



Peace Airshed Zone Association

Ambient Air Monitoring Network Summary

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

Operations and Reporting



August 23rd, 2013

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

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

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

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

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

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

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

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

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

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

Henry Pirker Station:

- ◆ The measured ambient air quality was within the AAAQO for the Henry Pirker station except for TRS, which had one (1) 1-hour exceedences of the AAAQO:
 - o July 22 01:00 14.4 ppb Alberta Environment Reference # 272935
- ◆ 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.
- ◆ 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.
- ◆ All analyzers and sensors at the Beaverlodge station had an operational uptime greater than 90% for the month of July with the exception of the PM_{2.5} analyzer, which was found to have control board issues and degraded fittings, returning an uptime of 87.2%. **AE Reference #274348.**

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.
- ◆ All analyzers and sensors at the Sunset House station had an operational uptime greater than 90% for the month of July with the exception of the O₃ analyzer, which was damaged by a power bump on July 26th and was repaired in August. **AE Reference#274349.**

Falher Station:

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

Passive Monitoring - 46 Stations throughout the PAZA zone:

There were five duplicate sites sampled in the month of July: Bay Tree, Steeprock Creek, Spirit River, Guy, 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 1.8 ppb, with a mean of 0.5 ppb.
- Monthly average concentrations for O₃ passives ranged from 14.2 ppb to 40.1 ppb, with a mean of 20.9 ppb.
- Monthly average concentrations for H₂S were between 0.1 And 0.2 pbb, with a mean of 0.2 ppb.

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

On Behalf of the
Peace Airshed Zone Association

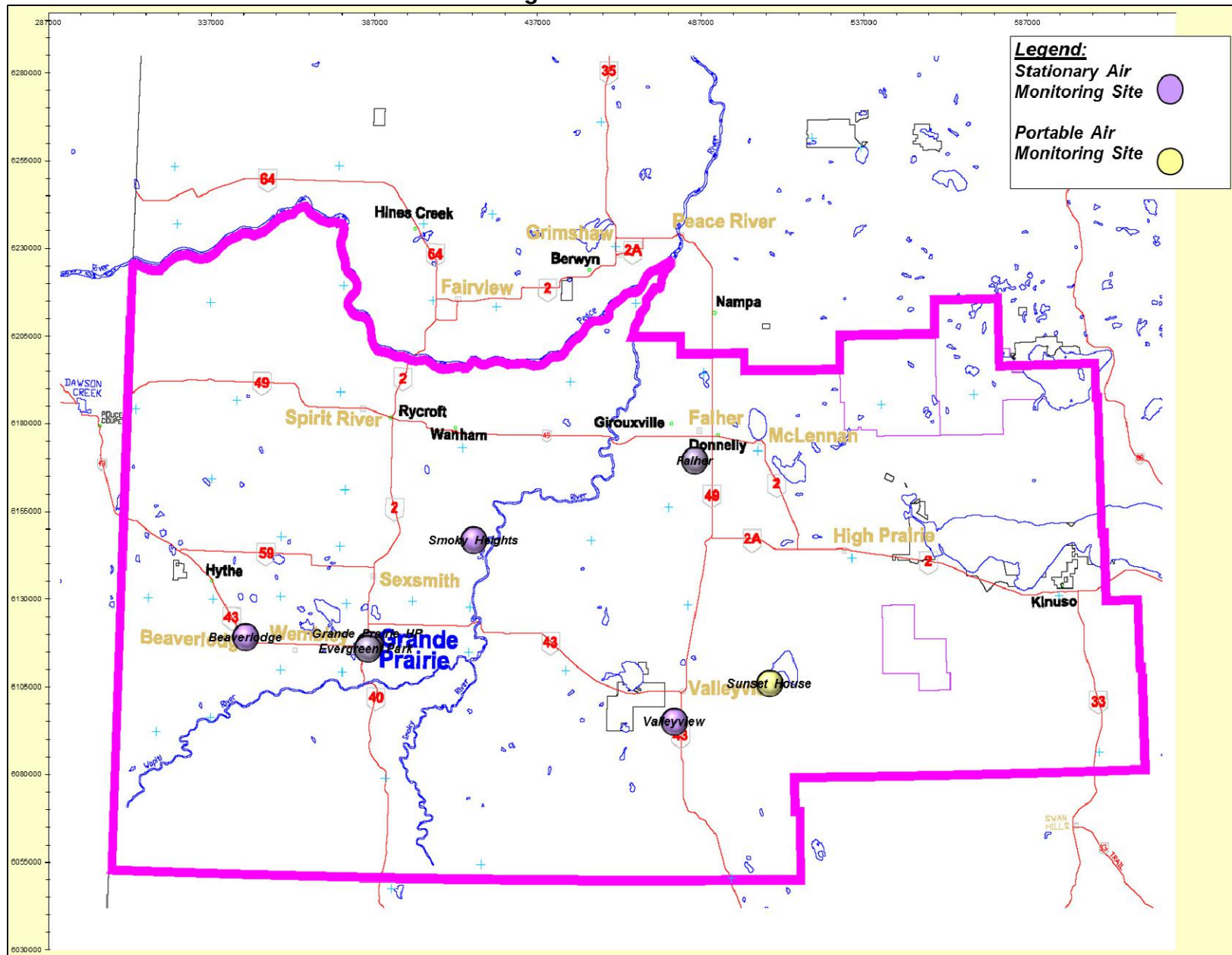


Patrick Andersen, B.Sc.
FOCUS AQM Data Specialist



Jeff Cooper, C.Tech.
AQM Operations Manager

Location of PAZA Continuous Monitoring Stations



PAZA Monthly Continuous Data Summary

Jul-2013Peace Airshed Zone Association							Maximum Recorded Values				
							1-hr		24-hr / 8-hr		
Pollutant (units)	Objectives		Station	Monthly Average	Exceedence		Conc	Day	Conc	Day	Operational Time (%)
	1-hr	24-hr			1-hr	24-hr					
SO ₂ (ppb)	172	48	Henry Pirker	0.1	0	0	1.7	Jul-09 20:00	0.3	Jul-10	100%
SO ₂ (ppb)	172	48	Evergreen Park	0.1	0	0	1.4	Jul-10 10:00	0.3	Jul-10	100%
SO ₂ (ppb)	172	48	Smoky Heights	0.1	0	0	5.2	Jul-03 06:00	0.8	Jul-03	100%
SO ₂ (ppb)	172	48	Beaverlodge	0.1	0	0	1.9	Jul-10 14:00	0.4	Jul-10	100%
SO ₂ (ppb)	172	48	Valleyview	0.6	0	0	12.8	Jul-03 07:00	1.9	Jul-27	100%
SO ₂ (ppb)	172	48	Sunset House	0.1	0	0	6.4	Jul-25 10:00	1.0	Jul-25	100%
SO ₂ (ppb)	172	48	Falher	0.1	0	0	1.2	Jul-18 22:00	0.3	Jul-04	100%
NO (ppb)			Henry Pirker	0.8	0	0	23.0	Jul-16 08:00	2.4	Jul-16	100%
NO ₂ (ppb)	159	106	Henry Pirker	3.6	0	0	18.7	Jul-17 23:00	8.4	Jul-17	100%
NO _x (ppb)			Henry Pirker	4.5	0	0	39.0	Jul-16 08:00	10.7	Jul-17	100%
NO (ppb)			Beaverlodge	0.3	0	0	5.2	Jul-08 08:00	0.8	Jul-08	99%
NO ₂ (ppb)	159	106	Beaverlodge	1.9	0	0	14.4	Jul-16 06:00	3.6	Jul-16	99%
NO _x (ppb)			Beaverlodge	2.2	0	0	16.5	Jul-16 06:00	4.4	Jul-16	99%
NO (ppb)			Sunset House	0.1	0	0	2.8	Jul-25 09:00	0.3	Jul-25	100%
NO ₂ (ppb)	159	106	Sunset House	0.7	0	0	4.7	Jul-25 09:00	1.3	Jul-25	100%
NO _x (ppb)			Sunset House	0.8	0	0	7.6	Jul-25 09:00	1.6	Jul-25	100%
O ₃ (ppb)	82		Henry Pirker	22.2	0	-	51.9	Jul-01 12:00	30.7	Jul-01	100%
O ₃ (ppb) - 8-hr			Henry Pirker		0				43.5	Jul-17	
O ₃ (ppb)	82		Beaverlodge	24.9	0	-	53.9	Jun-17 17:00	36.5	Jun-17	100%
O ₃ (ppb) - 8-hr			Beaverlodge		0				48.1	Jul-17	
O ₃ (ppb)	82		Sunset House	22.7	0	-	55.4	Jul-01 22:00	38.3	Jul-01	82%
O ₃ (ppb) - 8-hr			Sunset House		0				46.2	Jul-02	
CO (ppm)	13		Henry Pirker	0.16	0	-	0.4	Jul-17 14:00	0.3	Jul-07	100%
CO (ppm) - 8-hr	5		Henry Pirker		0				0.4	Jul-17	

PAZA Monthly Continuous Data Summary – continued

Jul-2013Peace Airshed Zone Association							Maximum Recorded Values				
							1-hr		24-hr / 8-hr		
THC (ppm)			Henry Pirker	2.0	-	-	3.1	Jul-22 01:00	2.2	Jul-17	100%
CH ₄ (ppm)			Henry Pirker	2.0	-	-	3.1	Jul-22 01:00	2.2	Jul-17	100%
NMHC (ppm)			Henry Pirker	0.00	-	-	0.0	Jul-17 07:00	0.0	Jul-27	100%
TRS (ppb)			Henry Pirker	0.5	-	-	14.6	Jul-22 01:00	2.0	Jul-22	100%
TRS (ppb)			Evergreen Park	0.3	-	-	1.7	Jul-26 07:00	0.5	Jul-26	100%
TRS (ppb)			Smoky Heights	0.1	-	-	0.7	Jul-22 02:00	0.2	Jul-22	100%
TRS (ppb)			Sunset House	0.3	-	-	1.6	Jul-15 22:00	0.8	Jul-15	100%
H ₂ S (ppb)	10	3	Valleyview	0.6	0	0	1.5	Jul-01 03:00	0.8	Jul-06	100%
H ₂ S (ppb)	10	3	Falher	0.2	0	0	3.5	Jul-01 06:00	0.7	Jul-01	100%
PM _{2.5} (µg/m3)	80	30	Henry Pirker	6.7	0	0	41.4	Jul-08 01:00	22.6	Jul-07	100%
PM _{2.5} (µg/m3)	80	30	Evergreen Park	5.4	0	0	43.9	Jul-08 09:00	18.8	Jul-07	99%
PM _{2.5} (µg/m3)	80	30	Smoky Heights	4.8	0	0	45.4	Jul-18 20:00	19.8	Jul-07	99%
PM _{2.5} (µg/m3)	80	30	Beaverlodge	6.9	0	0	21.0	Jul-19 08:00	15.6	Jul-18	87%
PM _{2.5} (µg/m3)	80	30	Sunset House	4.8	0	0	28.0	Jul-08 20:00	10.9	Jul-08	93%
RH (%)			Henry Pirker	63.9	-	-	90.7	Jul-22 07:00	82.2	Jul-06	100%
RH (%)			Evergreen Park	68.5	-	-	97.9	Jul-22 08:00	89.3	Jul-06	100%
RH (%)			Beaverlodge	72.6	-	-	100.0	Jul-07 04:00	94.1	Jul-20	100%
RH (%)			Valleyview	75.9	-	-	100.0	Jul-10 04:00	92.5	Jul-06	100%
SR (W/m ²)			Henry Pirker	204.9	-	-	814.8	Jul-31 13:00	322.1	Jul-03	100%
Temp (°C)			Henry Pirker	16.7	0	0	33.3	Jul-01 16:00	25.3	Jul-01	100%
Temp (°C)			Evergreen Park	16.2	-	-	32.5	Jul-01 15:00	24.3	Jul-01	100%
Temp (°C)			Smoky Heights	15.8	-	-	31.6	Jul-01 17:00	24.3	Jul-01	100%
Temp (°C)			Beaverlodge	15.8	-	-	31.6	Jul-01 17:00	24.2	Jul-01	100%
Temp (°C)			Valleyview	16.3	-	-	33.8	Jul-01 18:00	25.3	Jul-01	100%
Temp (°C)			Sunset House	15.3	-	-	31.3	Jul-01 14:00	25.8	Jul-01	100%
Temp (°C)			Falher	15.7	-	-	31.0	Jul-01 18:00	23.5	Jul-01	100%

PAZA Monthly Continuous Data Summary – continued

Jul-2013Peace Airshed Zone Association							Maximum Recorded Values				
							1-hr		24-hr / 8-hr		
WSPD s (km/hr)			Henry Pirker	9.2	-	-	29.0	Jul-11 19:00	16.7	Jul-03	100%
WSPD s (km/hr)			Evergreen Park	11.4	-	-	35.0	Jul-11 18:00	23.6	Jul-03	100%
WSPD s (km/hr)			Smoky Heights	10.6	-	-	34.0	Jul-11 21:00	20.0	Jul-03	100%
WSPD s (km/hr)			Beaverlodge	10.2	-	-	38.0	Jul-11 18:00	20.9	Jul-11	100%
WSPD s (km/hr)			Valleyview	4.3	-	-	16.0	Jul-28 12:00	8.5	Jul-28	100%
WSPD s (km/hr)			Sunset House	9.2	-	-	29.0	Jul-01 23:00	18.5	Jul-25	100%
WSPD s (km/hr)			Falher	14.8	-	-	34.0	Jul-02 07:00	23.2	Jul-12	100%
WSPD v (km/hr)			Henry Pirker	3.9	-	-	29.0	Jul-11 19:00	15.8	Jul-03	100%
WSPD v (km/hr)			Evergreen Park	8.3	-	-	35.0	Jul-11 21:00	22.2	Jul-03	100%
WSPD v (km/hr)			Smoky Heights	4.8	-	-	34.0	Jul-11 21:00	19.6	Jul-03	100%
WSPD v (km/hr)			Beaverlodge	3.2	-	-	38.0	Jul-11 18:00	20.1	Jul-11	100%
WSPD v (km/hr)			Valleyview	1.8	-	-	16.0	Jul-28 12:00	7.9	Jul-28	100%
WSPD v (km/hr)			Sunset House	2.7	-	-	29.0	Jul-01 23:00	17.6	Jul-25	100%
WSPD v (km/hr)			Falher	4.9	-	-	34.0	Jul-02 07:00	22.4	Jul-12	100%
WDIR			Henry Pirker	W	-	-	-	-	-	-	100%
WDIR			Evergreen Park	W	-	-	-	-	-	-	100%
WDIR			Smoky Heights	W	-	-	-	-	-	-	100%
WDIR			Beaverlodge	WNW	-	-	-	-	-	-	100%
WDIR			Valleyview	WNW	-	-	-	-	-	-	100%
WDIR			Sunset House	SSW	-	-	-	-	-	-	100%
WDIR			Falher	SW	-	-	-	-	-	-	100%

Continuous Network Equipment Summary

PAZA – Henry Pirker Station

General Station Issues

Routine monthly calibrations were performed on July 17th (THC, CO, TRS), and July 18th (SO₂, O₃, NO_x).

Parameter	Make	Model	Notes
SO ₂	TEI	43C	No operational issues observed.
NOx/NO/NO ₂	TEI	42C	No operational issues observed.
O ₃	TEI	49C	No operational issues observed.
CO	TEI	48C	No operational issues observed.
THC/CH ₄ /NMHC	TEI	55I	No operational issues observed.
TRS	TEI	45C/43C	No operational issues observed.
PM _{2.5}	Sharp	5030	No operational issues observed.
RH	Met One	083D	No operational issues observed.
ET	Met One	083D	No operational issues observed.
SR	Met One	096-1	No operational issues observed.
WS / WD	Met One	010C/020C	No operational issues observed.

PAZA – Evergreen Park Station

General Station Issues

Routine monthly calibration performed on July 24th (SO₂, TRS).

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

PAZA – Smoky Heights Station

General Station Issues

Routine monthly calibration performed on July 31st (SO₂, TRS).

Parameter	Make	Model	Notes
SO ₂	TEI	43C	No operational issues observed.
TRS	TEI	43C	No operational issues observed.
PM _{2.5}	R&P	1400AB	Eight (8) hours invalidated due to negative swings. Manifold cleaned during calibration period.
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 10th (SO₂, NO_x, O₃).

Parameter	Make	Model	Notes
SO ₂	TEI	43CTL	No operational issues observed.
NOx/NO/NO ₂	TEI	42C	Analyzer recalibrated on July 16 th after replacement of O rings.
O ₃	TEI	49C	No operational issues observed.
PM _{2.5}	R&P	1400AB	Analyzer instability due to degradation of connectors and problem with control unit. Analyzer uptime of 87.2% AE Reference #274348
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 25th (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 26th (SO₂, O₃, NO_x, TRS)

Parameter	Make	Model	Notes
SO ₂	TEI	43i	No operational issues observed.
O ₃	TEI	49C	Power bump during calibration destroyed control board. Analyzer out of service until replacement parts can be acquired. AE Reference #274349
TRS	TEI	39C	No operational issues observed.
PM _{2.5}	R&P	1400AB	Fifty-three (53) hours of data invalidated due to negative swings. Manifold cleaned during calibration period.
ET	Gill	Met Pak 3	No operational issues observed.
WS / WD	Gill	Met Pak 3	No operational issues observed.

PAZA – Falher Station

General Station Issues

Routine monthly calibrations were performed on July 27th (SO₂ & H₂S).

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

PAZA
Henry Pirker Station
Monthly Summary Tables, Graphs and
Roses

Hourly Averages

Sulphur Dioxide (SO₂) - ppb

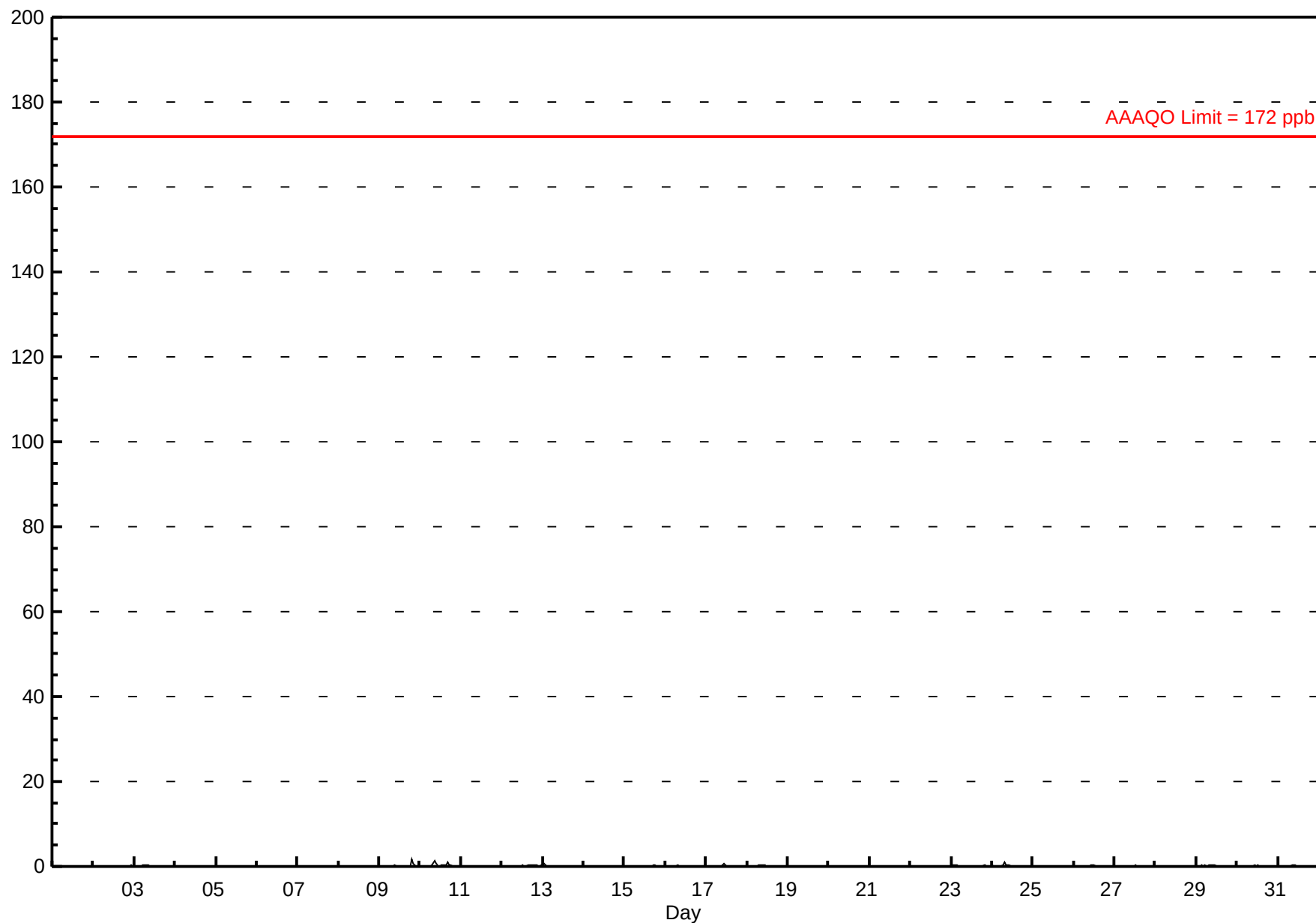
Henry Pirker - July 2013

Number of Exceedences (AAAQO):										1-hr: 0 24-hr: 0										Hours in Service: 744									
Maximum Value: 1.7 ppb on Jul 9 20:00										Maximum Daily Average: 0.3 ppb on Jul 10										Hours of Data: 708									
Minimum Value: 0 ppb on Jul 1 07:00										Minimum Daily Average: 0.0 ppb on Jul 6										Hours of Missing Data: 36									
Maximum Diurnal Average: 0.1 ppb at hour 9										Minimum Diurnal Average: 0.0 ppb at hour 5										Hours of Calibration: 36									
Monthly Average: 0.06 ppb										Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 0.1 P ₉₀ = 0.2 P ₉₉ = 0.7										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	0	0	0	A	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	0	0	A	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	0	0	A	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	0	0	A	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	0	0	A	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	0	0	A	0	0	0	0	0	0	0	0	0	0.0	0.0			
7-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	0.0			
8-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	0.0			
9-Jul	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	2	1	0	0	0	0.2	1.7			
10-Jul	0	0	0	0	0	0	0	0	1	1	A	0	0	0	0	0	1	0	0	0	0	0	0	0	0.3	1.4			
11-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	0.0			
12-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	0.1	0.3			
13-Jul	0	1	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.7			
14-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	0.2			
15-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			
16-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	0.2			
17-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	0.1	0.7			
18-Jul	0	0	0	A	0	0	0	0	0	0	0	0	C	C	C	C	0	0	0	0	0	0	0	0	0.1	0.3			
19-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			
20-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	0.0			
21-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	0.0			
22-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	0.1			
23-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	0.3			
24-Jul	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.1	0.9			
25-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	0.2			
26-Jul	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	A	0	0	0	0	0	0	0.1	0.5			
27-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			
28-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			
29-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			
30-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			
31-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			
0.0 0.1 0.0 0.0 0.0 0.0 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.0 0.1 0.0 0.1 0.1 0.1 0.1 0.0 0.0 0.0 0.0																									Diurnal Average				
0.4 0.7 0.3 0.3 0.2 0.2 0.3 0.9 1.4 0.6 0.7 0.5 0.3 0.2 0.3 0.3 1.1 0.5 0.5 1.7 0.7 0.2 0.2 0.3																									Diurnal Maximum				
C - Calibration A - Automated Daily Zero Span																													
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb 30-day 11 ppb																													

Hourly Averages

Sulphur Dioxide (SO₂) - ppb

Henry Pirker - July 2013



Hourly Maximums

Sulphur Dioxide (SO₂) - ppb

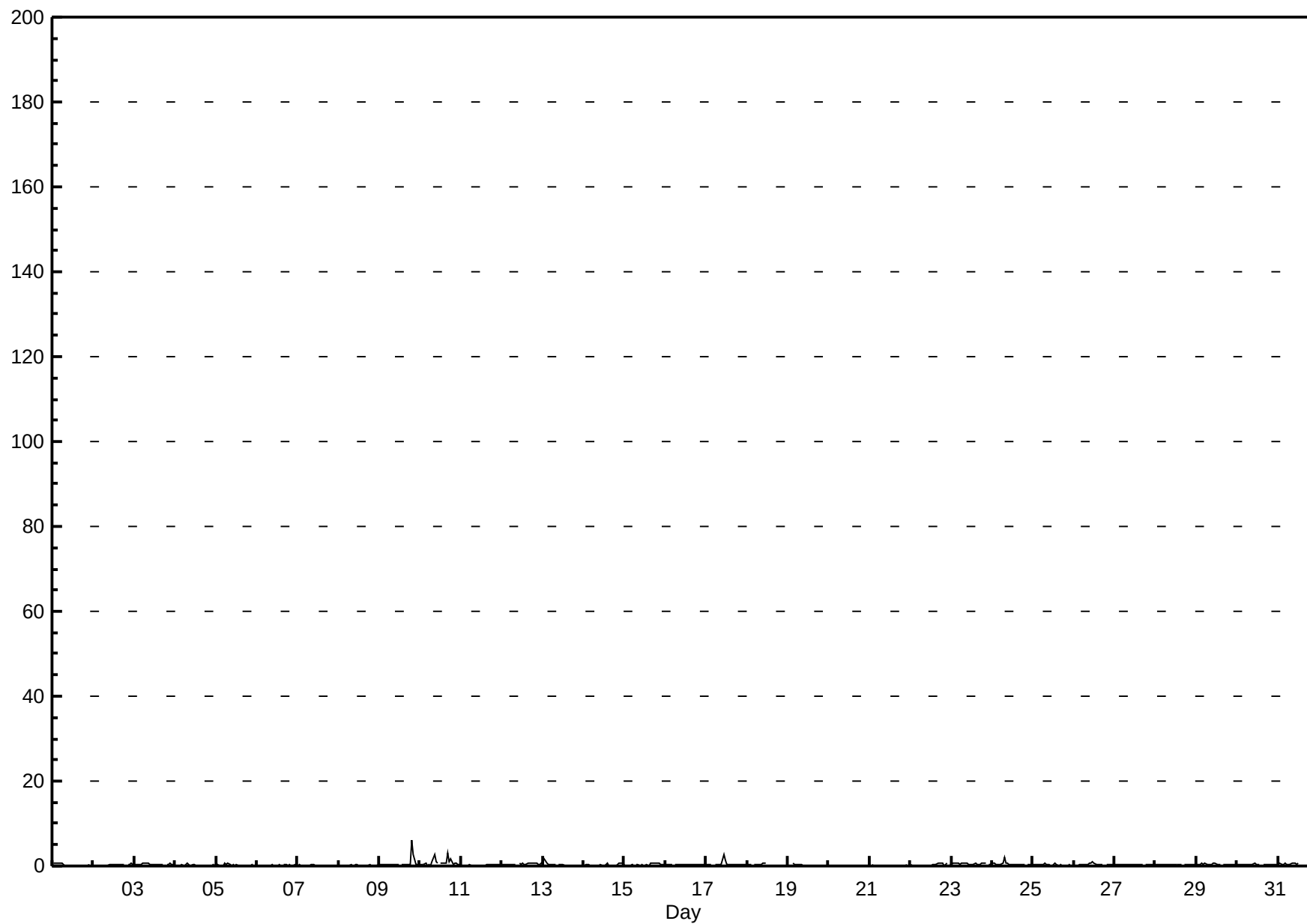
Henry Pirker - July 2013

Maximum Value: 6.2 ppb on Jul 9 20:00																				Maximum Daily Average: 0.8 ppb on Jul 10										Hours in Service: 744	
Minimum Value: 0 ppb on Jul 5 15:00																				Minimum Daily Average: 0.0 ppb on Jul 7										Hours of Data: 708	
Maximum Diurnal Average: 0.4 ppb at hour 20																				Minimum Diurnal Average: 0.2 ppb at hour 3										Hours of Missing Data: 36	
Monthly Average: 0.28 ppb																				Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 0.2 Q ₃ = 0.3 P ₉₀ = 0.6 P ₉₉ = 1.4										Hours of Calibration: 36	
																				Percent Operational Time: 100.0											
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24							
1-Jul	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.2	0.5					
2-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	1	0	0.2	0.5					
3-Jul	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	A	0	0	1	0	0	0.3	0.7					
4-Jul	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0.2	0.6					
5-Jul	1	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0.2	0.6					
6-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					
7-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	0.3					
8-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					
9-Jul	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	6	3	0	0	0	0.6	6.2					
10-Jul	0	0	0	1	0	0	0	1	3	1	1	A	1	1	1	1	3	1	2	0	1	1	0	0	0.8	2.9					
11-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					
12-Jul	0	0	0	0	0	0	0	0	0	A	1	0	1	0	0	1	1	1	1	1	1	0	0	1	0.4	0.7					
13-Jul	1	2	1	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.7					
14-Jul	0	0	0	0	0	0	0	A	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1	1	0.2	0.6					
15-Jul	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	0	0	0.3	0.6					
16-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	0.4	0.5					
17-Jul	0	0	0	0	A	0	0	0	0	0	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0.4	2.8					
18-Jul	0	0	0	A	0	0	0	0	0	1	1	1	C	C	C	C	0	0	0	0	0	0	0	0	0.2	0.6					
19-Jul	0	0	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.6					
20-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					
21-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	0.1	0.4					
22-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	1	A	0	0.2	0.6					
23-Jul	0	1	1	1	1	0	1	1	1	1	0	0	0	0	1	0	0	0	1	1	1	A	0	0	0.5	0.7					
24-Jul	1	1	0	0	0	0	1	2	1	1	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.4	2.2					
25-Jul	0	0	0	0	0	0	0	1	1	0	0	0	0	1	0	0	0	0	0	A	0	0	0	0	0.3	0.6					
26-Jul	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	A	0	0	0	0	0	0.3	1.0					
27-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	0.3	0.4					
28-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					
29-Jul	0	0	0	1	0	1	0	0	0	0	1	1	0	0	0	A	0	0	0	0	0	0	0	0	0.3	0.8					
30-Jul	0	0	0	0	0	0	0	0	0	0	1	0	0	0	A	0	0	0	0	0	0	0	0	0	0.3	0.8					
31-Jul	0	1	0	0	1	0	0	0	1	1	1	0	1	A	0	0	0	0	0	0	0	0	0	0	0.3	0.7					
0.3 0.3 0.2 0.3 0.2 0.2 0.3 0.4 0.4 0.3 0.4 0.3 0.2 0.3 0.2 0.2 0.3 0.2 0.3 0.4 0.3 0.2 0.2 0.2																									Diurnal Average						
1.1 1.7 0.6 0.6 0.6 0.7 0.7 2.2 2.6 1.1 2.8 1.3 0.7 0.6 0.7 0.7 2.9 1.1 1.6 6.2 2.7 0.7 0.6 0.7																									Diurnal Maximum						
C - Calibration																									A - Automated Daily Zero Span						

Hourly Maximums

Sulphur Dioxide (SO₂) - ppb

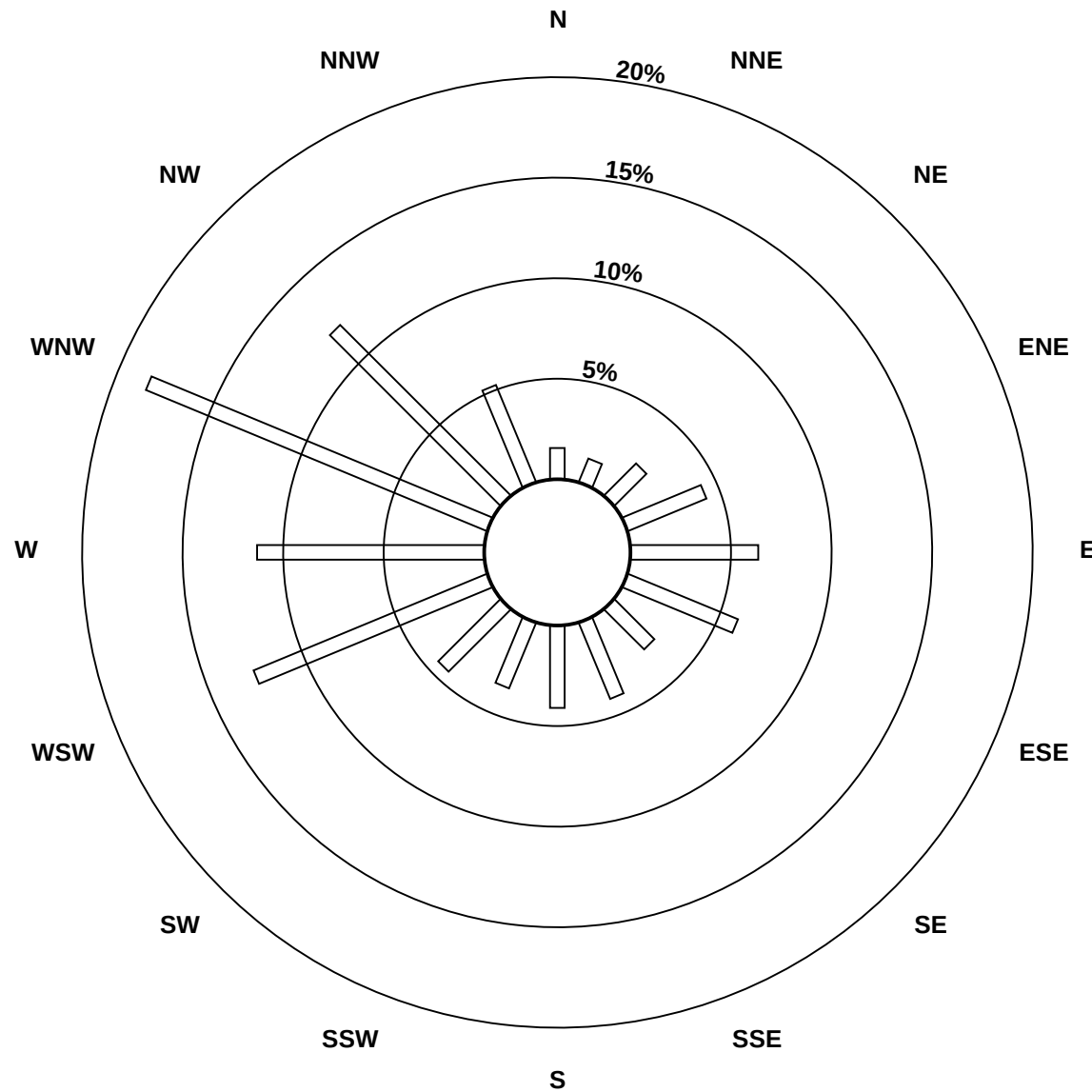
Henry Pirker - July 2013



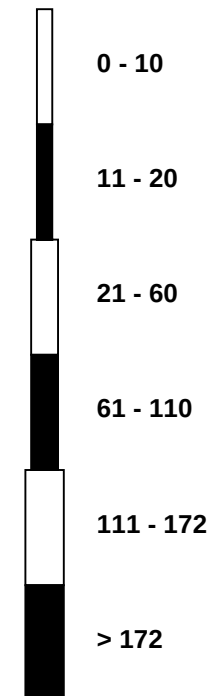
Pollutant Rose

Sulphur Dioxide (SO₂) - ppb

Henry Pirker - July 2013

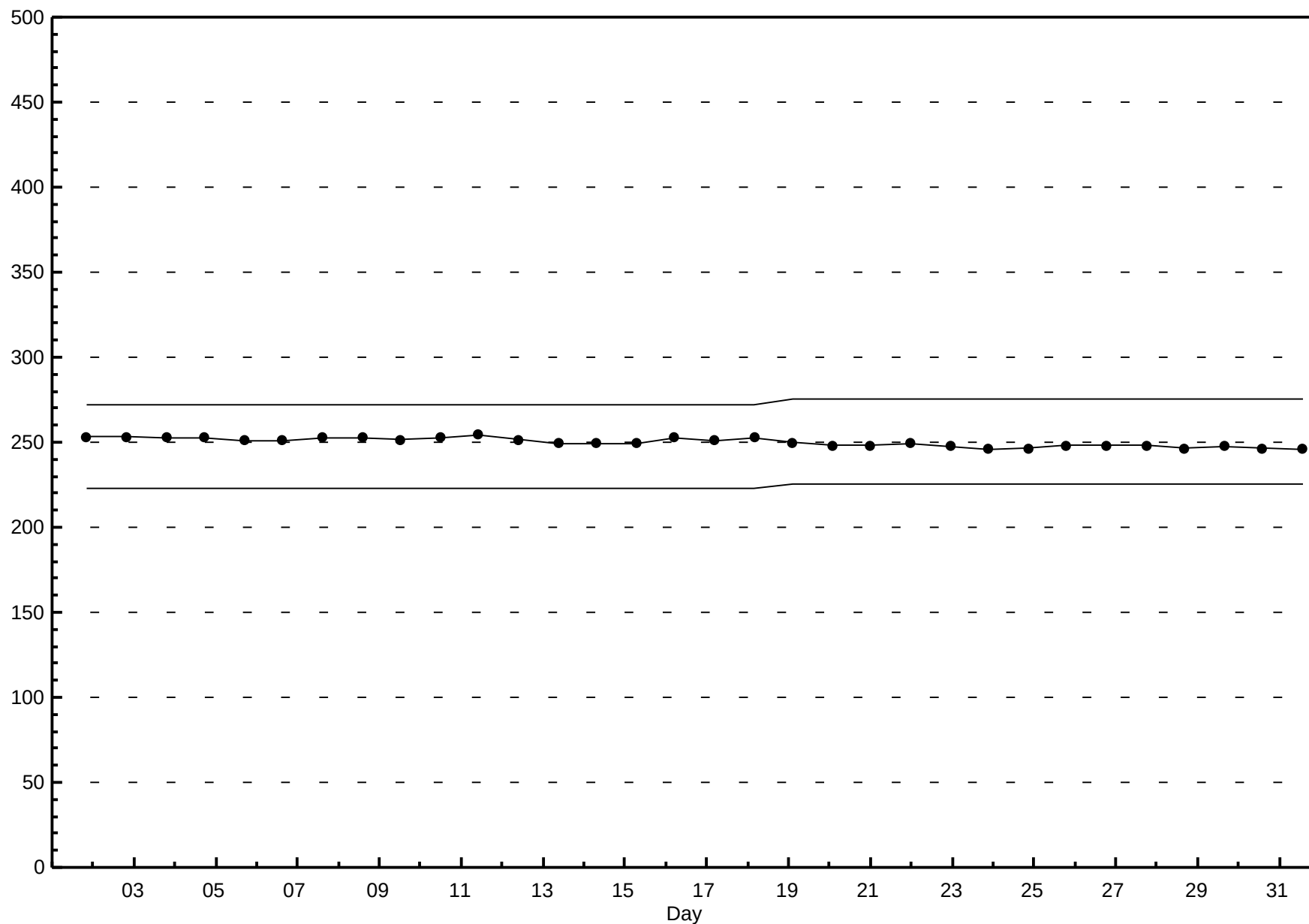


Pollutant Classes (ppb)



Span Responses

Sulphur Dioxide (SO₂)
Henry Pirker - July 2013



Hourly Averages

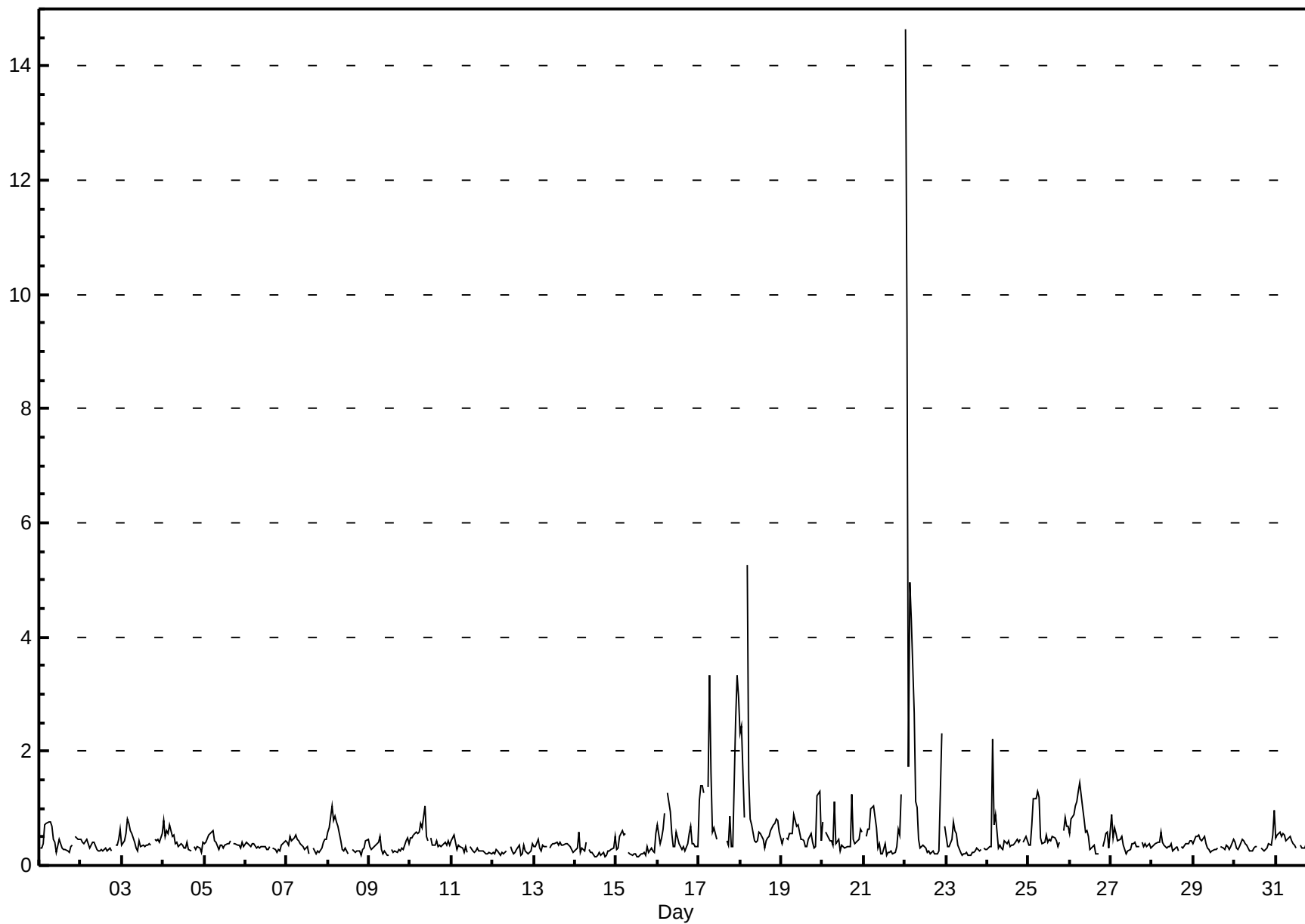
Total Reduced Sulphur (TRS) - ppb

Henry Pirker - July 2013

Number of Exceedences (AAAQO): 1-hr: 1 24-hr: 0 Maximum Value: 14.6 ppb on Jul 22 01:00 Maximum Daily Average: 2.0 ppb on Jul 22																				Hours in Service: 744 Hours of Data: 707 Hours of Missing Data: 37 Hours of Calibration: 37 Percent Operational Time: 100.0						
Minimum Value: 0 ppb on Jul 14 13:00 Maximum Diurnal Average: 1.0 ppb at hour 1 Monthly Average: 0.51 ppb										Minimum Daily Average: 0.3 ppb on Jul 12 Minimum Diurnal Average: 0.3 ppb at hour 14 Percentiles: P ₁ = 0.2 P ₁₀ = 0.2 Q ₁ = 0.3 Median = 0.4 Q ₃ = 0.5 P ₉₀ = 0.7 P ₉₉ = 3.3																
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jul	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	A	1	0	0	0.4	0.8
2-Jul	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	0.6
3-Jul	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	1	0.4	0.8
4-Jul	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0.4	0.8
5-Jul	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0.4	0.6
6-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	0.3	0.4
7-Jul	0	0	1	0	0	1	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.4	0.5
8-Jul	1	1	1	1	1	1	1	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.4	1.0
9-Jul	0	0	0	0	0	0	1	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.3	0.5
10-Jul	0	0	1	1	1	1	1	1	1	1	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.5	1.0
11-Jul	0	1	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
12-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
13-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	0.3	0.4
14-Jul	0	0	1	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.3	0.6
15-Jul	0	0	1	1	1	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.3	0.6
16-Jul	1	0	0	1	1	A	1	1	1	0	0	1	0	0	0	0	0	0	1	1	0	0	0	0	0.5	1.3
17-Jul	1	1	1	1	A	1	3	2	1	1	0	C	C	C	C	C	0	0	1	0	0	3	3	3	1.4	3.3
18-Jul	2	2	1	A	5	2	1	1	0	0	0	1	1	0	0	0	0	1	1	1	1	1	1	1	1.0	5.3
19-Jul	0	0	A	0	0	1	1	1	1	1	1	0	0	0	0	0	0	1	0	0	0	1	1	0	0.6	1.3
20-Jul	1	A	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	0.5	1.3
21-Jul	A	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	A	0.5	1.2
22-Jul	15	10	2	5	4	3	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	A	1	2.0	14.6
23-Jul	1	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.3	0.8
24-Jul	0	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	1	0	0.5	2.2
25-Jul	0	0	1	1	1	1	1	0	0	0	1	0	0	0	1	0	0	0	0	A	1	1	1	1	0.6	1.3
26-Jul	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	A	0	0	1	1	0	0.6	1.4
27-Jul	1	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0.4	0.9
28-Jul	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0.4	0.6
29-Jul	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.4	0.5
30-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	1	1	0.4	1.0
31-Jul	0	1	1	1	1	1	0	0	1	0	0	0	0	A	0	0	0	0	0	0	0	0	0	1	0.4	0.6
1.0 0.8 0.6 0.8 0.9 0.7 0.7 0.6 0.4 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.4 0.3 0.4 0.6 0.6 0.5 Diurnal Average 14.6 9.6 1.7 5.0 5.3 2.7 3.3 1.6 1.0 0.7 0.7 0.6 0.6 0.5 0.5 0.5 0.5 1.3 0.9 0.7 0.7 2.6 3.3 3.0 Diurnal Maximum																										
C - Calibration A - Automated Daily Zero Span Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb																										

Hourly Averages

Total Reduced Sulphur (TRS) - ppb
Henry Pirker - July 2013



Hourly Maximums

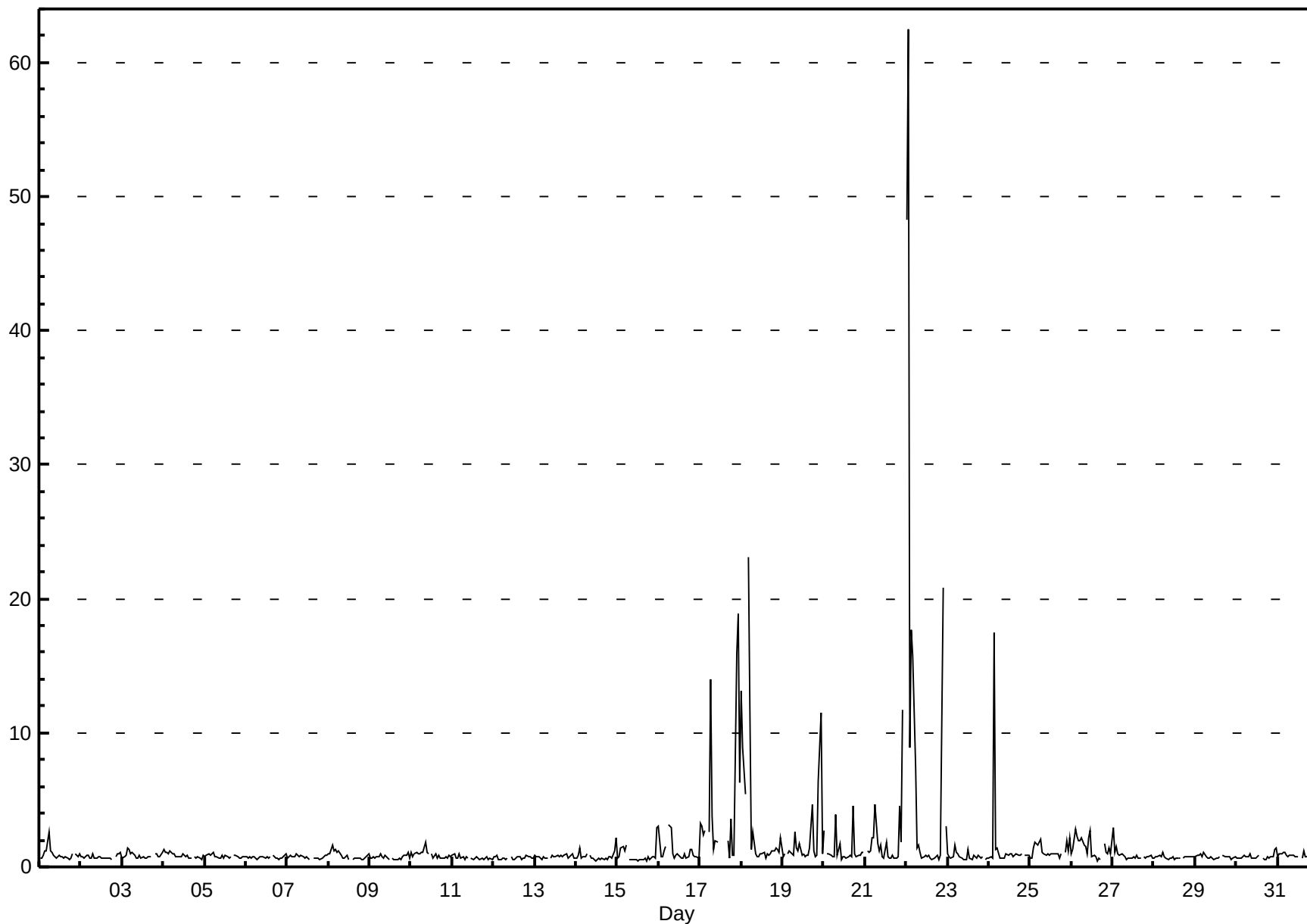
Total Reduced Sulphur (TRS) - ppb

Henry Pirker - July 2013

Maximum Value: 62.5 ppb on Jul 22 02:00																				Maximum Daily Average: 8.6 ppb on Jul 22					Hours in Service: 744	
Minimum Value: 0 ppb on Jul 14 12:00																				Minimum Daily Average: 0.7 ppb on Jul 12					Hours of Data: 707	
Maximum Diurnal Average: 3.2 ppb at hour 2																				Minimum Diurnal Average: 0.7 ppb at hour 15					Hours of Missing Data: 37	
Monthly Average: 1.40 ppb																				Percentiles: P ₁ = 0.5 P ₁₀ = 0.6 Q ₁ = 0.7 Median = 0.8 Q ₃ = 1.0 P ₉₀ = 1.7 P ₉₉ = 17.4					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	1	1	1	1	1	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	0.9	2.6
2-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
3-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	1.4
4-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	1.3
5-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	0.8	1.0
6-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	0.9
7-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	1.0
8-Jul	1	1	2	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	0.8	1.6
9-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
10-Jul	1	1	1	1	1	1	1	1	2	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.8
11-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	0.7	1.0
12-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	0.9
13-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	0.8	1.0
14-Jul	1	1	1	1	1	1	1	A	1	1	1	0	1	1	1	1	1	1	1	1	1	1	2	0.8	2.2	
15-Jul	1	1	1	2	1	2	A	1	0	1	1	1	0	1	1	1	1	0	1	1	1	1	3	0.8	2.9	
16-Jul	3	1	1	1	1	A	3	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.2	3.1	
17-Jul	3	3	2	3	A	3	14	4	1	2	2	C	C	C	C	C	2	1	4	1	1	16	19	6	4.8	18.9
18-Jul	13	9	5	A	23	12	1	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3.6	23.1	
19-Jul	1	1	A	1	1	1	1	3	1	1	2	1	1	1	1	1	1	5	1	1	1	6	11	1	2.0	11.5
20-Jul	3	A	1	1	1	1	1	4	1	2	1	1	1	1	1	1	1	5	1	1	1	1	1	1.3	4.6	
21-Jul	A	1	1	1	2	2	5	2	1	2	1	1	2	1	1	1	1	1	1	1	5	2	12	A	2.0	11.7
22-Jul	48	62	9	18	16	8	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	21	A	3	8.6	62.5
23-Jul	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	0.8	1.6
24-Jul	1	1	1	18	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1.6	17.5
25-Jul	1	1	1	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	A	1	2	1	2	1.2	2.1
26-Jul	1	1	3	2	2	2	2	2	2	1	2	3	1	1	1	0	1	1	A	2	1	1	1	1	1.4	2.8
27-Jul	3	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	0.9	2.9
28-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	0.7	1.0
29-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	1.0
30-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	1.4
31-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	0.8	1.2
3.1 3.2 1.5 2.2 2.3 1.7 1.6 1.3 0.9 0.8 0.9 0.8 0.8 0.7 0.7 0.7 0.8 1.0 0.9 0.8 0.9 2.2 2.2 1.3																									Diurnal Average	
48.2 62.5 8.9 17.6 23.1 11.8 14.0 3.9 1.8 2.0 2.2 2.7 1.9 1.0 1.0 1.2 2.0 4.7 3.6 1.8 4.5 20.8 18.9 6.3																									Diurnal Maximum	
C - Calibration A - Automated Daily Zero Span																										

Hourly Maximums

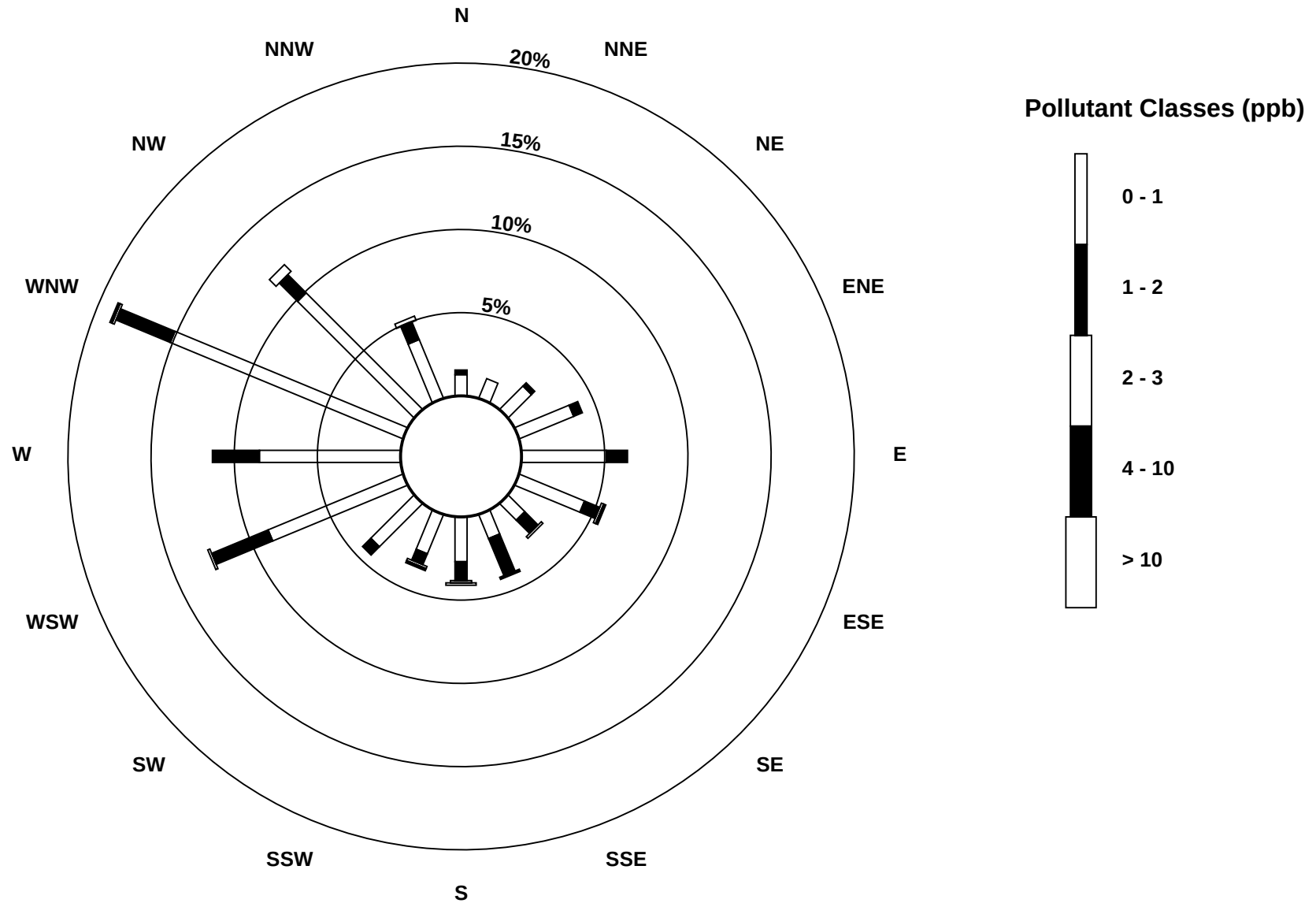
Total Reduced Sulphur (TRS) - ppb
Henry Pirker - July 2013



Pollutant Rose

Total Reduced Sulphur (TRS) - ppb

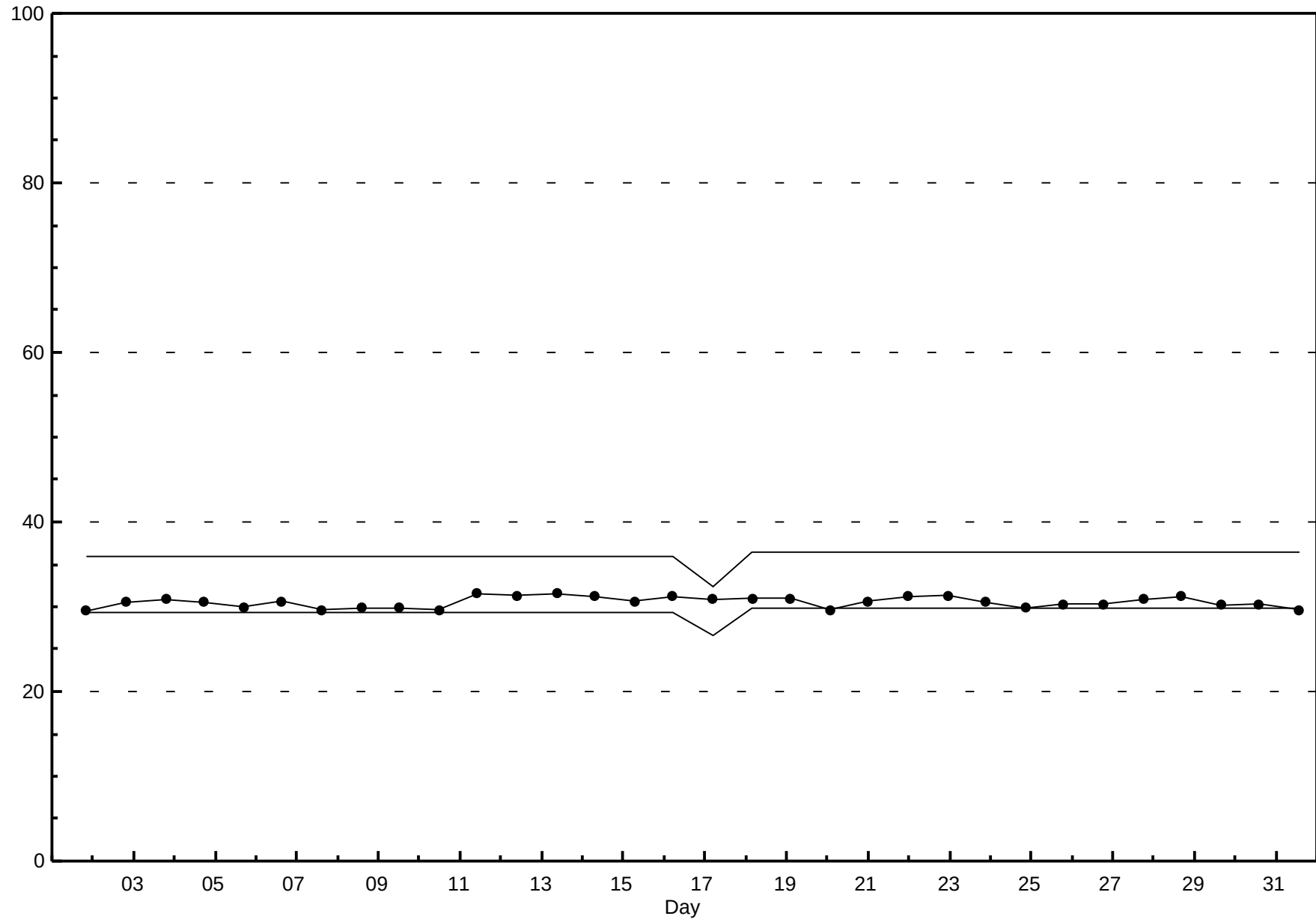
Henry Pirker - July 2013



Span Responses

Total Reduced Sulphur (TRS)

Henry Pirker - July 2013



Hourly Averages

Nitrogen Dioxide (NO₂) - ppb

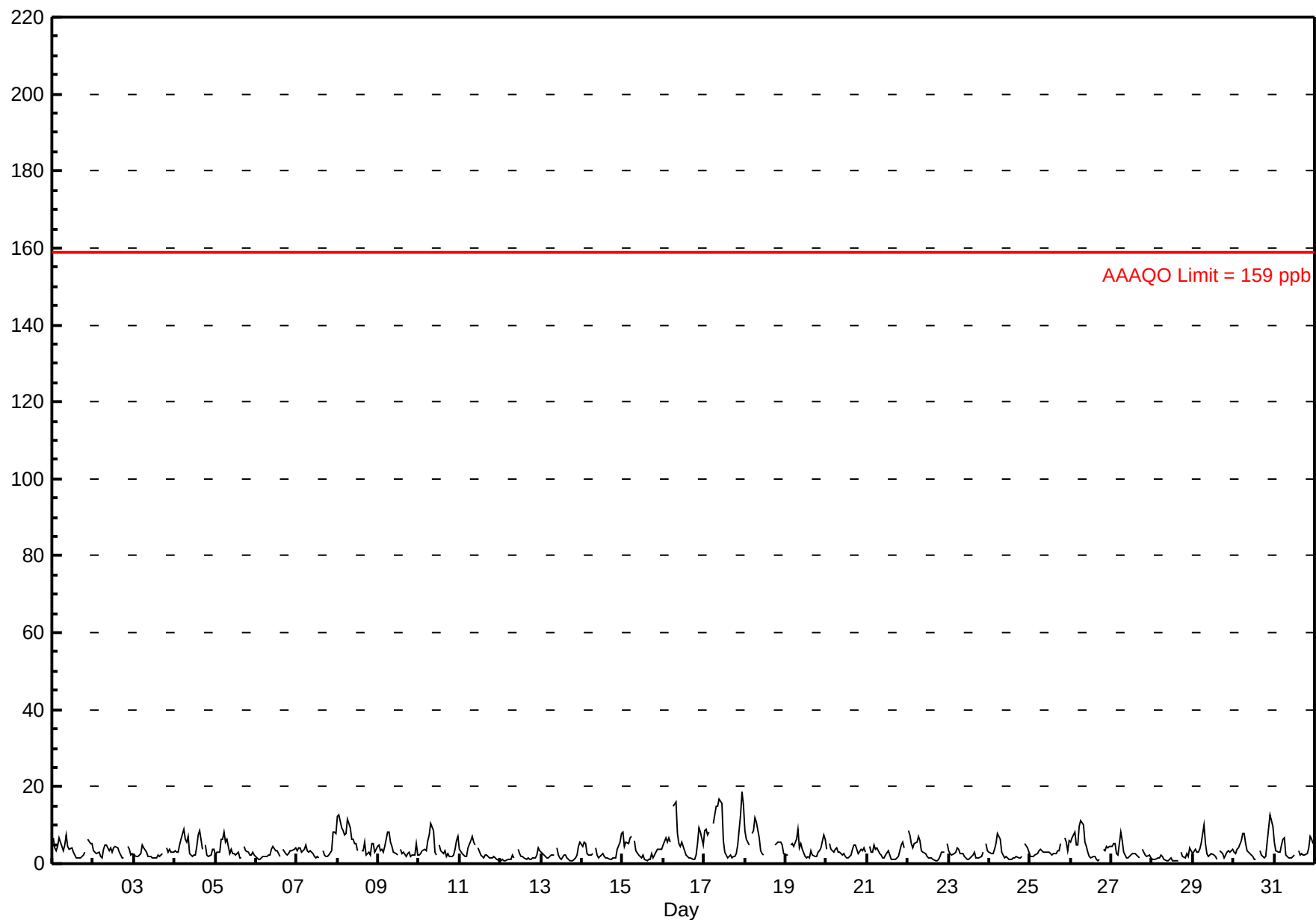
Henry Pirker - July 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 18.7 ppb on Jul 17 23:00 Maximum Daily Average: 8.4 ppb on Jul 17																				Hours in Service: 744 Hours of Data: 706 Hours of Missing Data: 38 Hours of Calibration: 38 Percent Operational Time: 100.0						
Minimum Value: 1 ppb on Jul 12 03:00 Minimum Daily Average: 1.6 ppb on Jul 28 Maximum Diurnal Average: 6.2 ppb at hour 7 Minimum Diurnal Average: 2.1 ppb at hour 18 Monthly Average: 3.64 ppb Percentiles: P ₁ = 0.8 P ₁₀ = 1.4 Q ₁ = 1.9 Median = 2.9 Q ₃ = 4.6 P ₉₀ = 6.8 P ₉₉ = 14.8																										
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	7	4	3	5	7	4	3	5	8	4	4	4	3	2	1	2	2	2	2	3	A	6	5	5	4.0	7.6
2-Jul	4	3	3	3	2	1	4	5	5	3	4	3	4	5	4	3	2	2	2	A	5	4	2	2	3.2	5.0
3-Jul	2	2	2	2	3	5	4	3	2	2	2	2	2	2	2	2	2	3	A	4	3	4	3	3	2.6	4.8
4-Jul	3	3	3	5	6	9	6	6	7	3	2	2	2	4	8	9	4	A	5	2	2	2	4	4	4.4	9.1
5-Jul	2	3	3	6	6	8	6	6	3	4	3	3	2	3	1	2	A	5	3	3	2	2	3	2	3.5	8.2
6-Jul	2	1	1	1	2	2	2	2	2	4	4	3	3	3	2	A	4	3	2	3	3	3	4	4	2.6	4.4
7-Jul	4	4	4	3	4	5	4	3	3	3	2	2	2	1	A	3	2	2	2	2	3	8	8	8	3.5	8.3
8-Jul	12	13	9	9	7	8	11	9	6	6	5	5	3	A	4	4	6	2	3	2	5	5	3	5	6.2	12.5
9-Jul	5	3	4	3	4	8	8	6	4	3	3	2	A	4	3	3	2	3	3	2	2	5	2	2	3.6	8.3
10-Jul	2	3	3	4	4	6	8	10	8	3	2	A	5	3	3	3	2	3	2	2	2	4	6	7	4.2	10.4
11-Jul	4	3	2	2	2	4	6	7	6	5	A	4	2	2	2	2	2	2	1	1	2	1	1	1	2.8	7.2
12-Jul	1	1	1	1	1	1	1	2	2	A	4	3	2	2	1	1	1	1	1	1	2	2	4	3	1.7	4.0
13-Jul	3	3	2	2	2	2	2	2	A	4	2	2	1	2	2	1	1	1	1	1	1	2	4	5	2.1	5.5
14-Jul	4	6	5	3	2	2	3	A	4	2	2	2	2	2	2	1	1	1	2	1	1	4	6	8	2.9	7.6
15-Jul	8	4	6	5	7	7	A	6	3	2	2	1	2	1	1	1	1	3	1	2	4	4	4	4	3.5	8.3
16-Jul	5	7	5	7	6	A	15	16	8	5	4	5	3	2	2	1	1	1	1	2	5	9	8	5	5.5	16.1
17-Jul	9	9	7	8	A	10	13	15	15	17	16	6	3	2	1	2	1	2	2	3	5	13	19	15	8.4	18.7
18-Jul	9	6	5	A	8	9	12	11	7	3	3	2	C	C	C	C	C	C	5	6	6	6	5	3	--	11.8
19-Jul	2	2	A	5	5	4	6	9	4	5	4	2	1	2	2	3	2	2	2	3	3	4	7	6	3.8	9.1
20-Jul	4	A	5	4	3	4	4	3	3	2	3	2	2	2	2	4	5	5	4	3	4	3	4	3	3.3	5.3
21-Jul	A	4	3	3	5	4	4	2	2	2	1	2	3	2	1	1	1	1	2	3	5	6	4	A	2.9	5.8
22-Jul	8	8	5	4	5	6	7	6	3	3	2	2	2	2	1	1	1	1	1	2	3	3	A	5	3.5	8.4
23-Jul	4	2	2	3	3	4	4	3	3	2	2	1	1	2	2	3	2	2	1	2	3	A	5	3	2.5	5.2
24-Jul	3	3	2	4	5	8	6	3	2	2	2	1	1	1	1	1	2	2	1	2	A	5	4	3	2.8	7.7
25-Jul	2	2	2	2	3	3	4	3	3	3	3	3	3	2	3	3	3	4	5	A	7	6	3	6	3.3	6.8
26-Jul	6	7	8	5	5	10	11	10	5	5	3	2	1	2	2	1	1	1	A	4	3	4	4	4	4.5	11.2
27-Jul	4	5	5	3	2	8	6	3	2	1	1	2	3	2	3	2	2	A	4	3	2	2	2	1	3.1	8.4
28-Jul	1	1	1	1	2	2	2	1	1	1	1	1	1	1	1	1	A	3	2	2	3	2	4	3	1.6	4.1
29-Jul	2	4	3	3	4	5	10	5	3	2	2	2	2	2	1	A	3	3	2	2	3	3	3	4	3.2	10.2
30-Jul	3	3	4	4	6	8	8	5	3	3	2	2	1	1	A	3	2	2	2	2	6	13	11	10	4.4	12.6
31-Jul	6	3	3	3	5	6	7	2	1	2	2	2	2	A	3	2	3	2	2	3	4	7	6	5	3.5	7.0
4.3 4.0 3.8 3.7 4.1 5.5 6.2 5.7 4.3 3.5 3.0 2.5 2.3 2.2 2.2 2.4 2.2 2.1 2.2 2.4 3.4 4.7 5.1 4.7																									Diurnal Average	
12.4 12.5 9.2 8.7 8.0 10.3 15.0 16.1 14.7 16.7 15.5 6.0 5.0 4.7 7.6 8.5 5.7 4.7 5.3 5.6 6.8 12.8 18.7 15.4																									Diurnal Maximum	
C - Calibration A - Automated Daily Zero Span																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 159 ppb 24-hr 106 ppb																										

Hourly Averages

Nitrogen Dioxide (NO₂) - ppb

Henry Pirker - July 2013



Hourly Maximums

Nitrogen Dioxide (NO₂) - ppb

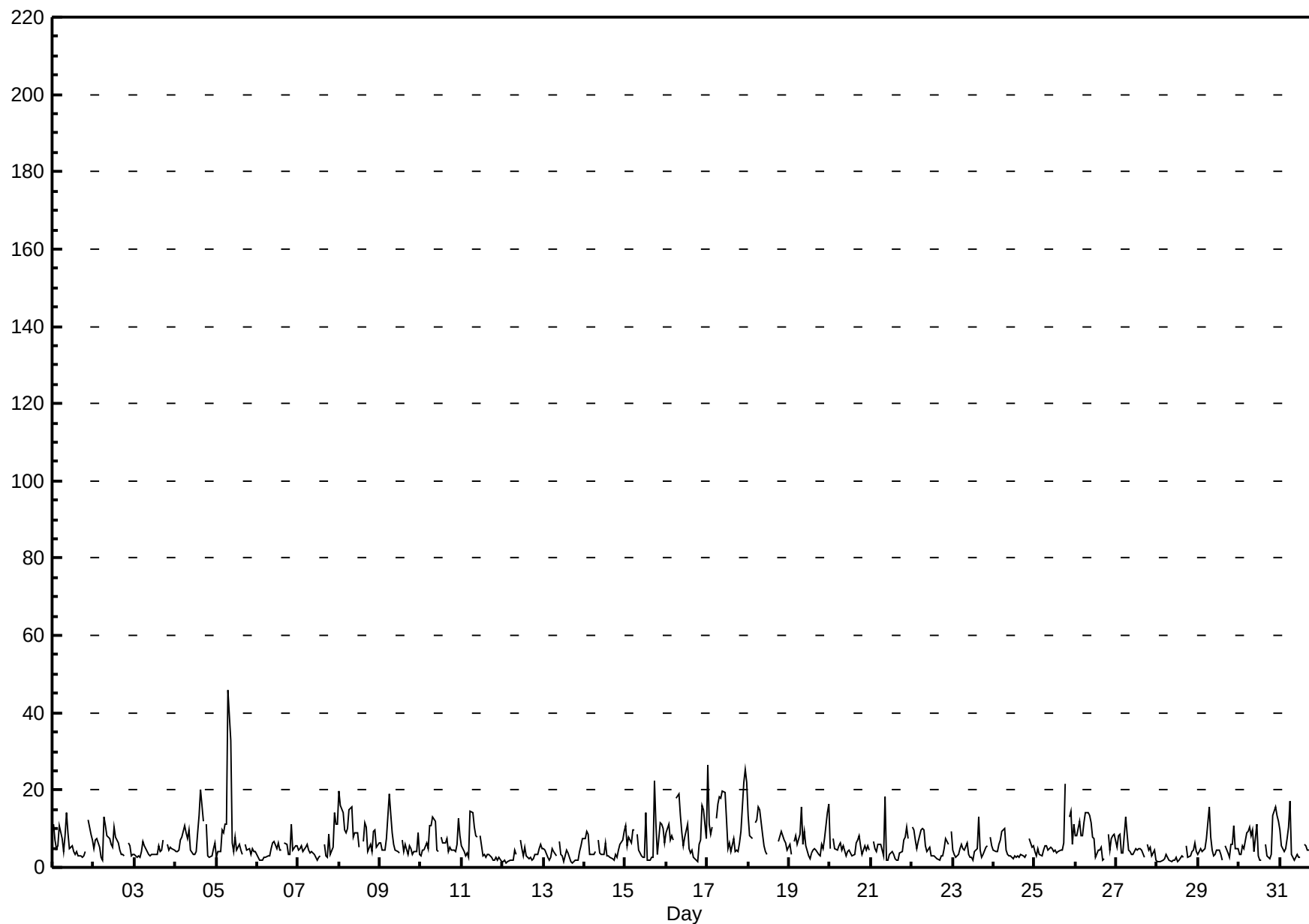
Henry Pirker - July 2013

Maximum Value: 45.8 ppb on Jul 5 08:00																				Maximum Daily Average: 12.8 ppb on Jul 17										Hours in Service: 744									
Minimum Value: 1 ppb on Jul 12 03:00																				Minimum Daily Average: 2.8 ppb on Jul 28										Hours of Data: 706									
Maximum Diurnal Average: 9.5 ppb at hour 8																				Minimum Diurnal Average: 4.1 ppb at hour 17										Hours of Missing Data: 38									
Monthly Average: 6.14 ppb																				Percentiles: P ₁ = 1.5 P ₁₀ = 2.5 Q ₁ = 3.5 Median = 4.8 Q ₃ = 7.6 P ₉₀ = 11.3 P ₉₉ = 21.8										Hours of Calibration: 38									
																				Percent Operational Time: 100.0																			
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24															
1-Jul	11	7	5	6	11	8	4	8	14	9	5	6	4	3	4	3	3	3	3	4	A	12	9	7	6.4	14.3													
2-Jul	5	7	7	5	3	2	13	11	8	7	6	5	11	8	7	5	3	3	3	A	7	6	3	4	6.0	13.0													
3-Jul	4	3	3	3	4	7	6	4	4	3	3	3	4	4	5	4	4	7	A	6	4	5	5	5	4.2	7.0													
4-Jul	4	4	5	7	8	11	9	8	10	5	4	4	4	9	14	20	12	A	11	3	3	3	5	7	7.2	20.0													
5-Jul	3	4	4	10	9	11	11	46	33	6	4	8	5	6	5	3	A	6	5	5	4	5	4	4	8.6	45.8													
6-Jul	3	2	2	2	3	3	3	3	5	7	7	5	7	4	4	A	6	6	3	4	11	4	5	6	4.5	11.2													
7-Jul	5	5	5	4	5	6	4	4	4	4	3	2	3	3	A	6	3	3	8	3	5	14	11	11	5.3	14.3													
8-Jul	20	16	14	10	9	10	15	16	8	9	9	9	5	A	7	11	10	4	6	4	9	10	5	7	9.7	19.7													
9-Jul	7	4	4	5	8	19	14	9	6	4	4	4	A	7	4	6	3	5	5	3	4	4	9	3	6.2	19.0													
10-Jul	3	4	5	7	5	11	11	13	12	4	4	A	8	6	6	7	4	5	5	4	4	6	13	8	6.8	13.0													
11-Jul	6	4	3	4	3	14	14	11	8	8	A	8	3	3	3	4	4	2	2	2	3	2	3	2	4.9	14.5													
12-Jul	1	2	1	1	2	2	2	5	4	A	7	5	3	5	3	2	3	2	2	3	3	5	6	5	3.3	7.0													
13-Jul	5	5	3	2	3	5	4	3	A	7	4	3	2	5	4	2	2	1	2	2	2	4	6	8	3.5	7.5													
14-Jul	7	10	9	4	3	4	4	A	7	4	3	3	6	3	3	3	2	2	4	3	4	6	7	10	4.8	9.5													
15-Jul	11	6	8	6	10	10	A	9	4	3	3	2	14	2	2	3	2	22	11	3	11	11	10	6	7.4	22.2													
16-Jul	9	11	7	8	7	A	18	19	14	9	6	8	11	5	4	4	3	2	2	6	7	16	15	8	8.6	18.9													
17-Jul	26	11	9	11	A	13	17	18	18	20	20	12	5	7	4	7	4	5	4	6	9	22	25	22	12.8	26.3													
18-Jul	13	8	7	A	11	12	16	15	9	6	4	4	C	C	C	C	C	C	7	9	8	7	6	5	--	15.6													
19-Jul	6	3	A	7	8	6	9	15	6	9	6	3	2	4	4	5	4	3	3	6	5	7	14	16	6.6	16.5													
20-Jul	5	A	8	5	4	6	6	5	6	3	4	4	4	3	3	6	7	8	6	4	6	4	6	4	5.1	8.1													
21-Jul	A	7	5	4	6	6	6	3	18	2	2	3	4	4	2	2	2	4	4	7	8	10	8	A	5.3	18.3													
22-Jul	11	10	7	5	7	10	10	10	6	4	5	3	3	3	3	2	2	3	3	5	7	6	A	9	5.7	10.6													
23-Jul	5	4	3	4	5	6	5	4	6	3	3	3	2	4	5	13	5	3	4	5	6	A	8	6	4.7	12.9													
24-Jul	4	4	4	6	7	9	10	5	4	3	3	2	3	3	3	3	3	3	3	3	A	8	5	6	4.5	10.1													
25-Jul	4	3	5	4	3	5	6	6	5	5	5	4	4	4	4	5	5	7	22	A	13	15	6	11	6.4	21.7													
26-Jul	8	8	12	8	8	12	14	14	13	12	8	8	3	4	5	5	2	2	A	9	5	8	8	9	8.0	14.1													
27-Jul	5	8	9	4	4	13	9	5	4	4	3	5	5	5	5	4	3	A	6	4	5	3	4	2	5.1	13.1													
28-Jul	2	2	2	2	2	3	2	2	2	2	2	3	1	2	3	2	A	6	2	3	4	5	7	4	2.8	6.5													
29-Jul	4	5	4	4	5	8	16	8	5	3	3	4	5	3	2	A	6	4	3	6	6	11	5	5	5.3	15.5													
30-Jul	4	3	6	5	9	9	10	8	10	4	11	3	2	2	A	6	3	3	2	3	14	16	14	12	6.9	15.6													
31-Jul	10	6	4	5	8	11	17	4	2	3	4	3	3	A	6	6	4	4	5	4	7	10	9	6	6.0	17.2													
6.9 5.8 5.6 5.1 5.9 8.3 9.5 9.5 8.4 5.7 5.1 4.6 4.6 4.3 4.3 5.3 4.1 4.6 4.9 4.5 6.3 8.1 8.0 7.2																									Diurnal Average														
26.3 16.0 14.3 10.5 11.4 19.0 18.0 45.8 33.0 19.9 19.5 12.2 14.2 9.0 13.5 20.0 11.9 22.2 21.7 9.1 13.6 21.9 25.3 22.1																									Diurnal Maximum														
C - Calibration																									A - Automated Daily Zero Span														

Hourly Maximums

Nitrogen Dioxide (NO₂) - ppb

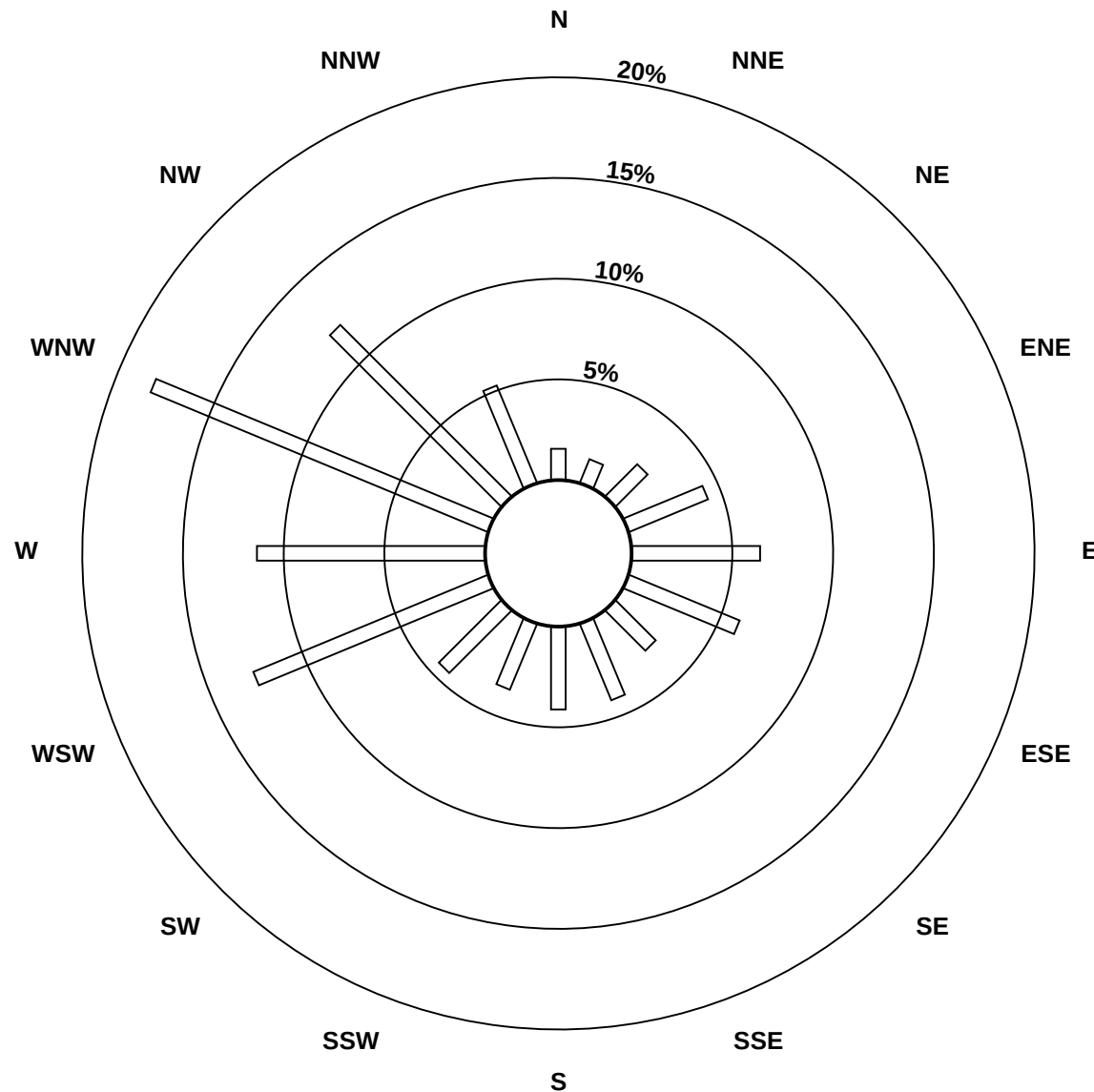
Henry Pirker - July 2013



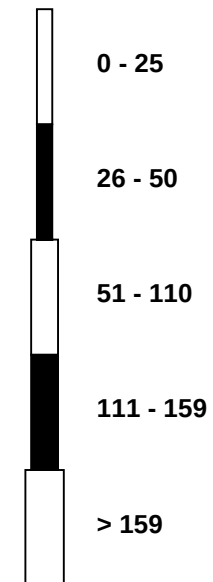
Pollutant Rose

Nitrogen Dioxide (NO₂) - ppb

Henry Pirker - July 2013

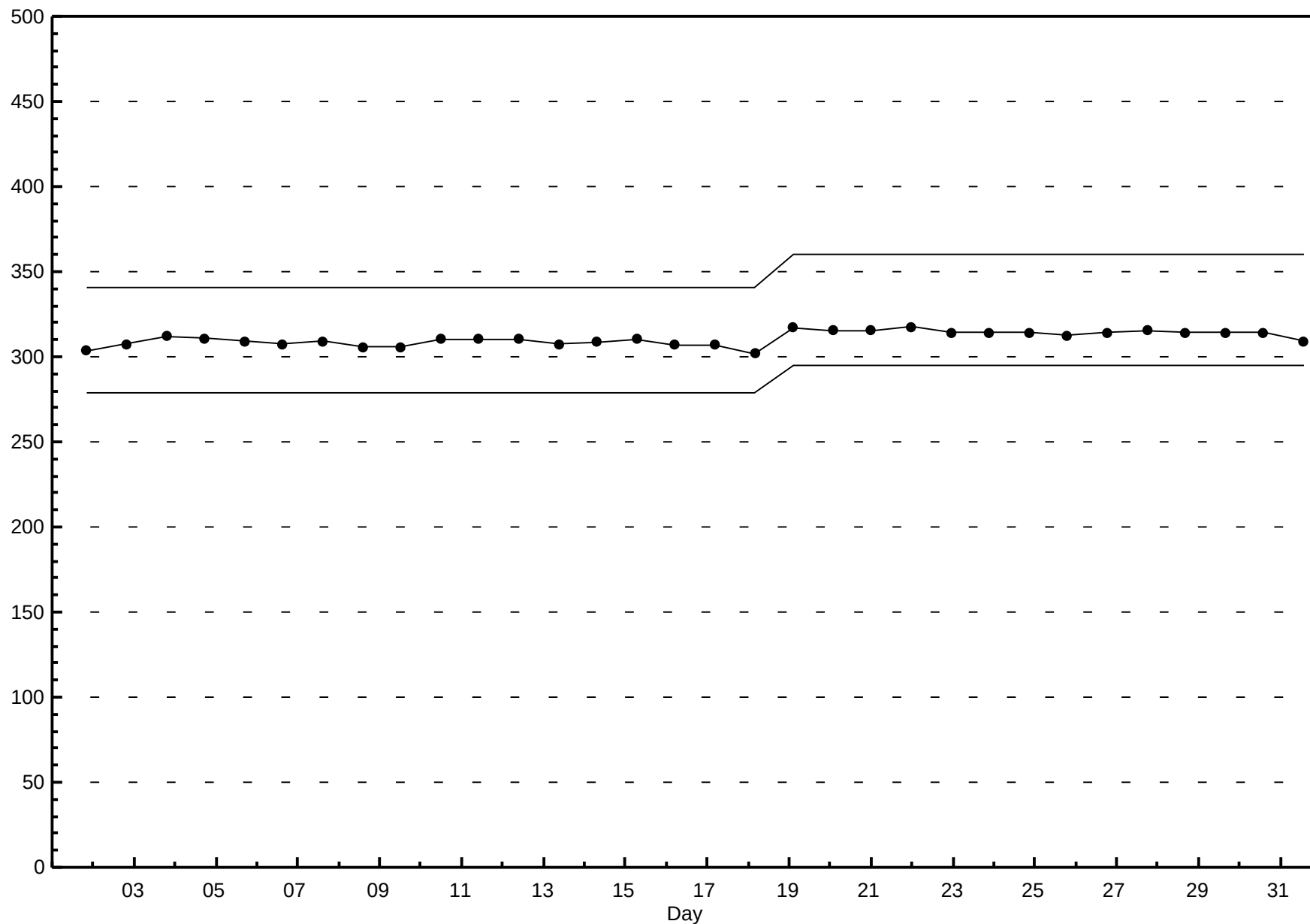


Pollutant Classes (ppb)



Span Responses

Nitrogen Dioxide (NO₂)
Henry Pirker - July 2013



Hourly Averages

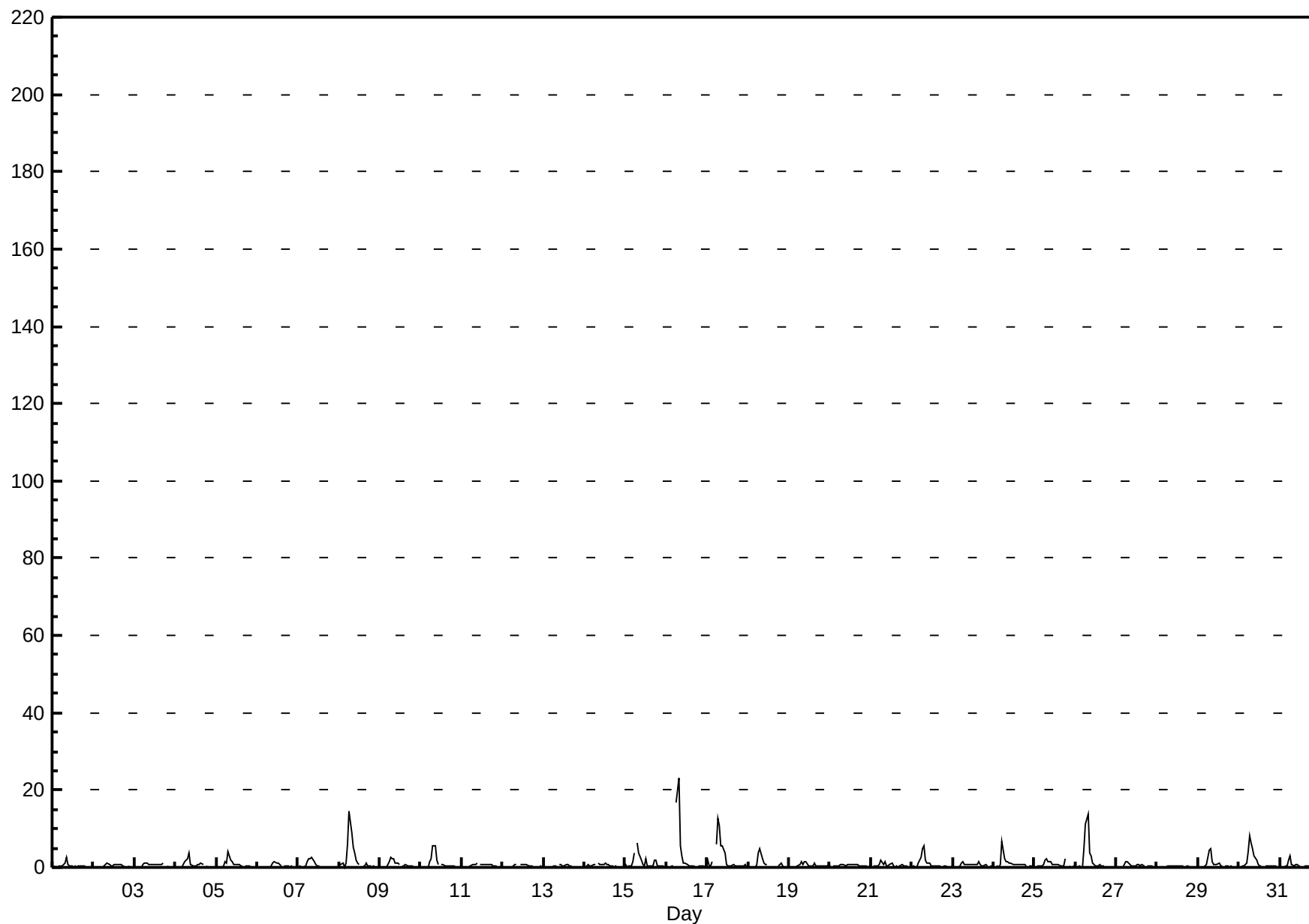
Nitrogen Oxide (NO) - ppb

Henry Pirker - July 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 23.0 ppb on Jul 16 08:00 Maximum Daily Average: 2.4 ppb on Jul 16																				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 2 23:00 Maximum Diurnal Average: 3.9 ppb at hour 8 Monthly Average: 0.84 ppb										Minimum Daily Average: 0.2 ppb on Jul 28 Minimum Diurnal Average: 0.1 ppb at hour 2 Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 0.4 Q ₃ = 0.8 P ₉₀ = 1.6 P ₉₉ = 10.7																
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jul	0	0	0	0	0	0	1	1	2	1	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.4	2.4
2-Jul	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	0	0	A	0	0	0	0	0.4	1.0
3-Jul	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	A	0	0	0	0	0	0.5	1.1
4-Jul	0	0	0	0	0	1	2	2	4	1	0	0	0	1	1	1	1	A	0	0	0	0	0	0	0.6	3.7
5-Jul	0	0	0	0	0	1	1	4	2	1	1	1	1	1	0	0	A	0	0	0	0	0	0	0	0.7	4.2
6-Jul	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	A	0	0	0	0	0	0	0	0	0.4	1.4
7-Jul	0	0	0	0	0	1	2	2	3	2	1	0	0	0	A	0	0	0	0	0	0	0	0	0	0.5	2.6
8-Jul	0	1	1	0	1	6	15	9	5	4	2	1	1	A	0	1	1	0	0	0	0	0	0	0	2.1	14.5
9-Jul	0	0	0	0	0	2	3	2	2	1	1	1	A	0	0	1	0	0	0	0	0	0	0	0	0.6	2.7
10-Jul	0	0	0	0	0	1	2	6	6	2	1	A	1	1	0	1	0	0	0	0	0	0	0	0	0.9	5.8
11-Jul	0	0	0	0	0	0	1	1	1	1	A	1	1	1	1	1	1	1	1	0	0	0	0	0	0.5	1.3
12-Jul	0	0	0	0	0	0	0	1	1	A	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0.3	0.9
13-Jul	0	0	0	0	0	0	0	0	A	1	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0.2	0.7
14-Jul	0	0	1	0	0	1	1	A	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0.5	1.1
15-Jul	1	0	0	0	1	4	A	6	4	2	1	1	2	0	0	0	0	2	2	0	0	0	0	0	1.3	6.3
16-Jul	0	0	0	0	0	A	17	23	6	3	1	1	1	1	0	0	0	0	0	0	0	0	0	0	2.4	23.0
17-Jul	2	0	0	1	A	6	13	11	5	6	4	1	0	0	0	1	0	0	0	0	0	0	1	0	2.3	12.8
18-Jul	0	0	0	A	0	1	4	5	2	1	1	1	C	C	C	C	C	C	0	1	0	0	0	0	--	4.7
19-Jul	0	0	A	0	0	0	1	1	1	2	2	0	0	1	0	1	1	0	0	0	0	0	0	1	0.5	1.6
20-Jul	0	A	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0.5	0.9
21-Jul	A	0	0	0	1	1	2	1	1	1	0	1	1	0	0	0	0	0	1	1	0	0	0	A	0.6	1.9
22-Jul	0	0	0	0	1	2	5	6	2	1	1	1	0	0	1	0	0	0	0	0	0	0	A	0	1.0	5.8
23-Jul	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	2	1	0	0	1	0	A	0	0	0.6	1.6
24-Jul	0	0	0	0	1	7	2	2	1	1	1	1	1	1	1	1	1	1	1	1	A	0	0	0	0.9	6.6
25-Jul	0	0	0	0	0	1	2	2	2	1	1	1	1	1	1	1	1	1	2	A	0	0	0	0	0.7	2.3
26-Jul	0	0	1	0	0	5	11	14	4	3	1	1	0	0	1	0	0	0	A	0	0	0	0	0	1.9	13.8
27-Jul	0	0	0	0	0	1	1	1	1	0	0	0	1	1	1	1	0	A	0	0	0	0	0	0	0.5	1.5
28-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
29-Jul	0	0	0	0	0	1	4	5	1	1	1	1	1	1	0	A	0	0	0	0	0	0	0	0	0.8	4.9
30-Jul	0	0	0	0	1	4	8	6	5	3	2	1	0	0	A	0	0	0	0	0	0	0	0	0	1.5	8.2
31-Jul	0	0	0	0	0	2	3	1	1	1	1	0	0	A	0	0	1	1	0	0	0	0	0	0	0.6	3.1
0.2 0.1 0.2 0.2 0.3 1.7 3.5 3.9 2.2 1.5 1.0 0.7 0.7 0.5 0.5 0.6 0.5 0.5 0.4 0.3 0.2 0.1 0.1 0.1																								Diurnal Average		
1.7 0.6 1.2 1.5 1.4 6.6 16.8 23.0 5.6 5.7 3.8 1.3 2.4 0.9 0.9 1.6 1.2 2.0 2.3 1.0 0.4 0.4 0.7 0.7																								Diurnal Maximum		
C - Calibration A - Automated Daily Zero Span																										

Hourly Averages

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



Hourly Maximums

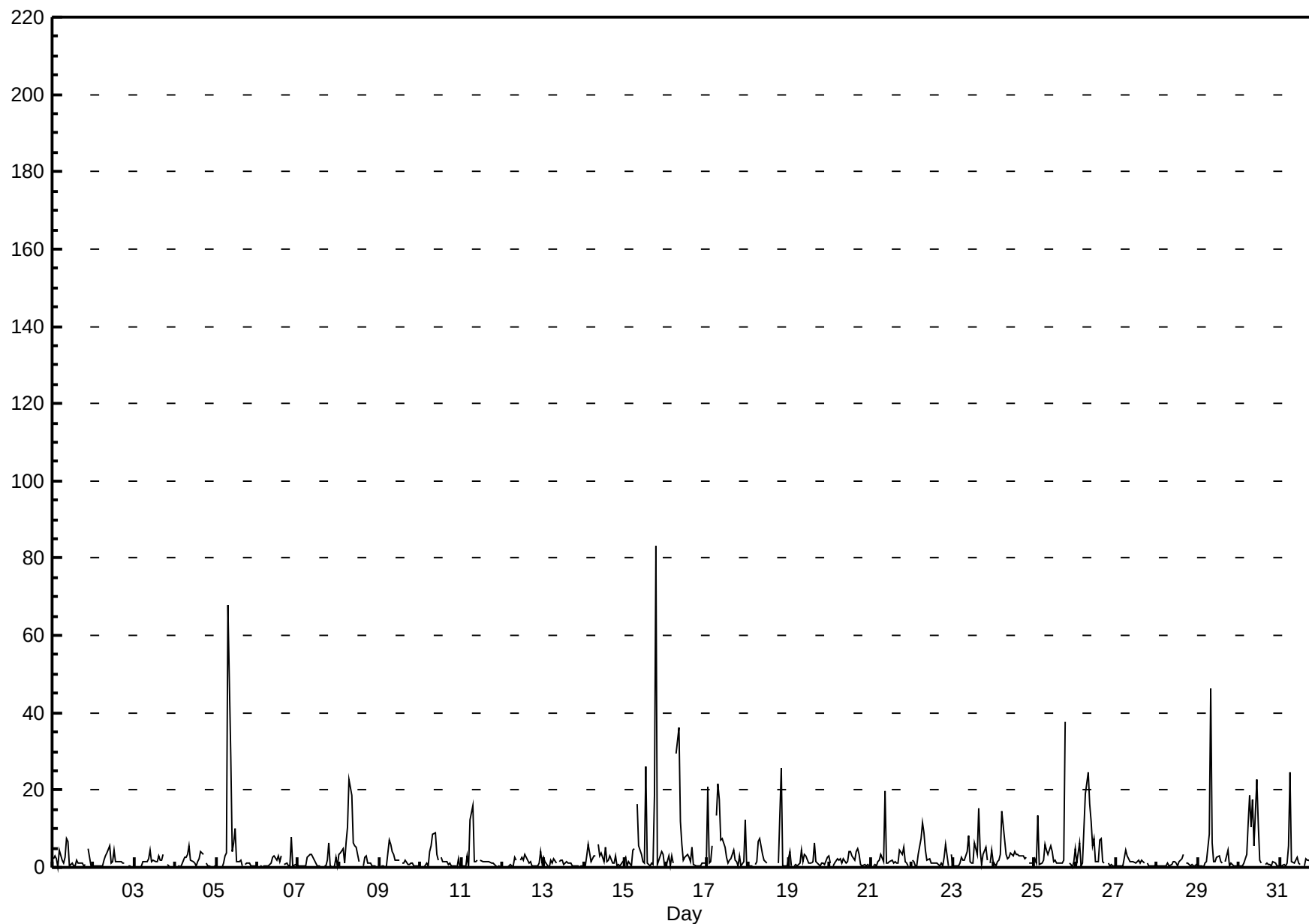
Nitrogen Oxide (NO) - ppb

Henry Pirker - July 2013

Maximum Value: 83.0 ppb on Jul 15 19:00																				Maximum Daily Average: 8.0 ppb on Jul 15					Hours in Service: 744		
Minimum Value: 0 ppb on Jul 1 04:00																				Minimum Daily Average: 0.9 ppb on Jul 28					Hours of Data: 706		
Maximum Diurnal Average: 10.2 ppb at hour 8																				Minimum Diurnal Average: 0.9 ppb at hour 22					Hours of Missing Data: 38		
Monthly Average: 2.92 ppb																				Percentiles: P ₁ = 0.1 P ₁₀ = 0.5 Q ₁ = 0.5 Median = 1.3 Q ₃ = 2.9 P ₉₀ = 5.8 P ₉₉ = 28.0					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	2	3	2	0	5	2	1	2	7	7	1	1	0	1	2	1	1	1	1	1	1	A	5	1	0	2.0	7.5
2-Jul	0	0	0	1	0	0	2	3	4	5	1	1	4	1	2	2	1	1	1	1	A	1	0	0	0	1.4	5.5
3-Jul	0	0	0	0	0	1	2	2	2	4	2	2	1	2	3	2	2	3	A	1	1	0	0	0	0	1.3	4.5
4-Jul	0	0	0	0	1	3	3	3	6	2	2	1	1	2	2	4	3	A	1	0	0	0	0	0	0	1.5	5.5
5-Jul	0	0	0	0	1	3	4	68	29	4	6	10	1	2	2	1	A	1	1	1	1	0	1	0	0	5.9	67.9
6-Jul	0	0	0	0	0	0	1	1	1	3	3	2	3	1	3	A	1	1	1	1	8	0	1	1	1	1.3	7.7
7-Jul	1	1	1	1	1	3	3	4	3	2	1	1	1	1	A	1	0	2	6	0	0	1	2	1	1	1.5	6.5
8-Jul	3	4	5	1	6	11	23	19	7	5	5	4	1	A	1	3	3	1	1	1	1	1	0	0	0	4.5	22.8
9-Jul	0	0	0	0	1	7	6	4	3	2	2	2	A	1	1	2	1	1	1	1	1	0	0	0	0	1.6	7.0
10-Jul	0	0	0	1	0	4	5	9	9	3	2	A	2	1	1	1	1	1	1	1	1	0	2	0	0	2.0	8.9
11-Jul	0	1	0	3	0	12	16	2	2	2	A	2	1	2	1	1	2	1	1	1	1	0	1	0	0	2.2	16.1
12-Jul	0	0	0	0	1	1	1	2	2	A	2	2	2	3	2	1	2	1	1	1	1	1	4	1	1	1.3	4.2
13-Jul	3	1	1	0	2	1	2	1	A	2	2	2	1	2	1	1	1	1	1	1	1	0	1	0	0	1.1	2.7
14-Jul	0	3	6	4	1	3	3	A	6	3	4	1	5	1	2	3	1	1	3	1	1	1	1	2	2	2.5	6.0
15-Jul	3	1	1	1	4	5	A	16	5	3	1	1	26	1	1	1	1	19	83	1	3	4	3	0	0	8.0	83.0
16-Jul	0	3	0	3	1	A	30	36	12	6	2	2	3	3	1	5	1	1	1	1	1	1	1	1	1	5.0	36.1
17-Jul	21	1	1	5	A	14	21	18	7	8	5	2	1	2	2	5	2	1	1	3	1	1	12	1	1	5.9	21.5
18-Jul	1	1	1	A	1	2	7	8	3	2	2	1	C	C	C	C	C	C	1	26	0	0	1	0	0	--	25.9
19-Jul	4	0	A	1	1	1	1	4	1	3	3	1	1	1	1	6	1	1	1	1	1	1	2	3	3	1.8	6.3
20-Jul	1	A	1	1	2	2	2	1	2	1	1	4	4	3	2	4	5	3	1	1	1	1	1	1	1	1.9	4.7
21-Jul	A	1	1	1	1	2	3	2	20	1	1	1	2	1	1	1	1	5	3	5	1	1	1	A	3	2.5	19.7
22-Jul	2	1	0	0	3	7	12	9	4	2	2	1	1	1	1	1	1	1	1	2	6	0	A	3	3	2.8	11.7
23-Jul	0	0	0	0	1	2	2	2	4	8	1	1	1	6	3	15	5	1	3	5	2	A	1	5	5	3.1	15.4
24-Jul	1	1	2	2	3	15	7	3	2	2	4	3	4	3	3	3	3	3	2	2	A	1	1	1	1	3.2	14.6
25-Jul	2	1	13	1	1	2	6	4	3	6	4	1	2	1	1	1	1	2	38	A	1	1	0	1	1	4.1	37.8
26-Jul	5	1	6	1	1	10	19	25	17	12	6	7	1	1	7	7	1	1	A	1	0	1	0	1	1	5.7	24.8
27-Jul	0	0	1	1	0	4	3	2	2	1	1	1	1	2	1	2	1	A	1	1	1	1	0	1	1	1.3	4.5
28-Jul	1	0	1	0	0	1	1	1	1	2	1	1	1	1	2	3	A	1	1	1	1	0	1	1	1	0.9	3.4
29-Jul	0	1	0	0	1	1	8	46	6	1	2	2	3	1	1	A	1	4	1	1	1	1	1	1	1	3.7	46.1
30-Jul	0	1	1	1	3	11	19	10	18	5	23	11	2	1	A	1	1	1	1	1	1	1	1	0	0	4.9	22.6
31-Jul	1	1	1	1	1	6	25	1	1	2	3	1	1	A	1	2	2	2	1	1	1	2	1	1	1	2.4	24.5
1.8 0.9 1.5 0.9 1.5 4.5 7.9 10.2 6.3 3.7 3.1 2.5 2.7 1.7 1.9 2.9 1.6 2.2 5.4 2.0 1.2 0.9 1.3 0.9																									Diurnal Average		
20.7 3.9 13.5 5.5 6.4 14.6 29.6 67.9 28.6 12.0 22.6 11.1 26.0 6.3 6.9 15.4 4.7 18.8 83.0 25.9 7.7 4.7 12.5 4.6																									Diurnal Maximum		
C - Calibration A - Automated Daily Zero Span																											

Hourly Maximums

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



Hourly Averages

Oxides of Nitrogen (NO_x) - ppb

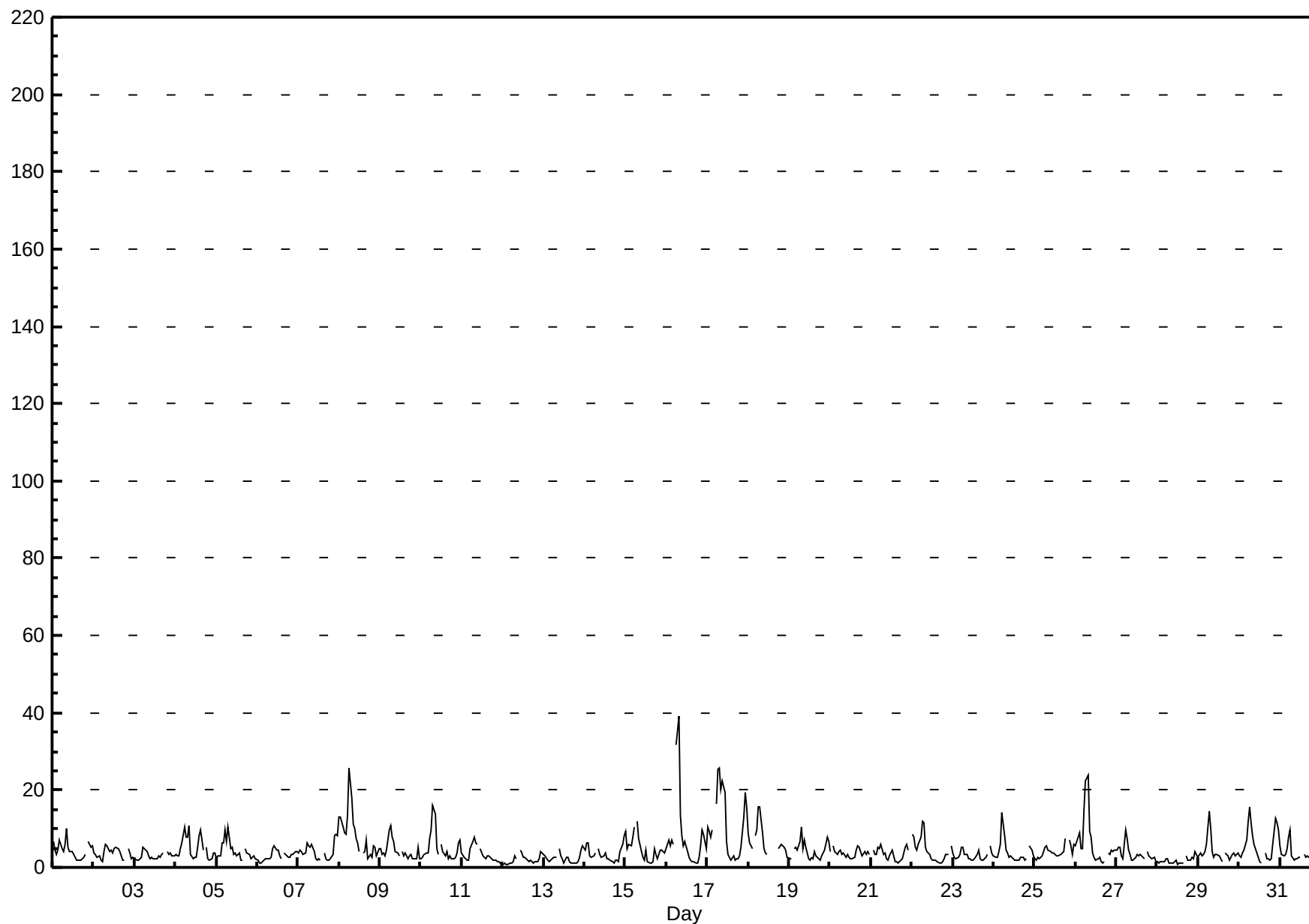
Henry Pirker - July 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 39.0 ppb on Jul 16 08:00 Maximum Daily Average: 10.7 ppb on Jul 17																				Hours in Service: 744 Hours of Data: 706 Hours of Missing Data: 38 Hours of Calibration: 38 Percent Operational Time: 100.0						
Minimum Value: 1 ppb on Jul 12 03:00 Maximum Diurnal Average: 9.6 ppb at hour 7 Monthly Average: 4.47 ppb Minimum Daily Average: 1.8 ppb on Jul 28 Minimum Diurnal Average: 2.5 ppb at hour 18 Percentiles: P ₁ = 1.0 P ₁₀ = 1.7 Q ₁ = 2.3 Median = 3.4 Q ₃ = 5.2 P ₉₀ = 8.2 P ₉₉ = 21.6																										
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	7	4	3	5	7	5	4	6	10	5	4	4	3	2	2	2	2	3	3	A	7	5	5		4.4	10.0
2-Jul	4	3	3	3	2	1	4	6	6	4	5	4	5	5	4	3	2	2	A	5	4	2	2		3.6	5.8
3-Jul	2	2	2	2	3	5	5	4	3	2	2	2	2	2	3	3	3	4	A	4	3	4	3	3	3.0	5.3
4-Jul	3	3	3	5	6	11	8	8	11	3	2	3	3	5	8	10	4	A	5	2	2	2	4	4	5.0	10.7
5-Jul	2	3	3	6	7	10	7	11	5	5	3	4	3	4	2	2	A	5	4	3	2	2	3	2	4.2	10.6
6-Jul	2	1	1	1	2	2	2	2	3	5	6	5	5	3	2	A	4	3	3	3	4	3	4	4	3.0	5.8
7-Jul	4	4	4	3	4	6	6	5	6	4	2	2	2	2	A	4	2	2	2	2	3	8	8	8	4.1	8.4
8-Jul	13	13	10	9	8	14	26	18	11	10	7	6	4	A	4	4	7	2	3	3	6	5	3	5	8.4	25.9
9-Jul	5	4	4	3	5	10	11	8	7	4	4	3	A	4	3	4	2	3	3	2	2	2	5	2	4.3	10.9
10-Jul	2	3	3	4	4	8	10	16	14	5	3	A	6	4	3	4	2	3	2	2	2	4	6	7	5.1	16.1
11-Jul	4	3	2	2	2	5	7	8	6	6	A	5	3	3	2	3	3	2	2	2	2	2	1	1	3.2	7.8
12-Jul	1	1	1	1	1	1	1	3	2	A	5	4	3	3	2	2	2	1	1	2	2	2	4	4	2.1	4.6
13-Jul	3	3	2	2	2	2	2	2	A	5	3	2	1	3	3	2	1	1	1	1	1	2	5	6	2.4	5.6
14-Jul	4	6	6	3	3	3	4	A	5	3	2	3	4	2	2	2	1	1	2	2	2	4	6	8	3.4	8.1
15-Jul	9	5	6	5	8	11	A	12	7	4	3	2	5	1	1	1	1	5	3	2	4	4	4	4	4.7	12.1
16-Jul	5	7	6	7	6	A	32	39	13	8	6	7	4	3	2	2	2	1	1	3	6	10	9	5	7.9	39.0
17-Jul	10	9	8	10	A	16	25	26	20	22	19	7	3	3	2	3	2	2	2	3	5	13	19	16	10.7	25.8
18-Jul	9	6	5	A	8	10	16	16	9	5	4	3	C	C	C	C	C	C	5	6	6	5	5	3	--	15.8
19-Jul	2	2	A	5	5	5	7	10	5	7	5	2	2	2	2	4	3	2	2	3	4	4	8	7	4.3	10.3
20-Jul	4	A	6	4	3	4	4	4	4	3	3	3	2	2	3	5	5	5	4	3	4	3	4	3	3.7	5.6
21-Jul	A	5	3	3	5	5	6	3	4	2	2	3	4	3	2	1	1	2	2	4	5	6	4	A	3.5	6.1
22-Jul	9	8	5	4	6	8	12	12	5	4	4	2	2	2	2	2	1	1	1	2	3	3	A	6	4.5	11.8
23-Jul	4	3	2	3	3	5	5	3	3	2	2	2	2	2	3	4	2	2	2	2	3	A	5	4	3.1	5.5
24-Jul	3	3	3	4	6	14	8	5	4	3	3	2	2	2	2	2	3	2	2	2	A	6	4	3	3.8	14.2
25-Jul	2	2	2	2	3	4	5	5	4	4	4	4	4	3	3	3	4	4	8	A	7	6	3	6	4.0	7.5
26-Jul	6	7	9	5	5	14	22	24	9	8	4	3	2	2	3	2	1	1	A	4	3	4	4	4	6.3	23.8
27-Jul	4	5	5	3	2	10	8	4	3	2	2	3	3	3	3	3	2	A	4	3	2	2	3	2	3.6	9.6
28-Jul	1	1	1	2	2	2	2	1	1	1	2	2	1	1	1	1	A	3	2	2	3	2	4	3	1.8	4.2
29-Jul	3	4	3	3	4	6	15	10	4	3	3	3	3	2	1	A	4	3	2	2	3	4	3	4	4.0	14.5
30-Jul	3	3	4	4	7	12	16	12	8	6	4	3	2	1	A	4	2	2	2	2	6	13	11	10	5.9	15.8
31-Jul	6	3	3	3	5	8	10	3	2	2	2	3	3	A	3	3	3	3	2	3	5	7	7	5	4.1	9.8
																									Diurnal Average	
																									Diurnal Maximum	
C - Calibration A - Automated Daily Zero Span																										

Hourly Averages

Oxides of Nitrogen (NO_x) - ppb

Henry Pirker - July 2013



Hourly Maximums

Oxides of Nitrogen (NO_x) - ppb

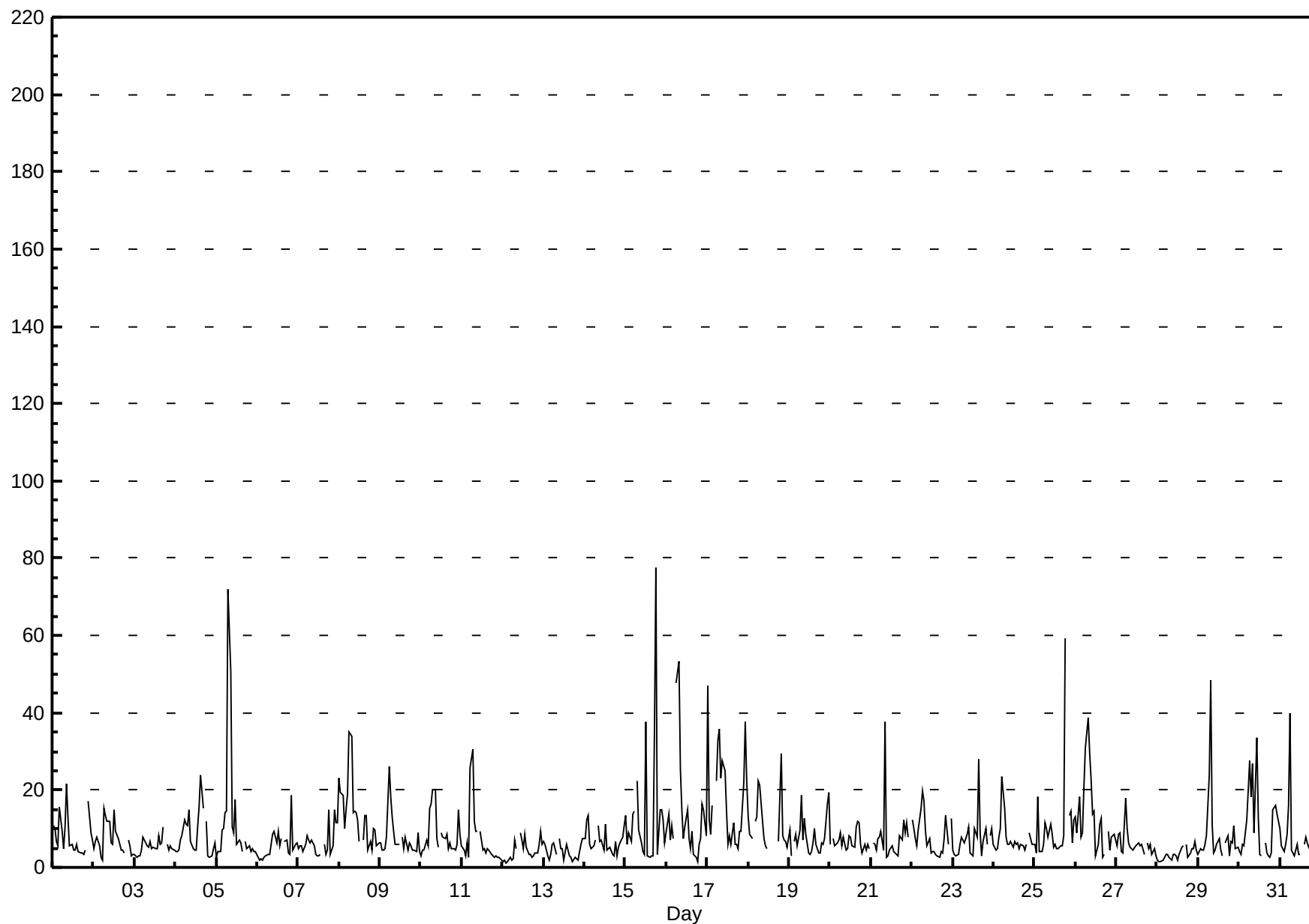
Henry Pirker - July 2013

Maximum Value: 77.6 ppb on Jul 15 19:00																				Maximum Daily Average: 18.0 ppb on Jul 17					Hours in Service: 744	
Minimum Value: 1 ppb on Jul 12 03:00																				Minimum Daily Average: 3.5 ppb on Jul 28					Hours of Data: 706	
Maximum Diurnal Average: 17.8 ppb at hour 8																				Minimum Diurnal Average: 5.6 ppb at hour 17					Hours of Missing Data: 38	
Monthly Average: 8.66 ppb																				Percentiles: P ₁ = 1.7 P ₁₀ = 3.0 Q ₁ = 4.5 Median = 6.1 Q ₃ = 9.8 P ₉₀ = 15.5 P ₉₉ = 47.1					Hours of Calibration: 38	
																									Percent Operational Time: 100.0	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jul	11	10	7	6	16	9	5	10	22	13	6	6	4	4	6	4	4	4	3	4	A	17	9	7	8.1	21.6
2-Jul	5	7	8	6	3	2	15	13	12	12	7	6	15	9	7	6	5	4	4	A	7	5	3	4	7.1	15.2
3-Jul	4	3	3	3	4	8	7	6	5	7	5	5	5	5	8	6	6	10	A	6	4	5	5	5	5.4	10.3
4-Jul	4	4	5	7	8	12	11	11	15	7	5	5	4	10	15	24	15	A	12	3	3	3	5	6	8.5	23.9
5-Jul	3	4	4	10	10	14	14	72	51	10	9	18	6	7	6	4	A	7	5	6	4	5	4	4	12.0	72.1
6-Jul	3	2	2	2	3	3	3	4	6	8	9	6	9	6	7	A	7	7	4	4	19	5	6	7	5.7	18.8
7-Jul	5	6	6	4	6	8	7	6	7	6	4	3	3	3	A	6	4	5	15	4	6	15	11	12	6.5	15.0
8-Jul	23	19	19	10	15	19	35	34	14	14	14	12	7	A	7	13	13	4	7	4	10	10	5	7	13.8	35.0
9-Jul	7	5	5	5	8	26	18	13	9	6	6	6	A	8	5	8	4	6	5	4	4	4	9	4	7.6	26.0
10-Jul	3	4	4	7	5	15	16	20	20	7	5	A	9	8	8	8	5	6	5	5	5	6	15	8	8.6	20.3
11-Jul	5	4	3	6	3	26	31	12	9	9	A	9	4	5	4	5	5	3	3	3	3	2	3	2	7.0	30.5
12-Jul	1	2	1	1	3	2	2	7	5	A	9	7	5	9	5	3	3	2	3	4	4	6	9	6	4.4	9.3
13-Jul	7	6	3	2	3	6	6	4	A	8	5	5	2	6	5	3	3	2	3	2	2	4	6	8	4.3	7.5
14-Jul	7	12	13	6	5	6	7	A	11	7	7	5	11	4	5	5	3	3	7	3	5	6	8	11	6.9	13.4
15-Jul	13	6	9	7	14	14	A	22	10	6	4	3	38	3	2	3	3	36	78	4	15	15	12	6	14.1	77.6
16-Jul	9	14	7	11	8	A	48	53	25	15	7	10	15	7	5	9	4	2	1	6	7	17	15	8	13.2	53.5
17-Jul	47	12	9	16	A	23	33	36	23	27	25	14	6	8	6	11	6	6	5	9	9	22	38	22	18.0	47.0
18-Jul	13	8	7	A	12	13	22	21	12	8	6	5	C	C	C	C	C	C	7	29	8	7	7	5	--	29.3
19-Jul	10	3	A	7	9	6	10	19	7	13	9	4	3	4	6	10	6	4	4	6	6	8	16	19	8.1	19.3
20-Jul	6	A	7	6	6	7	9	5	8	4	5	8	8	6	5	10	12	11	6	4	6	4	6	5	6.8	11.7
21-Jul	A	6	6	4	7	8	9	4	38	3	3	4	5	4	4	3	3	8	7	12	9	11	8	A	7.7	37.8
22-Jul	12	10	7	5	10	15	20	17	10	6	7	4	4	4	3	3	3	4	4	7	13	6	A	13	8.2	19.7
23-Jul	4	3	3	3	6	8	7	6	9	11	4	3	3	10	8	28	9	3	7	10	6	A	8	10	7.4	27.9
24-Jul	6	4	5	8	10	24	15	8	6	6	7	5	7	6	6	5	6	5	5	6	A	9	6	6	7.4	23.5
25-Jul	6	4	18	4	4	6	12	10	8	11	9	5	6	5	5	5	5	8	59	A	13	14	6	12	10.3	59.3
26-Jul	13	9	18	8	9	21	31	39	30	23	14	15	3	6	11	13	3	3	A	9	5	8	8	9	13.3	38.6
27-Jul	5	8	9	4	4	18	10	6	5	5	4	5	6	6	5	6	3	A	6	5	6	3	5	3	6.1	17.8
28-Jul	2	2	2	2	2	4	3	2	2	3	3	3	2	3	5	6	A	6	3	4	5	5	7	4	3.5	6.6
29-Jul	3	5	4	4	6	8	24	49	11	4	4	6	7	5	3	A	6	8	3	7	6	11	5	5	8.5	48.5
30-Jul	4	3	6	6	12	20	28	18	27	9	34	13	3	3	A	6	4	3	3	4	15	16	14	12	11.4	33.6
31-Jul	10	6	4	6	8	16	40	5	3	5	6	3	3	A	6	8	7	5	6	5	7	12	9	6	8.1	40.1
8.4 6.4 6.8 5.8 7.3 12.2 16.7 17.8 14.0 9.1 8.0 6.9 7.1 5.9 6.1 8.0 5.6 6.4 9.6 6.2 7.3 8.7 9.0 7.9																									Diurnal Average	
47.0 19.4 18.7 16.0 15.5 26.0 47.6 72.1 50.8 27.5 33.6 17.6 37.8 10.5 15.5 27.9 15.3 35.5 77.6 29.3 18.8 22.0 37.8 22.5																									Diurnal Maximum	
C - Calibration A - Automated Daily Zero Span																										

Hourly Maximums

Oxides of Nitrogen (NO_x) - ppb

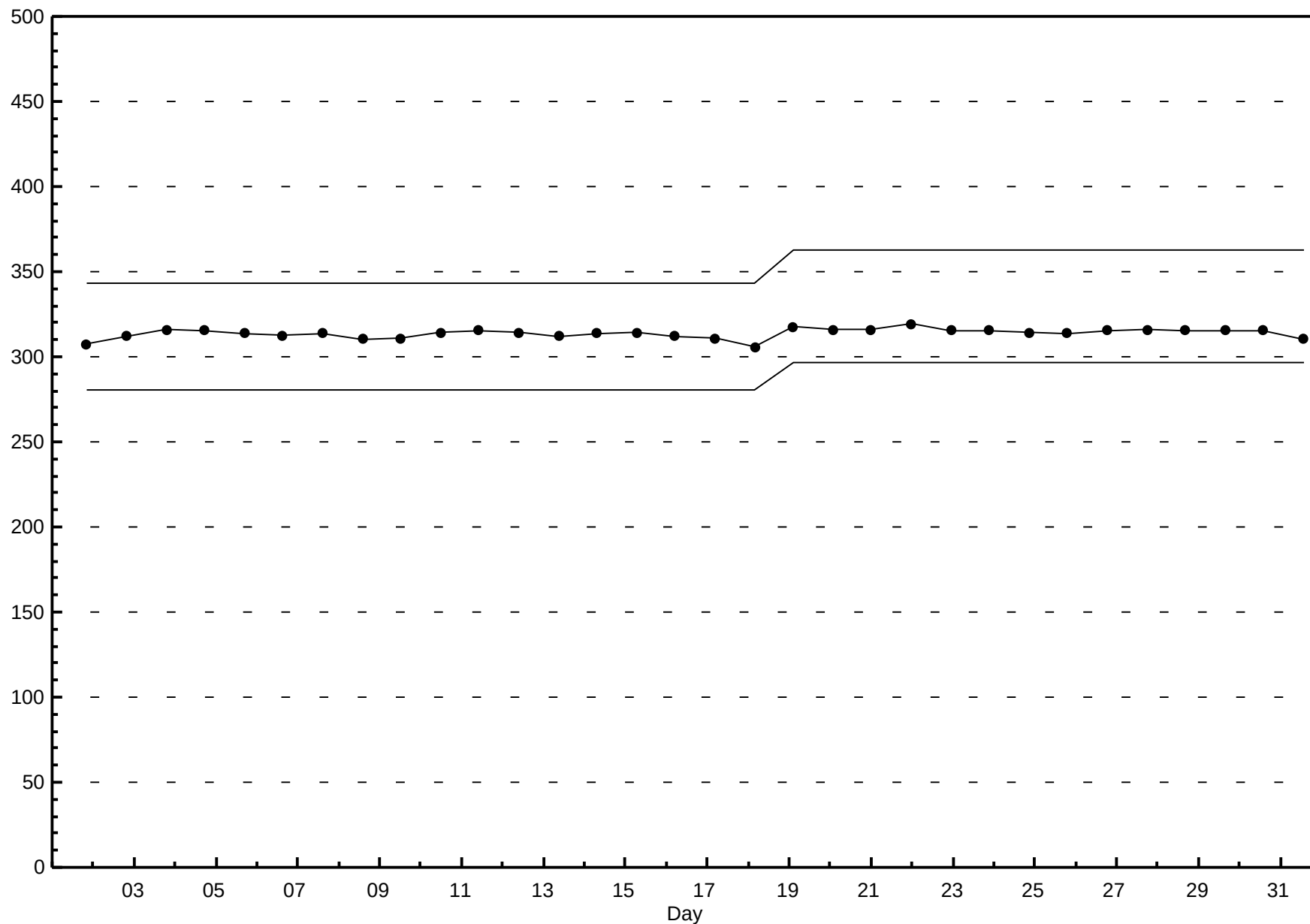
Henry Pirker - July 2013



Span Responses

Oxides of Nitrogen (NO_x)

Henry Pirker - July 2013



Hourly Averages

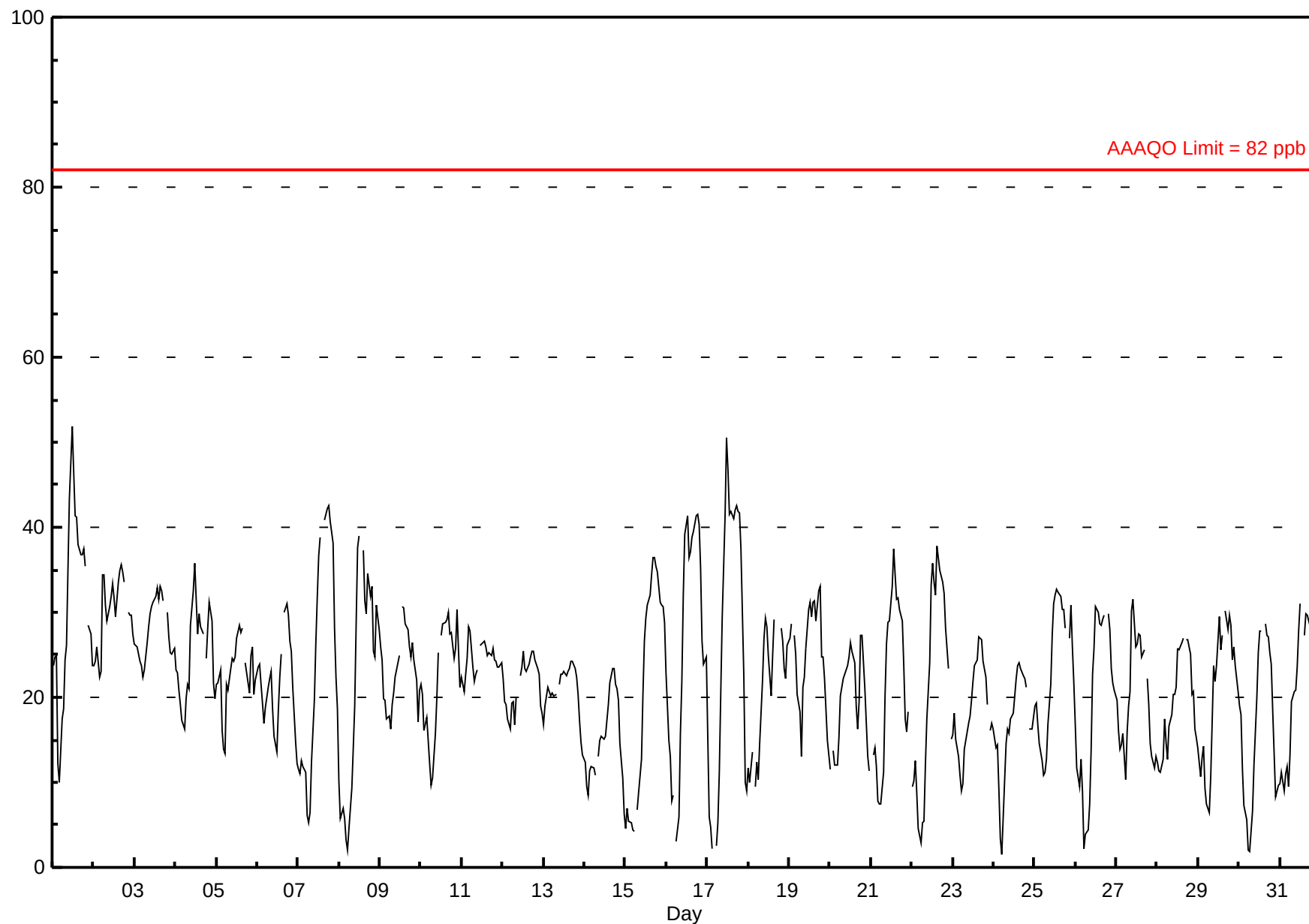
Ozone (O₃) - ppb

Henry Pirker - July 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 51.9 ppb on Jul 1 12:00 Maximum Daily Average: 30.7 ppb on Jul 1																				Hours in Service: 744 Hours of Data: 709 Hours of Missing Data: 35 Hours of Calibration: 35 Percent Operational Time: 100.0						
Minimum Value: 2 ppb on Jul 24 06:00 Maximum Diurnal Average: 30.1 ppb at hour 18 Monthly Average: 22.16 ppb										Minimum Daily Average: 15.2 ppb on Jul 14 Minimum Diurnal Average: 12.5 ppb at hour 6 Percentiles: P ₁ = 2.9 P ₁₀ = 10.1 Q ₁ = 15.8 Median = 22.8 Q ₃ = 28.1 P ₉₀ = 33.0 P ₉₉ = 42.4																
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jul	24	25	25	12	10	17	19	24	26	35	43	52	46	41	41	38	37	37	37	35	A	28	27	24	30.7	51.9
2-Jul	24	24	26	22	23	34	34	31	29	31	32	33	32	29	34	35	36	35	34	A	30	30	30	27	30.2	35.6
3-Jul	26	26	25	24	24	22	23	26	28	30	31	31	32	33	32	33	33	31	A	30	27	25	25	26	28.0	33.0
4-Jul	23	23	21	19	17	16	20	21	21	29	33	36	32	27	30	28	27	A	25	28	31	29	22	20	25.1	35.8
5-Jul	21	22	23	16	14	13	22	21	23	25	24	25	27	28	28	28	A	24	23	21	25	26	20	22	22.7	28.4
6-Jul	24	24	21	19	17	19	21	22	23	19	15	14	19	22	25	A	30	31	30	27	25	21	15	12	21.5	31.0
7-Jul	12	11	13	12	11	6	5	7	12	20	26	32	37	39	A	41	41	42	43	41	38	28	22	19	24.2	42.6
8-Jul	10	6	7	6	3	2	5	9	14	19	29	38	39	A	37	31	30	35	32	33	26	25	31	28	21.4	38.9
9-Jul	26	24	20	20	17	18	16	19	21	22	24	25	A	31	31	29	28	26	25	26	24	22	17	21	23.1	30.7
10-Jul	22	20	16	18	15	12	10	11	16	20	25	A	27	29	29	29	30	28	28	25	26	30	26	21	22.2	30.3
11-Jul	22	21	23	25	28	28	24	22	23	23	A	26	27	27	26	25	25	25	26	24	24	23	24	24	24.5	28.2
12-Jul	22	19	19	17	16	19	19	17	20	A	22	24	25	23	23	24	25	25	25	24	23	23	19	18	21.5	25.4
13-Jul	17	19	21	21	20	21	20	20	A	21	23	23	23	23	23	23	24	24	23	22	20	17	15	13	20.8	24.3
14-Jul	12	10	8	11	12	12	11	A	13	15	15	15	15	17	19	22	23	23	22	21	20	15	11	6	15.2	23.4
15-Jul	5	7	5	5	4	4	A	7	9	13	20	27	29	31	32	34	36	36	35	35	31	31	31	29	21.6	36.5
16-Jul	23	15	13	8	9	A	3	6	16	22	32	39	41	36	37	39	39	41	41	40	35	27	24	25	26.6	41.5
17-Jul	15	6	5	2	A	2	5	11	20	29	41	50	47	41	42	41	42	42	42	42	38	23	10	9	26.4	50.4
18-Jul	12	10	14	A	10	12	10	15	22	27	29	28	25	20	25	29	C	C	C	28	27	23	22	26	20.7	29.4
19-Jul	27	29	A	27	25	20	18	13	21	22	26	30	31	30	31	31	29	33	33	25	25	22	15	13	25.1	33.0
20-Jul	11	A	14	12	12	15	20	21	22	23	24	25	27	25	24	19	16	20	27	27	21	17	13	11	19.5	27.3
21-Jul	A	13	14	12	8	8	7	11	20	26	29	29	33	38	34	32	32	30	29	24	18	16	18	A	21.8	37.5
22-Jul	10	10	13	9	5	3	5	5	12	18	24	33	36	34	32	38	35	34	34	32	28	23	A	15	21.2	37.7
23-Jul	16	18	15	13	11	9	10	14	16	17	18	20	22	24	24	27	27	27	24	22	19	A	16	17	18.5	27.1
24-Jul	16	14	14	9	3	2	10	15	16	16	17	18	20	22	24	24	23	22	22	21	A	16	16	18	16.6	24.1
25-Jul	19	19	17	15	13	11	11	13	17	22	27	31	32	33	32	32	30	30	28	A	27	31	26	22	23.4	32.8
26-Jul	17	12	9	13	9	2	4	4	7	14	23	26	31	30	29	28	29	30	A	30	28	23	22	21	19.1	30.7
27-Jul	20	16	14	14	16	10	16	19	21	30	32	26	26	27	27	25	26	A	22	19	15	13	12	13	19.9	31.6
28-Jul	12	11	11	13	17	15	13	17	18	20	20	21	26	26	27	27	A	27	27	25	20	21	16	15	19.3	26.9
29-Jul	14	11	13	14	9	8	6	11	17	24	22	24	29	26	27	A	30	28	30	29	24	26	24	21	20.2	30.2
30-Jul	19	18	12	7	6	2	2	4	7	12	20	25	28	28	A	29	27	27	25	24	18	8	9	10	15.9	28.7
31-Jul	10	11	9	11	12	10	13	20	21	21	24	28	31	A	27	30	30	29	28	25	21	16	16	15	19.9	31.0
17.7 16.5 15.3 14.2 13.2 12.5 13.5 15.2 18.4 22.1 25.7 28.4 29.8 29.0 29.4 30.0 30.0 30.1 29.3 27.8 25.3 22.7 19.8 18.7																								Diurnal Average		
27.0 28.7 25.9 27.3 28.2 34.4 34.4 30.9 29.0 34.9 43.3 51.9 46.8 41.5 41.9 41.1 42.0 42.5 42.6 41.7 38.1 30.9 30.8 28.8																								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 2013



Hourly Maximums

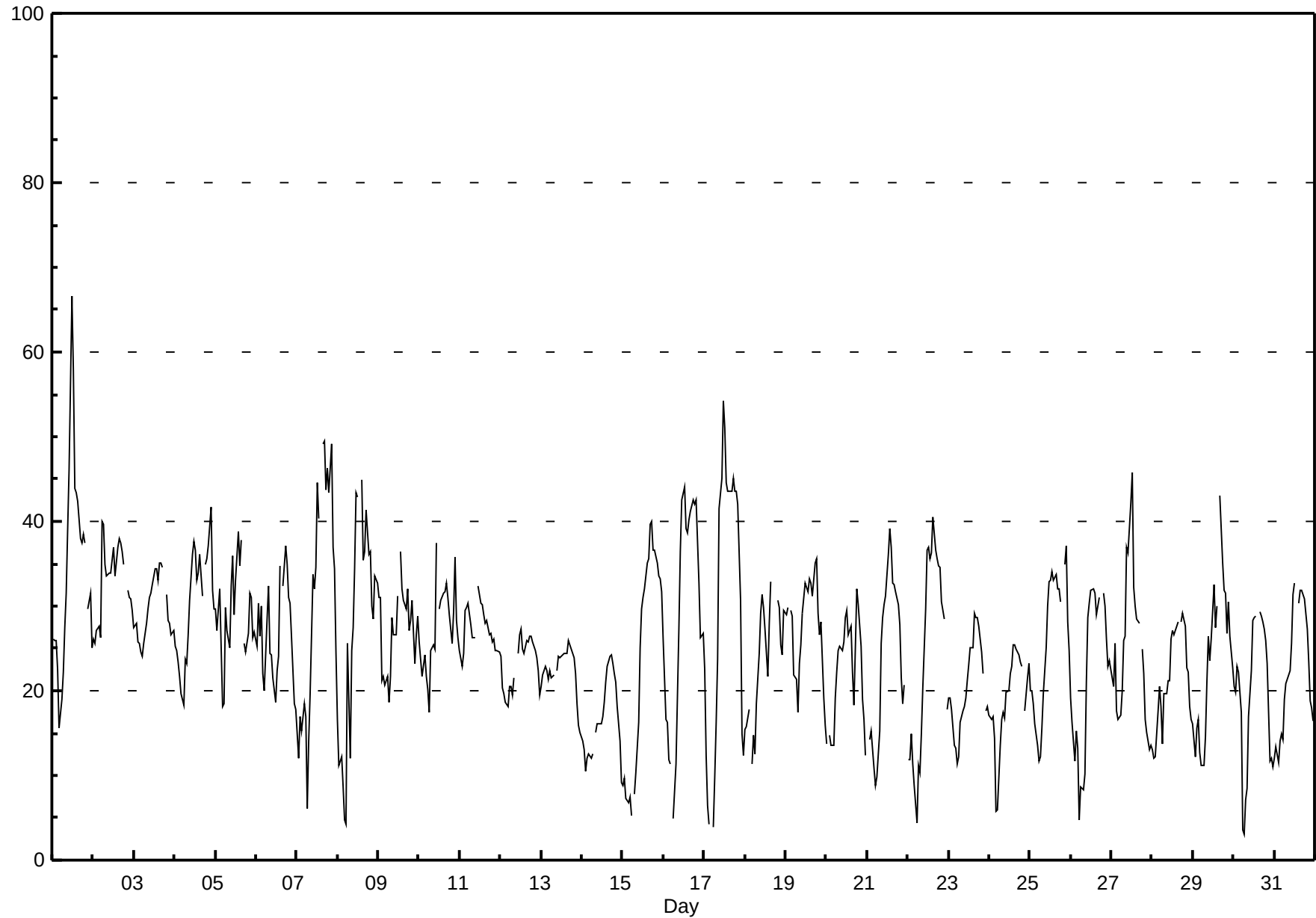
Ozone (O₃) - ppb

Henry Pirker - July 2013

Maximum Value: 66.6 ppb on Jul 1 12:00																					Maximum Daily Average: 34.5 ppb on Jul 1				Hours in Service: 744	
Minimum Value: 3 ppb on Jul 30 07:00																					Minimum Daily Average: 16.8 ppb on Jul 14				Hours of Data: 709	
Maximum Diurnal Average: 33.4 ppb at hour 13																					Minimum Diurnal Average: 15.5 ppb at hour 6				Hours of Missing Data: 35	
Monthly Average: 25.46 ppb																					Percentiles: P ₁ = 4.7 P ₁₀ = 12.9 Q ₁ = 18.9 Median = 25.7 Q ₃ = 31.5 P ₉₀ = 36.6 P ₉₉ = 49.2				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	26	26	26	22	16	19	22	27	31	39	46	67	58	44	43	42	38	38	39	38	A	30	32	25	34.5	66.6
2-Jul	26	26	27	28	26	40	40	35	34	34	34	35	37	33	37	38	37	36	35	A	32	31	31	30	33.1	40.0
3-Jul	28	28	26	26	25	24	26	28	30	31	32	33	34	34	33	35	35	35	A	31	28	28	27	27	29.6	35.1
4-Jul	25	25	23	22	20	18	24	23	27	31	36	38	37	33	34	36	31	A	35	36	37	42	32	30	30.1	41.7
5-Jul	30	27	32	25	18	18	30	27	25	32	36	29	33	39	35	38	A	26	25	27	31	31	26	27	29.0	38.8
6-Jul	25	30	26	30	22	20	29	32	24	24	22	19	22	24	35	A	32	37	35	31	30	26	19	18	26.7	37.2
7-Jul	15	12	17	15	18	17	6	14	20	34	32	35	45	40	A	49	49	44	46	43	49	37	34	24	30.3	49.5
8-Jul	17	11	12	9	5	4	26	12	25	28	34	43	43	A	45	35	36	41	36	36	30	28	34	33	27.1	44.9
9-Jul	31	31	21	22	21	22	19	22	29	27	27	31	A	37	32	31	30	32	27	28	31	23	27	29	27.2	36.5
10-Jul	26	24	22	24	22	20	17	25	25	25	37	A	30	31	32	32	33	31	29	26	29	36	28	26	27.3	37.5
11-Jul	25	23	24	29	30	30	28	26	26	26	A	32	30	30	29	28	28	27	27	26	26	25	25	25	27.2	32.4
12-Jul	24	20	20	19	18	21	21	20	22	A	24	27	27	25	24	26	26	26	26	26	25	24	22	19	23.1	27.4
13-Jul	20	22	23	22	21	22	22	22	A	22	24	24	24	24	24	24	26	25	24	24	22	18	16	15	22.3	25.9
14-Jul	14	13	11	12	13	12	13	A	15	16	16	16	17	19	21	23	24	24	23	22	21	18	14	9	16.8	24.3
15-Jul	9	10	7	7	7	5	A	8	10	16	25	30	31	32	35	36	40	40	37	37	35	34	33	32	24.1	40.0
16-Jul	26	17	16	12	11	A	5	11	19	27	36	43	44	39	39	40	41	43	42	43	38	33	26	27	29.5	44.1
17-Jul	23	12	6	4	A	4	10	16	24	42	45	54	51	45	44	44	44	45	44	44	42	31	15	12	30.4	54.3
18-Jul	15	16	18	A	11	15	12	19	24	29	31	30	27	22	28	33	C	C	C	31	30	25	24	29	23.5	33.0
19-Jul	29	30	A	29	29	22	21	17	23	25	29	33	32	32	33	33	31	35	36	29	27	28	19	16	27.8	35.6
20-Jul	14	A	15	14	14	19	22	25	25	25	26	29	30	27	28	22	18	25	32	30	25	19	17	12	22.2	32.0
21-Jul	A	14	15	13	11	9	10	15	26	29	30	31	36	39	37	33	33	32	30	28	21	18	21	A	24.1	39.2
22-Jul	12	12	15	11	9	4	11	10	15	20	30	37	37	36	36	41	37	36	35	35	30	29	A	18	24.1	40.5
23-Jul	19	19	18	14	13	11	12	16	18	18	19	21	23	25	25	29	29	29	28	25	22	A	18	18	20.4	29.1
24-Jul	17	17	17	14	6	6	14	17	18	17	20	20	22	23	25	25	25	24	23	23	A	18	21	23	18.9	25.4
25-Jul	20	20	19	16	14	12	12	16	20	25	30	33	33	34	33	34	32	32	31	A	35	37	28	25	25.6	37.1
26-Jul	19	16	12	15	13	5	9	8	10	21	29	30	32	32	32	29	30	31	A	31	30	26	23	24	22.0	32.0
27-Jul	22	21	26	18	17	17	20	26	26	37	36	42	46	32	30	28	28	A	25	22	17	15	13	14	25.1	45.8
28-Jul	13	12	12	18	21	18	14	20	20	21	21	26	27	27	28	28	A	28	29	28	23	22	18	17	21.3	29.1
29-Jul	16	12	16	17	13	11	11	15	21	27	24	26	32	28	30	A	43	35	32	31	27	30	26	23	23.7	43.0
30-Jul	20	20	23	22	17	4	3	7	9	17	22	28	29	29	A	29	29	28	27	26	23	12	12	11	19.5	29.4
31-Jul	12	13	11	14	15	14	19	21	22	22	26	31	33	A	30	32	32	31	31	27	23	19	18	16	22.3	32.8
20.6 19.3 18.5 18.1 16.5 15.5 17.5 19.3 22.0 26.2 29.3 32.4 33.4 31.5 32.3 32.9 32.7 32.7 31.7 30.4 29.0 26.4 23.3 21.8																									Diurnal Average	
31.0 31.1 32.0 30.0 29.8 40.0 39.6 35.0 33.5 41.5 46.2 66.6 57.8 44.6 44.9 49.2 49.5 45.1 46.2 43.6 49.2 41.7 34.4 32.7																									Diurnal Maximum	
C - Calibration A - Automated Daily Zero Span																										

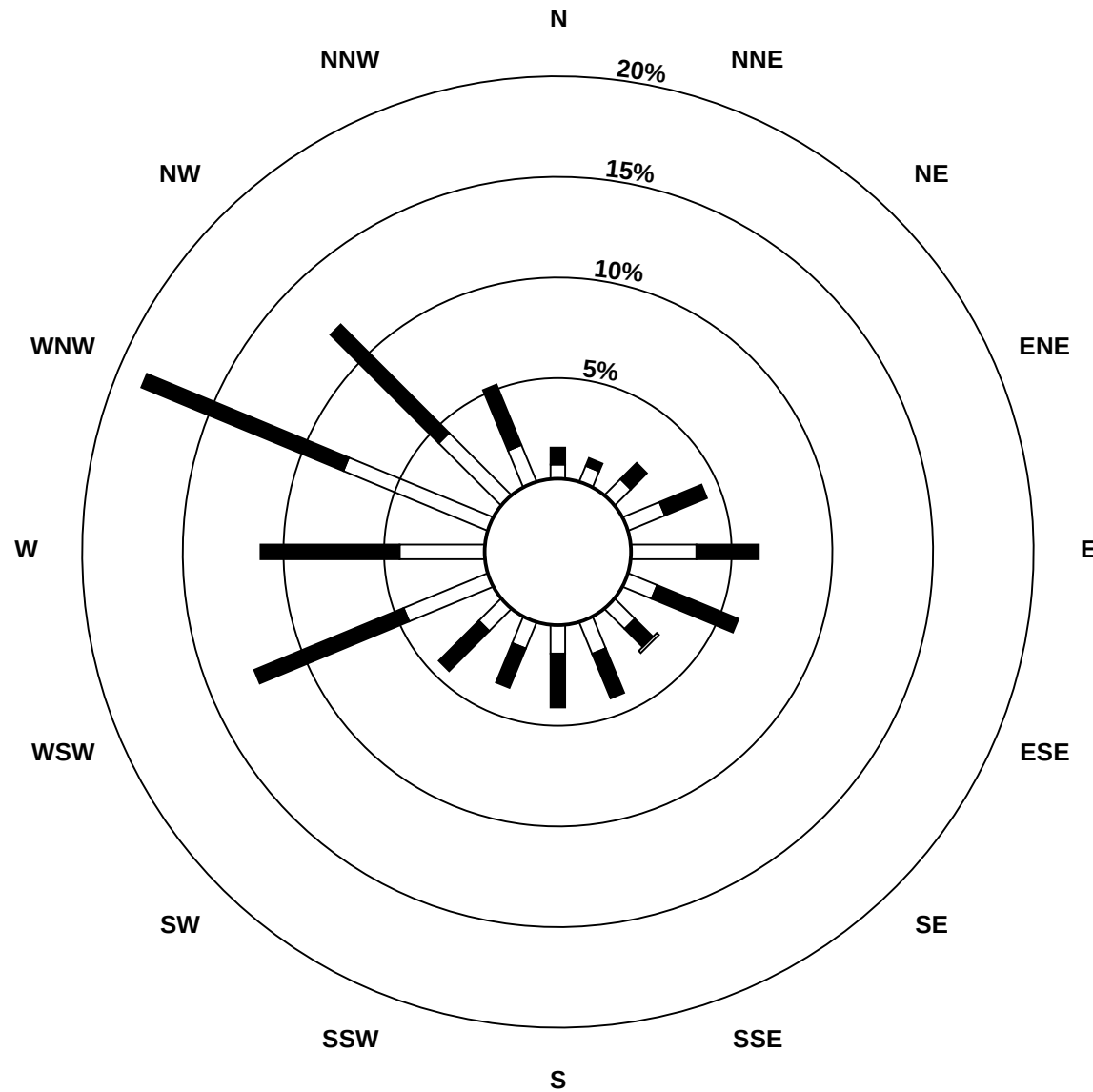
Hourly Maximums

Ozone (O₃) - ppb
Henry Pirker - July 2013

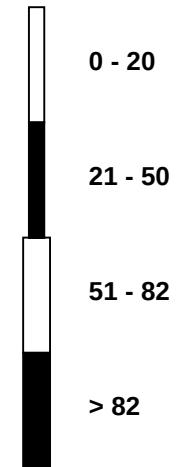


Pollutant Rose

Ozone (O₃) - ppb
Henry Pirker - July 2013



Pollutant Classes (ppb)



Eight Hour Running Averages

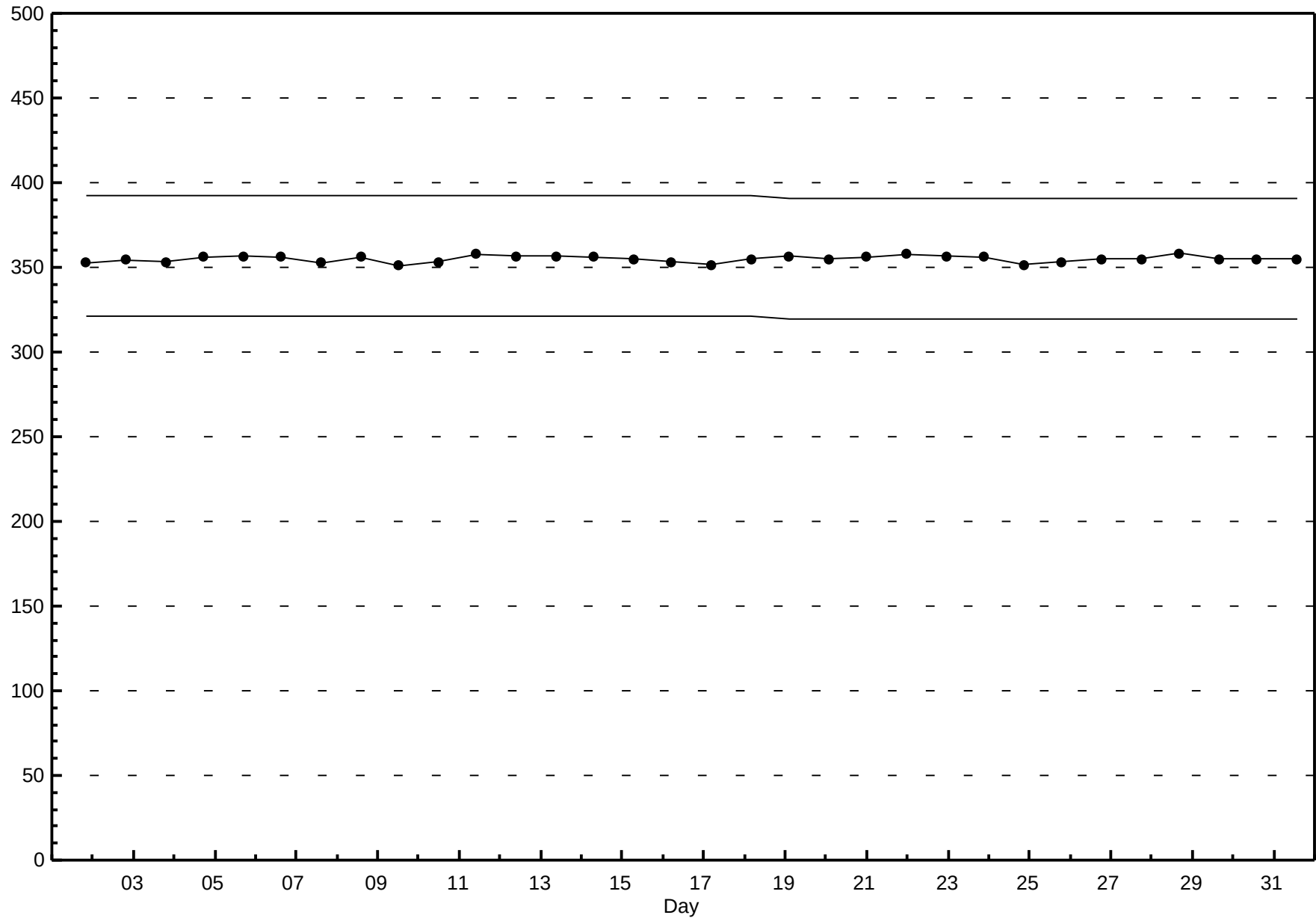
Ozone (O₃) - ppb

Henry Pirker - July 2013

Maximum Value: 43.5 ppb on Jul 17 19:00																								Hours in Service: 744	
Minimum Value: 5.3 ppb on Jul 15 07:00																								Hours of Data: 738	
																								Hours of Missing Data: 6	
Percentiles: P ₁ = 6.7 P ₁₀ = 12.1 Q ₁ = 17.3 Median = 22.5 Q ₃ = 26.8 P ₉₀ = 31.4 P ₉₉ = 40.8																								Hours of Calibration: 6	
																								Percent Operational Time: 100.0	
Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jul	32	29	27	24	20	20	19	20	20	21	23	28	33	36	39	40	42	42	41	39	38	36	34	32	42.0
2-Jul	30	29	27	25	25	26	26	27	28	29	30	31	32	31	31	32	33	33	33	33	33	33	33	32	33.4
3-Jul	30	29	28	27	27	26	25	25	25	25	26	27	28	29	30	31	32	32	32	32	31	30	29	28	32.1
4-Jul	27	26	25	24	22	21	21	20	20	21	22	24	26	27	29	29	30	30	29	28	28	28	27	26	30.4
5-Jul	25	25	25	23	21	19	19	19	19	20	20	21	22	24	25	26	26	26	26	26	25	25	24	23	26.4
6-Jul	23	23	23	23	22	21	21	21	21	20	19	19	19	19	20	20	21	22	24	26	27	27	26	24	27.2
7-Jul	22	19	17	15	13	11	10	10	10	11	12	15	18	22	25	29	34	37	39	40	41	39	37	34	40.7
8-Jul	30	26	21	17	13	9	7	6	6	8	11	15	19	22	26	30	32	34	34	34	32	31	30	30	34.5
9-Jul	29	28	27	25	24	23	21	20	19	19	20	20	21	23	25	26	27	28	28	28	27	26	25	24	29.3
10-Jul	23	22	21	20	19	18	17	15	15	15	16	15	17	20	22	25	27	28	28	28	28	28	28	27	28.4
11-Jul	26	25	24	24	24	24	24	24	24	24	25	25	25	24	25	25	26	26	26	26	25	25	25	24	25.8
12-Jul	24	23	23	22	21	20	20	19	18	18	19	20	21	22	22	23	24	24	24	24	24	24	24	23	24.4
13-Jul	22	21	21	20	20	19	20	20	20	21	21	21	22	22	22	23	23	23	23	23	23	22	21	20	23.3
14-Jul	18	17	15	13	12	12	11	11	11	12	13	13	14	15	16	16	18	19	20	20	21	21	19	18	20.9
15-Jul	15	13	11	9	7	6	5	5	6	7	9	12	16	19	21	24	28	31	33	34	34	34	34	33	34.0
16-Jul	31	29	26	23	20	18	14	11	10	11	14	18	23	24	29	33	36	38	39	40	39	38	36	34	39.5
17-Jul	31	27	22	17	15	11	9	7	7	11	16	23	26	31	35	39	42	43	43	42	41	39	35	31	43.5
18-Jul	27	23	20	16	12	11	11	12	13	16	18	19	21	22	24	26	26	26	N	N	N	N	N	N	27.1
19-Jul	26	26	26	26	26	25	25	23	22	21	22	22	23	24	26	28	29	30	31	30	30	29	27	24	31.0
20-Jul	22	21	18	16	14	13	14	15	17	17	19	20	22	23	24	24	23	22	23	23	23	21	20	19	23.9
21-Jul	20	19	17	15	13	11	10	10	12	13	15	17	20	24	28	30	32	32	32	31	29	27	25	24	32.1
22-Jul	21	18	15	13	11	10	8	7	8	9	10	13	17	21	24	28	31	33	34	34	33	32	32	29	34.4
23-Jul	26	24	21	18	16	14	13	13	13	13	13	14	16	17	19	21	22	24	24	25	24	24	23	22	26.0
24-Jul	20	18	17	15	13	12	11	10	10	11	11	12	14	17	19	20	21	21	22	22	23	22	21	20	22.7
25-Jul	19	19	18	17	17	16	15	15	14	15	16	18	20	23	26	28	30	31	31	31	30	30	29	28	31.1
26-Jul	26	23	20	20	17	14	11	9	8	8	10	11	14	17	20	23	26	28	29	29	29	28	27	26	29.5
27-Jul	25	23	22	20	18	17	16	16	16	18	20	21	22	25	26	27	27	27	26	25	23	21	19	17	27.4
28-Jul	15	15	13	13	13	13	13	14	14	15	17	18	19	20	22	23	24	25	26	26	25	25	23	22	26.2
29-Jul	21	19	17	16	14	13	11	11	11	13	14	15	18	20	22	24	26	27	28	28	28	28	27	26	28.4
30-Jul	25	24	21	19	16	13	11	9	7	6	7	10	12	16	18	21	24	26	27	27	25	23	21	19	27.0
31-Jul	16	14	12	11	10	10	11	12	13	14	16	18	21	22	24	26	27	28	29	29	27	26	24	23	29.0
Diurnal Maximums																									
N - Not Valid																									

Span Responses

Ozone (O₃)
Henry Pirker - July 2013



Hourly Averages

Carbon Monoxide (CO) - ppm

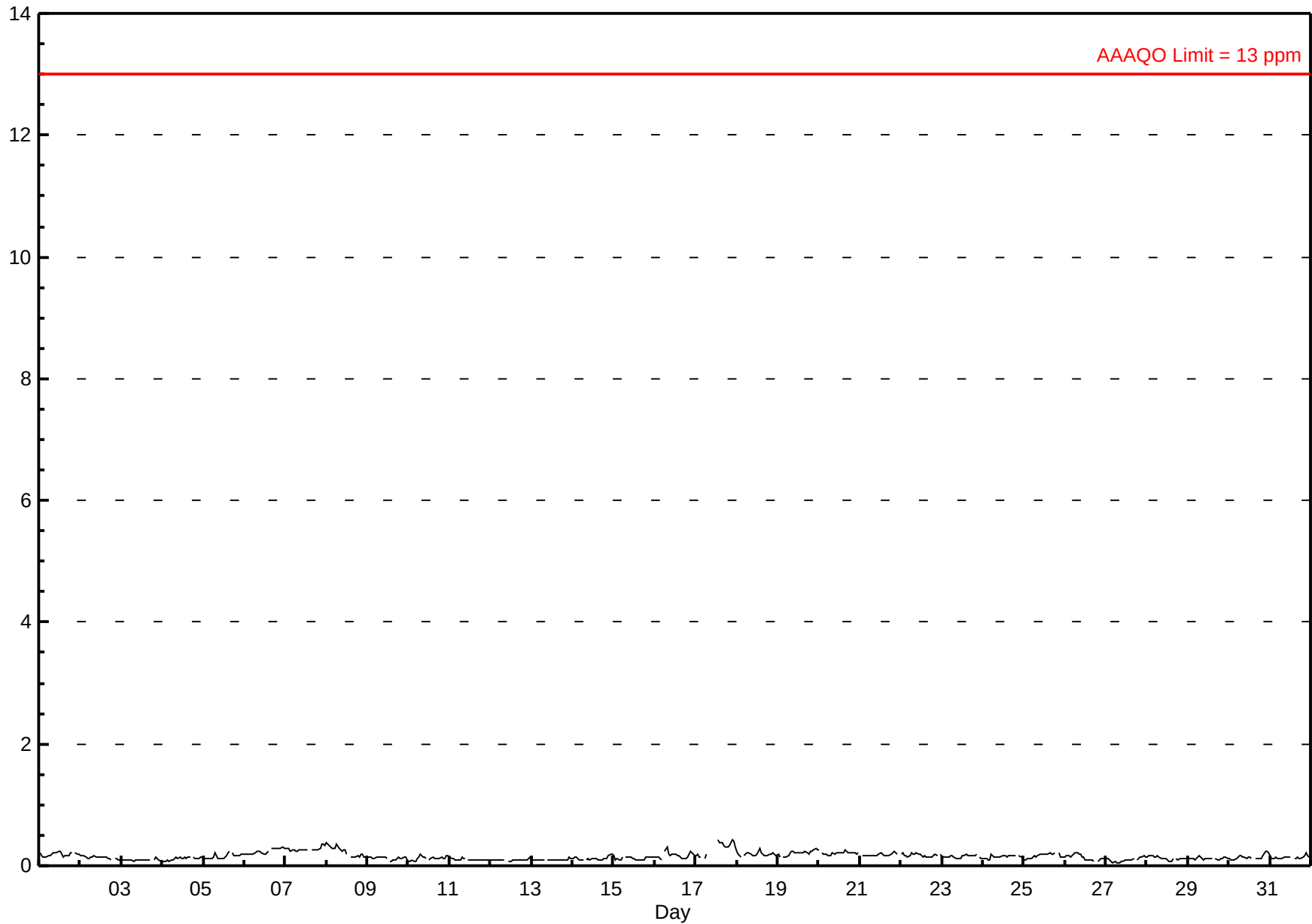
Henry Pirker - July 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 0.43 ppm on Jul 17 14:00 Maximum Daily Average: 0.27 ppm on Jul 7																					Hours in Service: 744 Hours of Data: 706 Hours of Missing Data: 38 Hours of Calibration: 38 Percent Operational Time: 100.0					
Minimum Value: 0.1 ppm on Jul 27 08:00 Minimum Daily Average: 0.09 ppm on Jul 12 Maximum Diurnal Average: 0.18 ppm at hour 22 Minimum Diurnal Average: 0.13 ppm at hour 5 Monthly Average: 0.155 ppm Percentiles: P ₁ = 0.06 P ₁₀ = 0.10 Q ₁ = 0.11 Median = 0.15 Q ₃ = 0.19 P ₉₀ = 0.23 P ₉₉ = 0.36																										
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	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	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.19	0.23
2-Jul	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	A	0.1	0.1	0.1	0.1	0.14	0.17
3-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	A	0.1	0.1	0.1	0.1	0.1	0.10	0.14
4-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	A	0.1	0.1	0.1	0.1	0.2	0.1	0.12	0.15
5-Jul	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.16	0.23
6-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	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.24	0.30
7-Jul	0.3	0.3	0.3	0.2	0.3	0.3	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	A	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.3	0.27	0.36
8-Jul	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.3	0.3	0.2	A	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.23	0.37
9-Jul	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	A	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.13	0.15
10-Jul	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	A	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.12	0.19
11-Jul	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	A	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.10	0.13
12-Jul	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	A	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.09	0.13
13-Jul	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	A	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.10	0.15
14-Jul	0.1	0.2	0.1	0.1	0.1	0.1	0.1	A	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.12	0.20
15-Jul	0.2	0.1	0.1	0.1	0.1	0.1	A	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.13	0.16
16-Jul	0.1	0.2	0.1	0.1	0.1	A	0.2	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	0.2	0.2	0.2	0.2	0.17	0.30
17-Jul	0.2	0.2	0.2	0.1	A	0.1	0.2	C	C	C	C	C	C	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.3	--	0.43
18-Jul	0.2	0.2	0.1	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.19	0.29
19-Jul	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.21	0.29
20-Jul	0.3	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.21	0.25
21-Jul	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.18	0.23
22-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	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.2	A	0.2	0.17	0.22
23-Jul	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.1	0.15	0.19
24-Jul	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.1	0.1	0.14	0.18
25-Jul	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.1	0.1	0.17	0.21
26-Jul	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	A	0.1	0.1	0.1	0.1	0.1	0.14	0.22
27-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	A	0.1	0.1	0.2	0.2	0.2	0.1	0.10	0.16
28-Jul	0.2	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	0.1	0.1	A	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.12	0.16
29-Jul	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	A	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.12	0.17
30-Jul	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	A	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.14	0.23
31-Jul	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	A	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.14	0.20
0.16 0.15 0.14 0.13 0.13 0.15 0.16 0.17 0.16 0.16 0.15 0.15 0.15 0.16 0.15 0.15 0.15 0.15 0.16 0.16 0.17 0.18 0.18 0.16																									Diurnal Average	
0.37 0.36 0.32 0.28 0.28 0.29 0.34 0.30 0.27 0.27 0.27 0.26 0.26 0.43 0.39 0.37 0.33 0.31 0.30 0.30 0.34 0.43 0.41 0.33																									Diurnal Maximum	
C - Calibration A - Automated Daily Zero Span																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 13 ppm 24-hr na																										

