



Peace Airshed Zone Association

Ambient Air Monitoring Network Summary

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

Operations and Reporting

FOCUS
AIR QUALITY MONITORING

August 27th, 2012

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

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

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

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

Company	Facility	LSD	AENV Approval Number
Advantage Oil & Gas Ltd.	Glacier	05-02-076-13-W6	262479-00-00
AltaGas Ltd.	Pouce Coupe	03-03-081-13-W6	247673-00-00
	Ante Creek	02-26-068-25-W5	266694-00-00
	Gordondale	16-31-78-11-W6M	287474-00-00
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	29-01-01
	Progress/Gordondale	01-01-077-10-W6	10036-02-00
	Gold Creek	13-26-067-05-W6	10446-02-00
	Teepee Creek	SE-2-074-04-W6	1635-02-02
Conocophillips Canada Energy Partnership	Wembley	06-19-073-08-W6	212-01-00
Devon Canada	Tangent	16-20-080-24-W5	11346-02-00
	NW Belloy (Dunvegan)	16-36-079-03-W6	9810-02-00

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

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

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

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

Henry Pirker Station:

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

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 July.

Smoky Heights Station:

- ◆ The measured ambient air quality was within the AAAQO for the Smoky Heights station except for PM_{2.5}, which had six (6) 1-hour exceedence and two (2) 24-hour exceedences of the AAAQO guideline:
 - o July 12 21:00 94.1 µg/m³ Alberta Environment Reference # 260663
 - o July 13 03:00 81.0 µg/m³ Alberta Environment Reference # 260663
 - o July 13 04:00 80.8 µg/m³ Alberta Environment Reference # 260675
 - o July 13 05:00 80.3 µg/m³ Alberta Environment Reference # 260675
 - o July 13 06:00 153.3 µg/m³ Alberta Environment Reference # 260675
 - o July 13 07:00 92.4 µg/m³ Alberta Environment Reference # 260675
 - o July 14 00:00 65.0 µg/m³ Alberta Environment Reference # 260731
 - o July 13 24-hour 51.7 µg/m³ Alberta Environment Reference # 260675
 - o July 14 24-hour 37.5 µg/m³ Alberta Environment Reference # 260731
- ◆ All analyzers and sensors at the Smoky Heights station had an operational uptime greater than 90% for the month of July.

Beaverlodge Station:

- ◆ The measured ambient air quality was within the AAAQO for the Beaverlodge station except for PM_{2.5}, which had two (2) 24-hour exceedences of the AAAQO guideline:
 - o July 13 24-hour 33.2 µg/m³ Alberta Environment Reference # 260732
 - o July 15 24-hour 35.8 µg/m³ Alberta Environment Reference # 260811
- ◆ All analyzers and sensors at the Beaverlodge station had an operational uptime greater than 90% for the month of July.

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 July.

Sunset House Station:

- ◆ The measured ambient air quality was within the AAAQO for the Sunset House station except for PM_{2.5}, which had four (4) 1-hour exceedence and two (2) 24-hour exceedences of the AAAQO guideline:
 - o July 14 06:00 81.3 µg/m³ Alberta Environment Reference # 260832
 - o July 14 07:00 85.0 µg/m³ Alberta Environment Reference # 260832
 - o July 14 08:00 87.3 µg/m³ Alberta Environment Reference # 260832
 - o July 14 09:00 86.5 µg/m³ Alberta Environment Reference # 260832
 - o July 13 24-hour 40.3 µg/m³ Alberta Environment Reference # 260831
 - o July 14 24-hour 42.8 µg/m³ Alberta Environment Reference # 260832
- ◆ All analyzers and sensors at the Sunset House station had an operational uptime greater than 90% for the month of July.

Passive Monitoring - 46 Stations throughout the PAZA zone:

There were five duplicate sites sampled in the month of July: Poplar, Saddle Hills, Wanham, High Prairie, 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 0.5 ppb, with a mean of 0.2 ppb.
- Monthly average concentrations for NO₂ passives ranged from 0.1 ppb to 1.3 ppb, with a mean of 0.4 ppb.
- Monthly average concentrations for O₃ passives ranged from 16.1 ppb to 33.2 ppb, with a mean of 23.4 ppb.
- Monthly average concentrations for H₂S passives ranged from 0.1 to 0.3 ppb, with a mean of 0.2 ppb.

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

On Behalf of the
Peace Airshed Zone Association



Shelly Pruden
Executive Director

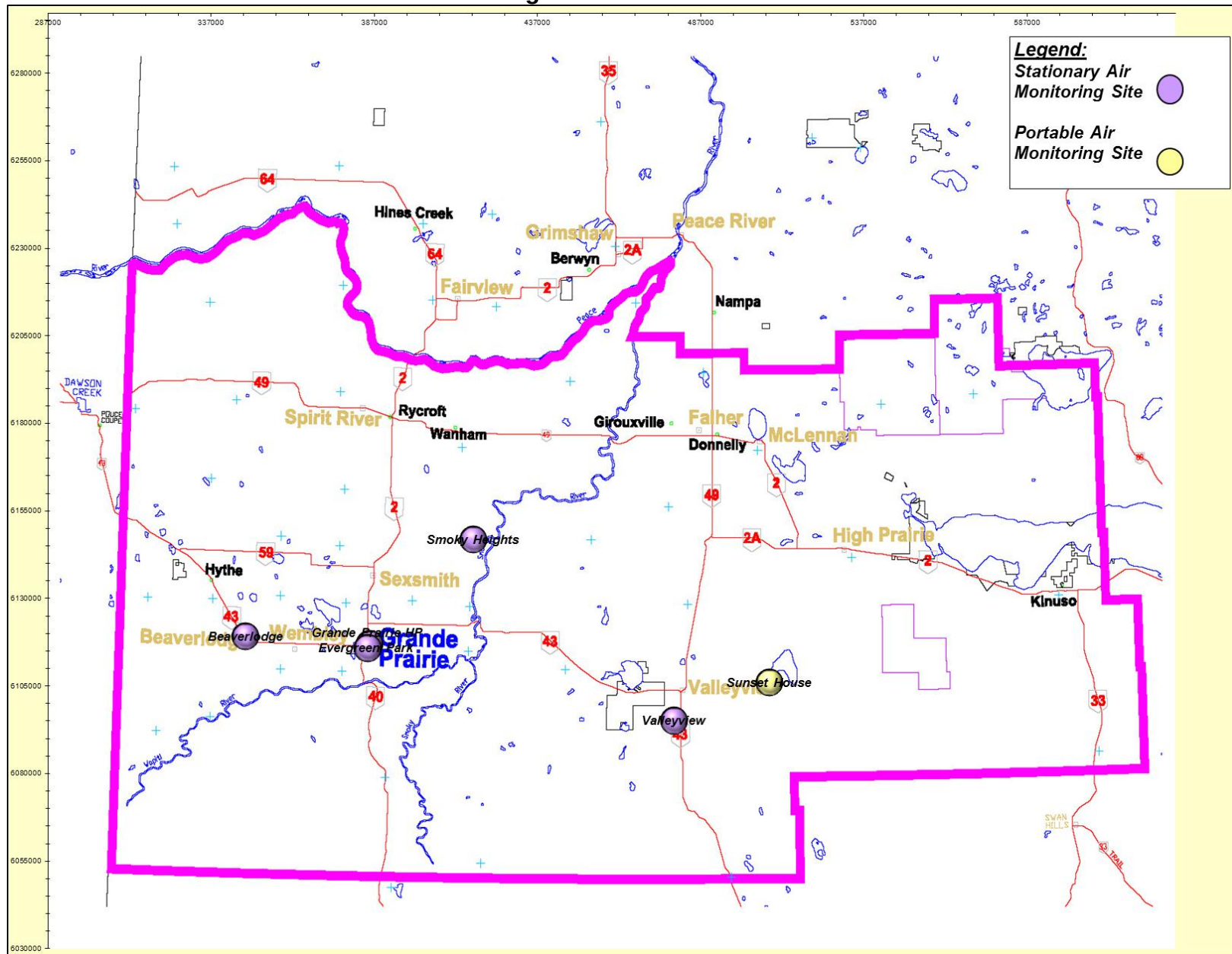


Patrick Andersen, B.Sc.
FOCUS AQM Data Specialist



Jeff Cooper, C.Tech.
AQM Operations Manager

Location of PAZA Continuous Monitoring Stations



PAZA Monthly Continuous Data Summary

Jul-2012Peace Airshed Zone Association							Maximum Recorded Values				
							1-hr		24-hr / 8-hr		
Pollutant (units)	Objectives		Station	Monthly Average	Exceedence		Conc	Day	Conc	Day	Operational Time (%)
	1-hr	24-hr			1-hr	24-hr					
SO ₂ (ppb)	172	48	Henry Pirker	0.1	0	0	3.6	Jul-30 09:00	0.9	Jul-29	100%
SO ₂ (ppb)	172	48	Evergreen Park	0.2	0	0	5.6	Jul-29 10:00	0.9	Jul-29	100%
SO ₂ (ppb)	172	48	Smoky Heights	0.2	0	0	4.7	Jul-31 07:00	0.7	Jul-31	99%
SO ₂ (ppb)	172	48	Beaverlodge	0.2	0	0	5.3	Jul-30 13:00	0.5	Jul-20	100%
SO ₂ (ppb)	172	48	Valleyview	0.4	0	0	6.7	Jul-05 00:00	2.2	Jul-04	100%
SO ₂ (ppb)	172	48	Sunset House	0.1	0	0	2.7	Jul-20 12:00	0.6	Jul-20	100%
NO (ppb)			Henry Pirker	0.9	0	0	11.9	Jul-19 07:00	1.6	Jul-09	100%
NO ₂ (ppb)	159	106	Henry Pirker	3.7	0	0	20.1	Jul-13 00:00	7.0	Jul-09	100%
NO _x (ppb)			Henry Pirker	4.5	0	0	27.3	Jul-09 07:00	8.5	Jul-09	100%
NO (ppb)			Beaverlodge	0.3	0	0	6.5	Jul-09 07:00	0.8	Jul-09	100%
NO ₂ (ppb)	159	106	Beaverlodge	2.2	0	0	13.8	Jul-08 01:00	3.8	Jul-09	100%
NO _x (ppb)			Beaverlodge	2.5	0	0	17.7	Jul-09 07:00	4.6	Jul-09	100%
NO (ppb)			Sunset House	0.1	0	0	0.8	Jul-13 17:00	0.2	Jul-06	100%
NO ₂ (ppb)	159	106	Sunset House	1.1	0	0	4.5	Jul-14 06:00	2.1	Jul-14	100%
NO _x (ppb)			Sunset House	1.2	0	0	4.7	Jul-14 06:00	2.1	Jul-14	100%
O ₃ (ppb)	82		Henry Pirker	22.5	0	-	50.0	Jul-09 17:00	30.8	Jul-15	100%
O ₃ (ppb) - 8-hr			Henry Pirker		0				44.7	Jul-09	
O ₃ (ppb)	82		Beaverlodge	31.0	0	-	69.1	Jul-09 23:00	45.7	Jul-09	100%
O ₃ (ppb) - 8-hr			Beaverlodge		0				63.6	Jul-10	
O ₃ (ppb)	82		Sunset House	30.4	0	-	67.0	Jul-23 23:00	50.1	Jul-14	100%
O ₃ (ppb) - 8-hr			Sunset House		0				53.7	Jul-10	
CO (ppm)	13		Henry Pirker	0.23	0	-	0.7	Jul-12 22:00	0.4	Jun-05	100%
CO (ppm) - 8-hr	5		Henry Pirker		0				0.5	Jul-13	
THC (ppm)			Henry Pirker	2.15	-	-	3.2	Jul-14 06:00	2.4	Jul-09	100%
TRS (ppb)			Henry Pirker	0.4	-	-	2.0	Jul-17 05:00	0.5	Jul-17	100%
TRS (ppb)			Evergreen Park	0.5	-	-	1.9	Jul-03 07:00	0.8	Jul-21	100%
TRS (ppb)			Smoky Heights	0.4	-	-	1.2	Jul-22 05:00	0.5	Jul-09	99%
TRS (ppb)			Sunset House	0.3	-	-	0.7	Jul-23 20:00	0.4	Jul-23	100%
H ₂ S (ppb)	10	3	Valleyview	0.0	0	0	0.7	Jul-24 21:00	0.0	Jul-24	100%
PM2.5 (µg/m3)	80	30	Henry Pirker	8.2	0	0	53.2	Jul-13 06:00	28.9	Jul-13	100%
PM2.5 (µg/m3)	80	30	Evergreen Park	9.1	0	0	68.4	Jul-21 20:00	27.9	Jul-13	99%
PM2.5 (µg/m3)	80	30	Smoky Heights	10.8	6	2	153.4	Jul-13 07:00	51.7	Jul-13	98%
PM2.5 (µg/m3)	80	30	Beaverlodge	13.8	0	2	70.8	Jul-15 19:00	35.8	Jul-15	99%
PM2.5 (µg/m3)	80	30	Sunset House	8.9	4	2	87.0	Jul-14 09:00	43.2	Jul-14	98%

PAZA Monthly Continuous Data Summary – continued

Jul-2012Peace Airshed Zone Association							Maximum Recorded Values				
							1-hr		24-hr / 8-hr		
RH (%)			Henry Pirker	60.4	-	-	90.8	Jul-24 03:00	84.1	Jul-03	100%
RH (%)			Evergreen Park	63.6	-	-	97.8	Jul-24 03:00	91.0	Jul-03	100%
RH (%)			Beaverlodge	63.7	-	-	100.0	Jul-16 04:00	91.5	Jul-03	100%
RH (%)			Valleyview	70.9	-	-	100.0	Jul-03 07:00	94.5	Jul-23	100%
SR (W/m ²)			Henry Pirker	237.3	-	-	892.7	Jul-01 14:00	314.9	Jul-06	100%
Temp (°C)			Henry Pirker	19.3	-	-	33.2	Jul-09 17:00	23.9	Jul-09	100%
Temp (°C)			Evergreen Park	18.5	-	-	31.8	Jul-09 18:00	23.1	Jul-09	100%
Temp (°C)			Smoky Heights	18.2	-	-	32.5	Jul-09 18:00	23.0	Jul-09	99%
Temp (°C)			Beaverlodge	18.7	-	-	32.3	Jul-09 18:00	24.3	Jul-09	100%
Temp (°C)			Valleyview	18.8	-	-	33.3	Jul-09 17:00	24.1	Jul-09	100%
Temp (°C)			Sunset House	18.0	-	-	32	Jul-09 15:00	25.0	Jul-09	100%
WSPD s (km/hr)			Henry Pirker	8.9	-	-	28.0	Jul-04 11:00	21.1	Jul-04	100%
WSPD s (km/hr)			Evergreen Park	11.1	-	-	42.0	Jul-04 17:00	30.5	Jul-04	100%
WSPD s (km/hr)			Smoky Heights	10.7	-	-	37.0	Jul-04 04:00	25.4	Jul-04	99%
WSPD s (km/hr)			Beaverlodge	10.5	-	-	40.0	Jul-10 17:00	21.6	Jul-04	100%
WSPD s (km/hr)			Valleyview	5.4	-	-	20.0	Jun-27 12:00	13.2	Jun-27	100%
WSPD s (km/hr)			Sunset House	9.8	-	-	24.0	Jul-17 01:00	14.4	Jul-17	100%
WSPD v (km/hr)			Henry Pirker	3.3	-	-	28.0	Jul-04 11:00	20.3	Jul-04	100%
WSPD v (km/hr)			Evergreen Park	5.2	-	-	41.0	Jul-04 17:00	29.7	Jul-04	100%
WSPD v (km/hr)			Smoky Heights	5.0	-	-	37.0	Jul-04 04:00	24.0	Jul-04	99%
WSPD v (km/hr)			Beaverlodge	2.8	-	-	39.0	Jul-10 17:00	21.0	Jul-04	100%
WSPD v (km/hr)			Valleyview	1.4	-	-	19.0	Jul-04 13:00	12.2	Jul-04	100%
WSPD v (km/hr)			Sunset House	2.3	-	-	24.0	Jul-17 01:00	12.6	Jul-16	100%
WDIR			Henry Pirker	W	-	-	-	-	-	-	100%
WDIR			Evergreen Park	W	-	-	-	-	-	-	100%
WDIR			Smoky Heights	WSW	-	-	-	-	-	-	99%
WDIR			Beaverlodge	WNW	-	-	-	-	-	-	100%
WDIR			Valleyview	WNW	-	-	-	-	-	-	100%
WDIR			Sunset House	S	-	-	-	-	-	-	100%

Continuous Network Equipment Summary

PAZA – Henry Pirker Station

General Station Issues

Routine monthly calibrations were performed on July 22nd (SO₂, NO_x, O₃, TRS & CO) and July 23rd (THC).

Parameter	Make	Model	Notes
SO ₂	TEI	43C	No operational issues observed.
NOx/NO/NO ₂	TEI	42C	Zero/Span trouble call July 18 th . Spans stabilized on July 21 st . Analyzer problems during calibration.
O ₃	TEI	49C	No operational issues observed.
CO	TEI	48C	No operational issues observed.
THC	TEI	51-CLT	No operational issues observed.
TRS	TEI	45C/43C	No operational issues observed.
PM _{2.5}	Sharp	5030	No operational issues observed. Head not cleaned and flows not performed due to heavy weather on day of calibration.
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 July 24th (PM_{2.5}) and July 27th (SO₂). The TRS analyzer was replaced on July 24th and recalibrated on July 25th.

Parameter	Make	Model	Notes
SO ₂	TEI	43i	No operational issues observed.
TRS	TEI	43C	Perm Tube replaced on July 18 th . Analyzer failed to respond appropriately to calibration on July 24 th and was replaced the same day. Recalibrated on July 25 th after rebuild of oxidizer. Minor leak repaired on July 27 th .
PM _{2.5}	R&P	1400AB	Seven (7) hours were flagged invalid due to negative readings.
ET	Met One/Gill	083D	No operational issues observed.
RH	Met One/Gill		No operational issues observed.
WS / WD	Met One/ Gill		No operational issues observed.

PAZA – Smoky Heights Station

General Station Issues

Routine monthly calibrations were performed on July 29th (SO₂ and TRS). Power bump on July 18th resulted in DAS irregularity, invalidating 5 hours of station data.

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	Twelve (12) hours flagged invalid due to negative readings. Six (6) 1-hour and Two (2) 24-hour exceedences were recorded. AE Reference #260663,260675,260731
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 July 28th (SO₂, NO_x, O₃). Lightning strike/power outage caused a 3 hour station outage on July 18th.

Parameter	Make	Model	Notes
SO ₂	TEI	43CTL	No operational issues observed.
NOx/NO/NO ₂	TEI	42C	No operational issues observed.
O ₃	TEI	49C	No operational issues observed.
PM _{2.5}	R&P	1400AB	One (1) hour flagged invalid due to negative readings. Two (2) 24-hour exceedences were recorded. AE Reference #260732, 260811
ET	n/a	n/a	No operational issues observed.
RH	n/a	n/a	No operational issues observed.
WS / WD	Blue Sky	857	No operational issues observed.

PAZA – Valleyview Station

General Station Issues

Routine monthly calibrations were performed on July 30th (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 July 31st (SO₂, O₃, NO_x, TRS).

Parameter	Make	Model	Notes
SO ₂	TEI	43i	No operational issues observed.
O ₃	TEI	49C	No operational issues observed.
TRS	TEI	39C	No operational issues observed.
PM _{2.5}	R&P	1400AB	Nineteen (19) hours flagged invalid due to negative readings. Six (6) 1-hour and Two (2) 24-hour exceedences were recorded. AE Reference #260831,260832
ET	Gill	Met Pak 3	No operational issues observed.
WS / WD	Gill	Met Pak 3	No operational issues observed.

PAZA

Henry Pirker Station

Monthly Summary Tables, Graphs and
Roses

Hourly Averages

Sulphur Dioxide (SO₂) - ppb

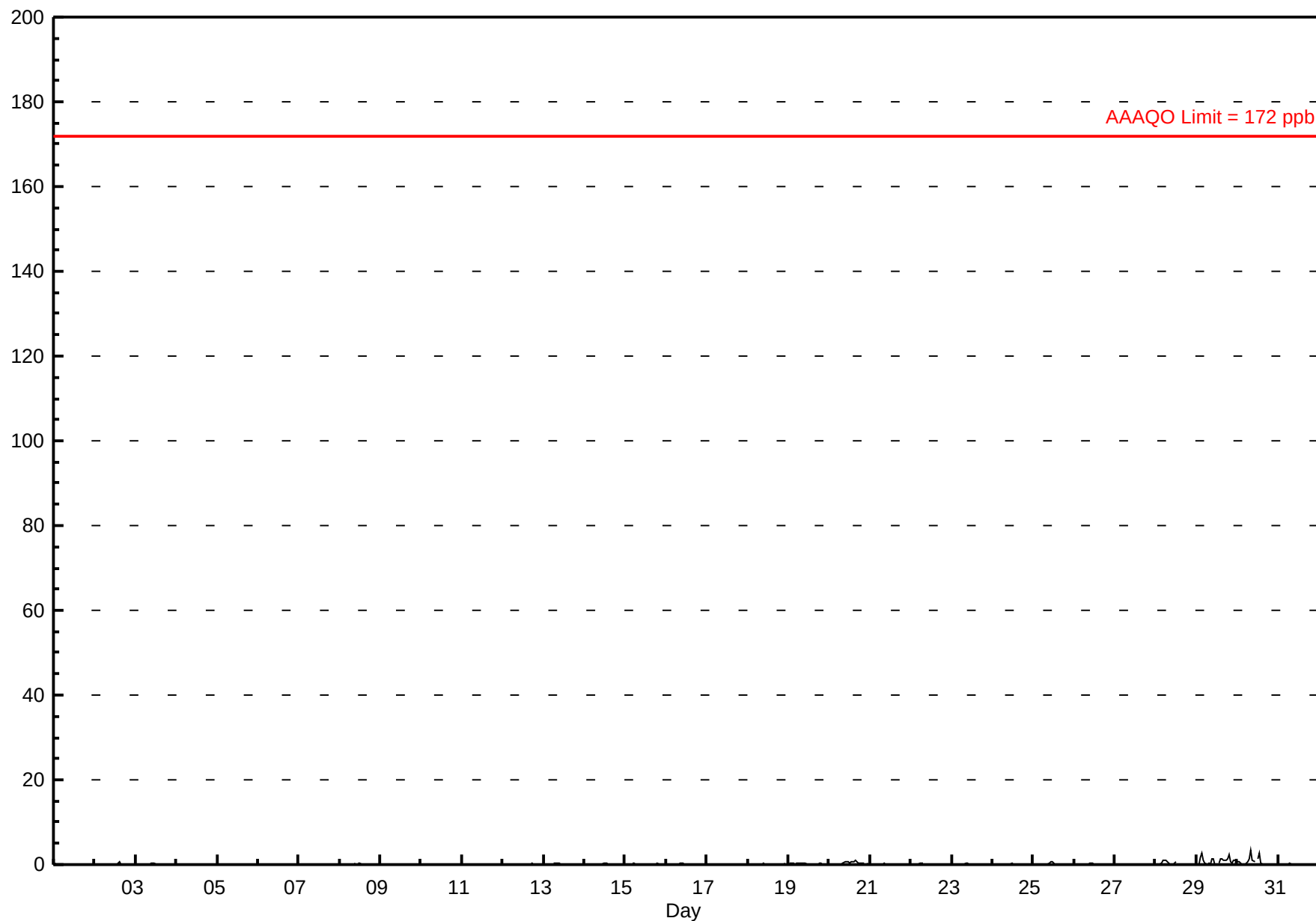
Henry Pirker - July 2012

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																			Hours in Service: 744									
Maximum Value: 3.6 ppb on Jul 30 09:00																			Maximum Daily Average: 0.9 ppb on Jul 29					Hours of Data: 707				
Minimum Value: 0 ppb on Jul 1 03:00																			Minimum Daily Average: 0.0 ppb on Jul 4					Hours of Missing Data: 37				
Maximum Diurnal Average: 0.2 ppb at hour 10																			Minimum Diurnal Average: 0.0 ppb at hour 22					Hours of Calibration: 37				
Monthly Average: 0.11 ppb																			Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 0.1 P ₉₀ = 0.3 P ₉₉ = 1.5					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-Jul	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	0.2		
2-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	A	0	0	0	0	0	0	0	0.1	0.6		
3-Jul	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		
4-Jul	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		
5-Jul	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	0.1		
6-Jul	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1		
7-Jul	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1		
8-Jul	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	0.4		
9-Jul	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		
10-Jul	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1		
11-Jul	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1		
12-Jul	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		
13-Jul	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		
14-Jul	0	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		
15-Jul	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	0.3		
16-Jul	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		
17-Jul	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		
18-Jul	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2		
19-Jul	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		
20-Jul	0	0	0	0	0	0	0	0	0	1	1	1	0	1	1	1	1	0	0	0	0	A	0	0	0.4	0.9		
21-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.0	0.3		
22-Jul	0	0	0	0	0	0	0	0	C	C	C	C	C	0	0	0	0	0	0	A	0	0	0	0	0.1	0.3		
23-Jul	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	0.2		
24-Jul	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	0.5		
25-Jul	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	A	0	0	0	0	0	0	0	0.1	0.7		
26-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.0	0.3		
27-Jul	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		
28-Jul	0	0	0	0	1	1	1	1	0	0	0	0	1	A	0	0	0	0	0	0	0	0	0	0	0.2	1.1		
29-Jul	0	0	2	3	1	0	0	0	0	1	1	0	A	0	1	2	1	1	1	2	1	0	1	1	0.9	2.7		
30-Jul	1	1	0	0	0	0	1	1	4	1	1	A	1	3	0	0	0	0	0	0	0	0	0	0	0.6	3.6		
31-Jul	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		
0.0 0.0 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.2 0.2 0.2 0.1 0.2 0.2 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.0 0.1 0.0																									Diurnal Average			
0.7 0.6 1.7 2.7 1.1 0.9 0.9 1.4 3.6 1.3 1.5 0.7 1.3 2.7 1.2 1.5 1.2 0.9 1.3 2.3 0.6 0.4 0.9 1.0																									Diurnal Maximum			
C - Calibration A - Automated Daily Zero Span																												
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb 30-day 11 ppb																												

Hourly Averages

Sulphur Dioxide (SO₂) - ppb

Henry Pirker - July 2012



Hourly Maximums

Sulphur Dioxide (SO₂) - ppb

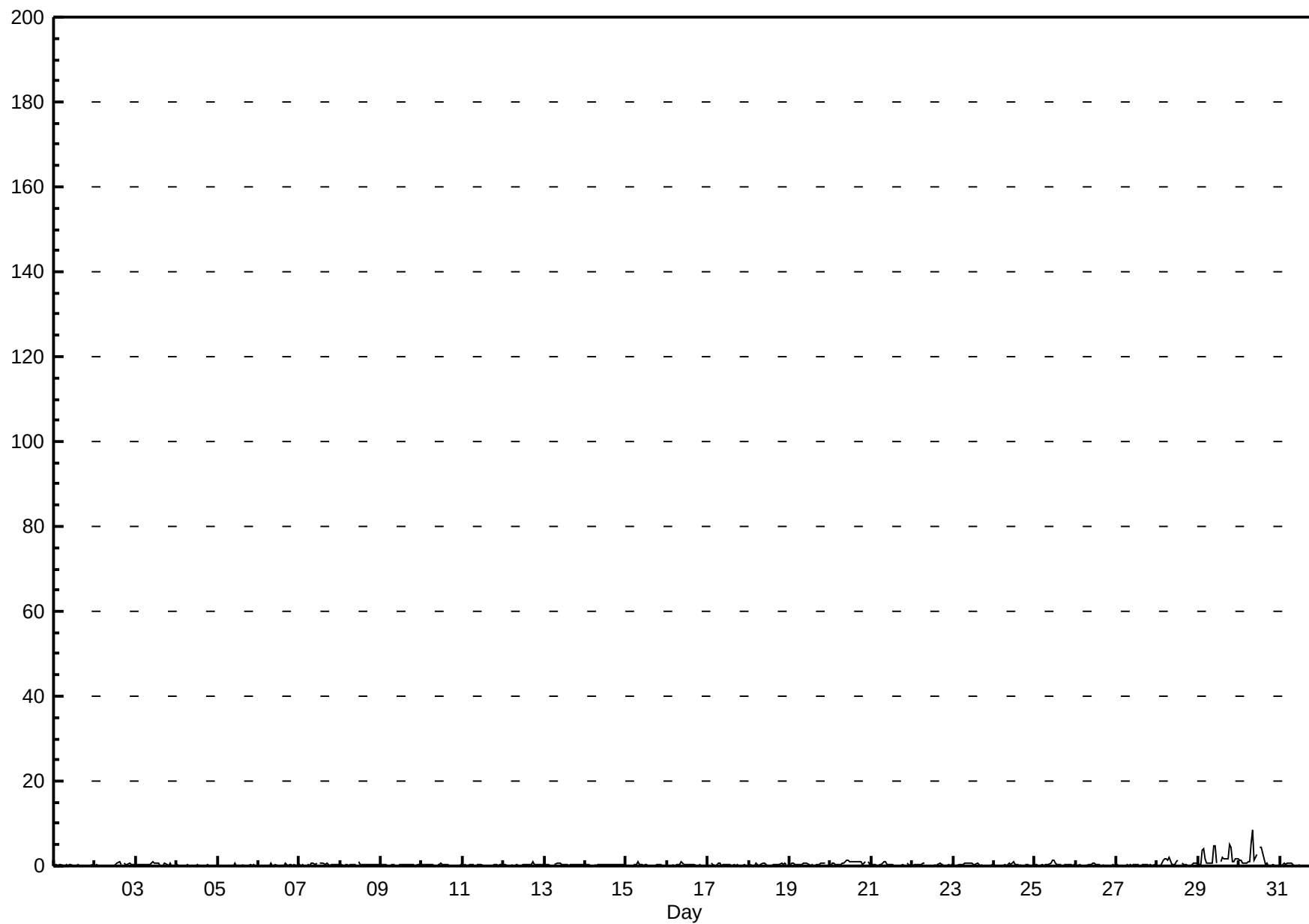
Henry Pirker - July 2012

Maximum Value: 8.5 ppb on Jul 30 09:00																			Maximum Daily Average: 1.9 ppb on Jul 29																			Hours in Service: 744	
Minimum Value: 0 ppb on Jul 9 05:00																			Minimum Daily Average: 0.1 ppb on Jul 4																			Hours of Data: 707	
Maximum Diurnal Average: 0.7 ppb at hour 11																			Minimum Diurnal Average: 0.3 ppb at hour 1																			Hours of Missing Data: 37	
Monthly Average: 0.41 ppb																			Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 0.3 Q ₃ = 0.5 P ₉₀ = 0.6 P ₉₉ = 4.4																			Hours of Calibration: 37	
																																						Percent Operational Time: 100.0	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24															
1-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0.2	0.5													
2-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	A	1	0	0	1	0	0	0	0.3	1.1													
3-Jul	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	A	0	1	0	0	1	0	0	0	0.3	1.1													
4-Jul	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													
5-Jul	0	0	0	0	0	0	0	0	0	0	1	0	0	A	0	0	0	0	0	0	0	0	0	0	0.2	0.5													
6-Jul	0	0	0	0	0	0	0	1	0	0	0	0	A	0	0	0	1	0	0	0	0	0	0	1	0.2	0.6													
7-Jul	0	0	0	0	0	0	0	1	1	0	1	A	1	1	1	0	1	0	0	0	0	0	0	0	0.3	0.5													
8-Jul	0	0	0	0	0	0	0	0	0	0	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0.4	1.0													
9-Jul	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.4													
10-Jul	0	0	0	0	0	0	0	0	A	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.8													
11-Jul	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.5													
12-Jul	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	0.9													
13-Jul	0	0	0	0	0	A	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.8													
14-Jul	0	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													
15-Jul	0	0	0	A	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.9													
16-Jul	0	0	A	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.0													
17-Jul	0	A	1	0	0	0	1	1	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0.2	0.5													
18-Jul	A	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	0	1	0	A	0.3	0.8													
19-Jul	0	1	1	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	1	1	1	1	A	0	0.4	0.7													
20-Jul	0	1	1	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	0	1	A	1	0	0.7	1.5													
21-Jul	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	A	1	0	0	0.3	1.0													
22-Jul	0	0	0	0	0	0	1	1	C	C	C	C	C	0	0	0	1	0	0	A	0	0	0	0	0.3	0.8													
23-Jul	0	0	0	0	0	0	0	1	1	1	1	1	0	0	1	0	0	1	A	0	0	0	0	0	0.3	0.5													
24-Jul	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	A	0	0	0	0	0	0	0.2	0.9													
25-Jul	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	A	0	0	0	0	0	0	0	0.4	1.3													
26-Jul	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	A	0	0	0	0	0	0	0	0	0.2	0.7													
27-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.3	0.5													
28-Jul	0	0	0	1	2	2	1	2	0	0	0	1	1	A	1	0	0	0	0	0	0	1	1	1	0.7	2.0													
29-Jul	0	0	4	4	2	1	1	1	1	5	5	1	A	1	2	2	2	2	5	5	1	1	2	2	1.9	5.1													
30-Jul	1	2	1	1	1	1	1	5	8	1	3	A	4	4	3	1	1	0	0	0	0	0	0	0	1.7	8.5													
31-Jul	0	0	1	0	1	1	1	1	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.6													
0.3 0.3 0.3 0.4 0.3 0.3 0.4 0.7 0.7 0.6 0.7 0.5 0.6 0.5 0.5 0.3 0.3 0.4 0.4 0.4 0.3 0.3 0.3 0.3																								Diurnal Average															
1.4 1.5 3.9 4.1 1.6 1.6 1.5 5.5 8.5 4.6 4.6 1.3 4.5 4.5 3.0 1.6 1.6 1.6 5.1 4.6 1.1 1.0 1.5 1.5																								Diurnal Maximum															
C - Calibration																								A - Automated Daily Zero Span															

Hourly Maximums

Sulphur Dioxide (SO₂) - ppb

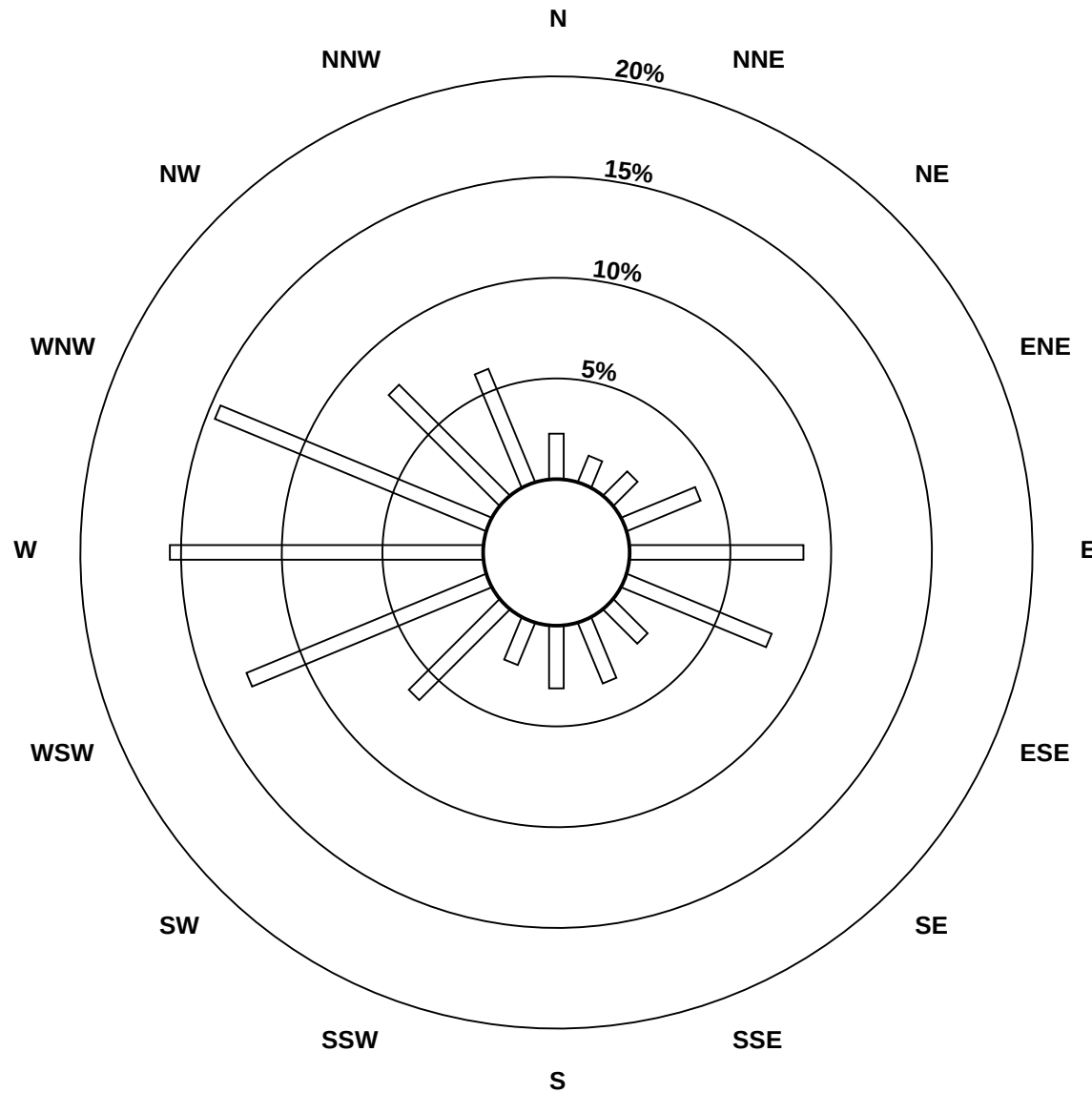
Henry Pirker - July 2012



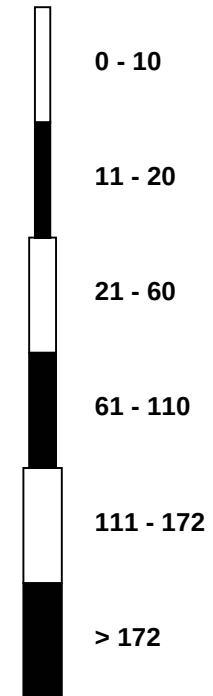
Pollutant Rose

Sulphur Dioxide (SO₂) - ppb

Henry Pirker - July 2012

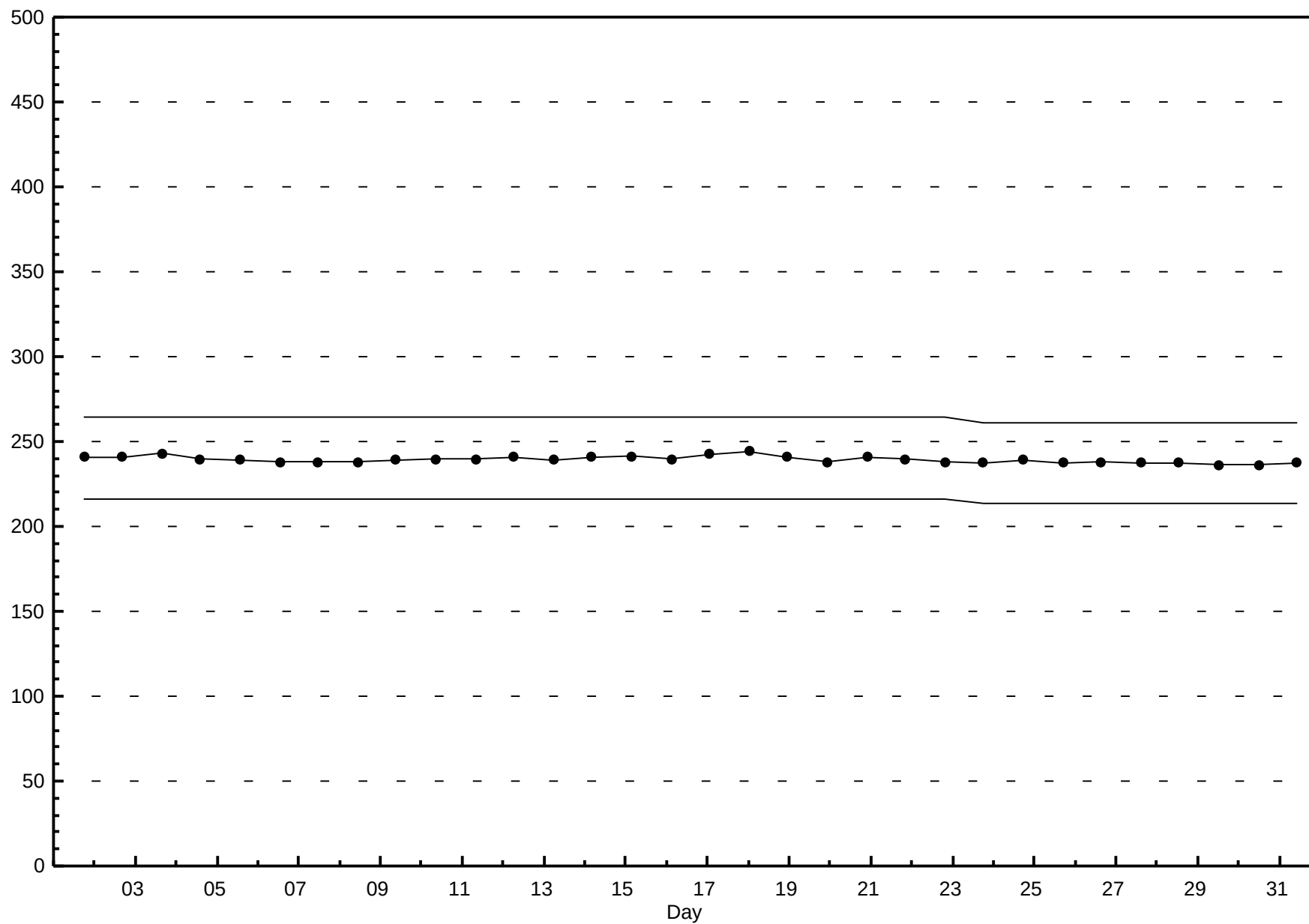


Pollutant Classes (ppb)



Span Responses

Sulphur Dioxide (SO₂)
Henry Pirker - July 2012

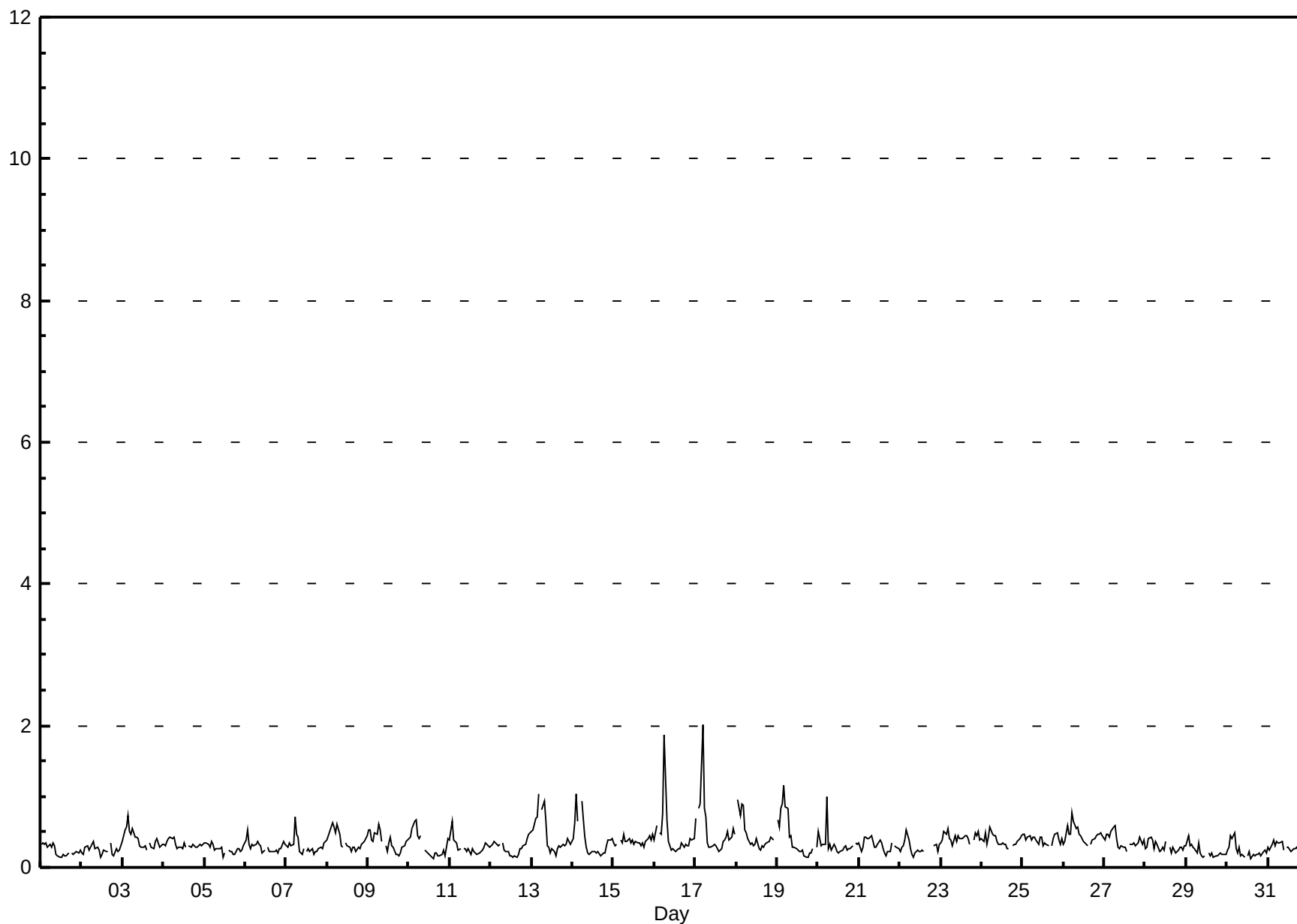


Hourly Averages

Total Reduced Sulphur (TRS) - ppb

Henry Pirker - July 2012

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 2.0 ppb on Jul 17 05:00 Maximum Daily Average: 0.5 ppb on Jul 17																			Hours in Service: 744 Hours of Data: 708 Hours of Missing Data: 36 Hours of Calibration: 36 Percent Operational Time: 100.0							
Minimum Value: 0 ppb on Jul 10 15:00 Maximum Diurnal Average: 0.5 ppb at hour 5 Monthly Average: 0.35 ppb																			Minimum Daily Average: 0.2 ppb on Jul 29 Minimum Diurnal Average: 0.2 ppb at hour 15 Percentiles: P ₁ = 0.1 P ₁₀ = 0.2 Q ₁ = 0.2 Median = 0.3 Q ₃ = 0.4 P ₉₀ = 0.5 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-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0.2	0.4
2-Jul	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
3-Jul	0	1	1	1	1	0	1	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.4	0.7
4-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.3	0.4
5-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.3	0.4
6-Jul	0	1	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.3	0.5
7-Jul	0	0	0	0	0	1	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.7
8-Jul	0	0	1	1	1	0	1	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.6
9-Jul	1	1	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
10-Jul	0	0	1	1	1	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.7
11-Jul	0	1	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.6
12-Jul	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.5
13-Jul	1	1	1	1	1	A	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	1.0
14-Jul	0	1	1	1	A	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	1.0
15-Jul	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.5
16-Jul	0	1	A	0	0	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	1.9
17-Jul	1	A	1	1	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0.5	2.0
18-Jul	A	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0.5	1.0
19-Jul	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.4	1.2
20-Jul	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.3	1.0
21-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.3	0.4
22-Jul	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	C	C	C	C	A	0	0	0	0	0.3	0.5
23-Jul	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	1	0	0.4	0.5
24-Jul	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0.4	0.6
25-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0.4	0.5
26-Jul	0	0	1	0	0	1	1	1	1	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.5	0.8
27-Jul	0	0	0	0	0	1	1	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.4	0.6
28-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.3	0.4
29-Jul	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.2	0.5
30-Jul	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
31-Jul	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.4
																									Diurnal Average	
																									Diurnal Maximum	
C - Calibration A - Automated Daily Zero Span																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb																										



Hourly Maximums

Total Reduced Sulphur (TRS) - ppb

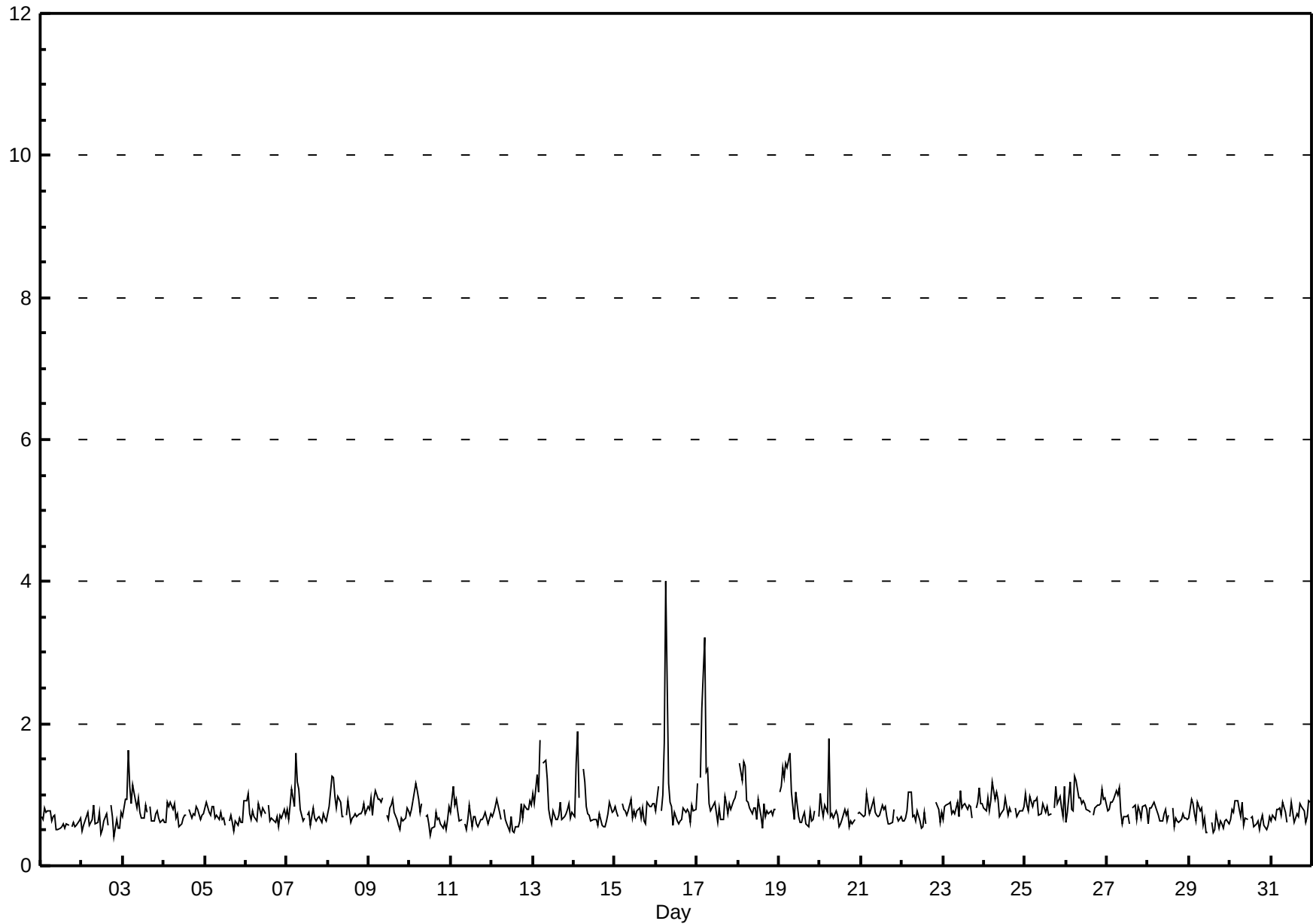
Henry Pirker - July 2012

Maximum Value: 4.0 ppb on Jul 16 07:00																			Maximum Daily Average: 1.1 ppb on Jul 17																			Hours in Service: 744	
Minimum Value: 0 ppb on Jul 2 20:00																			Minimum Daily Average: 0.6 ppb on Jul 2																			Hours of Data: 708	
Maximum Diurnal Average: 1.0 ppb at hour 5																			Minimum Diurnal Average: 0.7 ppb at hour 15																			Hours of Missing Data: 36	
Monthly Average: 0.79 ppb																			Percentiles: P ₁ = 0.5 P ₁₀ = 0.6 Q ₁ = 0.7 Median = 0.7 Q ₃ = 0.9 P ₉₀ = 1.0 P ₉₉ = 1.7																			Hours of Calibration: 36	
																																						Percent Operational Time: 100.0	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24															
1-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	0.6	0.8													
2-Jul	0	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	A	1	1	0	1	1	1	1	0.6	0.9													
3-Jul	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	0.8	1.6													
4-Jul	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													
5-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	0	1	1	1	1	1	1	0.7	0.9													
6-Jul	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	0.7	1.0													
7-Jul	1	1	1	1	1	2	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.6													
8-Jul	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.3													
9-Jul	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.1													
10-Jul	1	1	1	1	1	1	1	1	A	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	0.7	1.2													
11-Jul	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.1													
12-Jul	1	1	1	1	1	1	A	1	1	1	0	1	0	0	1	1	1	1	1	1	1	1	1	1	0.7	0.9													
13-Jul	1	1	1	1	2	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.8													
14-Jul	1	1	2	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.9													
15-Jul	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	0.9													
16-Jul	1	1	A	1	1	2	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	4.0													
17-Jul	1	A	1	2	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.1	3.2													
18-Jul	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.5													
19-Jul	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	0.9	1.6													
20-Jul	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	0.8	1.8													
21-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	0.7	1.0													
22-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	C	C	C	C	A	1	1	1	1	0.7	1.0													
23-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	0.8	1.1													
24-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	0.8	1.2													
25-Jul	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	1.1													
26-Jul	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													
27-Jul	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													
28-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	0.7	0.9													
29-Jul	1	1	1	1	1	1	1	1	1	1	0	0	A	1	0	1	1	1	1	1	1	1	1	1	0.7	0.9													
30-Jul	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													
31-Jul	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	0.9													
0.8		0.9	0.9	1.0	1.0	1.0	1.0	0.9	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	Diurnal Average															
1.2		1.4	1.9	2.2	3.2	1.8	4.0	1.5	1.2	0.9	1.1	0.9	1.0	0.9	0.9	0.9	1.0	0.9	1.1	0.9	1.0	1.1	0.9	1.1	Diurnal Maximum														
C - Calibration		A - Automated Daily Zero Span																																					

Hourly Maximums

Total Reduced Sulphur (TRS) - ppb

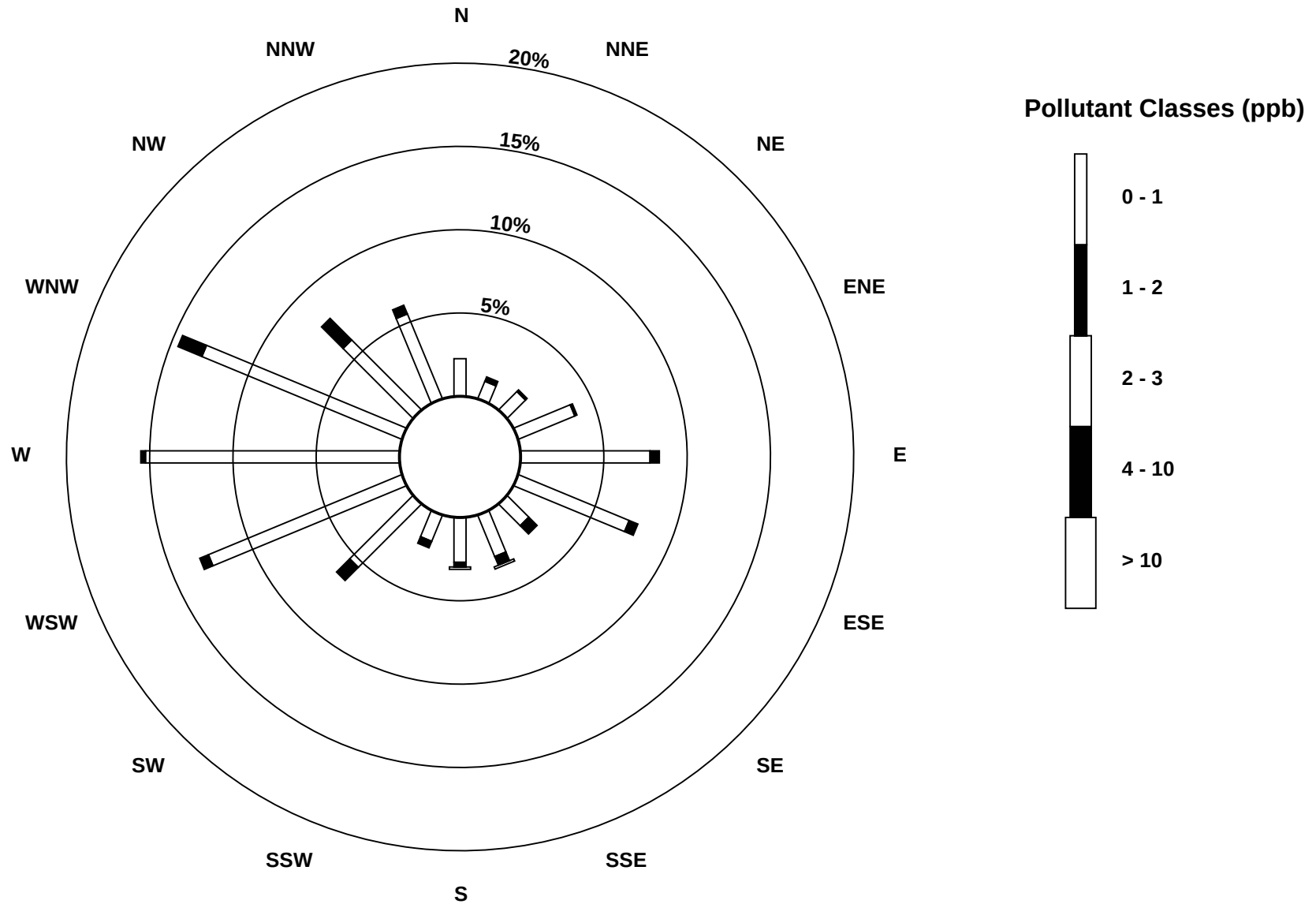
Henry Pirker - July 2012



Pollutant Rose

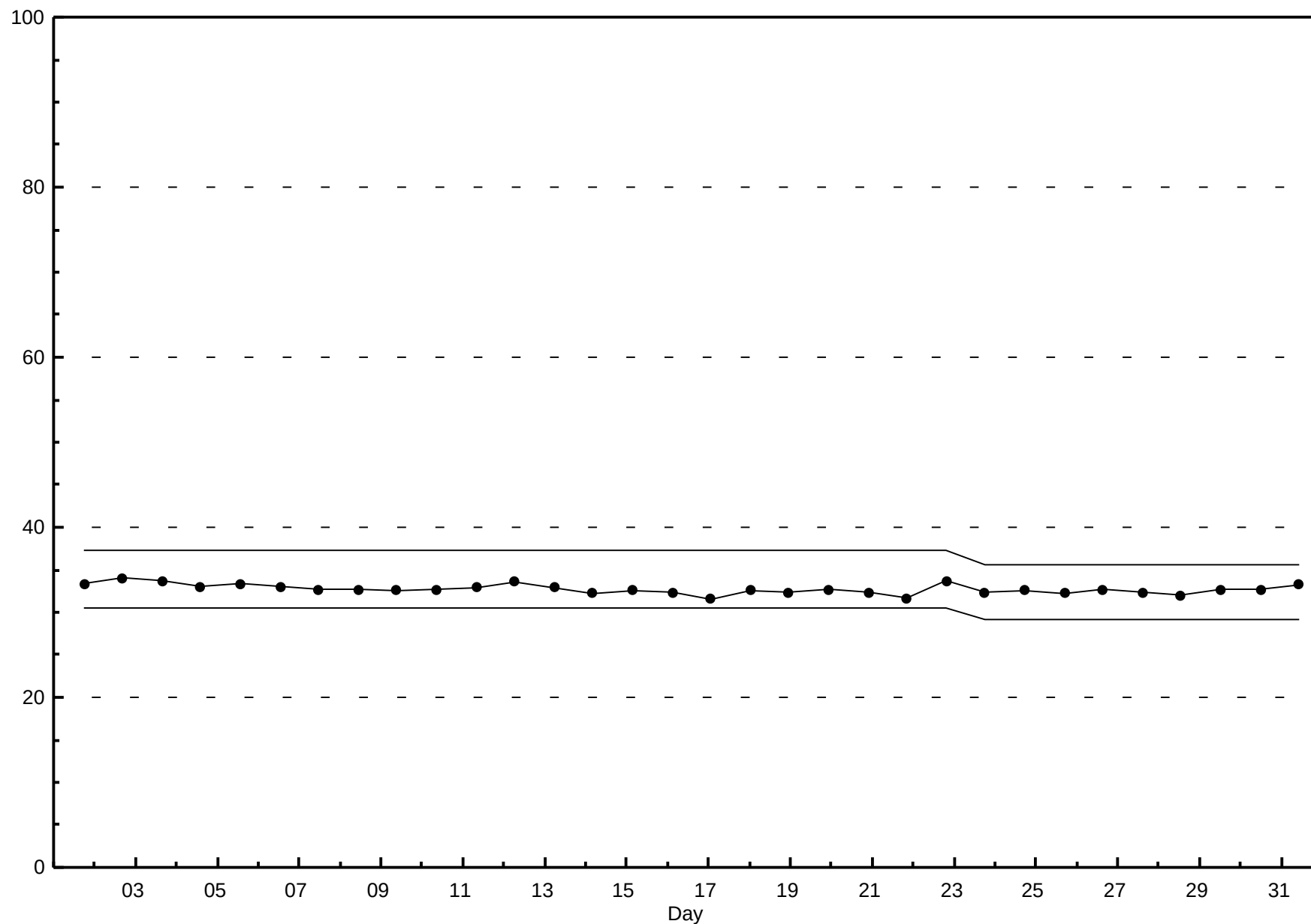
Total Reduced Sulphur (TRS) - ppb

Henry Pirker - July 2012



Span Responses

Total Reduced Sulphur (TRS)
Henry Pirker - July 2012



Hourly Averages

Nitrogen Dioxide (NO₂) - ppb

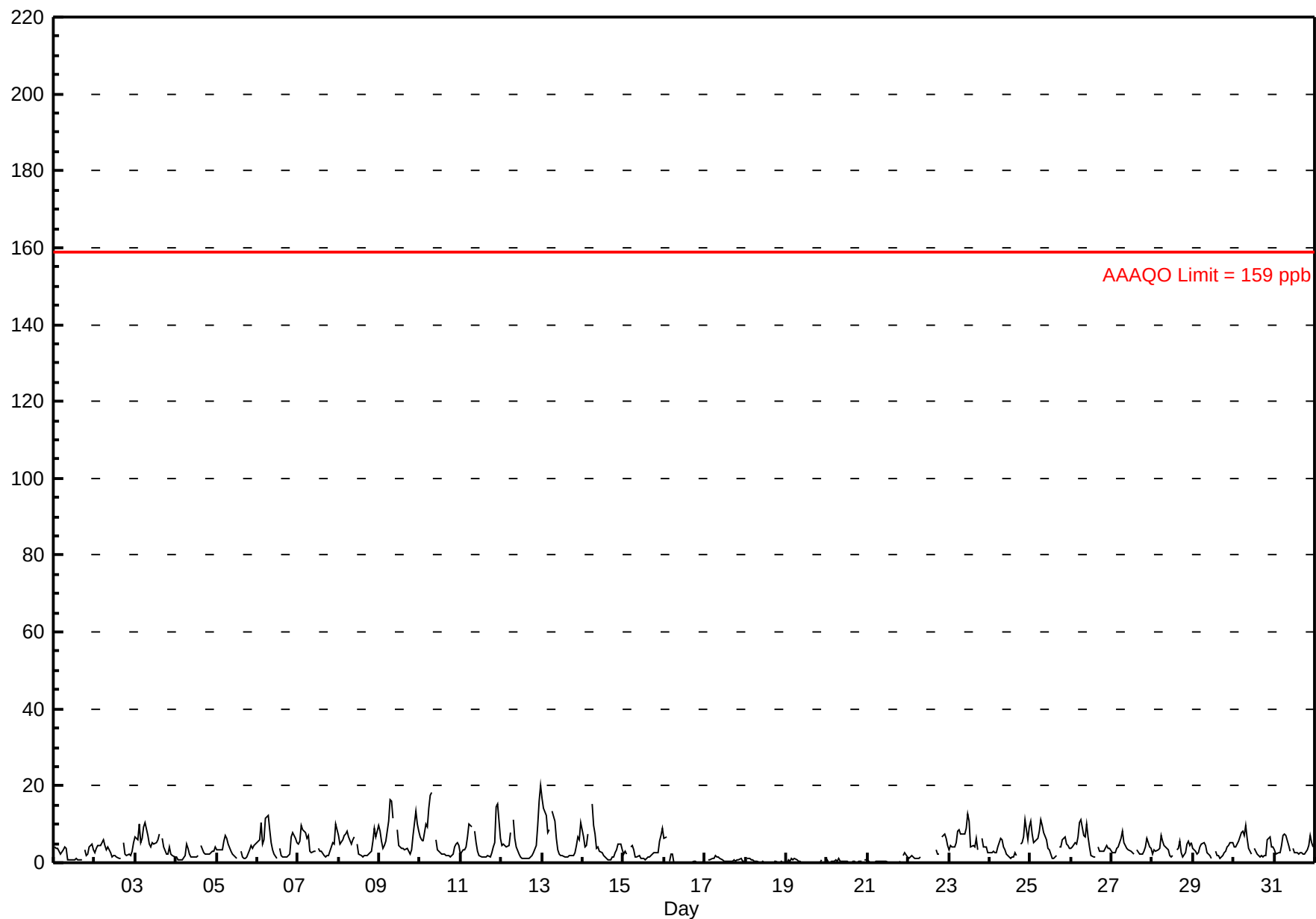
Henry Pirker - July 2012

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 20.1 ppb on Jul 13 00:00 Maximum Daily Average: 7.0 ppb on Jul 9																				Hours in Service: 744						
Minimum Value: 0 ppb on Jul 16 07:00 Minimum Daily Average: 0.3 ppb on Jul 19 Maximum Diurnal Average: 6.7 ppb at hour 7 Minimum Diurnal Average: 1.8 ppb at hour 16 Monthly Average: 3.67 ppb Percentiles: P ₁ = 0.0 P ₁₀ = 0.3 Q ₁ = 1.4 Median = 2.9 Q ₃ = 5.1 P ₉₀ = 7.7 P ₉₉ = 15.9																				Hours of Data: 701						
																				Hours of Missing Data: 43						
																				Hours of Calibration: 40						
																				Percent Operational Time: 99.6						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
1-Jul	4	4	4	3	2	4	4	4	1	1	1	1	1	1	1	1	A	3	2	2	4	5	3	2.4	4.8	
2-Jul	3	4	4	4	5	6	4	3	4	3	1	2	2	1	1	1	A	5	2	2	2	2	3	5	3.1	5.8
3-Jul	7	6	10	5	6	9	11	7	5	4	5	5	5	6	8	A	6	4	2	2	4	2	2	2	5.4	10.6
4-Jul	1	1	1	1	1	2	5	4	2	1	2	1	2	2	A	4	3	2	2	2	2	3	3	4	2.2	4.9
5-Jul	3	3	3	3	6	7	6	5	3	2	2	1	1	A	3	2	1	1	2	3	5	4	4	5	3.3	7.1
6-Jul	6	6	11	5	6	12	12	8	5	3	2	1	A	4	2	2	1	1	2	2	7	8	6	5	5.1	12.4
7-Jul	5	6	10	8	8	6	7	3	3	3	3	A	4	3	3	2	2	2	2	3	5	5	10	9	4.8	10.1
8-Jul	7	5	6	7	7	8	7	5	6	7	A	5	2	2	2	2	2	2	3	3	6	9	7	10	5.1	9.5
9-Jul	8	6	4	4	6	11	16	16	11	A	9	5	4	4	4	3	4	3	2	3	7	13	10	8	7.0	16.3
10-Jul	7	6	6	10	9	14	18	18	A	6	3	3	3	2	2	2	2	2	1	2	4	5	5	4	5.9	18.2
11-Jul	2	3	3	4	7	10	9	A	8	5	3	2	2	1	2	1	2	2	3	4	5	15	15	6	5.0	15.2
12-Jul	4	5	4	4	4	8	A	11	7	4	2	1	1	1	1	1	1	2	2	3	5	10	16	20	5.1	20.1
13-Jul	17	14	12	8	9	A	14	11	6	3	2	2	2	2	1	1	2	2	2	3	5	7	6	11	6.1	16.8
14-Jul	7	4	5	8	A	15	10	7	4	4	3	3	2	2	1	1	1	2	2	3	3	5	5	3	4.2	15.3
15-Jul	2	3	2	A	4	4	3	2	2	2	1	1	1	1	1	1	2	2	3	3	3	6	7	9	2.8	8.9
16-Jul	6	7	A	1	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.8	6.8
17-Jul	0	A	1	1	1	1	2	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	0	0	0.7	1.8
18-Jul	A	1	1	1	1	0	0	0	0	0	0	0	0	0	M	M	M	0	0	0	0	0	0	A	0.3	1.3
19-Jul	0	1	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	A	0	0.3	1.0
20-Jul	1	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	1	0.4	1.0
21-Jul	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	2	2	1	0.5	2.4
22-Jul	1	2	2	2	1	1	1	1	C	C	C	C	C	C	C	C	C	3	2	2	A	7	8	4	--	7.6
23-Jul	3	4	4	4	5	8	8	7	7	8	9	13	11	4	5	4	6	4	A	6	4	4	4	3	5.9	12.7
24-Jul	3	2	3	3	3	4	6	6	4	4	2	2	1	1	2	3	2	A	5	5	7	11	6	9	4.0	11.0
25-Jul	11	7	5	6	6	8	11	10	8	6	4	3	2	1	1	2	A	4	4	6	7	5	4	4	5.5	11.3
26-Jul	4	4	5	5	7	11	11	7	7	10	7	4	2	2	2	A	4	3	3	3	4	5	4	4	5.0	11.1
27-Jul	3	2	2	4	4	6	8	5	5	4	3	3	3	2	A	3	2	2	2	3	4	6	4	4	3.7	8.3
28-Jul	2	3	3	3	4	7	6	4	4	3	2	1	2	A	4	4	6	3	2	3	5	6	5	5	3.7	7.1
29-Jul	4	3	2	2	4	5	5	5	2	2	2	1	A	3	2	2	1	2	3	3	4	4	5	5	3.1	5.3
30-Jul	4	4	5	5	8	8	7	10	6	4	2	A	4	3	2	2	2	1	2	2	6	7	4	4	4.5	9.6
31-Jul	3	2	2	3	4	7	7	7	4	3	A	4	2	2	2	2	3	2	2	3	4	7	5	4	3.9	7.5
4.3 4.0 4.0 3.8 4.4 6.3 6.7 5.7 4.0 3.2 2.6 2.3 2.1 1.8 1.9 1.8 2.1 1.9 2.0 2.5 3.9 5.4 5.2 5.1																								Diurnal Average		
16.8 14.1 12.2 10.1 9.3 15.3 17.6 18.2 11.5 9.9 9.0 12.7 10.7 5.9 7.5 4.3 6.4 5.1 4.8 6.5 7.0 14.6 16.2 20.1																								Diurnal Maximum		
C - Calibration		M - Maintenance						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 - July 2012



Hourly Maximums

Nitrogen Dioxide (NO₂) - ppb

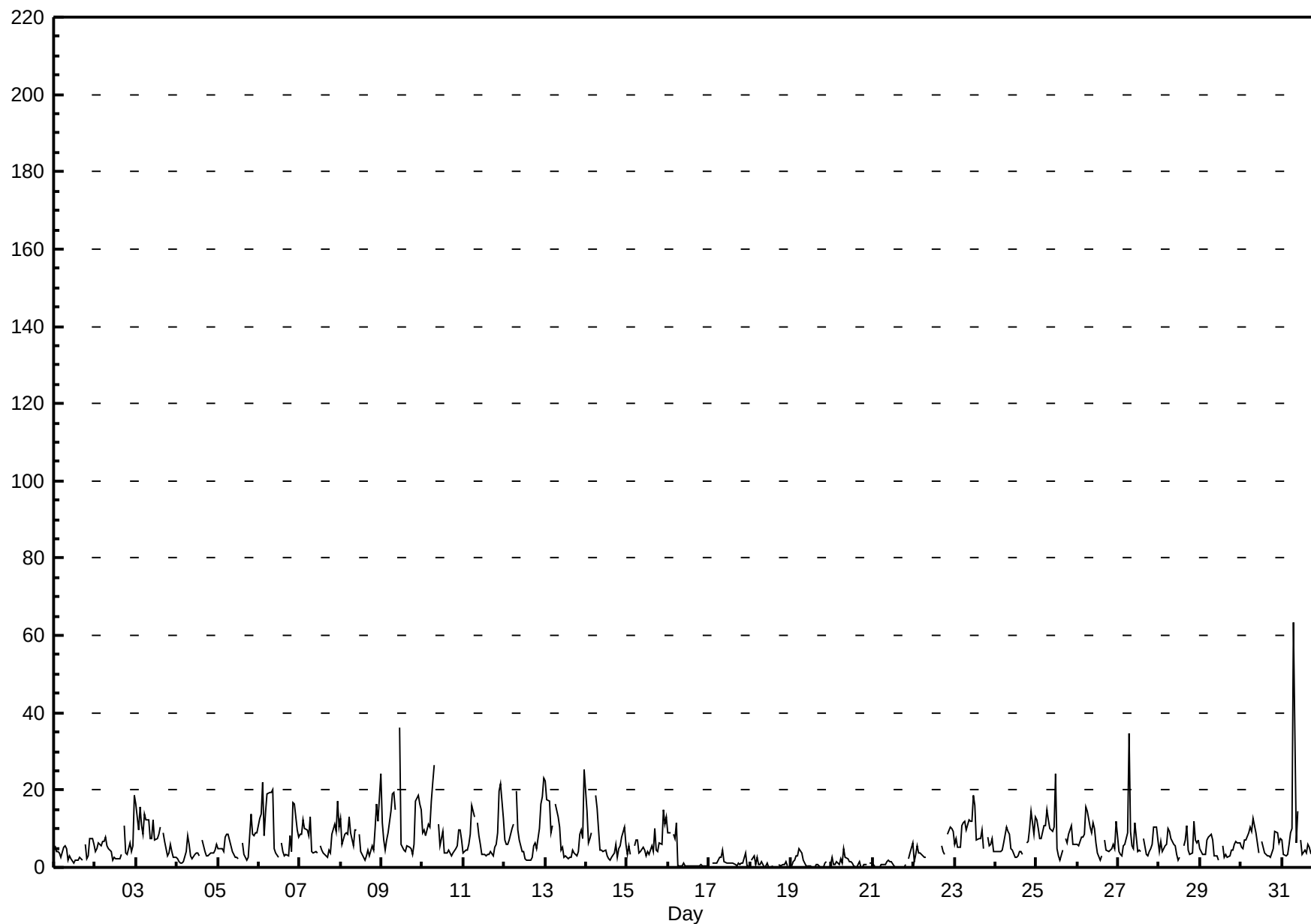
Henry Pirker - July 2012

Maximum Value: 63.5 ppb on Jul 31 08:00																				Maximum Daily Average: 11.1 ppb on Jul 9					Hours in Service: 744	
Minimum Value: 0 ppb on Jul 18 13:00																				Minimum Daily Average: 0.9 ppb on Jul 18					Hours of Data: 701	
Maximum Diurnal Average: 10.5 ppb at hour 8																				Minimum Diurnal Average: 3.1 ppb at hour 14					Hours of Missing Data: 43	
Monthly Average: 6.16 ppb																				Percentiles: P ₁ = 0.1 P ₁₀ = 0.8 Q ₁ = 2.8 Median = 4.8 Q ₃ = 8.5 P ₉₀ = 12.2 P ₉₉ = 24.0					Hours of Calibration: 40	
																				Percent Operational Time: 99.6						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jul	6	4	4	4	3	5	6	5	2	3	2	1	2	2	2	3	2	A	6	2	3	7	7	6	3.8	7.3
2-Jul	4	5	6	6	7	7	8	6	5	4	2	3	2	2	2	3	A	11	4	3	6	4	6	19	5.4	18.8
3-Jul	17	10	16	11	9	14	12	12	7	7	12	7	8	9	11	A	9	7	3	4	6	4	3	3	8.6	16.5
4-Jul	2	2	1	1	2	4	8	6	3	2	3	4	4	3	A	7	4	3	3	3	4	4	5	6	3.6	8.1
5-Jul	5	5	5	4	8	9	8	7	4	3	3	3	2	A	6	3	3	2	3	14	9	8	9	9	5.7	13.8
6-Jul	13	14	22	8	14	19	19	20	20	5	4	3	A	6	4	3	3	3	8	4	17	17	10	8	10.5	22.2
7-Jul	9	9	12	10	10	8	13	4	4	4	4	A	6	4	4	3	3	5	4	8	11	9	17	11	7.4	17.1
8-Jul	13	6	9	9	9	13	9	6	10	10	A	9	4	3	2	3	4	3	6	4	10	17	12	24	8.3	24.1
9-Jul	11	7	5	7	9	15	19	20	15	A	36	6	5	5	4	6	5	5	3	6	17	19	16	15	11.1	36.3
10-Jul	9	10	8	11	11	17	22	27	A	11	5	8	9	4	4	5	4	3	4	5	6	10	10	7	9.0	26.6
11-Jul	4	5	5	6	9	16	13	A	12	8	6	3	3	3	4	3	4	3	5	6	9	20	22	13	7.8	21.6
12-Jul	7	6	6	7	10	11	A	20	10	7	4	4	2	2	2	2	3	6	6	5	10	17	18	23	8.1	23.1
13-Jul	23	18	17	9	11	A	17	13	11	5	5	3	3	2	3	3	5	4	3	4	9	10	8	25	9.0	25.3
14-Jul	14	7	8	9	A	19	15	10	5	5	4	5	3	2	2	3	4	6	3	5	6	8	10	6	6.8	18.6
15-Jul	4	6	4	A	6	7	7	4	4	5	5	3	4	3	6	4	10	5	4	6	6	15	11	13	6.1	15.1
16-Jul	9	9	A	8	7	12	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2.3	11.6
17-Jul	1	A	1	1	1	2	3	2	4	1	1	1	1	1	1	1	1	1	1	1	1	4	1	1	1.4	4.4
18-Jul	A	2	3	1	3	1	1	2	0	0	1	0	0	0	M	M	M	1	0	1	1	1	1	A	0.9	3.1
19-Jul	0	1	2	3	3	5	4	2	1	1	1	0	0	0	0	1	1	0	0	0	1	2	A	1	1.2	4.9
20-Jul	3	1	1	2	1	2	1	5	3	2	2	2	1	0	0	1	2	0	0	1	1	A	1	1	1.3	4.8
21-Jul	1	0	0	0	0	1	1	1	2	2	1	2	0	0	0	0	0	0	0	1	A	2	4	6	1.0	6.2
22-Jul	1	3	6	4	4	3	2	3	C	C	C	C	C	C	C	C	6	4	3	A	9	10	10	9	--	10.4
23-Jul	6	8	5	5	11	12	12	10	12	12	12	19	16	7	8	7	10	5	A	8	6	6	7	4	9.0	18.5
24-Jul	4	4	4	4	4	6	10	9	8	5	4	2	2	3	4	4	3	A	6	7	10	14	8	13	6.2	14.5
25-Jul	12	10	7	7	11	11	15	12	10	9	10	24	5	3	2	4	A	7	6	8	11	6	6	6	9.0	24.1
26-Jul	6	5	8	8	8	16	15	10	9	12	10	6	4	2	3	A	7	4	4	5	5	6	5	12	7.4	15.7
27-Jul	4	3	3	5	6	9	35	9	5	5	11	4	4	4	A	7	3	3	4	5	6	10	7	7	7.2	34.6
28-Jul	4	7	4	5	6	10	9	7	6	5	3	2	2	A	5	7	11	4	3	4	12	7	6	7	6.1	12.0
29-Jul	5	3	3	3	7	8	8	7	3	3	3	2	A	5	2	3	2	3	4	4	6	7	6	6	4.7	8.5
30-Jul	5	5	7	7	9	10	9	13	11	9	4	A	7	5	4	3	3	2	4	5	9	9	6	7	6.7	12.8
31-Jul	7	3	3	3	6	9	10	63	6	15	A	7	3	4	4	6	5	4	4	5	7	10	7	6	8.7	63.5
6.9 5.9 6.1 5.7 6.7 9.3 10.4 10.5 6.6 5.6 5.7 4.7 3.7 3.1 3.3 3.5 4.2 3.6 3.5 4.5 7.0 8.7 8.1 9.1																								Diurnal Average		
22.5 17.5 22.2 11.1 14.2 18.8 34.6 63.5 20.2 14.7 36.3 24.1 16.1 8.6 10.6 7.5 10.8 10.7 8.1 13.8 17.2 19.7 21.6 25.3																								Diurnal Maximum		
C - Calibration M - Maintenance A - Automated Daily Zero Span																										

Hourly Maximums

Nitrogen Dioxide (NO₂) - ppb

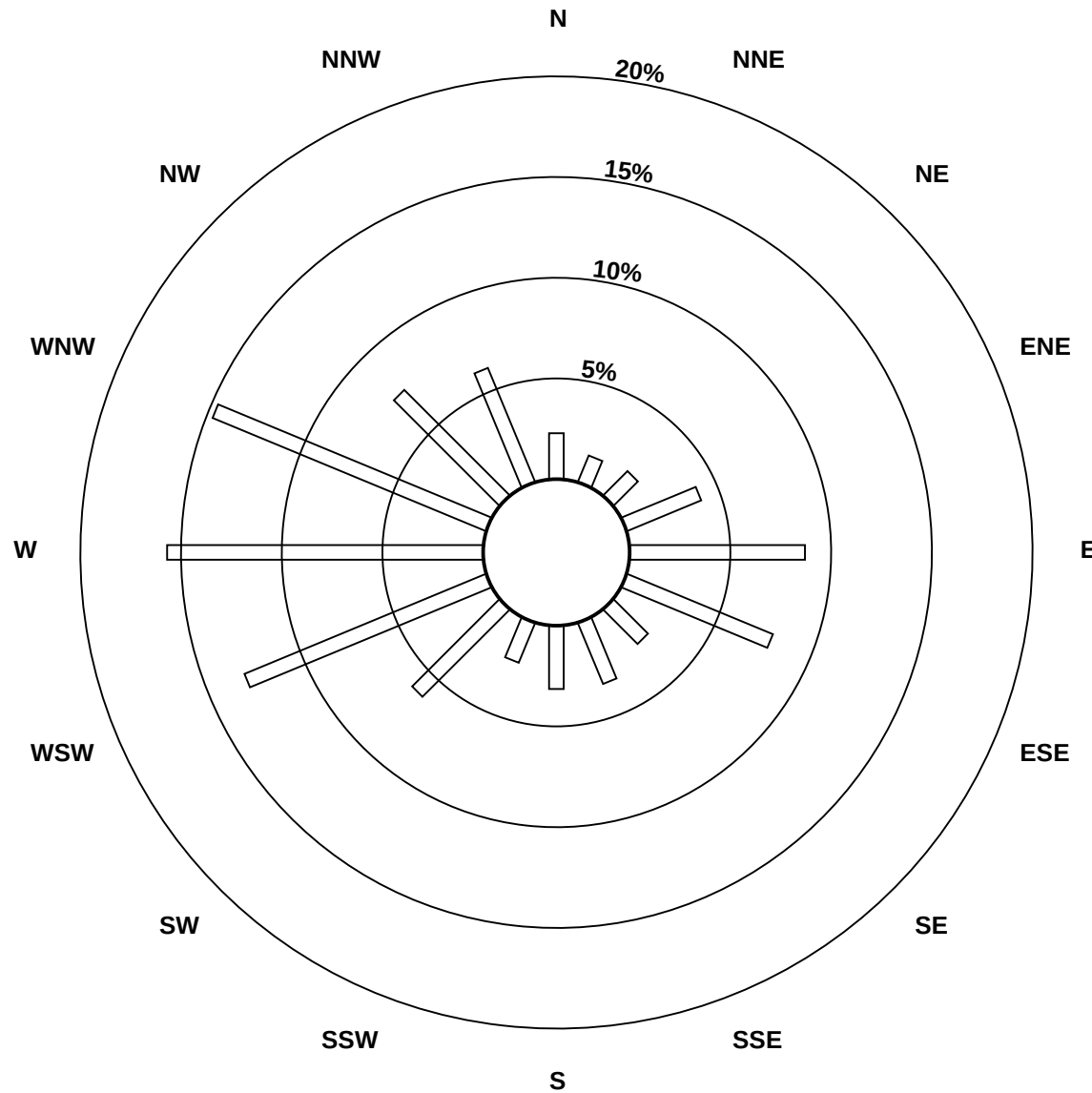
Henry Pirker - July 2012



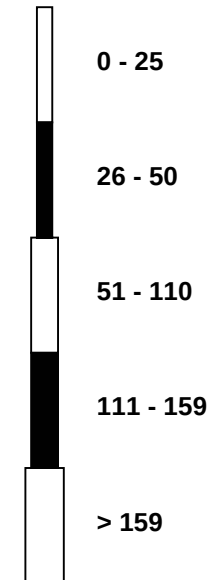
Pollutant Rose

Nitrogen Dioxide (NO₂) - ppb

Henry Pirker - July 2012



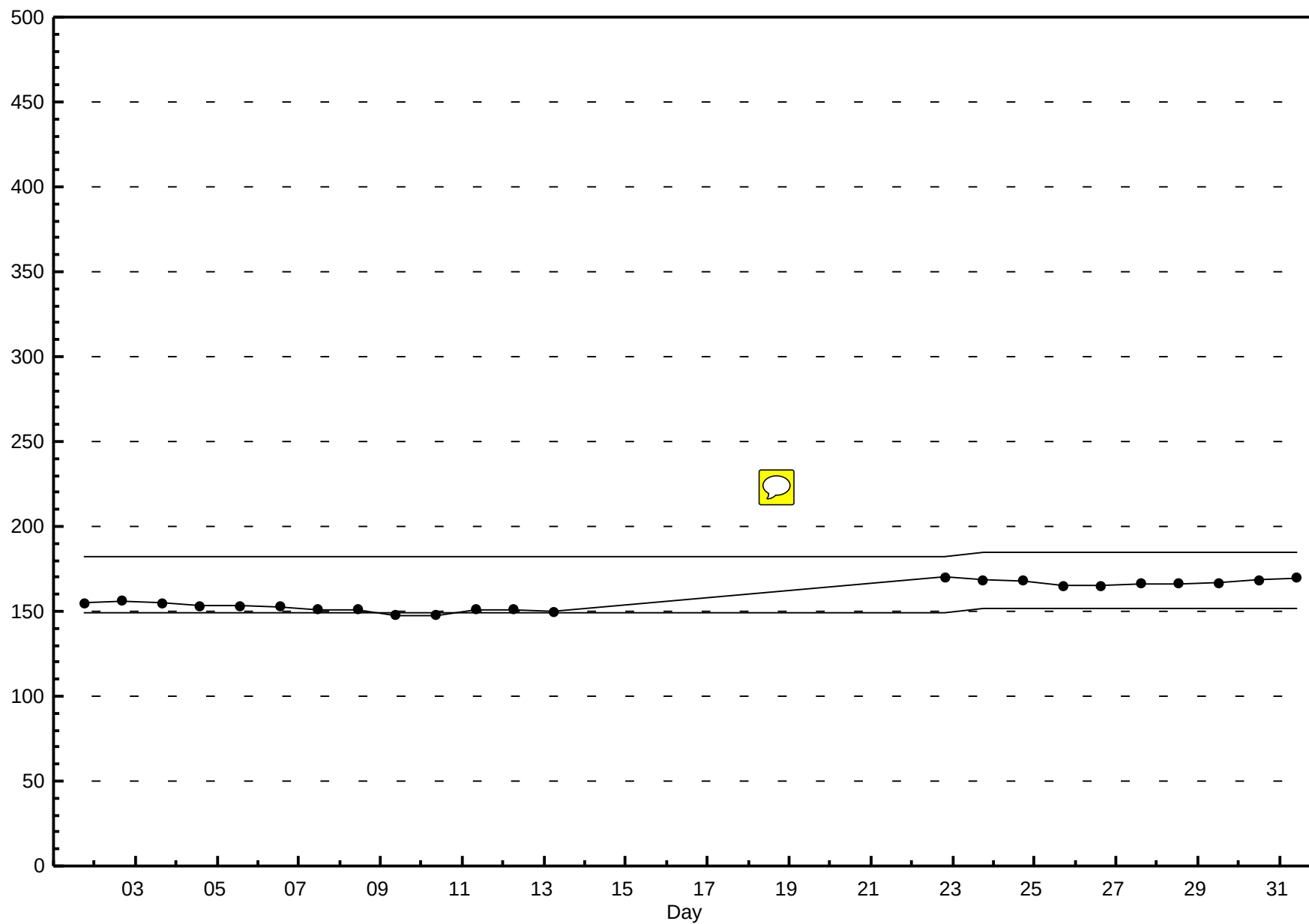
Pollutant Classes (ppb)



Span Responses

Nitrogen Dioxide (NO₂)

Henry Pirker - July 2012



Hourly Averages

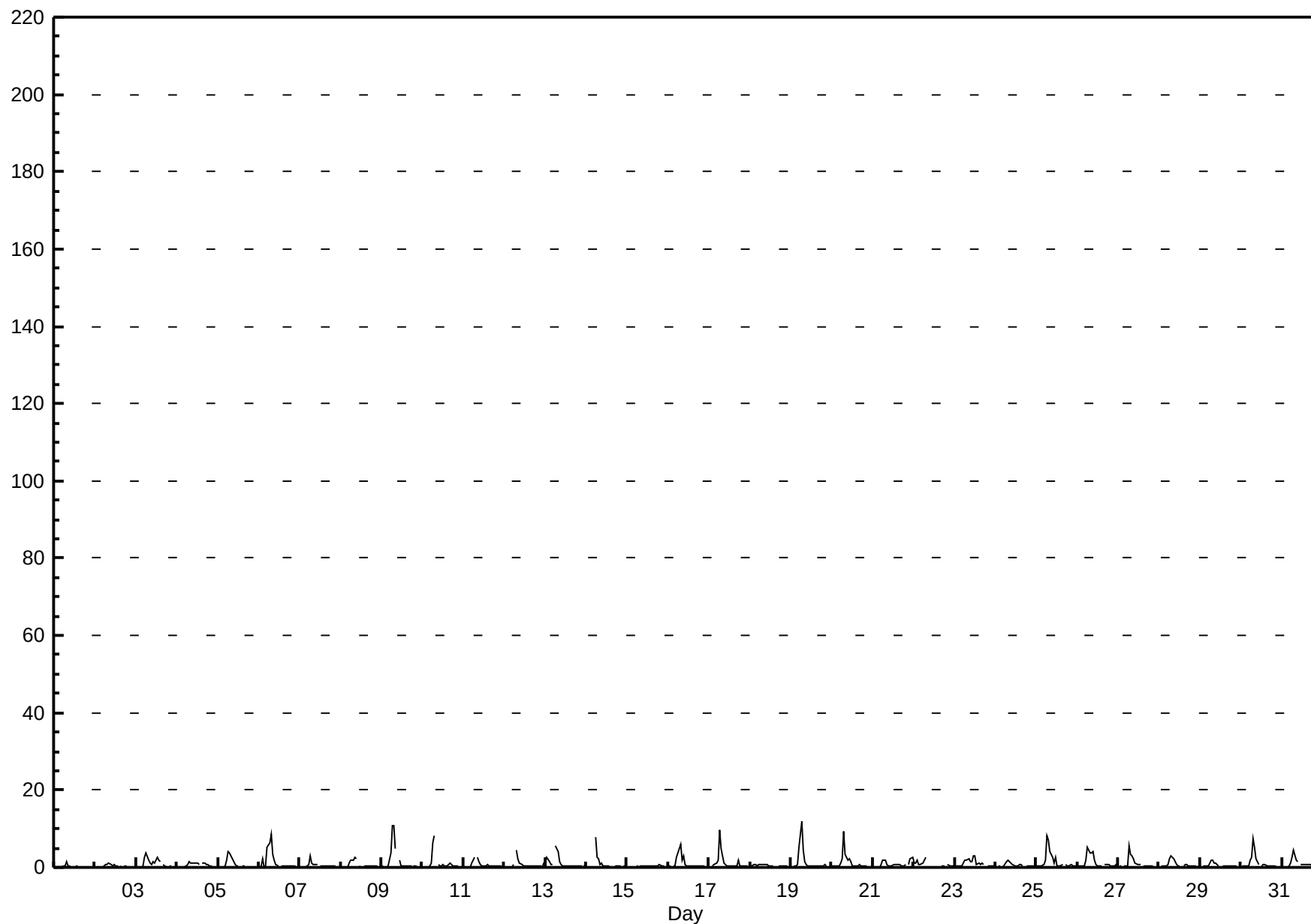
Nitrogen Oxide (NO) - ppb

Henry Pirker - July 2012

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 11.9 ppb on Jul 19 07:00 Maximum Daily Average: 1.6 ppb on Jul 9																				Hours in Service: 744 Hours of Data: 701 Hours of Missing Data: 43 Hours of Calibration: 40 Percent Operational Time: 99.6						
Minimum Value: 0 ppb on Jul 1 23:00 Maximum Diurnal Average: 3.8 ppb at hour 8 Monthly Average: 0.87 ppb										Minimum Daily Average: 0.2 ppb on Jul 1 Minimum Diurnal Average: 0.2 ppb at hour 1 Percentiles: P ₁ = 0.0 P ₁₀ = 0.1 Q ₁ = 0.2 Median = 0.4 Q ₃ = 0.8 P ₉₀ = 2.1 P ₉₉ = 7.9																
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-Jul	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0.2	1.6
2-Jul	0	0	0	0	0	0	1	1	1	1	0	1	0	0	0	0	A	0	0	0	0	0	0	0	0.3	1.3
3-Jul	0	0	0	0	0	3	4	2	1	1	1	1	2	2	1	A	1	0	0	0	0	0	0	0	0.9	3.7
4-Jul	0	0	0	0	0	0	1	1	1	1	1	1	1	1	A	1	1	1	1	1	0	0	0	0	0.6	1.3
5-Jul	0	0	0	0	1	2	4	4	2	1	1	1	0	A	0	0	0	0	0	0	0	0	0	0	0.7	4.1
6-Jul	0	0	2	0	1	5	6	9	3	2	1	0	A	0	0	0	0	0	1	0	0	0	0	0	1.5	8.7
7-Jul	0	0	0	0	0	1	3	1	1	1	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0.5	3.2
8-Jul	0	0	0	0	0	1	2	2	2	2	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.6	2.5
9-Jul	0	0	0	0	0	4	11	11	5	A	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1.6	11.0
10-Jul	0	0	0	0	0	1	6	8	A	1	1	1	1	0	1	1	1	1	0	0	0	0	0	0	1.0	8.1
11-Jul	0	0	0	0	0	1	2	A	3	1	1	0	0	0	1	0	1	0	0	0	0	0	0	0	0.6	2.5
12-Jul	0	0	0	0	0	1	A	4	2	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0.6	4.4	
13-Jul	1	2	2	1	1	A	6	4	2	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	1.1	5.6
14-Jul	0	0	0	0	A	8	3	2	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.8	8.0
15-Jul	0	0	0	A	0	0	0	0	0	1	0	0	0	0	0	0	1	1	0	1	0	0	0	0	0.3	0.6
16-Jul	0	0	A	0	0	3	4	6	2	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1.0	5.8
17-Jul	0	A	0	1	1	2	10	5	3	1	1	0	0	0	0	0	1	2	1	1	0	0	0	0	1.3	9.7
18-Jul	A	0	1	1	1	1	1	1	1	1	1	0	0	0	M	M	M	0	0	0	0	0	0	0	0.5	0.9
19-Jul	0	0	0	0	1	5	12	4	1	1	1	0	0	0	0	0	0	0	0	0	1	0	A	0	1.3	11.9
20-Jul	0	0	0	0	0	1	2	9	3	2	2	1	1	0	0	1	1	0	0	0	0	A	0	0	1.2	9.4
21-Jul	0	0	0	0	0	1	2	2	1	0	0	1	1	1	1	1	1	0	0	1	A	1	2	3	0.8	2.5
22-Jul	1	1	2	1	1	1	2	2	C	C	C	C	C	C	C	C	0	0	0	A	1	1	0	0	--	2.5
23-Jul	0	0	0	0	0	1	2	2	2	2	1	3	3	1	1	1	1	1	A	0	0	0	0	0	1.0	3.1
24-Jul	0	0	0	0	0	0	1	2	1	1	1	1	0	1	1	1	0	A	0	0	0	0	1	0.6	1.7	
25-Jul	0	0	0	0	1	2	8	7	4	3	1	3	1	0	0	1	A	1	1	1	1	0	0	0	1.5	8.2
26-Jul	0	0	0	0	0	2	5	4	4	4	2	1	0	0	0	A	1	1	1	1	1	1	1	1	1.3	5.1
27-Jul	0	0	0	0	0	1	6	3	3	2	1	1	1	1	A	1	0	0	0	0	0	0	0	0	1.0	5.7
28-Jul	0	0	0	0	0	1	2	3	2	2	1	0	0	A	0	1	1	1	0	0	0	0	0	0	0.7	3.1
29-Jul	0	0	0	0	0	0	2	2	1	1	1	0	A	0	0	0	0	0	1	0	0	0	0	0	0.5	1.9
30-Jul	0	0	0	0	1	2	3	8	5	2	1	A	1	1	1	0	1	0	1	0	0	0	0	0	1.1	7.5
31-Jul	0	0	0	0	0	1	3	5	2	1	A	1	1	1	1	1	1	1	1	1	0	0	0	0	0.8	4.6
0.2 0.3 0.3 0.2 0.3 1.7 3.8 3.8 2.1 1.4 0.9 0.7 0.6 0.5 0.5 0.5 0.5 0.5 0.4 0.4 0.3 0.2 0.2 0.3 Diurnal Average 1.0 2.5 2.3 0.9 1.1 8.0 11.9 11.0 5.1 4.3 2.3 2.9 3.1 2.0 1.3 1.3 1.2 1.8 0.7 0.6 0.6 0.6 2.1 2.5 Diurnal Maximum																										
C - Calibration M - Maintenance A - Automated Daily Zero Span																										

Hourly Averages

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



Hourly Maximums

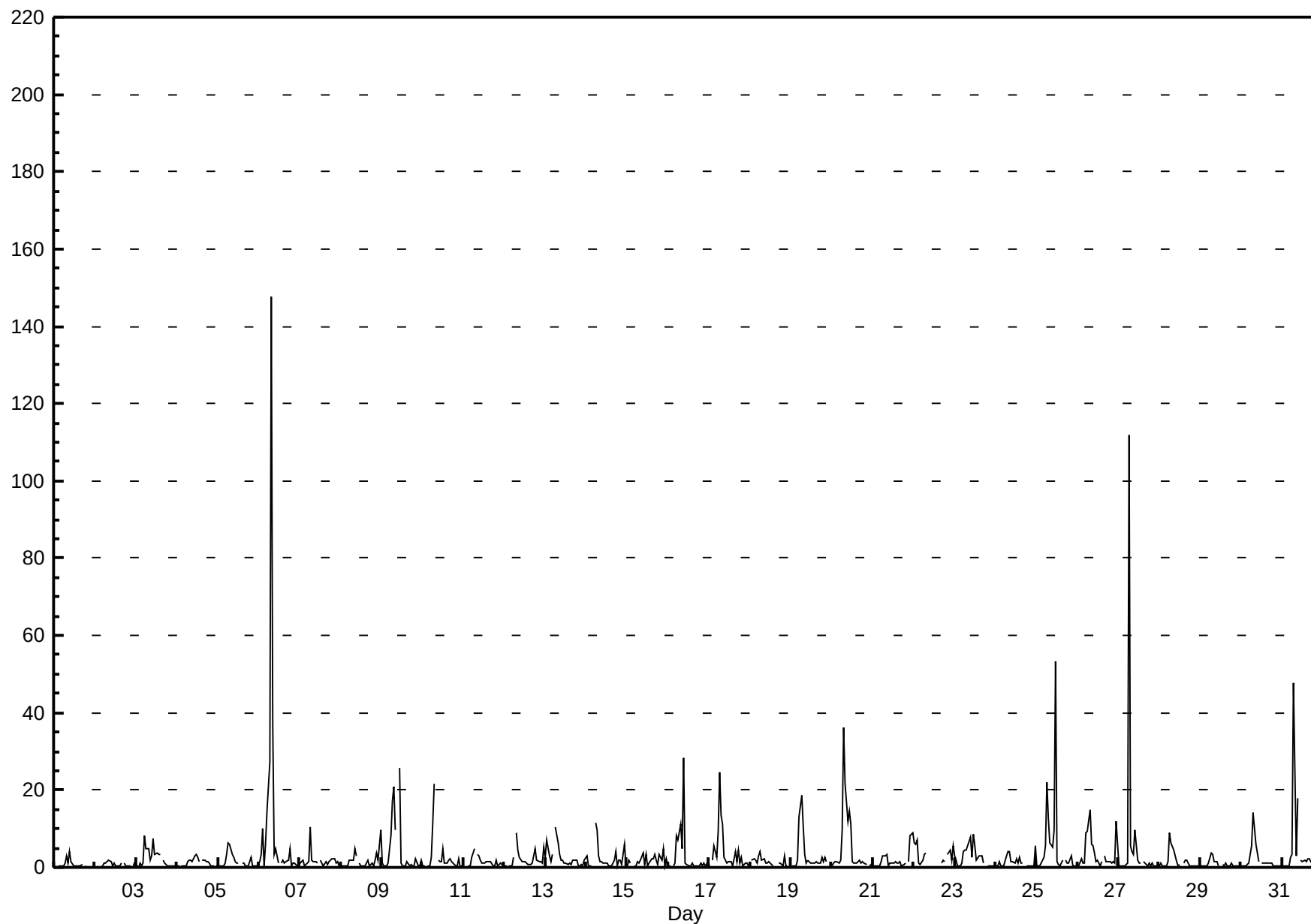
Nitrogen Oxide (NO) - ppb

Henry Pirker - July 2012

Maximum Value: 147.5 ppb on Jul 6 08:00																				Maximum Daily Average: 11.8 ppb on Jul 6					Hours in Service: 744	
Minimum Value: 0 ppb on Jul 2 00:00																				Minimum Daily Average: 0.7 ppb on Jul 2					Hours of Data: 701	
Maximum Diurnal Average: 14.2 ppb at hour 8																				Minimum Diurnal Average: 0.8 ppb at hour 4					Hours of Missing Data: 43	
Monthly Average: 2.92 ppb																				Percentiles: P ₁ = 0.0 P ₁₀ = 0.5 Q ₁ = 0.5 Median = 1.0 Q ₃ = 2.4 P ₉₀ = 5.8 P ₉₉ = 24.4					Hours of Calibration: 40	
																				Percent Operational Time: 99.6						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jul	0	0	0	0	0	0	1	3	1	4	2	0	0	1	1	0	1	A	1	0	0	0	0	0	0.7	3.9
2-Jul	0	0	0	0	0	1	1	1	2	2	1	1	1	0	1	1	A	1	0	0	0	0	0	1	0.7	2.0
3-Jul	1	0	1	1	1	8	5	5	2	3	7	4	4	3	4	A	2	1	0	1	1	1	0	0	2.4	8.3
4-Jul	0	0	0	0	0	1	2	2	2	2	3	3	2	2	A	2	2	2	1	1	1	0	0	0	1.3	3.3
5-Jul	0	1	0	0	1	4	6	6	3	3	2	1	1	A	1	1	0	0	0	3	1	0	0	0	1.6	6.3
6-Jul	1	3	10	1	6	14	27	148	37	3	5	1	A	1	2	1	1	2	5	0	1	1	1	0	11.8	147.5
7-Jul	1	2	2	0	1	2	11	2	2	1	1	A	2	1	0	2	1	1	2	2	2	1	2	0	1.8	10.5
8-Jul	1	1	0	0	1	2	2	2	5	3	A	1	0	0	0	1	2	0	1	0	2	4	2	10	1.8	9.5
9-Jul	1	1	0	0	1	8	17	21	10	A	26	1	0	0	0	1	1	1	0	0	2	0	0	2	4.2	25.6
10-Jul	0	0	0	0	0	2	12	22	A	2	1	2	5	1	1	2	2	2	1	1	1	2	0	0	2.6	21.5
11-Jul	0	0	0	0	1	3	5	A	4	3	2	1	1	1	1	1	1	0	0	2	0	1	1	0	1.3	5.0
12-Jul	0	0	0	0	1	3	A	9	5	3	1	1	1	1	1	1	1	3	5	2	1	2	1	5	2.1	9.0
13-Jul	3	7	3	2	3	A	11	6	4	2	2	1	1	1	1	1	2	2	2	0	0	1	0	2	2.4	10.5
14-Jul	3	0	0	0	A	12	10	3	1	1	1	1	1	1	0	0	2	4	1	2	2	1	6	1	2.3	11.6
15-Jul	0	2	1	A	0	1	2	1	2	4	1	3	0	1	2	2	3	2	1	3	2	5	0	2	1.8	4.9
16-Jul	0	1	A	0	1	8	7	11	5	28	1	1	0	1	1	0	0	0	0	1	0	1	1	1	3.1	28.3
17-Jul	1	A	2	6	3	9	25	14	11	2	1	1	1	1	0	4	2	5	1	3	1	1	1	1	4.1	24.6
18-Jul	A	2	2	2	1	3	4	2	2	1	1	1	1	0	M	M	M	1	1	0	3	0	0	A	1.6	4.0
19-Jul	0	0	0	0	2	13	19	11	4	1	2	1	1	1	1	2	1	1	3	1	3	1	A	0	3.0	18.6
20-Jul	0	1	1	1	1	2	10	36	22	12	14	11	1	1	1	1	2	1	2	1	1	A	0	1	5.4	36.0
21-Jul	0	0	0	0	0	2	3	3	3	0	1	1	1	1	1	1	1	0	1	1	A	2	8	9	1.9	9.0
22-Jul	6	6	7	1	1	2	3	4	C	C	C	C	C	C	C	C	1	2	1	A	3	4	2	6	--	7.1
23-Jul	3	2	0	0	1	4	4	4	7	8	2	9	5	2	3	3	3	1	A	0	0	0	0	0	2.8	8.6
24-Jul	0	0	1	0	0	0	3	4	4	1	1	1	2	1	3	1	1	A	0	0	0	0	0	6	1.5	5.6
25-Jul	0	0	0	1	2	5	22	12	6	5	10	53	1	1	0	2	A	2	1	1	3	0	0	0	5.8	53.2
26-Jul	0	0	2	1	1	9	9	15	6	5	4	1	2	0	1	A	3	1	2	2	1	1	1	12	3.6	15.0
27-Jul	0	0	1	0	0	1	112	5	4	4	10	2	1	1	A	1	1	0	1	1	1	0	0	0	6.5	112.0
28-Jul	0	1	0	0	0	1	9	7	4	3	2	0	1	A	1	2	2	1	0	1	1	0	0	0	1.7	9.0
29-Jul	0	0	0	0	0	1	4	3	2	1	1	0	A	1	0	1	0	0	1	0	0	0	0	0	1.0	3.6
30-Jul	0	0	0	0	1	4	5	14	10	6	1	A	1	1	1	1	1	1	1	0	0	0	0	0	2.3	14.3
31-Jul	0	0	0	0	0	2	3	48	3	18	A	2	1	2	2	2	2	1	1	1	1	0	0	0	4.1	47.7
0.9 1.2 1.3 0.8 1.1 4.2 11.7 14.2 5.9 4.6 3.8 3.8 1.5 1.0 1.2 1.5 1.5 1.4 1.3 1.1 1.2 1.1 1.1 2.2																									Diurnal Average	
6.3 7.0 10.0 5.7 6.0 14.4 112.0 147.5 37.0 28.3 25.6 53.2 5.5 3.4 3.5 4.3 3.3 4.5 4.9 3.3 3.3 4.9 8.1 12.1																									Diurnal Maximum	
C - Calibration M - Maintenance A - Automated Daily Zero Span																										

Hourly Maximums

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



Hourly Averages

Oxides of Nitrogen (NO_x) - ppb

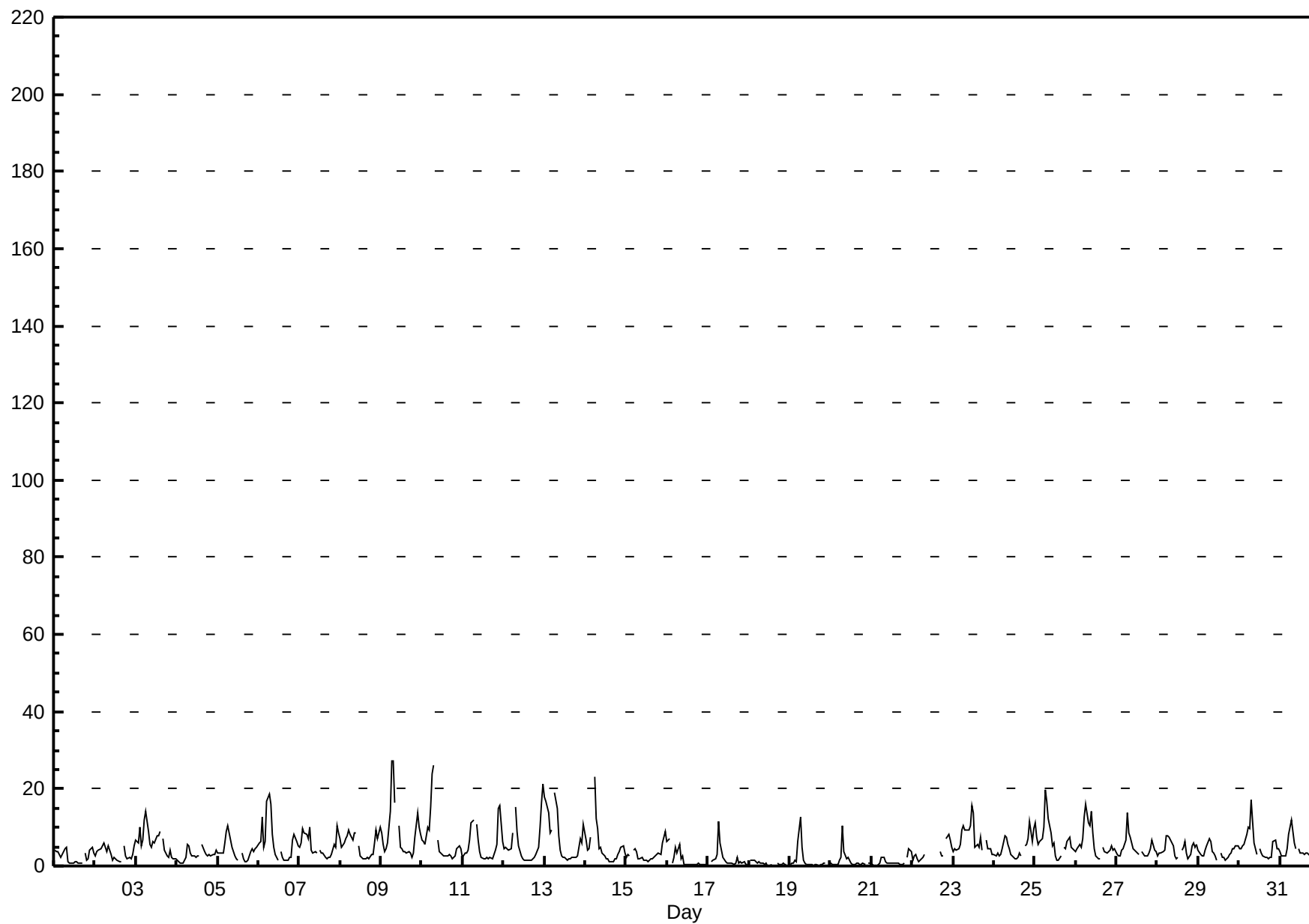
Henry Pirker - July 2012

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 27.3 ppb on Jul 9 07:00 Maximum Daily Average: 8.5 ppb on Jul 9																			Hours in Service: 744 Hours of Data: 701 Hours of Missing Data: 43 Hours of Calibration: 40 Percent Operational Time: 99.6								
Minimum Value: 0 ppb on Jul 18 13:00 Minimum Daily Average: 0.7 ppb on Jul 18 Maximum Diurnal Average: 10.4 ppb at hour 7 Minimum Diurnal Average: 2.2 ppb at hour 16 Monthly Average: 4.48 ppb Percentiles: P ₁ = 0.2 P ₁₀ = 0.8 Q ₁ = 1.9 Median = 3.4 Q ₃ = 5.7 P ₉₀ = 9.3 P ₉₉ = 18.8																											
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-Jul	4	4	4	3	2	4	5	5	1	1	1	1	1	1	1	1	1	A	3	2	2	4	5	3	2.5	5.0	
2-Jul	3	4	4	4	5	6	5	4	5	3	2	2	2	2	1	1	A	5	3	2	2	2	3	5	3.3	6.0	
3-Jul	7	6	10	5	7	12	14	9	6	5	6	6	8	8	9	A	7	4	2	2	4	2	2	2	6.2	14.2	
4-Jul	1	1	1	1	1	2	6	5	3	2	3	2	3	3	A	6	4	3	3	3	3	3	3	4	2.8	5.7	
5-Jul	3	3	3	3	6	9	10	9	5	4	2	2	1	A	3	2	1	1	2	4	5	4	4	5	4.0	10.3	
6-Jul	6	6	13	5	6	17	19	16	8	5	3	2	A	4	2	2	1	2	2	2	7	8	6	5	6.4	18.7	
7-Jul	5	6	10	9	8	7	10	4	3	4	4	A	4	3	3	2	2	2	2	3	5	5	10	9	5.2	10.4	
8-Jul	7	5	6	7	8	9	8	7	9	9	A	5	3	2	2	2	2	2	3	3	6	9	7	10	5.7	10.0	
9-Jul	8	6	4	5	6	14	27	27	16	A	10	5	5	4	4	3	4	3	2	3	7	14	10	8	8.5	27.3	
10-Jul	7	6	6	10	9	15	24	26	A	7	4	3	3	2	3	3	3	3	2	3	5	5	5	4	6.8	26.2	
11-Jul	2	3	3	4	7	11	12	A	11	7	4	2	2	2	2	2	2	2	3	4	6	15	16	6	5.6	15.5	
12-Jul	4	5	4	4	5	9	A	15	9	5	3	2	2	1	2	1	2	2	2	3	5	10	16	21	5.8	21.2	
13-Jul	18	17	14	8	9	A	19	15	8	4	3	2	2	2	2	2	2	2	2	3	5	7	6	11	7.1	19.2	
14-Jul	7	4	5	8	A	23	12	10	4	5	3	3	2	2	1	1	1	2	2	3	4	5	5	3	5.0	23.2	
15-Jul	2	3	3	A	4	5	4	2	2	2	2	1	2	1	2	2	2	2	3	3	3	6	7	9	3.1	9.1	
16-Jul	6	7	A	1	2	5	4	6	2	2	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1.7	6.9	
17-Jul	0	A	1	1	2	3	11	6	4	2	1	1	1	1	1	1	1	2	1	1	1	1	0	0	1.9	11.4	
18-Jul	A	1	1	1	1	1	1	1	1	1	0	0	0	0	M	M	M	1	0	0	1	1	0	A	0.7	1.4	
19-Jul	0	1	1	1	1	6	13	5	2	1	1	0	0	0	0	0	0	0	0	0	1	1	A	1	1.6	12.7	
20-Jul	1	0	0	0	0	1	2	10	4	2	2	2	1	0	0	1	1	0	0	1	1	A	1	1	1.4	10.3	
21-Jul	1	0	0	0	0	1	2	2	1	1	1	1	1	1	1	1	1	0	0	1	A	2	4	4	1.1	4.3	
22-Jul	1	2	3	2	1	2	2	3	C	C	C	C	C	C	C	C	C	4	3	3	A	7	8	7	5	--	8.0
23-Jul	4	5	4	4	6	9	10	9	9	9	10	16	14	5	6	5	8	4	A	7	5	5	4	3	7.0	15.6	
24-Jul	3	3	3	3	3	4	8	8	6	5	3	2	2	2	2	3	2	A	5	6	7	11	6	10	4.6	11.4	
25-Jul	11	8	6	6	7	10	20	17	12	9	5	6	3	2	1	3	A	5	5	6	7	5	5	4	7.0	19.6	
26-Jul	4	4	5	5	7	13	16	11	11	14	9	5	2	2	2	A	5	4	3	4	4	5	4	4	6.2	16.2	
27-Jul	3	3	3	4	4	7	14	9	7	6	4	4	3	3	A	4	3	3	3	3	4	7	4	4	4.7	14.0	
28-Jul	3	4	3	4	4	8	8	7	6	5	3	2	2	A	4	5	6	3	2	3	5	6	5	5	4.5	8.0	
29-Jul	4	3	3	3	4	5	7	6	4	3	3	2	A	3	2	2	2	2	3	3	5	5	5	5	3.7	7.1	
30-Jul	5	4	5	6	8	10	10	17	11	6	3	A	4	3	3	2	2	2	2	2	6	7	4	4	5.6	17.2	
31-Jul	4	3	3	3	4	8	10	12	6	5	A	5	3	3	3	3	3	3	3	4	5	7	5	4	4.7	11.9	
		4.5	4.2	4.4	4.0	4.7	7.9	10.4	9.4	6.1	4.6	3.4	3.0	2.7	2.2	2.3	2.2	2.6	2.3	2.3	2.8	4.2	5.7	5.4	5.4	Diurnal Average	
		17.9	16.6	13.7	10.2	9.5	23.2	27.3	27.1	16.2	14.2	10.5	15.6	13.8	7.8	8.8	5.6	7.6	5.4	5.2	6.8	7.5	14.9	16.5	21.2	Diurnal Maximum	
C - Calibration		M - Maintenance							A - Automated Daily Zero Span																		

Hourly Averages

Oxides of Nitrogen (NO_x) - ppb

Henry Pirker - July 2012



Hourly Maximums

Oxides of Nitrogen (NO_x) - ppb

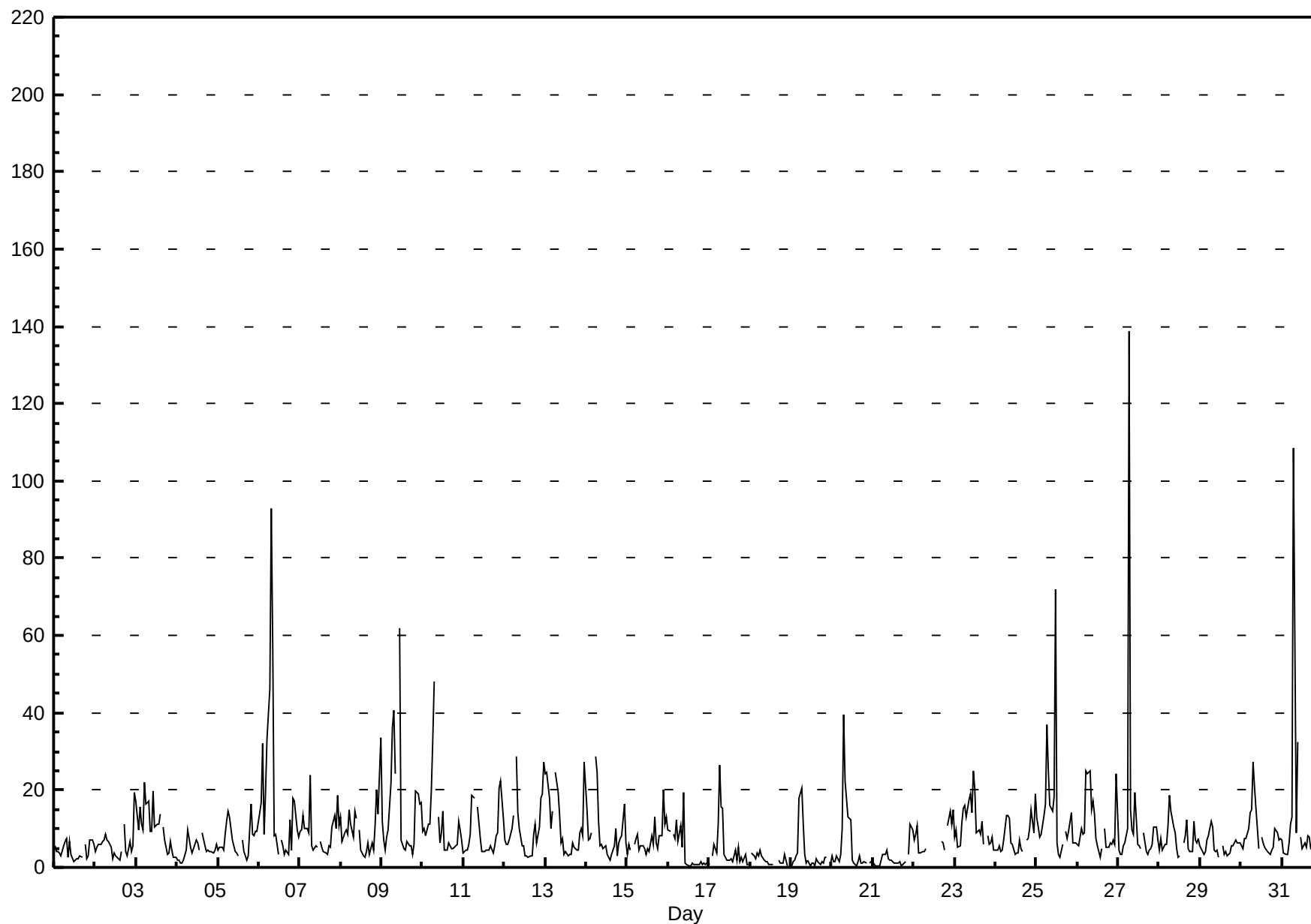
Henry Pirker - July 2012

Maximum Value: 138.8 ppb on Jul 27 07:00																				Maximum Daily Average: 18.9 ppb on Jul 6					Hours in Service: 744	
Minimum Value: 0 ppb on Jul 16 13:00																				Minimum Daily Average: 2.1 ppb on Jul 18					Hours of Data: 701	
Maximum Diurnal Average: 21.7 ppb at hour 8																				Minimum Diurnal Average: 3.9 ppb at hour 14					Hours of Missing Data: 43	
Monthly Average: 8.63 ppb																				Percentiles: P ₁ = 0.5 P ₁₀ = 1.7 Q ₁ = 3.6 Median = 6.0 Q ₃ = 10.1 P ₉₀ = 17.1 P ₉₉ = 43.6					Hours of Calibration: 40	
																				Percent Operational Time: 99.6						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
1-Jul	6	4	4	4	3	6	7	8	3	7	3	2	2	2	3	3	A	6	2	3	7	7	6	4.3	7.6	
2-Jul	4	5	6	6	7	7	9	7	7	5	2	4	3	2	2	4	A	11	4	3	7	4	6	19	5.8	19.4
3-Jul	17	10	16	11	10	22	17	17	9	9	20	11	11	11	14	A	11	7	4	4	7	5	3	3	10.6	22.0
4-Jul	2	2	1	1	2	4	10	8	5	4	6	7	6	5	A	9	6	4	4	4	4	4	5	6	4.7	9.6
5-Jul	5	5	5	5	9	12	14	13	7	6	4	4	3	A	7	4	3	2	3	16	9	8	9	9	7.0	16.4
6-Jul	14	17	32	9	20	33	46	93	57	8	9	3	A	7	6	4	5	3	12	4	18	17	10	8	18.9	92.9
7-Jul	9	10	13	10	10	9	24	6	5	5	5	A	7	5	4	4	3	5	5	10	13	10	19	11	8.9	23.7
8-Jul	13	7	9	10	9	15	11	8	14	13	A	10	5	3	2	4	6	4	7	5	11	20	14	34	10.0	33.5
9-Jul	12	7	5	8	10	22	36	41	24	A	62	7	6	5	5	7	6	6	4	6	20	19	17	17	15.1	61.9
10-Jul	9	10	8	11	11	20	33	48	A	13	6	9	15	5	5	6	6	5	5	6	6	12	10	7	11.5	48.2
11-Jul	4	5	5	6	9	19	18	A	15	11	8	4	4	5	5	5	6	4	6	8	9	21	22	13	9.0	22.4
12-Jul	7	6	6	7	10	14	A	29	14	10	6	5	3	3	3	3	3	9	11	7	11	18	19	27	10.0	28.7
13-Jul	24	25	18	10	14	A	24	20	14	7	7	3	4	3	4	3	6	5	4	4	9	10	8	27	11.1	27.2
14-Jul	15	7	8	9	A	29	25	12	6	6	5	6	4	3	2	3	6	10	3	7	7	8	16	7	8.7	28.7
15-Jul	4	6	4	A	6	8	9	5	6	6	5	3	5	4	8	6	13	6	5	8	8	20	11	13	7.3	20.0
16-Jul	10	9	A	9	8	12	7	11	5	19	1	1	0	0	1	1	1	1	1	1	1	1	1	1	4.4	19.2
17-Jul	1	A	3	6	4	11	26	15	15	3	2	2	2	2	1	4	2	5	1	3	1	3	1	1	5.0	26.4
18-Jul	A	4	3	2	4	3	4	3	2	1	1	1	1	1	M	M	M	2	1	1	3	2	1	A	2.1	4.4
19-Jul	1	1	2	3	4	18	21	11	4	1	2	0	1	1	0	2	1	1	1	1	3	3	A	1	3.6	20.6
20-Jul	3	1	1	3	1	3	10	40	23	13	13	12	2	1	0	1	3	1	1	1	1	A	1	2	6.0	39.5
21-Jul	2	0	0	0	0	2	4	4	5	2	2	2	1	1	1	1	1	0	1	2	A	3	11	10	2.4	11.3
22-Jul	7	9	11	4	4	4	4	5	C	C	C	C	C	C	C	C	7	6	4	A	11	15	11	15	--	15.0
23-Jul	8	10	5	6	12	15	16	13	18	19	14	25	20	9	10	9	12	6	A	8	6	6	8	4	11.2	24.9
24-Jul	4	4	5	4	4	7	13	13	13	7	6	3	4	4	7	5	4	A	7	8	10	15	9	19	7.7	19.2
25-Jul	13	11	8	8	13	17	37	25	16	14	18	72	6	3	2	6	A	9	7	9	14	6	6	6	14.4	72.1
26-Jul	6	5	10	8	9	25	24	25	15	17	14	8	6	2	5	A	10	5	5	6	6	7	6	24	10.9	25.1
27-Jul	4	4	4	6	7	10	139	15	10	8	20	6	6	5	A	9	4	3	4	5	6	11	11	7	13.1	138.8
28-Jul	4	8	4	6	6	11	19	14	11	9	5	2	3	A	6	8	12	5	4	4	12	7	7	8	7.6	18.5
29-Jul	6	4	3	4	7	8	12	11	4	4	4	3	A	6	3	4	3	4	5	5	6	7	6	6	5.5	12.0
30-Jul	5	5	7	7	10	14	15	27	21	15	5	A	8	6	5	4	4	3	5	5	10	9	7	7	9.0	27.4
31-Jul	7	4	3	3	6	11	13	108	9	33	A	8	5	6	5	8	8	5	5	6	7	11	7	6	12.4	108.5
7.5 6.8 7.0 6.2 7.5 13.0 21.5 21.7 12.2 9.5 9.1 7.9 5.1 3.9 4.3 4.7 5.5 4.8 4.6 5.3 7.9 9.6 8.9 10.8																								Diurnal Average		
24.1 24.5 32.0 11.3 19.6 33.0 138.8 108.5 57.1 32.5 61.9 72.1 20.1 11.1 13.9 9.1 13.2 11.1 12.2 16.4 19.6 20.6 22.4 33.5																								Diurnal Maximum		
C - Calibration M - Maintenance A - Automated Daily Zero Span																										

Hourly Maximums

Oxides of Nitrogen (NO_x) - ppb

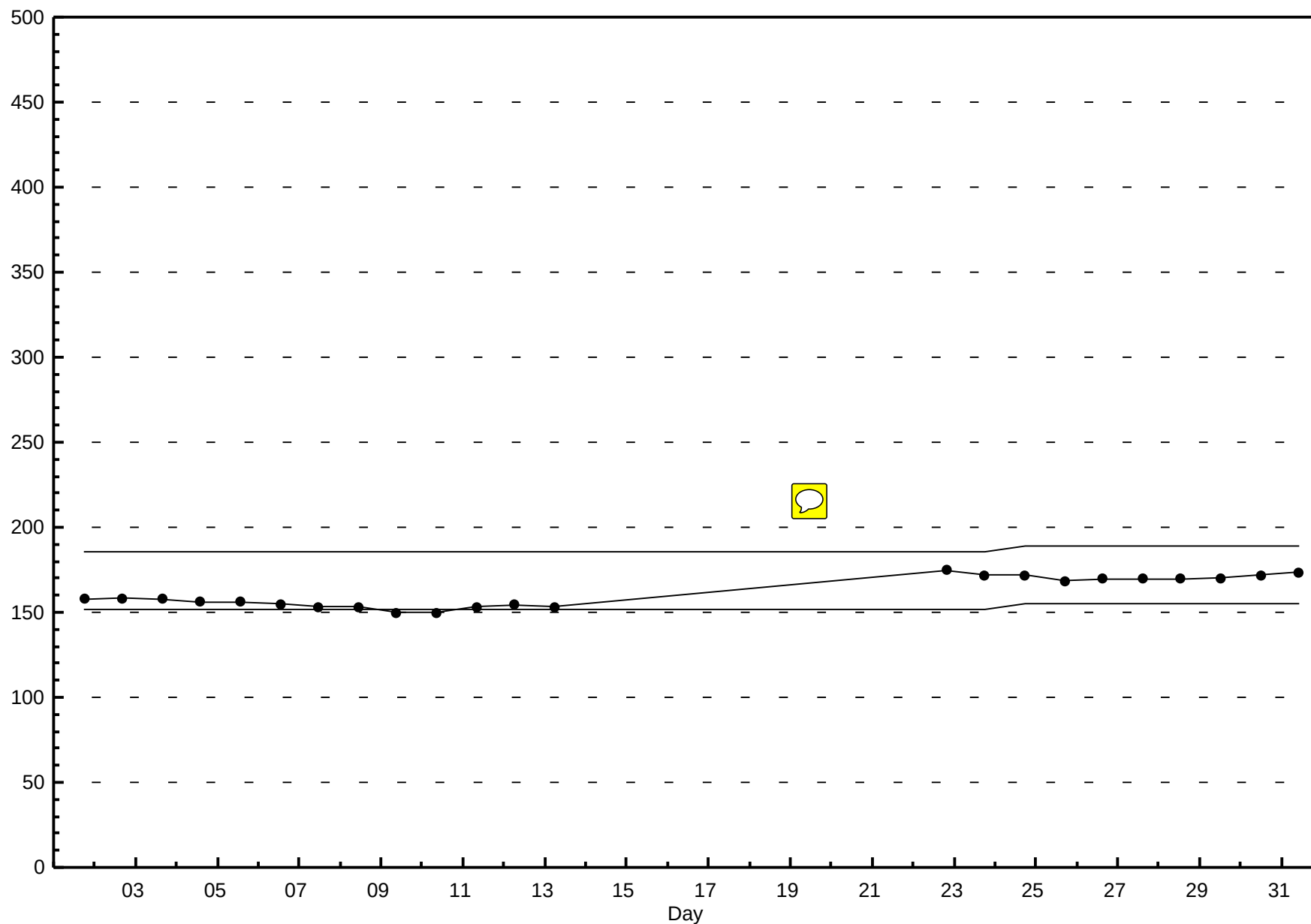
Henry Pirker - July 2012



Span Responses

Oxides of Nitrogen (NO_x)

Henry Pirker - July 2012



Hourly Averages

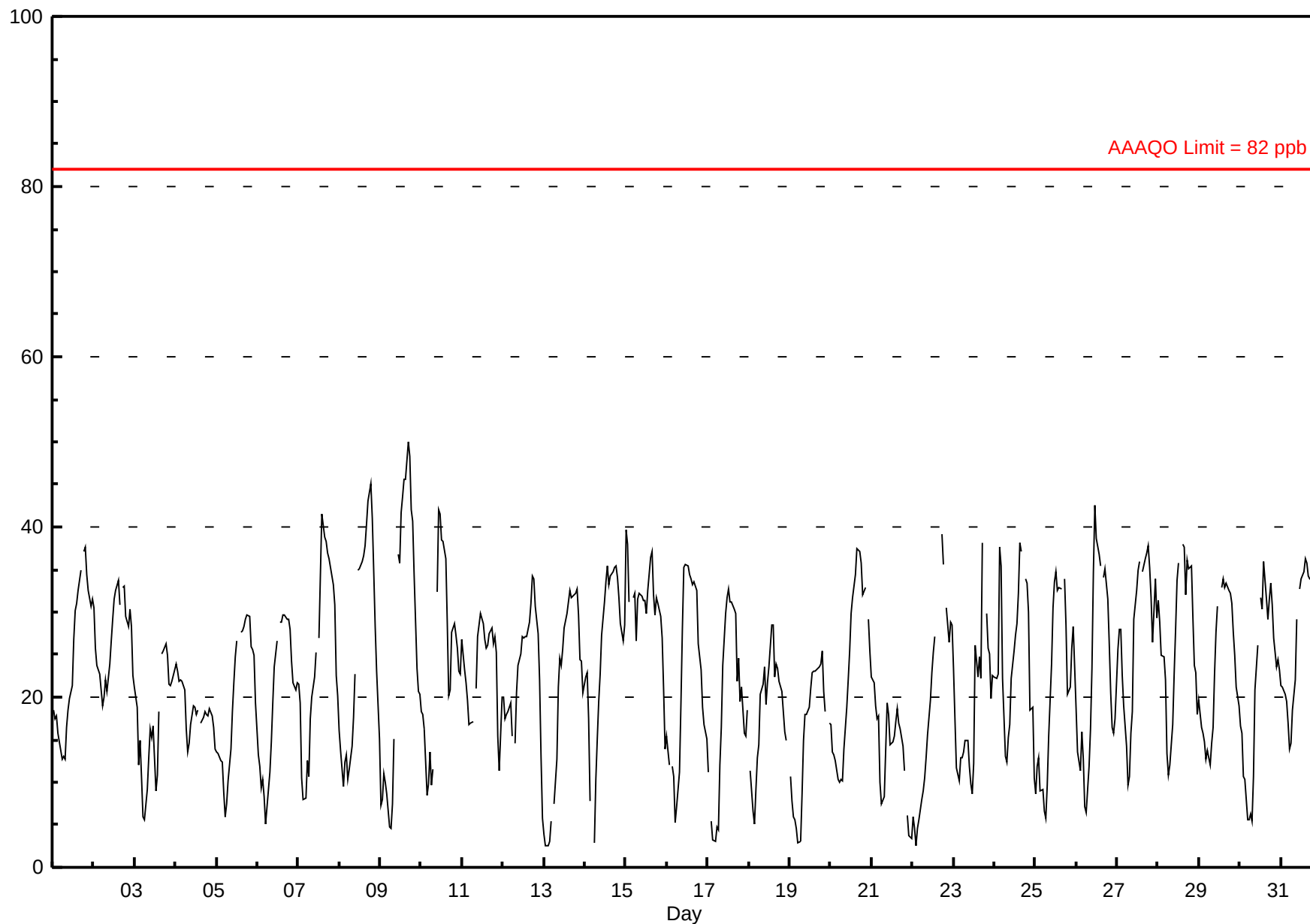
Ozone (O₃) - ppb

Henry Pirker - July 2012

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 50.0 ppb on Jul 9 17:00 Maximum Daily Average: 30.8 ppb on Jul 15																				Hours in Service: 744 Hours of Data: 709						
Minimum Value: 3 ppb on Jul 13 02:00 Minimum Daily Average: 14.2 ppb on Jul 21 Maximum Diurnal Average: 31.7 ppb at hour 15 Minimum Diurnal Average: 10.6 ppb at hour 7 Monthly Average: 22.46 ppb Percentiles: P ₁ = 3.1 P ₁₀ = 9.6 Q ₁ = 14.9 Median = 22.4 Q ₃ = 30.3 P ₉₀ = 35.0 P ₉₉ = 42.7																				Hours of Missing Data: 35 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-Jul	19	18	18	16	15	13	13	13	16	19	20	21	27	30	31	33	35	A	37	38	34	33	31	31	24.3	37.7
2-Jul	30	26	24	23	21	19	20	22	21	24	27	29	32	33	34	31	A	33	33	29	28	30	28	23	26.9	33.7
3-Jul	21	19	12	15	10	6	6	9	13	16	15	17	9	11	18	A	25	25	26	25	21	21	22	23	16.8	26.3
4-Jul	24	23	22	22	22	21	16	14	15	17	19	19	18	18	A	17	18	18	18	18	19	18	16	14	18.5	23.8
5-Jul	14	13	12	12	9	6	7	10	14	18	22	25	27	A	28	28	28	29	30	30	26	26	25	19	19.9	29.7
6-Jul	13	12	9	10	8	5	9	11	15	19	24	27	A	29	29	30	30	29	29	28	24	22	21	22	19.8	29.7
7-Jul	21	19	11	8	8	12	11	17	20	22	25	A	27	34	42	39	38	37	36	35	33	31	23	20	24.8	41.6
8-Jul	16	14	9	12	13	10	12	14	18	23	A	35	35	36	37	38	40	43	45	41	35	28	23	15	25.8	45.0
9-Jul	7	8	11	10	9	5	5	7	15	A	37	36	42	44	46	46	50	48	42	41	34	23	21	20	26.3	50.0
10-Jul	18	18	16	8	10	14	10	12	A	32	42	42	38	38	36	29	20	21	28	29	27	26	23	23	24.3	42.1
11-Jul	27	23	22	20	17	17	17	A	21	27	28	30	29	27	26	26	28	28	26	27	25	15	11	20	23.4	29.9
12-Jul	20	17	18	18	19	15	A	15	21	24	25	27	27	27	27	29	31	34	34	31	27	22	13	6	22.9	34.3
13-Jul	4	3	3	3	5	A	8	13	21	25	24	26	28	30	31	32	32	32	32	33	30	24	24	21	20.9	32.7
14-Jul	22	23	18	8	A	3	10	15	19	23	27	31	33	35	33	34	35	35	35	34	32	29	27	29	25.7	35.5
15-Jul	40	38	31	A	32	32	27	32	32	32	31	31	30	33	36	37	32	30	32	31	29	27	21	14	30.8	39.6
16-Jul	15	12	A	12	11	5	7	11	19	28	35	36	35	34	34	33	34	33	26	25	23	19	17	15	22.6	35.6
17-Jul	11	A	5	3	3	5	4	12	16	24	30	32	33	31	31	30	30	22	25	20	21	16	16	18	19.1	32.6
18-Jul	A	11	7	5	9	13	14	20	22	24	19	22	24	28	28	22	24	23	22	21	18	16	15	A	18.5	28.4
19-Jul	11	8	6	6	5	3	3	9	15	18	18	19	21	23	23	23	23	24	24	25	21	18	A	17	15.7	25.4
20-Jul	17	14	13	13	10	10	10	10	14	19	22	25	30	32	34	37	37	37	36	32	33	A	29	25	23.5	37.4
21-Jul	22	22	19	17	18	10	7	8	14	19	18	14	15	15	17	19	17	16	14	11	A	6	4	3	14.2	22.4
22-Jul	6	5	3	5	6	8	9	10	13	16	20	23	25	27	C	C	C	39	36	A	30	27	29	28	18.2	39.1
23-Jul	23	17	12	10	13	13	14	15	15	12	10	9	12	26	22	25	22	38	A	30	26	25	20	23	18.7	38.2
24-Jul	22	22	23	38	36	22	13	12	15	17	22	25	27	29	32	38	37	A	34	33	30	18	19	11	25.1	38.1
25-Jul	9	12	13	9	9	7	6	10	15	24	31	34	35	32	33	33	A	34	28	20	21	26	28	24	21.4	34.8
26-Jul	19	14	11	16	13	7	6	12	16	23	35	43	39	37	35	A	34	35	32	26	20	16	16	18	22.7	42.6
27-Jul	26	28	28	23	19	14	10	11	16	18	29	33	35	36	A	35	36	37	38	35	32	26	34	29	27.2	37.8
28-Jul	31	29	25	25	22	13	11	12	17	23	28	34	36	A	38	38	32	36	35	35	29	24	23	18	26.7	38.0
29-Jul	20	16	16	15	13	14	12	15	16	23	28	31	A	33	34	33	33	33	32	31	28	25	21	19	23.4	33.9
30-Jul	17	16	11	10	6	6	6	5	11	21	26	A	32	30	36	32	29	32	33	31	27	24	24	23	21.2	36.0
31-Jul	21	21	20	19	17	14	15	18	22	29	A	33	34	35	36	36	34	34	34	31	30	24	24	24	26.4	36.2
18.9 17.3 14.9 13.7 13.5 11.4 10.6 13.2 17.2 21.9 25.4 27.8 28.7 30.1 31.7 31.5 30.9 31.6 31.1 29.2 27.2 22.8 21.6 19.8																									Diurnal Average	
39.6 37.9 31.2 37.6 35.5 32.2 26.6 31.6 32.2 32.4 42.1 42.6 41.6 43.6 45.7 45.5 50.0 48.4 45.0 41.0 34.8 32.6 33.8 31.5																									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 - July 2012



Hourly Maximums

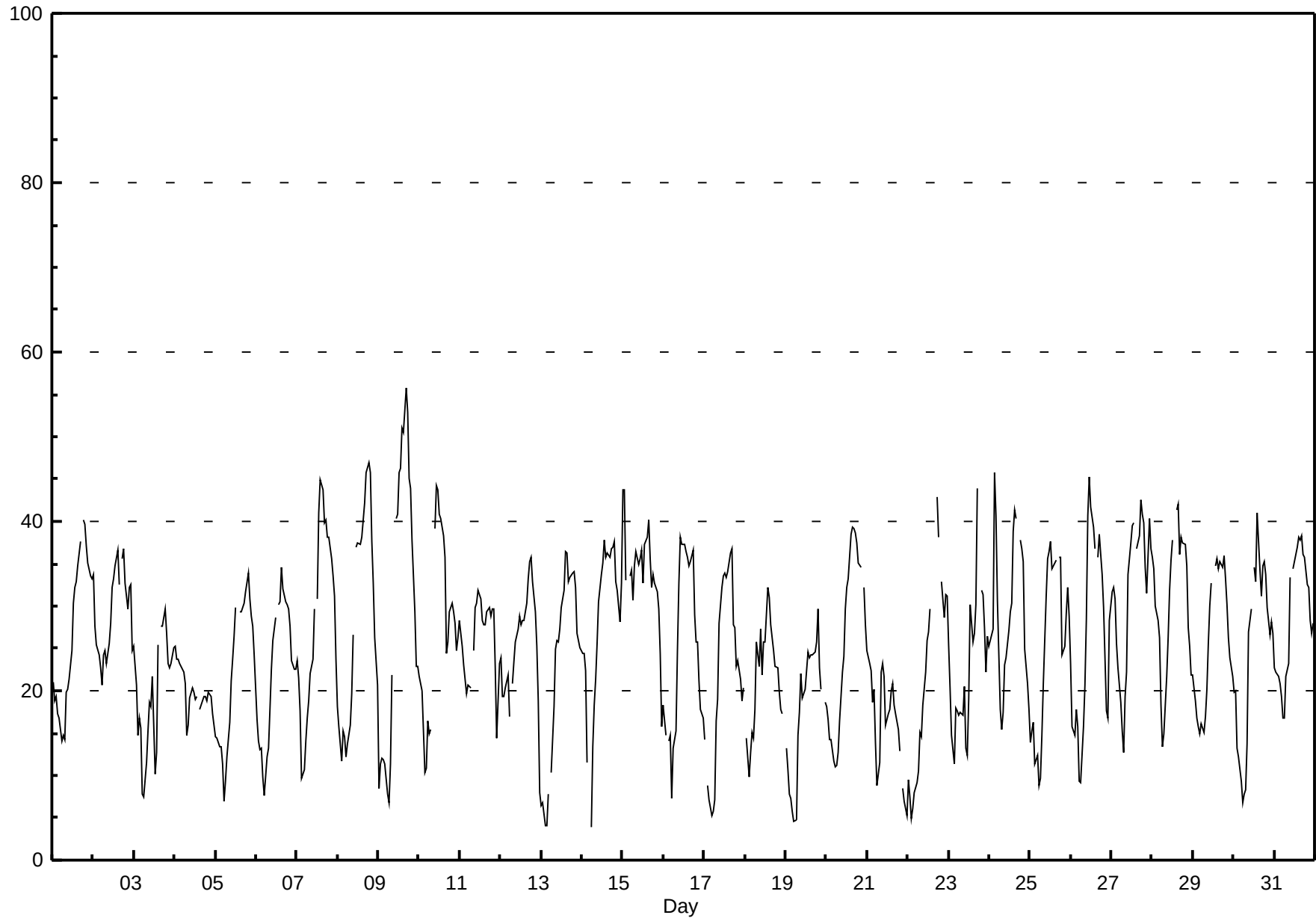
Ozone (O₃) - ppb

Henry Pirker - July 2012

Maximum Value: 55.8 ppb on Jul 9 17:00																				Maximum Daily Average: 34.0 ppb on Jul 15					Hours in Service: 744	
Minimum Value: 4 ppb on Jul 14 06:00																				Minimum Daily Average: 16.8 ppb on Jul 21					Hours of Data: 709	
Maximum Diurnal Average: 34.6 ppb at hour 15																				Minimum Diurnal Average: 13.7 ppb at hour 7					Hours of Missing Data: 35	
Monthly Average: 25.31 ppb																				Percentiles: P ₁ = 5.1 P ₁₀ = 12.2 Q ₁ = 17.8 Median = 25.3 Q ₃ = 33.1 P ₉₀ = 37.8 P ₉₉ = 45.5					Hours of Calibration: 35	
																									Percent Operational Time: 100.0	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jul	21	19	19	17	17	14	15	14	20	20	21	25	30	32	33	35	38	A	40	40	37	35	34	33	26.5	40.1
2-Jul	34	28	25	24	23	21	24	25	23	26	28	32	33	35	37	33	A	36	37	33	30	32	33	25	29.3	36.8
3-Jul	25	21	15	17	16	8	7	12	15	19	18	22	10	13	25	A	28	28	30	27	23	23	23	25	19.5	29.7
4-Jul	25	24	24	23	23	22	21	15	16	19	20	20	19	19	A	18	19	19	19	19	20	19	17	16	19.9	25.3
5-Jul	15	14	13	13	11	7	9	12	16	21	24	26	30	A	29	29	30	30	32	34	31	29	28	24	22.1	33.9
6-Jul	17	14	13	13	10	8	12	13	18	23	26	29	A	30	31	35	32	31	30	30	28	24	23	23	22.1	34.6
7-Jul	24	22	18	10	11	14	17	19	22	24	30	A	31	41	45	44	40	40	38	38	36	34	31	24	28.2	44.8
8-Jul	18	16	12	15	15	12	14	16	20	27	A	37	37	37	38	40	42	46	47	46	38	33	26	21	28.3	47.0
9-Jul	8	11	12	12	11	8	7	11	22	A	40	41	46	46	51	50	56	53	45	44	38	29	23	23	29.9	55.8
10-Jul	22	21	20	10	11	16	15	15	A	39	44	44	41	40	38	36	24	26	29	30	29	28	25	26	27.4	44.2
11-Jul	28	25	23	21	20	21	20	A	25	30	30	32	31	28	28	28	29	30	29	30	30	23	14	23	26.0	31.8
12-Jul	24	19	19	20	22	17	A	21	23	26	27	29	28	28	28	30	33	35	36	33	29	25	19	8	25.3	35.8
13-Jul	6	7	4	4	8	A	10	18	25	26	26	27	30	32	36	36	33	33	34	34	32	27	26	25	23.5	36.5
14-Jul	24	24	22	12	A	4	13	18	21	26	30	34	35	38	36	36	36	37	37	38	33	32	28	33	28.1	37.8
15-Jul	44	44	33	A	34	34	31	35	37	35	36	37	33	37	38	40	36	32	34	33	32	30	24	16	34.0	43.7
16-Jul	18	15	A	14	15	7	13	15	25	33	38	37	37	36	36	35	35	37	29	26	26	21	18	17	25.3	38.1
17-Jul	14	A	9	7	5	6	7	16	19	28	32	34	34	33	34	36	37	28	27	23	23	21	19	20	22.3	36.8
18-Jul	A	14	10	13	15	14	18	26	23	27	22	26	26	32	31	28	26	25	23	23	20	18	17	A	21.6	32.3
19-Jul	13	11	8	7	6	5	5	15	17	22	19	20	22	25	24	24	24	25	26	30	23	20	A	19	17.8	29.6
20-Jul	18	17	14	14	12	11	11	13	16	22	24	30	32	33	38	39	39	39	37	35	35	A	32	28	25.7	39.4
21-Jul	25	23	22	19	20	14	9	11	22	23	22	16	17	18	20	21	18	17	15	13	A	8	7	5	16.8	24.7
22-Jul	9	7	5	6	8	9	11	15	15	18	22	26	27	30	C	C	C	43	38	A	33	29	31	31	20.7	42.9
23-Jul	25	20	15	11	18	18	17	17	17	21	13	12	19	30	26	27	30	44	A	32	31	27	22	26	22.6	43.9
24-Jul	25	27	27	46	41	31	18	15	18	23	24	27	29	30	39	41	40	A	38	37	35	25	21	18	29.3	45.7
25-Jul	14	15	16	11	12	9	10	15	21	31	36	36	38	34	35	35	A	36	36	24	25	29	32	29	25.2	37.6
26-Jul	23	16	15	18	16	9	9	16	21	28	41	45	42	39	37	A	36	38	34	30	24	18	17	28	26.0	45.3
27-Jul	32	32	31	26	23	19	15	13	19	22	34	37	39	40	A	37	38	42	41	40	35	32	40	37	31.4	42.5
28-Jul	36	34	30	28	26	18	13	15	22	26	32	35	38	A	41	42	36	38	38	37	35	27	25	22	30.3	42.0
29-Jul	22	19	17	16	15	16	15	17	20	26	30	33	A	35	36	34	35	35	36	33	30	26	24	22	25.7	35.9
30-Jul	20	20	13	12	9	7	8	8	14	27	30	A	35	33	41	34	31	35	35	34	30	27	28	27	24.2	41.1
31-Jul	23	22	22	21	19	17	17	22	23	33	A	34	35	37	38	38	38	36	36	33	32	28	27	28	28.7	38.3
21.8 20.0 17.5 16.0 16.3 13.8 13.7 16.4 20.5 25.7 28.3 30.4 31.2 32.5 34.6 34.4 33.6 34.2 33.5 31.8 30.0 26.0 24.5 23.3																								Diurnal Average		
43.7 43.7 33.0 45.7 40.7 34.2 30.7 34.7 36.5 39.2 44.2 45.3 45.8 46.3 51.1 50.4 55.8 52.8 47.0 45.7 37.8 35.1 40.3 36.8																								Diurnal Maximum		
C - Calibration A - Automated Daily Zero Span																										

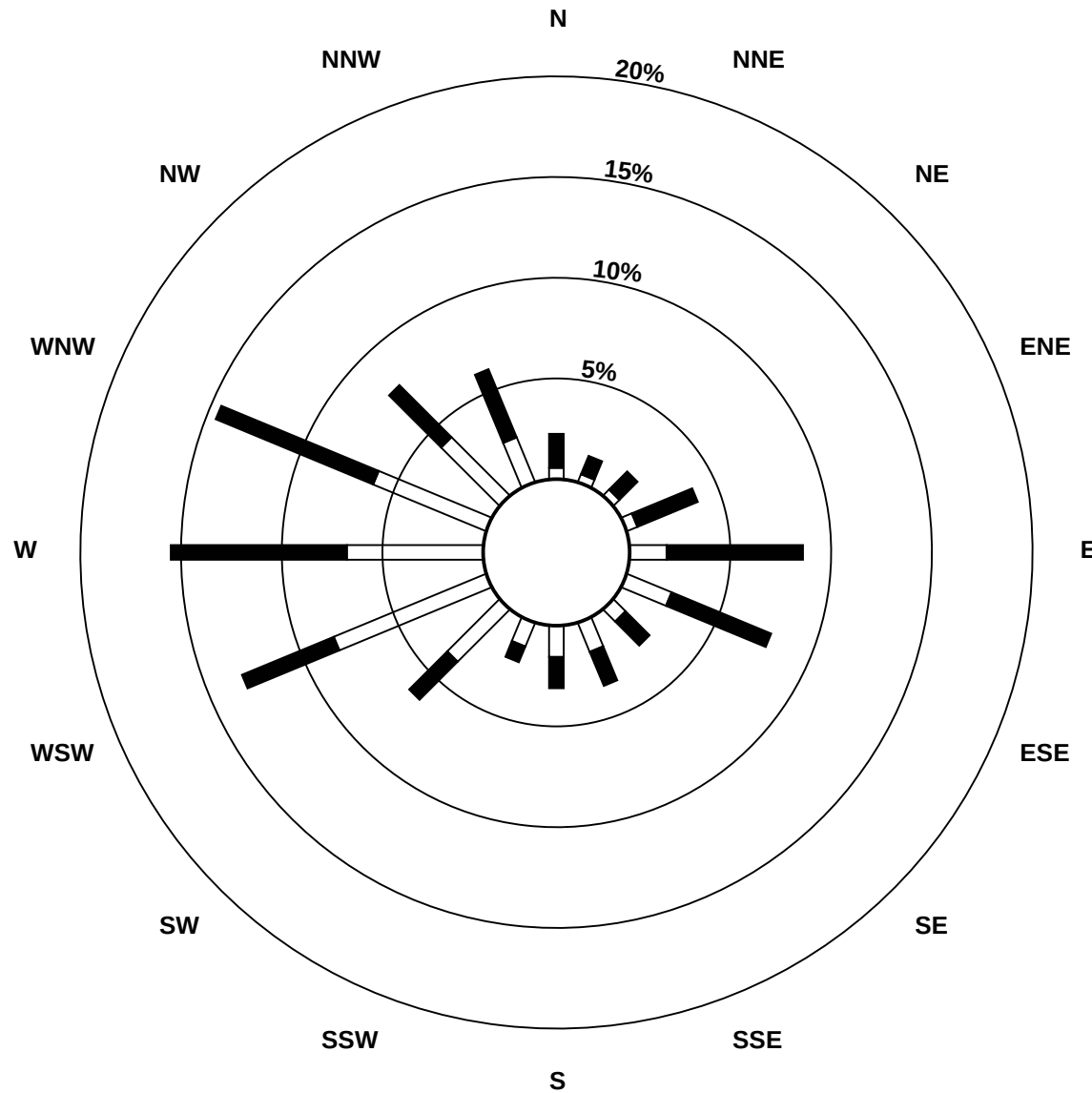
Hourly Maximums

Ozone (O₃) - ppb
Henry Pirker - July 2012

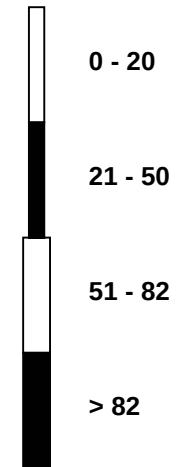


Pollutant Rose

Ozone (O₃) - ppb
Henry Pirker - July 2012



Pollutant Classes (ppb)



