	13	17	20	21	19	18	18	17	18	18	19	18	22	19	13.3	21.9
Dir	171	174	173	109	104	102	97	111	111	101	116	91	104	109	125	118	108	82	73	76	78	77	73	72	100	73
29 Spd	16	16	14	10	6	8	10	1	4	4	7	10	11	11	8	4	3	3	8	9	9	9	11	11	1.4	16.3
Dir	77	83	96	132	248	216	219	294	174	198	267	279	266	269	286	242	284	30	47	53	63	81	65	61	83	83
30 Spd	10	8	10	11	10	9	13	10	5	9	10	8	14	6	14	14	12	11	10	10	10	11	11	9	7.8	14.2
Dir	60	65	47	62	74	47	44	58	50	10	6	15	61	31	359	345	328	323	315	316	320	333	339	349	13	61
Spd	4.3	4.2	4.0	3.9	4.4	4.3	4.3	4.1	4.9	5.7	5.9	6.1	6.7	7.0	7.3	7.5	6.3	4.1	1.9	2.8	3.8	4.5	4.1	4.0	Diurnal Average	
Dir	147	149	153	142	152	151	141	147	175	194	203	212	211	226	235	234	237	235	201	143	134	136	133	144	Diurnal Maximum	
Spd	33.2	35.1	37.5	38.9	34.9	35.8	32.3	26.0	25.0	26.1	25.6	24.9	27.2	32.5	30.3	28.1	25.9	25.2	18.9	18.1	23.9	29.6	33.8	34.0	Diurnal Maximum	
Dir	241	243	249	251	253	252	255	263	259	256	257	256	214	276	284	285	288	289	142	76	202	233	242	242		
Maximum Speed Value: 39 km/h on Sep 17 04:00																								Hours in Service: 720		
Maximum Daily Speed Average: 24.8 km/h on Sep 17																								Hours of Data: 720		
Maximum Diurnal Speed Average: 7.5 km/h at hour 16																								Hours of Missing Data: 0		
Minimum Speed Value: 1 km/h on Sep 3 20:00																								Percent Operational Time: 100.0		
Minimum Daily Speed Average: 1.4 km/h on Sep 3																										
Minimum Diurnal Speed Average: 1.9 km/h at hour 19																										
Monthly Average Velocity: 3.76 km/h 183.4 deg																										
Speed Percentiles: P ₁ = 1.7 P ₁₀ = 5.3 Q ₁ = 8.3 Median = 11.2 Q ₃ = 14.4 P ₉₀ = 19.5 P ₉₉ = 33.6																										
All monthly, daily, and diurnal averages have been calculated using vector methods																										
Frequency Distribution																										
Speed Range (km/h)																										
Direction	0 to 5		5 to 11		11 to 19		19 to 28		28 to 38		> 38		Total													
North	8		17		20		3		0		0		48													
NorthEast	5		18		8		0		0		0		31													
East	5		44		87		10		0		0		146													
SouthEast	4		47		41		7		0		0		99													
South	10		54		50		8		0		0		122													
SouthWest	16		49		45		24		5		0		139													
West	8		42		38		15		7		1		111													
NorthWest	6		9		9		0		0		0		24													
Total	62		280		298		67		12		1		720													

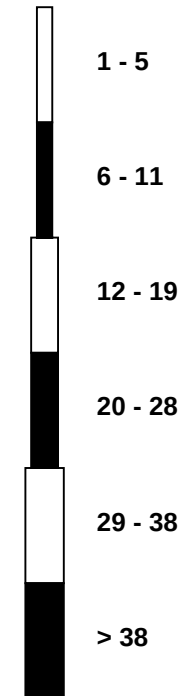
Wind Rose

Wind Speed (WS) (km/h)

Falher - September 2013



Wind Speed Classes (km/h)



Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Falher - September 2013

Maximum Speed: 39 km/h on Sep 17 04:00																					Maximum Daily Speed Average: 25.9 km/h on Sep 17					Hours in Service: 720	
Minimum Speed: 1 km/h on Sep 3 20:00																					Minimum Daily Speed Average: 6.6 km/h on Sep 3					Hours of Data: 720	
Maximum Diurnal Speed Average: 15.7 km/h at hour 13																					Minimum Diurnal Speed Average: 9.7 km/h at hour 8					Hours of Missing Data: 0	
Monthly Average Speed: 12.30 km/h																					Percentiles: P ₁ = 2.6 P ₁₀ = 5.8 Q ₁ = 8.5 Median = 11.5 Q ₃ = 14.5 P ₉₀ = 19.8 P ₉₉ = 33.8					Percent Operational Time: 100.0	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Sep	13	8	8	7	9	10	8	8	11	8	6	8	10	12	15	14	13	15	13	10	14	11	10	8	10.4	15.3	
2-Sep	8	7	8	9	8	6	5	8	11	13	14	16	20	17	18	16	18	19	18	9	11	12	10	8	12.1	19.8	
3-Sep	6	5	3	4	5	9	9	8	6	5	11	10	12	9	7	5	5	6	2	1	7	4	6	12	6.6	12.5	
4-Sep	11	10	8	9	12	12	10	10	11	11	17	23	25	24	25	26	23	19	15	13	13	13	10	11	15.1	25.5	
5-Sep	11	11	11	13	13	13	11	10	10	19	22	22	20	20	16	14	13	12	8	4	3	6	6	8	12.3	22.2	
6-Sep	4	5	5	8	6	5	8	9	12	12	14	14	15	14	13	14	15	17	14	13	12	9	8	9	10.6	17.2	
7-Sep	13	11	10	12	12	12	12	12	13	13	17	20	23	23	24	22	20	21	19	13	11	11	11	11	15.2	24.3	
8-Sep	11	11	11	11	11	10	7	9	11	11	12	13	13	14	16	16	19	20	12	15	13	12	13	15	12.6	19.9	
9-Sep	14	13	11	11	11	10	9	7	10	13	9	10	15	17	19	24	22	21	17	12	8	8	8	7	12.7	23.8	
10-Sep	7	10	10	5	5	5	4	3	7	5	9	11	11	12	13	14	13	12	8	4	3	7	6	6	7.9	13.7	
11-Sep	7	6	8	7	9	7	9	9	11	12	12	13	10	9	9	9	7	7	9	13	15	14	12	11	9.8	14.8	
12-Sep	13	13	14	12	12	12	13	11	17	18	15	12	10	10	8	8	12	14	12	12	8	12	4	8	11.7	17.7	
13-Sep	9	9	5	3	9	13	11	11	17	20	16	16	16	12	13	15	18	20	16	13	16	13	10	4	12.6	20.5	
14-Sep	4	4	8	7	5	9	9	6	14	18	18	17	20	20	21	19	20	20	15	16	19	18	18	17	14.2	20.8	
15-Sep	16	14	13	13	14	16	12	14	14	19	16	11	12	10	8	8	10	15	13	13	12	10	11	11	12.7	18.9	
16-Sep	9	8	8	9	9	5	5	7	5	7	5	7	7	5	10	14	9	10	9	16	24	30	34	34	11.9	34.0	
17-Sep	33	35	38	39	35	36	32	26	25	26	26	25	27	33	30	28	26	25	19	14	13	11	7	11	25.9	39.0	
18-Sep	14	12	11	9	12	13	10	10	13	13	12	13	10	11	10	10	9	8	4	8	11	13	12	12	10.8	13.6	
19-Sep	11	12	12	10	10	10	9	7	11	15	15	20	24	20	19	18	15	11	12	16	18	18	14	13	14.3	24.0	
20-Sep	14	13	12	15	15	16	16	17	22	25	24	19	14	13	11	13	8	10	15	16	14	13	12	11	14.9	25.3	
21-Sep	13	10	8	2	7	6	12	6	5	6	7	7	8	10	9	13	16	20	13	13	14	10	11	13	9.9	20.4	
22-Sep	14	14	13	14	13	10	10	13	11	9	9	9	14	11	18	15	7	4	7	9	9	8	7	3	10.5	18.4	
23-Sep	7	8	8	7	8	10	10	10	10	9	13	20	20	22	21	19	26	21	16	12	14	14	13	12	13.8	25.7	
24-Sep	10	11	14	10	11	11	14	14	14	24	25	22	22	20	17	15	17	11	6	6	4	4	5	6	13.1	25.0	
25-Sep	3	3	5	5	7	6	3	2	7	12	11	10	11	11	9	7	6	7	11	8	8	9	5	6	7.2	11.8	
26-Sep	4	6	4	2	4	5	4	7	5	8	8	10	10	13	13	13	13	11	11	13	13	14	15	15	9.2	15.2	
27-Sep	16	15	15	15	12	12	12	12	14	14	17	23	27	26	21	23	19	15	17	15	15	14	15	14	16.6	27.3	
28-Sep	10	11	8	10	11	10	10	10	12	10	14	17	20	21	19	18	18	17	18	18	19	18	22	20	15.0	21.9	
29-Sep	16	16	14	10	7	9	11	6	5	5	7	10	11	11	9	6	4	4	9	9	9	9	11	12	9.2	16.3	
30-Sep	10	8	10	12	10	9	13	10	6	9	10	13	15	8	14	14	12	11	10	10	10	11	12	9	10.7	14.5	
10.9 10.7 10.4 10.1 10.4 10.5 10.3 9.7 11.3 13.0 13.6 14.7 15.7 15.3 15.2 14.9 14.5 14.2 12.1 11.4 12.0 11.9 11.3 11.2																									Diurnal Average		
33.3 35.2 37.6 39.0 34.9 35.9 32.4 26.0 25.1 26.2 25.7 25.0 27.3 32.7 30.4 28.3 26.1 25.3 19.0 18.1 23.9 29.9 33.9 34.0																									Diurnal Maximum		
All monthly, daily, and diurnal averages have been calculated using scalar methods																											

Hourly Standard Deviations

Wind Direction (WD) - deg

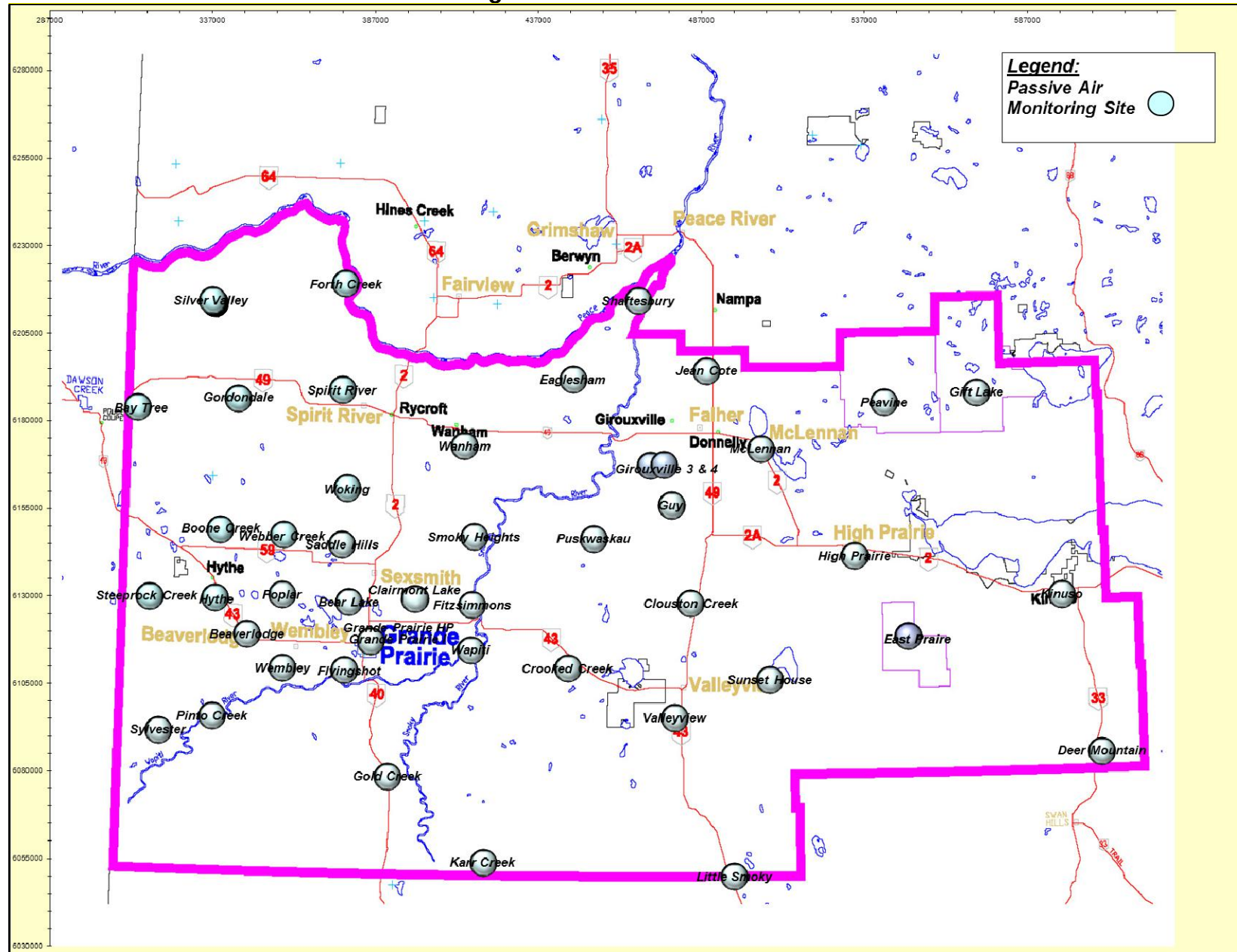
Falher - September 2013

Maximum Value: 80.3 deg on Sep 16 14:00																				Hours in Service: 720					
Minimum Value: 1.6 deg on Sep 20 06:00																				Hours of Data: 720					
																				Hours of Missing Data: 0					
Percentiles: P ₁ = 1.9 P ₁₀ = 3.4 Q ₁ = 5.7 Median = 10.3 Q ₃ = 17.1 P ₉₀ = 27.8 P ₉₉ = 72.5																				Hours of Calibration: 0					
																				Percent Operational Time: 100.0					
Day	Hourly Period Ending At (MST)																							Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Sep	4	17	9	9	5	3	4	9	8	13	38	36	33	18	16	18	13	8	3	3	4	7	8	7	38.4
2-Sep	6	7	7	9	15	4	18	11	16	23	17	14	14	18	14	16	11	9	6	16	11	5	5	8	22.6
3-Sep	14	13	58	25	39	13	9	17	21	42	18	25	21	32	29	54	65	42	40	40	15	21	25	7	65.5
4-Sep	3	5	24	11	15	10	15	18	16	15	9	7	8	8	10	11	7	8	5	3	8	8	15	5	23.9
5-Sep	6	8	6	3	6	2	4	40	25	7	9	13	13	10	17	16	13	16	6	8	60	14	11	12	60.2
6-Sep	36	28	22	41	32	66	22	5	25	10	13	13	14	16	18	13	11	8	5	4	4	12	4	9	66.0
7-Sep	3	5	6	7	7	4	2	4	5	15	11	14	12	14	12	11	14	5	4	5	4	3	4	2	15.3
8-Sep	3	3	7	5	2	4	5	15	16	11	18	16	17	14	12	13	8	11	7	9	8	5	3	4	18.5
9-Sep	3	3	4	14	4	11	4	8	9	11	28	36	15	15	13	12	10	8	5	10	12	15	46	18	45.8
10-Sep	37	8	12	11	54	12	11	60	12	23	20	38	16	23	20	17	21	14	9	32	22	7	10	18	60.0
11-Sep	10	9	11	6	5	7	15	9	10	13	11	18	21	26	31	33	28	21	18	12	2	3	5	6	33.4
12-Sep	8	3	2	3	3	2	2	10	5	9	12	16	18	18	21	27	13	11	5	4	13	35	74	7	74.0
13-Sep	26	21	64	41	25	9	11	10	6	7	10	12	14	19	21	15	10	7	3	4	3	23	16	42	63.5
14-Sep	27	11	5	7	11	5	26	27	9	8	9	11	10	12	15	10	9	5	10	2	3	7	2	2	27.0
15-Sep	4	3	4	2	2	2	3	3	7	7	14	18	17	21	30	30	23	4	2	3	2	8	6	5	29.8
16-Sep	6	6	13	12	5	75	8	29	39	27	73	38	33	80	18	4	7	15	17	8	3	9	5	3	80.3
17-Sep	4	3	3	3	3	4	4	4	3	3	4	5	6	7	5	6	6	5	4	7	6	14	16	6	15.7
18-Sep	5	6	4	4	6	3	9	6	9	9	11	18	14	26	22	23	20	18	26	11	7	2	4	6	26.4
19-Sep	7	5	3	6	5	8	8	7	13	6	8	10	10	10	10	10	7	14	3	2	3	6	4	4	13.6
20-Sep	3	4	5	3	3	2	3	4	15	5	6	9	18	11	18	18	21	14	6	2	6	7	12	20	20.6
21-Sep	17	9	13	40	38	14	16	22	31	15	22	38	39	16	19	15	16	6	10	6	4	10	5	6	39.6
22-Sep	2	3	3	2	10	10	18	6	10	12	31	25	33	23	25	17	25	37	10	8	3	6	62	73	73.4
23-Sep	24	26	20	12	7	9	7	9	12	16	18	13	11	11	12	9	12	5	3	11	5	4	3	3	26.2
24-Sep	9	8	6	7	7	27	12	8	17	6	8	10	16	11	17	17	19	15	21	16	13	19	11	6	26.9
25-Sep	57	45	11	13	12	11	39	45	32	8	10	12	12	13	16	25	29	7	5	6	7	7	22	11	57.3
26-Sep	28	19	19	70	20	8	14	15	19	16	18	19	16	23	20	15	15	13	11	9	3	6	9	7	70.1
27-Sep	3	4	4	2	3	5	5	6	11	9	13	21	6	6	10	7	8	20	2	5	9	5	10	4	20.9
28-Sep	25	11	24	12	8	7	7	8	5	14	20	5	9	9	13	13	12	9	3	3	3	4	2	7	25.5
29-Sep	3	5	8	14	29	9	22	73	38	49	26	19	18	17	22	63	68	73	4	4	7	15	14	17	73.4
30-Sep	10	20	8	24	14	8	16	22	48	15	17	52	14	40	11	10	8	13	9	5	5	8	7	6	52.0
	57.3	45.4	63.5	70.1	54.2	75.4	39.0	72.7	47.9	49.2	72.6	52.0	38.9	80.3	31.1	62.7	68.2	73.4	39.6	40.4	60.2	35.0	74.0	73.4	

PAZA

Monthly Passive Data Summary

Location of PAZA Passive Monitoring Stations



PAZA Passive Results for September 2013

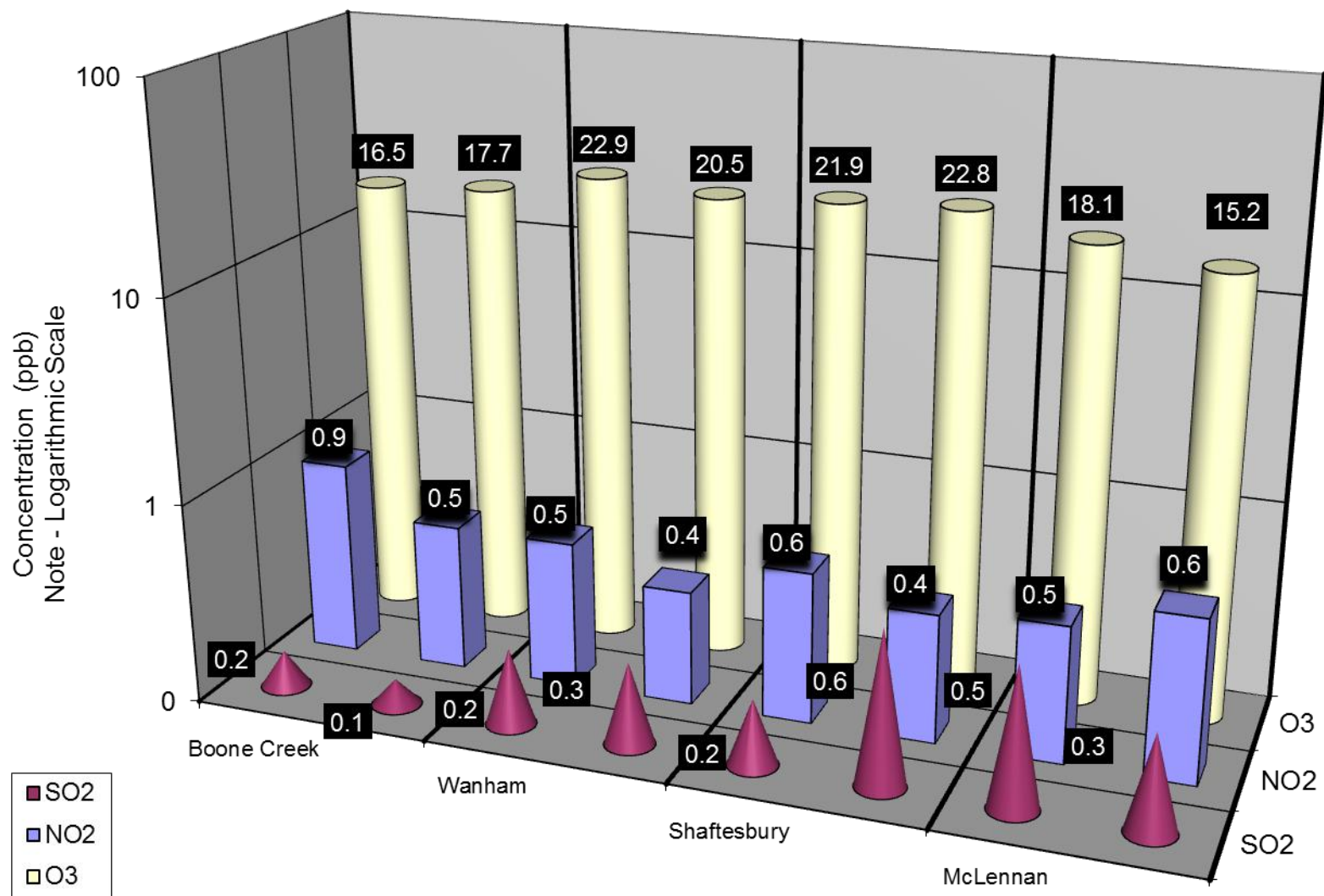
Station Number	Station Name	SO2 ppb	O3 ppb	NO2 ppb	H2S ppb	Site Legal
Duplicates						
5a	Boone Creek	0.2	16.5	0.9		
5b	Boone Creek	0.1	17.7	0.5		
19a	Wanham	0.2	22.9	0.5		
19b	Wanham	0.3	20.5	0.4		
20a	Shaftesbury	0.2	21.9	0.6		
20b	Shaftesbury	0.6	22.8	0.4		
40a	McLennan	0.5	18.1	0.5		
40b	McLennan	0.3	15.2	0.6		
63a	Girouxville 3				0.2	
63b	Girouxville 3				0.2	
1	Silver Valley	0.4	16.7	0.6		08-27-081-11 W6M
2	Bay Tree	0.1	18.1	0.4		13-16-078-13 W6M
3	Fourth Creek	0.2	17.8	0.6		04-13-082-07 W6M
4	Gordondale	0.6	24.5	1.4		04-34-078-10 W6M
5	Boone Creek	0.1	17.1	0.7		16-36-074-11 W6M
7	Steeprock Creek	0.2	18.8	0.8		09-35-072-13 W6M
9	Spirit River	0.3	18.8	0.5		08-12-079-07 W6M
10	Woking	0.5	19.2	0.5		01-13-076-07 W6M
11	Webber Creek	0.4	17.5	0.9		09-36-074-09 W6M
12	Hythe	0.2	17.2	0.6		14-36-072-11 W6M
14	Sylvester	0.1	13.9	0.5		08-06-069-12 W6M
16	Beaverlodge	0.2	21.4	1.1		15-36-071-10 W6M
17	Poplar	0.3	14.0	0.8		13-06-073-08 W6M
18	Saddle Hills	0.3	16.8	0.2		04-25-074-07 W6M
19	Wanham	0.2	21.7	0.5		16-22-077-03 W6M
20	Shaftesbury	0.4	22.4	0.5		04-03-082-23 W5M
21	Eaglesham	0.2	13.3	0.2		16-21-079-25 W5M
23	Bear Lake	0.3	18.6	0.9		15-31-072-06 W6M
24	Wembley	0.2	17.1	0.7		12-31-070-08 W6M
25	Pinto Creek	0.1	16.8	0.7		04-24-069-11 W6M
26	Flyingshot	0.2	13.7	0.7		15-36-070-07 W6M
27	Grande Prairie I	0.2	16.7	2.7		08-15-071-06 W6M

PAZA Passive Results for September 2013 (Continued)

28	Clairmont Lake	0.2	21.0	1.0	09-06-073-04 W6M
29	Smoky Heights	0.3	23.6	0.5	04-06-075-02 W6M
30	Fitzsimmons	0.2	12.5	1.3	15-36-072-03 W6M
32	Gold Creek	0.2	11.6	1.6	06-33-067-05 W6M
33	Wapiti	0.2	15.4	0.7	02-25-071-03 W6M
34	Puskwaskau	0.2	14.2	0.1	15-35-074-25 W5M
35	Jean Cote	0.4	19.5	0.9	12-35-079-21 W5M
36	Guy	0.2	15.9	0.6	03-04-076-22 W5M
37	Crooked Creek	0.1	18.8	0.6	16-01-071-26 W5M
38	Karr Creek	0.1	11.0	0.5	10-16-065-02 W6M
39	Clouston Creek	0.2	17.0	0.8	12-01-073-22 W5M
40	McLennan	0.4	16.6	0.6	03-29-077-19 W5M
41	Valleyview	0.2	20.4	0.7	09-30-069-22 W5M
42	Sunset House	0.2	27.3	0.3	05-32-070-19 W5M
43	High Prairie	0.2	17.7	0.4	16-13-074-17 W5M
44	Peavine	0.2	15.7	0.5	03-05-079-15 W5M
45	Gift Lake	0.1	19.5	0.3	0.1 10-07-079-12 W5M
46	Little Smoky	0.1	12.5	5.0	12-01-065-21 W5M
47	Kinuso	0.1	9.4	0.2	12-10-073-10 W5M
48	Deer Mountain	0.1	16.6	0.3	15-22-068-09 W5M
49	Grande Prairie HP	0.2	19.6	2.9	17-26-071-06 W6M
62	East Prairie	0.2	16.9	0.2	13-02-072-15 W5M
63	Girouxville 3			0.2	14-02-077-23 W5M
64	Girouxville 4			0.1	4-08-077-22 W5M

*BDL = Below Detection Level

*NS - No sample



Duplicate Summary Chart

Passive Summary for September 2013

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

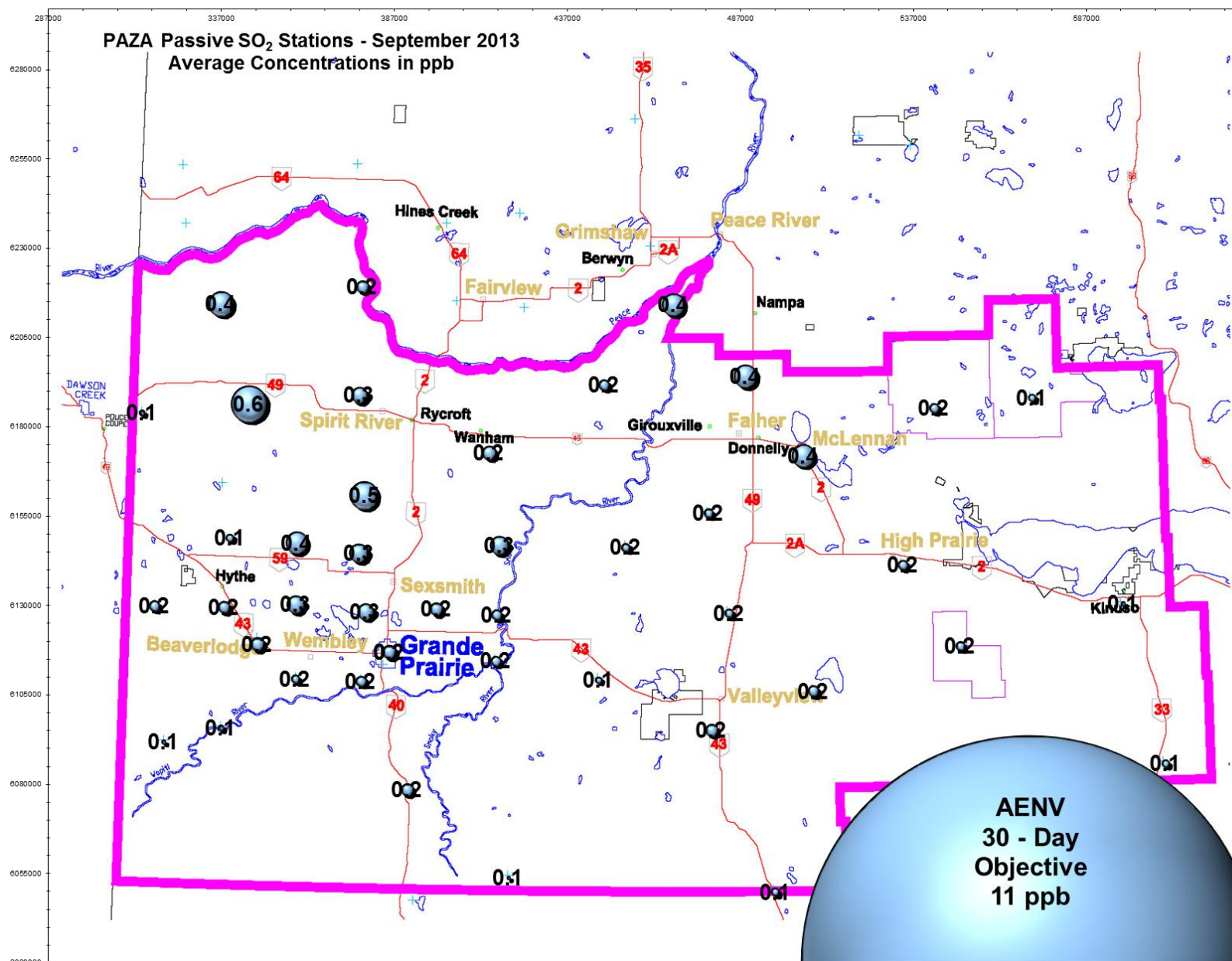
Passive Summary for September 2013 (PAZA Zone)				
Mean	0.2	17.4	0.8	0.1
Standard Deviation	0.1	3.6	0.8	0.1
Minimum	0.1	9.4	0.1	0.1
Minimum At	Karr Creek (#38)	Kinuso (#47)	Puskwaskau (#34)	Gift Lake (#45)
Maximum	0.6	27.3	5.0	0.2
Maximum At	Gordondale (#4)	Sunset House (#42)	Little Smoky (#46)	Girouxville 3 (#63)

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

	SO ₂	O ₃	NO ₂
PAZA Beaverlodge station	0.1	25.3	2.2
PAZA Beaverlodge passive	0.2	21.4	1.1

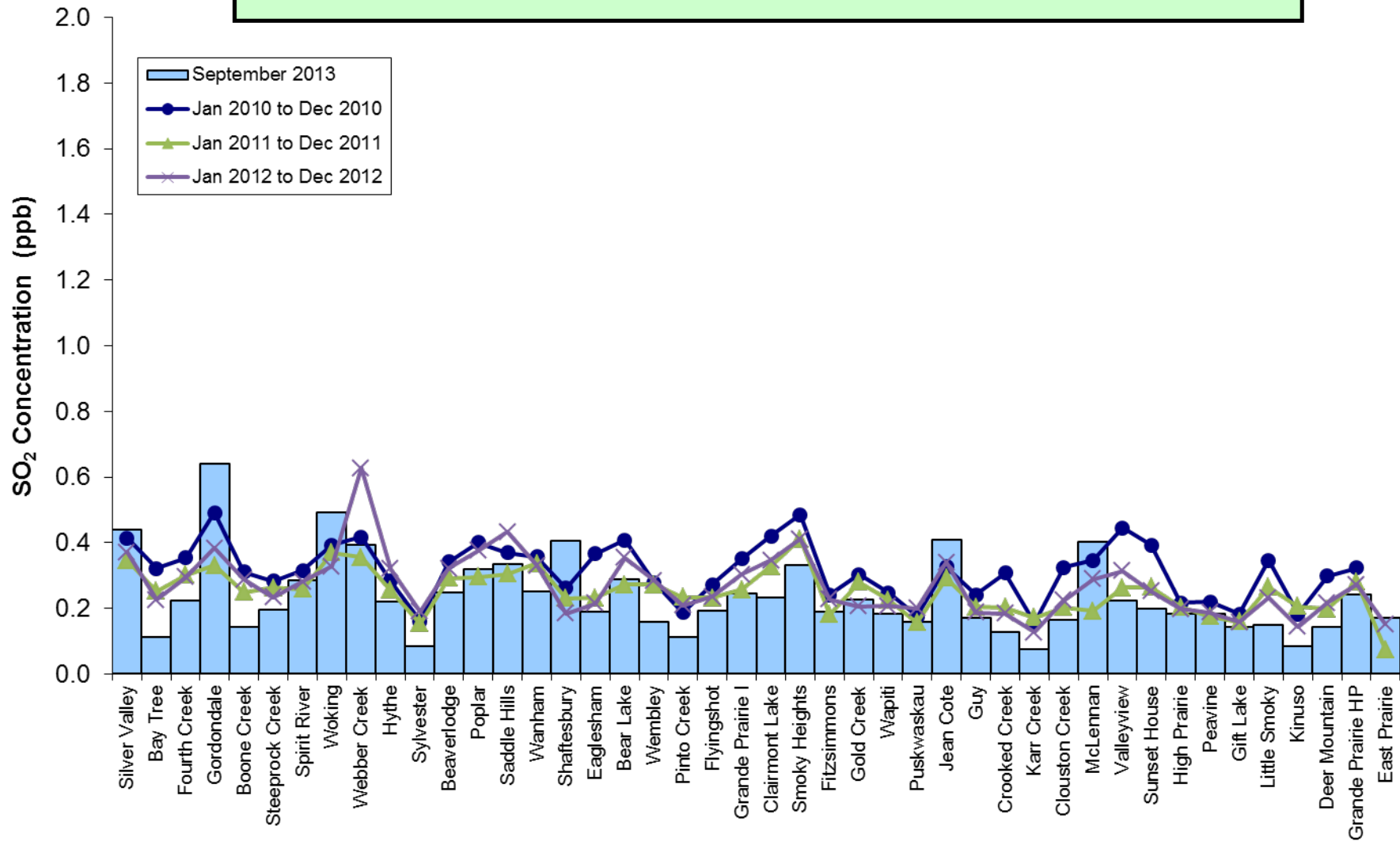
Comparison between Continuous and Passive monitoring at Henry Pirker (passive #49 Grande Prairie HP)

	SO ₂	O ₃	NO ₂
PAZA Henry Pirker station	0.1	21.9	4.5
PAZA Grande Prairie passive	0.2	19.6	2.9