Hourly Averages

Carbon Monoxide (CO) - ppm

Henry Pirker - July 2013



Hourly Maximums

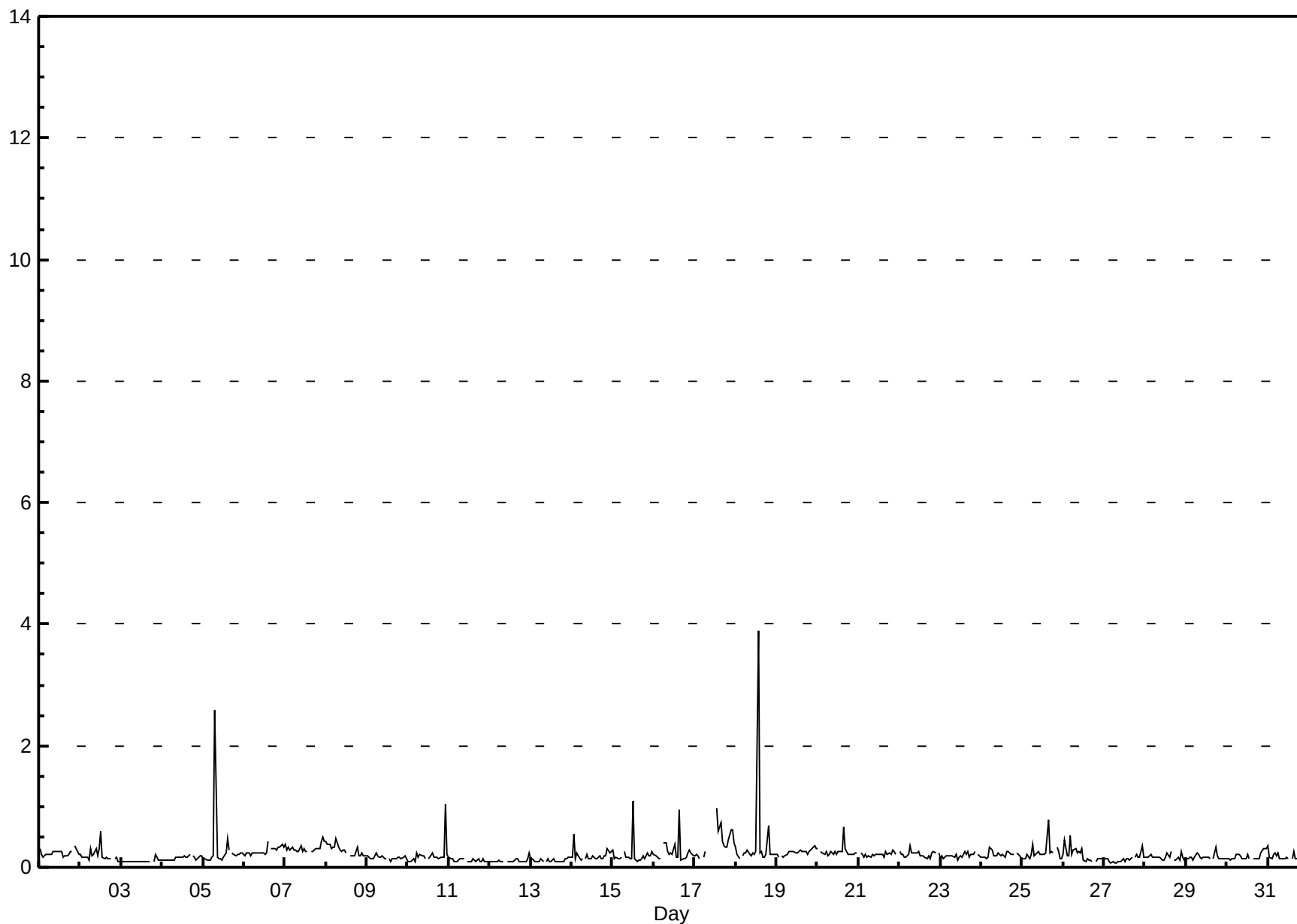
Carbon Monoxide (CO) - ppm

Henry Pirker - July 2013

Maximum Value: 3.89 ppm on Jul 18 14:00																				Maximum Daily Average: 0.40 ppm on Jul 18					Hours in Service: 744	
Minimum Value: 0.1 ppm on Jul 27 08:00																				Minimum Daily Average: 0.11 ppm on Jul 3					Hours of Data: 706	
Maximum Diurnal Average: 0.34 ppm at hour 14																				Minimum Diurnal Average: 0.17 ppm at hour 3					Hours of Missing Data: 38	
Monthly Average: 0.214 ppm																				Percentiles: P ₁ = 0.10 P ₁₀ = 0.10 Q ₁ = 0.15 Median = 0.18 Q ₃ = 0.24 P ₉₀ = 0.30 P ₉₉ = 0.68					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	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.3	0.3	A	0.3	0.3	0.2	0.23	0.34
2-Jul	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.3	0.2	0.2	0.3	0.2	0.3	0.6	0.2	0.1	0.2	0.1	0.1	A	0.2	0.2	0.1	0.1	0.20	0.58
3-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	A	0.1	0.2	0.2	0.1	0.1	0.11	0.20
4-Jul	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.1	0.2	0.2	0.2	0.15	0.21
5-Jul	0.1	0.1	0.1	0.1	0.1	0.2	0.2	2.6	0.2	0.1	0.1	0.1	0.2	0.2	0.5	0.3	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.30	2.58
6-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	0.4	A	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.3	0.27	0.43
7-Jul	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	A	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.5	0.4	0.31	0.49
8-Jul	0.4	0.4	0.4	0.3	0.3	0.3	0.5	0.3	0.3	0.3	0.3	0.3	0.2	A	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.28	0.48
9-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	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.16	0.25
10-Jul	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	A	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	1.0	0.2	0.20	1.04
11-Jul	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	A	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.12	0.18
12-Jul	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	A	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.12	0.25
13-Jul	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	A	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.12	0.15
14-Jul	0.2	0.5	0.2	0.2	0.2	0.1	0.1	A	0.1	0.2	0.2	0.1	0.2	0.2	0.2	0.1	0.2	0.1	0.1	0.2	0.2	0.3	0.2	0.2	0.20	0.55
15-Jul	0.3	0.1	0.2	0.1	0.1	0.2	A	0.2	0.2	0.2	0.2	0.2	1.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.21	1.10
16-Jul	0.2	0.2	0.2	0.2	0.1	A	0.4	0.4	0.3	0.2	0.2	0.2	0.4	0.2	0.2	1.0	0.1	0.1	0.1	0.2	0.2	0.3	0.2	0.2	0.25	0.95
17-Jul	0.2	0.2	0.2	0.2	A	0.2	0.3	C	C	C	C	C	C	1.0	0.6	0.7	0.4	0.4	0.3	0.3	0.4	0.6	0.6	0.4	--	0.98
18-Jul	0.3	0.2	0.2	A	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.3	3.9	0.2	0.3	0.2	0.3	0.2	0.2	0.7	0.2	0.2	0.2	0.2	0.40	3.89
19-Jul	0.2	0.2	A	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.3	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.24	0.35
20-Jul	0.3	A	0.3	0.2	0.2	0.3	0.2	0.2	0.3	0.2	0.3	0.2	0.3	0.3	0.3	0.7	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.26	0.66
21-Jul	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.3	0.3	0.2	A	0.22	0.29
22-Jul	0.3	0.2	0.2	0.2	0.2	0.2	0.4	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.1	0.2	0.1	0.2	0.3	0.2	A	0.2	0.22	0.35
23-Jul	0.1	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.3	A	0.2	0.2	0.19	0.27
24-Jul	0.2	0.2	0.2	0.1	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.2	A	0.2	0.2	0.2	0.20	0.34
25-Jul	0.2	0.1	0.1	0.2	0.2	0.2	0.4	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.8	0.2	0.3	0.2	A	0.3	0.2	0.2	0.2	0.24	0.78
26-Jul	0.2	0.4	0.2	0.2	0.5	0.2	0.3	0.3	0.2	0.3	0.2	0.3	0.1	0.1	0.1	0.1	0.1	0.1	A	0.1	0.2	0.1	0.2	0.2	0.21	0.53
27-Jul	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.1	0.2	A	0.2	0.2	0.2	0.2	0.3	0.2	0.14	0.34
28-Jul	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.3	A	0.1	0.1	0.2	0.1	0.3	0.2	0.1	0.16	0.26
29-Jul	0.1	0.1	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.1	0.3	0.2	0.1	0.1	0.2	0.2	0.2	0.17	0.33
30-Jul	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.19	0.30
31-Jul	0.3	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.3	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.19	0.35
Diurnal Average																										
Diurnal Maximum																										
C - Calibration																										
A - Automated Daily Zero Span																										

Hourly Maximums

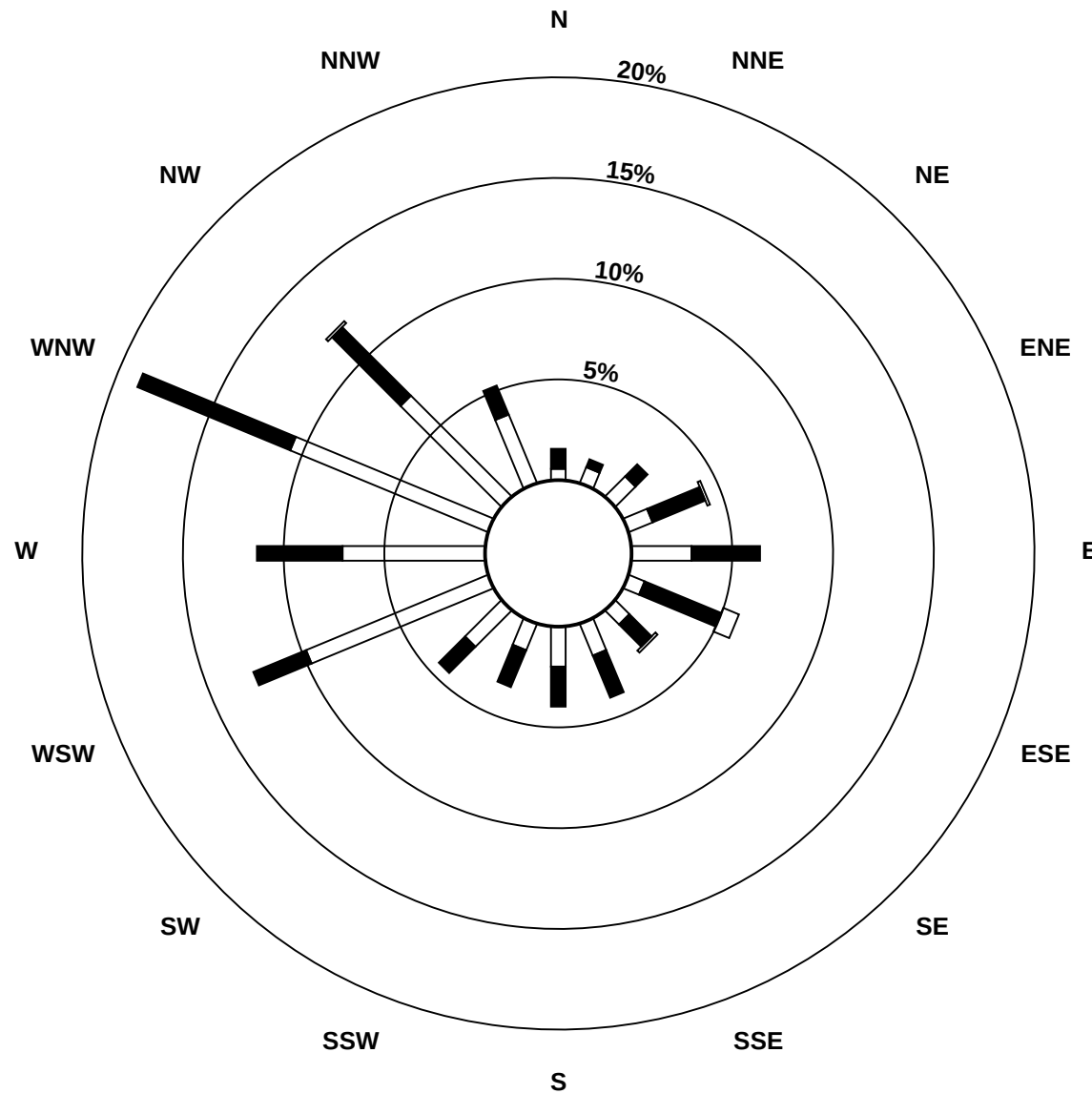
Carbon Monoxide (CO) - ppm
Henry Pirker - July 2013



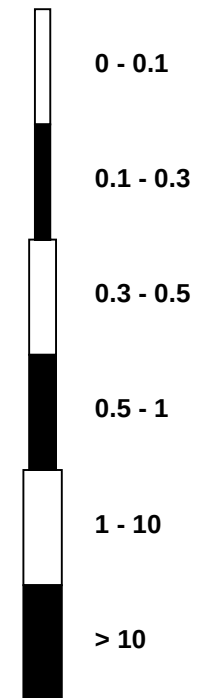
Pollutant Rose

Carbon Monoxide (CO) - ppm

Henry Pirker - July 2013



Pollutant Classes (ppm)



Eight Hour Running Averages

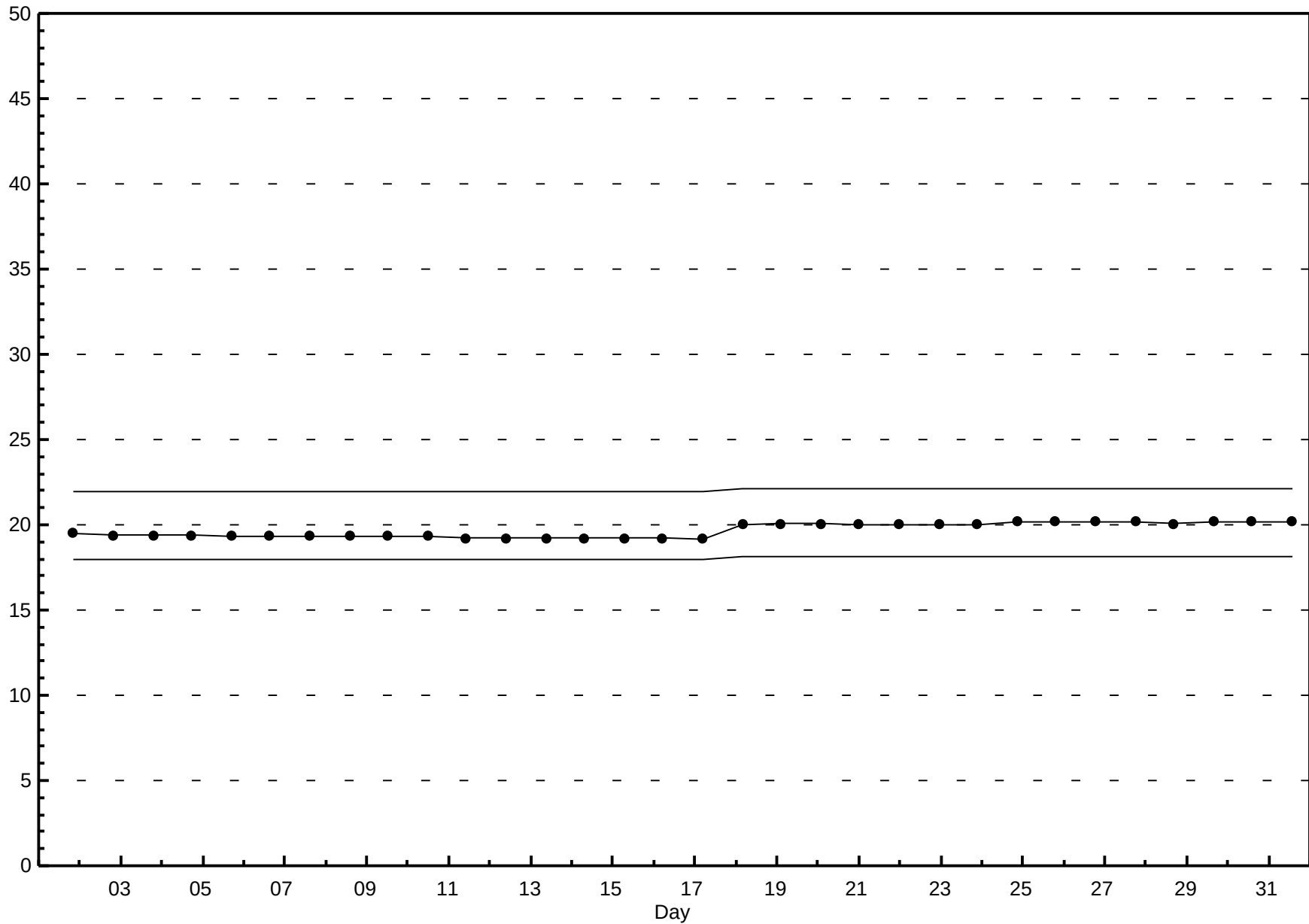
Carbon Monoxide (CO) - ppm

Henry Pirker - July 2013

Number of Exceedences (AAAQO): 8-hr: 0 Maximum Value: 0.36 ppm on Jul 17 19:00																					Hours in Service: 744 Hours of Data: 734				
Minimum Value: 0.06 ppm on Jul 27 11:00																					Hours of Missing Data: 10 Hours of Calibration: 10				
Percentiles: P ₁ = 0.08 P ₁₀ = 0.10 Q ₁ = 0.11 Median = 0.14 Q ₃ = 0.18 P ₉₀ = 0.22 P ₉₉ = 0.32																					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	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.21
2-Jul	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.20
3-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	0.11
4-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	0.14
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	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.19
6-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	0.3	0.3	0.3	0.29
7-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	0.30
8-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	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.33
9-Jul	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.16
10-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	0.13
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	0.1	0.1	0.1	0.13
12-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	0.10
13-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	0.11
14-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	0.14
15-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	0.15
16-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	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.21
17-Jul	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	N	N	N	N	N	N	N	N	N	N	0.4	0.3	0.3	0.3	0.3	0.36
18-Jul	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.33
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	0.24
20-Jul	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.25
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	0.21
22-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	0.1	0.1	0.1	0.2	0.2	0.2	0.20
23-Jul	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	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.17
24-Jul	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.16
25-Jul	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.20
26-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	0.18
27-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	0.14
28-Jul	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.15
29-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	0.13
30-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	0.2	0.2	0.17
31-Jul	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.17
0.33 0.32 0.33 0.33 0.33 0.32 0.32 0.32 0.30 0.28 0.28 0.27 0.26 0.26 0.26 0.26 0.26 0.26 0.36 0.35 0.35 0.35 0.35 0.34																									
Diurnal Maximums																									
N - Not Valid																									
Alberta Ambient Air Quality Objectives (AAAQO): 8-hr 5 ppm																									

Span Responses

Carbon Monoxide (CO)
Henry Pirker - July 2013



Hourly Averages

Total Hydrocarbons (THC) - ppm

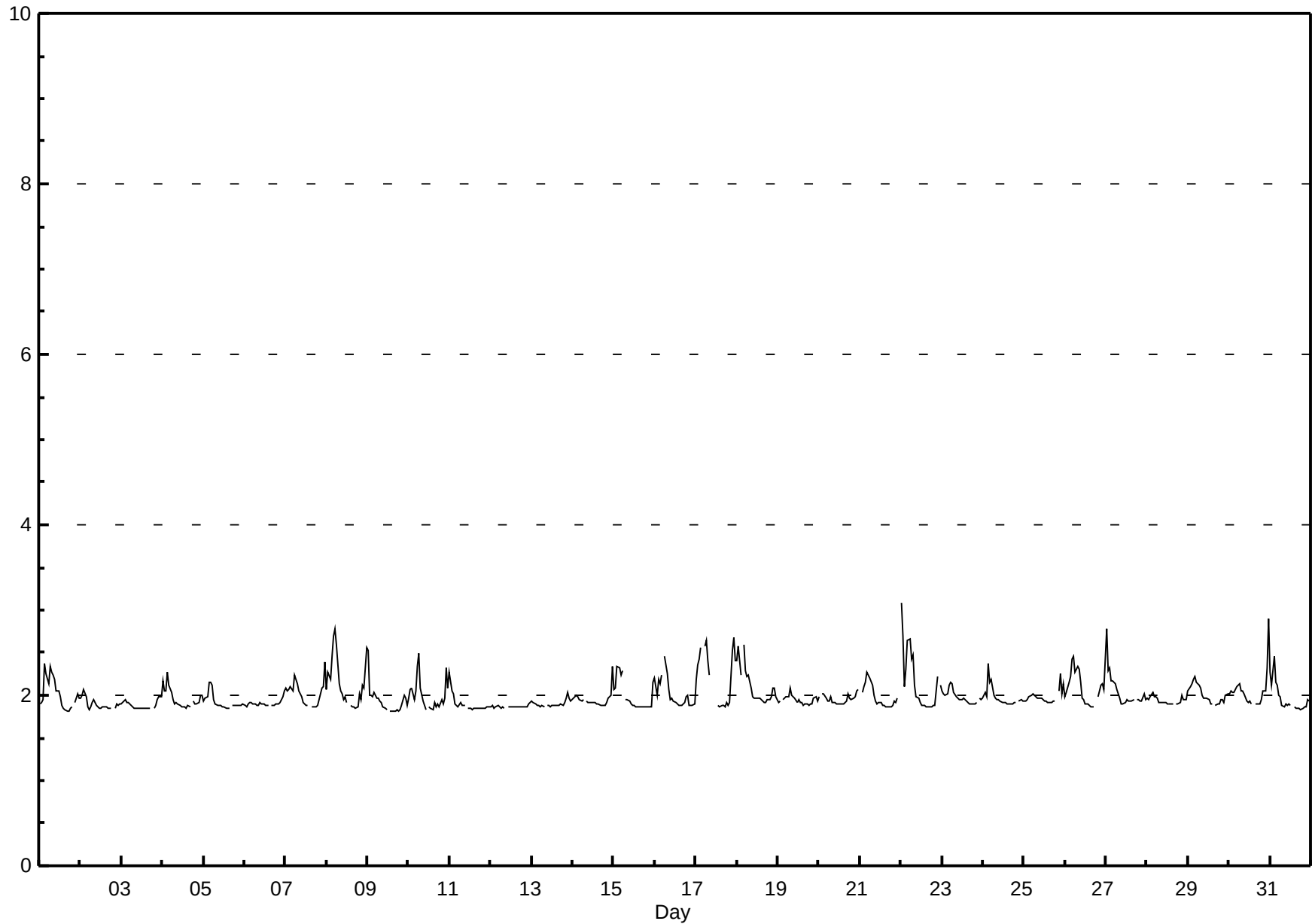
Henry Pirker - July 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 3.08 ppm on Jul 22 01:00 Maximum Daily Average: 2.22 ppm 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: 1.8 ppm on Jul 9 17:00 Maximum Diurnal Average: 2.13 ppm at hour 6 Monthly Average: 1.988 ppm										Minimum Daily Average: 1.87 ppm on Jul 12 Minimum Diurnal Average: 1.88 ppm at hour 17 Percentiles: P ₁ = 1.82 P ₁₀ = 1.86 Q ₁ = 1.88 Median = 1.93 Q ₃ = 2.02 P ₉₀ = 2.20 P ₉₉ = 2.67																	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	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	1.9	1.9	1.9	2.4	2.2	2.1	2.3	2.3	2.2	2.2	2.0	2.0	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.9	A	1.9	2.0	2.0	2.02	2.37	
2-Jul	2.0	2.0	2.1	2.0	1.9	1.8	1.9	1.9	2.0	1.9	1.9	1.8	1.8	1.9	1.9	1.9	1.8	1.8	1.8	A	1.8	1.9	1.9	1.9	1.89	2.06	
3-Jul	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.9	1.8	1.8	1.8	1.9	1.8	1.9	A	1.9	1.9	1.9	2.0	2.0	1.89	1.99	
4-Jul	2.2	2.1	2.0	2.3	2.1	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.9	1.9	A	1.9	1.9	1.9	1.9	2.0	2.0	1.96	2.26	
5-Jul	1.9	2.0	2.0	2.2	2.2	2.1	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.92	2.16	
6-Jul	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.1	1.91	2.05	
7-Jul	2.1	2.1	2.1	2.1	2.0	2.2	2.2	2.1	2.1	2.0	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.1	2.1	2.4	2.02	2.38
8-Jul	2.1	2.3	2.2	2.5	2.7	2.8	2.6	2.1	2.0	2.0	2.0	2.0	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	2.0	1.9	2.1	2.1	2.6	2.14	2.78
9-Jul	2.5	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.8	1.8	A	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	2.0	2.0	1.9	1.93	2.53	
10-Jul	2.0	2.1	2.1	1.9	2.1	2.3	2.5	2.1	1.9	1.9	1.8	A	1.9	1.8	1.8	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.3	2.1	2.00	2.50	
11-Jul	2.3	2.1	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.9	1.9	1.9	1.89	2.27	
12-Jul	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.87	1.91	
13-Jul	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	1.9	1.90	2.03
14-Jul	2.0	2.0	2.0	2.0	1.9	1.9	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.3	1.95	2.34	
15-Jul	2.1	2.1	2.3	2.3	2.2	2.3	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.1	1.98	2.34	
16-Jul	2.2	2.0	2.2	2.1	2.2	A	2.5	2.3	2.1	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	1.9	1.9	1.9	1.9	2.01	2.46	
17-Jul	2.2	2.3	2.4	2.6	A	2.6	2.6	2.4	2.2	C	C	C	C	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.5	2.7	2.4	2.22	2.68	
18-Jul	2.4	2.6	2.2	A	2.6	2.3	2.2	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	2.0	2.1	2.1	2.0	2.10	2.60	
19-Jul	1.9	1.9	A	1.9	2.0	2.0	2.0	2.1	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	1.9	1.94	2.09	
20-Jul	2.0	A	2.0	2.0	2.0	1.9	1.9	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	1.9	2.0	2.0	2.0	2.1	1.96	2.06	
21-Jul	A	2.0	2.1	2.2	2.3	2.2	2.2	2.1	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	A	1.99	2.27	
22-Jul	3.1	2.7	2.1	2.3	2.6	2.7	2.4	2.5	2.1	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.2	A	2.1	2.15	3.08	
23-Jul	2.0	2.0	2.0	2.0	2.1	2.2	2.1	2.0	2.0	2.0	1.9	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	2.0	1.9	1.98	2.15	
24-Jul	2.0	2.0	2.0	2.4	2.1	2.2	2.0	2.0	1.9	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	1.98	2.38	
25-Jul	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	2.0	2.3	2.0	2.1	1.98	2.26	
26-Jul	2.0	2.0	2.2	2.2	2.4	2.5	2.3	2.3	2.3	2.1	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	A	2.0	2.0	2.1	2.1	2.1	2.08	2.46	
27-Jul	2.8	2.3	2.3	2.2	2.2	2.1	2.1	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	2.0	1.9	1.9	1.9	2.0	1.9	2.04	2.78	
28-Jul	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	2.0	2.0	2.0	2.0	1.94	2.03	
29-Jul	2.1	2.1	2.1	2.2	2.2	2.2	2.1	2.1	2.0	2.0	2.0	2.0	1.9	1.9	A	1.9	1.9	1.9	1.9	1.9	2.0	1.9	2.0	2.0	2.01	2.22	
30-Jul	2.0	2.1	2.0	2.0	2.1	2.1	2.1	2.1	2.0	2.0	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	1.9	1.9	2.1	2.1	2.3	2.9	2.05	2.90	
31-Jul	2.3	2.1	2.5	2.2	2.1	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.8	1.8	1.8	1.8	1.8	1.9	1.9	1.9	1.9	1.96	2.47	
2.11 2.07 2.08 2.11 2.13 2.13 2.11 2.05 1.99 1.95 1.92 1.91 1.90 1.89 1.88 1.88 1.88 1.88 1.89 1.91 1.93 1.99 2.03 2.07																								Diurnal Average			
3.08 2.69 2.47 2.57 2.69 2.78 2.65 2.48 2.30 2.18 2.05 2.05 1.98 1.97 1.95 1.93 1.95 2.02 1.98 2.02 2.05 2.53 2.68 2.90																								Diurnal Maximum			
C - Calibration A - Automated Daily Zero Span																											

Hourly Averages

Total Hydrocarbons (THC) - ppm

Henry Pirker - July 2013



Hourly Maximums

Total Hydrocarbons (THC) - ppm

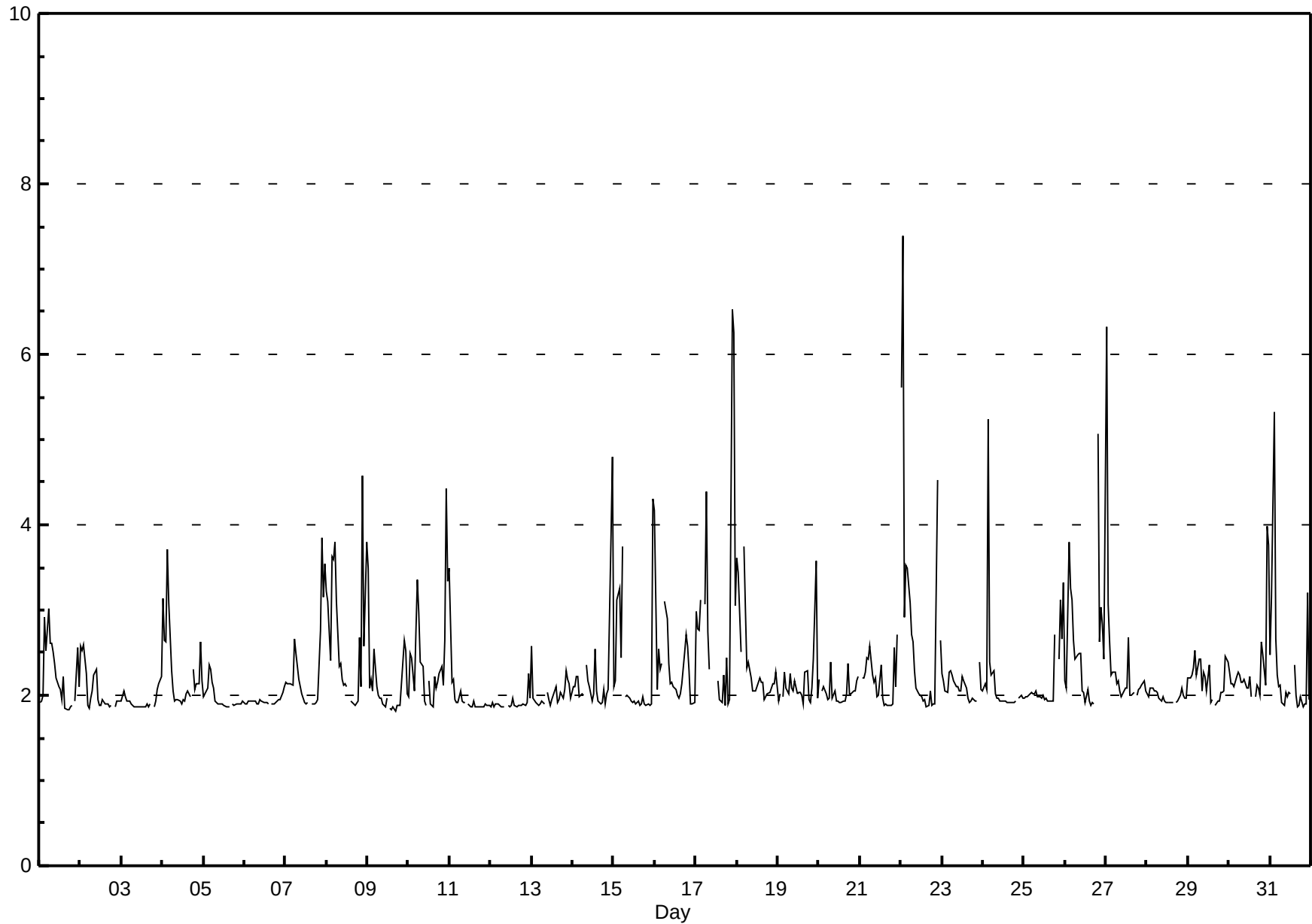
Henry Pirker - July 2013

Maximum Value: 7.38 ppm on Jul 22 02:00																					Maximum Daily Average: 2.97 ppm on Jul 17				Hours in Service: 744	
Minimum Value: 1.8 ppm on Jul 9 17:00																					Minimum Daily Average: 1.91 ppm on Jul 12				Hours of Data: 708	
Maximum Diurnal Average: 2.69 ppm at hour 1																					Minimum Diurnal Average: 1.94 ppm at hour 16				Hours of Missing Data: 36	
Monthly Average: 2.232 ppm																					Percentiles: P ₁ = 1.86 P ₁₀ = 1.88 Q ₁ = 1.92 Median = 2.03 Q ₃ = 2.26 P ₉₀ = 2.72 P ₉₉ = 5.18				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	1.9	1.9	2.0	2.9	2.5	3.0	2.6	2.6	2.5	2.4	2.2	2.1	2.1	2.0	2.2	1.8	1.8	1.8	1.9	1.9	A	1.9	2.6	2.1	2.21	3.01
2-Jul	2.6	2.5	2.6	2.3	1.9	1.8	2.0	2.0	2.2	2.3	2.0	1.9	1.9	2.0	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	1.9	2.04	2.59
3-Jul	1.9	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	2.1	2.1	2.2	1.94	2.21
4-Jul	3.1	2.6	2.6	3.7	3.1	2.3	2.0	1.9	2.0	2.0	1.9	1.9	2.0	1.9	2.0	2.0	2.0	A	2.3	2.1	2.1	2.1	2.6	2.2	2.29	3.71
5-Jul	2.0	2.0	2.1	2.4	2.3	2.2	2.1	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.97	2.35
6-Jul	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	1.9	2.0	1.9	2.0	2.1	1.93	2.09
7-Jul	2.2	2.1	2.1	2.1	2.1	2.7	2.5	2.3	2.2	2.0	2.0	1.9	1.9	1.9	A	1.9	1.9	1.9	1.9	2.0	2.8	3.8	3.2	3.5	2.30	3.85
8-Jul	3.2	3.1	2.4	3.6	3.6	3.8	3.1	2.3	2.4	2.2	2.1	2.1	A	A	1.9	1.9	1.9	1.9	1.9	2.7	2.1	4.6	2.6	3.8	2.67	4.58
9-Jul	3.5	2.1	2.2	2.1	2.5	2.1	2.0	2.0	2.0	1.9	1.9	2.0	A	1.9	1.8	1.9	1.8	1.9	1.9	1.9	2.1	2.6	2.5	2.0	2.11	3.49
10-Jul	2.0	2.5	2.4	2.0	2.7	3.4	3.0	2.4	2.3	1.9	1.9	A	2.2	1.9	1.9	2.2	2.1	2.2	2.2	2.3	2.1	2.7	4.4	3.3	2.44	4.42
11-Jul	3.5	2.2	2.2	2.0	1.9	1.9	2.0	1.9	1.9	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.99	3.48
12-Jul	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.3	2.0	1.91	2.26
13-Jul	2.6	2.0	1.9	1.9	1.9	1.9	1.9	1.9	A	2.0	2.0	1.9	2.0	2.0	2.1	1.9	2.0	2.0	2.0	2.1	2.3	2.2	2.1	2.0	2.02	2.58
14-Jul	2.1	2.1	2.2	2.2	2.0	2.0	2.0	A	2.4	2.2	2.1	1.9	2.0	2.5	2.0	1.9	1.9	1.9	2.1	1.9	2.0	2.1	3.8	4.8	2.27	4.80
15-Jul	2.1	2.2	3.1	3.3	2.4	3.7	A	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	1.9	1.9	1.9	1.9	1.9	4.3	2.26	4.30
16-Jul	4.2	2.1	2.5	2.3	2.4	A	3.1	2.9	2.4	2.1	2.2	2.1	2.1	2.0	2.0	2.0	2.1	2.5	2.7	2.6	2.3	1.9	1.9	1.9	2.36	4.18
17-Jul	3.0	2.8	2.8	3.1	A	3.1	4.4	2.7	2.3	C	C	C	C	2.2	2.0	1.9	2.2	1.9	2.4	1.9	2.0	6.5	6.2	3.0	2.97	6.53
18-Jul	3.6	3.4	2.5	A	3.7	3.0	2.3	2.4	2.2	2.1	2.0	2.0	2.1	2.2	2.2	2.2	1.9	2.0	2.0	2.0	2.1	2.1	2.1	2.3	2.37	3.75
19-Jul	1.9	2.0	A	2.0	2.3	2.1	2.0	2.3	2.1	2.0	2.2	2.0	2.0	2.0	2.0	1.9	2.3	2.3	1.9	1.9	2.1	2.4	3.6	2.0	2.15	3.58
20-Jul	2.2	A	2.1	2.1	2.0	1.9	2.0	2.4	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.4	2.0	2.0	2.0	2.1	2.2	2.2	2.05	2.38
21-Jul	A	2.2	2.2	2.3	2.4	2.4	2.6	2.2	2.2	2.2	2.0	2.0	2.4	2.0	1.9	1.9	1.9	1.9	1.9	1.9	2.6	2.1	2.7	A	2.17	2.72
22-Jul	5.6	7.4	2.9	3.5	3.5	3.1	2.7	2.6	2.3	2.1	2.0	2.0	2.0	1.9	1.9	1.9	1.9	2.1	1.9	1.9	1.9	4.5	A	2.6	2.79	7.38
23-Jul	2.2	2.2	2.0	2.0	2.3	2.3	2.2	2.2	2.1	2.1	2.0	2.0	2.2	2.2	2.1	2.0	1.9	1.9	2.0	1.9	1.9	A	2.4	2.1	2.10	2.39
24-Jul	2.1	2.1	2.1	5.2	2.4	2.2	2.3	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	2.0	2.0	2.0	2.15	5.23
25-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	1.9	2.0	1.9	1.9	1.9	1.9	2.7	A	2.4	3.1	2.7	3.3	2.17	3.31
26-Jul	2.2	2.1	3.8	3.3	3.1	2.6	2.4	2.5	2.5	2.5	2.0	2.0	1.9	2.1	1.9	1.9	1.9	1.9	A	5.1	2.6	3.0	2.8	2.4	2.55	5.06
27-Jul	6.3	3.1	2.6	2.2	2.3	2.3	2.1	2.2	2.0	2.0	2.0	2.1	2.1	2.7	2.0	2.0	2.0	A	2.0	2.1	2.1	2.1	2.2	2.1	2.37	6.33
28-Jul	2.0	2.0	2.1	2.1	2.0	2.0	2.0	2.0	1.9	2.0	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	2.0	2.1	2.0	2.0	2.0	1.98	2.09
29-Jul	2.2	2.2	2.2	2.3	2.5	2.2	2.4	2.4	2.0	2.3	2.2	2.1	2.4	1.9	1.9	A	1.9	1.9	1.9	2.0	2.0	2.0	2.5	2.4	2.18	2.52
30-Jul	2.3	2.1	2.1	2.1	2.2	2.3	2.2	2.2	2.2	2.2	2.1	2.1	2.2	2.0	A	2.0	2.1	2.1	2.0	2.6	2.5	2.1	4.0	3.8	2.32	3.99
31-Jul	2.5	3.2	5.3	2.7	2.2	2.1	2.1	1.9	1.9	2.0	2.0	2.0	A	2.4	2.0	1.9	1.9	1.9	2.0	1.9	1.9	1.9	3.2	2.0	2.30	5.32
2.69 2.47 2.43 2.51 2.41 2.41 2.33 2.19 2.11 2.07 2.00 1.98 2.02 2.01 1.97 1.94 1.95 1.98 2.03 2.13 2.12 2.52 2.68 2.53																								Diurnal Average		
6.33 7.38 5.32 5.23 3.75 3.79 4.38 2.90 2.51 2.50 2.22 2.13 2.36 2.67 2.36 2.21 2.28 2.51 2.71 5.06 2.77 6.53 6.25 4.80																								Diurnal Maximum		
C - Calibration A - Automated Daily Zero Span																										

Hourly Maximums

Total Hydrocarbons (THC) - ppm

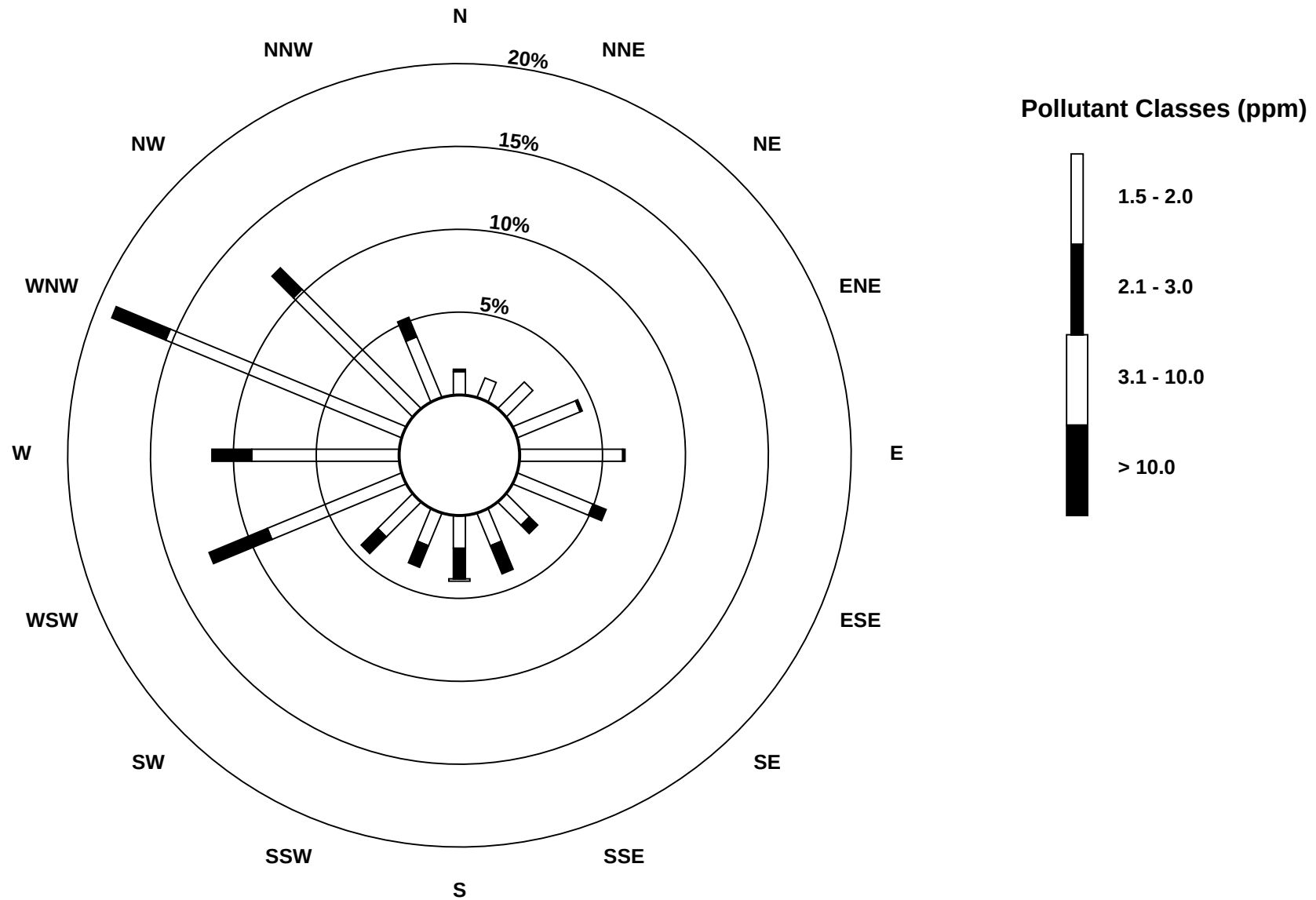
Henry Pirker - July 2013



Pollutant Rose

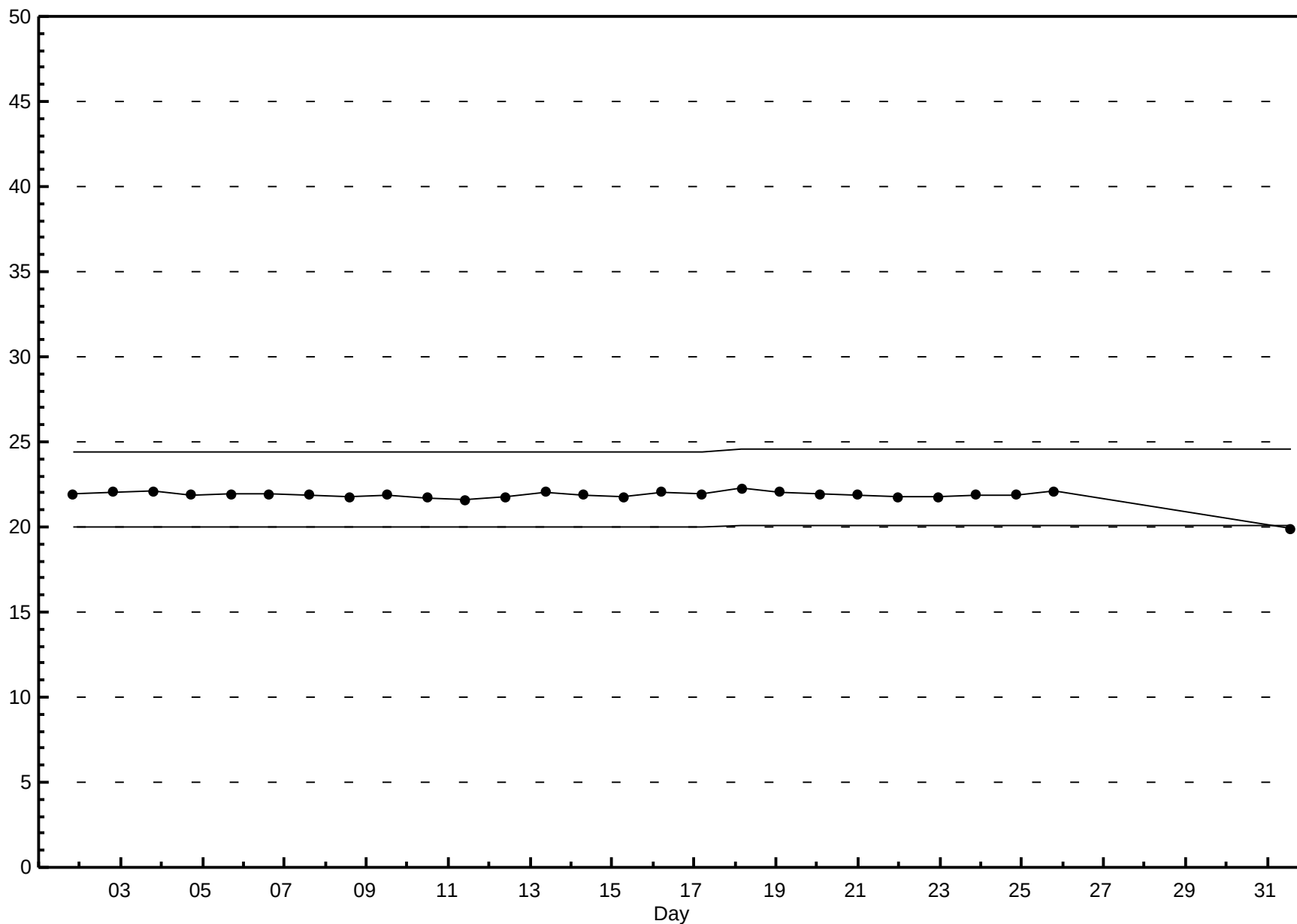
Total Hydrocarbons (THC) - ppm

Henry Pirker - July 2013



Span Responses

Total Hydrocarbons (THC)
Henry Pirker - July 2013



Hourly Averages

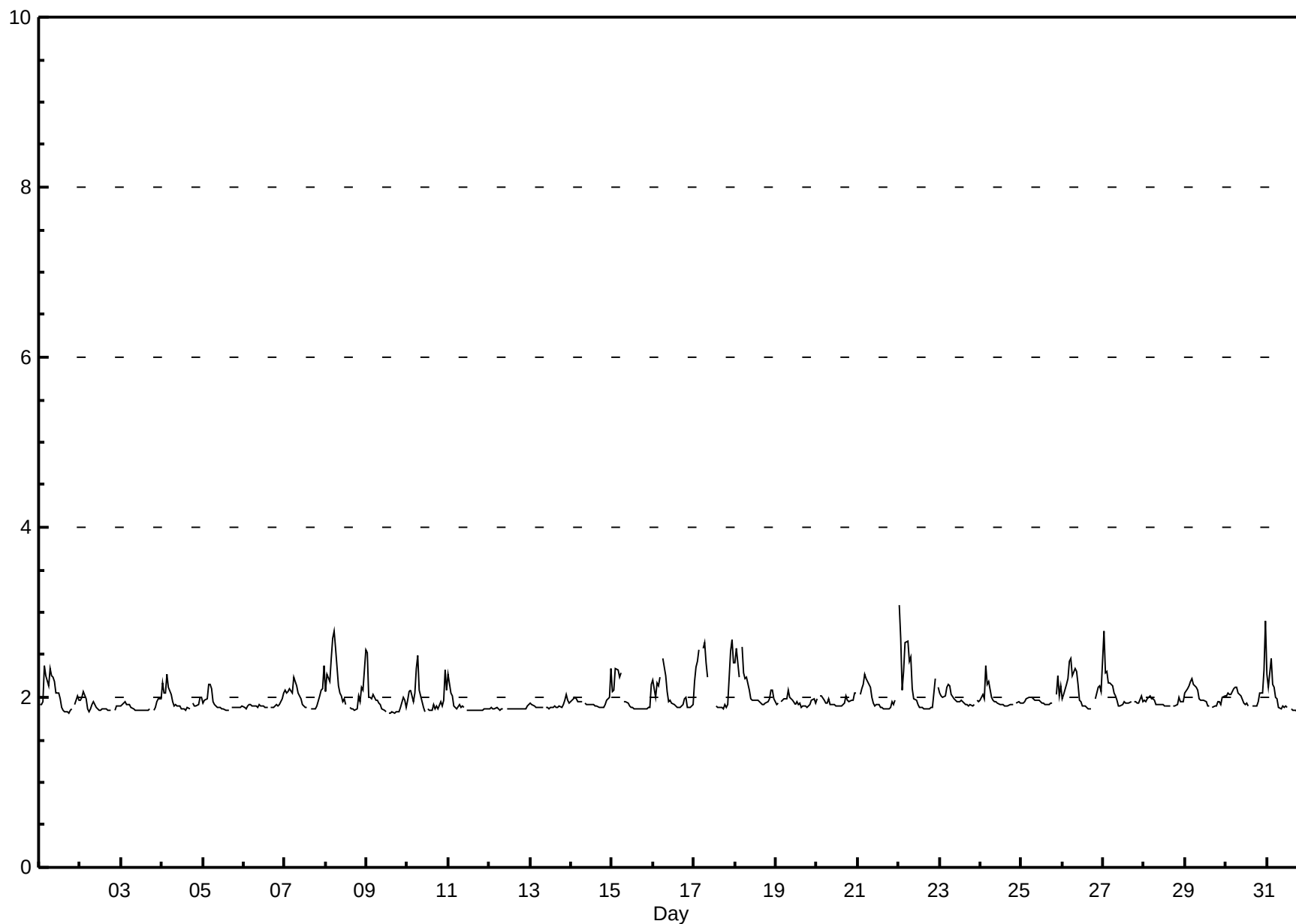
Methane (CH₄) - ppm

Henry Pirker - July 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 3.08 ppm on Jul 22 01:00 Maximum Daily Average: 2.22 ppm 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: 1.8 ppm on Jul 9 17:00 Minimum Daily Average: 1.87 ppm on Jul 12 Maximum Diurnal Average: 2.13 ppm at hour 6 Minimum Diurnal Average: 1.88 ppm at hour 17 Monthly Average: 1.988 ppm Percentiles: P ₁ = 1.82 P ₁₀ = 1.86 Q ₁ = 1.88 Median = 1.93 Q ₃ = 2.02 P ₉₀ = 2.20 P ₉₉ = 2.68																											
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	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	1.9	1.9	1.9	2.4	2.2	2.1	2.3	2.3	2.2	2.2	2.0	2.0	2.0	1.9	1.8	1.8	1.8	1.8	1.8	1.9	A	1.9	2.0	2.0	2.02	2.37	
2-Jul	2.0	2.0	2.1	2.0	1.9	1.8	1.9	1.9	2.0	1.9	1.9	1.9	1.8	1.9	1.9	1.9	1.8	1.8	1.9	A	1.8	1.9	1.9	1.9	1.89	2.06	
3-Jul	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.9	1.9	1.8	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	2.0	2.0	1.89	1.99	
4-Jul	2.2	2.1	2.0	2.3	2.1	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.9	1.9	A	1.9	1.9	1.9	1.9	2.0	2.0	1.96	2.26	
5-Jul	1.9	2.0	2.0	2.2	2.2	2.1	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.92	2.16	
6-Jul	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	1.91	2.05	
7-Jul	2.1	2.1	2.1	2.1	2.0	2.2	2.2	2.1	2.0	2.0	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.1	2.1	2.4	2.02	2.38
8-Jul	2.1	2.3	2.2	2.5	2.7	2.8	2.6	2.1	2.0	2.0	2.0	1.8	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	2.0	1.9	2.1	2.1	2.6	2.14	2.78
9-Jul	2.5	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.8	1.8	A	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	2.0	2.0	1.9	1.93	2.53	
10-Jul	2.0	2.1	2.1	1.9	2.1	2.3	2.5	2.1	1.9	1.9	1.8	A	1.9	1.8	1.8	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.3	2.1	2.00	2.50	
11-Jul	2.3	2.1	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.9	1.9	1.9	1.90	2.27	
12-Jul	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.87	1.91	
13-Jul	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	1.9	1.90	2.03
14-Jul	2.0	2.0	2.0	2.0	1.9	1.9	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.3	1.95	2.34	
15-Jul	2.1	2.1	2.3	2.3	2.2	2.3	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.1	1.98	2.34	
16-Jul	2.2	2.0	2.2	2.1	2.2	A	2.5	2.3	2.1	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	1.9	1.9	1.9	1.9	2.01	2.46	
17-Jul	2.2	2.3	2.4	2.6	A	2.6	2.6	2.4	2.2	C	C	C	C	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.5	2.7	2.4	2.22	2.68	
18-Jul	2.4	2.6	2.2	A	2.6	2.3	2.2	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.1	2.0	2.10	2.60	
19-Jul	1.9	1.9	A	1.9	2.0	2.0	2.0	2.1	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	1.9	1.94	2.08	
20-Jul	2.0	A	2.0	2.0	2.0	1.9	1.9	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	1.9	2.0	2.0	2.0	2.1	1.96	2.06	
21-Jul	A	2.0	2.1	2.1	2.3	2.2	2.2	2.1	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	A	1.99	2.27	
22-Jul	3.1	2.7	2.1	2.3	2.6	2.7	2.4	2.5	2.1	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.2	A	2.1	2.15	3.08	
23-Jul	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.0	2.0	2.0	1.9	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	2.0	1.9	1.98	2.15	
24-Jul	2.0	2.0	2.0	2.4	2.1	2.2	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	1.98	2.38	
25-Jul	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	2.0	2.3	2.0	2.1	1.98	2.26	
26-Jul	2.0	2.0	2.2	2.2	2.4	2.5	2.3	2.3	2.3	2.1	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	A	2.0	2.0	2.1	2.1	2.1	2.08	2.46	
27-Jul	2.8	2.3	2.3	2.2	2.2	2.1	2.1	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	2.0	1.9	1.9	1.9	2.0	1.9	2.04	2.78	
28-Jul	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	1.9	2.0	2.0	2.0	1.94	2.02	
29-Jul	2.1	2.1	2.1	2.2	2.2	2.2	2.1	2.1	2.0	2.0	2.0	2.0	2.0	1.9	1.9	A	1.9	1.9	1.9	1.9	1.9	2.0	1.9	2.0	2.01	2.22	
30-Jul	2.0	2.1	2.0	2.0	2.1	2.1	2.1	2.1	2.0	2.0	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	2.1	2.1	2.3	2.9	2.05	2.90
31-Jul	2.3	2.1	2.5	2.1	2.1	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	1.8	1.8	1.8	1.8	1.9	1.9	1.9	1.9	1.96	2.46	
2.11 2.07 2.08 2.11 2.13 2.13 2.11 2.05 1.99 1.95 1.92 1.91 1.90 1.89 1.88 1.88 1.88 1.88 1.89 1.91 1.93 2.00 2.03 2.07																								Diurnal Average			
3.08 2.69 2.46 2.57 2.69 2.78 2.65 2.47 2.30 2.18 2.05 2.05 1.98 1.97 1.95 1.94 1.95 2.02 1.98 2.02 2.05 2.54 2.68 2.90																								Diurnal Maximum			
C - Calibration A - Automated Daily Zero Span																											

Hourly Averages

Methane (CH₄) - ppm
Henry Pirker - July 2013



Hourly Maximums

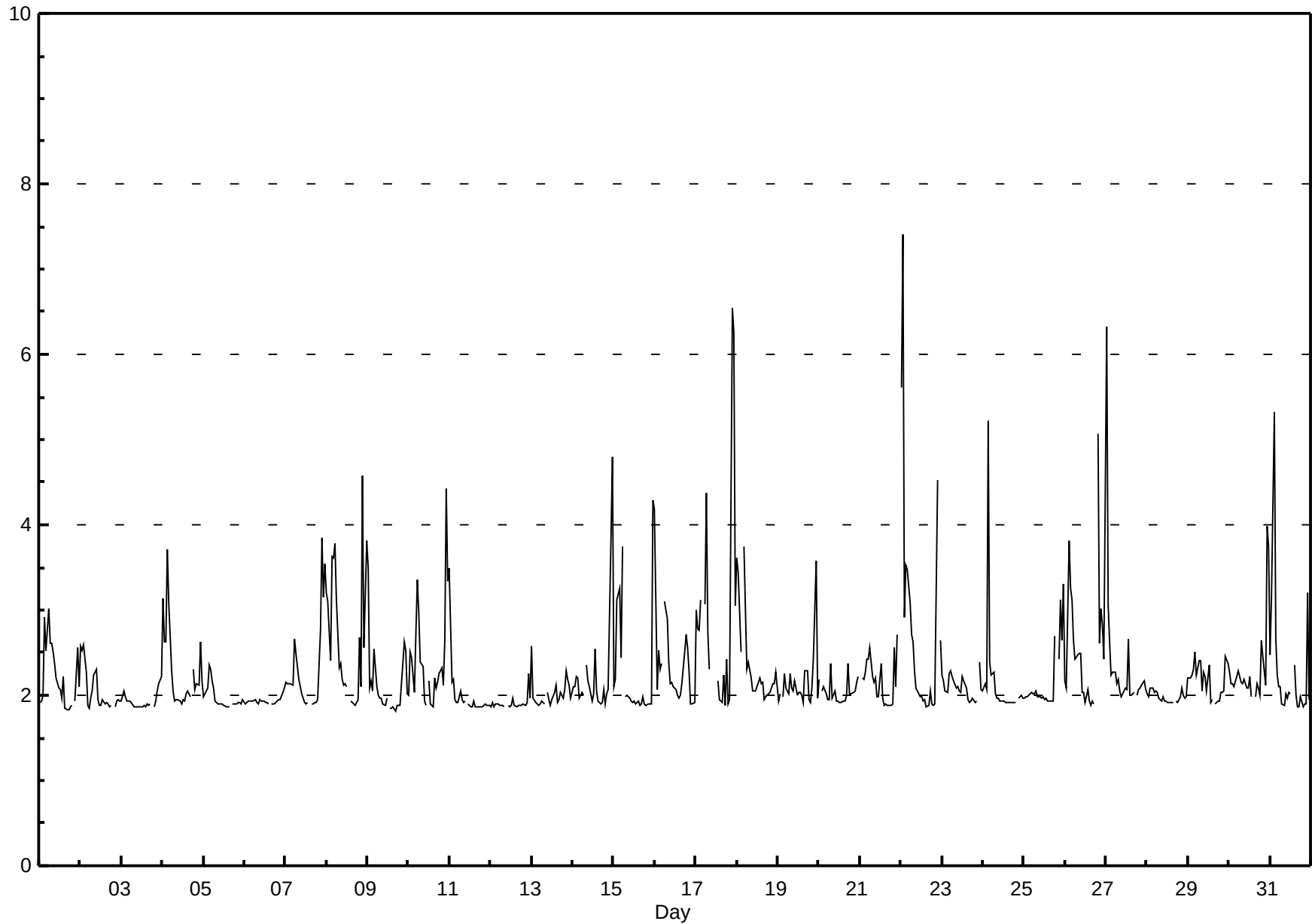
Methane (CH₄) - ppm

Henry Pirker - July 2013

Maximum Value: 7.40 ppm on Jul 22 02:00																				Maximum Daily Average: 2.97 ppm on Jul 17					Hours in Service: 744		
Minimum Value: 1.8 ppm on Jul 9 17:00																				Minimum Daily Average: 1.91 ppm on Jul 12					Hours of Data: 708		
Maximum Diurnal Average: 2.69 ppm at hour 1																				Minimum Diurnal Average: 1.94 ppm at hour 16					Hours of Missing Data: 36		
Monthly Average: 2.231 ppm																				Percentiles: P ₁ = 1.86 P ₁₀ = 1.89 Q ₁ = 1.92 Median = 2.03 Q ₃ = 2.25 P ₉₀ = 2.72 P ₉₉ = 5.17					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	1.9	1.9	2.0	2.9	2.5	3.0	2.6	2.6	2.5	2.4	2.2	2.1	2.1	2.0	2.2	1.8	1.8	1.8	1.9	1.9	A	1.9	2.6	2.1	2.21	3.02	
2-Jul	2.6	2.5	2.6	2.3	1.9	1.9	2.0	2.0	2.2	2.3	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	1.9	2.04	2.60	
3-Jul	1.9	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	2.1	2.1	2.2	1.93	2.21	
4-Jul	3.1	2.6	2.6	3.7	3.1	2.3	2.0	1.9	1.9	1.9	1.9	1.9	2.0	1.9	2.0	2.0	2.0	A	2.3	2.1	2.1	2.1	2.6	2.2	2.28	3.70	
5-Jul	2.0	2.0	2.1	2.4	2.3	2.2	2.1	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.97	2.35	
6-Jul	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	1.9	1.9	2.0	1.9	2.0	1.93	2.09	
7-Jul	2.2	2.1	2.1	2.1	2.1	2.7	2.5	2.3	2.2	2.0	2.0	1.9	1.9	1.9	A	1.9	1.9	1.9	1.9	1.9	2.0	2.8	3.8	3.2	3.5	2.30	3.85
8-Jul	3.2	3.1	2.4	3.6	3.6	3.8	3.1	2.3	2.4	2.2	2.1	2.1	A	A	1.9	1.9	1.9	1.9	1.9	1.9	2.7	2.1	4.6	2.6	3.8	2.67	4.58
9-Jul	3.5	2.1	2.2	2.0	2.5	2.1	2.0	2.0	2.0	1.9	1.9	2.0	A	1.9	1.8	1.9	1.8	1.9	1.9	1.9	1.9	2.1	2.6	2.5	2.0	2.11	3.49
10-Jul	2.0	2.5	2.4	2.0	2.7	3.4	3.0	2.4	2.3	1.9	1.9	A	2.2	1.9	1.9	2.2	2.1	2.2	2.2	2.3	2.1	2.6	4.4	3.3	2.44	4.42	
11-Jul	3.5	2.2	2.2	1.9	1.9	1.9	2.0	1.9	1.9	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.99	3.49	
12-Jul	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.3	2.0	1.91	2.25	
13-Jul	2.6	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	2.0	2.0	1.9	2.0	2.0	2.1	1.9	1.9	2.0	2.0	2.1	2.3	2.2	2.1	2.0	2.02	2.57
14-Jul	2.1	2.1	2.2	2.2	2.0	2.0	2.0	A	2.3	2.2	2.1	1.9	2.0	2.5	2.0	1.9	1.9	1.9	1.9	2.1	1.9	2.0	2.1	3.9	4.8	2.27	4.80
15-Jul	2.1	2.2	3.1	3.3	2.4	3.7	A	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	1.9	1.9	1.9	1.9	1.9	4.3	2.26	4.29	
16-Jul	4.2	2.1	2.5	2.3	2.4	A	3.1	2.9	2.4	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.1	2.5	2.7	2.6	2.3	1.9	1.9	1.9	2.36	4.18	
17-Jul	3.0	2.8	2.8	3.1	A	3.1	4.4	2.7	2.3	C	C	C	C	2.2	2.0	1.9	2.2	1.9	2.4	1.9	2.0	6.5	6.3	3.0	2.97	6.53	
18-Jul	3.6	3.4	2.5	A	3.7	3.0	2.3	2.4	2.2	2.1	2.0	2.0	2.1	2.2	2.1	2.1	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.3	2.37	3.74	
19-Jul	1.9	2.0	A	2.0	2.3	2.1	2.0	2.3	2.1	2.0	2.2	2.0	2.0	2.0	2.0	1.9	2.3	2.3	1.9	1.9	2.1	2.4	3.6	2.0	2.14	3.58	
20-Jul	2.2	A	2.0	2.1	2.0	2.0	2.0	2.4	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.4	2.0	2.0	2.0	2.0	2.2	2.2	2.05	2.38	
21-Jul	A	2.2	2.2	2.3	2.4	2.4	2.6	2.2	2.1	2.2	2.0	2.0	2.4	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.6	2.1	2.7	A	2.17	2.71
22-Jul	5.6	7.4	2.9	3.5	3.5	3.1	2.7	2.6	2.3	2.1	2.0	2.0	2.0	1.9	1.9	1.9	1.9	2.0	1.9	1.9	1.9	4.5	A	2.6	2.79	7.40	
23-Jul	2.2	2.2	2.0	2.0	2.3	2.3	2.2	2.2	2.1	2.1	2.0	2.0	2.2	2.2	2.1	2.0	1.9	1.9	1.9	2.0	1.9	1.9	A	2.4	2.1	2.10	2.38
24-Jul	2.1	2.1	2.1	5.2	2.4	2.2	2.3	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	2.0	2.0	2.0	2.15	5.23	
25-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	1.9	2.0	1.9	1.9	1.9	1.9	2.7	A	2.4	3.1	2.6	3.3	2.17	3.31	
26-Jul	2.2	2.1	3.8	3.2	3.1	2.6	2.4	2.5	2.5	2.5	2.0	2.0	1.9	2.1	1.9	1.9	1.9	1.9	A	5.1	2.6	3.0	2.8	2.4	2.55	5.07	
27-Jul	6.3	3.1	2.6	2.2	2.3	2.3	2.1	2.2	2.0	2.0	2.0	2.1	2.1	2.7	2.0	2.0	2.0	A	2.0	2.1	2.1	2.1	2.2	2.1	2.37	6.33	
28-Jul	2.0	2.0	2.1	2.1	2.0	2.0	2.0	2.0	1.9	2.0	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	2.0	2.1	2.0	2.0	2.0	1.98	2.09
29-Jul	2.2	2.2	2.2	2.3	2.5	2.2	2.4	2.4	2.0	2.3	2.2	2.0	2.4	1.9	1.9	A	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.5	2.4	2.17	2.51
30-Jul	2.3	2.1	2.1	2.1	2.2	2.3	2.2	2.1	2.1	2.2	2.1	2.1	2.2	2.0	A	2.0	2.1	2.1	2.0	2.6	2.5	2.1	4.0	3.8	2.32	3.99	
31-Jul	2.5	3.2	5.3	2.7	2.2	2.1	2.1	1.9	1.9	2.0	2.0	2.0	2.0	A	2.4	2.0	1.9	1.9	2.0	1.9	1.9	1.9	3.2	2.0	2.29	5.33	
2.69 2.47 2.43 2.51 2.41 2.41 2.33 2.19 2.11 2.07 2.00 1.98 2.02 2.01 1.97 1.94 1.95 1.98 2.03 2.13 2.12 2.52 2.68 2.53																									Diurnal Average		
6.33 7.40 5.33 5.23 3.74 3.79 4.38 2.90 2.51 2.49 2.22 2.13 2.37 2.67 2.36 2.21 2.28 2.51 2.71 5.07 2.76 6.53 6.26 4.80																									Diurnal Maximum		
C - Calibration A - Automated Daily Zero Span																											

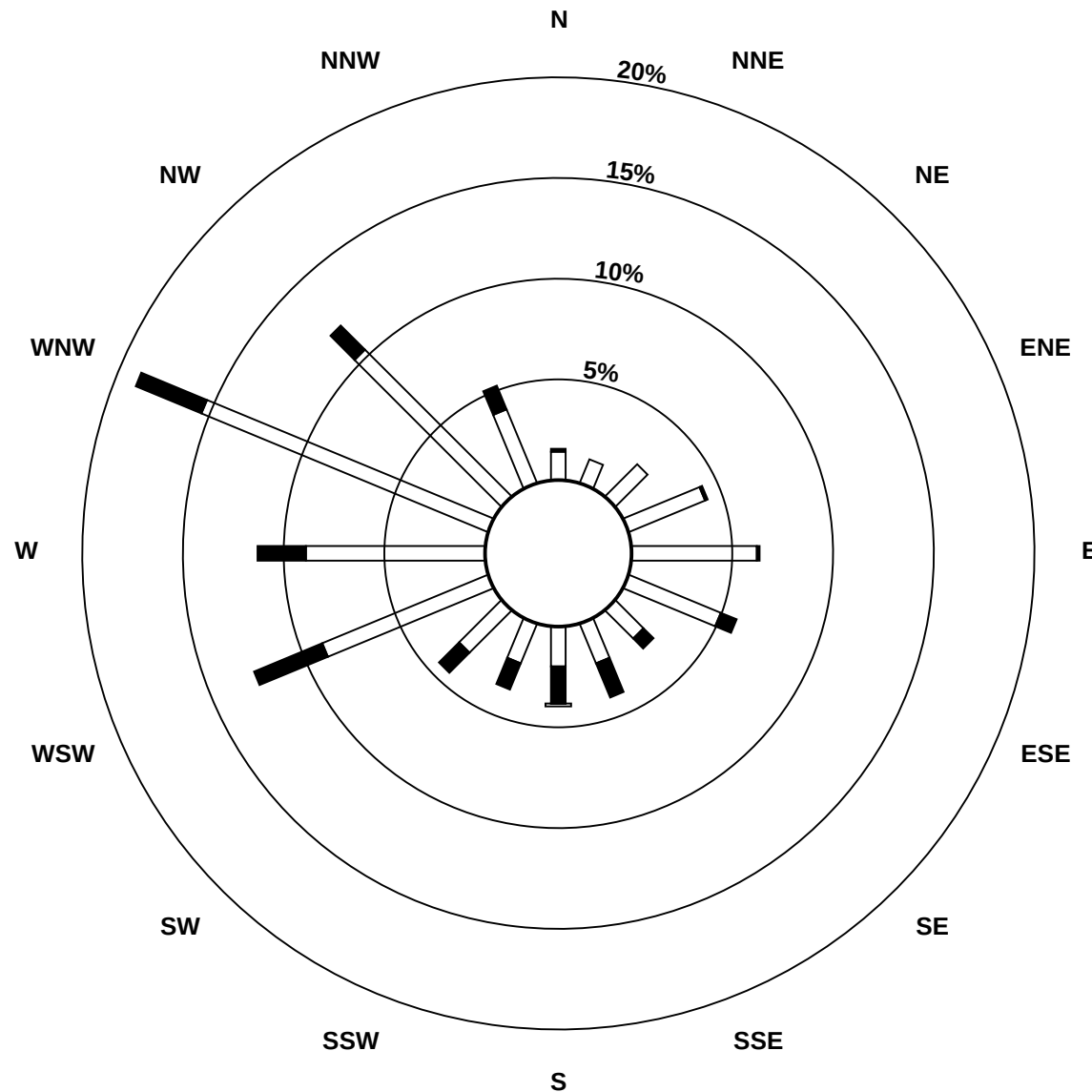
Hourly Maximums

Methane (CH₄) - ppm
Henry Pirker - July 2013

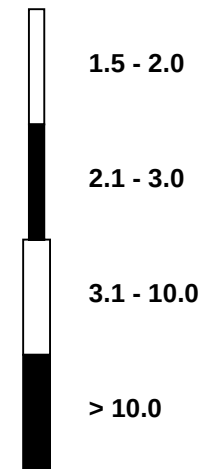


Pollutant Rose

Methane (CH₄) - ppm
Henry Pirker - July 2013

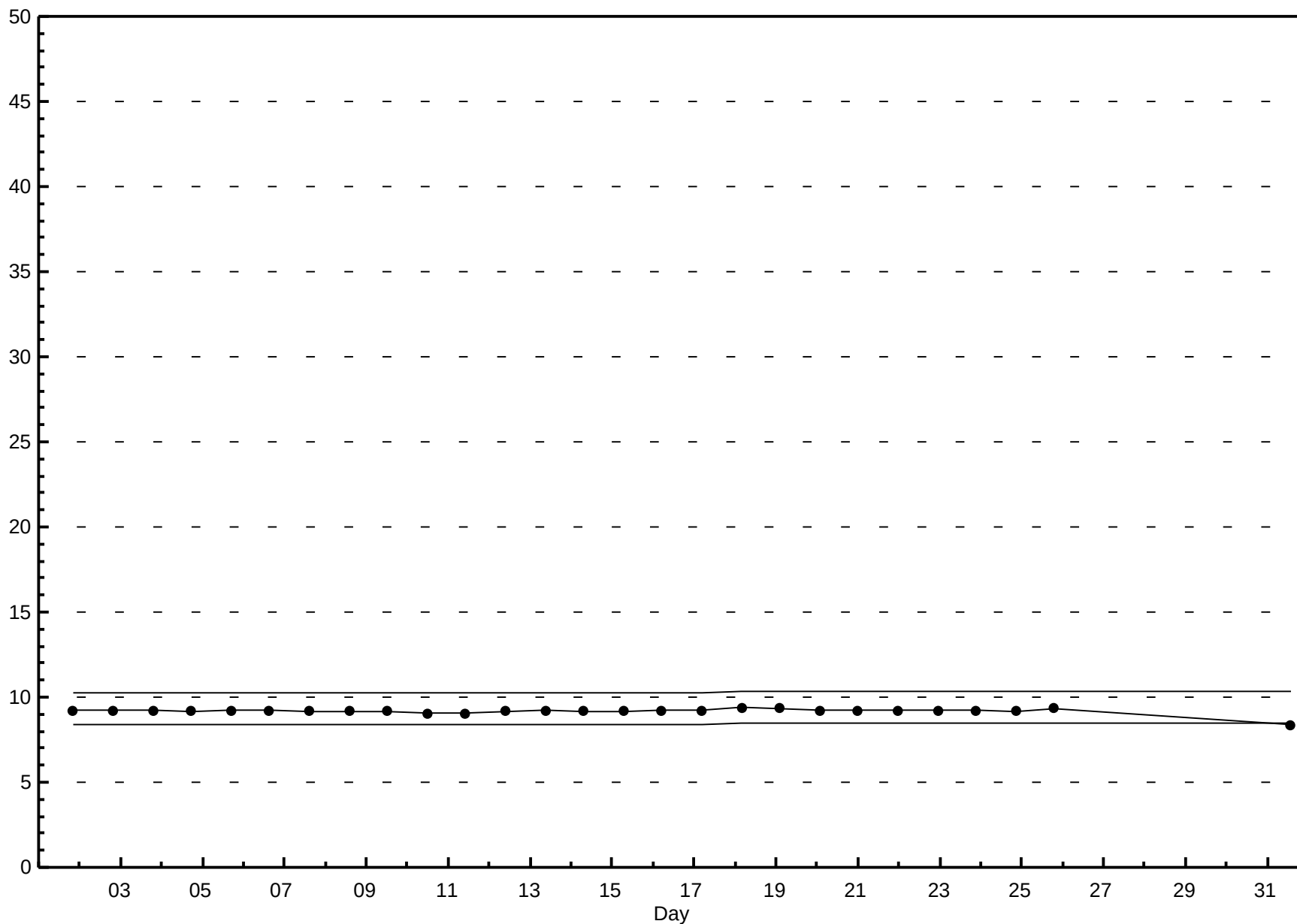


Pollutant Classes (ppm)



Span Responses

Methane (CH₄)
Henry Pirker - July 2013

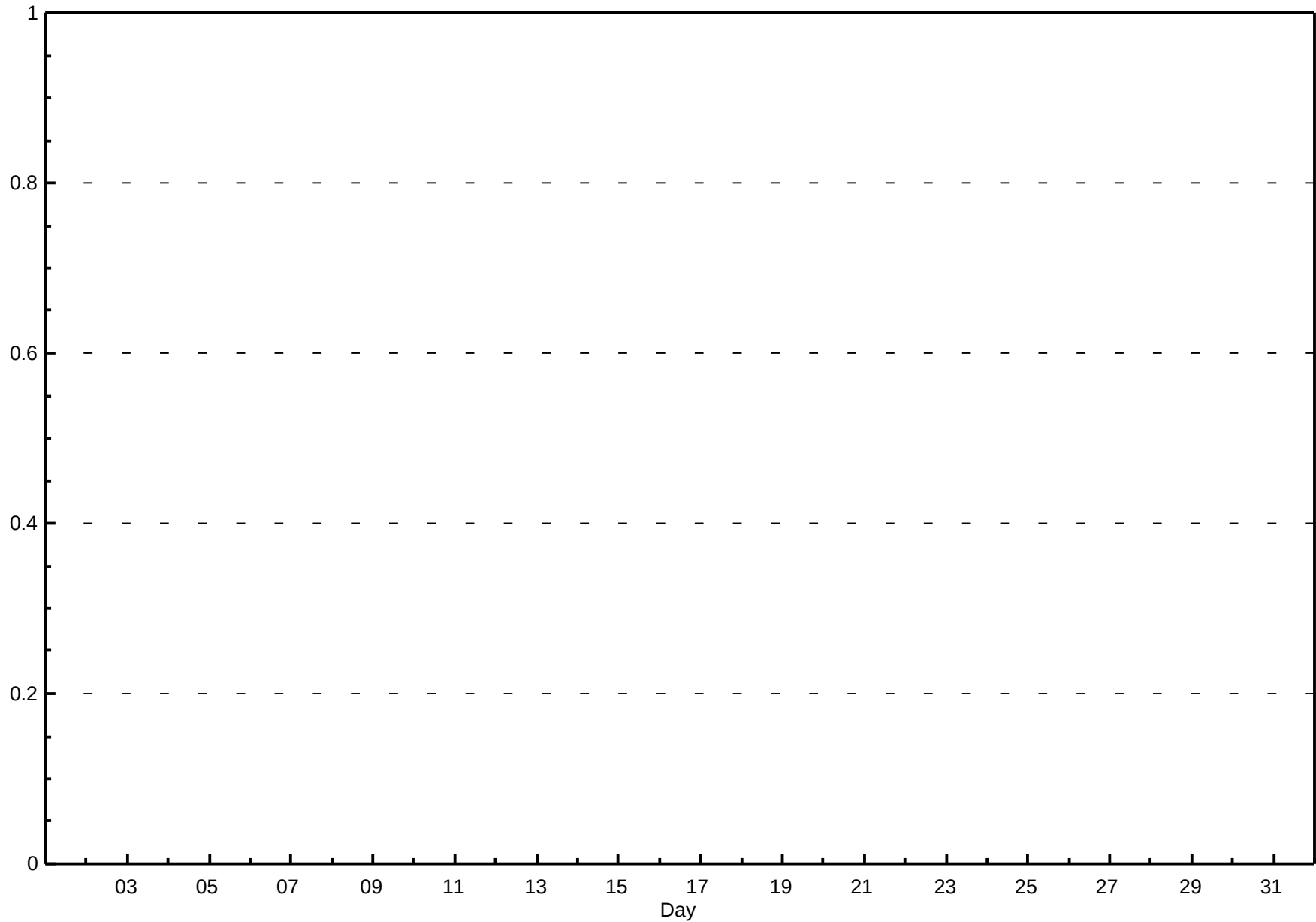


Hourly Averages

Non Methane Hydrocarbon (NMHC) - ppm

Henry Pirker - July 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 0.00 ppm on Jul 17 07:00 Maximum Daily Average: 0.00 ppm on Jul 27																					Hours in Service: 744 Hours of Data: 708 Hours of Missing Data: 36 Hours of Calibration: 36 Percent Operational Time: 100.0					
Minimum Value: 0.0 ppm on Jul 1 08:00 Maximum Diurnal Average: 0.00 ppm at hour 24 Monthly Average: 0.000 ppm										Minimum Daily Average: 0.00 ppm on Jul 12 Minimum Diurnal Average: 0.00 ppm at hour 19 Percentiles: P ₁ = 0.00 P ₁₀ = 0.00 Q ₁ = 0.00 Median = 0.00 Q ₃ = 0.00 P ₉₀ = 0.00 P ₉₉ = 0.00																
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.00	0.00
2-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.00	0.00
3-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	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.00	0.00
4-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	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
5-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	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
6-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	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
7-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	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
8-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	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
9-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	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
10-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
11-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
12-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
13-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
14-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
15-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
16-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
17-Jul	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	C	C	C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
18-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
19-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
20-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
21-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.00	0.00
22-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.00	0.00
23-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.00	0.00
24-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.00	0.00
25-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.00	0.00
26-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	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
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	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
28-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	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
29-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	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
30-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	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
31-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	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
0.00 0.00																								Diurnal Average		
0.00 0.00																								Diurnal Maximum		
C - Calibration A - Automated Daily Zero Span																										

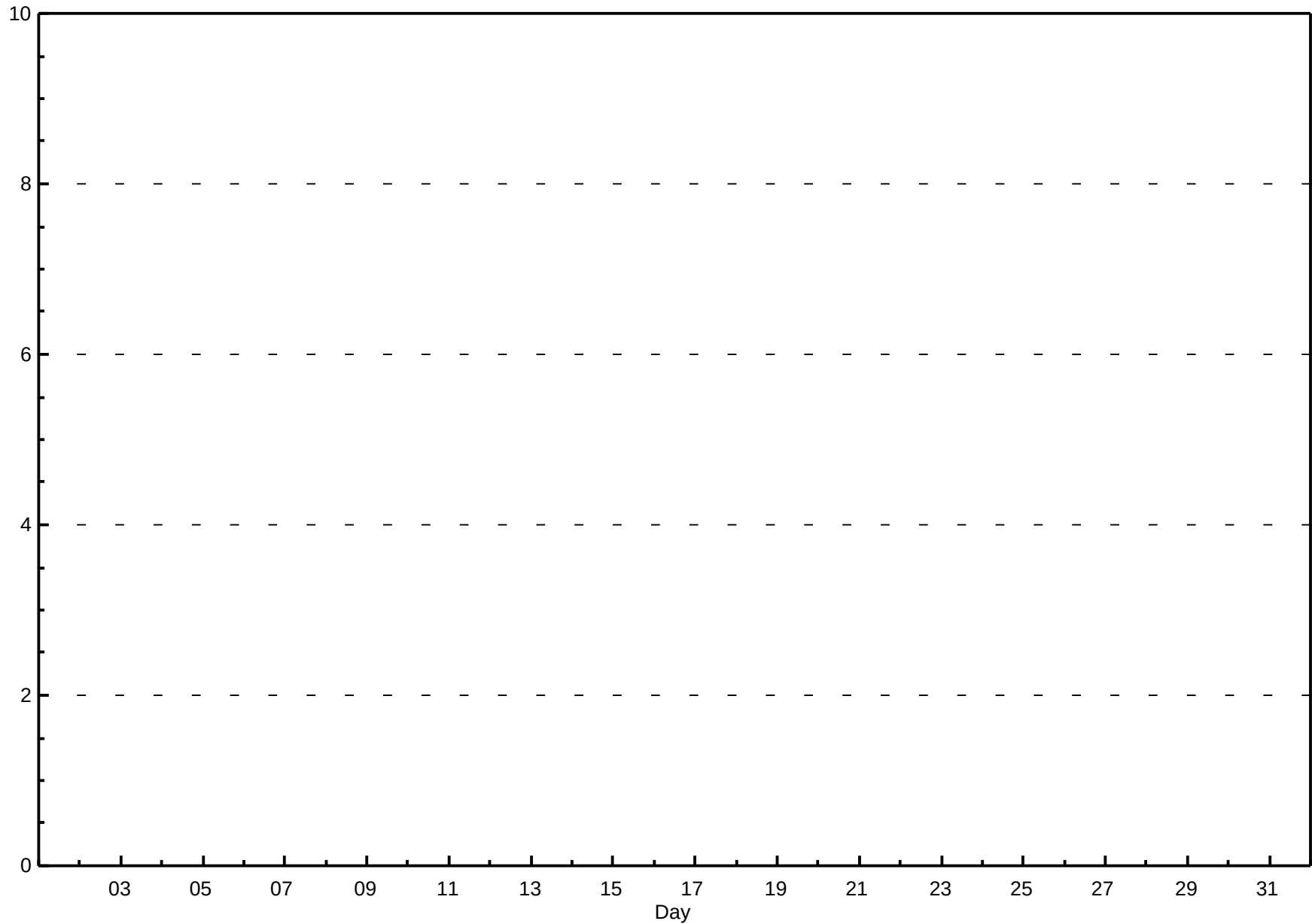


Hourly Maximums

Non Methane Hydrocarbon (NMHC) - ppm

Henry Pirker - July 2013

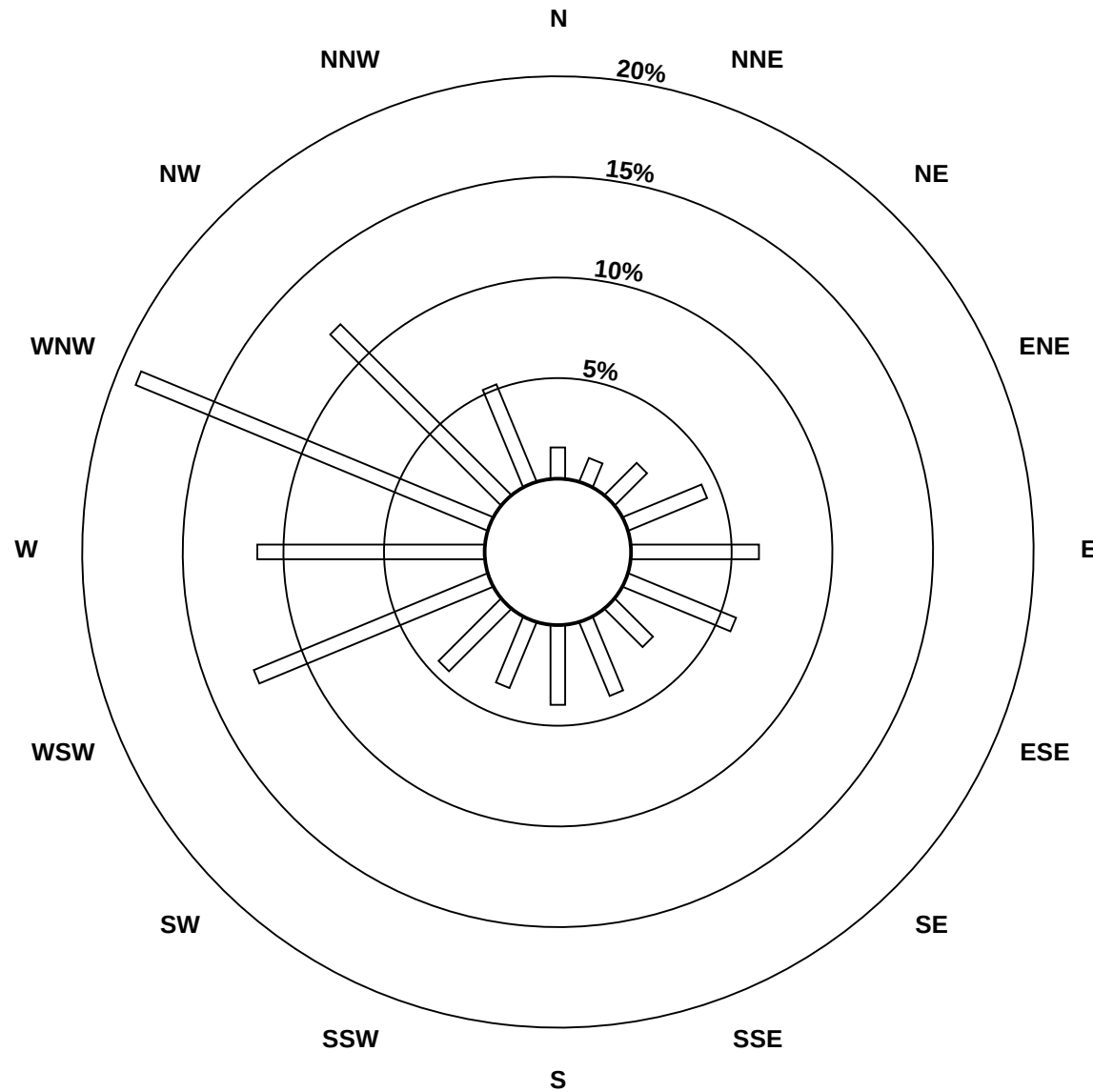
Maximum Value: 0.01 ppm on Jul 27 06:00																				Maximum Daily Average: 0.00 ppm on Jul 3					Hours in Service: 744	
Minimum Value: 0.0 ppm on Jul 9 15:00																				Minimum Daily Average: 0.00 ppm on Jul 29					Hours of Data: 708	
Maximum Diurnal Average: 0.00 ppm at hour 6																				Minimum Diurnal Average: 0.00 ppm at hour 20					Hours of Missing Data: 36	
Monthly Average: 0.001 ppm																				Percentiles: P ₁ = 0.00 P ₁₀ = 0.00 Q ₁ = 0.00 Median = 0.00 Q ₃ = 0.00 P ₉₀ = 0.00 P ₉₉ = 0.00					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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.00	0.00
2-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.00	0.00
3-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	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.00	0.00
4-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	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
5-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	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
6-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	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
7-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	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
8-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	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
9-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
10-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
11-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
12-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
13-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
14-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
15-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
16-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
17-Jul	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	C	C	C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
18-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
19-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
20-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
21-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.00	0.00
22-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.00	0.00
23-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.00	0.00
24-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.00	0.00
25-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	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.00	0.00
26-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	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
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	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.01
28-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	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
29-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	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
30-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	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
31-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	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.01
0.00 0.00																								Diurnal Average		
0.00 0.01 0.00 0.00 0.00 0.01 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00																								Diurnal Maximum		
C - Calibration A - Automated Daily Zero Span																										



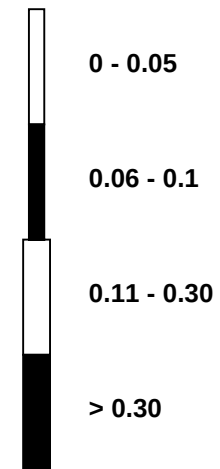
Pollutant Rose

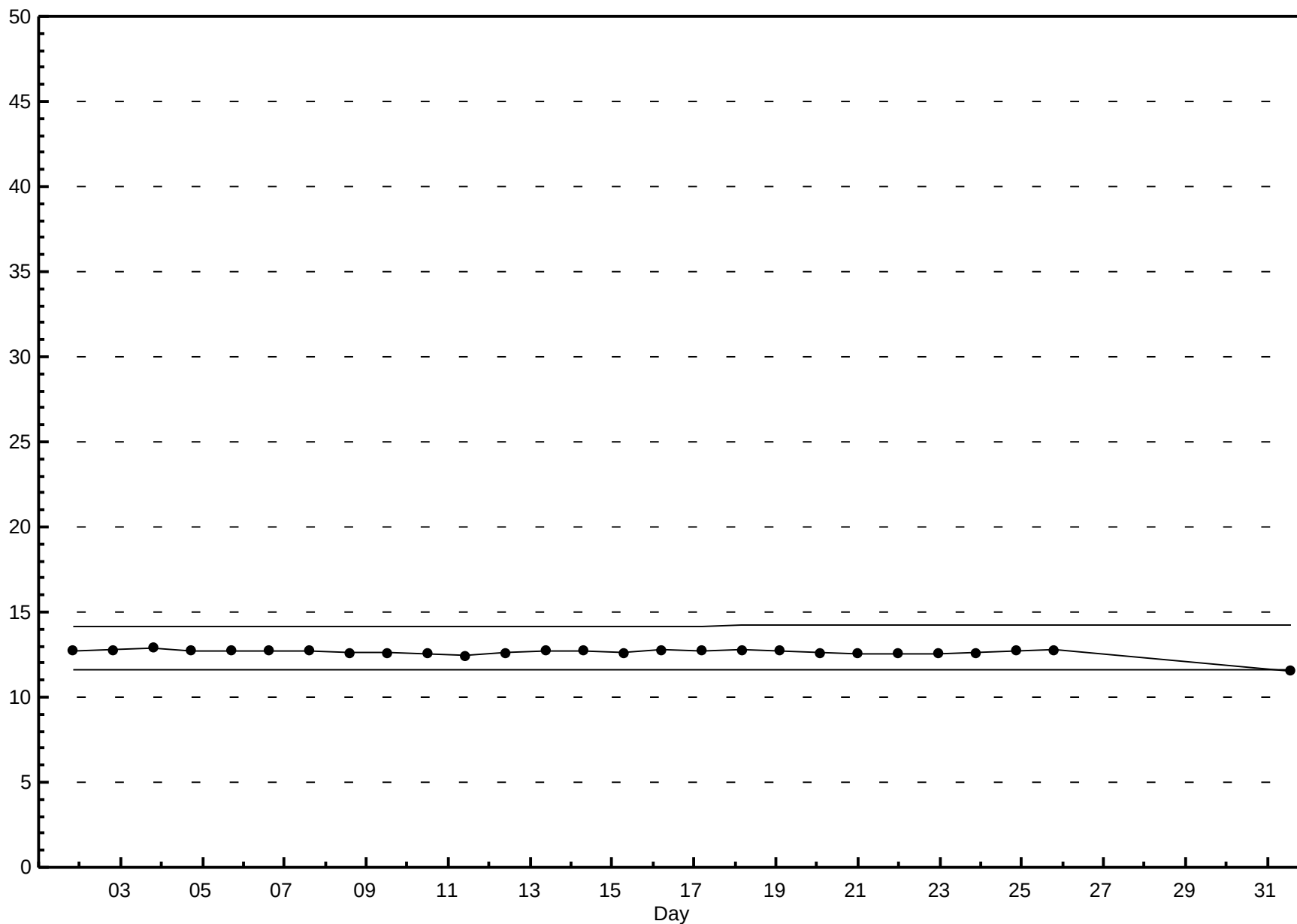
Non Methane Hydrocarbon (NMHC) - ppm

Henry Pirker - July 2013



Pollutant Classes (ppm)



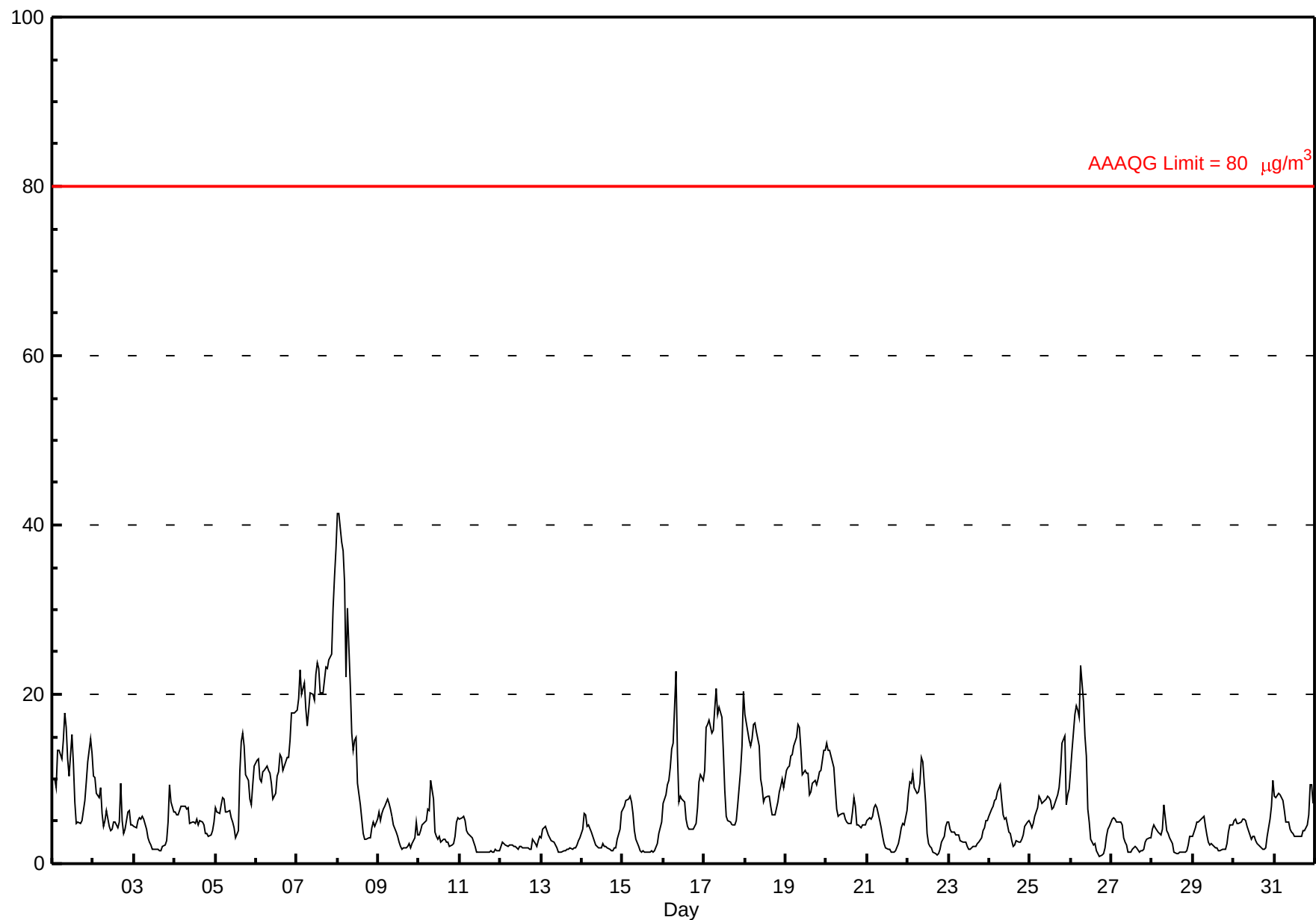


Hourly Averages

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

Henry Pirker - July 2013

Number of Exceedences: 1-hr: 0 24-hr: 0 Maximum Value: 41.4 µg/m³ on Jul 8 01:00 Maximum Daily Average: 22.6 µg/m³ on Jul 7																								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 26 18:00 Maximum Diurnal Average: 9.2 µg/m³ at hour 4 Monthly Average: 6.74 µg/m³												Minimum Daily Average: 2.1 µg/m³ on Jul 12 Minimum Diurnal Average: 4.3 µg/m³ at hour 15 Percentiles: P ₁ = 1.3 P ₁₀ = 1.7 Q ₁ = 2.7 Median = 4.9 Q ₃ = 8.4 P ₉₀ = 14.5 P ₉₉ = 32.7														
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jul	10	10	9	13	13	12	15	18	16	12	10	15	12	7	5	5	5	5	6	7	10	12	15	13	10.7	17.9
2-Jul	10	10	8	8	9	6	4	5	6	4	4	4	5	5	4	5	10	5	4	4	6	6	5	5	5.9	10.3
3-Jul	4	4	5	5	5	6	5	4	3	3	2	2	2	2	2	2	2	2	2	3	5	9	7	6	3.8	9.3
4-Jul	6	6	6	6	7	7	7	6	7	5	5	5	5	5	5	5	5	5	4	3	3	3	4	5	5.1	6.8
5-Jul	7	6	6	7	8	8	6	6	6	5	5	4	3	4	11	14	15	14	11	10	8	7	9	11	8.0	15.5
6-Jul	12	12	10	10	11	11	11	11	11	9	8	8	10	11	13	13	11	12	12	13	15	18	18	18	12.0	18.0
7-Jul	18	19	23	20	21	18	16	18	20	20	19	22	24	23	20	20	22	23	23	24	25	30	34	37	22.6	37.1
8-Jul	41	41	38	37	33	22	30	21	15	13	15	15	9	7	5	4	3	3	3	3	4	5	4	5	15.8	41.4
9-Jul	6	5	6	6	7	8	7	6	6	5	4	3	3	2	2	2	2	2	2	2	3	5	3	3	4.1	7.5
10-Jul	3	4	5	5	5	6	6	10	8	4	3	3	3	3	3	3	3	2	2	2	3	5	5	5	4.1	9.8
11-Jul	5	5	6	5	4	3	3	3	3	2	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2.5	5.5
12-Jul	2	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	2	2	3	3	2.1	3.1
13-Jul	3	4	4	4	3	3	3	3	2	2	1	1	1	1	2	2	2	2	2	2	2	3	3	3	2.4	4.4
14-Jul	4	6	6	4	5	4	3	3	2	2	2	2	2	2	2	2	2	2	2	2	3	4	6	6	3.0	6.1
15-Jul	6	7	7	8	8	7	6	4	3	2	1	1	2	1	1	1	1	1	1	2	2	3	4	5	3.7	8.0
16-Jul	7	8	9	10	11	14	14	23	13	7	8	8	7	5	4	4	4	4	4	5	7	10	11	10	8.6	22.7
17-Jul	11	16	16	17	15	16	18	21	18	18	17	13	9	6	5	5	5	5	5	5	7	11	14	20	12.2	20.6
18-Jul	18	17	15	14	15	16	17	16	14	10	9	7	8	8	7	6	6	6	6	7	8	9	10	9	10.7	17.6
19-Jul	11	11	12	13	13	14	15	16	16	14	11	11	11	11	8	8	9	10	9	10	11	11	13	13	11.7	16.5
20-Jul	14	13	13	13	11	9	6	6	6	6	6	5	5	5	5	6	8	7	5	5	4	5	5	5	7.1	14.3
21-Jul	5	5	5	6	7	7	7	5	4	3	2	2	2	2	1	1	1	2	2	3	4	5	5	6	3.9	7.0
22-Jul	8	10	10	11	9	8	8	10	13	12	7	4	2	2	2	1	1	1	1	2	3	3	4	5	5.7	12.6
23-Jul	5	4	4	4	3	3	3	3	3	3	3	2	2	2	2	2	2	2	2	3	4	4	5	5	3.1	5.0
24-Jul	6	6	7	7	8	8	9	7	6	5	5	4	4	3	2	2	3	3	3	3	3	4	5	5	4.9	9.3
25-Jul	5	4	5	6	7	8	8	7	7	8	8	8	7	7	7	8	8	9	11	14	15	7	8	9	7.9	15.1
26-Jul	11	13	18	19	18	17	23	19	15	13	7	5	3	2	2	2	1	1	1	1	2	3	4	4	8.5	23.4
27-Jul	5	5	5	5	5	5	5	3	3	2	1	1	2	2	2	2	1	1	2	2	2	3	3	3	3.0	5.3
28-Jul	4	5	4	4	4	3	4	7	4	4	3	3	2	1	1	1	1	1	1	1	2	3	3	3	2.9	7.0
29-Jul	3	4	5	5	5	5	6	4	3	3	2	2	2	2	2	1	2	2	2	2	2	4	5	5	3.2	5.6
30-Jul	5	5	5	5	5	5	5	5	4	4	3	3	3	3	2	2	2	2	2	2	3	5	7	10	4.0	9.8
31-Jul	8	8	8	8	8	7	6	5	5	4	4	4	3	3	3	3	3	4	4	5	6	9	9	7	5.6	9.4
8.6 9.0 9.1 9.2 9.2 8.7 9.1 8.9 7.8 6.6 5.8 5.5 5.0 4.5 4.3 4.4 4.6 4.5 4.4 4.8 5.6 6.6 7.5 8.0																								Diurnal Average		
41.4 41.3 37.9 37.0 33.3 22.0 30.1 22.7 20.2 20.0 19.4 22.4 23.7 23.1 20.2 20.2 21.8 23.2 23.0 24.1 24.8 30.2 33.9 37.1																								Diurnal Maximum		
Alberta Ambient Air Quality Guideline (AAAQG): 1-hr 80 µg/m³ Alberta Ambient Air Quality Objective (AAAQO): 24-hr 30 µg/m³																										

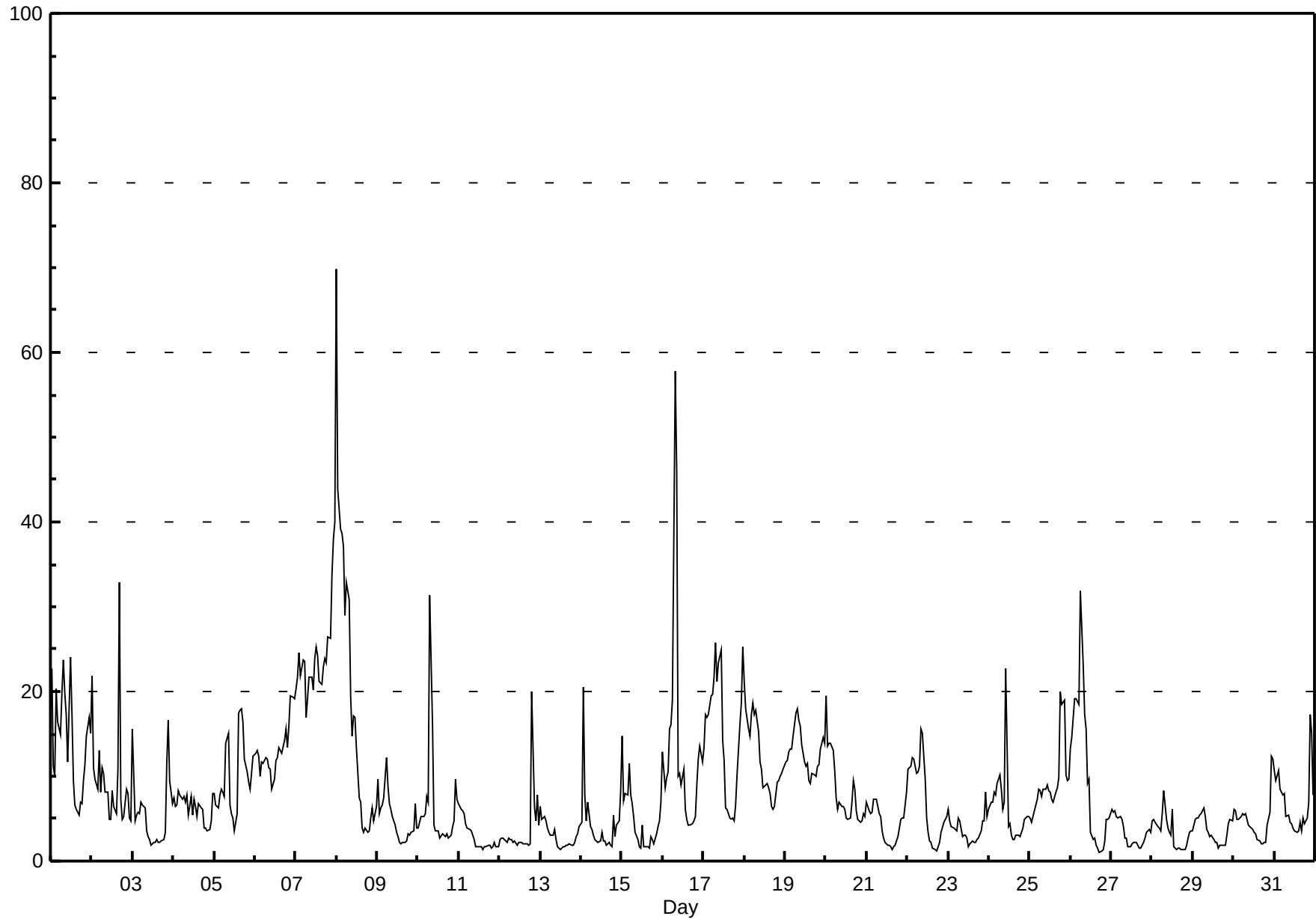


Hourly Maximums

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

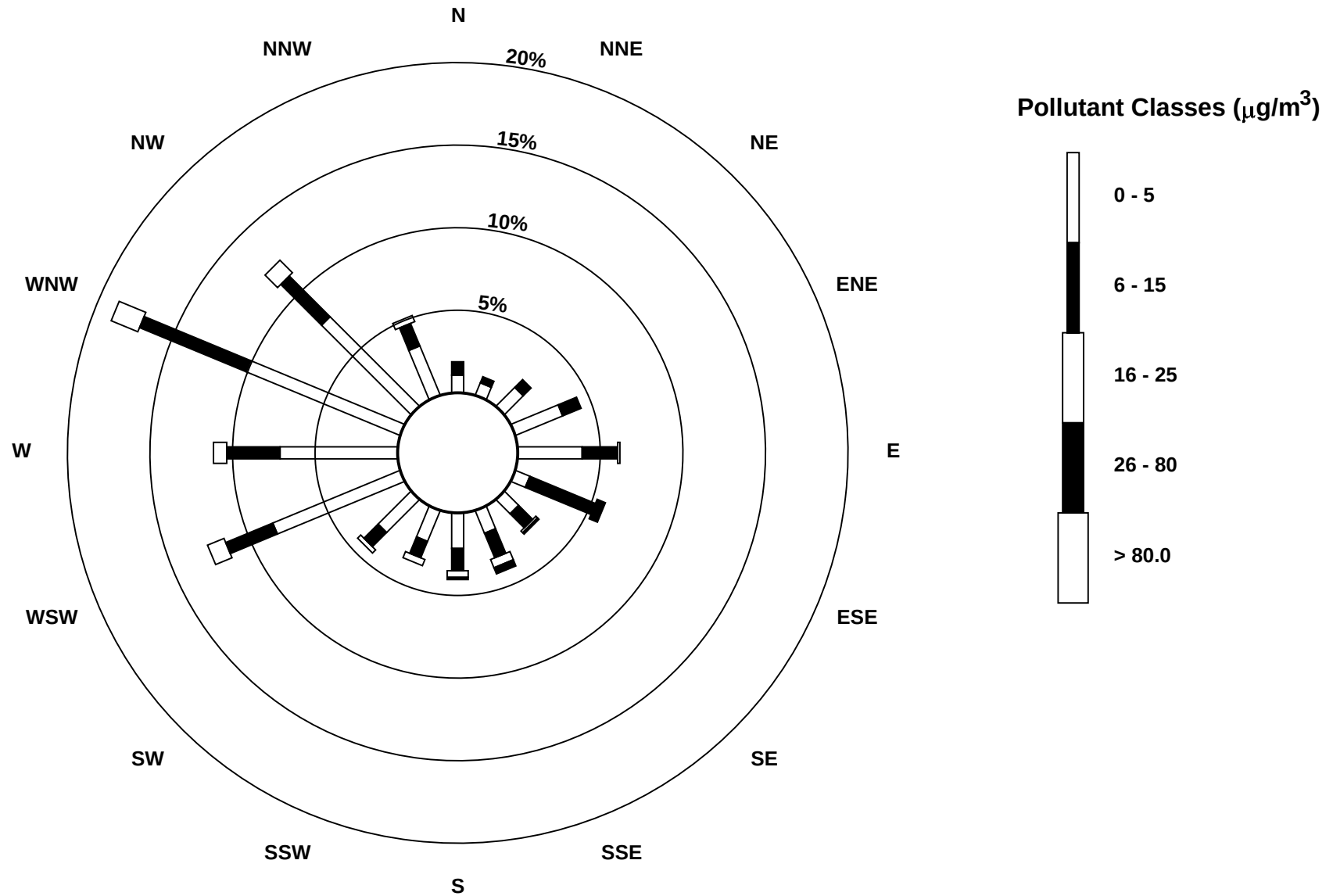
Henry Pirker - July 2013

Maximum Value: 69.8 μg/m ³ on Jul 8 01:00																								Maximum Daily Average: 24.4 μg/m ³ on Jul 7										Hours in Service: 744	
Minimum Value: 1 μg/m ³ on Jul 26 18:00																								Minimum Daily Average: 2.9 μg/m ³ on Jul 11										Hours of Data: 744	
Maximum Diurnal Average: 12.7 μg/m ³ at hour 8																								Minimum Diurnal Average: 5.1 μg/m ³ at hour 15										Hours of Missing Data: 0	
Monthly Average: 8.25 μg/m ³																								Percentiles: P ₁ = 1.4 P ₁₀ = 2.0 Q ₁ = 3.3 Median = 5.8 Q ₃ = 10.8 P ₉₀ = 18.0 P ₉₉ = 38.2										Hours of Calibration: 0	
Percent Operational Time: 100.0																																			
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum									
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24											
1-Jul	23	11	10	20	16	15	20	24	20	17	12	24	17	10	7	6	5	7	7	9	11	15	17	15	14.1	24.1									
2-Jul	22	11	10	8	13	8	11	10	8	8	5	5	8	6	6	11	33	7	5	5	8	8	5	5	9.5	33.0									
3-Jul	16	5	5	6	6	7	7	6	4	3	3	2	2	2	2	2	2	2	3	12	17	9	7	5.5	16.6										
4-Jul	7	7	7	8	8	7	8	7	8	5	8	5	7	7	5	7	6	6	4	4	3	4	5	8	6.3	8.3									
5-Jul	8	7	6	8	8	8	8	14	15	7	6	5	4	6	17	18	18	17	12	11	9	8	10	12	10.1	18.0									
6-Jul	13	13	12	10	12	12	12	12	11	11	8	10	12	12	13	13	13	14	16	13	16	19	19	19	13.2	19.4									
7-Jul	20	22	25	22	24	24	17	19	22	22	20	24	25	24	21	21	23	24	23	26	26	34	38	40	24.4	40.0									
8-Jul	70	44	39	39	37	29	33	31	19	15	17	17	13	7	7	4	3	4	3	4	5	6	5	7	19.1	69.8									
9-Jul	10	6	6	7	7	12	9	7	6	5	4	3	3	2	2	2	2	3	3	3	4	7	4	4	5.0	12.1									
10-Jul	4	5	5	5	6	8	7	31	16	4	4	3	3	3	3	3	3	3	3	3	4	5	10	7	6.2	31.4									
11-Jul	7	6	6	6	4	4	4	4	3	3	2	2	2	2	1	2	2	2	2	2	2	2	2	2	2.9	6.9									
12-Jul	2	3	3	3	2	3	3	3	2	2	2	2	2	2	2	2	2	2	2	20	6	5	8	4	3.6	20.0									
13-Jul	7	5	5	5	4	3	3	3	4	3	2	2	1	2	2	2	2	2	2	2	2	3	3	4	2.9	6.5									
14-Jul	5	21	8	5	7	4	4	3	3	2	2	2	3	2	2	2	2	2	2	5	3	4	5	8	4.4	20.5									
15-Jul	15	7	8	8	12	8	7	5	3	2	2	2	4	2	2	2	2	3	2	2	3	4	5	7	4.8	14.7									
16-Jul	13	9	10	11	16	16	19	58	46	10	10	9	11	6	5	4	4	4	5	5	9	12	14	12	13.2	57.8									
17-Jul	13	17	17	17	19	20	22	26	21	23	25	14	12	6	6	5	5	5	5	7	10	16	19	25	14.9	25.8									
18-Jul	21	18	16	15	17	19	17	18	15	12	11	9	9	9	8	6	6	6	6	9	10	10	10	11	12.1	21.3									
19-Jul	12	12	13	13	13	15	17	18	17	16	14	12	11	12	10	9	10	10	10	11	11	13	15	14	12.8	18.0									
20-Jul	20	14	14	14	13	11	7	6	7	6	6	6	5	5	5	7	9	8	6	5	5	5	6	5	8.1	19.5									
21-Jul	7	6	6	6	7	7	7	6	5	4	3	2	2	2	2	1	2	2	3	4	5	5	5	8	4.4	8.1									
22-Jul	11	11	11	12	12	10	11	11	16	15	10	5	3	2	2	2	1	1	2	2	3	5	5	5	7.0	15.5									
23-Jul	6	5	4	4	4	4	5	5	3	3	3	3	2	2	2	2	2	3	3	4	5	5	8	5	3.8	8.1									
24-Jul	6	7	7	8	8	9	10	8	6	7	23	4	4	3	3	3	3	3	3	3	4	5	5	5	6.1	22.7									
25-Jul	5	5	5	6	7	8	8	8	8	8	9	8	8	7	7	8	9	10	20	18	19	10	10	10	9.3	20.0									
26-Jul	13	15	19	19	19	18	32	23	17	16	9	10	3	2	3	2	2	1	1	1	2	5	5	5	10.1	31.8									
27-Jul	6	6	6	5	5	5	5	4	3	3	2	2	2	2	2	2	2	2	2	2	3	3	4	3	3.4	6.1									
28-Jul	5	5	5	4	4	4	6	8	5	4	3	3	6	2	1	2	2	1	1	1	2	3	3	3	3.5	8.3									
29-Jul	3	5	5	5	5	6	6	5	4	3	3	3	3	2	2	2	2	2	2	2	3	4	5	5	3.6	6.3									
30-Jul	6	6	5	5	5	6	5	6	5	4	4	4	3	3	3	2	2	2	2	2	4	6	12	12	4.8	12.3									
31-Jul	11	10	11	8	8	8	8	5	5	5	4	4	4	3	4	5	4	5	4	5	7	17	15	8	7.0	17.4									
12.4 10.3 9.9 10.0 10.6 10.2 10.9 12.7 10.5 8.0 7.5 6.6 6.3 5.1 5.1 5.1 5.9 5.3 5.3 6.3 7.0 8.4 9.3 9.2																									Diurnal Average										
69.8 43.9 39.2 38.7 37.1 29.0 33.0 57.8 46.0 23.4 24.9 24.1 25.3 24.2 21.2 20.9 33.0 23.9 23.4 26.4 26.3 33.7 37.9 40.0																									Diurnal Maximum										



Pollutant Rose

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Henry Pirker - July 2013



Hourly Averages

External Temperature (ET) - °C

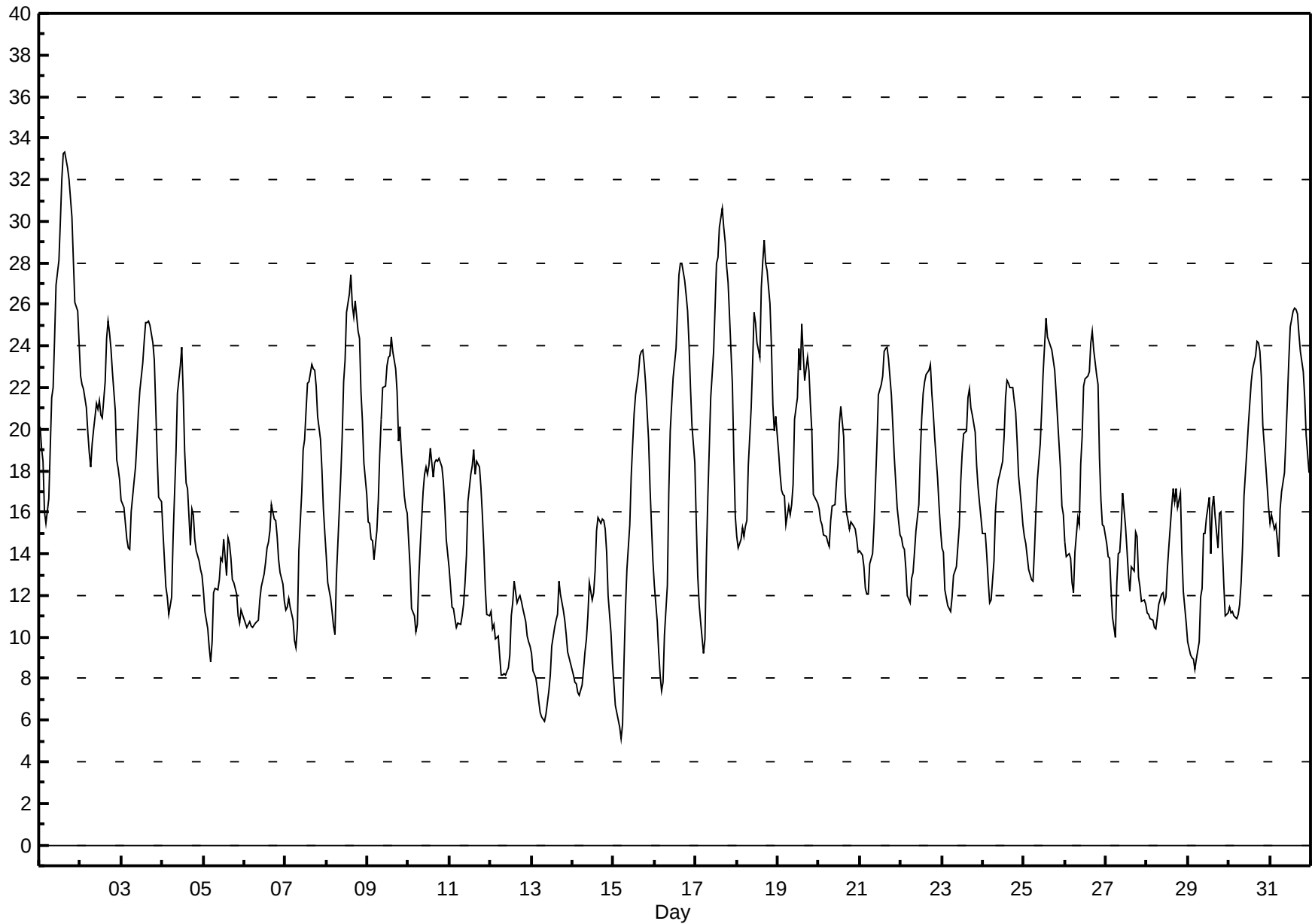
Henry Pirker - July 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																					Hours in Service: 744					
Maximum Value: 33.3 °C on Jul 1 16:00																					Maximum Daily Average: 25.3 °C on Jul 1		Hours of Data: 744			
Minimum Value: 5 °C on Jul 15 05:00																					Minimum Daily Average: 8.9 °C on Jul 13		Hours of Missing Data: 0			
Maximum Diurnal Average: 21.4 °C at hour 16																					Minimum Diurnal Average: 11.5 °C at hour 6		Hours of Calibration: 0			
Monthly Average: 16.70 °C																					Percentiles: P ₁ = 6.4 P ₁₀ = 10.5 Q ₁ = 12.4 Median = 15.9 Q ₃ = 21.0 P ₉₀ = 24.0 P ₉₉ = 30.2		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	20	19	18	16	15	17	19	22	22	24	27	28	30	32	33	33	33	32	31	30	28	26	26	24	25.3	33.3
2-Jul	23	22	22	21	20	19	18	19	20	21	21	21	21	21	22	24	25	25	24	23	21	19	18	18	21.1	25.2
3-Jul	17	16	15	15	14	14	16	18	18	19	21	22	23	24	25	25	25	25	24	23	21	19	17	17	19.7	25.2
4-Jul	15	14	12	12	11	12	15	17	19	22	23	24	22	19	17	17	14	16	16	15	14	14	13	13	16.1	24.0
5-Jul	12	11	10	9	9	10	12	12	12	13	14	14	15	13	15	15	14	13	13	12	11	11	11	11	12.1	14.8
6-Jul	11	11	11	11	11	10	11	11	11	12	12	13	14	14	15	15	16	16	16	15	14	13	13	12	12.7	16.4
7-Jul	11	11	12	11	11	10	9	10	14	17	19	20	21	22	22	23	23	23	22	21	19	18	16	15	16.7	23.1
8-Jul	14	13	12	11	11	10	13	16	18	20	22	23	26	26	27	26	25	26	25	24	22	20	18	17	19.4	27.4
9-Jul	16	15	15	15	14	15	17	19	20	22	22	23	23	24	24	24	23	22	19	20	19	17	16	16	19.1	24.4
10-Jul	15	13	11	11	10	11	13	14	17	18	18	18	18	19	18	18	19	18	19	18	18	16	15	14	15.8	19.1
11-Jul	13	11	11	11	10	11	11	11	12	13	14	17	18	18	19	18	18	18	17	16	14	12	11	11	14.0	19.0
12-Jul	11	10	11	10	10	9	8	8	8	8	9	9	11	12	13	12	12	12	12	11	11	10	10	10	10.2	12.7
13-Jul	9	8	8	8	7	6	6	6	6	7	7	8	10	10	11	11	13	12	11	11	10	9	9	9	8.9	12.7
14-Jul	8	8	8	7	7	8	8	9	10	11	13	12	12	13	15	16	15	16	16	15	14	12	10	9	11.3	15.8
15-Jul	8	7	6	6	5	6	9	11	13	15	18	19	21	22	23	24	24	24	23	22	19	17	15	14	15.4	23.8
16-Jul	12	11	9	8	7	8	10	12	17	20	21	23	24	26	27	28	28	27	26	26	24	22	20	18	19.0	28.0
17-Jul	16	13	12	11	9	10	14	17	19	21	24	26	28	28	30	31	30	29	28	27	25	22	19	16	21.0	30.6
18-Jul	15	14	15	15	15	15	16	18	21	23	26	25	24	23	27	28	29	28	28	26	24	21	20	21	21.5	29.1
19-Jul	19	18	17	17	17	15	16	16	16	17	20	22	24	23	25	24	22	23	23	21	20	17	17	16	19.4	25.1
20-Jul	16	16	15	15	15	15	14	16	16	16	17	18	20	21	20	17	16	16	15	16	15	15	15	14	16.2	21.1
21-Jul	14	14	13	12	12	12	14	14	15	17	19	22	22	23	24	24	24	23	22	20	19	17	16	15	17.8	24.0
22-Jul	15	14	14	13	12	12	13	13	14	15	16	19	21	22	22	23	23	23	22	21	20	18	16	15	17.3	23.1
23-Jul	14	14	12	12	11	11	12	13	13	14	15	18	19	20	20	22	22	21	21	20	18	17	16	16	16.3	21.9
24-Jul	15	15	14	13	12	12	14	16	17	18	18	18	20	22	22	22	22	22	21	21	19	18	16	15	17.6	22.4
25-Jul	15	15	14	13	13	13	14	16	18	19	21	23	24	25	24	24	24	23	23	22	19	18	16	16	18.8	25.4
26-Jul	15	14	14	14	13	12	14	16	15	18	20	22	22	23	23	24	25	24	23	22	19	17	15	15	18.2	24.7
27-Jul	15	14	14	12	11	10	13	14	14	15	17	15	14	13	12	13	13	15	15	13	12	12	12	12	13.3	17.0
28-Jul	11	11	11	11	10	10	11	12	12	12	12	12	13	14	16	17	17	17	16	17	14	12	11	11	13.0	17.2
29-Jul	10	9	9	9	8	9	10	12	12	15	15	16	17	14	16	17	16	14	16	16	14	13	11	11	12.9	16.8
30-Jul	11	11	11	11	11	11	12	13	14	17	19	20	21	22	23	24	24	24	24	23	20	18	17	16	17.4	24.2
31-Jul	15	16	15	15	15	14	16	17	18	20	21	23	25	26	26	26	26	25	24	23	22	20	19	18	20.1	25.8
13.9 13.2 12.7 12.1 11.5 11.5 12.8 14.1 15.3 16.8 18.1 19.1 20.1 20.4 21.2 21.4 21.3 21.0 20.4 19.6 18.1 16.4 15.3 14.6																									Diurnal Average	
22.5 22.1 21.9 21.0 19.8 18.9 19.1 21.5 22.0 24.4 26.9 28.1 30.0 32.0 33.3 33.3 32.6 32.0 31.1 30.2 28.1 26.1 25.7 24.1																									Diurnal Maximum	

Hourly Averages

External Temperature (ET) - °C

Henry Pirker - July 2013



Hourly Averages

Relative Humidity (RH) - %

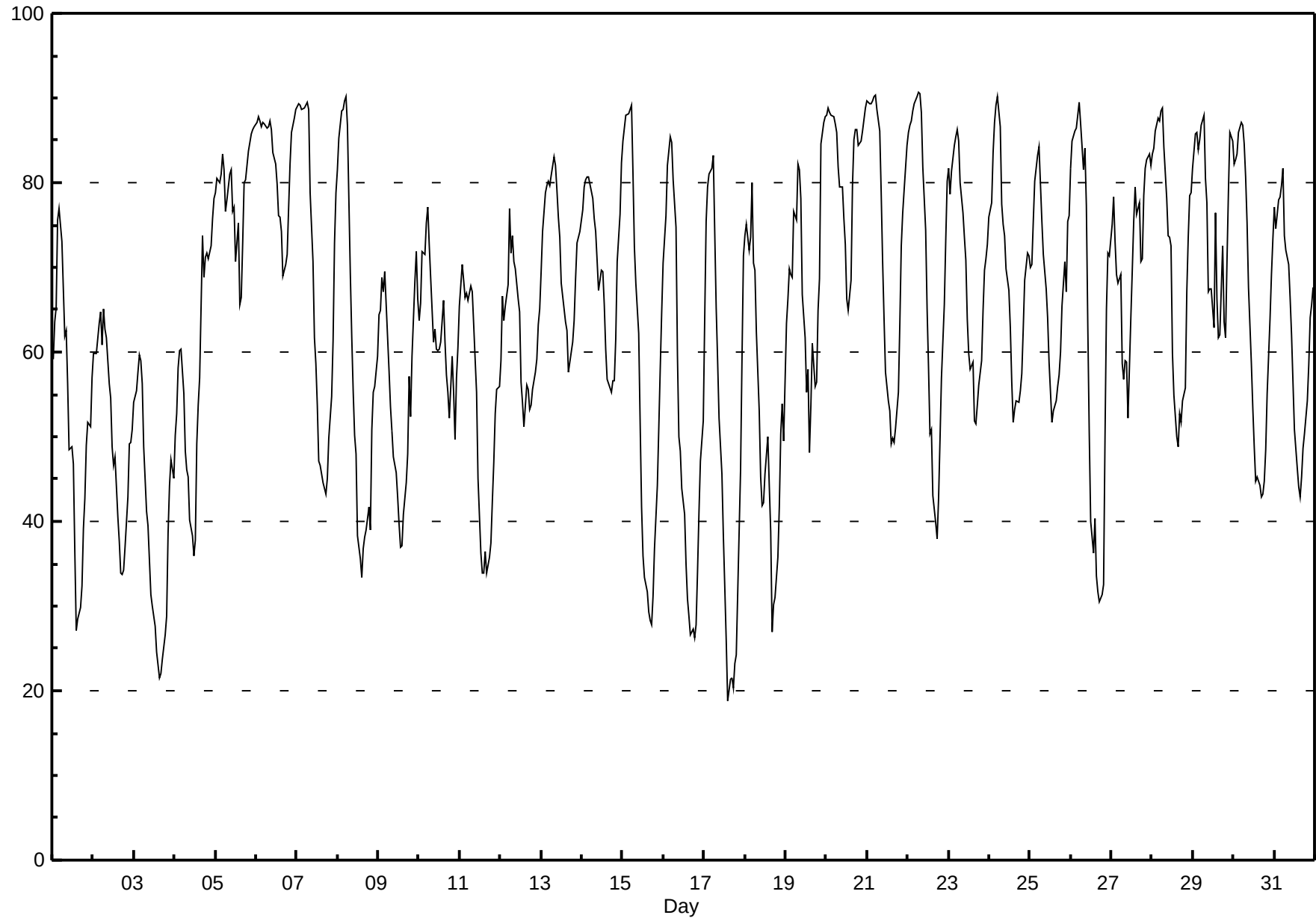
Henry Pirker - July 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 90.7 % on Jul 22 07:00 Maximum Daily Average: 82.2 % 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: 19 % on Jul 17 15:00 Maximum Diurnal Average: 79.9 % at hour 5 Monthly Average: 63.88 %										Minimum Daily Average: 39.2 % on Jul 3 Minimum Diurnal Average: 48.1 % at hour 16 Percentiles: P ₁ = 23.2 P ₁₀ = 38.3 Q ₁ = 51.7 Median = 65.4 Q ₃ = 78.8 P ₉₀ = 86.2 P ₉₉ = 90.1																
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	59	64	65	76	77	73	67	62	63	56	48	49	47	36	27	29	30	32	39	43	49	52	51	57	52.1	77.0
2-Jul	60	60	60	63	65	61	65	63	62	56	55	49	47	48	40	38	34	34	34	37	43	49	49	51	50.9	65.1
3-Jul	54	55	58	60	59	56	49	41	40	35	31	30	28	25	23	22	22	24	27	29	39	44	47	45	39.2	59.7
4-Jul	50	53	58	60	60	55	48	46	45	40	38	36	38	49	54	57	74	69	71	72	71	73	76	78	57.1	78.2
5-Jul	79	80	80	81	83	82	77	78	81	82	77	77	71	75	66	66	73	80	80	84	85	86	86	87	78.9	86.7
6-Jul	87	88	87	87	87	87	86	87	87	86	84	82	80	76	76	74	69	70	72	77	82	86	88	89	82.2	88.6
7-Jul	89	89	89	89	89	89	89	89	79	71	62	59	54	47	47	45	44	43	45	50	55	61	73	79	67.7	89.4
8-Jul	82	85	88	89	90	90	87	69	62	55	50	48	38	36	33	37	38	39	42	39	51	55	56	60	59.1	90.1
9-Jul	64	65	69	67	70	62	58	54	51	48	46	43	40	37	37	41	45	48	57	52	60	68	72	66	54.9	71.9
10-Jul	64	66	72	72	75	77	73	69	61	63	60	60	60	61	66	61	57	55	52	60	55	50	57	60	62.8	77.1
11-Jul	65	70	68	66	67	66	68	67	63	59	55	45	36	34	34	36	34	36	37	42	47	53	56	56	52.6	70.3
12-Jul	59	67	64	65	68	77	72	74	71	70	66	65	56	54	51	56	56	53	54	56	58	59	63	65	62.4	77.0
13-Jul	70	74	79	80	80	80	81	83	82	79	76	74	68	65	64	63	58	59	61	64	69	73	74	74	72.0	83.0
14-Jul	77	79	80	81	81	79	78	76	74	71	67	70	69	66	60	57	56	55	57	57	61	71	76	82	70.0	82.4
15-Jul	85	86	88	88	89	89	81	72	68	62	52	42	36	33	32	29	28	28	31	37	44	51	58	65	57.3	89.1
16-Jul	71	76	82	84	85	85	80	75	60	50	48	44	41	35	31	29	27	27	26	28	34	41	47	52	52.4	85.4
17-Jul	64	75	80	81	82	83	74	65	59	52	46	38	32	26	19	21	22	20	23	24	32	46	59	71	49.8	83.2
18-Jul	74	75	72	74	80	71	70	62	53	45	42	42	46	50	44	39	27	30	31	36	42	50	54	50	52.4	80.0
19-Jul	63	66	70	69	69	77	76	82	82	78	67	62	55	58	48	54	61	56	56	65	69	85	87	88	68.4	87.7
20-Jul	88	89	88	88	88	87	86	82	79	79	76	73	66	65	69	80	85	86	86	84	85	86	88	89	82.1	88.9
21-Jul	90	89	89	90	90	90	89	86	79	71	64	58	54	53	49	50	49	51	55	63	73	77	79	84	71.8	90.4
22-Jul	86	87	87	88	89	90	91	90	88	82	74	65	58	50	51	43	40	38	43	50	57	66	73	80	69.5	90.7
23-Jul	82	79	81	84	85	86	85	80	76	74	71	64	60	58	59	52	51	54	56	59	65	70	71	73	69.8	86.3
24-Jul	76	78	84	87	89	90	87	77	75	74	70	67	63	56	52	53	54	54	55	58	63	68	72	71	69.7	90.1
25-Jul	70	70	75	80	83	84	80	75	72	68	64	59	55	52	53	54	56	57	60	65	71	67	75	76	67.6	84.3
26-Jul	82	85	86	87	88	90	87	81	84	77	63	50	40	36	40	34	32	31	31	33	50	65	72	71	62.3	89.5
27-Jul	75	78	73	69	68	69	59	57	59	59	52	64	70	75	79	76	78	71	71	78	82	83	83	82	71.3	83.5
28-Jul	83	84	86	88	87	88	89	84	78	74	74	73	60	55	50	49	53	52	54	56	67	74	78	79	71.4	88.9
29-Jul	82	86	86	84	85	87	88	80	78	67	67	67	63	76	66	62	62	73	64	62	71	79	86	85	75.2	88.0
30-Jul	82	83	83	86	87	87	85	81	75	68	59	53	49	45	45	44	43	43	45	49	55	64	69	73	64.7	87.2
31-Jul	77	75	78	78	80	82	74	72	70	66	62	57	51	46	44	43	45	49	50	54	58	64	66	68	62.9	81.7
73.8 76.0 77.7 78.7 79.9 79.6 76.7 72.9 69.5 65.1 60.2 56.9 52.6 51.0 48.7 48.1 48.4 48.9 50.6 53.5 59.3 65.0 69.1 71.2																									Diurnal Average	
89.6 89.3 89.3 89.7 90.2 90.4 90.7 90.5 88.3 86.2 83.6 82.2 79.8 76.4 79.5 79.6 85.1 86.2 86.2 84.5 85.0 86.0 87.6 88.8																									Diurnal Maximum	

Hourly Averages

Relative Humidity (RH) - %

Henry Pirker - July 2013



Hourly Averages

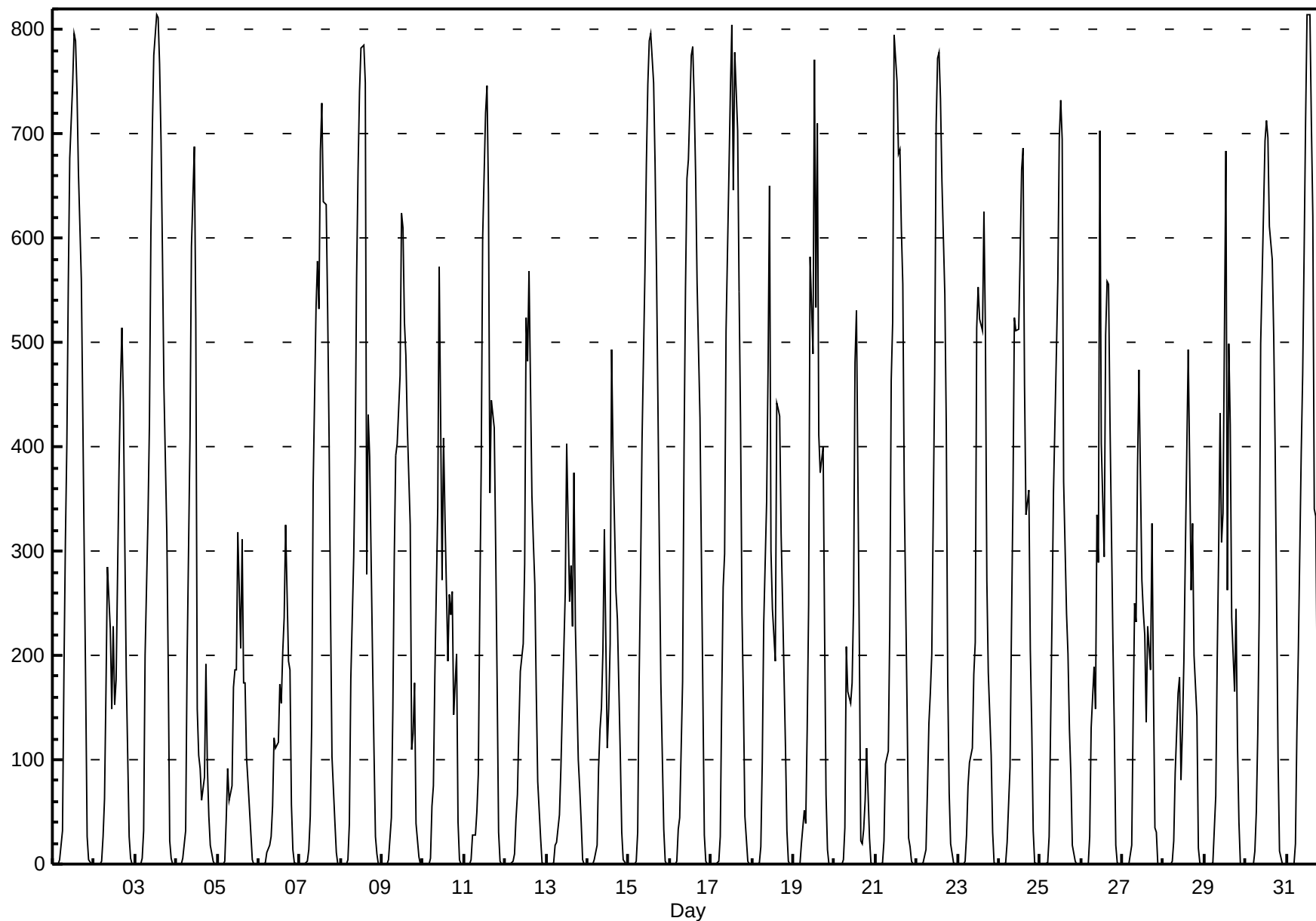
Solar Radiation (SR) - W/m²

Henry Pirker - July 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 814.8 W/m ² on Jul 31 13:00 Maximum Daily Average: 322.1 W/m ² on Jul 3																								Hours in Service: 744 Hours of Data: 744		
Minimum Value: 0 W/m ² on Jul 1 01:00 Minimum Daily Average: 83.6 W/m ² on Jul 6 Maximum Diurnal Average: 548.3 W/m ² at hour 13 Minimum Diurnal Average: 0.0 W/m ² at hour 1 Monthly Average: 204.87 W/m ² Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 108.2 Q ₃ = 355.1 P ₉₀ = 603.9 P ₉₉ = 795.7																								Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0		
Day	Hourly Period Ending At (MST)																							Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jul	0	0	0	0	5	32	185	309	402	556	678	748	797	790	741	663	560	433	296	169	27	4	0	0	308.1	797.0
2-Jul	0	0	0	0	2	27	62	167	285	225	149	228	153	176	379	459	514	442	306	182	27	5	0	0	157.9	514.2
3-Jul	0	0	0	0	5	32	200	332	422	604	704	776	814	812	767	693	584	457	316	185	22	6	0	0	322.1	813.8
4-Jul	0	0	0	0	5	32	195	301	409	592	688	522	148	104	91	61	83	192	94	46	17	2	0	0	149.3	688.0
5-Jul	0	0	0	0	3	43	91	62	75	169	186	186	319	208	311	174	174	102	79	29	5	1	0	0	92.4	318.7
6-Jul	0	0	0	0	2	11	19	26	55	121	111	116	172	155	204	236	325	195	187	57	14	2	0	0	83.6	325.0
7-Jul	0	0	0	0	3	13	46	133	363	534	578	532	684	729	635	633	532	409	244	103	40	11	0	0	259.3	729.3
8-Jul	0	0	0	0	4	38	178	295	392	563	666	741	783	785	749	278	431	390	197	109	27	10	0	0	276.5	784.8
9-Jul	0	0	0	0	4	44	148	294	392	403	468	624	610	520	488	420	325	110	125	174	38	7	0	0	216.4	624.5
10-Jul	0	0	0	0	6	56	75	181	341	573	427	273	409	332	194	258	238	261	143	201	40	5	0	0	167.2	572.9
11-Jul	0	0	0	0	4	27	28	49	86	244	383	600	719	747	642	356	444	418	302	171	30	3	0	0	218.9	746.6
12-Jul	0	0	0	0	2	10	44	66	131	184	212	287	524	482	569	354	308	268	166	79	25	2	0	0	154.7	568.7
13-Jul	0	0	0	0	1	18	20	47	92	150	204	260	403	251	286	228	376	228	101	73	41	4	0	0	116.0	403.3
14-Jul	0	0	0	0	3	19	92	129	150	204	322	112	149	211	494	392	262	235	170	105	30	4	0	0	128.4	493.6
15-Jul	0	0	0	0	3	31	176	279	406	567	672	748	790	796	748	672	568	438	299	174	33	2	0	0	308.4	796.4
16-Jul	0	0	0	0	3	33	45	176	397	552	657	676	776	784	734	660	557	428	293	162	28	3	0	0	290.1	783.8
17-Jul	0	0	0	0	2	26	158	265	297	511	665	742	804	647	779	704	549	422	241	154	45	3	0	0	292.3	804.4
18-Jul	0	0	0	0	1	17	98	231	347	476	650	301	244	194	442	437	430	317	251	113	33	2	0	0	191.0	650.3
19-Jul	0	0	0	0	0	19	52	39	130	249	582	490	771	533	710	412	376	400	226	66	14	0	0	0	211.2	770.9
20-Jul	0	0	0	0	0	4	34	208	166	154	173	249	481	531	210	23	20	34	61	111	24	1	0	0	103.5	530.9
21-Jul	0	0	0	0	1	22	95	108	226	464	520	795	751	681	686	609	556	358	144	24	16	3	0	0	252.5	795.4
22-Jul	0	0	0	0	1	14	71	135	163	202	469	709	773	778	733	654	547	419	175	68	20	1	0	0	247.2	778.4
23-Jul	0	0	0	0	2	28	76	97	111	182	212	515	554	522	511	625	511	273	184	104	30	1	0	0	189.1	624.8
24-Jul	0	0	0	0	1	21	92	227	349	524	511	513	585	666	686	460	335	358	205	131	33	2	0	0	237.4	686.2
25-Jul	0	0	0	0	1	26	131	239	357	490	560	697	733	695	367	240	201	129	87	19	3	0	0	0	207.3	732.9
26-Jul	0	0	0	0	1	27	130	189	149	335	290	704	403	295	507	558	555	424	214	127	18	1	0	0	205.3	703.6
27-Jul	0	0	0	0	0	18	143	250	232	379	473	272	242	220	136	228	186	327	166	35	31	0	0	0	139.1	473.4
28-Jul	0	0	0	0	0	3	22	87	164	179	80	129	195	297	493	383	263	327	200	142	15	1	0	0	124.1	493.4
29-Jul	0	0	0	0	0	2	66	196	300	433	309	337	684	263	500	420	236	166	245	113	40	0	0	0	179.6	684.3
30-Jul	0	0	0	0	0	13	50	125	242	499	627	694	714	697	612	580	507	397	252	101	12	0	0	0	255.1	713.6
31-Jul	0	0	0	0	1	20	126	205	395	469	587	712	815	815	710	621	340	333	176	79	16	0	0	0	267.5	814.8
																									Diurnal Average	
																									Diurnal Maximum	

Hourly Averages

Solar Radiation (SR) - W/m²
Henry Pirker - July 2013



Hourly Averages

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

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1 Spd	5	4	3	3	3	4	2	2	5	4	4	7	7	7	6	10	13	15	15	12	11	9	6	12	4.8	14.9
Dir	89	76	49	291	57	141	167	162	176	166	138	124	112	115	116	91	84	86	92	96	96	106	233	267	106.5	86.2
2 Spd	6	6	7	10	21	19	8	4	10	10	9	13	11	9	17	15	23	22	21	23	19	14	15	15	11.6	23.2
Dir	284	177	172	310	312	317	310	232	193	233	236	264	293	287	266	245	275	282	275	268	260	245	257	252	268.8	267.8
3 Spd	12	13	15	16	17	13	16	26	23	22	22	19	18	17	20	22	20	17	16	16	8	7	7	10	15.8	25.5
Dir	237	240	248	254	256	252	260	266	266	267	279	271	278	275	284	284	289	287	278	271	305	295	284	258	270.2	266.2
4 Spd	6	7	5	3	4	7	9	9	6	8	9	5	7	11	9	15	17	11	12	12	9	7	2	7	5.2	17.0
Dir	238	247	292	257	246	231	266	261	246	285	307	281	292	266	338	207	168	182	181	168	168	171	197	286	232.4	168.1
5 Spd	9	7	6	4	5	6	10	10	12	13	16	17	17	12	15	16	17	13	13	13	11	9	10	11	10.6	17.4
Dir	302	285	284	247	238	245	290	305	312	299	293	301	310	342	325	320	311	289	283	282	297	281	273	293	298.0	309.7
6 Spd	14	12	10	9	8	10	11	10	10	9	9	8	10	9	9	9	10	9	8	10	3	5	5	5	8.3	14.2
Dir	298	301	289	284	306	316	319	316	312	292	281	260	299	306	336	312	308	295	261	255	311	301	303	304	298.5	297.6
7 Spd	4	4	5	7	5	3	5	5	6	8	6	6	9	8	9	8	7	6	5	3	3	4	4	4	4.2	9.1
Dir	307	299	267	262	290	216	239	233	245	249	264	284	279	288	294	315	316	324	302	301	123	105	156	156	277.2	287.7
8 Spd	4	2	4	2	2	1	3	4	4	5	5	7	3	5	7	7	10	8	6	3	7	6	6	6	2.8	9.9
Dir	116	137	123	166	167	196	188	240	233	188	217	170	222	220	248	272	299	309	320	189	288	206	169	188	225.3	298.9
9 Spd	5	9	7	7	5	6	9	10	15	14	17	15	13	15	13	15	12	9	13	10	11	6	8	9	9.5	16.6
Dir	206	225	229	264	265	255	261	249	248	263	262	254	241	242	287	289	313	274	248	235	207	180	209	242	251.7	261.9
10 Spd	8	5	1	6	1	3	4	5	7	13	12	10	7	9	6	7	11	10	10	9	5	5	4	1	3.9	12.9
Dir	247	261	130	348	312	176	168	175	125	146	135	165	178	288	315	216	206	196	210	167	265	258	235	227	198.3	145.5
11 Spd	5	6	9	7	7	7	7	8	9	8	14	17	24	23	18	17	21	25	29	24	20	18	14	17	14.2	28.7
Dir	252	311	281	305	295	290	242	237	252	251	245	260	254	261	243	256	246	254	265	257	250	256	238	244	256.5	264.8
12 Spd	23	17	20	14	16	19	20	18	20	21	18	18	17	16	15	15	13	11	8	6	6	4	2	6	13.0	23.0
Dir	255	251	257	282	284	297	316	304	304	302	309	302	294	299	297	315	306	306	305	302	325	330	32	92	295.1	255.2
13 Spd	5	6	8	9	11	10	10	10	8	8	7	6	3	1	3	2	6	8	6	6	7	6	6	6	2.2	10.7
Dir	65	38	13	37	29	42	33	34	36	42	53	346	284	83	178	301	238	221	242	196	176	164	145	146	46.5	28.8
14 Spd	5	3	5	6	7	5	4	5	4	5	4	4	5	3	4	3	4	2	2	1	4	6	2	1	2.2	7.0
Dir	158	103	86	87	90	76	90	109	71	57	90	9	31	34	31	351	334	330	89	7	299	288	350	292	58.1	89.5
15 Spd	4	4	3	4	4	6	10	8	8	9	11	12	11	10	9	9	11	10	11	8	8	7	6	5	5.6	11.8
Dir	329	302	287	281	283	249	257	263	240	240	246	249	257	283	279	296	291	296	296	306	359	78	105	159	275.3	249.3
16 Spd	2	3	3	4	3	0	2	4	5	4	7	8	10	8	7	7	7	9	9	8	7	8	8	6	3.7	9.7
Dir	262	349	288	328	294	329	210	159	209	177	147	153	166	199	231	227	197	174	169	163	132	113	114	109	172.4	166.3
17 Spd	0	3	2	1	2	1	3	3	3	2	4	6	6	8	5	5	6	7	6	6	6	3	3	3	2.1	8.2
Dir	183	314	286	256	353	149	183	192	283	177	149	125	108	123	107	61	94	115	129	67	96	113	316	308	111.2	122.6
18 Spd	4	4	4	2	4	8	6	6	8	13	14	16	12	6	6	10	19	16	17	14	13	10	9	8	8.6	18.7
Dir	332	305	334	323	195	236	266	246	249	265	279	283	281	296	298	296	293	293	278	262	250	245	243	325	275.9	292.9
19 Spd	5	6	4	7	5	9	6	6	8	10	9	12	11	13	8	6	10	6	8	10	8	3	4	6	1.2	12.6
Dir	62	105	9	26	342	325	316	299	281	250	260	300	287	303	298	83	128	148	132	97	84	102	120	106	333.2	303.4
20 Spd	3	8	7	4	8	8	4	5	6	4	3	6	7	9	10	12	6	3	10	14	11	8	7	5	1.8	13.9
Dir	46	356	43	58	38	351	91	154	120	119	22	54	69	86	58	26	74	268	240	253	261	264	272	307	18.9	252.7
21 Spd	5	6	7	6	4	4	4	7	5	4	3	5	3	3	5	6	7	9	11	8	4	8	3	1	0.3	11.3
Dir	295	304	296	299	267	247	223	238	249	264	248	276	207	128	71	95	86	92	83	79	64	126	156	295	147.0	83.1
22 Spd	3	2	5	4	2	1	5	6	14	16	15	13	14	16	15	15	15	10	10	10	7	3	5	6	7.3	16.3
Dir	171	122	142	167	292	298	277	266	306	300	294	310	311	308	313	329	334	332	332	344	353	318	293	320	312.8	308.3

Hourly Averages

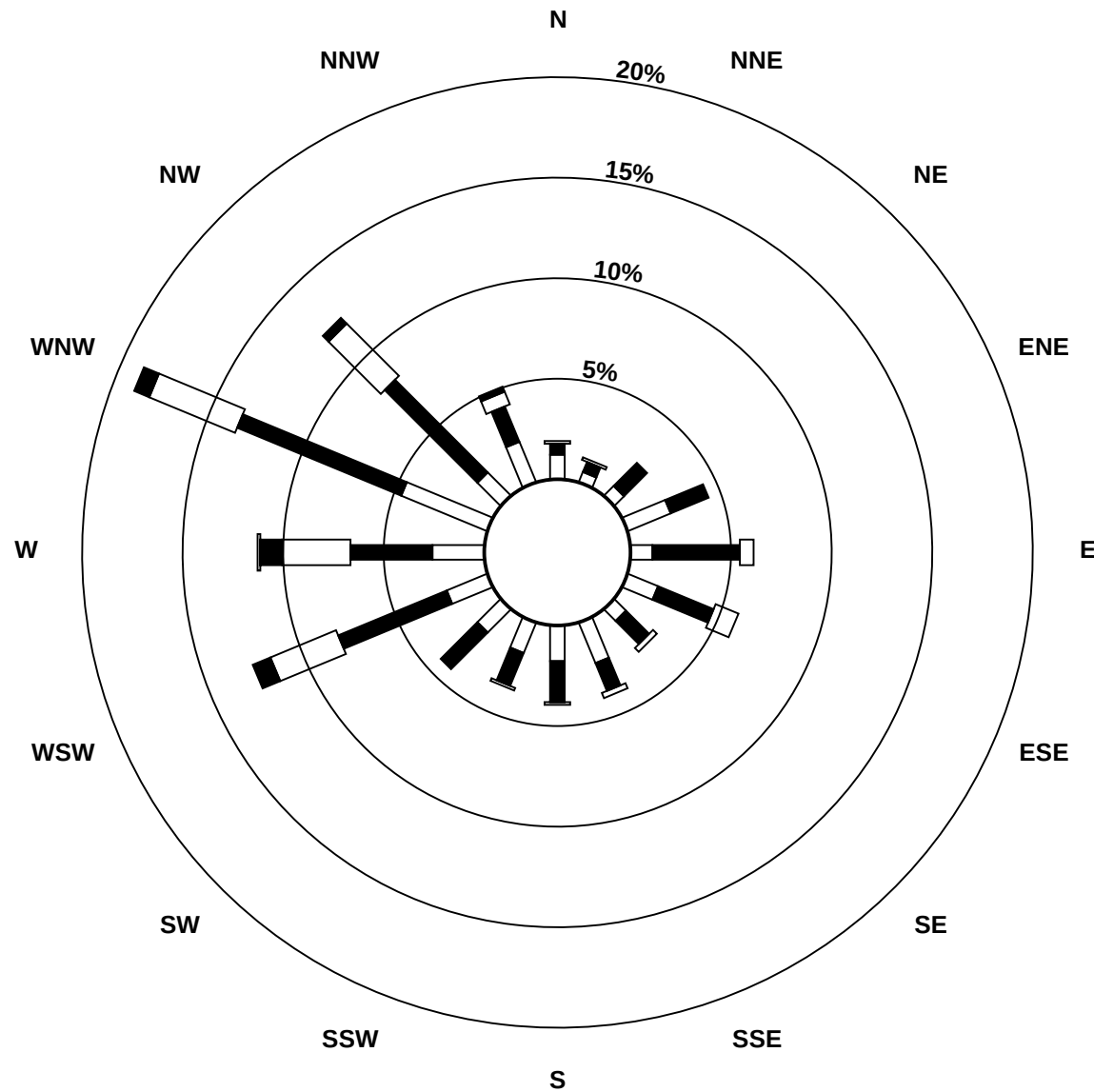
Wind Speed (km/h)
Wind Direction (deg)
Henry Pirker - July 2013

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
23 Spd	6	10	9	10	7	8	8	9	9	6	6	6	3	4	6	4	5	4	5	6	7	5	6	6	3.9	10.2
Dir	301	316	311	320	283	292	287	292	305	308	312	291	267	277	339	8	77	330	50	55	84	74	77	43	326.6	320.2
24 Spd	4	5	4	2	2	3	4	5	7	10	10	10	8	8	10	10	10	11	12	10	9	9	9	10	6.9	11.6
Dir	40	343	74	338	341	11	60	64	122	99	83	77	81	67	78	66	74	73	87	75	72	84	90	87	75.2	86.7
25 Spd	11	11	11	11	11	9	11	11	11	12	13	15	16	16	16	15	14	13	9	9	5	8	9	4	9.7	16.4
Dir	84	88	95	98	96	94	98	107	109	108	106	109	111	112	108	105	107	108	117	200	209	233	168	151	111.5	107.9
26 Spd	4	3	3	6	2	2	4	5	5	7	10	11	10	9	7	10	8	11	8	3	9	9	8	6	3.3	11.3
Dir	68	1	87	126	196	329	337	247	287	307	322	338	325	308	322	335	345	327	322	300	172	185	177	235	310.6	327.1
27 Spd	2	4	8	11	8	5	7	13	13	14	13	10	9	14	17	15	13	17	18	12	10	9	8	11	10.3	18.1
Dir	228	276	257	253	285	262	247	267	276	296	292	293	245	237	270	275	286	285	272	275	314	310	288	306	276.8	271.7
28 Spd	13	13	13	13	13	13	11	18	19	22	17	15	22	21	18	15	18	18	13	10	8	9	7	4	13.1	22.3
Dir	296	297	294	283	269	261	300	313	317	320	322	328	336	347	352	348	320	321	320	306	296	317	345	341	316.7	335.9
29 Spd	4	5	6	7	5	6	5	7	10	6	4	7	8	12	14	15	13	9	7	7	9	7	6	7	5.4	15.1
Dir	295	302	288	263	231	278	200	227	250	236	256	278	256	313	307	307	325	324	326	272	231	127	170	212	275.7	306.9
30 Spd	5	6	6	5	3	4	6	7	6	6	6	6	7	8	6	7	5	5	6	4	4	5	5	5	4.5	7.7
Dir	234	256	286	297	265	249	262	244	240	210	218	215	223	257	279	278	260	291	286	290	210	184	167	181	246.3	257.4
31 Spd	2	6	3	9	8	9	11	14	11	7	5	5	3	5	5	4	5	7	7	8	8	6	6	7	2.2	13.8
Dir	295	339	268	284	276	291	294	312	320	303	303	249	280	258	297	313	83	102	106	100	100	112	108	101	310.1	311.9
Spd	2.7	3.2	3.0	3.6	3.7	4.0	4.0	4.9	5.2	5.2	5.1	5.2	5.3	5.4	5.6	5.3	4.6	4.5	4.3	3.7	2.4	2.0	2.2	2.3	Diurnal Average	
Dir	276.4	291.8	283.4	290.8	290.3	285.1	280.8	270.7	273.2	272.5	278.2	280.1	280.3	286.8	302.8	302.5	299.1	287.7	271.5	256.2	255.7	218.6	214.5	254.1	Diurnal Maximum	
Spd	23.0	16.9	20.5	16.3	21.3	19.2	20.5	25.5	23.3	22.1	21.9	19.1	23.5	23.0	19.6	22.1	23.1	25.0	28.7	24.5	20.1	18.3	15.0	16.7	Diurnal Maximum	
Dir	255.2	250.5	257.4	254.3	312.3	296.7	315.9	266.2	266.4	266.8	279.2	270.7	254.2	260.7	283.7	284.3	275.4	253.8	264.8	257.0	249.8	255.6	257.3	243.8		
Maximum Speed Value: 29 km/h on Jul 11 19:00								Minimum Speed Value: 0 km/h on Jul 17 01:00												Hours in Service: 744						
Maximum Daily Speed Average: 15.8 km/h on Jul 3								Minimum Daily Speed Average: 0.3 km/h on Jul 17												Hours of Data: 744						
Maximum Diurnal Speed Average: 5.6 km/h at hour 15								Minimum Diurnal Speed Average: 2.0 km/h at hour 22												Hours of Missing Data: 0						
Monthly Average Velocity: 3.87 km/h 279.52 deg								Speed Percentiles: P ₁ = 0.9 P ₁₀ = 3.3 Q ₁ = 5.1 Median = 7.5 Q ₃ = 10.8 P ₉₀ = 15.6 P ₉₉ = 23.2												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	15		15		3		1		0		0		34													
NorthEast	13		23		1		0		0		0		37													
East	14		59		19		0		0		0		92													
SouthEast	19		24		2		0		0		0		45													
South	28		32		3		0		0		0		63													
SouthWest	19		57		12		1		0		0		89													
West	34		95		54		19		1		0		203													
NorthWest	37		82		54		8		0		0		181													
Total	179		387		148		29		1		0		744													

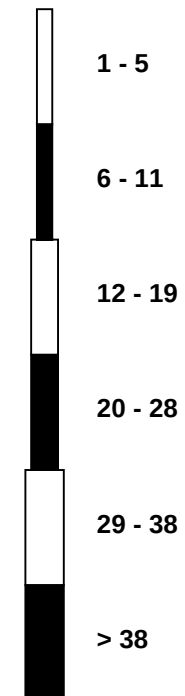
Wind Rose

Wind Speed (WS) (km/h)

Henry Pirker - July 2013



Wind Speed Classes (km/h)



Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Henry Pirker - July 2013

Maximum Speed: 29 km/h on Jul 11 19:00																				Maximum Daily Speed Average: 16.7 km/h on Jul 3										Hours in Service: 744	
Minimum Speed: 2 km/h on Jul 17 06:00																				Minimum Daily Speed Average: 4.8 km/h on Jul 17										Hours of Data: 744	
Maximum Diurnal Speed Average: 12.3 km/h at hour 17																				Minimum Diurnal Speed Average: 6.8 km/h at hour 1										Hours of Missing Data: 0	
Monthly Average Speed: 9.24 km/h																				Percentiles: P ₁ = 2.5 P ₁₀ = 4.4 Q ₁ = 5.8 Median = 8.2 Q ₃ = 11.3 P ₉₀ = 16.3 P ₉₉ = 23.6										Percent Operational Time: 100.0	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24							
1-Jul	5	5	4	3	4	5	2	3	5	5	5	8	8	8	8	10	14	15	15	12	11	9	9	12	7.7	15.1					
2-Jul	10	7	7	11	22	19	8	5	10	11	9	13	11	9	18	16	24	23	22	24	19	14	16	15	14.3	23.8					
3-Jul	12	13	15	16	17	14	17	26	24	23	22	20	19	18	20	23	21	17	17	16	8	8	7	10	16.7	25.8					
4-Jul	7	7	6	4	5	7	9	10	7	8	10	7	8	13	10	17	18	11	13	12	9	7	3	8	9.0	18.1					
5-Jul	9	7	6	4	5	6	10	10	12	13	16	17	19	13	15	16	17	13	13	13	12	10	10	11	11.6	19.2					
6-Jul	14	12	10	9	8	10	11	10	10	9	9	9	10	10	9	10	10	9	9	11	5	5	5	5	9.1	14.3					
7-Jul	4	4	6	7	6	3	5	5	6	8	7	7	9	9	10	9	8	7	6	3	3	4	4	5	6.1	10.1					
8-Jul	4	2	5	3	3	3	3	4	5	6	6	8	6	7	8	8	11	8	6	5	8	7	6	6	5.7	10.5					
9-Jul	6	9	7	8	6	7	10	11	15	15	17	17	14	15	13	15	13	11	14	11	11	6	8	9	11.2	17.1					
10-Jul	8	6	4	6	4	4	5	5	7	13	12	10	7	11	6	9	11	10	10	10	7	6	4	3	7.4	13.5					
11-Jul	5	7	10	7	8	8	8	9	9	9	14	17	24	24	18	18	22	26	29	25	20	19	15	17	15.3	29.2					
12-Jul	23	17	21	15	16	19	21	18	20	21	18	19	17	17	16	16	13	12	9	7	6	4	5	6	14.8	23.2					
13-Jul	5	6	8	10	11	11	10	10	8	8	7	7	5	5	5	4	7	9	7	7	7	6	6	6	7.3	10.9					
14-Jul	5	4	5	6	7	6	5	6	5	5	5	6	5	5	5	6	6	5	4	4	5	6	2	3	4.9	7.1					
15-Jul	4	4	5	4	4	6	10	9	9	10	11	13	12	12	10	10	12	10	11	8	10	9	8	6	8.5	12.6					
16-Jul	4	3	3	4	4	3	3	4	6	5	8	9	10	9	8	8	9	9	9	8	7	8	8	6	6.5	10.4					
17-Jul	2	3	2	3	3	2	3	4	3	3	5	7	8	9	6	7	8	8	7	6	6	4	3	3	4.8	8.9					
18-Jul	5	5	6	5	6	9	7	7	8	13	15	16	12	7	6	10	19	16	17	15	13	10	9	9	10.2	18.9					
19-Jul	5	6	6	7	6	9	6	6	8	10	11	13	12	13	11	8	10	7	9	10	10	10	5	7	8.6	13.3					
20-Jul	6	8	7	7	9	8	5	6	7	5	5	7	8	10	11	12	8	6	10	14	11	9	7	5	8.0	14.1					
21-Jul	5	6	7	6	5	5	4	7	5	6	4	5	5	6	6	8	8	10	12	8	5	8	6	3	6.3	11.7					
22-Jul	3	4	5	4	4	2	6	7	14	16	15	13	15	17	16	16	15	11	10	11	7	5	6	7	9.5	16.7					
23-Jul	7	10	9	10	8	8	8	9	10	7	6	6	5	6	7	7	7	7	7	7	7	6	6	6	7.4	10.4					
24-Jul	5	6	5	3	2	3	5	6	8	11	11	10	9	9	11	10	11	11	12	11	9	9	9	11	8.1	12.1					
25-Jul	11	11	11	11	11	9	11	11	11	13	13	15	16	16	17	15	15	14	9	10	12	11	9	8	12.0	16.7					
26-Jul	4	4	4	6	3	3	4	6	6	8	10	11	11	10	8	11	9	12	8	5	9	9	8	7	7.5	12.3					
27-Jul	3	5	9	12	8	5	7	13	13	14	13	11	10	14	17	16	13	17	18	13	11	9	8	12	11.4	18.5					
28-Jul	13	13	13	13	13	13	11	18	19	22	17	15	23	22	19	16	19	18	13	10	8	9	8	4	14.5	22.5					
29-Jul	5	5	6	7	6	6	6	8	10	7	6	8	10	13	14	15	13	9	7	7	9	10	6	7	8.4	15.4					
30-Jul	6	7	6	5	4	4	6	7	6	7	7	7	8	9	8	8	6	6	6	5	4	5	5	5	6.1	8.8					
31-Jul	4	8	4	10	8	9	11	14	12	8	6	6	6	6	7	7	7	8	7	8	8	6	6	7	7.6	14.0					
6.8 6.9 7.2 7.3 7.2 7.3 7.6 8.8 9.7 10.3 10.4 10.9 11.1 11.3 11.1 11.6 12.3 11.5 11.2 10.2 8.9 7.9 7.1 7.3																									Diurnal Average						
23.2 17.2 20.6 16.5 21.5 19.5 20.7 25.8 23.6 22.5 22.3 19.5 24.2 24.1 20.1 22.6 23.8 25.6 29.2 25.0 20.4 18.6 15.5 16.9																									Diurnal Maximum						
All monthly, daily, and diurnal averages have been calculated using scalar methods																															

Hourly Standard Deviations

Wind Direction (WD) - deg

Henry Pirker - July 2013

Maximum Value: 96.6 deg on Jul 13 14:00																			Hours in Service: 744						
Minimum Value: 6.0 deg on Jul 16 23:00																			Hours of Data: 744						
																			Hours of Missing Data: 0						
Percentiles: P ₁ = 6.9 P ₁₀ = 9.1 Q ₁ = 12.4 Median = 18.7 Q ₃ = 32.0 P ₉₀ = 49.9 P ₉₉ = 83.5																			Hours of Calibration: 0						
																			Percent Operational Time: 100.0						
Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jul	15	29	35	20	43	41	30	69	22	40	42	29	33	31	44	32	12	8	8	8	6	10	59	14	68.9
2-Jul	58	39	20	33	8	7	11	36	17	23	16	17	20	20	14	18	14	15	10	10	7	10	15	10	57.6
3-Jul	10	10	9	7	7	10	12	8	10	11	12	13	19	16	12	12	12	12	13	8	14	14	15	12	18.8
4-Jul	27	24	48	58	32	13	23	15	22	13	21	42	34	36	24	33	22	13	12	9	11	24	50	26	57.7
5-Jul	9	11	16	22	23	15	15	11	8	11	10	12	25	18	12	9	9	10	8	9	15	12	7	10	25.0
6-Jul	10	9	8	10	10	7	7	8	9	9	17	24	11	20	19	18	17	15	23	18	69	11	10	10	68.7
7-Jul	16	8	28	13	23	28	17	20	20	18	29	40	20	28	26	25	32	32	25	26	36	25	22	28	39.8
8-Jul	14	41	21	83	54	70	34	22	27	33	34	25	61	47	37	31	18	21	30	57	29	41	9	9	83.3
9-Jul	15	9	14	34	33	30	21	21	10	16	15	25	16	12	20	19	15	29	23	18	12	16	9	18	33.8
10-Jul	11	30	83	9	79	40	12	15	18	16	16	20	26	31	26	35	20	17	15	21	41	29	21	86	86.1
11-Jul	33	13	18	25	17	24	25	23	15	25	16	18	15	17	16	20	14	12	10	12	11	12	10	10	32.8
12-Jul	8	10	8	16	8	10	8	9	8	11	10	11	15	14	12	14	15	15	25	16	13	12	56	11	55.8
13-Jul	18	20	14	15	12	16	12	13	19	19	23	24	55	97	69	75	35	25	22	37	9	9	13	14	96.6
14-Jul	12	43	12	9	9	16	28	23	30	31	49	53	35	62	46	67	51	87	78	78	13	10	45	74	87.4
15-Jul	10	17	44	27	27	16	14	19	15	14	18	21	24	32	29	23	19	15	11	9	37	37	50	35	50.0
16-Jul	58	35	29	34	30	90	69	17	29	42	33	25	21	31	36	41	47	23	14	16	15	6	6	6	90.3
17-Jul	85	36	41	79	45	73	23	44	27	58	43	37	45	24	46	50	43	32	28	19	15	55	37	27	84.7
18-Jul	46	47	44	69	51	18	24	23	14	14	15	10	12	18	21	23	9	9	12	12	10	9	11	34	69.1
19-Jul	19	21	68	21	32	8	12	19	20	15	28	15	21	18	55	39	22	31	23	13	47	81	54	21	80.7
20-Jul	77	20	23	52	33	21	45	33	32	40	68	25	30	25	26	13	39	73	12	12	13	42	12	19	76.7
21-Jul	12	10	8	9	29	26	16	13	22	44	52	26	70	70	55	47	33	26	14	13	35	12	66	87	86.8
22-Jul	35	65	19	17	61	85	33	25	9	9	10	18	17	14	16	17	15	26	14	19	16	83	42	47	84.5
23-Jul	22	17	9	8	18	8	10	11	21	36	26	29	78	47	39	63	43	70	58	21	12	15	14	18	78.4
24-Jul	24	30	39	50	29	35	17	18	22	20	20	22	33	30	29	21	19	18	22	16	12	11	8	7	50.1
25-Jul	7	9	7	7	8	8	7	12	13	14	14	17	14	13	12	12	10	14	14	23	88	50	10	75	87.6
26-Jul	41	44	57	21	81	45	29	34	39	27	18	19	17	21	55	29	34	29	14	49	11	13	13	17	81.1
27-Jul	51	23	14	15	14	22	14	15	14	13	16	22	27	15	12	15	9	11	12	28	13	13	20	12	51.2
28-Jul	7	8	7	10	8	12	8	8	7	6	7	13	9	12	13	22	10	11	14	10	7	9	21	20	21.6
29-Jul	23	12	19	16	23	25	40	26	16	28	49	41	31	13	13	12	15	15	17	26	11	57	15	10	56.7
30-Jul	18	17	16	12	35	23	18	16	16	26	37	31	36	30	42	32	39	36	19	34	17	8	10	11	42.4
31-Jul	71	74	45	9	10	7	9	10	13	23	51	32	55	35	49	62	55	41	22	14	11	10	13	8	74.2
84.7 74.2 83.4 83.3 81.1 90.3 69.4 68.9 38.6 58.0 67.7 53.1 78.4 96.6 69.4 75.1 54.6 87.4 78.4 78.3 87.6 83.2 66.3 86.8																									

PAZA

Evergreen Park Station

Monthly Summary Tables, Graphs and
Roses

Hourly Averages

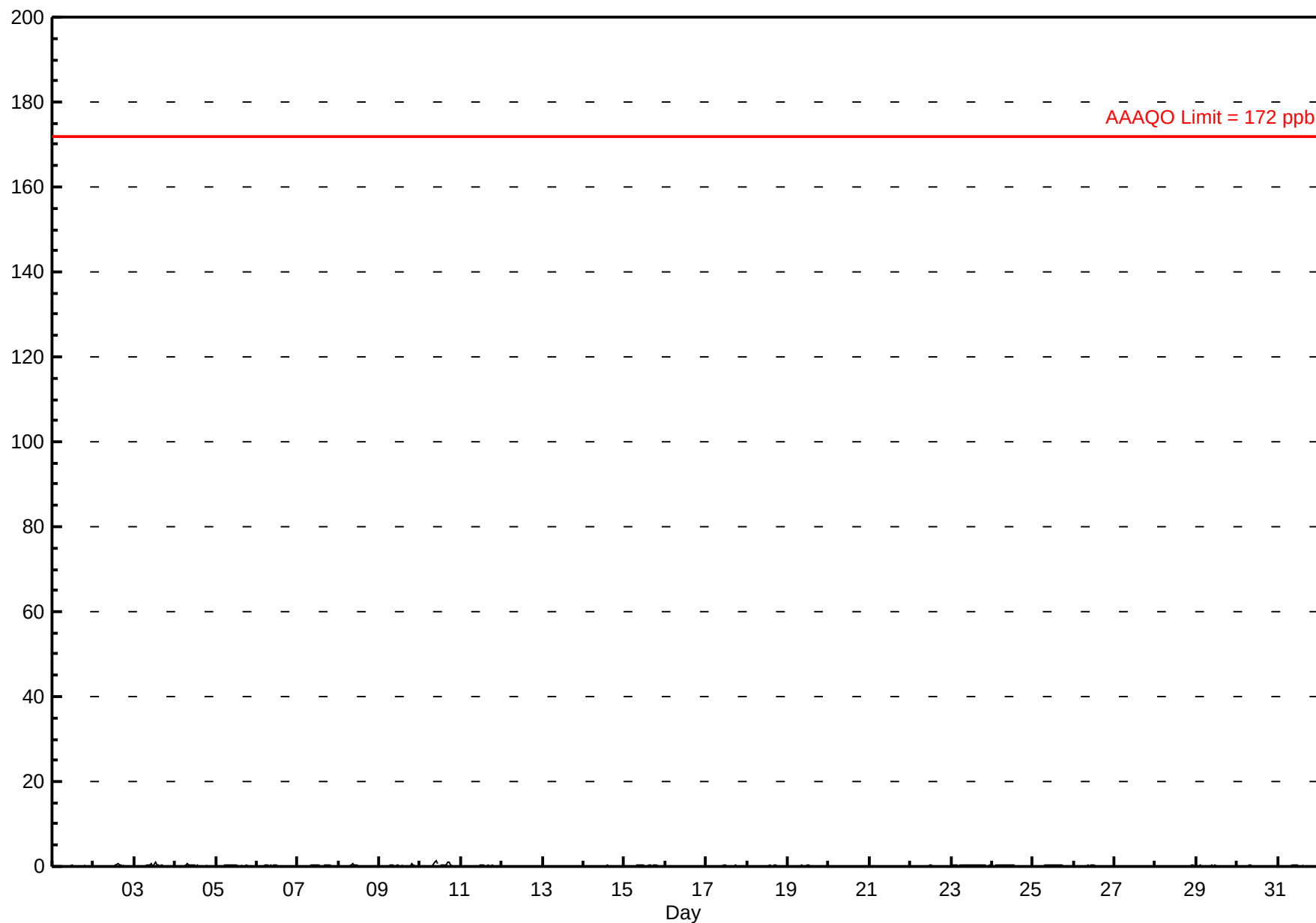
Sulphur Dioxide (SO₂) - ppb

Evergreen Park - July 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																		Hours in Service: 744								
Maximum Value: 1.4 ppb on Jul 10 10:00																		Maximum Daily Average: 0.3 ppb on Jul 10		Hours of Data: 709						
Minimum Value: 0 ppb on Jul 10 04:00																		Minimum Daily Average: 0.0 ppb on Jul 12		Hours of Missing Data: 35						
Maximum Diurnal Average: 0.2 ppb at hour 10																		Minimum Diurnal Average: 0.1 ppb at hour 1		Hours of Calibration: 35						
Monthly Average: 0.13 ppb																		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 0.1 Q ₃ = 0.2 P ₉₀ = 0.2 P ₉₉ = 0.7		Percent Operational Time: 100.0						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-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
2-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	A	0	0	0	0	0.1	0.6
3-Jul	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	A	0	0	0	0	0	0	0.3	1.1
4-Jul	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0.2	0.5
5-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	0.3
6-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	0.2
7-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	0.4
8-Jul	0	0	0	0	0	0	0	0	1	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.2	0.7
9-Jul	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	1	0	0	0	0	0.2	0.5
10-Jul	0	0	0	0	0	0	0	0	1	1	1	A	0	0	0	0	1	1	0	0	0	0	0	0	0.3	1.4
11-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
12-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
13-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
14-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
15-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	0.2	0.3
16-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	0.1
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	0.1	0.3
18-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	0.3
19-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	0.3
20-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	0.1
21-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	0.1	0.1
22-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	0.2
23-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	0.2	0.5
24-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C	C	C	0	0	0	A	0	0	0	0.2	0.3
25-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
26-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	0.5
27-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	0.1
28-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
29-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
30-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	0.2
31-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	0.4
0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.1 0.2 0.2 0.1 0.1 0.1 0.1 0.1 0.1																								Diurnal Average		
0.2 0.2 0.5 0.3 0.2 0.2 0.3 0.5 1.2 1.4 0.7 0.5 1.1 0.5 0.6 0.4 0.9 1.0 0.3 0.5 0.2 0.2 0.2 0.2																								Diurnal Maximum		
C - Calibration		A - Automated Daily Zero Span																								
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb		24-hr 48 ppb		30-day 11 ppb																						