Eight Hour Running Averages

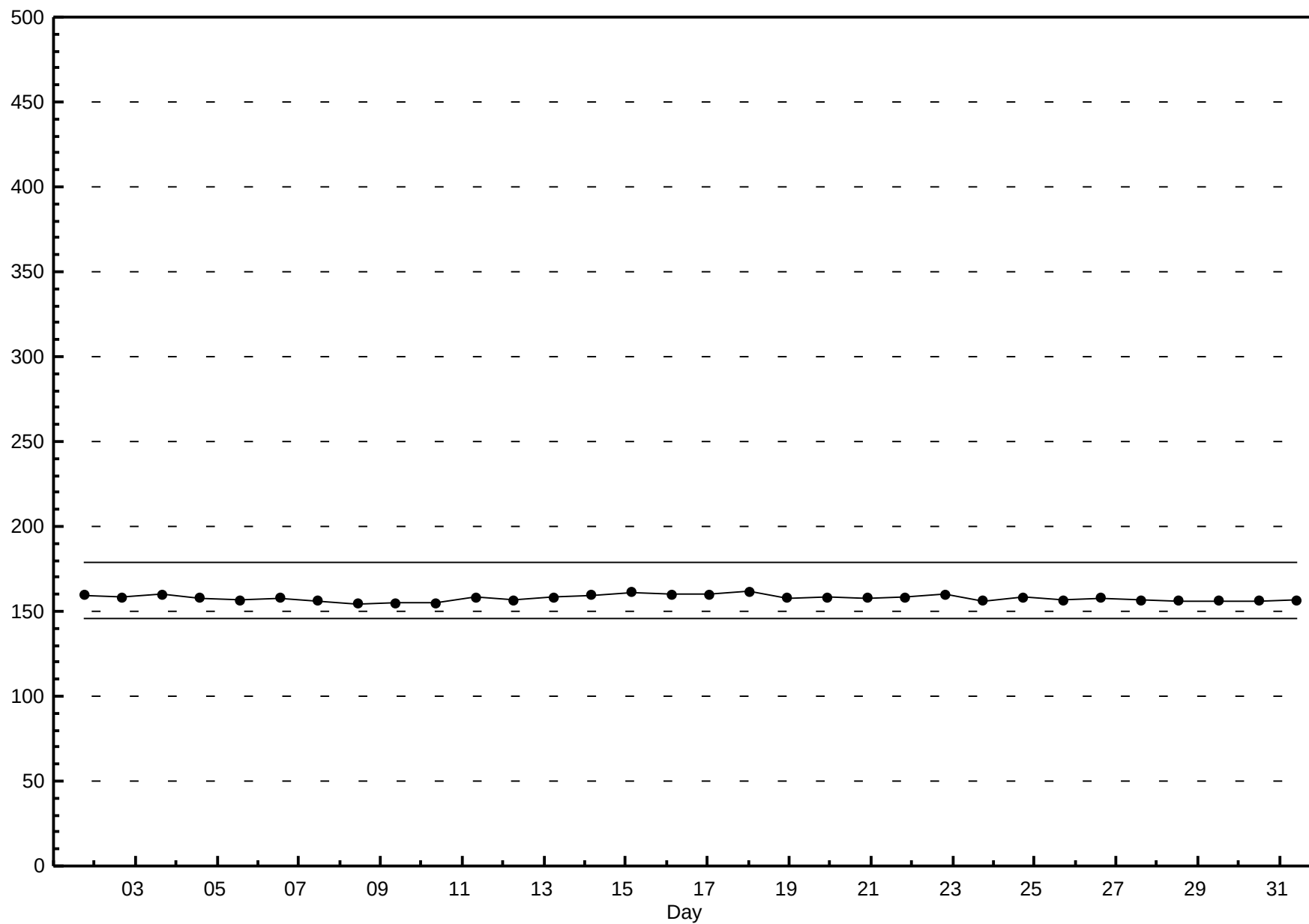
Ozone (O₃) - ppb

Henry Pirker - July 2012

Maximum Value: 44.7 ppb on Jul 9 20:00																								Hours in Service: 744
Minimum Value: 4.4 ppb on Jul 13 07:00																								Hours of Data: 737
Percentiles: P ₁ = 5.4 P ₁₀ = 12.1 Q ₁ = 16.2 Median = 22.3 Q ₃ = 28.8 P ₉₀ = 32.8 P ₉₉ = 37.7																								Hours of Missing Data: 7
																								Hours of Calibration: 7
																								Percent Operational Time: 100.0
Day	Hourly Period Ending At (MST)																							Daily Maximum
1-Jul	22	21	21	20	19	17	16	15	15	15	15	16	18	20	22	25	27	28	31	33	34	34	34	34
2-Jul	34	33	31	29	27	26	24	23	22	22	22	23	24	26	28	29	30	31	32	32	32	31	30	29
3-Jul	28	26	24	22	20	17	14	12	11	11	11	12	11	12	14	14	16	17	19	20	22	23	24	24
4-Jul	24	23	23	22	22	22	22	20	19	18	18	18	17	17	17	18	18	18	18	18	18	18	18	17
5-Jul	17	16	15	15	14	12	11	11	11	11	12	14	16	18	20	23	25	27	28	28	28	28	28	27
6-Jul	25	23	20	18	15	13	11	10	10	11	13	15	16	19	22	25	27	28	29	29	28	28	27	26
7-Jul	25	23	21	18	16	15	14	13	13	14	16	17	19	22	27	30	33	35	36	36	37	36	34	32
8-Jul	29	26	23	20	17	15	13	13	13	14	15	18	21	25	28	32	35	38	39	39	39	38	37	34
9-Jul	30	25	21	17	14	11	9	8	9	9	12	16	21	26	32	38	43	43	44	45	44	41	38	35
10-Jul	31	27	24	20	17	16	14	13	12	15	18	23	27	31	34	37	35	33	31	30	28	27	25	24
11-Jul	25	26	25	24	22	21	21	20	20	20	21	22	24	26	27	27	28	28	27	27	27	25	23	23
12-Jul	22	20	19	18	17	17	18	18	18	19	20	21	22	24	24	26	27	28	30	30	30	29	28	25
13-Jul	21	17	13	10	7	5	4	5	8	11	14	17	20	22	25	27	28	29	30	31	31	31	30	28
14-Jul	27	26	24	21	20	17	15	14	14	14	15	18	20	24	27	30	32	33	34	34	34	33	33	32
15-Jul	32	33	32	32	32	33	33	33	32	31	31	31	31	31	32	33	33	33	33	33	33	32	30	27
16-Jul	25	23	21	19	16	13	11	11	11	13	16	19	22	26	29	32	34	34	33	32	30	28	26	24
17-Jul	21	19	16	13	11	9	7	6	7	9	12	16	19	23	26	28	30	30	29	28	26	24	22	21
18-Jul	20	18	16	13	12	11	11	11	13	14	16	18	20	22	23	24	24	24	24	24	23	22	20	20
19-Jul	18	16	13	11	9	7	6	6	7	8	9	11	13	16	18	20	21	22	22	23	23	23	23	22
20-Jul	21	19	18	16	15	13	13	12	12	12	14	15	18	20	23	27	30	32	34	34	35	35	35	33
21-Jul	31	28	26	24	22	20	18	15	14	14	14	14	13	14	15	16	17	16	16	16	16	14	12	10
22-Jul	9	7	5	4	5	5	5	6	7	9	11	13	15	18	19	21	N	N	N	N	N	N	N	32
23-Jul	30	27	24	22	20	18	16	15	14	13	13	12	12	14	15	16	17	21	22	25	27	27	27	26
24-Jul	26	24	24	25	26	26	25	24	23	22	22	20	19	20	23	26	28	30	32	33	33	32	30	26
25-Jul	22	21	18	15	12	11	9	9	10	12	14	17	20	23	27	30	32	33	33	31	29	28	27	26
26-Jul	25	22	20	20	19	16	14	12	12	13	16	19	23	26	30	33	35	37	36	34	31	28	26	25
27-Jul	24	23	22	22	22	21	21	20	18	17	17	19	21	23	25	29	32	34	36	36	36	34	34	33
28-Jul	33	32	30	29	28	26	23	21	19	18	19	20	22	23	27	30	33	34	35	36	35	33	32	29
29-Jul	28	25	23	20	18	17	15	15	15	15	17	19	20	22	26	28	31	32	33	33	32	31	29	28
30-Jul	26	24	21	18	16	13	11	10	9	9	11	12	15	19	23	27	29	31	32	32	31	30	29	28
31-Jul	27	26	24	23	21	20	19	18	18	19	19	21	24	26	30	32	34	34	34	34	34	32	31	30
33.5 32.8 32.3 32.0 32.0 32.5 32.5 33.0 31.9 31.1 31.1 31.1 30.9 30.9 34.4 37.7 42.7 43.4 44.1 44.7 43.8 41.3 38.1 35.0																								
Diurnal Maximums																								
N - Not Valid																								

Span Responses

Ozone (O₃)
Henry Pirker - July 2012



Hourly Averages

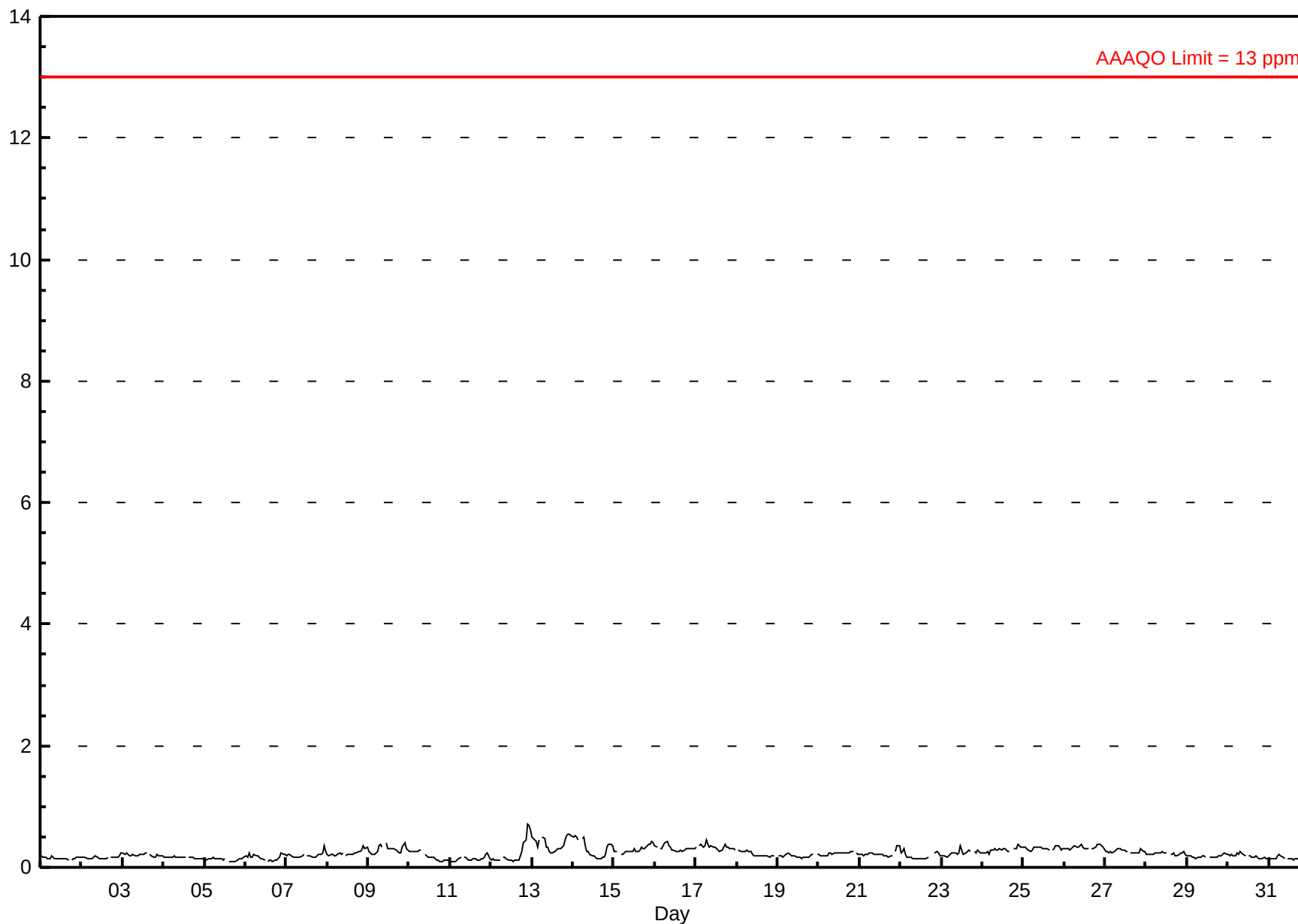
Carbon Monoxide (CO) - ppm

Henry Pirker - July 2012

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 0.71 ppm on Jul 12 22:00 Maximum Daily Average: 0.39 ppm on Jul 13																				Hours in Service: 744 Hours of Data: 710 Hours of Missing Data: 34 Hours of Calibration: 34 Percent Operational Time: 100.0							
Minimum Value: 0.1 ppm on Jul 5 17:00 Maximum Diurnal Average: 0.28 ppm at hour 22 Monthly Average: 0.230 ppm										Minimum Daily Average: 0.13 ppm on Jul 5 Minimum Diurnal Average: 0.20 ppm at hour 16 Percentiles: P ₁ = 0.10 P ₁₀ = 0.14 Q ₁ = 0.16 Median = 0.21 Q ₃ = 0.28 P ₉₀ = 0.34 P ₉₉ = 0.53																	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jul	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	A	A	0.1	0.1	0.2	0.2	0.2	0.2	0.15	0.20
2-Jul	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.2	A	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.16	0.23
3-Jul	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.20	0.24
4-Jul	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	A	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.16	0.19
5-Jul	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	A	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.13	0.16
6-Jul	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	A	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.16	0.24
7-Jul	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.4	0.3	0.20	0.35
8-Jul	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.4	0.3	0.3	0.3	0.23	0.35
9-Jul	0.3	0.2	0.2	0.2	0.2	0.3	0.4	0.4	0.3	A	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.3	0.4	0.3	0.3	0.3	0.30	0.41
10-Jul	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	A	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	0.18	0.29
11-Jul	0.1	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	0.2	0.1	0.2	0.2	0.2	0.1	0.14	0.23	
12-Jul	0.1	0.2	0.1	0.1	0.1	0.1	A	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.4	0.4	0.7	0.7	0.6	0.23	0.71	
13-Jul	0.5	0.5	0.4	0.3	0.5	A	0.5	0.5	0.3	0.3	0.3	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.5	0.5	0.5	0.5	0.39	0.55	
14-Jul	0.5	0.5	0.5	0.4	A	0.5	0.5	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.3	0.4	0.4	0.3	0.31	0.52	
15-Jul	0.3	0.3	0.3	A	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.29	0.42	
16-Jul	0.4	0.3	A	0.3	0.3	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.31	0.44	
17-Jul	0.3	A	0.4	0.4	0.3	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.33	0.44	
18-Jul	A	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.22	0.29	
19-Jul	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.18	0.24	
20-Jul	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	A	0.2	0.2	0.22	0.26	
21-Jul	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.3	0.4	0.3	0.22	0.36	
22-Jul	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.2	C	C	C	0.2	0.3	0.2	0.2	0.19	0.31	
23-Jul	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.4	0.3	0.2	0.2	0.3	0.3	0.3	A	0.3	0.2	0.3	0.3	0.2	0.24	0.36	
24-Jul	0.2	0.2	0.2	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	A	0.3	0.3	0.3	0.4	0.3	0.3	0.29	0.38	
25-Jul	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	A	0.3	0.3	0.3	0.4	0.3	0.3	0.3	0.31	0.35	
26-Jul	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.3	0.3	0.4	0.4	0.3	0.3	0.3	0.3	A	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.3	0.33	0.38	
27-Jul	0.3	0.3	0.2	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	A	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.26	0.30	
28-Jul	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.23	0.26	
29-Jul	0.2	0.2	0.2	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	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.18	0.23	
30-Jul	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.1	0.1	0.19	0.25	
31-Jul	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	A	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.15	0.21	
0.24 0.23 0.23 0.22 0.21 0.23 0.26 0.25 0.23 0.22 0.22 0.21 0.22 0.21 0.20 0.20 0.20 0.20 0.21 0.23 0.25 0.28 0.28 0.26																										Diurnal Average	
0.51 0.52 0.51 0.45 0.46 0.49 0.51 0.48 0.36 0.36 0.40 0.36 0.32 0.31 0.31 0.31 0.33 0.38 0.36 0.45 0.53 0.71 0.69 0.62																										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 - July 2012



Hourly Maximums

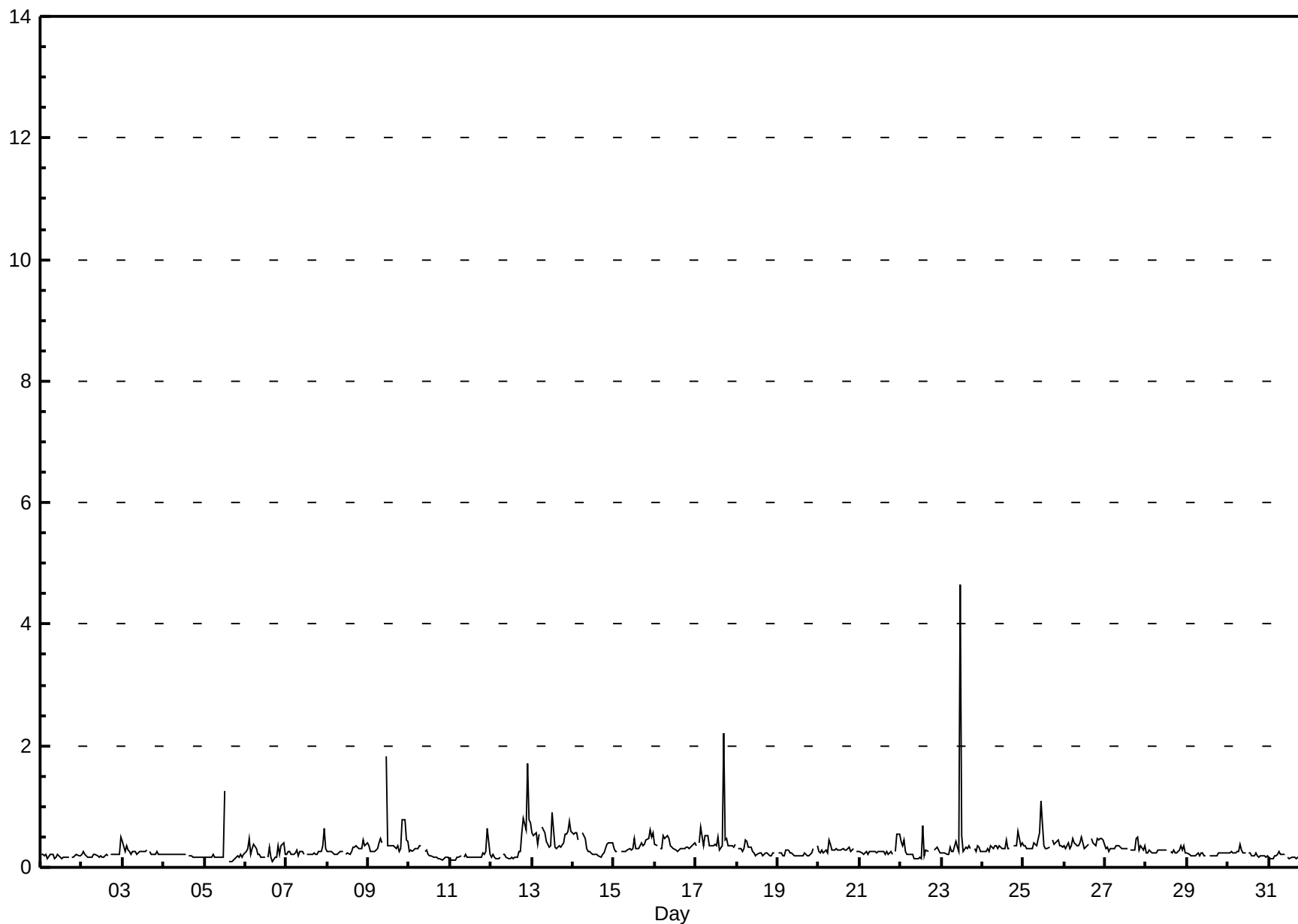
Carbon Monoxide (CO) - ppm

Henry Pirker - July 2012

Maximum Value: 4.66 ppm on Jul 23 12:00																				Maximum Daily Average: 0.49 ppm on Jul 13					Hours in Service: 744	
Minimum Value: 0.1 ppm on Jul 5 16:00																				Minimum Daily Average: 0.18 ppm on Jul 31					Hours of Data: 710	
Maximum Diurnal Average: 0.41 ppm at hour 12																				Minimum Diurnal Average: 0.24 ppm at hour 16					Hours of Missing Data: 34	
Monthly Average: 0.300 ppm																				Percentiles: P ₁ = 0.10 P ₁₀ = 0.16 Q ₁ = 0.20 Median = 0.26 Q ₃ = 0.35 P ₉₀ = 0.46 P ₉₉ = 0.78					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-Jul	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.18	0.21
2-Jul	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.5	0.20	0.50
3-Jul	0.4	0.3	0.4	0.3	0.3	0.2	0.3	0.3	0.2	0.2	0.3	0.3	0.3	0.3	0.3	A	0.3	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.25	0.43
4-Jul	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.19	0.21
5-Jul	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	1.3	A	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.20	1.25
6-Jul	0.3	0.3	0.5	0.2	0.3	0.4	0.3	0.2	0.2	0.2	0.2	0.2	A	0.2	0.3	0.2	0.1	0.2	0.2	0.4	0.2	0.4	0.4	0.2	0.25	0.46
7-Jul	0.2	0.3	0.3	0.2	0.2	0.2	0.3	0.2	0.2	0.3	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.4	0.6	0.3	0.26	0.64
8-Jul	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	A	0.2	0.2	0.2	0.3	0.3	0.3	0.4	0.3	0.3	0.3	0.5	0.4	0.4	0.28	0.46
9-Jul	0.4	0.3	0.3	0.3	0.3	0.3	0.4	0.5	0.4	A	1.8	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.3	0.3	0.8	0.8	0.4	0.4	0.45	1.82
10-Jul	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	A	0.3	0.3	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	0.22	0.36
11-Jul	0.1	0.1	0.1	0.1	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.6	0.2	0.19	0.65	
12-Jul	0.2	0.2	0.2	0.2	0.1	0.2	A	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.3	0.3	0.6	0.8	0.6	1.7	0.8	0.7	0.36	1.71
13-Jul	0.6	0.5	0.6	0.4	0.5	A	0.7	0.6	0.4	0.4	0.3	0.4	0.9	0.3	0.3	0.3	0.4	0.3	0.4	0.5	0.6	0.6	0.8	0.6	0.49	0.90
14-Jul	0.5	0.6	0.6	0.5	A	0.6	0.5	0.5	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.4	0.4	0.4	0.4	0.35	0.57
15-Jul	0.3	0.3	0.3	A	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.5	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.5	0.6	0.5	0.6	0.36	0.61
16-Jul	0.4	0.4	A	0.3	0.3	0.5	0.5	0.5	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	0.35	0.52	
17-Jul	0.4	A	0.4	0.7	0.4	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.5	0.3	0.4	2.2	0.5	0.5	0.4	0.4	0.4	0.3	0.4	0.49	2.22	
18-Jul	A	0.3	0.3	0.3	0.3	0.5	0.4	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.27	0.45	
19-Jul	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	A	0.4	0.23	0.37	
20-Jul	0.3	0.2	0.3	0.2	0.3	0.2	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	A	0.3	0.3	0.29	0.44	
21-Jul	0.3	0.2	0.2	0.2	0.3	0.2	0.3	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.2	0.3	0.2	0.3	0.2	A	0.3	0.6	0.5	0.28	0.55
22-Jul	0.4	0.4	0.5	0.3	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.1	0.7	0.2	0.3	0.3	C	C	C	0.3	0.3	0.3	0.2	0.27	0.68
23-Jul	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.4	0.3	0.3	4.7	0.5	0.3	0.3	0.3	0.4	0.3	A	0.3	0.3	0.4	0.3	0.3	0.49	4.66
24-Jul	0.3	0.3	0.3	0.3	0.3	0.4	0.3	0.4	0.4	0.3	0.4	0.3	0.3	0.3	0.5	0.3	0.3	A	0.4	0.4	0.4	0.6	0.4	0.4	0.34	0.60
25-Jul	0.4	0.4	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.6	1.1	0.7	0.3	0.3	0.3	0.3	A	0.4	0.4	0.4	0.5	0.4	0.4	0.3	0.41	1.09
26-Jul	0.4	0.3	0.4	0.3	0.4	0.5	0.4	0.4	0.4	0.4	0.5	0.4	0.3	0.4	0.4	A	0.5	0.4	0.4	0.5	0.4	0.5	0.5	0.40	0.49	
27-Jul	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	A	0.3	0.3	0.3	0.5	0.5	0.3	0.3	0.3	0.3	0.33	0.50
28-Jul	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	A	0.3	0.2	0.3	0.2	0.2	0.3	0.3	0.3	0.3	0.2	0.27	0.35
29-Jul	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.21	0.24
30-Jul	0.2	0.2	0.3	0.2	0.2	0.2	0.3	0.4	0.3	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.23	0.38
31-Jul	0.2	0.1	0.1	0.2	0.2	0.2	0.3	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.18	0.25
0.29 0.27 0.29 0.26 0.25 0.29 0.32 0.31 0.28 0.27 0.33 0.41 0.32 0.26 0.25 0.24 0.32 0.26 0.27 0.30 0.31 0.39 0.36 0.34																								Diurnal Average		
0.58 0.56 0.58 0.66 0.55 0.57 0.67 0.58 0.47 0.57 1.82 4.66 1.25 0.68 0.45 0.36 2.22 0.46 0.57 0.80 0.79 1.71 0.78 0.73																								Diurnal Maximum		
C - Calibration																								A - Automated Daily Zero Span		

Hourly Maximums

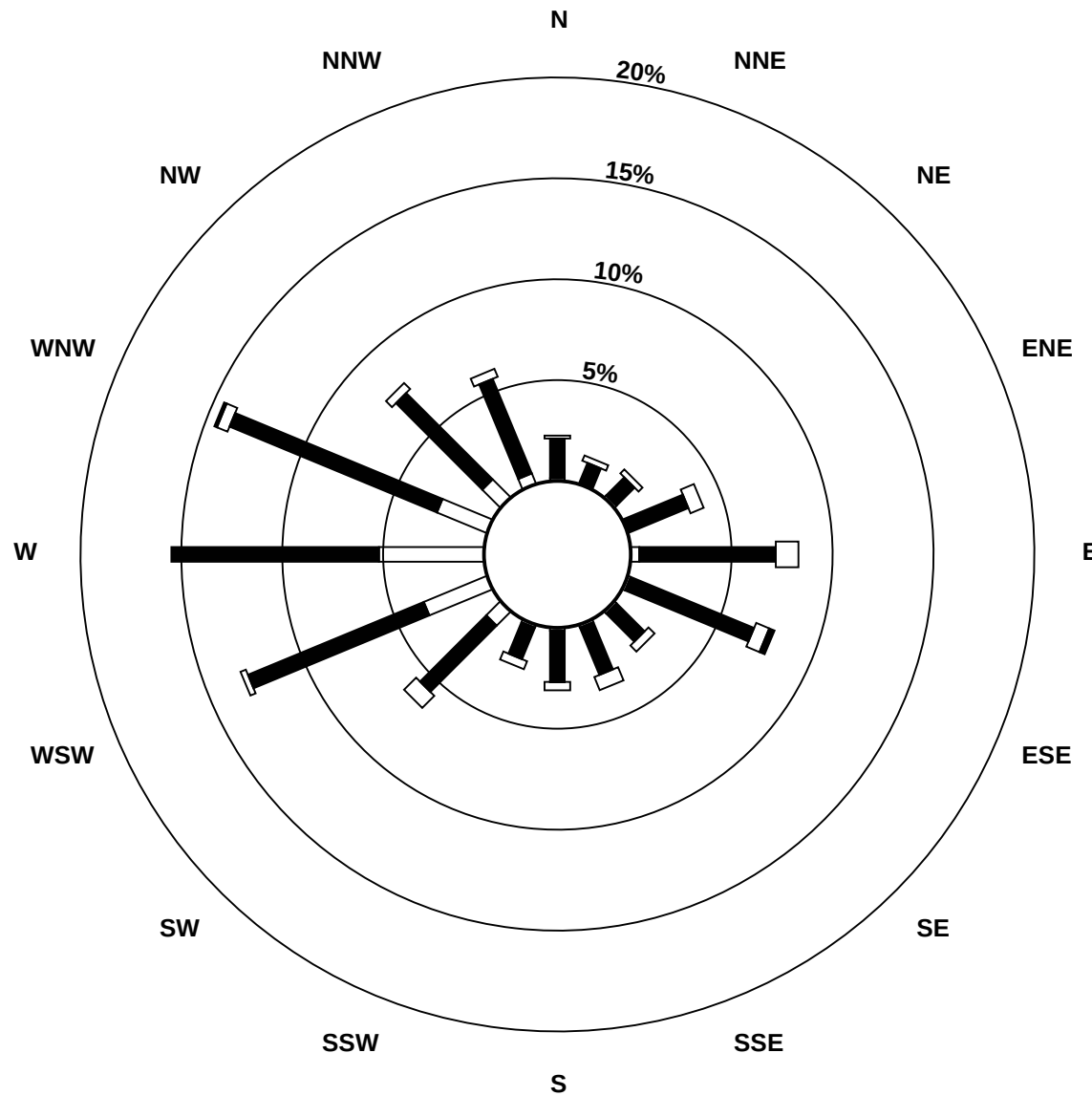
Carbon Monoxide (CO) - ppm
Henry Pirker - July 2012



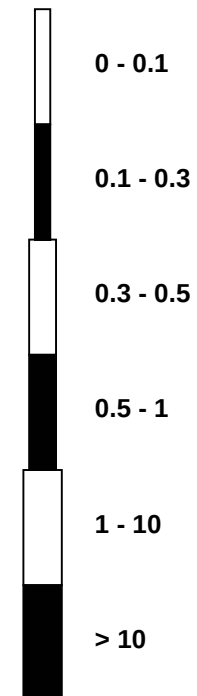
Pollutant Rose

Carbon Monoxide (CO) - ppm

Henry Pirker - July 2012



Pollutant Classes (ppm)



Eight Hour Running Averages

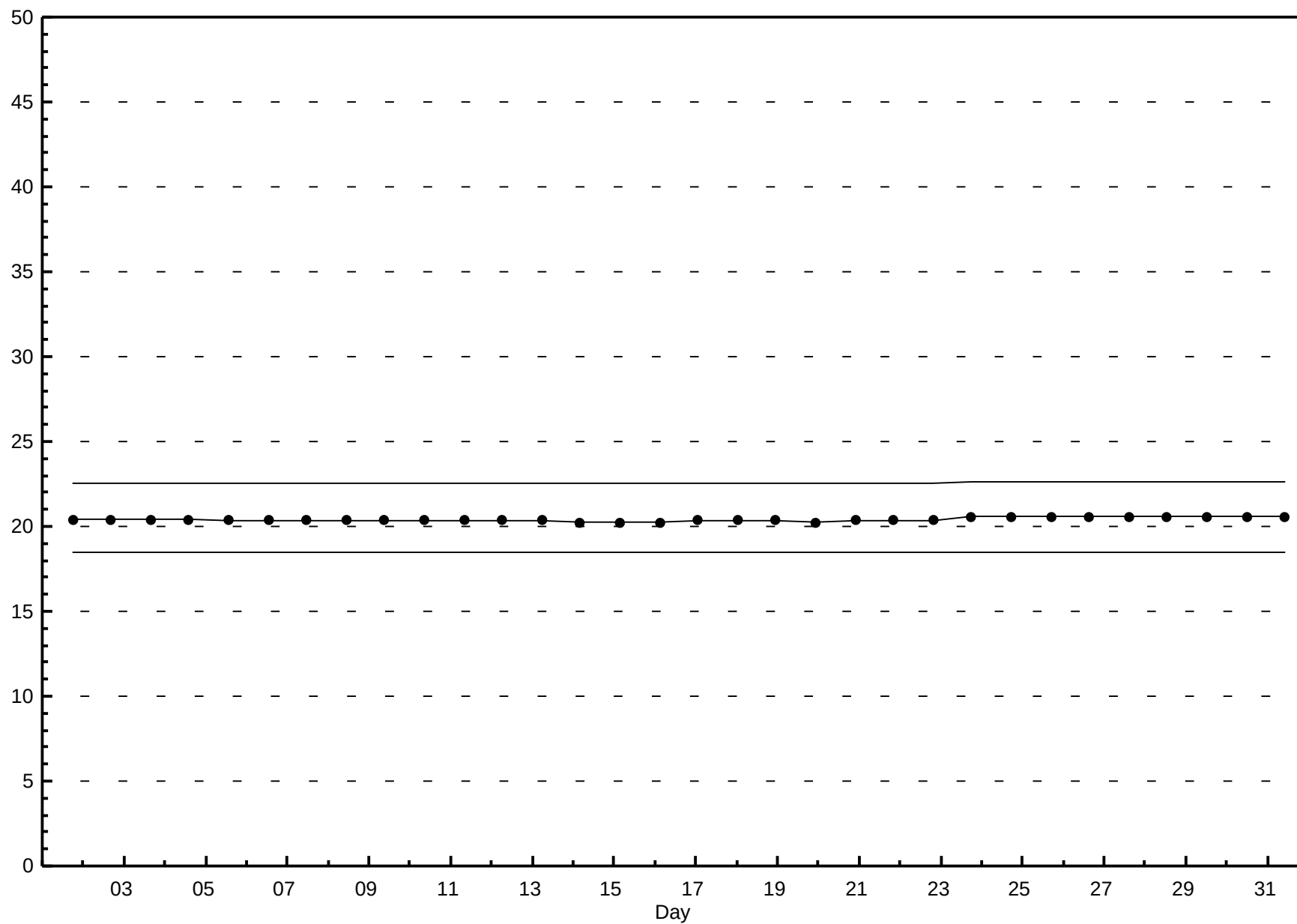
Carbon Monoxide (CO) - ppm

Henry Pirker - July 2012

Number of Exceedences (AAAQO): 8-hr: 0 Maximum Value: 0.54 ppm on Jul 13 03:00																				Hours in Service: 744 Hours of Data: 738						
Minimum Value: 0.11 ppm on Jul 6 19:00																				Hours of Missing Data: 6 Hours of Calibration: 6						
Percentiles: P ₁ = 0.11 P ₁₀ = 0.14 Q ₁ = 0.17 Median = 0.21 Q ₃ = 0.28 P ₉₀ = 0.33 P ₉₉ = 0.51																				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-Jul	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.19
2-Jul	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.18
3-Jul	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.22
4-Jul	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.18
5-Jul	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.15
6-Jul	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.19
7-Jul	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.22
8-Jul	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.28
9-Jul	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.34
10-Jul	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.30
11-Jul	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	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	0.16
12-Jul	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.4	0.4	0.4	0.43
13-Jul	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.54
14-Jul	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.52
15-Jul	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.36
16-Jul	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.37
17-Jul	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.37
18-Jul	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.32
19-Jul	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.20
20-Jul	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.24
21-Jul	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.25
22-Jul	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	N	N	N	N	N	N	0.29
23-Jul	N	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.27
24-Jul	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.32
25-Jul	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.33
26-Jul	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.35
27-Jul	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.34
28-Jul	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.25
29-Jul	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.22
30-Jul	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.22
31-Jul	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	0.1	0.1	0.17
0.48 0.51 0.54 0.52 0.53 0.51 0.50 0.47 0.44 0.41 0.39 0.37 0.36 0.35 0.34 0.33 0.33 0.32 0.32 0.32 0.35 0.38 0.42 0.45																										
Diurnal Maximums																										
N - Not Valid																										
Alberta Ambient Air Quality Objectives (AAAQO): 8-hr 5 ppm																										

Span Responses

Carbon Monoxide (CO)
Henry Pirker - July 2012



Hourly Averages

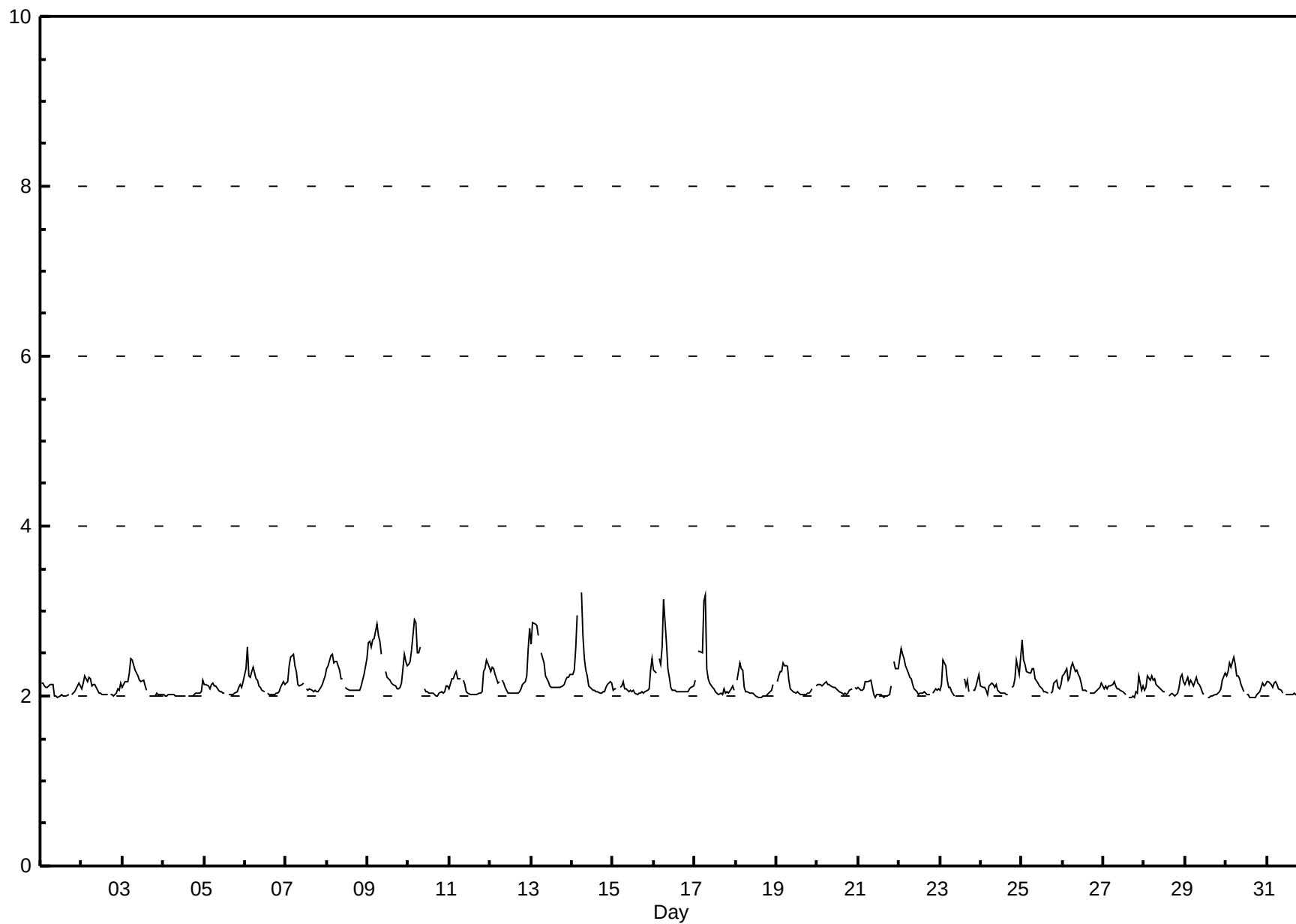
Total Hydrocarbons (THC) - ppm

Henry Pirker - July 2012

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 3.22 ppm on Jul 14 06:00 Maximum Daily Average: 2.39 ppm on Jul 9																				Hours in Service: 744 Hours of Data: 707 Hours of Missing Data: 37 Hours of Calibration: 37 Percent Operational Time: 100.0							
Minimum Value: 2.0 ppm on Jul 30 17:00 Maximum Diurnal Average: 2.32 ppm at hour 7 Monthly Average: 2.154 ppm										Minimum Daily Average: 2.02 ppm on Jul 4 Minimum Diurnal Average: 2.03 ppm at hour 16 Percentiles: P ₁ = 1.99 P ₁₀ = 2.01 Q ₁ = 2.04 Median = 2.10 Q ₃ = 2.20 P ₉₀ = 2.37 P ₉₉ = 2.85																	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jul	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	A	2.0	2.0	2.1	2.1	2.2	2.1	2.07	2.16
2-Jul	2.1	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.09	2.23
3-Jul	2.1	2.2	2.2	2.2	2.3	2.4	2.4	2.3	2.3	2.2	2.2	2.2	2.2	2.1	2.1	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.15	2.44
4-Jul	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.2	2.02	2.18	
5-Jul	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.1	2.0	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.2	2.08	2.17
6-Jul	2.3	2.6	2.2	2.2	2.3	2.3	2.2	2.2	2.1	2.1	2.1	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.2	2.1	2.15	2.58	
7-Jul	2.2	2.2	2.3	2.5	2.5	2.4	2.3	2.1	2.1	2.1	2.1	A	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.17	2.49	
8-Jul	2.3	2.4	2.5	2.5	2.4	2.4	2.4	2.3	2.2	2.2	A	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.3	2.4	2.23	2.49	
9-Jul	2.6	2.6	2.6	2.7	2.7	2.9	2.7	2.6	2.5	A	2.3	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.5	2.4	2.4	2.39	2.85
10-Jul	2.4	2.4	2.5	2.9	2.9	2.5	2.5	2.6	A	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.23	2.90	
11-Jul	2.1	2.2	2.2	2.3	2.3	2.2	2.2	A	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.3	2.3	2.4	2.3	2.15	2.43	
12-Jul	2.3	2.3	2.3	2.2	2.2	2.2	A	2.2	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.2	2.2	2.6	2.8	2.18	2.80	
13-Jul	2.6	2.9	2.8	2.8	2.7	A	2.5	2.4	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.31	2.86	
14-Jul	2.3	2.3	2.6	2.9	A	3.2	2.7	2.4	2.3	2.2	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.2	2.1	2.27	3.22	
15-Jul	2.1	2.1	2.1	A	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.3	2.4	2.10	2.44	
16-Jul	2.3	2.3	A	2.4	2.4	2.6	3.1	2.6	2.3	2.2	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.23	3.13	
17-Jul	A	A	2.5	2.5	2.5	3.1	3.2	2.3	2.2	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.1	2.0	2.1	2.1	2.1	2.24	3.19	
18-Jul	A	2.2	2.4	2.3	2.3	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	A	2.08	2.39	
19-Jul	2.2	2.2	2.3	2.3	2.4	2.4	2.4	2.2	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	A	2.1	2.13	2.40	
20-Jul	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.1	2.1	A	2.1	2.1	2.09	2.16	
21-Jul	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	A	2.4	2.3	2.3	2.10	2.40	
22-Jul	2.4	2.6	2.5	2.4	2.4	2.3	2.2	2.2	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.1	2.1	2.1	2.16	2.55	
23-Jul	2.1	2.1	2.4	2.4	2.2	2.1	2.1	2.1	2.0	C	C	C	C	C	2.2	2.1	2.2	2.0	A	2.1	2.1	2.1	2.2	2.2	2.15	2.42	
24-Jul	2.1	2.1	2.1	2.1	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	A	2.1	2.1	2.2	2.4	2.2	2.5	2.12	2.47	
25-Jul	2.7	2.4	2.4	2.3	2.3	2.3	2.3	2.3	2.2	2.2	2.1	2.1	2.1	2.1	2.0	2.0	A	2.0	2.1	2.2	2.2	2.1	2.1	2.1	2.19	2.65	
26-Jul	2.2	2.2	2.3	2.2	2.2	2.3	2.4	2.3	2.3	2.3	2.2	2.2	2.1	2.1	2.1	A	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.2	2.17	2.39	
27-Jul	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.2	2.1	2.1	2.08	2.23	
28-Jul	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.2	2.2	2.2	2.11	2.25	
29-Jul	2.1	2.2	2.1	2.2	2.2	2.1	2.2	2.1	2.1	2.1	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.2	2.3	2.10	2.28	
30-Jul	2.2	2.3	2.4	2.3	2.5	2.4	2.2	2.2	2.2	2.1	2.1	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.15	2.46	
31-Jul	2.2	2.2	2.1	2.1	2.2	2.2	2.1	2.1	2.1	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.2	2.1	2.09	2.18	
2.22 2.26 2.30 2.32 2.29 2.32 2.32 2.23 2.15 2.11 2.08 2.06 2.05 2.04 2.04 2.03 2.03 2.03 2.04 2.06 2.09 2.15 2.18 2.22																								Diurnal Average			
2.65 2.86 2.84 2.95 2.87 3.22 3.19 2.65 2.49 2.26 2.29 2.21 2.20 2.19 2.20 2.14 2.19 2.11 2.11 2.15 2.28 2.48 2.56 2.80																								Diurnal Maximum			
C - Calibration A - Automated Daily Zero Span																											

Hourly Averages

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



Hourly Maximums

Total Hydrocarbons (THC) - ppm

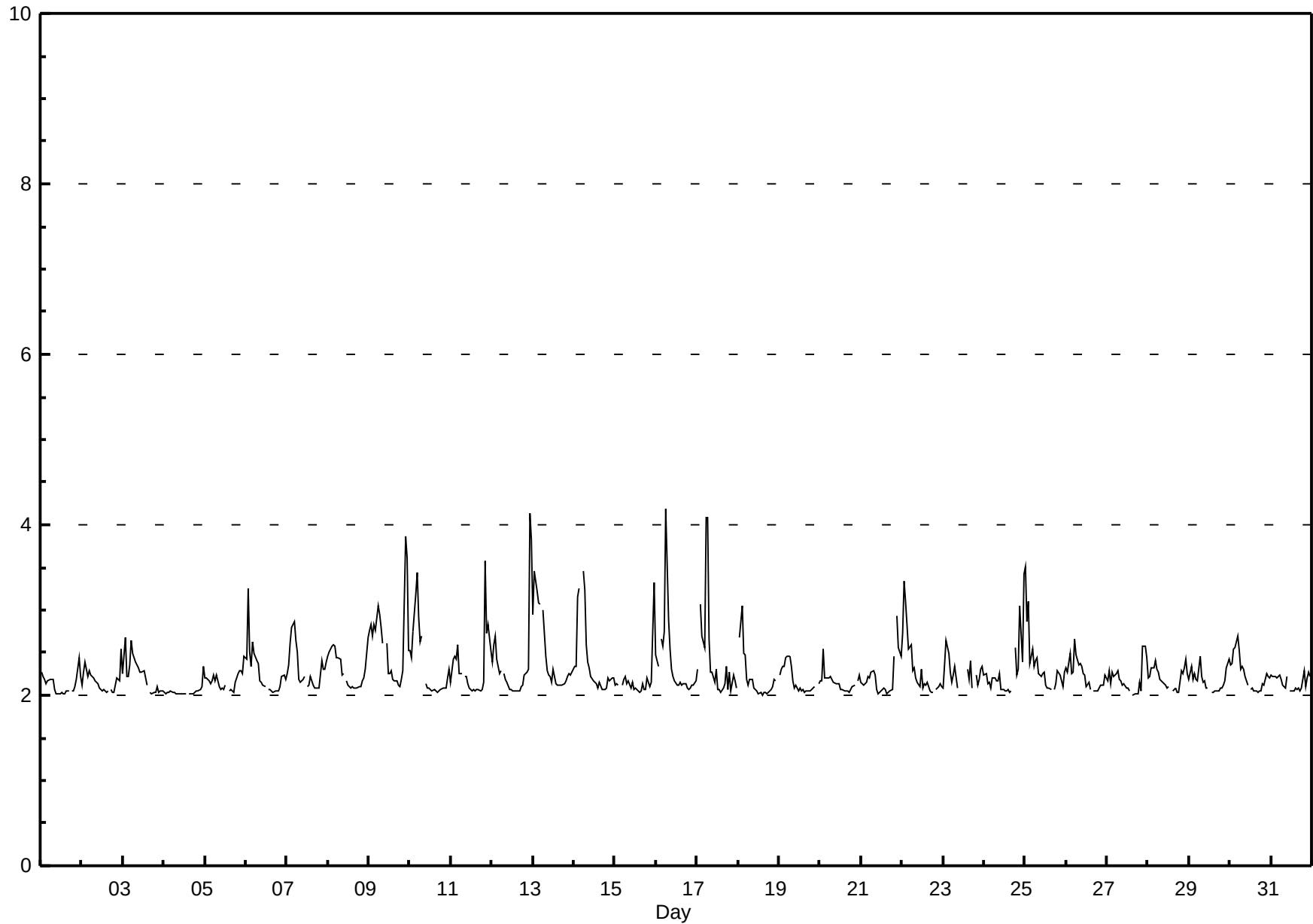
Henry Pirker - July 2012

Maximum Value: 4.18 ppm on Jul 16 07:00																				Maximum Daily Average: 2.60 ppm on Jul 9					Hours in Service: 744	
Minimum Value: 2.0 ppm on Jul 18 15:00																				Minimum Daily Average: 2.05 ppm on Jul 4					Hours of Data: 707	
Maximum Diurnal Average: 2.53 ppm at hour 3																				Minimum Diurnal Average: 2.07 ppm at hour 18					Hours of Missing Data: 37	
Monthly Average: 2.267 ppm																				Percentiles: P ₁ = 2.01 P ₁₀ = 2.05 Q ₁ = 2.08 Median = 2.17 Q ₃ = 2.31 P ₉₀ = 2.59 P ₉₉ = 3.48					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-Jul	2.3	2.2	2.2	2.1	2.2	2.2	2.2	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.1	2.1	2.2	2.4	2.2	2.13	2.44
2-Jul	2.1	2.3	2.4	2.2	2.3	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.0	2.1	A	2.1	2.0	2.0	2.2	2.2	2.2	2.5	2.17	2.54
3-Jul	2.2	2.7	2.2	2.2	2.4	2.6	2.5	2.4	2.4	2.3	2.3	2.3	2.3	2.2	2.1	A	2.0	2.0	2.0	2.0	2.1	2.0	2.1	2.1	2.24	2.68
4-Jul	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.3	2.05	2.34
5-Jul	2.2	2.2	2.2	2.1	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	A	2.0	2.1	2.1	2.0	2.2	2.3	2.3	2.3	2.3	2.5	2.17	2.45
6-Jul	2.4	3.3	2.5	2.3	2.6	2.5	2.4	2.4	2.2	2.1	2.1	2.1	A	2.1	2.1	2.0	2.0	2.0	2.1	2.0	2.1	2.2	2.2	2.2	2.26	3.25
7-Jul	2.3	2.4	2.6	2.8	2.9	2.6	2.5	2.2	2.1	2.2	2.2	A	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.4	2.3	2.3	2.4	2.31	2.87
8-Jul	2.5	2.5	2.6	2.6	2.6	2.4	2.4	2.4	2.2	2.2	A	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.3	2.7	2.30	2.68
9-Jul	2.8	2.8	2.7	2.8	2.8	3.1	3.0	2.8	2.6	A	2.6	2.3	2.3	2.3	2.2	2.2	2.2	2.1	2.1	2.2	2.3	3.9	3.6	2.5	2.60	3.86
10-Jul	2.5	2.4	2.7	3.2	3.4	2.9	2.6	2.7	A	2.1	2.1	2.1	2.1	2.0	2.1	2.1	2.0	2.0	2.1	2.1	2.1	2.1	2.2	2.3	2.35	3.45
11-Jul	2.2	2.4	2.5	2.4	2.6	2.3	2.3	A	2.2	2.2	2.1	2.1	2.1	2.1	2.0	2.1	2.1	2.1	2.1	2.1	3.6	2.7	2.8	2.5	2.32	3.58
12-Jul	2.4	2.6	2.7	2.4	2.2	2.3	A	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.3	2.3	4.1	3.8	2.37	4.13
13-Jul	2.9	3.5	3.2	3.1	3.1	A	3.0	2.5	2.3	2.2	2.2	2.1	2.3	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.3	2.2	2.3	2.45	3.45
14-Jul	2.3	2.3	3.1	3.2	A	3.5	3.2	2.6	2.4	2.3	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.39	3.46
15-Jul	2.1	2.1	2.1	A	2.1	2.2	2.2	2.1	2.2	2.1	2.2	2.1	2.1	2.1	2.0	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.8	3.3	2.20	3.32
16-Jul	2.5	2.3	A	2.7	2.6	2.8	4.2	2.9	2.5	2.3	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.37	4.18
17-Jul	2.3	A	3.1	2.7	2.6	4.1	4.1	2.7	2.3	2.3	2.2	2.3	2.1	2.1	2.0	2.1	2.1	2.3	2.1	2.3	2.1	2.2	2.2	2.1	2.44	4.08
18-Jul	A	2.7	3.1	2.5	2.5	2.2	2.1	2.2	2.2	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.2	2.2	A	2.19	3.05
19-Jul	2.2	2.3	2.3	2.3	2.4	2.5	2.5	2.3	2.2	2.1	2.1	2.0	2.1	2.1	2.1	2.0	2.1	2.1	2.1	2.1	2.1	2.1	A	2.1	2.18	2.46
20-Jul	2.2	2.2	2.5	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.1	2.1	2.1	A	2.2	2.2	2.15	2.54
21-Jul	2.2	2.1	2.1	2.1	2.2	2.2	2.3	2.3	2.2	2.1	2.0	2.0	2.1	2.1	2.1	2.0	2.0	2.1	2.1	2.4	A	2.9	2.6	2.5	2.20	2.93
22-Jul	2.7	3.3	3.1	2.8	2.5	2.6	2.3	2.3	2.2	2.1	2.1	2.3	2.1	2.1	2.1	2.2	2.0	2.0	2.0	A	2.1	2.1	2.1	2.1	2.33	3.35
23-Jul	2.1	2.4	2.6	2.5	2.3	2.2	2.2	2.3	2.1	C	C	C	C	C	2.3	2.2	2.4	2.1	A	2.2	2.1	2.2	2.3	2.3	2.27	2.65
24-Jul	2.2	2.3	2.1	2.2	2.1	2.2	2.2	2.2	2.2	2.3	2.1	2.1	2.0	2.1	2.1	2.0	2.1	A	2.6	2.2	2.3	3.0	2.4	3.4	2.27	3.42
25-Jul	3.5	2.9	3.1	2.4	2.5	2.3	2.4	2.4	2.3	2.2	2.3	2.3	2.1	2.1	2.1	2.1	A	2.1	2.1	2.3	2.2	2.2	2.1	2.3	2.36	3.51
26-Jul	2.3	2.3	2.5	2.2	2.3	2.7	2.5	2.4	2.4	2.3	2.3	2.2	2.1	2.1	2.1	2.1	A	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.24	2.66
27-Jul	2.2	2.3	2.1	2.3	2.2	2.3	2.3	2.2	2.2	2.1	2.1	2.1	2.1	2.1	A	2.0	2.0	2.0	2.0	2.1	2.1	2.6	2.6	2.4	2.19	2.58
28-Jul	2.2	2.2	2.3	2.3	2.4	2.3	2.3	2.2	2.1	2.1	2.1	2.1	2.1	A	2.1	2.1	2.1	2.0	2.0	2.3	2.3	2.3	2.4	2.3	2.20	2.42
29-Jul	2.2	2.3	2.2	2.3	2.2	2.2	2.5	2.2	2.2	2.2	2.1	2.1	A	2.0	2.0	2.1	2.0	2.1	2.1	2.1	2.1	2.2	2.3	2.4	2.17	2.45
30-Jul	2.4	2.4	2.5	2.6	2.7	2.5	2.3	2.3	2.3	2.2	2.1	A	2.1	2.1	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.3	2.2	2.2	2.24	2.70
31-Jul	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.2	A	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.3	2.1	2.2	2.3	2.2	2.15	2.29
2.35 2.46 2.53 2.46 2.44 2.48 2.51 2.34 2.22 2.17 2.15 2.12 2.10 2.09 2.08 2.07 2.08 2.07 2.09 2.15 2.20 2.33 2.40 2.43																									Diurnal Average	
3.51 3.45 3.21 3.25 3.45 4.08 4.18 2.88 2.61 2.34 2.61 2.31 2.31 2.28 2.31 2.19 2.41 2.34 2.56 2.45 3.58 3.86 4.13 3.83																									Diurnal Maximum	
C - Calibration A - Automated Daily Zero Span																										

Hourly Maximums

Total Hydrocarbons (THC) - ppm

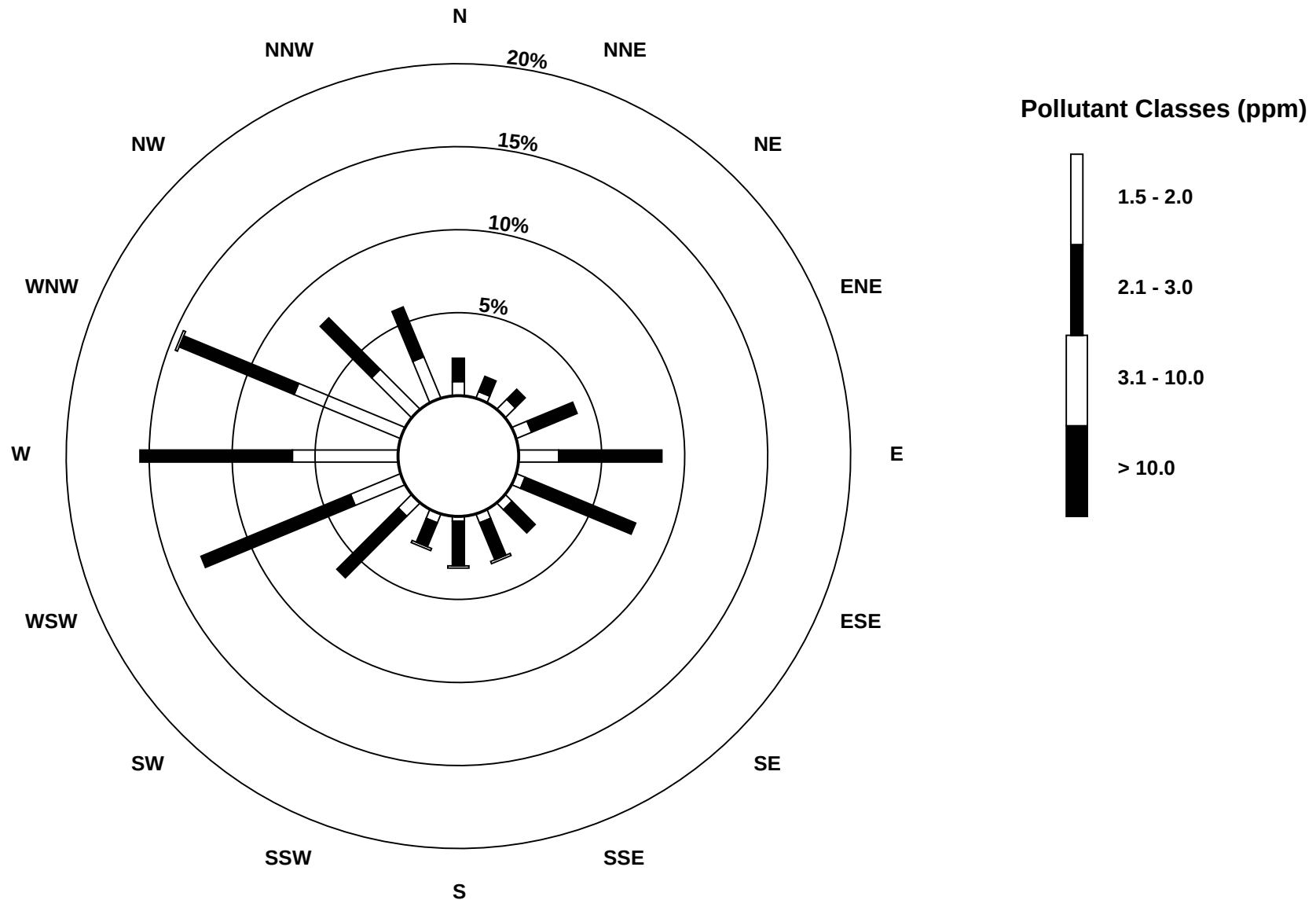
Henry Pirker - July 2012



Pollutant Rose

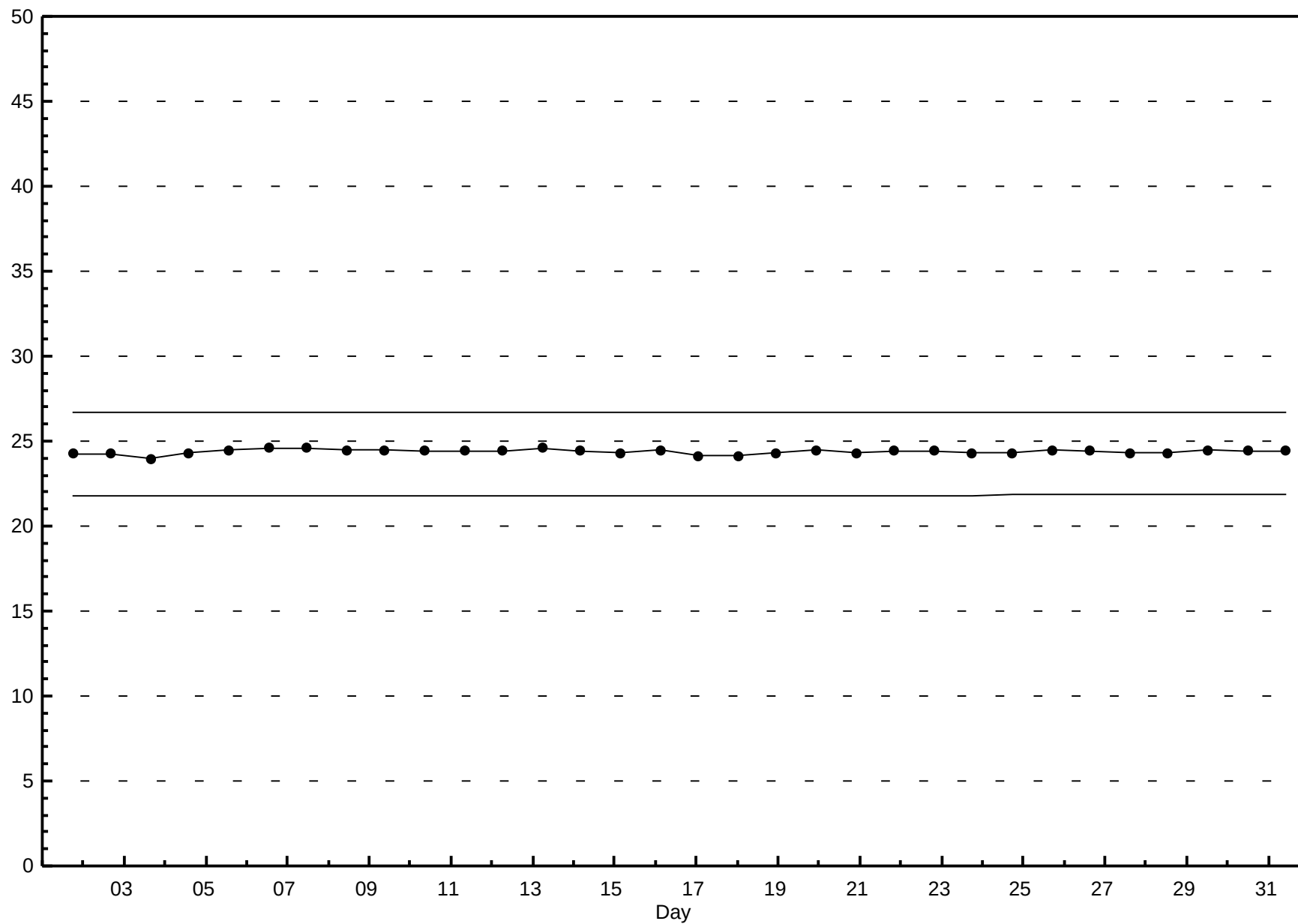
Total Hydrocarbons (THC) - ppm

Henry Pirker - July 2012



Span Responses

Total Hydrocarbons (THC)
Henry Pirker - July 2012

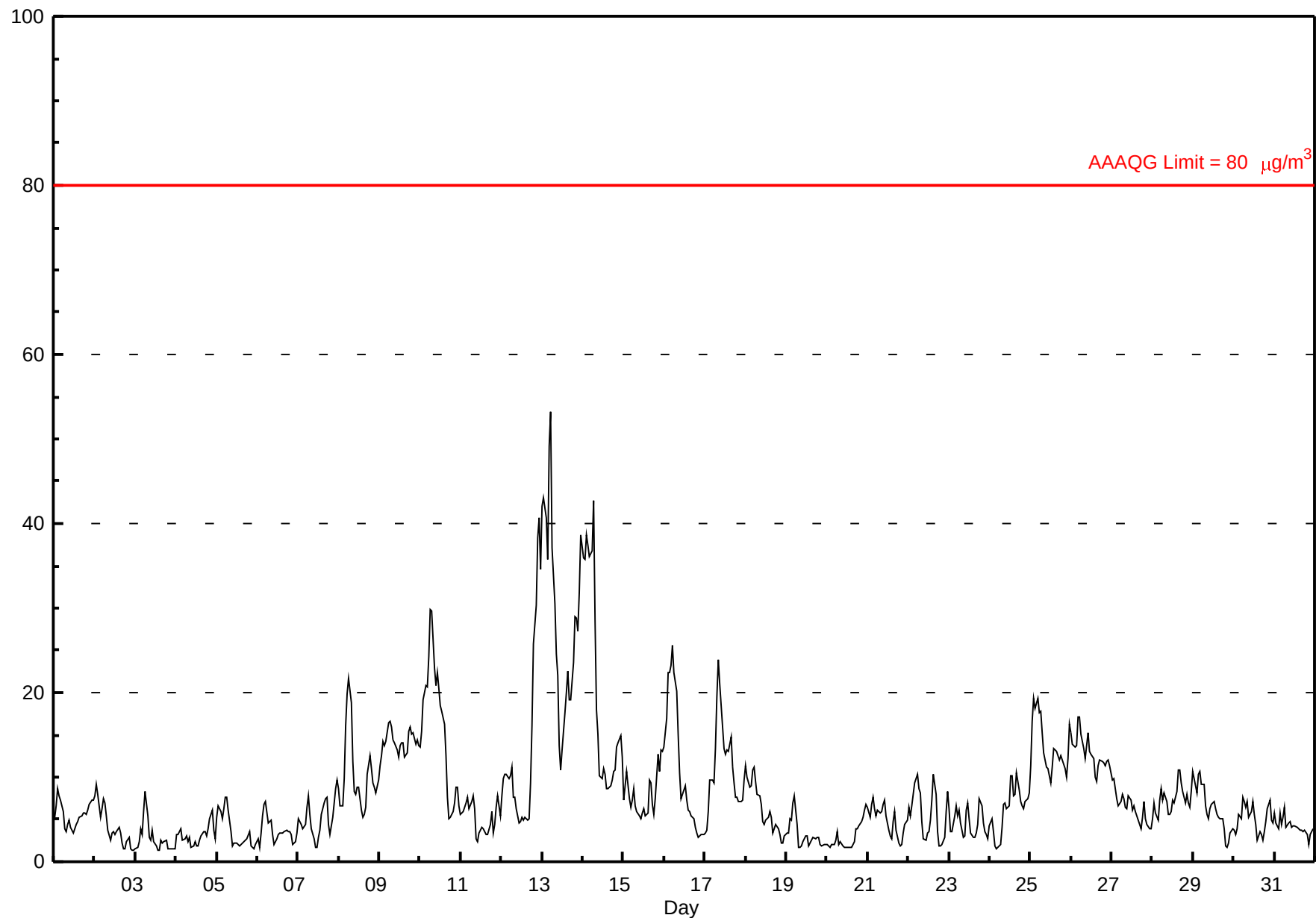


Hourly Averages

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

Henry Pirker - July 2012

Number of Exceedences: 1-hr: 0 24-hr: 0 Maximum Value: 53.2 µg/m³ on Jul 13 06:00 Maximum Daily Average: 28.9 µg/m³ on Jul 13																								Hours in Service: 744 Hours of Data: 744 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0		
Minimum Value: 1 µg/m³ on Jul 2 23:00 Maximum Diurnal Average: 11.9 µg/m³ at hour 6 Monthly Average: 8.24 µg/m³ Minimum Daily Average: 2.8 µg/m³ on Jul 3 Minimum Diurnal Average: 6.5 µg/m³ at hour 18 Percentiles: P ₁ = 1.5 P ₁₀ = 2.3 Q ₁ = 3.6 Median = 6.2 Q ₃ = 9.9 P ₉₀ = 16.1 P ₉₉ = 40.5																										
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-Jul	5	7	9	8	7	6	4	4	4	5	4	3	4	4	5	5	5	6	6	6	6	7	7	7	5.6	8.7
2-Jul	8	9	8	5	6	8	7	5	4	3	3	3	3	4	4	3	2	2	2	2	3	2	1	1	4.1	9.1
3-Jul	2	2	2	4	3	6	8	5	3	2	4	2	2	1	1	3	2	2	3	2	2	2	2	2	2.8	8.3
4-Jul	3	3	4	4	2	3	3	2	3	2	2	2	2	2	3	3	4	4	3	4	5	6	4	3	3.1	6.1
5-Jul	5	7	6	5	6	8	8	6	4	2	2	2	2	2	2	2	2	3	3	4	2	2	2	2	3.6	7.6
6-Jul	3	2	3	5	7	7	5	5	5	3	2	3	3	3	3	3	3	4	4	4	3	2	2	3	3.7	7.1
7-Jul	5	5	4	4	4	6	8	6	4	3	2	2	3	4	6	7	7	8	4	3	5	7	9	10	5.2	9.7
8-Jul	9	7	7	10	16	20	22	19	12	8	8	9	9	6	5	6	7	10	13	11	9	9	8	10	10.3	21.7
9-Jul	11	12	14	14	14	16	17	16	14	14	13	12	14	14	14	12	13	15	16	15	15	14	14	14	14.2	16.6
10-Jul	13	15	19	21	21	24	30	30	23	21	22	20	19	18	16	13	8	5	5	6	7	9	9	7	15.8	29.8
11-Jul	6	6	6	7	8	6	7	8	6	3	2	3	4	4	4	3	3	4	6	3	4	6	8	5	5.2	7.9
12-Jul	8	10	10	10	10	10	11	8	8	6	5	5	5	5	5	5	5	9	16	26	30	38	41	35	13.4	40.6
13-Jul	42	43	41	36	49	53	37	31	25	22	14	11	13	18	20	23	19	19	24	29	29	27	32	39	28.9	53.2
14-Jul	36	36	39	38	36	37	43	29	18	15	10	10	11	10	9	9	9	10	11	11	14	14	15	12	20.0	42.7
15-Jul	7	9	11	8	6	7	9	7	6	5	5	6	6	5	6	10	9	7	6	7	13	11	13	13	8.0	13.3
16-Jul	14	17	22	22	23	26	22	20	15	11	7	8	9	7	6	6	5	5	4	3	3	3	3	3	11.1	25.6
17-Jul	3	4	6	10	10	9	13	19	24	21	16	13	13	13	13	15	11	9	8	8	7	7	7	10	11.2	23.9
18-Jul	11	10	9	9	11	11	9	8	8	7	5	4	5	5	6	5	3	4	4	4	3	2	2	3	6.2	11.4
19-Jul	3	3	5	5	7	8	4	2	2	2	2	3	3	2	2	2	3	3	3	3	2	2	2	2	3.2	7.8
20-Jul	2	2	2	2	2	2	4	2	2	2	2	2	2	2	2	2	2	4	4	4	5	5	6	7	2.9	6.9
21-Jul	6	5	7	8	6	5	6	6	6	7	7	5	4	3	3	5	6	4	2	2	2	3	4	5	4.9	7.7
22-Jul	6	5	7	8	9	10	9	8	5	3	3	3	4	5	7	10	8	3	2	2	2	3	6	8	5.7	10.4
23-Jul	6	4	4	5	7	5	6	4	3	3	6	7	5	3	3	3	3	4	7	7	5	3	3	3	4.6	7.4
24-Jul	4	5	3	2	1	2	2	4	7	7	6	7	10	10	8	8	10	8	7	7	6	7	8	8	6.2	10.4
25-Jul	11	17	19	18	19	18	18	15	13	11	11	10	9	11	13	13	13	12	13	12	11	10	12	16	13.6	19.3
26-Jul	15	14	14	14	17	17	15	13	12	14	15	13	13	12	10	10	11	12	12	12	11	12	12	11	13.0	17.2
27-Jul	10	10	9	8	7	7	8	7	6	6	8	7	6	7	6	5	4	4	5	7	5	4	4	4	6.4	9.8
28-Jul	5	7	6	5	7	9	7	8	7	6	6	6	7	7	8	11	11	9	8	7	8	7	7	8	7.4	10.9
29-Jul	11	9	8	10	11	9	9	7	6	5	6	7	7	6	6	5	5	5	4	2	2	2	3	4	6.2	10.7
30-Jul	4	3	4	6	5	8	7	7	7	5	6	7	6	4	2	4	3	2	4	5	6	7	5	5	5.1	7.6
31-Jul	6	5	4	6	4	5	6	4	5	5	4	4	4	4	4	4	4	4	4	3	2	3	4	4	4.2	6.5
9.1 9.4 10.0 10.2 11.1 11.9 11.7 10.1 8.5 7.3 6.7 6.5 6.7 6.5 6.5 6.9 6.6 6.5 6.8 7.1 7.3 7.6 8.2 8.5																								Diurnal Average		
42.0 43.1 40.7 37.5 49.2 53.2 42.7 30.5 24.6 22.0 22.4 20.5 18.5 17.8 20.0 22.6 19.1 19.2 23.6 29.0 30.3 38.2 40.6 38.7																								Diurnal Maximum		
Alberta Ambient Air Quality Guideline (AAAQG): 1-hr 80 µg/m³ Alberta Ambient Air Quality Objective (AAAQO): 24-hr 30 µg/m³																										



Hourly Maximums

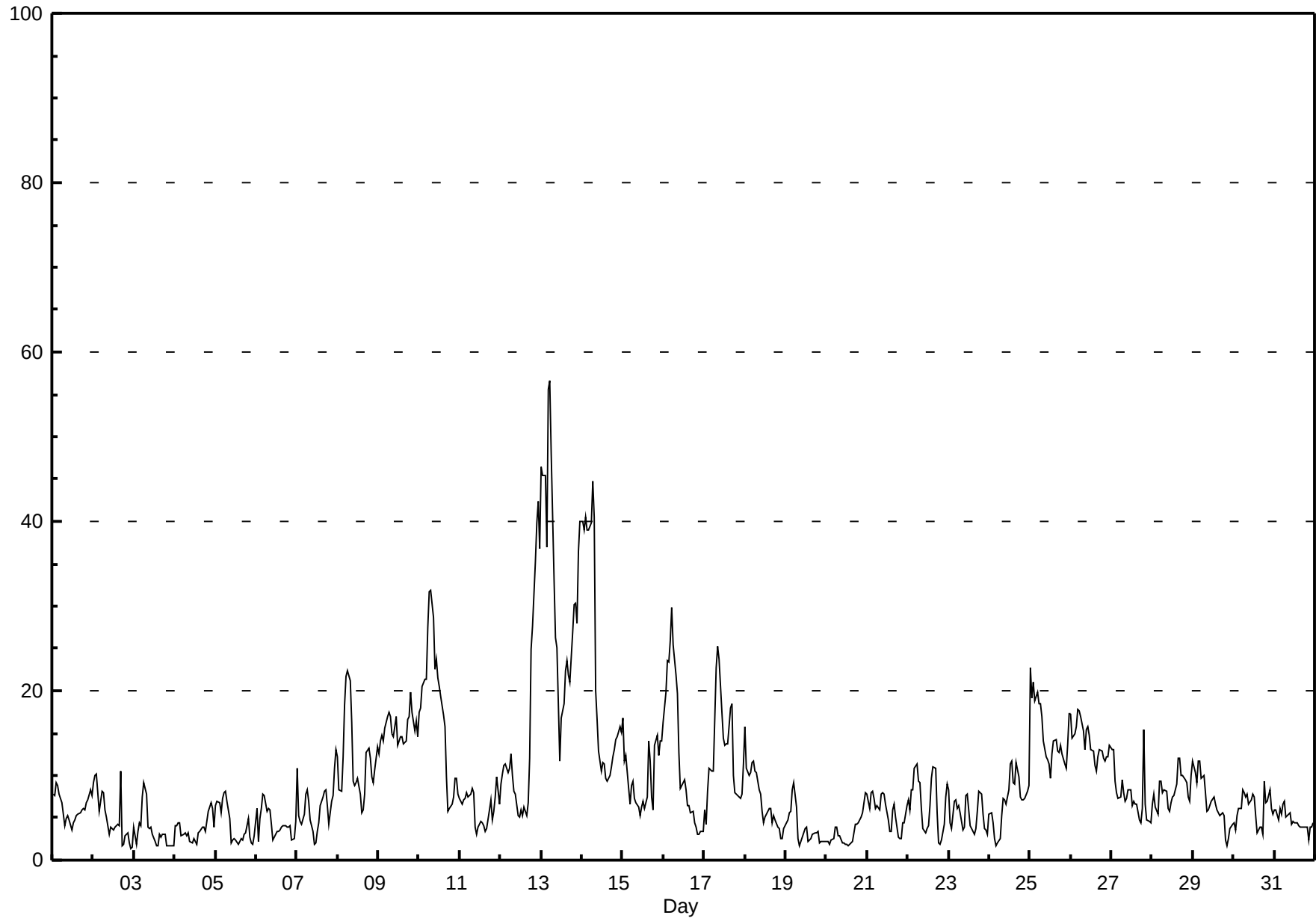
Particulate Matter 2.5 (PM_{2.5}) - µg/m³

Henry Pirker - July 2012

Maximum Value: 56.6 μg/m³ on Jul 13 06:00																								Maximum Daily Average: 31.9 μg/m³ on Jul 13										Hours in Service: 744	
Minimum Value: 1 μg/m³ on Jul 2 23:00																								Minimum Daily Average: 3.3 μg/m³ on Jul 20										Hours of Data: 744	
Maximum Diurnal Average: 13.1 μg/m³ at hour 7																								Minimum Diurnal Average: 7.2 μg/m³ at hour 12										Hours of Missing Data: 0	
Monthly Average: 9.36 μg/m³																								Percentiles: P ₁ = 1.8 P ₁₀ = 2.7 Q ₁ = 4.2 Median = 7.1 Q ₃ = 11.5 P ₉₀ = 17.5 P ₉₉ = 44.2										Hours of Calibration: 0	
																								Percent Operational Time: 100.0											
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum									
1-Jul	8	8	9	9	8	7	5	4	5	5	5	4	4	5	5	5	6	6	6	6	7	7	8	8	6.2	9.1									
2-Jul	9	10	10	6	7	8	8	6	5	3	4	4	4	4	4	4	10	2	2	3	3	2	1	2	5.0	10.4									
3-Jul	4	2	3	4	4	7	9	8	4	4	4	3	2	2	2	3	3	3	3	2	2	2	2	2	3.4	9.1									
4-Jul	4	4	4	4	3	3	3	3	3	2	2	2	2	2	3	3	4	4	3	5	6	7	6	4	3.7	6.8									
5-Jul	6	7	7	6	7	8	8	7	5	2	2	2	2	2	2	2	3	3	5	3	2	2	3		4.2	8.1									
6-Jul	6	2	5	6	8	8	6	6	6	4	2	3	3	3	4	4	4	4	4	4	4	2	3	5	4.4	7.9									
7-Jul	11	5	5	4	5	8	8	7	5	3	2	2	3	4	6	8	8	8	7	4	7	8	11	13	6.4	13.0									
8-Jul	12	8	8	12	18	22	22	21	16	9	9	9	10	8	6	6	8	13	13	12	10	9	11	13	11.9	22.3									
9-Jul	13	14	15	14	16	17	18	17	15	15	17	13	14	15	15	14	14	17	17	20	17	15	16	15	15.4	19.9									
10-Jul	17	18	21	21	21	28	32	32	29	23	24	22	21	19	17	16	10	6	6	7	8	10	10	8	17.6	31.8									
11-Jul	7	7	7	7	8	8	8	8	8	4	3	4	5	4	4	3	4	6	7	5	6	8	10	7	6.1	9.8									
12-Jul	9	10	11	11	10	11	13	10	8	8	5	5	6	5	6	5	7	12	25	28	35	40	42	37	15.0	42.3									
13-Jul	46	45	46	37	56	57	48	33	26	25	19	12	17	19	22	24	22	21	27	30	30	28	36	40	31.9	56.6									
14-Jul	40	39	40	39	39	40	45	40	20	17	13	11	12	11	10	9	10	11	12	13	14	15	16	15	22.1	44.8									
15-Jul	17	12	12	8	7	9	9	7	7	6	5	6	7	6	8	14	12	8	6	14	15	12	14	14	9.8	16.8									
16-Jul	16	20	24	23	26	30	25	22	20	13	8	9	9	8	6	6	6	6	4	4	3	3	3	3	12.5	29.8									
17-Jul	6	4	8	11	11	11	17	23	25	24	18	14	14	14	14	18	18	10	8	8	8	7	8	11	12.8	25.2									
18-Jul	16	11	10	10	12	12	10	10	8	8	6	4	5	6	6	6	4	5	5	4	4	2	3	4	7.1	15.8									
19-Jul	4	5	6	6	8	9	6	2	2	2	3	4	4	2	2	3	3	3	3	3	2	2	2	2	3.7	9.2									
20-Jul	2	2	2	2	2	4	4	3	3	2	2	2	2	2	2	2	3	4	4	4	5	6	7	8	3.3	8.0									
21-Jul	8	6	8	8	7	6	6	6	8	8	8	7	5	3	3	6	7	5	3	2	3	4	4	6	5.7	8.1									
22-Jul	7	6	8	8	11	11	9	9	6	4	3	4	4	6	10	11	11	6	2	2	2	4	7	9	6.7	11.4									
23-Jul	8	4	4	7	7	6	6	6	4	4	8	8	6	4	3	3	4	6	8	8	5	4	4	3	5.4	8.2									
24-Jul	5	6	4	2	2	2	3	5	7	7	7	8	11	12	9	9	12	10	8	7	7	7	8	9	7.0	11.7									
25-Jul	23	19	21	19	20	19	19	17	14	12	12	11	10	13	14	14	13	13	13	13	11	11	14	17	15.0	22.8									
26-Jul	17	14	15	16	18	18	17	15	13	15	16	15	13	13	11	10	12	13	13	12	12	12	12	14	14.0	17.8									
27-Jul	13	13	9	8	7	8	9	8	7	7	8	8	6	7	7	7	5	4	6	15	7	5	5	4	7.7	15.4									
28-Jul	7	8	6	5	9	9	8	8	8	6	6	7	7	8	9	12	12	10	10	9	9	8	7	10	8.3	12.0									
29-Jul	12	10	9	12	12	10	10	8	6	6	6	7	7	7	6	6	5	6	5	2	2	3	4	4	6.8	11.8									
30-Jul	4	4	5	6	6	8	8	8	8	7	7	8	8	5	3	4	4	3	9	7	7	8	6	5	6.2	9.3									
31-Jul	6	6	5	6	5	7	7	5	5	6	4	5	4	4	4	4	4	4	4	4	2	4	4	4	4.7	7.0									
11.8 10.6 11.2 11.0 12.3 13.1 13.1 11.8 9.9 8.4 7.6 7.2 7.3 7.2 7.2 7.8 7.9 7.4 8.0 8.4 8.2 8.3 9.2 9.6																									Diurnal Average										
46.4 45.4 45.5 38.9 55.7 56.6 48.1 40.5 28.6 25.1 23.8 21.6 20.6 19.4 22.4 23.5 21.8 21.1 26.9 30.2 35.2 39.9 42.3 40.0																									Diurnal Maximum										

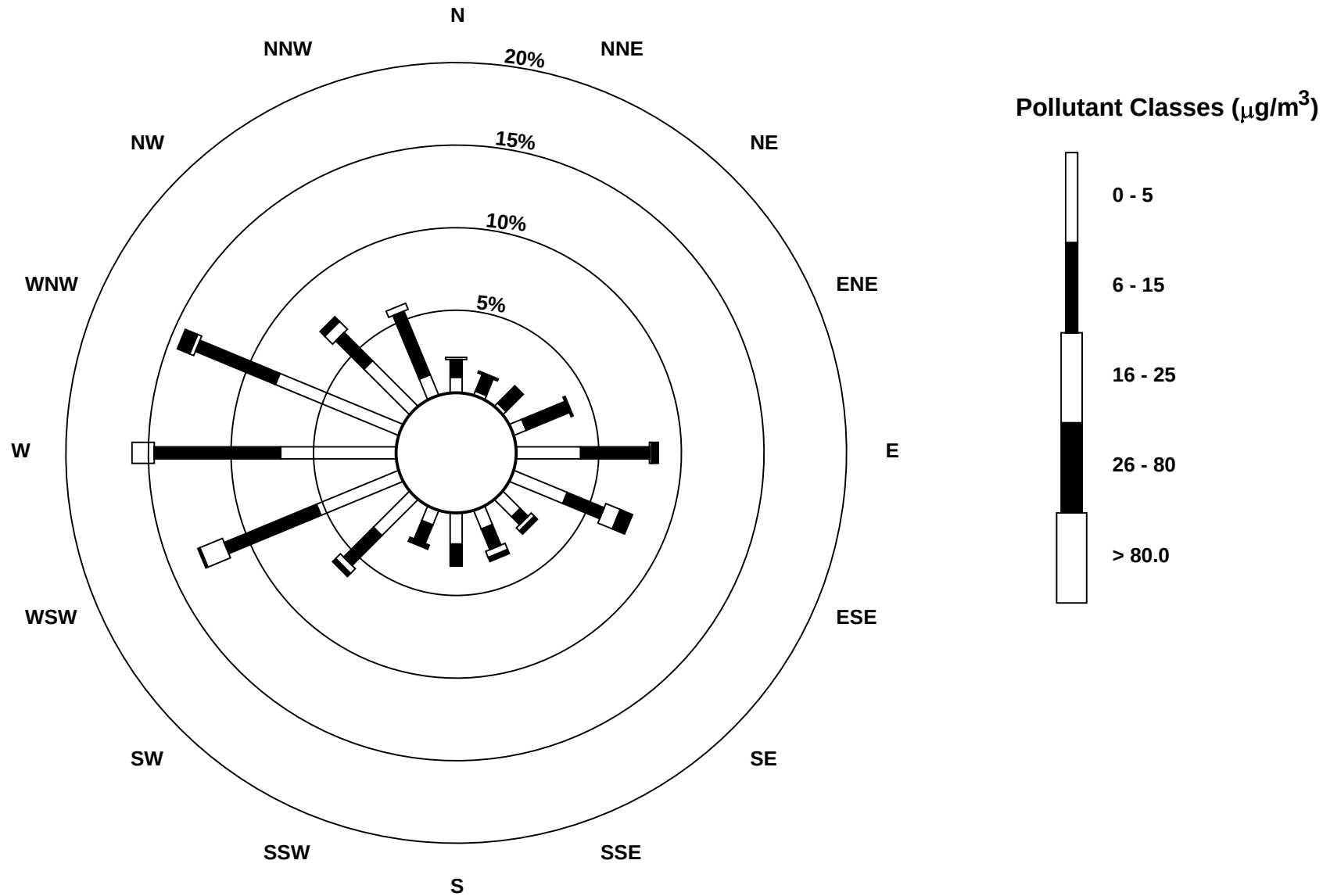
Hourly Maximums

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Henry Pirker - July 2012



Pollutant Rose

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Henry Pirker - July 2012



Hourly Averages

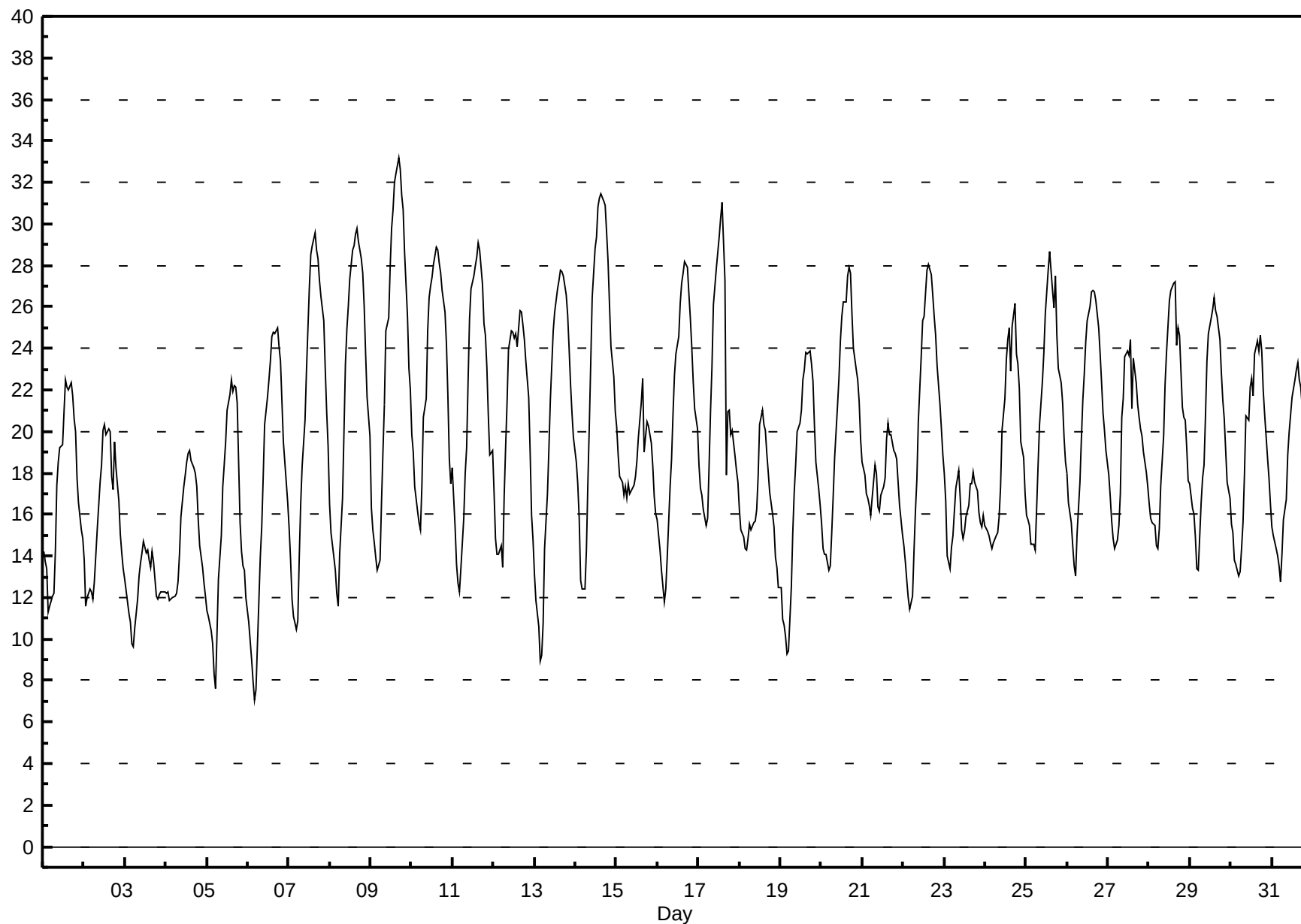
External Temperature (ET) - °C

Henry Pirker - July 2012

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																				Hours in Service: 744							
Maximum Value: 33.2 °C on Jul 9 17:00																				Maximum Daily Average: 23.9 °C on Jul 9				Hours of Data: 744			
Minimum Value: 7 °C on Jul 6 05:00																				Minimum Daily Average: 12.5 °C on Jul 3				Hours of Missing Data: 0			
Maximum Diurnal Average: 24.9 °C at hour 16																				Minimum Diurnal Average: 12.8 °C at hour 5				Hours of Calibration: 0			
Monthly Average: 19.28 °C																				Percentiles: P ₁ = 9.2 P ₁₀ = 12.7 Q ₁ = 15.1 Median = 18.6 Q ₃ = 23.4 P ₉₀ = 26.8 P ₉₉ = 31.1				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-Jul	14	14	13	11	12	12	12	14	17	18	19	19	21	23	22	22	22	22	21	20	18	17	15	15	17.2	22.5	
2-Jul	14	12	12	12	12	12	13	14	15	18	18	20	20	20	20	18	17	20	18	17	15	14	13	16.0	20.3		
3-Jul	13	12	11	11	10	10	11	12	13	14	14	15	14	14	14	13	14	14	12	12	12	12	12	12	12.5	14.7	
4-Jul	12	12	12	12	12	12	12	13	14	16	17	18	19	19	19	19	18	18	17	16	14	13	13	12	15.0	19.1	
5-Jul	11	11	10	10	8	8	10	13	15	17	18	20	21	22	22	22	22	22	21	16	14	14	13	12	15.6	22.5	
6-Jul	11	10	9	8	7	8	12	14	15	18	20	22	23	23	25	25	25	25	24	23	21	19	18	17	17.5	25.0	
7-Jul	15	14	12	11	10	11	14	17	18	21	23	25	27	29	29	30	29	28	27	27	25	23	21	19	21.0	29.6	
8-Jul	17	15	14	13	12	12	14	17	20	23	25	26	27	29	29	30	30	29	28	28	26	24	22	20	22.0	29.8	
9-Jul	16	15	15	14	13	14	17	19	21	25	25	28	30	31	32	32	33	33	31	31	29	26	23	22	23.9	33.2	
10-Jul	20	19	17	16	16	15	17	21	22	25	26	27	27	28	29	29	28	28	27	26	24	22	19	17	22.7	28.9	
11-Jul	18	15	14	13	12	13	16	18	19	22	25	27	27	28	28	29	29	27	25	25	23	21	19	19	21.4	29.1	
12-Jul	17	15	14	14	14	13	17	19	21	24	25	25	24	25	24	26	26	25	24	23	22	19	16	15	20.3	25.8	
13-Jul	13	12	11	9	9	11	14	17	19	22	23	25	26	27	27	28	28	28	27	26	24	22	21	20	20.3	27.8	
14-Jul	19	17	16	13	12	12	14	17	20	23	26	29	29	31	31	31	31	31	30	28	26	24	23	21	23.2	31.5	
15-Jul	20	19	18	18	17	17	17	17	17	17	17	18	19	20	21	23	19	20	21	20	19	18	17	16	18.5	22.5	
16-Jul	16	14	13	13	12	12	14	17	19	21	23	24	25	26	27	28	28	28	27	25	24	22	21	20	20.8	28.2	
17-Jul	18	17	17	16	15	16	18	21	23	26	28	29	29	30	31	27	18	21	21	20	20	19	18	18	21.5	31.1	
18-Jul	16	15	15	14	14	15	16	15	16	16	16	18	20	21	20	20	19	18	17	16	15	14	13	12	16.4	21.0	
19-Jul	13	11	11	10	9	9	12	15	17	18	20	20	21	23	23	24	24	24	23	22	20	19	17	16	17.6	23.8	
20-Jul	16	14	14	14	13	14	15	17	19	21	23	24	26	26	26	28	28	28	26	24	23	22	21	20	20.9	27.9	
21-Jul	19	18	17	17	16	16	17	18	18	16	16	17	17	18	20	20	20	20	19	19	19	18	16	15	17.7	20.4	
22-Jul	14	14	13	12	11	12	14	16	18	20	24	25	26	27	28	28	28	27	26	25	23	21	20	19	20.4	28.0	
23-Jul	18	17	14	13	14	15	16	17	18	17	15	15	15	16	16	17	17	18	18	17	16	16	15	16	16.2	18.1	
24-Jul	15	15	15	15	14	15	15	15	16	17	20	22	23	24	25	23	25	26	24	23	22	19	19	17	19.4	26.2	
25-Jul	16	16	15	15	15	14	16	18	20	22	24	26	27	28	29	27	26	27	25	23	22	21	20	19	21.3	28.6	
26-Jul	18	17	16	15	14	13	15	18	20	22	23	24	25	26	27	27	27	26	25	24	22	21	20	19	20.9	26.8	
27-Jul	18	17	16	15	14	15	15	17	21	22	24	24	24	24	21	24	22	21	21	20	20	19	18	17	19.5	24.5	
28-Jul	16	16	16	15	15	14	15	17	20	22	24	25	26	27	27	27	24	25	25	21	21	21	19	18	20.7	27.2	
29-Jul	17	16	16	15	13	13	17	18	18	21	23	25	26	26	26	26	26	24	23	22	21	19	18	17	20.2	26.4	
30-Jul	16	15	14	14	13	13	14	16	18	21	21	22	23	22	24	24	24	25	24	22	21	19	18	17	19.0	24.7	
31-Jul	15	15	14	14	14	13	14	16	17	19	20	21	22	22	23	23	23	22	21	20	19	17	15	14	18.0	23.3	
15.9 14.8 14.0 13.2 12.8 12.9 14.7 16.6 18.2 20.1 21.5 22.7 23.5 24.3 24.7 24.9 24.2 24.1 23.2 22.0 20.8 19.2 17.9 16.9																									Diurnal Average		
20.2 19.0 17.8 17.5 17.0 17.3 18.3 21.0 23.1 26.1 27.9 28.8 29.8 30.9 32.0 32.4 33.2 32.6 31.4 30.7 28.6 25.6 23.1 22.0																									Diurnal Maximum		

Hourly Averages

External Temperature (ET) - °C
Henry Pirker - July 2012



Hourly Averages

Relative Humidity (RH) - %

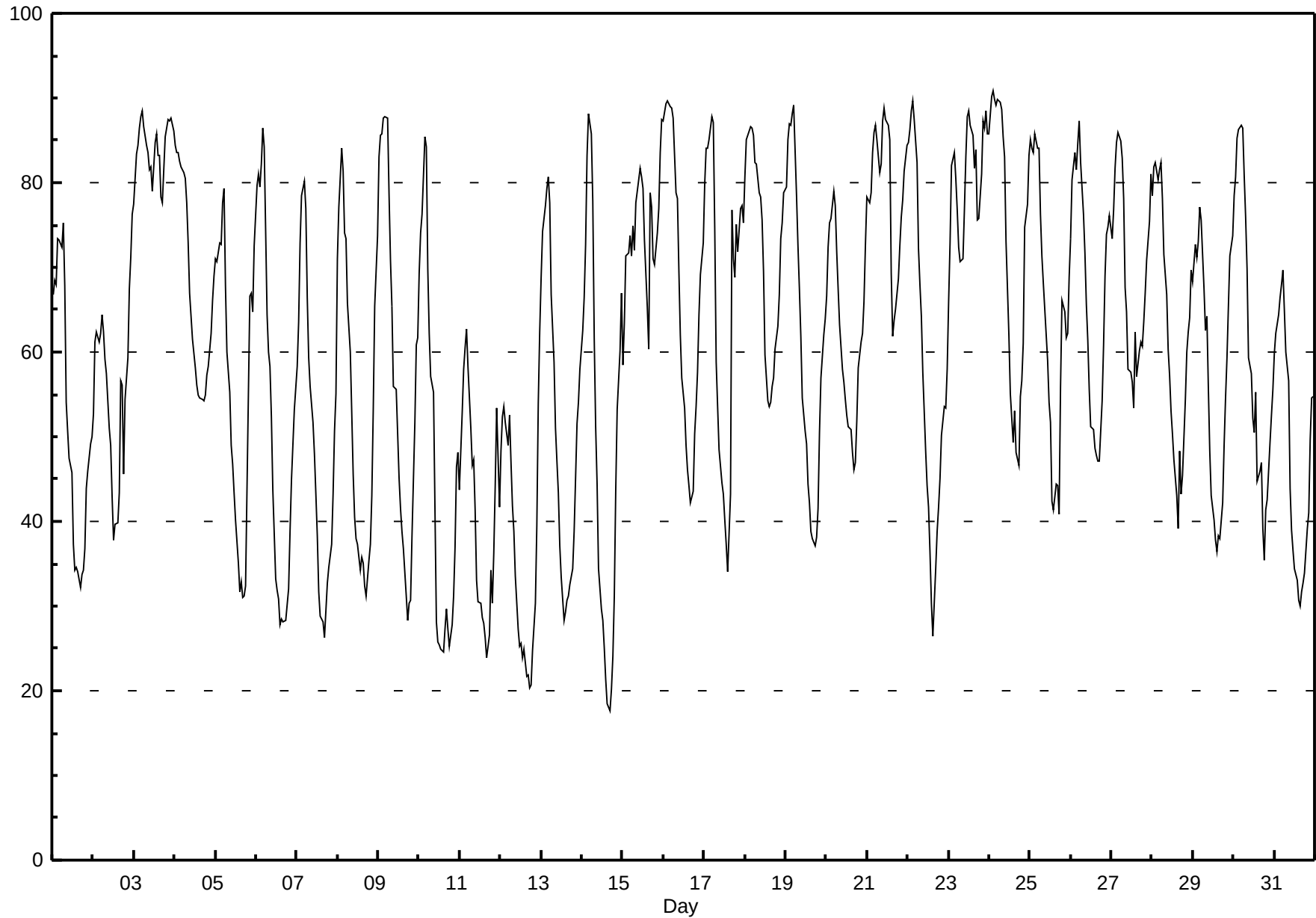
Henry Pirker - July 2012

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 90.8 % on Jul 24 03:00 Maximum Daily Average: 84.1 % on Jul 3																				Hours in Service: 744 Hours of Data: 744 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0						
Minimum Value: 18 % on Jul 14 17:00 Maximum Diurnal Average: 80.4 % at hour 5 Monthly Average: 60.35 %										Minimum Daily Average: 37.1 % on Jul 12 Minimum Diurnal Average: 42.4 % at hour 16 Percentiles: P ₁ = 21.8 P ₁₀ = 32.7 Q ₁ = 45.1 Median = 61.1 Q ₃ = 77.3 P ₉₀ = 85.1 P ₉₉ = 89.5																
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-Jul	67	68	68	73	73	72	75	68	54	51	47	46	37	34	35	34	32	34	34	37	44	46	49	50	51.2	75.3
2-Jul	53	61	62	61	62	64	62	59	58	51	49	43	38	40	40	43	57	56	46	54	59	67	71	76	55.6	76.3
3-Jul	78	83	84	87	88	88	87	84	84	82	82	79	85	86	83	83	78	78	85	86	87	87	88	86	84.1	88.4
4-Jul	84	83	84	83	82	81	80	78	73	67	62	60	58	56	55	55	54	54	55	57	58	62	66	69	67.4	84.5
5-Jul	71	71	73	73	78	79	68	60	55	49	47	43	40	35	32	33	31	31	32	55	67	67	65	73	55.3	79.3
6-Jul	80	81	79	82	86	84	64	60	58	52	44	33	32	31	28	28	28	28	30	32	39	45	53	56	51.5	86.4
7-Jul	58	64	73	78	80	77	66	59	56	52	48	43	38	32	29	28	26	30	33	35	37	43	51	55	49.6	80.1
8-Jul	71	77	84	81	74	73	66	60	53	46	41	38	37	34	36	35	32	31	35	37	43	53	65	74	53.3	84.1
9-Jul	83	86	86	88	88	88	79	71	65	56	56	50	45	41	39	37	31	28	30	31	38	52	61	62	57.9	87.8
10-Jul	69	74	76	85	84	70	62	57	55	41	28	26	25	25	25	27	30	27	25	28	31	37	46	48	46.0	85.4
11-Jul	44	53	58	60	63	58	51	47	47	41	33	30	30	29	28	26	24	27	34	30	36	44	53	42	41.2	62.7
12-Jul	48	52	54	52	49	53	47	42	39	34	27	25	26	24	25	22	22	20	21	25	30	40	54	62	37.1	62.4
13-Jul	69	74	77	79	81	78	67	59	51	47	43	37	33	28	29	31	31	33	34	39	45	51	54	58	51.2	80.7
14-Jul	63	66	73	83	88	86	78	62	51	44	34	30	28	25	21	18	18	20	24	31	44	53	60	67	48.7	88.1
15-Jul	58	63	71	72	74	71	75	72	78	80	82	81	79	73	65	60	79	77	71	70	74	77	84	88	73.9	87.5
16-Jul	87	89	90	89	89	89	88	79	78	70	62	57	53	49	46	44	42	44	50	54	58	64	69	73	67.2	89.6
17-Jul	80	84	84	85	88	87	74	59	54	49	45	43	40	37	34	43	77	71	69	75	72	77	77	75	65.8	87.8
18-Jul	81	85	86	87	86	86	82	82	79	78	76	70	60	54	54	54	56	57	60	63	67	73	75	79	72.1	86.7
19-Jul	80	85	87	87	88	89	78	73	67	62	55	51	49	44	42	39	38	37	38	42	51	57	62	64	61.0	89.2
20-Jul	67	72	75	76	79	77	72	67	63	58	56	54	52	51	51	48	46	47	52	58	61	62	66	72	61.9	79.0
21-Jul	78	78	79	84	86	87	85	81	82	87	89	88	87	85	69	62	64	65	69	72	76	78	81	84	79.0	88.7
22-Jul	85	86	89	90	87	82	72	68	64	58	48	44	42	36	30	26	34	39	42	45	50	53	53	58	57.6	89.6
23-Jul	66	73	82	84	81	77	72	71	71	77	83	88	89	87	86	82	84	76	76	81	87	87	89	86	80.4	88.6
24-Jul	86	90	91	90	89	90	90	89	85	83	73	62	55	52	49	53	48	47	55	57	61	75	78	83	72.1	90.8
25-Jul	85	84	84	86	84	84	76	71	68	62	59	54	52	42	41	44	44	41	56	66	65	62	62	69	64.2	85.7
26-Jul	73	80	84	82	85	87	82	76	72	66	61	56	51	51	49	48	47	47	54	61	69	74	75	76	66.9	87.4
27-Jul	73	77	82	85	86	85	83	78	68	65	58	58	56	53	62	57	60	61	61	63	67	71	75	81	69.4	85.9
28-Jul	78	82	82	80	82	82	78	72	67	60	57	53	50	47	43	39	48	43	46	54	60	62	64	70	62.6	82.4
29-Jul	68	73	71	73	77	76	68	63	64	56	48	43	40	38	36	38	38	42	49	55	59	65	71	74	57.7	77.2
30-Jul	79	81	85	86	87	86	81	76	70	59	57	52	50	55	45	46	47	39	36	41	43	49	52	56	60.8	86.9
31-Jul	60	62	64	67	68	70	65	60	57	44	39	37	34	33	31	30	32	33	34	39	41	50	55	55	48.2	69.6
71.6 75.5 78.0 79.5 80.4 79.3 73.4 67.8 64.1 58.9 54.5 50.7 48.2 45.5 43.1 42.4 44.5 43.9 46.3 50.8 55.5 60.8 65.4 68.4																								Diurnal Average		
87.2 90.1 90.8 89.8 89.2 89.9 89.6 88.6 85.5 87.3 88.7 87.7 88.6 86.7 85.6 83.2 84.0 77.7 85.5 86.4 87.5 87.3 88.5 87.5																								Diurnal Maximum		

Hourly Averages

Relative Humidity (RH) - %

Henry Pirker - July 2012



Hourly Averages

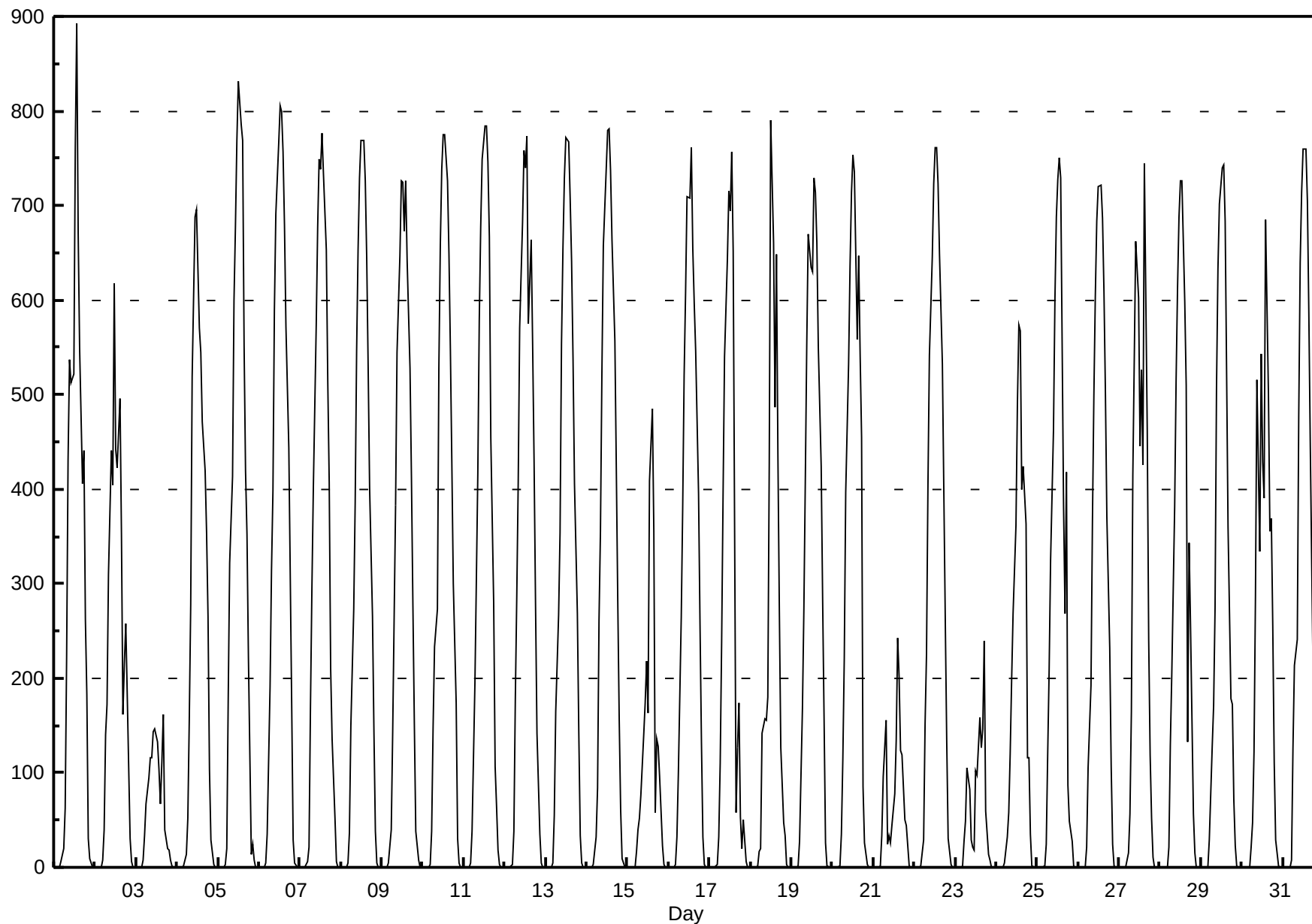
Solar Radiation (SR) - W/m²

Henry Pirker - July 2012

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 892.7 W/m ² on Jul 1 14:00 Maximum Daily Average: 314.9 W/m ² on Jul 6																								Hours in Service: 744 Hours of Data: 744 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0		
Minimum Value: 0 W/m ² on Jul 1 01:00 Maximum Diurnal Average: 642.2 W/m ² at hour 14 Monthly Average: 237.26 W/m ²																								Minimum Daily Average: 53.7 W/m ² on Jul 23 Minimum Diurnal Average: 0.0 W/m ² at hour 1 Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 115.6 Q ₃ = 451.3 P ₉₀ = 686.2 P ₉₉ = 783.2		
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-Jul	0	0	0	0	6	20	62	223	432	538	513	521	762	893	671	549	405	441	262	183	30	10	0	0	271.6	892.7
2-Jul	0	0	0	0	8	40	141	172	310	441	404	618	443	422	496	352	161	215	258	183	30	6	0	0	195.8	617.9
3-Jul	0	0	0	0	8	34	68	95	116	116	143	146	133	104	68	111	162	40	19	18	7	1	0	0	57.9	161.6
4-Jul	0	0	0	0	1	14	51	156	277	519	688	695	633	570	544	471	419	354	265	103	29	4	0	0	241.4	694.9
5-Jul	0	0	0	0	3	20	178	321	413	599	678	769	832	786	769	553	420	353	223	13	25	8	0	0	290.0	831.7
6-Jul	0	0	0	0	4	36	191	314	399	589	691	766	805	800	756	679	572	443	308	171	29	5	0	0	314.9	805.3
7-Jul	0	0	0	0	6	22	169	294	401	573	677	750	739	777	734	653	514	407	210	137	52	7	0	0	296.7	776.7
8-Jul	0	0	0	0	4	36	149	272	386	546	652	729	768	769	726	643	527	401	266	144	38	5	0	0	294.3	768.9
9-Jul	0	0	0	0	5	39	144	264	384	545	647	725	725	673	725	642	528	412	277	153	38	7	0	0	288.9	725.4
10-Jul	0	0	0	0	3	38	148	233	273	528	658	738	775	774	726	648	546	428	301	174	30	5	0	0	292.8	775.2
11-Jul	0	0	0	0	4	38	196	305	416	578	677	749	784	784	745	666	455	279	107	65	18	3	0	0	286.1	784.5
12-Jul	0	0	0	0	4	38	178	286	407	570	682	759	739	774	575	663	553	428	279	142	36	4	0	0	296.5	773.8
13-Jul	0	0	0	0	4	54	165	267	354	554	655	730	773	768	708	640	536	406	269	141	33	5	0	0	294.3	772.6
14-Jul	0	0	0	0	3	32	83	260	355	522	657	738	780	781	737	663	556	421	282	157	61	9	0	0	295.7	780.6
15-Jul	0	0	0	0	1	17	40	51	76	140	174	219	164	409	486	355	59	136	128	96	23	4	0	0	107.3	485.6
16-Jul	0	0	0	0	3	32	99	263	380	520	607	709	708	762	655	597	546	396	258	132	32	3	0	0	279.3	761.7
17-Jul	0	0	0	0	3	33	110	238	394	540	644	716	693	756	652	58	127	173	53	20	51	6	0	0	219.5	756.2
18-Jul	0	0	0	0	1	16	20	142	157	155	180	428	791	661	486	648	436	271	127	47	33	3	0	0	191.8	790.7
19-Jul	0	0	0	0	2	28	168	273	410	553	670	635	629	730	714	661	551	423	284	157	26	2	0	0	288.2	729.6
20-Jul	0	0	0	0	2	35	114	221	397	532	637	714	754	735	558	647	542	455	85	27	3	0	0	0	269.1	754.1
21-Jul	0	0	0	0	1	34	97	156	24	33	26	45	78	134	243	201	124	118	50	44	23	1	0	0	59.6	243.0
22-Jul	0	0	0	0	1	30	151	226	404	542	645	723	762	761	724	648	533	399	262	135	30	2	0	0	290.7	761.8
23-Jul	0	0	0	0	2	28	50	105	83	28	22	18	101	98	159	126	147	240	59	14	8	1	0	0	53.7	240.1
24-Jul	0	0	0	0	0	4	32	57	120	198	268	361	490	574	568	400	424	363	116	115	36	1	0	0	172.0	573.7
25-Jul	0	0	0	0	1	25	120	208	325	462	600	689	728	750	729	381	269	419	87	48	28	2	0	0	244.5	750.2
26-Jul	0	0	0	0	1	22	106	192	364	499	605	683	720	721	687	609	502	371	232	107	24	1	0	0	268.6	721.2
27-Jul	0	0	0	0	1	16	56	164	416	536	662	602	446	527	425	745	462	241	119	52	11	0	0	0	228.3	744.8
28-Jul	0	0	0	0	0	22	130	204	381	515	612	688	727	725	598	510	133	343	255	56	15	0	0	0	246.5	726.8
29-Jul	0	0	0	0	1	28	127	171	274	506	633	702	740	742	683	524	361	178	173	72	22	1	0	0	247.4	742.4
30-Jul	0	0	0	0	0	21	48	122	287	515	333	543	429	391	684	500	356	369	255	112	28	1	0	0	208.1	684.2
31-Jul	0	0	0	0	0	8	127	213	241	477	639	714	760	760	705	585	447	318	195	108	26	1	0	0	263.6	760.3
																								Diurnal Average		
																								Diurnal Maximum		

Hourly Averages

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



Hourly Averages

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

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1 Spd	8	6	8	7	6	4	6	5	10	8	5	9	14	12	15	11	11	18	16	14	8	7	6	9	8.7	17.8
Dir	241	261	270	302	301	249	231	257	298	306	303	311	275	276	296	287	284	289	279	290	299	261	236	255	280.9	288.8
2 Spd	9	6	2	6	6	6	5	6	4	5	2	2	3	7	8	8	13	9	3	9	8	8	2	1	2.4	13.2
Dir	281	310	223	250	252	276	279	261	241	274	251	216	228	119	122	115	291	304	40	143	170	174	289	189	240.4	290.7
3 Spd	3	2	3	5	3	3	5	6	7	7	8	7	10	12	14	22	21	18	19	12	13	11	18	19	8.6	21.7
Dir	127	159	89	116	331	288	333	316	291	306	287	263	221	246	267	265	275	290	302	298	281	287	285	283	280.5	264.6
4 Spd	20	22	19	18	19	17	16	19	22	24	28	26	25	25	25	26	27	27	24	22	19	14	10	7	20.3	27.9
Dir	286	285	286	288	291	281	264	263	264	272	284	280	277	266	261	256	253	257	256	254	256	254	260	245	268.8	284.0
5 Spd	5	7	9	7	6	4	6	8	7	7	7	8	7	9	11	9	5	3	3	13	9	7	6	6	5.4	13.4
Dir	257	264	262	270	258	222	252	242	248	265	248	239	249	281	268	307	302	318	231	178	175	217	191	164	245.1	177.5
6 Spd	6	4	4	5	4	4	5	7	9	8	9	8	9	7	8	7	7	3	6	8	9	8	7	7	2.4	9.0
Dir	168	169	149	167	180	173	225	232	225	227	253	242	248	225	295	332	358	41	92	96	126	112	111	118	189.6	126.2
7 Spd	5	3	1	1	1	1	3	8	8	7	5	7	4	5	5	5	11	10	9	8	5	4	5	4	4.0	10.7
Dir	109	117	73	95	137	143	92	117	109	137	145	130	112	98	186	107	94	96	82	88	107	310	354	330	104.8	93.7
8 Spd	6	5	6	6	4	5	6	6	5	3	3	6	6	6	7	8	8	11	10	8	5	4	4	2	1.7	10.8
Dir	326	327	308	297	240	241	244	244	256	200	174	135	107	101	116	83	65	91	93	104	83	60	71	1	95.7	90.9
9 Spd	4	5	4	5	4	3	4	4	3	3	6	4	5	4	4	4	3	7	9	6	3	2	4	5	0.6	9.1
Dir	316	321	310	298	296	278	225	232	236	195	159	149	134	152	115	79	74	90	106	101	49	31	342	341	101.9	106.0
10 Spd	4	6	5	2	3	4	3	4	8	14	27	25	24	21	18	22	26	27	23	18	16	11	8	9	13.0	27.1
Dir	332	357	304	310	318	244	309	299	274	278	282	273	272	258	242	269	282	278	287	279	267	266	273	276	276.4	282.5
11 Spd	13	6	3	5	2	6	6	7	9	6	9	9	12	14	17	15	16	13	7	5	2	2	5	6	6.7	16.8
Dir	263	263	221	205	231	241	257	239	224	236	280	268	289	288	282	291	293	303	335	90	178	267	288	244	272.0	282.0
12 Spd	5	3	4	6	6	3	2	8	9	10	18	18	19	20	18	16	16	17	13	7	5	3	2	3	7.3	19.6
Dir	251	334	272	279	252	276	212	243	251	257	296	317	321	321	328	315	330	346	0	27	69	104	111	298	313.4	321.4
13 Spd	3	1	2	3	2	2	3	2	6	7	9	11	12	12	13	11	11	10	12	12	9	8	6	5	6.2	12.7
Dir	307	319	282	297	166	135	194	144	124	112	107	104	104	110	103	109	99	113	101	109	108	98	96	92	107.8	103.1
14 Spd	4	6	0	2	3	3	4	6	9	7	5	4	5	4	6	3	5	6	9	10	8	6	7	10	0.9	10.2
Dir	106	118	204	298	247	288	221	221	252	253	279	285	330	260	325	346	347	45	69	78	73	86	73	93	40.3	77.6
15 Spd	12	8	9	3	7	5	5	9	8	2	9	8	9	11	12	9	8	5	7	8	8	4	1	2	5.5	11.8
Dir	103	72	85	30	11	18	1	77	87	75	316	326	31	28	9	14	64	56	46	72	54	55	330	335	42.1	103.0
16 Spd	4	4	4	3	2	2	5	4	7	8	10	12	12	10	9	8	8	9	14	15	14	10	8	7	5.8	15.4
Dir	315	325	332	333	331	149	167	228	174	168	164	167	166	175	186	163	148	151	127	124	121	120	123	117	150.1	123.9
17 Spd	3	1	0	2	5	4	2	5	5	5	6	6	7	8	5	3	12	6	10	7	6	3	5	6	1.5	11.6
Dir	145	174	294	135	183	171	195	241	245	291	311	340	343	355	70	74	114	76	92	89	98	338	79	111	79.2	114.0
18 Spd	3	2	2	5	4	7	4	10	8	11	11	14	14	16	18	24	23	21	14	12	9	6	7	5	9.0	24.4
Dir	119	81	325	337	26	43	38	334	338	290	282	291	300	296	316	322	321	333	323	305	324	302	242	289	315.8	322.2
19 Spd	6	3	4	4	3	2	5	7	7	8	9	10	9	8	9	9	8	9	5	8	10	9	6	6	2.7	10.4
Dir	308	288	220	218	219	280	234	283	294	309	297	312	307	317	314	327	346	352	58	79	96	104	111	102	322.5	96.5
20 Spd	7	4	5	5	6	9	8	10	11	12	14	13	12	14	14	12	14	16	15	8	9	9	4	5	9.0	16.1
Dir	112	99	86	78	101	99	86	95	107	109	101	101	114	91	97	93	88	93	99	83	81	88	242	293	96.5	93.0
21 Spd	6	9	8	10	8	8	6	10	12	11	15	9	6	8	16	19	14	11	8	3	2	4	4	3	7.4	18.6
Dir	229	231	246	277	265	274	246	248	279	303	322	324	311	303	268	278	287	295	302	292	235	194	189	191	276.5	278.1
22 Spd	4	0	1	2	3	5	6	5	8	6	3	1	6	5	4	4	7	10	11	10	7	7	6	6	1.6	11.2
Dir	216	178	185	281	283	233	245	203	251	237	235	132	163	222	222	205	76	87	86	89	74	85	75	68	142.1	85.7

Hourly Averages

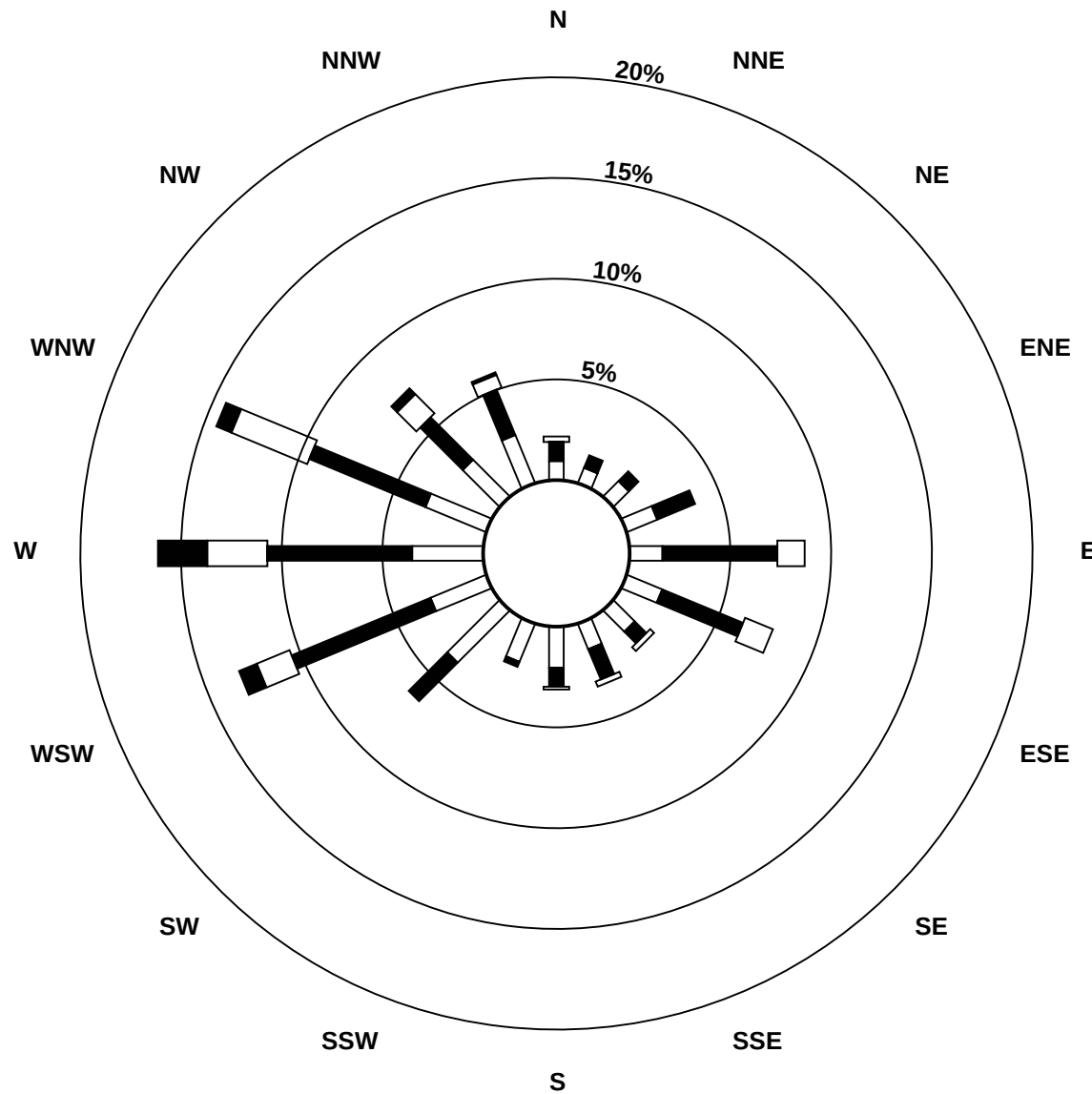
Wind Speed (km/h)
Wind Direction (deg)
Henry Pirkner - July 2012

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum								
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24										
23 Spd	6	3	5	6	4	2	2	3	5	7	6	5	6	9	11	7	10	15	15	11	9	8	8	13	4.1	14.7								
Dir	75	4	310	339	14	5	50	66	33	168	167	224	252	328	355	298	231	258	263	297	299	287	298	318	296.7	263.0								
24 Spd	5	4	6	10	8	8	9	11	13	11	14	16	13	10	9	8	3	3	5	6	5	3	3	2	5.8	15.8								
Dir	350	213	301	279	292	287	284	289	293	301	318	336	338	327	7	99	84	278	305	261	262	237	243	305	305.6	335.5								
25 Spd	3	4	4	5	6	6	5	5	5	6	7	7	7	7	7	10	7	5	6	6	4	9	8	7	2.6	9.6								
Dir	261	273	268	279	269	269	248	269	270	271	291	289	293	287	276	348	34	53	348	329	64	108	99	157	298.5	348.1								
26 Spd	4	6	4	5	4	3	4	4	3	4	5	5	6	6	8	9	11	13	14	12	10	10	10	4	4.8	13.6								
Dir	274	349	109	116	128	157	329	321	246	167	124	111	103	116	86	83	85	90	87	97	91	90	100	283	94.3	86.9								
27 Spd	11	11	9	3	5	5	8	8	6	9	8	10	8	12	13	15	14	10	9	5	1	3	6	6	6.7	14.7								
Dir	349	257	274	292	272	289	252	264	269	238	255	241	267	248	285	302	314	314	338	329	360	189	236	265	279.7	302.2								
28 Spd	4	3	6	6	3	8	9	7	7	5	6	7	6	8	10	15	12	13	19	10	6	6	6	6	7.2	18.8								
Dir	276	245	286	290	266	225	278	294	296	281	269	284	278	271	295	287	263	243	301	331	296	281	281	245	279.8	300.9								
29 Spd	8	7	8	5	3	3	3	5	6	9	9	7	5	5	4	10	7	11	12	9	8	7	4	5	6.0	12.1								
Dir	252	247	246	293	321	308	244	231	233	248	261	278	269	217	207	194	208	238	252	275	235	227	211	212	243.6	251.9								
30 Spd	3	4	1	3	2	5	7	2	3	7	9	8	14	8	12	6	10	10	14	12	10	7	10	8	6.8	14.3								
Dir	179	267	209	254	241	226	254	212	263	249	234	239	257	278	255	274	301	276	271	292	269	245	266	265	261.2	271.3								
31 Spd	9	10	7	8	10	11	14	17	17	21	25	23	22	20	19	19	20	20	18	17	13	9	7	6	14.8	24.9								
Dir	238	251	269	273	253	249	247	248	251	261	270	264	251	266	284	271	268	276	264	261	276	281	253	285	263.3	269.7								
Spd	2.3	2.6	2.8	3.3	3.0	2.9	3.7	4.2	4.8	5.3	6.1	5.2	5.0	5.0	5.4	5.0	4.6	4.1	2.8	0.5	0.3	0.9	1.2	1.8	Diurnal Average									
Dir	269.6	275.8	273.8	282.9	274.5	258.0	256.1	256.0	259.0	259.5	275.0	277.0	275.0	278.0	286.7	293.3	300.7	303.2	319.8	334.0	192.5	204.7	242.6	266.7	Diurnal Maximum									
Spd	19.8	21.5	18.6	17.6	19.3	16.6	16.0	19.4	22.1	23.6	27.9	26.4	25.3	25.1	25.0	26.0	27.2	27.0	24.2	22.0	18.8	13.6	18.3	18.7	Diurnal Maximum									
Dir	286.3	285.2	286.4	287.9	290.7	280.6	263.6	263.1	264.3	271.8	284.0	280.0	277.0	265.8	261.2	255.5	253.1	257.3	255.6	254.1	256.2	254.4	284.7	282.5										
Maximum Speed Value: 28 km/h on Jul 4 11:00																				Minimum Speed Value: 0 km/h on Jul 17 03:00										Hours in Service:				744
Maximum Daily Speed Average: 20.3 km/h on Jul 4																				Minimum Daily Speed Average: 0.6 km/h on Jul 9										Hours of Data:				744
Maximum Diurnal Speed Average: 6.1 km/h at hour 11																				Minimum Diurnal Speed Average: 0.3 km/h at hour 21										Hours of Missing Data:				0
Monthly Average Velocity: 3.27 km/h 276.05 deg										Speed Percentiles: P ₁ = 1.0 P ₁₀ = 3.0 Q ₁ = 4.6 Median = 6.8 Q ₃ = 10.1 P ₉₀ = 15.0 P ₉₉ = 25.8										Percent Operational Time:				100.0										
All monthly, daily, and diurnal averages have been calculated using vector methods																																		
Frequency Distribution																																		
Speed Range (km/h)																																		
Direction	0 to 5		5 to 11		11 to 19		19 to 28		28 to 38		> 38		Total																					
North	12		19		5		0		0		0		36																					
NorthEast	13		12		1		0		0		0		26																					
East	22		80		21		0		0		0		123																					
SouthEast	21		22		5		0		0		0		48																					
South	25		18		3		0		0		0		46																					
SouthWest	45		52		5		0		0		0		102																					
West	38		107		54		34		0		0		233																					
NorthWest	43		57		24		6		0		0		130																					
Total	219		367		118		40		0		0		744																					

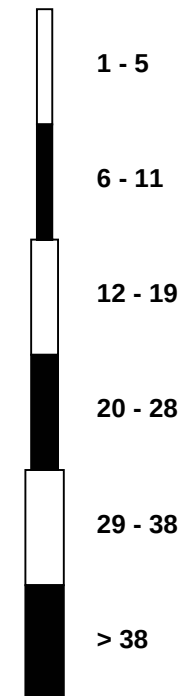
Wind Rose

Wind Speed (WS) (km/h)

Henry Pirker - July 2012



Wind Speed Classes (km/h)



Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Henry Pirker - July 2012

Maximum Speed: 28 km/h on Jul 4 11:00																				Maximum Daily Speed Average: 21.1 km/h on Jul 4										Hours in Service: 744	
Minimum Speed: 2 km/h on Jul 22 02:00																				Minimum Daily Speed Average: 5.2 km/h on Jul 9										Hours of Data: 744	
Maximum Diurnal Speed Average: 12.8 km/h at hour 17																				Minimum Diurnal Speed Average: 5.6 km/h at hour 6										Hours of Missing Data: 0	
Monthly Average Speed: 8.89 km/h																				Percentiles: P ₁ = 2.6 P ₁₀ = 3.9 Q ₁ = 5.4 Median = 7.7 Q ₃ = 10.5 P ₉₀ = 15.8 P ₉₉ = 26.2										Percent Operational Time: 100.0	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24							
1-Jul	8	7	8	8	6	5	6	6	10	9	7	10	15	13	15	12	12	18	17	14	8	7	6	9	9.9	18.2					
2-Jul	9	6	3	7	6	6	5	7	5	5	5	5	6	8	9	9	13	10	5	10	8	8	3	3	6.8	13.4					
3-Jul	3	2	3	5	4	4	5	6	7	7	8	8	10	12	15	22	21	18	20	13	13	12	19	19	10.6	21.9					
4-Jul	20	22	19	18	19	17	16	20	22	24	28	27	26	25	25	26	27	27	24	22	19	14	10	7	21.1	28.2					
5-Jul	5	7	9	7	6	4	7	8	7	8	8	9	8	10	12	10	6	5	4	14	9	10	7	6	7.8	14.4					
6-Jul	6	5	4	5	5	4	6	7	9	9	9	10	10	9	10	8	8	6	7	9	9	8	7	7	7.4	10.3					
7-Jul	5	4	3	2	3	3	5	9	9	7	6	8	6	6	8	7	11	10	10	8	6	5	5	4	6.2	11.2					
8-Jul	6	6	6	7	5	5	6	7	6	4	4	7	8	7	9	9	11	10	8	5	4	4	4	4	6.5	11.1					
9-Jul	4	5	4	5	4	3	4	4	4	4	7	6	6	5	6	6	5	8	10	6	3	3	6	6	5.2	9.5					
10-Jul	5	6	5	3	4	5	4	5	9	14	28	25	24	22	19	22	26	27	23	18	16	12	9	9	14.2	27.5					
11-Jul	13	6	5	5	4	6	7	8	9	7	10	10	14	16	18	15	17	13	8	6	5	3	5	6	9.0	17.5					
12-Jul	7	5	5	6	6	4	4	8	10	11	19	18	20	20	19	16	17	17	14	8	6	3	3	3	10.3	20.0					
13-Jul	3	3	4	4	4	3	3	3	7	8	10	11	13	13	13	12	11	10	13	12	9	8	6	5	7.8	13.4					
14-Jul	4	6	4	3	3	4	4	6	9	7	6	5	6	6	8	7	7	8	10	10	9	6	7	10	6.6	10.4					
15-Jul	12	9	9	9	9	6	7	10	8	4	9	8	10	12	12	11	8	6	7	8	8	4	3	3	8.0	12.4					
16-Jul	4	4	4	4	3	3	5	5	8	9	11	12	13	11	10	9	9	9	14	16	14	10	8	7	8.4	15.6					
17-Jul	3	2	2	3	5	4	3	5	5	6	7	8	8	10	7	8	18	7	10	8	7	4	7	6	6.4	17.5					
18-Jul	4	3	3	6	5	7	6	12	9	12	12	15	14	17	18	25	24	21	15	12	10	7	7	6	11.2	24.7					
19-Jul	6	4	4	4	4	3	5	8	8	9	10	11	10	10	10	10	9	10	7	9	11	9	6	7	7.6	10.7					
20-Jul	7	5	5	5	6	9	9	10	12	12	14	13	13	14	14	13	14	16	15	9	9	10	7	6	10.3	16.3					
21-Jul	7	9	9	10	9	9	7	10	13	12	15	9	7	8	16	19	14	11	8	4	3	5	5	3	9.2	18.8					
22-Jul	4	2	2	3	4	5	7	6	8	7	5	4	8	8	6	7	9	10	11	10	7	7	6	7	6.4	11.4					
23-Jul	6	5	5	6	5	4	3	4	5	9	7	6	8	9	11	8	11	15	15	12	9	8	8	14	8.0	14.8					
24-Jul	13	6	7	10	8	8	10	11	13	11	14	16	14	11	11	9	5	5	5	7	5	4	4	3	8.7	16.0					
25-Jul	4	5	5	5	6	6	5	5	5	7	7	7	8	8	7	10	8	6	7	6	5	9	8	8	6.5	10.4					
26-Jul	5	6	5	5	4	3	4	5	4	5	6	7	7	8	8	10	12	14	14	12	10	10	10	7	7.6	13.8					
27-Jul	11	11	10	4	6	6	8	8	6	10	9	11	9	13	14	15	14	10	10	5	3	4	8	7	8.9	15.4					
28-Jul	5	4	6	6	5	8	9	8	7	5	6	7	7	9	11	15	14	13	19	10	6	7	6	6	8.3	19.2					
29-Jul	8	8	8	6	4	4	3	6	6	10	10	9	7	8	8	11	8	13	13	9	8	7	5	5	7.5	12.6					
30-Jul	4	5	3	4	3	6	7	4	6	8	9	9	14	8	13	8	10	11	15	12	10	7	10	8	8.1	14.9					
31-Jul	9	11	8	9	10	11	14	17	18	21	25	23	22	21	20	19	21	20	18	17	14	9	7	6	15.5	25.4					
6.8 6.0 5.7 5.9 5.6 5.6 6.2 7.6 8.4 9.0 10.6 10.8 11.4 11.5 12.4 12.5 12.8 12.5 12.2 10.5 8.5 7.3 6.8 6.7																									Diurnal Average						
20.0 21.6 18.8 17.7 19.4 16.7 16.2 19.6 22.3 23.9 28.2 26.8 25.7 25.4 25.4 26.4 27.5 27.2 24.4 22.3 19.0 13.7 18.6 18.8																									Diurnal Maximum						
All monthly, daily, and diurnal averages have been calculated using scalar methods																															

Hourly Standard Deviations

Wind Direction (WD) - deg

Henry Pirker - July 2012

Maximum Value: 92.6 deg on Jul 22 12:00																		Hours in Service: 744							
Minimum Value: 6.0 deg on Jul 4 00:00																		Hours of Data: 744							
																		Hours of Missing Data: 0							
																		Hours of Calibration: 0							
Percentiles: P ₁ = 6.8 P ₁₀ = 9.7 Q ₁ = 13.6 Median = 20.5 Q ₃ = 35.5 P ₉₀ = 54.5 P ₉₉ = 80.1																		Percent Operational Time: 100.0							
Day	Hourly Period Ending At (MST)																								Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Maximum
1-Jul	19	20	12	16	18	41	17	21	13	24	50	34	21	26	17	23	24	14	12	7	9	14	9	15	50.5
2-Jul	17	17	55	15	16	20	17	24	30	32	78	82	73	41	31	47	11	31	66	17	15	12	62	72	81.5
3-Jul	31	35	24	30	49	60	15	11	14	20	17	30	17	12	15	7	8	16	7	8	9	15	10	6	60.4
4-Jul	7	6	7	7	6	8	7	7	7	11	9	10	10	10	11	11	8	8	8	8	8	8	7	12	12.4
5-Jul	20	27	9	18	30	25	17	18	21	28	32	29	42	35	26	27	48	65	65	33	34	40	29	15	65.3
6-Jul	9	23	17	9	15	15	21	18	15	22	25	33	37	49	46	52	50	79	33	23	10	8	9	7	78.7
7-Jul	22	44	85	59	77	60	73	12	19	25	40	26	58	43	54	52	18	16	13	10	48	40	19	26	85.2
8-Jul	14	23	18	11	32	24	14	15	25	53	58	36	42	43	35	26	21	13	13	13	13	14	20	46	57.8
9-Jul	21	25	18	14	22	35	28	19	47	55	26	57	44	57	62	50	73	36	19	24	19	41	51	36	73.5
10-Jul	20	19	22	60	41	51	33	22	20	17	10	11	11	15	17	16	10	8	9	9	7	34	14	14	60.2
11-Jul	12	24	54	21	66	15	23	20	13	47	20	35	35	27	17	18	17	11	28	36	62	55	27	18	66.3
12-Jul	44	53	40	19	28	34	68	14	20	18	12	12	13	11	12	11	19	14	21	28	27	14	50	22	68.1
13-Jul	36	82	56	37	70	55	36	64	21	22	22	20	15	19	18	24	19	22	12	10	8	7	10	11	82.2
14-Jul	27	10	83	47	15	27	27	19	14	19	46	46	57	65	53	79	62	52	26	12	15	15	16	15	82.6
15-Jul	8	15	13	69	33	43	43	17	18	59	13	17	27	17	21	35	21	22	17	19	16	21	90	46	90.3
16-Jul	19	13	12	29	30	68	15	37	17	21	20	20	19	22	30	45	40	23	14	10	7	6	8	19	67.8
17-Jul	34	68	92	50	14	11	72	36	35	36	29	42	38	40	51	56	53	35	11	39	37	80	37	13	91.6
18-Jul	27	55	57	26	56	23	53	47	36	10	17	15	17	13	12	10	9	10	20	13	11	32	17	27	57.5
19-Jul	23	43	14	11	36	55	21	29	23	22	25	25	28	29	24	22	44	27	44	27	8	10	8	10	55.3
20-Jul	9	20	11	19	22	8	11	12	11	14	13	14	23	17	14	18	14	11	9	14	11	24	58	31	58.5
21-Jul	21	12	20	13	22	14	19	12	24	17	8	13	31	15	19	9	11	7	14	32	55	18	12	29	54.5
22-Jul	19	90	63	63	39	10	21	36	18	26	45	93	37	57	58	73	52	17	11	10	11	9	16	17	92.6
23-Jul	12	51	24	11	46	59	54	46	26	50	29	47	48	15	11	30	17	10	7	32	9	11	11	12	59.4
24-Jul	80	60	36	19	12	14	10	8	8	9	9	8	14	18	39	22	77	50	23	23	20	11	22	63	79.6
25-Jul	35	48	23	10	20	18	16	19	22	29	15	17	22	24	24	23	20	38	27	16	41	16	13	32	47.9
26-Jul	37	21	50	12	19	41	14	30	43	38	54	46	44	49	31	26	20	13	10	9	8	8	8	73	73.1
27-Jul	17	18	21	56	30	23	18	18	24	18	31	26	34	31	14	18	13	12	14	29	86	65	67	64	85.8
28-Jul	38	43	16	20	42	14	23	10	11	29	26	25	36	38	16	11	24	20	13	13	18	13	18	18	42.6
29-Jul	13	14	16	32	21	24	30	17	15	18	21	38	50	51	60	26	23	25	15	15	10	12	15	17	60.4
30-Jul	51	25	68	35	45	31	23	64	54	23	18	31	20	19	23	55	14	29	18	8	10	12	20	19	67.8
31-Jul	11	12	21	17	10	9	9	7	10	14	11	13	15	19	14	18	13	14	9	10	9	8	17	25	24.6
79.6 89.7 91.6 68.6 77.0 67.8 73.4 64.3 53.8 59.2 78.2 92.6 73.0 65.0 61.6 79.2 77.0 78.7 66.1 39.3 85.8 79.9 90.3 73.1																									

PAZA

Evergreen Park Station

Monthly Summary Tables, Graphs and
Roses

Hourly Averages

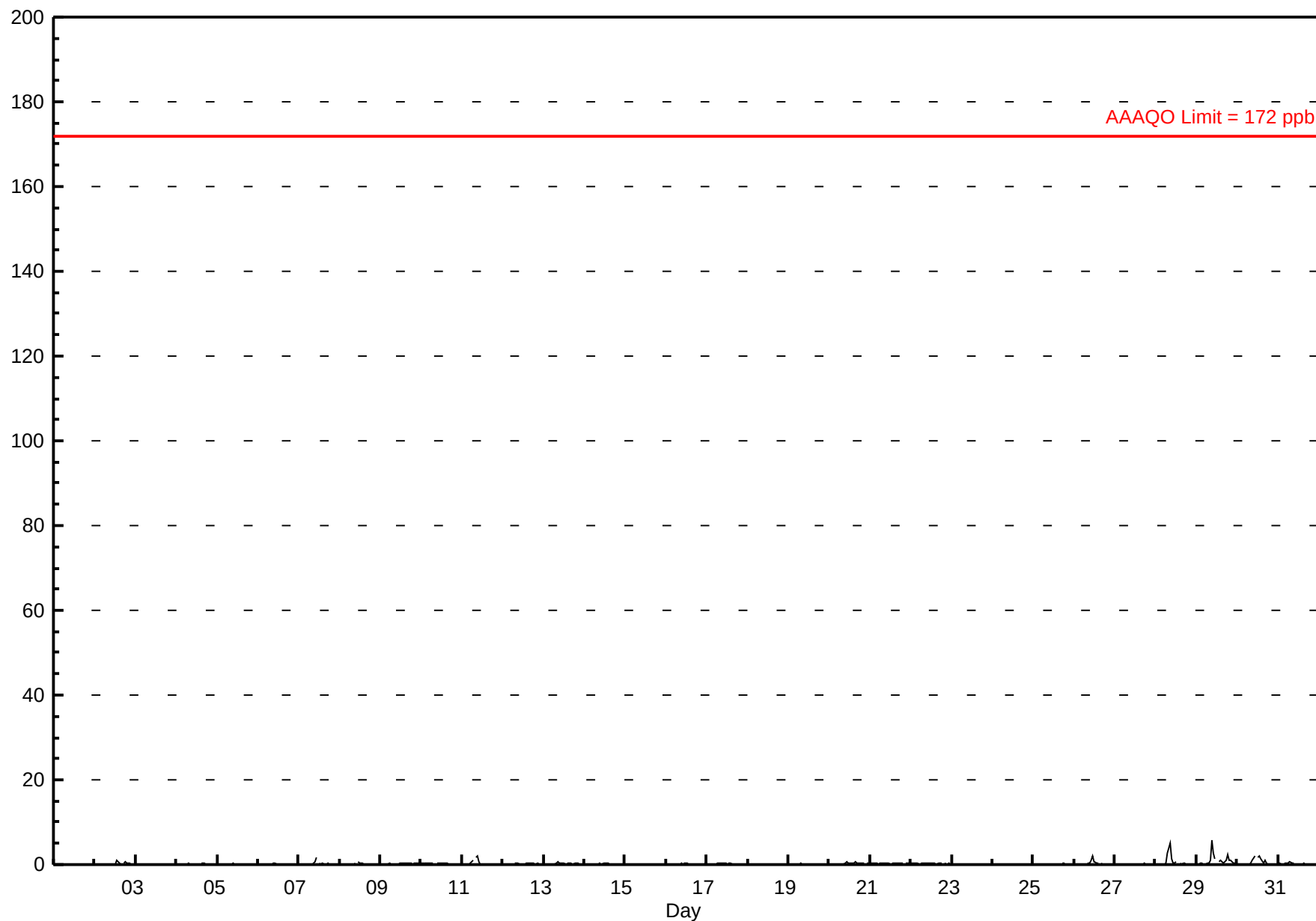
Sulphur Dioxide (SO₂) - ppb

Evergreen Park - July 2012

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 5.6 ppb on Jul 29 10:00 Maximum Daily Average: 0.9 ppb on Jul 29																			Hours in Service: 744 Hours of Data: 706 Hours of Missing Data: 38 Hours of Calibration: 37 Percent Operational Time: 99.9							
Minimum Value: 0 ppb on Jul 1 01:00 Maximum Diurnal Average: 0.5 ppb at hour 10 Monthly Average: 0.19 ppb																			Minimum Daily Average: 0.0 ppb on Jul 24 Minimum Diurnal Average: 0.1 ppb at hour 2 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 = 2.1							
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-Jul	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	0.1
2-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	A	0	1	0	0	0	0	0	0.2	1.1
3-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.0	0.1
4-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.1	0.3
5-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.1	0.2
6-Jul	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
7-Jul	0	0	0	0	0	0	0	0	0	1	2	A	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.6
8-Jul	0	0	0	0	0	0	0	0	0	0	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.6
9-Jul	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3
10-Jul	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.5
11-Jul	0	0	0	0	0	0	1	A	2	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	2.0
12-Jul	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
13-Jul	0	0	0	0	0	A	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.7
14-Jul	0	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
15-Jul	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
16-Jul	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
17-Jul	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	0.2
18-Jul	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
19-Jul	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
20-Jul	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	0	0	0	0	0	A	0	0	0.2	0.6
21-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.2	0.5
22-Jul	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
23-Jul	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
24-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	N	A	0	0	0	0	0	0	0.0	0.1
25-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0.1	0.3
26-Jul	0	0	0	0	0	0	0	0	0	0	1	2	1	0	0	A	0	0	0	0	0	0	0	0	0.3	2.2
27-Jul	0	0	0	0	0	0	0	0	0	C	C	C	C	C	A	0	0	0	0	0	0	0	0	0	0.1	0.2
28-Jul	0	0	0	0	0	0	0	3	5	1	1	0	1	A	0	0	0	0	0	0	0	0	0	0	0.6	5.0
29-Jul	0	0	0	0	0	0	0	0	1	6	3	1	A	1	1	1	0	1	2	1	1	1	0	0	0.9	5.6
30-Jul	0	0	0	0	0	0	0	0	0	1	2	A	2	2	2	0	1	0	0	0	0	0	0	0	0.5	2.2
31-Jul	0	0	0	0	0	0	0	1	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.6
0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.2 0.4 0.5 0.4 0.3 0.3 0.3 0.2 0.2 0.2 0.2 0.2 0.1 0.1 0.1 0.1 0.1																									Diurnal Average	
0.2 0.2 0.5 0.2 0.2 0.4 1.1 2.9 5.0 5.6 2.6 2.2 1.8 1.9 1.5 0.7 0.9 1.0 2.5 1.1 1.1 0.6 0.4 0.3																									Diurnal Maximum	
C - Calibration N - Not Valid A - Automated Daily Zero Span																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb 30-day 11 ppb																										

Hourly Averages

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



Hourly Maximums

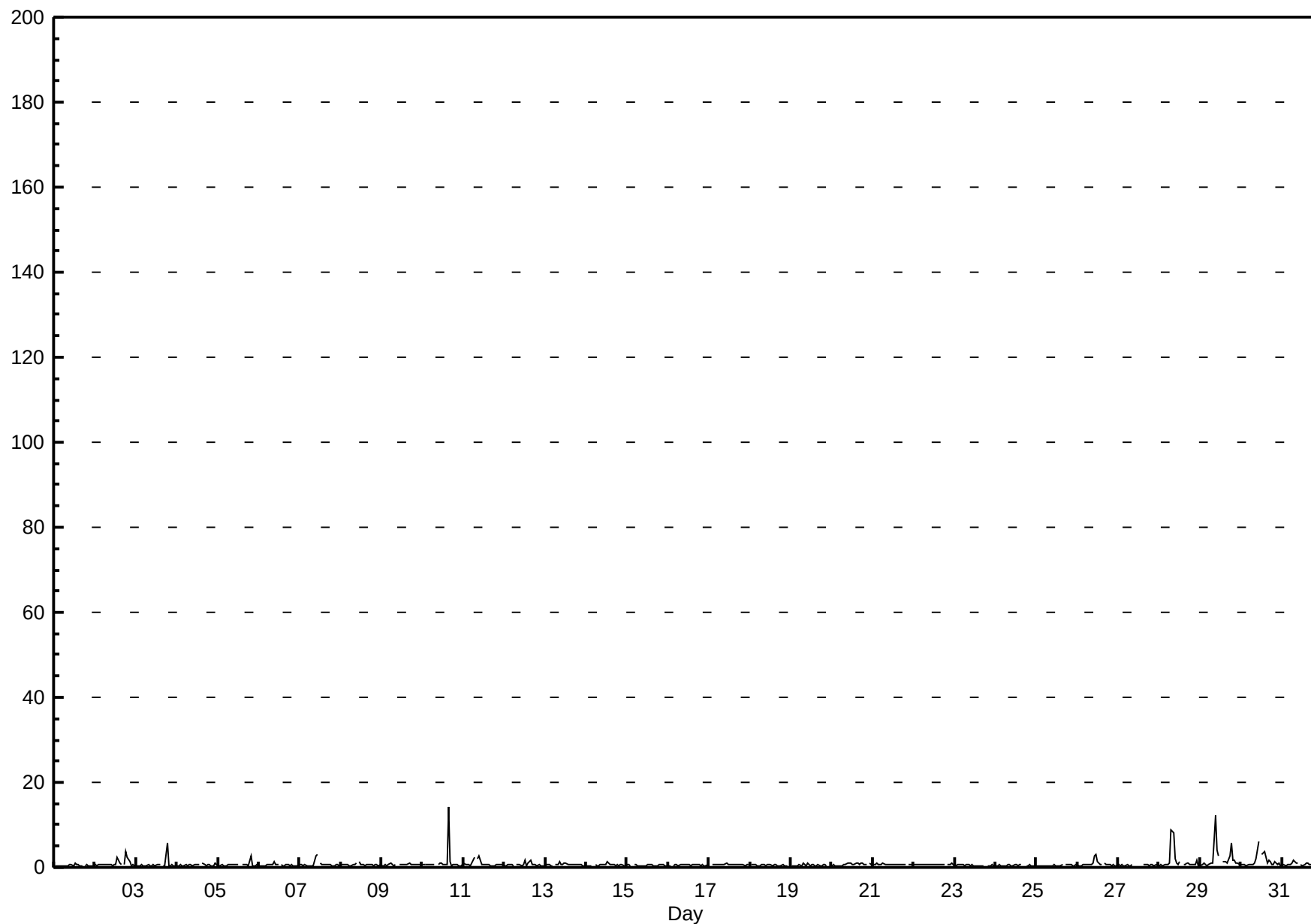
Sulphur Dioxide (SO₂) - ppb

Evergreen Park - July 2012

Maximum Value: 14.1 ppb on Jul 10 16:00																				Maximum Daily Average: 2.2 ppb on Jul 29					Hours in Service: 744			
Minimum Value: 0 ppb on Jul 23 20:00																				Minimum Daily Average: 0.4 ppb on Jul 24					Hours of Data: 706			
Maximum Diurnal Average: 1.3 ppb at hour 10																				Minimum Diurnal Average: 0.5 ppb at hour 2					Hours of Missing Data: 38			
Monthly Average: 0.76 ppb																				Percentiles: P ₁ = 0.3 P ₁₀ = 0.4 Q ₁ = 0.5 Median = 0.6 Q ₃ = 0.7 P ₉₀ = 1.0 P ₉₉ = 5.8					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-Jul	0	0	0	0	0	0	0	1	0	1	1	0	1	1	1	0	0	A	0	1	1	0	0	0	0.5	1.0		
2-Jul	1	0	1	1	1	1	1	1	1	1	0	1	1	2	1	1	A	1	4	2	1	0	1	0	0.9	3.9		
3-Jul	0	0	0	1	0	0	0	1	0	0	1	0	1	1	1	A	0	0	6	0	0	1	0	0	0.7	5.9		
4-Jul	0	0	1	0	0	1	0	1	1	0	1	1	1	1	A	1	1	0	1	1	0	1	1	1	0.6	1.1		
5-Jul	1	0	1	0	1	0	1	1	1	1	1	1	1	A	1	1	1	1	0	3	0	0	0	1	0.6	2.6		
6-Jul	0	0	0	0	0	1	1	1	1	1	1	1	A	1	0	0	1	1	0	1	0	0	0	1	0.6	1.5		
7-Jul	1	1	0	1	0	0	0	0	0	3	3	A	1	1	1	1	1	1	1	0	0	1	1	0	0.8	3.1		
8-Jul	1	1	1	1	1	0	0	1	1	1	A	1	1	1	0	1	1	1	1	1	1	1	0	1	0.6	1.2		
9-Jul	0	0	1	0	1	1	1	0	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.1		
10-Jul	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	14	1	0	1	1	1	0	0	0	1.3	14.1		
11-Jul	1	1	1	1	0	1	2	A	2	3	2	1	1	1	1	1	0	0	0	1	1	1	1	1	0.9	2.6		
12-Jul	0	0	1	1	1	0	A	1	1	1	0	1	2	0	1	2	1	1	1	0	1	0	0	0	0.7	1.8		
13-Jul	0	1	1	0	0	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0.6	1.3		
14-Jul	0	0	0	0	A	1	0	0	1	1	1	1	1	1	1	1	1	1	1	0	1	1	0	0	0.6	1.2		
15-Jul	1	1	0	A	1	1	0	0	0	0	0	0	1	1	1	0	0	0	0	1	1	1	0	0	0.5	0.7		
16-Jul	0	0	A	0	1	1	0	1	1	1	1	1	1	0	1	1	1	1	1	0	1	0	0	1	0.6	0.7		
17-Jul	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	0.6	0.9		
18-Jul	A	1	1	1	0	0	0	1	1	0	1	1	1	0	1	1	0	0	0	1	0	0	0	A	0.5	0.8		
19-Jul	0	0	0	0	0	1	0	1	1	0	1	0	1	1	0	0	1	0	0	1	1	0	A	0	0.5	0.9		
20-Jul	1	1	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	0.7	1.2		
21-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	0.7	1.2		
22-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	0.7	0.8		
23-Jul	1	1	1	1	1	1	0	1	1	0	1	0	0	0	0	0	0	0	A	0	0	0	1	0	0.5	0.7		
24-Jul	0	0	1	0	0	0	0	1	1	0	0	1	1	1	1	1	N	A	0	0	1	0	0	0	0.4	0.7		
25-Jul	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1	A	1	1	1	1	0	0	1	0.5	0.7		
26-Jul	1	0	0	1	1	1	1	1	1	1	3	3	1	1	1	A	1	1	1	1	1	1	0	0	0.9	3.1		
27-Jul	1	0	1	0	0	1	0	0	1	C	C	C	C	C	A	1	1	1	0	1	1	0	1	1	0.6	0.8		
28-Jul	0	1	0	1	1	1	1	9	8	2	1	1	1	A	1	1	1	1	1	1	1	1	2	0	1.5	8.7		
29-Jul	0	1	1	1	0	1	1	1	6	12	4	3	A	2	1	1	1	3	6	2	2	1	1	1	2.2	12.1		
30-Jul	1	1	1	0	1	1	1	1	1	2	6	A	3	3	4	1	2	1	1	1	1	1	1	0	1.4	6.2		
31-Jul	1	1	1	1	1	1	1	2	1	1	A	1	1	1	1	1	1	1	1	0	1	1	1	0	0.7	1.7		
																									Diurnal Average			
																									Diurnal Maximum			
C - Calibration																									N - Not Valid		A - Automated Daily Zero Span	