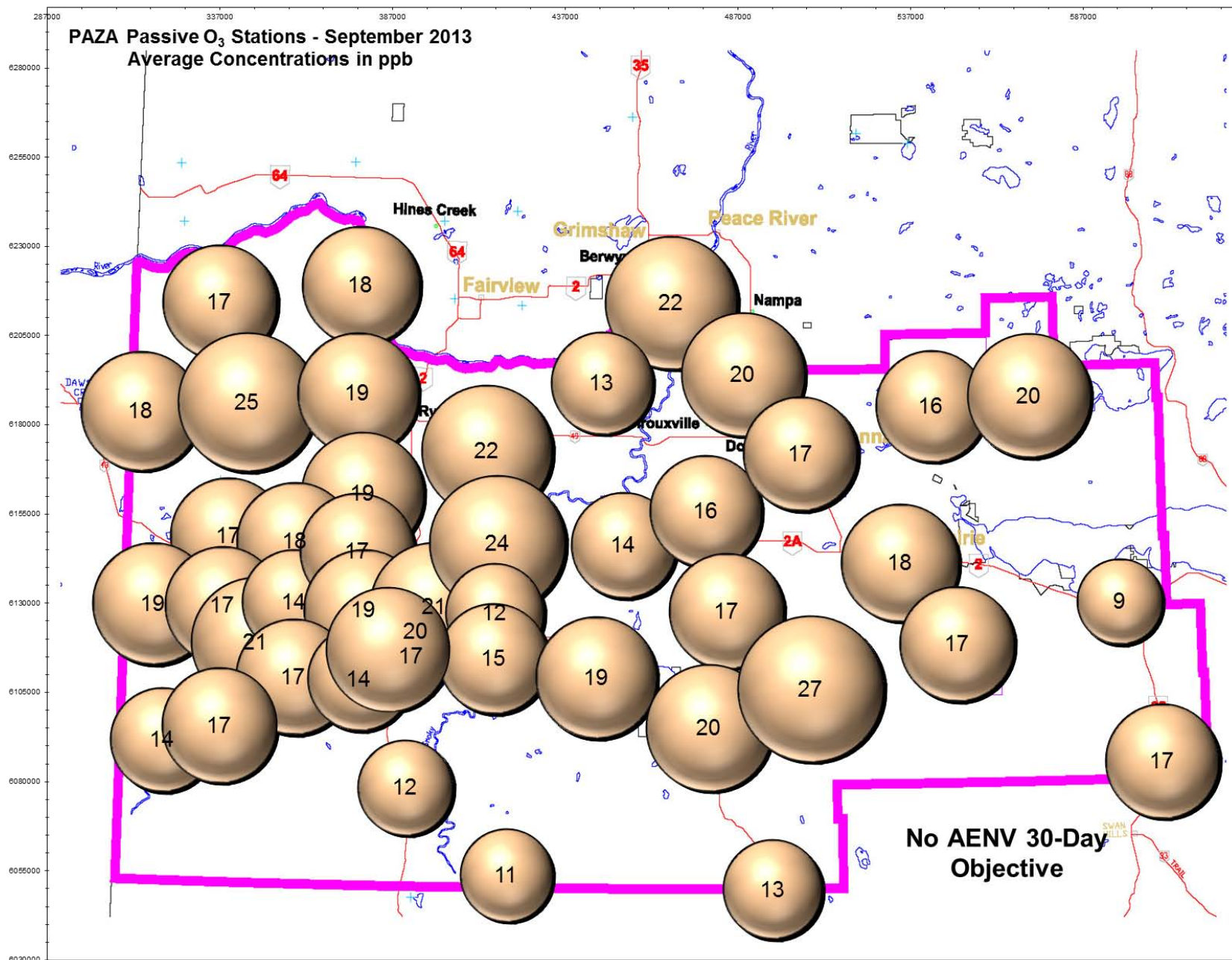


SO₂ Bubble Chart

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

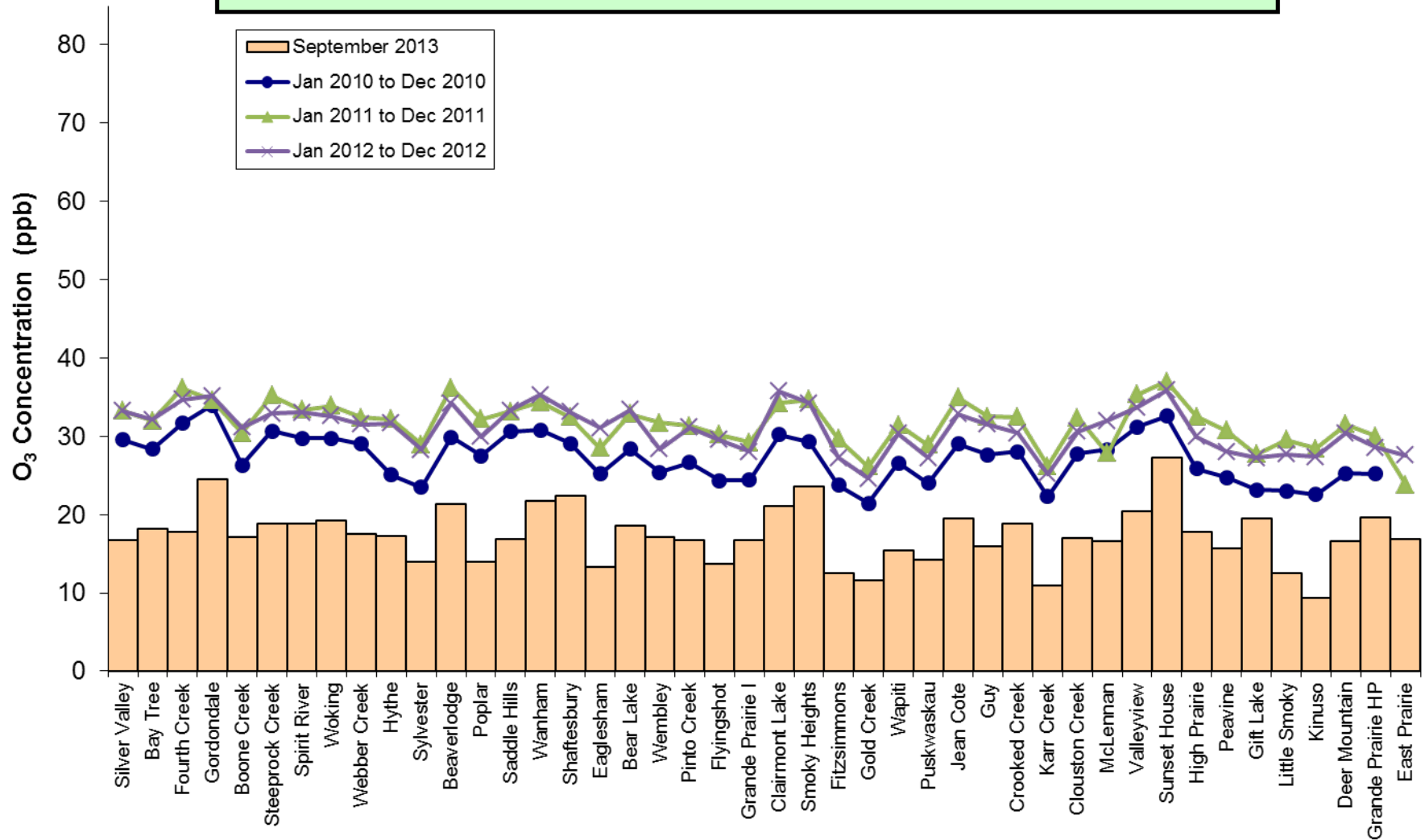


SO₂ Summary Chart

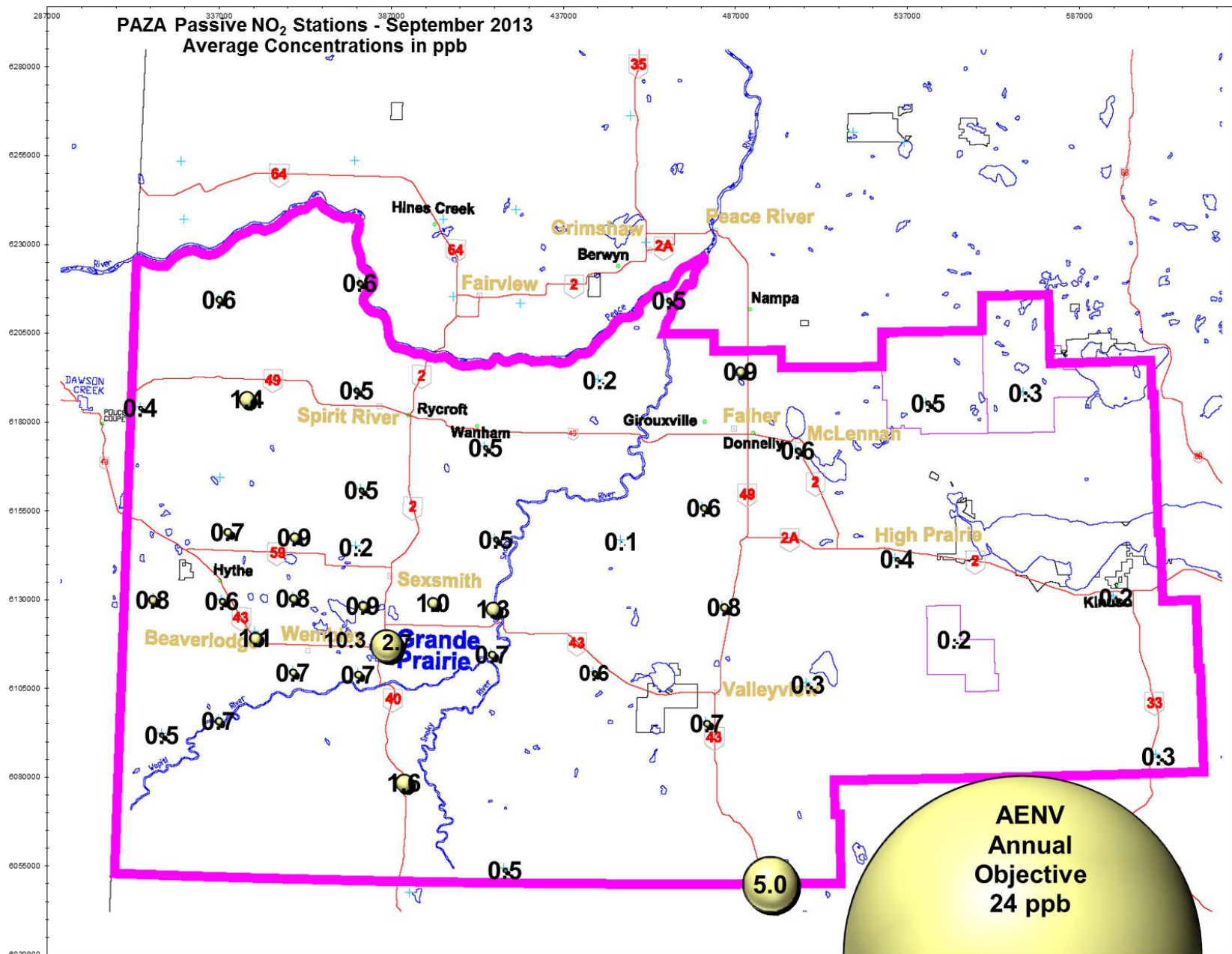


O₃ Bubble Chart

Alberta Ambient Air Quality Objective - No Annual O₃ Objective

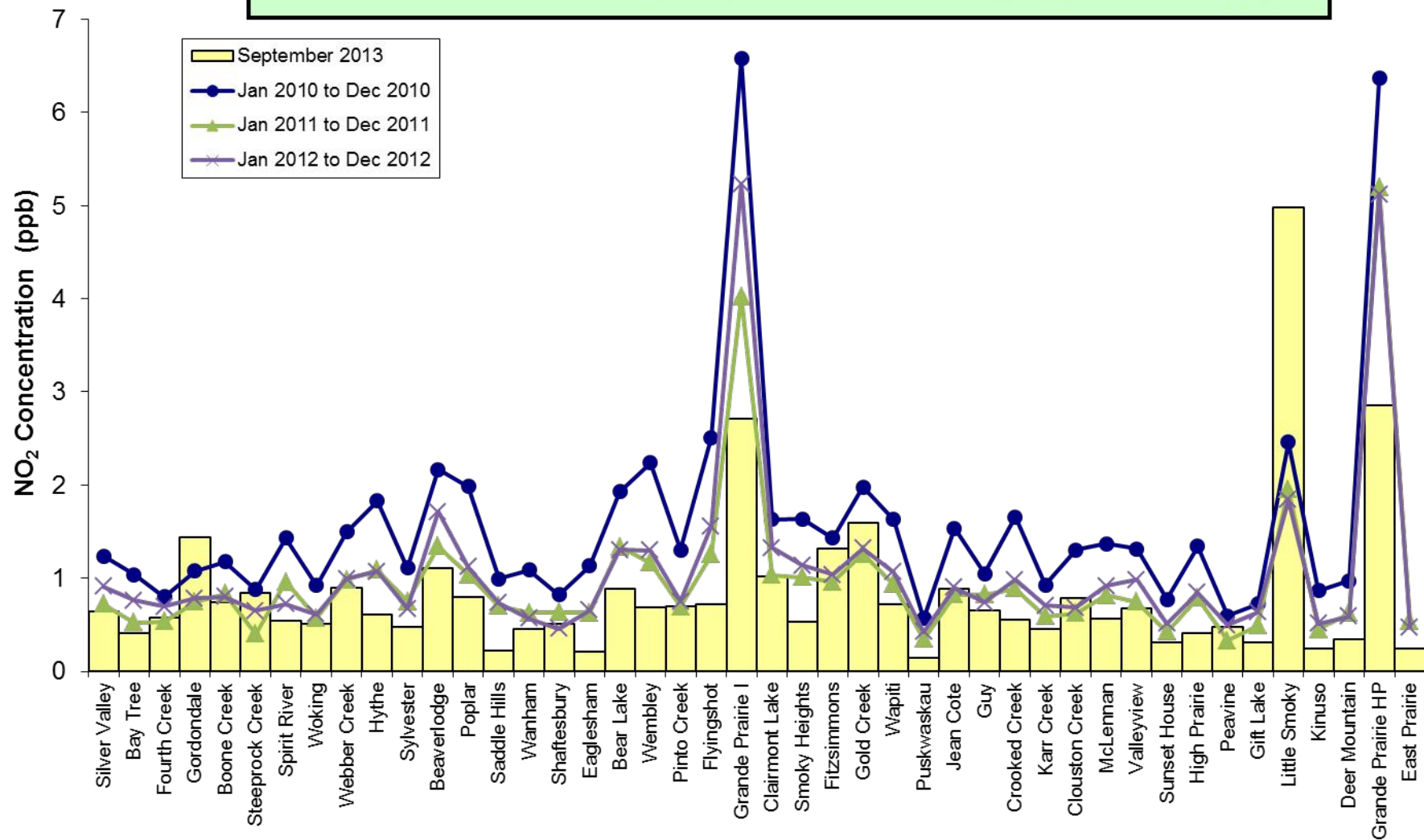


O₃ Summary Chart

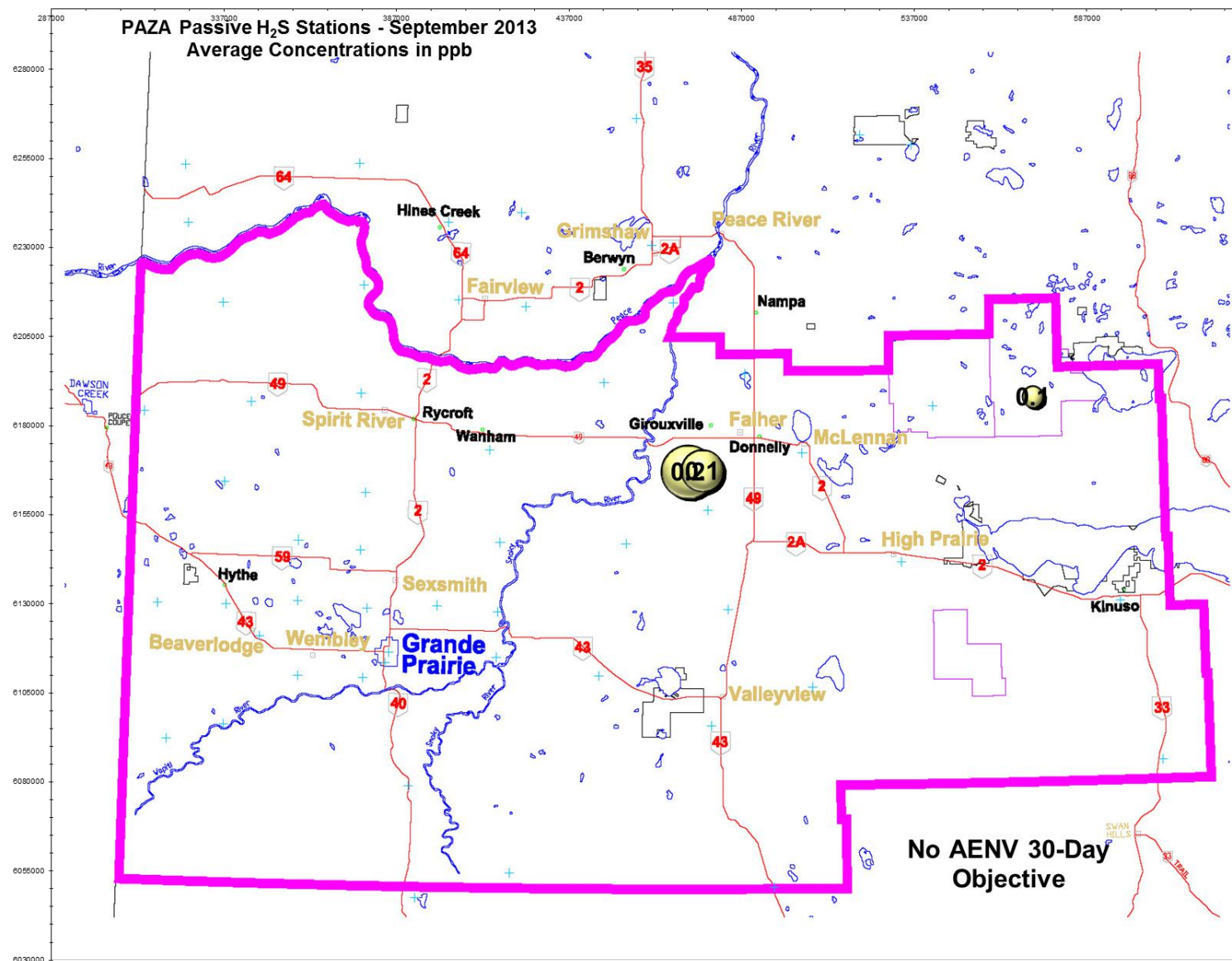


NO₂ Bubble Chart

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



NO₂ Summary Chart



H₂S Bubble Chart

PAZA

ALBERTA ENVIRONMENT AND SUSTAINABLE RESOURCES INCIDENT REPORT

September 2013

Air Monitoring Directive Exceedence Report

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

Reference Number:	275140	Reported To (AESRD Contact):	Christ
Date & Time Incident Reported to AESRD:	September 12 2013 22:38	Reported By:	Christopher Hendrickson
Reported on Behalf of:	PAZA	Approval Number (if applicable):	
Location(s) of Incident:	Smokey Heights		
Start Date & Time of Incident:	September 12 2013 20:00	End Date & Time of Incident:	September 12 2013 21:00
Reason or Nature of Incident:			
PM2.5 Exceeded the 1-hour limit of 80µg/m ³ , The Hourly Average was as follows: 21:00 MST PM2.5 = 121.8 ug/m3 - WS = 14.3km/hr - WD = 271.8degrees			
Immediate Actions Taken:			
Validated real time data and reported to AESRD.			
Investigation Details:			
NA			
Actions Taken to Prevent Reoccurrence (if any):			
NA			
Additional Actions Required (if any):			
NA			
Report Completed By:	Christopher Hendrickson	Date Report Submitted:	September 13, 2013
7-Day Letter Due Date:	September 17 2013		

September 2013 Calibration Reports

PAZA - Henry Pirker Station with the following calibrations:

SO₂, NO, NO₂, NO_x, O₃, CO, THC, TRS

PAZA – Evergreen Park Station with the following calibrations:

SO₂, TRS

PAZA – Smoky Heights Station with the following calibrations:

SO₂, TRS

PAZA – Beaverlodge Station with the following calibrations:

SO₂, NO, NO₂, NO_x, O₃, PM_{2.5}

PAZA – Valleyview Station with the following calibrations:

SO₂ & H₂S

PAZA – Sunset House Station with the following calibrations:

SO₂, NO, NO₂, NO_x, O₃, TRS

PAZA – Falher Station with the following calibrations:

SO₂ & H₂S

Calibration Report

Parameter SO2

Air Monitoring Network PAZA



Station Information

Calibration Date	September 12, 2013	Previous Calibration	August 14, 2013
Station Number	1	Station Location	Henry Pirker
Reason:	☒ Routine	☐ Install	☐ Removal
		☐ Other:	
Start Time (MST)	9:45	End Time (MST)	14:10
Barometric Pressure	na ATM	Station Temperature	20.5 Deg C
Calibrator	EnviroNics	Serial Number	3016
Cal Gas Conc	51.5 ppm	Cal Gas Cert Date	March 12, 2014
		Cal Gas Cylinder #	LL105159
DACS make	CR3000	DACS serial No.	5408
DACS voltage range	0 - 1 volt	DACS channel #	10
	Before		After
Calculated slope	0.993569	Calculated slope	0.998002
Calculated intercept	0.988989	Calculated intercept	3.033141
Analyzer make	TEI 43C	Analyzer serial #	610816292

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
Background	9.2		9.4	
Coefficient	0.765		0.780	
Pressure	645.2	mm Hg	640.9	mm Hg
Flow	0.491	lpm	0.485	lpm
Lamp Voltage	44078	Hz	44133	Hz

Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
4995	0.00	0.0	-0.1	N/A
4995	39.93	408.4	408.1	1.0009
4995	19.97	205.1	199.7	1.0271
4995	9.97	102.6	97.7	1.0500
4995	0.00	0.0	-0.1	As Found Zero
4995	39.93	408.4	396.5	As Found Span
Average Correction Factor				1.0260

Calculated value of As Found Response: 395.0 ppb Percent Change of As Found: 3.3%

	before calibration		after calibration	
Auto zero	0.1	ppb	0.1	ppb
Auto span	250.7	ppb	251.2	ppb

Notes: Slight zero & span adjustment made.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter SO2

Air Monitoring Network PAZA



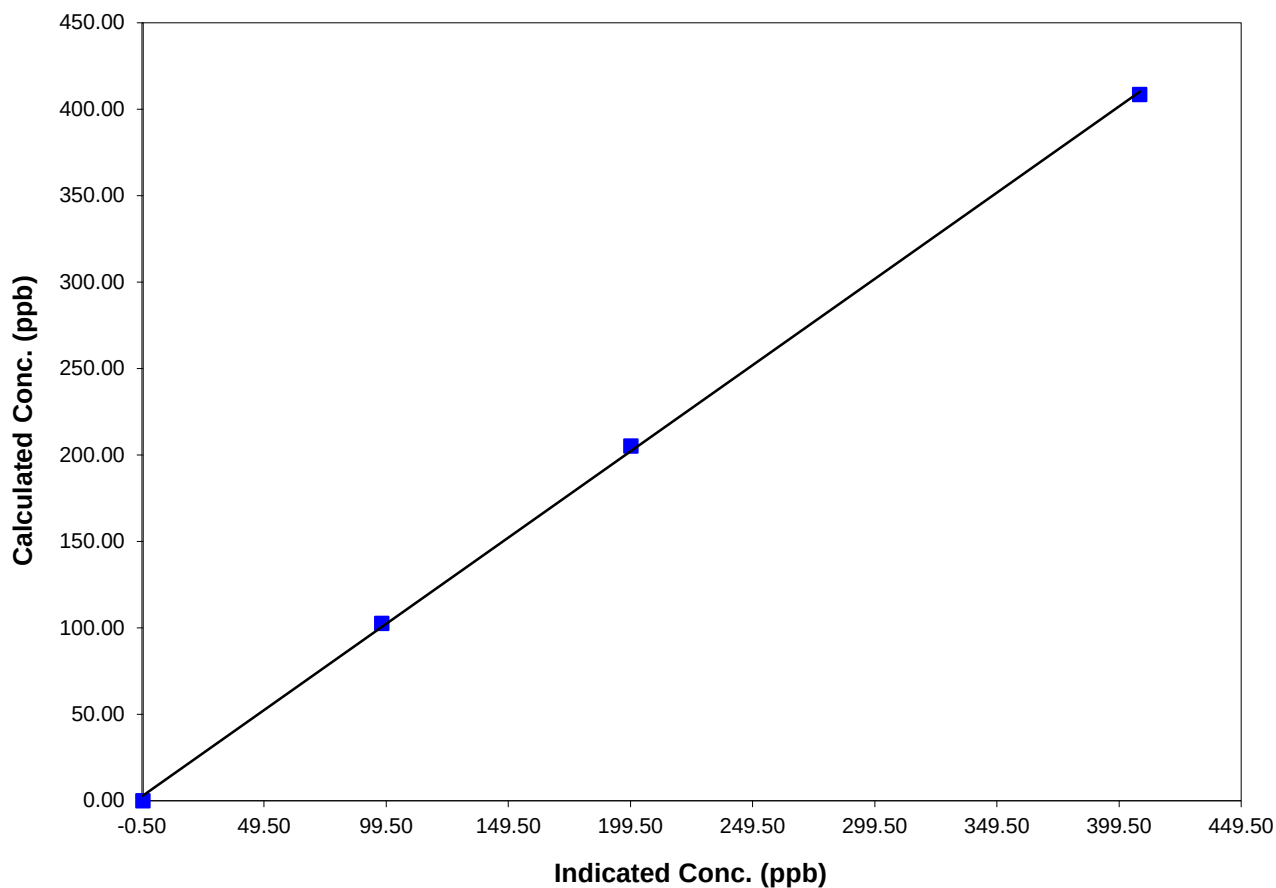
Station Information

Calibration Date	September 12, 2013	Previous Calibration	August 14, 2013
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	9:45	End Time (MST)	14:10
Analyzer make/model	TEI 43C	Analyzer serial #	610816292

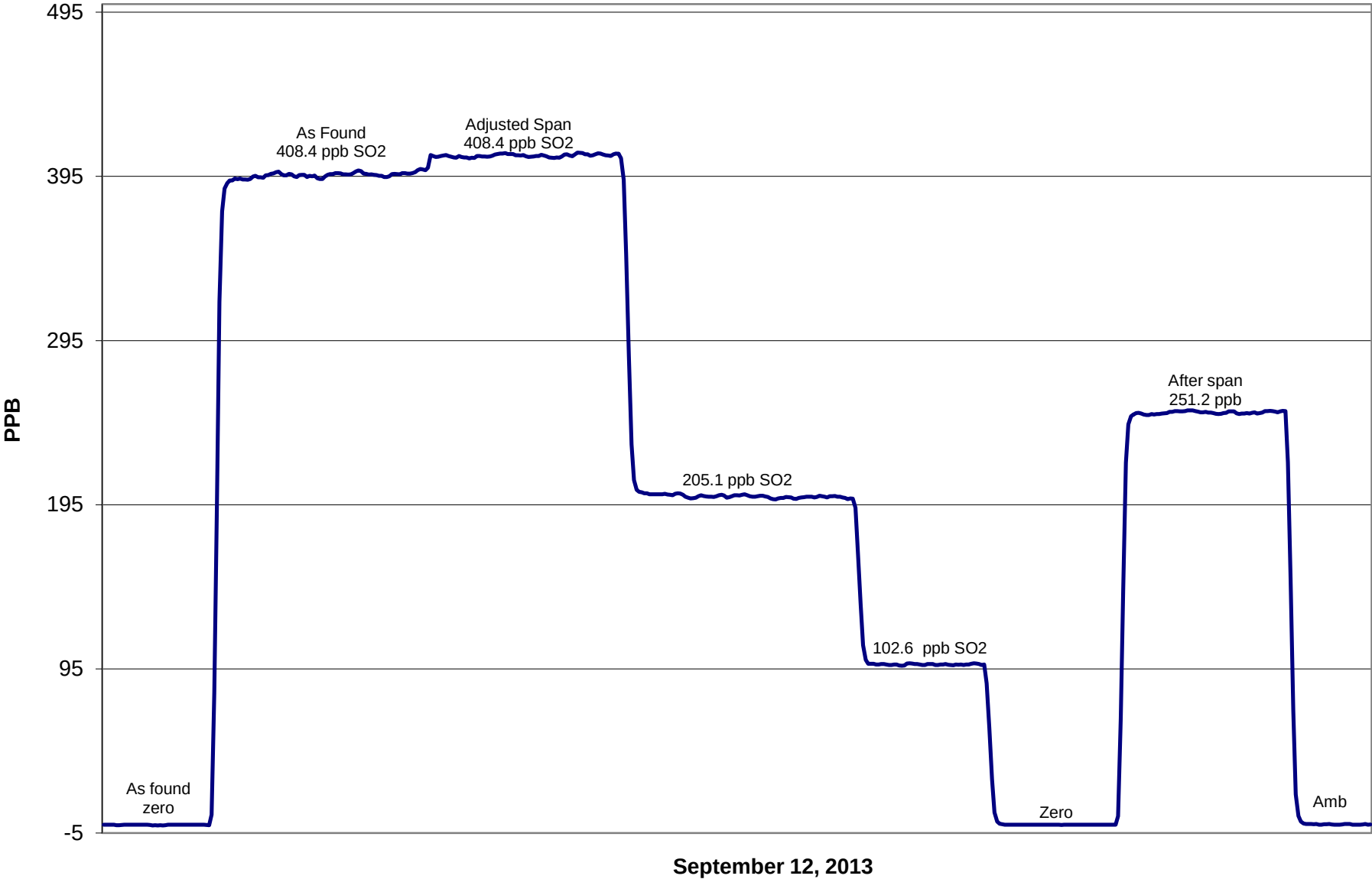
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.1	N/A		
408.4	408.1	1.0009	Correlation Coefficient	0.999736
205.1	199.7	1.0271		
102.6	97.7	1.0500	Slope	0.998002
			Intercept	3.033141

SO2 Calibration Curve



SO2 Calibration



Calibration Report

Parameter

NO_x-NO-NO₂

Air Monitoring Network

PAZA



Station Information

Calibration Date	September 12, 2013	Previous Calibration	August 14, 2013
Station Number	1	Station Location	Henry Pirker
Reason:	Routine	Installation	Removal
Start Time (MST)	9:45	End Time (MST)	16:08
Barometric Pressure	na	Atm	Station Temperature
Calibrator	EnviroNics	Serial Number	3016
NO Cal Gas Conc	51.3	ppm	Cal Gas Expiry Date
NOx Cal Gas Conc	51.4	ppm	Cal Gas Serial #
			March 12, 2014
			LL105159

DACS Information

DACS make	CR3000	DACS serial No.	5408
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Parameter	NO2	NOx	NO
Before			
Data Slope	1.002850	1.000110	0.999219
Data Offset	0.184418	-1.560325	-1.250596
After			
Data Slope	0.996414	0.993911	0.991545
Data Offset	-0.497272	1.164684	1.230201
Channel #	8	6	7
Voltage Range	0 - 5 VDC	0 - 5 VDC	0 - 5 VDC

Analyzer Information

Analyzer make/model	TEI 42C	Analyzer serial #	508011073
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Test Point	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
NO offset	13.0	mV	14.4	mV
NOx bkgnd	13.3	mV	14.7	mV
NO coefficient	1.114		1.096	
NOx coefficient	0.999		0.999	
NO2 conv temp	318.0	Deg C	318.0	Deg C
PMT Temp	-2.4	Deg C	-2.4	Deg C
PMT Volt	-768.0	mV	-768.0	mV
R Cell Press	207.2	in Hg	207.7	in Hg

Calibration Report

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



Calibration Date: September 12, 2013 Station Location: Henry Pirker

	Dilution flow rate (ccm)	Source gas flow rate (ccm)	Calculated NO _x conc (ppb)	Calculated NO conc (ppb)	Calculated NO ₂ conc (ppb)	Indicated NO _x conc (ppb)	Indicated NO conc (ppb)	Indicated NO ₂ conc (ppb)	NO _x Correction factor	NO Correction factor
zero	4995	0.00	0.0	0.0	0.0	0.0	-0.1	0.0	N/A	N/A
1	4995	39.93	407.6	406.8	0.8	409.7	409.7	-0.1	0.9950	0.9929
2	4995	19.97	204.7	204.3	0.4	203.8	203.9	-0.1	1.0043	1.0018
3	4995	9.97	102.4	102.2	0.2	100.9	100.8	-0.1	1.0151	1.0135
AFZ	4995	0.00	0.0	0.0	0.0	0.0	-0.1	0.0	0.0000	0.0000
AFS	4995	39.93	407.6	406.8	0.8	369.2	369.3	-0.2	1.1042	1.1017
Average Correction Factor									1.0048	1.0027

As Found Concentrations: NO_x= 367.6 NO= 368.1 As Found Percent Change NO_x= -9.8% NO= -9.5%

Dilution Flow 4995 ccm Source Gas Flow 39.93 ccm

O ₃ Setpoint (ppb)	Indicated NO high point (ppb)	Indicated NO drop conc (ppb)	Calculated NO ₂ conc (ppb)	Indicated NO _x conc (ppb)	Indicated NO conc (ppb)	Indicated NO ₂ conc (ppb)	NO _x Correction factor	NO Correction factor	NO ₂ Correction factor	Converter Efficiency
0	-0.1	-0.1	0.0	0.0	-0.1	0.0	N/A	N/A	N/A	N/A
NO point	405.8	405.8	0.0	406.1	405.8	0.1	0.9994	1.0000	N/A	N/A
300	405.8	106.7	299.1	406.5	106.7	299.9	0.9983	1.0000	0.9970	100.3%
200	405.8	200.8	205.0	407.7	200.8	207.0	0.9953	1.0000	0.9903	101.0%
100	405.8	293.8	112.0	407.1	293.8	113.4	0.9968	1.0000	0.9884	101.2%
Average Correction Factor							0.9968	1.0000	0.9919	100.8%

	Previous calibration				Current calibration			
Parameter	NO _x	NO ₂	NO		NO _x	NO ₂	NO	
Auto zero	0.0	0.0	-0.1	ppb	0.0	0.0	-0.1	ppb
Auto span	329.9	327.5	2.4	ppb	322.3	320.0	2.4	ppb

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter NO₂

Air Monitoring Network PAZA



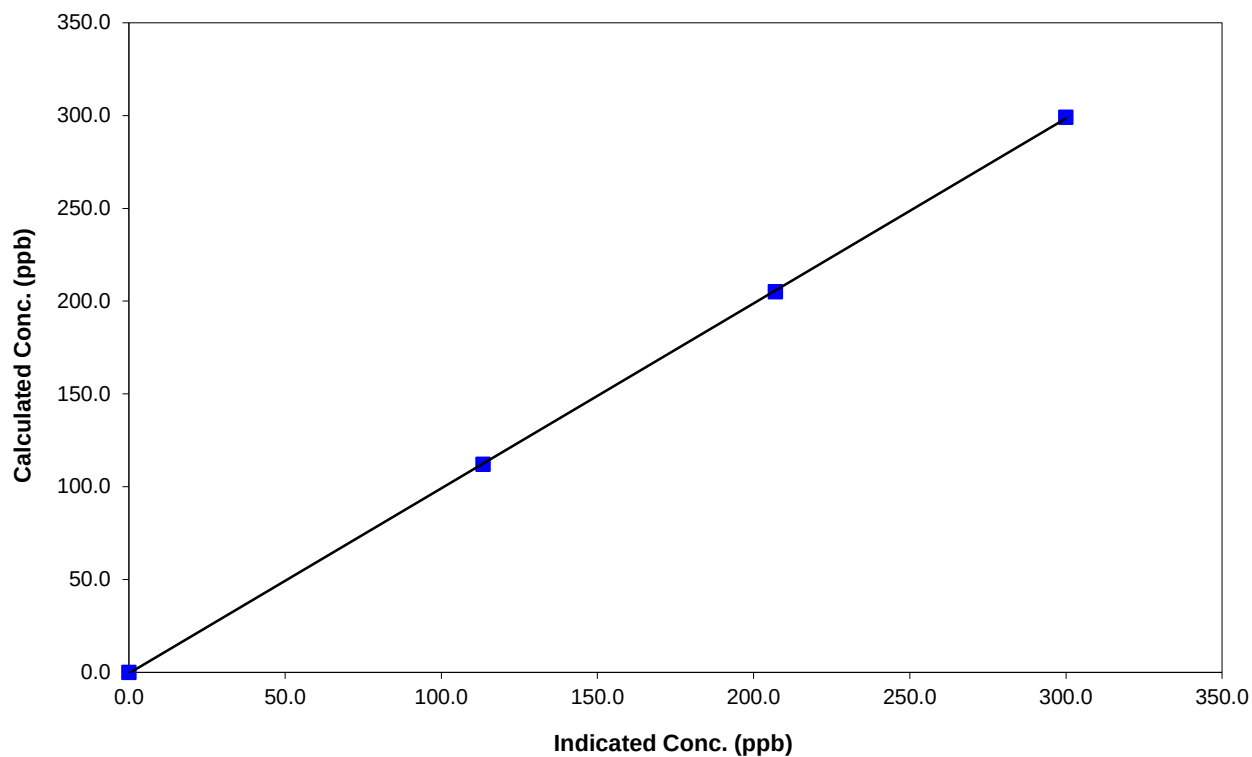
Station Information

Calibration Date	September 12, 2013	Previous Calibration	August 14, 2013
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	9:45	End Time (MST)	16:08
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	0.999970
299.1	299.9	0.9970		
205.0	207.0	0.9903		
112.0	113.4	0.9884	Slope	0.996414
			Intercept	-0.497272