Hourly Averages

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



Hourly Maximums

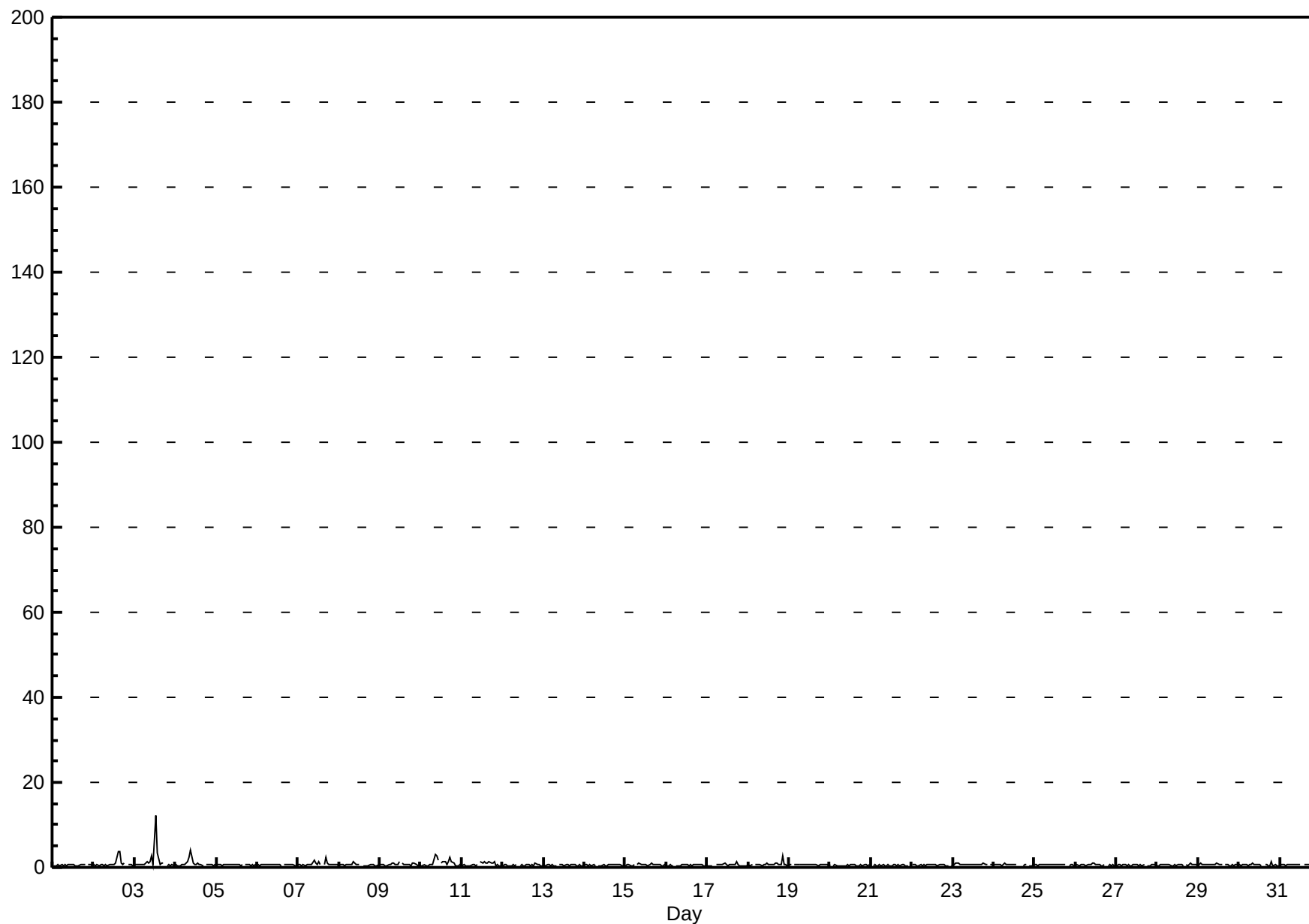
Sulphur Dioxide (SO₂) - ppb

Evergreen Park - July 2013

Maximum Value: 12.1 ppb on Jul 3 13:00																				Maximum Daily Average: 1.5 ppb on Jul 3				Hours in Service: 744		
Minimum Value: 0 ppb on Jul 16 05:00																				Minimum Daily Average: 0.5 ppb on Jul 16				Hours of Data: 709		
Maximum Diurnal Average: 1.0 ppb at hour 13																				Minimum Diurnal Average: 0.5 ppb at hour 24				Hours of Missing Data: 35		
Monthly Average: 0.67 ppb																				Percentiles: P ₁ = 0.4 P ₁₀ = 0.4 Q ₁ = 0.5 Median = 0.6 Q ₃ = 0.7 P ₉₀ = 0.9 P ₉₉ = 2.9				Hours of Calibration: 35		
																								Percent Operational Time: 100.0		
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jul	0	1	0	1	0	1	0	1	0	1	1	1	1	0	0	0	1	1	1	1	A	1	1	0	0.6	0.8
2-Jul	1	0	1	0	1	1	0	1	0	1	1	1	1	1	4	4	1	1	1	A	1	1	1	0	0.9	3.7
3-Jul	1	1	1	1	1	1	1	1	1	1	3	1	12	3	2	1	1	1	A	0	1	1	1	0	1.5	12.1
4-Jul	1	0	0	0	1	1	1	1	2	4	1	1	1	1	1	1	0	A	1	1	1	1	0	1	0.9	3.9
5-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	A	1	1	1	0	1	0	1	0.6	0.8
6-Jul	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	0	1	0.6	0.8
7-Jul	1	1	0	1	1	1	1	1	1	2	1	1	1	1	A	1	2	1	1	1	1	1	1	1	0.8	2.5
8-Jul	0	1	1	0	1	1	1	1	1	1	1	1	1	A	0	0	0	0	1	1	1	0	0	1	0.6	1.3
9-Jul	1	1	1	0	0	1	1	1	1	1	1	1	A	1	1	1	1	1	0	1	1	1	1	1	0.7	1.2
10-Jul	0	0	1	0	0	1	1	1	3	3	2	A	1	1	1	1	1	2	1	1	0	0	0	1	1.0	2.9
11-Jul	0	1	0	0	0	0	1	1	0	1	A	1	1	1	1	1	1	1	1	1	0	1	0	0	0.7	1.3
12-Jul	0	1	1	0	0	0	1	0	1	A	0	1	0	0	1	1	0	1	0	1	1	1	0	0	0.6	1.1
13-Jul	0	0	1	1	0	1	0	0	A	1	1	1	0	1	1	1	1	1	1	0	0	1	0	0	0.5	0.7
14-Jul	1	1	0	1	0	1	0	A	0	0	0	1	0	0	1	1	1	1	1	1	1	1	0	0	0.5	0.8
15-Jul	0	1	1	0	0	1	A	1	1	1	1	1	1	0	1	1	1	1	1	1	1	0	0	1	0.6	1.1
16-Jul	0	0	1	0	0	A	0	0	0	1	1	1	1	0	1	0	1	1	1	1	1	1	0	0	0.5	0.8
17-Jul	0	0	0	0	A	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	0	1	0	0	0.6	1.4
18-Jul	1	0	1	A	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	3	1	1	0	0.7	2.8
19-Jul	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	0	0.6	0.8
20-Jul	1	A	0	1	0	0	0	0	1	1	1	0	1	1	1	0	0	0	1	0	1	1	0	1	0.5	0.7
21-Jul	A	1	1	0	0	1	1	1	0	0	1	0	0	1	1	0	1	0	1	1	0	0	0	A	0.5	0.7
22-Jul	1	1	1	1	0	1	1	1	0	1	1	1	1	1	1	0	1	1	1	1	0	0	A	0	0.6	0.7
23-Jul	0	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	1.1
24-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	C	C	C	0	1	1	A	0	0	1	0.6	0.9
25-Jul	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	0	1	1	0	0.6	0.8
26-Jul	0	1	0	1	1	1	0	1	1	1	1	1	1	1	1	0	0	1	A	0	1	0	1	0	0.6	1.0
27-Jul	0	1	1	0	1	1	0	1	0	0	1	1	1	0	1	0	1	A	0	0	0	1	1	1	0.5	0.8
28-Jul	0	0	1	1	1	1	1	1	0	0	1	0	1	1	1	0	A	1	0	1	1	1	1	1	0.6	0.9
29-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	0	0	1	0	1	1	0.6	1.0
30-Jul	1	0	1	1	1	1	1	1	1	1	1	1	1	0	A	1	1	0	0	2	0	1	0	1	0.6	1.5
31-Jul	0	1	1	0	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	0	0	0	0.6	0.8
0.5 0.6 0.6 0.5 0.5 0.6 0.6 0.7 0.8 0.9 0.8 0.7 1.0 0.8 0.8 0.7 0.7 0.7 0.6 0.7 0.6 0.5 0.5 0.5																									Diurnal Average	
0.7 1.0 1.1 1.0 0.7 0.8 1.0 1.4 2.9 3.9 2.9 1.3 12.1 3.3 3.7 3.6 2.5 2.3 1.4 1.5 2.8 0.8 0.8 0.8																									Diurnal Maximum	
C - Calibration A - Automated Daily Zero Span																										

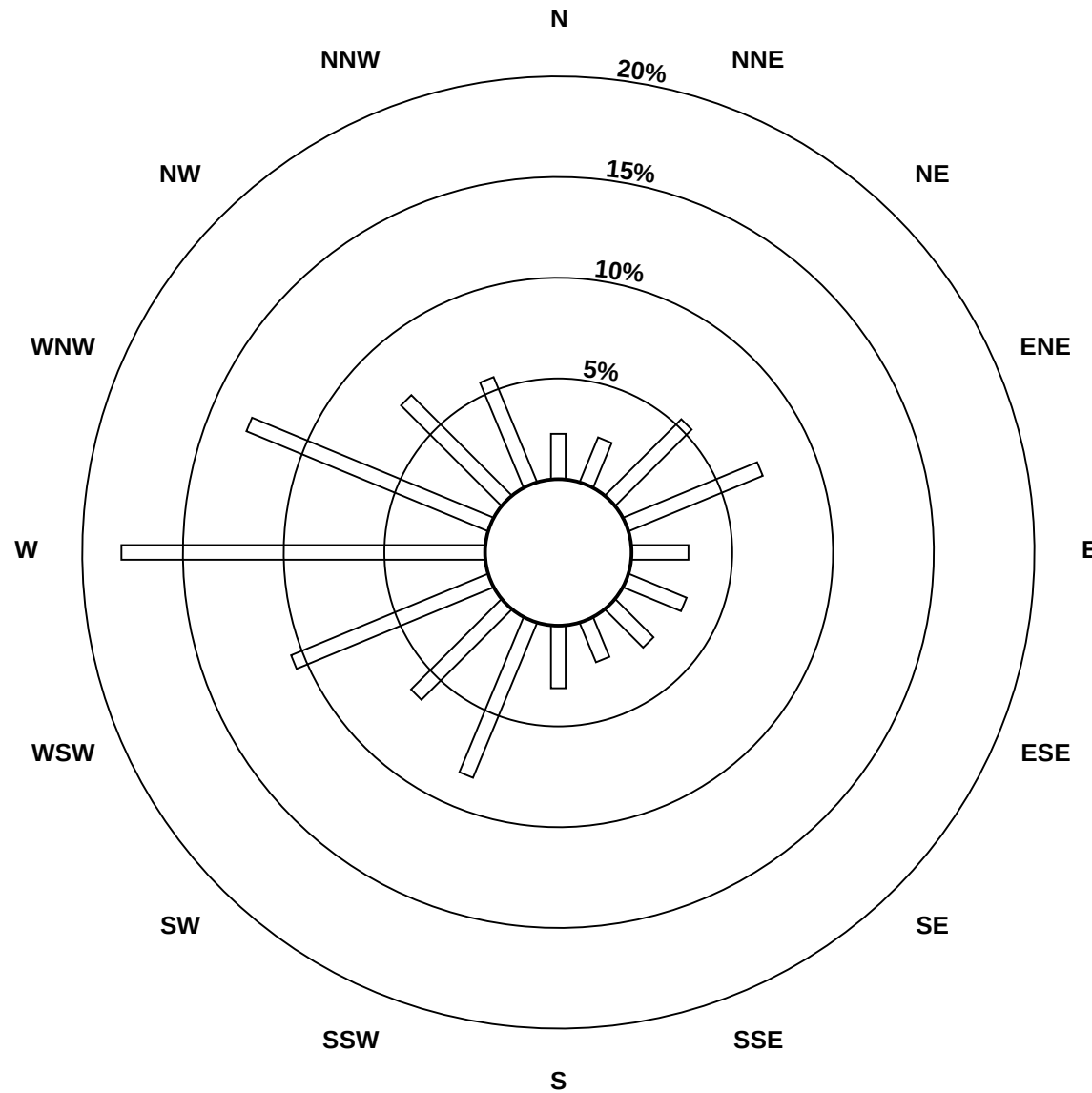
Hourly Maximums

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

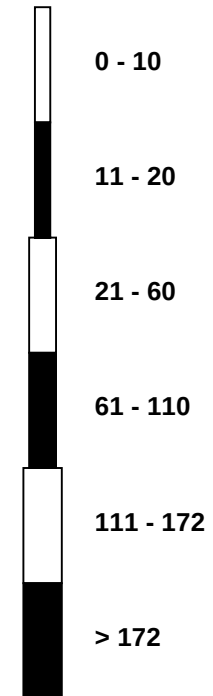


Pollutant Rose

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

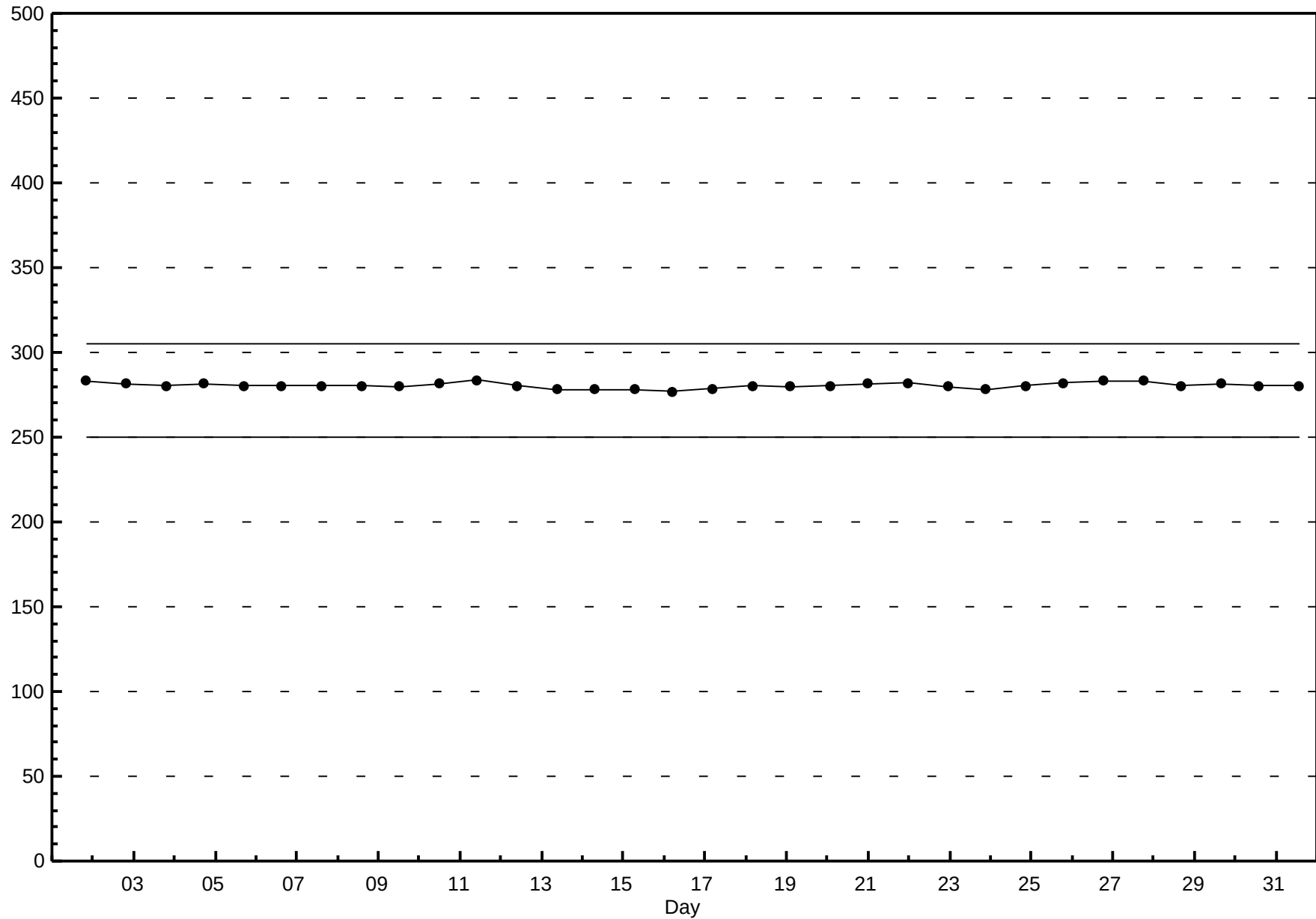


Pollutant Classes (ppb)



Span Responses

Sulphur Dioxide (SO₂)
Evergreen Park - July 2013



Hourly Averages

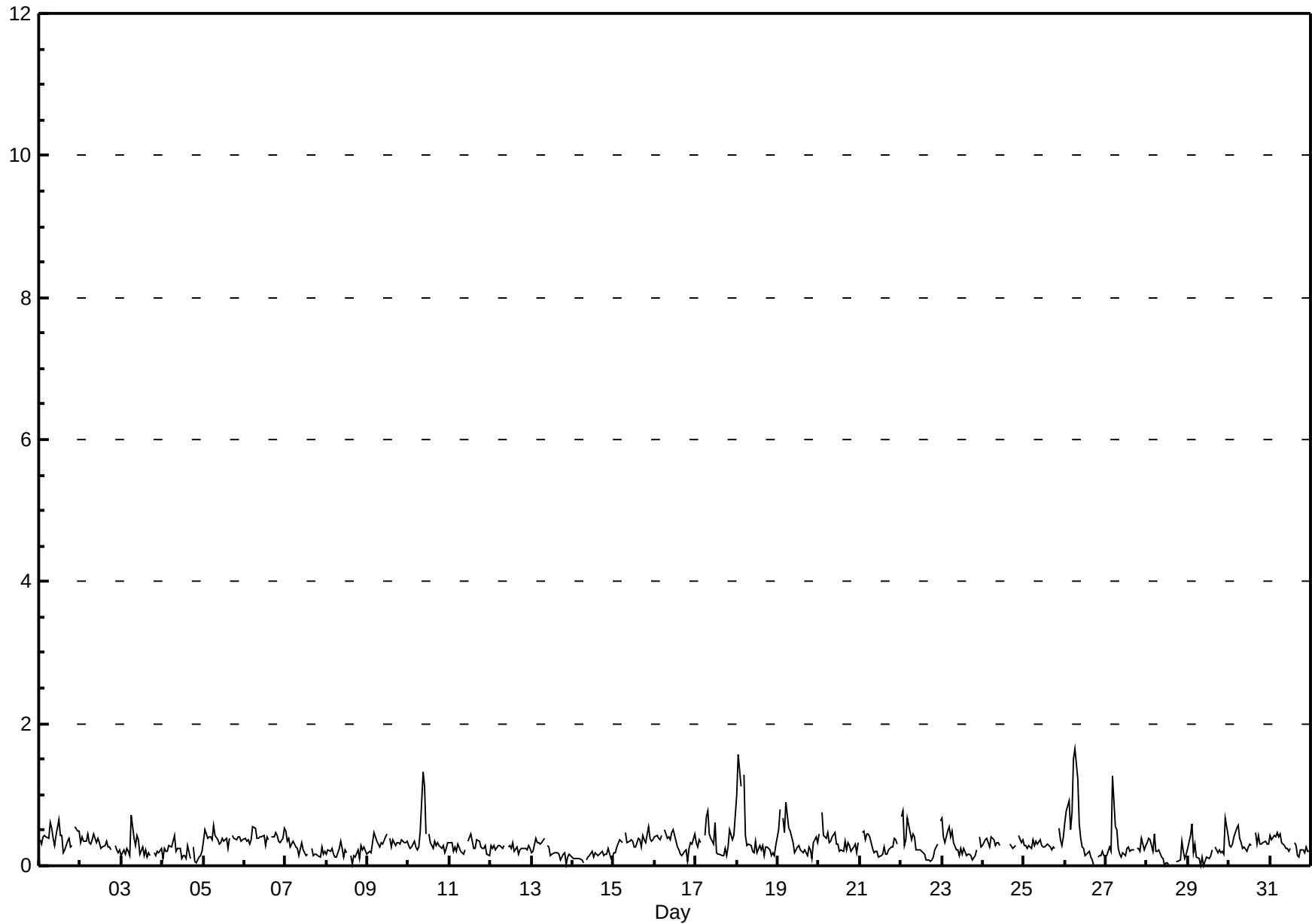
Total Reduced Sulphur (TRS) - ppb

Evergreen Park - July 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 1.7 ppb on Jul 26 07:00 Maximum Daily Average: 0.5 ppb on Jul 26																				Hours in Service: 744 Hours of Data: 707 Hours of Missing Data: 37 Hours of Calibration: 37 Percent Operational Time: 100.0						
Minimum Value: 0 ppb on Jul 28 15:00 Maximum Diurnal Average: 0.4 ppb at hour 5 Monthly Average: 0.30 ppb										Minimum Daily Average: 0.1 ppb on Jul 14 Minimum Diurnal Average: 0.2 ppb at hour 17 Percentiles: P ₁ = 0.0 P ₁₀ = 0.1 Q ₁ = 0.2 Median = 0.3 Q ₃ = 0.4 P ₉₀ = 0.5 P ₉₉ = 1.2																
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jul	0	0	0	0	0	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	A	1	0	0	0.4	0.6
2-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
3-Jul	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0.2	0.7
4-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
5-Jul	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0.4	0.6
6-Jul	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	1	0.4	0.5
7-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	0.5
8-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	0.2	0.3
9-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	0.3	0.5
10-Jul	0	0	0	0	0	0	0	0	1	1	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.4	1.3
11-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
12-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	0.3
13-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	0.4
14-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
15-Jul	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0.3	0.5
16-Jul	0	0	0	0	0	A	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.5
17-Jul	0	0	0	0	A	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	1	0.4	0.8
18-Jul	1	2	1	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	1.6
19-Jul	1	1	A	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.9
20-Jul	0	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.7
21-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	0.3	0.5
22-Jul	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	0.3	0.8
23-Jul	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.3	0.7
24-Jul	0	0	0	0	0	0	0	0	0	0	0	C	C	C	C	C	0	0	0	0	A	0	0	0	0.3	0.4
25-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	0	0	0	0.3	0.5
26-Jul	1	1	1	1	1	1	2	1	1	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0.5	1.7
27-Jul	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0.3	1.3
28-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
29-Jul	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	1	0	0.2	0.7
30-Jul	0	0	0	0	1	1	0	0	0	0	0	0	0	0	A	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	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.3	0.5
0.4 0.4 0.4 0.3 0.4 0.4 0.4 0.4 0.3 0.3 0.3 0.3 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.3 0.3 0.3 0.3																								Diurnal Average		
1.0 1.6 1.1 0.7 1.3 1.5 1.7 1.2 1.3 1.1 0.5 0.6 0.5 0.4 0.4 0.5 0.4 0.4 0.5 0.4 0.5 0.6 0.7 0.7																								Diurnal Maximum		
C - Calibration A - Automated Daily Zero Span																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb																										

Hourly Averages

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



Hourly Maximums

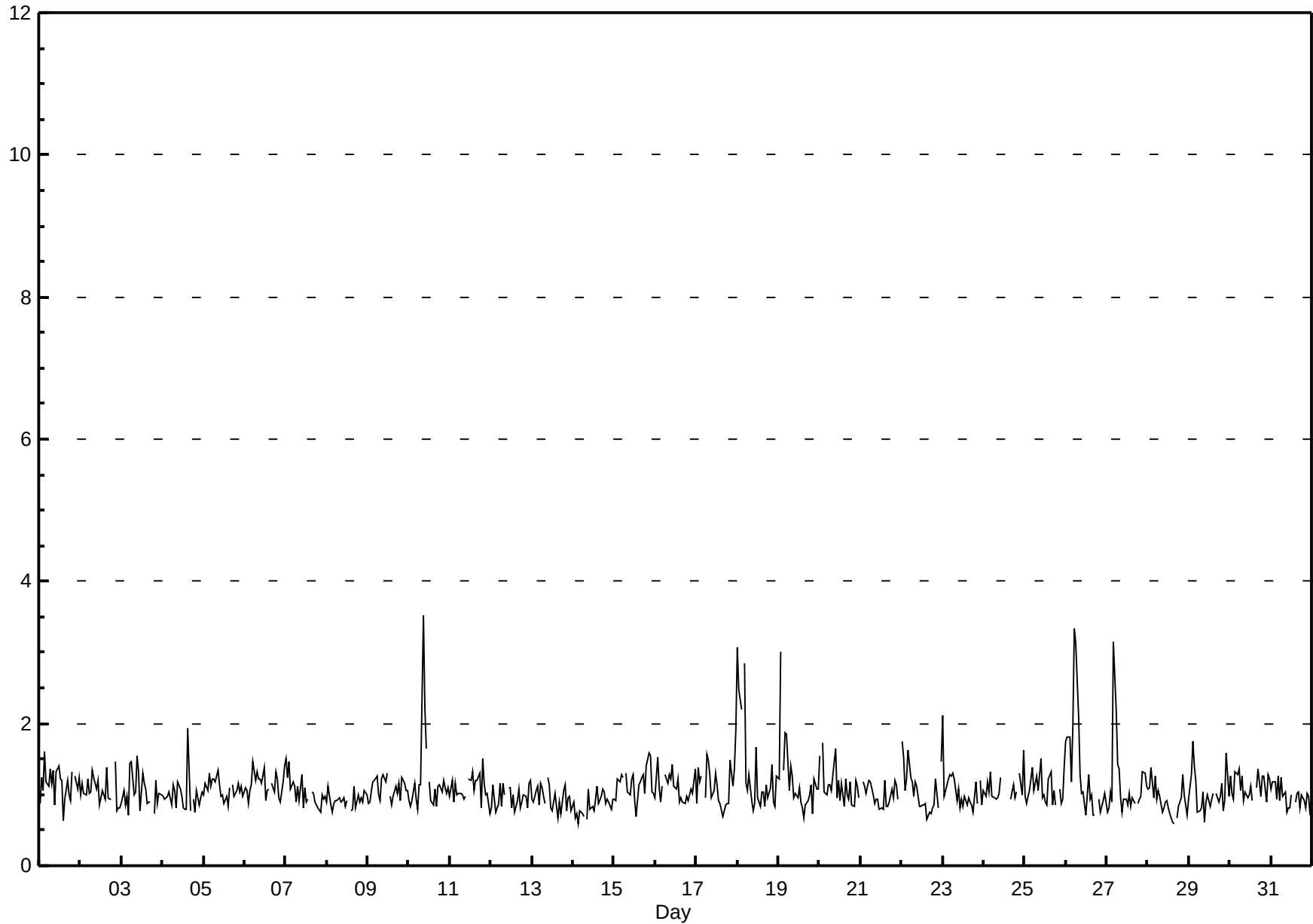
Total Reduced Sulphur (TRS) - ppb

Evergreen Park - July 2013

Maximum Value: 3.5 ppb on Jul 10 09:00																				Maximum Daily Average: 1.4 ppb on Jul 26				Hours in Service: 744		
Minimum Value: 1 ppb on Jul 14 04:00																				Minimum Daily Average: 0.9 ppb on Jul 14				Hours of Data: 707		
Maximum Diurnal Average: 1.3 ppb at hour 5																				Minimum Diurnal Average: 0.9 ppb at hour 15				Hours of Missing Data: 37		
Monthly Average: 1.08 ppb																				Percentiles: P ₁ = 0.7 P ₁₀ = 0.8 Q ₁ = 0.9 Median = 1.0 Q ₃ = 1.2 P ₉₀ = 1.3 P ₉₉ = 2.8				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	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1.2	1.6
2-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	1.1	1.5
3-Jul	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1.0	1.5
4-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	A	1	1	1	1	1	1	1.0	1.9
5-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	1.1	1.3
6-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	1.1	1.5
7-Jul	2	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	1.5
8-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	1.1
9-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	1.1	1.3
10-Jul	1	1	1	1	1	1	1	1	4	2	2	A	1	1	1	1	1	1	1	1	1	1	1	1	1.2	3.5
11-Jul	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	2	1	1	1	1	1.1	1.5
12-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	1.0	1.2
13-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	0.9	1.2
14-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	1.1
15-Jul	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	1	1	1.2	1.6
16-Jul	1	2	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.1	1.5
17-Jul	1	1	1	1	A	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1.1	1.9
18-Jul	3	2	2	A	3	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1.3	3.1
19-Jul	1	3	A	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.2	3.0
20-Jul	2	A	2	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.1	1.7
21-Jul	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1.0	1.2
22-Jul	2	2	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1.1	1.7
23-Jul	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1.1	2.1
24-Jul	1	1	1	1	1	1	1	1	1	1	1	C	C	C	C	C	1	1	1	1	A	1	1	2	1.1	1.6
25-Jul	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1.1	1.5
26-Jul	2	2	2	1	2	3	3	2	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1.4	3.3
27-Jul	1	1	1	1	3	2	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1.1	3.2
28-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	1.4
29-Jul	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	2	1	1.0	1.7
30-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	1.1	1.4
31-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	1.0	1.3
1.2 1.2 1.2 1.1 1.3 1.2 1.2 1.2 1.1 1.1 1.1 1.0 0.9 1.0 0.9 1.0 1.0 1.0 1.0 1.0 1.0 1.1 1.0 1.1 1.1																									Diurnal Average	
3.1 3.0 2.2 1.6 3.2 3.3 3.1 2.1 3.5 2.2 1.6 1.7 1.3 1.3 1.2 1.9 1.4 1.3 1.3 1.5 1.6 1.5 1.6 1.9																									Diurnal Maximum	
C - Calibration A - Automated Daily Zero Span																										

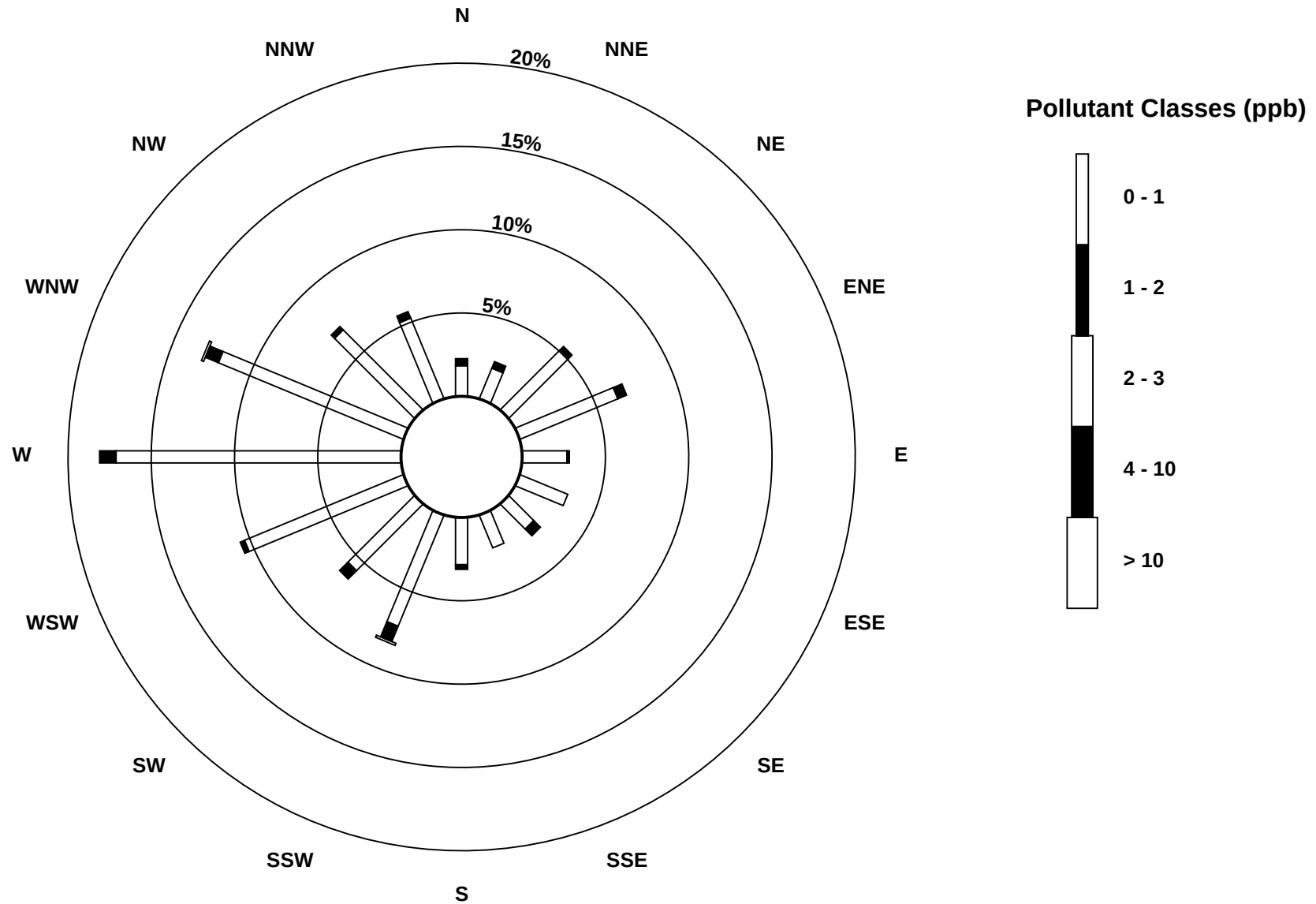
Hourly Maximums

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



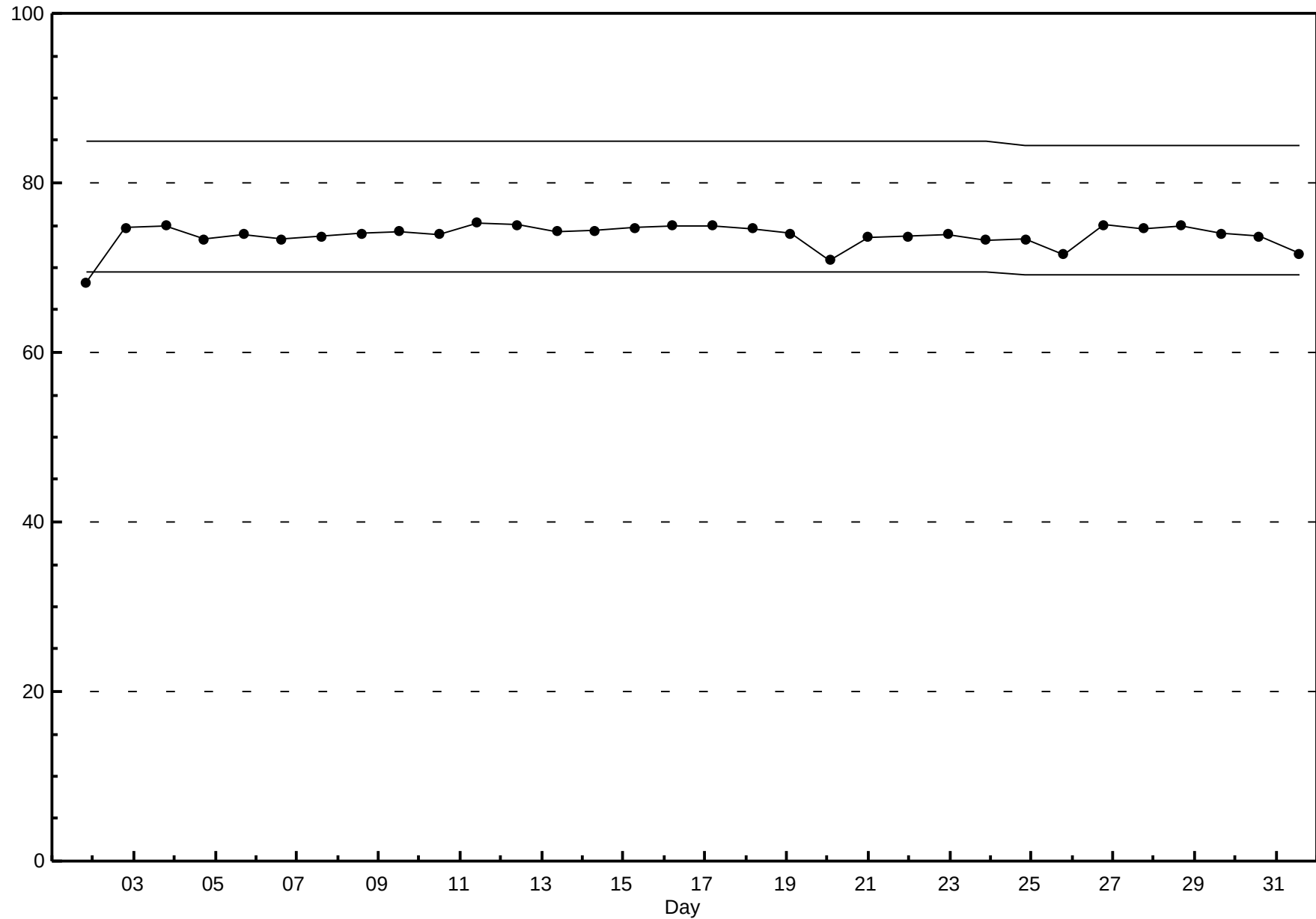
Pollutant Rose

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



Span Responses

Total Reduced Sulphur (TRS)
Evergreen Park - July 2013

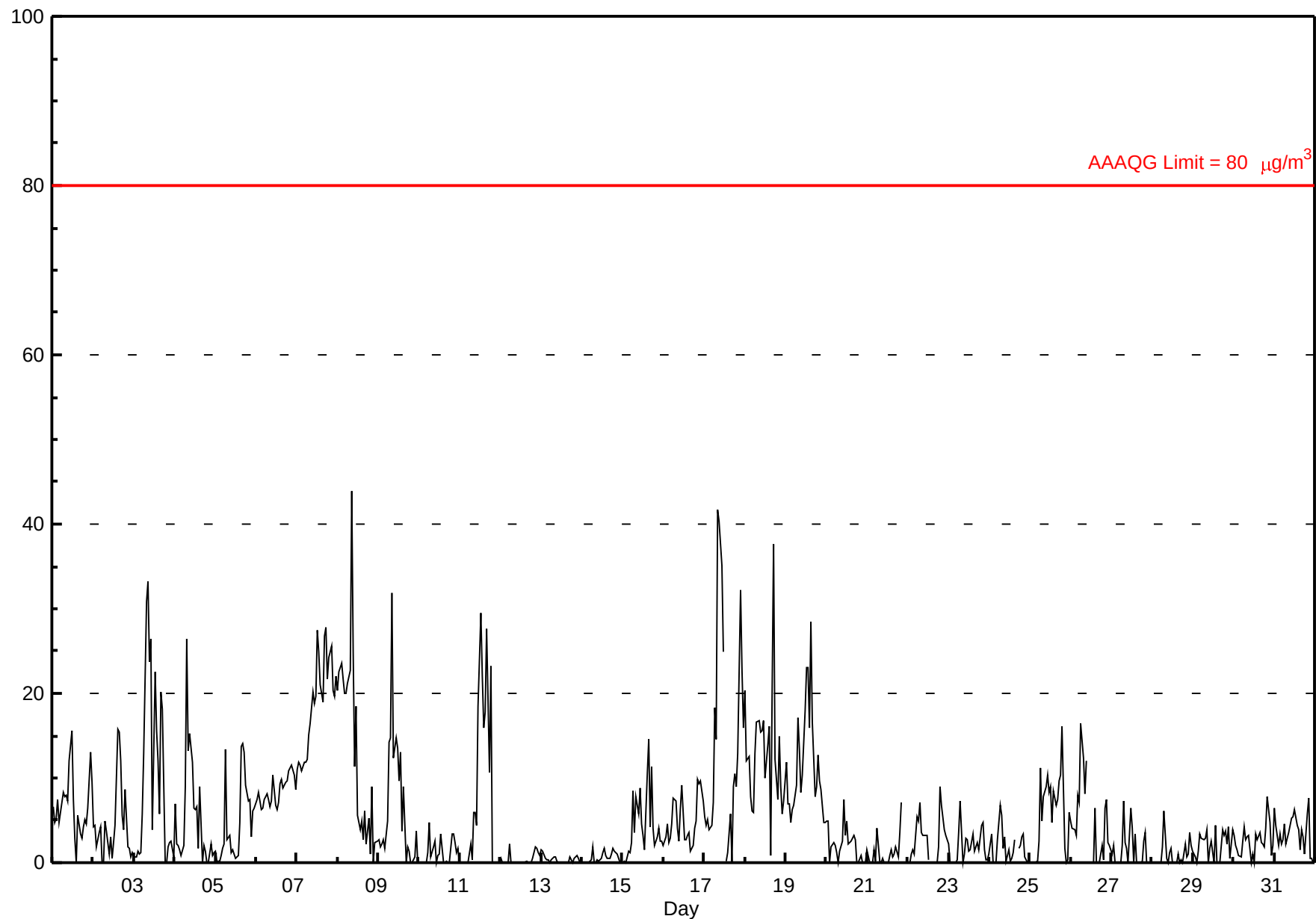


Hourly Averages

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

Evergreen Park - July 2013

Number of Exceedences: 1-hr: 0 24-hr: 0 Maximum Value: 43.9 µg/m³ on Jul 8 09:00 Maximum Daily Average: 18.8 µg/m³ on Jul 7																								Hours in Service: 744 Hours of Data: 736 Hours of Missing Data: 8 Hours of Calibration: 0 Percent Operational Time: 98.9		
Minimum Value: 0 µg/m³ on Jul 1 15:00 Maximum Diurnal Average: 9.3 µg/m³ at hour 9 Monthly Average: 5.43 µg/m³ Minimum Daily Average: 0.4 µg/m³ on Jul 12 Minimum Diurnal Average: 2.9 µg/m³ at hour 4 Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.6 Median = 2.7 Q ₃ = 7.4 P ₉₀ = 15.2 P ₉₉ = 31.3																										
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	7	5	5	7	5	7	8	8	8	7	12	16	7	3	0	6	3	3	4	5	5	6	13	10	6.7	15.6
2-Jul	4	4	2	4	4	0	0	5	4	1	3	0	2	4	16	15	12	6	4	9	2	2	1	1	4.4	15.8
3-Jul	1	1	1	1	1	6	13	31	33	24	27	4	23	16	12	6	20	18	0	0	2	2	3	1	10.2	33.2
4-Jul	7	2	2	2	1	2	9	27	13	15	12	6	6	7	2	9	0	2	1	0	0	2	1	1	5.4	26.5
5-Jul	1	0	0	1	2	2	13	3	3	1	1	1	1	1	5	14	14	13	9	7	7	3	6	6	4.8	14.0
6-Jul	7	8	7	6	6	7	8	7	7	7	10	7	6	7	9	10	9	9	10	11	11	12	10	9	8.5	11.5
7-Jul	11	12	12	11	12	12	12	15	16	20	19	20	28	25	21	19	27	28	22	24	26	20	20	22	18.8	27.9
8-Jul	20	23	24	22	20	20	21	23	44	25	11	18	6	4	5	3	6	2	5	1	9	0	2	3	13.2	43.9
9-Jul	3	2	2	3	2	5	14	15	32	12	15	14	10	13	4	9	0	2	1	0	0	1	4	0	6.7	31.8
10-Jul	0	0	0	0	0	1	5	1	2	2	0	1	1	3	0	0	0	0	0	3	3	2	1	2	1.2	4.7
11-Jul	0	0	0	0	0	0	2	0	6	6	4	18	30	22	16	18	28	11	23	0	0	0	0	0	7.7	29.6
12-Jul	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	1	1	0.4	2.2
13-Jul	2	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1	0	1	1	1	1	0	0.4	1.6
14-Jul	0	0	0	0	0	0	2	0	0	0	0	0	1	2	1	1	1	1	2	1	1	1	0	0	0.6	1.9
15-Jul	0	0	0	1	1	2	8	3	8	6	9	5	3	1	11	15	4	11	4	2	3	4	3	3	4.5	14.6
16-Jul	2	3	5	2	3	5	8	7	4	3	6	9	3	3	3	3	1	2	4	5	10	9	10	7	4.9	9.8
17-Jul	5	4	5	4	4	7	18	15	42	40	35	25	N	0	1	6	0	9	10	9	13	32	23	16	14.1	41.6
18-Jul	20	12	12	8	6	6	13	17	17	15	16	17	10	14	16	1	20	38	12	8	15	9	6	7	13.1	37.7
19-Jul	12	7	7	5	6	7	9	17	13	8	10	18	23	23	16	29	17	8	9	13	10	9	5	5	11.9	28.5
20-Jul	5	5	0	2	2	2	1	0	1	3	7	3	5	2	3	3	3	3	0	0	1	0	0	0	2.1	7.4
21-Jul	2	0	0	0	2	0	4	0	0	0	0	0	0	1	2	1	1	2	1	4	7	N	0	0	1.1	7.1
22-Jul	0	0	1	1	1	5	5	7	3	3	3	3	0	N	0	0	0	0	2	9	7	4	3	3	2.7	9.0
23-Jul	2	0	0	0	0	0	4	7	0	1	3	3	1	2	3	1	2	2	2	4	5	2	0	0	1.9	7.2
24-Jul	1	3	0	0	0	3	7	6	2	3	0	2	0	1	1	3	M	2	2	3	3	1	0	0	1.8	6.8
25-Jul	0	0	0	0	0	2	11	5	8	9	10	8	9	5	8	7	7	10	10	16	2	0	0	6	5.6	16.0
26-Jul	5	4	4	3	8	7	16	12	8	12	N	N	N	0	6	0	0	0	2	0	6	7	2	2	5.1	16.5
27-Jul	1	2	0	N	0	0	2	7	2	2	0	6	4	0	3	0	0	0	0	2	4	0	0	0	1.6	7.4
28-Jul	0	0	0	0	0	0	2	6	1	0	1	2	0	0	0	1	0	0	0	2	1	1	4	2	0.9	6.1
29-Jul	1	1	0	1	3	3	3	3	4	0	2	3	0	4	0	0	0	4	3	4	2	4	1	4	2.1	4.4
30-Jul	3	2	2	1	1	3	4	3	3	3	0	1	0	3	3	4	2	2	2	4	8	5	1	2	2.5	7.9
31-Jul	6	4	2	3	2	3	5	2	4	4	5	5	6	4	4	2	4	3	1	6	8	1	1	0	3.5	7.6
4.2 3.4 3.0 2.9 3.0 3.9 7.4 8.1 9.3 7.6 7.4 7.2 6.4 5.6 5.5 5.9 6.1 6.2 4.7 5.0 5.5 4.7 3.8 3.6																								Diurnal Average		
20.4 22.6 23.6 21.7 20.0 19.9 21.1 30.9 43.9 40.3 35.0 24.9 29.6 24.8 21.0 28.5 27.6 37.7 23.3 24.3 25.7 32.2 22.7 22.0																								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

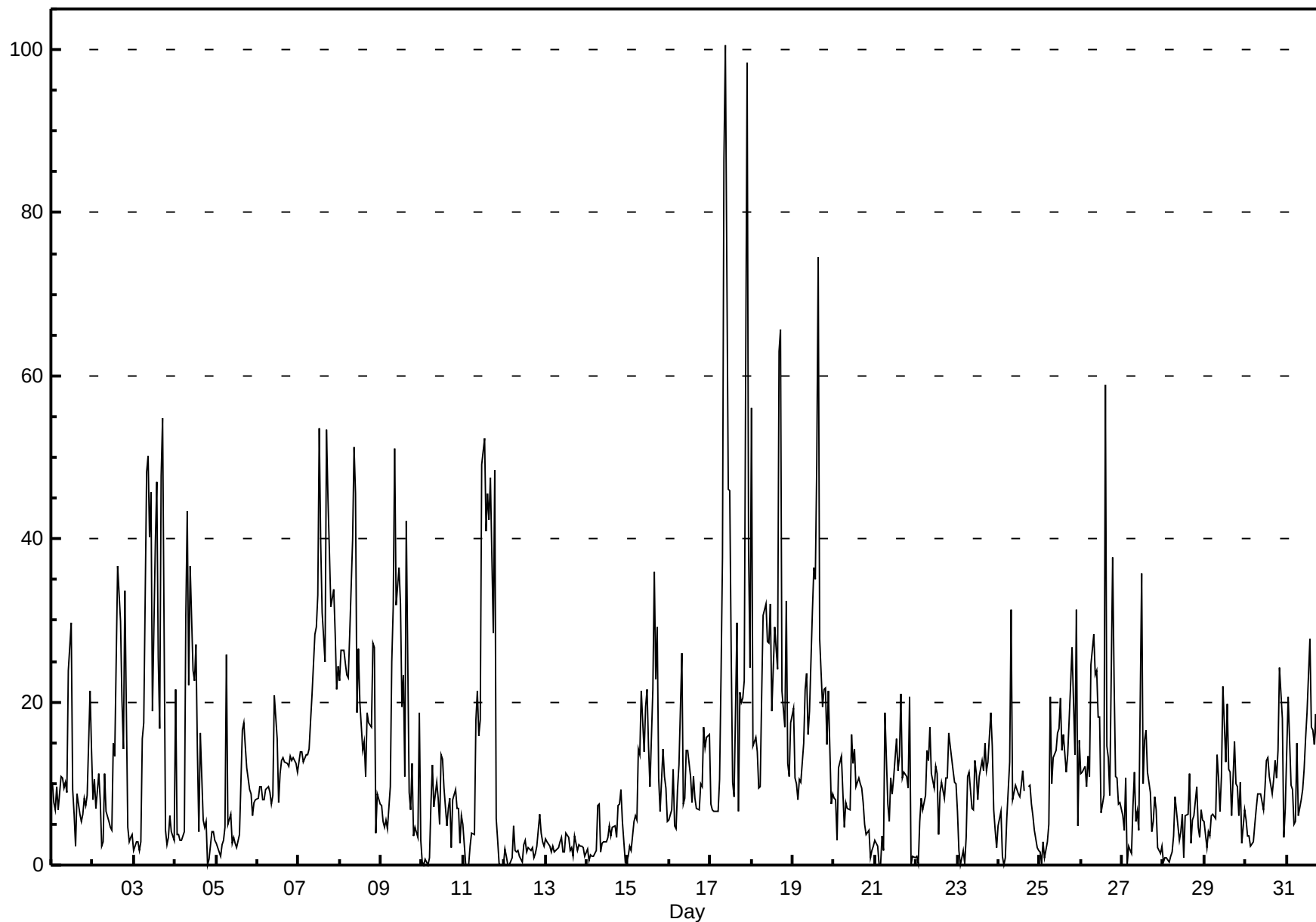
Evergreen Park - July 2013

Maximum Value: 100.6 $\mu\text{g}/\text{m}^3$ on Jul 17 10:00																								Maximum Daily Average: 29.6 $\mu\text{g}/\text{m}^3$ on Jul 17										Hours in Service: 744	
Minimum Value: 0 $\mu\text{g}/\text{m}^3$ on Jul 4 20:00																								Minimum Daily Average: 2.0 $\mu\text{g}/\text{m}^3$ on Jul 12										Hours of Data: 743	
Maximum Diurnal Average: 18.7 $\mu\text{g}/\text{m}^3$ at hour 12																								Minimum Diurnal Average: 5.4 $\mu\text{g}/\text{m}^3$ at hour 4										Hours of Missing Data: 1	
Monthly Average: 12.63 $\mu\text{g}/\text{m}^3$																								Percentiles: P ₁ = 0.0 P ₁₀ = 1.9 Q ₁ = 4.3 Median = 9.2 Q ₃ = 15.7 P ₉₀ = 28.1 P ₉₉ = 55.2										Hours of Calibration: 0	
Percent Operational Time: 99.9																																			
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum									
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24											
1-Jul	10	8	7	10	7	11	11	9	10	9	24	30	9	6	2	9	6	5	6	8	7	8	21	14	10.3	29.7									
2-Jul	8	10	7	11	8	2	3	11	6	5	5	4	15	13	37	33	30	20	14	34	5	3	3	4	12.2	36.7									
3-Jul	2	3	3	2	3	16	17	48	50	40	46	19	39	47	26	17	48	55	4	3	3	6	4	3	21.0	54.8									
4-Jul	22	4	4	3	3	4	30	43	22	37	24	23	27	14	4	16	6	5	5	0	1	4	4	3	12.8	43.3									
5-Jul	3	2	1	3	3	5	26	5	6	3	3	3	2	4	10	16	17	15	12	9	9	6	8	8	7.4	25.7									
6-Jul	8	10	10	8	8	9	10	9	7	9	21	15	8	11	13	13	13	12	12	13	13	13	12	11	11.2	20.8									
7-Jul	13	14	14	13	14	14	14	18	21	28	29	33	54	39	31	25	53	45	38	32	34	28	22	24	27.0	53.6									
8-Jul	23	26	26	25	23	23	28	40	51	46	19	26	20	14	15	11	19	17	17	27	27	4	9	7	22.6	51.3									
9-Jul	7	5	5	5	5	10	25	32	51	32	37	32	19	23	11	42	9	7	12	4	5	3	19	3	16.7	51.1									
10-Jul	0	0	1	0	1	7	12	7	10	8	5	14	13	9	5	7	8	2	8	9	7	7	3	6	6.3	13.6									
11-Jul	5	0	0	0	2	4	4	18	21	16	18	49	52	41	46	42	48	28	48	6	3	0	0	0	18.8	52.3									
12-Jul	2	1	0	0	1	5	2	2	2	1	0	3	3	2	2	2	2	1	1	2	6	4	3	2	2.0	6.3									
13-Jul	3	3	2	2	2	2	2	2	3	3	2	2	4	3	2	2	1	4	2	3	2	2	2	1	2.3	3.8									
14-Jul	2	1	1	1	1	2	7	7	2	3	3	3	3	5	4	5	5	3	7	7	9	5	0	1	3.6	9.2									
15-Jul	1	2	2	5	6	6	14	14	21	14	19	22	15	10	22	36	23	29	11	7	14	11	9	5	13.2	36.0									
16-Jul	6	7	12	5	5	9	12	26	7	8	14	14	11	8	11	8	7	7	10	10	17	14	16	16	10.8	26.0									
17-Jul	7	7	7	6	7	10	23	38	87	101	46	46	26	10	8	30	7	21	20	20	23	99	39	24	29.6	100.6									
18-Jul	56	15	16	14	9	10	21	31	32	27	27	32	19	29	26	24	63	66	21	17	32	12	11	17	26.2	65.7									
19-Jul	19	11	10	8	10	10	15	22	24	16	19	31	37	35	49	75	28	19	22	22	15	21	7	9	22.2	74.6									
20-Jul	8	8	3	12	13	9	5	8	7	7	16	12	14	10	11	10	9	8	5	4	4	1	2	2	7.8	16.0									
21-Jul	3	2	0	0	4	2	19	7	5	11	9	11	16	12	13	21	11	11	11	9	21	0	1	1	8.3	21.0									
22-Jul	1	0	5	8	7	8	14	13	17	11	9	12	11	4	9	10	8	11	11	16	15	12	10	10	9.7	17.0									
23-Jul	6	2	0	2	0	3	11	11	7	7	13	11	8	11	13	12	15	12	13	19	15	7	4	2	8.4	18.7									
24-Jul	5	6	1	0	1	6	13	31	8	9	10	9	8	10	12	9	M	10	10	7	6	4	2	2	7.8	31.4									
25-Jul	2	0	3	1	3	5	21	10	13	14	16	17	20	14	16	11	14	18	22	27	14	31	5	15	13.0	31.4									
26-Jul	11	11	12	10	13	11	25	28	23	24	18	18	6	8	59	15	13	8	38	22	11	11	7	8	17.2	59.0									
27-Jul	6	4	11	0	2	1	7	11	5	7	4	36	10	15	17	11	9	4	5	8	7	2	1	2	7.8	35.8									
28-Jul	0	1	1	0	1	2	4	8	5	3	4	6	1	6	6	11	3	6	6	10	5	3	7	6	4.3	11.2									
29-Jul	5	2	4	4	6	6	6	14	11	6	11	22	13	20	12	11	6	15	10	10	6	10	3	7	9.1	21.9									
30-Jul	6	4	4	2	3	5	7	9	9	9	7	9	13	13	11	9	10	13	11	14	24	18	3	7	9.1	24.3									
31-Jul	14	21	10	9	5	5	15	6	8	9	12	16	19	28	17	16	15	18	13	15	17	8	4	1	12.5	27.7									
8.5 6.1 5.8 5.4 5.7 7.1 13.6 17.3 17.8 16.8 15.8 18.7 16.6 15.3 16.7 18.1 16.8 15.9 13.7 12.7 12.1 11.6 7.8 7.2																								Diurnal Average											
56.0 26.3 26.3 24.8 23.3 23.0 30.4 48.2 86.5 100.6 46.0 49.2 53.6 47.0 59.0 74.6 63.0 65.7 48.4 33.6 33.8 98.5 38.7 24.3																								Diurnal Maximum											
M - Maintenance																																			

Hourly Maximums

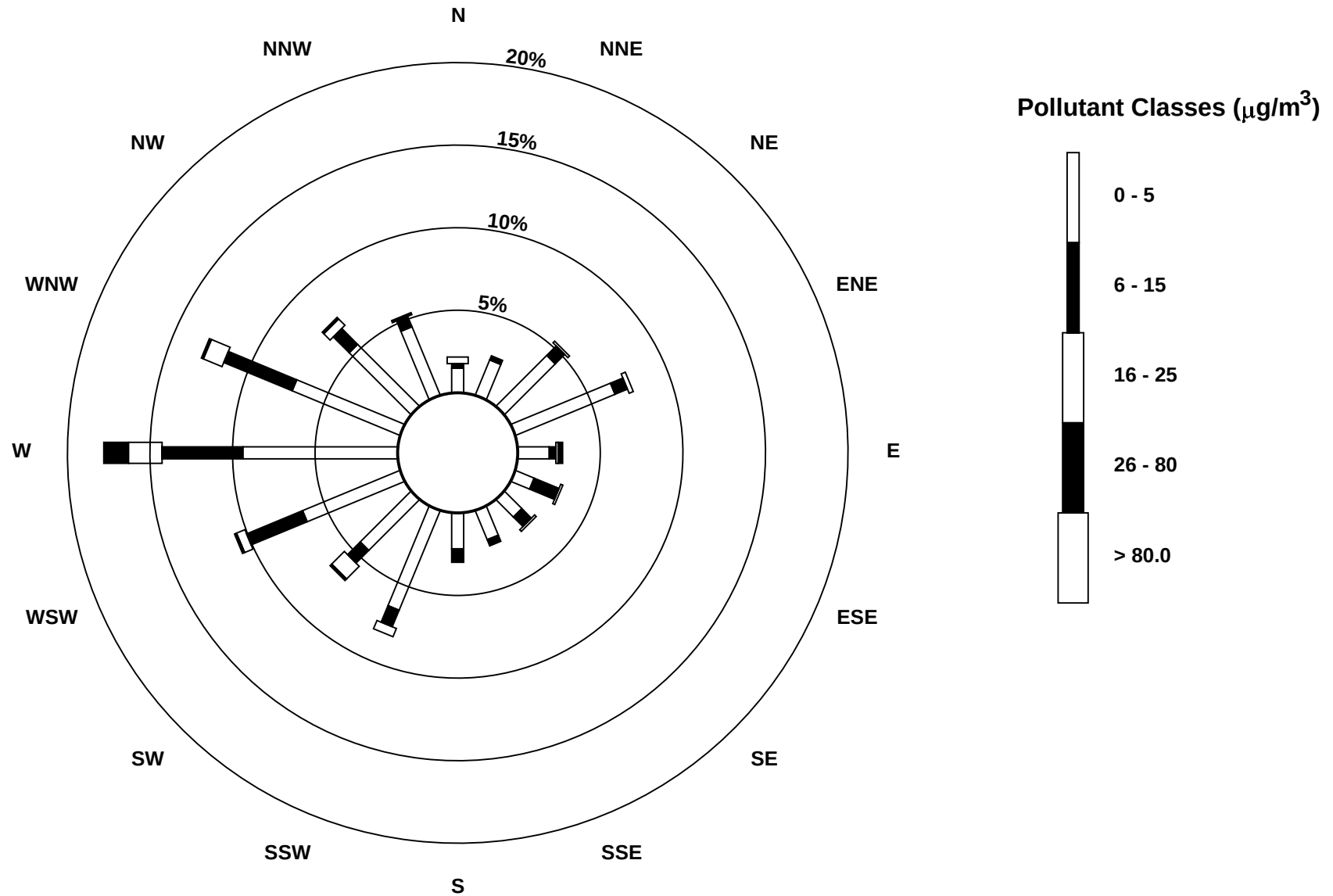
Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$

Evergreen Park - July 2013



Pollutant Rose

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



Hourly Averages

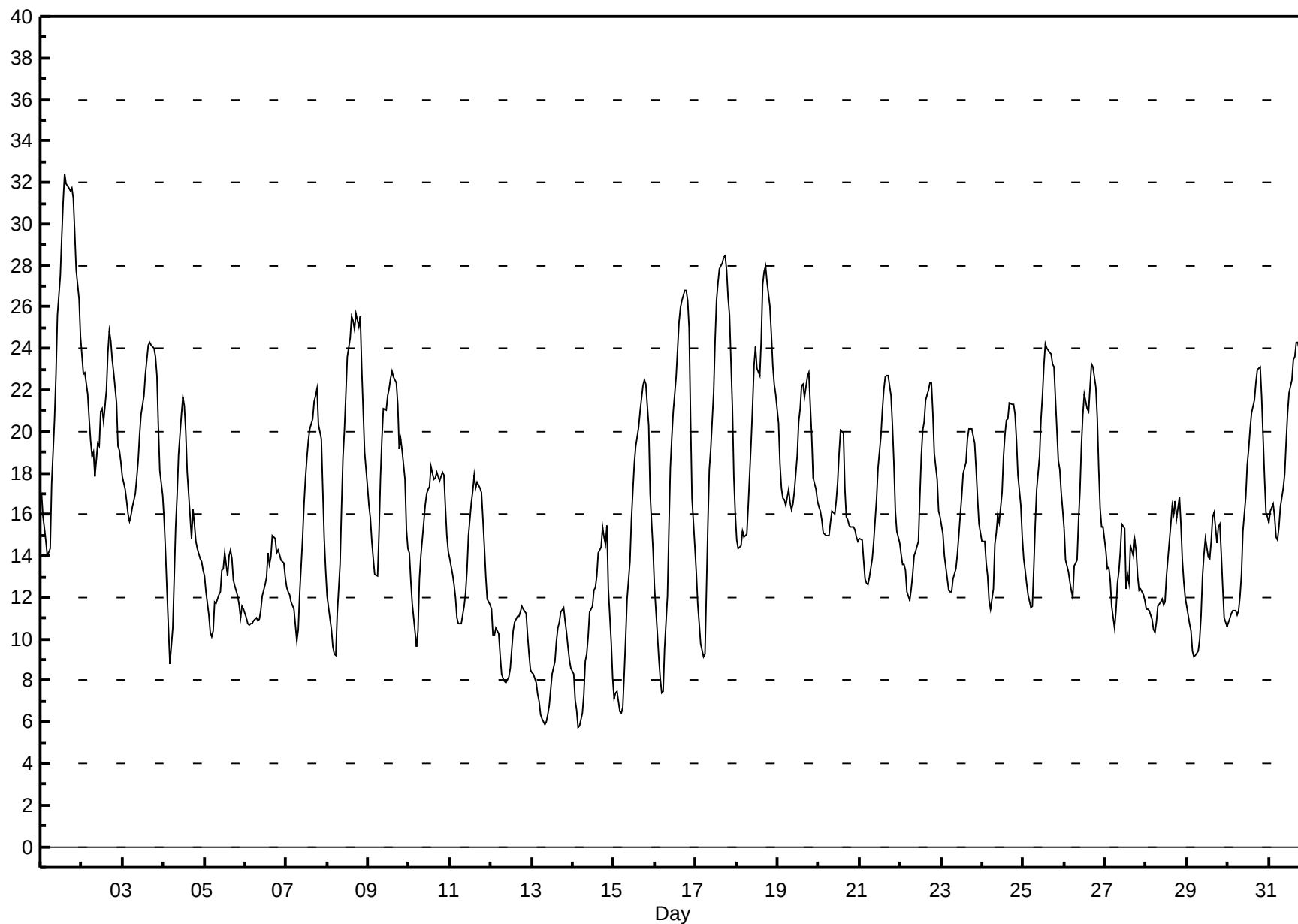
External Temperature (ET) - °C

Evergreen Park - July 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																				Hours in Service: 744							
Maximum Value: 32.5 °C on Jul 1 15:00																				Maximum Daily Average: 24.3 °C on Jul 1				Hours of Data: 744			
Minimum Value: 6 °C on Jul 14 04:00																				Minimum Daily Average: 8.5 °C on Jul 13				Hours of Missing Data: 0			
Maximum Diurnal Average: 20.5 °C at hour 18																				Minimum Diurnal Average: 11.5 °C at hour 6				Hours of Calibration: 0			
Monthly Average: 16.22 °C																				Percentiles: P ₁ = 6.5 P ₁₀ = 10.3 Q ₁ = 12.3 Median = 15.5 Q ₃ = 20.1 P ₉₀ = 23.2 P ₉₉ = 30.9				Percent Operational Time: 100.0			
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jul	17	16	15	15	14	14	17	19	21	23	26	27	29	31	32	32	32	32	32	31	30	28	26	25	24.3	32.5	
2-Jul	24	23	23	22	21	20	19	19	18	19	19	21	21	20	22	24	25	24	23	23	21	19	19	19	21.2	24.9	
3-Jul	18	17	17	16	16	16	16	17	18	19	20	21	22	23	23	24	24	24	24	24	23	20	18	17	19.8	24.3	
4-Jul	16	14	12	11	9	11	13	15	17	19	21	22	21	20	18	17	15	16	16	15	14	14	14	13	15.5	21.7	
5-Jul	13	12	11	10	10	10	12	12	12	12	13	13	14	13	14	14	14	13	13	12	12	11	12	11	12.3	14.3	
6-Jul	11	11	11	11	11	11	11	11	11	11	12	13	13	14	14	14	15	15	14	14	14	14	14	13	12.5	15.0	
7-Jul	12	12	12	12	11	11	10	10	12	15	16	18	19	20	20	21	21	22	22	20	20	17	15	13	15.9	22.0	
8-Jul	12	12	10	10	9	9	11	14	16	19	20	22	24	25	26	25	25	26	25	26	23	21	19	17	18.5	25.7	
9-Jul	16	16	15	14	13	13	15	18	20	21	21	22	22	23	23	23	22	21	19	20	19	18	15	14	18.4	22.9	
10-Jul	14	13	12	10	10	10	13	14	16	16	17	17	17	18	18	18	18	18	18	18	18	16	15	14	15.3	18.3	
11-Jul	14	13	13	12	11	11	11	11	12	12	13	15	17	17	18	17	18	17	17	16	15	13	12	12	14.0	17.9	
12-Jul	11	10	10	11	10	9	8	8	8	8	8	9	9	10	11	11	11	11	12	11	11	10	9	8	9.9	11.5	
13-Jul	8	8	8	7	7	6	6	6	6	6	7	8	8	9	10	11	11	11	11	11	10	10	9	9	8.5	11.5	
14-Jul	8	7	7	6	6	6	7	9	9	10	11	12	12	12	13	14	14	15	15	15	15	12	10	8	10.7	15.4	
15-Jul	7	7	7	6	6	7	8	10	12	14	16	17	18	19	20	21	22	22	22	22	20	17	16	14	14.7	22.5	
16-Jul	12	10	9	8	7	7	10	12	15	18	20	21	23	24	25	26	26	27	27	26	25	21	17	14	18.0	26.8	
17-Jul	13	12	11	10	9	9	12	15	18	19	22	24	26	27	28	28	28	28	28	26	26	21	18	16	19.8	28.5	
18-Jul	15	14	14	15	15	15	15	16	19	21	23	24	23	23	24	27	28	28	27	26	25	23	22	22	21.1	28.0	
19-Jul	20	18	17	17	17	16	17	17	16	16	17	19	20	21	22	22	22	23	23	21	20	18	17	17	18.9	22.8	
20-Jul	16	16	16	15	15	15	15	16	16	16	17	18	19	20	20	17	16	16	15	15	15	15	15	15	16.2	20.1	
21-Jul	15	15	14	13	13	13	13	14	15	16	17	18	20	21	22	23	23	23	22	20	18	16	15	15	17.1	22.7	
22-Jul	14	14	14	13	12	12	12	13	14	14	15	17	19	20	20	21	22	22	22	21	19	18	16	16	16.7	22.4	
23-Jul	15	15	14	13	12	12	12	13	13	14	15	16	17	18	19	20	20	20	20	19	18	17	16	15	16.0	20.1	
24-Jul	15	15	14	13	12	11	12	15	15	16	16	17	19	20	21	21	21	21	21	21	20	18	16	15	16.8	21.4	
25-Jul	14	13	13	12	12	12	13	16	17	19	21	22	23	24	24	24	24	23	23	22	19	18	17	16	18.3	24.2	
26-Jul	15	14	13	13	12	12	14	14	16	17	19	21	22	21	21	22	23	23	22	21	18	16	15	15	17.5	23.3	
27-Jul	14	13	13	13	12	11	11	13	13	14	16	15	12	13	13	14	14	15	14	13	12	12	12	12	13.2	15.5	
28-Jul	11	11	11	11	10	10	11	12	12	12	12	12	13	14	16	16	16	16	17	16	16	14	13	12	13.1	16.8	
29-Jul	12	11	10	9	9	9	9	10	11	13	14	15	14	14	15	16	16	15	15	16	14	12	11	11	12.6	16.1	
30-Jul	11	11	11	11	11	11	11	12	13	15	17	18	19	20	21	22	22	23	23	23	22	18	16	16	16.6	23.1	
31-Jul	16	16	16	16	15	15	15	16	17	18	20	21	22	23	23	24	24	24	24	24	22	19	17	15	19.2	24.3	
																									Diurnal Average		
																									Diurnal Maximum		

Hourly Averages

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



Hourly Averages

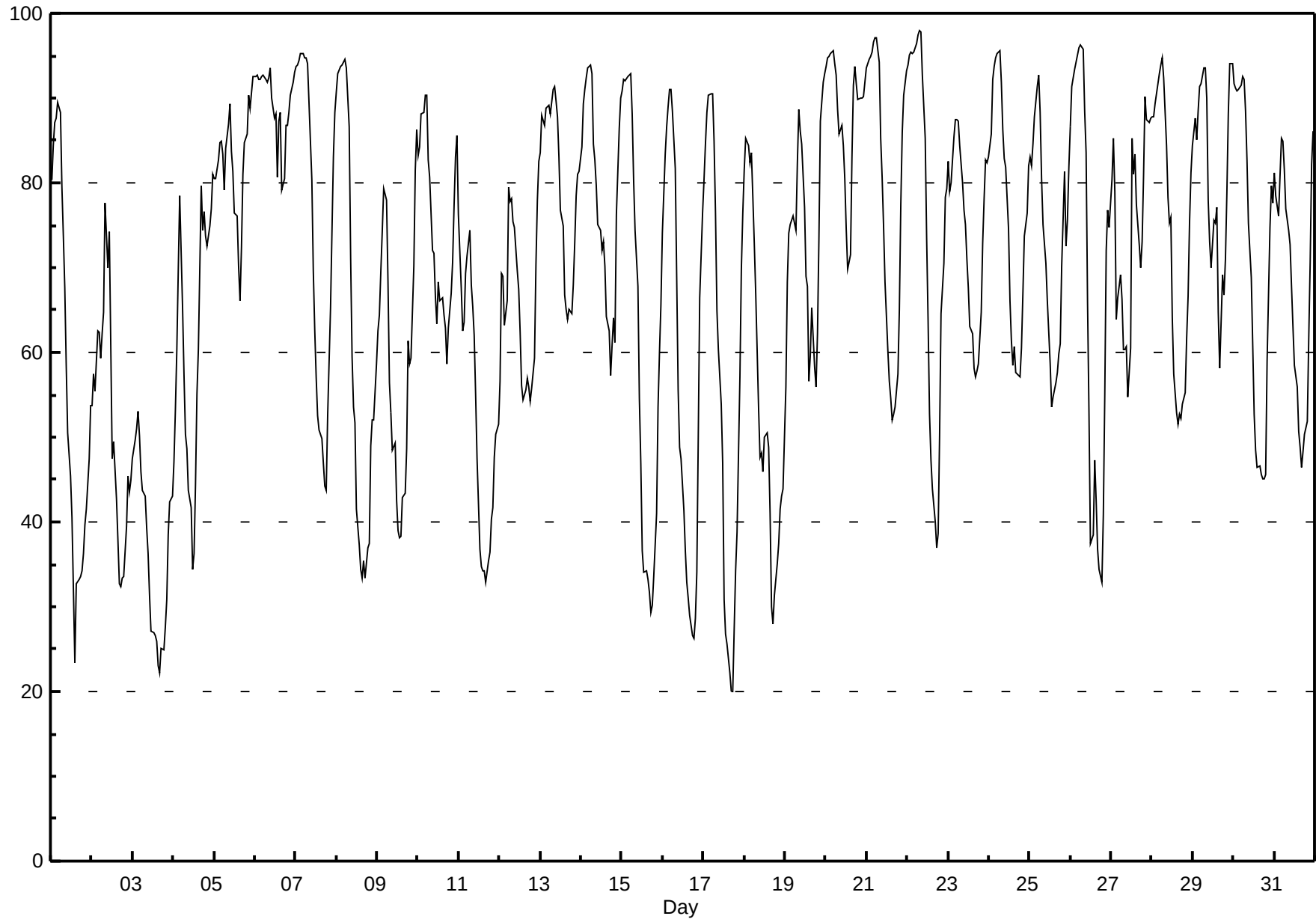
Relative Humidity (RH) - %

Evergreen Park - July 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																				Hours in Service: 744							
Maximum Value: 97.9 % on Jul 22 08:00																				Maximum Daily Average: 89.3 % on Jul 6				Hours of Data: 744			
Minimum Value: 20 % on Jul 17 18:00																				Minimum Daily Average: 36.5 % on Jul 3				Hours of Missing Data: 0			
Maximum Diurnal Average: 85.6 % at hour 5																				Minimum Diurnal Average: 50.5 % at hour 18				Hours of Calibration: 0			
Monthly Average: 68.50 %																				Percentiles: P ₁ = 25.1 P ₁₀ = 38.1 Q ₁ = 53.5 Median = 72.0 Q ₃ = 85.8 P ₉₀ = 92.5 P ₉₉ = 96.3				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	80	84	87	88	89	88	79	74	68	58	51	45	41	32	23	33	33	34	34	36	40	41	47	54	55.9	89.5	
2-Jul	54	57	55	62	62	59	62	65	78	70	74	61	47	49	43	38	33	32	33	34	39	45	44	45	51.8	77.6	
3-Jul	47	50	51	53	50	46	44	43	39	36	31	27	27	27	26	23	22	25	25	28	31	38	42	43	36.5	53.1	
4-Jul	47	53	60	70	79	65	57	50	49	44	42	34	36	44	55	60	80	74	77	74	72	75	77	81	60.7	81.0	
5-Jul	81	81	83	85	85	83	79	84	87	89	84	81	76	76	70	66	72	81	85	86	90	89	91	93	82.4	92.6	
6-Jul	93	93	92	92	93	93	92	92	92	93	90	88	88	81	87	88	79	81	87	87	88	90	92	93	89.3	93.5	
7-Jul	94	94	94	95	95	95	95	94	90	80	70	63	57	53	51	50	47	44	44	52	65	74	83	88	73.6	95.3	
8-Jul	91	93	94	94	94	95	94	87	71	60	54	52	41	37	34	33	35	33	37	37	49	52	52	59	61.6	94.5	
9-Jul	63	64	69	74	79	78	68	56	53	48	49	43	39	38	38	43	43	49	61	59	59	70	81	86	58.9	86.2	
10-Jul	83	84	88	88	90	90	83	81	72	72	67	63	68	66	66	64	63	59	63	67	71	77	83	86	74.8	90.4	
11-Jul	76	68	63	63	69	71	74	68	65	62	55	48	37	35	34	34	33	35	36	40	42	48	50	52	52.5	76.3	
12-Jul	57	69	69	63	66	79	78	78	75	75	70	68	62	56	54	56	57	56	54	56	59	70	78	82	66.2	82.5	
13-Jul	84	88	87	89	89	89	88	91	91	90	88	83	77	75	67	65	64	65	65	68	73	78	81	81	79.8	91.4	
14-Jul	84	89	91	92	94	94	93	85	83	80	75	74	72	73	70	64	63	57	61	64	61	76	86	90	78.0	93.9	
15-Jul	91	92	92	92	93	93	88	80	74	68	55	47	37	34	34	33	32	29	30	34	41	54	60	66	60.4	92.9	
16-Jul	74	83	87	89	91	91	88	82	69	56	49	47	41	37	33	31	29	27	26	29	34	50	67	76	57.7	91.0	
17-Jul	80	85	88	90	90	90	85	76	65	60	54	47	31	27	26	22	20	20	27	34	39	57	70	76	56.7	90.5	
18-Jul	82	85	84	82	84	78	73	67	53	48	48	46	50	50	49	41	30	28	31	35	38	42	43	44	54.6	85.3	
19-Jul	56	68	74	75	76	76	74	82	89	86	85	77	69	68	57	60	65	58	56	62	73	87	92	93	73.3	92.9	
20-Jul	94	95	95	95	96	94	93	89	86	87	84	81	75	70	71	83	92	94	92	90	90	90	90	92	88.1	95.5	
21-Jul	94	95	95	95	97	97	97	94	85	81	75	68	60	57	55	52	53	54	57	65	77	86	90	93	78.0	97.2	
22-Jul	94	95	95	95	95	96	97	98	98	93	85	73	64	53	47	44	40	37	39	50	65	71	78	79	74.3	97.9	
23-Jul	83	79	80	85	87	87	87	84	80	77	75	71	68	63	62	58	57	58	59	65	73	78	83	82	74.2	87.5	
24-Jul	83	86	92	94	95	95	96	92	86	83	82	75	66	61	58	61	58	57	57	61	67	74	77	82	76.5	95.6	
25-Jul	83	82	85	88	91	93	88	80	75	70	66	62	59	53	55	56	58	60	61	70	81	72	76	82	72.8	92.8	
26-Jul	87	91	93	94	95	96	96	96	88	84	66	53	37	39	47	43	37	34	33	41	55	72	77	75	67.9	96.2	
27-Jul	80	85	79	64	66	69	66	60	60	61	55	61	85	81	83	77	73	70	73	81	90	87	87	88	74.3	90.1	
28-Jul	88	88	89	92	93	94	95	92	84	78	75	76	64	58	53	51	53	52	54	55	62	67	75	81	73.7	94.8	
29-Jul	84	88	85	88	91	92	94	94	90	78	73	70	76	75	77	65	58	69	67	71	79	88	94	94	80.8	94.1	
30-Jul	92	91	91	91	92	93	92	89	83	75	69	61	53	48	47	47	46	45	45	46	59	75	80	78	70.2	92.5	
31-Jul	81	79	76	81	85	85	82	77	74	73	68	63	58	56	51	49	47	48	50	52	62	71	82	86	68.1	86.1	
79.3 81.7 82.7 83.9 85.6 85.4 83.2 80.0 75.9 71.4 66.5 61.5 56.8 53.9 52.4 51.3 50.6 50.5 52.2 55.7 62.1 69.2 74.5 77.4																									Diurnal Average		
93.9 95.0 95.4 95.5 96.6 97.2 97.4 97.9 97.8 93.5 90.0 87.6 88.1 81.0 87.4 88.3 91.6 93.6 91.8 89.9 90.3 90.4 94.1 94.1																									Diurnal Maximum		

Hourly Averages

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



Hourly Averages

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

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1 Spd	1	2	1	1	2	5	2	5	7	7	4	6	6	6	5	13	14	15	12	7	7	4	11	15	2.2	15.2
Dir	343	14	270	225	51	209	242	211	191	218	157	139	142	115	138	60	61	64	83	78	100	140	241	275	116.5	274.9
2 Spd	5	10	8	7	28	26	9	6	8	12	9	5	17	9	18	20	26	26	25	28	25	20	26	20	13.3	27.9
Dir	240	184	192	300	318	325	312	213	190	207	188	284	291	297	282	261	282	287	281	275	264	245	252	253	271.2	275.1
3 Spd	21	22	25	25	25	24	27	29	32	33	31	28	29	23	25	24	31	24	18	17	11	9	9	8	22.2	33.4
Dir	242	247	250	254	251	259	262	261	265	261	264	286	270	281	276	285	278	278	290	277	285	306	266	267	267.6	260.6
4 Spd	5	5	2	2	1	8	6	12	11	10	9	12	9	14	14	17	10	13	15	18	12	9	5	6	6.8	17.5
Dir	253	231	207	211	190	206	254	279	278	258	266	257	282	308	341	241	197	200	194	193	190	186	229	246	238.9	192.7
5 Spd	9	6	6	5	8	12	14	13	11	13	17	19	22	12	23	26	22	16	15	15	14	9	12	14	12.9	26.3
Dir	280	270	268	279	255	258	283	282	293	301	294	299	303	342	333	334	321	313	288	293	300	296	270	285	299.2	333.7
6 Spd	15	13	14	12	9	9	10	12	11	11	12	15	11	13	2	3	11	11	15	12	7	6	3	4	9.4	15.2
Dir	298	314	288	288	284	299	310	317	300	299	287	267	249	296	288	247	296	261	252	254	287	294	262	274	285.4	267.4
7 Spd	4	5	8	9	8	8	9	8	10	11	11	9	13	11	14	12	10	10	6	1	1	2	2	4	6.9	13.8
Dir	270	273	271	265	275	290	279	267	269	264	275	286	265	284	299	316	273	272	0	354	84	193	59	212	279.2	298.9
8 Spd	2	1	0	0	2	1	3	3	3	2	8	10	7	8	8	11	12	11	6	3	5	12	6	8	4.0	11.6
Dir	53	113	236	303	222	73	196	226	266	217	215	214	216	222	245	306	289	271	310	201	284	215	200	206	242.2	214.6
9 Spd	3	6	6	7	1	6	9	16	19	22	21	24	24	18	15	16	15	14	15	16	15	4	8	7	11.7	24.2
Dir	214	218	224	245	257	223	249	251	262	255	257	262	257	265	270	274	321	247	247	225	230	179	208	199	251.8	261.7
10 Spd	5	5	4	1	3	2	2	5	10	16	12	10	6	10	8	11	14	10	10	10	7	4	3	5	5.5	15.7
Dir	214	197	203	131	195	205	195	185	143	140	143	163	226	278	302	226	218	203	189	200	208	212	196	197	195.5	140.2
11 Spd	5	11	17	14	3	6	8	13	9	10	20	24	34	29	29	30	31	34	33	33	35	23	29	30	20.8	34.6
Dir	249	274	271	269	357	282	212	245	264	259	254	260	260	268	252	255	258	251	262	254	250	249	243	251	256.1	250.2
12 Spd	31	23	25	24	20	21	29	23	24	25	23	23	22	23	23	22	18	14	12	8	4	2	1	3	15.9	31.0
Dir	259	251	254	260	277	303	322	317	320	309	309	309	316	311	331	335	333	320	324	299	301	83	155	71	302.4	259.0
13 Spd	4	3	8	9	10	11	12	12	9	9	9	6	3	1	9	1	4	12	11	8	6	3	3	3	2.3	12.3
Dir	73	45	33	46	39	44	42	36	44	52	53	58	46	294	250	268	269	211	221	199	187	159	127	153	56.9	41.7
14 Spd	1	4	3	2	4	3	3	5	4	4	2	3	6	7	4	5	2	1	5	3	1	2	0	1	2.4	7.4
Dir	146	66	81	50	69	82	89	69	34	54	28	312	360	34	44	31	40	352	57	88	120	210	206	224	49.7	33.6
15 Spd	2	4	3	4	5	6	9	13	13	15	18	17	17	16	17	16	16	17	15	10	7	8	1	3	9.1	17.9
Dir	226	254	241	292	279	261	267	274	253	255	255	270	263	288	263	267	266	272	272	297	5	75	102	209	268.9	255.1
16 Spd	1	1	3	0	1	1	4	5	8	4	7	10	12	13	10	12	13	12	8	8	4	1	1	2	5.0	12.7
Dir	225	46	205	217	152	237	213	186	192	206	180	173	188	216	259	202	202	211	172	155	138	90	249	38	195.1	215.7
17 Spd	2	2	1	0	0	0	3	3	1	5	5	4	6	10	10	6	5	4	4	6	3	1	0	2	1.3	10.2
Dir	51	38	32	1	159	293	207	199	324	338	304	218	140	144	170	162	152	162	51	56	80	221	307	224	148.5	170.0
18 Spd	1	1	1	6	3	12	10	12	17	13	16	17	13	8	6	10	22	30	19	18	17	15	14	8	11.2	29.9
Dir	357	212	233	217	207	220	268	270	258	269	279	287	284	284	292	311	270	268	278	261	255	248	251	322	268.2	268.3
19 Spd	6	2	4	7	2	6	6	6	10	16	17	19	18	16	7	9	9	6	7	7	5	5	1	5	2.4	18.9
Dir	33	43	8	28	299	327	347	315	282	264	255	250	273	290	310	93	91	123	115	117	87	48	139	144	292.5	250.3
20 Spd	3	6	4	3	8	8	2	5	3	4	4	6	8	11	15	15	6	3	15	20	14	12	10	7	1.7	19.8
Dir	37	20	61	63	39	2	151	173	149	36	78	88	78	62	43	40	65	295	253	251	263	266	273	276	349.6	250.6
21 Spd	7	8	8	7	8	8	8	11	8	6	7	7	2	6	8	10	11	10	9	7	3	5	3	1	2.1	10.7
Dir	275	276	276	273	253	267	248	256	259	311	343	318	307	5	37	31	67	75	70	71	133	98	194	323	319.8	256.1
22 Spd	0	3	2	2	1	7	9	12	12	18	17	16	19	22	29	20	18	16	11	7	4	5	7	5	9.0	28.8
Dir	57	77	166	154	204	243	274	276	312	307	307	316	334	328	335	341	335	331	342	32	39	341	230	335	322.7	335.2

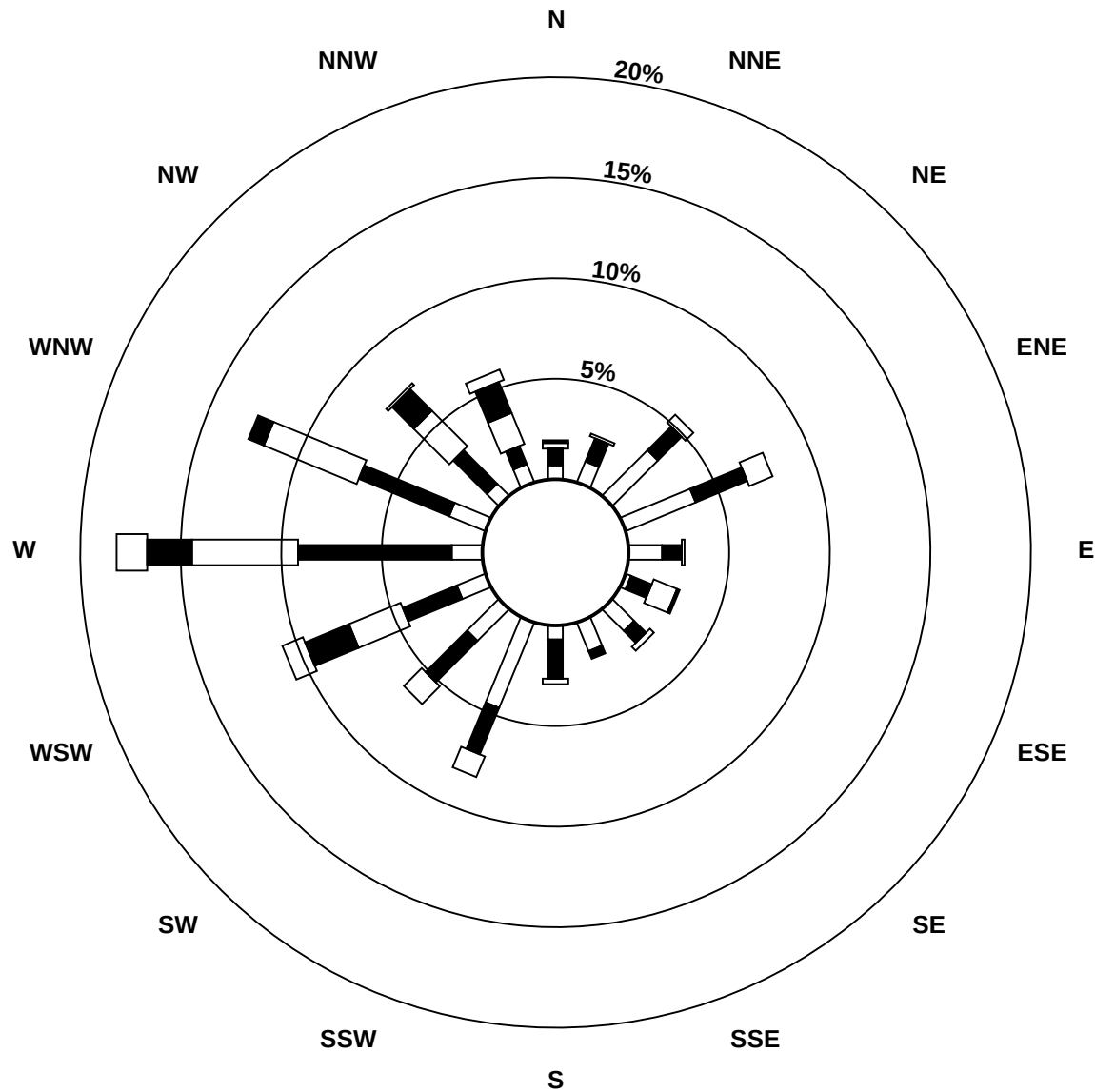
Hourly Averages

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

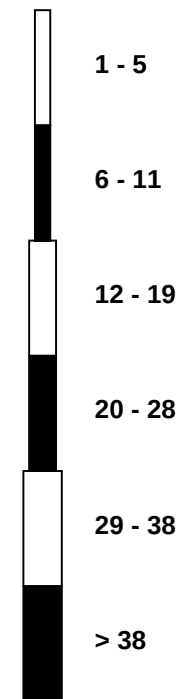
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
23 Spd	8	12	16	8	8	10	12	12	13	11	5	4	6	4	6	7	6	6	5	6	3	3	3	3	4.9	15.8
Dir	310	336	330	290	285	284	285	283	320	308	299	284	331	347	36	20	28	42	86	86	57	76	56	45	329.5	330.2
24 Spd	3	1	4	0	2	2	3	7	9	9	12	12	10	10	9	12	13	12	13	11	7	6	6	5	7.2	13.2
Dir	49	294	127	20	48	34	67	78	106	82	61	58	62	60	75	62	78	63	68	68	70	70	74	59	68.9	67.8
25 Spd	7	5	5	5	4	3	5	13	12	14	12	18	18	21	16	17	15	11	5	14	5	15	5	4	7.7	20.7
Dir	62	70	77	75	68	62	73	107	110	111	107	107	108	121	110	106	103	111	142	228	205	232	159	177	115.1	120.7
26 Spd	3	3	2	2	1	2	3	9	10	7	10	13	20	11	5	7	7	12	9	9	9	7	6	4	3.1	20.0
Dir	68	28	51	215	233	351	285	268	302	314	339	356	335	319	338	89	75	344	327	174	185	204	193	256	321.4	335.0
27 Spd	1	3	9	14	8	6	7	19	19	15	16	18	10	19	17	17	19	26	28	21	8	11	12	13	13.2	27.6
Dir	92	226	273	268	301	296	274	260	273	298	302	313	228	261	275	289	290	277	263	265	244	288	285	301	277.6	263.2
28 Spd	14	15	13	14	18	16	12	16	23	33	32	26	25	23	19	16	31	26	20	12	8	9	5	2	16.1	33.4
Dir	302	299	280	284	274	273	297	311	326	331	334	337	342	356	4	12	333	333	335	307	307	319	353	270	324.3	331.1
29 Spd	5	7	7	7	10	7	6	10	9	10	7	11	19	14	14	19	20	15	6	11	12	5	7	8	7.6	19.8
Dir	282	279	267	251	256	297	231	220	264	234	250	280	250	299	287	316	337	342	279	234	223	139	189	220	270.0	337.0
30 Spd	9	6	7	6	5	4	7	11	11	8	8	8	7	10	10	10	6	8	10	5	1	5	5	5	6.4	11.3
Dir	228	241	259	268	266	254	265	248	251	229	205	210	267	265	286	284	270	280	288	291	212	202	211	212	253.5	250.7
31 Spd	4	2	1	9	9	11	11	16	13	14	6	3	5	4	4	6	4	7	6	7	4	2	2	2	2.7	16.1
Dir	243	320	105	268	267	268	280	311	330	336	4	343	295	17	319	52	71	119	116	131	73	86	62	73	320.8	311.0
Spd	3.6	3.5	4.3	4.9	4.6	5.5	5.8	7.2	7.1	7.3	7.1	7.5	8.3	7.4	7.4	6.2	6.8	7.2	6.1	6.0	4.5	3.4	4.5	4.3	Diurnal Average	
Dir	271.3	273.8	267.7	270.7	281.9	282.8	280.3	271.9	279.9	282.3	281.8	284.7	282.2	298.3	304.3	310.6	301.1	282.6	276.2	249.9	248.2	243.0	240.8	255.0	Diurnal Maximum	
Spd	31.0	22.7	24.7	24.9	27.7	25.7	28.5	28.7	32.2	33.4	32.2	27.7	34.1	29.5	28.9	30.1	31.3	34.5	32.9	32.9	34.6	23.1	28.5	29.8	Diurnal Maximum	
Dir	259.0	251.3	254.4	254.0	317.8	325.2	322.2	261.0	264.5	260.6	334.0	286.2	259.9	267.6	251.6	255.0	257.8	251.0	262.2	254.1	250.2	249.0	243.1	251.0	Diurnal Maximum	
Maximum Speed Value: 35 km/h on Jul 11 21:00																								Hours in Service: 744		
Maximum Daily Speed Average: 22.2 km/h on Jul 3																								Hours of Data: 744		
Maximum Diurnal Speed Average: 8.3 km/h at hour 13																								Hours of Missing Data: 0		
Minimum Speed Value: 0 km/h on Jul 17 05:00																								Percent Operational Time: 100.0		
Minimum Daily Speed Average: 1.3 km/h on Jul 14																										
Minimum Diurnal Speed Average: 3.4 km/h at hour 22																										
Monthly Average Velocity: 5.59 km/h 278.71 deg																										
Speed Percentiles: P ₁ = 0.4 P ₁₀ = 2.2 Q ₁ = 4.7 Median = 8.5 Q ₃ = 13.9 P ₉₀ = 20.6 P ₉₉ = 32.8																										
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	13	15	7	4	0	0	39																			
NorthEast	39	25	13	0	0	0	77																			
East	29	24	13	0	0	0	66																			
SouthEast	19	16	2	1	0	0	38																			
South	21	25	7	0	0	0	53																			
SouthWest	44	39	19	3	1	0	106																			
West	20	86	79	39	18	0	242																			
NorthWest	17	32	44	25	5	0	123																			
Total	202	262	184	72	24	0	744																			

Wind Rose

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



Wind Speed Classes (km/h)



Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Evergreen Park - July 2013

Maximum Speed: 35 km/h on Jul 11 18:00																				Maximum Daily Speed Average: 23.6 km/h on Jul 3										Hours in Service: 744	
Minimum Speed: 1 km/h on Jul 8 03:00																				Minimum Daily Speed Average: 4.8 km/h on Jul 14										Hours of Data: 744	
Maximum Diurnal Speed Average: 16.0 km/h at hour 17																				Minimum Diurnal Speed Average: 7.2 km/h at hour 1										Hours of Missing Data: 0	
Monthly Average Speed: 11.43 km/h																				Percentiles: P ₁ = 1.8 P ₁₀ = 3.5 Q ₁ = 6.2 Median = 9.8 Q ₃ = 14.8 P ₉₀ = 22.1 P ₉₉ = 33.4										Percent Operational Time: 100.0	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24							
1-Jul	2	3	2	2	3	6	4	6	8	7	6	8	9	9	9	15	15	16	13	8	8	5	13	17	8.1	17.1					
2-Jul	14	11	8	11	29	26	10	7	8	13	9	8	18	10	19	21	27	28	26	28	25	20	26	20	17.6	28.6					
3-Jul	21	22	25	25	25	24	27	29	33	34	32	29	30	24	27	26	32	25	20	18	12	9	10	8	23.6	34.1					
4-Jul	5	6	5	5	3	8	8	13	12	12	11	14	11	16	15	18	13	13	16	18	13	10	7	7	10.8	18.0					
5-Jul	10	6	6	6	8	12	14	14	12	14	18	20	24	14	23	27	23	17	16	15	15	10	13	15	14.7	26.9					
6-Jul	15	14	14	12	9	9	10	12	12	11	13	16	13	14	8	8	12	13	15	12	8	7	4	4	11.1	15.8					
7-Jul	5	6	8	10	8	9	10	9	11	12	13	12	14	13	16	14	11	11	7	3	2	5	2	5	9.0	15.8					
8-Jul	3	2	1	2	2	3	4	4	4	7	9	11	9	11	11	13	12	12	6	4	6	12	6	8	6.8	12.8					
9-Jul	3	6	6	8	3	6	9	16	20	23	22	25	25	19	17	18	17	15	16	16	15	4	8	7	13.4	24.9					
10-Jul	5	6	7	5	4	2	3	6	11	17	13	11	8	13	10	12	14	11	11	10	7	5	4	5	8.4	16.6					
11-Jul	6	11	17	14	5	8	8	13	9	11	21	26	35	31	30	31	32	35	34	34	35	23	29	30	22.0	35.1					
12-Jul	31	23	25	25	20	22	29	24	25	26	24	24	24	25	24	23	19	16	13	9	5	3	3	3	19.4	31.4					
13-Jul	4	3	8	9	10	12	13	12	10	9	9	7	5	6	11	6	7	13	13	8	7	4	3	4	8.0	12.6					
14-Jul	3	4	4	2	4	3	4	6	5	5	7	6	8	9	7	10	5	6	5	3	3	2	1	2	4.8	9.5					
15-Jul	2	4	4	5	6	6	10	14	13	16	19	18	19	18	18	18	18	18	16	10	9	9	7	4	11.8	19.4					
16-Jul	4	3	4	4	3	2	5	6	8	6	9	12	14	14	13	14	15	13	10	9	5	2	2	3	7.5	14.8					
17-Jul	3	2	2	2	2	2	3	4	4	6	6	8	8	12	13	11	10	7	6	7	3	2	2	2	5.3	12.5					
18-Jul	2	3	3	8	6	12	11	13	17	13	17	18	14	9	8	12	24	31	20	19	17	15	14	14	13.2	30.6					
19-Jul	7	3	5	7	2	6	7	7	11	17	17	19	19	18	12	12	10	8	8	7	6	9	3	9	9.6	19.5					
20-Jul	6	7	4	6	10	9	3	6	5	5	5	7	9	12	15	15	7	8	15	20	15	13	10	7	9.2	20.1					
21-Jul	7	8	8	7	8	8	9	11	9	8	8	9	8	10	10	12	12	12	10	7	9	6	4	4	8.6	12.3					
22-Jul	2	4	3	3	5	8	10	13	13	19	19	18	21	23	30	21	19	17	12	8	5	7	8	6	12.2	29.7					
23-Jul	10	14	16	8	8	10	12	12	14	13	7	7	8	8	8	10	11	7	6	6	4	3	4	3	8.7	16.3					
24-Jul	3	3	6	2	3	3	4	8	10	11	14	14	12	12	12	13	15	13	14	12	7	6	6	5	8.6	14.6					
25-Jul	7	5	6	5	4	4	5	13	13	15	14	19	19	22	17	18	15	12	7	15	15	17	7	7	11.7	22.1					
26-Jul	6	4	4	4	3	3	5	10	12	9	11	15	21	12	8	8	10	12	11	10	9	8	8	5	8.6	20.8					
27-Jul	3	4	10	14	9	8	8	20	19	18	19	21	11	20	18	18	20	26	28	22	9	11	12	14	15.1	28.1					
28-Jul	15	15	14	14	18	18	14	16	24	34	33	26	26	24	21	18	31	26	20	13	9	10	7	4	18.7	33.9					
29-Jul	6	7	8	9	10	9	7	10	10	11	9	13	20	15	15	20	21	15	8	12	12	11	7	8	11.4	20.5					
30-Jul	9	7	7	6	5	5	7	11	12	9	9	10	10	13	12	12	10	11	11	7	2	5	5	5	8.4	13.5					
31-Jul	6	8	4	10	9	11	12	18	14	15	9	6	9	7	9	8	8	9	8	7	4	3	3	3	8.4	17.6					
7.2 7.2 7.9 8.0 8.0 8.8 9.1 11.7 12.5 13.7 14.0 14.7 15.5 14.9 15.0 15.5 16.0 15.4 13.6 12.1 9.7 8.3 7.7 7.7																									Diurnal Average						
31.4 22.9 24.8 25.1 28.6 26.3 29.4 29.1 32.7 34.1 32.6 29.0 35.0 30.8 29.9 31.1 32.0 35.1 33.8 33.6 35.0 23.5 28.8 30.0																									Diurnal Maximum						
All monthly, daily, and diurnal averages have been calculated using scalar methods																															

Hourly Standard Deviations

Wind Direction (WD) - deg

Evergreen Park - July 2013

Maximum Value: 99.4 deg on Jul 13 14:00																								Hours in Service: 744	
Minimum Value: 6.5 deg on Jul 12 03:00																								Hours of Data: 744	
																								Hours of Missing Data: 0	
Percentiles: P ₁ = 7.5 P ₁₀ = 13.1 Q ₁ = 17.1 Median = 26.1 Q ₃ = 48.5 P ₉₀ = 70.4 P ₉₉ = 92.0																								Hours of Calibration: 0	
																								Percent Operational Time: 100.0	
Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jul	67	58	63	72	65	38	61	54	27	30	63	50	65	57	77	32	26	18	27	26	18	30	47	26	77.5
2-Jul	68	27	26	66	15	14	25	32	19	21	21	63	22	24	19	20	15	17	15	12	10	9	10	7	67.8
3-Jul	10	8	7	7	7	8	7	8	9	11	14	18	16	23	25	23	15	19	20	12	25	13	16	15	25.2
4-Jul	18	46	79	83	90	16	60	22	27	33	35	43	50	31	25	20	35	17	14	12	13	28	58	27	89.7
5-Jul	14	14	25	28	14	11	16	17	24	18	20	22	21	34	14	12	18	19	15	14	24	20	13	15	33.9
6-Jul	13	20	15	16	14	14	13	13	15	15	18	15	34	23	95	72	28	36	11	14	47	16	45	19	95.0
7-Jul	25	31	21	18	21	24	20	21	25	28	30	43	33	43	30	34	37	34	41	91	71	87	34	52	91.1
8-Jul	51	63	84	92	33	77	38	57	60	90	37	31	65	55	50	26	21	25	32	67	60	20	15	8	92.1
9-Jul	68	7	17	27	74	32	16	11	12	11	13	13	11	19	28	25	31	23	20	12	18	17	13	27	74.5
10-Jul	21	56	81	78	55	61	62	47	23	20	29	30	52	58	43	16	15	20	22	21	23	67	46	61	81.1
11-Jul	26	14	14	14	69	49	24	14	39	20	18	19	13	17	15	14	13	11	13	12	9	10	9	8	69.3
12-Jul	9	8	7	8	11	21	14	16	18	15	21	17	22	25	20	21	26	26	25	18	65	55	83	23	83.3
13-Jul	16	20	12	17	13	18	12	16	19	28	24	28	70	99	44	96	61	21	31	21	16	40	13	38	99.4
14-Jul	86	22	30	32	21	33	37	47	43	57	78	67	52	37	58	71	84	93	26	28	90	54	86	61	92.7
15-Jul	40	37	42	44	38	17	18	20	19	16	15	26	28	32	25	30	34	24	20	21	49	39	92	54	92.4
16-Jul	90	79	50	90	83	85	21	45	24	71	50	35	37	28	46	42	33	28	37	18	19	64	70	27	90.0
17-Jul	62	59	60	85	91	91	39	67	86	29	45	73	51	41	41	75	75	73	63	26	37	83	85	31	90.9
18-Jul	86	70	75	60	89	10	24	24	14	20	21	17	14	18	39	44	23	12	13	10	7	8	8	52	89.0
19-Jul	25	46	51	41	64	26	26	41	30	19	14	15	21	31	66	53	33	59	36	18	44	59	88	55	88.4
20-Jul	64	28	38	46	36	42	80	42	69	64	49	42	39	28	24	17	53	81	10	9	20	19	18	16	80.9
21-Jul	16	19	17	18	14	18	15	19	33	46	47	48	89	55	47	37	32	29	22	19	81	51	68	94	93.7
22-Jul	94	65	70	82	90	36	21	20	23	19	22	24	24	16	16	22	26	20	23	20	31	48	42	47	94.4
23-Jul	47	26	15	16	18	17	17	23	22	33	59	67	54	78	52	49	68	33	38	24	13	26	14	13	78.4
24-Jul	24	79	84	91	66	39	23	22	27	36	29	28	41	40	45	38	32	26	28	23	23	16	16	14	90.5
25-Jul	13	17	18	14	14	16	25	18	23	25	30	22	23	22	18	18	21	33	43	16	84	49	49	73	83.6
26-Jul	67	37	53	65	87	62	60	21	36	45	17	28	18	27	57	31	53	23	68	24	18	29	55	62	87.3
27-Jul	75	51	26	14	17	55	26	13	15	31	34	32	30	20	24	21	18	14	11	20	32	14	14	15	75.5
28-Jul	14	14	14	15	14	28	32	16	13	10	9	9	22	18	20	25	11	15	13	21	12	15	50	78	78.1
29-Jul	31	21	24	31	10	30	56	11	31	24	43	52	12	24	21	20	16	12	40	22	15	62	17	8	62.4
30-Jul	8	11	15	31	23	26	24	19	14	36	32	57	56	43	44	48	61	43	30	38	77	51	8	39	77.3
31-Jul	45	84	82	26	14	14	19	25	27	25	55	77	64	64	85	49	75	49	42	27	15	73	71	55	84.6
94.4 83.9 83.8 92.1 90.6 90.9 80.0 66.6 85.6 90.5 77.6 77.0 89.0 99.4 95.0 95.6 83.7 92.7 67.9 91.1 89.6 87.0 92.4 93.7																									

PAZA
Smoky Heights Station
Monthly Summary Tables, Graphs and
Roses

Hourly Averages

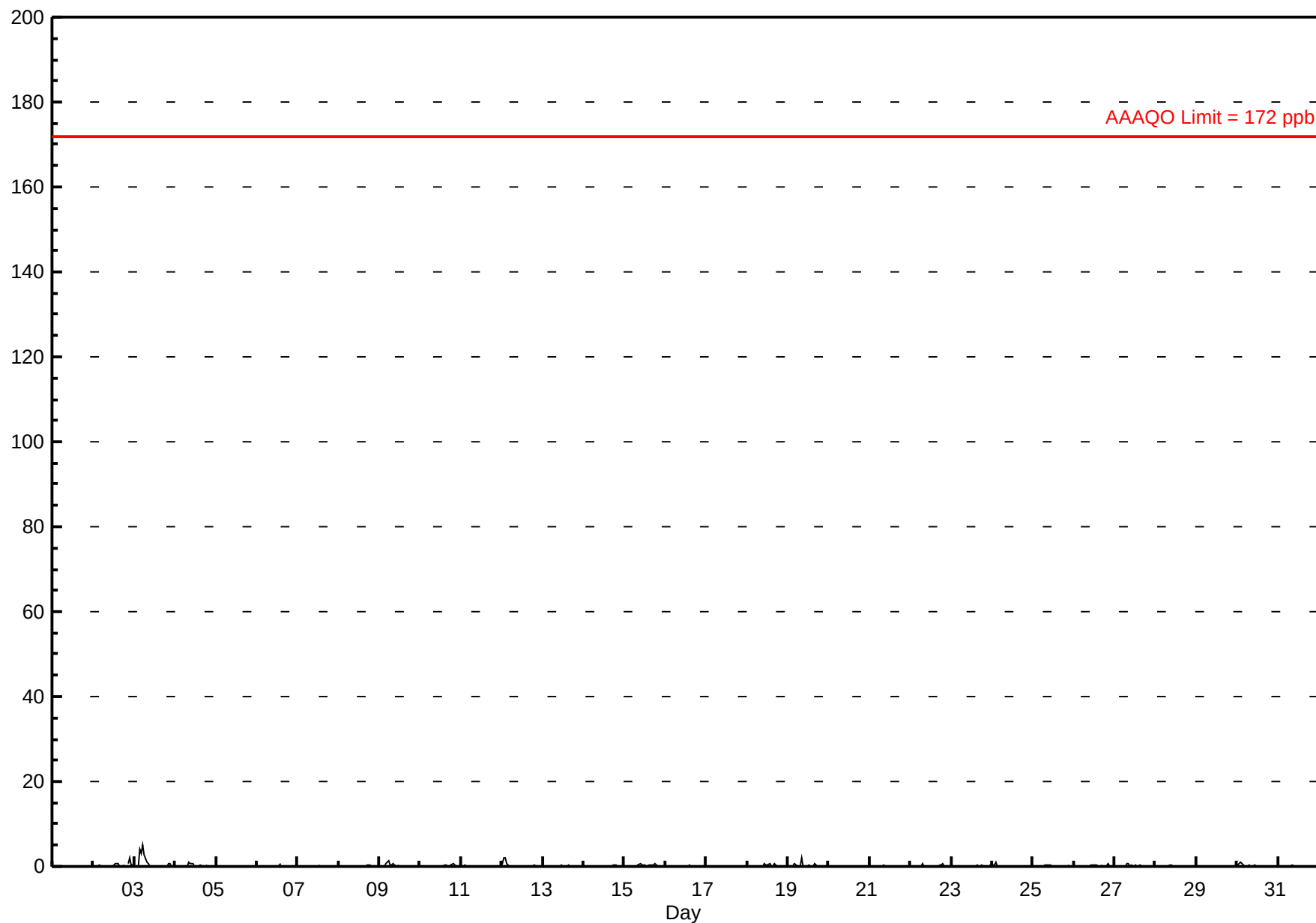
Sulphur Dioxide (SO₂) - ppb

Smoky Heights - July 2013

Number of Exceedences (AAAQO): Maximum Value: 5.2 ppb on Jul 3 06:00																		1-hr: 0 24-hr: 0 Maximum Daily Average: 0.8 ppb on Jul 3						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 ppb on Jul 19 01:00 Maximum Diurnal Average: 0.3 ppb at hour 6 Monthly Average: 0.13 ppb																		Minimum Daily Average: 0.0 ppb on Jul 20 Minimum Diurnal Average: 0.0 ppb at hour 23 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 = 1.9									
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	0	0	0	A	0	0	0	0.0	0.1	
2-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	A	1	2	0	0	0.3	2.1	
3-Jul	0	0	0	4	3	5	3	1	1	0	0	0	0	0	0	0	0	A	0	0	1	1	0	0	0.8	5.2	
4-Jul	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	A	0	0	0	0	0	0	0	0.2	0.9	
5-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	0.2	
6-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	A	0	0	0	0	0	0	0	0	0.1	0.6	
7-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	
8-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	0.2	
9-Jul	0	0	0	0	1	1	0	0	1	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.2	1.3	
10-Jul	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	1	0	0	0	0	0.1	0.7	
11-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	0.3	
12-Jul	1	2	2	1	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	2.2	
13-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	
14-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	0.3	
15-Jul	0	0	0	0	0	0	A	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0.2	0.7	
16-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	0.2	
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	0.0	0.1	
18-Jul	0	0	0	A	0	0	0	0	0	0	1	0	0	1	0	0	1	0	0	0	0	0	0	0	0.2	0.6	
19-Jul	0	0	A	0	1	0	0	0	2	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0.2	2.0	
20-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	0.0	
21-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	0.5	
22-Jul	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	A	0	0.1	0.7	
23-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	0.3	
24-Jul	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.1	1.0	
25-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	0.4	
26-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	1	0	0	0	0.1	0.6	
27-Jul	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0.1	0.8	
28-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	
29-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	0.5	
30-Jul	0	1	1	1	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.2	1.2	
31-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	C	C	C	0	0	0	0	0	0	0	0	0.0	0.5	
0.1 0.1 0.2 0.2 0.2 0.3 0.1 0.1 0.2 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.0 0.1																								Diurnal Average			
0.6 2.0 2.2 4.1 3.1 5.2 2.6 0.9 2.0 0.7 0.5 0.4 0.5 0.8 0.6 0.4 0.7 0.4 0.7 0.7 0.7 2.1 0.4 0.5																								Diurnal Maximum			
C - Calibration A - Automated Daily Zero Span																											
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb 30-day 11 ppb																											

Hourly Averages

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



Hourly Maximums

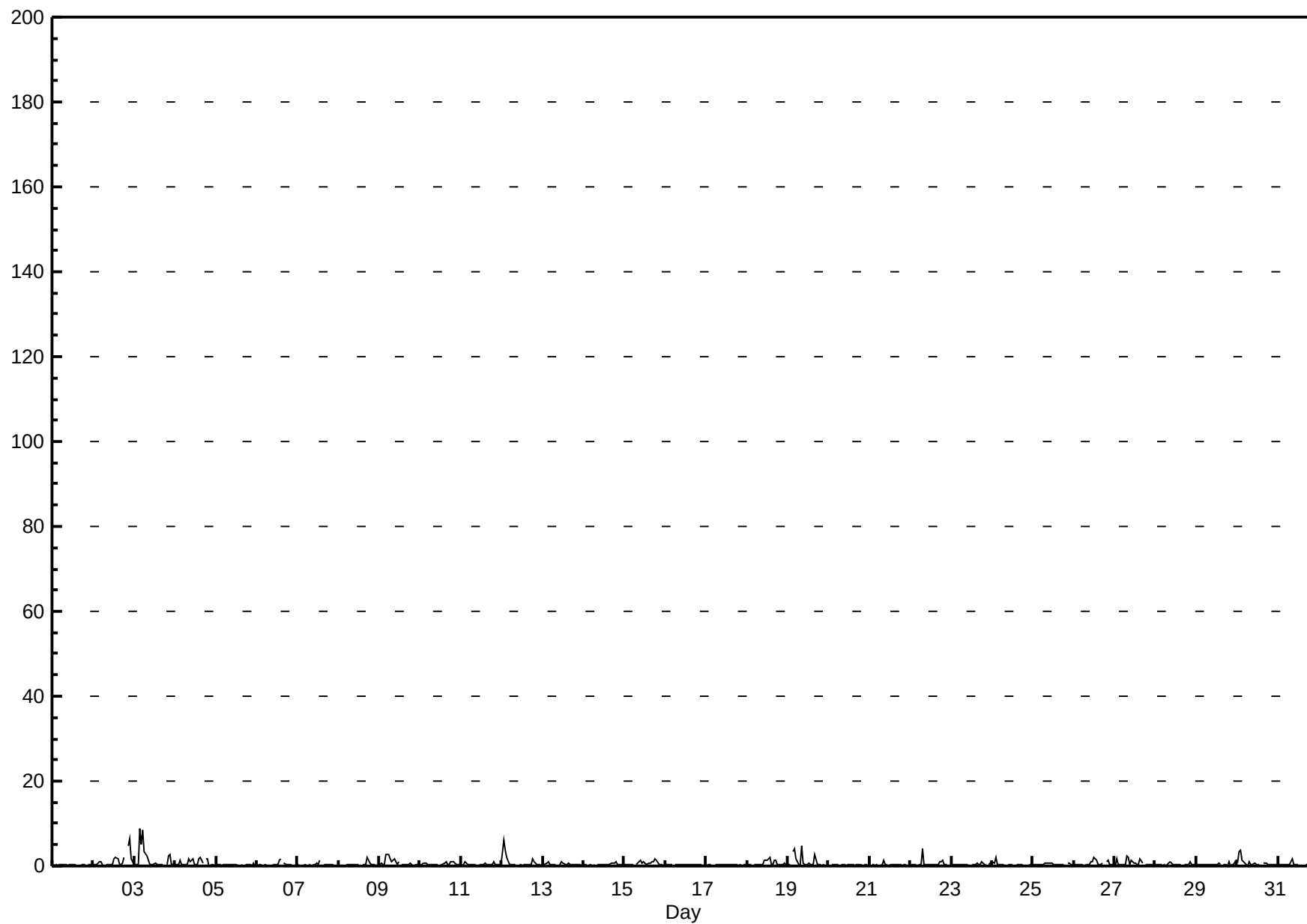
Sulphur Dioxide (SO₂) - ppb

Smoky Heights - July 2013

Maximum Value: 9.0 ppb on Jul 3 04:00																			Maximum Daily Average: 1.7 ppb on Jul 3										Hours in Service: 744	
Minimum Value: 0 ppb on Jul 31 22:00																			Minimum Daily Average: 0.2 ppb on Jul 20										Hours of Data: 710	
Maximum Diurnal Average: 0.8 ppb at hour 4																			Minimum Diurnal Average: 0.3 ppb at hour 24										Hours of Missing Data: 34	
Monthly Average: 0.52 ppb																			Percentiles: P ₁ = 0.1 P ₁₀ = 0.2 Q ₁ = 0.2 Median = 0.3 Q ₃ = 0.4 P ₉₀ = 1.1 P ₉₉ = 4.7										Hours of Calibration: 34	
																													Percent Operational Time: 100.0	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24						
1-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	0.4				
2-Jul	0	0	0	1	1	0	0	0	0	0	0	0	2	2	2	0	0	1	2	A	5	6	2	1	1.1	6.4				
3-Jul	0	0	0	9	5	8	3	2	1	0	0	0	1	0	0	0	0	0	A	0	3	3	0	0	1.7	9.0				
4-Jul	0	0	0	1	0	0	0	0	2	1	2	0	0	0	2	2	1	A	2	2	0	0	0	0	0.8	2.1				
5-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	1	0	0.2	0.5				
6-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	A	1	0	0	0	0	0	0	0	0.3	1.8				
7-Jul	0	0	0	0	0	0	0	0	0	0	0	1	0	1	A	0	0	0	0	0	0	0	0	0	0.3	1.3				
8-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	2	1	0	0	0	0	0	0.3	1.9				
9-Jul	0	1	0	0	3	3	2	1	2	2	0	1	A	0	0	0	0	0	1	0	0	0	0	0	0.7	2.7				
10-Jul	0	0	1	1	0	0	0	0	0	0	0	A	0	0	1	1	0	0	1	1	1	0	0	0	0.5	1.1				
11-Jul	0	0	1	1	0	0	0	0	0	0	A	0	0	0	1	0	0	0	0	1	0	0	0	0	0.3	0.9				
12-Jul	3	6	4	2	0	0	0	0	0	A	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0.9	6.0				
13-Jul	0	0	1	1	0	0	0	0	A	0	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0.4	0.9				
14-Jul	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0.3	0.9				
15-Jul	0	0	0	0	0	0	A	0	1	1	1	1	1	0	1	1	1	1	2	1	0	0	0	0	0.6	1.8				
16-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	0.5				
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	0.3	0.4				
18-Jul	0	0	0	A	0	0	0	0	0	0	1	1	1	2	0	0	1	1	0	0	0	0	1	0	0.6	1.9				
19-Jul	0	0	A	3	4	2	0	0	0	5	1	0	0	1	1	0	0	3	0	0	0	0	0	0	0	1.0	4.7			
20-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	0.3				
21-Jul	A	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0.3	1.2				
22-Jul	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	1	1	1	0	0	A	0	0.5	4.1				
23-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	0	A	0	1	0.3	1.0				
24-Jul	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.4	2.1				
25-Jul	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	A	1	1	0	0	0.4	0.8				
26-Jul	0	0	0	0	0	0	0	0	0	0	1	1	2	1	0	0	0	1	A	1	2	0	0	0	0.5	2.0				
27-Jul	0	2	0	0	0	0	0	2	2	0	1	1	1	0	0	2	1	A	0	0	0	0	0	0	0.7	2.3				
28-Jul	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	A	0	0	0	1	0	0	0	0.3	1.0				
29-Jul	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	A	0	0	0	1	0	0	0	1	0.4	1.2				
30-Jul	1	3	4	2	1	0	0	1	0	0	1	0	0	0	A	1	1	1	0	0	0	0	0	0	0.8	3.9				
31-Jul	0	0	0	0	0	0	0	0	2	0	0	0	0	C	C	C	0	0	0	0	0	0	0	0	0.3	1.6				
		0.4	0.6	0.6	0.8	0.7	0.6	0.4	0.6	0.7	0.4	0.5	0.4	0.5	0.5	0.5	0.5	0.5	0.6	0.5	0.6	0.5	0.3	0.3	Diurnal Average					
		3.0	6.0	3.9	9.0	5.1	8.4	3.5	4.1	4.7	1.7	1.6	1.4	2.0	2.1	1.8	2.1	2.8	1.9	1.9	1.6	4.7	6.4	1.6	1.2	Diurnal Maximum				
C - Calibration		A - Automated Daily Zero Span																												

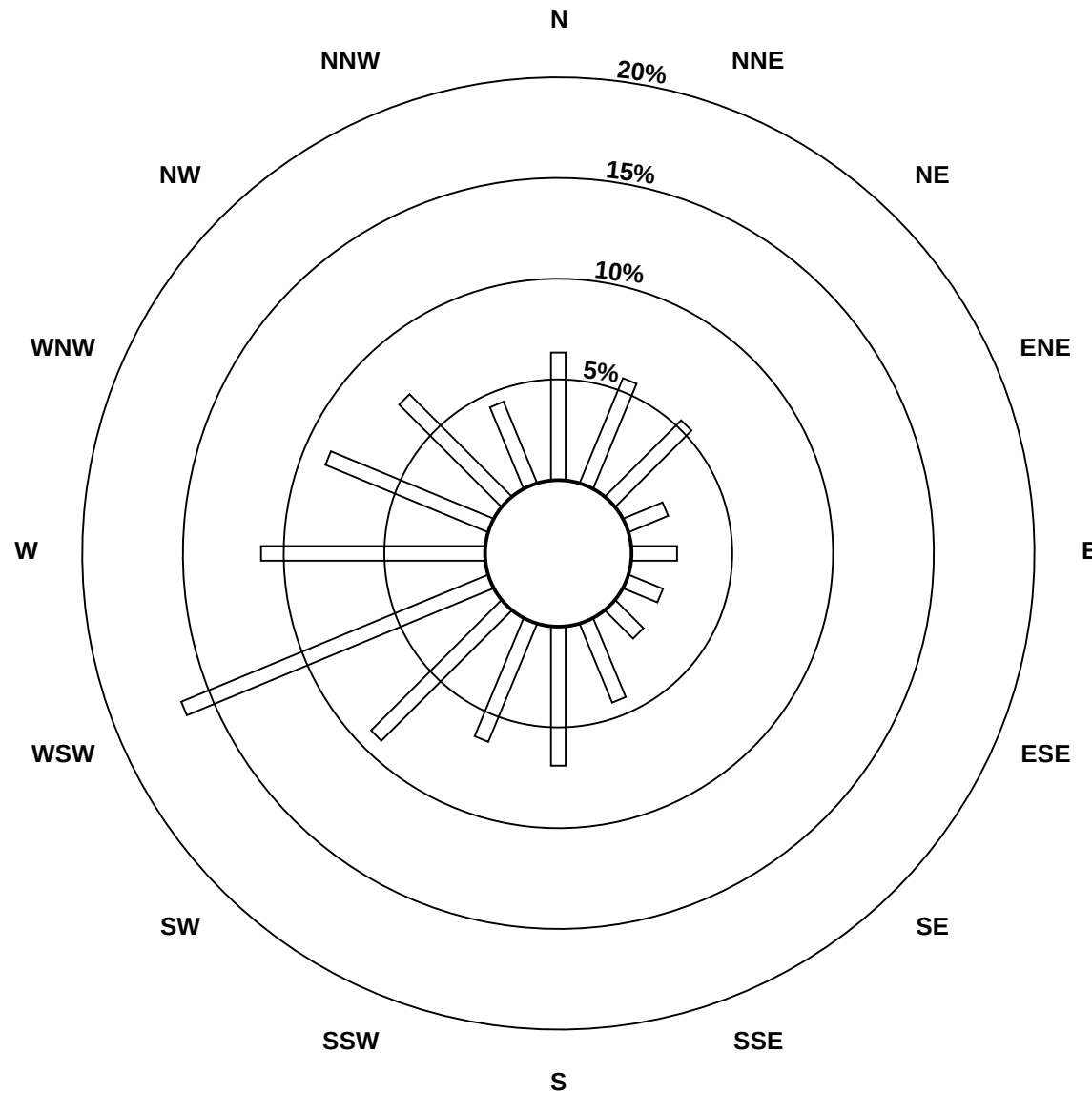
Hourly Maximums

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

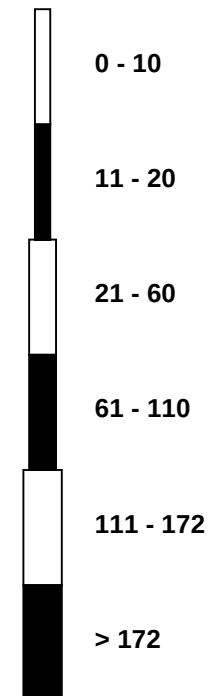


Pollutant Rose

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

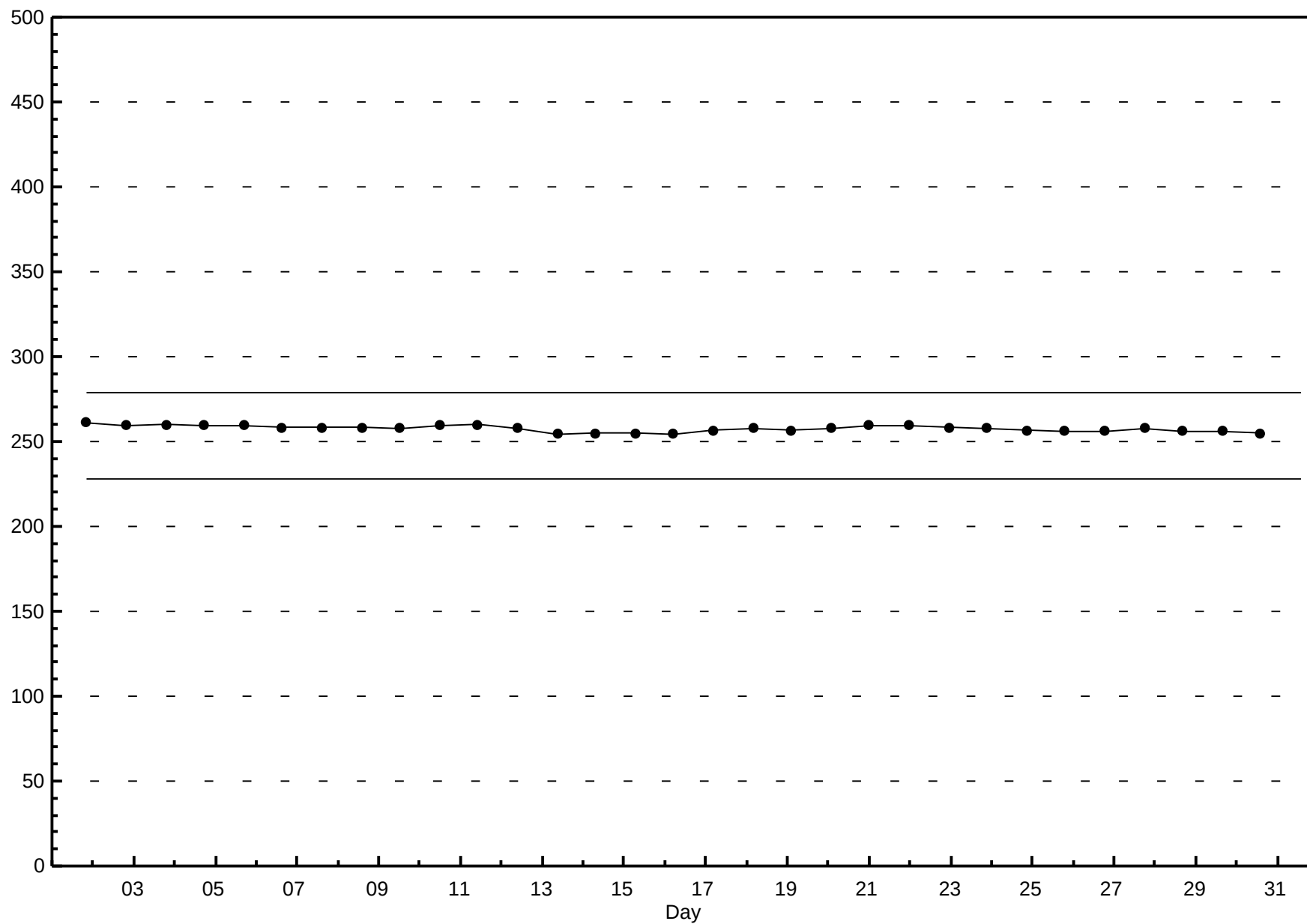


Pollutant Classes (ppb)



Span Responses

Sulphur Dioxide (SO₂)
Smoky Heights - July 2013



Hourly Averages

Total Reduced Sulphur (TRS) - ppb

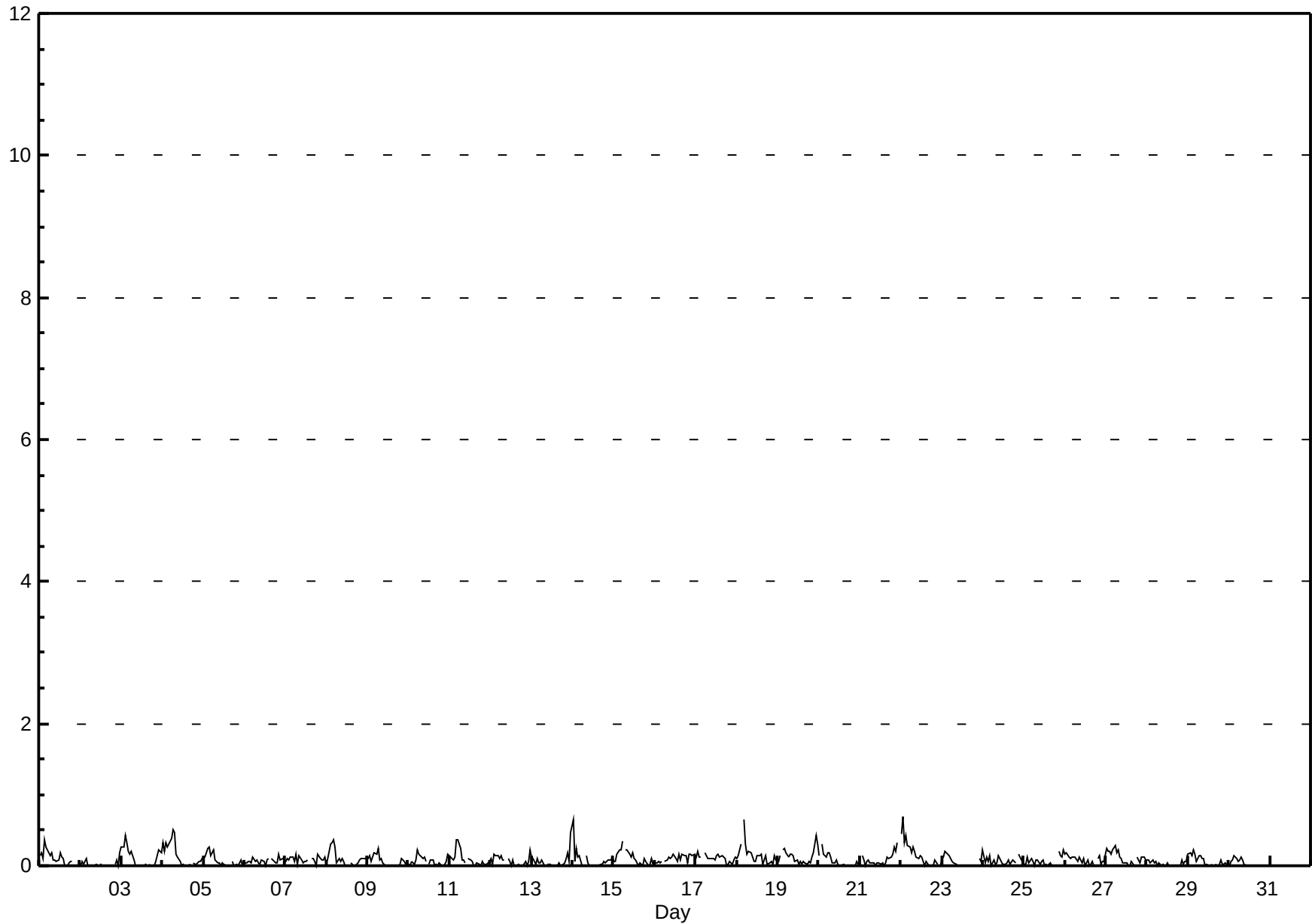
Smoky Heights - July 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																			Hours in Service: 744							
Maximum Value: 0.7 ppb on Jul 22 02:00																			Maximum Daily Average: 0.2 ppb on Jul 22		Hours of Data: 707					
Minimum Value: 0 ppb on Jul 1 17:00																			Minimum Daily Average: 0.0 ppb on Jul 31		Hours of Missing Data: 37					
Maximum Diurnal Average: 0.2 ppb at hour 5																			Minimum Diurnal Average: 0.0 ppb at hour 16		Hours of Calibration: 37					
Monthly Average: 0.08 ppb																			Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.1 Q ₃ = 0.1 P ₉₀ = 0.2 P ₉₉ = 0.4		Percent Operational Time: 100.0					
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-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	0.4
2-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
3-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	0.4
4-Jul	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0.1	0.5
5-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
6-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	0.2
7-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	0.2
8-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	0.4
9-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
10-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
11-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
12-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	0.1	0.2
13-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	0.5
14-Jul	1	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	0.6
15-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
16-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	0.2
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	0.1	0.2
18-Jul	0	0	0	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.7
19-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	0.4
20-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
21-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	0.1	0.3
22-Jul	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.2	0.7
23-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	0.0	0.2
24-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
25-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	0.2
26-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	0.2
27-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	0.3
28-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	0.1
29-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	0.2
30-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
31-Jul	0	0	0	0	0	0	0	0	0	C	C	C	C	C	C	0	0	0	0	0	0	0	0	0	0.0	0.0
0.1 0.1 0.2 0.2 0.2 0.2 0.1 0.1 0.1 0.1 0.0 0.1 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.1 0.1 0.1 0.1																								Diurnal Average		
0.6 0.7 0.4 0.4 0.7 0.4 0.5 0.5 0.2 0.2 0.1 0.2 0.2 0.2 0.2 0.1 0.2 0.1 0.1 0.2 0.3 0.2 0.4 0.5																								Diurnal Maximum		
C - Calibration A - Automated Daily Zero Span																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb																										

Hourly Averages

Total Reduced Sulphur (TRS) - ppb

Smoky Heights - July 2013



Hourly Maximums

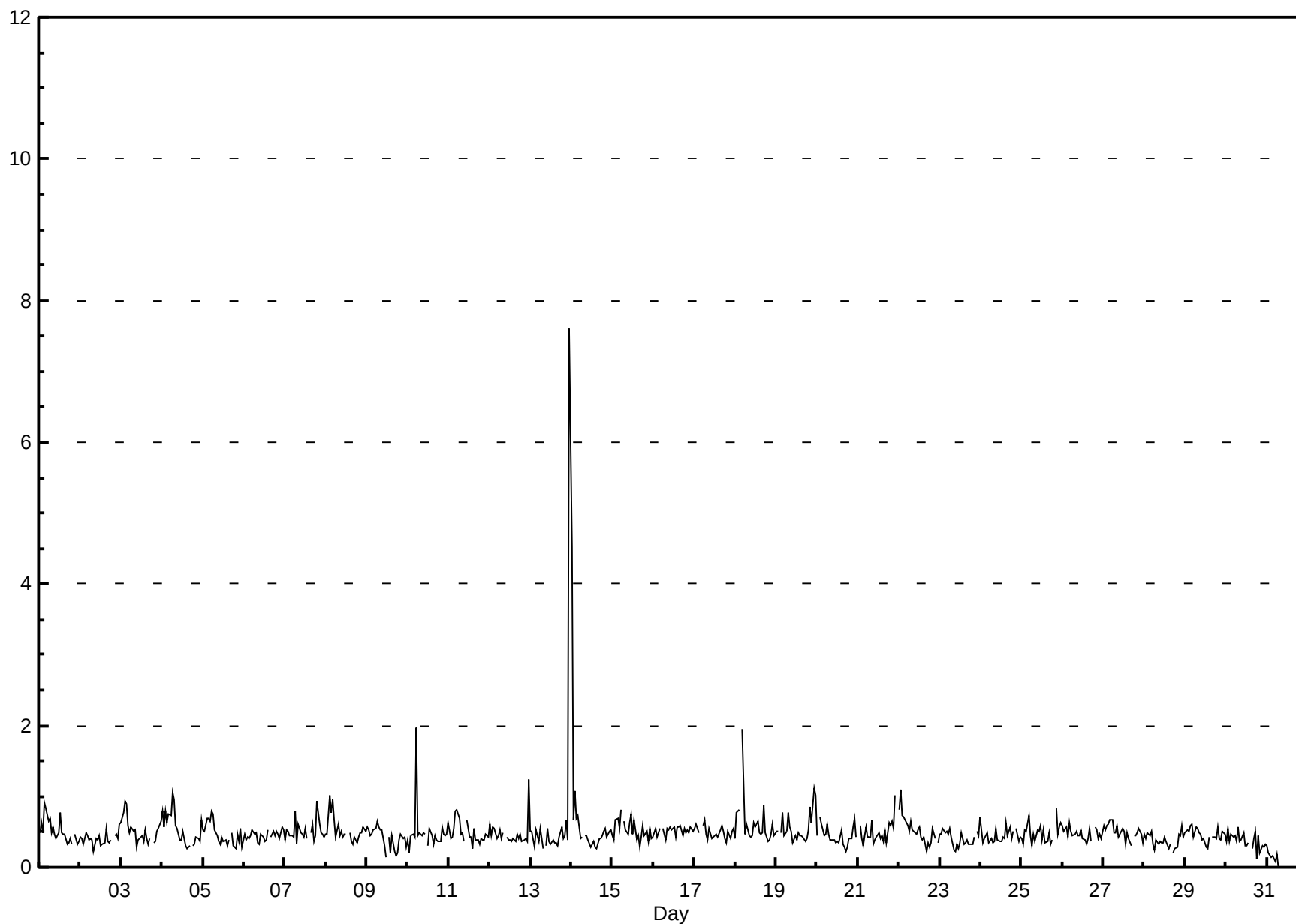
Total Reduced Sulphur (TRS) - ppb

Smoky Heights - July 2013

Maximum Value: 7.6 ppb on Jul 14 00:00																				Maximum Daily Average: 0.7 ppb on Jul 13										Hours in Service: 744									
Minimum Value: 0 ppb on Jul 31 08:00																				Minimum Daily Average: 0.1 ppb on Jul 31										Hours of Data: 707									
Maximum Diurnal Average: 0.7 ppb at hour 24																				Minimum Diurnal Average: 0.4 ppb at hour 19										Hours of Missing Data: 37									
Monthly Average: 0.49 ppb																				Percentiles: P ₁ = 0.0 P ₁₀ = 0.3 Q ₁ = 0.4 Median = 0.5 Q ₃ = 0.5 P ₉₀ = 0.7 P ₉₉ = 1.1										Hours of Calibration: 37									
																				Percent Operational Time: 100.0																			
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24															
1-Jul	0	1	0	1	1	1	1	0	1	0	0	0	1	0	0	0	0	0	0	0	A	0	0	0	0.5	0.9													
2-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	A	0	0	0	1	0.4	0.6													
3-Jul	1	1	1	1	1	0	1	1	1	0	0	0	0	0	1	0	0	0	A	0	0	1	1	1	0.5	0.9													
4-Jul	1	1	1	1	1	1	1	1	1	1	0	0	1	0	0	0	0	A	0	0	0	0	0	1	0.5	1.1													
5-Jul	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	A	0	0	0	0	0	1	0	0.5	0.8													
6-Jul	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	A	0	0	0	1	0	0	1	1	0.4	0.6													
7-Jul	0	1	1	0	0	0	1	0	1	0	0	0	1	0	A	0	1	0	0	1	1	0	0	0	0.5	0.9													
8-Jul	0	0	1	1	1	1	0	1	0	1	0	0	0	A	0	0	0	0	0	0	0	0	1	1	0.5	1.0													
9-Jul	1	1	0	0	1	1	1	1	1	1	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.4	0.7													
10-Jul	0	0	0	0	0	2	0	0	0	0	0	A	0	1	0	0	0	0	0	0	1	0	0	0	0.5	2.0													
11-Jul	1	0	0	1	1	1	1	0	0	0	A	1	0	0	0	1	0	0	0	0	0	0	0	0	0.5	0.8													
12-Jul	1	0	1	1	0	0	1	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0.5	1.2													
13-Jul	1	1	0	1	0	0	1	0	A	0	1	0	0	0	0	0	0	0	1	0	0	1	0	8	0.7	7.6													
14-Jul	5	1	1	1	1	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0.7	4.5													
15-Jul	0	0	1	1	1	1	A	1	1	0	1	1	0	1	0	0	0	0	1	0	1	0	1	0	0.5	0.8													
16-Jul	0	1	0	0	1	A	1	0	1	1	1	1	1	0	1	1	1	0	1	0	1	0	1	1	0.5	0.6													
17-Jul	1	1	1	0	A	1	1	0	0	1	0	0	0	0	0	1	1	1	0	0	1	0	1	1	0.5	0.7													
18-Jul	0	1	1	A	2	1	0	1	0	0	0	1	1	1	0	0	0	1	0	0	0	0	1	0	0.6	2.0													
19-Jul	1	1	A	0	1	0	1	1	1	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0.6	1.1													
20-Jul	0	A	1	1	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1	0	0.4	0.7													
21-Jul	A	1	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	1	1	1	1	1	A	0.5	1.0													
22-Jul	1	1	1	1	1	1	1	1	1	1	0	1	1	0	0	0	0	0	0	0	1	0	A	0	0.5	1.1													
23-Jul	0	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	0	0.4	0.6													
24-Jul	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	1	0	0	A	1	0	0	0.4	0.7													
25-Jul	0	0	1	1	1	0	0	0	0	1	0	1	0	1	0	0	0	0	0	A	1	0	1	1	0.5	0.8													
26-Jul	1	1	1	0	1	1	0	0	1	0	0	1	0	0	0	0	1	0	A	1	1	0	0	0	0.5	0.6													
27-Jul	1	1	1	1	1	1	0	0	1	0	0	1	1	0	0	0	0	A	0	0	0	1	0	0	0.5	0.7													
28-Jul	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	1	0	0.4	0.6													
29-Jul	0	1	0	1	1	0	1	1	0	0	0	0	0	0	0	A	0	0	0	1	0	0	1	0	0.5	0.6													
30-Jul	0	1	0	0	0	0	0	1	0	0	0	0	0	0	A	0	0	1	0	0	0	0	0	0	0.4	0.6													
31-Jul	0	0	0	0	0	0	0	0	0	C	C	C	C	C	C	0	0	0	0	0	0	0	0	0	0.1	0.3													
0.6 0.5 0.6 0.5 0.6 0.6 0.5 0.5 0.5 0.4 0.4 0.4 0.4 0.4 0.4 0.4 0.4 0.4 0.4 0.4 0.5 0.4 0.5 0.7																									Diurnal Average														
4.5 1.1 1.1 0.9 2.0 2.0 1.1 1.0 0.7 0.6 0.6 0.8 0.8 0.7 0.6 0.6 0.6 0.9 0.6 0.9 0.8 0.7 1.1 7.6																									Diurnal Maximum														
C - Calibration																									A - Automated Daily Zero Span														

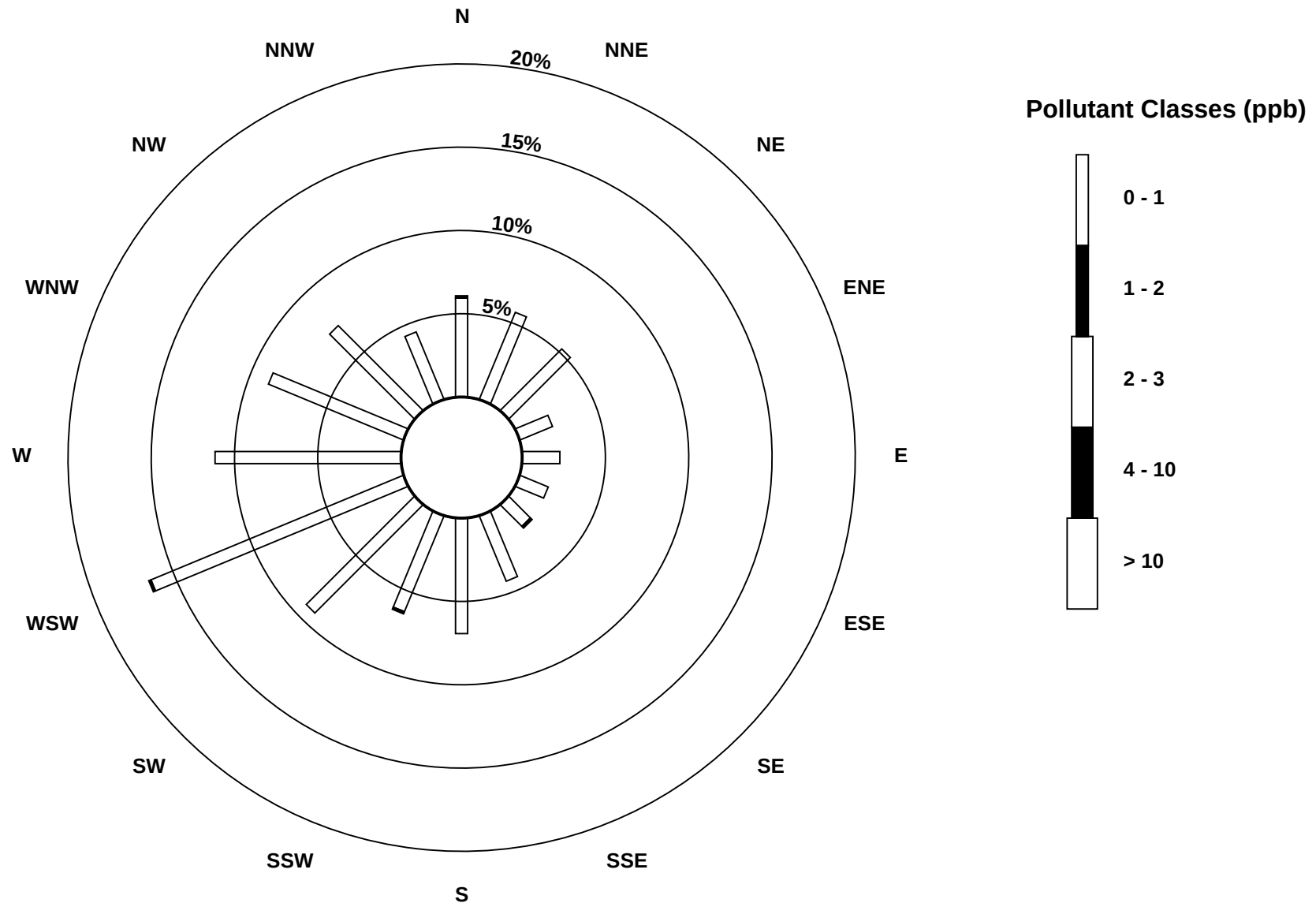
Hourly Maximums

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



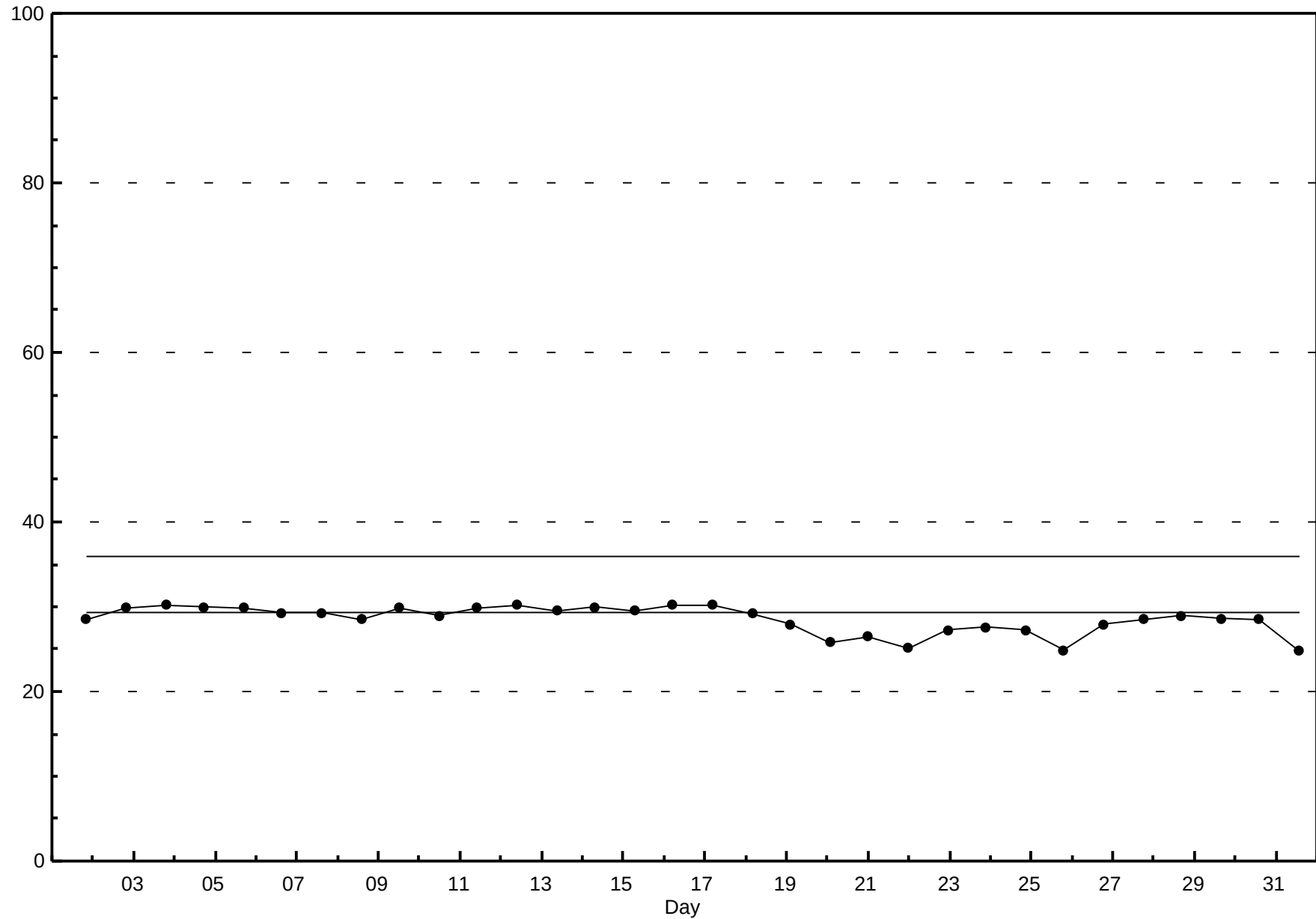
Pollutant Rose

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



Span Responses

Total Reduced Sulphur (TRS)
Smoky Heights - July 2013

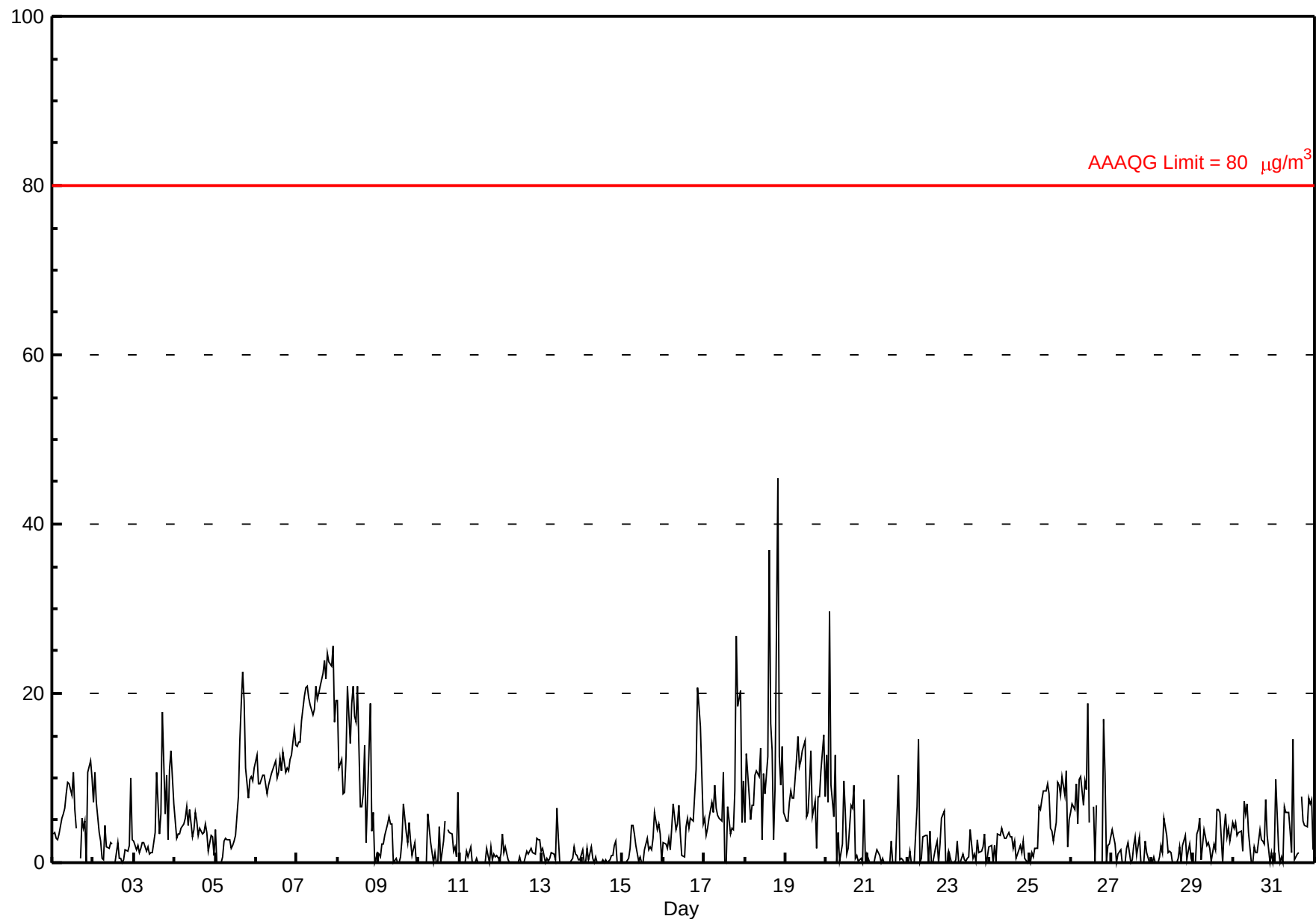


Hourly Averages

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

Smoky Heights - July 2013

Number of Exceedences: 1-hr: 0 24-hr: 0 Maximum Value: 45.4 µg/m³ on Jul 18 20:00 Minimum Value: 0 µg/m³ on Jul 1 21:00 Maximum Diurnal Average: 7.8 µg/m³ at hour 20 Monthly Average: 4.79 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: 19.8 µg/m³ on Jul 7 Minimum Daily Average: 0.5 µg/m³ on Jul 11 Minimum Diurnal Average: 3.4 µg/m³ at hour 4 Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.6 Median = 2.8 Q ₃ = 6.9 P ₉₀ = 12.4 P ₉₉ = 23.3																										
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	4	3	3	3	5	6	6	8	10	9	8	11	6	4	N	1	5	4	5	0	11	12	10	5.9	12.0
2-Jul	7	11	7	4	3	1	0	4	2	2	2	N	0	2	1	0	0	0	2	1	2	10	3	3	2.9	10.6
3-Jul	2	2	2	1	2	2	2	1	2	1	1	1	4	11	7	3	6	18	6	10	3	11	13	7	4.9	17.7
4-Jul	5	3	3	3	4	5	5	7	4	6	3	4	6	5	3	4	3	4	5	4	1	3	3	1	3.9	6.6
5-Jul	4	0	0	0	1	2	3	3	3	2	2	3	3	8	14	19	23	19	11	8	10	10	10	11	7.0	22.6
6-Jul	13	9	9	10	10	10	8	9	10	11	11	12	10	11	12	11	13	11	11	11	12	13	16	14	11.1	15.8
7-Jul	14	14	14	17	20	21	21	20	19	17	18	21	19	20	21	22	24	22	25	24	23	26	17	19	19.8	25.6
8-Jul	19	11	12	8	8	12	21	14	19	21	17	17	21	7	7	8	14	2	13	19	4	6	0	1	11.7	20.9
9-Jul	1	1	2	2	3	5	5	5	5	0	0	0	0	1	3	7	4	2	5	3	1	2	0	0	2.3	6.9
10-Jul	0	0	N	0	0	6	4	2	0	1	0	0	4	0	3	5	N	4	4	3	1	2	1	8	2.2	8.4
11-Jul	0	0	0	0	1	1	2	0	0	0	1	0	0	0	0	0	2	0	2	0	1	1	1	0	0.5	1.9
12-Jul	1	3	1	2	0	0	0	0	0	0	0	1	0	0	0	1	1	1	2	1	1	3	3	3	1.0	3.4
13-Jul	1	2	0	1	0	0	1	1	0	6	3	0	0	0	0	0	0	0	0	2	1	1	0	0	0.9	6.4
14-Jul	2	0	0	2	0	2	0	0	1	0	0	0	0	0	0	0	0	1	1	2	2	0	0	0	0.6	2.5
15-Jul	0	0	0	1	2	4	4	3	2	0	1	0	0	2	3	2	2	2	3	6	4	5	3	0	2.0	6.0
16-Jul	2	2	2	3	2	4	7	4	5	7	3	1	1	4	5	4	5	5	8	11	21	18	16	5	6.0	20.7
17-Jul	5	3	4	5	7	6	9	6	6	5	5	11	0	0	7	3	4	4	9	27	18	20	5	10	7.5	26.8
18-Jul	5	13	8	5	7	7	10	11	10	14	3	10	8	13	37	16	13	3	9	45	13	9	14	6	12.0	45.4
19-Jul	5	5	7	8	8	8	12	15	11	12	13	14	5	6	9	13	5	7	2	8	8	11	15	8	9.0	15.1
20-Jul	13	7	30	9	5	13	0	4	0	2	10	6	1	2	7	6	9	0	1	0	0	0	8	0	5.5	29.7
21-Jul	1	0	0	0	0	1	2	1	0	1	0	0	0	0	3	0	0	0	10	0	1	0	0	N	0.8	10.4
22-Jul	0	1	0	0	0	7	15	0	0	3	3	3	0	4	0	0	2	2	0	2	5	6	0	0	2.3	14.6
23-Jul	1	1	0	0	0	3	0	0	1	0	0	0	1	4	1	1	0	3	1	1	2	3	0	1	1.0	3.8
24-Jul	2	2	0	2	0	3	3	4	3	3	3	3	3	3	2	3	1	2	2	1	3	0	0	1	2.0	4.2
25-Jul	0	1	1	2	2	7	6	7	8	8	9	8	4	4	3	5	10	9	8	10	8	11	2	5	5.7	10.8
26-Jul	6	7	6	9	5	10	10	7	10	9	19	5	N	7	0	7	N	N	0	17	11	0	2	2	7.0	18.8
27-Jul	4	3	2	0	1	1	0	0	0	2	2	0	0	2	3	1	3	0	0	0	3	1	0	0	1.2	3.9
28-Jul	0	1	0	0	1	2	1	5	3	1	1	1	0	0	0	1	2	0	2	3	0	1	2	0	1.2	5.2
29-Jul	0	0	3	4	5	0	4	3	2	2	2	0	2	2	6	6	6	0	4	6	3	4	2	5	3.0	6.3
30-Jul	4	5	3	4	4	1	7	6	7	4	0	0	2	1	1	4	3	3	2	7	3	0	1	0	3.0	7.4
31-Jul	1	10	2	0	1	0	7	6	6	4	1	15	0	1	1	M	8	5	4	4	8	7	7	1	4.3	14.6
3.9 3.9 4.1 3.4 3.4 4.8 5.7 5.0 4.7 5.0 4.6 4.7 3.6 3.9 5.3 5.3 5.6 4.4 4.9 7.8 5.5 6.1 5.3 4.0 19.2 14.2 29.7 16.8 19.7 20.7 20.9 19.6 18.8 20.8 18.8 20.9 20.9 20.0 36.9 22.3 23.9 21.7 24.7 45.4 23.2 25.6 16.6 19.1																								Diurnal Average	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

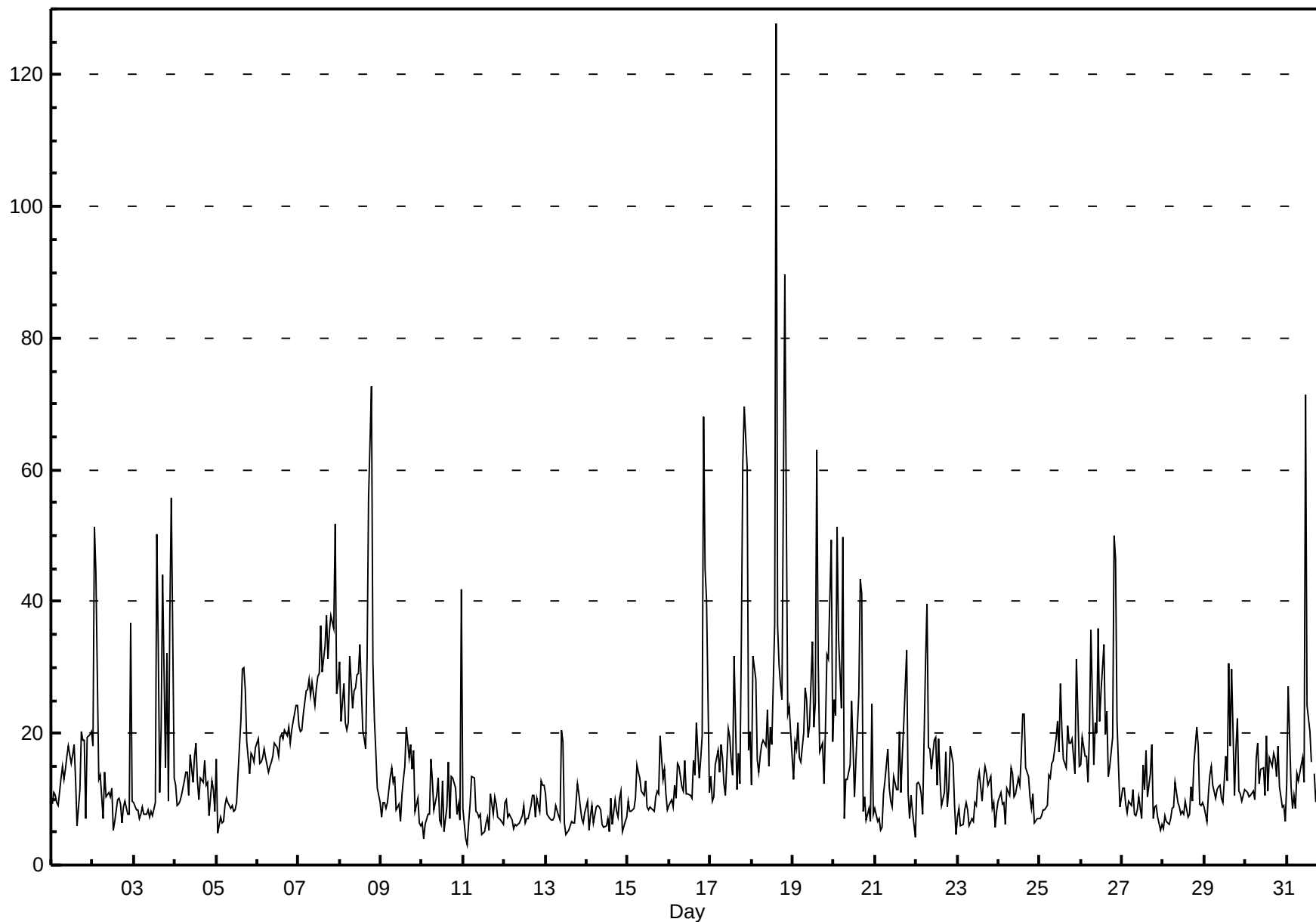
Smoky Heights - July 2013

Maximum Value: 127.9 µg/m³ on Jul 18 15:00																								Maximum Daily Average: 31.1 µg/m³ on Jul 18				Hours in Service: 744	
Minimum Value: 3 µg/m³ on Jul 11 03:00																								Minimum Daily Average: 7.6 µg/m³ on Jul 11				Hours of Data: 743	
Maximum Diurnal Average: 21.7 µg/m³ at hour 15																								Minimum Diurnal Average: 11.4 µg/m³ at hour 5				Hours of Missing Data: 1	
Monthly Average: 15.57 µg/m³																								Percentiles: P ₁ = 4.9 P ₁₀ = 7.0 Q ₁ = 8.8 Median = 12.3 Q ₃ = 18.6 P ₉₀ = 27.9 P ₉₉ = 58.3				Hours of Calibration: 0	
Percent Operational Time: 99.9																													
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24					
1-Jul	9	11	11	10	9	13	15	13	15	16	18	15	17	18	13	6	12	20	19	19	7	19	20	20	14.4	20.3			
2-Jul	18	51	45	13	14	10	7	14	10	11	10	12	5	7	10	10	9	6	9	10	8	8	37	10	14.3	51.4			
3-Jul	10	8	8	7	8	9	8	8	8	7	8	7	10	50	33	11	21	44	15	32	10	38	56	13	17.9	55.8			
4-Jul	12	9	9	10	11	13	14	14	11	17	12	17	19	13	10	13	13	16	12	12	7	13	12	8	12.3	18.6			
5-Jul	16	5	7	6	7	9	10	10	9	9	8	8	10	18	22	30	30	27	19	14	17	17	16	18	14.2	30.0			
6-Jul	19	15	16	16	18	16	14	15	16	17	19	18	17	19	20	19	21	20	21	19	20	22	24	24	18.5	24.2			
7-Jul	21	20	21	23	26	27	28	26	28	24	27	29	29	36	29	33	38	31	35	38	36	52	26	28	29.6	51.8			
8-Jul	31	22	28	21	21	21	32	24	26	27	29	29	33	21	19	18	32	56	73	31	22	17	12	9	27.2	72.7			
9-Jul	7	10	10	9	10	13	15	12	13	8	9	7	11	13	15	21	16	18	14	17	8	10	6	6	11.7	21.0			
10-Jul	6	4	6	8	8	16	13	8	11	13	7	6	13	5	9	16	7	13	13	12	8	9	7	42	10.8	41.8			
11-Jul	9	4	3	6	9	13	13	8	8	7	8	5	5	6	7	5	11	8	10	9	7	7	7	6	7.6	13.5			
12-Jul	10	10	7	8	7	6	6	6	6	6	8	9	6	7	7	9	11	11	7	10	8	13	12	12	8.4	12.7			
13-Jul	11	8	7	7	7	7	9	8	7	21	19	6	5	5	6	7	6	6	12	11	9	7	6	8	8.5	20.5			
14-Jul	10	5	8	9	6	9	9	9	8	6	6	6	7	5	10	6	10	8	7	10	11	5	7	7	7.7	11.3			
15-Jul	10	8	8	9	10	15	14	13	11	11	13	9	8	9	8	8	10	11	11	20	13	14	11	8	10.9	19.5			
16-Jul	9	10	9	12	10	15	15	12	11	16	11	11	11	10	16	14	21	13	16	20	68	45	40	11	17.7	68.2			
17-Jul	13	10	10	15	17	14	18	16	12	11	21	19	16	14	32	12	17	12	33	61	70	60	17	20	22.6	69.7			
18-Jul	12	32	28	16	14	17	18	19	18	23	15	21	18	37	128	36	30	27	25	90	54	23	24	20	31.1	127.9			
19-Jul	13	19	18	21	16	16	20	27	25	19	21	34	21	25	63	31	17	19	12	21	32	31	49	19	24.5	63.1			
20-Jul	25	23	51	35	24	50	7	13	13	15	25	18	10	16	26	43	41	8	10	7	9	7	24	8	21.2	51.3			
21-Jul	9	7	7	5	6	11	13	18	12	10	9	13	11	12	20	11	17	21	33	11	7	11	8	4	11.8	32.5			
22-Jul	12	13	12	11	8	31	40	18	18	14	19	19	12	19	13	9	11	17	9	12	18	15	9	5	15.1	39.6			
23-Jul	7	9	6	6	8	9	8	6	7	7	10	9	13	14	10	13	15	14	12	13	9	9	6	8	9.5	14.9			
24-Jul	10	11	9	9	6	12	11	15	14	10	11	13	12	17	23	23	15	14	10	9	11	6	7	7	11.8	23.0			
25-Jul	7	7	8	8	9	14	13	15	16	19	22	17	28	21	16	15	21	19	19	19	14	31	23	15	16.5	31.3			
26-Jul	15	19	17	17	13	20	36	15	22	20	36	22	26	33	20	23	14	15	19	50	46	22	15	9	22.7	50.1			
27-Jul	12	12	9	8	10	9	12	8	7	8	10	7	15	12	17	10	14	18	7	9	9	7	5	6	10.1	18.4			
28-Jul	6	8	7	6	7	9	9	13	9	9	8	8	8	10	7	8	12	10	15	21	18	9	9	10	9.7	21.0			
29-Jul	9	7	11	14	15	12	10	12	12	12	10	10	16	13	31	18	30	11	18	22	11	11	10	12	13.9	30.7			
30-Jul	11	11	10	11	11	10	16	19	12	14	15	11	20	11	16	15	17	16	13	18	12	9	9	7	13.1	19.5			
31-Jul	12	27	12	9	11	9	14	13	15	16	13	71	24	20	16	M	14	10	9	9	23	24	23	7	17.4	71.5			
12.3 13.3 13.5 11.7 11.4 14.7 15.1 13.7 13.3 13.7 14.6 15.7 14.7 16.6 21.7 16.4 17.8 17.4 17.4 21.1 19.4 18.5 17.3 12.5																								Diurnal Average					
30.8 51.4 51.3 34.7 26.4 49.8 39.6 26.9 27.9 26.9 35.9 71.5 33.5 50.3 127.9 43.4 41.3 55.7 72.7 89.7 69.7 60.4 55.8 41.8																								Diurnal Maximum					
M - Maintenance																													