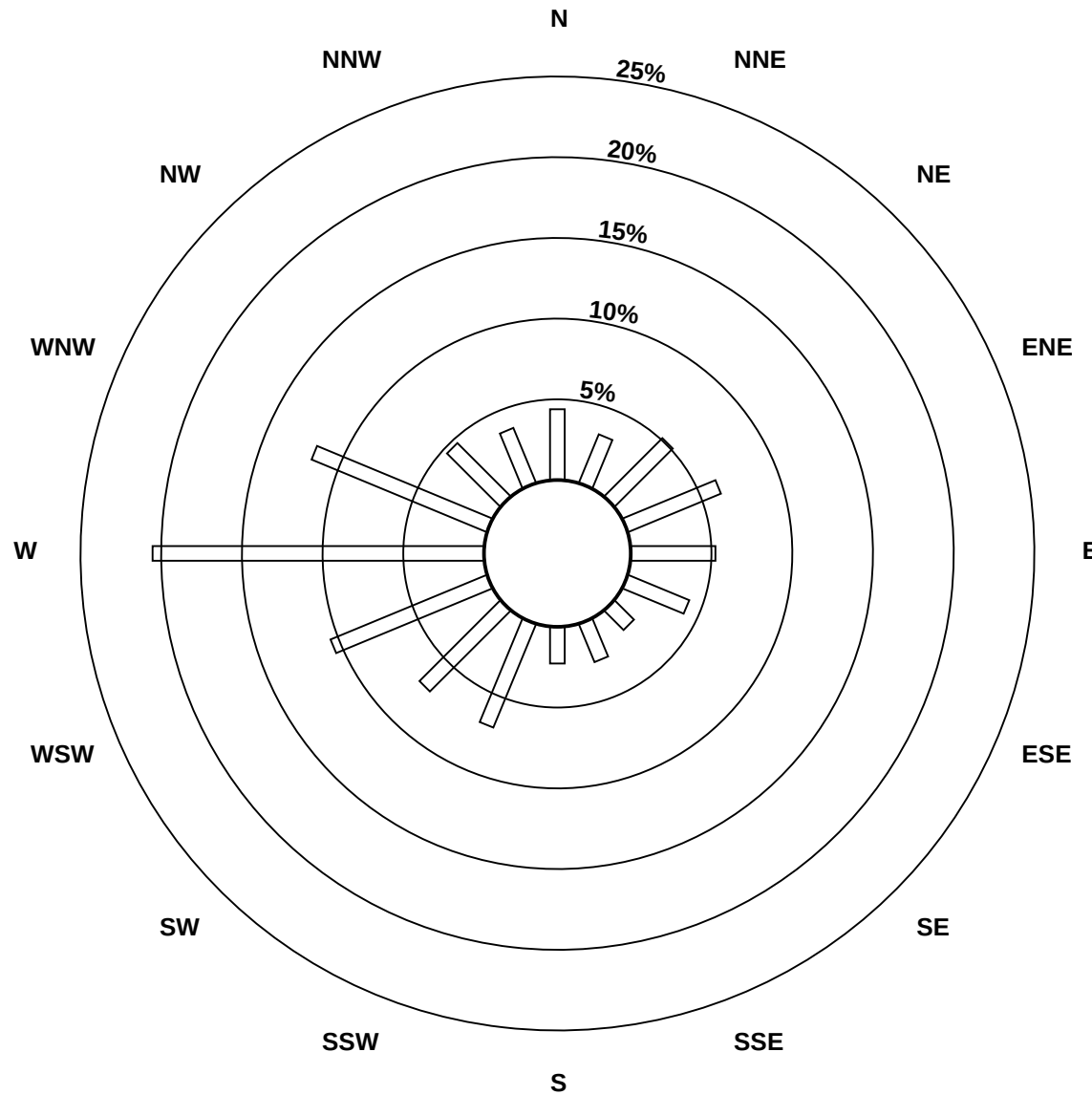
Hourly Maximums

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

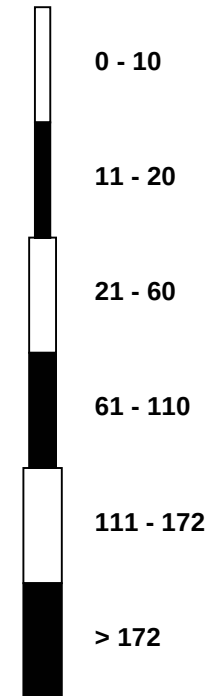


Pollutant Rose

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

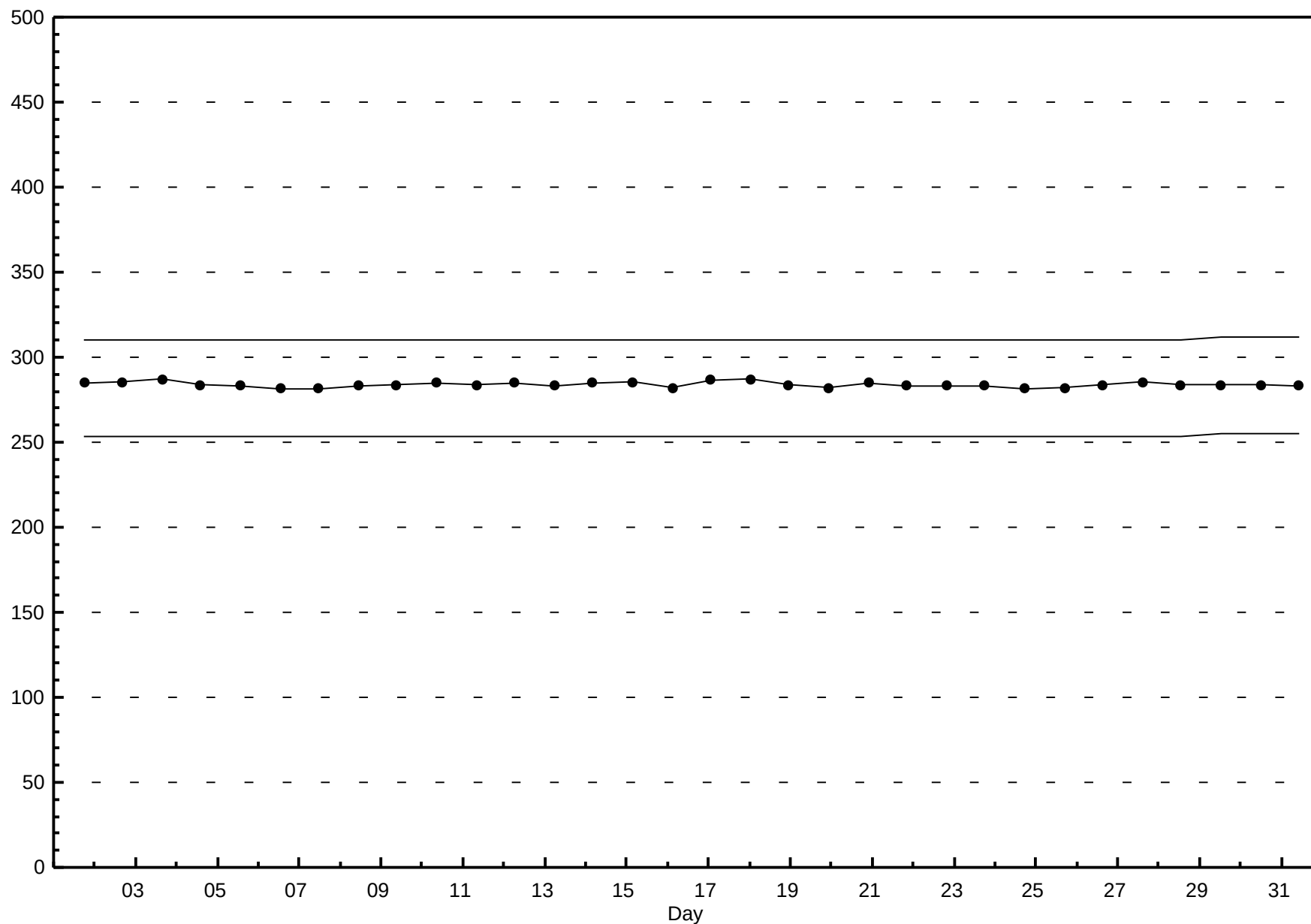


Pollutant Classes (ppb)



Span Responses

Sulphur Dioxide (SO₂)
Evergreen Park - July 2012



Hourly Averages

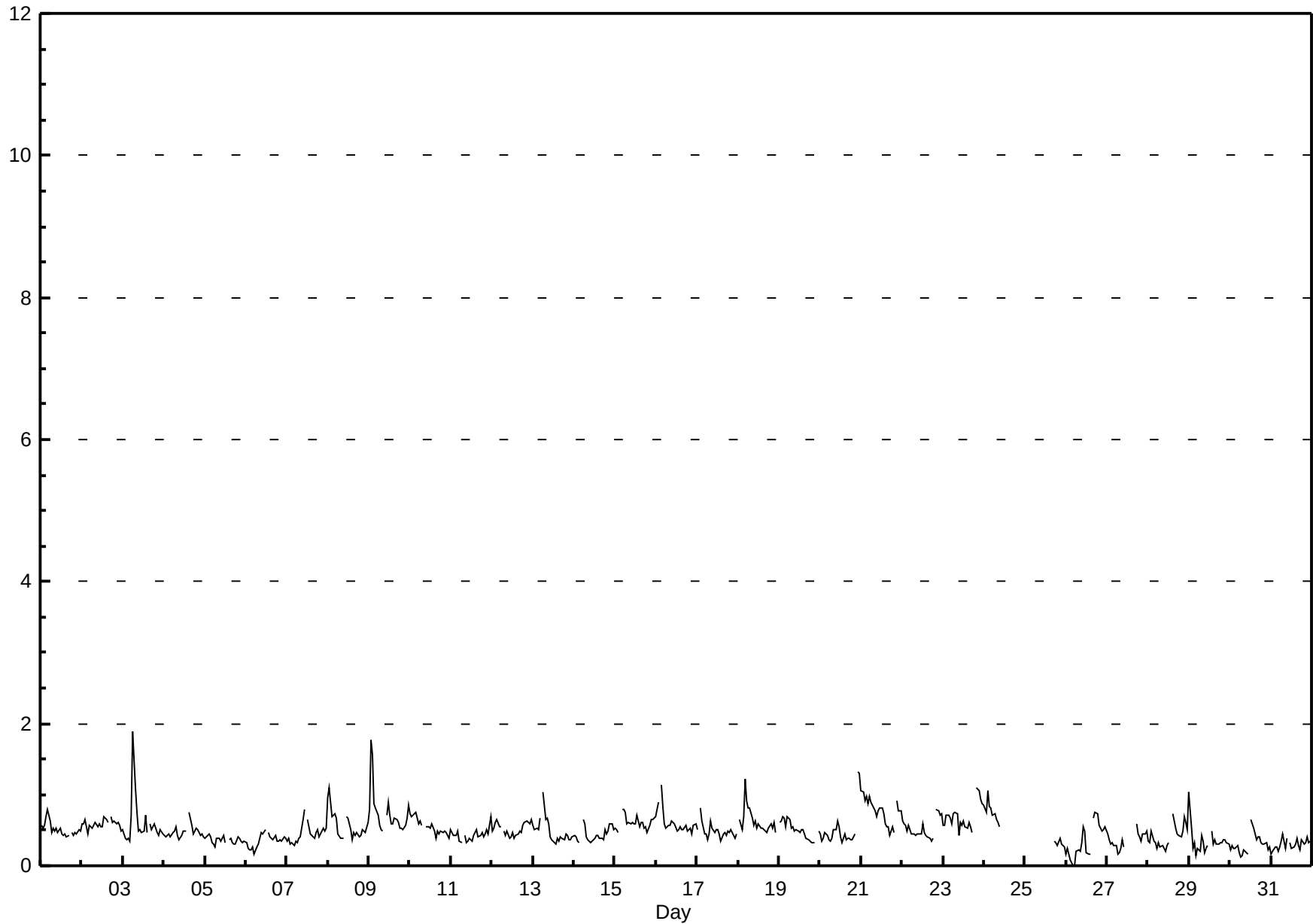
Total Reduced Sulphur (TRS) - ppb

Evergreen Park - July 2012

Number of Exceedences (AAAQO): Maximum Value: 1.9 ppb on Jul 3 07:00																		1-hr: 0 24-hr: 0 Maximum Daily Average: 0.8 ppb on Jul 21																		Hours in Service: 744 Hours of Data: 688 Hours of Missing Data: 56 Hours of Calibration: 56 Percent Operational Time: 100.0			
Minimum Value: 0 ppb on Jul 24 23:00 Maximum Diurnal Average: 0.5 ppb at hour 2 Monthly Average: 0.49 ppb																		Minimum Daily Average: 0.3 ppb on Jul 31 Minimum Diurnal Average: 0.5 ppb at hour 18 Percentiles: P ₁ = 0.0 P ₁₀ = 0.3 Q ₁ = 0.4 Median = 0.5 Q ₃ = 0.6 P ₉₀ = 0.7 P ₉₉ = 1.1																					
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-Jul	1	1	1	1	1	1	0	1	0	1	0	1	0	0	0	0	0	A	0	0	0	0	0	0	0.5	0.8													
2-Jul	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	0	0.6	0.7												
3-Jul	1	0	0	0	0	1	2	1	1	0	1	0	0	1	0	A	1	1	1	1	0	0	1	0	0.6	1.9													
4-Jul	0	0	0	0	0	0	0	1	0	0	0	0	0	0	A	1	1	0	0	1	1	0	0	0	0.5	0.8													
5-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.4	0.4													
6-Jul	0	0	0	0	0	0	0	0	0	0	0	1	A	0	0	0	0	0	0	0	0	0	0	0	0.4	0.5													
7-Jul	0	0	0	0	0	0	0	0	0	1	1	A	1	1	0	0	0	0	1	0	0	1	0	1	0.5	0.8													
8-Jul	1	1	1	1	1	1	0	0	0	0	A	1	1	1	0	0	0	0	0	0	1	0	0	1	0.6	1.1													
9-Jul	1	2	2	1	1	1	1	1	0	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.8													
10-Jul	1	1	1	1	1	1	1	1	A	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0.5	0.8													
11-Jul	1	0	0	0	0	0	0	A	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	1	0.4	0.7													
12-Jul	0	1	1	1	1	1	A	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	0.5	0.6													
13-Jul	1	1	1	1	1	A	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	1.0													
14-Jul	0	0	0	0	A	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	1	0.4	0.7													
15-Jul	1	1	0	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	0.6	0.8													
16-Jul	1	1	A	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	0	1	1	0	1	1	0.6	1.1													
17-Jul	1	A	1	1	0	0	0	0	1	1	0	1	1	0	0	0	0	0	0	0	1	0	0	0	0.5	0.8													
18-Jul	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	0	A	0.6	1.2													
19-Jul	1	1	1	1	1	1	1	1	1	0	1	0	0	1	1	0	0	0	0	0	0	0	A	0	0.5	0.7													
20-Jul	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	A	1	1	0.5	1.3													
21-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	A	1	1	1	0.8	1.1													
22-Jul	1	1	1	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	A	1	1	1	1	0.5	0.8													
23-Jul	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	0	A	1	1	1	1	1	0.7	1.1													
24-Jul	1	1	1	1	1	1	1	1	1	1	C	C	C	C	C	C	C	C	C	C	C	C	C	0	0	--	1.0												
25-Jul	0	0	0	0	0	0	0	0	C	C	C	C	C	C	C	C	A	0	0	0	0	0	0	0	--	0.4													
26-Jul	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	A	1	1	1	1	1	0	1	1	0.3	0.8													
27-Jul	0	0	0	0	0	0	0	0	0	0	0	C	C	C	C	C	C	1	0	0	0	0	0	0	0.4	0.6													
28-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	1	1	0	0	0	0	1	1	1	0.4	0.7													
29-Jul	1	1	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.3	1.0													
30-Jul	0	0	0	0	0	0	0	0	0	0	0	A	1	1	1	0	0	0	0	0	0	0	0	0	0.3	0.6													
31-Jul	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.5													
0.5 0.5																																							

Hourly Averages

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



Hourly Maximums

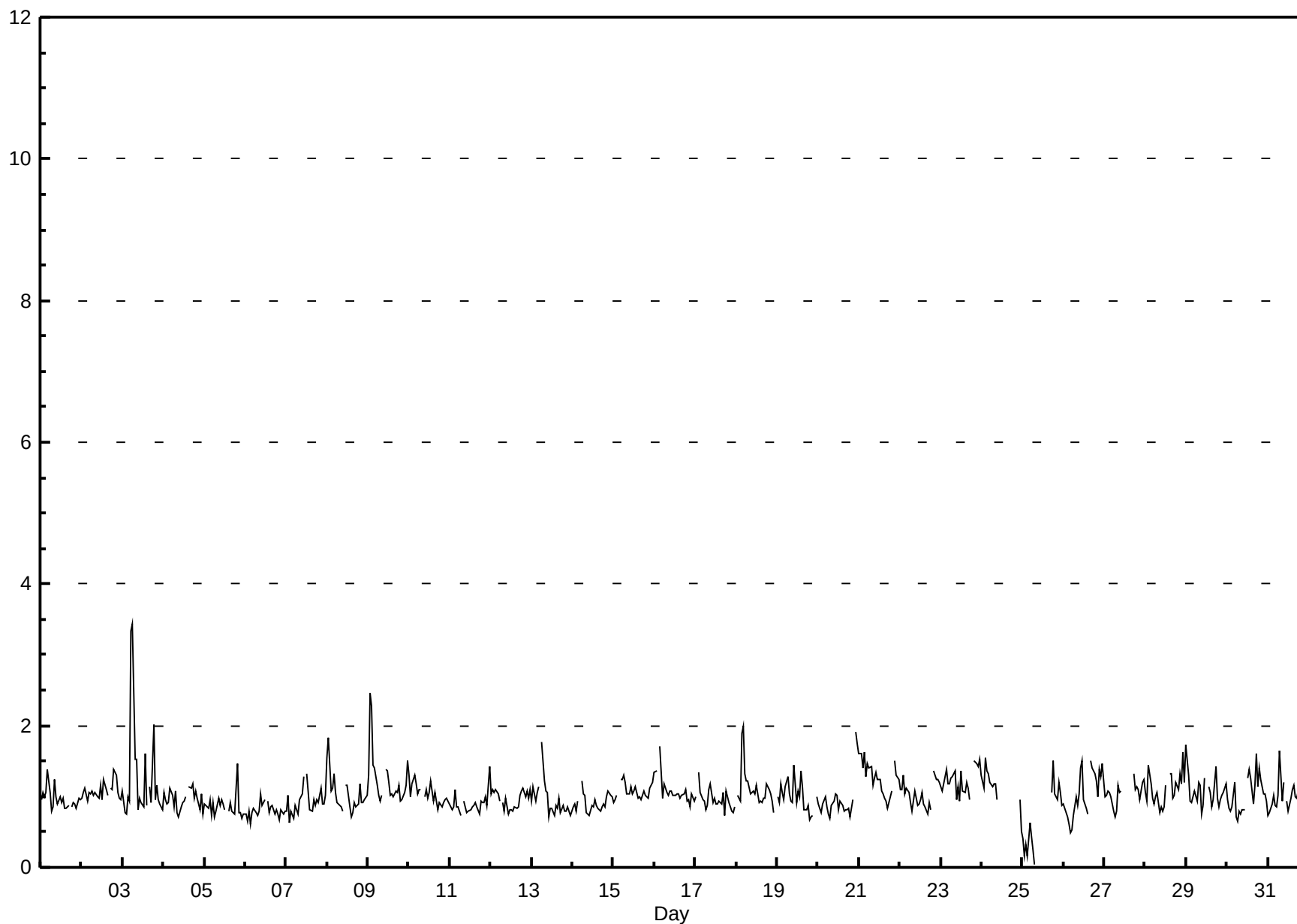
Total Reduced Sulphur (TRS) - ppb

Evergreen Park - July 2012

Maximum Value: 3.4 ppb on Jul 3 07:00																		Maximum Daily Average: 1.3 ppb on Jul 3																		Hours in Service: 744	
Minimum Value: 0 ppb on Jul 25 08:00																		Minimum Daily Average: 0.8 ppb on Jul 6																		Hours of Data: 688	
Maximum Diurnal Average: 1.1 ppb at hour 5																		Minimum Diurnal Average: 1.0 ppb at hour 16																		Hours of Missing Data: 56	
Monthly Average: 1.02 ppb																		Percentiles: P ₁ = 0.5 P ₁₀ = 0.8 Q ₁ = 0.9 Median = 1.0 Q ₃ = 1.1 P ₉₀ = 1.3 P ₉₉ = 1.9																		Hours of Calibration: 56	
																		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-Jul	1	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	1.4											
2-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1.1	1.4											
3-Jul	1	1	1	1	1	3	3	2	2	1	1	1	1	2	1	A	1	1	2	1	1	1	1	1	1.3	3.4											
4-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1.0	1.2											
5-Jul	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	1.5											
6-Jul	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	0.8	1.0											
7-Jul	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.3											
8-Jul	2	2	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.8											
9-Jul	1	2	2	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.3	2.5											
10-Jul	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.3											
11-Jul	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.4											
12-Jul	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.1											
13-Jul	1	1	1	1	1	A	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.8											
14-Jul	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.2											
15-Jul	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.1	1.3											
16-Jul	1	1	A	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.1	1.7											
17-Jul	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.3											
18-Jul	A	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1.1	2.0											
19-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1.0	1.4											
20-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	2	2	0.9	1.9											
21-Jul	2	2	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	2	1	1	1.3	1.6											
22-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1.0	1.4											
23-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	2	1	1.2	1.5											
24-Jul	1	1	2	1	1	1	1	1	1	1	C	C	C	C	C	C	C	C	C	C	C	C	1	1	--	1.6											
25-Jul	0	0	0	0	1	0	0	0	C	C	C	C	C	C	C	C	A	1	2	1	1	1	1	1	--	1.5											
26-Jul	1	1	1	1	0	1	1	1	1	1	1	2	1	1	1	A	2	1	1	1	1	1	1	1	1.0	1.5											
27-Jul	1	1	1	1	1	1	1	1	1	1	1	C	C	C	C	C	C	1	1	1	1	1	1	1	1.0	1.3											
28-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	2	1	1	1.1	1.6											
29-Jul	2	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	1.7											
30-Jul	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	2	1	1	1	1	1	1	1.0	1.6											
31-Jul	1	1	1	1	1	1	1	2	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.6											
1.0		1.0	1.0	1.1	1.1	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.1	1.0	1.0	1.0	1.1	1.1	Diurnal Average												
1.7		2.5	2.3	1.9	2.0	3.3	3.4	1.6	1.5	1.3	1.4	1.5	1.4	1.6	1.4	1.3	1.5	1.6	2.0	1.5	1.5	1.5	1.9	1.7	Diurnal Maximum												
C - Calibration		A - Automated Daily Zero Span																																			

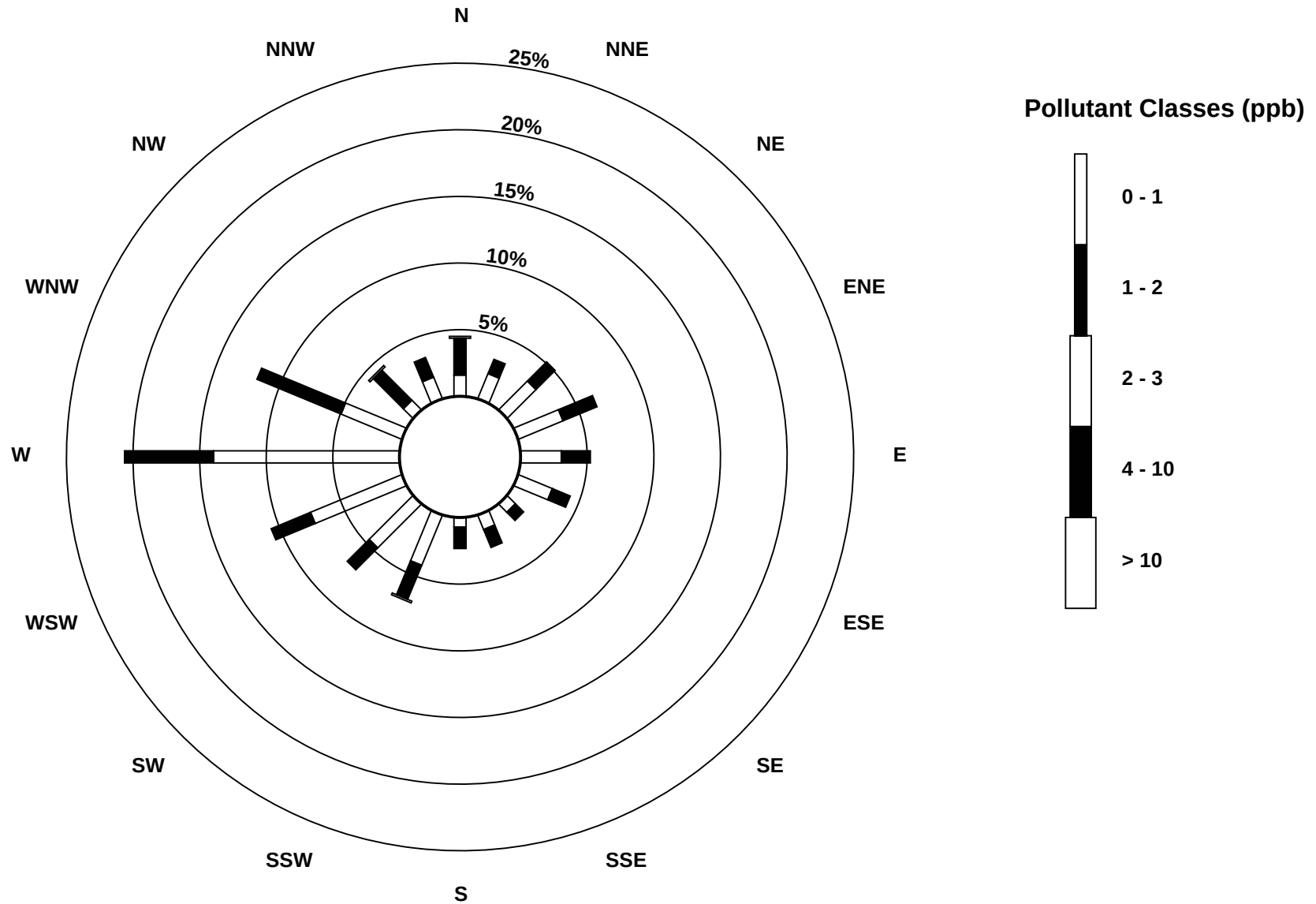
Hourly Maximums

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



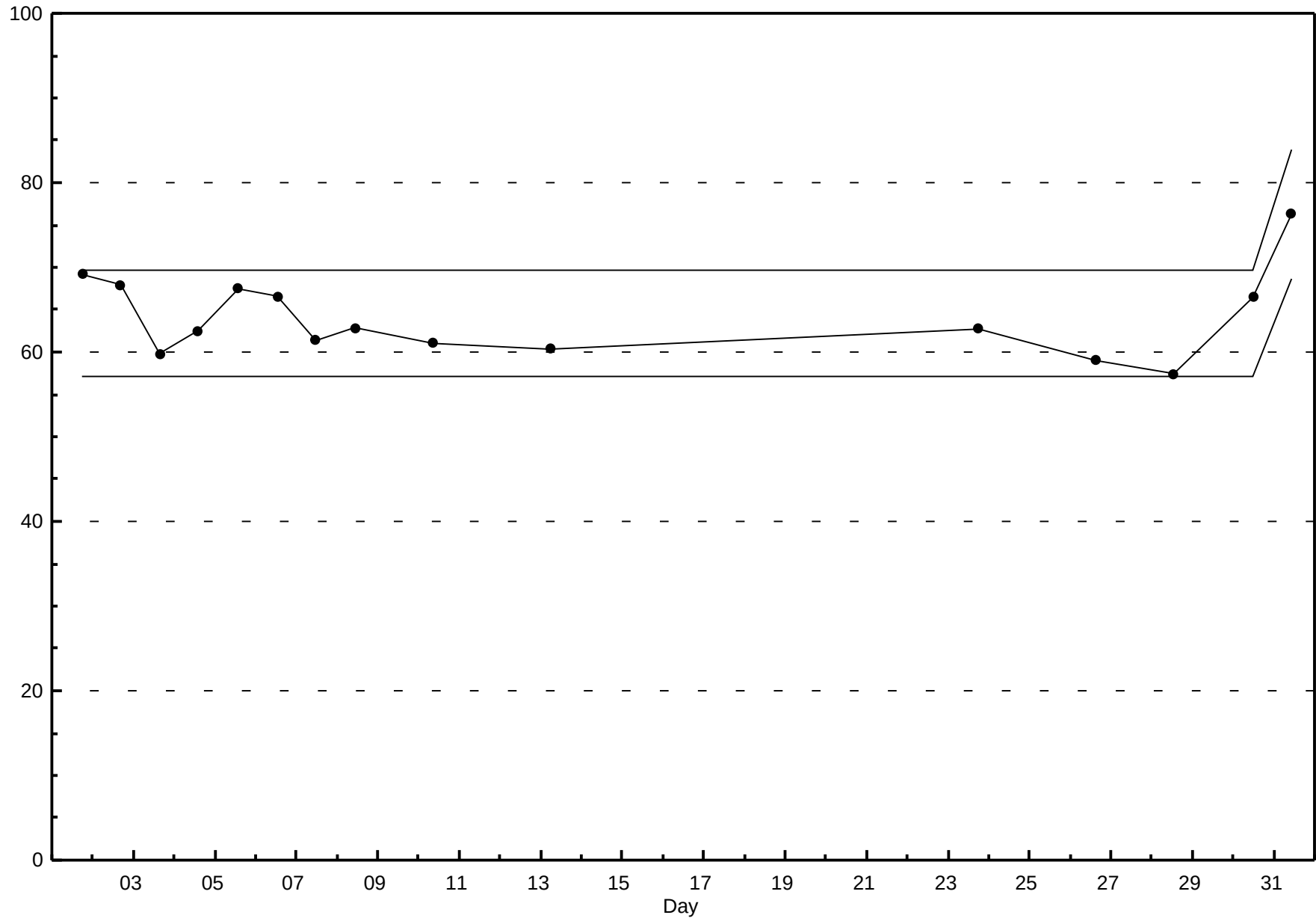
Pollutant Rose

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



Span Responses

Total Reduced Sulphur (TRS)
Evergreen Park - July 2012

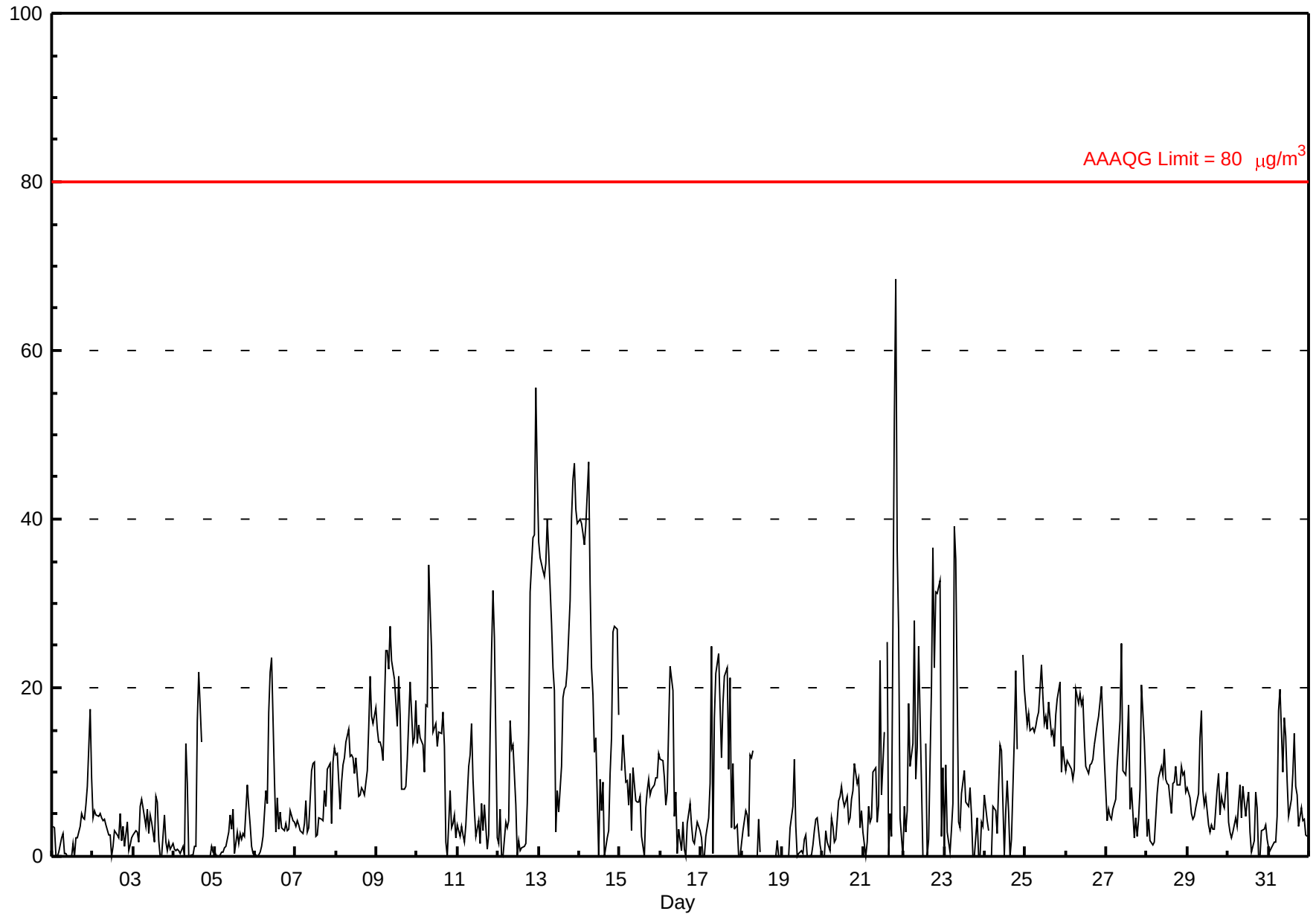


Hourly Averages

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

Evergreen Park - July 2012

Number of Exceedences: 1-hr: 0 24-hr: 0 Maximum Value: 68.4 µg/m³ on Jul 21 20:00 Minimum Value: 0 µg/m³ on Jul 1 04:00 Maximum Diurnal Average: 13.3 µg/m³ at hour 7 Monthly Average: 9.08 µg/m³																				Hours in Service: 744 Hours of Data: 735 Hours of Missing Data: 9 Hours of Calibration: 2 Percent Operational Time: 99.1						
Maximum Daily Average: 27.9 µg/m³ on Jul 13 Minimum Daily Average: 1.9 µg/m³ on Jul 19 Minimum Diurnal Average: 6.5 µg/m³ at hour 16 Percentiles: P ₁ = 0.0 P ₁₀ = 0.3 Q ₁ = 2.5 Median = 6.0 Q ₃ = 12.9 P ₉₀ = 21.0 P ₉₉ = 44.5																										
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-Jul	4	3	0	0	1	2	3	0	0	0	0	0	2	0	2	2	4	5	5	4	6	8	17	9	3.2	17.5
2-Jul	5	5	5	5	5	5	4	4	4	2	3	0	1	3	3	2	5	2	4	1	4	1	1	2	3.2	5.4
3-Jul	2	3	3	2	6	7	6	4	6	3	5	4	2	7	7	2	0	0	5	2	1	2	1	1	3.2	7.1
4-Jul	1	1	1	1	0	1	0	13	9	0	0	0	1	1	16	22	14	N	0	0	0	0	1	0	3.6	21.8
5-Jul	1	0	0	0	0	0	1	1	3	5	3	6	0	3	2	3	2	3	2	8	6	4	1	0	2.3	8.5
6-Jul	0	0	0	0	1	2	8	6	17	22	24	9	3	7	3	5	3	3	4	3	3	6	4	4	5.8	23.6
7-Jul	4	4	4	3	3	4	7	3	3	10	11	11	2	3	5	4	4	8	6	10	11	4	11	13	6.2	12.9
8-Jul	12	12	6	9	11	12	14	15	12	12	12	10	12	7	7	8	8	7	10	15	21	17	16	18	11.7	21.4
9-Jul	15	14	14	13	11	24	24	22	27	23	21	18	15	21	17	8	8	8	11	16	21	13	14	18	16.6	27.3
10-Jul	13	16	14	13	10	18	18	35	24	15	15	16	13	15	15	17	13	2	0	8	3	4	5	2	12.6	34.6
11-Jul	4	2	4	2	2	4	11	12	16	9	5	2	4	2	6	3	6	1	3	15	24	32	26	2	8.2	31.6
12-Jul	2	6	0	0	4	3	4	16	13	13	6	0	2	1	1	1	2	6	15	31	38	38	56	45	12.6	55.6
13-Jul	37	35	34	33	35	40	36	28	22	20	3	8	5	11	19	20	20	22	30	40	45	47	41	39	27.9	46.7
14-Jul	40	40	38	37	39	47	32	22	19	12	14	0	9	5	9	0	2	3	10	14	27	27	27	17	20.5	46.8
15-Jul	N	10	14	9	9	6	10	3	11	7	7	6	7	2	0	6	8	9	7	8	9	9	9	12	7.8	14.3
16-Jul	11	11	9	6	8	15	23	20	5	8	0	3	1	4	1	0	4	6	4	2	2	3	4	3	6.3	22.5
17-Jul	2	0	0	2	4	9	25	0	16	22	24	18	12	18	21	22	10	21	3	11	3	4	0	0	10.4	25.0
18-Jul	2	3	5	5	2	12	12	12	N	0	4	0	N	0	0	0	0	0	0	0	0	2	0	0	2.7	12.5
19-Jul	0	0	0	0	0	3	6	12	4	0	0	1	0	2	3	0	0	0	1	3	4	5	1	0	1.9	11.6
20-Jul	0	0	3	2	1	5	4	2	2	7	7	8	7	6	7	4	5	7	8	11	9	9	3	5	5.0	11.0
21-Jul	3	0	2	6	4	5	10	11	4	6	23	7	15	N	25	0	5	2	52	68	36	27	5	0	13.7	68.4
22-Jul	6	3	5	18	11	13	28	9	13	25	9	0	N	13	0	2	20	37	22	31	31	33	2	11	14.9	36.6
23-Jul	1	11	3	1	3	6	39	35	4	3	7	9	10	7	6	8	5	0	0	5	0	0	4	4	7.1	39.1
24-Jul	7	4	3	N	0	6	5	3	8	13	12	0	5	9	5	0	2	14	22	13	C	C	24	20	8.4	23.9
25-Jul	18	16	17	15	15	15	15	16	17	23	19	16	17	15	18	14	15	13	17	19	21	10	13	11	16.0	22.6
26-Jul	10	11	11	10	9	10	20	18	19	18	19	14	11	10	11	11	11	13	16	17	18	20	16	12	14.0	20.1
27-Jul	4	6	5	4	6	7	11	13	16	25	10	10	13	18	6	8	2	5	2	4	8	20	14	9	9.4	25.2
28-Jul	2	4	2	1	2	5	7	9	11	10	13	9	9	8	5	9	9	11	9	8	11	10	10	8	7.5	12.8
29-Jul	8	7	5	4	5	6	8	14	17	8	6	7	4	3	4	3	3	8	10	5	7	6	6	10	6.8	17.3
30-Jul	4	3	2	3	5	4	6	8	5	8	5	6	8	3	1	2	8	6	0	0	3	3	4	2	4.1	8.5
31-Jul	1	1	1	2	2	5	17	20	10	16	14	9	5	7	10	15	8	7	4	6	4	4	2	2	7.2	19.8
7.3 7.5 6.8 6.9 6.9 9.7 13.3 12.5 11.2 11.1 9.7 6.7 6.7 7.0 7.5 6.5 6.7 7.7 9.1 12.2 12.5 12.2 11.0 9.1																								Diurnal Average		
40.0 39.6 38.3 37.0 39.3 46.8 39.1 35.2 27.3 25.2 24.1 18.3 16.6 21.3 25.4 22.4 20.2 36.6 51.8 68.4 44.8 46.7 55.6 45.0																								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

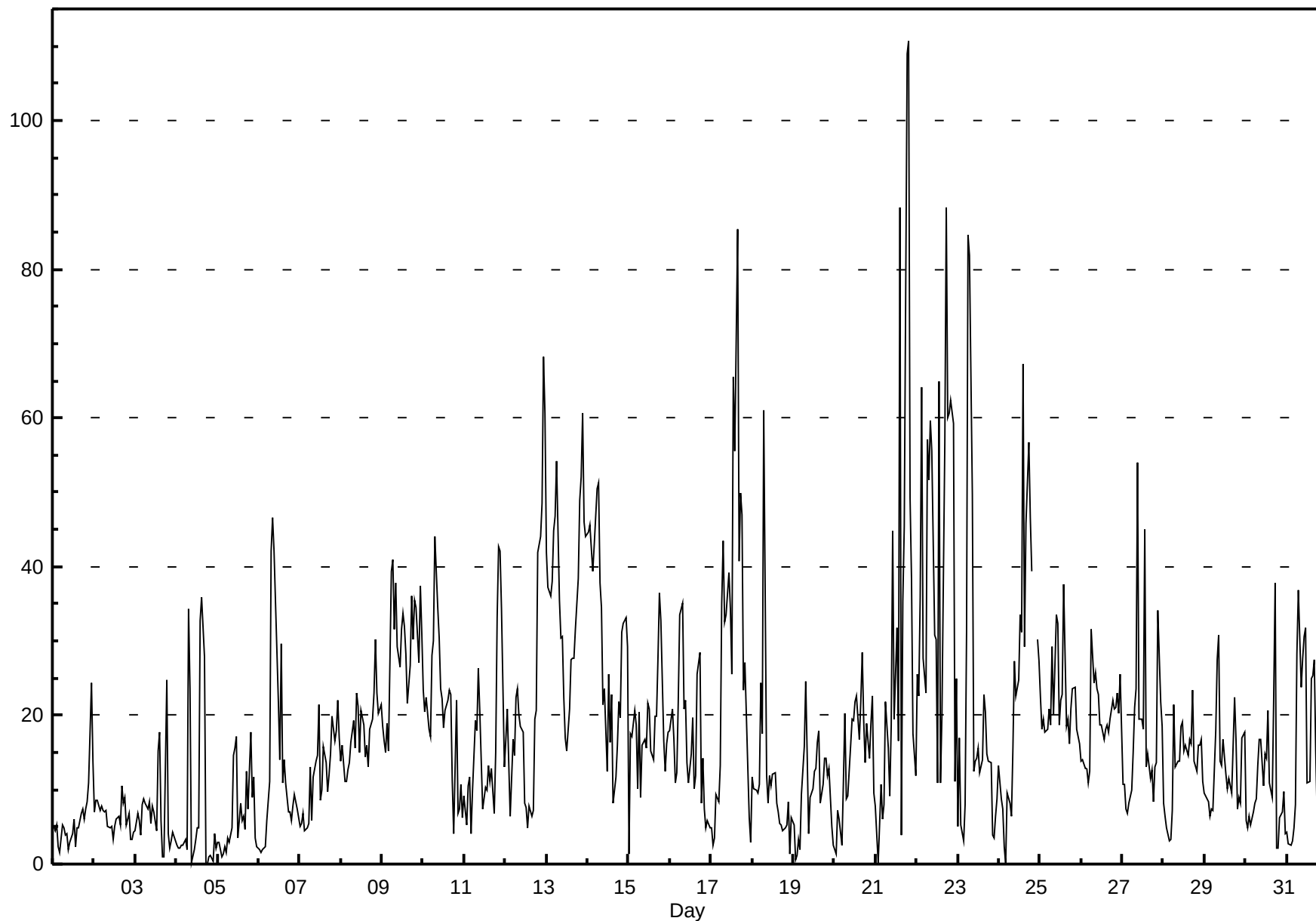
Evergreen Park - July 2012

Maximum Value: 110.7 µg/m³ on Jul 21 20:00																								Maximum Daily Average: 42.3 µg/m³ on Jul 22								Hours in Service: 744	
Minimum Value: 0 µg/m³ on Jul 4 18:00																								Minimum Daily Average: 6.2 µg/m³ on Jul 1								Hours of Data: 742	
Maximum Diurnal Average: 26.3 µg/m³ at hour 8																								Minimum Diurnal Average: 11.0 µg/m³ at hour 5								Hours of Missing Data: 2	
Monthly Average: 18.16 µg/m³																								Percentiles: P ₁ = 0.9 P ₁₀ = 4.1 Q ₁ = 7.5 Median = 14.6 Q ₃ = 23.1 P ₉₀ = 37.4 P ₉₉ = 79.4								Hours of Calibration: 2	
Percent Operational Time: 100.0																																	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum							
1-Jul	5	5	5	2	2	5	5	4	4	2	3	4	6	2	5	5	7	7	6	7	8	11	24	14	6.2	24.3							
2-Jul	7	8	8	7	8	7	7	7	5	5	5	3	5	6	6	5	10	8	9	5	7	3	3	4	6.3	10.4							
3-Jul	5	7	6	4	8	9	8	7	8	6	8	7	5	15	18	6	1	1	25	4	2	3	4	3	7.0	24.8							
4-Jul	3	2	2	3	3	3	2	34	24	0	2	3	5	5	33	36	28	0	0	1	1	0	4	2	8.1	35.8							
5-Jul	3	3	1	1	2	2	4	3	5	15	16	17	4	8	6	7	5	12	8	18	9	12	4	2	6.8	17.7							
6-Jul	2	2	2	2	2	6	11	42	47	42	35	22	14	30	11	14	11	7	7	6	8	9	7	6	14.4	46.5							
7-Jul	5	6	7	5	5	6	13	6	12	14	15	21	8	10	16	14	10	12	15	20	17	18	22	17	12.1	22.1							
8-Jul	14	16	11	11	13	14	16	19	16	23	21	15	21	19	14	16	13	18	19	23	30	23	20	21	17.8	30.2							
9-Jul	18	17	15	19	15	39	41	32	38	29	26	32	34	32	28	22	27	36	30	36	35	27	37	31	29.0	40.9							
10-Jul	23	20	22	18	17	28	30	44	35	30	24	22	18	21	22	23	23	11	4	22	7	7	11	6	20.4	44.1							
11-Jul	9	5	10	12	4	10	19	18	26	21	14	7	10	10	13	11	13	7	15	33	43	42	34	13	16.7	42.6							
12-Jul	17	21	14	7	17	15	22	24	20	18	18	8	8	5	8	7	7	19	21	42	44	48	68	61	22.4	68.2							
13-Jul	42	37	36	38	45	47	54	36	30	31	22	17	15	21	28	28	28	32	38	49	52	61	46	44	36.5	60.7							
14-Jul	45	46	42	39	43	51	51	38	35	21	24	12	26	16	23	8	12	16	22	20	31	32	33	29	29.8	51.3							
15-Jul	1	17	17	21	19	10	20	9	16	17	16	22	21	15	14	20	20	28	37	33	17	12	16	18	18.1	36.5							
16-Jul	18	21	17	11	12	22	34	35	21	22	14	11	15	20	10	12	26	28	8	14	7	5	6	5	16.4	35.1							
17-Jul	5	3	4	9	8	13	35	43	33	34	39	34	25	66	55	85	41	50	47	23	27	13	6	3	29.3	85.3							
18-Jul	12	10	10	9	11	24	17	61	12	8	12	11	12	12	8	7	6	5	5	5	5	8	1	6	11.6	60.9							
19-Jul	5	1	1	3	2	9	16	25	15	4	9	10	13	13	16	18	8	11	14	14	12	13	5	3	10.0	24.5							
20-Jul	2	1	7	6	3	11	20	9	9	16	19	19	22	23	17	22	28	19	14	19	14	19	23	9	14.7	28.5							
21-Jul	8	0	6	11	6	8	22	16	9	19	45	19	32	17	88	4	35	45	109	111	49	38	17	12	30.2	110.7							
22-Jul	26	23	36	64	28	23	57	52	60	56	31	30	11	65	11	20	57	88	60	61	62	59	11	25	42.3	88.3							
23-Jul	5	17	5	3	8	31	85	82	50	12	14	14	16	12	14	23	20	15	14	14	4	4	7	9	19.8	84.6							
24-Jul	13	9	7	2	0	9	8	7	16	27	23	25	34	31	67	29	46	57	47	39	C	C	30	27	25.2	67.3							
25-Jul	22	18	19	18	18	21	19	29	20	34	32	19	22	23	38	18	19	16	21	24	24	18	17	16	21.9	37.6							
26-Jul	14	14	13	13	11	12	32	24	26	24	23	19	19	17	18	19	18	19	22	21	21	23	20	26	19.4	31.6							
27-Jul	11	11	7	7	8	10	15	21	24	54	19	19	18	45	13	15	11	13	8	13	14	34	22	18	18.0	54.1							
28-Jul	8	6	5	3	3	7	21	13	14	14	18	19	15	16	15	17	16	23	14	12	16	16	17	11	13.4	23.3							
29-Jul	9	9	8	7	7	7	18	27	31	14	13	17	12	10	11	10	9	22	16	7	9	8	17	18	13.3	30.9							
30-Jul	6	5	7	5	7	8	9	13	17	17	10	15	14	21	11	9	22	38	2	2	6	7	10	4	11.0	37.7							
31-Jul	4	3	3	3	5	8	28	37	24	28	31	32	11	11	25	25	28	15	6	14	8	7	8	5	15.3	36.8							
11.8 11.7 11.4 11.7 11.0 15.4 23.9 26.3 22.5 21.1 19.4 17.0 15.8 19.8 21.4 17.9 19.5 22.0 21.4 23.0 19.6 19.5 17.8 15.1																								Diurnal Average									
44.6 45.5 42.4 64.1 44.8 50.6 84.6 81.9 59.7 55.5 44.8 34.3 33.8 65.5 88.2 85.3 56.8 88.3 109.0 110.7 62.4 60.7 68.2 60.7																								Diurnal Maximum									
C - Calibration																																	

Hourly Maximums

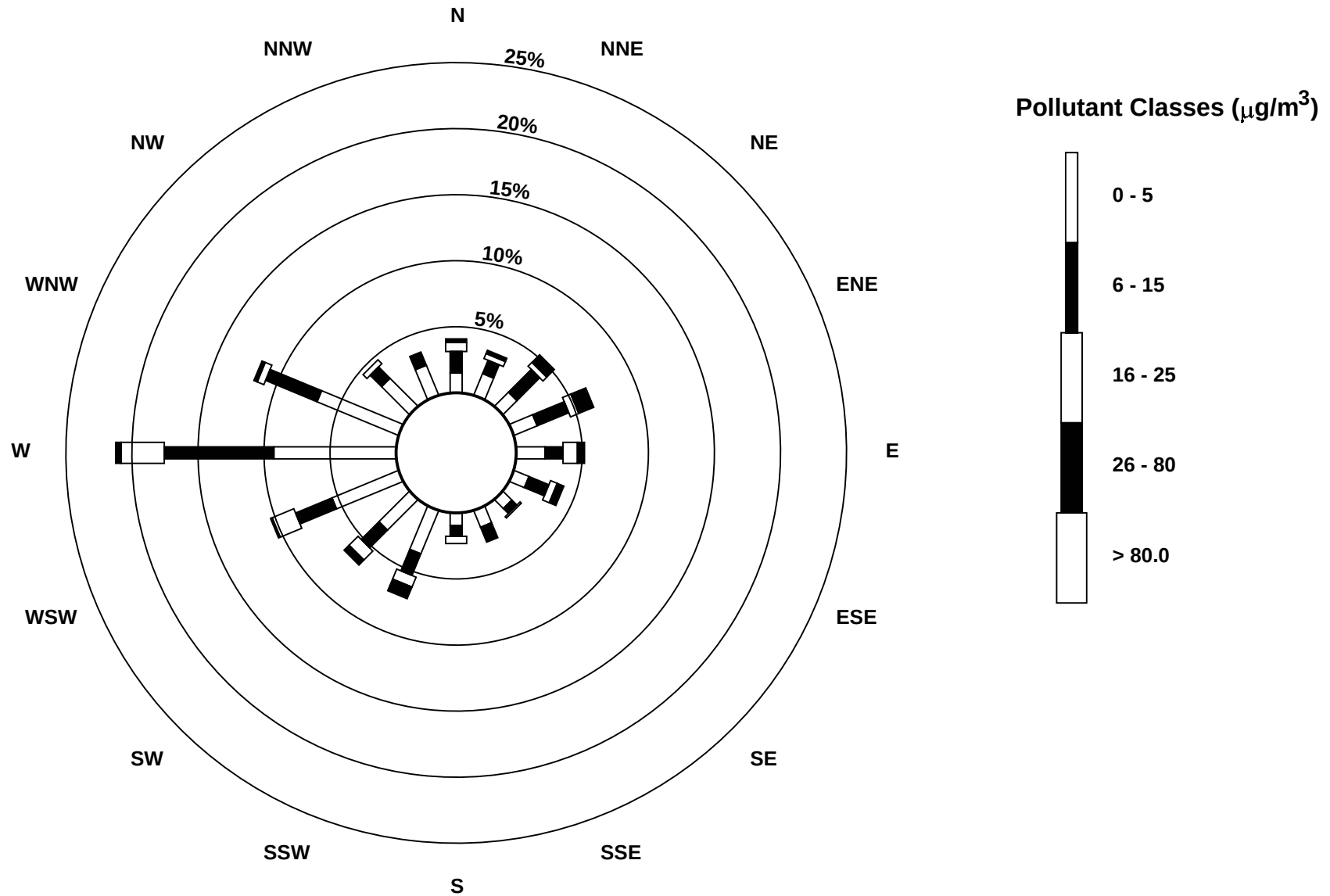
Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$

Evergreen Park - July 2012



Pollutant Rose

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



Hourly Averages

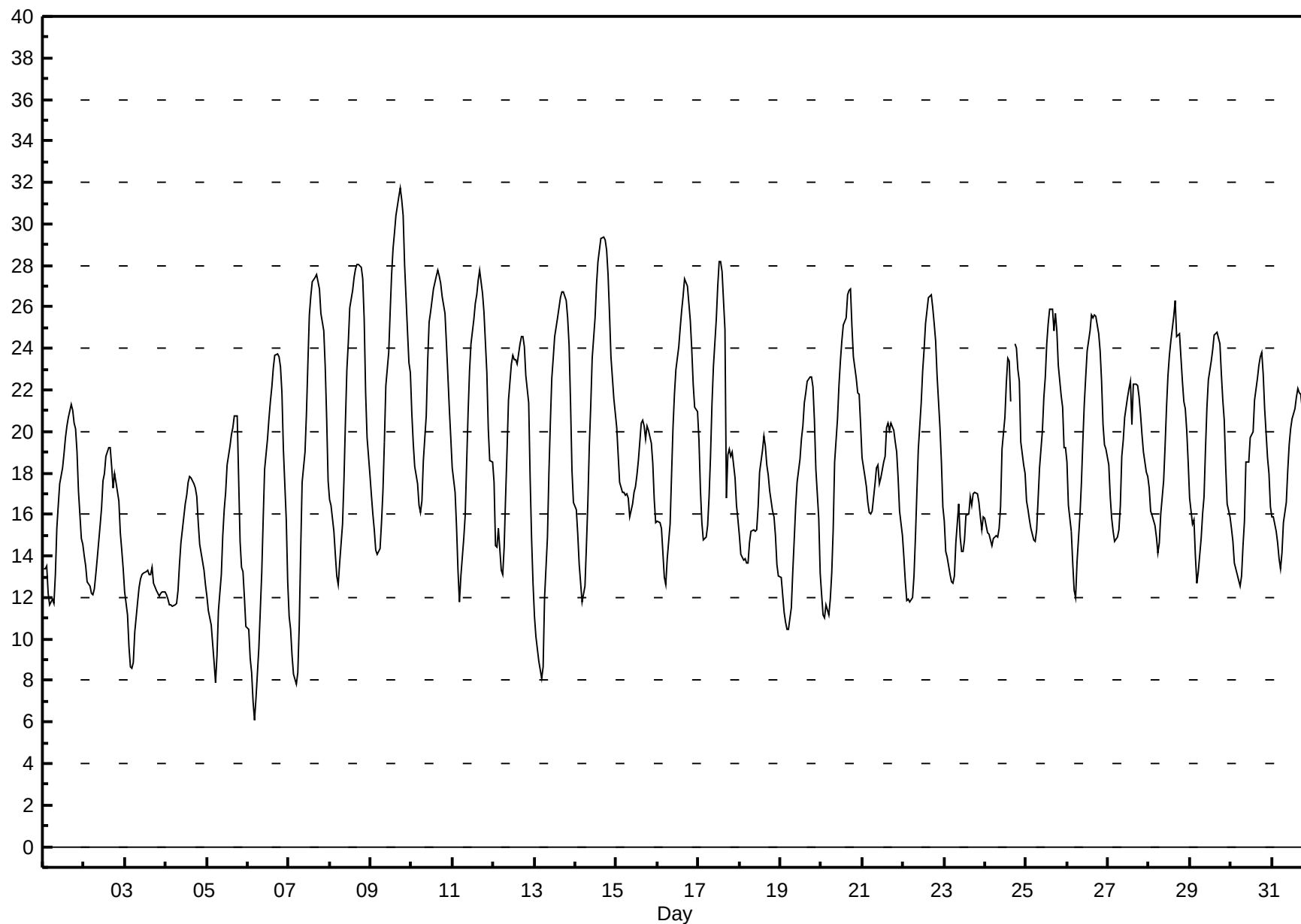
External Temperature (ET) - °C

Evergreen Park - July 2012

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 31.8 °C on Jul 9 18:00 Maximum Daily Average: 23.1 °C on Jul 9																					Hours in Service: 744 Hours of Data: 743 Hours of Missing Data: 1 Hours of Calibration: 0 Percent Operational Time: 99.9					
Minimum Value: 6 °C on Jul 6 05:00 Maximum Diurnal Average: 23.5 °C at hour 16 Monthly Average: 18.47 °C										Minimum Daily Average: 11.9 °C on Jul 3 Minimum Diurnal Average: 12.5 °C at hour 5 Percentiles: P ₁ = 8.4 P ₁₀ = 12.2 Q ₁ = 14.7 Median = 18.0 Q ₃ = 22.4 P ₉₀ = 25.7 P ₉₉ = 29.2																
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-Jul	13	13	14	12	12	12	12	13	15	16	18	18	19	20	20	21	21	21	20	20	19	17	15	15	16.5	21.3
2-Jul	14	14	13	13	12	12	12	13	14	15	16	18	18	19	19	19	18	17	18	18	17	15	14	13	15.5	19.2
3-Jul	12	11	10	9	9	9	10	12	12	13	13	13	13	13	13	13	13	13	12	12	12	12	12	12	11.9	13.5
4-Jul	12	12	12	12	12	12	12	12	14	15	16	17	17	18	18	18	17	17	17	16	15	14	13	13	14.5	17.8
5-Jul	12	11	11	10	9	8	9	11	13	15	16	17	18	19	20	20	21	21	21	15	13	13	12	11	14.4	20.7
6-Jul	10	9	8	7	6	7	10	11	13	16	18	20	21	21	22	23	24	24	24	23	22	19	16	13	16.1	23.8
7-Jul	11	10	9	8	8	8	11	14	18	19	21	23	26	27	27	27	28	27	27	26	25	23	21	18	19.2	27.5
8-Jul	17	16	15	14	13	13	14	16	18	20	23	24	26	27	27	28	28	28	28	27	25	22	20	18	21.1	28.1
9-Jul	17	16	15	14	14	14	16	17	19	22	24	26	28	29	30	30	31	32	31	30	28	25	23	23	23.1	31.8
10-Jul	21	19	18	17	16	16	17	19	21	23	25	26	26	27	28	28	27	27	27	26	24	23	21	20	22.6	27.8
11-Jul	18	17	15	13	12	13	15	16	18	21	23	24	25	26	27	27	28	27	26	24	23	20	19	19	20.7	27.8
12-Jul	18	14	14	15	13	13	14	17	19	22	23	24	23	23	23	24	25	25	24	23	21	18	15	13	19.3	24.6
13-Jul	11	10	9	9	8	9	12	15	18	20	23	24	25	25	26	26	27	27	26	25	24	21	18	17	19.0	26.7
14-Jul	16	15	14	13	12	13	15	17	19	21	24	25	27	28	29	29	29	29	29	28	26	24	22	21	21.8	29.4
15-Jul	20	19	18	17	17	17	17	17	16	17	17	17	18	19	20	21	20	20	20	20	19	18	17	16	18.2	20.6
16-Jul	16	16	15	14	13	13	14	16	18	20	22	23	24	25	26	27	27	27	26	25	24	22	21	21	20.6	27.4
17-Jul	20	17	16	15	15	15	17	19	21	23	25	27	28	28	28	25	17	19	19	19	19	18	16	16	20.1	28.2
18-Jul	15	14	14	14	14	14	15	15	15	15	15	16	18	19	20	19	18	18	17	16	16	15	14	13	15.8	19.8
19-Jul	13	12	11	11	10	10	12	13	15	16	18	19	20	20	21	22	22	23	23	22	21	18	16	13	16.7	22.6
20-Jul	12	11	11	12	11	12	13	15	18	21	22	23	24	25	25	27	27	27	25	24	23	22	22	20	19.7	26.8
21-Jul	19	18	17	17	16	16	16	17	18	18	17	18	19	19	20	20	20	20	20	20	19	18	16	15	18.1	20.4
22-Jul	14	13	12	12	12	12	13	15	17	19	21	23	24	25	26	26	27	26	25	24	23	20	19	16	19.3	26.6
23-Jul	16	14	14	13	13	13	13	15	17	15	14	14	15	16	16	17	16	17	17	17	17	16	15	16	15.2	17.1
24-Jul	16	15	15	15	14	15	15	15	15	16	19	21	22	24	23	21	N	24	24	23	22	19	18	18	18.8	24.2
25-Jul	17	16	16	15	15	15	15	17	18	20	22	23	24	25	26	26	25	26	25	23	22	21	19	19	20.4	25.9
26-Jul	19	16	15	14	12	12	14	16	17	19	21	23	24	25	26	26	26	26	25	24	22	20	19	19	20.0	25.6
27-Jul	18	17	16	15	15	15	15	16	19	20	21	22	22	22	20	22	22	22	22	21	20	19	18	18	19.0	22.4
28-Jul	17	16	16	15	15	14	15	16	18	19	21	23	24	24	26	26	25	25	25	22	21	21	20	19	20.1	26.3
29-Jul	17	16	16	14	13	13	15	16	17	19	21	22	23	24	25	25	25	24	23	22	21	18	17	16	19.2	24.8
30-Jul	15	15	14	13	13	13	13	15	16	19	19	20	20	20	21	23	23	24	24	23	21	19	18	16	18.1	23.8
31-Jul	16	16	15	15	14	13	14	16	17	18	19	20	21	21	22	22	22	22	21	20	19	17	15	14	17.9	22.1
15.5 14.5 13.8 13.1 12.5 12.6 13.6 15.2 16.9 18.5 19.9 21.0 22.0 22.7 23.2 23.5 23.3 23.3 22.9 21.8 20.7 19.0 17.4 16.4																									Diurnal Average	
20.9 19.4 18.3 17.5 17.1 16.9 17.0 18.8 21.3 23.4 25.4 27.0 28.2 28.8 29.6 30.4 31.3 31.8 31.2 30.4 28.0 24.9 23.4 22.8																									Diurnal Maximum	
N - Not Valid																										

Hourly Averages

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



Hourly Averages

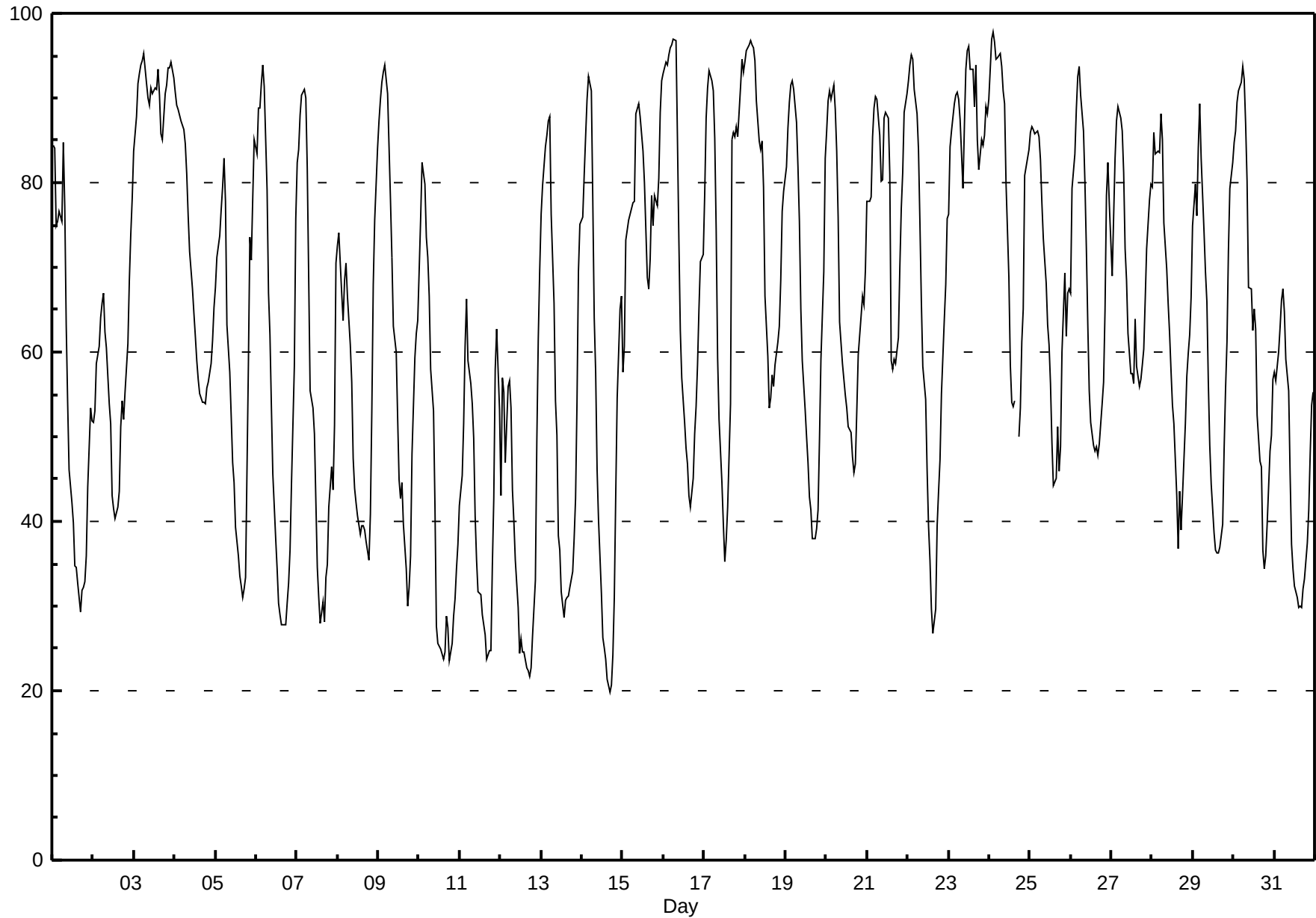
Relative Humidity (RH) - %

Evergreen Park - July 2012

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 97.8 % on Jul 24 03:00 Maximum Daily Average: 91.0 % on Jul 3																						Hours in Service: 744 Hours of Data: 743 Hours of Missing Data: 1 Hours of Calibration: 0 Percent Operational Time: 99.9				
Minimum Value: 20 % on Jul 14 17:00 Minimum Daily Average: 39.4 % on Jul 12 Maximum Diurnal Average: 84.9 % at hour 5 Minimum Diurnal Average: 43.7 % at hour 16 Monthly Average: 63.60 % Percentiles: P ₁ = 23.5 P ₁₀ = 32.8 Q ₁ = 46.3 Median = 63.5 Q ₃ = 84.0 P ₉₀ = 90.9 P ₉₉ = 96.0																										
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-Jul	84	84	75	75	77	75	85	77	63	54	46	42	40	35	35	33	29	32	32	33	36	44	53	52	53.8	84.8
2-Jul	52	53	59	61	64	66	67	62	61	54	52	43	42	40	42	44	51	54	52	55	61	68	74	78	56.4	78.2
3-Jul	84	88	92	93	94	94	95	92	90	89	91	90	91	91	93	90	86	85	90	92	94	93	94	92	91.0	95.3
4-Jul	91	89	89	88	87	86	85	81	76	72	67	65	62	59	57	55	54	54	54	56	56	59	61	65	69.5	90.7
5-Jul	68	71	74	77	80	83	78	63	58	52	47	45	39	36	34	32	31	32	33	59	74	71	78	85	58.3	85.1
6-Jul	83	89	89	92	94	91	79	67	62	54	46	38	34	30	29	28	28	28	30	33	37	44	58	76	55.8	93.9
7-Jul	82	84	88	90	91	90	82	69	55	53	50	42	35	31	28	31	28	33	35	42	46	44	51	71	56.3	90.9
8-Jul	73	74	67	64	68	70	67	61	56	48	44	42	41	38	39	40	39	38	35	41	53	68	76	84	55.2	84.1
9-Jul	87	90	92	93	94	91	84	78	71	63	60	52	45	43	45	40	34	30	32	36	48	59	62	64	62.2	93.9
10-Jul	70	76	82	80	74	71	67	58	53	42	28	26	25	25	24	25	29	27	24	26	29	31	34	37	44.2	82.4
11-Jul	42	45	51	61	66	59	56	54	50	41	35	32	31	29	28	27	24	25	25	35	43	58	63	53	43.0	66.3
12-Jul	43	57	55	47	56	57	53	44	40	35	30	24	26	25	25	23	22	22	23	26	33	50	61	70	39.4	69.6
13-Jul	76	80	84	86	87	88	76	66	54	50	38	37	32	29	31	31	31	32	34	38	43	54	69	75	55.0	87.8
14-Jul	76	81	85	90	93	91	78	64	58	46	40	32	26	25	24	21	20	21	24	31	43	55	65	67	52.3	92.5
15-Jul	58	61	73	76	76	77	78	78	88	89	88	86	84	80	69	68	71	78	75	78	77	81	88	92	77.8	92.1
16-Jul	93	94	94	95	96	96	97	97	85	73	63	57	52	49	47	43	42	45	50	53	58	65	71	71	70.3	97.0
17-Jul	79	88	91	93	92	91	85	74	59	52	45	40	35	38	42	54	85	86	85	87	85	91	95	93	73.6	94.6
18-Jul	94	96	96	97	96	96	94	90	85	84	85	79	67	60	53	54	57	56	58	61	63	69	77	79	76.9	96.7
19-Jul	82	86	89	91	92	91	87	82	75	65	59	53	50	47	43	41	38	38	39	41	50	59	69	83	64.7	92.0
20-Jul	86	90	91	90	92	89	84	76	63	59	57	55	53	51	50	48	46	47	53	60	64	67	66	70	66.8	91.5
21-Jul	78	78	78	85	89	90	90	86	80	80	88	88	88	81	59	58	59	59	62	70	77	81	88	91	78.4	90.5
22-Jul	92	94	95	95	91	88	84	75	66	58	54	46	40	35	30	27	30	40	44	47	55	64	68	76	62.2	95.1
23-Jul	76	84	86	89	90	91	90	87	79	87	93	96	96	93	93	89	94	85	81	85	84	86	89	88	88.1	96.1
24-Jul	90	97	98	97	95	95	95	94	91	89	80	69	59	54	54	54	N	50	53	61	65	81	83	84	77.7	97.8
25-Jul	86	87	86	86	86	85	83	78	73	68	63	61	56	49	44	45	51	46	49	60	69	62	67	67	67.0	86.7
26-Jul	67	79	83	89	92	94	90	86	80	72	63	55	52	49	48	49	48	49	54	56	65	78	82	78	69.2	93.7
27-Jul	69	76	83	87	89	88	86	81	72	69	62	57	57	56	64	58	56	57	58	60	66	72	78	80	70.1	88.9
28-Jul	79	86	83	84	84	88	85	75	70	66	62	58	54	52	43	37	44	39	43	52	57	60	62	67	63.7	88.1
29-Jul	75	80	76	84	89	83	74	69	66	56	49	44	39	37	36	36	37	40	49	56	61	72	79	82	61.2	89.4
30-Jul	85	86	89	91	92	94	92	87	80	68	67	62	65	63	53	47	46	37	34	36	40	48	50	57	65.4	93.7
31-Jul	58	57	60	63	66	68	65	59	55	46	37	34	32	31	30	30	30	32	33	37	41	48	54	55	46.7	67.5
Diurnal Average																										
Diurnal Maximum																										
N - Not Valid																										

Hourly Averages

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



Hourly Averages

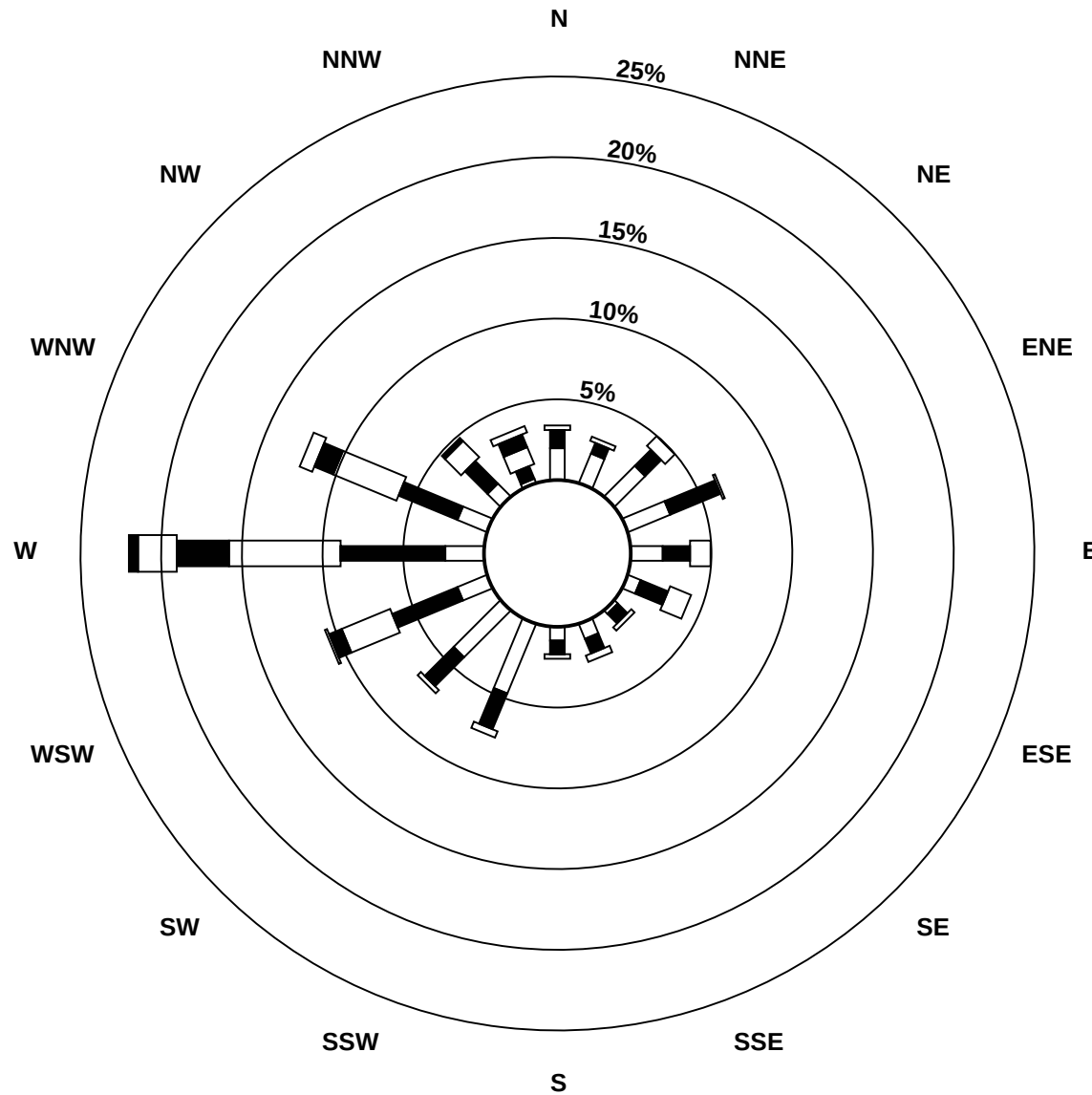
Wind Speed (km/h)
Wind Direction (deg)
Evergreen Park - July 2012

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1 Spd	6	3	5	6	5	8	3	6	13	12	16	16	15	16	13	17	20	20	21	17	12	6	4	5	10.2	20.8
Dir	195	204	289	318	308	256	211	259	271	287	278	280	281	287	302	289	281	299	285	292	298	236	211	276	281.4	285.5
2 Spd	8	8	5	7	3	5	2	10	9	11	6	5	5	7	10	8	8	12	7	8	9	9	1	2	2.4	12.5
Dir	297	264	308	222	220	218	248	265	258	285	303	209	127	137	112	137	297	337	103	149	195	193	159	74	230.8	337.1
3 Spd	1	1	1	2	0	3	3	4	9	10	12	12	15	19	24	30	27	22	13	15	15	13	22	24	11.5	29.6
Dir	72	12	87	24	144	330	320	320	286	307	263	237	242	261	267	271	284	282	286	285	265	268	275	272	273.8	271.0
4 Spd	23	26	25	27	25	24	26	29	32	34	37	38	38	41	40	40	41	37	35	31	29	24	13	8	29.7	41.5
Dir	270	276	279	286	284	282	269	266	274	279	276	266	267	265	261	261	259	261	262	261	258	256	262	246	267.8	258.8
5 Spd	8	7	6	12	8	6	3	13	13	10	15	13	16	18	15	14	10	6	4	16	8	8	1	2	8.8	17.6
Dir	249	245	271	247	254	213	251	262	261	274	292	286	267	259	276	269	235	237	229	213	201	225	179	197	254.5	259.1
6 Spd	4	2	3	0	2	0	5	9	14	16	14	13	11	12	6	10	7	7	8	7	6	4	2	2	3.3	16.2
Dir	197	220	209	156	225	107	228	259	253	264	272	272	286	286	299	320	351	30	67	82	122	108	83	35	277.7	263.7
7 Spd	1	1	2	0	2	0	4	6	7	8	7	7	5	7	7	9	13	10	9	6	3	5	3	1	2.3	13.2
Dir	31	169	40	29	54	3	52	74	127	182	210	161	169	340	15	31	45	44	74	43	64	296	325	350	58.2	44.8
8 Spd	1	4	7	10	7	8	11	13	10	5	4	7	0	6	11	14	12	11	9	6	2	2	1	2	1.8	13.6
Dir	325	277	284	262	272	274	270	273	278	275	213	198	265	62	49	48	50	66	68	66	35	29	13	10	333.7	47.8
9 Spd	2	1	1	2	3	3	10	10	6	2	7	7	8	2	10	6	5	5	7	5	2	0	1	2	0.7	10.0
Dir	10	2	209	261	225	262	253	257	271	277	211	173	161	229	4	356	31	71	69	80	10	47	2	28	274.6	252.8
10 Spd	1	1	2	4	9	5	6	10	14	21	34	33	30	28	28	31	30	30	29	23	17	17	16	13	17.5	33.8
Dir	346	303	240	235	226	258	269	259	271	279	279	280	283	270	254	259	285	283	290	283	279	259	255	250	272.2	278.8
11 Spd	11	9	3	5	1	6	4	7	5	11	9	14	12	18	22	22	22	14	9	2	2	1	2	6	8.1	22.2
Dir	258	248	244	219	236	219	242	233	252	280	267	267	291	294	275	279	278	306	315	153	223	248	261	254	272.0	277.8
12 Spd	2	2	3	7	2	5	5	12	18	18	19	23	27	27	26	22	20	19	13	11	4	1	1	1	8.8	27.3
Dir	211	47	260	267	290	300	305	250	250	268	283	318	342	341	341	343	346	356	27	39	61	9	224	39	325.0	341.5
13 Spd	2	1	2	2	1	2	3	2	5	6	9	13	15	13	11	10	11	12	13	10	7	3	1	2	5.8	14.8
Dir	35	88	57	194	86	68	197	15	120	67	127	104	112	117	127	124	111	121	110	106	103	75	20	49	109.6	112.3
14 Spd	1	1	2	1	5	8	9	9	5	14	9	7	5	5	6	9	6	9	12	11	10	4	6	7	1.0	13.6
Dir	106	94	231	35	208	206	229	255	239	268	254	292	263	261	337	358	359	40	66	69	69	47	82	85	320.7	268.3
15 Spd	11	8	9	5	6	3	3	9	6	3	12	13	13	12	14	8	9	1	3	4	7	3	0	1	5.3	14.1
Dir	107	67	71	29	23	10	23	71	83	357	320	338	36	36	41	56	65	102	7	106	67	39	313	170	43.6	41.2
16 Spd	2	3	4	1	1	3	2	4	7	10	13	14	15	15	12	9	9	12	17	15	11	7	4	9	6.8	16.9
Dir	293	299	297	5	185	195	202	193	208	172	156	173	166	177	159	154	166	128	122	125	123	121	149	178	157.5	121.9
17 Spd	0	1	2	1	2	2	2	2	3	15	13	12	9	10	6	11	6	3	8	4	3	2	3	1	0.8	15.1
Dir	128	32	62	183	213	212	216	206	296	266	275	301	287	355	80	172	102	72	86	83	95	9	71	55	295.4	265.7
18 Spd	1	1	1	3	2	5	4	10	5	12	13	16	16	17	21	36	34	30	24	16	16	8	5	6	10.5	36.1
Dir	174	59	12	4	94	42	242	354	6	280	241	265	313	308	313	338	339	342	332	317	336	304	263	275	321.0	338.1
19 Spd	3	5	5	6	4	6	11	13	14	13	11	15	9	11	7	12	10	10	8	7	7	4	2	2	4.8	14.9
Dir	293	272	250	254	286	272	276	279	285	281	278	265	302	265	312	351	340	354	64	84	85	97	86	62	297.2	264.6
20 Spd	1	2	3	3	2	4	6	7	11	12	14	14	14	14	15	14	16	17	16	7	8	5	7	9	7.7	17.1
Dir	27	41	54	72	56	85	66	80	109	109	106	122	96	99	102	88	95	94	100	70	71	101	316	302	91.7	94.4
21 Spd	11	13	11	15	13	10	12	17	14	12	11	7	2	12	32	25	17	14	8	2	6	4	4	4	10.1	31.7
Dir	243	228	263	283	264	294	258	257	279	317	322	293	257	291	260	273	287	296	299	195	193	204	207	212	271.0	260.4
22 Spd	2	0	3	3	7	6	5	6	9	10	4	4	10	5	6	7	2	11	11	9	5	5	5	4	1.6	11.2
Dir	224	95	205	213	226	224	227	216	264	267	231	210	226	195	206	224	96	78	68	70	65	70	73	57	197.1	77.7

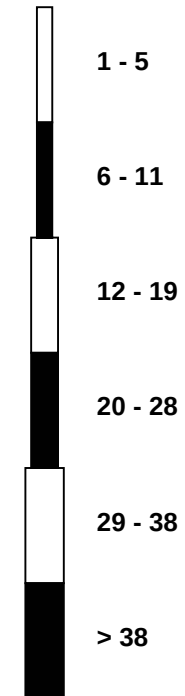
FOCUS
AIR QUALITY MONITORING

Wind Rose

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



Wind Speed Classes (km/h)



Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Evergreen Park - July 2012

Maximum Speed: 42 km/h on Jul 4 17:00																				Maximum Daily Speed Average: 30.5 km/h on Jul 4										Hours in Service: 744	
Minimum Speed: 1 km/h on Jul 13 00:00																				Minimum Daily Speed Average: 6.2 km/h on Jul 9										Hours of Data: 744	
Maximum Diurnal Speed Average: 17.6 km/h at hour 16																				Minimum Diurnal Speed Average: 6.1 km/h at hour 2										Hours of Missing Data: 0	
Monthly Average Speed: 11.11 km/h																				Percentiles: P ₁ = 1.8 P ₁₀ = 3.1 Q ₁ = 5.3 Median = 9.7 Q ₃ = 14.3 P ₉₀ = 21.6 P ₉₉ = 37.8										Percent Operational Time: 100.0	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24							
1-Jul	7	4	6	7	6	9	4	7	13	14	18	18	19	20	17	20	22	22	22	18	12	7	4	6	12.5	22.0					
2-Jul	8	8	6	8	4	6	4	10	9	13	9	7	9	10	13	10	12	15	10	9	10	9	4	3	8.6	14.6					
3-Jul	2	2	2	3	2	4	3	4	10	11	12	13	16	19	25	30	27	23	14	15	16	14	22	24	13.1	30.0					
4-Jul	23	26	25	27	25	25	26	29	33	34	38	39	39	41	40	40	42	37	35	32	29	24	13	8	30.5	41.9					
5-Jul	8	7	7	12	8	7	5	13	14	12	17	15	18	19	17	16	12	9	9	23	9	10	5	3	11.4	22.5					
6-Jul	4	4	3	2	3	2	6	10	15	17	15	15	13	14	11	13	10	9	10	7	7	4	3	2	8.3	16.7					
7-Jul	2	4	2	3	3	3	5	7	9	10	9	9	7	10	10	12	14	12	10	7	3	6	4	2	6.7	13.8					
8-Jul	2	4	7	10	7	8	11	14	11	6	7	9	7	10	13	15	13	12	9	6	2	2	2	2	8.0	14.6					
9-Jul	2	2	2	3	4	4	11	10	7	5	8	9	10	7	12	9	8	7	8	5	5	3	6	4	6.2	11.8					
10-Jul	4	3	3	5	9	8	10	11	15	22	35	34	31	30	29	32	30	31	30	23	17	17	16	13	19.2	34.7					
11-Jul	11	9	4	6	3	6	4	8	7	12	10	16	15	21	23	23	24	15	9	4	4	3	4	6	10.2	23.7					
12-Jul	3	3	6	8	3	6	6	12	18	19	20	27	28	28	27	23	22	20	14	11	4	3	2	1	13.1	28.3					
13-Jul	3	3	2	4	3	3	4	4	6	7	11	14	17	16	14	14	13	13	14	11	7	3	2	3	8.0	16.7					
14-Jul	2	2	3	2	6	9	10	10	7	15	10	8	9	10	11	11	11	11	13	12	10	4	6	8	8.3	14.6					
15-Jul	12	8	9	10	8	4	5	10	6	4	13	14	14	13	15	9	11	3	7	5	8	4	2	3	8.2	15.1					
16-Jul	3	4	4	2	2	3	2	6	8	11	14	15	17	18	15	11	11	14	17	16	11	7	4	10	9.4	17.6					
17-Jul	2	2	2	2	2	3	3	4	7	16	14	14	13	13	9	17	13	6	8	9	6	4	4	3	7.4	16.6					
18-Jul	4	3	2	4	4	6	10	13	9	14	13	18	17	19	23	37	35	30	25	17	16	10	7	7	14.3	36.7					
19-Jul	4	5	5	6	4	6	11	14	14	14	14	17	14	13	13	14	12	12	9	8	7	4	3	3	9.5	17.4					
20-Jul	2	3	4	4	3	5	6	8	12	13	15	16	16	15	16	16	18	18	17	8	8	9	10	10	10.6	18.3					
21-Jul	12	13	13	16	14	11	12	17	15	12	11	8	6	15	32	25	18	15	8	5	6	4	4	4	12.3	32.1					
22-Jul	3	2	4	4	8	6	6	7	10	11	7	9	12	9	11	10	11	13	11	9	5	5	5	4	7.6	12.6					
23-Jul	3	2	4	3	3	2	2	3	4	10	7	8	10	9	8	9	15	19	15	17	18	15	12	14	8.9	18.8					
24-Jul	11	7	10	12	10	9	13	16	17	10	12	13	20	16	15	10	3	4	5	6	4	4	4	6	9.9	19.7					
25-Jul	3	5	7	10	9	8	11	13	11	11	11	12	11	14	13	11	11	9	6	3	4	8	6	15	9.2	15.4					
26-Jul	7	5	5	2	3	2	3	6	7	6	8	10	11	12	10	12	13	14	15	14	6	6	5	9	8.0	14.5					
27-Jul	11	14	11	9	8	10	11	14	11	14	18	21	19	23	21	21	21	14	10	4	3	5	4	10	12.7	23.0					
28-Jul	5	5	10	6	9	10	10	14	15	11	10	9	11	16	19	22	21	22	25	14	8	6	9	8	12.2	24.9					
29-Jul	7	6	6	3	3	4	7	12	15	16	18	13	11	12	11	12	8	17	20	9	9	4	2	6	9.6	20.1					
30-Jul	5	5	4	4	9	3	5	4	8	12	12	11	16	8	18	14	16	24	17	13	13	6	8	9	10.2	24.0					
31-Jul	13	16	14	12	9	13	20	25	22	26	33	34	31	35	29	29	31	26	23	19	12	8	5	8	20.5	35.3					
6.1 6.1 6.2 6.6 6.3 6.5 7.9 10.8 11.8 13.1 14.5 15.3 15.7 16.6 17.3 17.6 17.0 16.1 14.4 11.5 9.0 7.1 6.1 7.0																									Diurnal Average						
22.8 26.5 25.3 27.1 25.2 24.6 26.1 29.0 32.9 34.4 38.3 38.9 38.8 41.0 40.0 40.1 41.9 37.5 35.0 31.7 28.9 24.0 22.3 24.2																									Diurnal Maximum						
All monthly, daily, and diurnal averages have been calculated using scalar methods																															

Hourly Standard Deviations

Wind Direction (WD) - deg

Evergreen Park - July 2012

Maximum Value: 99.3 deg on Jul 17 01:00																				Hours in Service: 744					
Minimum Value: 5.9 deg on Jul 10 23:00																				Hours of Data: 744					
																				Hours of Missing Data: 0					
Percentiles: P ₁ = 7.6 P ₁₀ = 12.8 Q ₁ = 19.0 Median = 30.4 Q ₃ = 51.8 P ₉₀ = 74.9 P ₉₉ = 93.2																				Hours of Calibration: 0					
																				Percent Operational Time: 100.0					
Day	Hourly Period Ending At (MST)																								Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Maximum
1-Jul	29	79	40	23	38	21	35	23	21	30	27	33	43	42	42	30	26	21	16	16	14	29	17	28	79.2
2-Jul	18	28	45	16	75	58	84	21	25	32	56	51	72	56	48	46	79	34	42	31	25	15	86	85	86.1
3-Jul	79	81	87	59	98	55	51	25	31	29	19	24	14	9	11	8	11	14	38	17	12	21	14	11	97.8
4-Jul	10	11	12	12	12	12	11	9	12	12	13	9	9	9	8	10	8	9	8	8	8	8	10	10	12.5
5-Jul	14	14	20	8	14	31	72	16	19	29	27	37	35	22	31	27	44	57	76	64	30	43	87	50	86.9
6-Jul	24	78	60	94	59	77	36	23	16	15	23	29	40	40	72	42	65	49	36	24	19	18	52	51	93.8
7-Jul	60	82	53	83	69	89	27	32	51	43	50	57	54	57	44	47	19	42	29	13	48	58	74	66	88.9
8-Jul	67	30	18	14	24	13	16	15	25	41	63	50	99	59	30	24	25	32	20	20	14	32	63	34	98.9
9-Jul	32	75	75	69	38	38	21	17	31	68	42	48	44	84	36	59	67	55	29	25	68	94	90	57	93.6
10-Jul	83	73	78	23	29	60	54	17	15	15	13	14	17	20	18	16	13	15	14	10	12	8	6	9	83.3
11-Jul	14	10	72	33	91	18	30	31	48	22	30	32	41	32	20	21	20	21	55	75	80	83	64	11	91.0
12-Jul	59	73	73	23	61	36	32	14	11	19	21	29	17	19	18	27	23	22	19	11	37	84	70	65	84.1
13-Jul	73	76	44	83	83	66	67	76	49	48	48	31	32	40	48	50	39	27	23	19	12	48	54	64	82.9
14-Jul	82	88	71	72	49	10	21	23	40	21	39	46	83	71	66	48	71	44	28	18	18	31	27	25	87.8
15-Jul	22	24	24	58	44	56	43	20	31	55	23	20	19	27	23	36	33	83	63	55	28	43	93	82	93.0
16-Jul	48	54	22	72	53	37	75	49	33	32	25	26	32	39	41	48	43	31	16	16	13	12	34	15	75.4
17-Jul	99	75	56	87	40	56	20	83	79	19	28	30	59	43	54	48	72	65	25	73	61	83	48	78	99.3
18-Jul	80	90	77	40	60	47	86	39	81	27	17	32	27	26	26	11	12	13	18	21	12	39	50	36	90.3
19-Jul	36	22	22	24	29	17	17	19	20	30	39	33	60	36	62	32	48	36	34	25	16	18	39	62	62.4
20-Jul	72	58	31	55	62	30	21	27	28	31	32	25	36	29	26	35	27	23	18	21	17	61	68	28	72.2
21-Jul	17	8	31	22	17	23	19	11	20	18	17	29	81	35	10	15	20	17	25	82	28	36	18	34	82.1
22-Jul	42	98	49	53	55	28	52	48	38	31	73	87	47	61	84	66	94	32	23	24	18	11	25	8	98.2
23-Jul	33	56	77	24	86	81	46	77	68	10	40	75	37	30	29	49	33	14	13	23	19	13	16	63	86.2
24-Jul	81	59	26	25	20	27	18	11	15	16	30	23	20	23	37	35	80	52	27	18	32	30	24	26	81.0
25-Jul	58	41	21	19	21	17	12	13	23	22	42	34	49	39	62	35	19	29	26	25	24	31	29	19	61.7
26-Jul	44	37	44	44	85	49	29	34	51	75	58	51	50	54	68	27	32	25	24	18	17	10	12	33	84.8
27-Jul	41	14	18	23	25	19	16	16	26	19	19	19	23	22	20	30	29	28	30	58	68	26	76	42	76.5
28-Jul	92	68	31	52	34	23	18	17	21	36	35	73	51	39	36	29	27	13	23	24	30	18	16	33	91.5
29-Jul	26	62	91	84	63	84	20	18	14	18	18	43	63	54	72	52	43	30	17	17	25	75	96	9	96.1
30-Jul	51	22	65	47	10	47	68	41	32	25	20	35	33	42	25	29	31	22	19	18	12	21	13	23	68.0
31-Jul	7	7	7	15	12	9	6	8	9	12	15	17	17	11	19	18	15	15	15	16	17	22	13	11	21.8
99.3 98.2 90.8 93.8 97.8 88.9 85.8 82.8 80.5 74.9 73.0 87.4 98.9 83.7 83.6 65.7 94.4 82.6 76.1 82.1 79.6 93.6 96.1 84.9																									

PAZA
Smoky Heights Station
Monthly Summary Tables, Graphs and
Roses

Hourly Averages

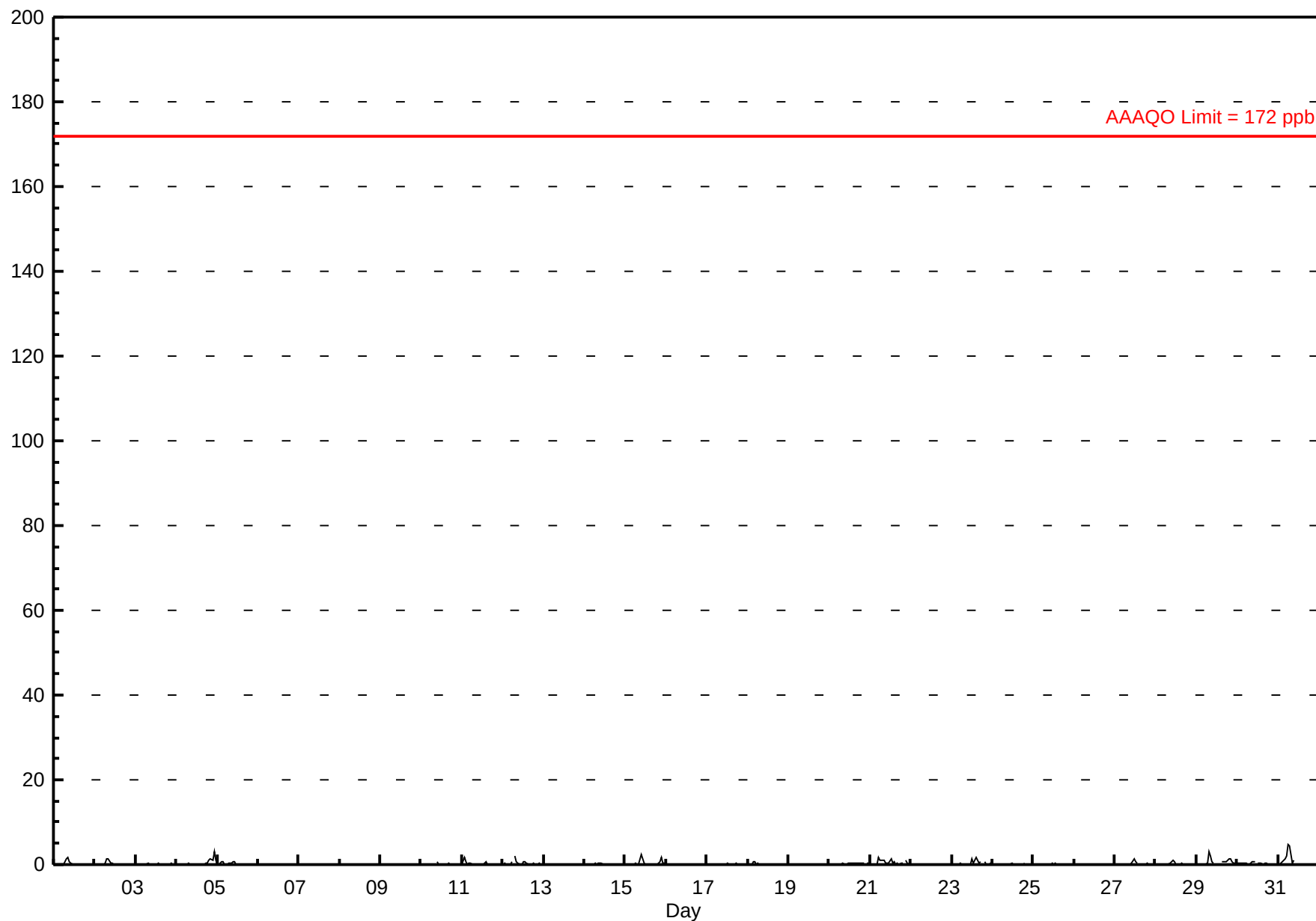
Sulphur Dioxide (SO₂) - ppb

Smoky Heights - July 2012

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 4.7 ppb on Jul 31 07:00 Maximum Daily Average: 0.7 ppb on Jul 31																			Hours in Service: 744 Hours of Data: 704 Hours of Missing Data: 40 Hours of Calibration: 35 Percent Operational Time: 99.3							
Minimum Value: 0 ppb on Jul 10 04:00 Maximum Diurnal Average: 0.5 ppb at hour 8 Monthly Average: 0.18 ppb																			Minimum Daily Average: 0.0 ppb on Jul 16 Minimum Diurnal Average: 0.1 ppb at hour 1 Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 0.1 P ₉₀ = 0.5 P ₉₉ = 2.0							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jul	0	0	0	0	0	0	1	1	2	1	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0.2	1.6
2-Jul	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0.2	1.4
3-Jul	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
4-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	1	1	1	3	1	0.4	3.1
5-Jul	0	0	1	1	0	0	0	0	0	1	1	0	A	0	0	0	0	0	0	0	0	0	0	0	0.2	0.8
6-Jul	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
7-Jul	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
8-Jul	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.4
9-Jul	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
10-Jul	0	0	0	0	0	0	0	0	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.5
11-Jul	0	2	1	0	0	0	0	A	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0.2	1.6
12-Jul	0	0	0	0	0	1	A	2	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0.3	2.1
13-Jul	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
14-Jul	0	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
15-Jul	0	0	0	A	0	0	0	0	0	3	1	0	0	0	0	0	0	0	0	0	1	2	0	0	0.4	2.5
16-Jul	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
17-Jul	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
18-Jul	A	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	N	N	N	N	N	0	A	--	0.8
19-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	N	0	0	0	0	A	0	0.0	0.2
20-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	A	0	0	0.2	0.5
21-Jul	0	0	0	0	0	2	1	1	1	0	0	0	1	0	1	0	0	0	0	1	A	1	0	0	0.5	1.7
22-Jul	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
23-Jul	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	1	1	1	A	1	0	0	0	0	0.3	1.6
24-Jul	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
25-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0.1	0.2
26-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.0	0.1
27-Jul	0	0	0	0	0	0	0	0	0	0	0	1	1	0	A	0	0	0	0	0	0	0	0	0	0.2	1.3
28-Jul	0	0	0	0	0	0	0	0	0	1	1	1	0	A	0	0	0	0	0	0	0	0	0	0	0.2	0.9
29-Jul	0	0	0	0	0	0	0	3	2	1	0	C	C	C	C	1	1	1	1	1	2	1	0	0	0.6	2.9
30-Jul	0	0	0	0	0	0	0	0	0	1	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.8
31-Jul	0	0	1	1	2	2	5	4	0	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.7	4.7
																								Diurnal Average		
																								Diurnal Maximum		
C - Calibration N - Not Valid A - Automated Daily Zero Span																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb 30-day 11 ppb																										

Hourly Averages

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



Hourly Maximums

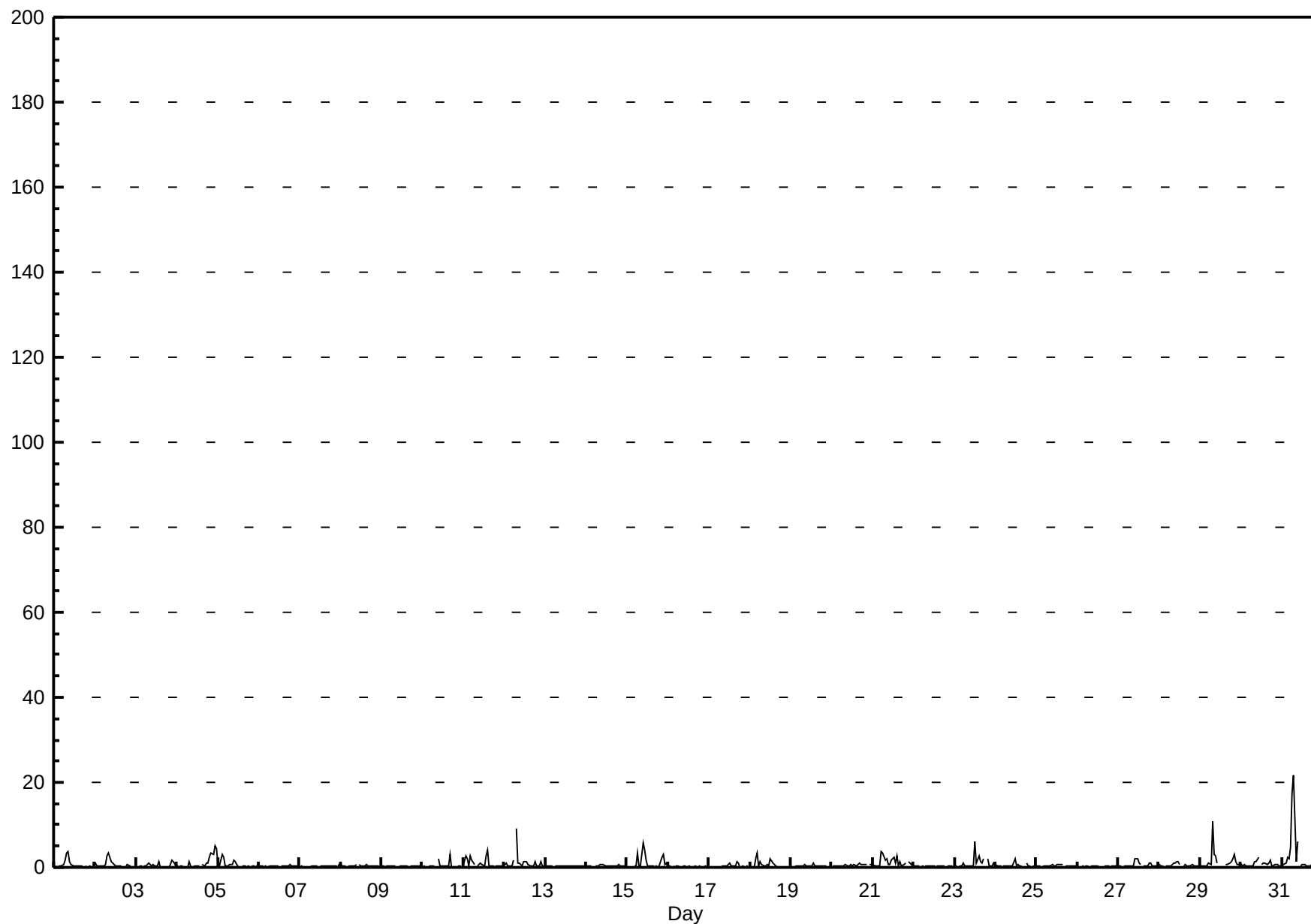
Sulphur Dioxide (SO₂) - ppb

Smoky Heights - July 2012

Maximum Value: 21.8 ppb on Jul 31 08:00																			Maximum Daily Average: 2.7 ppb on Jul 31										Hours in Service: 744	
Minimum Value: 0 ppb on Jul 17 03:00																			Minimum Daily Average: 0.2 ppb on Jul 16										Hours of Data: 704	
Maximum Diurnal Average: 2.0 ppb at hour 8																			Minimum Diurnal Average: 0.4 ppb at hour 1										Hours of Missing Data: 40	
Monthly Average: 0.66 ppb																			Percentiles: P ₁ = 0.0 P ₁₀ = 0.1 Q ₁ = 0.2 Median = 0.3 Q ₃ = 0.6 P ₉₀ = 1.4 P ₉₉ = 5.5										Hours of Calibration: 35	
																													Percent Operational Time: 99.3	
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-Jul	0	0	0	0	0	1	2	3	4	1	1	0	0	0	0	0	A	A	0	0	0	0	0	1	0.7	3.8				
2-Jul	1	0	0	0	0	0	1	3	3	1	1	1	0	0	0	0	A	0	0	1	0	0	0	0	0.6	3.3				
3-Jul	0	0	0	0	0	0	0	1	1	0	1	0	0	2	0	A	0	0	0	0	1	2	1	0	0.5	1.6				
4-Jul	0	0	0	0	0	0	0	1	0	0	0	0	0	0	A	1	0	1	1	2	3	3	5	4	1.1	5.0				
5-Jul	1	0	3	2	0	0	0	1	1	2	1	1	0	A	0	0	0	0	0	0	0	0	0	0	0.7	3.0				
6-Jul	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	1	0	0	0	0	0	0.3	0.5				
7-Jul	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	1	0	0.3	0.8				
8-Jul	1	0	0	0	0	0	0	0	0	1	A	1	0	0	0	1	0	0	0	0	0	0	0	0	0.3	0.9				
9-Jul	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4				
10-Jul	0	0	0	0	0	0	0	0	A	2	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0.4	3.1				
11-Jul	0	3	2	0	3	2	1	A	0	1	1	1	0	3	4	0	0	0	0	0	0	0	0	0	1.0	4.0				
12-Jul	1	1	0	0	0	2	A	9	1	1	0	1	1	1	1	0	0	0	1	0	0	1	0	0	1.1	9.0				
13-Jul	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.4				
14-Jul	0	0	0	0	A	0	0	0	1	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0.4	0.7				
15-Jul	0	0	0	A	0	0	3	0	0	6	4	2	0	0	0	0	0	0	0	0	2	3	1	1	1.1	5.6				
16-Jul	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	0.4				
17-Jul	0	A	0	0	0	0	0	0	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0	0	0.3	1.3				
18-Jul	A	0	0	2	3	0	1	1	0	0	1	0	2	1	1	0	0	N	N	N	N	N	0	A	--	3.3				
19-Jul	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	A	0	0.3	1.0				
20-Jul	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	1	1	1	1	1	1	A	1	1	0.5	0.9				
21-Jul	1	0	0	0	0	4	3	2	2	1	1	2	2	1	3	0	2	0	1	1	A	1	1	0	1.3	3.6				
22-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.3	0.4				
23-Jul	0	0	0	0	0	1	0	0	0	0	0	0	6	1	3	1	1	2	A	2	0	0	0	1	1.0	6.2				
24-Jul	1	0	0	0	0	0	0	0	0	0	0	2	0	1	0	0	A	A	1	0	0	0	0	0	0.4	1.9				
25-Jul	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	1	A	0	0	0	0	0	0	0	0.4	0.8				
26-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.2	0.4				
27-Jul	0	0	0	0	0	0	0	0	0	0	2	2	1	1	A	0	0	0	1	1	0	0	0	1	0.5	2.2				
28-Jul	1	0	0	0	0	0	0	0	1	1	1	1	1	A	0	1	0	0	0	1	1	0	0	0	0.5	1.4				
29-Jul	0	0	0	0	0	1	1	11	3	3	1	C	C	C	C	1	1	1	1	2	3	1	1	1	1.6	10.7				
30-Jul	1	0	1	0	0	0	0	0	1	1	2	A	1	1	1	1	1	2	0	0	1	1	0	0	0.7	2.2				
31-Jul	0	1	1	2	2	5	17	22	1	6	A	0	1	1	0	0	0	0	1	0	0	0	0	0	2.7	21.8				
0.4 0.4 0.4 0.4 0.5 0.7 1.1 2.0 0.9 1.1 0.8 0.7 0.8 0.6 0.7 0.4 0.5 0.4 0.5 0.5 0.6 0.6 0.5 0.5																									Diurnal Average					
0.9 2.8 3.0 2.5 3.3 4.7 17.4 21.8 3.8 6.0 4.2 2.2 6.2 2.8 4.0 1.3 3.1 2.1 1.5 2.4 3.4 3.2 5.0 4.5																									Diurnal Maximum					
C - Calibration				N - Not Valid				A - Automated Daily Zero Span																						

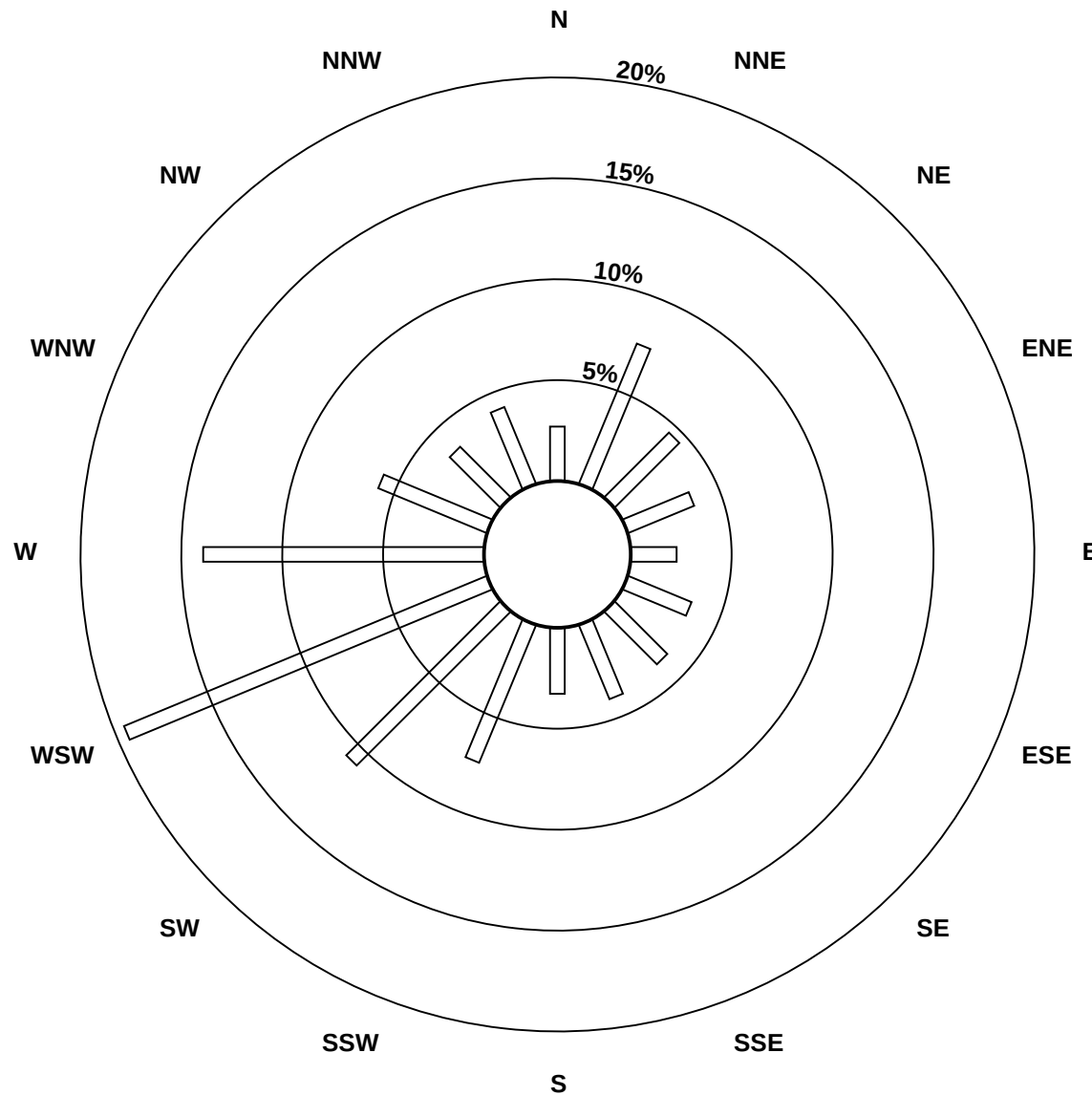
Hourly Maximums

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

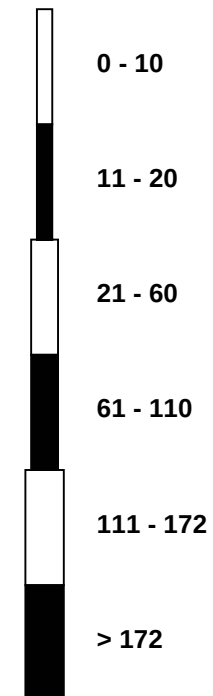


Pollutant Rose

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

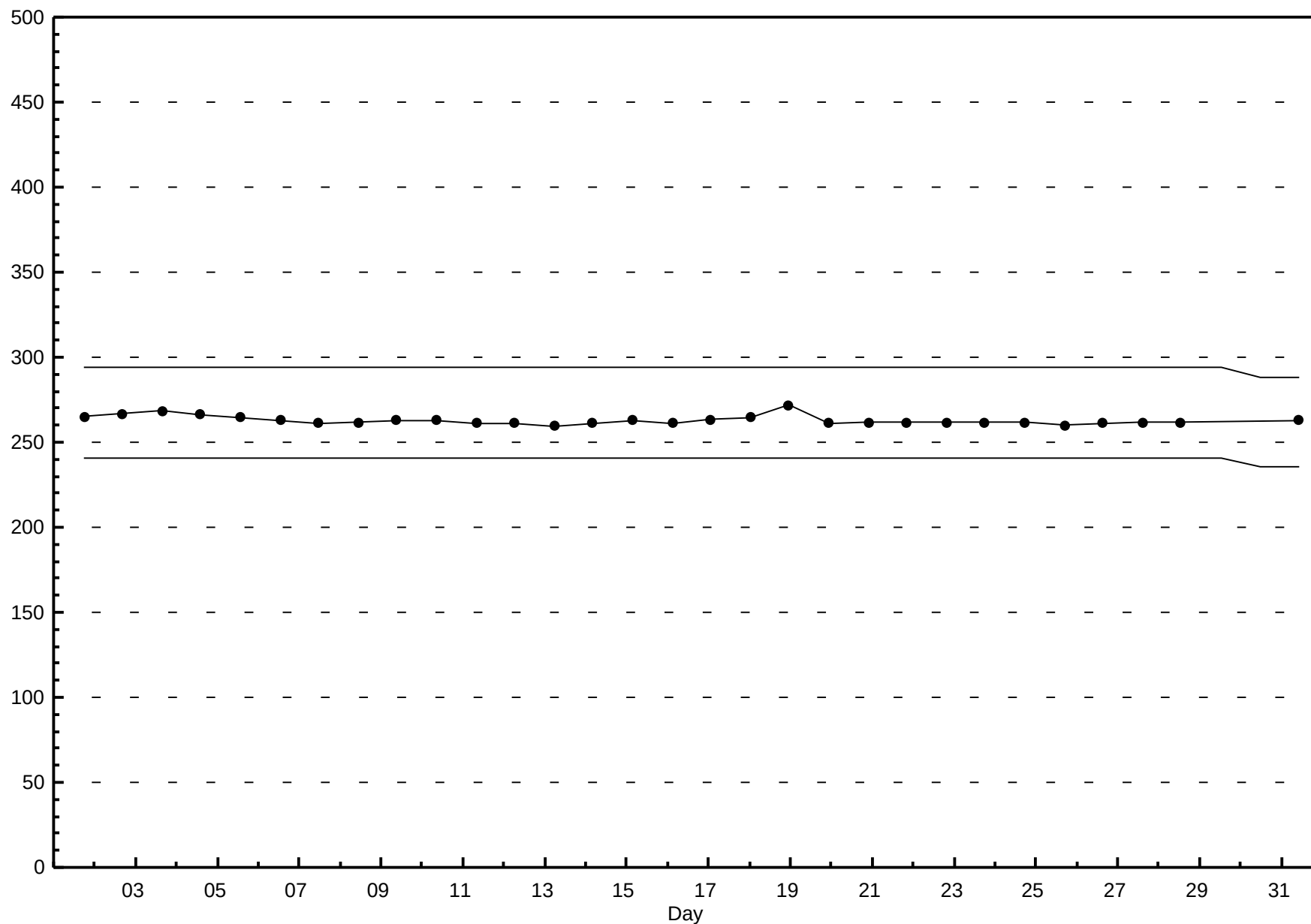


Pollutant Classes (ppb)



Span Responses

Sulphur Dioxide (SO₂)
Smoky Heights - July 2012



Hourly Averages

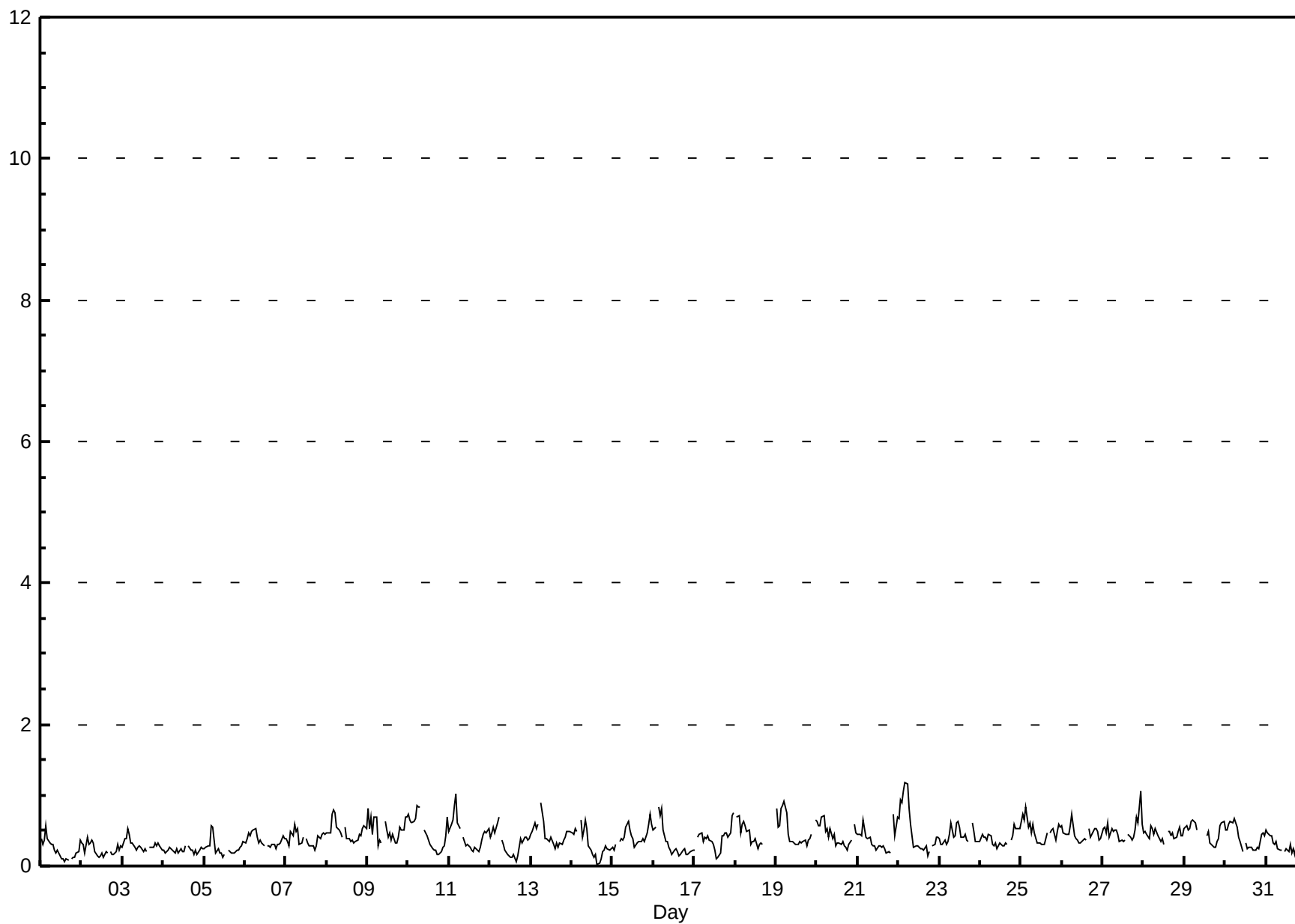
Total Reduced Sulphur (TRS) - ppb

Smoky Heights - July 2012

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 1.2 ppb on Jul 22 05:00 Maximum Daily Average: 0.5 ppb on Jul 9																			Hours in Service: 744 Hours of Data: 703 Hours of Missing Data: 41 Hours of Calibration: 36 Percent Operational Time: 99.3							
Minimum Value: 0 ppb on Jul 14 16:00 Minimum Daily Average: 0.2 ppb on Jul 4 Maximum Diurnal Average: 0.6 ppb at hour 6 Minimum Diurnal Average: 0.3 ppb at hour 14 Monthly Average: 0.39 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 = 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-Jul	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	A	A	0	0	0	0	0	0	0.2	0.6
2-Jul	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
3-Jul	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.3	0.5
4-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.2	0.3
5-Jul	0	0	0	0	1	1	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.3	0.6
6-Jul	0	0	0	0	0	1	1	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.4	0.5
7-Jul	0	0	0	0	0	1	0	1	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.6
8-Jul	0	0	0	1	1	1	1	1	0	0	A	1	0	0	0	0	0	0	0	0	0	1	1	1	0.5	0.8
9-Jul	1	1	1	0	1	1	0	0	0	A	1	0	0	0	0	0	0	0	0	1	1	1	1	1	0.5	0.8
10-Jul	1	1	1	1	1	1	1	1	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.5	0.8
11-Jul	0	1	1	1	1	1	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.4	1.0
12-Jul	0	0	1	0	1	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.7
13-Jul	0	0	1	1	1	A	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.9
14-Jul	0	0	1	0	A	1	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.7
15-Jul	0	0	0	A	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	1	1	1	0.4	0.7
16-Jul	1	1	A	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.8
17-Jul	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.4	0.8
18-Jul	A	1	1	0	1	1	1	0	1	0	0	0	0	0	0	0	0	N	N	N	N	N	1	A	--	0.7
19-Jul	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	N	0	0	0	0	A	1	0.5	0.9
20-Jul	1	1	1	1	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	A	1	0	0.4	0.7
21-Jul	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	0	1	0.4	0.7
22-Jul	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.5	1.2
23-Jul	0	0	0	0	0	0	0	1	0	0	1	1	1	0	0	0	0	0	A	1	0	0	0	0	0.4	0.6
24-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	1	1	1	1	0.4	0.6
25-Jul	1	1	1	1	1	1	0	1	0	0	0	0	0	0	0	0	A	0	1	1	0	0	1	1	0.5	0.8
26-Jul	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	A	1	0	0	1	1	0	0	0	0.4	0.7
27-Jul	1	1	0	1	0	1	0	1	1	0	0	0	0	0	A	0	0	0	0	1	1	1	1	1	0.5	1.1
28-Jul	0	0	0	0	1	1	0	1	0	0	0	0	0	A	0	0	0	0	0	0	0	1	0	0	0.4	0.6
29-Jul	1	1	1	1	1	1	1	1	C	C	C	C	C	0	0	0	0	0	0	0	0	1	1	1	0.5	0.7
30-Jul	1	1	1	1	1	1	1	1	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.7
31-Jul	1	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	1	0	0	0.3	0.7
																									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

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



Hourly Maximums

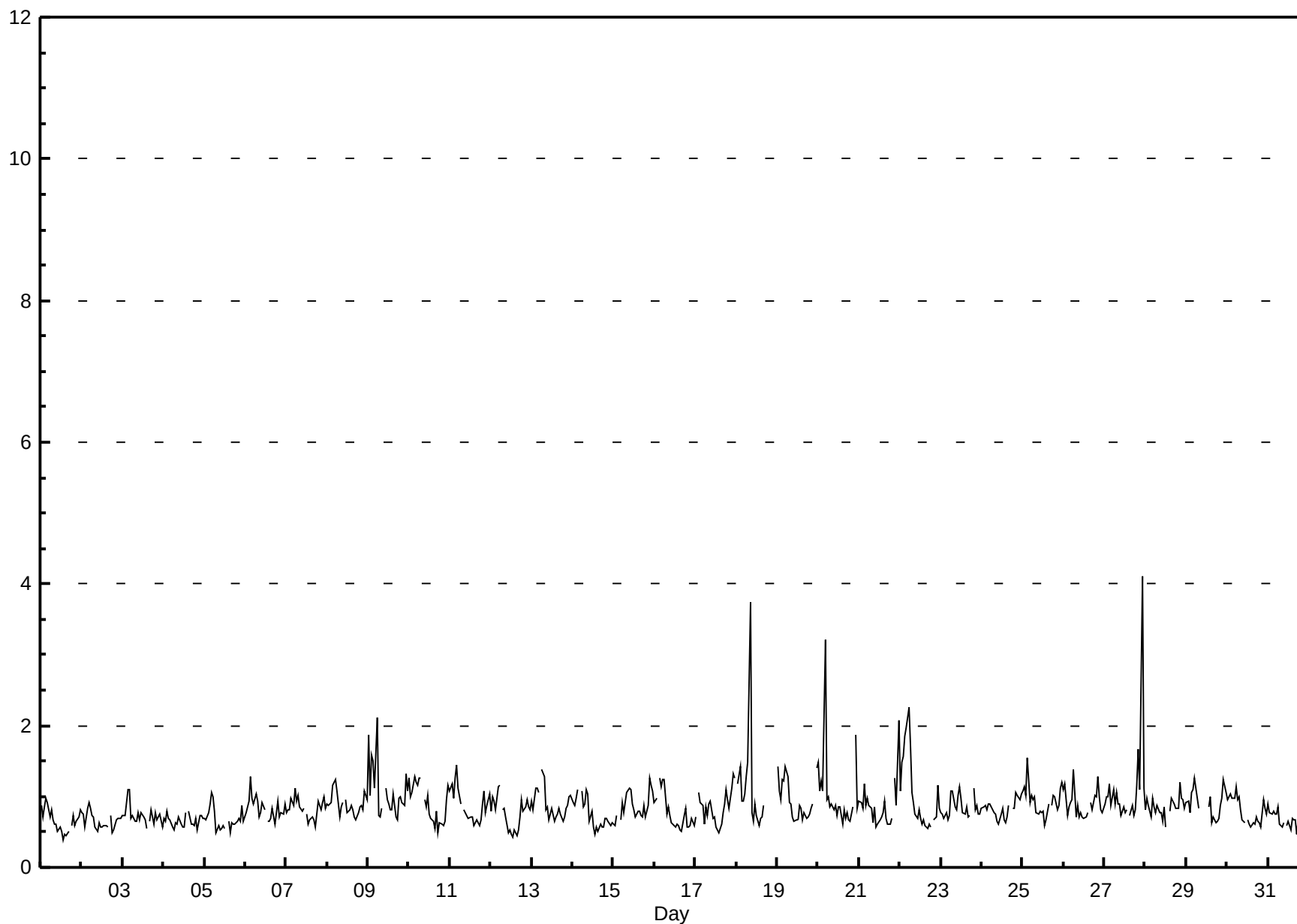
Total Reduced Sulphur (TRS) - ppb

Smoky Heights - July 2012

Maximum Value: 4.1 ppb on Jul 27 23:00																			Maximum Daily Average: 1.1 ppb on Jul 27																			Hours in Service: 744	
Minimum Value: 0 ppb on Jul 1 14:00																			Minimum Daily Average: 0.7 ppb on Jul 4																			Hours of Data: 703	
Maximum Diurnal Average: 1.1 ppb at hour 5																			Minimum Diurnal Average: 0.7 ppb at hour 14																			Hours of Missing Data: 41	
Monthly Average: 0.86 ppb																			Percentiles: P ₁ = 0.5 P ₁₀ = 0.6 Q ₁ = 0.7 Median = 0.8 Q ₃ = 1.0 P ₉₀ = 1.1 P ₉₉ = 1.9																			Hours of Calibration: 36	
																																						Percent Operational Time: 99.3	
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-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	1	A	1	1	1	1	1	1	0.7	1.0													
2-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	0	1	1	1	1	1	0.7	0.9													
3-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	0.7	1.1													
4-Jul	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	0.8													
5-Jul	1	1	1	1	1	1	1	0	1	1	1	1	1	A	1	0	1	1	1	1	1	1	1	1	0.7	1.1													
6-Jul	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	0.8	1.3													
7-Jul	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.1													
8-Jul	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.2													
9-Jul	2	1	2	1	1	2	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.1	2.1													
10-Jul	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	0.9	1.3													
11-Jul	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.5													
12-Jul	1	1	1	1	1	1	A	1	1	1	0	1	0	0	1	0	1	1	1	1	1	1	1	1	0.8	1.2													
13-Jul	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.4													
14-Jul	1	1	1	1	A	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	0.8	1.1													
15-Jul	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	1.3													
16-Jul	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	1.3													
17-Jul	1	A	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	0.8	1.3													
18-Jul	A	1	1	1	1	1	1	1	4	1	1	1	1	1	1	1	1	N	N	N	N	N	1	A	--	3.7													
19-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	0.9	1.4													
20-Jul	1	1	1	1	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	2	1	1.0	3.2													
21-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	2	0.9	2.1														
22-Jul	1	1	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1.0	2.3													
23-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	0.8	1.1													
24-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	0.8	1.1													
25-Jul	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	0.9	1.6													
26-Jul	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	1.4													
27-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	2	1	4	1	1.1	4.1													
28-Jul	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													
29-Jul	1	1	1	1	1	1	1	1	C	C	C	C	C	1	1	1	1	1	1	1	1	1	1	1	0.9	1.3													
30-Jul	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.1													
31-Jul	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	0	1	1	1	1	1	1	0.7	1.3													
0.9 0.9 1.0 1.1 1.1 1.1 1.0 0.9 0.9 0.8 0.7 0.8 0.7 0.7 0.7 0.7 0.7 0.7 0.7 0.8 0.8 0.9 1.1 0.9																									Diurnal Average														
1.9 1.5 1.6 1.8 3.2 2.3 1.7 1.5 3.7 1.1 1.1 1.1 1.0 0.9 1.0 1.0 0.9 0.9 0.9 1.1 1.2 1.7 1.3 4.1 2.1																									Diurnal Maximum														
C - Calibration				N - Not Valid				A - Automated Daily Zero Span																															

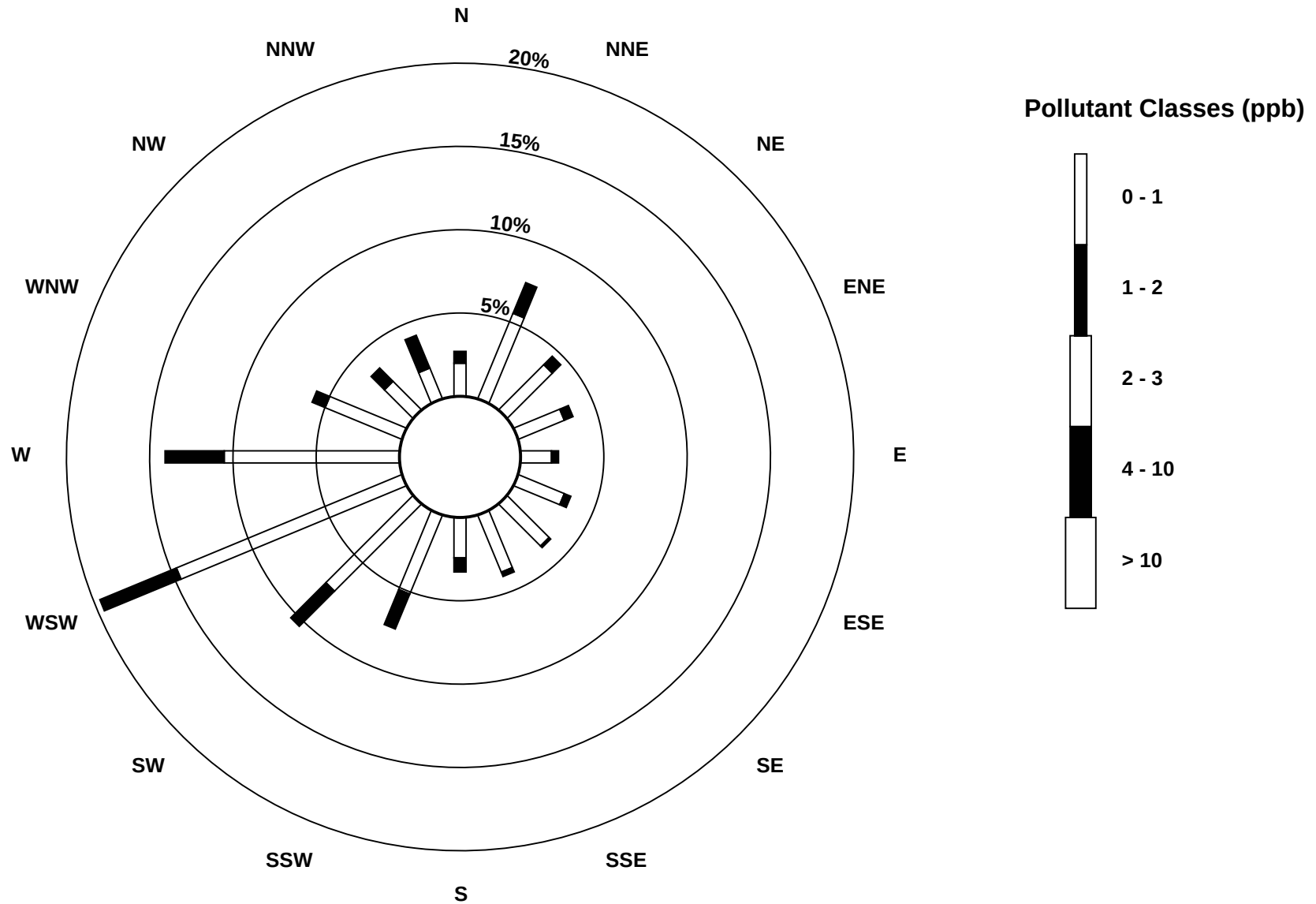
Hourly Maximums

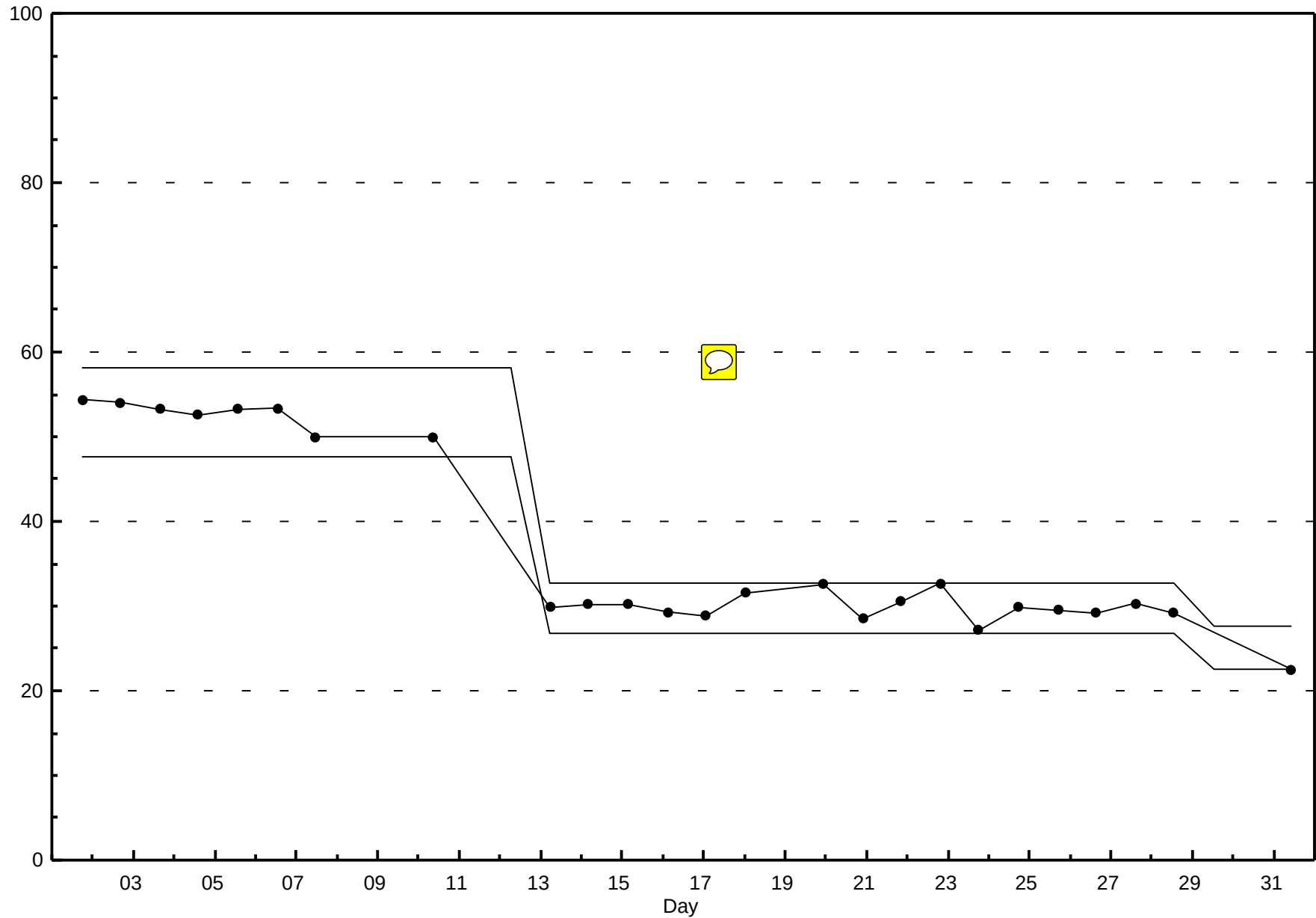
Total Reduced Sulphur (TRS) - ppb
Smoky Heights - July 2012



Pollutant Rose

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



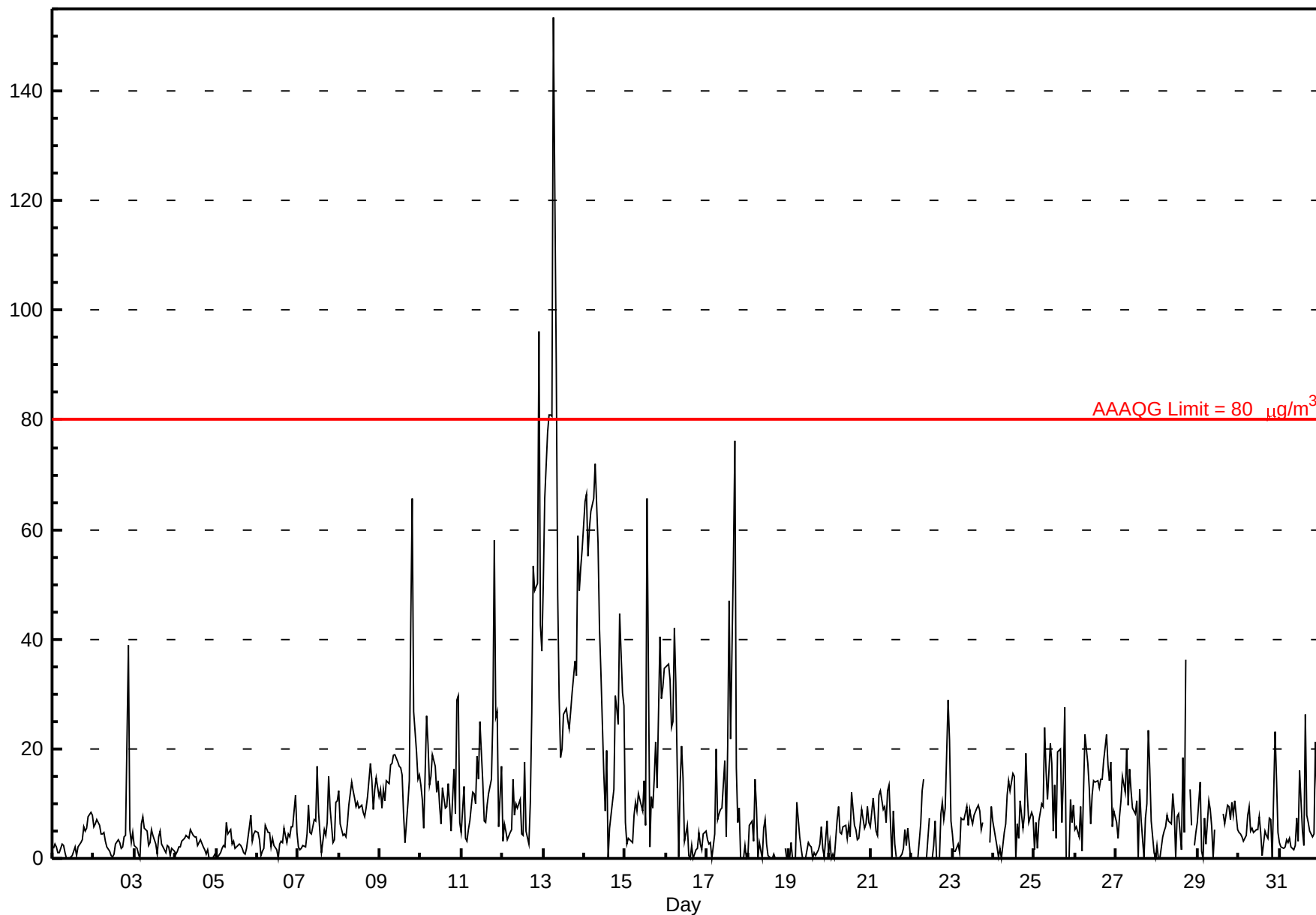


Hourly Averages

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

Smoky Heights - July 2012

Number of Exceedences: 1-hr: 6 24-hr: 2 Maximum Value: 153.4 µg/m³ on Jul 13 07:00 Minimum Value: 0 µg/m³ on Jul 1 10:00 Maximum Diurnal Average: 16.9 µg/m³ at hour 7 Monthly Average: 10.80 µg/m³																								Maximum Daily Average: 51.7 µg/m³ on Jul 13 Minimum Daily Average: 2.1 µg/m³ on Jul 19 Minimum Diurnal Average: 6.2 µg/m³ at hour 15 Percentiles: P ₁ = 0.0 P ₁₀ = 0.7 Q ₁ = 2.7 Median = 6.3 Q ₃ = 12.4 P ₉₀ = 25.0 P ₉₉ = 75.7																								Hours in Service: 744 Hours of Data: 725 Hours of Missing Data: 19 Hours of Calibration: 0 Percent Operational Time: 97.5	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																							
1-Jul	2	3	2	1	1	3	2	1	0	0	0	1	1	2	1	2	3	3	6	5	5	8	8	8	2.8	8.3																							
2-Jul	6	6	7	6	5	4	5	3	2	1	0	0	1	3	4	3	2	2	4	4	39	5	3	5	5.0	39.0																							
3-Jul	2	2	1	0	6	8	5	5	2	3	5	4	3	1	4	5	3	2	1	2	2	0	2	1	3.0	7.7																							
4-Jul	1	1	2	2	3	4	4	4	4	5	4	4	4	2	3	4	2	1	1	2	0	0	0	1	2.4	5.4																							
5-Jul	1	0	1	2	2	2	7	4	5	3	3	2	2	3	2	2	1	1	2	6	8	3	4	5	2.9	8.0																							
6-Jul	5	3	1	1	2	6	5	5	2	4	2	2	0	3	3	3	5	3	5	4	6	6	11	5	3.8	11.5																							
7-Jul	2	2	2	2	2	4	10	5	4	7	7	17	8	5	1	5	4	7	15	9	3	3	10	11	6.0	16.7																							
8-Jul	12	6	4	4	4	6	10	14	12	11	9	10	9	10	8	8	9	11	17	14	9	13	15	11	9.9	17.4																							
9-Jul	13	9	13	11	14	14	17	17	19	19	18	17	16	15	8	3	10	14	43	66	27	20	14	15	17.9	65.6																							
10-Jul	13	11	5	26	21	13	15	19	17	12	14	10	6	13	9	9	14	10	5	16	8	29	30	7	13.9	29.7																							
11-Jul	5	13	4	3	5	7	12	12	10	19	15	25	14	7	7	10	12	14	26	58	26	27	6	17	14.6	58.0																							
12-Jul	3	6	5	3	5	5	14	8	10	9	11	4	4	18	5	3	10	27	53	49	50	96	42	38	20.0	96.2																							
13-Jul	50	66	78	81	81	81	153	90	48	29	18	20	26	27	25	24	27	30	36	33	59	49	53	57	51.7	153.4																							
14-Jul	65	67	55	60	63	66	72	65	57	42	34	16	9	20	0	6	10	13	30	27	24	45	30	28	37.6	72.0																							
15-Jul	6	3	4	3	3	8	10	9	12	10	9	14	6	66	2	11	9	14	21	13	41	29	31	35	15.4	65.7																							
16-Jul	35	35	33	24	25	42	32	0	14	20	15	3	6	0	0	2	0	2	2	5	3	2	4	5	12.9	42.0																							
17-Jul	4	3	3	0	5	20	7	8	9	9	18	4	20	47	22	55	76	17	7	9	0	0	2	0	14.3	76.2																							
18-Jul	0	6	7	3	14	9	0	3	0	5	7	3	1	0	0	1	0	N	N	N	N	N	2	0	3.2	14.5																							
19-Jul	0	3	0	N	0	10	4	2	0	0	0	3	2	2	0	1	0	2	3	6	2	0	7	1	2.1	10.1																							
20-Jul	3	0	1	0	7	9	5	4	6	6	4	6	4	12	6	5	3	4	6	9	5	6	9	7	5.3	12.0																							
21-Jul	6	11	8	5	4	12	12	9	9	7	12	13	0	9	3	0	N	0	1	2	5	2	6	0	5.9	13.3																							
22-Jul	0	N	N	0	0	6	12	15	N	0	7	N	0	2	7	0	0	8	10	7	9	29	22	7	7.1	28.9																							
23-Jul	5	1	1	3	1	7	7	7	9	6	9	7	6	8	9	10	9	5	7	N	0	N	3	9	5.9	9.6																							
24-Jul	7	4	2	0	2	0	5	6	12	14	12	16	15	0	6	4	11	6	8	19	11	7	8	8	7.6	19.3																							
25-Jul	2	6	2	7	10	9	24	16	11	21	17	5	14	4	19	20	7	15	28	0	0	11	7	10	10.9	27.6																							
26-Jul	5	6	4	9	1	12	23	17	13	6	11	14	14	14	13	15	14	18	22	17	14	18	6	9	12.3	22.6																							
27-Jul	6	4	8	10	15	12	20	10	16	12	9	8	10	0	13	7	0	7	10	23	16	7	1	0	9.4	23.4																							
28-Jul	2	0	0	4	5	6	8	7	6	12	8	0	8	8	2	18	5	36	N	13	6	N	2	5	7.3	36.2																							
29-Jul	7	14	1	0	7	3	11	9	6	0	5	N	N	M	M	8	6	10	9	7	10	8	10	5	6.8	13.8																							
30-Jul	5	4	4	3	4	8	9	5	5	5	5	5	8	5	1	5	4	4	7	7	0	23	15	5	6.1	23.1																							
31-Jul	3	2	2	2	3	3	4	2	2	2	7	3	16	5	2	26	8	6	5	4	5	21	12	11	6.5	26.4																							
8.9 9.9 8.6 9.2 10.4 12.9 16.9 12.3 10.8 9.7 9.6 8.2 7.8 10.3 6.2 8.8 8.8 9.7 13.4 15.0 13.1 16.6 12.2 10.4																								Diurnal Average																									
65.0 66.6 77.8 81.0 81.0 80.7 153.4 90.0 57.4 42.1 33.8 25.0 26.2 65.7 25.2 55.0 76.2 36.2 53.4 65.6 58.7 96.2 53.2 56.5																								Diurnal Maximum																									
M - Maintenance N - Not Valid Alberta Ambient Air Quality Guideline (AAAQG): 1-hr 80 µg/m³ Alberta Ambient Air Quality Objective (AAAQO): 24-hr 30 µg/m³																																																	



Hourly Maximums

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

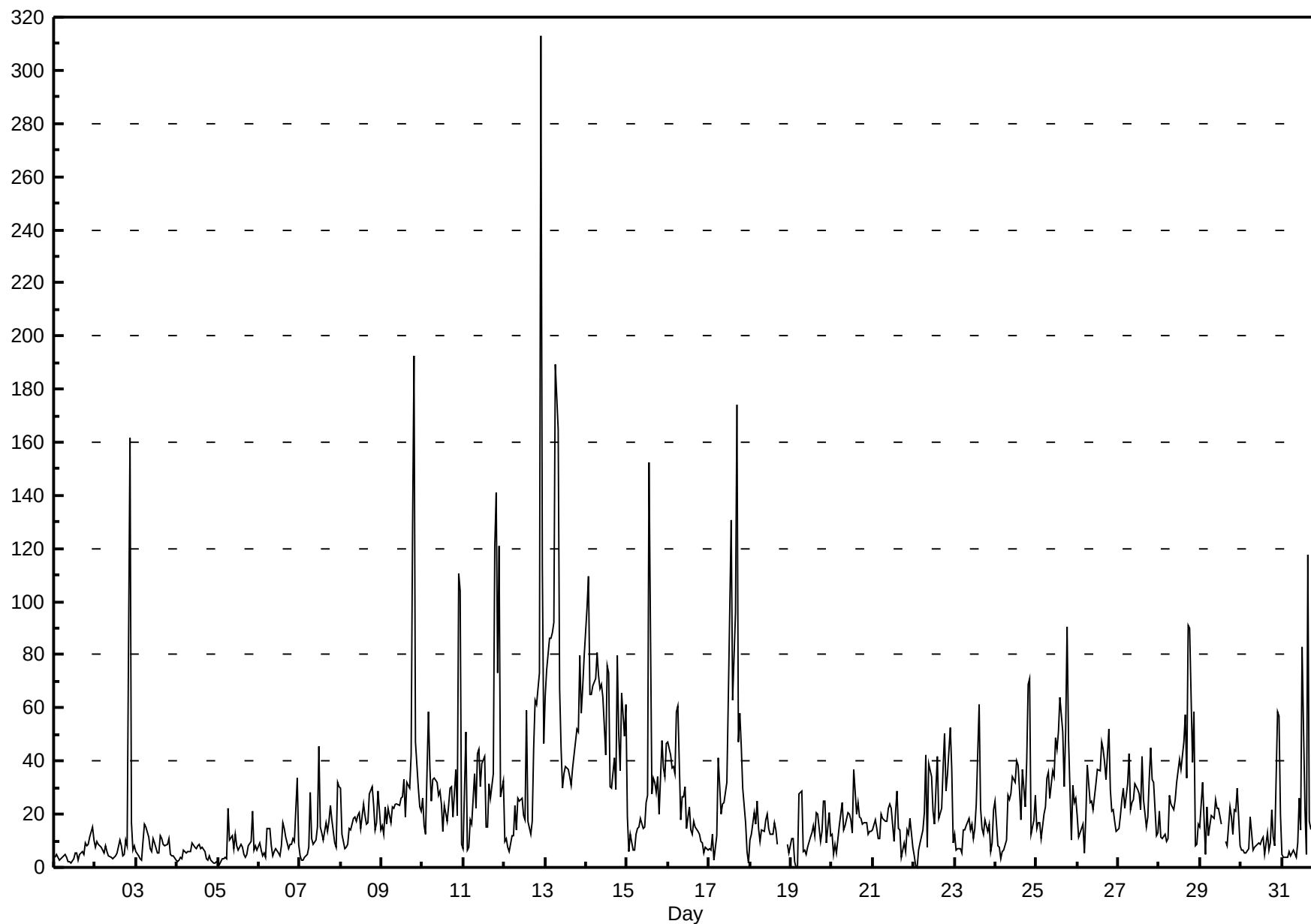
Smoky Heights - July 2012

Maximum Value: 312.7 μg/m ³ on Jul 12 22:00																								Maximum Daily Average: 67.9 μg/m ³ on Jul 13						Hours in Service: 744	
Minimum Value: 0 μg/m ³ on Jul 19 05:00																								Minimum Daily Average: 5.1 μg/m ³ on Jul 4						Hours of Data: 737	
Maximum Diurnal Average: 39.0 μg/m ³ at hour 22																								Minimum Diurnal Average: 14.8 μg/m ³ at hour 3						Hours of Missing Data: 7	
Monthly Average: 24.67 μg/m ³																								Percentiles: P ₁ = 1.6 P ₁₀ = 5.1 Q ₁ = 8.6 Median = 16.9 Q ₃ = 30.3 P ₉₀ = 50.8 P ₉₉ = 144.5						Hours of Calibration: 0	
																														Percent Operational Time: 99.1	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum					
1-Jul	4	5	4	3	3	4	5	4	2	2	1	3	5	6	3	5	6	5	9	8	8	11	15	10	5.5	15.4					
2-Jul	7	10	9	8	7	5	8	6	4	4	3	4	4	5	10	8	4	5	11	8	162	17	6	8	13.5	161.7					
3-Jul	6	4	3	3	10	16	15	12	7	6	11	9	5	5	12	11	9	8	9	11	5	4	5	3	7.9	16.3					
4-Jul	2	3	4	3	7	6	6	6	6	9	8	7	8	9	7	7	6	3	3	4	3	2	2	2	5.1	9.0					
5-Jul	2	1	3	3	4	3	22	10	12	7	13	8	7	9	8	5	4	5	8	10	21	7	8	7	7.7	22.3					
6-Jul	9	7	4	5	4	15	15	8	4	6	7	6	5	8	17	15	12	7	9	9	11	10	34	9	9.7	33.7					
7-Jul	4	3	3	4	5	7	28	11	9	11	15	46	15	13	11	17	14	17	23	18	9	8	32	30	14.6	45.7					
8-Jul	30	12	7	7	9	15	14	18	19	18	20	21	14	24	19	16	17	28	30	24	14	17	29	14	18.1	30.3					
9-Jul	16	12	23	16	22	17	23	22	24	24	23	26	26	33	19	32	30	42	129	192	47	30	23	21	36.4	192.3					
10-Jul	26	16	13	58	37	25	33	34	32	27	29	24	13	23	17	23	30	30	19	37	19	111	104	9	32.9	110.7					
11-Jul	7	51	7	8	18	16	35	22	43	45	31	39	42	15	15	32	26	35	121	141	73	121	26	33	41.7	141.0					
12-Jul	10	11	8	6	12	12	23	14	26	25	26	20	18	59	17	13	18	45	63	61	73	313	114	47	43.0	312.7					
13-Jul	64	74	86	86	88	92	189	165	67	45	30	35	38	37	34	31	37	42	52	51	80	58	68	79	67.9	189.2					
14-Jul	98	110	65	65	68	71	81	72	67	69	64	43	76	73	31	30	41	30	79	50	36	66	50	61	62.3	109.5					
15-Jul	19	6	12	7	6	12	15	15	19	14	15	24	27	153	28	33	32	28	34	20	47	37	34	46	28.6	152.5					
16-Jul	47	42	38	38	35	59	61	18	26	27	31	15	23	14	13	17	15	13	13	10	9	5	7	6	24.3	60.9					
17-Jul	7	7	13	3	12	41	31	20	24	24	32	64	97	131	63	96	174	47	58	45	30	17	6	2	43.4	173.9					
18-Jul	10	13	21	16	25	15	10	14	13	18	20	15	13	12	17	14	9	N	N	N	N	N	9	5	14.1	25.0					
19-Jul	11	11	2	0	0	28	29	6	7	5	8	11	13	16	12	21	20	10	13	25	25	9	21	12	13.1	28.8					
20-Jul	12	5	9	6	16	20	24	14	16	21	20	18	13	37	20	24	19	18	16	17	17	12	13	13	16.7	37.1					
21-Jul	14	18	14	11	11	20	18	18	17	22	24	22	10	21	29	15	14	4	9	6	14	12	19	8	15.4	28.8					
22-Jul	4	1	0	7	9	14	21	42	8	39	34	21	16	29	42	18	22	37	50	29	35	53	37	9	24.1	52.5					
23-Jul	13	7	7	7	5	14	14	16	19	14	16	11	15	24	61	22	14	13	18	14	16	6	9	21	15.6	61.1					
24-Jul	25	8	8	3	6	6	10	27	25	28	34	32	40	38	29	18	37	23	40	69	71	12	18	27	26.5	70.9					
25-Jul	14	17	17	11	20	23	34	36	26	36	34	49	45	51	64	51	31	51	91	48	10	31	24	26	34.9	90.5					
26-Jul	20	12	14	16	5	19	39	25	25	22	27	31	37	36	47	44	40	33	52	29	21	22	17	13	26.9	52.0					
27-Jul	15	19	26	30	22	31	43	22	24	26	31	29	28	21	42	26	15	19	34	45	33	32	12	13	26.6	45.0					
28-Jul	21	11	11	13	10	11	27	24	21	26	32	36	41	37	47	57	34	91	90	40	58	8	9	16	32.1	91.1					
29-Jul	15	32	18	5	23	12	20	19	18	26	22	22	16	M	M	10	8	23	19	13	22	21	30	8	18.2	31.9					
30-Jul	6	6	5	5	7	19	13	7	7	8	9	9	10	11	5	13	6	9	22	11	8	59	57	20	13.9	58.7					
31-Jul	5	4	4	4	6	4	6	7	4	9	26	14	83	22	5	118	17	15	15	7	7	60	33	34	21.2	117.8					
17.5 17.3 14.8 14.8 16.5 21.1 29.4 23.6 20.1 21.3 22.4 23.0 25.9 32.4 24.8 27.2 24.5 24.6 38.0 35.0 32.9 39.0 28.0 19.8																								Diurnal Average							
97.7 109.5 86.0 86.4 88.2 92.4 189.2 164.8 67.4 69.0 63.8 63.5 96.5 152.5 64.0 117.8 173.9 91.1 128.8 192.3 161.7 312.7 113.5 79.5																								Diurnal Maximum							
M - Maintenance N - Not Valid																															