NO₂ Calibration Curve



Calibration Summary

Parameter NO_x

Air Monitoring Network PAZA



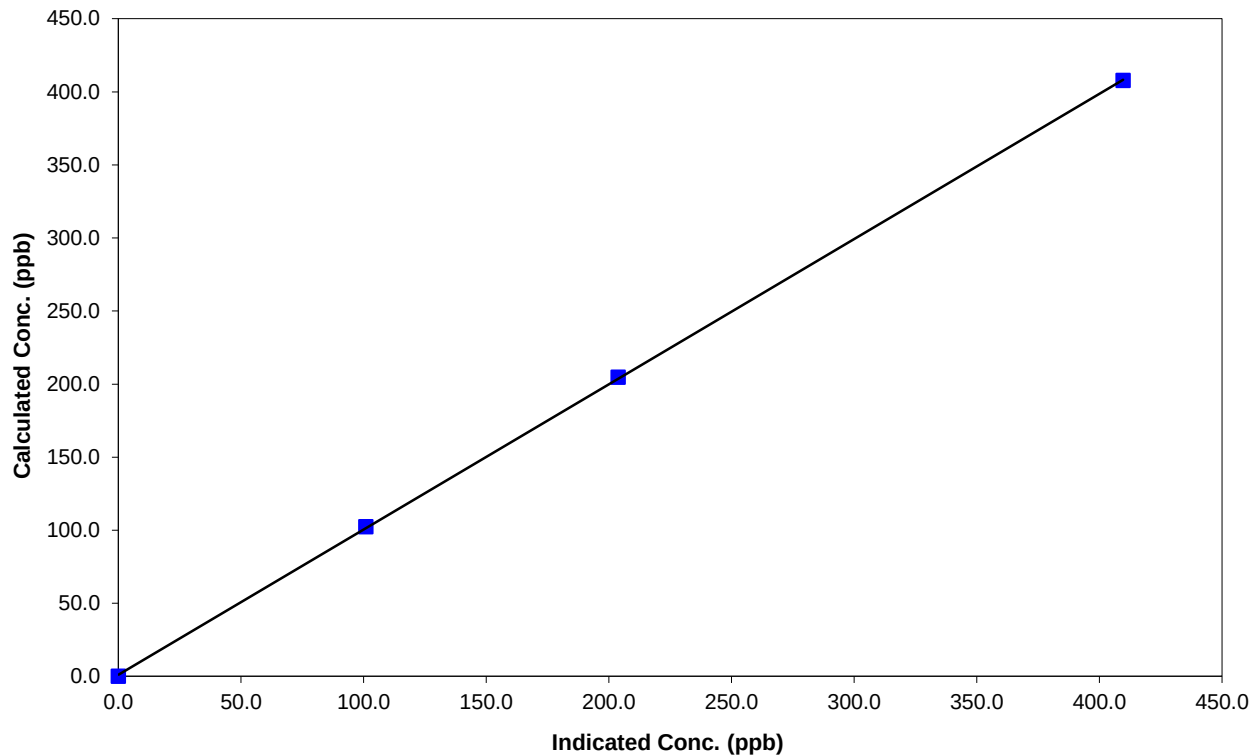
Station Information

Calibration Date	September 12, 2013	Previous Calibration	August 14, 2013
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	9:45	End Time (MST)	16:08
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	0.999958
407.6	409.7	0.9950		
204.7	203.8	1.0043		
102.4	100.9	1.0151	Slope	0.993911
			Intercept	1.164684

NO_x Calibration Curve



Calibration Summary

Parameter NO

Air Monitoring Network PAZA



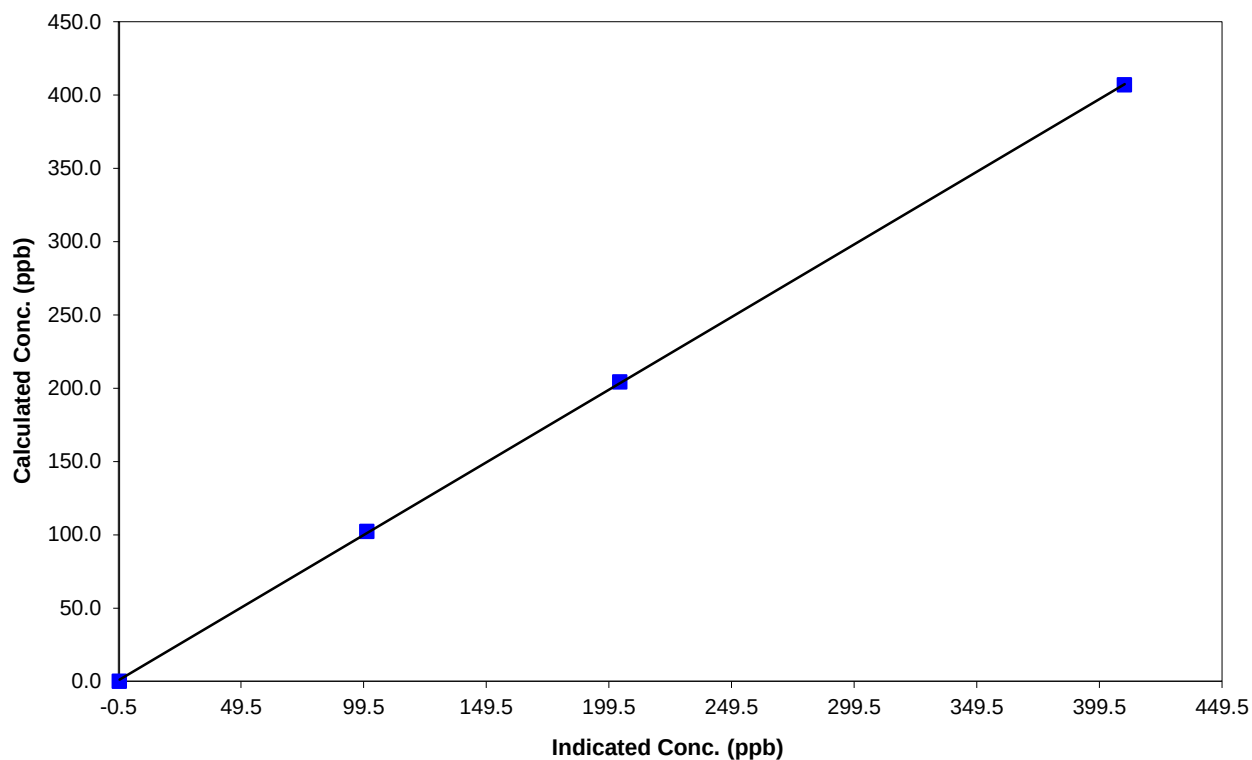
Station Information

Calibration Date	September 12, 2013	Previous Calibration	August 14, 2013
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	9:45	End Time (MST)	16:08
Analyzer make	TEI 42C	Analyzer serial #	508011073

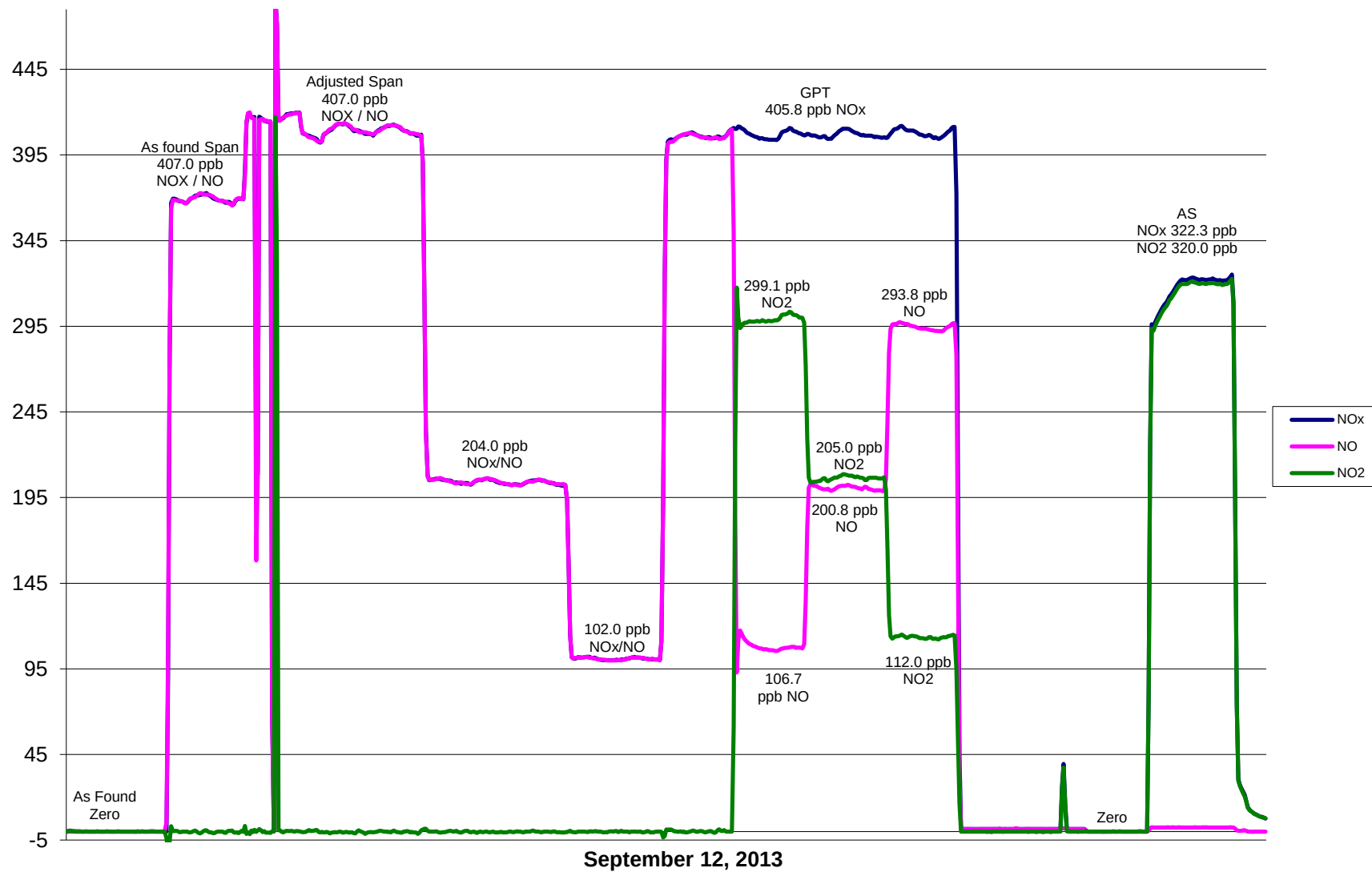
Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.1	N/A	Correlation Coefficient	0.999961
406.8	409.7	0.9929		
204.3	203.9	1.0018		
102.2	100.8	1.0135	Slope	0.991545
			Intercept	1.230201

NO Calibration Curve



PAZA NO_x Calibration



Calibration Report

Parameter 03

Air Monitoring Network PAZA



Station Information

Calibration Date	September 12, 2013	Previous Calibration	August 15, 2013
Station Number	1	Station Location	Henry Pirker
Reason:	Routine	Install	Removal
		Other:	
Start Time (MST)	14:30	End Time (MST)	17:57
Barometric Pressure	0.923 atm	Station Temperature	23.0 Deg C
Calibrator	EnviroNics	Serial Number	3016
Cal Gas Concentration	NA	Cal Gas Expiry Date	NA
DACS make	CR3000	DACS serial No.	5237
DACS voltage range	0 - 5 volt	DACS channel #	9
	Before		After
Calculated slope	1.008101	Calculated slope	0.996477
Calculated intercept	-1.452484	Calculated intercept	0.135835
Analyzer make	Teco 49C	Analyzer serial #	607415761

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
offset	-0.20	ppb	-0.20	ppb
slope	0.974		0.994	
Lamp temp	56.9	mV	56.9	mV
Lamp Intensity A/B	104408/93546	mV	106946/95770	mV
Pressure	679.2	mm Hg	672.3	mm Hg
Flow A	0.722	ccm	0.717	ccm
Flow B	0.726	ccm	0.721	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)
4995	0.0	0.0	-0.1	N/A
4995	0.3	299.1	300.2	0.9964
4995	0.2	205.0	205.4	0.9982
4995	0.1	112.0	112.3	0.9976
4995	0.0	0.0	-0.1	As found zero
4995	0.3	299.1	293.4	As found span
Average Correction Factor				0.9974

Calculated value of As Found Response: 294.4 ppm Percent Change of As Found: -1.6%

	before calibration		after calibration	
Auto zero	1.0	ppb	0.1	ppb
Auto span	355.0	ppb	346.4	ppb

Notes: Span adjustment

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter 03

Air Monitoring Network PAZA



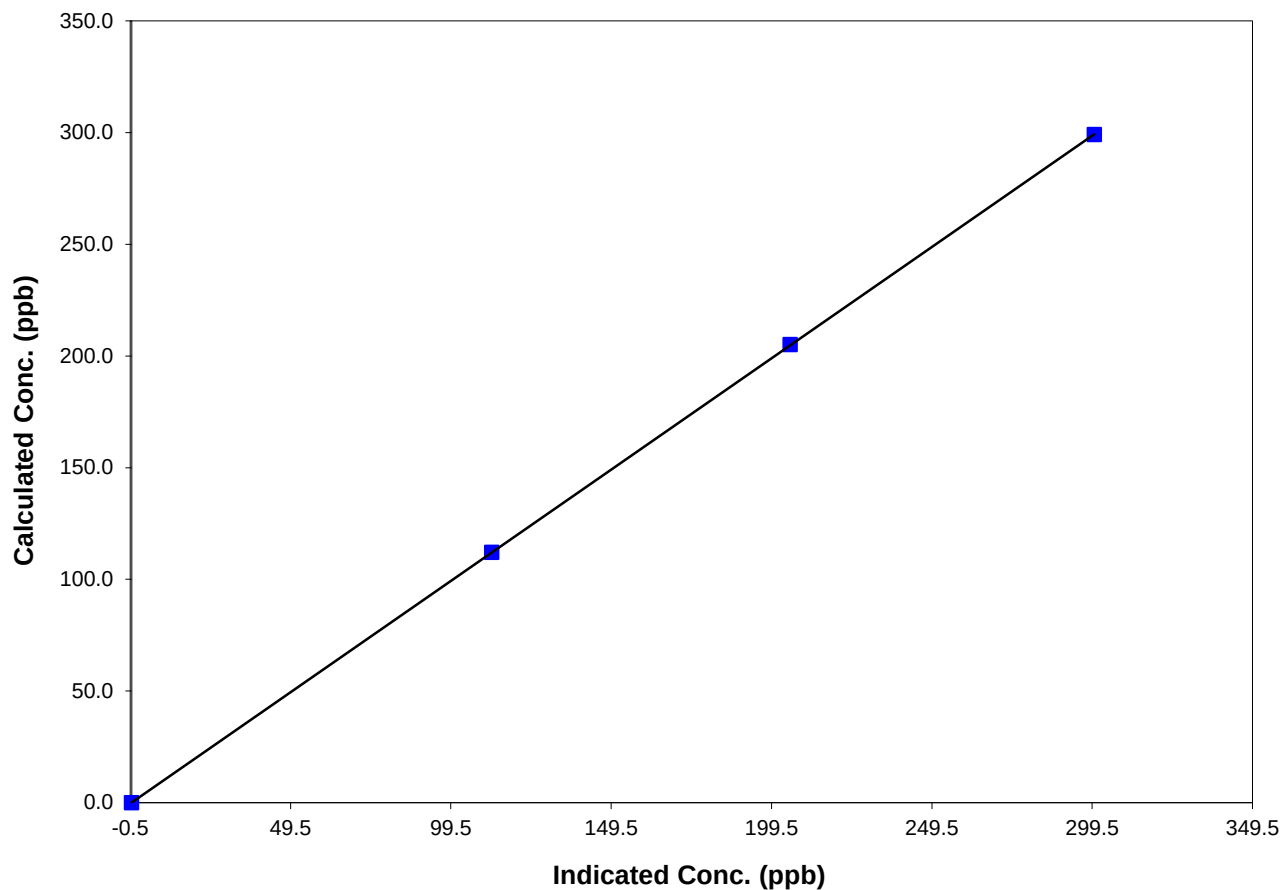
Station Information

Calibration Date	September 12, 2013	Previous Calibration	August 15, 2013
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	14:30	End Time (MST)	17:57
Analyzer make/model	Teco 49C	Analyzer serial #	607415761

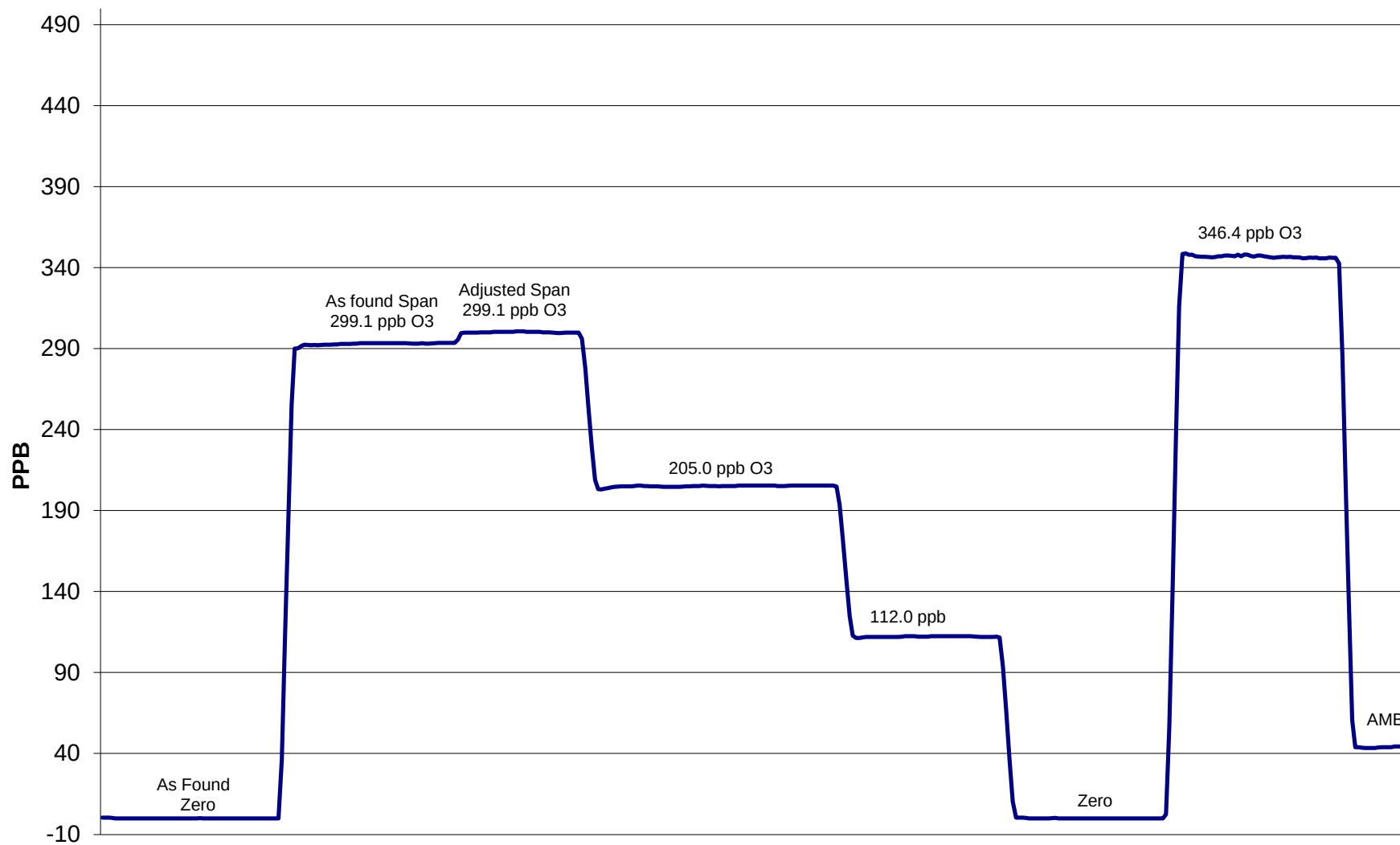
Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.1	NA		
299.1	300.2	0.9964	Correlation Coefficient	0.999998
205.0	205.4	0.9982		
112.0	112.3	0.9976	Slope	0.996477
			Intercept	0.135835

O3 Calibration Curve



O3 Calibration



September 12, 2013

Calibration Report

Parameter CO

Air Monitoring Network PAZA



Station Information

Calibration Date	September 10, 2013	Previous Calibration	August 15 2013
Station Number	1	Station Location	Henry Pirker
Reason:	Routine	Install	Removal
		Other:	
Start Time (MST)	10:55	End Time (MST)	13:53
Barometric Pressure	0.922 ATM	Station Temperature	21.0 Deg C
Calibrator	EnviroNics 6100	Serial Number	3016
Cal Gas Conc	2898 ppm	Cal Gas Expiry Date	04/02/2013
		Cal Gas Cylinder #	LL83909
DACS make	CR3000	DACS serial No.	5408
DACS voltage range	0 - 1 volt	DACS channel #	9
	Before		After
Calculated slope	0.995499	Calculated slope	1.008547
Calculated intercept	-0.000470	Calculated intercept	0.293163
Analyzer make	TEI Model 48C	Analyzer serial #	508011062

	before		after	
Concentration range	0 - 50	ppm	0 - 50	ppm
CO span setting	1.005		1.005	
CO zero setting	-0.802		-0.544	
Sample pressure	688.9	mm Hg	689.8	mm Hg
Sample Flow	1.126	LPM	1.126	LPM

Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4995	0.00	0.00	-0.02	N/A
4995	69.94	40.02	39.54	1.0122
4995	34.96	20.14	19.50	1.0327
4995	17.96	10.38	9.76	1.0639
4995	0.00	0.00	-0.02	As Found Zero
4995	69.94	40.02	39.54	As Found Span
Average Correction Factor				1.0363

Calculated value of As Found Response: 39.375 ppm Percent Change of As Found: 1.6%

	before calibration		after calibration	
Auto zero	0.03	ppm	0.03	ppm
Auto span	19.81	ppm	20.12	ppm

Notes: Slight zero adjustment.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter CO

Air Monitoring Network PAZA



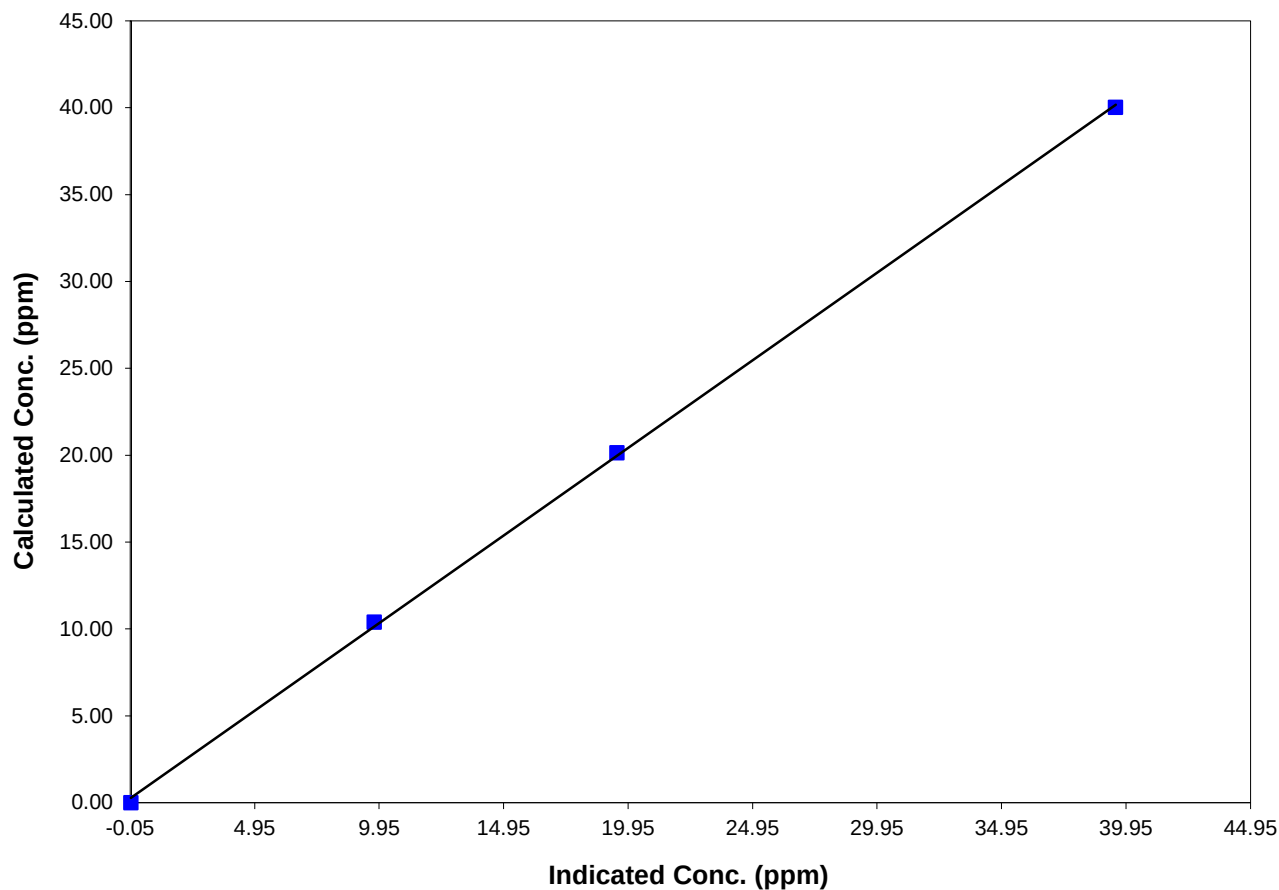
Station Information

Calibration Date	September 10, 2013	Previous Calibration	August 15 2013
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	10:55	End Time (MST)	13:53
Analyzer make/model	TEI Model 48C	Analyzer serial #	508011062

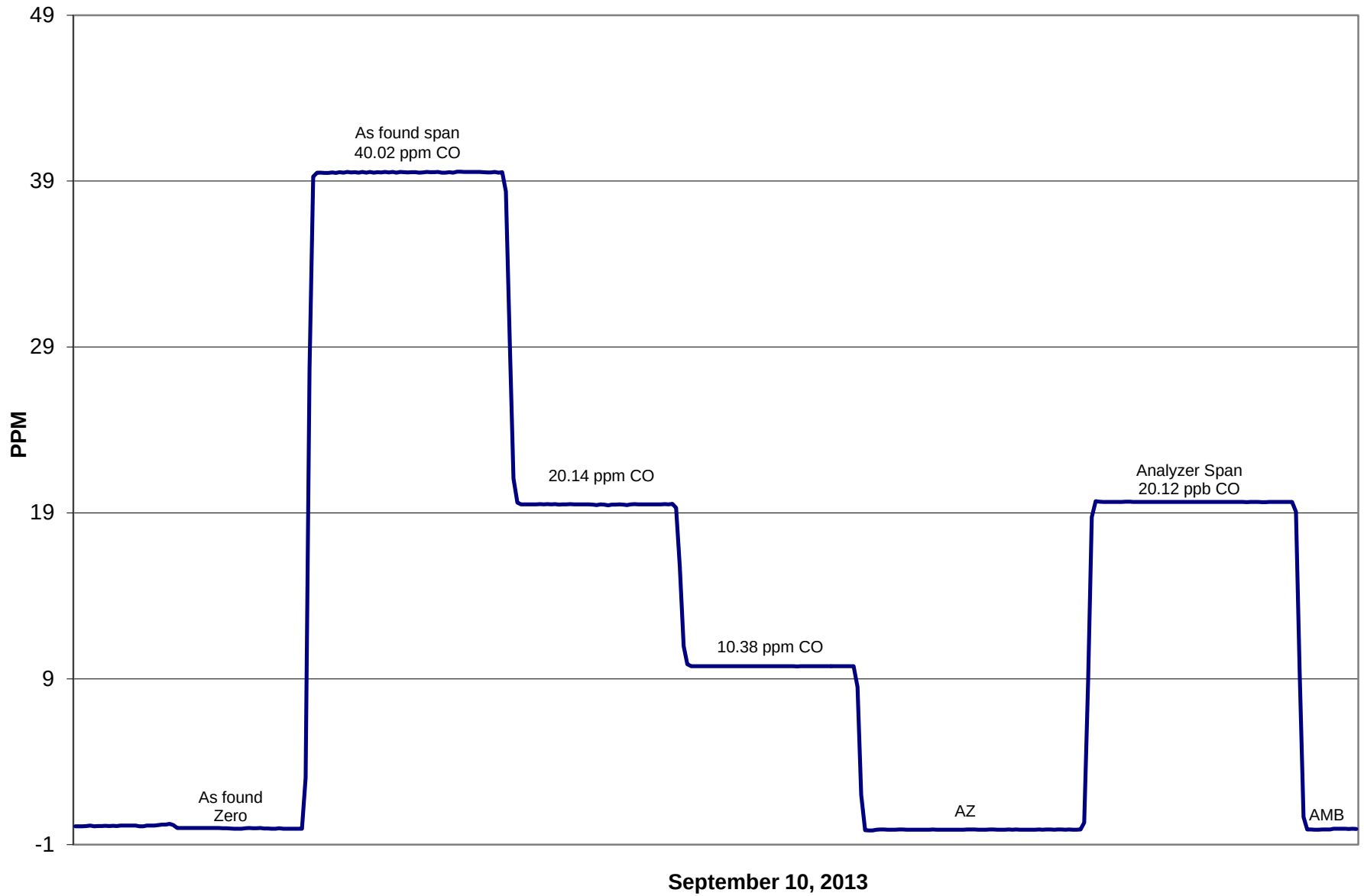
Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	-0.017	N/A		
40.017	39.536	1.0122	Correlation Coefficient	0.999780
20.142	19.504	1.0327		
10.383	9.759	1.0639	Slope	1.008547
			Intercept	0.293163

CO Calibration Curve



CO Calibration



Calibration Report

Parameter CH4 / NMHC / THC

Air Monitoring Network

PAZA



Station Information

Calibration Date	September 10, 2013	Previous Calibration	August 23, 2013
Station Number	1	Station Location	Henry Pirker
Reason:	☐ Routine	☐ Install	☐ Removal
			☐ Other:

Start Time (MST)	9:15	End Time (MST)	12:30
Barometric Pressure	NA inches Hg	Station Temperature	20.0 Deg C
Calibrator	EnviroNics	Serial Number	3016
Cal Gas CH4 Conc	404 ppm CH4	Cal Gas Expiry Date	28/03/2014
Cal Gas C3H8 Conc	201 552.75 ppm CH4	Cal Gas Cylinder #	LL34989
DACS make	CR3000	DACS serial No.	5408
DACS voltage range	0 - 5 volt	DACS channel #	SE 11,12,13

Analyzer make	TEI 55I	Analyzer serial #	1134650658
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	before		after	
Concentration range	0-20 (CH4, NMHC); 0-40 (THC)	ppm	0-20 (CH4, NMHC); 0-40 (THC)	ppm
Air pressure	27.8	PSI	27.8	PSI
Fuel pressure	42.1	PSI	42.1	PSI
Carrier pressure	30.3	PSI	30.3	PSI
CH4 cal factor	5.68		5.68	E ⁻⁴
NMHC cal factor	1.64		1.64	E ⁻⁴
Rt	12.60	Sec	12.60	Sec
Pk Index	23.00		23.00	

CH4 Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
1996	0.00	0.00	0.02	N/A
1996	64.93	12.73	12.86	0.9901
1996	39.93	7.92	7.94	0.9975
1996	14.95	3.00	2.97	1.0099
1996	0.00	0.00	0.02	As Found Zero
1996	64.93	12.73	12.86	As Found Span
Average Correction Factor				0.9992

Calculated value of As Found Response: 12.737 ppm Percent Change of As Found: -0.1%

	Before		After
Calculated slope	0.997683	Calculated slope	0.990648
Calculated intercept	-0.069960	Calculated intercept	0.021375

Final Zero/Span Data

	before calibration		after calibration	
Auto zero	0.03	ppm	0.03	ppm
Auto span	9.01	ppm	9.57	ppm

NMHC Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
1996	0.00	0.00	0.02	N/A
1996	64.93	17.41	17.49	0.9955
1996	39.93	10.84	10.99	0.9861
1996	14.95	4.11	4.21	0.9760
1996	0.00	0.00	0.02	As Found Zero
1996	64.93	17.41	17.49	As Found Span
Average Correction Factor				0.9859

Calculated value of As Found Response: 17.375 ppm Percent Change of As Found: 0.2%

	<u>Before</u>		<u>After</u>
Calculated slope	0.998434	Calculated slope	0.996527
Calculated intercept	-0.072734	Calculated intercept	-0.059542

Final Zero/Span Data

	before calibration		after calibration	
Auto zero	0.02	ppm	0.02	ppm
Auto span	12.54	ppm	13.18	ppm

THC Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
1996	0.00	0.00	0.03	N/A
1996	64.93	30.14	30.32	0.9941
1996	39.93	18.76	18.92	0.9919
1996	14.95	7.11	7.18	0.9912
1996	0.00	0.00	0.03	As Found Zero
1996	64.93	30.14	30.32	As Found Span
Average Correction Factor				0.9924

Calculated value of As Found Response: 30.116 ppm Percent Change of As Found: 0.1%

	<u>Before</u>		<u>After</u>
Calculated slope	0.998673	Calculated slope	0.994769
Calculated intercept	-0.135258	Calculated intercept	-0.033005

Final Zero/Span Data

	before calibration		after calibration	
Auto zero	0.02	ppm	0.02	ppm
Auto span	21.54	ppm	22.74	ppm

Notes:

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter CH4

Air Monitoring Network PAZA



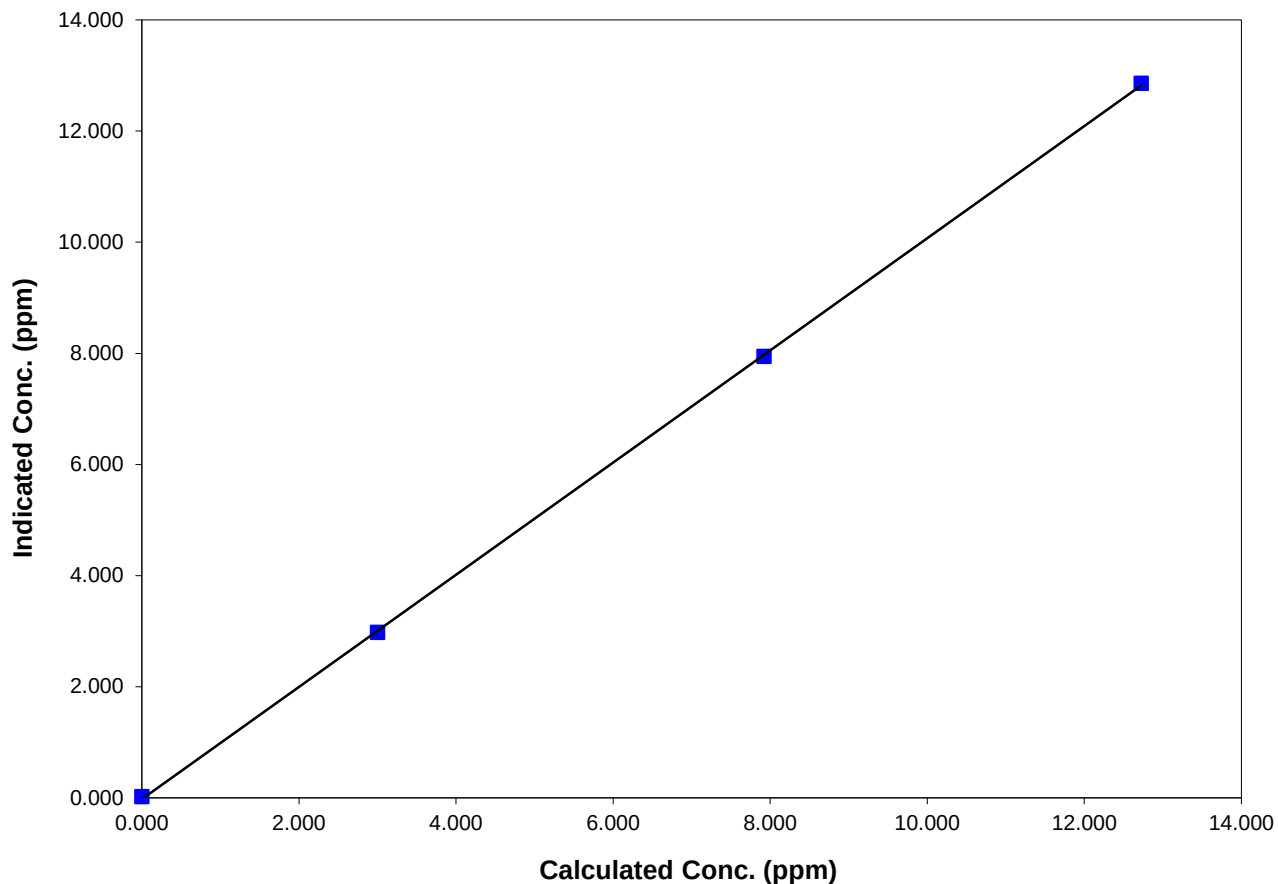
Station Information

Calibration Date	September 10, 2013	Previous Calibration	August 23, 2013
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	9:15	End Time (MST)	12:30
Analyzer make/model	TEI 55I	Analyzer serial #	1134650658

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.019	N/A		
12.728	12.855	0.9901	Correlation Coefficient	0.999949
7.924	7.944	0.9975		
3.003	2.974	1.0099	Slope	0.990648
			Intercept	0.021375

CH4 Calibration Data



Calibration Summary

Parameter NMHC

Air Monitoring Network PAZA



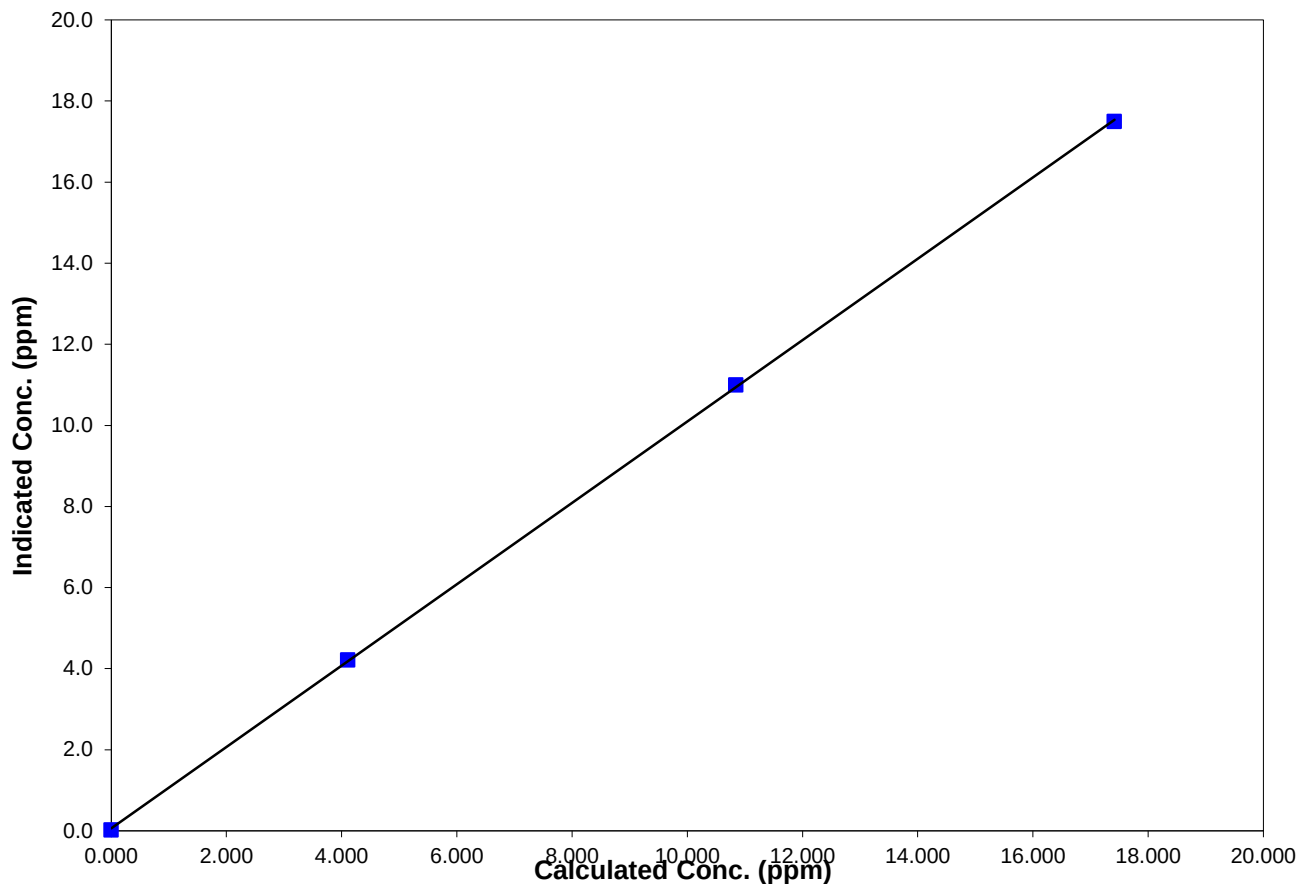
Station Information

Calibration Date	September 10, 2013	Previous Calibration	August 23, 2013
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	9:15	End Time (MST)	12:30
Analyzer make/model	TEI 55I	Analyzer serial #	1134650658

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.019	N/A	Correlation Coefficient	0.999959
17.414	17.493	0.9955		
10.841	10.994	0.9861		
4.109	4.210	0.9760	Slope	0.996527
			Intercept	-0.059542

NMHC Calibration Data



Calibration Summary

Parameter THC

Air Monitoring Network PAZA



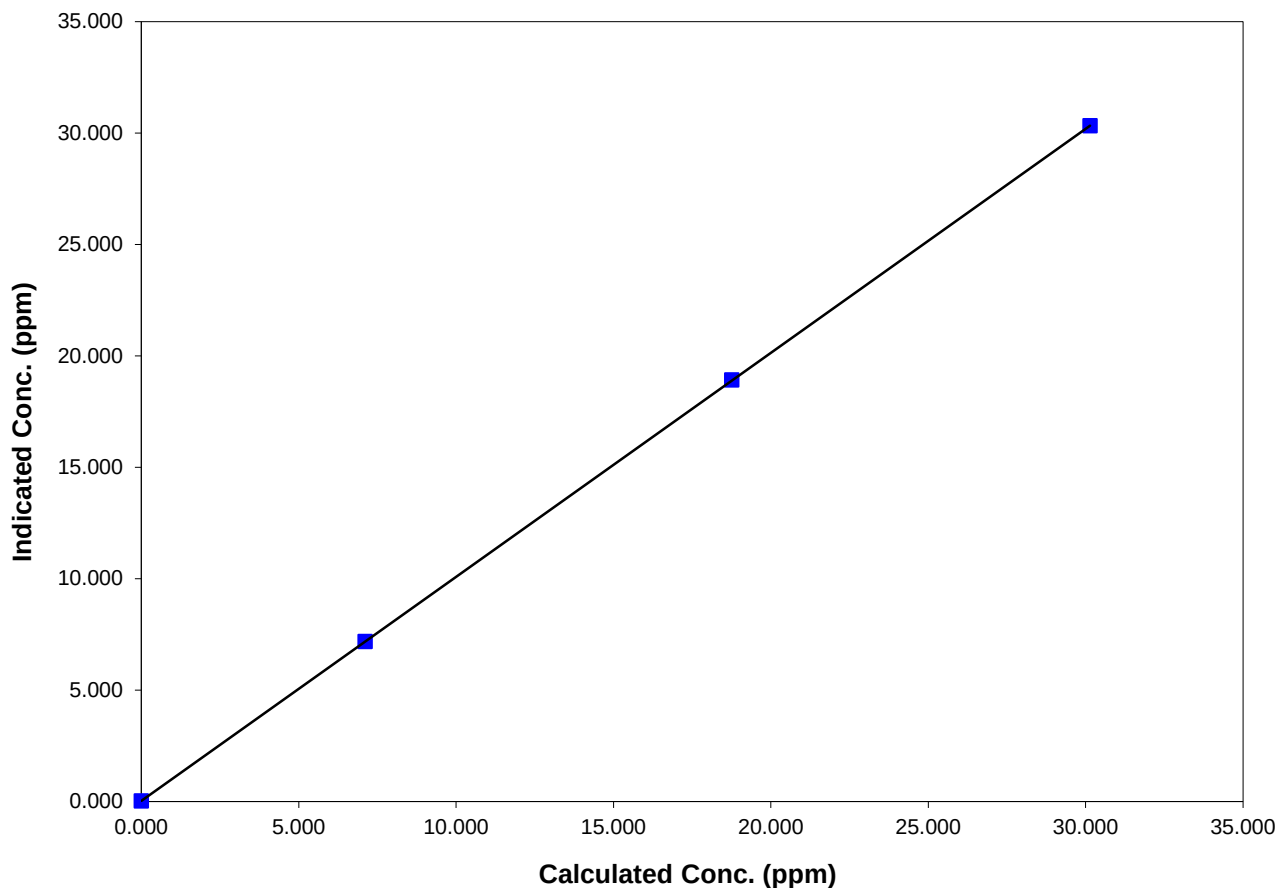
Station Information

Calibration Date	September 10, 2013	Previous Calibration	August 23, 2013
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	9:15	End Time (MST)	12:30
Analyzer make/model	TEI 55I	Analyzer serial #	1134650658

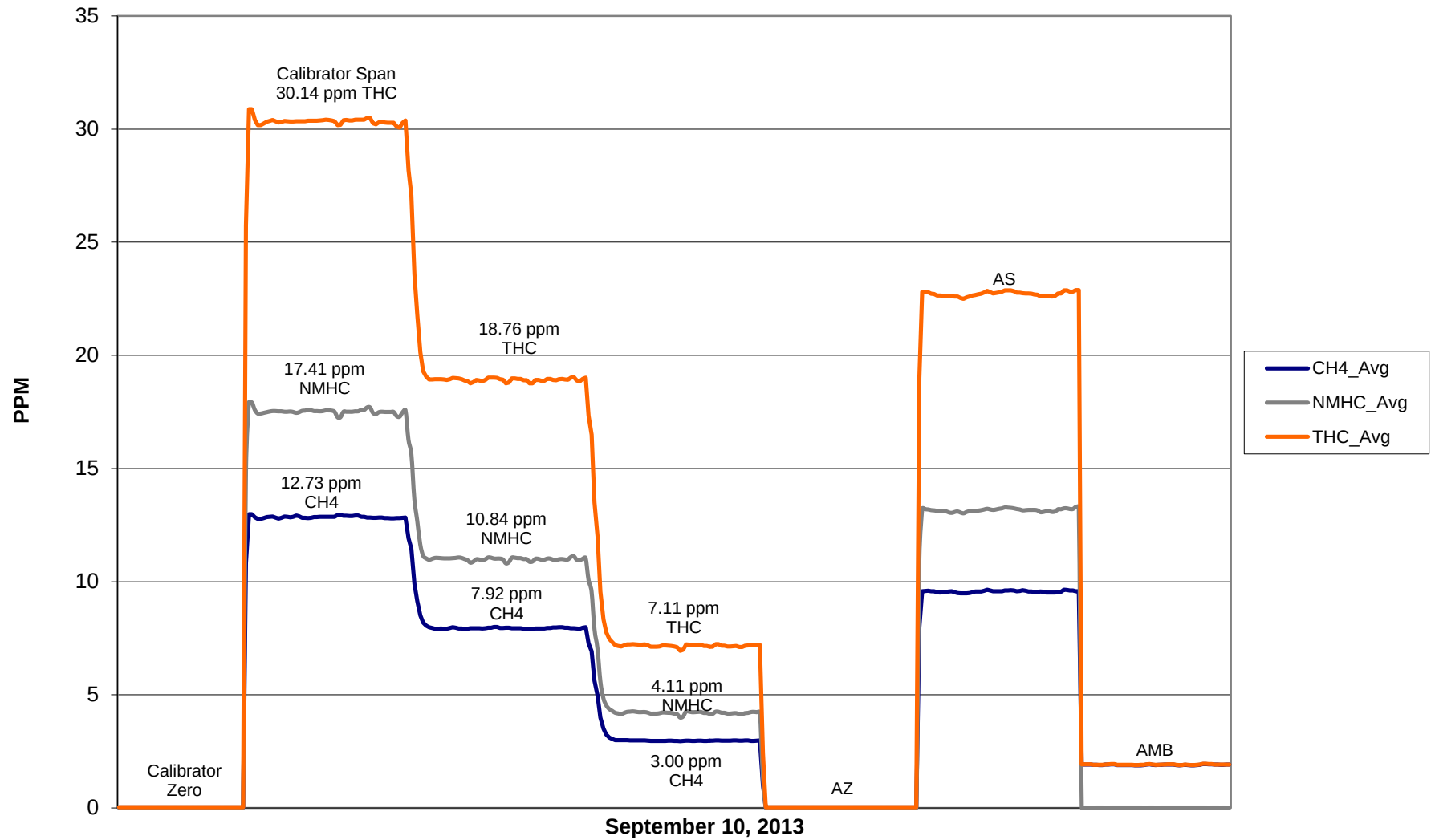
Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.031	N/A	Correlation Coefficient	0.999999
30.143	30.323	0.9941		
18.764	18.918	0.9919		
7.113	7.176	0.9912	Slope	0.994769
			Intercept	-0.033005

THC Calibration Data



THC/CH₄/NMHC Calibration



SHARP 5030 PM2.5 Calibration



STATION: 1
 LOCATION: Paza Henry Pirker
 START TIME (MST): 12:50

OPERATOR: Grover Christiansen
 DATE: 19-Sep-13
 END TIME (MST): 16:10

MONITOR INFO / PARAMETER VALUES:

Make/Model SHARP 5030
 Configuration NA
 Serial Number AMU 1860

Audit Device Model Delta Cal
 Audit Device S/N J69246
 Certification Date 01-Oct-13

AUDIT / CALIBRATION RESULTS:

		Ambient Temp. (°C)	Ambient Pres. (atm)	Leak Check (L/min)	Flow Rate (lpm)	Time settings (hh:mm)
<i>As Found Data</i>	Audit values (I)	19.0	941	16.67	16.67	NA
	MEASURED (AF)	19.0	941	16.67	16.66	NA
	AF Difference (AF-I)	0.0	0	0.00	-0.01	NA
<i>Adjusted Data</i>	MEASURED (M)	19.0	943	16.66	16.68	NA
	Adj Difference (M-I)	0.0	2	-0.01	0.01	NA
	LIMITS	± 4.0 °C	5 mm Hg	± 0.42 L/min	± 1.0 L/min	±2 min

Sample Head Inspect/Cleaning: Cleaned sample head

Status of sampling tape: No need for replacement

Nozzle Inspection / cleanliness: Neph zero--> 0.0 - need for adjustment

COMMENTS: Quarterly flow calibration

Foil calibration - old sensitivity: 7089; new sensitivity: 8035

Calibration Report



Parameter SO₂

Air Monitoring Network PAZA

Station Information

Calibration Date	September 27, 2013	Previous Calibration	August 13 2013
Station Number	2	Station Location	Evergreen Park
Reason:	Routine	Install	Removal
		Other:	
Start Time (MST)	12:15	End Time (MST)	15:42
Barometric Pressure	0.931 ATM	Station Temperature	20.0 Deg C
Calibrator	Envionics	Serial Number	3016
Cal Gas Concentration	51.5 ppm	Cal Gas Expiry Date	25/02/2025
Correction factor	0.031647	Cal Gas Cylinder #	LL105159
DACS make	CR3000	DACS serial No.	5236
DACS voltage range	0 - 5 volt	DACS channel #	6
	<u>Before</u>		<u>After</u>
Calculated slope	1.004543	Calculated slope	0.995723
Calculated intercept	-1.198627	Calculated intercept	2.653052
Analyzer make	Teco 43i	Analyzer serial #	701120008

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
Background	11		11.4	
coefficient	1.162		1.203	
Lamp Voltage	827	volts	826	volts
Chamber Temp	45.2	Deg C	45.2	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	662.2	mm Hg	662.8	mm Hg
Sample Flow	0.448	ccm	0.449	ccm
Lamp Intensity	89	%	89	%

Dilution air flow rate (cc/min)	Corrected gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4995	0.0	0.00	0.2	N/A
4995	39.93	408.4	409.2	0.9981
4995	19.97	205.1	201.0	1.0203
4995	9.97	102.6	98.1	1.0458
4995	0.0	0.0	0.2	As Found Zero
4995	39.93	408.4	392.8	As Found Span
Average Correction Factor				1.0214

Calculated value of As Found Response: 393.183 ppm Percent Change of As Found: 3.7%

	before calibration		after calibration	
Auto zero	0.2	ppm	0.3	ppm
Auto span	277.4	ppm	287.4	ppm

Notes: _____

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter SO2

Air Monitoring Network PAZA



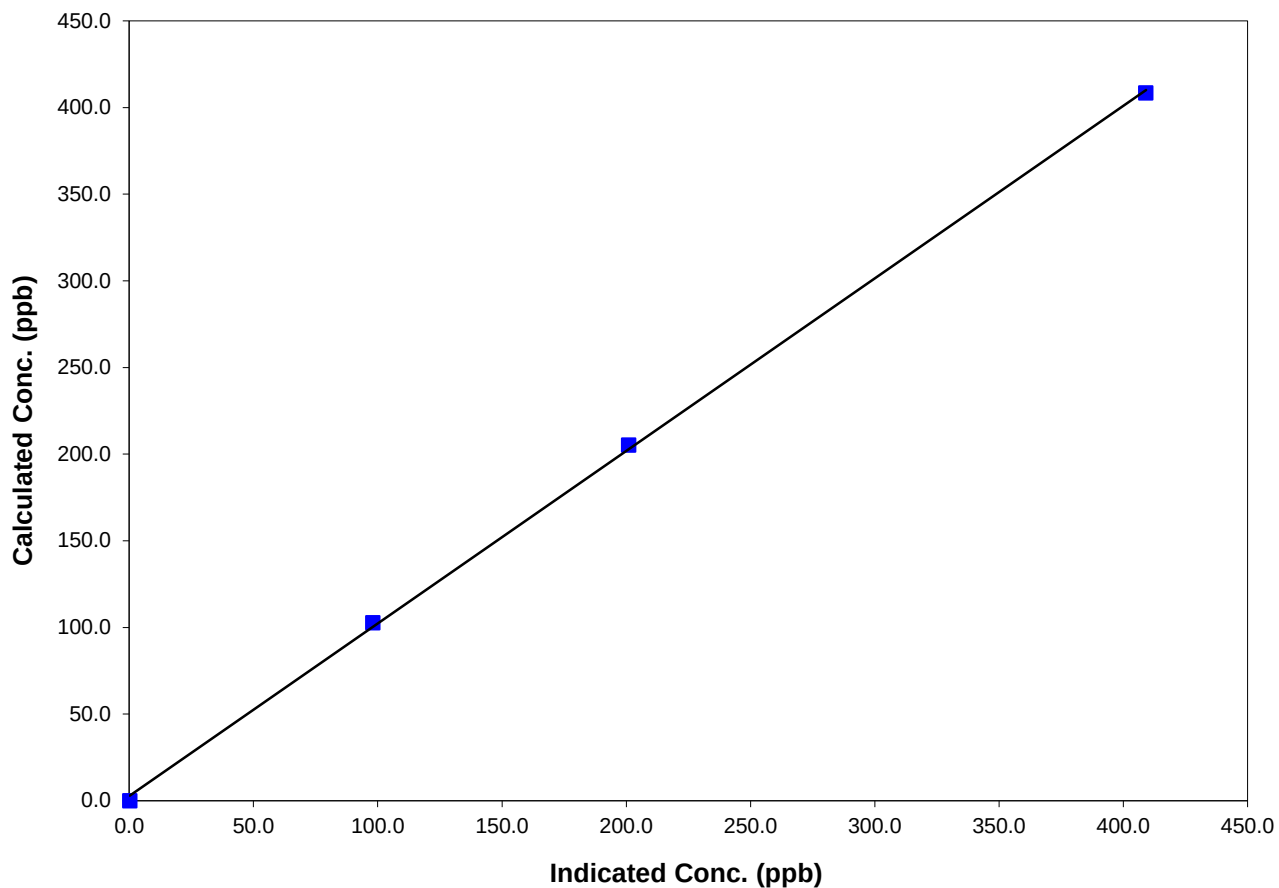
Station Information

Calibration Date	September 27, 2013	Previous Calibration	August 13 2013
Station Number	2	Station Location	Evergreen Park
Start Time (MST)	12:15	End Time (MST)	15:42
Analyzer make/model	Teco 43i	Analyzer serial #	701120008

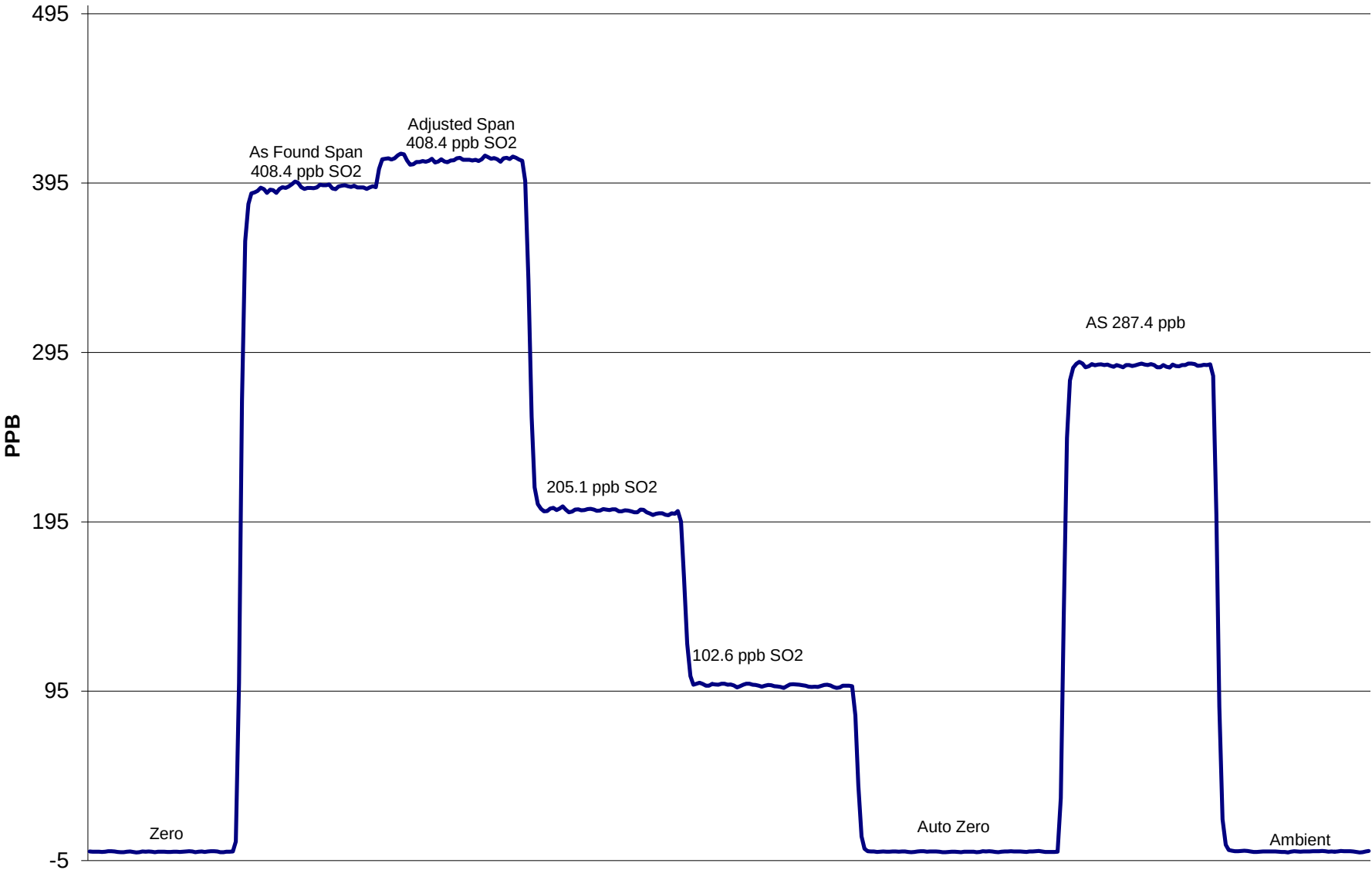
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.2	N/A	Correlation Coefficient	0.999764
408.4	409.2	0.9981		
205.1	201.0	1.0203		
102.6	98.1	1.0458	Slope	0.995723
			Intercept	2.653052

SO2 Calibration Curve



SO2 Calibration



September 27, 2013

Calibration Report



Parameter TRS

Air Monitoring Network PAZA

Station Information

Calibration Date	September 27, 2013		Previous Calibration	August 13, 2013	
Station Number	2		Station Location	Evergreen Park	
Reason:	Routine	Install	Removal	Other:	
Start Time (MST)	10:04		End Time (MST)	13:26	
Barometric Pressure	0.931	ATM	Station Temperature	22.0	Deg C
Calibrator	EnviroNics		Serial Number	3016	
Cal Gas Conc	10.4	ppm	Cal Gas Expiry Date	08/07/2016	
Correction factor	0.031433		Cal Gas Cylinder #	LL110781	
DACS make	CR3000		DACS serial No.	5236	
DACS voltage range	0 - 5 volt		DACS channel #	5	
	<u>Before</u>			<u>After</u>	
Calculated slope	1.034369		Calculated slope	1.004648	
Calculated intercept	-0.380499		Calculated intercept	0.711285	

Analyzer make TEI Model 43C Analyzer serial # 3.199E+13

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Background	34.4	ppb	36.5	ppb
coefficient	0.995		1.014	
Lamp Voltage	1017	volts	1016	volts
Chamber Temp	44.2	Deg C	44.2	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	633.6	mm Hg	627.7	mm Hg
Sample Flow	0.610	ccm	0.621	ccm
Lamp Intensity	31,660	mv	31,598	mv

Calibration Data

Dilution air flow rate (cc/min)	Corrected gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4995	0.00	0.00	-0.4	N/A
4995	39.93	82.48	81.6	1.0107
4995	19.97	41.41	40.1	1.0326
8995	8.97	10.36	9.5	1.0930
4995	9.97	102.79	0.3	Sox Test
4995	0.00	0.00	-0.4	As Found Zero
4995	39.93	82.48	79.2	As Found Span
Average Correction Factor				1.0454

Calculated value of As Found Response: 81.96 ppm Percent Change of As Found: **0.6%**

	before calibration		after calibration	
Auto zero	0.4	ppm	0.6	ppm
Auto span	76.8	ppm	76.3	ppm

Notes: Slight adjust 80% point. Run adjustment point.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter TRS

Air Monitoring Network PAZA



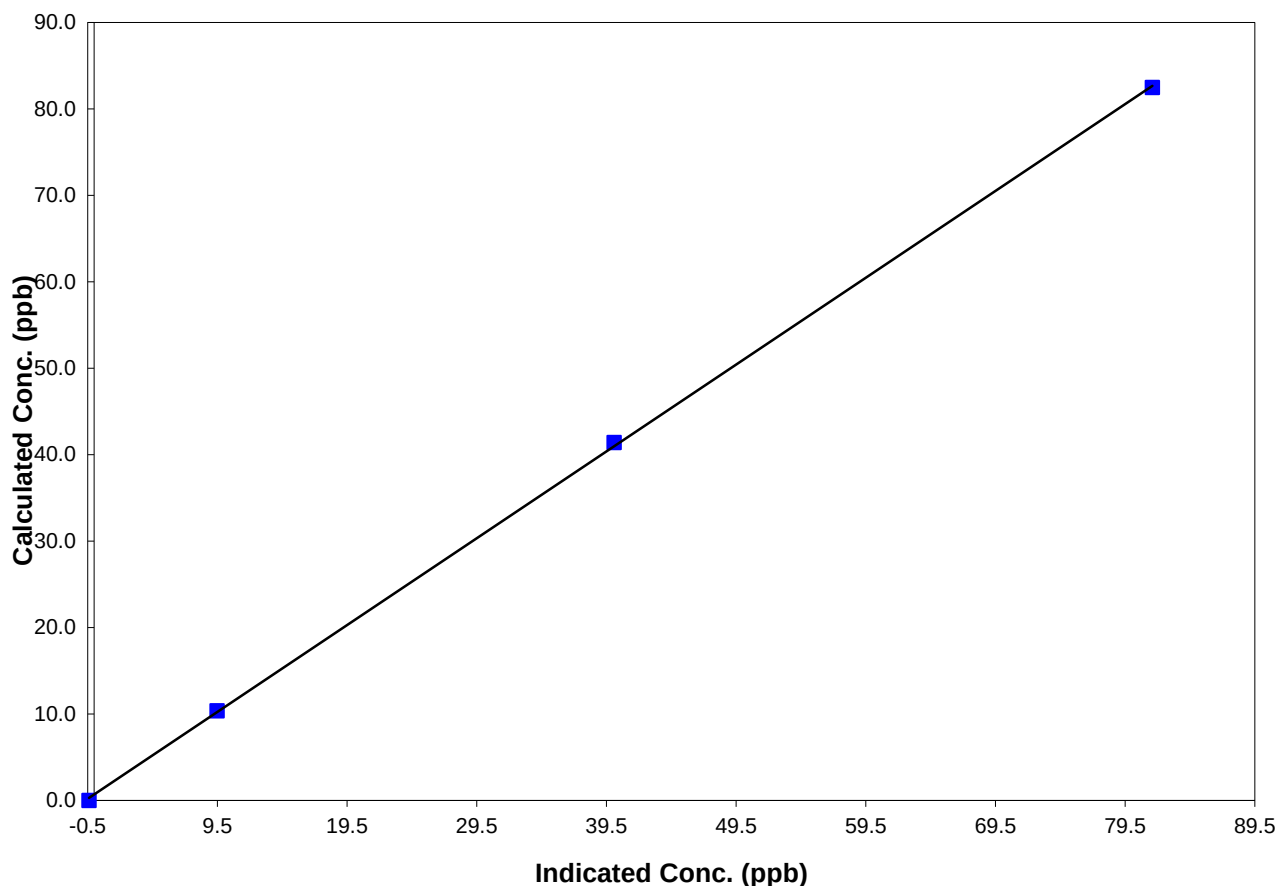
Station Information

Calibration Date	September 27, 2013	Previous Calibration	August 13, 2013
Station Number	2	Station Location	Evergreen Park
Start Time (MST)	10:04	End Time (MST)	13:26
Analyzer make/model	TEI Model 43C	Analyzer serial #	31990000000491

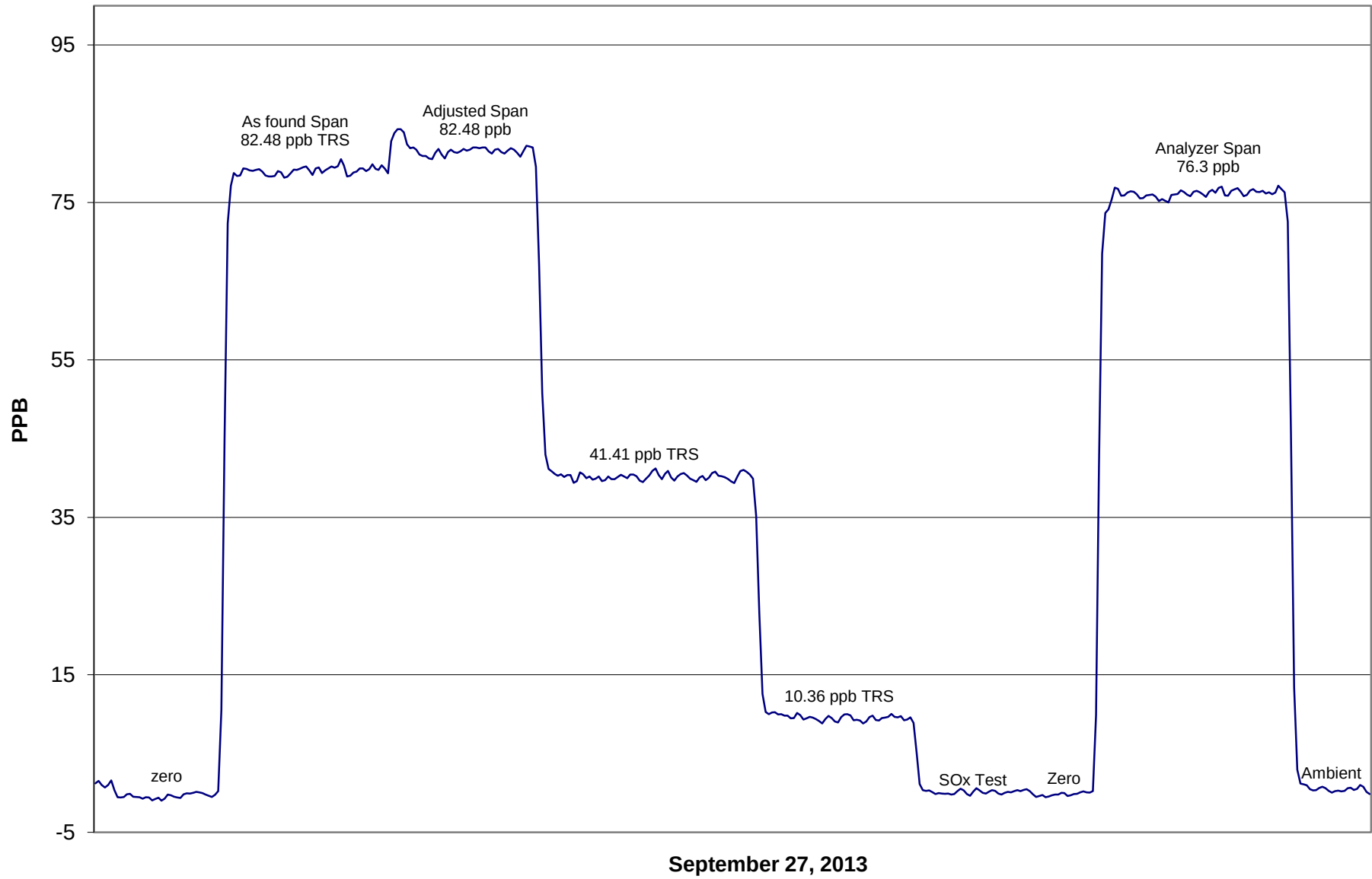
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.4	N/A	Correlation Coefficient	0.999920
82.5	81.6	1.0107		
41.4	40.1	1.0326		
10.4	9.5	1.0930	Slope	1.004648
			Intercept	0.711285