Hourly Maximums

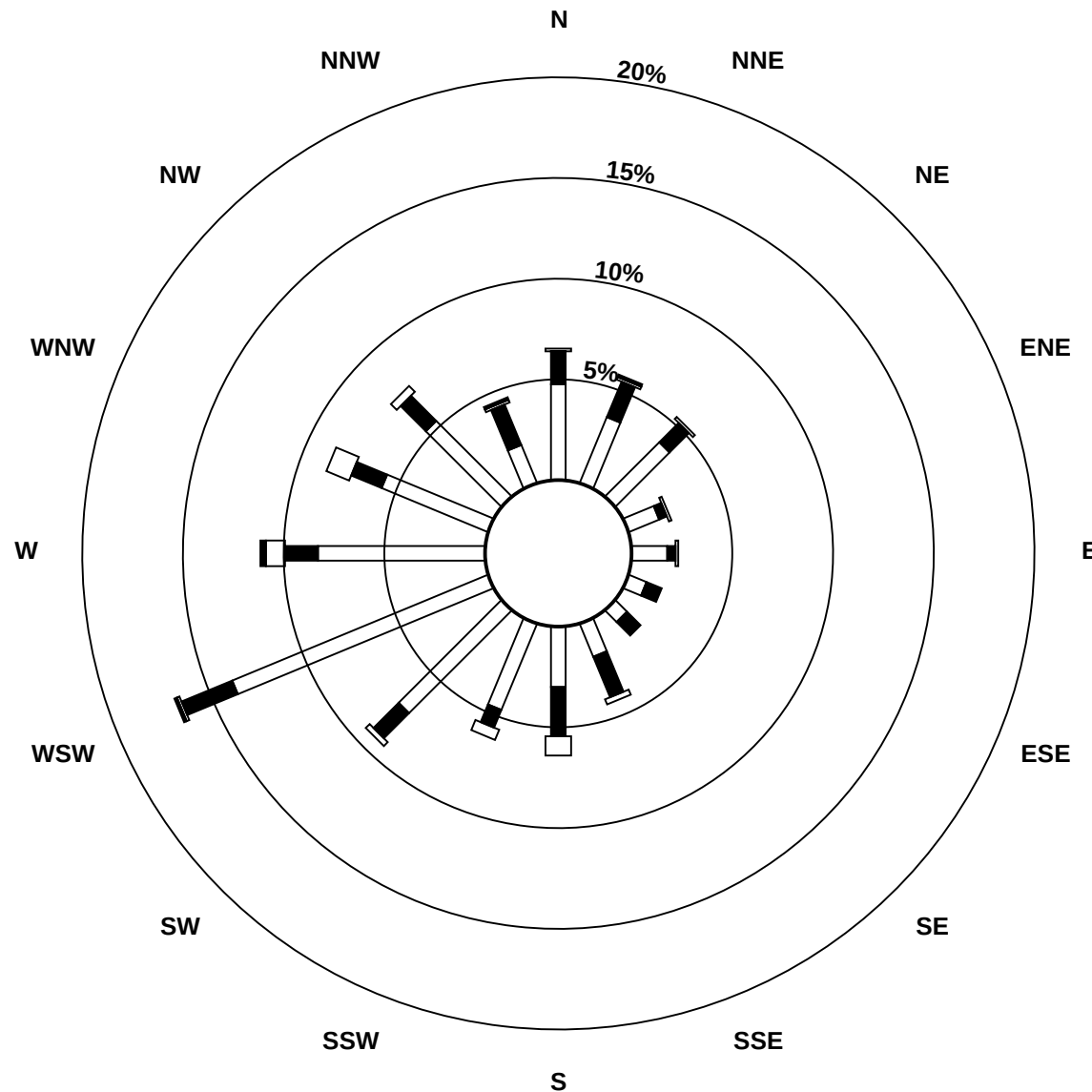
Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$

Smoky Heights - July 2013



Pollutant Rose

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



Hourly Averages

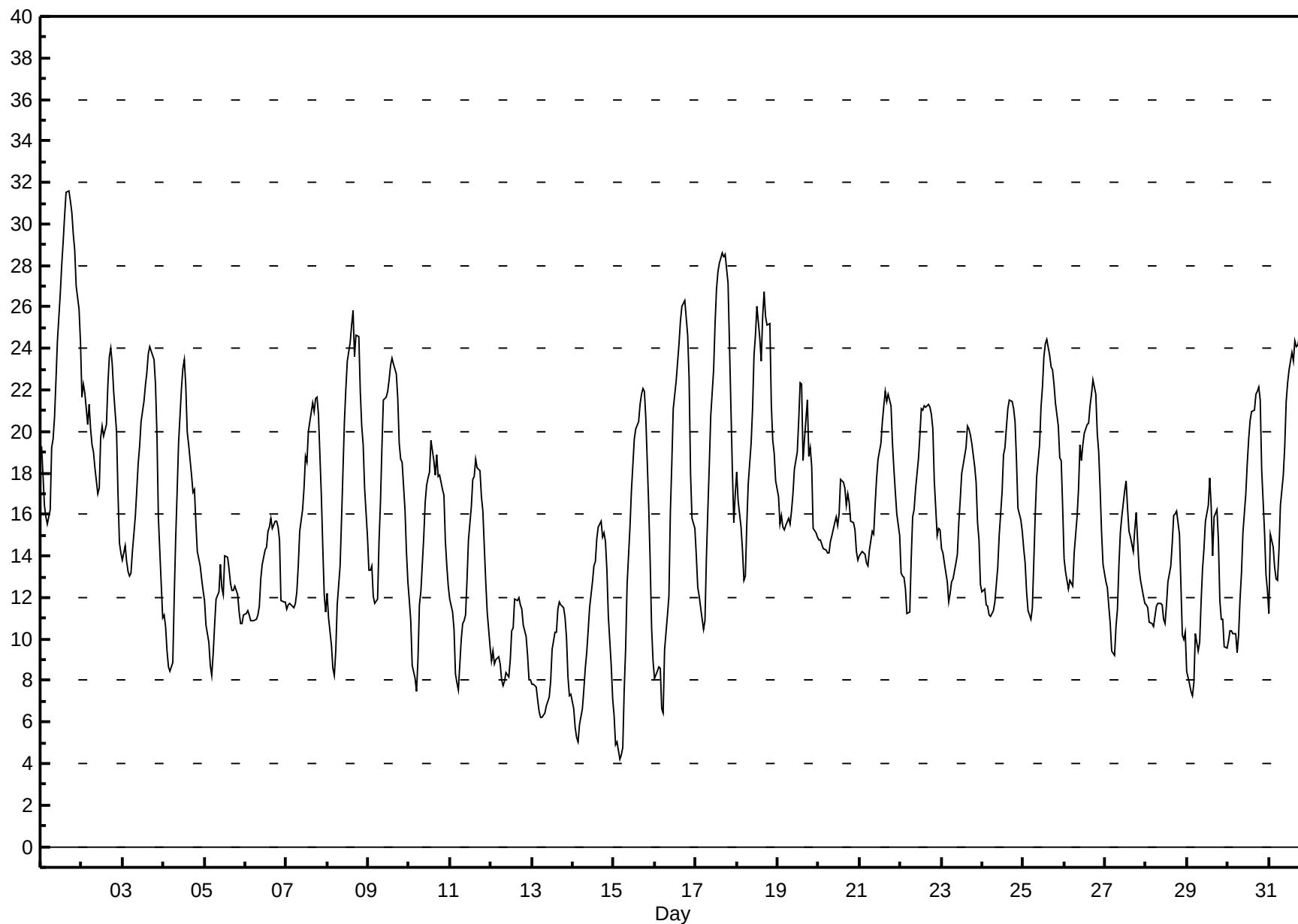
External Temperature (ET) - °C

Smoky Heights - July 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																				Hours in Service: 744						
Maximum Value: 31.6 °C on Jul 1 17:00																				Maximum Daily Average: 24.3 °C on Jul 1		Hours of Data: 744				
Minimum Value: 4 °C on Jul 15 04:00																				Minimum Daily Average: 8.5 °C on Jul 13		Hours of Missing Data: 0				
Maximum Diurnal Average: 20.3 °C at hour 18																				Minimum Diurnal Average: 10.7 °C at hour 5		Hours of Calibration: 0				
Monthly Average: 15.76 °C																				Percentiles: P ₁ = 5.8 P ₁₀ = 9.4 Q ₁ = 11.7 Median = 15.2 Q ₃ = 19.6 P ₉₀ = 22.9 P ₉₉ = 28.8		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	19	18	16	16	16	16	19	20	21	23	24	27	28	29	30	32	32	31	31	30	29	27	26	24	24.3	31.6
2-Jul	22	22	22	20	21	20	19	19	18	17	17	20	20	20	20	22	24	24	23	22	20	17	15	14	20.0	24.0
3-Jul	14	15	14	13	13	13	14	16	17	18	19	20	21	22	23	24	24	24	23	22	20	16	14	11	18.0	24.1
4-Jul	11	11	9	9	8	9	12	15	17	19	22	23	23	22	20	19	18	17	17	16	14	14	13	12	15.5	23.4
5-Jul	12	11	10	9	8	9	11	12	12	14	12	12	14	14	13	13	12	12	13	12	11	11	11	11	11.6	14.0
6-Jul	11	11	11	11	11	11	11	11	12	13	14	14	14	15	15	16	15	16	16	15	15	12	12	12	13.1	15.8
7-Jul	11	12	12	12	11	12	12	14	15	16	17	19	19	20	21	21	21	22	22	21	17	14	12	11	16.0	21.6
8-Jul	12	11	10	9	8	9	12	14	16	18	20	22	23	24	25	26	24	25	25	22	20	19	17	15	17.7	25.8
9-Jul	13	13	14	12	12	12	15	17	19	22	22	22	23	23	24	23	23	22	19	19	19	16	14	13	17.8	23.5
10-Jul	12	11	9	8	7	9	12	12	15	17	17	18	18	20	19	18	19	18	18	17	17	15	14	13	14.6	19.6
11-Jul	12	11	10	8	8	8	10	11	11	11	13	15	16	18	18	19	18	18	17	16	14	13	11	10	13.2	18.7
12-Jul	9	9	9	9	9	9	8	8	8	8	8	9	10	11	12	12	12	12	11	11	10	9	8	8	9.6	12.0
13-Jul	8	8	8	7	7	6	6	6	7	7	7	8	10	10	10	11	12	12	11	11	10	8	7	7	8.5	11.8
14-Jul	7	6	5	5	6	7	8	9	9	10	12	13	14	14	15	15	16	15	15	15	13	11	9	7	10.6	15.7
15-Jul	6	5	5	4	4	5	8	10	13	15	17	18	20	20	20	21	22	22	22	21	16	14	11	9	13.7	22.1
16-Jul	8	8	9	9	7	6	10	11	12	16	18	21	22	23	24	25	26	26	25	25	23	18	16	15	16.9	26.3
17-Jul	14	13	12	12	10	11	14	16	18	21	23	25	27	28	28	29	28	29	28	27	24	18	16	17	20.3	28.6
18-Jul	18	17	15	14	13	13	16	17	19	21	24	25	26	24	23	26	27	26	25	25	21	20	19	18	20.5	26.7
19-Jul	17	16	16	15	15	15	16	16	16	17	18	19	21	22	22	19	20	22	19	19	18	15	15	15	17.6	22.3
20-Jul	15	15	15	14	14	14	14	15	15	16	16	15	16	18	18	17	16	17	17	16	16	15	14	14	15.5	17.7
21-Jul	14	14	14	14	14	13	14	15	15	17	18	19	19	20	21	22	21	22	21	19	18	17	16	15	17.3	21.9
22-Jul	13	13	13	12	11	11	14	16	16	17	19	20	21	21	21	21	21	21	21	20	18	15	15	15	17.0	21.3
23-Jul	14	14	14	13	12	12	13	13	14	14	16	17	18	18	19	20	20	20	19	18	18	16	15	13	15.8	20.3
24-Jul	12	12	12	12	11	11	11	12	13	13	15	17	19	19	20	21	21	21	21	20	19	16	16	15	15.9	21.5
25-Jul	14	14	12	11	11	11	14	16	18	19	21	22	24	24	24	24	23	23	22	21	20	19	19	16	18.5	24.4
26-Jul	14	13	12	13	13	13	14	16	17	19	19	19	20	20	20	21	22	22	22	20	19	17	15	14	17.3	22.5
27-Jul	13	12	12	11	9	9	11	11	14	15	16	17	18	16	15	15	14	15	16	15	13	13	12	12	13.5	17.7
28-Jul	12	12	11	11	11	11	12	12	12	12	11	11	12	13	14	15	16	16	16	15	13	10	10	10	12.2	16.2
29-Jul	8	8	7	7	8	10	9	10	12	13	14	16	16	18	16	14	16	16	15	12	11	11	10	10	12.0	17.8
30-Jul	10	10	10	10	10	9	10	12	13	15	17	18	20	21	21	21	22	22	22	21	18	15	13	12	15.6	22.1
31-Jul	11	15	14	13	13	13	14	16	18	19	21	22	23	24	23	24	24	24	24	24	21	16	14	13	18.6	24.5
12.5 12.2 11.7 11.1 10.7 11.0 12.3 13.4 14.6 15.9 17.0 18.2 19.2 19.8 19.9 20.2 20.3 20.3 19.9 18.9 17.3 15.1 13.8 12.9																									Diurnal Average	
21.6 22.3 21.8 20.4 21.3 20.1 19.4 19.6 20.7 22.5 24.4 26.7 28.0 29.2 30.4 31.5 31.6 31.1 30.5 29.5 28.8 27.0 25.9 24.3																									Diurnal Maximum	

Hourly Averages

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



Hourly Averages

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

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1 Spd	5	5	6	8	5	3	4	8	8	7	7	6	8	8	7	7	8	9	10	9	9	13	20	14	5.3	20.4
Dir	34	17	358	24	21	9	188	159	146	156	161	160	161	168	155	144	98	97	93	99	85	113	146	179	126.0	145.8
2 Spd	7	18	14	12	22	23	11	5	11	10	10	11	14	16	13	11	13	22	19	17	13	14	11	11	11.8	23.0
Dir	209	222	236	259	298	298	289	186	191	199	179	204	270	257	248	245	242	262	258	268	250	256	250	242	250.6	298.5
3 Spd	15	15	15	18	21	22	25	29	30	26	26	26	26	23	21	22	22	20	16	13	10	10	12	12	19.6	30.1
Dir	246	249	245	256	259	257	256	261	259	263	258	262	260	263	257	258	269	273	259	261	240	276	285	261	259.7	258.8
4 Spd	14	14	13	10	10	9	10	8	12	9	11	19	19	18	27	15	19	4	14	17	11	9	2	5	11.1	26.6
Dir	275	265	262	201	198	202	207	231	224	216	238	264	259	241	265	259	231	271	250	209	207	206	229	170	238.3	264.7
5 Spd	2	6	4	10	7	5	4	6	10	13	17	16	15	16	19	18	15	13	19	18	17	15	14	17	11.1	19.3
Dir	260	237	295	269	273	273	185	332	305	297	323	331	331	329	321	302	277	287	293	286	288	273	267	320	298.4	320.9
6 Spd	17	17	10	9	12	12	11	12	11	13	13	11	9	8	7	9	4	4	8	12	5	7	10	6	9.1	17.2
Dir	330	311	317	329	332	340	339	336	327	319	329	330	332	359	5	356	350	321	256	289	336	304	288	299	324.8	330.4
7 Spd	5	4	6	4	5	5	6	7	6	5	4	2	5	1	3	3	4	2	5	2	1	3	1	4	2.3	6.6
Dir	276	306	282	296	309	295	297	320	315	281	337	191	201	175	256	23	80	269	49	59	271	342	5	215	300.0	320.4
8 Spd	4	5	4	5	6	7	6	9	8	7	9	11	10	11	10	10	8	1	5	7	9	9	12	8	6.8	11.7
Dir	205	259	246	243	232	257	215	190	180	178	162	170	180	201	183	182	200	225	177	178	204	213	218	248	200.9	218.0
9 Spd	12	14	14	14	15	11	9	12	15	21	26	28	30	21	19	18	19	16	17	11	13	13	12	10	14.9	29.7
Dir	257	260	245	259	264	255	229	218	234	250	250	253	253	244	258	262	264	261	257	205	178	183	203	232	244.9	253.5
10 Spd	8	9	5	4	3	1	4	6	6	10	12	8	10	11	15	11	14	14	12	11	11	11	6	5	7.3	14.6
Dir	235	254	211	226	218	229	179	191	178	143	152	133	195	214	249	201	186	216	208	194	198	206	231	262	203.3	248.7
11 Spd	8	9	10	9	5	9	11	12	11	10	11	21	21	21	26	27	25	32	33	33	34	34	25	20	18.4	34.2
Dir	266	289	285	258	260	250	235	214	211	208	217	249	252	243	249	244	215	242	248	250	249	249	250	246	244.7	249.3
12 Spd	22	23	18	17	18	19	21	21	22	25	22	21	20	15	15	15	14	12	9	9	8	5	3	2	14.6	24.6
Dir	257	256	245	253	262	293	295	292	296	299	300	294	295	303	296	297	287	290	302	349	320	308	305	226	286.9	299.0
13 Spd	4	3	9	11	10	11	10	9	9	8	7	7	3	3	7	8	9	8	8	10	10	7	6	2	2.3	11.5
Dir	262	316	349	0	6	356	10	3	5	16	358	347	332	186	237	247	242	231	214	178	202	187	218	182	306.3	356.0
14 Spd	1	2	4	4	4	6	6	6	6	7	7	6	4	4	1	2	5	6	5	3	6	6	9	10	3.0	9.8
Dir	8	304	31	20	15	26	33	41	33	36	26	21	16	22	350	39	10	353	10	244	250	258	268	275	357.9	275.0
15 Spd	11	8	6	6	6	7	8	8	9	10	14	19	18	17	17	17	19	17	18	9	14	3	7	7	9.4	19.2
Dir	274	269	284	242	236	196	220	202	215	236	234	240	247	261	254	253	247	248	252	311	41	61	291	261	250.5	239.6
16 Spd	11	7	8	2	2	1	3	5	4	6	9	11	13	13	13	10	7	9	11	8	5	3	4	4	5.6	13.2
Dir	261	254	248	290	213	323	172	153	145	153	169	152	155	167	174	180	205	192	154	146	156	213	192	242	181.6	167.3
17 Spd	7	7	8	7	8	9	8	8	10	6	7	4	7	8	8	5	6	7	4	4	3	4	7	10	4.2	9.8
Dir	261	245	242	229	233	234	244	217	182	162	152	146	143	156	179	148	177	169	207	250	277	291	285	27	207.8	26.7
18 Spd	5	2	5	3	0	3	3	6	8	11	16	21	17	20	11	8	6	8	11	6	5	5	4	9	4.8	21.4
Dir	35	318	254	239	139	30	176	177	168	163	235	250	250	255	279	298	176	291	299	275	295	264	31	39	254.8	249.8
19 Spd	3	4	8	9	6	7	12	4	3	7	7	4	6	7	6	14	8	7	9	6	5	3	3	3	2.9	14.3
Dir	63	253	329	20	3	355	345	355	323	314	283	360	337	353	282	237	228	156	76	50	70	34	40	45	342.9	236.7
20 Spd	5	7	9	7	12	13	3	8	8	7	8	9	7	8	10	10	5	5	4	3	3	4	4	1	6.4	12.9
Dir	27	15	25	9	1	20	49	30	39	40	35	37	62	53	33	36	55	55	56	37	45	13	17	273	31.8	20.1
21 Spd	3	5	4	4	3	4	2	3	7	8	11	11	8	5	4	5	5	6	5	8	6	4	5	3	0.8	11.0
Dir	323	312	273	264	261	270	310	98	258	194	230	246	221	196	126	124	96	112	71	51	24	80	10	10	227.1	230.1
22 Spd	4	7	10	6	8	6	5	2	3	7	12	10	10	12	14	14	12	11	10	9	3	9	12	12	7.0	14.0
Dir	273	243	240	239	222	251	235	252	321	311	305	311	300	309	324	326	336	348	355	336	312	269	306	309	302.0	325.8

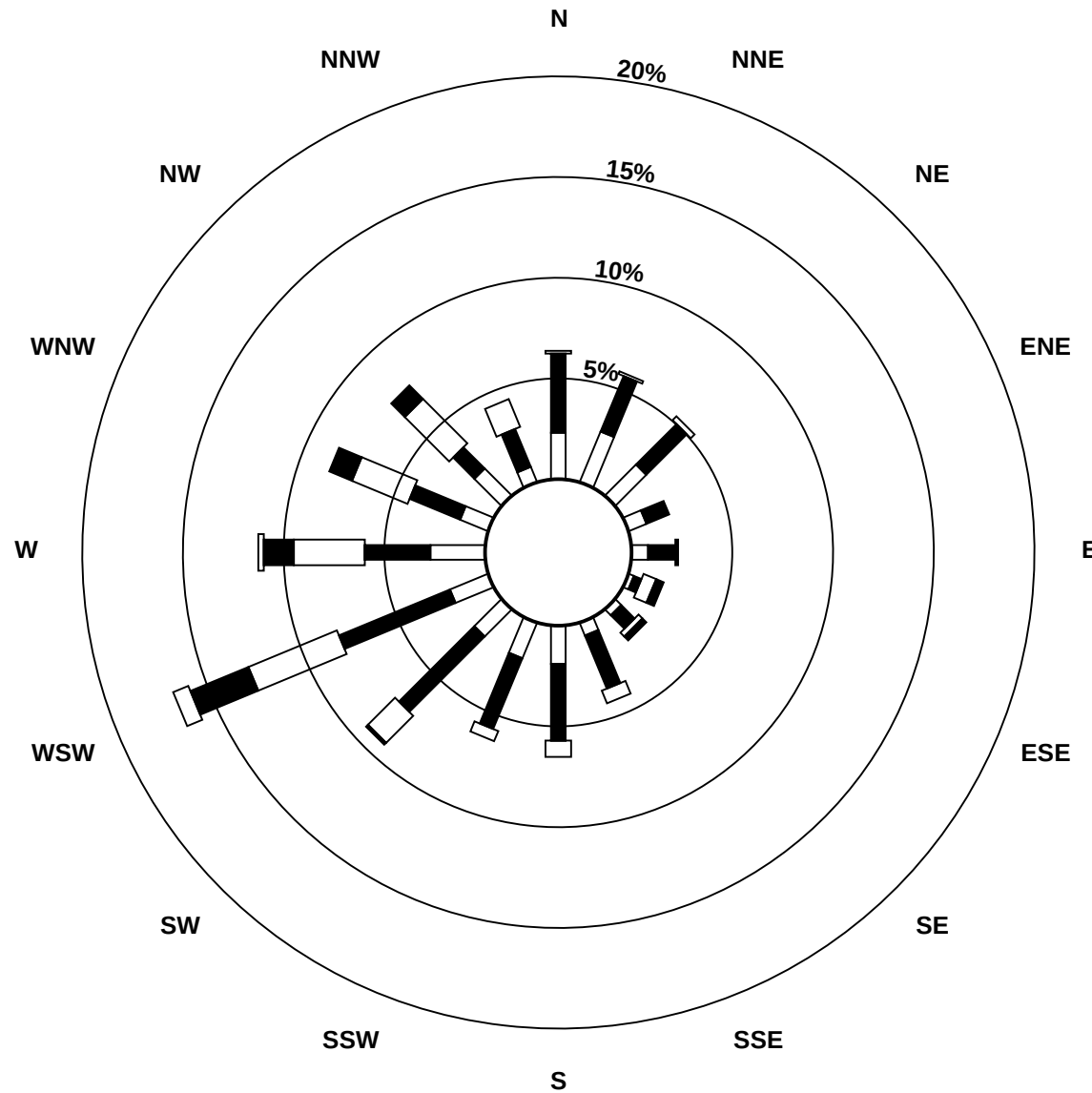
Hourly Averages

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

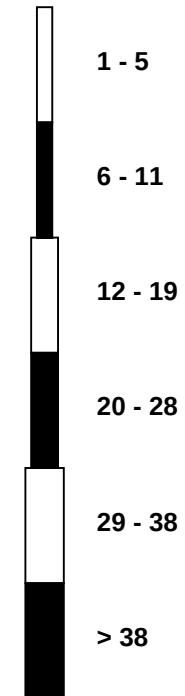
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
23 Spd	16	15	12	11	1	5	9	12	10	9	4	4	2	4	5	4	8	9	8	8	5	5	6	1	5.5	15.9
Dir	309	317	330	328	346	278	298	295	272	268	260	251	242	31	56	11	9	354	358	11	7	8	352	5	324.3	309.2
24 Spd	4	6	4	5	6	7	7	8	10	9	9	9	10	10	8	9	10	12	11	10	8	9	11	11	7.8	12.0
Dir	10	352	44	5	26	22	11	6	28	43	44	47	42	49	45	37	46	50	61	58	64	67	75	91	44.5	50.5
25 Spd	9	9	7	7	7	5	6	6	13	15	17	20	27	28	25	23	17	15	14	12	14	6	18	11	10.6	27.5
Dir	73	66	36	28	26	12	29	80	129	132	122	122	111	99	120	125	115	106	119	158	154	126	190	222	115.8	98.9
26 Spd	2	1	2	5	0	7	6	8	5	5	6	3	7	8	9	7	8	5	11	8	6	7	7	9	2.8	10.5
Dir	211	172	209	127	297	221	230	178	191	252	287	80	358	84	109	150	141	189	256	266	243	154	218	245	201.7	256.1
27 Spd	9	5	7	2	6	10	5	8	14	18	25	26	23	19	16	19	26	21	20	17	15	18	17	16	13.1	26.3
Dir	260	215	184	200	262	266	201	222	235	238	244	253	263	258	287	256	253	262	307	309	304	309	301	301	266.4	253.2
28 Spd	16	15	13	13	15	15	20	25	26	28	28	26	19	18	16	17	14	17	9	10	5	5	5	3	14.8	28.3
Dir	295	299	287	270	267	281	312	312	316	324	317	318	322	326	324	320	311	310	343	323	8	16	288	296	311.5	316.8
29 Spd	11	9	5	6	3	12	5	5	9	12	7	4	5	4	12	2	10	5	4	9	9	15	13	12	5.4	15.2
Dir	272	258	225	216	234	270	43	201	215	231	179	212	150	225	252	23	245	300	333	39	253	269	273	279	253.7	268.7
30 Spd	10	7	8	5	5	6	6	6	9	10	12	12	10	11	10	10	11	11	11	9	7	6	5	8	7.8	11.9
Dir	257	239	224	232	226	200	184	186	179	181	214	210	225	219	243	240	236	238	219	215	229	276	243	259	223.7	214.3
31 Spd	7	13	4	4	8	9	7	8	6	7	4	1	2	2	8	11	8	9	7	3	3	3	4	2	2.3	12.8
Dir	240	322	119	284	271	255	292	334	354	355	26	359	36	11	334	25	98	98	113	94	63	327	15	17	350.1	322.1
Spd	5.8	6.3	5.1	4.4	4.9	5.6	4.2	3.6	4.3	4.6	5.5	6.1	5.9	4.9	6.0	5.2	5.3	5.1	4.5	3.5	3.2	3.9	4.7	4.4	Diurnal Average	
Dir	275.5	275.1	271.0	275.3	279.1	283.6	276.8	261.8	251.6	253.6	256.5	259.4	259.0	255.8	264.4	261.0	242.3	261.6	264.9	262.3	247.8	254.7	257.6	266.6	Diurnal Maximum	
Spd	21.6	23.0	17.9	17.8	21.7	23.0	25.3	29.1	30.1	28.0	28.3	28.3	29.7	27.5	26.6	27.4	25.9	32.1	32.5	33.1	34.2	33.7	25.4	19.8	Diurnal Maximum	
Dir	256.6	255.6	245.2	256.5	298.3	298.5	256.3	260.7	258.8	323.8	316.8	252.8	253.5	98.9	264.7	244.3	253.3	241.8	248.4	249.6	249.3	249.4	250.0	245.9	Diurnal Maximum	
Maximum Speed Value: 34 km/h on Jul 11 21:00																								Hours in Service: 744		
Maximum Daily Speed Average: 19.6 km/h on Jul 3																								Hours of Data: 744		
Maximum Diurnal Speed Average: 6.3 km/h at hour 2																								Hours of Missing Data: 0		
Minimum Speed Value: 0 km/h on Jul 26 05:00																								Percent Operational Time: 100.0		
Minimum Daily Speed Average: 0.8 km/h on Jul 7																										
Minimum Diurnal Speed Average: 3.2 km/h at hour 21																										
Monthly Average Velocity: 4.80 km/h 263.65 deg																										
Speed Percentiles: P ₁ = 1.1 P ₁₀ = 3.5 Q ₁ = 5.5 Median = 8.6 Q ₃ = 12.7 P ₉₀ = 18.8 P ₉₉ = 29.2																										
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	30	41	6	0	0	0	77																			
NorthEast	25	45	4	0	0	0	74																			
East	6	16	2	2	0	0	26																			
SouthEast	10	19	10	4	0	0	43																			
South	17	54	12	0	0	0	83																			
SouthWest	24	76	33	7	1	0	141																			
West	23	61	61	32	8	0	185																			
NorthWest	22	31	45	16	1	0	115																			
Total	157	343	173	61	10	0	744																			

Wind Rose

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



Wind Speed Classes (km/h)



Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Smoky Heights - July 2013

Maximum Speed: 34 km/h on Jul 11 21:00																				Maximum Daily Speed Average: 20.0 km/h on Jul 3										Hours in Service: 744	
Minimum Speed: 1 km/h on Jul 7 21:00																				Minimum Daily Speed Average: 4.9 km/h on Jul 7										Hours of Data: 744	
Maximum Diurnal Speed Average: 13.3 km/h at hour 15																				Minimum Diurnal Speed Average: 8.1 km/h at hour 4										Hours of Missing Data: 0	
Monthly Average Speed: 10.58 km/h																				Percentiles: P ₁ = 2.8 P ₁₀ = 4.6 Q ₁ = 6.3 Median = 9.1 Q ₃ = 13.0 P ₉₀ = 19.1 P ₉₉ = 29.5										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	5	5	6	8	5	3	5	8	8	8	7	7	8	8	8	7	8	9	10	9	9	13	21	15	8.3	20.6					
2-Jul	8	19	15	13	23	23	11	6	11	10	10	13	15	16	13	12	13	22	19	17	13	14	11	11	14.1	23.2					
3-Jul	15	15	15	18	21	22	25	29	30	26	26	26	26	23	22	23	22	20	17	13	10	10	12	13	20.0	30.3					
4-Jul	15	14	13	11	11	9	10	9	12	10	12	19	19	18	27	15	19	7	14	17	11	9	5	6	13.0	27.1					
5-Jul	3	6	5	10	8	8	5	6	11	13	17	16	16	17	20	18	15	13	19	18	17	15	14	18	12.8	19.6					
6-Jul	17	17	10	9	12	12	11	12	11	14	14	11	10	8	8	9	5	5	9	12	8	10	10	7	10.4	17.5					
7-Jul	5	5	7	5	6	6	6	7	6	6	5	5	6	4	5	6	5	3	5	3	1	3	3	4	4.9	6.7					
8-Jul	5	5	4	5	6	7	7	9	8	8	9	12	11	12	11	11	8	3	5	7	10	9	12	9	8.1	12.0					
9-Jul	12	14	14	15	15	11	10	12	15	21	26	29	30	21	19	18	19	16	17	11	13	13	12	10	16.4	29.9					
10-Jul	9	9	6	5	5	2	5	6	6	10	12	9	10	11	15	12	15	14	12	11	11	11	7	6	9.0	14.9					
11-Jul	8	10	10	9	6	10	11	12	11	10	11	21	22	22	27	28	26	32	33	33	34	34	25	20	19.4	34.4					
12-Jul	22	23	18	17	18	19	22	21	23	25	23	22	20	16	16	16	15	12	10	9	8	6	3	3	16.1	25.0					
13-Jul	4	3	9	11	10	12	10	9	10	8	7	7	5	6	8	9	9	9	8	10	10	7	6	3	7.9	11.7					
14-Jul	3	2	4	4	4	6	6	6	6	7	7	7	6	5	5	4	6	7	5	4	6	6	9	10	5.6	9.9					
15-Jul	11	9	6	6	7	7	8	8	9	10	15	20	19	18	17	18	19	18	18	11	15	4	8	7	12.0	20.1					
16-Jul	11	8	8	7	3	3	4	6	5	7	9	11	14	14	14	11	9	10	11	8	6	3	5	4	7.9	14.0					
17-Jul	7	8	8	7	8	9	8	9	10	6	7	6	8	9	9	6	7	7	5	5	4	4	7	10	7.2	10.1					
18-Jul	5	4	6	3	3	4	4	6	8	11	17	22	18	20	11	8	8	9	11	7	10	8	8	9	9.2	21.5					
19-Jul	5	5	10	9	6	8	12	6	4	7	8	5	6	9	10	14	9	8	10	6	6	3	4	3	7.2	14.5					
20-Jul	6	7	9	8	13	13	7	9	8	8	8	9	8	8	10	10	6	6	5	5	3	5	4	2	7.3	13.0					
21-Jul	4	5	4	4	3	4	3	4	7	9	11	11	9	6	6	6	6	7	6	9	7	7	6	3	6.2	11.4					
22-Jul	4	7	10	6	8	6	6	6	8	8	12	11	11	13	15	15	13	11	10	9	4	10	12	12	9.5	14.7					
23-Jul	16	15	13	12	6	7	9	12	11	9	6	5	4	7	6	6	8	10	9	8	5	5	6	3	8.2	16.0					
24-Jul	5	6	4	5	6	7	7	8	10	9	9	10	11	11	10	9	11	12	12	10	8	9	11	12	8.8	12.3					
25-Jul	9	9	7	7	7	5	6	7	13	15	17	20	28	28	25	23	17	15	14	13	14	9	18	12	14.2	28.1					
26-Jul	7	3	3	5	2	7	6	9	6	6	8	4	8	8	9	7	8	7	11	8	6	11	9	9	7.0	11.0					
27-Jul	9	6	7	3	6	10	6	8	15	19	25	27	24	21	16	20	26	22	20	17	16	18	18	16	15.6	26.7					
28-Jul	16	15	13	13	15	15	20	25	26	28	28	26	19	18	16	17	14	17	11	10	7	7	5	5	16.3	28.4					
29-Jul	11	9	5	6	5	13	6	6	9	12	8	5	6	6	14	6	10	12	5	10	11	15	13	12	9.1	15.2					
30-Jul	10	7	8	5	6	6	6	7	9	11	12	12	10	12	11	11	12	12	11	9	8	6	6	8	8.9	12.4					
31-Jul	8	15	6	5	9	9	8	8	7	8	5	5	7	9	11	13	10	11	10	3	3	3	4	2	7.4	14.5					
8.8 9.1 8.5 8.1 8.5 9.2 8.7 9.5 10.8 11.6 12.7 13.3 13.3 13.0 13.3 12.6 12.2 11.8 11.7 10.4 9.5 9.2 9.5 8.6																									Diurnal Average						
21.7 23.0 17.9 17.9 22.6 23.2 25.4 29.1 30.3 28.1 28.4 28.6 29.9 28.1 27.1 28.0 26.2 32.4 32.7 33.3 34.4 33.8 25.5 19.9																									Diurnal Maximum						
All monthly, daily, and diurnal averages have been calculated using scalar methods																															

Hourly Standard Deviations

Wind Direction (WD) - deg

Smoky Heights - July 2013

Maximum Value: 99.1 deg on Jul 26 05:00																			Hours in Service: 744						
Minimum Value: 2.5 deg on Jul 3 05:00																			Hours of Data: 744						
																			Hours of Missing Data: 0						
Percentiles: P ₁ = 3.9 P ₁₀ = 7.1 Q ₁ = 10.2 Median = 15.4 Q ₃ = 27.9 P ₉₀ = 51.7 P ₉₉ = 91.0																			Hours of Calibration: 0						
																			Percent Operational Time: 100.0						
Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jul	15	17	14	8	18	36	52	11	14	23	22	23	18	19	17	26	10	9	6	6	12	19	8	22	52.2
2-Jul	40	20	11	11	16	9	8	34	15	14	25	35	11	8	8	13	13	16	6	7	11	6	7	10	40.2
3-Jul	5	7	8	5	3	3	3	5	5	8	9	7	10	11	13	14	12	8	15	6	8	10	3	16	16.3
4-Jul	7	9	13	19	23	11	13	27	12	17	31	12	12	6	13	14	7	91	11	7	8	17	84	20	91.4
5-Jul	76	8	40	7	39	74	25	37	14	13	10	10	12	12	9	8	6	8	9	7	6	11	10	17	76.5
6-Jul	10	6	15	11	9	9	14	9	11	10	16	17	14	20	24	19	33	41	29	10	54	61	7	44	61.4
7-Jul	22	33	16	18	26	34	14	9	29	44	48	80	41	96	76	66	35	62	27	38	44	31	76	30	95.6
8-Jul	27	13	24	7	6	11	24	8	11	29	23	19	23	21	22	28	12	76	21	11	15	18	11	15	75.9
9-Jul	4	5	8	5	5	8	27	8	9	9	8	8	7	11	12	13	9	14	11	10	7	4	14	7	26.6
10-Jul	15	18	46	28	52	65	44	16	23	15	15	23	21	19	12	23	12	6	7	9	6	11	29	16	65.5
11-Jul	12	11	7	12	36	13	12	9	8	7	13	12	15	15	13	12	14	8	6	6	6	5	4	4	36.4
12-Jul	5	4	4	9	8	9	7	7	8	10	12	12	12	13	18	16	14	12	29	17	10	18	53	83	83.1
13-Jul	12	31	12	10	11	11	11	12	12	12	20	19	70	69	35	25	27	22	23	8	4	5	15	44	69.6
14-Jul	68	56	25	8	6	11	11	14	14	14	19	27	43	48	84	84	36	32	24	48	9	8	4	7	83.5
15-Jul	5	15	9	12	18	7	13	17	14	17	15	17	14	19	16	17	12	11	9	40	24	33	32	24	40.0
16-Jul	13	12	22	91	66	75	69	29	37	20	15	18	15	20	20	25	44	25	7	8	25	28	26	17	90.7
17-Jul	15	7	9	6	4	5	12	12	15	29	23	50	20	24	35	47	54	21	32	11	27	38	7	13	53.6
18-Jul	24	66	14	39	84	52	51	21	14	13	21	7	11	9	6	18	51	39	6	27	68	55	81	21	84.4
19-Jul	53	30	36	11	20	20	15	44	56	17	21	40	34	40	51	10	19	39	14	14	22	30	69	39	69.0
20-Jul	9	12	9	20	26	9	62	12	15	13	15	11	14	16	15	13	30	23	28	56	33	34	16	51	62.1
21-Jul	28	19	13	11	21	32	61	29	25	14	15	15	33	55	56	52	31	20	47	11	34	56	21	62	61.7
22-Jul	16	18	7	25	14	18	27	77	81	32	16	21	21	24	21	18	17	19	14	16	62	10	11	8	80.5
23-Jul	5	6	8	12	94	47	13	13	13	16	63	58	87	65	44	57	24	25	26	10	13	17	15	90	94.4
24-Jul	35	23	33	21	7	14	14	15	13	15	13	22	22	21	31	26	19	12	12	7	8	7	10	12	35.3
25-Jul	12	11	7	7	5	11	8	27	16	12	14	11	11	12	8	9	7	6	12	12	9	61	11	27	60.9
26-Jul	78	69	43	10	99	23	18	21	40	42	40	51	25	15	20	14	16	49	9	14	22	73	36	8	99.1
27-Jul	6	69	9	43	14	9	44	21	9	16	11	10	17	28	14	19	8	13	12	17	11	8	8	6	69.4
28-Jul	6	8	8	10	4	16	6	6	7	6	6	6	9	8	10	10	11	9	36	17	42	57	15	60	60.3
29-Jul	7	18	34	20	59	22	40	28	18	15	34	52	36	60	34	89	19	66	48	17	52	4	5	4	89.3
30-Jul	13	10	8	19	14	10	8	14	14	18	16	19	21	19	22	26	20	20	10	5	24	9	15	4	25.6
31-Jul	18	42	61	41	14	13	35	18	26	31	51	97	91	91	47	34	43	37	38	15	26	29	25	21	96.9
78.1 69.4 61.4 90.7 99.1 74.9 69.5 76.8 80.5 44.1 63.1 96.9 91.0 95.6 83.5 89.3 53.6 91.4 48.0 56.3 68.2 72.5 84.4 89.5																									

PAZA
Beaverlodge Station
Monthly Summary Tables, Graphs and
Roses

Hourly Averages

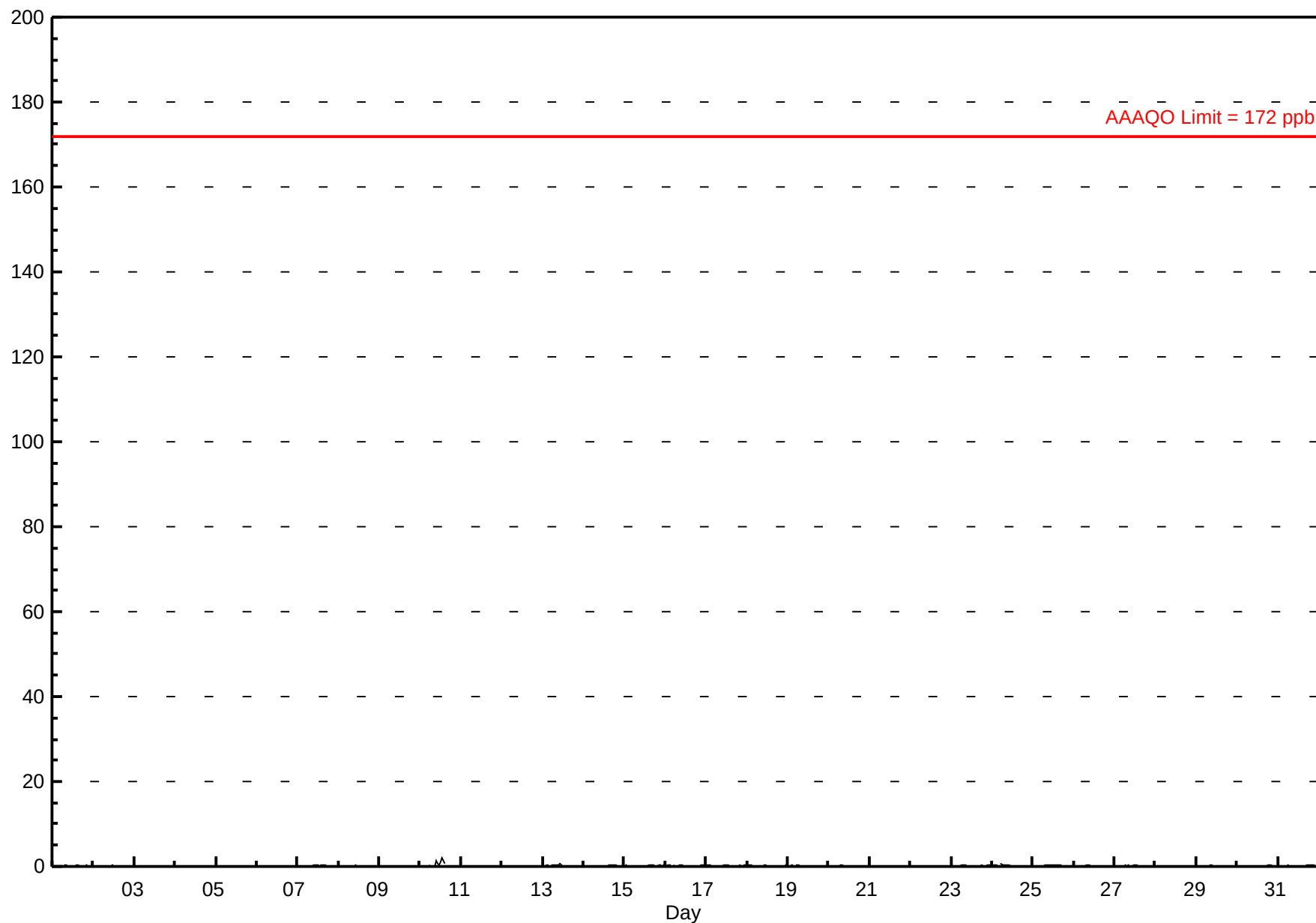
Sulphur Dioxide (SO₂) - ppb

Beaverlodge - July 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																				Hours in Service: 744						
Maximum Value: 1.9 ppb on Jul 10 14:00																				Maximum Daily Average: 0.4 ppb on Jul 10		Hours of Data: 709				
Minimum Value: 0 ppb on Jul 4 13:00																				Minimum Daily Average: 0.0 ppb on Jul 12		Hours of Missing Data: 35				
Maximum Diurnal Average: 0.2 ppb at hour 10																				Minimum Diurnal Average: 0.1 ppb at hour 23		Hours of Calibration: 35				
Monthly Average: 0.11 ppb																				Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.1 Q ₃ = 0.1 P ₉₀ = 0.2 P ₉₉ = 0.5		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	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
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	0.1
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	0.1
7-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
8-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
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	0.1	0.2
10-Jul	0	0	0	0	A	0	0	0	0	2	1	0	1	2	1	C	C	C	C	0	0	0	0	0	0.4	1.9
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	0.0	0.1
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	0	0.0	0.1
13-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	0.5
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	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	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	0.3
18-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
19-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
20-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
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	0.0	0.1
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	0.1
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	0.3
24-Jul	0	0	0	0	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.5
25-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
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	0.1	0.3
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	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1
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	0.2
30-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
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
0.1 0.1 0.1 0.1 -- 0.1 0.1 0.1 0.1 0.2 0.2 0.2 0.1 0.2 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1																								Diurnal Average		
0.3 0.5 0.4 0.3 -- 0.5 0.5 0.4 0.4 1.5 0.7 0.5 1.0 1.9 0.7 0.3 0.3 0.3 0.2 0.3 0.2 0.3 0.2 0.3 0.3																								Diurnal Maximum		
C - Calibration A - Automated Daily Zero Span																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb 30-day 11 ppb																										

Hourly Averages

Sulphur Dioxide (SO₂) - ppb
Beaverlodge - July 2013



Hourly Maximums

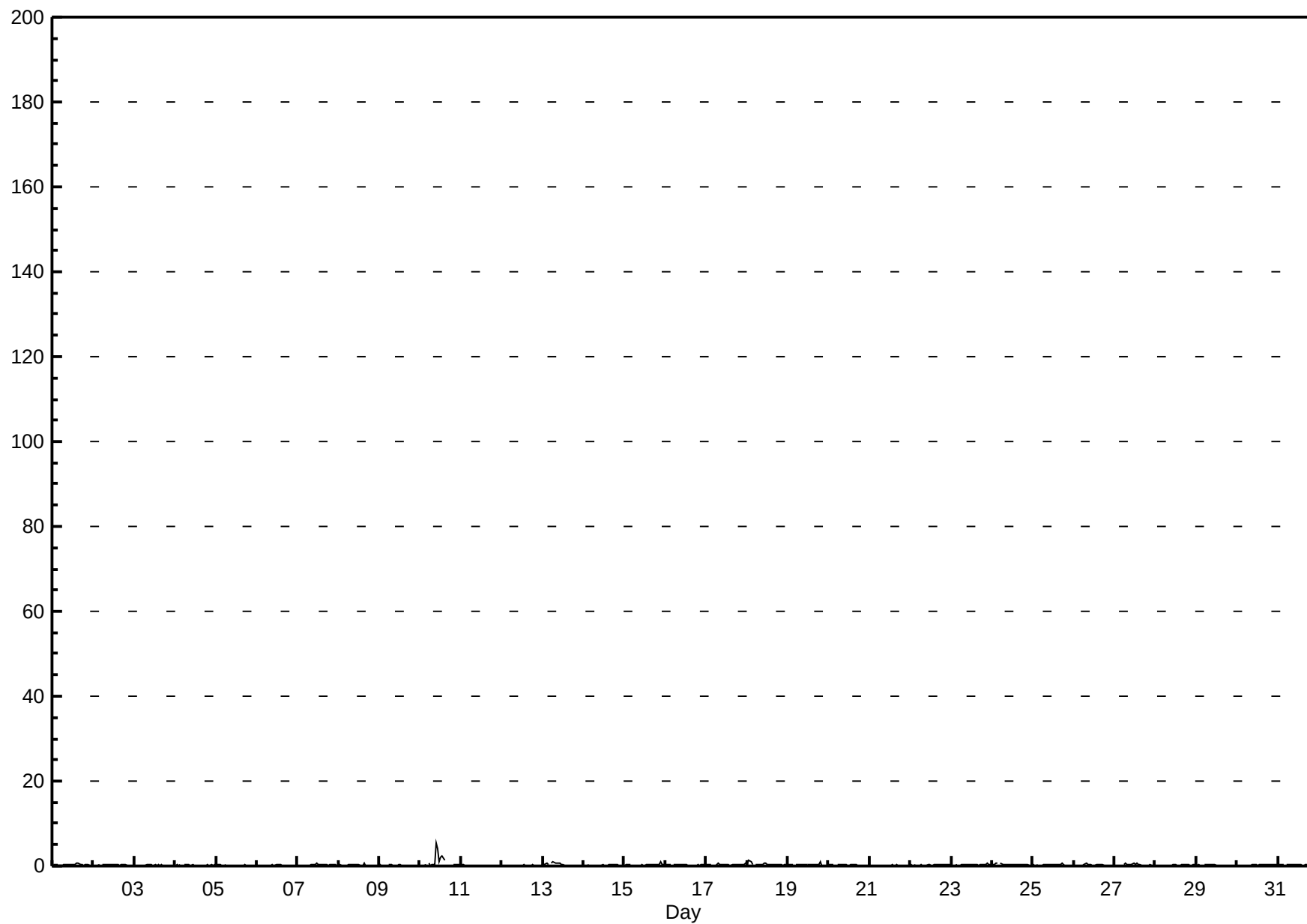
Sulphur Dioxide (SO₂) - ppb

Beaverlodge - July 2013

Maximum Value: 5.4 ppb on Jul 10 10:00																				Maximum Daily Average: 1.0 ppb on Jul 10					Hours in Service: 744	
Minimum Value: 0 ppb on Jul 12 21:00																				Minimum Daily Average: 0.1 ppb on Jul 12					Hours of Data: 709	
Maximum Diurnal Average: 0.4 ppb at hour 10																				Minimum Diurnal Average: 0.2 ppb at hour 23					Hours of Missing Data: 35	
Monthly Average: 0.24 ppb																				Percentiles: P ₁ = 0.1 P ₁₀ = 0.1 Q ₁ = 0.1 Median = 0.2 Q ₃ = 0.2 P ₉₀ = 0.4 P ₉₉ = 1.0					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	A	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0.3	0.6
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	0.2	0.3
3-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
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	0.2	0.3
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	0.2	0.2
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	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.5
8-Jul	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0.2	0.7
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	0.1	0.3
10-Jul	0	0	0	0	A	1	0	0	0	5	4	1	2	3	1	C	C	C	C	0	0	0	0	0	1.0	5.4
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	0.2
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	0	0.1	0.2
13-Jul	0	0	1	0	A	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.9
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	0.2	0.4
15-Jul	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0.3	1.0
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	0.3	0.5
17-Jul	0	0	0	0	A	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.3	0.8
18-Jul	0	1	1	0	A	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.4	1.3
19-Jul	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0.3	1.0
20-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
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	0.1	0.2
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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0.3	0.5
24-Jul	0	0	1	1	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.8
25-Jul	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0.3	0.6
26-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	0.2	0.8
27-Jul	0	0	0	0	A	0	1	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0.2	0.8
28-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	0.2
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	0.4
30-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
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	0.3	0.5
0.2 0.2 0.2 0.2 -- 0.2 0.2 0.3 0.2 0.4 0.4 0.3 0.3 0.3 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2																									Diurnal Average	
0.4 1.3 1.1 0.5 -- 0.8 0.9 0.8 0.6 5.4 4.1 1.1 2.0 2.5 1.3 0.7 0.4 0.6 0.4 1.0 0.5 1.0 0.5 0.8																									Diurnal Maximum	
C - Calibration A - Automated Daily Zero Span																										

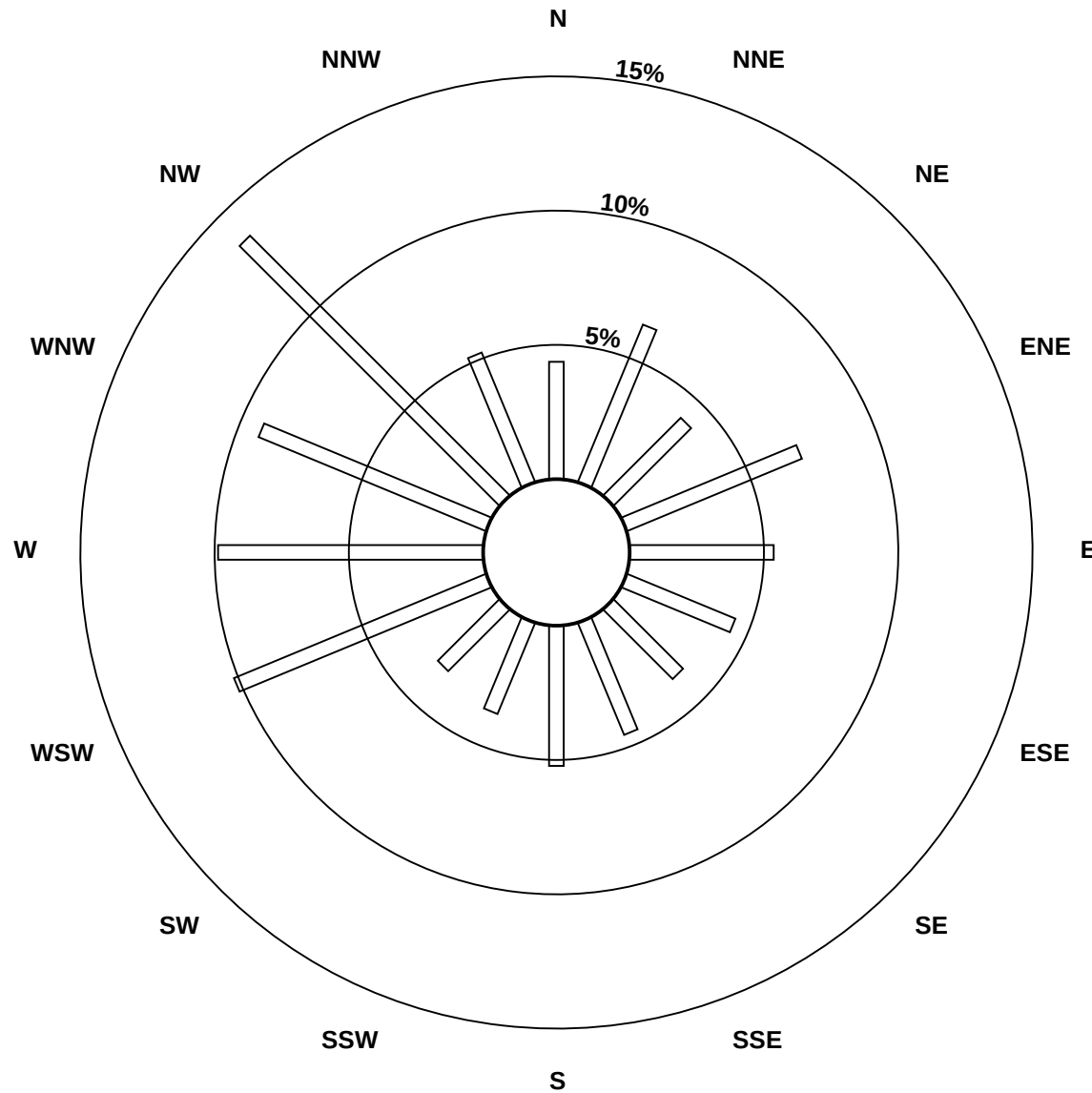
Hourly Maximums

Sulphur Dioxide (SO₂) - ppb
Beaverlodge - July 2013

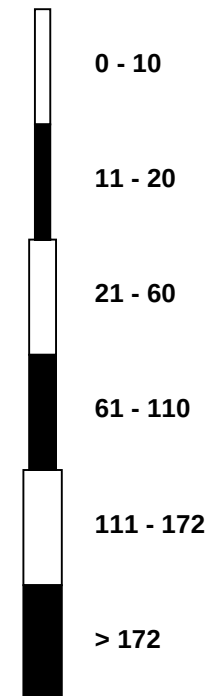


Pollutant Rose

Sulphur Dioxide (SO₂) - ppb
Beaverlodge - July 2013

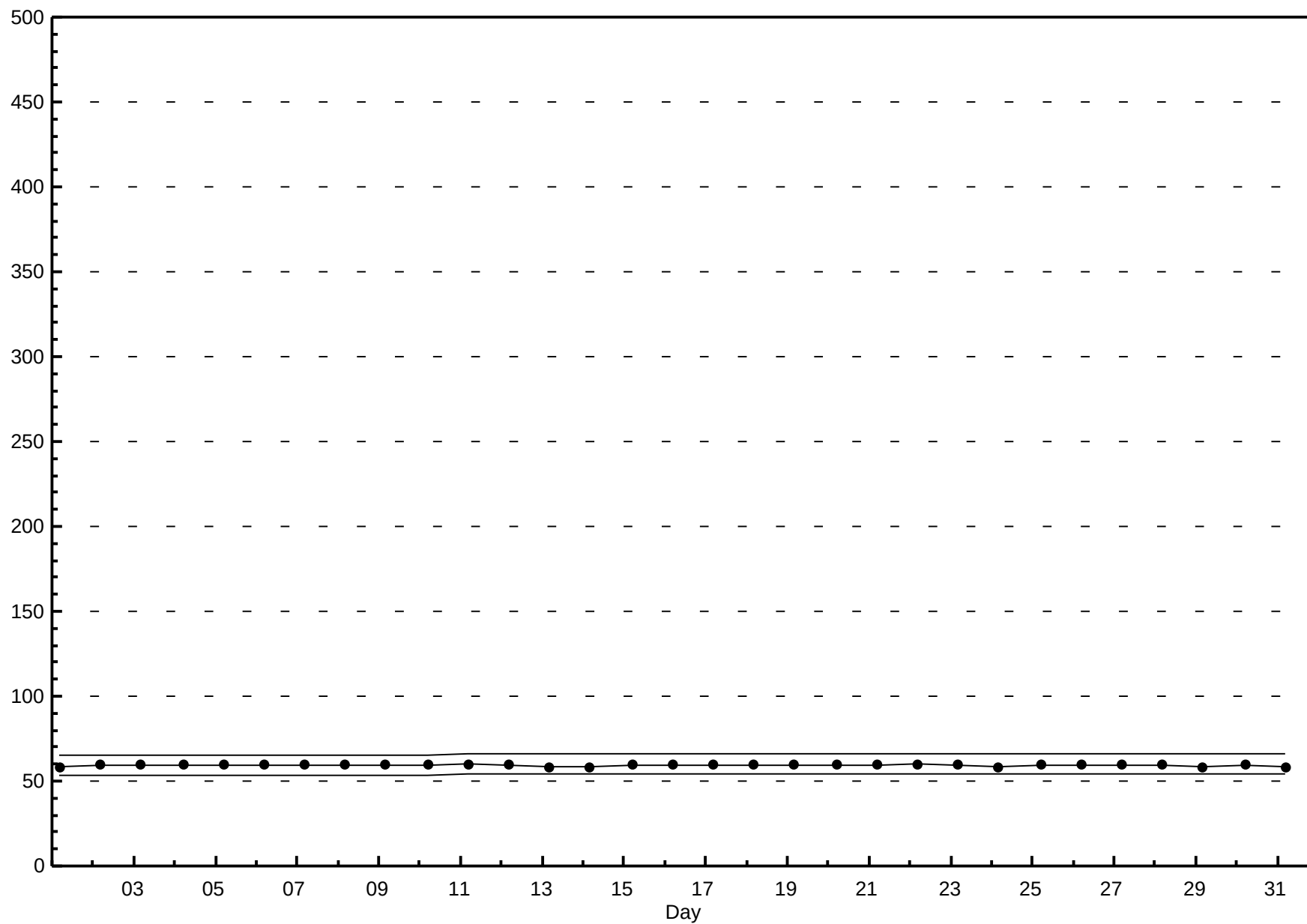


Pollutant Classes (ppb)



Span Responses

Sulphur Dioxide (SO₂)
Beaverlodge - July 2013



Hourly Averages

Nitrogen Dioxide (NO₂) - ppb

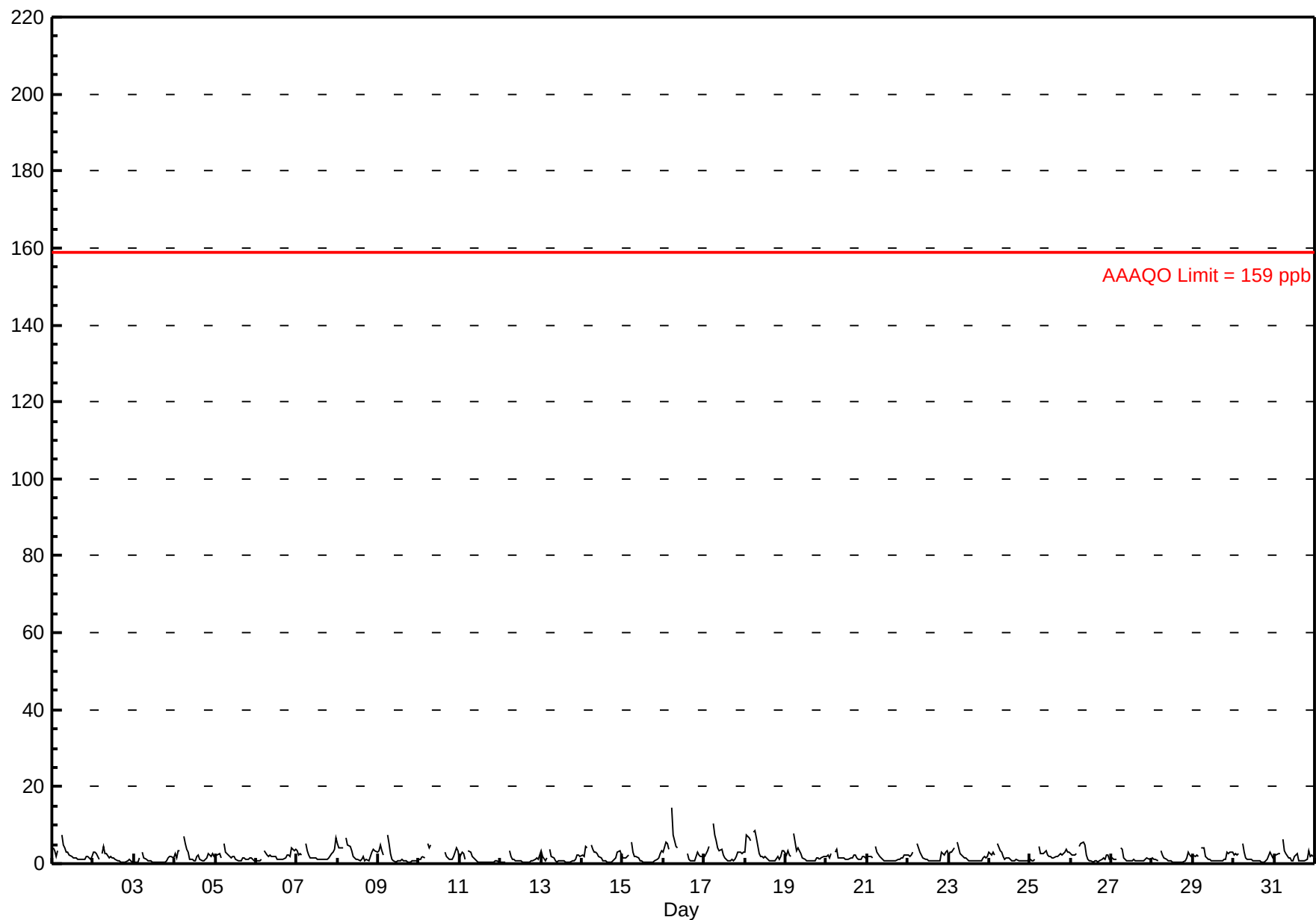
Beaverlodge - July 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 14.4 ppb on Jul 16 06:00 Maximum Daily Average: 3.6 ppb on Jul 16																				Hours in Service: 744 Hours of Data: 701 Hours of Missing Data: 43 Hours of Calibration: 38 Percent Operational Time: 99.3						
Minimum Value: 0 ppb on Jul 12 03:00 Maximum Diurnal Average: 5.5 ppb at hour 6 Monthly Average: 1.91 ppb										Minimum Daily Average: 0.9 ppb on Jul 3 Minimum Diurnal Average: 0.8 ppb at hour 18 Percentiles: P ₁ = 0.4 P ₁₀ = 0.6 Q ₁ = 0.8 Median = 1.5 Q ₃ = 2.5 P ₉₀ = 3.7 P ₉₉ = 7.6																
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jul	4	3	2	3	A	8	5	4	3	3	2	2	2	1	1	1	1	1	1	1	2	2	1	2	2.4	7.6
2-Jul	3	3	3	1	A	3	5	3	3	1	2	2	2	1	1	1	0	0	0	0	1	1	1	0	1.5	4.5
3-Jul	0	1	1	1	A	3	1	1	1	1	1	1	1	0	0	1	0	0	0	1	1	2	2	2	0.9	2.9
4-Jul	2	2	3	3	A	7	5	4	3	1	1	1	1	2	2	1	1	1	1	2	2	2	2	2	2.2	7.1
5-Jul	2	2	2	2	A	5	3	3	2	2	2	2	1	1	1	1	1	1	1	1	2	1	1	1	1.7	5.4
6-Jul	1	1	1	1	A	3	2	2	2	2	2	2	1	1	1	1	1	2	2	2	2	4	3	4	1.9	4.1
7-Jul	3	2	3	2	A	5	3	2	2	2	1	1	1	1	1	1	1	1	1	2	3	3	4	7	2.3	6.8
8-Jul	5	4	4	4	A	7	5	4	3	2	1	1	1	1	1	2	1	1	1	2	3	4	3	3	2.8	6.6
9-Jul	3	5	3	2	A	7	5	3	1	1	0	1	1	1	1	1	1	1	0	0	1	1	1	1	1.8	7.4
10-Jul	1	1	2	1	A	5	4	5	C	C	C	C	C	C	C	3	2	1	1	1	2	3	4	4	--	5.2
11-Jul	2	3	3	1	A	3	3	2	1	1	1	0	0	0	0	0	0	1	0	1	0	1	1	0	1.1	3.4
12-Jul	0	1	0	0	A	3	2	1	1	1	1	1	1	0	0	0	0	0	1	1	1	1	1	2	1.0	3.3
13-Jul	3	2	1	1	A	4	2	1	1	0	1	1	1	1	1	1	0	1	1	1	1	2	2	2	1.3	3.7
14-Jul	2	2	4	4	A	5	4	3	3	3	2	2	1	1	1	0	1	0	1	1	2	3	3	2	2.1	5.0
15-Jul	1	2	2	2	A	6	3	2	2	2	1	1	1	0	0	0	0	0	1	1	1	2	3	3	1.5	5.7
16-Jul	3	6	5	4	A	14	8	4	4	M	M	M	M	M	3	1	1	1	1	2	3	2	2	2	3.6	14.4
17-Jul	2	3	3	5	A	10	8	6	4	3	4	2	2	1	1	1	1	1	1	2	3	3	3	3	3.1	10.3
18-Jul	3	7	7	6	A	8	8	7	3	2	2	2	2	1	1	1	1	1	1	2	1	2	3	3	3.2	8.4
19-Jul	2	3	2	2	A	8	3	4	3	3	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2.1	7.8
20-Jul	2	2	2	2	A	3	4	2	2	2	1	1	1	1	1	1	2	2	2	1	1	2	2	1	1.8	3.7
21-Jul	2	2	2	1	A	4	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	1.5	4.3
22-Jul	2	2	2	3	A	5	4	3	2	2	1	1	1	1	1	1	1	1	1	1	3	2	3	3	2.0	5.2
23-Jul	2	3	3	4	A	6	4	3	2	1	1	1	1	1	1	1	1	1	1	1	1	2	1	2	1.9	5.5
24-Jul	3	2	3	2	A	5	3	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.7	5.1
25-Jul	1	1	1	1	A	4	3	3	3	3	2	2	2	2	2	2	2	2	3	2	3	4	3	3	2.3	4.4
26-Jul	3	2	2	3	A	4	5	6	5	2	1	1	1	1	1	1	1	1	1	1	1	2	2	1	2.0	5.6
27-Jul	1	1	1	1	A	4	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1.2	4.1
28-Jul	2	1	1	1	A	3	2	1	1	1	1	1	0	0	0	0	0	0	0	1	1	3	2	2	1.2	3.4
29-Jul	2	2	2	2	A	4	4	2	2	1	1	1	1	1	1	1	1	1	1	1	3	3	3	3	1.8	4.3
30-Jul	2	3	2	3	A	5	3	2	1	1	1	1	1	1	1	1	0	0	1	1	1	3	2	1	1.5	5.2
31-Jul	2	2	3	3	A	6	3	3	1	1	1	1	2	3	1	1	1	1	1	1	3	2	2	2	2.0	6.2
2.2 2.4 2.4 2.4 -- 5.5 3.9 2.9 2.1 1.6 1.3 1.1 1.0 0.9 0.9 0.9 0.9 0.8 0.9 1.2 1.7 2.2 2.2 2.2																									Diurnal Average	
5.3 7.4 6.8 6.0 -- 14.4 8.4 6.6 4.9 3.3 3.7 2.1 2.0 2.5 2.7 2.9 2.3 2.3 2.7 2.4 3.5 4.1 3.9 6.8																									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

Beaverlodge - July 2013



Hourly Maximums

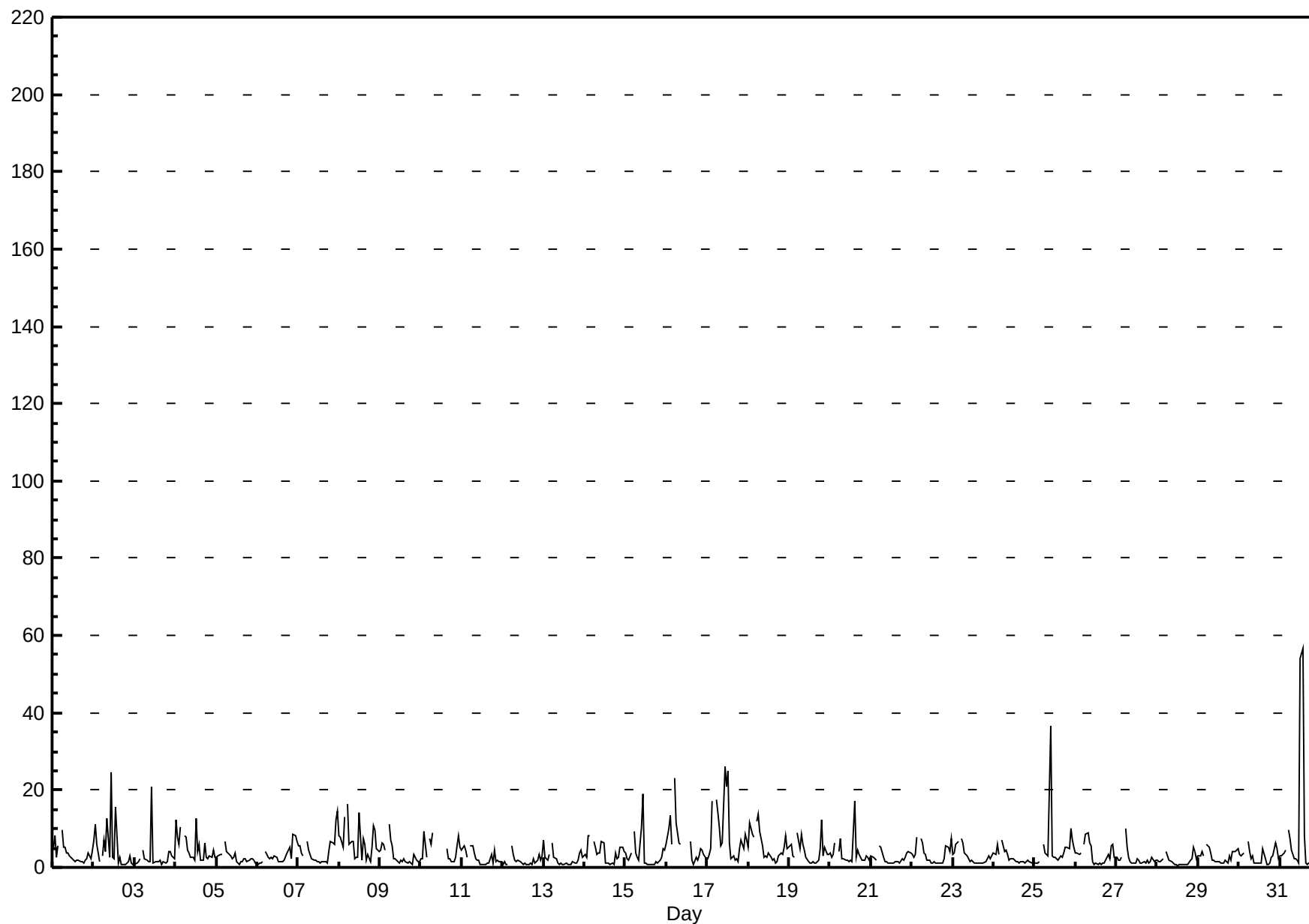
Nitrogen Dioxide (NO₂) - ppb

Beaverlodge - July 2013

Maximum Value: 56.6 ppb on Jul 31 14:00																				Maximum Daily Average: 8.8 ppb on Jul 17										Hours in Service: 744	
Minimum Value: 1 ppb on Jul 28 13:00																				Minimum Daily Average: 1.7 ppb on Jul 12										Hours of Data: 701	
Maximum Diurnal Average: 8.2 ppb at hour 6																				Minimum Diurnal Average: 1.4 ppb at hour 17										Hours of Missing Data: 43	
Monthly Average: 3.84 ppb																				Percentiles: P ₁ = 0.7 P ₁₀ = 1.0 Q ₁ = 1.4 Median = 2.5 Q ₃ = 4.7 P ₉₀ = 7.5 P ₉₉ = 22.2										Hours of Calibration: 38	
																				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	5	8	3	6	A	10	5	5	4	4	3	2	2	2	2	2	1	1	1	2	2	4	2	5	3.5	9.9					
2-Jul	7	11	6	2	A	3	7	4	13	3	25	3	2	16	1	3	1	1	1	1	1	3	1	1	5.0	24.7					
3-Jul	1	1	2	2	A	4	2	2	1	1	21	1	2	1	1	2	1	2	1	1	4	4	3	2	2.8	20.8					
4-Jul	12	8	6	10	A	8	8	4	4	3	3	2	13	4	6	2	2	6	3	2	3	3	4	3	5.2	12.8					
5-Jul	3	3	3	3	A	7	4	4	3	2	3	4	2	1	2	1	2	2	2	2	2	2	2	1	2.6	6.8					
6-Jul	1	1	1	1	A	4	3	2	3	2	3	3	2	1	1	2	2	4	5	5	2	9	8	7	3.1	8.6					
7-Jul	6	6	4	3	A	7	4	4	2	2	2	2	1	1	1	1	1	1	4	7	6	6	12	14	4.2	14.4					
8-Jul	8	8	5	13	A	16	6	7	7	2	3	2	14	2	8	6	2	3	2	5	11	10	5	4	6.4	16.4					
9-Jul	5	6	6	4	A	11	7	5	2	2	1	1	2	2	2	1	1	1	1	1	3	2	1	1	3.1	11.1					
10-Jul	2	2	9	2	A	8	6	9	C	C	C	C	C	C	C	5	2	2	1	1	3	6	8	5	--	9.2					
11-Jul	4	5	4	3	A	6	6	4	2	2	2	1	1	1	1	1	1	4	1	4	2	2	2	1	2.6	5.7					
12-Jul	1	1	1	1	A	5	3	2	1	2	1	1	1	1	1	1	1	1	2	1	2	3	2	3	1.7	5.4					
13-Jul	7	3	2	4	A	6	3	2	1	1	1	1	1	1	1	1	1	1	1	1	2	4	5	3	2.2	7.0					
14-Jul	3	3	8	8	A	7	5	3	4	4	7	6	1	1	1	1	1	1	4	2	3	5	5	4	3.8	8.4					
15-Jul	4	2	2	4	A	9	4	3	2	10	19	1	1	1	1	1	1	1	2	1	2	3	5	4	3.5	19.0					
16-Jul	6	10	13	6	A	23	11	6	6	M	M	M	M	M	7	2	1	3	2	3	5	5	3	2	6.4	23.0					
17-Jul	2	4	5	17	A	18	14	10	6	6	26	21	25	6	2	3	2	2	1	5	7	5	9	7	8.8	26.2					
18-Jul	5	12	9	8	A	12	14	9	6	3	3	3	4	2	2	2	1	2	3	4	3	5	8	5	5.4	13.7					
19-Jul	5	6	3	3	A	9	5	9	6	4	3	1	1	1	1	1	1	2	5	12	3	5	3	3	4.1	12.3					
20-Jul	4	3	3	6	A	4	7	2	2	2	2	1	2	1	17	3	5	3	3	2	2	3	2	2	3.5	17.2					
21-Jul	3	3	2	2	A	6	5	3	2	1	1	1	1	1	1	2	1	1	2	2	3	4	4	4	2.4	5.7					
22-Jul	3	3	3	8	A	8	7	4	3	2	2	1	1	1	1	1	1	1	1	2	5	5	4	7	3.3	7.9					
23-Jul	4	4	6	7	A	7	6	4	3	2	2	2	1	1	1	1	1	1	1	2	2	3	2	3	2.8	7.3					
24-Jul	4	3	6	4	A	7	4	5	3	2	2	2	2	1	2	1	1	1	1	2	2	2	1	1	2.6	7.3					
25-Jul	1	1	1	2	A	6	4	3	3	37	3	3	2	2	2	3	3	4	5	5	5	10	7	5	5.1	36.7					
26-Jul	4	4	3	4	A	6	9	9	6	6	2	1	1	1	1	1	1	1	3	3	2	6	6	2	3.5	8.8					
27-Jul	2	2	2	3	A	10	5	3	1	1	1	1	2	2	1	1	2	1	2	1	1	3	2	2	2.2	10.1					
28-Jul	2	1	1	2	A	4	3	2	1	1	1	1	1	1	1	1	1	1	1	2	2	5	4	2	1.8	5.1					
29-Jul	3	3	4	3	A	6	5	4	2	2	1	2	1	1	1	1	2	1	3	2	4	4	4	5	2.8	6.0					
30-Jul	3	3	3	4	A	7	4	2	3	1	1	1	1	1	5	2	1	1	1	3	3	6	5	2	2.8	6.6					
31-Jul	3	3	4	5	A	10	8	4	2	2	2	1	54	57	8	1	1	1	1	3	6	3	3	3	8.0	56.6					
4.0 4.2 4.3 4.8 -- 8.2 6.0 4.5 3.5 3.9 4.9 2.5 5.0 4.0 2.8 1.8 1.4 1.9 2.1 2.9 3.4 4.5 4.3 3.7																								Diurnal Average							
12.3 11.5 13.5 17.3 -- 23.0 14.0 10.3 12.5 36.7 26.2 20.9 54.2 56.6 17.2 6.1 4.5 6.5 5.2 12.3 10.8 10.2 12.2 14.4																								Diurnal Maximum							
C - Calibration				M - Maintenance				A - Automated Daily Zero Span																							

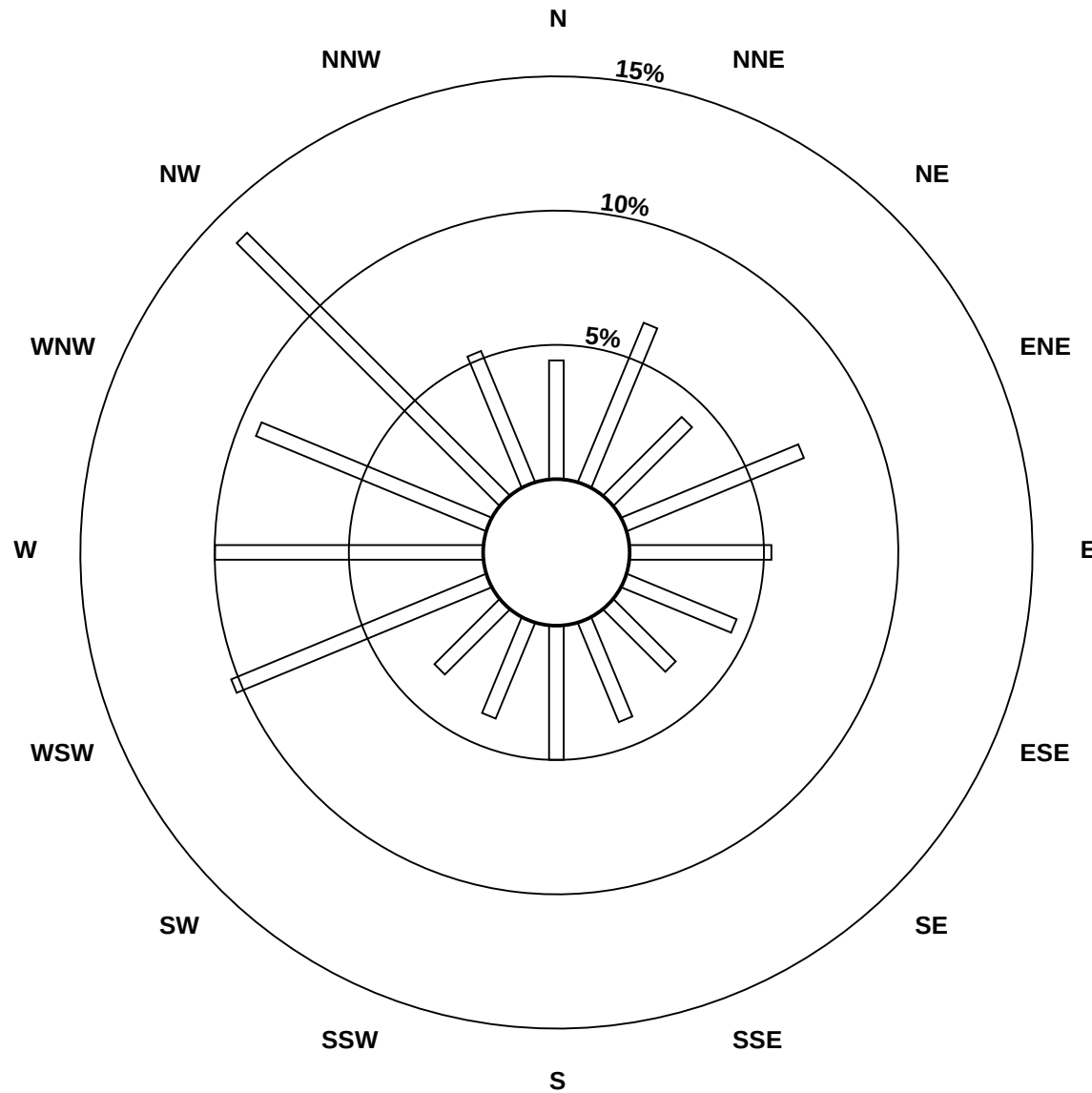
Hourly Maximums

Nitrogen Dioxide (NO₂) - ppb
Beaverlodge - July 2013

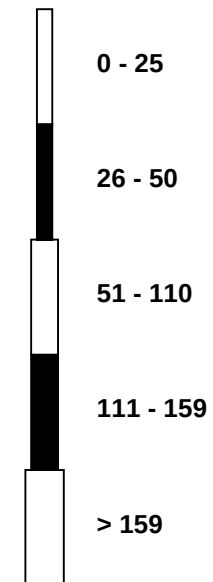


Pollutant Rose

Nitrogen Dioxide (NO₂) - ppb
Beaverlodge - July 2013

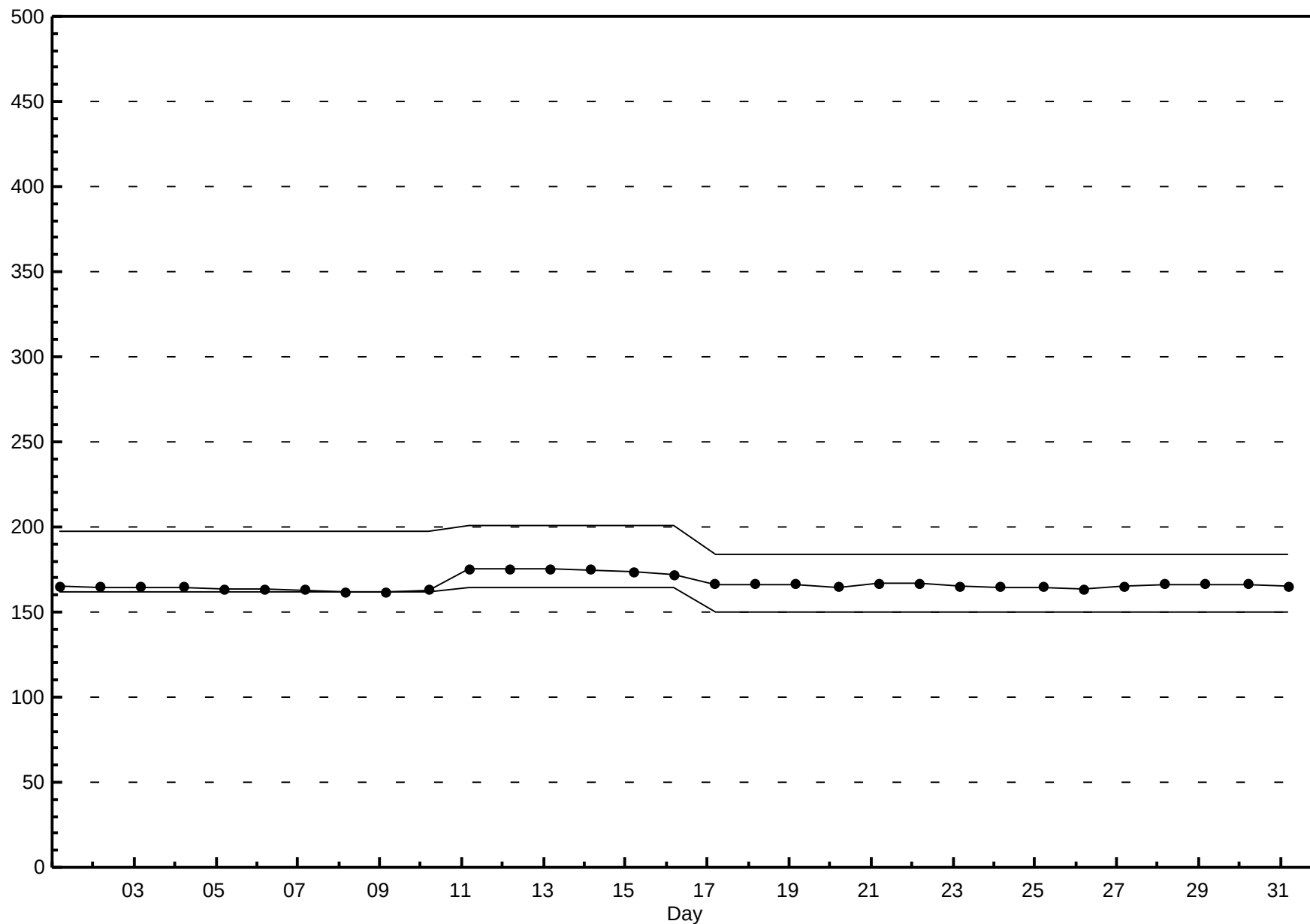


Pollutant Classes (ppb)



Span Responses

Nitrogen Dioxide (NO₂)
Beaverlodge - July 2013



Hourly Averages

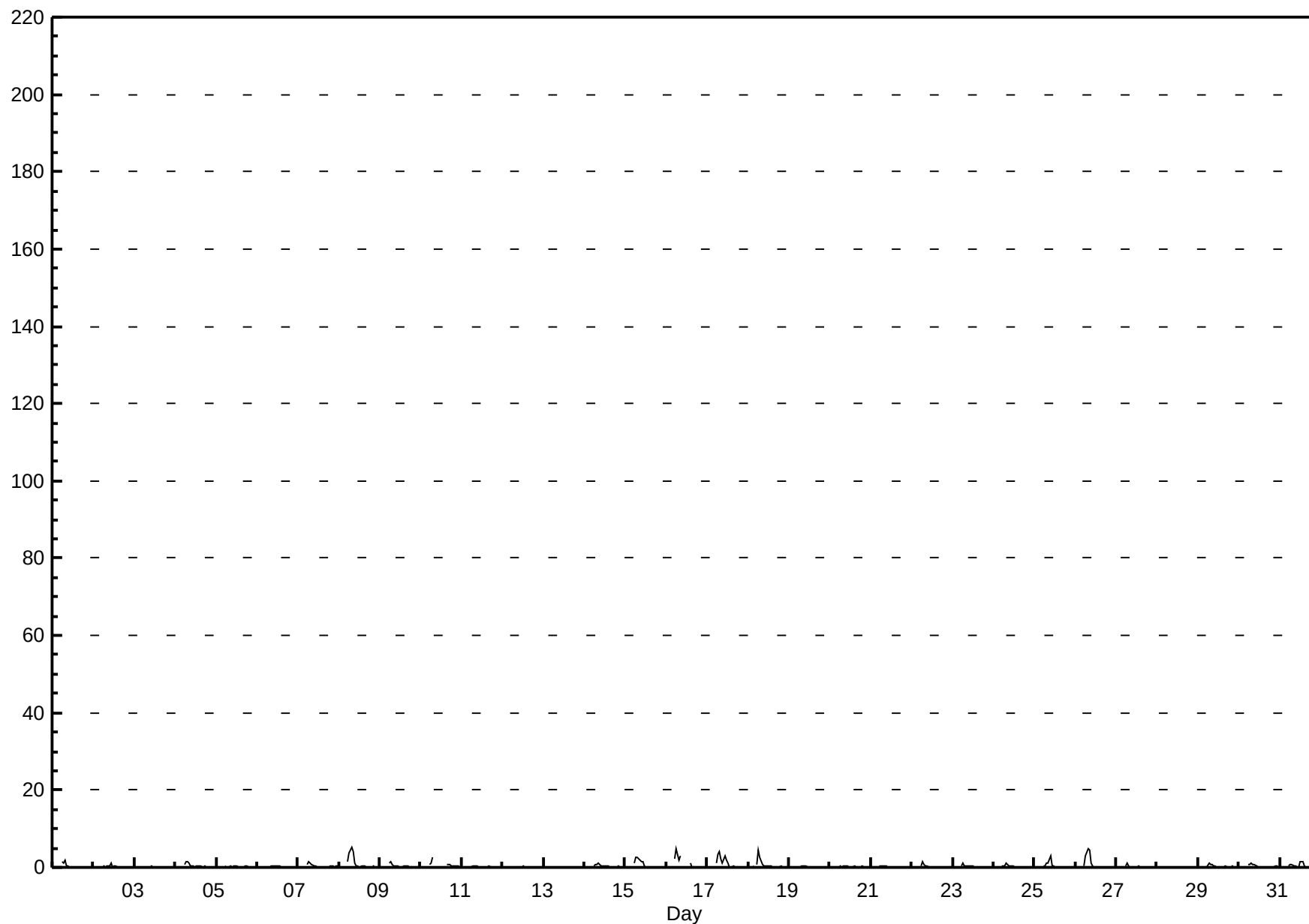
Nitrogen Oxide (NO) - ppb

Beaverlodge - July 2013

Number of Exceedences (AAAQO):										1-hr: 0 24-hr: 0										Hours in Service: 744									
Maximum Value: 5.2 ppb on Jul 8 08:00										Maximum Daily Average: 0.8 ppb on Jul 8										Hours of Data: 701									
Minimum Value: 0 ppb on Jul 1 03:00										Minimum Daily Average: 0.0 ppb on Jul 28										Hours of Missing Data: 43									
Maximum Diurnal Average: 1.3 ppb at hour 7										Minimum Diurnal Average: 0.0 ppb at hour 2										Hours of Calibration: 38									
Monthly Average: 0.29 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 = 4.1										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	A	1	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.8			
2-Jul	0	0	0	0	A	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.2			
3-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	0.1	0.5			
4-Jul	0	0	0	0	A	1	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	1.7			
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	0.1	0.4			
7-Jul	0	0	0	0	A	1	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.7			
8-Jul	0	0	0	0	A	1	4	5	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.8	5.2			
9-Jul	0	0	0	0	A	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.3			
10-Jul	0	0	0	0	A	1	1	2	C	C	C	C	C	C	C	1	1	1	1	0	0	0	0	0	--	2.4			
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	0	0.1	0.2			
13-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			
14-Jul	0	0	0	0	A	0	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.2			
15-Jul	0	0	0	0	A	1	3	3	2	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	2.7			
16-Jul	0	0	0	0	A	2	5	2	3	M	M	M	M	M	1	0	0	0	0	0	0	0	0	0	0.7	4.7			
17-Jul	0	0	0	0	A	1	3	4	2	1	3	2	1	0	0	0	0	0	0	0	0	0	0	0	0.8	4.2			
18-Jul	0	0	0	1	A	1	4	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	4.4			
19-Jul	0	0	0	0	A	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.5			
20-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			
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	0.1	0.4			
22-Jul	0	0	0	0	A	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.6			
23-Jul	0	0	0	0	A	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.1			
24-Jul	0	0	0	0	A	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.3			
25-Jul	0	0	0	0	A	0	0	1	1	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	3.1			
26-Jul	0	0	0	0	A	0	3	5	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.6	4.7			
27-Jul	0	0	0	0	A	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	1.1			
28-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			
29-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	1.2			
30-Jul	0	0	0	0	A	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.0			
31-Jul	0	0	0	0	A	1	1	1	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0.3	1.7			
0.0 0.0 0.0 0.1 -- 0.5 1.3 1.2 0.9 0.5 0.4 0.2 0.2 0.2 0.2 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.0 0.0																									Diurnal Average				
0.1 0.1 0.1 0.6 -- 2.2 4.7 5.2 4.4 3.1 3.1 1.7 1.4 1.7 1.1 0.7 0.6 0.6 0.5 0.4 0.4 0.4 0.3 0.2																									Diurnal Maximum				
C - Calibration					M - Maintenance					A - Automated Daily Zero Span																			

Hourly Averages

Nitrogen Oxide (NO) - ppb
Beaverlodge - July 2013



Hourly Maximums

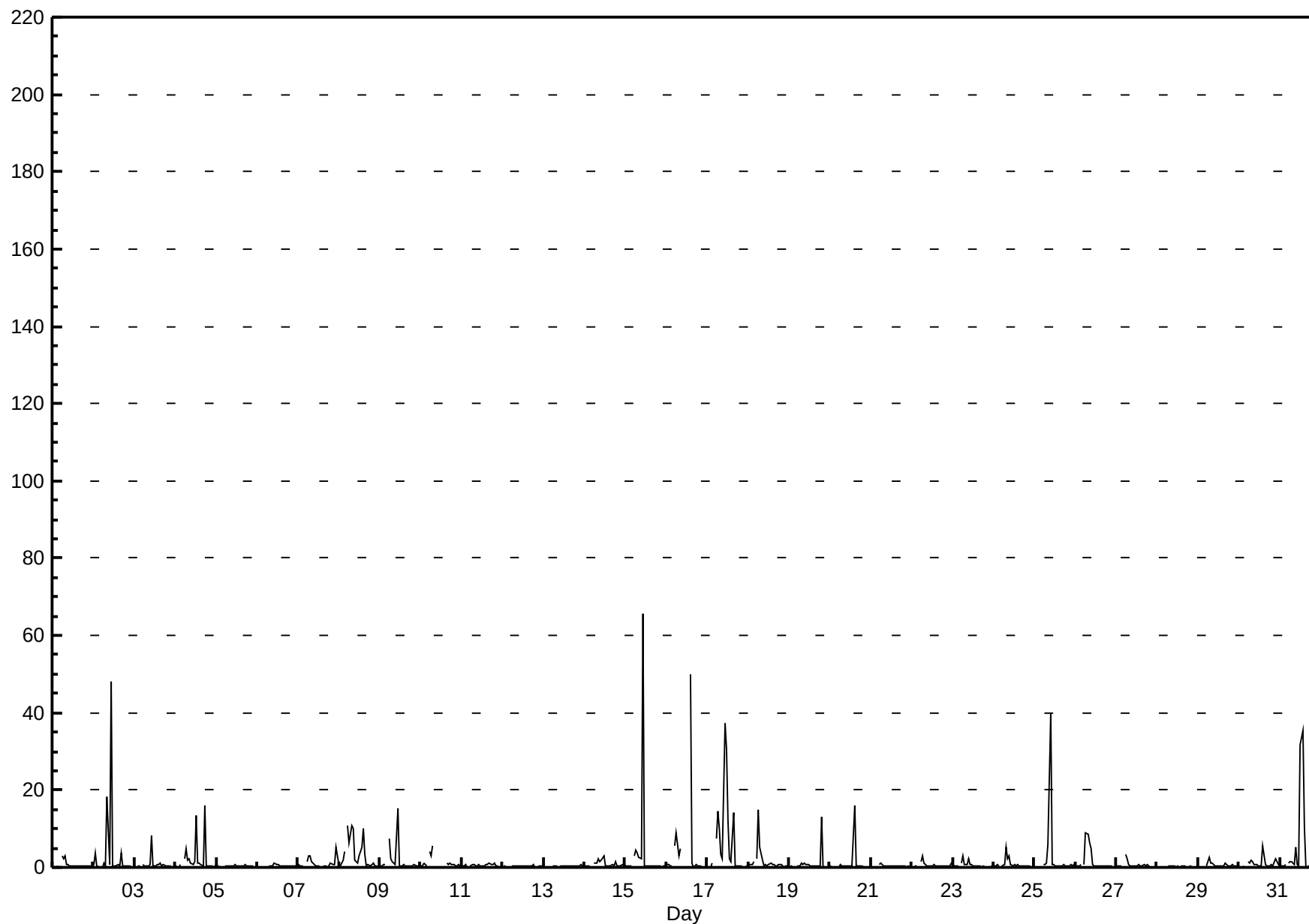
Nitrogen Oxide (NO) - ppb

Beaverlodge - July 2013

Maximum Value: 65.6 ppb on Jul 15 11:00																				Maximum Daily Average: 6.0 ppb on Jul 17					Hours in Service: 744				
Minimum Value: 0 ppb on Jul 17 01:00																				Minimum Daily Average: 0.2 ppb on Jul 28					Hours of Data: 701				
Maximum Diurnal Average: 6.5 ppb at hour 11																				Minimum Diurnal Average: 0.3 ppb at hour 1					Hours of Missing Data: 43				
Monthly Average: 1.50 ppb																				Percentiles: P ₁ = 0.1 P ₁₀ = 0.2 Q ₁ = 0.2 Median = 0.4 Q ₃ = 0.7 P ₉₀ = 2.4 P ₉₉ = 30.0					Hours of Calibration: 38				
																									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	1	A	3	2	3	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.6	2.9			
2-Jul	1	4	0	0	A	0	1	0	18	1	48	0	0	0	1	0	4	0	0	0	0	0	0	0	3.5	48.2			
3-Jul	0	0	0	0	A	1	0	1	0	1	8	0	1	1	1	1	0	1	0	0	0	0	0	0	0.8	8.3			
4-Jul	0	0	0	1	A	2	5	2	2	1	1	2	13	1	1	1	0	16	0	0	0	0	0	0	2.2	15.9			
5-Jul	0	0	0	0	A	1	0	0	1	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0.3	0.6			
6-Jul	0	0	0	0	A	0	0	0	1	1	1	1	1	0	0	0	0	0	1	0	0	0	0	0	0.4	1.0			
7-Jul	1	0	0	0	A	2	3	3	2	1	1	0	0	0	0	0	0	0	0	1	1	1	5	3	1.1	5.1			
8-Jul	1	0	2	4	A	11	6	11	10	2	1	1	3	5	10	3	0	1	0	1	1	0	0	0	3.3	10.9			
9-Jul	0	1	1	1	A	7	2	2	1	1	15	1	1	0	1	0	0	0	0	0	1	0	0	0	1.6	15.2			
10-Jul	0	0	1	0	A	4	3	6	C	C	C	C	C	C	C	1	1	1	1	1	1	1	1	0	--	5.6			
11-Jul	1	0	1	0	A	0	1	1	0	0	1	1	0	1	1	1	1	1	1	1	0	0	0	0	0.5	1.2			
12-Jul	0	0	0	0	A	0	1	0	0	0	0	0	0	1	0	0	0	0	1	0	0	1	0	0	0.3	0.6			
13-Jul	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0.3	0.9			
14-Jul	0	0	0	0	A	1	1	1	2	2	2	3	1	0	1	0	1	0	1	0	0	0	1	1	0.8	3.1			
15-Jul	0	0	0	0	A	3	5	4	3	2	66	0	0	0	0	0	0	0	0	0	0	0	0	0	3.8	65.6			
16-Jul	1	1	0	1	A	6	9	3	5	M	M	M	M	M	50	1	0	1	0	0	0	0	0	0	4.4	49.9			
17-Jul	0	0	0	1	A	7	15	10	3	2	37	31	12	2	2	14	0	0	0	0	0	0	0	0	6.0	37.3			
18-Jul	0	1	1	2	A	2	15	5	2	0	1	0	1	1	1	1	1	0	1	1	0	0	0	0	1.6	14.9			
19-Jul	0	0	0	0	A	0	0	1	1	1	1	1	0	0	0	0	0	0	0	13	0	0	0	0	0.9	13.2			
20-Jul	0	0	0	0	A	0	1	0	0	1	0	0	0	0	16	0	1	0	0	0	0	0	0	0	1.0	16.2			
21-Jul	0	0	0	0	A	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.1			
22-Jul	0	0	0	0	A	2	3	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0.6	3.0			
23-Jul	1	0	0	0	A	1	3	1	1	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.6	3.0			
24-Jul	0	0	1	0	A	0	1	5	2	3	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0.8	5.2			
25-Jul	0	0	0	0	A	1	1	1	6	40	1	1	0	0	0	0	0	1	0	0	0	1	0	1	2.4	39.8			
26-Jul	0	0	0	1	A	1	9	8	6	5	1	0	0	0	0	0	0	0	1	0	0	0	0	0	1.5	8.9			
27-Jul	0	0	0	0	A	4	2	1	1	0	0	0	0	1	0	0	1	1	1	0	0	0	0	0	0.6	3.5			
28-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			
29-Jul	0	0	0	0	A	0	2	1	1	1	0	1	1	0	0	0	1	0	0	0	1	0	0	0	0.6	2.5			
30-Jul	0	0	0	0	A	2	1	2	1	1	1	0	0	0	6	1	0	0	0	1	0	2	1	1	1.0	5.7			
31-Jul	1	0	0	1	A	1	1	1	1	5	1	0	32	36	10	0	0	0	0	0	1	0	0	0	4.1	35.5			
0.3 0.4 0.3 0.5 -- 2.0 3.1 2.4 2.4 2.6 6.5 1.6 2.4 1.9 3.5 1.0 0.5 0.9 0.4 0.8 0.4 0.3 0.4 0.4																									Diurnal Average				
0.8 3.7 1.8 3.9 -- 10.9 14.9 10.6 18.2 39.8 65.6 30.5 31.9 35.5 49.9 14.0 3.6 15.9 1.4 13.2 1.3 2.1 5.1 3.1																									Diurnal Maximum				
C - Calibration					M - Maintenance					A - Automated Daily Zero Span																			

Hourly Maximums

Nitrogen Oxide (NO) - ppb
Beaverlodge - July 2013



Hourly Averages

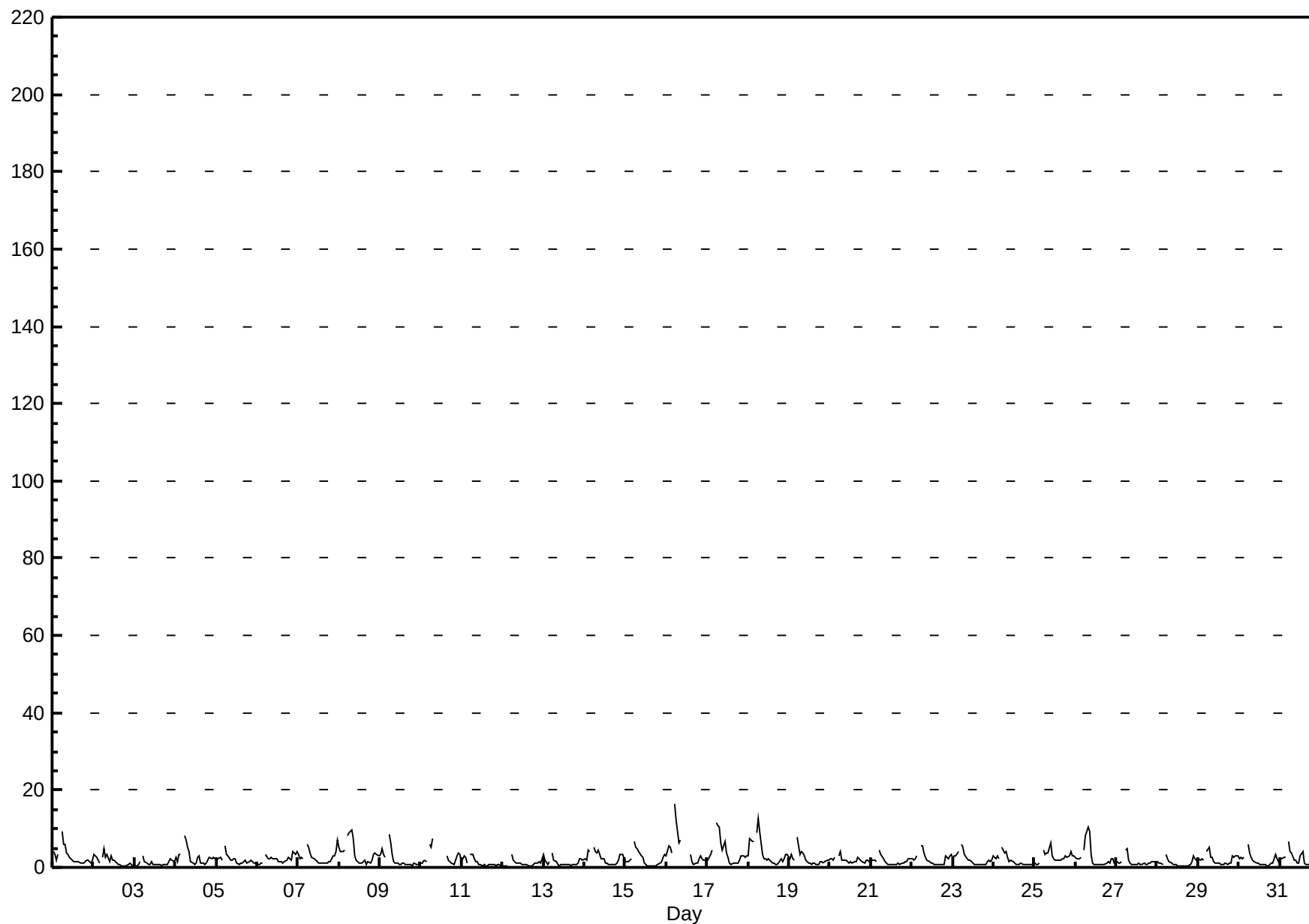
Oxides of Nitrogen (NO_x) - ppb

Beaverlodge - July 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 16.5 ppb on Jul 16 06:00 Maximum Daily Average: 4.4 ppb on Jul 16																				Hours in Service: 744						
Minimum Value: 0 ppb on Jul 12 03:00 Minimum Daily Average: 1.0 ppb on Jul 12 Maximum Diurnal Average: 6.0 ppb at hour 6 Minimum Diurnal Average: 0.9 ppb at hour 18 Monthly Average: 2.20 ppb Percentiles: P ₁ = 0.4 P ₁₀ = 0.7 Q ₁ = 0.9 Median = 1.7 Q ₃ = 2.8 P ₉₀ = 4.2 P ₉₉ = 10.3																				Hours of Data: 701						
																				Hours of Missing Data: 43						
																				Hours of Calibration: 38						
																				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	4	3	2	3	A	9	6	6	4	3	2	2	2	1	1	1	1	1	1	1	2	2	1	2	2.7	9.2
2-Jul	3	3	3	1	A	3	5	3	3	2	3	2	2	1	1	1	1	0	0	0	1	1	1	1	1.7	4.9
3-Jul	0	1	1	2	A	3	2	1	1	1	1	1	1	1	1	1	0	1	1	1	2	2	2	2	1.1	3.0
4-Jul	3	2	3	3	A	8	7	5	4	2	1	1	1	2	3	1	1	1	1	2	3	2	3	2	2.7	8.0
5-Jul	2	2	3	2	A	6	3	3	2	2	2	2	1	1	1	1	2	2	1	1	2	2	1	1	1.9	5.7
6-Jul	1	1	1	1	A	3	2	2	3	2	2	2	1	1	1	1	1	2	2	2	2	4	3	4	2.1	4.2
7-Jul	3	2	3	2	A	6	5	4	3	2	2	1	1	1	1	1	1	1	1	2	3	3	4	7	2.6	7.1
8-Jul	5	4	4	4	A	8	9	10	8	3	2	1	1	1	2	2	1	1	1	2	3	4	3	3	3.6	9.6
9-Jul	3	5	3	2	A	8	7	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2.0	8.5
10-Jul	1	1	2	1	A	6	5	7	C	C	C	C	C	C	C	3	2	1	1	1	2	3	4	3	--	7.4
11-Jul	2	3	3	1	A	3	3	2	2	1	1	1	0	1	1	1	1	1	1	1	0	1	1	0	1.2	3.4
12-Jul	0	1	0	0	A	3	2	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	2	1.0	3.3
13-Jul	3	2	1	1	A	4	2	1	1	0	1	1	1	1	1	1	1	1	1	1	1	2	2	2	1.3	3.6
14-Jul	2	2	4	4	A	5	4	4	4	4	2	2	1	1	1	1	1	1	1	1	2	3	4	2	2.4	5.2
15-Jul	1	2	2	2	A	7	5	5	4	3	3	1	1	0	0	1	1	1	1	1	1	2	3	3	2.1	6.8
16-Jul	3	5	5	4	A	16	12	6	7	M	M	M	M	M	3	1	1	1	1	2	3	2	2	2	4.4	16.5
17-Jul	2	3	3	5	A	12	11	10	6	4	7	4	3	1	1	1	1	1	1	2	3	3	3	3	3.9	11.6
18-Jul	3	8	7	7	A	9	13	9	3	2	2	2	2	1	1	1	1	1	1	2	1	2	3	3	3.7	12.8
19-Jul	2	3	2	2	A	8	3	4	4	3	2	1	1	1	1	1	1	1	2	1	1	2	2	2	2.2	7.9
20-Jul	2	2	2	2	A	3	4	2	2	2	2	1	1	1	2	1	2	2	2	1	1	2	2	1	1.9	4.1
21-Jul	2	2	2	1	A	5	3	2	2	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	1.6	4.5
22-Jul	2	2	2	3	A	6	6	4	2	2	1	1	1	1	1	1	1	1	1	1	3	2	3	4	2.1	5.8
23-Jul	2	3	3	4	A	6	5	3	2	2	2	2	1	1	1	1	1	1	1	1	1	2	1	2	2.1	5.9
24-Jul	3	2	3	2	A	5	4	4	3	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1.8	5.2
25-Jul	1	1	1	1	A	5	3	4	4	6	3	2	2	2	2	2	2	2	3	3	3	4	3	3	2.7	6.3
26-Jul	3	2	2	3	A	5	8	10	9	3	1	1	1	1	1	1	1	1	1	1	1	2	2	1	2.7	10.3
27-Jul	1	1	1	1	A	4	5	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1.4	4.9
28-Jul	2	1	1	1	A	3	2	1	1	1	1	1	0	0	0	0	0	0	0	1	1	3	2	2	1.2	3.4
29-Jul	2	2	2	2	A	4	5	3	2	2	1	1	1	1	1	1	1	1	1	1	3	3	3	3	2.0	5.2
30-Jul	2	3	2	3	A	6	4	3	2	2	1	1	1	1	1	1	1	1	1	1	1	3	2	1	1.8	6.0
31-Jul	2	2	3	3	A	7	4	4	2	2	1	1	3	4	1	1	1	1	1	1	4	2	2	2	2.3	6.6
2.3 2.4 2.5 2.4 -- 6.0 5.2 4.2 3.1 2.1 1.8 1.3 1.2 1.1 1.1 1.0 1.0 0.9 1.0 1.3 1.8 2.2 2.2 2.2																									Diurnal Average	
5.3 7.5 6.9 6.6 -- 16.5 12.8 10.3 9.3 6.3 6.8 3.8 3.1 4.2 3.3 3.0 2.5 2.4 3.0 2.8 3.7 4.2 4.0 7.1																									Diurnal Maximum	
C - Calibration					M - Maintenance					A - Automated Daily Zero Span																

Hourly Averages

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



Hourly Maximums

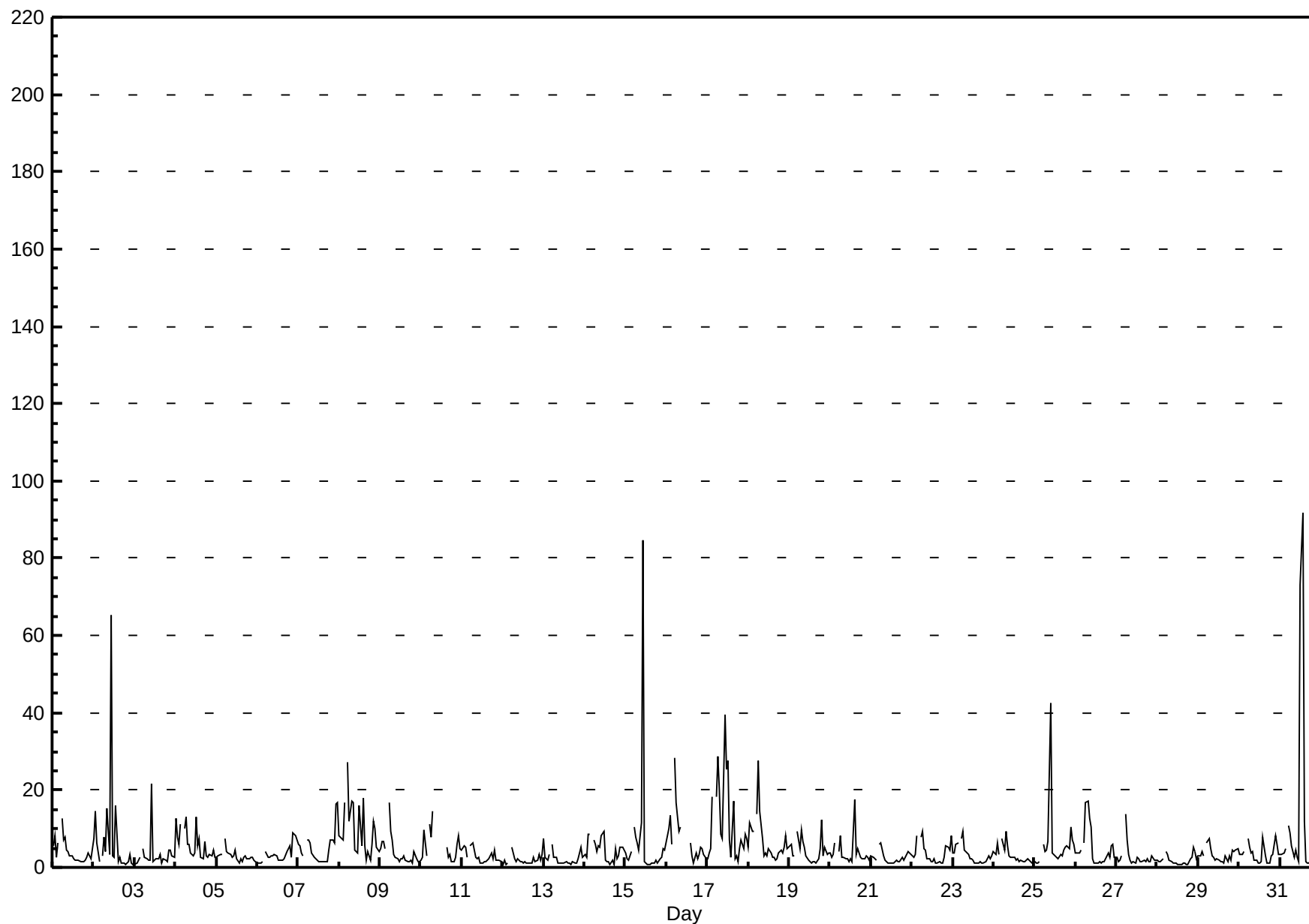
Oxides of Nitrogen (NO_x) - ppb

Beaverlodge - July 2013

Maximum Value: 91.7 ppb on Jul 31 14:00																				Maximum Daily Average: 11.8 ppb on Jul 17										Hours in Service: 744	
Minimum Value: 1 ppb on Jul 12 01:00																				Minimum Daily Average: 1.9 ppb on Jul 28										Hours of Data: 701	
Maximum Diurnal Average: 9.6 ppb at hour 11																				Minimum Diurnal Average: 1.8 ppb at hour 17										Hours of Missing Data: 43	
Monthly Average: 4.79 ppb																				Percentiles: P ₁ = 0.7 P ₁₀ = 1.2 Q ₁ = 1.7 Median = 3.0 Q ₃ = 5.3 P ₉₀ = 9.1 P ₉₉ = 23.2										Hours of Calibration: 38	
																				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	5	8	3	6	A	13	7	8	4	4	3	3	2	2	2	2	1	1	1	2	2	4	2	5	4.0	12.6					
2-Jul	8	15	7	1	A	3	8	4	15	3	65	3	3	16	2	3	1	1	1	1	2	3	1	1	7.2	65.3					
3-Jul	1	1	2	3	A	5	3	2	2	2	22	1	2	2	2	3	1	2	2	2	4	4	3	3	3.2	21.7					
4-Jul	13	8	6	11	A	10	13	6	6	4	3	4	13	5	7	2	2	7	3	3	3	3	5	3	6.1	13.0					
5-Jul	3	3	3	3	A	7	4	4	3	3	3	4	2	1	2	2	3	3	2	2	3	3	2	1	2.9	7.3					
6-Jul	1	1	1	2	A	4	3	3	3	3	3	3	2	2	2	2	2	4	5	6	3	9	8	7	3.4	8.8					
7-Jul	6	6	4	3	A	7	7	6	4	2	2	2	2	1	2	2	2	1	5	7	7	6	17	17	5.1	16.9					
8-Jul	8	8	7	17	A	27	12	17	17	4	4	4	16	6	18	6	2	4	2	6	12	10	5	4	9.4	27.3					
9-Jul	5	7	7	5	A	17	9	7	3	3	2	2	2	2	3	2	1	1	2	1	4	2	2	1	3.9	16.7					
10-Jul	2	2	10	3	A	11	8	14	C	C	C	C	C	C	C	5	3	3	2	1	3	6	8	5	--	14.5					
11-Jul	5	6	5	3	A	6	6	4	3	2	3	1	1	1	1	2	2	4	2	4	2	2	2	2	3.0	6.3					
12-Jul	1	2	1	1	A	5	4	2	2	2	2	1	1	2	1	1	1	1	3	1	2	3	2	3	1.9	5.4					
13-Jul	7	3	2	3	A	6	3	3	1	1	1	1	1	1	1	1	1	1	1	1	2	4	5	3	2.3	7.3					
14-Jul	3	3	8	9	A	7	6	4	6	5	8	9	2	1	1	1	2	1	5	2	3	5	5	4	4.4	9.2					
15-Jul	4	2	2	4	A	10	8	6	5	11	85	2	1	1	1	1	1	1	2	1	2	3	5	5	7.0	84.6					
16-Jul	6	10	13	6	A	28	17	9	11	M	M	M	M	M	6	3	1	4	2	3	5	5	3	2	7.5	28.2					
17-Jul	2	4	5	18	A	18	29	20	9	7	39	25	28	7	2	17	2	3	2	5	7	5	9	7	11.8	39.4					
18-Jul	5	12	9	9	A	14	28	15	7	3	4	3	5	4	3	3	2	2	4	4	4	5	8	5	6.8	27.5					
19-Jul	5	6	3	3	A	9	5	10	7	5	3	2	2	1	2	2	1	2	5	12	3	5	3	4	4.3	12.5					
20-Jul	4	3	4	6	A	4	8	3	3	2	2	2	2	2	17	3	5	4	3	2	2	3	3	2	3.8	17.3					
21-Jul	3	2	2	2	A	6	6	3	2	2	1	1	1	1	2	2	2	1	2	2	3	4	4	3	2.5	6.4					
22-Jul	3	3	4	8	A	8	9	5	4	2	2	1	1	2	1	1	1	1	1	3	6	5	4	8	3.7	9.3					
23-Jul	4	4	6	7	A	7	9	4	4	3	2	2	2	1	1	1	1	1	1	2	2	3	2	3	3.2	9.5					
24-Jul	4	4	6	3	A	7	5	9	6	3	3	3	3	2	2	2	2	2	1	2	2	2	1	2	3.2	9.2					
25-Jul	1	1	1	2	A	6	4	4	7	43	4	3	3	2	2	3	3	4	5	6	5	11	7	6	5.8	42.5					
26-Jul	4	4	4	4	A	6	17	17	13	10	2	1	1	1	1	1	1	1	3	4	3	5	6	3	4.9	17.1					
27-Jul	3	2	2	3	A	14	7	3	2	1	1	1	3	2	2	1	2	1	2	1	2	3	2	2	2.7	13.7					
28-Jul	2	2	1	2	A	4	3	2	2	1	1	1	1	1	1	1	1	1	1	2	2	5	4	2	1.9	5.1					
29-Jul	3	3	4	3	A	6	7	5	3	3	2	2	2	2	1	1	3	1	3	2	5	4	5	5	3.2	7.5					
30-Jul	3	3	4	4	A	7	5	4	4	2	2	1	1	1	8	3	1	1	1	3	4	8	6	3	3.5	8.4					
31-Jul	3	3	4	5	A	11	9	6	3	5	3	1	73	92	12	1	1	1	1	3	7	4	3	3	11.0	91.7					
																									Diurnal Average						
																									Diurnal Maximum						
C - Calibration																									M - Maintenance		A - Automated Daily Zero Span				

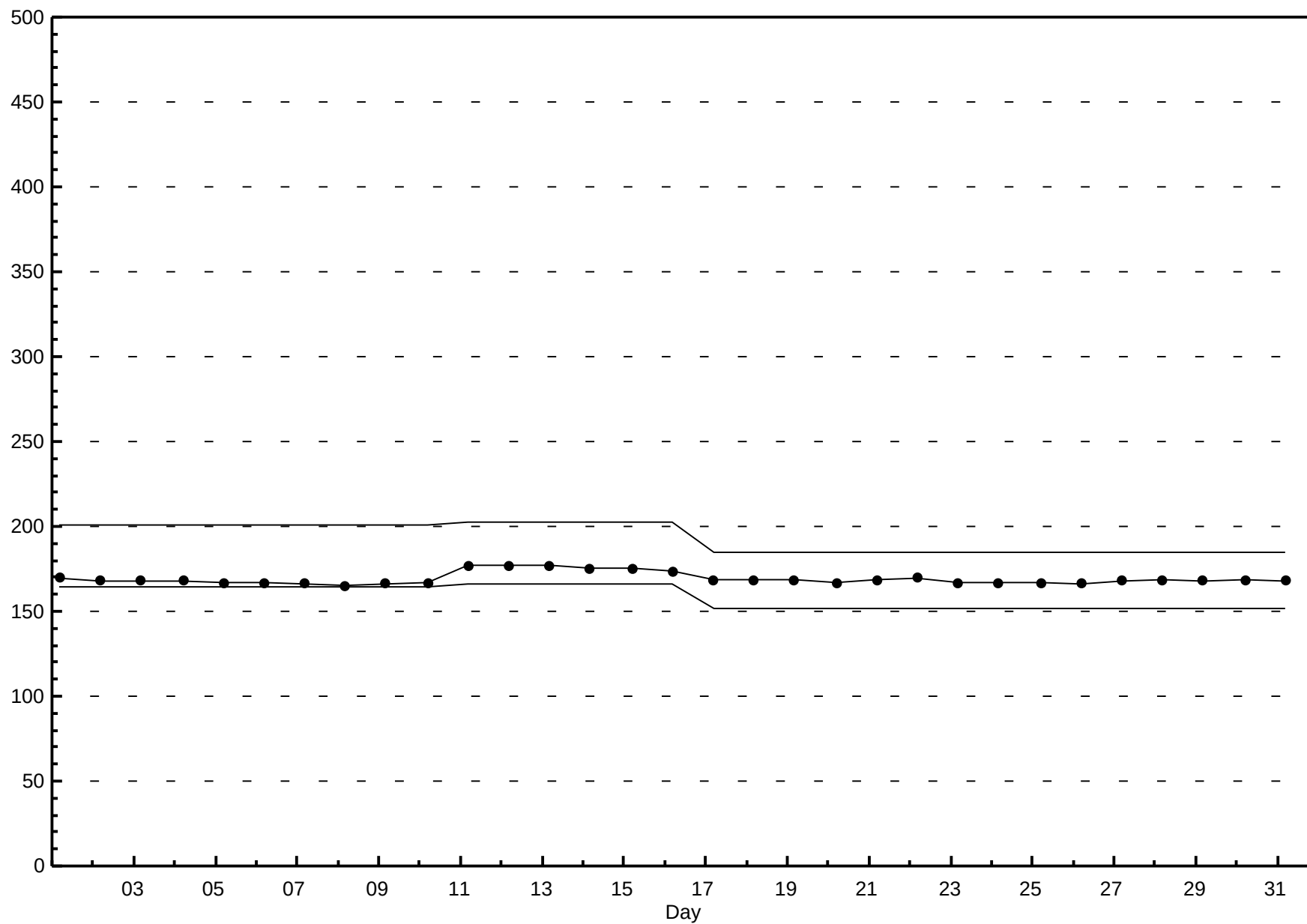
Hourly Maximums

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



Span Responses

Oxides of Nitrogen (NO_x)
Beaverlodge - July 2013



Hourly Averages

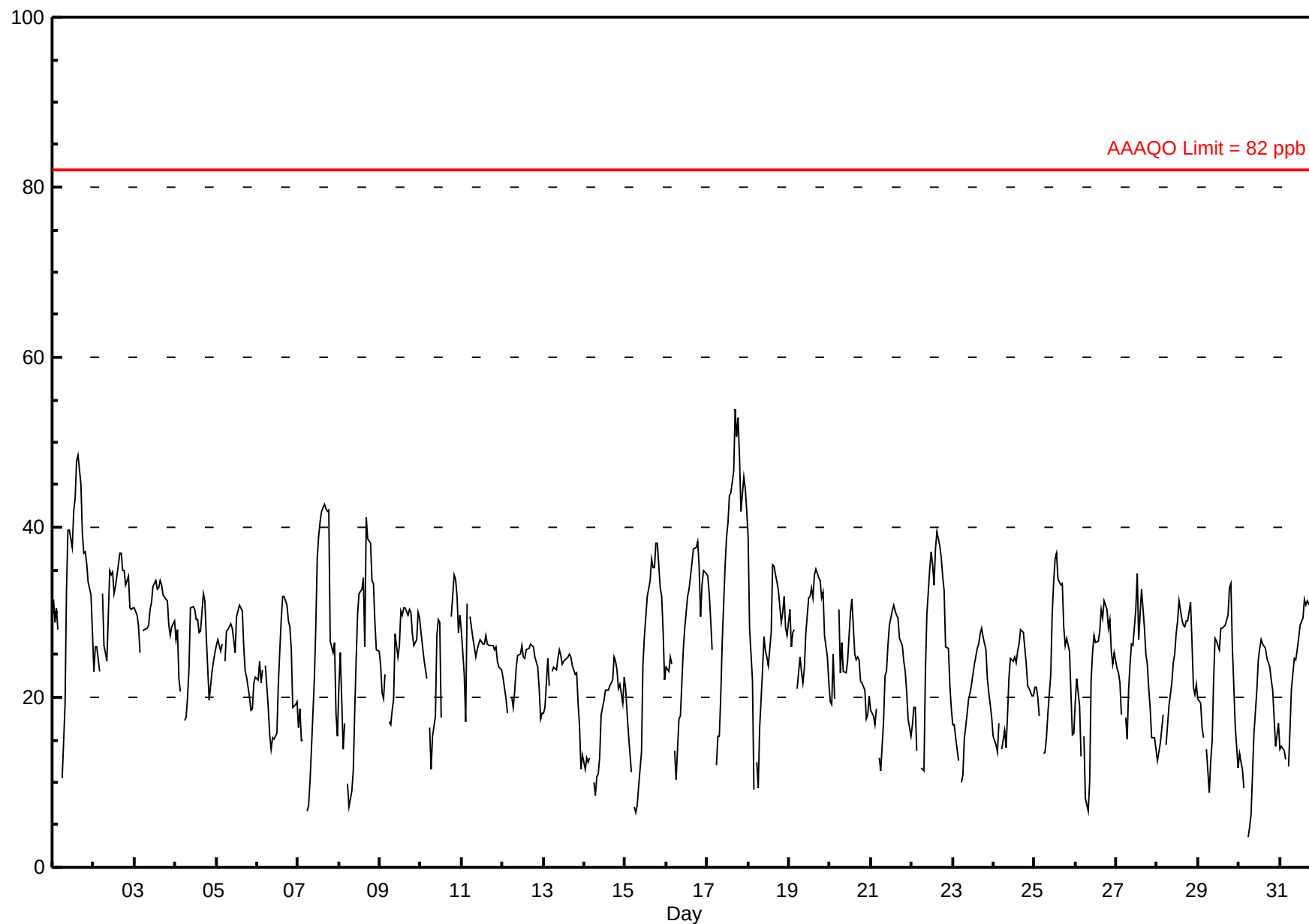
Ozone (O₃) - ppb

Beaverlodge - July 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 53.9 ppb on Jul 17 17:00 Maximum Daily Average: 36.5 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: 4 ppb on Jul 30 06:00 Maximum Diurnal Average: 32.1 ppb at hour 17 Monthly Average: 24.88 ppb												Minimum Daily Average: 17.4 ppb on Jul 30 Minimum Diurnal Average: 15.3 ppb at hour 7 Percentiles: P ₁ = 7.1 P ₁₀ = 14.0 Q ₁ = 19.7 Median = 25.2 Q ₃ = 29.7 P ₉₀ = 34.4 P ₉₉ = 46.1														
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	32	29	30	28	A	10	15	19	33	40	40	38	42	43	48	48	45	39	37	37	36	34	32	28	34.0	48.5
2-Jul	23	26	26	23	A	32	26	25	24	35	34	35	32	33	36	37	37	35	35	33	34	30	30	31	31.0	37.0
3-Jul	30	30	28	25	A	28	28	28	29	30	31	33	34	33	33	34	33	32	31	31	28	27	28	29	30.2	33.8
4-Jul	27	28	22	21	A	17	18	20	23	30	31	30	29	29	28	28	32	31	27	23	20	23	24	25	25.5	32.2
5-Jul	26	27	25	26	A	24	28	28	29	28	27	25	30	31	30	30	26	23	22	20	19	19	22	22	25.5	30.8
6-Jul	22	24	22	23	A	24	19	16	14	15	15	16	22	25	29	32	32	31	29	28	26	19	19	19	22.6	31.9
7-Jul	16	19	15	15	A	7	7	10	14	22	28	36	39	41	42	43	42	42	42	27	25	26	18	15	25.7	42.7
8-Jul	21	25	14	17	A	10	7	9	11	18	24	30	32	33	34	26	41	39	38	34	33	29	26	25	25.1	41.2
9-Jul	24	20	20	23	A	17	17	18	20	27	25	26	30	30	31	31	30	30	30	28	26	27	30	29	25.6	30.6
10-Jul	28	26	25	22	A	16	11	15	18	27	29	29	18	C	C	C	C	C	30	34	34	32	28	30	25.1	34.4
11-Jul	28	23	17	31	A	30	27	26	25	26	26	27	26	26	27	26	26	26	26	26	26	24	24	23	25.7	31.0
12-Jul	22	21	20	18	A	20	19	21	23	25	25	26	25	25	26	26	26	26	26	25	24	21	17	18	22.8	26.3
13-Jul	18	19	25	21	A	23	24	23	25	26	25	24	24	24	25	25	25	24	23	23	19	17	11	13	22.0	25.7
14-Jul	11	13	12	13	A	10	8	11	11	13	18	20	21	21	21	21	22	25	24	23	21	22	19	22	17.5	24.7
15-Jul	21	18	16	11	A	7	6	7	9	14	24	27	29	32	34	36	35	35	38	38	33	32	28	22	24.1	38.2
16-Jul	24	23	25	24	A	14	10	17	18	22	26	28	32	33	34	36	37	38	38	35	29	33	35	35	28.1	38.4
17-Jul	34	32	29	26	A	12	15	15	20	26	35	39	40	44	44	47	54	51	53	48	42	46	45	42	36.5	53.9
18-Jul	39	28	22	9	A	12	9	16	23	27	25	25	24	28	36	35	34	34	33	29	30	32	28	27	26.3	38.8
19-Jul	30	26	28	28	A	21	25	23	22	23	27	32	32	33	32	34	35	34	34	32	32	27	25	22	28.5	35.2
20-Jul	19	19	25	20	A	30	23	26	23	23	24	27	30	32	25	24	25	24	22	22	21	17	18	20	23.5	31.6
21-Jul	18	18	17	19	A	13	11	17	22	23	26	29	30	31	30	30	29	27	26	24	23	21	18	15	22.5	30.8
22-Jul	17	19	19	14	A	12	12	11	23	30	35	37	36	33	37	39	38	36	34	32	26	26	21	19	26.4	39.5
23-Jul	17	17	15	12	A	10	11	15	18	20	21	21	23	24	26	26	28	28	27	26	22	20	19	18	20.2	28.2
24-Jul	15	14	14	17	A	14	16	14	18	22	25	24	25	24	25	26	28	28	26	24	21	21	20	20	20.9	28.0
25-Jul	21	21	20	18	A	13	14	15	18	23	30	33	36	37	34	33	33	28	26	27	25	20	16	16	24.3	36.9
26-Jul	19	22	19	13	A	15	8	7	10	22	25	27	26	27	28	30	29	31	30	28	29	25	24	25	22.7	31.3
27-Jul	23	23	22	18	A	18	15	21	24	26	26	30	35	27	30	33	28	25	24	21	19	15	15	14	23.1	34.6
28-Jul	13	13	15	18	A	14	17	19	22	24	25	28	29	31	29	28	28	29	29	31	26	21	20	22	23.1	31.3
29-Jul	20	19	17	15	A	14	9	12	15	22	27	27	26	28	28	28	28	30	33	33	26	21	17	12	22.0	33.4
30-Jul	13	12	11	9	A	4	5	6	11	16	21	24	26	27	26	26	25	24	24	22	21	14	16	17	17.4	26.7
31-Jul	14	14	14	13	A	12	16	21	25	24	26	27	28	29	31	31	31	31	31	30	21	25	23	21	23.4	31.5
22.2 21.6 20.2 19.0 -- 16.2 15.3 17.3 20.0 24.2 26.7 28.4 29.4 30.4 31.3 31.7 32.1 31.2 30.6 28.9 26.4 24.8 23.1 22.5																								Diurnal Average		
38.8 32.1 30.5 31.0 -- 32.2 27.9 28.1 32.8 39.7 39.7 38.8 41.9 43.7 47.7 48.5 53.9 50.8 52.9 48.2 41.8 46.0 44.6 42.1																								Diurnal Maximum		
C - Calibration A - Automated Daily Zero Span Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 82 ppb 24-hr na																										

Hourly Averages

Ozone (O₃) - ppb
Beaverlodge - July 2013



Hourly Maximums

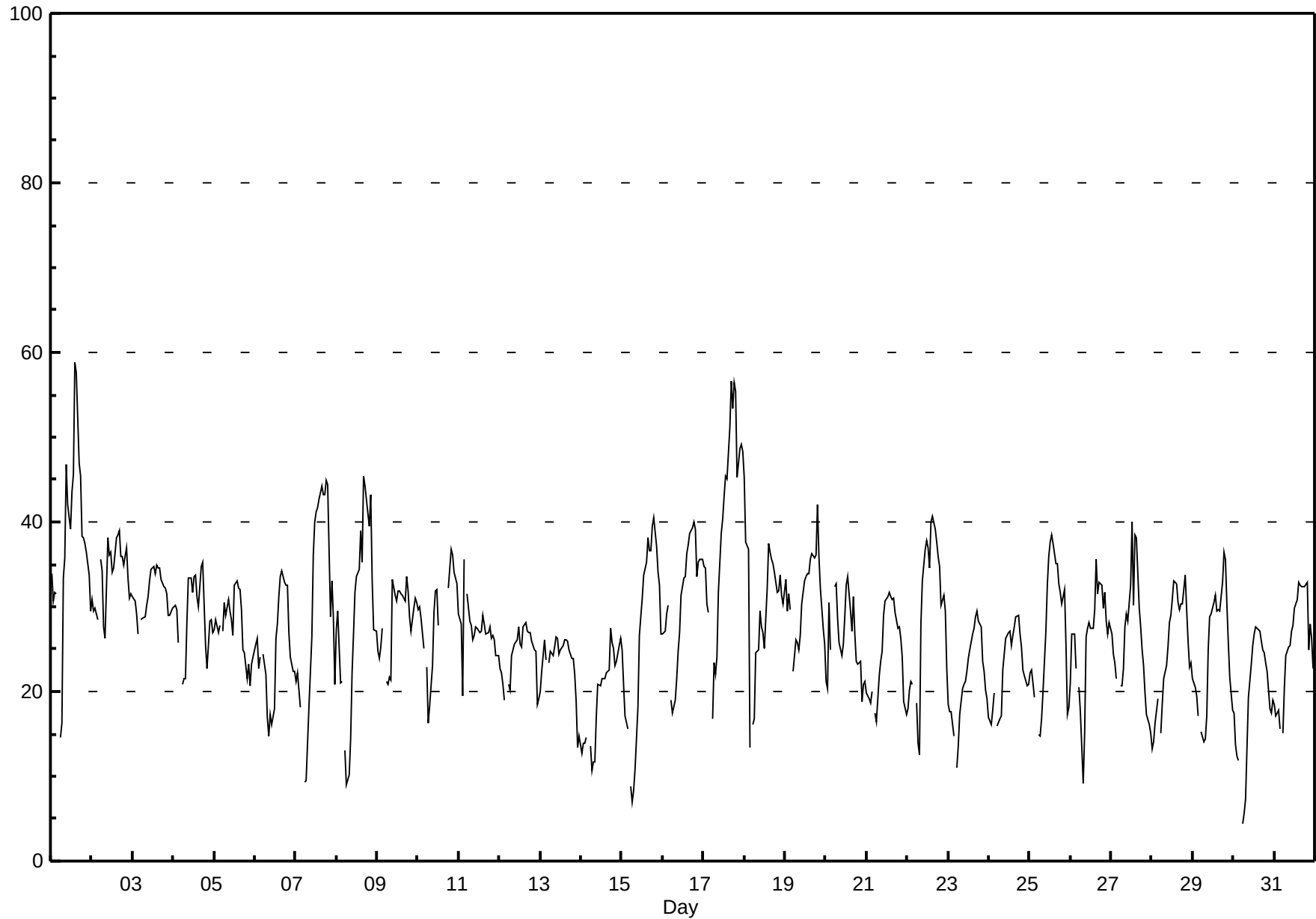
Ozone (O₃) - ppb

Beaverlodge - July 2013

Maximum Value: 58.9 ppb on Jul 1 15:00																				Maximum Daily Average: 40.2 ppb on Jul 17										Hours in Service: 744	
Minimum Value: 4 ppb on Jul 30 06:00																				Minimum Daily Average: 19.1 ppb on Jul 30										Hours of Data: 708	
Maximum Diurnal Average: 34.1 ppb at hour 16																				Minimum Diurnal Average: 19.0 ppb at hour 7										Hours of Missing Data: 36	
Monthly Average: 27.50 ppb																				Percentiles: P ₁ = 9.1 P ₁₀ = 17.2 Q ₁ = 22.2 Median = 27.5 Q ₃ = 32.5 P ₉₀ = 36.9 P ₉₉ = 49.9										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	34	31	32	32	A	15	16	33	36	47	42	39	43	46	59	58	47	45	38	38	37	36	34	29	37.7	58.9					
2-Jul	31	29	30	28	A	36	34	28	26	38	36	36	34	35	38	38	39	36	36	35	37	33	31	32	33.8	39.0					
3-Jul	31	31	29	27	A	29	29	29	30	31	33	34	35	34	35	35	35	33	32	32	32	29	29	30	31.4	34.9					
4-Jul	30	30	30	26	A	21	21	22	28	33	33	32	33	34	31	30	35	35	30	25	23	28	29	27	29.0	35.2					
5-Jul	27	29	27	28	A	27	31	29	31	30	28	27	32	33	32	32	30	25	25	22	23	21	23	24	27.6	33.1					
6-Jul	26	26	23	24	A	24	22	17	15	17	16	18	26	28	31	34	34	33	33	33	27	24	22	22	25.0	34.2					
7-Jul	21	22	20	18	A	9	9	14	18	26	36	40	41	42	43	44	43	43	45	44	29	33	29	21	30.1	44.8					
8-Jul	27	29	21	21	A	13	9	10	14	22	27	32	34	34	39	35	45	44	41	40	43	33	27	27	29.1	45.4					
9-Jul	25	24	25	27	A	21	21	22	21	33	31	31	32	32	32	31	31	34	32	29	27	30	31	31	28.3	33.6					
10-Jul	30	30	29	25	A	23	16	18	23	29	32	32	28	C	C	C	C	C	32	37	36	34	33	33	28.9	36.8					
11-Jul	29	28	19	36	A	32	28	28	26	27	28	27	27	27	29	28	27	27	28	26	27	26	24	24	27.3	35.7					
12-Jul	23	22	21	19	A	21	20	24	25	26	26	28	26	25	28	28	27	27	27	26	25	25	19	19	24.1	28.1					
13-Jul	20	22	26	24	A	23	25	24	25	26	26	24	25	25	26	26	26	25	24	24	22	19	13	15	23.3	26.5					
14-Jul	13	14	14	15	A	14	11	12	12	17	21	21	21	22	22	22	23	27	26	25	23	24	25	26	19.5	27.5					
15-Jul	25	21	17	16	A	9	7	8	11	18	27	29	31	34	35	38	37	37	40	41	37	34	33	27	26.5	40.5					
16-Jul	27	27	29	30	A	19	18	19	21	25	27	31	33	34	36	37	39	39	40	39	34	35	36	36	30.9	40.0					
17-Jul	35	35	30	29	A	17	23	22	24	32	39	40	43	45	45	51	57	53	56	55	45	49	49	48	40.2	56.7					
18-Jul	45	38	37	13	A	16	17	25	25	29	28	27	25	32	37	36	36	35	34	32	32	34	31	30	30.2	45.3					
19-Jul	33	29	31	30	A	22	26	26	25	27	30	33	34	34	34	36	36	36	36	42	36	32	27	26	31.4	42.1					
20-Jul	21	20	30	25	A	32	33	29	26	24	26	29	33	33	29	27	31	27	23	23	24	19	21	21	26.4	33.5					
21-Jul	20	19	19	20	A	18	16	22	24	25	29	31	31	32	31	31	31	29	27	28	26	24	19	17	24.7	31.7					
22-Jul	18	20	21	21	A	19	14	13	28	33	37	38	37	35	40	41	39	38	36	35	30	31	29	23	29.3	40.7					
23-Jul	18	18	18	15	A	11	14	17	20	21	21	22	24	25	27	28	29	30	28	28	24	22	20	19	21.6	29.5					
24-Jul	17	16	18	20	A	16	17	17	23	24	26	27	27	25	27	28	29	29	27	25	23	22	21	21	22.7	29.0					
25-Jul	22	23	21	19	A	15	15	17	20	27	32	36	38	38	37	35	35	33	32	30	32	25	17	18	26.9	38.5					
26-Jul	21	27	27	23	A	20	18	9	15	26	28	28	27	28	30	36	31	33	32	30	32	28	27	28	26.2	35.6					
27-Jul	27	24	23	22	A	21	21	23	28	29	28	33	40	30	38	38	30	28	25	23	20	17	16	15	26.0	40.1					
28-Jul	13	14	16	19	A	15	18	22	23	25	28	29	31	33	33	30	30	30	30	34	30	26	23	23	25.0	33.8					
29-Jul	21	21	19	17	A	15	14	14	17	25	29	29	30	31	29	30	30	33	36	36	30	26	22	18	24.9	36.4					
30-Jul	17	14	12	12	A	4	6	7	13	19	23	25	27	28	28	27	26	25	25	23	22	18	17	19	19.1	27.7					
31-Jul	18	17	18	16	A	15	20	24	25	25	27	28	30	31	33	33	32	32	32	33	25	28	26	23	25.7	32.8					
24.7 24.2 23.6 22.4 -- 19.1 19.0 20.1 22.5 27.0 29.1 30.2 31.6 32.1 33.8 34.1 33.9 33.4 32.6 32.0 29.4 27.9 25.9 24.9																									Diurnal Average						
45.3 37.6 36.8 35.7 -- 35.6 34.2 33.4 35.8 46.7 42.1 40.4 43.5 45.6 58.9 57.6 56.7 53.5 56.4 55.4 45.2 48.7 49.2 48.3																									Diurnal Maximum						
C - Calibration A - Automated Daily Zero Span																															

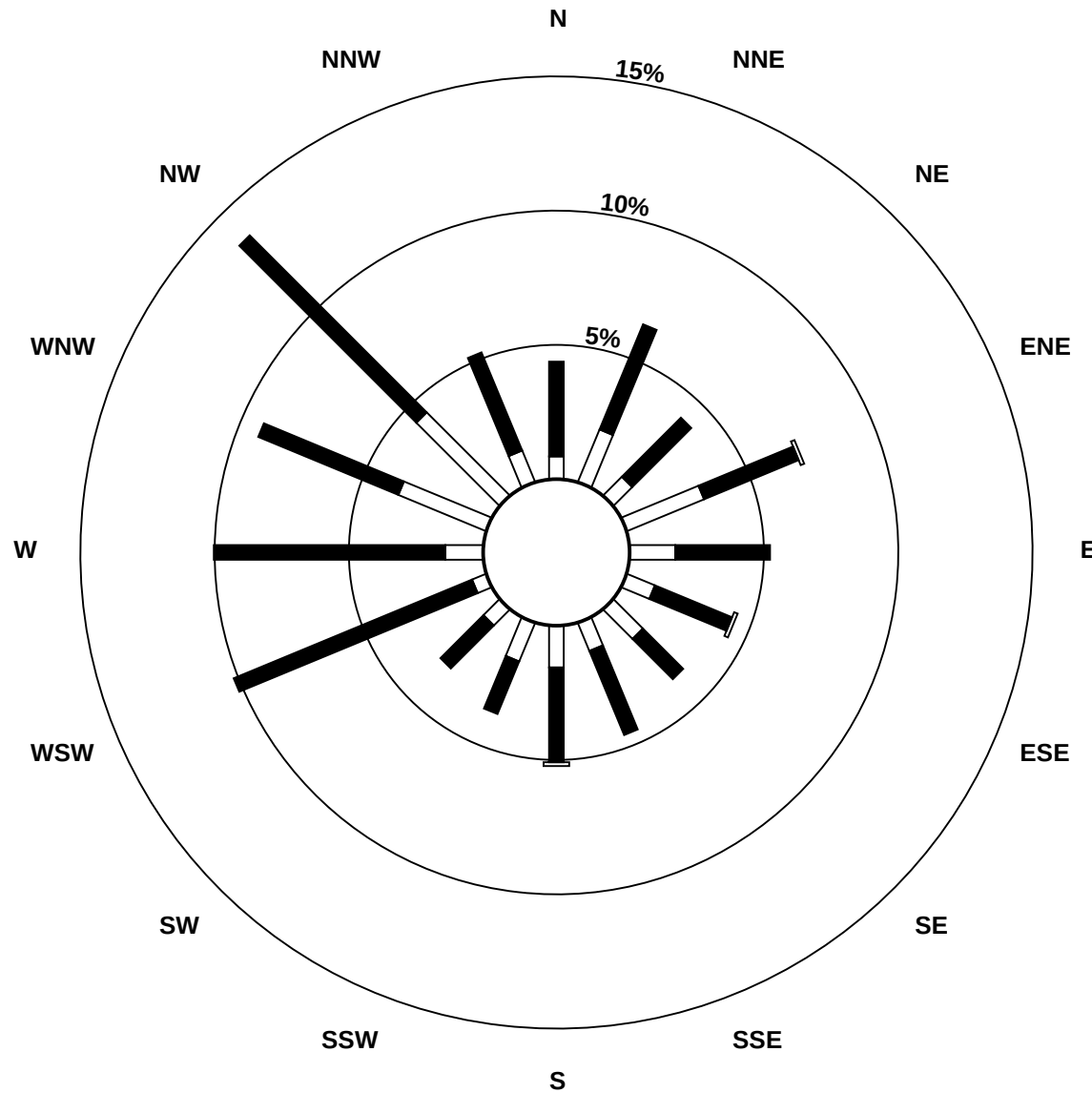
Hourly Maximums

Ozone (O₃) - ppb
Beaverlodge - July 2013

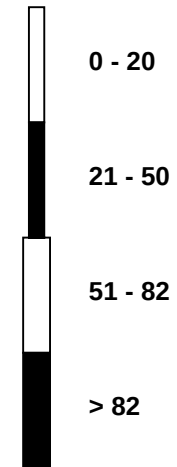


Pollutant Rose

Ozone (O₃) - ppb
Beaverlodge - July 2013



Pollutant Classes (ppb)



Eight Hour Running Averages

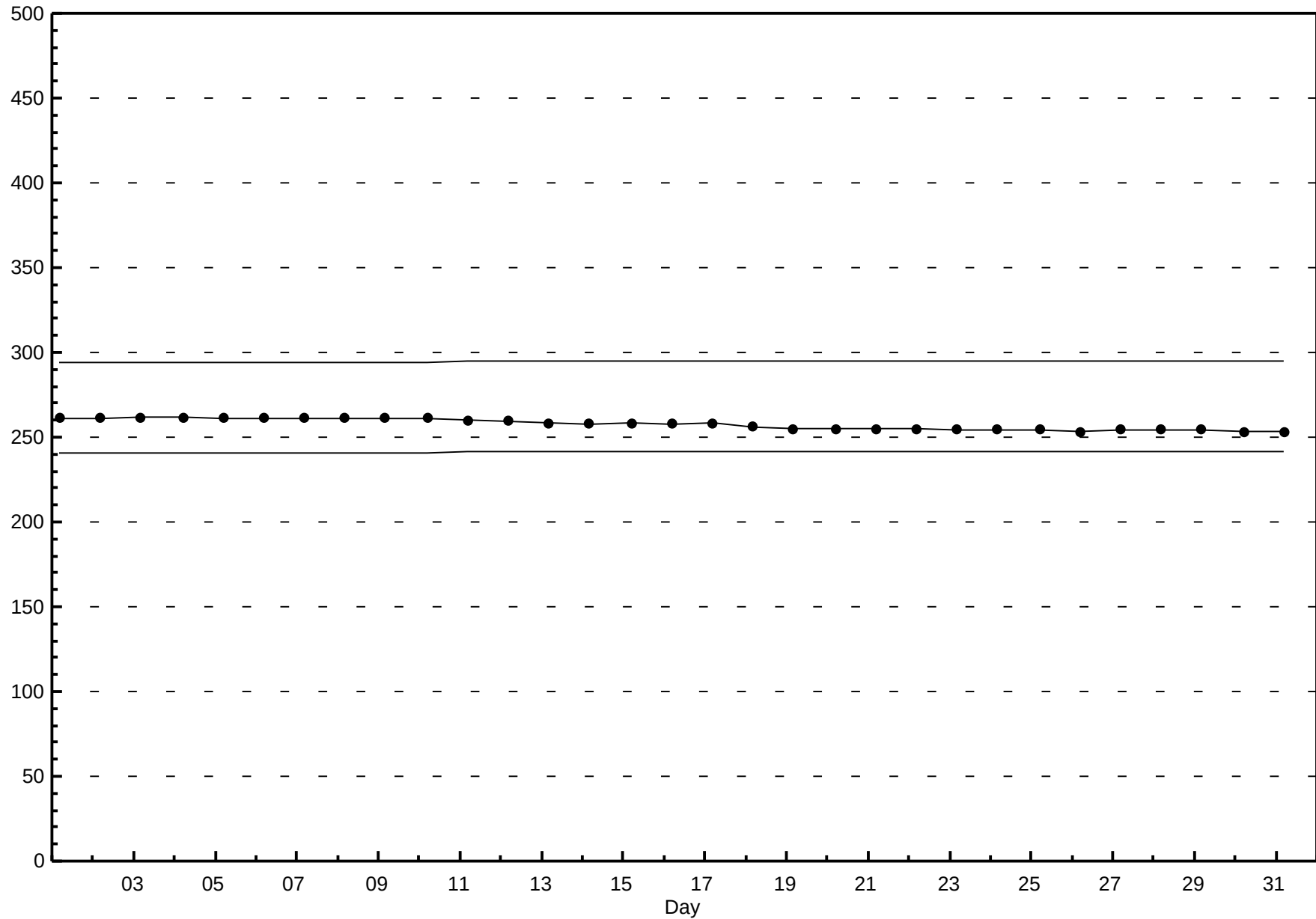
Ozone (O₃) - ppb

Beaverlodge - July 2013

Maximum Value: 48.1 ppb on Jul 17 23:00																								Hours in Service: 744	
Minimum Value: 8.4 ppb on Jul 30 09:00																								Hours of Data: 736	
																								Hours of Missing Data: 8	
Percentiles: P ₁ = 11.2 P ₁₀ = 16.0 Q ₁ = 20.3 Median = 24.8 Q ₃ = 28.7 P ₉₀ = 33.1 P ₉₉ = 45.0																								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	36	34	33	32	31	28	26	23	23	25	26	28	30	34	38	41	43	43	43	43	42	41	39	36	43.0
2-Jul	33	32	30	28	27	27	26	26	26	27	29	30	30	31	32	33	35	35	35	35	35	35	34	33	35.0
3-Jul	32	32	31	30	29	29	29	28	28	28	28	30	30	31	31	32	33	33	33	33	32	31	31	30	32.9
4-Jul	29	29	28	26	26	25	23	22	21	22	23	24	25	26	28	29	30	30	29	28	27	26	26	26	29.8
5-Jul	25	24	24	25	25	25	26	26	27	27	27	27	27	28	28	29	28	28	27	27	25	24	23	22	28.7
6-Jul	21	21	21	22	22	23	22	21	20	19	18	17	17	18	19	21	23	25	27	29	29	28	27	25	29.0
7-Jul	23	22	20	18	17	16	14	13	12	13	15	18	20	25	29	33	37	39	41	40	38	36	33	30	40.8
8-Jul	27	25	22	20	20	17	16	15	13	12	14	16	18	21	24	26	30	32	34	35	35	34	33	33	34.7
9-Jul	31	29	26	25	24	22	21	20	19	20	21	22	23	24	26	27	29	29	30	30	29	29	29	29	31.0
10-Jul	28	28	27	27	27	25	23	21	19	19	20	21	20	21	23	N	N	N	N	N	N	N	N	N	31.2
11-Jul	31	30	28	28	27	26	26	26	25	26	27	27	26	26	26	26	26	26	26	26	26	26	25	25	30.7
12-Jul	25	24	23	22	22	21	20	20	20	21	22	23	23	24	24	25	25	26	26	26	25	25	24	23	25.7
13-Jul	22	21	21	20	20	20	21	22	23	24	24	24	24	24	24	25	25	24	24	24	23	23	21	19	24.7
14-Jul	18	16	15	14	13	12	12	11	11	11	12	13	14	15	17	18	20	21	22	22	22	22	22	22	22.4
15-Jul	22	21	20	19	18	16	15	12	11	10	11	14	16	19	22	26	29	32	33	35	35	35	34	33	35.2
16-Jul	31	30	28	26	25	23	20	20	19	19	19	19	21	23	26	28	31	33	35	35	35	35	35	35	35.4
17-Jul	35	34	33	32	32	29	26	23	21	21	22	23	26	29	33	37	41	44	46	48	48	48	48	48	48.1
18-Jul	46	43	39	34	33	28	23	19	17	17	18	20	20	22	25	28	29	30	31	31	32	33	32	31	45.7
19-Jul	30	29	29	29	28	27	26	26	25	24	24	25	26	27	28	29	31	32	33	33	33	33	32	30	33.3
20-Jul	28	26	25	24	22	23	23	23	24	24	24	25	26	26	26	26	26	26	26	25	24	23	22	21	28.1
21-Jul	20	20	19	19	18	18	17	16	17	17	19	20	21	24	26	28	28	29	29	28	28	26	25	23	29.0
22-Jul	21	20	19	18	17	16	15	15	16	17	19	23	24	27	30	34	36	37	36	36	35	34	32	29	36.5
23-Jul	26	24	22	19	18	16	14	14	14	15	15	17	17	19	21	22	23	25	25	26	26	25	25	23	26.5
24-Jul	22	20	19	17	17	16	15	15	15	16	18	19	20	21	22	24	25	26	26	26	25	25	24	23	25.7
25-Jul	23	22	21	20	20	19	18	17	17	17	19	21	23	26	28	31	32	33	33	32	31	28	26	24	33.2
26-Jul	22	21	21	19	18	17	16	15	14	14	14	16	18	19	22	24	27	28	29	29	29	29	29	28	29.1
27-Jul	27	26	25	24	23	22	21	20	20	20	21	23	24	26	27	29	29	29	29	28	26	24	23	20	29.4
28-Jul	18	17	16	15	15	15	15	16	17	18	20	21	22	24	26	27	28	28	29	29	29	28	27	26	29.4
29-Jul	25	24	22	20	19	18	16	15	14	15	16	18	19	21	23	25	27	28	28	29	29	29	27	25	29.3
30-Jul	23	21	18	15	14	11	10	9	8	9	10	12	14	17	20	22	24	25	25	25	24	23	21	20	25.2
31-Jul	19	18	16	15	15	14	14	15	16	18	19	21	22	25	26	28	29	29	30	30	29	29	28	27	30.4
45.7 42.8 39.0 34.1 33.0 29.0 28.5 28.2 27.9 28.0 28.6 30.2 30.5 33.6 37.8 41.4 43.0 44.2 46.4 47.6 47.8 48.0 48.1 47.5																									
Diurnal Maximums																									
N - Not Valid																									

Span Responses

Ozone (O₃)
Beaverlodge - July 2013

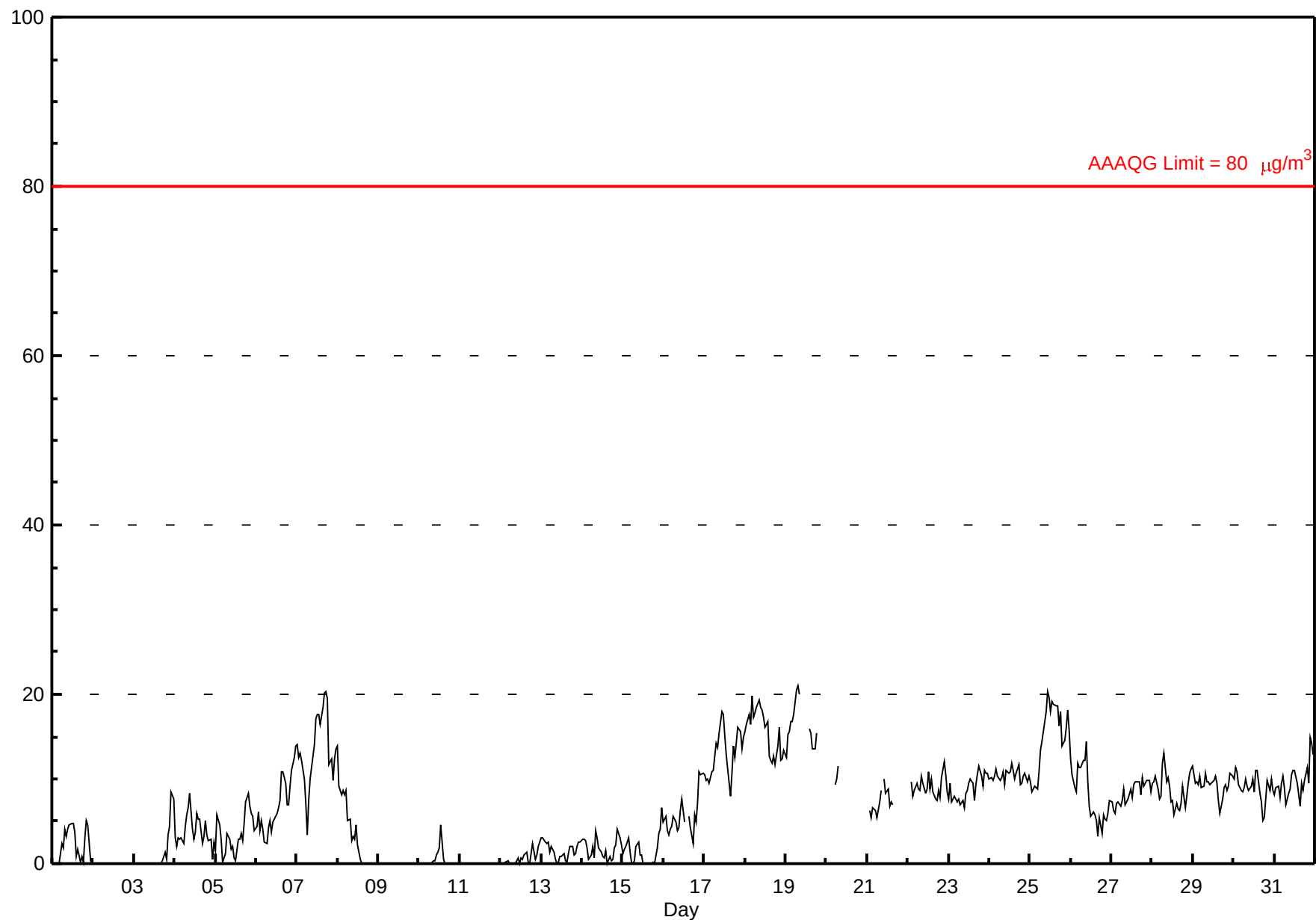


Hourly Averages

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

Beaverlodge - July 2013

Number of Exceedences: 1-hr: 0 24-hr: 0 Maximum Value: 21.0 µg/m³ on Jul 19 08:00 Minimum Value: 0 µg/m³ on Jul 1 01:00 Maximum Diurnal Average: 7.6 µg/m³ at hour 24 Monthly Average: 6.87 µg/m³																								Hours in Service: 744 Hours of Data: 649 Hours of Missing Data: 95 Hours of Calibration: 0 Percent Operational Time: 87.2		
Maximum Daily Average: 15.6 µg/m³ on Jul 18 Minimum Daily Average: 0.6 µg/m³ on Jul 12 Minimum Diurnal Average: 6.1 µg/m³ at hour 6 Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 2.0 Median = 7.2 Q ₃ = 10.2 P ₉₀ = 14.0 P ₉₉ = 20.0																										
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	2	2	4	3	4	5	5	5	4	1	2	0	1	0	3	5	5	0	0	2.1	5.1
2-Jul	0	0	N	N	0	N	N	N	0	N	N	N	N	N	N	N	N	N	N	N	0	0	0	0	--	0.0
3-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	3	4	8	8	1.1	8.5
4-Jul	3	2	3	3	3	2	4	6	7	8	4	3	4	6	5	5	2	3	5	3	3	3	1	3	3.8	8.3
5-Jul	1	6	5	3	0	1	1	4	3	2	2	1	0	3	3	3	3	5	7	8	7	6	6	4	3.4	8.2
6-Jul	4	6	4	5	4	2	2	4	5	4	5	6	6	7	8	11	11	9	7	7	9	11	13	14	6.8	13.8
7-Jul	14	13	13	12	10	7	3	7	10	13	14	17	18	18	16	19	20	20	19	12	12	10	12	14	13.5	20.4
8-Jul	14	9	8	9	8	9	5	5	3	3	3	5	2	0	0	N	N	N	N	N	0	0	0	0	4.4	13.9
9-Jul	0	0	0	0	0	0	0	0	0	0	N	0	N	N	N	N	N	N	N	0	N	N	N	N	--	0.0
10-Jul	N	N	0	0	0	0	0	0	0	0	1	1	2	5	1	0	0	0	N	N	N	N	N	N	--	4.6
11-Jul	N	N	N	N	N	0	N	N	0	0	0	N	N	0	N	N	0	0	0	0	0	0	0	0	--	0.1
12-Jul	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	1	0	0	1	2	0	1	2	3	0.6	2.5
13-Jul	3	3	3	2	3	1	2	1	1	0	0	1	1	1	0	0	1	2	2	1	1	2	3	3	1.5	3.1
14-Jul	3	3	3	2	1	1	2	1	4	3	2	1	1	1	2	0	1	0	0	2	2	4	3	2	1.8	4.1
15-Jul	1	2	2	3	1	0	0	0	2	2	1	1	0	0	0	0	0	0	0	0	2	4	4	7	1.4	6.6
16-Jul	5	6	4	3	4	4	6	5	4	4	6	8	5	N	N	6	4	2	6	5	7	11	10	11	5.7	10.8
17-Jul	11	10	10	10	11	11	13	14	14	15	18	18	15	13	11	8	11	14	13	14	16	16	14	15	13.0	18.0
18-Jul	16	16	18	16	20	17	18	19	19	19	18	17	16	17	13	12	12	13	12	14	16	12	12	13	15.6	19.8
19-Jul	12	15	16	17	17	18	20	21	20	N	N	N	16	N	16	15	14	14	15	N	7	N	N	N	--	21.0
20-Jul	N	N	N	N	N	9	10	12	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	11.6
21-Jul	N	6	5	7	6	6	5	7	9	N	10	8	9	7	7	7	N	N	N	N	N	N	N	N	--	10.0
22-Jul	N	N	10	8	9	9	9	9	10	9	8	9	11	9	10	9	8	7	9	8	10	12	11	9	9.2	12.0
23-Jul	8	9	7	8	8	7	8	7	7	7	8	9	9	10	10	7	9	10	11	10	9	11	11	11	8.8	11.5
24-Jul	10	10	10	10	11	10	10	10	11	9	11	11	11	12	11	10	11	12	9	10	10	11	10	10	10.4	11.8
25-Jul	10	8	9	9	9	11	13	14	16	18	20	20	18	19	19	19	19	16	18	14	15	16	18	16	15.1	20.4
26-Jul	12	10	9	9	12	11	11	12	12	14	10	7	6	6	5	3	5	4	6	5	5	6	7	8.1	14.4	
27-Jul	7	6	6	7	7	7	7	9	7	7	8	9	8	9	10	10	10	8	10	9	9	10	10	9	8.3	10.2
28-Jul	9	10	10	9	8	8	12	13	10	10	9	7	7	6	7	6	6	7	9	7	8	10	11	11	8.8	13.0
29-Jul	12	10	10	9	10	9	9	11	10	10	9	9	10	10	10	7	6	8	9	9	9	9	11	10	9.4	11.5
30-Jul	10	11	11	9	9	8	9	10	9	9	9	10	9	11	11	8	7	5	5	8	10	9	10	9	9.0	11.3
31-Jul	8	9	9	8	10	10	9	7	8	9	11	11	11	9	8	7	10	9	10	11	9	15	14	13	9.8	14.9
6.7 6.7 6.5 6.4 6.2 6.1 6.6 7.3 6.8 6.7 7.2 7.1 7.4 7.0 7.1 6.8 6.4 6.6 7.4 6.5 6.9 7.5 7.6 7.6 15.5 16.5 17.6 16.8 19.8 17.6 20.5 21.0 20.1 18.5 20.4 19.7 18.0 19.2 18.9 18.6 20.1 20.4 19.5 14.3 16.2 16.1 18.1 15.8																								Diurnal Average	Diurnal Maximum	
N - Not Valid Alberta Ambient Air Quality Guideline (AAAQG): 1-hr 80 µg/m³ Alberta Ambient Air Quality Objective (AAAQO): 24-hr 30 µg/m³																										

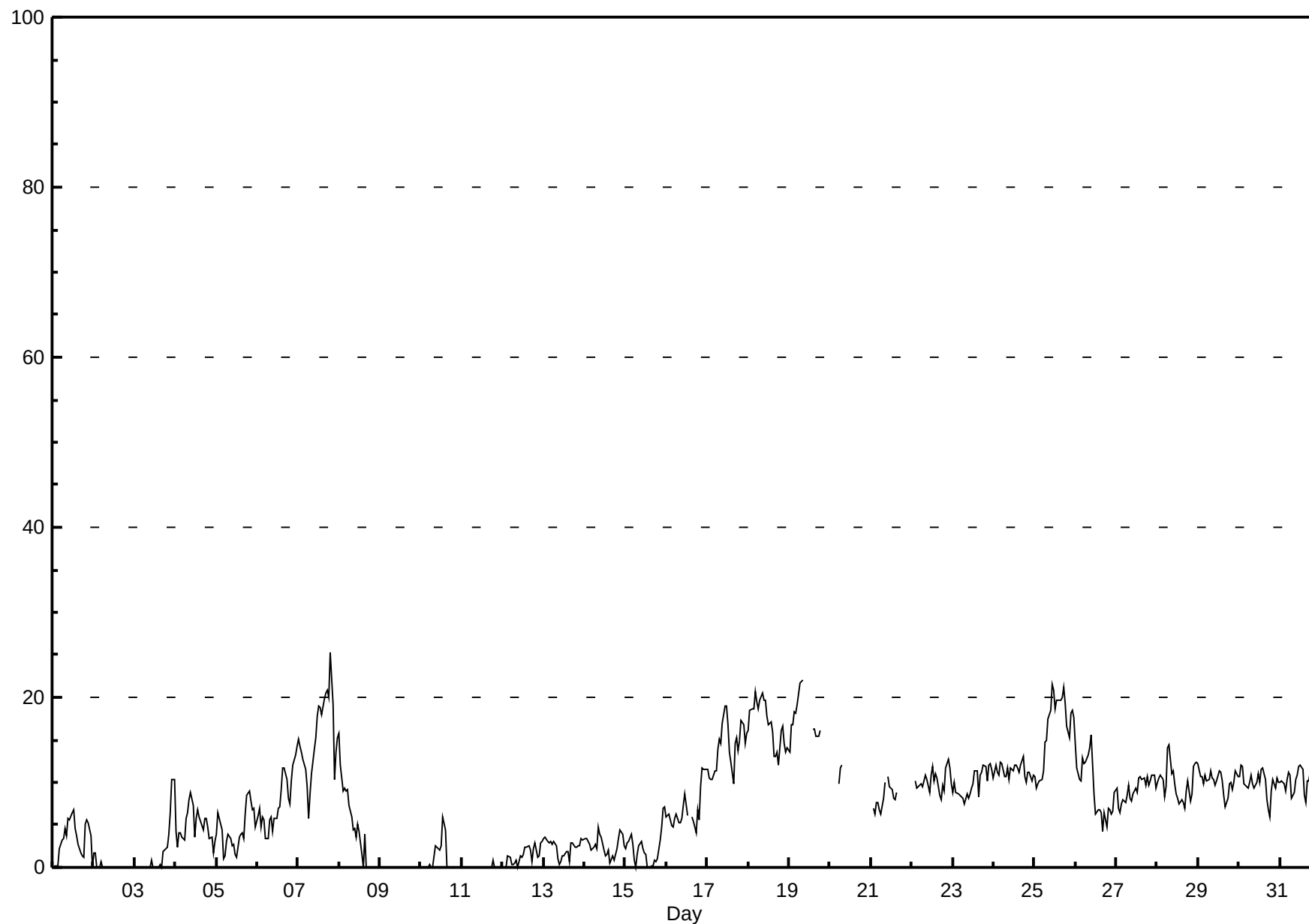


Hourly Maximums

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

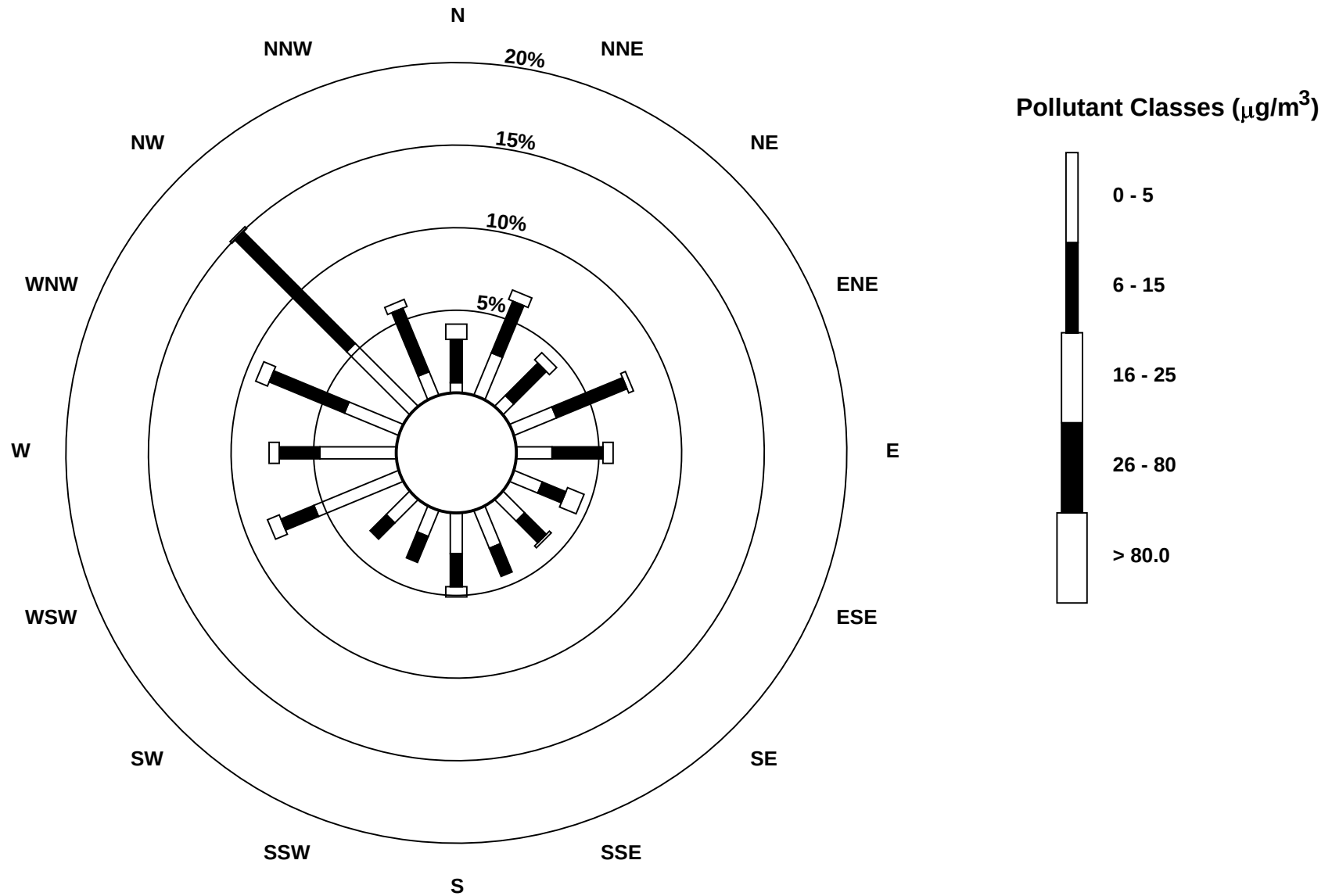
Beaverlodge - July 2013

Maximum Value: 25.3 μg/m³ on Jul 7 20:00																					Maximum Daily Average: 16.9 μg/m³ on Jul 18					Hours in Service: 744	
Minimum Value: 0 μg/m³ on Jul 1 01:00																					Minimum Daily Average: 0.0 μg/m³ on Jul 9					Hours of Data: 701	
Maximum Diurnal Average: 8.0 μg/m³ at hour 23																					Minimum Diurnal Average: 6.7 μg/m³ at hour 17					Hours of Missing Data: 43	
Monthly Average: 7.27 μg/m³																					Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 2.0 Median = 7.3 Q ₃ = 11.0 P ₉₀ = 15.2 P ₉₉ = 20.7					Hours of Calibration: 0	
																					Percent Operational Time: 94.2						
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	2	3	3	5	4	6	6	6	7	5	4	3	2	1	1	5	6	5	4	0	3.2	6.8	
2-Jul	2	2	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.7	
3-Jul	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2	2	2	4	6	10	10	1.6	10.4	
4-Jul	4	2	4	4	4	3	6	6	8	9	7	4	6	7	6	6	4	6	6	5	3	4	2	3	4.9	8.9	
5-Jul	4	7	5	4	1	1	3	4	3	3	3	2	1	4	4	4	3	6	8	9	8	7	7	5	4.4	9.1	
6-Jul	6	7	5	6	6	3	3	6	6	4	6	6	7	7	9	12	12	10	8	7	10	12	13	14	7.7	14.3	
7-Jul	15	14	14	13	11	10	6	9	11	14	15	18	19	19	18	20	20	21	20	25	19	10	14	15	15.4	25.3	
8-Jul	16	12	9	9	9	9	7	6	4	5	3	5	4	2	0	4	0	0	0	0	0	0	0	0	4.4	15.7	
9-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	0.0	0.0	
10-Jul	0	0	0	0	0	0	0	0	3	2	2	2	2	6	4	0	0	0	0	0	0	0	0	0	0.9	5.9	
11-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0.0	0.9	
12-Jul	0	0	0	1	1	0	0	1	1	0	1	1	2	2	2	3	2	1	2	3	1	1	3	3	1.4	3.1	
13-Jul	3	4	3	3	3	3	3	3	1	0	1	1	1	2	2	1	3	3	2	2	3	3	3	3	2.3	3.6	
14-Jul	3	3	3	3	2	2	3	2	5	4	4	2	1	2	2	1	1	1	2	2	3	4	4	3	2.6	4.8	
15-Jul	2	3	3	4	3	1	0	1	3	3	2	2	2	0	0	0	0	1	1	1	3	5	7	7	2.2	7.1	
16-Jul	6	6	6	5	5	6	6	5	5	6	7	9	6	N	N	6	5	4	7	6	10	12	11	12	6.8	11.6	
17-Jul	12	10	10	10	11	11	14	15	15	17	19	19	17	14	12	10	15	15	14	15	17	17	15	16	14.1	19.0	
18-Jul	16	18	19	19	21	20	19	20	20	20	18	17	17	16	13	13	14	12	16	17	15	14	14	14	16.9	20.6	
19-Jul	13	17	17	18	18	19	22	22	22	N	N	N	17	N	16	16	15	15	16	N	11	N	N	N	--	22.0	
20-Jul	N	N	N	N	N	10	12	12	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	12.1
21-Jul	N	7	6	8	8	7	6	8	10	N	11	9	9	8	8	9	N	N	N	N	N	N	N	N	--	10.7	
22-Jul	N	N	10	9	9	10	9	10	11	10	9	11	12	10	11	11	8	8	10	9	12	13	12	10	10.2	12.6	
23-Jul	9	10	9	9	8	8	8	7	9	8	9	9	10	11	11	8	11	11	12	12	10	12	12	12	9.8	12.1	
24-Jul	10	12	11	11	12	12	11	11	12	10	12	11	12	12	12	11	12	13	11	10	11	11	10	11	11.3	13.1	
25-Jul	11	9	10	10	10	11	15	15	17	18	22	21	19	20	20	20	20	21	19	17	15	18	18	18	16.4	21.6	
26-Jul	15	12	10	10	13	12	12	13	14	16	12	9	6	7	7	6	4	7	5	7	7	6	7	9	9.4	15.5	
27-Jul	9	7	6	7	8	8	8	10	8	8	9	9	9	10	11	10	10	10	11	10	10	11	11	9	9.2	10.9	
28-Jul	10	10	11	10	8	10	14	14	11	11	10	9	8	8	8	8	7	9	10	8	9	12	12	12	10.0	14.4	
29-Jul	12	11	11	10	11	10	10	11	11	10	10	10	11	11	10	9	7	8	10	10	9	10	11	11	10.2	12.3	
30-Jul	11	12	12	10	9	9	10	11	10	9	10	11	10	12	12	10	8	7	6	9	10	9	11	10	9.9	12.1	
31-Jul	10	10	10	9	10	11	11	8	9	10	11	12	12	12	8	8	10	10	11	12	13	16	15	14	10.9	15.6	
7.1 7.1 6.8 6.8 6.8 6.8 7.2 7.6 7.7 7.3 7.6 7.4 7.6 7.3 7.3 6.9 6.7 7.0 7.1 7.2 7.6 7.8 8.0 7.9																									Diurnal Average		
16.1 18.5 18.7 18.6 20.6 19.6 21.7 21.8 22.0 19.7 21.6 20.8 19.0 19.7 19.6 19.9 20.4 21.2 20.0 25.3 19.2 18.2 18.5 17.7																									Diurnal Maximum		
N - Not Valid																											



Pollutant Rose

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



Hourly Averages

External Temperature (ET) - °C

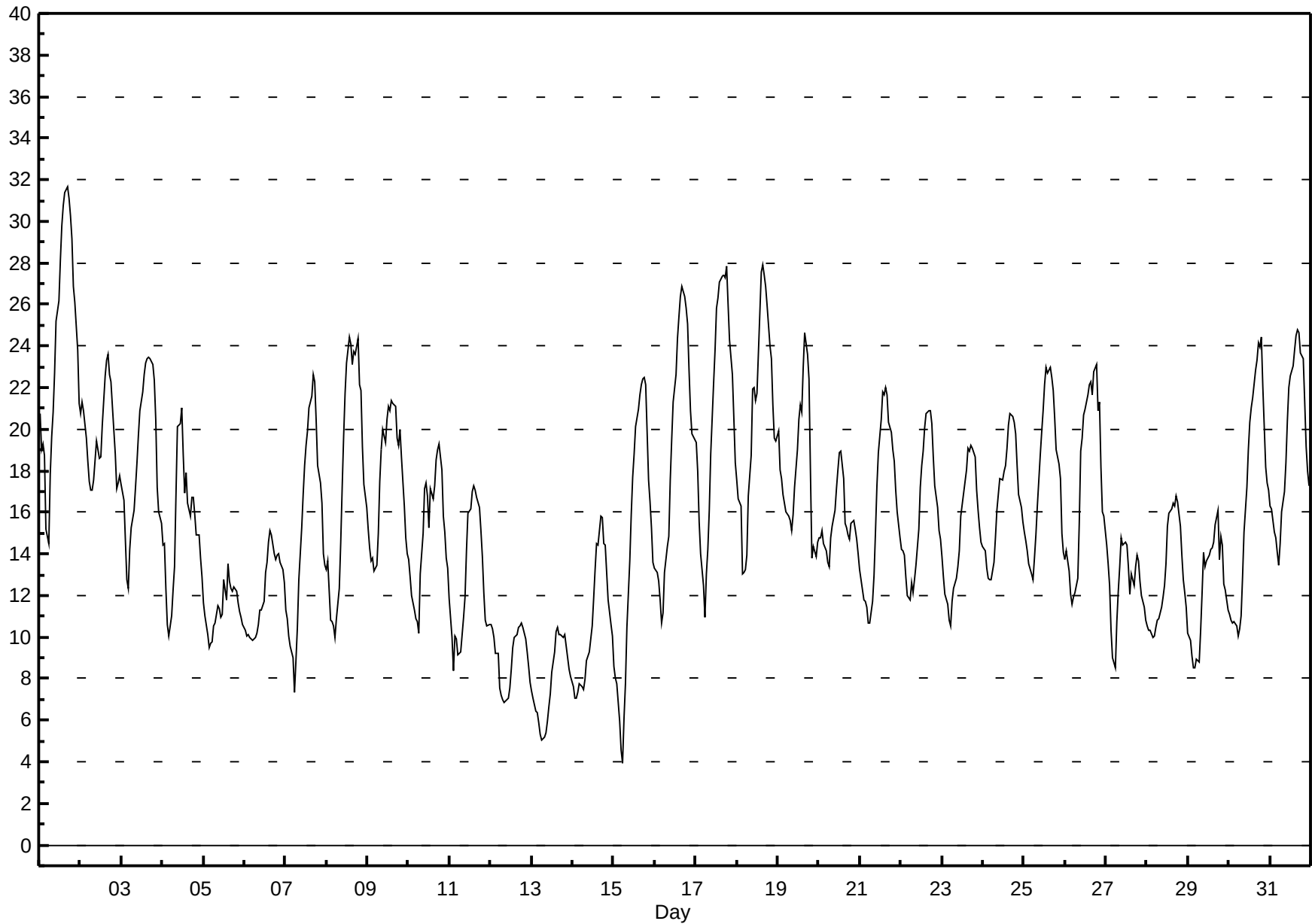
Beaverlodge - July 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																					Hours in Service: 744					
Maximum Value: 31.6 °C on Jul 1 17:00																					Maximum Daily Average: 24.2 °C on Jul 1		Hours of Data: 744			
Minimum Value: 4 °C on Jul 15 06:00																					Minimum Daily Average: 7.8 °C on Jul 13		Hours of Missing Data: 0			
Maximum Diurnal Average: 20.1 °C at hour 17																					Minimum Diurnal Average: 10.9 °C at hour 6		Hours of Calibration: 0			
Monthly Average: 15.79 °C																					Percentiles: P ₁ = 5.9 P ₁₀ = 10.0 Q ₁ = 11.9 Median = 15.1 Q ₃ = 19.4 P ₉₀ = 22.6 P ₉₉ = 28.5		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	21	19	19	19	15	15	18	20	21	23	25	26	28	30	31	31	32	31	30	29	27	26	24	21	24.2	31.6
2-Jul	21	21	21	20	18	18	17	17	18	19	19	19	19	20	23	23	24	23	22	21	19	17	17	18	19.7	23.6
3-Jul	17	17	15	13	12	14	15	16	17	18	20	21	22	23	23	23	23	23	23	22	20	17	16	15	18.7	23.4
4-Jul	14	14	12	11	10	11	12	13	17	20	20	21	19	17	18	16	16	17	17	16	15	15	14	13	15.4	21.1
5-Jul	12	11	10	10	10	10	11	11	12	11	11	11	13	12	13	13	12	12	12	12	12	11	11	11	11.3	13.5
6-Jul	10	10	10	10	10	10	10	10	11	11	11	12	13	14	15	15	15	14	14	14	14	14	13	13	12.2	15.1
7-Jul	11	11	10	10	9	7	9	10	13	15	17	18	19	20	21	22	23	22	20	18	17	16	14	13	15.3	22.6
8-Jul	13	14	11	11	11	10	11	12	15	17	20	22	23	24	24	23	24	24	24	22	22	19	17	16	17.9	24.5
9-Jul	15	14	14	14	13	13	15	17	19	20	19	20	21	21	21	21	21	20	19	20	19	16	15	14	17.6	21.4
10-Jul	14	13	12	11	11	11	10	13	15	17	17	17	15	17	17	17	19	19	19	18	16	15	14	13	15.0	19.3
11-Jul	12	10	8	10	10	9	9	10	11	12	14	16	16	17	17	17	17	16	15	14	12	11	11	11	12.7	17.2
12-Jul	11	10	10	9	9	8	7	7	7	7	7	8	8	9	10	10	10	11	11	10	10	9	9	8	9.0	10.7
13-Jul	7	7	6	6	6	5	5	5	5	6	7	7	8	9	10	10	10	10	10	10	10	9	8	8	7.8	10.5
14-Jul	8	7	7	7	8	8	7	8	9	9	9	11	12	13	15	14	16	16	15	14	13	12	11	10	10.7	15.8
15-Jul	9	8	8	6	5	4	6	8	10	14	16	18	19	20	21	22	22	22	22	22	18	16	15	14	14.3	22.5
16-Jul	13	13	13	12	11	11	13	14	15	18	20	21	23	24	25	26	27	26	26	25	23	21	20	19	19.1	26.8
17-Jul	19	18	16	14	12	11	13	14	16	19	22	24	26	26	27	27	27	27	28	26	24	23	21	18	20.8	27.8
18-Jul	18	17	16	13	13	13	14	17	19	22	22	21	22	26	28	28	27	27	26	24	23	21	20	19	20.6	27.9
19-Jul	20	18	18	17	16	16	16	16	15	16	17	19	20	21	21	23	25	24	22	18	14	14	14	15	18.1	24.6
20-Jul	15	15	15	15	14	14	13	15	15	16	17	18	19	19	18	15	15	15	15	15	16	15	15	14	15.5	18.9
21-Jul	13	12	12	12	11	11	11	12	13	15	17	19	20	22	22	22	22	20	20	19	18	17	16	15	16.3	22.0
22-Jul	14	14	14	13	12	12	13	12	13	13	15	17	18	19	20	21	21	21	20	19	17	16	15	15	16.0	20.9
23-Jul	14	13	12	12	11	11	12	12	13	13	14	16	16	17	18	19	19	19	19	19	17	16	15	15	15.1	19.2
24-Jul	14	14	13	13	13	13	14	15	16	17	18	18	18	18	19	20	21	21	20	20	18	17	16	16	16.7	20.7
25-Jul	15	15	14	14	13	13	14	15	16	19	20	21	22	23	23	23	22	22	21	19	18	18	15	14	17.8	23.0
26-Jul	14	14	13	12	12	12	13	15	19	20	21	21	22	22	22	22	22	23	23	21	21	18	16	16	17.6	23.1
27-Jul	14	14	12	10	9	9	11	12	13	15	14	15	14	13	12	13	12	13	14	14	13	12	11	11	12.6	14.7
28-Jul	11	10	10	10	10	10	11	11	11	12	12	14	15	16	16	16	16	17	16	15	14	13	12	11	13.0	16.8
29-Jul	10	10	9	9	9	9	9	10	12	14	13	14	14	14	14	15	15	16	14	15	14	13	12	11	12.3	16.1
30-Jul	11	11	11	11	11	10	10	11	13	15	17	19	20	21	22	23	23	24	24	24	22	18	17	17	16.9	24.5
31-Jul	16	16	15	15	14	13	14	16	17	18	20	22	23	23	24	25	25	25	24	23	21	19	18	17	19.3	24.8
13.8 13.2 12.5 11.8 11.2 10.9 11.7 12.7 13.9 15.5 16.5 17.5 18.3 19.1 19.6 19.9 20.1 20.0 19.6 18.7 17.3 16.0 14.9 14.2																									Diurnal Average	
20.7 21.3 20.9 19.6 18.5 17.5 17.8 19.7 20.8 22.7 25.2 26.2 28.1 29.8 30.7 31.4 31.6 31.1 30.3 29.1 26.9 26.1 23.8 21.2																									Diurnal Maximum	

Hourly Averages

External Temperature (ET) - °C

Beaverlodge - July 2013



Hourly Averages

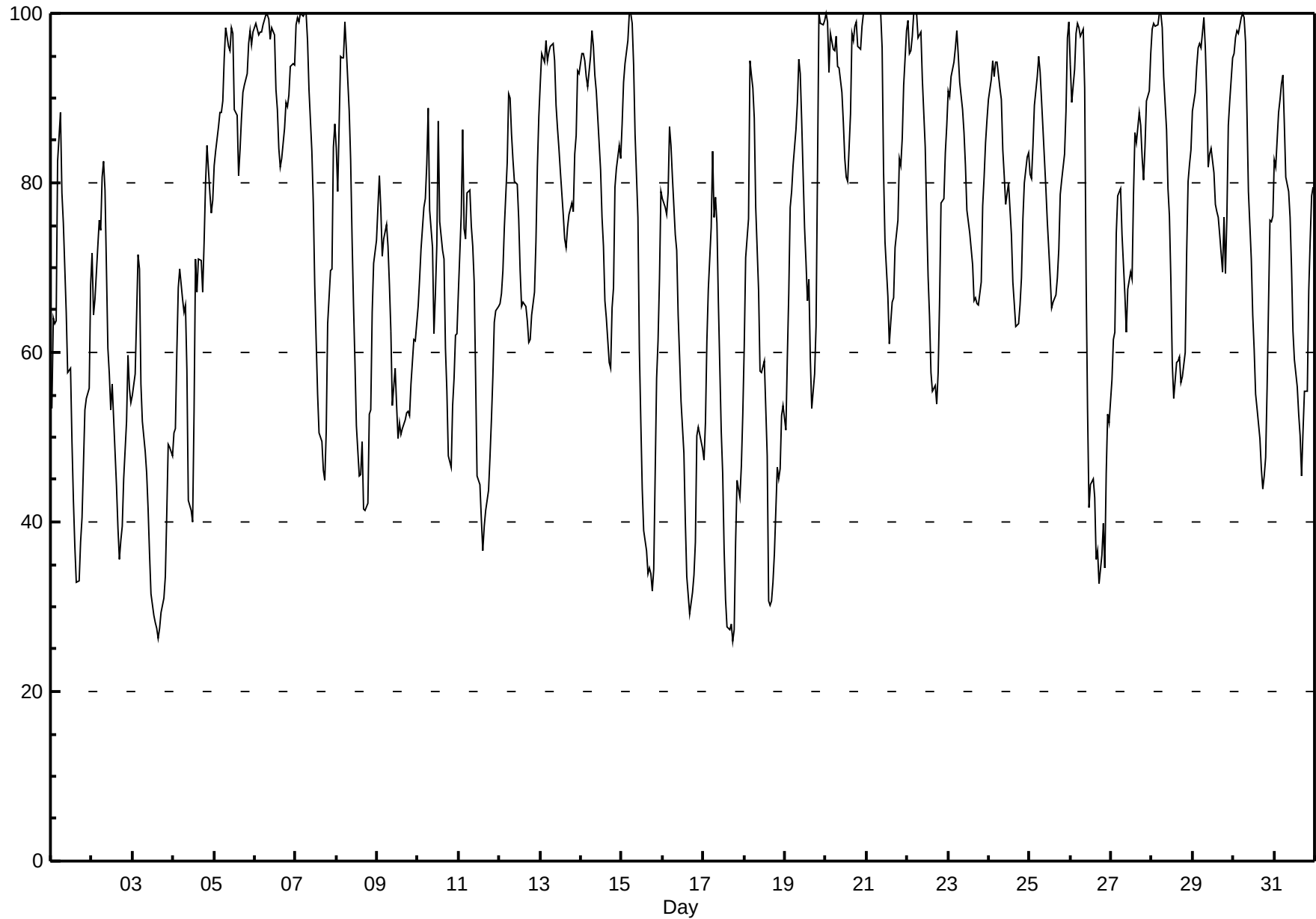
Relative Humidity (RH) - %

Beaverlodge - July 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																								Hours in Service: 744			
Maximum Value: 100.0 % on Jul 7 04:00																								Maximum Daily Average: 94.1 % on Jul 20		Hours of Data: 744	
Minimum Value: 26 % on Jul 17 18:00																								Minimum Daily Average: 43.7 % on Jul 3		Hours of Missing Data: 0	
Maximum Diurnal Average: 89.7 % at hour 6																								Minimum Diurnal Average: 55.5 % at hour 17		Hours of Calibration: 0	
Monthly Average: 72.55 %																								Percentiles: P ₁ = 27.9 P ₁₀ = 44.9 Q ₁ = 57.6 Median = 75.4 Q ₃ = 89.7 P ₉₀ = 97.4 P ₉₉ = 100.0		Percent Operational Time: 100.0	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jul	53	64	63	64	83	88	79	75	70	65	58	58	50	43	37	33	33	38	41	47	53	55	56	68	57.1	88.3	
2-Jul	72	64	66	73	76	74	81	82	79	60	57	53	56	52	44	39	36	38	39	45	52	60	56	54	58.8	82.5	
3-Jul	55	57	64	71	70	56	52	48	46	42	36	31	29	28	28	26	27	29	31	34	41	49	49	48	43.7	71.4	
4-Jul	50	51	60	68	70	66	65	66	58	43	41	40	53	71	67	71	71	67	73	80	84	79	76	78	64.5	84.4	
5-Jul	82	84	87	88	88	90	95	98	96	96	98	98	89	88	81	84	88	91	92	93	96	98	96	98	91.3	98.3	
6-Jul	99	98	97	98	98	99	100	100	99	97	98	97	91	89	84	82	83	86	89	89	90	94	94	94	93.6	99.8	
7-Jul	99	100	99	100	100	100	100	97	91	84	78	68	61	55	50	49	46	45	51	63	70	70	84	87	76.9	100.0	
8-Jul	84	79	95	95	95	99	96	88	83	73	66	59	51	45	46	49	41	41	42	53	53	65	70	73	68.4	99.0	
9-Jul	77	81	77	71	73	75	73	68	63	54	58	54	50	52	50	51	52	53	53	52	56	62	61	63	61.6	80.8	
10-Jul	65	69	72	77	78	82	89	77	72	62	67	73	87	75	72	71	61	55	48	47	54	57	62	62	68.1	88.9	
11-Jul	67	76	86	75	73	79	79	75	73	68	57	45	44	40	37	39	41	44	48	52	57	64	65	65	60.4	86.3	
12-Jul	66	67	70	75	82	90	90	86	83	80	80	76	70	65	66	65	64	61	62	64	67	73	82	88	73.8	90.5	
13-Jul	92	95	94	97	94	95	96	96	94	89	86	84	81	76	73	72	75	76	78	77	83	86	93	93	86.6	96.8	
14-Jul	95	95	94	92	91	95	98	96	93	91	88	82	76	73	66	64	59	58	65	68	79	82	84	83	82.0	98.0	
15-Jul	87	92	94	97	100	100	99	94	86	76	60	52	44	39	37	34	35	34	32	34	57	61	69	79	66.3	100.0	
16-Jul	78	77	76	79	87	84	81	74	72	64	59	54	48	40	34	31	29	32	34	38	50	51	50	49	57.1	86.6	
17-Jul	47	52	61	67	75	84	76	78	75	66	51	46	37	31	28	27	28	26	27	38	45	43	47	53	50.3	83.7	
18-Jul	61	71	76	94	93	91	88	77	67	58	58	58	59	48	31	30	31	33	36	46	45	46	53	54	58.5	94.5	
19-Jul	51	59	67	77	79	82	86	89	95	93	87	75	71	66	69	59	53	57	63	81	100	99	99	99	77.4	100.0	
20-Jul	100	99	93	98	96	96	97	94	94	91	87	83	81	80	88	98	97	99	99	96	96	98	100	100	94.1	100.0	
21-Jul	100	100	100	100	100	100	100	100	100	96	81	73	67	61	64	66	67	72	76	83	82	85	91	98	85.9	100.0	
22-Jul	99	95	96	97	100	100	97	97	98	92	84	76	69	64	58	55	56	54	58	66	78	78	84	87	80.8	100.0	
23-Jul	91	90	93	94	96	98	95	92	89	86	82	77	76	74	70	66	67	66	66	68	77	81	85	87	81.8	97.9	
24-Jul	90	92	94	93	94	94	91	90	84	81	77	80	77	74	68	66	63	63	66	69	76	80	83	84	80.4	94.3	
25-Jul	81	81	84	89	93	95	93	90	86	79	75	72	69	65	66	67	69	72	79	80	83	89	97	99	81.4	98.9	
26-Jul	94	89	93	98	99	98	97	98	91	69	53	42	44	45	43	36	37	33	36	40	35	46	53	52	63.3	98.7	
27-Jul	57	61	62	74	78	79	74	70	67	62	67	70	69	79	86	85	88	87	83	80	84	90	91	95	76.6	95.2	
28-Jul	98	99	99	99	100	100	98	93	86	79	76	69	59	55	59	59	60	56	57	60	72	80	82	84	78.2	100.0	
29-Jul	89	91	94	96	96	96	99	96	90	82	83	84	81	77	77	76	74	70	76	69	76	87	90	95	85.1	99.4	
30-Jul	95	97	98	98	99	100	99	97	88	79	71	64	60	55	53	50	46	44	45	48	56	76	75	76	73.8	100.0	
31-Jul	83	82	88	90	92	93	87	81	79	76	70	63	59	56	53	50	45	51	55	55	67	73	78	79	71.1	92.7	
79.2 80.9 83.7 86.5 88.6 89.7 88.7 85.9 82.1 75.2 70.8 66.3 63.1 60.1 57.5 56.5 55.5 55.8 58.0 61.8 68.2 72.7 76.0 78.2																								Diurnal Average			
100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 96.9 98.3 97.6 91.0 88.7 88.2 97.6 96.8 98.6 99.1 96.1 100.0 98.8 100.0 100.0																								Diurnal Maximum			

Hourly Averages

Relative Humidity (RH) - %
Beaverlodge - July 2013



Hourly Averages

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

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1 Spd	4	4	2	1	1	4	0	2	5	4	5	7	10	13	16	21	23	30	29	26	21	8	9	6	7.8	29.6
Dir	78	130	80	3	327	23	119	171	173	163	161	167	121	110	107	99	99	93	95	92	91	277	314	268	102	93
2 Spd	1	9	2	15	15	9	3	7	6	19	16	9	9	14	24	26	34	27	26	25	17	16	18	21	13.8	34.3
Dir	300	176	281	311	319	331	284	207	211	254	260	276	244	239	245	258	267	268	249	261	256	234	245	254	258	267
3 Spd	19	18	16	11	14	23	23	23	23	24	21	23	28	28	29	30	27	27	23	16	11	11	9	10	20.0	30.2
Dir	249	249	245	239	251	262	263	265	259	252	259	276	279	270	261	269	268	265	258	249	245	250	250	257	260	269
4 Spd	5	7	2	3	2	3	3	3	3	12	10	4	11	6	8	24	13	12	9	9	5	8	9	10	3.2	23.8
Dir	248	272	146	105	118	129	120	155	251	293	267	240	266	43	179	199	175	187	172	138	122	332	316	319	218	199
5 Spd	9	7	7	8	8	6	10	11	13	12	13	13	16	13	16	16	12	10	11	10	8	10	10	11	10.4	16.5
Dir	319	313	292	305	298	287	301	307	320	321	292	296	311	335	326	311	305	278	271	293	295	284	290	287	303	311
6 Spd	13	9	9	12	10	10	7	7	6	7	10	8	10	14	13	14	12	8	6	7	6	4	3	4	8.5	14.0
Dir	288	282	294	306	318	319	311	306	289	296	294	266	300	318	307	304	313	314	331	312	295	280	331	311	304	304
7 Spd	3	8	2	4	4	1	1	4	3	4	6	5	8	5	4	6	3	6	4	8	5	1	3	4	2.0	7.9
Dir	315	319	334	347	317	40	69	213	225	218	213	257	262	302	331	259	245	28	14	282	49	10	62	58	302	282
8 Spd	6	3	1	2	3	3	2	4	4	5	6	6	6	6	12	10	11	6	5	4	3	5	5	4	2.3	11.7
Dir	49	56	161	71	91	160	82	165	173	180	160	156	166	176	238	231	205	288	1	279	61	159	82	125	176	238
9 Spd	3	3	2	2	3	2	2	8	16	24	18	16	16	12	15	20	24	26	24	22	16	16	10	8	11.1	25.8
Dir	80	60	192	191	65	79	196	229	242	251	245	228	205	214	274	278	277	258	255	256	254	262	257	266	252	258
10 Spd	6	4	4	7	3	2	2	4	5	15	17	13	2	2	11	16	15	15	21	19	8	7	3	6	4.0	20.5
Dir	259	268	336	1	17	14	70	147	136	129	134	157	262	83	220	204	214	223	268	272	268	279	313	280	226	268
11 Spd	8	4	1	8	16	11	10	15	10	12	19	25	26	30	31	30	35	38	37	34	31	16	18	24	20.1	37.6
Dir	303	207	145	244	250	243	243	246	231	227	252	257	242	248	242	237	237	247	250	245	248	235	233	246	244	247
12 Spd	21	21	19	16	14	17	15	22	20	20	18	17	16	15	14	12	11	10	8	5	5	5	7	8	12.0	21.8
Dir	253	258	257	263	291	314	301	305	306	304	306	305	304	315	313	323	327	321	306	344	355	28	40	33	302	305
13 Spd	10	13	15	13	17	14	14	12	11	10	5	3	3	3	5	2	7	8	7	6	5	4	4	6	4.9	17.4
Dir	25	33	34	36	35	29	25	30	33	57	41	327	62	315	230	182	163	174	166	150	145	140	95	125	51	35
14 Spd	5	5	6	7	2	1	5	3	2	5	8	3	5	3	4	3	2	6	6	2	7	8	2	5	1.8	7.7
Dir	103	73	74	58	92	208	270	289	294	344	57	22	118	114	67	14	78	14	14	17	273	285	311	306	24	285
15 Spd	6	5	10	2	3	3	2	5	4	5	11	8	10	9	8	10	11	11	11	6	13	14	6	4	3.8	13.9
Dir	328	5	317	279	59	67	173	211	213	215	229	242	239	255	267	271	270	281	299	344	28	28	324	173	286	28
16 Spd	2	5	5	0	2	2	1	3	7	6	8	10	11	10	11	9	7	12	13	11	8	8	8	7	4.7	13.2
Dir	77	47	54	172	255	57	126	136	198	178	163	151	166	172	204	201	192	156	129	118	92	73	79	76	143	129
17 Spd	5	3	2	1	1	4	3	3	4	4	4	7	7	11	8	9	4	6	5	7	5	4	3	2	2.8	10.9
Dir	72	82	193	115	242	50	76	175	183	175	182	170	147	157	128	88	105	181	71	53	50	36	16	35	117	157
18 Spd	3	8	2	4	2	4	2	3	4	6	8	9	7	15	25	27	30	27	24	12	18	12	3	1	8.7	30.3
Dir	26	5	9	261	55	41	68	105	173	252	294	288	294	263	278	275	263	258	257	247	255	252	234	338	268	263
19 Spd	3	2	10	8	11	12	8	5	7	8	11	11	12	8	4	2	5	7	12	2	8	2	8	5	2.8	12.3
Dir	10	184	15	7	331	335	353	312	293	288	269	287	255	1	5	275	37	74	127	218	57	309	117	159	337	127
20 Spd	8	12	8	14	13	9	6	11	7	5	3	6	12	13	18	14	2	7	11	10	8	7	8	7	2.0	17.6
Dir	4	27	30	10	13	42	196	189	177	174	72	100	105	111	56	30	181	262	237	248	267	303	301	314	28	56
21 Spd	5	6	6	7	8	5	5	3	1	5	4	2	5	4	8	11	11	14	9	3	11	5	3	4	2.4	14.1
Dir	291	292	295	323	313	76	202	184	186	95	171	143	117	123	128	103	81	71	55	54	91	147	148	168	93	71
22 Spd	3	4	3	2	4	6	5	9	12	10	11	15	15	16	14	12	11	9	10	10	4	4	1	7	7.1	16.0
Dir	123	76	54	310	326	328	300	300	313	330	316	326	345	338	3	16	12	10	0	5	353	329	329	322	343	338

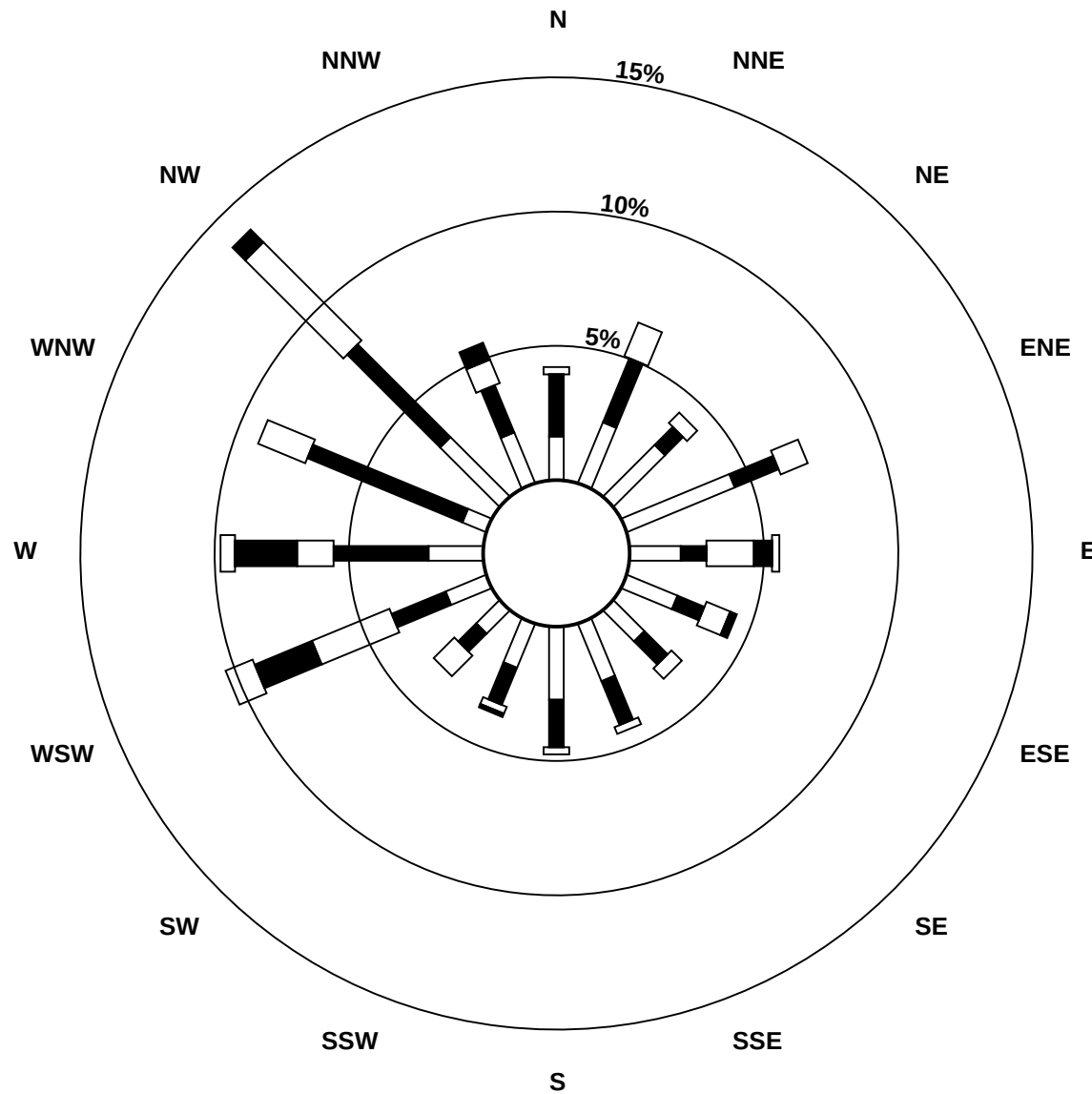
Hourly Averages

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

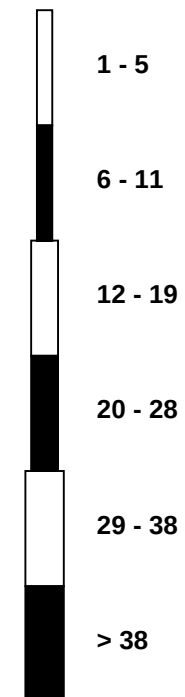
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
23 Spd	6	11	10	10	6	5	6	8	10	8	4	2	3	6	7	7	8	9	7	6	8	9	9	8	6.1	11.3
Dir	301	339	333	341	328	306	285	284	308	318	330	13	353	4	19	18	29	39	9	351	4	10	23	25	348	339
24 Spd	7	5	4	7	8	10	9	2	7	10	10	14	15	18	19	19	18	17	19	17	15	13	16	18	10.9	18.9
Dir	16	47	310	26	21	22	27	70	134	128	107	100	97	79	74	74	79	74	75	72	68	72	90	89	75	74
25 Spd	14	11	12	12	8	7	8	12	15	13	17	18	18	20	19	20	22	11	10	10	8	2	8	3	10.9	22.4
Dir	82	74	81	91	84	97	115	101	100	101	96	109	104	109	108	102	89	114	132	158	315	358	177	78	102	89
26 Spd	4	3	2	4	2	5	5	4	2	9	14	15	11	10	5	12	6	4	2	4	5	7	4	1	4.0	14.7
Dir	94	42	313	65	64	21	246	31	305	312	314	305	304	313	14	292	320	278	167	322	267	271	230	15	312	305
27 Spd	1	6	5	1	0	1	3	12	15	18	14	14	19	19	13	13	11	13	19	15	11	9	11	12	9.8	19.1
Dir	52	278	276	224	99	265	248	274	293	279	301	317	289	253	291	305	302	249	260	312	321	302	301	307	289	253
28 Spd	13	13	13	12	9	11	13	16	17	21	23	22	23	21	20	20	17	14	12	9	6	5	6	10	13.8	23.3
Dir	305	305	290	278	284	303	322	323	327	322	326	332	344	348	324	331	326	336	337	323	3	320	325	319	324	344
29 Spd	9	8	4	4	2	4	6	6	5	7	17	15	16	15	15	15	14	10	5	4	4	1	2	2	6.3	17.5
Dir	323	327	308	318	331	315	231	219	195	293	308	304	312	322	322	315	309	302	150	204	243	299	325	97	304	308
30 Spd	3	2	1	1	1	3	3	6	7	6	5	4	3	5	2	1	3	5	5	2	3	4	3	5	1.4	7.1
Dir	136	111	71	145	121	177	165	186	205	199	208	147	219	231	207	158	307	257	273	24	60	60	77	51	186	205
31 Spd	3	9	10	2	6	7	4	8	11	8	3	3	3	4	4	4	5	7	10	9	5	7	8	7	2.1	11.4
Dir	187	3	300	267	272	289	322	302	325	349	12	33	258	332	1	35	31	135	145	103	89	58	76	78	8	325
Spd	2.5	2.8	2.9	3.1	3.5	3.3	2.5	3.5	3.8	4.6	4.8	4.3	4.2	3.4	4.3	4.9	4.5	4.4	3.9	3.2	2.0	2.9	1.5	2.1	Diurnal Average	
Dir	318	329	319	328	325	332	292	267	268	273	275	277	275	287	285	280	275	262	253	271	305	293	300	300	Diurnal Maximum	
Spd	21.5	21.3	19.1	16.0	17.4	22.8	22.8	22.9	22.6	23.7	22.9	25.5	28.3	30.0	31.4	30.2	35.2	37.6	37.4	34.0	30.5	16.2	18.2	23.8	Diurnal Maximum	
Dir	253	258	257	263	35	262	263	265	259	252	326	257	279	248	242	269	237	247	250	245	248	262	245	246		
Maximum Speed Value: 38 km/h on Jul 11 18:00																								Hours in Service: 744		
Maximum Daily Speed Average: 20.1 km/h on Jul 11																								Hours of Data: 744		
Maximum Diurnal Speed Average: 4.9 km/h at hour 16																								Hours of Missing Data: 0		
Minimum Speed Value: 0 km/h on Jul 16 04:00																								Percent Operational Time: 100.0		
Minimum Daily Speed Average: 1.4 km/h on Jul 30																										
Minimum Diurnal Speed Average: 1.5 km/h at hour 23																										
Monthly Average Velocity: 3.19 km/h 287.4 deg																										
Speed Percentiles: P ₁ = 0.8 P ₁₀ = 2.4 Q ₁ = 4.2 Median = 7.9 Q ₃ = 12.7 P ₉₀ = 18.8 P ₉₉ = 29.7																										
All monthly, daily, and diurnal averages have been calculated using vector methods																										
Frequency Distribution																										
Speed Range (km/h)																										
Direction	0 to 5		5 to 11		11 to 19		19 to 28		28 to 38		> 38		Total													
North	26		29		8		2		0		0		65													
NorthEast	35		28		12		0		0		0		75													
East	34		20		30		7		2		0		93													
SouthEast	25		24		6		0		0		0		55													
South	34		29		3		1		0		0		67													
SouthWest	20		22		21		3		5		0		71													
West	20		55		30		33		9		0		147													
NorthWest	36		71		56		8		0		0		171													
Total	230		278		166		54		16		0		744													

Wind Rose

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



Wind Speed Classes (km/h)



Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Beaverlodge - July 2013

Maximum Speed: 38 km/h on Jul 11 18:00																				Maximum Daily Speed Average: 20.9 km/h on Jul 11										Hours in Service: 744	
Minimum Speed: 1 km/h on Jul 30 04:00																				Minimum Daily Speed Average: 4.5 km/h on Jul 30										Hours of Data: 744	
Maximum Diurnal Speed Average: 15.2 km/h at hour 16																				Minimum Diurnal Speed Average: 6.4 km/h at hour 7										Hours of Missing Data: 0	
Monthly Average Speed: 10.17 km/h																				Percentiles: P ₁ = 1.8 P ₁₀ = 3.6 Q ₁ = 5.3 Median = 8.3 Q ₃ = 13.2 P ₉₀ = 19.1 P ₉₉ = 29.6										Percent Operational Time: 100.0	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24							
1-Jul	4	4	3	3	4	5	2	2	5	5	6	7	11	14	17	22	23	30	29	27	21	17	11	6	11.5	29.7					
2-Jul	4	10	6	15	15	9	4	8	7	19	16	9	9	14	24	27	35	27	27	26	17	16	18	21	16.0	34.6					
3-Jul	19	18	16	11	14	23	23	23	23	24	22	24	29	29	30	31	27	28	23	16	12	11	9	10	20.5	30.7					
4-Jul	7	8	3	5	5	3	4	3	5	13	11	5	13	6	9	24	14	13	9	10	6	9	9	10	8.5	24.2					
5-Jul	9	7	7	8	8	6	10	11	13	12	13	13	18	14	16	16	12	10	11	10	8	10	10	11	11.0	17.6					
6-Jul	13	9	9	12	10	11	7	7	6	7	10	9	10	14	14	15	12	9	7	7	6	4	4	5	9.0	15.4					
7-Jul	4	8	3	5	5	3	2	4	4	5	6	6	9	6	6	7	5	7	4	8	6	4	4	4	5.2	8.7					
8-Jul	6	4	2	3	3	4	3	4	4	5	6	7	7	8	12	10	11	8	6	9	5	6	5	4	6.0	12.3					
9-Jul	3	3	3	5	3	2	3	8	16	24	18	17	16	12	16	21	24	26	24	22	16	16	10	8	13.1	25.9					
10-Jul	8	5	6	9	4	8	4	4	5	15	17	14	8	5	11	16	15	16	21	19	8	8	5	6	9.8	21.3					
11-Jul	8	5	4	9	17	11	10	15	11	12	19	26	27	31	32	30	35	38	38	34	31	16	18	24	20.9	37.8					
12-Jul	22	21	19	16	15	17	15	22	21	20	18	17	17	15	14	14	12	10	8	5	5	5	7	8	14.3	21.9					
13-Jul	10	13	15	13	17	14	14	12	11	10	5	4	5	4	6	5	7	8	8	6	5	5	5	6	8.7	17.5					
14-Jul	5	6	6	7	3	3	5	3	4	7	8	4	6	5	5	5	4	7	6	3	7	8	3	5	5.1	7.8					
15-Jul	7	6	10	4	3	3	3	6	4	6	11	9	10	10	9	11	12	12	11	7	14	14	7	7	8.2	13.9					
16-Jul	3	5	5	2	3	3	2	4	7	6	8	11	11	11	12	9	8	12	13	11	8	8	8	7	7.4	13.3					
17-Jul	6	3	2	2	2	4	3	3	4	4	5	7	7	11	9	10	7	6	6	8	6	4	3	3	5.3	11.4					
18-Jul	4	9	3	6	4	4	3	4	5	6	8	9	8	15	25	28	31	28	24	12	18	13	5	6	11.5	30.7					
19-Jul	5	2	12	9	11	12	8	6	7	8	11	11	12	12	7	8	6	9	13	17	10	9	11	9	9.4	16.8					
20-Jul	12	12	8	18	14	9	7	11	7	5	4	7	12	14	18	14	5	8	11	10	8	7	8	7	9.9	18.3					
21-Jul	6	7	6	7	8	13	5	4	2	6	4	4	6	5	9	12	16	14	9	7	11	6	3	4	7.3	15.9					
22-Jul	3	5	3	4	5	7	6	9	12	11	12	15	15	17	15	12	12	9	10	11	6	4	3	8	8.9	16.6					
23-Jul	7	11	10	10	7	5	6	8	10	9	5	4	4	7	8	8	9	9	7	6	8	9	10	8	7.7	11.3					
24-Jul	8	9	5	7	8	10	9	4	7	11	11	15	15	19	19	19	18	17	19	17	15	14	16	18	12.9	19.2					
25-Jul	14	11	12	12	8	7	8	12	15	13	17	18	19	21	19	20	23	11	11	12	11	7	9	4	13.0	22.6					
26-Jul	5	4	8	5	3	6	6	5	4	9	14	15	12	11	8	14	8	5	3	4	5	8	6	4	7.1	15.0					
27-Jul	3	7	6	5	2	3	3	13	15	18	16	15	20	19	14	13	11	14	19	16	11	9	11	12	11.4	20.1					
28-Jul	13	13	13	12	9	11	13	16	17	21	23	22	24	21	21	21	18	15	13	10	7	5	6	10	14.8	23.8					
29-Jul	9	8	5	5	3	5	7	6	6	9	18	16	16	16	15	15	14	12	6	4	4	4	3	4	8.7	17.6					
30-Jul	3	2	2	1	2	4	3	6	7	6	6	5	6	7	7	5	7	6	6	3	3	4	4	6	4.5	7.5					
31-Jul	6	12	10	5	7	7	5	8	12	9	5	5	5	6	6	8	7	8	10	9	5	7	8	7	7.4	12.3					
7.6 8.1 7.2 7.5 7.3 7.4 6.4 8.1 8.9 10.8 11.4 11.3 12.5 12.8 14.0 15.2 14.4 14.0 13.3 11.7 9.7 8.5 7.6 8.2																									Diurnal Average						
21.5 21.4 19.1 17.8 17.5 22.9 22.9 23.0 22.9 23.9 23.1 26.3 28.7 30.7 31.9 30.7 35.4 37.8 37.6 34.2 30.6 17.1 18.3 24.0																									Diurnal Maximum						
All monthly, daily, and diurnal averages have been calculated using scalar methods																															

Hourly Standard Deviations

Wind Direction (WD) - deg

Beaverlodge - July 2013

Maximum Value: 97.7 deg on Jul 16 04:00																			Hours in Service: 744						
Minimum Value: 2.3 deg on Jul 24 21:00																			Hours of Data: 744						
																			Hours of Missing Data: 0						
Percentiles: P ₁ = 3.4 P ₁₀ = 6.3 Q ₁ = 9.6 Median = 17.5 Q ₃ = 38.6 P ₉₀ = 64.6 P ₉₉ = 89.0																			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	17	18	42	76	77	39	78	27	11	18	30	20	18	20	12	12	10	6	4	3	2	83	49	55	82.6
2-Jul	91	17	83	10	7	12	28	11	26	6	9	11	8	8	12	17	7	9	7	11	7	10	6	5	90.9
3-Jul	4	5	4	5	6	3	4	4	10	8	17	11	10	10	10	11	10	8	7	5	11	4	5	10	17.0
4-Jul	74	33	68	56	60	38	34	16	56	19	21	41	59	23	36	10	9	9	18	15	31	46	7	6	73.6
5-Jul	5	13	9	6	8	8	10	7	10	11	7	6	20	15	14	6	8	13	5	9	26	6	9	7	25.6
6-Jul	12	7	6	5	6	7	8	12	8	15	9	17	13	9	11	26	18	22	25	19	10	17	40	17	39.7
7-Jul	33	21	67	36	52	75	75	43	26	26	27	40	27	46	62	40	72	34	23	26	53	80	24	14	80.3
8-Jul	7	52	50	63	39	50	31	26	20	22	18	22	29	35	17	10	22	78	41	79	53	25	18	22	78.6
9-Jul	30	26	65	73	39	32	70	10	5	6	6	16	9	11	20	9	9	6	6	7	7	5	9	12	73.3
10-Jul	34	49	57	42	37	80	76	17	29	13	9	21	87	77	8	10	14	20	17	7	7	16	68	13	87.3
11-Jul	10	49	71	38	10	11	7	7	13	10	15	15	14	12	10	10	6	7	6	6	3	11	5	6	70.9
12-Jul	4	5	4	7	10	7	10	7	7	9	10	11	10	15	18	26	19	17	19	24	11	17	6	5	25.7
13-Jul	8	7	5	7	5	6	7	4	10	8	28	42	70	50	34	89	23	12	14	7	15	19	14	7	89.2
14-Jul	23	9	11	7	56	69	14	48	73	38	12	48	24	60	53	72	67	29	20	65	12	8	64	40	72.8
15-Jul	40	29	6	62	24	21	52	16	24	21	16	26	21	32	37	34	27	23	11	20	7	5	45	59	62.3
16-Jul	51	14	11	98	66	78	60	41	15	20	14	16	17	19	23	27	26	13	8	9	16	5	6	6	97.7
17-Jul	7	45	51	53	80	29	39	26	19	25	27	24	24	16	33	31	54	22	57	13	14	28	74	41	80.5
18-Jul	33	29	89	61	87	10	57	31	31	20	11	8	11	18	14	8	9	7	5	4	3	11	70	90	89.6
19-Jul	61	73	45	24	11	8	20	30	20	12	18	15	20	51	65	86	51	40	12	84	49	80	40	57	85.9
20-Jul	55	5	16	39	27	15	34	9	13	30	65	20	10	13	16	20	81	25	5	12	16	7	7	8	80.6
21-Jul	20	26	13	8	17	89	13	28	82	29	48	79	44	55	27	20	54	11	8	67	16	37	34	28	89.1
22-Jul	36	39	18	65	47	40	43	7	14	15	22	14	14	15	20	18	18	16	13	29	49	42	84	40	84.0
23-Jul	24	6	8	6	24	13	12	10	14	13	45	59	52	27	33	27	21	24	21	12	5	7	15	11	59.3
24-Jul	21	50	49	6	4	3	7	63	20	15	14	14	12	9	9	10	13	13	10	5	2	5	5	3	62.8
25-Jul	6	6	9	7	6	6	7	7	7	11	15	15	15	14	10	9	6	21	19	28	52	85	31	68	84.7
26-Jul	46	62	73	33	75	35	58	53	71	20	12	13	22	26	57	29	40	38	57	27	37	15	62	87	87.2
27-Jul	82	23	28	92	82	75	72	11	11	10	26	16	20	7	24	18	11	18	9	14	11	8	8	8	92.0
28-Jul	5	6	8	7	16	9	7	7	7	8	7	10	13	14	16	14	16	14	15	14	31	30	8	4	30.6
29-Jul	9	13	65	61	48	40	26	21	16	38	7	10	13	12	13	13	13	52	26	14	11	70	50	75	74.7
30-Jul	22	25	46	56	45	29	23	15	19	25	39	47	78	66	90	83	69	68	33	53	18	9	14	33	89.8
31-Jul	63	47	9	81	26	12	38	13	12	25	58	65	79	66	61	63	43	35	15	11	14	7	5	6	80.6
90.9 73.1 88.9 97.7 87.4 89.1 77.6 62.8 81.6 38.3 65.4 78.7 87.3 77.3 89.8 89.2 80.6 77.9 57.2 83.9 53.0 84.7 84.0 89.6																									

PAZA
Valleyview Station
Monthly Summary Tables, Graphs and
Roses

Hourly Averages

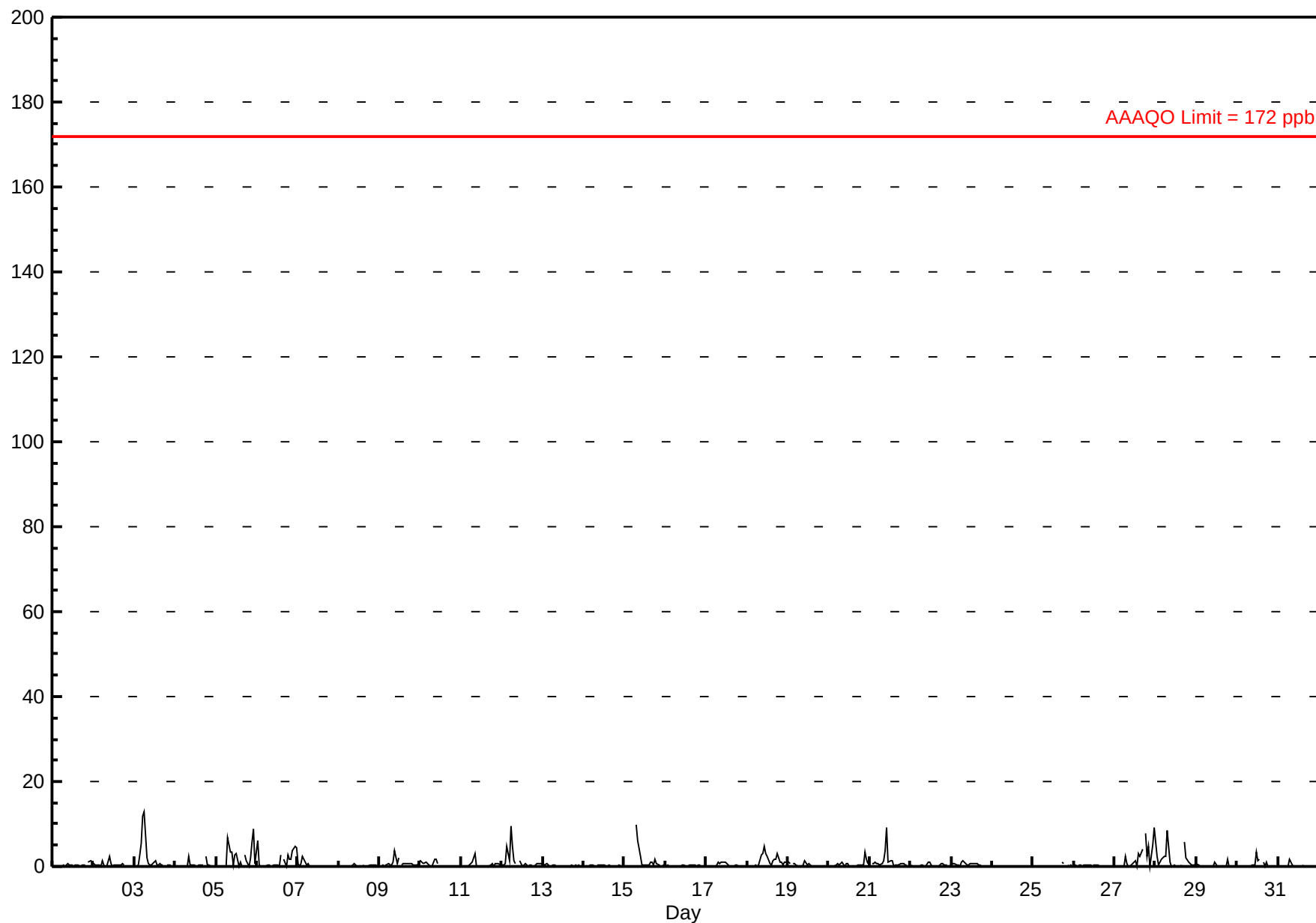
Sulphur Dioxide (SO₂) - ppb

Valleyview - July 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																				Hours in Service: 744						
Maximum Value: 12.8 ppb on Jul 3 07:00 Maximum Daily Average: 1.9 ppb on Jul 27																				Hours of Data: 709						
Minimum Value: 0 ppb on Jul 1 02:00 Minimum Daily Average: 0.0 ppb on Jul 24																				Hours of Missing Data: 35						
Maximum Diurnal Average: 1.3 ppb at hour 8 Minimum Diurnal Average: 0.2 ppb at hour 3																				Hours of Calibration: 35						
Monthly Average: 0.63 ppb Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.2 Q ₃ = 0.6 P ₉₀ = 1.7 P ₉₉ = 8.7																				Percent Operational Time: 100.0						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jul	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	A	1	1	1	0.3	1.3
2-Jul	1	0	0	0	0	1	0	0	0	2	1	0	0	0	0	0	0	1	0	A	0	0	0	0	0.4	2.5
3-Jul	0	0	0	3	6	12	13	2	1	0	0	1	1	0	0	1	0	0	A	0	0	0	0	0	1.8	12.8
4-Jul	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	A	2	0	0	0	0	0	0.3	2.4
5-Jul	0	0	0	0	0	0	0	7	3	4	0	3	3	0	1	0	A	3	1	0	2	6	9	1	1.8	8.8
6-Jul	6	0	0	0	0	0	0	0	0	0	0	0	0	0	3	A	2	0	3	2	2	4	5	4	1.4	6.2
7-Jul	1	0	1	3	1	0	1	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.2	2.5
8-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	0.2	0.6
9-Jul	0	0	0	0	0	1	0	0	1	4	1	2	A	0	1	1	1	1	1	1	0	0	0	1	0.7	3.6
10-Jul	1	1	1	1	1	0	0	0	2	2	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0.4	1.7
11-Jul	0	0	0	0	0	0	1	2	3	0	A	0	0	0	0	0	0	0	1	0	1	1	1	0	0.4	3.2
12-Jul	0	0	1	5	1	10	5	1	1	A	1	1	0	0	1	0	0	0	0	0	1	1	1	1	1.3	9.5
13-Jul	0	0	1	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.6
14-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	0.4
15-Jul	0	0	0	0	0	0	A	10	6	2	0	0	0	0	0	1	1	0	2	1	0	0	0	0	1.1	9.9
16-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	0.4
17-Jul	0	0	0	0	A	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0.3	1.1
18-Jul	0	0	0	A	0	0	0	0	3	3	5	3	2	1	0	1	2	2	3	1	1	0	1	1	1.3	4.8
19-Jul	1	1	A	1	1	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0.3	1.2
20-Jul	0	A	0	0	0	1	0	1	1	0	1	1	0	0	0	0	0	0	0	0	0	3	2	1	0.5	3.4
21-Jul	A	1	1	1	1	1	1	1	1	4	9	1	1	1	0	0	0	0	1	1	1	0	0	A	1.2	9.2
22-Jul	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1	0	0	A	0	0.3	1.0
23-Jul	0	1	1	0	0	0	1	1	1	0	0	1	1	1	1	1	0	0	0	0	0	A	0	0	0.4	1.2
24-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	0.1
25-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C	C	C	1	1	A	0	0	0	0	0.1	1.0
26-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	0.4
27-Jul	0	0	0	0	0	0	2	1	0	0	0	1	1	0	3	2	4	A	8	2	5	0	5	9	1.9	9.1
28-Jul	6	2	0	2	2	2	2	8	1	0	0	0	0	0	0	0	A	6	2	1	1	0	0	0	1.6	8.4
29-Jul	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	A	0	0	2	0	0	0	0	0	0.2	1.7
30-Jul	0	0	0	0	0	0	0	0	0	0	0	3	1	2	A	1	0	1	0	0	0	0	0	0	0.4	3.5
31-Jul	0	0	0	0	0	0	0	2	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.1	1.6
0.6 0.3 0.2 0.5 0.5 1.0 0.9 1.3 0.9 0.8 0.8 0.7 0.5 0.3 0.4 0.4 0.4 0.6 1.0 0.4 0.5 0.6 0.8 0.7																									Diurnal Average	
6.2 2.3 0.8 4.6 5.5 11.9 12.8 9.9 6.0 3.7 9.2 3.5 2.9 1.7 2.9 2.4 4.2 5.9 7.7 2.2 4.6 5.7 8.8 9.1																									Diurnal Maximum	
C - Calibration A - Automated Daily Zero Span																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb 30-day 11 ppb																										

Hourly Averages

Sulphur Dioxide (SO₂) - ppb
Valleyview - July 2013



Hourly Maximums

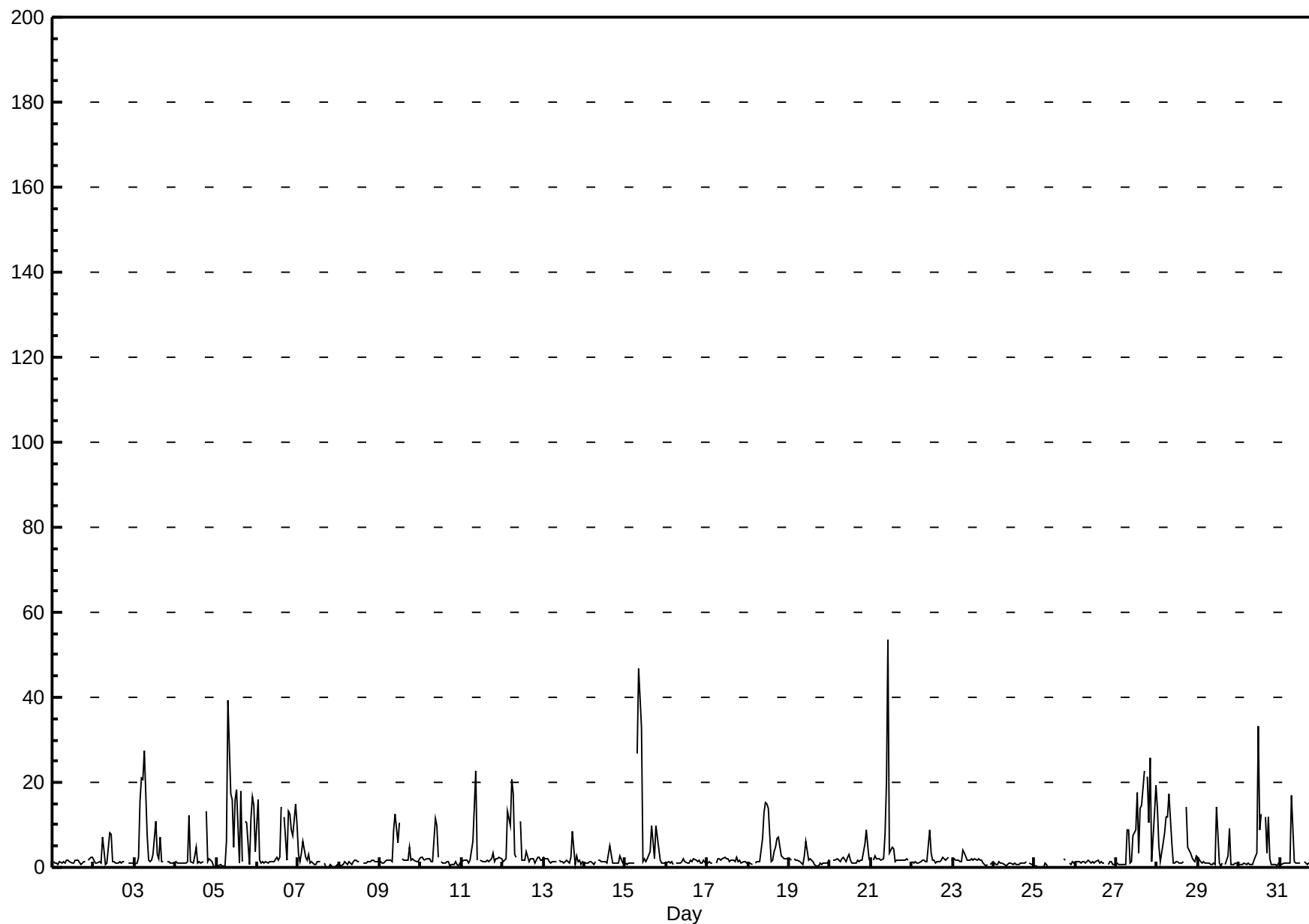
Sulphur Dioxide (SO₂) - ppb

Valleyview - July 2013

Maximum Value: 53.4 ppb on Jul 21 11:00																				Maximum Daily Average: 9.1 ppb on Jul 5					Hours in Service: 744	
Minimum Value: 0 ppb on Jul 7 17:00																				Minimum Daily Average: 0.5 ppb on Jul 25					Hours of Data: 709	
Maximum Diurnal Average: 5.6 ppb at hour 9																				Minimum Diurnal Average: 1.3 ppb at hour 3					Hours of Missing Data: 35	
Monthly Average: 3.17 ppb																				Percentiles: P ₁ = 0.0 P ₁₀ = 0.7 Q ₁ = 1.0 Median = 1.4 Q ₃ = 2.1 P ₉₀ = 8.8 P ₉₉ = 26.2					Hours of Calibration: 35	
																				Percent Operational Time: 100.0						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
1-Jul	1	1	1	1	1	1	1	1	2	2	1	1	2	2	2	1	1	2	2	1	A	2	2	2	1.4	2.4
2-Jul	2	1	1	1	1	7	4	1	1	8	8	1	1	1	1	1	2	1	1	A	1	1	1	1	2.1	8.0
3-Jul	1	1	3	16	21	21	27	7	2	1	2	3	11	3	2	7	1	1	A	1	1	1	1	1	5.9	27.5
4-Jul	1	1	1	1	1	1	1	1	12	1	1	3	5	1	1	1	1	A	13	1	2	1	0	0	2.4	13.1
5-Jul	1	0	1	0	0	0	6	39	17	16	5	16	18	1	18	1	A	11	10	1	12	17	15	4	9.1	39.2
6-Jul	16	2	1	1	1	1	1	1	1	1	1	2	2	2	14	A	12	2	13	13	9	7	15	10	5.6	15.8
7-Jul	3	1	3	6	2	2	3	1	1	1	1	1	1	1	A	1	0	0	0	1	0	0	0	1	1.4	6.0
8-Jul	1	0	1	1	1	1	1	1	1	2	2	1	1	A	2	1	1	1	1	2	2	1	1	2	1.2	1.8
9-Jul	1	1	1	1	2	2	2	1	9	12	6	11	A	2	2	2	2	5	2	2	2	2	1	2	3.1	12.4
10-Jul	2	2	2	2	2	2	1	1	11	10	2	A	1	1	1	1	1	0	1	1	1	1	0	1	2.2	11.4
11-Jul	1	2	2	2	1	2	6	14	23	2	A	2	1	1	1	2	1	2	3	1	2	2	2	2	3.4	22.8
12-Jul	1	2	2	13	10	21	17	3	2	A	11	2	2	2	4	1	2	2	2	1	2	2	2	2	4.7	20.7
13-Jul	2	2	2	1	1	1	1	1	A	2	1	1	1	2	1	1	2	9	1	3	1	2	1	1	1.8	8.6
14-Jul	1	1	1	1	1	1	1	A	2	2	1	1	1	1	3	5	1	1	1	1	1	3	1	1	1.5	5.1
15-Jul	1	1	1	1	1	1	A	27	47	33	1	2	1	2	4	10	6	2	10	7	2	1	1	1	7.0	46.7
16-Jul	1	1	1	1	1	A	1	1	1	1	2	1	1	1	2	1	2	2	1	2	1	1	2	1	1.3	2.2
17-Jul	1	1	1	1	A	1	2	2	2	2	3	2	2	1	2	2	1	2	1	2	1	2	1	1	1.6	2.5
18-Jul	1	1	1	A	1	1	1	1	7	13	15	15	14	1	2	4	5	7	7	3	2	2	2	2	4.7	15.2
19-Jul	2	2	A	2	2	2	2	1	1	3	6	2	2	2	1	1	0	0	1	1	1	1	1	2	1.6	6.1
20-Jul	1	A	2	2	2	2	1	2	2	1	2	3	2	1	1	1	2	1	2	2	5	9	5	2	2.3	8.9
21-Jul	A	2	3	2	2	2	2	2	8	20	53	3	5	4	1	2	2	2	2	2	2	2	2	A	5.6	53.4
22-Jul	2	1	1	1	1	1	2	2	1	1	9	3	2	2	1	1	1	2	2	2	2	2	A	2	1.9	8.9
23-Jul	2	2	2	2	1	1	4	3	2	2	2	2	2	2	2	2	2	2	1	0	1	A	1	1	1.7	4.1
24-Jul	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	0.9	1.4
25-Jul	0	0	0	0	0	0	1	1	0	0	0	0	0	0	C	C	C	2	2	A	1	1	2	1	0.5	2.0
26-Jul	1	1	1	1	1	1	1	2	1	1	1	1	1	2	1	1	1	1	A	1	1	1	1	1	1.2	1.8
27-Jul	1	1	1	1	1	1	9	9	1	1	7	9	17	3	14	14	23	A	21	11	26	1	13	19	8.9	25.9
28-Jul	14	5	1	6	8	12	12	17	6	1	1	1	1	1	1	2	A	14	5	4	2	2	1	3	5.2	17.4
29-Jul	3	1	1	1	1	1	1	1	1	1	1	14	1	0	1	A	1	3	9	1	1	1	1	1	2.0	14.2
30-Jul	1	1	1	1	1	1	1	1	1	2	3	33	9	13	A	12	3	12	2	1	1	1	0	1	4.3	33.3
31-Jul	1	1	1	1	1	1	1	17	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1.8	17.0
2.3 1.3 1.3 2.4 2.4 3.1 3.9 5.4 5.6 4.8 5.0 4.7 3.6 1.9 3.1 2.9 2.8 3.1 4.1 2.3 3.0 2.3 2.6 2.2																									Diurnal Average	
15.8 5.2 3.5 15.6 21.1 20.8 27.5 39.2 46.7 32.8 53.4 33.3 18.2 12.5 18.0 14.5 22.6 14.3 21.2 12.6 25.9 16.7 15.1 19.2																									Diurnal Maximum	
C - Calibration A - Automated Daily Zero Span																										

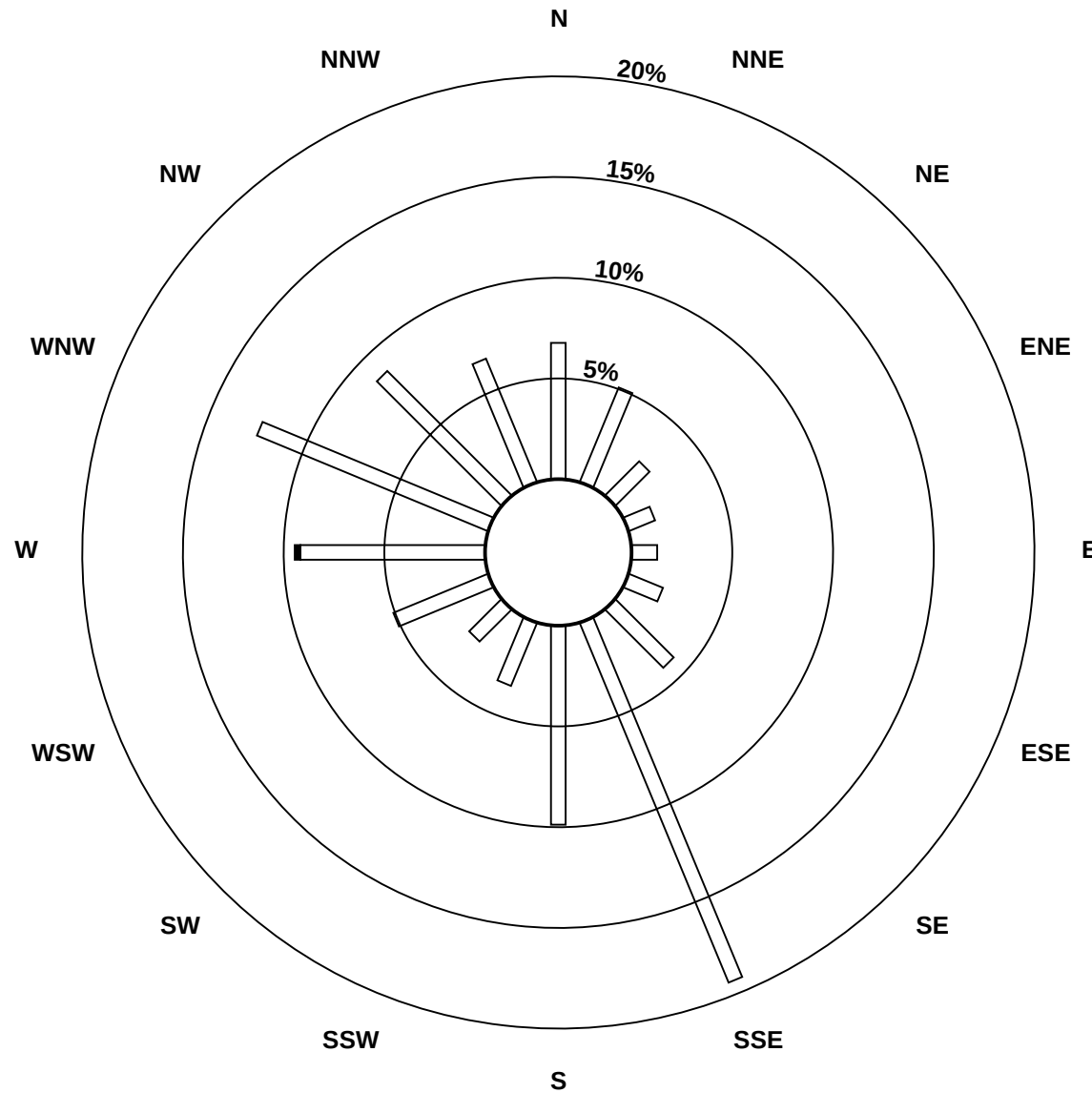
Hourly Maximums

Sulphur Dioxide (SO₂) - ppb
Valleyview - July 2013

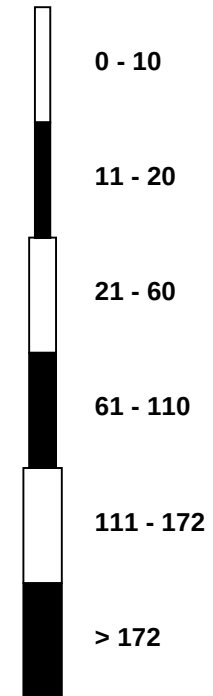


Pollutant Rose

Sulphur Dioxide (SO₂) - ppb
Valleyview - July 2013

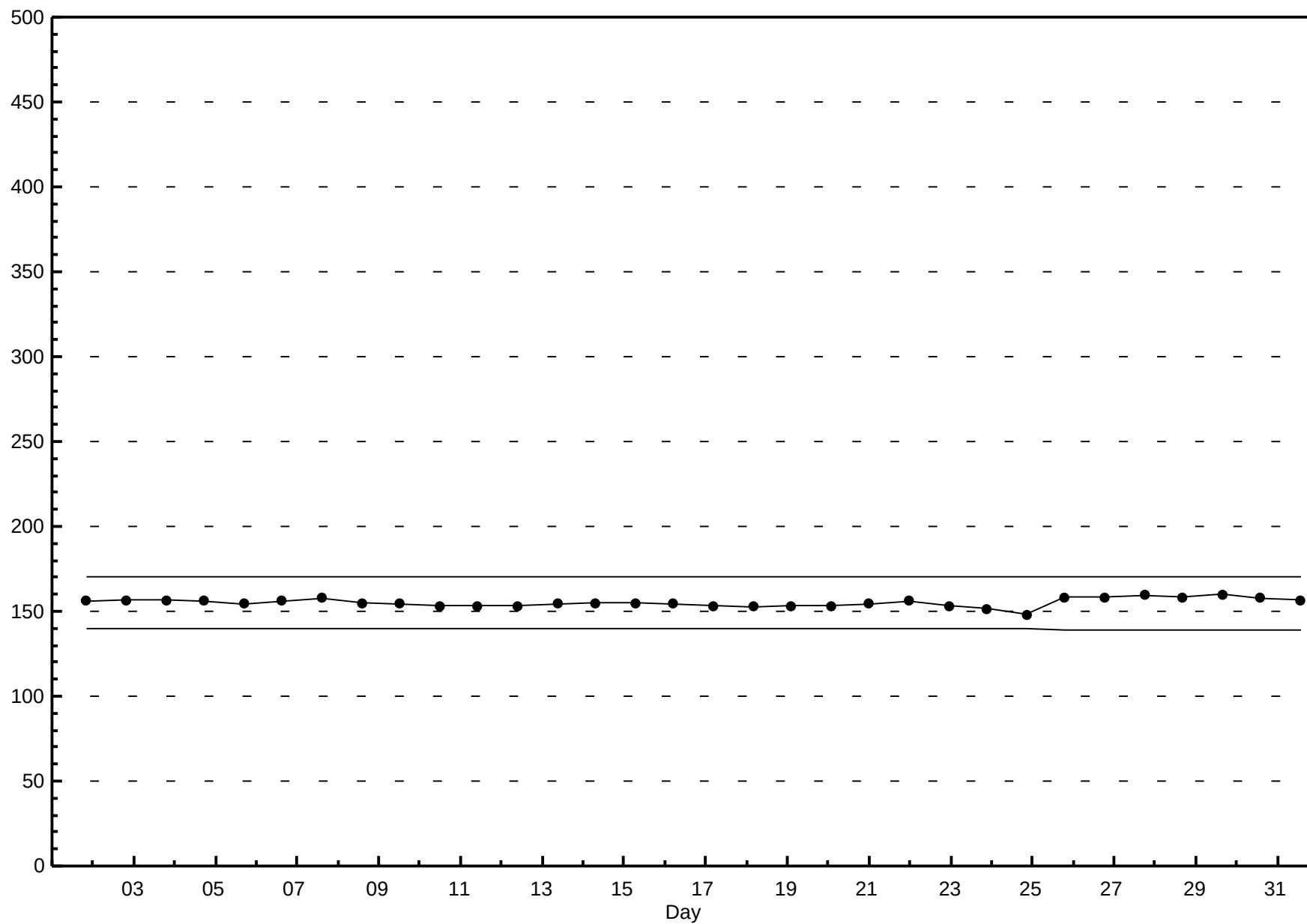


Pollutant Classes (ppb)



Span Responses

Sulphur Dioxide (SO₂)
Valleyview - July 2013



Hourly Averages

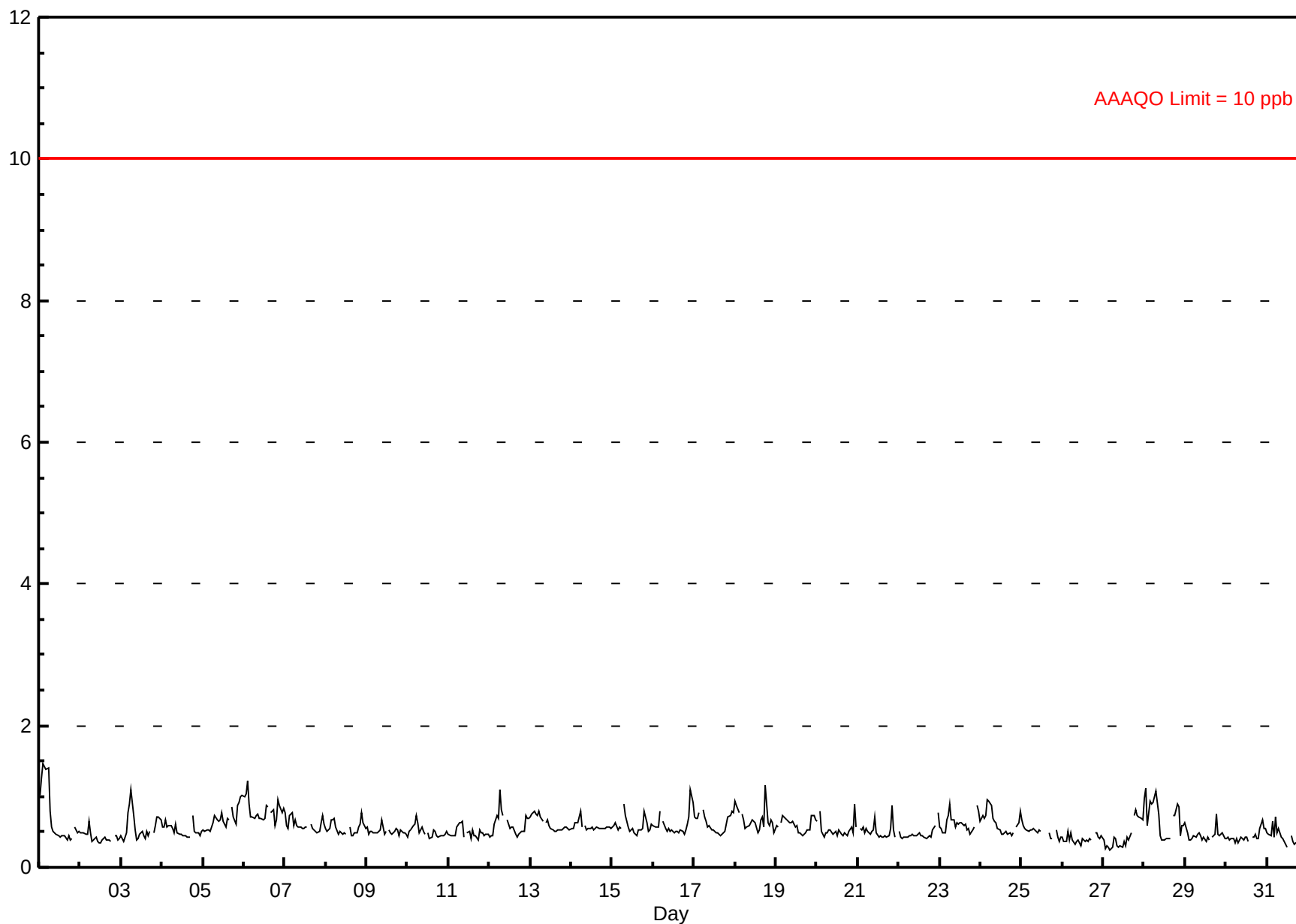
Hydrogen Sulphide (H₂S) - ppb

Valleyview - July 2013

Number of Exceedences (AAAQO): Maximum Value: 1.5 ppb on Jul 1 03:00																			1-hr: 0 24-hr: 0 Maximum Daily Average: 0.8 ppb on Jul 6					Hours in Service: 744 Hours of Data: 708				
Minimum Value: 0 ppb on Jul 27 05:00 Maximum Diurnal Average: 0.7 ppb at hour 6 Monthly Average: 0.56 ppb																			Minimum Daily Average: 0.4 ppb on Jul 26 Minimum Diurnal Average: 0.5 ppb at hour 16 Percentiles: P ₁ = 0.3 P ₁₀ = 0.4 Q ₁ = 0.5 Median = 0.5 Q ₃ = 0.6 P ₉₀ = 0.8 P ₉₉ = 1.1					Hours of Missing Data: 36 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	0	0	0	0	0	0	0	0	0	0	0	A	1	0	1	0.7	1.5		
2-Jul	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.4	0.6		
3-Jul	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	1	0	1	A	0	1	1	1	1	0.6	1.1		
4-Jul	1	1	1	1	1	1	1	0	1	0	0	0	0	0	0	0	0	A	1	1	0	0	0	1	0.5	0.7		
5-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	0.7	1.0		
6-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	0.8	1.2		
7-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	0	0	1	1	1	1	0.6	0.8		
8-Jul	1	1	1	1	1	1	1	0	1	0	0	0	0	A	1	0	0	0	0	1	1	1	1	1	0.6	0.8		
9-Jul	1	0	1	1	0	0	0	1	1	1	0	1	A	1	0	0	1	1	1	0	1	0	0	0	0.5	0.7		
10-Jul	0	1	1	1	1	1	1	0	1	1	0	A	0	0	0	1	1	0	0	0	0	0	0	1	0.5	0.7		
11-Jul	0	0	0	0	0	1	1	1	1	0	A	0	0	0	1	0	0	0	1	0	0	0	0	0	0.5	0.6		
12-Jul	0	0	0	1	1	1	1	1	1	A	1	1	1	1	1	0	0	0	0	0	1	1	1	1	0.6	1.1		
13-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	0.8		
14-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	0.6	0.8		
15-Jul	1	1	1	1	1	1	A	1	1	1	1	1	1	0	0	1	1	1	1	1	1	1	1	1	0.6	0.9		
16-Jul	1	1	1	1	1	A	1	1	1	1	1	1	0	1	0	0	1	0	0	1	1	1	1	1	0.6	1.1		
17-Jul	1	1	1	1	A	1	1	1	1	1	1	1	1	0	0	0	0	0	1	1	1	1	1	1	0.6	0.8		
18-Jul	1	1	1	A	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	0	0.7	1.2		
19-Jul	1	1	A	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	1	1	1	1	1	1	0.6	0.7		
20-Jul	1	A	1	0	0	0	0	1	1	0	0	1	0	1	0	0	0	0	0	0	1	0	1	1	0.5	0.9		
21-Jul	A	1	1	1	0	1	1	0	1	1	1	0	0	0	0	0	0	0	0	1	1	1	0	A	0.5	0.9		
22-Jul	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	A	1	0.5	0.8		
23-Jul	1	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	A	1	1	0.6	0.9		
24-Jul	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	0	0	0	0	0	A	1	1	1	0.6	1.0		
25-Jul	1	1	1	1	0	1	1	1	1	0	1	1	C	C	C	C	0	0	0	A	1	0	0	0	0.5	0.7		
26-Jul	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0.4	0.5		
27-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	1	1	1	1	1	0.4	0.8		
28-Jul	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	A	1	1	1	1	0	1	1	0.7	1.1		
29-Jul	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	1	0	0	0	0	0	0.5	0.7		
30-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	1	1	1	1	0.4	0.7		
31-Jul	0	0	0	1	0	1	0	1	0	0	0	0	0	A	0	0	0	0	0	0	0	0	1	1	0.5	0.7		
0.6 0.6 0.6 0.6 0.6 0.7 0.6 0.6 0.6 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.6 0.6 0.6 0.6																									Diurnal Average			
1.0 1.3 1.5 1.4 1.4 1.4 1.1 1.1 0.8 0.7 0.7 0.8 0.7 0.9 0.8 0.7 0.8 0.9 1.2 0.9 0.9 0.9 1.1 1.0																									Diurnal Maximum			
C - Calibration A - Automated Daily Zero Span																												
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb																												

Hourly Averages

Hydrogen Sulphide (H₂S) - ppb
Valleyview - July 2013



Hourly Maximums

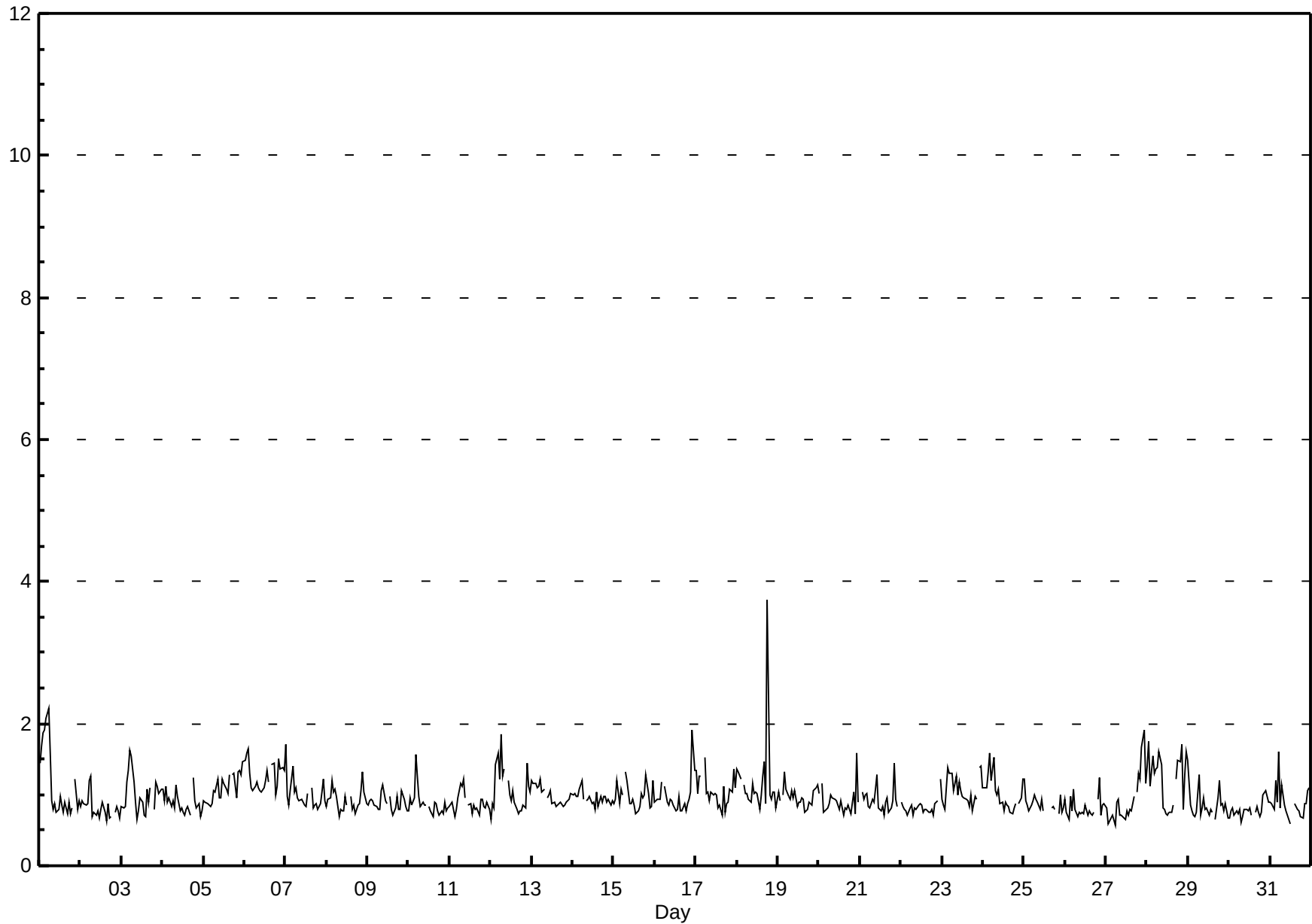
Hydrogen Sulphide (H₂S) - ppb

Valleyview - July 2013

Maximum Value: 3.7 ppb on Jul 18 19:00																			Maximum Daily Average: 1.3 ppb on Jul 6										Hours in Service: 744	
Minimum Value: 1 ppb on Jul 27 06:00																			Minimum Daily Average: 0.8 ppb on Jul 30										Hours of Data: 708	
Maximum Diurnal Average: 1.1 ppb at hour 6																			Minimum Diurnal Average: 0.8 ppb at hour 15										Hours of Missing Data: 36	
Monthly Average: 0.97 ppb																			Percentiles: P ₁ = 0.6 P ₁₀ = 0.7 Q ₁ = 0.8 Median = 0.9 Q ₃ = 1.1 P ₉₀ = 1.3 P ₉₉ = 1.9										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	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1.2	2.2				
2-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	0.8	1.3				
3-Jul	1	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1.0	1.6				
4-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	1.2				
5-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	1.1	1.5				
6-Jul	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	2	1	1	1	1.3	1.7				
7-Jul	2	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	1.7				
8-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	1.3				
9-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	0.9	1.1				
10-Jul	1	1	1	1	2	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.6				
11-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				
12-Jul	1	1	1	1	2	1	2	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.1	1.8				
13-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	1.2				
14-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	1.0	1.2				
15-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	1.3				
16-Jul	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1.0	1.9				
17-Jul	1	1	1	1	A	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.5				
18-Jul	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	1	1	1	1	1	1.2	3.7				
19-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	1.0	1.3				
20-Jul	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	0.9	1.6				
21-Jul	A	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				
22-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	0.8	1.2				
23-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	1.1	1.4				
24-Jul	1	1	1	1	2	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1.0	1.6				
25-Jul	1	1	1	1	1	1	1	1	1	1	1	C	C	C	C	1	1	1	A	1	1	1	1	1	0.9	1.2				
26-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	1.2				
27-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	2	2	1	1	0.9	1.9				
28-Jul	1	2	1	2	1	1	1	2	1	1	1	1	1	1	1	1	A	1	1	1	2	1	2	1	1.2	1.7				
29-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	1.5				
30-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	1.0				
31-Jul	1	1	1	1	1	2	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	0.9	1.6				
1.0 1.0 1.0 1.0 1.1 1.1 1.1 1.0 1.0 0.9 0.9 0.9 0.9 0.9 0.8 0.9 0.9 0.9 1.0 0.9 1.0 1.0 1.1 1.0																									Diurnal Average					
1.7 1.7 1.9 1.9 2.1 2.2 1.8 1.6 1.4 1.2 1.3 1.2 1.2 1.3 1.2 1.3 1.5 1.4 3.7 1.5 1.7 1.7 1.9 1.6																									Diurnal Maximum					
C - Calibration																									A - Automated Daily Zero Span					

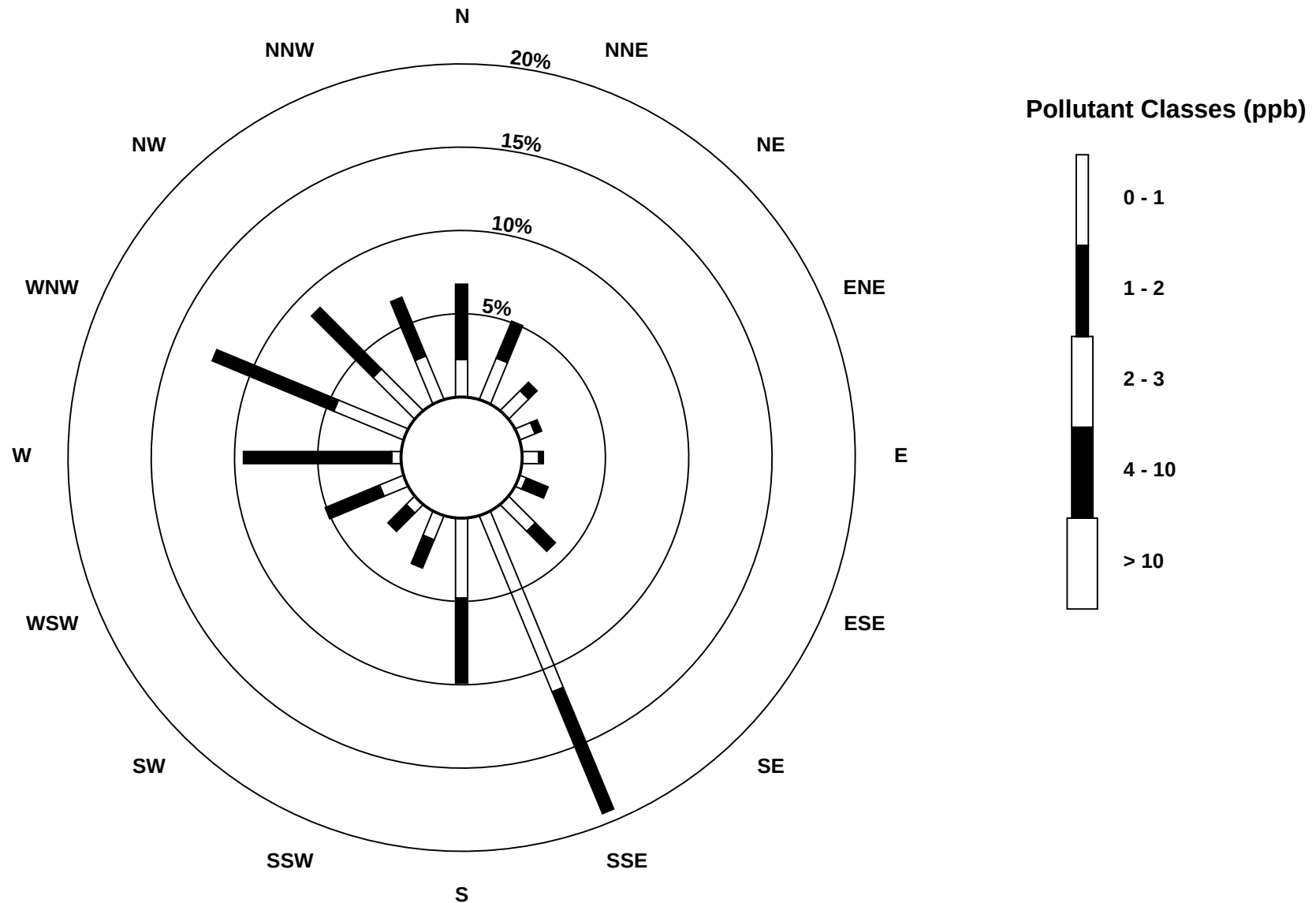
Hourly Maximums

Hydrogen Sulphide (H_2S) - ppb
Valleyview - July 2013



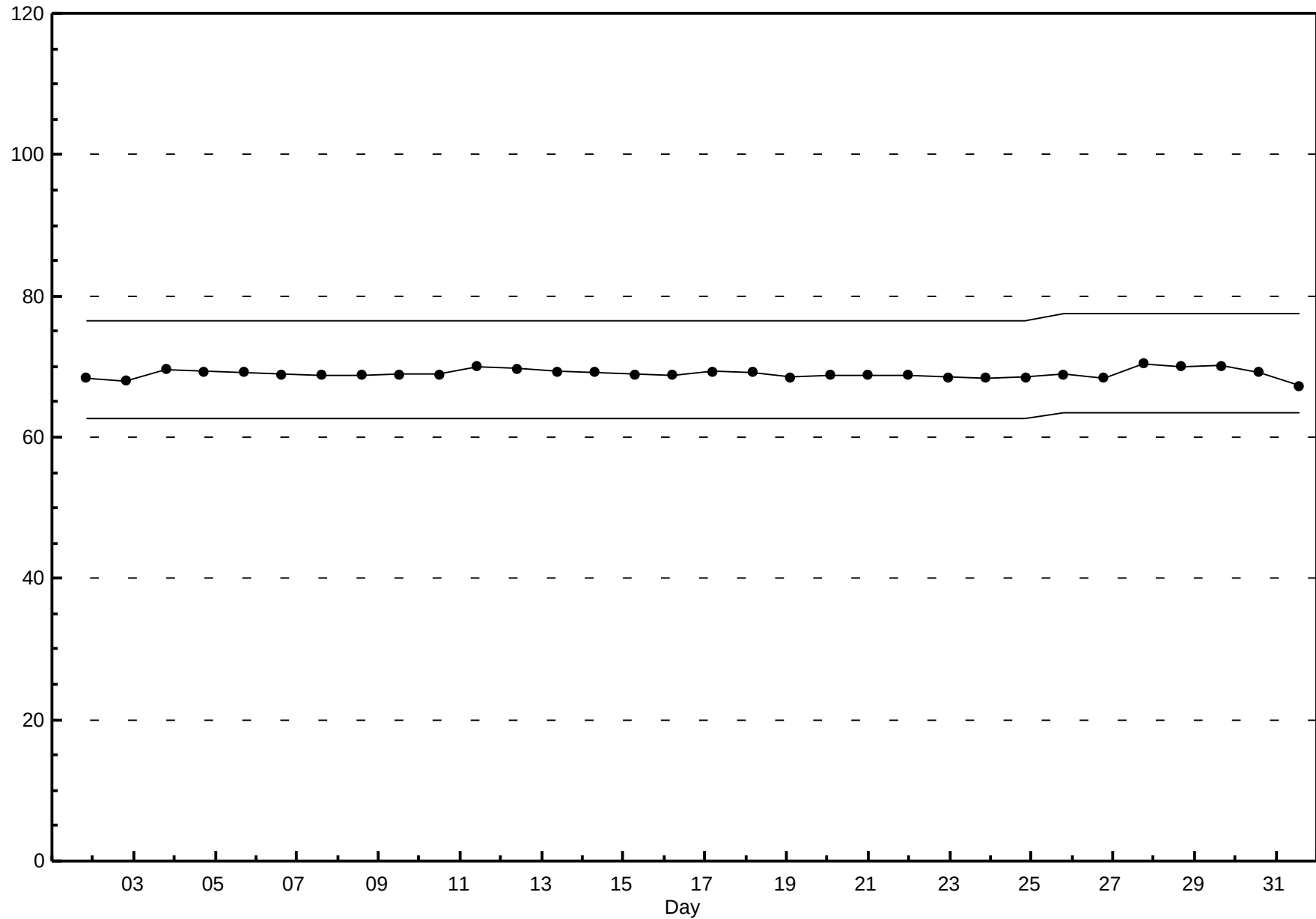
Pollutant Rose

Hydrogen Sulphide (H₂S) - ppb
Valleyview - July 2013



Span Responses

Hydrogen Sulphide (H_2S)
Valleyview - July 2013



Hourly Averages

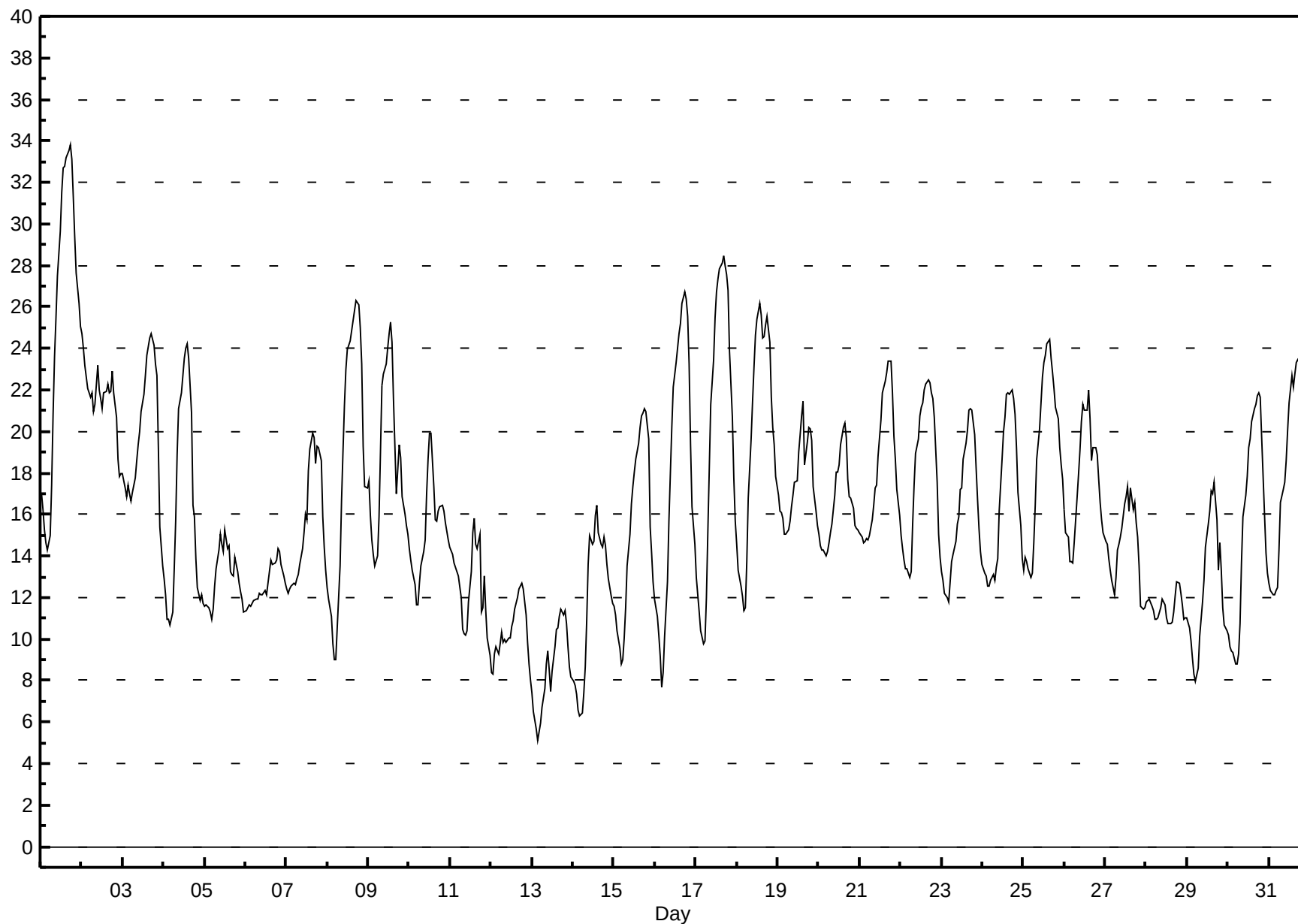
External Temperature (ET) - °C

Valleyview - July 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																				Hours in Service: 744							
Maximum Value: 33.8 °C on Jul 1 18:00																				Maximum Daily Average: 25.3 °C on Jul 1				Hours of Data: 744			
Minimum Value: 5 °C on Jul 13 04:00																				Minimum Daily Average: 8.6 °C on Jul 13				Hours of Missing Data: 0			
Maximum Diurnal Average: 20.2 °C at hour 15																				Minimum Diurnal Average: 11.9 °C at hour 5				Hours of Calibration: 0			
Monthly Average: 16.29 °C																				Percentiles: P ₁ = 6.6 P ₁₀ = 10.4 Q ₁ = 12.4 Median = 15.3 Q ₃ = 20.0 P ₉₀ = 23.3 P ₉₉ = 30.5				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	17	16	15	15	14	15	17	21	24	25	27	30	32	33	33	33	34	34	33	31	29	28	26	25	25.3	33.8	
2-Jul	25	24	23	22	22	22	22	21	21	23	22	22	21	22	22	22	22	22	23	22	21	19	18	18	21.6	24.7	
3-Jul	18	17	17	17	17	17	17	18	19	19	20	21	22	23	24	24	24	25	24	23	23	19	15	14	19.9	24.7	
4-Jul	13	12	11	11	11	11	13	16	19	21	22	23	24	24	24	24	21	16	16	14	13	12	12	12	16.4	24.2	
5-Jul	12	12	12	11	11	11	13	13	14	15	15	14	15	14	15	13	13	13	14	13	13	12	12	11	13.0	15.3	
6-Jul	11	12	12	12	12	12	12	12	12	12	12	12	12	13	13	14	14	14	14	14	14	14	13	13	12.6	14.4	
7-Jul	12	12	12	13	13	13	13	13	14	14	15	16	16	18	19	20	20	18	19	19	19	16	14	13	15.5	19.9	
8-Jul	13	12	11	10	9	9	11	14	17	19	21	23	24	24	25	25	26	26	26	25	23	19	17	17	18.6	26.3	
9-Jul	18	16	15	14	13	14	16	19	22	23	23	24	25	25	24	22	17	18	19	19	17	16	15	15	18.7	25.3	
10-Jul	14	14	13	13	12	12	13	14	14	15	17	19	20	20	17	16	16	16	16	16	16	16	15	15	15.3	19.9	
11-Jul	14	14	14	13	13	13	12	10	10	10	10	12	13	15	16	15	14	15	11	12	13	11	10	9	12.6	15.8	
12-Jul	8	8	9	10	9	10	10	10	10	10	10	10	11	11	11	12	12	13	13	12	11	10	9	8	10.3	12.7	
13-Jul	7	7	6	5	5	6	7	8	9	9	9	7	8	10	10	11	11	11	11	11	11	10	9	8	8.6	11.4	
14-Jul	8	8	7	7	6	6	7	9	11	14	15	15	15	16	16	15	15	14	15	14	14	13	12	12	11.8	16.4	
15-Jul	12	11	10	10	9	9	10	12	14	15	16	17	18	19	19	20	21	21	21	21	20	15	14	13	15.3	21.1	
16-Jul	12	11	10	9	8	8	10	13	16	18	20	22	23	24	25	25	26	27	26	26	23	19	16	15	18.0	26.7	
17-Jul	13	12	11	10	10	10	12	15	18	21	23	26	27	27	28	28	28	28	28	27	24	21	18	16	20.0	28.5	
18-Jul	15	13	13	12	11	11	14	17	20	21	23	25	25	26	26	24	25	25	26	24	22	20	19	18	19.8	26.2	
19-Jul	17	16	16	16	15	15	15	16	16	17	18	18	19	20	21	21	18	19	20	20	20	17	16	15	17.6	21.5	
20-Jul	15	14	14	14	14	14	15	15	16	17	18	18	18	19	20	20	20	18	17	17	16	15	15	15	16.5	20.4	
21-Jul	15	15	15	15	15	15	15	16	16	17	17	19	21	22	22	22	23	23	23	22	20	19	17	16	18.3	23.4	
22-Jul	15	14	14	13	13	13	13	16	17	19	20	21	21	21	22	22	22	22	22	22	21	18	15	14	17.9	22.5	
23-Jul	13	13	12	12	12	13	14	14	15	16	16	17	17	19	19	20	21	21	21	20	18	17	15	14	16.2	21.1	
24-Jul	14	13	13	13	13	13	13	13	13	14	16	19	20	21	22	22	22	22	22	22	21	19	17	16	14	16.8	22.0
25-Jul	13	14	14	13	13	13	15	16	19	20	21	23	23	24	24	24	24	23	22	21	21	19	18	18	19.0	24.5	
26-Jul	16	15	15	14	14	14	15	17	18	19	20	21	21	21	22	21	19	19	19	19	18	17	16	15	17.6	22.0	
27-Jul	15	15	14	13	13	12	13	14	15	15	15	16	17	17	16	17	16	17	16	15	14	12	11	11	14.5	17.4	
28-Jul	12	12	12	12	11	11	11	11	11	12	12	12	11	11	11	11	11	12	13	13	12	12	11	11	11.5	12.8	
29-Jul	11	11	10	9	8	8	9	10	11	12	13	14	16	16	17	17	18	16	13	15	13	12	11	10	12.4	17.6	
30-Jul	10	10	9	9	9	9	9	11	14	16	17	18	19	20	20	21	21	22	22	22	20	16	14	13	15.4	21.9	
31-Jul	13	12	12	12	12	12	14	17	17	18	19	20	21	23	22	23	23	23	23	23	21	18	15	14	17.9	23.5	
Diurnal Average																											
Diurnal Maximum																											

Hourly Averages

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



Hourly Averages

Relative Humidity (RH) - %

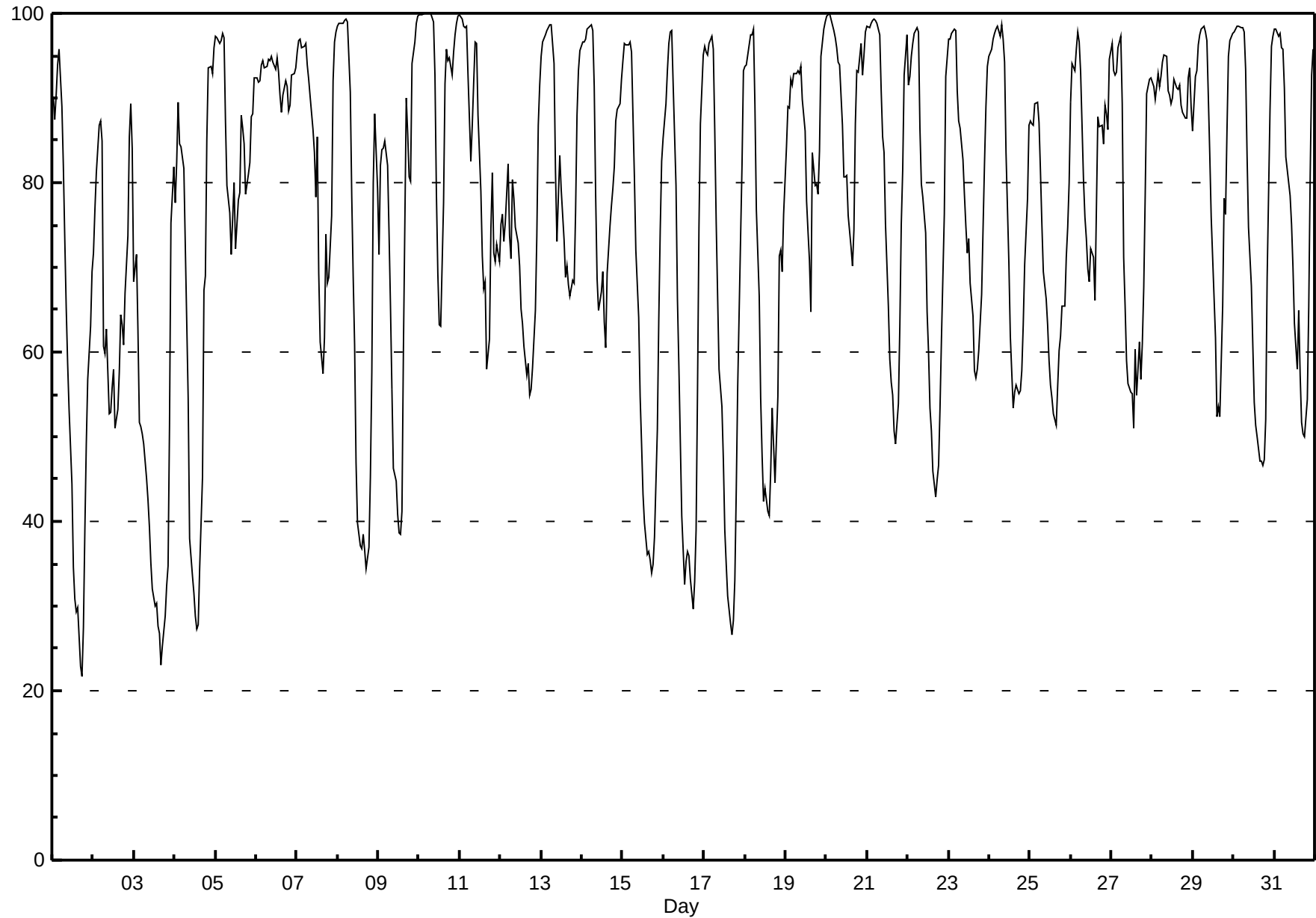
Valleyview - July 2013

Number of Exceedences (AAQO): 1-hr: 0 24-hr: 0 Maximum Value: 100.0 % on Jul 10 04:00 Maximum Daily Average: 92.5 % 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: 22 % on Jul 1 18:00 Maximum Diurnal Average: 93.7 % at hour 5 Monthly Average: 75.88 %												Minimum Daily Average: 44.4 % on Jul 3 Minimum Diurnal Average: 55.8 % at hour 15 Percentiles: P ₁ = 27.5 P ₁₀ = 45.3 Q ₁ = 61.5 Median = 80.6 Q ₃ = 93.5 P ₉₀ = 97.6 P ₉₉ = 99.8														
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	90	87	90	94	96	89	82	73	65	59	53	44	35	31	29	30	23	22	28	39	49	57	63	69	58.2	95.7
2-Jul	72	77	81	87	87	85	61	60	63	53	53	56	58	51	53	58	64	63	61	67	74	85	89	84	68.4	89.3
3-Jul	68	72	62	52	51	50	49	45	43	39	35	32	30	30	28	27	23	25	29	32	35	51	75	82	44.4	81.8
4-Jul	78	82	90	85	84	82	72	64	55	38	33	31	29	27	28	34	45	67	69	85	94	94	93	96	64.8	95.9
5-Jul	97	97	96	97	98	97	87	80	77	72	76	80	72	78	79	88	86	85	79	81	82	88	88	92	85.5	97.6
6-Jul	92	92	92	94	94	94	94	95	94	95	94	93	95	93	90	88	90	92	91	89	89	93	93	94	92.5	95.0
7-Jul	95	97	97	96	96	96	94	92	90	86	84	78	85	69	61	57	62	74	68	69	76	92	97	98	83.8	97.9
8-Jul	99	99	99	99	99	99	99	91	79	69	61	47	40	37	37	38	37	34	37	45	58	80	88	79	68.7	99.3
9-Jul	72	82	84	84	85	82	74	65	56	46	45	41	39	39	41	60	90	86	81	80	94	97	99	100	71.7	99.7
10-Jul	100	100	100	100	100	100	100	100	99	93	79	69	63	63	78	92	96	94	95	93	95	97	99	100	91.8	100.0
11-Jul	100	99	99	98	98	93	83	87	92	97	96	88	79	71	67	68	58	61	75	81	72	71	73	71	82.4	99.9
12-Jul	75	76	73	75	82	74	71	80	78	75	73	70	65	63	61	57	59	55	56	58	65	74	87	92	70.6	91.5
13-Jul	95	97	97	98	98	99	99	94	81	73	78	83	79	73	69	70	68	67	68	68	76	88	93	96	83.7	98.7
14-Jul	97	97	97	98	98	99	98	91	78	69	65	67	69	64	61	69	75	77	79	82	87	89	89	92	82.8	98.6
15-Jul	94	96	96	96	97	95	88	81	72	64	55	49	43	40	36	36	35	34	35	38	51	64	74	83	64.7	96.5
16-Jul	85	89	93	96	98	98	92	80	66	58	50	41	32	35	36	36	33	30	33	39	56	75	87	95	63.9	98.0
17-Jul	96	95	95	96	97	96	86	75	67	58	54	47	39	35	31	28	27	28	33	44	56	73	82	93	63.9	97.3
18-Jul	94	94	96	97	97	98	89	77	67	55	48	42	44	41	41	46	53	49	45	55	71	72	69	76	67.3	98.2
19-Jul	84	89	89	92	92	93	93	93	93	94	90	86	78	74	71	65	84	80	80	79	84	95	98	99	86.3	99.0
20-Jul	100	100	100	99	98	97	96	94	94	87	81	81	81	76	72	70	74	87	93	93	97	93	95	98	89.8	100.0
21-Jul	98	98	99	99	99	99	99	97	91	85	84	75	65	59	57	55	51	49	54	63	75	82	93	97	80.2	99.2
22-Jul	91	93	95	96	98	98	98	87	80	78	74	65	60	53	51	46	43	45	47	53	61	76	93	95	74.0	98.3
23-Jul	97	97	98	98	98	91	87	86	83	79	75	72	73	68	64	58	57	58	60	67	75	82	89	94	79.4	98.2
24-Jul	95	96	97	98	98	98	97	99	97	94	84	71	62	58	53	55	56	55	55	58	63	70	78	87	78.1	98.6
25-Jul	87	87	87	89	89	87	81	75	69	66	63	59	56	55	53	51	56	60	62	65	65	71	75	80	70.4	89.4
26-Jul	89	94	93	96	98	97	93	80	76	73	70	68	72	71	66	77	88	87	87	84	89	88	86	95	84.1	97.7
27-Jul	96	93	93	93	96	97	89	71	65	59	56	55	55	51	60	55	61	57	61	68	78	91	92	92	74.4	97.3
28-Jul	92	91	90	93	91	92	94	95	95	91	90	89	90	92	91	91	92	89	88	88	88	92	94	89	91.2	95.0
29-Jul	86	93	93	96	97	98	99	98	97	90	83	76	67	62	52	54	52	65	78	76	86	95	97	98	82.8	98.5
30-Jul	98	98	98	98	98	98	98	93	83	75	68	61	54	51	50	47	47	47	47	52	69	89	96	97	75.6	98.5
31-Jul	98	98	97	98	96	96	91	83	80	78	75	70	63	58	65	57	52	50	50	54	65	81	93	96	76.9	98.2
90.7 92.1 92.5 93.2 93.7 92.5 88.2 83.3 78.2 72.5 68.5 64.1 60.4 57.1 55.8 56.9 59.3 60.4 62.0 66.0 73.4 82.1 87.6 90.5																								Diurnal Average		
99.9 99.9 100.0 100.0 100.0 100.0 100.0 100.0 99.0 96.7 96.4 93.3 94.8 93.1 91.2 91.8 95.7 94.4 94.7 93.0 96.5 97.5 98.9 99.7																								Diurnal Maximum		

Hourly Averages

Relative Humidity (RH) - %

Valleyview - July 2013



Hourly Averages

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

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1 Spd	0	0	0	0	0	1	2	1	3	3	3	2	2	2	4	4	5	4	6	7	8	6	4	4	2.7	7.9
Dir	318	346	270	326	308	278	229	150	158	162	165	155	151	154	145	154	155	145	135	136	140	148	161	164	152	140
2 Spd	4	2	1	2	2	5	12	8	1	1	8	6	4	2	3	0	3	3	2	3	2	3	2	2	0.8	12.3
Dir	188	164	201	160	146	265	320	346	30	248	319	337	339	9	317	101	136	150	162	165	164	160	179	208	291	320
3 Spd	2	1	4	8	10	11	11	15	14	14	13	11	11	9	9	11	12	9	9	6	2	1	1	1	7.5	14.5
Dir	228	195	242	265	280	266	269	282	287	299	288	288	296	296	302	288	295	297	329	333	279	209	174	173	287	282
4 Spd	2	1	1	2	2	1	2	2	1	8	9	7	8	9	8	9	10	14	11	11	5	4	2	2	3.2	13.8
Dir	165	176	161	164	165	164	150	149	237	308	314	300	306	319	339	349	300	276	253	238	199	165	201	173	281	276
5 Spd	2	1	1	1	1	1	5	7	7	9	10	10	10	11	8	6	10	8	10	8	8	8	9	9	6.0	10.7
Dir	168	177	177	197	169	168	244	270	278	267	288	281	285	292	319	296	300	284	292	293	278	267	265	277	281	292
6 Spd	7	6	6	6	4	4	5	5	4	5	6	7	6	7	7	5	5	4	6	5	4	4	4	3	5.1	7.2
Dir	270	280	279	282	297	312	312	298	307	292	287	292	284	279	275	261	260	261	255	265	281	264	262	265	280	292
7 Spd	1	1	1	1	1	1	2	5	6	6	5	6	2	5	9	9	6	3	3	2	1	0	1	1	2.3	9.1
Dir	215	176	194	270	243	221	293	295	315	315	313	306	16	288	296	310	341	70	51	95	102	167	184	175	311	310
8 Spd	1	1	0	1	0	1	1	2	2	2	2	2	1	1	1	2	2	1	1	1	1	1	1	2	0.8	2.2
Dir	173	179	280	330	259	299	233	158	162	160	153	156	135	33	86	99	101	128	99	129	152	199	180	186	144	156
9 Spd	2	1	3	2	2	2	2	2	1	6	9	8	7	7	12	0	2	2	3	1	4	2	2	2	1.1	11.8
Dir	163	170	163	162	159	158	158	159	246	280	295	287	287	334	346	329	179	356	136	297	181	164	164	159	271	346
10 Spd	2	1	1	0	1	1	0	1	2	2	2	3	4	5	8	4	5	1	2	1	1	1	0	2	1.0	8.1
Dir	156	207	150	195	325	32	248	166	289	29	71	101	66	12	0	344	24	59	136	124	157	164	179	191	40	0
11 Spd	1	1	1	1	1	2	7	13	4	2	2	3	4	4	3	4	5	3	4	4	3	2	2	2	2.0	12.6
Dir	187	162	157	191	185	291	285	283	252	151	155	163	163	166	175	177	166	186	284	162	169	191	190	208	207	283
12 Spd	1	1	3	6	3	9	12	12	14	12	13	13	13	12	10	10	9	9	7	5	3	2	1	0	6.9	14.5
Dir	174	176	240	256	248	263	274	282	285	305	288	305	306	311	307	301	321	331	296	305	305	279	137	349	294	285
13 Spd	0	1	1	0	0	1	2	4	8	11	15	13	12	7	6	4	5	5	4	2	2	0	1	1	3.8	14.9
Dir	154	346	279	168	314	42	25	10	18	9	2	6	2	8	354	344	310	326	338	285	233	180	183	161	357	2
14 Spd	0	0	1	2	1	1	0	1	2	2	2	3	1	2	1	6	7	4	0	1	1	2	1	0	0.3	6.7
Dir	146	245	335	31	357	354	179	119	120	108	165	161	166	170	165	316	328	338	75	113	194	227	191	141	330	328
15 Spd	0	0	1	1	1	1	3	5	6	9	8	8	8	8	9	8	7	8	6	5	1	7	0	1	4.1	9.3
Dir	146	249	308	304	146	234	277	266	281	285	305	308	300	310	296	299	303	296	284	278	355	13	272	184	297	296
16 Spd	1	1	0	0	2	1	1	2	2	2	1	2	2	2	2	2	1	1	1	1	1	0	0	0	1.0	2.4
Dir	175	162	85	149	335	194	163	160	159	177	124	162	148	156	163	157	194	218	112	117	152	188	282	183	159	159
17 Spd	0	0	0	0	0	1	1	1	0	1	1	0	2	2	1	1	2	3	3	2	3	0	0	0	0.3	3.0
Dir	203	228	165	326	250	306	264	327	73	123	136	338	168	171	146	125	340	324	328	341	342	305	250	33	316	324
18 Spd	1	1	1	1	1	2	0	1	2	5	5	9	5	10	10	5	1	3	3	1	1	0	6	0	2.2	10.2
Dir	292	183	167	180	176	161	206	163	147	286	273	281	270	302	296	278	230	286	261	192	159	122	5	22	281	296
19 Spd	1	0	0	1	4	1	2	4	7	2	6	9	10	7	5	3	4	3	3	2	1	1	0	1	2.5	10.3
Dir	237	152	167	170	6	26	333	356	340	296	301	327	340	4	20	343	45	34	29	51	349	18	228	144	350	340
20 Spd	0	1	1	2	2	1	1	2	1	1	1	5	7	6	6	5	8	10	4	3	4	6	1	1	1.9	9.5
Dir	121	16	109	142	158	165	89	325	110	163	16	5	14	18	25	23	3	1	12	305	252	256	289	16	2	1
21 Spd	1	1	2	0	0	1	1	1	1	2	1	2	0	2	2	3	4	2	2	3	3	4	4	4	0.8	4.2
Dir	16	298	330	273	187	237	167	189	241	255	247	325	40	150	33	36	16	57	51	7	7	8	329	155	5	8
22 Spd	4	2	2	1	1	2	2	2	4	2	3	6	10	10	11	12	10	10	9	5	2	1	1	1	2.7	11.5
Dir	163	179	189	178	148	160	151	153	164	162	327	314	324	318	321	303	315	331	346	346	337	299	180	154	315	303

Hourly Averages

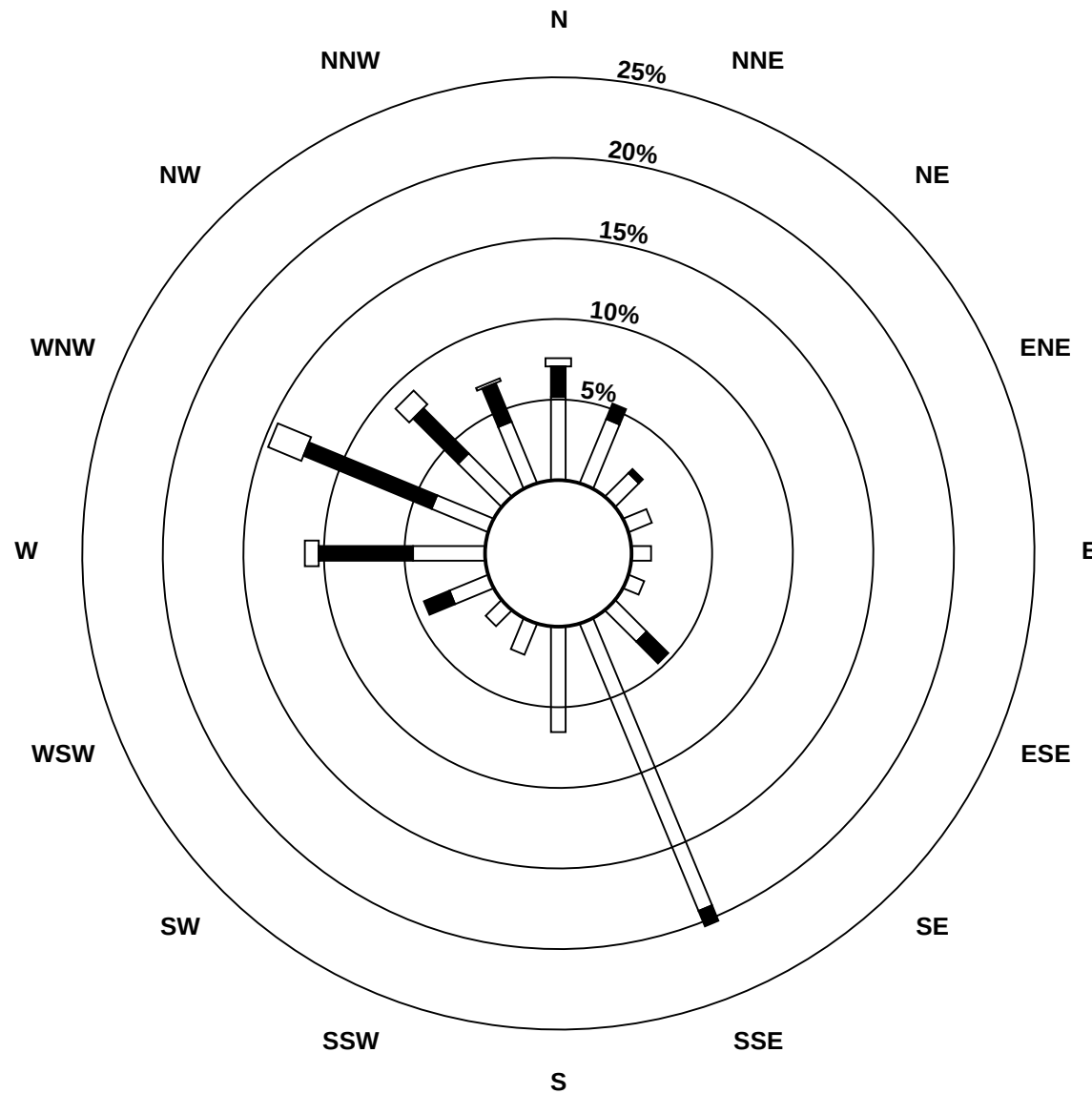
Wind Speed (km/h)
Wind Direction (deg)
Valleyview - July 2013

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
23 Spd	1	1	1	0	1	2	2	4	5	6	6	2	4	3	4	4	4	4	5	5	5	2	1	1	2.3	6.1	
Dir	184	165	167	175	244	289	256	292	316	323	340	322	358	27	21	21	359	0	4	10	2	346	339	290	345	340	
24 Spd	1	0	0	1	1	1	4	6	5	7	4	5	4	5	2	6	6	5	5	4	2	1	2	2	2.8	7.3	
Dir	329	279	184	208	325	48	358	1	6	10	11	15	56	44	79	36	38	51	70	66	58	34	359	358	28	10	
25 Spd	1	2	3	2	2	2	4	5	5	7	7	7	8	8	9	8	7	6	7	7	4	4	4	1	4.8	8.8	
Dir	335	151	144	147	153	153	155	150	147	141	136	136	138	134	138	143	144	148	148	151	162	152	160	173	145	138	
26 Spd	1	1	2	0	1	0	3	5	7	6	4	3	1	3	3	5	5	3	1	1	3	2	2	1	0.8	7.1	
Dir	175	156	135	309	154	4	152	163	162	163	161	157	68	54	45	357	25	11	96	353	312	347	305	179	118	162	
27 Spd	4	3	2	2	1	2	2	6	6	8	6	6	8	9	10	12	12	10	10	12	9	5	6	7	5.5	11.8	
Dir	160	150	153	158	172	167	230	301	294	293	291	251	253	248	263	273	268	288	270	280	289	269	259	258	267	280	
28 Spd	6	7	8	7	9	9	11	11	9	12	14	16	15	13	11	9	7	7	3	6	4	1	2	3	7.9	15.9	
Dir	267	274	283	275	276	274	275	272	288	298	302	302	307	313	315	302	271	265	264	280	273	205	265	309	289	302	
29 Spd	2	1	1	1	1	1	1	1	2	2	2	0	3	5	3	5	7	2	6	2	1	1	1	1	0.5	7.0	
Dir	287	178	191	152	120	93	183	175	147	218	152	224	309	357	328	353	13	19	258	206	210	178	170	161	310	13	
30 Spd	1	1	1	1	2	1	2	3	2	4	5	5	5	6	5	4	4	6	5	3	1	1	1	1	1.9	6.3	
Dir	160	167	171	167	155	169	158	156	170	250	300	283	256	286	270	248	286	284	291	318	179	187	174	174	261	286	
31 Spd	1	2	1	1	1	2	1	5	7	6	4	4	3	2	2	5	5	5	4	2	1	0	0	0	1.7	6.9	
Dir	170	168	357	145	203	258	256	286	293	297	337	342	358	346	353	26	11	10	17	30	19	348	228	325	337	293	
Spd	1.0	0.7	0.7	0.9	0.8	1.3	2.0	2.5	2.2	3.0	3.6	3.8	3.4	3.5	3.6	3.2	3.0	2.8	2.0	1.2	1.0	0.7	0.9	0.9	Diurnal Average		
Dir	206	207	224	237	248	258	273	284	286	294	304	305	312	319	320	315	320	316	300	284	256	235	239	216	Diurnal Maximum		
Spd	6.9	6.6	7.6	7.9	10.3	10.6	12.4	14.5	14.5	13.9	14.9	15.9	15.2	12.7	11.8	11.7	12.0	13.8	11.4	11.8	8.6	7.5	8.7	8.6	Diurnal Maximum		
Dir	270	274	283	265	280	266	274	282	285	299	2	302	307	313	346	273	295	276	253	280	289	267	265	277			
Maximum Speed Value: 16 km/h on Jul 28 12:00																		Minimum Speed Value: 0 km/h on Jul 17 12:00						Hours in Service: 744			
Maximum Daily Speed Average: 7.9 km/h on Jul 28																		Minimum Daily Speed Average: 0.3 km/h on Jul 17						Hours of Data: 744			
Maximum Diurnal Speed Average: 3.8 km/h at hour 12																		Minimum Diurnal Speed Average: 0.7 km/h at hour 22						Hours of Missing Data: 0			
Monthly Average Velocity: 1.75 km/h 294.2 deg																		Speed Percentiles: P ₁ = 0.2 P ₁₀ = 0.6 Q ₁ = 1.1 Median = 2.4 Q ₃ = 5.7 P ₉₀ = 8.7 P ₉₉ = 13.7						Percent Operational Time: 100.0			
All monthly, daily, and diurnal averages have been calculated using vector methods																											
Frequency Distribution																											
Speed Range (km/h)																											
Direction	0 to 5		5 to 11		11 to 19		19 to 28		28 to 38		> 38		Total														
North	66		28		5		0		0		0		99														
NorthEast	33		6		0		0		0		0		39														
East	23		0		0		0		0		0		23														
SouthEast	82		16		0		0		0		0		98														
South	166		5		0		0		0		0		171														
SouthWest	39		1		0		0		0		0		40														
West	57		73		15		0		0		0		145														
NorthWest	54		60		15		0		0		0		129														
Total	520		189		35		0		0		0		744														

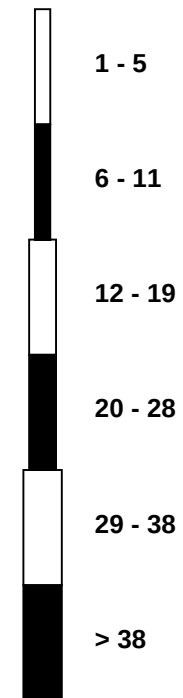
Wind Rose

Wind Speed (WS) (km/h)

Valleyview - July 2013



Wind Speed Classes (km/h)



Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Valleyview - July 2013

Maximum Speed: 16 km/h on Jul 28 12:00																								Maximum Daily Speed Average: 8.5 km/h on Jul 28										Hours in Service: 744			
Minimum Speed: 1 km/h on Jul 17 02:00																								Minimum Daily Speed Average: 1.6 km/h on Jul 17										Hours of Data: 744			
Maximum Diurnal Speed Average: 6.7 km/h at hour 15																								Minimum Diurnal Speed Average: 1.7 km/h at hour 2										Hours of Missing Data: 0			
Monthly Average Speed: 4.29 km/h																								Percentiles: P ₁ = 0.6 P ₁₀ = 1.0 Q ₁ = 1.6 Median = 3.0 Q ₃ = 6.3 P ₉₀ = 9.2 P ₉₉ = 14.1										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	1	1	1	1	2	2	1	3	3	3	2	2	3	5	5	5	4	6	8	8	6	4	4	3.3	8.0											
2-Jul	5	2	2	2	4	6	13	8	2	2	8	7	4	3	3	2	3	3	2	4	2	3	2	2	4.0	13.0											
3-Jul	2	1	4	8	11	11	11	15	14	14	13	11	11	10	10	11	12	10	10	6	2	1	1	1	8.5	14.7											
4-Jul	2	1	2	2	2	2	2	2	3	8	9	8	8	9	9	10	13	14	12	11	6	4	3	2	6.0	14.1											
5-Jul	3	1	1	1	1	1	5	7	7	10	10	11	10	11	9	6	10	8	11	8	9	8	9	9	7.0	11.1											
6-Jul	7	7	6	6	4	4	5	5	4	5	6	7	6	7	7	6	6	4	6	6	4	4	4	3	5.5	7.4											
7-Jul	1	1	1	1	1	1	2	5	7	6	6	7	3	6	9	10	9	4	3	2	1	1	1	1	3.7	9.6											
8-Jul	1	1	1	1	1	1	1	2	2	2	2	3	3	3	3	3	2	2	1	1	1	1	1	2	1.7	3.0											
9-Jul	2	1	3	2	2	2	2	2	2	6	9	9	8	8	12	5	3	4	3	2	5	2	2	2	4.2	12.1											
10-Jul	2	1	1	1	2	2	2	2	2	3	3	4	5	6	9	6	6	2	2	2	1	1	1	2	2.8	8.8											
11-Jul	1	1	1	1	1	3	8	13	5	3	3	4	5	4	3	4	6	6	6	4	3	3	2	2	3.8	12.8											
12-Jul	1	1	3	6	4	9	13	12	15	13	14	14	14	12	11	11	10	9	8	5	3	2	1	1	8.0	14.8											
13-Jul	1	1	1	1	1	1	2	4	8	11	15	13	12	8	6	4	5	6	5	2	2	1	1	1	4.7	15.1											
14-Jul	1	1	2	2	2	2	1	1	3	2	3	3	2	2	2	7	7	5	1	1	1	2	1	1	2.2	6.9											
15-Jul	1	1	1	2	1	2	3	5	6	9	9	9	9	9	10	9	8	9	7	5	2	7	1	1	5.2	9.9											
16-Jul	2	1	1	1	2	1	1	2	3	2	2	2	2	3	2	3	2	2	1	1	1	1	1	1	1.7	2.8											
17-Jul	1	1	1	1	1	1	1	1	1	2	2	2	2	3	2	3	2	3	3	2	3	1	1	1	1.6	3.3											
18-Jul	2	1	1	1	1	2	2	2	2	6	6	9	6	10	11	5	2	3	3	1	2	2	7	2	3.7	10.7											
19-Jul	1	1	1	1	4	1	2	5	7	2	6	10	11	8	5	5	5	3	3	2	1	1	1	1	3.6	10.8											
20-Jul	1	1	1	2	2	2	1	3	2	2	2	6	7	7	7	5	9	10	4	4	4	7	2	1	3.7	9.7											
21-Jul	1	2	2	1	1	1	1	1	2	2	2	3	3	2	4	4	4	3	2	3	3	4	6	4	2.6	6.5											
22-Jul	5	3	2	1	1	2	2	2	4	3	5	6	10	11	11	12	11	11	9	5	2	1	1	1	5.0	12.3											
23-Jul	2	1	1	1	2	2	2	5	5	6	7	3	5	4	4	5	5	5	5	5	5	2	1	1	3.4	6.8											
24-Jul	2	1	1	1	2	1	4	6	6	8	5	5	5	6	4	6	7	6	5	4	3	2	2	2	3.9	7.6											
25-Jul	2	2	3	2	2	2	4	5	6	7	7	7	8	8	9	8	7	6	7	7	4	4	4	2	5.1	9.0											
26-Jul	1	2	2	2	2	1	3	5	7	6	4	3	2	4	3	5	6	4	2	2	4	3	4	1	3.3	7.3											
27-Jul	4	3	2	2	1	2	2	6	7	8	7	7	9	9	10	13	12	11	11	12	9	6	6	7	6.9	12.6											
28-Jul	6	7	8	7	9	9	11	11	9	12	14	16	15	13	12	9	8	7	4	6	4	2	2	3	8.5	16.1											
29-Jul	3	1	1	1	1	2	1	1	2	3	3	3	4	6	4	6	8	6	7	2	1	1	1	1	2.9	7.9											
30-Jul	1	1	1	1	2	1	2	3	3	5	6	6	5	7	6	5	5	6	6	3	1	1	1	1	3.3	7.1											
31-Jul	1	2	2	2	1	2	2	5	7	7	5	5	4	3	4	5	6	5	4	2	1	1	1	1	3.3	7.4											
2.1 1.7 1.9 2.1 2.3 2.5 3.7 4.7 5.0 5.7 6.3 6.6 6.5 6.6 6.7 6.4 6.6 5.8 5.2 4.1 3.3 2.7 2.5 2.1																								Diurnal Average													
7.1 6.7 7.7 8.2 10.5 10.7 13.0 14.7 14.8 14.2 15.1 16.1 15.4 12.9 12.1 12.6 13.4 14.1 12.1 12.0 9.3 7.7 8.8 8.8																								Diurnal Maximum													
All monthly, daily, and diurnal averages have been calculated using scalar methods																																					

Hourly Standard Deviations

Wind Direction (WD) - deg

Valleyview - July 2013

Maximum Value: 99.4 deg on Jul 8 03:00																		Hours in Service: 744							
Minimum Value: 7.0 deg on Jul 9 05:00																		Hours of Data: 744							
																		Hours of Missing Data: 0							
Percentiles: P ₁ = 9.0 P ₁₀ = 12.4 Q ₁ = 17.4 Median = 30.8 Q ₃ = 51.7 P ₉₀ = 73.3 P ₉₉ = 90.8																		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	80	81	61	90	85	51	46	49	34	12	15	28	48	57	22	22	16	19	11	9	10	13	13	9	89.7
2-Jul	39	18	67	38	51	40	21	13	91	83	20	29	41	50	38	82	13	20	26	14	19	13	28	35	90.9
3-Jul	41	26	34	15	13	11	10	10	12	13	14	16	23	20	26	19	15	17	21	14	44	37	45	65	65.3
4-Jul	13	68	35	16	13	20	16	28	77	19	19	24	24	23	35	18	39	13	30	15	32	10	45	19	76.5
5-Jul	47	52	38	46	27	31	29	15	26	17	15	17	18	16	28	28	16	12	16	14	13	13	12	12	51.8
6-Jul	13	12	12	12	15	18	14	14	16	15	14	15	16	16	15	23	20	30	14	22	13	13	16	22	29.7
7-Jul	29	49	54	41	62	41	20	15	15	17	27	24	80	64	20	19	50	30	27	29	65	77	46	25	80.3
8-Jul	17	34	99	62	77	57	44	28	42	42	42	44	73	72	77	50	48	43	33	14	21	33	38	36	99.4
9-Jul	35	13	7	10	7	8	13	29	85	18	17	22	34	36	13	91	51	77	16	92	37	10	16	11	92.2
10-Jul	35	70	64	74	91	71	91	53	56	64	57	43	38	48	23	82	38	63	37	37	37	50	67	32	90.6
11-Jul	39	32	45	48	65	48	19	11	57	18	39	14	16	20	32	23	11	57	66	10	16	22	23	23	66.1
12-Jul	21	23	32	21	35	10	10	13	12	16	20	22	17	17	21	21	22	20	20	17	11	42	53	80	79.8
13-Jul	91	53	69	88	72	46	24	11	13	10	8	11	13	27	23	29	28	37	17	23	39	75	45	31	91.1
14-Jul	58	82	82	37	57	43	83	68	63	59	51	20	21	57	64	17	15	23	77	54	47	35	70	68	83.3
15-Jul	82	57	39	51	41	60	24	25	23	18	25	25	21	25	21	34	31	23	19	25	60	33	81	25	82.0
16-Jul	43	21	75	77	65	44	36	16	25	43	78	56	67	51	39	42	79	83	21	15	12	71	76	75	82.7
17-Jul	50	60	77	77	56	37	28	66	87	74	69	99	37	39	54	69	68	27	19	13	9	80	72	90	99.1
18-Jul	75	72	23	43	39	15	90	81	31	37	37	21	29	15	17	14	47	25	35	37	64	81	76	84	90.4
19-Jul	66	81	69	43	47	62	31	19	14	70	23	14	18	28	24	49	51	34	44	36	51	59	59	44	81.4
20-Jul	96	65	67	26	15	62	60	73	63	48	91	24	20	21	23	24	14	11	37	51	29	11	89	80	95.9
21-Jul	61	34	24	92	70	57	20	39	55	58	84	79	97	60	76	41	47	45	38	25	7	12	89	35	97.5
22-Jul	15	23	31	64	42	10	18	26	15	34	81	38	19	17	15	20	23	19	16	12	31	75	34	73	81.0
23-Jul	32	32	50	63	50	41	38	34	23	21	34	71	50	57	40	41	42	31	21	11	10	22	45	38	71.2
24-Jul	63	71	72	67	66	68	24	18	26	18	32	36	49	44	62	32	35	31	31	35	40	58	25	27	72.2
25-Jul	90	22	11	18	12	13	12	14	15	11	15	16	12	12	11	12	11	13	10	12	13	11	10	59	89.9
26-Jul	68	46	42	87	64	88	13	10	11	11	29	36	48	49	54	22	52	74	62	90	63	55	85	31	89.6
27-Jul	9	24	20	24	20	21	52	26	15	17	24	31	24	22	18	22	19	21	15	12	21	23	12	20	52.2
28-Jul	13	10	10	12	11	11	11	10	11	11	9	9	9	11	11	17	14	16	21	11	26	32	54	41	53.6
29-Jul	59	49	40	60	59	58	43	67	23	47	24	87	61	30	63	23	30	72	28	35	32	23	20	12	87.5
30-Jul	10	47	34	55	13	13	21	13	35	36	24	39	42	29	47	38	41	19	21	12	48	20	42	16	54.9
31-Jul	13	9	91	68	40	48	64	22	21	27	34	39	48	67	70	26	27	20	13	32	30	71	59	89	91.1
95.9 82.4 99.4 92.2 90.6 87.6 90.6 81.1 90.9 82.5 91.5 99.1 97.5 71.8 77.3 90.9 78.6 82.7 76.9 92.2 64.7 80.7 89.1 90.3																									

PAZA

Portable – Sunset House Station

Monthly Summary Tables, Graphs and Roses

Hourly Averages

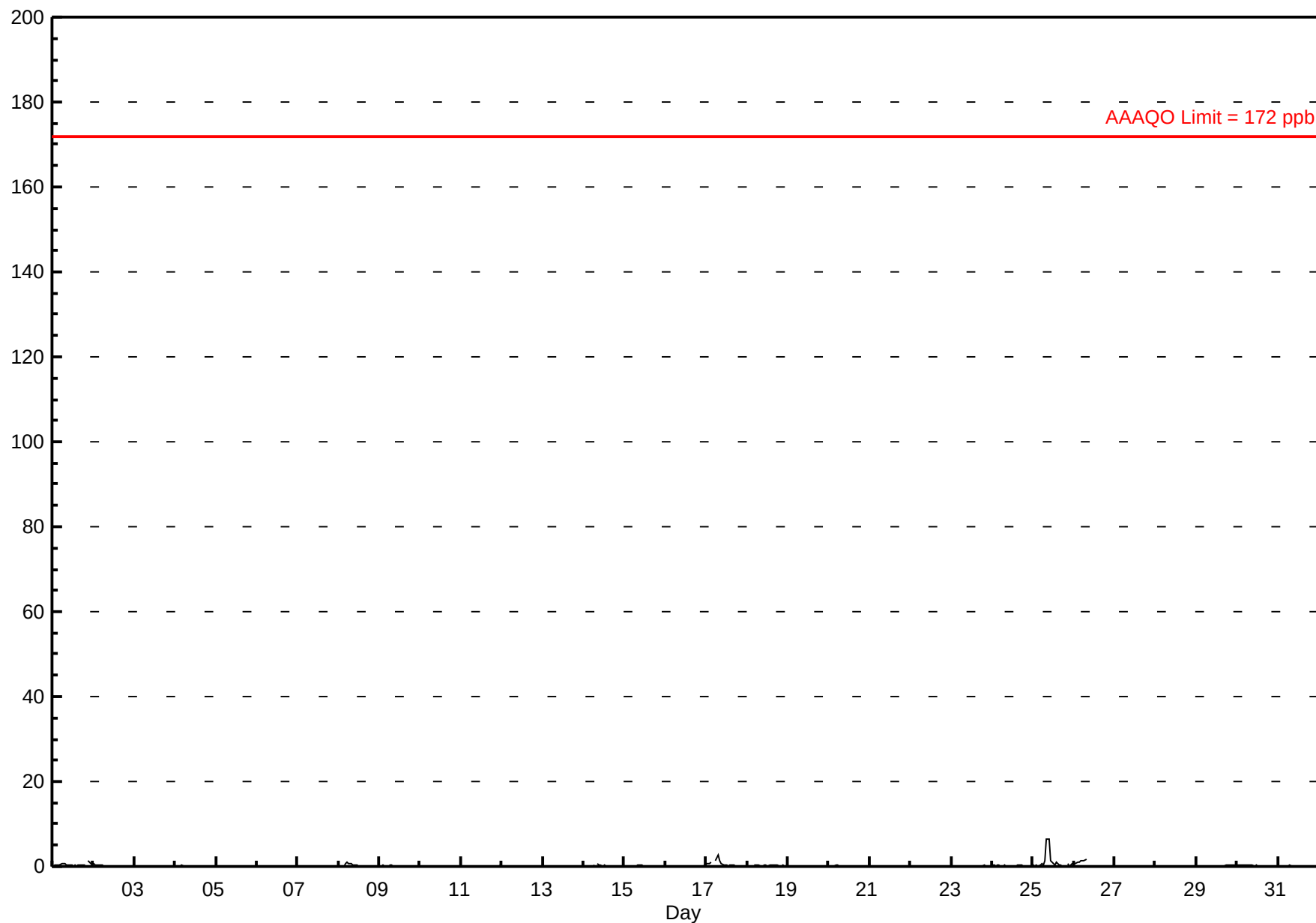
Sulphur Dioxide (SO₂) - ppb

Sunset House - July 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 6.4 ppb on Jul 25 10:00 Maximum Daily Average: 1.0 ppb on Jul 25																				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 1 01:00 Maximum Diurnal Average: 0.4 ppb at hour 9 Monthly Average: 0.14 ppb										Minimum Daily Average: 0.0 ppb on Jul 21 Minimum Diurnal Average: 0.0 ppb at hour 16 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																
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	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	1	1	0	0	0	0	0	0	0	0	0	0	0	0	A	1	1	1	0.4	1.2
2-Jul	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.1	0.6
3-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
4-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
5-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
6-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
7-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
8-Jul	0	0	0	0	1	1	1	1	1	0	0	0	A	A	0	0	0	0	0	0	0	0	0	0	0.2	0.9
9-Jul	0	0	0	0	0	0	0	0	0	0	0	A	A	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
10-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	0.1
11-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	0.3
12-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
13-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	0.0
14-Jul	0	0	0	0	0	0	0	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.6
15-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	0.4
16-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	0.5
17-Jul	1	1	1	1	A	1	2	3	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.6	2.9
18-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	0.4
19-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	0.2
20-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	0.2
21-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	0.0
22-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	0.1
23-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	0.2
24-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	0.3
25-Jul	0	0	0	0	0	1	0	1	6	6	1	1	1	0	1	0	0	0	0	A	1	0	0	1	1.0	6.4
26-Jul	1	1	1	1	1	2	1	2	C	C	C	C	C	C	0	0	0	0	A	0	0	0	0	0	--	1.6
27-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
28-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	0.0
29-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
30-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	0.5
31-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	0.2
0.1 0.1 0.1 0.1 0.2 0.2 0.3 0.3 0.4 0.3 0.1 0.1 0.1 0.1 0.1 0.0 0.1 0.1 0.1 0.1 0.1 0.1 0.1																								Diurnal Average		
0.6 0.8 1.0 1.1 1.2 1.5 2.1 2.9 6.3 6.4 1.4 1.0 0.6 0.5 0.9 0.2 0.3 0.3 0.3 0.5 0.6 1.2 0.7 0.7																								Diurnal Maximum		
C - Calibration A - Automated Daily Zero Span																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb 30-day 11 ppb																										

Hourly Averages

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



Hourly Maximums

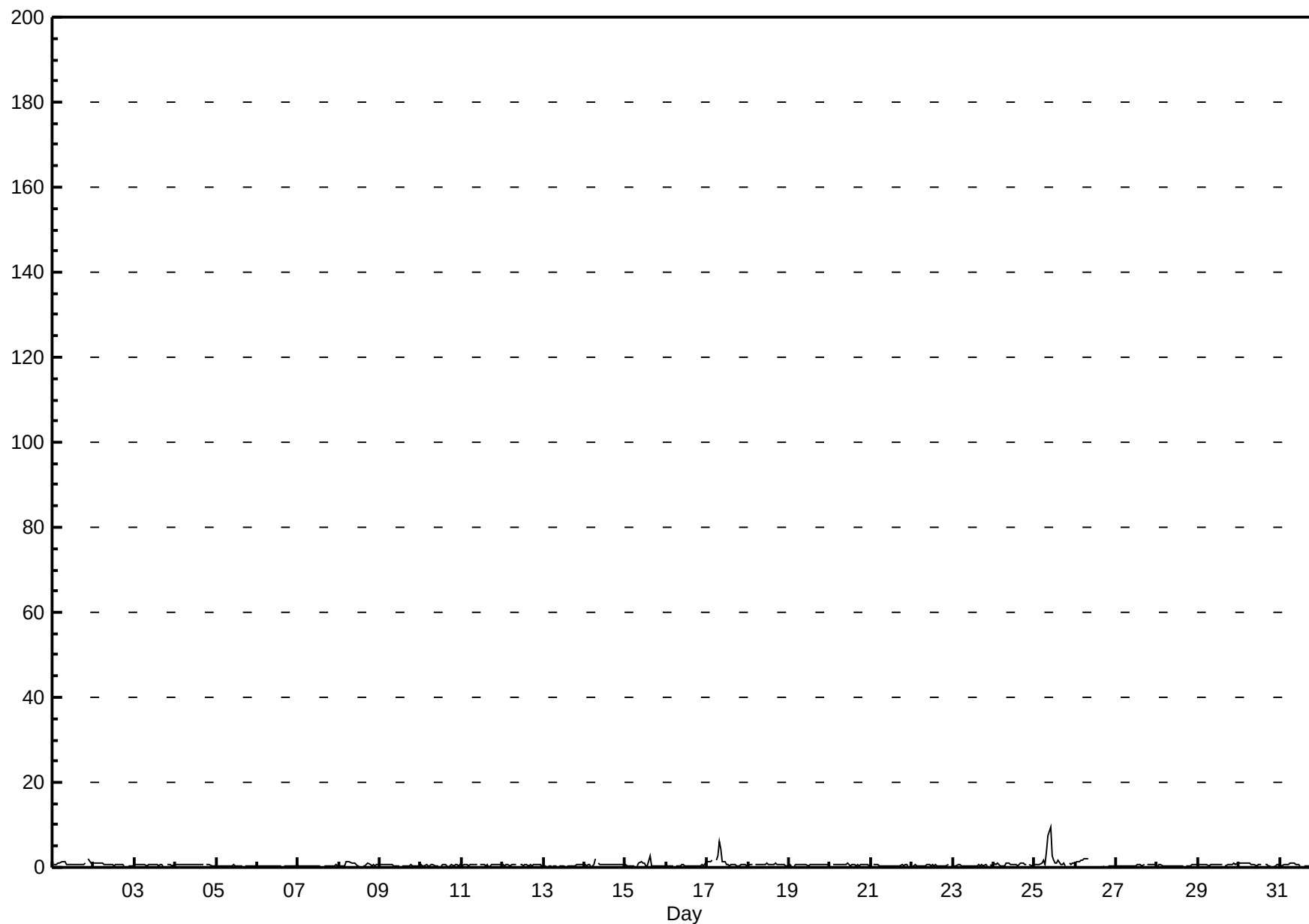
Sulphur Dioxide (SO₂) - ppb

Sunset House - July 2013

Maximum Value: 9.6 ppb on Jul 25 10:00																			Maximum Daily Average: 1.8 ppb on Jul 25						Hours in Service: 744		
Minimum Value: 0 ppb on Jul 26 15:00																			Minimum Daily Average: 0.4 ppb on Jul 22						Hours of Data: 706		
Maximum Diurnal Average: 1.0 ppb at hour 9																			Minimum Diurnal Average: 0.5 ppb at hour 16						Hours of Missing Data: 38		
Monthly Average: 0.63 ppb																			Percentiles: P ₁ = 0.1 P ₁₀ = 0.3 Q ₁ = 0.4 Median = 0.5 Q ₃ = 0.7 P ₉₀ = 0.9 P ₉₉ = 2.6						Hours of Calibration: 38		
																									Percent Operational Time: 100.0		
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	2	1	1	0.9	2.1	
2-Jul	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	0	A	0	0	0	0	0.6	1.1	
3-Jul	1	1	1	1	1	1	1	0	1	1	1	1	1	1	0	1	1	0	A	1	1	1	0	1	0.5	0.5	
4-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	0	0	0.5	0.5	
5-Jul	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	A	0	0	0	0	0	0	0	0.4	0.8	
6-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	1	0.4	0.7	
7-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	1	0	0.4	0.6	
8-Jul	0	0	0	0	1	1	1	1	1	1	1	0	0	A	0	0	1	1	1	0	1	0	1	1	0.7	1.4	
9-Jul	1	1	1	1	1	1	1	1	0	0	0	0	A	0	0	0	0	0	1	0	0	0	0	0	0.4	0.7	
10-Jul	1	0	0	1	0	0	1	1	0	0	0	A	0	1	1	0	0	0	1	0	1	1	0	1	0.5	0.7	
11-Jul	0	1	1	1	0	1	1	1	1	1	A	1	1	1	0	1	0	1	1	1	1	1	1	1	0.5	0.8	
12-Jul	1	0	1	1	0	1	1	1	1	A	1	1	1	1	1	0	1	0	1	1	1	1	1	0	0.5	0.7	
13-Jul	1	0	0	0	0	0	0	0	A	0	0	0	0	0	0	1	0	0	0	1	1	1	1	1	0.4	0.6	
14-Jul	1	0	1	1	0	1	2	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	2.2	
15-Jul	1	0	0	0	0	0	A	0	1	1	1	1	0	1	3	0	0	0	0	0	0	0	0	0	0.7	2.7	
16-Jul	0	0	0	0	0	A	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	0	1	0.5	1.3	
17-Jul	1	1	1	2	A	2	3	6	4	1	1	1	1	0	1	1	1	0	1	0	1	1	1	0	1.4	6.3	
18-Jul	0	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0.7	1.2	
19-Jul	1	0	A	0	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	0.6	0.8	
20-Jul	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	1	1	1	1	1	0	0.6	1.1	
21-Jul	A	1	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	A	0.5	0.8	
22-Jul	0	0	1	0	0	0	0	0	0	1	1	0	1	0	1	0	0	0	0	0	0	1	A	0	0.4	0.8	
23-Jul	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	A	1	0	0.4	0.7	
24-Jul	1	1	1	1	0	0	0	1	1	1	1	1	1	1	0	1	1	1	1	1	A	1	0	1	0.7	1.1	
25-Jul	1	1	1	1	1	2	1	4	8	10	3	2	1	1	2	1	1	1	0	A	1	1	1	1	1	1.8	9.6
26-Jul	1	1	1	2	2	2	2	2	C	C	C	C	C	C	0	0	0	0	A	0	0	0	0	0	--	2.1	
27-Jul	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	1	A	1	1	1	1	1	1	0.5	0.8	
28-Jul	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	1	1	1	1	0.5	0.5	
29-Jul	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	A	0	1	1	1	1	1	1	1	0.7	1.1	
30-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	0	0	0	0	0	1	1	0.7	1.1	
31-Jul	0	0	1	1	1	1	1	1	1	1	1	1	1	A	0	0	0	0	0	0	0	0	0	0	0.5	1.0	
0.6 0.6 0.6 0.7 0.6 0.7 0.8 0.9 1.0 0.9 0.7 0.6 0.5 0.5 0.6 0.5 0.5 0.5 0.5 0.5 0.5 0.6 0.5 0.6																								Diurnal Average			
1.3 1.5 1.5 1.8 1.7 1.9 2.8 6.3 7.6 9.6 2.6 1.6 1.1 1.1 2.7 0.7 1.0 0.9 0.7 1.0 1.2 2.1 1.1 1.3																								Diurnal Maximum			
C - Calibration A - Automated Daily Zero Span																											

Hourly Maximums

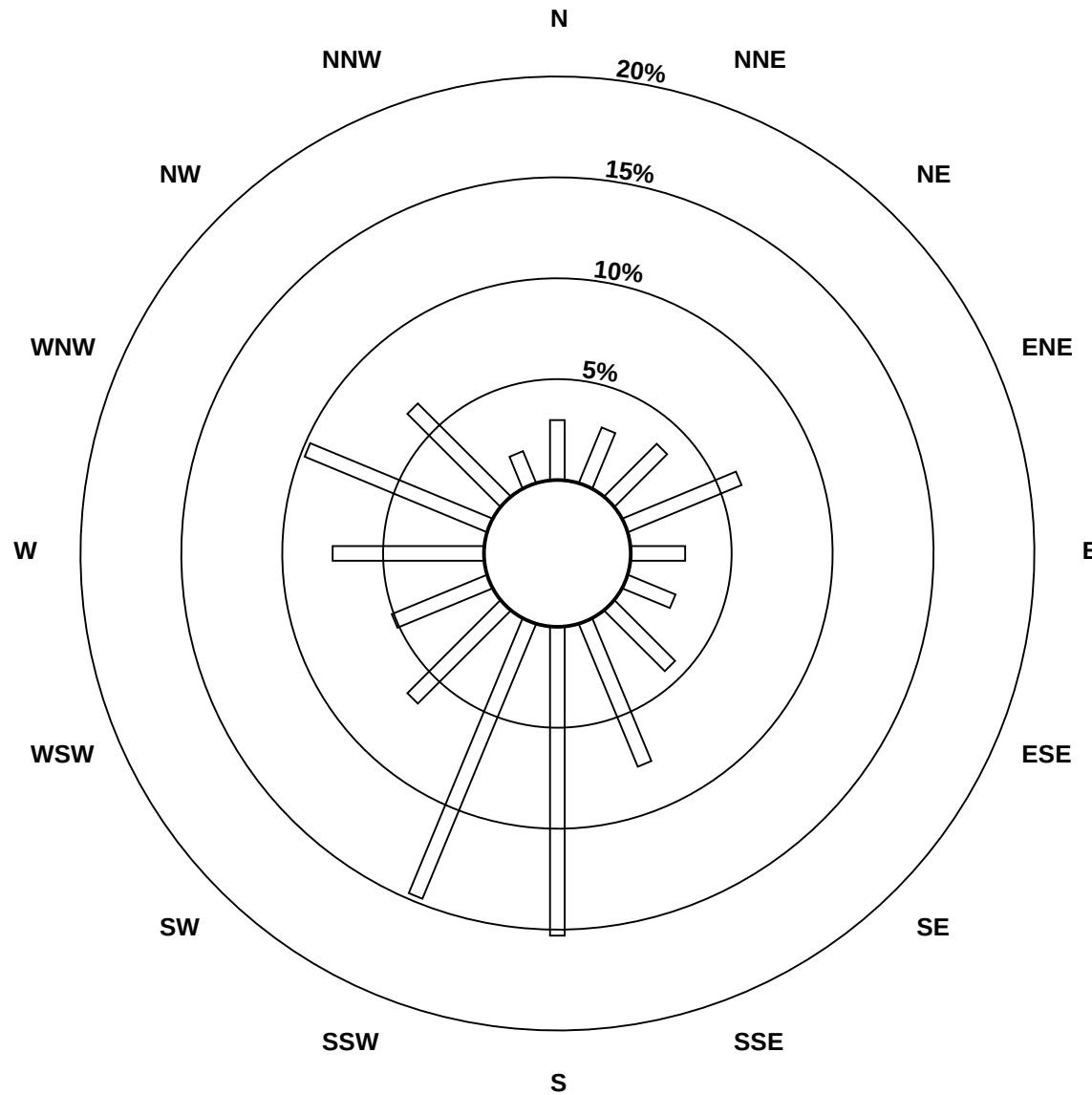
Sulphur Dioxide (SO₂) - ppb
Sunset House - July 2013



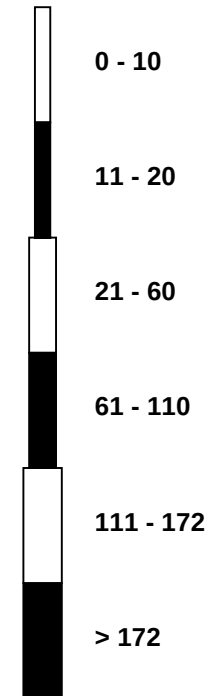
Pollutant Rose

Sulphur Dioxide (SO₂) - ppb

Sunset House - July 2013

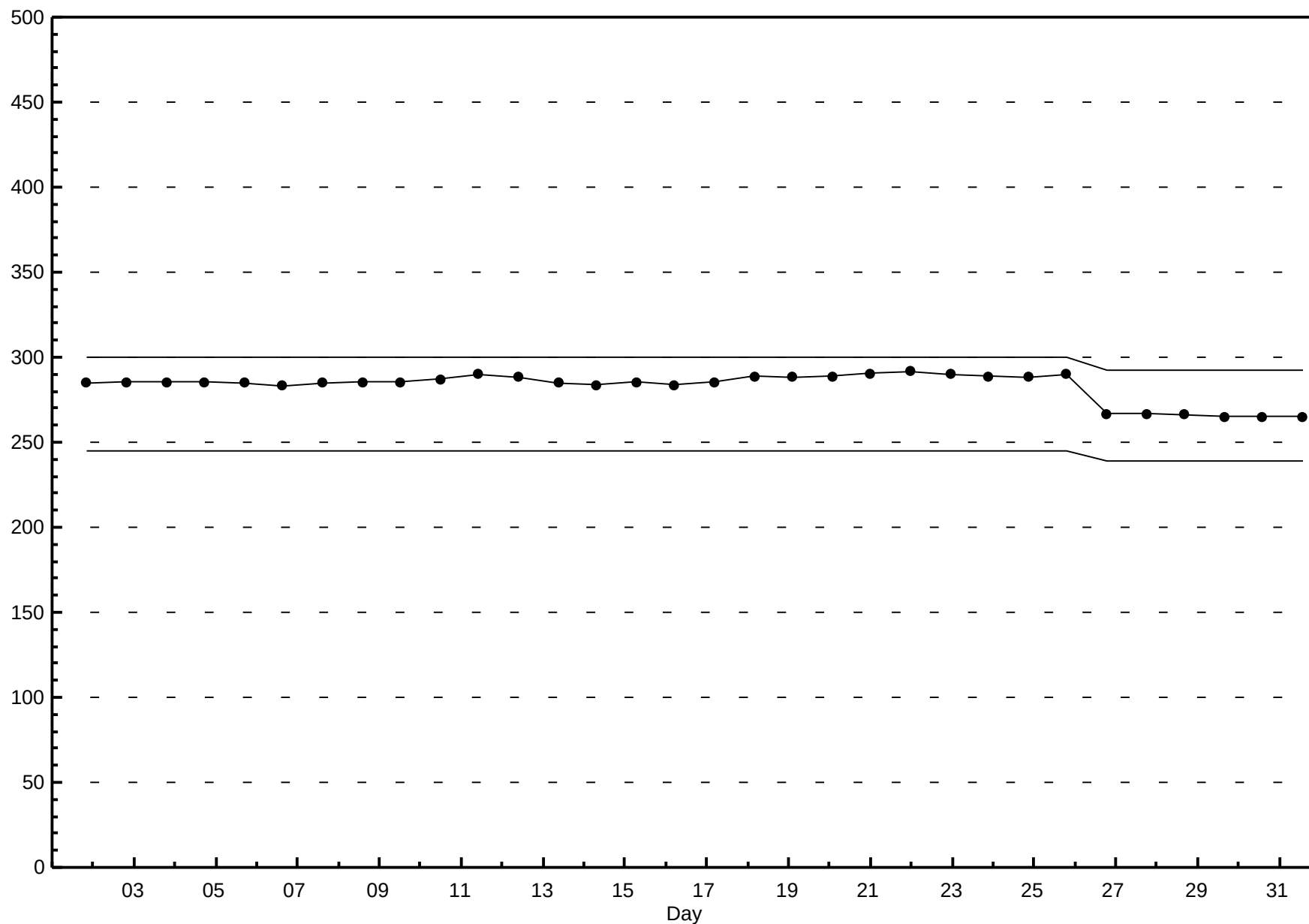


Pollutant Classes (ppb)



Span Responses

Sulphur Dioxide (SO₂)
Sunset House - July 2013



Hourly Averages

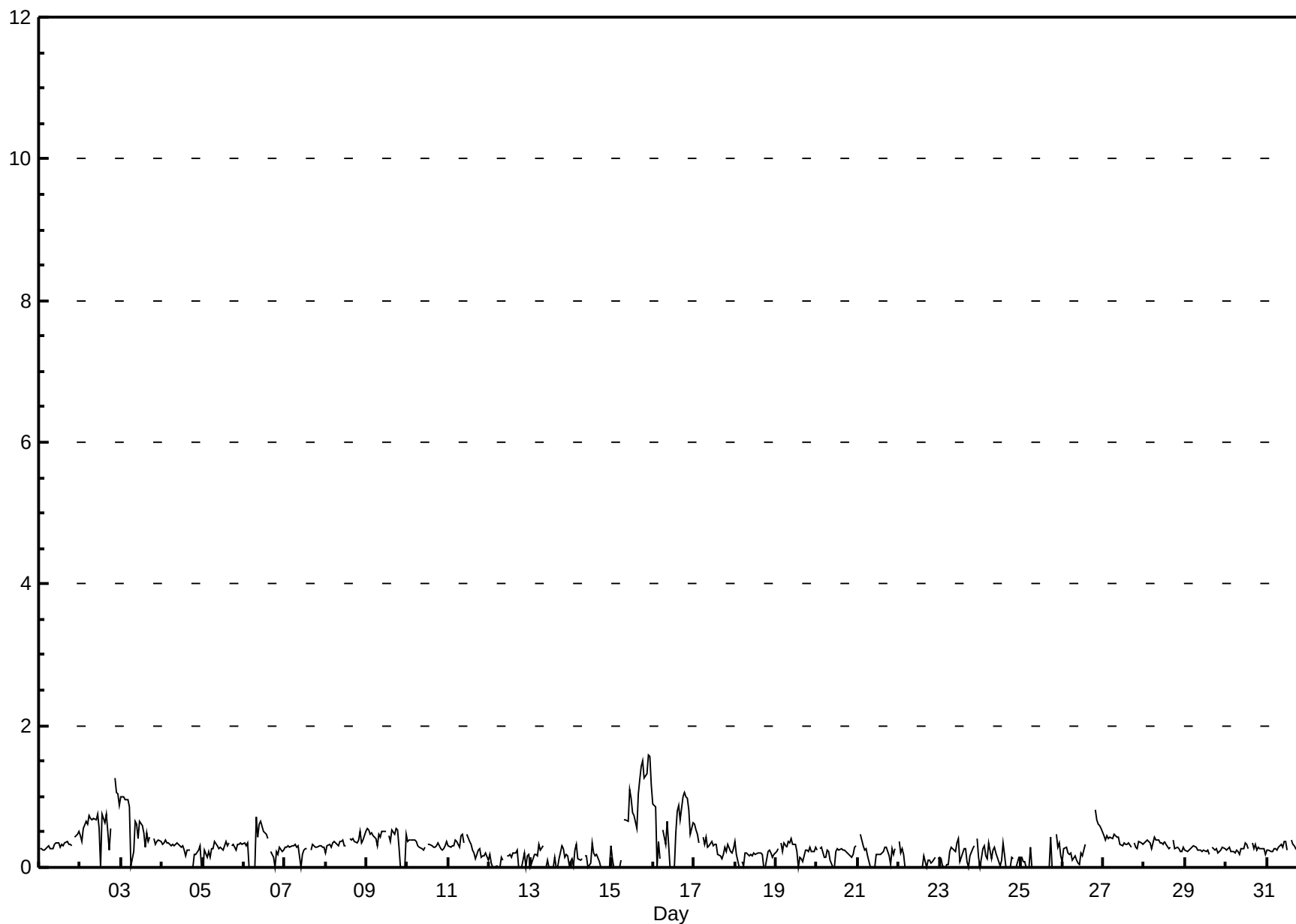
Total Reduced Sulphur (TRS) - ppb

Sunset House - July 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 1.6 ppb on Jul 15 22:00 Maximum Daily Average: 0.8 ppb on Jul 15																			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 2 13:00 Maximum Diurnal Average: 0.4 ppb at hour 21 Monthly Average: 0.29 ppb																			Minimum Daily Average: 0.1 ppb on Jul 22 Minimum Diurnal Average: 0.2 ppb at hour 5 Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.2 Median = 0.3 Q ₃ = 0.4 P ₉₀ = 0.5 P ₉₉ = 1.3							
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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.3	0.5
2-Jul	0	0	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	0	1	A	1	1	1	1	0.7	1.3
3-Jul	1	1	1	1	1	1	0	0	1	1	0	1	1	0	0	0	0	0	A	0	0	0	0	0	0.6	1.0
4-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	0.3	0.4
5-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	0.3	0.4
6-Jul	0	0	0	0	0	0	0	1	0	1	1	1	0	0	0	A	0	0	0	0	0	0	0	0	0.3	0.7
7-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	0.3
8-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	1	0	0	1	0.4	0.5
9-Jul	1	1	0	0	0	0	0	0	0	1	1	1	A	0	0	1	0	1	1	0	0	0	0	0	0.4	0.6
10-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
11-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
12-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	0.1	0.2
13-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	0.3
14-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	0.3
15-Jul	0	0	0	0	0	0	A	1	1	1	1	1	1	1	1	1	1	1	2	1	1	2	2	1	0.8	1.6
16-Jul	1	1	0	0	0	A	1	0	1	0	0	0	0	0	1	1	1	1	1	1	1	1	0	1	0.6	1.1
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	0.3	0.6
18-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	0.4
19-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	0.3	0.4
20-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	0.3
21-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	0.2	0.5
22-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	0.4
23-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	0.2	0.4
24-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	0.4
25-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	0.5
26-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C	C	C	C	A	1	1	1	1	1	0.3	0.8
27-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	0.4	0.5
28-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	0.3	0.4
29-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	0.3	0.3
30-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	0.3
31-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
0.3 0.3 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 0.3 0.3 0.3 0.3 0.4 0.3 0.3 0.3																									Diurnal Average	
1.0 1.0 1.0 0.9 0.9 0.9 0.7 0.7 0.7 0.7 1.1 1.0 0.8 0.8 0.8 1.0 1.2 1.4 1.5 1.3 1.3 1.6 1.6 1.2																									Diurnal Maximum	
C - Calibration A - Automated Daily Zero Span																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb																										

Hourly Averages

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



Hourly Maximums

Total Reduced Sulphur (TRS) - ppb

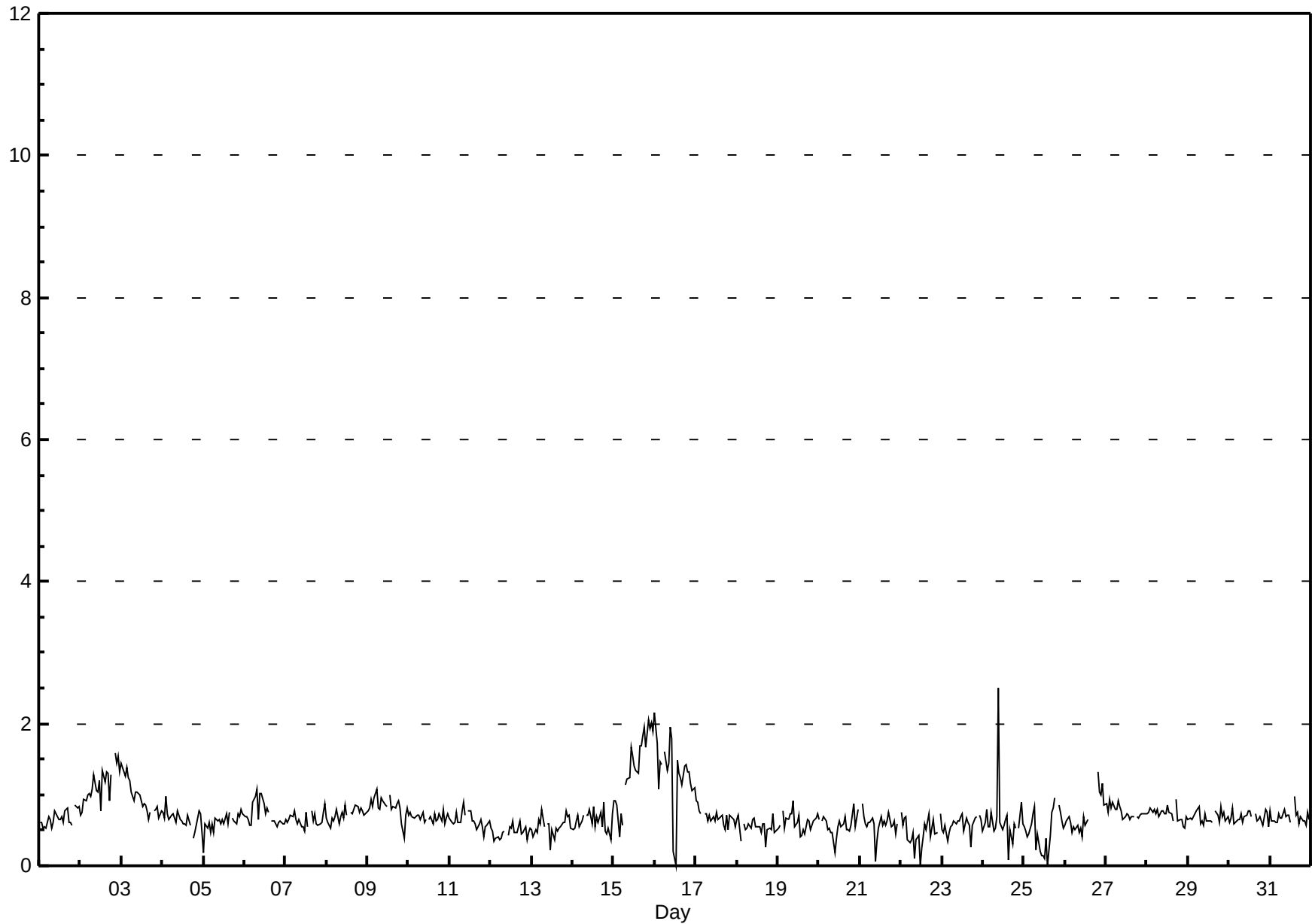
Sunset House - July 2013

Maximum Value: 2.5 ppb on Jul 24 10:00																				Maximum Daily Average: 1.4 ppb on Jul 15										Hours in Service: 744									
Minimum Value: 0 ppb on Jul 16 13:00																				Minimum Daily Average: 0.5 ppb on Jul 22										Hours of Data: 708									
Maximum Diurnal Average: 0.8 ppb at hour 10																				Minimum Diurnal Average: 0.6 ppb at hour 13										Hours of Missing Data: 36									
Monthly Average: 0.71 ppb																				Percentiles: P ₁ = 0.1 P ₁₀ = 0.5 Q ₁ = 0.6 Median = 0.7 Q ₃ = 0.8 P ₉₀ = 1.0 P ₉₉ = 1.9										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	1	1	1	A	1	1	1	0.7	0.9													
2-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	2	1	2	1	1.1	1.6													
3-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	1.0	1.4													
4-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	0	0	1	1	1	0	0.7	1.0													
5-Jul	0	1	1	1	0	1	0	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	0.6	0.8													
6-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													
7-Jul	1	1	1	1	1	1	1	1	1	1	1	0	1	1	A	1	1	1	1	1	1	1	1	1	0.6	0.9													
8-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													
9-Jul	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	0	1	1	0.8	1.1													
10-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													
11-Jul	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	0	1	1	1	0.6	0.9													
12-Jul	1	0	0	0	0	0	0	0	0	A	0	1	1	1	0	0	1	1	0	0	1	0	0	1	0.5	0.6													
13-Jul	1	0	1	0	1	1	1	1	A	1	1	0	0	0	1	0	1	1	1	1	1	1	1	1	0.6	0.8													
14-Jul	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	0	0	1	0	1	0.6	0.9													
15-Jul	1	1	1	0	1	1	A	1	1	1	2	2	1	1	1	2	2	2	2	2	2	2	2	2	1.4	2.1													
16-Jul	2	2	1	1	1	A	2	1	1	2	2	0	0	1	1	1	1	1	1	1	1	1	1	1	1.3	2.1													
17-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	0.7	0.9													
18-Jul	1	1	0	A	1	1	1	1	1	1	1	1	1	1	0	1	1	0	1	1	1	1	0	0	0.5	0.7													
19-Jul	1	1	A	1	1	1	1	1	1	1	1	1	1	0	0	1	0	1	1	1	1	1	1	1	0.6	0.9													
20-Jul	1	A	1	1	1	0	1	0	0	0	0	1	1	1	1	1	1	1	0	1	1	1	1	1	0.6	0.9													
21-Jul	A	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	1	1	1	1	1	0	1	A	0.6	0.9													
22-Jul	1	1	1	1	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	1	0	0	A	1	0.5	0.8													
23-Jul	1	0	1	0	0	1	1	1	1	1	1	1	1	0	1	1	1	0	1	1	1	A	1	1	0.6	0.7													
24-Jul	0	1	1	1	1	1	0	1	1	3	1	1	1	1	1	0	1	0	1	1	A	1	1	1	0.7	2.5													
25-Jul	1	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	1	1	1	A	1	1	1	1	0.5	1.0													
26-Jul	1	1	1	1	0	1	1	1	0	1	0	1	1	1	C	C	C	C	A	1	1	1	1	1	0.7	1.3													
27-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	0.9													
28-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	0.7	0.9													
29-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	0.7	0.8													
30-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	0.8													
31-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	1.0													
0.7		0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.7	0.7	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.7	0.8	0.8	Diurnal Average														
2.1		1.7	1.3	1.5	1.4	1.2	1.6	1.3	1.4	2.5	1.8	1.6	1.4	1.5	1.3	1.7	1.7	1.8	1.9	1.7	2.1	1.9	2.0	1.9	Diurnal Maximum														
C - Calibration		A - Automated Daily Zero Span																																					

Hourly Maximums

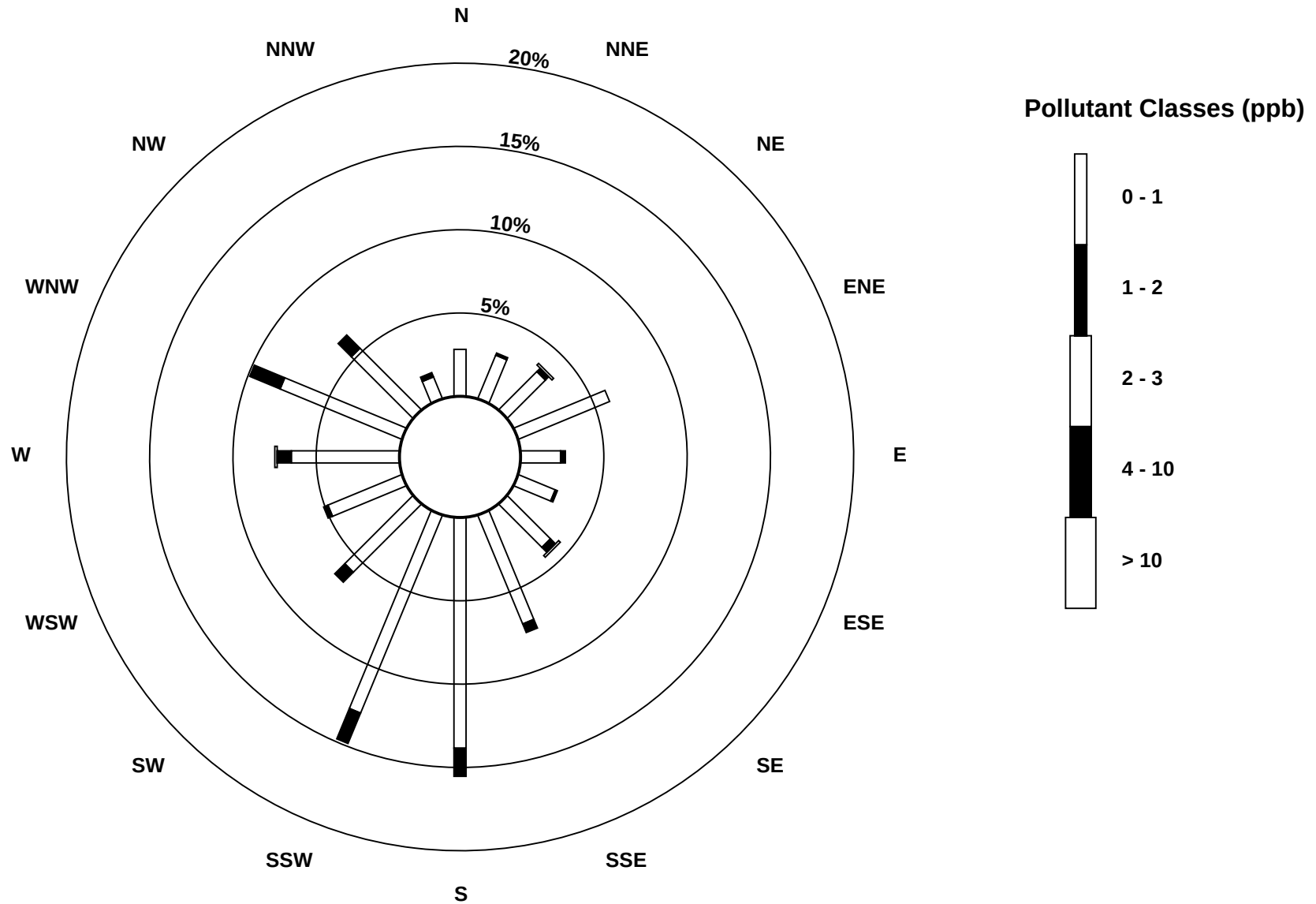
Total Reduced Sulphur (TRS) - ppb

Sunset House - July 2013



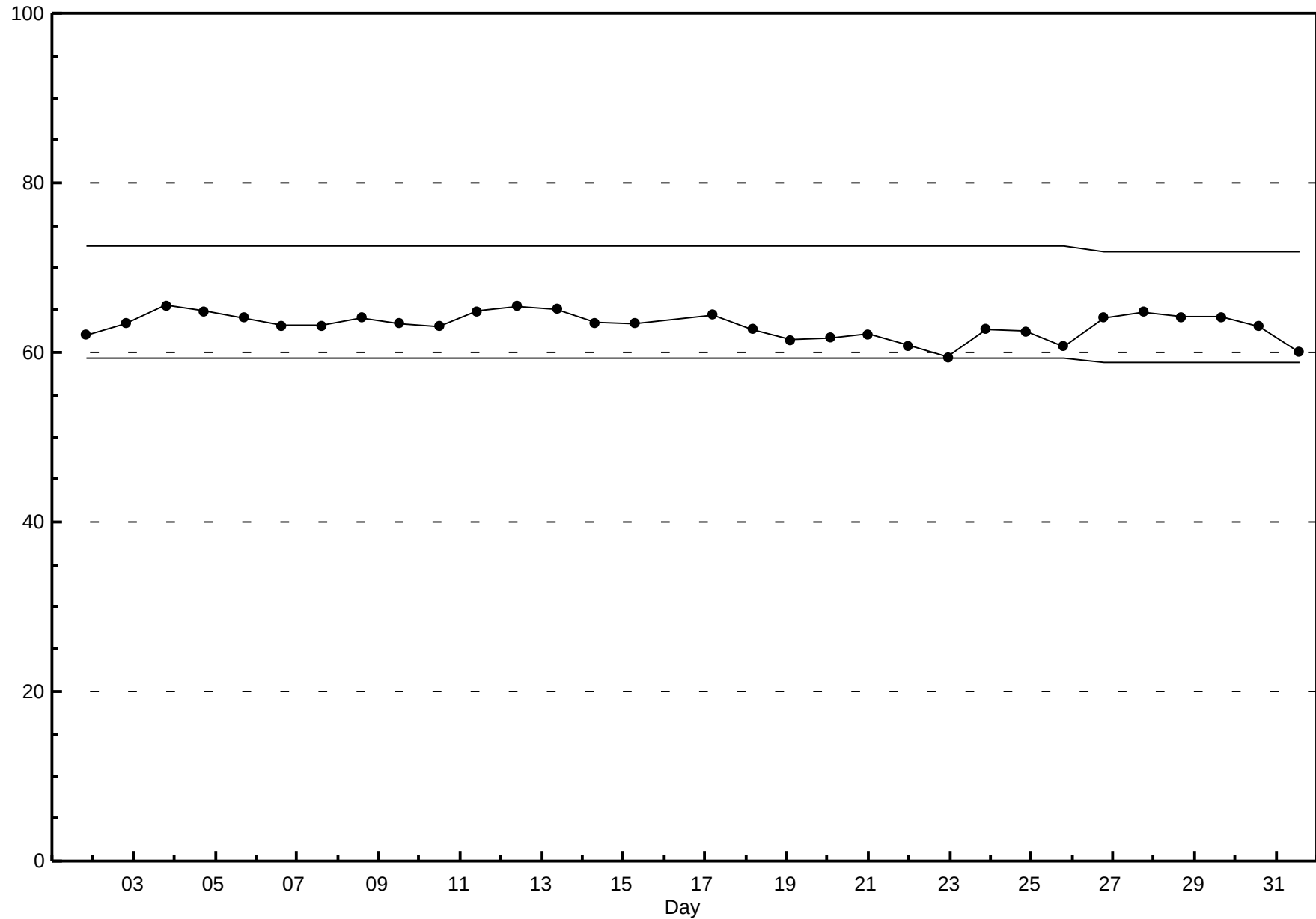
Pollutant Rose

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



Span Responses

Total Reduced Sulphur (TRS)
Sunset House - July 2013



Hourly Averages

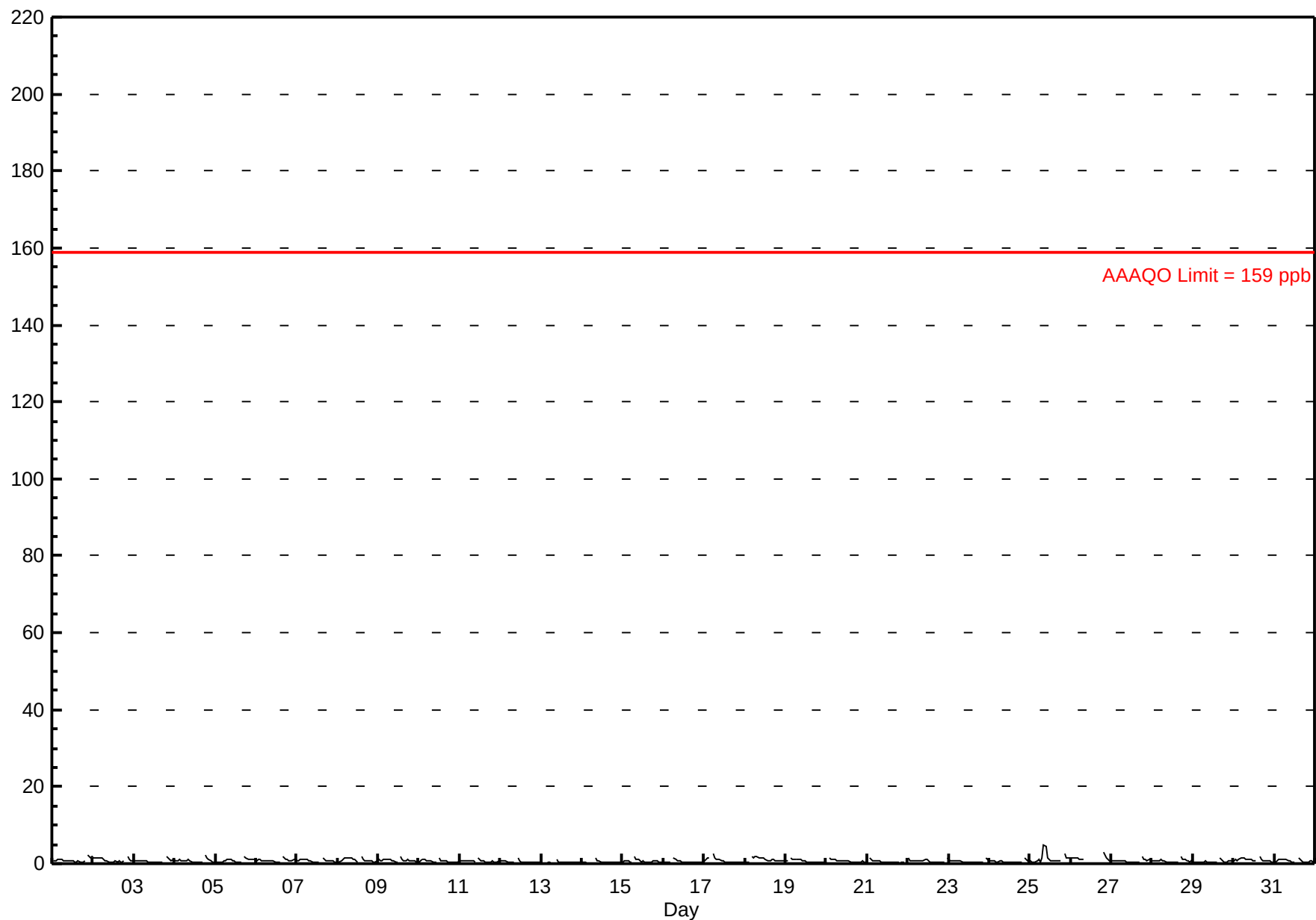
Nitrogen Dioxide (NO₂) - ppb

Sunset House - July 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 4.7 ppb on Jul 25 09:00 Maximum Daily Average: 1.3 ppb on Jul 25																				Hours in Service: 744 Hours of Data: 702						
Minimum Value: 0 ppb on Jul 13 03:00 Minimum Daily Average: 0.3 ppb on Jul 13 Maximum Diurnal Average: 1.0 ppb at hour 9 Minimum Diurnal Average: 0.5 ppb at hour 14 Monthly Average: 0.73 ppb Percentiles: P ₁ = 0.2 P ₁₀ = 0.3 Q ₁ = 0.4 Median = 0.6 Q ₃ = 0.9 P ₉₀ = 1.3 P ₉₉ = 2.2																				Hours of Missing Data: 42 Hours of Calibration: 42 Percent Operational Time: 100.0						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
1-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	A	2	2	2	0.9	2.3
2-Jul	2	2	1	2	1	1	1	1	1	1	0	0	0	1	1	1	1	1	1	A	2	1	1	1	0.9	1.7
3-Jul	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	A	2	1	1	1	1	0.7	2.0
4-Jul	1	1	1	1	1	1	1	1	1	1	0	0	0	0	1	0	0	A	2	1	1	1	1	0	0.8	2.1
5-Jul	0	1	0	0	1	1	1	1	1	1	1	1	1	0	0	0	A	2	1	1	1	1	1	1	0.9	1.8
6-Jul	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	A	2	1	1	1	1	1	1	1	0.8	1.7
7-Jul	1	1	1	1	1	1	1	1	1	1	0	0	0	0	A	2	1	1	1	1	1	1	1	0	0.8	1.6
8-Jul	0	0	1	1	2	2	1	2	2	1	1	1	0	A	2	1	1	1	1	1	1	1	0	1	1.0	1.8
9-Jul	1	1	1	1	1	1	1	1	1	1	0	0	A	2	1	1	1	1	1	1	1	1	0	0	0.8	1.7
10-Jul	1	1	1	1	1	1	1	1	0	0	0	A	1	1	1	1	1	0	0	0	0	0	0	1	0.6	1.3
11-Jul	1	1	1	1	1	1	1	1	1	1	A	2	1	1	1	0	0	0	0	1	0	0	0	1	0.6	1.6
12-Jul	1	1	1	1	0	0	1	0	0	A	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.5	1.4
13-Jul	0	0	0	0	0	0	0	0	A	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.1
14-Jul	0	0	0	0	0	0	0	A	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.4	1.5
15-Jul	0	1	1	1	0	0	A	2	1	1	1	1	1	1	0	0	0	0	1	1	1	0	0	0	0.6	1.8
16-Jul	0	0	0	0	0	A	2	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	1.5
17-Jul	1	1	1	1	A	3	2	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0.8	2.6
18-Jul	0	0	0	A	2	1	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1.1	1.8
19-Jul	1	1	A	2	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0.7	1.6
20-Jul	0	A	2	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	1	1	0.7	1.6
21-Jul	A	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0.5	1.5
22-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	A	2	0.7	1.6
23-Jul	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	A	2	1	0.6	1.6
24-Jul	1	1	1	1	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	A	1	1	1	0.5	1.4
25-Jul	1	1	1	1	1	1	1	1	5	5	1	1	1	1	1	1	1	1	1	A	2	2	1	1	1.3	4.7
26-Jul	1	1	1	1	1	1	1	1	C	C	C	C	C	C	C	C	C	C	A	3	2	2	1	1	--	2.8
27-Jul	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	A	2	1	1	1	1	0.7	1.8
28-Jul	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	A	2	1	1	1	1	1	0.7	1.8
29-Jul	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	A	2	1	0	1	1	1	1	1	0.5	1.6
30-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	2	1	1	1	1	1	1	1	0	0.9	1.8
31-Jul	0	1	1	1	1	1	1	1	1	1	1	0	0	A	2	1	1	1	0	0	1	1	1	0	0.8	1.6
0.7 0.8 0.8 0.8 0.8 0.9 0.9 0.9 1.0 0.9 0.7 0.6 0.5 0.5 0.6 0.6 0.6 0.6 0.6 0.6 0.7 0.8 0.8 0.7 0.7																								Diurnal Average		
1.6 1.6 1.6 1.6 1.8 2.6 1.8 1.8 4.7 4.6 1.6 1.6 1.3 1.7 1.8 1.8 1.7 1.8 2.1 2.8 2.5 2.3 1.6 1.8																								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 2013



Hourly Maximums

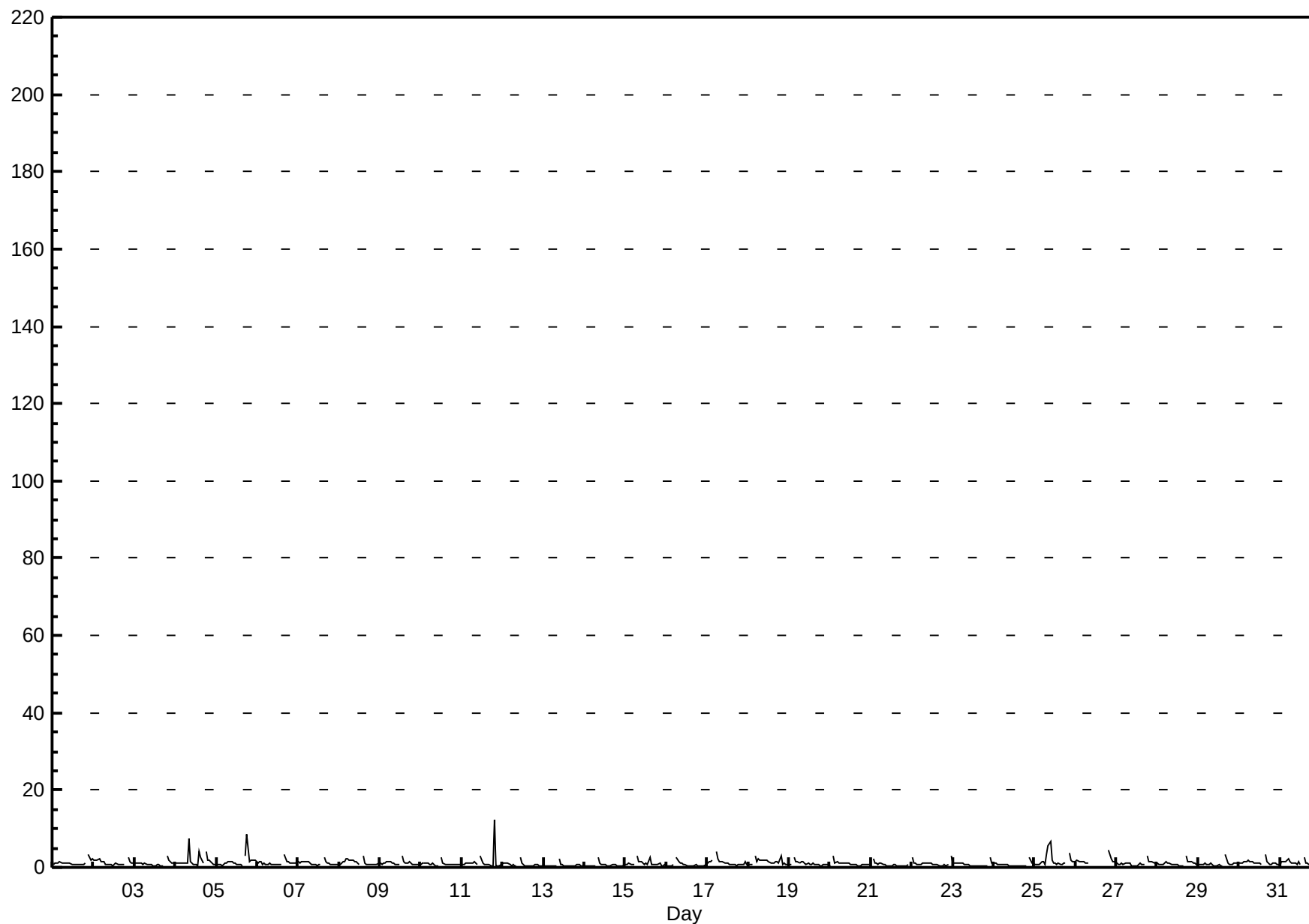
Nitrogen Dioxide (NO₂) - ppb

Sunset House - July 2013

Maximum Value: 12.2 ppb on Jul 11 20:00																				Maximum Daily Average: 1.8 ppb on Jul 25										Hours in Service: 744	
Minimum Value: 0 ppb on Jul 14 06:00																				Minimum Daily Average: 0.5 ppb on Jul 13										Hours of Data: 702	
Maximum Diurnal Average: 1.5 ppb at hour 20																				Minimum Diurnal Average: 0.8 ppb at hour 14										Hours of Missing Data: 42	
Monthly Average: 1.08 ppb																				Percentiles: P ₁ = 0.3 P ₁₀ = 0.5 Q ₁ = 0.6 Median = 0.9 Q ₃ = 1.2 P ₉₀ = 1.7 P ₉₉ = 4.1										Hours of Calibration: 42	
																														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	1	1	1	A	3	2	2	1.1	3.2					
2-Jul	2	2	2	2	2	2	2	1	1	1	1	0	1	1	1	1	1	1	1	A	3	1	1	1	1.2	2.6					
3-Jul	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	0	0	1	A	3	2	2	1	1	1.0	3.1					
4-Jul	1	1	1	1	1	1	1	1	8	1	1	1	1	0	4	3	1	A	4	2	2	1	1	1	1.6	7.6					
5-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	3	9	1	2	2	2	2	1.5	8.5					
6-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	3	1	1	1	1	1	1	1	1.1	3.2					
7-Jul	1	1	1	1	2	1	1	1	1	1	1	1	1	1	A	3	1	1	1	1	1	1	1	1	1.1	2.8					
8-Jul	1	1	1	1	2	2	2	2	2	1	1	1	1	A	3	1	1	1	1	1	1	1	1	1	1.3	3.1					
9-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	2.9					
10-Jul	1	1	1	1	1	1	1	1	0	0	0	A	3	1	1	1	1	1	1	1	1	1	1	1	0.9	2.6					
11-Jul	1	1	1	1	1	1	1	1	1	1	A	3	1	1	1	1	1	0	0	12	0	1	1	1	1.4	12.2					
12-Jul	1	1	1	1	1	1	1	1	0	A	2	1	1	1	1	1	1	0	0	1	1	1	0	0	0.7	2.4					
13-Jul	0	0	0	0	0	0	0	0	A	3	1	1	1	0	0	0	0	0	0	1	1	1	0	0	0.5	2.1					
14-Jul	0	0	0	0	0	0	0	A	3	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0.6	2.7					
15-Jul	1	1	1	1	1	1	A	3	1	1	1	1	1	1	3	1	1	1	1	1	1	1	1	1	1.0	3.0					
16-Jul	1	1	1	1	1	A	3	2	1	1	1	1	1	0	0	1	1	1	1	1	1	1	0	1	0.7	2.6					
17-Jul	1	2	2	2	A	4	2	2	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.2	4.0					
18-Jul	1	1	1	A	3	2	2	2	2	2	2	1	1	1	1	1	1	1	1	3	1	1	1	1	1.5	3.1					
19-Jul	1	1	A	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	2.5					
20-Jul	1	A	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	2.9					
21-Jul	A	2	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	1	A	0.7	2.3					
22-Jul	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	1	0	1	A	3	1.0	2.8					
23-Jul	1	1	1	1	1	1	1	1	1	1	1	0	1	0	0	0	0	0	0	0	0	A	3	1	0.8	2.7					
24-Jul	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	A	3	1	1	0.7	2.7					
25-Jul	1	1	1	1	1	2	1	3	6	7	2	1	1	1	1	1	1	1	1	A	4	2	2	2	1.8	6.5					
26-Jul	2	2	2	2	2	2	1	1	C	C	C	C	C	C	C	C	C	C	A	5	3	2	2	1	--	4.6					
27-Jul	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	A	3	1	1	1	1	1	1.0	2.9					
28-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	A	3	2	2	1	1	1	1	1.0	2.9					
29-Jul	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	A	3	1	1	1	1	1	1	1	0.9	3.4					
30-Jul	1	1	1	1	2	2	2	1	1	1	1	1	1	1	A	3	1	1	1	1	1	1	1	1	1.2	3.2					
31-Jul	1	1	2	2	2	2	1	1	1	1	1	1	1	A	3	1	1	1	1	1	1	1	1	1	1.2	2.6					
1.0 1.0 1.1 1.1 1.2 1.2 1.2 1.3 1.5 1.2 0.9 0.9 0.8 0.8 1.1 0.9 0.9 0.9 1.2 1.5 1.1 1.1 1.0 1.0																									Diurnal Average						
2.6 2.3 2.9 2.5 3.0 4.0 2.6 3.3 7.6 6.5 2.4 2.9 2.6 2.9 4.3 3.2 3.4 3.0 8.5 12.2 3.7 3.2 2.7 2.8																									Diurnal Maximum						
C - Calibration																									A - Automated Daily Zero Span						

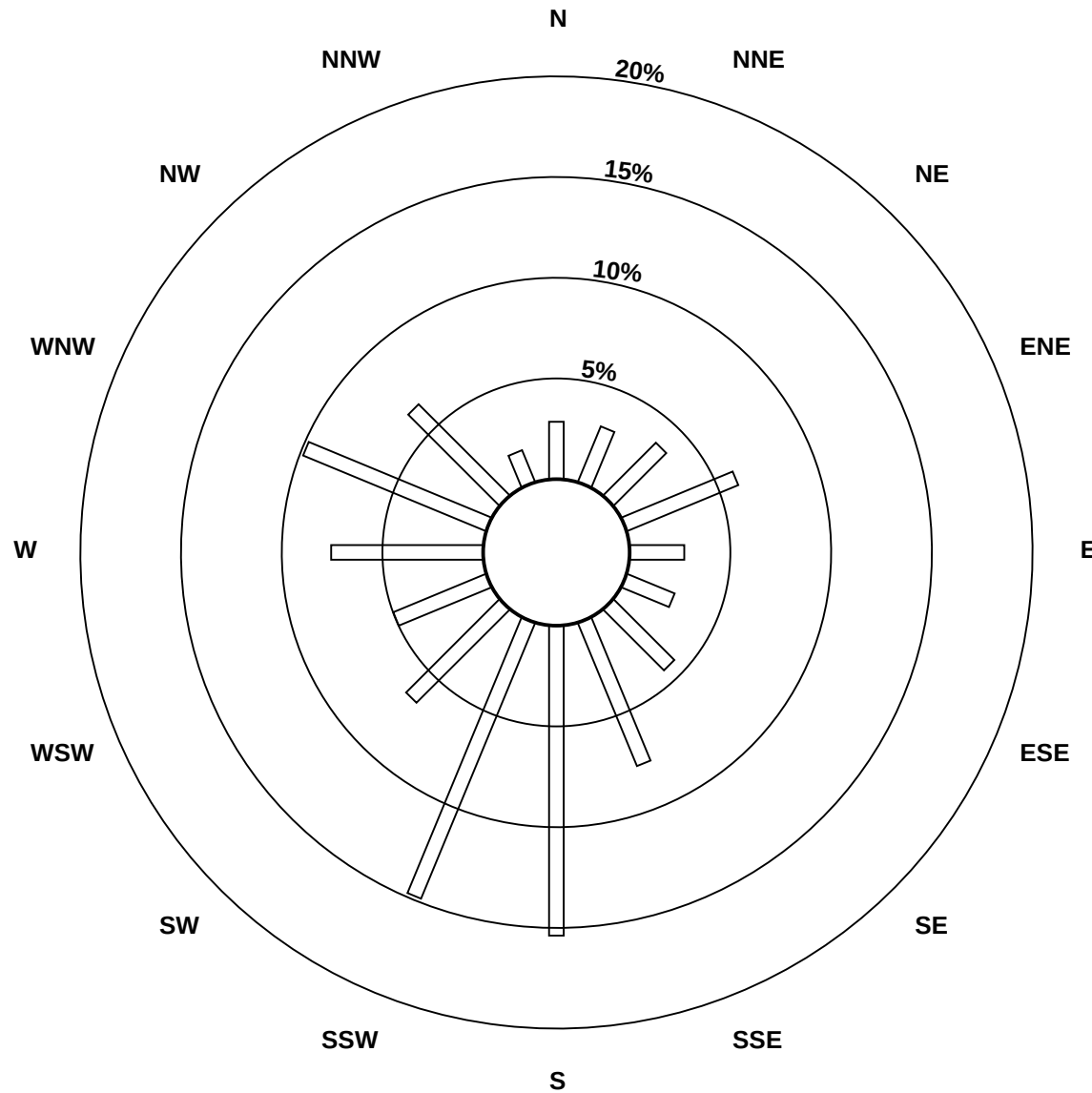
Hourly Maximums

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

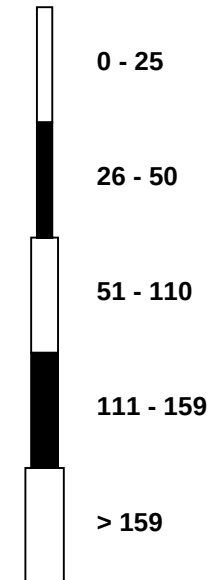


Pollutant Rose

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

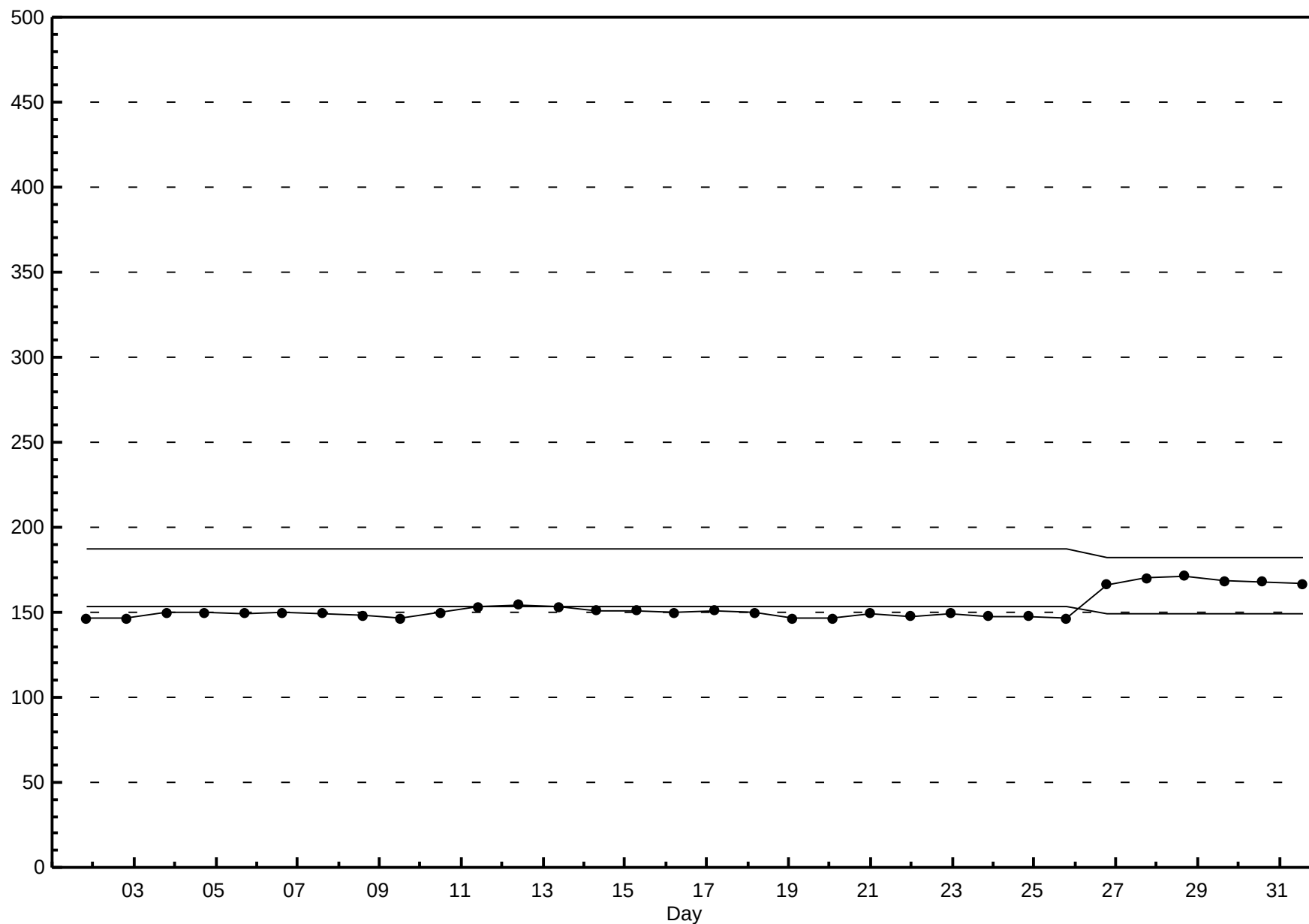


Pollutant Classes (ppb)



Span Responses

Nitrogen Dioxide (NO₂)
Sunset House - July 2013



Hourly Averages

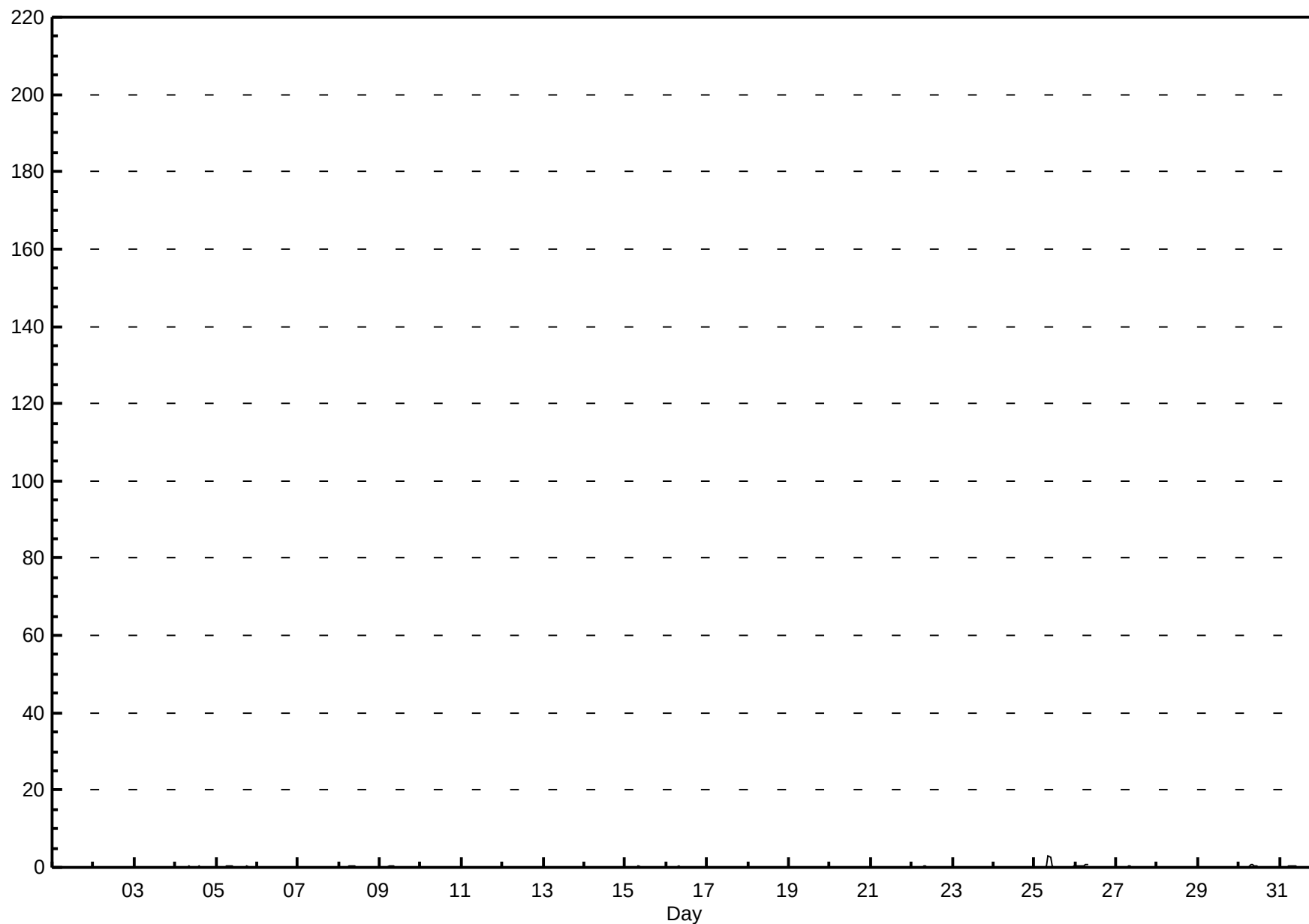
Nitrogen Oxide (NO) - ppb

Sunset House - July 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 2.8 ppb on Jul 25 09:00 Maximum Daily Average: 0.3 ppb on Jul 25																				Hours in Service: 744 Hours of Data: 702						
Minimum Value: 0 ppb on Jul 4 13:00 Minimum Daily Average: 0.0 ppb on Jul 14 Maximum Diurnal Average: 0.2 ppb at hour 9 Minimum Diurnal Average: 0.0 ppb at hour 16 Monthly Average: 0.07 ppb Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 0.1 P ₉₀ = 0.1 P ₉₉ = 0.5																				Hours of Missing Data: 42 Hours of Calibration: 42 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	0	0	0	A	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	0	0	A	0	0	0	0	0.0	0.1
3-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	0.2
4-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	0.5
5-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
6-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	0.1
7-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	0.1
8-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	0.4
9-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	0.3
10-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
11-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
12-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
13-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	0.0
14-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	0.0
15-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	0.3
16-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	0.2
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	0.0	0.1
18-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
19-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
20-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
21-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
22-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
23-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	0.0	0.1
24-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	0.1
25-Jul	0	0	0	0	0	0	0	0	3	3	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.3	2.8
26-Jul	0	0	0	0	0	0	1	1	C	C	C	C	C	C	C	C	C	C	A	0	0	0	0	0	--	0.7
27-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
28-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	0.1
29-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	0.2
30-Jul	0	0	0	0	0	0	0	1	1	1	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.2	0.7
31-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	0.5
0.0 0.1 0.1 0.1 0.1 0.1 0.1 0.2 0.2 0.2 0.1 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0																									Diurnal Average	
0.3 0.3 0.3 0.4 0.4 0.5 0.6 0.7 2.8 2.8 0.3 0.2 0.1 0.1 0.2 0.1 0.1 0.1 0.3 0.2 0.1 0.1 0.2 0.2																									Diurnal Maximum	
C - Calibration A - Automated Daily Zero Span																										

Hourly Averages

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



Hourly Maximums

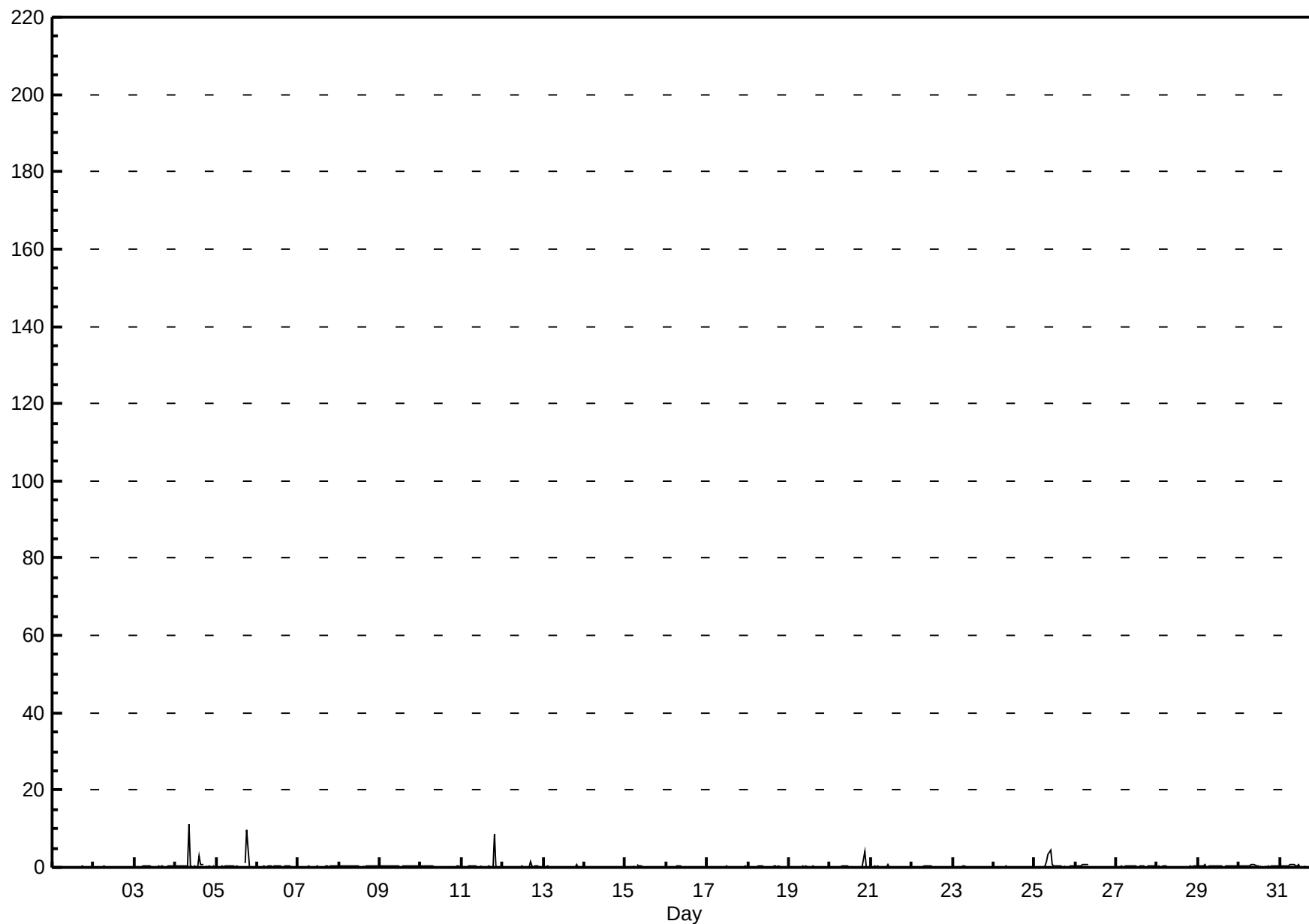
Nitrogen Oxide (NO) - ppb

Sunset House - July 2013

Maximum Value: 11.1 ppb on Jul 4 09:00																				Maximum Daily Average: 0.8 ppb on Jul 4				Hours in Service: 744		
Minimum Value: 0 ppb on Jul 17 20:00																				Minimum Daily Average: 0.1 ppb on Jul 14				Hours of Data: 702		
Maximum Diurnal Average: 0.8 ppb at hour 9																				Minimum Diurnal Average: 0.2 ppb at hour 14				Hours of Missing Data: 42		
Monthly Average: 0.28 ppb																				Percentiles: P ₁ = 0.1 P ₁₀ = 0.1 Q ₁ = 0.2 Median = 0.2 Q ₃ = 0.2 P ₉₀ = 0.3 P ₉₉ = 2.7				Hours of Calibration: 42		
																								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	0	0	0	A	0	0	0	0.2	0.3
2-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
3-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	0.2	0.5
4-Jul	0	0	0	0	0	0	0	0	11	0	0	0	0	0	3	1	1	A	0	0	0	0	0	0	0.8	11.1
5-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	10	0	0	0	0	0	0.7	9.8
6-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	0.5
7-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
8-Jul	0	0	0	0	0	0	0	1	1	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.3	0.6
9-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	0.3	0.4
10-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
11-Jul	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	9	0	0	0	0	0.6	8.5
12-Jul	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0.2	1.4
13-Jul	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0.2	0.7
14-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
15-Jul	0	0	0	0	0	0	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.6
16-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	0.2	0.4
17-Jul	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0.2	0.6
18-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	0.4
19-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
20-Jul	0	A	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0.4	4.1
21-Jul	A	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	A	0.2	0.6
22-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	0.3
23-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	0.2	0.3
24-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	0.3
25-Jul	0	0	0	0	0	0	0	1	3	4	1	0	0	0	0	0	0	0	0	A	0	0	0	0	0.6	4.4
26-Jul	0	0	0	1	1	1	1	1	C	C	C	C	C	C	C	C	C	C	A	0	0	0	0	0	--	0.8
27-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
28-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	0.3
29-Jul	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.3	0.6
30-Jul	0	0	0	0	0	0	1	1	1	1	1	0	0	0	A	0	0	0	0	0	0	0	0	0	0.3	0.9
31-Jul	0	0	0	0	0	0	1	1	1	0	0	1	0	A	0	0	0	0	0	0	0	0	0	0	0.3	0.7
0.2 0.2 0.2 0.2 0.2 0.2 0.3 0.4 0.8 0.4 0.2 0.2 0.2 0.2 0.3 0.2 0.3 0.2 0.5 0.5 0.3 0.2 0.2 0.2																									Diurnal Average	
0.4 0.5 0.5 0.5 0.6 0.6 0.8 1.4 11.1 4.4 0.6 0.6 0.3 0.3 2.9 0.6 1.4 1.0 9.8 8.5 4.1 0.3 0.6 0.4																									Diurnal Maximum	
C - Calibration A - Automated Daily Zero Span																										

Hourly Maximums

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



Hourly Averages

Oxides of Nitrogen (NO_x) - ppb

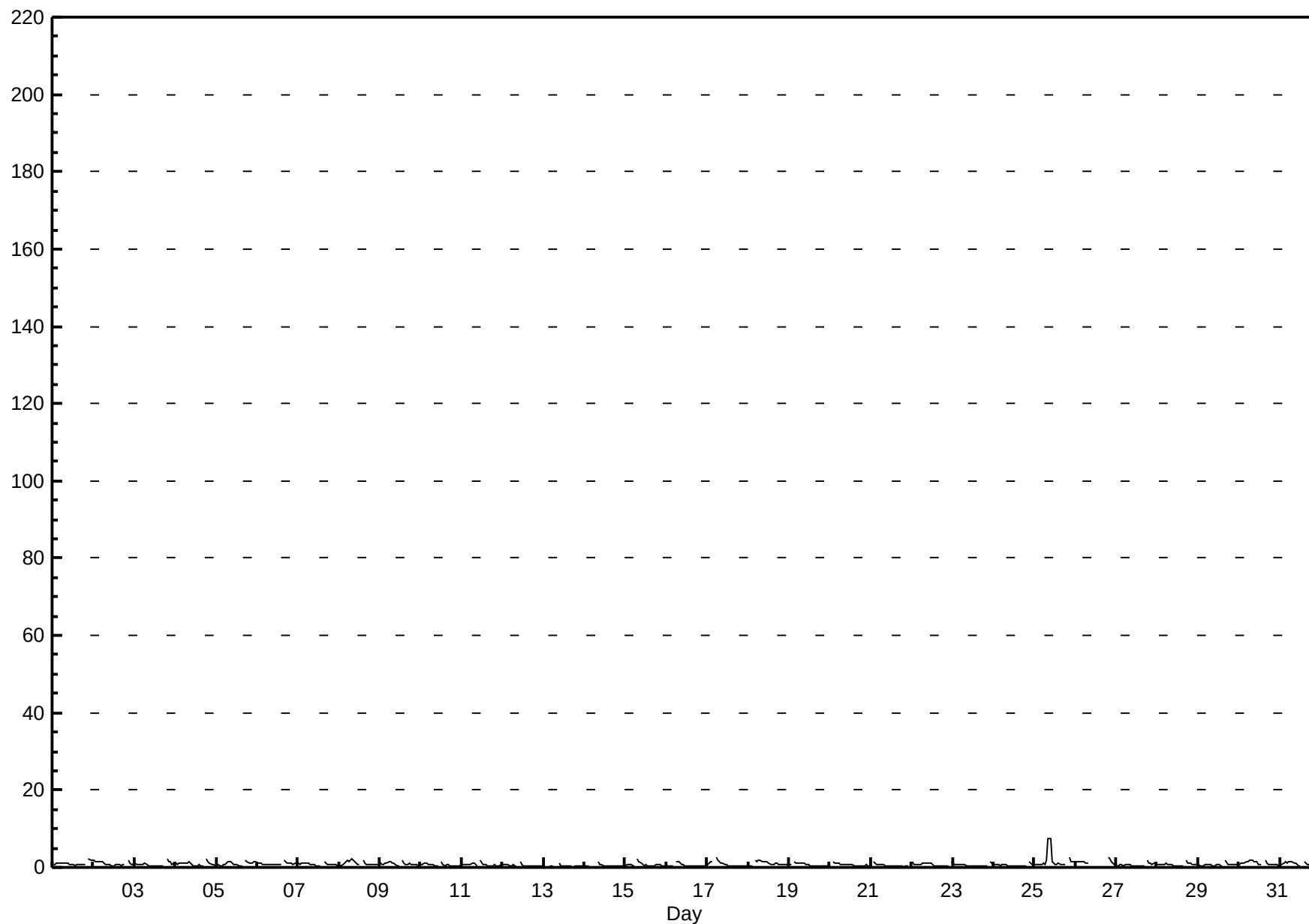
Sunset House - July 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																				Hours in Service: 744						
Maximum Value: 7.6 ppb on Jul 25 09:00 Maximum Daily Average: 1.6 ppb on Jul 25																				Hours of Data: 702						
Minimum Value: 0 ppb on Jul 13 03:00 Minimum Daily Average: 0.3 ppb on Jul 13																				Hours of Missing Data: 42						
Maximum Diurnal Average: 1.2 ppb at hour 9 Minimum Diurnal Average: 0.5 ppb at hour 14																				Hours of Calibration: 42						
Monthly Average: 0.79 ppb Percentiles: P ₁ = 0.2 P ₁₀ = 0.3 Q ₁ = 0.4 Median = 0.7 Q ₃ = 1.0 P ₉₀ = 1.5 P ₉₉ = 2.3																				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	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	2	2	2	1.0	2.3
2-Jul	2	2	2	2	1	1	1	1	1	1	0	0	0	1	1	1	1	1	1	A	2	1	1	1	1.0	1.8
3-Jul	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	A	2	1	1	1	1	0.8	2.1
4-Jul	1	1	1	1	1	1	1	1	2	1	0	0	0	0	1	1	1	A	2	1	1	1	1	1	0.9	2.2
5-Jul	1	1	1	0	1	1	1	1	1	1	1	1	1	1	0	0	A	2	2	1	1	1	1	1	1.0	1.9
6-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	2	1	1	1	1	1	1	1	0.9	1.8
7-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	0.8	1.7
8-Jul	0	0	1	1	2	2	2	2	2	2	1	1	1	A	2	1	1	1	1	1	1	1	1	1	1.1	2.1
9-Jul	1	1	1	1	1	1	2	1	1	1	1	0	A	2	1	1	1	1	1	1	1	1	1	0	0.9	1.7
10-Jul	1	1	1	1	1	1	1	1	0	0	0	A	1	1	1	1	1	0	0	0	1	1	1	1	0.6	1.3
11-Jul	1	1	1	1	1	1	1	1	1	1	A	2	1	1	1	0	0	0	0	1	0	0	0	1	0.7	1.7
12-Jul	1	1	1	1	0	0	1	0	0	A	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.5	1.4
13-Jul	0	0	0	0	0	0	0	0	A	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.1
14-Jul	0	0	0	0	0	0	0	A	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	1.5
15-Jul	0	1	1	1	0	0	A	2	2	1	1	1	1	1	0	0	0	0	1	1	1	0	0	0	0.7	2.1
16-Jul	0	0	0	0	0	A	2	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	1.6
17-Jul	1	1	1	1	A	3	2	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.8	2.6
18-Jul	0	0	0	A	2	1	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1.1	2.0
19-Jul	1	1	A	2	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0.7	1.6
20-Jul	0	A	2	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	1	1	1	0	0.7	1.7
21-Jul	A	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0.5	1.5
22-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	A	2	0.7	1.6
23-Jul	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	A	2	1	0.6	1.6
24-Jul	1	1	1	1	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	A	1	1	1	0.5	1.4
25-Jul	1	1	1	1	1	1	1	2	8	7	2	1	1	1	1	1	1	1	1	A	3	2	1	1	1.6	7.6
26-Jul	1	1	1	1	1	1	1	1	C	C	C	C	C	C	C	C	C	C	A	3	2	2	1	1	--	2.7
27-Jul	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	A	2	1	1	1	1	0.7	1.9
28-Jul	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	A	2	1	1	1	1	1	1	0.7	1.8
29-Jul	1	0	0	1	1	1	1	1	0	0	0	1	1	0	0	A	2	1	1	1	1	1	1	1	0.6	1.7
30-Jul	1	1	1	1	1	1	2	2	2	2	1	1	1	1	A	2	1	1	1	1	1	1	1	1	1.1	1.8
31-Jul	0	1	1	1	1	1	1	1	1	1	1	1	0	A	2	1	1	1	0	0	1	1	1	1	0.9	1.7
		0.7	0.8	0.9	0.9	0.9	1.0	1.0	1.1	1.2	1.1	0.7	0.7	0.5	0.5	0.6	0.6	0.6	0.6	0.7	0.7	0.8	0.8	0.7	0.8	Diurnal Average
		1.7	1.6	1.7	1.6	1.8	2.6	1.9	2.1	7.6	7.5	1.6	1.7	1.3	1.7	1.9	1.8	1.8	1.9	2.2	2.7	2.5	2.3	1.7	1.9	Diurnal Maximum
C - Calibration		A - Automated Daily Zero Span																								

Hourly Averages

Oxides of Nitrogen (NO_x) - ppb

Sunset House - July 2013



Hourly Maximums

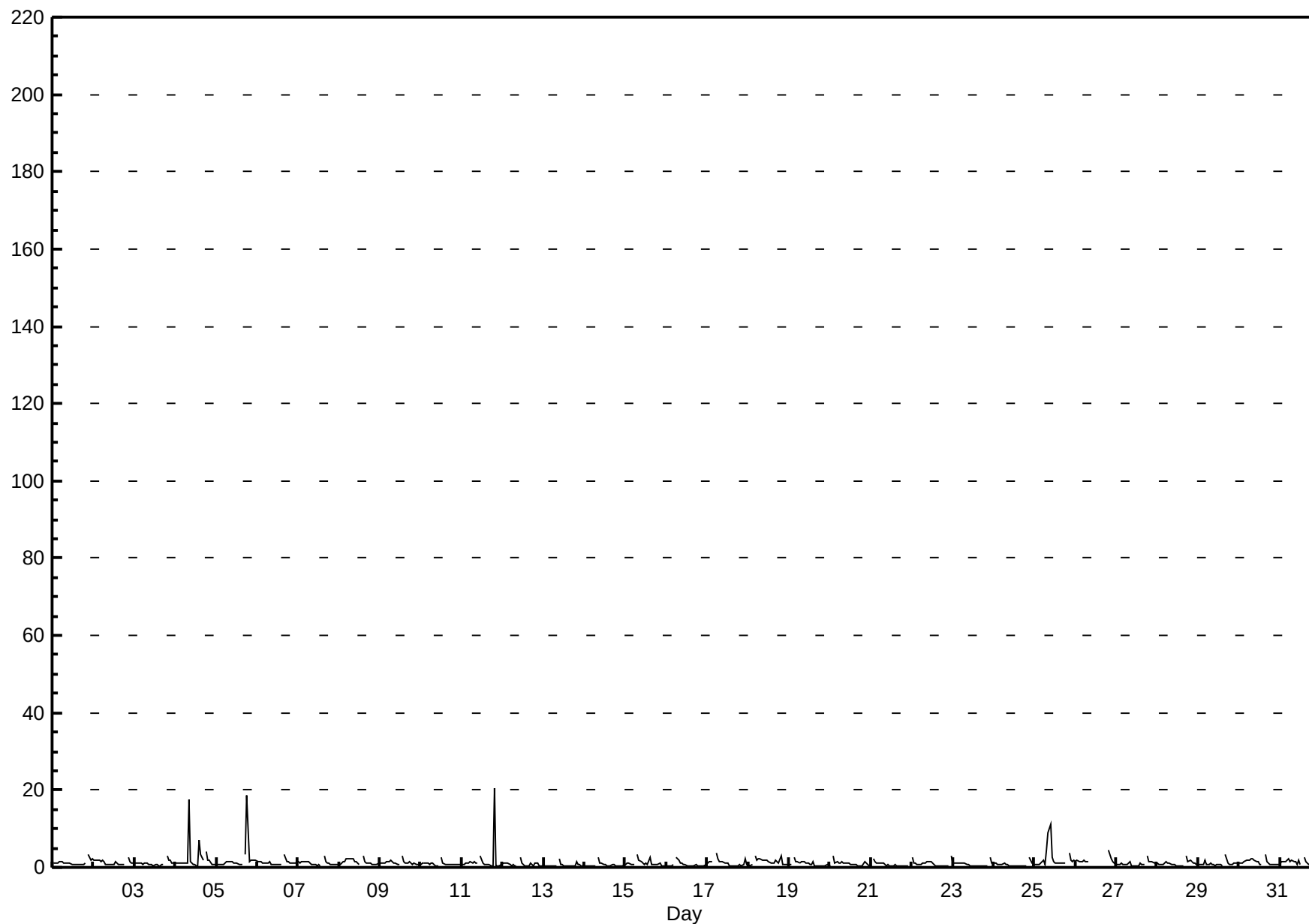
Oxides of Nitrogen (NO_x) - ppb

Sunset House - July 2013

Maximum Value: 20.7 ppb on Jul 11 20:00																				Maximum Daily Average: 2.3 ppb on Jul 4										Hours in Service: 744	
Minimum Value: 0 ppb on Jul 13 03:00																				Minimum Daily Average: 0.5 ppb on Jul 13										Hours of Data: 702	
Maximum Diurnal Average: 2.1 ppb at hour 9																				Minimum Diurnal Average: 0.7 ppb at hour 14										Hours of Missing Data: 42	
Monthly Average: 1.18 ppb																				Percentiles: P ₁ = 0.3 P ₁₀ = 0.5 Q ₁ = 0.6 Median = 0.9 Q ₃ = 1.3 P ₉₀ = 1.9 P ₉₉ = 3.3										Hours of Calibration: 42	
																				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	1	1	1	A	3	2	2	1.2	3.3					
2-Jul	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	A	3	1	1	1	1.3	2.7					
3-Jul	1	1	1	1	1	1	1	1	1	1	1	0	1	1	0	0	1	1	A	3	2	2	1	1	1.0	3.2					
4-Jul	1	1	1	1	1	1	1	1	17	2	1	1	0	0	7	3	2	A	4	2	2	1	1	1	2.3	17.4					
5-Jul	1	1	1	1	1	1	1	2	2	2	1	1	1	1	1	1	A	3	19	1	2	2	2	2	2.0	18.6					
6-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	3	1	1	1	1	1	1	1	1.2	3.2					
7-Jul	1	1	1	1	2	1	1	1	1	1	1	0	1	1	A	3	1	1	1	1	1	1	1	1	1.1	2.9					
8-Jul	1	1	1	2	2	2	2	2	2	2	2	1	1	A	3	1	1	1	1	1	1	1	1	1	1.4	3.1					
9-Jul	1	1	1	1	1	2	2	1	1	1	1	1	A	3	1	1	1	1	1	1	1	1	1	1	1.2	2.8					
10-Jul	1	1	1	1	1	1	1	1	1	0	0	A	3	1	1	1	1	1	1	1	1	1	1	1	0.9	2.6					
11-Jul	1	1	1	1	1	1	1	2	1	1	A	3	1	1	1	1	1	0	0	21	0	1	1	1	1.9	20.7					
12-Jul	1	1	1	1	1	1	1	0	0	A	2	1	1	0	0	0	1	1	0	1	1	0	0	0	0.8	2.5					
13-Jul	0	0	0	0	0	0	0	0	A	2	1	1	0	0	0	0	0	0	0	1	1	1	0	0	0.5	2.1					
14-Jul	0	0	0	0	0	0	0	A	3	1	1	1	1	0	1	1	1	1	1	0	1	1	1	1	0.6	2.7					
15-Jul	1	1	1	1	1	1	A	3	2	2	1	1	1	1	3	1	1	1	1	1	1	1	1	1	1.0	3.3					
16-Jul	1	1	0	0	1	A	3	2	1	1	1	1	1	0	0	1	1	1	1	1	1	1	0	1	0.7	2.7					
17-Jul	1	2	2	2	A	4	2	2	1	2	1	1	1	0	0	0	1	0	0	1	1	1	2	1	1.2	3.9					
18-Jul	1	1	1	A	3	2	2	2	2	2	2	1	1	1	1	1	2	1	1	3	1	1	1	1	1.5	3.1					
19-Jul	1	1	A	3	1	1	1	1	1	1	1	1	1	1	0	0	0	0	1	0	0	1	1	1	1.0	2.6					
20-Jul	1	A	3	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1.0	2.9					
21-Jul	A	2	1	1	1	1	1	1	1	1	1	0	1	1	1	0	0	0	0	0	0	0	1	A	0.7	2.3					
22-Jul	3	1	1	1	1	1	1	1	1	1	2	1	1	1	1	0	0	0	0	0	0	1	A	3	1.0	2.8					
23-Jul	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	A	3	1	0.8	2.7					
24-Jul	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	A	3	1	1	0.7	2.7					
25-Jul	1	1	1	1	1	2	1	5	9	11	3	1	1	1	1	1	1	1	1	A	4	2	2	2	2.3	11.1					
26-Jul	2	2	2	2	2	2	1	1	C	C	C	C	C	C	C	C	C	C	A	5	3	2	1	1	--	4.5					
27-Jul	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	A	3	1	1	1	1	1	1.0	3.0					
28-Jul	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	A	3	2	2	1	1	1	1	1.0	2.9					
29-Jul	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	A	3	1	1	1	1	1	1	1	0.9	3.3					
30-Jul	1	1	1	1	2	2	2	2	2	2	2	1	1	1	A	3	1	1	1	1	1	1	1	1	1.4	3.2					
31-Jul	1	2	2	2	2	2	2	2	2	1	1	2	1	A	3	1	1	1	1	1	1	1	1	1	1.3	2.7					
1.0 1.0 1.1 1.1 1.2 1.3 1.3 1.5 2.1 1.5 1.0 1.0 0.8 0.7 1.2 0.9 1.0 0.9 1.5 1.8 1.2 1.1 1.0 1.0																									Diurnal Average						
2.6 2.3 2.9 2.6 3.0 3.9 2.7 4.7 17.4 11.1 2.5 3.1 2.6 2.8 7.2 3.2 3.3 3.2 18.6 20.7 3.7 3.3 2.7 2.8																									Diurnal Maximum						
C - Calibration A - Automated Daily Zero Span																															

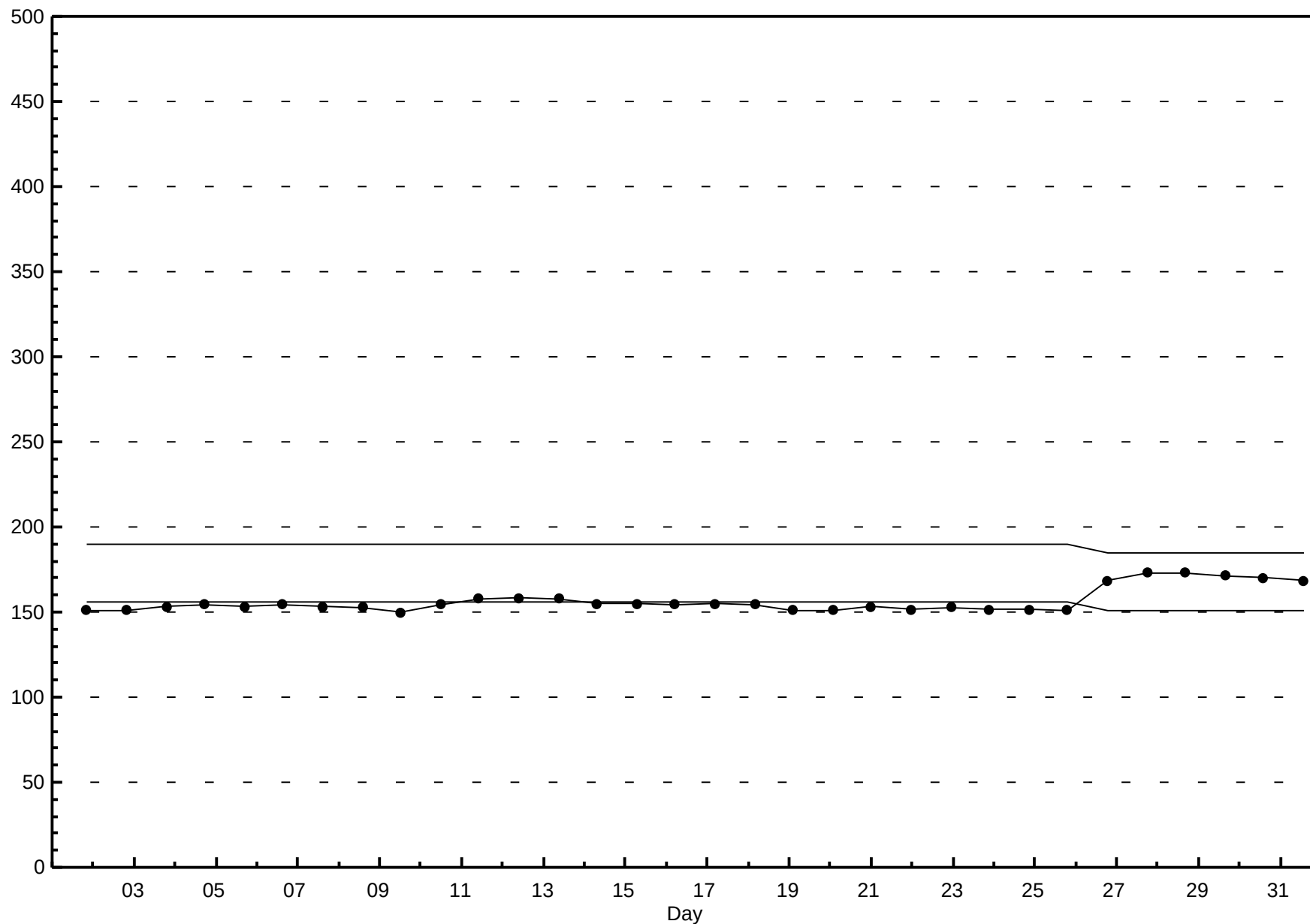
Hourly Maximums

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



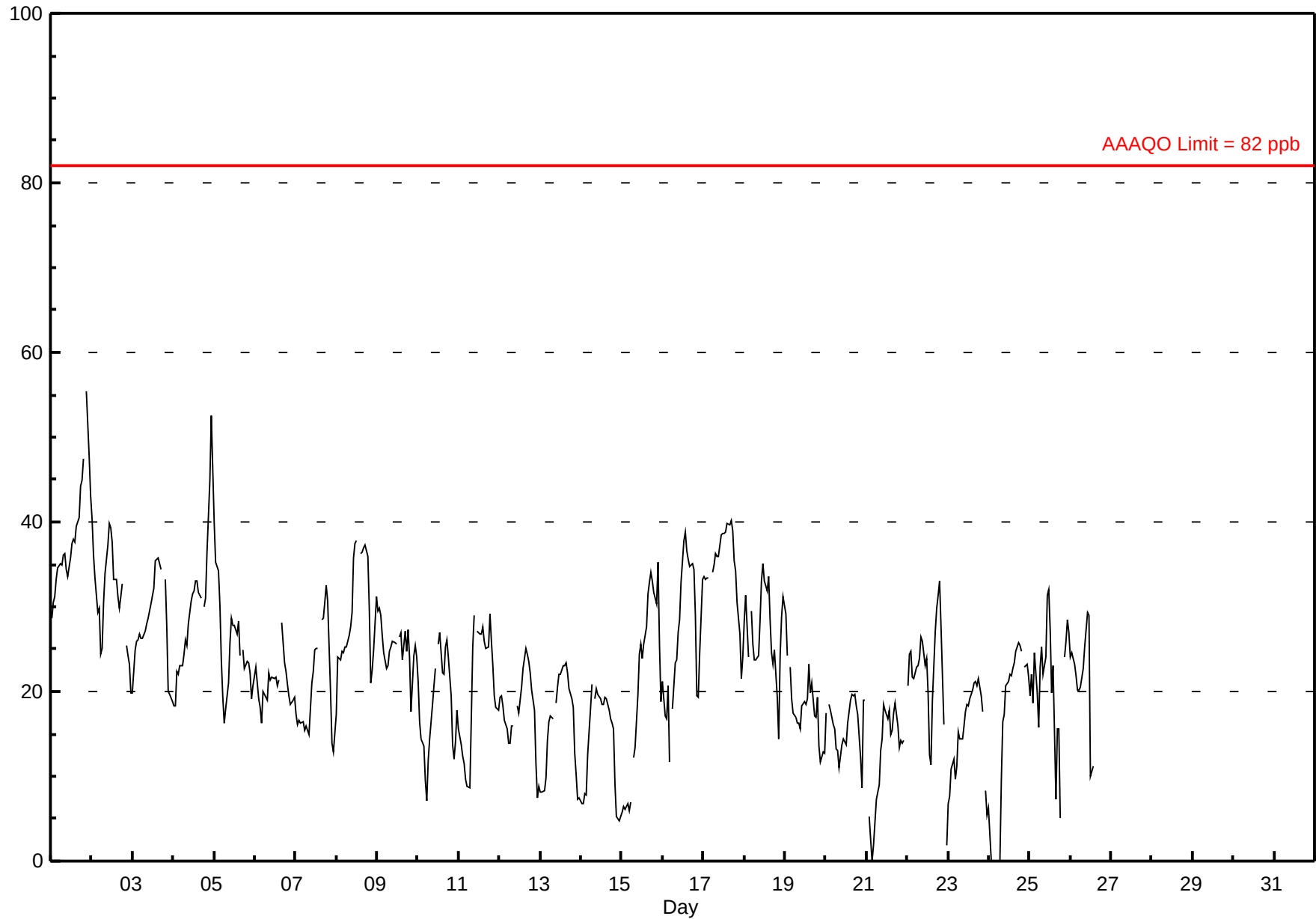
Span Responses

Oxides of Nitrogen (NO_x)
Sunset House - July 2013



Hourly Averages

Ozone (O₃) - ppb
Sunset House - July 2013



Hourly Maximums

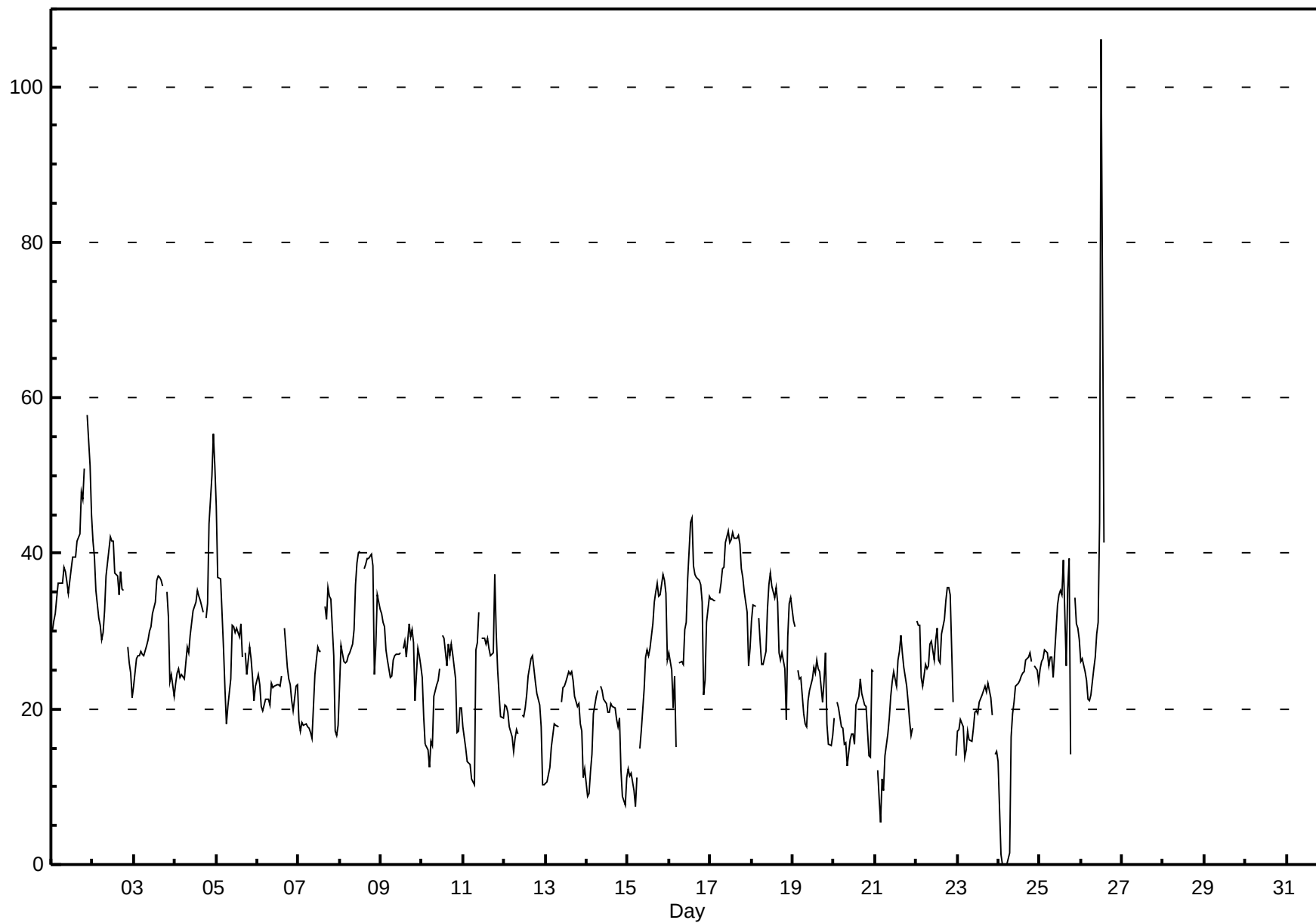
Ozone (O₃) - ppb

Sunset House - July 2013

Maximum Value: 106.0 ppb on Jul 26 13:00																				Maximum Daily Average: 40.2 ppb on Jul 1					Hours in Service: 744	
Minimum Value: 0 ppb on Jul 24 03:00																				Minimum Daily Average: 16.9 ppb on Jul 14					Hours of Data: 588	
Maximum Diurnal Average: 32.7 ppb at hour 13																				Minimum Diurnal Average: 20.3 ppb at hour 5					Hours of Missing Data: 156	
Monthly Average: 26.16 ppb																				Percentiles: P ₁ = 4.1 P ₁₀ = 15.5 Q ₁ = 20.4 Median = 25.7 Q ₃ = 31.7 P ₉₀ = 37.3 P ₉₉ = 50.7					Hours of Calibration: 26	
																									Percent Operational Time: 82.5	
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	30	31	32	34	36	36	36	38	38	36	35	38	40	40	42	43	48	47	51	A	58	51	45	40.2	57.9	
2-Jul	42	40	35	32	31	29	30	33	37	40	42	41	42	37	37	35	38	35	A	28	26	25	22	34.4	42.1	
3-Jul	23	26	27	27	27	27	27	28	29	30	31	32	34	37	37	37	36	A	35	32	24	24	22	29.9	37.1	
4-Jul	23	25	25	24	24	24	26	28	27	29	33	33	34	35	35	34	32	A	32	34	44	50	55	51	33.0	55.4
5-Jul	46	37	37	32	28	22	18	20	24	31	31	30	30	29	31	27	A	27	24	28	27	24	21	23	28.1	46.0
6-Jul	24	23	20	20	20	21	21	20	23	23	23	23	23	23	24	A	30	25	24	23	21	20	23	23	22.7	30.4
7-Jul	18	17	18	18	18	18	17	17	16	25	26	28	27	27	A	33	31	36	34	34	27	17	17	18	23.4	35.5
8-Jul	23	28	26	26	26	27	27	28	30	36	39	40	A	38	39	39	39	40	38	24	28	35	33	32.6	40.3	
9-Jul	32	31	31	28	26	24	24	26	27	27	27	A	28	29	27	31	29	30	29	21	28	27	26	27.6	32.2	
10-Jul	24	19	16	15	13	16	15	22	23	24	25	A	29	29	26	28	27	28	27	24	17	17	20	20	21.9	29.5
11-Jul	18	15	13	13	13	11	10	28	29	32	A	29	29	28	29	28	27	27	37	30	25	22	19	19	23.1	37.3
12-Jul	20	20	20	18	16	15	16	17	17	A	19	19	20	22	24	27	27	25	23	22	20	18	10	10	19.4	26.9
13-Jul	10	11	13	15	17	18	18	18	A	21	23	23	23	25	25	25	24	22	20	21	18	17	11	12	18.6	24.9
14-Jul	9	9	12	14	19	22	22	A	23	22	21	21	20	20	21	20	20	19	18	19	12	9	8	11	16.9	22.9
15-Jul	12	11	12	10	8	11	A	15	17	22	27	28	27	28	31	34	35	36	35	35	37	36	35	26	24.6	37.3
16-Jul	27	25	20	24	15	A	26	26	26	30	31	37	44	45	38	37	37	37	36	34	22	24	31	35	30.7	44.5
17-Jul	34	34	34	34	A	35	36	38	38	41	43	41	42	43	42	42	41	38	37	35	32	26	28	37.3	42.9	
18-Jul	31	33	33	A	32	28	26	26	27	33	36	37	36	34	36	34	27	26	27	25	19	29	34	34	30.6	37.4
19-Jul	31	30	A	25	24	24	19	18	18	21	22	24	25	25	26	25	25	21	23	27	18	15	15	17	22.6	31.3
20-Jul	19	A	21	20	18	18	15	16	13	16	17	17	16	21	22	24	22	21	20	20	14	14	25	25	18.8	25.0
21-Jul	A	12	8	5	11	10	14	17	19	22	23	25	23	26	27	29	27	25	23	21	18	17	18	A	19.1	29.5
22-Jul	31	31	31	24	23	26	25	26	28	29	26	29	30	26	26	30	31	34	36	36	35	21	A	14	28.1	35.7
23-Jul	17	17	19	18	14	15	17	16	16	18	20	20	19	21	22	22	23	22	23	21	19	A	14	15	18.6	23.2
24-Jul	13	1	0	0	0	0	1	16	19	21	23	23	24	24	25	25	26	27	27	26	A	26	25	23	17.2	27.2
25-Jul	25	26	27	28	27	26	27	27	24	30	33	35	35	35	39	25	35	39	14	A	34	31	30	29	29.6	39.3
26-Jul	26	27	25	24	21	21	22	25	27	30	31	44	106	41	N	N	N	N	N	N	N	N	N	N	--	106.0
27-Jul	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
28-Jul	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
29-Jul	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
30-Jul	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
31-Jul	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
24.5 23.2 22.1 21.1 20.3 20.9 21.5 23.6 24.6 27.6 28.3 29.7 32.7 29.9 30.3 30.3 30.7 30.3 29.0 29.1 24.7 25.1 24.9 24.2																									Diurnal Average	
46.0 39.6 36.7 34.2 36.2 36.2 36.2 38.3 38.2 41.4 42.9 44.0 106.0 44.5 42.0 42.0 42.5 47.9 46.9 50.8 43.8 57.9 55.4 51.3																									Diurnal Maximum	
N - Not Valid A - Automated Daily Zero Span																										

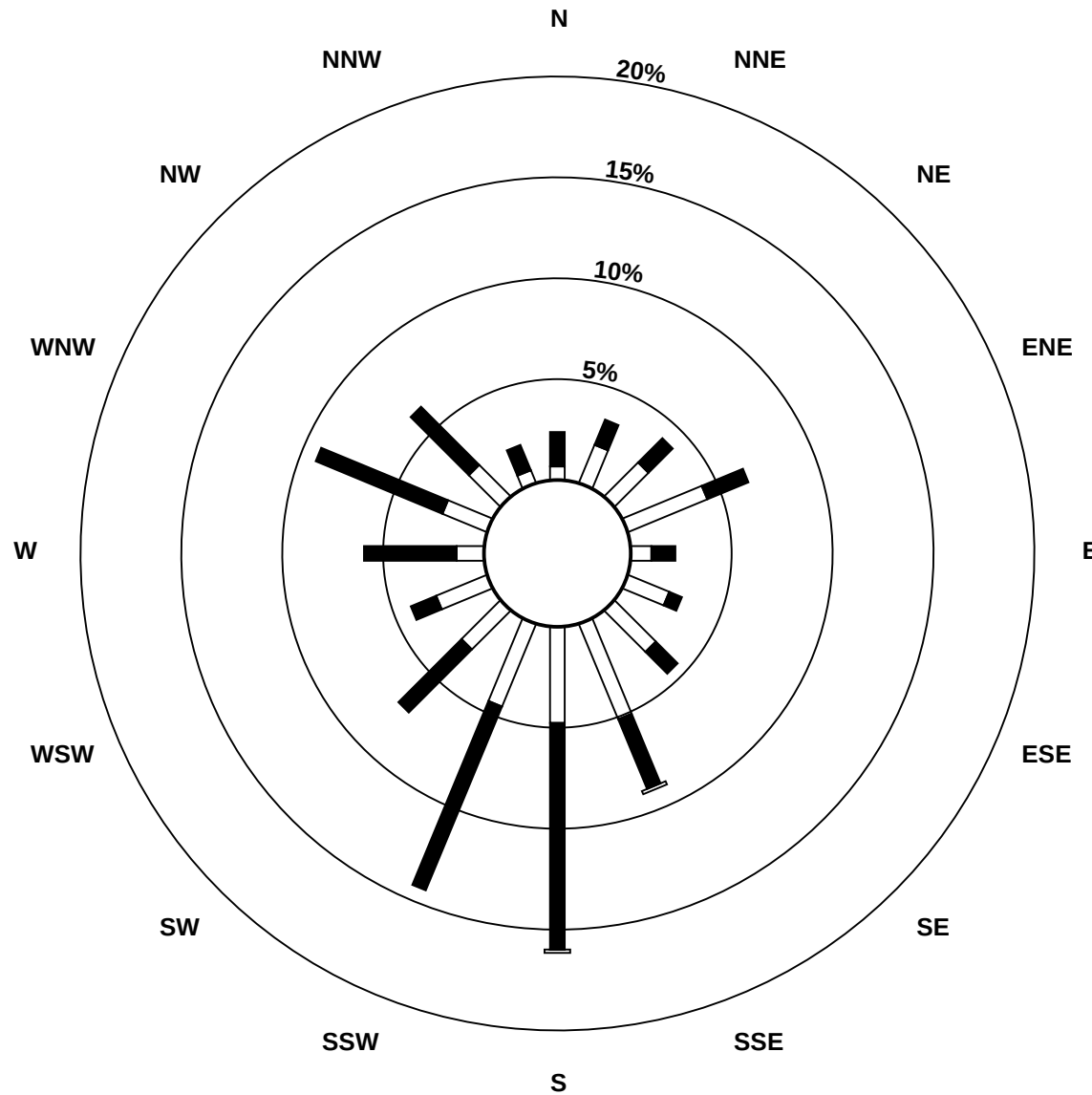
Hourly Maximums

Ozone (O₃) - ppb
Sunset House - July 2013

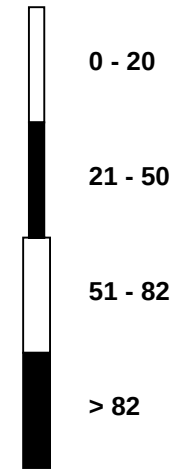


Pollutant Rose

Ozone (O₃) - ppb
Sunset House - July 2013



Pollutant Classes (ppb)



Eight Hour Running Averages

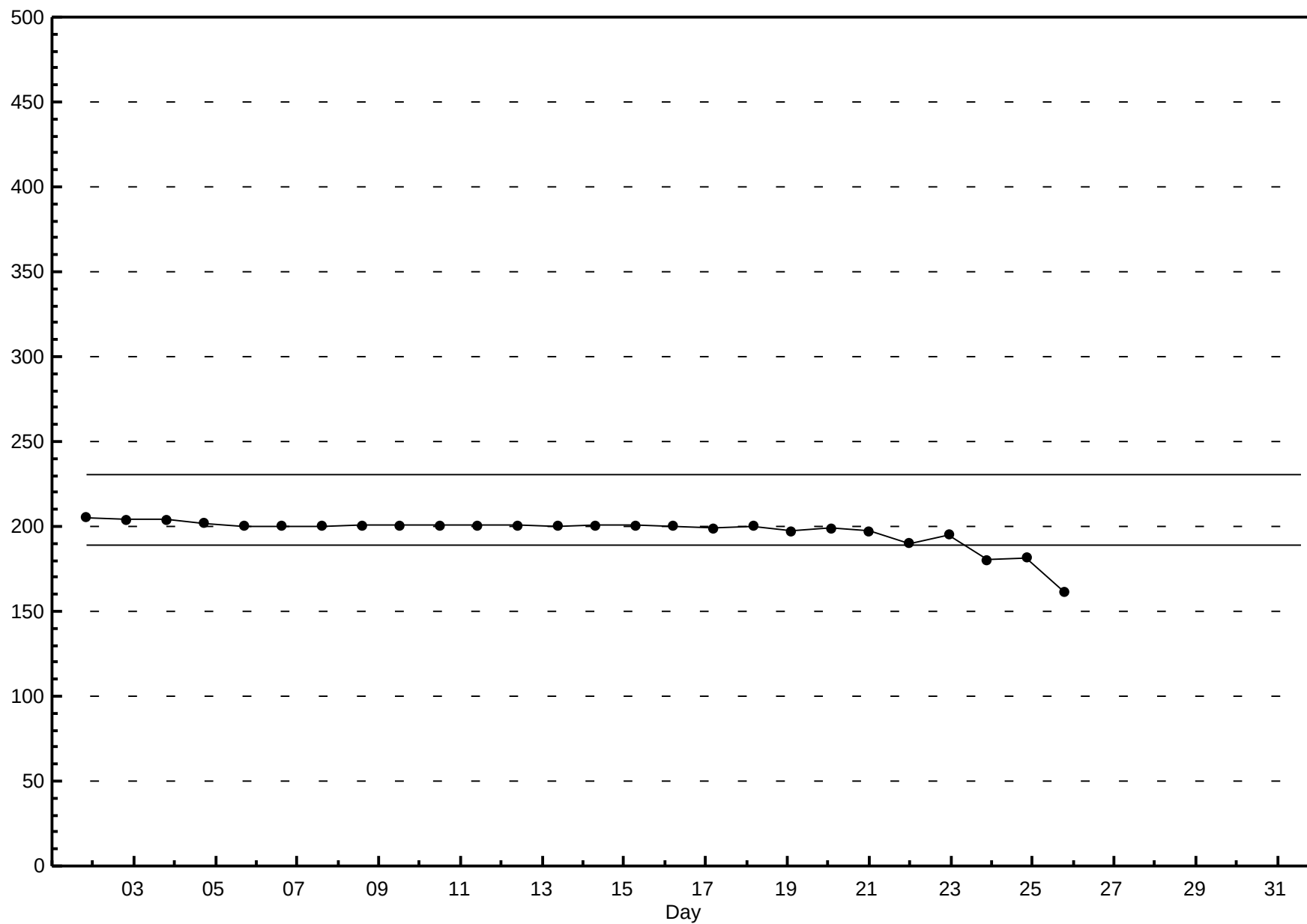
Ozone (O₃) - ppb

Sunset House - July 2013

Maximum Value: 46.2 ppb on Jul 2 00:00																								Hours in Service: 744	
Minimum Value: 0.0 ppb on Jul 24 05:00																								Hours of Data: 616	
Percentiles: P ₁ = 1.0 P ₁₀ = 13.1 Q ₁ = 17.3 Median = 22.3 Q ₃ = 27.3 P ₉₀ = 34.0 P ₉₉ = 42.7																								Hours of Missing Data: 128	
																								Hours of Calibration: 0	
																								Percent Operational Time: 82.8	
Day	Hourly Period Ending At (MST)																							Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23		24
1-Jul	32	31	31	31	32	32	32	33	34	34	35	35	35	36	36	37	37	38	40	41	42	44	46	46	46.2
2-Jul	46	45	43	41	39	36	33	31	30	30	31	33	33	35	36	36	35	34	34	33	31	30	28	27	46.1
3-Jul	25	24	23	24	24	24	24	25	26	27	27	28	29	30	31	32	33	34	34	35	34	32	29	27	34.5
4-Jul	25	22	22	21	20	21	21	22	23	24	25	26	28	29	30	31	31	32	32	32	32	34	37	39	38.9
5-Jul	40	40	40	40	38	35	31	27	25	24	23	23	23	24	25	26	27	27	26	25	25	24	23	22	40.2
6-Jul	22	22	21	21	20	20	20	19	19	19	20	20	21	21	21	21	22	23	23	23	22	22	22	21	22.7
7-Jul	20	19	18	18	17	17	17	16	16	16	17	18	19	21	21	23	25	26	28	29	28	26	25	23	28.7
8-Jul	22	21	20	19	20	21	22	24	25	26	27	29	31	31	33	34	36	37	37	36	33	32	31	30	36.9
9-Jul	29	28	27	27	27	27	27	26	26	25	25	25	25	26	26	26	26	26	26	26	25	24	24	24	29.0
10-Jul	24	23	21	20	19	16	15	14	13	14	15	15	17	20	22	23	24	24	25	24	22	21	20	19	24.6
11-Jul	18	16	15	14	13	13	12	12	13	15	16	18	20	23	26	27	27	26	27	27	26	25	24	23	26.9
12-Jul	22	22	20	19	18	17	17	17	16	16	16	16	16	17	19	20	21	21	22	22	22	21	19	17	22.2
13-Jul	15	13	11	10	10	10	11	12	13	14	16	18	19	20	21	22	22	22	22	21	20	19	17	15	22.1
14-Jul	13	11	10	8	8	9	11	12	13	15	17	19	19	19	19	19	19	19	18	18	17	15	13	11	19.4
15-Jul	10	9	7	6	6	6	6	7	8	10	13	15	18	21	22	24	26	28	29	30	31	32	32	30	32.0
16-Jul	29	27	25	23	21	19	18	18	19	20	22	24	27	29	31	33	34	35	36	35	33	31	29	29	35.8
17-Jul	29	28	28	29	30	32	34	34	34	35	36	36	37	37	38	38	39	39	39	38	37	36	33	31	39.1
18-Jul	30	29	28	27	26	26	27	27	26	26	27	28	28	29	30	31	31	30	29	27	25	24	23	24	31.0
19-Jul	24	25	24	25	26	25	23	21	19	18	17	17	17	18	19	19	19	19	19	19	19	18	17	16	25.7
20-Jul	15	15	15	15	15	16	16	16	15	15	14	14	14	14	14	15	16	17	18	18	18	17	17	17	17.9
21-Jul	16	14	12	10	8	7	6	4	5	7	9	11	13	14	15	16	17	17	17	16	16	16	15	15	17.2
22-Jul	16	17	18	19	20	21	23	23	24	24	24	24	24	22	21	20	20	21	22	23	24	24	26	24	26.3
23-Jul	21	18	15	12	9	9	9	11	12	13	14	15	16	17	17	18	19	20	20	20	20	20	19	16	20.9
24-Jul	14	10	6	1	0	0	0	0	0	0	2	6	11	15	19	21	22	23	23	24	24	24	24	24	24.3
25-Jul	23	23	22	22	22	21	21	21	21	22	23	24	25	26	26	23	23	22	18	16	16	17	17	20	25.6
26-Jul	21	23	25	25	24	24	23	22	22	23	23	24	23	22	22	22	N	N	N	N	N	N	N	N	25.3
27-Jul	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--
28-Jul	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--
29-Jul	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--
30-Jul	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--
31-Jul	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--
Diurnal Maximums																									
N - Not Valid																									

Span Responses

Ozone (O₃)
Sunset House - July 2013



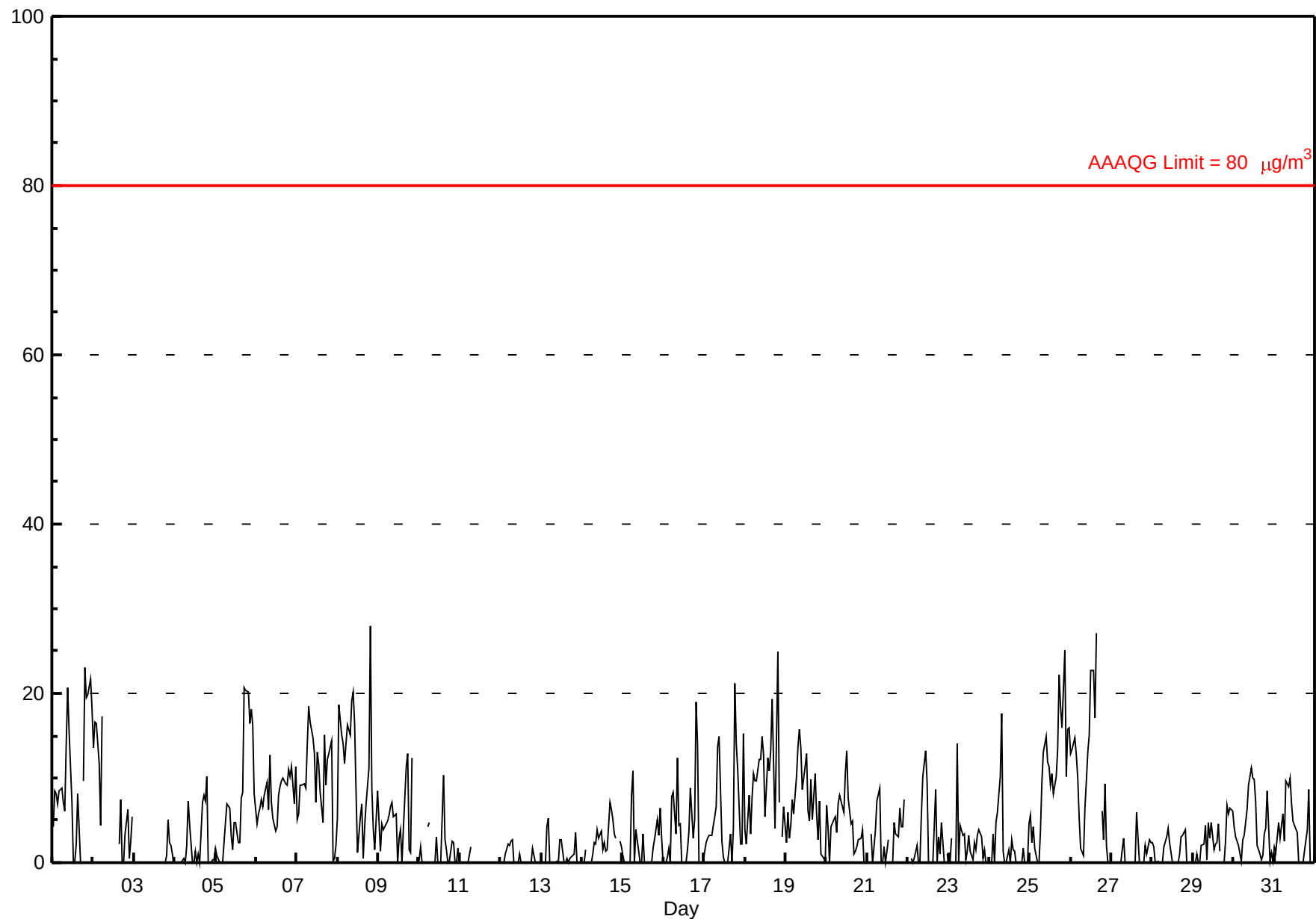
Hourly Averages

PM2.5 (PM_{2.5}) - µg/m³
Sunset House - July 2013

Number of Exceedences: 1-hr: 0 24-hr: 0 Maximum Value: 28.0 µg/m³ on Jul 8 20:00 Minimum Value: 0 µg/m³ on Jul 1 13:00 Maximum Diurnal Average: 7.6 µg/m³ at hour 20 Monthly Average: 4.79 µg/m³																					Maximum Daily Average: 10.9 µg/m³ on Jul 8 Minimum Daily Average: 0.6 µg/m³ on Jul 12 Minimum Diurnal Average: 3.0 µg/m³ at hour 1 Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 2.9 Q ₃ = 7.5 P ₉₀ = 13.0 P ₉₉ = 22.6										Hours in Service: 744 Hours of Data: 689 Hours of Missing Data: 55 Hours of Calibration: 0 Percent Operational Time: 92.6			
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	4	9	8	7	9	9	7	6	14	21	16	7	0	0	2	8	0	N	10	23	20	20	22	18	10.3	23.0								
2-Jul	14	17	16	12	4	17	N	N	N	N	N	0	N	2	N	2	8	0	0	3	6	1	2	5	--	17.3								
3-Jul	N	N	N	N	N	0	0	0	N	N	0	0	0	N	0	0	0	0	0	1	5	2	2	0	--	5.1								
4-Jul	0	0	0	0	0	0	0	2	7	5	0	0	1	0	1	0	7	8	7	10	0	0	0	0	2.1	10.2								
5-Jul	2	1	0	0	0	2	5	7	7	3	2	5	5	2	2	8	8	21	20	20	16	18	16	8	7.4	20.7								
6-Jul	5	6	6	7	7	8	10	6	13	7	5	4	4	8	9	10	10	9	9	11	10	11	7	11	8.1	12.7								
7-Jul	5	6	9	9	9	9	14	18	17	15	13	7	13	11	8	5	15	9	12	13	14	0	1	2	9.8	18.4								
8-Jul	5	19	15	14	12	14	16	15	19	20	16	8	1	5	7	1	4	7	11	28	9	4	1	8	10.9	28.0								
9-Jul	5	1	5	4	4	5	6	7	7	5	6	0	3	4	0	4	11	13	1	1	12	N	N	0	4.7	12.9								
10-Jul	0	2	0	0	N	4	5	N	0	0	3	0	0	0	10	3	2	0	0	3	2	0	0	2	1.6	10.4								
11-Jul	0	0	0	0	0	0	2	N	N	N	N	0	0	0	0	0	N	N	N	N	0	0	N	N	--	1.8								
12-Jul	N	N	0	1	2	2	3	3	0	0	0	1	0	0	0	0	0	0	0	2	0	0	0	N	0.6	2.7								
13-Jul	0	0	0	4	5	0	0	0	0	0	0	3	3	0	0	0	0	0	1	1	4	0	0	0	0.9	5.3								
14-Jul	0	0	1	N	0	0	1	2	2	4	3	4	2	2	1	2	7	6	5	3	3	N	2	2	2.4	7.2								
15-Jul	1	0	N	N	0	8	11	0	4	1	0	0	3	0	0	0	0	0	2	3	5	3	6	3	2.3	10.8								
16-Jul	0	0	1	2	0	8	8	3	12	4	5	0	N	0	1	4	9	3	5	19	14	0	N	0	4.5	18.9								
17-Jul	1	2	3	3	3	4	5	7	14	15	3	1	0	0	0	3	0	4	21	14	11	2	2	15	5.6	21.1								
18-Jul	4	2	8	3	8	11	10	10	12	12	15	13	5	12	11	13	19	12	4	25	7	N	3	7	9.8	24.9								
19-Jul	2	6	3	4	7	6	10	14	16	14	9	11	13	6	5	10	5	11	6	3	7	1	1	0	7.0	15.7								
20-Jul	7	4	0	4	5	5	4	7	8	7	6	11	13	8	5	5	1	1	2	3	3	4	0	0	4.6	13.2								
21-Jul	0	N	3	0	2	4	7	9	0	0	2	0	3	N	N	0	5	3	3	6	4	4	7	N	3.2	8.8								
22-Jul	N	N	1	0	1	2	0	0	6	10	13	9	0	0	0	0	9	0	3	1	5	0	N	1	2.9	13.2								
23-Jul	0	0	3	N	0	14	0	4	3	3	0	1	3	1	0	2	2	3	4	3	1	1	0	0	2.2	14.0								
24-Jul	0	0	3	0	5	6	10	18	1	0	0	1	0	3	1	1	0	0	0	0	2	0	0	5	2.4	17.6								
25-Jul	6	2	4	2	0	0	4	9	13	15	12	11	9	11	8	10	13	22	19	16	25	10	16	16	10.6	25.0								
26-Jul	13	13	15	13	10	5	2	1	6	10	13	15	23	23	17	27	M	M	6	3	9	2	0	N	10.7	27.1								
27-Jul	N	0	0	0	0	0	1	3	0	N	N	0	0	0	0	6	0	0	0	0	2	1	3	2	0.9	5.9								
28-Jul	2	2	0	0	0	0	0	2	3	4	2	1	0	0	0	0	1	3	3	4	0	0	0	0	1.2	4.1								
29-Jul	0	0	1	0	0	2	2	4	0	5	3	5	2	2	2	5	1	N	0	3	7	6	7	6	2.7	6.8								
30-Jul	4	3	3	2	0	3	3	5	6	9	11	10	10	7	2	1	0	1	3	4	8	0	1	0	4.1	11.3								
31-Jul	2	1	5	3	4	6	3	10	9	10	7	5	4	4	0	0	0	0	1	4	9	0	0	0	3.6	10.0								
3.0 3.5 3.9 3.5 3.4 5.0 4.9 6.1 7.1 7.4 5.8 4.3 4.1 3.9 3.3 4.2 4.7 5.1 5.3 7.6 7.1 3.3 3.7 4.2 13.6 18.6 16.5 14.1 11.7 17.3 16.3 18.4 19.1 20.8 16.5 15.2 22.7 22.6 17.2 27.1 19.2 22.3 21.1 28.0 25.0 19.8 21.8 18.1																									Diurnal Average	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 Averages

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



Hourly Maximums

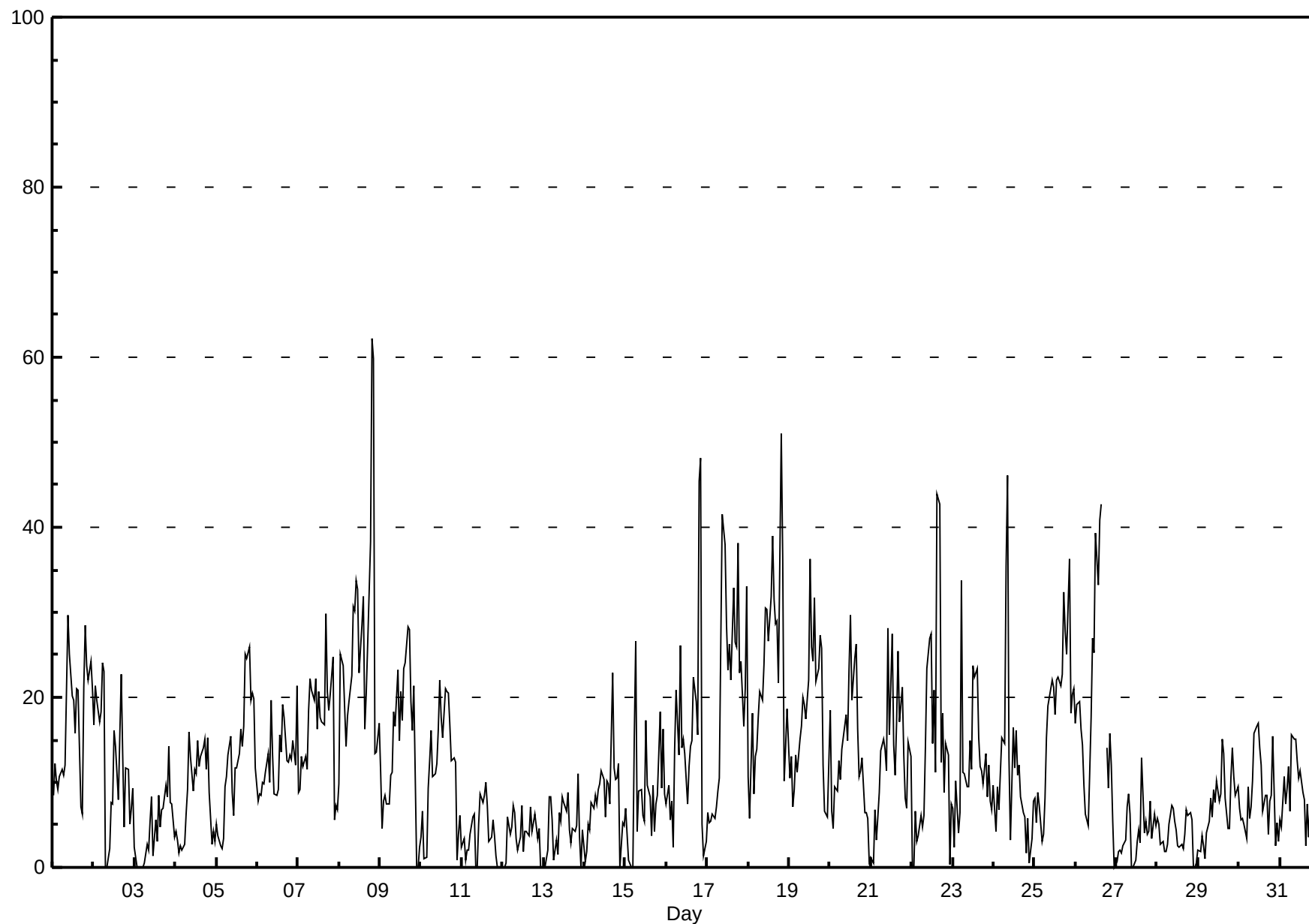
PM2.5 (PM_{2.5}) - µg/m³

Sunset House - July 2013

Maximum Value: 62.2 μg/m³ on Jul 8 20:00																				Maximum Daily Average: 26.2 μg/m³ on Jul 8										Hours in Service: 744	
Minimum Value: 0 μg/m³ on Jul 2 08:00																				Minimum Daily Average: 3.8 μg/m³ on Jul 12										Hours of Data: 742	
Maximum Diurnal Average: 17.2 μg/m³ at hour 21																				Minimum Diurnal Average: 6.3 μg/m³ at hour 2										Hours of Missing Data: 2	
Monthly Average: 12.11 μg/m³																				Percentiles: P ₁ = 0.0 P ₁₀ = 2.2 Q ₁ = 5.4 Median = 9.8 Q ₃ = 16.8 P ₉₀ = 23.9 P ₉₉ = 42.6										Hours of Calibration: 0	
																				Percent Operational Time: 99.7											
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum					
1-Jul	8	12	10	9	11	12	11	12	21	30	25	20	16	21	7	6	21	28	24	22	24	21	17.2	29.7							
2-Jul	17	21	20	17	18	24	23	0	0	2	8	7	16	14	8	16	23	13	5	12	12	5	7	9	12.4	24.1					
3-Jul	2	0	0	0	0	0	1	3	2	5	8	1	6	3	8	5	7	7	10	8	14	8	8	3	4.6	14.3					
4-Jul	4	3	2	3	2	3	6	9	16	13	9	12	11	15	12	13	14	15	12	15	9	3	4	3	8.6	15.9					
5-Jul	5	4	2	2	3	10	11	13	15	9	6	12	12	13	16	14	17	25	25	26	20	20	20	12	13.0	26.0					
6-Jul	8	9	9	10	10	11	13	10	20	13	9	8	9	16	14	19	18	12	12	13	13	15	12	21	12.7	21.3					
7-Jul	9	9	13	12	13	12	19	22	21	20	22	16	21	18	17	17	30	21	18	20	25	6	7	7	16.4	29.9					
8-Jul	10	25	24	19	14	18	19	23	31	30	34	33	23	28	32	16	20	26	38	62	60	13	13	17	26.2	62.2					
9-Jul	11	5	8	8	7	7	11	11	18	17	23	15	21	17	23	24	28	28	20	16	21	0	0	2	14.3	28.3					
10-Jul	3	7	1	1	9	12	16	11	11	12	16	22	18	15	21	21	20	17	12	13	12	1	4	6	11.8	22.0					
11-Jul	2	3	1	2	2	4	6	6	0	0	5	9	8	9	10	7	3	4	6	4	1	0	0	0	3.8	10.0					
12-Jul	0	0	0	6	4	5	7	6	3	2	4	7	2	4	4	4	7	4	5	6	3	5	0	0	3.8	7.3					
13-Jul	0	0	2	8	8	6	1	3	1	6	5	8	8	7	9	4	3	5	4	5	11	4	0	4	4.7	11.0					
14-Jul	1	2	5	4	8	7	8	7	9	10	11	10	6	10	10	7	23	12	10	10	12	0	5	5	8.1	22.8					
15-Jul	7	4	1	0	0	15	27	4	9	9	6	6	17	10	8	4	10	4	7	8	18	9	16	9	8.7	26.7					
16-Jul	7	10	6	8	2	14	21	13	26	14	15	13	7	12	14	15	22	19	16	45	48	5	1	3	14.9	48.1					
17-Jul	6	5	5	6	6	7	9	10	26	42	38	28	23	26	22	33	26	26	38	23	24	17	21	33	20.9	41.5					
18-Jul	11	6	18	9	13	14	18	21	20	24	31	30	27	32	39	32	29	29	22	51	36	10	14	19	23.0	51.0					
19-Jul	10	13	7	9	13	11	15	17	20	19	17	22	36	26	24	32	22	23	27	26	12	7	6	12	17.8	36.3					
20-Jul	19	7	5	10	9	13	10	14	15	18	15	23	30	20	25	26	16	11	11	13	6	6	6	1	13.6	29.6					
21-Jul	1	1	7	3	6	9	14	15	14	11	28	16	27	14	11	17	25	17	21	13	8	7	15	13	13.1	28.2					
22-Jul	0	0	7	3	4	6	5	6	14	23	27	28	15	21	11	44	43	12	18	9	15	13	0	7	13.8	44.0					
23-Jul	7	2	10	4	6	34	11	11	9	9	15	11	24	22	23	15	12	11	10	13	8	12	8	7	12.4	33.7					
24-Jul	10	4	9	7	11	15	15	35	46	13	3	16	12	16	11	12	8	6	6	2	6	1	3	8	11.5	46.2					
25-Jul	8	5	9	7	3	4	8	15	19	21	22	21	18	22	22	21	23	32	28	25	36	18	20	21	18.0	36.3					
26-Jul	17	19	19	16	14	10	6	5	11	18	27	25	39	33	41	43	M	M	14	9	16	12	5	0	18.2	42.8					
27-Jul	1	2	2	2	3	3	7	9	6	0	0	1	3	4	3	13	4	5	4	4	8	3	6	5	4.1	12.8					
28-Jul	6	5	3	3	2	2	3	5	7	7	5	4	2	2	3	2	4	7	6	6	6	0	0	1	3.8	7.3					
29-Jul	2	2	4	3	1	4	5	8	6	9	8	10	8	9	15	13	8	5	5	10	14	11	8	9	7.4	15.0					
30-Jul	7	6	6	5	3	9	6	7	10	16	17	17	14	12	7	9	9	4	8	8	15	3	5	3	8.5	17.0					
31-Jul	6	5	11	7	9	12	7	16	15	15	13	10	11	9	8	3	7	4	8	13	18	3	1	0	8.7	17.8					
6.6 6.3 7.2 6.6 7.0 10.0 10.9 11.2 14.3 14.1 15.2 15.0 15.9 15.4 15.9 16.8 16.3 13.7 14.4 16.8 17.2 7.7 7.8 8.5																								Diurnal Average							
18.5 25.1 23.8 18.9 18.3 33.7 26.7 35.4 46.2 41.5 37.9 32.8 39.3 33.3 40.8 44.0 42.7 32.3 38.4 62.2 59.9 22.0 24.2 33.0																								Diurnal Maximum							
M - Maintenance																															

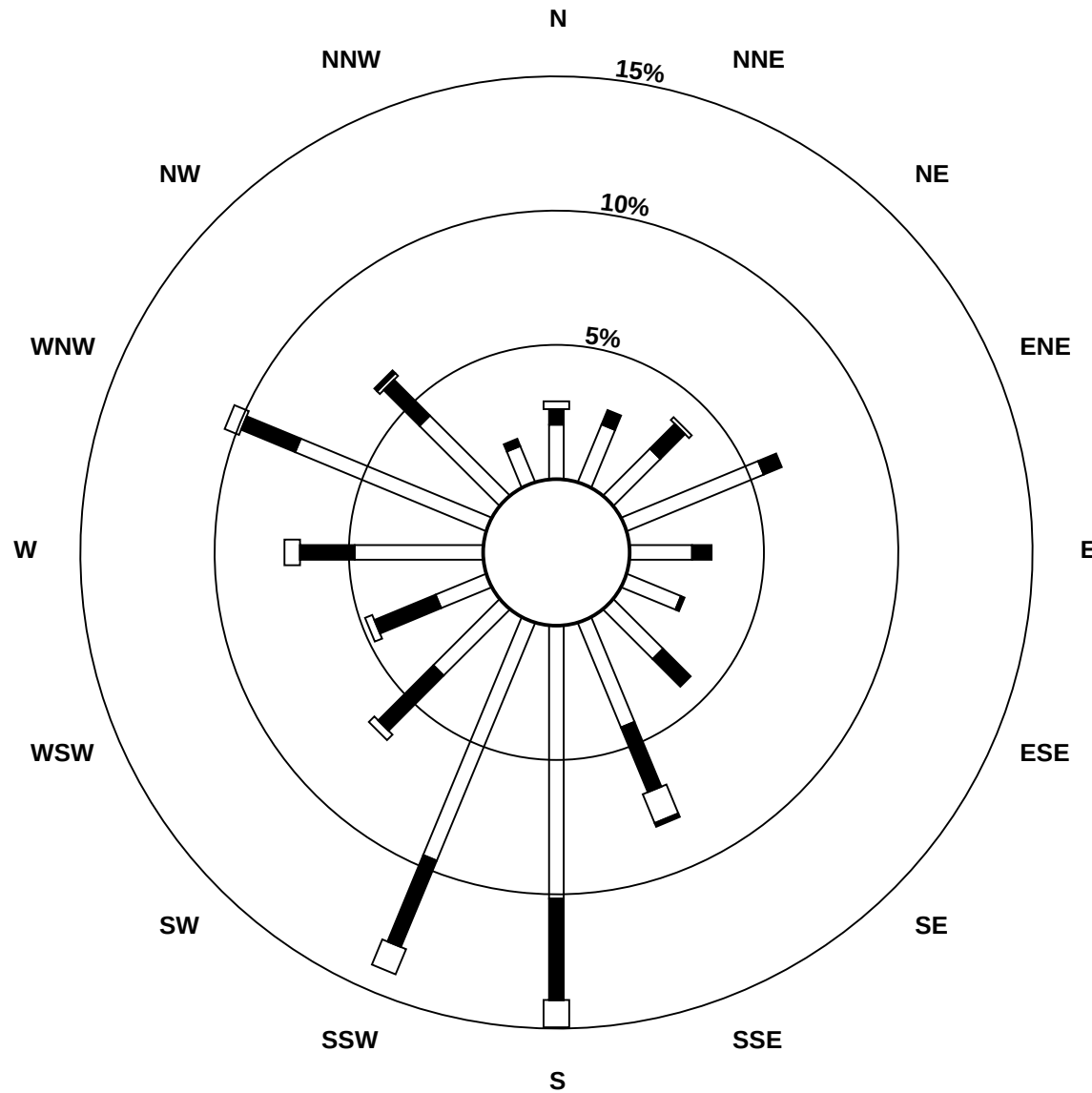
Hourly Maximums

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

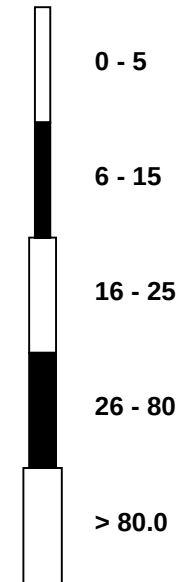


Pollutant Rose

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



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



Hourly Averages

External Temperature (ET) - °C

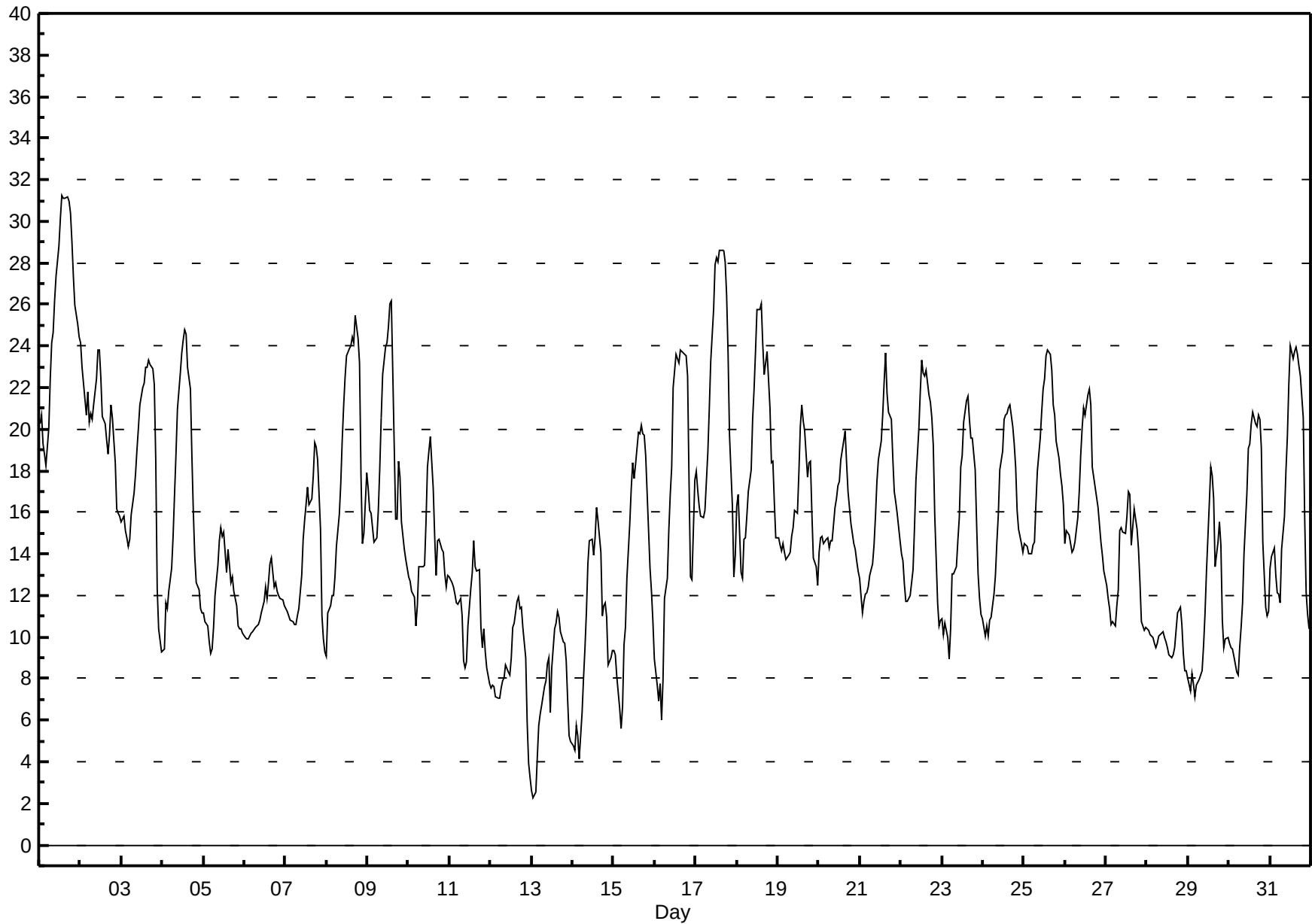
Sunset House - July 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 31.3 °C on Jul 1 14:00 Maximum Daily Average: 25.8 °C on Jul 1																								Hours in Service: 744 Hours of Data: 744 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0		
Minimum Value: 2 °C on Jul 13 02:00 Maximum Diurnal Average: 20.0 °C at hour 15 Monthly Average: 15.32 °C												Minimum Daily Average: 7.4 °C on Jul 13 Minimum Diurnal Average: 11.4 °C at hour 5 Percentiles: P ₁ = 4.5 P ₁₀ = 9.1 Q ₁ = 11.1 Median = 14.6 Q ₃ = 19.3 P ₉₀ = 23.0 P ₉₉ = 29.9														
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	20	21	19	19	18	20	22	24	25	26	27	29	30	31	31	31	31	31	30	29	27	26	25	24	25.8	31.3
2-Jul	24	23	22	21	22	20	21	20	21	22	24	24	22	21	20	19	19	20	21	21	18	16	16	16	20.6	24.2
3-Jul	16	16	15	15	14	15	16	17	18	19	20	21	22	22	23	23	23	23	23	22	19	12	10	9	18.1	23.3
4-Jul	9	9	12	11	12	13	15	17	19	21	23	24	24	25	25	23	22	19	16	14	13	12	11	11	16.7	24.8
5-Jul	11	11	11	10	9	9	10	12	13	15	15	15	15	13	14	13	13	13	12	11	11	10	10	10	12.0	15.3
6-Jul	10	10	10	10	10	10	10	11	11	11	11	12	12	12	13	14	14	12	13	12	12	12	12	12	11.4	13.8
7-Jul	11	11	11	11	11	11	11	11	11	13	15	16	16	17	16	17	18	19	19	19	15	11	10	9	13.7	19.3
8-Jul	9	11	11	12	12	13	14	16	17	19	21	22	24	24	24	24	24	25	24	23	18	15	15	18	18.2	25.5
9-Jul	17	16	16	15	15	15	16	18	21	23	24	24	25	26	26	23	16	16	18	18	16	14	14	13	18.5	26.2
10-Jul	13	13	12	12	11	12	13	13	13	13	16	18	19	20	17	15	13	15	15	14	14	13	12	13	14.1	19.6
11-Jul	13	13	12	12	12	12	12	11	9	9	9	11	12	13	15	13	13	13	10	10	10	9	9	8	11.2	14.6
12-Jul	8	8	8	7	7	7	8	8	8	9	8	8	9	10	11	12	12	11	11	10	9	6	4	3	8.4	11.9
13-Jul	3	2	3	4	6	6	7	8	8	9	9	6	8	10	11	11	11	10	10	10	9	7	5	5	7.4	11.2
14-Jul	5	5	6	5	4	6	8	9	11	14	15	15	14	15	16	16	14	11	12	12	11	9	9	9	10.4	16.2
15-Jul	9	9	8	7	6	7	10	10	13	15	17	18	18	18	20	20	20	20	20	19	15	13	12	11	13.9	20.2
16-Jul	9	8	7	8	6	8	12	13	15	17	18	22	24	23	23	24	24	24	24	23	17	13	13	18	16.3	23.8
17-Jul	18	17	16	16	16	16	17	19	21	23	26	28	28	28	29	29	29	28	26	24	20	16	13	14	21.5	28.6
18-Jul	16	17	13	13	15	15	16	17	18	20	22	24	26	26	26	24	23	23	24	21	18	18	17	15	19.4	26.0
19-Jul	15	14	14	14	14	14	14	14	15	15	16	16	18	20	21	20	20	18	18	18	16	14	13	12	16.1	21.2
20-Jul	14	15	15	15	15	15	14	15	15	16	17	17	17	19	19	20	18	17	16	16	15	14	14	13	15.8	19.9
21-Jul	13	11	12	12	12	12	13	14	14	16	17	19	19	21	22	24	22	21	20	19	17	17	16	15	16.5	23.7
22-Jul	14	14	13	12	12	12	13	13	15	18	20	22	23	23	23	23	22	21	21	19	16	12	11	11	16.6	23.3
23-Jul	11	10	11	10	9	10	13	13	13	15	16	18	19	20	21	22	20	20	20	18	15	13	12	11	15.0	21.6
24-Jul	11	10	11	10	11	11	12	13	15	16	18	19	20	21	21	21	21	20	19	18	16	15	15	14	15.7	21.2
25-Jul	14	14	14	14	14	14	15	16	18	20	21	22	22	24	24	24	23	21	21	19	19	18	17	16	18.5	23.8
26-Jul	14	15	15	15	14	14	15	16	17	19	20	21	21	22	22	21	18	18	17	16	15	15	14	13	16.9	21.9
27-Jul	12	12	11	11	11	11	12	12	15	15	15	16	17	17	14	16	16	15	14	13	11	10	10	10	13.4	17.0
28-Jul	10	10	10	10	10	9	10	10	10	10	10	10	10	9	9	9	9	10	11	11	11	9	8	8	9.8	11.4
29-Jul	8	7	8	8	7	8	8	8	8	10	11	13	16	18	18	17	13	15	16	14	11	9	10	10	11.3	18.2
30-Jul	10	10	9	9	8	8	9	10	12	14	17	19	19	20	21	20	20	21	20	19	15	11	11	11	14.4	20.8
31-Jul	13	14	14	13	12	12	12	14	16	18	20	22	24	23	24	24	24	23	23	21	16	12	11	10	17.3	24.0
12.3 12.1 11.9 11.6 11.4 11.8 12.8 13.7 14.7 16.1 17.3 18.3 19.2 19.7 20.0 19.6 18.9 18.5 18.2 17.2 15.0 13.0 12.2 12.1																								Diurnal Average		
24.2 22.9 22.2 20.7 21.8 20.3 22.4 24.1 24.7 26.2 27.3 28.8 30.1 31.3 31.1 31.1 31.2 30.9 30.4 29.0 27.4 26.0 25.1 24.4																								Diurnal Maximum		

Hourly Averages

External Temperature (ET) - °C

Sunset House - July 2013



Hourly Averages

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

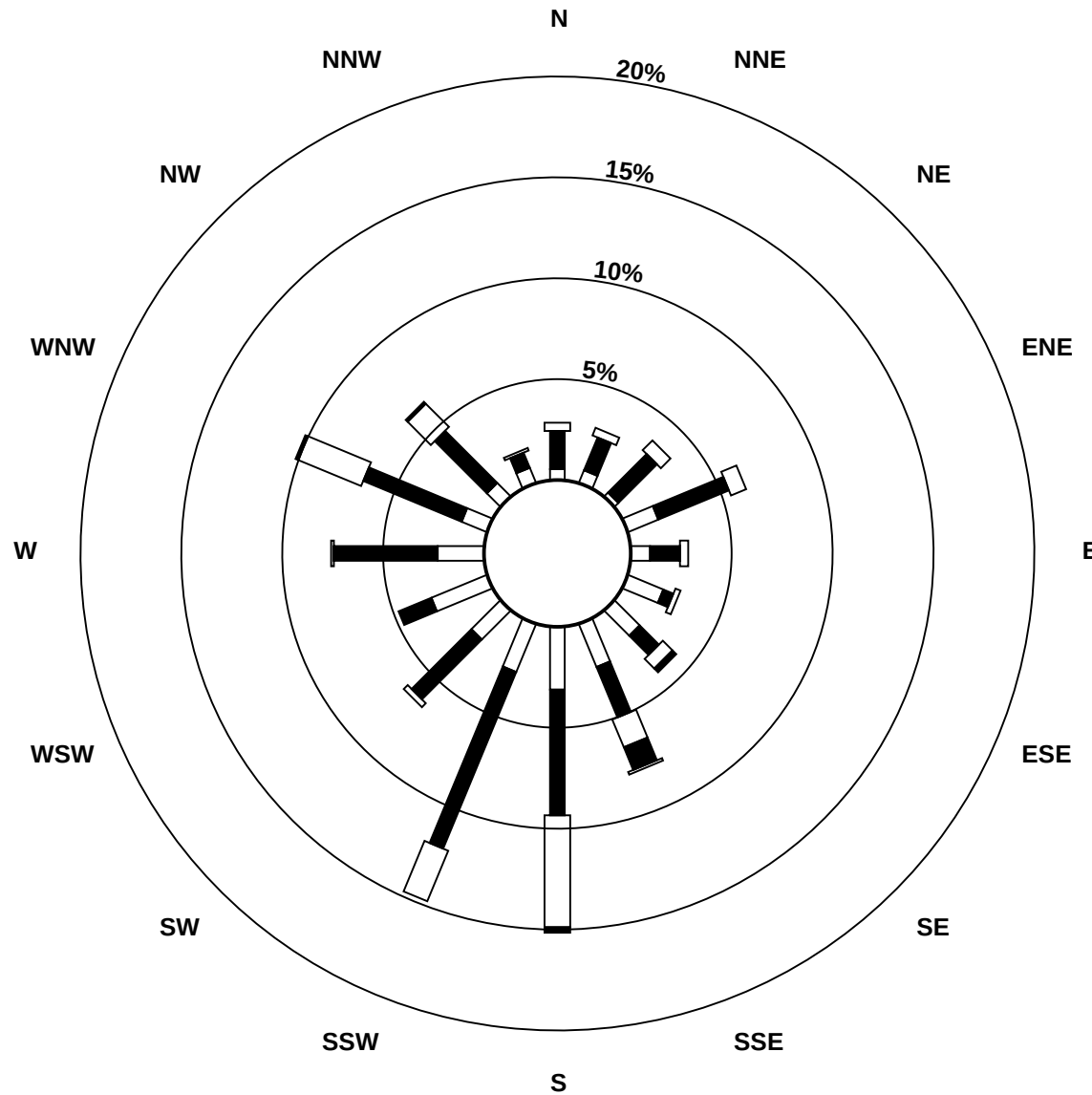
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1 Spd	10	14	11	11	10	9	9	9	13	9	10	10	9	9	11	13	12	14	15	20	22	26	29	27	13.1	28.8
Dir	140	166	163	156	156	156	164	180	183	213	203	203	204	214	194	177	180	173	159	153	152	152	154	161	168.2	154.1
2 Spd	24	14	12	8	11	7	10	9	5	2	12	10	7	4	4	2	6	9	7	8	9	15	12	11	5.3	24.0
Dir	171	199	192	187	178	216	312	329	18	279	304	314	308	282	266	221	158	169	208	198	203	182	192	195	210.1	171.4
3 Spd	8	8	7	8	7	8	7	11	15	17	14	12	14	13	14	15	13	12	12	6	3	7	4	7	7.7	16.6
Dir	205	212	214	219	250	235	255	271	285	291	284	285	292	272	289	288	289	291	299	282	210	150	123	136	268.6	290.9
4 Spd	7	9	10	11	12	11	11	7	6	7	9	8	8	7	9	12	13	12	6	13	13	16	13	8	6.8	15.6
Dir	163	184	189	185	188	189	193	219	241	280	287	281	273	271	287	303	302	288	276	223	212	199	182	183	229.1	199.1
5 Spd	9	8	9	10	8	9	7	8	7	8	10	11	12	10	8	9	11	8	9	8	5	6	6	7	6.1	12.2
Dir	197	194	196	193	188	194	203	229	233	271	277	284	300	318	307	301	309	291	284	288	266	266	268	272	259.6	299.6
6 Spd	8	6	4	4	5	8	7	8	8	9	10	12	11	10	9	11	8	9	7	6	5	3	3	4	6.4	11.5
Dir	278	270	264	261	291	308	313	312	306	305	304	310	308	308	295	299	267	230	234	229	219	225	283	248	285.7	310.4
7 Spd	4	4	3	4	4	4	4	4	6	6	7	7	6	4	2	4	2	2	6	4	2	3	5	7	1.8	7.3
Dir	228	234	239	241	240	243	255	273	308	314	294	311	294	282	195	33	359	329	3	18	78	114	129	136	285.4	310.9
8 Spd	7	10	10	11	11	11	10	11	9	7	6	7	4	5	6	5	6	3	2	3	7	9	10	14	7.0	14.4
Dir	159	177	178	177	177	180	177	187	191	207	204	227	207	170	183	179	183	312	145	156	133	133	160	179	178.3	178.7
9 Spd	13	11	13	12	10	12	12	8	7	9	11	14	11	8	10	5	17	3	9	5	8	14	13	12	6.4	16.7
Dir	180	184	181	185	197	189	192	216	240	274	296	297	302	319	331	326	175	201	177	185	197	176	180	176	208.6	174.7
10 Spd	11	9	10	9	6	4	4	5	5	2	10	8	10	14	11	7	11	9	6	1	3	4	5	8	3.2	14.2
Dir	182	195	181	175	153	150	147	181	171	107	81	78	68	51	39	360	53	33	99	336	207	155	180	198	116.2	50.5
11 Spd	10	8	8	6	5	4	6	8	8	7	5	11	10	11	10	10	13	15	9	13	15	14	9	9	8.7	15.3
Dir	189	192	190	195	181	174	204	274	231	204	166	193	214	217	217	216	208	203	252	181	194	198	207	206	204.5	202.7
12 Spd	10	12	11	11	10	9	9	13	17	20	17	11	14	16	13	12	14	10	7	5	5	4	5	5	8.0	20.1
Dir	205	207	227	228	231	229	246	292	303	299	297	278	292	302	291	296	306	293	273	281	331	63	128	129	275.7	299.4
13 Spd	4	3	4	6	7	8	10	12	14	14	16	18	12	8	8	7	8	7	4	2	2	6	6	6	4.2	17.9
Dir	115	109	83	67	63	68	68	66	57	35	19	6	24	349	343	299	308	309	263	250	194	190	181	176	32.0	5.7
14 Spd	6	5	5	4	6	7	8	7	6	3	2	5	6	7	6	7	4	6	7	2	2	4	4	4	2.6	7.7
Dir	170	144	137	112	117	108	121	152	167	227	174	38	18	27	31	22	14	9	52	105	121	146	149	164	101.1	121.3
15 Spd	4	3	3	1	6	6	5	6	6	8	10	9	8	9	11	10	10	10	7	5	7	10	4	5	3.4	11.0
Dir	172	183	164	118	155	179	222	215	255	295	303	314	272	286	285	294	283	285	272	271	38	52	137	157	272.4	284.6
16 Spd	4	5	6	7	2	5	4	8	7	8	8	3	2	4	7	6	7	8	7	5	7	7	9	15	5.4	15.1
Dir	179	163	183	171	116	121	192	199	199	212	206	247	277	173	189	220	211	209	205	169	134	126	148	168	183.1	168.3
17 Spd	18	18	17	17	17	16	15	14	9	5	4	4	6	4	5	4	4	5	7	7	7	6	4	8	4.5	18.1
Dir	175	175	175	176	174	174	177	187	201	215	245	309	319	260	322	306	317	340	11	56	64	85	93	60	176.0	174.7
18 Spd	12	8	2	7	9	10	7	8	8	7	9	10	7	10	11	6	4	4	4	3	7	9	11	13	3.6	13.1
Dir	78	104	196	195	201	192	192	204	210	222	205	224	260	283	281	267	233	242	236	157	151	182	350	43	212.8	42.9
19 Spd	9	3	10	13	1	3	7	9	8	5	6	8	9	12	12	13	9	9	7	4	5	6	5	7	2.5	12.7
Dir	81	226	199	196	256	79	42	16	6	292	313	339	317	313	340	39	62	51	80	62	70	100	126	155	29.5	195.6
20 Spd	9	11	11	14	15	6	4	3	3	7	4	8	8	9	10	11	15	8	10	7	2	1	4	3	2.8	15.1
Dir	161	166	174	176	170	168	184	255	163	196	233	30	38	52	63	49	34	22	43	31	2	140	71	73	103.1	169.8
21 Spd	1	3	1	2	3	3	3	3	4	5	5	6	5	5	3	4	8	9	10	9	10	10	4	18	2.2	18.1
Dir	155	75	169	111	162	185	212	221	213	190	204	218	226	206	252	359	72	76	82	79	62	63	127	193	134.4	192.8
22 Spd	17	14	7	8	8	12	12	14	17	13	8	8	9	12	13	15	13	14	11	10	4	3	4	3	3.9	17.1
Dir	170	173	228	213	212	201	205	202	193	206	271	276	282	316	305	305	350	350	343	5	22	65	122	153	247.0	169.6

FOCUS
AIR QUALITY MONITORING

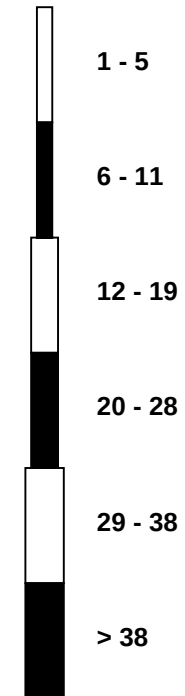
Wind Rose

Wind Speed (WS) (km/h)

Sunset House - July 2013



Wind Speed Classes (km/h)



Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Sunset House - July 2013

Maximum Speed: 29 km/h on Jul 1 23:00																				Maximum Daily Speed Average: 18.5 km/h on Jul 25										Hours in Service: 744	
Minimum Speed: 2 km/h on Jul 21 01:00																				Minimum Daily Speed Average: 4.9 km/h on Jul 7										Hours of Data: 744	
Maximum Diurnal Speed Average: 10.5 km/h at hour 17																				Minimum Diurnal Speed Average: 7.4 km/h at hour 21										Hours of Missing Data: 0	
Monthly Average Speed: 9.16 km/h																				Percentiles: P ₁ = 2.5 P ₁₀ = 4.4 Q ₁ = 6.1 Median = 8.5 Q ₃ = 11.3 P ₉₀ = 14.8 P ₉₉ = 22.1										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	11	14	11	11	10	9	9	10	14	10	10	10	9	9	12	14	12	14	15	20	22	26	29	28	14.2	29.0					
2-Jul	24	15	12	9	12	9	13	10	6	4	13	11	7	5	5	3	6	9	7	8	9	15	13	11	9.8	24.3					
3-Jul	9	8	8	8	8	9	8	11	16	17	15	13	14	14	15	16	14	12	12	6	3	7	5	8	10.6	16.8					
4-Jul	8	9	10	11	12	11	11	7	6	8	9	9	9	8	10	13	13	13	6	14	13	16	13	9	10.3	15.7					
5-Jul	9	8	9	10	8	9	7	8	8	9	11	12	13	10	9	10	12	9	9	9	6	6	7	7	8.9	12.6					
6-Jul	8	7	5	5	6	9	7	8	8	10	10	12	11	10	9	12	9	9	7	6	6	3	4	5	7.7	11.7					
7-Jul	4	4	3	4	4	4	4	4	6	6	7	8	6	5	5	4	3	4	6	5	3	4	5	7	4.9	7.8					
8-Jul	7	10	10	11	11	11	10	11	10	8	7	8	6	6	7	6	6	4	2	3	7	9	10	15	8.2	14.7					
9-Jul	13	11	13	12	11	12	12	9	8	10	11	14	12	9	11	9	17	8	10	8	9	14	13	12	11.1	17.2					
10-Jul	11	9	10	9	6	5	4	8	5	5	11	9	11	15	11	10	12	10	7	4	4	4	6	8	8.1	14.5					
11-Jul	10	8	8	6	6	5	6	9	8	7	7	11	10	12	11	11	14	16	11	13	15	14	10	9	9.8	15.6					
12-Jul	10	12	11	11	10	9	10	14	17	20	17	12	14	16	13	12	14	11	7	5	6	4	5	5	11.1	20.3					
13-Jul	4	4	5	6	7	8	10	12	15	14	16	18	13	9	9	8	9	7	4	3	3	6	6	6	8.5	18.3					
14-Jul	6	5	5	4	6	7	8	8	7	5	6	5	7	8	7	8	7	7	7	3	3	5	4	5	5.9	8.0					
15-Jul	4	3	4	2	6	6	5	7	6	9	10	10	9	10	12	11	10	11	8	6	10	10	6	5	7.5	11.7					
16-Jul	5	5	6	7	2	6	5	8	7	9	9	5	5	6	8	7	8	9	7	5	7	7	9	15	7.0	15.2					
17-Jul	18	18	17	17	17	16	15	14	9	6	5	6	7	6	6	5	5	6	7	7	7	6	4	9	9.8	18.2					
18-Jul	12	9	3	8	9	11	8	8	8	8	9	11	8	10	11	7	5	5	5	5	7	9	15	14	8.5	14.8					
19-Jul	9	4	10	13	6	4	7	9	8	5	7	8	9	12	13	14	10	9	7	5	5	7	5	7	8.2	13.8					
20-Jul	9	11	11	14	15	7	6	6	4	8	5	8	9	9	11	11	15	9	10	8	3	2	6	3	8.3	15.2					
21-Jul	2	4	2	2	4	4	3	3	4	5	7	7	6	6	5	5	9	9	10	9	10	11	6	19	6.3	18.5					
22-Jul	18	14	8	8	9	12	12	14	17	13	9	8	10	13	13	16	13	15	11	10	5	3	4	4	10.7	18.0					
23-Jul	6	5	4	3	3	2	4	5	5	5	6	5	6	6	6	8	8	8	9	8	7	7	7	6	5.8	8.6					
24-Jul	7	5	6	3	4	6	10	9	12	12	11	12	12	11	10	12	15	15	17	14	12	14	15	14	10.7	16.6					
25-Jul	19	22	22	22	23	22	21	20	18	17	16	14	16	16	18	18	19	17	17	19	16	18	20	13	18.5	23.1					
26-Jul	9	15	13	14	17	17	18	18	18	14	11	10	7	9	6	8	9	12	9	9	6	7	9	19	11.8	19.4					
27-Jul	7	8	5	6	10	11	11	8	8	11	9	10	13	12	12	9	12	11	11	10	10	6	5	6	9.2	13.2					
28-Jul	6	8	7	8	9	8	11	14	14	17	20	20	19	19	19	15	7	7	5	4	5	4	4	3	10.7	19.9					
29-Jul	5	5	7	8	6	4	7	6	6	6	8	7	7	8	11	10	15	10	7	2	4	7	7	8	7.1	14.9					
30-Jul	9	7	6	8	10	10	10	11	11	9	7	8	8	8	9	7	8	9	6	4	4	7	8	9	8.1	10.8					
31-Jul	10	12	8	6	5	4	8	4	5	4	5	6	7	9	11	11	10	10	7	5	3	5	4	3	6.8	12.3					
9.4 9.0 8.4 8.6 8.8 8.7 9.1 9.5 9.5 9.4 9.9 9.9 9.7 9.9 10.1 10.0 10.5 9.7 8.5 7.6 7.4 8.5 8.5 9.4																									Diurnal Average						
24.3 21.5 22.2 21.7 23.1 22.3 21.0 20.2 18.0 20.3 19.6 19.9 18.6 19.3 19.4 18.4 19.1 17.3 16.8 20.1 21.7 26.1 29.0 27.6																									Diurnal Maximum						
All monthly, daily, and diurnal averages have been calculated using scalar methods																															

Hourly Standard Deviations

Wind Direction (WD) - deg

Sunset House - July 2013

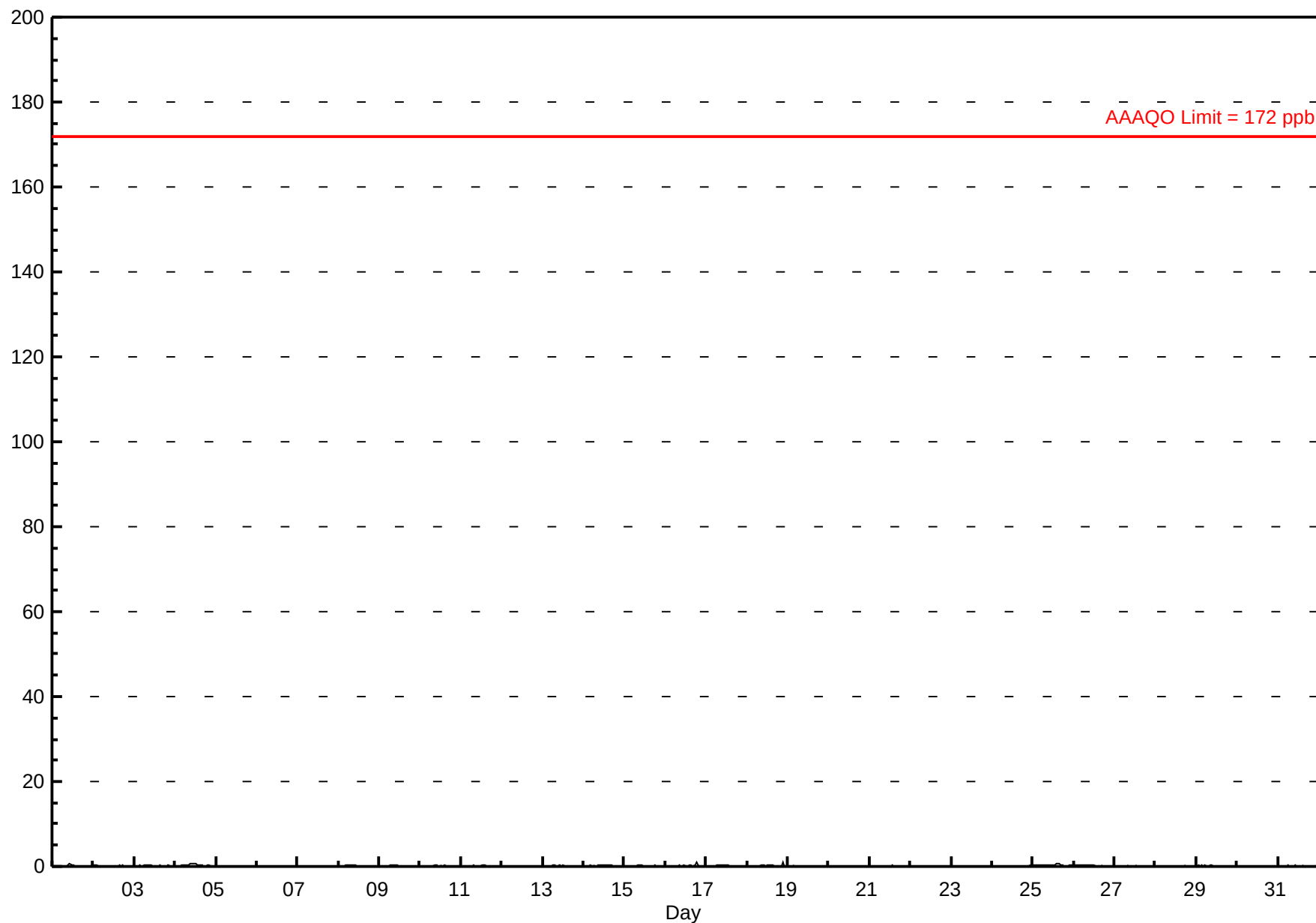
Maximum Value: 94.8 deg on Jul 23 04:00																			Hours in Service: 744						
Minimum Value: 3.5 deg on Jul 1 04:00																			Hours of Data: 744						
																			Hours of Missing Data: 0						
Percentiles: P ₁ = 4.0 P ₁₀ = 7.4 Q ₁ = 11.5 Median = 18.9 Q ₃ = 29.1 P ₉₀ = 48.5 P ₉₉ = 82.2																			Hours of Calibration: 0						
																			Percent Operational Time: 100.0						
Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jul	25	4	4	4	4	4	5	10	14	19	17	18	21	21	22	18	16	10	14	7	7	6	7	6	25.0
2-Jul	9	18	15	47	30	55	45	15	35	83	17	20	38	41	40	60	15	10	19	15	10	6	11	8	83.0
3-Jul	18	13	14	15	24	17	29	21	13	11	15	19	18	24	19	17	15	14	10	29	32	8	44	11	44.5
4-Jul	27	8	8	7	5	7	11	21	32	21	24	29	27	35	25	12	11	21	26	20	13	8	8	18	35.0
5-Jul	21	14	11	6	9	20	11	20	18	23	21	19	16	20	22	19	12	22	20	29	33	28	24	20	32.9
6-Jul	20	27	29	27	20	10	16	12	11	12	12	10	11	13	11	12	26	13	15	14	16	31	48	26	47.6
7-Jul	30	21	39	24	23	23	27	29	17	23	17	21	33	40	75	18	74	64	26	29	55	27	17	8	75.4
8-Jul	18	9	4	4	4	5	4	8	17	26	39	30	61	32	42	56	35	60	36	43	5	7	16	10	61.3
9-Jul	12	10	6	17	25	7	9	17	29	22	16	12	13	24	22	53	15	68	15	68	32	7	8	8	67.9
10-Jul	7	17	6	13	12	49	33	59	26	83	21	20	23	13	13	64	32	25	38	82	55	25	33	7	83.3
11-Jul	12	10	11	13	33	31	21	28	22	28	44	13	18	16	26	14	11	11	39	9	6	6	10	9	43.8
12-Jul	8	11	14	10	13	13	25	11	8	9	10	22	12	11	16	17	12	16	24	22	37	37	11	14	37.4
13-Jul	25	26	31	13	17	9	6	8	9	14	13	11	17	35	24	23	22	16	34	36	45	12	5	8	45.2
14-Jul	7	32	11	25	8	8	17	19	26	61	81	30	33	33	29	21	56	35	22	57	57	38	17	33	81.4
15-Jul	18	19	51	63	15	16	18	22	27	26	18	27	41	26	23	23	19	18	23	26	83	15	49	28	82.6
16-Jul	43	27	6	23	25	31	40	14	20	16	20	60	73	58	37	38	20	19	12	27	15	8	13	5	73.0
17-Jul	5	5	5	4	4	5	5	7	11	41	51	51	41	55	58	48	36	30	18	9	15	10	16	29	57.8
18-Jul	13	36	52	11	8	11	20	23	15	19	18	19	32	19	18	30	23	27	25	56	8	18	71	19	70.8
19-Jul	41	46	13	7	92	65	19	11	19	35	19	18	21	16	26	26	26	12	21	49	18	27	25	22	92.1
20-Jul	5	8	5	6	6	67	52	65	63	24	39	23	21	22	25	21	10	15	12	10	46	65	66	18	67.1
21-Jul	64	42	65	30	30	28	32	26	28	32	49	30	44	52	77	51	20	21	13	12	8	11	67	13	76.7
22-Jul	18	6	21	8	9	7	7	8	9	23	23	25	26	19	20	15	13	12	14	8	18	35	14	53	53.1
23-Jul	13	9	21	95	58	94	31	24	29	19	46	43	79	50	75	29	22	16	29	15	10	8	9	6	94.8
24-Jul	10	10	27	19	63	53	9	11	17	16	25	23	28	26	33	26	16	14	10	9	7	9	6	10	62.9
25-Jul	5	5	6	5	6	6	6	7	10	14	14	17	17	16	19	14	13	10	9	10	19	12	7	13	19.0
26-Jul	13	9	8	6	7	8	6	9	12	20	23	28	32	23	41	14	44	18	15	30	71	38	14	6	71.0
27-Jul	51	33	22	24	7	5	10	23	23	15	24	16	15	26	27	15	19	20	18	17	17	25	24	30	51.2
28-Jul	18	16	19	21	18	24	18	12	10	11	9	10	8	9	10	10	24	16	25	25	51	12	15	38	50.9
29-Jul	27	35	23	6	22	92	32	38	59	48	19	31	43	56	55	24	20	18	17	49	38	16	9	8	92.3
30-Jul	7	13	17	14	7	7	8	10	14	17	32	32	33	31	29	37	26	16	19	41	26	4	12	7	40.8
31-Jul	4	4	28	54	13	26	14	29	27	51	58	68	43	28	22	30	21	19	12	9	14	14	24	30	67.8
63.8 45.7 65.2 94.8 92.1 93.8 51.5 64.8 62.6 83.3 81.4 67.8 78.6 57.5 76.7 64.0 74.3 67.8 38.6 82.3 82.6 64.8 70.8 53.1																									

PAZA
Falher Station
Monthly Summary Tables, Graphs and
Roses

Hourly Averages

Sulphur Dioxide (SO₂) - ppb

Falher - July 2013



Hourly Maximums

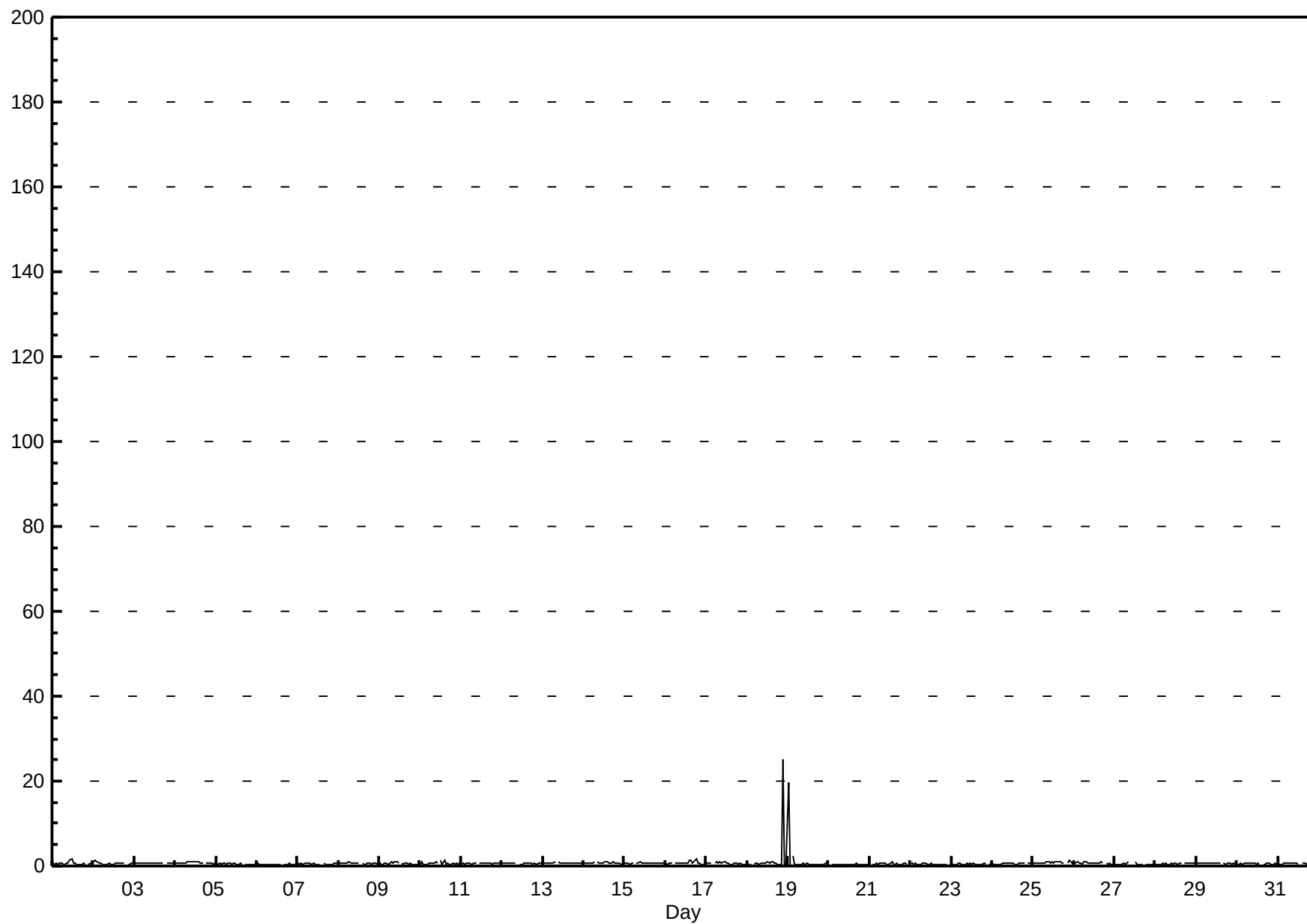
Sulphur Dioxide (SO₂) - ppb

Falher - July 2013

Maximum Value: 25.1 ppb on Jul 18 22:00																				Maximum Daily Average: 1.7 ppb on Jul 18										Hours in Service: 744									
Minimum Value: 0 ppb on Jul 18 23:00																				Minimum Daily Average: 0.4 ppb on Jul 20										Hours of Data: 709									
Maximum Diurnal Average: 1.4 ppb at hour 22																				Minimum Diurnal Average: 0.5 ppb at hour 24										Hours of Missing Data: 35									
Monthly Average: 0.65 ppb																				Percentiles: P ₁ = 0.2 P ₁₀ = 0.4 Q ₁ = 0.5 Median = 0.6 Q ₃ = 0.7 P ₉₀ = 0.8 P ₉₉ = 1.3										Hours of Calibration: 35									
																				Percent Operational Time: 100.0																			
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24															
1-Jul	1	0	1	0	1	1	0	0	1	1	1	2	1	1	0	0	0	1	1	0	A	0	1	1	0.6	1.6													
2-Jul	1	1	1	1	1	0	0	0	0	1	0	0	0	1	1	1	1	1	1	A	0	0	1	1	0.6	1.3													
3-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	0.8													
4-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	0	1	0.8	1.2													
5-Jul	1	0	1	0	1	1	0	1	1	0	1	1	0	1	1	0	A	0	0	0	0	0	0	0	0.5	0.7													
6-Jul	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	A	0	0	0	1	0	0	0	0	0.4	0.6													
7-Jul	1	0	1	0	1	1	1	1	0	1	0	1	0	0	A	1	0	0	0	0	0	1	1	1	0.5	0.8													
8-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	0	0	1	1	0	1	1	1	1	0.6	0.9													
9-Jul	1	0	0	1	1	0	1	1	1	1	1	1	A	1	0	1	1	0	1	0	0	0	0	0	0.6	0.9													
10-Jul	0	1	0	0	0	1	1	1	1	1	1	A	1	0	1	0	1	0	0	1	0	1	0	1	0.6	1.3													
11-Jul	0	1	0	1	1	1	0	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	0.6	0.8													
12-Jul	1	1	1	1	1	1	1	1	1	A	0	0	0	1	1	1	1	1	1	0	1	1	1	1	0.6	0.7													
13-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	0.7	0.9													
14-Jul	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0.8	1.0													
15-Jul	1	1	1	0	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.0													
16-Jul	1	0	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	0	0	0	0.8	1.8													
17-Jul	1	1	1	1	A	1	1	1	1	1	1	1	1	1	0	0	1	1	1	0	1	0	0	0	0.7	1.0													
18-Jul	1	0	0	A	0	1	1	0	1	1	1	1	1	1	1	1	1	1	0	0	0	25	0	0	1.7	25.1													
19-Jul	20	0	A	2	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1.3	19.7													
20-Jul	0	A	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0.4	0.5													
21-Jul	A	0	0	0	1	0	1	1	1	1	0	0	1	1	0	0	1	0	0	0	1	1	0	A	0.5	0.9													
22-Jul	1	1	0	1	0	0	0	1	1	1	0	0	1	0	0	0	1	0	0	0	0	0	A	0	0.5	0.8													
23-Jul	0	0	0	0	1	1	0	0	0	1	0	1	0	1	0	0	0	0	0	1	0	A	0	0	0.5	0.7													
24-Jul	1	0	0	1	1	0	1	1	1	1	1	1	1	0	0	0	1	1	1	1	A	1	1	1	0.6	0.8													
25-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	0.8	1.2													
26-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	0	0	0.7	1.1													
27-Jul	0	0	0	0	0	1	0	1	1	C	C	C	1	0	0	0	0	A	0	0	0	0	0	0	0.5	1.0													
28-Jul	0	0	0	0	1	0	1	0	0	1	0	1	1	0	1	1	A	1	1	1	1	1	1	1	0.5	0.6													
29-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	0	1	1	1	0	1	0	0.6	0.7													
30-Jul	0	1	1	0	1	1	1	1	1	1	1	1	1	0	A	0	0	1	1	1	0	0	1	0	0.5	0.6													
31-Jul	1	0	0	1	1	1	1	1	1	1	1	1	0	A	1	1	1	0	1	0	1	0	1	1	0.6	0.7													
1.2 0.5 0.6 0.6 0.6 0.6 0.6 0.6 0.7 0.7 0.7 0.7 0.7 0.6 0.7 0.6 0.6 0.6 0.5 0.5 0.5 1.4 0.5 0.5																									Diurnal Average														
19.7 1.3 0.9 2.4 0.8 0.8 1.0 1.1 1.2 1.1 1.4 1.6 1.3 1.1 1.3 1.2 1.0 1.3 1.8 0.8 0.8 25.1 0.9 0.7																									Diurnal Maximum														
C - Calibration																									A - Automated Daily Zero Span														

Hourly Maximums

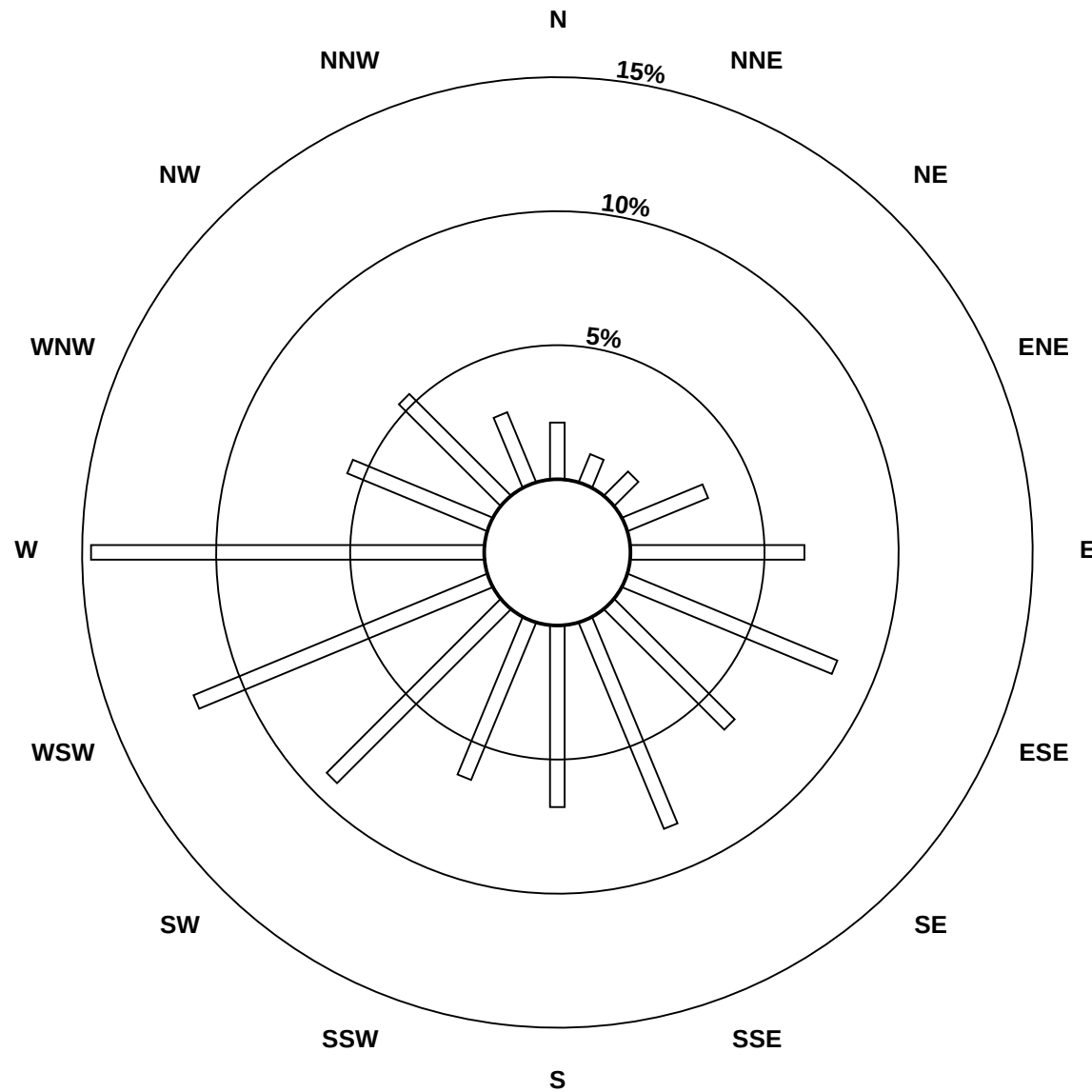
Sulphur Dioxide (SO₂) - ppb
Falher - July 2013



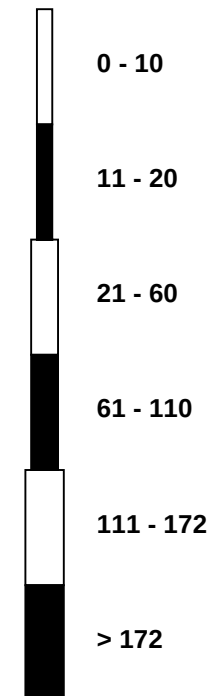
Pollutant Rose

Sulphur Dioxide (SO₂) - ppb

Falher - July 2013



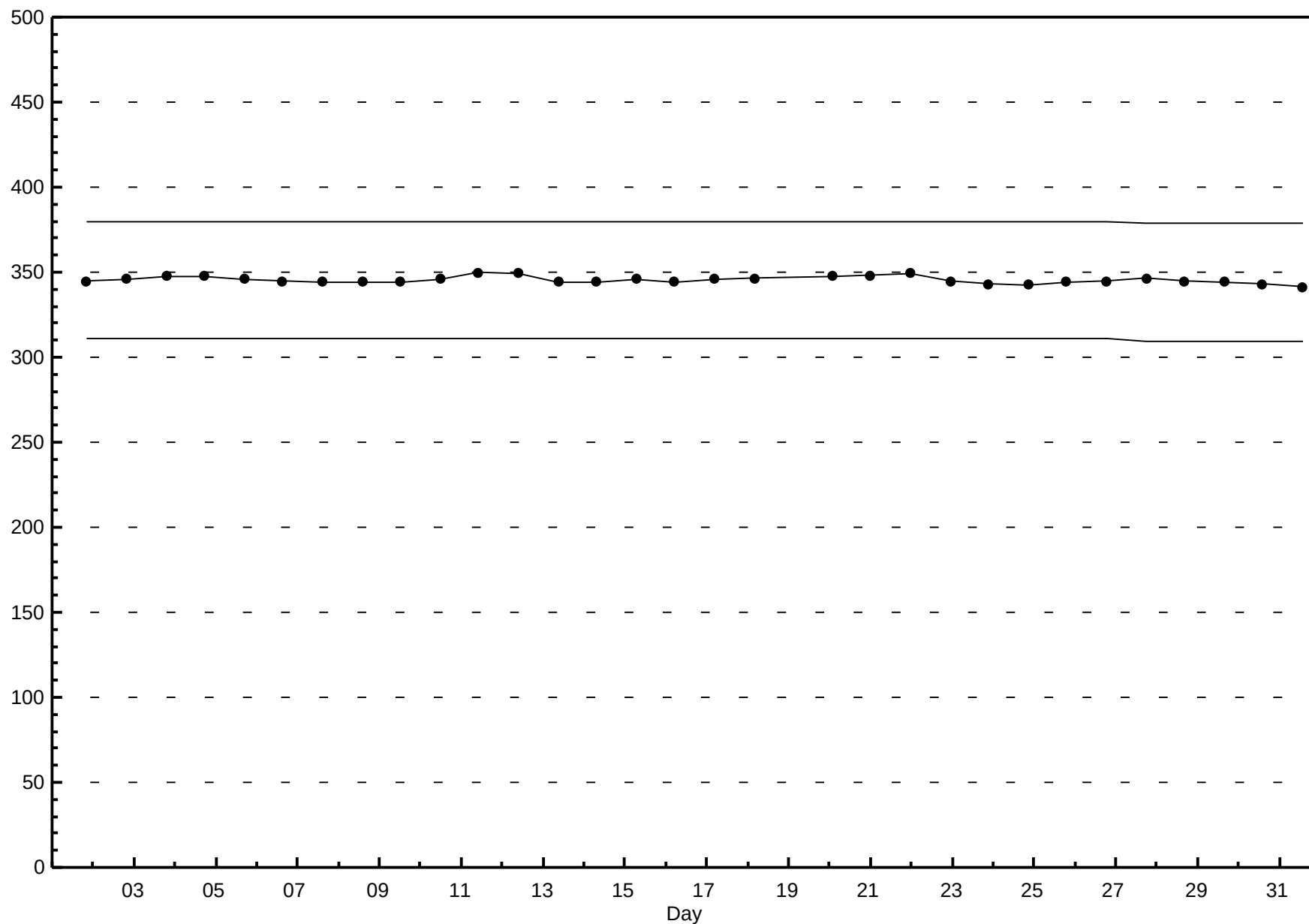
Pollutant Classes (ppb)



Span Responses

Sulphur Dioxide (SO₂)

Falher - July 2013



Hourly Averages

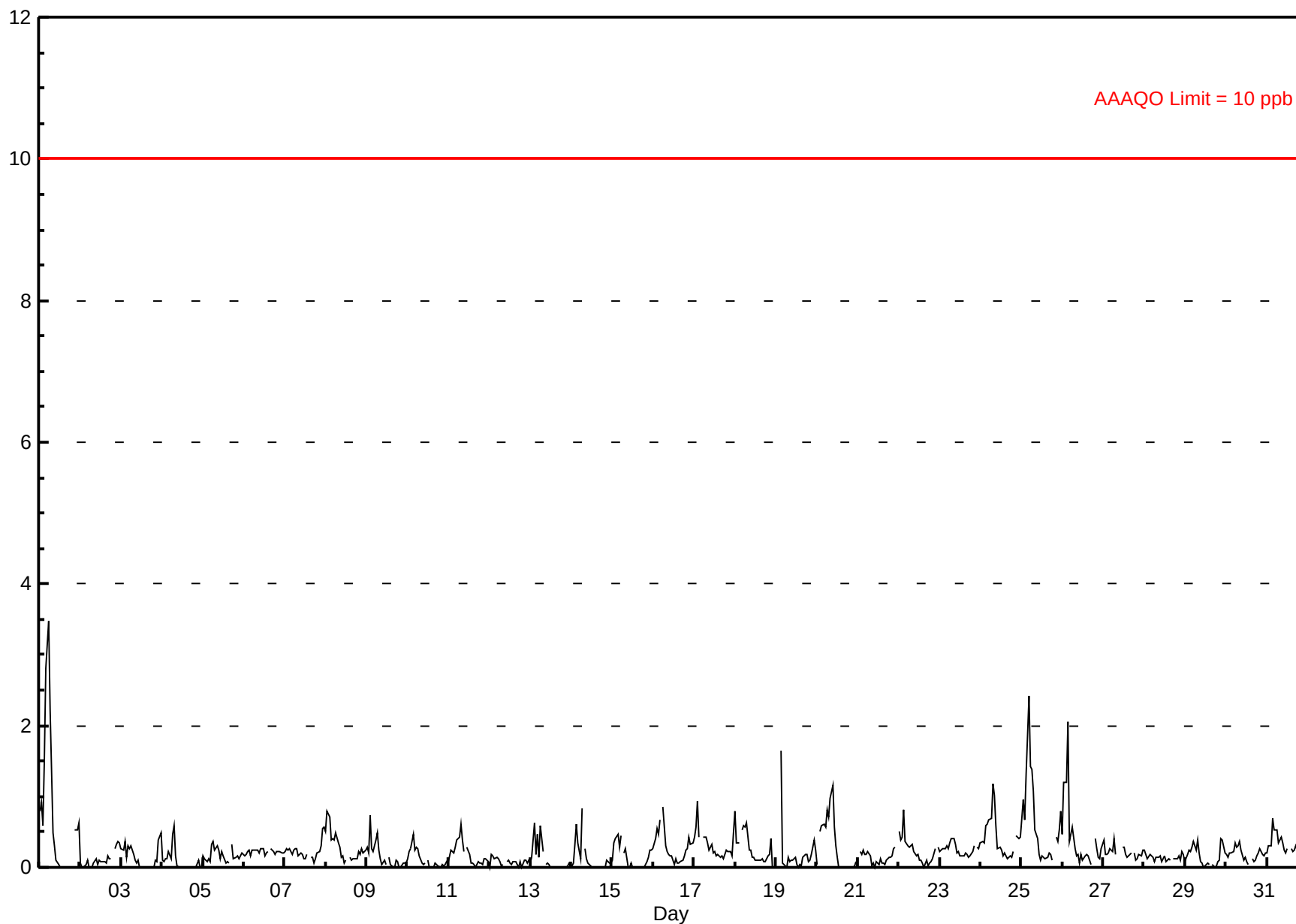
Hydrogen Sulphide (H₂S) - ppb

Falher - July 2013

Number of Exceedences (AAAQO):										1-hr: 0 24-hr: 0										Hours in Service: 744									
Maximum Value: 3.5 ppb on Jul 1 06:00										Maximum Daily Average: 0.7 ppb on Jul 1										Hours of Data: 709									
Minimum Value: 0 ppb on Jul 1 13:00										Minimum Daily Average: 0.1 ppb on Jul 12										Hours of Missing Data: 35									
Maximum Diurnal Average: 0.5 ppb at hour 4										Minimum Diurnal Average: 0.1 ppb at hour 16										Hours of Calibration: 35									
Monthly Average: 0.24 ppb										Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 0.2 Q ₃ = 0.3 P ₉₀ = 0.5 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	1	1	1	2	3	3	2	1	0	0	0	0	0	0	0	0	0	0	0	0	A	1	1	1	0.7	3.5			
2-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			
3-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	0.5			
4-Jul	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0.1	0.6			
5-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			
6-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	0.3			
7-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	1	1	0.2	0.6			
8-Jul	0	1	1	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.3	0.8			
9-Jul	0	0	1	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.2	0.7			
10-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	0.5			
11-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			
12-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	0.1	0.2			
13-Jul	0	0	1	0	0	0	1	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.6			
14-Jul	0	0	0	1	0	0	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.8			
15-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	0.5			
16-Jul	0	0	1	0	1	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.9			
17-Jul	0	1	1	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.9			
18-Jul	1	0	0	A	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.8			
19-Jul	0	0	A	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.6			
20-Jul	0	A	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.2			
21-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	0.1	0.3			
22-Jul	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.2	0.8			
23-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	0.2	0.4			
24-Jul	0	0	0	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.4	1.2			
25-Jul	1	1	1	1	2	1	1	1	1	0	0	0	0	0	0	0	0	0	0	A	0	0	1	1	0.6	2.4			
26-Jul	0	1	1	2	0	0	1	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0.4	2.1			
27-Jul	0	0	0	0	0	0	0	0	C	C	C	0	0	0	0	0	0	A	0	0	0	0	0	0	0.2	0.4			
28-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			
29-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			
30-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	0.4			
31-Jul	0	0	0	1	1	1	1	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	1	0.4	0.8			
0.3 0.3 0.4 0.5 0.5 0.4 0.5 0.4 0.3 0.2 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.2 0.2 0.2 0.3																									Diurnal Average				
0.8 1.2 1.2 2.1 2.8 3.5 2.2 1.4 1.0 1.2 0.6 0.3 0.3 0.2 0.3 0.2 0.3 0.3 0.3 0.2 0.4 0.4 0.5 0.5 0.8																									Diurnal Maximum				
C - Calibration A - Automated Daily Zero Span																													
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb																													

Hourly Averages

Hydrogen Sulphide (H₂S) - ppb
Falher - July 2013



Hourly Maximums

Hydrogen Sulphide (H₂S) - ppb

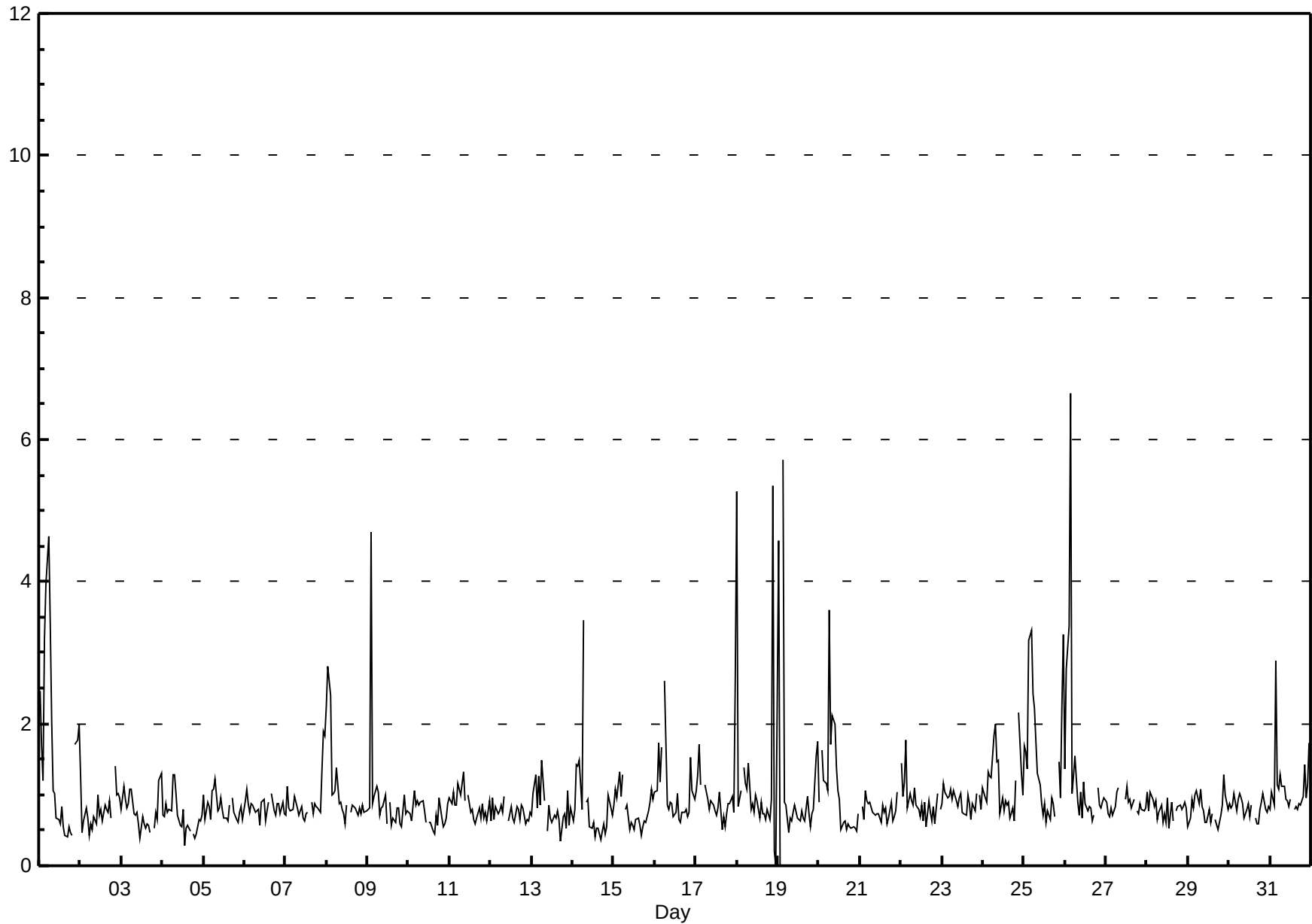
Falher - July 2013

Maximum Value: 6.7 ppb on Jul 26 04:00																				Maximum Daily Average: 1.6 ppb on Jul 1					Hours in Service: 744	
Minimum Value: 0 ppb on Jul 19 00:00																				Minimum Daily Average: 0.7 ppb on Jul 4					Hours of Data: 709	
Maximum Diurnal Average: 1.6 ppb at hour 4																				Minimum Diurnal Average: 0.7 ppb at hour 17					Hours of Missing Data: 35	
Monthly Average: 0.96 ppb																				Percentiles: P ₁ = 0.4 P ₁₀ = 0.6 Q ₁ = 0.7 Median = 0.8 Q ₃ = 1.0 P ₉₀ = 1.3 P ₉₉ = 4.6					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	2	2	1	3	4	5	3	2	1	1	1	1	1	1	1	0	0	1	0	0	A	2	2	2	1.6	4.6
2-Jul	1	0	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	0.8	1.4
3-Jul	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	0	A	1	1	1	1	1	0.8	1.3
4-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	0	A	0	0	0	1	1	1	0.7	1.3
5-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	0.8	1.2
6-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	0.8	1.1
7-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	2	2	0.9	1.9
8-Jul	2	3	2	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1.1	2.8
9-Jul	1	1	5	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1.0	4.7
10-Jul	1	1	1	1	1	1	1	1	1	1	1	A	1	1	0	0	1	1	1	1	1	1	1	1	0.7	1.1
11-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	1.3
12-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
13-Jul	1	1	1	1	1	1	1	1	A	0	1	1	1	1	1	1	1	0	1	1	1	1	1	1	0.8	1.5
14-Jul	1	1	1	1	1	1	3	A	1	1	1	1	1	0	1	1	0	0	1	0	1	1	1	1	0.9	3.5
15-Jul	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	0.8	1.3
16-Jul	1	1	2	1	2	A	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1.0	2.6
17-Jul	1	1	2	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	1	1.0	2.6
18-Jul	5	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	5	0	0	1.2	5.4
19-Jul	5	0	A	6	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	1	1.2	5.7
20-Jul	1	A	2	1	1	1	4	2	2	2	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1.1	3.6
21-Jul	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	0.8	1.1	
22-Jul	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	0.9	1.8	
23-Jul	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	1.2	
24-Jul	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	A	2	1	1	1.1	2.2
25-Jul	2	2	1	3	3	2	2	2	1	1	1	1	1	1	1	1	1	1	1	A	1	1	2	3	1.5	3.3
26-Jul	1	3	3	7	1	1	2	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1.4	6.7
27-Jul	1	1	1	1	1	1	1	1	C	C	C	1	1	1	1	1	1	A	1	1	1	1	1	1	0.9	1.1
28-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	0.8	1.0
29-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	0.8	1.3
30-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	1.0
31-Jul	1	1	1	3	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	2	1	1.1	2.9
1.3 1.0 1.3 1.6 1.2 1.2 1.4 1.0 0.9 0.9 0.8 0.8 0.8 0.7 0.7 0.7 0.7 0.7 0.7 0.7 0.8 1.1 1.0 1.1																									Diurnal Average	
5.3 2.8 4.7 6.7 4.0 4.6 3.6 2.0 2.1 2.0 1.4 1.2 1.1 1.0 1.0 1.0 1.0 1.0 1.0 1.2 1.5 5.4 2.3 3.3																									Diurnal Maximum	
C - Calibration A - Automated Daily Zero Span																										

Hourly Maximums

Hydrogen Sulphide (H_2S) - ppb

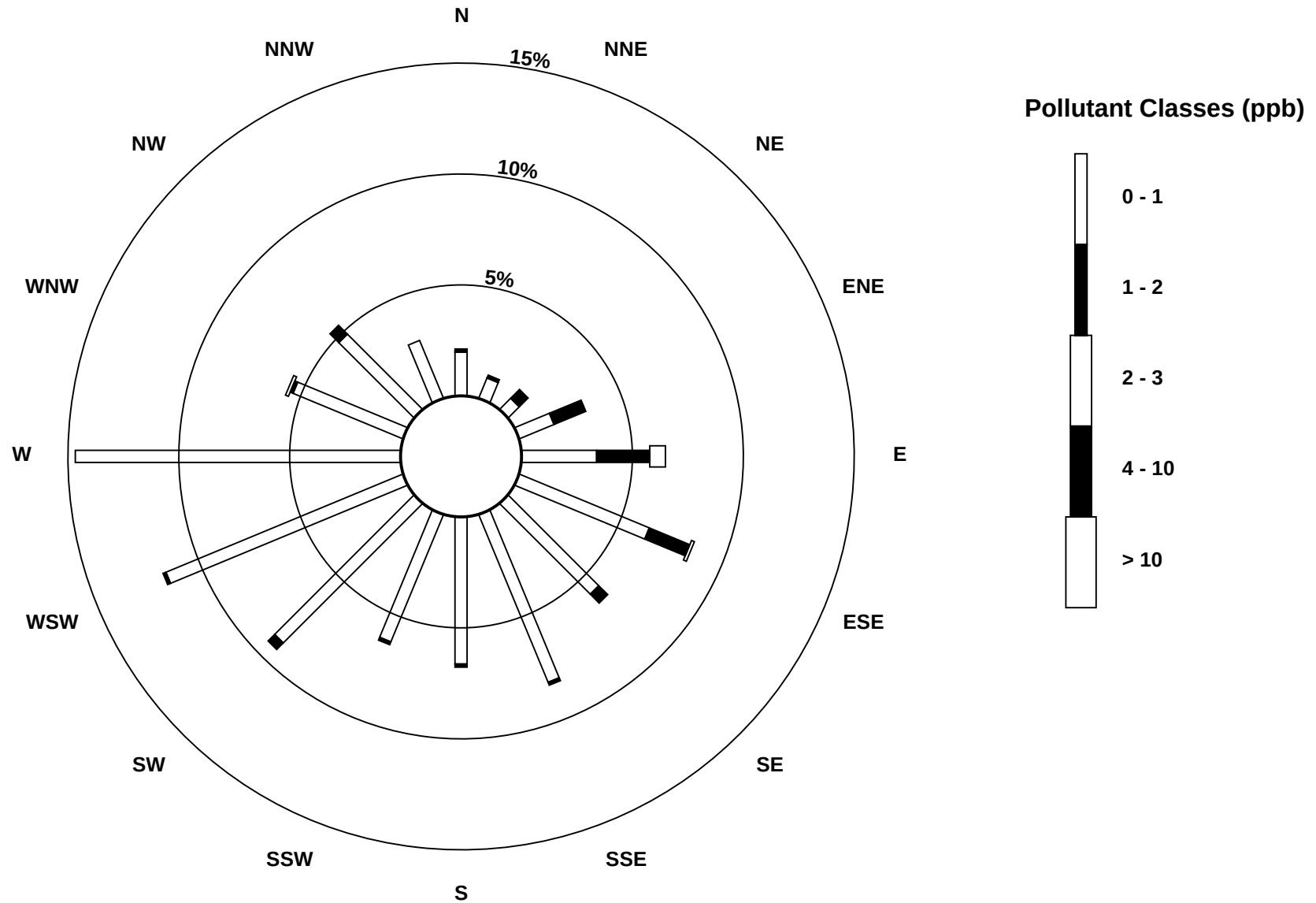
Falher - July 2013



Pollutant Rose

Hydrogen Sulphide (H₂S) - ppb

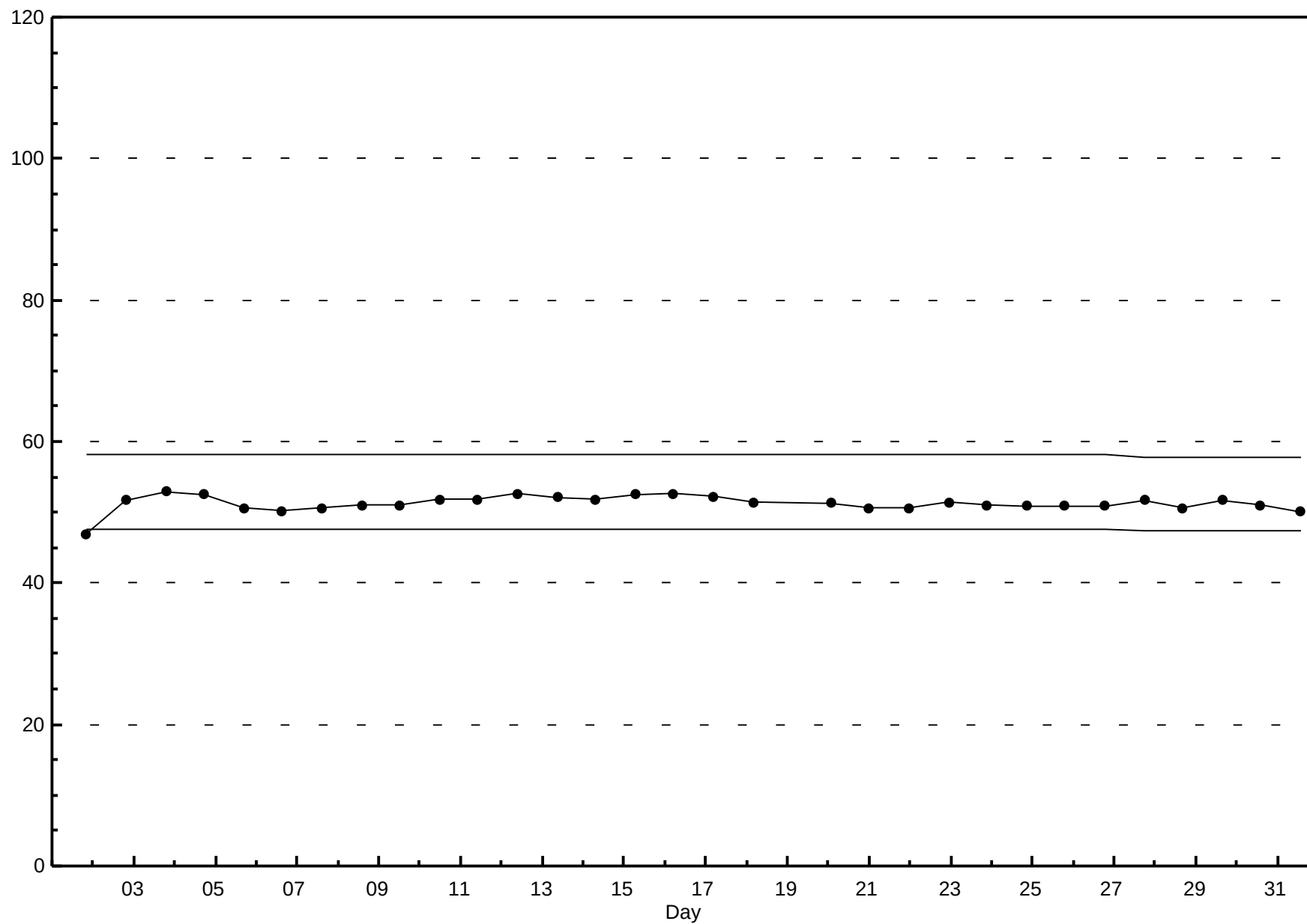
Falher - July 2013



Span Responses

Hydrogen Sulphide (H₂S)

Falher - July 2013



Hourly Averages

External Temperature (ET) - °C

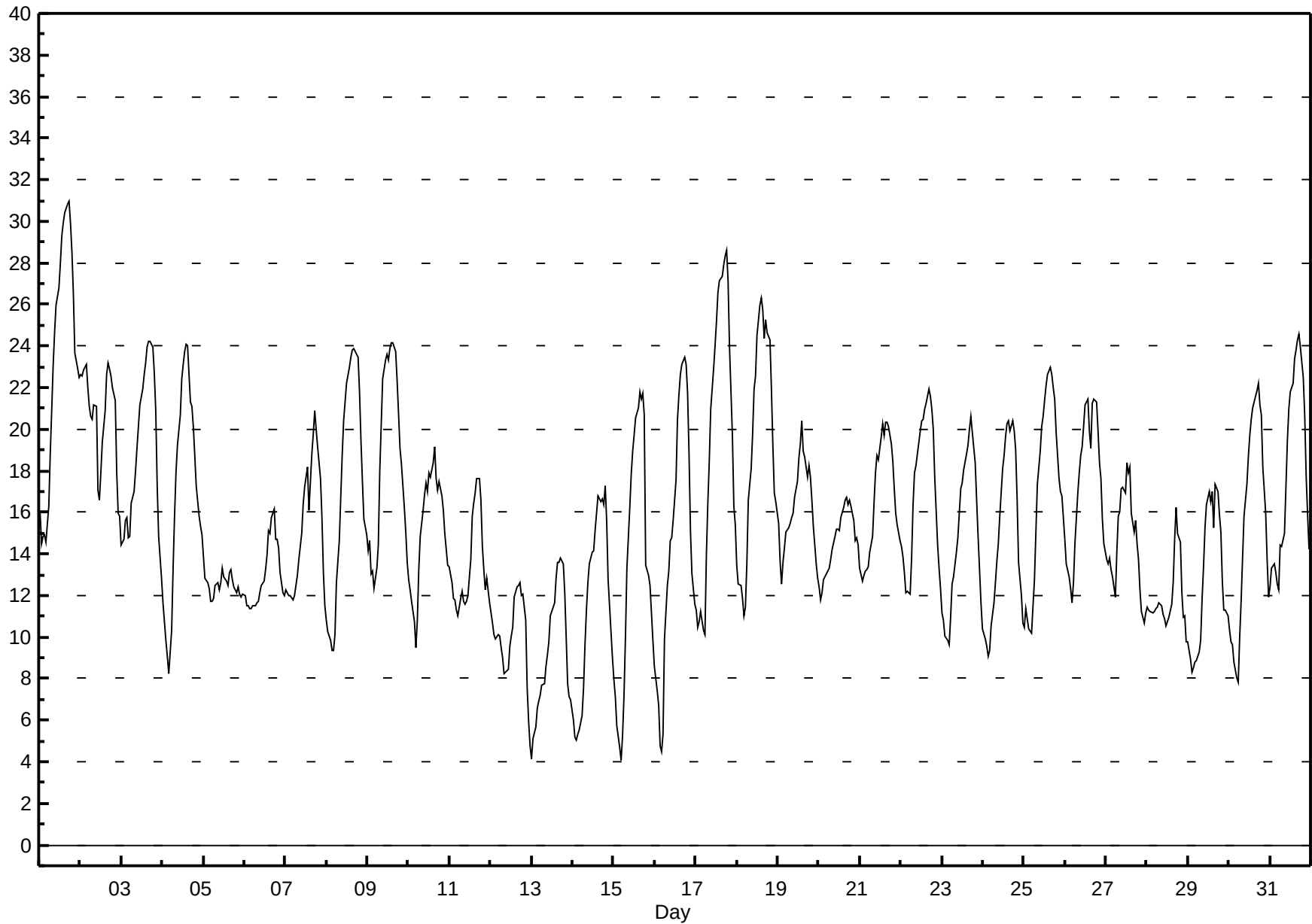
Falher - July 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																				Hours in Service: 744						
Maximum Value: 31.0 °C on Jul 1 18:00																				Maximum Daily Average: 23.5 °C on Jul 1		Hours of Data: 744				
Minimum Value: 4 °C on Jul 15 05:00																				Minimum Daily Average: 9.3 °C on Jul 13		Hours of Missing Data: 0				
Maximum Diurnal Average: 20.2 °C at hour 18																				Minimum Diurnal Average: 10.9 °C at hour 5		Hours of Calibration: 0				
Monthly Average: 15.65 °C																				Percentiles: P ₁ = 5.1 P ₁₀ = 9.9 Q ₁ = 12.0 Median = 14.9 Q ₃ = 19.2 P ₉₀ = 22.6 P ₉₉ = 27.9		Percent Operational Time: 100.0				
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jul	16	15	15	15	15	16	19	21	23	25	26	27	28	29	30	30	31	31	30	29	27	24	23	23	23.5	31.0
2-Jul	23	23	23	23	22	21	21	20	21	21	17	17	18	19	21	23	23	23	23	22	21	18	16	16	20.6	23.2
3-Jul	14	15	16	16	15	15	16	17	18	19	20	21	22	23	23	24	24	24	24	23	21	17	15	13	18.9	24.3
4-Jul	12	11	10	9	8	10	13	16	18	19	21	22	23	24	24	24	21	21	20	19	17	16	15	15	17.0	24.1
5-Jul	14	13	13	12	12	12	12	12	13	12	13	13	13	13	12	13	13	13	12	12	12	12	12	12	12.5	13.9
6-Jul	12	12	11	11	11	12	12	12	12	12	12	13	13	14	15	15	16	16	15	15	14	13	12	12	13.0	16.1
7-Jul	12	12	12	12	12	12	12	13	14	15	16	17	18	18	16	19	20	21	20	19	18	16	13	11	15.3	20.9
8-Jul	11	10	10	9	9	10	13	15	17	19	20	21	22	23	23	24	24	24	23	22	19	17	16	15	17.4	23.9
9-Jul	14	15	13	13	12	13	14	18	20	22	23	24	23	24	24	24	24	22	21	19	18	16	15	14	18.6	24.2
10-Jul	13	12	12	11	10	11	13	15	16	17	17	17	18	18	18	19	18	17	17	17	16	15	14	13	15.2	19.2
11-Jul	13	13	12	12	11	11	12	12	12	12	12	12	14	16	16	17	18	18	17	14	13	12	13	12	13.4	17.6
12-Jul	11	11	10	10	10	10	9	9	8	8	8	10	10	10	12	12	12	13	12	12	11	8	6	5	9.9	12.6
13-Jul	4	5	6	7	7	7	8	8	9	9	10	11	11	12	13	14	14	14	14	12	10	8	7	7	9.3	13.8
14-Jul	6	5	5	5	6	6	8	10	11	13	14	14	14	15	16	17	17	17	16	17	16	13	10	9	11.6	17.3
15-Jul	8	7	6	5	4	5	7	10	13	16	18	19	20	21	21	22	21	22	21	13	13	13	11	10	13.5	21.8
16-Jul	9	7	7	5	4	5	10	12	13	15	15	16	18	20	22	23	23	23	23	22	19	15	13	12	14.6	23.4
17-Jul	11	10	11	11	10	10	14	16	18	21	23	24	25	27	27	27	28	28	29	27	24	20	16	15	19.8	28.6
18-Jul	13	13	12	12	11	11	14	17	18	20	22	23	25	26	26	26	24	25	25	24	22	19	17	16	19.2	26.3
19-Jul	15	14	13	14	14	15	15	15	16	16	17	17	19	19	20	19	19	18	18	18	17	15	14	13	16.2	20.4
20-Jul	12	12	12	13	13	13	13	14	14	15	15	15	15	16	16	17	17	16	17	16	16	15	15	14	14.6	16.7
21-Jul	13	13	13	13	13	13	14	15	16	18	19	19	20	20	20	20	20	20	19	18	17	16	15	15	16.7	20.4
22-Jul	14	14	13	12	12	12	14	16	18	18	19	20	20	20	21	21	22	22	21	20	18	14	13	12	17.0	21.9
23-Jul	11	11	10	10	10	11	13	13	14	15	16	17	17	18	19	19	20	21	20	18	17	15	13	12	14.9	20.6
24-Jul	10	10	10	9	9	11	12	13	14	14	16	18	19	20	20	20	20	20	20	19	17	14	12	11	14.9	20.4
25-Jul	10	11	11	10	10	12	13	15	17	19	20	21	21	22	23	23	23	22	21	20	18	17	17	16	17.2	23.0
26-Jul	15	14	13	12	12	13	14	17	18	19	19	20	21	21	20	19	21	21	21	20	18	18	16	14	17.4	21.4
27-Jul	14	14	14	13	13	12	14	16	16	17	17	17	18	18	18	16	15	16	15	14	12	11	11	11	14.6	18.4
28-Jul	11	11	11	11	11	11	11	12	12	11	11	11	11	11	12	13	15	16	15	15	12	11	11	10	11.9	16.3
29-Jul	10	9	8	9	9	9	9	10	12	13	15	16	17	17	17	15	17	17	16	15	13	11	11	11	12.8	17.4
30-Jul	10	10	10	9	8	8	10	12	14	16	17	19	20	20	21	22	22	22	21	21	18	16	14	12	15.4	22.2
31-Jul	12	13	13	13	13	12	14	14	15	17	19	21	22	22	23	24	24	25	24	23	21	18	16	14	18.1	24.6
12.1 11.7 11.4 11.2 10.9 11.3 12.7 14.0 15.1 16.2 17.1 17.8 18.5 19.2 19.7 20.0 20.2 20.2 19.6 18.5 16.9 14.9 13.6 12.7																									Diurnal Average	
22.6 22.6 22.8 23.1 22.0 21.1 20.6 20.9 23.1 24.7 26.0 26.8 28.0 29.3 29.9 30.4 30.8 31.0 29.9 28.5 26.5 23.7 22.9 22.5																									Diurnal Maximum	

Hourly Averages

External Temperature (ET) - °C

Falher - July 2013



Hourly Averages

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

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1 Spd	10	10	12	13	16	17	18	21	18	20	19	22	23	21	19	18	16	13	17	20	22	21	21	21	15.9	22.6
Dir	95	88	77	79	95	91	96	96	122	124	158	155	156	166	152	154	151	142	105	101	109	112	114	114	121	156
2 Spd	23	22	21	17	11	33	34	16	14	20	10	18	19	18	20	21	22	17	18	14	13	14	19	17	13.5	33.6
Dir	125	141	180	190	197	275	280	284	256	261	203	171	188	186	202	246	252	212	183	178	238	224	204	225	216	280
3 Spd	16	20	21	21	21	21	23	29	30	30	27	25	24	23	21	21	20	21	20	16	9	12	17	13	19.4	30.4
Dir	219	218	224	229	226	237	257	261	263	262	258	260	263	267	259	267	269	280	276	282	253	231	208	195	251	262
4 Spd	18	19	15	15	13	15	14	19	17	18	21	21	23	21	23	20	24	22	22	19	21	13	14	17	14.9	24.0
Dir	172	170	166	154	146	162	185	215	236	235	243	259	263	266	281	267	232	228	241	247	220	230	233	218	226	232
5 Spd	16	13	10	11	8	10	12	14	15	17	19	20	20	20	15	13	16	16	20	14	16	18	15	13	12.7	20.5
Dir	194	179	228	258	232	221	231	262	277	282	311	307	312	297	277	281	284	285	287	271	270	274	260	274	272	312
6 Spd	15	18	17	18	17	15	18	16	17	17	18	18	15	14	14	17	16	12	9	6	11	12	11	10	13.0	18.3
Dir	301	308	325	329	329	321	318	309	304	309	322	315	318	316	307	273	268	292	7	220	239	257	255	269	304	308
7 Spd	10	11	13	10	12	11	13	13	13	14	12	12	13	14	13	8	11	10	9	9	6	11	13	13	7.3	14.4
Dir	238	267	278	299	278	271	289	325	293	289	298	267	280	294	304	308	296	310	335	334	73	130	117	123	291	289
8 Spd	13	12	11	12	13	11	12	15	15	14	17	18	16	15	15	15	18	17	16	15	16	16	16	15	13.8	18.0
Dir	123	123	99	95	89	85	116	132	134	132	148	159	158	161	147	150	154	149	147	147	146	131	134	135	136	159
9 Spd	15	5	13	15	15	13	11	12	16	20	23	21	22	23	22	16	15	12	12	17	19	21	20	16	12.7	23.4
Dir	135	91	129	191	188	200	183	219	233	246	246	242	228	252	255	259	263	237	181	178	206	171	177	168	212	252
10 Spd	12	12	15	15	8	11	11	11	11	13	15	15	16	16	10	11	12	14	15	15	13	15	15	14	11.8	16.1
Dir	180	202	193	184	157	156	165	177	174	163	157	144	122	125	142	234	216	135	201	162	155	166	182	182	169	122
11 Spd	15	12	9	9	10	5	10	16	18	17	15	17	16	18	18	18	16	20	22	22	23	13	25	25	14.9	24.7
Dir	212	244	238	212	198	150	186	206	203	198	190	192	213	239	220	208	195	222	207	197	279	220	234	231	215	234
12 Spd	21	19	22	24	25	26	28	28	27	30	30	30	29	28	29	26	26	24	21	16	12	13	10	7	22.4	30.3
Dir	238	233	234	239	246	252	256	254	260	272	266	272	262	258	267	266	267	266	270	268	241	224	238	262	257	272
13 Spd	3	9	10	10	9	8	10	11	5	7	9	9	12	11	10	14	14	11	13	15	13	14	13	12	5.1	15.1
Dir	318	24	21	9	8	343	315	327	306	253	248	264	291	270	278	233	232	234	223	199	193	183	183	180	253	199
14 Spd	11	9	10	11	10	8	8	9	12	11	7	5	2	4	5	5	8	9	9	10	10	8	12	10	2.8	12.1
Dir	149	111	104	97	77	84	113	91	103	123	140	180	235	228	281	250	266	264	270	275	287	241	192	199	161	103
15 Spd	10	10	2	5	11	11	7	11	13	17	18	17	19	19	20	20	18	19	18	28	3	7	7	6	9.9	28.1
Dir	203	233	37	177	176	180	192	262	258	283	276	271	258	261	261	264	253	246	273	344	163	190	195	202	254	344
16 Spd	5	7	4	9	8	11	7	8	5	2	9	11	9	11	13	14	15	15	14	14	15	17	16	15	9.2	17.1
Dir	187	160	227	153	92	109	170	253	107	176	123	162	145	144	131	140	139	137	125	128	124	108	103	102	132	108
17 Spd	13	14	11	17	14	12	11	14	15	10	10	12	12	10	12	11	8	6	2	6	6	19	15	10	8.0	19.0
Dir	96	98	132	154	140	116	131	156	157	162	143	146	159	164	152	158	175	167	211	313	347	29	62	94	132	29
18 Spd	1	6	9	8	10	9	7	7	11	12	8	14	12	11	14	14	16	11	11	6	4	24	21	4	2.2	24.2
Dir	283	319	9	50	42	87	91	169	184	176	140	170	225	233	251	267	260	257	241	271	82	333	16	115	254	333
19 Spd	3	6	2	12	9	14	15	8	10	12	15	14	13	8	9	13	13	14	16	14	13	14	13	13	3.3	16.4
Dir	5	236	290	294	355	332	347	15	317	324	309	308	335	284	349	360	96	117	118	122	120	111	115	106	19	118
20 Spd	14	14	15	14	16	10	13	10	8	14	13	12	17	18	17	13	9	10	8	8	12	11	9	7	9.7	17.6
Dir	97	84	73	72	73	72	98	107	71	90	74	70	95	92	80	95	33	32	18	339	335	357	348	353	67	92
21 Spd	6	8	9	6	7	8	7	7	5	2	6	2	3	6	8	10	12	13	13	12	13	13	12	12	3.3	13.3
Dir	234	264	286	232	253	253	243	244	230	176	126	138	141	117	138	148	108	111	94	86	89	77	64	85	124	111
22 Spd	13	12	11	13	12	7	3	9	8	16	18	19	21	21	21	22	21	22	19	15	11	12	8	12	8.1	21.8
Dir	73	97	103	127	161	168	182	86	196	214	260	266	267	269	265	274	278	281	284	282	265	224	255	241	253	281

Hourly Averages

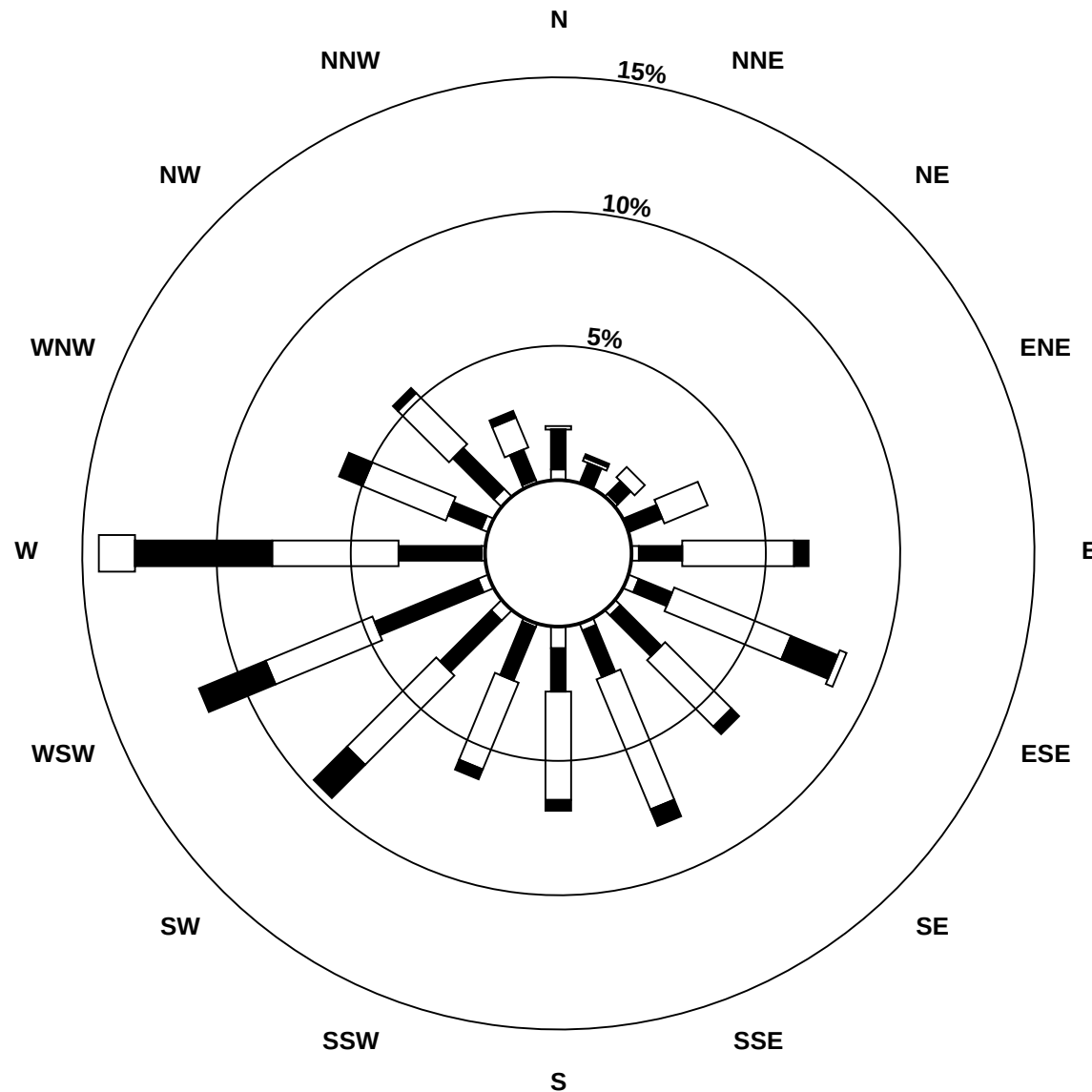
Wind Speed (km/h)
Wind Direction (deg)
Falher - July 2013

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
23 Spd	11	11	9	13	13	13	13	12	10	12	11	9	11	11	9	10	8	9	12	12	13	14	11	7	9.2	13.9
Dir	250	237	263	251	256	272	257	262	265	247	260	252	228	232	233	234	270	276	296	296	295	331	5	7	267	331
24 Spd	11	9	7	6	6	7	10	9	9	11	12	10	12	14	14	13	14	15	17	14	13	16	15	13	7.6	17.2
Dir	297	308	327	325	306	319	38	34	41	67	51	57	48	55	53	60	107	94	114	117	119	111	86	74	66	114
25 Spd	16	17	16	15	15	15	19	21	24	23	23	27	27	28	28	29	29	28	27	22	15	17	20	14	21.1	28.6
Dir	65	87	96	95	89	87	94	100	109	115	106	103	108	100	102	103	103	100	104	111	124	109	108	117	102	103
26 Spd	16	15	16	15	15	18	17	20	23	16	12	7	4	9	13	6	12	12	14	7	10	18	18	11	8.9	22.7
Dir	103	107	104	106	92	106	114	148	153	179	186	194	314	302	283	353	138	165	176	225	191	159	156	193	146	153
27 Spd	12	15	19	15	14	13	12	14	18	15	19	19	16	20	17	14	17	18	21	15	18	14	14	15	12.9	21.0
Dir	182	150	158	166	195	200	241	259	238	235	226	228	236	260	274	231	225	217	219	281	309	255	249	248	230	219
28 Spd	17	20	21	21	20	23	25	26	26	25	28	26	25	23	21	20	18	13	19	13	11	14	14	11	19.2	28.5
Dir	264	267	262	257	262	268	275	272	277	277	286	279	285	285	285	284	304	329	304	269	248	255	252	250	276	286
29 Spd	14	11	11	8	10	7	6	16	13	13	8	8	11	15	12	11	6	10	12	4	8	8	11	10	6.3	15.6
Dir	270	245	241	241	215	313	63	205	216	209	250	257	263	284	261	290	136	131	132	236	61	189	226	234	234	205
30 Spd	11	11	9	2	10	8	8	10	11	12	14	15	15	15	14	16	16	14	12	8	13	15	15	13	9.3	15.8
Dir	238	235	241	122	143	141	180	202	205	209	229	248	250	260	257	250	243	253	229	210	173	170	159	149	216	250
31 Spd	14	5	9	11	12	5	3	14	11	11	12	10	10	13	10	9	10	7	6	9	6	1	8	8	4.1	14.2
Dir	153	342	61	132	220	358	246	283	309	316	337	339	305	303	309	274	300	265	253	320	288	10	117	74	304	283
Spd	5.1	4.0	3.1	4.2	3.7	2.6	3.3	5.4	6.4	7.2	6.6	7.1	7.2	7.8	7.2	7.5	7.0	5.8	5.3	3.8	4.1	4.7	5.6	5.6	Diurnal Average	
Dir	180	186	183	184	181	215	225	232	228	233	240	236	243	250	251	246	233	222	217	224	207	181	172	176	Diurnal Maximum	
Spd	22.8	22.1	22.5	24.3	25.2	33.1	33.6	29.3	30.1	30.4	29.6	29.6	28.9	28.3	29.1	28.6	28.5	27.7	27.1	28.1	22.7	24.2	24.7	24.6	Diurnal Maximum	
Dir	125	141	234	239	246	275	280	261	263	262	266	272	262	258	267	103	103	100	104	344	279	333	234	231		
Maximum Speed Value: 34 km/h on Jul 2 07:00																								Hours in Service: 744		
Maximum Daily Speed Average: 22.4 km/h on Jul 12																								Hours of Data: 744		
Maximum Diurnal Speed Average: 7.8 km/h at hour 14																								Hours of Missing Data: 0		
Minimum Speed Value: 1 km/h on Jul 18 01:00																								Percent Operational Time: 100.0		
Minimum Daily Speed Average: 2.2 km/h on Jul 21																										
Minimum Diurnal Speed Average: 2.6 km/h at hour 6																										
Monthly Average Velocity: 4.87 km/h 219.8 deg																										
Speed Percentiles: P ₁ = 2.3 P ₁₀ = 7.3 Q ₁ = 10.3 Median = 13.4 Q ₃ = 17.3 P ₉₀ = 21.2 P ₉₉ = 29.6																										
All monthly, daily, and diurnal averages have been calculated using vector methods																										
Frequency Distribution																										
Speed Range (km/h)																										
Direction	0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total																			
North	3	19	3	1	1	0	27																			
NorthEast	1	12	10	0	0	0	23																			
East	3	19	60	15	2	0	99																			
SouthEast	4	22	71	10	0	0	107																			
South	5	28	66	7	0	0	106																			
SouthWest	7	32	63	27	0	0	129																			
West	3	37	78	52	13	0	183																			
NorthWest	2	25	38	5	0	0	70																			
Total	28	194	389	117	16	0	744																			

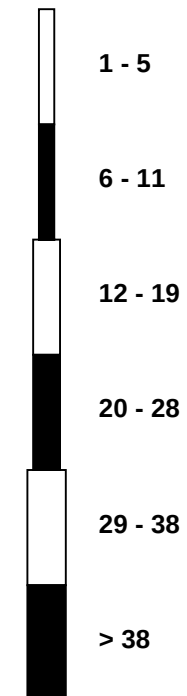
Wind Rose

Wind Speed (WS) (km/h)

Falher - July 2013



Wind Speed Classes (km/h)



Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Falher - July 2013

Maximum Speed: 34 km/h on Jul 2 07:00																				Maximum Daily Speed Average: 23.2 km/h on Jul 12										Hours in Service: 744	
Minimum Speed: 6 km/h on Jul 17 19:00																				Minimum Daily Speed Average: 9.5 km/h on Jul 21										Hours of Data: 744	
Maximum Diurnal Speed Average: 16.9 km/h at hour 14																				Minimum Diurnal Speed Average: 12.9 km/h at hour 24										Hours of Missing Data: 0	
Monthly Average Speed: 14.81 km/h																				Percentiles: P ₁ = 6.4 P ₁₀ = 8.9 Q ₁ = 11.1 Median = 14.0 Q ₃ = 17.6 P ₉₀ = 21.9 P ₉₉ = 29.8										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	11	11	12	13	17	17	18	21	18	21	20	22	23	21	19	18	16	13	17	20	22	21	21	21	18.0	23.0					
2-Jul	23	22	21	19	17	33	34	16	14	20	13	18	19	18	20	22	22	18	18	14	14	14	19	17	19.5	33.7					
3-Jul	17	20	21	21	21	21	23	29	30	31	27	25	25	24	21	21	20	21	20	16	9	13	17	14	21.1	30.5					
4-Jul	18	19	15	15	13	15	14	19	17	18	21	21	24	22	24	21	24	23	22	19	21	14	15	17	18.8	24.1					
5-Jul	16	13	12	13	10	10	12	14	15	17	20	20	21	20	16	13	16	16	21	15	16	18	15	13	15.5	20.8					
6-Jul	16	18	17	18	17	15	18	16	17	17	18	18	16	15	15	18	16	13	11	8	11	12	11	10	15.0	18.4					
7-Jul	10	11	13	10	12	12	13	14	13	15	13	13	14	14	13	9	12	11	11	9	9	12	13	13	12.0	14.7					
8-Jul	13	12	11	12	13	12	12	15	15	14	17	18	17	16	15	16	18	17	16	15	16	16	16	15	14.9	18.4					
9-Jul	15	11	14	15	15	13	11	12	16	20	23	22	22	24	23	17	15	12	14	19	20	21	20	16	17.0	23.6					
10-Jul	13	13	16	15	9	11	11	12	11	13	15	16	17	17	12	12	13	16	15	15	14	15	15	14	13.6	16.9					
11-Jul	15	12	9	9	10	7	11	16	18	17	16	17	17	18	18	18	17	20	23	23	25	15	25	25	16.7	24.7					
12-Jul	21	19	23	24	25	27	28	28	27	30	30	30	29	29	29	26	26	25	21	16	12	13	10	7	23.2	30.5					
13-Jul	8	9	10	10	9	8	10	12	8	9	10	11	13	13	12	15	15	12	14	15	13	15	13	13	11.5	15.2					
14-Jul	12	10	11	11	10	9	8	9	12	12	10	8	8	8	9	9	11	10	10	11	11	9	12	10	10.0	12.5					
15-Jul	11	10	7	7	12	11	8	12	13	17	18	18	19	19	21	20	18	20	23	29	9	8	8	6	14.4	29.3					
16-Jul	6	8	6	10	9	11	9	9	9	7	10	12	9	12	14	15	15	15	14	14	15	17	16	15	11.5	17.1					
17-Jul	13	14	12	17	14	13	11	14	15	11	11	13	12	11	13	12	10	7	6	6	7	20	15	12	12.0	19.5					
18-Jul	11	10	10	9	11	9	8	8	11	12	10	14	13	13	15	14	16	12	12	8	7	26	27	11	12.3	26.6					
19-Jul	8	10	8	12	12	14	15	9	10	12	15	14	14	11	10	14	15	15	17	15	14	15	13	14	12.7	16.6					
20-Jul	14	14	15	14	17	12	14	10	9	15	13	12	17	18	17	13	11	10	9	9	12	11	9	7	12.6	17.8					
21-Jul	6	8	9	7	7	8	7	7	7	7	8	8	7	9	10	11	13	14	13	12	13	13	12	12	9.5	13.6					
22-Jul	13	12	11	13	12	9	10	10	11	16	19	19	21	21	22	22	21	22	19	15	12	12	10	12	15.2	22.0					
23-Jul	11	12	10	13	13	13	14	12	11	12	11	10	12	12	10	11	10	10	12	12	13	15	12	8	11.6	15.0					
24-Jul	11	9	8	8	8	8	11	10	10	12	13	11	14	15	15	13	15	16	17	14	13	16	15	13	12.3	17.4					
25-Jul	16	17	16	15	15	15	19	21	24	23	23	27	27	28	28	29	29	28	27	22	16	18	20	15	21.6	28.8					
26-Jul	16	15	16	15	15	18	17	21	23	17	13	11	9	11	14	12	13	13	14	9	12	19	18	11	14.6	23.1					
27-Jul	14	15	19	15	15	14	12	14	18	15	19	20	17	20	17	16	17	18	21	21	19	15	14	15	16.6	21.1					
28-Jul	18	20	21	21	20	23	25	26	26	25	29	26	25	23	21	20	18	14	19	13	11	14	14	11	20.2	28.6					
29-Jul	14	11	11	9	10	10	13	16	13	13	11	11	13	16	16	12	10	12	13	11	11	10	12	10	11.8	15.8					
30-Jul	11	11	9	6	11	9	9	10	11	12	14	16	16	15	15	16	16	14	12	9	13	16	15	13	12.4	16.3					
31-Jul	14	12	11	12	12	9	7	14	12	12	14	12	12	14	11	11	11	8	7	9	6	6	8	9	10.6	14.4					
13.3 13.2 13.0 13.1 13.2 13.4 14.0 14.8 15.0 16.0 16.2 16.6 16.8 16.9 16.6 16.0 16.1 15.3 15.7 14.3 13.4 14.7 14.9 12.9																									Diurnal Average						
22.9 22.4 22.5 24.4 25.3 33.4 33.7 29.4 30.2 30.5 29.8 29.8 29.1 28.7 29.4 28.8 28.6 27.8 27.1 29.3 24.7 25.8 26.6 24.6																									Diurnal Maximum						
All monthly, daily, and diurnal averages have been calculated using scalar methods																															

Hourly Standard Deviations

Wind Direction (WD) - deg

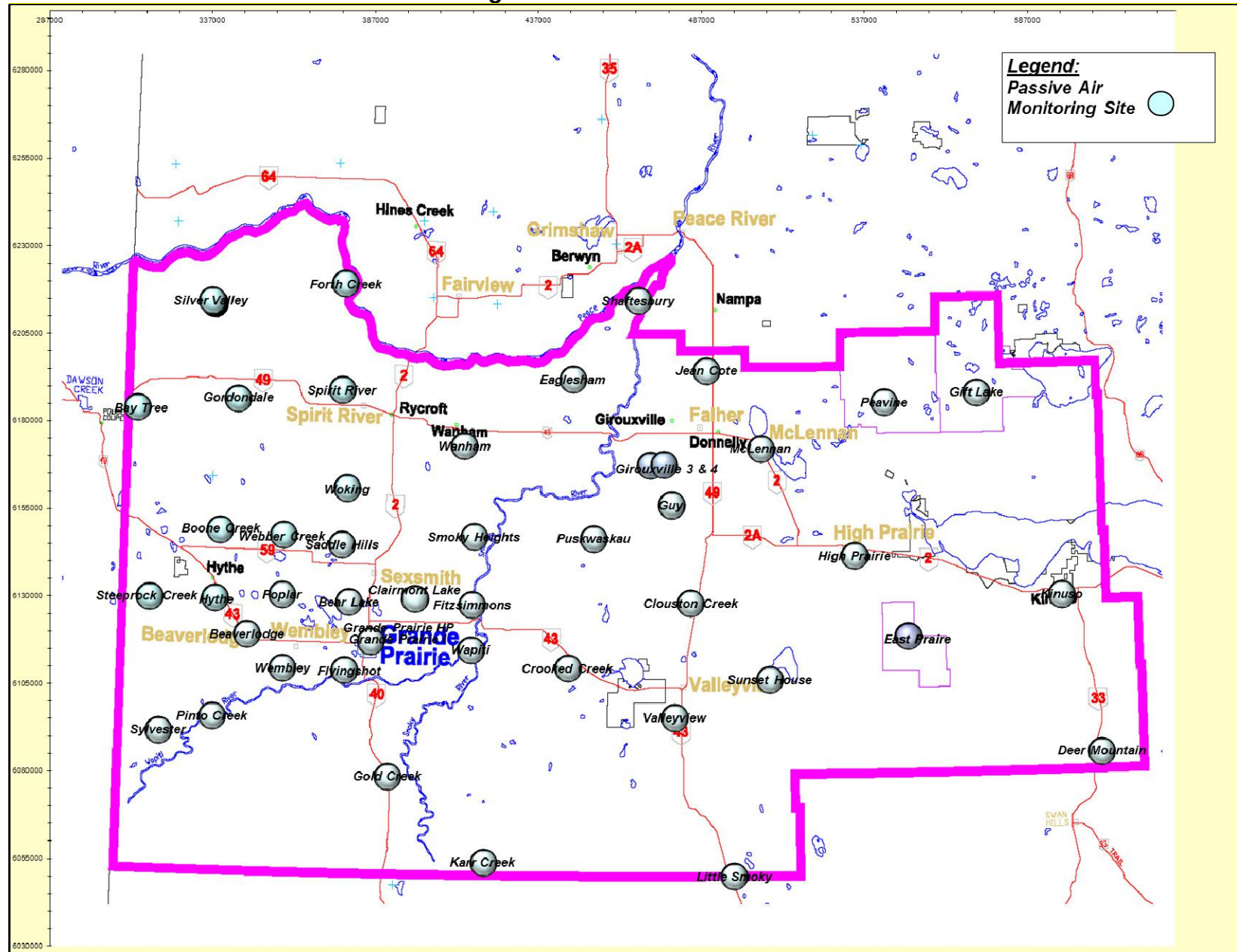
Falher - July 2013

Maximum Value: 93.6 deg on Jul 16 10:00																			Hours in Service: 744						
Minimum Value: 2.0 deg on Jul 8 20:00																			Hours of Data: 744						
																			Hours of Missing Data: 0						
Percentiles: P ₁ = 2.5 P ₁₀ = 4.9 Q ₁ = 7.5 Median = 11.9 Q ₃ = 21.3 P ₉₀ = 38.7 P ₉₉ = 83.6																			Hours of Calibration: 0						
																			Percent Operational Time: 100.0						
Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jul	21	22	5	10	6	3	3	4	13	8	20	10	10	10	10	7	10	15	7	2	2	2	2	3	22.5
2-Jul	3	11	14	27	52	8	5	12	12	8	44	13	7	10	11	21	9	20	9	8	20	9	5	8	52.5
3-Jul	14	5	4	3	3	3	5	4	4	6	8	8	9	11	13	9	14	8	7	7	12	10	4	15	15.1
4-Jul	7	4	6	8	11	8	12	7	7	11	9	10	11	12	12	14	6	5	5	9	5	25	11	7	24.8
5-Jul	10	12	30	27	51	13	9	10	6	13	7	8	7	9	11	15	15	18	10	10	11	7	6	16	51.4
6-Jul	5	6	6	4	4	9	5	6	5	5	6	5	11	10	12	19	14	33	36	52	13	6	7	14	51.7
7-Jul	11	12	9	18	6	10	10	12	12	12	22	27	21	18	18	31	23	25	30	23	52	22	9	7	52.4
8-Jul	6	12	8	7	6	9	8	6	8	10	12	12	18	16	13	13	9	6	4	2	2	11	5	4	17.6
9-Jul	3	68	19	13	6	9	14	12	11	6	9	11	10	8	13	12	9	10	40	21	11	6	5	10	68.3
10-Jul	16	15	14	10	22	10	8	11	13	17	11	12	13	21	37	17	24	32	13	8	4	5	10	8	37.3
11-Jul	10	10	9	8	10	41	25	5	6	4	4	6	23	14	14	9	17	8	15	19	26	34	3	3	41.0
12-Jul	5	5	5	5	4	5	5	4	5	6	6	7	8	10	8	11	10	8	8	6	16	4	21	26	25.6
13-Jul	67	14	5	6	6	12	16	11	61	43	22	30	24	32	46	24	16	29	29	7	6	8	5	6	67.3
14-Jul	9	16	9	9	17	26	23	14	13	22	49	67	85	71	63	75	47	30	26	23	16	14	8	10	85.3
15-Jul	13	21	68	43	22	6	39	8	11	13	12	15	13	14	12	12	15	11	34	18	73	25	26	15	72.5
16-Jul	43	25	46	21	23	18	38	27	70	94	39	13	21	24	19	15	12	12	5	3	6	2	3	6	93.6
17-Jul	9	8	28	8	6	6	19	7	8	17	27	19	20	25	16	17	32	33	71	23	22	13	12	30	71.1
18-Jul	90	57	21	25	16	8	23	36	10	13	39	13	25	30	16	6	5	14	10	36	67	26	52	74	90.4
19-Jul	82	57	93	17	42	12	10	48	19	11	9	13	20	42	41	21	26	17	9	11	9	14	13	8	92.9
20-Jul	9	7	7	7	8	41	22	15	36	16	14	12	15	8	11	17	34	21	15	19	13	6	14	17	40.9
21-Jul	6	22	15	27	16	14	18	29	54	87	52	77	79	60	35	25	15	12	11	7	9	7	7	12	87.1
22-Jul	8	6	12	15	12	37	88	24	52	13	15	10	10	9	9	11	10	9	6	7	16	7	38	6	87.7
23-Jul	10	8	21	8	9	7	9	9	18	15	14	24	26	22	31	20	38	22	12	9	6	23	13	33	38.0
24-Jul	18	17	25	50	38	40	14	17	23	21	20	36	27	17	24	24	24	22	9	5	3	7	3	11	49.5
25-Jul	3	12	2	3	3	3	3	5	5	6	10	9	9	9	9	7	5	4	4	10	9	11	6	21	21.0
26-Jul	6	5	7	8	7	3	4	10	10	14	17	55	71	42	18	66	28	19	10	39	49	16	10	16	71.2
27-Jul	29	11	5	11	12	7	17	10	8	13	13	13	17	11	11	26	12	7	6	44	14	13	5	4	43.8
28-Jul	6	5	5	4	10	5	4	6	4	5	4	4	4	5	7	9	7	27	16	8	9	4	5	14	26.6
29-Jul	7	8	6	26	12	56	71	10	13	14	42	44	30	21	37	28	63	31	19	70	41	36	8	6	70.7
30-Jul	8	4	12	84	8	23	12	11	11	12	19	14	17	16	17	15	12	15	15	17	4	4	7	7	84.4
31-Jul	7	92	44	17	16	57	75	10	19	21	24	31	39	23	34	45	27	34	29	11	20	78	18	23	91.7
90.4 91.7 92.9 84.4 52.5 56.7 87.7 47.5 69.7 93.6 52.0 76.9 85.3 70.7 62.6 74.6 62.6 34.0 71.1 70.1 72.5 78.2 52.5 74.4																									

PAZA

Monthly Passive Data Summary

Location of PAZA Passive Monitoring Stations



PAZA Passive Results for July 2013

Station Number	Station Name	SO2 ppb	O3 ppb	NO2 ppb	H2S ppb	Site Legal
Duplicates						
2a	Bay Tree	0.1	20.9	0.4		
2b	Bay Tree	0.2	17.1	0.2		
7a	Steeprock Creek	0.1	26.2	0.1		
7b	Steeprock Creek	0.1	54.0	BDL		
9a	Spirit River	0.1	19.7	0.2		
9b	Spirit River	0.2	23.2	0.4		
36a	Guy	0.1	19.3	0.6		
36b	Guy	0.1	15.8	0.7		
63a	Girouxville 3				0.2	
63b	Girouxville 3				0.2	

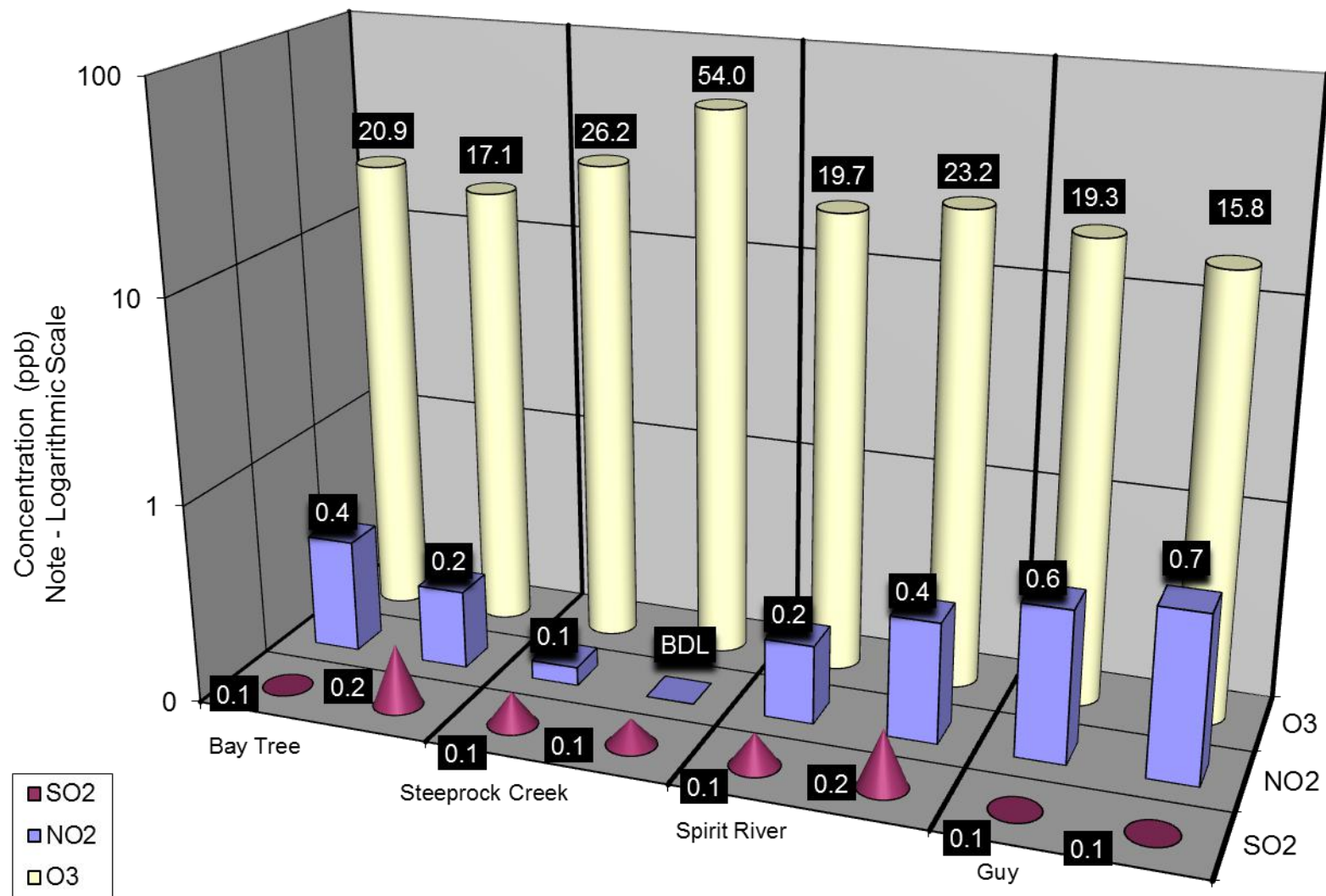
1	Silver Valley	0.2	21.6	0.4		08-27-081-11 W6M
2	Bay Tree	0.1	19.0	0.3		13-16-078-13 W6M
3	Fourth Creek	0.1	23.1	BDL		04-13-082-07 W6M
4	Gordondale	0.1	22.0	0.2		04-34-078-10 W6M
5	Boone Creek	0.2	21.3	0.3		16-36-074-11 W6M
7	Steeprock Creek	0.1	40.1	0.1		09-35-072-13 W6M
9	Spirit River	0.2	21.5	0.3		08-12-079-07 W6M
10	Woking	0.2	21.1	0.4		01-13-076-07 W6M
11	Webber Creek	0.1	17.8	0.4		09-36-074-09 W6M
12	Hythe	0.2	20.5	0.2		14-36-072-11 W6M
14	Sylvester	0.1	17.8	0.3		08-06-069-12 W6M
16	Beaverlodge	0.1	29.0	0.6		15-36-071-10 W6M
17	Poplar	0.1	19.2	1.8		13-06-073-08 W6M
18	Saddle Hills	0.3	22.7	0.3		04-25-074-07 W6M
19	Wanham	0.2	31.2	0.5		16-22-077-03 W6M
20	Shaftesbury	0.1	19.7	0.5		04-03-082-23 W5M
21	Eaglesham	0.5	17.3	0.3		16-21-079-25 W5M
23	Bear Lake	0.1	20.9	0.7		15-31-072-06 W6M
24	Wembley	0.1	18.1	0.2		12-31-070-08 W6M
25	Pinto Creek	0.1	23.3	0.8		04-24-069-11 W6M
26	Flyingshot	0.1	21.2	0.5		15-36-070-07 W6M
27	Grande Prairie I	0.2	24.0	1.3		08-15-071-06 W6M

PAZA Passive Results for July 2013 (Continued)

28	Clairmont Lake	0.1	21.5	0.2	09-06-073-04 W6M
29	Smoky Heights	0.1	28.0	0.1	04-06-075-02 W6M
30	Fitzsimmons	0.1	14.2	0.4	15-36-072-03 W6M
32	Gold Creek	0.1	14.5	1.0	06-33-067-05 W6M
33	Wapiti	0.1	21.6	0.5	02-25-071-03 W6M
34	Puskwaskau	BDL	14.5	BDL	15-35-074-25 W5M
35	Jean Cote	0.2	20.4	1.4	12-35-079-21 W5M
36	Guy	0.1	17.6	0.6	03-04-076-22 W5M
37	Crooked Creek	0.1	17.6	0.3	16-01-071-26 W5M
38	Karr Creek	0.1	17.1	0.6	10-16-065-02 W6M
39	Clouston Creek	0.1	22.1	0.6	12-01-073-22 W5M
40	McLennan	0.3	20.1	0.5	03-29-077-19 W5M
41	Valleyview	0.2	24.5	0.3	09-30-069-22 W5M
42	Sunset House	0.1	27.1	0.5	05-32-070-19 W5M
43	High Prairie	0.1	19.5	0.3	16-13-074-17 W5M
44	Peavine	0.2	18.3	BDL	03-05-079-15 W5M
45	Gift Lake	0.1	17.4	0.2	0.1 10-07-079-12 W5M
46	Little Smoky	0.1	16.0	0.6	12-01-065-21 W5M
47	Kinuso	0.1	15.3	BDL	12-10-073-10 W5M
48	Deer Mountain	0.2	19.0	0.2	15-22-068-09 W5M
49	Grande Prairie HP	0.2	20.9	1.2	17-26-071-06 W6M
62	East Prairie	BDL	18.4	0.4	13-02-072-15 W5M
63	Girouxville 3			0.2	14-02-077-23 W5M
64	Girouxville 4			0.2	4-08-077-22 W5M

*BDL = Below Detection Level

*N/S - No sample



Duplicate Summary Chart

Passive Summary for July 2013

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

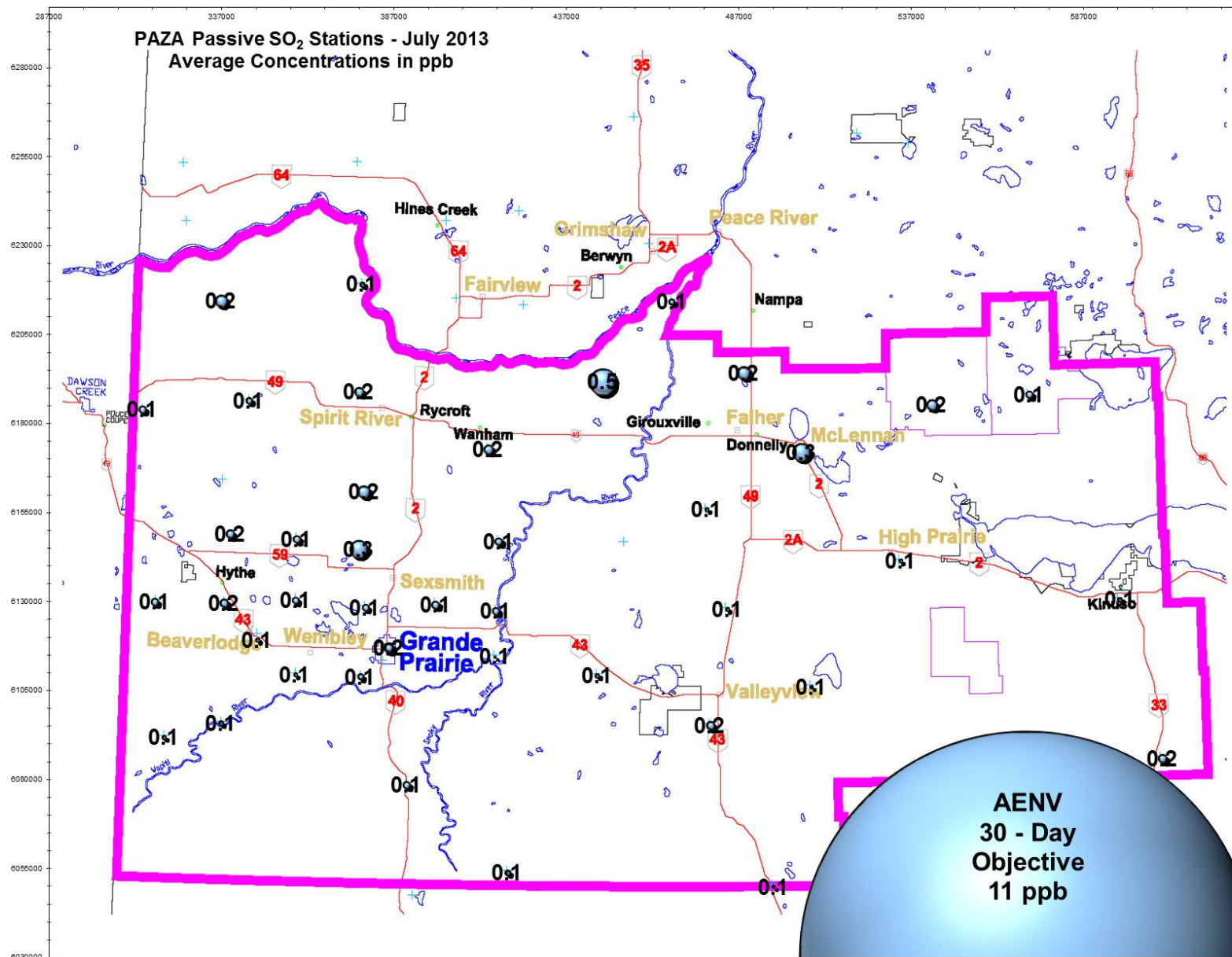
Passive Summary for July 2013 (PAZA Zone)				
Mean	0.2	20.9	0.5	0.2
Standard Deviation	0.1	4.8	0.4	0.1
Minimum	0.1	14.2	0.1	0.1
Minimum At	Wapiti (#33)	Fitzsimmons (#30)	Smoky Heights (#29)	Gift Lake (#45)
Maximum	0.5	40.1	1.8	0.2
Maximum At	Eaglesham (#21)	Steepprock Creek (#7)	Poplar (#17)	Girouxville 4 (#64)

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

	SO ₂	O ₃	NO ₂
PAZA Beaverlodge station	0.1	29.6	2.0
PAZA Beaverlodge passive	0.1	29.0	0.6

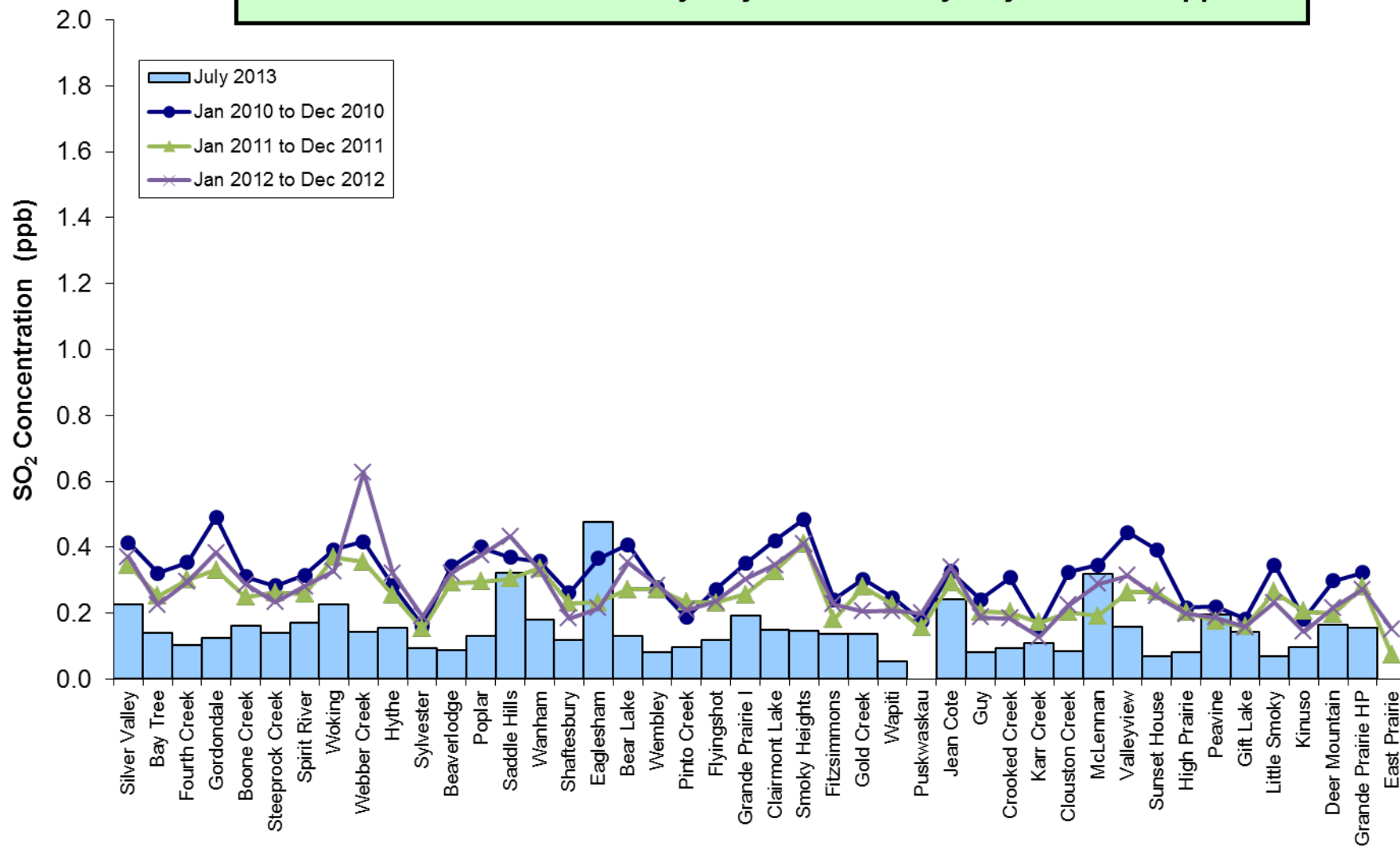
Comparison between Continuous and Passive monitoring at Henry Pirker (passive #49 Grande Prairie HP)

	SO ₂	O ₃	NO ₂
PAZA Henry Pirker station	0.1	26.5	3.9
PAZA Grande Prairie passive	0.2	20.9	1.2

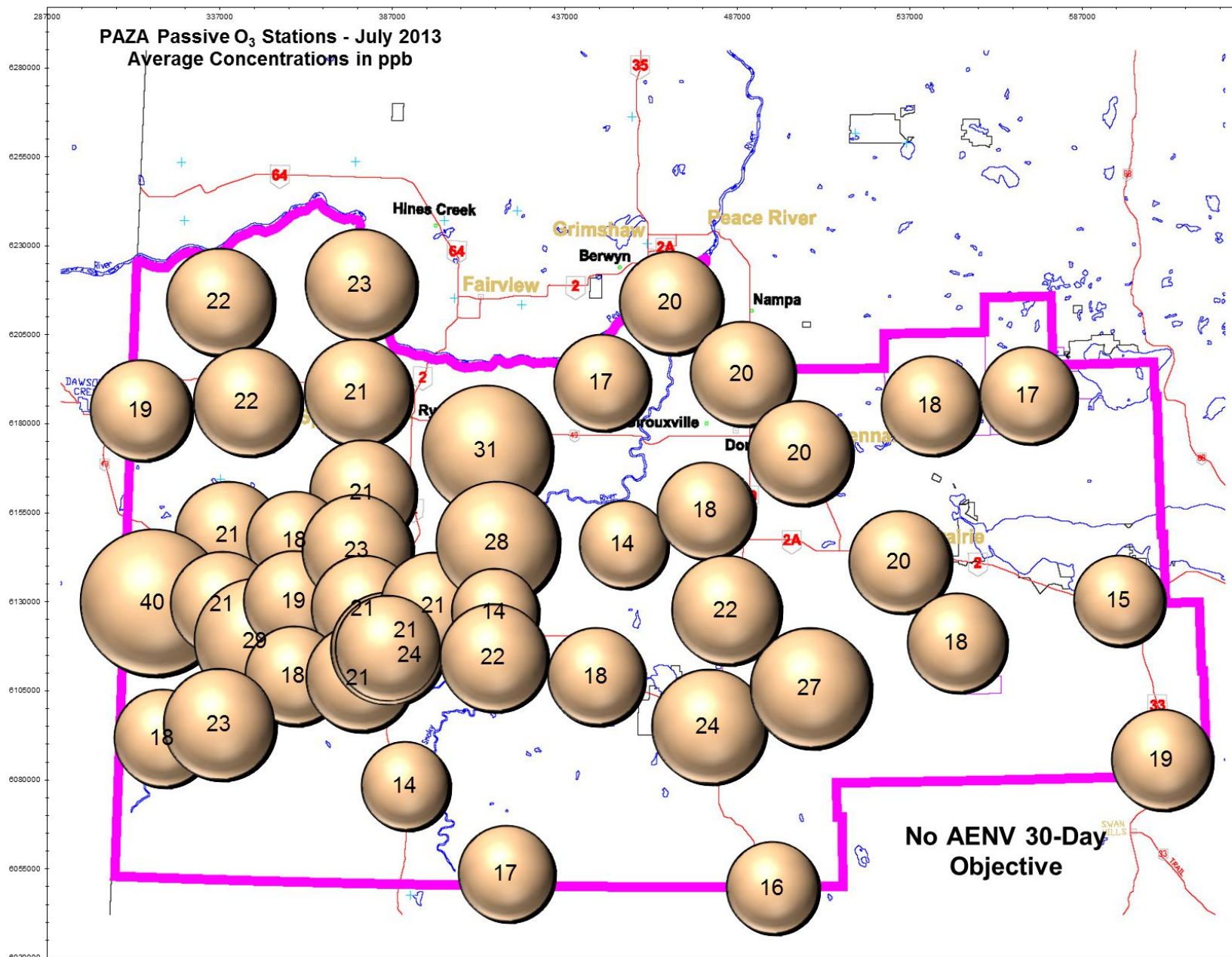


SO₂ Bubble Chart

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

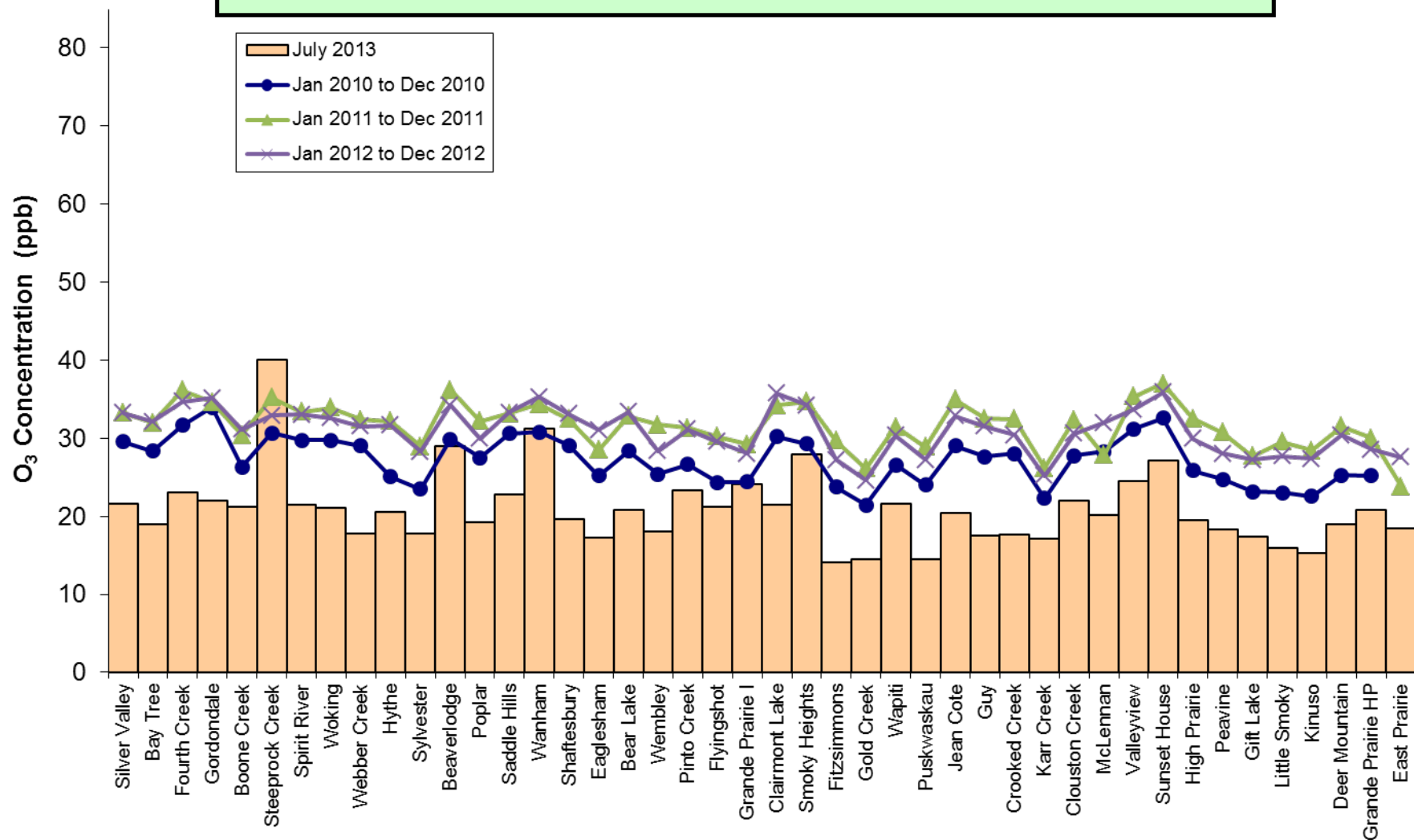


SO₂ Summary Chart



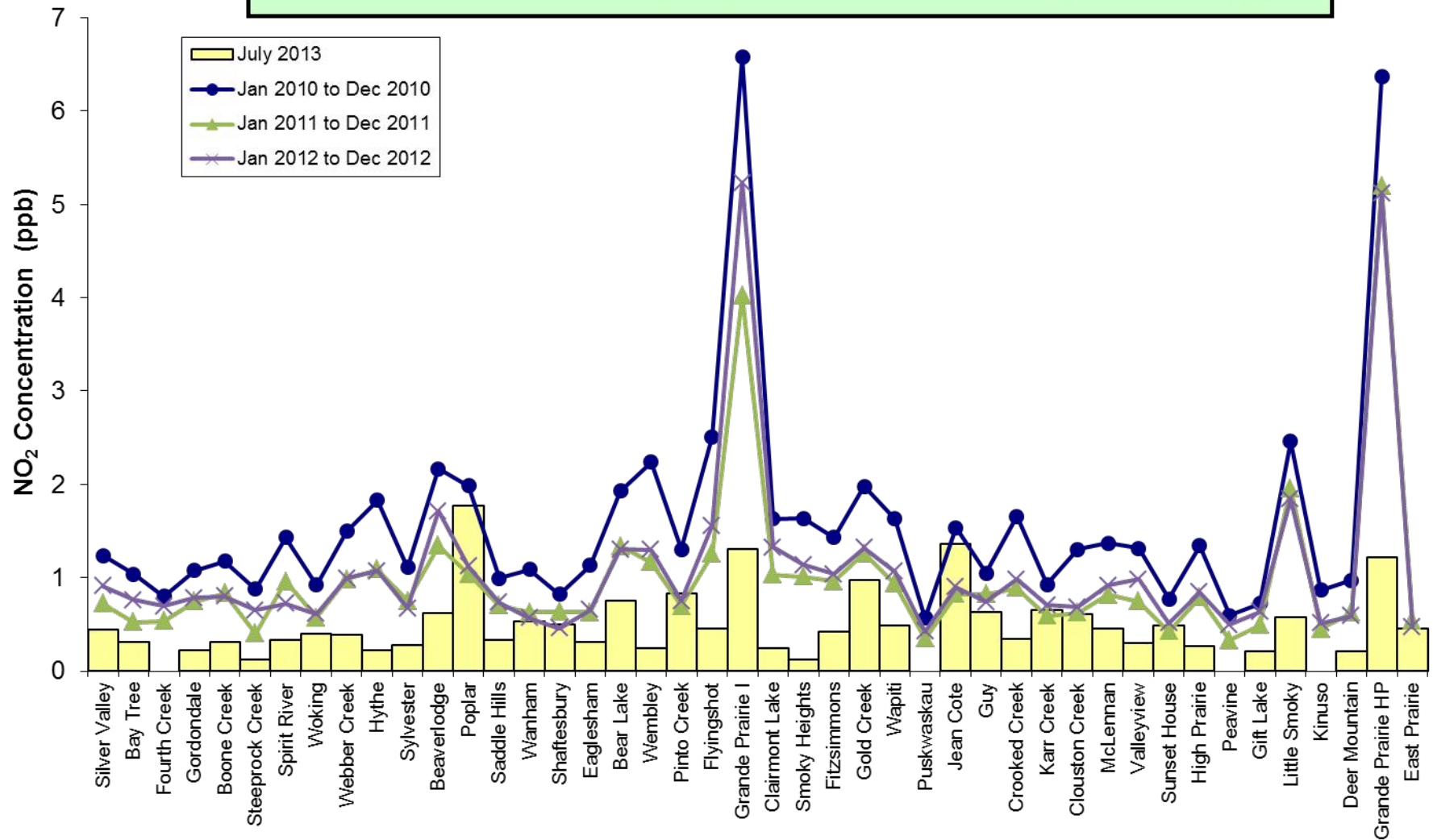
O₃ Bubble Chart

Alberta Ambient Air Quality Objective - No Annual O₃ Objective

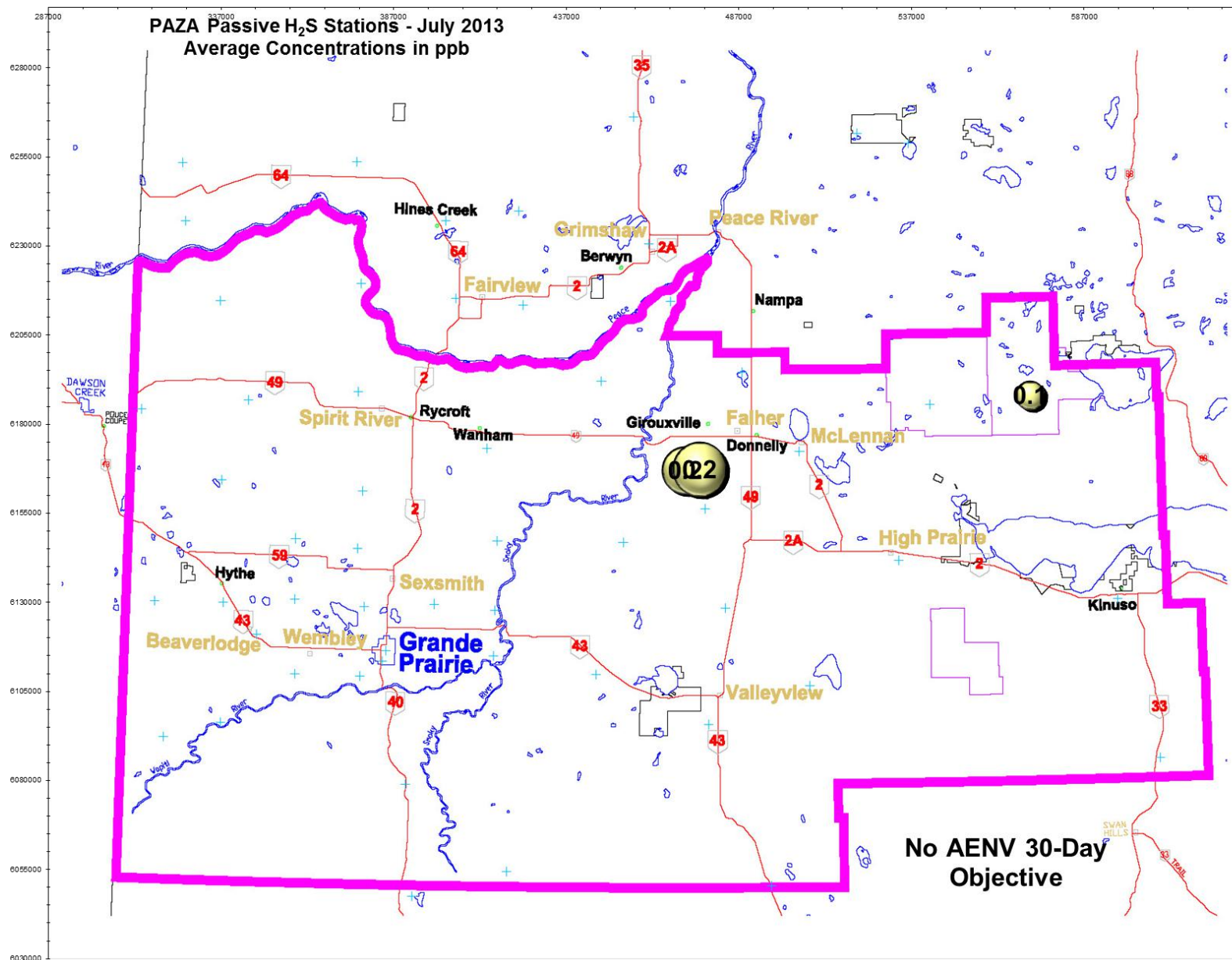


O₃ Summary Chart

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



NO₂ Summary Chart



H₂S Bubble Chart

PAZA

ALBERTA ENVIRONMENT AND SUSTAINABLE RESOURCES INCIDENCE REPORT

July 2013

Air Monitoring Directive Exceedence Report

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

Reference Number: 272935		Reported To (AESRD Contact): NA	
Date & Time Incident Reported to AESRD:	July 22, 2013 00:00 – 01:00	Reported By:	Jon Cuttress
Reported on Behalf of:	Peace Airshed Zone Association	Approval Number (if applicable):	
Location(s) of Incident:	Henry Pirker Air Quality Station		
Start Date & Time of Incident:	July 22 nd 00:00	End Date & Time of Incident:	July 22 nd 01:00
Reason or Nature of Incident:			
1 hour TRS Exceedence on July 22 nd , 2013 between 00:00 and 01:00. 1 hour average = 14.4 ppb, WD 1 hour average = 190 degrees, WS 1 hour average = 2.6 km/hr			
Immediate Actions Taken:			
Reported to AESRD			
Investigation Details:			
NA			
Actions Taken to Prevent Reoccurrence (if any):			
None			
Additional Actions Required (if any):			
Not applicable			
Report Completed By:	Tech's name: Jon Cuttress	Date Report Submitted:	July 24, 2013
7-Day Letter Due Date:	July 29, 2013		

Air Monitoring Directive Exceedence Report

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

Reference Number:	274348	Reported To (AESRD Contact):	
Date & Time Incident Reported to AESRD:	23/08/2013	Reported By:	Patrick Andersen
Reported on Behalf of:	PAZA	Approval Number (if applicable):	
Location(s) of Incident:	Beaverlodge Air Quality Station		
Start Date & Time of Incident:	July 1, 2013 00:00	End Date & Time of Incident:	August 1, 2013 00:00
Reason or Nature of Incident:			
Below 90% uptime for the PM2.5 monitor located at the Beaverlodge Air Quality Station.			
Immediate Actions Taken:			
None. Data degradation discovered during QA/QC procedures in August.			
Investigation Details:			
Analyzer instability exhibited in previous months was discovered to be due to degraded fittings and a malfunctioning control board. Replacement parts ordered and will be installed when acquired.			
Actions Taken to Prevent Reoccurrence (if any):			
NA			
Additional Actions Required (if any):			
NA			
Report Completed By:	Patrick Andersen	Date Report Submitted:	23/08/2013
7-Day Letter Due Date:	30/08/2013		

Air Monitoring Directive Exceedence Report

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

Reference Number:	274349	Reported To (AESRD Contact):	
Date & Time Incident Reported to AESRD:	23/08/2013	Reported By:	Patrick Andersen
Reported on Behalf of:	PAZA	Approval Number (if applicable):	
Location(s) of Incident:	Sunset House Air Quality Station		
Start Date & Time of Incident:	July 26, 2013 15:20	End Date & Time of Incident:	August 01, 2013 00:00
Reason or Nature of Incident:			
Power bump destroyed control board of analyzer.			
Immediate Actions Taken:			
None. Waiting for replacement control board.			
Investigation Details:			
NA			
Actions Taken to Prevent Reoccurrence (if any):			
NA			
Additional Actions Required (if any):			
NA			
Report Completed By:	Patrick Andersen	Date Report Submitted:	23/08/2013
7-Day Letter Due Date:	30/08/2013		

July 2013 Calibration Reports

PAZA - Henry Pirker Station with the following calibrations:

SO₂, NO, NO₂, NO_x, O₃, CO, THC, TRS

PAZA – Evergreen Park Station with the following calibrations:

SO₂, TRS

PAZA – Smoky Heights Station with the following calibrations:

SO₂, TRS

PAZA – Beaverlodge Station with the following calibrations:

SO₂, NO, NO₂, NO_x, O₃, PM_{2.5}

PAZA – Valleyview Station with the following calibrations:

SO₂ & H₂S

PAZA – Sunset House Station with the following calibrations:

SO₂, NO, NO₂, NO_x, O₃, TRS

PAZA – Falher Station with the following calibrations:

SO₂ & H₂S

Calibration Report

Parameter SO2

Air Monitoring Network PAZA



Station Information

Calibration Date	July 18, 2013		Previous Calibration	June 13, 2013	
Station Number	1		Station Location	Henry Pirker	
Reason:	Routine	☐ Install	☐ Removal	☐ Other:	
Start Time (MST)	12:10		End Time (MST)	15:30	
Barometric Pressure	na	ATM	Station Temperature	20.5	Deg C
Calibrator	EnviroNics 6100		Serial Number	3016	
Cal Gas Conc	51.5	ppm	Cal Gas Cert Date	March 12, 2014	
			Cal Gas Cylinder #	LL105159	
DACS make	CR3000		DACS serial No.	5408	
DACS voltage range	0 - 1 volt		DACS channel #	10	
	Before			After	
Calculated slope	1.014118		Calculated slope	0.994435	
Calculated intercept	2.584641		Calculated intercept	2.553904	
Analyzer make	TEI 43C		Analyzer serial #	610816292	

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
Background	8.9		10	
Coefficient	0.781		0.781	
Pressure	645.1	mm Hg	641.1	mm Hg
Flow	0.494	lpm	0.490	lpm
Lamp Voltage	44456	Hz	44370	Hz

Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
4995	0.00	0.0	0.6	N/A
4995	39.93	408.4	409.8	0.9966
4995	19.97	205.1	201.6	1.0171
4995	9.96	102.5	97.6	1.0497
4995	0.00	0.0	0.6	As Found Zero
4995	39.93	408.4	409.8	As Found Span
Average Correction Factor				1.0211

Calculated value of As Found Response: 417.5 ppb Percent Change of As Found: -2.2%

	before calibration		after calibration	
Auto zero	0.1	ppb	0.1	ppb
Auto span	247.2	ppb	250.7	ppb

Notes: No adjustments made.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter SO2

Air Monitoring Network PAZA



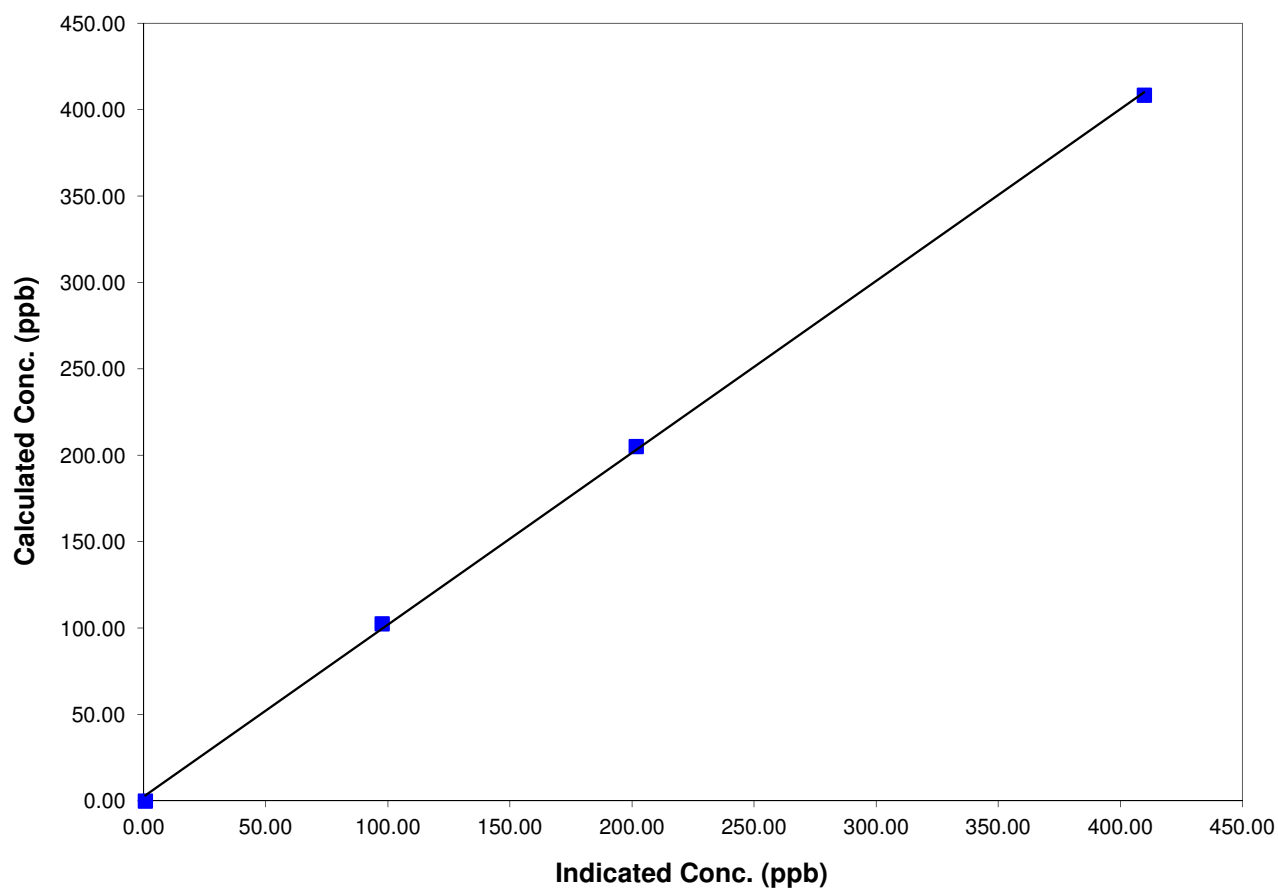
Station Information

Calibration Date	July 18, 2013	Previous Calibration	June 13, 2013
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	12:10	End Time (MST)	15:30
Analyzer make/model	TEI 43C	Analyzer serial #	610816292

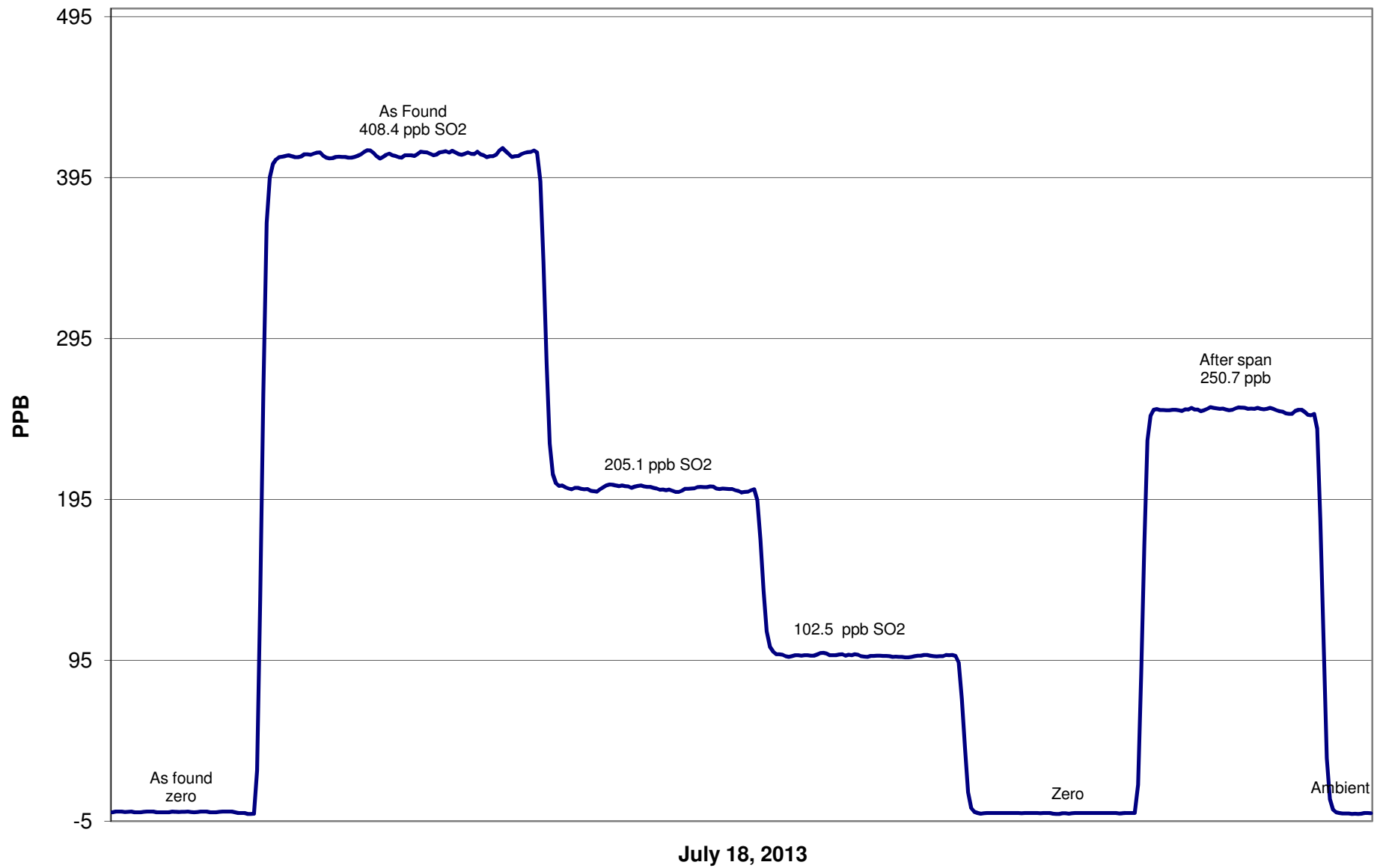
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.6	N/A	Correlation Coefficient	0.999726
408.4	409.8	0.9966		
205.1	201.6	1.0171		
102.5	97.6	1.0497	Slope	0.994435
			Intercept	2.553904

SO2 Calibration Curve



SO2 Calibration



Parameter
Air Monitoring Network

NO_x-NO-NO₂
PAZA



Station Information

Calibration Date	July 18, 2013		Previous Calibration	June 13, 2013	
Station Number	1		Station Location	Henry Pirker	
Reason:	☒ Routine	☐ Installation	☐ Removal	Other:	
Start Time (MST)	12:10		End Time (MST)	17:40	
Barometric Pressure	na	Atm	Station Temperature	20.5	Deg C
Calibrator	EnviroNics 6100		Serial Number	3016	
NO Cal Gas Conc	51.3	ppm	Cal Gas Expiry Date	March 12, 2014	
NOx Cal Gas Conc	51.4	ppm	Cal Gas Serial #	LL105159	

DACS Information

DACS make		CR3000		DACS serial No.		5408	
	Parameter	NO2	NOx	NO			
Before	Data Slope	1.001573	1.003672	1.003269			
	Data Offset	-0.497601	2.220985	2.318466			
After	Data Slope	1.002741	0.994253	0.992683			
	Data Offset	0.587483	1.765490	2.028885			
Channel #		8	6	7			
Voltage Range		0 - 5 VDC	0 - 5 VDC	0 - 5 VDC			

Analyzer Information

Analyzer make/model		TEI 42C		Analyzer serial #		508011073	
Test Point	before			after			
Concentration range	0 - 500		ppb	0 - 500		ppb	
NO offset	13.1		mV	13.6		mV	
NOx bkgnd	13.3		mV	13.9		mV	
NO coefficient	1.116			1.163			
NOx coefficient	1.001			1.001			
NO2 conv temp	319.0		Deg C	319.0		Deg C	
PMT Temp	-2.4		Deg C	-2.4		Deg C	
PMT Volt	-768.0		mV	-768.0		mV	
R Cell Press	186.3		in Hg	187.1		in Hg	

Calibration Report

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



Calibration Date: July 18, 2013 Station Location: Henry Pirker

	Dilution flow rate (ccm)	Source gas flow rate (ccm)	Calculated NO _x conc (ppb)	Calculated NO conc (ppb)	Calculated NO ₂ conc (ppb)	Indicated NO _x conc (ppb)	Indicated NO conc (ppb)	Indicated NO ₂ conc (ppb)	NO _x Correction factor	NO Correction factor
zero	4995	0.00	0.0	0.0	0.0	0.1	-0.1	0.0	N/A	N/A
1	4995	39.93	407.6	406.8	0.8	409.0	408.7	0.2	0.9966	0.9954
2	4995	19.97	204.7	204.3	0.4	203.5	202.9	0.4	1.0060	1.0067
3	4995	9.98	102.5	102.3	0.2	99.2	98.9	0.2	1.0328	1.0338
AFZ	4995	0.00	0.0	0.0	0.0	0.1	-0.1	0.0	0.0000	0.0000
AFS	4995	39.93	407.6	406.8	0.8	392.6	391.9	0.7	1.0384	1.0382
Average Correction Factor									1.0118	1.0120

As Found Concentrations: NO_x= 394.7 NO= 394.3 As Found Percent Change NO_x= -3.2% NO= -3.1%

Dilution Flow		4995	ccm	Source Gas Flow		39.94	ccm			
O ₃ Setpoint (ppb)	Indicated NO high point (ppb)	Indicated NO drop conc (ppb)	Calculated NO ₂ conc (ppb)	Indicated NO _x conc (ppb)	Indicated NO conc (ppb)	Indicated NO ₂ conc (ppb)	NO _x Correction factor	NO Correction factor	NO ₂ Correction factor	Converter Efficiency
0	-0.1	-0.1	0.0	0.1	-0.1	0.0	N/A	N/A	N/A	N/A
NO point	409.2	409.2	0.0	409.4	409.2	0.1	0.9995	1.0000	N/A	N/A
300	409.2	105.7	303.5	408.0	105.7	302.4	1.0030	1.0000	1.0036	99.6%
200	409.2	201.7	207.5	408.0	201.7	206.4	1.0030	1.0000	1.0054	99.5%
100	409.2	297.1	112.1	407.3	297.1	110.2	1.0046	1.0000	1.0170	98.3%
Average Correction Factor							1.0035	1.0000	1.0087	99.1%

	Previous calibration				Current calibration			
Parameter	NO _x	NO ₂	NO		NO _x	NO ₂	NO	
Auto zero	0.0	-0.3	0.0	ppb	0.0	0.0	-0.1	ppb
Auto span	328.3	326.9	1.6	ppb	329.9	327.5	2.4	ppb

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter NO₂

Air Monitoring Network PAZA



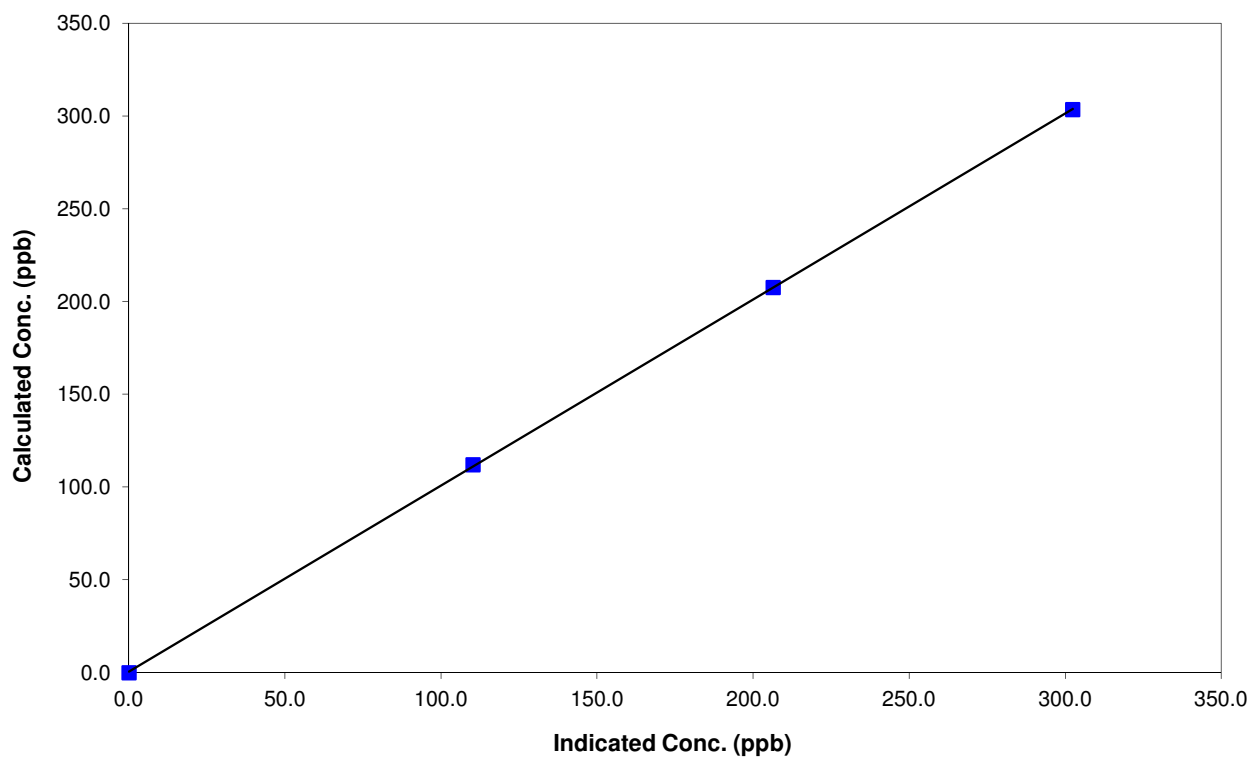
Station Information

Calibration Date	July 18, 2013	Previous Calibration	June 13, 2013
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	12:10	End Time (MST)	17:40
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	0.999971
303.5	302.4	1.0036		
207.5	206.4	1.0054		
112.1	110.2	1.0170	Slope	1.002741
			Intercept	0.587483

NO₂ Calibration Curve



Calibration Summary

Parameter NO_x

Air Monitoring Network PAZA



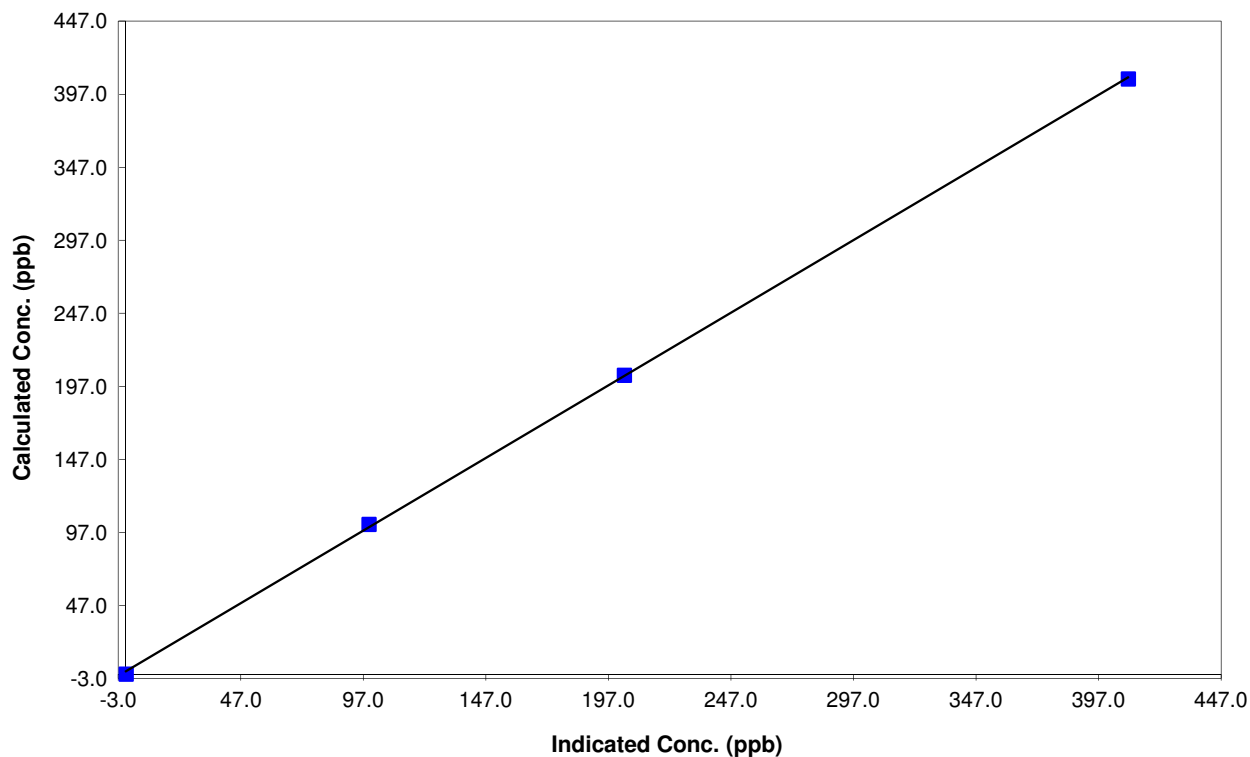
Station Information

Calibration Date	July 18, 2013	Previous Calibration	June 13, 2013
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	12:10	End Time (MST)	17:40
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	0.999903
407.6	409.0	0.9966		
204.7	203.5	1.0060		
102.5	99.2	1.0328	Slope	0.994253
			Intercept	1.765490

NO_x Calibration Curve



Calibration Summary

Parameter NO

Air Monitoring Network PAZA



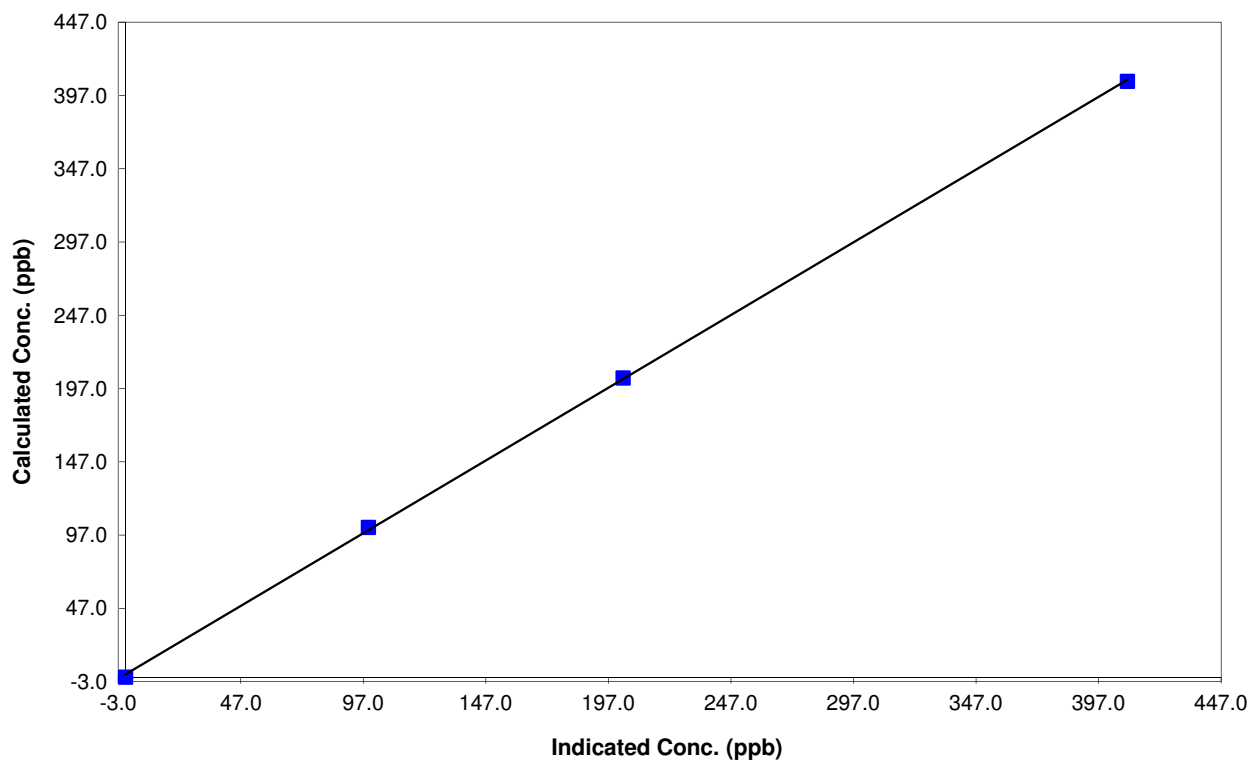
Station Information

Calibration Date	July 18, 2013	Previous Calibration	June 13, 2013
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	12:10	End Time (MST)	17:40
Analyzer make	TEI 42C	Analyzer serial #	508011073

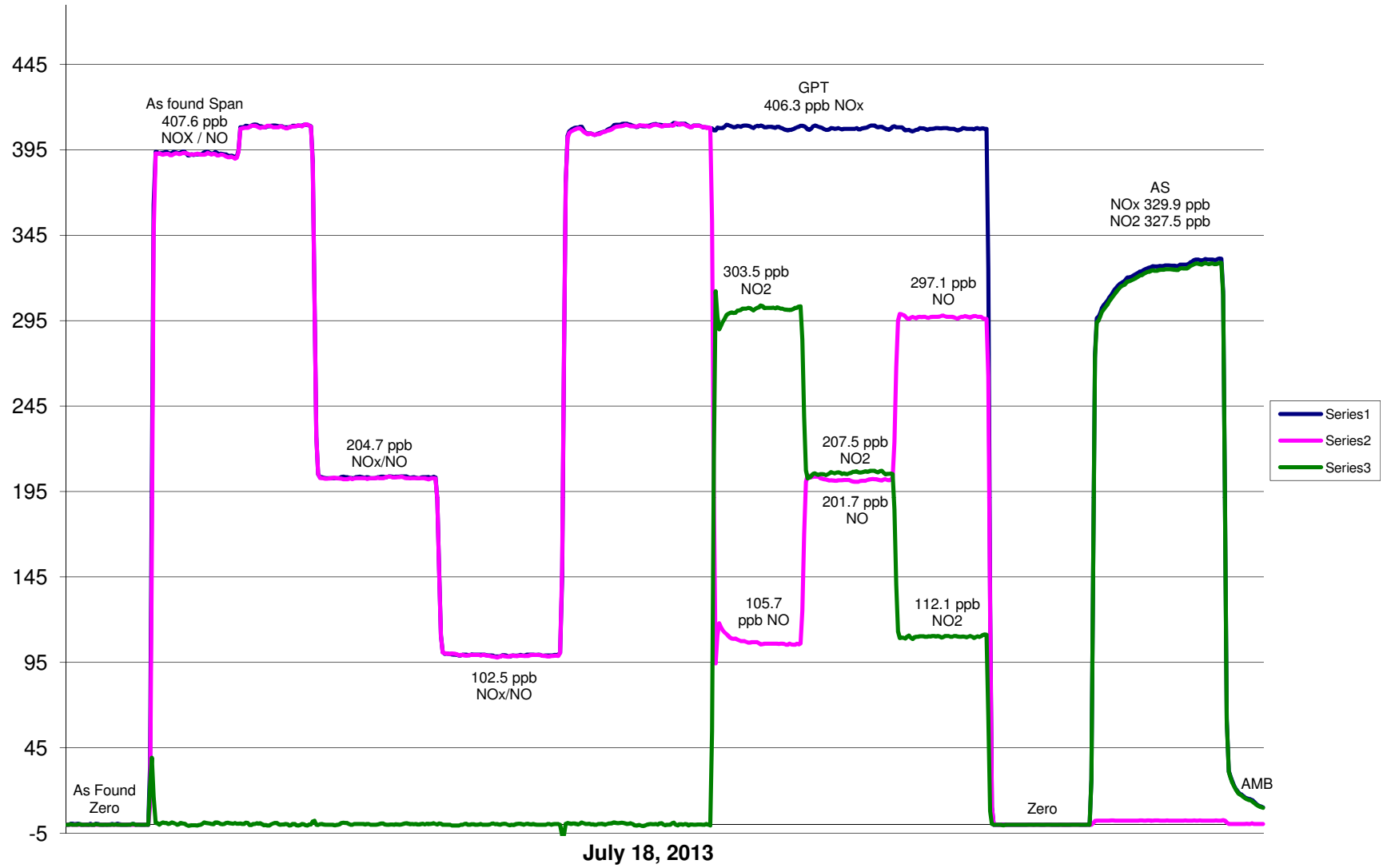
Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.1	N/A	Correlation Coefficient	0.999895
406.8	408.7	0.9954		
204.3	202.9	1.0067		
102.3	98.9	1.0338	Slope	0.992683
			Intercept	2.028885

NO Calibration Curve



PAZA NO_x Calibration



Calibration Report



Parameter 03

Air Monitoring Network PAZA

Station Information

Calibration Date	July 18, 2013	Previous Calibration	June 13, 2013
Station Number	1	Station Location	Henry Pirker
Reason:	Routine	Install	Removal
		Other:	

Start Time (MST)	16:26:00 PM	End Time (MST)	19:10
Barometric Pressure	0.923 atm	Station Temperature	23.0 Deg C
Calibrator	EnviroNics 6100	Serial Number	2844
Cal Gas Concentration	NA	Cal Gas Expiry Date	NA

DACS make	CR3000	DACS serial No.	5237
DACS voltage range	0 - 5 volt	DACS channel #	9
	Before		After
Calculated slope	0.991533	Calculated slope	0.992522
Calculated intercept	-0.257818	Calculated intercept	1.075761

Analyzer make	Teco 49C	Analyzer serial #	607415761
---------------	----------	-------------------	-----------

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
offset	-0.30	ppb	-0.30	ppb
slope	1.019		1.019	
Lamp temp	56.9	mV	56.9	mV
Lamp Intensity A/B	108457/97108	mV	100521/90020	mV
Pressure	675.6	mm Hg	675.5	mm Hg
Flow A	0.719	ccm	0.719	ccm
Flow B	0.723	ccm	0.722	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)
4095	0.0	0.0	-0.1	N/A
4095	0.3	303.5	305.4	0.9938
4095	0.2	207.5	207.8	0.9986
4095	0.1	112.1	110.3	1.0159
4095	0.0	0.0	-0.1	As found zero
4095	0.3	303.5	305.4	As found span
Average Correction Factor				1.0028

Calculated value of As Found Response: 302.6 ppm Percent Change of As Found: -0.3%

	before calibration		after calibration	
Auto zero	-0.2	ppb	1.0	ppb
Auto span	356.6	ppb	355.0	ppb

Notes: No adjustment.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter 03

Air Monitoring Network PAZA



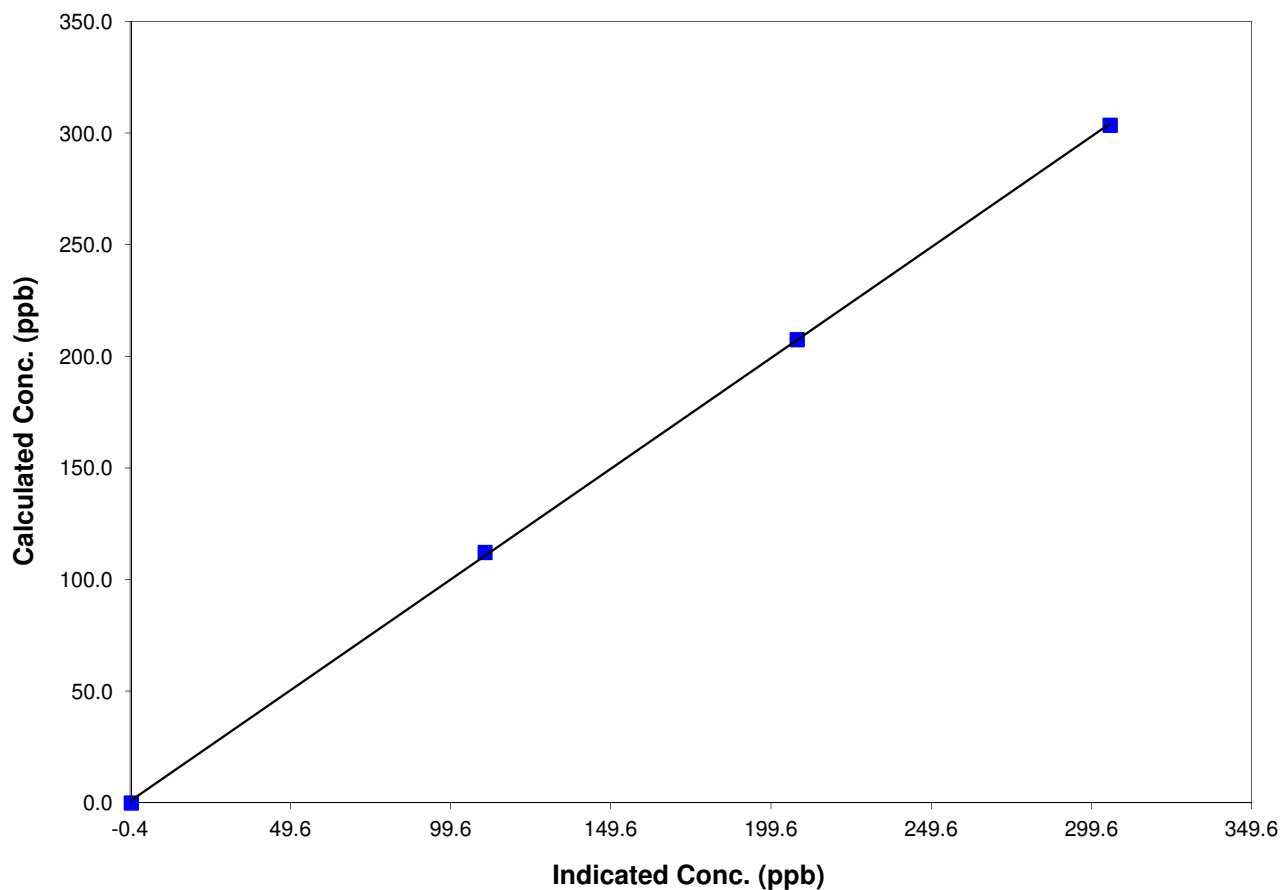
Station Information

Calibration Date	July 18, 2013	Previous Calibration	June 13, 2013
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	16:26:00 PM	End Time (MST)	19:10
Analyzer make/model	Teco 49C	Analyzer serial #	607415761

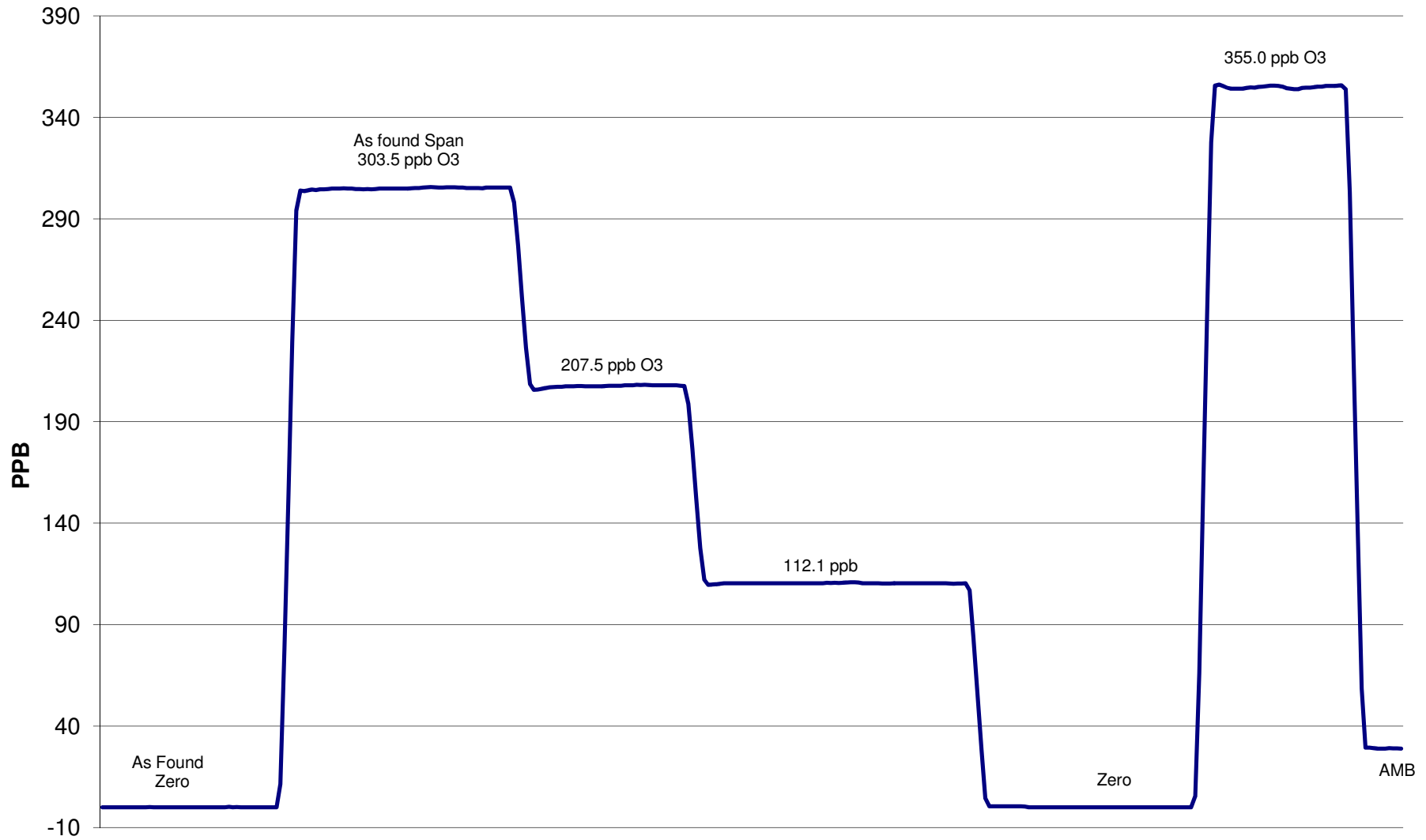
Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.1	NA		
303.5	305.4	0.9938	Correlation Coefficient	0.999925
207.5	207.8	0.9986		
112.1	110.3	1.0159	Slope	0.992522
			Intercept	1.075761

O3 Calibration Curve



O3 Calibration



July 18, 2013

Calibration Report

Parameter CO

Air Monitoring Network PAZA



Station Information

Calibration Date	July 17, 2013	Previous Calibration	June 18, 2013
Station Number	1	Station Location	Henry Pirker
Reason:	Routine	Install	Removal
		Other:	
Start Time (MST)	7:43	End Time (MST)	11:37
Barometric Pressure	0.922 ATM	Station Temperature	21.0 Deg C
Calibrator	EnviroNics 6100	Serial Number	3016
Cal Gas Conc	2898 ppm	Cal Gas Expiry Date	2/04/13
		Cal Gas Cylinder #	LL83909
DACS make	CR3000	DACS serial No.	5408
DACS voltage range	0 - 1 volt	DACS channel #	9
	Before		After
Calculated slope	0.997193	Calculated slope	0.998244
Calculated intercept	0.277771	Calculated intercept	0.233461
Analyzer make	TEI Model 48C	Analyzer serial #	508011062

	before		after	
Concentration range	0 - 50	ppm	0 - 50	ppm
CO span setting	1.005		1.005	
CO zero setting	-0.314		-0.802	
Sample pressure	689.1	mm Hg	688.9	mm Hg
Sample Flow	1.124	LPM	1.126	LPM

Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4995	0.00	0.00	0.01	N/A
4995	69.94	40.02	39.99	1.0007
4995	34.96	20.14	19.78	1.0185
4995	17.96	10.38	9.96	1.0424
4995	0.00	0.00	0.01	As Found Zero
4995	69.94	40.02	39.99	As Found Span
Average Correction Factor				1.0206

Calculated value of As Found Response: 40.148 ppm Percent Change of As Found: -0.3%

	before calibration		after calibration	
Auto zero	0.03	ppm	0.03	ppm
Auto span	19.96	ppm	20.11	ppm

Notes: Slight zero adjustment.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter CO

Air Monitoring Network PAZA



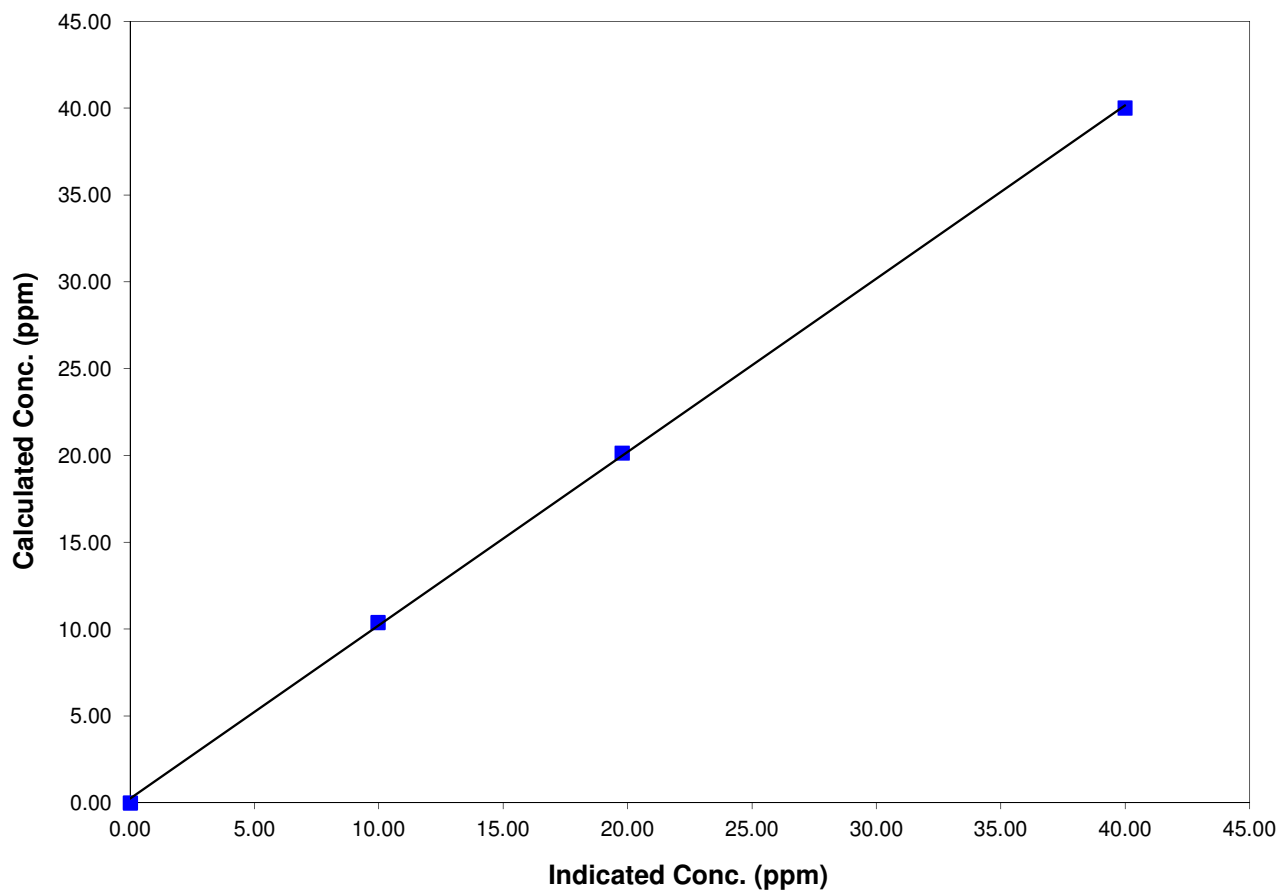
Station Information

Calibration Date	July 17, 2013	Previous Calibration	June 18, 2013
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	7:43	End Time (MST)	11:37
Analyzer make/model	TEI Model 48C	Analyzer serial #	508011062

Calibration Data

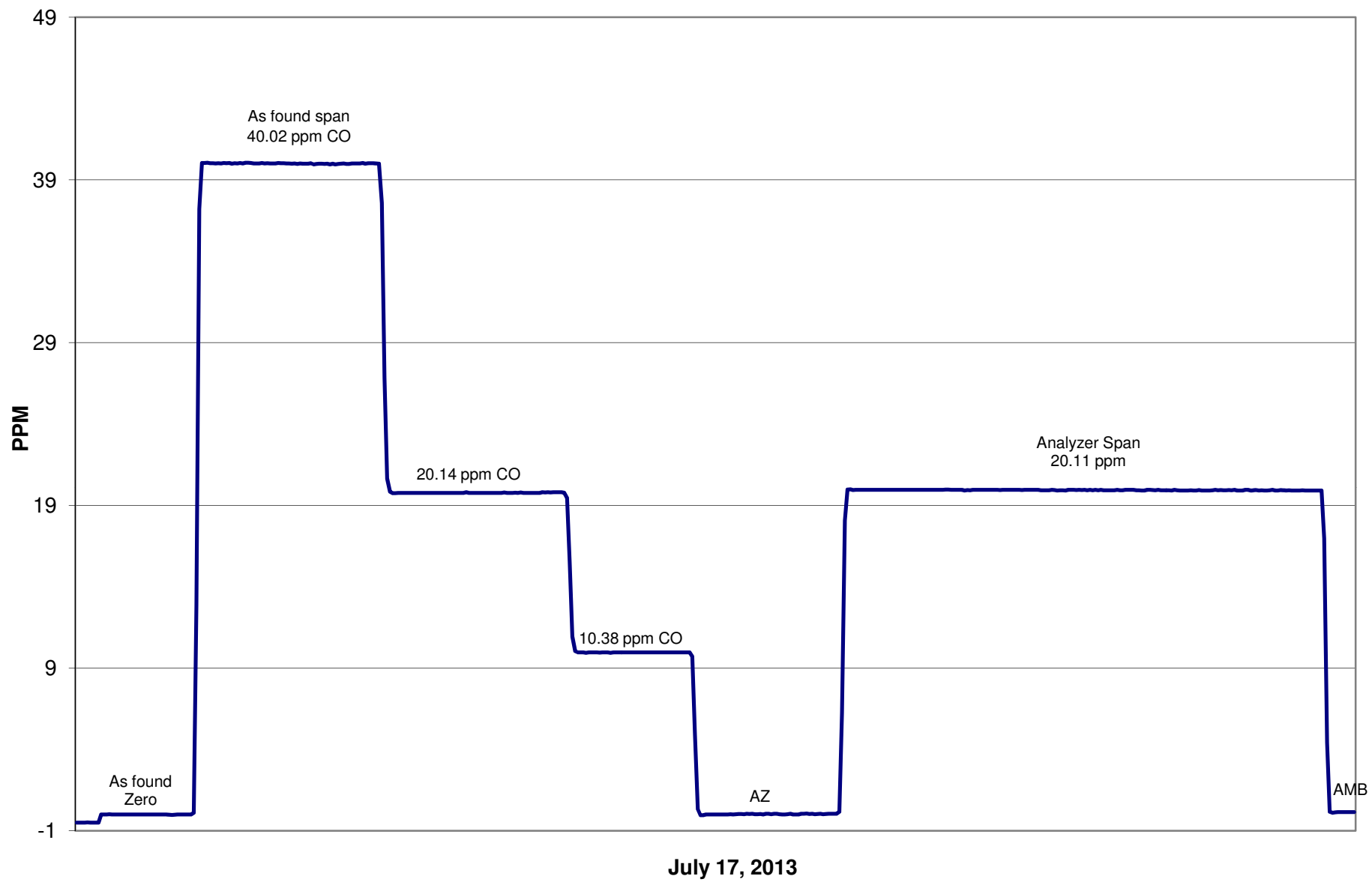
Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.006	N/A	Correlation Coefficient	0.999832
40.017	39.989	1.0007		
20.142	19.776	1.0185		
10.383	9.960	1.0424	Slope	0.998244
			Intercept	0.233461

CO Calibration Curve



11.15 ppm CO

CO Calibration



Calibration Report

Parameter CH4 / NMHC / THC

Air Monitoring Network

PAZA



Station Information

Calibration Date	July 17, 2013	Previous Calibration	June 18, 2013
Station Number	1	Station Location	Henry Pirker
Reason:	☐ Routine	☒ Install	☐ Removal
			☐ Other:

Start Time (MST)	9:40	End Time (MST)	12:50
Barometric Pressure	inches Hg	Station Temperature	20.0 Deg C
Calibrator	EnviroNics 6100	Serial Number	3016
Cal Gas CH4 Conc	404 ppm CH4	Cal Gas Expiry Date	3/28/14
Cal Gas C3H8 Conc	201x2.75= 552.75 ppm CH4	Cal Gas Cylinder #	LL28503
DACS make	CR3000	DACS serial No.	5408
DACS voltage range	0 - 5 volt	DACS channel #	SE 11,12,13

Analyzer make	TEI 551	Analyzer serial #	1134650658
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	before		after	
Concentration range	0-20 (CH4, NMHC); 0-40 (THC)	ppm	0-20 (CH4, NMHC); 0-40 (THC)	ppm
Air pressure	28	PSI	27.8	PSI
Fuel pressure	42.5	PSI	42.1	PSI
Carrier pressure	30.5	PSI	30.3	PSI
CH4 cal factor	3.70		3.70	
NMHC cal factor	9.63		9.63	
Rt	12.20	Sec	12.20	Sec
Pk Index	16.00		16.00	

CH4 Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
1996	0.00	0.00	0.02	N/A
1996	64.93	12.73	12.79	0.9948
1996	39.93	7.92	7.96	0.9955
1996	14.95	3.00	3.01	0.9980
1996	0.00	0.00	0.02	As Found Zero
1996	64.93	12.73	12.79	As Found Span
Average Correction Factor				0.9961

Calculated value of As Found Response: 12.765 ppm Percent Change of As Found: -0.3%

	Before		After
Calculated slope	0.998127	Calculated slope	0.995763
Calculated intercept	0.012179	Calculated intercept	-0.006271

Final Zero/Span Data

	before calibration		after calibration	
Auto zero	0.01	ppm	0.03	ppm
Auto span	9.51	ppm	9.42	ppm

NMHC Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
1996	0.00	0.00	0.02	N/A
1996	64.93	17.41	17.51	0.9945
1996	39.93	10.84	11.00	0.9859
1996	14.95	4.11	4.20	0.9790
1996	0.00	0.00	0.02	As Found Zero
1996	64.93	17.41	17.51	As Found Span
Average Correction Factor				0.9865

Calculated value of As Found Response: 17.391 ppm Percent Change of As Found: 0.1%

	<u>Before</u>		<u>After</u>
Calculated slope	0.996721	Calculated slope	0.995310
Calculated intercept	-0.044516	Calculated intercept	-0.050534

Final Zero/Span Data

	before calibration		after calibration	
Auto zero	0.01	ppm	0.02	ppm
Auto span	12.38	ppm	12.93	ppm

THC Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
1996	0.00	0.00	0.03	N/A
1996	64.93	30.14	30.28	0.9954
1996	39.93	18.76	18.93	0.9912
1996	14.95	7.11	7.20	0.9876
1996	0.00	0.00	0.03	As Found Zero
1996	64.93	30.14	30.28	As Found Span
Average Correction Factor				0.9914

Calculated value of As Found Response: 30.162 ppm Percent Change of As Found: -0.1%

	<u>Before</u>		<u>After</u>
Calculated slope	0.997933	Calculated slope	0.996198
Calculated intercept	-0.026676	Calculated intercept	-0.052922

Final Zero/Span Data

	before calibration		after calibration	
Auto zero	0.01	ppm	0.02	ppm
Auto span	21.90	ppm	22.35	ppm

Notes:

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter CH4

Air Monitoring Network PAZA



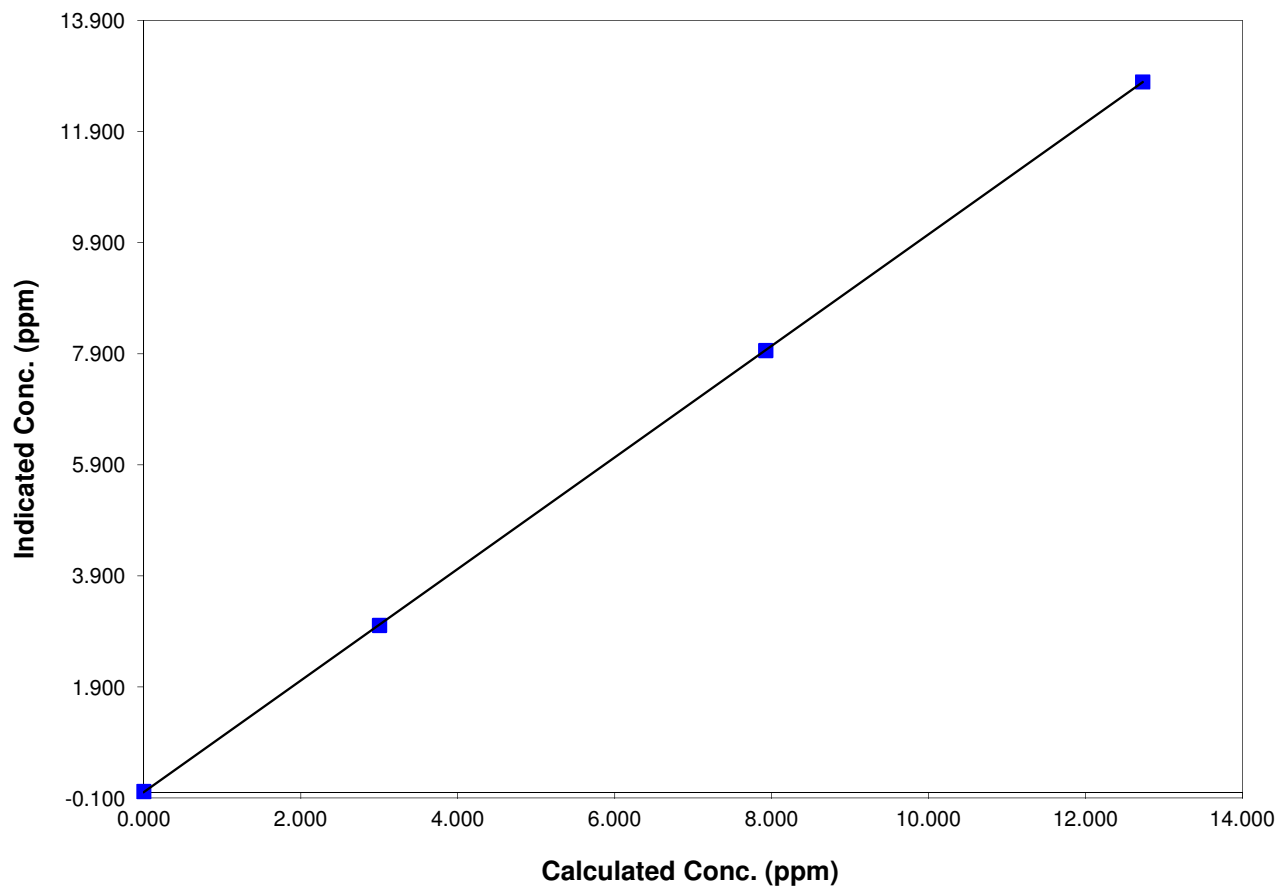
Station Information

Calibration Date	July 17, 2013	Previous Calibration	June 18, 2013
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	9:40	End Time (MST)	12:50
Analyzer make/model	TEI 55I	Analyzer serial #	1134650658

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.018	N/A		
12.728	12.794	0.9948	Correlation Coefficient	0.999996
7.924	7.959	0.9955		
3.003	3.009	0.9980	Slope	0.995763
			Intercept	-0.006271

CH4 Calibration Data



Calibration Summary

Parameter NMHC

Air Monitoring Network PAZA



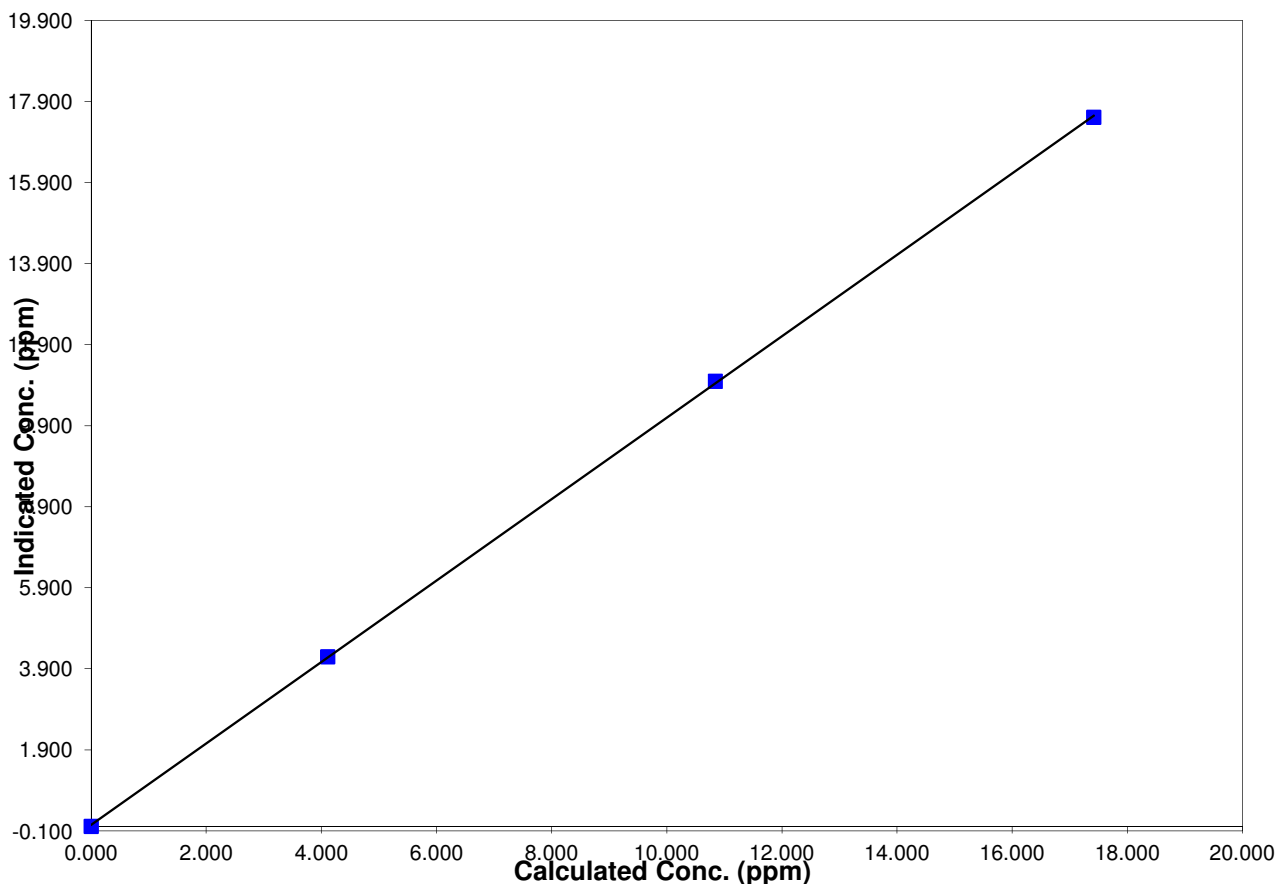
Station Information

Calibration Date	July 17, 2013	Previous Calibration	June 18, 2013
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	9:40	End Time (MST)	12:50
Analyzer make/model	TEI 55I	Analyzer serial #	1134650658

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.017	N/A	Correlation Coefficient	0.999968
17.414	17.510	0.9945		
10.841	10.995	0.9859		
4.109	4.197	0.9790	Slope	0.995310
			Intercept	-0.050534

NMHC Calibration Data



Calibration Summary

Parameter THC

Air Monitoring Network PAZA



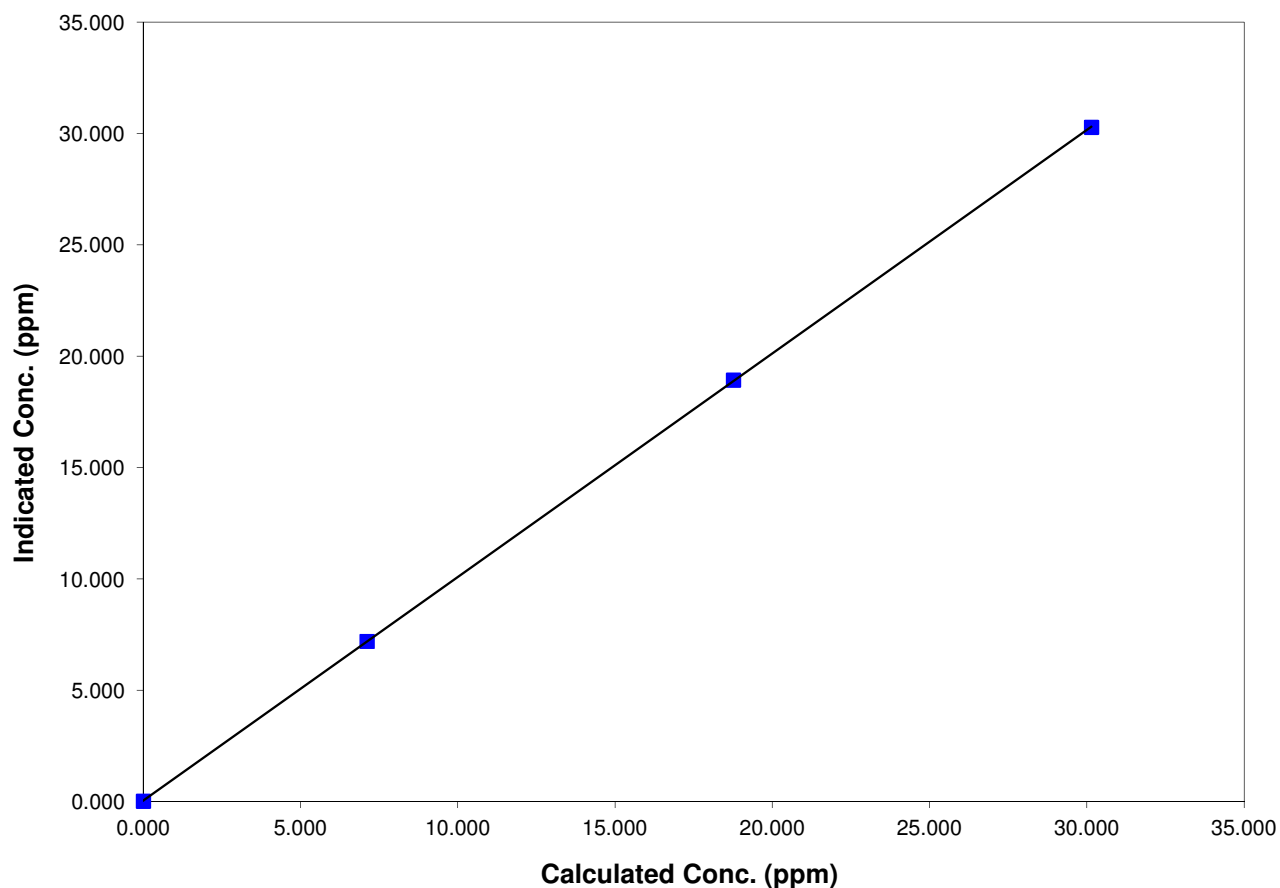
Station Information

Calibration Date	July 17, 2013	Previous Calibration	June 18, 2013
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	9:40	End Time (MST)	12:50
Analyzer make/model	TEI 55I	Analyzer serial #	1134650658

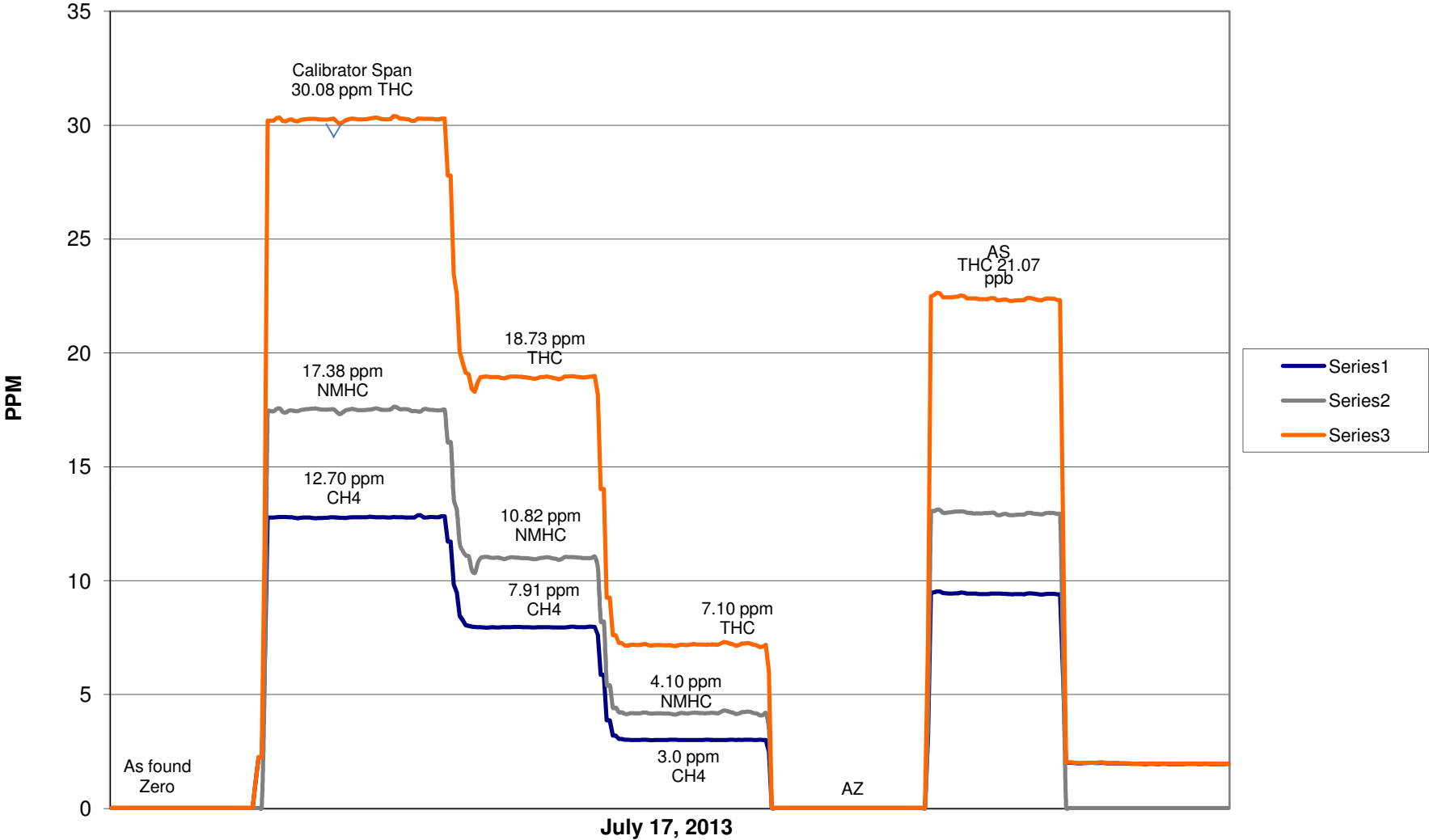
Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.030	N/A	Correlation Coefficient	0.999994
30.143	30.282	0.9954		
18.764	18.932	0.9912		
7.113	7.202	0.9876	Slope	0.996198
			Intercept	-0.052922

THC Calibration Data



THC/CH₄/NMHC Calibration



Calibration Report

Parameter TR5

Air Monitoring Network PAZA



Station Information

Calibration Date	July 17, 2013	Previous Calibration	June 18, 2013
Station Number	1	Station Location	Henry Pirker
Reason:	Routine	☐ Install	☐ Removal
		☐ Other:	
Start Time (MST)	12:38	End Time (MST)	15:45
Barometric Pressure	0.922 ATM	Station Temperature	20.0 Deg C
Calibrator	EnviroNics 6100	Serial Number	3474
Cal Gas Conc	10.1 ppb	Cal Gas Expiry Date	11/05/13
		Cal Gas Cylinder #	LL160692
DACS make	CR3000	DACS serial No.	5408
DACS voltage range	0 - 1 volt	DACS channel #	9
	Before		After
Calculated slope	1.001970	Calculated slope	0.992254
Calculated intercept	0.119981	Calculated intercept	0.133874
Analyzer make	TEI 45C	Analyzer serial #	630718528

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Coefficient	1.093		1.118	
Background	11.1		11.3	
Pressure	659.8	mm Hg	663.6	mm Hg
Flow	0.453	ccm	0.454	ccm
Lamp Voltage	823	V	823	V

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)		Correction factor (Cc/lc)
4990	0.00	0.00	0.32	N/A
4990	39.93	80.18	80.83	0.9919
4990	19.95	40.22	40.15	1.0017
8995	8.94	10.03	9.60	1.0446
4990	0.00	0.00	0.32	As Found Zero
4990	39.93	80.18	77.95	As Found Span
Average Correction Factor				1.0127

Calculated value of As Found Response: 77.9 ppb Percent Change of As Found: 2.8%

	before calibration		after calibration	
Auto zero	0.56	ppb	0.30	ppb
Auto span	33.10	ppb	33.10	ppb

Notes: Sox scrubber checked with 100 ppb of SO2. Slight span adjust 80% point.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter TRS

Air Monitoring Network PAZA



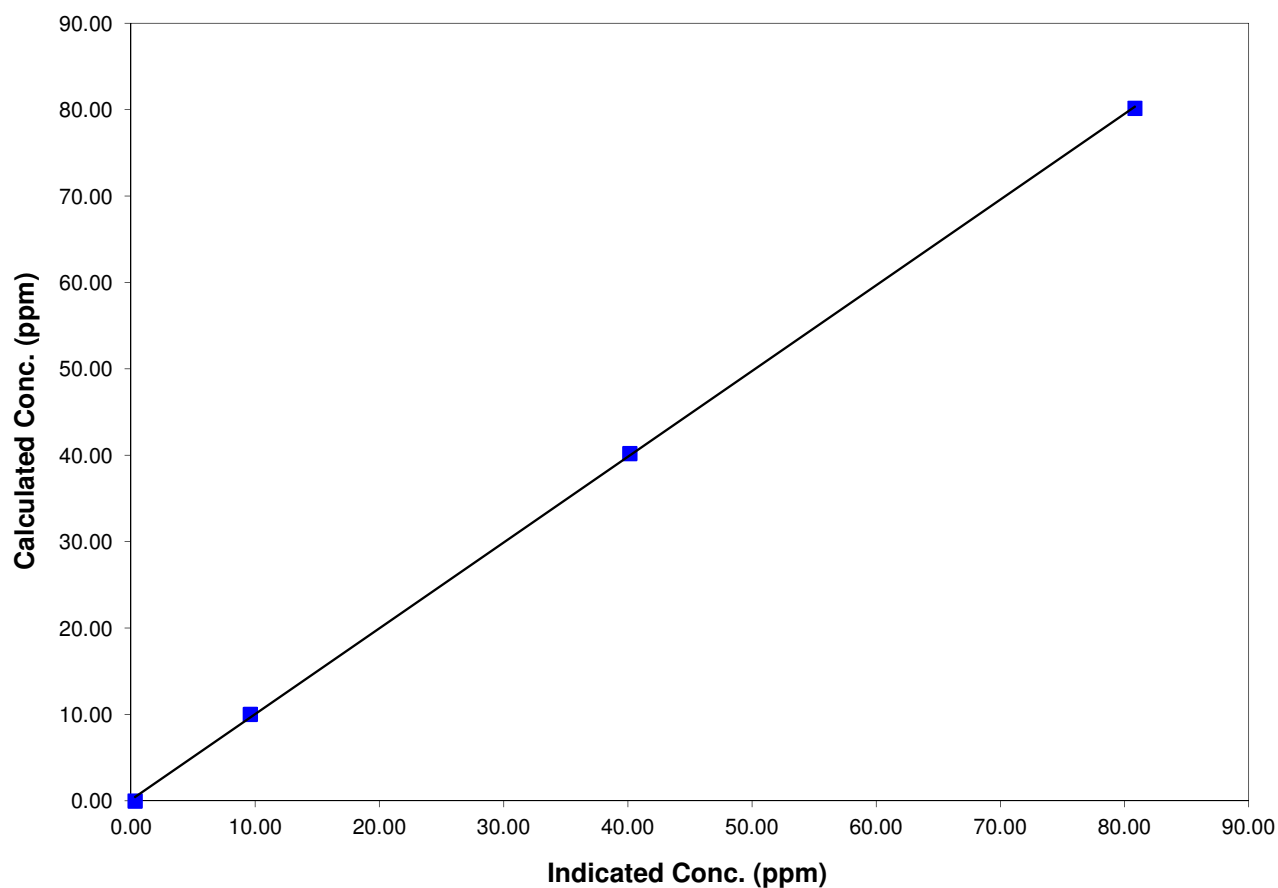
Station Information

Calibration Date	July 17, 2013	Previous Calibration	June 18, 2013
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	12:38	End Time (MST)	15:45
Analyzer make/model	TEI 45C	Analyzer serial #	630718528

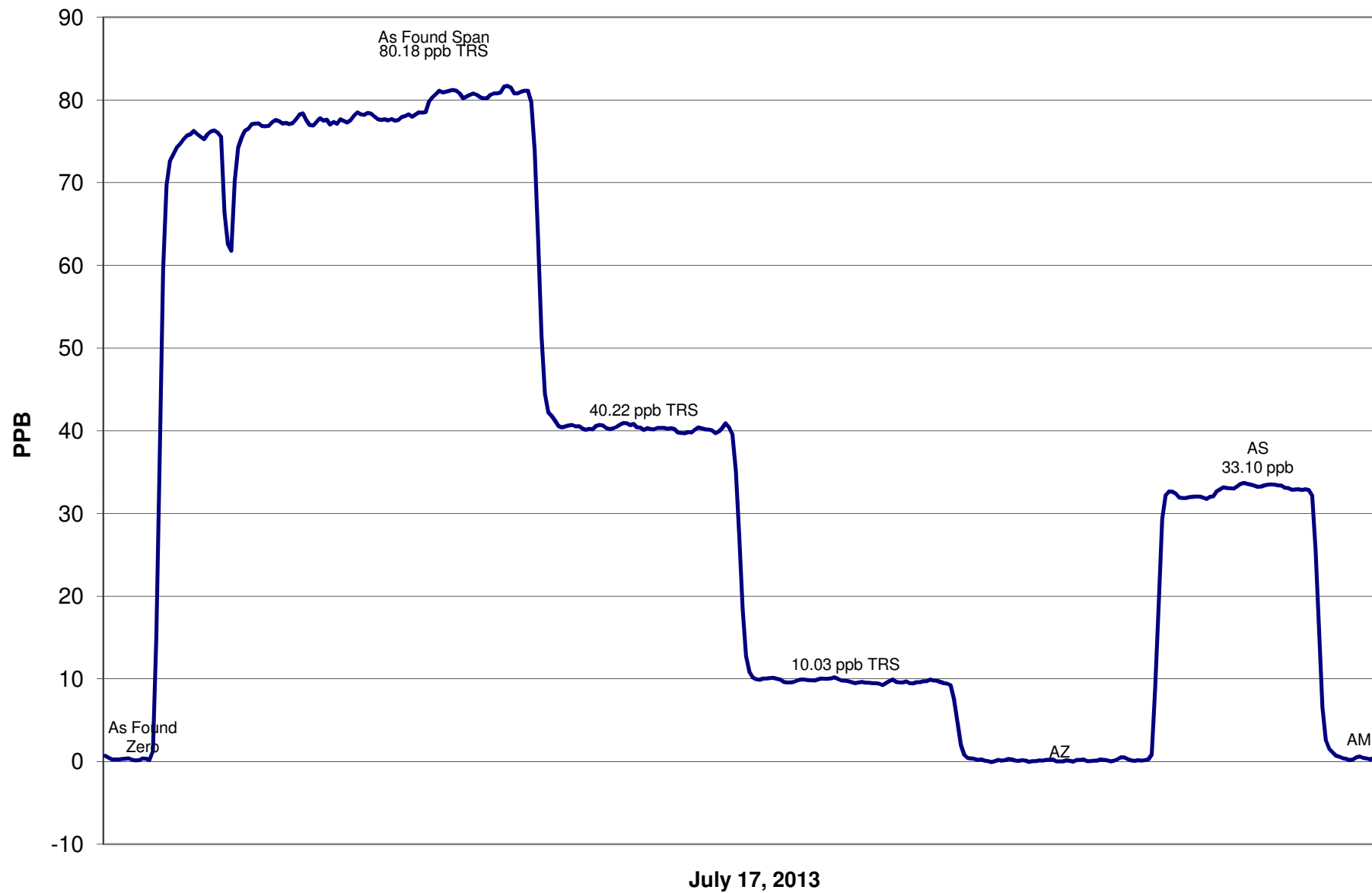
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.318	N/A		
80.179	80.835	0.9919	Correlation Coefficient	0.999891
40.219	40.151	1.0017		
10.028	9.600	1.0446	Slope	0.992254
			Intercept	0.133874

TRS Calibration Curve



TRS Calibration



Calibration Report



Parameter SO₂

Air Monitoring Network PAZA

Station Information

Calibration Date	July 24 2013	Previous Calibration	June 30 2013
Station Number	2	Station Location	Evergreen Park
Reason:	Routine	Install	Removal
		Other:	
Start Time (MST)	13:30:00 AM	End Time (MST)	16:38
Barometric Pressure	0.931 ATM	Station Temperature	20.0 Deg C
Calibrator	EnviroNics	Serial Number	3474
Cal Gas Concentration	51.5 ppm	Cal Gas Expiry Date	2/25/25
Correction factor	0.031647	Cal Gas Cylinder #	LL105159
DACS make	CR3000	DACS serial No.	5236
DACS voltage range	0 - 5 volt	DACS channel #	6
	Before		After
Calculated slope	0.992294	Calculated slope	1.001748
Calculated intercept	3.025965	Calculated intercept	2.809499
Analyzer make	Teco 43i	Analyzer serial #	701120008

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
Background	11.2		11.2	
coefficient	1.194		1.194	
Lamp Voltage	824	volts	824	volts
Chamber Temp	45.2	Deg C	45.2	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	674.6	mm Hg	674.3	mm Hg
Sample Flow	0.455	ccm	0.457	ccm
Lamp Intensity	89	%	89	%

Dilution air flow rate (cc/min)	Corrected gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4995	0.0	0.00	0.2	N/A
4995	39.93	408.4	406.7	1.0043
4995	19.97	205.1	199.3	1.0288
4995	9.97	102.6	97.4	1.0531
4995	0.0	0.0	0.2	As Found Zero
4995	39.93	408.4	406.7	As Found Span
Average Correction Factor				1.0287

Calculated value of As Found Response: 406.415 ppm Percent Change of As Found: 0.5%

	before calibration		after calibration	
Auto zero	-0.1	ppm	0.2	ppm
Auto span	290.3	ppm	277.4	ppm

Notes: No adjustment made.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter SO2

Air Monitoring Network PAZA



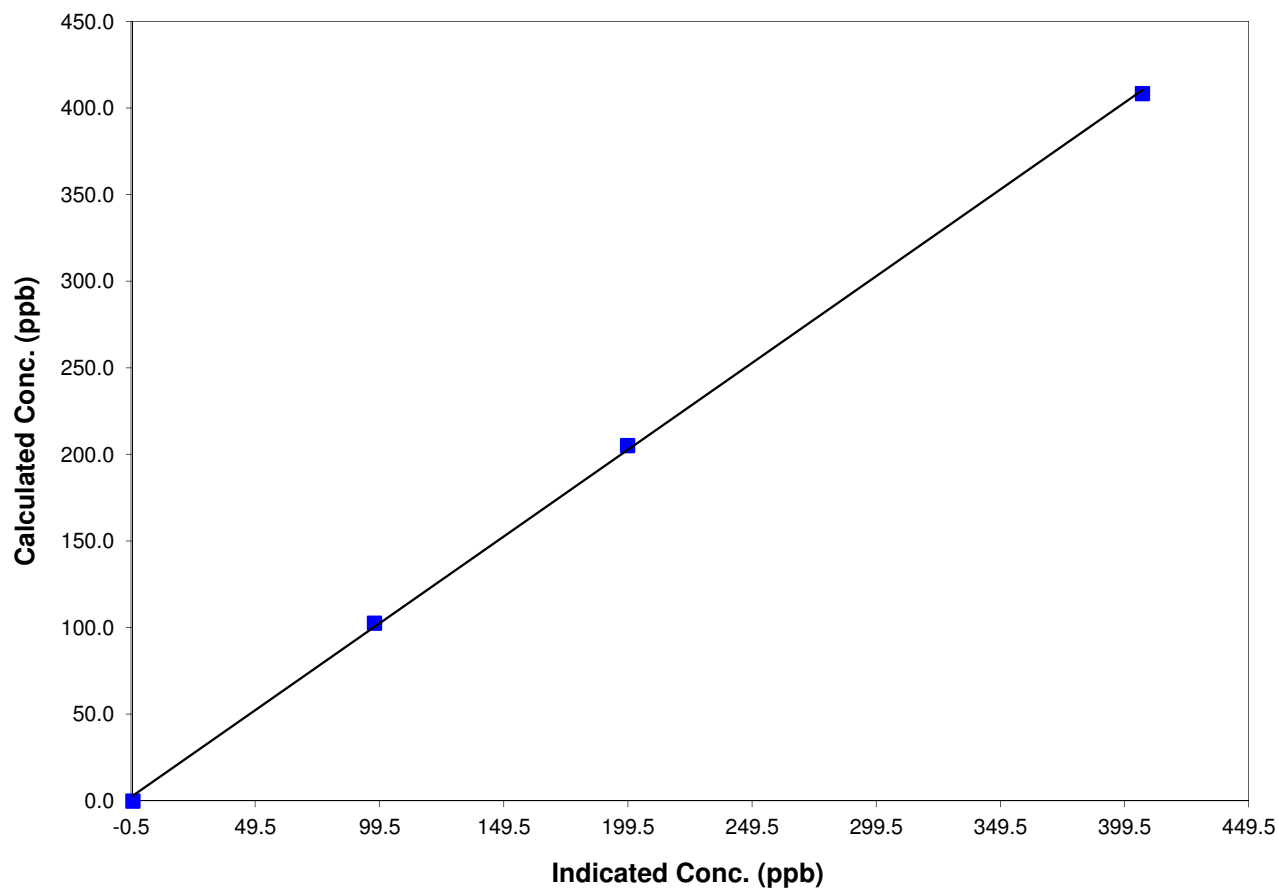
Station Information

Calibration Date	July 24 2013	Previous Calibration	June 30 2013
Station Number	2	Station Location	Evergreen Park
Start Time (MST)	13:30:00 AM	End Time (MST)	16:38
Analyzer make/model	Teco 43i	Analyzer serial #	701120008

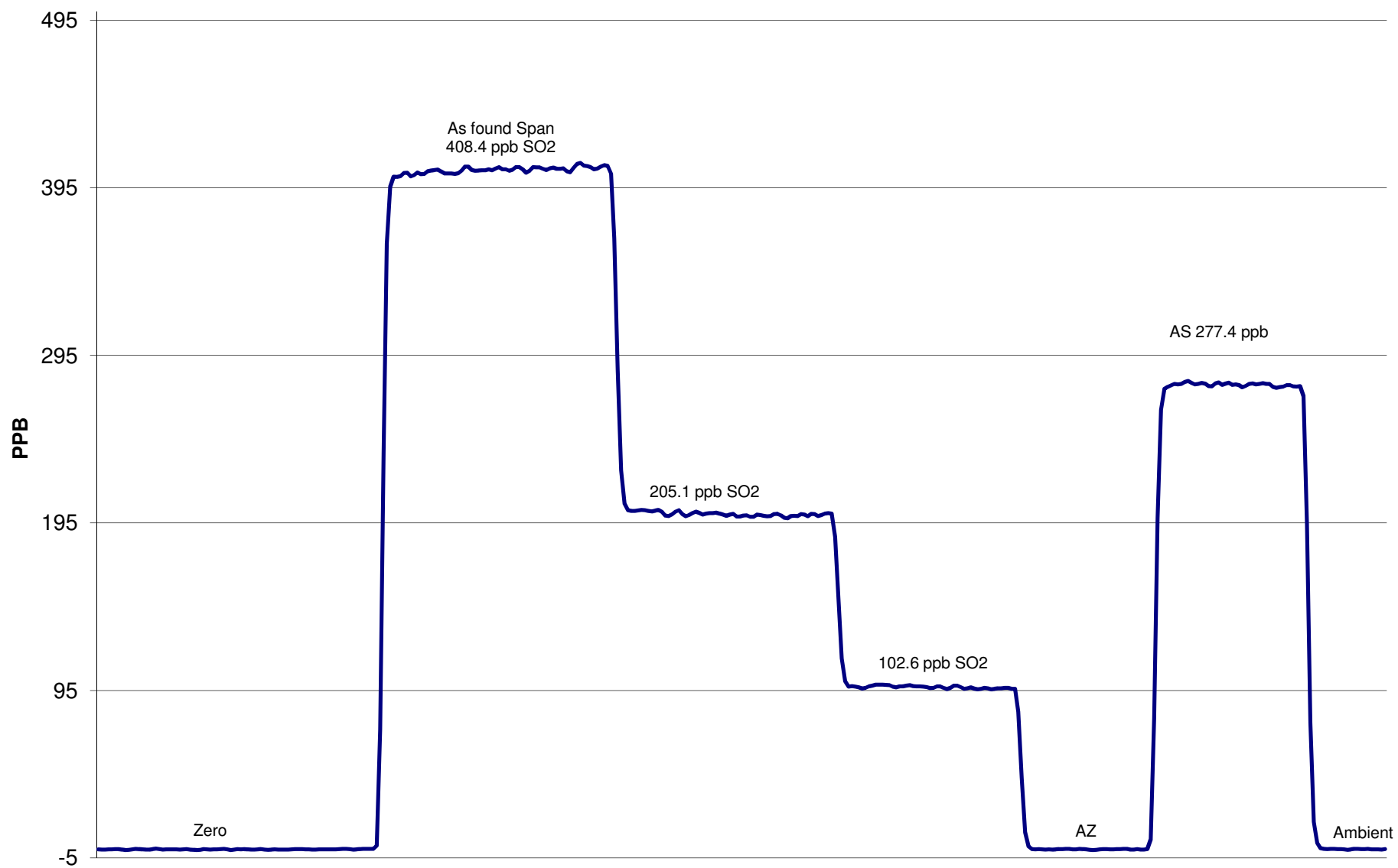
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.2	N/A	Correlation Coefficient	0.999741
408.4	406.7	1.0043		
205.1	199.3	1.0288		
102.6	97.4	1.0531	Slope	1.001748
			Intercept	2.809499

SO2 Calibration Curve



SO2 Calibration



July 24 2013

Calibration Report



Parameter TRS

Air Monitoring Network PAZA

Station Information

Calibration Date	July 24 2013	Previous Calibration	June 30 2013
Station Number	2	Station Location	Evergreen Park
Reason:	Routine	☐ Install	☐ Removal
		☐ Other:	

Start Time (MST)	11:20	End Time (MST)	15:42
Barometric Pressure	0.931 ATM	Station Temperature	22.0 Deg C
Calibrator	EnviroNics	Serial Number	3474
Cal Gas Conc	10.1 ppm	Cal Gas Expiry Date	5/11/13
Correction factor	0.031433	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	0.977685	Calculated slope	0.984575
Calculated intercept	0.379335	Calculated intercept	0.247080

Analyzer make	TEI Model 43C	Analyzer serial #	3.199E+13
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	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Background	36.2	ppb	36.4	ppb
coefficient	1.058		1.058	
Lamp Voltage	1007	volts	1006	volts
Chamber Temp	44.3	Deg C	44.3	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	639.9	mm Hg	639.8	mm Hg
Sample Flow	0.630	ccm	0.630	ccm
Lamp Intensity	31,743	mv	31,474	mv

Calibration Data

Dilution air flow rate (cc/min)	Corrected gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4995	0.00	0.00	0.3	N/A
4995	39.93	80.10	81.3	0.9847
4995	19.96	40.20	40.2	1.0003
8995	8.95	10.04	9.5	1.0551
4995	9.95	102.58	0.5	Sox Test
4995	0.00	0.00	0.3	As Found Zero
4995	39.95	80.14	81.4	As Found Span
Average Correction Factor				1.0134

Calculated value of As Found Response: 79.59 ppm Percent Change of As Found: **0.7%**

	before calibration		after calibration	
Auto zero	0.4	ppm	0.4	ppm
Auto span	77.6	ppm	76.8	ppm

Notes: **No adjustment made.**

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter TRS

Air Monitoring Network PAZA



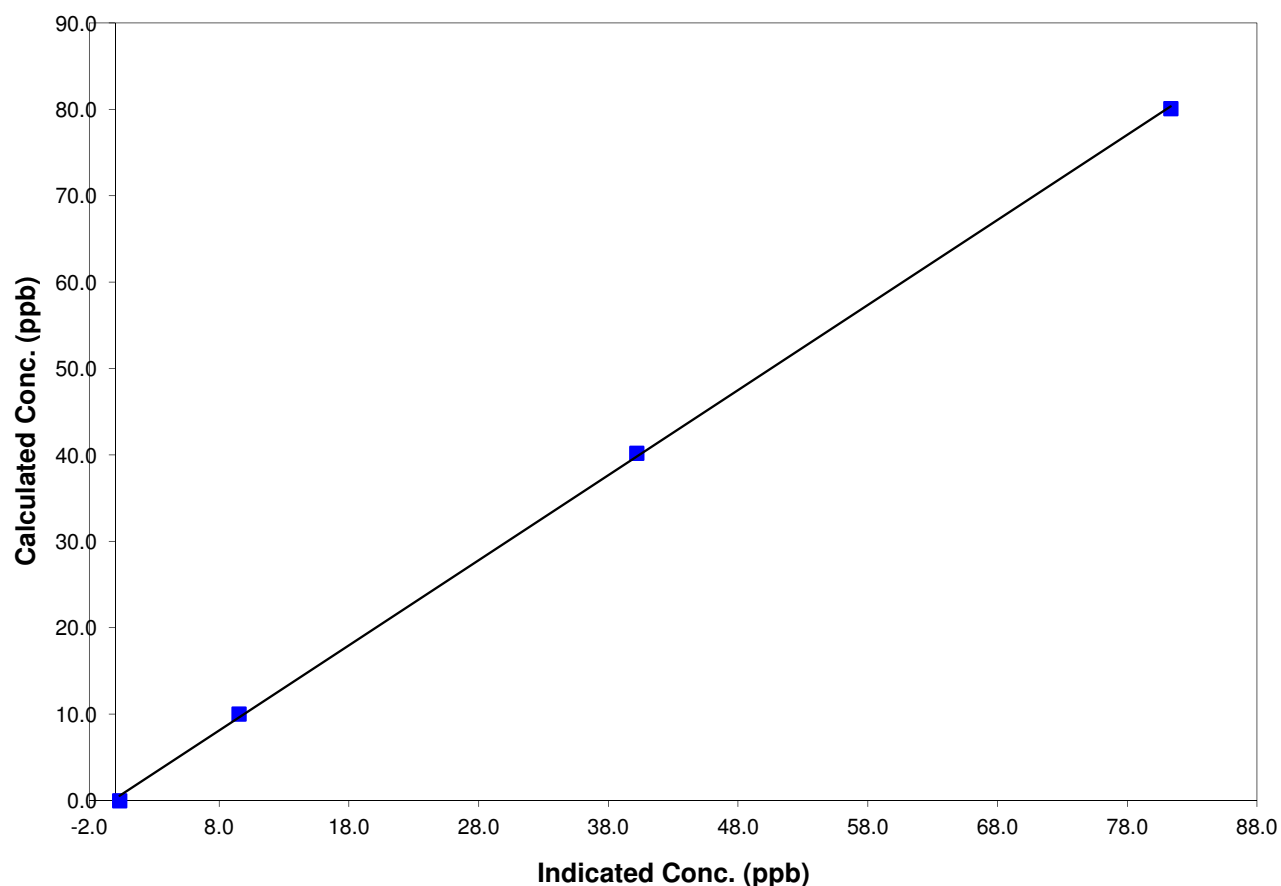
Station Information

Calibration Date	July 24 2013	Previous Calibration	June 30 2013
Station Number	2	Station Location	Evergreen Park
Start Time (MST)	11:20	End Time (MST)	15:42
Analyzer make/model	TEI Model 43C	Analyzer serial #	31990000000491

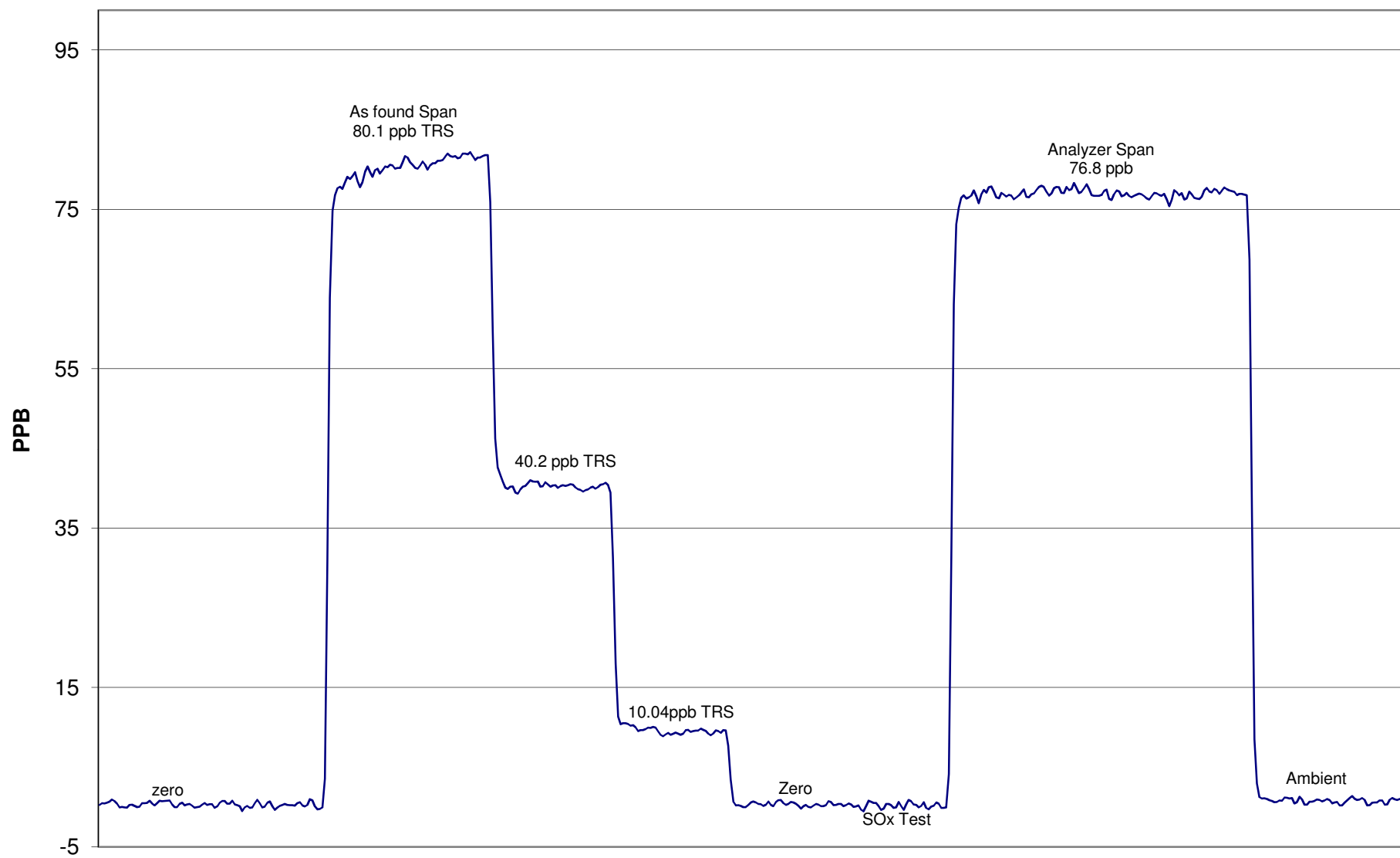
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.3	N/A	Correlation Coefficient	0.999817
80.1	81.3	0.9847		
40.2	40.2	1.0003		
10.0	9.5	1.0551	Slope	0.984575
			Intercept	0.247080

TRS Calibration Curve



TRS Calibration



July 24 2013

Calibration Report



Parameter SO₂

Air Monitoring Network PAZA

Station Information

Calibration Date	July 31, 2013	Previous Calibration	June 27, 2013
Station Number	3	Station Location	Smokey Heights
Reason:	☒ Routine	☐ Install	☐ Removal
		☐ Other:	
Start Time (MST)	12:45	End Time (MST)	15:54
Barometric Pressure	0.936 ATM	Station Temperature	20.0 Deg C
Calibrator	EnviroNics 6100	Serial Number	3474
Cal Gas Concentration	51.5 ppm	Cal Gas Cert Date	2/25/25
Correction factor	0.031817	Cal Gas Cylinder #	LL105159
DACS make	CR3000	DACS serial No.	5238
DACS voltage range	0 - 5 volt	DACS channel #	6
	Before		After
Calculated slope	0.999527	Calculated slope	0.998569
Calculated intercept	3.009063	Calculated intercept	2.880407
Analyzer make	Teco 43i	Analyzer serial #	701120009

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
Background	10.9		10.9	
coefficient	0.937		0.945	
Lamp Voltage	921	volts	920	volts
Chamber Temp	45	Deg C	45	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	674.4	mm Hg	677.4	mm Hg
Sample Flow	0.450	ccm	0.453	ccm
Lamp Intensity	89	%	89	%

Calibration Data

Dilution air flow rate (cc/min)	Corrected gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4995	0.0	0.00	0.2	N/A
4995	39.93	408.43	407.7	1.0017
4995	19.97	205.08	200.5	1.0228
4995	9.97	102.59	97.1	1.0562
4995	0.0	0.00	0.2	As Found Zero
4995	39.93	408.43	401.7	As Found Span
Average Correction Factor				1.0269

Calculated value of As Found Response: 404.357 ppm Percent Change of As Found: 1.0%

	before calibration		after calibration	
Auto zero	0.4	ppb	0.2	ppb
Auto span	304.5	ppb	253.7	ppb

Notes: Slight span adjust.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter SO2

Air Monitoring Network PAZA



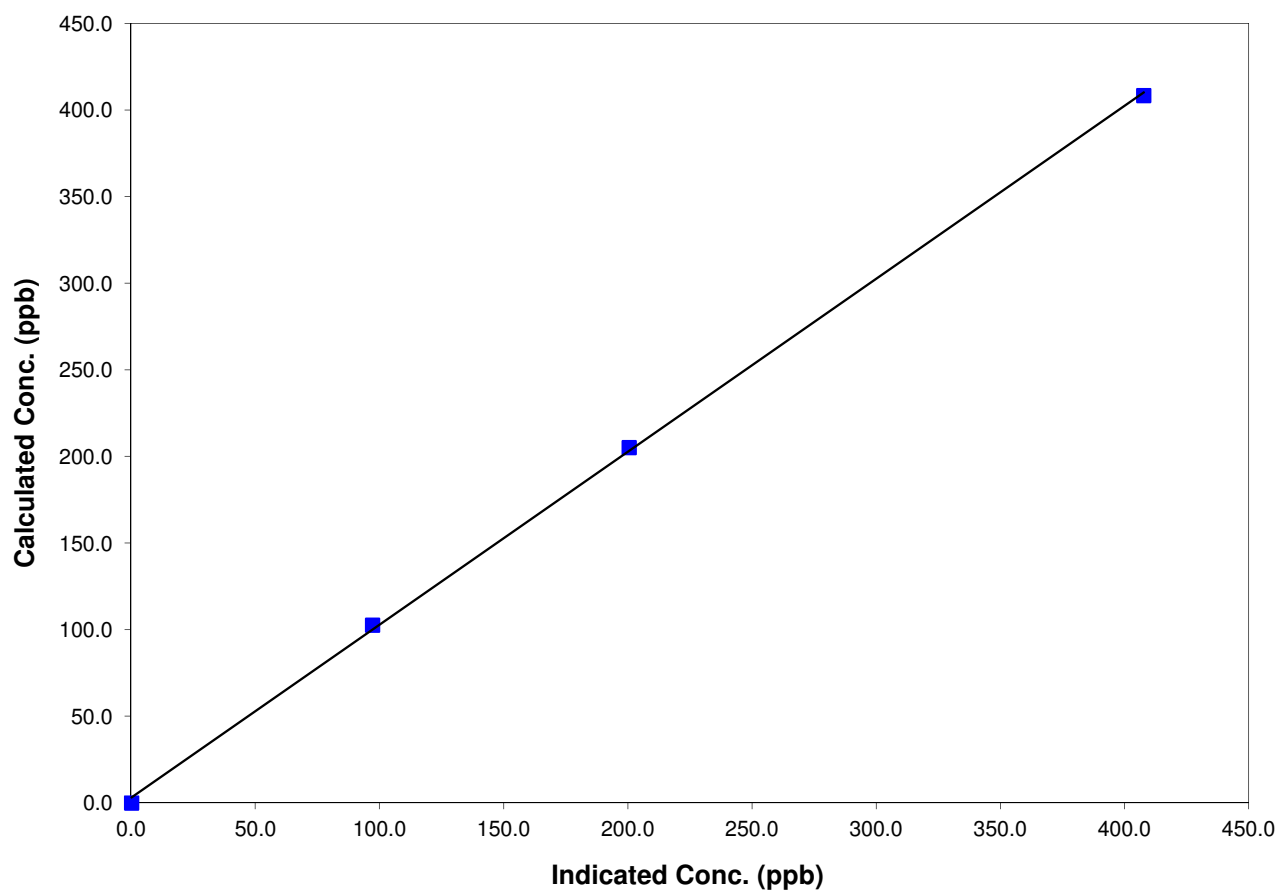
Station Information

Calibration Date	July 31, 2013	Previous Calibration	June 27, 2013
Station Number	3	Station Location	Smokey Heights
Start Time (MST)	12:45	End Time (MST)	15:54
Analyzer make/model	Teco 43i	Analyzer serial #	701120009

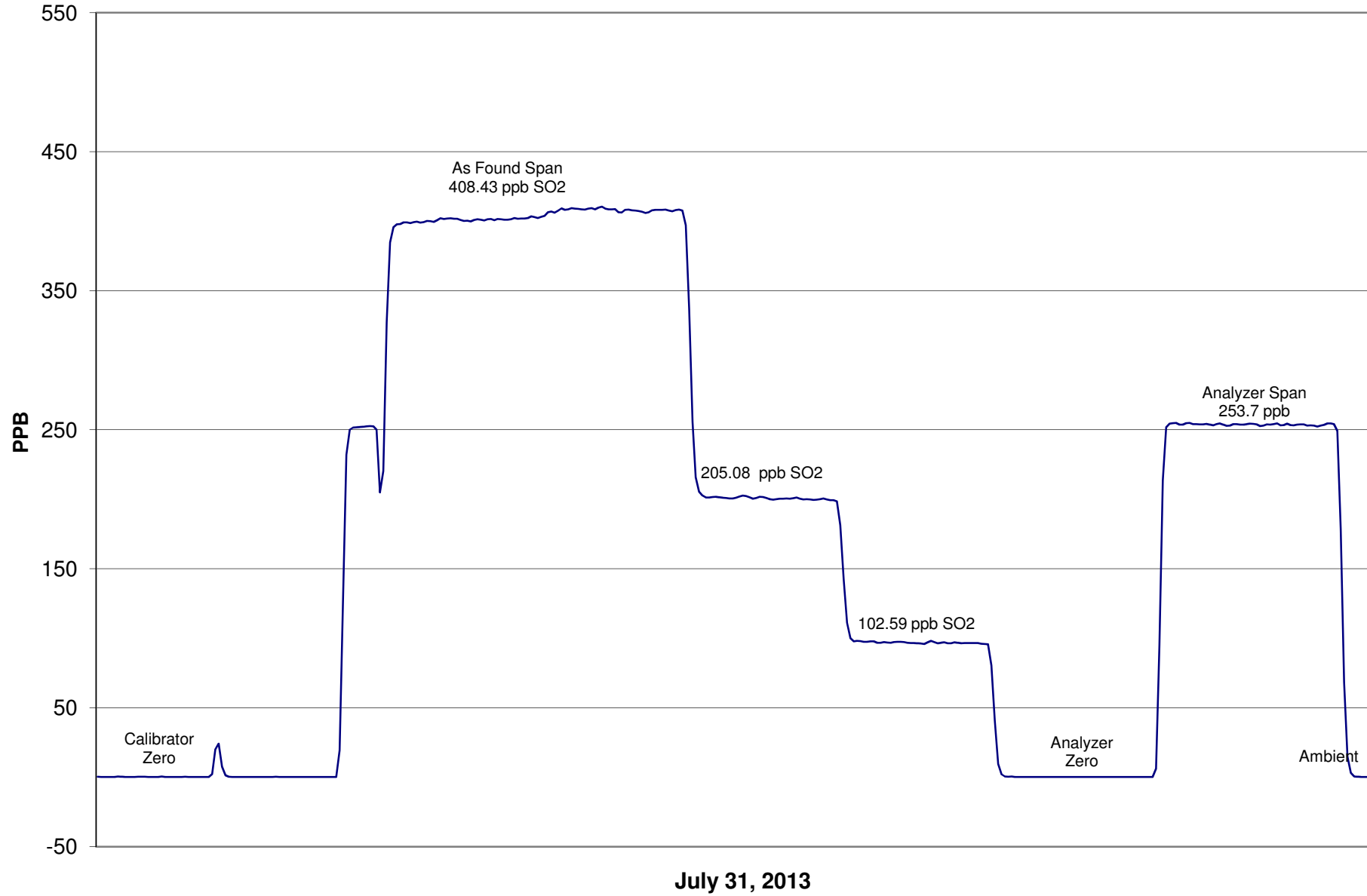
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.2	N/A	Correlation Coefficient	0.999744
408.4	407.7	1.0017		
205.1	200.5	1.0228		
102.6	97.1	1.0562	Slope	0.998569
			Intercept	2.880407

SO2 Calibration Curve



Smokey Heights SO₂ Calibration



Calibration Report



Parameter TRS

Air Monitoring Network PAZA

Station Information

Calibration Date	July 31, 2013	Previous Calibration	June 27, 2013
Station Number	3	Station Location	Smokey Heights
Reason:	☐ Routine	☐ Install	☐ Removal
			☒ Other: Maintenance

Start Time (MST)	9:50	End Time (MST)	13:47
Barometric Pressure	0.934 ATM	Station Temperature	20.0 Deg C
Calibrator	Enviroics 6100	Serial Number	3474
Cal Gas Conc	10.1 ppm	Cal Gas Expiry Date	5/11/13
Correction factor	0.031749	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	0.967888	Calculated slope	0.975051
Calculated intercept	1.165317	Calculated intercept	0.762459

Analyzer make	TEI Model 43C	Analyzer serial #	0436610005
---------------	---------------	-------------------	------------

	before		after	
Concentration range	100	ppb	100	ppb
Background	17.2	ppb	17.3	ppb
coefficient	0.983		0.964	
Lamp Voltage	816	volts	816	volts
Chamber Temp	43.5	Deg C	43.5	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	609	mm Hg	589.4	mm Hg
Sample Flow	0.649	ccm	0.638	ccm
Lamp Intensity	35,261	mv	35,267	mv

Dilution air flow rate (cc/min)	Corrected gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4995	0.0	0.00	0.0	N/A
4995	39.94	80.12	81.8	0.9793
4995	19.97	40.22	39.7	1.0134
8995	8.96	10.05	9.1	1.1005
4995	0.0	0.00	0.0	As Found Zero
4995	39.94	80.12	78.5	As Found Span
Average Correction Factor				1.0311

Calculated value of As Found Response: 77.22 ppm Percent Change of As Found: 3.6%

	before calibration		after calibration	
Auto zero	0.0	ppm	1.2	ppm
Auto span	52.9	ppm	31.0	ppm

Notes: Slight span adjust. Slow response first point attributed to cal line conditioning.
Adjusted oxidizer temp from 825 to 840 deg C during second point, restart 80 %. Calibrate.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter TRS

Air Monitoring Network PAZA



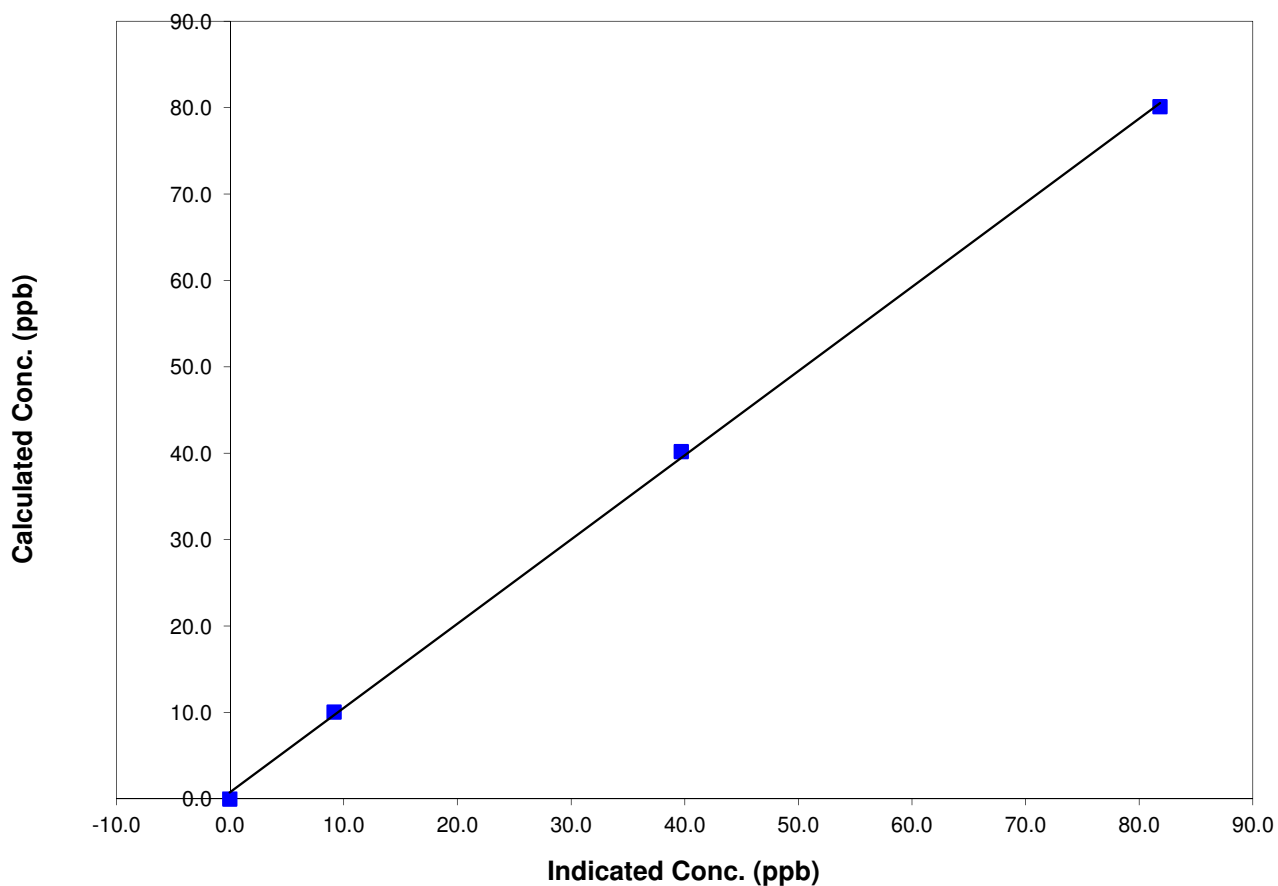
Station Information

Calibration Date	July 31, 2013	Previous Calibration	June 27, 2013
Station Number	3	Station Location	Smokey Heights
Start Time (MST)	9:50	End Time (MST)	13:47
Analyzer make/model	TEI Model 43C	Analyzer serial #	0436610005

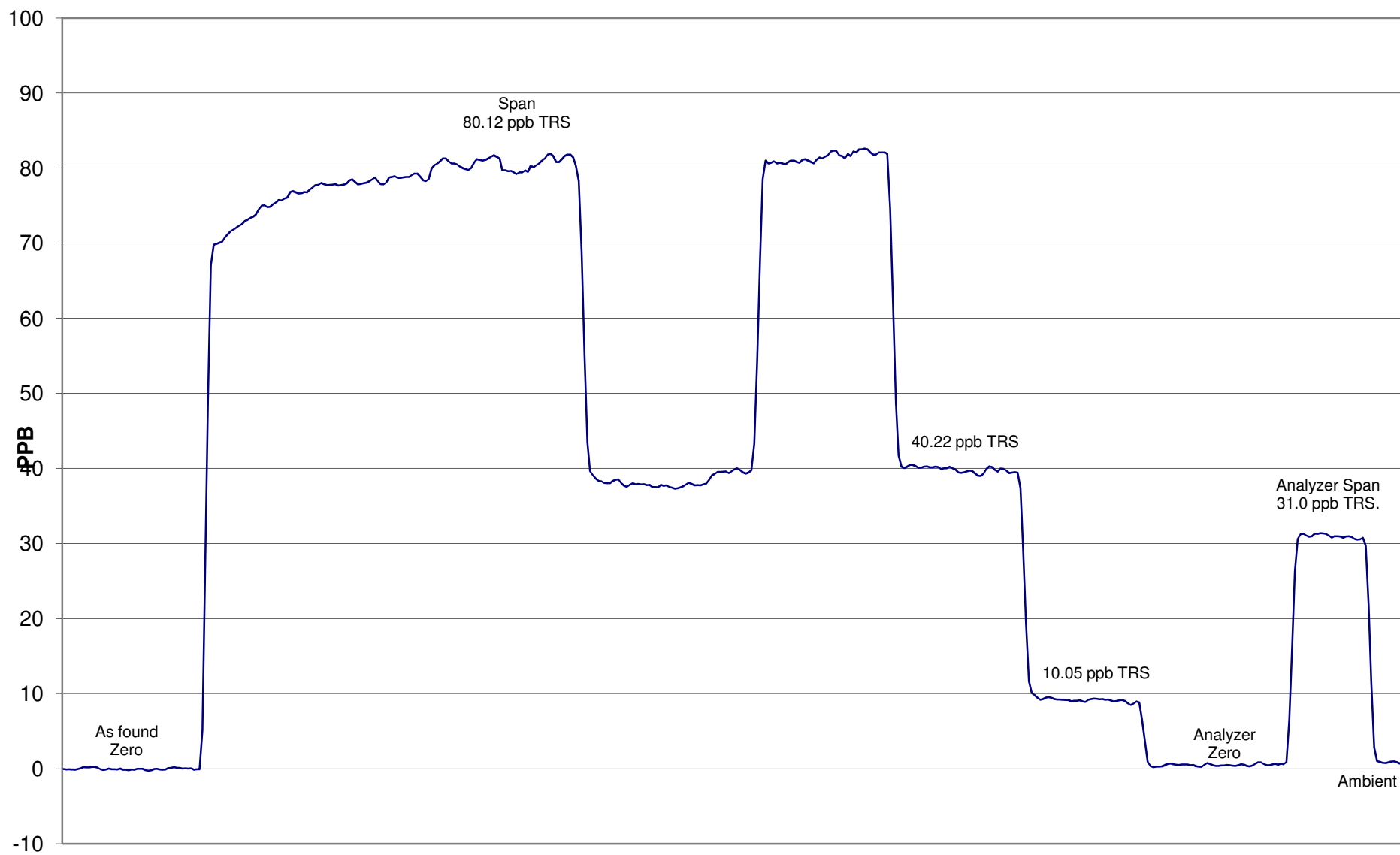
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.0	N/A	Correlation Coefficient	0.999633
80.1	81.8	0.9793		
40.2	39.7	1.0134		
10.1	9.1	1.1005	Slope	0.975051
			Intercept	0.762459

TRS Calibration Curve



Smokey Heights TRS Calibration



July 31, 2013

Calibration Report

Parameter SO2
Air Monitoring Network PAZA



Station Information

Calibration Date	July 10, 2013	Previous Calibration	June 19, 2013
Station Number	4	Station Location	Beaverlodge
Reason:	Routine	Install	Removal
Start Time (MST)	15:16	End Time (MST)	18:35
Barometric Pressure	0.923 atm	Station Temperature	23.0 Deg C
Calibrator	EnviroNics 6103	Serial Number	2844
Cal Gas Concentration	10.8 ppm	Cal Gas Expiry Date	9/28/12
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	0.980894	Calculated slope	1.001966
Calculated intercept	-0.400277	Calculated intercept	-0.060821
Analyzer make	TEI Model 43i-TLE	Analyzer serial #	713021137

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Background	2.41		2.35	
Coefficient	1.071		1.042	
PMT	-768.1	V	-768.1	V
UV Lamp Voltage	1052	V	1052	V
Chamber Temp	45	Deg C	45	Deg C
Pressure	662.2	mm Hg	664.6	mm Hg
Sample Flow	0.481	LPM	0.483	LPM
Lamp Intesity	98%	%	98%	%

Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4995	0.00	0.0	0.3	N/A
4995	39.93	85.7	85.6	1.0002
4995	19.97	43.0	42.9	1.0022
4995	9.97	21.5	21.3	1.0087
4995	0.00	0.0	0.3	As found zero
4995	39.93	85.7	88.9	As found span
Average Correction Factor				1.0037

Calculated value of As Found Response: 86.526 ppm Percent Change of As Found: -1.0%

	before calibration		after calibration	
Auto zero	0.2	ppb	0.2	ppb
Auto span	60.0	ppb	59.9	ppb

Notes: Slight span adjustment made.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter SO2

Air Monitoring Network PAZA



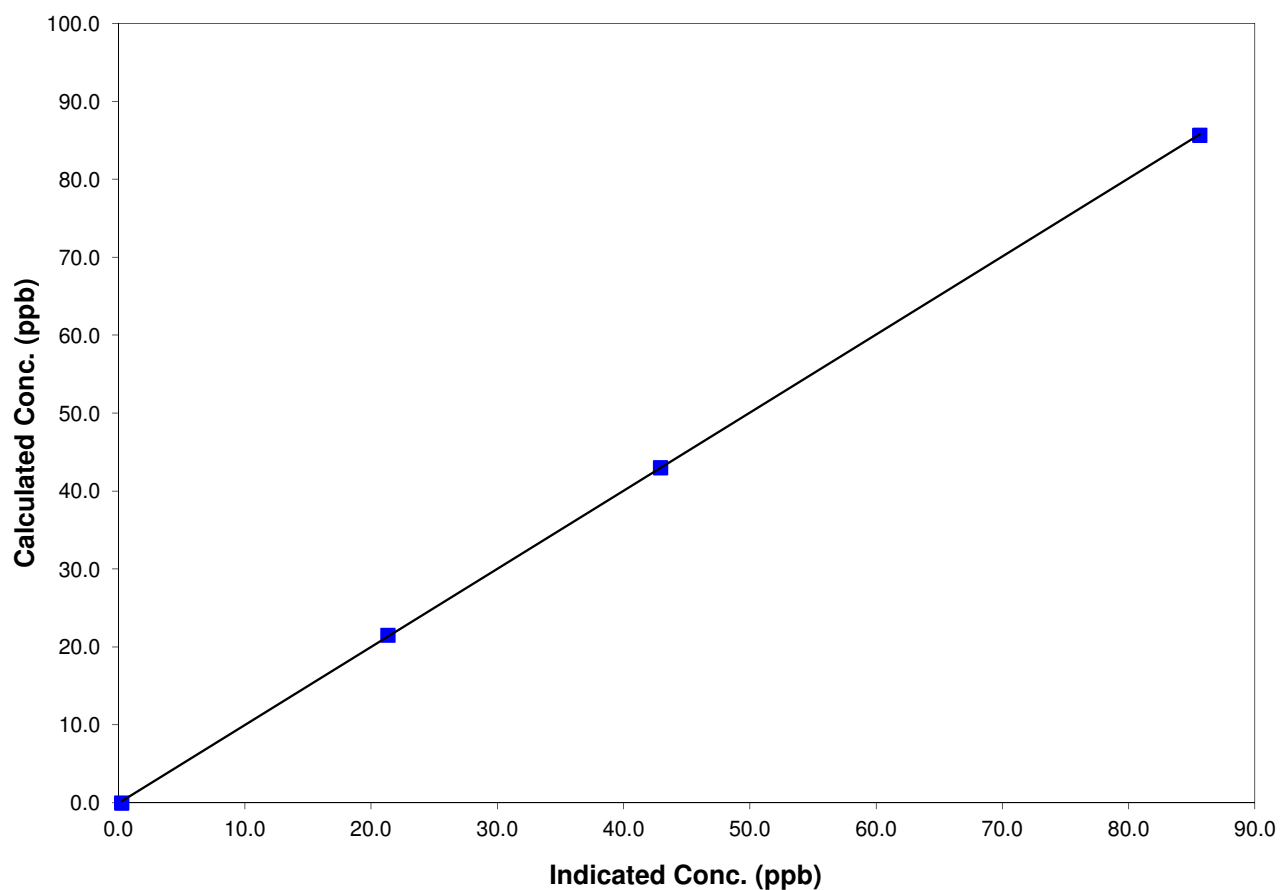
Station Information

Calibration Date	July 10, 2013	Previous Calibration	June 19, 2013
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	15:16	End Time (MST)	18:35
Analyzer make/model	TEI Model 43i-TLE	Analyzer serial #	713021137

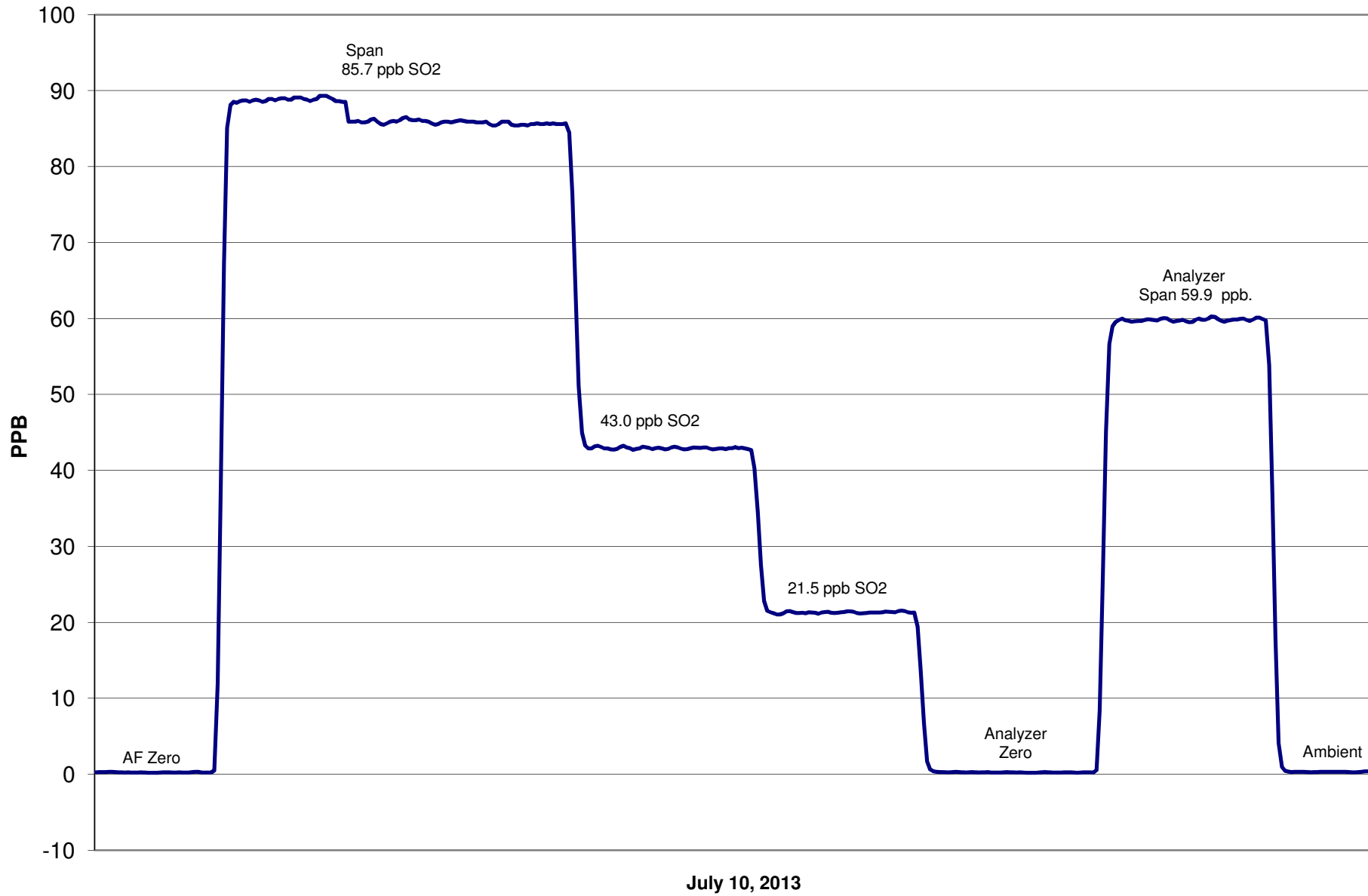
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.3	N/A	Correlation Coefficient	0.999977
85.7	85.6	1.0002		
43.0	42.9	1.0022		
21.5	21.3	1.0087	Slope	1.001966
			Intercept	-0.060821

SO2 Calibration Curve



SO2 Calibration



Parameter

Air Monitoring Network

NO_x-NO-NO₂

PAZA



Station Information

Station Information				
Calibration Date	July 10, 2013		Previous Calibration	June 19, 2013
Station Number	4		Station Location	Beaverlodge
Reason:	Routine	Installation	Removal	Other: _____
Start Time (MST)	9:51		End Time (MST)	14:35
Barometric Pressure	0.911	Atm	Station Temperature	23.0 Deg C
Calibrator	EnviroNics 6103		Serial Number	2844
NO Cal Gas Conc	51.3	ppm	Cal Gas Expiry Date	February 25, 2021
NOx Cal Gas Conc	51.4	ppm	Cal Gas Serial #	LL105159

DACS Information

DACS make <u>CR3000</u> DACS serial No. <u>5237</u>				
	Parameter	NO2	NOx	NO
Before	Data Slope	0.993570	0.997193	1.000028
	Data Offset	-1.156819	0.426349	0.824439
After	Data Slope	1.005486	0.997813	0.996911
	Data Offset	0.300912	1.535004	1.775247
Channel #		8	6	7
Voltage Range		0 - 5 VDC	0 - 5 VDC	0 - 5 VDC

Analyzer Information

Analyzer make/model	TEI 42i	Analyzer serial #	906535068	
Test Point	before		after	
Concentration range	0-500	ppb	0-500	ppb
NO offset	2.1	mV	2.1	mV
NOx bkgnd	2.4	mV	2.4	mV
NO coefficient	1.104		1.206	
NOx coefficient	1.003		0.999	
NO2 conv temp	324.4	Deg C	324.4	Deg C
PMT Temp	-2.7	Deg C	-2.7	Deg C
PMT Volt	-696.6	mV	-696.6	mV
R Cell Press	179.2	in Hg	178.6	in Hg
Sample Flow	0.754	LPM	0.746	LPM

Notes: As found point low @ about 373 ppb. Adjusted the span up by about 8%.
42i needs yearly replacement of capilliary O rings. On order.

Calibration Report

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



Station Information

Calibration Date: July 10, 2013 Station Location: Beaverlodge

Calibration Data

	Dilution flow rate (ccm)	Source gas flow rate (ccm)	Calculated NOx conc (ppb)	Calculated NO conc (ppb)	Calculated NO2 conc (ppb)	Indicated NOx conc (ppb)	Indicated NO conc (ppb)	Indicated NO2 conc (ppb)	NOx Correction factor	NO Correction factor
zero	4995	0.00	0.0	0.0	0.0	0.2	0.1	0.0	N/A	N/A
1	4995	39.93	407.6	406.8	0.8	407.7	407.2	-0.3	0.9999	0.9991
2	4995	19.97	204.7	204.3	0.4	203.1	202.2	0.1	1.0076	1.0102
3	4995	9.97	102.4	102.2	0.2	99.1	98.9	0.1	1.0331	1.0332
AFZ	4995	0.00	0.0	0.0	0.0	0.2	0.1	0.0	0.0000	0.0000
AFS	4995	39.93	407.6	406.8	0.8	374.5	372.8	0.9	1.0884	1.0915
Average Correction Factor									1.0135	1.0142

As Found Concentrations: NO_x= 374.8 NO= 373.5 As Found Percent Change NO_x= -8.1% NO= -8.2%

GPT Calibration Data

Dilution Flow 4995 ccm Source Gas Flow 39.94 ccm

O3 Setpoint (ppb)	Indicated NO high point (ppb)	Indicated NO drop conc (ppb)	Calculated NO2 conc (ppb)	Indicated NOx conc (ppb)	Indicated NO conc (ppb)	Indicated NO2 conc (ppb)	NOx Correction factor	NO Correction factor	NO2 Correction factor	Converter Efficiency
0	0.1	0.1	0.0	0.2	0.1	0.0	N/A	N/A	N/A	N/A
NO point	408.3	408.3	0.0	408.3	408.3	-0.7	0.9999	1.0000	N/A	N/A
300	408.3	110.6	297.7	407.4	110.6	296.1	1.0023	1.0000	1.0055	99.5%
200	408.3	204.0	204.3	407.5	204.0	202.7	1.0019	1.0000	1.0082	99.2%
100	408.3	298.8	109.5	407.6	298.8	108.2	1.0017	1.0000	1.0118	98.8%
Average Correction Factor							1.0020	1.0000	1.0085	99.2%

AIC Data

	Previous calibration				Current calibration			
Parameter	NOx	NO2	NO		NOx	NO2	NO	
Auto zero	-0.1	-0.1	0.0	ppb	0.0	-0.1	0.0	ppb
Auto span	204.2	202.7	1.0	ppb	184.5	182.8	1.3	ppb

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter NO₂

Air Monitoring Network PAZA



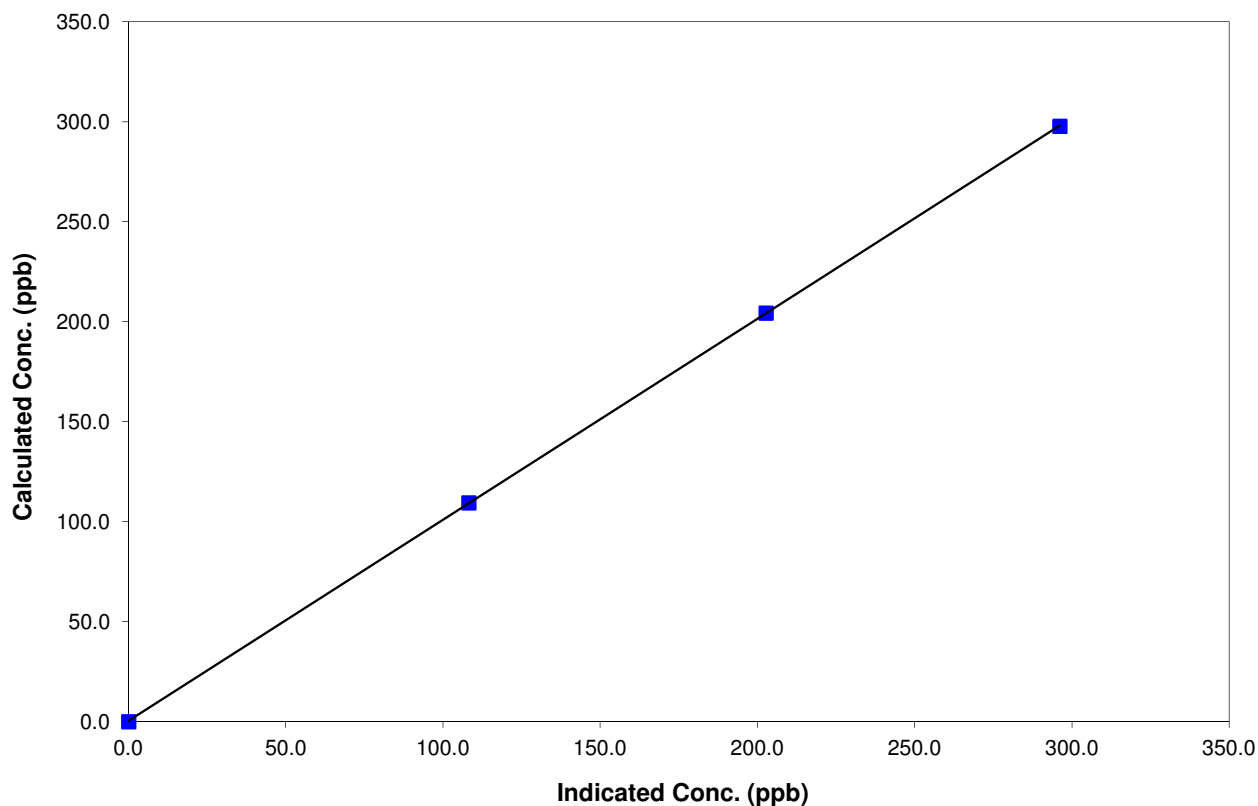
Station Information

Calibration Date	July 10, 2013	Previous Calibration	June 19, 2013
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	9:51	End Time (MST)	14:35
Analyzer make	TEI 42i	Analyzer serial #	906535068

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.0	N/A	Correlation Coefficient	0.999992
297.7	296.1	1.0055		
204.3	202.7	1.0082		
109.5	108.2	1.0118	Slope	1.005486
			Intercept	0.300912

NO₂ Calibration Curve



Calibration Summary

Parameter NO_x

Air Monitoring Network PAZA



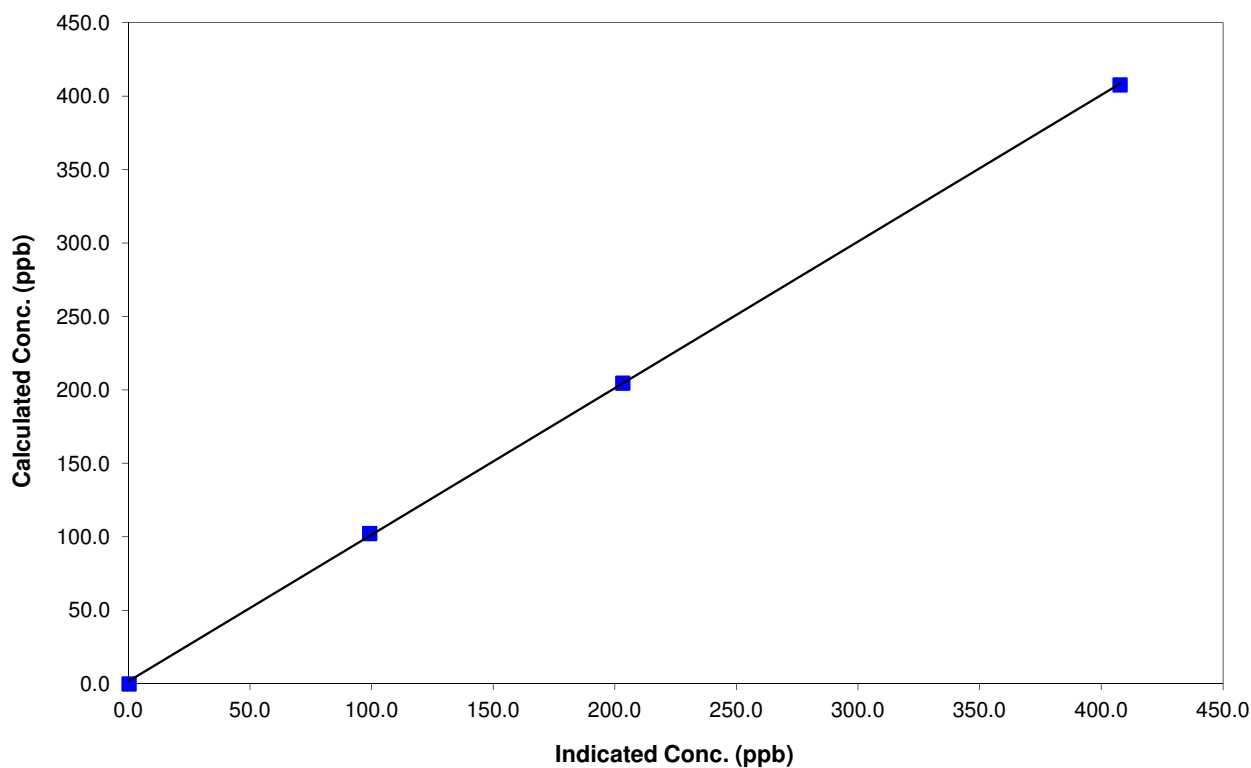
Station Information

Calibration Date	July 10, 2013	Previous Calibration	June 19, 2013
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	9:51	End Time (MST)	14:35
Analyzer make	TEI 42i	Analyzer serial #	906535068

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.2	N/A	Correlation Coefficient	0.999918
407.6	407.7	0.9999		
204.7	203.1	1.0076		
102.4	99.1	1.0331	Slope	0.997813
			Intercept	1.535004

NO_x Calibration Curve



Calibration Summary

Parameter NO

Air Monitoring Network PAZA



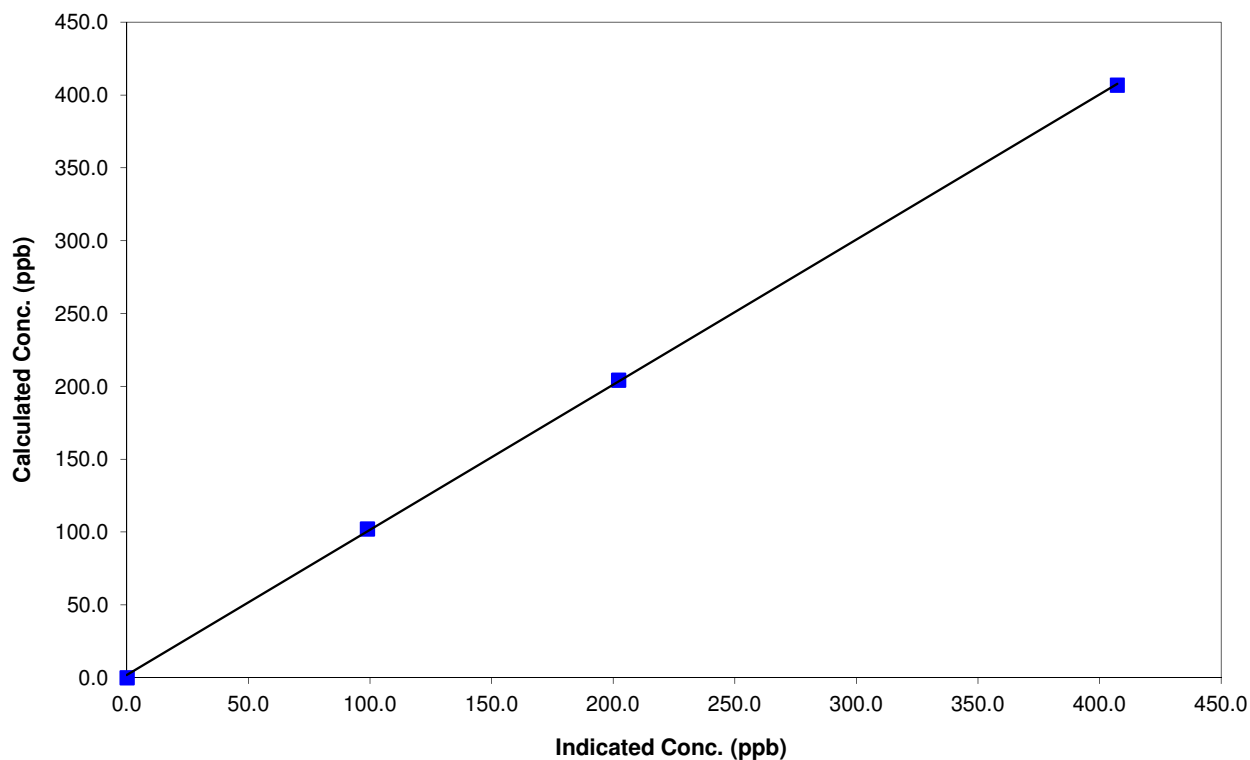
Station Information

Calibration Date	July 10, 2013	Previous Calibration	June 19, 2013
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	9:51	End Time (MST)	14:35
Analyzer make	TEI 42i	Analyzer serial #	906535068

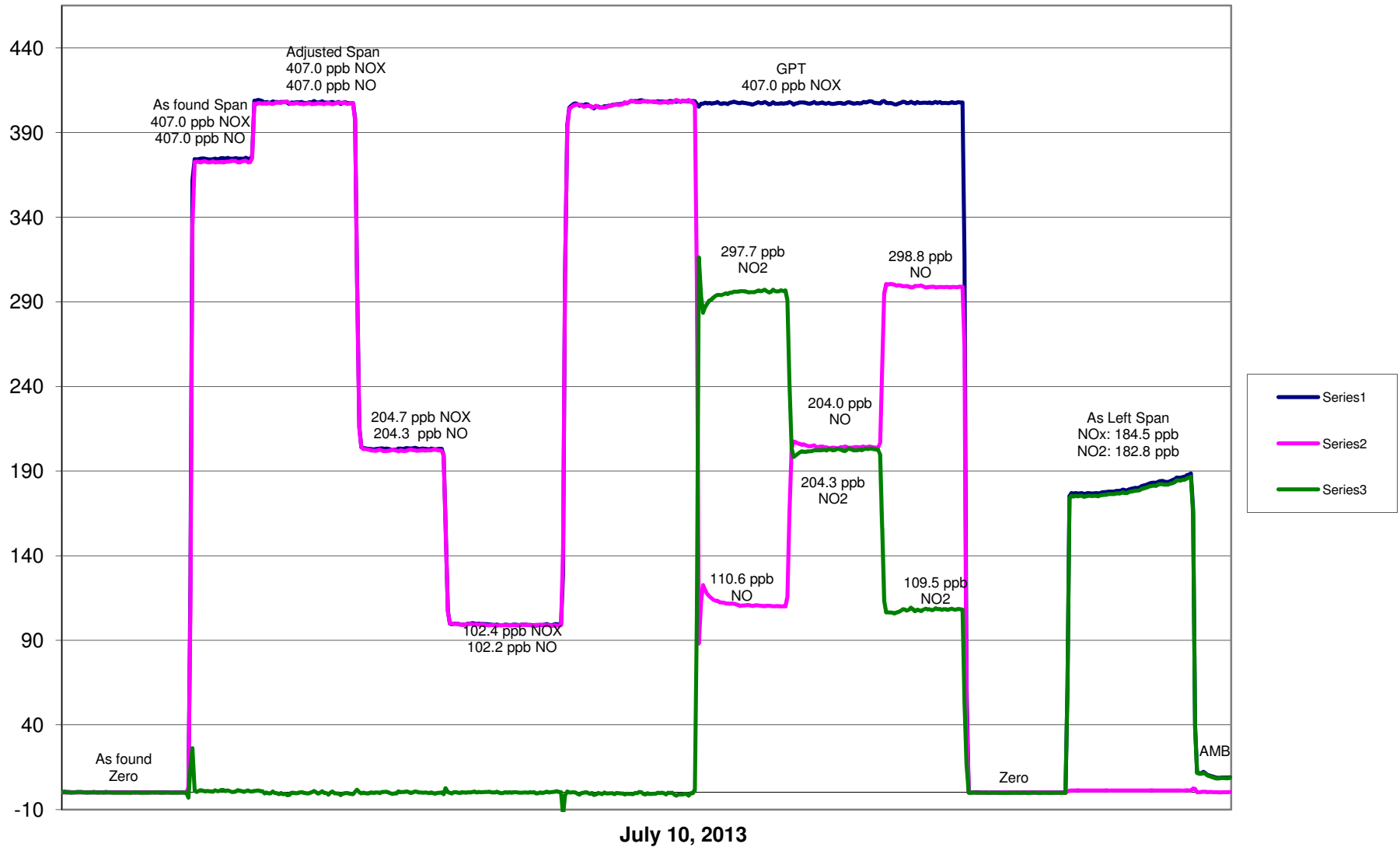
Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.1	N/A	Correlation Coefficient	0.999909
406.8	407.2	0.9991		
204.3	202.2	1.0102		
102.2	98.9	1.0332	Slope	0.996911
			Intercept	1.775247

NO Calibration Curve



PAZA Beaverlodge NO_x Calibration



Calibration Report

Parameter

NO_x-NO-NO₂

Air Monitoring Network

PAZA



Station Information

Calibration Date	July 16, 2013	Previous Calibration	July 10, 2013
Station Number	4	Station Location	Beaverlodge
Reason:	Routine	Installation	Removal
Start Time (MST)	10:43	End Time (MST)	14:25
Barometric Pressure	0.919 Atm	Station Temperature	23.0 Deg C
Calibrator	EnviroNics 6103	Serial Number	2844
NO Cal Gas Conc	51.3 ppm	Cal Gas Expiry Date	February 25, 2021
NO _x Cal Gas Conc	51.4 ppm	Cal Gas Serial #	LL105159

DACS Information

DACS make	CR3000	DACS serial No.	5237
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Parameter		NO ₂	NO _x	NO
Before	Data Slope	0.993570	0.997193	1.000028
	Data Offset	-1.156819	0.426349	0.824439
After	Data Slope	1.000256	0.997075	0.997191
	Data Offset	-0.088170	1.620490	1.807939
Channel #		8	6	7
Voltage Range		0 - 5 VDC	0 - 5 VDC	0 - 5 VDC

Analyzer Information

Analyzer make/model	TEI 42i	Analyzer serial #	906535068
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Test Point	before		after	
Concentration range	0-500	ppb	0-500	ppb
NO offset	2.1	mV	2.4	mV
NO _x bkgnd	2.4	mV	2.7	mV
NO coefficient	1.206		1.215	
NO _x coefficient	0.999		0.999	
NO ₂ conv temp	324.4	Deg C	326.6	Deg C
PMT Temp	-2.7	Deg C	-2.8	Deg C
PMT Volt	-696.6	mV	-696.3	mV
R Cell Press	180.7	in Hg	180.4	in Hg
Sample Flow	0.796	LPM	0.803	LPM

Notes: Capillary O rings replaced. Flows more stable. Calibrate.

Calibration Report

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



Station Information

Calibration Date: July 16, 2013 Station Location: Beaverlodge

Calibration Data

	Dilution flow rate (ccm)	Source gas flow rate (ccm)	Calculated NOx conc (ppb)	Calculated NO conc (ppb)	Calculated NO2 conc (ppb)	Indicated NOx conc (ppb)	Indicated NO conc (ppb)	Indicated NO2 conc (ppb)	NOx Correction factor	NO Correction factor
zero	4995	0.00	0.0	0.0	0.0	0.2	0.1	0.0	N/A	N/A
1	4995	39.93	407.6	406.8	0.8	408.0	407.2	0.1	0.9990	0.9992
2	4995	19.97	204.7	204.3	0.4	202.9	201.9	0.2	1.0086	1.0118
3	4995	9.97	102.4	102.2	0.2	99.1	98.9	0.1	1.0333	1.0337
AFZ	4995	0.00	0.0	0.0	0.0	0.2	0.1	0.0	0.0000	0.0000
AFS	4995	39.93	407.6	406.8	0.8	408.0	407.2	0.1	0.9990	0.9992
Average Correction Factor									1.0136	1.0149

As Found Concentrations: NO_x= 408.2 NO= 407.9 As Found Percent Change NO_x= 0.2% NO= 0.3%

GPT Calibration Data

Dilution Flow 4995 ccm Source Gas Flow 39.93 ccm

O3 Setpoint (ppb)	Indicated NO high point (ppb)	Indicated NO drop conc (ppb)	Calculated NO2 conc (ppb)	Indicated NOx conc (ppb)	Indicated NO conc (ppb)	Indicated NO2 conc (ppb)	NOx Correction factor	NO Correction factor	NO2 Correction factor	Converter Efficiency
0	0.1	0.1	0.0	0.2	0.1	0.0	N/A	N/A	N/A	N/A
NO point	407.0	407.0	0.0	407.6	407.0	-0.3	0.9987	1.0000	N/A	N/A
300	407.0	105.6	301.4	407.6	105.6	301.4	0.9986	1.0000	1.0001	100.0%
200	407.0	201.3	205.8	407.9	201.3	205.7	0.9979	1.0000	1.0000	100.0%
100	407.0	297.5	109.5	407.9	297.5	109.7	0.9979	1.0000	0.9978	100.2%
Average Correction Factor							0.9982	1.0000	0.9993	100.1%

AIC Data

	Previous calibration				Current calibration			
Parameter	NOx	NO2	NO		NOx	NO2	NO	
Auto zero	-0.1	-0.1	0.0	ppb	-0.1	-0.1	-0.1	ppb
Auto span	204.2	202.7	1.0	ppb	168.3	166.9	1.1	ppb

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter NO₂

Air Monitoring Network PAZA



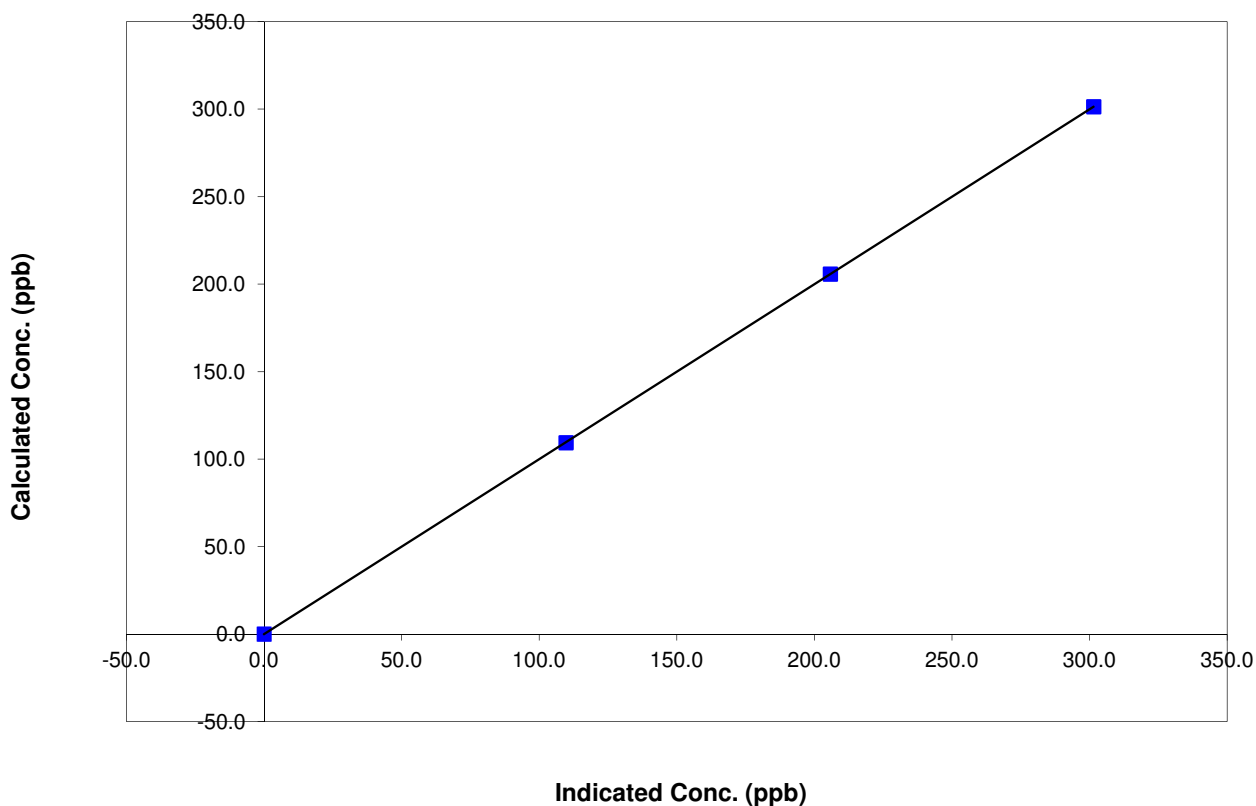
Station Information

Calibration Date	July 16, 2013	Previous Calibration	July 10, 2013
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	10:43	End Time (MST)	14:25
Analyzer make	TEI 42i	Analyzer serial #	906535068

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.0	N/A	Correlation Coefficient	0.999999
301.4	301.4	1.0001		
205.8	205.7	1.0000		
109.5	109.7	0.9978	Slope	1.000256
			Intercept	-0.088170

NO₂ Calibration Curve



Calibration Summary

Parameter NO_x

Air Monitoring Network PAZA



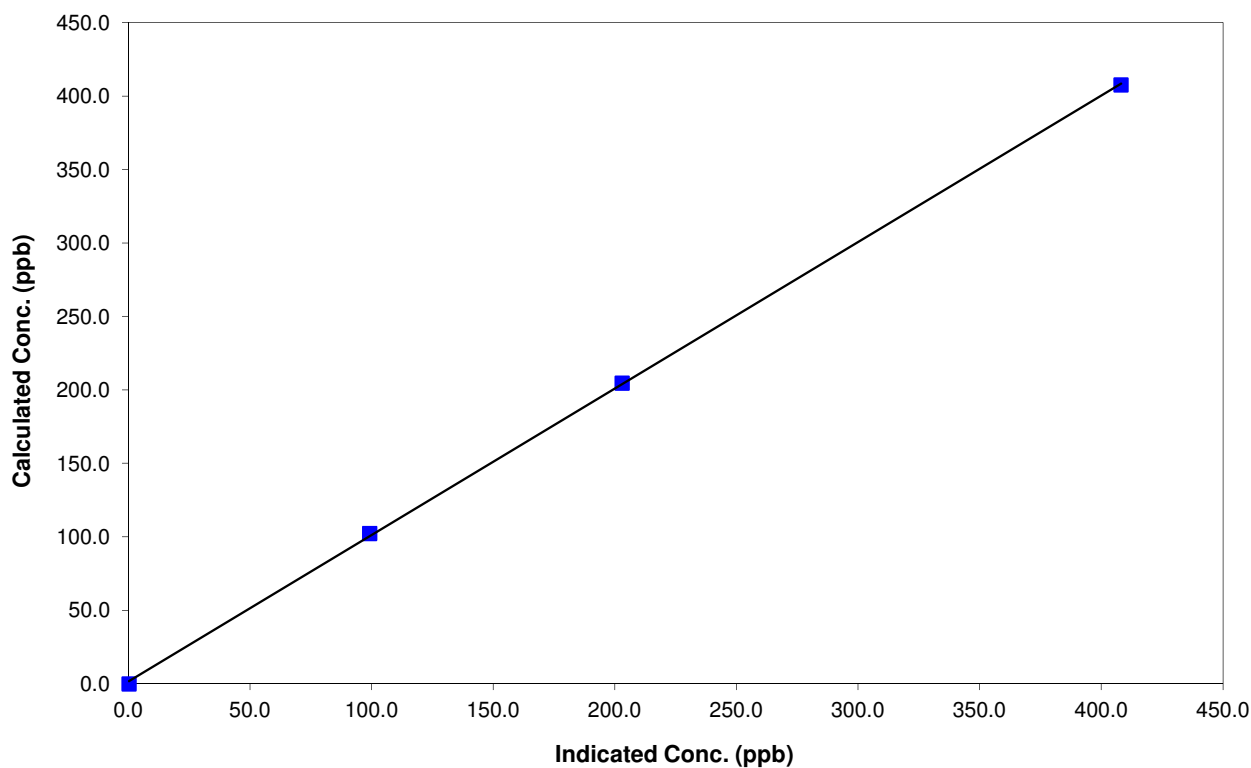
Station Information

Calibration Date	July 16, 2013	Previous Calibration	July 10, 2013
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	10:43	End Time (MST)	14:25
Analyzer make	TEI 42i	Analyzer serial #	906535068

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.2	N/A	Correlation Coefficient	0.999907
407.6	408.0	0.9990		
204.7	202.9	1.0086		
102.4	99.1	1.0333	Slope	0.997075
			Intercept	1.620490

NO_x Calibration Curve



Calibration Summary

Parameter NO

Air Monitoring Network PAZA



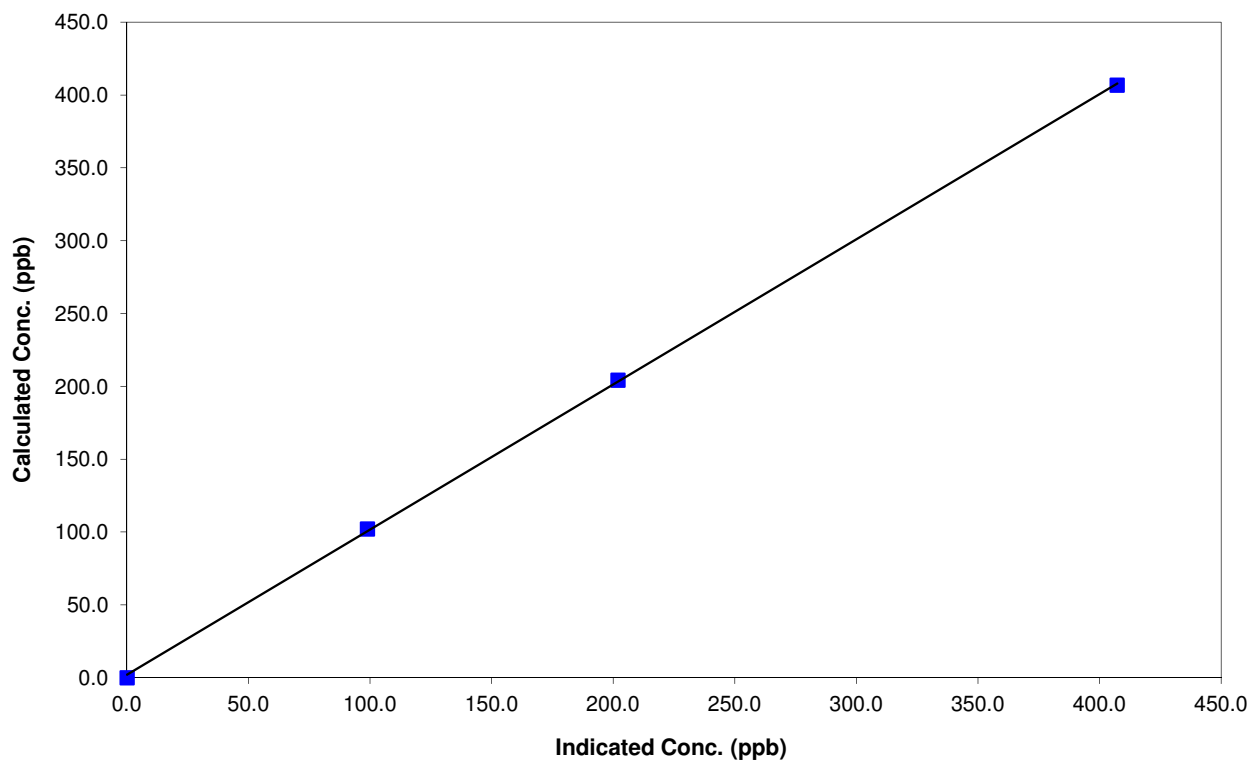
Station Information

Calibration Date	July 16, 2013	Previous Calibration	July 10, 2013
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	10:43	End Time (MST)	14:25
Analyzer make	TEI 42i	Analyzer serial #	906535068

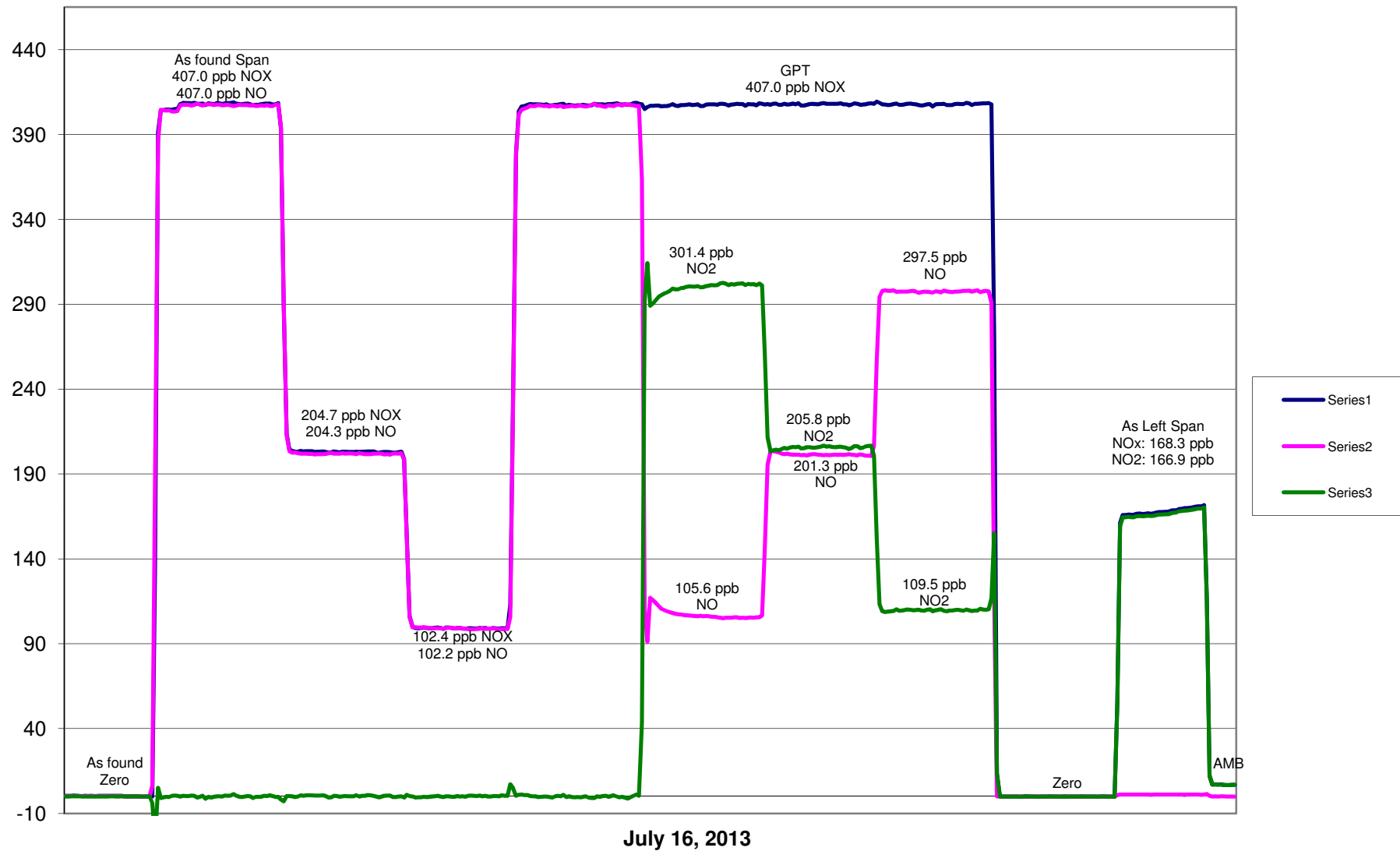
Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.1	N/A	Correlation Coefficient	0.999897
406.8	407.2	0.9992		
204.3	201.9	1.0118		
102.2	98.9	1.0337	Slope	0.997191
			Intercept	1.807939

NO Calibration Curve



PAZA Beaverlodge NO_x Calibration



Calibration Report



Parameter 03

Air Monitoring Network PAZA

Station Information

Calibration Date	July 10, 2013	Previous Calibration	June 19, 2013
Station Number	4	Station Location	Beaverlodge
Reason:	Routine	Install	Removal
		Other:	

Start Time (MST)	13:41	End Time (MST)	17:10
Barometric Pressure	0.924 atm	Station Temperature	23.0 Deg C
Calibrator	EnviroNics 6103	Serial Number	2844
Cal Gas Concentration	NA	Cal Gas Expiry Date	NA

DACS make	CR3000	DACS serial No.	5237
DACS voltage range	0 - 5 volt	DACS channel #	9
	Before		After
Calculated slope	0.989860	Calculated slope	0.979270
Calculated intercept	-1.133346	Calculated intercept	0.197807

Analyzer make	Teco 49i	Analyzer serial #	1136451236
---------------	----------	-------------------	------------

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
offset	-1.40	ppb	-1.00	ppb
slope	1.033		1.033	
Lamp temp	53.8	mV	53.8	mV
Lamp Intensity A/B	80113/84444	mV	80190/84491	mV
Pressure	681.7	mm Hg	682.4	mm Hg
Flow A	0.735	LPM	0.74	LPM
Flow B	0.745	LPM	0.745	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)
5035	0.0	0.0	0.2	N/A
5035	0.0	297.7	304.3	0.9782
5035	0.0	204.3	207.9	0.9829
5035	0.0	109.5	111.2	0.9847
5035	0.0	0.0	0.2	As found zero
5035	0.0	297.7	304.3	As found span
Average Correction Factor				0.9819

Calculated value of As Found Response: 299.9 ppm Percent Change of As Found: 0.7%

	before calibration		after calibration	
Auto zero	1.2	ppb	1.0	ppb
Auto span	274.5	ppb	268.4	ppb

Notes: No adjust.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter 03

Air Monitoring Network PAZA



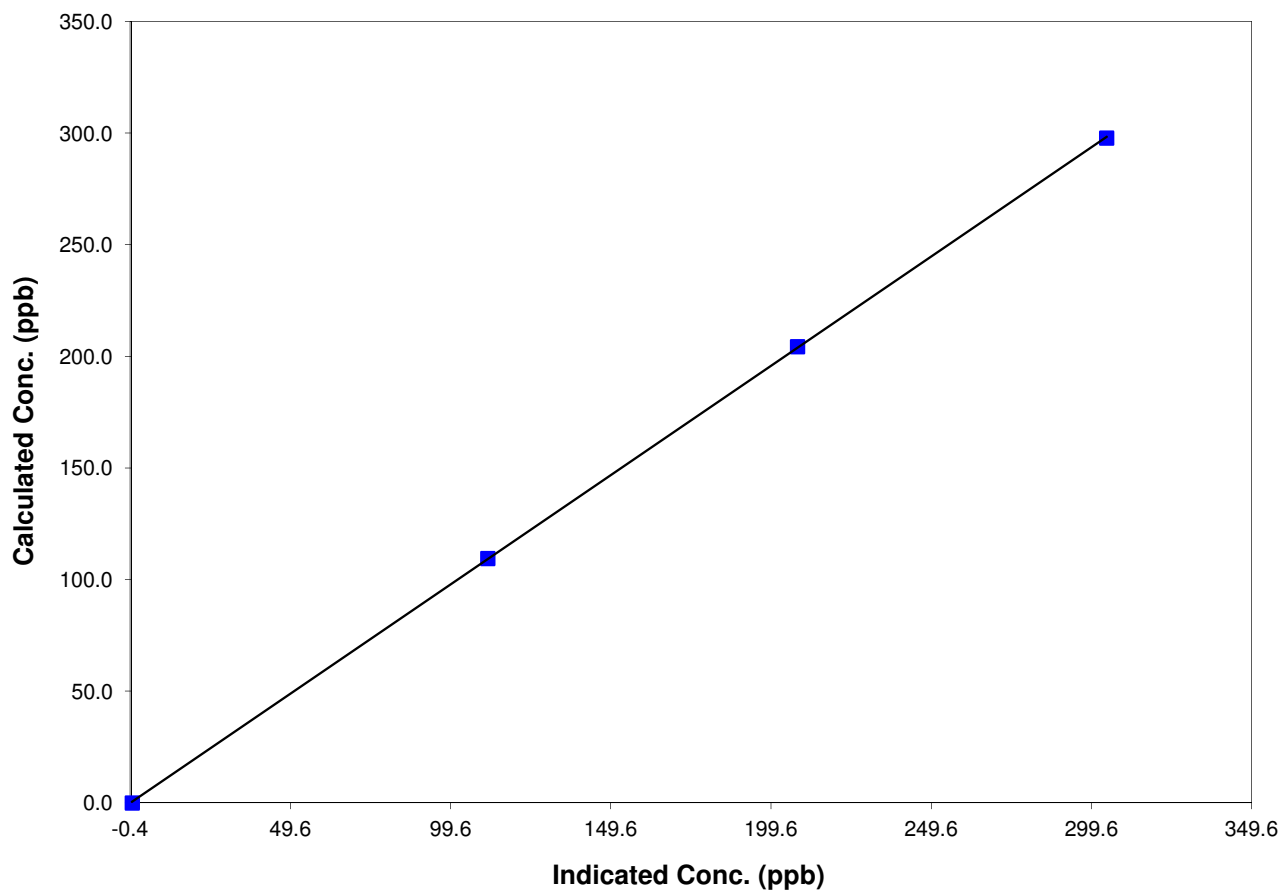
Station Information

Calibration Date	July 10, 2013	Previous Calibration	June 19, 2013
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	13:41	End Time (MST)	17:10
Analyzer make/model	Teco 49i	Analyzer serial #	1136451236

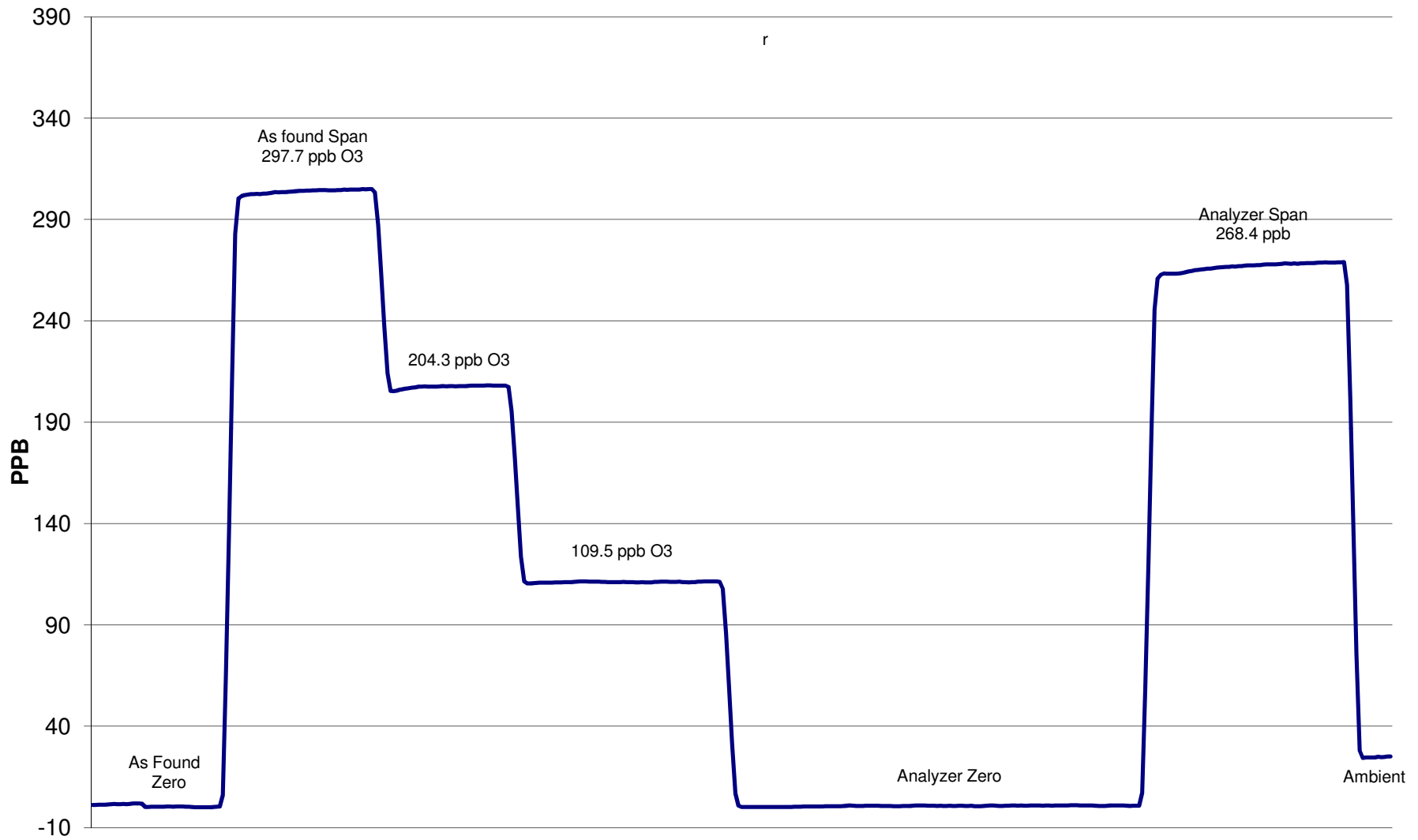
Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.2	NA		
297.7	304.3	0.9782	Correlation Coefficient	0.999981
204.3	207.9	0.9829		
109.5	111.2	0.9847	Slope	0.979270
			Intercept	0.197807

O3 Calibration Curve



O3 Calibration



July 10, 2013

FDMS TEOM PM2.5 AUDIT



STATION: BeaverLodge
LOCATION: PASZA - Grande Prairie

OPERATOR: Grover Christiansen
DATE: 16-Jul-13

MONITOR INFO / PARAMETER VALUES:

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

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

RECENT CALIBRATION AND AUDIT HISTORY

Previous Audit	23-Apr-13
Previous Calibration	

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

* capacity test or pump on timed test utilized to verify pump integrity
"FAIL" indicates that pump requires service.

LEAK CHECK	Indicated Flow (lpm)	
	Main	Auxiliary
PUMP ON	0.20	2.14
PUMP OFF	0.02	0.02
NET	0.18	2.12
LIMITS	<0.15	<0.60

	Ambient Temp. (^o C)	Ambient Pres. (atm)	Ko *	Bypass flow (lpm)	Sample flow (lpm)
SET POINT (S)	na	na	14287	13.67	3.00
INDICATED (I)	24.3	0.919		13.68	3.00
MEASURED (AF)	24.4	0.920		13.42	2.94
MEASURED (M)	24.4	0.920	14218	13.42	2.94
DIFFERENCE (M-I)	0.1	0.001	-0.5%	-0.26	-0.06
LIMITS	± 2^o C	± 0.005 atm	± 2.5 %	± 1.0 L/min	± 0.2 L/min

As Found Data
Adjusted Data

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

COMMENTS: PASS

Sample heads were cleaned.

Reference leak check: Main: 0.21 Aux: 2.14

Main bulkhead union with two black lines going to flow sensors is leaking. FDMS drier showing D flag for a few months now. Have informed Shelly Moris.

FAIL - Monitor is outside of limits. Shelly is checking to see if TEOM is due for replacement Sharp.

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

Calibration Report

Parameter SO2
Air Monitoring Network PAZA



Station Information

Calibration Date	July 25, 2013	Previous Calibration	June 21, 2013
Station Number	6	Station Location	Valleyview
Reason:	Routine	Install	Removal Other:
Start Time (MST)	14:10:00 PM	End Time (MST)	16:55
Barometric Pressure	702.00 mmHg	Station Temperature	20.0 Deg C
Calibrator	EnviroNics 6103	Serial Number	2844
Cal Gas Concentration	51.5 ppm	Cal Gas Exp Date	February 25, 2021
Gas Cylinder Num.	LL105159		
DACS make	CR3000	DACS serial No.	5409
DACS voltage range	0 - 5 volt	DACS channel #	4
	<u>Before</u>		<u>After</u>
DACS Scale High	500	DACS slope	500
DACS Scale Low	0	DACS intercept	0
Calculated slope	0.997248	Calculated slope	0.999751
Calculated intercept	1.431237	Calculated intercept	2.680514
Analyzer make	TEI 45C	Analyzer serial #	45C-57531-313

	before		after	
Concentration range	0-500	ppb	0-500	ppb
Background	57.3		54.4	
Coefficient	1.003		1.021	
UV Lamp Voltage	819	V	818	V
Chamber Temp	44.3	C	44.3	C
Perm Gas Temp	35	C	35	C
Pressure	603.5	in Hg	603.5	in Hg
Sample Flow	0.558	LPM	0.559	LPM
Lamp Intensity	42159	Hz	42284	Hz

Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4995	0.00	0.0	0.3	N/A
4995	39.93	408.4	407.3	1.0028
4995	19.96	205.0	200.8	1.0209
4995	9.97	102.6	97.1	1.0566
4995	0.00	0.0	-3.2	As found zero
4995	39.93	408.4	398.9	As found span
Average Correction Factor				1.0268

Calculated value of As Found Response: 402.5 ppm Percent Change of As Found: 1.5%

	before calibration		after calibration	
Auto zero	0.0	ppm	0.0	ppm
Auto span	156.0	ppm	154.7	ppm

Notes: Slight span adjustment made.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter SO2

Air Monitoring Network PAZA



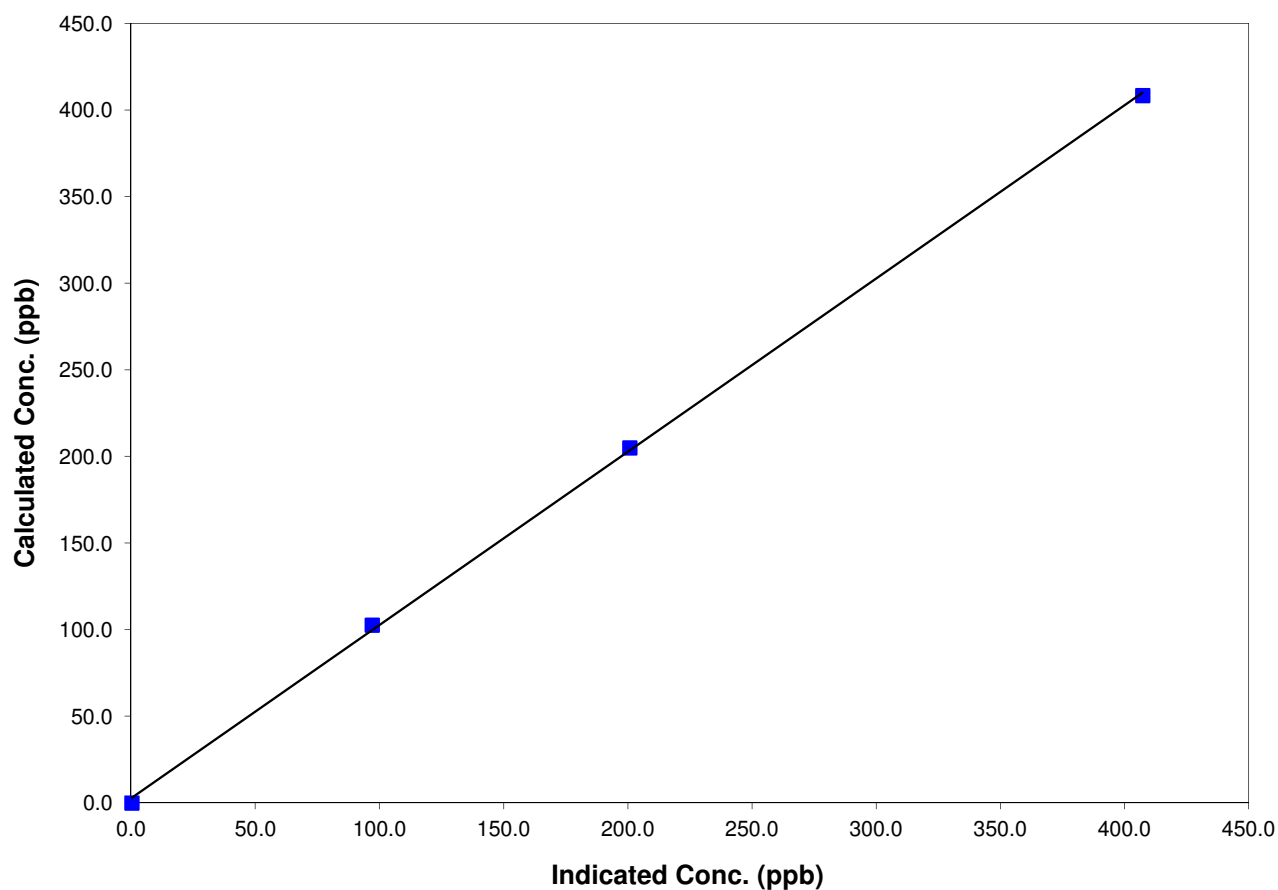
Station Information

Calibration Date	July 25, 2013	Previous Calibration	June 21, 2013
Station Number	6	Station Location	Valleyview
Start Time (MST)	14:10:00 PM	End Time (MST)	16:55
Analyzer make/model	TEI 45C	Analyzer serial #	45C-57531-313

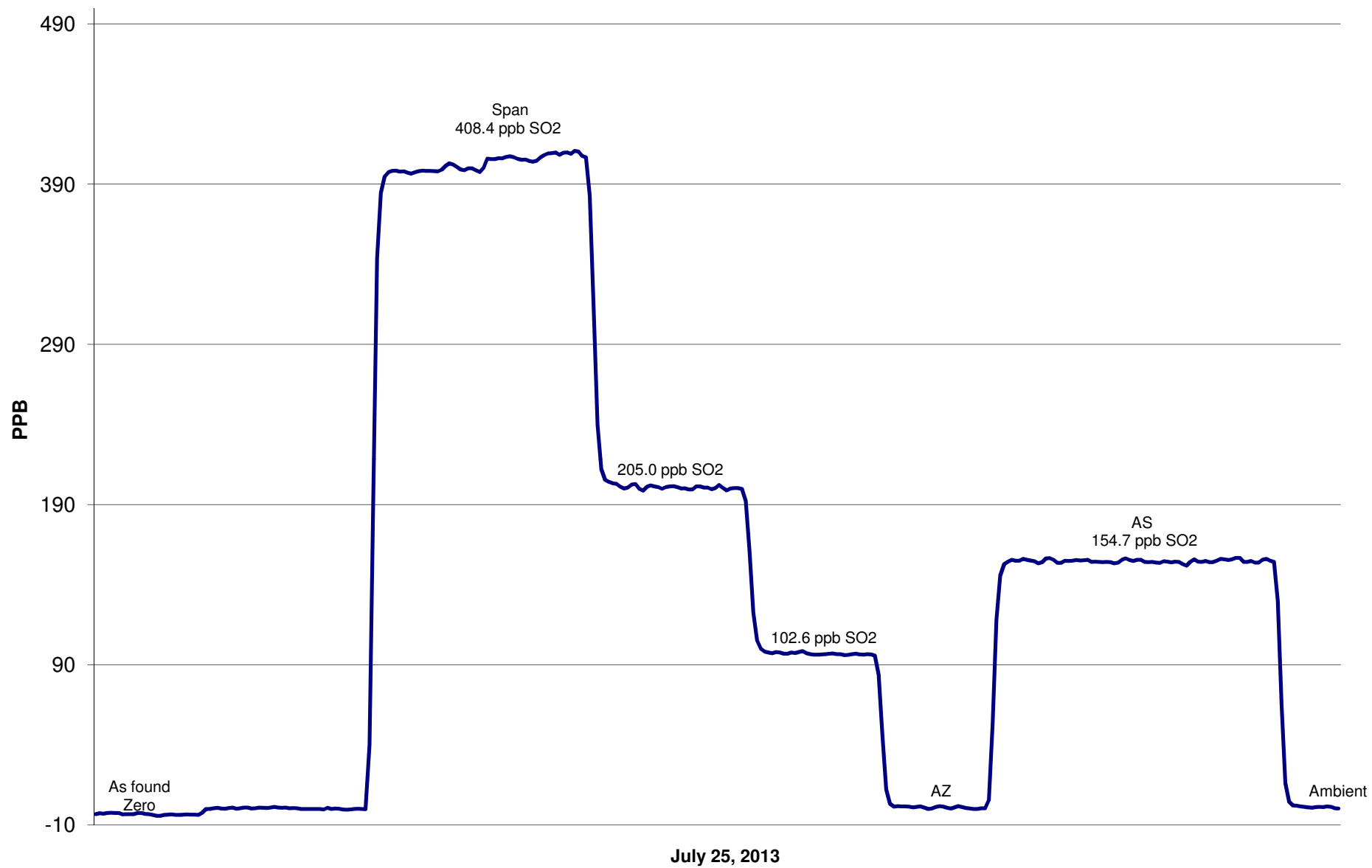
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.3	N/A	Correlation Coefficient	0.999766
408.4	407.3	1.0028		
205.0	200.8	1.0209		
102.6	97.1	1.0566	Slope	0.999751
			Intercept	2.680514

SO2 Calibration Curve



SO2 Calibration



Calibration Report

Parameter H2S
Air Monitoring Network PAZA



Station Information

Calibration Date	July 25, 2013	Previous Calibration	June 21, 2013
Station Number	6	Station Location	Valleyview
Reason:	Routine	Install	Removal
Start Time (MST)	12:20	End Time (MST)	15:38
Barometric Pressure	702.00 mm	Station Temperature	21.0 Deg C
Calibrator	EnviroNics 6103	Serial Number	2844
Cal Gas Concentration	10.1 ppm	Cal Gas Expiry Date	May 11, 2013
Gas Cert Reference	LL160692		
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	1.009205	Calculated slope	0.993455
Calculated intercept	0.396273	Calculated intercept	0.262632
Analyzer make	TEI Model 43i - APSCB	Analyzer serial #	701120010

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Back Ground	7.3	ppb	7.5	ppb
Coefficient	0.976		1.004	
Lamp Voltage	782	V	782	V
Chamber Temp	45	c	45	c
Perm Oven Temp	45	c	45	c
Pressure	606.10	mm Hg	606.30	mm Hg
Sample Flow	0.411	ccm	0.412	ccm
Lamp Intensity	90.0	%	90.0	%

Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4995	0.00	0.0	0.1	N/A
4995	39.93	80.1	80.6	0.9938
4995	19.96	40.2	39.7	1.0114
8995	8.97	10.1	9.7	1.0324
4995	9.90	102.1	0.2	Sox Test
4995	0.00	0.0	0.1	As found zero
4995	39.93	80.1	77.6	As found span
Average Correction Factor				1.0125

Calculated value of As Found Response: 78.62 ppm Percent Change of As Found: 1.8%

	before calibration		after calibration	
Auto zero	0.6	ppm	0.5	ppm
Auto span	68.7	ppm	70.5	ppm

Notes: Slight span adjustment made. Scrubber checked.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter H2S

Air Monitoring Network PAZA



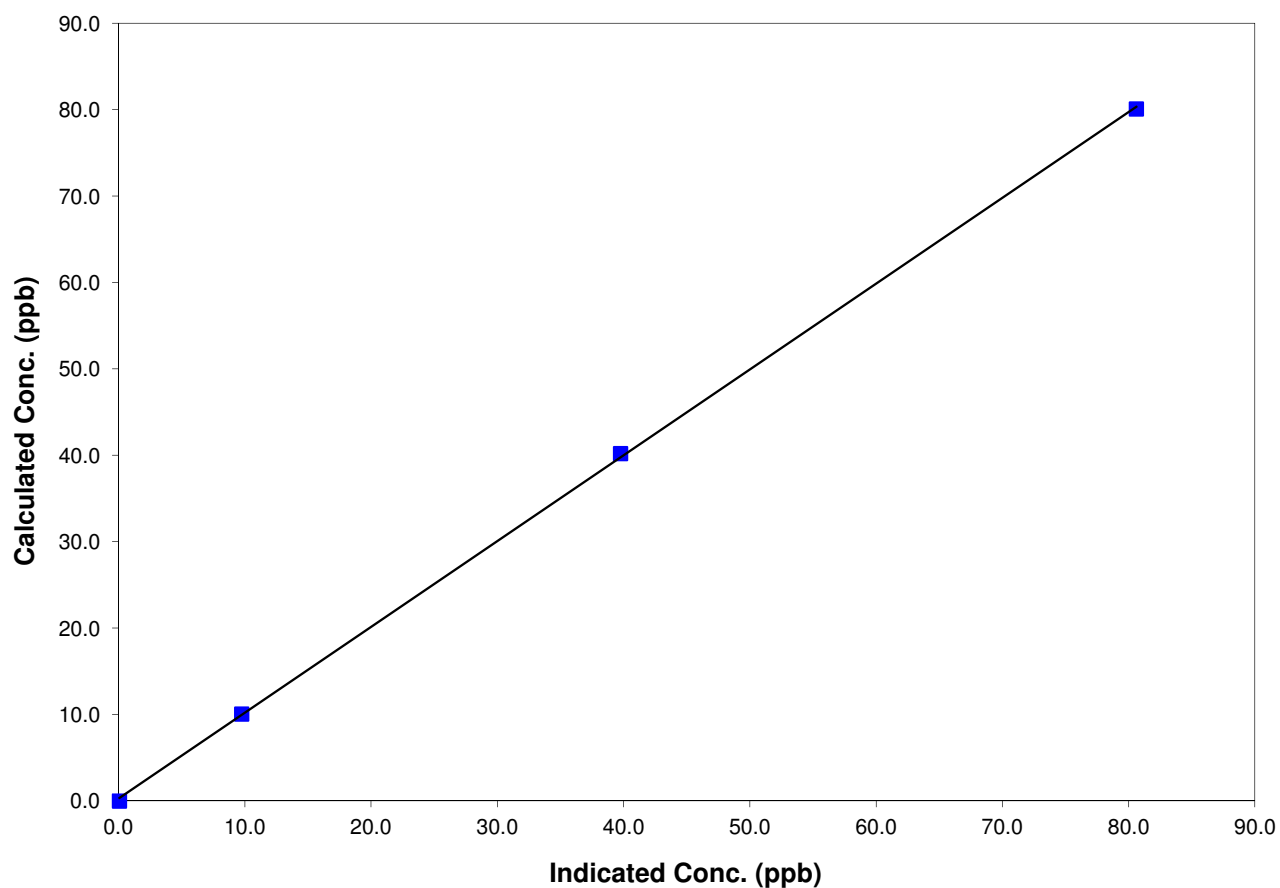
Station Information

Calibration Date	July 25, 2013	Previous Calibration	June 21, 2013
Station Number	6	Station Location	Valleyview
Start Time (MST)	12:20	End Time (MST)	15:38
Analyzer make/model	TEI Model 43i - APSCB	Analyzer serial #	701120010

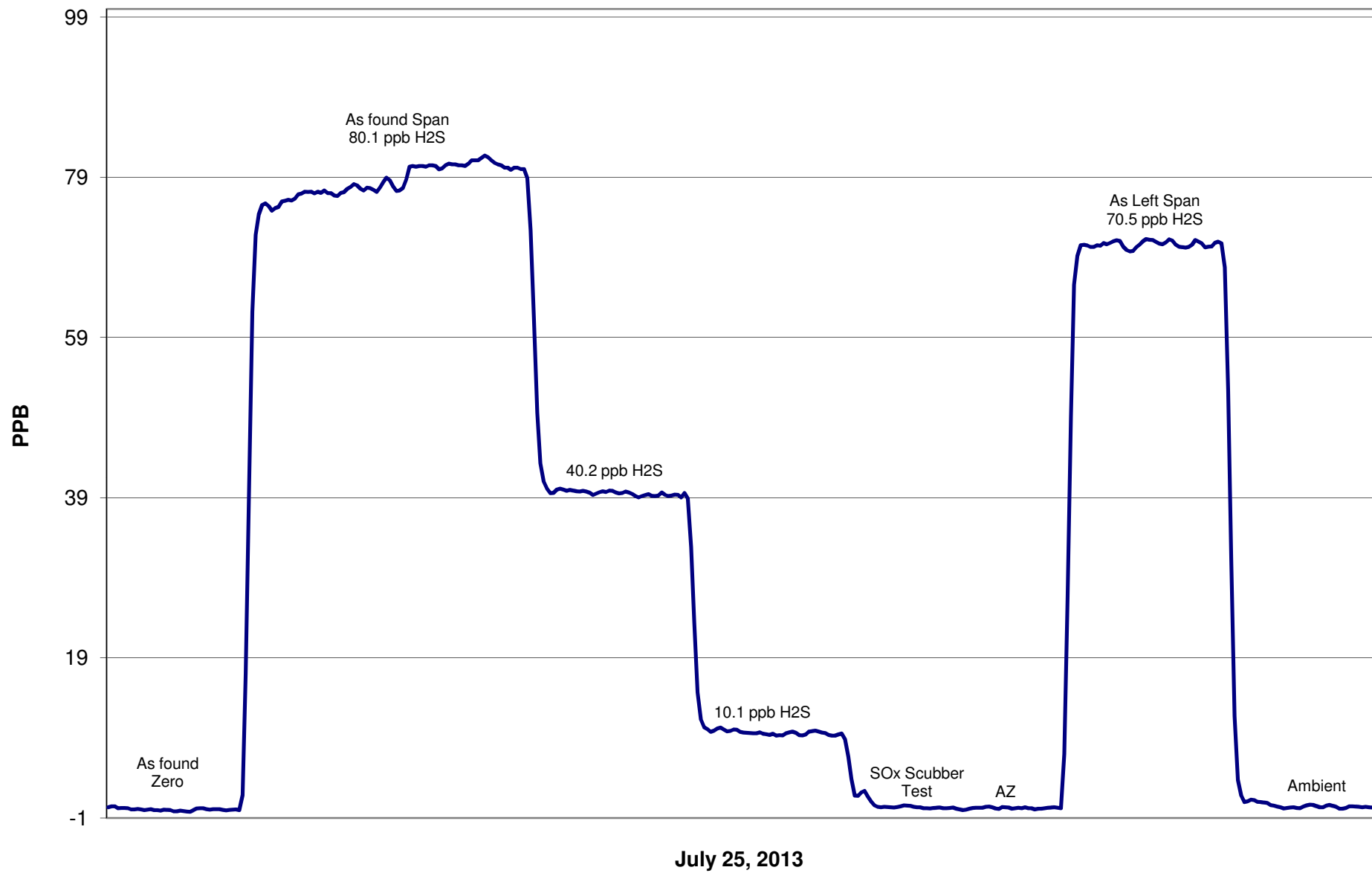
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.1	N/A	Correlation Coefficient	0.999901
80.1	80.6	0.9938		
40.2	39.7	1.0114		
10.1	9.7	1.0324	Slope	0.993455
			Intercept	0.262632

H2S Calibration Curve



H2S Calibration



Calibration Report

Parameter SO2

Air Monitoring Network PAZA



Station Information

Calibration Date	July 26 2013	Previous Calibration	June 21 2013
Station Number	9	Station Location	Sunset House
Reason:	Routine	Install	Removal
		Other:	
Start Time (MST)	10:53	End Time (MST)	13:01
Barometric Pressure	0.914 Atm	Station Temperature	20.0 Deg C
Calibrator	EnviroNics 6100	Serial Number	3474
Cal Gas Concentration	51.5 ppm	Cal Gas Expiry Date	2/25/25
Gas Cert Reference	LL105159		
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	0.994704	Calculated slope	0.995323
Calculated intercept	2.998250	Calculated intercept	2.786771
Analyzer make	TEI 43C	Analyzer serial #	609716238

	before		after	
Concentration range	0-500	ppb	0-500	ppb
Background	20		24.3	
Coefficient	0.978		1.032	
UV Lamp Voltage	870	V	870	V
Chamber Temp	44.6	C	44.6	C
Perm Gas Temp	45	C	45	C
Pressure	665.4	mm Hg	663.5	mm Hg
Sample Flow	0.484	LPM	0.483	LPM
Lamp Intesity	36875	Hz	37192	Hz

Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4995	0.00	0.0	-0.1	N/A
4995	39.93	408.4	408.7	0.9994
4995	19.96	205.0	202.3	1.0132
4995	9.97	102.6	97.3	1.0543
4995	0.00	0.0	-0.1	As found zero
4995	39.93	408.4	438.2	As found span
Average Correction Factor				1.0223

Calculated value of As Found Response: 439.034 ppm Percent Change of As Found: -7.5%

	before calibration		after calibration	
Auto zero	0.3	ppm	0.3	ppm
Auto span	275.2	ppm	265.5	ppm

Notes: Adjstuted Span

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter SO2

Air Monitoring Network PAZA



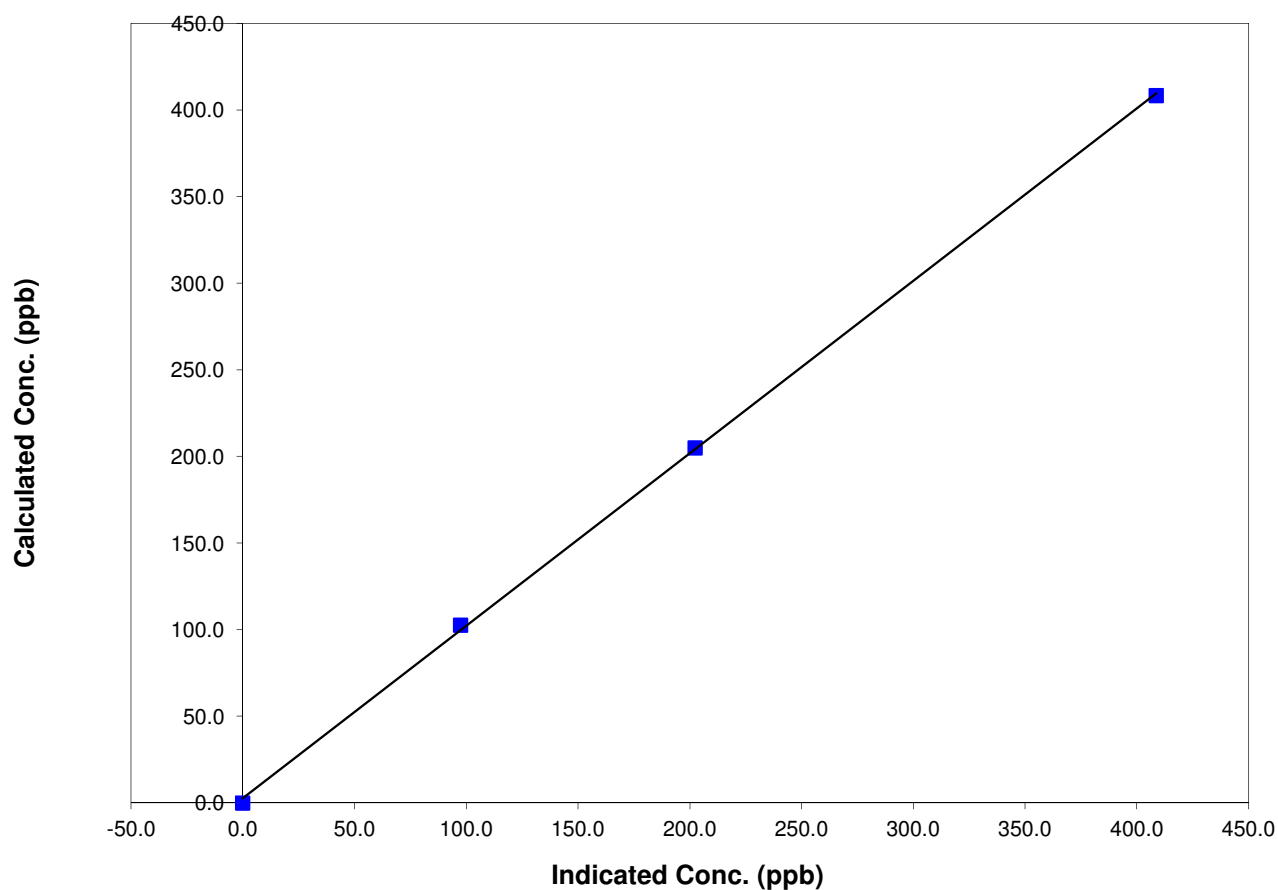
Station Information

Calibration Date	July 26 2013	Previous Calibration	June 21 2013
Station Number	9	Station Location	Sunset House
Start Time (MST)	10:53	End Time (MST)	13:01
Analyzer make/model	TEI 43C	Analyzer serial #	609716238

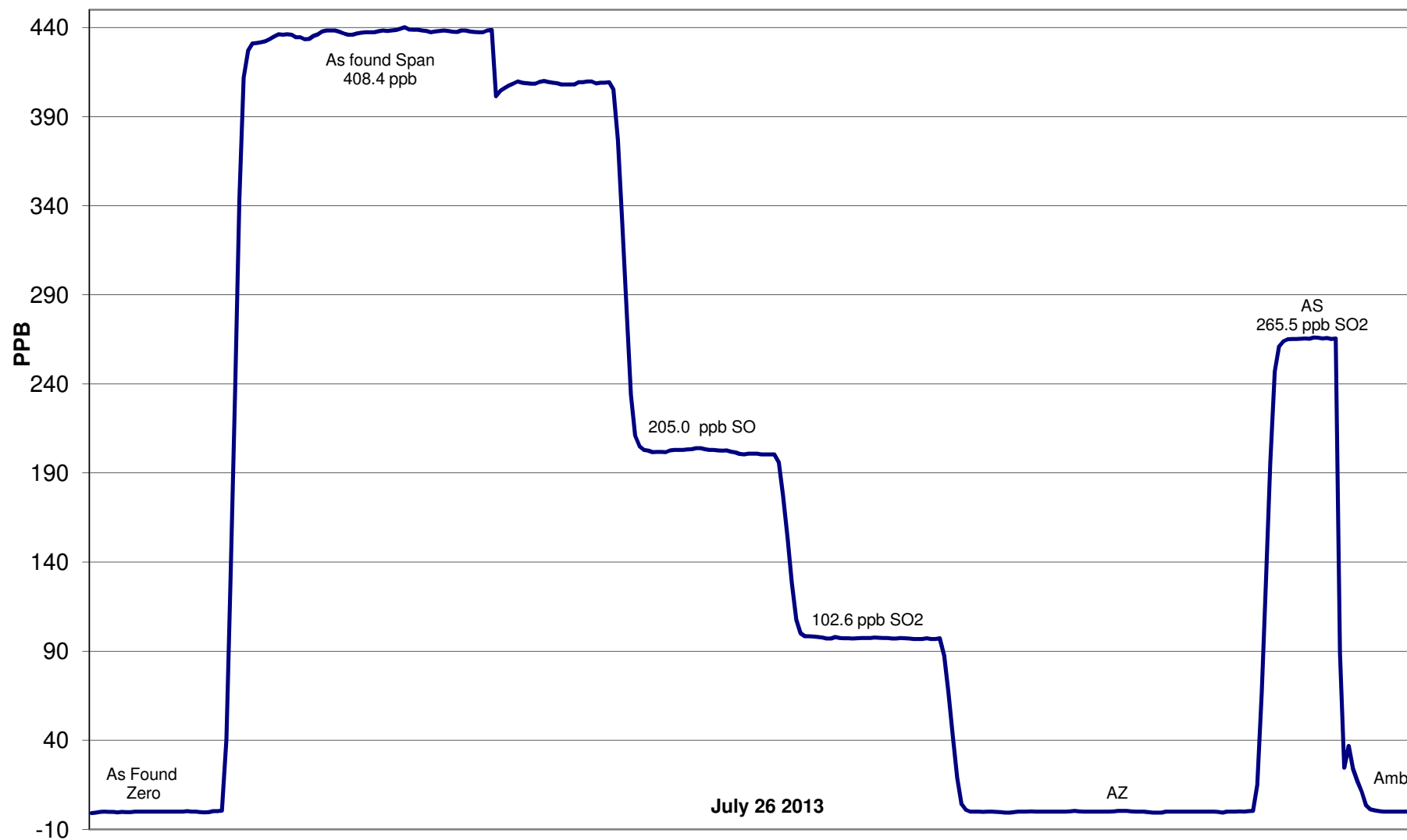
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.1	N/A		
408.4	408.7	0.9994	Correlation Coefficient	0.999806
205.0	202.3	1.0132		
102.6	97.3	1.0543	Slope	0.995323
			Intercept	2.786771

SO2 Calibration Curve



SO2 Calibration



Parameter

Air Monitoring Network

NO_x-NO-NO₂

PAZA



Station Information

Station Information					
Calibration Date	July 26 2013		Previous Calibration	June 21 2013	
Station Number	9		Station Location	Sunset House	
Reason:	Routine	Install	Removal	Other:	
Start Time (MST)	7:56		End Time (MST)	15:08	
Barometric Pressure	0.914	Atm	Station Temperature	20.0	Deg C
Calibrator	EnviroNics		Serial Number	3474	
NO Cal Gas Conc	51.3	ppm	Cal Gas Expiry Date	February 25, 2021	
NOx Cal Gas Conc	51.4	ppm	Cal Gas Serial #	LL105159	

DACS Information

DACS Information				
DACS make		CR3000	DACS serial No.	5407
	Parameter	NO2	NOx	NO
Before	Data Slope	0.996202	0.997625	1.000224
	Data Offset	0.087566	1.479650	1.220800
After	Data Slope	1.006477	0.997740	1.001174
	Data Offset	-0.366999	1.191577	0.947152
Channel #		5	3	4
Voltage Range		0 - 5 VDC	0 - 5 VDC	0 - 5 VDC

Analyzer Information

Analyzer make/model	TEI 42i	Analyzer serial #	0701120011	
Test Point	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
NO offset	5.0	mV	5.9	mV
NOx bkgnd	5.6	mV	6.1	mV
NO coefficient	1.218		1.174	
NOx coefficient	1.000		1.000	
NO2 conv temp	324.5	Deg C	324.5	Deg C
PMT Temp	-2.7	Deg C	-2.7	Deg C
PMT Volt	-805.1	mV	-805.1	mV
R Cell Press	206.8	in Hg	202.3	in Hg
Sample Flow	0.671	ccm	0.702	ccm

NOTES: PMT & span adjust following as found. Capillary O rings were also replaced.
Lightning & Thunder storm created power failures during repair & calibration.

Calibration Report

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



Station Information

Calibration Date: July 26 2013 Station Location: Sunset House

Calibration Data

	Dilution flow rate (ccm)	Source gas flow rate (ccm)	Calculated NOx conc (ppb)	Calculated NO conc (ppb)	Calculated NO2 conc (ppb)	Indicated NOx conc (ppb)	Indicated NO conc (ppb)	Indicated NO2 conc (ppb)	NOx Correction factor	NO Correction factor
zero	4995	0.00	0.0	0.0	0.0	0.6	0.7	0.2	N/A	N/A
1	4995	39.93	407.6	406.8	0.8	408.0	406.0	0.2	0.9992	1.0021
2	4995	19.96	204.6	204.2	0.4	203.8	202.8	0.1	1.0036	1.0067
3	4995	9.95	102.2	102.0	0.2	98.8	98.9	0.0	1.0343	1.0312
AFZ	4995	0.00	0.0	0.0	0.0	0.6	0.7	0.1	0.0000	0.0000
AFS	4995	39.93	407.6	406.8	0.8	359.0	357.3	0.2	1.1355	1.1388
Average Correction Factor									1.0124	1.0133

As Found Concentrations: NO_x= 359.9 NO= 357.8 As Found Percent Change NO_x= -11.7% NO= -12.1%

GPT Calibration Data

Dilution Flow 4995 ccm Source Gas Flow 39.93 ccm

O3 Setpoint (ppb)	Indicated NO high point (ppb)	Indicated NO drop conc (ppb)	Calculated NO2 conc (ppb)	Indicated NOx conc (ppb)	Indicated NO conc (ppb)	Indicated NO2 conc (ppb)	NOx Correction factor	NO Correction factor	NO2 Correction factor	Converter Efficiency
0	0.7	0.7	0.0	0.6	0.7	0.2	N/A	N/A	N/A	N/A
NO point	406.8	406.8	0.0	408.9	406.8	0.0	0.9949	1.0000	N/A	N/A
300	406.8	107.4	299.4	407.1	107.4	297.8	0.9994	1.0000	1.0055	99.5%
200	406.8	201.4	205.4	407.9	201.4	204.4	0.9974	1.0000	1.0051	99.5%
100	406.8	295.9	111.0	409.0	295.9	111.0	0.9948	1.0000	0.9998	100.0%
Average Correction Factor							0.9972	1.0000	1.0035	99.7%

AIC Data

	Previous calibration				Current calibration			
Parameter	NOx	NO2	NO		NOx	NO2	NO	
Auto zero	0.9	0.2	0.9	ppb	0.0	0.0	0.1	ppb
Auto span	181.8	178.9	2.0	ppb	167.9	165.8	1.4	ppb

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter NO₂

Air Monitoring Network PAZA



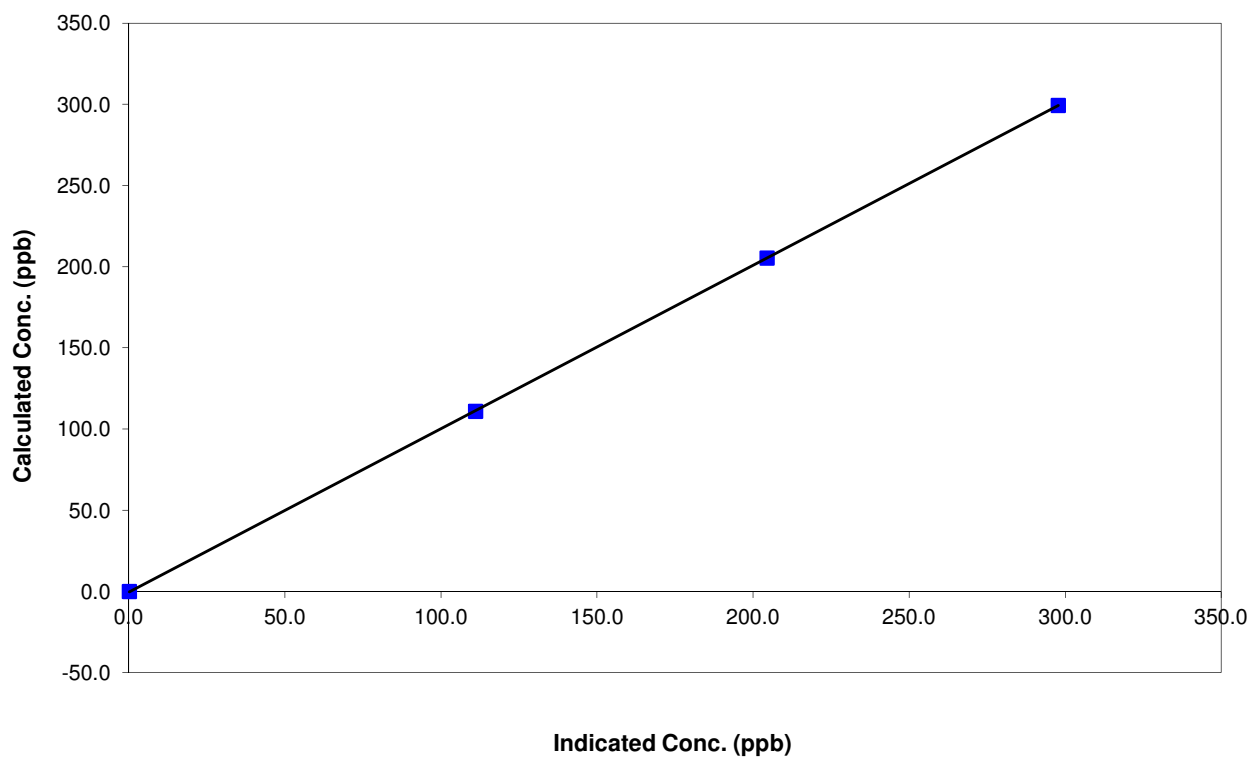
Station Information

Calibration Date	July 26 2013	Previous Calibration	June 21 2013
Station Number	9	Station Location	Sunset House
Start Time (MST)	7:56	End Time (MST)	15:08
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	0.2	N/A	Correlation Coefficient	0.999996
299.4	297.8	1.0055		
205.4	204.4	1.0051		
111.0	111.0	0.9998	Slope	1.006477
			Intercept	-0.366999

NO₂ Calibration Curve



Calibration Summary

Parameter NO_x

Air Monitoring Network PAZA



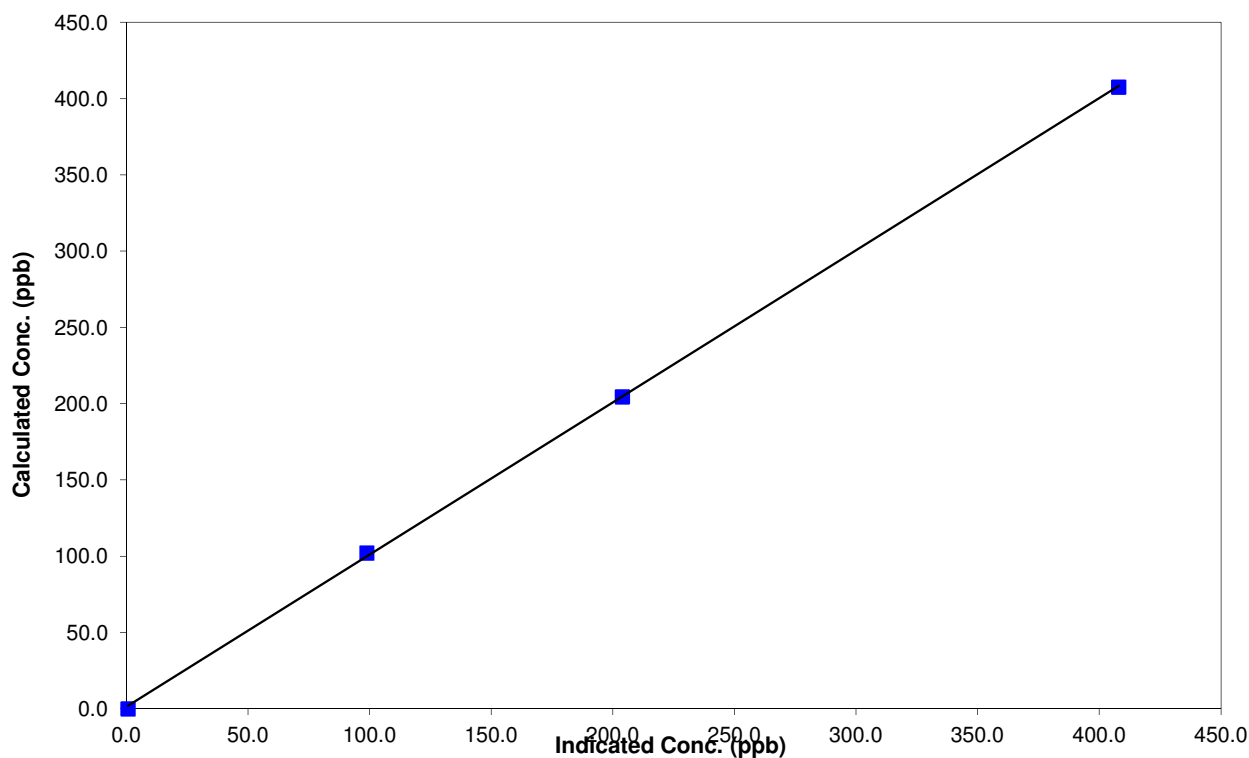
Station Information

Calibration Date	July 26 2013	Previous Calibration	June 21 2013
Station Number	9	Station Location	Sunset House
Start Time (MST)	7:56	End Time (MST)	15:08
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	0.6	N/A	Correlation Coefficient	0.999895
407.6	408.0	0.9992		
204.6	203.8	1.0036		
102.2	98.8	1.0343	Slope	0.997740
			Intercept	1.191577

NO_x Calibration Curve



Calibration Summary

Parameter NO

Air Monitoring Network PAZA



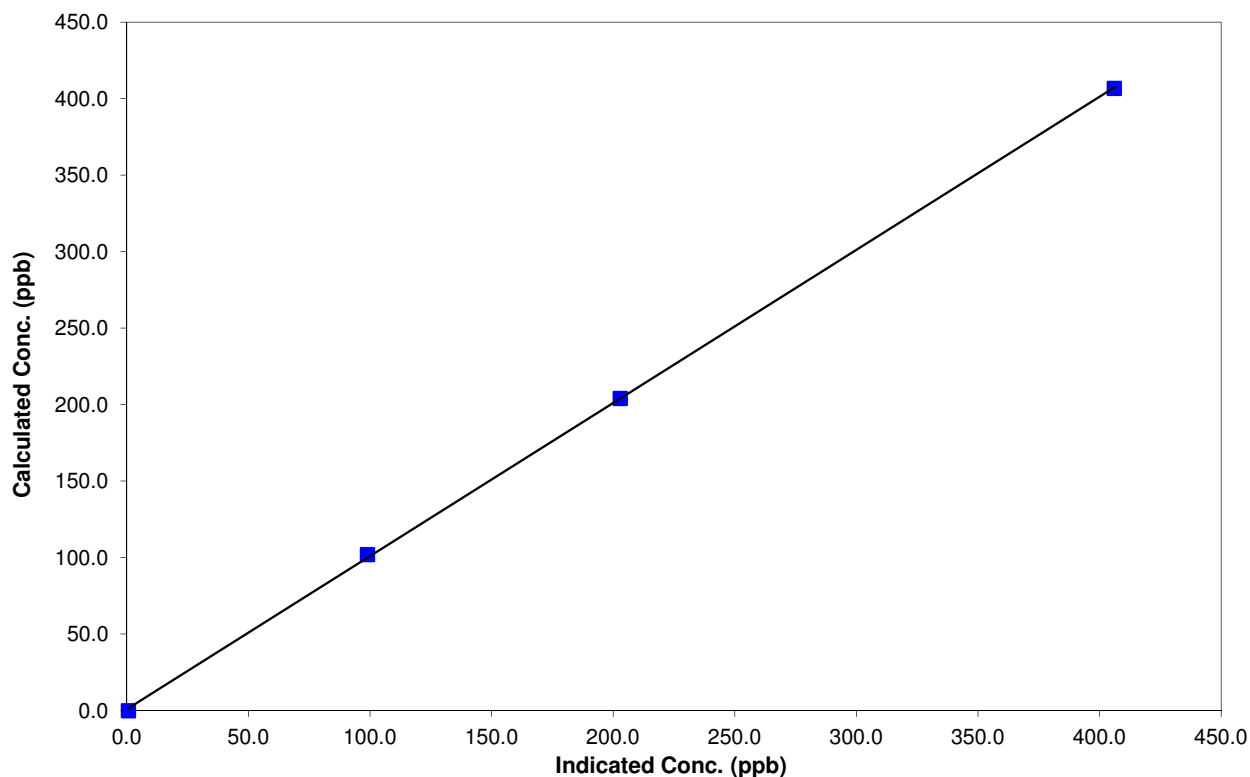
Station Information

Calibration Date	July 26 2013	Previous Calibration	June 21 2013
Station Number	9	Station Location	Sunset House
Start Time (MST)	7:56	End Time (MST)	15:08
Analyzer make	TEI 42i	Analyzer serial #	0701120011

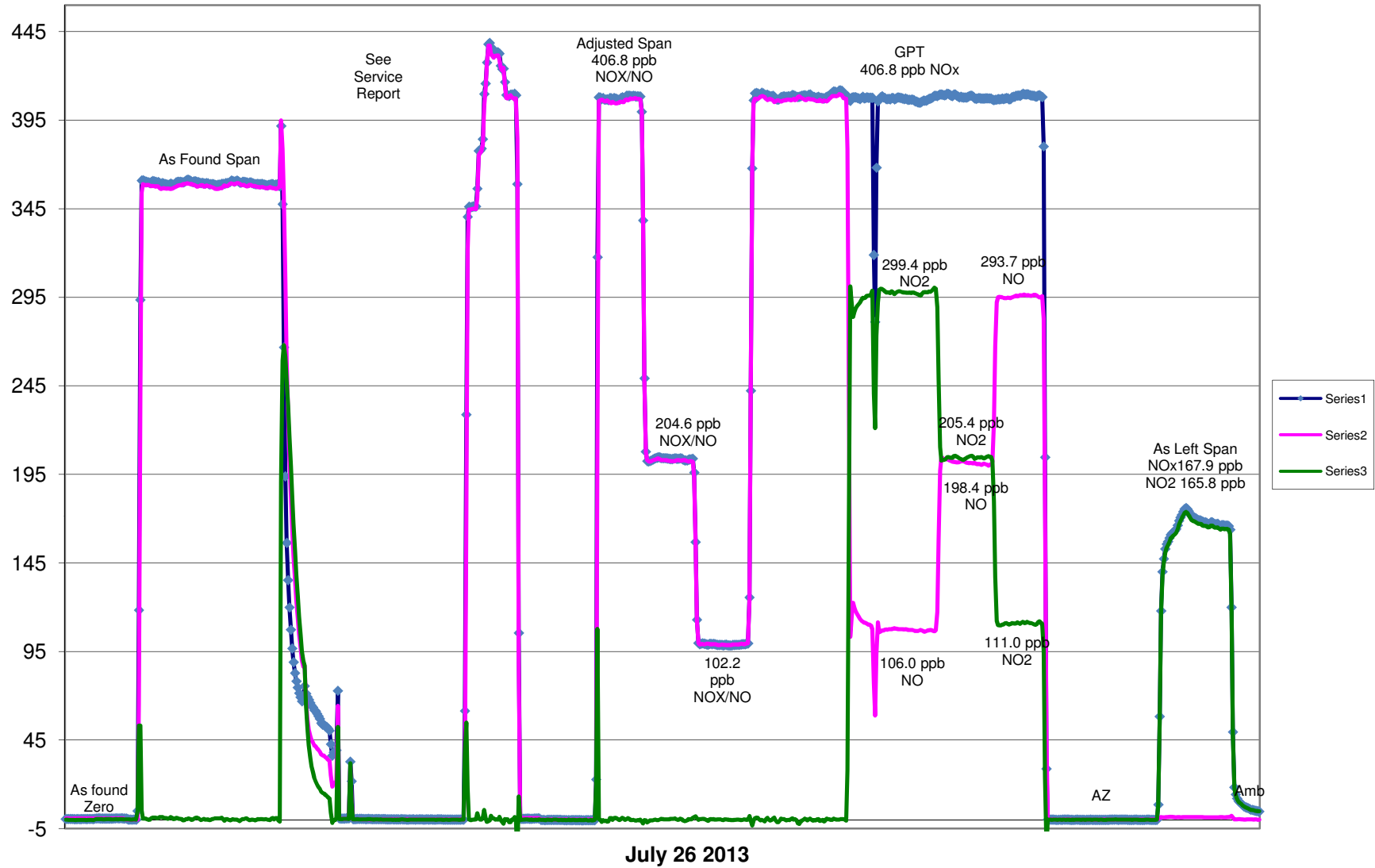
Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.7	N/A	Correlation Coefficient	0.999922
406.8	406.0	1.0021		
204.2	202.8	1.0067		
102.0	98.9	1.0312	Slope	1.001174
			Intercept	0.947152

NO Calibration Curve



PASZA Sunset House NO_x Calibration



Calibration Report



Parameter TRS

Air Monitoring Network PAZA

Station Information

Calibration Date	July 26 2013	Previous Calibration	June 21 2013
Station Name	PAZA Rover	Station Location	Sunset House
Reason:	Routine	Install	Removal
		Other:	
Start Time (MST)	1:50 PM	End Time (MST)	18:10
Barometric Pressure	0.915 Atm	Station Temperature	20.0 Deg C
Calibrator	Enviroics 6100	Serial Number	3474
Cal Gas Concentration	10.1 ppm	Cal Gas Expiry Date	5/11/13
Gas Cert Reference	LL160692		
DACS make	CR3000	DACS serial No.	5407
DACS voltage range	0 - 5 Volt	DACS channel #	1
	<u>Before</u>		<u>After</u>
DACS Scale High	100	DACS slope	100
DACS Scale Low	0	DACS intercept	0
Calculated slope	0.995604	Calculated slope	0.985600
Calculated intercept	0.330038	Calculated intercept	0.630213
Analyzer make	TEI 43C	Analyzer serial #	609716238

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Background	15.4	ppb	16.0	ppb
Coefficient	1.399		1.032	
Lamp Voltage	832	V	770	V
Chamber Temp	43.9	C	43.9	C
Perm gas Temp	45	C	45	C
Pressure	649.0	mmHg	650.0	mmHg
Sample Flow	0.440	ccm	0.440	ccm
Lamp Intensity	38557	Hz	39459	Hz

Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4995	0.0	0.0	-0.1	N/A
4995	39.93	80.1	80.8	0.9915
4995	19.96	40.2	39.9	1.0064
9995	9.97	10.1	9.1	1.1038
4995	9.97	102.8	0.6	Sox Test
4995	0.00	0.0	-1.2	As found zero
4995	39.93	80.1	66.9	As found span
Average Correction Factor				1.0339

Calculated value of As Found Response: 68.10 ppm Percent Change of As Found: 15.0%

	before calibration		after calibration	
Auto zero	4.6	ppm	0.2	ppm
Auto span	67.1	ppm	65.4	ppm

Notes: Problems with flash lamp & socket. Replaced lamp with used one, hopefully it will hold until next cal.
Adjusted PMT, lamp voltage, zero & span. Severe thunder storm.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter TRS

Air Monitoring Network PAZA



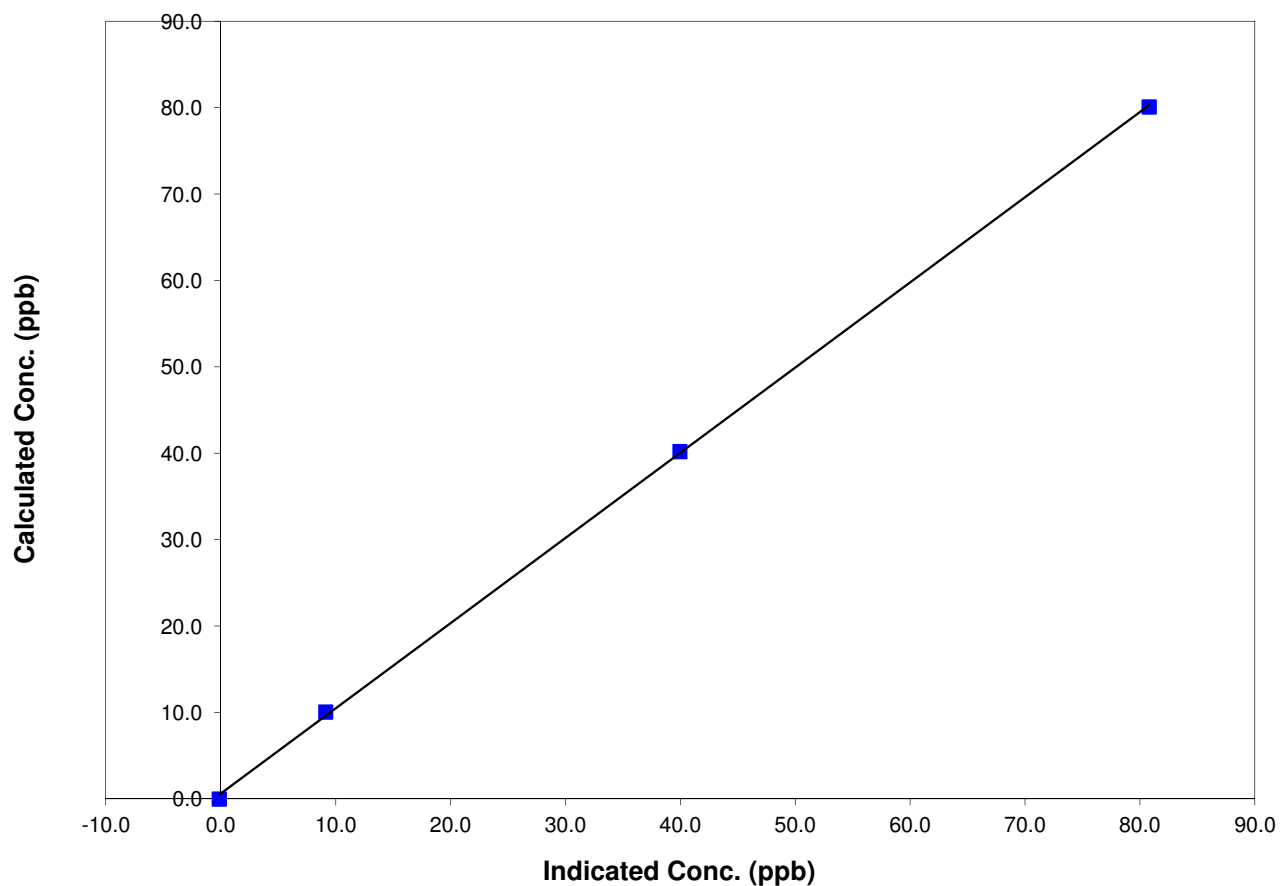
Station Information

Calibration Date	July 26 2013	Previous Calibration	June 21 2013
Station Number	PAZA Rover	Station Location	Sunset House
Start Time (MST)	13:50	End Time (MST)	18:10
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	-0.1	N/A	Correlation Coefficient	0.999869
80.1	80.8	0.9915		
40.2	39.9	1.0064		
10.1	9.1	1.1038	Slope	0.985600
			Intercept	0.630213

TRS Calibration Curve



TRS Calibration



July 26 2013

Calibration Report



Parameter SO₂

Air Monitoring Network PAZA

Station Information

Calibration Date	July 27, 2013	Previous Calibration	June 22, 2013
Station Number	1	Station Location	Falher
Reason:	☒ Routine	☐ Install	☐ Removal
		☐ Other:	
Start Time (MST)	9:42	End Time (MST)	12:03
Barometric Pressure	0.917 ATM	Station Temperature	20.0 Deg C
Calibrator	EnviroNics	Serial Number	3474
Cal Gas Concentration	51.5 ppm	Cal Gas Expiry Date	2/25/25
Correction factor	0.031171	Cal Gas Cylinder #	LL105159
DACS make	CR1000	DACS serial No.	3980
DACS voltage range	0 - 5 volt	DACS channel #	6
	Before		After
Calculated slope	0.997391	Calculated slope	0.996517
Calculated intercept	3.483003	Calculated intercept	3.058153
Analyzer make	Teco 43i	Analyzer serial #	1207452008

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
Background	7.1		6.5	
coefficient	0.936		0.936	
Lamp Voltage	820	volts	820	volts
Chamber Temp	45	Deg C	45	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	679.4	mm Hg	680.6	mm Hg
Sample Flow	0.420	ccm	0.422	ccm
Lamp Intensity	96	%	96	%

Dilution air flow rate (cc/min)	Corrected gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4995	0.0	0.00	-0.5	N/A
4995	39.93	408.4	407.8	1.0015
4995	19.96	205.0	201.9	1.0151
4995	9.97	102.6	97.0	1.0580
4995	0.0	0.0	-0.5	As Found Zero
4995	39.93	408.4	407.8	As Found Span
Average Correction Factor				1.0249

Calculated value of As Found Response: 410.743 ppm Percent Change of As Found: **-0.6%**

	before calibration		after calibration	
Auto zero	0.5	ppm	0.2	ppm
Auto span	359.4	ppm	344.1	ppm

Notes: No adjustments made.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter SO2

Air Monitoring Network PAZA



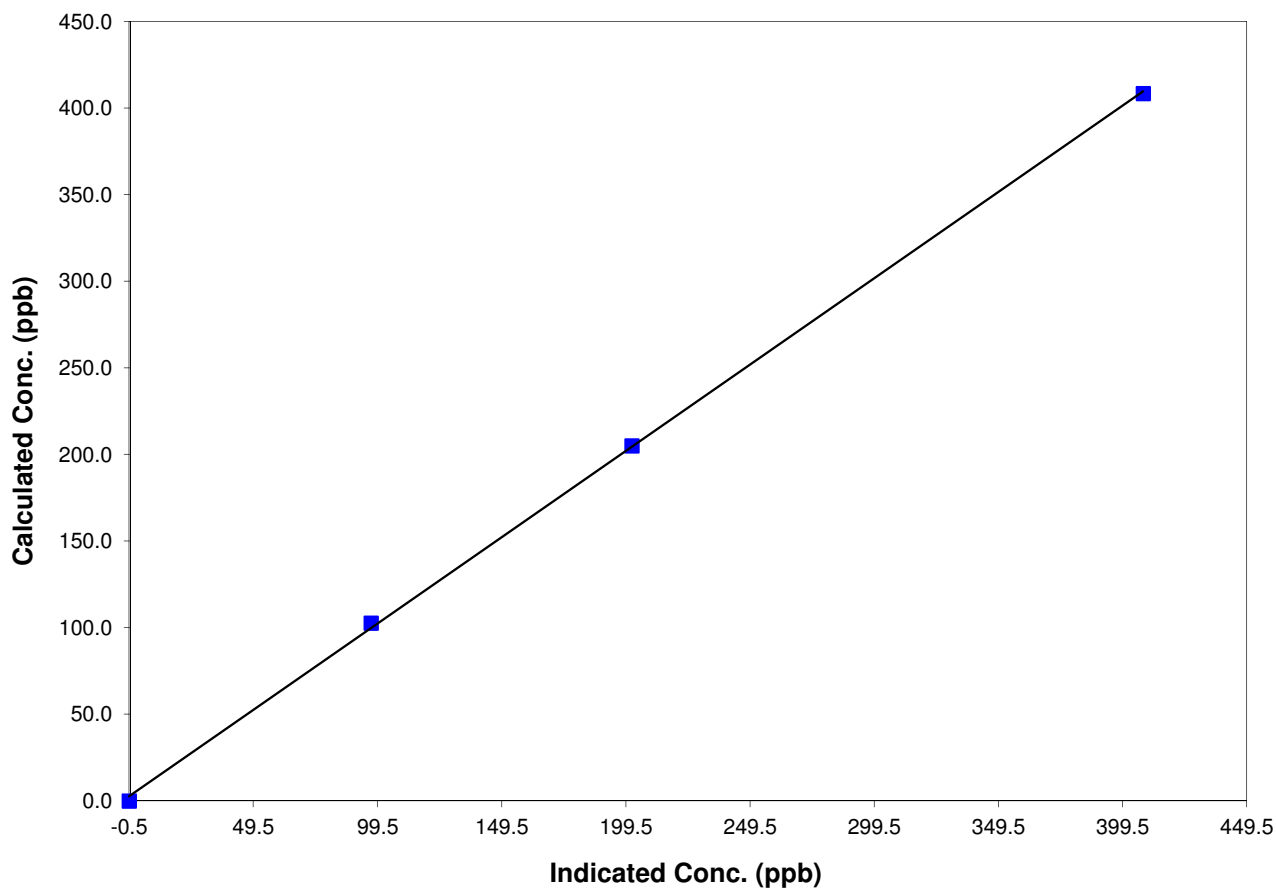
Station Information

Calibration Date	July 27, 2013	Previous Calibration	June 22, 2013
Station Number	1	Station Location	Falher
Start Time (MST)	9:42	End Time (MST)	12:03
Analyzer make/model	Teco 43i	Analyzer serial #	1207452008

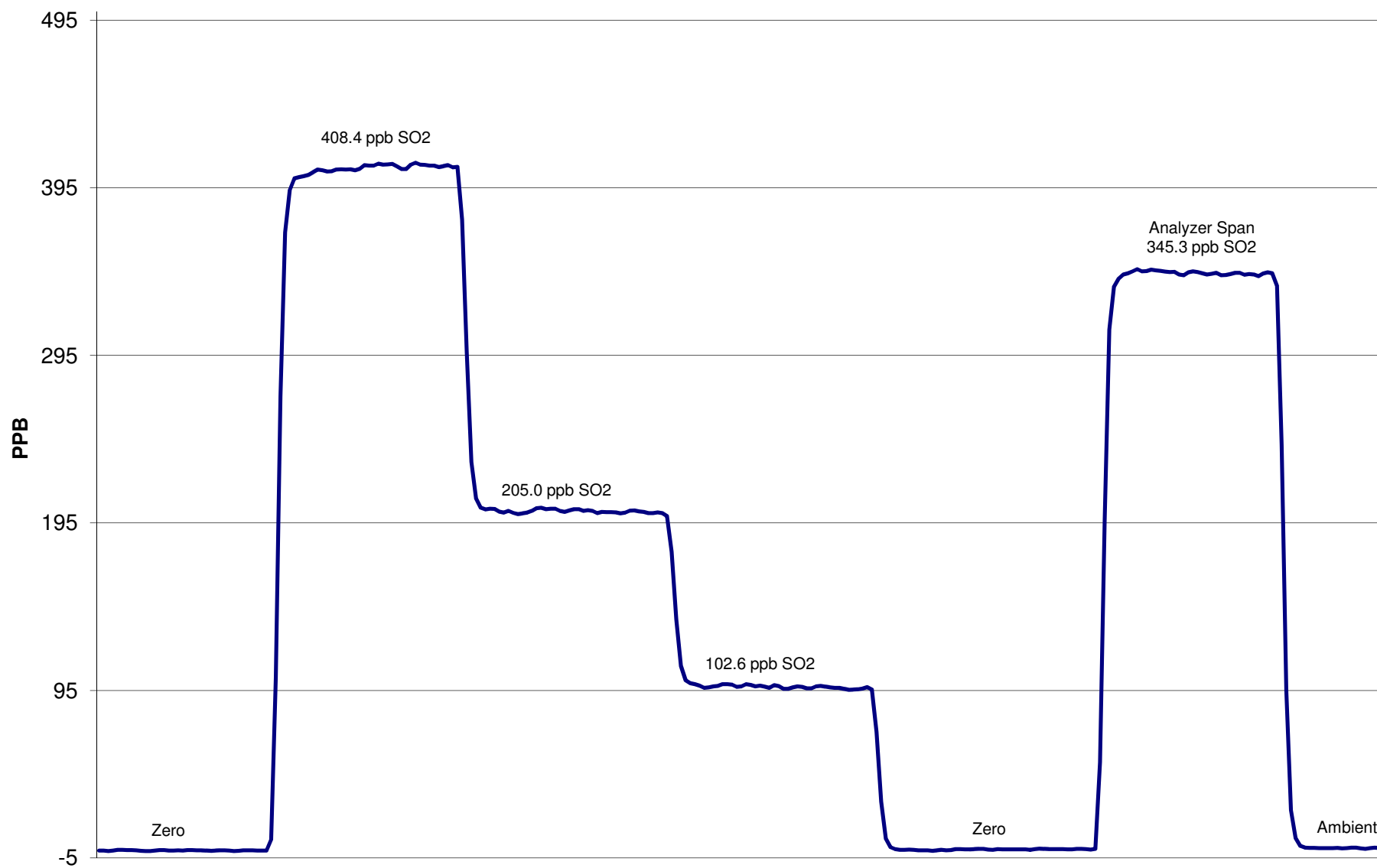
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.5	N/A		
408.4	407.8	1.0015	Correlation Coefficient	0.999818
205.0	201.9	1.0151		
102.6	97.0	1.0580	Slope	0.996517
			Intercept	3.058153

SO2 Calibration Curve



SO2 Calibration



July 27, 2013

Calibration Report



Parameter H2S

Air Monitoring Network PAZA

Station Information

Calibration Date	July 27, 2013	Previous Calibration	June 22, 2013
Station Number	1	Station Location	Falher
Reason:	☒ Routine	☐ Install	☐ Removal
			Other:

Start Time (MST)	8:00	End Time (MST)	10:32
Barometric Pressure	0.931 ATM	Station Temperature	20.0 Deg C
Calibrator	EnviroNics	Serial Number	3474
Cal Gas Conc	10.1 ppm	Cal Gas Expiry Date	11/05/13
Correction factor	0.031647	Cal Gas Cylinder #	LL160692
DACS make	CR1000	DACS serial No.	3980
DACS voltage range	0 - 5 volt	DACS channel #	5
	<u>Before</u>		<u>After</u>
Calculated slope	1.006644	Calculated slope	0.995667
Calculated intercept	0.333306	Calculated intercept	0.361600

Analyzer make	Thermo 450i	Analyzer serial #	1207452006
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	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Background	12.4	ppb	12.4	ppb
coefficient	1.169		1.169	
Lamp Voltage	789	volts	789	volts
Chamber Temp	45	Deg C	45	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	570.9	mm Hg	570.1	mm Hg
Sample Flow	0.932	ccm	0.932	ccm
Lamp Intensity	90	mv	90	mv

Calibration Data

Dilution air flow rate (cc/min)	Corrected gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4995	0.00	0.00	-0.2	N/A
4995	39.93	80.10	80.2	0.9986
4995	19.96	40.20	39.8	1.0109
8994	8.97	10.06	9.7	1.0414
4995	0.00	0.00	-0.2	As Found Zero
4995	39.93	80.10	80.2	As Found Span
Average Correction Factor				1.0169

Calculated value of As Found Response: 81.25 ppm Percent Change of As Found: **-1.4%**

	before calibration		after calibration	
Auto zero	0.0	ppm	0.4	ppm
Auto span	51.2	ppm	52.6	ppm

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

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter H2S

Air Monitoring Network PAZA



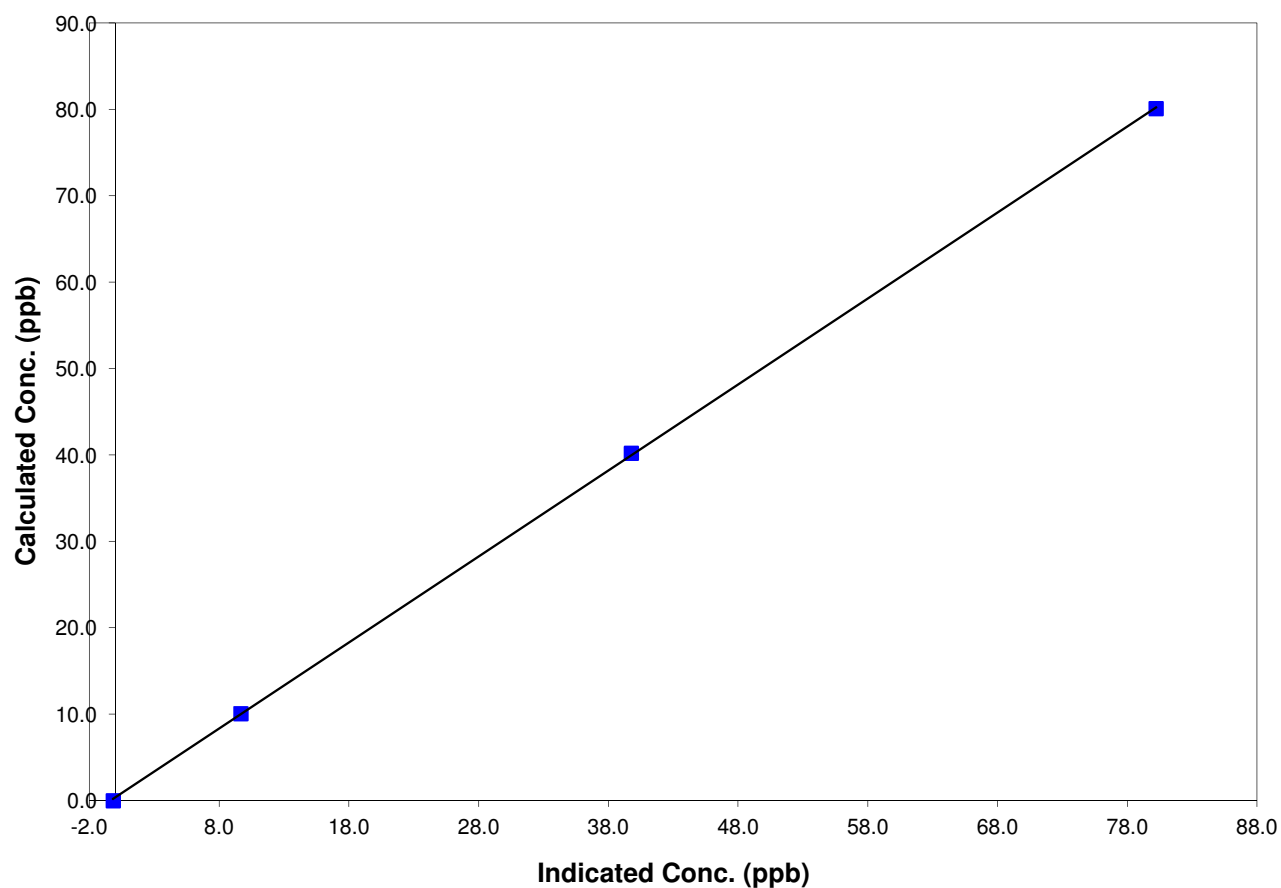
Station Information

Calibration Date	July 27, 2013	Previous Calibration	June 22, 2013
Station Number	1	Station Location	Falher
Start Time (MST)	8:00	End Time (MST)	10:32
Analyzer make/model	Thermo 450i	Analyzer serial #	1207452006

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.2	N/A		
80.1	80.2	0.9986	Correlation Coefficient	0.999969
40.2	39.8	1.0109		
10.1	9.7	1.0414	Slope	0.995667
			Intercept	0.361600

TRS Calibration Curve



H2S Calibration