Hourly Maximums

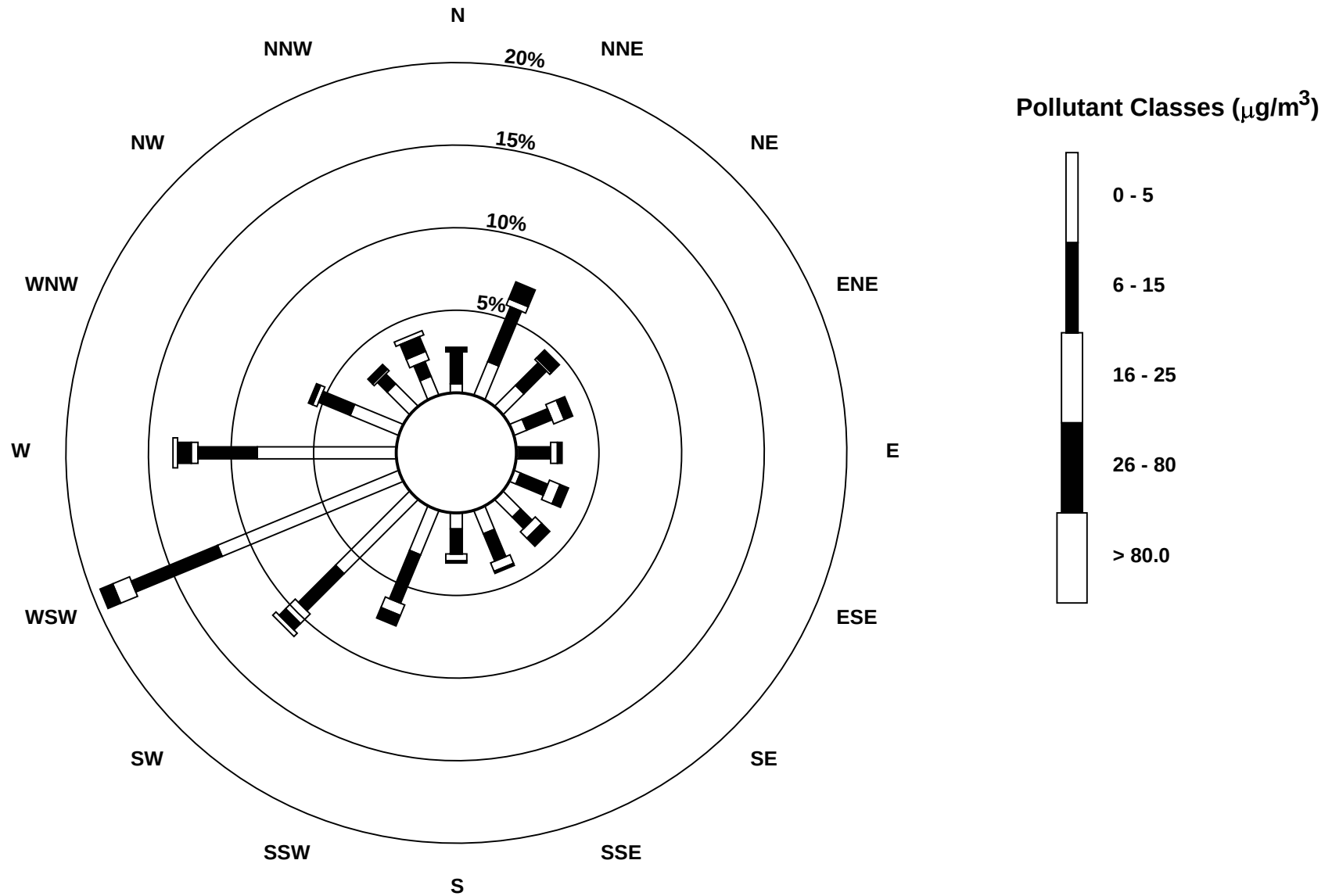
Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$

Smoky Heights - July 2012



Pollutant Rose

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



Hourly Averages

External Temperature (ET) - °C

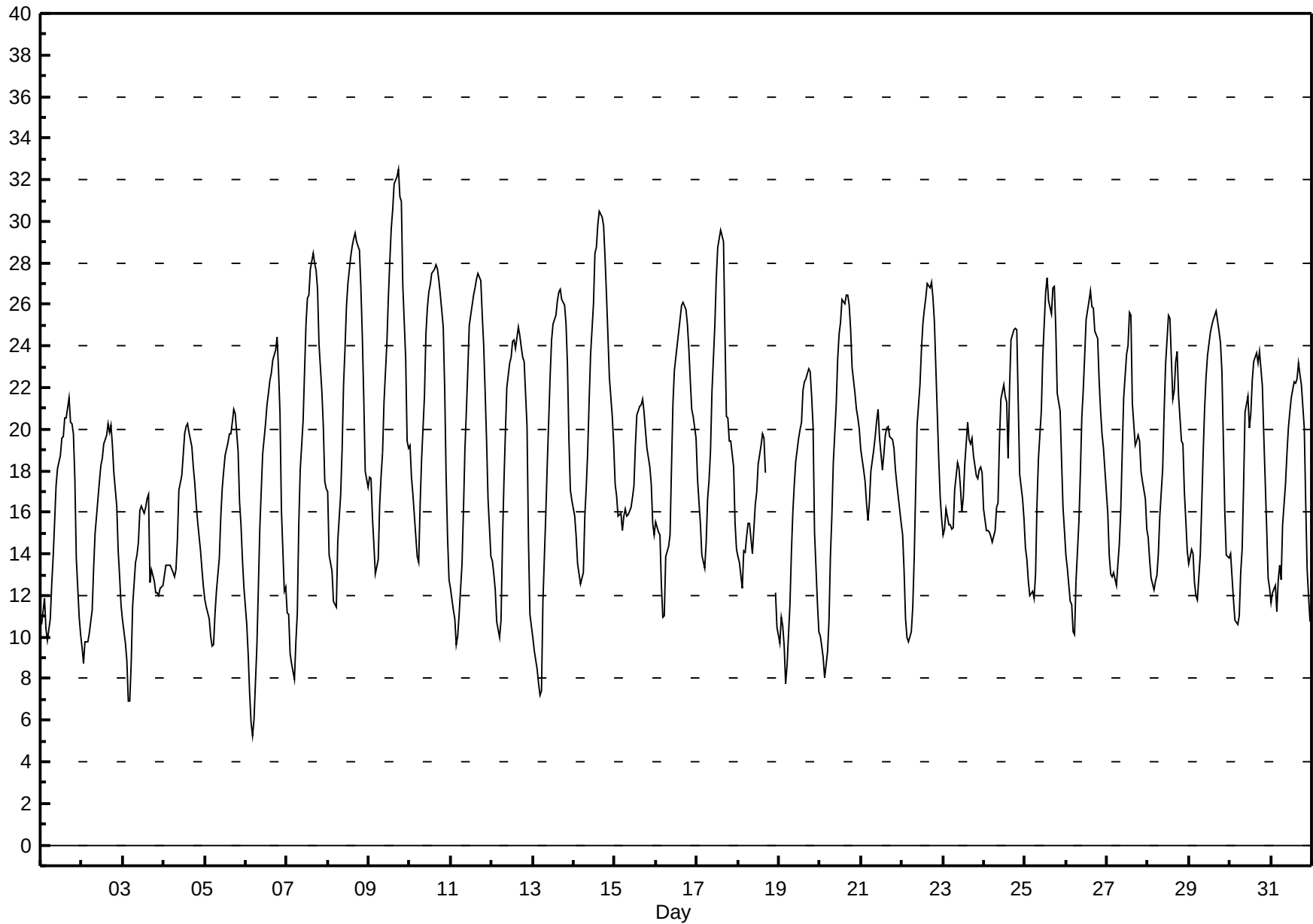
Smoky Heights - July 2012

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																				Hours in Service: 744							
Maximum Value: 32.5 °C on Jul 9 18:00																				Maximum Daily Average: 23.0 °C on Jul 9				Hours of Data: 739			
Minimum Value: 5 °C on Jul 6 05:00																				Minimum Daily Average: 12.6 °C on Jul 3				Hours of Missing Data: 5			
Maximum Diurnal Average: 24.1 °C at hour 16																				Minimum Diurnal Average: 11.3 °C at hour 5				Hours of Calibration: 0			
Monthly Average: 18.23 °C																				Percentiles: P ₁ = 7.4 P ₁₀ = 11.1 Q ₁ = 13.8 Median = 18.0 Q ₃ = 22.3 P ₉₀ = 26.0 P ₉₉ = 30.4				Percent Operational Time: 99.3			
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
1-Jul	11	11	12	10	10	11	13	14	16	17	18	19	20	20	21	21	22	20	20	20	18	14	11	10	15.7	21.5	
2-Jul	9	9	10	10	10	11	11	13	15	17	18	18	19	19	20	20	20	20	19	18	16	14	13	11	15.0	20.3	
3-Jul	11	10	9	7	7	9	12	14	14	15	16	16	16	16	17	17	13	13	13	12	12	12	12	12	12.6	16.9	
4-Jul	13	13	13	13	13	13	13	13	15	17	18	19	20	20	20	20	19	18	17	16	16	14	13	12	15.9	20.2	
5-Jul	12	11	11	10	10	10	11	12	14	16	17	18	19	19	20	20	20	21	21	19	17	15	14	12	15.3	21.0	
6-Jul	11	9	7	6	5	6	10	12	15	17	19	20	21	22	22	23	23	24	24	23	21	16	12	12	15.9	24.4	
7-Jul	11	11	9	9	8	10	11	15	18	20	23	25	26	26	28	28	28	28	27	24	22	20	17	17	19.3	28.5	
8-Jul	17	14	13	12	12	11	15	17	19	22	24	26	27	28	29	29	29	29	29	27	24	21	18	17	21.2	29.4	
9-Jul	18	18	16	14	13	14	16	18	19	21	24	26	28	30	31	32	32	32	31	31	27	23	19	19	23.0	32.5	
10-Jul	19	18	17	15	14	14	16	19	22	25	26	27	27	27	28	28	28	27	26	25	22	18	15	13	21.4	27.9	
11-Jul	12	11	11	10	10	11	14	16	19	21	23	25	26	26	27	27	28	27	26	24	22	19	17	14	19.4	27.5	
12-Jul	14	13	12	11	10	11	15	17	20	22	23	23	24	24	24	25	24	24	23	23	20	15	11	11	18.3	24.9	
13-Jul	10	9	8	8	7	7	12	16	18	20	23	24	25	26	26	27	27	26	26	25	23	20	17	17	18.6	26.7	
14-Jul	16	15	13	13	13	13	16	17	19	21	24	26	28	29	30	30	30	30	28	26	24	23	21	19	21.9	30.4	
15-Jul	17	17	16	16	15	16	16	16	16	16	17	17	19	21	21	21	21	21	20	19	18	17	15	15	17.7	21.4	
16-Jul	16	15	15	12	11	11	14	14	15	18	21	23	24	25	25	26	26	26	25	24	22	21	21	20	19.6	26.1	
17-Jul	18	17	15	14	13	15	17	18	19	22	25	27	29	29	30	29	25	21	21	19	19	18	16	14	20.3	29.5	
18-Jul	14	14	12	14	14	15	15	16	14	15	16	17	18	19	20	20	18	N	N	N	N	N	12	10	15.5	19.8	
19-Jul	10	11	11	10	8	9	12	14	16	17	18	20	20	20	22	22	22	23	23	22	20	15	12	10	16.1	22.9	
20-Jul	10	10	9	8	9	11	14	16	18	21	23	25	25	26	26	26	26	26	25	23	22	21	21	20	19.2	26.5	
21-Jul	19	18	18	16	16	17	18	19	20	20	21	20	18	19	20	20	20	20	20	19	18	17	17	15	18.5	21.0	
22-Jul	15	13	11	10	10	10	11	14	17	20	22	24	25	26	26	27	27	27	26	25	23	19	17	16	19.2	27.1	
23-Jul	15	15	16	15	15	15	15	17	18	18	17	16	17	18	20	20	19	20	19	18	18	18	18	18	17.4	20.3	
24-Jul	16	15	15	15	15	15	15	16	16	19	21	22	22	21	19	22	24	25	25	25	21	18	17	16	19.0	24.9	
25-Jul	14	14	13	12	12	12	13	16	19	21	24	25	27	27	26	26	27	27	25	22	21	19	16	15	19.6	27.3	
26-Jul	14	13	12	12	10	10	13	16	18	21	22	24	25	26	27	26	26	25	24	22	21	20	19	18	19.2	26.6	
27-Jul	16	14	13	13	13	12	14	15	16	19	22	24	24	26	26	21	19	19	20	19	18	17	17	15	18.0	25.6	
28-Jul	15	14	13	12	13	13	14	16	18	21	23	24	26	25	21	22	23	24	22	19	19	17	16	14	18.5	25.5	
29-Jul	13	14	14	13	12	12	14	16	19	21	22	24	25	25	25	25	26	25	24	23	19	16	14	14	19.0	25.7	
30-Jul	14	13	12	11	11	11	13	14	17	21	22	20	21	22	23	24	23	24	23	22	20	15	13	12	17.5	23.7	
31-Jul	12	12	12	11	13	13	13	15	17	19	20	21	22	22	22	22	23	23	22	20	16	13	12	11	17.0	23.2	
13.9 13.2 12.5 11.7 11.3 11.8 13.7 15.5 17.3 19.4 21.0 22.1 22.9 23.6 23.9 24.1 23.9 23.8 23.1 21.8 20.0 17.5 15.5 14.6																									Diurnal Average		
19.2 18.1 17.5 16.4 15.6 16.5 17.9 19.0 21.6 24.6 25.8 27.3 28.7 29.6 30.5 31.8 32.2 32.5 31.2 31.0 27.0 23.4 20.6 20.0																									Diurnal Maximum		
N - Not Valid																											

Hourly Averages

External Temperature (ET) - °C

Smoky Heights - July 2012



Hourly Averages

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

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1 Spd	7	7	10	12	12	3	6	12	11	7	15	16	17	13	17	16	15	16	17	18	12	10	7	12	11.8	17.6
Dir	251	238	249	265	261	212	222	250	261	217	252	257	249	252	257	265	257	256	261	267	259	258	265	271	255.6	267.0
2 Spd	13	9	7	6	8	8	7	9	11	14	15	11	9	3	6	7	7	7	7	5	7	9	5	2	6.5	14.9
Dir	274	253	196	241	219	237	248	243	234	250	254	251	231	185	185	173	166	142	158	205	208	200	241	284	226.6	254.5
3 Spd	5	4	5	3	1	2	5	6	6	5	7	5	6	11	12	12	8	8	21	8	18	24	16	11	5.5	24.4
Dir	231	244	247	288	19	31	23	38	53	40	4	63	194	287	278	290	268	215	284	250	264	256	261	209	270.8	256.2
4 Spd	17	34	35	37	35	29	20	18	20	17	20	19	21	24	31	31	33	34	30	21	24	21	23	20	24.0	37.0
Dir	277	300	303	302	304	297	273	259	260	269	271	281	279	265	259	256	246	251	251	252	251	250	254	262	271.1	301.7
5 Spd	16	17	16	10	11	14	18	19	16	16	13	11	12	11	11	9	9	10	12	12	19	13	12	11	12.7	18.6
Dir	247	250	233	226	223	234	246	245	240	234	233	219	229	241	251	241	226	227	223	208	199	200	240	239	231.9	199.1
6 Spd	6	7	4	6	7	8	8	10	12	14	14	15	12	10	10	10	7	5	3	6	6	3	1	6	6.2	14.8
Dir	217	161	221	200	219	216	211	202	208	214	224	235	217	238	252	250	260	273	29	78	121	70	138	252	220.1	235.2
7 Spd	8	6	5	8	5	6	3	3	5	7	8	12	12	12	8	7	8	6	7	6	5	5	4	11	1.7	12.2
Dir	247	272	302	268	294	255	22	52	69	70	45	86	99	143	133	107	131	129	58	30	26	6	325	292	72.5	143.5
8 Spd	6	4	1	2	3	2	3	5	7	4	5	4	3	3	5	5	6	7	7	8	7	6	5	6	2.1	8.3
Dir	327	355	330	235	224	220	171	180	161	149	114	84	103	88	107	121	100	79	59	52	35	16	353	347	75.8	52.4
9 Spd	7	5	5	3	5	3	2	6	7	6	5	6	6	8	7	7	5	2	5	3	5	5	3	2	1.8	8.1
Dir	0	12	21	351	254	10	65	129	150	146	106	118	123	98	129	129	153	216	273	39	28	348	347	237	93.6	98.4
10 Spd	4	5	7	2	7	4	8	8	12	24	29	32	33	29	31	32	32	28	27	18	12	11	10	9	16.4	32.7
Dir	317	320	297	192	228	208	208	197	221	254	262	260	255	247	244	246	256	263	267	260	256	259	242	258	252.9	254.7
11 Spd	9	15	17	15	16	14	9	9	12	14	15	20	19	27	22	15	12	14	9	4	1	3	6	12	11.7	27.0
Dir	253	264	265	262	267	249	198	198	210	225	225	250	233	260	260	268	282	279	275	304	308	278	287	273	254.1	260.0
12 Spd	15	14	15	15	14	15	10	11	18	21	23	22	23	17	16	18	19	18	12	5	3	4	3	4	11.4	23.2
Dir	259	271	264	263	261	263	256	216	234	252	264	260	256	287	316	319	315	325	0	18	336	269	332	31	277.2	255.6
13 Spd	4	4	5	4	4	4	4	2	5	10	13	17	18	16	13	12	12	14	10	7	5	5	4	4	5.6	17.8
Dir	348	334	347	328	339	226	268	217	125	134	133	122	121	134	124	128	123	138	130	116	91	56	40	188	123.4	120.7
14 Spd	5	5	7	8	9	8	8	9	11	8	8	4	4	7	4	5	6	8	12	11	10	9	7	8	1.8	11.8
Dir	241	253	241	220	230	258	200	221	222	195	198	186	152	91	143	104	96	53	40	54	51	59	114	62	154.2	39.6
15 Spd	9	10	8	8	6	4	10	7	5	9	7	12	14	15	14	13	9	11	12	10	6	4	1	5	8.0	15.4
Dir	36	39	41	37	342	300	29	1	5	339	346	22	19	16	24	41	42	2	27	4	336	319	57	17	16.2	16.4
16 Spd	8	3	3	2	2	3	4	9	9	9	14	17	18	17	17	16	17	23	21	17	12	13	12	13	9.8	22.7
Dir	331	20	58	323	334	82	166	168	186	175	170	172	156	163	154	155	153	135	139	142	145	147	162	165	154.0	134.7
17 Spd	7	6	8	9	9	8	7	7	5	7	6	5	16	14	9	5	7	3	4	6	3	7	4	7	4.8	16.0
Dir	185	210	205	223	226	201	208	177	153	199	212	172	239	273	244	294	16	252	283	230	130	40	209	224	222.1	239.1
18 Spd	5	1	3	8	7	5	14	7	6	7	16	21	12	13	16	29	25	N	N	N	N	N	8	7	7.4	29.5
Dir	201	39	31	349	21	16	347	323	18	214	225	234	279	255	293	298	303	N	N	N	N	N	237	270	287.5	297.8
19 Spd	9	7	7	9	8	9	8	8	10	12	12	10	9	2	7	7	7	9	7	6	5	2	3	1	4.9	12.2
Dir	265	264	261	261	256	248	258	256	272	302	304	305	307	5	337	313	312	13	27	76	110	54	355	312	294.9	301.9
20 Spd	3	4	4	3	7	8	8	8	8	9	14	16	18	17	17	17	19	18	15	8	8	10	9	8	9.4	19.0
Dir	290	308	321	339	21	24	20	26	47	50	60	92	90	70	57	52	58	65	71	59	52	58	58	52	55.6	57.8
21 Spd	7	6	6	5	3	8	2	5	8	8	10	15	20	19	20	21	21	18	12	10	7	3	6	4	7.6	20.8
Dir	42	27	21	343	341	358	35	225	238	292	290	283	252	255	253	258	262	265	263	246	240	333	195	234	268.6	261.9
22 Spd	4	1	3	5	5	7	7	8	10	10	10	9	10	9	6	4	4	0	6	6	4	7	6	7	3.0	9.7
Dir	240	242	257	239	275	232	198	179	171	198	207	221	242	213	229	227	272	126	128	99	55	32	31	27	210.7	170.8

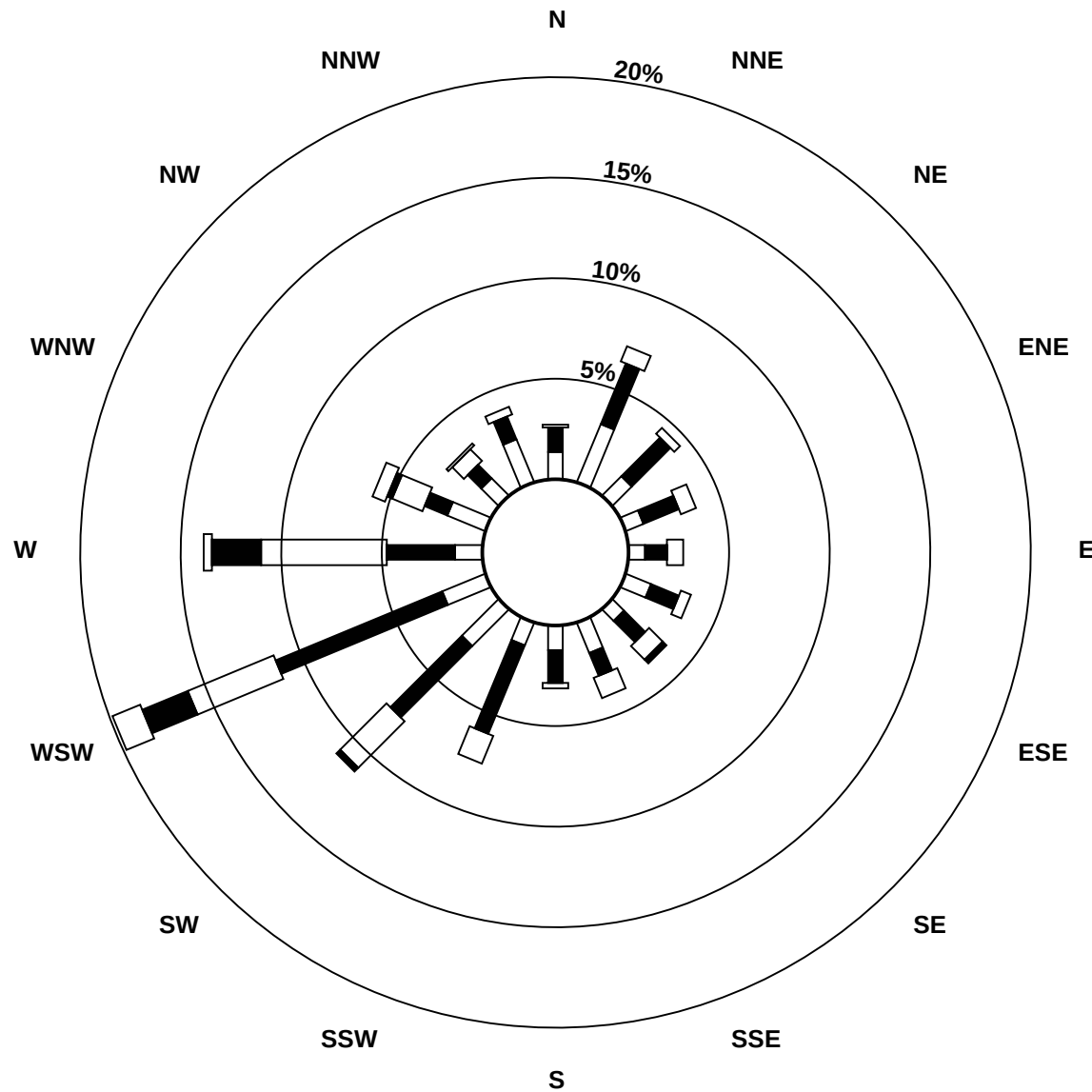
Hourly Averages

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

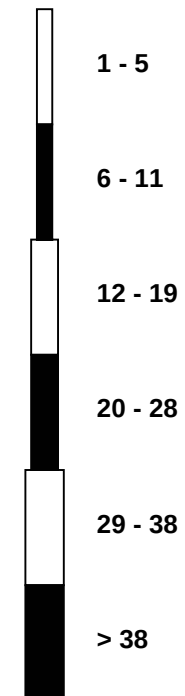
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24									
23 Spd	5	6	5	5	9	9	9	10	13	11	2	7	9	9	3	5	9	14	14	12	14	17	18	15	5.4	18.0							
Dir	11	24	36	24	20	21	17	20	20	24	112	242	253	260	2	151	218	246	263	300	307	326	330	342	329.4	329.8							
24 Spd	8	8	14	14	3	10	13	4	5	8	8	8	7	14	15	7	9	8	4	3	8	8	11	7	6.5	14.6							
Dir	124	254	279	273	260	254	276	328	18	326	350	13	351	303	291	322	301	299	304	240	252	269	271	279	292.1	291.2							
25 Spd	6	5	4	6	2	3	3	3	5	5	4	5	1	5	6	5	2	2	3	7	7	5	5	3	1.2	7.1							
Dir	254	255	249	271	185	171	219	224	164	172	167	230	285	15	340	327	91	96	5	52	102	216	228	296	230.7	101.6							
26 Spd	5	5	3	5	2	3	2	4	3	3	9	8	6	4	6	8	13	14	11	6	7	9	9	7	4.5	14.1							
Dir	27	13	24	13	239	283	234	150	112	142	169	148	110	69	91	89	90	97	76	68	66	75	107	116	92.4	97.3							
27 Spd	2	2	5	4	4	4	6	8	6	6	6	6	11	10	21	21	13	8	6	6	4	4	7	11	5.8	20.9							
Dir	123	311	288	141	159	243	150	160	192	219	213	252	238	239	222	261	294	261	249	254	203	215	240	275	236.7	261.2							
28 Spd	12	9	4	7	6	6	4	6	6	4	2	2	5	9	15	13	11	4	7	6	9	12	4	4	5.7	14.6							
Dir	278	265	233	190	239	187	203	230	181	160	162	297	206	255	255	282	283	271	212	232	258	270	285	262	247.9	255.4							
29 Spd	8	10	10	10	11	10	11	11	12	14	19	18	16	17	12	13	12	9	8	15	11	10	10	11	11.5	19.1							
Dir	251	252	238	264	249	262	251	210	217	219	231	246	249	261	239	209	223	230	238	245	251	247	241	267	240.9	231.3							
30 Spd	7	6	7	6	8	7	8	8	9	11	17	15	12	13	14	17	15	14	12	12	11	10	12	12	10.2	17.1							
Dir	212	238	228	236	207	210	210	231	205	216	241	236	202	209	224	226	198	226	211	193	239	255	266	267	224.5	226.0							
31 Spd	11	11	14	13	13	19	17	22	25	27	31	30	27	25	23	21	22	20	21	17	12	12	13	12	18.9	31.1							
Dir	264	251	259	252	249	251	256	247	243	246	258	258	260	254	260	267	264	259	256	256	262	258	272	263	256.2	257.5							
Spd	4.5	5.0	5.2	5.5	5.2	5.1	4.1	4.8	5.2	6.0	7.1	6.9	7.1	6.9	7.2	6.5	5.4	4.4	3.6	2.4	2.9	3.3	4.0	4.5	Diurnal Average								
Dir	267.5	277.6	273.2	270.4	264.9	257.6	249.4	227.0	221.8	234.4	241.4	241.7	237.4	249.7	252.1	259.2	257.5	249.7	260.7	247.8	248.8	269.7	262.5	269.7	Diurnal Maximum								
Spd	17.1	34.0	35.1	37.0	34.8	28.8	20.2	21.7	25.1	27.1	31.1	32.1	32.7	28.7	30.9	32.2	32.8	33.7	29.7	21.4	24.1	24.4	22.5	19.9	Diurnal Maximum								
Dir	277.5	300.2	302.6	301.7	303.8	297.3	272.9	247.4	243.2	245.8	257.5	259.6	254.7	247.0	244.1	246.1	246.1	250.9	250.8	252.3	251.0	256.2	254.1	261.7									
Maximum Speed Value: 37 km/h on Jul 4 04:00																				Minimum Speed Value: 0 km/h on Jul 22 18:00										Hours in Service: 744			
Maximum Daily Speed Average: 24.0 km/h on Jul 4																				Minimum Daily Speed Average: 1.2 km/h on Jul 25										Hours of Data: 739			
Maximum Diurnal Speed Average: 7.2 km/h at hour 15																				Minimum Diurnal Speed Average: 2.4 km/h at hour 20										Hours of Missing Data: 5			
Monthly Average Velocity: 4.96 km/h 252.89 deg										Speed Percentiles: P ₁ = 1.3 P ₁₀ = 3.5 Q ₁ = 5.4 Median = 8.3 Q ₃ = 12.7 P ₉₀ = 18.2 P ₉₉ = 32.6										Percent Operational Time: 99.3													
All monthly, daily, and diurnal averages have been calculated using vector methods																																	
N - Not Valid																																	
Frequency Distribution																																	
Speed Range (km/h)																																	
Direction	0 to 5		5 to 11		11 to 19		19 to 28		28 to 38		> 38		Total																				
North	23		35		7		0		0		0		65																				
NorthEast	19		43		10		0		0		0		72																				
East	13		21		8		0		0		0		42																				
SouthEast	12		25		16		2		0		0		55																				
South	13		39		10		0		0		0		62																				
SouthWest	34		85		41		6		4		0		170																				
West	19		66		81		36		10		0		212																				
NorthWest	25		16		12		2		6		0		61																				
Total	158		330		185		46		20		0		739																				

Wind Rose

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



Wind Speed Classes (km/h)



Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Smoky Heights - July 2012

Maximum Speed: 37 km/h on Jul 4 04:00																								Maximum Daily Speed Average: 25.9 km/h on Jul 4						Hours in Service: 744	
Minimum Speed: 2 km/h on Jul 22 02:00																								Minimum Daily Speed Average: 5.5 km/h on Jul 25						Hours of Data: 739	
Maximum Diurnal Speed Average: 14.4 km/h at hour 15																								Minimum Diurnal Speed Average: 8.2 km/h at hour 2						Hours of Missing Data: 5	
Monthly Average Speed: 10.72 km/h																								Percentiles: P ₁ = 2.8 P ₁₀ = 4.6 Q ₁ = 6.3 Median = 8.9 Q ₃ = 13.7 P ₉₀ = 18.6 P ₉₉ = 33.0						Percent Operational Time: 99.3	
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-Jul	9	8	10	12	12	5	6	12	11	8	15	17	18	15	18	16	16	16	18	18	12	10	7	12	12.6	18.3					
2-Jul	13	10	7	6	8	8	7	9	11	15	16	12	10	7	9	9	8	8	8	5	7	9	8	5	8.9	15.5					
3-Jul	6	4	6	4	4	3	6	6	6	5	8	6	7	11	12	19	14	14	21	13	18	25	16	11	10.2	24.5					
4-Jul	20	34	35	37	35	29	21	18	20	17	20	20	22	24	31	32	33	34	30	22	24	22	23	20	25.9	37.1					
5-Jul	16	17	16	11	11	14	18	19	17	16	14	12	13	12	12	10	9	11	12	12	19	13	12	11	13.6	19.3					
6-Jul	7	7	6	7	7	8	9	11	12	14	14	15	14	11	11	11	9	6	5	7	6	3	3	6	8.7	15.5					
7-Jul	8	6	5	8	5	7	3	3	5	7	8	12	13	13	9	8	9	6	8	7	5	6	6	11	7.4	12.7					
8-Jul	6	5	2	5	4	3	3	5	7	5	6	6	5	5	6	7	7	8	8	8	7	6	5	6	5.6	8.4					
9-Jul	7	5	5	5	5	4	3	6	8	6	6	7	7	9	8	8	6	4	5	4	6	5	4	3	5.6	8.6					
10-Jul	4	6	7	5	7	6	9	8	13	24	29	32	33	29	31	33	33	28	27	18	12	11	10	9	17.7	33.1					
11-Jul	9	15	17	15	16	14	9	10	13	14	15	20	20	27	22	16	12	15	10	4	4	5	6	12	13.4	27.5					
12-Jul	15	14	15	15	15	15	10	11	18	21	23	23	24	19	16	18	20	19	12	6	3	5	4	4	14.4	23.7					
13-Jul	4	5	5	4	4	6	4	3	6	10	13	18	19	17	14	13	13	14	10	7	5	5	5	5	8.7	18.5					
14-Jul	5	5	7	8	9	9	8	10	11	9	9	5	5	8	7	6	8	9	12	11	10	10	8	9	8.3	12.1					
15-Jul	9	10	8	8	6	8	10	7	6	10	7	12	14	16	15	13	10	11	12	10	6	6	4	6	9.4	15.9					
16-Jul	8	3	4	2	3	3	4	9	9	9	14	18	18	17	16	17	23	21	17	12	13	12	13	11.9	23.1						
17-Jul	7	6	8	9	9	8	8	7	5	8	9	9	17	15	10	8	9	9	9	9	7	5	7	7	8.6	16.8					
18-Jul	5	3	4	9	7	6	16	11	13	10	17	22	15	14	18	30	25	N	N	N	N	N	9	7	12.7	29.8					
19-Jul	9	7	7	9	8	10	8	9	11	13	13	11	10	5	9	9	9	10	8	6	5	3	3	2	8.1	12.8					
20-Jul	3	4	4	3	7	8	8	8	8	9	14	17	19	18	17	17	19	18	15	9	8	10	9	8	10.9	19.3					
21-Jul	7	6	6	5	6	8	4	6	8	9	10	17	20	19	21	21	21	18	12	10	8	5	6	5	10.7	21.0					
22-Jul	4	2	4	5	6	7	7	8	10	10	10	10	11	10	9	7	7	6	7	7	4	7	6	7	7.1	10.6					
23-Jul	5	7	6	5	9	9	10	11	13	12	8	8	9	9	7	6	10	14	14	12	14	17	18	17	10.3	18.1					
24-Jul	13	11	15	14	7	11	13	6	8	8	10	8	9	14	15	8	10	9	5	3	8	8	11	9	9.7	15.1					
25-Jul	6	6	4	6	5	5	4	4	6	6	6	7	4	7	7	6	4	3	5	8	7	6	6	4	5.5	8.3					
26-Jul	6	5	4	5	4	3	3	4	4	5	9	9	7	7	8	9	14	14	11	6	7	9	9	7	7.0	14.3					
27-Jul	3	4	6	4	5	4	7	9	6	7	7	7	12	12	21	23	13	8	7	6	6	4	7	12	8.3	22.7					
28-Jul	12	10	8	7	6	8	5	7	6	5	6	6	7	10	15	13	11	5	8	8	10	12	7	6	8.2	14.8					
29-Jul	8	10	10	10	11	10	11	11	12	15	19	18	17	17	14	13	13	9	9	15	11	10	11	11	12.3	19.5					
30-Jul	9	6	7	6	8	7	8	9	9	12	17	15	12	14	14	17	15	15	14	13	11	10	12	12	11.5	17.5					
31-Jul	12	11	14	13	13	19	17	22	25	27	32	30	28	25	23	21	22	21	21	17	12	12	13	12	19.3	31.7					
8.2 8.2 8.5 8.5 8.5 8.6 8.4 8.9 10.3 11.2 13.0 13.9 14.1 14.1 14.4 14.3 13.8 12.8 12.1 9.9 9.3 9.1 8.6 8.7																								Diurnal Average							
19.8 34.2 35.4 37.1 34.9 28.9 20.7 22.0 25.2 27.3 31.7 32.4 33.1 29.2 31.4 33.0 32.9 33.8 29.8 21.5 24.2 24.5 22.6 20.0																								Diurnal Maximum							
N - Not Valid																															
All monthly, daily, and diurnal averages have been calculated using scalar methods																															

Hourly Standard Deviations

Wind Direction (WD) - deg

Smoky Heights - July 2012

Maximum Value: 96.2 deg on Jul 17 18:00																			Hours in Service: 744								
Minimum Value: 1.9 deg on Jul 11 02:00																			Hours of Data: 739								
																			Hours of Missing Data: 5								
																			Hours of Calibration: 0								
Percentiles: P ₁ = 3.6 P ₁₀ = 6.7 Q ₁ = 10.6 Median = 17.4 Q ₃ = 30.3 P ₉₀ = 52.7 P ₉₉ = 85.2																			Percent Operational Time: 99.3								
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-Jul	43	22	11	5	6	62	18	9	14	31	16	20	25	23	18	12	15	10	10	5	5	7	11	8	62.0		
2-Jul	5	26	16	13	7	11	9	8	14	13	17	18	31	77	62	43	37	29	28	13	21	14	52	70	77.0		
3-Jul	34	20	32	58	77	39	22	13	25	14	22	30	35	18	10	60	81	64	16	71	16	5	10	20	80.7		
4-Jul	33	7	7	6	5	6	13	6	6	9	8	11	11	11	6	6	5	5	4	6	5	4	5	5	33.3		
5-Jul	7	3	9	8	4	4	5	6	9	12	18	26	22	24	38	24	26	27	19	14	16	9	12	9	37.9		
6-Jul	31	7	36	29	7	6	14	9	12	12	12	17	28	26	25	31	37	45	63	14	13	15	69	19	69.1		
7-Jul	7	8	16	14	27	17	57	35	20	21	19	16	18	17	27	37	20	25	25	12	15	20	48	16	57.0		
8-Jul	27	42	68	80	47	47	31	19	15	48	23	54	72	66	51	52	30	18	19	8	11	6	17	12	80.2		
9-Jul	10	18	19	46	19	47	33	25	15	24	26	26	31	21	24	22	40	67	14	43	28	11	55	47	67.1		
10-Jul	46	38	14	69	23	45	16	13	15	7	7	8	9	10	9	12	9	10	6	6	3	4	10	8	69.1		
11-Jul	14	2	4	2	4	13	17	11	19	11	17	16	15	11	12	22	18	23	16	32	92	70	29	7	92.3		
12-Jul	5	3	4	3	7	4	8	15	7	11	11	12	12	25	15	15	12	15	16	35	44	28	44	13	44.1		
13-Jul	22	12	15	16	22	41	29	40	28	15	14	16	16	17	21	20	20	12	12	12	9	24	50	18	50.1		
14-Jul	16	10	10	8	16	18	16	23	14	20	30	52	53	36	63	46	35	19	13	13	7	19	26	21	63.5		
15-Jul	10	8	11	17	20	59	13	20	29	11	20	15	12	14	14	13	20	15	12	17	8	51	86	33	86.4		
16-Jul	7	26	44	64	60	38	52	11	17	18	18	16	15	17	18	14	15	10	7	7	5	4	8	6	63.8		
17-Jul	16	25	12	6	5	8	11	15	31	30	54	64	18	21	31	60	35	96	79	61	84	21	43	18	96.2		
18-Jul	22	80	24	19	23	29	27	54	74	70	11	8	39	27	30	8	10	N	N	N	N	N	32	20	79.5		
19-Jul	8	6	11	8	7	12	10	11	25	18	22	32	32	65	46	47	39	25	25	15	8	33	25	86	85.8		
20-Jul	22	14	17	26	5	8	11	8	16	10	11	18	14	20	11	11	10	9	8	14	16	9	11	10	25.7		
21-Jul	10	11	8	25	54	19	76	27	12	21	18	24	8	6	11	7	9	5	7	8	17	57	23	37	76.4		
22-Jul	13	63	53	21	21	25	9	13	12	18	22	32	33	42	55	68	62	92	29	13	32	14	21	12	92.2		
23-Jul	18	15	28	21	14	16	14	9	10	11	80	27	17	13	66	16	29	8	13	11	7	8	8	31	79.7		
24-Jul	65	48	18	7	78	37	11	78	45	29	32	23	39	20	10	24	23	23	25	21	13	7	6	52	78.3		
25-Jul	30	19	38	16	67	45	21	30	19	26	52	63	91	56	31	36	83	56	52	42	20	43	21	58	91.4		
26-Jul	15	20	31	23	61	37	32	35	40	59	19	28	39	68	37	30	21	9	13	5	8	13	15	14	68.0		
27-Jul	64	69	31	33	29	37	38	18	20	30	44	47	26	32	13	23	17	15	19	15	53	19	20	10	68.7		
28-Jul	7	11	62	19	32	39	39	18	33	58	85	94	58	32	9	6	10	49	52	35	17	10	84	49	93.8		
29-Jul	13	7	15	9	6	5	15	9	10	13	12	15	15	15	27	21	26	21	12	6	6	7	20	8	26.5		
30-Jul	30	23	25	14	19	9	10	12	21	25	13	10	17	28	16	13	10	20	30	9	14	7	4	4	30.3		
31-Jul	7	8	7	7	5	6	7	15	6	7	11	11	15	11	12	11	13	13	9	4	4	9	3	6	15.2		
		64.8	79.5	68.1	80.2	78.3	62.0	76.4	77.5	74.2	70.3	85.4	93.8	91.4	77.0	66.1	68.3	82.7	96.2	78.9	70.7	92.3	70.0	86.4	85.8		
N - Not Valid																											

PAZA
Beaverlodge Station
Monthly Summary Tables, Graphs and
Roses

Hourly Averages

Sulphur Dioxide (SO₂) - ppb

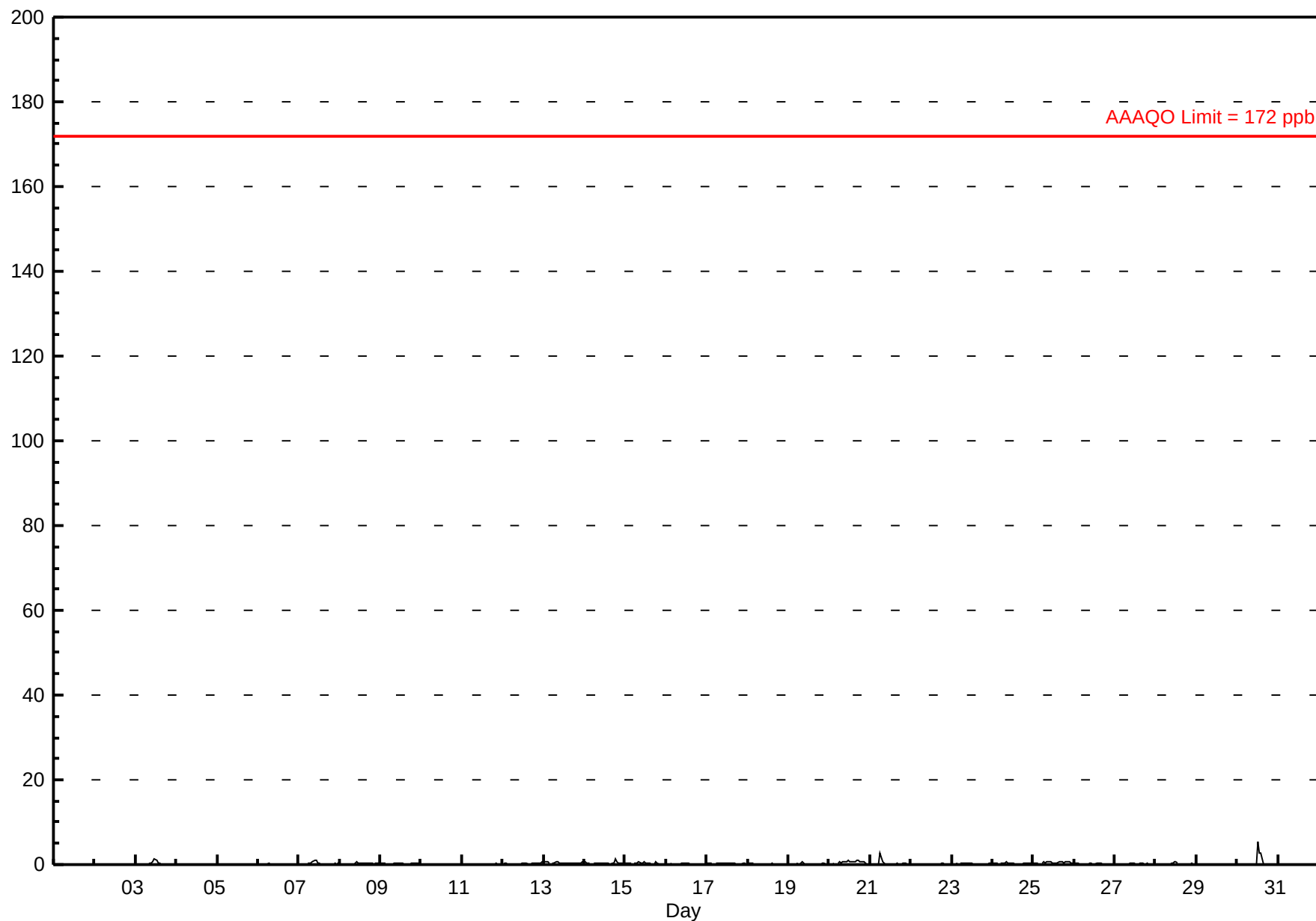
Beaverlodge - July 2012

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																				Hours in Service: 744						
Maximum Value: 5.3 ppb on Jul 30 13:00 Maximum Daily Average: 0.5 ppb on Jul 20																				Hours of Data: 707						
Minimum Value: 0 ppb on Jul 27 04:00 Minimum Daily Average: 0.0 ppb on Jul 4																				Hours of Missing Data: 37						
Maximum Diurnal Average: 0.4 ppb at hour 13 Minimum Diurnal Average: 0.1 ppb at hour 4																				Hours of Calibration: 34						
Monthly Average: 0.20 ppb Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 0.1 Q ₃ = 0.3 P ₉₀ = 0.5 P ₉₉ = 0.9																				Percent Operational Time: 99.6						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jul	0	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-Jul	0	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
3-Jul	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	1.4
4-Jul	0	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-Jul	0	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
6-Jul	0	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
7-Jul	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
8-Jul	0	0	0	0	A	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.6
9-Jul	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4
10-Jul	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
11-Jul	0	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
12-Jul	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	0.7
13-Jul	1	1	1	0	A	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.4	0.6
14-Jul	1	1	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0.4	1.2
15-Jul	0	0	0	0	A	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0.3	0.8
16-Jul	0	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
17-Jul	0	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
18-Jul	0	0	0	0	A	0	P	P	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
19-Jul	0	0	0	0	A	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.6
20-Jul	0	0	0	0	A	0	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0.5	0.9
21-Jul	0	0	0	0	A	0	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	2.8
22-Jul	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
23-Jul	0	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-Jul	0	0	0	0	A	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.6
25-Jul	0	0	0	0	A	0	1	0	1	1	1	0	0	0	0	1	1	1	0	1	1	1	0	0	0.5	0.7
26-Jul	0	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
27-Jul	0	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
28-Jul	0	0	0	0	A	0	0	0	0	0	0	1	1	0	C	C	C	0	0	0	0	0	0	0	0.2	0.7
29-Jul	0	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
30-Jul	0	0	0	0	A	0	0	0	0	0	0	0	5	3	3	0	0	0	0	0	0	0	0	0	0.5	5.3
31-Jul	0	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
																								Diurnal Average		
																								Diurnal Maximum		
C - Calibration P - Power Failure A - Automated Daily Zero Span																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb 30-day 11 ppb																										

Hourly Averages

Sulphur Dioxide (SO₂) - ppb

Beaverlodge - July 2012



Hourly Maximums

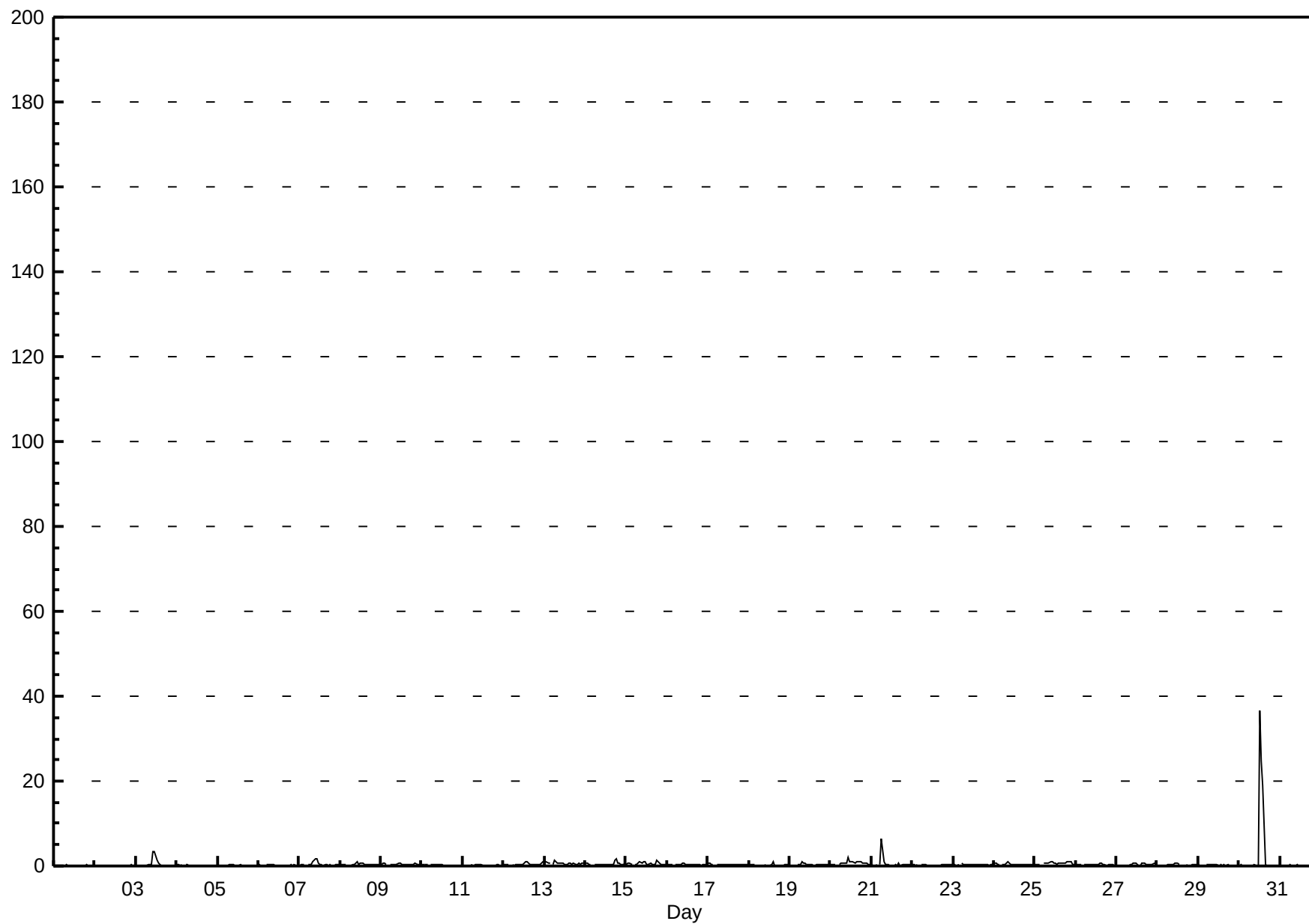
Sulphur Dioxide (SO₂) - ppb

Beaverlodge - July 2012

Maximum Value: 36.6 ppb on Jul 30 13:00																				Maximum Daily Average: 3.6 ppb on Jul 30										Hours in Service: 744	
Minimum Value: 0 ppb on Jul 27 04:00																				Minimum Daily Average: 0.1 ppb on Jul 4										Hours of Data: 707	
Maximum Diurnal Average: 1.5 ppb at hour 13																				Minimum Diurnal Average: 0.2 ppb at hour 4										Hours of Missing Data: 37	
Monthly Average: 0.44 ppb																				Percentiles: P ₁ = 0.1 P ₁₀ = 0.1 Q ₁ = 0.1 Median = 0.2 Q ₃ = 0.4 P ₉₀ = 0.7 P ₉₉ = 1.5										Hours of Calibration: 34	
																				Percent Operational Time: 99.6											
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24							
1-Jul	0	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-Jul	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2					
3-Jul	0	0	0	0	A	0	0	0	0	0	3	3	1	1	0	0	0	0	0	0	0	0	0	0	0.5	3.3					
4-Jul	0	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-Jul	0	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					
6-Jul	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3					
7-Jul	0	0	0	0	A	0	0	0	1	2	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0.4	1.6					
8-Jul	0	0	0	0	A	0	0	0	0	1	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0.4	1.0					
9-Jul	0	1	1	0	A	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0.4	0.7					
10-Jul	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3					
11-Jul	0	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					
12-Jul	0	1	0	0	A	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	1	1	0.4	1.1					
13-Jul	1	1	1	1	A	0	1	1	1	1	1	1	0	0	1	1	0	1	0	0	1	0	1	1	0.7	1.4					
14-Jul	1	1	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	1	2	1	1	0	0	1	0.5	1.7					
15-Jul	0	1	1	1	A	0	0	1	1	1	1	1	0	1	1	0	0	0	1	1	0	0	0	0	0.6	1.4					
16-Jul	0	0	0	0	A	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.7					
17-Jul	1	1	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.6					
18-Jul	0	0	0	0	A	0	P	P	P	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0.3	1.0					
19-Jul	0	0	0	0	A	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.1					
20-Jul	0	0	0	0	A	0	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	0	0	0.7	2.1					
21-Jul	0	0	0	0	A	0	7	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0.5	6.6					
22-Jul	0	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					
23-Jul	0	0	0	0	A	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.8					
24-Jul	1	1	0	0	A	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.9					
25-Jul	0	0	0	0	A	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	0	0	0.7	1.1					
26-Jul	0	0	0	0	A	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0.3	0.7					
27-Jul	0	0	0	0	A	0	0	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0	1	0	0.3	0.8					
28-Jul	0	0	0	0	A	0	0	0	0	0	1	1	1	1	C	C	C	0	0	0	0	0	0	0	0.3	0.8					
29-Jul	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3					
30-Jul	0	0	0	0	A	0	0	0	0	0	0	0	37	25	19	0	0	0	0	0	0	0	0	0	3.6	36.6					
31-Jul	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2					
0.3 0.3 0.3 0.2 -- 0.3 0.5 0.4 0.4 0.4 0.6 0.5 1.5 1.1 0.9 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3																									Diurnal Average						
1.2 0.9 0.7 0.6 -- 0.8 6.6 1.1 1.0 1.6 3.3 3.3 36.6 24.9 19.0 0.9 1.0 1.4 1.7 1.1 1.1 0.9 0.8 1.1																									Diurnal Maximum						
C - Calibration					P - Power Failure					A - Automated Daily Zero Span																					

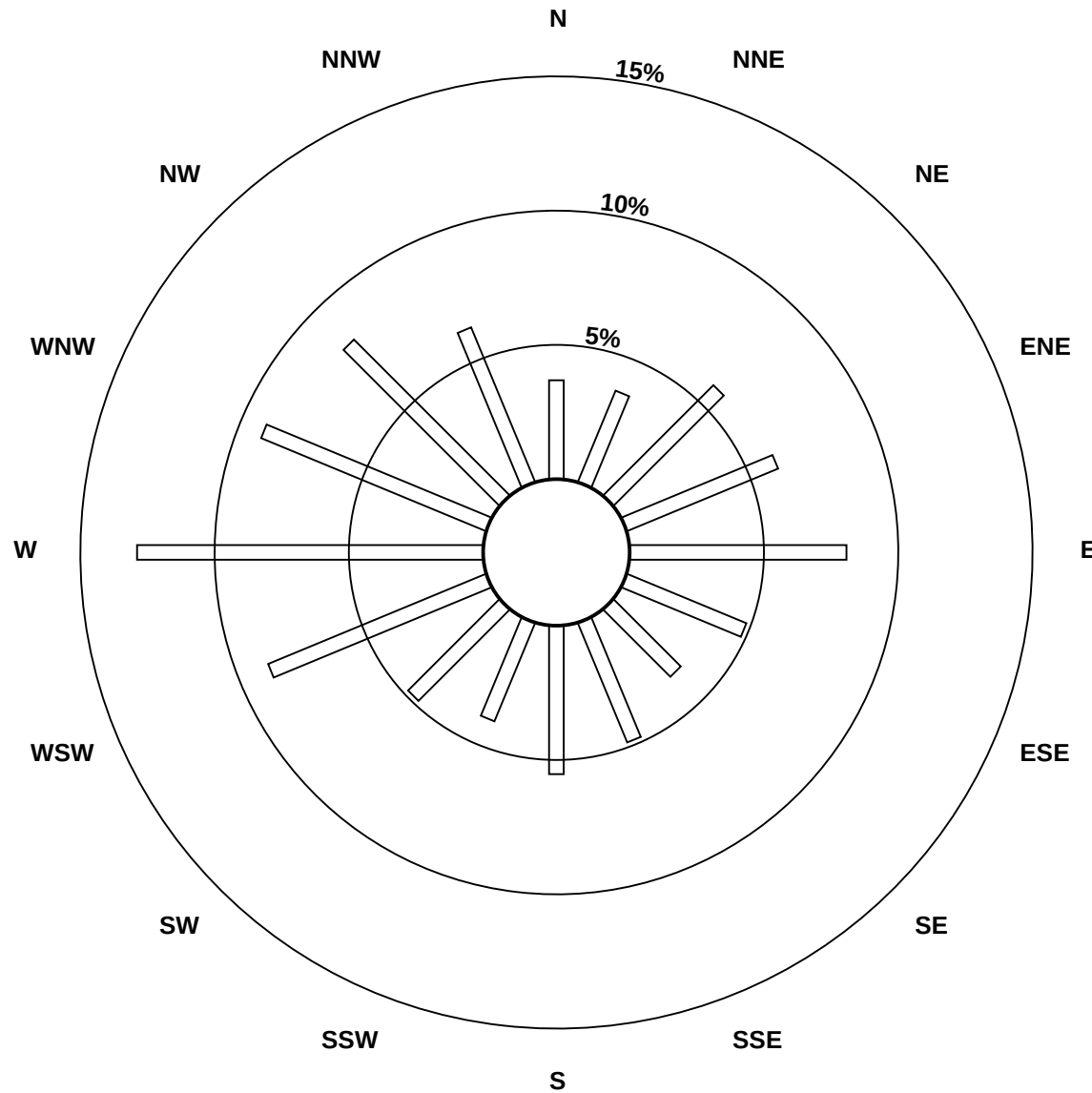
Hourly Maximums

Sulphur Dioxide (SO₂) - ppb
Beaverlodge - July 2012

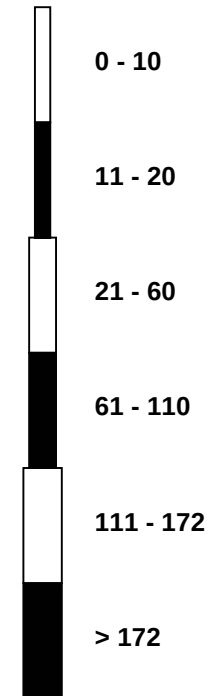


Pollutant Rose

Sulphur Dioxide (SO₂) - ppb
Beaverlodge - July 2012

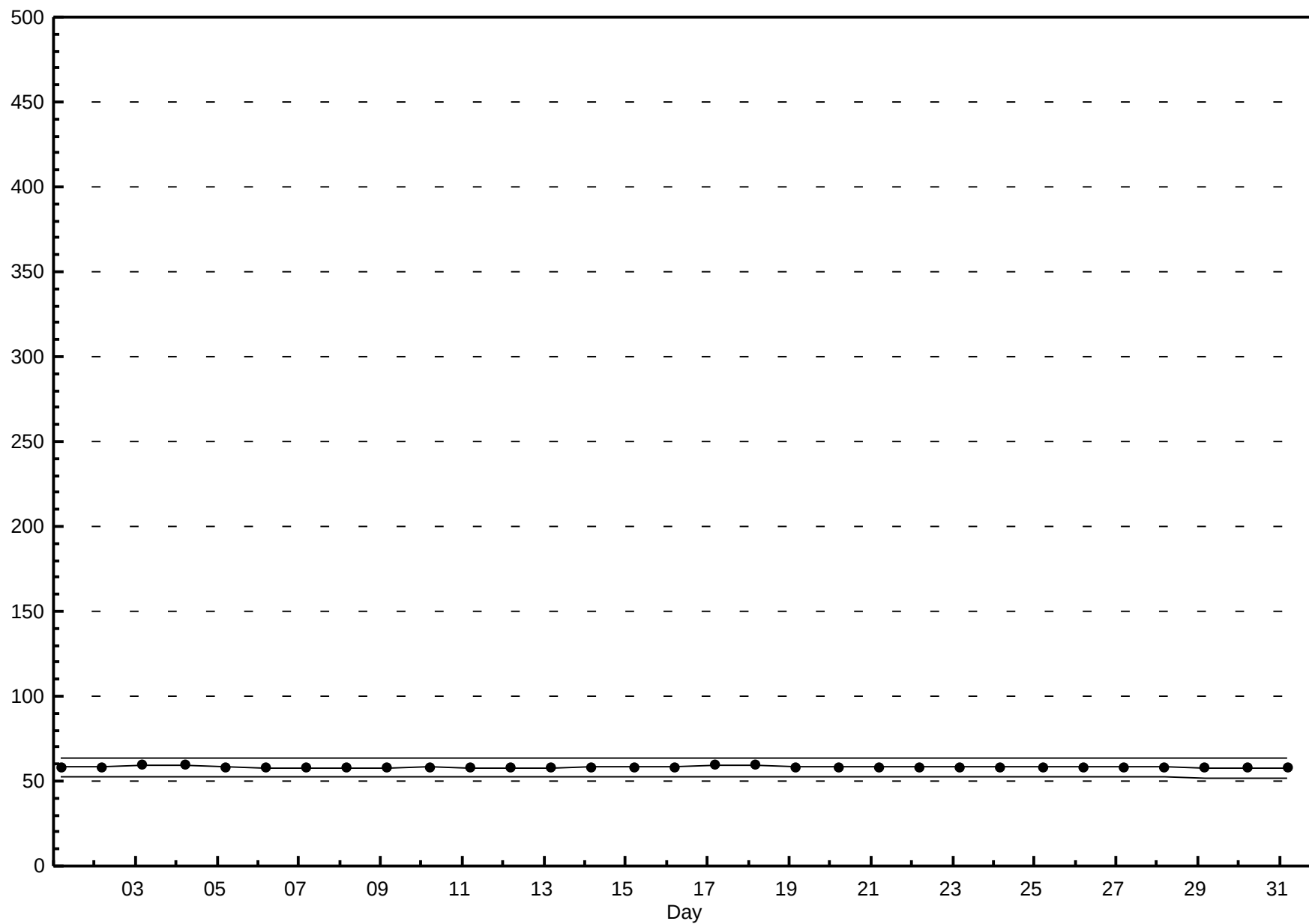


Pollutant Classes (ppb)



Span Responses

Sulphur Dioxide (SO₂)
Beaverlodge - July 2012



Hourly Averages

Nitrogen Dioxide (NO₂) - ppb

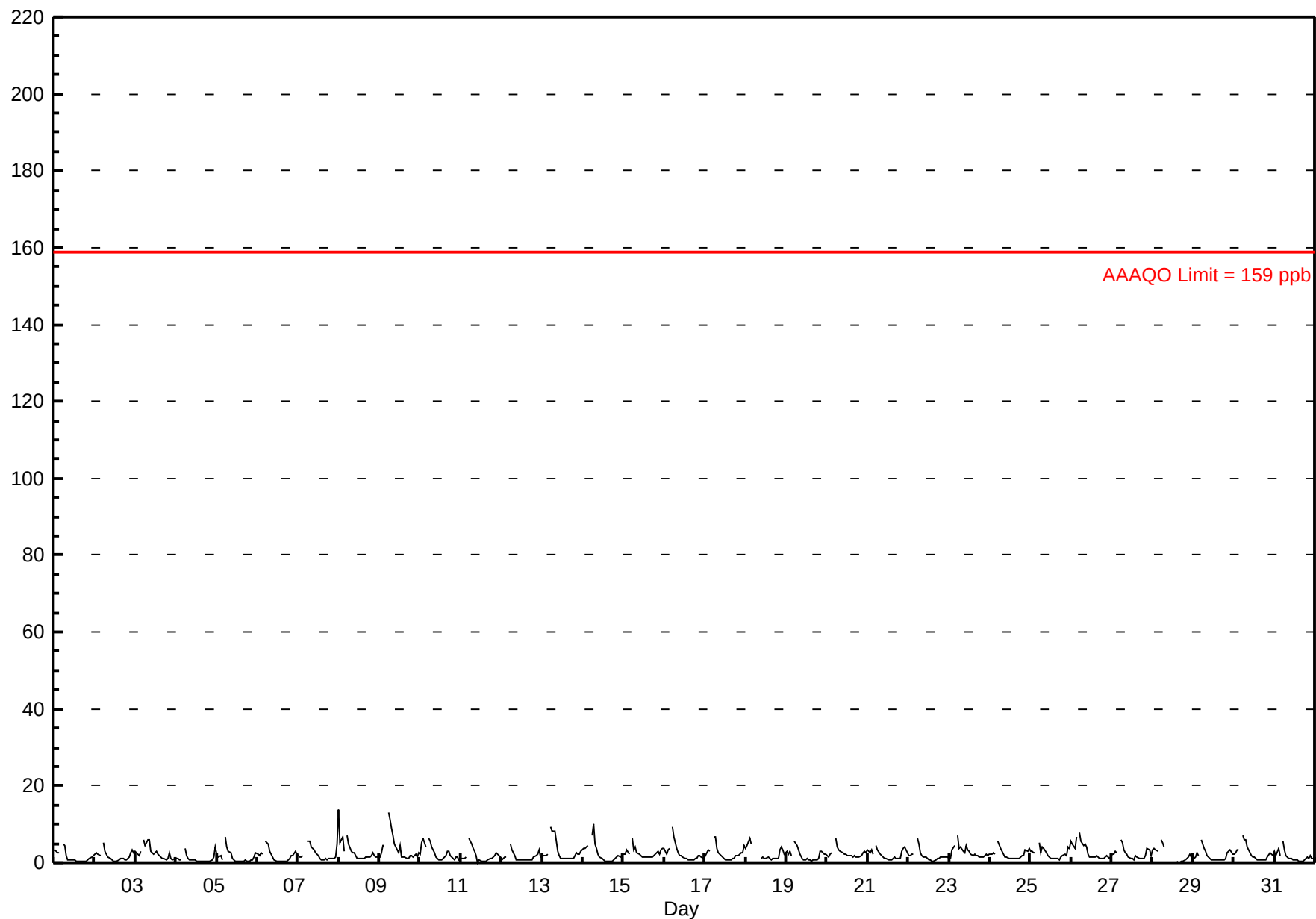
Beaverlodge - July 2012

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																				Hours in Service: 744						
Maximum Value: 13.8 ppb on Jul 8 01:00																				Maximum Daily Average: 3.8 ppb on Jul 9		Hours of Data: 704				
Minimum Value: 0 ppb on Jul 28 17:00																				Minimum Daily Average: 1.0 ppb on Jul 4		Hours of Missing Data: 40				
Maximum Diurnal Average: 6.4 ppb at hour 6																				Minimum Diurnal Average: 0.9 ppb at hour 15		Hours of Calibration: 37				
Monthly Average: 2.22 ppb																				Percentiles: P ₁ = 0.3 P ₁₀ = 0.6 Q ₁ = 1.0 Median = 1.7 Q ₃ = 2.8 P ₉₀ = 4.5 P ₉₉ = 8.9		Percent Operational Time: 99.6				
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jul	3	3	3	3	A	5	4	2	1	1	1	1	1	1	0	0	0	0	0	1	1	1	2	2	1.5	5.0
2-Jul	2	3	2	2	A	5	3	2	2	1	1	0	1	0	1	1	1	1	1	1	1	3	3	3	1.7	5.1
3-Jul	3	2	2	3	A	6	5	6	6	3	3	2	3	2	2	2	1	1	1	1	2	1	1	1	2.6	6.1
4-Jul	1	1	1	1	A	4	2	1	1	1	1	1	1	1	1	1	1	0	0	0	0	1	1	4	1.0	4.1
5-Jul	2	2	2	1	A	7	4	3	3	1	1	0	0	0	0	0	0	1	0	1	1	1	2	3	1.5	6.5
6-Jul	2	2	2	2	A	6	5	3	2	2	1	0	0	0	0	0	0	1	1	1	2	2	3	2	1.8	5.7
7-Jul	2	1	2	2	A	5	5	5	4	3	3	2	2	1	1	1	1	1	1	1	1	1	2	5	2.3	5.4
8-Jul	14	5	7	3	A	7	5	3	2	3	2	1	1	1	1	1	1	1	1	2	3	2	1	1	3.0	13.8
9-Jul	2	3	4	5	A	13	11	9	7	5	3	3	4	2	1	1	1	1	2	2	2	2	2	3	3.8	13.1
10-Jul	2	5	6	4	A	6	6	4	3	1	1	1	1	1	1	2	3	3	2	1	1	2	1	1	2.5	6.4
11-Jul	1	1	1	1	A	6	5	4	3	2	0	1	0	1	0	1	1	1	1	1	2	3	2	1	1.7	6.4
12-Jul	1	1	1	1	A	5	4	3	2	1	1	1	1	1	1	1	1	1	1	1	2	2	3	2	1.5	4.7
13-Jul	2	2	2	2	A	9	8	8	6	3	2	1	1	1	1	1	1	1	1	2	3	2	2	3	2.8	9.5
14-Jul	4	4	4	5	A	7	10	5	4	2	2	1	1	0	0	0	1	1	1	1	1	2	2	2	2.5	10.0
15-Jul	2	2	3	2	A	6	3	4	3	2	2	2	2	2	2	2	2	2	2	2	3	2	3	4	2.5	6.4
16-Jul	4	2	3	4	A	9	7	4	3	2	2	1	1	1	1	1	1	1	1	1	2	2	2	1	2.4	9.3
17-Jul	2	3	3	3	A	7	7	4	3	2	2	1	1	1	1	1	1	1	2	2	2	3	3	5	2.5	6.7
18-Jul	4	4	6	5	A	6	P	P	P	1	2	1	1	2	1	1	1	1	1	1	3	4	3	2	2.6	6.4
19-Jul	3	2	3	2	A	6	4	3	2	1	1	1	1	1	1	1	1	1	1	1	3	3	2	2	2.0	5.7
20-Jul	2	2	2	3	A	6	4	3	3	3	2	2	2	2	2	2	2	2	2	1	2	3	3	3	2.4	6.5
21-Jul	3	3	3	2	A	4	3	2	2	1	1	1	1	1	1	1	1	1	1	1	3	4	4	3	2.1	4.5
22-Jul	2	2	2	2	A	6	5	3	2	1	2	1	1	1	1	1	1	1	1	1	2	2	1	1	1.7	6.3
23-Jul	1	1	3	5	A	7	4	4	3	3	4	3	3	2	2	2	2	2	1	1	2	2	2	2	2.7	7.1
24-Jul	2	2	2	2	A	6	4	3	2	2	1	1	1	1	1	1	1	1	1	2	2	3	3	4	2.1	5.5
25-Jul	3	3	3	2	A	5	2	4	4	3	2	2	1	1	1	1	1	1	1	2	2	2	4	4	2.3	5.2
26-Jul	6	5	4	7	A	8	5	5	5	4	2	2	1	1	2	2	1	1	1	1	1	2	1	1	3.0	7.9
27-Jul	2	2	3	3	A	6	5	3	2	2	1	1	1	1	2	2	1	1	1	1	2	4	3	2	2.3	6.1
28-Jul	3	4	4	3	A	6	5	4	C	C	C	C	C	C	0	0	0	0	0	1	1	2	2	2	--	5.8
29-Jul	1	2	3	2	A	6	4	3	2	1	1	1	1	1	1	1	1	1	1	1	3	3	3	2	1.8	5.9
30-Jul	2	2	3	3	A	7	6	6	4	3	2	2	1	1	1	1	1	1	1	1	1	2	2	2	2.4	7.2
31-Jul	3	2	4	2	A	5	3	2	1	1	1	1	1	1	0	0	0	0	1	2	1	2	1	1	1.5	5.4
		2.8	2.5	3.1	2.8	--	6.4	5.0	3.8	2.9	2.0	1.5	1.2	1.2	1.0	0.9	1.0	1.0	1.0	1.1	1.3	1.8	2.1	2.3	2.4	Diurnal Average
		13.8	5.2	6.6	6.6	--	13.1	11.2	9.1	7.3	4.7	4.3	3.4	4.5	2.2	2.0	2.2	2.9	2.9	1.9	2.1	3.4	4.3	4.1	4.8	Diurnal Maximum
C - Calibration		P - Power Failure										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 - July 2012



Hourly Maximums

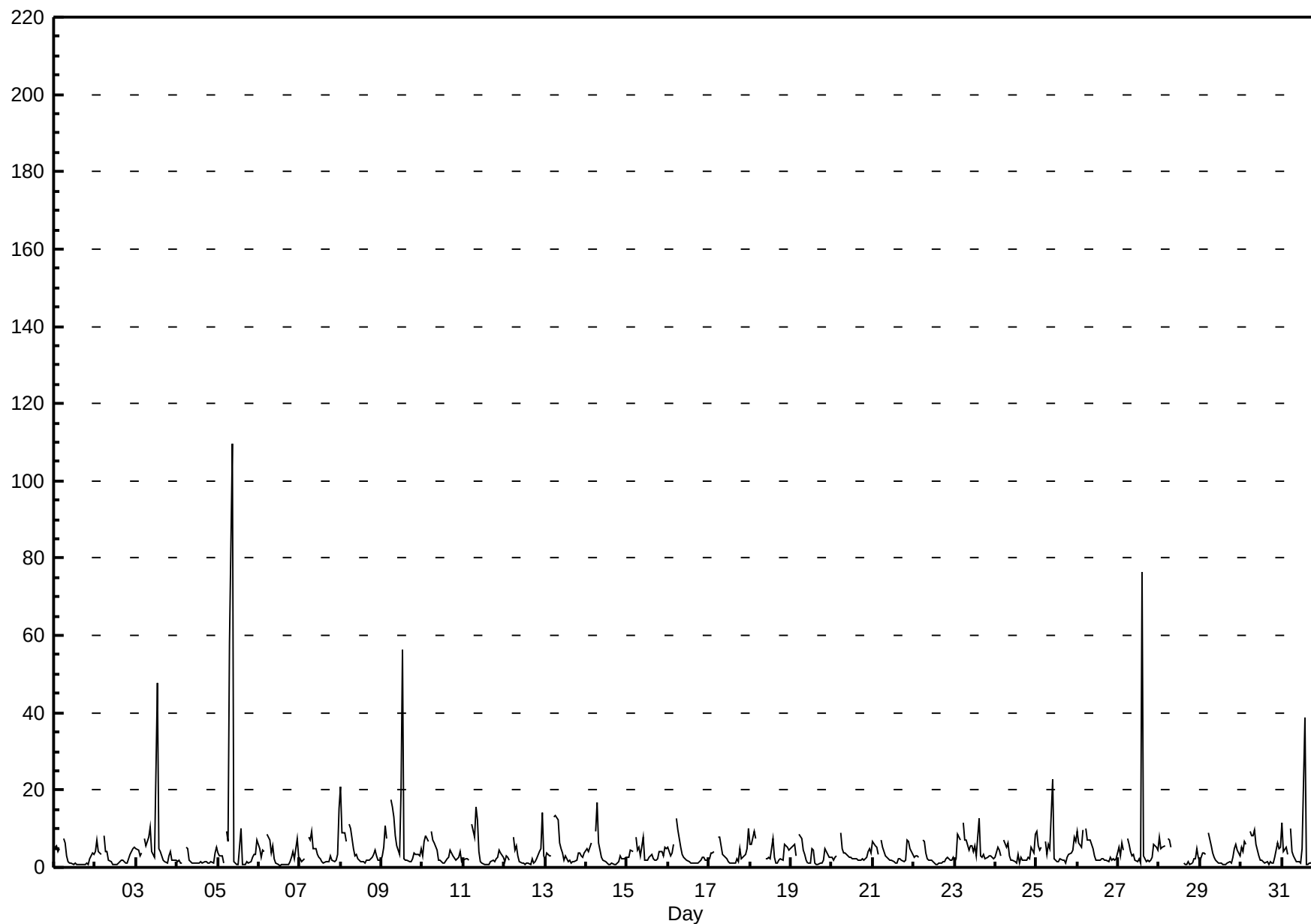
Nitrogen Dioxide (NO₂) - ppb

Beaverlodge - July 2012

Maximum Value: 109.6 ppb on Jul 5 09:00																				Maximum Daily Average: 10.0 ppb on Jul 5					Hours in Service: 744	
Minimum Value: 1 ppb on Jul 6 13:00																				Minimum Daily Average: 1.9 ppb on Jul 4					Hours of Data: 704	
Maximum Diurnal Average: 9.1 ppb at hour 6																				Minimum Diurnal Average: 1.5 ppb at hour 16					Hours of Missing Data: 40	
Monthly Average: 4.14 ppb																				Percentiles: P ₁ = 0.6 P ₁₀ = 1.0 Q ₁ = 1.6 Median = 2.7 Q ₃ = 4.9 P ₉₀ = 7.6 P ₉₉ = 14.1					Hours of Calibration: 37	
																				Percent Operational Time: 99.6						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jul	5	6	4	5	A	8	6	3	2	1	1	1	1	1	1	1	1	1	1	1	1	2	4	3	2.5	7.6
2-Jul	4	7	4	3	A	8	4	4	2	2	1	1	1	1	2	2	2	1	1	1	3	4	5	5	2.9	8.3
3-Jul	5	4	3	4	A	8	5	8	11	4	3	3	48	5	4	3	2	2	1	3	4	2	2	2	5.9	47.6
4-Jul	2	2	1	1	A	5	5	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	5	1.9	5.3
5-Jul	4	3	3	1	A	9	7	58	110	2	1	1	1	10	1	1	1	1	1	2	3	3	3	7	10.0	109.6
6-Jul	5	3	4	4	A	8	7	4	6	2	1	1	1	1	1	1	1	1	1	3	4	2	7	3	3.0	8.4
7-Jul	2	2	2	2	A	8	7	9	5	5	3	3	2	2	1	1	1	1	3	2	2	2	3	15	3.6	15.2
8-Jul	21	9	9	7	A	11	10	5	3	3	2	2	2	1	1	2	2	2	2	3	4	3	2	2	4.7	21.0
9-Jul	3	5	11	8	A	18	16	13	8	6	4	20	56	2	2	2	1	1	2	4	3	4	3	5	8.5	56.3
10-Jul	3	7	8	7	A	9	7	6	4	2	2	1	1	1	2	2	4	4	3	2	2	3	4	1	3.8	9.3
11-Jul	2	2	2	2	A	11	8	16	12	4	1	1	1	1	1	1	2	2	1	2	2	4	4	3	3.7	15.8
12-Jul	2	3	3	2	A	8	5	6	3	2	1	1	1	1	1	1	2	1	1	2	4	5	14	3	3.1	14.1
13-Jul	2	4	3	3	A	13	13	12	6	5	4	2	3	2	2	1	1	2	2	4	4	3	3	4	4.2	13.3
14-Jul	5	4	5	6	A	9	17	6	4	3	2	2	1	1	1	1	1	1	1	3	2	2	3	3	3.5	16.6
15-Jul	3	3	5	4	A	8	5	5	3	8	2	2	2	3	3	2	2	2	2	4	4	3	5	5	3.6	7.8
16-Jul	5	3	4	6	A	13	10	5	3	3	2	2	1	1	1	1	1	1	1	2	2	3	2	2	3.2	12.7
17-Jul	2	4	4	4	A	8	8	6	3	3	2	1	1	1	1	1	2	1	5	2	3	3	5	10	3.5	10.1
18-Jul	6	6	9	7	A	10	P	P	P	2	2	3	2	7	3	1	1	2	2	2	6	6	5	5	4.4	10.1
19-Jul	5	6	6	3	A	8	8	5	3	2	1	1	5	4	1	1	1	1	1	2	5	4	3	3	3.4	8.4
20-Jul	2	2	3	3	A	9	5	4	4	3	2	3	2	2	2	2	2	2	2	2	3	4	5	4	3.1	8.8
21-Jul	7	5	5	3	A	7	5	3	3	2	2	2	2	1	1	2	2	2	1	2	7	7	5	3	3.5	7.1
22-Jul	2	3	3	3	A	7	7	4	2	2	2	2	1	1	1	1	1	2	2	2	3	2	2	2	2.4	7.3
23-Jul	2	2	9	7	A	12	7	7	4	6	6	4	6	3	13	3	3	3	2	3	3	3	3	2	4.8	12.6
24-Jul	3	5	5	3	A	7	5	6	3	2	2	2	1	4	1	3	2	2	2	3	2	5	4	8	3.5	8.4
25-Jul	9	6	5	5	A	7	3	6	5	23	2	2	2	2	2	2	2	1	3	3	4	5	8	7	4.8	22.8
26-Jul	9	6	5	10	A	10	7	7	6	5	3	2	2	2	2	2	2	2	2	2	2	2	2	2	4.1	9.9
27-Jul	5	3	6	4	A	8	6	4	3	3	2	1	2	1	76	3	1	2	2	2	3	6	5	5	6.7	76.5
28-Jul	8	5	5	5	A	8	7	5	C	C	C	C	C	C	1	1	1	1	1	1	2	2	5	3	--	7.9
29-Jul	1	4	4	3	A	9	5	4	2	2	1	1	1	1	1	1	1	1	1	2	5	6	4	3	2.8	8.9
30-Jul	5	4	7	6	A	9	8	8	10	6	3	2	2	1	1	1	1	1	1	1	3	6	5	5	4.3	9.8
31-Jul	11	4	5	3	A	10	4	3	2	1	2	1	5	39	1	1	1	1	2	6	2	4	3	2	5.0	38.9
4.9 4.2 4.9 4.3 -- 9.1 7.2 7.8 8.1 3.8 2.1 2.3 5.2 3.4 4.3 1.5 1.6 1.6 1.8 2.4 3.2 3.6 4.2 4.2																									Diurnal Average	
21.0 8.9 10.6 9.6 -- 17.6 16.6 58.3 109.6 22.8 5.8 19.8 56.3 38.9 76.5 3.2 4.4 3.9 4.8 5.8 7.1 6.7 14.1 15.2																									Diurnal Maximum	
C - Calibration P - Power Failure A - Automated Daily Zero Span																										

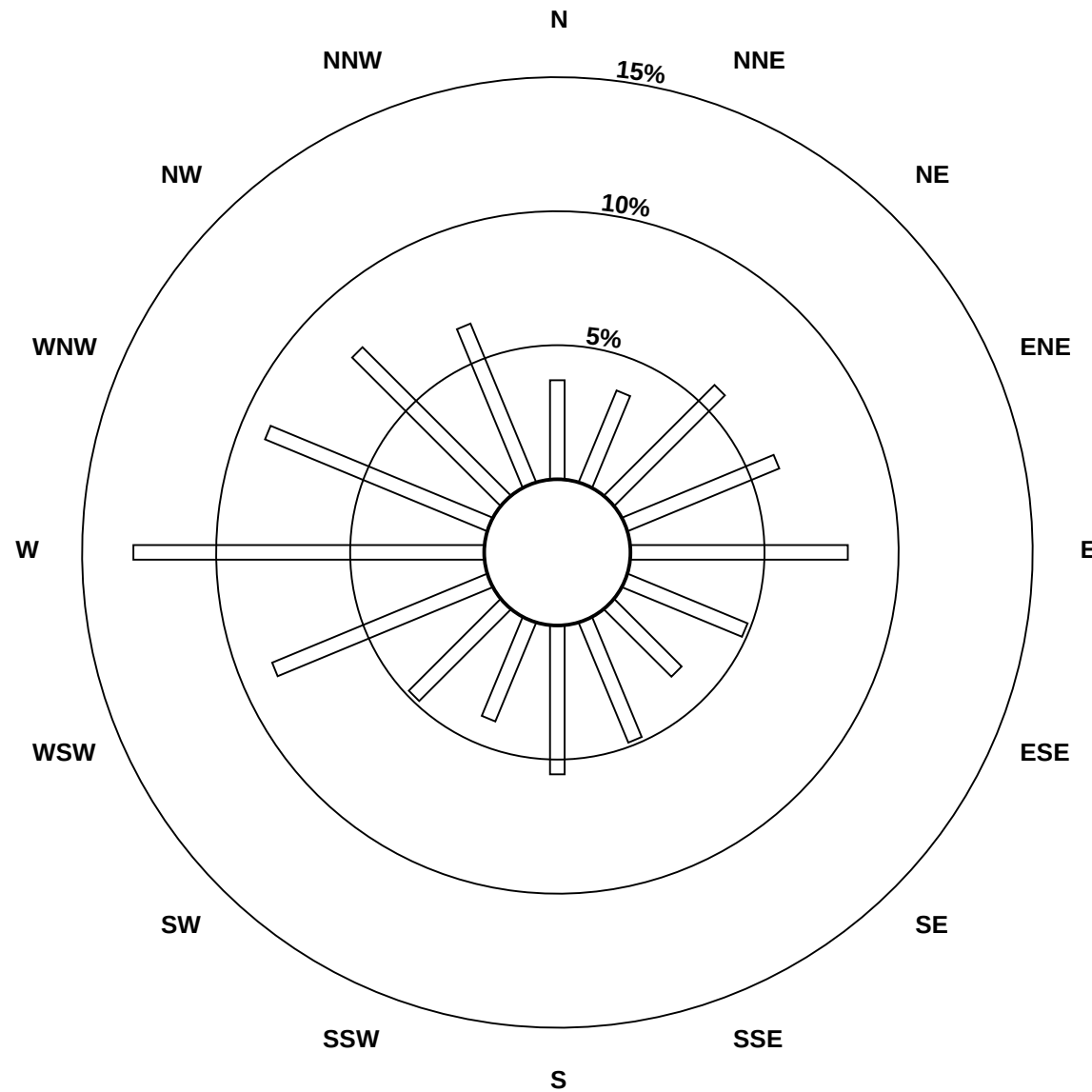
Hourly Maximums

Nitrogen Dioxide (NO₂) - ppb
Beaverlodge - July 2012

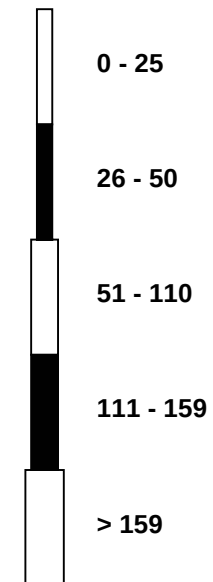


Pollutant Rose

Nitrogen Dioxide (NO₂) - ppb
Beaverlodge - July 2012

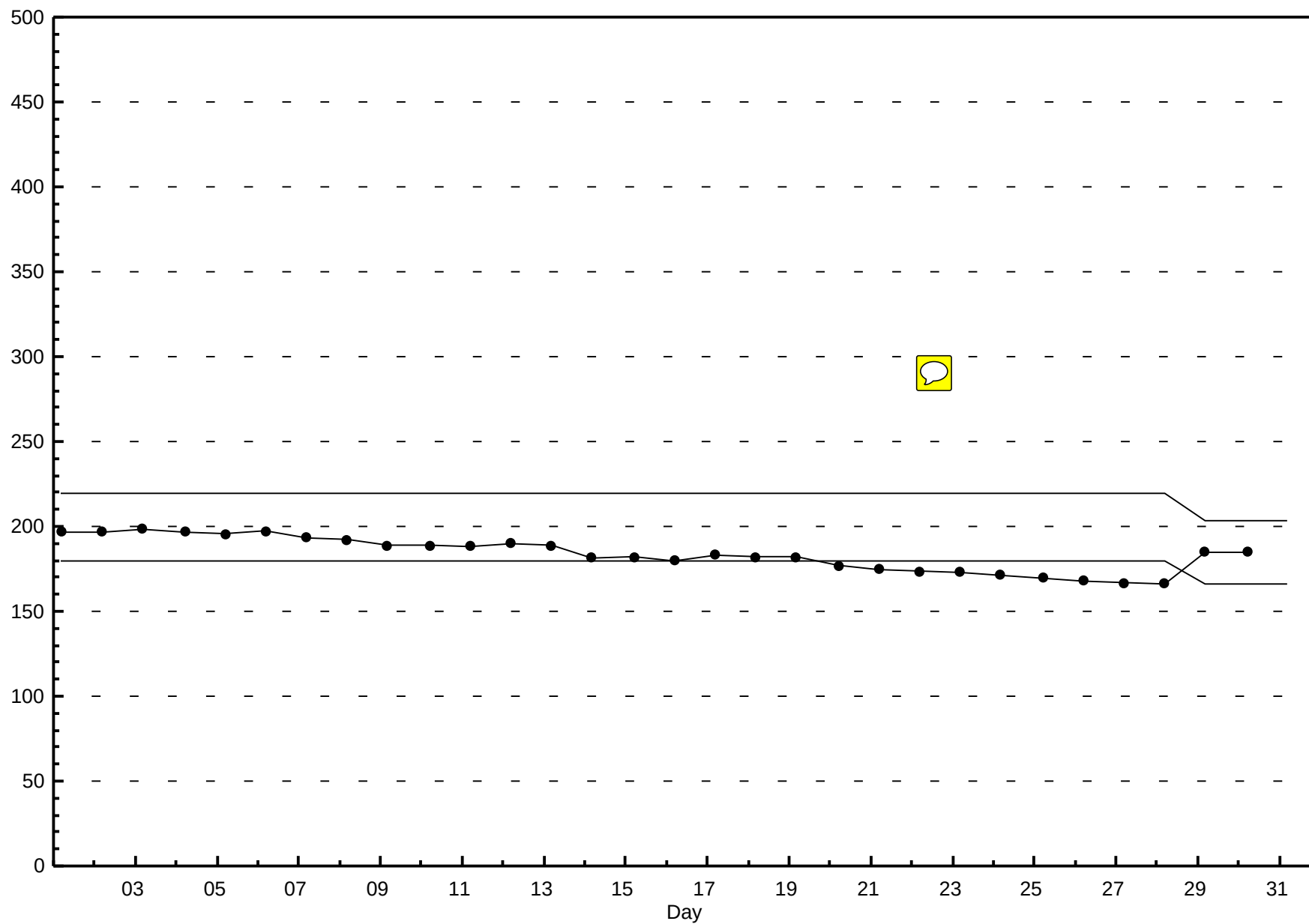


Pollutant Classes (ppb)



Span Responses

Nitrogen Dioxide (NO₂)
Beaverlodge - July 2012



Hourly Averages

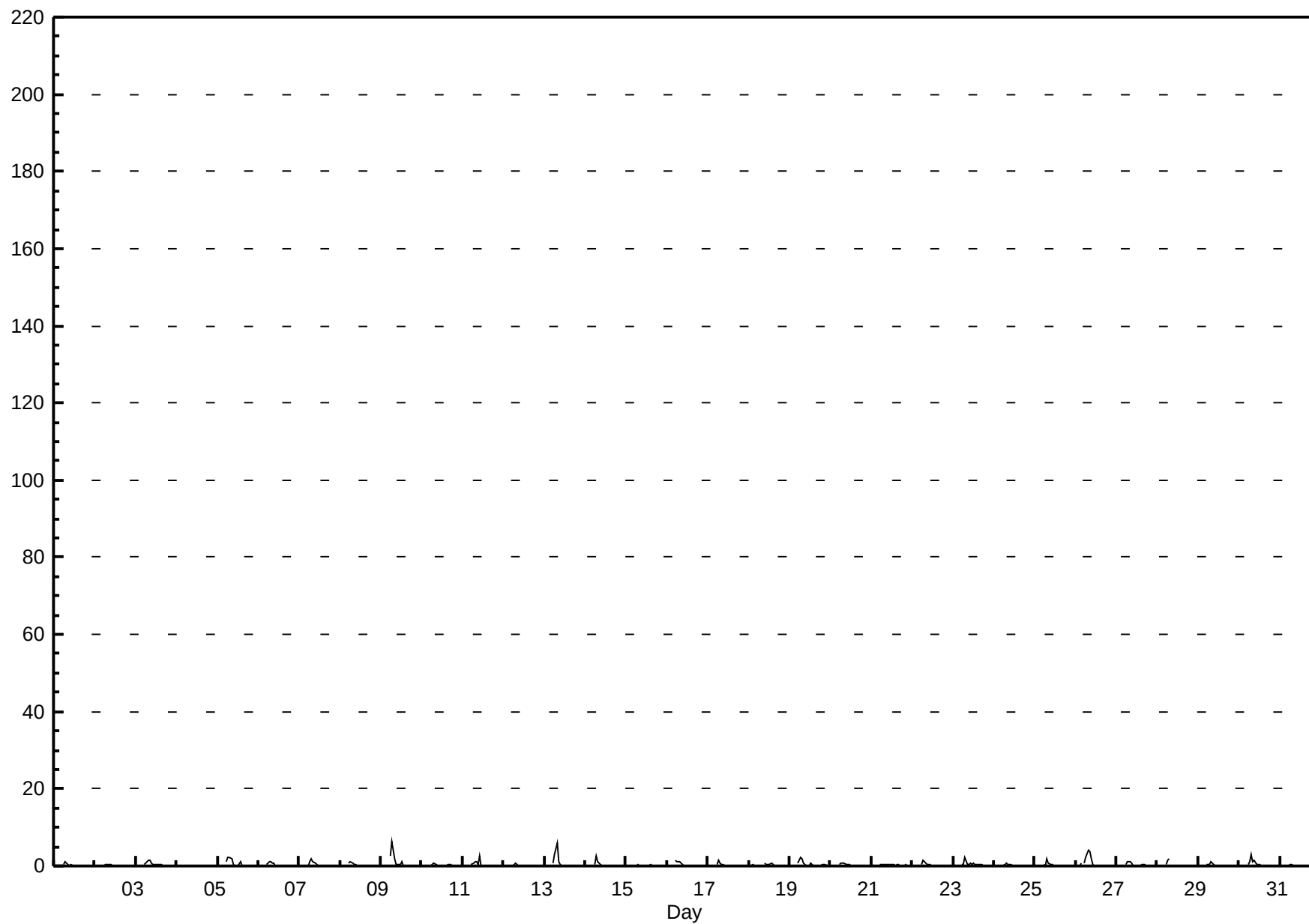
Nitrogen Oxide (NO) - ppb

Beaverlodge - July 2012

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																			Hours in Service: 744							
Maximum Value: 6.5 ppb on Jul 9 07:00 Maximum Daily Average: 0.8 ppb on Jul 9																			Hours of Data: 704							
Minimum Value: 0 ppb on Jul 7 22:00 Minimum Daily Average: 0.1 ppb on Jul 15																			Hours of Missing Data: 40							
Maximum Diurnal Average: 1.5 ppb at hour 8 Minimum Diurnal Average: 0.0 ppb at hour 24																			Hours of Calibration: 37							
Monthly Average: 0.27 ppb Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.1 Q ₃ = 0.2 P ₉₀ = 0.6 P ₉₉ = 2.8																			Percent Operational Time: 99.6							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jul	0	0	0	0	A	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.1
2-Jul	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.4
3-Jul	0	0	0	0	A	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.4
4-Jul	0	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-Jul	0	0	0	0	A	1	2	2	2	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0.4	2.3
6-Jul	0	0	0	0	A	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.1
7-Jul	0	0	0	0	A	0	1	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.9
8-Jul	0	0	0	0	A	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.9
9-Jul	0	0	0	0	A	3	6	4	2	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0.8	6.5
10-Jul	0	0	0	0	A	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.6
11-Jul	0	0	0	0	A	0	1	1	1	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	2.6
12-Jul	0	0	0	0	A	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.6
13-Jul	0	0	0	0	A	1	3	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	6.1
14-Jul	0	0	0	0	A	0	3	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	2.7
15-Jul	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
16-Jul	0	0	0	0	A	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.4
17-Jul	0	0	0	0	A	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.5
18-Jul	0	0	0	0	A	0	P	P	P	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0.2	0.6
19-Jul	0	0	0	0	A	1	2	2	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0.4	2.2
20-Jul	0	0	0	0	A	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.8
21-Jul	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4
22-Jul	0	0	0	0	A	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.4
23-Jul	0	0	0	0	A	0	1	2	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0.3	2.2
24-Jul	0	0	0	0	A	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.6
25-Jul	0	0	0	0	A	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.9
26-Jul	0	0	0	1	A	1	2	4	4	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.7	4.2
27-Jul	0	0	0	0	A	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.1
28-Jul	0	0	0	0	A	0	2	2	C	C	C	C	C	C	0	0	0	0	0	0	0	0	0	0	--	1.8
29-Jul	0	0	0	0	A	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.0
30-Jul	0	0	0	0	A	0	1	3	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	2.8
31-Jul	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
0.0 0.0 0.1 0.1 -- 0.5 1.2 1.5 0.8 0.4 0.3 0.1 0.2 0.2 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.0 0.0																									Diurnal Average	
0.2 0.2 0.2 0.6 -- 2.5 6.5 6.1 3.6 1.9 2.6 0.4 0.9 1.3 0.3 0.3 0.4 0.2 0.2 0.2 0.4 0.2 0.2 0.1																									Diurnal Maximum	
C - Calibration					P - Power Failure					A - Automated Daily Zero Span																

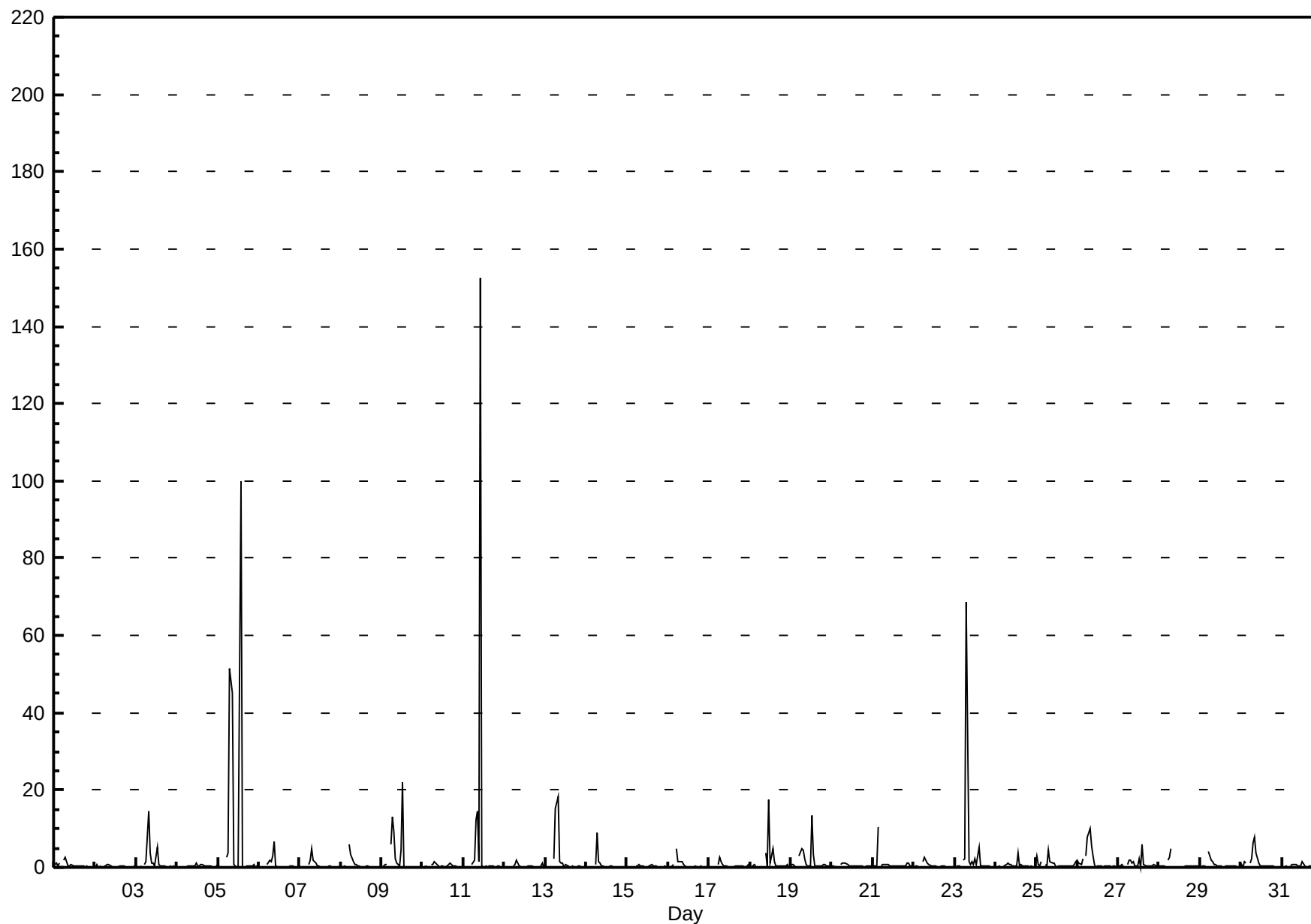
Hourly Averages

Nitrogen Oxide (NO) - ppb
Beaverlodge - July 2012



Hourly Maximums

Nitrogen Oxide (NO) - ppb
Beaverlodge - July 2012



Hourly Averages

Oxides of Nitrogen (NO_x) - ppb

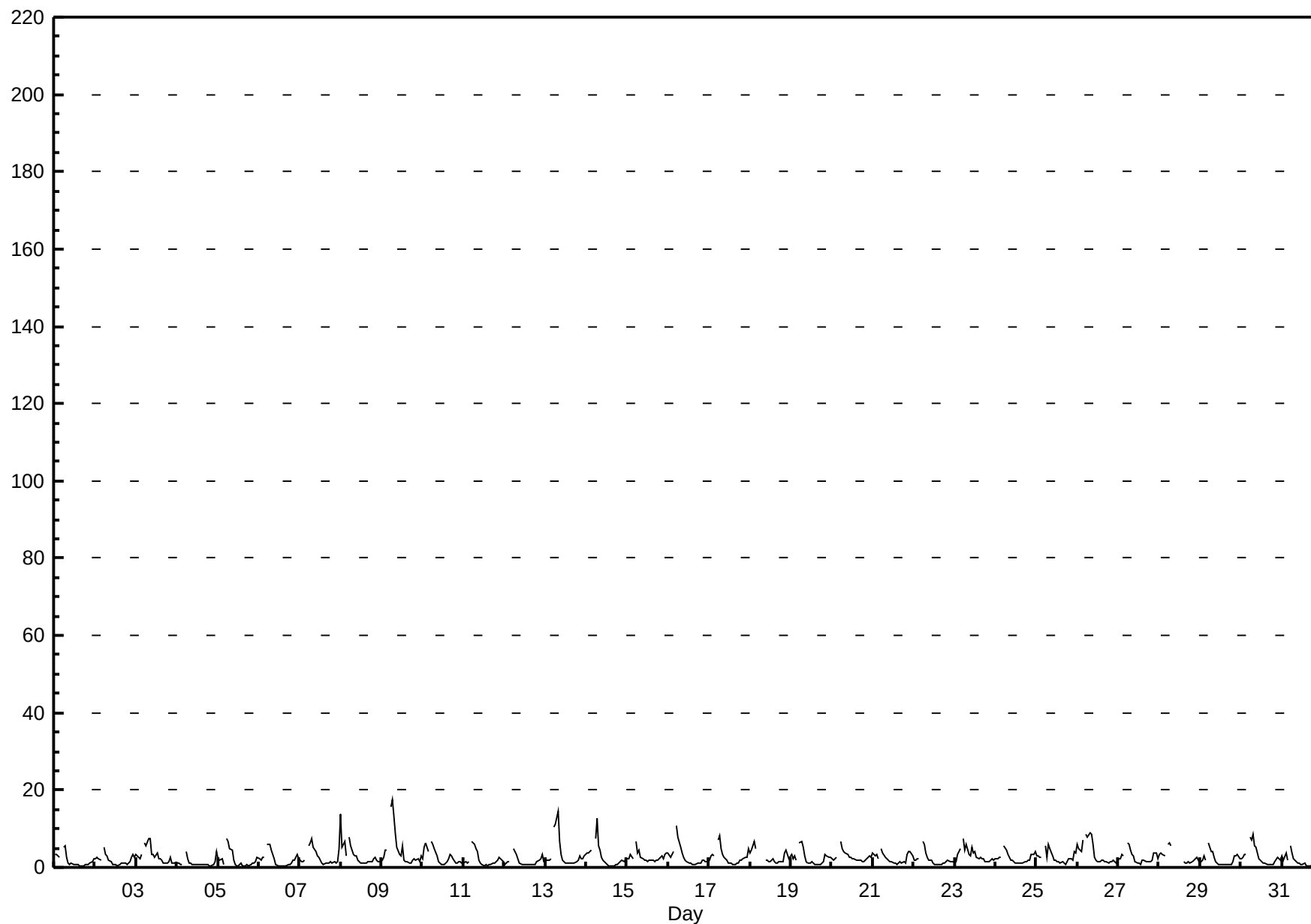
Beaverlodge - July 2012

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 17.7 ppb on Jul 9 07:00 Maximum Daily Average: 4.6 ppb on Jul 9																				Hours in Service: 744 Hours of Data: 704 Hours of Missing Data: 40 Hours of Calibration: 37 Percent Operational Time: 99.6						
Minimum Value: 0 ppb on Jul 5 16:00 Minimum Daily Average: 1.2 ppb on Jul 4 Maximum Diurnal Average: 6.9 ppb at hour 6 Minimum Diurnal Average: 1.1 ppb at hour 15 Monthly Average: 2.53 ppb Percentiles: P ₁ = 0.5 P ₁₀ = 0.8 Q ₁ = 1.1 Median = 1.9 Q ₃ = 3.2 P ₉₀ = 5.4 P ₉₉ = 10.3																										
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-Jul	3	3	3	3	A	5	6	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	1.7	5.6
2-Jul	2	3	2	2	A	5	3	3	2	2	1	1	1	1	1	1	1	1	1	1	2	3	3	3	1.9	5.3
3-Jul	3	2	2	3	A	6	5	8	7	4	3	3	4	2	2	2	1	1	1	1	3	1	1	1	3.0	7.6
4-Jul	1	1	1	1	A	4	2	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	2	4	1.2	4.3
5-Jul	2	2	2	1	A	8	7	5	5	2	1	1	1	1	0	0	0	1	1	1	1	1	2	3	2.0	7.6
6-Jul	2	2	3	2	A	6	6	4	3	2	1	0	0	0	1	0	0	1	1	1	2	2	3	2	2.0	6.0
7-Jul	2	1	2	2	A	6	6	7	5	4	3	2	2	1	1	1	1	1	1	1	1	2	5	2.6	7.4	
8-Jul	14	5	7	3	A	8	6	3	3	3	2	1	1	1	1	1	2	1	1	2	3	2	1	1	3.2	13.8
9-Jul	2	3	5	5	A	16	18	13	9	5	3	3	5	2	1	1	1	1	2	2	2	2	2	3	4.6	17.7
10-Jul	2	5	6	4	A	7	6	5	3	1	1	1	1	1	2	2	3	3	2	1	1	2	1	1	2.7	6.6
11-Jul	1	1	1	1	A	7	6	5	4	2	1	1	1	1	1	1	1	1	1	1	2	3	2	1	2.0	6.7
12-Jul	1	1	1	1	A	5	4	3	2	1	1	1	1	1	1	1	1	1	1	1	2	2	3	2	1.6	4.8
13-Jul	2	2	2	2	A	10	11	14	7	4	2	1	1	1	1	1	1	1	1	2	3	2	2	3	3.4	14.4
14-Jul	4	4	4	5	A	7	13	6	4	2	2	1	1	1	1	1	1	1	1	1	1	2	2	2	2.8	12.7
15-Jul	2	2	3	2	A	7	4	4	3	2	2	2	2	2	2	2	2	2	2	2	3	2	3	4	2.6	6.5
16-Jul	4	2	3	4	A	11	8	5	4	2	2	1	1	1	1	1	1	1	1	1	2	2	2	1	2.7	10.8
17-Jul	2	3	3	3	A	7	8	5	3	3	2	1	1	1	1	1	1	1	2	2	2	3	3	5	2.7	8.2
18-Jul	4	4	7	5	A	6	P	P	P	2	2	1	1	2	2	1	1	1	1	1	4	4	4	2	2.8	6.6
19-Jul	3	2	3	2	A	6	7	5	3	2	1	1	2	1	1	1	1	1	1	1	4	3	3	3	2.4	6.7
20-Jul	2	2	2	3	A	7	5	4	4	3	3	2	2	2	2	2	2	2	2	1	2	3	3	3	2.7	6.7
21-Jul	4	3	3	2	A	5	4	3	2	2	1	1	1	1	1	1	2	1	1	1	3	4	4	3	2.4	4.7
22-Jul	2	2	2	2	A	7	6	4	3	2	2	1	1	1	1	1	1	1	1	1	2	2	1	1	2.0	6.9
23-Jul	1	1	3	5	A	8	4	6	3	3	5	4	4	3	2	2	2	2	2	2	2	2	2	2	3.0	7.5
24-Jul	2	2	3	3	A	6	4	3	3	2	2	1	1	1	1	1	1	1	1	2	2	3	3	4	2.3	5.7
25-Jul	3	3	3	3	A	5	3	6	5	3	2	2	1	1	1	1	1	1	1	2	2	2	4	4	2.6	6.0
26-Jul	6	5	4	7	A	9	8	9	8	6	3	2	2	1	2	2	2	1	1	1	2	2	1	1	3.7	8.8
27-Jul	2	2	3	3	A	6	6	4	3	3	2	1	1	1	2	2	1	1	1	1	2	4	4	2	2.6	6.3
28-Jul	3	4	4	3	A	6	6	6	C	C	C	C	C	C	1	1	1	1	1	1	2	2	3	2	--	6.5
29-Jul	1	2	3	2	A	6	4	4	3	2	1	1	1	1	1	1	1	1	1	1	3	3	3	2	2.1	6.5
30-Jul	2	3	3	3	A	8	7	9	6	5	2	2	2	1	1	1	1	1	1	1	2	2	2	2	2.9	8.7
31-Jul	3	2	4	2	A	6	4	2	1	1	1	1	1	1	1	0	1	1	1	2	1	2	1	1	1.6	5.6
2.9 2.6 3.1 2.9 -- 6.9 6.2 5.3 3.8 2.5 1.8 1.4 1.4 1.2 1.1 1.1 1.1 1.2 1.2 1.4 2.0 2.2 2.4 2.4																									Diurnal Average	
13.8 5.2 6.7 7.2 -- 15.7 17.7 14.4 9.0 6.1 5.1 3.8 5.4 2.6 2.3 2.4 3.3 3.1 2.1 2.2 3.6 4.4 4.2 4.8																									Diurnal Maximum	
C - Calibration P - Power Failure A - Automated Daily Zero Span																										

Hourly Averages

Oxides of Nitrogen (NO_x) - ppb

Beaverlodge - July 2012



Hourly Maximums

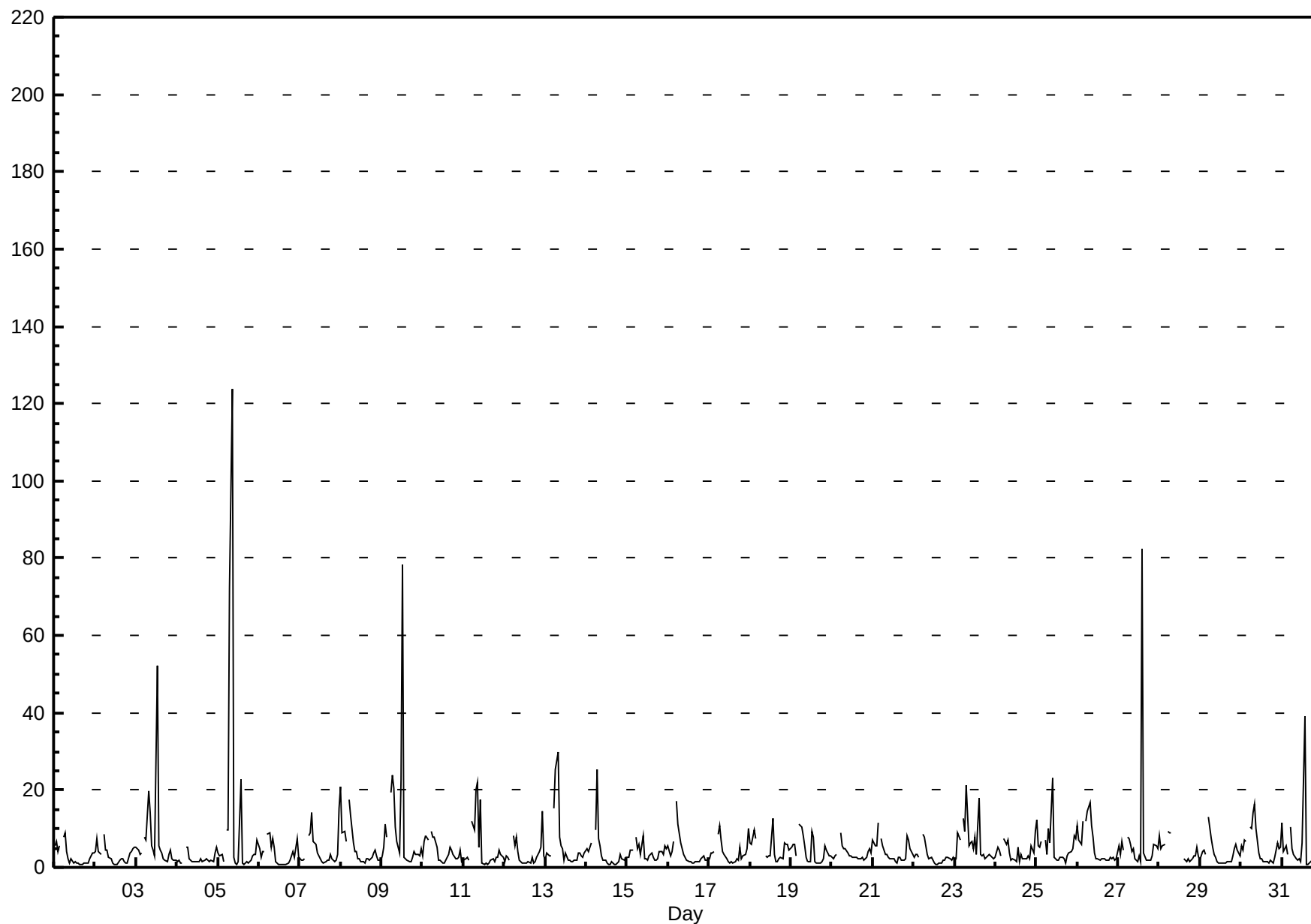
Oxides of Nitrogen (NO_x) - ppb

Beaverlodge - July 2012

Maximum Value: 123.9 ppb on Jul 5 09:00																				Maximum Daily Average: 12.2 ppb on Jul 5										Hours in Service: 744									
Minimum Value: 1 ppb on Jul 6 16:00																				Minimum Daily Average: 2.2 ppb on Jul 4										Hours of Data: 704									
Maximum Diurnal Average: 11.9 ppb at hour 8																				Minimum Diurnal Average: 1.8 ppb at hour 16										Hours of Missing Data: 40									
Monthly Average: 4.93 ppb																				Percentiles: P ₁ = 0.8 P ₁₀ = 1.3 Q ₁ = 1.9 Median = 2.9 Q ₃ = 5.4 P ₉₀ = 9.1 P ₉₉ = 24.8										Hours of Calibration: 37									
																				Percent Operational Time: 99.6																			
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24															
1-Jul	6	7	4	6	A	8	9	4	2	1	2	1	1	1	1	1	1	1	1	1	1	2	4	4	3.0	8.9													
2-Jul	4	8	4	3	A	9	4	5	2	2	1	1	1	1	2	2	2	2	1	1	4	4	5	5	3.2	8.5													
3-Jul	5	5	3	4	A	8	7	20	14	6	4	3	52	5	5	4	2	2	1	3	4	2	2	2	7.1	52.2													
4-Jul	2	2	1	1	A	5	5	2	2	2	1	1	1	1	2	1	2	2	2	1	2	1	4	5	2.2	5.4													
5-Jul	4	3	3	1	A	10	10	72	124	2	1	1	1	23	1	1	1	2	1	2	3	3	3	7	12.2	123.9													
6-Jul	5	3	4	4	A	8	9	5	8	5	2	1	1	1	1	1	1	1	2	3	4	2	7	3	3.5	9.0													
7-Jul	2	2	2	2	A	8	9	14	7	6	4	3	2	2	1	1	2	2	3	2	2	2	4	15	4.2	15.2													
8-Jul	21	9	9	7	A	17	13	6	4	4	2	2	2	1	1	2	2	2	3	4	4	3	2	2	5.4	21.0													
9-Jul	3	5	11	8	A	19	24	21	11	7	4	23	78	2	2	2	2	1	2	4	4	4	3	5	10.6	78.3													
10-Jul	3	7	8	7	A	9	8	8	5	2	2	2	1	1	3	3	5	4	3	2	2	3	4	1	4.1	9.4													
11-Jul	2	2	3	2	A	12	10	20	22	5	17	1	1	1	1	1	2	2	2	2	3	5	4	3	5.3	21.9													
12-Jul	2	3	3	2	A	8	5	8	4	2	1	1	1	1	1	1	3	1	1	3	4	5	14	3	3.4	14.5													
13-Jul	2	4	3	3	A	15	25	30	8	6	5	2	4	2	2	1	2	2	2	4	4	3	3	4	5.8	29.8													
14-Jul	5	4	5	6	A	10	26	7	6	3	2	2	1	1	1	1	1	1	1	2	3	2	2	3	4.1	25.5													
15-Jul	3	3	5	4	A	8	5	6	3	8	2	2	2	3	4	2	2	2	2	4	4	3	5	5	3.8	8.0													
16-Jul	6	3	4	7	A	17	11	6	5	3	2	2	1	1	1	1	1	1	2	2	3	3	2	2	3.8	17.3													
17-Jul	2	4	4	4	A	8	11	7	4	3	2	2	1	1	1	1	2	2	5	2	3	3	5	10	3.9	10.7													
18-Jul	6	6	10	8	A	10	P	P	P	3	3	3	3	13	3	1	1	2	2	2	6	6	6	5	5.0	12.5													
19-Jul	5	6	6	3	A	11	11	8	6	2	2	2	9	8	1	1	1	1	2	2	5	4	3	3	4.4	11.3													
20-Jul	3	2	3	3	A	9	6	5	5	4	3	3	3	3	3	2	2	2	2	2	3	4	5	4	3.5	9.0													
21-Jul	7	5	6	11	A	7	6	3	3	3	2	2	2	2	1	2	3	2	2	2	8	7	5	4	4.2	11.4													
22-Jul	3	3	3	3	A	9	8	6	3	2	2	2	1	1	1	1	1	2	2	3	3	2	2	2	2.8	8.6													
23-Jul	2	2	9	7	A	13	9	21	5	6	7	5	8	4	18	3	3	4	2	3	4	3	3	2	6.2	21.3													
24-Jul	3	5	5	3	A	7	6	7	4	2	2	2	2	5	2	3	2	2	2	3	2	5	4	9	3.8	9.4													
25-Jul	12	6	5	7	A	7	3	10	6	23	3	2	2	2	3	2	2	1	3	4	4	5	8	7	5.6	23.0													
26-Jul	11	7	6	12	A	12	15	17	11	8	4	2	2	2	2	2	2	2	2	3	2	2	2	2	5.7	16.7													
27-Jul	6	3	7	5	A	8	8	6	4	5	2	2	3	1	82	4	2	2	2	2	3	6	6	5	7.5	82.4													
28-Jul	8	5	5	6	A	9	9	9	C	C	C	C	C	C	2	2	2	2	2	2	3	3	5	3	--	9.2													
29-Jul	2	4	4	4	A	13	7	5	3	3	2	1	1	1	1	1	2	2	1	3	5	6	5	3	3.4	13.0													
30-Jul	6	4	7	7	A	10	10	14	16	10	4	2	2	2	1	2	1	2	2	1	3	6	5	5	5.3	16.4													
31-Jul	12	4	5	3	A	10	5	3	2	2	2	1	6	39	1	1	1	1	2	7	2	4	3	2	5.3	39.1													
5.1 4.4 5.1 4.9 -- 10.2 9.8 11.9 10.3 4.7 3.1 2.6 6.6 4.4 4.9 1.8 1.9 1.9 2.0 2.6 3.4 3.8 4.3 4.4																									Diurnal Average														
21.0 8.9 11.3 12.0 -- 19.3 25.5 72.2 123.9 23.0 17.3 22.8 78.3 39.1 82.4 3.8 5.4 4.4 5.2 6.7 8.3 7.0 14.5 15.2																									Diurnal Maximum														
C - Calibration					P - Power Failure					A - Automated Daily Zero Span																													

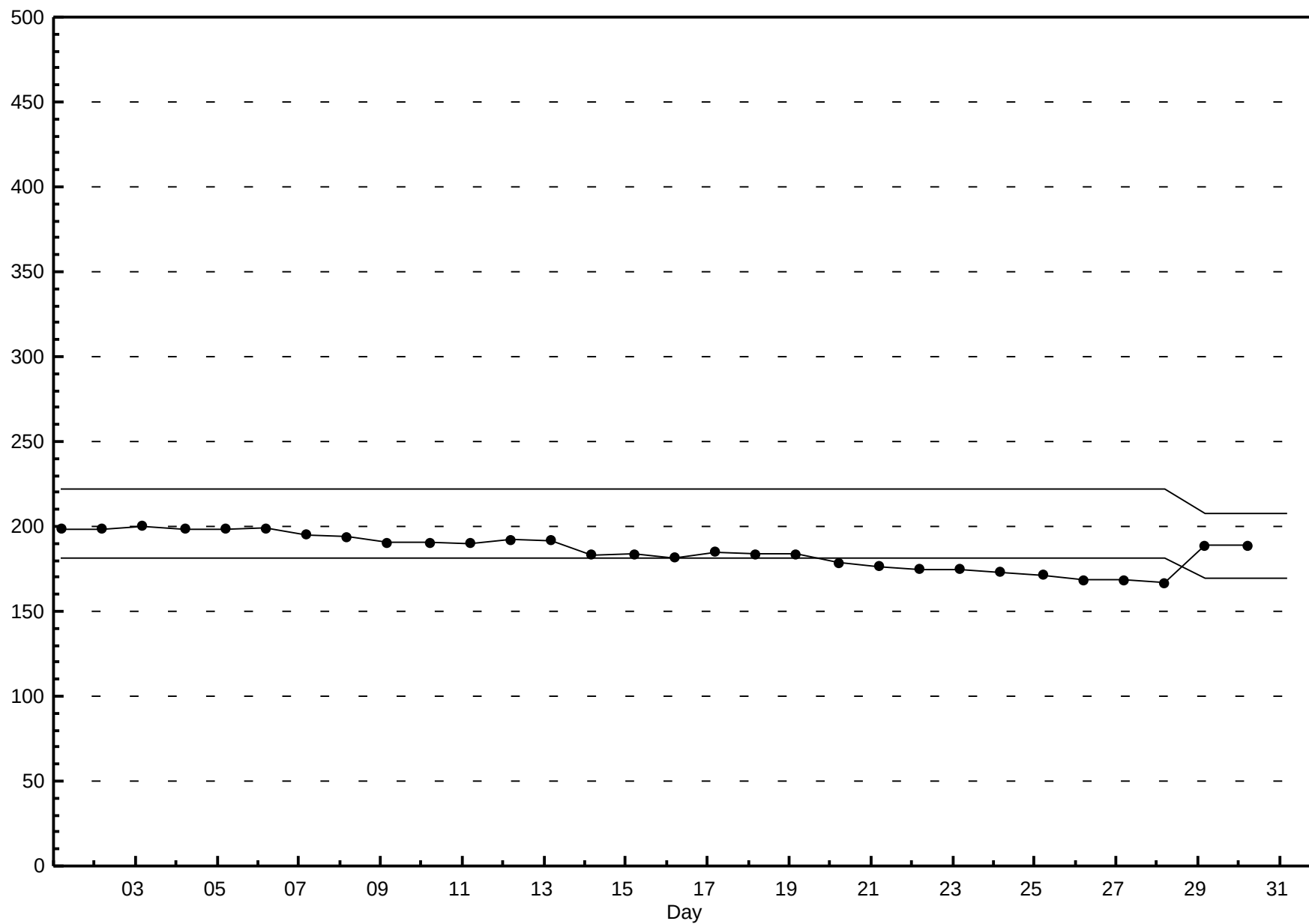
Hourly Maximums

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



Span Responses

Oxides of Nitrogen (NO_x)
Beaverlodge - July 2012



Hourly Averages

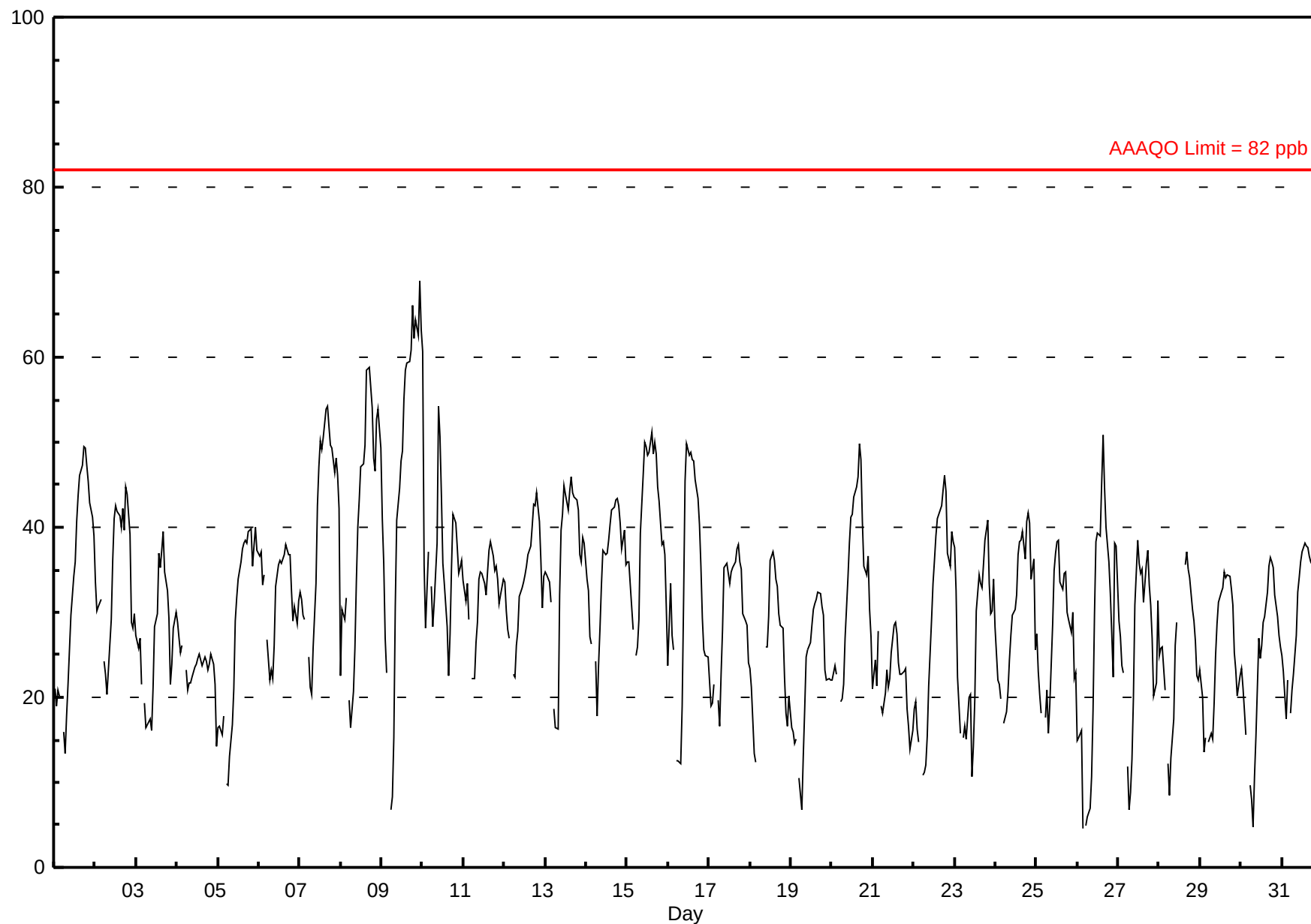
Ozone (O₃) - ppb

Beaverlodge - July 2012

Number of Exceedences (AAAQO): Maximum Value: 69.1 ppb on Jul 9 23:00																						1-hr: 0 24-hr: 0 Maximum Daily Average: 45.7 ppb on Jul 9				Hours in Service: 744 Hours of Data: 706 Hours of Missing Data: 38 Hours of Calibration: 35 Percent Operational Time: 99.6			
Minimum Value: 5 ppb on Jul 26 04:00 Maximum Diurnal Average: 40.0 ppb at hour 17 Monthly Average: 30.96 ppb																						Minimum Daily Average: 22.2 ppb on Jul 21 Minimum Diurnal Average: 16.3 ppb at hour 7 Percentiles: P ₁ = 6.6 P ₁₀ = 16.6 Q ₁ = 22.7 Median = 31.0 Q ₃ = 37.6 P ₉₀ = 44.8 P ₉₉ = 60.1							
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-Jul	21	19	21	20	A	16	13	18	22	26	30	34	36	41	44	46	47	49	49	47	45	43	41	39	33.4	49.4			
2-Jul	34	30	31	32	A	24	23	20	23	29	36	41	43	42	41	40	42	40	45	44	39	29	28	30	34.1	44.7			
3-Jul	27	26	27	21	A	19	16	17	17	16	21	28	30	37	35	37	39	35	33	29	22	24	28	30	26.8	39.5			
4-Jul	29	27	25	26	A	23	21	22	22	22	24	24	25	25	24	24	25	24	23	24	25	24	22	14	23.6	28.8			
5-Jul	16	17	16	18	A	10	10	13	17	21	29	32	34	36	37	38	38	38	40	40	35	38	40	37	28.2	40.1			
6-Jul	37	37	33	34	A	27	22	23	22	26	33	36	36	36	36	37	38	37	37	32	29	31	29	31	32.1	38.0			
7-Jul	32	31	30	29	A	25	21	20	26	33	42	47	50	49	51	54	54	52	50	49	46	48	46	42	40.4	54.2			
8-Jul	23	30	29	32	A	20	16	21	26	34	40	43	47	47	50	59	59	59	54	48	47	53	54	49	40.8	58.8			
9-Jul	41	36	27	23	A	7	8	15	31	41	45	48	49	55	58	59	60	61	66	62	64	62	69	63	45.7	69.1			
10-Jul	61	36	28	37	A	33	28	31	38	54	51	44	36	33	28	23	27	35	42	41	38	35	35	36	36.9	60.6			
11-Jul	34	31	33	29	A	22	22	26	29	34	35	35	33	32	35	37	38	37	35	35	34	31	32	34	32.4	38.3			
12-Jul	34	30	28	27	A	23	22	26	28	32	33	34	34	35	37	38	40	43	43	44	41	36	31	34	33.5	44.1			
13-Jul	35	34	34	31	A	19	17	16	32	40	42	45	44	42	44	46	44	44	43	42	37	36	39	38	36.6	45.9			
14-Jul	34	33	27	26	A	24	18	24	28	33	37	37	37	39	40	42	42	43	43	42	40	37	40	36	34.9	43.3			
15-Jul	36	36	33	28	A	25	26	29	39	46	50	49	48	49	51	49	50	49	45	43	38	38	37	30	40.2	51.3			
16-Jul	24	33	27	26	A	13	12	12	19	31	45	50	48	49	48	48	46	43	40	35	29	26	25	25	32.8	49.8			
17-Jul	22	19	19	22	A	20	17	23	28	35	36	35	33	35	35	36	37	38	36	35	30	29	28	24	29.2	37.9			
18-Jul	23	21	13	12	A	15	P	P	P	26	26	30	36	37	36	34	33	30	28	28	22	18	17	20	25.3	37.1			
19-Jul	16	16	15	15	A	10	7	13	19	25	26	26	29	30	31	32	32	32	31	30	23	22	22	22	22.8	32.3			
20-Jul	22	23	24	23	A	19	20	21	27	34	38	41	42	44	45	46	50	48	41	35	34	37	30	27	33.5	49.8			
21-Jul	21	24	21	28	A	19	18	20	23	21	22	25	28	29	28	24	23	23	23	23	19	17	14	16	22.2	28.8			
22-Jul	19	20	16	15	A	11	11	12	15	21	29	33	36	39	41	42	43	44	46	44	37	35	40	38	29.9	46.0			
23-Jul	38	33	22	16	A	15	17	15	20	20	11	14	20	30	34	33	33	36	38	41	33	30	30	34	26.7	40.8			
24-Jul	28	22	21	20	A	17	18	21	24	27	30	30	32	37	38	38	39	36	41	42	41	34	36	26	30.4	41.7			
25-Jul	27	23	20	18	A	18	21	16	19	29	35	37	38	38	34	33	34	35	30	29	28	30	22	23	27.7	38.5			
26-Jul	15	15	16	5	A	5	6	7	11	18	30	38	39	39	45	51	45	40	36	32	27	22	38	38	26.9	50.9			
27-Jul	29	27	24	23	A	12	7	9	13	20	31	39	36	35	35	31	36	37	33	31	27	20	22	31	26.4	38.5			
28-Jul	25	26	26	21	A	12	9	13	17	26	29	C	C	C	C	36	37	35	34	30	29	27	23	22	25.0	37.2			
29-Jul	23	20	14	15	A	15	16	15	19	25	29	31	32	33	35	34	34	34	33	31	25	23	20	22	25.2	34.7			
30-Jul	23	21	19	16	A	10	8	5	11	15	27	24	26	29	30	32	35	36	36	35	32	29	27	26	24.1	36.4			
31-Jul	25	23	17	22	A	18	21	23	27	32	34	36	37	38	38	38	37	36	36	34	32	30	31	30	30.2	38.1			
28.2 26.4 23.8 22.9 -- 17.6 16.3 18.2 23.1 28.9 33.0 35.6 36.5 38.0 38.8 39.2 40.0 39.6 39.0 37.4 33.9 32.0 32.1 31.3																									Diurnal Average				
60.6 37.1 33.5 37.1 -- 33.0 28.2 31.3 39.3 54.2 50.7 49.8 50.2 55.1 58.4 59.3 59.5 60.9 66.1 62.3 64.4 62.5 69.1 63.2																									Diurnal Maximum				
C - Calibration P - Power Failure A - Automated Daily Zero Span																													
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 82 ppb 24-hr na																													

Hourly Averages

Ozone (O₃) - ppb
Beaverlodge - July 2012



Hourly Maximums

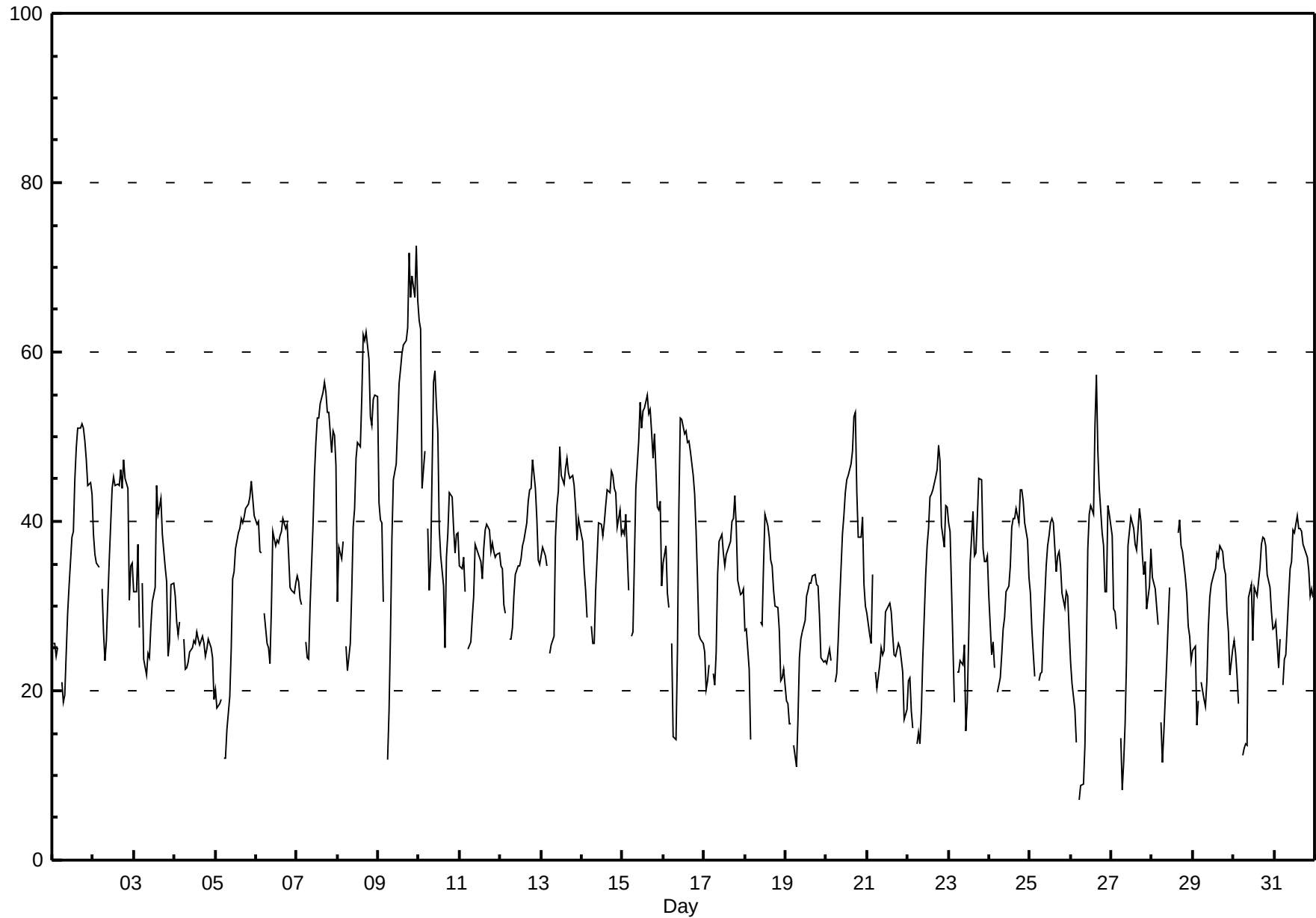
Ozone (O₃) - ppb

Beaverlodge - July 2012

Maximum Value: 72.6 ppb on Jul 9 23:00																					Maximum Daily Average: 50.5 ppb on Jul 9										Hours in Service: 744			
Minimum Value: 7 ppb on Jul 26 06:00																					Minimum Daily Average: 25.0 ppb on Jul 19										Hours of Data: 706			
Maximum Diurnal Average: 42.6 ppb at hour 17																					Minimum Diurnal Average: 20.3 ppb at hour 7										Hours of Missing Data: 38			
Monthly Average: 34.38 ppb																					Percentiles: P ₁ = 11.7 P ₁₀ = 21.5 Q ₁ = 25.9 Median = 34.7 Q ₃ = 40.5 P ₉₀ = 48.3 P ₉₉ = 62.5										Hours of Calibration: 35			
																					Percent Operational Time: 99.6													
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum								
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24										
1-Jul	26	26	24	25	A	21	19	20	24	29	32	38	39	45	49	51	51	52	51	50	47	44	45	43	36.9	51.6								
2-Jul	38	36	35	35	A	32	27	24	26	35	40	44	45	44	44	44	46	44	47	45	44	31	35	35	38.1	47.3								
3-Jul	32	32	37	27	A	33	24	22	24	24	28	31	32	44	41	42	43	39	35	33	24	26	33	33	32.0	44.3								
4-Jul	31	28	27	28	A	26	23	23	23	25	25	26	26	27	26	25	27	26	24	25	26	25	24	19	25.4	31.2								
5-Jul	20	18	18	19	A	12	12	15	19	25	33	34	37	39	39	40	40	41	42	42	43	45	43	41	31.2	44.8								
6-Jul	40	40	36	36	A	29	26	25	23	30	39	37	38	37	38	39	40	39	40	36	32	32	32	33	34.6	40.3								
7-Jul	34	33	31	30	A	26	24	24	30	40	45	49	52	52	54	55	57	55	53	53	48	51	50	47	43.1	56.5								
8-Jul	30	37	36	38	A	25	22	26	32	39	42	47	49	49	55	62	61	62	59	52	51	54	55	55	45.2	62.3								
9-Jul	42	40	40	31	A	12	18	27	38	45	47	51	56	58	60	61	61	63	72	66	69	66	73	66	50.5	72.6								
10-Jul	64	63	44	48	A	39	32	35	56	58	54	50	39	36	32	25	36	39	43	43	39	36	38	39	43.0	63.8								
11-Jul	35	34	36	32	A	25	26	29	31	37	37	36	35	33	37	39	40	39	36	38	36	36	36	36	34.7	39.7								
12-Jul	35	34	30	29	A	26	26	27	31	34	35	35	36	37	38	40	42	44	44	47	44	40	35	35	35.9	47.3								
13-Jul	36	37	36	35	A	24	25	27	38	42	44	49	45	44	46	47	46	45	45	44	42	38	40	39	39.8	48.8								
14-Jul	38	34	32	29	A	28	26	26	32	36	40	40	38	40	42	44	43	46	45	44	43	39	41	38	37.5	45.9								
15-Jul	39	38	41	32	A	26	27	35	44	50	54	51	53	53	55	53	53	50	47	50	42	41	42	32	44.0	54.9								
16-Jul	35	37	32	30	A	26	15	14	25	42	52	52	50	51	49	49	48	46	43	39	33	27	26	26	36.8	52.1								
17-Jul	25	20	21	23	A	22	21	25	34	38	38	36	35	36	37	38	40	40	43	39	33	31	31	32	32.1	43.0								
18-Jul	27	27	23	14	A	23	P	P	P	28	28	35	41	39	38	35	35	32	30	30	27	21	21	23	28.9	40.8								
19-Jul	19	18	16	16	A	14	11	17	24	26	27	28	31	32	33	33	34	34	32	32	29	24	23	24	25.0	33.7								
20-Jul	23	24	25	24	A	21	22	26	30	38	41	43	45	45	47	48	52	53	44	38	38	41	33	30	36.1	52.8								
21-Jul	29	27	26	34	A	22	20	23	25	24	25	29	30	30	29	27	24	24	26	25	24	22	17	18	25.2	33.8								
22-Jul	21	22	18	16	A	14	15	14	18	24	34	37	39	43	43	44	45	46	49	47	40	37	42	42	32.5	48.9								
23-Jul	40	39	32	19	A	22	22	24	23	25	15	19	26	35	41	36	36	41	45	45	37	35	35	36	31.7	45.1								
24-Jul	31	24	26	23	A	20	21	24	27	29	32	32	35	39	40	40	42	40	44	44	42	40	38	33	33.3	43.8								
25-Jul	31	27	24	22	A	21	22	22	27	35	37	38	40	40	40	34	36	36	35	32	30	32	31	27	31.3	40.3								
26-Jul	23	21	18	14	A	7	9	9	14	25	37	41	42	41	51	57	48	44	39	37	32	32	42	41	31.4	57.2								
27-Jul	38	30	29	27	A	14	8	12	16	24	37	40	40	39	37	37	42	40	36	34	35	30	32	37	31.1	41.6								
28-Jul	33	33	32	28	A	16	11	15	23	28	32	C	C	C	C	39	40	37	36	33	31	28	26	24	28.8	40.2								
29-Jul	25	25	16	19	A	21	19	18	21	27	31	33	34	34	36	36	37	36	35	34	29	27	22	25	27.8	37.2								
30-Jul	26	24	22	18	A	12	13	14	14	31	33	26	32	32	31	35	37	38	38	37	34	32	29	27	27.6	38.1								
31-Jul	27	28	23	26	A	21	24	24	31	34	35	39	39	41	39	39	39	37	37	36	34	31	32	31	32.5	40.7								
																									Diurnal Average									
																									Diurnal Maximum									
C - Calibration																									P - Power Failure					A - Automated Daily Zero Span				

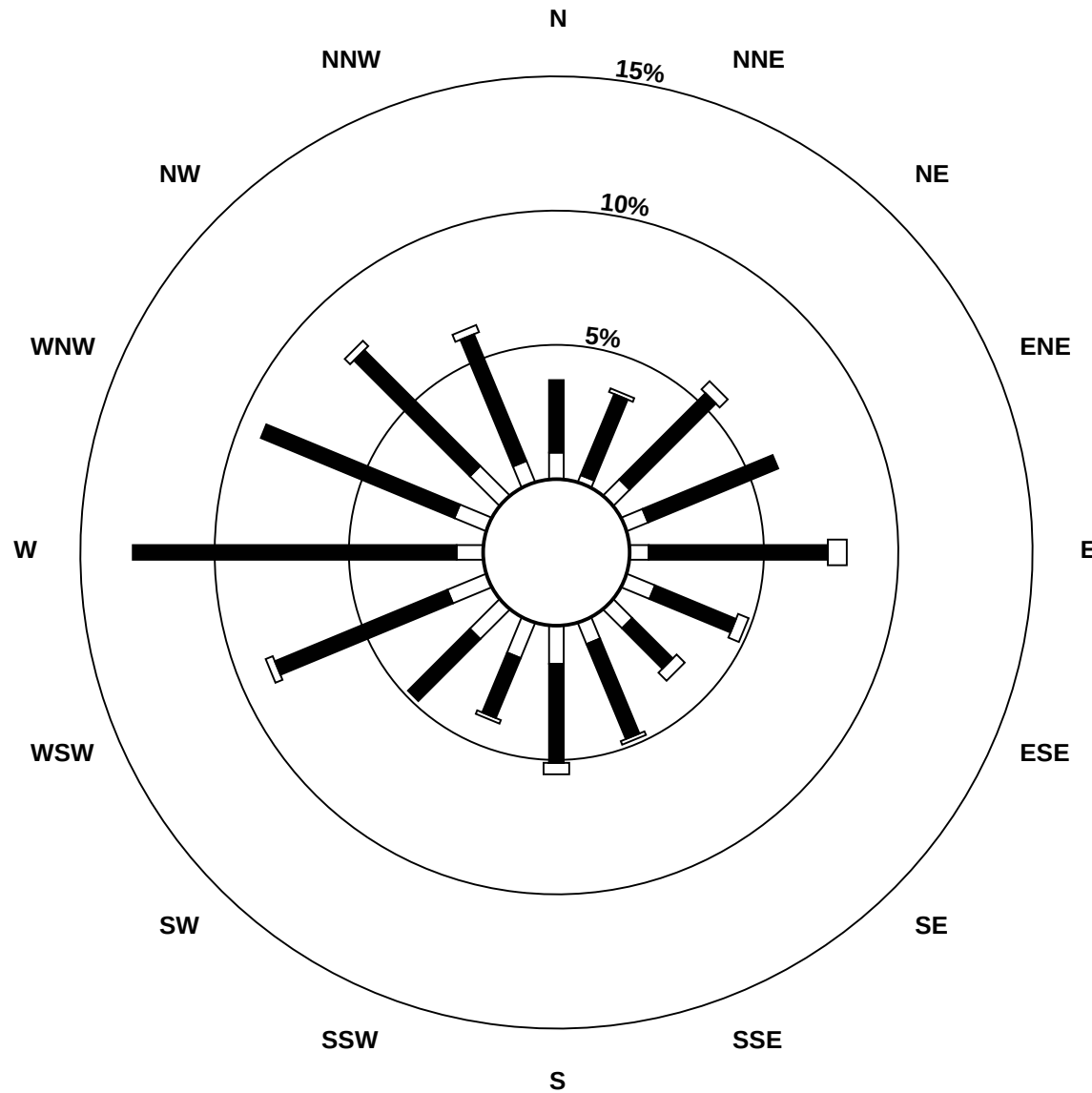
Hourly Maximums

Ozone (O₃) - ppb
Beaverlodge - July 2012

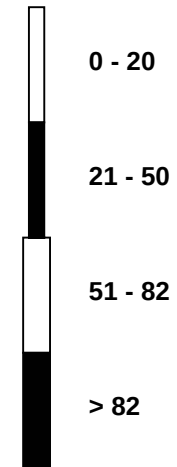


Pollutant Rose

Ozone (O₃) - ppb
Beaverlodge - July 2012



Pollutant Classes (ppb)



Eight Hour Running Averages

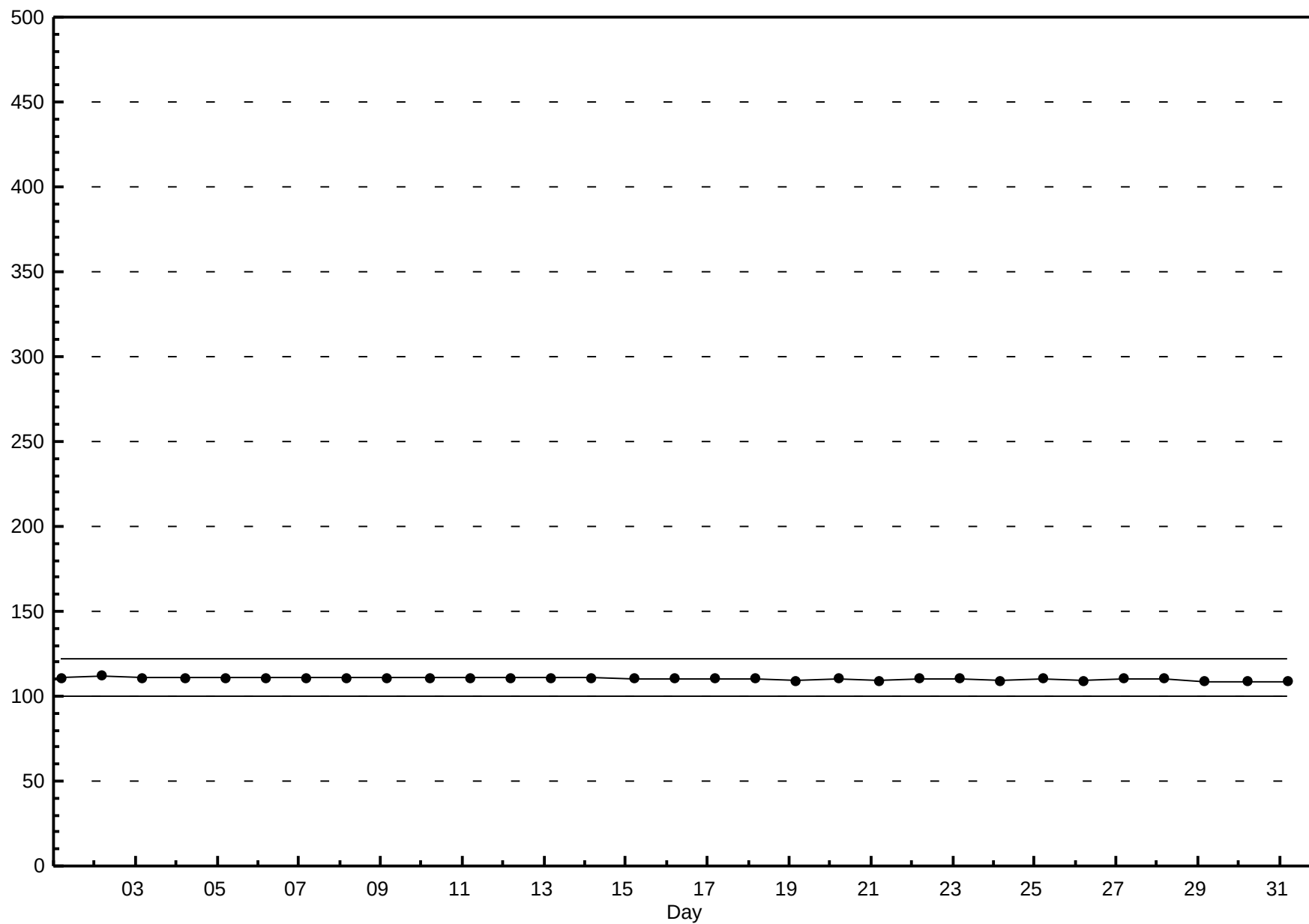
Ozone (O₃) - ppb

Beaverlodge - July 2012

Maximum Value: 63.6 ppb on Jul 10 01:00																								Hours in Service: 744	
Minimum Value: 9.2 ppb on Jul 26 09:00																								Hours of Data: 730	
																								Hours of Missing Data: 14	
Percentiles: P ₁ = 13.0 P ₁₀ = 19.1 Q ₁ = 23.9 Median = 30.4 Q ₃ = 36.2 P ₉₀ = 42.0 P ₉₉ = 57.5																								Hours of Calibration: 12	
																								Percent Operational Time: 99.7	
Day	Hourly Period Ending At (MST)																							Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jul	26	25	23	22	21	20	19	18	18	19	21	23	24	27	31	35	38	41	43	45	46	46	46	45	46.4
2-Jul	44	41	39	37	36	33	30	28	26	26	27	28	30	32	34	37	39	41	42	42	42	40	38	37	43.5
3-Jul	35	33	31	28	27	26	24	22	21	19	18	19	21	23	25	28	31	33	34	34	33	32	31	30	35.2
4-Jul	29	28	27	26	27	27	26	25	24	23	23	22	23	23	23	24	24	24	24	24	24	24	24	23	28.6
5-Jul	22	21	20	19	18	16	14	14	14	15	17	19	21	24	27	30	33	35	37	38	38	38	38	38	38.4
6-Jul	38	38	37	36	37	35	32	30	28	27	27	27	28	29	31	33	35	36	37	36	35	35	34	33	38.1
7-Jul	32	32	31	30	30	30	29	27	26	26	28	31	33	36	40	44	48	50	51	51	51	51	50	49	51.1
8-Jul	45	42	39	37	36	32	27	24	25	25	27	28	31	34	38	43	47	50	52	53	53	53	54	53	53.9
9-Jul	51	48	44	41	40	34	27	22	21	22	24	28	30	36	43	48	52	54	57	59	61	62	63	63	63.5
10-Jul	64	60	56	53	51	47	41	36	33	36	39	40	39	39	39	38	37	35	34	33	33	33	34	36	63.6
11-Jul	37	36	35	34	33	32	30	28	28	28	28	29	30	31	32	34	35	35	35	35	35	35	35	35	36.8
12-Jul	34	33	32	31	31	30	28	27	26	27	27	28	29	31	32	34	35	37	38	39	40	40	39	39	40.1
13-Jul	38	37	36	34	34	31	29	26	26	27	28	30	32	35	38	42	43	44	44	44	43	42	41	40	44.0
14-Jul	39	38	36	34	33	32	29	26	26	26	27	29	30	32	34	37	38	40	40	41	42	41	41	41	41.6
15-Jul	40	39	38	36	35	33	31	30	31	32	35	38	39	42	45	48	49	49	49	48	47	45	44	41	49.4
16-Jul	38	36	34	32	31	27	24	21	20	20	23	26	29	33	38	42	46	47	47	45	42	39	37	34	47.2
17-Jul	31	28	25	23	22	22	20	20	21	23	26	27	28	30	32	34	35	36	36	36	35	35	34	32	35.7
18-Jul	30	28	26	23	22	20	18	N	N	N	N	N	N	N	32	32	32	33	33	33	31	29	26	25	33.0
19-Jul	23	21	19	17	17	16	14	13	14	15	16	18	19	22	25	27	29	30	30	31	30	29	28	27	30.8
20-Jul	26	24	23	23	22	22	22	22	22	24	26	29	30	33	36	40	42	44	44	44	43	42	40	38	44.4
21-Jul	34	31	29	28	27	24	23	22	22	22	22	21	22	23	25	25	25	25	25	25	24	22	21	20	34.2
22-Jul	19	19	18	17	17	16	15	15	14	15	16	19	21	25	28	32	36	38	41	42	42	42	41	41	42.0
23-Jul	40	39	36	32	32	29	25	22	20	18	16	16	17	18	21	23	25	26	30	33	35	35	34	34	40.3
24-Jul	34	32	30	27	26	25	23	21	21	21	22	24	25	27	30	32	34	35	37	38	39	39	38	37	39.0
25-Jul	35	34	31	28	26	24	22	20	19	20	22	25	27	29	31	33	35	36	35	34	33	32	30	29	35.5
26-Jul	26	24	22	19	18	14	12	10	9	10	12	16	19	24	28	34	38	41	42	41	39	37	36	35	41.7
27-Jul	33	31	30	29	29	27	23	19	16	15	16	18	21	23	27	30	33	35	35	34	33	31	30	30	35.2
28-Jul	28	27	26	25	24	23	21	19	18	18	18	18	18	N	N	N	N	N	N	N	34	33	31	30	33.5
29-Jul	28	26	23	22	20	19	18	17	16	17	19	21	23	25	27	30	32	33	33	33	32	31	29	28	33.3
30-Jul	27	25	23	21	21	19	17	14	13	12	13	14	16	18	21	24	27	30	31	33	33	33	33	32	33.3
31-Jul	31	29	27	25	24	23	22	21	22	23	25	27	29	31	33	35	36	37	37	37	36	35	34	33	36.8
63.6 60.5 55.7 52.6 50.9 46.7 40.8 36.3 33.1 35.7 38.9 39.9 39.4 42.2 45.3 48.2 51.8 54.3 57.0 58.8 60.7 61.7 63.0 63.5																									
Diurnal Maximums																									
N - Not Valid																									