TRS Calibration Curve



TRS Calibration



Calibration Report



Parameter SO₂

Air Monitoring Network PAZA

Station Information

Calibration Date	September 30, 2013	Previous Calibration	August 20, 2013
Station Number	3	Station Location	Smokey Heights
Reason:	Routine	Install	Removal
		Other:	
Start Time (MST)	11:45	End Time (MST)	15:00
Barometric Pressure	0.908 ATM	Station Temperature	20.0 Deg C
Calibrator	EnviroNics	Serial Number	3016
Cal Gas Concentration	51.5 ppm	Cal Gas Cert Date	20/01/2016
Correction factor	0.030865	Cal Gas Cylinder #	LL1105159
DACS make	CR3000	DACS serial No.	5238
DACS voltage range	0 - 5 volt	DACS channel #	6
	Before		After
Calculated slope	1.006056	Calculated slope	0.995690
Calculated intercept	-1.759367	Calculated intercept	3.010477
Analyzer make	Teco 43i	Analyzer serial #	701120009

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
Background	11.1		11.2	
coefficient	0.945		0.952	
Lamp Voltage	925	volts	925	volts
Chamber Temp	44.9	Deg C	44.9	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	655.4	mm Hg	658.1	mm Hg
Sample Flow	0.439	ccm	0.440	ccm
Lamp Intensity	88	%	88	%

Calibration Data

Dilution air flow rate (cc/min)	Corrected gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4995	0.0	0.00	0.2	N/A
4995	39.93	408.43	408.9	0.9988
4995	19.97	205.08	200.7	1.0217
4995	9.97	102.59	97.2	1.0551
4995	0.0	0.00	0.2	As Found Zero
4995	39.93	408.43	400.3	As Found Span
Average Correction Factor				1.0252

Calculated value of As Found Response: 400.696 ppm Percent Change of As Found: 1.9%

	before calibration		after calibration	
Auto zero	0.2	ppb	0.3	ppb
Auto span	253.7	ppb	261.2	ppb

Notes: Slight span adjust. Run adjustment point.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter SO2

Air Monitoring Network PAZA



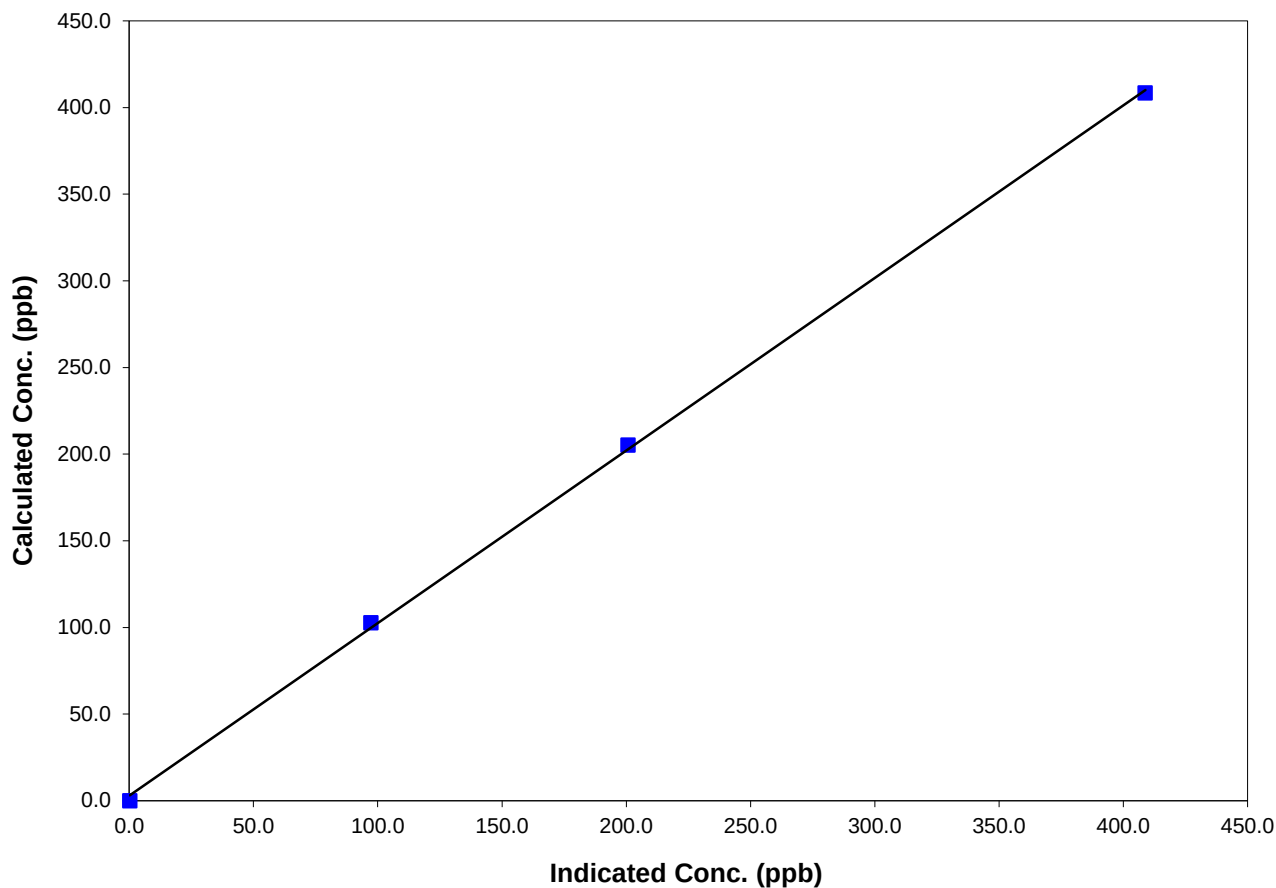
Station Information

Calibration Date	September 30, 2013	Previous Calibration	August 20, 2013
Station Number	3	Station Location	Smokey Heights
Start Time (MST)	11:45	End Time (MST)	15:00
Analyzer make/model	Teco 43i	Analyzer serial #	701120009

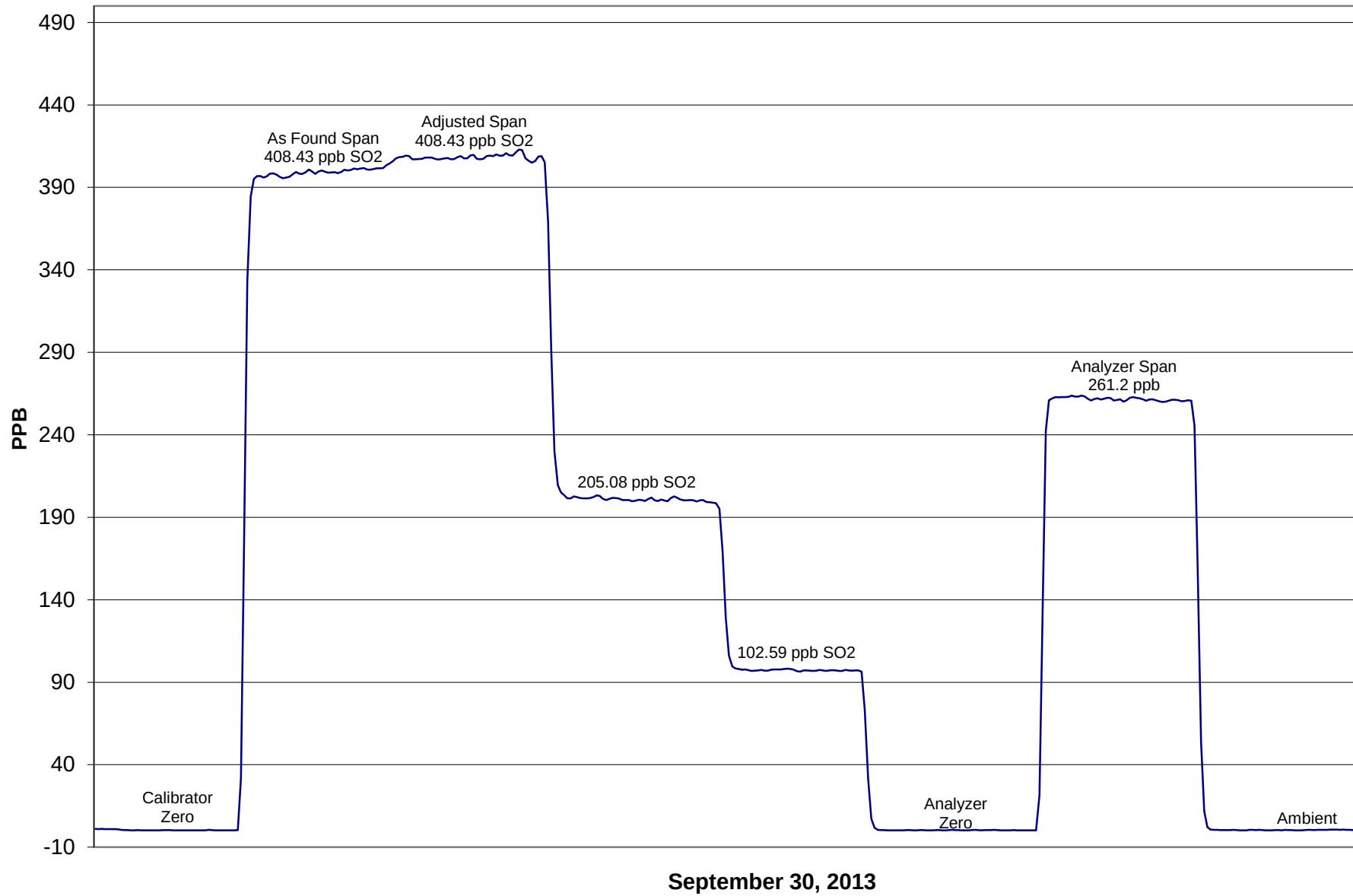
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.2	N/A	Correlation Coefficient	0.999714
408.4	408.9	0.9988		
205.1	200.7	1.0217		
102.6	97.2	1.0551	Slope	0.995690
			Intercept	3.010477

SO2 Calibration Curve



Smokey Heights SO₂ Calibration



Calibration Report



Parameter TRS

Air Monitoring Network PAZA

Station Information

Calibration Date	September 30, 2013	Previous Calibration	August 20, 2013
Station Number	3	Station Location	Smokey Heights
Reason:	Routine	Install	Removal
			Other:
Start Time (MST)	9:00	End Time (MST)	13:35
Barometric Pressure	0.908 ATM	Station Temperature	20.0 Deg C
Calibrator	EnviroNics	Serial Number	3016
Cal Gas Conc	10.4 ppm	Cal Gas Expiry Date	08/07/2016
Correction factor	0.030865	Cal Gas Cylinder #	LL110781
DACS make	CR3000	DACS serial No.	5238
DACS voltage range	0 - 5 volt	DACS channel #	5
	<u>Before</u>		<u>After</u>
Calculated slope	0.999939	Calculated slope	0.995469
Calculated intercept	-0.267035	Calculated intercept	0.164316
Analyzer make	TEI Model 43C	Analyzer serial #	0436610005

	before		after	
Concentration range	100	ppb	100	ppb
Background	16.2	ppb	17	ppb
coefficient	0.916		0.956	
Lamp Voltage	820	volts	820	volts
Chamber Temp	43.7	Deg C	43.7	Deg C
Perm Gas Temp	44.99	Deg C	44.99	Deg C
Pressure	590	mm Hg	590.1	mm Hg
Sample Flow	0.631	ccm	0.638	ccm
Lamp Intensity	35,408	mv	35,359	mv

Dilution air flow rate (cc/min)	Corrected gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4995	0.0	0.00	0.2	N/A
4995	39.93	82.48	82.9	0.9949
4995	19.97	41.41	41.0	1.0090
8995	8.97	10.36	10.1	1.0303
4995	0.0	0.00	0.2	As Found Zero
4995	39.93	82.48	80.9	As Found Span
Average Correction Factor				1.0114

Calculated value of As Found Response: 80.45 ppm Percent Change of As Found: 2.5%

	before calibration		after calibration	
Auto zero	1.2	ppm	0.5	ppm
Auto span	31.0	ppm	33.6	ppm

Notes: Slight adjust up 80% span.
Scrubber check showed 0.64 ppb.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter TRS

Air Monitoring Network PAZA



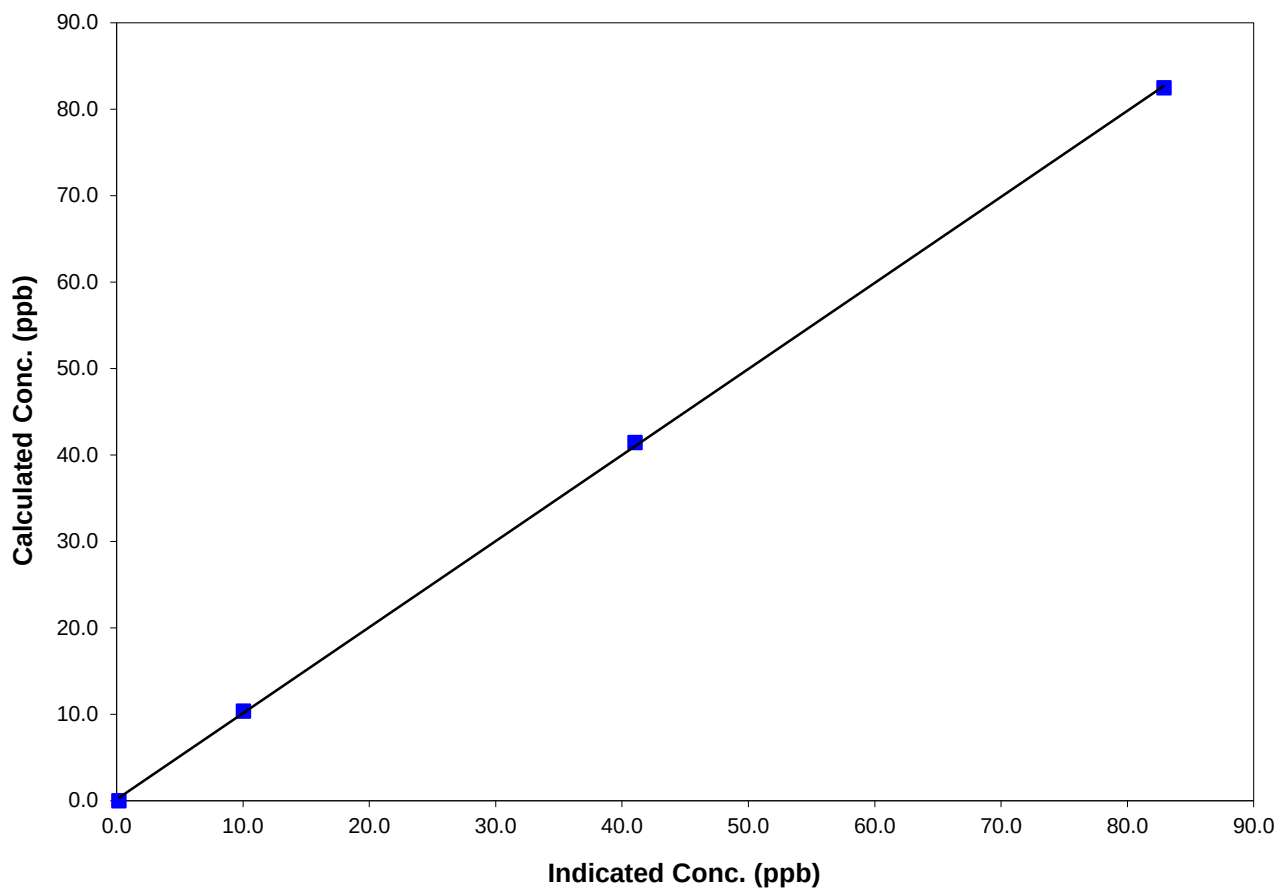
Station Information

Calibration Date	September 30, 2013	Previous Calibration	August 20, 2013
Station Number	3	Station Location	Smokey Heights
Start Time (MST)	9:00	End Time (MST)	13:35
Analyzer make/model	TEI Model 43C	Analyzer serial #	0436610005

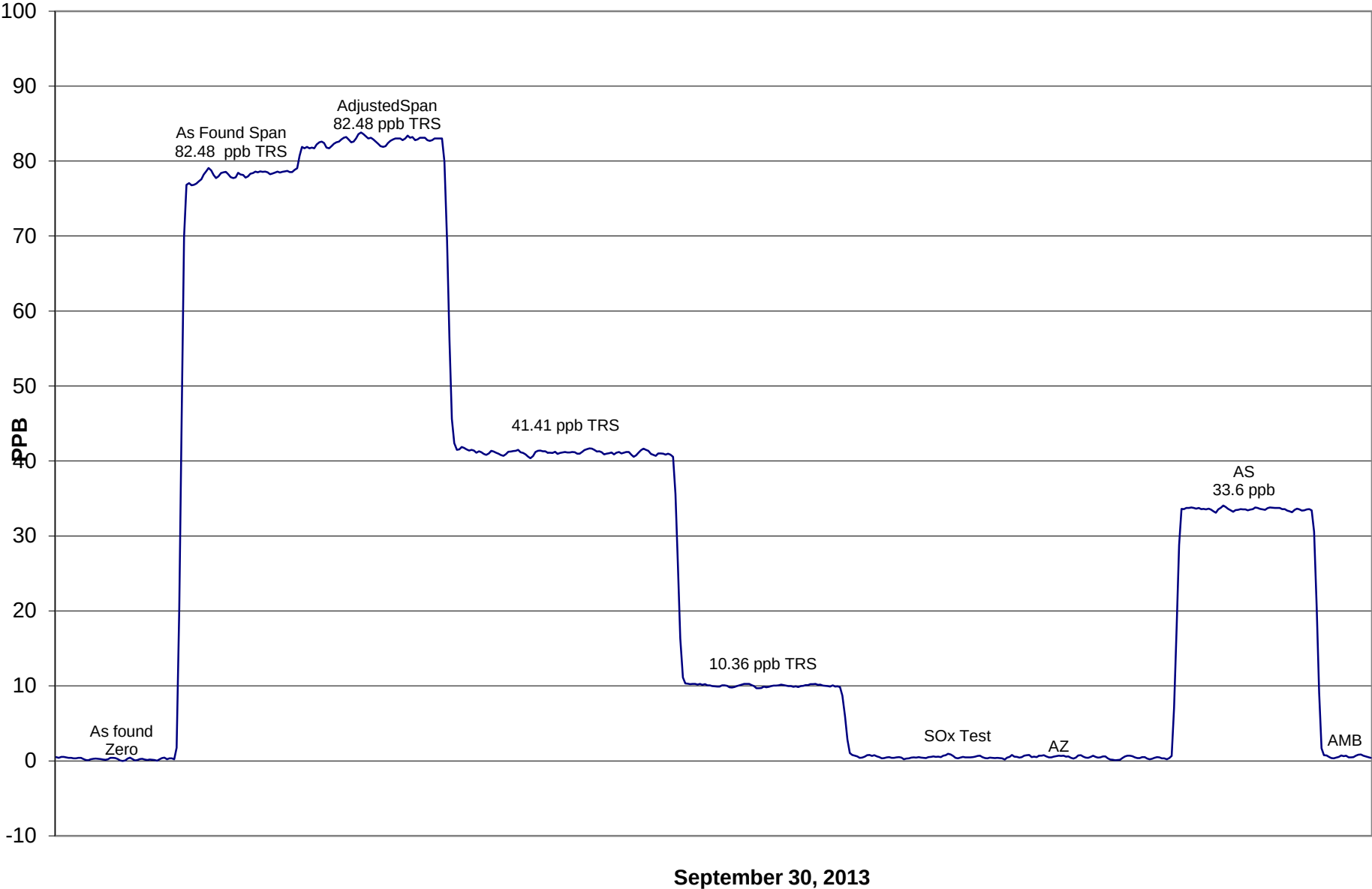
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.2	N/A	Correlation Coefficient	0.999912
82.5	82.9	0.9949		
41.4	41.0	1.0090		
10.4	10.1	1.0303	Slope	0.995469
			Intercept	0.164316

TRS Calibration Curve



Smokey Heights TRS Calibration



Calibration Report

Parameter SO2
Air Monitoring Network PAZA



Station Information

Calibration Date	September 26, 2013	Previous Calibration	August 22, 2013
Station Number	4	Station Location	Beaverlodge
Reason:	Routine	Install	Removal
		Other:	
Start Time (MST)	10:07	End Time (MST)	13:36
Barometric Pressure	0.915 atm	Station Temperature	20.0 Deg C
Calibrator	EnviroNics	Serial Number	3016
Cal Gas Concentration	10.8 ppm	Cal Gas Expiry Date	28/09/2012
Gas Cert Reference	FF14871		
DACS make	CR3000	DACS serial No.	5237
DACS voltage range	0 - 5 volt	DACS channel #	5
	<u>Before</u>		<u>After</u>
DACS Scale High	100	DACS slope	100
DACS Scale Low	0	DACS intercept	0
Calculated slope	1.012796	Calculated slope	1.010618
Calculated intercept	-0.571596	Calculated intercept	-0.124946
Analyzer make	TEI Model 43i-TLE	Analyzer serial #	713021137

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Background	2.36		2.4	
Coefficient	1.042		1.042	
PMT	-768.1	V	-768.5	V
UV Lamp Voltage	1056	V	1055	V
Chamber Temp	45	Deg C	45	Deg C
Pressure	666.7	mm Hg	666.8	mm Hg
Sample Flow	0.483	LPM	0.484	LPM
Lamp Intesity	96%	%	97%	%

Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4995	0.00	0.0	0.3	N/A
4995	39.93	85.7	85.0	1.0080
4995	19.97	43.0	42.6	1.0102
4995	9.97	21.5	21.2	1.0137
4995	0.00	0.0	0.3	As found zero
4995	39.93	85.7	85.0	As found span
Average Correction Factor				1.0106

Calculated value of As Found Response: 85.171 ppm Percent Change of As Found: 0.6%

	before calibration		after calibration	
Auto zero	0.2	ppb	0.2	ppb
Auto span	59.9	ppb	59.0	ppb

Notes: No adjustments made.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter SO2

Air Monitoring Network PAZA



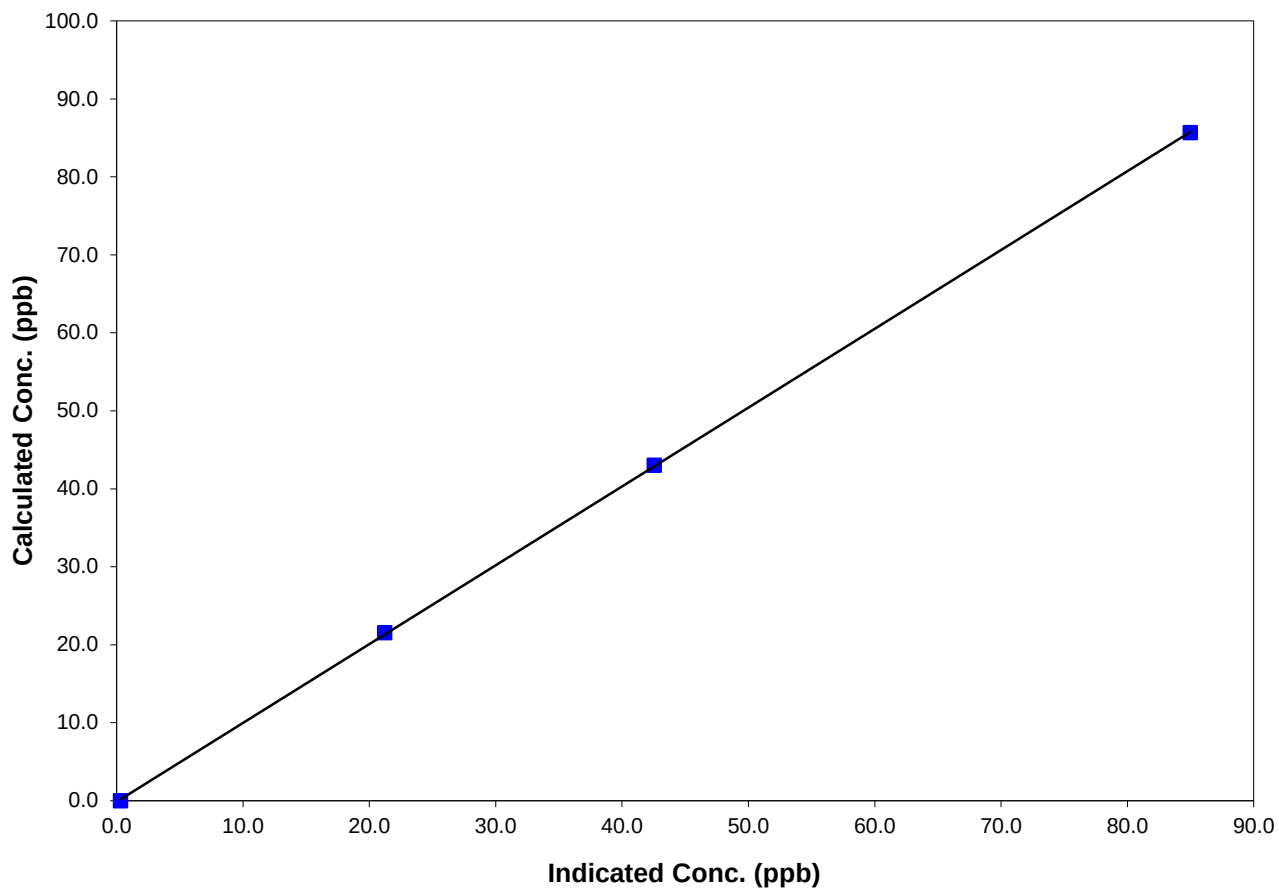
Station Information

Calibration Date	September 26, 2013	Previous Calibration	August 22, 2013
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	10:07	End Time (MST)	13:36
Analyzer make/model	TEI Model 43i-TLE	Analyzer serial #	713021137

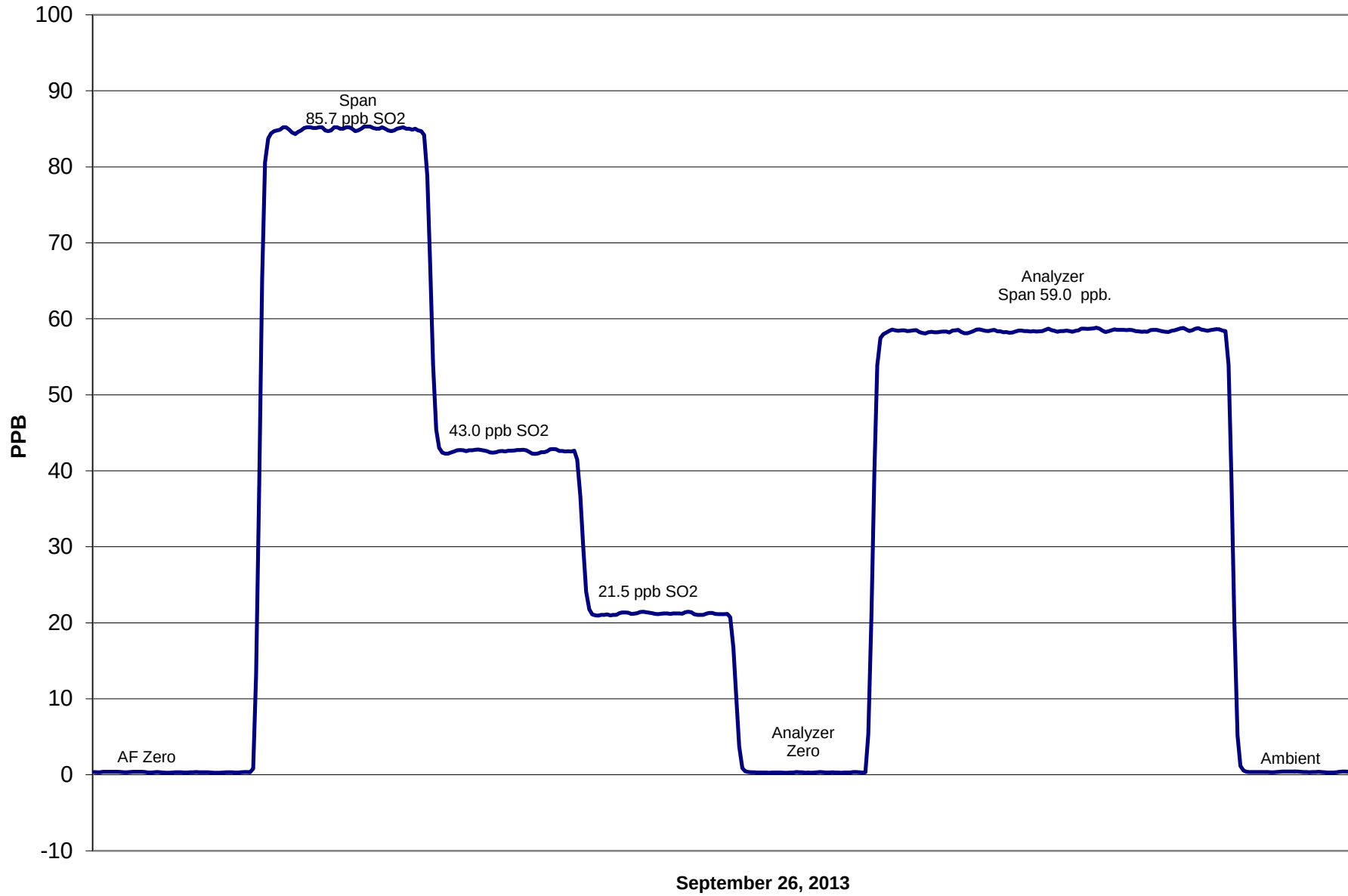
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.3	N/A		
85.7	85.0	1.0080	Correlation Coefficient	0.999976
43.0	42.6	1.0102		
21.5	21.2	1.0137	Slope	1.010618
			Intercept	-0.124946

SO2 Calibration Curve



SO2 Calibration



Calibration Report

Parameter

NO_x-NO-NO₂

Air Monitoring Network

PAZA



Station Information

Calibration Date	September 23, 2013	Previous Calibration	August 22, 2013
Station Number	4	Station Location	Beaverlodge
Reason:	Routine	Installation	Removal
Other:			
Start Time (MST)	10:30	End Time (MST)	16:50
Barometric Pressure	0.898	Atm	Station Temperature
Calibrator	EnviroNics	Serial Number	3016
NO Cal Gas Conc	51.3	ppm	Cal Gas Expiry Date
NOx Cal Gas Conc	51.4	ppm	Cal Gas Serial #
			February 25, 2021
			LL105159

DACS Information

DACS make	CR3000	DACS serial No.	5237
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Parameter		NO2	NOx	NO
Before	Data Slope	0.999886	1.002939	1.005535
	Data Offset	0.351380	-1.248201	-0.914691
After	Data Slope	0.999477	0.998349	0.997372
	Data Offset	-0.000429	1.452256	1.721009
Channel #		8	6	7
Voltage Range		0 - 5 VDC	0 - 5 VDC	0 - 5 VDC

Analyzer Information

Analyzer make/model	TEI 42i	Analyzer serial #	906535068
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Test Point	before		after	
Concentration range	0-500	ppb	0-500	ppb
NO offset	2.4	mV	2.4	mV
NOx bkgnd	2.7	mV	2.7	mV
NO coefficient	1.215		1.161	
NOx coefficient	1.000		0.999	
NO2 conv temp	326.6	Deg C	326.8	Deg C
PMT Temp	-2.8	Deg C	-2.9	Deg C
PMT Volt	-696.3	mV	-709.7	mV
R Cell Press	178.0	in Hg	178.0	in Hg
Sample Flow	0.710	LPM	0.722	LPM

Notes: Run as found 80% point. Came in low. Exhaust fan in pump room was switched off by last Tech.
Fix exhaust fan and adjust PMT. Drop back to as found zero & restart calibration.

Calibration Report

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



Station Information

Calibration Date: September 23, 2013 Station Location: Beaverlodge

Calibration Data

	Dilution flow rate (ccm)	Source gas flow rate (ccm)	Calculated NOx conc (ppb)	Calculated NO conc (ppb)	Calculated NO2 conc (ppb)	Indicated NOx conc (ppb)	Indicated NO conc (ppb)	Indicated NO2 conc (ppb)	NOx Correction factor	NO Correction factor
zero	4995	0.00	0.0	0.0	0.0	0.0	-0.1	0.0	N/A	N/A
1	4995	39.93	407.6	406.8	0.8	407.5	407.0	-0.3	1.0004	0.9996
2	4995	19.97	204.7	204.3	0.4	203.1	202.2	0.0	1.0075	1.0102
3	4995	9.97	102.4	102.2	0.2	99.4	99.1	0.2	1.0299	1.0310
AFZ	4995	0.00	0.0	0.0	0.0	-0.1	-0.2	0.0	0.0000	0.0000
AFS	4995	39.93	407.6	406.8	0.8	366.0	365.6	-0.2	1.1138	1.1129
Average Correction Factor									1.0126	1.0136

As Found Concentrations: NO_x= 364.8 NO= 364.9 As Found Percent Change NO_x= -10.5% NO= -10.3%

GPT Calibration Data

Dilution Flow 4995 ccm Source Gas Flow 39.93 ccm

O3 Setpoint (ppb)	Indicated NO high point (ppb)	Indicated NO drop conc (ppb)	Calculated NO2 conc (ppb)	Indicated NOx conc (ppb)	Indicated NO conc (ppb)	Indicated NO2 conc (ppb)	NOx Correction factor	NO Correction factor	NO2 Correction factor	Converter Efficiency
0	-0.2	-0.2	0.0	0.0	-0.1	0.0	N/A	N/A	N/A	N/A
NO point	406.9	406.9	0.0	407.3	406.9	-0.4	0.9989	1.0000	N/A	N/A
300	406.9	102.8	304.0	407.7	102.8	304.2	0.9980	1.0000	0.9993	100.1%
200	406.9	197.9	208.9	407.8	197.9	209.0	0.9976	1.0000	0.9998	100.0%
100	406.9	294.1	112.8	407.6	294.1	112.9	0.9982	1.0000	0.9992	100.1%
Average Correction Factor							0.9980	1.0000	0.9995	100.1%

AIC Data

	Previous calibration				Current calibration			
Parameter	NOx	NO2	NO		NOx	NO2	NO	
Auto zero	-0.1	-0.1	-0.1	ppb	0.0	-0.1	-0.1	ppb
Auto span	168.3	166.9	1.1	ppb	180.6	179.0	1.2	ppb

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter NO₂

Air Monitoring Network PAZA



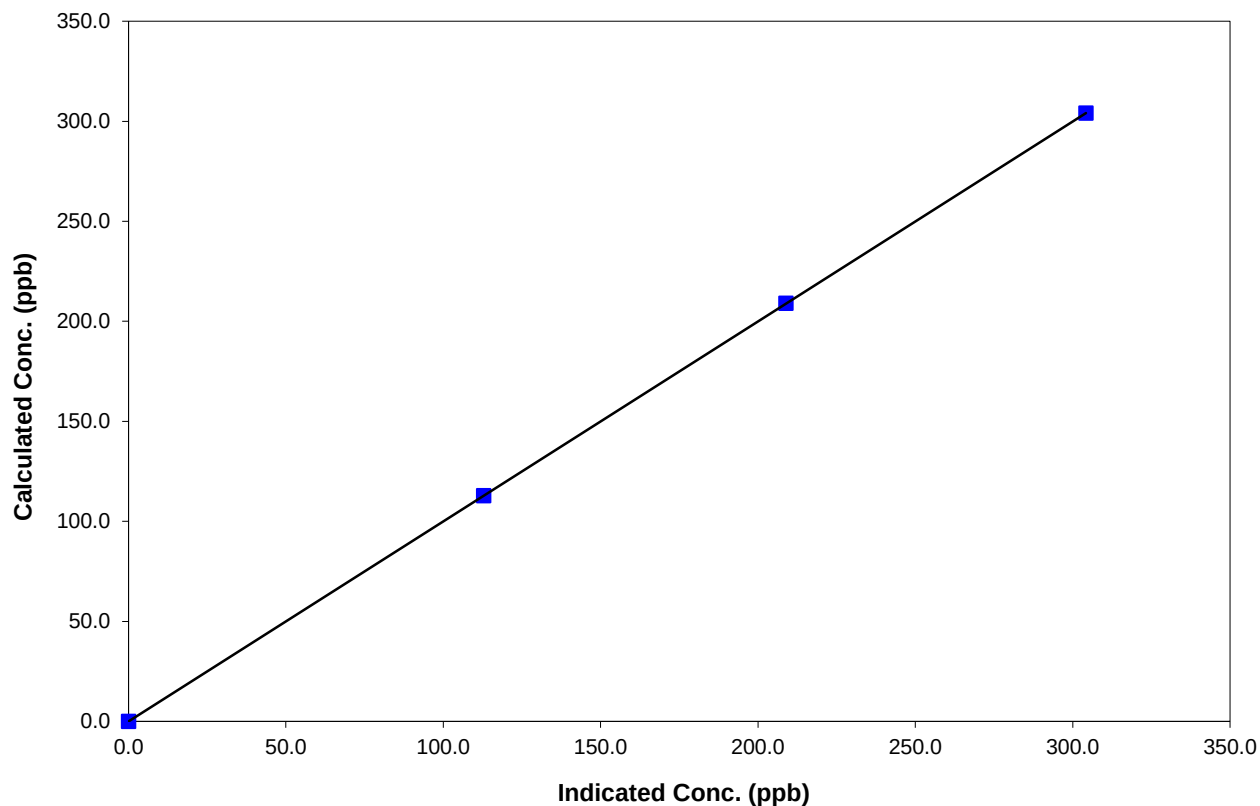
Station Information

Calibration Date	September 23, 2013	Previous Calibration	August 22, 2013
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	10:30	End Time (MST)	16:50
Analyzer make	TEI 42i	Analyzer serial #	906535068

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.0	N/A	Correlation Coefficient	1.000000
304.0	304.2	0.9993		
208.9	209.0	0.9998		
112.8	112.9	0.9992	Slope	0.999477
			Intercept	-0.000429

NO₂ Calibration Curve



Calibration Summary

Parameter NO_x

Air Monitoring Network PAZA



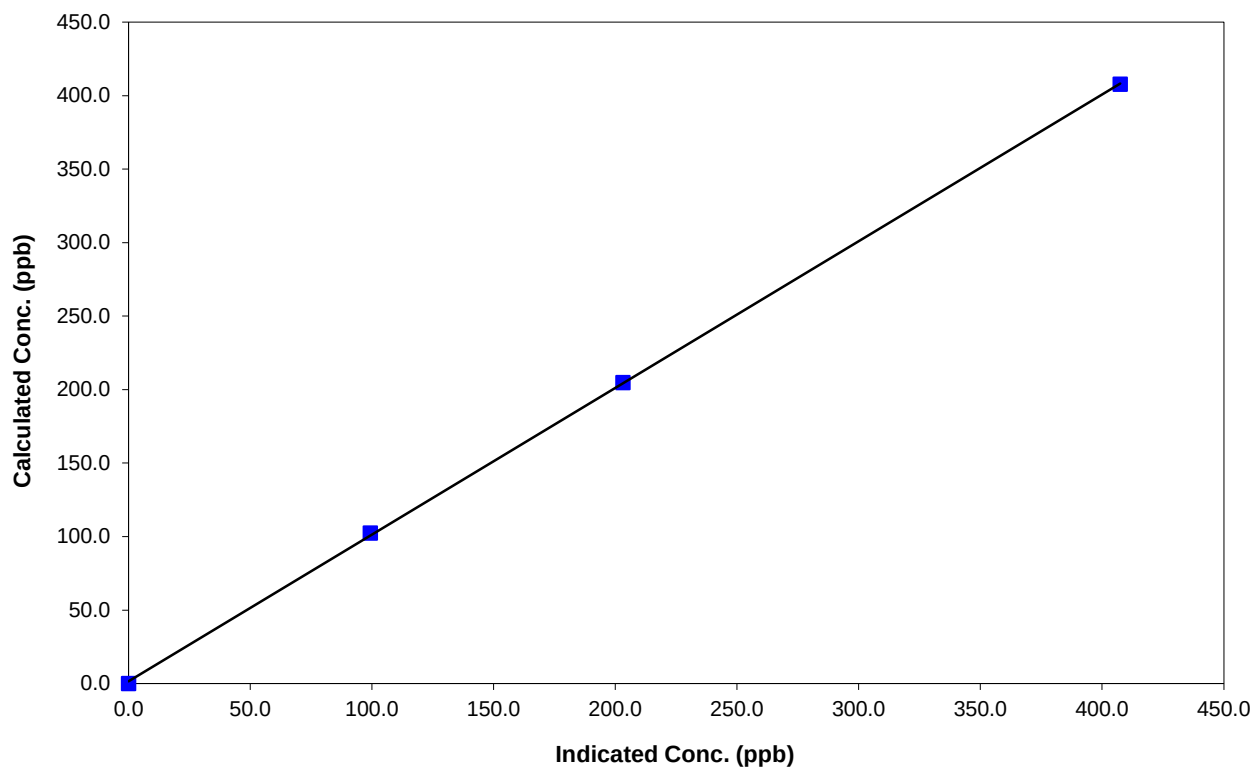
Station Information

Calibration Date	September 23, 2013	Previous Calibration	August 22, 2013
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	10:30	End Time (MST)	16:50
Analyzer make	TEI 42i	Analyzer serial #	906535068

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.0	N/A	Correlation Coefficient	0.999938
407.6	407.5	1.0004		
204.7	203.1	1.0075	Slope	0.998349
102.4	99.4	1.0299		
			Intercept	1.452256

NO_x Calibration Curve



Calibration Summary

Parameter NO

Air Monitoring Network PAZA



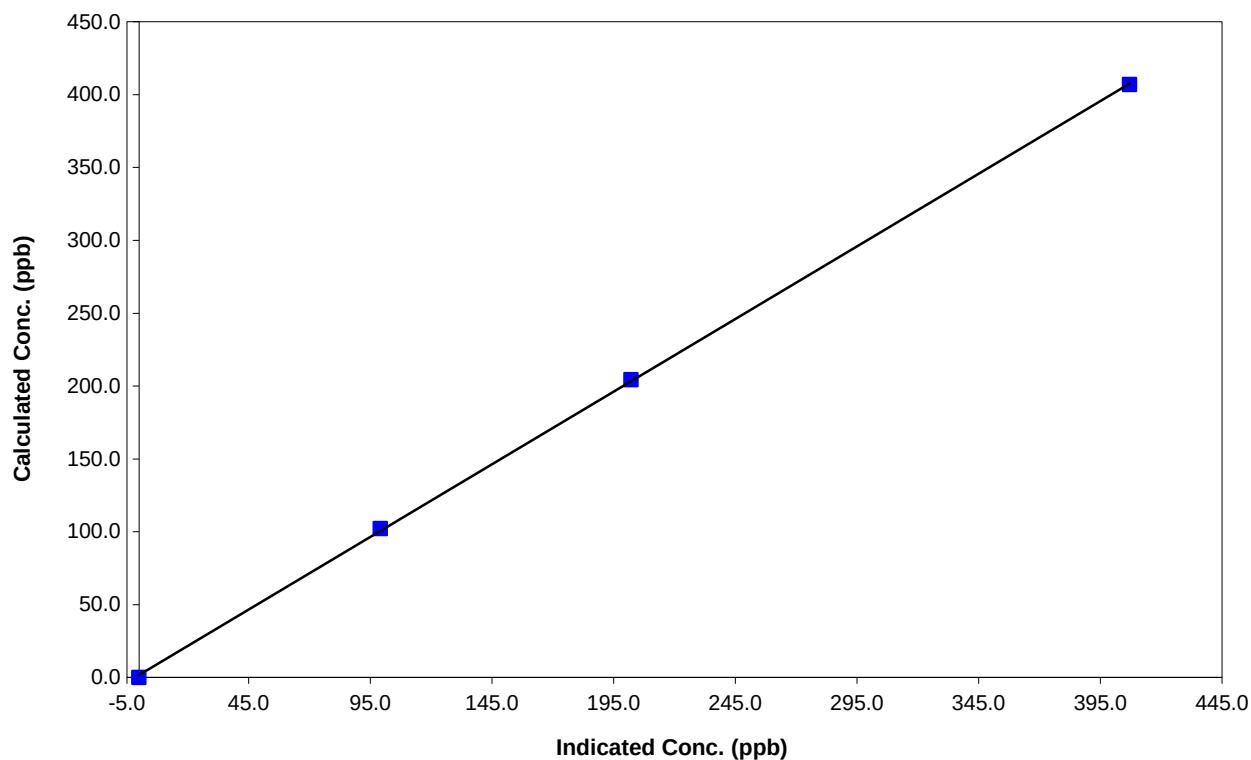
Station Information

Calibration Date	September 23, 2013	Previous Calibration	August 22, 2013
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	10:30	End Time (MST)	16:50
Analyzer make	TEI 42i	Analyzer serial #	906535068

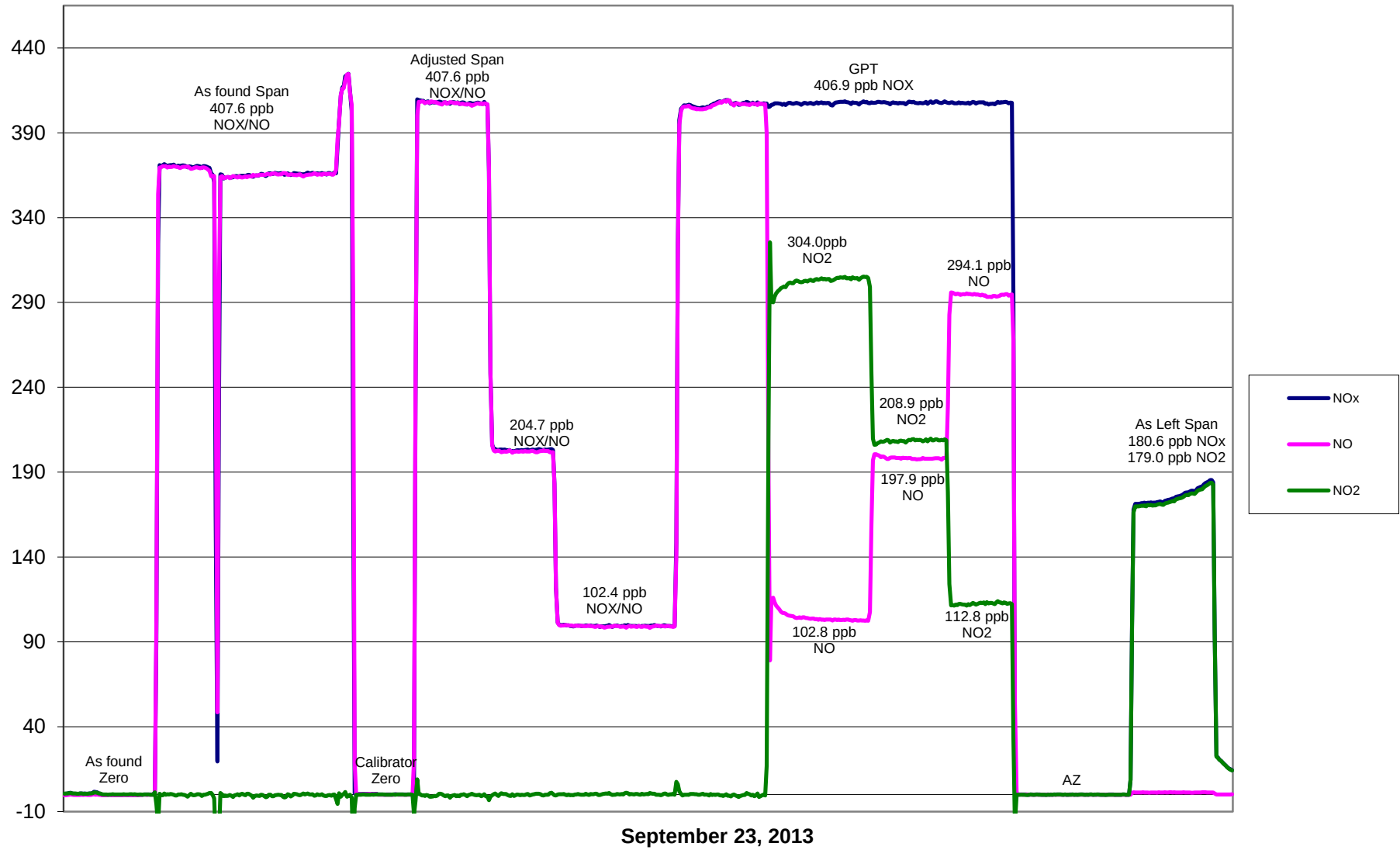
Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.1	N/A	Correlation Coefficient	0.999925
406.8	407.0	0.9996		
204.3	202.2	1.0102		
102.2	99.1	1.0310	Slope	0.997372
			Intercept	1.721009

NO Calibration Curve



PAZA Beaverlodge NO_x Calibration



Calibration Report

Parameter 03

Air Monitoring Network PAZA



Station Information

Calibration Date	September 23, 2013	Previous Calibration	August 22, 2013
Station Number	4	Station Location	Beaverlodge
Reason:	Routine	Install	Removal
		Other:	
Start Time (MST)	15:15	End Time (MST)	18:07
Barometric Pressure	0.900 atm	Station Temperature	20.0 Deg C
Calibrator	EnviroNics	Serial Number	3016
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	0.999878	Calculated slope	0.999866
Calculated intercept	1.033419	Calculated intercept	0.247294
Analyzer make	Teco 49i	Analyzer serial #	1136451236

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
offset	0.60	ppb	-0.80	ppb
slope	0.987		1.012	
Lamp temp	53.7	mV	53.7	mV
Lamp Intensity A/B	75224/80614	mV	72798/77998	mV
Pressure	667.3	mm Hg	676	mm Hg
Flow A	0.748	LPM	0.756	LPM
Flow B	0.735	LPM	0.743	LPM

Calibration Data

Dilution air flow rate (cc/min)	Calibrator Setting	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
5035	0.00	0.0	0.1	N/A
5035	0.30	304.0	304.4	0.9986
5035	0.20	208.9	207.9	1.0050
5035	0.10	112.8	112.4	1.0036
5035	0.00	0.0	0.1	As found zero
5035	0.30	304.0	296.1	As found span
Average Correction Factor				1.0024

Calculated value of As Found Response: 297.0 ppm Percent Change of As Found: -2.3%

	before calibration		after calibration	
Auto zero	1.0	ppb	0.7	ppb
Auto span	268.4	ppb	258.5	ppb

Notes: Slight span adjust. Run adjustment point.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter O3

Air Monitoring Network PAZA



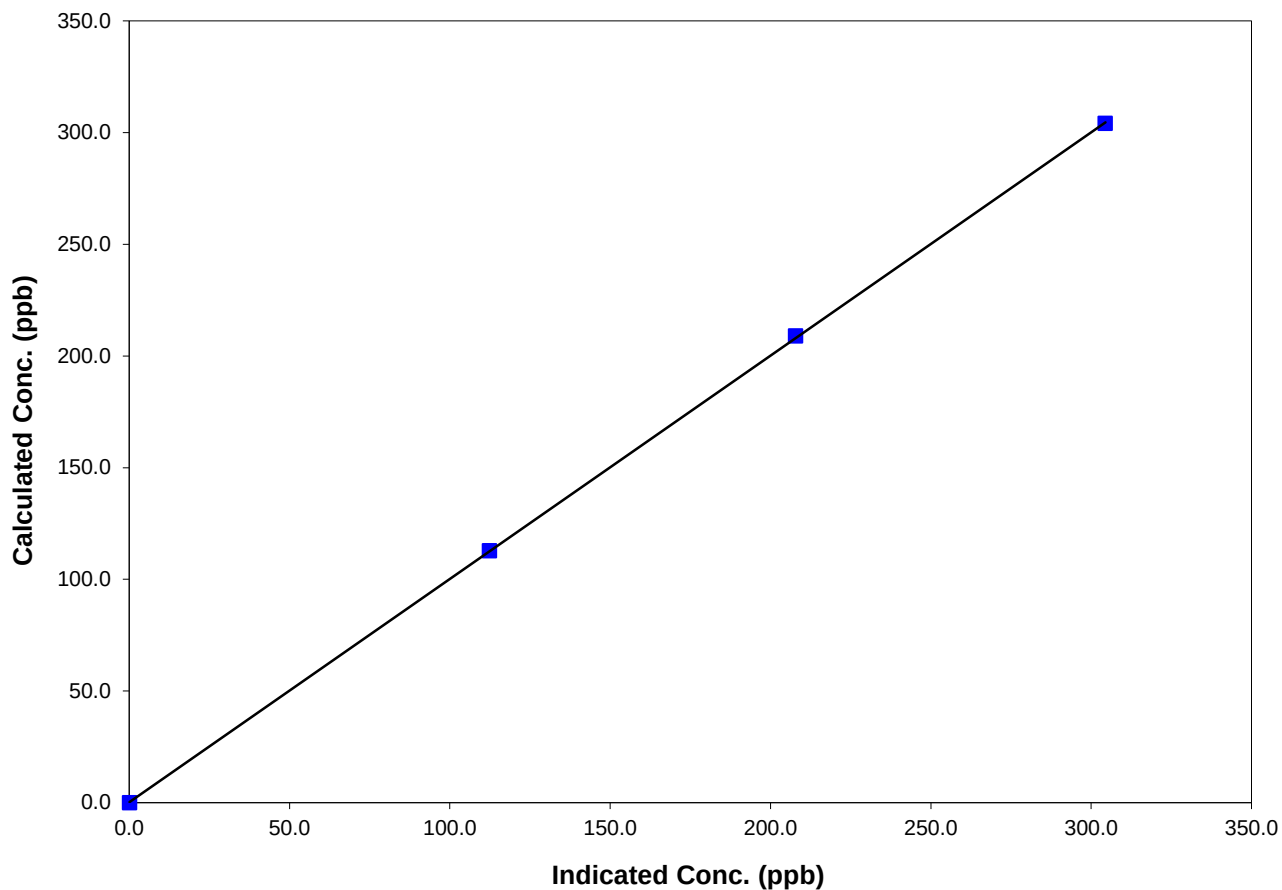
Station Information

Calibration Date	September 23, 2013	Previous Calibration	August 22, 2013
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	15:15	End Time (MST)	18:07
Analyzer make/model	Teco 49i	Analyzer serial #	1136451236

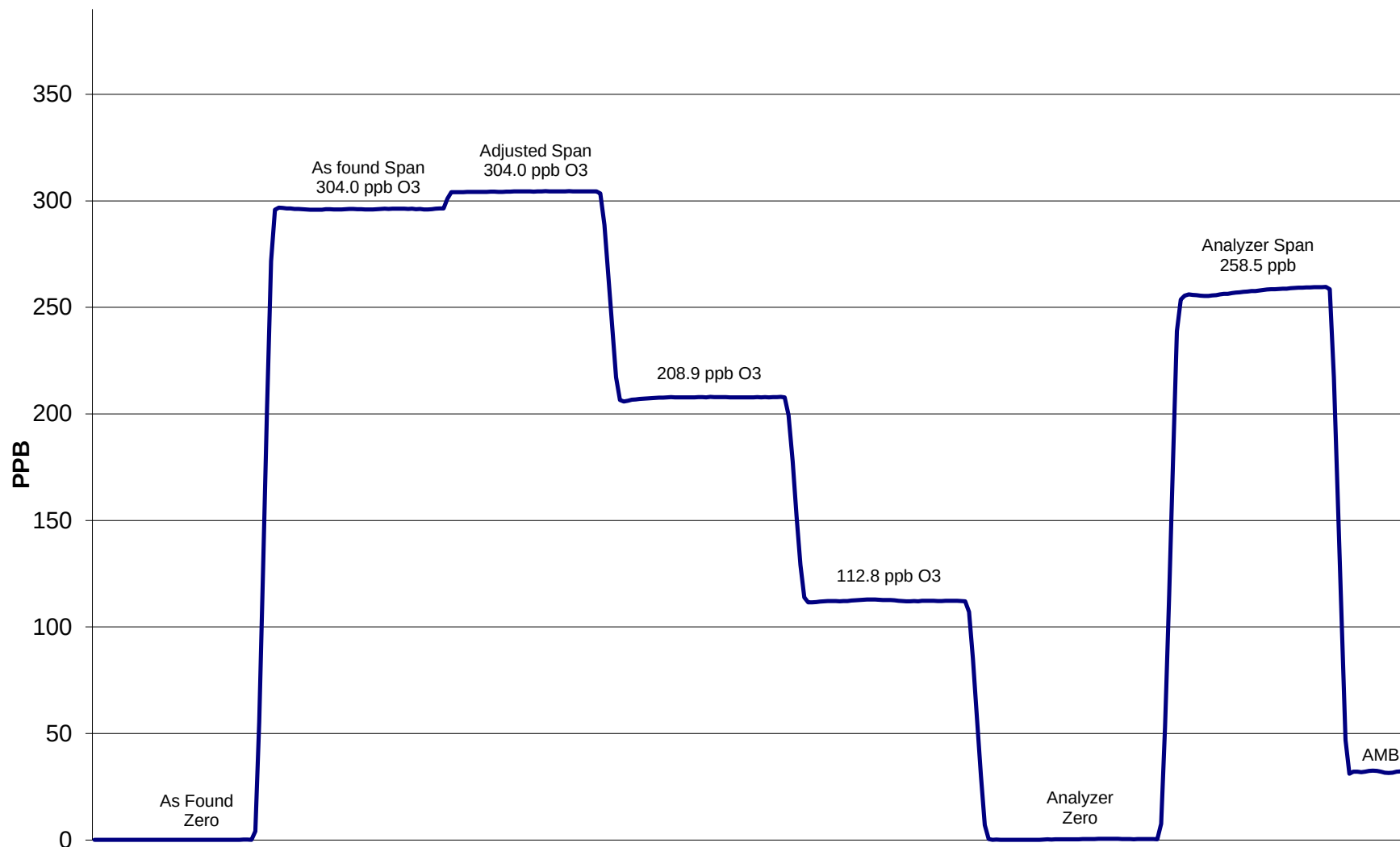
Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.1	NA	Correlation Coefficient	0.999976
304.0	304.4	0.9986		
208.9	207.9	1.0050		
112.8	112.4	1.0036	Slope	0.999866
			Intercept	0.247294

O3 Calibration Curve



O3 Calibration



September 23, 2013

FDMS TEOM PM2.5 AUDIT



STATION: BeaverLodge
 LOCATION: PASZA - Grande Prairie

OPERATOR: Grover Christiansen
 DATE: 26-Sep-13

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	16-Jul-13
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	0.20	2.14
PUMP OFF	0.02	0.02
NET	0.18	2.12
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)	12.7	0.911		13.68	3.00
MEASURED (AF)	12.8	0.912		13.42	2.94
MEASURED (M)	12.8	0.912	14224	13.42	2.94
DIFFERENCE (M-I)	0.1	0.001	-0.4%	-0.26	-0.06
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: New V seal needs to be ordered. Looks like valves are leaking inside FDMS unit. Will talk to Ministry/CD Nova.

Sample heads were cleaned. Base leak check: Main: 0.25 Aux: 4.70. Reference leak check: Main: 0.71 Aux: 4.27.

FAIL - everything passes except leak check.

Sample Head Inspection Or Cleaning:

PM10: Cleaned
 PM2.5: Cleaned

TEOM / FDMS IN LINE FILTER INSPECTION OR REPLACEMENT:

TEOM IN LINE: FDMS Water knock out: Good
 Main: Good
 AUX: Good FDMS 47 mm Filter Cassette: Replaced

Calibration Report

Parameter SO2
Air Monitoring Network PAZA



Station Information

Calibration Date	September 12, 2013	Previous Calibration	August 9, 2013
Station Number	6	Station Location	Valleyview
Reason:	Routine	Install	Removal
Start Time (MST)	14:00	End Time (MST)	17:30
Barometric Pressure	702.00 mmHg	Station Temperature	20.0 Deg C
Calibrator	Sabio 2010	Serial Number	3951108
Cal Gas Concentration	51.6 ppm	Cal Gas Exp Date	December 29 2013
Gas Cylinder Num.	LL105164		
DACS make	CR3000	DACS serial No.	5409
DACS voltage range	0 - 5 volt	DACS channel #	4
	<u>Before</u>		<u>After</u>
DACS Scale High	500	DACS slope	500
DACS Scale Low	0	DACS intercept	0
Calculated slope	0.989504	Calculated slope	0.995174
Calculated intercept	0.446351	Calculated intercept	1.237089
Analyzer make	TEI 45C	Analyzer serial #	45C-57531-313

	before		after	
Concentration range	0-500	ppb	0-500	ppb
Background	56.4		59.8	
Coefficient	0.994		1.047	
UV Lamp Voltage	823	LPM	822	LPM
Chamber Temp	44.3	V	44.4	V
Perm Gas Temp	35	C	na	C
Pressure	605.3	in Hg	599	in Hg
Sample Flow	0.558	LPM	0.557	LPM
Lamp Intensity	41739	Hz	42000	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)
5000	0.00	0.0	-1.6	N/A
5000	40.00	409.5	409.7	0.9996
5000	20.00	205.6	206.7	0.9948
5000	10.00	103.0	101.9	1.0106
5000	0.00	0.0	-1.6	As found zero
5000	40.00	409.5	380.9	As found span
Average Correction Factor				1.0017

Calculated value of As Found Response: 379.0 ppm Percent Change of As Found: 7.5%

	before calibration		after calibration	
Auto zero	0.0	ppm	0.0	ppm
Auto span	150.2	ppm	159.1	ppm

Notes: Adjustment made to span

Calibration Performed By: Christopher Hendrickson

Calibration Summary

Parameter SO2

Air Monitoring Network PAZA



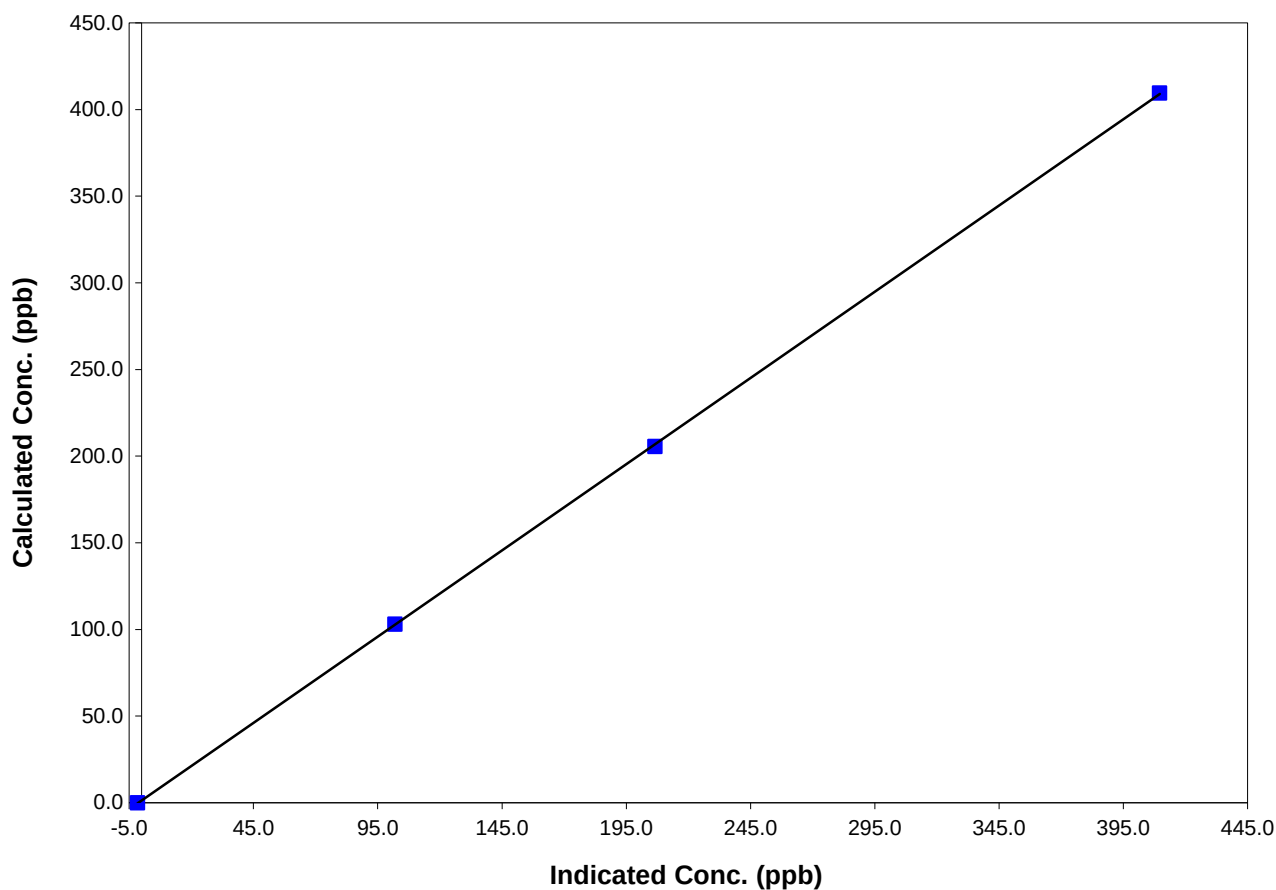
Station Information

Calibration Date	September 12, 2013	Previous Calibration	August 9, 2013
Station Number	6	Station Location	Valleyview
Start Time (MST)	14:00	End Time (MST)	17:30
Analyzer make/model	TEI 45C	Analyzer serial #	45C-57531-313

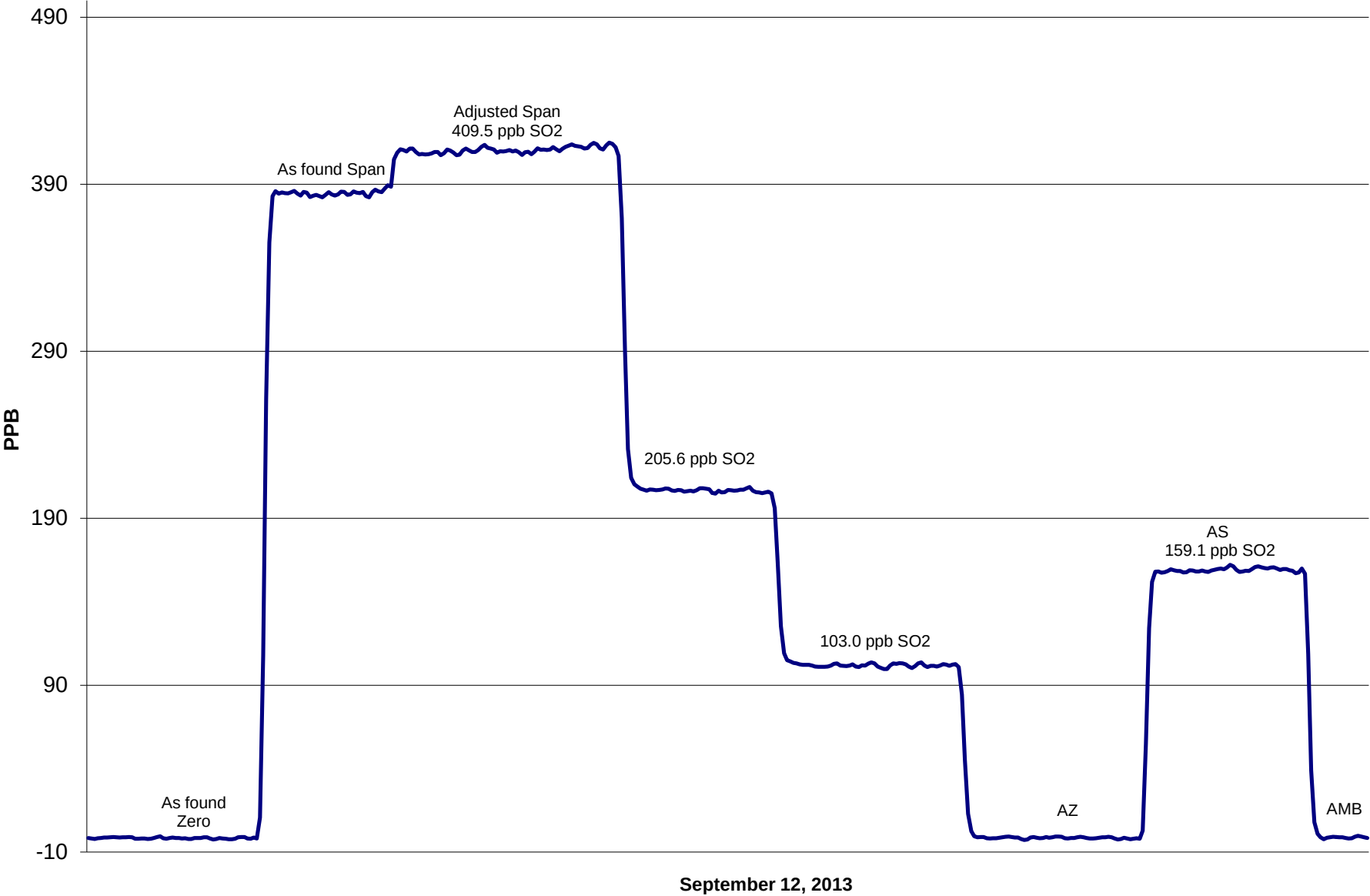
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-1.6	N/A		
409.5	409.7	0.9996	Correlation Coefficient	0.999974
205.6	206.7	0.9948		
103.0	101.9	1.0106	Slope	0.995174
			Intercept	1.237089

SO2 Calibration Curve



SO2 Calibration



Calibration Report

Parameter H2S
Air Monitoring Network

PAZA



Station Information

Calibration Date	September 12, 2013	Previous Calibration	August 9, 2013
Station Number	6	Station Location	Valleyview
Reason:	Routine	Install	Removal
Start Time (MST)	16:30	End Time (MST)	20:40
Barometric Pressure	702.00 mm	Station Temperature	21.0 Deg C
Calibrator	Sabio 2010	Serial Number	3951108
Cal Gas Concentration	10.19 ppm	Cal Gas Expiry Date	03/07/2016
Gas Cert Reference	BLM001121		
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	0.996565	Calculated slope	0.985388
Calculated intercept	-0.382905	Calculated intercept	-0.387599
Analyzer make	TEI Model 43i - APSCB	Analyzer serial #	701120010

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Back Ground	7.2	ppb	7.8	ppb
Coefficient	0.961		1.031	
Lamp Voltage	783	v	781	v
Chamber Temp	45	c	44.9	c
Perm Oven Temp	45	c	45	c
Pressure	601.80	mm Hg	591.40	mm Hg
Sample Flow	0.408	ccm	0.402	lpm
Lamp Intensity	90.0	%	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)
5000	0.00	0.0	0.5	N/A
5000	40.00	80.9	82.5	0.9798
5000	20.00	40.6	41.5	0.9779
5000	10.00	20.3	20.9	0.9738
5000	10.00	103.0	1.0	Sox Test
5000	0.00	0.0	0.5	As found zero
5000	40.00	80.9	73.1	As found span
Average Correction Factor				0.9772

Calculated value of As Found Response: 71.94 ppm Percent Change of As Found: 11.0%

	before calibration		after calibration	
Auto zero	0.5	ppm	-0.2	ppm
Auto span	67.3	ppm	73.2	ppm

Notes: Adjustment made

Calibration Performed By: Christopher Hendrickson

Calibration Summary

Parameter H2S

Air Monitoring Network PAZA



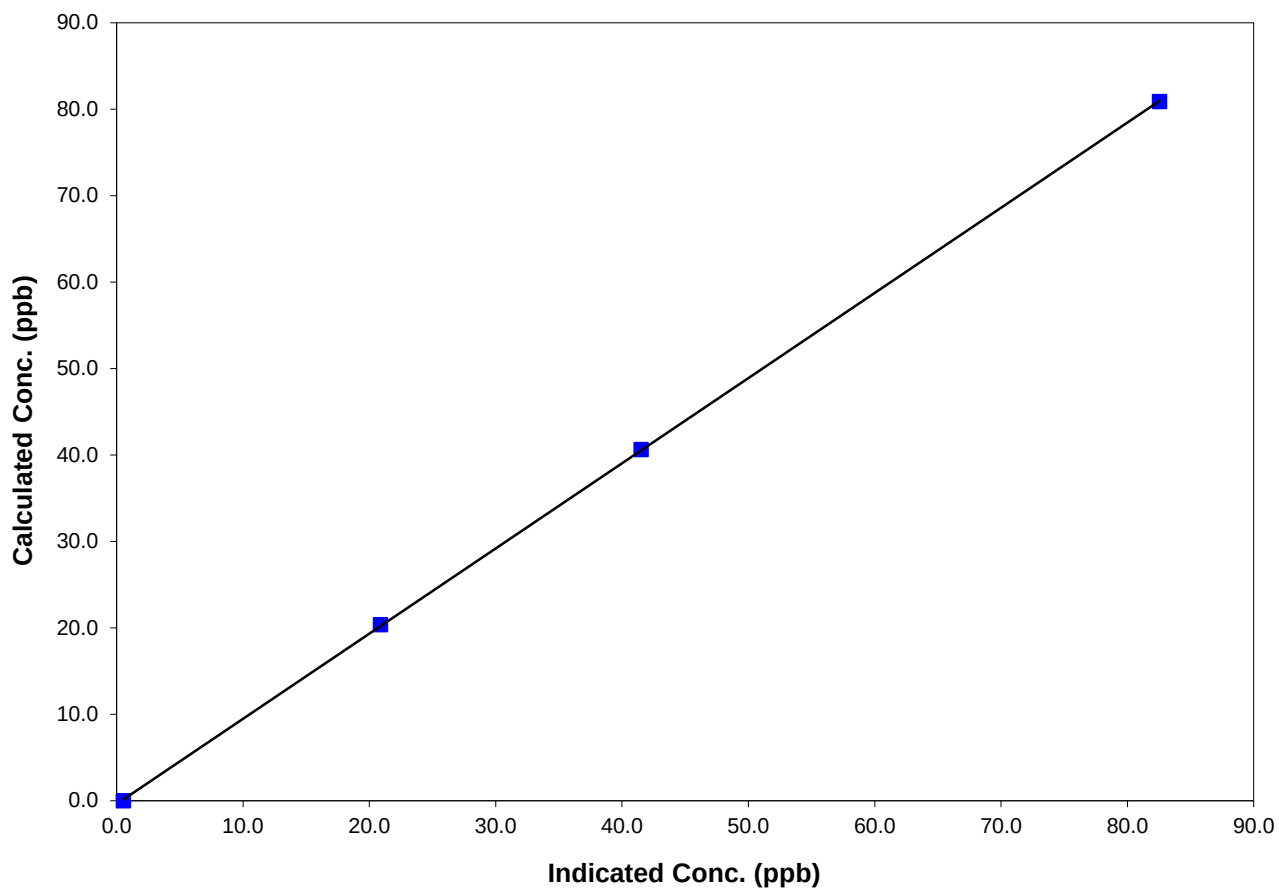
Station Information

Calibration Date	September 12, 2013	Previous Calibration	August 9, 2013
Station Number	6	Station Location	Valleyview
Start Time (MST)	16:30	End Time (MST)	20:40
Analyzer make/model	TEI Model 43i - APSCB	Analyzer serial #	701120010

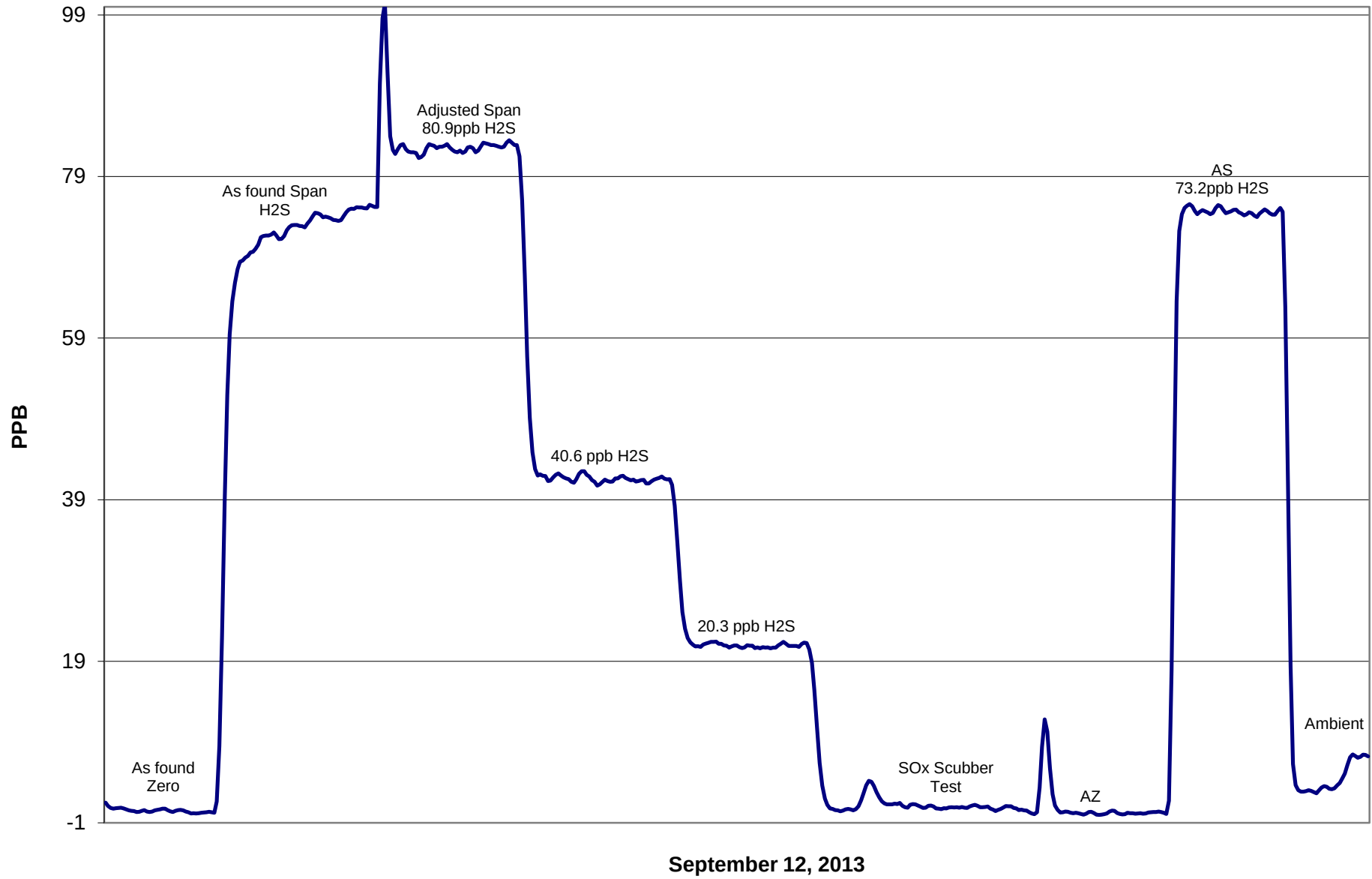
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.5	N/A		
80.9	82.5	0.9798	Correlation Coefficient	0.999985
40.6	41.5	0.9779		
20.3	20.9	0.9738	Slope	0.985388
			Intercept	-0.387599

H2S Calibration Curve



H2S Calibration



Calibration Report

Parameter SO2

Air Monitoring Network PAZA



Station Information

Calibration Date	September 11, 2013	Previous Calibration	August 8, 2013
Station Number	9	Station Location	Sunset House
Reason:	☒ Routine	☐ Install	☐ Removal
		☐ Other:	
Start Time (MST)	11:30	End Time (MST)	16:15
Barometric Pressure	0.90 Atm	Station Temperature	20.0 Deg C
Calibrator	EnviroNics 6100	Serial Number	3474
Cal Gas Concentration	51.6 ppm	Cal Gas Expiry Date	12/29/2013
Gas Cert Reference	LL105164		
DACS make	CR3000	DACS serial No.	5407
DACS voltage range	0 - 5 Volt	DACS channel #	2
	Before		After
DACS Scale High	500	DACS slope	500
DACS Scale Low	0	DACS intercept	0
Calculated slope	1.001451	Calculated slope	0.997413
Calculated intercept	-0.666398	Calculated intercept	-4.600382
Analyzer make	TEI 43C	Analyzer serial #	609716238

	before		after	
Concentration range	0-500	ppb	0-500	ppb
Background	23.6		25	
Coefficient	1.008		1.062	
UV Lamp Voltage	901	V	911	V
Chamber Temp	44.6	C	44.4	C
Perm Gas Temp	45	C	45	C
Pressure	666.6	mm Hg	660.7	mm Hg
Sample Flow	0.485	LPM	0.481	LPM
Lamp Intesity	35375	Hz	36170	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)
5000	0.00	0.0	3.3	N/A
5000	40.00	409.5	414.3	0.9885
5000	20.00	205.6	212.1	0.9693
5000	10.00	103.0	108.7	0.9473
5000	0.00	0.0	3.3	As found zero
5000	40.20	411.6	388.0	As found span
Average Correction Factor				0.9684

Calculated value of As Found Response: 384.570 ppm Percent Change of As Found: 6.6%

	before calibration		after calibration	
Auto zero	0.3	ppm	0.3	ppm
Auto span	259.1	ppm	282.4	ppm

Notes: Restarted calibration after checking regulator purge. Adjsuted Span

Calibration Performed By: Christopher Hendrickson

Calibration Summary

Parameter SO2

Air Monitoring Network PAZA



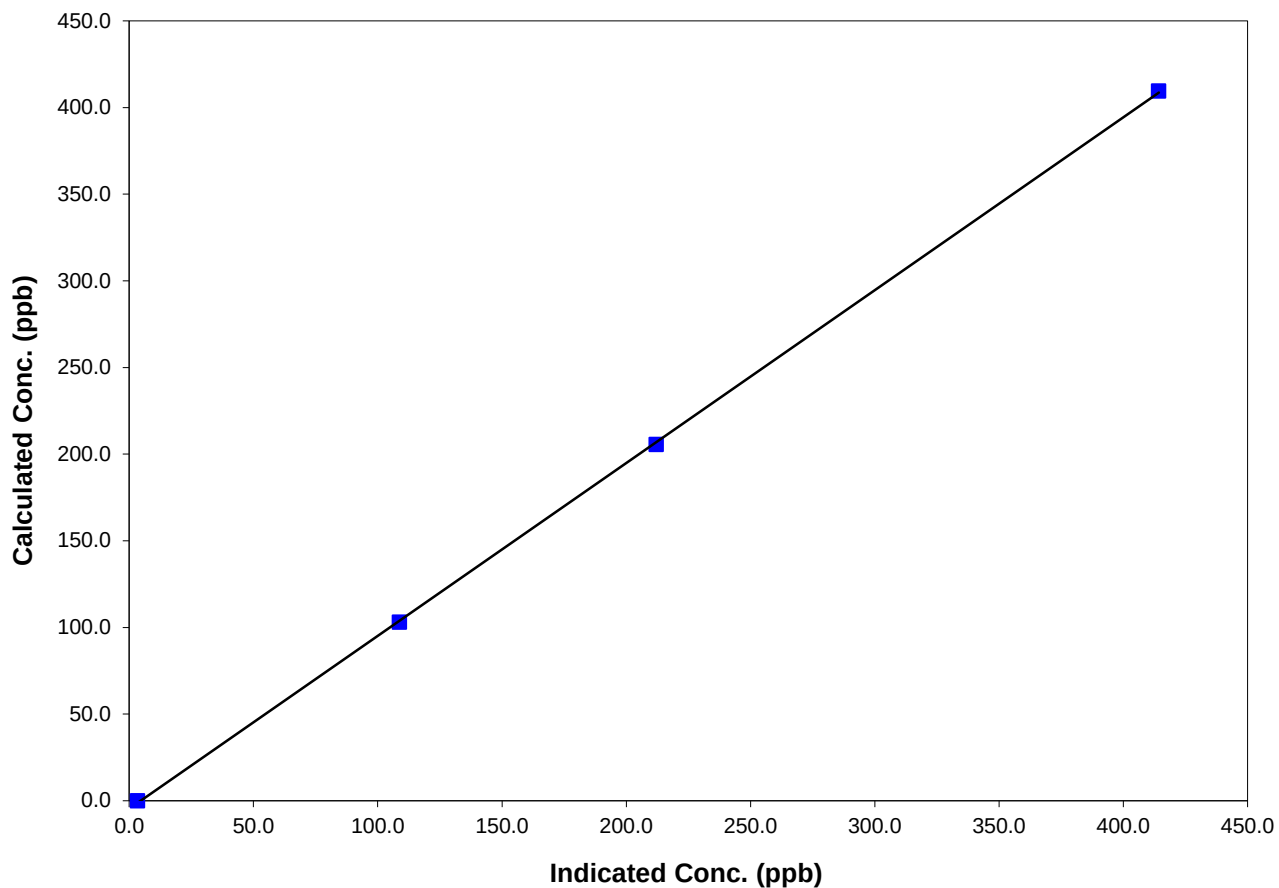
Station Information

Calibration Date	September 11, 2013	Previous Calibration	August 8, 2013
Station Number	9	Station Location	Sunset House
Start Time (MST)	11:30	End Time (MST)	16:15
Analyzer make/model	TEI 43C	Analyzer serial #	609716238

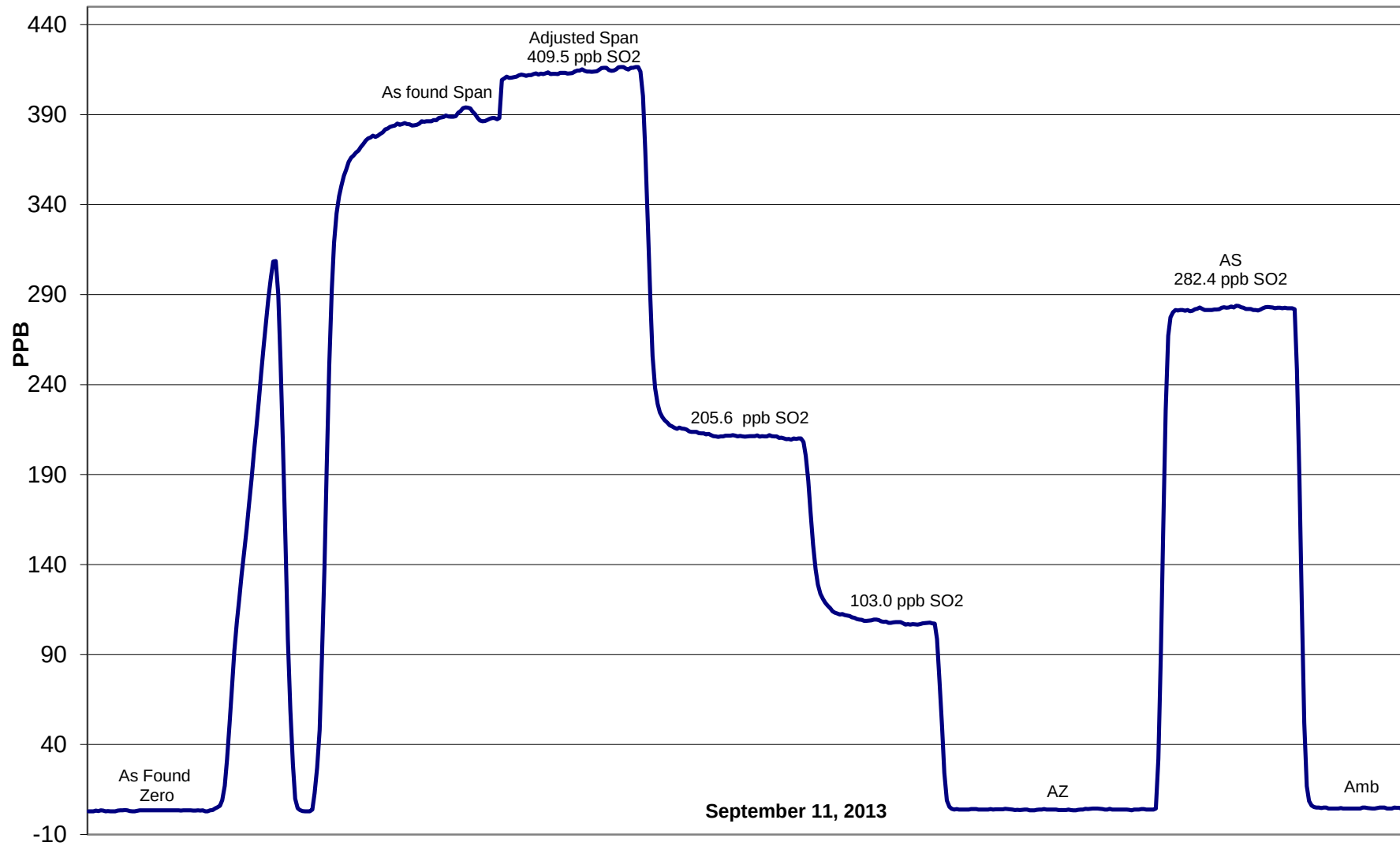
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	3.3	N/A	Correlation Coefficient	0.999944
409.5	414.3	0.9885		
205.6	212.1	0.9693		
103.0	108.7	0.9473	Slope	0.997413
			Intercept	-4.600382

SO2 Calibration Curve



SO2 Calibration



Calibration Report

Parameter

NO_x-NO-NO₂

Air Monitoring Network

PAZA



Station Information

Calibration Date	September 11, 2013		Previous Calibration	August 8, 2013	
Station Number	9		Station Location	Sunset House	
Reason:	Routine	Install	Removal	Other:	
Start Time (MST)	11:30		End Time (MST)	17:45	
Barometric Pressure	0.898	Atm	Station Temperature	20.0	Deg C
Calibrator	Sabio		Serial Number	3951108	
NO Cal Gas Conc	49.9	ppm	Cal Gas Expiry Date	December 29 2013	
NOx Cal Gas Conc	50.1	ppm	Cal Gas Serial #	LL105164	

DACS Information

DACS make	CR3000		DACS serial No.	5407	
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Parameter		NO2	NOx	NO
Before	Data Slope	0.994993	1.004886	1.004771
	Data Offset	-1.407697	-1.102439	-0.835970
After	Data Slope	1.000189	0.997723	0.999245
	Data Offset	-0.468768	-0.826202	-0.958772
Channel #		5	3	4
Voltage Range		0 - 5 VDC	0 - 5 VDC	0 - 5 VDC

Analyzer Information

Analyzer make/model	TEI 42i		Analyzer serial #	0701120011	
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Test Point	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
NO offset	5.8	mV	5.9	mV
NOx bkgnd	5.9	mV	6.1	mV
NO coefficient	1.150		1.158	
NOx coefficient	1.000		1.000	
NO2 conv temp	323.4	Deg C	323.9	Deg C
PMT Temp	-2.9	Deg C	-2.7	Deg C
PMT Volt	-826.6	mV	-827.6	mV
R Cell Press	206.2	in Hg	199.2	in Hg
Sample Flow	0.690	ccm	0.701	ccm

NOTES: Re evacuated Cylinder
Adjusted span

Calibration Report

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



Station Information

Calibration Date: September 11, 2013 Station Location: Sunset House

Calibration Data

	Dilution flow rate (ccm)	Source gas flow rate (ccm)	Calculated NOx conc (ppb)	Calculated NO conc (ppb)	Calculated NO2 conc (ppb)	Indicated NOx conc (ppb)	Indicated NO conc (ppb)	Indicated NO2 conc (ppb)	NOx Correction factor	NO Correction factor
zero	5000	0.00	0.0	0.0	0.0	-0.1	-0.1	0.1	N/A	N/A
1	5000	40.00	397.6	396.0	1.6	398.6	396.5	0.5	0.9974	0.9987
2	5000	20.00	199.6	198.8	0.8	202.1	201.1	0.2	0.9878	0.9888
3	5000	10.00	100.0	99.6	0.4	101.5	101.3	0.3	0.9850	0.9831
AFZ	5000	0.00	0.0	0.0	0.0	-0.1	-0.1	0.1	0.0000	0.0000
AFS	5000	40.00	397.6	396.0	1.6	391.2	389.3	0.4	1.0163	1.0174
Average Correction Factor									0.9901	0.9902

As Found Concentrations: NO_x= 390.2 NO= 388.5 As Found Percent Change NO_x= -1.9% NO= -1.9%

GPT Calibration Data

Dilution Flow 5000 ccm Source Gas Flow 40.00 ccm

O3 Setpoint (ppb)	Indicated NO high point (ppb)	Indicated NO drop conc (ppb)	Calculated NO2 conc (ppb)	Indicated NOx conc (ppb)	Indicated NO conc (ppb)	Indicated NO2 conc (ppb)	NOx Correction factor	NO Correction factor	NO2 Correction factor	Converter Efficiency
0	-0.1	-0.1	0.0	-0.1	-0.1	0.1	N/A	N/A	N/A	N/A
NO point	399.1	399.1	0.0	401.4	399.1	0.3	0.9943	1.0000	N/A	N/A
350 (0.95v)	399.1	26.1	373.1	400.8	26.1	373.2	0.9959	1.0000	0.9997	100.0%
230 (0.60v)	399.1	179.4	219.7	401.6	179.4	220.5	0.9937	1.0000	0.9967	100.3%
100 (0.35v)	399.1	292.6	106.5	401.8	292.6	107.3	0.9932	1.0000	0.9924	100.8%
Average Correction Factor							0.9943	1.0000	0.9963	100.4%

AIC Data

	Previous calibration				Current calibration			
Parameter	NOx	NO2	NO		NOx	NO2	NO	
Auto zero	0.8	0.9	0.0	ppb	0.5	0.4	0.2	ppb
Auto span	166.3	164.3	1.4	ppb	165.9	163.5	1.6	ppb

Calibration Performed By: Christopher Hendrickson

Calibration Summary

Parameter NO₂

Air Monitoring Network PAZA



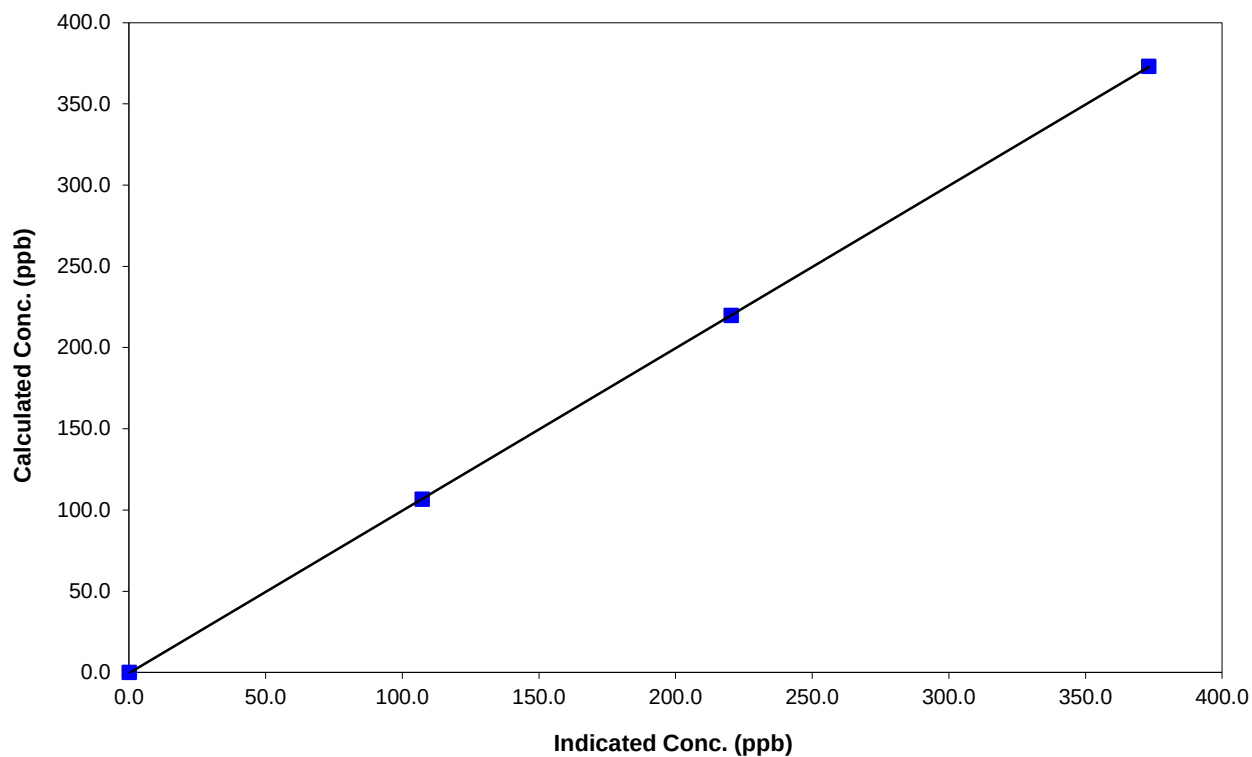
Station Information

Calibration Date	September 11, 2013	Previous Calibration	August 8, 2013
Station Number	9	Station Location	Sunset House
Start Time (MST)	11:30	End Time (MST)	17:45
Analyzer make	TEI 42i	Analyzer serial #	0701120011

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.1	N/A	Correlation Coefficient	0.999994
373.1	373.2	0.9997		
219.7	220.5	0.9967		
106.5	107.3	0.9924	Slope	1.000189
			Intercept	-0.468768

NO₂ Calibration Curve



Calibration Summary

Parameter NO_x

Air Monitoring Network PAZA



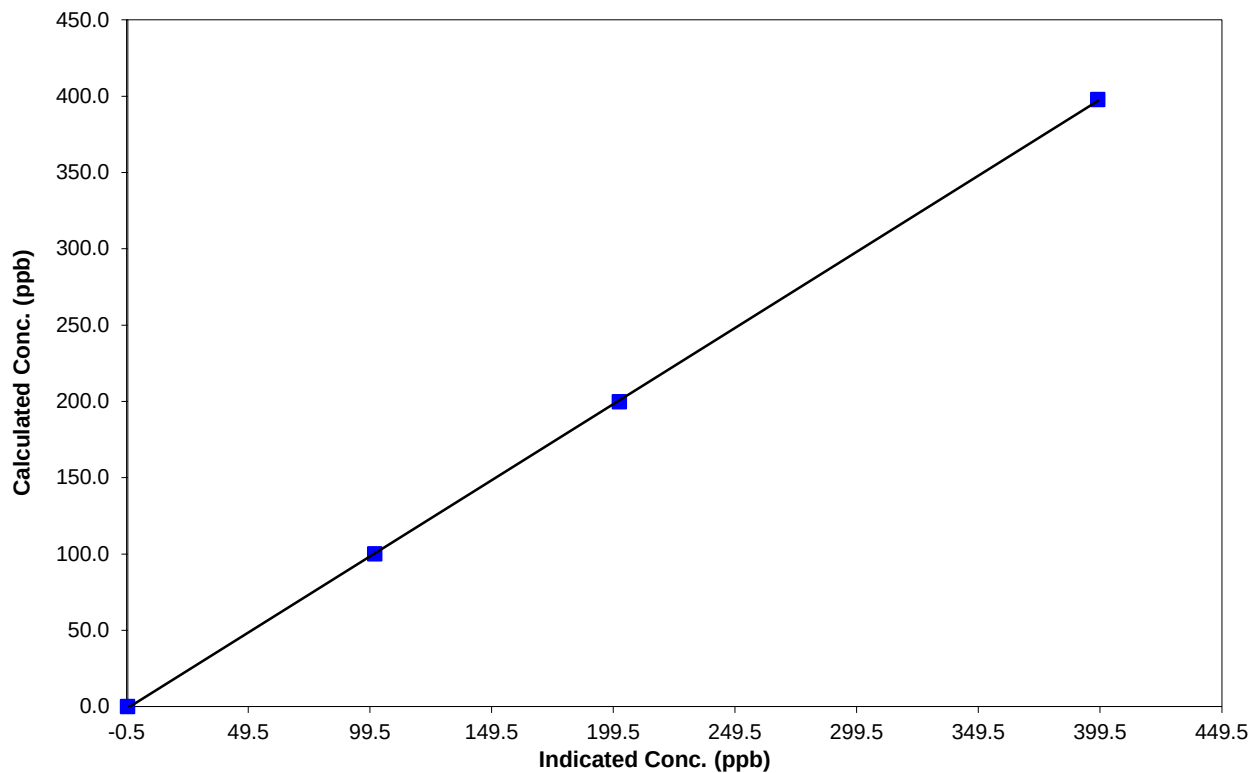
Station Information

Calibration Date	September 11, 2013	Previous Calibration	August 8, 2013
Station Number	9	Station Location	Sunset House
Start Time (MST)	11:30	End Time (MST)	17:45
Analyzer make	TEI 42i	Analyzer serial #	0701120011

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.1	N/A	Correlation Coefficient	0.999965
397.6	398.6	0.9974		
199.6	202.1	0.9878		
100.0	101.5	0.9850	Slope	0.997723
			Intercept	-0.826202

NO_x Calibration Curve



Calibration Summary

Parameter NO

Air Monitoring Network PAZA



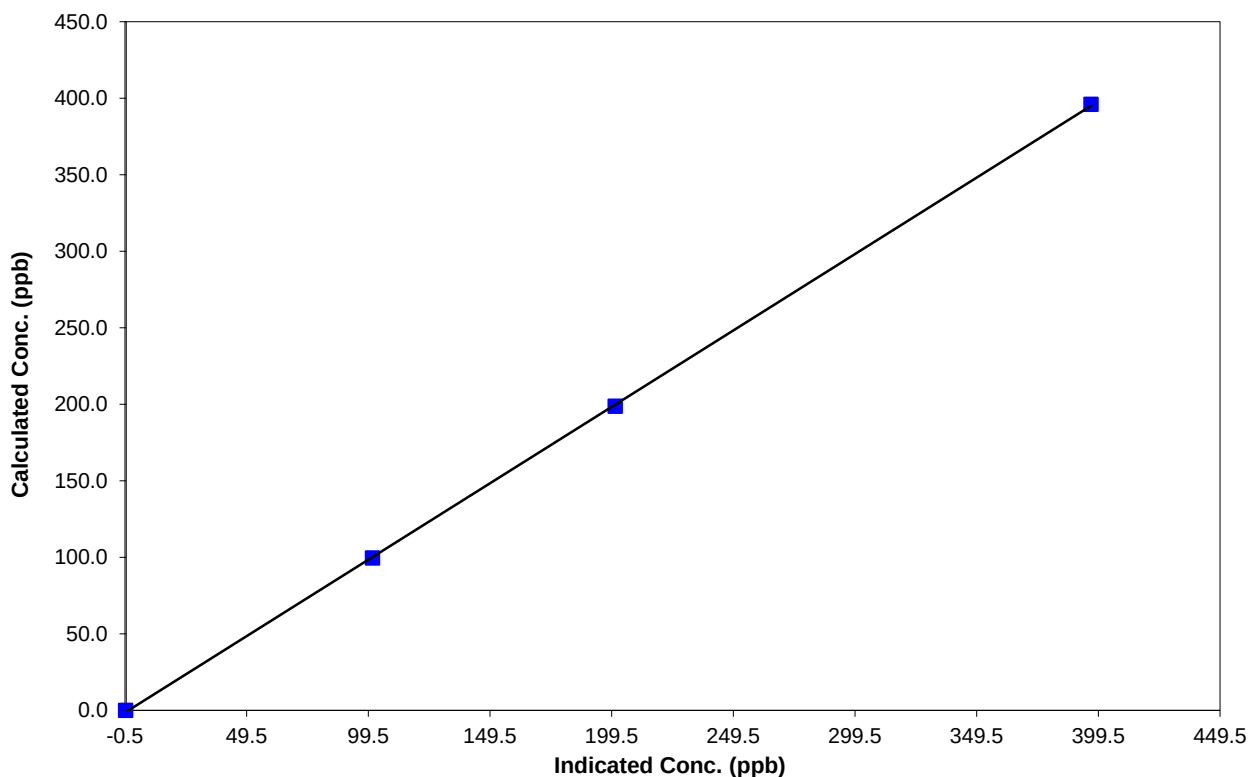
Station Information

Calibration Date	September 11, 2013	Previous Calibration	August 8, 2013
Station Number	9	Station Location	Sunset House
Start Time (MST)	11:30	End Time (MST)	17:45
Analyzer make	TEI 42i	Analyzer serial #	0701120011

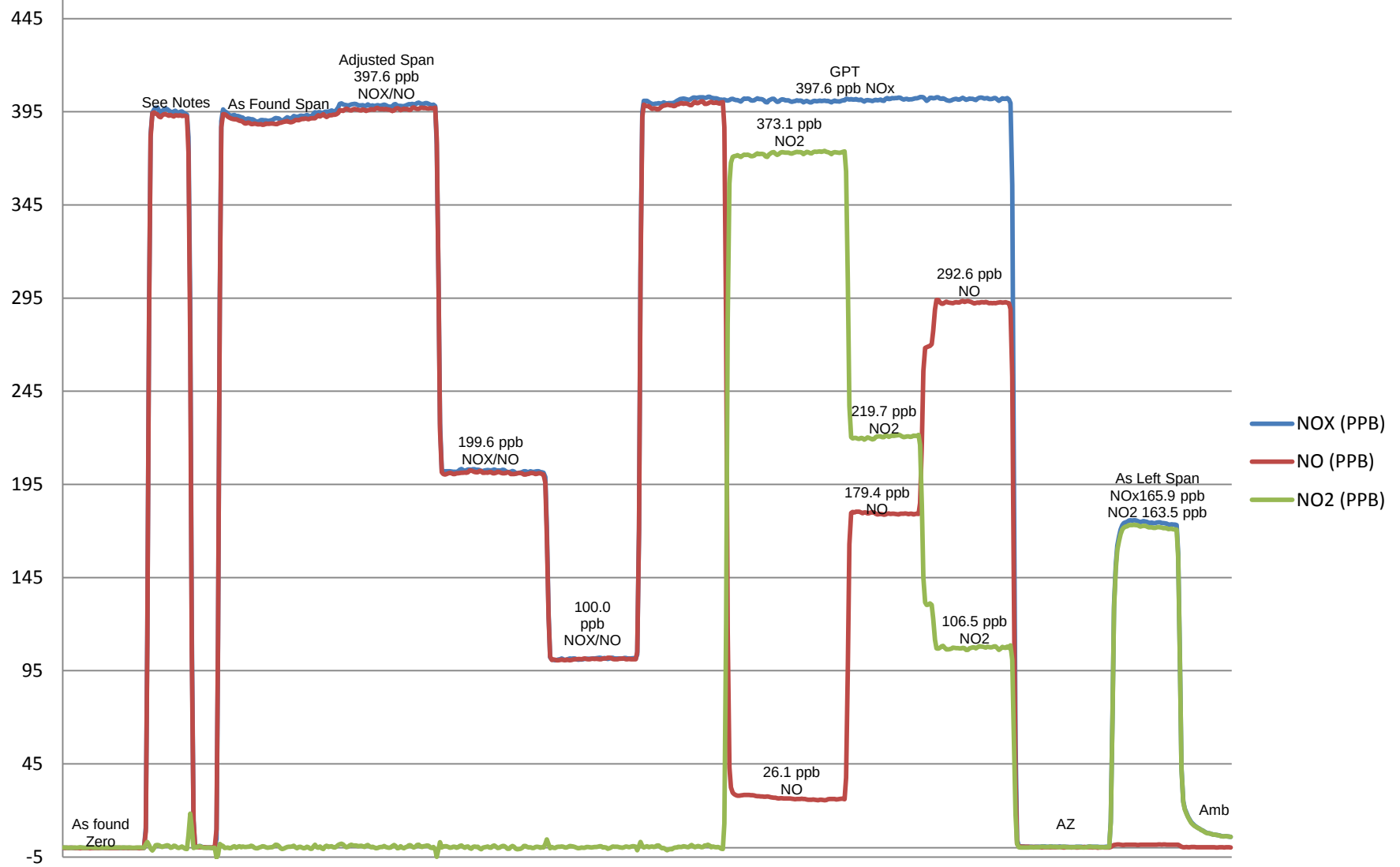
Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.1	N/A	Correlation Coefficient	0.999959
396.0	396.5	0.9987		
198.8	201.1	0.9888		
99.6	101.3	0.9831	Slope	0.999245
			Intercept	-0.958772

NO Calibration Curve



PAZA Sunset House NOx Calibration



September 11, 2013

Calibration Report



Parameter 03

Air Monitoring Network PAZA

Station Information

Calibration Date	September 12, 2013	Previous Calibration	August 8, 2013
Station Number	9	Station Location	Sunset House
Reason:	Routine	Install	Removal remove Other:
Start Time (MST)	10:00	End Time (MST)	13:00
Barometric Pressure	0.898 atm	Station Temperature	15.7 Deg C
Calibrator	Sabio	Serial Number	3951108
DACS make	CR3000	DACS serial No.	5407
DACS voltage range	0 - 5 Volts	DACS channel #	6
	Before		After
Calculated slope	0.991941	Calculated slope	1.006062
Calculated intercept	-0.454736	Calculated intercept	0.493024
Analyzer make	API Model 400a	Analyzer serial #	436

	before		after	
Concentration range	0-500	ppb	0-500	ppb
Offset	-2.8	ppb	-2.8	ppb
Slop	1.008		1.008	
Poto lamp temp	2934	Hz	52	C
O3 Gen temp	2937.9	Hz	48.2	Hz
Pressure	25.90	in Hg	25.90	in Hg
Flow	679.0	ccm	678.0	ccm
Photo Lamp Temp	52.0	cmm	NA	cmm

Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
5000	0.00	0.0	-0.5	N/A
5000	350 (0.95v)	373.1	370.4	1.0072
5000	230 (0.60v)	219.7	217.7	1.0093
5000	130 (0.40v)	130.8	129.6	1.0090
5000	0.00	0.0	-0.5	As found zero
5000	350 (0.95v)	373.1	370.4	As found span
Average Correction Factor				1.0085

Calculated value of As Found Response: 367.4 ppm Percent Change of As Found: -1.5%

	before calibration		after calibration	
Auto zero	-0.4	ppb	0.6	ppb
Auto span	143.8	ppb	148.0	ppb

Notes:

Calibration Performed By: Christopher Hendrickson

Calibration Summary

Parameter O3

Air Monitoring Network PAZA



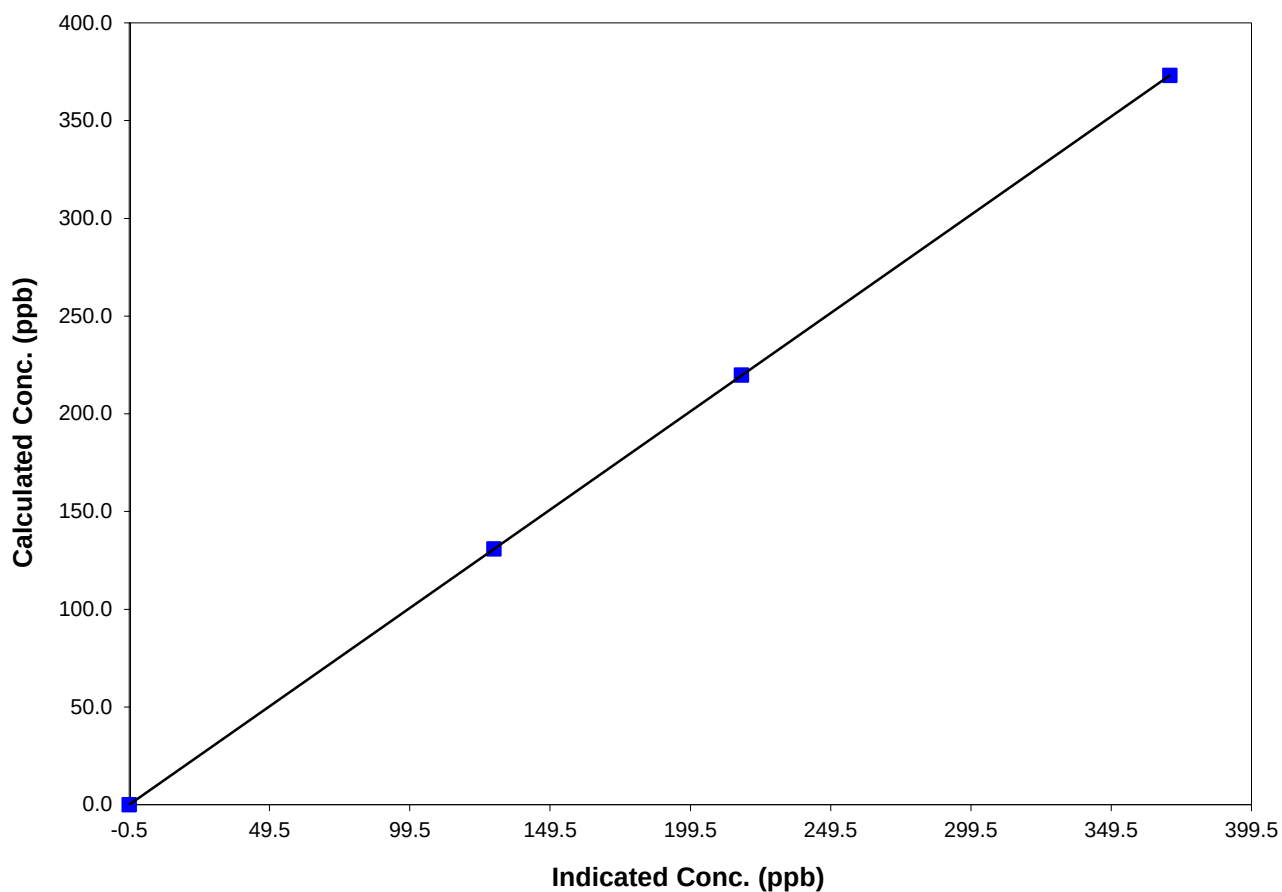
Station Information

Calibration Date	September 12, 2013	Previous Calibration	August 8, 2013
Station Number	9	Station Location	Sunset House
Start Time (MST)	10:00	End Time (MST)	13:00
Analyzer make/model	API Model 400a	Analyzer serial #	436

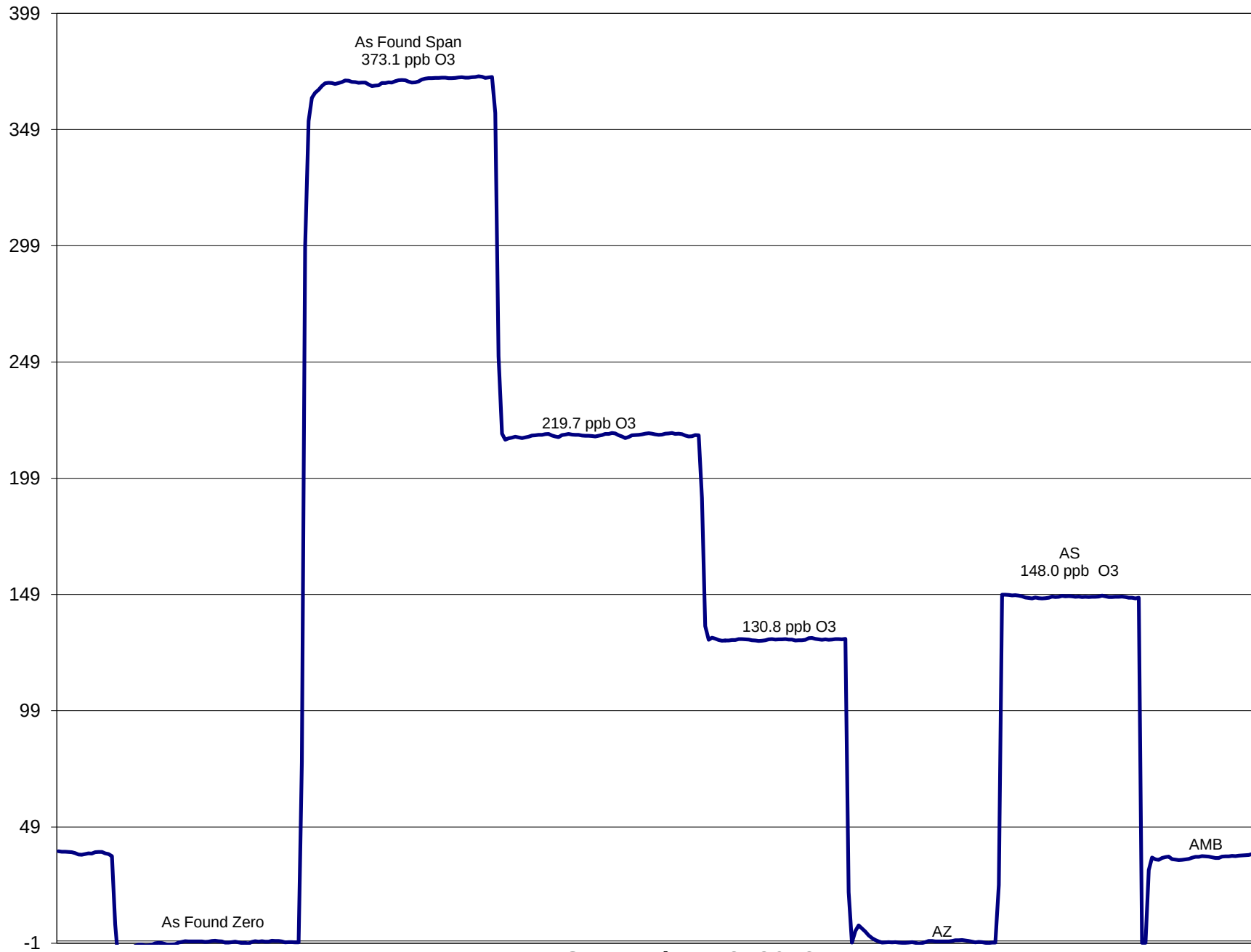
Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.5	NA		
373.1	370.4	1.0072	Correlation Coefficient	0.999999
219.7	217.7	1.0093		
130.8	129.6	1.0090	Slope	1.006062
			Intercept	0.493024

O3 Calibration Curve



O3 (PPB)



September 12, 2013

Calibration Report

Parameter **TRS**
Air Monitoring Network

PAZA



Station Information

Calibration Date	September 11, 2013	Previous Calibration	August 9, 2013
Station Name	PAZA Rover	Station Location	Sunset House
Reason:	Routine	Install	Removal
			Other:
Start Time (MST)	3:00 PM	End Time (MST)	18:15
Barometric Pressure	0.898 Atm	Station Temperature	20.0 Deg C
Calibrator	API	Serial Number	327
Cal Gas Concentration	10.19 ppm	Cal Gas Expiry Date	July/08/2016
Gas Cert Reference	BLM001121		
DACS make	CR3000	DACS serial No.	5407
DACS voltage range	0 - 5 Volt	DACS channel #	1
	Before		After
DACS Scale High	100	DACS slope	100
DACS Scale Low	0	DACS intercept	0
Calculated slope	0.988207	Calculated slope	1.009473
Calculated intercept	0.217208	Calculated intercept	-0.303910
Analyzer make	TEI 43C	Analyzer serial #	609716238

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Background	15.7	ppb	15.8	ppb
Coefficient	1.015		1.015	
Lamp Voltage	763	V	-585	V
Chamber Temp	43.9	C	44	C
Perm gas Temp	45	C	45	C
Pressure	649.5	mmHg	645.4	mmHg
Sample Flow	0.441	lpm	0.438	lpm
Lamp Intensity	38669	Hz	39800	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)
7000	0.0	0.0	-0.2	N/A
7000	55.00	79.4	78.6	1.0108
7000	28.00	40.6	41.2	0.9852
7000	10.00	14.5	14.9	0.9742
7000	14.00	103.0	0.6	Sox Test
7000	0.00	0.0	-0.2	As found zero
7000	55.00	79.4	78.7	As found span
Average Correction Factor				0.9901

Calculated value of As Found Response: 78.20 ppm Percent Change of As Found: 1.6%

	before calibration		after calibration	
Auto zero	0.1	ppm	-0.6	ppm
Auto span	65.4	ppm	62.9	ppm

Notes: No span adjust.

Calibration Performed By: Christopher Hendrickson

Calibration Summary

Parameter TRS

Air Monitoring Network PAZA



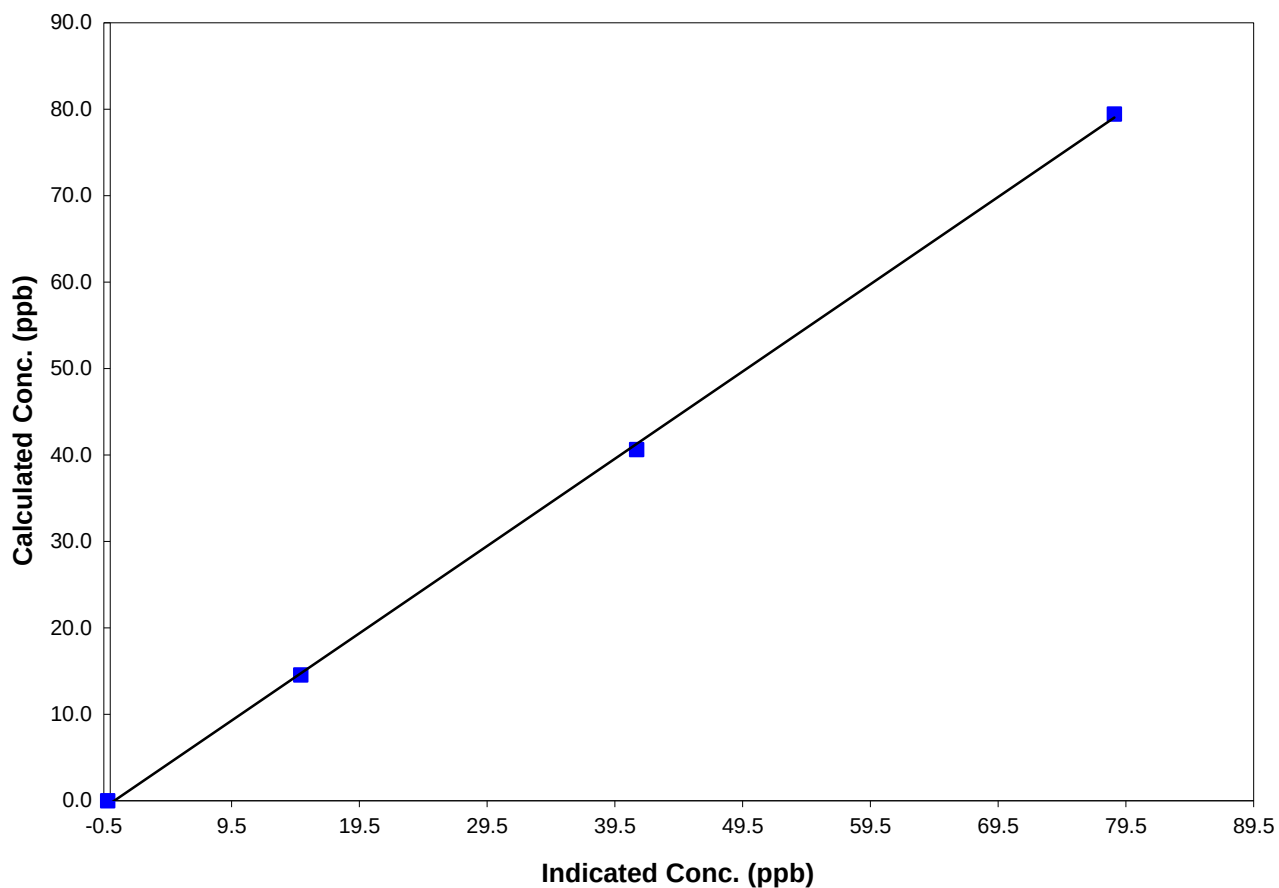
Station Information

Calibration Date	September 11, 2013	Previous Calibration	August 9, 2013
Station Number	PAZA Rover	Station Location	Sunset House
Start Time (MST)	15:00	End Time (MST)	18:15
Analyzer make/model	TEI 43C	Analyzer serial #	609716238

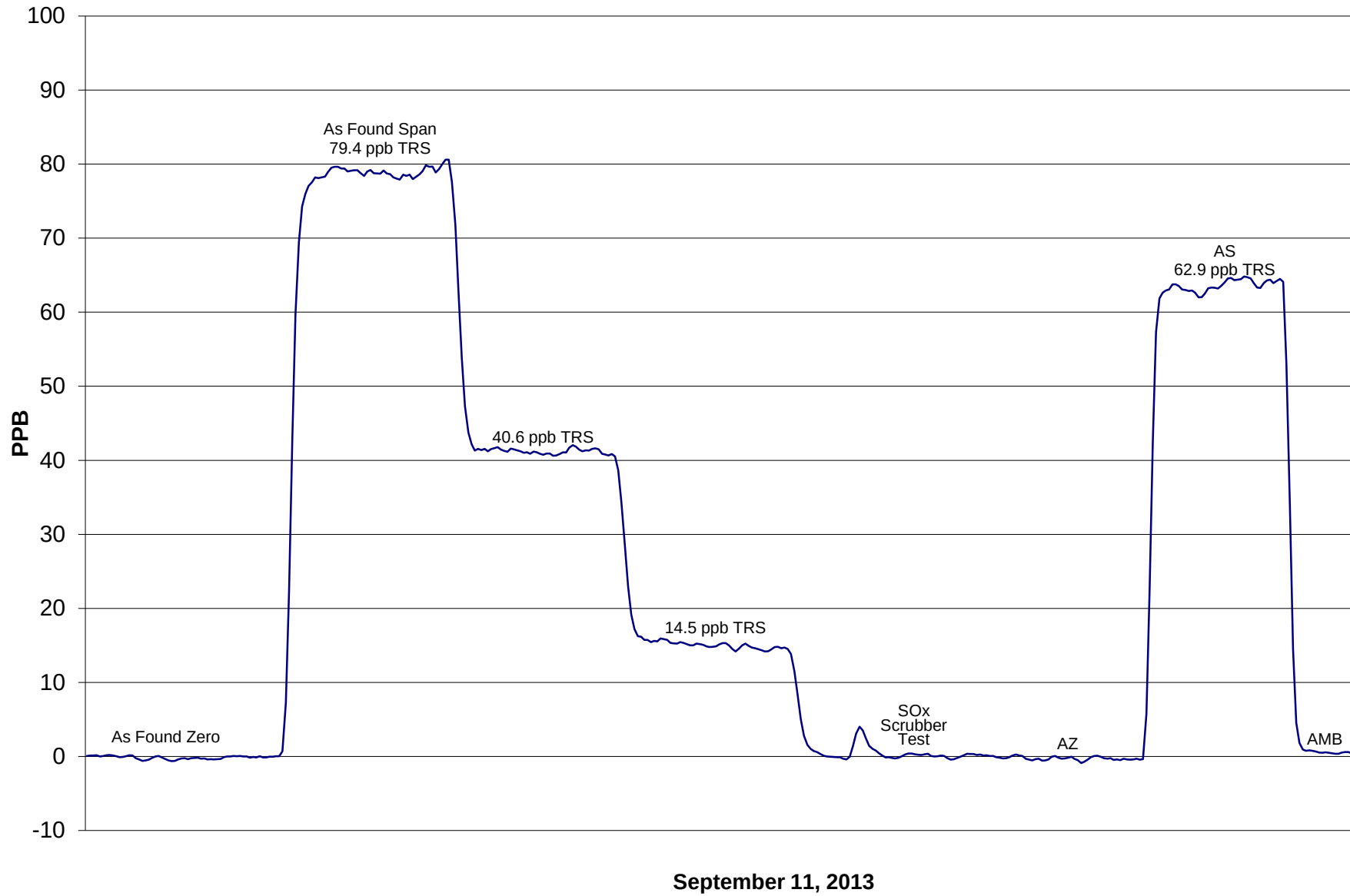
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.2	N/A		
79.4	78.6	1.0108	Correlation Coefficient	0.999736
40.6	41.2	0.9852		
14.5	14.9	0.9742	Slope	1.009473
			Intercept	-0.303910

TRS Calibration Curve



TRS Calibration



Calibration Report



Parameter SO₂

Air Monitoring Network PAZA

Station Information

Calibration Date	September 28, 2013	Previous Calibration	August 31, 2013
Station Number	1	Station Location	Falher
Reason:	Routine	Install	Removal
			Other:
Start Time (MST)	11:05	End Time (MST)	14:23
Barometric Pressure	0.931 ATM	Station Temperature	20.0 Deg C
Calibrator	EnviroNics	Serial Number	3474
Cal Gas Concentration	51.5 ppm	Cal Gas Expiry Date	25/02/2025
Correction factor	0.031647	Cal Gas Cylinder #	LL105159
DACS make	CR1000	DACS serial No.	3980
DACS voltage range	0 - 5 volt	DACS channel #	6
	Before		After
Calculated slope	0.991317	Calculated slope	0.994783
Calculated intercept	2.544579	Calculated intercept	1.978809
Analyzer make	Teco 43i	Analyzer serial #	1207452008

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
Background	6.6		6.4	
coefficient	0.936		0.903	
Lamp Voltage	836	volts	837	volts
Chamber Temp	45	Deg C	45	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	667.4	mm Hg	668.3	mm Hg
Sample Flow	0.413	ccm	0.413	ccm
Lamp Intensity	97	%	97	%

Dilution air flow rate (cc/min)	Corrected gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4995	0.0	0.00	0.6	N/A
4995	39.93	408.4	410.0	0.9960
4995	19.96	205.0	202.1	1.0142
4995	9.97	102.6	99.0	1.0360
4995	0.0	0.0	0.6	As Found Zero
4995	39.93	408.4	420.6	As Found Span
Average Correction Factor				1.0154

Calculated value of As Found Response: 418.869 ppm Percent Change of As Found: **-2.6%**

	before calibration		after calibration	
Auto zero	0.5	ppm	0.6	ppm
Auto span	359.4	ppm	351.3	ppm

Notes: Slight span adjustment made. Calibrator kicked out during second cal point.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter SO2

Air Monitoring Network PAZA



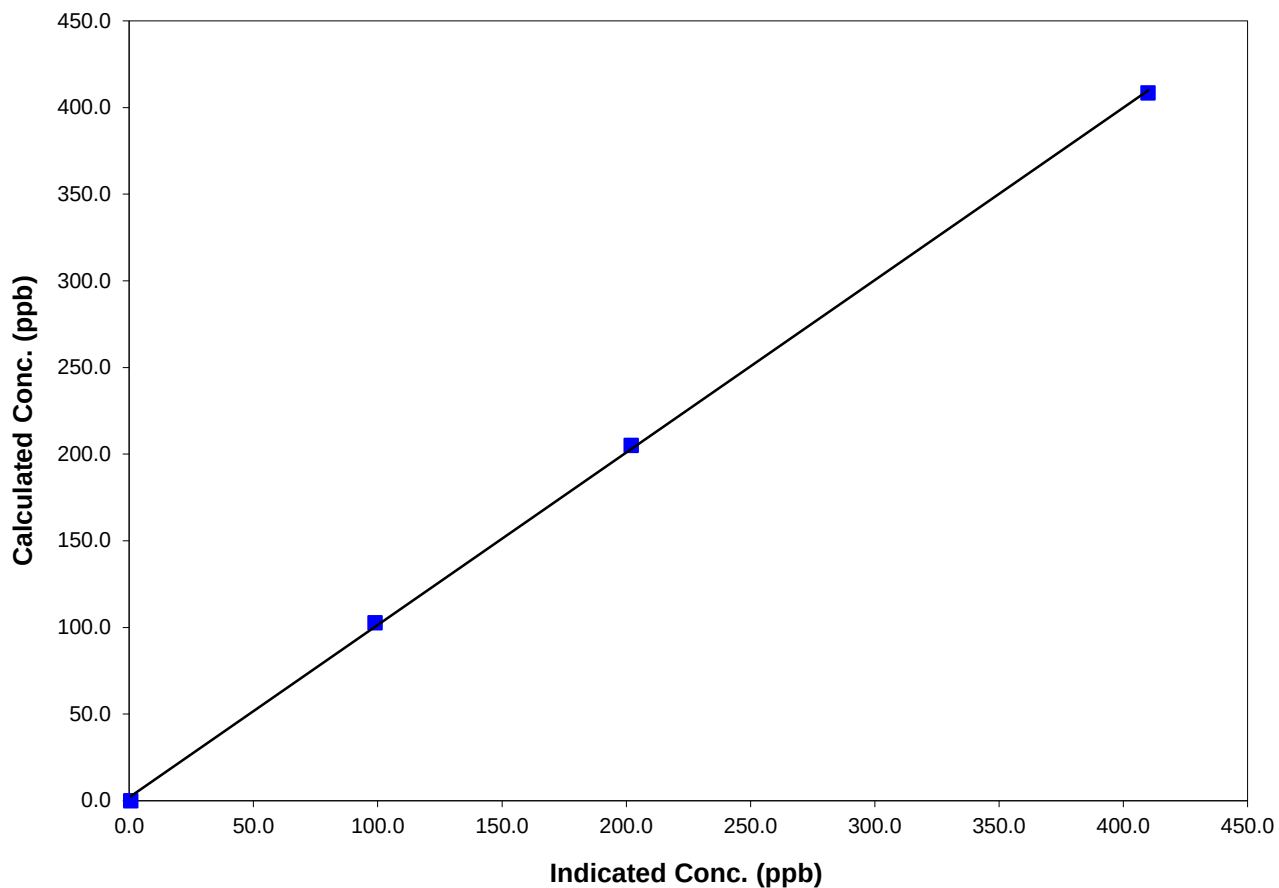
Station Information

Calibration Date	September 28, 2013	Previous Calibration	August 31, 2013
Station Number	1	Station Location	Falher
Start Time (MST)	11:05	End Time (MST)	14:23
Analyzer make/model	Teco 43i	Analyzer serial #	1207452008

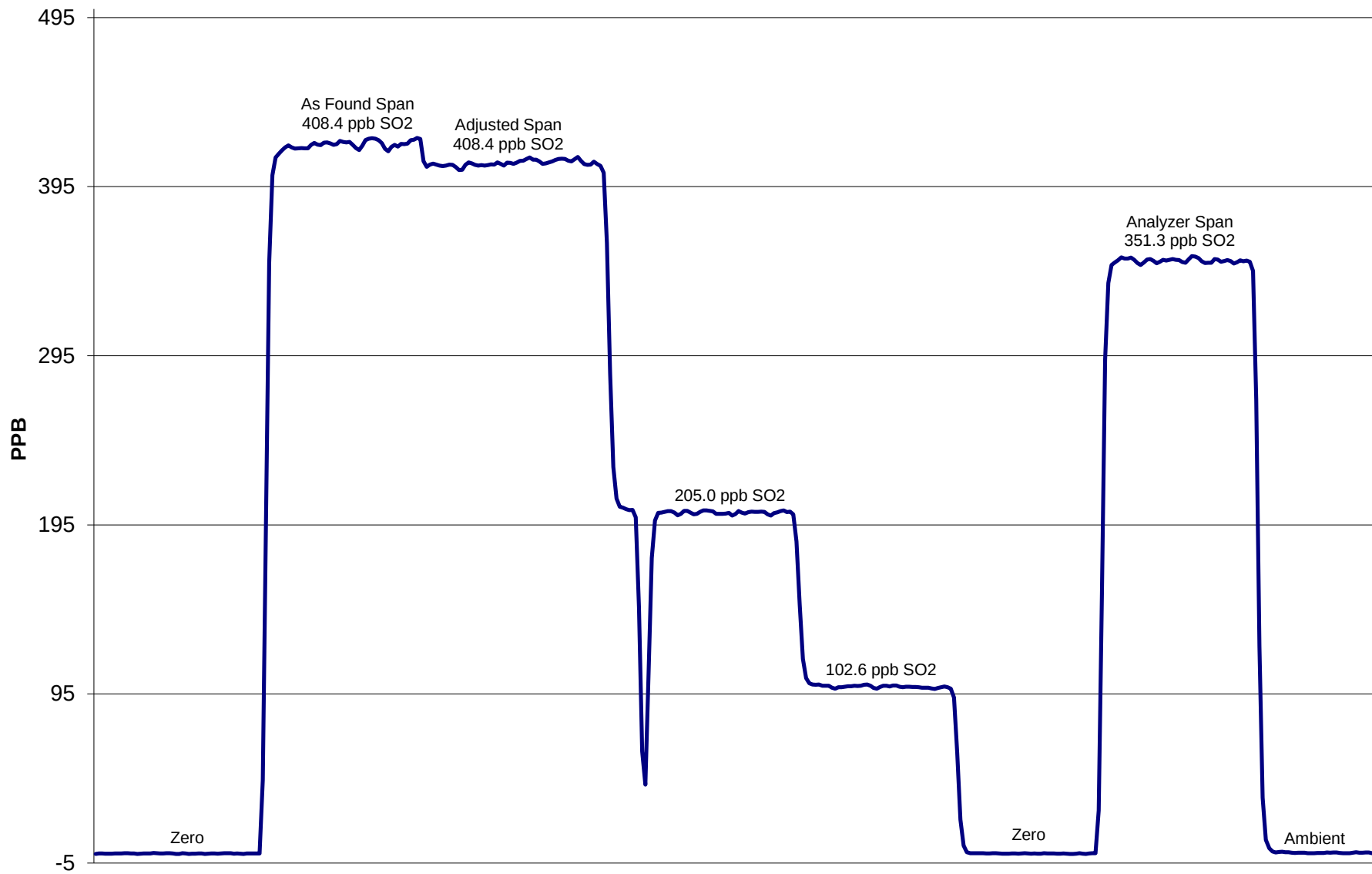
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.6	N/A	Correlation Coefficient	0.999814
408.4	410.0	0.9960		
205.0	202.1	1.0142		
102.6	99.0	1.0360	Slope	0.994783
			Intercept	1.978809

SO2 Calibration Curve



SO2 Calibration



September 28, 2013

Calibration Report



Parameter H2S

Air Monitoring Network PAZA

Station Information

Calibration Date	September 28, 2013	Previous Calibration	August 31, 2013
Station Number	1	Station Location	Falher
Reason:	Routine	Install	Removal
Start Time (MST)	9:05	End Time (MST)	12:41
Barometric Pressure	0.931 ATM	Station Temperature	20.0 Deg C
Calibrator	EnviroNics	Serial Number	3016
Cal Gas Conc	10.4 ppm	Cal Gas Expiry Date	08/07/2016
Correction factor	0.031647	Cal Gas Cylinder #	LL110781
DACS make	CR1000	DACS serial No.	3980
DACS voltage range	0 - 5 volt	DACS channel #	5
	<u>Before</u>		<u>After</u>
Calculated slope	1.000701	Calculated slope	0.969632
Calculated intercept	0.320824	Calculated intercept	-0.243450
Analyzer make	Thermo 450i	Analyzer serial #	1207452006

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Background	12.8	ppb	12.8	ppb
coefficient	1.169		1.169	
Lamp Voltage	792	volts	791	volts
Chamber Temp	45	Deg C	45	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	559.1	mm Hg	554	mm Hg
Sample Flow	0.919	ccm	0.912	ccm
Lamp Intensity	90	mv	91	mv

Calibration Data

Dilution air flow rate (cc/min)	Corrected gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4995	0.00	0.00	0.6	N/A
4995	39.93	82.48	85.4	0.9663
4995	19.96	41.39	42.9	0.9639
8994	8.97	10.36	10.6	0.9786
4995	0.00	0.00	0.6	As Found Zero
4995	39.93	82.48	85.4	As Found Span
Average Correction Factor				0.9696

Calculated value of As Found Response: 85.18 ppm Percent Change of As Found: **-3.3%**

	before calibration		after calibration	
Auto zero	0.0	ppm	0.4	ppm
Auto span	51.2	ppm	55.7	ppm

Notes: **No adjustment made. Sox scrubber was checked.**

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter H2S

Air Monitoring Network PAZA



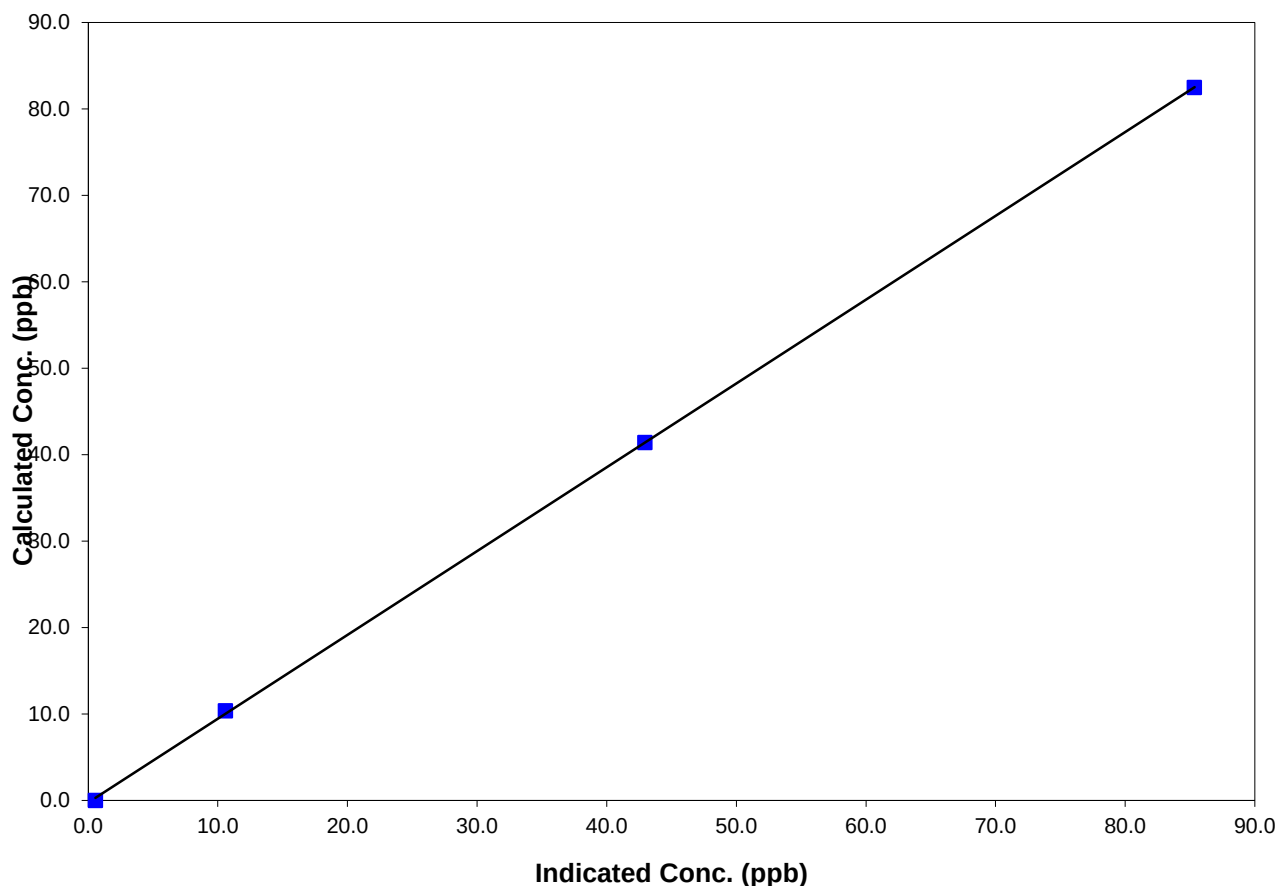
Station Information

Calibration Date	September 28, 2013	Previous Calibration	August 31, 2013
Station Number	1	Station Location	Falher
Start Time (MST)	9:05	End Time (MST)	12:41
Analyzer make/model	Thermo 450i	Analyzer serial #	1207452006

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.6	N/A	Correlation Coefficient	0.999950
82.5	85.4	0.9663		
41.4	42.9	0.9639		
10.4	10.6	0.9786	Slope	0.969632
			Intercept	-0.243450

TRS Calibration Curve



H2S Calibration