Span Responses

Ozone (O₃)
Beaverlodge - July 2012



Hourly Averages

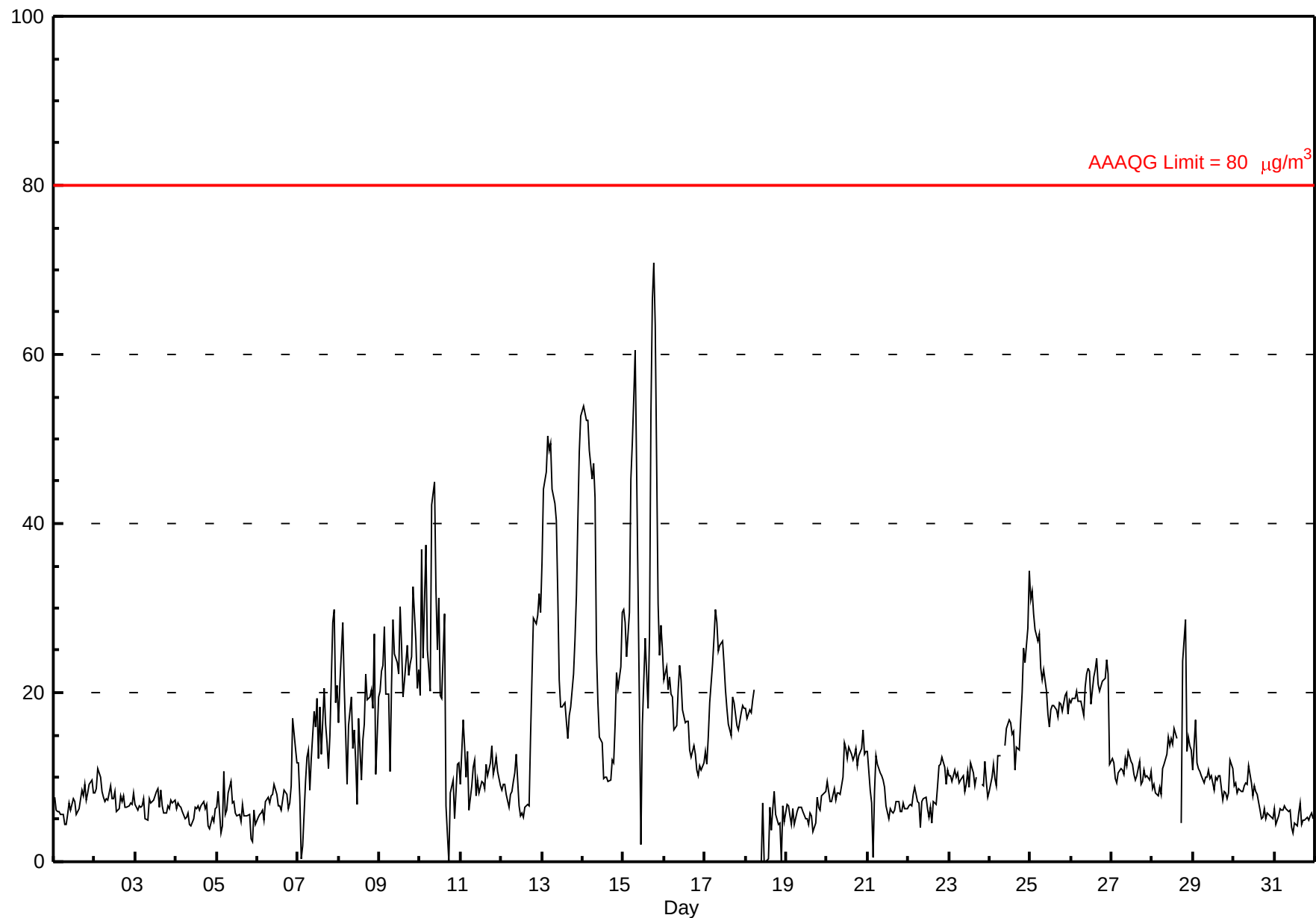
Particulate Matter 2.5 (PM_{2.5}) - µg/m³

Beaverlodge - July 2012

Number of Exceedences: 1-hr: 0 24-hr: 2 Maximum Value: 70.8 µg/m³ on Jul 15 19:00 Minimum Value: 0 µg/m³ on Jul 10 18:00 Maximum Diurnal Average: 16.0 µg/m³ at hour 8 Monthly Average: 13.83 µg/m³																								Hours in Service: 744 Hours of Data: 735 Hours of Missing Data: 9 Hours of Calibration: 0 Percent Operational Time: 98.8		
Maximum Daily Average: 35.8 µg/m³ on Jul 15 Minimum Daily Average: 5.4 µg/m³ on Jul 31 Minimum Diurnal Average: 11.2 µg/m³ at hour 16 Percentiles: P ₁ = 0.4 P ₁₀ = 5.4 Q ₁ = 6.8 Median = 10.1 Q ₃ = 18.3 P ₉₀ = 26.1 P ₉₉ = 52.4																										
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
1-Jul	8	6	6	6	6	6	4	4	6	7	6	8	7	6	6	6	8	8	9	7	8	9	10	8	6.8	9.7
2-Jul	8	9	11	10	8	8	7	7	7	9	7	7	8	6	6	8	7	8	6	6	7	7	7	8	7.7	11.0
3-Jul	7	6	7	6	7	7	5	5	7	7	7	7	8	9	7	8	7	6	6	7	6	7	7	7	6.8	8.6
4-Jul	6	7	7	6	6	5	5	6	4	4	5	6	6	7	6	7	7	6	7	4	4	5	5	6	5.8	7.1
5-Jul	7	8	3	4	11	6	6	8	10	7	7	6	5	6	5	7	5	5	5	6	3	2	6	4	5.9	10.7
6-Jul	5	6	6	6	5	7	8	7	8	8	9	8	7	7	6	7	8	8	6	7	9	17	13	12	7.9	16.9
7-Jul	12	8	0	2	9	12	13	8	12	18	16	19	12	18	13	21	16	14	11	15	28	30	19	21	14.5	29.9
8-Jul	16	21	28	21	15	9	16	19	13	16	12	7	17	10	14	16	22	19	20	20	18	27	10	19	17.0	28.3
9-Jul	20	23	23	28	20	20	11	21	29	25	24	22	30	26	19	21	26	22	23	24	32	26	20	23	23.2	32.5
10-Jul	20	37	24	37	25	23	20	42	45	32	25	31	20	19	29	7	3	0	8	10	5	8	12	12	20.6	44.9
11-Jul	9	17	14	10	13	6	9	11	12	8	10	8	10	9	9	12	10	12	14	10	11	12	11	9	10.6	16.8
12-Jul	9	9	9	8	6	8	8	10	10	13	7	5	6	5	6	7	7	15	22	29	28	29	32	29	13.2	31.7
13-Jul	35	44	46	50	49	50	44	42	40	32	21	18	18	19	17	15	17	18	22	26	32	40	48	53	33.2	52.7
14-Jul	54	53	52	52	49	45	47	43	25	19	15	14	10	10	10	9	10	12	12	16	22	21	23	29	27.2	53.9
15-Jul	30	28	24	30	45	50	55	60	47	18	2	16	21	27	18	27	53	66	71	63	31	24	28	25	35.8	70.8
16-Jul	22	23	20	22	20	19	16	16	20	23	21	18	16	17	17	13	12	14	13	11	10	11	11	12	16.6	23.3
17-Jul	13	12	15	19	23	26	30	28	25	26	26	23	20	18	16	15	19	19	17	16	16	18	18	18	19.9	29.8
18-Jul	18	17	18	18	19	20	P	P	P	0	7	0	0	0	6	4	6	8	6	4	5	0	7	5	8.0	20.4
19-Jul	7	7	5	4	6	4	6	6	6	6	5	5	4	6	5	4	5	8	6	6	8	8	8	8	6.0	8.3
20-Jul	10	8	7	7	9	7	8	8	8	10	14	13	12	14	13	12	13	13	11	12	13	16	13	13	11.0	15.5
21-Jul	13	8	7	1	8	12	12	10	10	10	9	7	5	6	6	6	6	7	7	6	6	7	6	6	7.6	13.1
22-Jul	7	7	7	8	9	7	7	4	7	7	8	6	5	6	5	7	7	9	11	12	12	11	9	11	7.9	12.3
23-Jul	10	10	9	11	10	10	9	10	10	8	9	11	9	12	10	9	10	N	N	9	9	12	9	8	9.8	11.8
24-Jul	8	10	12	10	9	12	13	N	N	14	16	17	16	15	15	11	14	13	17	20	25	24	28	34	16.0	34.4
25-Jul	31	32	29	27	26	27	23	22	23	20	18	16	18	19	18	18	17	19	19	18	20	20	17	19	21.5	32.0
26-Jul	19	19	19	20	19	19	19	17	21	22	23	22	19	22	23	24	21	20	21	22	22	24	22	12	20.4	24.1
27-Jul	12	12	10	9	11	11	11	10	12	11	13	12	11	10	10	10	12	9	10	11	10	10	10	11	10.7	13.0
28-Jul	9	9	8	8	9	8	11	11	13	15	14	15	14	16	15	M	N	5	24	29	13	15	14	13	12.9	28.6
29-Jul	11	17	12	11	11	10	9	10	10	11	10	10	8	10	10	10	10	7	8	8	8	8	12	11	10.1	16.7
30-Jul	9	9	8	9	8	8	9	9	9	11	9	8	9	8	8	6	5	5	6	5	6	5	5	5	7.6	11.4
31-Jul	6	4	5	6	6	6	7	6	6	6	4	3	5	4	6	7	4	5	5	5	5	5	6	5	5.4	6.9
14.5 15.7 14.6 15.1 15.4 15.2 14.9 16.0 15.7 13.6 12.2 11.9 11.6 11.7 11.4 11.2 12.2 12.6 14.2 14.4 13.8 14.8 14.4 14.7																								Diurnal Average		
53.9 53.1 52.3 52.1 48.7 49.5 54.8 60.5 46.6 32.2 26.1 31.2 30.2 26.5 29.4 26.8 53.0 66.4 70.8 63.4 32.5 40.4 48.4 52.7																								Diurnal Maximum		
P - Power Failure M - Maintenance N - Not Valid																										
Alberta Ambient Air Quality Guideline (AAAQG): 1-hr 80 µg/m³ Alberta Ambient Air Quality Objective (AAAQO): 24-hr 30 µg/m³																										

Hourly Averages

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



Hourly Maximums

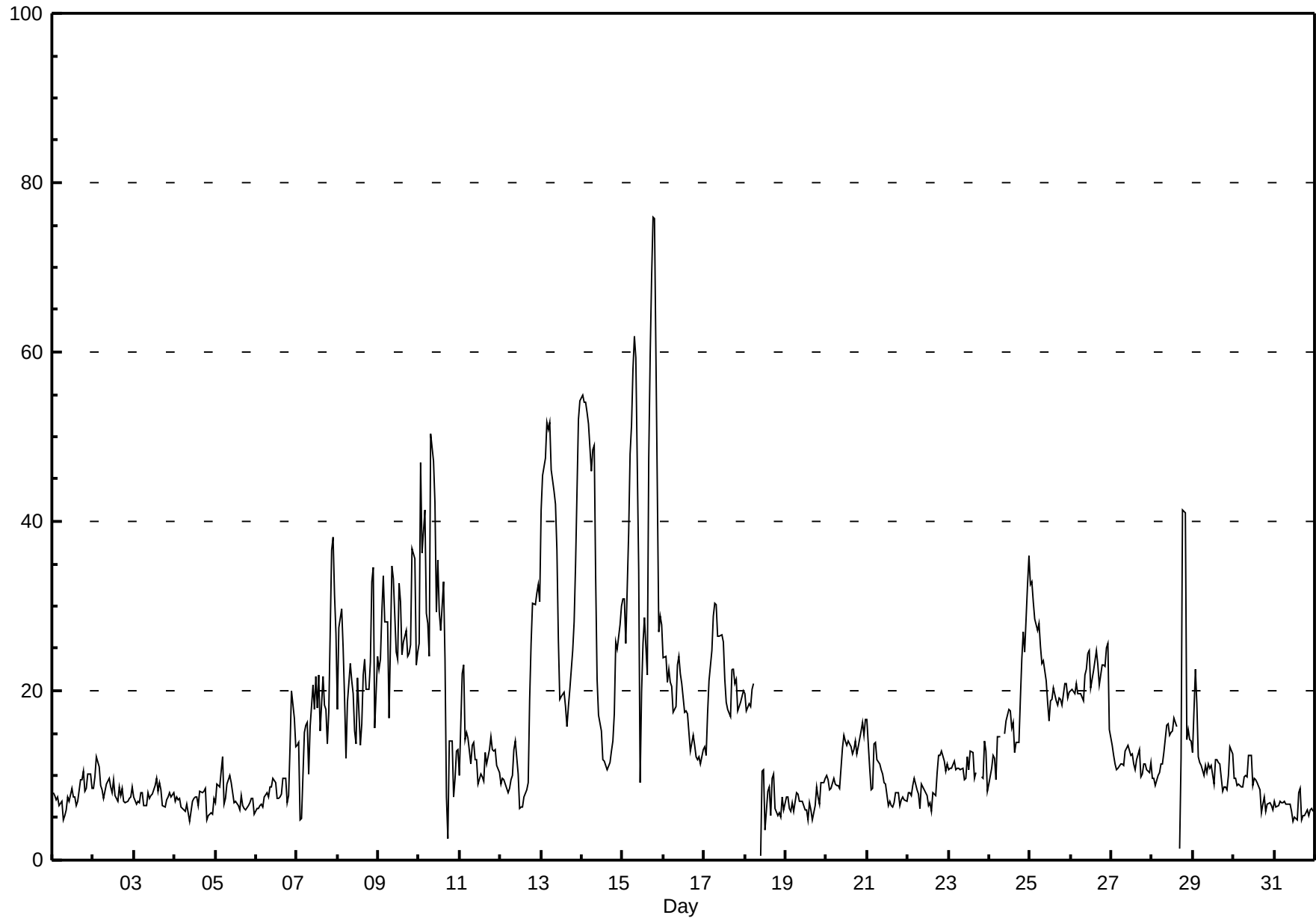
Particulate Matter 2.5 (PM_{2.5}) - µg/m³

Beaverlodge - July 2012

Maximum Value: 76.0 μg/m³ on Jul 15 19:00																					Maximum Daily Average: 41.6 μg/m³ on Jul 15					Hours in Service: 744	
Minimum Value: 1 μg/m³ on Jul 18 10:00																					Minimum Daily Average: 6.2 μg/m³ on Jul 31					Hours of Data: 736	
Maximum Diurnal Average: 18.1 μg/m³ at hour 9																					Minimum Diurnal Average: 13.0 μg/m³ at hour 15					Hours of Missing Data: 8	
Monthly Average: 15.77 μg/m³																					Percentiles: P ₁ = 4.7 P ₁₀ = 6.5 Q ₁ = 8.0 Median = 11.6 Q ₃ = 20.2 P ₉₀ = 29.6 P ₉₉ = 56.8					Hours of Calibration: 0	
																					Percent Operational Time: 98.9						
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-Jul	8	8	7	8	7	7	5	5	6	7	7	8	7	7	7	7	9	9	10	8	8	10	10	9	7.8	10.4	
2-Jul	9	10	12	11	9	8	7	8	9	10	9	8	9	8	7	9	8	8	7	7	7	7	7	9	8.4	12.1	
3-Jul	7	7	7	7	8	8	6	6	8	7	8	8	9	10	8	9	8	7	6	7	7	8	7	8	7.6	9.7	
4-Jul	7	8	7	7	6	6	6	7	6	5	7	7	7	7	6	8	8	8	8	5	5	6	6	7	6.7	8.4	
5-Jul	7	9	9	11	12	7	7	9	10	9	8	7	7	6	6	8	6	6	6	7	7	7	7	5	7.6	12.1	
6-Jul	6	6	6	7	6	8	8	7	9	9	10	9	7	7	7	8	10	10	7	8	13	20	17	13	9.0	19.9	
7-Jul	14	14	5	5	15	16	16	10	16	21	18	22	18	22	15	22	18	18	14	17	37	38	31	27	18.6	38.2	
8-Jul	18	27	30	25	19	12	19	23	21	20	15	14	22	13	16	22	24	20	20	23	33	35	16	24	21.3	34.6	
9-Jul	23	24	29	34	28	28	17	26	35	33	25	24	33	31	24	26	27	24	24	25	37	36	23	25	27.4	36.7	
10-Jul	26	47	36	41	29	28	24	50	47	42	29	35	29	27	33	24	7	3	14	14	8	10	13	13	26.3	50.4	
11-Jul	10	22	23	14	15	14	11	14	14	12	12	9	10	10	9	13	11	13	15	13	13	13	11	10	13.0	23.1	
12-Jul	9	10	9	9	8	8	9	10	13	14	10	6	6	6	7	8	9	19	26	30	30	32	33	31	14.7	32.6	
13-Jul	41	45	47	52	51	52	46	44	42	37	26	19	19	20	18	16	18	20	25	28	35	44	52	54	35.5	54.2	
14-Jul	55	54	54	53	52	46	48	49	33	21	17	15	12	12	11	11	12	13	14	17	26	25	28	30	29.5	55.0	
15-Jul	31	31	26	39	48	51	58	62	59	34	9	20	26	29	22	47	60	69	76	76	44	27	29	28	41.6	76.0	
16-Jul	24	24	21	23	21	21	17	18	23	24	22	21	17	18	17	15	13	15	14	12	12	12	11	13	17.8	24.0	
17-Jul	13	12	17	21	25	29	30	30	26	26	27	26	21	19	18	17	23	23	21	21	18	19	19	20	21.7	30.4	
18-Jul	20	18	18	18	20	21	P	P	P	1	11	11	4	8	9	5	10	10	6	5	6	5	8	6	10.4	20.9	
19-Jul	7	7	6	6	7	6	8	8	7	7	7	6	6	5	7	6	5	6	9	7	7	9	9	10	7.0	9.7	
20-Jul	10	9	8	8	10	9	9	9	8	13	15	14	13	14	13	12	13	14	13	13	15	16	15	17	12.2	16.6	
21-Jul	17	11	8	8	14	14	12	11	11	10	9	9	6	7	7	6	7	8	8	7	7	7	7	7	9.1	16.7	
22-Jul	8	8	8	9	10	8	8	6	9	9	8	8	6	7	6	8	8	10	12	12	13	12	10	11	8.9	12.9	
23-Jul	11	11	11	12	11	11	11	11	11	9	10	12	11	13	13	10	10	N	N	10	10	14	13	8	10.9	14.1	
24-Jul	9	11	12	12	9	15	15	N	N	15	16	18	18	16	16	13	14	14	19	24	27	25	33	36	17.5	35.9	
25-Jul	33	33	31	28	27	28	25	23	24	21	19	16	19	19	20	19	18	19	19	18	21	21	19	20	22.5	32.8	
26-Jul	20	20	20	21	20	20	20	19	22	23	24	25	20	22	24	25	23	21	23	23	23	25	26	15	21.7	25.5	
27-Jul	14	12	11	11	11	11	11	11	13	13	14	12	13	11	11	12	13	10	10	11	11	11	10	12	11.7	13.6	
28-Jul	10	10	9	10	10	11	11	13	16	16	15	15	15	17	16	M	1	12	41	41	14	16	14	14	15.1	41.3	
29-Jul	13	23	18	12	12	11	10	11	10	11	11	9	12	12	12	12	11	8	9	9	8	10	13	13	11.6	22.6	
30-Jul	10	10	9	9	9	9	10	10	10	12	12	9	10	9	9	8	6	7	7	6	7	7	7	6	8.6	12.4	
31-Jul	7	6	7	7	7	7	7	7	7	7	6	5	5	5	8	8	5	5	5	6	5	6	6	6	6.2	8.4	
15.9 17.6 16.9 17.3 17.2 17.1 16.4 17.8 18.1 16.1 14.0 13.8 13.4 13.4 13.0 13.7 13.4 14.3 16.3 16.5 16.5 17.1 16.5 16.3																									Diurnal Average		
55.0 54.0 54.1 52.8 51.6 51.6 58.0 61.8 59.4 42.2 29.3 35.5 32.8 30.5 33.0 47.5 59.6 68.9 76.0 75.7 43.6 43.6 52.1 54.2																									Diurnal Maximum		
P - Power Failure M - Maintenance N - Not Valid																											

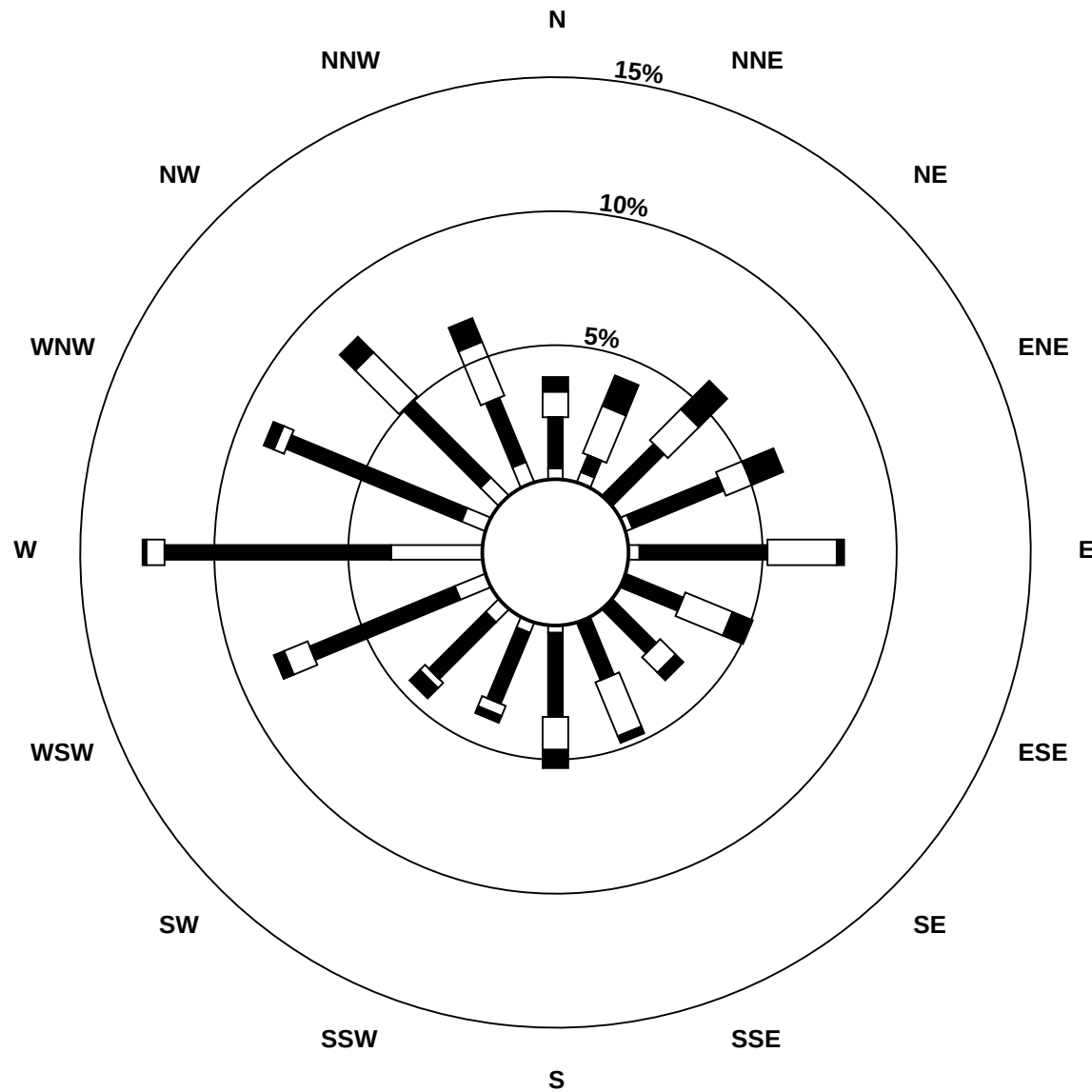
Hourly Maximums

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



Pollutant Rose

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



Hourly Averages

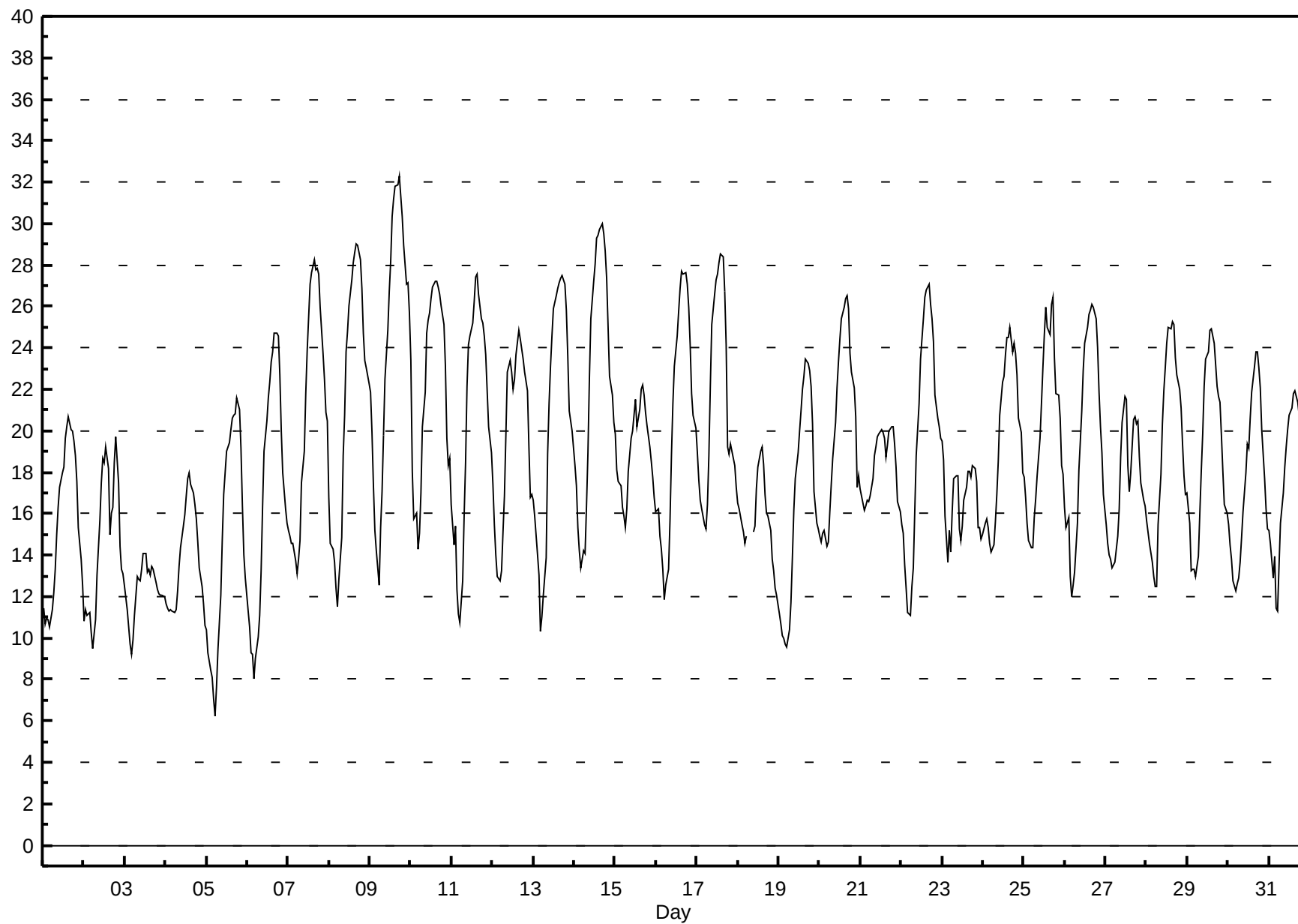
External Temperature (ET) - °C

Beaverlodge - July 2012

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 32.3 °C on Jul 9 18:00 Maximum Daily Average: 24.3 °C on Jul 9																								Hours in Service: 744 Hours of Data: 741 Hours of Missing Data: 3 Hours of Calibration: 0 Percent Operational Time: 99.6		
Minimum Value: 6 °C on Jul 5 06:00 Maximum Diurnal Average: 23.8 °C at hour 17 Monthly Average: 18.66 °C												Minimum Daily Average: 12.3 °C on Jul 3 Minimum Diurnal Average: 12.5 °C at hour 6 Percentiles: P ₁ = 9.2 P ₁₀ = 12.3 Q ₁ = 14.7 Median = 18.1 Q ₃ = 22.4 P ₉₀ = 26.0 P ₉₉ = 30.3														
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-Jul	11	11	11	11	11	11	12	13	15	16	17	18	18	20	20	21	20	20	20	19	18	15	14	13	15.6	20.7
2-Jul	11	11	11	11	10	10	10	11	13	16	17	19	18	19	18	15	16	16	18	20	17	14	13	13	14.6	19.7
3-Jul	13	11	11	10	9	10	11	13	13	13	13	14	14	13	13	13	13	13	13	12	12	12	12	12	12.3	14.1
4-Jul	12	11	11	11	11	11	11	12	13	14	15	16	17	18	18	17	17	16	16	15	13	12	12	11	13.9	17.9
5-Jul	10	9	8	8	7	6	8	9	12	15	17	18	19	19	20	21	21	21	22	21	19	16	14	13	14.8	21.6
6-Jul	11	11	9	9	8	9	10	11	13	16	19	21	22	22	23	24	25	25	25	23	20	18	16	16	16.9	24.7
7-Jul	15	15	15	15	14	13	14	15	18	19	22	24	26	27	28	28	28	28	28	26	24	23	21	20	20.9	28.3
8-Jul	17	15	14	14	12	12	13	15	19	21	24	25	26	27	28	29	29	28	27	25	23	23	22	22	21.5	29.0
9-Jul	22	20	17	15	14	13	15	17	20	22	25	27	28	30	31	32	32	32	31	30	29	27	27	26	24.3	32.3
10-Jul	23	18	16	16	14	15	17	20	22	25	25	26	26	27	27	27	27	27	26	25	23	20	18	19	22.1	27.2
11-Jul	16	15	15	12	11	11	13	16	18	22	24	25	25	26	27	28	27	25	25	25	24	22	20	19	20.5	27.5
12-Jul	17	15	14	13	13	13	15	17	20	23	23	23	22	22	24	25	24	24	23	23	22	19	17	17	19.6	24.9
13-Jul	17	16	14	13	10	11	12	14	19	21	23	25	26	27	27	27	27	27	27	26	24	21	20	20	20.6	27.5
14-Jul	18	17	15	14	13	14	14	16	19	22	25	27	28	29	29	30	30	30	29	27	25	23	22	20	22.5	30.0
15-Jul	20	18	18	17	16	16	15	16	18	20	20	21	22	20	21	22	22	22	21	20	19	19	18	17	19.0	22.2
16-Jul	16	16	15	14	13	12	13	13	16	19	21	23	25	26	27	28	28	28	27	26	24	22	21	20	20.5	27.7
17-Jul	19	18	17	16	15	15	16	19	22	25	27	27	28	28	29	28	27	24	19	19	19	19	18	17	21.3	28.5
18-Jul	17	16	15	15	15	15	P	P	P	15	15	17	18	19	19	18	17	16	16	15	14	13	12	12	15.8	19.2
19-Jul	11	11	10	10	10	10	10	12	14	16	18	19	20	21	22	23	23	23	23	22	20	17	16	15	16.5	23.4
20-Jul	15	15	15	15	14	15	16	17	19	20	22	23	24	25	26	26	27	26	24	23	22	21	17	18	20.2	26.5
21-Jul	17	16	16	16	17	17	17	18	19	19	20	20	20	20	20	19	19	20	20	20	19	18	17	16	18.3	20.2
22-Jul	15	15	14	12	11	11	12	13	16	19	21	23	24	25	26	27	27	26	25	24	22	21	20	20	19.7	27.1
23-Jul	19	19	16	14	15	14	16	18	18	18	15	15	15	17	17	18	18	18	18	18	18	15	15	15	16.6	19.5
24-Jul	15	16	16	15	15	14	14	16	17	19	21	22	23	24	24	24	25	24	24	24	23	21	20	18	19.7	25.0
25-Jul	18	17	16	15	14	14	16	17	18	20	21	23	25	26	25	25	26	26	24	22	22	21	18	18	20.2	26.4
26-Jul	16	15	16	13	12	13	13	16	18	20	21	23	24	25	26	26	26	26	25	24	22	20	19	17	19.8	26.1
27-Jul	15	15	14	14	13	14	14	15	16	19	20	22	21	18	17	18	21	21	20	20	19	17	17	16	17.4	21.7
28-Jul	16	15	15	14	13	12	12	15	18	20	22	23	24	25	25	25	25	24	23	22	21	19	18	17	19.3	25.2
29-Jul	17	16	13	13	13	13	14	16	18	20	22	23	24	25	25	25	24	22	22	21	20	18	16	16	19.0	24.9
30-Jul	15	15	14	13	12	13	13	14	15	16	18	19	19	21	22	23	24	24	23	22	20	18	16	15	17.6	23.8
31-Jul	15	15	13	14	11	11	13	16	17	18	19	20	21	21	22	22	22	21	21	20	18	16	15	14	17.3	21.9
15.9 14.9 14.0 13.3 12.6 12.5 13.4 15.0 17.1 19.0 20.5 21.6 22.3 23.0 23.5 23.6 23.8 23.4 22.8 22.0 20.5 18.7 17.5 16.8																								Diurnal Average		
23.4 19.9 17.5 17.3 16.7 16.6 17.0 20.2 22.1 25.1 26.6 27.3 28.2 30.3 31.2 31.8 31.9 32.3 31.3 30.4 28.9 27.1 27.2 25.7																								Diurnal Maximum		
P - Power Failure																										

Hourly Averages

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



Hourly Averages

Relative Humidity (RH) - %

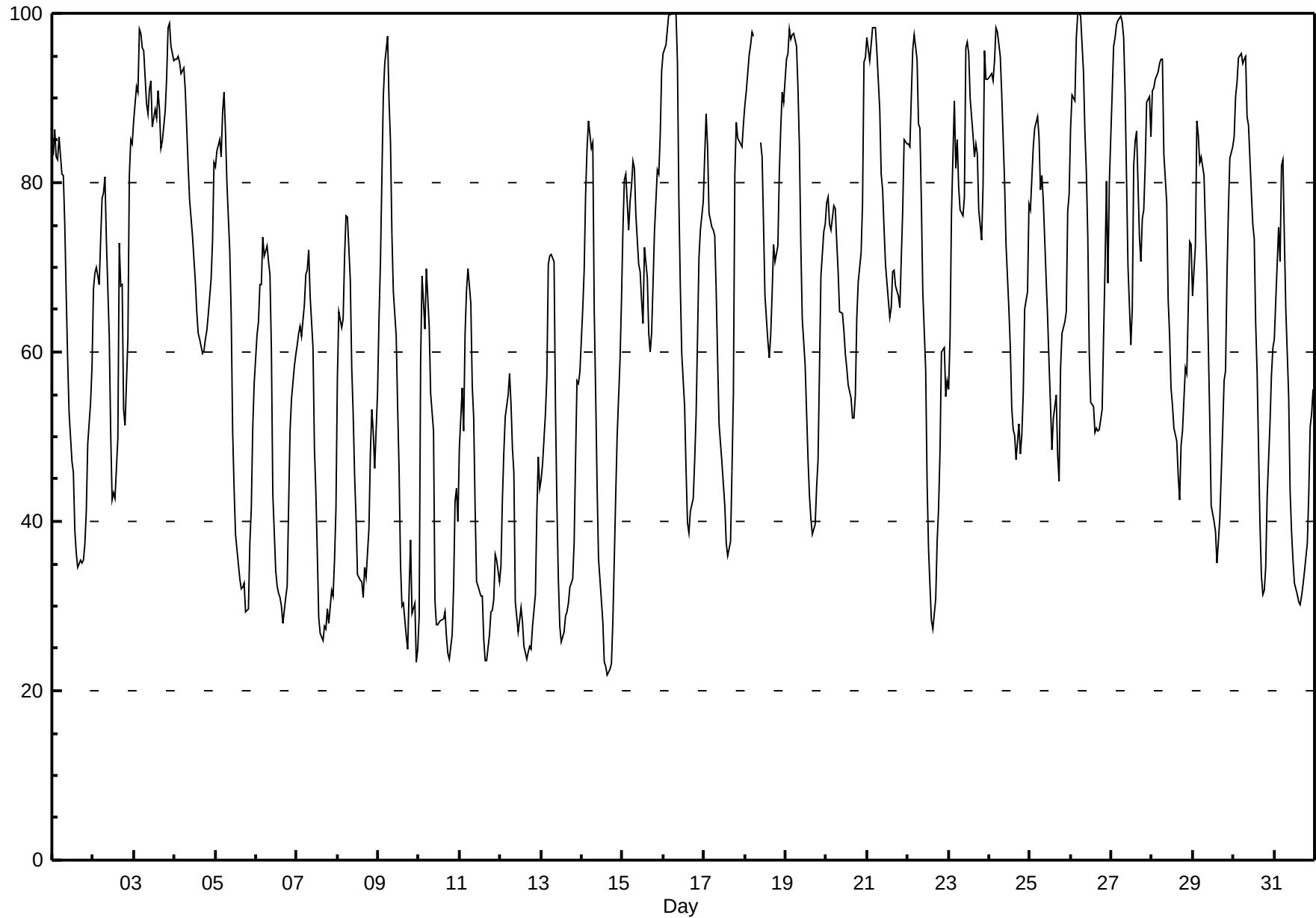
Beaverlodge - July 2012

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 100.0 % on Jul 16 04:00 Maximum Daily Average: 91.5 % on Jul 3																								Hours in Service: 744 Hours of Data: 741 Hours of Missing Data: 3 Hours of Calibration: 0 Percent Operational Time: 99.6		
Minimum Value: 22 % on Jul 14 16:00 Maximum Diurnal Average: 85.3 % at hour 6 Monthly Average: 63.66 %												Minimum Daily Average: 37.4 % on Jul 12 Minimum Diurnal Average: 44.5 % at hour 17 Percentiles: P ₁ = 23.6 P ₁₀ = 31.2 Q ₁ = 45.7 Median = 65.1 Q ₃ = 82.5 P ₉₀ = 93.2 P ₉₉ = 99.6														
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jul	83	86	83	83	85	81	81	75	67	59	53	47	46	39	36	35	35	35	35	37	41	49	54	58	57.7	86.2
2-Jul	67	69	70	68	73	78	79	81	73	62	51	43	43	43	50	73	68	68	53	51	62	81	85	85	65.6	85.2
3-Jul	87	91	91	98	98	96	96	89	88	91	92	87	89	88	91	89	84	85	88	92	98	99	96	94	91.5	98.8
4-Jul	95	95	95	94	93	93	91	86	82	78	74	71	68	65	62	61	60	60	62	63	64	69	73	82	76.5	95.0
5-Jul	82	84	85	83	88	91	86	80	72	64	51	44	38	35	33	32	32	33	29	30	37	42	51	56	56.6	90.6
6-Jul	62	64	68	68	73	71	73	71	69	60	43	34	32	32	31	30	28	31	32	42	51	54	58	60	51.6	73.5
7-Jul	61	62	63	62	66	69	70	72	67	61	49	43	36	29	27	26	28	27	30	28	32	31	35	41	46.4	72.1
8-Jul	57	65	63	64	71	76	76	68	58	53	45	40	34	33	33	31	34	33	39	48	53	51	46	55	51.2	76.2
9-Jul	64	71	81	90	94	97	90	85	74	67	62	53	46	35	30	30	26	25	32	38	29	30	23	25	54.1	97.3
10-Jul	29	59	69	63	70	66	63	55	51	31	28	28	28	28	29	29	26	24	24	27	32	42	44	40	41.0	69.8
11-Jul	49	56	51	62	67	70	66	56	52	42	33	32	31	31	26	23	24	27	29	30	31	36	36	33	41.3	69.8
12-Jul	35	43	48	52	55	57	54	49	46	30	27	28	30	28	25	24	25	25	25	28	31	41	48	44	37.4	57.5
13-Jul	45	47	53	57	70	71	72	71	53	42	33	28	26	27	29	29	30	32	33	37	47	57	56	58	46.0	71.6
14-Jul	65	70	79	84	87	84	85	65	55	44	36	31	28	23	23	22	23	23	28	36	43	50	59	66	50.4	87.3
15-Jul	74	80	81	74	78	80	83	82	76	70	69	66	63	72	69	62	60	62	68	74	82	81	86	93	74.5	93.2
16-Jul	95	96	98	100	100	100	100	100	94	78	68	60	54	46	40	39	41	43	47	53	62	71	74	78	72.4	100.0
17-Jul	83	88	84	76	75	74	74	67	59	51	47	44	42	38	36	38	46	55	81	87	85	85	84	87	66.1	88.2
18-Jul	89	91	95	96	98	97	P	P	P	85	83	75	67	61	59	62	67	73	71	72	81	86	91	89	80.4	97.8
19-Jul	95	95	98	97	97	98	96	91	84	73	64	58	53	48	43	40	39	40	44	47	58	69	74	75	69.8	98.1
20-Jul	78	78	75	74	77	77	73	70	65	65	63	60	58	56	55	52	52	55	64	68	72	78	94	95	68.9	94.7
21-Jul	97	94	96	98	98	98	95	89	81	79	75	70	66	64	65	69	70	68	67	65	71	77	85	85	80.1	98.4
22-Jul	85	84	90	96	98	95	87	86	78	67	58	45	37	32	28	27	31	38	41	48	60	60	55	57	61.8	97.5
23-Jul	56	62	77	90	82	85	80	77	76	78	96	97	95	90	86	83	85	83	77	73	80	96	92	92	82.7	96.5
24-Jul	92	93	92	94	98	98	95	91	85	80	73	65	61	53	51	50	47	51	48	50	55	65	67	78	72.2	98.3
25-Jul	77	81	84	86	88	85	79	81	78	68	64	59	54	49	52	55	48	45	58	62	63	65	77	79	68.2	87.7
26-Jul	86	90	90	97	100	100	100	93	86	81	74	60	54	54	51	51	51	51	53	62	70	80	68	80	74.2	100.0
27-Jul	91	96	97	99	99	100	99	97	91	80	70	61	65	82	85	86	74	71	76	77	82	89	90	85	85.1	99.7
28-Jul	91	91	92	93	94	95	95	83	78	66	62	56	54	51	49	45	42	49	51	58	57	65	73	73	69.3	94.6
29-Jul	67	73	87	86	82	83	81	75	70	61	52	42	40	39	35	38	40	51	57	58	69	77	83	84	63.6	87.4
30-Jul	85	90	92	95	95	94	95	95	88	87	79	75	73	63	58	40	34	31	32	35	43	52	57	61	68.6	95.3
31-Jul	61	66	75	71	82	83	73	65	55	44	39	35	33	31	30	30	31	33	34	37	43	51	53	56	50.5	82.6
73.6 77.7 80.7 82.3 84.9 85.3 82.7 78.1 71.7 64.4 58.4 52.8 49.8 47.3 45.7 45.3 44.5 46.0 48.7 52.0 57.6 63.8 66.7 69.1																								Diurnal Average		
97.1 96.3 98.1 100.0 100.0 100.0 100.0 100.0 94.3 91.0 96.0 96.5 95.2 90.0 90.9 88.7 84.6 84.9 88.4 92.4 98.3 98.8 96.1 94.7																								Diurnal Maximum		
P - Power Failure																										

Hourly Averages

Relative Humidity (RH) - %

Beaverlodge - July 2012



Hourly Averages

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

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1 Spd	1	2	1	1	1	2	2	5	7	11	19	21	18	18	16	23	26	23	21	21	13	7	3	5	10.5	25.9
Dir	227	75	178	252	3	288	224	254	278	268	244	250	254	266	274	272	276	274	275	275	279	287	295	223	267	276
2 Spd	1	2	2	3	2	0	3	4	3	4	5	4	10	8	13	13	4	6	5	2	4	9	1	3	2.6	12.9
Dir	153	241	232	205	262	87	62	122	173	241	228	209	155	160	171	178	313	356	35	111	132	156	128	250	172	171
3 Spd	4	5	2	4	6	5	5	4	8	5	10	10	11	11	13	15	19	20	12	9	7	14	17	6	7.7	20.0
Dir	43	52	322	287	31	344	30	349	291	226	285	303	289	308	282	291	284	291	298	316	282	293	276	262	297	291
4 Spd	15	17	16	16	16	15	17	19	22	24	26	25	29	30	29	31	32	29	28	28	24	16	7	2	21.0	32.0
Dir	285	285	284	282	283	278	269	268	270	270	270	268	262	258	261	257	260	268	261	259	263	266	254	179	267	260
5 Spd	5	8	6	8	3	3	4	7	5	6	11	9	13	13	17	9	2	5	11	19	17	11	9	2	7.2	18.6
Dir	215	214	223	229	163	167	165	199	188	201	255	256	262	246	262	278	292	252	274	262	227	208	245	95	239	262
6 Spd	2	3	2	4	1	2	3	5	7	8	7	8	6	5	3	4	2	12	10	15	9	7	7	9	2.5	15.1
Dir	79	103	146	77	86	131	175	190	181	205	244	237	259	254	337	317	189	96	106	91	87	78	94	83	123	91
7 Spd	9	9	8	8	2	3	4	3	4	5	5	6	4	5	4	9	12	9	9	17	8	8	7	7	1.9	16.8
Dir	80	85	79	79	115	210	238	216	162	143	150	155	97	26	100	115	149	138	159	286	319	336	352	345	108	286
8 Spd	1	2	4	5	4	3	1	2	3	4	4	7	9	14	14	13	18	17	14	10	7	7	8	8	5.3	18.1
Dir	213	263	20	339	339	218	148	152	189	231	150	163	126	100	94	106	85	88	88	88	65	51	47	40	90	85
9 Spd	8	4	2	2	1	3	1	4	3	4	6	9	9	8	9	2	10	9	8	5	8	8	7	8	1.1	10.5
Dir	38	27	345	28	323	339	327	245	274	175	160	160	169	136	184	174	181	198	128	116	338	326	328	321	177	181
10 Spd	7	1	2	6	1	4	4	2	5	37	33	32	34	33	38	37	39	35	30	26	19	15	10	11	17.4	39.3
Dir	23	182	270	36	336	58	47	118	222	258	256	248	251	249	255	255	252	251	265	263	256	256	250	271	256	252
11 Spd	9	3	6	2	4	3	4	3	5	8	14	16	20	18	25	26	22	17	12	12	7	2	6	4	8.3	26.4
Dir	276	342	283	96	135	106	163	137	160	202	281	272	250	275	268	269	281	285	298	296	293	246	208	255	269	269
12 Spd	5	0	3	3	2	4	4	6	6	18	22	17	16	17	18	17	20	20	14	9	5	6	6	8	6.4	21.6
Dir	253	181	49	67	45	53	142	182	204	271	280	328	335	342	327	344	2	22	16	26	31	40	46	58	346	280
13 Spd	6	4	3	2	2	3	1	4	3	12	17	18	18	15	13	9	11	15	16	13	9	8	8	5	8.0	18.5
Dir	64	62	77	222	77	43	211	226	161	135	123	110	101	105	112	136	120	107	104	113	103	81	74	77	108	110
14 Spd	3	4	2	1	2	1	2	4	5	3	3	6	7	4	7	9	15	14	23	24	17	9	8	11	5.3	23.7
Dir	119	228	319	35	26	58	196	190	182	225	314	304	345	19	27	357	63	45	62	70	65	50	50	34	48	70
15 Spd	13	15	12	13	12	13	12	7	6	5	8	12	17	18	18	16	16	14	12	3	3	3	3	5	8.3	18.0
Dir	43	27	343	333	334	330	327	350	24	60	3	346	8	45	46	29	42	47	61	93	102	77	175	243	18	45
16 Spd	3	2	9	8	3	2	4	5	5	9	12	12	13	11	9	12	14	14	17	18	15	10	7	5	7.0	17.7
Dir	58	317	322	23	15	137	145	164	174	171	158	153	148	163	162	147	135	138	132	128	123	109	101	92	136	128
17 Spd	5	4	4	4	4	4	4	5	3	3	6	10	12	13	11	12	16	15	3	9	12	11	5	3	4.4	15.7
Dir	99	111	116	87	93	114	127	176	275	284	313	0	336	12	356	5	92	93	1	28	41	34	51	107	41	92
18 Spd	2	6	7	11	11	11	P	P	P	P	16	12	16	16	21	22	22	19	13	9	8	4	4	7	11.4	22.2
Dir	45	313	326	324	325	337	P	P	P	P	297	297	293	318	324	326	329	343	321	330	347	307	308	306	321	329
19 Spd	5	5	6	8	9	4	2	5	5	4	6	8	8	5	7	7	6	8	14	10	9	8	10	10	2.9	13.5
Dir	314	313	295	307	310	314	278	279	285	265	287	284	304	329	325	352	18	31	82	72	94	84	90	88	355	82
20 Spd	10	9	9	6	7	6	7	8	15	18	18	20	19	23	23	19	25	25	20	17	13	7	9	10	12.1	24.9
Dir	87	85	79	93	105	116	108	137	126	114	99	87	89	80	91	96	76	76	61	55	71	160	282	0	87	76
21 Spd	8	10	4	6	7	10	10	9	12	15	16	19	27	27	27	15	11	11	10	6	3	4	2	3	10.1	27.0
Dir	217	264	207	347	287	282	282	279	284	270	287	282	261	259	264	277	287	300	314	325	247	224	105	76	275	264
22 Spd	4	2	2	2	3	5	3	6	5	5	6	8	10	8	5	5	3	16	18	15	11	9	10	8	2.9	17.8
Dir	62	158	219	91	68	172	81	193	182	177	186	200	204	202	178	241	43	66	72	73	58	46	35	35	99	72

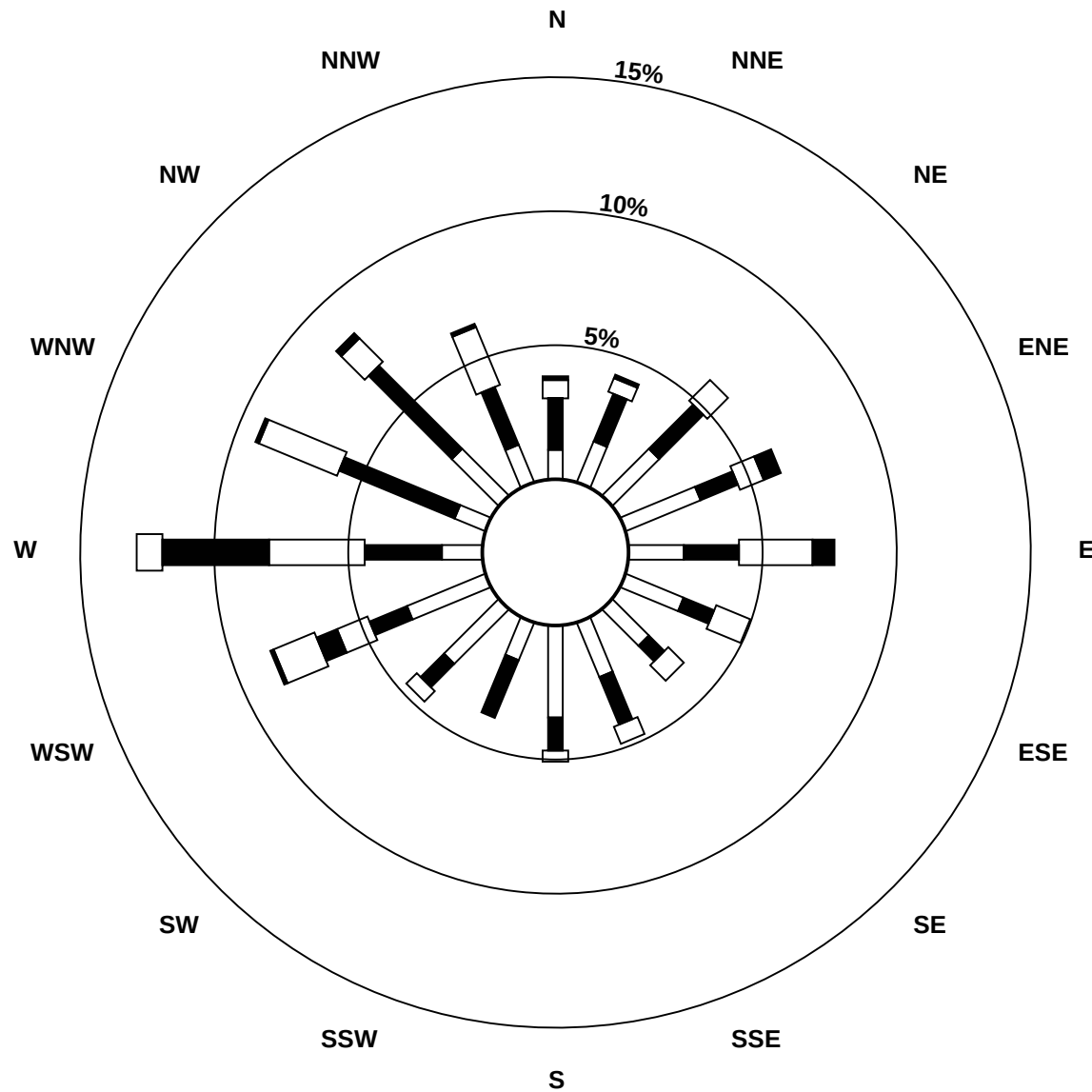
Hourly Averages

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

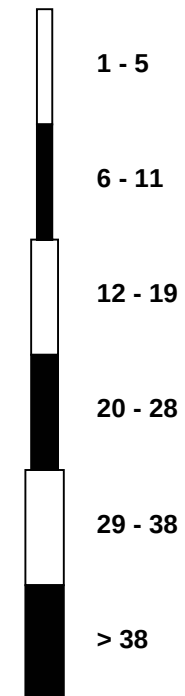
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
23 Spd	7	2	7	13	14	6	5	3	9	6	8	9	10	10	8	6	11	11	17	12	4	14	14	18	5.4	18.2
Dir	56	78	300	335	5	356	339	1	6	55	186	196	300	305	334	285	210	226	261	271	297	281	311	322	304	322
24 Spd	17	17	2	4	7	8	6	14	13	13	14	12	11	10	11	11	11	12	11	8	6	4	6	3	8.9	17.4
Dir	327	324	120	189	268	315	300	301	315	317	321	335	337	327	324	320	312	313	299	306	338	305	291	326	316	327
25 Spd	2	3	2	3	4	6	6	6	6	9	10	9	5	5	12	12	7	7	10	10	5	7	1	2	4.7	12.4
Dir	295	329	352	350	22	314	329	278	263	305	313	310	319	305	347	355	12	50	27	23	21	22	183	115	344	347
26 Spd	3	6	8	2	2	2	1	1	2	5	7	7	11	14	15	16	19	21	21	20	15	12	15	11	6.5	21.2
Dir	200	4	22	291	110	56	99	180	170	144	161	155	117	101	93	88	89	89	85	86	85	90	246	336	93	85
27 Spd	5	4	1	3	1	1	3	5	4	7	10	10	12	10	15	11	7	5	5	6	5	5	4	2	3.4	15.4
Dir	238	242	280	224	40	141	196	201	255	280	280	267	278	355	351	308	328	307	1	5	336	132	233	100	298	351
28 Spd	3	1	4	4	5	1	4	4	6	8	9	8	6	8	9	10	16	21	14	5	9	7	6	8	6.0	21.0
Dir	326	210	56	186	262	113	240	257	257	289	310	313	300	317	327	298	261	264	295	357	295	303	283	263	288	264
29 Spd	6	3	2	4	3	2	4	3	6	6	4	9	12	11	15	13	15	18	8	4	6	2	4	3	4.4	17.8
Dir	281	250	159	45	31	49	64	140	195	214	267	284	249	223	217	232	249	256	294	254	220	217	96	73	242	256
30 Spd	0	4	2	2	2	2	6	3	1	5	6	7	14	6	11	17	24	26	27	23	12	9	10	9	6.8	27.0
Dir	66	53	83	64	66	62	52	249	277	222	179	183	186	194	233	269	264	272	269	267	272	268	285	272	257	269
31 Spd	9	8	1	9	4	8	11	17	23	31	33	31	31	28	28	27	27	24	26	22	16	13	13	10	18.3	32.6
Dir	267	233	190	249	211	246	241	235	245	253	255	262	259	265	268	254	267	252	261	258	272	273	281	293	258	255
Spd	1.4	1.5	1.6	2.0	2.0	1.5	0.9	3.2	3.5	5.8	6.8	6.1	6.3	4.3	5.6	6.2	4.3	3.1	2.9	2.5	1.7	1.4	2.2	2.5	Diurnal Average	
Dir	348	327	333	330	339	322	273	235	243	245	260	265	263	281	284	284	285	301	322	323	330	320	301	345	Diurnal Maximum	
Spd	17.4	17.2	15.7	15.9	15.8	15.0	16.8	18.9	22.8	36.9	33.0	31.6	33.9	32.6	38.1	37.2	39.3	35.2	30.5	27.8	24.1	15.7	16.6	18.2	Diurnal Maximum	
Dir	327	285	284	282	283	278	269	268	245	258	256	248	251	249	255	255	252	251	265	259	263	266	276	322		
Maximum Speed Value: 39 km/h on Jul 10 17:00																								Hours in Service: 744		
Maximum Daily Speed Average: 21.0 km/h on Jul 4																								Hours of Data: 740		
Maximum Diurnal Speed Average: 6.8 km/h at hour 11																								Hours of Missing Data: 4		
Minimum Speed Value: 0 km/h on Jul 30 01:00																								Percent Operational Time: 99.5		
Minimum Daily Speed Average: 1.1 km/h on Jul 2																										
Minimum Diurnal Speed Average: 0.9 km/h at hour 7																										
Monthly Average Velocity: 2.81 km/h 285.0 deg																										
Speed Percentiles: P ₁ = 0.8 P ₁₀ = 2.2 Q ₁ = 4.1 Median = 7.7 Q ₃ = 13.1 P ₉₀ = 19.3 P ₉₉ = 32.2																										
All monthly, daily, and diurnal averages have been calculated using vector methods																										
P - Power Failure																										
Frequency Distribution																										
Speed Range (km/h)																										
Direction	0 to 5		5 to 11		11 to 19		19 to 28		28 to 38		> 38		Total													
North	19		25		13		2		0		0		59													
NorthEast	36		33		15		2		0		0		86													
East	34		28		26		12		0		0		100													
SouthEast	28		14		16		0		0		0		58													
South	34		36		4		0		0		0		74													
SouthWest	34		26		7		2		0		0		69													
West	26		49		45		36		19		2		177													
NorthWest	22		56		36		3		0		0		117													
Total	233		267		162		57		19		2		740													

Wind Rose

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



Wind Speed Classes (km/h)



Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Beaverlodge - July 2012

Maximum Speed: 40 km/h on Jul 10 17:00																				Maximum Daily Speed Average: 21.6 km/h on Jul 4										Hours in Service: 744	
Minimum Speed: 2 km/h on Jul 26 08:00																				Minimum Daily Speed Average: 5.6 km/h on Jul 2										Hours of Data: 740	
Maximum Diurnal Speed Average: 16.8 km/h at hour 17																				Minimum Diurnal Speed Average: 5.2 km/h at hour 7										Hours of Missing Data: 4	
Monthly Average Speed: 10.47 km/h																				Percentiles: P ₁ = 2.1 P ₁₀ = 3.5 Q ₁ = 5.4 Median = 8.6 Q ₃ = 14.1 P ₉₀ = 19.9 P ₉₉ = 32.1										Percent Operational Time: 99.5	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24							
1-Jul	2	4	2	2	3	2	3	5	7	12	20	21	18	19	17	23	26	24	22	21	13	8	4	5	11.8	26.4					
2-Jul	2	3	2	3	3	3	4	5	3	4	7	7	11	9	14	14	5	7	5	4	5	10	2	4	5.6	14.4					
3-Jul	4	5	7	5	7	7	5	5	8	6	10	10	11	12	13	15	19	20	13	9	7	14	17	9	9.8	20.3					
4-Jul	16	17	16	16	16	15	17	19	22	24	26	25	29	30	29	31	32	29	28	28	24	16	7	4	21.6	32.2					
5-Jul	5	8	7	8	4	3	4	7	6	7	12	10	14	14	17	10	7	7	11	19	17	14	9	2	9.3	18.7					
6-Jul	3	4	3	4	3	3	4	5	7	8	8	9	7	7	7	8	8	12	11	15	9	7	7	9	7.0	15.2					
7-Jul	9	9	8	8	4	3	4	5	4	6	5	6	7	7	9	11	13	10	9	17	9	8	8	7	7.8	17.1					
8-Jul	4	4	6	6	5	3	2	2	3	5	5	7	10	15	15	14	18	17	15	11	7	7	8	8	8.2	18.3					
9-Jul	8	5	5	4	3	5	2	5	4	4	6	9	9	9	10	12	11	10	9	7	8	8	7	8	7.1	11.8					
10-Jul	7	2	4	6	6	5	4	4	8	37	33	32	35	33	38	38	40	35	31	27	19	16	10	11	20.1	39.6					
11-Jul	10	5	8	2	4	5	4	3	5	10	15	17	21	19	26	27	22	17	12	12	8	3	7	5	11.1	27.0					
12-Jul	5	5	4	3	2	5	5	6	6	19	22	18	16	17	19	18	21	20	15	9	5	6	6	8	10.8	22.2					
13-Jul	6	5	3	3	5	7	2	4	4	12	17	19	18	16	15	10	12	16	16	13	9	8	8	6	9.7	18.9					
14-Jul	4	5	5	3	2	2	2	4	5	4	5	8	9	9	11	11	17	15	23	24	17	9	8	12	9.0	23.7					
15-Jul	13	15	13	13	12	13	13	8	6	6	8	13	18	19	18	17	16	14	12	6	4	4	3	6	11.2	19.2					
16-Jul	5	3	10	8	3	3	4	5	6	9	13	13	13	12	11	12	14	14	17	18	15	10	7	5	9.6	17.7					
17-Jul	5	4	4	4	4	5	4	6	4	5	9	12	14	14	12	14	20	16	13	11	12	11	6	4	8.9	20.0					
18-Jul	5	7	7	12	11	11	P	P	P	P	16	13	16	17	21	22	23	19	14	10	8	6	6	7	12.6	22.5					
19-Jul	6	6	6	8	9	5	3	5	6	6	8	9	9	7	9	9	9	14	11	9	8	10	10	10	7.9	14.1					
20-Jul	10	9	9	6	7	6	7	8	15	18	19	20	20	24	23	20	25	25	20	17	14	15	13	11	15.0	25.2					
21-Jul	10	12	7	7	8	10	11	9	12	15	16	20	27	27	27	15	12	12	10	6	4	4	3	3	11.9	27.1					
22-Jul	4	2	3	3	4	5	5	6	5	5	6	8	11	9	7	6	8	17	18	15	11	9	10	8	7.7	17.9					
23-Jul	7	4	8	13	14	9	5	4	10	9	8	10	10	11	9	7	11	12	17	12	11	14	14	18	10.3	18.3					
24-Jul	17	17	9	4	10	8	6	14	13	15	14	13	12	11	12	12	13	12	11	8	6	4	6	5	10.5	17.5					
25-Jul	3	4	4	4	5	6	6	7	6	10	11	9	7	8	13	13	8	8	10	10	6	7	3	3	7.1	13.0					
26-Jul	6	6	8	6	3	2	2	2	6	6	7	8	12	15	15	16	20	21	21	20	15	15	16	12	10.9	21.2					
27-Jul	8	5	3	3	3	3	3	5	4	7	10	10	14	12	16	11	8	6	5	7	6	6	8	5	7.1	16.1					
28-Jul	5	2	4	5	6	5	4	5	7	9	10	8	8	9	10	11	17	22	14	6	9	7	6	8	8.2	21.7					
29-Jul	6	6	3	4	4	4	4	3	6	6	6	10	13	12	16	14	16	19	8	5	6	5	5	4	7.6	19.2					
30-Jul	2	4	2	3	3	3	7	5	4	6	7	8	14	6	12	18	25	26	27	23	12	9	10	9	10.2	27.2					
31-Jul	9	10	3	10	6	9	11	17	23	31	33	32	31	29	29	28	28	25	26	22	16	13	13	10	19.3	32.9					
6.6 6.3 5.9 6.1 5.8 5.6 5.2 6.3 7.5 10.8 12.7 13.4 15.0 14.7 16.2 15.7 16.8 16.7 15.4 13.6 10.4 9.0 8.0 7.3																									Diurnal Average						
17.5 17.2 15.7 16.0 15.8 15.1 16.9 19.0 22.9 37.1 33.3 31.9 34.7 33.3 38.4 37.6 39.6 35.4 30.9 27.9 24.1 15.7 17.2 18.3																									Diurnal Maximum						
P - Power Failure																															
All monthly, daily, and diurnal averages have been calculated using scalar methods																															

Hourly Standard Deviations

Wind Direction (WD) - deg

Beaverlodge - July 2012

Maximum Value: 95.2 deg on Jul 2 23:00																		Hours in Service: 744							
Minimum Value: 2.4 deg on Jul 10 21:00																		Hours of Data: 740							
Percentiles: P ₁ = 3.8 P ₁₀ = 6.7 Q ₁ = 10.9 Median = 21.1 Q ₃ = 42.1 P ₉₀ = 62.4 P ₉₉ = 87.7																		Hours of Missing Data: 4							
																		Hours of Calibration: 0							
																		Percent Operational Time: 99.5							
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-Jul	66	64	74	88	72	44	52	21	18	26	12	14	13	25	24	16	11	13	12	8	8	7	35	18	88.2
2-Jul	60	82	49	22	75	78	11	45	27	39	51	64	16	30	34	37	53	30	27	59	36	5	95	83	95.2
3-Jul	23	21	75	50	31	49	25	56	11	33	8	9	11	20	8	6	7	8	12	19	15	14	34	64	74.6
4-Jul	5	4	4	6	5	5	5	5	6	7	7	9	7	8	11	7	6	5	6	4	5	4	19	68	67.6
5-Jul	35	10	17	12	28	27	13	14	24	29	33	32	23	21	18	41	90	62	16	8	19	48	20	49	90.4
6-Jul	56	36	40	28	81	49	19	20	16	21	34	43	53	62	80	70	80	12	15	6	7	7	19	7	80.5
7-Jul	4	4	4	4	64	18	44	45	27	24	32	28	57	61	74	43	24	27	23	12	20	6	35	21	74.0
8-Jul	80	79	35	46	48	35	58	39	46	34	33	18	26	19	19	20	11	8	6	11	15	7	5	7	80.2
9-Jul	7	56	68	88	89	60	89	51	41	34	24	19	23	23	30	87	20	32	32	73	7	9	11	11	88.7
10-Jul	16	70	76	16	87	52	24	78	50	6	8	8	13	13	7	8	6	6	9	5	2	5	11	19	86.8
11-Jul	21	58	61	25	35	43	16	18	15	30	21	19	18	25	15	12	8	9	6	5	21	57	30	55	60.9
12-Jul	46	74	51	22	53	22	34	10	27	22	13	17	13	14	17	17	18	9	10	10	10	8	11	6	73.7
13-Jul	7	59	22	61	82	90	82	42	63	15	12	12	15	18	26	39	27	14	9	5	13	7	4	14	89.9
14-Jul	49	36	59	86	38	77	30	25	15	55	66	64	42	74	56	44	49	23	7	5	3	7	6	10	85.7
15-Jul	12	7	26	7	7	9	10	23	25	36	23	18	15	21	14	14	11	10	10	62	54	86	50	25	86.2
16-Jul	61	56	32	8	31	57	13	14	18	16	17	23	21	27	35	20	17	14	8	5	5	10	9	5	60.7
17-Jul	9	21	19	17	13	13	35	24	52	61	52	31	27	27	32	40	42	35	79	42	19	9	32	57	78.8
18-Jul	88	55	31	8	5	12	P	P	P	P	9	16	14	19	12	13	10	10	15	25	11	43	49	18	88.5
19-Jul	32	38	9	7	5	41	46	12	25	47	52	28	43	49	50	50	51	29	17	12	8	10	4	4	51.8
20-Jul	3	7	6	18	17	10	20	16	9	10	15	13	16	14	12	17	9	8	6	5	15	63	46	54	63.2
21-Jul	51	35	85	34	29	13	9	10	12	9	12	14	5	7	6	9	7	12	7	10	40	19	54	19	85.1
22-Jul	15	41	71	60	53	18	46	16	29	32	28	26	27	42	55	47	91	20	8	6	10	8	6	9	90.5
23-Jul	14	77	29	12	9	53	47	43	26	54	13	32	14	11	17	35	13	22	8	9	70	33	7	6	77.1
24-Jul	6	8	87	22	50	9	12	6	9	21	12	18	19	25	28	28	28	8	13	12	16	38	8	51	86.9
25-Jul	57	56	57	49	22	25	11	29	17	12	14	22	51	62	33	19	26	26	9	7	35	7	70	31	70.4
26-Jul	56	29	34	76	61	20	80	58	78	28	21	26	20	19	19	16	11	9	5	4	4	45	12	30	79.6
27-Jul	65	12	73	64	92	68	25	13	39	21	19	22	41	34	16	14	25	18	32	34	40	39	70	81	91.8
28-Jul	55	73	21	48	36	86	28	28	28	27	22	25	48	35	19	18	29	15	20	33	7	7	25	10	85.7
29-Jul	5	53	52	56	67	77	14	27	18	35	55	32	27	26	17	20	21	23	21	34	21	77	28	30	77.2
30-Jul	95	13	43	56	85	51	27	65	86	28	38	23	11	30	32	22	17	12	7	4	5	7	6	13	95.1
31-Jul	5	37	70	31	50	47	10	5	6	10	8	11	12	14	13	12	14	11	9	4	9	4	3	7	70.1
95.1 81.7 86.9 88.2 91.8 89.9 88.7 78.1 85.6 61.0 66.1 64.1 57.4 74.2 80.1 86.6 90.5 61.6 78.8 72.5 69.8 86.2 95.2 83.1																									
P - Power Failure																									

PAZA
Valleyview Station
Monthly Summary Tables, Graphs and
Roses

Hourly Averages

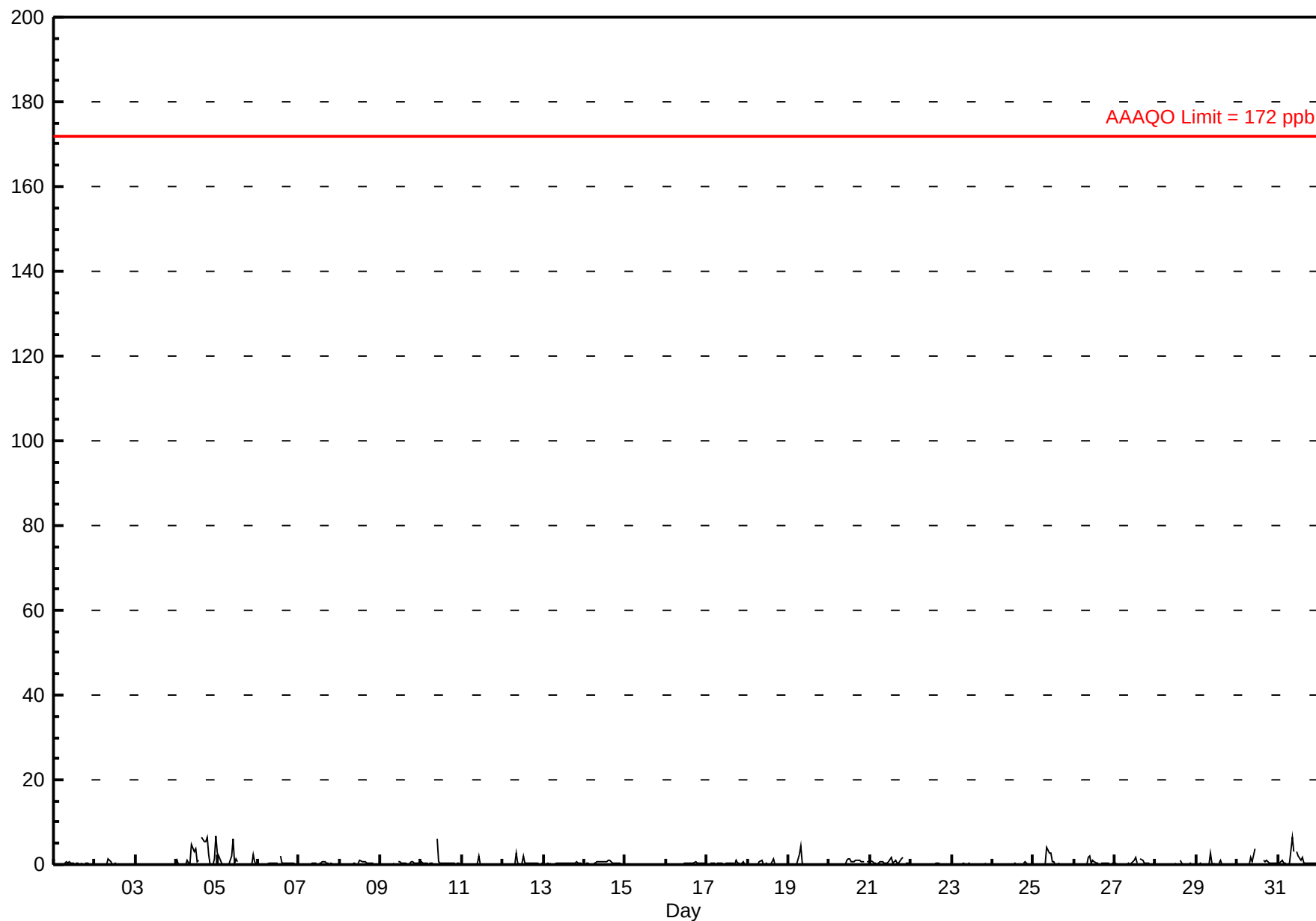
Sulphur Dioxide (SO₂) - ppb

Valleyview - July 2012

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 6.7 ppb on Jul 5 00:00 Maximum Daily Average: 2.2 ppb on Jul 4																			Hours in Service: 744							
Minimum Value: 0 ppb on Jul 1 01:00 Minimum Daily Average: 0.0 ppb on Jul 3 Maximum Diurnal Average: 1.0 ppb at hour 10 Minimum Diurnal Average: 0.1 ppb at hour 6 Monthly Average: 0.38 ppb Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.1 Q ₃ = 0.3 P ₉₀ = 0.8 P ₉₉ = 5.1																			Hours of Data: 709							
																			Hours of Missing Data: 35							
																			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-Jul	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0.2	0.7
2-Jul	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0.1	1.3
3-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.0	0.1
4-Jul	1	0	0	0	0	0	1	0	0	5	3	4	1	1	A	7	5	5	6	2	0	0	1	7	2.2	6.7
5-Jul	3	2	0	0	0	0	0	0	2	6	0	1	1	A	0	0	0	0	0	0	0	2	1	0	0.8	6.1
6-Jul	0	0	0	0	0	0	0	0	0	0	0	0	A	2	0	0	0	0	0	0	0	0	0	0	0.3	1.9
7-Jul	0	0	0	0	0	0	0	0	0	0	0	A	0	0	1	1	0	0	0	0	0	0	0	0	0.2	0.7
8-Jul	0	0	0	0	0	0	0	0	0	0	A	0	1	1	1	1	0	0	0	0	0	0	0	0	0.2	0.9
9-Jul	0	0	0	0	0	0	0	0	0	A	1	1	0	1	0	0	0	0	1	1	0	0	0	1	0.3	0.8
10-Jul	1	0	0	0	0	0	0	0	A	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.6	6.2
11-Jul	0	0	0	0	0	0	0	A	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	2.1
12-Jul	0	0	0	0	0	0	A	0	3	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0.4	2.8
13-Jul	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0.3	0.5
14-Jul	0	0	0	0	A	0	0	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0.4	1.1
15-Jul	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
16-Jul	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0.2	0.5
17-Jul	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0.3	1.2
18-Jul	A	0	0	0	0	0	0	1	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	A	0.2	1.2
19-Jul	0	0	0	0	0	0	2	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.3	4.4
20-Jul	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	A	1	1	0.5	1.3
21-Jul	1	1	0	0	0	0	1	1	0	0	0	1	2	0	1	1	0	0	1	2	A	0	0	0	0.6	1.8
22-Jul	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	0.4
23-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0.1	0.3
24-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	1	0	0	0	0	0.1	0.6
25-Jul	0	0	0	0	0	0	0	0	4	3	3	1	1	0	0	0	A	0	0	0	0	0	0	0	0.5	4.1
26-Jul	0	0	0	0	0	0	0	0	2	2	0	1	1	0	0	A	0	0	0	0	0	0	0	0	0.4	2.1
27-Jul	0	0	0	0	0	0	0	0	0	0	0	1	2	0	A	1	1	0	0	0	0	0	0	0	0.4	1.6
28-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	0	0	0	0	0	0	0	0	0	0.1	1.0
29-Jul	0	0	0	0	0	0	0	0	3	0	0	0	A	0	1	0	0	0	0	0	0	0	0	0	0.3	2.8
30-Jul	0	0	0	0	0	0	0	0	2	1	4	A	C	C	C	1	1	1	1	0	0	0	0	0	0.5	3.6
31-Jul	0	0	1	0	0	0	0	0	6	3	A	3	2	1	2	0	0	0	0	0	0	0	0	0	1.0	6.3
																									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
Valleyview - July 2012



Hourly Maximums

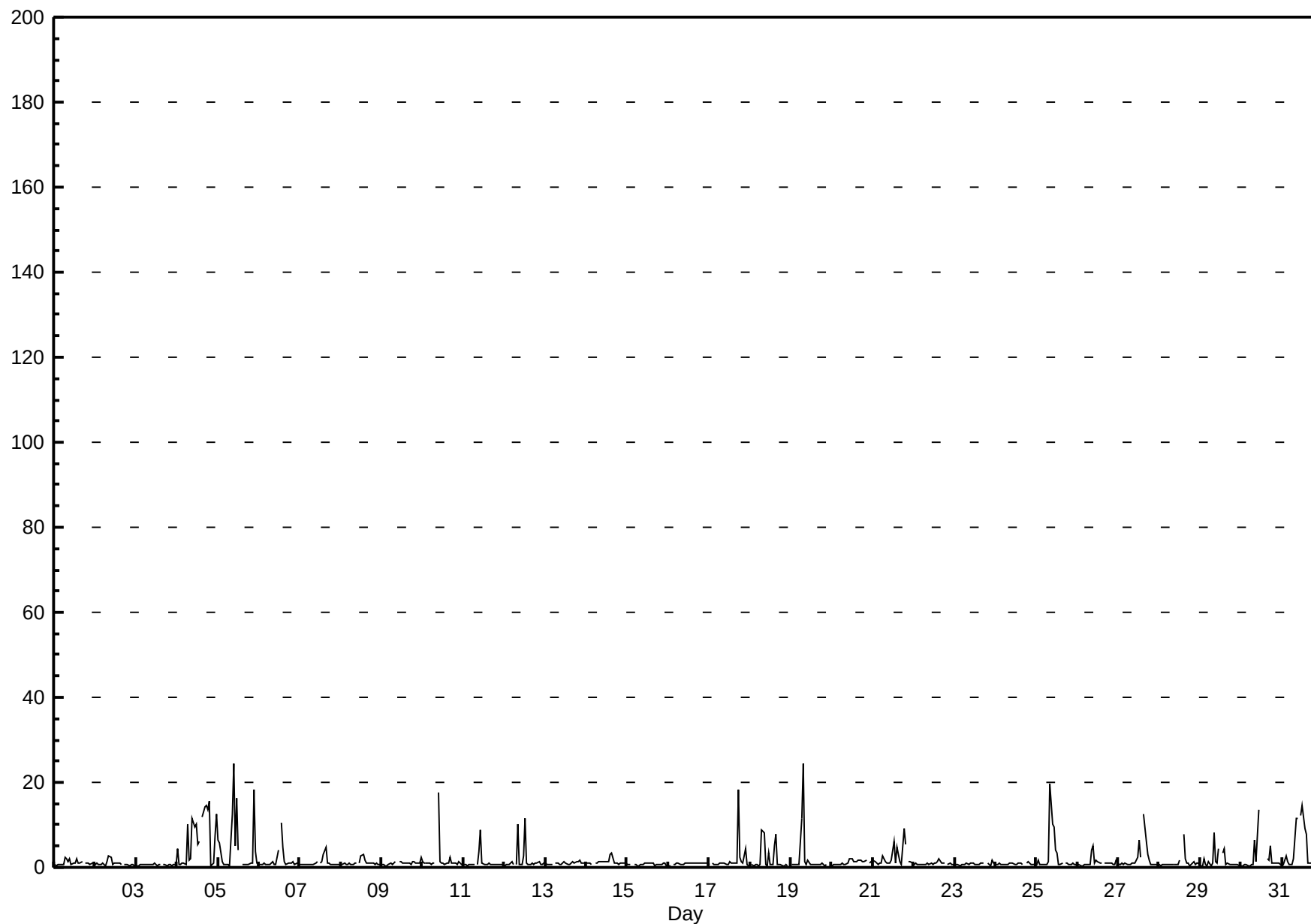
Sulphur Dioxide (SO₂) - ppb

Valleyview - July 2012

Maximum Value: 24.5 ppb on Jul 5 10:00																			Maximum Daily Average: 6.8 ppb on Jul 4										Hours in Service: 744	
Minimum Value: 0 ppb on Jul 3 01:00																			Minimum Daily Average: 0.6 ppb on Jul 3										Hours of Data: 709	
Maximum Diurnal Average: 3.6 ppb at hour 10																			Minimum Diurnal Average: 0.7 ppb at hour 4										Hours of Missing Data: 35	
Monthly Average: 1.74 ppb																			Percentiles: P ₁ = 0.4 P ₁₀ = 0.5 Q ₁ = 0.7 Median = 0.9 Q ₃ = 1.2 P ₉₀ = 3.2 P ₉₉ = 15.6										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-Jul	1	0	1	1	1	1	2	2	1	2	1	1	1	2	1	1	1	A	1	1	1	1	1	1	1.1	2.4				
2-Jul	1	1	1	1	1	1	0	1	3	2	1	1	1	1	1	1	A	1	1	1	0	1	1	0	0.9	2.8				
3-Jul	0	0	1	1	1	1	1	1	1	1	1	1	0	1	1	A	1	1	0	1	1	0	1	1	0.6	0.9				
4-Jul	4	1	1	1	1	1	10	2	2	12	9	10	6	6	A	12	14	15	14	16	0	1	8	12	6.8	15.5				
5-Jul	6	6	1	1	1	1	1	0	13	24	5	16	4	A	1	1	1	1	1	1	1	18	4	1	4.6	24.5				
6-Jul	1	1	1	1	1	1	1	1	1	1	1	4	A	10	5	1	1	1	1	1	1	1	1	1	1.6	10.4				
7-Jul	1	1	1	1	1	1	1	1	1	1	1	A	1	1	3	5	1	1	1	1	1	1	1	1	1.1	4.7				
8-Jul	1	1	1	1	1	1	1	1	1	1	1	A	1	3	3	2	1	1	1	1	1	1	1	1	1.0	2.9				
9-Jul	1	1	0	0	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.0	2.3				
10-Jul	1	1	1	1	1	1	1	1	A	18	1	1	1	1	1	1	3	1	1	1	1	1	1	1	1.8	17.8				
11-Jul	1	1	0	1	1	1	1	A	1	4	9	1	1	1	1	1	1	1	1	1	1	1	1	1	1.2	8.7				
12-Jul	0	1	1	1	1	1	A	1	10	1	1	3	12	1	1	1	1	1	1	1	1	1	1	1	1.8	11.5				
13-Jul	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1.0	1.5				
14-Jul	1	1	1	1	A	1	1	1	1	1	1	1	1	1	3	3	1	1	1	1	1	1	1	1	1.3	3.5				
15-Jul	1	1	1	A	1	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.0				
16-Jul	0	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.2				
17-Jul	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	18	2	1	1	4	1	0	1.9	18.2				
18-Jul	A	1	0	1	1	0	1	9	8	1	0	3	1	1	5	8	1	1	1	0	0	1	0	A	1.9	8.8				
19-Jul	1	1	1	1	1	1	11	24	1	1	2	1	1	1	1	1	1	1	1	1	1	A	1	1	2.2	24.2				
20-Jul	0	1	1	1	1	1	1	1	1	1	2	2	2	1	1	2	2	2	1	1	2	A	1	1	1.2	2.2				
21-Jul	2	1	1	1	1	1	3	1	1	1	1	2	6	1	5	3	1	1	9	5	A	1	1	1	2.2	9.3				
22-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	A	1	1	1	1	0.8	2.1				
23-Jul	0	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	2	1	0.8	1.8				
24-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	0.9	1.3				
25-Jul	1	2	1	1	1	1	1	1	20	10	10	4	4	1	1	1	A	1	1	1	1	1	1	1	2.7	19.8				
26-Jul	0	1	0	0	1	1	1	1	4	5	1	2	2	1	1	A	1	1	1	1	1	1	2	1	1.2	5.0				
27-Jul	1	1	1	1	1	1	1	1	1	1	1	2	7	2	A	13	6	3	2	1	1	1	1	1	2.1	12.7				
28-Jul	1	0	1	1	1	1	1	1	1	1	1	1	2	A	8	2	1	1	0	1	1	1	1	1	1.1	7.9				
29-Jul	0	0	2	1	0	1	0	1	8	1	1	4	A	3	4	1	1	1	1	1	1	1	0	1	1.6	8.1				
30-Jul	0	0	1	1	0	0	1	1	7	1	14	A	C	C	C	2	2	5	1	1	1	1	1	1	2.0	13.7				
31-Jul	1	1	3	1	1	1	1	2	12	12	A	12	15	9	8	1	1	1	1	1	1	1	1	1	3.7	14.7				
1.0		0.9	0.8	0.7	0.8	0.7	1.5	2.0	3.5	3.6	2.5	2.8	2.7	2.0	2.1	2.4	1.7	2.2	1.7	1.6	0.9	1.6	1.2	1.3	Diurnal Average					
6.4		5.7	2.7	1.3	1.3	1.4	11.4	24.2	19.8	24.5	13.7	16.4	14.7	10.4	7.9	12.7	14.4	18.2	13.7	15.5	1.5	18.2	7.5	12.4	Diurnal Maximum					
C - Calibration		A - Automated Daily Zero Span																												

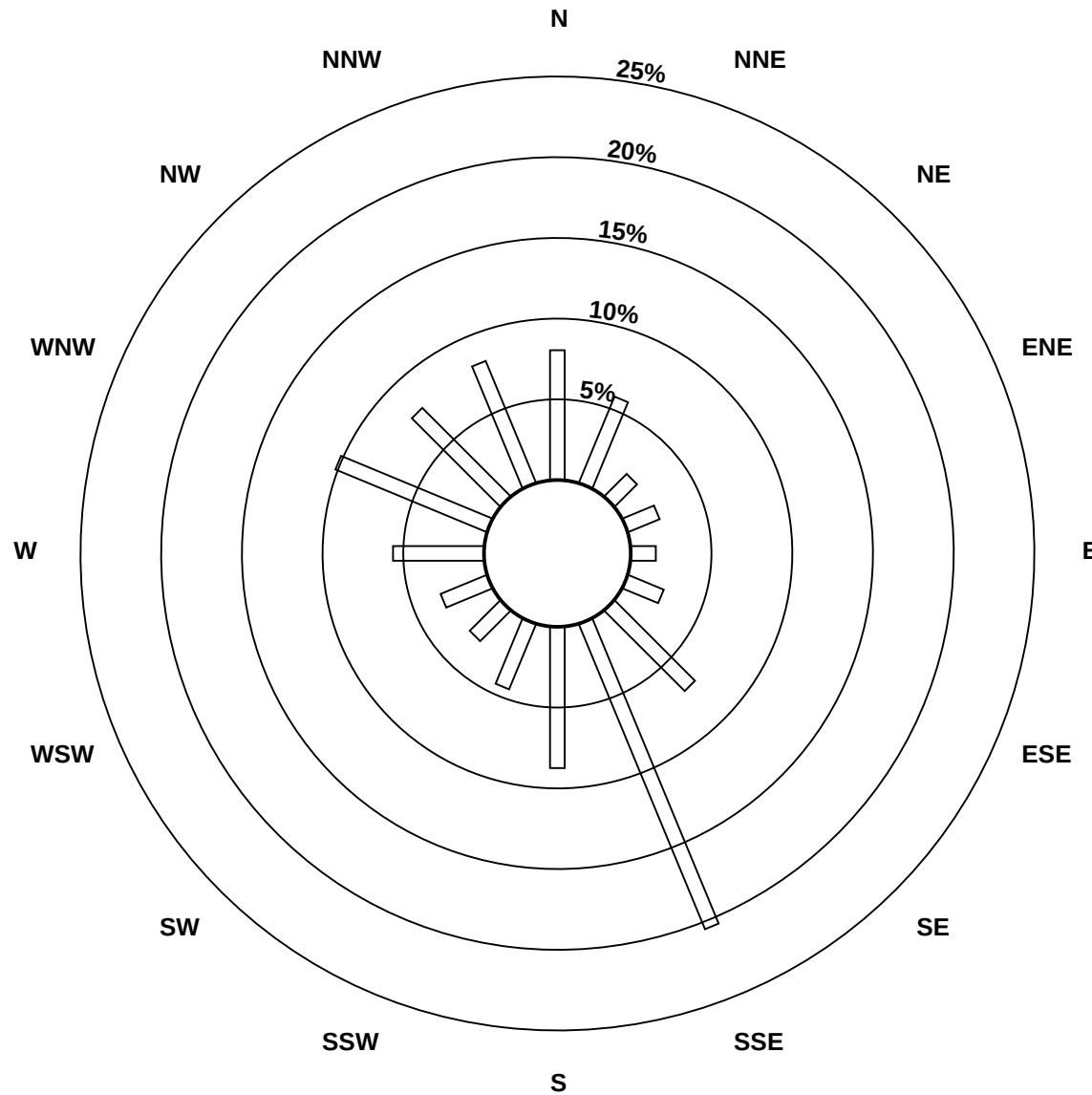
Hourly Maximums

Sulphur Dioxide (SO₂) - ppb
Valleyview - July 2012

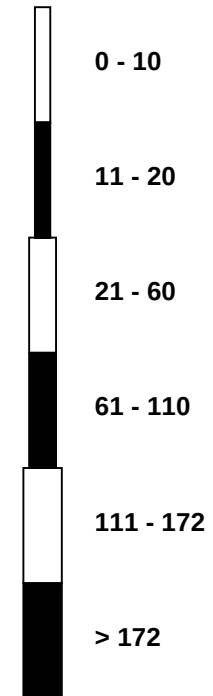


Pollutant Rose

Sulphur Dioxide (SO₂) - ppb
Valleyview - July 2012

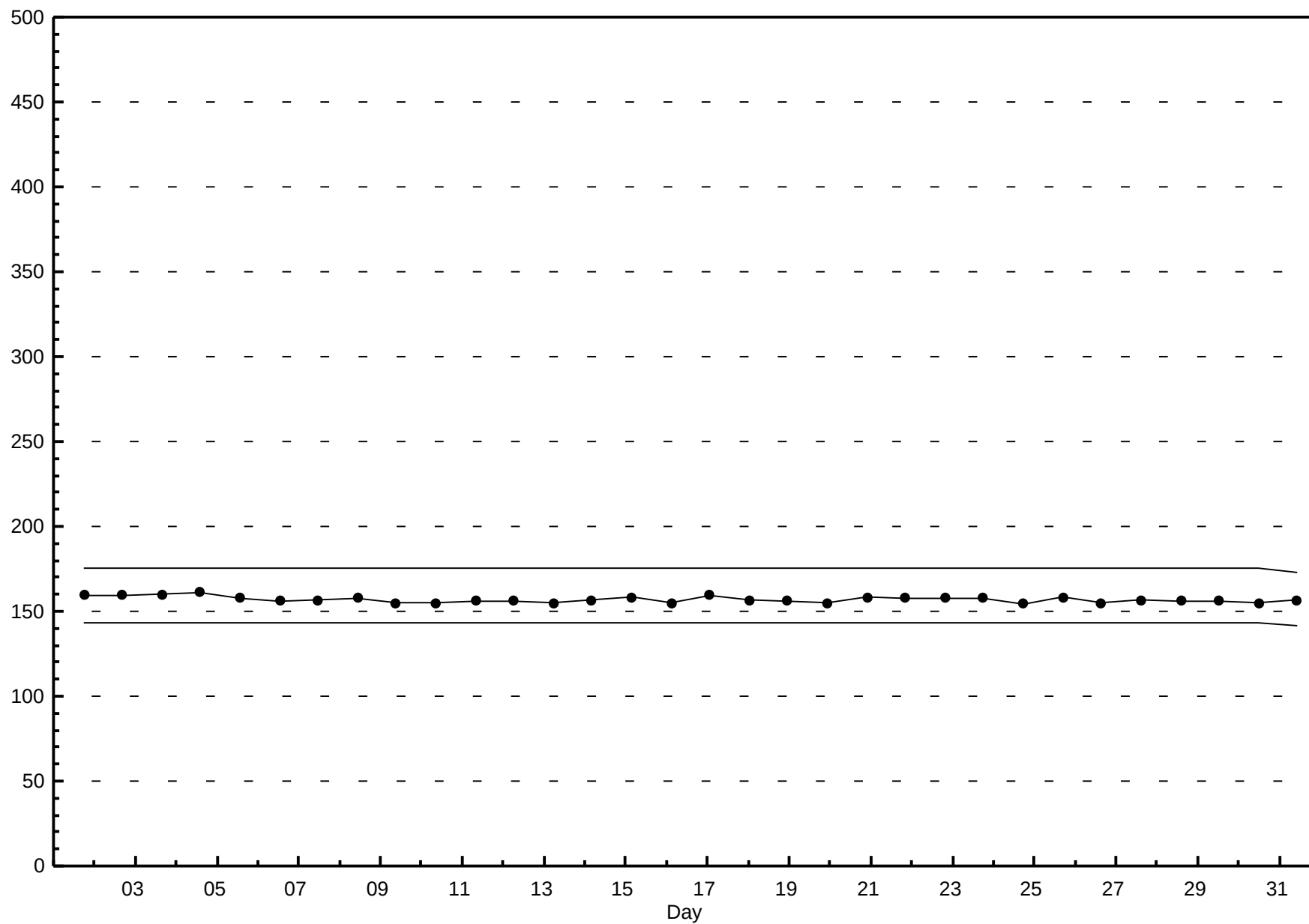


Pollutant Classes (ppb)



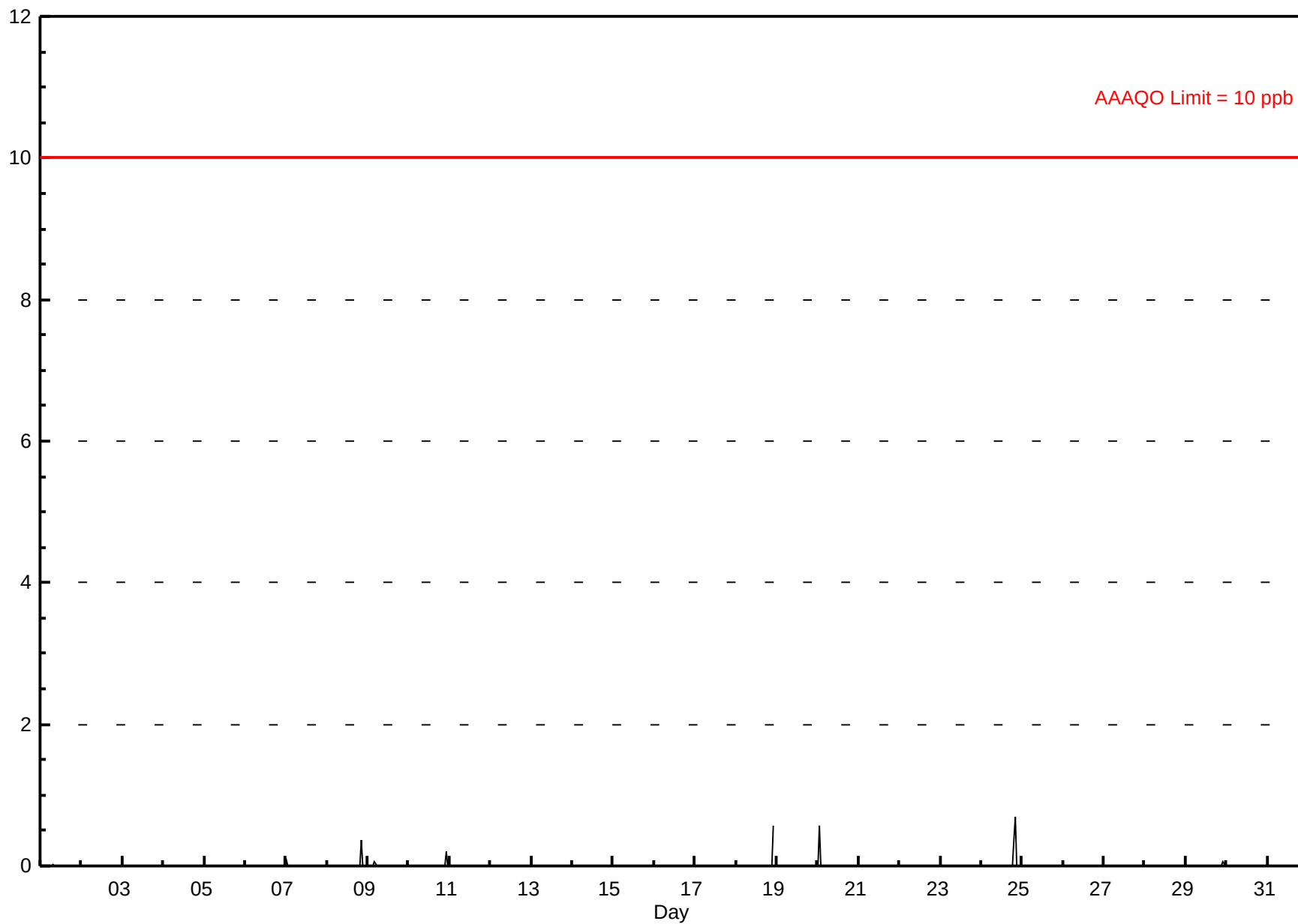
Span Responses

Sulphur Dioxide (SO₂)
Valleyview - July 2012



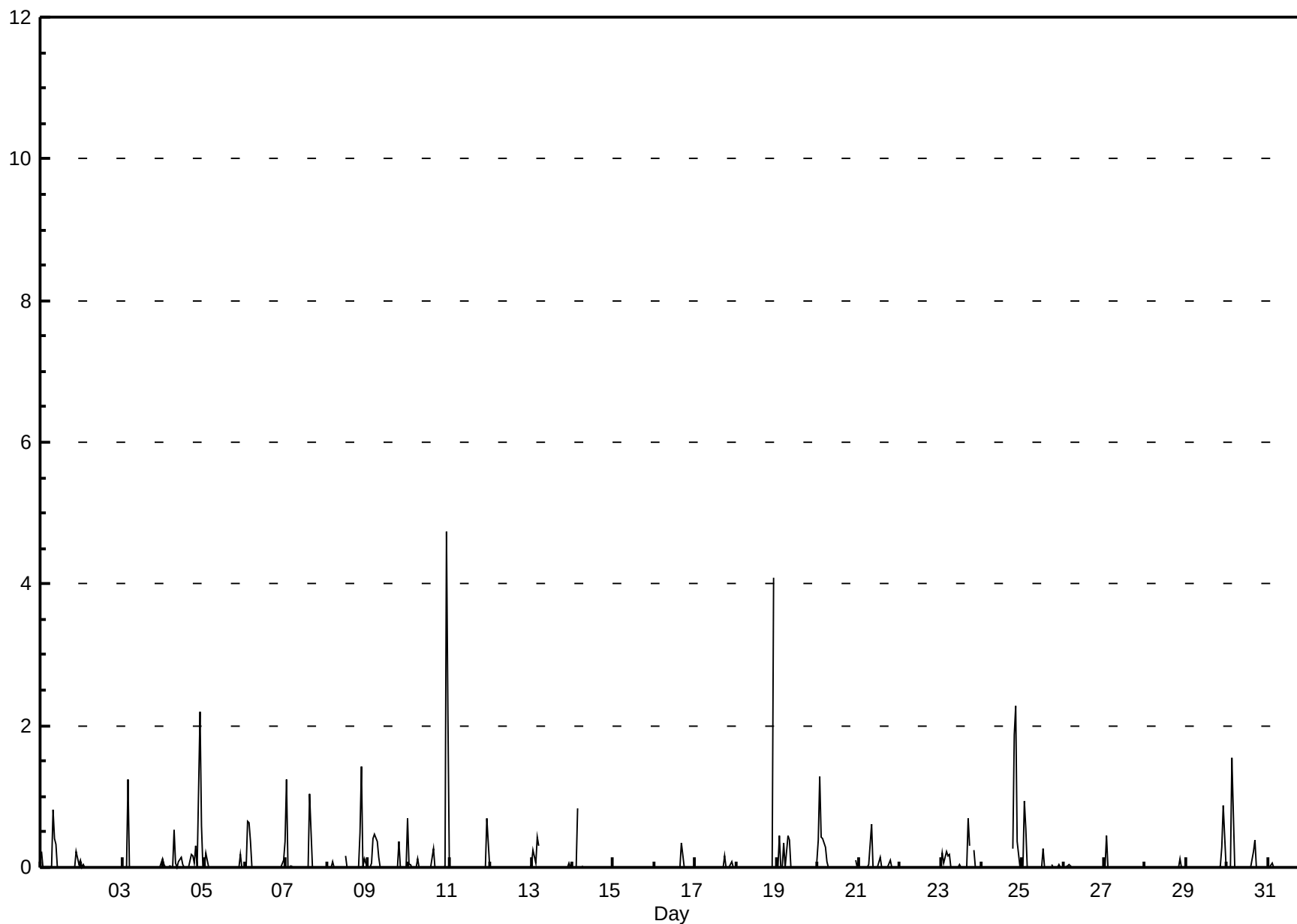
Hourly Averages

Hydrogen Sulphide (H₂S) - ppb
Valleyview - July 2012



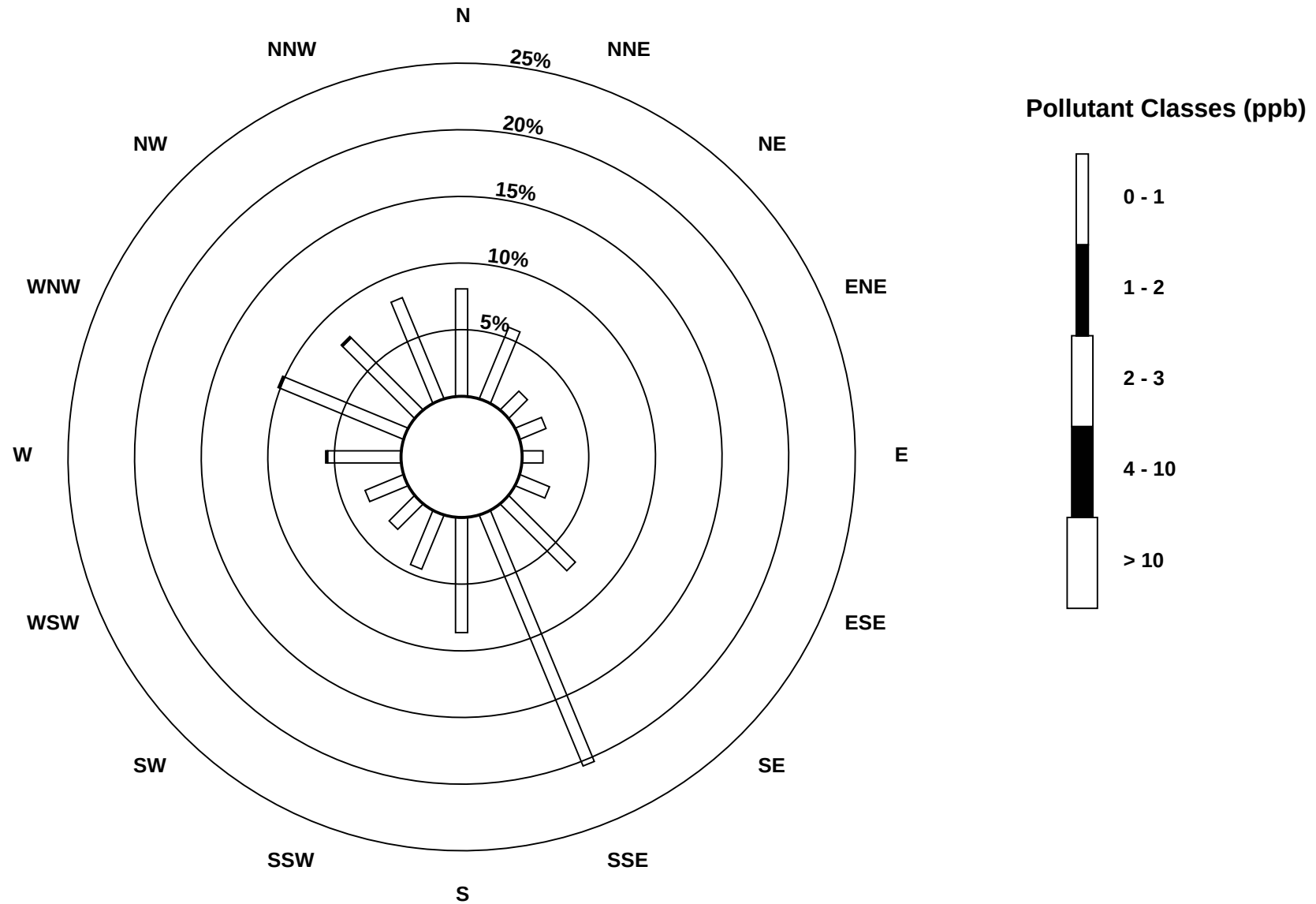
Hourly Maximums

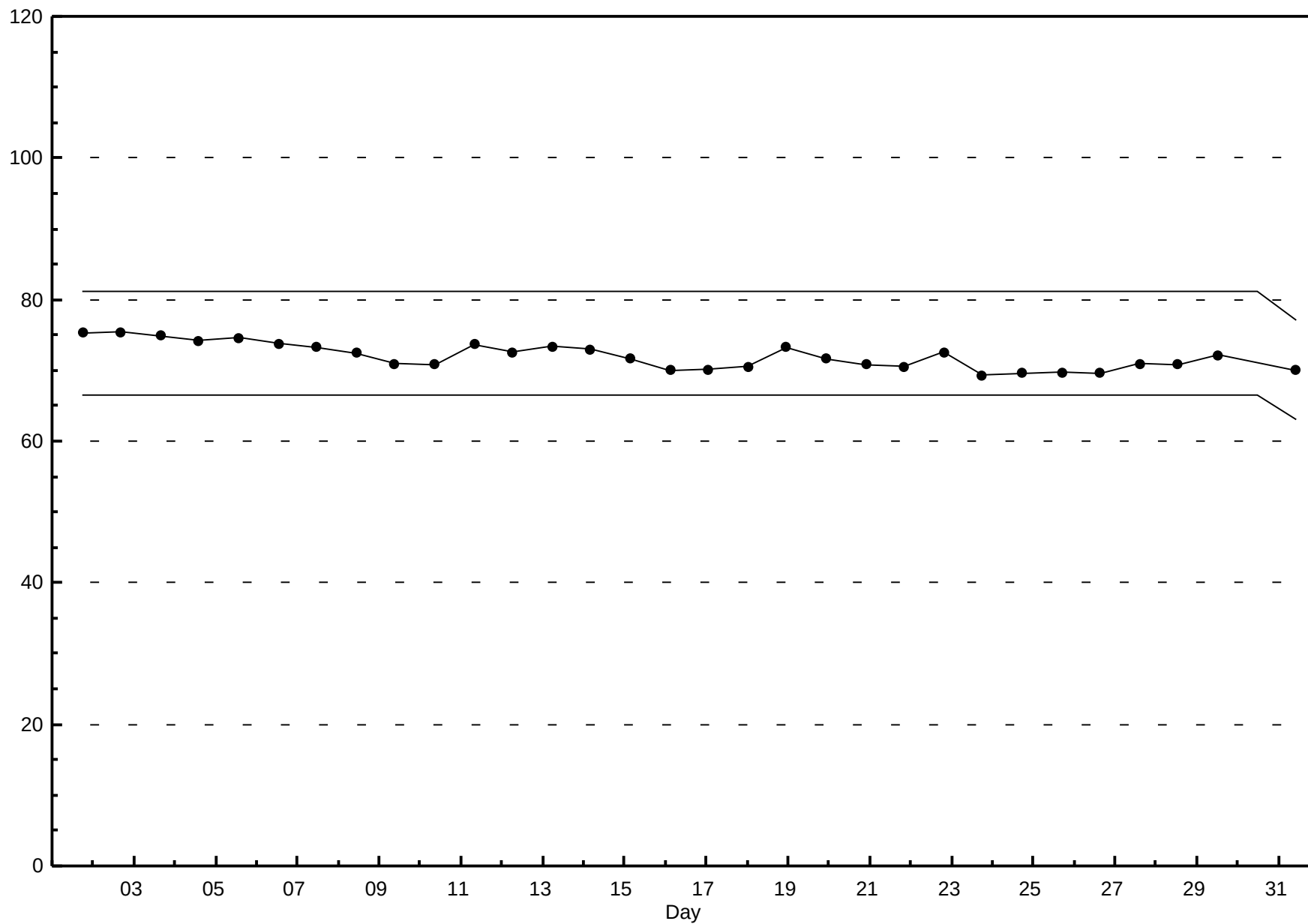
Hydrogen Sulphide (H₂S) - ppb
Valleyview - July 2012



Pollutant Rose

Hydrogen Sulphide (H₂S) - ppb
Valleyview - July 2012





Hourly Averages

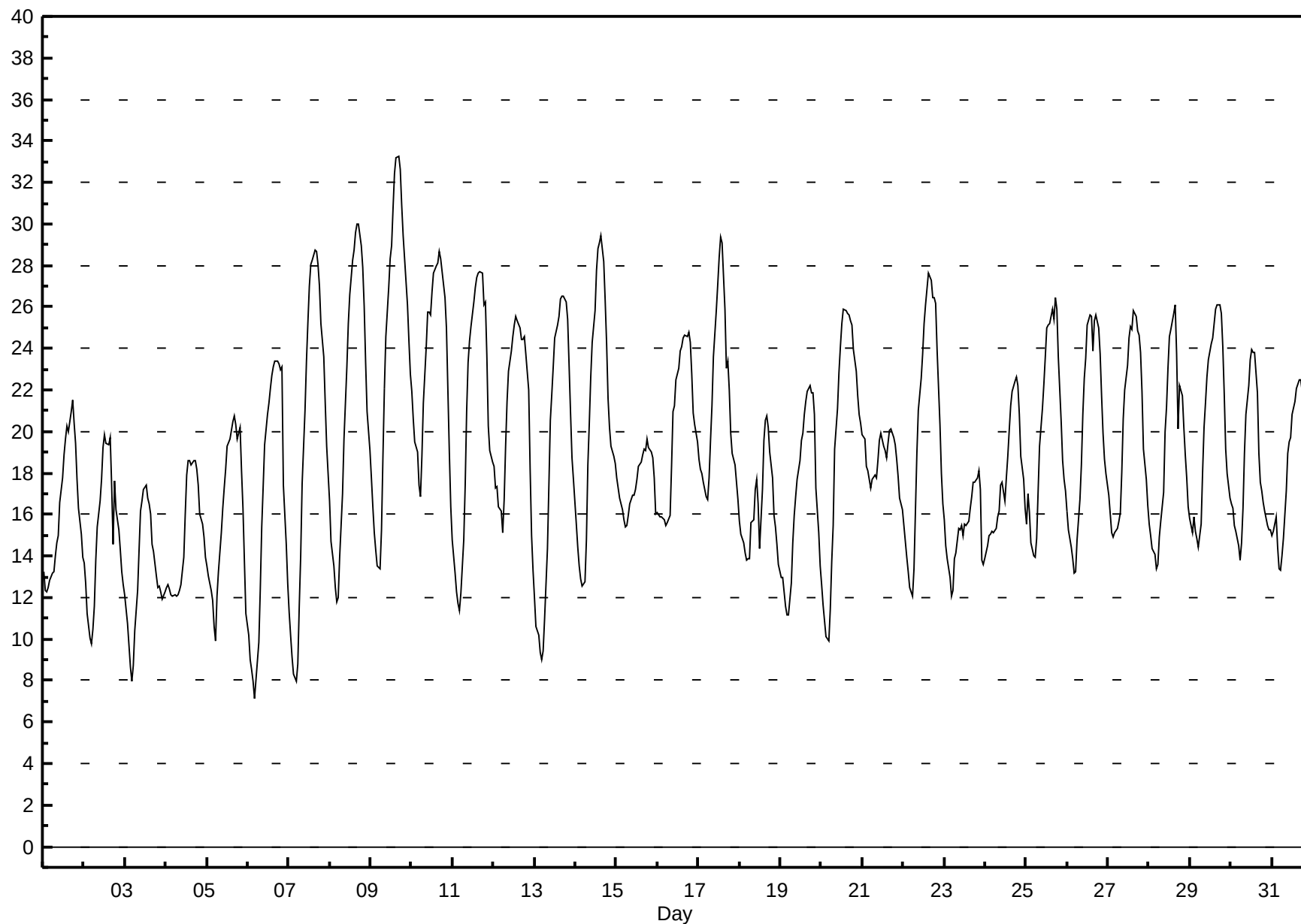
External Temperature (ET) - °C

Valleyview - July 2012

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																					Hours in Service: 744					
Maximum Value: 33.3 °C on Jul 9 17:00																					Maximum Daily Average: 24.1 °C on Jul 9		Hours of Data: 744			
Minimum Value: 7 °C on Jul 6 05:00																					Minimum Daily Average: 13.1 °C on Jul 3		Hours of Missing Data: 0			
Maximum Diurnal Average: 23.8 °C at hour 16																					Minimum Diurnal Average: 12.9 °C at hour 5		Hours of Calibration: 0			
Monthly Average: 18.79 °C																					Percentiles: P ₁ = 8.6 P ₁₀ = 12.5 Q ₁ = 15.1 Median = 18.1 Q ₃ = 22.6 P ₉₀ = 25.8 P ₉₉ = 29.3		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-Jul	13	12	12	12	13	13	13	14	15	15	17	18	19	20	20	20	21	21	20	19	18	16	15	14	16.3	21.5
2-Jul	14	13	11	10	10	10	12	14	15	17	18	19	20	19	19	20	17	15	18	16	15	14	13	13	15.1	19.8
3-Jul	12	11	10	9	8	9	10	12	14	16	17	17	17	17	17	16	15	14	13	12	13	12	12	12	13.1	17.4
4-Jul	13	13	12	12	12	12	12	12	12	13	14	16	18	19	19	18	19	19	18	17	16	16	15	14	15.0	18.6
5-Jul	14	13	12	12	11	10	12	13	15	16	17	18	19	20	20	20	21	20	20	20	18	16	14	11	16.0	20.7
6-Jul	10	9	9	8	7	8	10	12	15	17	19	21	21	22	23	23	23	23	23	23	23	17	15	13	16.5	23.4
7-Jul	11	10	9	8	8	9	12	14	18	21	23	25	27	28	28	29	29	28	27	25	24	21	19	18	19.7	28.7
8-Jul	17	15	14	13	12	12	14	17	20	21	23	25	27	28	29	30	30	30	29	28	26	23	21	19	21.7	30.0
9-Jul	18	16	15	14	13	13	15	19	22	25	27	28	29	31	32	33	33	33	31	29	28	26	24	23	24.1	33.3
10-Jul	22	21	19	19	17	17	19	21	24	26	26	26	27	28	28	28	29	28	28	26	25	22	19	16	23.4	28.7
11-Jul	15	13	12	12	11	12	15	17	21	23	24	25	26	27	27	28	28	28	26	26	24	20	19	18	20.8	27.7
12-Jul	18	17	17	16	16	15	17	19	21	23	24	25	25	26	25	25	24	24	25	24	22	18	15	13	20.7	25.6
13-Jul	12	11	10	9	9	9	11	14	17	21	22	23	24	25	26	26	27	27	26	25	23	21	19	18	19.0	26.5
14-Jul	16	14	14	13	13	13	15	18	20	23	24	26	28	29	29	29	28	26	24	22	20	19	19	18	20.8	29.5
15-Jul	18	17	17	16	16	15	16	16	16	17	17	17	18	18	19	19	19	19	20	19	19	19	18	16	17.5	19.6
16-Jul	16	16	16	16	16	15	16	16	18	21	21	22	23	24	24	25	25	25	25	24	23	21	20	20	20.3	24.8
17-Jul	19	18	18	18	17	17	18	20	21	24	26	27	28	29	29	26	23	23	22	20	19	18	18	17	21.4	29.3
18-Jul	16	15	15	14	14	14	14	16	16	17	18	16	14	17	20	21	21	20	19	18	16	15	15	14	16.4	20.7
19-Jul	13	13	12	12	11	11	13	15	16	17	18	19	20	20	21	21	22	22	22	22	21	17	15	14	16.9	22.2
20-Jul	13	12	11	10	10	11	14	15	19	21	23	24	25	26	26	26	26	25	25	24	23	22	21	20	19.6	25.9
21-Jul	20	20	18	18	18	17	18	18	18	19	20	20	19	19	19	19	20	20	20	19	19	18	17	16	18.7	20.1
22-Jul	15	15	14	13	12	12	13	16	19	21	23	24	25	26	27	28	27	26	26	26	24	20	18	17	20.4	27.6
23-Jul	16	15	14	13	12	12	14	14	15	15	15	15	16	15	16	16	17	18	18	18	18	17	14	14	15.3	18.1
24-Jul	14	14	15	15	15	15	15	16	16	17	18	17	18	19	20	21	22	22	23	22	21	19	18	16	17.8	22.6
25-Jul	16	17	16	15	14	14	15	17	19	21	22	24	25	25	25	26	25	26	26	24	20	19	18	17	20.2	26.4
26-Jul	16	15	14	14	13	13	15	17	18	21	23	24	25	26	26	24	25	26	25	24	22	20	19	18	20.0	25.6
27-Jul	17	16	15	15	15	15	16	16	18	21	22	23	24	25	25	26	26	25	25	24	22	19	18	16	20.1	25.8
28-Jul	16	15	14	14	13	14	15	16	17	20	21	23	25	25	26	26	24	20	22	22	20	19	18	16	19.2	26.1
29-Jul	16	15	16	15	15	14	16	18	20	21	23	23	24	25	25	26	26	26	26	24	22	19	18	17	20.4	26.1
30-Jul	17	16	15	15	15	14	15	16	19	21	22	23	24	24	24	22	19	18	17	17	16	15	15	15	18.1	24.0
31-Jul	15	15	16	14	13	13	14	15	17	19	19	20	21	21	22	22	23	22	22	22	20	17	14	12	17.9	22.5
15.3 14.6 14.0 13.4 12.9 13.0 14.2 16.0 17.9 19.6 20.8 21.7 22.6 23.3 23.7 23.8 23.6 23.3 22.9 22.0 20.6 18.7 17.1 16.0																									Diurnal Average	
21.9 20.6 19.5 19.0 17.7 17.3 18.8 21.4 24.1 25.7 26.9 28.3 28.9 30.8 32.4 33.2 33.3 32.6 30.9 29.4 28.3 26.1 24.4 22.8																									Diurnal Maximum	

Hourly Averages

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



Hourly Averages

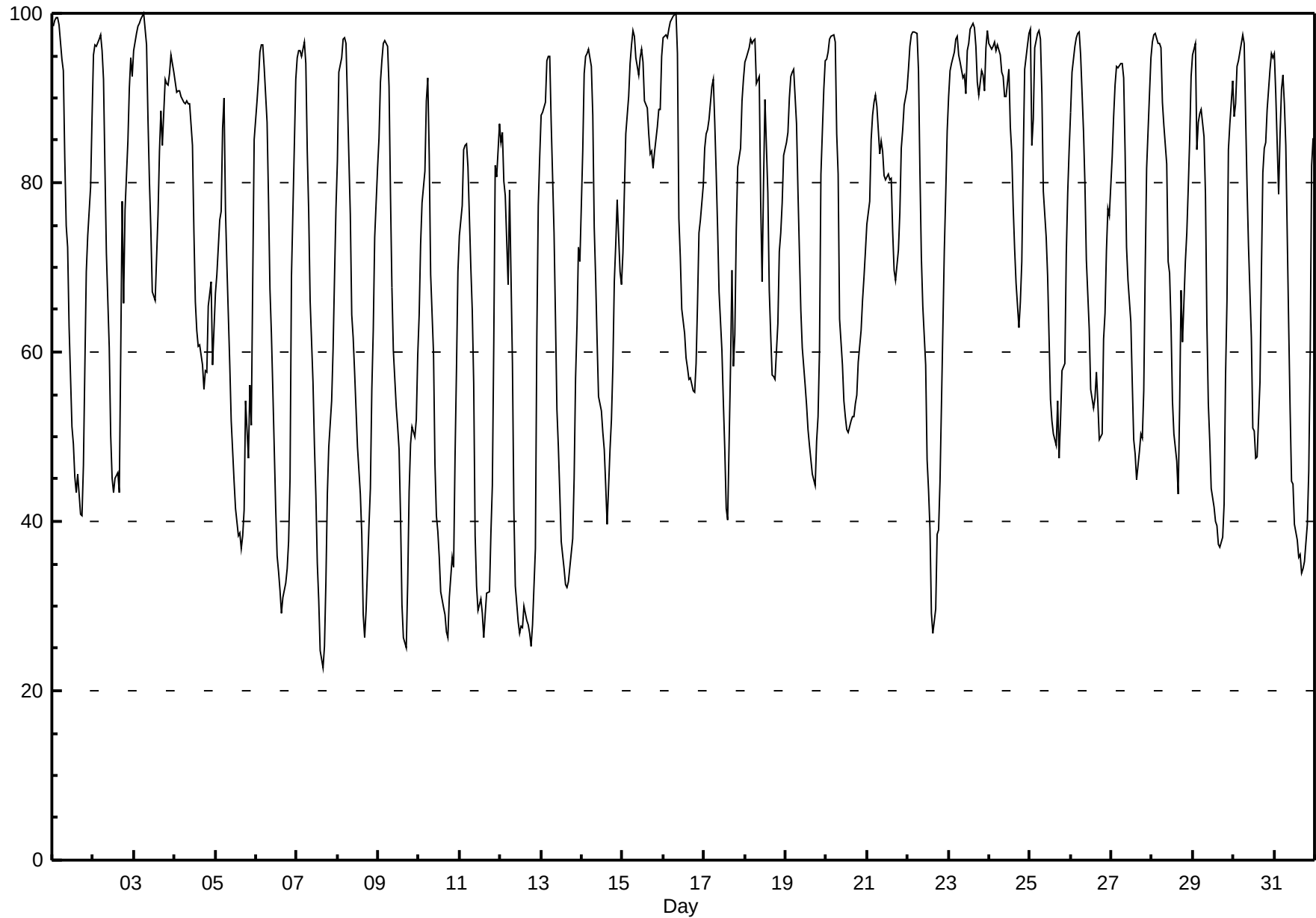
Relative Humidity (RH) - %

Valleyview - July 2012

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 100.0 % on Jul 3 07:00 Maximum Daily Average: 94.5 % on Jul 23																								Hours in Service: 744 Hours of Data: 744 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0		
Minimum Value: 23 % on Jul 7 16:00 Minimum Daily Average: 50.5 % on Jul 12 Maximum Diurnal Average: 93.9 % at hour 6 Minimum Diurnal Average: 48.2 % at hour 16 Monthly Average: 70.88 % Percentiles: P ₁ = 26.3 P ₁₀ = 38.4 Q ₁ = 53.2 Median = 74.5 Q ₃ = 91.0 P ₉₀ = 96.2 P ₉₉ = 99.3																										
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-Jul	98	99	99	99	99	95	93	83	75	72	63	51	49	45	43	46	41	41	47	58	69	74	80	88	71.2	99.5
2-Jul	95	96	96	97	97	96	92	82	72	61	50	45	43	45	46	43	60	78	66	77	85	91	95	93	75.0	97.5
3-Jul	96	98	99	99	99	100	100	96	88	80	74	67	66	71	76	84	88	84	92	92	92	93	95	93	88.4	100.0
4-Jul	92	91	91	91	90	89	89	90	89	89	84	74	66	63	61	61	58	56	58	58	66	68	59	63	74.8	91.9
5-Jul	67	69	76	77	86	90	77	70	59	52	48	45	42	38	39	37	38	41	54	47	56	51	69	85	58.9	90.1
6-Jul	90	92	95	96	96	94	87	78	67	62	56	42	36	34	32	29	31	33	34	38	45	69	84	92	63.0	96.3
7-Jul	95	96	96	95	97	94	84	77	66	56	49	43	35	31	25	23	25	33	43	49	54	60	69	77	61.2	96.7
8-Jul	82	93	95	97	97	96	90	76	64	62	58	53	49	43	38	29	26	29	39	44	56	63	74	82	64.0	97.1
9-Jul	85	92	94	96	97	96	91	79	68	60	54	51	49	41	30	26	25	33	44	49	51	50	52	60	61.3	96.7
10-Jul	64	73	78	81	90	92	83	69	60	47	41	39	36	32	30	29	27	26	31	36	35	48	58	69	53.0	92.4
11-Jul	74	77	84	84	85	82	70	65	56	38	32	30	31	29	26	29	32	32	39	44	61	82	81	87	56.2	86.9
12-Jul	85	86	80	78	68	79	69	59	41	32	28	27	28	27	30	28	28	27	25	28	37	62	77	83	50.5	85.9
13-Jul	88	88	90	94	95	95	87	74	64	53	49	43	38	34	33	32	33	35	38	45	57	63	72	71	61.3	95.0
14-Jul	84	93	95	95	96	94	88	75	69	61	55	53	51	49	44	40	48	52	58	68	73	78	69	68	69.0	95.7
15-Jul	72	79	86	90	94	96	98	97	95	93	95	96	94	90	89	86	83	84	82	84	87	89	89	95	89.2	98.0
16-Jul	97	97	97	98	99	99	100	100	95	76	71	65	62	59	58	57	57	55	55	59	66	74	76	80	77.2	99.9
17-Jul	84	86	86	87	91	92	87	81	75	67	60	54	49	41	40	58	70	58	62	74	82	84	90	92	73.0	92.2
18-Jul	94	95	96	97	96	97	97	92	92	78	68	80	90	79	67	62	57	57	57	63	72	74	78	83	80.1	97.0
19-Jul	85	86	90	93	93	93	87	79	72	65	61	56	54	51	49	47	46	44	49	52	60	81	91	94	69.9	94.4
20-Jul	95	95	97	97	98	97	86	81	64	58	54	52	51	50	52	52	52	54	55	59	63	66	69	72	69.5	97.5
21-Jul	75	78	85	88	90	90	89	83	85	84	81	80	81	80	81	74	70	69	72	76	84	86	89	91	81.7	91.0
22-Jul	93	96	97	98	98	98	93	81	71	65	58	47	44	39	29	27	30	38	39	45	54	72	79	86	65.7	97.8
23-Jul	90	93	94	95	97	97	95	94	92	93	91	96	96	98	99	98	96	92	90	93	93	91	96	98	94.5	98.9
24-Jul	96	96	96	97	96	96	95	93	93	90	90	93	87	84	77	72	68	63	66	71	83	93	96	98	87.0	97.7
25-Jul	98	84	87	96	98	98	97	91	79	74	69	62	54	52	50	49	54	48	52	58	59	72	79	84	72.6	98.2
26-Jul	88	93	96	97	98	98	95	86	80	71	67	63	56	53	55	58	54	50	50	61	65	72	77	76	73.2	97.8
27-Jul	83	88	91	94	94	94	94	92	84	72	69	63	56	50	48	45	48	50	50	55	70	82	91	95	73.2	94.7
28-Jul	97	97	98	96	96	96	89	87	82	71	69	63	54	50	47	43	53	67	61	71	74	79	85	93	75.9	97.6
29-Jul	95	97	84	87	88	89	85	79	63	54	49	44	42	40	40	37	37	38	42	57	66	84	87	92	65.7	96.5
30-Jul	88	89	94	94	96	97	96	88	80	73	62	51	51	47	48	56	70	81	84	85	89	93	95	95	79.2	97.5
31-Jul	95	90	79	86	91	93	89	84	63	53	45	44	40	38	36	36	34	34	35	40	46	60	82	85	61.6	95.3
87.8 89.8 91.0 92.7 93.7 93.9 89.5 82.6 74.3 66.5 61.3 57.2 54.1 51.1 48.9 48.2 49.7 51.0 53.9 59.2 66.0 74.3 80.0 84.4																								Diurnal Average		
98.5 99.2 99.5 99.5 99.2 99.6 100.0 99.9 95.2 92.7 94.8 95.7 96.4 98.1 98.9 98.2 96.1 91.9 92.2 93.1 92.8 93.5 96.3 98.0																								Diurnal Maximum		

Hourly Averages

Relative Humidity (RH) - %
Valleyview - July 2012



Hourly Averages

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

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1 Spd	1	1	1	1	1	1	2	6	7	6	6	5	3	2	3	4	3	2	2	2	2	0	0	1	1.5	7.0
Dir	144	176	198	199	153	205	245	283	285	286	300	308	335	326	347	315	261	190	203	168	165	76	15	165	280	285
2 Spd	0	1	1	1	2	2	2	1	1	2	3	2	2	2	3	4	2	3	2	2	1	1	2	1	0.6	3.6
Dir	139	235	191	176	158	158	162	154	147	26	38	153	157	44	16	11	214	125	158	181	178	202	160	299	136	11
3 Spd	0	1	1	2	2	1	2	3	2	1	5	12	10	7	8	7	5	7	11	15	15	12	11	13	5.4	15.2
Dir	144	349	318	5	332	1	360	358	6	34	343	352	8	26	347	349	8	306	291	296	301	307	290	282	324	301
4 Spd	10	13	16	18	15	12	17	13	12	12	9	13	19	19	16	15	14	16	10	9	6	4	8	6	12.2	18.9
Dir	278	292	279	284	289	291	280	288	285	270	276	276	279	283	276	265	274	274	272	285	353	282	271	257	280	279
5 Spd	2	2	1	2	1	1	2	3	5	5	4	4	3	5	3	5	3	2	2	2	5	7	0	1	1.7	6.6
Dir	244	220	155	168	181	183	169	235	260	267	259	268	281	300	291	345	22	60	150	175	234	262	21	165	260	262
6 Spd	1	1	2	1	0	1	1	3	1	2	2	3	6	6	6	7	7	6	6	3	0	1	0	0	1.1	7.5
Dir	181	195	158	156	267	277	166	159	147	144	144	257	248	274	297	296	352	11	353	358	115	176	22	134	300	296
7 Spd	0	0	1	0	1	1	1	1	2	2	3	3	2	2	5	4	5	6	5	3	2	3	4	1	1.4	6.1
Dir	197	205	233	172	185	208	23	355	27	118	146	148	128	96	22	38	24	16	67	79	22	335	352	7	46	16
8 Spd	1	0	0	1	1	1	2	3	2	3	3	2	2	1	3	4	4	4	5	2	1	3	1	3	0.7	4.6
Dir	341	192	169	203	191	172	159	163	157	146	140	133	145	146	32	7	10	13	25	68	20	338	328	339	52	25
9 Spd	1	0	1	0	0	1	2	2	2	1	1	1	4	2	3	4	5	4	4	2	1	3	0	4	0.9	4.8
Dir	335	273	190	288	187	216	165	161	153	144	159	113	23	19	82	62	32	70	68	73	85	143	72	301	74	32
10 Spd	1	1	2	1	1	1	2	2	1	6	12	12	14	12	11	10	10	12	10	8	5	1	1	1	4.7	14.1
Dir	39	176	175	184	325	164	159	155	161	269	298	309	312	313	315	315	297	300	307	311	312	212	309	189	303	312
11 Spd	1	2	2	1	1	2	2	2	2	3	3	5	2	4	7	6	5	3	1	1	1	0	0	0	0.3	7.4
Dir	185	193	175	176	180	160	164	159	150	239	283	323	168	349	324	17	42	93	81	14	304	211	313	210	336	324
12 Spd	1	1	2	2	2	1	2	2	3	6	9	10	11	10	13	14	10	9	8	6	2	0	1	0	3.9	14.2
Dir	175	177	142	148	185	177	159	151	258	307	306	301	289	316	331	331	329	333	342	5	12	192	177	161	318	331
13 Spd	0	1	0	0	1	1	1	1	1	2	3	4	5	5	5	4	4	4	3	2	2	2	1	0	1.8	4.9
Dir	284	340	294	195	181	197	252	177	160	148	140	134	141	144	131	153	130	132	135	143	153	157	166	0	144	131
14 Spd	0	0	1	0	1	0	1	2	3	3	3	3	3	3	3	3	6	7	4	3	3	3	3	2	1.6	7.3
Dir	14	184	352	284	175	182	184	164	165	156	152	156	167	162	258	355	56	136	121	131	151	165	168	164	146	136
15 Spd	1	1	1	1	2	5	7	6	10	8	7	9	11	13	9	9	9	9	9	8	6	4	6	4	5.8	12.7
Dir	110	104	164	199	127	342	344	30	10	12	16	7	6	13	13	10	359	355	355	356	346	325	3	32	6	13
16 Spd	1	3	1	1	1	0	1	2	2	4	7	7	9	8	7	7	7	6	5	5	4	5	6	6	3.9	8.6
Dir	349	351	25	227	169	203	157	154	164	159	164	162	163	164	166	167	162	164	161	157	154	156	163	163	162	163
17 Spd	5	5	4	4	2	2	4	4	4	4	3	3	2	2	1	1	1	6	8	1	1	3	1	1	1.5	8.3
Dir	163	162	167	171	172	171	163	162	162	161	153	133	146	132	24	69	168	265	341	206	102	299	28	111	167	341
18 Spd	2	1	0	1	1	2	2	7	11	10	9	4	3	8	8	7	10	13	13	9	5	2	4	1	4.1	13.2
Dir	133	168	161	157	348	319	173	259	345	358	354	253	178	291	263	286	299	318	310	334	330	291	291	233	309	318
19 Spd	3	2	2	1	1	1	2	5	8	9	8	9	9	8	7	7	7	7	4	2	1	0	0	1	3.4	9.3
Dir	247	237	200	190	345	154	248	274	298	309	301	298	314	329	317	340	333	339	30	48	54	103	251	347	314	298
20 Spd	0	0	1	1	1	0	1	1	4	6	8	8	7	7	7	8	8	9	10	4	3	2	3	2	3.9	9.9
Dir	305	318	341	315	27	235	354	100	139	136	143	143	137	136	148	139	135	134	140	133	120	119	133	151	137	140
21 Spd	3	0	2	1	1	2	1	7	6	7	7	11	14	13	10	10	8	7	5	2	1	1	1	1	4.5	14.3
Dir	139	305	359	40	312	325	279	287	292	300	302	288	283	282	285	285	289	284	272	250	162	207	181	165	285	283
22 Spd	2	1	1	1	1	1	2	2	1	2	3	4	3	2	2	2	1	1	2	1	1	1	3	2	0.8	3.8
Dir	165	167	168	165	193	186	176	161	168	148	134	129	148	111	199	292	114	82	59	46	64	356	335	336	140	129

Hourly Averages

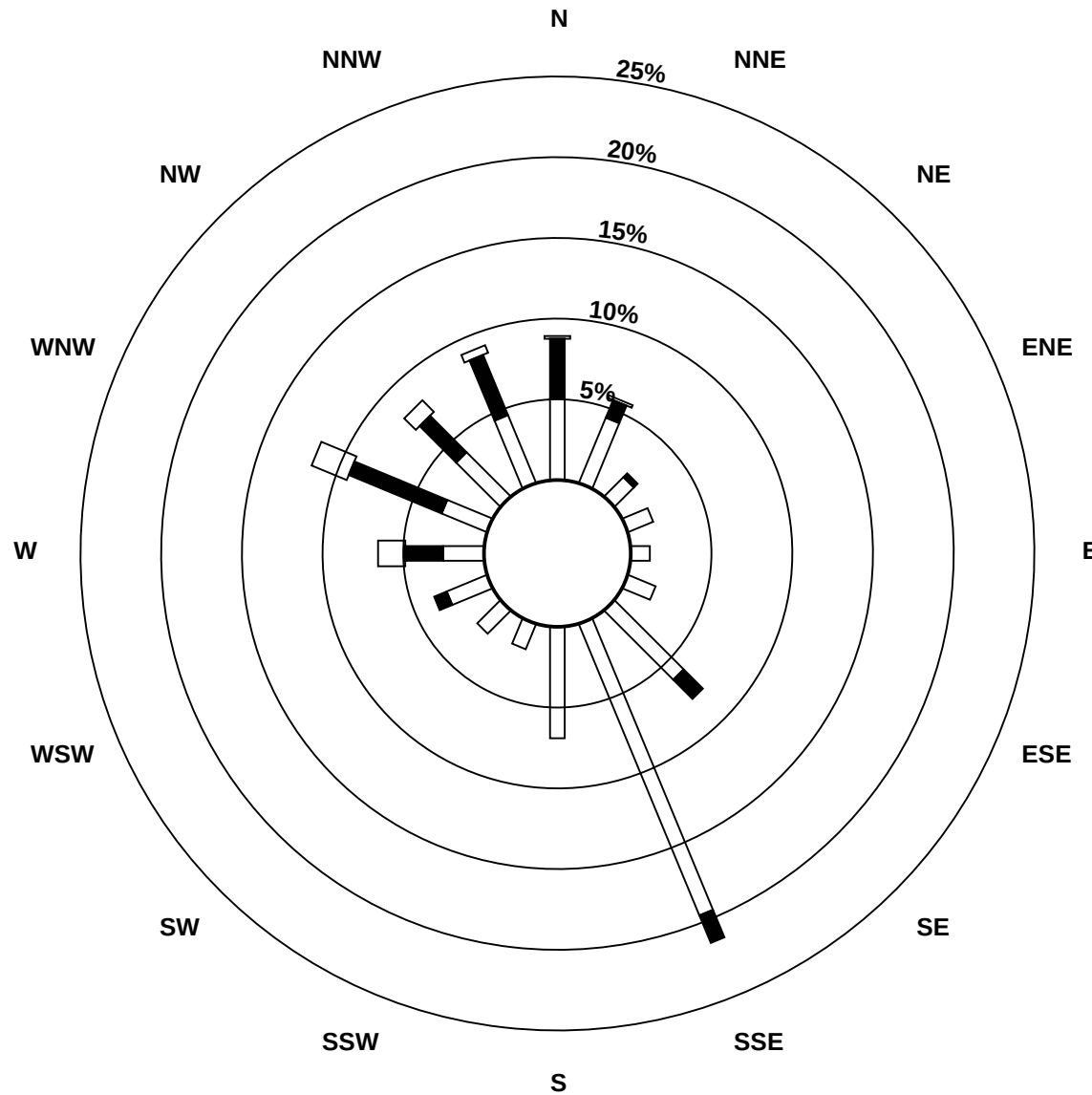
Wind Speed (km/h)
Wind Direction (deg)
Valleyview - July 2012

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24					
23 Spd	1	1	1	1	2	1	0	3	1	2	2	9	1	1	4	0	3	7	5	12	9	3	2	5	2.5	11.7			
Dir	243	347	331	341	338	342	2	349	327	199	243	332	17	22	349	346	304	314	327	333	335	117	194	339	330	333			
24 Spd	7	7	7	9	8	5	5	4	7	8	9	9	10	6	5	3	3	4	1	3	3	1	1	1	4.6	10.4			
Dir	337	340	358	330	330	313	304	310	304	324	349	336	329	312	351	3	330	344	5	275	276	156	163	159	329	329			
25 Spd	1	7	1	1	1	0	1	1	3	1	3	4	1	8	7	4	5	3	3	7	4	1	1	1	1.3	7.6			
Dir	155	292	189	170	152	151	162	152	284	223	293	308	306	344	356	358	351	357	14	48	128	276	225	59	340	344			
26 Spd	1	0	0	0	0	0	0	1	1	1	1	2	1	3	4	4	5	4	3	2	3	2	3	4	1.1	4.7			
Dir	71	357	233	165	169	143	151	112	113	217	13	357	38	359	75	40	38	87	105	105	146	157	156	155	90	38			
27 Spd	1	1	1	1	1	1	1	2	2	1	2	3	1	6	8	5	7	7	7	4	2	0	0	1	1.8	8.0			
Dir	54	226	193	153	167	168	174	160	155	134	4	338	296	298	276	292	255	254	284	311	316	129	90	343	277	276			
28 Spd	1	1	2	1	1	0	2	2	2	3	3	2	2	3	4	7	10	3	1	1	2	2	1	1	0.4	10.3			
Dir	178	169	162	147	164	196	156	158	159	160	166	182	219	318	276	300	357	32	145	257	309	172	206	153	245	357			
29 Spd	1	1	3	2	1	1	2	2	3	6	5	6	4	5	4	3	3	4	4	1	1	1	0	2	1.4	5.9			
Dir	90	164	226	160	160	173	156	147	268	321	300	300	291	300	275	243	314	349	16	359	323	212	231	166	290	321			
30 Spd	3	1	2	1	1	1	1	1	1	2	1	1	4	7	8	9	4	3	3	3	3	3	2	1	0.6	9.2			
Dir	258	173	172	262	282	163	193	169	171	166	337	15	29	1	333	295	232	227	161	161	161	162	162	168	253	295			
31 Spd	1	2	5	2	2	1	1	1	7	11	14	9	11	10	10	10	10	10	8	3	2	1	2	1	4.7	13.6			
Dir	161	174	253	206	155	157	157	175	271	276	276	266	265	290	283	310	301	303	311	307	293	233	170	182	279	276			
Spd	0.5	0.8	0.8	0.7	0.5	0.6	0.8	0.9	1.4	1.7	2.0	2.8	2.4	3.4	3.6	3.6	3.0	2.5	2.0	1.5	1.1	0.7	0.6	0.6	Diurnal Average				
Dir	238	267	240	248	263	258	234	243	283	287	299	300	294	316	314	321	328	321	331	333	319	250	258	252	Diurnal Maximum				
Spd	9.9	12.8	16.3	17.7	14.8	12.4	16.7	12.8	12.1	12.1	13.6	13.2	18.9	18.6	16.2	14.5	14.1	15.7	12.8	15.0	15.2	12.4	11.1	12.6	Diurnal Maximum				
Dir	278	292	279	284	289	291	280	288	285	270	276	276	279	283	276	265	274	274	310	296	301	307	290	282					
Maximum Speed Value: 19 km/h on Jul 4 13:00																		Minimum Speed Value: 0 km/h on Jul 14 01:00										Hours in Service: 744	
Maximum Daily Speed Average: 12.2 km/h on Jul 4																		Minimum Daily Speed Average: 0.3 km/h on Jul 22										Hours of Data: 744	
Maximum Diurnal Speed Average: 3.6 km/h at hour 15																		Minimum Diurnal Speed Average: 0.5 km/h at hour 1										Hours of Missing Data: 0	
Monthly Average Velocity: 1.42 km/h 301.5 deg																		Speed Percentiles: P ₁ = 0.2 P ₁₀ = 0.6 Q ₁ = 1.2 Median = 2.5 Q ₃ = 5.5 P ₉₀ = 9.0 P ₉₉ = 15.2										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	74	41	3	0	0	0	118																						
NorthEast	36	4	0	0	0	0	40																						
East	29	0	0	0	0	0	29																						
SouthEast	107	11	0	0	0	0	118																						
South	167	11	0	0	0	0	178																						
SouthWest	43	0	0	0	0	0	43																						
West	40	38	24	0	0	0	102																						
NorthWest	46	57	13	0	0	0	116																						
Total	542	162	40	0	0	0	744																						

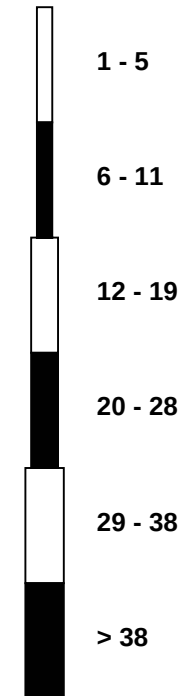
Wind Rose

Wind Speed (WS) (km/h)

Valleyview - July 2012



Wind Speed Classes (km/h)



Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Valleyview - July 2012

Maximum Speed: 19 km/h on Jul 4 13:00																		Maximum Daily Speed Average: 12.8 km/h on Jul 4																		Hours in Service: 744			
Minimum Speed: 1 km/h on Jul 26 06:00																		Minimum Daily Speed Average: 2.1 km/h on Jul 22																		Hours of Data: 744			
Maximum Diurnal Speed Average: 7.1 km/h at hour 15																		Minimum Diurnal Speed Average: 1.9 km/h at hour 6																		Hours of Missing Data: 0			
Monthly Average Speed: 4.28 km/h																		Percentiles: P ₁ = 0.7 P ₁₀ = 1.1 Q ₁ = 1.6 Median = 2.9 Q ₃ = 5.9 P ₉₀ = 9.4 P ₉₉ = 15.2																		Percent Operational Time: 100.0			
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24															
1-Jul	1	2	1	1	1	2	3	6	7	6	7	6	4	4	5	5	4	3	2	3	2	2	1	2	3.3	7.2													
2-Jul	1	2	2	1	2	2	2	1	1	3	4	3	3	3	4	4	5	3	2	2	2	2	2	3	2.5	5.3													
3-Jul	1	2	1	2	2	1	3	3	3	2	6	12	10	8	9	8	6	7	11	15	15	13	11	13	6.8	15.4													
4-Jul	10	13	17	18	15	13	17	13	12	12	9	13	19	19	17	15	14	16	10	9	6	4	8	6	12.8	19.2													
5-Jul	3	3	2	2	1	1	2	3	5	6	5	6	5	6	5	6	4	2	2	2	5	8	2	1	3.6	7.5													
6-Jul	1	2	2	1	1	1	1	3	2	3	3	5	7	7	7	9	7	6	7	3	1	1	1	1	3.4	8.5													
7-Jul	1	1	1	1	1	1	1	2	2	3	4	4	3	3	5	4	5	7	5	3	3	3	5	2	2.9	6.6													
8-Jul	2	1	1	1	1	1	2	3	2	3	3	2	2	2	4	5	5	4	5	2	2	3	1	3	2.5	5.1													
9-Jul	2	1	1	1	1	1	2	2	2	2	2	2	4	4	3	4	5	4	4	3	2	3	2	4	2.5	5.1													
10-Jul	2	2	2	1	2	1	2	2	1	6	13	12	15	13	11	11	10	13	10	8	6	2	2	2	6.2	14.7													
11-Jul	1	2	2	1	1	2	2	2	2	4	4	6	4	6	8	7	5	3	1	1	1	1	2	1	3.0	8.2													
12-Jul	1	2	2	2	2	1	2	2	4	7	9	11	12	11	14	15	10	9	9	6	2	1	2	1	5.7	14.5													
13-Jul	1	2	1	2	1	1	1	1	2	2	3	4	5	5	5	4	4	4	3	2	2	2	1	1	2.4	5.2													
14-Jul	1	1	1	1	1	1	1	2	3	3	3	3	3	3	4	5	7	7	5	4	3	3	3	2	2.9	7.4													
15-Jul	2	2	1	2	3	5	7	6	10	9	8	9	11	13	9	9	9	9	9	8	6	4	7	4	6.7	13.0													
16-Jul	2	3	2	1	1	1	1	2	2	5	7	7	9	8	8	7	7	6	5	5	4	5	6	6	4.5	8.7													
17-Jul	5	5	4	4	2	2	4	4	4	4	3	3	3	3	2	1	3	7	10	2	3	4	2	1	3.6	10.1													
18-Jul	2	1	1	2	2	2	3	8	12	11	10	5	5	9	9	8	11	14	13	9	5	3	4	2	6.2	13.7													
19-Jul	3	2	2	1	1	1	2	5	8	10	8	10	9	9	8	8	8	8	5	3	1	1	1	1	4.8	10.2													
20-Jul	1	1	1	2	1	1	1	2	5	6	8	8	8	7	8	8	8	9	10	4	3	3	3	3	4.6	10.1													
21-Jul	3	1	2	1	2	2	2	7	6	7	7	11	15	13	11	11	9	7	5	2	1	1	1	1	5.3	14.5													
22-Jul	2	1	1	1	1	1	2	2	2	2	3	4	4	3	4	3	2	1	2	1	1	2	3	2	2.1	4.1													
23-Jul	1	2	1	1	2	1	2	3	2	3	4	10	2	2	5	2	3	7	5	12	9	7	6	6	4.1	11.8													
24-Jul	8	8	7	9	8	5	5	5	7	8	10	9	11	6	6	4	3	4	2	3	3	1	1	1	5.6	10.6													
25-Jul	2	7	1	1	1	1	1	1	3	2	4	5	3	8	7	4	5	3	4	8	4	2	1	1	3.3	8.0													
26-Jul	1	1	1	1	1	1	1	2	2	2	3	3	2	4	5	4	6	4	3	3	3	2	3	4	2.5	5.6													
27-Jul	1	1	1	1	1	1	1	2	2	2	3	4	3	7	9	6	8	8	7	5	3	1	1	2	3.3	8.6													
28-Jul	1	2	2	1	1	1	2	2	2	3	3	3	3	5	6	8	11	4	1	1	3	2	1	1	2.9	11.3													
29-Jul	1	2	3	2	1	2	2	2	3	6	5	6	5	6	5	4	4	4	4	1	2	1	2	2	3.3	6.4													
30-Jul	4	3	4	2	1	1	1	1	1	2	3	2	5	8	8	10	6	4	3	3	3	3	2	1	3.5	9.6													
31-Jul	1	2	5	2	2	1	2	2	8	11	14	10	12	11	11	11	11	10	8	3	3	2	2	1	5.9	14.0													
2.2 2.5 2.4 2.3 2.0 1.9 2.5 3.3 4.1 4.9 5.7 6.5 6.6 7.0 7.1 6.7 6.7 6.4 5.6 4.4 3.5 2.9 2.9 2.6 Diurnal Average																																							
10.4 13.1 16.6 18.0 15.1 12.7 17.0 13.2 12.4 12.3 14.0 13.5 19.2 18.9 16.6 14.8 14.3 15.9 13.2 15.2 15.4 12.5 11.2 12.8 Diurnal Maximum																																							
All monthly, daily, and diurnal averages have been calculated using scalar methods																																							

Hourly Standard Deviations

Wind Direction (WD) - deg

Valleyview - July 2012

Maximum Value: 97.9 deg on Jul 23 16:00																		Hours in Service: 744							
Minimum Value: 7.0 deg on Jul 30 21:00																		Hours of Data: 744							
																		Hours of Missing Data: 0							
																		Hours of Calibration: 0							
Percentiles: P ₁ = 8.3 P ₁₀ = 11.6 Q ₁ = 16.9 Median = 32.5 Q ₃ = 57.4 P ₉₀ = 74.5 P ₉₉ = 93.1																		Percent Operational Time: 100.0							
Day	Hourly Period Ending At (MST)																								Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Maximum
1-Jul	61	30	49	58	32	36	38	14	15	19	31	43	48	78	72	35	66	56	41	9	11	77	88	84	87.7
2-Jul	83	38	38	24	14	14	12	48	63	53	55	57	44	60	33	28	96	41	44	28	45	60	16	68	96.0
3-Jul	98	35	81	19	46	57	23	37	38	70	26	12	11	17	16	50	78	23	10	9	9	9	10	11	97.6
4-Jul	24	13	11	10	13	13	11	14	14	11	14	13	10	11	12	10	11	9	11	14	18	37	10	13	37.4
5-Jul	39	48	46	35	38	29	23	50	33	26	53	50	71	47	64	36	50	44	36	20	34	52	93	21	93.2
6-Jul	21	72	29	78	80	64	31	16	51	30	50	62	42	52	36	31	32	24	15	13	87	62	84	92	91.8
7-Jul	94	72	54	91	45	60	51	45	49	57	22	24	49	46	30	45	32	32	28	29	49	10	23	64	94.0
8-Jul	64	78	70	52	34	22	17	13	33	15	29	48	41	69	37	24	21	15	31	29	43	14	38	21	78.0
9-Jul	41	76	63	88	89	39	36	11	34	40	47	81	30	75	48	38	24	35	31	55	72	30	94	41	94.5
10-Jul	90	67	31	39	91	47	22	25	41	45	15	15	16	20	17	19	17	13	15	16	32	73	82	21	91.3
11-Jul	22	22	14	13	12	9	10	11	17	44	59	46	66	65	25	34	28	38	51	60	79	71	89	72	89.2
12-Jul	79	61	49	42	34	32	13	31	57	23	20	20	25	22	17	12	10	17	13	13	41	64	75	74	79.0
13-Jul	78	49	56	74	62	52	51	63	36	37	26	23	33	19	19	23	24	15	13	14	15	12	91	73	90.6
14-Jul	93	74	68	72	54	74	46	29	18	33	30	25	34	32	62	72	45	11	27	36	20	14	15	42	93.1
15-Jul	54	58	56	61	35	17	11	17	11	13	12	10	11	12	11	12	12	9	13	10	9	17	30	27	60.8
16-Jul	74	21	64	58	38	81	45	21	19	15	10	9	11	12	11	10	11	13	11	12	9	8	8	9	80.9
17-Jul	8	10	9	9	13	11	9	10	12	13	24	25	68	44	89	65	71	66	35	73	87	80	90	68	90.1
18-Jul	37	47	90	54	93	83	57	28	25	15	63	56	59	33	28	24	18	17	16	12	15	35	12	78	93.1
19-Jul	20	46	26	43	80	36	27	24	21	17	24	24	18	22	25	35	22	24	29	29	41	84	76	93	93.3
20-Jul	86	86	64	58	89	70	61	75	15	12	13	12	15	14	15	14	13	10	11	12	32	21	19	15	88.7
21-Jul	12	91	36	49	53	38	74	14	15	17	18	14	11	10	13	15	18	14	20	38	25	33	26	12	91.4
22-Jul	10	13	24	16	44	50	29	17	44	39	28	21	34	59	65	78	58	64	34	28	49	82	18	34	81.6
23-Jul	61	65	66	72	24	31	91	43	63	32	65	26	69	69	20	98	55	18	24	8	7	69	77	25	97.9
24-Jul	64	28	18	11	10	13	13	34	15	13	17	17	12	22	30	39	49	35	68	26	22	46	42	21	68.3
25-Jul	35	54	51	19	21	69	34	27	58	56	41	44	79	24	32	43	19	35	21	30	32	69	59	76	79.3
26-Jul	73	92	74	73	77	79	74	69	66	79	87	73	76	61	66	41	44	29	23	27	13	14	14	10	92.1
27-Jul	63	58	50	39	37	15	24	12	22	70	67	54	91	36	27	37	18	14	19	14	25	86	77	92	92.1
28-Jul	57	43	34	75	53	80	14	11	11	18	16	44	59	70	56	26	31	67	59	32	63	39	28	26	80.0
29-Jul	68	17	32	34	53	54	17	21	64	24	38	29	47	34	60	52	48	31	23	28	59	71	81	38	81.5
30-Jul	52	80	68	73	79	40	58	37	41	57	72	75	58	25	17	17	51	44	8	8	7	12	10	33	80.0
31-Jul	26	29	24	33	10	35	28	44	17	14	14	18	24	20	25	19	15	20	10	17	27	29	15	13	44.3
97.6 92.1 90.1 90.7 93.1 82.8 90.5 75.3 66.2 78.8 86.9 81.2 91.0 77.8 89.0 97.9 96.0 67.3 68.3 73.1 87.3 85.7 94.5 93.3																									

PAZA

Portable – Sunset House Station

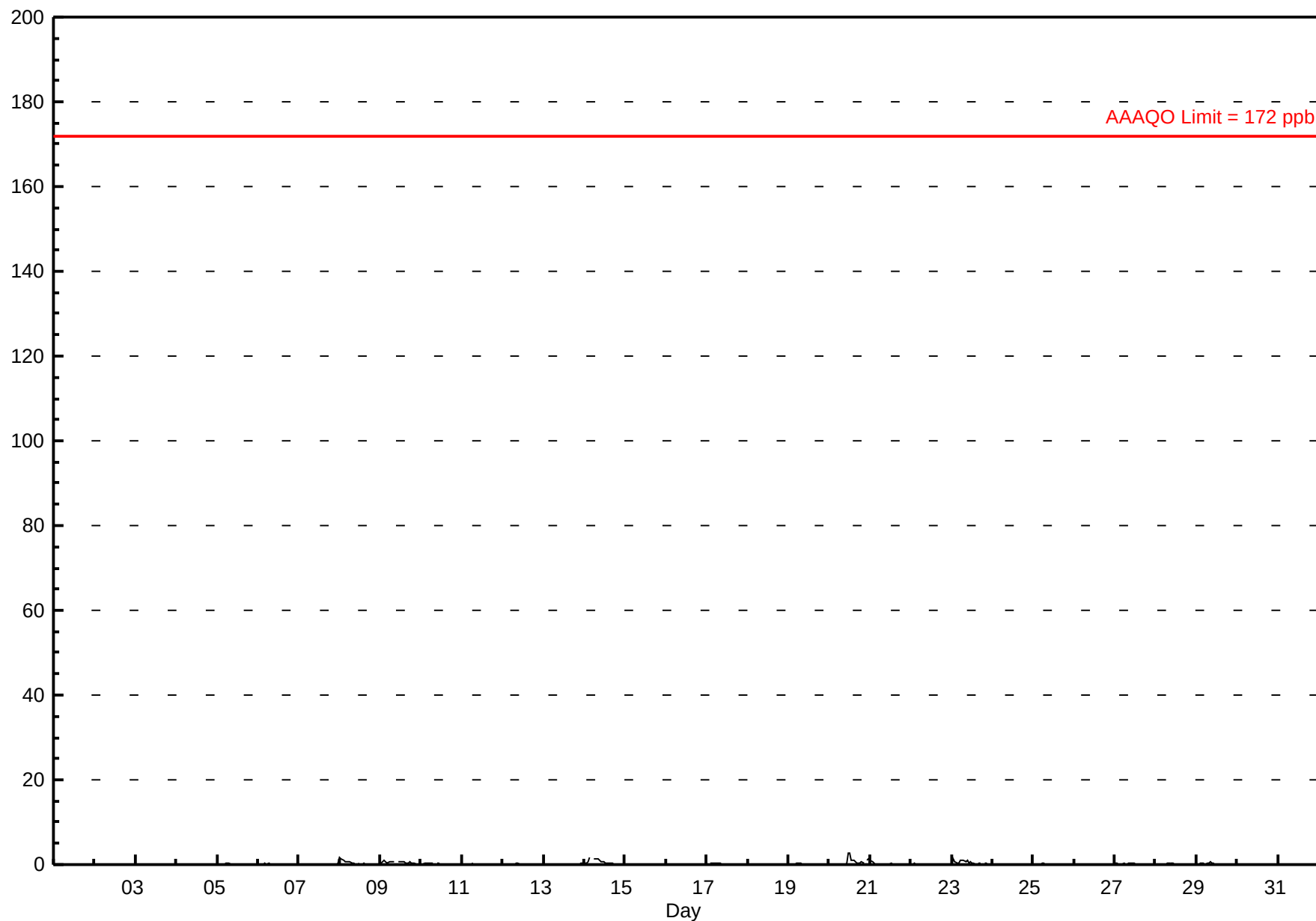
Monthly Summary Tables, Graphs and Roses

Number of Exceedences (AAAQO):																		1-hr: 0		24-hr: 0		Hours in Service: 744									
Maximum Value: 2.7 ppb on Jul 20 12:00																		Maximum Daily Average: 0.6 ppb on Jul 20										Hours of Data: 708			
Minimum Value: 0 ppb on Jul 1 01:00																		Minimum Daily Average: 0.0 ppb on Jul 3										Hours of Missing Data: 36			
Maximum Diurnal Average: 0.2 ppb at hour 7																		Minimum Diurnal Average: 0.0 ppb at hour 22										Hours of Calibration: 36			
Monthly Average: 0.11 ppb																		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 0.1 P ₉₀ = 0.3 P ₉₉ = 1.3										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-Jul	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	0.1					
2-Jul	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					
3-Jul	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					
4-Jul	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					
5-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.1	0.3					
6-Jul	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	0.3					
7-Jul	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.3					
8-Jul	2	1	1	1	1	1	1	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	1.9					
9-Jul	0	1	1	1	0	1	1	1	1	A	1	1	1	1	1	0	0	1	0	0	0	0	0	0	0.5	0.9					
10-Jul	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.4					
11-Jul	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	0.4					
12-Jul	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	0.4					
13-Jul	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					
14-Jul	0	0	1	2	A	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.5	1.6					
15-Jul	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					
16-Jul	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					
17-Jul	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					
18-Jul	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1					
19-Jul	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	0.3					
20-Jul	0	0	0	0	0	0	0	0	0	0	0	3	3	1	1	1	0	0	0	1	0	A	1	1	0.6	2.7					
21-Jul	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.1	0.9					
22-Jul	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					
23-Jul	0	1	1	0	0	1	1	1	1	1	0	1	0	0	0	0	0	0	A	0	0	0	0	0	0.4	1.3					
24-Jul	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					
25-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0.0	0.2					
26-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.0	0.1					
27-Jul	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					
28-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.1	0.3					
29-Jul	0	0	0	0	0	0	0	0	1	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.1	0.7					
30-Jul	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.2					
31-Jul	0	0	0	0	0	0	C	C	C	C	C	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.2					
0.1 0.2 0.2 0.2 0.1 0.2 0.2 0.2 0.2 0.1 0.1 0.2 0.2 0.1 0.1 0.1 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.1 0.1																		Diurnal Average													
1.9 1.3 1.1 1.6 0.6 1.4 1.2 1.3 1.2 0.9 0.8 2.7 2.6 1.2 1.0 0.8 0.3 0.6 0.5 0.7 0.4 0.1 1.0 1.3																		Diurnal Maximum													
C - Calibration A - Automated Daily Zero Span																															
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb 30-day 11 ppb																															

Hourly Averages

Sulphur Dioxide (SO₂) - ppb

Sunset House - July 2012



Hourly Maximums

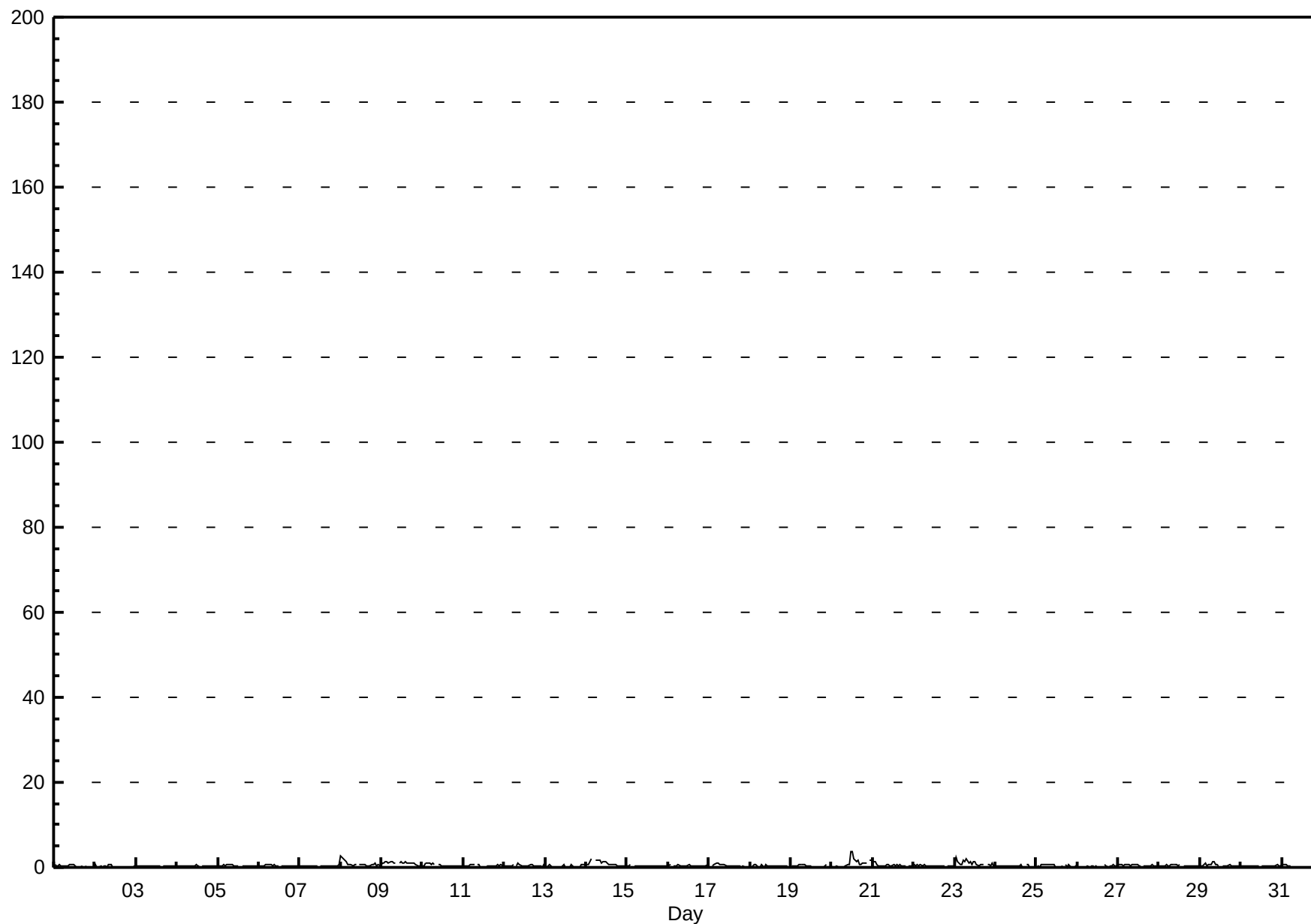
Sulphur Dioxide (SO₂) - ppb

Sunset House - July 2012

Maximum Value: 3.6 ppb on Jul 20 12:00																		Maximum Daily Average: 1.0 ppb on Jul 20										Hours in Service: 744																				
Minimum Value: 0 ppb on Jul 31 12:00																		Minimum Daily Average: 0.2 ppb on Jul 31										Hours of Data: 708																				
Maximum Diurnal Average: 0.6 ppb at hour 7																		Minimum Diurnal Average: 0.3 ppb at hour 19										Hours of Missing Data: 36																				
Monthly Average: 0.45 ppb																		Percentiles: P ₁ = 0.0 P ₁₀ = 0.2 Q ₁ = 0.2 Median = 0.3 Q ₃ = 0.6 P ₉₀ = 0.8 P ₉₉ = 2.1										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-Jul	1	0	0	1	0	0	0	0	0	1	1	1	0	0	0	0	0	A	0	0	0	0	0	0	0.3	0.7																						
2-Jul	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0.3	0.6																						
3-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.2	0.4																						
4-Jul	0	0	0	0	0	0	0	0	0	0	0	1	0	0	A	0	0	0	0	0	0	0	0	0	0.2	0.7																						
5-Jul	0	0	0	1	0	1	1	1	1	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.5	0.8																						
6-Jul	0	0	0	0	1	1	1	1	0	1	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.4	0.8																						
7-Jul	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	1	0.3	0.8																							
8-Jul	3	2	2	1	1	1	1	0	1	1	A	1	1	1	1	0	0	0	1	1	1	0	1	0	0.9	2.8																						
9-Jul	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	0	0	0	1.0	1.4																						
10-Jul	0	0	1	1	1	1	1	1	A	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	0.9																						
11-Jul	0	0	0	0	1	1	1	A	1	1	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0.3	0.8																						
12-Jul	0	0	0	0	0	1	A	0	1	1	0	0	0	0	0	1	1	0	0	0	0	0	1	0	0.4	1.0																						
13-Jul	0	0	1	0	0	A	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1	1	1	0.3	0.6																						
14-Jul	1	1	1	2	A	2	2	2	2	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0.9	2.1																						
15-Jul	0	0	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.6																						
16-Jul	0	1	A	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0.4	0.7																						
17-Jul	1	A	0	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.9																						
18-Jul	A	0	1	1	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.6																						
19-Jul	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	A	1	0.3	0.7																						
20-Jul	0	0	0	0	0	0	0	0	0	1	1	4	4	2	1	2	1	1	1	1	1	A	2	2	1.0	3.6																						
21-Jul	1	1	1	0	0	0	0	0	1	1	0	0	1	0	1	0	1	0	0	0	A	0	0	0	0.5	1.4																						
22-Jul	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.4	0.8																						
23-Jul	0	2	1	1	1	2	1	2	1	1	1	1	1	1	0	1	1	1	A	1	1	0	1	0	1.0	2.2																						
24-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	A	1	1	0	0	0	0	0.3	0.6																						
25-Jul	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0	A	1	0	1	0	0	0	0	0.4	0.6																						
26-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	0	0	0	0	1	1	0	0.3	0.7																						
27-Jul	1	1	1	0	1	1	1	0	1	1	1	1	0	0	A	0	0	0	0	0	1	0	0	0	0.5	0.7																						
28-Jul	0	0	0	0	1	0	0	1	1	1	1	0	1	A	0	0	0	0	0	0	0	0	0	0	0.4	0.8																						
29-Jul	0	0	1	1	0	1	1	1	1	1	1	0	A	0	0	0	0	1	0	0	0	0	0	0	0.5	1.2																						
30-Jul	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	1	0	0	0.3	0.5																						
31-Jul	1	1	1	0	0	0	C	C	C	C	C	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.6																						
																								0.5	0.5	0.5	0.6	0.5	0.6	0.6	0.6	0.6	0.6	0.4	0.5	0.5	0.4	0.4	0.4	0.4	0.3	0.3	0.4	0.4	0.3	0.4	0.4	Diurnal Average
																								2.8	2.5	1.6	2.1	0.9	1.8	1.7	2.1	1.7	1.3	1.2	3.6	3.6	2.1	1.4	1.6	0.9	1.0	1.2	1.1	1.0	0.7	1.7	1.7	Diurnal Maximum
C - Calibration																								A - Automated Daily Zero Span																								

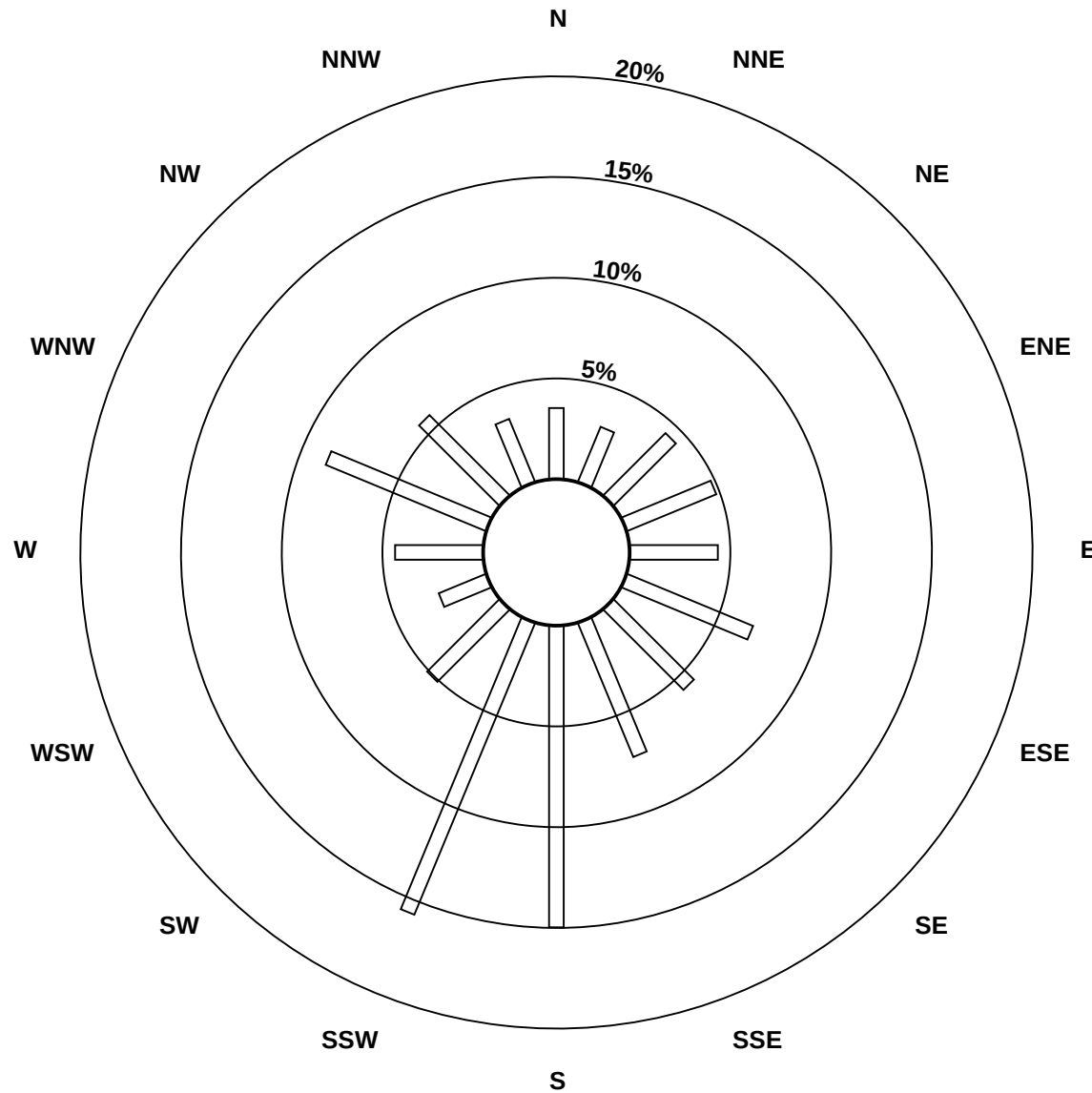
Hourly Maximums

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

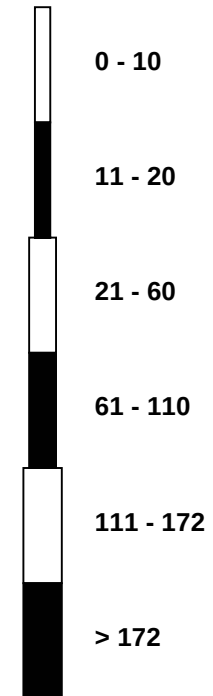


Pollutant Rose

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

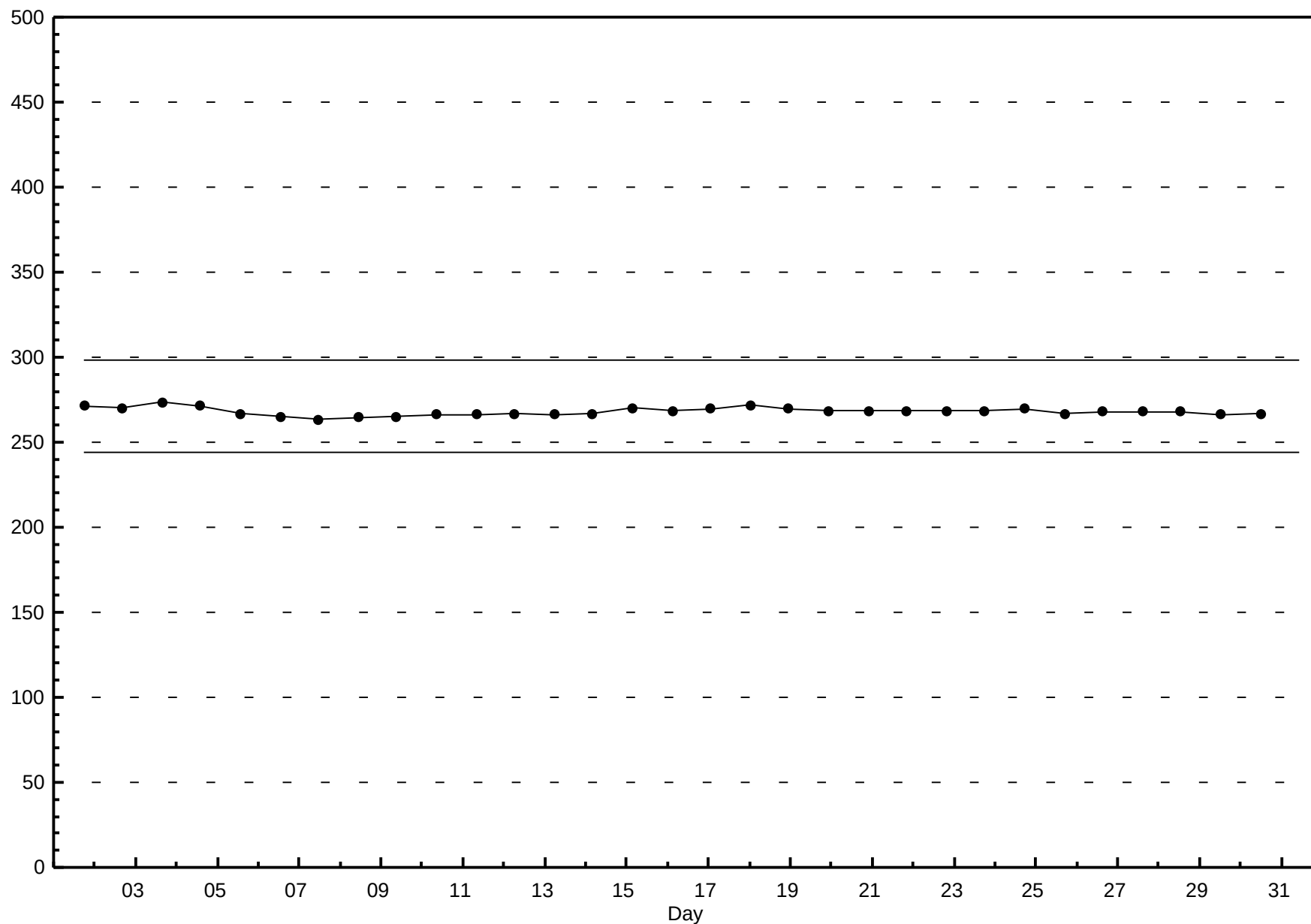


Pollutant Classes (ppb)



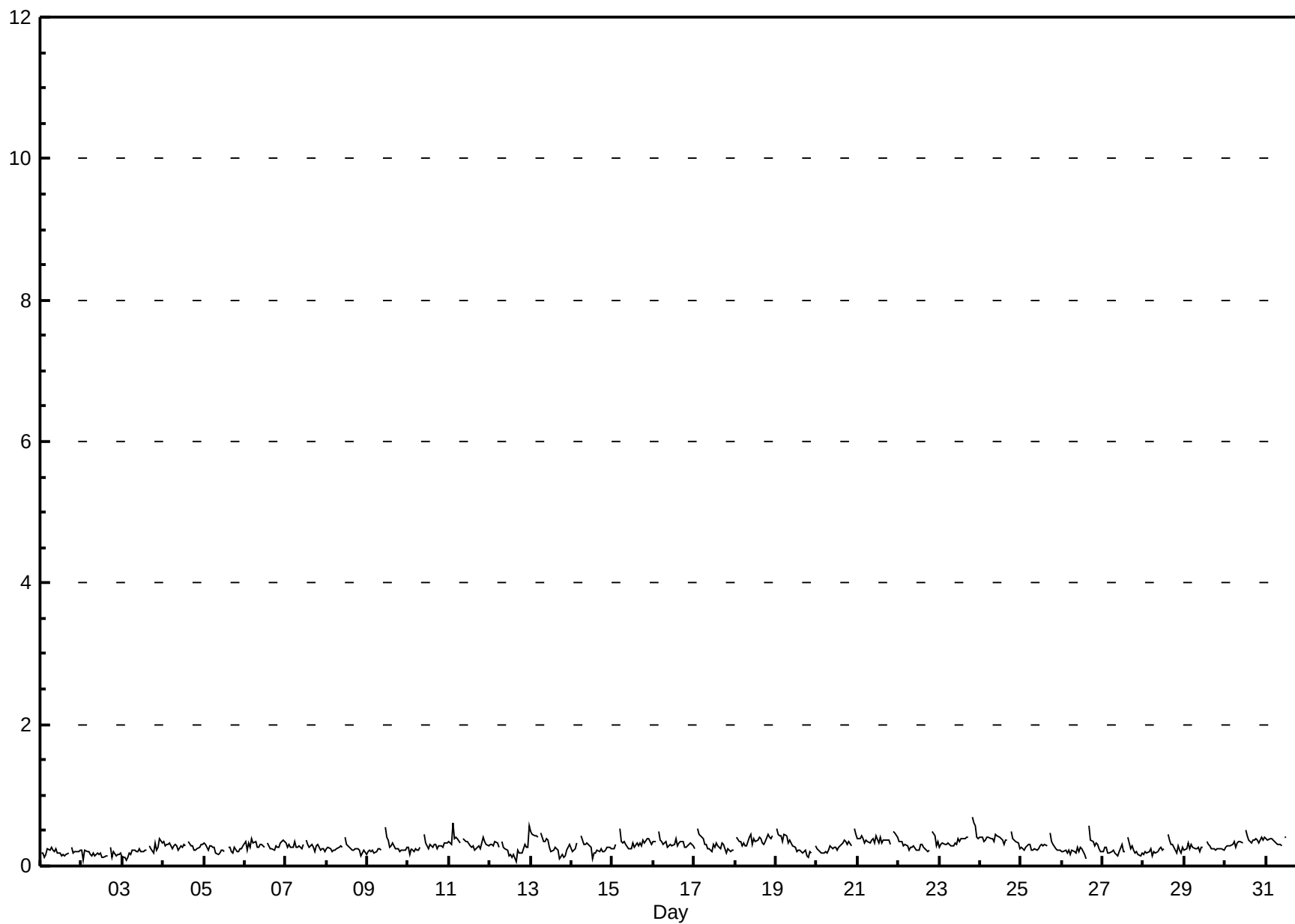
Span Responses

Sulphur Dioxide (SO₂)
Sunset House - July 2012



Hourly Averages

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



Hourly Maximums

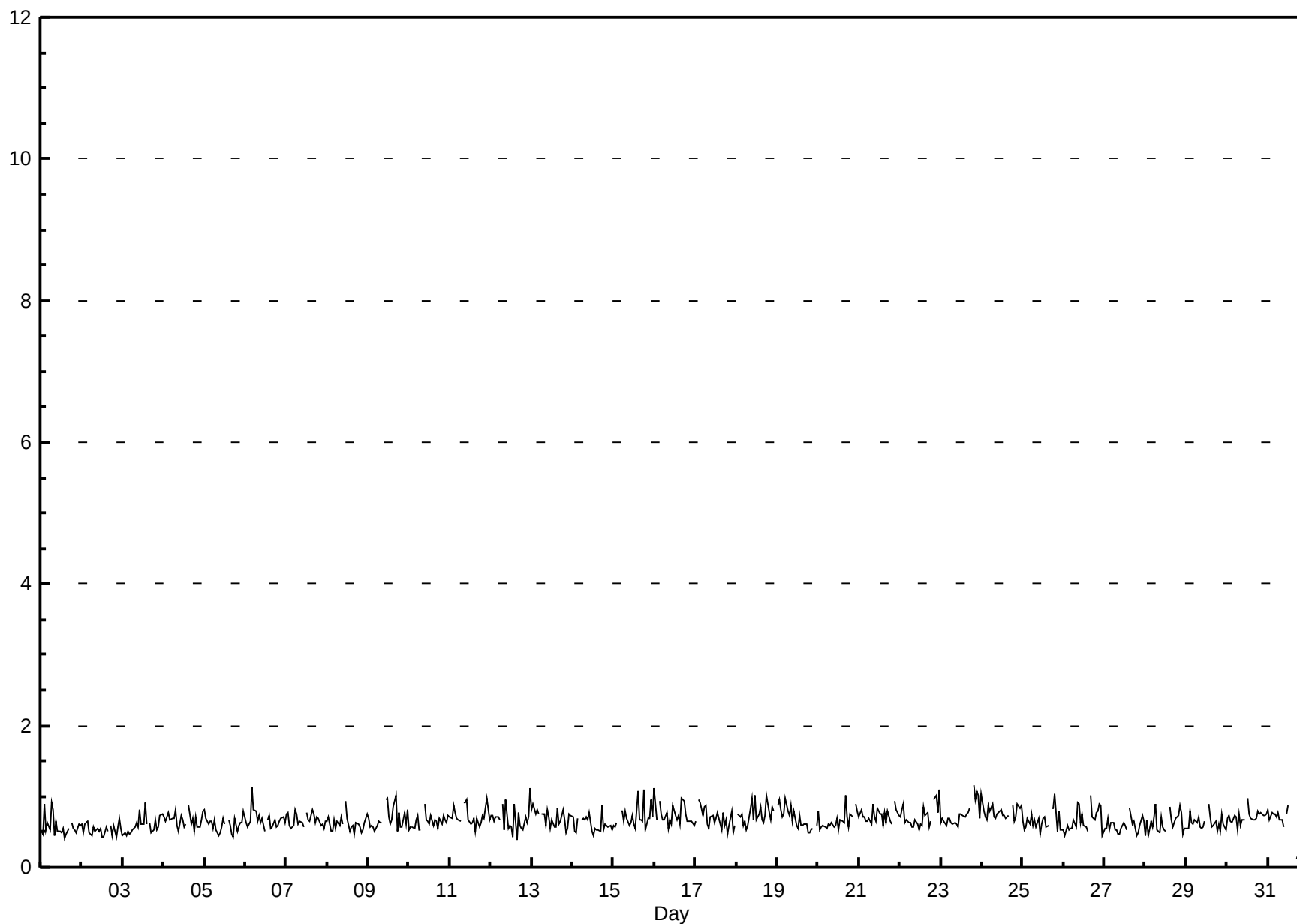
Total Reduced Sulphur (TRS) - ppb

Sunset House - July 2012

Maximum Value: 1.2 ppb on Jul 23 20:00																			Maximum Daily Average: 0.8 ppb on Jul 24										Hours in Service: 744	
Minimum Value: 0 ppb on Jul 31 22:00																			Minimum Daily Average: 0.5 ppb on Jul 31										Hours of Data: 708	
Maximum Diurnal Average: 0.7 ppb at hour 23																			Minimum Diurnal Average: 0.6 ppb at hour 21										Hours of Missing Data: 36	
Monthly Average: 0.66 ppb																			Percentiles: P ₁ = 0.4 P ₁₀ = 0.5 Q ₁ = 0.6 Median = 0.7 Q ₃ = 0.7 P ₉₀ = 0.8 P ₉₉ = 1.1										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-Jul	1	0	1	1	1	1	1	1	0	1	1	1	0	1	0	0	1	A	1	1	1	0	1	1	0.6	0.9				
2-Jul	1	0	1	1	0	0	0	1	1	1	1	1	0	0	1	1	A	1	0	1	0	1	1	1	0.5	0.7				
3-Jul	0	0	0	1	0	0	1	1	1	1	1	1	1	1	1	A	1	0	1	1	1	1	1	1	0.6	0.9				
4-Jul	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				
5-Jul	1	1	1	1	1	1	1	1	0	0	1	1	1	A	1	1	0	0	1	1	1	1	1	1	0.6	0.8				
6-Jul	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	0.7	1.1				
7-Jul	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	0.8				
8-Jul	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	0	1	1	1	0	1	1	1	0.6	0.9				
9-Jul	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.0				
10-Jul	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.6	0.9				
11-Jul	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	0.7	1.0				
12-Jul	1	1	1	1	1	1	A	1	1	1	1	1	1	0	1	0	1	1	1	1	1	1	1	1	0.7	1.1				
13-Jul	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	0.7	0.9				
14-Jul	1	0	0	1	A	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	0.6	0.9				
15-Jul	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.1				
16-Jul	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	1.1				
17-Jul	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	0	1	0.7	0.9				
18-Jul	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	0.7	1.0				
19-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	A	1	0.7	1.0				
20-Jul	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	1.0				
21-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	0.7	0.9				
22-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	0.7	1.1				
23-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	0.7	1.2				
24-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	0.8	1.0				
25-Jul	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	A	1	1	1	1	1	1	1	0.7	1.0				
26-Jul	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	0	0	0.7	1.0				
27-Jul	1	1	1	1	1	1	1	1	0	0	1	1	1	1	A	1	1	1	1	0	0	1	1	1	0.6	0.8				
28-Jul	0	1	0	1	1	1	1	1	0	1	1	1	1	A	1	1	1	1	1	1	1	0	1	1	0.6	0.9				
29-Jul	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	0.6	0.9				
30-Jul	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.0				
31-Jul	1	1	1	1	1	1	1	1	1	1	A	1	1	C	C	C	C	0	0	0	0	0	0	0	0.5	0.9				
0.7		0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.6	0.7	0.7	0.7	0.6	0.7	0.7	0.7	0.7	0.6	0.7	0.6	0.6	0.7	0.7	0.7	Diurnal Average					
1.1		1.0	0.9	0.9	1.1	1.0	0.9	0.9	0.9	1.0	1.0	1.0	1.0	0.9	1.1	0.9	1.0	0.9	1.1	1.2	1.0	1.1	1.0	1.1	Diurnal Maximum					
C - Calibration		A - Automated Daily Zero Span																												

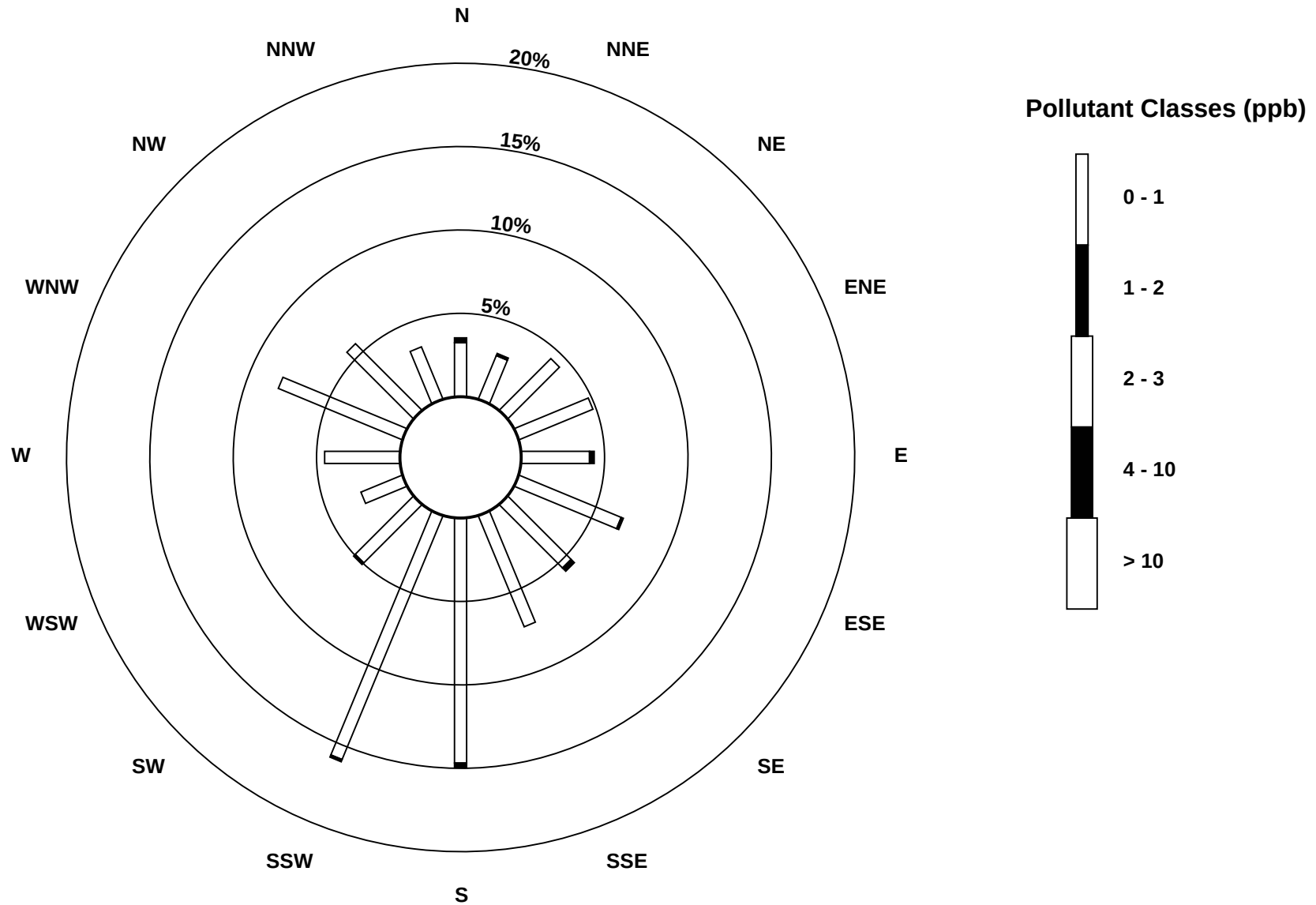
Hourly Maximums

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



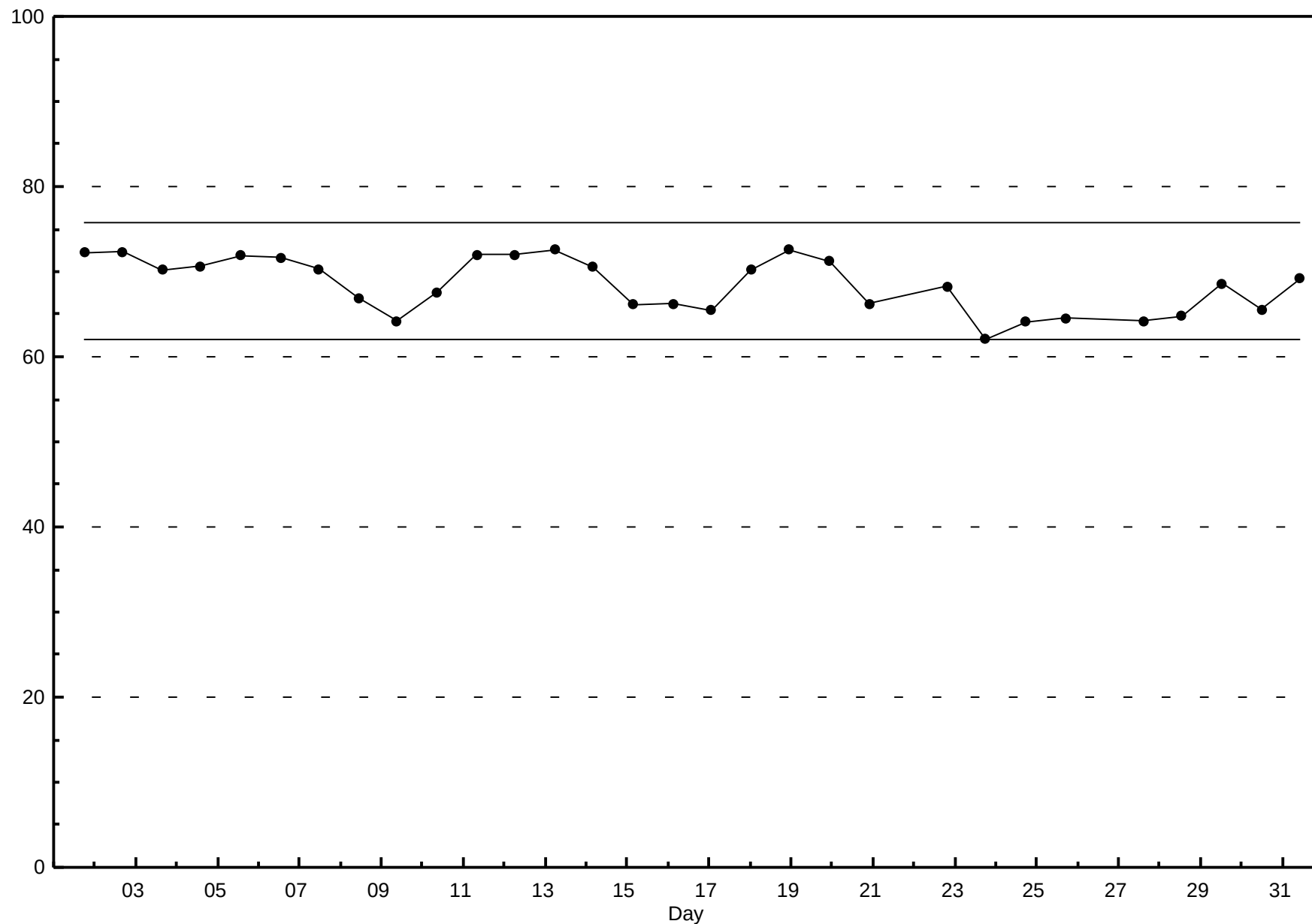
Pollutant Rose

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



Span Responses

Total Reduced Sulphur (TRS)
Sunset House - July 2012



Hourly Averages

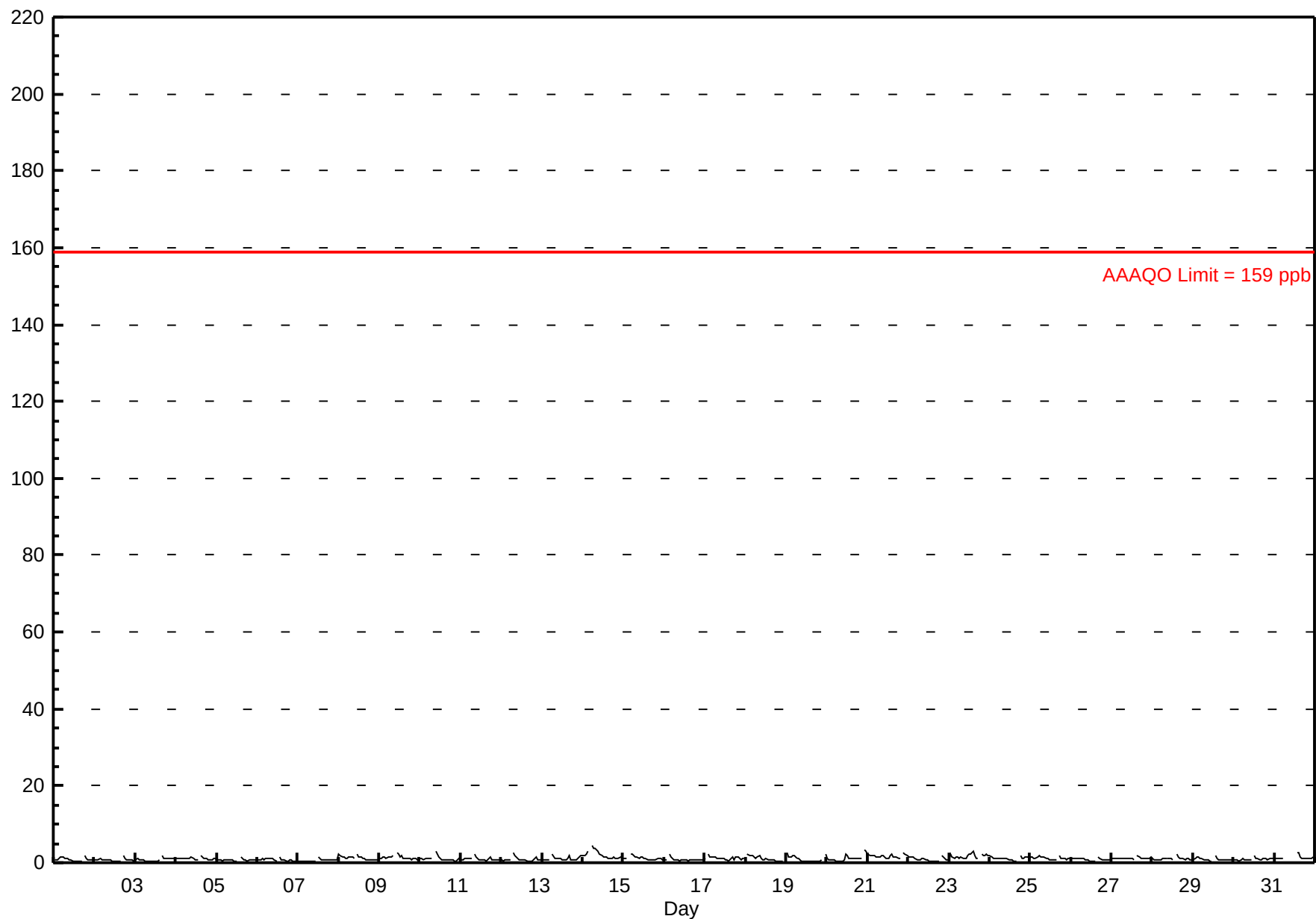
Nitrogen Dioxide (NO₂) - ppb

Sunset House - July 2012

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 4.5 ppb on Jul 14 06:00 Maximum Daily Average: 2.1 ppb on Jul 14																			Hours in Service: 744 Hours of Data: 706 Hours of Missing Data: 38 Hours of Calibration: 38 Percent Operational Time: 100.0							
Minimum Value: 0 ppb on Jul 7 07:00 Maximum Diurnal Average: 1.3 ppb at hour 6 Monthly Average: 1.06 ppb																			Minimum Daily Average: 0.6 ppb on Jul 7 Minimum Diurnal Average: 0.9 ppb at hour 18 Percentiles: P ₁ = 0.3 P ₁₀ = 0.5 Q ₁ = 0.7 Median = 1.0 Q ₃ = 1.3 P ₉₀ = 1.8 P ₉₉ = 3.0							
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-Jul	1	1	1	1	2	1	1	1	1	1	1	1	1	0	0	0	0	A	2	1	1	1	1	1	0.9	2.0
2-Jul	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	A	2	1	1	1	1	1	0	0.8	1.8
3-Jul	1	1	1	1	1	1	1	0	0	0	0	1	0	1	1	A	2	1	1	1	1	1	1	1	0.8	1.7
4-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	2	1	1	1	1	1	1	1	1	1.1	1.8
5-Jul	1	1	1	1	1	1	1	1	1	1	0	0	0	A	2	1	1	1	1	1	1	1	1	1	0.7	1.6
6-Jul	1	1	1	1	1	1	1	1	1	1	1	0	A	2	1	1	1	0	0	1	1	1	0	0	0.8	1.6
7-Jul	0	0	0	0	0	0	0	0	0	0	0	A	2	1	1	1	1	1	1	1	1	1	1	1	0.6	1.6
8-Jul	2	2	2	2	1	1	1	2	1	1	A	3	2	2	1	1	1	1	1	1	1	1	1	1	1.2	2.3
9-Jul	1	1	1	1	1	1	1	2	2	A	3	2	2	2	1	1	1	1	1	1	1	1	1	1	1.3	2.6
10-Jul	1	1	1	1	1	1	1	1	A	3	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1.0	2.8
11-Jul	1	1	1	1	1	1	1	A	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	2.3
12-Jul	1	1	1	1	1	1	A	3	2	2	1	1	1	1	1	0	1	0	0	1	1	1	1	1	0.9	2.5
13-Jul	1	1	1	1	1	A	2	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	2	1.0	2.1
14-Jul	2	2	2	3	A	5	4	4	3	3	2	2	2	1	1	1	1	1	1	1	1	1	1	1	2.1	4.5
15-Jul	1	1	1	A	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.2	2.4
16-Jul	1	1	A	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	2.4
17-Jul	1	A	2	2	2	2	1	1	1	1	1	1	1	1	0	1	1	1	1	2	2	1	1	1	1.2	2.1
18-Jul	A	2	2	2	2	2	1	1	2	1	1	1	1	1	1	1	1	1	0	0	0	0	1	A	1.1	2.3
19-Jul	2	1	2	2	2	2	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	1	A	2	0.9	2.5
20-Jul	1	1	1	1	1	0	0	0	0	1	1	2	2	1	1	1	1	1	1	1	1	A	3	3	1.2	3.2
21-Jul	2	2	2	2	2	2	1	1	2	2	1	1	1	2	2	2	1	1	1	1	A	3	2	2	1.7	2.7
22-Jul	1	2	2	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	A	2	1	1	1	0.9	1.7
23-Jul	1	2	2	1	1	1	1	1	1	1	1	2	2	2	3	2	1	1	A	2	2	2	2	2	1.6	3.0
24-Jul	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	A	2	1	1	2	1	1	1.1	1.8
25-Jul	1	1	1	1	2	2	2	1	1	1	1	1	1	1	1	1	A	2	1	1	1	1	1	1	1.1	1.8
26-Jul	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	A	2	1	1	1	1	1	1	1	0.9	1.6
27-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	2	1	1	1	1	1	1	1	1	1.2	2.0
28-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	A	2	1	1	1	1	1	1	1	1	1	1.0	2.1
29-Jul	1	1	1	1	1	1	1	1	1	1	0	0	A	2	1	1	1	1	1	1	1	1	1	1	0.9	1.9
30-Jul	1	1	1	0	1	1	1	1	1	1	1	A	2	1	1	1	1	1	1	1	1	1	1	1	0.9	2.0
31-Jul	1	1	1	1	1	1	C	C	C	C	C	C	C	3	3	1	1	1	1	1	1	1	1	1	--	2.5
1.1 1.1 1.2 1.2 1.2 1.3 1.2 1.2 1.2 1.1 1.0 1.0 1.0 1.0 1.0 0.9 0.9 0.9 0.9 0.9 0.9 1.0 1.1 1.1 Diurnal Average																										
2.5 2.3 2.4 3.1 2.4 4.5 3.6 3.6 3.3 3.0 2.6 2.4 2.4 2.5 3.0 2.0 2.0 2.0 1.8 2.0 2.3 1.7 2.7 3.2 3.0 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 - July 2012



Hourly Maximums

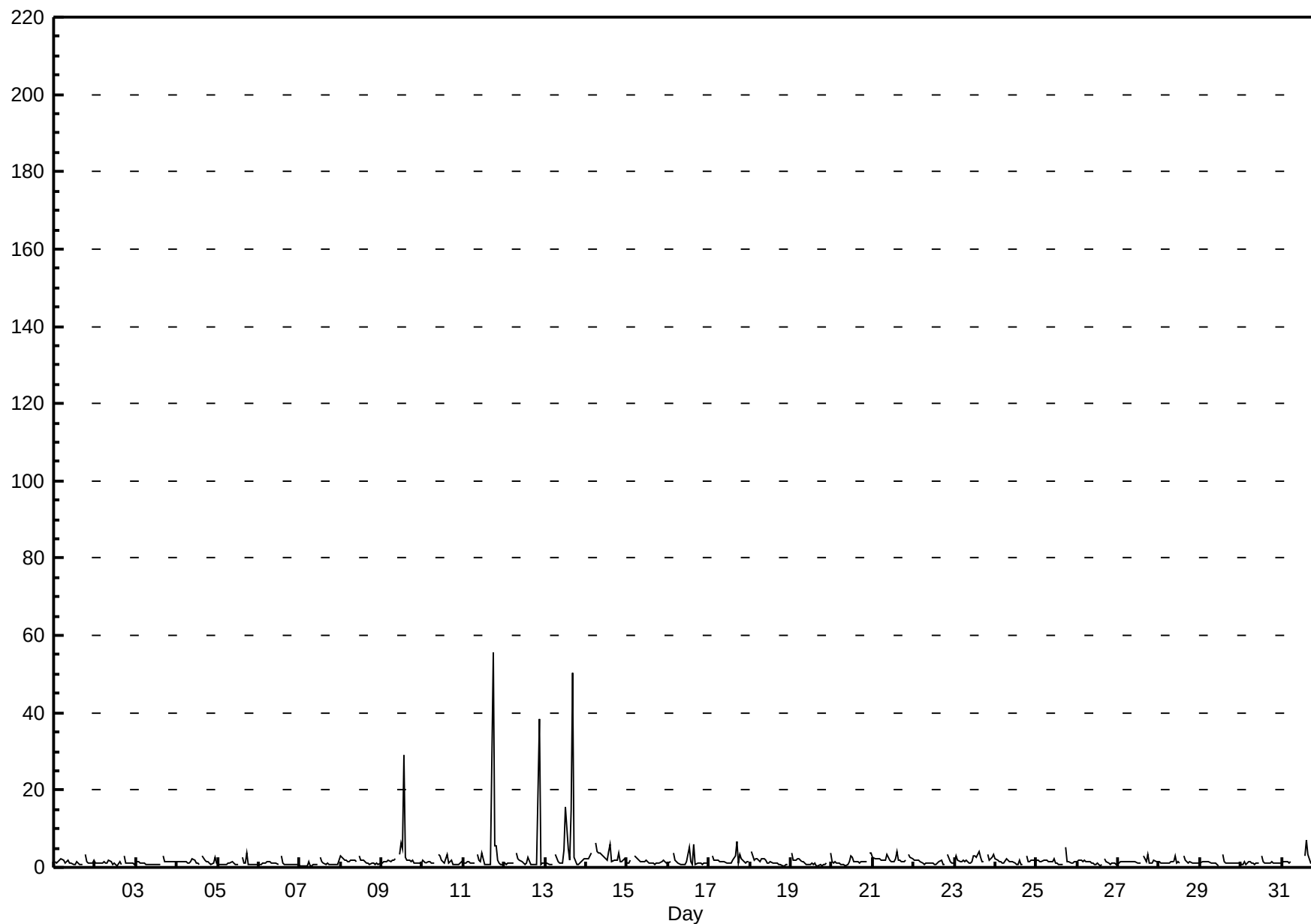
Nitrogen Dioxide (NO₂) - ppb

Sunset House - July 2012

Maximum Value: 55.6 ppb on Jul 11 18:00																			Maximum Daily Average: 5.0 ppb on Jul 13										Hours in Service: 744	
Minimum Value: 0 ppb on Jul 7 02:00																			Minimum Daily Average: 0.9 ppb on Jul 7										Hours of Data: 706	
Maximum Diurnal Average: 3.5 ppb at hour 18																			Minimum Diurnal Average: 1.3 ppb at hour 22										Hours of Missing Data: 38	
Monthly Average: 1.82 ppb																			Percentiles: P ₁ = 0.5 P ₁₀ = 0.8 Q ₁ = 1.0 Median = 1.3 Q ₃ = 1.8 P ₉₀ = 2.8 P ₉₉ = 2.5										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-Jul	1	1	1	2	2	2	1	2	2	1	1	1	1	1	1	1	1	A	3	1	1	1	1	2	1.4	3.4				
2-Jul	1	1	1	1	1	2	1	1	2	1	1	1	1	1	1	1	A	3	1	1	1	1	1	1	1.2	2.9				
3-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	3	1	2	1	2	1	1	1	1.2	2.9				
4-Jul	1	1	1	1	1	2	1	1	1	2	2	1	1	1	A	3	2	1	1	1	1	1	3	1	1.5	2.8				
5-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	A	3	1	1	4	1	1	1	1	1	1	1.1	3.9				
6-Jul	1	1	1	1	1	1	1	1	1	1	1	1	A	3	1	1	1	1	1	1	1	1	1	1	1.1	3.0				
7-Jul	1	0	0	0	0	2	1	0	1	1	1	A	3	1	1	1	1	1	1	1	1	1	2	0.9	2.6					
8-Jul	3	3	2	2	2	2	2	2	2	2	1	A	3	2	2	1	1	1	1	1	1	1	1	1	1.6	3.0				
9-Jul	1	1	2	2	2	2	2	2	2	A	4	6	5	29	3	2	2	1	2	1	1	1	1	1	3.2	29.2				
10-Jul	2	1	1	2	2	1	1	1	A	3	3	2	2	1	3	1	1	2	1	1	1	1	1	1	1.5	3.4				
11-Jul	1	1	1	1	1	1	1	A	4	2	2	4	1	1	1	1	1	56	5	5	2	1	1	1	4.1	55.6				
12-Jul	1	1	1	1	1	1	A	4	2	2	1	1	1	1	3	1	1	1	1	1	38	1	1	1	2.9	38.3				
13-Jul	1	1	1	1	1	1	A	4	1	1	1	1	5	16	5	2	15	50	3	1	1	1	2	2	5.0	50.3				
14-Jul	2	2	3	4	A	6	4	4	4	3	3	2	2	4	6	2	2	2	2	4	1	2	2	1	2.9	6.2				
15-Jul	1	1	2	A	3	3	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	2	1	1	1.5	3.1				
16-Jul	1	1	A	4	2	1	1	1	1	1	1	2	5	1	1	6	1	1	1	1	1	1	1	1	1.6	5.9				
17-Jul	1	A	3	2	2	2	2	1	1	1	1	1	1	1	2	3	7	1	3	2	2	1	1	2	1.9	6.8				
18-Jul	A	4	2	2	2	2	2	2	2	2	1	1	2	1	1	1	1	1	1	1	1	1	1	A	1.5	4.0				
19-Jul	4	2	2	2	2	2	2	1	1	1	1	1	1	1	1	0	0	1	0	1	1	1	A	4	1.3	3.7				
20-Jul	2	1	1	1	1	1	1	1	0	1	1	3	3	2	1	2	1	1	1	1	1	A	4	4	1.5	3.7				
21-Jul	3	2	2	2	2	2	2	2	3	3	2	2	1	2	4	2	2	2	1	2	A	3	3	2	2.2	4.2				
22-Jul	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	A	3	1	1	1	1.3	3.4				
23-Jul	1	3	2	1	2	2	2	2	1	1	1	3	3	3	4	3	1	1	A	3	2	2	3	3	2.2	4.1				
24-Jul	2	2	1	1	1	1	2	2	2	1	1	1	1	1	2	1	1	A	3	1	1	2	2	2	1.5	2.9				
25-Jul	2	2	1	2	2	2	2	2	2	2	2	1	1	1	1	1	A	5	2	2	1	1	1	2	1.6	5.4				
26-Jul	1	2	2	2	2	2	1	1	1	1	1	1	1	1	1	A	2	1	1	1	1	1	1	1	1.2	2.4				
27-Jul	1	1	1	1	2	2	1	1	2	2	1	1	1	1	A	3	2	3	1	1	1	2	1	2	1.6	3.4				
28-Jul	2	1	1	1	1	1	1	2	2	3	1	1	1	A	3	2	1	1	1	1	1	1	1	1	1.4	3.2				
29-Jul	1	1	2	2	2	1	1	1	1	1	1	0	A	3	1	1	1	1	1	1	1	1	1	1	1.2	3.4				
30-Jul	1	1	2	1	1	2	1	1	1	1	1	A	3	2	1	1	1	1	2	1	1	1	1	1	1.2	3.0				
31-Jul	1	2	1	1	1	1	C	C	C	C	C	C	C	3	7	3	2	1	1	1	1	2	1	2	--	7.0				
1.5		1.5	1.5	1.6	1.5	1.7	1.5	1.5	1.6	1.5	1.4	1.7	2.2	2.6	2.1	2.1	3.2	3.5	1.5	1.4	2.5	1.3	1.4	1.5	Diurnal Average					
3.6		4.0	3.1	3.9	3.1	6.2	4.0	3.9	3.6	3.3	3.5	6.2	15.8	29.2	7.0	15.0	50.3	55.6	5.5	5.4	38.3	3.4	3.6	3.7	Diurnal Maximum					
C - Calibration		A - Automated Daily Zero Span																												

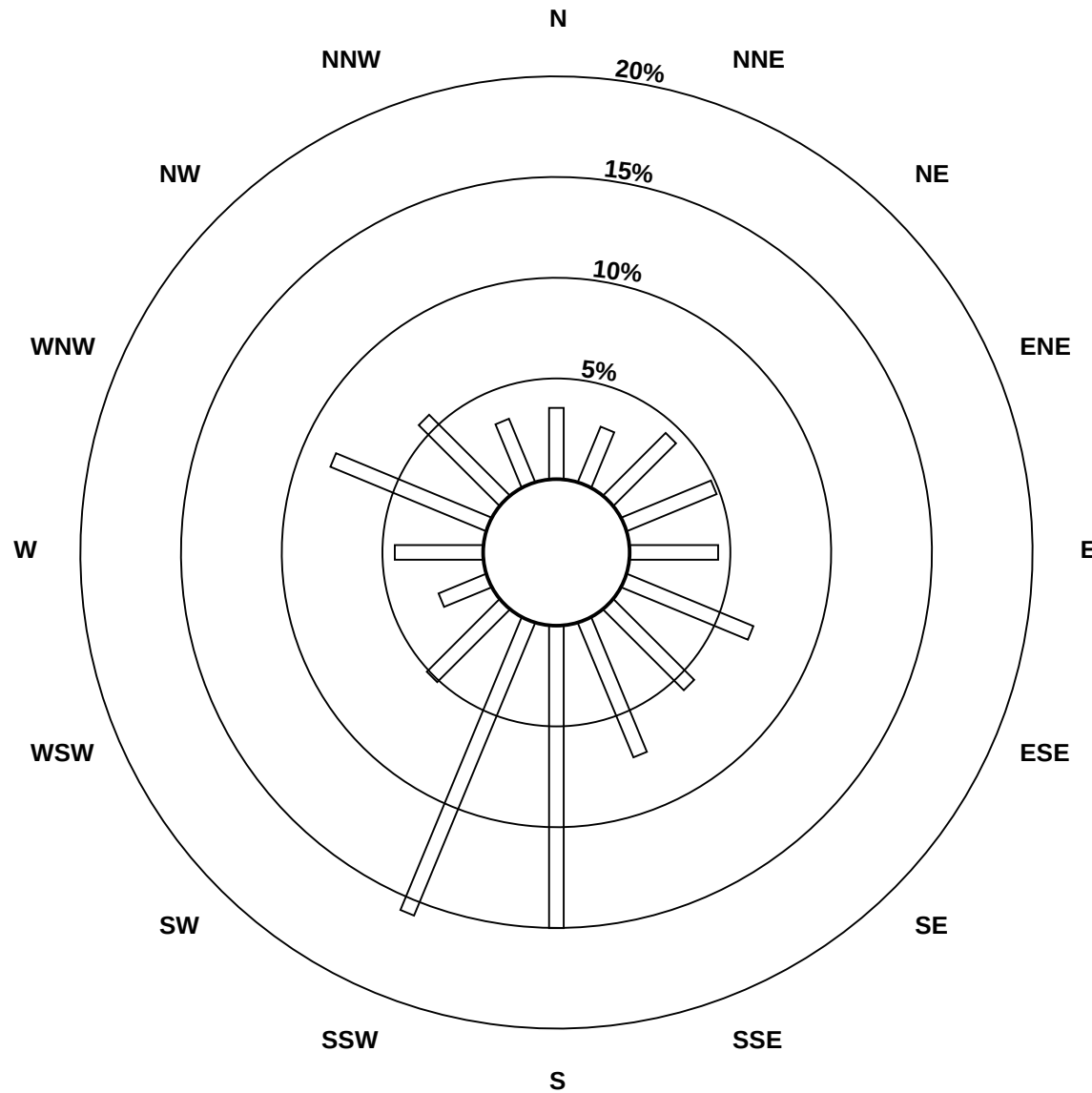
Hourly Maximums

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

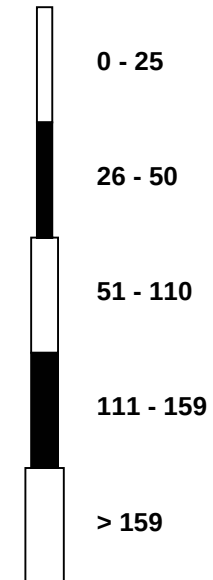


Pollutant Rose

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

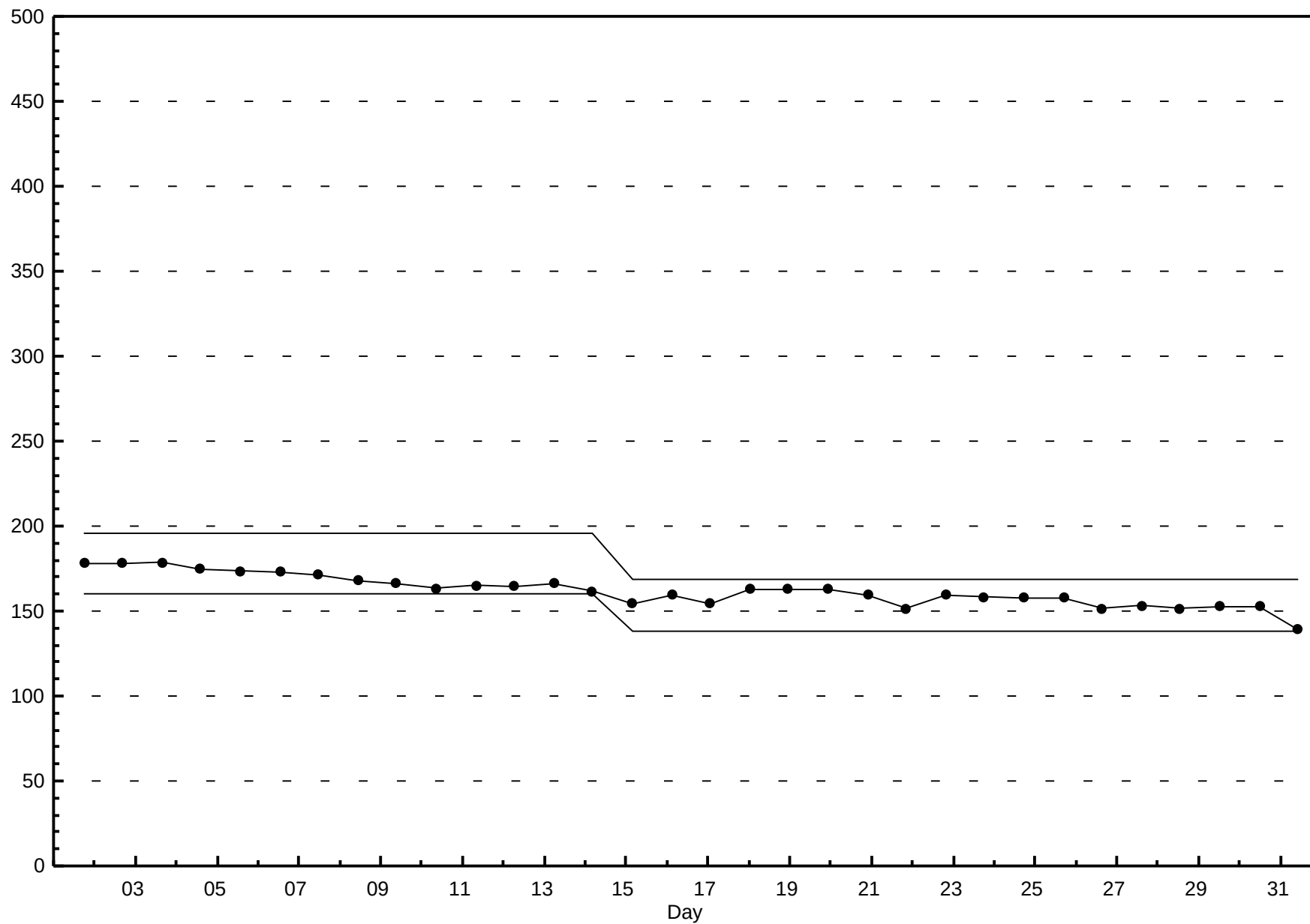


Pollutant Classes (ppb)



Span Responses

Nitrogen Dioxide (NO₂)
Sunset House - July 2012



Hourly Averages

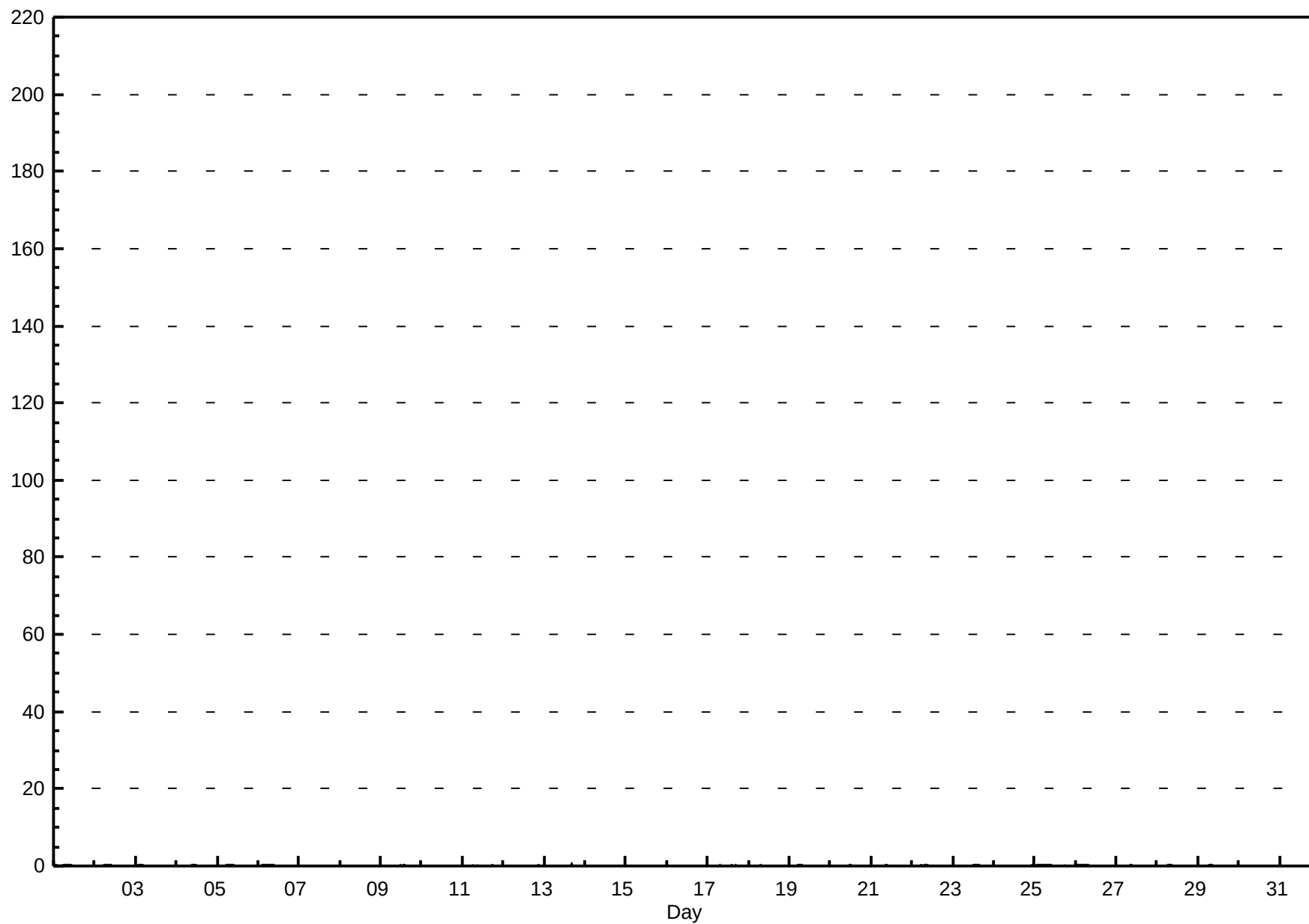
Nitrogen Oxide (NO) - ppb

Sunset House - July 2012

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 0.8 ppb on Jul 13 17:00 Maximum Daily Average: 0.2 ppb on Jul 6																			Hours in Service: 744 Hours of Data: 706 Hours of Missing Data: 38 Hours of Calibration: 38 Percent Operational Time: 100.0								
Minimum Value: 0 ppb on Jul 13 09:00 Minimum Daily Average: 0.0 ppb on Jul 15 Maximum Diurnal Average: 0.2 ppb at hour 8 Minimum Diurnal Average: 0.1 ppb at hour 20 Monthly Average: 0.10 ppb Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 0.1 Q ₃ = 0.1 P ₉₀ = 0.2 P ₉₉ = 0.5																											
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jul	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0.2	0.6	
2-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0.1	0.2	
3-Jul	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	
4-Jul	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	
5-Jul	0	0	0	0	0	0	0	1	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.2	0.5	
6-Jul	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4	
7-Jul	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	
8-Jul	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	
9-Jul	0	0	0	0	0	0	0	0	0	A	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0.1	0.5	
10-Jul	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	0.1	
11-Jul	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	
12-Jul	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	
13-Jul	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0.1	0.8	
14-Jul	0	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	
15-Jul	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	
16-Jul	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	
17-Jul	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	
18-Jul	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3	
19-Jul	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	0.5	
20-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.1	0.4	
21-Jul	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	
22-Jul	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	
23-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0.1	0.3	
24-Jul	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	
25-Jul	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	0.5	
26-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.1	0.3	
27-Jul	0	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	0.2	
28-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.1	0.3	
29-Jul	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2	
30-Jul	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	
31-Jul	0	0	0	0	0	0	C	C	C	C	C	C	C	0	0	0	0	0	0	0	0	0	0	0	--	0.1	
		0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	Diurnal Average		
		0.2	0.2	0.3	0.3	0.2	0.3	0.4	0.5	0.6	0.3	0.4	0.4	0.3	0.3	0.5	0.2	0.8	0.5	0.2	0.2	0.3	0.2	0.2	Diurnal Maximum		
C - Calibration		A - Automated Daily Zero Span																									

Hourly Averages

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



Hourly Maximums

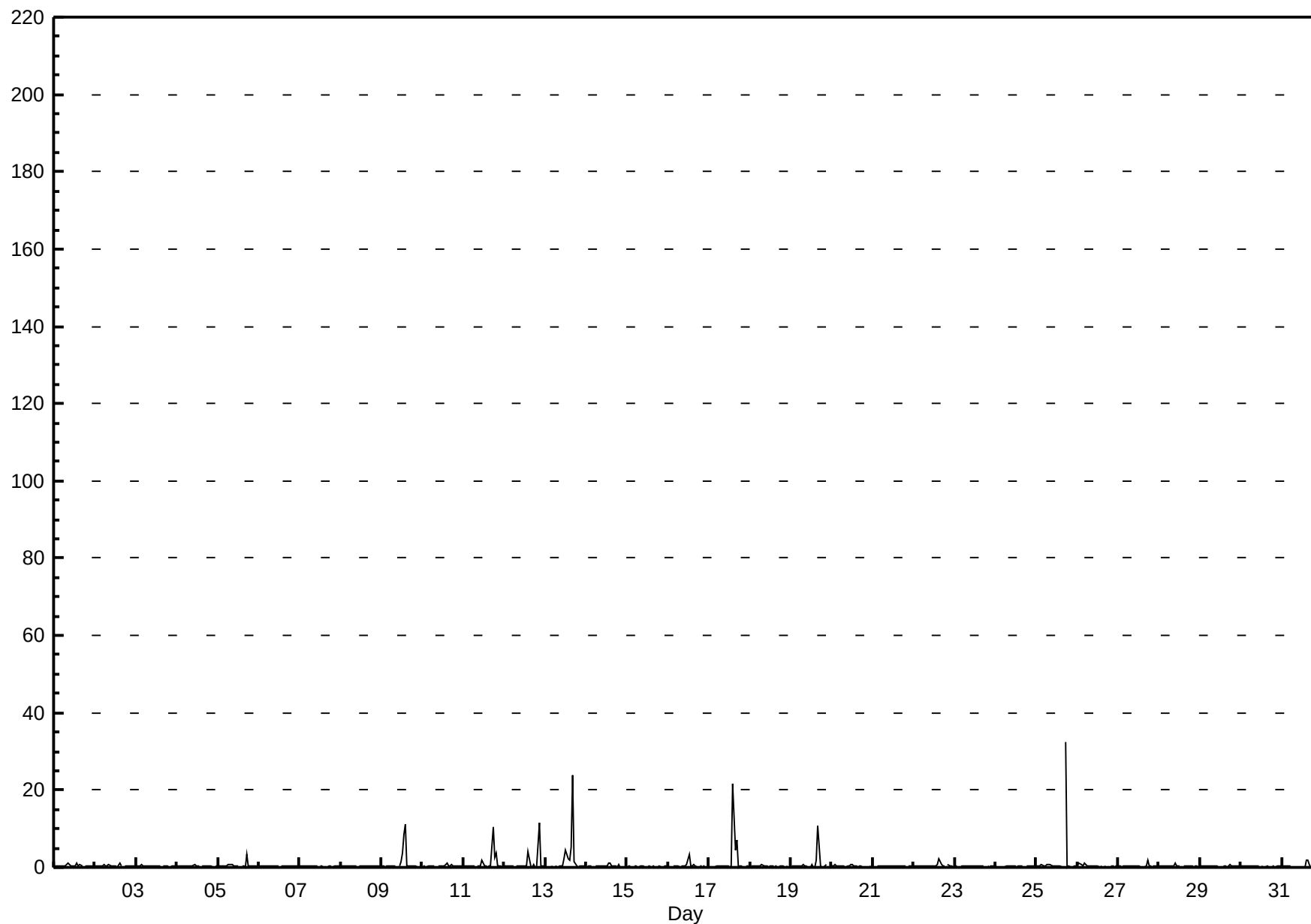
Nitrogen Oxide (NO) - ppb

Sunset House - July 2012

Maximum Value: 32.5 ppb on Jul 25 18:00																		Maximum Daily Average: 1.9 ppb on Jul 13										Hours in Service: 744	
Minimum Value: 0 ppb on Jul 31 18:00																		Minimum Daily Average: 0.2 ppb on Jul 15										Hours of Data: 706	
Maximum Diurnal Average: 1.9 ppb at hour 18																		Minimum Diurnal Average: 0.2 ppb at hour 23										Hours of Missing Data: 38	
Monthly Average: 0.56 ppb																		Percentiles: P ₁ = 0.1 P ₁₀ = 0.2 Q ₁ = 0.2 Median = 0.3 Q ₃ = 0.4 P ₉₀ = 0.6 P ₉₉ = 10.0										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-Jul	0	0	1	0	0	0	0	1	1	1	0	0	0	1	1	1	0	A	0	0	0	0	0	0	0.5	1.2			
2-Jul	0	0	0	0	0	1	0	0	1	1	0	1	0	0	1	0	A	0	0	0	0	0	0	0	0.4	1.2			
3-Jul	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.3	0.6			
4-Jul	0	0	0	0	0	0	0	0	0	1	1	0	1	0	A	0	0	0	0	0	0	0	0	0	0.3	0.6			
5-Jul	0	0	0	0	0	0	1	1	1	1	0	0	0	A	0	0	0	0	3	0	0	0	0	0	0.5	3.3			
6-Jul	0	0	0	0	0	0	0	1	1	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.3	0.5			
7-Jul	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.4			
8-Jul	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.3			
9-Jul	0	0	0	0	0	0	0	0	0	A	A	0	4	9	11	0	0	0	0	0	0	0	0	0	1.3	11.1			
10-Jul	0	0	0	0	0	0	0	0	A	0	0	0	1	0	1	0	1	1	0	0	0	0	0	0	0.3	1.0			
11-Jul	0	0	0	0	0	0	0	A	0	0	0	2	0	0	0	0	0	10	2	4	0	0	0	0	1.0	10.3			
12-Jul	0	0	1	0	0	0	A	0	0	0	0	0	0	0	4	0	0	1	0	0	11	0	0	0	0.9	11.4			
13-Jul	0	0	0	0	0	A	0	0	0	0	0	2	5	2	2	5	24	1	0	0	0	0	0	0	1.9	23.8			
14-Jul	0	0	0	0	A	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	0	0	0	0	0.3	1.1			
15-Jul	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3			
16-Jul	0	0	A	0	0	0	0	0	0	0	0	1	3	0	0	1	0	0	0	0	0	0	0	0	0.4	3.3			
17-Jul	0	A	0	0	0	0	0	0	0	0	0	0	0	0	22	4	7	0	0	0	0	0	0	0	1.7	21.7			
18-Jul	A	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.7			
19-Jul	0	0	0	0	0	0	1	1	0	0	0	0	1	0	0	2	11	0	0	0	0	1	A	1	0.9	11.0			
20-Jul	0	0	1	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	A	0	0	0.3	0.8			
21-Jul	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.3	0.5			
22-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	1	0	0	A	1	0	0	0	0.5	2.3			
23-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	A	0	0	0	0	0	0.3	0.5			
24-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	A	0	0	0	0	0	0	0.3	0.5			
25-Jul	0	1	1	1	1	0	1	1	1	0	0	0	0	0	0	0	A	33	0	0	0	0	0	0	1.8	32.5			
26-Jul	0	1	1	0	1	1	1	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.4	1.0			
27-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	2	0	0	0	0	0	0	0.3	1.8			
28-Jul	0	0	0	0	0	0	0	0	0	1	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.3	1.0			
29-Jul	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	1	0	0	0	0	0	0	0.3	0.6			
30-Jul	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.4			
31-Jul	0	0	0	0	0	0	C	C	C	C	C	C	C	0	2	2	1	0	0	0	0	0	0	0	--	1.8			
0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.4 0.4 0.4 0.3 0.5 0.7 0.7 1.7 0.8 1.7 1.9 0.3 0.3 0.6 0.2 0.2 0.2																		Diurnal Average											
0.4 1.0 0.8 0.8 1.0 0.6 0.6 0.8 1.2 1.0 0.6 2.2 4.5 8.6 21.7 5.3 23.8 32.5 2.4 3.6 11.4 0.7 0.4 0.6																		Diurnal Maximum											
C - Calibration																		A - Automated Daily Zero Span											

Hourly Maximums

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



Hourly Averages

Oxides of Nitrogen (NO_x) - ppb

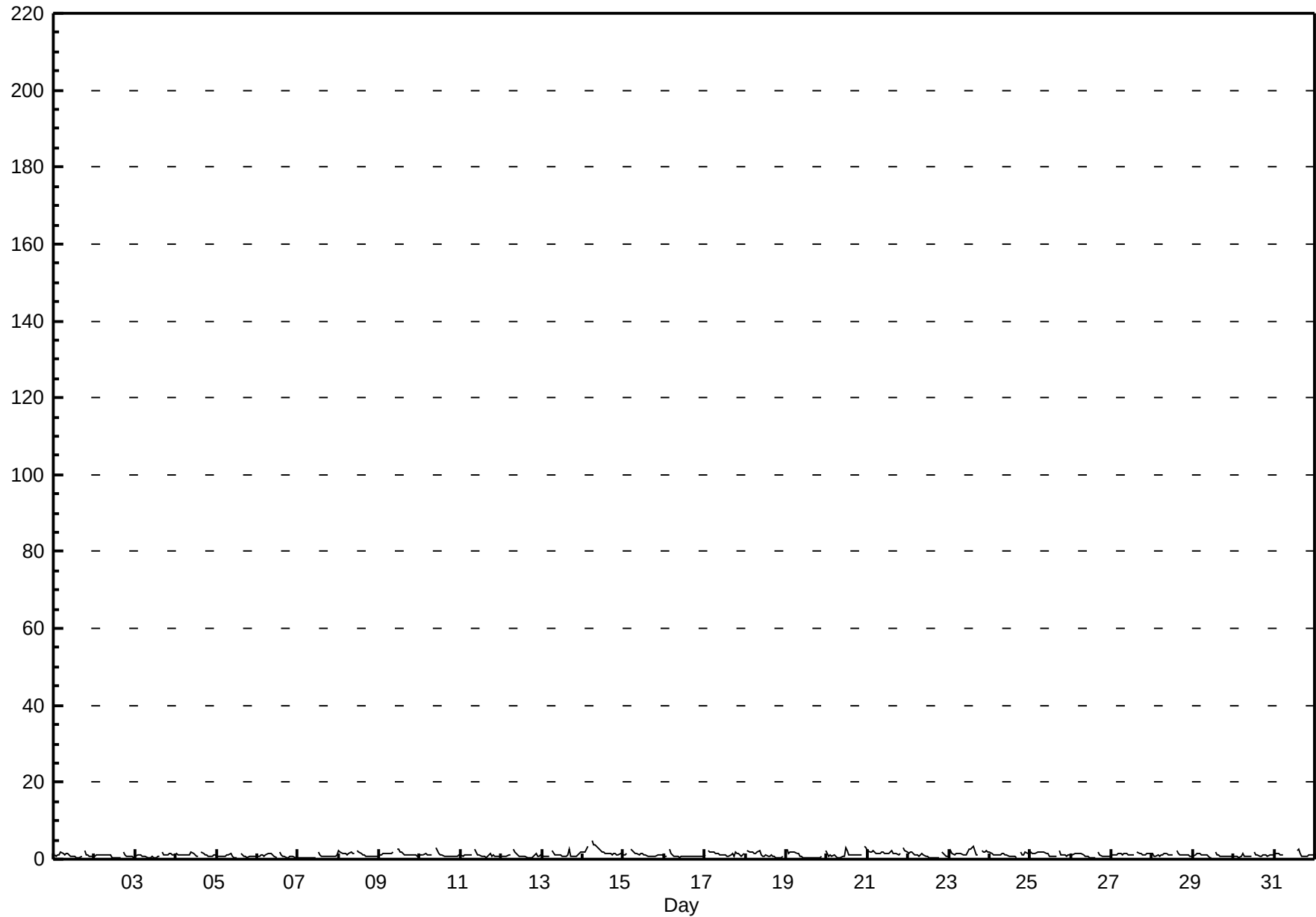
Sunset House - July 2012

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 4.7 ppb on Jul 14 06:00 Maximum Daily Average: 2.1 ppb on Jul 14																			Hours in Service: 744 Hours of Data: 706 Hours of Missing Data: 38 Hours of Calibration: 38 Percent Operational Time: 100.0							
Minimum Value: 0 ppb on Jul 7 04:00 Maximum Diurnal Average: 1.4 ppb at hour 6 Monthly Average: 1.16 ppb																			Minimum Daily Average: 0.6 ppb on Jul 7 Minimum Diurnal Average: 1.0 ppb at hour 20 Percentiles: P ₁ = 0.4 P ₁₀ = 0.6 Q ₁ = 0.7 Median = 1.1 Q ₃ = 1.4 P ₉₀ = 1.9 P ₉₉ = 3.2							
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-Jul	1	1	1	1	2	2	1	2	2	1	1	1	1	0	1	0	1	A	2	1	1	1	1	1	1.1	2.1
2-Jul	1	1	1	1	1	1	1	1	1	1	0	0	0	0	1	0	A	2	1	1	1	1	1	1	0.8	1.8
3-Jul	1	1	1	1	1	1	1	0	0	0	1	1	1	1	1	A	2	1	1	1	1	1	1	1	0.9	1.8
4-Jul	1	1	1	1	1	1	1	1	1	2	2	1	1	1	A	2	1	1	1	1	1	1	1	1	1.2	1.9
5-Jul	1	1	1	1	1	1	1	1	1	1	0	0	0	A	2	1	1	1	1	1	1	1	1	1	0.8	1.6
6-Jul	1	1	1	1	1	1	1	1	1	1	1	0	A	2	1	1	1	1	1	1	1	1	1	1	0.9	1.7
7-Jul	0	0	0	0	0	1	0	0	0	0	0	A	2	1	1	1	1	1	1	1	1	1	1	1	0.6	1.7
8-Jul	2	2	2	2	1	1	2	2	2	1	A	2	2	2	1	1	1	1	1	1	1	1	1	1	1.3	2.3
9-Jul	1	1	1	1	1	1	2	2	2	A	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1.4	2.6
10-Jul	1	1	1	1	1	1	1	1	A	3	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1.1	2.9
11-Jul	1	1	1	1	1	1	1	A	2	2	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1.0	2.4
12-Jul	1	1	1	1	1	1	A	3	2	2	1	1	1	1	1	0	1	0	0	1	2	1	1	1	0.9	2.7
13-Jul	1	1	1	1	1	A	2	1	1	1	1	1	1	1	1	1	3	1	1	1	1	1	2	1	1.1	2.8
14-Jul	2	2	2	3	A	5	4	4	3	3	2	2	2	2	1	1	1	1	1	1	1	2	1	1	2.1	4.7
15-Jul	1	1	1	A	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.3	2.4
16-Jul	1	1	A	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	2.5
17-Jul	1	A	2	2	2	2	2	1	1	1	1	1	1	1	1	1	2	1	2	2	1	1	1	1	1.3	2.2
18-Jul	A	2	2	2	2	2	1	2	2	1	1	1	1	1	1	1	1	1	0	0	0	0	1	A	1.2	2.4
19-Jul	3	2	2	2	2	2	2	1	1	1	0	0	1	0	0	0	0	0	0	0	0	1	A	2	1.0	2.6
20-Jul	1	1	1	1	1	1	0	0	0	1	1	3	2	1	1	1	1	1	1	1	1	A	3	3	1.3	3.2
21-Jul	2	2	2	2	2	2	1	2	2	2	2	1	1	2	2	2	2	1	1	1	A	3	2	2	1.8	2.8
22-Jul	2	2	2	2	1	1	1	1	1	1	1	1	1	0	0	1	0	0	0	A	2	1	1	1	1.0	1.8
23-Jul	1	2	2	1	1	1	1	2	1	1	1	2	3	2	3	2	1	1	A	2	2	2	2	2	1.7	3.3
24-Jul	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	2	1	1	2	2	2	1.2	1.8
25-Jul	2	2	1	2	2	2	2	2	2	1	1	1	1	1	1	1	A	2	1	1	1	1	1	1	1.3	2.3
26-Jul	1	1	1	1	1	1	1	1	1	1	1	0	0	0	A	2	1	1	1	1	1	1	1	1	1.0	1.7
27-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	2	1	1	1	1	1	1	1	1	1.3	2.0
28-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	A	2	1	1	1	1	1	1	1	1	1	1.1	2.2
29-Jul	1	1	1	2	1	1	1	1	1	1	1	0	A	2	1	1	1	1	1	1	1	1	1	1	1.0	1.9
30-Jul	1	1	1	1	1	1	1	1	1	1	1	A	2	1	1	1	1	1	1	1	1	1	1	1	1.0	2.0
31-Jul	1	1	1	1	1	1	C	C	C	C	C	C	C	2	3	1	1	1	1	1	1	1	1	1	--	2.6
		1.2	1.2	1.3	1.3	1.3	1.4	1.3	1.4	1.4	1.2	1.1	1.1	1.1	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.1	1.2	Diurnal Average	
		2.6	2.4	2.4	3.2	2.4	4.7	3.8	3.8	3.4	3.1	2.6	2.8	2.7	2.4	3.3	2.2	2.8	2.3	2.1	2.4	1.8	2.8	3.2	3.0	Diurnal Maximum
C - Calibration		A - Automated Daily Zero Span																								

Hourly Averages

Oxides of Nitrogen (NO_x) - ppb

Sunset House - July 2012



Hourly Maximums

Oxides of Nitrogen (NO_x) - ppb

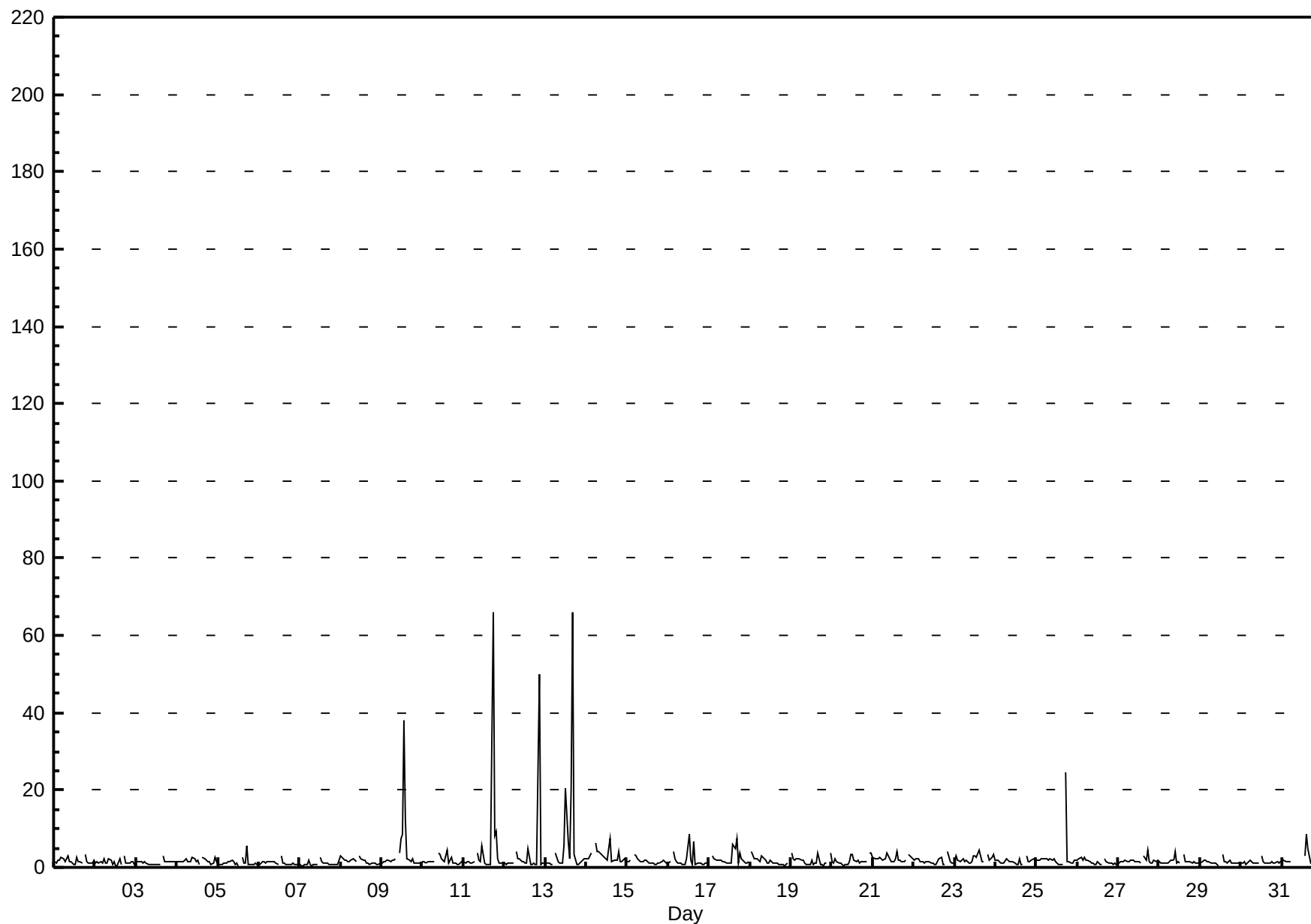
Sunset House - July 2012

Maximum Value: 66.2 ppb on Jul 13 17:00																			Maximum Daily Average: 6.4 ppb on Jul 13										Hours in Service: 744	
Minimum Value: 1 ppb on Jul 7 02:00																			Minimum Daily Average: 1.0 ppb on Jul 7										Hours of Data: 706	
Maximum Diurnal Average: 4.7 ppb at hour 18																			Minimum Diurnal Average: 1.3 ppb at hour 22										Hours of Missing Data: 38	
Monthly Average: 2.12 ppb																			Percentiles: P ₁ = 0.5 P ₁₀ = 0.8 Q ₁ = 1.1 Median = 1.5 Q ₃ = 2.0 P ₉₀ = 3.1 P ₉₉ = 20.4										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-Jul	2	1	2	2	3	2	1	2	3	2	1	1	1	3	2	2	1	A	3	1	1	1	1	2	1.7	3.4				
2-Jul	1	1	1	1	1	2	1	1	2	2	1	1	1	1	2	1	A	3	1	1	1	1	1	1	1.4	3.0				
3-Jul	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	A	3	1	2	2	2	1	1	2	1.3	3.0				
4-Jul	2	1	2	1	2	2	1	1	2	2	2	2	2	1	A	3	2	2	2	1	1	1	3	1	1.7	2.8				
5-Jul	1	1	1	1	1	1	1	2	2	1	1	1	1	A	3	1	1	6	1	1	1	1	1	1	1.3	5.8				
6-Jul	1	1	1	1	1	2	2	2	2	1	1	1	A	3	1	1	1	1	1	1	1	1	1	1	1.2	3.1				
7-Jul	1	1	1	1	1	2	1	1	1	1	1	A	3	1	1	1	1	1	1	1	1	1	2	1.0	2.7					
8-Jul	3	3	2	2	2	1	2	2	2	2	A	3	2	2	2	1	1	1	1	1	1	1	1	1	1.6	3.1				
9-Jul	1	1	2	2	2	2	2	2	2	A	4	7	9	38	12	2	2	1	2	1	1	1	1	1	4.3	38.1				
10-Jul	2	1	1	2	2	1	1	1	A	4	3	2	2	2	4	1	2	3	1	1	1	1	1	2	1.7	4.3				
11-Jul	1	1	1	1	1	1	1	A	4	2	2	5	1	1	1	1	1	66	8	9	2	1	1	1	5.0	66.0				
12-Jul	1	1	1	1	1	1	A	4	2	2	2	1	1	1	5	1	1	1	1	1	50	1	1	1	3.6	49.9				
13-Jul	1	1	1	1	1	A	4	1	1	1	1	6	21	7	2	20	66	4	1	1	1	1	2	2	6.4	66.2				
14-Jul	2	2	3	4	A	6	4	4	4	3	3	2	2	5	7	2	2	2	2	4	1	1	2	1	3.0	7.3				
15-Jul	1	1	2	A	3	3	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	2	1	1	1.6	3.2				
16-Jul	1	1	A	4	2	2	1	1	1	1	1	2	9	2	1	7	1	1	1	1	1	1	1	1	1.9	8.6				
17-Jul	1	A	3	2	2	2	2	2	1	1	1	1	1	1	6	5	7	1	4	2	2	1	1	2	2.3	7.5				
18-Jul	A	4	2	2	2	2	2	3	2	2	1	1	2	1	1	1	1	1	1	1	1	1	1	A	1.6	4.1				
19-Jul	4	2	2	2	2	2	2	2	2	1	1	1	1	2	1	1	4	1	1	1	1	1	A	4	1.7	3.9				
20-Jul	2	1	2	1	1	1	1	1	1	1	2	3	3	2	1	2	1	1	1	1	1	A	4	4	1.7	3.7				
21-Jul	3	2	2	2	3	2	2	2	4	3	2	2	2	2	4	2	2	2	1	2	A	3	3	2	2.4	4.2				
22-Jul	2	2	2	2	2	1	1	1	2	1	1	1	1	1	2	2	2	1	1	A	4	1	1	1	1.6	4.3				
23-Jul	1	3	2	2	2	2	2	2	1	1	1	3	3	3	4	3	1	1	A	3	2	2	3	3	2.2	4.4				
24-Jul	2	2	1	1	1	1	2	2	2	1	2	1	1	1	2	1	1	A	3	1	2	2	2	2	1.6	3.0				
25-Jul	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	A	25	2	1	1	1	2	2	2.7	24.8				
26-Jul	2	2	3	2	2	2	2	2	1	1	1	1	2	1	1	A	2	1	1	1	1	1	1	1	1.4	2.6				
27-Jul	1	1	1	1	2	2	1	2	2	2	1	1	1	1	A	3	2	5	1	1	1	2	2	2	1.7	4.5				
28-Jul	2	1	1	1	1	1	1	2	2	4	1	1	1	A	3	2	1	1	1	1	1	1	1	1	1.6	4.1				
29-Jul	1	2	2	2	2	2	1	1	1	1	1	1	A	3	1	1	1	2	1	1	1	1	1	1	1.3	3.4				
30-Jul	1	1	2	1	2	2	1	1	1	1	1	A	3	2	1	1	1	1	2	1	1	1	1	1	1.3	3.0				
31-Jul	1	2	2	2	1	2	C	C	C	C	C	C	C	3	8	5	3	1	1	1	1	2	1	1	--	8.5				
																								Diurnal Average						
																								Diurnal Maximum						
C - Calibration																								A - Automated Daily Zero Span						

Hourly Maximums

Oxides of Nitrogen (NO_x) - ppb

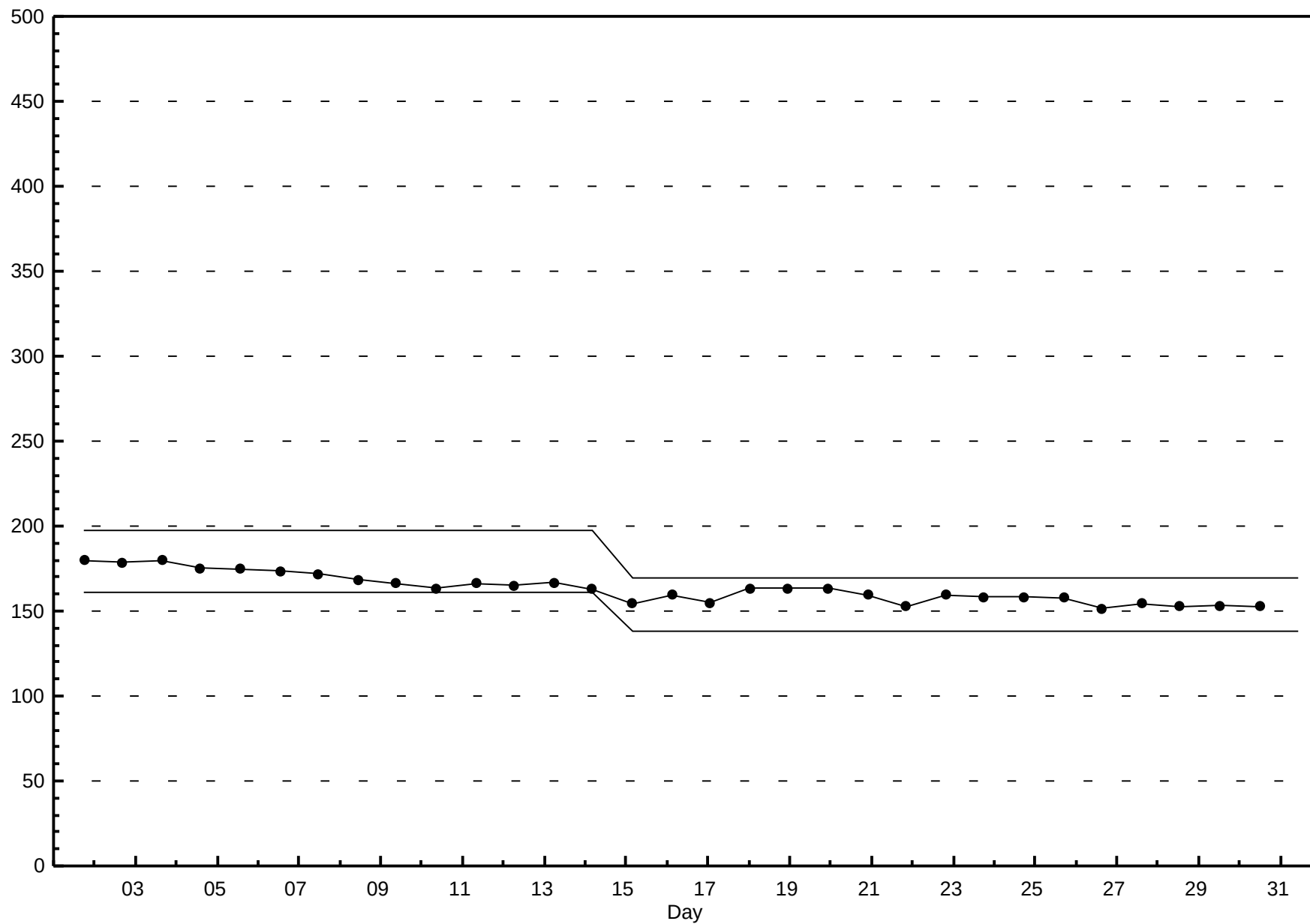
Sunset House - July 2012



Span Responses

Oxides of Nitrogen (NO_x)

Sunset House - July 2012



Hourly Averages

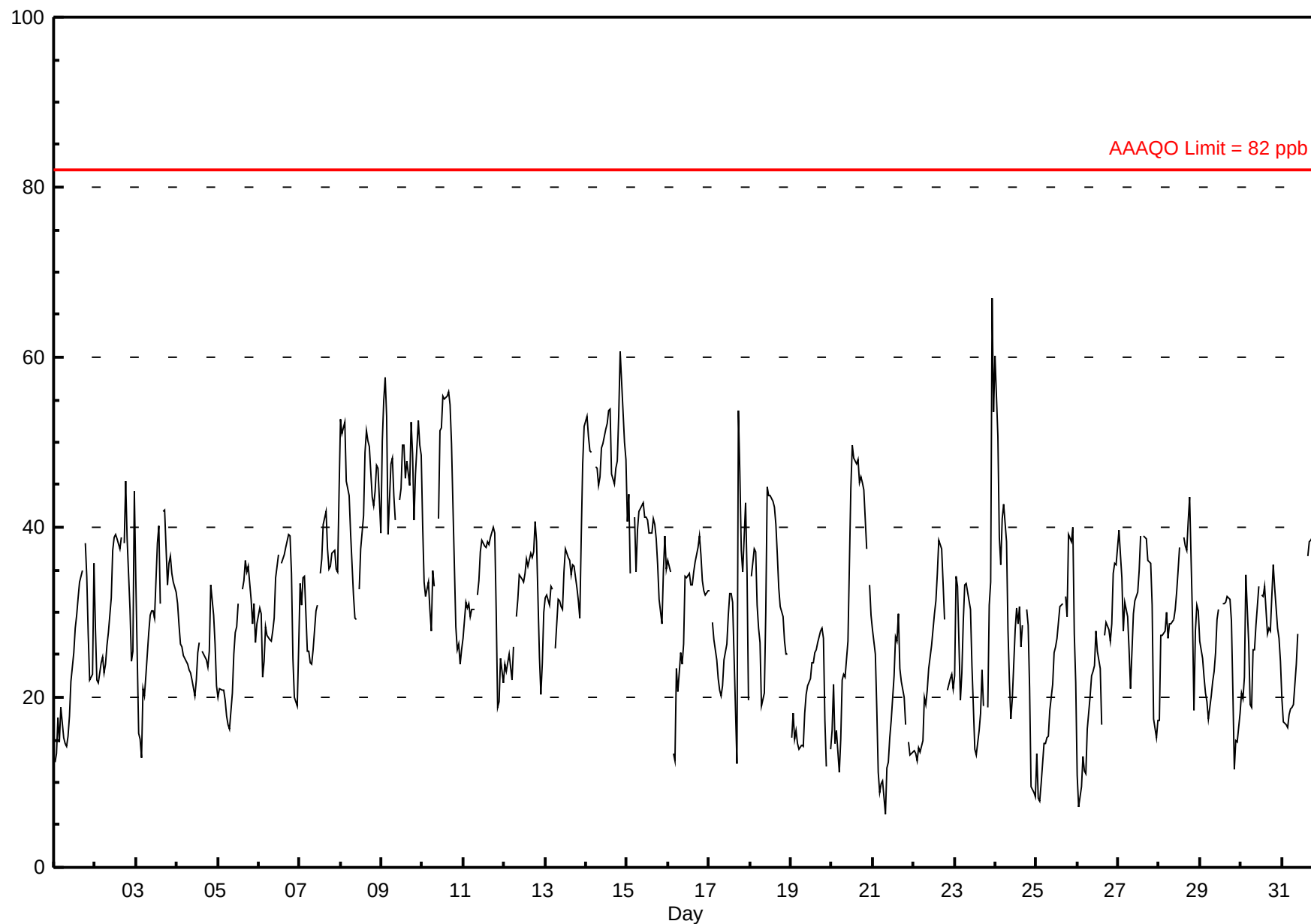
Ozone (O₃) - ppb

Sunset House - July 2012

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 67.0 ppb on Jul 23 23:00 Maximum Daily Average: 50.1 ppb on Jul 14																				Hours in Service: 744 Hours of Data: 708 Hours of Missing Data: 36 Hours of Calibration: 36 Percent Operational Time: 100.0						
Minimum Value: 6 ppb on Jul 21 08:00 Maximum Diurnal Average: 36.9 ppb at hour 18 Monthly Average: 30.44 ppb										Minimum Daily Average: 17.6 ppb on Jul 21 Minimum Diurnal Average: 24.4 ppb at hour 5 Percentiles: P ₁ = 9.4 P ₁₀ = 16.7 Q ₁ = 22.8 Median = 30.0 Q ₃ = 37.2 P ₉₀ = 45.2 P ₉₉ = 55.3																
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-Jul	12	13	18	15	19	15	15	14	15	18	22	25	28	30	32	34	35	A	38	34	27	22	23	36	23.5	38.1
2-Jul	28	22	22	24	25	23	24	26	28	32	37	39	39	39	37	39	A	38	45	39	30	24	25	44	31.7	45.5
3-Jul	34	16	15	13	21	20	23	28	30	30	30	29	38	40	31	A	42	42	33	36	37	35	34	32	29.9	42.0
4-Jul	31	29	26	26	25	24	24	23	23	22	20	22	25	26	A	25	25	24	24	25	33	30	26	21	25.3	33.3
5-Jul	20	21	21	21	20	18	17	16	21	25	28	28	31	A	33	34	36	35	35	31	29	31	27	29	26.3	36.1
6-Jul	31	30	22	24	28	27	27	27	28	29	34	37	A	36	36	37	38	39	39	35	25	20	19	26	30.1	39.1
7-Jul	33	31	34	34	25	25	24	24	26	30	31	A	35	36	40	42	37	35	35	37	37	35	35	44	33.3	44.1
8-Jul	53	51	52	45	45	44	39	32	29	29	A	33	37	41	49	51	50	50	44	43	44	47	47	39	43.3	52.8
9-Jul	50	55	58	53	39	47	48	44	41	A	43	44	50	50	46	48	45	52	49	41	46	53	50	49	47.8	57.7
10-Jul	40	34	32	34	30	28	35	33	A	41	51	52	55	55	56	56	54	50	43	28	26	26	24	26	39.5	55.9
11-Jul	27	31	31	31	29	30	30	A	32	34	37	38	38	38	38	38	39	40	39	30	19	20	25	22	32.0	40.0
12-Jul	24	23	24	25	22	26	A	29	31	34	34	34	35	36	35	37	37	37	41	38	25	20	24	30	30.5	40.7
13-Jul	32	32	31	33	33	A	26	32	31	31	30	35	37	36	36	34	36	35	33	31	29	39	47	52	34.4	51.8
14-Jul	53	51	49	49	A	47	47	45	46	49	50	52	52	54	54	46	45	47	48	53	61	57	50	48	50.1	60.7
15-Jul	41	44	35	A	41	35	40	42	42	43	41	41	41	39	39	41	40	39	36	32	29	35	39	35	38.6	43.8
16-Jul	36	35	A	13	12	23	21	25	24	26	34	34	34	33	33	35	36	38	39	37	34	33	32	33	30.4	39.0
17-Jul	33	A	29	27	24	22	21	20	21	24	26	30	32	32	31	18	12	54	46	37	35	43	34	20	29.2	53.7
18-Jul	A	34	37	37	31	28	27	19	20	30	45	44	44	43	42	40	37	33	31	29	27	25	25	A	33.1	44.7
19-Jul	15	18	15	16	15	14	14	14	18	20	21	22	24	24	25	26	26	28	28	27	17	12	A	14	19.8	28.1
20-Jul	16	21	15	16	11	15	22	23	22	27	36	45	50	48	47	48	45	46	45	44	37	A	33	30	32.3	49.7
21-Jul	28	25	19	11	9	10	10	6	12	12	15	17	23	27	27	30	23	22	20	17	A	15	13	14	17.6	29.8
22-Jul	14	13	13	14	14	15	20	19	21	23	26	28	30	31	35	38	38	33	29	A	21	22	23	21	23.5	38.4
23-Jul	22	34	33	20	23	29	33	33	31	30	24	19	14	13	16	18	23	19	A	19	31	34	67	54	27.8	67.0
24-Jul	60	51	39	36	41	43	38	28	22	17	20	28	31	29	31	26	28	A	30	28	21	9	9	8	29.3	60.1
25-Jul	13	8	8	10	15	15	15	15	18	22	25	26	27	29	31	31	A	32	30	39	38	40	27	22	23.3	40.0
26-Jul	11	7	10	13	11	11	16	20	23	23	24	28	25	23	17	A	27	29	28	27	29	35	36	36	22.1	35.7
27-Jul	40	37	34	28	31	30	26	21	25	30	31	32	35	39	A	39	39	36	36	36	31	17	15	17	30.6	39.6
28-Jul	17	27	27	28	30	27	29	29	29	30	32	35	38	A	39	38	37	41	44	29	19	28	31	30	31.0	43.5
29-Jul	27	25	22	20	19	17	20	22	23	25	29	30	A	31	31	31	32	32	29	21	12	15	15	18	23.8	31.8
30-Jul	20	20	22	34	26	19	19	26	26	29	33	A	32	32	33	27	28	28	32	36	33	28	27	24	27.6	35.5
31-Jul	20	17	17	16	18	19	19	19	24	27	A	C	C	C	C	37	38	38	39	36	29	21	25	22	25.3	38.9
29.4 28.5 26.9 25.6 24.4 24.9 25.6 25.1 26.1 28.2 31.4 33.1 35.0 35.4 35.7 36.0 35.5 36.9 36.2 33.2 30.3 29.0 30.2 29.8																								Diurnal Average		
60.1 54.9 57.7 53.1 44.5 47.4 48.1 45.0 45.9 49.3 51.4 51.7 55.5 55.1 55.5 55.9 54.4 53.7 48.7 53.2 60.7 57.2 67.0 53.6																								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 - July 2012



Hourly Maximums

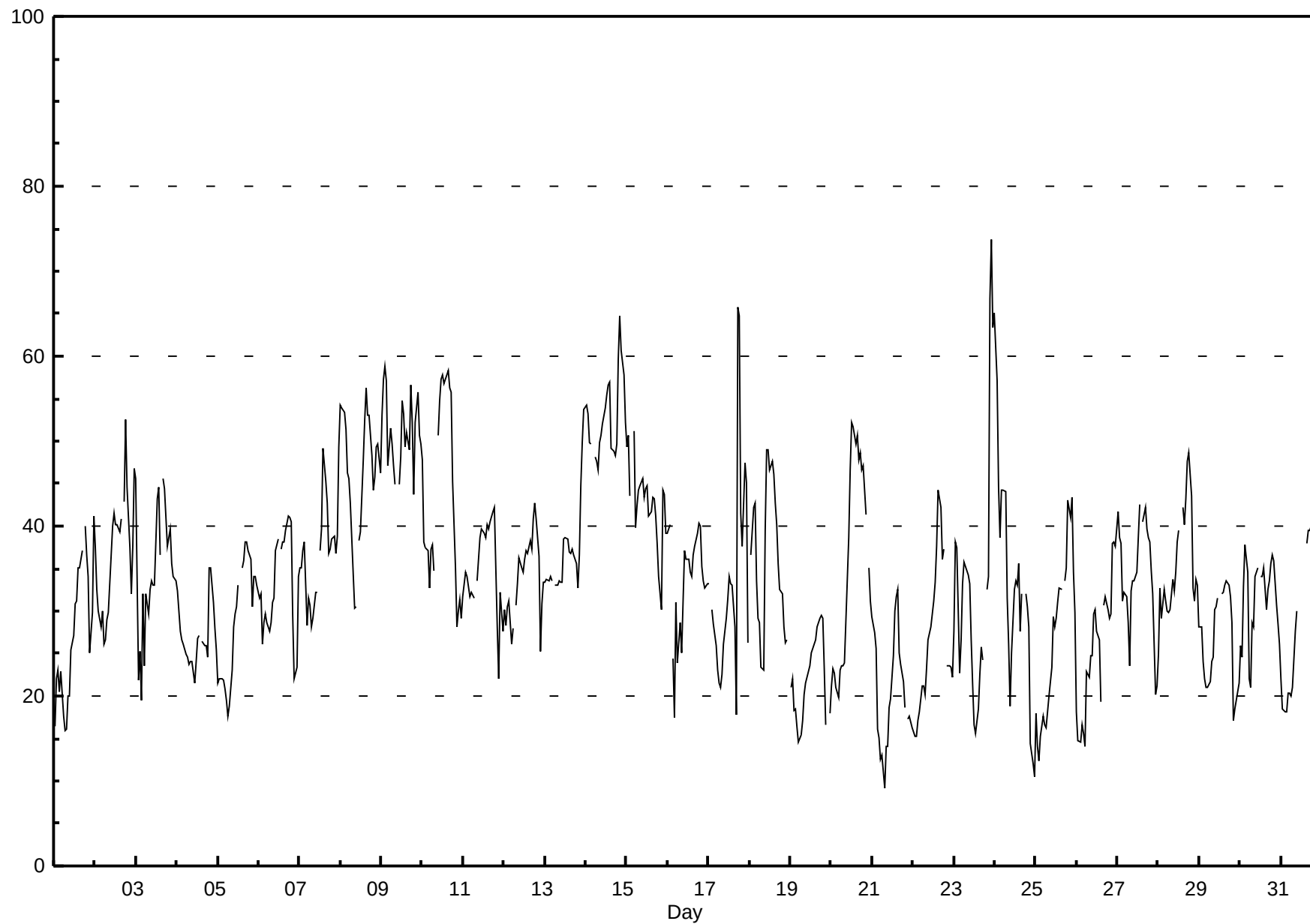
Ozone (O₃) - ppb

Sunset House - July 2012

Maximum Value: 73.7 ppb on Jul 23 23:00																				Maximum Daily Average: 52.9 ppb on Jul 14					Hours in Service: 744	
Minimum Value: 9 ppb on Jul 21 08:00																				Minimum Daily Average: 20.6 ppb on Jul 21					Hours of Data: 708	
Maximum Diurnal Average: 40.2 ppb at hour 18																				Minimum Diurnal Average: 27.4 ppb at hour 8					Hours of Missing Data: 36	
Monthly Average: 33.86 ppb																				Percentiles: P ₁ = 14.1 P ₁₀ = 20.1 Q ₁ = 26.1 Median = 33.1 Q ₃ = 40.0 P ₉₀ = 49.2 P ₉₉ = 62.6					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-Jul	16	22	23	21	23	18	16	16	20	20	26	27	31	31	35	35	37	A	40	37	34	25	30	41	27.1	41.1
2-Jul	37	32	30	28	30	26	27	29	30	37	40	42	40	40	39	41	A	43	53	45	37	32	38	47	36.6	52.6
3-Jul	46	22	25	19	32	24	32	30	33	34	33	33	43	45	37	A	46	44	38	39	40	36	34	34	34.6	45.7
4-Jul	32	30	28	27	26	25	25	24	24	24	21	24	27	27	A	26	26	26	25	35	35	31	28	25	27.0	35.1
5-Jul	22	22	22	22	21	19	18	19	23	28	30	31	33	A	35	36	38	38	37	36	31	34	34	33	28.7	38.1
6-Jul	32	32	26	29	30	29	28	29	31	32	37	38	A	37	38	38	40	41	41	40	30	22	23	34	32.8	41.1
7-Jul	35	35	37	38	28	32	31	28	29	32	32	A	37	40	49	45	43	37	37	38	39	37	39	49	36.9	49.4
8-Jul	54	54	53	51	46	46	43	34	30	30	A	38	39	48	53	56	53	53	48	44	46	49	50	46	46.4	56.2
9-Jul	53	57	59	57	47	52	50	47	45	A	45	48	55	53	49	51	49	57	52	44	52	56	51	50	51.2	58.7
10-Jul	48	38	38	37	33	37	38	35	A	51	55	57	58	57	58	58	56	56	45	35	28	30	31	29	43.8	58.2
11-Jul	32	35	34	33	32	32	32	A	34	36	39	40	39	39	40	40	41	42	42	35	28	22	32	28	34.9	42.2
12-Jul	30	28	30	31	26	28	A	31	33	36	35	35	36	37	37	38	37	41	43	41	36	25	31	33	33.9	42.7
13-Jul	33	34	33	34	34	A	33	33	34	33	33	38	39	38	37	37	37	37	36	33	37	45	50	54	37.0	53.8
14-Jul	54	53	50	50	A	48	48	47	50	51	52	54	55	57	57	49	49	48	50	60	65	61	58	52	52.9	64.7
15-Jul	49	51	44	A	51	40	42	44	45	46	43	44	45	41	42	43	43	41	38	34	30	44	44	39	42.8	51.2
16-Jul	39	40	A	24	17	31	24	29	25	31	37	36	36	35	34	37	38	39	40	40	35	34	33	33	33.4	40.4
17-Jul	33	A	30	28	26	23	22	21	23	26	29	31	34	33	33	28	18	66	65	42	38	47	45	26	33.4	65.7
18-Jul	A	37	42	43	34	29	29	23	23	40	49	49	47	48	46	43	40	36	33	32	28	26	27	A	36.4	48.9
19-Jul	21	22	18	18	16	15	15	17	20	22	22	24	25	26	26	27	28	29	29	29	23	17	A	18	22.1	29.5
20-Jul	21	23	23	21	20	23	24	24	24	34	39	47	52	52	50	51	48	49	47	47	41	A	35	31	35.8	52.2
21-Jul	29	27	26	16	15	13	13	9	14	14	19	20	25	30	32	33	25	24	22	19	A	17	18	16	20.6	32.6
22-Jul	16	15	15	17	18	21	21	20	23	27	28	30	31	33	38	44	42	36	37	A	24	24	23	22	26.4	44.3
23-Jul	28	38	38	23	27	33	36	35	34	33	27	21	17	16	19	23	26	24	A	33	34	67	74	63	33.3	73.7
24-Jul	65	57	45	39	44	44	44	32	26	19	25	33	34	33	36	28	32	A	32	31	28	14	12	11	33.1	65.1
25-Jul	18	14	12	15	18	17	16	18	20	23	29	28	29	31	33	33	A	34	35	43	41	43	35	30	26.7	43.3
26-Jul	18	15	15	17	16	14	23	22	25	25	30	30	28	27	19	A	31	32	30	29	30	38	38	38	25.5	38.2
27-Jul	42	39	38	31	32	32	29	24	32	34	34	35	39	42	A	40	42	40	39	38	35	32	20	21	34.3	42.5
28-Jul	25	33	29	33	31	30	30	30	34	32	34	38	39	A	42	40	43	48	49	44	33	31	34	33	35.4	48.6
29-Jul	28	28	24	22	21	21	22	24	25	30	31	32	A	32	32	33	34	33	32	29	17	19	19	22	26.4	33.6
30-Jul	26	25	33	38	35	22	21	29	28	34	35	A	34	34	35	30	33	34	36	37	36	31	28	26	31.2	37.8
31-Jul	22	19	18	18	20	20	20	21	28	30	A	C	C	C	C	38	40	40	40	39	33	29	33	27	28.1	40.1
33.5 32.6 31.3 29.3 28.3 28.1 28.2 27.4 28.8 31.4 34.1 35.8 37.4 37.9 38.6 38.7 38.4 40.2 39.6 37.5 34.7 33.9 34.8 33.7																								Diurnal Average		
65.1 57.2 58.7 57.1 51.2 51.6 49.6 47.2 49.8 50.7 54.7 57.2 57.7 56.7 57.7 58.2 56.2 65.7 64.7 59.7 64.7 66.7 73.7 63.4																								Diurnal Maximum		
C - Calibration A - Automated Daily Zero Span																										

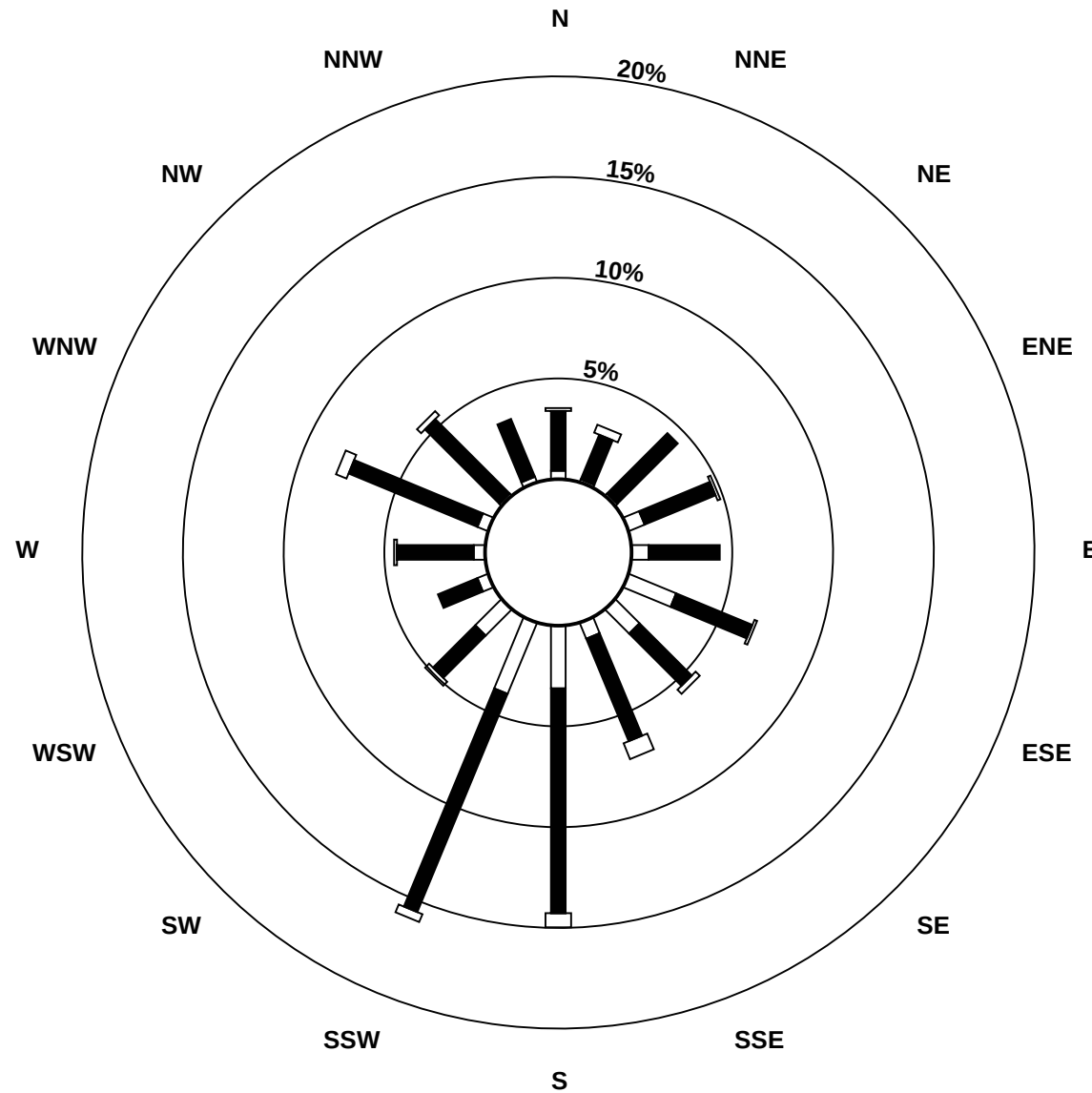
Hourly Maximums

Ozone (O₃) - ppb
Sunset House - July 2012

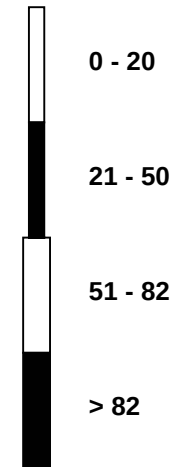


Pollutant Rose

Ozone (O₃) - ppb
Sunset House - July 2012



Pollutant Classes (ppb)



Eight Hour Running Averages

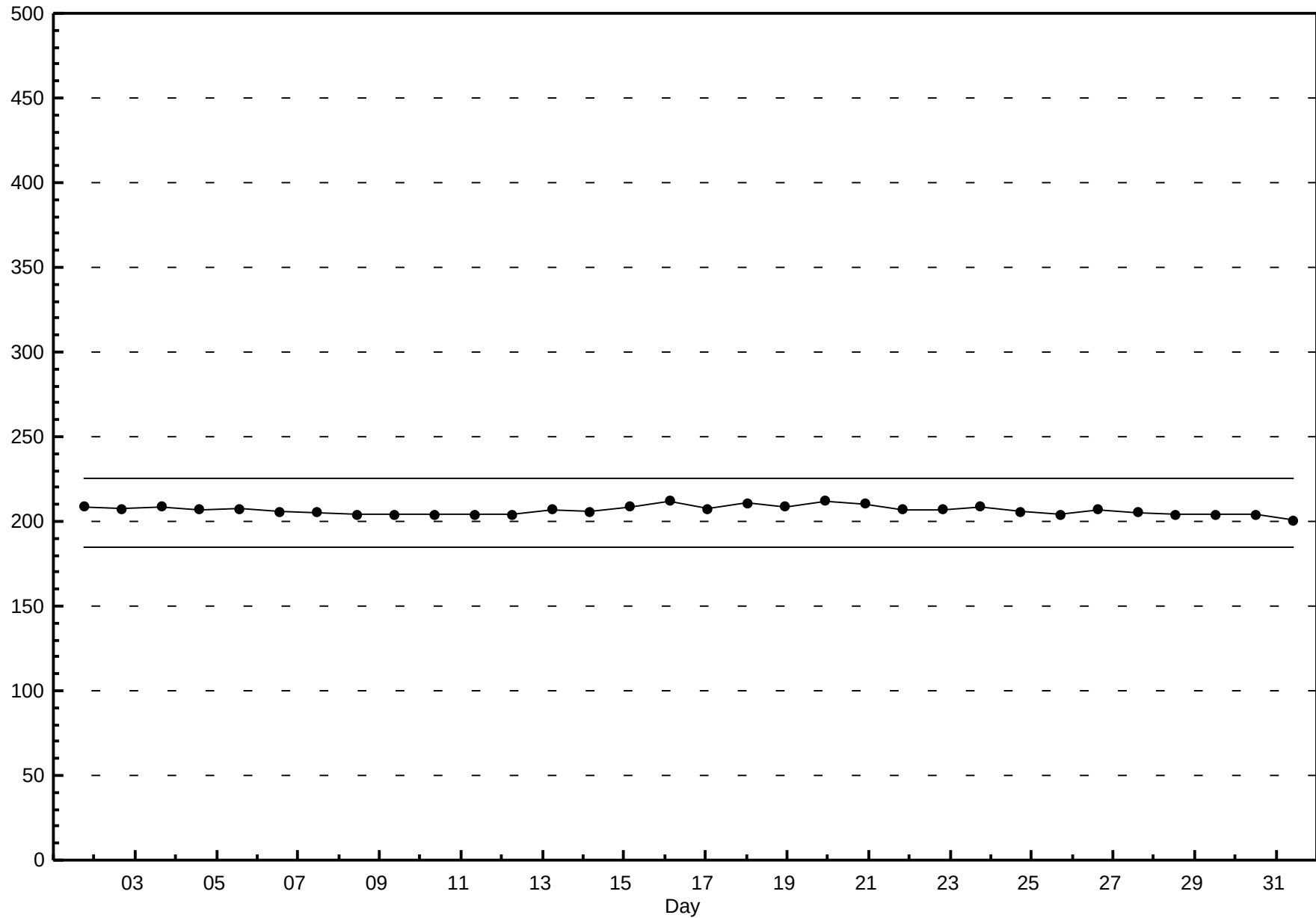
Ozone (O₃) - ppb

Sunset House - July 2012

Maximum Value: 53.7 ppb on Jul 10 18:00																								Hours in Service: 744		
Minimum Value: 10.0 ppb on Jul 25 05:00																								Hours of Data: 736		
																								Hours of Missing Data: 8		
Percentiles: P ₁ = 12.3 P ₁₀ = 18.8 Q ₁ = 24.1 Median = 29.9 Q ₃ = 35.7 P ₉₀ = 45.1 P ₉₉ = 50.8																								Hours of Calibration: 8		
																								Percent Operational Time: 100.0		
Day	Hourly Period Ending At (MST)																							Daily Maximum		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jul	19	17	17	15	14	14	15	15	16	16	17	18	19	21	23	25	28	29	32	33	33	32	30	31	32.9	
2-Jul	30	29	27	25	25	25	25	24	24	25	27	29	31	33	35	36	37	38	39	39	38	36	34	35	39.5	
3-Jul	35	32	28	25	24	24	23	21	21	22	24	26	28	31	32	33	34	36	37	37	37	36	37	36	37.5	
4-Jul	35	33	32	31	30	28	27	26	25	24	23	23	23	23	23	23	24	24	25	25	26	27	27	26	34.9	
5-Jul	25	25	25	24	22	21	20	19	19	20	21	22	23	24	26	28	31	32	33	34	33	33	32	32	33.6	
6-Jul	31	30	29	28	28	27	27	27	27	27	28	30	30	31	32	34	35	37	37	37	35	34	31	30	37.4	
7-Jul	29	28	28	28	28	29	29	29	28	28	27	26	28	29	32	34	36	37	37	37	38	37	37	37	37.6	
8-Jul	39	41	43	44	45	46	47	45	42	39	38	36	35	34	36	39	42	44	44	46	46	47	47	45	47.2	
9-Jul	45	46	48	49	49	49	49	49	48	47	45	44	45	46	45	46	46	47	48	47	47	47	48	48	49.3	
10-Jul	47	45	43	42	40	37	35	33	32	33	36	39	42	46	49	52	53	54	53	50	46	42	38	35	53.7	
11-Jul	31	29	27	28	28	29	29	30	31	31	32	33	34	35	36	37	37	38	39	37	35	33	31	29	38.5	
12-Jul	27	25	23	23	23	24	24	25	26	27	29	30	32	33	34	35	35	36	36	37	36	34	32	31	37.0	
13-Jul	31	30	29	28	29	31	31	31	31	31	31	31	32	32	34	34	34	35	35	35	34	34	36	38	37.9	
14-Jul	40	42	44	46	49	50	50	49	48	47	48	48	48	49	50	50	50	50	50	50	51	51	51	51	51.4	
15-Jul	51	50	49	48	45	42	40	40	40	40	41	41	41	41	41	41	41	40	40	38	37	36	36	35	50.6	
16-Jul	35	34	34	32	29	28	25	24	22	21	22	25	28	29	31	32	33	35	35	36	36	35	35	35	35.6	
17-Jul	35	34	33	31	30	28	27	25	24	24	23	24	25	26	27	27	26	29	32	33	33	35	35	35	35.2	
18-Jul	38	36	34	34	34	32	31	30	29	29	30	30	32	34	36	39	41	41	39	37	35	33	31	29	41.0	
19-Jul	26	24	22	20	18	17	15	15	16	16	17	17	19	20	21	23	24	25	25	26	25	24	23	22	26.4	
20-Jul	20	19	17	16	15	15	16	17	18	19	21	25	30	34	37	40	43	46	47	47	45	45	43	40	46.8	
21-Jul	38	35	31	26	22	21	18	15	13	11	11	11	13	15	17	20	22	23	24	24	24	22	20	18	37.7	
22-Jul	16	15	14	14	14	14	14	15	16	17	19	21	23	25	27	29	31	32	33	33	32	31	29	27	33.5	
23-Jul	25	25	25	25	25	26	27	28	30	29	28	28	27	25	23	21	20	18	17	17	20	23	30	35	35.1	
24-Jul	40	45	44	46	48	49	45	42	37	33	31	30	28	27	26	25	26	27	29	29	28	25	22	19	48.7	
25-Jul	17	16	13	11	10	11	11	12	13	15	17	19	20	22	24	26	27	29	29	31	33	34	34	33	34.4	
26-Jul	30	27	24	21	18	14	13	12	14	16	18	19	21	23	23	23	24	25	25	25	26	27	30	31	30.6	
27-Jul	32	33	34	34	34	34	33	31	29	28	28	29	30	31	33	33	35	36	37	37	36	33	31	28	37.0	
28-Jul	26	25	24	23	22	24	25	27	28	29	29	30	31	32	33	34	36	37	39	38	35	34	33	32	38.6	
29-Jul	31	29	26	25	25	24	23	22	21	21	22	23	24	26	27	29	30	31	31	29	27	25	23	22	30.9	
30-Jul	20	19	18	20	21	22	22	23	24	25	26	25	26	28	30	30	31	30	30	31	31	31	30	29	31.1	
31-Jul	28	27	25	23	21	20	19	18	19	20	20	21	N	N	N	N	N	N	N	N	N	36	34	33	31	36.2
Diurnal Maximums																										
50.6 50.2 48.5 49.2 48.6 49.7 49.6 49.3 48.1 47.4 47.6 48.0 48.5 49.3 50.2 52.3 52.6 53.7 52.6 49.9 51.0 51.4 50.9 51.1																										
N - Not Valid																										

Span Responses

Ozone (O₃)
Sunset House - July 2012



Hourly Averages

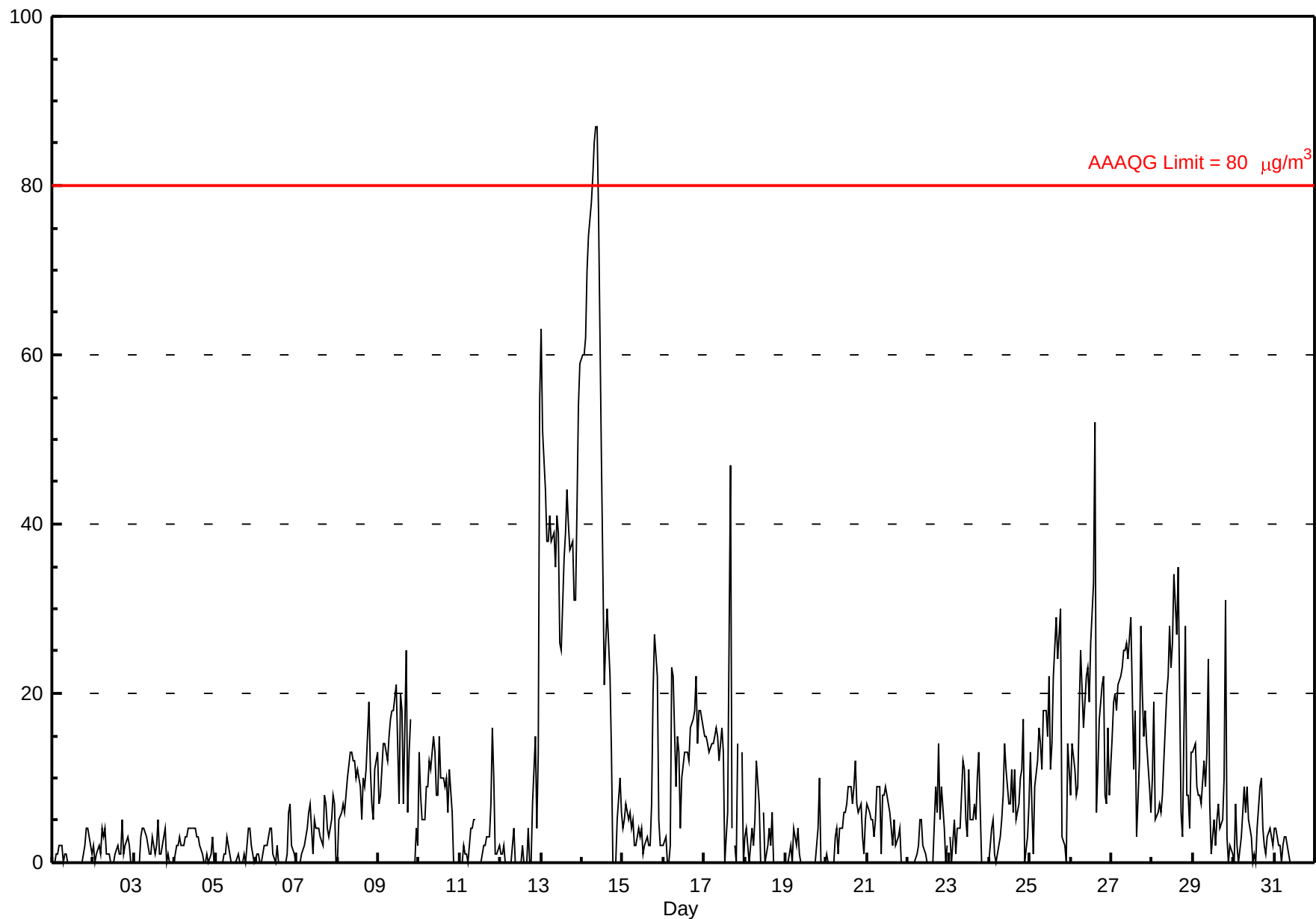
PM2.5 (PM_{2.5}) - µg/m³

Sunset House - July 2012

Number of Exceedences: 1-hr: 4 24-hr: 2 Maximum Value: 87.0 µg/m³ on Jul 14 09:00 Minimum Value: 0 µg/m³ on Jul 1 01:00 Maximum Diurnal Average: 12.0 µg/m³ at hour 9 Monthly Average: 8.86 µg/m³																				Hours in Service: 744 Hours of Data: 724 Hours of Missing Data: 20 Hours of Calibration: 1 Percent Operational Time: 97.5						
Maximum Daily Average: 43.2 µg/m³ on Jul 14 Minimum Daily Average: 0.8 µg/m³ on Jul 5 Minimum Diurnal Average: 4.8 µg/m³ at hour 22 Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 1.0 Median = 4.0 Q ₃ = 12.0 P ₉₀ = 22.0 P ₉₉ = 71.8																										
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-Jul	0	0	1	1	2	2	0	1	1	0	0	0	0	0	0	0	0	1	2	4	4	2	1	0.9	4.0	
2-Jul	2	0	1	2	1	4	3	4	1	1	0	0	0	1	2	1	1	5	1	2	3	2	0	0	1.5	5.0
3-Jul	0	0	0	0	3	4	4	3	2	1	1	3	1	2	5	1	1	2	4	0	1	0	0	0	1.6	5.0
4-Jul	1	2	2	3	2	2	3	3	4	4	4	4	4	3	3	2	1	0	0	1	0	1	3	0	2.2	4.0
5-Jul	0	0	0	0	0	1	1	3	1	0	0	0	0	1	0	0	0	1	0	4	4	2	1	0	0.8	4.0
6-Jul	1	1	0	0	1	2	2	3	4	4	1	0	2	0	0	0	0	0	1	6	7	2	1	0	1.6	7.0
7-Jul	0	0	0	1	2	3	4	6	7	1	5	4	4	4	3	2	8	7	4	3	5	8	7	0	3.7	8.0
8-Jul	0	5	6	7	6	8	10	13	13	12	12	10	11	9	5	10	9	11	19	11	7	5	11	13	9.3	19.0
9-Jul	7	8	11	14	14	12	15	17	18	18	21	14	7	20	18	7	25	6	13	17	N	0	4	2	12.5	25.0
10-Jul	13	8	5	5	9	9	12	11	15	13	8	8	15	10	10	9	10	6	11	6	0	0	0	0	8.0	15.0
11-Jul	0	0	2	1	1	0	4	4	5	5	N	0	0	1	2	2	3	3	7	16	10	1	1	2	3.0	16.0
12-Jul	1	1	2	0	0	0	0	2	4	0	0	0	0	2	0	0	4	0	0	7	15	4	13	55	4.6	55.0
13-Jul	63	51	44	38	38	41	38	39	35	41	39	26	25	36	39	44	40	37	38	31	31	42	54	59	40.4	63.0
14-Jul	60	60	62	70	74	78	81	85	87	87	77	48	35	21	26	30	22	13	0	0	0	5	10	6	43.2	87.0
15-Jul	4	5	7	5	6	4	5	2	2	4	3	4	1	2	3	2	2	7	20	27	22	5	2	2	6.1	27.0
16-Jul	2	3	0	0	2	23	22	9	15	13	4	10	13	13	12	16	17	18	22	14	18	18	16	12.2	23.0	
17-Jul	15	15	14	13	14	14	15	16	15	12	16	13	0	3	6	47	4	N	2	0	14	N	13	0	11.9	47.0
18-Jul	3	4	0	2	4	2	5	12	7	0	N	6	0	2	4	2	6	0	N	0	0	0	0	N	2.8	12.0
19-Jul	0	0	1	2	0	4	2	4	1	0	0	0	0	0	0	0	0	0	2	4	10	0	0	0	1.3	10.0
20-Jul	1	0	0	0	0	3	4	1	4	4	6	6	7	9	9	7	9	12	7	6	7	3	1	5	4.6	12.0
21-Jul	7	6	5	5	3	5	9	9	1	8	8	9	7	6	4	2	5	2	3	4	0	0	0	0	4.5	9.0
22-Jul	0	N	N	0	0	1	2	5	5	2	1	0	N	0	N	0	9	6	14	5	9	4	0	2	3.3	14.0
23-Jul	N	3	0	5	1	4	4	4	12	11	5	3	11	5	5	7	5	10	13	0	0	N	N	0	5.1	13.0
24-Jul	0	4	5	1	0	1	3	5	8	14	11	7	7	11	6	11	5	7	10	11	17	0	3	7	6.4	17.0
25-Jul	13	7	1	9	12	16	14	11	18	18	15	22	11	14	22	29	24	27	30	3	2	0	14	11	14.3	30.0
26-Jul	8	14	11	8	9	18	25	16	19	22	23	19	26	33	52	6	11	17	21	22	8	7	16	8	17.5	52.0
27-Jul	15	19	20	18	21	22	23	25	25	26	24	29	20	11	18	3	12	28	20	15	18	14	9	6	18.4	29.0
28-Jul	10	19	5	6	7	6	8	12	20	22	28	23	26	34	27	35	20	6	3	28	8	8	4	13	15.8	35.0
29-Jul	13	14	9	8	8	7	12	9	13	24	7	1	5	2	5	7	4	5	10	31	3	0	2	1	8.3	31.0
30-Jul	0	7	2	0	3	6	9	6	9	5	3	0	1	0	4	9	10	4	2	1	3	4	3	2	3.9	10.0
31-Jul	4	4	2	2	0	2	3	3	1	0	0	0	0	0	C	N	N	N	N	0	0	0	N	0	1.2	4.0
8.1 8.7 7.3 7.3 7.8 9.8 11.0 11.1 12.0 12.0 11.1 8.7 8.0 8.2 10.0 9.6 8.9 8.2 9.4 9.2 7.4 4.8 6.6 7.0																									Diurnal Average	
63.0 60.0 62.0 70.0 74.0 78.0 81.0 85.0 87.0 87.0 77.0 48.0 35.0 36.0 52.0 47.0 40.0 37.0 38.0 31.0 31.0 42.0 54.0 59.0																									Diurnal Maximum	
C - Calibration N - Not Valid																										
Alberta Ambient Air Quality Guideline (AAAQG): 1-hr 80 µg/m³ Alberta Ambient Air Quality Objective (AAAQO): 24-hr 30 µg/m³																										

Hourly Averages

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



Hourly Maximums

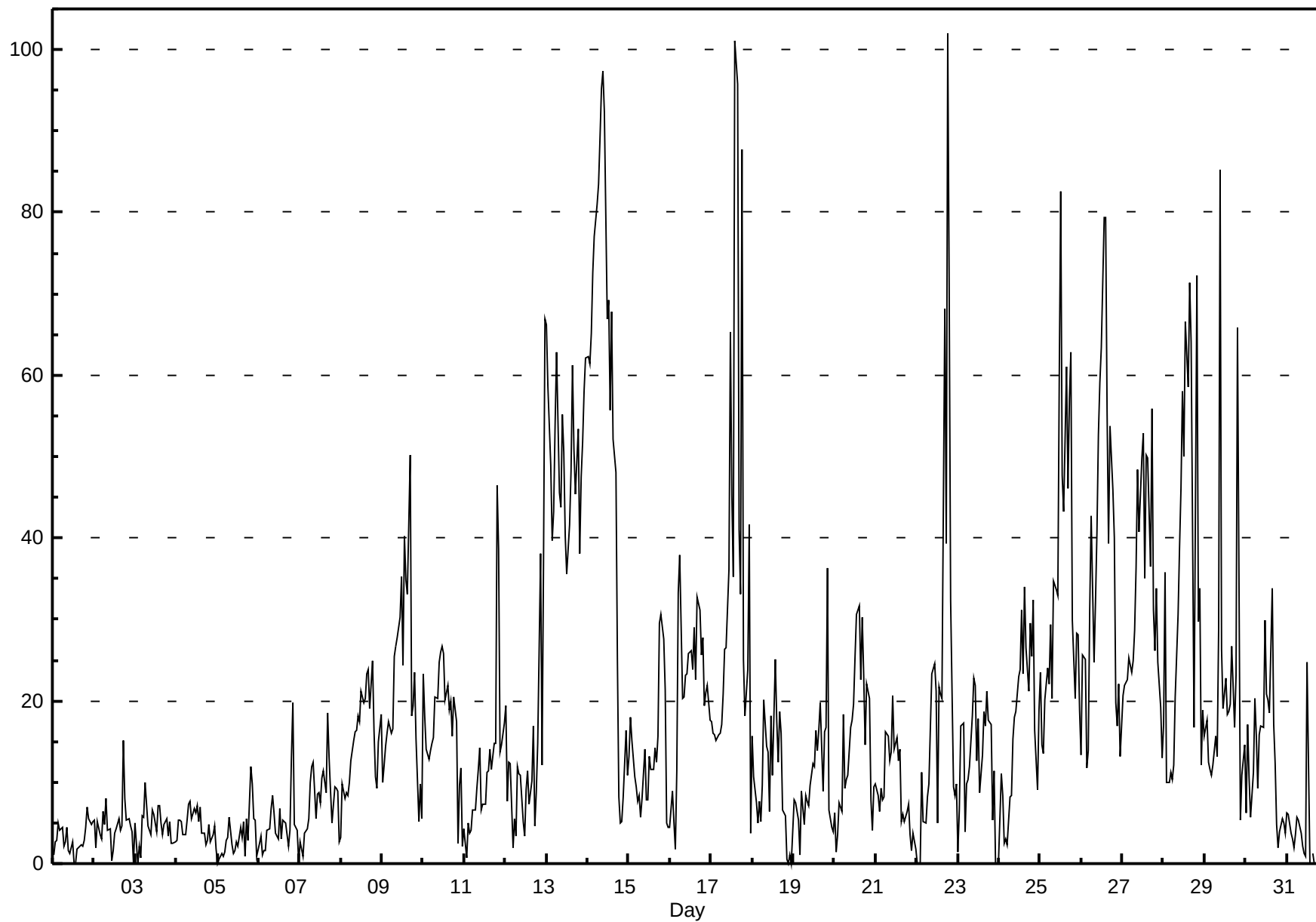
PM2.5 (PM_{2.5}) - µg/m³

Sunset House - July 2012

Maximum Value: 101.9 µg/m ³ on Jul 22 19:00																					Maximum Daily Average: 54.8 µg/m ³ on Jul 14					Hours in Service: 744	
Minimum Value: 0 µg/m ³ on Jul 1 13:00																					Minimum Daily Average: 3.0 µg/m ³ on Jul 1					Hours of Data: 743	
Maximum Diurnal Average: 26.6 µg/m ³ at hour 15																					Minimum Diurnal Average: 11.2 µg/m ³ at hour 24					Hours of Missing Data: 1	
Monthly Average: 18.34 µg/m ³																					Percentiles: P ₁ = 0.0 P ₁₀ = 2.5 Q ₁ = 5.2 Median = 12.5 Q ₃ = 23.4 P ₉₀ = 45.3 P ₉₉ = 86.0					Hours of Calibration: 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-Jul	1	3	3	5	4	4	2	3	5	2	1	3	0	0	2	2	2	2	3	4	7	5	5	5	3.0	6.9	
2-Jul	5	2	5	4	3	6	5	8	4	4	0	2	4	4	6	4	5	15	8	5	6	5	4	0	4.7	15.2	
3-Jul	5	0	2	1	6	6	10	5	4	4	7	6	4	7	7	5	3	5	5	3	5	3	2	3	4.5	10.0	
4-Jul	3	5	5	5	4	4	5	7	8	6	7	6	7	5	7	4	4	2	3	5	3	3	5	2	4.8	7.7	
5-Jul	0	1	1	1	1	3	3	6	2	1	2	3	2	4	3	5	1	6	3	12	10	6	5	1	3.4	11.9	
6-Jul	2	3	1	2	2	4	4	7	8	6	4	3	7	3	5	5	5	2	4	13	20	5	4	0	5.0	19.7	
7-Jul	3	2	1	4	4	5	10	12	13	6	9	9	7	10	11	9	19	13	9	5	9	9	9	3	7.9	18.6	
8-Jul	3	10	8	9	8	10	13	15	16	16	18	17	21	20	20	23	24	19	25	16	11	9	15	18	15.2	24.9	
9-Jul	10	12	14	16	17	16	16	26	27	28	30	35	24	40	35	33	50	18	19	23	15	5	10	5	22.0	50.1	
10-Jul	23	18	14	13	14	15	15	20	20	25	26	27	26	20	22	19	20	16	20	17	2	10	12	2	17.4	26.8	
11-Jul	4	1	5	4	4	7	7	9	12	14	7	7	7	11	11	14	12	15	15	47	39	14	15	17	12.3	46.5	
12-Jul	19	8	13	12	2	5	3	12	11	11	5	3	9	11	7	10	17	5	9	15	38	12	37	67	14.3	66.9	
13-Jul	66	59	49	40	43	54	63	46	44	55	51	40	36	42	48	61	51	45	53	38	47	52	58	62	50.1	66.2	
14-Jul	62	61	65	73	77	81	84	89	95	97	92	67	69	56	68	52	48	25	8	5	5	8	16	11	54.8	97.3	
15-Jul	13	18	15	11	10	8	8	6	8	14	8	8	13	11	12	14	12	16	29	31	28	21	5	4	13.4	30.5	
16-Jul	5	9	5	2	11	33	38	20	21	23	23	26	26	24	29	23	33	31	26	28	19	21	22	18	21.4	37.9	
17-Jul	18	16	16	15	16	16	17	21	26	26	36	65	45	35	101	96	41	33	88	25	18	24	42	4	35.0	101.1	
18-Jul	16	11	7	5	8	5	10	20	14	14	6	18	11	25	18	12	19	16	7	6	0	0	1	0	10.4	25.2	
19-Jul	8	8	6	5	1	9	5	8	8	7	10	12	12	16	14	16	20	9	16	17	36	6	4	4	10.8	36.3	
20-Jul	6	1	4	7	6	18	9	10	11	17	18	20	25	31	32	23	30	23	15	22	20	8	4	9	15.4	31.7	
21-Jul	10	8	6	9	8	8	16	16	13	14	21	14	15	13	14	5	6	5	6	7	4	2	4	2	9.4	20.6	
22-Jul	0	0	0	11	5	5	8	10	17	23	25	21	5	22	21	20	68	39	102	71	32	9	8	10	22.2	101.9	
23-Jul	1	7	17	17	4	10	10	12	18	23	22	13	18	9	13	19	17	21	18	17	5	11	0	0	12.6	22.8	
24-Jul	0	11	8	2	3	2	8	8	15	18	19	23	24	31	23	34	27	21	29	25	32	16	9	19	17.1	33.9	
25-Jul	23	15	14	20	24	22	29	20	35	34	33	60	83	48	43	61	46	57	63	30	20	28	28	19	35.6	82.6	
26-Jul	13	26	25	12	14	31	43	25	32	41	53	59	63	79	79	55	39	54	46	40	20	17	22	13	37.5	79.4	
27-Jul	21	22	22	23	25	23	25	29	36	48	41	50	53	35	50	50	36	56	31	26	34	25	19	13	33.0	55.8	
28-Jul	17	36	10	10	11	10	12	20	31	39	46	58	50	67	59	71	64	41	17	72	30	34	12	19	34.8	72.2	
29-Jul	16	18	12	12	11	12	16	13	29	85	26	19	23	18	19	20	27	17	23	66	36	5	11	15	22.8	85.3	
30-Jul	6	17	11	6	11	20	16	9	16	17	17	30	21	20	19	34	17	12	5	2	4	6	5	4	13.5	33.9	
31-Jul	6	6	4	3	2	4	6	5	4	2	1	1	25	0	C	1	0	0	0	10	1	0	0	0	3.5	24.7	
12.5 13.3 11.9 11.5 11.6 14.8 16.7 16.7 19.4 23.2 21.3 23.4 23.7 23.2 26.6 25.8 24.6 20.6 22.7 22.7 18.0 12.2 12.7 11.2																									Diurnal Average		
66.2 61.5 65.2 72.7 77.1 81.0 83.5 89.1 95.2 97.3 92.4 67.0 82.6 79.3 101.1 95.7 68.2 57.1 101.9 72.2 47.5 51.8 58.0 66.9																									Diurnal Maximum		
C - Calibration																											

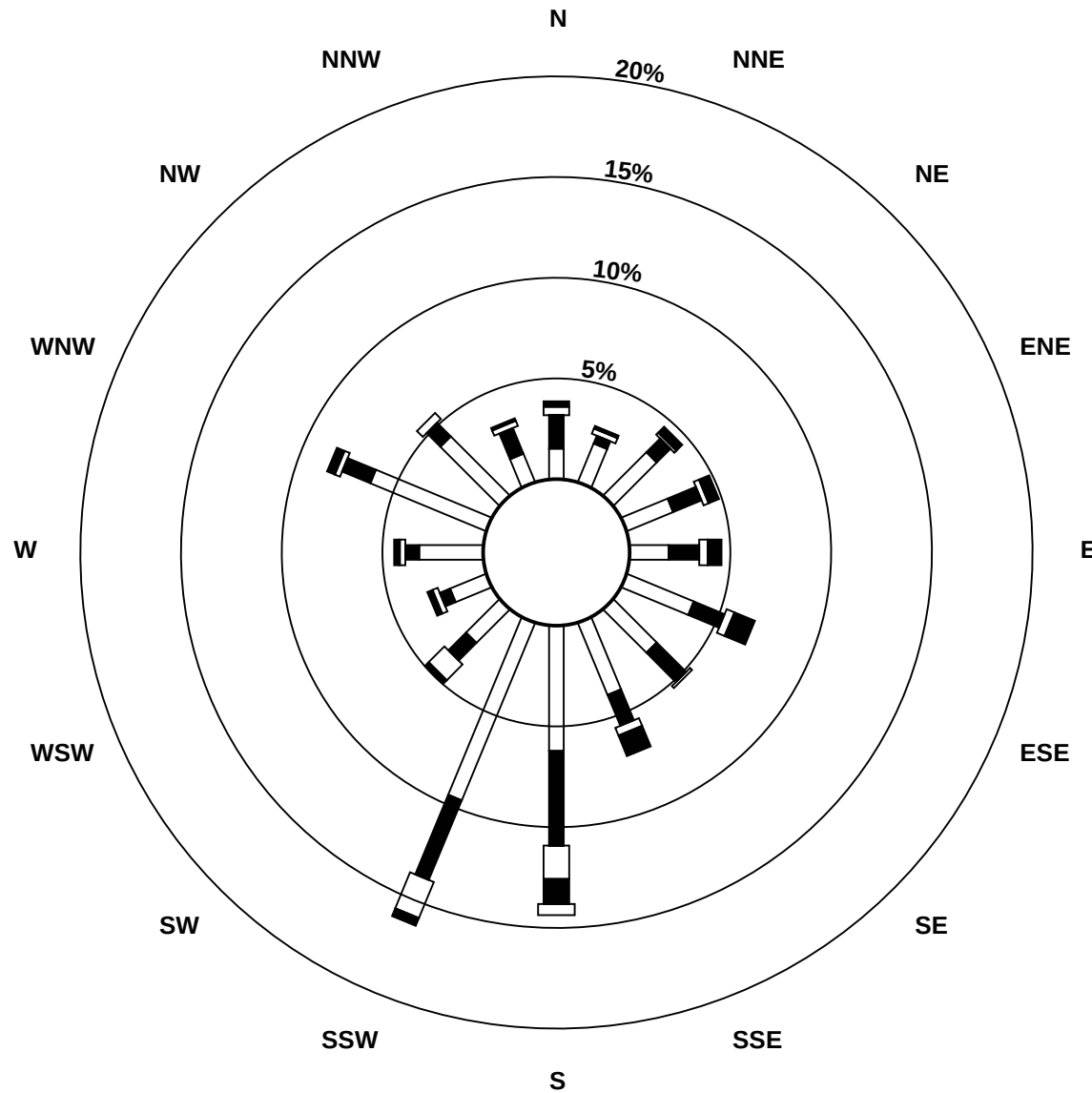
Hourly Maximums

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

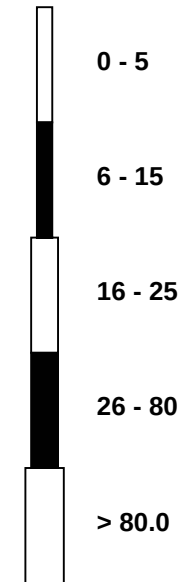


Pollutant Rose

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



Pollutant Classes ($\mu\text{g}/\text{m}^3$)



Hourly Averages

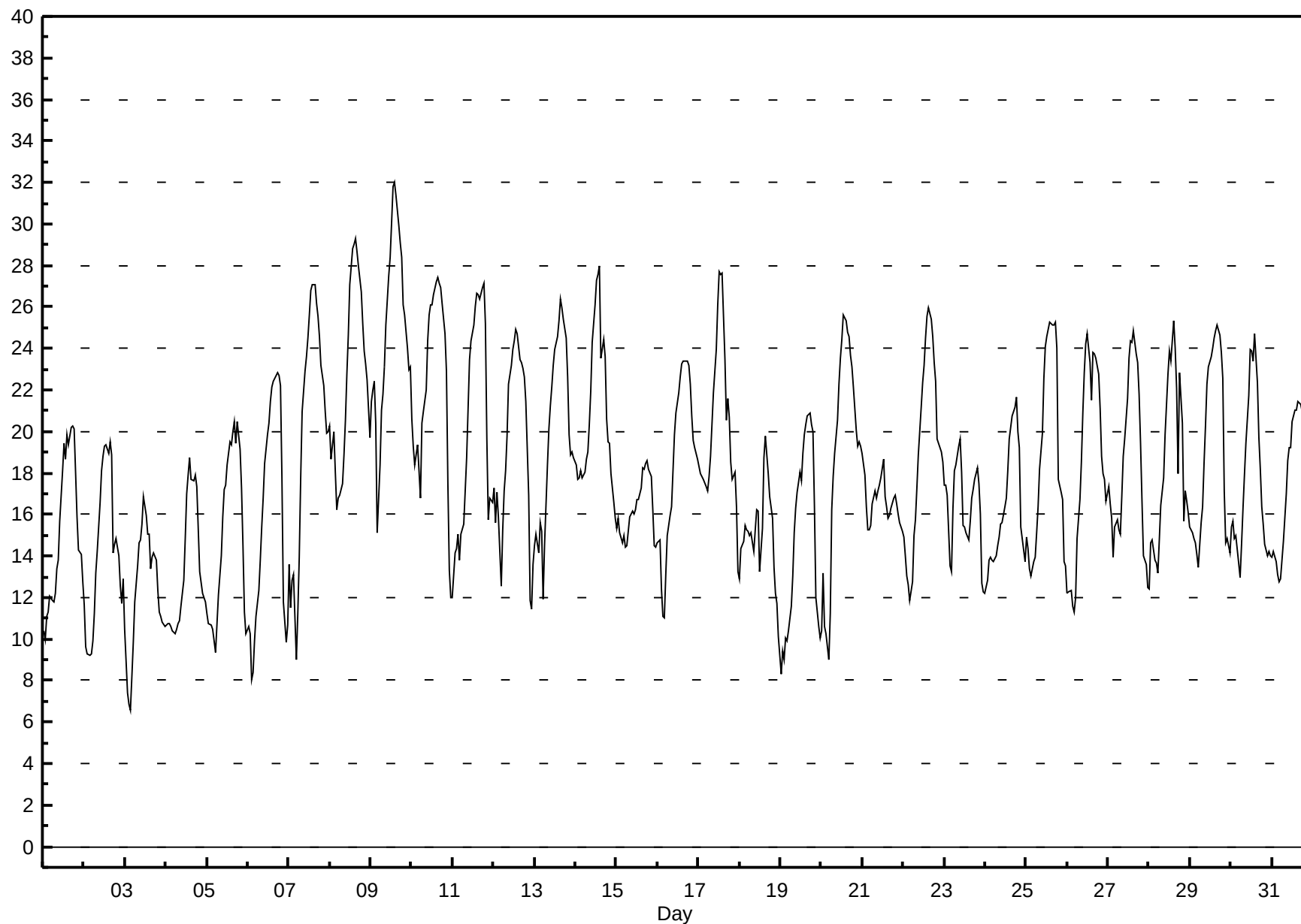
External Temperature (ET) - °C

Sunset House - July 2012

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 32.0 °C on Jul 9 15:00 Maximum Daily Average: 25.0 °C on Jul 9																					Hours in Service: 744 Hours of Data: 744 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0					
Minimum Value: 7 °C on Jul 3 04:00 Maximum Diurnal Average: 22.9 °C at hour 15 Monthly Average: 17.95 °C										Minimum Daily Average: 12.2 °C on Jul 3 Minimum Diurnal Average: 13.0 °C at hour 5 Percentiles: P ₁ = 9.0 P ₁₀ = 11.7 Q ₁ = 14.4 Median = 17.6 Q ₃ = 21.6 P ₉₀ = 24.7 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-Jul	10	10	11	11	12	12	12	12	13	14	16	18	19	19	20	19	20	20	20	18	16	14	14	13	15.2	20.3
2-Jul	12	10	9	9	9	10	11	13	14	17	18	19	19	19	19	19	19	14	15	15	14	13	12	13	14.2	19.5
3-Jul	10	7	7	7	8	10	12	14	15	15	16	17	16	15	15	13	14	14	14	12	11	11	11	11	12.2	16.9
4-Jul	11	11	11	11	10	10	10	11	11	12	13	15	17	18	19	18	18	18	17	15	13	12	12	12	13.5	18.7
5-Jul	11	11	11	10	10	9	11	12	14	16	17	17	18	19	19	20	20	19	20	19	17	15	11	10	15.0	20.5
6-Jul	11	10	8	8	10	11	12	14	15	17	18	20	20	21	22	22	23	23	23	22	18	12	10	11	15.9	22.8
7-Jul	14	12	13	13	9	11	14	18	21	23	24	24	26	27	27	27	26	26	25	23	22	21	20	20	20.2	27.1
8-Jul	20	19	20	18	16	17	17	18	19	21	23	25	27	29	29	29	29	28	27	25	24	23	22	20	22.6	29.3
9-Jul	21	22	22	20	15	18	21	22	23	25	27	28	30	32	32	31	30	29	28	26	26	24	23	23	25.0	32.0
10-Jul	21	19	18	19	18	17	20	21	22	24	26	26	26	27	27	27	27	27	26	25	23	18	13	12	22.1	27.4
11-Jul	12	14	14	15	14	15	16	17	19	21	23	24	25	26	27	27	26	27	27	25	20	16	17	17	20.1	27.2
12-Jul	17	16	17	16	13	15	17	18	20	22	23	24	24	25	25	23	23	23	23	21	17	12	11	14	19.2	24.9
13-Jul	14	15	14	16	15	12	15	18	20	21	22	23	24	25	25	26	26	25	25	23	20	19	19	19	20.1	26.4
14-Jul	18	18	18	18	18	18	19	19	20	22	24	26	27	28	28	24	24	24	21	20	19	18	17	16	20.9	28.0
15-Jul	15	16	15	15	15	14	15	15	16	16	16	16	17	17	17	18	18	18	19	18	18	16	14	14	16.2	18.6
16-Jul	15	15	12	11	11	13	15	16	16	18	20	21	22	23	23	23	23	23	23	22	21	20	19	19	18.5	23.4
17-Jul	18	18	18	18	17	17	18	19	20	22	24	26	28	28	28	23	21	22	21	19	18	18	16	13	20.3	27.7
18-Jul	13	14	15	15	15	15	15	15	14	15	16	16	13	15	19	20	19	18	17	16	13	12	12	10	15.2	19.7
19-Jul	8	9	9	10	10	10	12	13	15	16	17	18	18	19	20	20	21	21	20	20	16	12	11	10	14.8	20.9
20-Jul	10	13	11	10	9	11	16	18	19	21	22	24	24	26	25	25	25	24	23	22	20	19	20	19	19.0	25.6
21-Jul	19	18	16	15	15	15	17	17	17	17	17	18	19	17	16	16	16	16	17	17	17	16	16	15	16.6	19.0
22-Jul	15	14	13	13	12	13	15	16	17	19	21	22	23	25	26	26	25	25	23	22	20	19	19	19	19.2	26.0
23-Jul	17	17	17	14	13	16	18	18	19	20	18	15	15	15	15	16	17	17	18	18	18	16	13	12	16.4	19.6
24-Jul	12	13	14	14	14	14	14	14	15	16	16	16	17	18	20	20	21	21	22	20	19	15	14	14	16.3	21.6
25-Jul	15	14	13	13	14	14	15	16	18	20	23	24	25	25	25	25	25	25	24	18	17	17	14	14	18.9	25.3
26-Jul	12	12	12	12	11	12	15	17	19	21	23	24	25	23	21	24	24	24	23	21	19	18	18	17	18.6	24.7
27-Jul	17	17	16	14	15	16	15	15	17	19	20	22	24	24	24	25	24	23	22	19	17	14	14	12	18.5	24.8
28-Jul	12	15	15	14	14	13	15	16	18	20	21	23	24	23	25	24	22	18	23	20	16	17	17	16	18.4	25.4
29-Jul	15	15	15	15	14	13	16	16	18	20	22	23	24	24	25	25	25	25	24	23	17	15	15	14	19.1	25.1
30-Jul	15	16	15	15	14	13	15	16	18	19	22	24	24	23	25	22	20	18	16	16	15	14	14	14	17.6	24.7
31-Jul	14	14	14	13	13	13	14	15	17	19	19	19	20	21	21	21	21	21	21	20	16	12	12	10	16.7	21.5
14.5 14.3 14.0 13.6 13.0 13.5 15.0 16.1 17.4 18.9 20.2 21.3 22.0 22.4 22.9 22.6 22.3 21.8 21.4 20.0 17.9 16.0 15.1 14.6																									Diurnal Average	
21.4 22.0 22.4 20.4 18.1 18.4 21.0 21.8 23.1 25.1 27.5 28.4 30.0 31.8 32.0 31.4 29.9 29.1 28.4 26.1 25.6 24.1 22.9 23.1																									Diurnal Maximum	

Hourly Averages

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



Hourly Averages

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

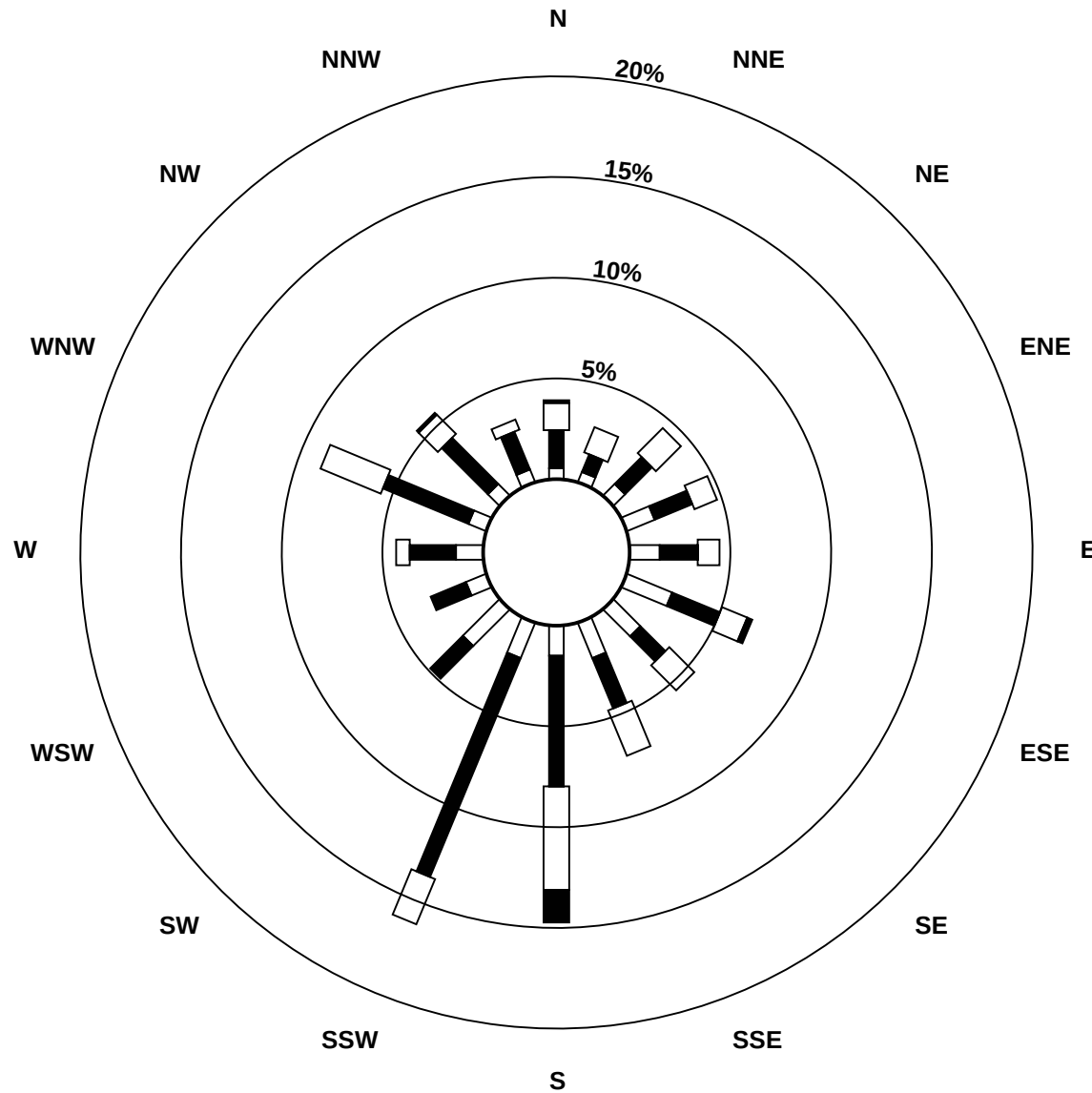
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1 Spd	5	6	5	3	4	5	7	5	6	5	7	5	4	7	7	9	7	6	6	6	8	9	8	9	3.8	9.3
Dir	147	168	172	175	232	218	205	231	274	271	290	276	291	320	291	306	293	245	261	206	186	190	192	311	243.8	306.4
2 Spd	6	5	7	7	8	6	8	6	4	3	1	3	5	2	4	5	4	9	7	3	3	5	8	11	3.6	10.8
Dir	162	155	195	200	195	182	184	212	242	277	268	141	156	74	323	325	360	169	122	145	205	165	158	164	178.1	164.1
3 Spd	1	2	4	3	6	7	7	12	12	12	14	15	16	14	12	13	15	13	8	16	12	13	13	14	7.0	16.4
Dir	231	66	81	100	74	63	74	65	70	49	33	37	50	53	28	44	34	35	307	307	319	322	292	292	24.7	50.2
4 Spd	9	10	10	14	11	10	11	11	10	9	10	10	13	16	18	17	16	14	12	11	11	7	7	5	10.9	18.0
Dir	284	288	279	288	285	277	281	283	281	269	256	261	276	282	282	284	280	275	269	303	316	299	257	218	280.0	282.2
5 Spd	7	8	8	6	8	9	8	8	8	8	7	6	10	7	7	7	6	4	2	1	8	8	5	9	5.2	10.0
Dir	222	211	205	210	208	204	209	217	252	278	291	251	206	243	285	308	324	323	56	169	201	214	177	190	229.3	206.1
6 Spd	12	9	9	10	11	12	12	10	9	9	10	9	8	9	9	9	8	6	5	3	4	4	3	7	4.5	12.3
Dir	182	195	177	179	189	182	186	197	206	207	201	209	281	282	285	304	304	326	341	48	112	110	77	110	207.0	181.7
7 Spd	10	9	11	8	3	5	5	5	6	7	8	11	10	9	7	11	14	15	14	13	15	13	11	12	7.5	15.0
Dir	118	128	155	140	118	209	156	40	40	46	70	36	39	37	65	50	57	58	67	89	98	94	101	124	82.5	98.3
8 Spd	13	10	16	11	12	13	13	12	9	10	7	6	3	1	2	4	7	9	10	11	12	13	12	7	5.5	16.4
Dir	160	193	173	191	194	192	197	201	215	197	203	210	218	289	140	33	63	57	70	90	95	100	106	93	155.5	172.9
9 Spd	10	12	15	8	2	13	15	14	9	6	5	6	5	1	7	11	12	12	10	9	11	15	16	16	6.0	16.0
Dir	132	139	163	188	230	176	183	194	200	196	226	214	205	222	30	43	54	71	66	79	129	110	112	127	136.9	112.0
10 Spd	1	6	7	10	9	7	11	12	10	8	11	17	18	17	14	13	12	12	11	9	5	3	4	7	5.5	17.6
Dir	253	135	155	194	176	188	199	205	208	236	274	301	302	309	306	293	285	282	297	315	286	185	133	147	260.7	301.9
11 Spd	7	4	6	8	9	9	12	9	9	7	8	11	10	9	8	10	9	5	1	2	6	5	5	5	3.2	11.6
Dir	168	227	213	214	195	201	193	209	200	214	279	291	297	299	306	323	342	16	0	154	129	124	131	147	232.1	193.1
12 Spd	3	8	3	3	6	9	8	8	8	6	12	13	15	13	15	15	15	12	11	8	3	4	7	8	3.4	15.3
Dir	175	163	195	205	188	189	202	202	212	254	287	285	287	279	316	313	352	345	343	351	65	112	101	98	284.8	315.6
13 Spd	10	11	11	12	12	3	6	13	12	10	8	7	9	7	5	6	10	9	8	8	8	12	16	18	7.4	18.5
Dir	101	102	98	108	112	237	162	149	152	179	193	117	115	119	104	56	42	37	58	93	120	157	156	165	124.2	164.6
14 Spd	20	18	18	17	17	16	18	19	18	14	9	8	7	8	7	17	17	23	7	12	13	6	7	5	10.0	23.3
Dir	175	183	176	178	180	179	183	186	191	187	175	193	226	198	152	66	98	117	109	125	149	228	33	46	163.1	117.4
15 Spd	3	5	3	6	8	4	9	14	16	15	13	15	19	19	16	16	14	12	12	13	11	10	14	10	10.2	18.9
Dir	77	54	134	163	108	323	34	47	37	38	39	36	24	29	24	30	24	11	16	0	3	40	68	69	35.0	24.0
16 Spd	9	7	2	1	4	6	9	10	11	12	16	17	17	19	21	20	18	17	16	12	14	17	24	24	12.6	24.2
Dir	94	98	88	115	147	192	188	192	184	188	194	190	184	187	179	177	180	184	188	177	169	168	175	176	177.7	176.1
17 Spd	24	22	23	23	22	21	21	19	17	17	11	7	4	9	5	3	7	17	13	3	14	9	4	6	11.5	24.3
Dir	177	179	178	178	179	181	181	189	193	195	200	202	206	176	157	89	121	154	311	125	182	185	357	142	180.4	177.5
18 Spd	8	12	13	17	17	17	11	9	13	20	16	6	15	8	10	13	12	15	20	14	8	4	5	1	4.1	19.8
Dir	179	194	180	175	182	188	197	251	332	1	6	234	197	199	276	294	344	329	311	318	347	337	300	224	266.0	0.9
19 Spd	4	6	7	6	4	4	5	6	9	9	10	11	12	10	12	9	9	8	9	5	4	5	6	4	3.3	11.6
Dir	186	198	193	204	223	248	268	254	288	290	299	286	301	309	318	330	319	353	33	19	105	115	118	113	295.4	301.1
20 Spd	6	8	5	6	4	4	8	12	8	13	16	18	16	12	17	18	16	17	18	13	6	10	15	16	11.3	18.0
Dir	125	140	124	127	79	109	151	144	164	142	145	148	133	141	165	159	151	124	153	147	95	121	133	139	141.3	147.9
21 Spd	14	4	2	2	3	4	2	0	1	3	6	6	9	5	6	7	7	6	5	5	5	6	5	6	1.9	13.8
Dir	140	85	70	94	70	71	98	216	223	272	285	308	355	269	257	241	227	209	211	203	200	189	182	188	209.6	139.5
22 Spd	8	9	7	8	7	9	12	13	10	9	6	8	9	5	4	3	3	7	4	7	9	13	15	14	5.4	14.9
Dir	188	187	177	183	170	177	189	193	213	212	207	190	195	189	170	250	71	42	71	88	85	100	104	110	160.5	103.5

FOCUS
AIR QUALITY MONITORING

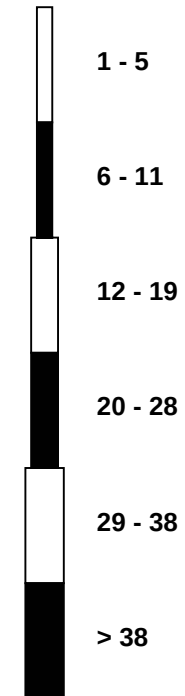
Wind Rose

Wind Speed (WS) (km/h)

Sunset House - July 2012



Wind Speed Classes (km/h)



Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Sunset House - July 2012

Maximum Speed: 24 km/h on Jul 17 01:00																				Maximum Daily Speed Average: 14.4 km/h on Jul 17										Hours in Service: 744	
Minimum Speed: 2 km/h on Jul 21 08:00																				Minimum Daily Speed Average: 5.5 km/h on Jul 21										Hours of Data: 744	
Maximum Diurnal Speed Average: 11.1 km/h at hour 16																				Minimum Diurnal Speed Average: 8.9 km/h at hour 6										Hours of Missing Data: 0	
Monthly Average Speed: 9.77 km/h																				Percentiles: P ₁ = 3.0 P ₁₀ = 4.9 Q ₁ = 6.4 Median = 9.1 Q ₃ = 12.3 P ₉₀ = 15.8 P ₉₉ = 21.2										Percent Operational Time: 100.0	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24							
1-Jul	5	7	5	4	5	5	7	5	7	5	7	6	6	8	8	10	8	7	7	6	8	9	9	9	6.9	9.6					
2-Jul	7	5	7	7	8	6	8	6	4	5	6	6	7	5	5	6	4	13	7	4	5	7	9	11	6.6	13.4					
3-Jul	4	3	5	4	7	7	7	12	13	12	14	15	17	15	12	14	15	13	8	16	13	14	13	14	11.2	16.7					
4-Jul	10	11	10	14	11	10	12	11	10	10	10	10	13	16	18	17	16	14	12	13	12	8	8	6	11.8	18.4					
5-Jul	7	8	8	6	8	9	9	9	9	9	9	7	11	9	9	8	6	5	3	4	8	9	6	9	7.6	10.8					
6-Jul	12	10	9	10	11	12	12	10	10	10	10	10	9	10	10	9	9	7	5	3	4	5	3	7	8.7	12.3					
7-Jul	10	9	11	8	3	5	5	5	6	7	8	11	11	10	8	11	15	15	14	13	15	13	11	12	9.9	15.1					
8-Jul	13	11	16	12	12	13	13	12	9	11	8	6	5	4	4	6	8	9	10	12	12	13	12	8	10.0	16.4					
9-Jul	10	12	15	9	4	13	15	14	9	6	5	7	6	4	8	11	12	12	10	9	12	15	16	16	10.5	16.3					
10-Jul	6	8	8	11	9	7	11	12	10	9	11	17	18	17	15	13	12	12	12	9	6	4	5	7	10.4	17.8					
11-Jul	7	5	7	8	10	10	12	9	9	7	9	11	10	10	9	11	10	6	3	3	6	5	6	5	7.8	11.8					
12-Jul	5	9	5	4	6	9	8	8	8	7	12	14	15	14	16	15	15	12	11	8	3	5	7	8	9.4	15.7					
13-Jul	10	11	11	12	12	5	6	13	12	11	8	9	11	9	8	7	10	9	8	9	8	13	16	19	10.3	18.6					
14-Jul	20	18	18	17	17	17	18	19	18	14	9	9	8	9	11	18	19	24	9	13	15	7	9	6	14.2	23.6					
15-Jul	5	7	5	6	9	5	10	15	16	15	13	15	19	19	16	16	15	13	12	14	11	13	14	11	12.2	19.1					
16-Jul	10	8	3	2	4	6	9	10	11	12	16	18	18	20	21	20	19	18	16	12	14	17	24	24	13.8	24.3					
17-Jul	24	22	23	23	22	21	21	19	17	17	11	8	7	10	7	5	8	17	14	9	15	11	8	7	14.4	24.4					
18-Jul	8	12	13	17	17	17	11	10	16	20	17	7	16	12	11	13	13	16	20	15	8	4	6	2	12.8	20.4					
19-Jul	5	6	7	6	4	4	5	7	9	10	10	11	12	10	12	10	9	9	6	4	5	6	4	4	7.6	12.2					
20-Jul	6	8	5	6	5	5	8	12	9	13	17	19	17	14	18	19	16	17	18	13	7	10	15	17	12.2	18.7					
21-Jul	14	6	3	3	3	4	3	2	3	3	6	6	9	7	6	8	7	6	5	5	5	6	5	6	5.5	13.9					
22-Jul	8	9	7	8	7	9	13	13	10	10	7	8	9	7	6	6	6	8	5	7	9	13	15	14	9.0	15.0					
23-Jul	10	9	8	9	11	12	15	12	10	10	11	6	4	5	5	5	5	8	8	15	11	14	11	5	9.1	15.5					
24-Jul	8	12	18	15	12	9	7	7	11	14	14	10	11	10	12	14	12	9	9	6	3	4	5	5	9.8	18.3					
25-Jul	6	6	7	7	7	8	8	6	6	6	6	7	8	10	10	10	10	8	11	19	21	15	6	5	8.8	20.5					
26-Jul	5	5	3	5	4	4	5	6	6	4	5	6	5	6	6	9	11	11	11	10	11	12	15	16	7.5	15.6					
27-Jul	16	11	8	10	15	12	9	9	12	10	5	7	7	9	9	10	7	6	12	9	6	4	4	5	8.9	15.9					
28-Jul	6	11	10	8	11	9	10	8	7	7	9	7	7	6	8	8	11	5	3	3	6	9	11	9	8.0	10.8					
29-Jul	11	13	12	10	8	7	7	9	8	8	7	10	12	12	10	8	7	8	5	3	4	6	5	7	8.1	13.2					
30-Jul	10	10	8	11	7	5	6	12	9	10	6	5	7	10	8	11	6	8	12	14	14	14	13	12	9.5	14.3					
31-Jul	11	10	9	9	8	10	10	10	10	10	15	15	16	15	16	15	14	14	10	6	4	5	5	6	10.5	16.2					
9.3 9.3 9.2 9.1 9.0 8.9 9.7 10.1 9.8 9.8 9.8 9.8 10.6 10.3 10.4 11.1 10.8 10.9 9.7 9.3 9.0 9.4 9.6 9.4																									Diurnal Average						
24.4 22.0 22.9 23.1 21.6 20.6 20.6 19.3 17.7 20.4 17.3 18.7 19.1 19.7 21.3 20.3 18.9 23.6 20.1 19.4 20.5 17.4 23.9 24.3																									Diurnal Maximum						

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

Hourly Standard Deviations

Wind Direction (WD) - deg

Sunset House - July 2012

Maximum Value: 97.4 deg on Jul 3 01:00																			Hours in Service: 744						
Minimum Value: 3.1 deg on Jul 7 01:00																			Hours of Data: 744						
																			Hours of Missing Data: 0						
Percentiles: P ₁ = 4.0 P ₁₀ = 6.9 Q ₁ = 10.4 Median = 17.9 Q ₃ = 29.3 P ₉₀ = 49.2 P ₉₉ = 83.2																			Hours of Calibration: 0						
																			Percent Operational Time: 100.0						
Day	Hourly Period Ending At (MST)																								Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Maximum
1-Jul	19	22	29	41	35	17	13	20	27	26	28	61	64	31	37	15	32	38	35	13	7	10	31	32	64.3
2-Jul	30	24	14	10	12	42	20	22	37	60	91	64	65	83	55	39	27	57	18	44	49	50	40	8	91.3
3-Jul	97	48	50	39	29	16	14	9	14	12	11	9	10	16	9	29	9	17	19	8	22	21	12	10	97.4
4-Jul	15	14	20	11	15	15	15	14	19	28	19	20	17	13	12	15	14	18	18	34	16	37	28	16	37.4
5-Jul	12	11	10	12	6	8	10	15	24	30	39	41	27	43	44	32	35	25	58	73	9	21	26	7	72.6
6-Jul	5	15	5	6	7	4	5	12	14	17	20	30	27	23	26	25	25	30	29	44	19	26	29	12	43.9
7-Jul	3	6	5	10	35	23	19	22	13	17	24	16	22	21	31	23	14	8	10	8	5	5	7	14	34.8
8-Jul	12	28	5	26	13	7	9	10	15	16	28	29	62	97	62	69	17	8	10	7	6	4	5	31	97.3
9-Jul	13	10	8	19	57	6	6	8	16	20	27	28	39	80	48	14	10	9	6	7	26	10	10	6	79.5
10-Jul	87	48	22	21	14	9	8	8	10	27	17	11	8	12	14	13	13	14	15	14	40	44	30	16	86.8
11-Jul	10	37	28	22	24	24	10	18	15	17	31	20	21	31	34	26	27	50	75	81	8	10	20	20	81.2
12-Jul	69	17	49	32	17	7	9	11	14	29	13	16	11	17	13	13	16	13	13	8	35	23	9	7	69.2
13-Jul	4	4	5	3	4	53	39	4	8	19	21	38	29	40	63	53	10	10	11	11	22	8	5	6	63.2
14-Jul	7	5	5	6	5	4	4	6	7	12	23	30	37	30	52	25	24	9	74	34	33	47	52	29	74.3
15-Jul	61	58	50	26	47	56	12	9	7	7	9	8	7	7	7	8	9	13	13	7	9	38	14	19	61.2
16-Jul	19	51	46	80	26	15	11	9	10	11	13	12	16	12	13	16	12	11	9	11	6	6	5	6	80.4
17-Jul	5	6	5	5	4	4	5	6	8	9	20	33	59	30	48	64	32	15	28	83	20	40	83	19	83.4
18-Jul	21	8	11	6	7	8	8	35	37	15	25	47	13	53	30	16	22	17	12	23	9	33	29	58	57.5
19-Jul	28	11	9	10	18	22	32	27	18	22	19	22	13	22	19	29	23	33	20	14	21	21	10	16	32.5
20-Jul	8	6	11	19	47	32	9	7	23	19	14	16	22	24	13	17	17	10	11	12	15	11	7	7	46.6
21-Jul	7	55	48	38	18	23	47	78	82	36	18	19	21	53	28	18	12	12	12	9	11	9	27	14	82.2
22-Jul	8	7	13	4	17	20	7	7	16	16	29	23	31	56	62	63	68	13	26	14	10	7	4	7	67.7
23-Jul	10	14	34	11	7	11	5	10	7	13	65	55	72	36	44	50	26	16	11	7	20	58	67	74	74.3
24-Jul	15	10	8	10	17	10	16	26	22	11	11	19	19	17	22	22	17	19	27	9	66	10	18	19	66.1
25-Jul	36	27	9	12	7	7	8	19	20	29	50	38	29	18	24	23	21	16	18	15	10	71	84	52	83.7
26-Jul	33	35	28	18	37	24	21	15	21	50	61	56	62	50	34	24	20	20	20	9	8	6	5	10	61.7
27-Jul	7	5	17	20	5	8	14	11	11	16	34	36	37	24	21	28	40	40	36	11	41	34	29	13	40.8
28-Jul	21	5	12	15	7	6	7	16	14	18	19	32	40	48	30	23	14	62	56	24	36	15	16	9	61.8
29-Jul	5	4	10	14	19	11	14	18	26	40	36	24	14	22	25	38	30	20	22	32	24	22	36	56	56.3
30-Jul	17	21	24	8	51	16	17	8	14	19	66	73	38	27	38	22	38	31	7	6	6	6	5	6	72.8
31-Jul	7	10	18	8	9	11	15	13	24	21	12	19	19	19	15	16	18	12	12	25	36	22	20	14	36.3
97.4 58.3 50.3 80.4 56.7 56.0 47.4 78.4 82.2 59.9 91.3 72.8 71.8 97.3 63.2 68.7 67.7 61.8 74.6 83.0 66.1 70.7 83.7 74.3																									

PAZA

Monthly Passive Data Summary

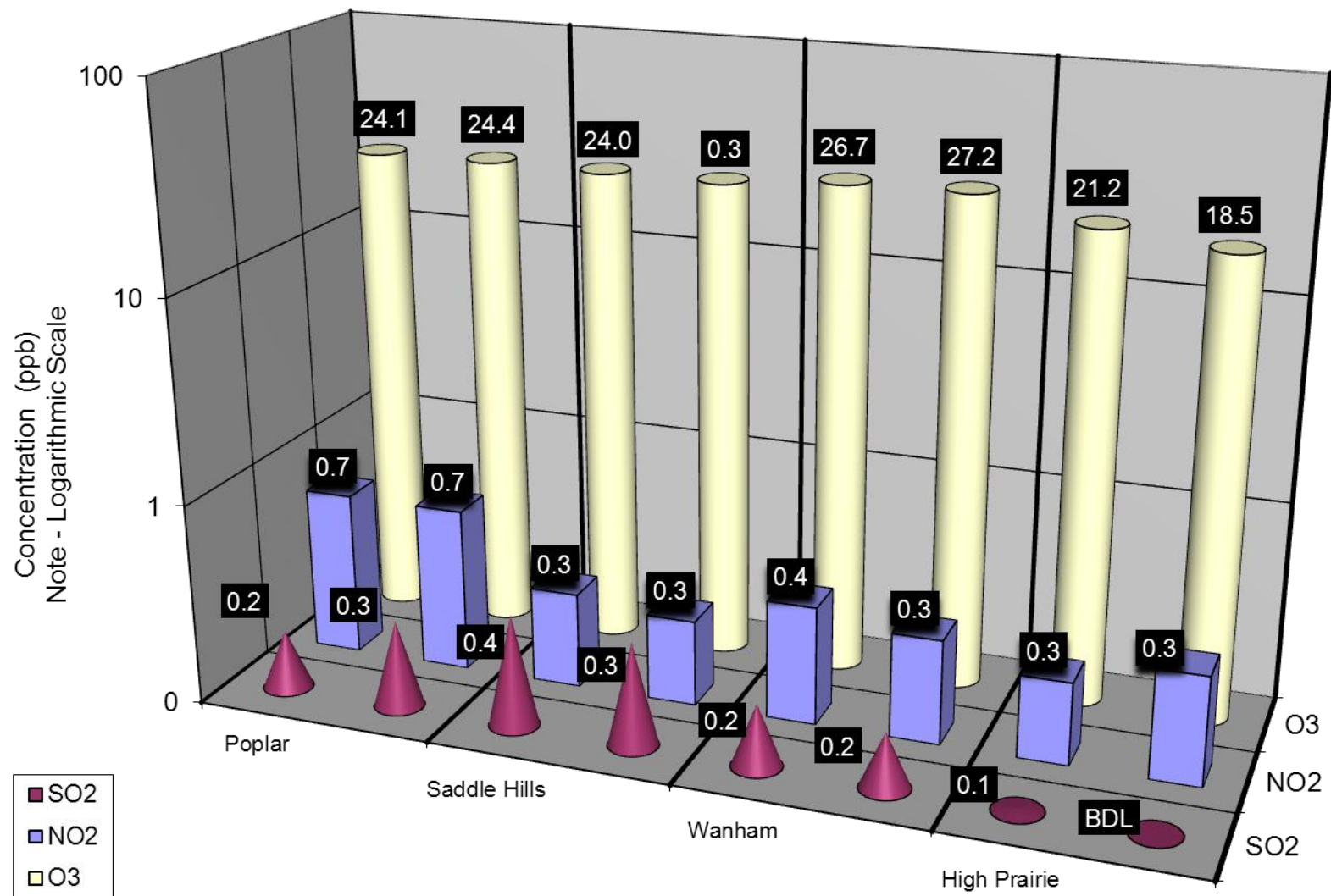
This map displays the Peace River region, including parts of Alberta and Saskatchewan. It features a network of roads (red lines with route numbers like 64, 49, 2, 2A, 43, 40, 33) and water bodies (blue lines for rivers and creeks, and blue outlines for lakes). A thick magenta line delineates a specific area of interest. Numerous monitoring sites are marked with grey circles and labeled with names such as Silver Valley, Forth Creek, Spirit River, Rycroft, Wapiti, and others. A legend in the top right corner identifies the grey circles as 'Passive Air Monitoring Site'. The map is overlaid with a coordinate grid with UTM Easting (287000 to 587000) and Northing (6030000 to 6280000) values.

PAZA Passive Results for July 2012

Station Number	Station Name	SO2 ppb	O3 ppb	NO2 ppb	H2S ppb	Site Legal
Duplicates						
17a	Poplar	0.2	24.1	0.7		
17b	Poplar	0.3	24.4	0.7		
18a	Saddle Hills	0.4	24.0	0.3		
18b	Saddle Hills	0.3	24.0	0.3		
19a	Wanham	0.2	26.7	0.4		
19b	Wanham	0.2	27.2	0.3		
43a	High Prairie	0.1	21.2	0.3		
43b	High Prairie	BDL	18.5	0.3		
63a	Girouxville 3				0.2	
63b	Girouxville 3				0.3	
1	Silver Valley	0.2	23.2	0.5		08-27-081-11 W6M
2	Bay Tree	0.1	21.2	0.3		13-16-078-13 W6M
3	Fourth Creek	0.2	31.7	0.3		04-13-082-07 W6M
4	Gordondale	0.2	27.9	0.4		04-34-078-10 W6M
5	Boone Creek	0.2	25.4	0.4		16-36-074-11 W6M
7	Steeprock Creek	0.1	25.6	0.1		09-35-072-13 W6M
9	Spirit River	0.2	24.1	0.6		08-12-079-07 W6M
10	Woking	0.2	22.9	0.3		01-13-076-07 W6M
11	Webber Creek	0.2	23.6	0.8		09-36-074-09 W6M
12	Hythe	0.1	26.6	0.6		14-36-072-11 W6M
14	Sylvester	BDL	19.9	0.5		08-06-069-12 W6M
16	Beaverlodge	0.2	29.8	0.6		15-36-071-10 W6M
17	Poplar	0.2	24.2	0.7		13-06-073-08 W6M
18	Saddle Hills	0.3	24.0	0.3		04-25-074-07 W6M
19	Wanham	0.2	27.0	0.4		16-22-077-03 W6M
20	Shaftesbury	0.2	22.9	0.3		04-03-082-23 W5M
21	Eaglesham	0.3	22.5	0.6		16-21-079-25 W5M
23	Bear Lake	0.2	24.3	0.5		15-31-072-06 W6M

PAZA Passive Results for July 2012 (Continued)

24	Wembley	0.1	20.4	0.8		12-31-070-08 W6M
25	Pinto Creek	0.1	23.3	0.3		04-24-069-11 W6M
26	Flyingshot	0.2	21.4	0.5		15-36-070-07 W6M
27	Grande Prairie I	0.2	26.4	1.3		08-15-071-06 W6M
28	Clairmont Lake	0.2	22.9	0.3		09-06-073-04 W6M
29	Smoky Heights	0.3	33.2	0.4		04-06-075-02 W6M
30	Fitzsimmons	0.2	19.2	0.4		15-36-072-03 W6M
32	Gold Creek	0.1	19.0	0.4		06-33-067-05 W6M
33	Wapiti	0.2	20.4	0.5		02-25-071-03 W6M
34	Puskwaskau	BDL	16.1	0.1		15-35-074-25 W5M
35	Jean Cote	0.5	24.3	0.6		12-35-079-21 W5M
36	Guy	0.2	21.0	0.4		03-04-076-22 W5M
37	Crooked Creek	0.1	24.1	0.2		16-01-071-26 W5M
38	Karr Creek	0.1	17.6	0.2		10-16-065-02 W6M
39	Clouston Creek	0.2	22.6	0.3		12-01-073-22 W5M
40	McLennan	0.3	24.3	0.5		03-29-077-19 W5M
41	Valleyview	0.2	28.5	0.3		09-30-069-22 W5M
42	Sunset House	0.2	27.6	0.1		05-32-070-19 W5M
43	High Prairie	0.1	19.9	0.3		16-13-074-17 W5M
44	Peavine	0.2	17.4	0.3		03-05-079-15 W5M
45	Gift Lake	0.1	18.4	0.3	0.2	10-07-079-12 W5M
46	Little Smoky	0.2	24.0	0.4		12-01-065-21 W5M
47	Kinuso	0.1	20.5	0.1		12-10-073-10 W5M
48	Deer Mountain	0.2	18.3	0.3		15-22-068-09 W5M
49	Grande Prairie HP	0.2	30.4	1.0		17-26-071-06 W6M
62	East Prairie	BDL	19.9	0.3		13-02-072-15 W5M
63	Girouxville 3				0.3	14-02-077-23 W5M
64	Girouxville 4				0.2	4-08-077-22 W5M



Duplicate Summary Chart

Passive Summary for July 2012

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

Passive Summary for July 2012 (PAZA Zone)				
Mean	0.2	23.4	0.4	0.2
Standard Deviation	0.1	3.9	0.2	0.1
Minimum	0.1	16.1	0.1	0.2
Minimum At	Karr Creek (#38)	Puskwaskau (#34)	Puskwaskau (#34)	Gift Lake (#45)
Maximum	0.5	33.2	1.3	0.3
Maximum At	Jean Cote (#35)	Smoky Heights (#29)	Grande Prairie I (#27)	Girouxville 3

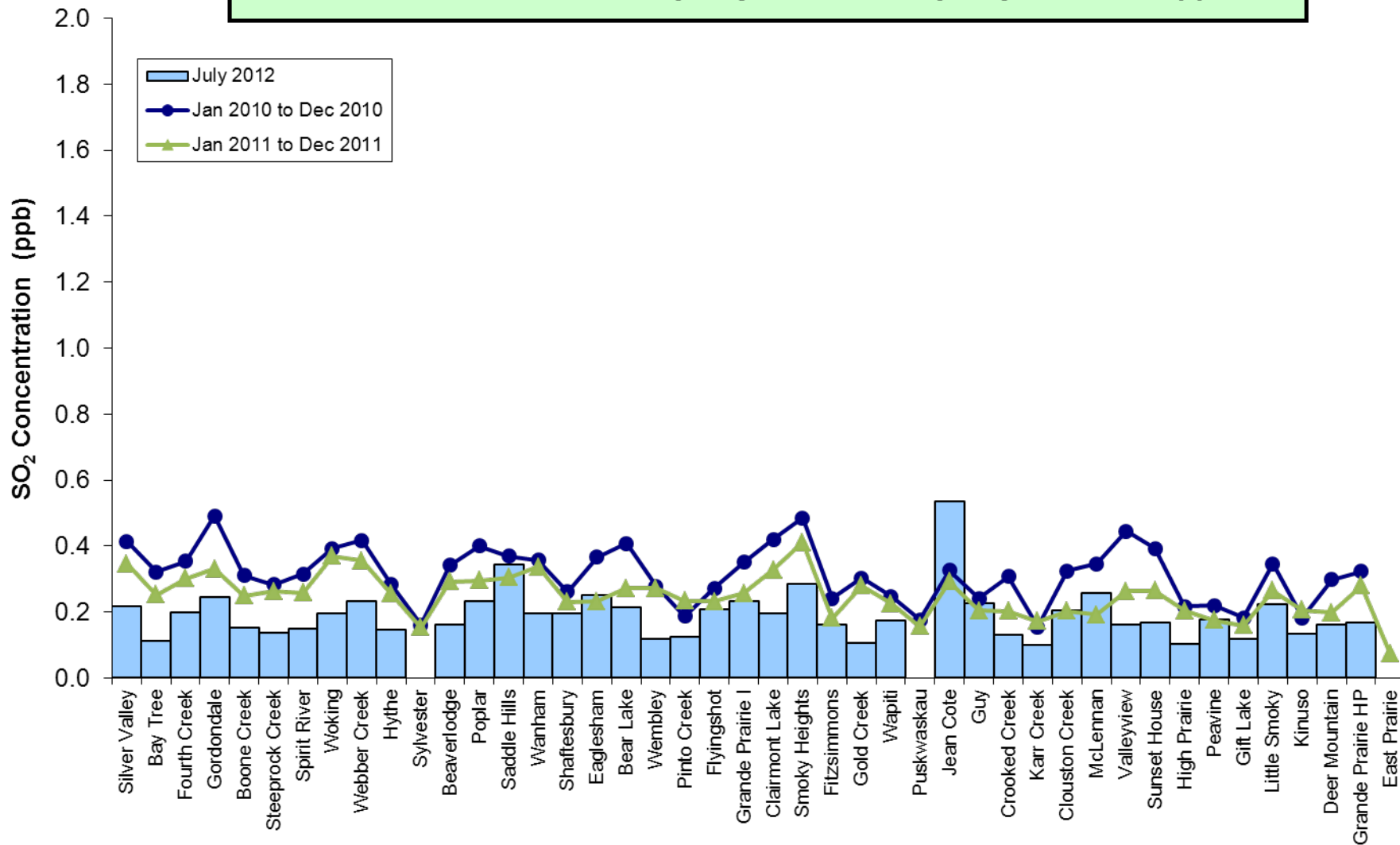
Comparison between Continuous and Passive monitoring at Beaverlodge (passive #16 Beaverlodge)

	SO ₂	O ₃	NO ₂
PAZA Beaverlodge station	0.2	31.0	2.2
PAZA Beaverlodge passive	0.2	29.8	0.6

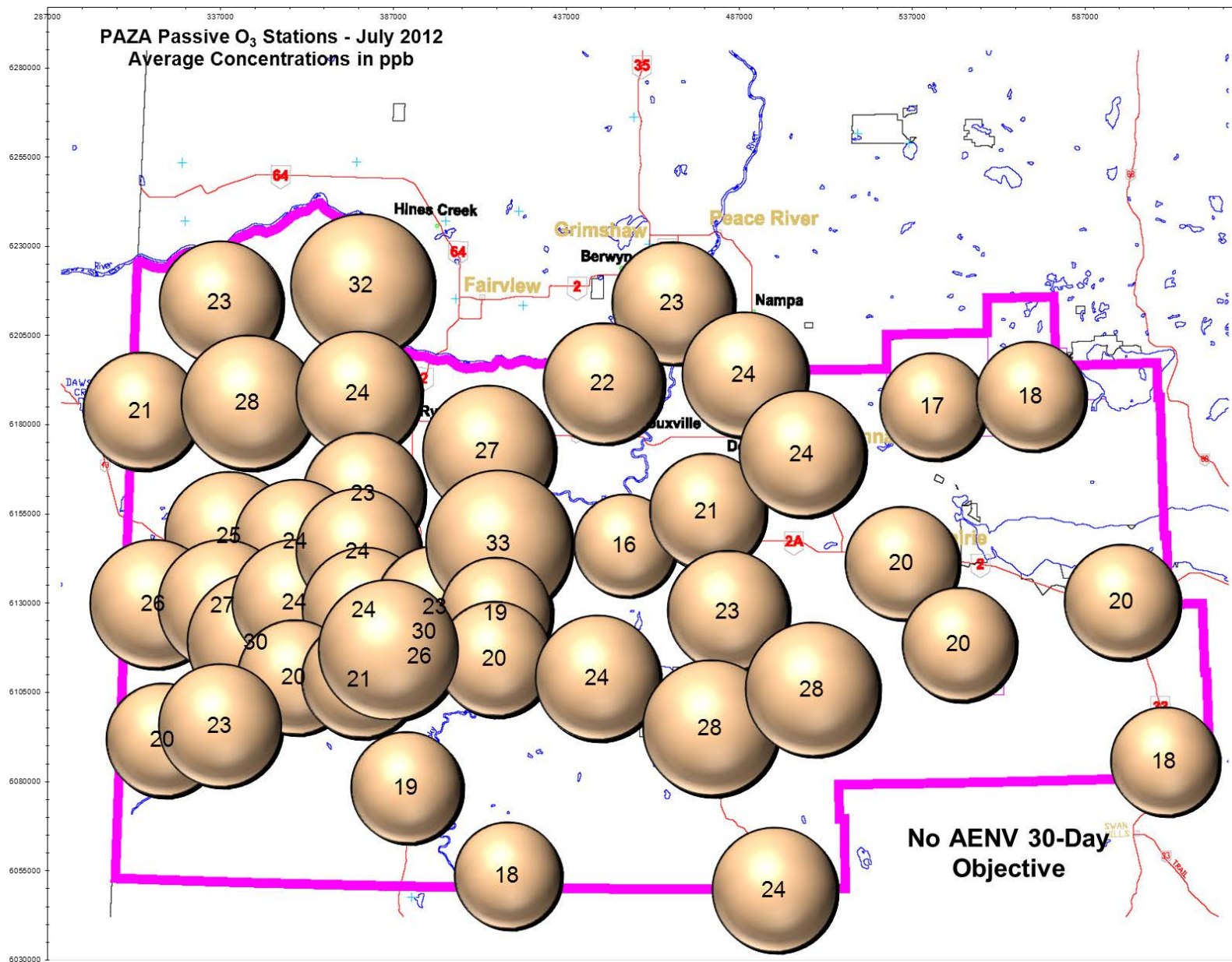
Comparison between Continuous and Passive monitoring at Henry Pirker (passive #49 Grande Prairie HP)

	SO ₂	O ₃	NO ₂
PAZA Henry Pirker station	0.1	22.5	3.7
PAZA Grande Prairie passive	0.2	30.4	1.0

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

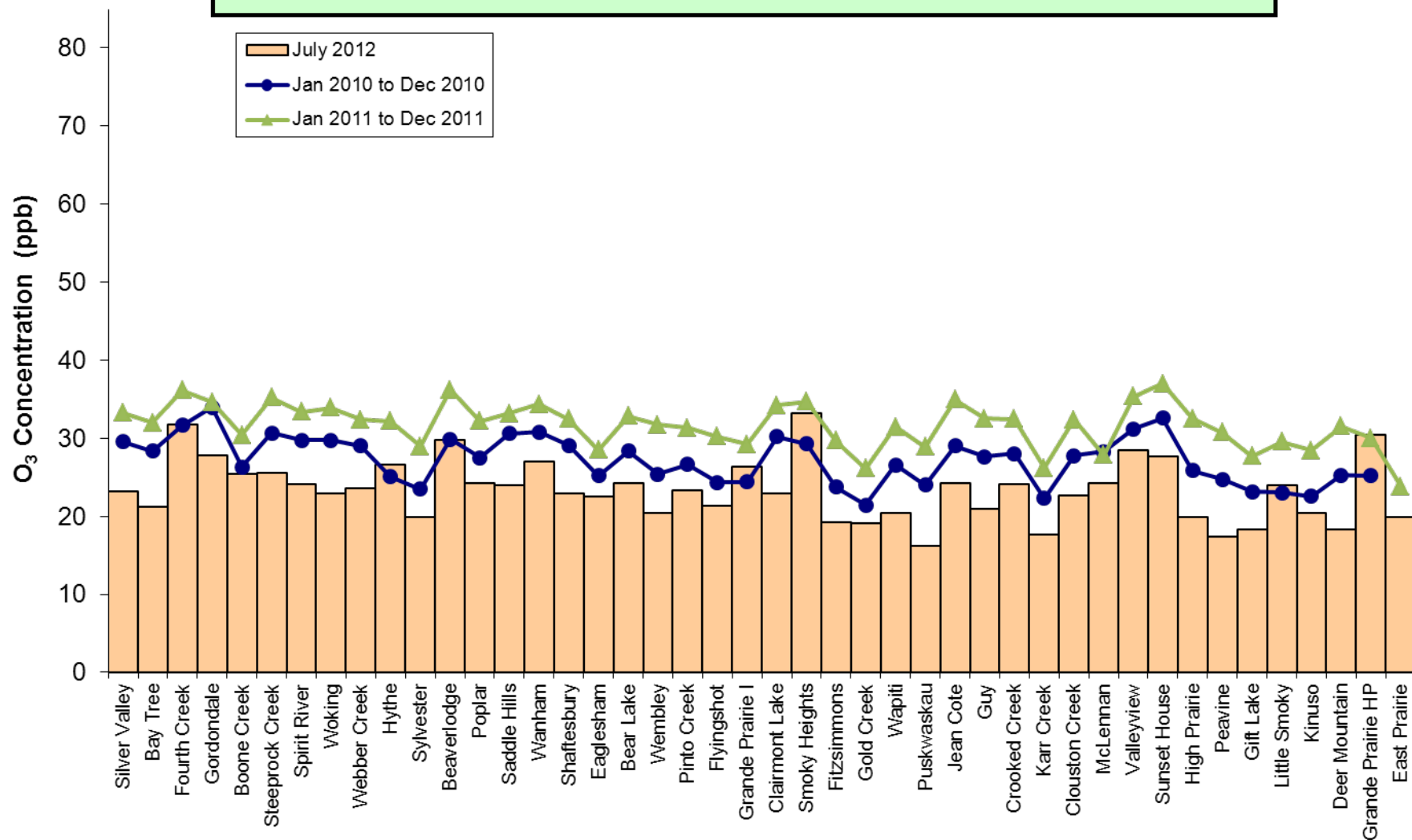


SO₂ Summary Chart

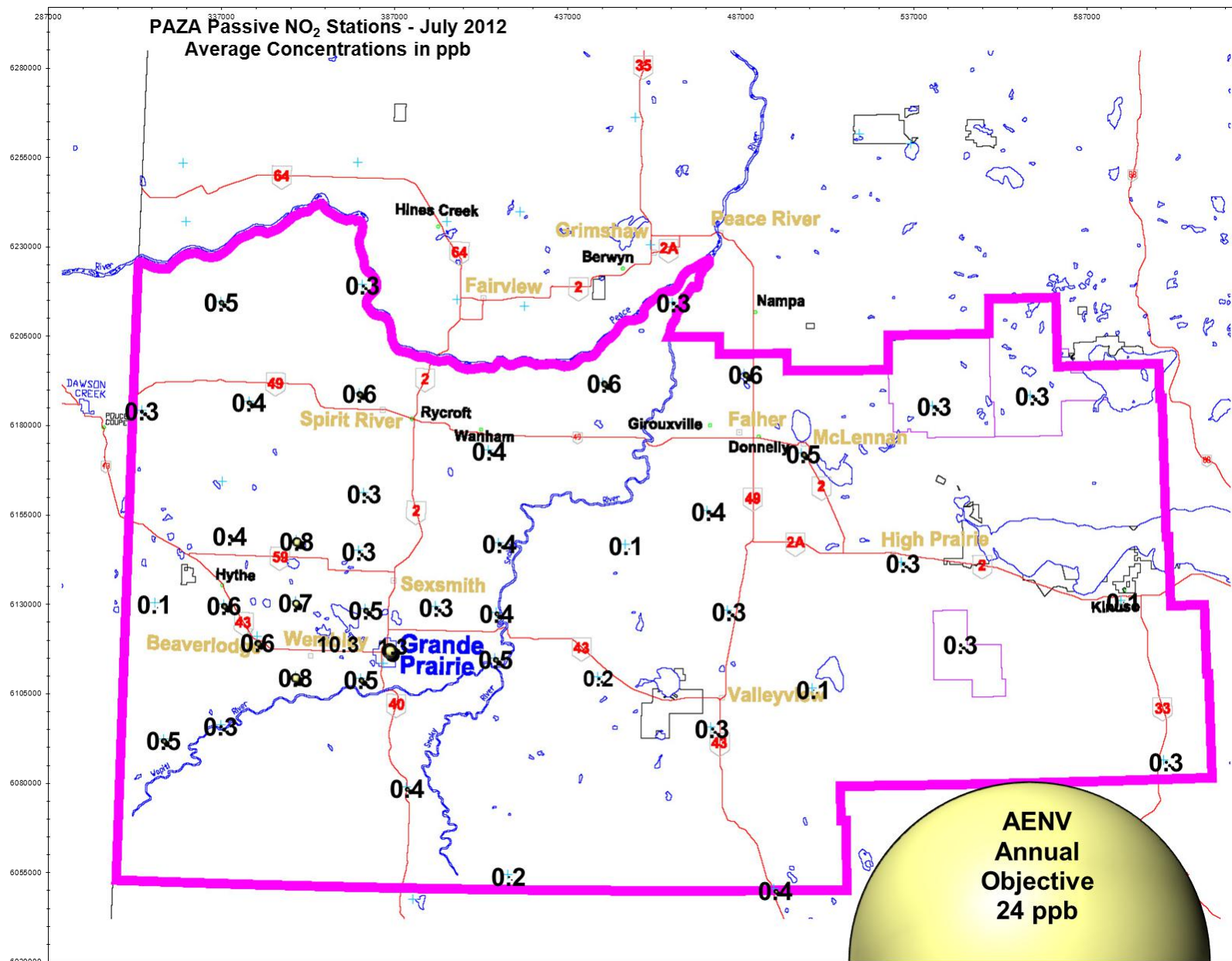


O₃ Bubble Chart

Alberta Ambient Air Quality Objective - No Annual O₃ Objective

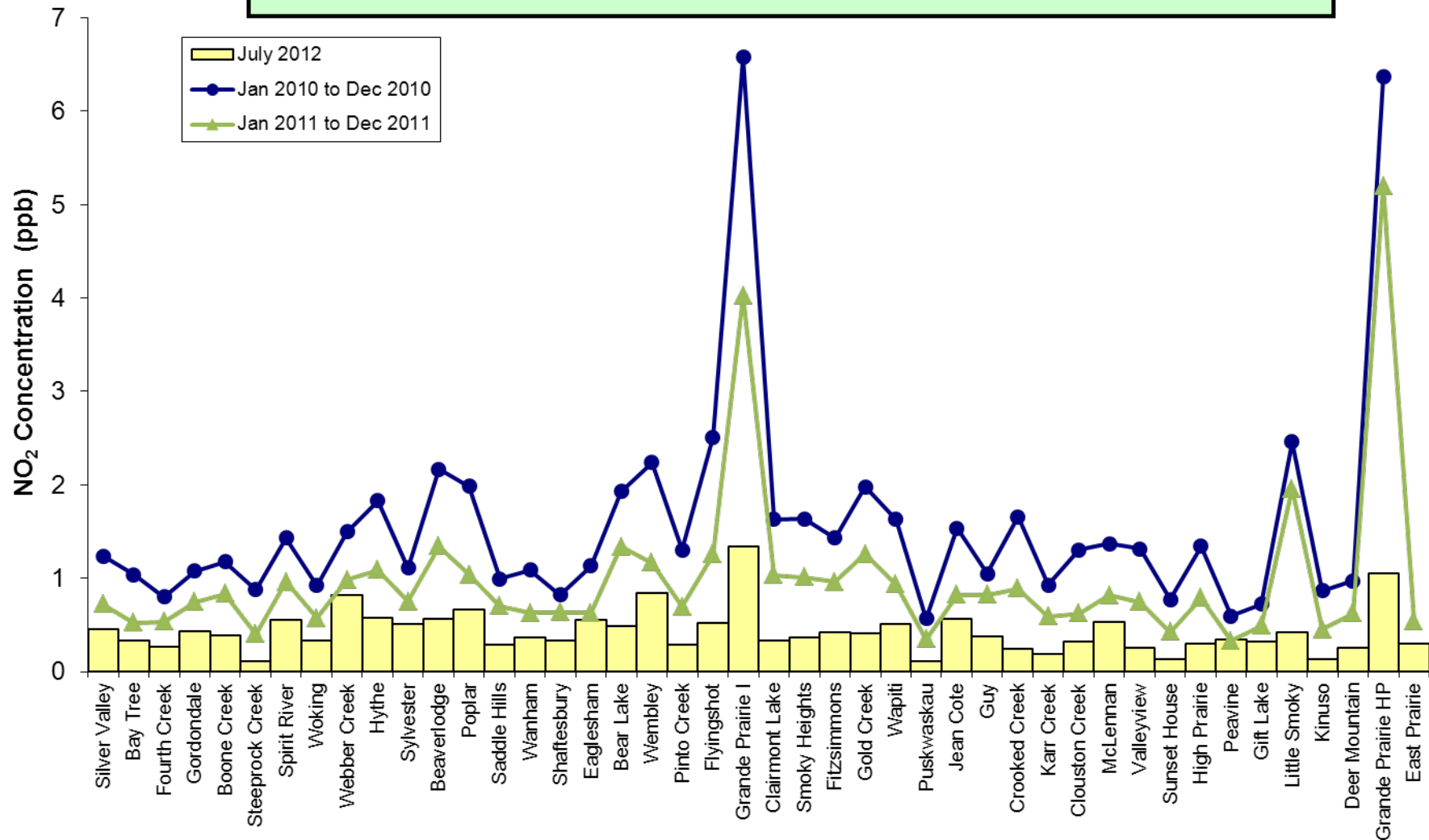


O₃ Summary Chart

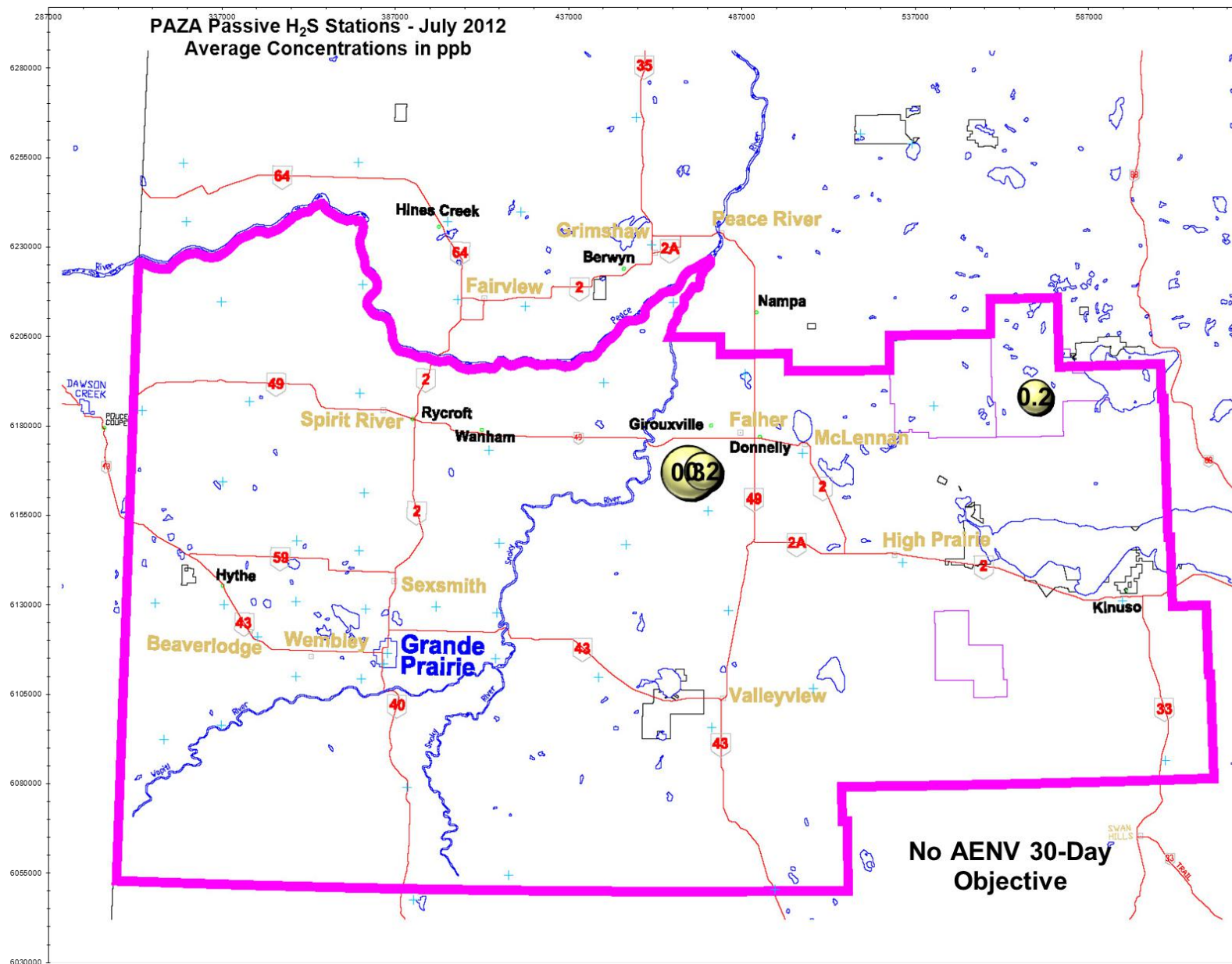


NO₂ Bubble Chart

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



NO₂ Summary Chart



H₂S Bubble Chart

PAZA

ALBERTA ENVIRONMENT AND SUSTAINABLE RESOURCES INCIDENCE REPORT

July 2012

Air Monitoring Directive Notification Report

Alberta Environment
 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:	260732	Reported To (AENV Contact):	Taryn
Date & Time Incident Reported to AENV:	July 14, 2012 01:40 MST	Reported By:	Tosh Hayashi
Reported on Behalf of:	PAZA	Approval Number (if applicable):	Not Applicable
Location(s) of Incident:	Beaver Lodge		
Start Date & Time of Incident:	July 13, 2012	End Date & Time of Incident:	July 13, 2012 24:00 MST
Reason or Nature of Incident:			
24 hr average pm 2.5 33.2 µg/m3 8.9 km/hr 114.4 deg			
Immediate Actions Taken:			
A review of the data shows no evidence of false readings.			
Investigation Details:			
A review of the data shows no evidence of false readings.			
Actions Taken to Prevent Reoccurrence (if any):			
None			
Additional Actions Required (if any):			
None			
Report Completed By:	Tosh Hayashi	Date Report Submitted:	July 16, 2012
7-Day Letter Due Date:	July 20, 2012		

Air Monitoring Directive Notification Report

Alberta Environment
 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:	260811	Reported To (AENV Contact):	Taryn
Date & Time Incident Reported to AENV:	July 16, 2012 00:18 MST	Reported By:	Tosh Hayashi
Reported on Behalf of:	PAZA	Approval Number (if applicable):	Not Applicable
Location(s) of Incident:	Beaver Lodge		
Start Date & Time of Incident:	July 15, 2012	End Date & Time of Incident:	July 15, 2012 24:00
Reason or Nature of Incident:			
24 hr average pm 2.5 35.8 µg/m ³ 10.6 km/hr 145.0 deg			
Immediate Actions Taken:			
A review of the data shows no evidence of false readings.			
Investigation Details:			
A review of the data shows no evidence of false readings.			
Actions Taken to Prevent Reoccurrence (if any):			
None			
Additional Actions Required (if any):			
None			
Report Completed By:	Tosh Hayashi	Date Report Submitted:	July 16, 2012
7-Day Letter Due Date:	July 22, 2012		

Air Monitoring Directive Notification Report

Alberta Environment
 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:	260663	Reported To (AENV Contact):	Taryn
Date & Time Incident Reported to AENV:	July 12, 2012 22:26 MST	Reported By:	Tosh Hayashi
Reported on Behalf of:	PAZA	Approval Number (if applicable):	Not Applicable
Location(s) of Incident:	Smoky Heights		
Start Date & Time of Incident:	July 12, 2012 21:00MST	End Date & Time of Incident:	July 12, 2012 22:00MST
Reason or Nature of Incident:			
21:00 – 22:00 MST PM 2.5 90.3 µg/m ³ 4.5 km/hr 266.2 deg			
Immediate Actions Taken:			
A review of the data shows no evidence of false readings.			
Investigation Details:			
A review of the data shows no evidence of false readings.			
Actions Taken to Prevent Reoccurrence (if any):			
None			
Additional Actions Required (if any):			
None			
Report Completed By:	Tosh Hayashi	Date Report Submitted:	July 16, 2012
7-Day Letter Due Date:	July 19, 2012		

Air Monitoring Directive Notification Report

Alberta Environment
 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:	260675	Reported To (AENV Contact):	Taryn & Nancy
Date & Time Incident Reported to AENV:	July 13, 2012 4:29 MST	Reported By:	Tosh Hayashi
Reported on Behalf of:	PAZA	Approval Number (if applicable):	Not Applicable
Location(s) of Incident:	Smoky Heights		
Start Date & Time of Incident:	July 13, 2012 03:00 MST	End Date & Time of Incident:	July 13, 2012 24:00 MST
Reason or Nature of Incident:			
03:00 –04:00 MST	PM 2.5	81.0 µg/m ³	4.1 km/hr 327.7 deg
04:00 –05:00 MST	PM 2.5	80.8 µg/m ³	3.7 km/hr 339.7 deg
05:00 –06:00 MST	PM 2.5	80.3 µg/m ³	4.2 km/hr 217.2 deg
06:00 –07:00 MST	PM 2.5	153.4 µg/m ³	3.9 km/hr 267.8 deg
07:00 –08:00 MST	PM 2.5	92.4 µg/m ³	2.2 km/hr 224.6 deg
24 hr average	PM 2.5	51.7 µg/m ³	8.2 km/hr 179.5 deg
Immediate Actions Taken:			
A review of the data shows no evidence of false readings.			
Investigation Details:			
A review of the data shows no evidence of false readings.			
Actions Taken to Prevent Reoccurrence (if any):			
None			
Additional Actions Required (if any):			
None			
Report Completed By:	Tosh Hayashi	Date Report Submitted:	July 16, 2012
7-Day Letter Due Date:	July 20, 2012		

Air Monitoring Directive Notification Report

Alberta Environment
 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:	260731	Reported To (AENV Contact):	Taryn
Date & Time Incident Reported to AENV:	July 14, 2012 01:37 MST	Reported By:	Tosh Hayashi
Reported on Behalf of:	PAZA	Approval Number (if applicable):	Not Applicable
Location(s) of Incident:	Smoky Heights		
Start Date & Time of Incident:	July 14, 2012 00:00 MST	End Date & Time of Incident:	July 14, 2012 24:00 MST
Reason or Nature of Incident:			
00:00 –01:00 MST	PM 2.5	65.0 µg/m ³	4.6 km/hr
			241.3 deg
24 hr average	PM 2.5	37.5 µg/m ³	7.6 km/hr
			153.4 deg
Immediate Actions Taken:			
A review of the data shows no evidence of false readings.			
Investigation Details:			
A review of the data shows no evidence of false readings.			
Actions Taken to Prevent Reoccurrence (if any):			
None			
Additional Actions Required (if any):			
None			
Report Completed By:	Tosh Hayashi	Date Report Submitted:	July 16, 2012
7-Day Letter Due Date:	July 21, 2012		

Air Monitoring Directive Notification Report

Alberta Environment
 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:	260831	Reported To (AENV Contact):	Carsten
Date & Time Incident Reported to AENV:	July 16, 2012 09:10 MST	Reported By:	Tosh Hayashi
Reported on Behalf of:	PAZA	Approval Number (if applicable):	Not Applicable
Location(s) of Incident:	Sunset House		
Start Date & Time of Incident:	July 13, 2012	End Date & Time of Incident:	July 13, 2012
Reason or Nature of Incident:			
24 hr average pm 2.5 40.3 µg/m ³ 9.7 km/hr 122.2 deg			
Immediate Actions Taken:			
A review of the data shows no evidence of false readings.			
Investigation Details:			
A review of the data shows no evidence of false readings.			
Actions Taken to Prevent Reoccurrence (if any):			
None			
Additional Actions Required (if any):			
None			
Report Completed By:	Tosh Hayashi	Date Report Submitted:	July 16, 2012
7-Day Letter Due Date:	July 20, 2012		

Air Monitoring Directive Notification Report

Alberta Environment
 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:	260832	Reported To (AENV Contact):	Carsten
Date & Time Incident Reported to AENV:	July 16, 2012 09:10 MST	Reported By:	Tosh Hayashi
Reported on Behalf of:	PAZA	Approval Number (if applicable):	Not Applicable
Location(s) of Incident:	Sunset House		
Start Date & Time of Incident:	July 14, 2012 06:00 MST	End Date & Time of Incident:	July 14, 2012 24:00 MST
Reason or Nature of Incident:			
06-07:00 MST	pm 2.5	81.3 µg/m ³	18.2 km/hr 182.5 deg
07-08:00 MST	pm 2.5	85.0 µg/m ³	18.6 km/hr 185.9 deg
08-09:00 MST	pm 2.5	87.3 µg/m ³	17.6 km/hr 190.8 deg
09-10:00 MST	pm 2.5	86.5 µg/m ³	14.1 km/hr 187.2 deg
24 hr average	pm 2.5	42.8 µg/m ³	13.4 km/hr 155.5 deg
Immediate Actions Taken:			
A review of the data shows no evidence of false readings.			
Investigation Details:			
A review of the data shows no evidence of false readings.			
Actions Taken to Prevent Reoccurrence (if any):			
None			
Additional Actions Required (if any):			
None			
Report Completed By:	Tosh Hayashi	Date Report Submitted:	July 16, 2012
7-Day Letter Due Date:	July 21, 2012		

July 2012 Calibration Reports

PAZA - Henry Pirker Station with the following calibrations:

SO₂, NO, NO₂, NO_x, O₃, CO, THC, TRS

PAZA – Evergreen Park Station with the following calibrations:

SO₂, TRS, PM_{2.5}

PAZA – Smoky Heights Station with the following calibrations:

SO₂, TRS

PAZA – Beaverlodge Station with the following calibrations:

SO₂, NO, NO₂, NO_x, O₃

PAZA – Valleyview Station with the following calibrations:

SO₂ & H₂S

PAZA – Sunset House Station with the following calibrations:

SO₂, NO, NO₂, NO_x, O₃, TRS, PM_{2.5}

Calibration Report

Parameter SO2

Air Monitoring Network PAZA



Station Information

Calibration Date	July 22, 2012	Previous Calibration	June 13, 2012
Station Number	1	Station Location	Henry Pirker
Reason:	Routine	Install	Removal
		Other:	
Start Time (MST)	8:10	End Time (MST)	11:56
Barometric Pressure	0.922 ATM	Station Temperature	20.0 Deg C
Calibrator	EnviroNics	Serial Number	3474
Cal Gas Conc	49.8 ppm	Cal Gas Cert Date	3/28/2013
		Cal Gas Cylinder #	LL85275
DACS make	CR3000	DACS serial No.	5408
DACS voltage range	0 - 1 volt	DACS channel #	10
	Before		After
Calculated slope	0.984496	Calculated slope	0.998838
Calculated intercept	1.017340	Calculated intercept	0.485427
Analyzer make	TEI 43C	Analyzer serial #	610816292

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
Background	9.2		8.9	
Coefficient	0.797		0.776	
Pressure	639.6	mm Hg	639.6	mm Hg
Flow	0.503	lpm	0.503	lpm
Lamp Voltage	44612	Hz	44068	Hz

Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
4989	0.00	0.0	0.0	N/A
4989	39.87	394.8	395.1	0.9993
4989	19.91	198.0	197.2	1.0037
4989	9.94	99.0	98.4	1.0068
4989	0.00	0.0	-0.1	As Found Zero
4989	39.84	394.5	404.1	As Found Span
Average Correction Factor				1.0033

Calculated value of As Found Response: 398.9 ppb Percent Change of As Found: -1.1%

	before calibration		after calibration	
Auto zero	0.1	ppb	0.1	ppb
Auto span	235.4	ppb	237.2	ppb

Notes: Slight span adjust

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter SO2

Air Monitoring Network PAZA



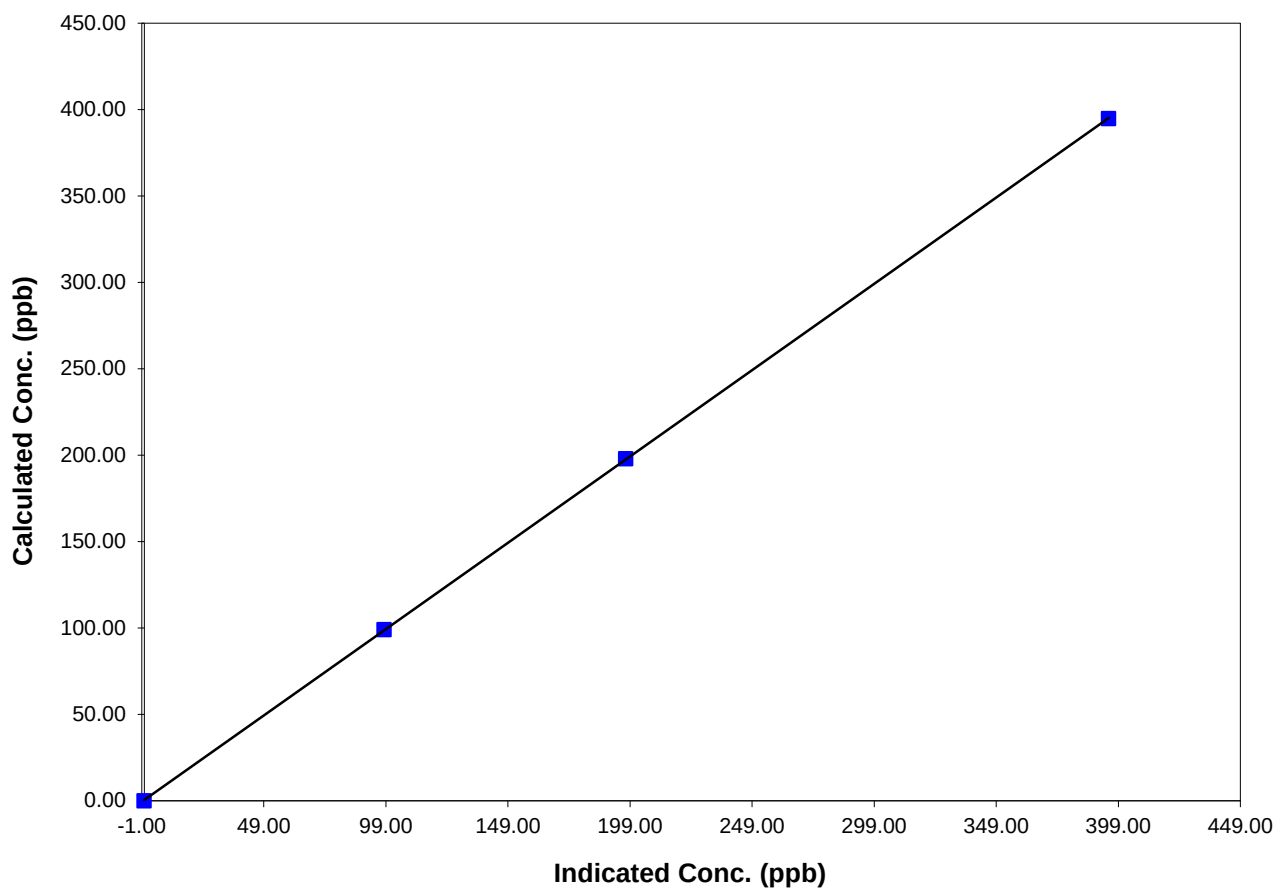
Station Information

Calibration Date	July 22, 2012	Previous Calibration	June 13, 2012
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	8:10	End Time (MST)	11:56
Analyzer make/model	TEI 43C	Analyzer serial #	610816292

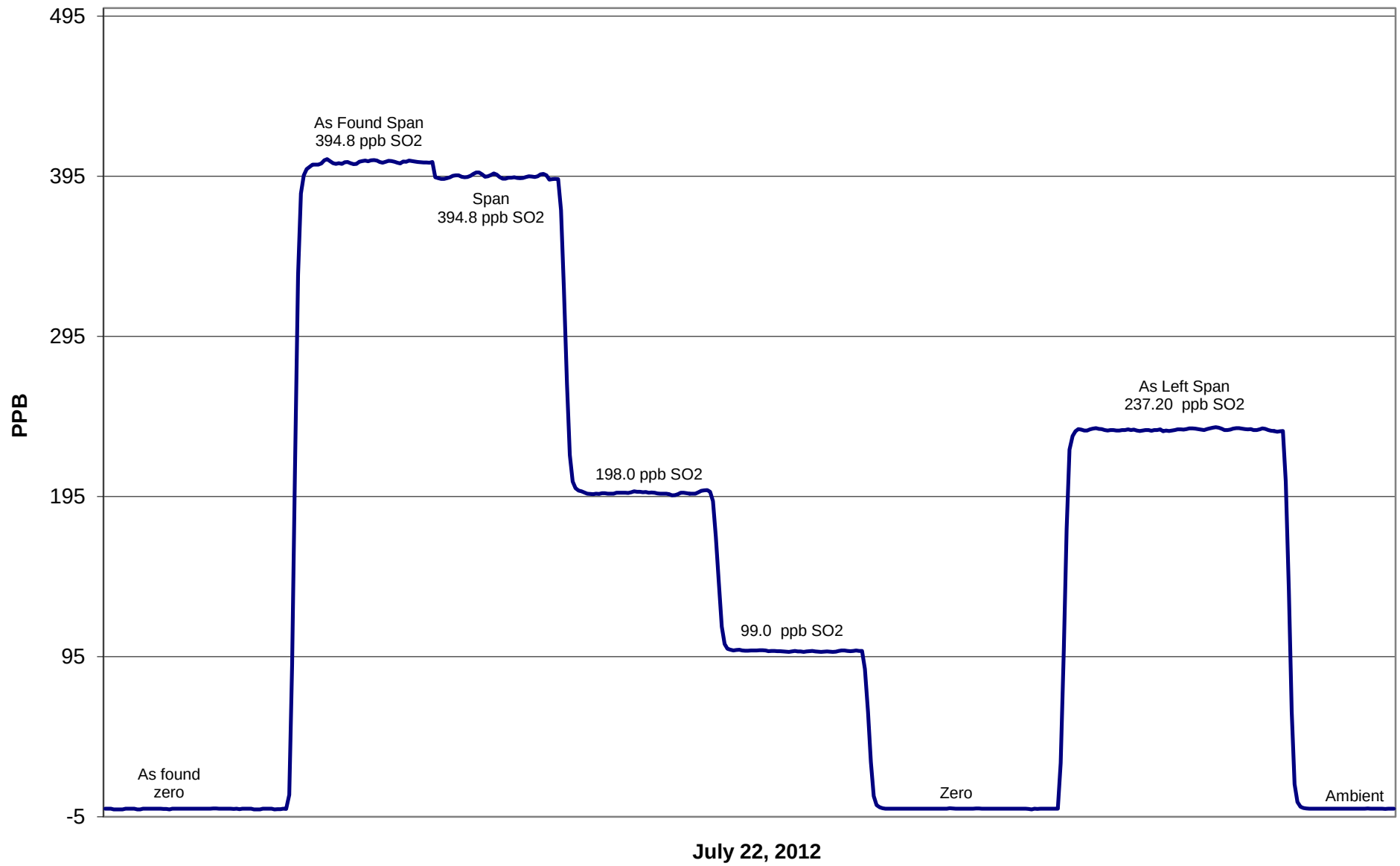
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.0	N/A		
394.8	395.1	0.9993	Correlation Coefficient	0.999993
198.0	197.2	1.0037		
99.0	98.4	1.0068	Slope	0.998838
			Intercept	0.485427

SO2 Calibration Curve



SO2 Calibration



Calibration Report

Parameter

NO_x-NO-NO₂

Air Monitoring Network

PAZA



Station Information

Calibration Date	July 22, 2012	Previous Calibration	June 13, 2012
Station Number	1	Station Location	Henry Pirker
Reason:	Routine	Installation	Removal
Other:			
Start Time (MST)	8:10	End Time (MST)	15:45
Barometric Pressure	0.922	Atm	Station Temperature
Calibrator	EnviroNics	Serial Number	3474
NO Cal Gas Conc	52.5	ppm	Cal Gas Expiry Date
NO _x Cal Gas Conc	52.5	ppm	Cal Gas Serial #
			March 28, 2013
			LL85275

DACS Information

DACS make	CR3000	DACS serial No.	5408
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Parameter	NO ₂	NO _x	NO
Before			
Data Slope	1.000554	1.006255	1.006241
Data Offset	-0.335761	0.390723	0.170030
After			
Data Slope	0.999227	1.003344	1.002207
Data Offset	-2.166148	-0.563140	-0.489000
Channel #	8	6	7
Voltage Range	0 - 5 VDC	0 - 5 VDC	0 - 5 VDC

Analyzer Information

Analyzer make/model	TEI 42C	Analyzer serial #	508011073
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Test Point	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
NO offset	10.5	mV	11.1	mV
NO _x bkgnd	11.7	mV	11.6	mV
NO coefficient	0.762		0.806	
NO _x coefficient	0.999		1.016	
NO ₂ conv temp	318.0	Deg C	318.0	Deg C
PMT Temp	-2.5	Deg C	-2.5	Deg C
PMT Volt	-786.0	mV	-786.0	mV
R Cell Press	176.7	in Hg	176.6	in Hg

Calibration Report

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



Calibration Date: July 22, 2012 Station Location: Henry Pirker

	Dilution flow rate (ccm)	Source gas flow rate (ccm)	Calculated NOx conc (ppb)	Calculated NO conc (ppb)	Calculated NO2 conc (ppb)	Indicated NOx conc (ppb)	Indicated NO conc (ppb)	Indicated NO2 conc (ppb)	NOx Correction factor	NO Correction factor
zero	4989	0.00	0.0	0.0	0.0	0.1	0.0	-0.1	N/A	N/A
1	4989	39.87	416.2	416.2	0.0	414.9	415.4	-0.5	1.0032	1.0021
2	4989	19.93	208.9	208.9	0.0	209.7	209.7	-0.1	0.9961	0.9961
3	4989	9.94	104.4	104.4	0.0	104.6	104.8	-0.2	0.9979	0.9965
AFZ	4989	0.00	0.0	0.0	0.0	0.1	0.0	-0.1	0.0000	0.0000
AFS	4989	39.87	416.2	416.2	0.0	400.0	400.0	-0.1	1.0407	1.0405
Average Correction Factor									0.9990	0.9982

As Found Concentrations: NO_x= 400.3 NO= 400.2 As Found Percent Change NO_x= -3.8% NO= -3.9%

Dilution Flow 4989 ccm Source Gas Flow 39.85 ccm

O3 Setpoint (ppb)	Indicated NO high point (ppb)	Indicated NO drop conc (ppb)	Calculated NO2 conc (ppb)	Indicated NOx conc (ppb)	Indicated NO conc (ppb)	Indicated NO2 conc (ppb)	NOx Correction factor	NO Correction factor	NO2 Correction factor	Converter Efficiency
0	0.0	0.0	0.0	0.1	0.0	-0.1	N/A	N/A	N/A	N/A
NO point	415.6	415.6	0.0	415.5	415.6	-0.2	1.0004	1.0000	N/A	N/A
300	415.6	84.1	331.5	416.7	84.1	333.0	0.9974	1.0000	0.9958	100.4%
200	415.6	223.2	192.4	418.8	223.2	195.7	0.9924	1.0000	0.9832	101.7%
100	415.6	355.7	59.9	420.0	355.7	64.3	0.9895	1.0000	0.9306	107.5%
Average Correction Factor							0.9931	1.0000	0.9698	103.2%

	Previous calibration				Current calibration			
Parameter	NOx	NO2	NO		NOx	NO2	NO	
Auto zero	-0.1	0.0	0.0	ppb	0.1	0.0	0.0	ppb
Auto span	168.4	169.5	1.2	ppb	177.2	175.7	1.5	ppb

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter NO₂

Air Monitoring Network PAZA



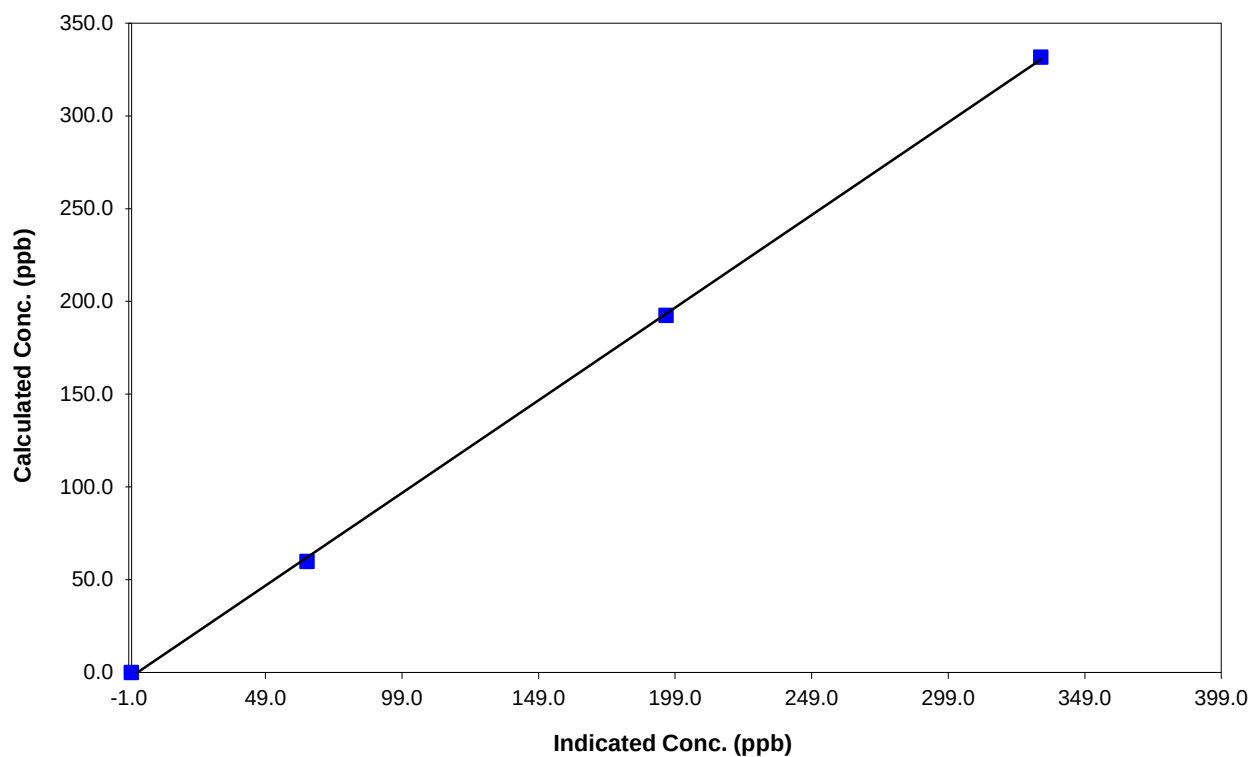
Station Information

Calibration Date	July 22, 2012	Previous Calibration	June 13, 2012
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	8:10	End Time (MST)	15:45
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	0.999817
331.5	333.0	0.9958		
192.4	195.7	0.9832		
59.9	64.3	0.9306	Slope	0.999227
			Intercept	-2.166148

NO₂ Calibration Curve



Calibration Summary

Parameter NO_x

Air Monitoring Network PAZA



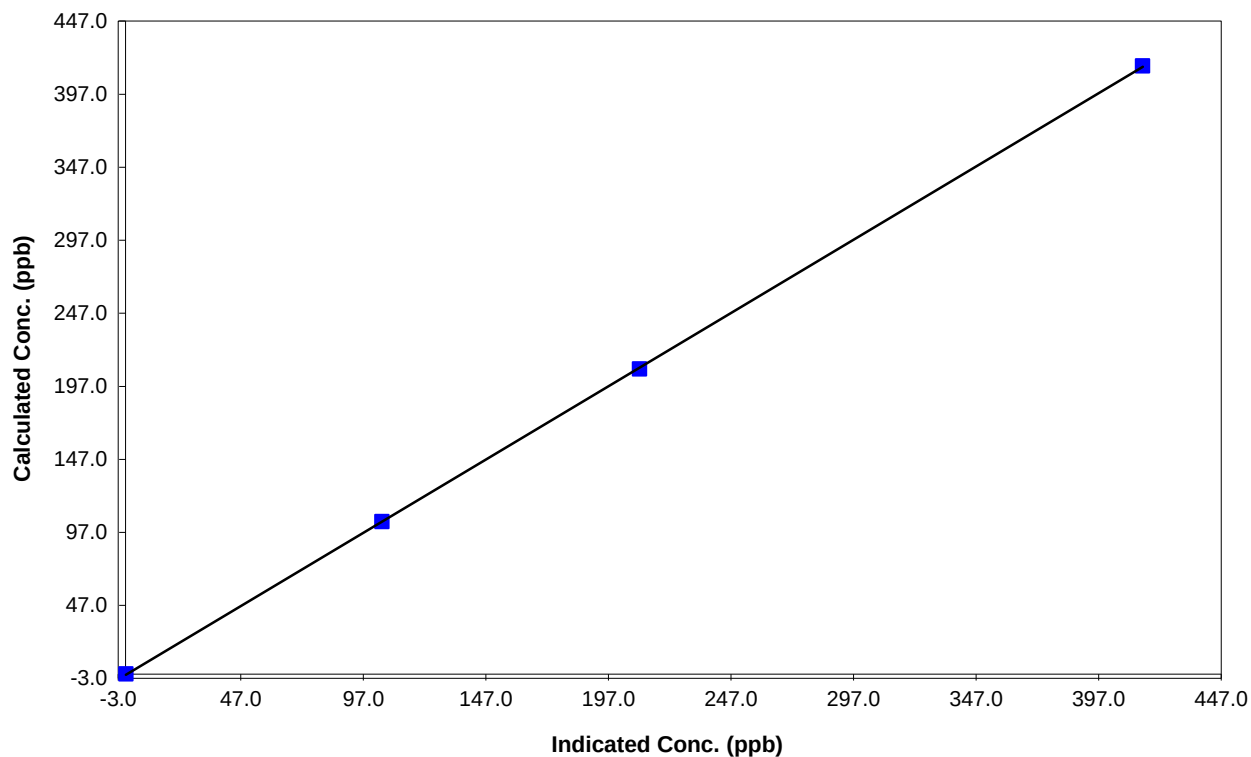
Station Information

Calibration Date	July 22, 2012	Previous Calibration	June 13, 2012
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	8:10	End Time (MST)	15:45
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	0.999985
416.2	414.9	1.0032		
208.9	209.7	0.9961		
104.4	104.6	0.9979	Slope	1.003344
			Intercept	-0.563140

NO_x Calibration Curve



Calibration Summary

Parameter NO

Air Monitoring Network PASZA



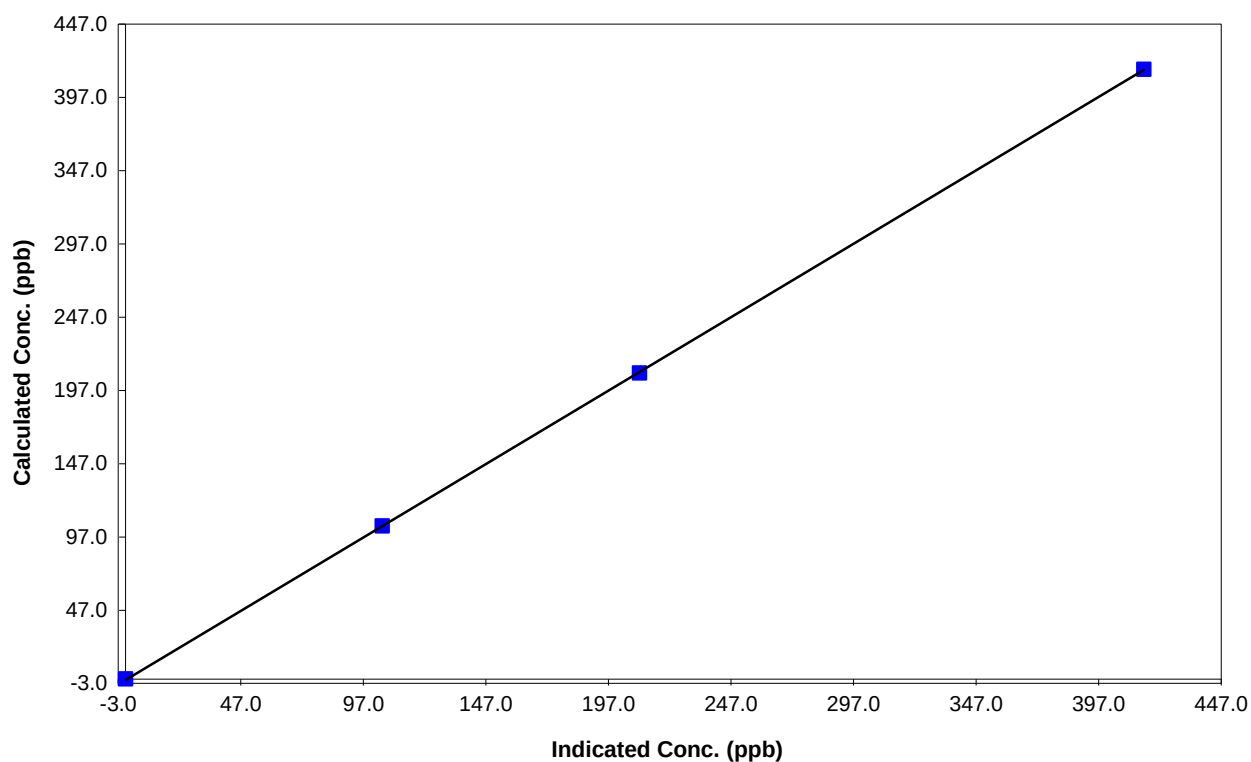
Station Information

Calibration Date	July 22, 2012	Previous Calibration	June 13, 2012
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	8:10	End Time (MST)	15:45
Analyzer make	TEI 42C	Analyzer serial #	508011073

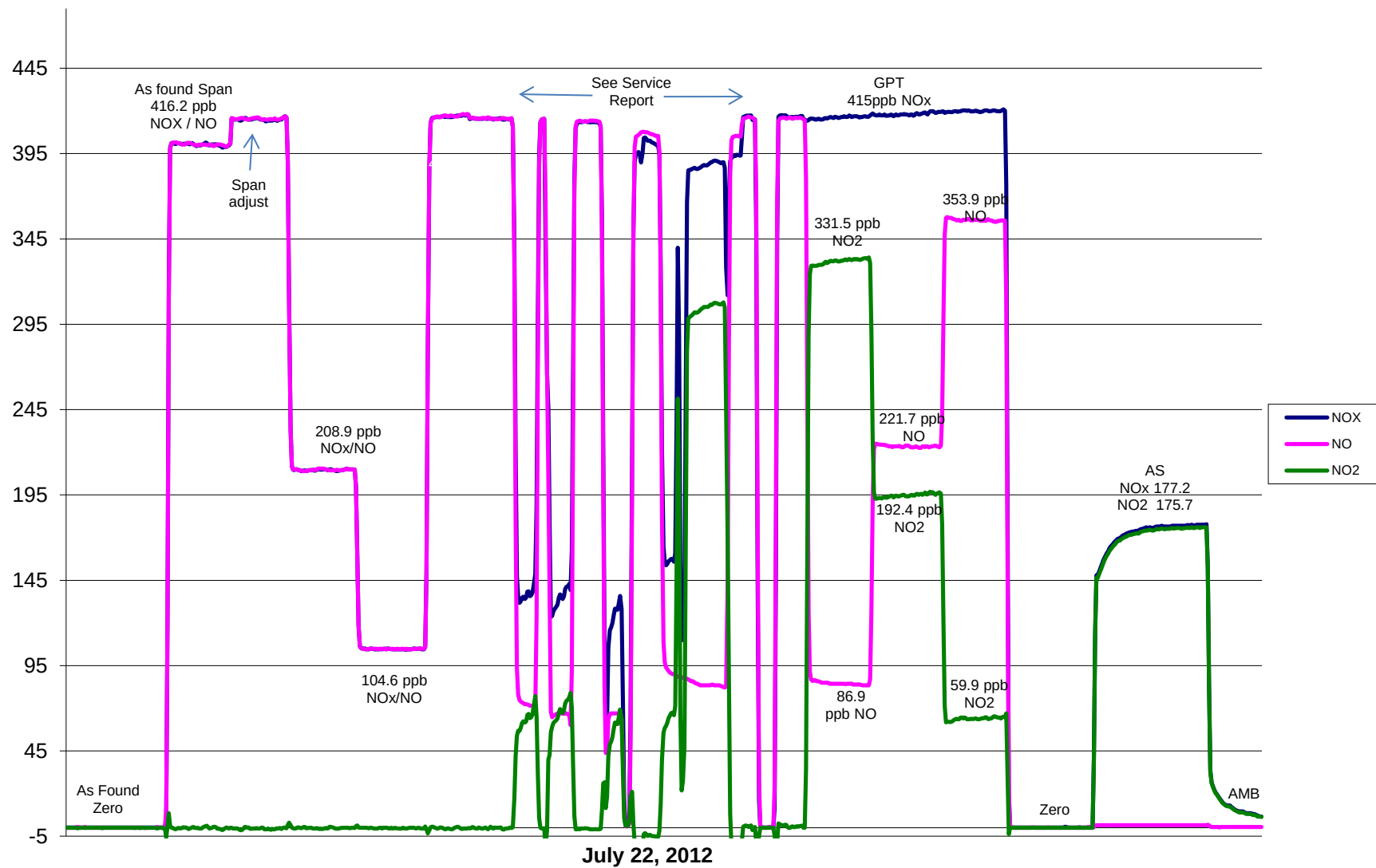
Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.0	N/A	Correlation Coefficient	0.999989
416.2	415.4	1.0021		
208.9	209.7	0.9961		
104.4	104.8	0.9965	Slope	1.002207
			Intercept	-0.489000

NO Calibration Curve



PASZA NO_x Calibration



Calibration Report



Parameter 03

Air Monitoring Network PAZA

Station Information

Calibration Date	July 22, 2012	Previous Calibration	June 13, 2012
Station Number	1	Station Location	Henry Pirker
Reason:	Routine	Install	Removal
		Other:	
Start Time (MST)	13:58	End Time (MST)	16:41
Barometric Pressure	0.922 atm	Station Temperature	20.0 Deg C
Calibrator	EnviroNics 6100	Serial Number	3474
Cal Gas Concentration	NA	Cal Gas Expiry Date	NA
DACS make	CR3000	DACS serial No.	5408
DACS voltage range	0 - 1 volt	DACS channel #	5
	Before		After
Calculated slope	0.998291	Calculated slope	1.000694
Calculated intercept	-0.131228	Calculated intercept	-0.558368
Analyzer make	TECO 49C	Analyzer serial #	607415761

	before		after	
Concentration range	500	ppb	500	ppb
offset	-0.7	ppb	-0.7	ppb
slope	1.146		1.146	
O3 Lamp temp	71.1	Deg C	71.1	Deg C
Intensities	78085/68662	mV	78085/68662	mV
Pressure	695.6	inches Hg	699	inches Hg
Flow A	0.726	ccm	0.728	ccm
Flow B	0.741	ccm	0.743	ccm

Calibration Data

Dilution air flow rate (cc/min)	Referenced concentration (ppb)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
5026	0	0.0	0.2	N/A
5026	300	331.5	331.8	0.9990
5026	200	192.4	192.7	0.9987
5026	100	59.9	61.0	0.9822
5026	0	0.0	0.2	As found zero
5026	300	331.5	331.9	As found span
Average Correction Factor				0.9933

Calculated value of As Found Response: 331.1 ppm Percent Change of As Found: -0.1%

	before calibration		after calibration	
Auto zero	0.3	ppb	0.3	ppb
Auto span	161.8	ppb	160.1	ppb

Notes: No adjust

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter O3

Air Monitoring Network PAZA



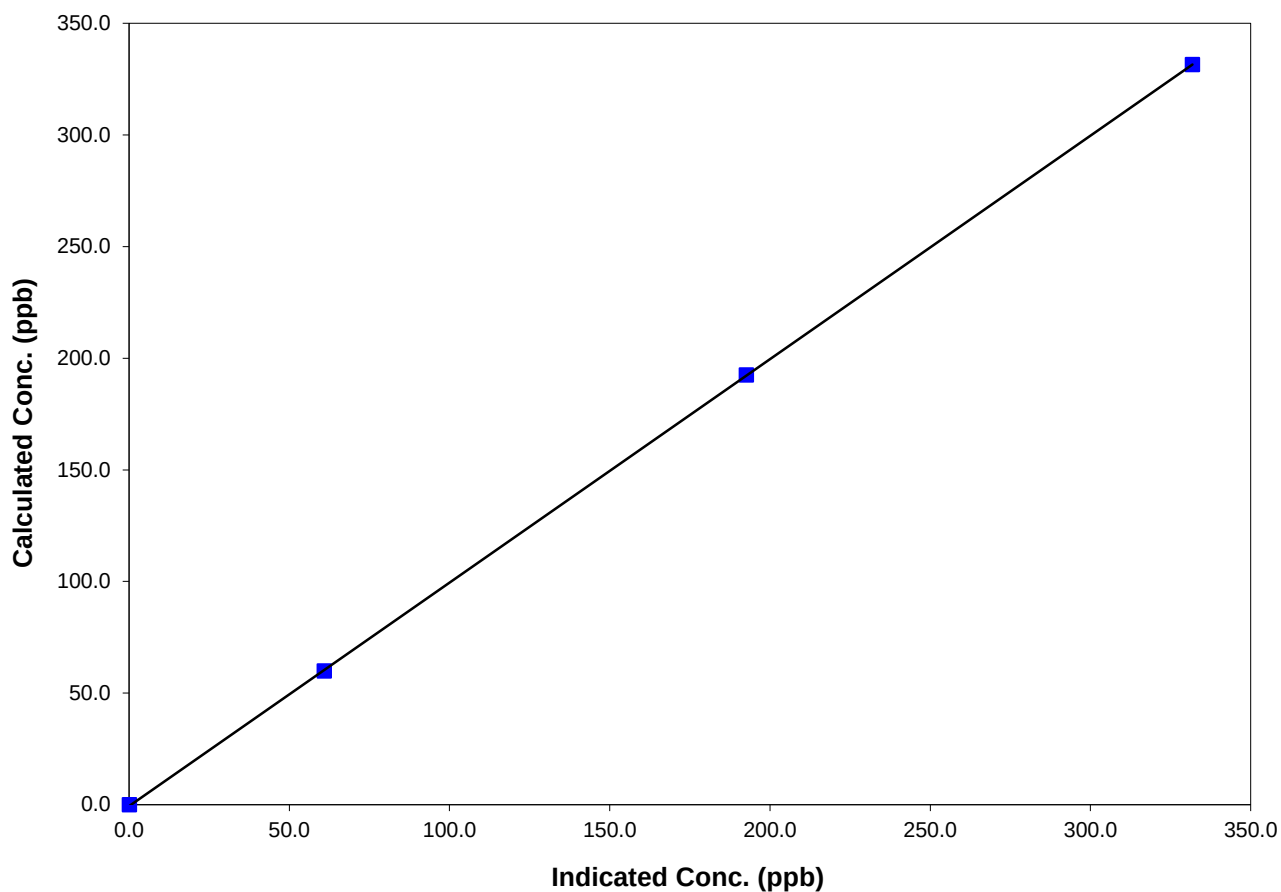
Station Information

Calibration Date	July 22, 2012	Previous Calibration	June 13, 2012
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	13:58	End Time (MST)	16:41
Analyzer make/model	TECO 49C	Analyzer serial #	607415761

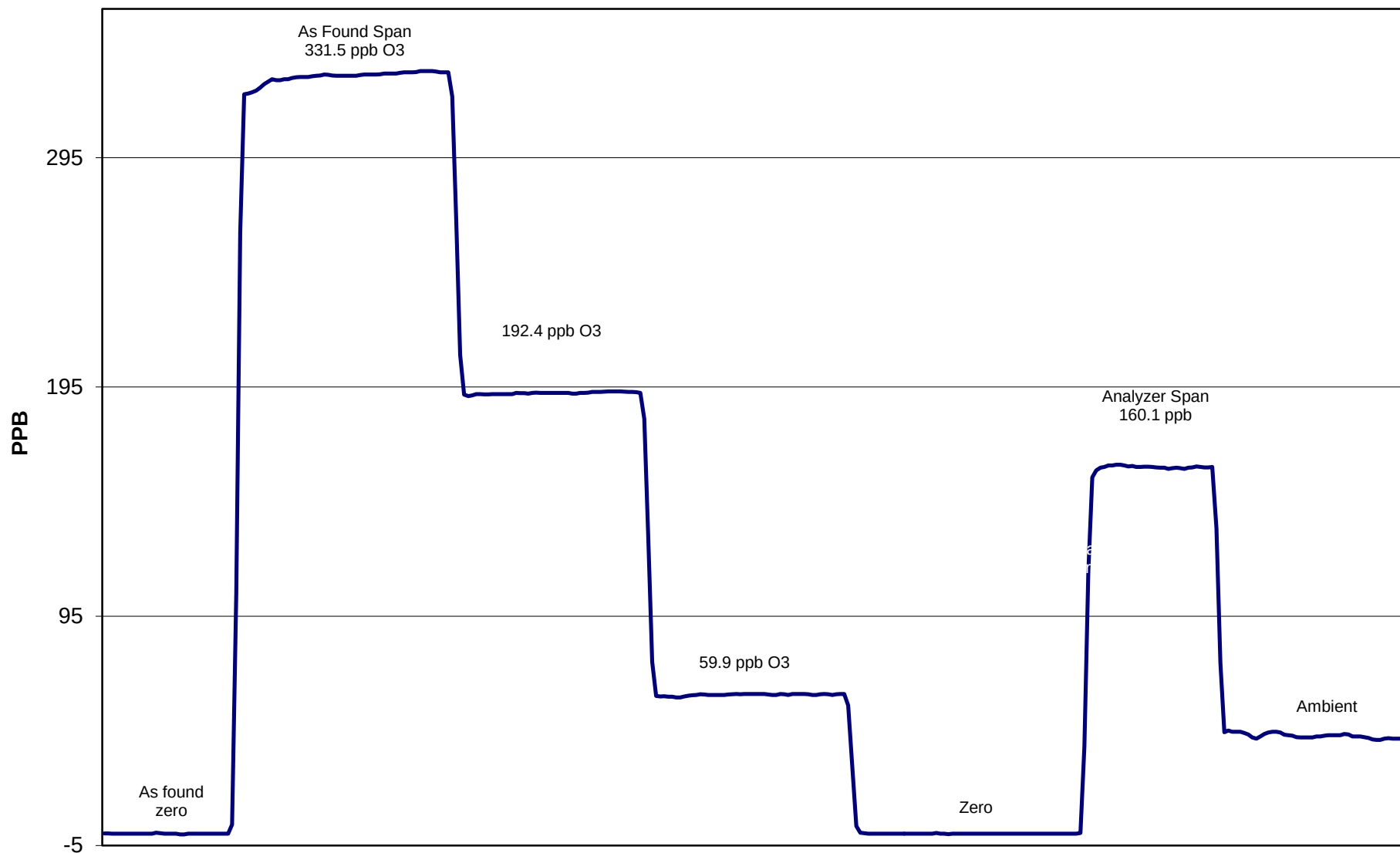
Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.2	NA	Correlation Coefficient	0.999992
331.5	331.8	0.9990		
192.4	192.7	0.9987		
59.9	61.0	0.9822	Slope	1.000694
			Intercept	-0.558368

O3 Calibration Curve



O3 Calibration



July 22, 2012

Calibration Report

Parameter CO

Air Monitoring Network PAZA



Station Information

Calibration Date	July 22, 2012	Previous Calibration	June 13, 2012
Station Number	1	Station Location	Henry Pirker
Reason:	☒ Routine	☐ Install	☐ Removal
		☐ Other:	
Start Time (MST)	17:39	End Time (MST)	20:32
Barometric Pressure	0.922 ATM	Station Temperature	21.0 Deg C
Calibrator	EnviroNics	Serial Number	3474
Cal Gas Conc	3000 ppm	Cal Gas Expiry Date	AUG 28/05
		Cal Gas Cylinder #	AAL20565
DACS make	CR3000	DACS serial No.	5408
DACS voltage range	0 - 1 volt	DACS channel #	9
	Before		After
Calculated slope	1.031149	Calculated slope	1.039842
Calculated intercept	-0.441568	Calculated intercept	-0.390597
Analyzer make	TEI Model 48C	Analyzer serial #	508011062

	before		after	
Concentration range	0 - 50	ppm	0 - 50	ppm
CO span setting	1.088		1.088	
CO zero setting	3.057		3.057	
Sample pressure	685.5	mm Hg	673.4	mm Hg
Sample Flow	1.140	LPM	1.135	LPM

Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4989	0.00	0.00	0.41	N/A
4989	39.87	23.78	23.26	1.0228
4989	19.92	11.93	11.86	1.0060
4989	9.93	5.96	6.06	0.9834
4989	0.00	0.00	0.41	As Found Zero
4989	39.85	23.77	23.26	As Found Span
Average Correction Factor				1.0041

Calculated value of As Found Response: 23.120 ppm Percent Change of As Found: 2.7%

	before calibration		after calibration	
Auto zero	0.03	ppm	0.03	ppm
Auto span	19.56	ppm	20.57	ppm

Notes: No adjust. Last point interrupted twice by auto cal...

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter CO

Air Monitoring Network PAZA



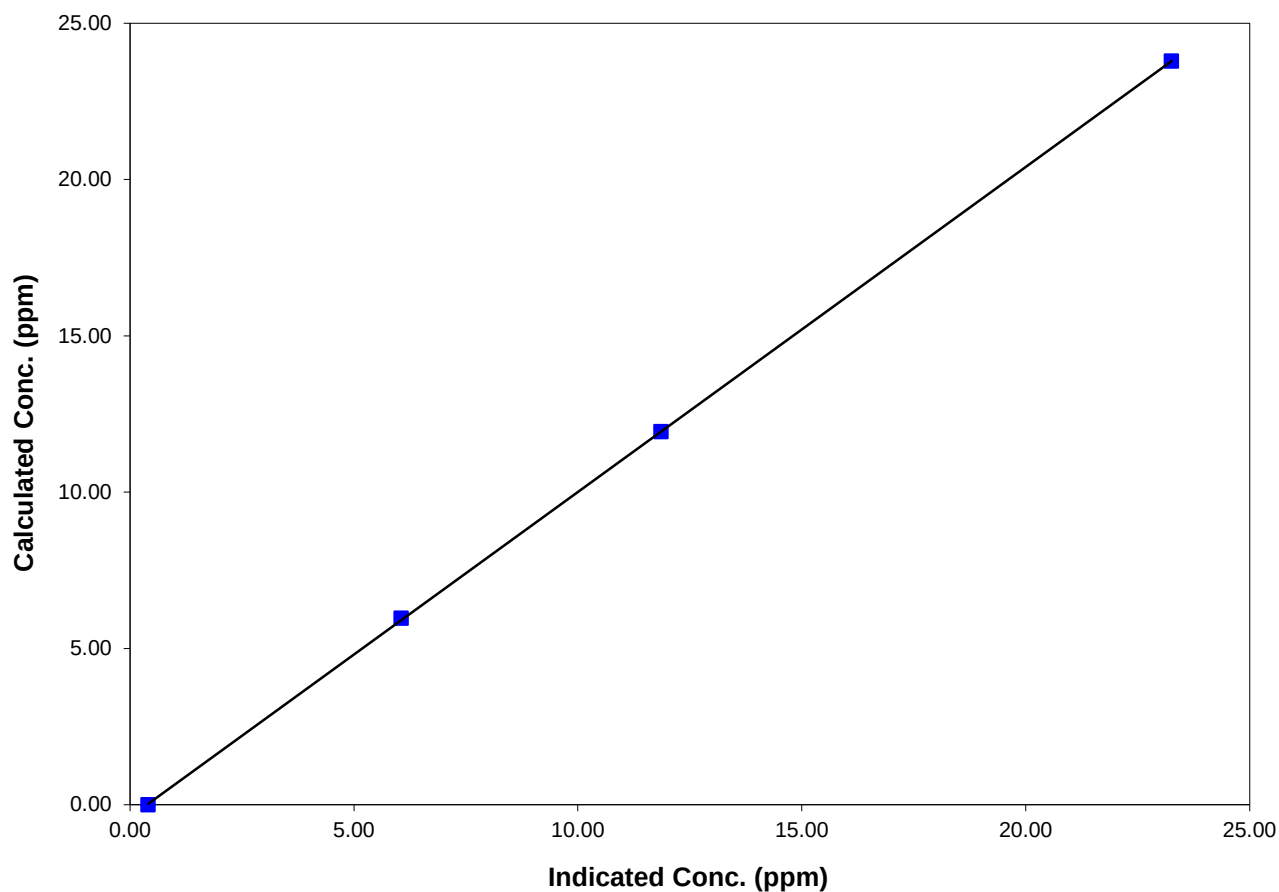
Station Information

Calibration Date	July 22, 2012	Previous Calibration	June 13, 2012
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	17:39	End Time (MST)	20:32
Analyzer make/model	TEI Model 48C	Analyzer serial #	508011062

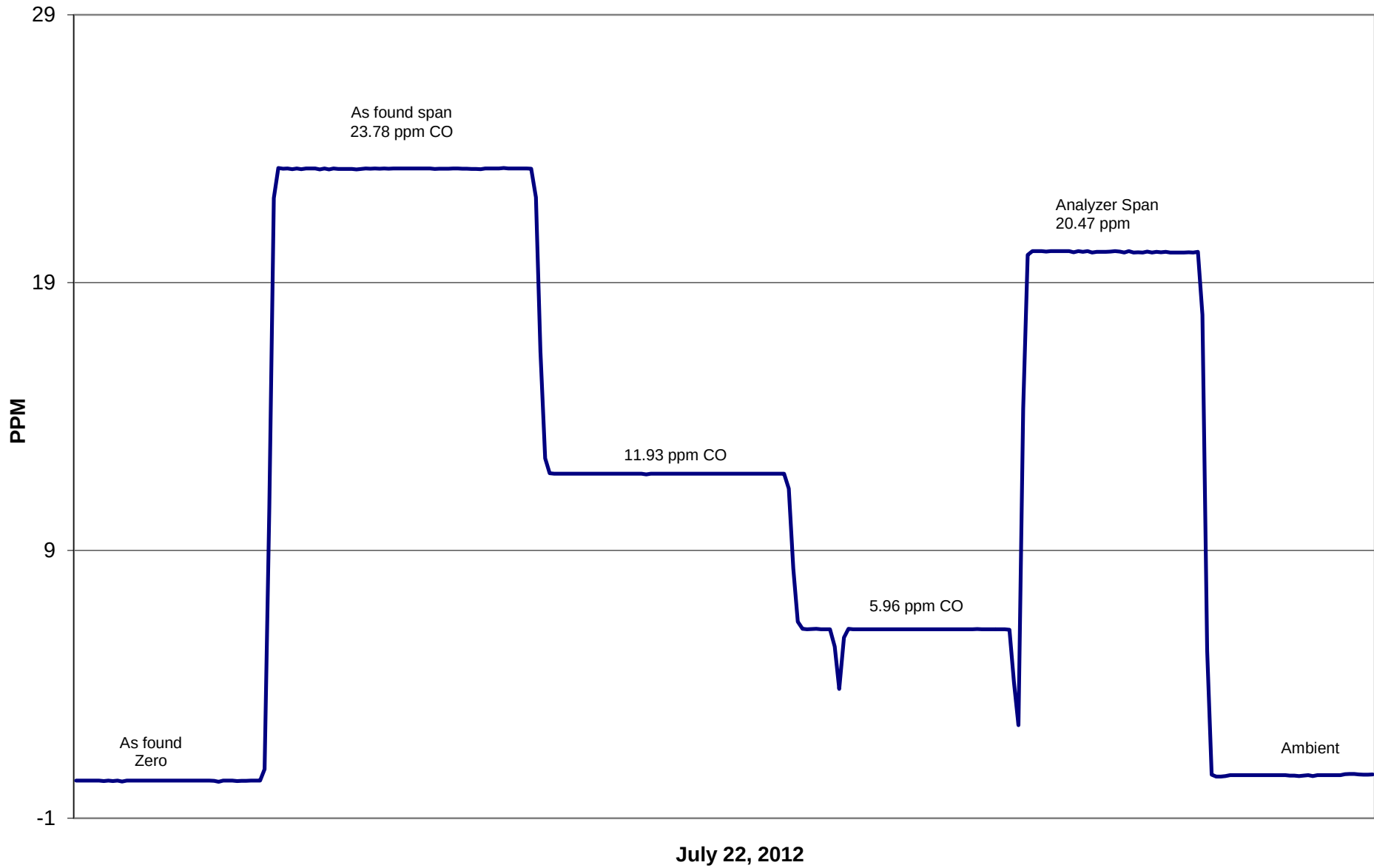
Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.406	N/A	Correlation Coefficient	0.999989
23.785	23.255	1.0228		
11.931	11.860	1.0060		
5.959	6.060	0.9834	Slope	1.039842
			Intercept	-0.390597

CO Calibration Curve



CO Calibration



Calibration Report



Parameter THC

Air Monitoring Network PAZA

Station Information

Calibration Date	July 23, 2012	Previous Calibration	June 3, 2012
Station Number	1	Station Location	Henry Pirker
Reason:	☐ Routine	☐ Install	☐ Removal
		☒ Other:	Maintenance
Start Time (MST)	9:53	End Time (MST)	13:31
Barometric Pressure	0.922 ATM	Station Temperature	20.0 Deg C
Calibrator	EnviroNics 6100	Serial Number	3474
Cal Gas Concentration	701 ppm CH4/ 299 ppm C3H8	Cal Gas Expiry Date	2/4/2010
Cal Gas CH4 equiv	1523.25 ppm	Cal Gas Cylinder #	ALM 004476
DACS make	CR3000	DACS serial No.	5408
DACS voltage range	0 - 1 volt	DACS channel #	9
	<u>Before</u>		<u>After</u>
Calculated slope	0.993240	Calculated slope	0.988922
Calculated intercept	0.086730	Calculated intercept	0.207816
Analyzer make	TEI Model 51C-LT	Analyzer serial #	51CLT-79009-390

	before		after	
Concentration range	0 - 25	ppm	0 - 25	ppm
THC sample pressure	6.50	psi	6.50	psi
THC span counts	9616	capture	9616	capture
THC zero counts	447	capture	447	capture

Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4989	0.00	0.00	-0.15	N/A
4989	69.79	21.01	21.07	0.9973
4989	29.87	9.07	8.89	1.0196
4989	9.92	3.02	2.82	1.0731
4989	0.00	0.00	-0.15	As Found Zero
4989	69.79	21.01	21.07	As Found Span
Average Correction Factor				1.0300

Calculated value of As Found Response: 21.162 ppm Percent Change of As Found: -0.7%

	before calibration		after calibration	
Auto zero	0.10	ppm	0.06	ppm
Auto span	21.83	ppm	24.37	ppm

Notes: _____

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter THC

Air Monitoring Network PAZA



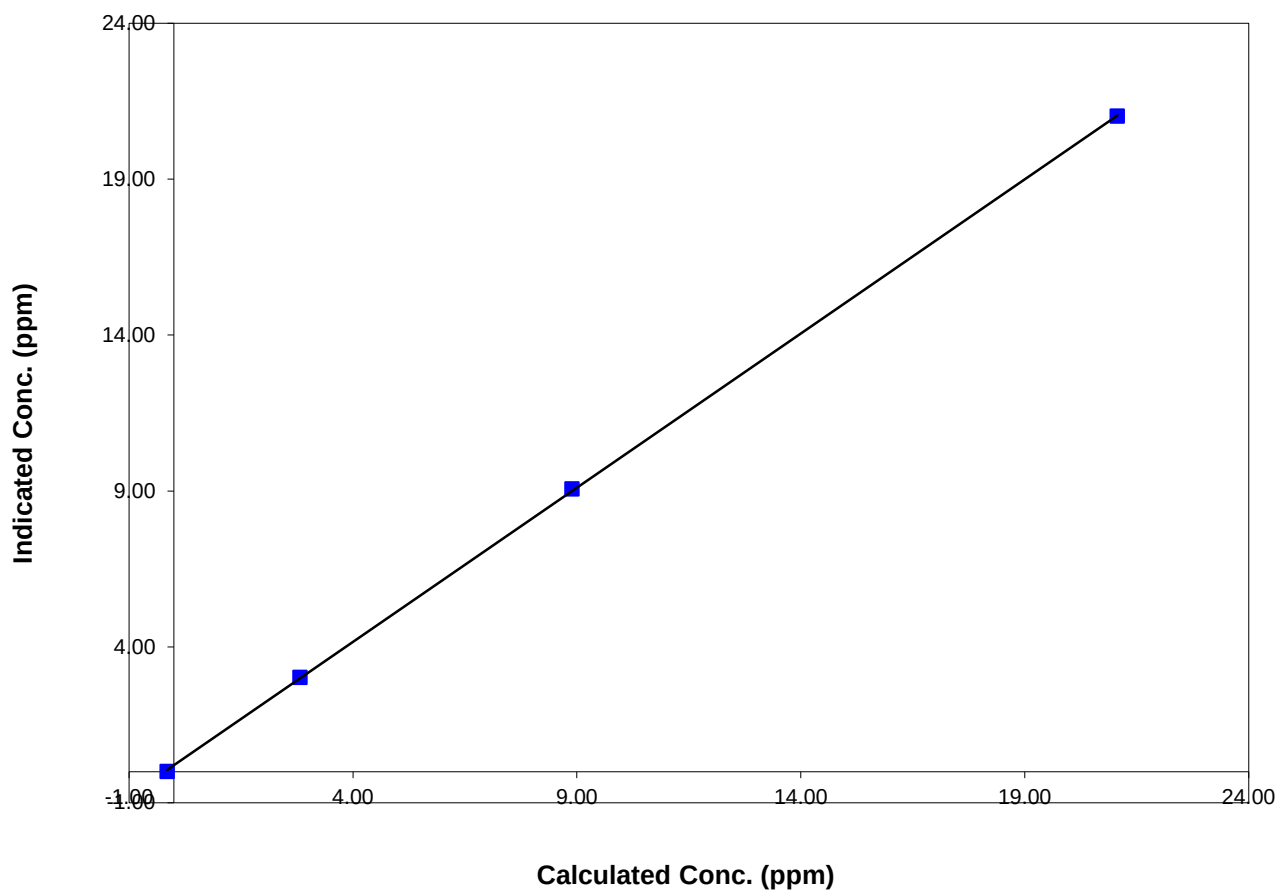
Station Information

Calibration Date	July 23, 2012	Previous Calibration	June 3, 2012
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	9:53	End Time (MST)	13:31
Analyzer make/model	TEI Model 51C-LT	Analyzer serial #	51CLT-79009-390

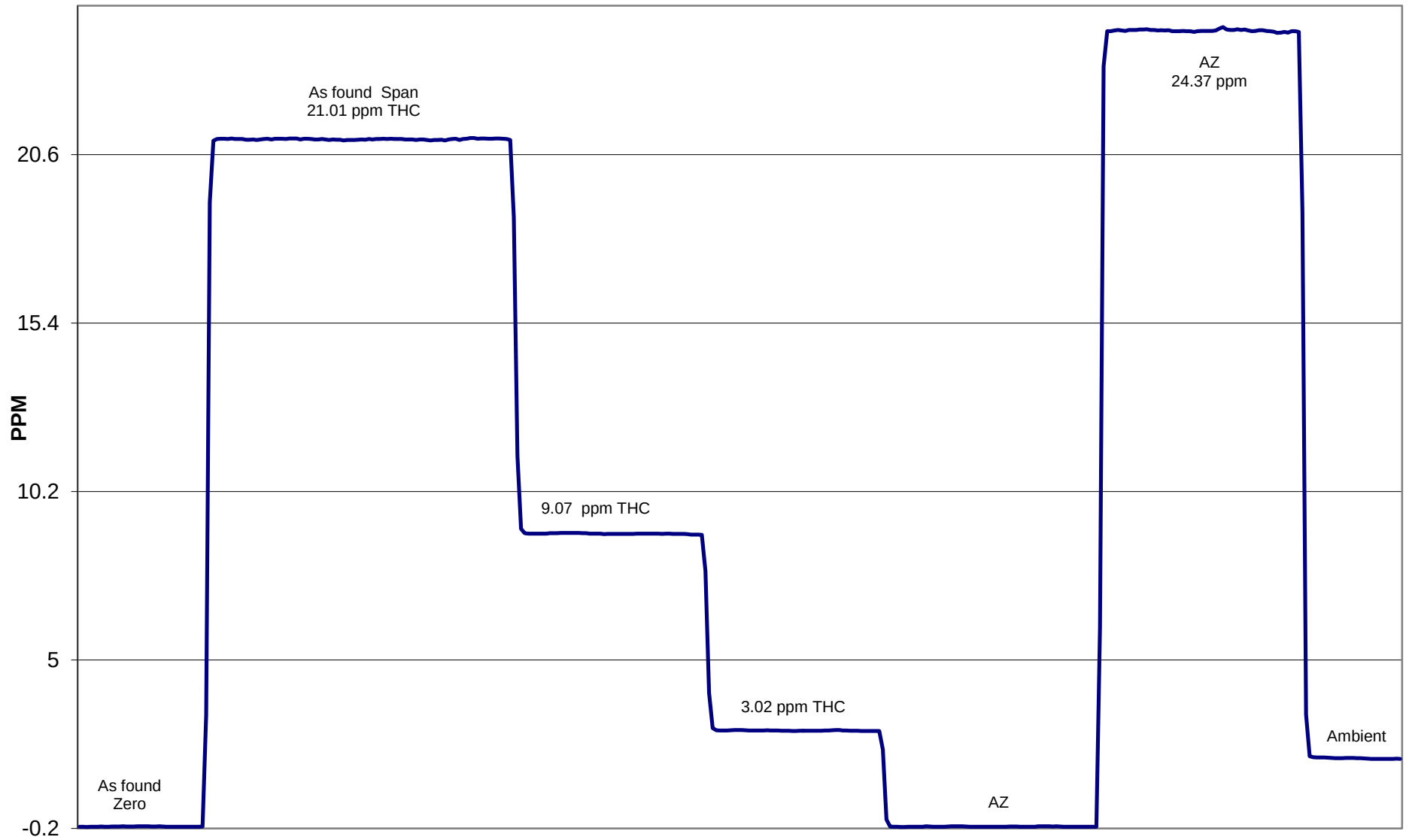
Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	-0.147	N/A		
21.014	21.072	0.9973	Correlation Coefficient	0.999961
9.066	8.891	1.0196		
3.023	2.817	1.0731	Slope	0.988922
			Intercept	0.207816

THC Calibration Curve



THC Calibration



July 23, 2012

Calibration Report

Parameter TR5

Air Monitoring Network PAZA



Station Information

Calibration Date	July 22, 2012	Previous Calibration	June 13, 2012
Station Number	1	Station Location	Henry Pirker
Reason:	Routine	Install	Removal
		Other:	
Start Time (MST)	15:30	End Time (MST)	19:08
Barometric Pressure	0.922 ATM	Station Temperature	20.0 Deg C
Calibrator	EnviroNics 6100	Serial Number	3474
Cal Gas Conc	5.77 ppb	Cal Gas Expiry Date	9/3/2011
		Cal Gas Cylinder #	BLM001434
DACS make	CR3000	DACS serial No.	5408
DACS voltage range	0 - 1 volt	DACS channel #	9
	Before		After
Calculated slope	1.001734	Calculated slope	0.994265
Calculated intercept	0.160773	Calculated intercept	0.057174
Analyzer make	TEI 45C	Analyzer serial #	630718528

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Coefficient	1.125		1.135	
Background	11.4		11.5	
Pressure	658.4	mm Hg	655.4	mm Hg
Flow	0.454	ccm	0.454	ccm
Lamp Voltage	820	v	820	v

Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
4989	0.00	0.00	-0.18	N/A
4989	69.77	79.58	79.82	0.9969
4989	34.88	40.06	40.55	0.9879
4989	8.94	10.32	10.29	1.0034
4989	0.00	0.00	-0.18	As Found Zero
4989	69.77	79.58	79.82	As Found Span
Average Correction Factor				0.9961

Calculated value of As Found Response: 80.3 ppb Percent Change of As Found: -0.9%

	before calibration		after calibration	
Auto zero	-0.29	ppb	-0.02	ppb
Auto span	33.10	ppb	34.47	ppb

Notes:

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter TRS

Air Monitoring Network PAZA



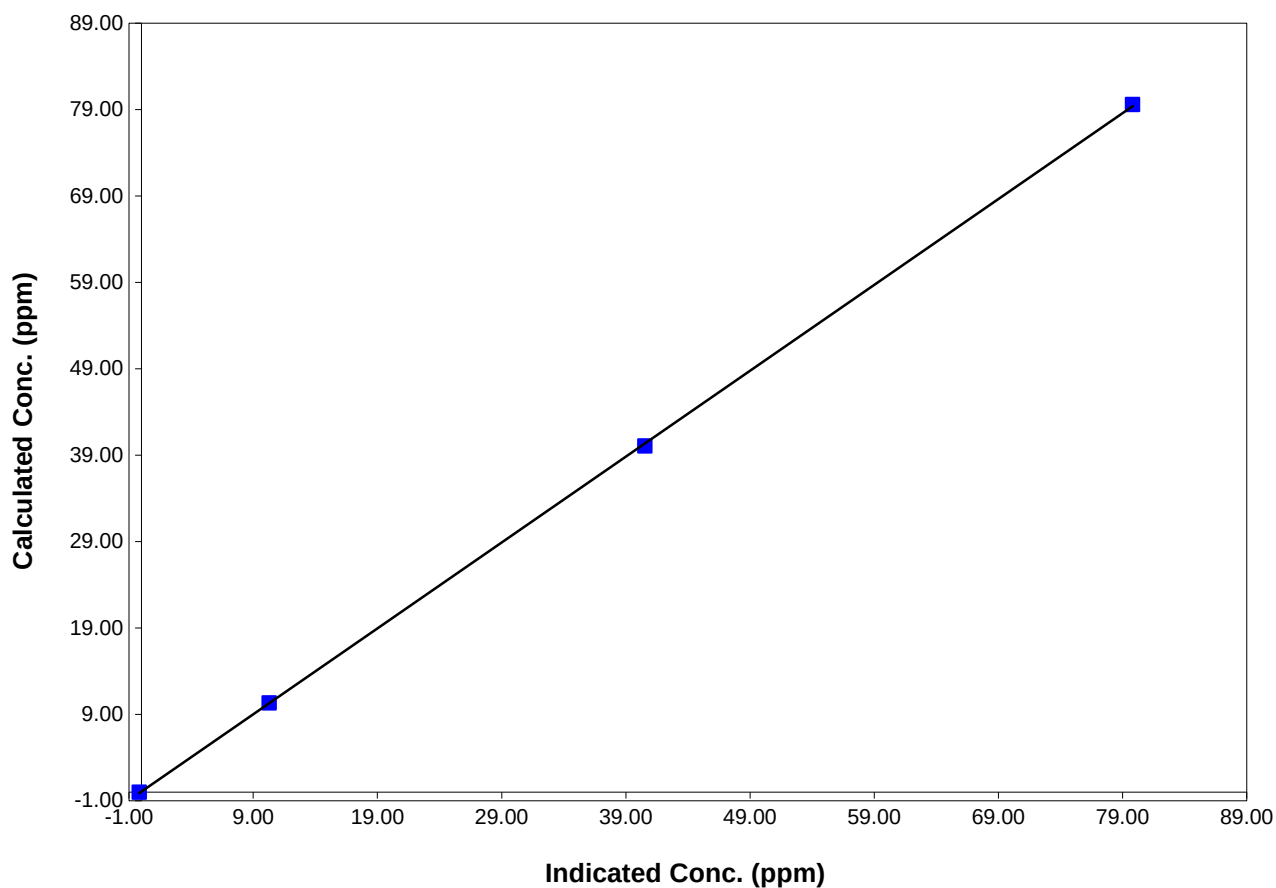
Station Information

Calibration Date	July 22, 2012	Previous Calibration	June 13, 2012
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	15:30	End Time (MST)	19:08
Analyzer make/model	TEI 45C	Analyzer serial #	630718528

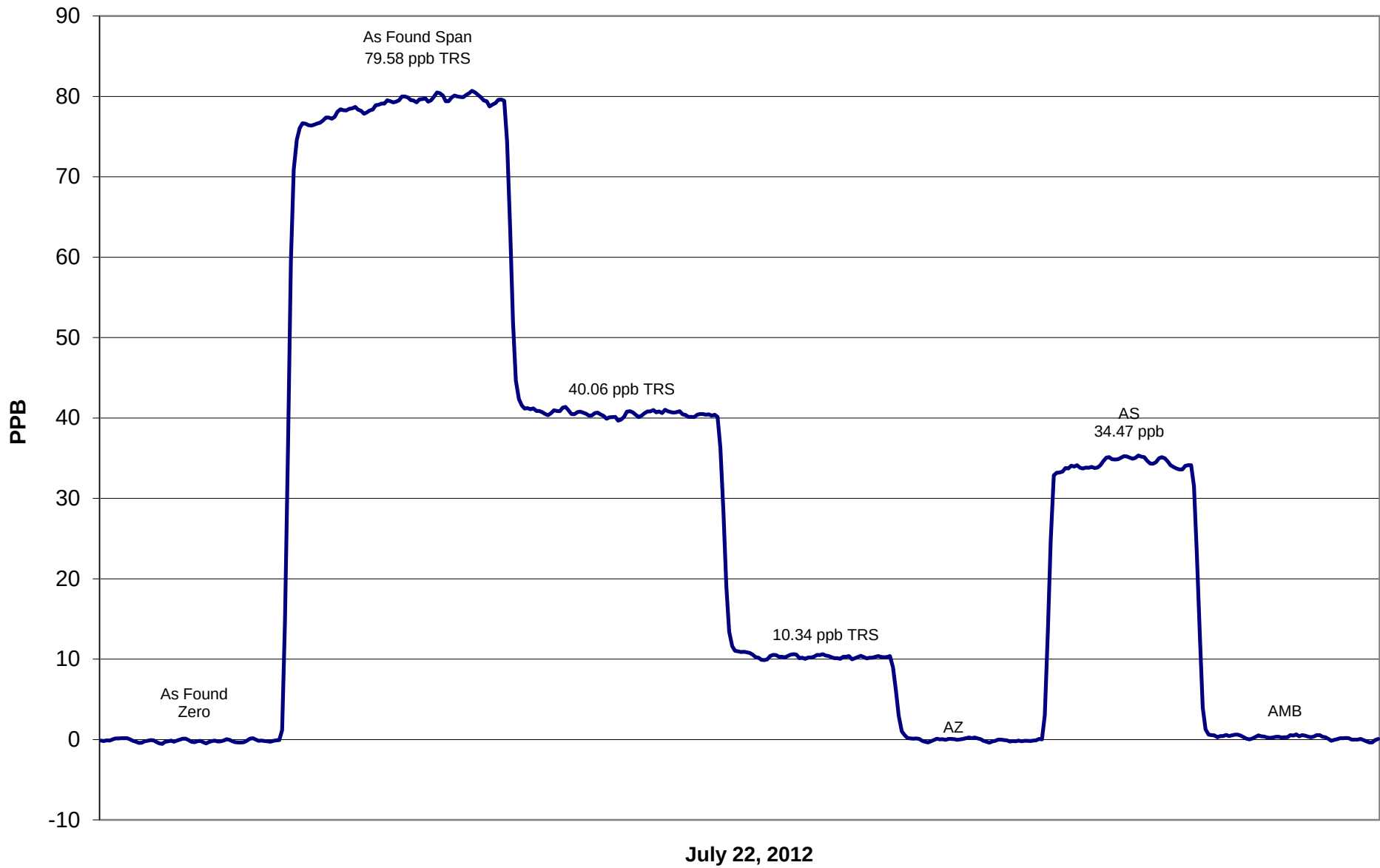
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	-0.180	N/A		
79.579	79.825	0.9969	Correlation Coefficient	0.999964
40.060	40.550	0.9879		
10.321	10.286	1.0034	Slope	0.994265
			Intercept	0.057174

TRS Calibration Curve



TRS Calibration



Calibration Report



Parameter SO₂

Air Monitoring Network PAZA

Station Information

Calibration Date	July 27, 2012	Previous Calibration	June 21, 2012
Station Number	2	Station Location	Evergreen Park
Reason:	☒ Routine	☐ Install	☐ Removal
		☐ Other:	
Start Time (MST)	9:08	End Time (MST)	13:21
Barometric Pressure	0.925 ATM	Station Temperature	20.0 Deg C
Calibrator	EnviroNics	Serial Number	3474
Cal Gas Concentration	50.8 ppm	Cal Gas Expiry Date	3/12/2014
Correction factor	0.031443	Cal Gas Cylinder #	LL107272
DACS make	CR3000	DACS serial No.	5236
DACS voltage range	0 - 5 volt	DACS channel #	6
	Before		After
Calculated slope	1.004752	Calculated slope	1.006636
Calculated intercept	0.040927	Calculated intercept	0.150176
Analyzer make	Teco 43i	Analyzer serial #	701120008

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
Background	11.1		11.1	
coefficient	1.171		1.171	
Lamp Voltage	823	volts	824	volts
Chamber Temp	45.2	Deg C	45.2	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	669.5	mm Hg	667.7	mm Hg
Sample Flow	0.447	ccm	0.446	ccm
Lamp Intensity	90	%	90	%

Dilution air flow rate (cc/min)	Corrected gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4989	0.0	0.00	0.1	N/A
4989	39.90	403.1	400.5	1.0063
4989	19.93	202.1	200.1	1.0102
4989	9.84	100.0	99.2	1.0076
4989	0.0	0.0	0.1	As Found Zero
4989	39.84	402.5	400.6	As Found Span
Average Correction Factor				1.0080

Calculated value of As Found Response: 402.463 ppm Percent Change of As Found: 0.0%

	before calibration		after calibration	
Auto zero	0.6	ppm	0.0	ppm
Auto span	279.9	ppm	282.5	ppm

Notes: No adjust. Using new cal gas cylinder.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter SO2

Air Monitoring Network PAZA



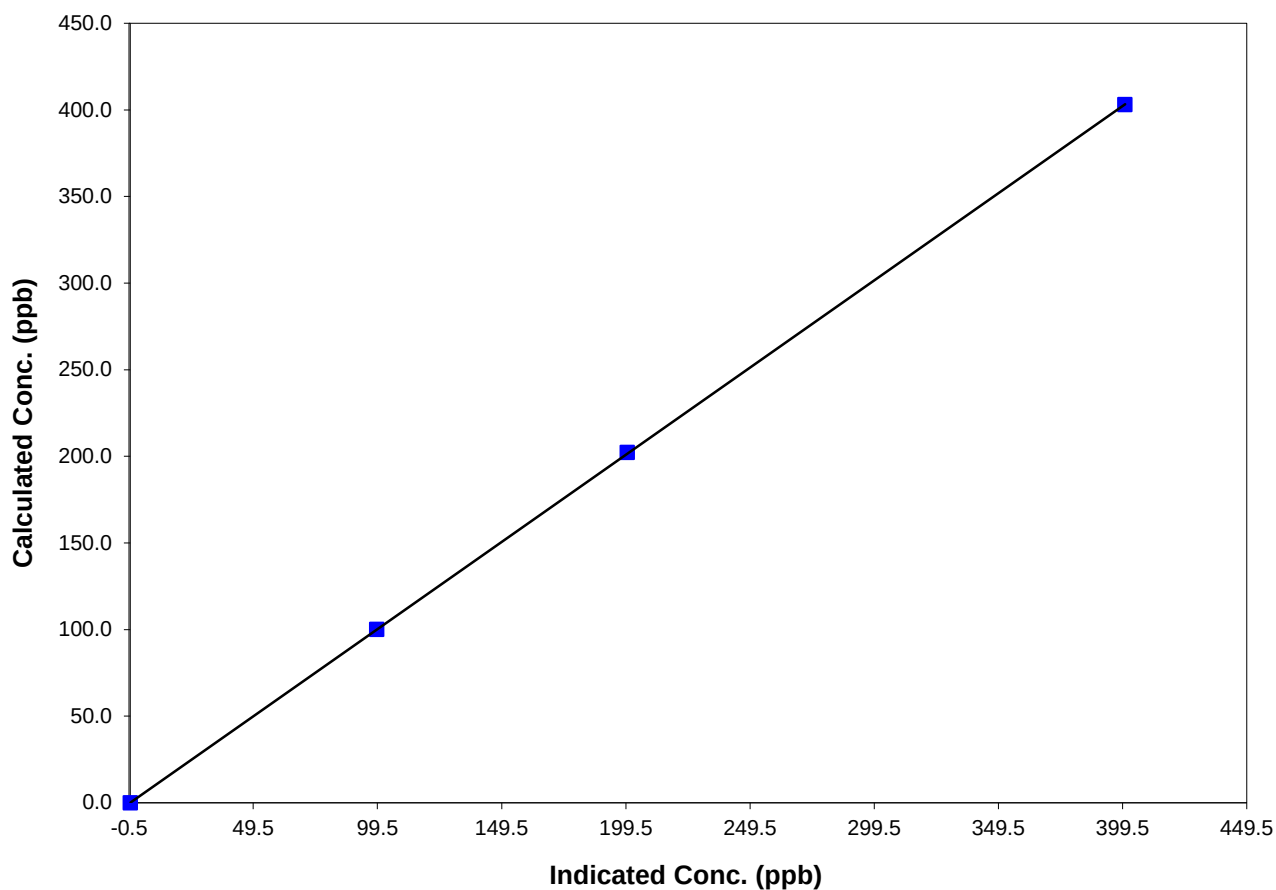
Station Information

Calibration Date	July 27, 2012	Previous Calibration	June 21, 2012
Station Number	2	Station Location	Evergreen Park
Start Time (MST)	9:08	End Time (MST)	13:21
Analyzer make/model	Teco 43i	Analyzer serial #	701120008

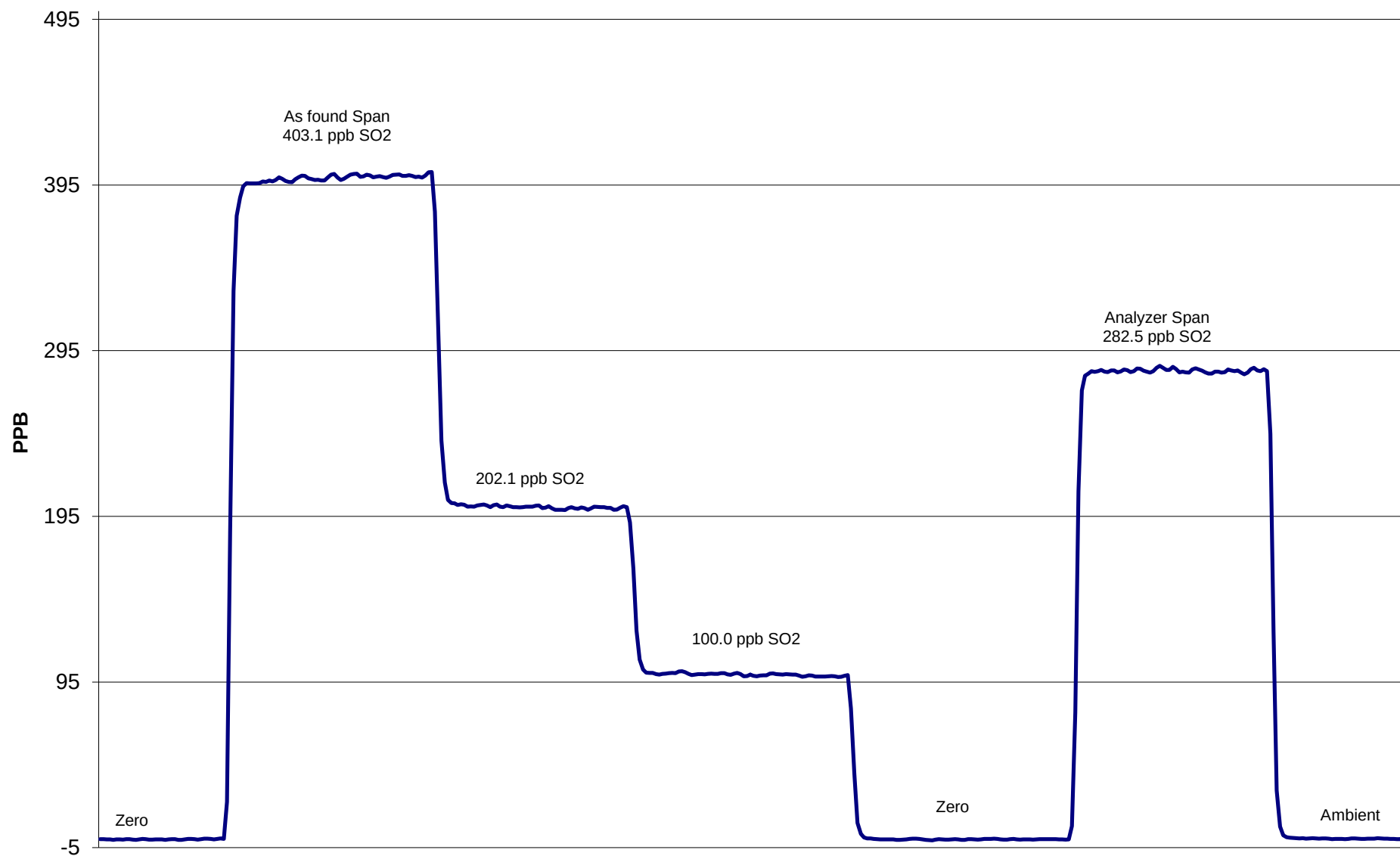
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.1	N/A		
403.1	400.5	1.0063	Correlation Coefficient	0.999995
202.1	200.1	1.0102		
100.0	99.2	1.0076	Slope	1.006636
			Intercept	0.150176

SO2 Calibration Curve



SO2 Calibration



July 27, 2012

Calibration Report



Parameter TRS

Air Monitoring Network PAZA

Station Information

Calibration Date	July 24, 2012	Previous Calibration	June 21, 2012
Station Number	2	Station Location	Evergreen Park
Reason:	☒ Routine	☐ Install	☐ Removal
		☐ Other:	

Start Time (MST)	10:20	End Time (MST)	15:00
Barometric Pressure	0.925 ATM	Station Temperature	20.0 Deg C
Calibrator	EnviroNics	Serial Number	3474
Cal Gas Conc	5.77 ppm	Cal Gas Expiry Date	9/3/2011
Correction factor	0.031443	Cal Gas Cylinder #	BLM1715
DACS make	CR3000	DACS serial No.	5236
DACS voltage range	0 - 5 volt	DACS channel #	5
	<u>Before</u>		<u>After</u>
Calculated slope	0.986540	Calculated slope	1.124717
Calculated intercept	0.365981	Calculated intercept	-0.108214

Analyzer make TEI Model 43C Analyzer serial # 436610005

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Background	25.1	ppb	25.1	ppb
coefficient	1.059		1.059	
Lamp Voltage	940	volts	940	volts
Chamber Temp	44.1	Deg C	44.1	Deg C
Perm Gas Temp	44.97	Deg C	44.97	Deg C
Pressure	646.1	mm Hg	647.8	mm Hg
Sample Flow	0.472	ccm	0.476	ccm
Lamp Intensity	37,520	mv	36,883	mv

Calibration Data

Dilution air flow rate (cc/min)	Corrected gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4989	0.00	0.00	0.1	N/A
4989	69.81	79.62	70.9	1.1232
4989	0.00	0.00	0.1	As Found Zero
4989	69.81	79.62	70.9	As Found Span
Average Correction Factor				1.1232

Calculated value of As Found Response: 70.21 ppm Percent Change of As Found: 11.8%

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

Notes: Slow response. Trouble shoot for leaks. Electronics seem affected by recent lightning strikes.
Could not get analyzer to stabilize. Pulled & replaced with old spare parted together.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter TRS

Air Monitoring Network PAZA



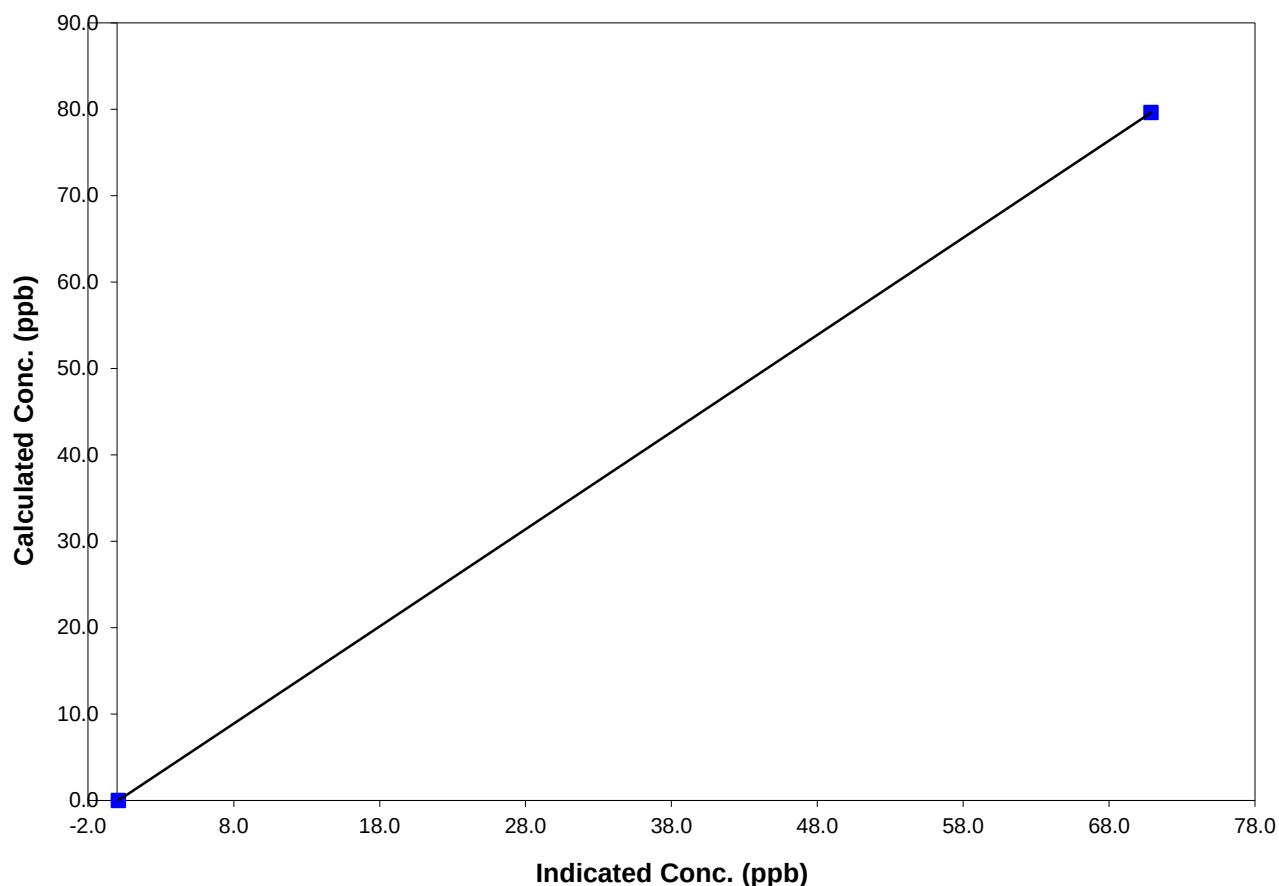
Station Information

Calibration Date	July 24, 2012	Previous Calibration	June 21, 2012
Station Number	2	Station Location	Evergreen Park
Start Time (MST)	10:20	End Time (MST)	15:00
Analyzer make/model	TEI Model 43C	Analyzer serial #	436610005

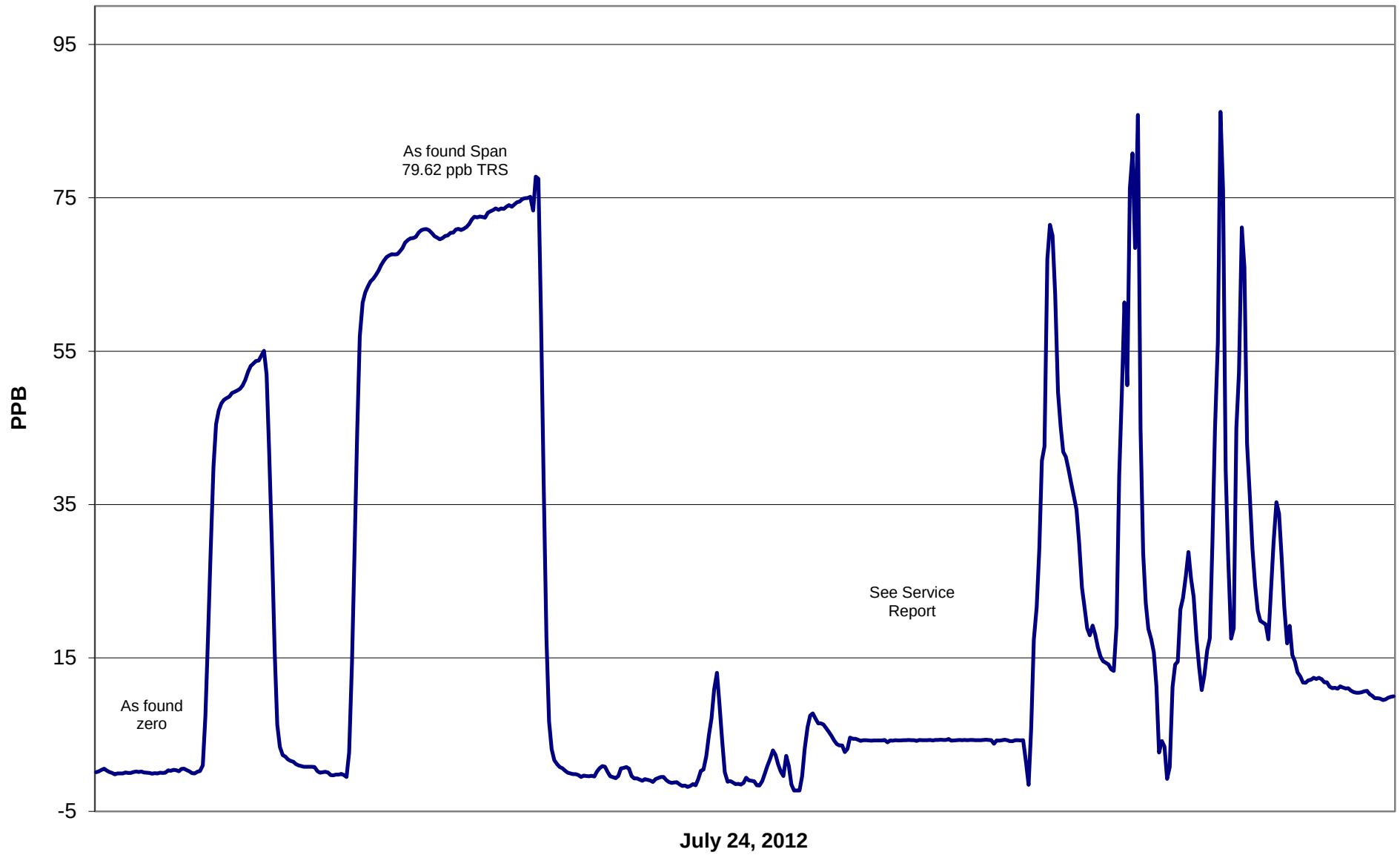
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.1	N/A	Correlation Coefficient	1.000000
79.6	70.9	1.1232		
			Slope	1.124717
			Intercept	-0.108214

TRS Calibration Curve



TRS Calibration



Calibration Report



Parameter TRS

Air Monitoring Network PAZA

Station Information

Calibration Date	July 24, 2012	Previous Calibration	N/A
Station Number	2	Station Location	Evergreen Park
Reason:	☐ Routine	☒ Install	☐ Removal
			☐ Other:

Start Time (MST)	20:00	End Time (MST)	22:00
Barometric Pressure	0.925 ATM	Station Temperature	20.0 Deg C
Calibrator	EnviroNics	Serial Number	3474
Cal Gas Conc	5.77 ppm	Cal Gas Expiry Date	9/3/2011
Correction factor	0.031443	Cal Gas Cylinder #	BLM1715
DACS make	CR3000	DACS serial No.	5236
DACS voltage range	0 - 5 volt	DACS channel #	5
	<u>Before</u>		<u>After</u>
Calculated slope	N/A	Calculated slope	1.006753
Calculated intercept	N/A	Calculated intercept	-0.714911

Analyzer make TEI Model 43C Analyzer serial # 31990000000491

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Background	NA	ppb	45.5	ppb
coefficient	NA		1.332	
Lamp Voltage	NA	volts	830	volts
Chamber Temp	NA	Deg C	44.1	Deg C
Perm Gas Temp	NA	Deg C	44.97	Deg C
Pressure	NA	mm Hg	614.7	mm Hg
Sample Flow	NA	ccm	0.575	ccm
Lamp Intensity	NA	mv	20,883	mv

Calibration Data

Dilution air flow rate (cc/min)	Corrected gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4989	0.00	0.00	0.9	N/A
4989	69.81	79.62	79.6	0.9997
4989	34.88	40.06	40.9	0.9794
4989	8.96	10.34	10.5	0.9806
				As Found Zero
				As Found Span
Average Correction Factor				0.9866

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

	before calibration		after calibration	
Auto zero	0.2	ppm	-0.6	ppm
Auto span	71.9	ppm	99.5	ppm

Notes: Install old standby 43C from shop. Allow stabilize. Factory cal. Analyzer is old and has about 1.5 ppb of noise. Will talk to Shelly about a possible replacement.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter TRS

Air Monitoring Network PAZA



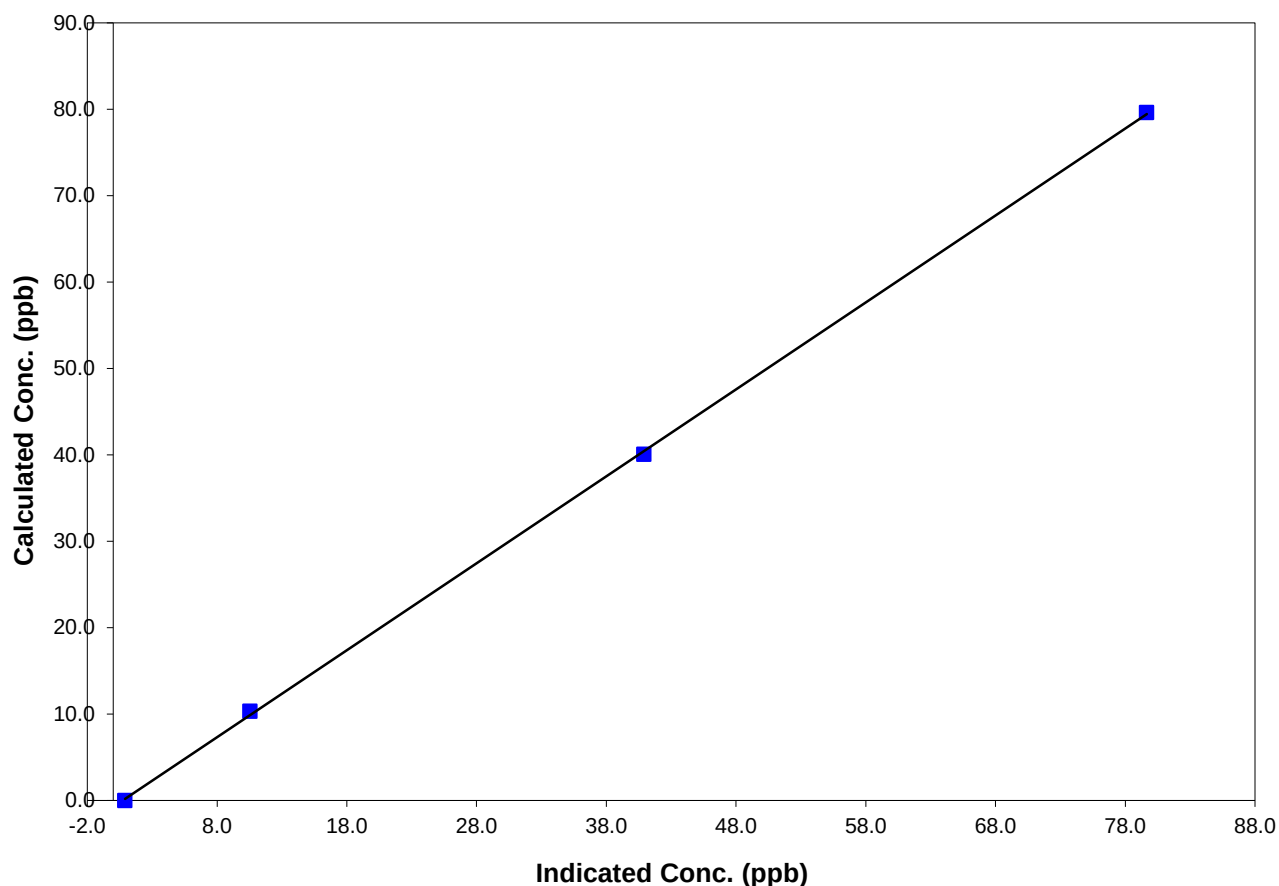
Station Information

Calibration Date	July 24, 2012	Previous Calibration	N/A
Station Number	2	Station Location	Evergreen Park
Start Time (MST)	20:00	End Time (MST)	22:00
Analyzer make/model	TEI Model 43C	Analyzer serial #	31990000000491

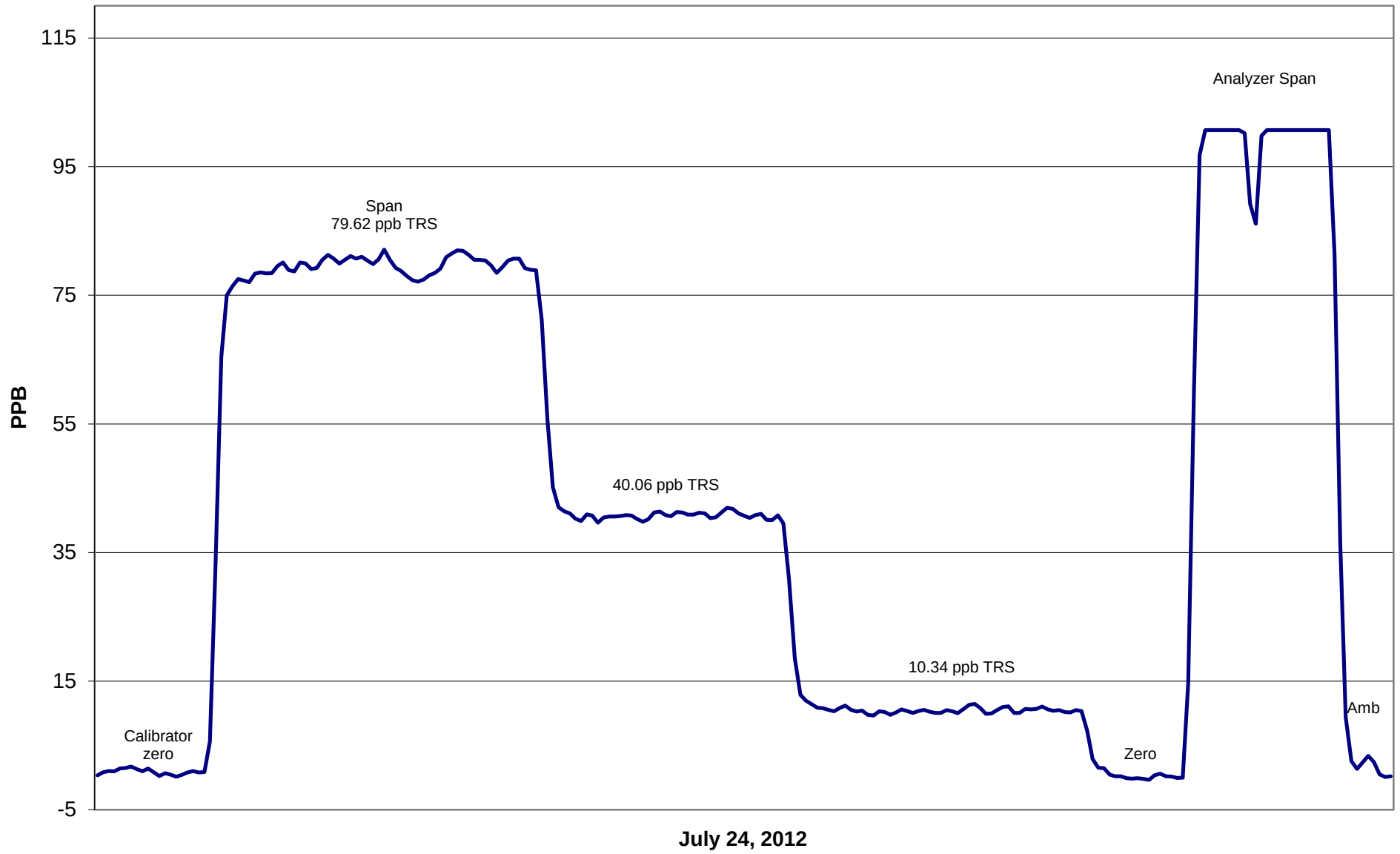
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.9	N/A	Correlation Coefficient	0.999891
79.6	79.6	0.9997		
40.1	40.9	0.9794		
10.3	10.5	0.9806	Slope	1.006753
			Intercept	-0.714911

TRS Calibration Curve



TRS Calibration



Calibration Report



Parameter TRS

Air Monitoring Network PAZA

Station Information

Calibration Date	July 25, 2012	Previous Calibration	July 24, 2012
Station Number	2	Station Location	Evergreen Park
Reason:	☒ Routine	☐ Install	☐ Removal
		☐ Other:	

Start Time (MST)	12:00	End Time (MST)	15:25
Barometric Pressure	0.925 ATM	Station Temperature	20.0 Deg C
Calibrator	EnviroNics	Serial Number	3474
Cal Gas Conc	5.77 ppm	Cal Gas Expiry Date	9/3/2011
Correction factor	0.031443	Cal Gas Cylinder #	BLM1715
DACS make	CR3000	DACS serial No.	5236
DACS voltage range	0 - 5 volt	DACS channel #	5
	<u>Before</u>		<u>After</u>
Calculated slope	0.986540	Calculated slope	0.991079
Calculated intercept	0.365981	Calculated intercept	-0.347865

Analyzer make TEI Model 43C Analyzer serial # 31990000000491

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Background	45.5	ppb	33.3	ppb
coefficient	1.332		1.064	
Lamp Voltage	830	volts	988	volts
Chamber Temp	44.1	Deg C	44.1	Deg C
Perm Gas Temp	44.97	Deg C	45	Deg C
Pressure	614.7	mm Hg	645.5	mm Hg
Sample Flow	0.575	ccm	0.596	ccm
Lamp Intensity	20,883	mv	32,234	mv

Calibration Data

Dilution air flow rate (cc/min)	Corrected gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4989	0.00	0.00	0.4	N/A
4989	69.81	79.62	80.7	0.9864
4989	34.88	40.06	40.7	0.9838
4989	8.96	10.34	10.8	0.9611
				As Found Zero
				As Found Span
Average Correction Factor				0.9771

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

	before calibration		after calibration	
Auto zero	0.2	ppm	0.4	ppm
Auto span	71.9	ppm	82.7	ppm

Notes: No as found cal possible Oxidizer rebuilt & checked for leaks. Analyzer checked for leaks - repaired.
Adjusted lamp V & PMT. Allow stabilize, calibrate. Adjusted Zero and Span

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter TRS

Air Monitoring Network PAZA



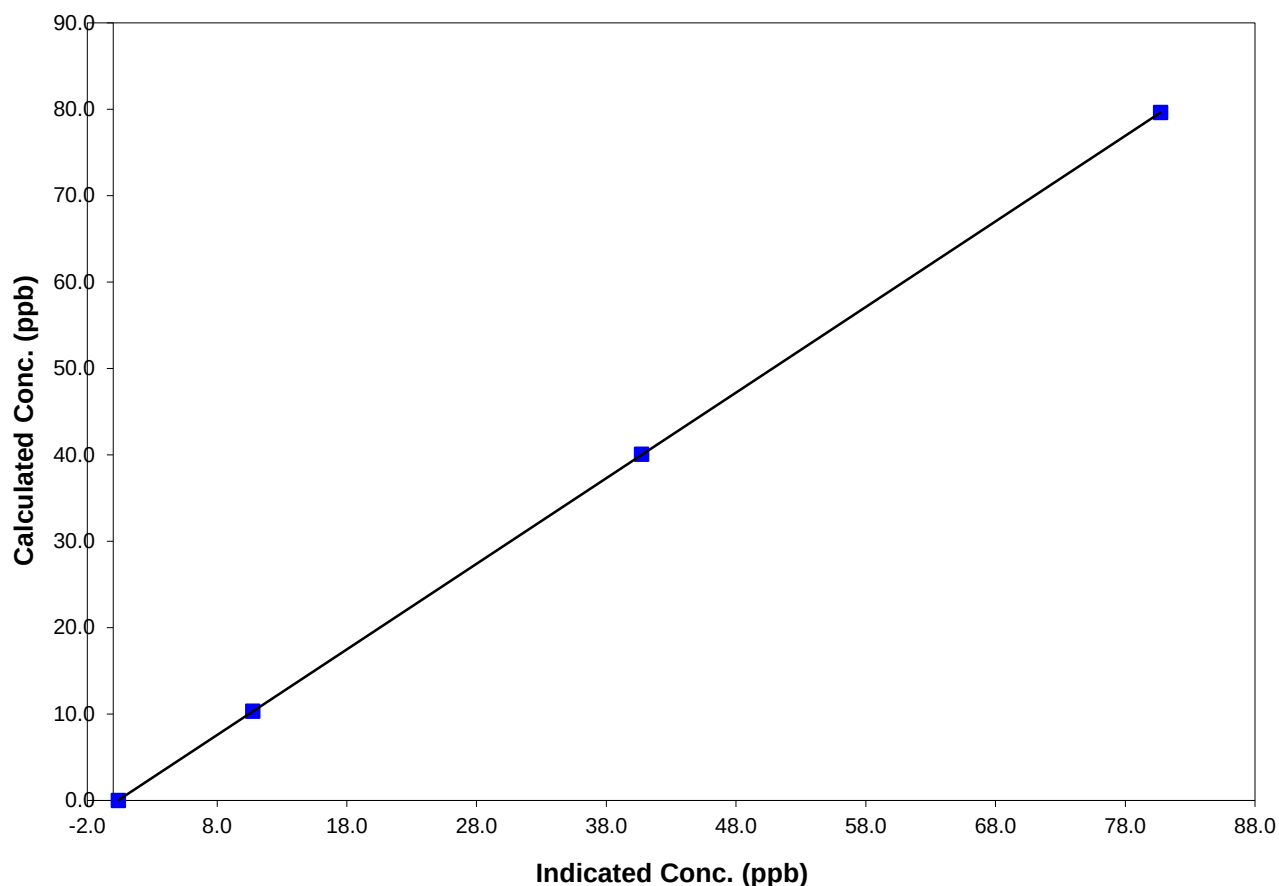
Station Information

Calibration Date	July 25, 2012	Previous Calibration	July 24, 2012
Station Number	2	Station Location	Evergreen Park
Start Time (MST)	12:00	End Time (MST)	15:25
Analyzer make/model	TEI Model 43C	Analyzer serial #	31990000000491

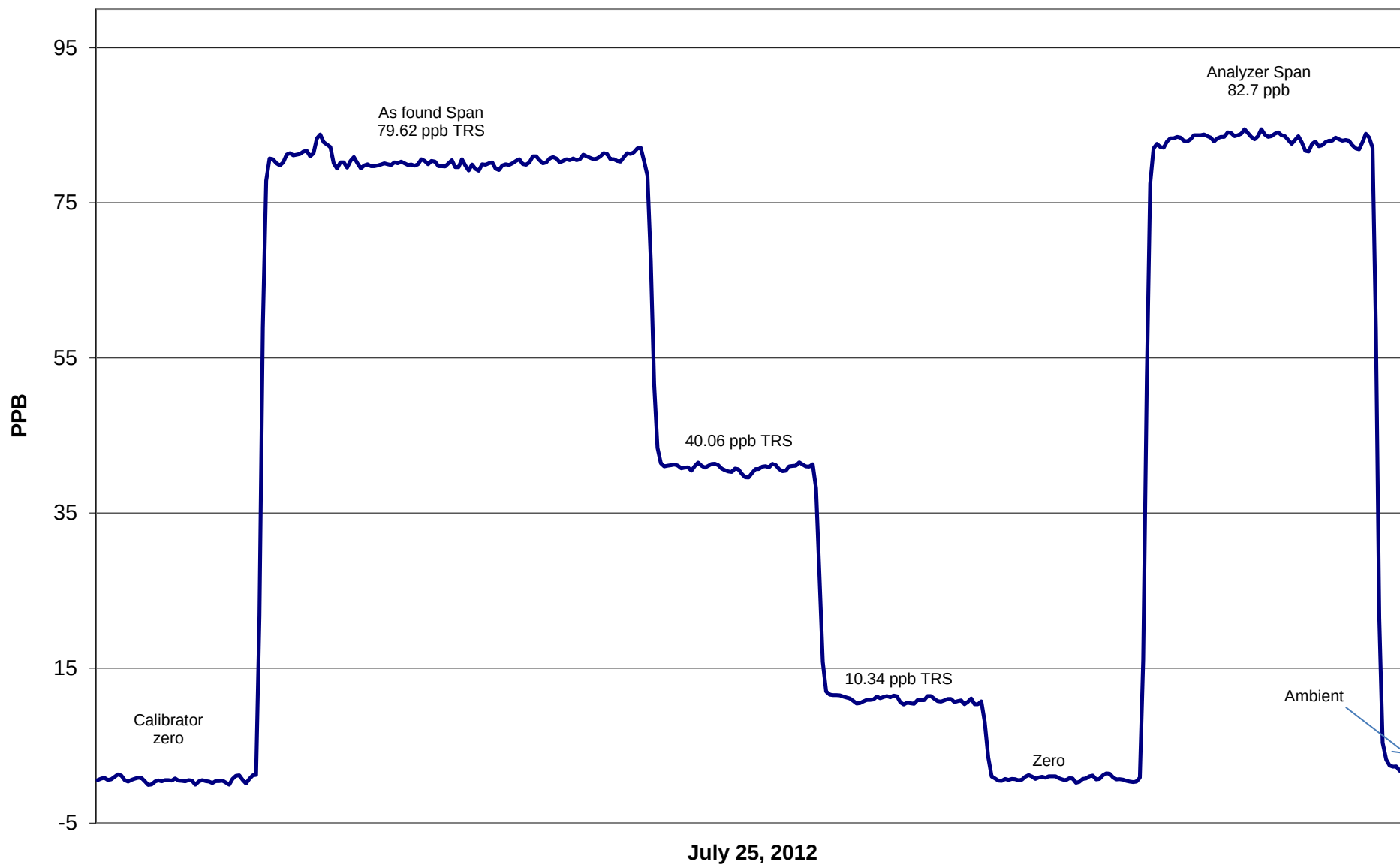
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.4	N/A	Correlation Coefficient	0.999998
79.6	80.7	0.9864		
40.1	40.7	0.9838		
10.3	10.8	0.9611	Slope	0.991079
			Intercept	-0.347865

TRS Calibration Curve



TRS Calibration



Calibration Report

Parameter TRS

Air Monitoring Network PAZA



Station Information

Calibration Date	July 27, 2012	Previous Calibration	July 25, 2012
Station Number	2	Station Location	Evergreen Park
Reason:	Routine	Install	Removal
		Other:	
Start Time (MST)	13:00	End Time (MST)	17:10
Barometric Pressure	0.925 ATM	Station Temperature	20.0 Deg C
Calibrator	EnviroNics	Serial Number	3474
Cal Gas Conc	10.1 ppm	Cal Gas Expiry Date	5/11/2013
Correction factor	0.031443	Cal Gas Cylinder #	LL160692
DACS make	CR3000	DACS serial No.	5236
DACS voltage range	0 - 5 volt	DACS channel #	5
	<u>Before</u>		<u>After</u>
Calculated slope	0.991079	Calculated slope	0.994313
Calculated intercept	-0.347865	Calculated intercept	-0.445507

Analyzer make TEI Model 43C Analyzer serial # 31990000000491

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Background	33.3	ppb	32	ppb
coefficient	1.064		1.019	
Lamp Voltage	990	volts	993	volts
Chamber Temp	44.1	Deg C	44.1	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	643.2	mm Hg	641.5	mm Hg
Sample Flow	0.584	ccm	0.589	ccm
Lamp Intensity	32,412	mv	32,271	mv

Calibration Data

Dilution air flow rate (cc/min)	Corrected gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4989	0.00	0.00	0.5	N/A
4989	39.90	80.13	81.0	0.9890
4989	19.94	40.21	40.9	0.9820
8989	8.96	10.06	10.4	0.9635
4989	0.00	0.00	1.0	As Found Zero
4989	39.90	80.13	80.3	As Found Span
Average Correction Factor				0.9782

Calculated value of As Found Response: 78.32 ppm Percent Change of As Found: 2.3%

	before calibration		after calibration	
Auto zero	0.2	ppm	0.2	ppm
Auto span	71.9	ppm	80.6	ppm

Notes: Slow response. Drop back to zero, trouble shoot analyzer. Found leaks in scrubber assembly.
Repair leaks & restart calibration. As good as this old analyzer is going to get.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter TRS

Air Monitoring Network PAZA



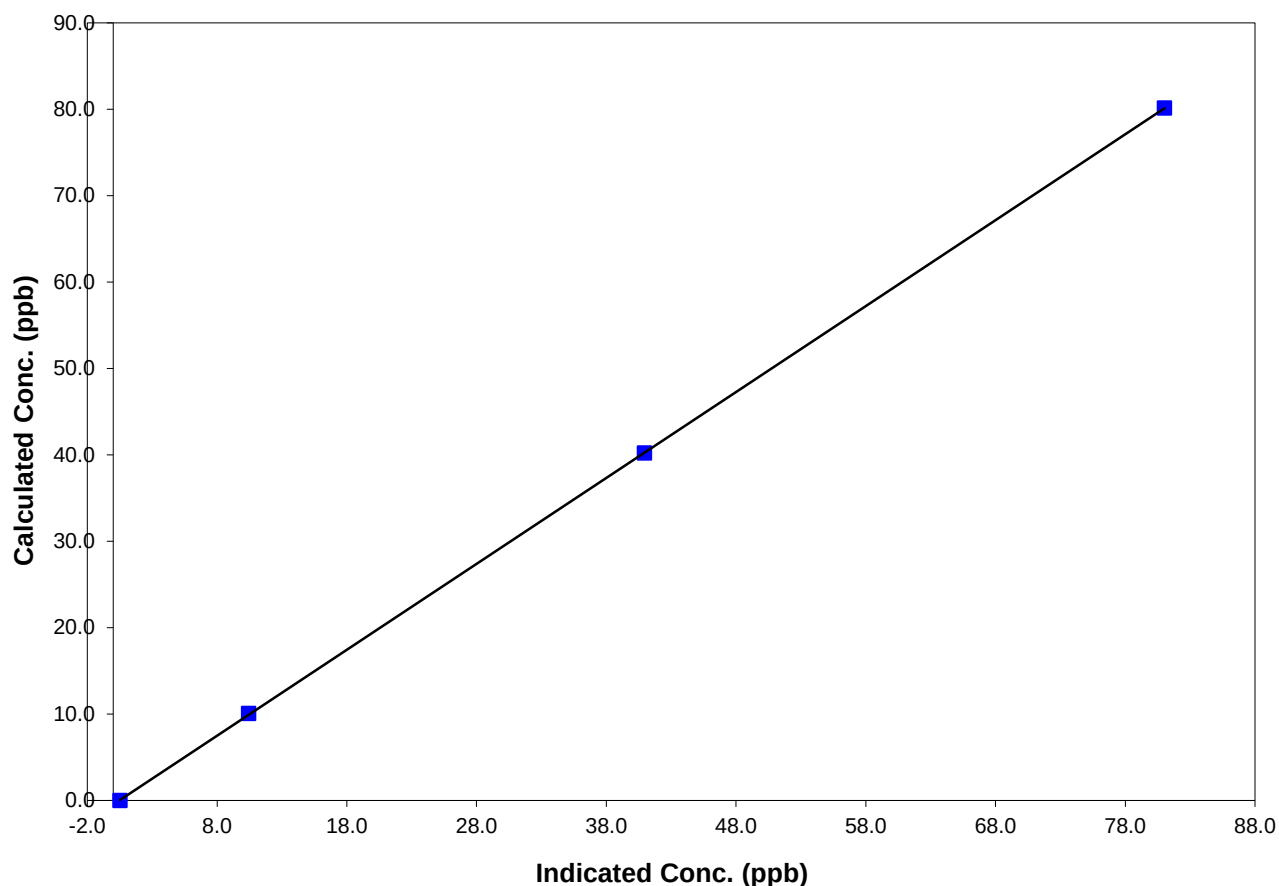
Station Information

Calibration Date	July 27, 2012	Previous Calibration	July 25, 2012
Station Number	2	Station Location	Evergreen Park
Start Time (MST)	13:00	End Time (MST)	17:10
Analyzer make/model	TEI Model 43C	Analyzer serial #	31990000000491

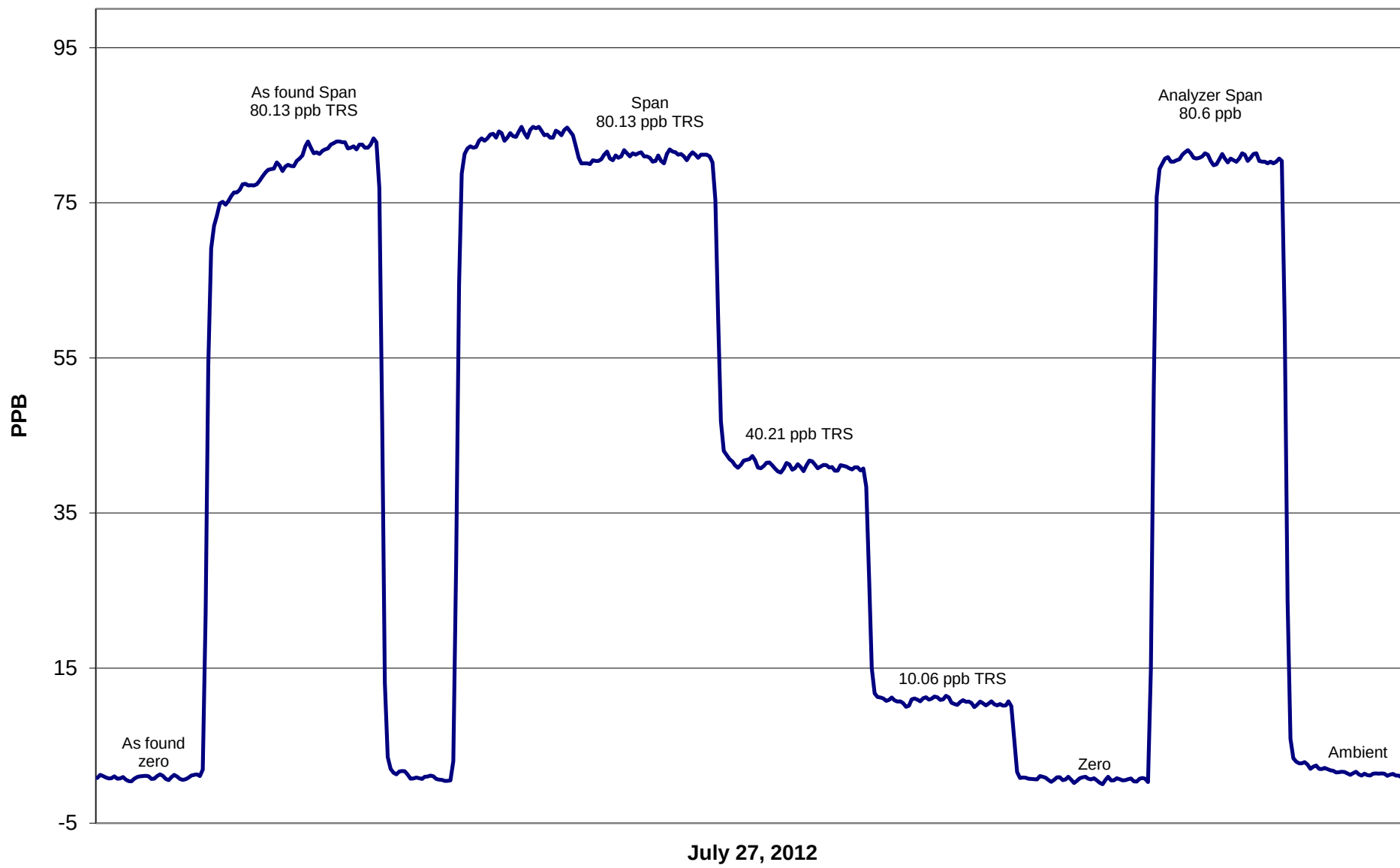
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.5	N/A	Correlation Coefficient	0.999993
80.1	81.0	0.9890		
40.2	40.9	0.9820		
10.1	10.4	0.9635	Slope	0.994313
			Intercept	-0.445507

TRS Calibration Curve



TRS Calibration



AB TEOM PM2.5 Calibration



STATION: Evergreen Park
 LOCATION: PAZA - Grande Prairie

OPERATOR: Grover Christiansen
 DATE: 24/7/2012

MONITOR INFO / PARAMETER VALUES:

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

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

RECENT CALIBRATION AND AUDIT HISTORY

Previous Audit	26/4/2012
Previous Calibration	NA

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

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

"FAIL" indicates that pump requires service.

LEAK CHECK	Indicated Flow (lpm)	
	Main	Auxiliary
PUMP ON	0.040	0.300
PUMP OFF	0.000	0.000
NET	0.040	0.300
LIMITS	<0.15	<0.60

	Ambient Temp. (^o C)	Ambient Pres. (atm)	Ko *	Bypass flow (lpm)	Sample flow (lpm)
SET POINT (S)	na	na	16147	13.67	3.000
INDICATED (I)	20.5	0.922	X	13.66	2.999
MEASURED (AF)	19.9	0.921		13.69	2.997
MEASURED (M)	19.9	0.921	16278	13.69	2.997
DIFFERENCE (M-I)	-0.6	-0.001	0.8%	0.15	-0.10
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: 0.11014

Serial #: CVK 2123

COMMENTS: Pass.

Replaced sample filter. Filter loaded @ 18%.

Sample Head Inspection/Cleaning:

Large In Line Filter Inspection & Or Cleaning:

Calibration Report



Parameter SO₂

Air Monitoring Network PAZA

Station Information

Calibration Date	July 29, 2012	Previous Calibration	June 22, 2012
Station Number	3	Station Location	Smokey Heights
Reason:	☒ Routine	☐ Install	☐ Removal
		☐ Other:	
Start Time (MST)	12:05	End Time (MST)	15:18
Barometric Pressure	0.927 ATM	Station Temperature	20.0 Deg C
Calibrator	EnviroNics 6100	Serial Number	3474
Cal Gas Concentration	50.8 ppm	Cal Gas Cert Date	3/12/2014
Correction factor	0.031511	Cal Gas Cylinder #	LL107272
DACS make	CR3000	DACS serial No.	5238
DACS voltage range	0 - 5 volt	DACS channel #	6
	Before		After
Calculated slope	1.003396	Calculated slope	1.000619
Calculated intercept	0.179366	Calculated intercept	0.805271
Analyzer make	Teco 43i	Analyzer serial #	701120009

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
Background	10.5		10.6	
coefficient	0.955		0.963	
Lamp Voltage	923	volts	922	volts
Chamber Temp	45	Deg C	45	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	672.3	mm Hg	671.7	mm Hg
Sample Flow	0.450	ccm	0.449	ccm
Lamp Intensity	88	%	89	%

Calibration Data

Dilution air flow rate (cc/min)	Corrected gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4989	0.0	0.00	0.2	N/A
4989	39.85	402.55	401.9	1.0017
4989	19.92	202.03	201.0	1.0052
4989	9.94	101.01	98.8	1.0220
4989	0.0	0.00	0.2	As Found Zero
4989	39.85	402.55	401.9	As Found Span
Average Correction Factor				1.0096

Calculated value of As Found Response: 403.184 ppm Percent Change of As Found: -0.2%

	before calibration		after calibration	
Auto zero	0.4	ppb	0.2	ppb
Auto span	304.5	ppb	260.7	ppb

Notes: No adjust.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter SO2

Air Monitoring Network PAZA



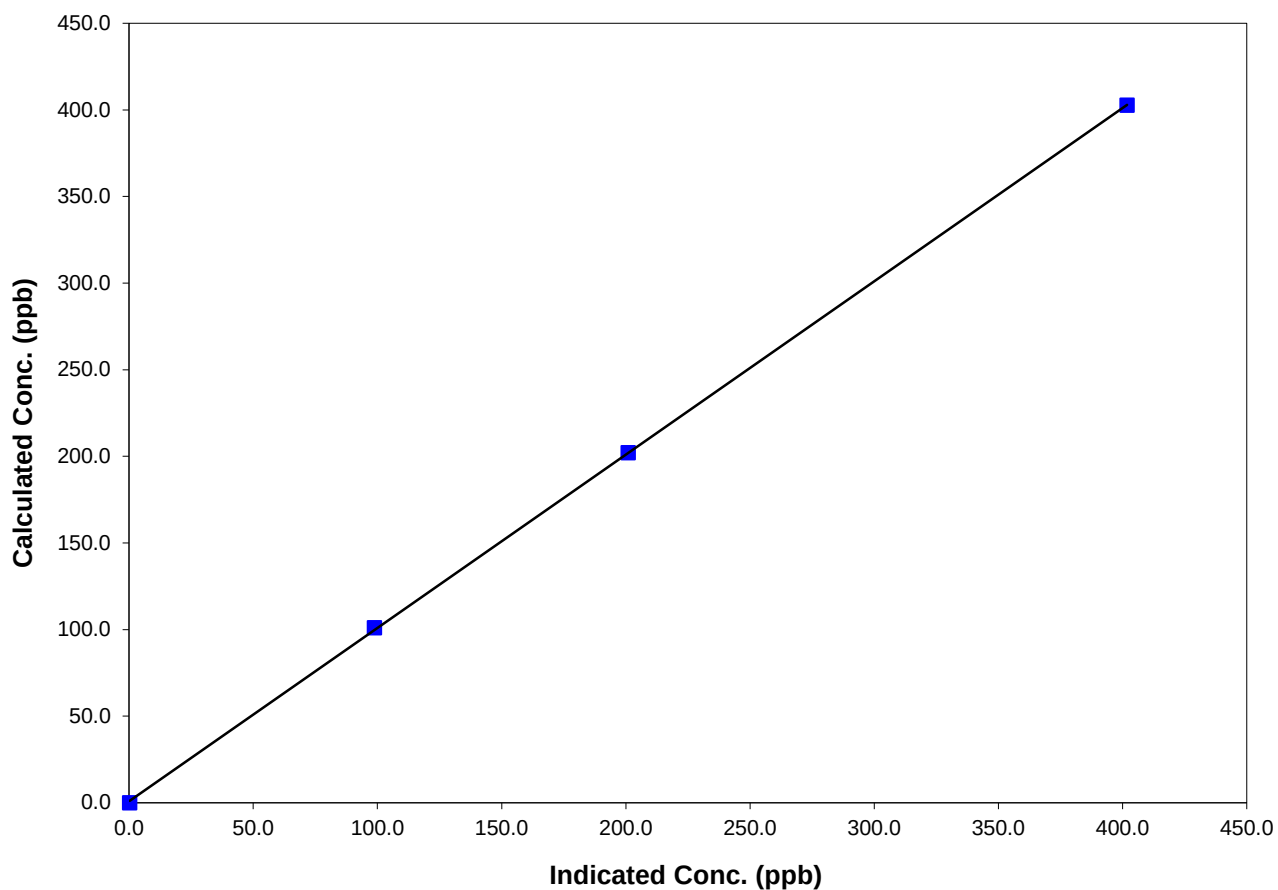
Station Information

Calibration Date	July 29, 2012	Previous Calibration	June 22, 2012
Station Number	3	Station Location	Smokey Heights
Start Time (MST)	12:05	End Time (MST)	15:18
Analyzer make/model	Teco 43i	Analyzer serial #	701120009

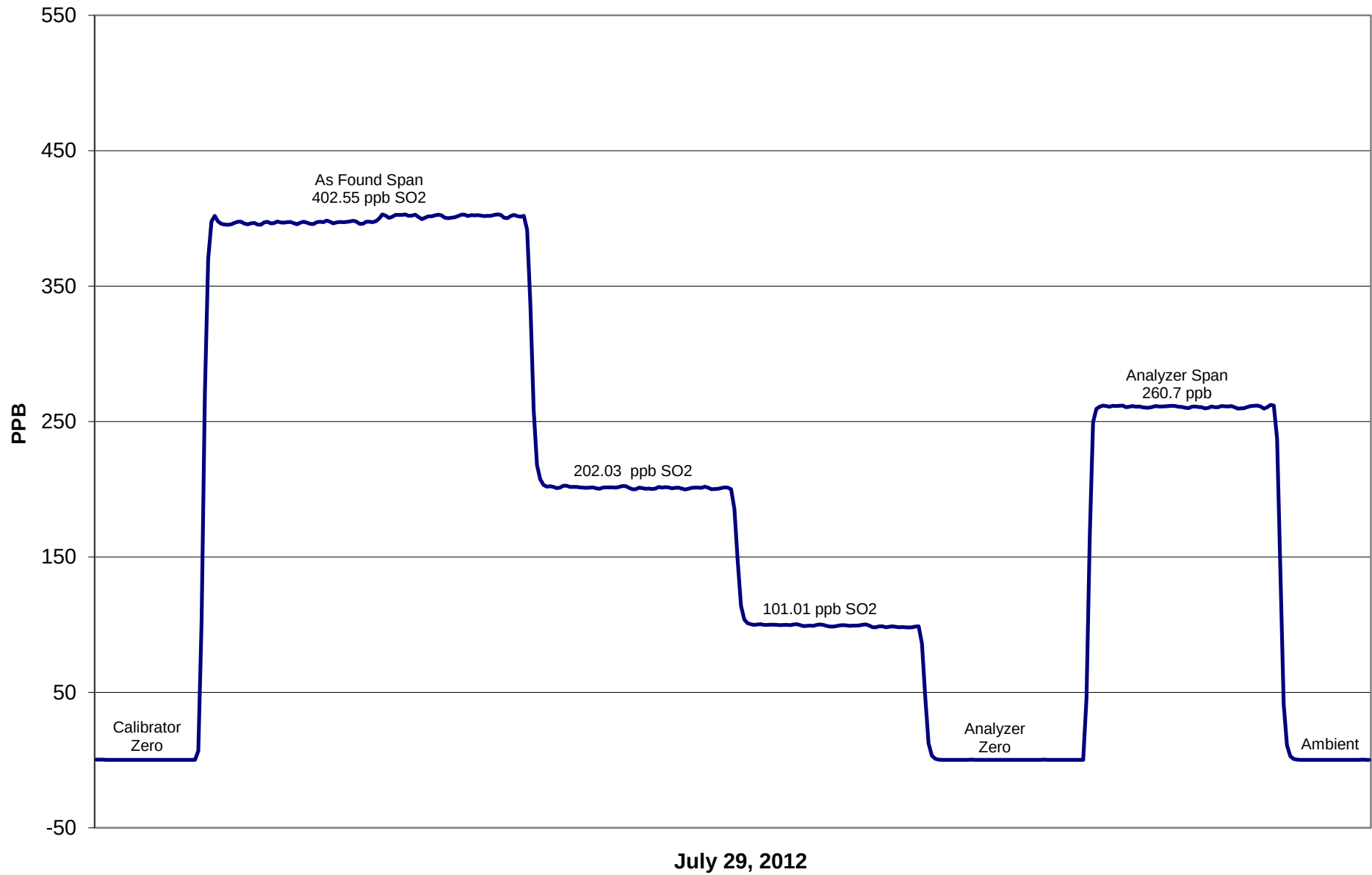
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.2	N/A	Correlation Coefficient	0.999967
402.6	401.9	1.0017		
202.0	201.0	1.0052		
101.0	98.8	1.0220	Slope	1.000619
			Intercept	0.805271

SO2 Calibration Curve



Smoky Heights SO₂ Calibration



Calibration Report



Parameter TRS

Air Monitoring Network PAZA

Station Information

Calibration Date	July 29, 2012	Previous Calibration	June 22, 2012
Station Number	3	Station Location	Smokey Heights
Reason:	Routine	Install	Removal
		Other:	

Start Time (MST)	8:20	End Time (MST)	12:50
Barometric Pressure	0.925 ATM	Station Temperature	20.0 Deg C
Calibrator	EnviroNics 6100	Serial Number	3474
Cal Gas Conc	10.1 ppm	Cal Gas Expiry Date	5/11/2013
Correction factor	0.031443	Cal Gas Cylinder #	LL160692
DACS make	CR3000	DACS serial No.	5238
DACS voltage range	0 - 5 volt	DACS channel #	5
	<u>Before</u>		<u>After</u>
Calculated slope	0.999402	Calculated slope	0.991275
Calculated intercept	0.013917	Calculated intercept	-0.155732

Analyzer make TEI Model 43C Analyzer serial # 0436610005

	before		after	
Concentration range	100	ppb	100	ppb
Background	18.8	ppb	17.5	ppb
coefficient	0.989		0.929	
Lamp Voltage	802	volts	802	volts
Chamber Temp	43.5	Deg C	43.5	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	554.3	mm Hg	558.4	mm Hg
Sample Flow	0.590	ccm	0.599	ccm
Lamp Intensity	35,463	mv	35,426	mv

Dilution air flow rate (cc/min)	Corrected gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4989	0.0	0.00	0.4	N/A
4989	39.87	80.08	81.1	0.9872
4989	19.92	40.17	40.3	0.9958
8989	8.96	10.06	10.2	0.9849
4989	0.0	0.00	0.4	As Found Zero
4989	39.87	80.08	84.3	As Found Span
Average Correction Factor				0.9893

Calculated value of As Found Response: 83.84 ppm Percent Change of As Found: -4.7%

	before calibration		after calibration	
Auto zero	0.0	ppm	0.2	ppm
Auto span	52.9	ppm	17.8	ppm

Notes: Slight adjust 80% point.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter TRS

Air Monitoring Network PAZA



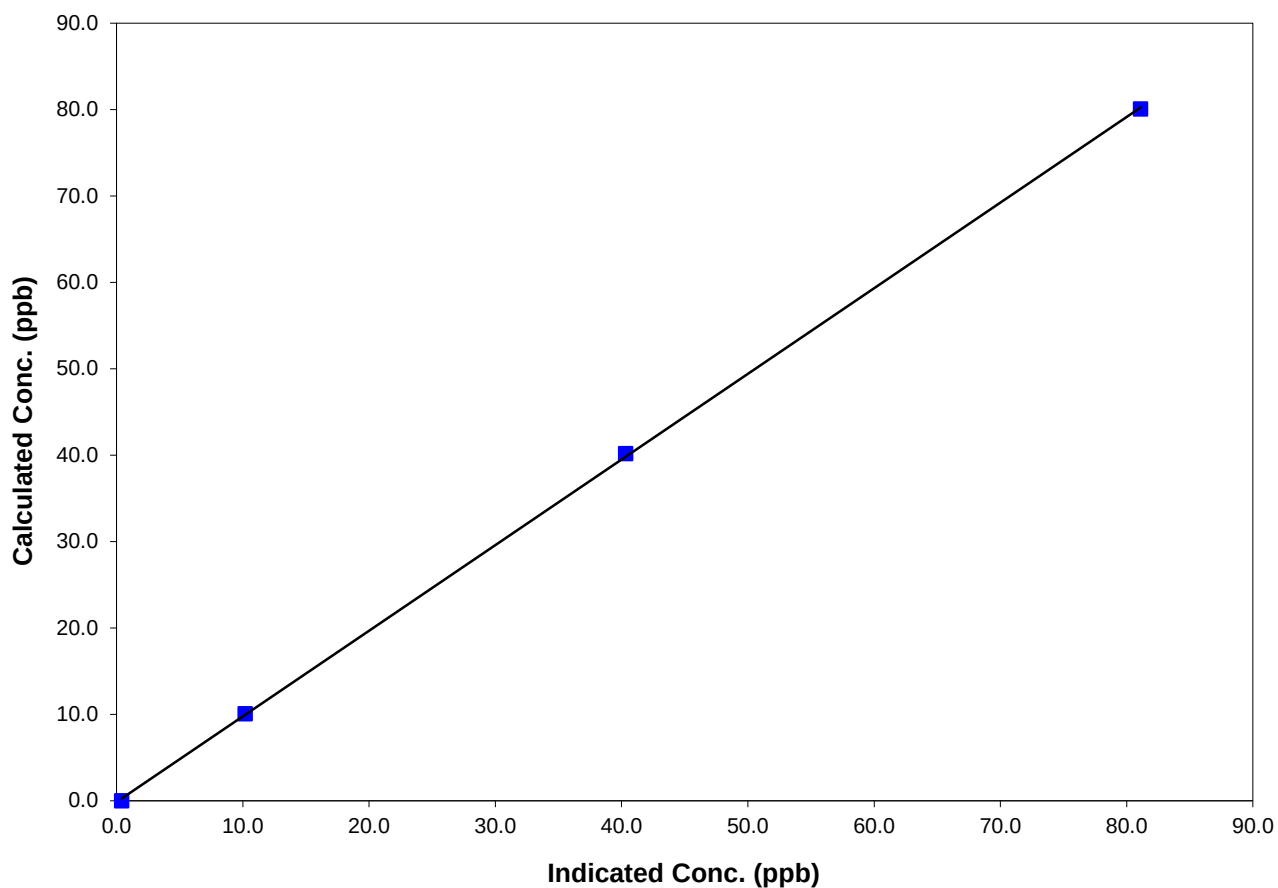
Station Information

Calibration Date	July 29, 2012	Previous Calibration	June 22, 2012
Station Number	3	Station Location	Smokey Heights
Start Time (MST)	8:20	End Time (MST)	12:50
Analyzer make/model	TEI Model 43C	Analyzer serial #	0436610005

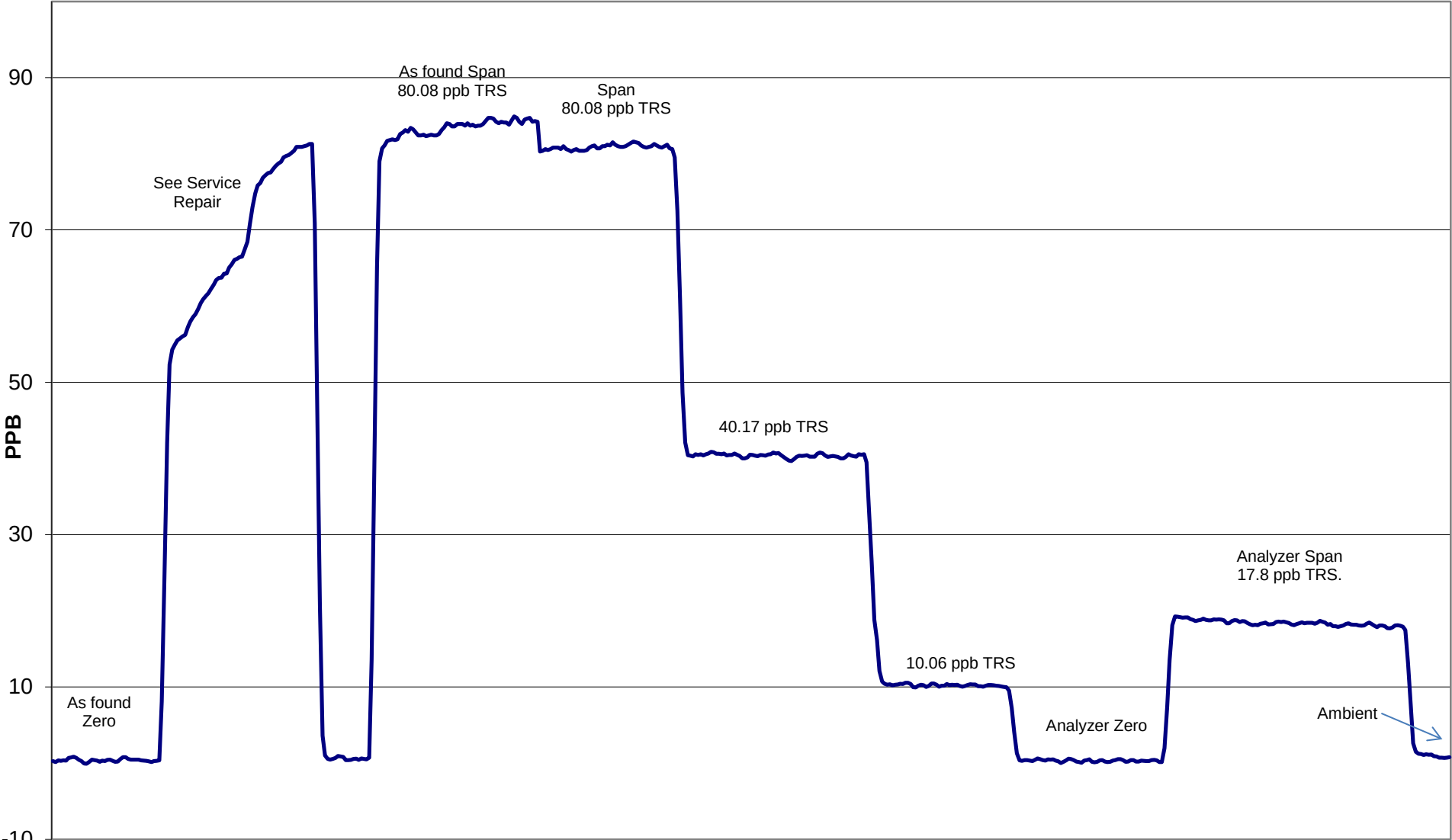
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.4	N/A	Correlation Coefficient	0.999944
80.1	81.1	0.9872		
40.2	40.3	0.9958		
10.1	10.2	0.9849	Slope	0.991275
			Intercept	-0.155732

TRS Calibration Curve



Smokey Heights TRS Calibration



July 29, 2012

Calibration Report

Parameter SO2

Air Monitoring Network PAZA



Station Information

Calibration Date	July 28, 2012	Previous Calibration	June 20, 2012
Station Number	4	Station Location	Beaverlodge
Reason:	☒ Routine	☐ Install	☐ Removal
			Other:
Start Time (MST)	13:44	End Time (MST)	17:07
Barometric Pressure	0.918 atm	Station Temperature	23.0 Deg C
Calibrator	EnviroNics 6100	Serial Number	3474
Cal Gas Concentration	10.8 ppm	Cal Gas Expiry Date	9/28/2012
Gas Cert Reference	FF14871		
DACS make	CR3000	DACS serial No.	5237
DACS voltage range	0 - 5 volt	DACS channel #	5
	Before		After
DACS Scale High	100	DACS slope	100
DACS Scale Low	0	DACS intercept	0
Calculated slope	0.987672	Calculated slope	0.979955
Calculated intercept	-0.186830	Calculated intercept	-0.223902
Analyzer make	TEI Model 43i-TLE	Analyzer serial #	713021137

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Background	2.4		2.4	
Coefficient	1.071		1.071	
PMT	-767.6	V	-767.6	V
UV Lamp Voltage	1046	V	1046	V
Chamber Temp	45.2	Deg C	45.2	Deg C
Pressure	663.1	mm Hg	664.3	mm Hg
Sample Flow	0.483	LPM	0.484	LPM
Lamp Intesity	97%	%	97%	%

Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4989	0.00	0.0	0.1	N/A
4989	39.84	85.6	87.5	0.9783
4989	19.93	43.0	44.2	0.9715
4989	9.93	21.5	22.1	0.9692
4989	0.00	0.0	0.1	As found zero
4989	39.84	85.6	87.5	As found span
Average Correction Factor				0.9730

Calculated value of As Found Response: 86.054 ppm Percent Change of As Found: -0.6%

	before calibration		after calibration	
Auto zero	-0.3	ppb	-0.1	ppb
Auto span	58.2	ppb	58.0	ppb

Notes: New SO2 cal gas..No adjustments made.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter SO2

Air Monitoring Network PAZA



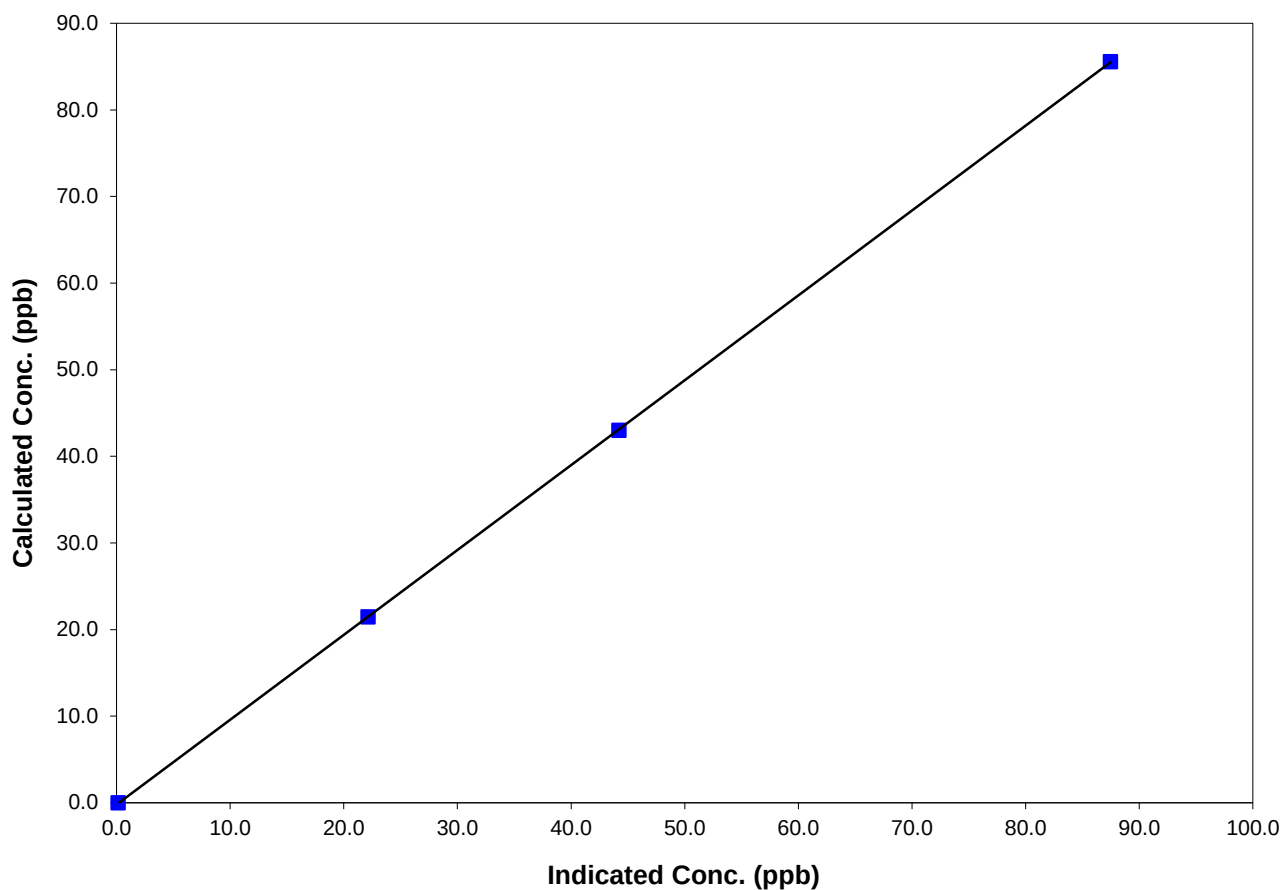
Station Information

Calibration Date	July 28, 2012	Previous Calibration	June 20, 2012
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	13:44	End Time (MST)	17:07
Analyzer make/model	TEI Model 43i-TLE	Analyzer serial #	713021137

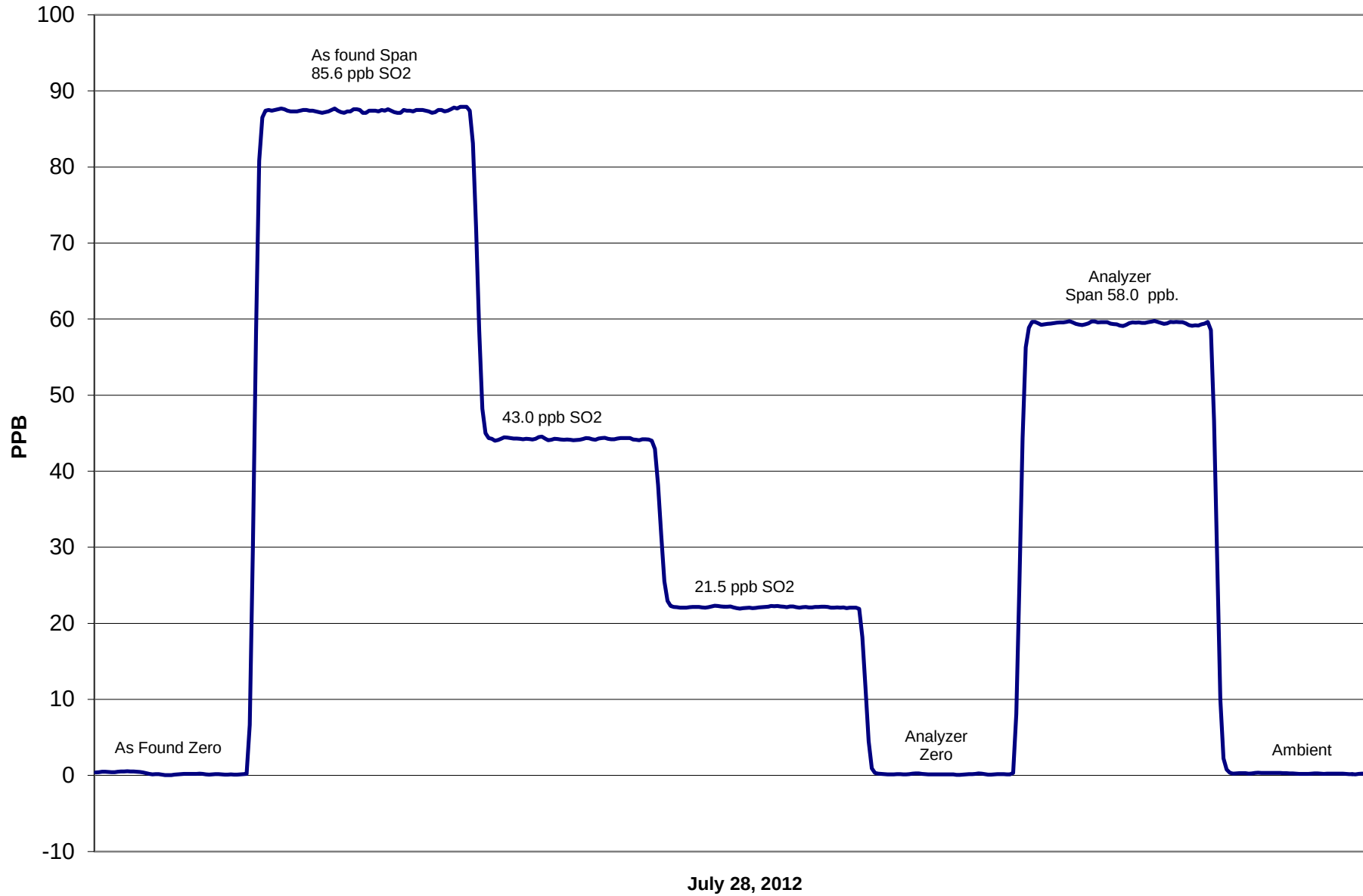
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.1	N/A	Correlation Coefficient	0.999991
85.6	87.5	0.9783		
43.0	44.2	0.9715		
21.5	22.1	0.9692	Slope	0.979955
			Intercept	-0.223902

SO2 Calibration Curve



SO2 Calibration



Parameter

Air Monitoring Network

NO_x-NO-NO₂
PAZA



Station Information

Calibration Date	July 28, 2012		Previous Calibration	June 20, 2012	
Station Number	4		Station Location	Beaverlodge	
Reason:	☒ Routine	☐ Installation	☐ Removal	Other:	
Start Time (MST)	8:00		End Time (MST)	12:50	
Barometric Pressure	0.912	Atm	Station Temperature	23.0	Deg C
Calibrator	EnviroNics		Serial Number	2844	
NO Cal Gas Conc	51.2	ppm	Cal Gas Expiry Date	March 12, 2014	
NOx Cal Gas Conc	51.2	ppm	Cal Gas Serial #	LL107272	

DACS Information

DACS make	AP1000	DACS serial No.	
Parameter	NO2	NOx	NO
Before	Data Slope	0.999071	1.001421
	Data Offset	0.181528	-0.311772
After	Data Slope	0.994113	0.999008
	Data Offset	-1.615889	-0.348087
Channel #		8	6
Voltage Range		0 - 5 VDC	0 - 5 VDC

Analyzer Information

Analyzer make/model	TEI 42i	Analyzer serial #	906535068	
Test Point	before		after	
Concentration range	0-500	ppb	0-500	ppb
NO offset	2.2	mV	2.1	mV
NOx bkgnd	2.5	mV	2.9	mV
NO coefficient	1.520		1.398	
NOx coefficient	0.996		0.996	
NO2 conv temp	326.8	Deg C	326.8	Deg C
PMT Temp	-2.9	Deg C	-2.9	Deg C
PMT Volt	-671.2	mV	-671.2	mV
R Cell Press	190.6	in Hg	168.7	in Hg
Sample Flow	0.710	ccm	0.796	ccm

Notes:	As found low. Replace sample pump with rebuilt. Adjust span
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Calibration Report

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



Station Information

Calibration Date: July 28, 2012 Station Location: Beaverlodge

Calibration Data

	Dilution flow rate (ccm)	Source gas flow rate (ccm)	Calculated NOx conc (ppb)	Calculated NO conc (ppb)	Calculated NO2 conc (ppb)	Indicated NOx conc (ppb)	Indicated NO conc (ppb)	Indicated NO2 conc (ppb)	NOx Correction factor	NO Correction factor
zero	4989	0.00	0.0	0.0	0.0	0.5	-0.1	0.4	N/A	N/A
1	4989	39.86	405.8	405.8	0.0	406.4	405.8	0.3	0.9985	1.0000
2	4989	19.92	203.6	203.6	0.0	204.8	204.2	-0.2	0.9944	0.9971
3	4989	9.94	101.8	101.8	0.0	101.7	101.7	-0.2	1.0011	1.0008
AFZ	4989	0.00	0.0	0.0	0.0	0.5	-0.1	0.4	0.0000	0.0000
AFS	4989	39.86	405.8	405.8	0.8	360.9	358.6	1.9	1.1245	1.1316
Average Correction Factor									0.9980	0.9993

As Found Concentrations: NO_x= 360.1 NO= 358.8 As Found Percent Change NO_x= -11.3% NO= -11.6%

GPT Calibration Data

Dilution Flow 4989 ccm Source Gas Flow 39.84 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	0.5	-0.1	0.4	N/A	N/A	N/A	N/A
NO point	404.1	404.1	0.0	405.3	404.1	1.0	0.9971	1.0000	N/A	N/A
300	404.1	69.0	335.1	407.9	69.0	338.2	0.9907	1.0000	0.9908	100.9%
200	404.1	210.3	193.8	408.0	210.3	197.0	0.9905	1.0000	0.9835	101.7%
100	404.1	345.1	59.0	407.5	345.1	62.2	0.9917	1.0000	0.9483	105.4%
Average Correction Factor							0.9910	1.0000	0.9742	102.7%

AIC Data

	Previous calibration				Current calibration			
Parameter	NOx	NO2	NO		NOx	NO2	NO	
Auto zero	-0.2	-0.3	-0.2	ppb	-0.2	-0.4	0.0	ppb
Auto span	238.0	235.5	1.6	ppb	194.5	192.5	1.5	ppb

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter NO₂

Air Monitoring Network PAZA



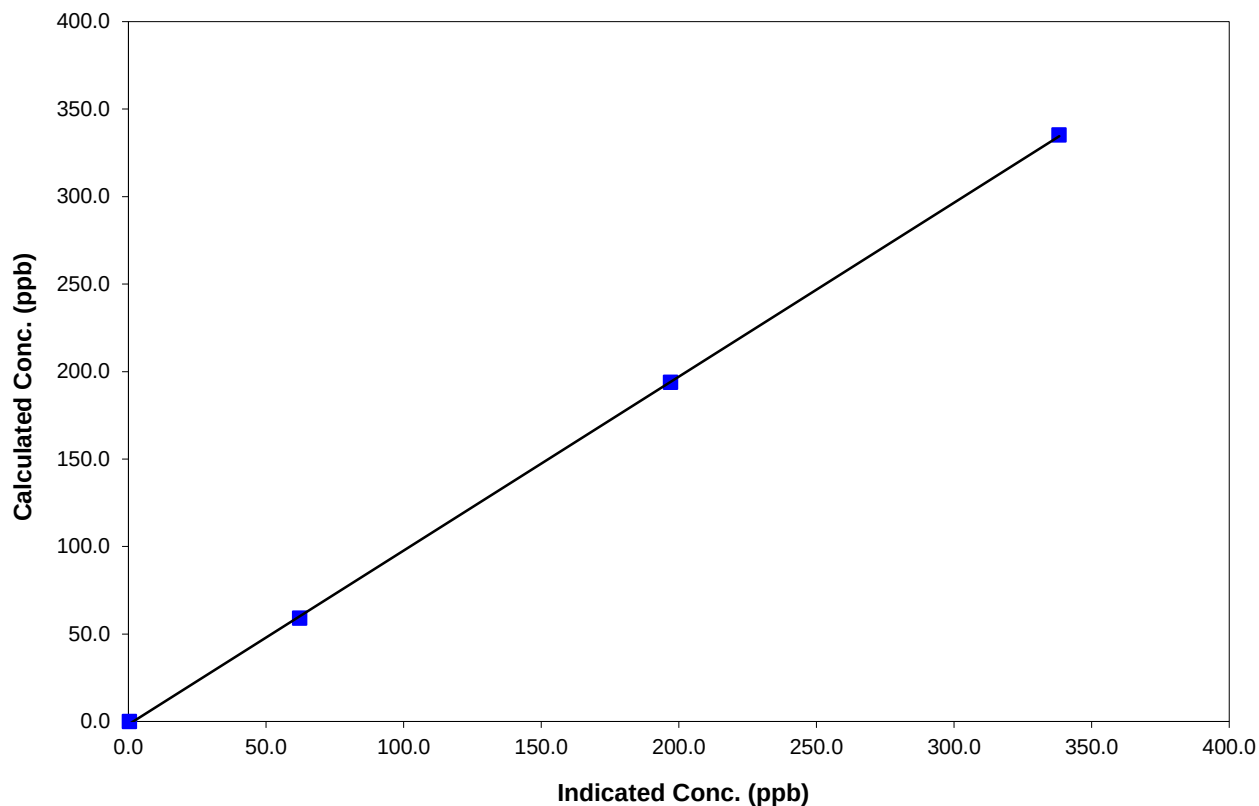
Station Information

Calibration Date	July 28, 2012	Previous Calibration	June 20, 2012
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	8:00	End Time (MST)	12:50
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	0.4	N/A	Correlation Coefficient	0.999949
335.1	338.2	0.9908		
193.8	197.0	0.9835		
59.0	62.2	0.9483	Slope	0.994113
			Intercept	-1.615889

NO₂ Calibration Curve



Calibration Summary

Parameter NO_x

Air Monitoring Network PAZA



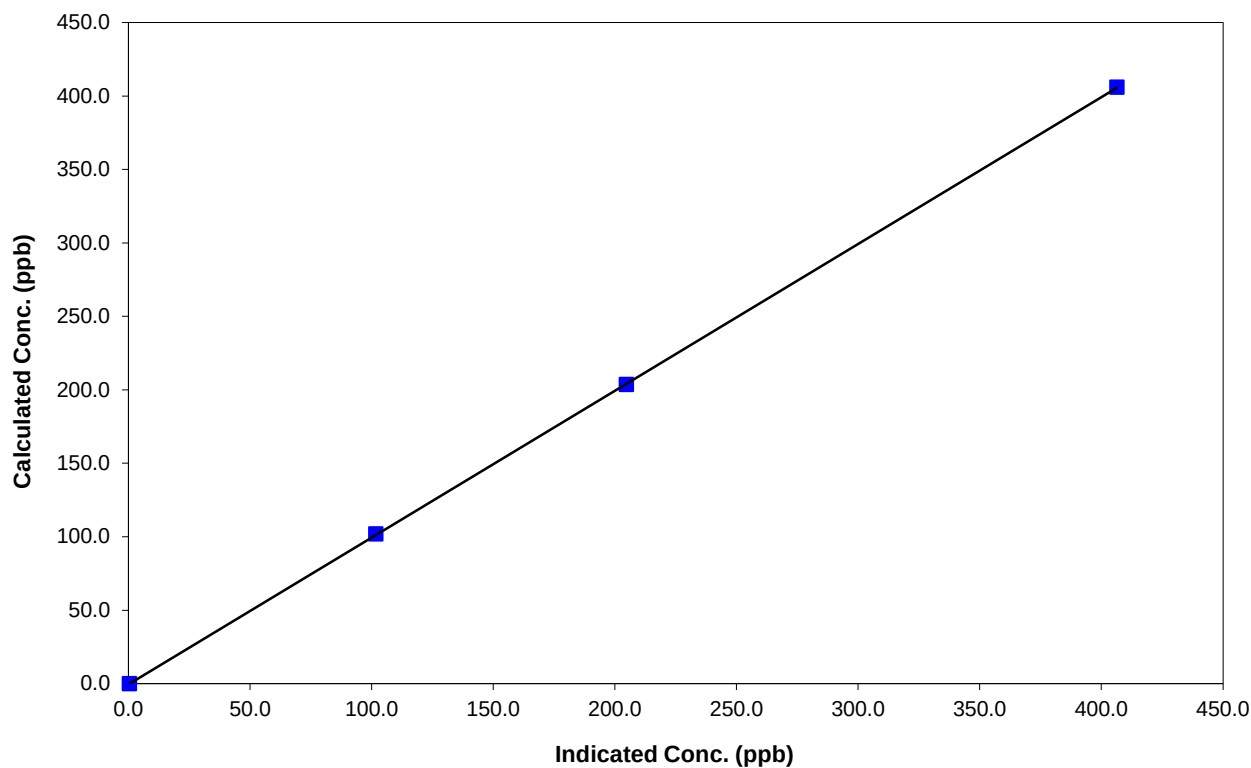
Station Information

Calibration Date	July 28, 2012	Previous Calibration	June 20, 2012
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	8:00	End Time (MST)	12:50
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	0.5	N/A	Correlation Coefficient	0.999992
405.8	406.4	0.9985		
203.6	204.8	0.9944		
101.8	101.7	1.0011	Slope	0.999008
			Intercept	-0.348087

NO_x Calibration Curve



Calibration Summary

Parameter NO

Air Monitoring Network PAZA



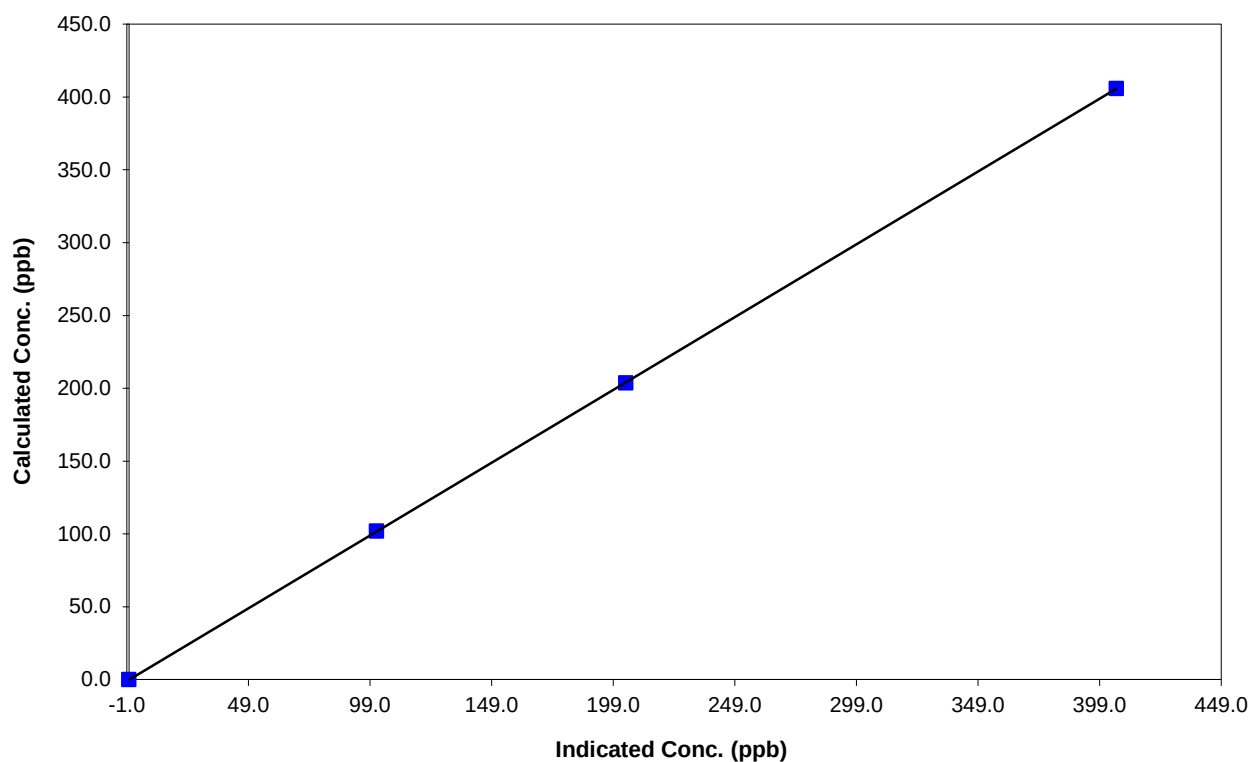
Station Information

Calibration Date	July 28, 2012	Previous Calibration	June 20, 2012
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	8:00	End Time (MST)	12:50
Analyzer make	TEI 42i	Analyzer serial #	906535068

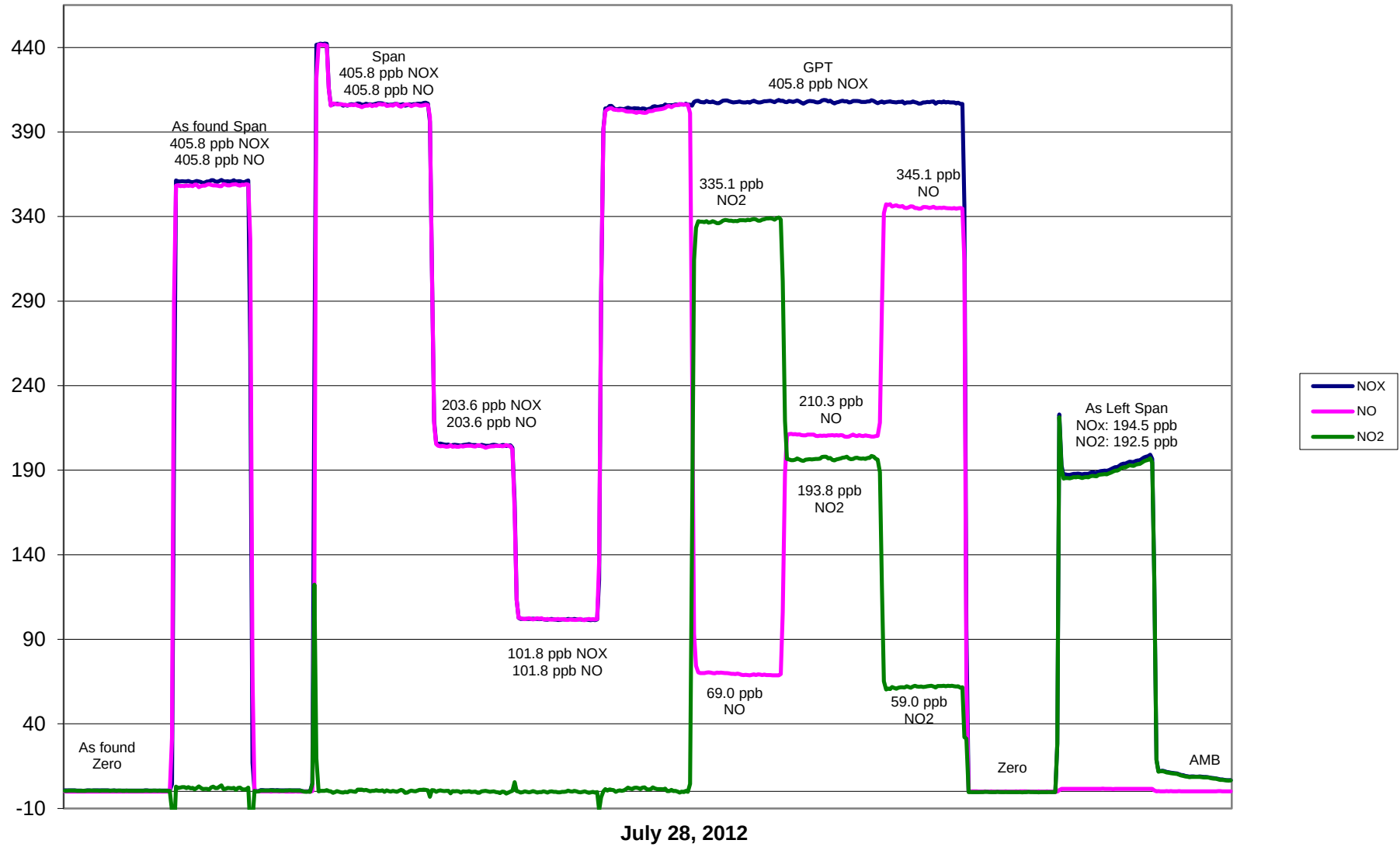
Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.1	N/A	Correlation Coefficient	0.999997
405.8	405.8	1.0000		
203.6	204.2	0.9971		
101.8	101.7	1.0008	Slope	0.999590
			Intercept	-0.036766

NO Calibration Curve



PAZA Beaverlodge NO_x Calibration



Calibration Report

Parameter 03

Air Monitoring Network PAZA



Station Information

Calibration Date	July 28, 2012	Previous Calibration	June 20, 2012
Station Number	4	Station Location	Beaverlodge
Reason:	Routine	Install	Removal
		Other:	

Start Time (MST)	11:40	End Time (MST)	14:37
Barometric Pressure	0.912 atm	Station Temperature	23.0 Deg C
Calibrator	Envionics 6100	Serial Number	3474
Cal Gas Concentration	NA	Cal Gas Expiry Date	NA

DACS make	CR3000	DACS serial No.	5237
DACS voltage range	0 - 5 volt	DACS channel #	9
	Before		After
Calculated slope	1.005935	Calculated slope	0.993712
Calculated intercept	0.788734	Calculated intercept	-0.598827

Analyzer make	Teco 49C	Analyzer serial #	49C-76443-383
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	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
offset	1.00	ppb	-0.90	ppb
slope	1.020		1.036	
Lamp temp	56.3	mV	56.3	mV
Lamp Intensity A/B	54668/59773	mV	54668/59773	mV
Pressure	680.3	mm Hg	691.9	mm Hg
Flow A	0.754	ccm	0.765	ccm
Flow B	0.708	ccm	0.715	ccm

Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4989	0.0	0.0	-0.3	N/A
4989	0.3	335.1	338.0	0.9915
4989	0.2	193.8	194.9	0.9942
4989	0.1	59.0	61.4	0.9604
4989	0.0	0.0	-0.3	As found zero
4989	0.3	335.1	336.5	As found span
Average Correction Factor				0.9820

Calculated value of As Found Response: 339.5 ppm Percent Change of As Found: 1.3%

	before calibration		after calibration	
Auto zero	0.1	ppb	-1.4	ppb
Auto span	114.3	ppb	109.4	ppb

Notes:

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter O3

Air Monitoring Network PAZA



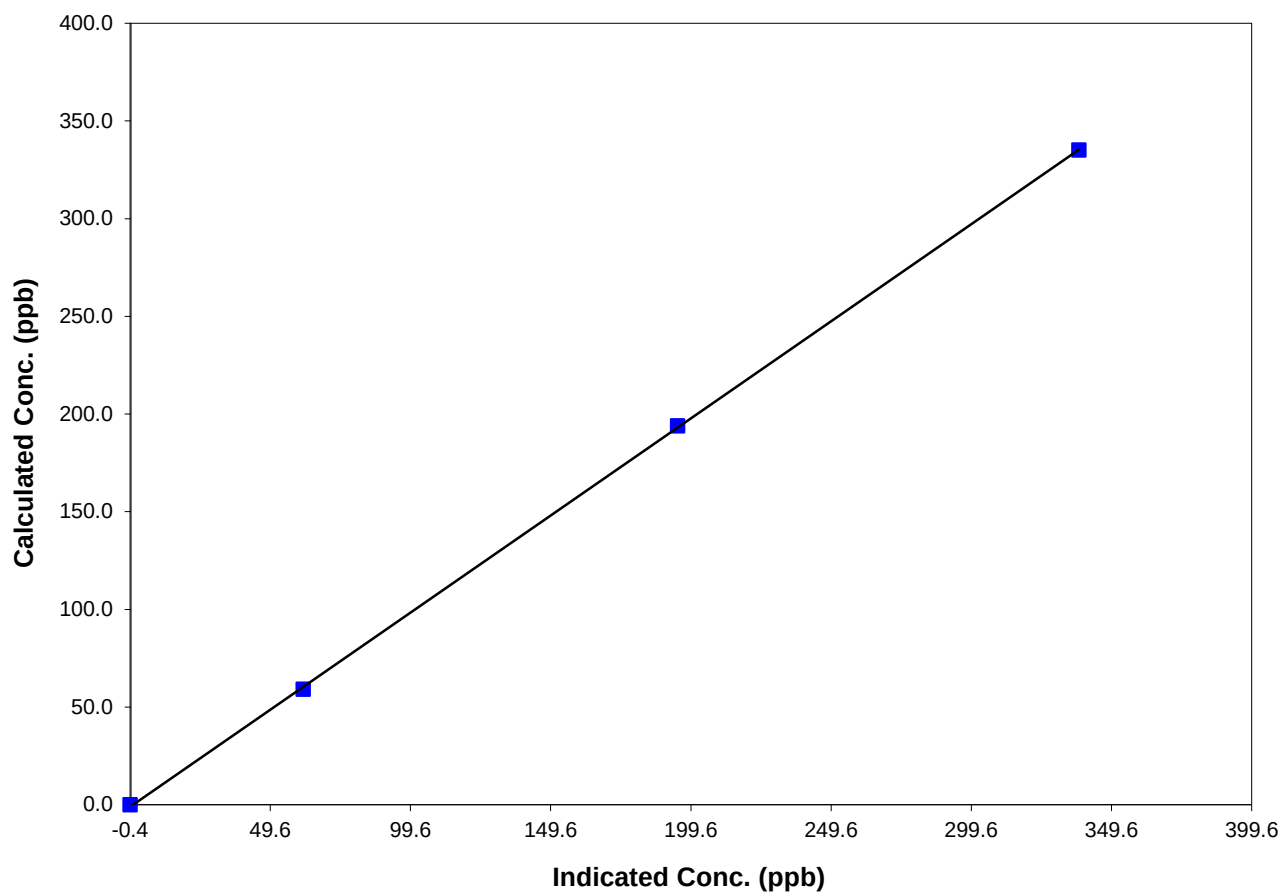
Station Information

Calibration Date	July 28, 2012	Previous Calibration	June 20, 2012
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	11:40	End Time (MST)	14:37
Analyzer make/model	Teco 49C	Analyzer serial #	49C-76443-383

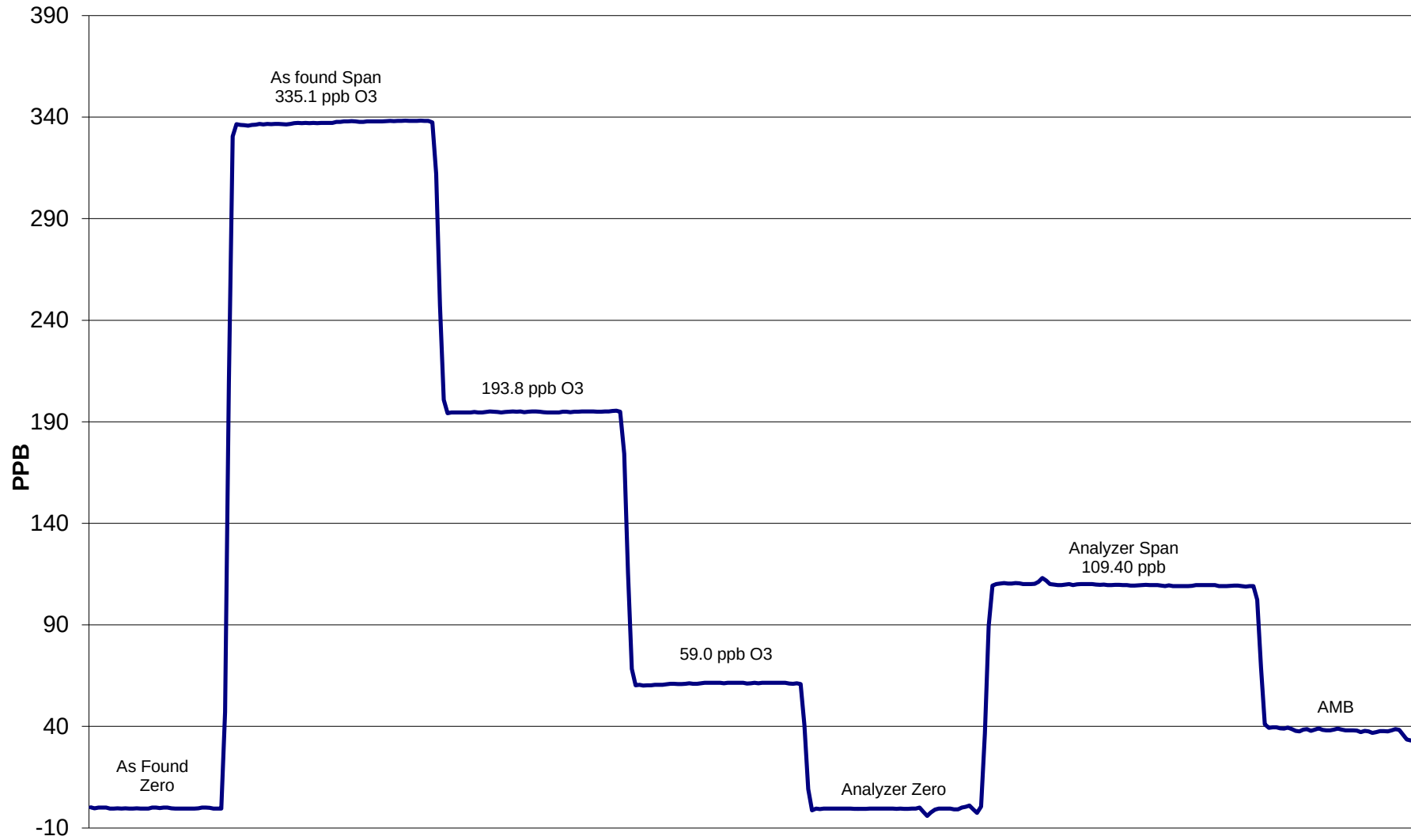
Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.3	NA	Correlation Coefficient	0.999949
335.1	338.0	0.9915		
193.8	194.9	0.9942		
59.0	61.4	0.9604	Slope	0.993712
			Intercept	-0.598827

O3 Calibration Curve



O3 Calibration



July 28, 2012

Calibration Report

Parameter SO2

Air Monitoring Network PAZA



Station Information

Calibration Date	July 30, 2012	Previous Calibration	June 29, 2012
Station Number	6	Station Location	Valleyview
Reason:	☒ Routine	☐ Install	☐ Removal
		☐ Other:	
Start Time (MST)	12:09	End Time (MST)	15:02
Barometric Pressure	702.00 mmHg	Station Temperature	20.0 Deg C
Calibrator	EnviroNics 6100	Serial Number	3016
Cal Gas Concentration	50.8 ppm	Cal Gas Cert Date	3/12/2013
Gas Cylinder Num.	LL107272	Cal gas Exp. Date	3/12/2014
DACS make	CR3000	DACS serial No.	5409
DACS voltage range	0 - 5 volt	DACS channel #	4
	Before		After
DACS Scale High	500	DACS slope	500
DACS Scale Low	0	DACS intercept	0
Calculated slope	1.002763	Calculated slope	1.002218
Calculated intercept	0.016140	Calculated intercept	0.817463
Analyzer make	TEI 45C	Analyzer serial #	45C-57531-313

	before		after	
Concentration range	0 - 1000	ppb	0 - 1000	ppb
Background	31.2		31	
Coefficient	0.871		0.871	
UV Lamp Voltage	964	LPM	964	LPM
Chamber Temp	44.2	V	44.2	V
Perm Gas Temp	26.8	C	26.8	C
Pressure	606.7	in Hg	610.5	in Hg
Sample Flow	0.559	LPM	0.560	LPM
Lamp Intensity	47805	Hz	48426	Hz

Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4989	0.00	0.0	0.1	N/A
4989	39.86	402.7	401.3	1.0033
4989	19.93	202.1	200.7	1.0073
4989	9.94	101.0	98.9	1.0213
4989	0.00	0.0	0.1	As found zero
4989	39.85	402.6	401.3	As found span
Average Correction Factor				1.0106

Calculated value of As Found Response: 402.3 ppm Percent Change of As Found: 0.1%

	before calibration		after calibration	
Auto zero	0.0	ppm	0.0	ppm
Auto span	155.5	ppm	155.4	ppm

Notes: No adjust.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter SO2

Air Monitoring Network PAZA



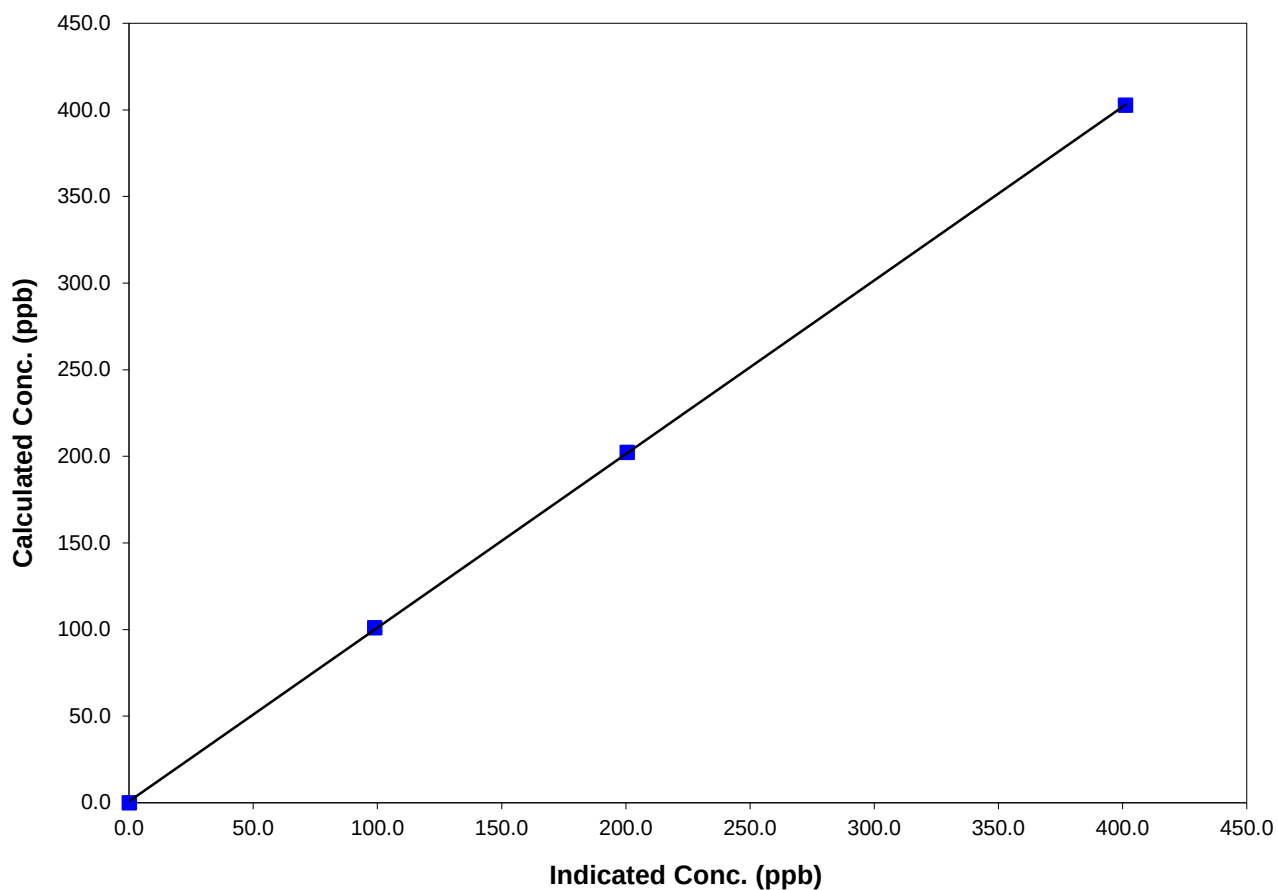
Station Information

Calibration Date	July 30, 2012	Previous Calibration	June 29, 2012
Station Number	6	Station Location	Valleyview
Start Time (MST)	12:09	End Time (MST)	14:42
Analyzer make/model	TEI 45C	Analyzer serial #	45C-57531-313

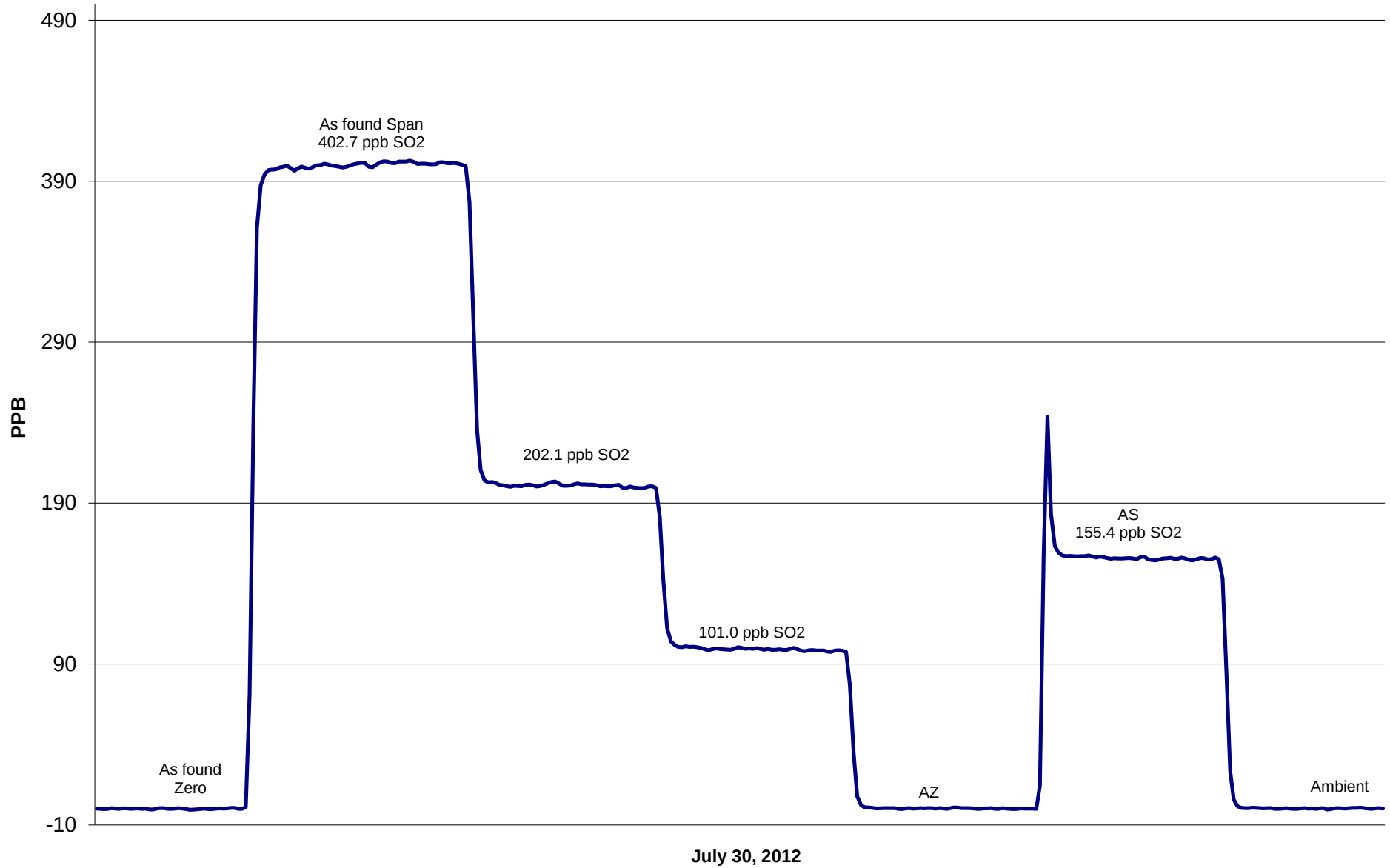
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.1	N/A	Correlation Coefficient	0.999976
402.7	401.3	1.0033		
202.1	200.7	1.0073		
101.0	98.9	1.0213	Slope	1.002218
			Intercept	0.817463

SO2 Calibration Curve



SO2 Calibration



Calibration Report

Parameter H2S

Air Monitoring Network PAZA



Station Information

Calibration Date	July 30, 2012	Previous Calibration	June 29, 2012
Station Number	6	Station Location	Valleyview
Reason:	Routine	☐ Install	☐ Removal
		☐ Other:	
Start Time (MST)	9:05	End Time (MST)	13:28
Barometric Pressure	702.00 mm	Station Temperature	21.0 Deg C
Calibrator	EnviroNics 6100	Serial Number	LL160692
Cal Gas Concentration	10.1 ppm	Cal Gas Expiry Date	5/11/2013
Gas Cert Reference	5/15/2012		
DACS make	CR3000	DACS serial No.	5409
DACS voltage range	0 - 5 volt	DACS channel #	9
	<u>Before</u>		<u>After</u>
DACS Scale High	100	DACS slope	100
DACS Scale Low	0	DACS intercept	0
Calculated slope	1.009017	Calculated slope	0.997908
Calculated intercept	-0.027494	Calculated intercept	-0.094527
Analyzer make	TEI Model 43i - APSCB	Analyzer serial #	701120010

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Back Ground	7.3	ppb	7.1	ppb
Coefficient	1.393		1.348	
Lamp Voltage	781	v	781	v
Chamber Temp	45.1	c	45.1	c
Perm Oven Temp	44.33	c	44.33	c
Pressure	617.60	mm Hg	614.90	mm Hg
Sample Flow	0.419	ccm	0.417	ccm
Lamp Intensity	91.0	%	91.0	%

Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4989	0.00	0.0	0.0	N/A
4989	39.88	80.1	80.3	0.9977
4989	19.92	40.2	40.5	0.9920
8979	8.90	10.0	10.2	0.9837
4989	0.00	0.0	0.0	As found zero
4989	39.88	80.1	80.6	As found span
Average Correction Factor				0.9911

Calculated value of As Found Response: 81.27 ppm Percent Change of As Found: -1.5%

	before calibration		after calibration	
Auto zero	0.0	ppm	0.1	ppm
Auto span	70.6	ppm	71.7	ppm

Notes: Slight adjust 80% point.
AIC interrupted last point, restarted point

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter H2S

Air Monitoring Network PAZA



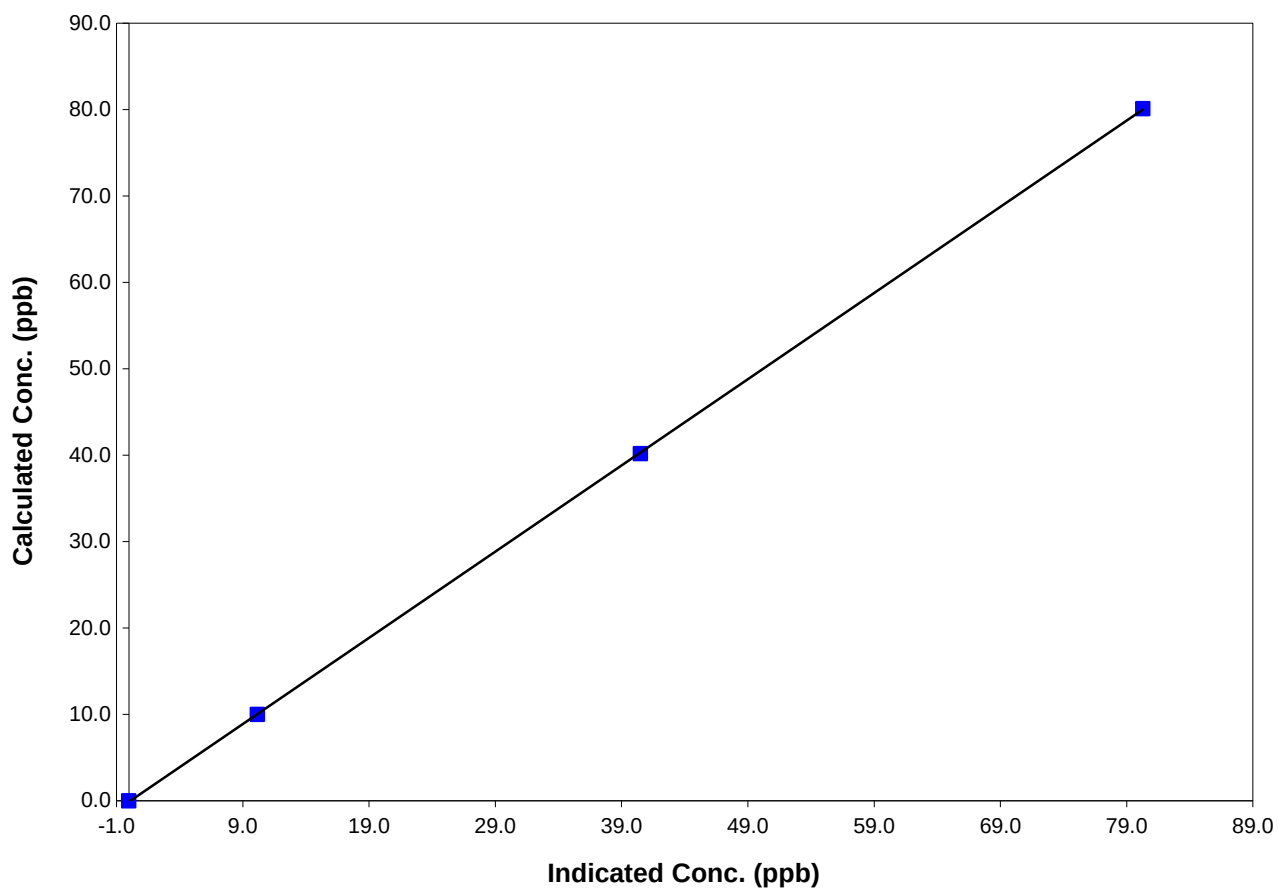
Station Information

Calibration Date	July 30, 2012	Previous Calibration	June 29, 2012
Station Number	6	Station Location	Valleyview
Start Time (MST)	9:05	End Time (MST)	13:28
Analyzer make/model	TEI Model 43i - APSCB	Analyzer serial #	701120010

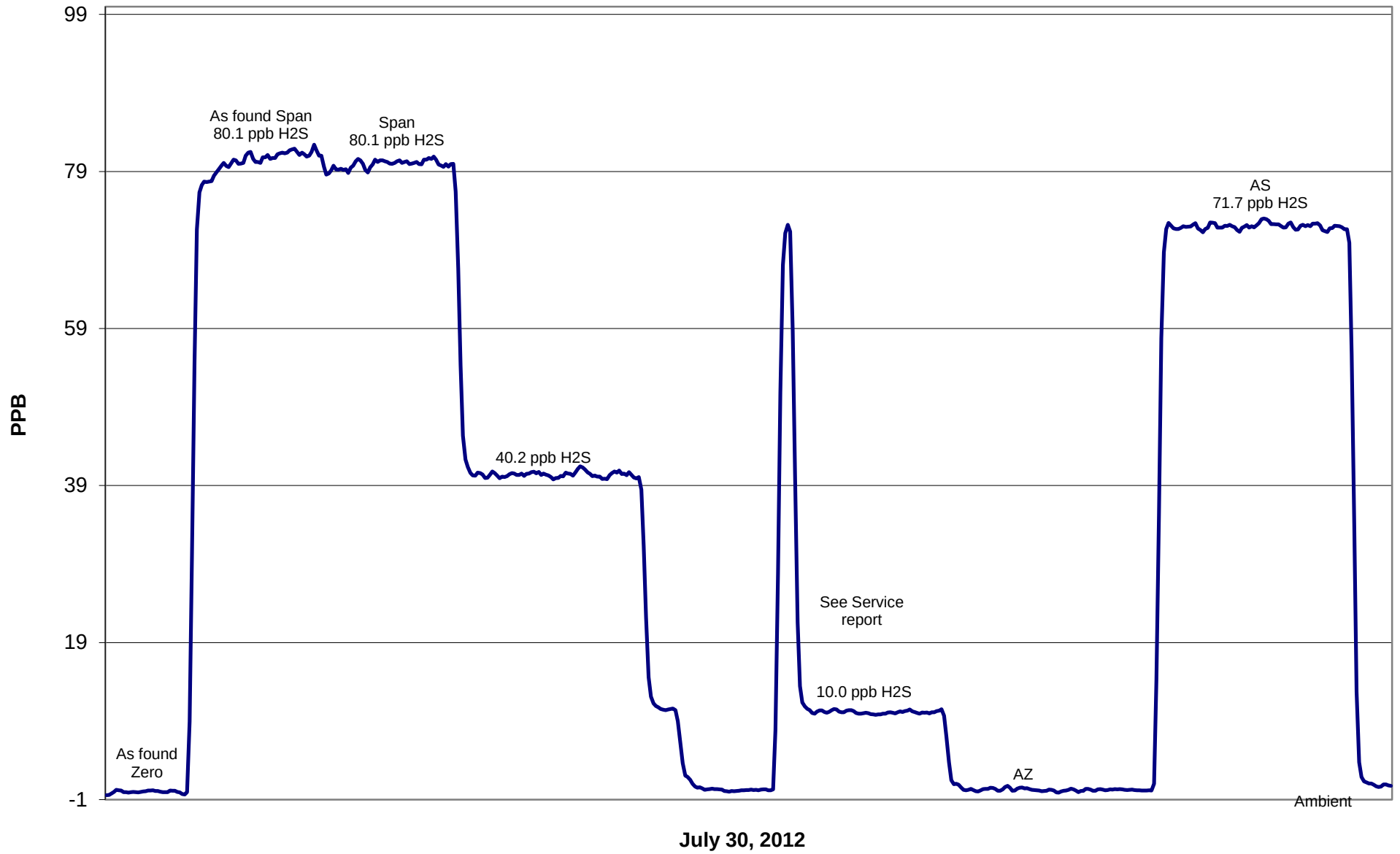
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.0	N/A	Correlation Coefficient	0.999989
80.1	80.3	0.9977		
40.2	40.5	0.9920		
10.0	10.2	0.9837	Slope	0.997908
			Intercept	-0.094527

H2S Calibration Curve



H2S Calibration



Calibration Report



Parameter SO2
Air Monitoring Network PAZA

Station Information

Calibration Date	July 31, 2011	Previous Calibration	June 30, 2011
Station Number	9	Station Location	Sunset House
Reason:	Routine	Install	Removal
		Other:	
Start Time (MST)	6:40	End Time (MST)	11:02
Barometric Pressure	31.70 inches Hg	Station Temperature	19.7 Deg C
Calibrator	EnviroNics 6100	Serial Number	3016
Cal Gas Concentration	50.8 ppm	Cal Gas Expiry Date	4/6/2012
Gas Cert Reference	LL85275		
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	0.998254	Calculated slope	0.996522
Calculated intercept	0.822500	Calculated intercept	0.415969
Analyzer make	TEI 43C	Analyzer serial #	609716238

	before		after	
Concentration range	0-500	ppb	0-500	ppb
Background	17.2		17.4	
Coefficient	0.987		0.995	
UV Lamp Voltage	826	V	826	V
Chamber Temp	44.8	C	44.8	C
Perm Gas Temp	45	C	45	C
Pressure	664.2	mm Hg	662.7	mm Hg
Sample Flow	0.482	LPM	0.482	LPM
Lamp Intesity	37503	Hz	37421	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)
4990	0.00	0.0	-0.3	N/A
4990	39.87	402.7	403.7	0.9976
4990	19.91	201.9	202.3	0.9981
4990	9.91	100.7	100.5	1.0023
4990	0.00	0.0	-0.3	As found zero
4990	39.87	402.7	393.1	As found span
Average Correction Factor				0.9993

Calculated value of As Found Response: 393.6 ppm Percent Change of As Found: 2.3%

	before calibration		after calibration	
Auto zero	0.3	ppm	0.3	ppm
Auto span	264.0	ppm	266.1	ppm

Notes: Slight span adjust.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter SO2

Air Monitoring Network PAZA



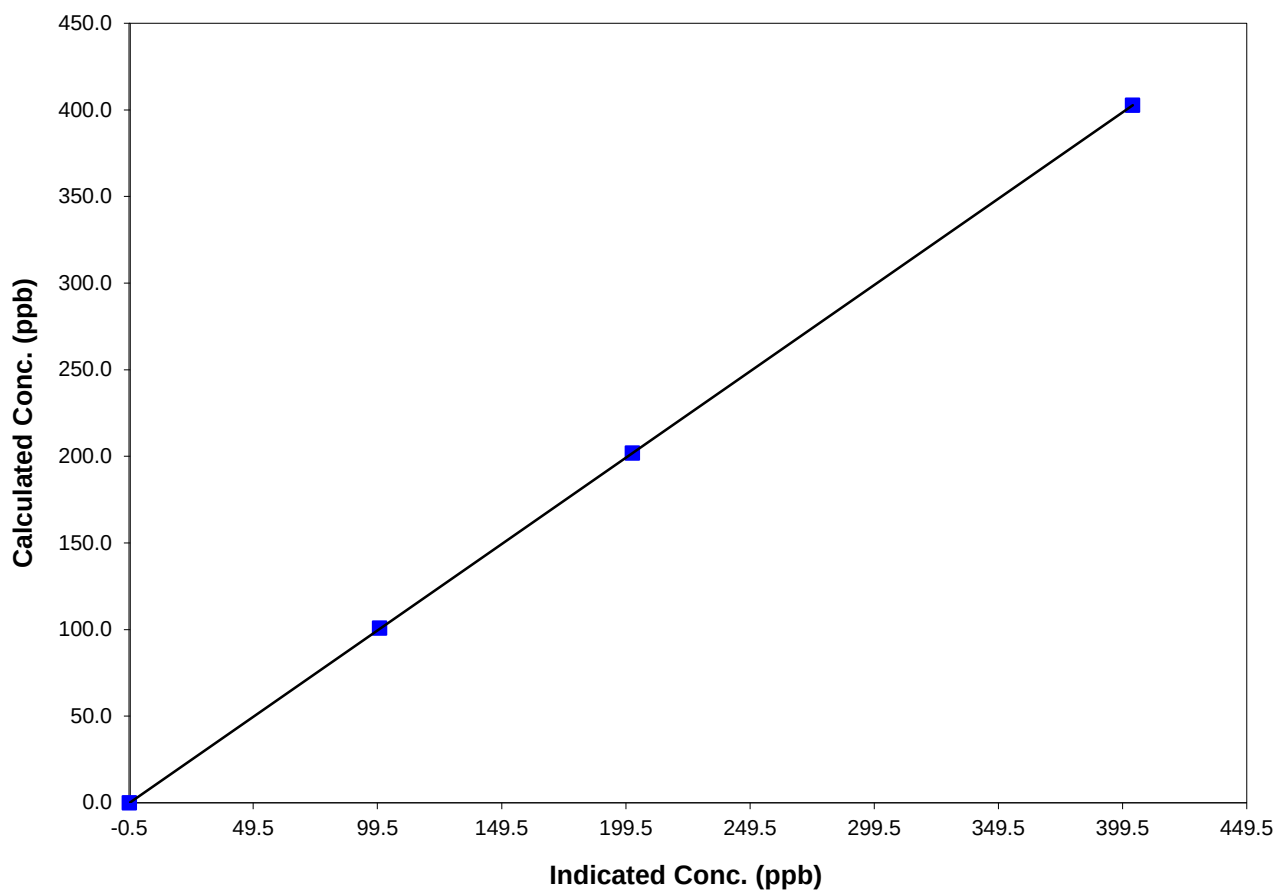
Station Information

Calibration Date	July 31, 2011	Previous Calibration	June 30, 2011
Station Number	9	Station Location	Sunset House
Start Time (MST)	6:40	End Time (MST)	11:02
Analyzer make/model	TEI 43C	Analyzer serial #	609716238

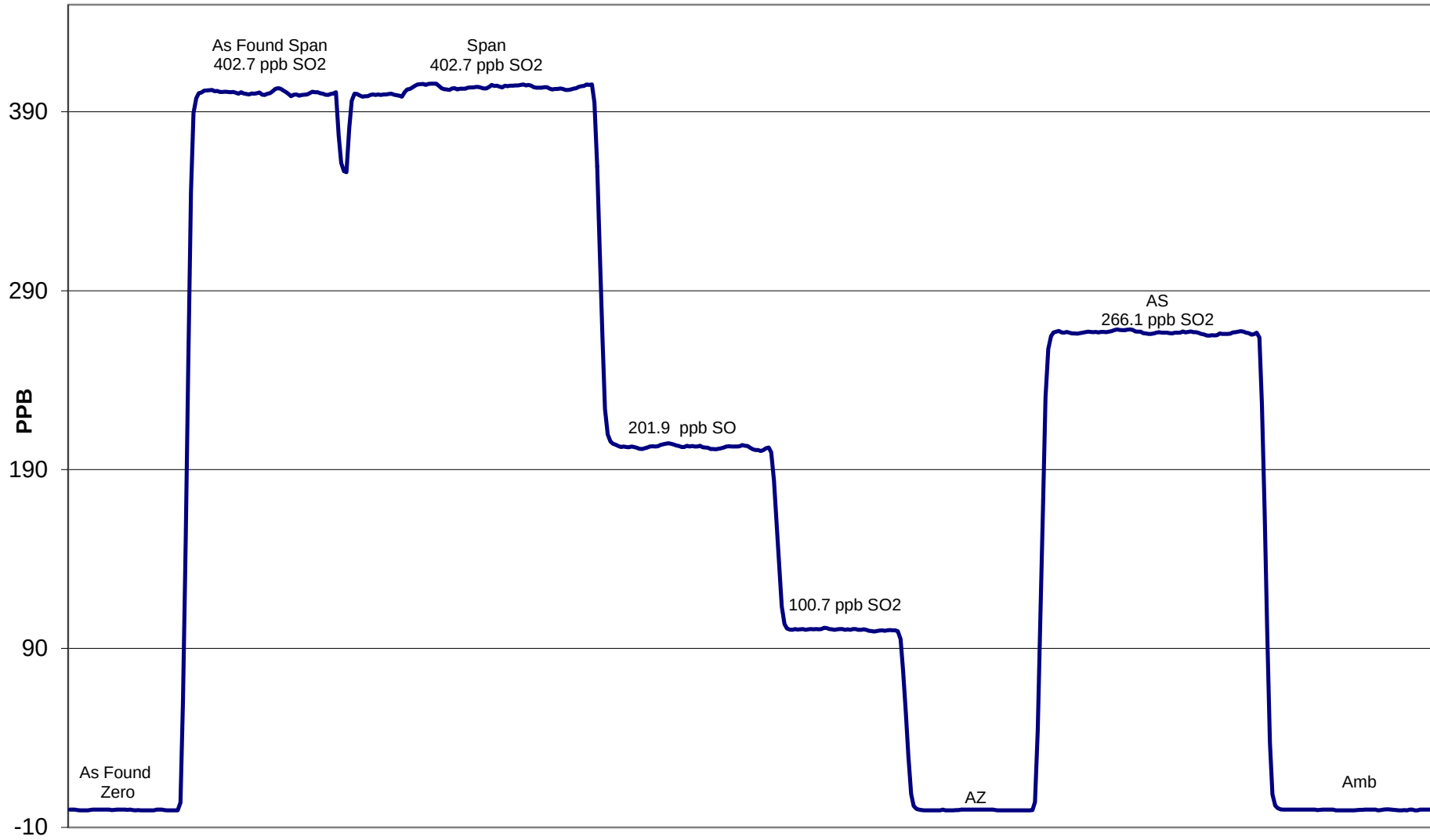
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.3	N/A	Correlation Coefficient	1.000000
402.7	403.7	0.9976		
201.9	202.3	0.9981		
100.7	100.5	1.0023	Slope	0.996522
			Intercept	0.415969

SO2 Calibration Curve



Sunset House SO2 Calibration



July 31, 2011

Calibration Report

Parameter

NO_x-NO-NO₂

Air Monitoring Network

PAZA



Station Information

Calibration Date	July 31, 2012		Previous Calibration	June 30, 2012	
Station Number	9		Station Location	Sunset House	
Reason:	Routine	Install	Removal	Other:	
Start Time (MST)	6:40		End Time (MST)	13:00	
Barometric Pressure	0.913	Atm	Station Temperature	20.0	Deg C
Calibrator	EnviroNics		Serial Number	3016	
NO Cal Gas Conc	51.2	ppm	Cal Gas Expiry Date	March 12, 2014	
NOx Cal Gas Conc	51.2	ppm	Cal Gas Serial #	LL107272	

DACS Information

DACS make	CR3000		DACS serial No.	5407	
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Parameter		NO2	NOx	NO
Before	Data Slope	1.001304	0.995685	0.998887
	Data Offset	0.483155	-0.688401	-0.591805
After	Data Slope	1.004714	0.996292	0.999051
	Data Offset	0.774703	-0.723299	-0.924792
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	4.6	mV	4.7	mV
NOx bkgnd	4.8	mV	5.0	mV
NO coefficient	1.308		1.138	
NOx coefficient	0.997		0.997	
NO2 conv temp	325.0	Deg C	325.0	Deg C
PMT Temp	-2.8	Deg C	-2.8	Deg C
PMT Volt	-774.0	mV	-797.4	mV
R Cell Press	171.4	in Hg	171.4	in Hg
Sample Flow	0.787	ccm	0.784	ccm

NOTES: Nox outputs accidentally disconnected following 80% as found. Adjustments were made on PMT & Span
2nd GPT point was interrupted by daily span sequence.

Calibration Report

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



Station Information

Calibration Date: July 31, 2012 Station Location: Sunset House

Calibration Data

	Dilution flow rate (ccm)	Source gas flow rate (ccm)	Calculated NOx conc (ppb)	Calculated NO conc (ppb)	Calculated NO2 conc (ppb)	Indicated NOx conc (ppb)	Indicated NO conc (ppb)	Indicated NO2 conc (ppb)	NOx Correction factor	NO Correction factor
zero	4989	0.00	0.0	0.0	0.0	0.5	0.5	0.0	N/A	N/A
1	4990	39.87	405.8	405.8	0.0	407.8	406.8	-0.6	0.9952	0.9976
2	4989	19.91	203.5	203.5	0.0	205.6	205.1	-0.3	0.9900	0.9922
3	4989	9.91	101.5	101.5	0.0	102.5	102.8	-0.1	0.9902	0.9871
AFZ	4989	0.00	0.0	0.0	0.0	0.5	0.4	0.1	0.0000	0.0000
AFS	4989	39.84	405.6	405.6	0.0	371.7	370.6	-0.3	1.0913	1.0944
Average Correction Factor									0.9918	0.9923

As Found Concentrations: NO_x= 370.5 NO= 369.6 As Found Percent Change NO_x= -8.7% NO= -8.9%

GPT Calibration Data

Dilution Flow 4989 ccm Source Gas Flow 39.88 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	0.4	0.4	0.0	0.5	0.5	0.0	N/A	N/A	N/A	N/A
NO point	407.2	407.2	0.0	408.0	407.2	-1.2	0.9980	1.0000	N/A	N/A
300	407.2	64.6	342.6	406.7	64.6	340.7	1.0012	1.0000	1.0056	99.4%
200	407.2	203.4	203.8	406.9	203.4	201.5	1.0007	1.0000	1.0113	98.9%
100	407.2	340.4	66.8	407.3	340.4	65.0	0.9997	1.0000	1.0276	97.3%
Average Correction Factor							1.0006	1.0000	1.0149	98.5%

AIC Data

	Previous calibration				Current calibration			
Parameter	NOx	NO2	NO		NOx	NO2	NO	
Auto zero	-0.2	-0.3	-0.2	ppb	0.8	0.2	0.7	ppb
Auto span	200.0	197.1	1.6	ppb	169.8	167.0	2.2	ppb

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter NO₂

Air Monitoring Network PAZA



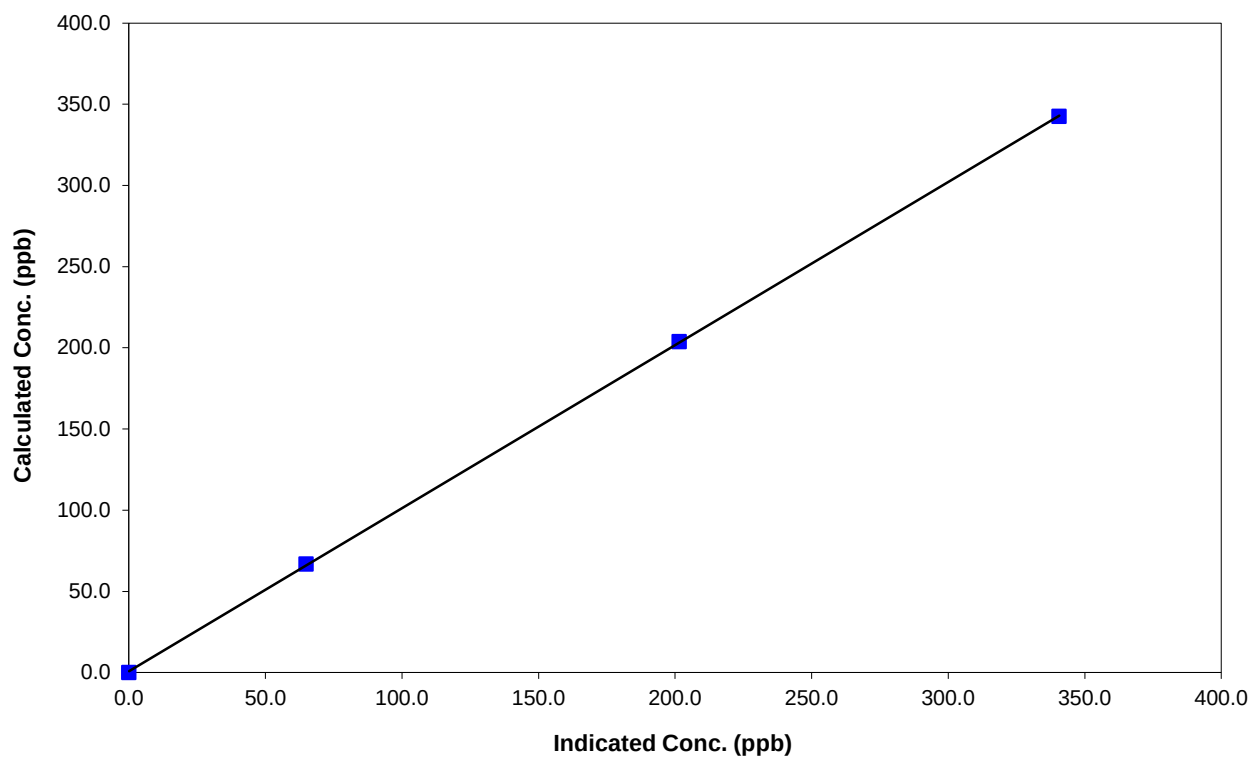
Station Information

Calibration Date	July 31, 2012	Previous Calibration	June 30, 2012
Station Number	9	Station Location	Sunset House
Start Time (MST)	6:40	End Time (MST)	13:00
Analyzer make	TEI 42i	Analyzer serial #	0701120011

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.0	N/A	Correlation Coefficient	0.999975
342.6	340.7	1.0056		
203.8	201.5	1.0113		
66.8	65.0	1.0276	Slope	1.004714
			Intercept	0.774703

NO₂ Calibration Curve



Calibration Summary

Parameter NO_x

Air Monitoring Network PAZA



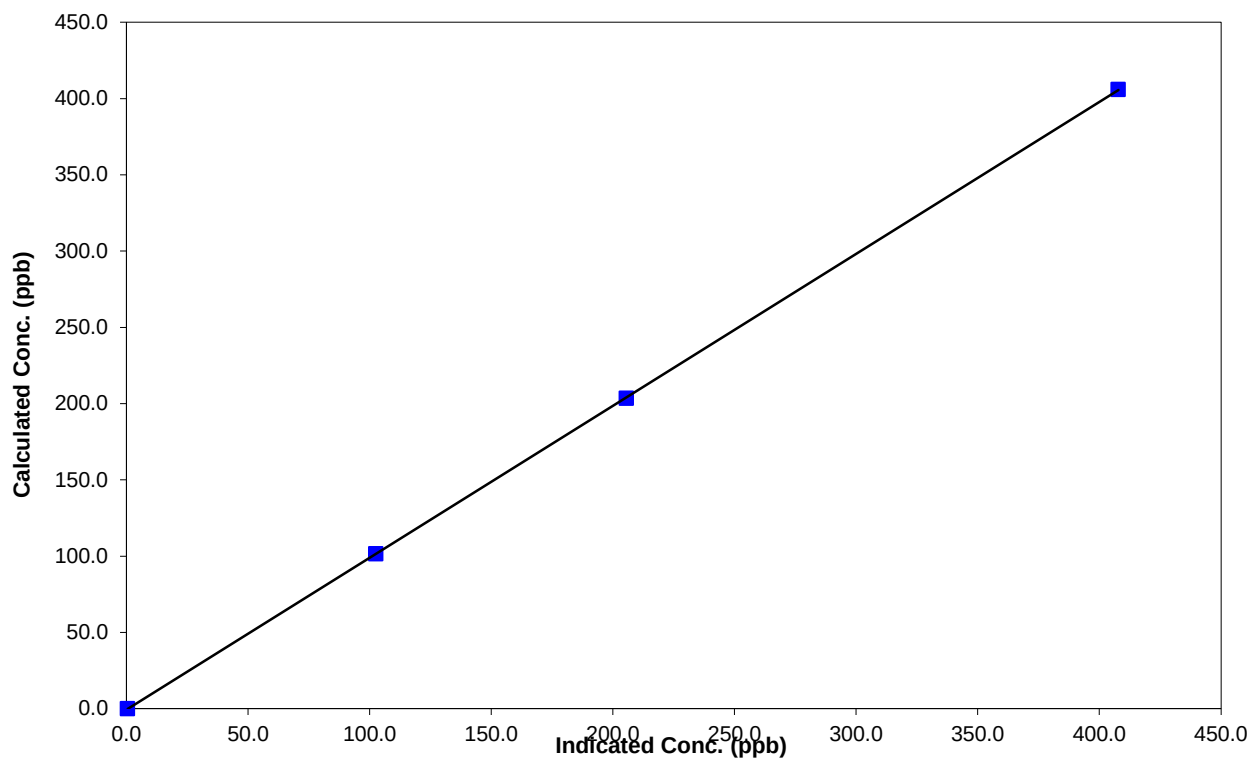
Station Information

Calibration Date	July 31, 2012	Previous Calibration	June 30, 2012
Station Number	9	Station Location	Sunset House
Start Time (MST)	6:40	End Time (MST)	13:00
Analyzer make	TEI 42i	Analyzer serial #	0701120011

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.5	N/A	Correlation Coefficient	0.999995
405.8	407.8	0.9952		
203.5	205.6	0.9900		
101.5	102.5	0.9902	Slope	0.996292
			Intercept	-0.723299

NO_x Calibration Curve



Calibration Summary

Parameter NO

Air Monitoring Network PAZA



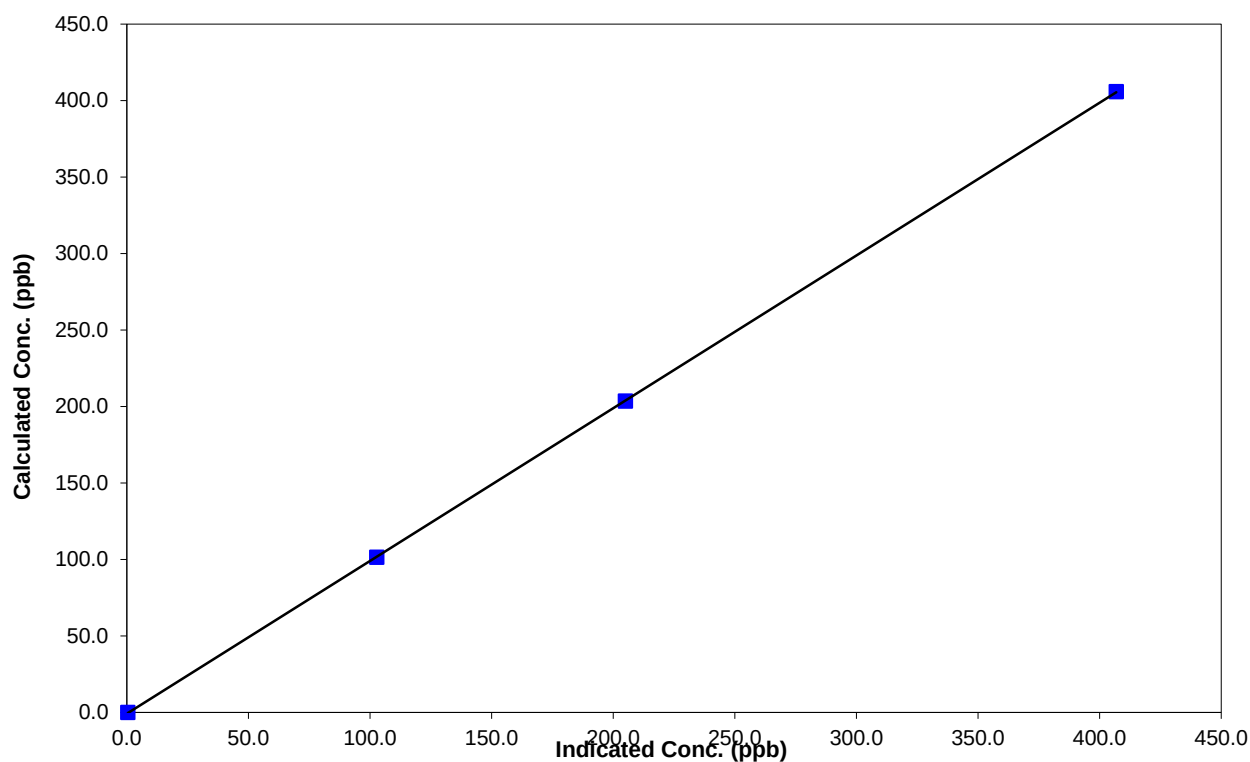
Station Information

Calibration Date	July 31, 2012	Previous Calibration	June 30, 2012
Station Number	9	Station Location	Sunset House
Start Time (MST)	6:40	End Time (MST)	13:00
Analyzer make	TEI 42i	Analyzer serial #	0701120011

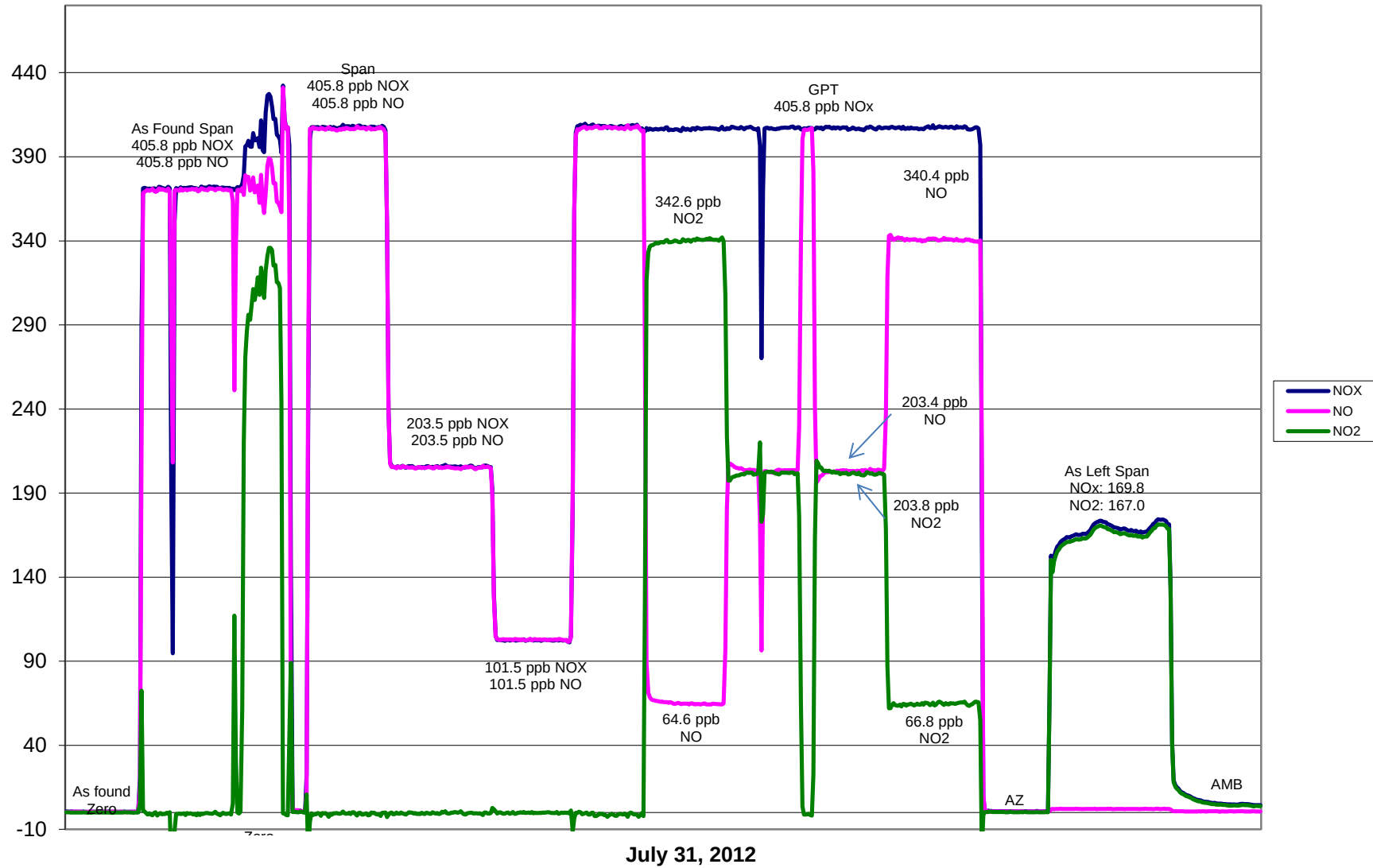
Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.5	N/A	Correlation Coefficient	0.999993
405.8	406.8	0.9976		
203.5	205.1	0.9922		
101.5	102.8	0.9871	Slope	0.999051
			Intercept	-0.924792

NO Calibration Curve



PASZA Sunset House NO_x Calibration



Calibration Report



Parameter 03

Air Monitoring Network PAZA

Station Information

Calibration Date	July 31, 2012	Previous Calibration	June 30, 2012
Station Number	9	Station Location	Sunset House
Reason:	Routine	☐ Install	☐ Removal remove ☐ Other:

Start Time (MST)	11:18	End Time (MST)	14:55
Barometric Pressure	0.913 atm	Station Temperature	15.7 Deg C
Calibrator	EnviroNics 6100	Serial Number	3474

DACS make	CR3000	DACS serial No.	5407
DACS voltage range	0 - 5 Volts	DACS channel #	6
	Before		After
Calculated slope	1.004585	Calculated slope	1.010327
Calculated intercept	0.306461	Calculated intercept	1.053528

Analyzer make	TEI Model 49C	Analyzer serial #	49C-0609716240
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	before		after	
Concentration range	0-500	ppb	0-500	ppb
Offset	0.3	ppb	0.3	ppb
Span	1.035		1.035	
Cell A intensity	91080	Hz	91101	Hz
Cell B intensity	84131	Hz	84258	Hz
Pressure	676.10	in Hg	678.50	in Hg
CellA Flow	0.946	ccm	0.938	ccm
Cell B Flow	0.723	cmm	0.719	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)
4995	0.00	0.0	-0.1	N/A
4995	0.30	342.6	338.8	1.0113
4995	0.20	203.4	199.3	1.0206
4995	0.10	66.8	64.4	1.0380
4995	0.00	0.0	-0.1	As found zero
4995	0.30	342.6	338.8	As found span
Average Correction Factor				1.0233

Calculated value of As Found Response: 340.7 ppm Percent Change of As Found: -0.6%

	before calibration		after calibration	
Auto zero	0.6	ppb	1.1	ppb
Auto span	137.7	ppb	197.7	ppb

Notes: No adjust.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter O3

Air Monitoring Network PAZA



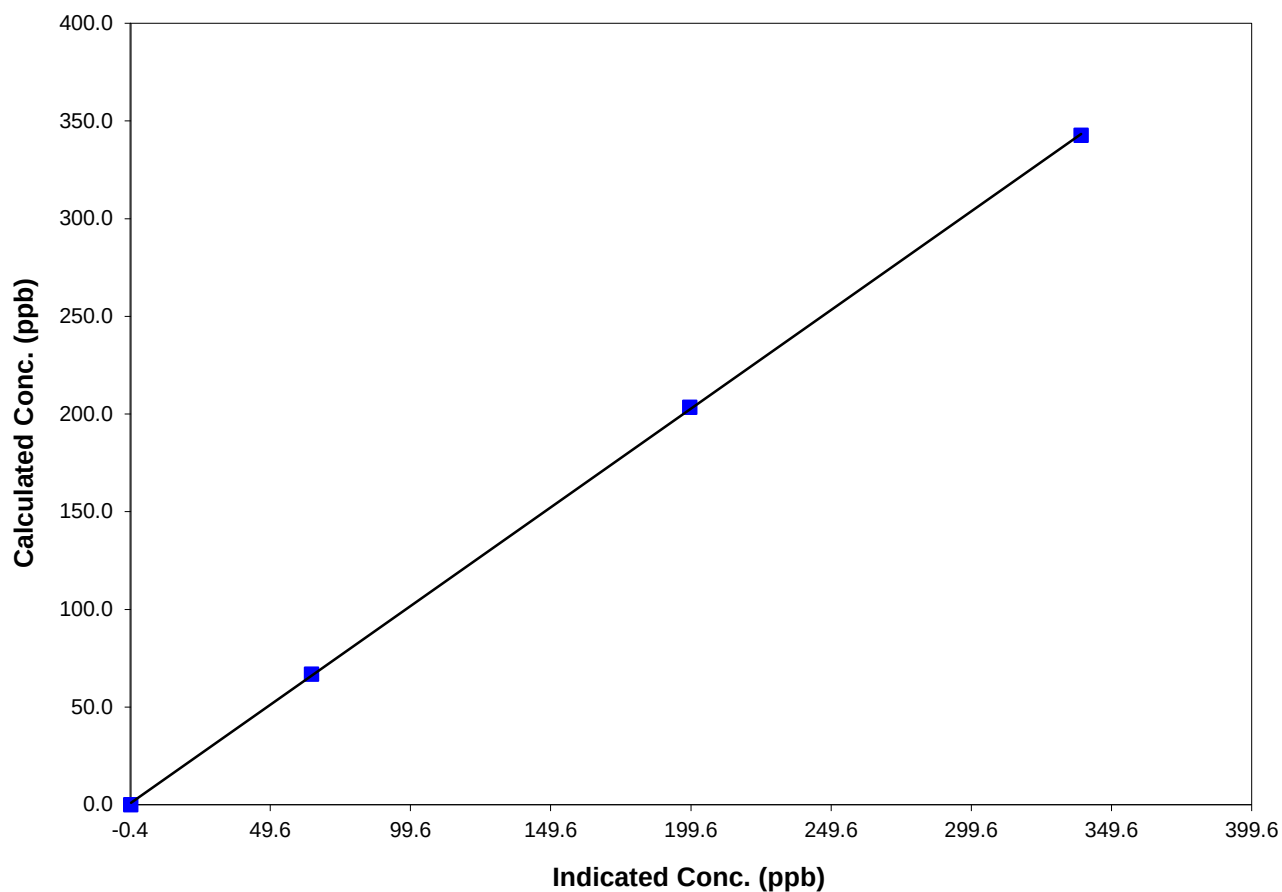
Station Information

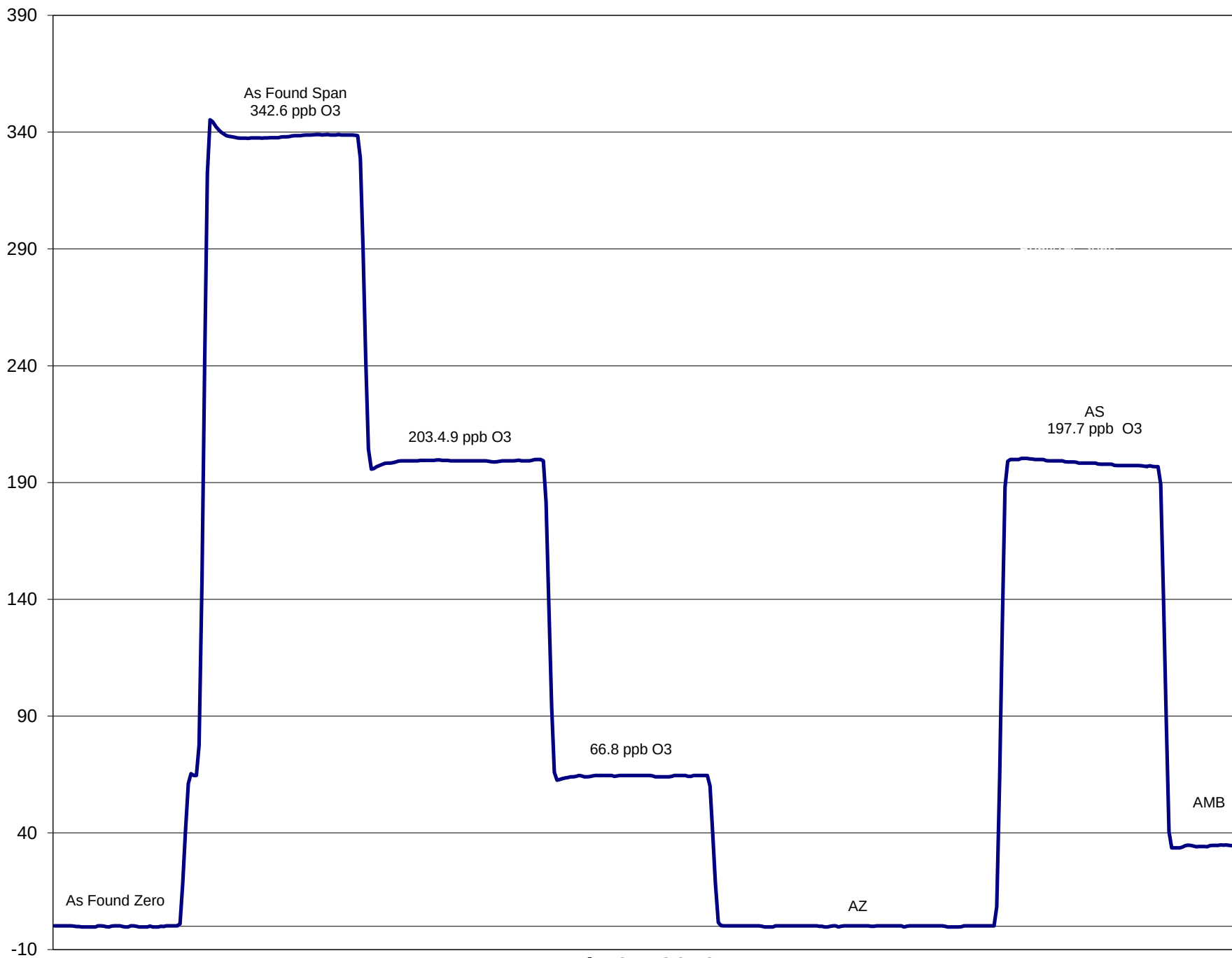
Calibration Date	July 31, 2012	Previous Calibration	June 30, 2012
Station Number	9	Station Location	Sunset House
Start Time (MST)	11:18	End Time (MST)	14:55
Analyzer make/model	TEI Model 49C	Analyzer serial #	49C-0609716240

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.1	NA	Correlation Coefficient	0.999956
342.6	338.8	1.0113		
203.4	199.3	1.0206		
66.8	64.4	1.0380	Slope	1.010327
			Intercept	1.053528

O3 Calibration Curve





July 31, 2012

Parameter	TRS
Air Monitoring Network	



Concentration range	before		after	
	0 - 100	ppb	0 - 100	ppb
Background	15.1	ppb	14.2	ppb
Coefficient	1.504		1.424	
Lamp Voltage	796	V	790	V
Chamber Temp	44.1	C	44.1	C
Perm gas Temp	45.0	C	45.0	C
Pressure	646.0	mmHg	651.1	mmHg
Sample Flow	0.425	ccm	0.423	ccm
Lamp Intensity	39180.0	Hz	38432.0	Hz

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4989	0.0	0.0	-0.6	N/A
4989	39.87	80.1	79.0	1.0133
4989	19.94	40.2	40.5	0.9920
8978	8.94	10.0	9.8	1.0257
4989	0.00	0.0	-0.6	As found zero
4989	39.81	80.0	83.0	As found span
Average Correction Factor				1.0103

	before calibration		after calibration	
Auto zero	-0.6	ppm	-0.1	ppm
Auto span	69.6	ppm	69.8	ppm

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter TRS

Air Monitoring Network PAZA



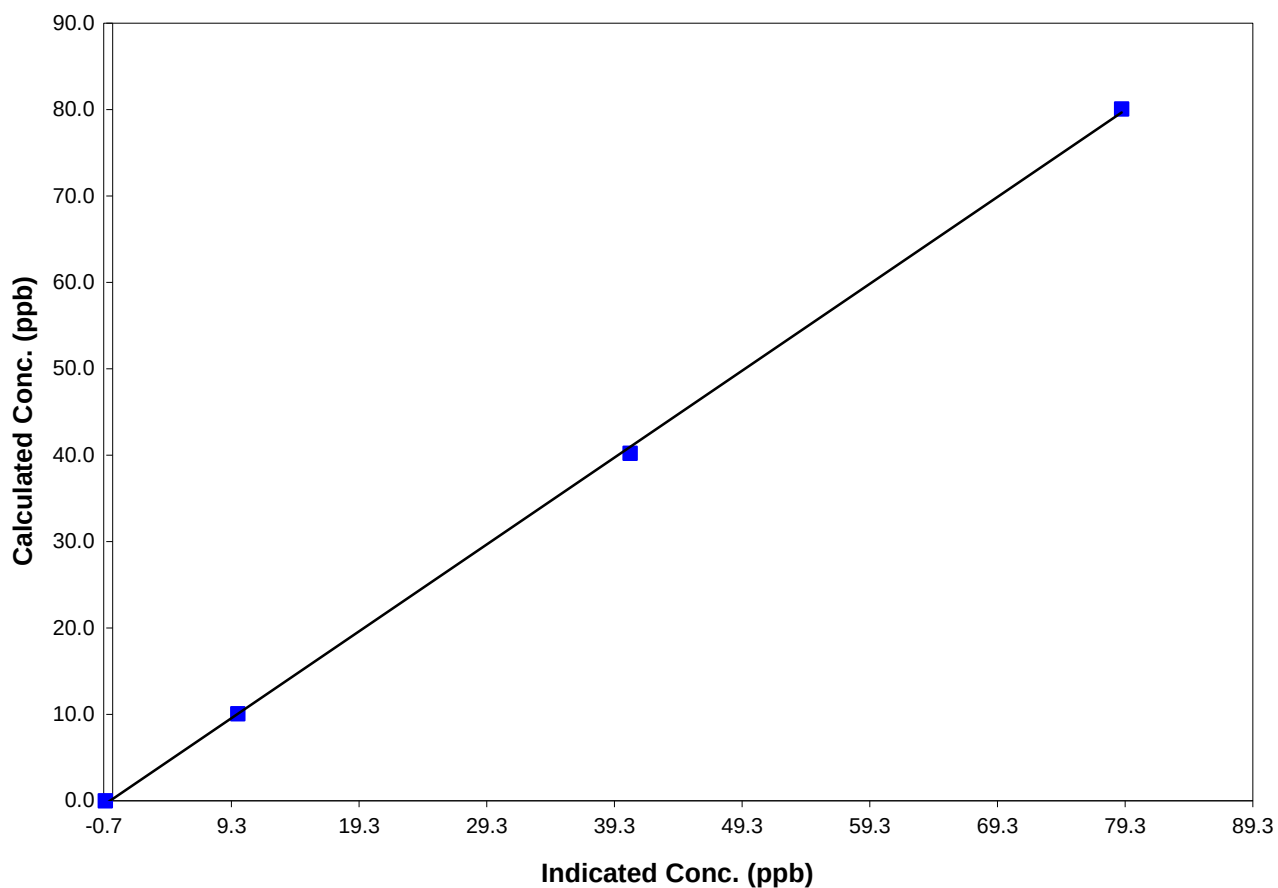
Station Information

Calibration Date	July 31, 2012	Previous Calibration	June 30, 2012
Station Number	PAZA Rover	Station Location	Sunset House
Start Time (MST)	13:20	End Time (MST)	16:49
Analyzer make/model	TEI 43C	Analyzer serial #	609716238

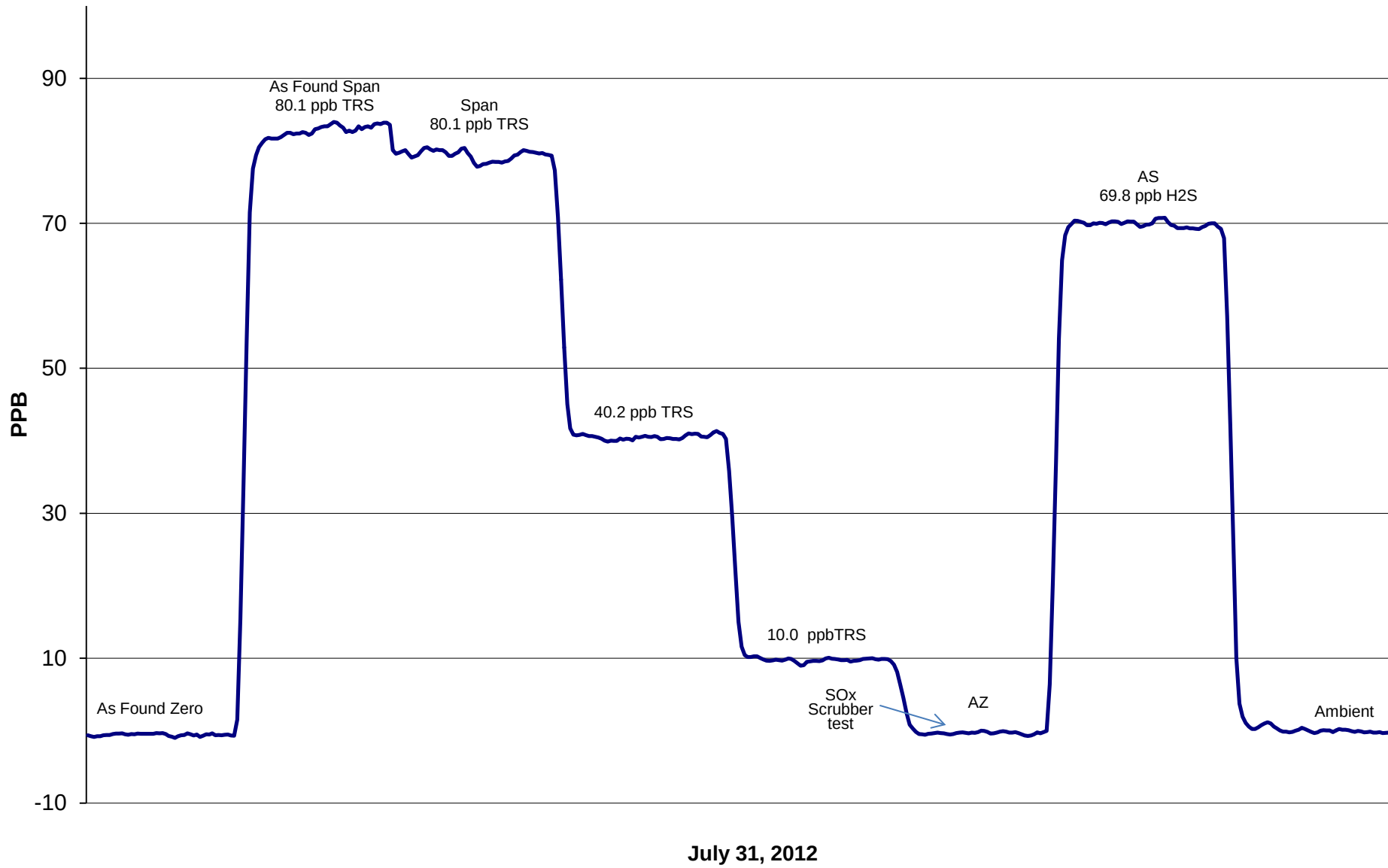
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.6	N/A	Correlation Coefficient	0.999772
80.1	79.0	1.0133		
40.2	40.5	0.9920		
10.0	9.8	1.0257	Slope	1.005691
			Intercept	0.206766

TRS Calibration Curve



TRS Calibration



AB TEOM PM2.5 Calibration



STATION: Rover-Sunset House
 LOCATION: PAZA - Grande Prairie

OPERATOR: Grover Christiansen
 DATE: 31-Jul-12

MONITOR INFO / PARAMETER VALUES:

Make/Model	TEOM AB
Configuration	PM2.5
Serial Number	21551
Site Number	2
Inlet Type	PM 10 / SCC
FAdj. Main Setting	1.000
FAdj. Aux. Setting	1.000
T-Case Indicated / Set Point	40/40
T-Air Indicated / Set Point	40/40
T-Cap Indicated / Set Point	40/40
Splitter Assembly Alignment (cm)	15.5

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

RECENT CALIBRATION AND AUDIT HISTORY

Previous Audit	2-Oct-11
Previous Calibration	11-Apr-12

PUMP CAPACITY CHECK *	PASS
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* 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	0.180	0.150
PUMP OFF	0.150	0.030
NET	0.030	0.120
LIMITS	<0.15	<0.60

	Ambient Temp. (^o C)	Ambient Pres. (atm)	Ko *	Bypass flow (lpm)	Sample flow (lpm)
SET POINT (S)	na	na	10124	13.67	3.000
INDICATED (I)	20.5	0.912		13.67	2.990
MEASURED (AF)	20.6	0.911		13.78	3.060
MEASURED (M)	20.6	0.911	10169	13.66	3.060
DIFFERENCE (M-I)	0.1	-0.001	0.4%	-0.01	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: 0.11251

Serial #: CVK 3316

COMMENTS: Pass

TEOM control unit S/N: 140AB215519705

TEOM sensor unit S/N: 1200B137649705

Sample Head Inspection/Cleaning:

Large In Line Filter Inspection & Or Cleaning: