



Peace Airshed Zone Association

Ambient Air Monitoring Network Summary

**Continuous Ambient Air Quality Monitoring Program
Monthly Report
July 2016**

August 31, 2016

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

RE: Peace Airshed Zone Association (PAZA) – July 2016 Ambient Air Report

Enclosed is the PAZA Ambient Monitoring Network Report for the month of July 2016.

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
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
	Gold Creek	13-26-067-05-W6	00010446-02-00

Company	Facility	LSD	EPEA Approval Number
	Teepee Creek	SE-2-074-04-W6	00001635-02-00
	Sturgeon/Valleyview	02-02-069-22-W5	1633-02-00
Canfor Forest Products	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
Exshaw Oil Corporation	Spirit River	03-10-077-07-W6	344521-00-00
Grande Prairie Generation Inc.	Northern Prairie Power Project	04-19-073-08-W6	00238762-00-00
Long Run Exploration	Eaglesham	01-25-076-01-W6	00241532-00-00
	Kakut	14-12-075-03-W6	00248469-00-00
	Donnelly	06-01-077-21-W5	00000087-02-00
	Puskwaskau	03-26-074-01-W6	00017524-01-00
Longview Oil Corp.	Sunset House	06-22-070-20-W5	138884-01-00
Penn West Petroleum Ltd.	Tangent	13-29-080-23-W5	00001746-02-00

Company	Facility	LSD	EPEA Approval Number
	Pouce Coupe	16-07-078-11-W6	00000614-01-00
Petrus Resources	Rycroft	08-25-077-06-W6	11351-02-00
	Spirit River	08-34-077-06-W6	11096-02-00
Spectra Energy Midstream Corporation	Fourth Creek	16-11-082-09-W6	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: Six (6) Stations including Henry Pirker (Grande Prairie), Evergreen Park, Smoky Heights, Beaverlodge, Valleyview, and Rycroft-Portable.

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.
- ◆ 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.

Valleyview Station:

- ◆ The measured ambient air quality was within the AAAQO for the Valleyview station, with the exception of one (1) H₂S exceedance of the 1-hour objective of 10 ppb:
 - o July 3 06:00h 11 ppb Alberta Environment Reference # 313315
- ◆ An H₂S exceedance was also reported for July 12 at 19:00h, however, following monthly QA/QC the hourly average did not exceed the AAAQO (Alberta Environment Reference # 313753).
- ◆ All analyzers and sensors at the Valleyview station had an operational uptime greater than 90% for the month of July.

Rycroft-Portable Station:

- ◆ The measured ambient air quality was within the AAAQO for the Rycroft-Portable station.
- ◆ All analyzers and sensors at the Rycroft-Portable 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: Fourth Creek, Karr Creek, Crooked Creek, McLennan, and Girouxville 4 (H₂S). 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 0.0 ppb to 0.4 ppb, with a mean of 0.1 ppb.
- Monthly average concentrations for NO₂ passives ranged from 0.1 ppb to 0.9 ppb, with a mean of 0.4 ppb.
- Monthly average concentrations for O₃ passives ranged from 14.2 ppb to 30.4 ppb, with a mean of 21.3 ppb.
- Monthly average concentrations for H₂S passives ranged from 0.2 ppb to 0.3 ppb, with a mean of 0.2 ppb.

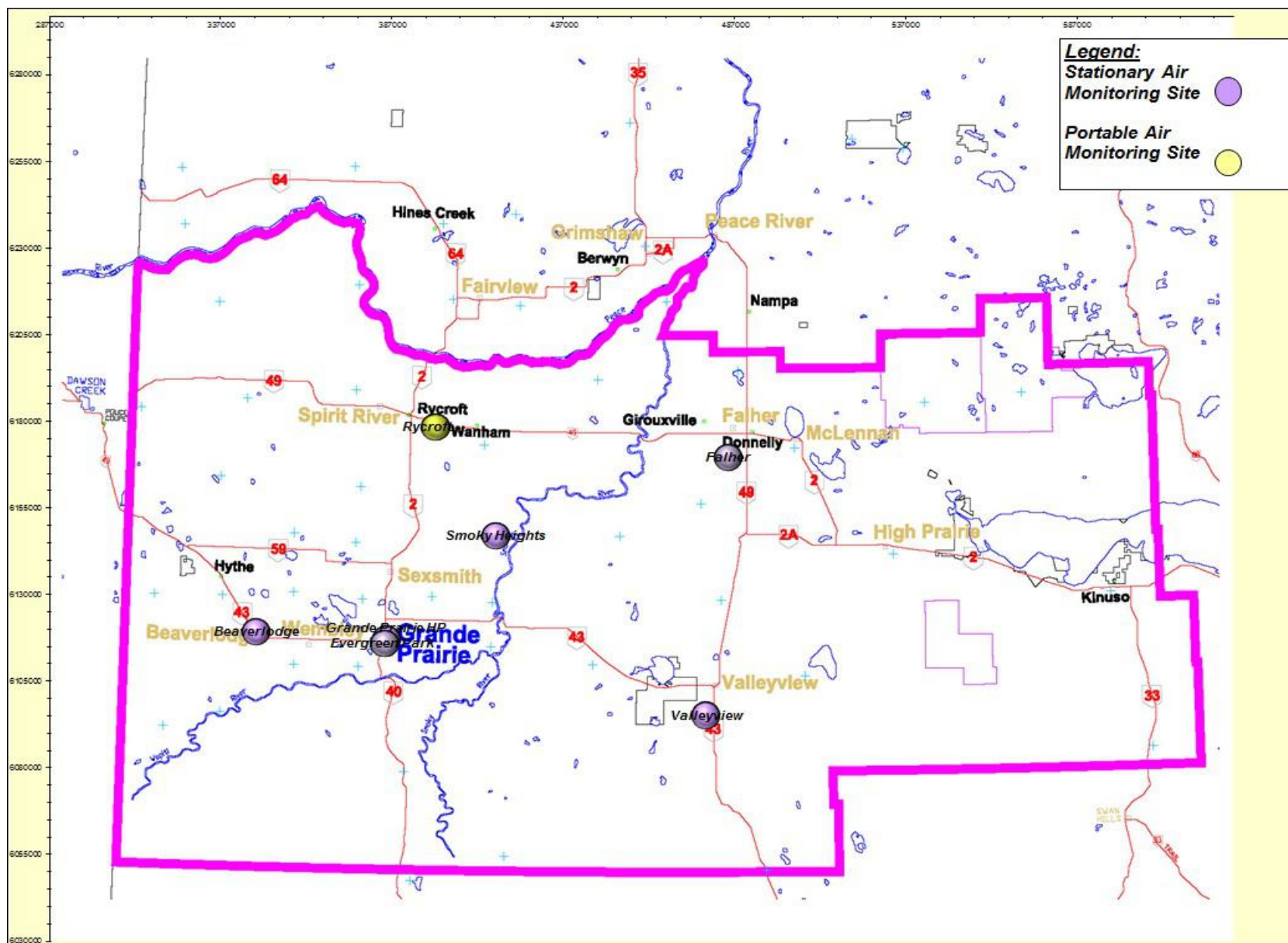
If you have any questions or concerns, please contact Patrick Andersen at 403.505.1041 or the PAZA office at 780.833.4343.

On Behalf of the
Peace Airshed Zone Association



Patrick Andersen, B.Sc.
Program Manager

Location of PAZA Continuous Monitoring Stations



PAZA Monthly Continuous Data Summary

Jul-2016Peace 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 (%)	Calibration Date
	1-hr	24-hr			1-hr	24-hr						
SO ₂ (ppb)	172	48	Henry Pirker	0.0	0	0	1.0	Jul-09 03:00	0.1	Jul-09	100.0%	Jul-06
SO ₂ (ppb)	172	48	Evergreen Park	0.1	0	0	0.8	Jul-30 09:00	0.2	Jul-30	100.0%	Jul-19
SO ₂ (ppb)	172	48	Smoky Heights	0.3	0	0	6.5	Jul-21 08:00	0.9	Jul-21	100.0%	Jul-28
SO ₂ (ppb)	172	48	Beaverlodge	0.1	0	0	1.6	Jul-28 01:00	0.2	Jul-09	100.0%	Jul-13
SO ₂ (ppb)	172	48	Valleyview	0.6	0	0	10.2	Jul-31 14:00	3.3	Jul-31	100.0%	Jul-20
SO ₂ (ppb)	172	48	Falher-Idle	-	0	0	-	-	-	-	-	-
SO ₂ (ppb)	172	48	Rycroft-Portable	0.1	0	0	2.1	Jul-11 00:00	0.4	Jul-10	100.0%	Jul-08
NO (ppb)			Henry Pirker	0.7	0	0	10.6	Jul-15 08:00	1.2	Jul-15	100.0%	Jul-06
NO ₂ (ppb)	159	106	Henry Pirker	2.8	0	0	16.1	Jul-01 01:00	5.0	Jul-01	100.0%	Jul-06
NO _x (ppb)			Henry Pirker	3.8	0	0	20.8	Jul-15 08:00	6.1	Jul-01	100.0%	Jul-06
NO (ppb)			Beaverlodge	0.3	0	0	6.1	Jul-15 08:00	0.7	Jul-18	100.0%	Jul-13
NO ₂ (ppb)	159	106	Beaverlodge	1.9	0	0	10.1	Jul-18 06:00	2.9	Jul-18	100.0%	Jul-13
NO _x (ppb)			Beaverlodge	2.1	0	0	11.9	Jul-15 08:00	3.6	Jul-18	100.0%	Jul-13
NO (ppb)			Rycroft-Portable	0.2	0	0	2.6	Jul-06 09:00	0.6	Jul-05	100.0%	Jul-08
NO ₂ (ppb)	159	106	Rycroft-Portable	1.3	0	0	4.6	Jul-05 23:00	1.8	Jul-05	100.0%	Jul-08
NO _x (ppb)			Rycroft-Portable	1.5	0	0	5.9	Jul-06 09:00	2.3	Jul-05	100.0%	Jul-08
O ₃ (ppb)	82		Henry Pirker	22.4	0	-	41.8	Jul-18 19:00	29.6	Jul-30	100.0%	Jul-06
O ₃ (ppb) - 8-hr			Henry Pirker		0				38.4	Jul-18		-
O ₃ (ppb)	82		Beaverlodge	22.3	0	-	43.6	Jul-18 19:00	31.6	Jul-18	100.0%	Jul-13
O ₃ (ppb) - 8-hr			Beaverlodge		0				42.0	Jul-18		-
O ₃ (ppb)	82		Rycroft-Portable	20.4	0	-	41.1	Jul-30 11:00	24.7	Jul-30	100.0%	Jul-08
O ₃ (ppb) - 8-hr			Rycroft-Portable		0				35.8	Jul-16		-
CO (ppm)	13		Henry Pirker	0.14	0	-	0.7	Jul-01 01:00	0.2	Jul-01	100.0%	Jul-07
CO (ppm) - 8-hr	5		Henry Pirker		0				0.4	Jul-01		-

PAZA Monthly Continuous Data Summary – continued

Jul-2016 Peace Airshed Zone Association							Maximum Recorded Values					
							1-hr		24-hr / 8-hr			
THC (ppm)			Henry Pirker	2.0	-	-	3.3	Jul-29 06:00	2.2	Jul-18	96.9%	Jul-27
CH ₄ (ppm)			Henry Pirker	2.0	-	-	3.3	Jul-29 06:00	2.2	Jul-18	96.9%	Jul-27
NMHC (ppm)			Henry Pirker	0.0	-	-	0.0	Jul-26 18:00	0.0	Jul-26	96.9%	Jul-27
THC (ppm)			Rycroft-Portable	1.8	-	-	2.1	Jul-13 05:00	1.9	Jul-13	100.0%	Jul-09
TRS (ppb)			Henry Pirker	0.3	-	-	5.0	Jul-11 01:00	0.6	Jul-10	100.0%	Jul-09
TRS (ppb)			Evergreen Park	0.3	-	-	0.9	Jul-19 23:00	0.4	Jul-14	100.0%	Jul-19
TRS (ppb)			Smoky Heights	0.2	-	-	0.8	Jul-18 06:00	0.3	Jul-16	100.0%	Jul-28
TRS (ppb)			Rycroft-Portable	0.3	-	-	0.8	Jul-29 03:00	0.5	Jul-28	100.0%	Jul-09
H ₂ S (ppb)	10	3	Valleyview	0.3	1	0	11.3	Jul-03 06:00	1.0	Jul-12	100.0%	Jul-21
H ₂ S (ppb)	10	3	Falher-Idle	-	0	0	-	-	-	-	-	-
PM _{2.5} (µg/m3)	80	30	Henry Pirker	5.5	0	0	38.1	Jul-01 01:00	16.4	Jul-17	99.9%	Jun-10
PM _{2.5} (µg/m3)	80	30	Evergreen Park	3.7	0	0	32.5	Jul-23 11:00	12.0	Jul-17	99.6%	Jun-14
PM _{2.5} (µg/m3)	80	30	Smoky Heights	5.7	0	0	50.8	Jul-17 22:00	15.5	Jul-17	99.9%	Jun-06
PM _{2.5} (µg/m3)	80	30	Beaverlodge	4.9	0	0	22.6	Jul-17 02:00	15.4	Jul-17	100.0%	Jun-22
PM _{2.5} (µg/m3)	80	30	Rycroft-Portable	2.7	0	0	27.2	Jul-18 21:00	9.3	Jul-17	100.0%	Mar-03
RH (%)			Henry Pirker	62.4	-	-	90.8	Jul-02 06:00	80.7	Jul-31	100.0%	-
RH (%)			Evergreen Park	68.1	-	-	100.0	Jul-02 04:00	87.9	Jul-31	100.0%	-
RH (%)			Beaverlodge	71.7	-	-	100.0	Jul-02 01:00	93.4	Jul-31	100.0%	-
RH (%)			Valleyview	66.4	-	-	100.0	Jul-02 05:00	90.7	Jul-31	100.0%	-
SR (W/m ²)			Henry Pirker	220.8	-	-	864.4	Jul-09 13:00	285.0	Jul-04	100.0%	-
Temp (°C)			Henry Pirker	18.0	-	-	29.9	Jul-29 15:00	21.8	Jul-28	100.0%	-
Temp (°C)			Evergreen Park	17.2	-	-	28.0	Jul-28 17:00	20.6	Jul-28	100.0%	-
Temp (°C)			Smoky Heights	16.7	-	-	27.0	Jul-27 17:00	20.2	Jul-28	100.0%	-
Temp (°C)			Beaverlodge	16.5	-	-	26.4	Jul-28 19:00	20.8	Jul-28	100.0%	-
Temp (°C)			Valleyview	17.4	-	-	28.4	Jul-27 20:00	20.7	Jul-27	100.0%	-
Temp (°C)			Falher-Idle	-	-	-	-	-	-	-	-	-
Temp (°C)			Rycroft-Portable	17.3	-	-	29.0	Jul-19 15:00	20.0	Jul-27	100.0%	-

PAZA Monthly Continuous Data Summary – continued

Jul-2016Peace Airshed Zone Association							Maximum Recorded Values					
							1-hr		24-hr / 8-hr			
WSPD s (km/hr)			Henry Pirker	6.6	-	-	28.0	Jul-24 11:00	16.5	Jul-23	100.0%	-
WSPD s (km/hr)			Evergreen Park	10.4	-	-	42.0	Jul-23 14:00	25.0	Jul-23	100.0%	-
WSPD s (km/hr)			Smoky Heights	10.1	-	-	34.0	Jul-22 13:00	21.6	Jul-24	100.0%	-
WSPD s (km/hr)			Beaverlodge	9.8	-	-	38.0	Jul-24 17:00	22.5	Jul-23	100.0%	-
WSPD s (km/hr)			Valleyview	3.6	-	-	15.0	Jul-23 14:00	7.6	Jul-23	100.0%	-
WSPD s (km/hr)			Falher-Idle	-	-	-	-	-	-	-	-	-
WSPD s (km/hr)			Rycroft-Portable	7.7	-	-	30.0	Jul-24 18:00	15.0	Jul-24	100.0%	-
WSPD v (km/hr)			Henry Pirker	3.9	-	-	27.0	Jul-24 11:00	16.2	Jul-23	100.0%	-
WSPD v (km/hr)			Evergreen Park	6.5	-	-	41.0	Jul-24 17:00	24.1	Jul-23	100.0%	-
WSPD v (km/hr)			Smoky Heights	6.1	-	-	34.0	Jul-22 16:00	20.9	Jul-24	100.0%	-
WSPD v (km/hr)			Beaverlodge	4.8	-	-	38.0	Jul-24 17:00	22.0	Jul-23	100.0%	-
WSPD v (km/hr)			Valleyview	1.9	-	-	15.0	Jul-23 14:00	7.0	Jul-23	100.0%	-
WSPD v (km/hr)			Falher-Idle	-	-	-	-	-	-	-	-	-
WSPD v (km/hr)			Rycroft-Portable	3.6	-	-	30.0	Jul-24 18:00	13.2	Jul-24	100.0%	-
WDIR			Henry Pirker	SW	-	-	-	-	-	-	100.0%	-
WDIR			Evergreen Park	WSW	-	-	-	-	-	-	100.0%	-
WDIR			Smoky Heights	SW	-	-	-	-	-	-	100.0%	-
WDIR			Beaverlodge	W	-	-	-	-	-	-	100.0%	-
WDIR			Valleyview	WNW	-	-	-	-	-	-	100.0%	-
WDIR			Falher-Idle	-	-	-	-	-	-	-	-	-
WDIR			Rycroft-Portable	SW	-	-	-	-	-	-	100.0%	-

Continuous Network Equipment Summary

PAZA – Henry Pirker Station

General Station Issues

Parameter	Make	Model	Notes
SO ₂	TEI	43i	No operational issues observed.
NOx/NO/NO ₂	TEI	42i	No operational issues observed.
O ₃	TEI	49i	No operational issues observed.
CO	TEI	48C	No operational issues observed.
THC/CH ₄ /NMHC	TEI	55i	23 hours of data is flagged as “maintenance” on July 6-7 while the column conditioning procedure was completed, resulting in a monthly uptime of 96.9%.
TRS	TEI	45C/43C	No operational issues observed.
PM _{2.5}	Sharp	5030	The PM _{2.5} analyzer returned an uptime of 99.9% due to one hour of invalid data being recorded during the month of July.
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

Parameter	Make	Model	Notes
SO ₂	TEI	43i	No operational issues observed.
TRS	TEI	43C	No operational issues observed.
PM _{2.5}	Sharp	5030	The PM _{2.5} analyzer returned an uptime of 99.6% due to one hour of invalid data being recorded and two hours of routine maintenance.
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

Parameter	Make	Model	Notes
SO ₂	TEI	43C	No operational issues observed.
TRS	TEI	43C	No operational issues observed.
PM _{2.5}	Sharp	5030	The PM _{2.5} analyzer returned an uptime of 99.9% due to one hour of routine maintenance.
ET	Met One	083D	No operational issues observed.
WS / WD	Met One	010C/020C	No operational issues observed.

PAZA – Beaverlodge Station

General Station Issues

Parameter	Make	Model	Notes
SO ₂	TEI	43CTL	No operational issues observed.
NO _x /NO/NO ₂	TEI	42C	No operational issues observed.
O ₃	TEI	49C	No operational issues observed.
PM _{2.5}	Sharp	5030	No operational issues observed.
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

Parameter	Make	Model	Notes
SO ₂	TEI	43i	No operational issues observed.
H ₂ S	TEI	43A	One (1) exceedance of the 1-hour AAAQO (10 ppb) occurred on July 3 at 06:00h. The concentration recorded was 11 ppb. Refer to the attached non-compliance report for details (AEP #313315).
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-Rycroft

General Station Issues

Parameter	Make	Model	Notes
SO ₂	TEI	43i	No operational issues observed.
NO _x	TEI	42i	No operational issues observed.
O ₃	TEI	49i	No operational issues observed.
TRS	TEI	39C	No operational issues observed.
THC	TEI	51C	No operational issues observed.
PM _{2.5}	Sharp	5030	No operational issues observed.
ET	Gill	Met Pak 3	No operational issues observed.
WS / WD	Gill	Met Pak 3	No operational issues observed.

PAZA

Henry Pirker Station

Monthly Summary Tables, Graphs and
Roses

Hourly Averages

Sulphur Dioxide (SO₂) - ppb

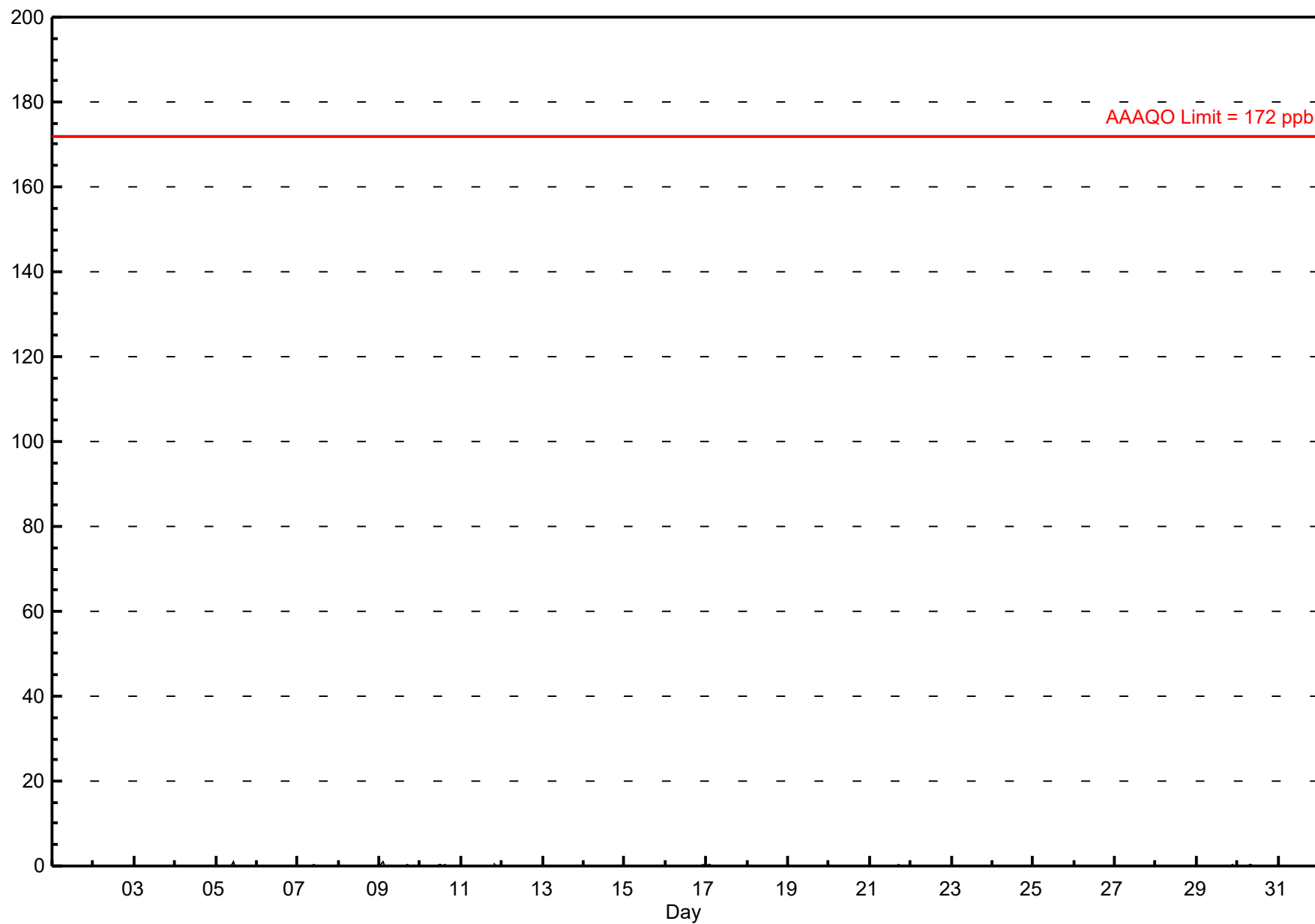
Henry Pirker - July 2016

Number of Exceedences (AAAQO):										1-hr: 0 24-hr: 0										Hours in Service: 744									
Maximum Value: 1.0 ppb on Jul 9 03:00										Maximum Daily Average: 0.1 ppb on Jul 9										Hours of Data: 707									
Minimum Value: 0 ppb on Jul 1 01:00										Minimum Daily Average: 0.0 ppb on Jul 18										Hours of Missing Data: 37									
Maximum Diurnal Average: 0.0 ppb at hour 3										Minimum Diurnal Average: 0.0 ppb at hour 6										Hours of Calibration: 37									
Monthly Average: 0.02 ppb										Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 0.0 P ₉₀ = 0.0 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	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0			
2-Jul	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0			
3-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	0.0			
4-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			
5-Jul	0	A	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.9			
6-Jul	A	0	0	0	0	0	0	0	C	C	C	C	0	0	0	0	0	0	0	0	0	0	0	A	0.0	0.0			
7-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	0.5			
8-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	0.0			
9-Jul	0	1	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			
10-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	0.4			
11-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	0	0	0	0	0.0	0.5			
12-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0.0	0.0			
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	0.2			
14-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.0	0.0			
15-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			
16-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			
17-Jul	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.0	0.3			
18-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	0.0			
19-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			
20-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			
21-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	0.2			
22-Jul	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1			
23-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			
24-Jul	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1			
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	0.0	0.0			
26-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	0.0			
27-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			
28-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			
29-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	0.2			
30-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	0.4			
31-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																									Diurnal Average				
0.1 0.7 1.0 0.1 0.0 0.0 0.0 0.2 0.4 0.5 0.9 0.2 0.2 0.0 0.4 0.0 0.2 0.2 0.1 0.5 0.1 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

Henry Pirker - July 2016



Hourly Maximums

Sulphur Dioxide (SO₂) - ppb

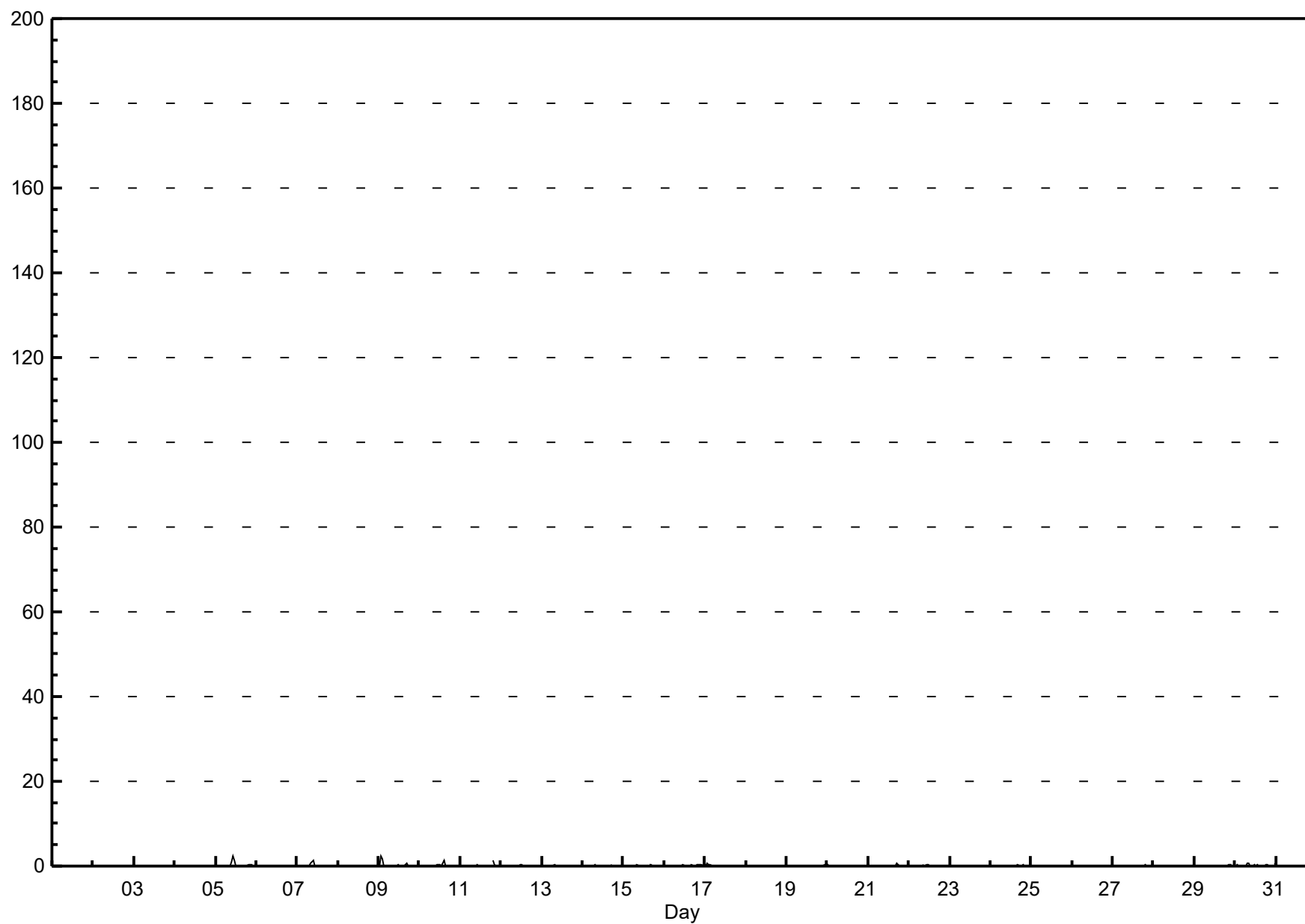
Henry Pirker - July 2016

Maximum Value: 2.5 ppb on Jul 5 11:00																			Maximum Daily Average: 0.3 ppb on Jul 5							Hours in Service: 744	
Minimum Value: 0 ppb on Jul 7 04:00																			Minimum Daily Average: 0.0 ppb on Jul 18							Hours of Data: 707	
Maximum Diurnal Average: 0.1 ppb at hour 11																			Minimum Diurnal Average: 0.0 ppb at hour 6							Hours of Missing Data: 37	
Monthly Average: 0.06 ppb																			Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 0.0 P ₉₀ = 0.2 P ₉₉ = 1.3							Hours of Calibration: 37	
																										Percent Operational Time: 100.0	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jul	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	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	0.0	0.2	
3-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	0.0	
4-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	
5-Jul	0	A	0	0	0	0	0	0	0	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0.3	2.5	
6-Jul	A	0	0	0	0	0	0	0	C	C	C	C	0	0	0	0	0	0	0	0	0	0	0	A	0.0	0.1	
7-Jul	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.1	1.3	
8-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	0.0	
9-Jul	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	A	0	0	0	0.3	2.5	
10-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	1.3	
11-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	0	0	0	0	0.1	1.3	
12-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	0.3	
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	0.3	
14-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.0	0.3	
15-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.1	0.3	
16-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	
17-Jul	0	1	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.1	0.5	
18-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	0.0	
19-Jul	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.4	
20-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	0.4	
21-Jul	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0.0	0.5	
22-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	0.4	
23-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	
24-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	
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	0.0	0.2	
26-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	
27-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	
28-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	0.2	
29-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	0.3	
30-Jul	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	0.2	0.7	
31-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	
0.0 0.1 0.1 0.0 0.0 0.0 0.0 0.1 0.1 0.1 0.1 0.1 0.1 0.0 0.1 0.0 0.1 0.0 0.0 0.1 0.1 0.0 0.1 0.1																									Diurnal Average		
0.4 2.5 1.8 0.3 0.2 0.1 0.2 0.7 0.7 1.3 2.5 1.4 0.4 0.3 1.3 0.3 0.6 0.5 0.3 1.3 0.4 0.3 0.4 0.7																									Diurnal Maximum		
C - Calibration																									A - Automated Daily Zero Span		

Hourly Maximums

Sulphur Dioxide (SO₂) - ppb

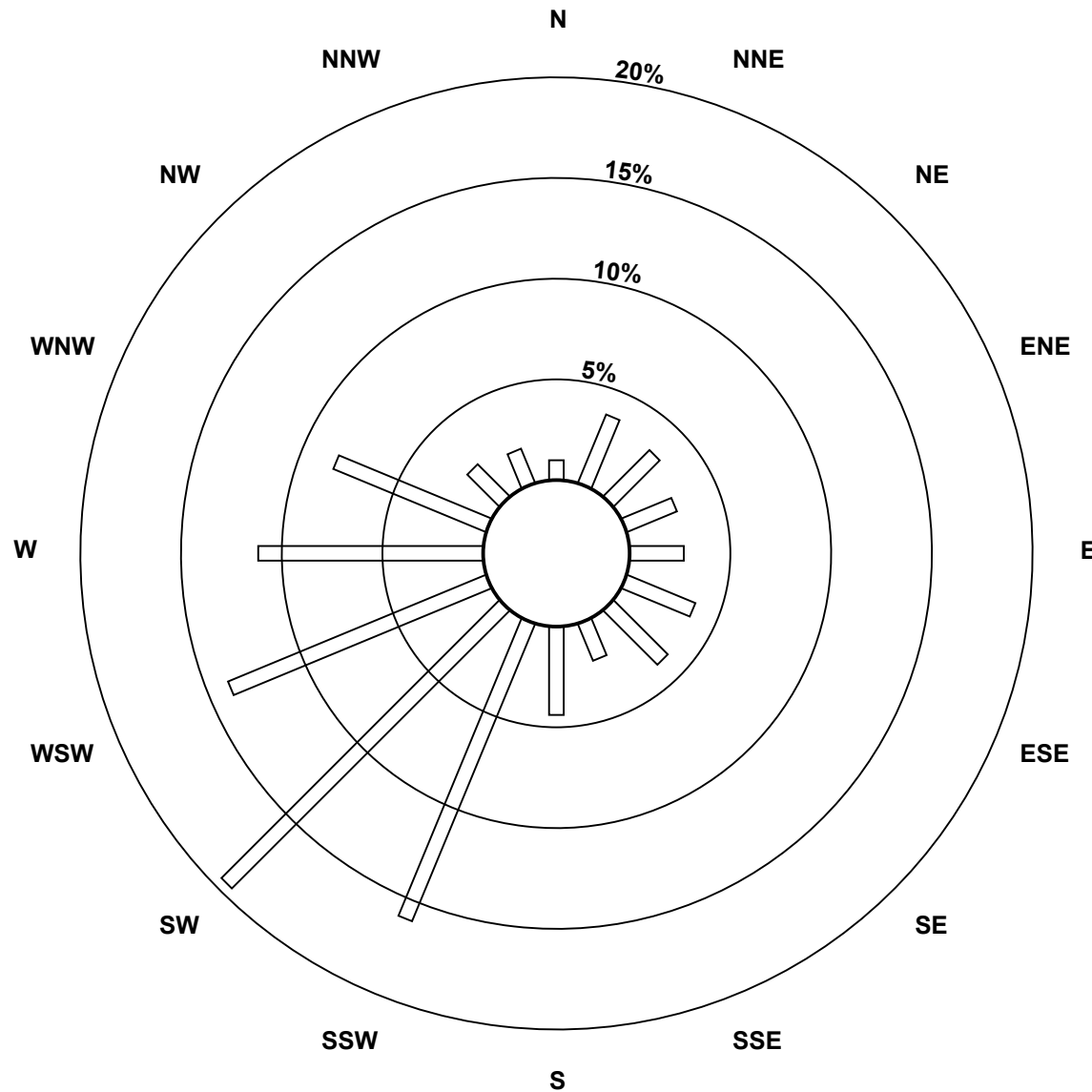
Henry Pirker - July 2016



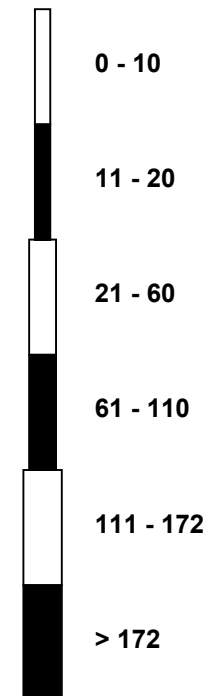
Pollutant Rose

Sulphur Dioxide (SO₂) - ppb

Henry Pirker - July 2016

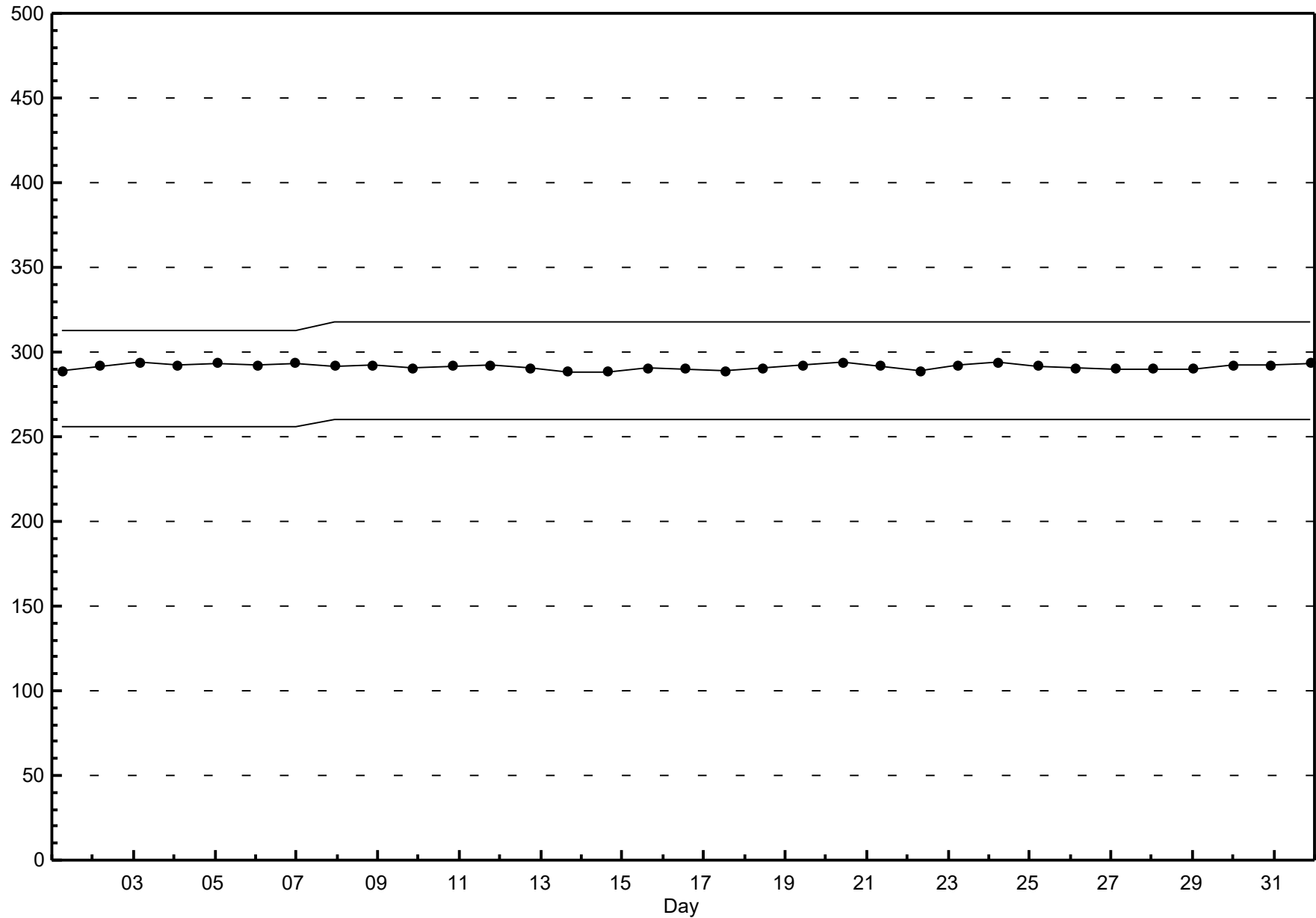


Pollutant Classes (ppb)



Span Responses

Sulphur Dioxide (SO₂)
Henry Pirker - July 2016



Hourly Averages

Total Reduced Sulphur (TRS) - ppb

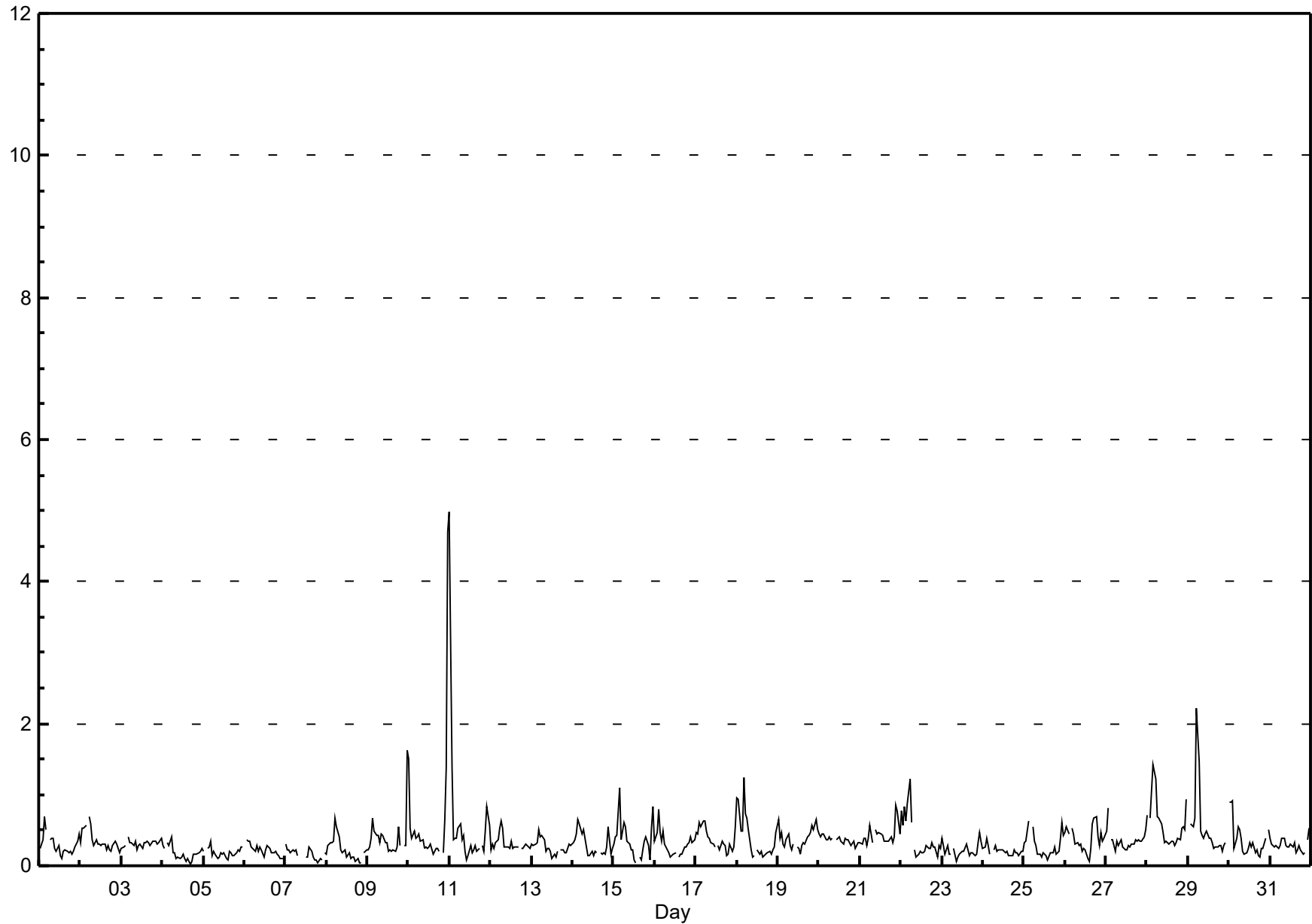
Henry Pirker - July 2016

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 5.0 ppb on Jul 11 01:00 Maximum Daily Average: 0.6 ppb on Jul 10																				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 4 17:00 Maximum Diurnal Average: 0.6 ppb at hour 1 Monthly Average: 0.34 ppb										Minimum Daily Average: 0.2 ppb on Jul 7 Minimum Diurnal Average: 0.2 ppb at hour 14 Percentiles: P ₁ = 0.1 P ₁₀ = 0.1 Q ₁ = 0.2 Median = 0.3 Q ₃ = 0.4 P ₉₀ = 0.6 P ₉₉ = 1.4																
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	0	0	0	1	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.7
2-Jul	0	1	1	1	A	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.7
3-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	0.3	0.4
4-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
5-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
6-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	0.4
7-Jul	0	0	0	0	0	0	0	0	C	C	C	C	0	0	0	0	0	0	0	0	0	0	A	0	0.2	0.3
8-Jul	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.2	0.7
9-Jul	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	A	0	0	2	0.4	1.6
10-Jul	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	1	1	5	0.6	4.7
11-Jul	5	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	1	1	0.6	5.0
12-Jul	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0.3	0.6
13-Jul	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0.3	0.5
14-Jul	0	0	0	1	1	0	1	0	0	0	0	0	0	0	0	A	0	0	0	0	0	1	0	0	0.3	0.7
15-Jul	0	0	0	1	0	0	1	1	0	0	0	0	0	0	A	0	0	0	0	0	0	0	1	1	0.4	1.1
16-Jul	0	0	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
17-Jul	0	0	1	1	1	1	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	1	0.4	0.6
18-Jul	1	1	0	0	1	1	1	1	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.4	1.2
19-Jul	1	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	1	1	1	1	0.4	0.6
20-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	0.4	0.5
21-Jul	0	0	0	0	0	0	1	0	A	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0.4	0.9
22-Jul	1	1	1	1	1	1	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	1.2
23-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	0.5
24-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
25-Jul	0	0	0	1	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0.3	0.6
26-Jul	0	1	0	A	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0.4	0.7
27-Jul	0	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.4	0.8
28-Jul	1	A	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0.6	1.4
29-Jul	A	1	1	1	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0.5	2.2
30-Jul	1	1	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	0	0.4	0.9
31-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	1	0	0.3	0.5
0.6 0.5 0.4 0.5 0.5 0.5 0.5 0.4 0.3 0.3 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.3 0.2 0.3 0.3 0.4 0.6																								Diurnal Average		
5.0 1.4 0.9 1.4 1.3 2.2 1.5 0.7 0.6 0.5 0.5 0.5 0.5 0.4 0.4 0.4 0.6 0.7 0.7 0.5 0.6 0.9 1.4 4.7																								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

Henry Pirker - July 2016



Hourly Maximums

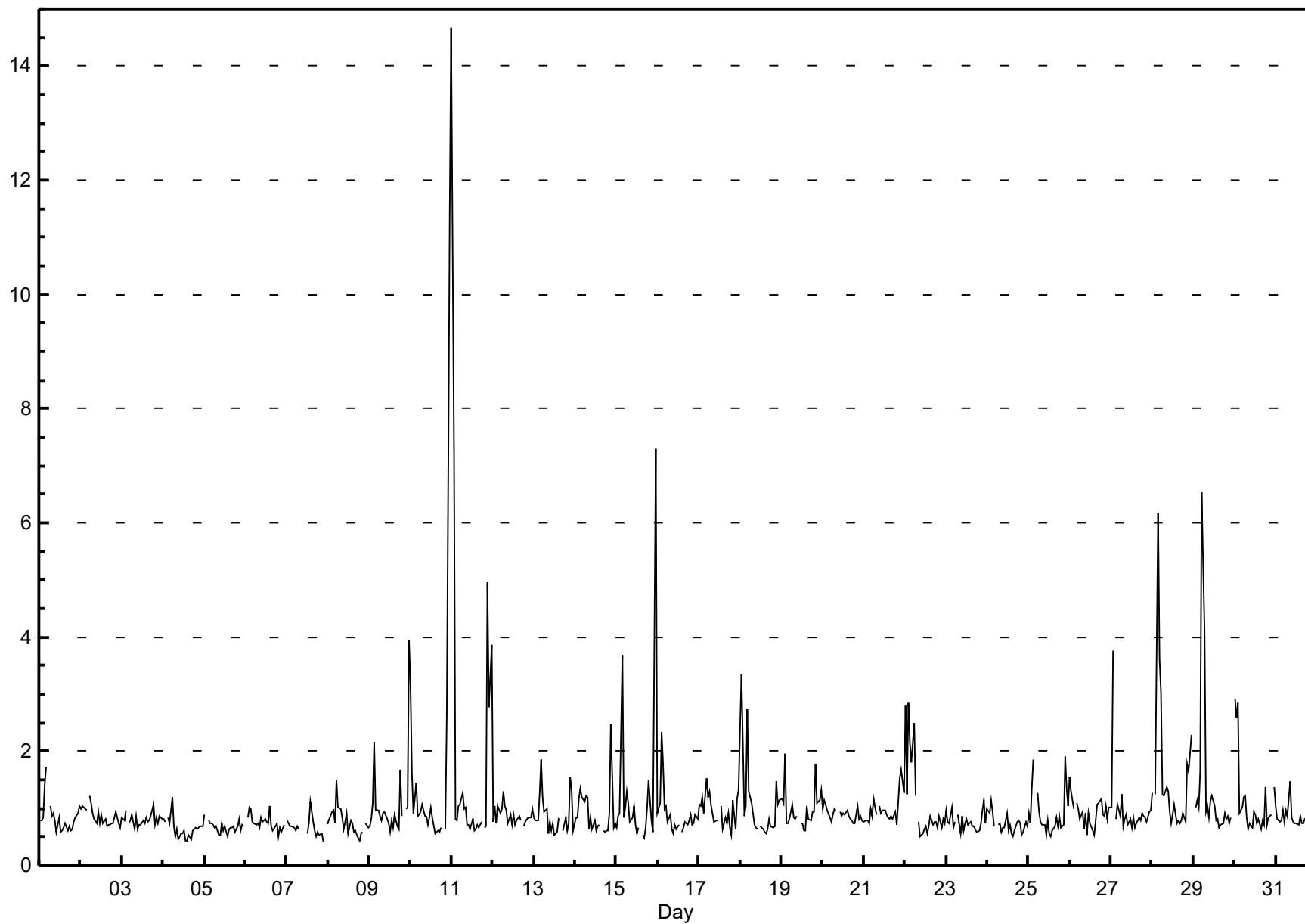
Total Reduced Sulphur (TRS) - ppb

Henry Pirker - July 2016

Maximum Value: 14.7 ppb on Jul 11 01:00																				Maximum Daily Average: 2.1 ppb on Jul 11										Hours in Service: 744	
Minimum Value: 0 ppb on Jul 7 22:00																				Minimum Daily Average: 0.6 ppb on Jul 4										Hours of Data: 707	
Maximum Diurnal Average: 1.8 ppb at hour 24																				Minimum Diurnal Average: 0.7 ppb at hour 17										Hours of Missing Data: 37	
Monthly Average: 1.01 ppb																				Percentiles: P ₁ = 0.5 P ₁₀ = 0.6 Q ₁ = 0.7 Median = 0.8 Q ₃ = 1.0 P ₉₀ = 1.3 P ₉₉ = 6.0										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	2	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.7					
2-Jul	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.2					
3-Jul	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.1					
4-Jul	1	1	A	1	1	1	1	1	1	0	1	1	1	0	0	1	0	1	1	1	1	1	1	1	0.6	1.2					
5-Jul	1	A	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	0.7	0.9					
6-Jul	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	0.8	1.0					
7-Jul	1	1	1	1	1	1	1	1	C	C	C	C	1	1	1	1	1	1	1	1	0	A	1	1	0.7	1.1					
8-Jul	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	A	1	1	0.8	1.5					
9-Jul	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	A	1	1	4	1.1	3.9					
10-Jul	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	3	7	11	1.8	11.4					
11-Jul	15	7	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	5	3	4	2.1	14.7					
12-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	0.9	1.3					
13-Jul	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	2	1	1	0.9	1.9					
14-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	2	1	1	0.9	2.5					
15-Jul	1	1	1	4	1	1	1	1	1	1	1	1	1	1	A	1	0	1	1	1	1	1	4	7	1.4	7.3					
16-Jul	1	1	2	2	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	0.9	2.3					
17-Jul	1	1	1	1	2	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1.0	1.5					
18-Jul	2	3	1	1	3	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1.1	3.3					
19-Jul	1	1	2	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	2	1	1	1	1.0	2.0					
20-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	0.9	1.1					
21-Jul	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	2	2	1	1.0	1.7					
22-Jul	3	1	3	2	2	2	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.1	2.9					
23-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	0.8	1.2					
24-Jul	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.1					
25-Jul	1	1	1	2	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	0.9	1.9					
26-Jul	2	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.6					
27-Jul	1	4	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	3.8					
28-Jul	1	A	1	6	4	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	1.6	6.2					
29-Jul	A	1	1	1	2	7	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1.3	6.5					
30-Jul	3	3	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1.1	2.9					
31-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	2	0.9	1.5					
1.7		1.4	1.2	1.4	1.2	1.3	1.1	0.9	0.8	0.8	0.7	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.7	0.9	1.2	1.3	1.8	Diurnal Average						
14.7		7.2	2.9	6.2	3.6	6.5	4.1	1.2	1.5	1.3	1.1	1.2	1.0	1.1	1.1	1.0	1.1	1.1	1.7	1.5	1.8	5.0	6.8	11.4	Diurnal Maximum						
C - Calibration		A - Automated Daily Zero Span																													

Hourly Maximums

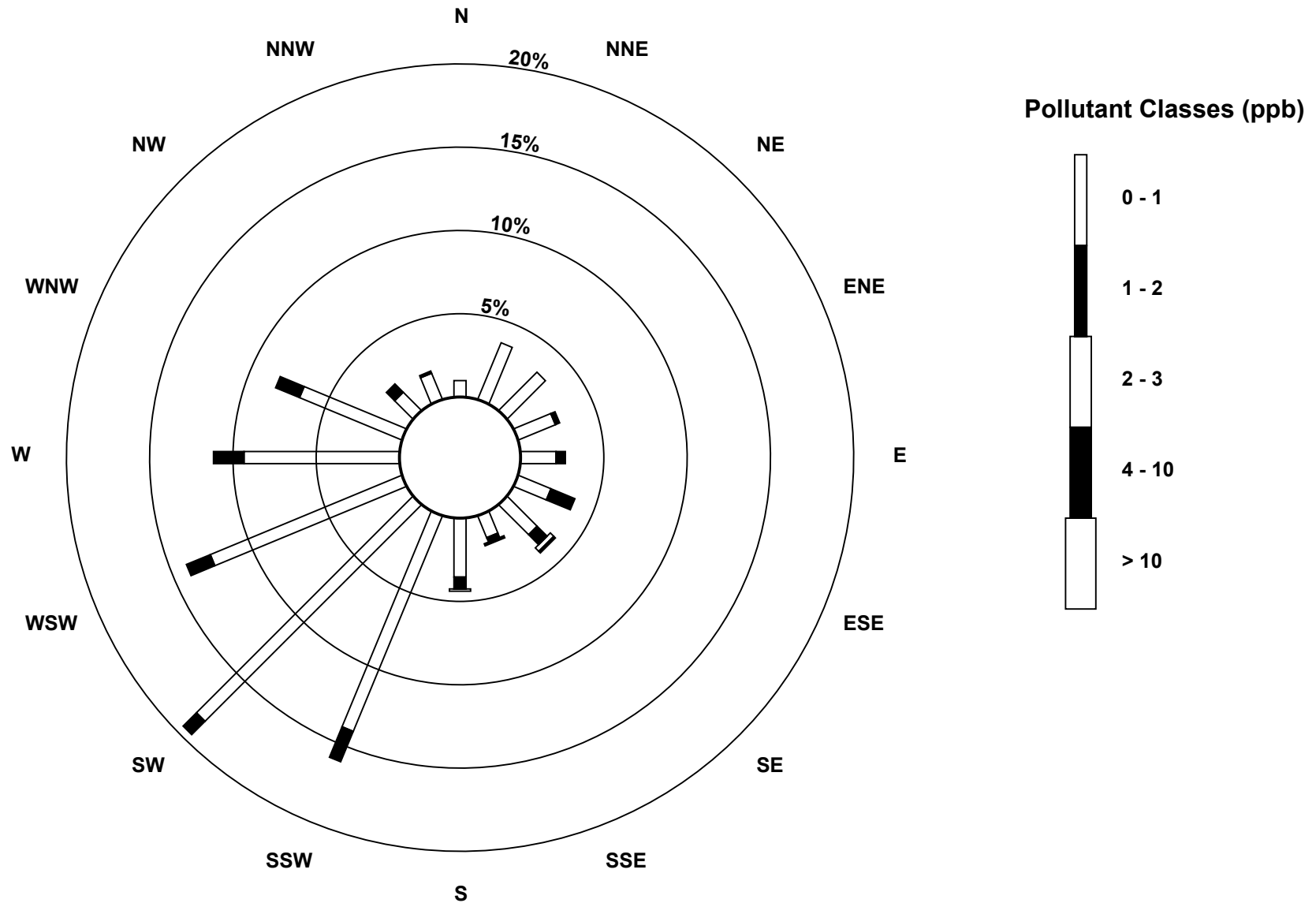
Total Reduced Sulphur (TRS) - ppb
Henry Pirker - July 2016



Pollutant Rose

Total Reduced Sulphur (TRS) - ppb

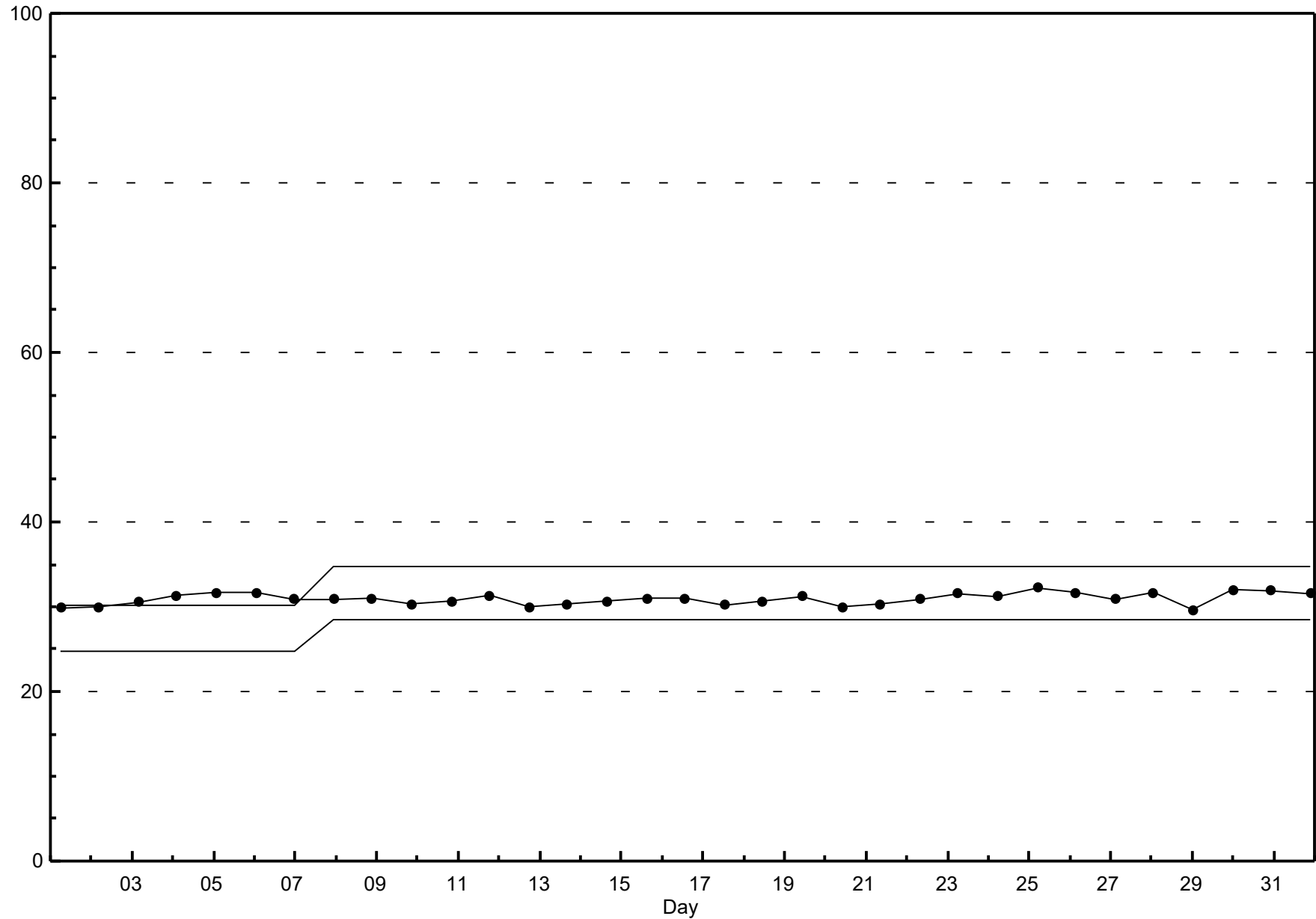
Henry Pirker - July 2016



Span Responses

Total Reduced Sulphur (TRS)

Henry Pirker - July 2016



Hourly Averages

Nitrogen Dioxide (NO₂) - ppb

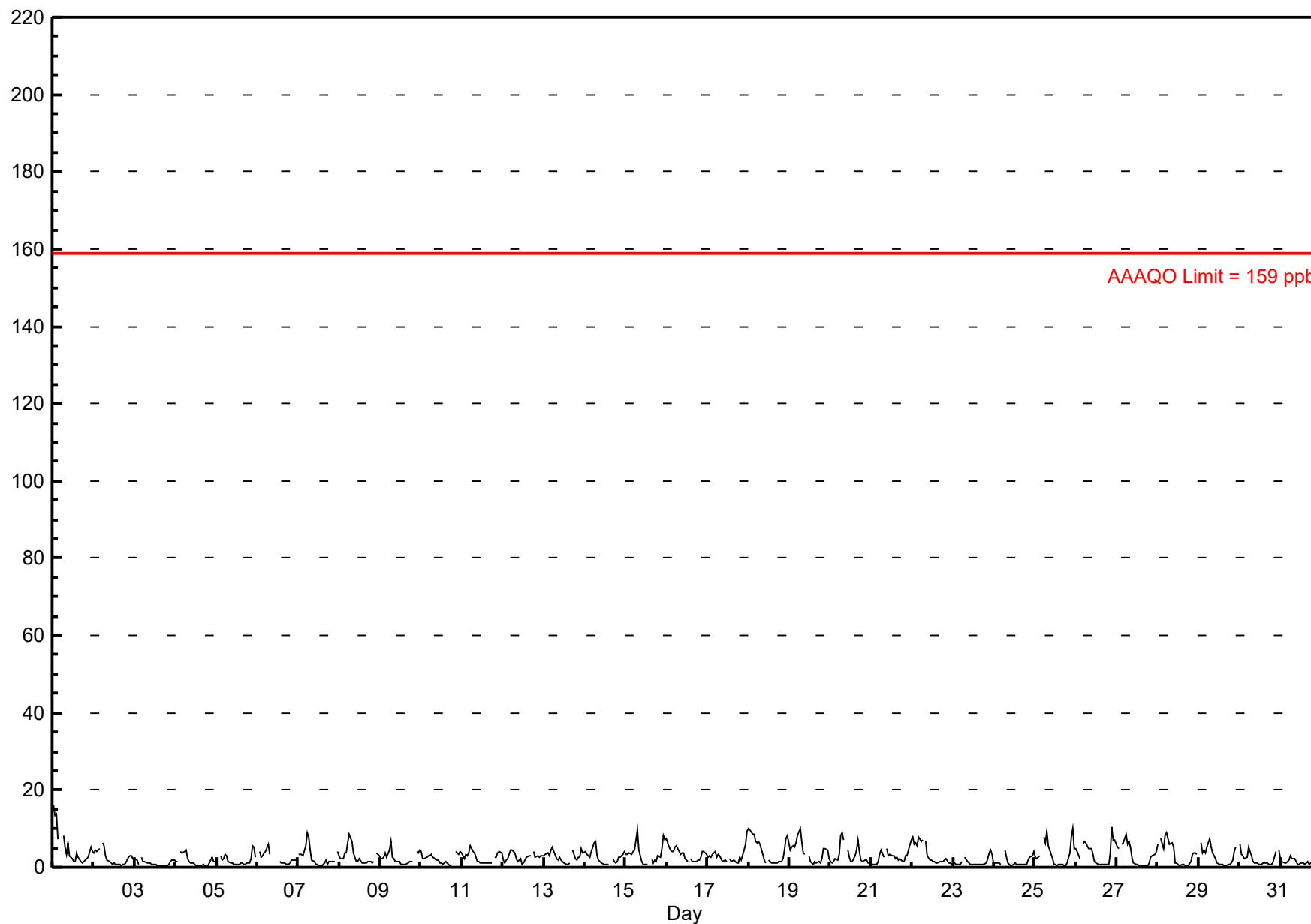
Henry Pirker - July 2016

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																				Hours in Service: 744						
Maximum Value: 16.1 ppb on Jul 1 01:00																				Maximum Daily Average: 5.0 ppb on Jul 1		Hours of Data: 706				
Minimum Value: 0 ppb on Jul 27 16:00																				Minimum Daily Average: 1.1 ppb on Jul 3		Hours of Missing Data: 38				
Maximum Diurnal Average: 5.7 ppb at hour 7																				Minimum Diurnal Average: 1.0 ppb at hour 14		Hours of Calibration: 38				
Monthly Average: 2.77 ppb																				Percentiles: P ₁ = 0.4 P ₁₀ = 0.7 Q ₁ = 1.1 Median = 2.1 Q ₃ = 3.8 P ₉₀ = 6.0 P ₉₉ = 9.9		Percent Operational Time: 100.0				
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
1-Jul	16	14	14	8	7	A	8	5	3	6	3	2	2	2	4	3	1	1	1	2	2	3	5	4	5.0	16.1
2-Jul	4	4	4	5	A	6	5	3	2	1	1	1	1	1	1	1	0	1	1	1	3	3	3	2	2.4	6.3
3-Jul	2	2	1	A	3	2	2	1	1	1	1	1	1	0	1	0	1	0	0	1	1	1	2	2	1.1	2.6
4-Jul	1	1	A	4	4	4	5	2	1	1	1	1	1	0	0	0	1	0	0	0	1	2	2	2	1.6	4.6
5-Jul	1	A	3	2	2	3	3	1	1	1	1	1	1	1	1	1	1	1	1	1	2	5	5	2	1.8	5.4
6-Jul	A	4	3	3	4	4	6	4	C	C	C	C	C	2	1	1	1	1	1	2	2	2	2	A	--	5.9
7-Jul	3	3	4	3	5	9	8	5	2	1	1	1	0	0	0	1	2	1	2	2	2	1	A	4	2.6	9.1
8-Jul	3	2	2	4	4	6	9	7	4	3	2	1	2	1	1	1	1	1	2	1	1	A	4	3	2.8	8.6
9-Jul	2	2	3	4	3	5	7	2	2	1	2	1	1	1	1	1	1	2	2	2	A	4	4	4	2.4	6.5
10-Jul	4	2	2	3	3	3	3	3	2	2	2	1	1	1	1	1	1	0	1	A	4	4	3	4	2.3	4.2
11-Jul	4	2	3	3	4	5	4	4	3	1	1	1	1	1	1	1	1	1	A	3	2	4	4	4	2.6	5.5
12-Jul	2	1	2	2	4	5	4	4	2	1	2	1	1	2	3	3	3	A	4	3	3	3	3	3	2.6	4.6
13-Jul	3	3	4	3	4	5	4	2	2	3	2	1	1	1	1	1	A	5	2	2	2	3	5	4	2.7	5.1
14-Jul	4	3	3	3	4	6	7	3	2	1	1	1	1	1	1	A	2	2	1	2	3	3	3	4	2.6	6.6
15-Jul	3	3	4	3	4	5	7	10	4	2	1	1	1	1	A	2	1	2	2	3	2	5	8	7	3.5	9.8
16-Jul	8	5	4	4	4	5	5	4	3	4	4	2	1	A	2	1	1	1	2	2	3	4	4	3	3.4	7.6
17-Jul	3	3	3	3	4	3	3	3	2	2	2	1	A	2	1	2	1	1	1	3	2	5	6	9	2.9	9.5
18-Jul	10	10	9	8	7	6	7	6	3	2	1	A	2	1	1	1	1	1	2	1	2	4	8	8	4.4	10.3
19-Jul	4	5	6	5	6	8	10	7	4	3	A	3	2	1	1	2	1	2	1	2	5	5	5	2	3.9	10.0
20-Jul	2	1	1	2	2	3	8	9	7	A	4	3	1	2	3	4	7	4	2	2	2	2	1	1	3.2	9.0
21-Jul	1	1	1	1	2	4	4	3	A	5	3	3	3	3	2	3	2	2	1	2	3	3	4	7	2.7	7.2
22-Jul	8	6	7	6	8	7	7	A	7	3	2	2	1	1	1	1	1	1	2	2	2	1	1	1	3.4	7.9
23-Jul	1	1	1	1	1	2	A	3	1	1	1	1	1	1	1	1	1	1	1	1	2	4	4	4	1.5	4.4
24-Jul	1	1	1	1	1	A	5	2	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	4	1.5	4.6
25-Jul	3	2	3	3	A	8	6	9	6	3	2	1	1	1	1	1	1	0	1	1	4	8	10	5	3.4	10.0
26-Jul	5	4	2	A	6	7	6	5	5	5	3	2	1	1	1	1	1	1	1	1	4	10	7	7	3.7	10.4
27-Jul	5	5	A	6	6	9	6	7	5	3	1	1	1	0	0	0	0	0	1	1	3	3	3	4	3.1	8.6
28-Jul	6	A	8	5	8	9	8	6	6	5	1	1	1	0	1	1	0	0	1	2	3	4	4	3	3.6	9.0
29-Jul	A	6	4	4	4	5	8	5	4	3	2	1	1	1	1	1	1	1	1	1	2	4	5	A	2.9	7.6
30-Jul	6	3	3	2	3	5	4	3	2	1	1	1	1	1	1	1	1	1	1	1	1	4	A	4	2.2	5.9
31-Jul	2	1	1	1	1	2	3	2	2	2	1	1	1	1	1	1	1	1	1	1	1	A	5	5	1.7	4.9
4.1 3.6 3.5 3.5 4.1 5.2 5.7 4.4 3.1 2.4 1.7 1.3 1.1 1.0 1.2 1.3 1.3 1.2 1.2 1.5 2.4 3.6 4.3 4.1																								Diurnal Average		
16.1 13.6 13.7 8.4 8.3 9.1 10.0 9.8 7.1 6.3 4.4 3.2 2.9 3.1 3.7 4.4 7.2 4.6 4.0 2.9 4.8 10.4 10.0 9.5																								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 2016



Hourly Maximums

Nitrogen Dioxide (NO₂) - ppb

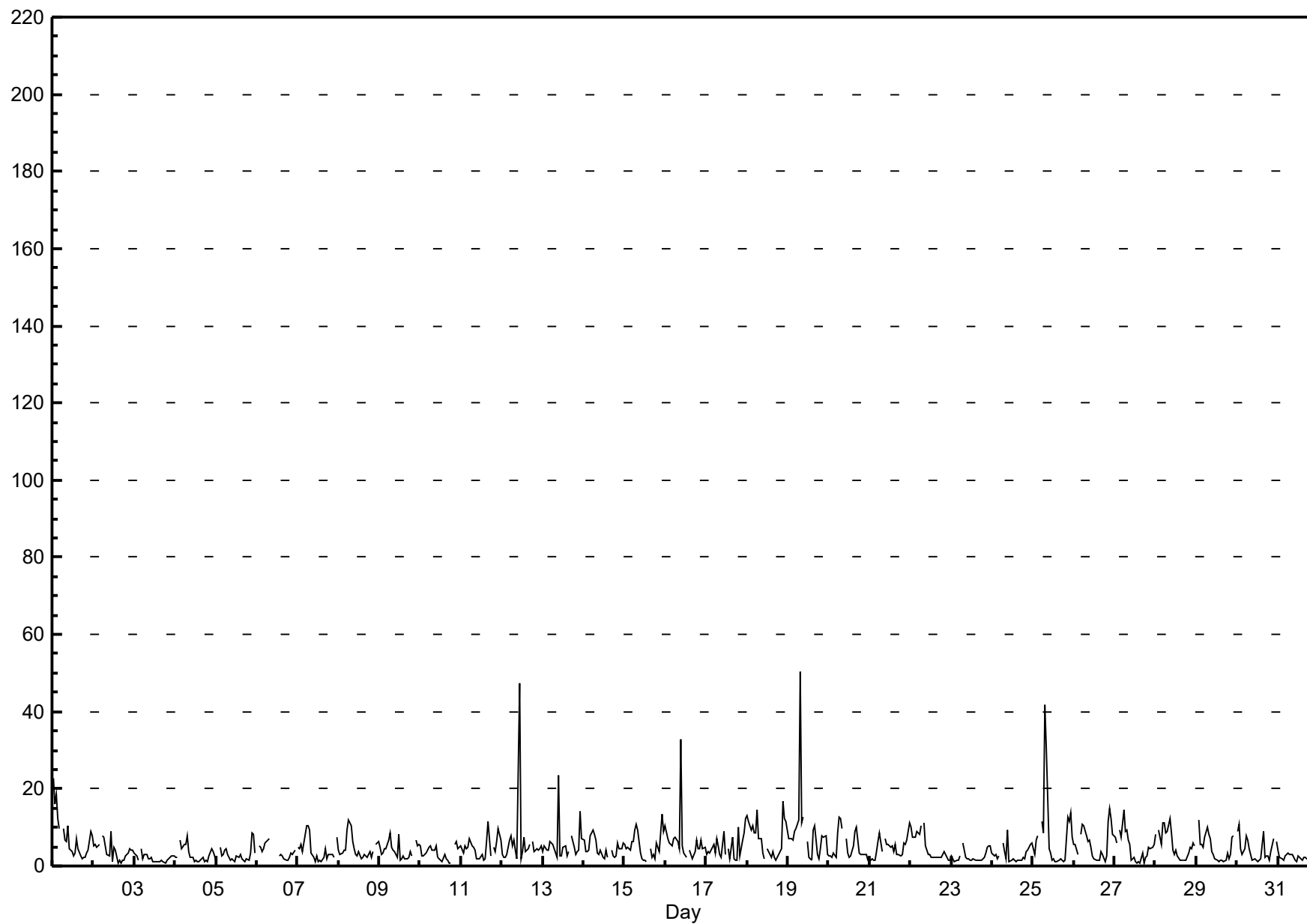
Henry Pirker - July 2016

Maximum Value: 50.3 ppb on Jul 19 08:00																				Maximum Daily Average: 8.7 ppb on Jul 19										Hours in Service: 744	
Minimum Value: 1 ppb on Jul 10 18:00																				Minimum Daily Average: 1.9 ppb on Jul 3										Hours of Data: 706	
Maximum Diurnal Average: 9.1 ppb at hour 8																				Minimum Diurnal Average: 2.3 ppb at hour 15										Hours of Missing Data: 38	
Monthly Average: 4.81 ppb																				Percentiles: P ₁ = 0.9 P ₁₀ = 1.5 Q ₁ = 2.1 Median = 3.7 Q ₃ = 6.3 P ₉₀ = 9.2 P ₉₉ = 22.2										Hours of Calibration: 38	
																				Percent Operational Time: 100.0											
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24							
1-Jul	23	16	18	12	10	A	10	7	6	10	5	4	3	3	7	5	3	2	2	2	3	4	9	8	7.5	22.6					
2-Jul	5	5	5	6	A	8	8	5	3	3	9	1	5	4	1	2	1	1	2	2	4	5	4	4	4.0	8.9					
3-Jul	3	3	1	A	5	2	3	3	2	2	2	1	1	1	1	1	1	1	1	2	2	2	3	2	1.9	4.7					
4-Jul	2	2	A	7	4	6	6	8	4	2	2	1	1	1	1	1	2	1	2	1	3	4	4	3	3.0	7.9					
5-Jul	1	A	5	3	3	4	4	3	2	2	1	1	3	2	3	2	1	1	2	2	3	8	8	3	3.0	8.4					
6-Jul	A	5	5	4	4	6	7	7	C	C	C	C	C	3	3	3	2	2	2	2	3	3	4	A	--	7.1					
7-Jul	5	4	5	4	8	11	11	9	3	2	1	3	1	1	1	2	5	2	3	3	3	2	A	8	4.2	10.5					
8-Jul	4	3	3	4	4	9	12	11	6	4	3	3	4	2	2	3	3	2	4	2	4	A	6	6	4.5	12.1					
9-Jul	5	3	4	4	4	7	9	5	4	4	2	8	2	2	3	2	2	2	4	2	A	7	5	6	4.1	8.6					
10-Jul	5	3	3	3	4	5	5	4	4	5	2	2	2	1	3	2	1	1	1	A	5	6	5	5	3.4	6.4					
11-Jul	5	3	5	4	5	7	5	5	4	2	2	2	3	2	2	6	12	2	A	5	4	6	10	7	4.7	11.6					
12-Jul	3	2	2	3	7	8	5	7	4	2	47	2	4	7	4	5	5	A	6	4	5	4	4	5	6.3	47.4					
13-Jul	4	5	4	4	6	6	6	3	2	23	3	3	5	5	3	4	A	8	5	3	4	4	14	7	5.7	23.3					
14-Jul	7	4	4	4	8	9	8	7	3	3	4	2	2	4	2	A	4	3	2	3	6	4	4	6	4.5	9.4					
15-Jul	6	5	5	4	6	6	9	11	9	3	2	2	2	1	A	4	2	3	2	6	4	8	13	9	5.3	13.5					
16-Jul	10	7	6	6	5	7	8	6	5	33	5	3	2	A	4	3	2	4	7	4	4	7	5	5	6.4	32.9					
17-Jul	3	4	3	4	6	3	7	5	3	2	9	3	A	4	2	8	2	2	2	10	3	7	8	12	4.9	12.3					
18-Jul	13	12	9	10	9	8	14	7	7	4	2	A	4	3	2	4	2	2	2	4	4	17	12	11	7.1	16.7					
19-Jul	7	7	7	7	9	10	12	50	11	13	A	6	2	2	1	9	10	3	2	4	8	8	8	3	8.7	50.3					
20-Jul	3	3	2	3	2	8	13	12	10	A	7	3	2	2	5	9	10	7	3	3	3	3	3	2	5.2	12.7					
21-Jul	1	2	2	2	4	6	9	4	A	7	6	6	5	5	4	5	3	3	3	3	6	6	7	11	4.7	11.2					
22-Jul	10	7	8	7	9	8	11	A	11	5	3	3	2	2	2	2	2	2	2	3	4	2	2	2	4.8	11.1					
23-Jul	3	2	1	2	2	2	A	6	2	2	2	2	1	2	1	1	1	2	1	2	3	5	5	5	2.5	6.0					
24-Jul	3	3	3	2	2	A	6	4	2	9	1	2	2	1	1	1	2	2	2	2	4	4	5	6	3.0	9.3					
25-Jul	5	3	7	8	A	12	9	42	31	5	3	1	2	1	1	1	2	1	1	2	13	12	14	7	7.8	41.6					
26-Jul	6	6	3	A	8	11	10	8	6	7	5	3	2	2	2	2	4	3	1	3	11	15	12	8	5.9	15.0					
27-Jul	7	6	A	9	8	14	9	9	7	5	1	2	1	1	1	1	3	1	2	3	5	4	5	6	4.8	14.4					
28-Jul	8	A	9	5	11	11	9	9	12	9	4	3	4	3	2	2	1	1	2	3	5	4	6	5	5.6	12.3					
29-Jul	A	12	6	5	5	7	10	8	7	4	3	2	2	1	1	2	1	2	3	2	3	8	8	A	4.6	12.1					
30-Jul	9	11	4	3	5	8	7	4	3	2	2	1	1	1	2	9	2	3	3	1	4	7	A	6	4.3	10.7					
31-Jul	4	2	2	2	3	3	3	3	3	2	1	1	3	2	2	2	2	2	2	1	2	A	7	6	2.6	7.3					
5.9 5.1 4.9 4.9 5.7 7.4 8.1 9.1 6.1 6.0 4.8 2.6 2.4 2.5 2.3 3.4 3.1 2.3 2.5 2.9 4.4 6.1 6.9 6.1																								Diurnal Average							
22.6 16.1 18.5 12.3 11.1 14.4 14.4 50.3 30.6 32.9 47.4 8.4 4.9 7.4 7.0 9.5 11.6 7.8 6.7 10.1 12.6 16.7 14.3 12.3																								Diurnal Maximum							
C - Calibration																								A - Automated Daily Zero Span							

Hourly Maximums

Nitrogen Dioxide (NO₂) - ppb

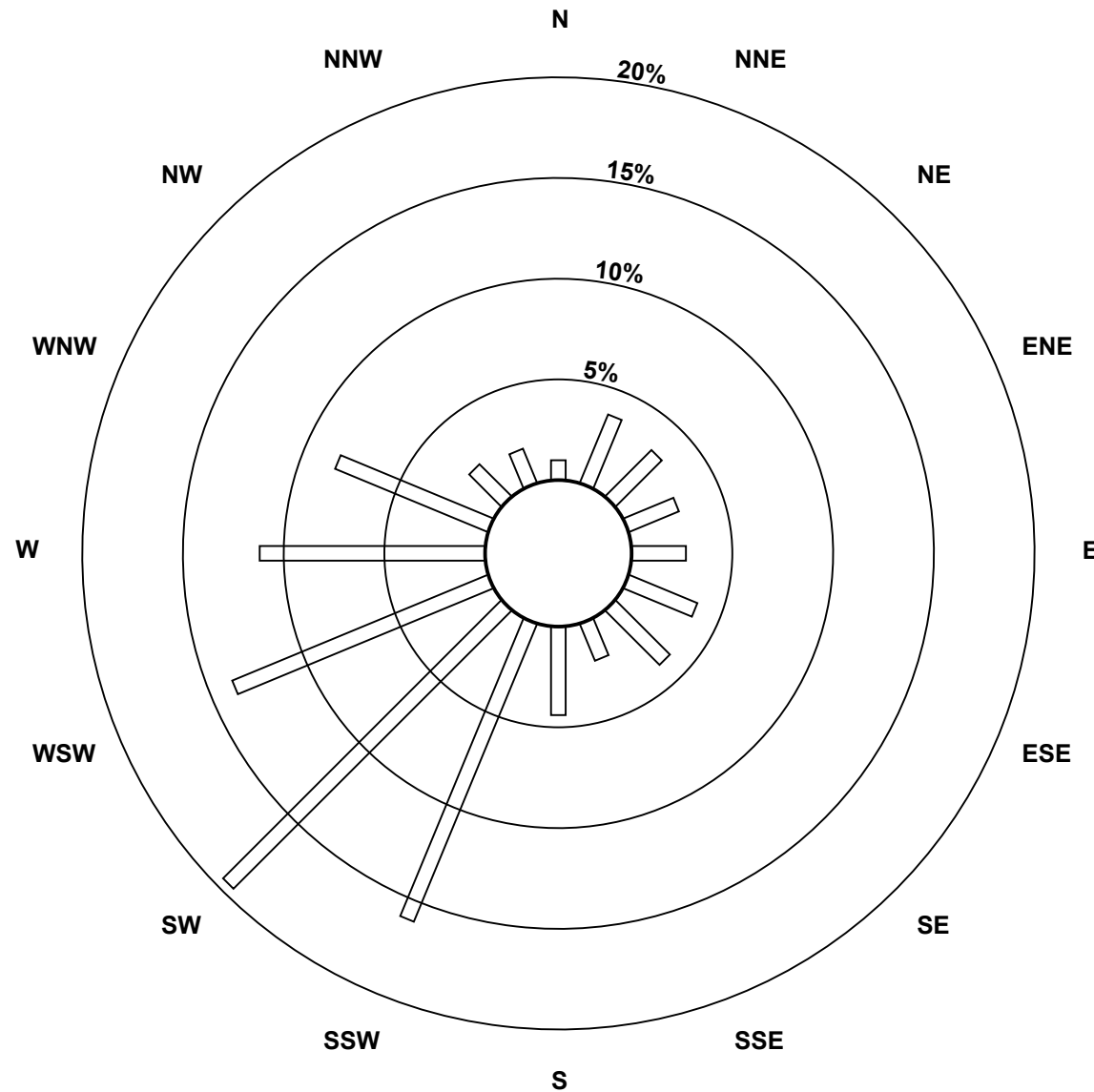
Henry Pirker - July 2016



Pollutant Rose

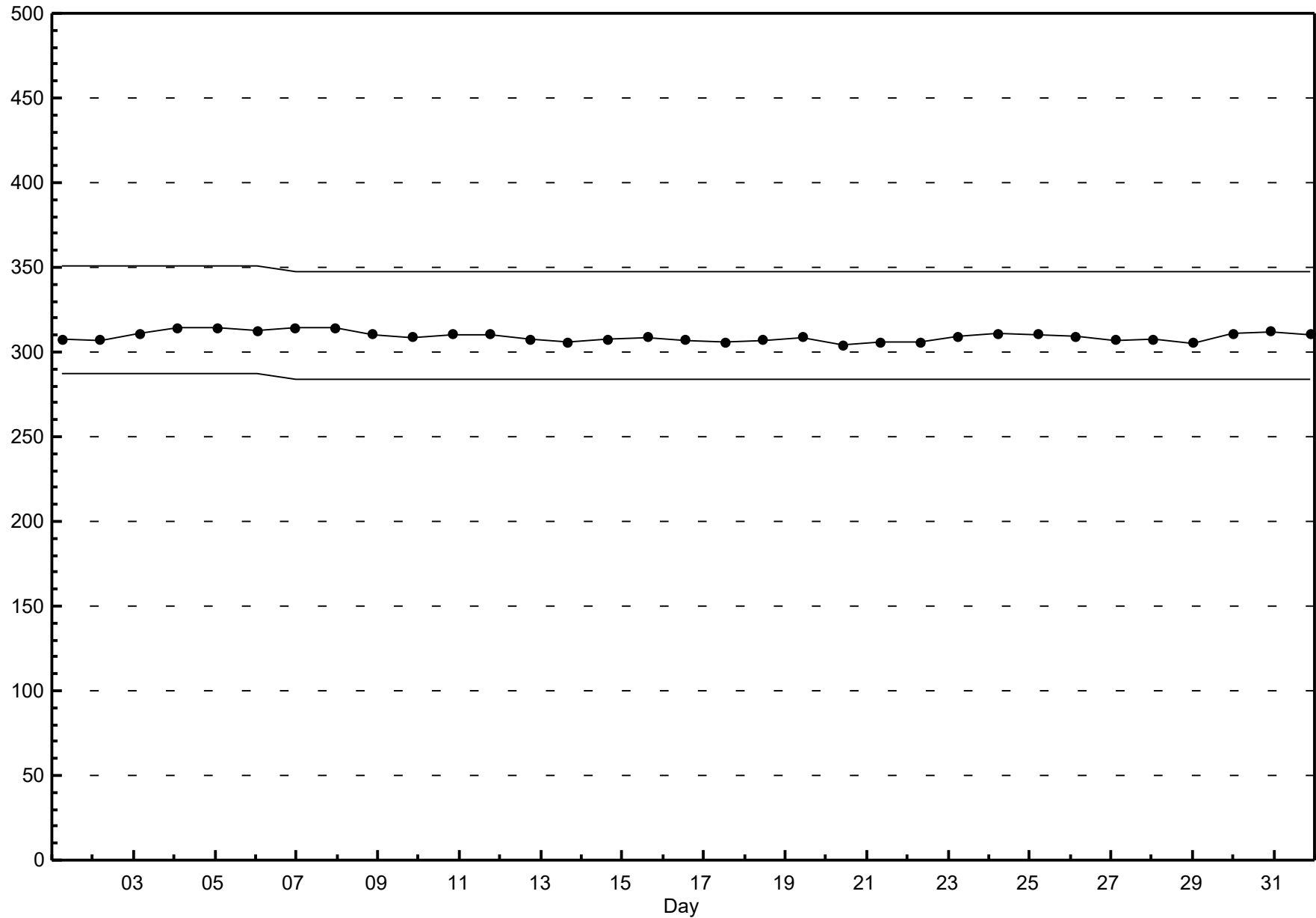
Nitrogen Dioxide (NO₂) - ppb

Henry Pirker - July 2016



Span Responses

Nitrogen Dioxide (NO₂)
Henry Pirker - July 2016



Hourly Averages

Nitrogen Oxide (NO) - ppb

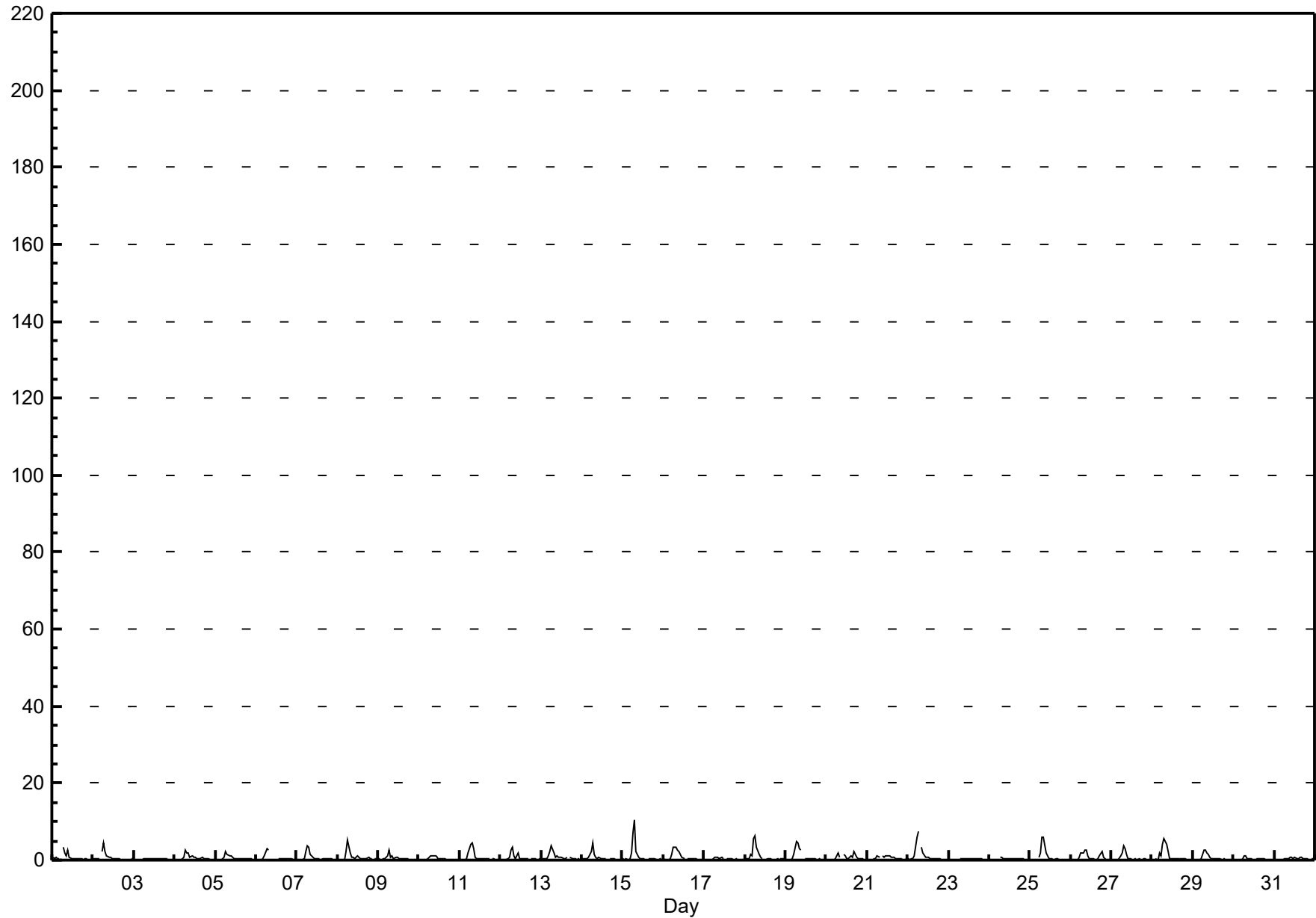
Henry Pirker - July 2016

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 10.6 ppb on Jul 15 08:00 Maximum Daily Average: 1.2 ppb on Jul 15																				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 4 01:00 Maximum Diurnal Average: 3.0 ppb at hour 7 Monthly Average: 0.65 ppb										Minimum Daily Average: 0.2 ppb on Jul 3 Minimum Diurnal Average: 0.1 ppb at hour 22 Percentiles: P ₁ = 0.0 P ₁₀ = 0.1 Q ₁ = 0.2 Median = 0.3 Q ₃ = 0.6 P ₉₀ = 1.7 P ₉₉ = 5.7																
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
1-Jul	1	1	1	1	0	A	3	2	1	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.7	3.4
2-Jul	0	0	0	0	A	2	5	2	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.7	4.5
3-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
4-Jul	0	0	A	0	0	1	2	2	2	1	1	1	1	0	0	0	1	0	0	0	0	0	0	0	0.6	2.5
5-Jul	0	A	0	0	0	1	2	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	2.1
6-Jul	A	0	0	0	0	1	3	3	C	C	C	C	C	0	0	0	0	0	0	0	0	0	0	0	--	3.0
7-Jul	0	0	0	0	0	2	4	3	1	1	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.7	3.7
8-Jul	0	0	0	0	0	2	5	2	1	1	1	1	1	0	0	0	0	0	1	0	0	A	0	0	0.8	5.0
9-Jul	0	0	0	0	0	1	2	1	1	1	1	1	0	0	0	0	0	0	0	0	A	0	0	0	0.5	2.5
10-Jul	0	0	0	0	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0	A	0	0	0	0	0.4	1.1
11-Jul	0	0	0	0	0	2	4	4	3	1	1	0	0	0	0	0	0	0	A	0	0	0	0	0	0.8	4.3
12-Jul	0	0	0	0	0	1	3	3	1	1	2	0	0	0	0	0	0	A	0	0	0	0	0	0	0.7	3.4
13-Jul	0	0	0	0	1	2	4	2	1	1	1	1	1	0	0	1	A	1	0	0	0	0	0	0	0.8	3.8
14-Jul	0	0	0	0	1	2	4	1	1	0	1	0	0	0	0	A	0	0	0	0	0	0	0	0	0.6	4.3
15-Jul	0	0	0	0	0	2	7	11	2	1	0	0	0	0	A	0	0	0	0	0	0	0	0	0	1.2	10.6
16-Jul	0	0	0	0	0	1	3	3	3	2	2	1	0	A	0	0	0	0	0	0	0	0	0	0	0.8	3.4
17-Jul	0	0	0	0	0	0	1	1	1	1	1	0	A	0	0	0	0	0	0	0	0	0	0	0	0.3	0.8
18-Jul	0	0	0	1	1	6	7	3	2	1	0	A	0	0	0	0	0	0	0	0	0	0	0	0	1.0	6.5
19-Jul	0	0	0	0	0	2	5	4	3	3	A	1	0	0	0	1	0	0	0	0	0	0	0	0	0.9	4.7
20-Jul	0	0	0	0	0	0	1	2	1	A	1	1	0	0	1	1	2	2	1	0	0	0	0	0	0.7	2.1
21-Jul	0	0	0	0	0	0	1	1	A	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0.5	1.1
22-Jul	0	0	0	0	1	6	8	A	3	2	1	1	1	1	0	1	0	0	0	0	0	0	0	0	1.1	7.6
23-Jul	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.5
24-Jul	0	0	0	0	0	A	1	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0.3	0.9
25-Jul	0	0	0	0	A	1	2	6	6	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.9	6.0
26-Jul	0	0	0	A	0	1	2	2	3	3	1	0	0	0	0	0	0	1	2	1	0	0	0	0	0.8	2.7
27-Jul	0	0	A	0	0	1	2	4	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.6	3.7
28-Jul	0	A	0	0	2	1	4	6	4	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.0	5.5
29-Jul	A	0	0	0	0	0	3	3	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	A	0.6	2.8
30-Jul	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.3	1.2
31-Jul	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0	1	1	0	0	0	0	A	0	0	0.4	0.8
0.2 0.1 0.2 0.2 0.4 1.4 3.0 2.5 1.7 1.1 0.7 0.5 0.4 0.3 0.4 0.4 0.4 0.4 0.3 0.3 0.2 0.1 0.1 0.1																								Diurnal Average		
0.8 0.5 0.8 1.3 2.0 5.8 7.6 10.6 6.0 2.7 2.0 1.0 1.2 1.0 1.1 0.7 2.1 1.6 2.3 0.8 0.5 0.3 0.4 0.3																								Diurnal Maximum		
C - Calibration A - Automated Daily Zero Span																										

Hourly Averages

Nitrogen Oxide (NO) - ppb

Henry Pirker - July 2016



Hourly Maximums

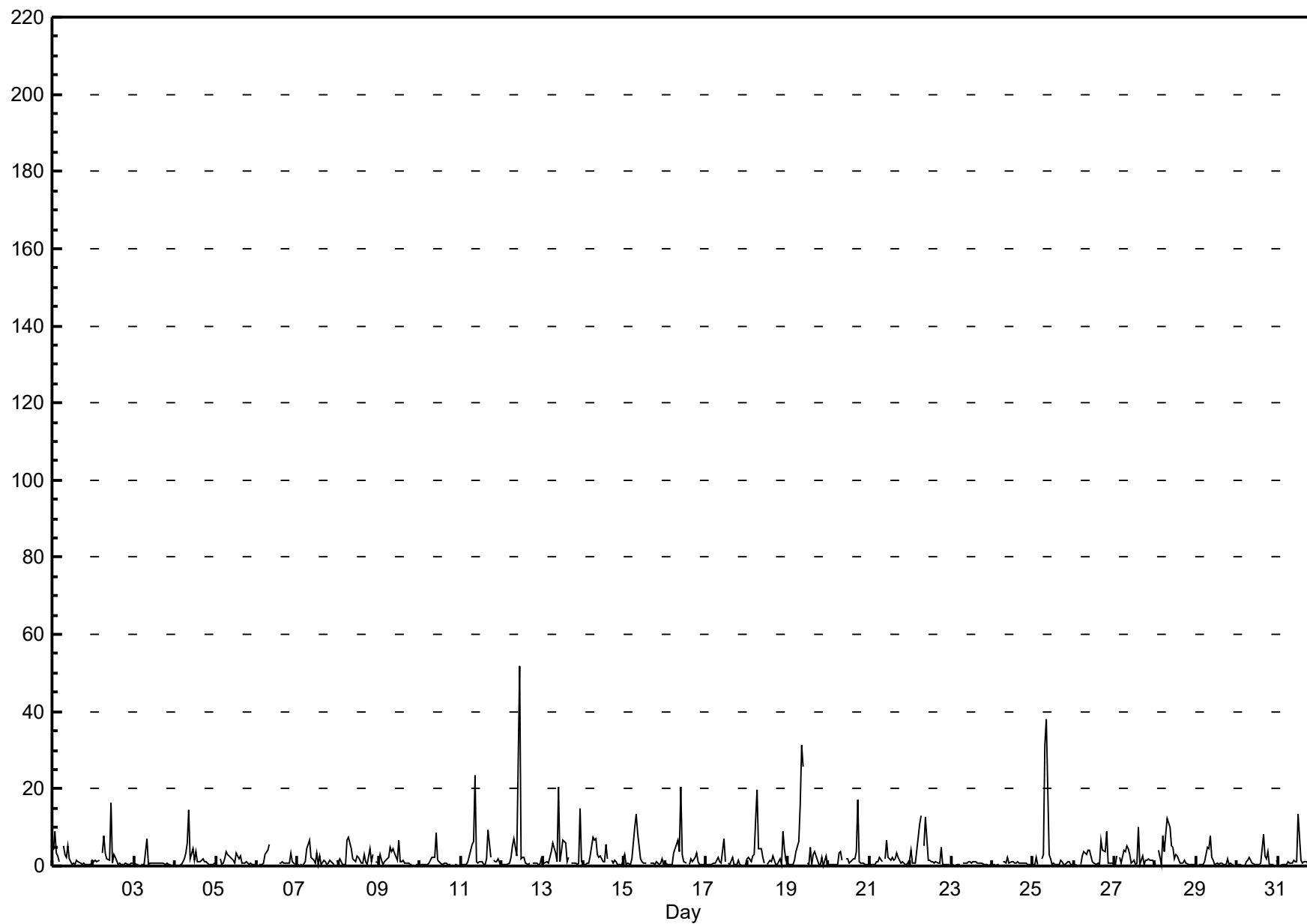
Nitrogen Oxide (NO) - ppb

Henry Pirker - July 2016

Maximum Value: 51.8 ppb on Jul 12 11:00																				Maximum Daily Average: 4.7 ppb on Jul 19										Hours in Service: 744	
Minimum Value: 0 ppb on Jul 23 00:00																				Minimum Daily Average: 0.6 ppb on Jul 23										Hours of Data: 706	
Maximum Diurnal Average: 6.5 ppb at hour 9																				Minimum Diurnal Average: 0.6 ppb at hour 4										Hours of Missing Data: 38	
Monthly Average: 2.14 ppb																				Percentiles: P ₁ = 0.1 P ₁₀ = 0.3 Q ₁ = 0.4 Median = 0.9 Q ₃ = 2.1 P ₉₀ = 4.7 P ₉₉ = 18.9										Hours of Calibration: 38	
																				Percent Operational Time: 100.0											
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24							
1-Jul	4	9	3	2	1	A	5	3	2	5	2	0	1	0	1	1	1	0	1	0	0	0	0	1	2.0	8.8					
2-Jul	1	1	1	2	A	3	8	3	2	1	17	1	3	2	1	1	0	0	0	1	0	1	1	1	2.2	16.6					
3-Jul	1	0	0	A	0	0	0	7	0	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0.9	7.2					
4-Jul	0	0	A	0	0	2	3	6	15	2	4	1	4	1	1	1	2	1	1	1	1	0	0	1	2.1	14.5					
5-Jul	0	A	2	0	1	2	4	3	2	2	1	1	3	2	3	1	1	1	1	0	1	0	0	0	1.3	3.7					
6-Jul	A	0	0	0	1	3	4	6	C	C	C	C	C	1	1	1	1	1	1	1	4	1	0	A	--	5.8					
7-Jul	0	0	0	0	1	4	6	7	2	1	1	3	0	3	0	1	1	1	1	2	1	0	A	2	1.7	6.7					
8-Jul	1	2	1	0	0	7	8	4	2	2	1	2	2	1	1	3	1	0	5	1	3	A	1	1	2.1	7.6					
9-Jul	3	1	1	1	1	2	5	4	4	3	1	7	1	1	2	1	1	1	0	0	A	0	0	0	1.8	6.8					
10-Jul	0	0	0	0	0	1	1	2	2	8	1	1	1	1	1	1	0	0	0	A	0	0	0	0	1.0	8.4					
11-Jul	0	0	0	0	1	3	6	6	23	1	1	1	1	0	1	2	9	2	A	2	1	1	2	0	2.8	23.3					
12-Jul	0	0	0	0	1	2	5	7	5	3	52	2	2	2	1	1	1	A	1	1	1	0	0	2	3.8	51.8					
13-Jul	1	1	1	1	2	4	6	3	1	20	1	4	7	6	1	2	A	1	1	1	0	1	15	1	3.5	20.4					
14-Jul	1	0	1	1	3	7	7	7	3	2	2	1	1	6	2	A	1	1	2	1	1	0	0	2	2.2	7.5					
15-Jul	3	1	1	1	2	6	10	13	8	2	1	1	1	1	A	1	1	1	0	1	0	1	2	0	2.5	13.2					
16-Jul	1	0	0	0	0	3	5	7	4	20	3	1	1	A	1	2	1	2	3	1	0	0	0	0	2.5	20.5					
17-Jul	0	0	0	0	1	1	1	2	1	1	7	1	A	1	0	2	0	0	0	2	0	0	0	0	1.0	6.9					
18-Jul	2	2	1	3	3	12	20	5	4	2	1	A	1	2	1	3	1	0	0	2	0	9	5	1	3.4	19.6					
19-Jul	0	0	0	0	1	4	6	16	31	26	A	1	1	5	0	3	4	2	0	0	2	0	3	1	4.7	31.5					
20-Jul	0	0	0	0	0	1	3	4	1	A	2	2	1	1	2	2	4	17	1	1	1	1	0	0	1.9	17.2					
21-Jul	0	0	0	0	1	1	2	1	A	2	7	2	2	2	2	2	4	2	1	1	1	0	0	2	1.5	6.6					
22-Jul	4	1	1	1	4	11	13	A	5	12	2	1	1	1	1	1	1	1	5	0	0	0	0	0	2.9	13.1					
23-Jul	0	0	0	0	0	0	A	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0.6	1.0					
24-Jul	0	0	0	0	0	A	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0.7	2.4					
25-Jul	0	0	2	1	A	2	3	31	38	3	2	1	1	1	0	1	1	1	0	0	1	1	0	0	4.0	38.0					
26-Jul	0	0	0	A	0	2	4	3	4	4	3	1	1	1	1	0	7	4	4	9	1	1	1	1	2.2	8.8					
27-Jul	0	3	A	2	1	4	4	5	5	3	1	2	0	1	10	0	2	0	1	1	2	2	2	0	2.2	10.0					
28-Jul	1	A	4	0	8	4	8	12	10	5	5	2	3	3	1	1	1	2	1	0	0	0	0	0	3.1	12.2					
29-Jul	A	0	0	0	0	1	5	5	8	2	2	1	1	1	1	1	1	1	2	0	1	1	0	A	1.5	8.0					
30-Jul	0	0	0	0	0	1	2	2	1	1	0	0	0	0	1	8	2	2	4	0	0	1	A	2	1.3	8.1					
31-Jul	0	0	0	0	0	0	1	1	1	1	1	1	13	1	1	1	1	1	0	0	0	A	0	1	1.2	13.4					
0.9 0.9 0.8 0.6 1.2 3.2 5.1 5.9 6.5 4.8 4.2 1.5 1.9 1.5 1.3 1.5 1.8 1.6 1.3 1.1 0.8 0.8 1.2 0.7																									Diurnal Average						
4.2 8.8 4.1 2.7 7.7 11.8 19.6 31.5 38.0 25.9 51.8 6.8 13.4 5.9 10.0 8.1 9.5 17.2 5.0 8.8 3.5 9.1 15.1 1.9																									Diurnal Maximum						
C - Calibration A - Automated Daily Zero Span																															

Hourly Maximums

Nitrogen Oxide (NO) - ppb
Henry Pirker - July 2016



Hourly Averages

Oxides of Nitrogen (NO_x) - ppb

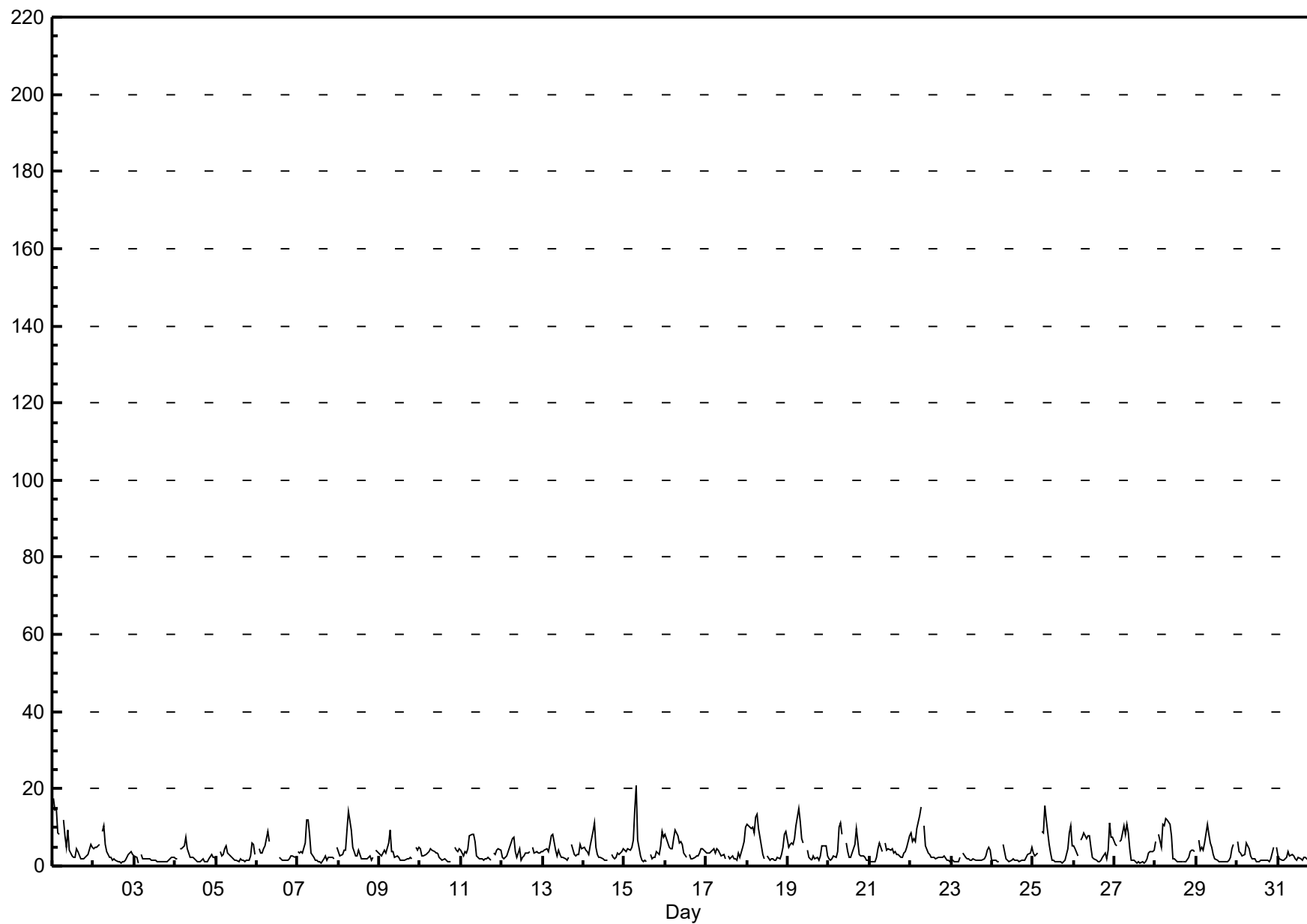
Henry Pirker - July 2016

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 20.8 ppb on Jul 15 08:00 Maximum Daily Average: 6.1 ppb on Jul 1																				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 27 18:00 Minimum Daily Average: 1.6 ppb on Jul 3 Maximum Diurnal Average: 9.1 ppb at hour 7 Minimum Diurnal Average: 1.7 ppb at hour 14 Monthly Average: 3.76 ppb Percentiles: P ₁ = 0.9 P ₁₀ = 1.3 Q ₁ = 1.7 Median = 2.8 Q ₃ = 4.7 P ₉₀ = 7.9 P ₉₉ = 14.4																										
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
1-Jul	17	15	15	9	8	A	12	8	5	9	4	3	2	2	4	4	2	2	2	2	3	3	6	5	6.1	17.4
2-Jul	5	5	5	6	A	9	10	5	4	2	2	1	2	2	1	1	1	1	1	2	3	3	4	3	3.3	10.4
3-Jul	3	2	1	A	3	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	2	2	2	2	1.6	3.0
4-Jul	2	2	A	5	4	5	7	5	4	2	2	2	2	1	1	1	2	1	1	1	2	3	2	2	2.6	7.4
5-Jul	1	A	4	3	3	5	5	3	2	2	2	2	2	1	2	2	1	1	2	2	3	6	5	3	2.6	5.9
6-Jul	A	4	3	3	4	5	9	6	C	C	C	C	C	2	2	2	2	1	1	2	3	2	2	A	--	9.1
7-Jul	4	4	4	3	6	12	12	8	3	2	1	2	1	1	1	2	2	1	2	2	2	2	A	5	3.6	12.1
8-Jul	4	3	3	4	4	9	14	9	5	4	2	2	4	2	2	2	2	2	2	2	2	A	4	4	3.9	14.0
9-Jul	3	3	3	4	4	6	9	4	4	2	3	2	1	2	2	1	2	2	2	2	A	5	4	5	3.2	9.4
10-Jul	4	3	3	3	3	4	5	4	4	3	3	2	2	1	2	2	1	1	1	A	5	4	4	5	3.0	4.7
11-Jul	4	3	4	3	5	8	8	8	6	3	2	2	2	2	2	2	2	2	A	3	3	4	5	4	3.7	8.3
12-Jul	2	2	2	3	5	6	7	8	4	2	5	2	2	3	3	3	4	A	5	3	4	3	4	4	3.6	7.6
13-Jul	4	4	4	4	6	8	8	4	3	4	3	2	2	2	2	2	A	6	3	3	3	3	6	4	3.9	8.3
14-Jul	5	4	4	3	5	9	11	5	3	2	2	2	1	1	2	A	3	2	2	2	3	3	4	5	3.6	11.3
15-Jul	4	4	4	4	5	7	14	21	7	3	2	1	1	1	A	3	2	2	2	4	3	5	9	7	5.0	20.8
16-Jul	8	6	5	5	5	7	9	8	6	6	6	3	2	A	3	2	2	2	3	3	3	4	4	4	4.6	9.2
17-Jul	3	3	3	4	5	3	5	4	3	2	3	2	A	3	2	3	2	2	2	3	2	5	6	10	3.5	10.1
18-Jul	11	11	10	10	8	13	14	10	5	3	2	A	2	2	2	2	2	2	2	2	3	5	8	9	5.9	13.6
19-Jul	5	5	6	6	7	10	15	11	7	6	A	4	2	2	1	2	2	2	1	3	5	5	5	3	5.1	15.1
20-Jul	2	2	2	3	2	4	10	11	8	A	6	4	2	2	4	5	10	6	3	2	3	2	2	1	4.2	11.2
21-Jul	1	1	1	1	2	4	6	4	A	6	4	5	4	4	3	4	3	3	2	2	4	4	5	8	3.6	8.0
22-Jul	9	7	7	6	10	13	15	A	11	5	3	3	2	2	2	2	2	2	2	3	2	1	1	1	4.9	15.2
23-Jul	2	2	1	1	1	2	A	3	2	2	2	2	2	2	2	1	2	2	2	2	3	4	5	4	2.1	4.8
24-Jul	2	2	2	1	1	A	6	4	2	1	1	2	2	2	1	1	1	1	1	2	2	3	3	5	2.1	5.7
25-Jul	3	3	3	3	A	9	9	16	12	6	4	1	2	1	1	1	1	1	1	1	4	8	10	5	4.6	15.6
26-Jul	5	5	3	A	7	8	8	7	8	8	5	2	2	1	1	1	2	2	3	2	4	11	8	7	4.8	11.0
27-Jul	5	5	A	6	7	10	8	11	8	4	1	1	1	1	1	1	1	1	1	2	3	4	4	4	4.0	10.9
28-Jul	6	A	8	5	11	11	12	12	11	8	2	2	2	1	1	1	1	1	1	2	4	4	4	4	4.9	12.1
29-Jul	A	7	4	5	4	6	11	8	6	5	3	2	1	1	1	1	1	1	1	2	2	5	6	A	3.7	10.7
30-Jul	6	4	3	3	3	6	5	4	2	2	2	1	1	1	2	2	2	1	1	1	2	5	A	5	2.8	6.3
31-Jul	3	2	2	2	2	2	4	3	3	3	2	1	2	2	1	2	2	2	2	2	2	A	5	5	2.4	5.4
4.6 4.1 4.1 4.0 4.8 7.0 9.1 7.2 5.1 3.8 2.8 2.1 1.9 1.7 1.8 2.0 2.0 1.9 1.9 2.1 2.9 4.1 4.7 4.5																									Diurnal Average	
17.4 14.6 15.0 10.2 10.7 13.1 15.2 20.8 11.8 9.3 6.1 4.6 4.2 4.5 4.4 5.5 9.6 6.2 4.8 3.6 5.3 11.0 10.5 10.1																									Diurnal Maximum	
C - Calibration A - Automated Daily Zero Span																										

Hourly Averages

Oxides of Nitrogen (NO_x) - ppb

Henry Pirker - July 2016



Hourly Maximums

Oxides of Nitrogen (NO_x) - ppb

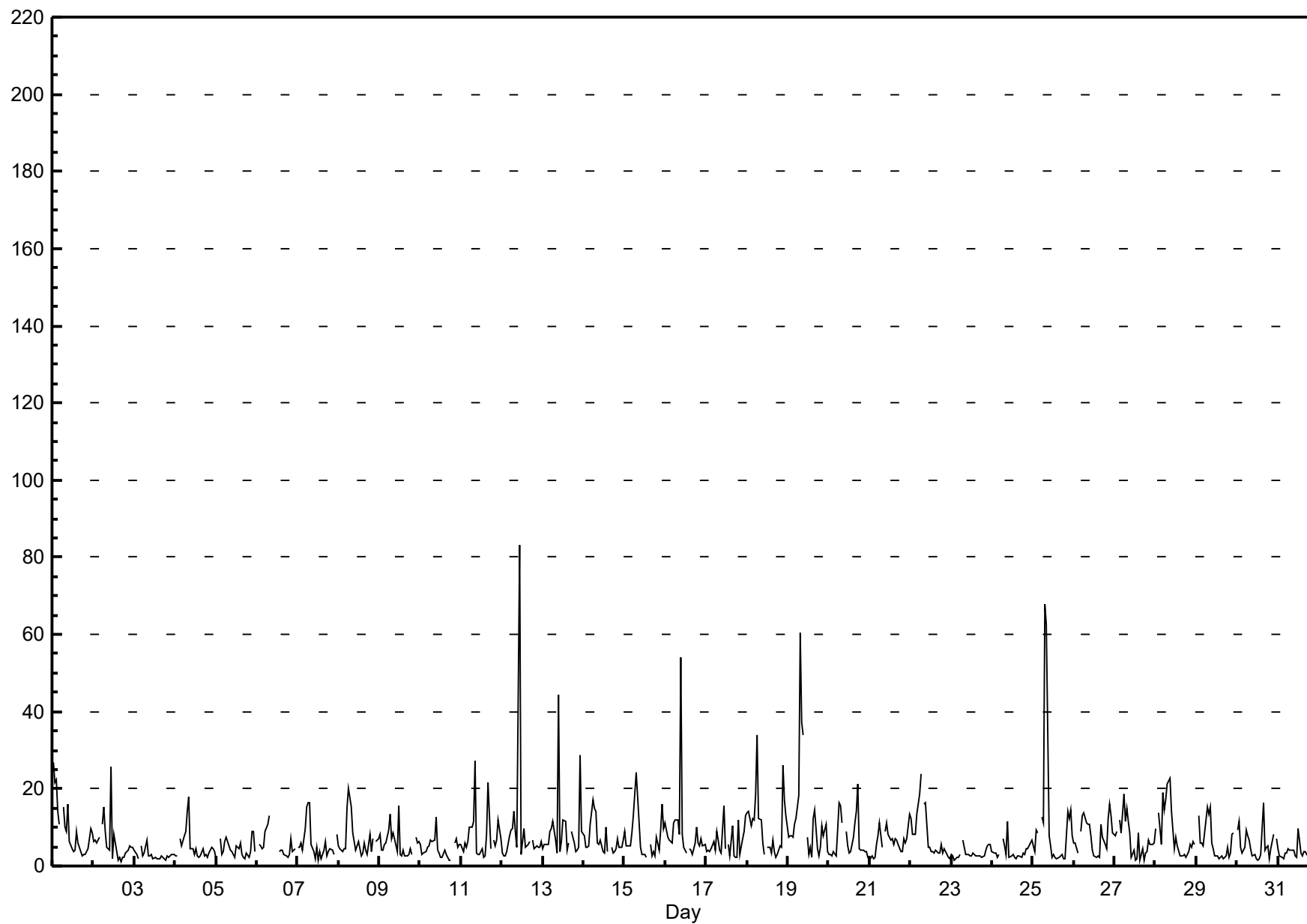
Henry Pirker - July 2016

Maximum Value: 83.2 ppb on Jul 12 11:00																				Maximum Daily Average: 12.7 ppb on Jul 19										Hours in Service: 744	
Minimum Value: 1 ppb on Jul 2 17:00																				Minimum Daily Average: 2.8 ppb on Jul 3										Hours of Data: 706	
Maximum Diurnal Average: 14.6 ppb at hour 8																				Minimum Diurnal Average: 3.7 ppb at hour 15										Hours of Missing Data: 38	
Monthly Average: 6.98 ppb																				Percentiles: P ₁ = 1.6 P ₁₀ = 2.3 Q ₁ = 3.1 Median = 4.9 Q ₃ = 8.3 P ₉₀ = 13.3 P ₉₉ = 33.3										Hours of Calibration: 38	
																														Percent Operational Time: 100.0	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24							
1-Jul	27	22	22	14	11	A	15	10	9	16	6	4	4	4	9	6	4	3	3	3	4	5	10	8	9.5	26.8					
2-Jul	7	7	6	8	A	11	15	9	5	4	26	2	8	6	2	2	1	2	2	4	4	5	5	5	6.3	25.8					
3-Jul	4	3	2	A	5	3	3	7	2	3	3	2	2	2	2	2	3	2	2	3	2	3	3	3	2.8	6.7					
4-Jul	2	3	A	7	5	8	9	14	18	4	4	3	5	2	2	3	4	2	3	2	3	5	4	4	5.1	18.0					
5-Jul	2	A	7	3	4	6	7	6	4	4	3	2	5	4	6	3	2	2	3	2	4	9	9	4	4.5	9.0					
6-Jul	A	6	5	4	5	9	11	13	C	C	C	C	C	4	4	4	3	3	2	3	7	4	4	A	--	12.9					
7-Jul	5	5	6	4	10	15	16	16	6	4	2	5	2	4	2	4	6	3	4	5	4	3	A	8	6.0	16.4					
8-Jul	5	4	4	5	5	15	20	15	8	6	4	5	6	3	3	6	4	3	8	4	7	A	6	7	6.7	20.0					
9-Jul	8	4	4	5	6	9	13	7	9	7	4	16	3	3	4	3	3	3	4	3	A	7	6	6	6.0	15.6					
10-Jul	6	3	3	4	5	5	7	7	7	13	4	3	2	2	4	3	2	1	1	A	6	7	5	5	4.6	12.7					
11-Jul	6	4	6	5	6	10	10	12	27	3	3	3	4	2	3	8	21	4	A	7	5	7	12	7	7.6	27.2					
12-Jul	3	3	3	4	8	9	10	14	9	5	83	3	6	10	5	5	6	A	7	4	5	5	5	6	9.5	83.2					
13-Jul	5	6	5	5	9	10	12	7	3	44	4	6	12	12	4	6	A	9	6	4	4	5	29	9	9.4	44.2					
14-Jul	8	5	5	5	11	17	15	14	6	6	7	4	4	10	4	A	5	3	4	4	7	5	5	7	6.9	17.3					
15-Jul	9	5	5	5	9	13	19	24	18	5	3	3	3	2	A	6	3	4	3	7	4	9	16	10	8.0	24.2					
16-Jul	11	7	7	6	6	11	12	12	8	54	8	5	3	A	5	4	3	6	10	6	5	7	5	6	9.0	53.9					
17-Jul	4	4	4	4	7	4	9	7	4	3	16	4	A	5	2	10	3	2	2	12	3	7	9	13	6.1	15.7					
18-Jul	14	14	10	12	12	18	34	12	12	6	3	A	5	5	3	7	4	2	3	5	5	26	17	13	10.6	34.1					
19-Jul	8	8	8	7	11	12	18	60	37	34	A	7	3	5	2	12	14	5	2	5	10	8	11	4	12.7	60.3					
20-Jul	3	3	3	4	3	9	16	16	11	A	9	5	3	4	7	11	14	21	5	4	4	4	4	2	7.2	21.3					
21-Jul	2	3	2	2	5	8	11	5	A	9	11	8	7	7	5	7	7	6	4	4	7	6	7	13	6.3	13.3					
22-Jul	12	8	8	8	14	19	24	A	16	17	5	5	4	4	3	4	4	3	6	3	4	3	2	2	7.7	23.7					
23-Jul	3	3	2	2	2	3	A	7	3	3	3	3	3	3	3	3	3	3	2	3	4	5	6	6	3.3	6.5					
24-Jul	4	3	3	2	3	A	7	5	3	12	2	3	3	2	2	3	3	2	3	3	5	5	6	7	3.9	11.6					
25-Jul	5	4	9	9	A	13	11	68	63	8	5	2	3	2	2	2	3	3	2	2	14	12	14	8	11.5	68.0					
26-Jul	6	6	3	A	9	13	14	11	11	11	8	4	3	2	3	2	11	7	5	5	12	16	13	9	8.0	16.0					
27-Jul	8	9	A	12	9	19	12	15	11	9	2	4	2	2	8	2	5	1	3	4	7	6	6	6	7.0	18.8					
28-Jul	10	A	14	6	19	15	17	21	23	14	9	5	7	5	3	3	2	3	2	4	5	5	6	6	8.8	22.6					
29-Jul	A	13	6	6	5	9	15	13	15	6	5	3	3	2	2	3	2	2	5	2	4	8	9	A	6.3	15.3					
30-Jul	9	12	5	3	5	9	8	7	5	3	3	2	2	2	3	16	4	5	5	2	4	8	A	7	5.6	16.3					
31-Jul	5	2	2	2	3	3	4	4	4	4	3	2	10	3	3	4	4	3	3	2	3	A	8	7	3.8	9.8					
6.8 6.1 5.8 5.7 7.2 10.6 13.2 14.6 12.3 10.9 8.6 4.3 4.3 4.2 3.7 5.1 5.1 4.0 3.9 4.0 5.5 7.0 8.3 6.8																									Diurnal Average						
26.8 21.7 22.2 14.2 18.8 18.8 34.1 68.0 62.7 53.9 83.2 15.6 11.8 11.6 8.8 16.3 21.5 21.3 10.1 12.1 14.1 26.2 28.7 13.3																									Diurnal Maximum						
C - Calibration A - Automated Daily Zero Span																															

Hourly Maximums

Oxides of Nitrogen (NO_x) - ppb

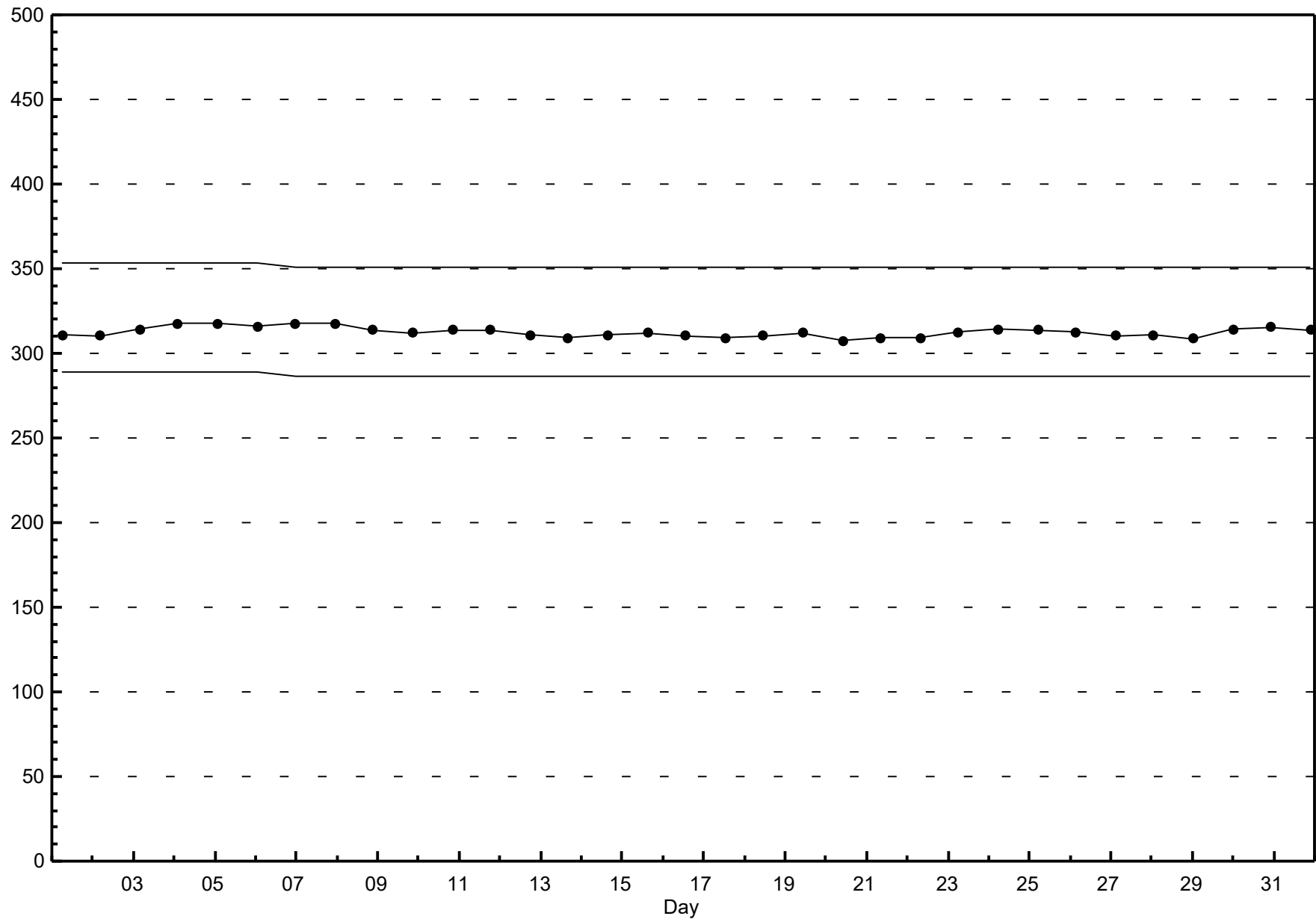
Henry Pirker - July 2016



Span Responses

Oxides of Nitrogen (NO_x)

Henry Pirker - July 2016



Hourly Averages

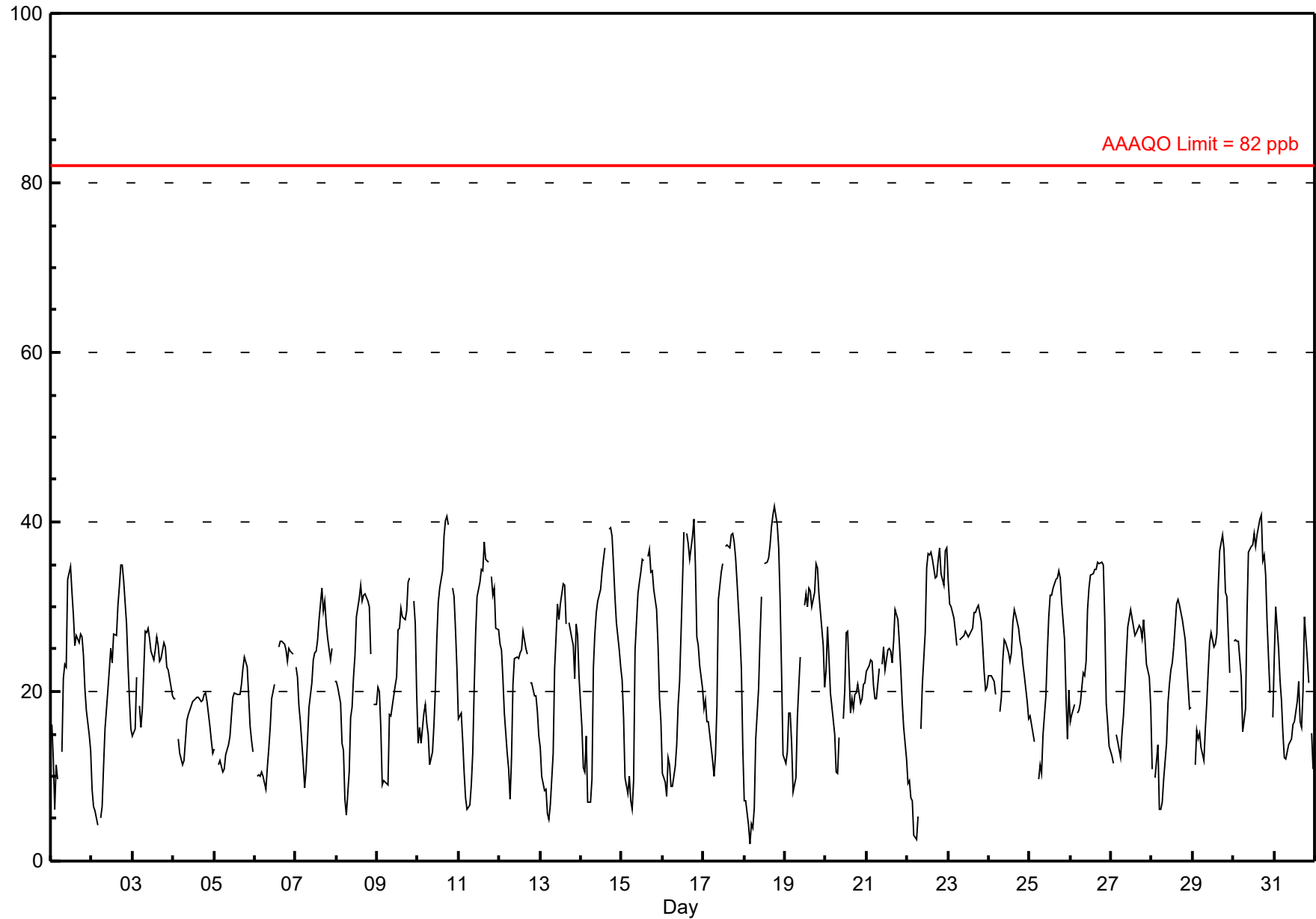
Ozone (O₃) - ppb

Henry Pirker - July 2016

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 41.8 ppb on Jul 18 19:00 Maximum Daily Average: 29.6 ppb on Jul 30																								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 18 04:00 Maximum Diurnal Average: 31.1 ppb at hour 18 Monthly Average: 22.39 ppb												Minimum Daily Average: 16.4 ppb on Jul 5 Minimum Diurnal Average: 10.8 ppb at hour 6 Percentiles: P ₁ = 4.8 P ₁₀ = 10.4 Q ₁ = 15.8 Median = 22.6 Q ₃ = 28.7 P ₉₀ = 34.5 P ₉₉ = 40.0														
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
1-Jul	16	12	6	11	10	A	13	22	23	23	33	35	32	29	25	27	26	27	26	24	20	18	15	13	21.1	34.7
2-Jul	8	6	6	4	A	5	6	11	16	20	23	25	23	27	27	30	32	35	35	33	28	23	19	16	20.0	34.9
3-Jul	15	16	22	A	18	16	18	27	27	28	26	25	24	25	26	25	24	24	26	25	23	22	21	19	22.7	27.5
4-Jul	19	19	A	14	13	11	12	14	17	17	18	19	19	19	19	19	19	19	20	20	19	16	14	13	16.9	19.8
5-Jul	13	A	11	12	11	11	11	13	14	15	17	19	20	20	20	20	21	23	24	23	19	16	14	13	16.4	24.0
6-Jul	A	10	10	10	11	10	8	11	13	16	19	21	C	C	25	26	26	26	25	24	25	25	24	A	18.2	25.9
7-Jul	23	22	18	16	12	9	11	14	18	21	24	24	25	26	28	32	30	31	28	26	24	25	A	21	22.1	32.3
8-Jul	21	21	19	14	13	7	5	10	17	18	22	24	29	31	33	31	31	32	31	30	24	A	19	19	21.7	32.6
9-Jul	20	20	16	9	9	9	9	17	17	18	21	22	27	27	30	29	28	30	33	33	A	31	28	20	21.9	33.3
10-Jul	14	16	14	18	18	16	15	11	13	16	20	26	30	32	34	38	40	41	40	A	32	31	27	23	24.7	40.7
11-Jul	17	17	14	10	7	6	7	9	13	20	27	31	33	34	34	38	36	35	A	34	31	32	28	27	23.5	37.7
12-Jul	26	25	22	17	13	11	7	12	21	24	24	24	25	25	27	25	24	A	21	21	20	19	18	15	20.2	27.1
13-Jul	13	10	8	8	6	5	7	13	23	26	30	28	30	33	33	28	A	28	26	26	21	28	27	22	20.8	32.7
14-Jul	16	11	11	15	7	7	10	23	27	29	31	32	34	36	37	A	39	39	38	35	31	28	25	23	25.3	39.3
15-Jul	21	17	10	8	10	7	6	9	25	31	33	34	36	35	A	36	37	34	34	32	30	25	19	16	23.8	36.7
16-Jul	10	9	8	12	11	9	9	11	14	18	21	27	39	A	39	37	36	38	40	35	27	25	23	20	22.6	40.3
17-Jul	18	19	16	16	13	12	10	12	18	31	34	35	A	37	37	37	38	39	38	36	33	27	23	13	25.8	38.7
18-Jul	7	7	4	2	4	4	6	14	20	26	31	A	35	35	36	37	39	41	42	40	37	31	22	13	23.3	41.8
19-Jul	12	13	17	17	14	8	10	17	21	24	A	30	32	30	32	32	30	32	35	35	32	30	26	21	23.8	35.1
20-Jul	22	28	24	20	17	15	10	10	15	A	17	20	27	27	17	19	18	20	20	21	19	19	21	21	19.4	27.6
21-Jul	22	23	24	23	21	19	19	23	A	23	25	23	25	25	25	23	26	30	29	26	23	19	16	12	22.7	29.7
22-Jul	9	9	8	7	3	3	5	A	16	21	27	35	36	36	36	36	33	34	35	37	34	33	37	37	24.6	37.0
23-Jul	33	30	30	29	27	25	A	26	27	27	27	27	27	27	28	29	29	30	30	28	25	22	20	20	27.1	33.1
24-Jul	22	22	21	21	20	A	18	19	24	26	26	25	24	25	28	30	29	28	26	25	23	22	19	17	23.3	29.6
25-Jul	17	16	15	14	A	10	11	10	15	19	25	29	31	31	32	33	33	34	33	30	26	20	14	20	22.7	34.2
26-Jul	16	17	18	A	18	18	19	22	22	24	30	32	34	34	34	34	35	35	35	35	28	19	16	14	25.6	35.3
27-Jul	12	11	A	15	14	12	15	17	20	24	28	30	29	28	27	27	28	27	26	28	26	23	22	18	22.1	29.7
28-Jul	11	A	10	14	6	6	7	10	14	19	21	23	23	25	30	31	30	29	29	26	23	21	18	18	19.3	30.8
29-Jul	A	11	15	14	15	13	12	16	19	22	26	27	25	26	27	32	37	38	37	32	31	27	22	A	23.8	38.5
30-Jul	26	26	26	26	22	15	17	18	29	36	37	37	39	37	38	40	41	35	36	34	28	20	A	17	29.6	40.8
31-Jul	24	30	25	21	19	15	12	12	14	14	14	16	16	19	21	16	16	20	29	24	21	A	15	11	18.5	30.0
17.4 17.0 15.5 14.5 13.1 10.8 10.8 15.2 19.0 22.6 25.2 26.8 28.5 29.0 29.6 30.0 30.4 31.1 30.9 29.2 26.1 24.0 21.1 18.3 33.1 30.3 30.0 28.6 27.2 25.4 19.2 27.1 29.0 36.4 37.2 37.4 38.8 37.1 38.6 40.3 40.8 40.9 41.8 39.7 36.9 32.5 36.7 37.0																								Diurnal Average	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 2016



Hourly Maximums

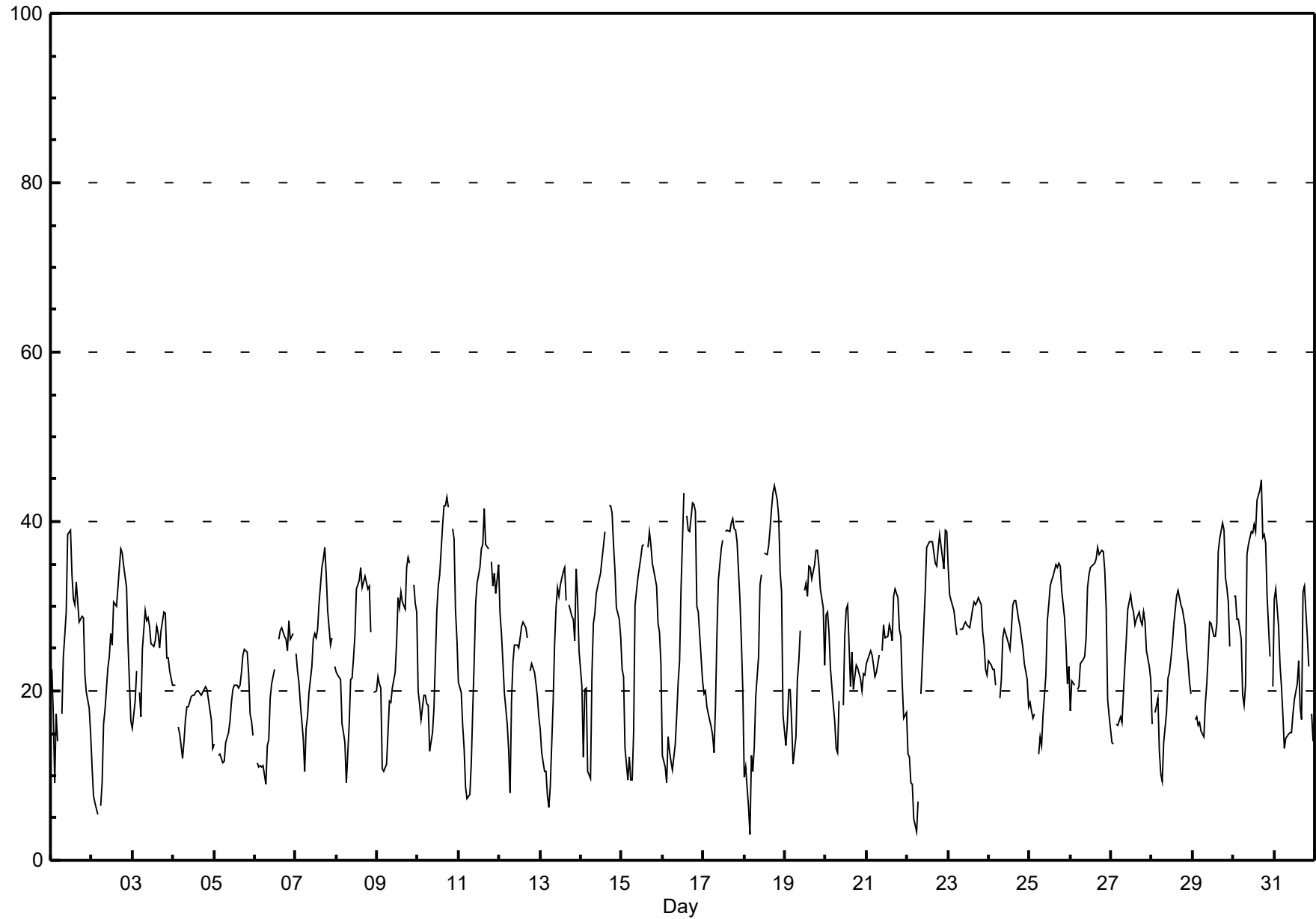
Ozone (O₃) - ppb

Henry Pirker - July 2016

Maximum Value: 45.0 ppb on Jul 30 17:00																					Maximum Daily Average: 32.8 ppb on Jul 30					Hours in Service: 744	
Minimum Value: 3 ppb on Jul 18 04:00																					Minimum Daily Average: 17.7 ppb on Jul 5					Hours of Data: 709	
Maximum Diurnal Average: 33.5 ppb at hour 18																					Minimum Diurnal Average: 13.3 ppb at hour 6					Hours of Missing Data: 35	
Monthly Average: 24.86 ppb																					Percentiles: P ₁ = 6.8 P ₁₀ = 13.2 Q ₁ = 18.4 Median = 25.0 Q ₃ = 31.2 P ₉₀ = 36.8 P ₉₉ = 42.4					Hours of Calibration: 35	
																										Percent Operational Time: 100.0	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jul	23	17	9	17	14	A	17	24	27	29	38	39	34	31	30	33	28	28	29	29	22	20	18	15	24.8	38.9	
2-Jul	11	8	7	5	A	6	9	16	18	23	24	27	25	31	30	32	35	37	36	35	32	26	21	16	22.2	36.8	
3-Jul	16	19	22	A	20	17	25	29	28	29	28	26	25	26	28	27	25	27	29	29	24	24	22	21	24.6	29.4	
4-Jul	21	21	A	16	15	12	14	17	18	18	19	19	19	20	20	20	19	20	20	21	20	18	17	13	18.1	20.8	
5-Jul	14	A	12	12	12	11	12	14	15	16	19	20	21	21	20	21	22	24	25	25	22	17	16	15	17.7	25.0	
6-Jul	A	12	11	11	11	11	9	13	14	19	21	22	C	C	26	27	27	26	26	25	28	26	27	A	19.7	28.2	
7-Jul	24	22	21	18	14	10	16	17	20	23	26	27	26	27	30	35	36	37	34	30	26	26	A	23	24.7	37.0	
8-Jul	22	22	21	16	15	14	9	16	21	21	24	27	32	33	35	32	33	33	32	32	27	A	20	20	24.3	34.6	
9-Jul	22	21	20	11	10	11	15	19	19	20	22	26	31	30	32	31	30	35	36	35	A	32	30	29	24.6	35.7	
10-Jul	20	18	17	20	20	18	18	13	15	18	24	29	32	34	39	42	42	43	42	A	39	38	29	26	27.7	42.9	
11-Jul	21	20	16	13	9	7	8	11	18	23	30	33	35	37	37	41	37	37	A	35	32	34	32	35	26.1	41.4	
12-Jul	29	27	23	20	16	13	8	19	23	25	25	25	26	28	28	28	26	A	22	23	22	21	19	17	22.4	29.1	
13-Jul	15	13	10	11	8	6	9	19	26	30	32	31	33	34	35	31	A	30	29	28	26	34	31	25	23.7	34.6	
14-Jul	21	12	20	20	11	10	22	28	29	32	32	34	36	37	39	A	42	42	41	37	34	30	29	26	28.8	41.9	
15-Jul	23	22	13	9	12	9	10	15	30	33	35	36	37	37	A	37	39	37	35	34	32	28	27	23	26.7	38.8	
16-Jul	12	11	9	15	13	12	11	14	17	21	24	32	43	A	41	39	39	42	42	41	30	29	27	21	25.4	43.5	
17-Jul	20	20	18	17	16	15	13	18	27	33	37	38	A	39	39	39	40	40	39	39	38	31	26	20	28.7	40.4	
18-Jul	10	11	6	3	12	10	13	19	24	32	34	A	36	36	37	39	42	43	44	43	41	34	32	17	26.9	44.2	
19-Jul	14	16	20	20	16	11	15	21	24	27	A	32	33	31	35	35	33	35	37	37	35	32	30	23	26.5	36.6	
20-Jul	29	29	27	23	18	16	13	13	19	A	18	27	30	30	21	25	20	22	23	23	21	20	22	22	22.2	30.2	
21-Jul	23	24	25	24	23	22	22	24	A	25	28	26	27	28	27	26	31	32	31	27	26	21	17	17	25.1	32.1	
22-Jul	12	12	9	9	5	3	7	A	20	24	32	37	37	38	38	38	35	35	37	38	37	34	39	39	26.7	38.9	
23-Jul	35	31	31	29	28	27	A	27	27	28	28	28	28	28	30	31	30	31	31	30	27	25	23	22	28.4	34.6	
24-Jul	24	23	23	23	21	A	19	21	26	27	27	26	25	27	30	31	31	29	28	26	25	23	21	18	24.9	30.8	
25-Jul	19	18	17	17	A	12	15	14	17	22	28	30	32	33	33	35	35	35	35	32	29	26	21	23	25.1	35.2	
26-Jul	18	21	21	A	20	20	23	24	24	26	32	34	35	35	35	36	37	36	37	37	34	30	19	17	28.2	37.0	
27-Jul	14	14	A	16	16	17	16	20	23	26	30	31	30	29	28	28	29	28	28	29	28	25	23	21	23.9	31.3	
28-Jul	16	A	18	19	13	10	9	14	17	21	22	24	25	28	31	32	31	30	30	28	25	23	21	20	22.1	31.9	
29-Jul	A	17	17	16	16	15	15	19	21	24	28	28	26	26	28	36	38	40	39	33	32	31	25	A	25.9	39.8	
30-Jul	31	31	29	28	26	20	18	21	36	37	39	39	40	39	42	44	45	38	39	38	31	24	A	20	32.8	45.0	
31-Jul	31	32	28	23	21	17	13	14	15	15	15	17	19	21	24	18	17	32	32	26	23	A	17	14	21.0	32.4	
20.2 19.4 17.9 16.7 15.6 13.3 14.1 18.4 22.0 25.0 27.4 28.9 30.3 30.8 31.6 32.2 32.4 33.5 32.9 31.5 29.0 27.0 24.1 21.4																									Diurnal Average		
34.6 32.1 30.7 29.4 28.0 26.6 24.9 29.4 36.1 37.2 38.8 38.9 43.5 38.8 42.5 43.8 45.0 43.4 44.2 42.6 40.5 38.0 38.9 38.8																									Diurnal Maximum		
C - Calibration A - Automated Daily Zero Span																											

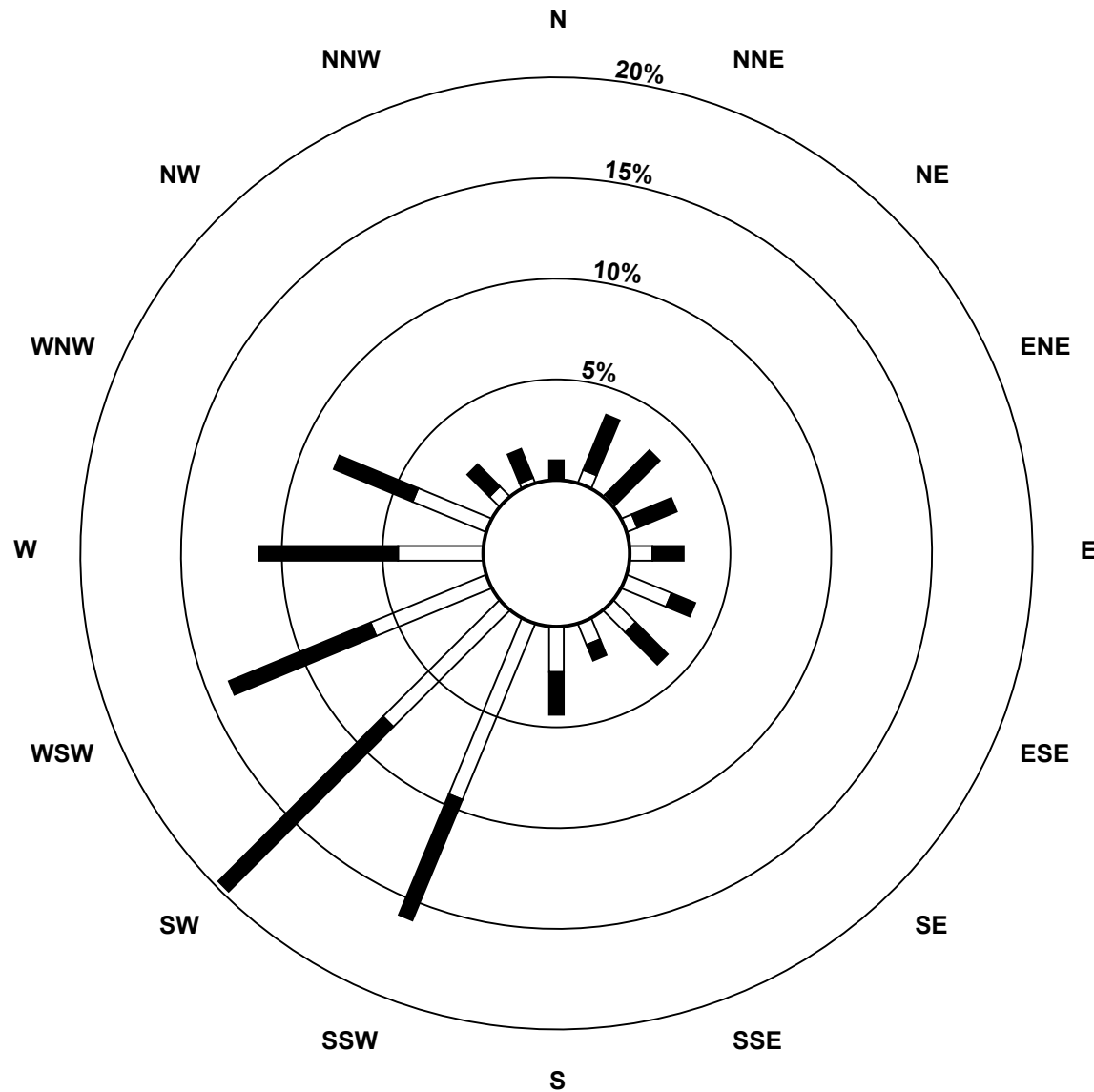
Hourly Maximums

Ozone (O₃) - ppb
Henry Pirker - July 2016

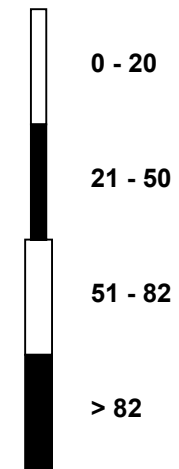


Pollutant Rose

Ozone (O_3) - ppb
Henry Pirker - July 2016



Pollutant Classes (ppb)



Eight Hour Running Averages

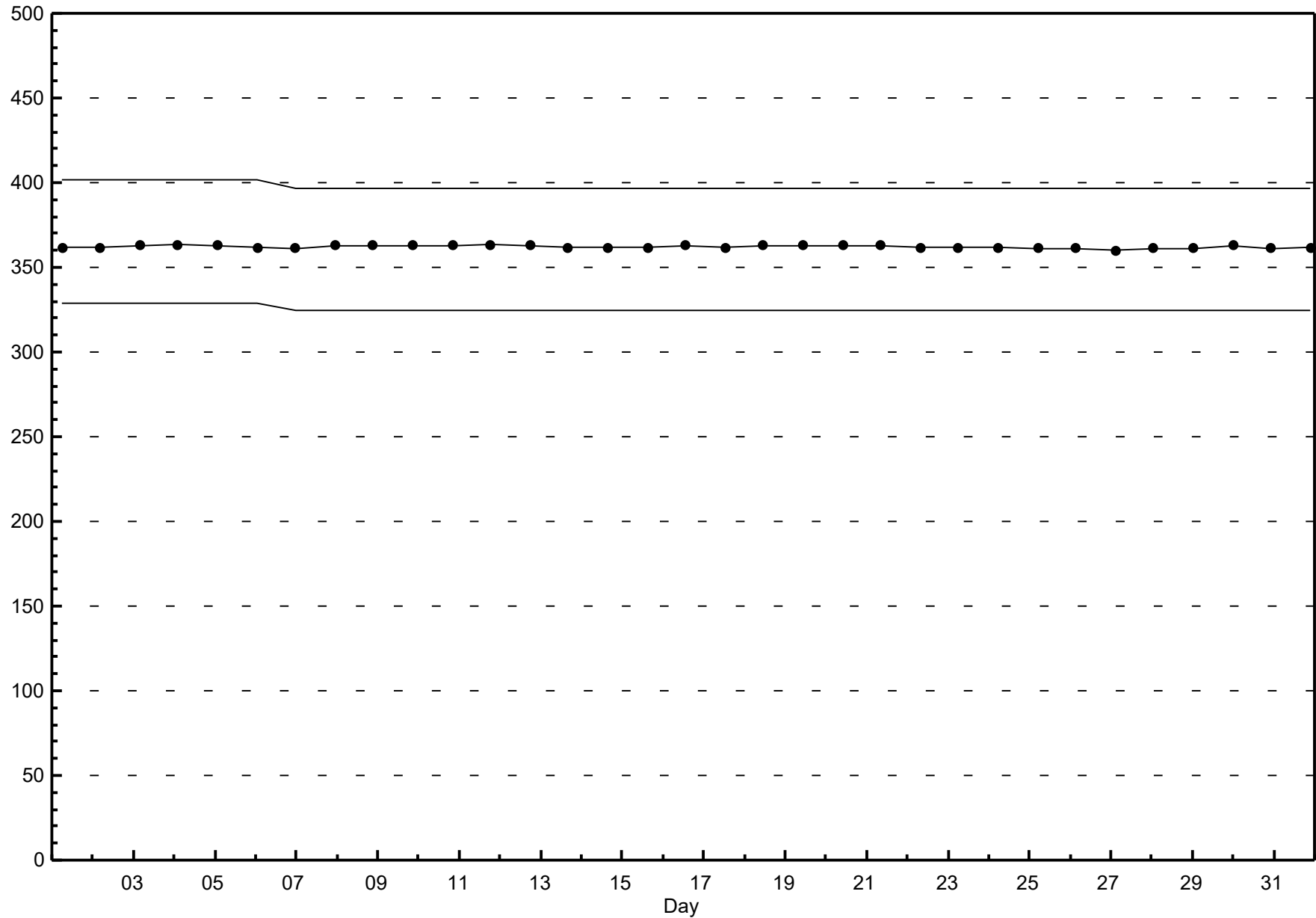
Ozone (O₃) - ppb

Henry Pirker - July 2016

Maximum Value: 38.4 ppb on Jul 18 21:00																								Hours in Service: 744	
Minimum Value: 6.1 ppb on Jul 18 07:00																								Hours of Data: 744	
																								Hours of Missing Data: 0	
Percentiles: P ₁ = 7.8 P ₁₀ = 13.3 Q ₁ = 16.8 Median = 22.1 Q ₃ = 27.7 P ₉₀ = 32.6 P ₉₉ = 37.7																								Hours of Calibration: 0	
																								Percent Operational Time: 100.0	
Day	Hourly Period Ending At (MST)																							Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jul	32	28	24	20	16	13	12	13	14	15	19	23	26	26	28	28	29	29	28	27	26	24	23	21	31.8
2-Jul	19	16	14	11	10	8	7	7	8	10	12	15	16	19	21	24	26	28	29	30	31	30	29	28	30.8
3-Jul	25	23	21	20	18	17	17	19	20	22	23	23	24	25	26	26	25	25	25	25	25	24	24	23	26.0
4-Jul	23	22	21	20	18	17	15	15	14	14	15	15	16	17	18	18	19	19	19	19	19	19	18	17	22.6
5-Jul	17	16	15	14	13	12	12	12	12	12	13	14	15	16	17	18	19	20	21	21	21	21	20	19	21.1
6-Jul	19	17	15	13	12	11	10	10	10	11	12	14	14	15	17	20	22	24	25	25	25	25	25	25	25.2
7-Jul	24	24	23	22	20	18	16	16	15	15	16	17	18	20	23	25	26	28	28	28	28	28	28	26	28.3
8-Jul	25	24	22	21	19	17	15	14	13	13	13	15	17	20	23	25	27	29	30	31	30	30	28	26	30.8
9-Jul	25	23	21	18	16	15	14	14	13	13	14	15	18	20	22	24	25	27	28	30	30	30	30	29	30.5
10-Jul	27	25	22	20	20	18	16	15	15	15	16	17	19	21	23	26	30	33	35	37	37	37	36	33	36.8
11-Jul	30	27	23	22	18	15	13	11	10	11	12	15	18	22	25	29	32	34	34	35	35	34	33	32	34.8
12-Jul	30	29	28	26	24	21	18	17	16	16	16	17	18	20	23	24	25	25	24	24	23	23	21	20	30.4
13-Jul	18	17	16	14	12	10	9	9	10	12	15	17	20	24	27	29	30	30	29	29	28	27	26	25	30.1
14-Jul	24	22	20	19	17	14	12	12	14	16	19	21	24	28	31	32	34	35	36	37	36	35	34	32	36.9
15-Jul	30	27	24	20	18	15	13	11	12	13	16	20	23	26	29	33	35	35	35	35	34	33	31	28	35.2
16-Jul	25	22	19	16	14	12	11	10	10	12	13	15	18	20	24	28	31	34	37	38	36	35	33	31	37.7
17-Jul	28	26	23	21	19	17	16	15	15	16	18	21	22	25	29	33	36	37	37	37	37	36	34	31	37.4
18-Jul	27	23	19	15	11	8	6	6	8	10	14	15	20	24	28	32	34	36	38	38	38	38	36	33	38.4
19-Jul	30	26	23	20	17	15	13	14	15	16	16	18	20	23	27	29	30	31	32	32	32	32	31	30	32.1
20-Jul	29	28	27	25	23	21	20	18	17	16	15	15	16	18	19	20	21	21	21	21	20	19	20	20	28.9
21-Jul	20	21	21	22	22	22	22	22	22	22	22	22	22	23	24	24	24	25	26	26	26	25	24	22	26.0
22-Jul	20	18	15	13	10	8	7	6	7	9	12	16	20	25	30	30	33	34	35	35	35	35	35	35	35.5
23-Jul	35	34	34	33	32	31	30	29	28	27	27	27	26	27	27	27	28	28	28	28	28	28	27	26	34.9
24-Jul	25	24	23	22	21	21	21	20	21	21	22	22	23	23	24	26	26	27	27	27	27	26	25	24	26.7
25-Jul	22	21	19	18	17	15	14	13	13	14	15	17	19	22	24	27	29	31	32	32	32	30	28	26	32.4
26-Jul	24	22	20	19	18	17	18	18	19	20	22	23	25	27	29	30	32	34	34	35	34	32	30	27	34.6
27-Jul	24	21	19	17	14	14	13	14	15	17	18	20	22	24	25	26	27	28	28	27	27	27	26	25	27.8
28-Jul	23	22	20	18	15	12	10	9	9	11	12	13	15	18	21	23	25	27	28	28	28	27	26	24	28.0
29-Jul	23	21	19	17	16	15	14	14	14	16	17	19	20	21	23	25	28	30	31	32	32	33	32	32	32.6
30-Jul	30	29	27	26	25	23	23	22	22	24	25	26	29	31	34	37	38	38	38	38	36	34	33	30	38.3
31-Jul	28	27	25	24	22	22	20	20	19	17	15	15	14	15	16	16	17	17	19	20	21	21	20	19	27.8
Diurnal Maximums																									
34.9 34.5 33.8 32.8 31.9 31.0 30.2 28.7 27.7 27.2 26.8 26.5 28.6 31.3 34.0 36.8 38.3 38.1 38.0 38.1 38.4 37.8 36.1 34.9																									

Span Responses

Ozone (O₃)
Henry Pirker - July 2016



Hourly Averages

Carbon Monoxide (CO) - ppm

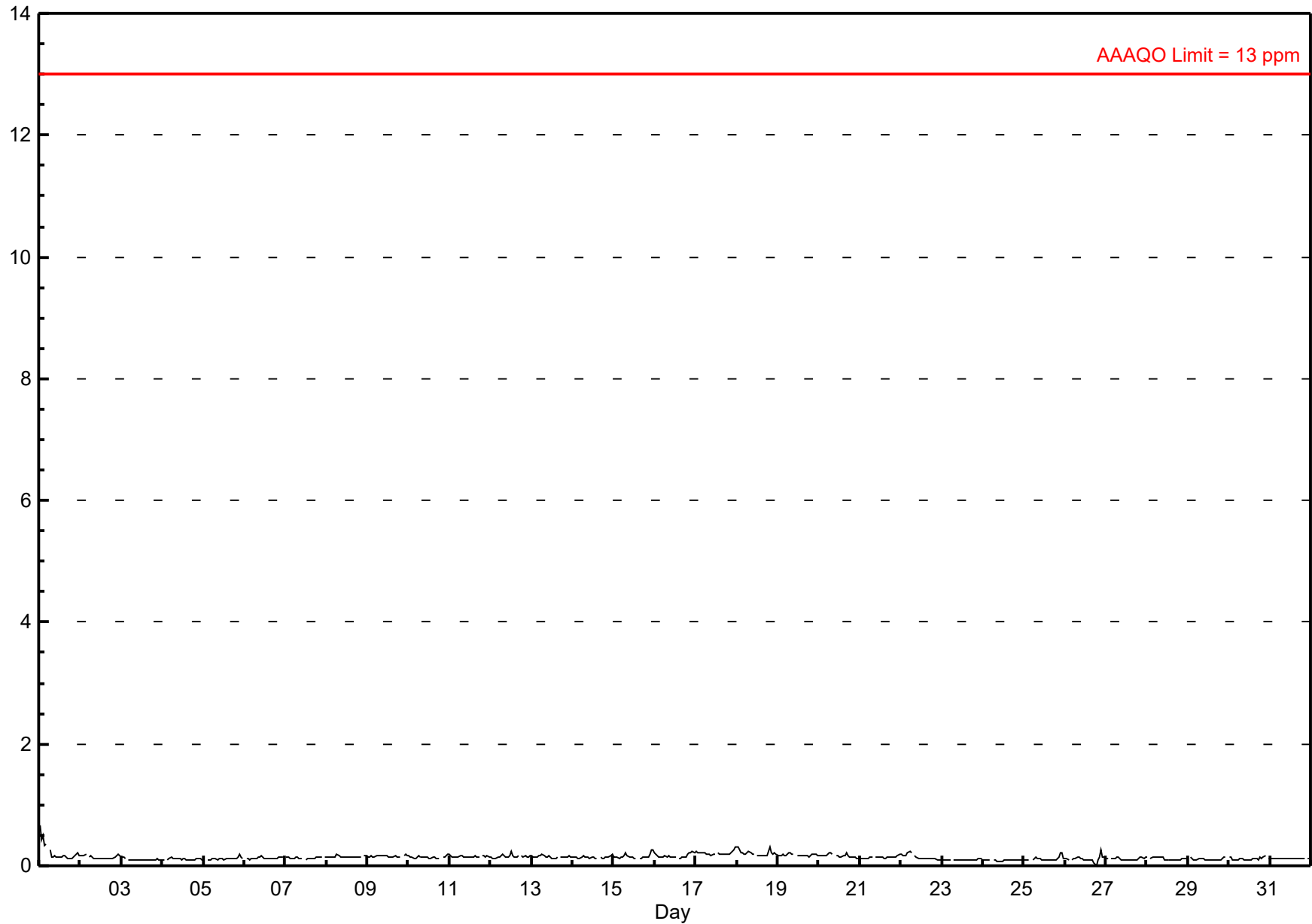
Henry Pirker - July 2016

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 0.67 ppm on Jul 1 01:00 Maximum Daily Average: 0.22 ppm 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: 0.0 ppm on Jul 26 19:00 Maximum Diurnal Average: 0.17 ppm at hour 1 Monthly Average: 0.139 ppm										Minimum Daily Average: 0.09 ppm on Jul 24 Minimum Diurnal Average: 0.12 ppm at hour 19 Percentiles: P ₁ = 0.08 P ₁₀ = 0.10 Q ₁ = 0.11 Median = 0.13 Q ₃ = 0.15 P ₉₀ = 0.19 P ₉₉ = 0.31																	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	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	0.7	0.4	0.5	0.3	0.4	A	0.3	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.22	0.67
2-Jul	0.2	0.2	0.2	0.2	A	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.14	0.19
3-Jul	0.2	0.2	0.1	A	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.11	0.15
4-Jul	0.1	0.1	A	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.11	0.13
5-Jul	0.1	A	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.12	0.18
6-Jul	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	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	A	0.12	0.16
7-Jul	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	C	C	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	0.13	0.15
8-Jul	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	A	0.2	0.2	0.14	0.18
9-Jul	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	A	0.2	0.2	0.2	0.2	0.15	0.18
10-Jul	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	A	0.1	0.1	0.2	0.2	0.2	0.14	0.19
11-Jul	0.2	0.1	0.1	0.2	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	A	0.2	0.2	0.2	0.2	0.2	0.2	0.15	0.18
12-Jul	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.2	A	0.2	0.2	0.2	0.2	0.1	0.2	0.16	0.23	
13-Jul	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	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	0.2	0.1	0.15	0.19	
14-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	0.1	0.1	0.1	A	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.14	0.20	
15-Jul	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	A	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.15	0.26	
16-Jul	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	A	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.16	0.23	
17-Jul	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.20	0.31	
18-Jul	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.21	0.31	
19-Jul	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.18	0.23	
20-Jul	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	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.17	0.21	
21-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	0.2	0.2	0.14	0.18	
22-Jul	0.2	0.2	0.2	0.2	0.2	0.2	0.2	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	0.1	0.1	0.1	0.14	0.23	
23-Jul	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	0.1	0.1	0.10	0.13	
24-Jul	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	0.1	0.1	0.1	0.09	0.10	
25-Jul	0.1	0.1	0.1	0.1	A	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.11	0.20	
26-Jul	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	0.0	0.0	0.1	0.1	0.3	0.2	0.1	0.11	0.26	
27-Jul	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	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.11	0.15	
28-Jul	0.2	A	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.12	0.15	
29-Jul	A	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	A	0.11	0.15	
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	0.2	A	0.1	0.12	0.17	
31-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	A	0.1	0.1	0.12	0.13	
0.17 0.15 0.15 0.14 0.14 0.14 0.16 0.15 0.14 0.13 0.13 0.13 0.12 0.12 0.12 0.13 0.13 0.12 0.12 0.13 0.14 0.16 0.16 0.16 0.16																								Diurnal Average			
0.67 0.43 0.50 0.34 0.36 0.23 0.25 0.25 0.22 0.20 0.19 0.19 0.23 0.20 0.19 0.19 0.20 0.19 0.19 0.31 0.20 0.26 0.26 0.31																								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 2016



Hourly Maximums

Carbon Monoxide (CO) - ppm

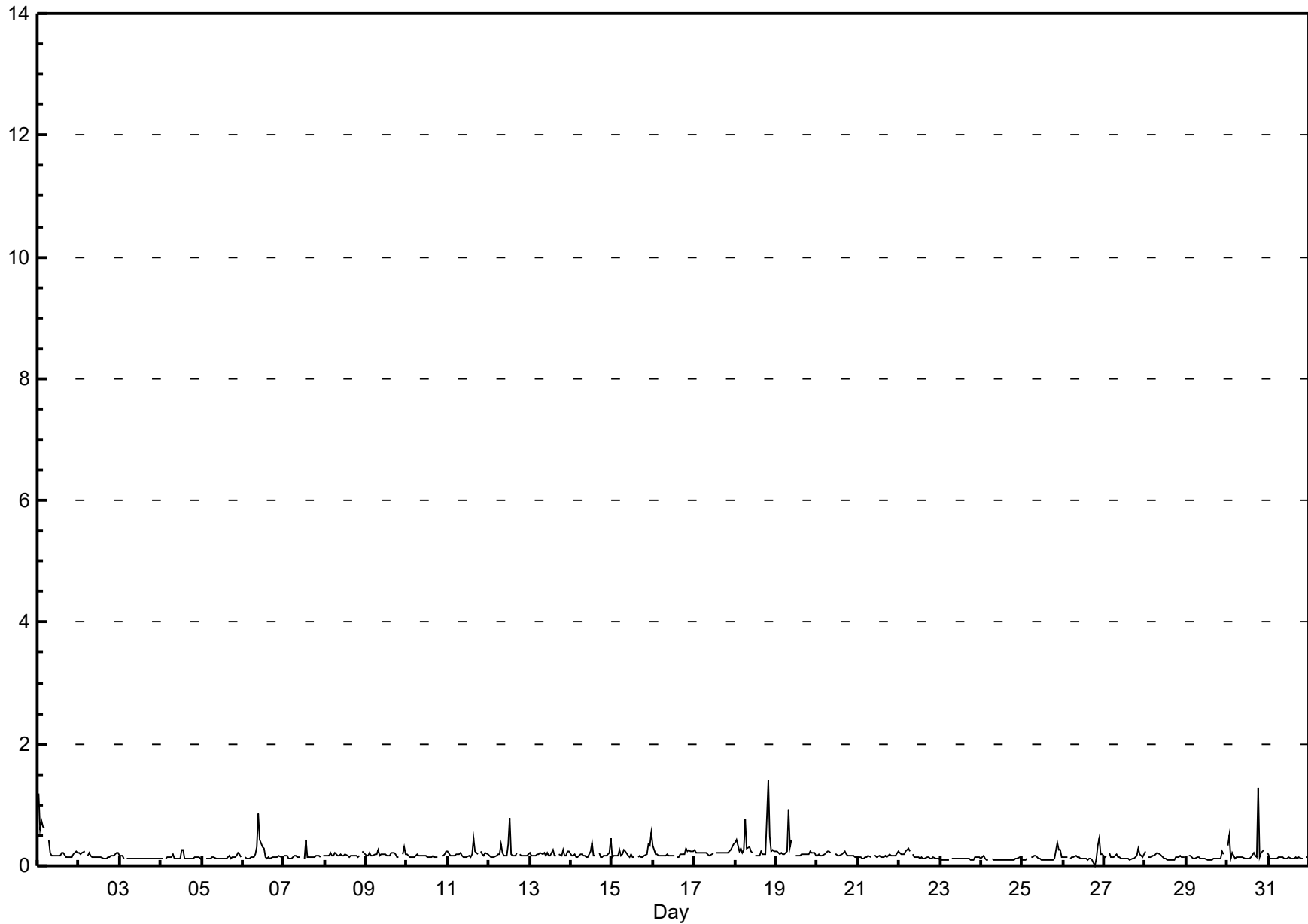
Henry Pirker - July 2016

Maximum Value: 1.40 ppm on Jul 18 20:00																				Maximum Daily Average: 0.33 ppm on Jul 18					Hours in Service: 744		
Minimum Value: 0.0 ppm on Jul 26 19:00																				Minimum Daily Average: 0.11 ppm on Jul 24					Hours of Data: 709		
Maximum Diurnal Average: 0.22 ppm at hour 1																				Minimum Diurnal Average: 0.14 ppm at hour 15					Hours of Missing Data: 35		
Monthly Average: 0.179 ppm																				Percentiles: P ₁ = 0.09 P ₁₀ = 0.11 Q ₁ = 0.13 Median = 0.16 Q ₃ = 0.19 P ₉₀ = 0.24 P ₉₉ = 0.76					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	1.2	0.6	0.7	0.6	0.6	A	A	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.31	1.19
2-Jul	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.16	0.23
3-Jul	0.2	0.2	0.1	A	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.12	0.18
4-Jul	0.1	0.1	A	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.3	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.14	0.27
5-Jul	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	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.13	0.21	
6-Jul	A	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.9	0.4	0.3	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	A	0.21	0.86	
7-Jul	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.1	0.1	C	C	0.1	0.4	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	A	0.2	0.16	0.43	
8-Jul	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.1	A	0.2	0.2	0.17	0.23	
9-Jul	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	0.2	0.1	0.1	A	0.2	0.3	0.2	0.19	0.32
10-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	0.1	0.1	0.1	0.2	0.1	0.1	0.1	A	0.2	0.2	0.2	0.2	0.16	0.23	
11-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	0.1	0.2	0.5	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.19	0.45	
12-Jul	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.4	0.8	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.21	0.78	
13-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	0.3	0.2	0.2	A	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.19	0.26	
14-Jul	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.4	0.2	0.2	A	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.4	0.19	0.44	
15-Jul	0.1	0.2	0.2	0.2	0.3	0.2	0.2	0.3	0.2	0.2	0.1	0.2	0.1	0.1	A	0.1	0.2	0.1	0.2	0.2	0.2	0.4	0.3	0.5	0.20	0.54	
16-Jul	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.1	0.1	0.2	0.2	0.2	0.3	0.2	0.3	0.2	0.2	0.20	0.34	
17-Jul	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.22	0.35	
18-Jul	0.4	0.4	0.2	0.3	0.2	0.3	0.8	0.3	0.3	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	1.4	0.5	0.2	0.3	0.2	0.33	1.40	
19-Jul	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.9	0.3	0.4	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	0.24	0.91	
20-Jul	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.19	0.24	
21-Jul	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	A	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.16	0.23	
22-Jul	0.2	0.2	0.2	0.2	0.2	0.3	0.2	A	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.16	0.28	
23-Jul	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	0.1	0.1	0.12	0.15	
24-Jul	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	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.11	0.17	
25-Jul	0.1	0.1	0.1	0.1	A	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.4	0.3	0.3	0.1	0.14	0.39	
26-Jul	0.1	0.1	0.1	A	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.3	0.5	0.2	0.2	0.15	0.46	
27-Jul	0.1	0.2	A	0.2	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.2	0.2	0.2	0.15	0.29	
28-Jul	0.2	A	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	0.2	0.1	0.1	0.1	0.14	0.23	
29-Jul	A	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	A	0.13	0.24	
30-Jul	0.3	0.5	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	0.2	0.2	0.1	1.3	0.1	0.2	0.3	A	0.2	0.22	1.27	
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	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	A	0.1	0.1	0.13	0.18	
0.22 0.19 0.18 0.18 0.17 0.16 0.20 0.21 0.18 0.18 0.16 0.16 0.18 0.16 0.14 0.16 0.15 0.14 0.18 0.20 0.19 0.20 0.20 0.20 0.20																									Diurnal Average		
1.19 0.60 0.73 0.65 0.62 0.28 0.77 0.91 0.32 0.86 0.43 0.35 0.78 0.43 0.20 0.45 0.24 0.20 1.27 1.40 0.48 0.46 0.33 0.54																									Diurnal Maximum		
C - Calibration A - Automated Daily Zero Span																											

Hourly Maximums

Carbon Monoxide (CO) - ppm

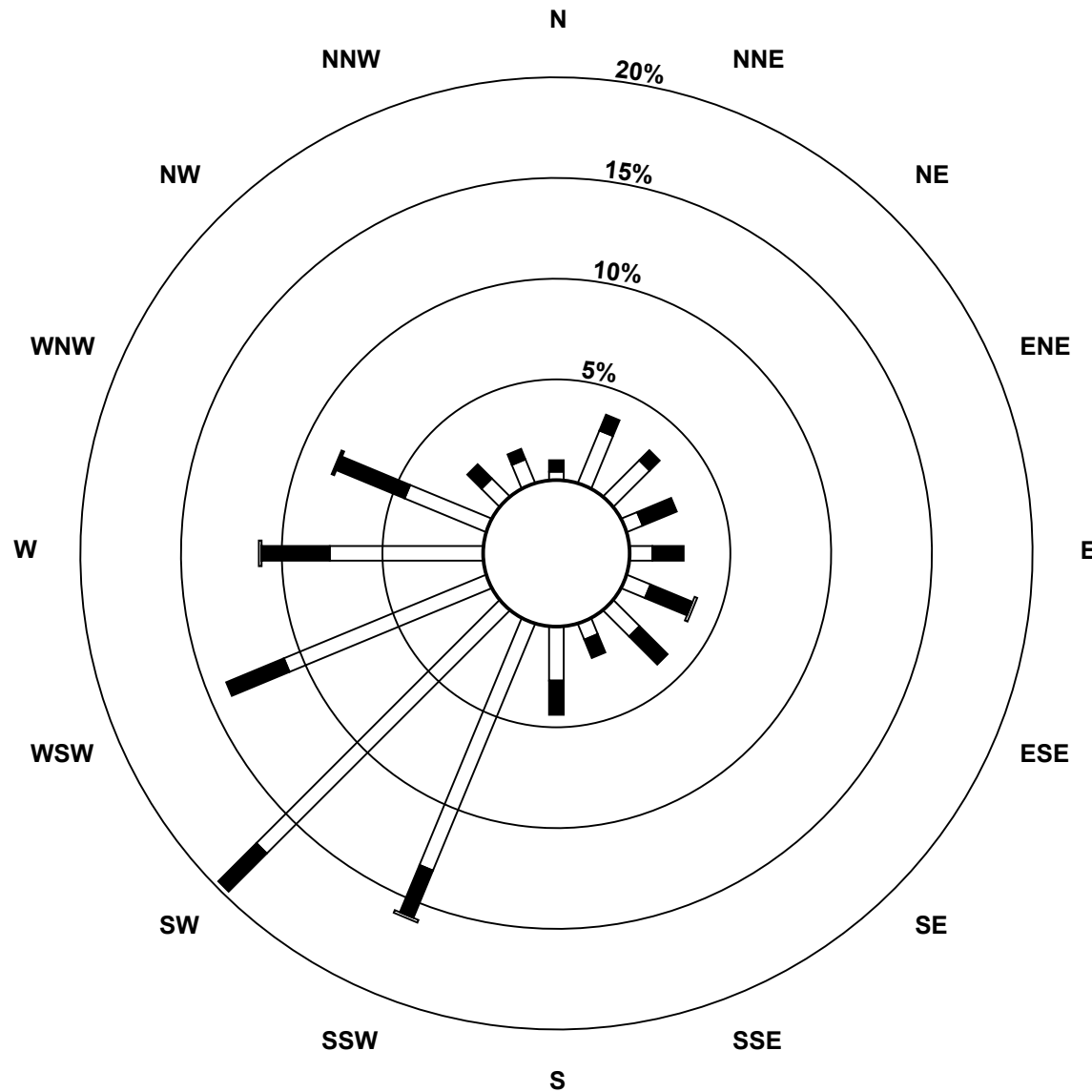
Henry Pirker - July 2016



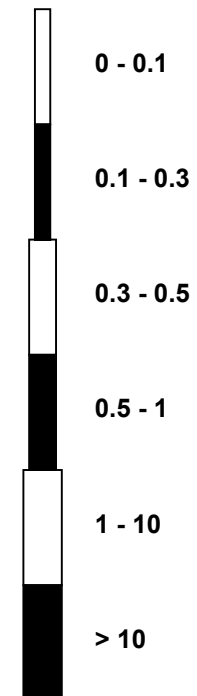
Pollutant Rose

Carbon Monoxide (CO) - ppm

Henry Pirker - July 2016



Pollutant Classes (ppm)



Eight Hour Running Averages

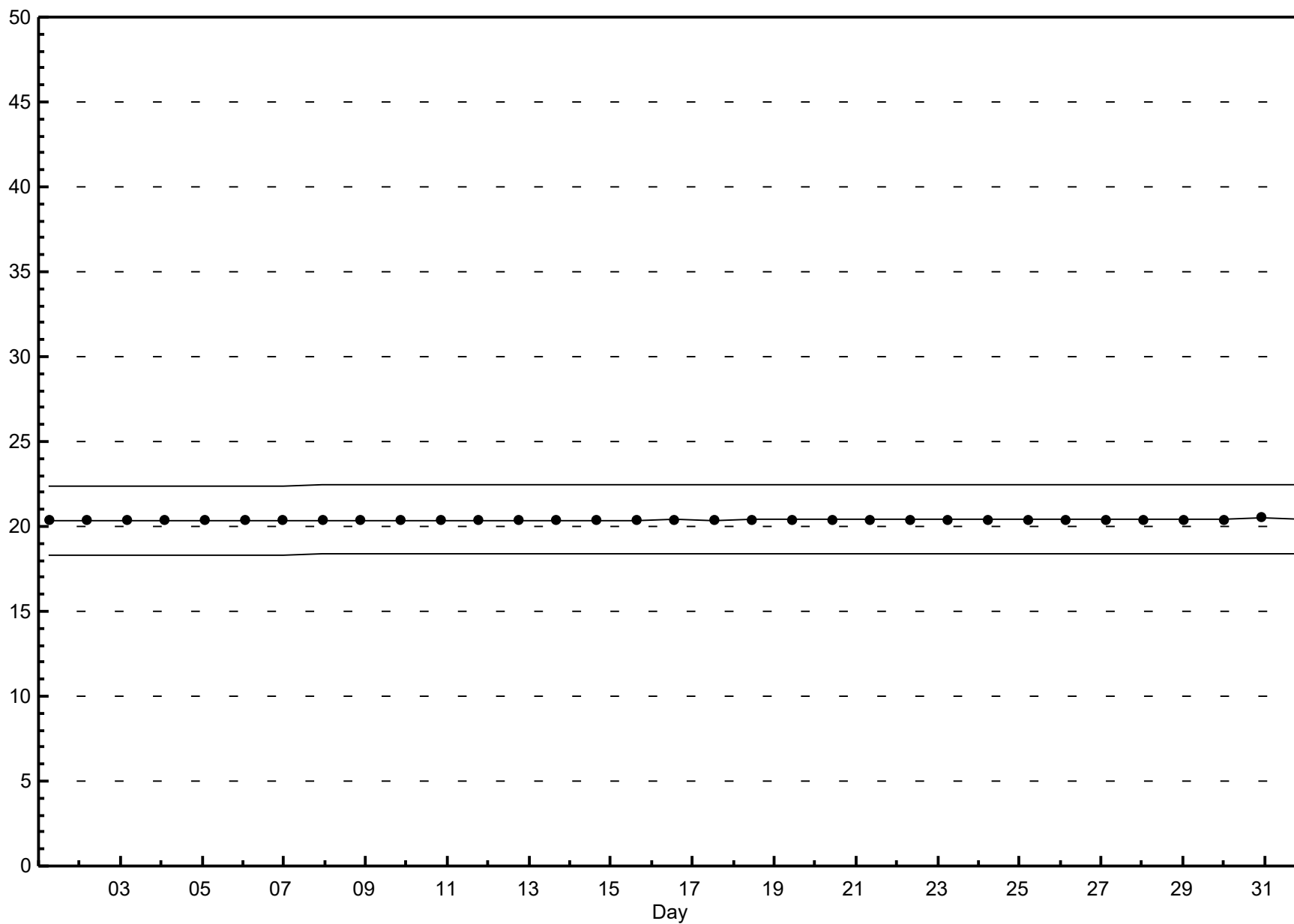
Carbon Monoxide (CO) - ppm

Henry Pirker - July 2016

Number of Exceedences (AAAQO): 8-hr: 0 Maximum Value: 0.44 ppm on Jul 1 06:00																							Hours in Service: 744		
Minimum Value: 0.07 ppm on Jul 26 20:00																							Hours of Data: 744		
Percentiles: P ₁ = 0.08 P ₁₀ = 0.10 Q ₁ = 0.11 Median = 0.14 Q ₃ = 0.15 P ₉₀ = 0.19 P ₉₉ = 0.27																							Hours of Missing Data: 0		
																							Hours of Calibration: 0		
																							Percent Operational Time: 100.0		
Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jul	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.44
2-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	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.18
3-Jul	0.1	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.15
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	0.12
5-Jul	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.13
6-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
7-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
8-Jul	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.15
9-Jul	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.16
10-Jul	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.16
11-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	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.16
12-Jul	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.17
13-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	0.16
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	0.15
15-Jul	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.18
16-Jul	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	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.19
17-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	0.22
18-Jul	0.2	0.2	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.25
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	0.21
20-Jul	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.19
21-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
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	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.19
23-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
24-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
25-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
26-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
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	0.15
28-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
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	0.12
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	0.1	0.1	0.13
31-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
0.27 0.31 0.36 0.38 0.41 0.44 0.42 0.39 0.31 0.27 0.22 0.21 0.20 0.20 0.19 0.19 0.19 0.19 0.19 0.19 0.19 0.20 0.20 0.22																									
Diurnal Maximums																									
Alberta Ambient Air Quality Objectives (AAAQO): 8-hr 5 ppm																									

Span Responses

Carbon Monoxide (CO)
Henry Pirker - July 2016



Hourly Averages

Total Hydrocarbons (THC) - ppm

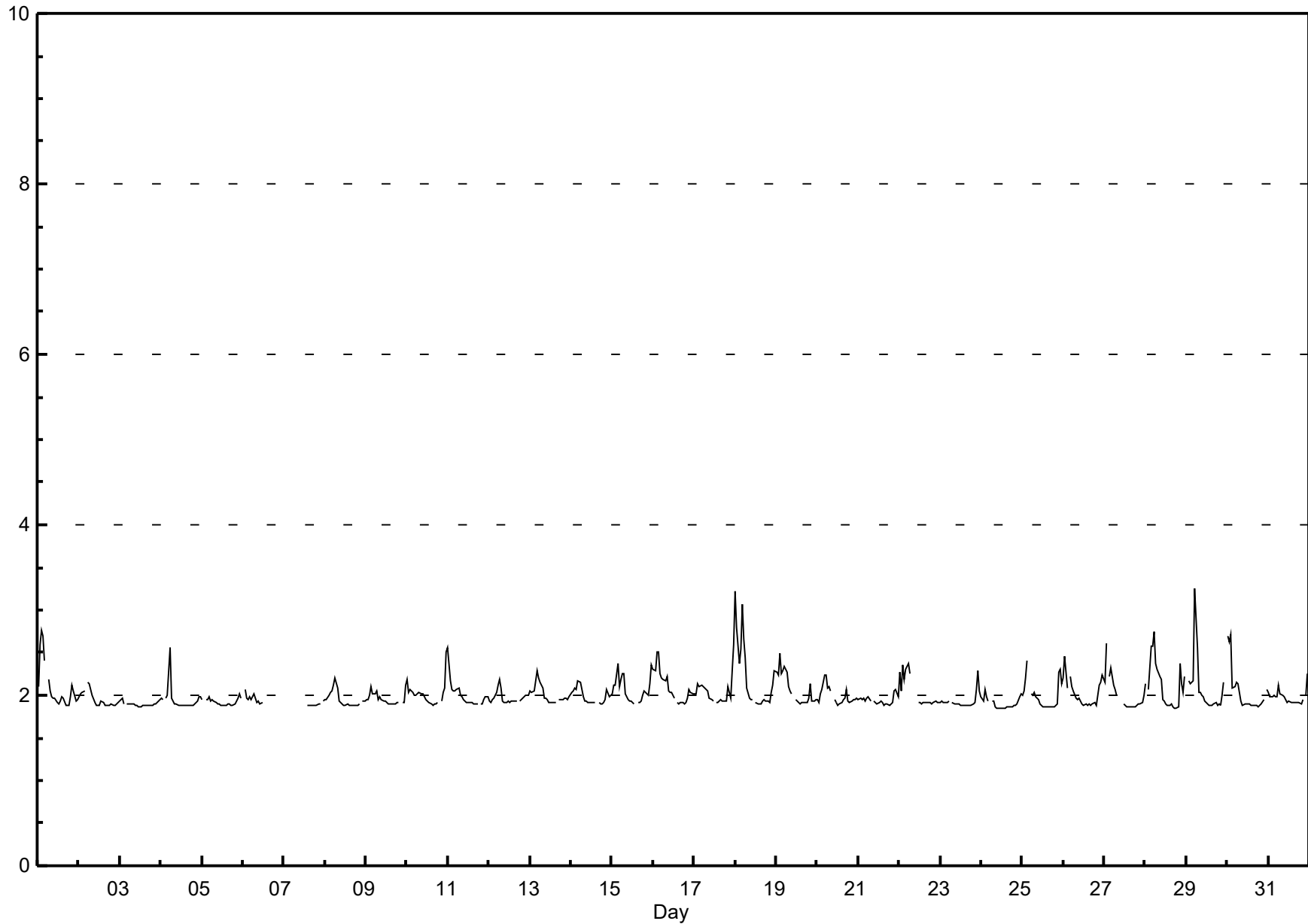
Henry Pirker - July 2016

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 3.26 ppm on Jul 29 06:00 Maximum Daily Average: 2.21 ppm on Jul 18																					Hours in Service: 744 Hours of Data: 680 Hours of Missing Data: 64 Hours of Calibration: 41 Percent Operational Time: 96.9					
Minimum Value: 1.8 ppm on Jul 24 11:00 Minimum Daily Average: 1.90 ppm on Jul 3 Maximum Diurnal Average: 2.20 ppm at hour 6 Minimum Diurnal Average: 1.90 ppm at hour 17 Monthly Average: 2.005 ppm Percentiles: P ₁ = 1.86 P ₁₀ = 1.88 Q ₁ = 1.90 Median = 1.94 Q ₃ = 2.04 P ₉₀ = 2.21 P ₉₉ = 2.70																										
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jul	2.1	2.6	2.8	2.7	2.4	A	2.2	2.0	2.0	2.0	2.0	1.9	1.9	1.9	2.0	2.0	1.9	1.9	1.9	2.0	2.1	2.1	1.9	1.9	2.09	2.76
2-Jul	2.0	2.0	2.0	2.0	A	2.1	2.1	2.1	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.95	2.15
3-Jul	1.9	2.0	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	1.9	1.9	1.9	1.9	1.9	1.9	2.0	1.90	1.96
4-Jul	2.0	1.9	A	2.0	2.0	2.6	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	2.0	2.0	1.95	2.56
5-Jul	1.9	A	2.0	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	1.9	1.9	1.9	1.9	2.0	2.0	2.0	1.92	2.02
6-Jul	A	2.1	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	M	M	M	M	M	M	M	M	M	M	M	M	--	2.07
7-Jul	M	M	M	M	M	M	M	M	M	M	M	C	C	C	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	--	1.93
8-Jul	2.0	2.0	2.0	2.0	2.0	2.1	2.2	2.1	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	1.95	2.21
9-Jul	1.9	2.0	2.0	2.1	2.0	2.0	2.1	1.9	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	2.1	1.96	2.12
10-Jul	2.2	2.0	2.1	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	1.9	2.0	2.1	2.5	2.01	2.51
11-Jul	2.6	2.2	2.1	2.0	2.0	2.1	2.1	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	2.0	2.0	2.0	2.00	2.55
12-Jul	1.9	1.9	2.0	2.0	2.0	2.1	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	2.0	2.0	2.0	2.0	2.0	1.97	2.19
13-Jul	2.0	2.0	2.1	2.2	2.3	2.2	2.2	2.1	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	A	2.0	1.9	1.9	2.0	2.0	2.0	2.0	2.01	2.29
14-Jul	2.0	2.1	2.1	2.1	2.2	2.2	2.1	2.0	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	2.1	2.0	2.0	1.98	2.17
15-Jul	2.0	2.1	2.1	2.4	2.1	2.2	2.2	2.3	2.0	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	2.1	2.4	2.06	2.37
16-Jul	2.3	2.3	2.5	2.5	2.3	2.2	2.2	2.2	2.2	2.1	2.0	2.0	2.0	A	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.1	2.0	2.0	2.10	2.51
17-Jul	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	1.9	1.9	A	1.9	1.9	2.0	1.9	1.9	1.9	1.9	2.1	2.0	2.3	2.6	2.04	2.59
18-Jul	3.2	2.8	2.4	2.5	3.1	2.7	2.4	2.1	2.0	2.0	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.1	2.3	2.21	3.23
19-Jul	2.3	2.2	2.5	2.3	2.3	2.3	2.3	2.1	2.1	2.0	A	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.1	1.9	1.9	2.0	2.07	2.50
20-Jul	1.9	1.9	2.0	2.1	2.2	2.2	2.1	2.1	2.0	A	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.1	1.9	1.9	1.9	1.9	1.9	2.0	1.99	2.23
21-Jul	2.0	2.0	2.0	2.0	1.9	2.0	2.0	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	2.0	2.1	2.0	1.94	2.06
22-Jul	2.3	2.1	2.4	2.2	2.3	2.4	2.2	A	C	C	C	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	2.03	2.37
23-Jul	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	2.1	2.3	2.0	1.93	2.29	
24-Jul	2.0	1.9	2.1	2.0	1.9	A	1.9	1.9	1.9	1.9	1.8	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	1.91	2.07	
25-Jul	2.0	2.0	2.2	2.4	A	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.3	2.3	2.1	2.00	2.40
26-Jul	2.2	2.5	2.1	A	2.2	2.1	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	2.1	2.1	2.2	2.02	2.46
27-Jul	2.2	2.6	A	2.2	2.3	2.1	2.1	2.0	C	C	C	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	2.00	2.61
28-Jul	2.1	A	2.1	2.6	2.6	2.8	2.4	2.3	2.2	2.2	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.4	2.1	2.0	2.2	2.12	2.75
29-Jul	A	2.2	2.1	2.2	2.2	3.3	2.6	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	2.0	2.2	A	2.07	3.26	
30-Jul	2.7	2.6	2.7	2.1	2.1	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	A	2.1	2.05	2.71	
31-Jul	2.0	2.0	2.0	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	A	2.0	2.3	1.98	2.25	
2.13 2.14 2.14 2.15 2.16 2.20 2.13 2.03 1.99 1.95 1.93 1.91 1.90 1.90 1.90 1.90 1.90 1.90 1.90 1.91 1.96 1.99 2.03 2.08																								Diurnal Average		
3.23 2.80 2.76 2.70 3.06 3.26 2.56 2.31 2.22 2.19 2.03 2.04 1.97 1.94 1.99 1.96 1.96 2.07 2.01 2.05 2.37 2.28 2.30 2.59																								Diurnal Maximum		
C - Calibration M - Maintenance A - Automated Daily Zero Span																										

Hourly Averages

Total Hydrocarbons (THC) - ppm

Henry Pirker - July 2016



Hourly Maximums

Total Hydrocarbons (THC) - ppm

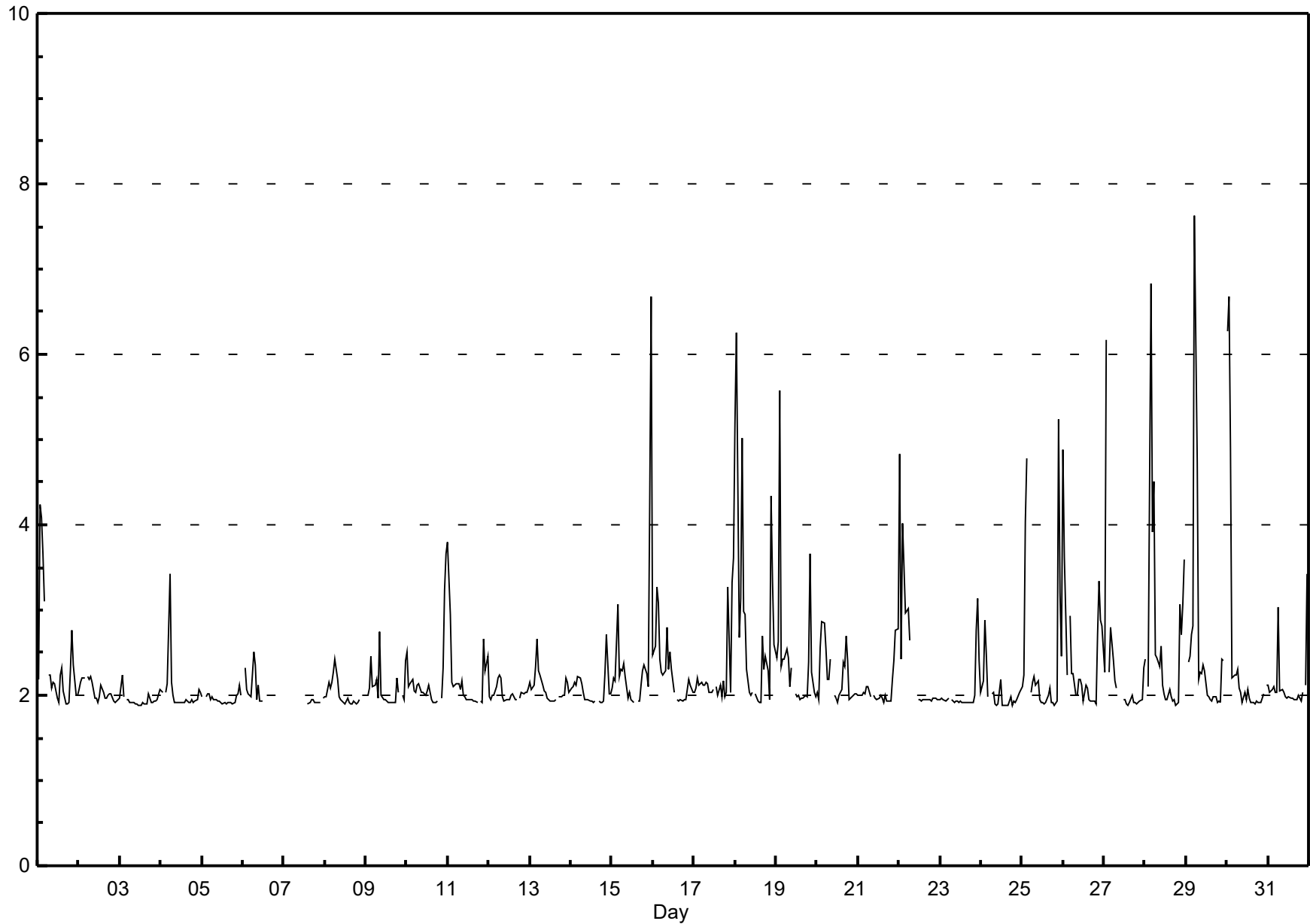
Henry Pirker - July 2016

Maximum Value: 7.63 ppm on Jul 29 06:00																					Maximum Daily Average: 2.88 ppm on Jul 18										Hours in Service: 744	
Minimum Value: 1.9 ppm on Jul 24 15:00																					Minimum Daily Average: 1.94 ppm on Jul 3										Hours of Data: 680	
Maximum Diurnal Average: 2.77 ppm at hour 2																					Minimum Diurnal Average: 1.95 ppm at hour 13										Hours of Missing Data: 64	
Monthly Average: 2.242 ppm																					Percentiles: P ₁ = 1.89 P ₁₀ = 1.92 Q ₁ = 1.94 Median = 2.02 Q ₃ = 2.22 P ₉₀ = 2.74 P ₉₉ = 6.15										Hours of Calibration: 41	
																					Percent Operational Time: 96.9											
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	2.2	4.2	4.1	3.7	3.1	A	2.2	2.2	2.1	2.1	2.1	2.0	1.9	2.2	2.3	2.1	1.9	1.9	1.9	2.3	2.8	2.4	2.0	2.0	2.42	4.23						
2-Jul	2.1	2.2	2.2	2.2	A	2.2	2.2	2.2	2.1	2.0	2.0	1.9	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	2.05	2.22						
3-Jul	2.0	2.2	2.0	A	1.9	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	1.9	1.9	1.9	1.9	2.0	2.1	1.94	2.23						
4-Jul	2.1	2.0	A	2.0	2.1	3.4	2.1	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	1.9	1.9	2.0	1.9	1.9	2.0	2.1	2.0	2.04	3.42						
5-Jul	2.0	A	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	1.9	1.9	1.9	2.0	2.0	2.1	2.0	1.96	2.11						
6-Jul	A	2.3	2.1	2.0	2.0	2.0	2.5	2.3	1.9	2.1	1.9	1.9	M	M	M	M	M	M	M	M	M	M	M	M	--	2.50						
7-Jul	M	M	M	M	M	M	M	M	M	M	M	C	C	C	1.9	1.9	2.0	2.0	1.9	1.9	1.9	1.9	A	2.0	--	1.97						
8-Jul	2.0	2.0	2.1	2.1	2.1	2.3	2.4	2.2	2.0	2.0	1.9	1.9	1.9	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	2.0	2.0	2.01	2.42						
9-Jul	2.0	2.0	2.1	2.5	2.1	2.1	2.2	2.0	2.7	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	2.2	2.0	A	2.0	1.9	2.4	2.07	2.75						
10-Jul	2.5	2.1	2.1	2.2	2.1	2.0	2.1	2.1	2.0	2.0	2.0	2.0	2.1	2.1	1.9	1.9	1.9	1.9	1.9	A	2.0	2.3	3.2	3.7	2.19	3.67						
11-Jul	3.8	2.9	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.0	2.0	1.9	1.9	2.0	2.0	1.9	1.9	1.9	A	1.9	1.9	2.7	2.3	2.5	2.19	3.79						
12-Jul	2.0	2.0	2.0	2.0	2.1	2.2	2.2	2.2	2.0	1.9	2.0	1.9	1.9	2.0	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.1	2.02	2.24						
13-Jul	2.1	2.1	2.1	2.3	2.7	2.3	2.2	2.1	2.1	2.0	2.0	2.0	1.9	1.9	1.9	1.9	A	2.0	2.0	2.0	2.0	2.2	2.2	2.0	2.09	2.67						
14-Jul	2.1	2.1	2.2	2.1	2.2	2.2	2.1	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	1.9	2.3	2.7	2.0	2.0	2.06	2.72						
15-Jul	2.1	2.2	2.2	3.1	2.2	2.3	2.3	2.4	2.2	2.0	2.0	1.9	1.9	1.9	A	1.9	1.9	2.1	2.3	2.4	2.3	2.1	4.3	6.7	2.46	6.69						
16-Jul	2.5	2.6	3.3	3.1	2.4	2.3	2.2	2.3	2.8	2.3	2.5	2.3	2.0	A	1.9	1.9	1.9	1.9	1.9	1.9	2.1	2.2	2.1	2.0	2.29	3.27						
17-Jul	2.0	2.1	2.2	2.1	2.2	2.1	2.1	2.1	2.1	2.0	2.0	2.1	A	2.1	2.0	2.1	2.0	2.2	2.0	2.0	3.3	2.0	3.3	3.6	2.25	3.61						
18-Jul	5.2	6.3	2.7	3.1	5.0	3.0	2.9	2.3	2.0	2.0	2.0	A	2.0	1.9	1.9	1.9	2.7	2.3	2.5	2.3	1.9	4.3	3.3	2.6	2.88	6.26						
19-Jul	2.4	2.6	5.6	2.3	2.4	2.4	2.6	2.4	2.1	2.3	A	2.0	2.0	2.0	1.9	2.0	2.0	2.0	2.0	2.4	3.7	2.3	2.0	2.0	2.41	5.58						
20-Jul	2.0	1.9	2.6	2.9	2.9	2.6	2.2	2.2	2.4	A	2.0	2.0	1.9	2.0	2.1	2.4	2.3	2.7	2.4	1.9	2.0	2.0	2.0	2.0	2.23	2.87						
21-Jul	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	1.9	2.0	1.9	1.9	1.9	2.2	2.4	2.8	2.8	2.08	2.78						
22-Jul	4.8	2.4	4.0	3.5	3.0	3.0	2.6	A	C	C	C	2.0	1.9	1.9	2.0	1.9	2.0	2.0	1.9	1.9	2.0	2.0	2.0	2.0	2.44	4.82						
23-Jul	2.0	2.0	2.0	1.9	1.9	2.0	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.8	3.1	2.4	2.04	3.14						
24-Jul	2.0	2.2	2.9	2.5	2.0	A	2.0	2.0	1.9	1.9	1.9	2.2	1.9	1.9	1.9	1.9	1.9	2.0	1.9	1.9	1.9	1.9	2.0	2.1	2.03	2.89						
25-Jul	2.1	2.2	4.0	4.8	A	2.0	2.1	2.2	2.1	2.2	1.9	1.9	1.9	1.9	1.9	2.0	2.1	1.9	1.9	1.9	1.9	5.2	3.2	2.5	2.44	5.24						
26-Jul	4.9	3.6	2.2	A	2.9	2.3	2.3	2.0	2.0	2.2	2.2	2.1	1.9	2.1	2.1	1.9	1.9	1.9	1.9	1.9	2.7	3.3	2.9	2.8	2.44	4.88						
27-Jul	2.3	6.2	A	2.3	2.8	2.4	2.2	2.1	C	C	C	2.0	2.0	1.9	1.9	1.9	2.0	1.9	1.9	1.9	1.9	1.9	2.0	2.3	2.28	6.17						
28-Jul	2.4	A	2.1	6.8	3.9	4.5	2.5	2.4	2.3	2.6	2.1	2.0	1.9	2.0	2.1	2.0	1.9	1.9	1.9	1.9	3.1	2.7	3.1	3.6	2.69	6.82						
29-Jul	A	2.4	2.5	2.7	2.8	7.6	4.7	2.2	2.3	2.3	2.3	2.3	2.0	2.0	1.9	1.9	2.0	2.0	1.9	1.9	1.9	2.4	2.4	A	2.57	7.63						
30-Jul	6.3	6.7	4.9	2.2	2.2	2.2	2.3	2.1	2.0	1.9	2.0	1.9	2.1	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	A	2.1	2.54	6.67						
31-Jul	2.1	2.0	2.1	2.1	2.0	2.0	3.0	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	2.0	A	2.1	3.4	2.12	3.42						
2.64 2.77 2.65 2.67 2.48 2.56 2.37 2.14 2.12 2.05 2.02 1.99 1.95 1.98 1.96 1.96 1.98 1.99 1.99 1.99 2.18 2.42 2.44 2.53																									Diurnal Average							
6.28 6.67 5.58 6.82 5.01 7.63 4.73 2.44 2.80 2.57 2.52 2.30 2.08 2.23 2.33 2.38 2.69 2.69 2.45 2.39 3.67 5.24 4.26 6.69																									Diurnal Maximum							
C - Calibration M - Maintenance A - Automated Daily Zero Span																																

Hourly Maximums

Total Hydrocarbons (THC) - ppm

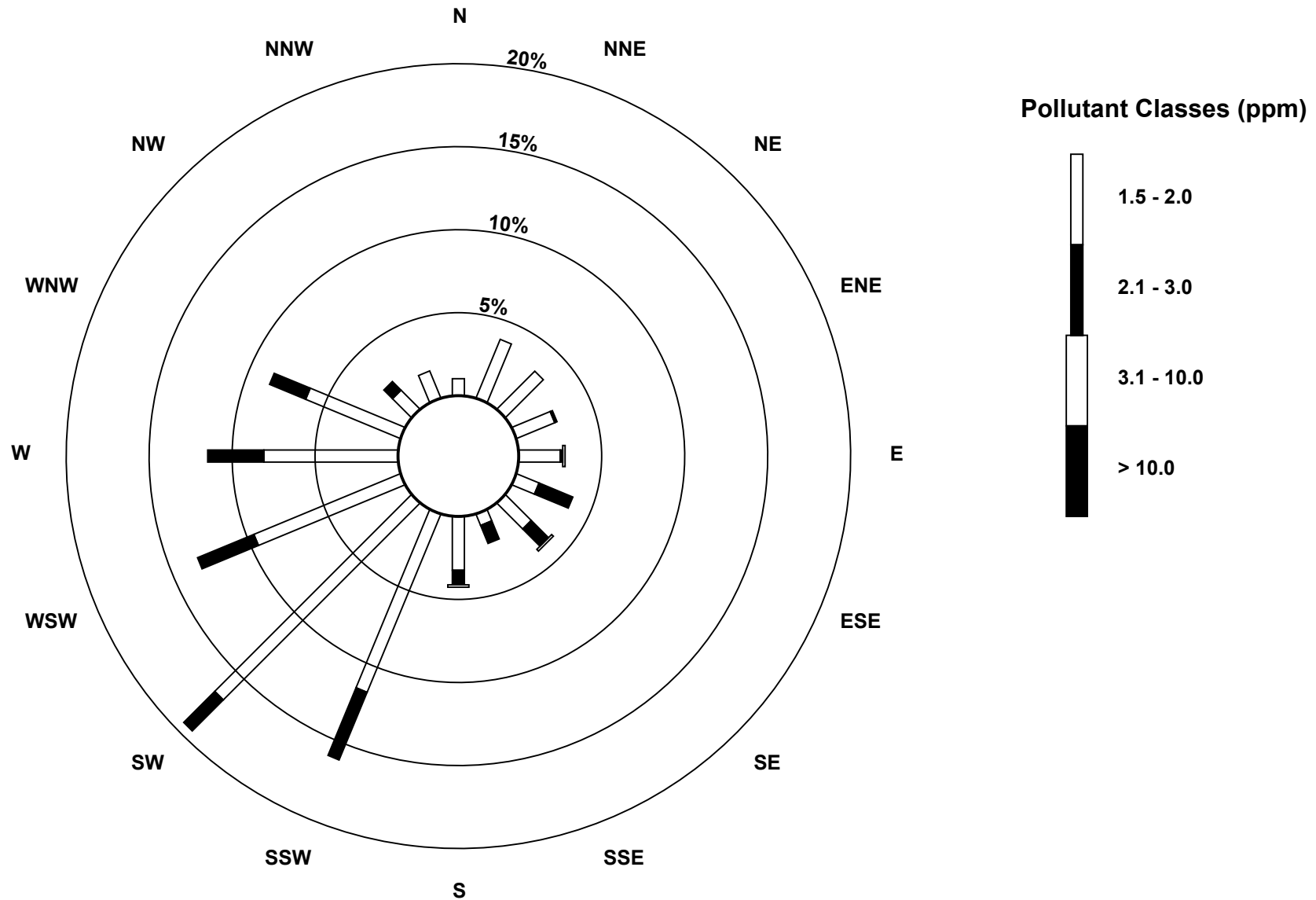
Henry Pirker - July 2016



Pollutant Rose

Total Hydrocarbons (THC) - ppm

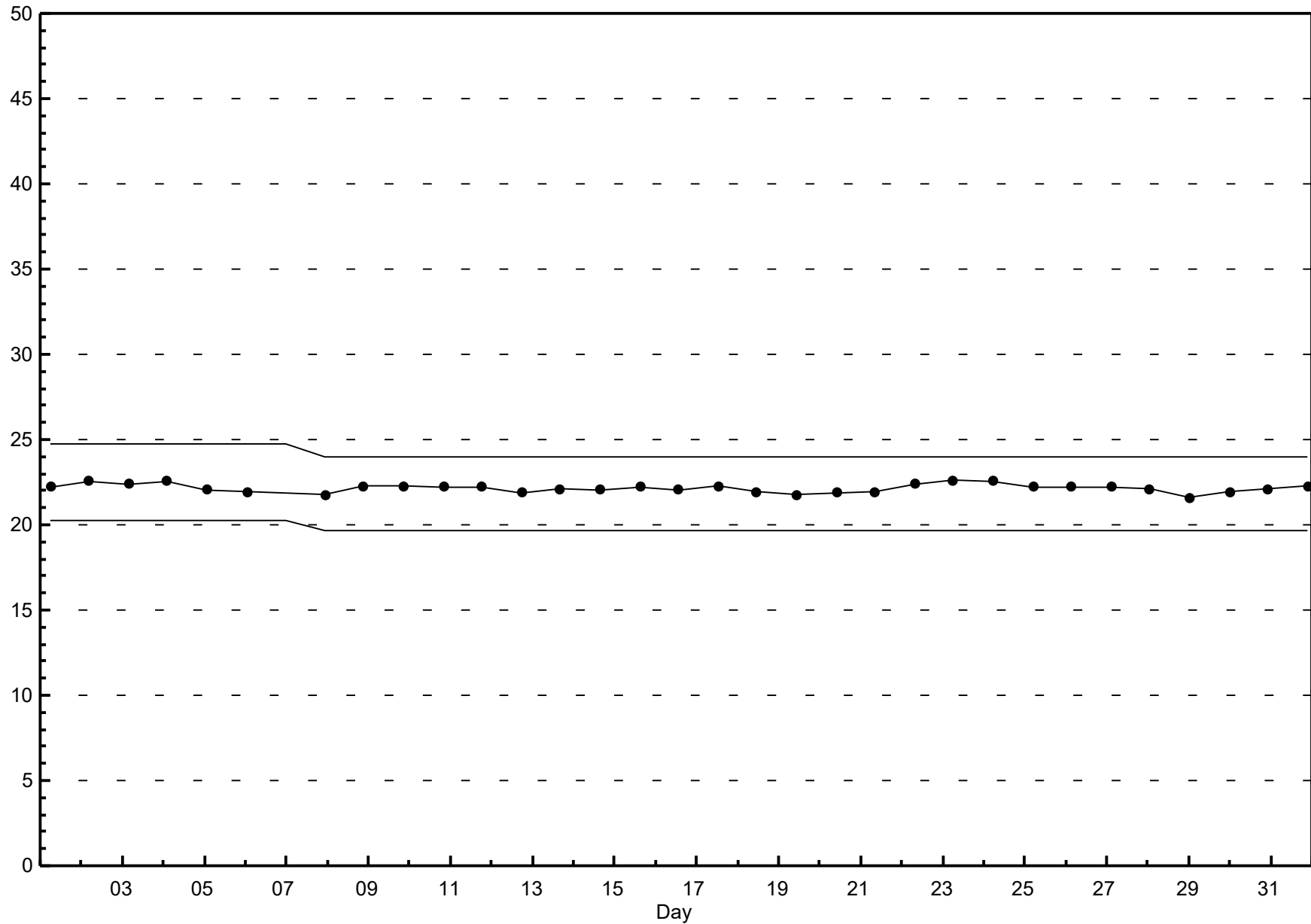
Henry Pirker - July 2016



Span Responses

Total Hydrocarbons (THC)

Henry Pirker - July 2016



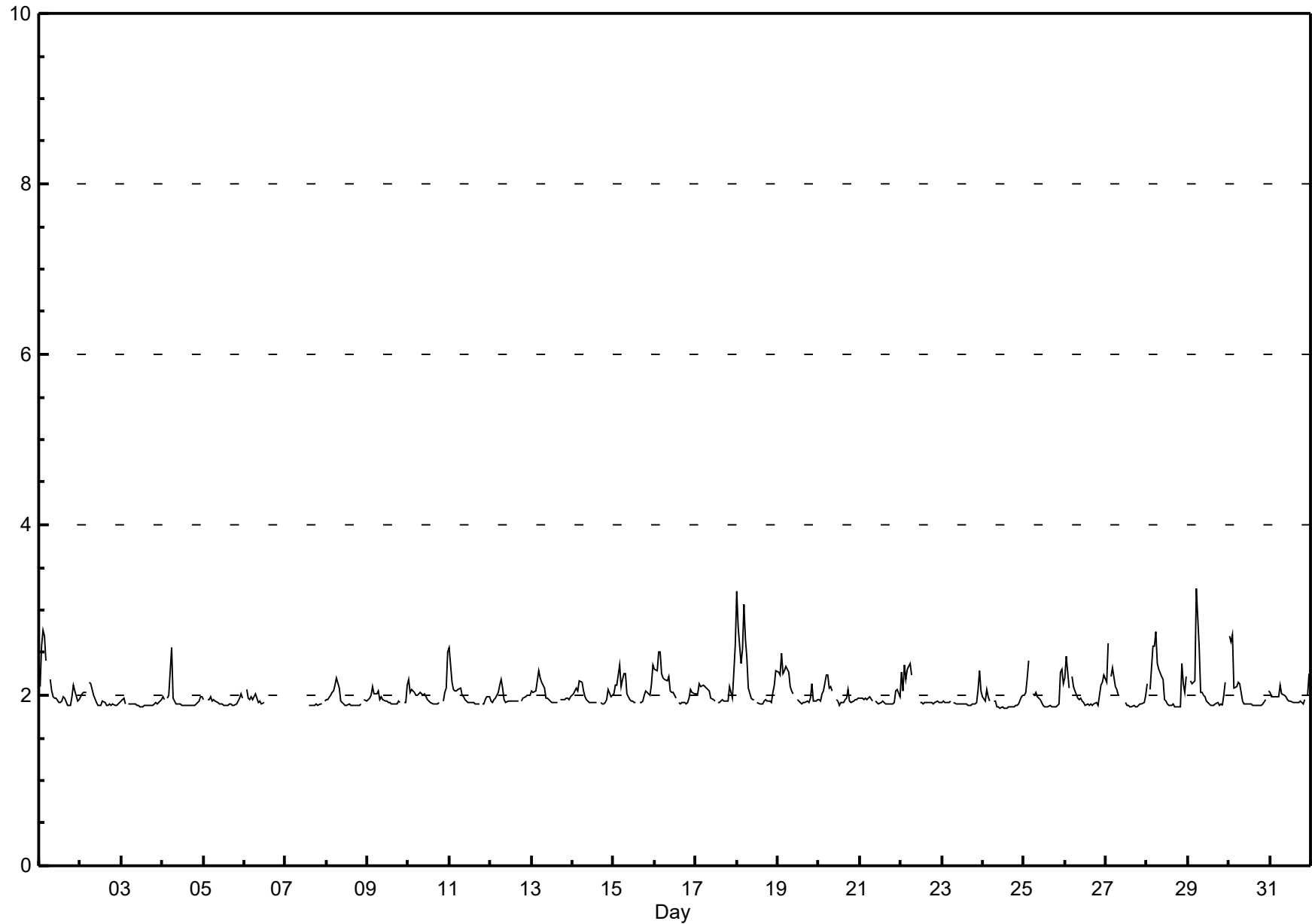
Hourly Averages

Methane (CH₄) - ppm
Henry Pirker - July 2016

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 3.26 ppm on Jul 29 06:00 Maximum Daily Average: 2.21 ppm on Jul 18																					Hours in Service: 744 Hours of Data: 680 Hours of Missing Data: 64 Hours of Calibration: 41 Percent Operational Time: 96.9					
Minimum Value: 1.8 ppm on Jul 24 11:00 Maximum Diurnal Average: 2.20 ppm at hour 6 Monthly Average: 2.006 ppm																					Minimum Daily Average: 1.90 ppm on Jul 3 Minimum Diurnal Average: 1.90 ppm at hour 17 Percentiles: P ₁ = 1.86 P ₁₀ = 1.88 Q ₁ = 1.90 Median = 1.94 Q ₃ = 2.04 P ₉₀ = 2.21 P ₉₉ = 2.70					
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jul	2.1	2.6	2.8	2.7	2.4	A	2.2	2.0	2.0	2.0	2.0	1.9	1.9	1.9	2.0	2.0	1.9	1.9	1.9	2.0	2.1	2.1	1.9	1.9	2.09	2.76
2-Jul	2.0	2.0	2.0	2.0	A	2.1	2.1	2.1	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.95	2.15
3-Jul	1.9	2.0	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	1.9	1.9	1.9	1.9	1.9	1.9	2.0	1.90	1.97
4-Jul	2.0	1.9	A	2.0	2.0	2.6	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	2.0	2.0	1.95	2.56
5-Jul	1.9	A	2.0	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	1.9	1.9	1.9	1.9	2.0	2.0	2.0	1.92	2.02
6-Jul	A	2.1	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	M	M	M	M	M	M	M	M	M	M	M	M	--	2.06
7-Jul	M	M	M	M	M	M	M	M	M	M	M	C	C	C	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	--	1.93
8-Jul	2.0	2.0	2.0	2.0	2.0	2.1	2.2	2.1	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	1.95	2.21
9-Jul	2.0	2.0	2.0	2.1	2.0	2.0	2.1	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	A	1.9	1.9	2.1	1.96	2.11
10-Jul	2.2	2.0	2.1	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	1.9	2.0	2.1	2.5	2.01	2.51
11-Jul	2.6	2.2	2.1	2.0	2.0	2.1	2.1	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	2.0	2.0	2.0	2.00	2.55
12-Jul	1.9	1.9	2.0	2.0	2.0	2.1	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	2.0	2.0	2.0	2.0	2.0	1.98	2.19
13-Jul	2.0	2.0	2.1	2.2	2.3	2.2	2.2	2.1	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	A	2.0	1.9	2.0	2.0	2.0	2.0	2.0	2.01	2.29
14-Jul	2.0	2.1	2.1	2.1	2.2	2.1	2.1	2.0	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	2.1	2.0	2.0	1.98	2.16
15-Jul	2.0	2.1	2.1	2.4	2.1	2.2	2.2	2.3	2.0	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	2.1	2.4	2.06	2.36
16-Jul	2.3	2.3	2.5	2.5	2.3	2.2	2.2	2.2	2.2	2.1	2.0	2.0	2.0	A	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.1	2.0	2.0	2.10	2.51
17-Jul	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	1.9	1.9	A	1.9	1.9	2.0	1.9	1.9	1.9	1.9	2.1	2.0	2.3	2.6	2.04	2.59
18-Jul	3.2	2.8	2.4	2.5	3.1	2.7	2.4	2.1	2.0	2.0	2.0	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.1	2.3	2.21	3.22
19-Jul	2.3	2.2	2.5	2.3	2.3	2.3	2.3	2.1	2.0	2.0	A	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.1	1.9	1.9	2.0	2.07	2.50
20-Jul	1.9	1.9	2.0	2.1	2.2	2.2	2.1	2.1	2.0	A	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.1	1.9	1.9	1.9	1.9	1.9	2.0	1.99	2.23
21-Jul	2.0	2.0	2.0	2.0	1.9	2.0	2.0	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	2.0	2.1	2.0	1.94	2.06
22-Jul	2.3	2.1	2.4	2.2	2.3	2.4	2.2	A	C	C	C	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	2.03	2.37
23-Jul	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	2.1	2.3	2.0	1.93	2.29	
24-Jul	2.0	1.9	2.1	2.0	1.9	A	1.9	1.9	1.9	1.9	1.8	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	1.91	2.07	
25-Jul	2.0	2.0	2.2	2.4	A	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.3	2.3	2.1	2.00	2.40
26-Jul	2.2	2.5	2.1	A	2.2	2.1	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	2.1	2.1	2.2	2.02	2.46
27-Jul	2.2	2.6	A	2.2	2.3	2.1	2.1	2.0	C	C	C	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	2.00	2.61
28-Jul	2.1	A	2.1	2.6	2.6	2.8	2.4	2.3	2.2	2.2	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.4	2.1	2.0	2.2	2.12	2.75
29-Jul	A	2.2	2.1	2.2	2.2	3.3	2.6	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.2	A	2.07	3.26
30-Jul	2.7	2.6	2.7	2.1	2.1	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	1.9	A	2.1	2.05	2.71
31-Jul	2.0	2.0	2.0	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	1.9	A	2.0	2.2	1.98	2.25
2.13 2.14 2.14 2.15 2.16 2.20 2.13 2.03 1.99 1.95 1.93 1.92 1.90 1.90 1.90 1.90 1.90 1.90 1.90 1.91 1.96 1.99 2.03 2.08																								Diurnal Average		
3.22 2.80 2.76 2.70 3.06 3.26 2.56 2.31 2.22 2.19 2.03 2.04 1.97 1.94 1.99 1.96 1.96 2.07 2.00 2.05 2.37 2.28 2.30 2.59																								Diurnal Maximum		
C - Calibration M - Maintenance A - Automated Daily Zero Span																										

Hourly Averages

Methane (CH₄) - ppm
Henry Pirker - July 2016



Hourly Maximums

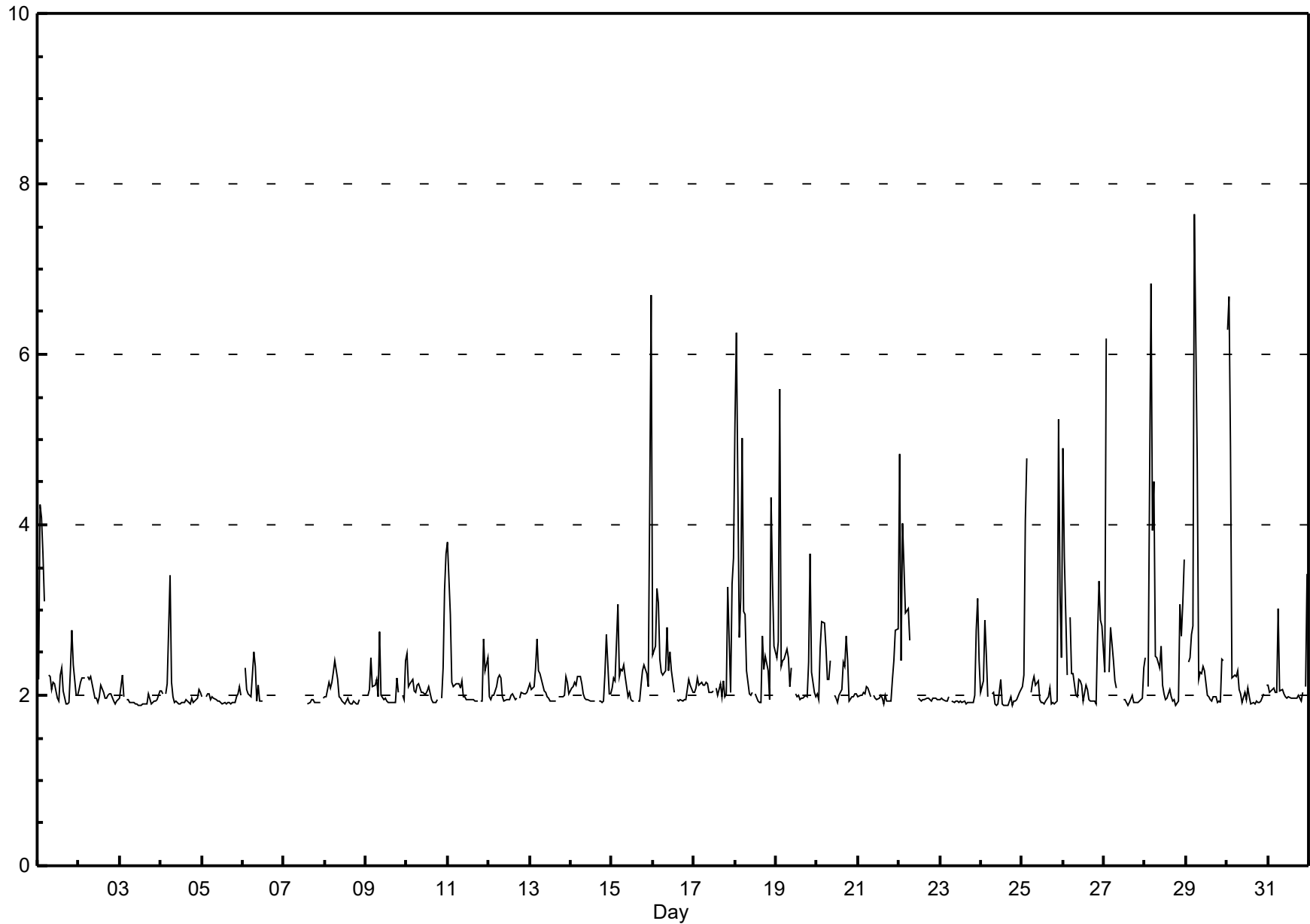
Methane (CH₄) - ppm

Henry Pirker - July 2016

Maximum Value: 7.65 ppm on Jul 29 06:00																					Maximum Daily Average: 2.88 ppm on Jul 18					Hours in Service: 744	
Minimum Value: 1.9 ppm on Jul 24 15:00																					Minimum Daily Average: 1.94 ppm on Jul 3					Hours of Data: 680	
Maximum Diurnal Average: 2.77 ppm at hour 2																					Minimum Diurnal Average: 1.95 ppm at hour 13					Hours of Missing Data: 64	
Monthly Average: 2.242 ppm																					Percentiles: P ₁ = 1.89 P ₁₀ = 1.92 Q ₁ = 1.94 Median = 2.02 Q ₃ = 2.22 P ₉₀ = 2.75 P ₉₉ = 6.16					Hours of Calibration: 41	
																					Percent Operational Time: 96.9						
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	2.2	4.2	4.1	3.7	3.1	A	2.2	2.2	2.1	2.1	2.1	2.0	1.9	2.2	2.3	2.1	1.9	1.9	1.9	2.3	2.8	2.4	2.0	2.0	2.42	4.24	
2-Jul	2.1	2.2	2.2	2.2	A	2.2	2.2	2.2	2.1	2.0	2.0	1.9	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	2.05	2.22	
3-Jul	2.0	2.2	2.0	A	1.9	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	1.9	1.9	1.9	2.0	2.1	1.94	2.24		
4-Jul	2.1	2.0	A	2.0	2.1	3.4	2.2	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	1.9	1.9	2.0	1.9	1.9	2.0	2.1	2.0	2.04	3.41	
5-Jul	2.0	A	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	1.9	1.9	1.9	2.0	2.0	2.1	2.0	1.96	2.11	
6-Jul	A	2.3	2.1	2.0	2.0	2.0	2.5	2.3	1.9	2.1	1.9	1.9	M	M	M	M	M	M	M	M	M	M	M	M	--	2.50	
7-Jul	M	M	M	M	M	M	M	M	M	M	M	C	C	C	1.9	1.9	2.0	2.0	1.9	1.9	1.9	1.9	A	2.0	--	1.96	
8-Jul	2.0	2.0	2.1	2.1	2.1	2.3	2.4	2.2	2.0	2.0	1.9	1.9	1.9	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	2.0	2.0	2.01	2.41	
9-Jul	2.0	2.0	2.1	2.4	2.1	2.1	2.2	2.0	2.7	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	2.2	2.0	A	2.0	1.9	2.4	2.07	2.75	
10-Jul	2.5	2.1	2.1	2.2	2.1	2.0	2.1	2.1	2.0	2.0	2.0	2.0	2.1	2.1	1.9	1.9	1.9	1.9	1.9	A	2.0	2.3	3.2	3.7	2.19	3.66	
11-Jul	3.8	2.9	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.0	2.0	1.9	1.9	2.0	2.0	1.9	1.9	1.9	A	1.9	1.9	2.7	2.3	2.4	2.19	3.79	
12-Jul	2.0	2.0	2.0	2.0	2.1	2.2	2.2	2.2	2.0	1.9	2.0	1.9	1.9	2.0	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.1	2.0	2.02	2.24	
13-Jul	2.1	2.1	2.1	2.3	2.7	2.3	2.2	2.1	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	A	2.0	2.0	2.0	2.0	2.2	2.2	2.0	2.09	2.67	
14-Jul	2.1	2.1	2.2	2.1	2.2	2.2	2.1	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	1.9	2.2	2.7	2.0	2.0	2.06	2.71	
15-Jul	2.1	2.2	2.2	3.1	2.2	2.3	2.3	2.4	2.2	2.0	2.0	1.9	1.9	1.9	A	1.9	1.9	2.1	2.3	2.4	2.2	2.1	4.3	6.7	2.46	6.69	
16-Jul	2.5	2.6	3.3	3.1	2.4	2.3	2.2	2.3	2.8	2.3	2.5	2.3	2.0	A	2.0	1.9	1.9	1.9	1.9	1.9	2.1	2.2	2.1	2.0	2.29	3.26	
17-Jul	2.0	2.1	2.2	2.1	2.2	2.1	2.1	2.1	2.1	2.0	2.0	2.1	A	2.1	2.0	2.1	2.0	2.2	2.0	2.0	3.3	2.0	3.3	3.6	2.25	3.60	
18-Jul	5.2	6.3	2.7	3.1	5.0	3.0	2.9	2.3	2.0	2.0	2.0	A	2.0	1.9	1.9	1.9	2.7	2.3	2.5	2.3	1.9	4.3	3.3	2.6	2.88	6.26	
19-Jul	2.4	2.6	5.6	2.3	2.4	2.4	2.5	2.4	2.1	2.3	A	2.0	2.0	2.0	1.9	2.0	2.0	2.0	2.0	2.4	3.7	2.3	2.0	2.0	2.41	5.59	
20-Jul	2.0	1.9	2.6	2.9	2.8	2.6	2.2	2.2	2.4	A	2.0	2.0	1.9	2.0	2.1	2.4	2.3	2.7	2.4	1.9	2.0	2.0	2.0	2.0	2.23	2.87	
21-Jul	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	1.9	2.0	1.9	1.9	1.9	2.2	2.4	2.8	2.8	2.08	2.79	
22-Jul	4.8	2.4	4.0	3.5	3.0	3.0	2.6	A	C	C	C	2.0	1.9	1.9	2.0	1.9	2.0	2.0	1.9	1.9	2.0	2.0	2.0	2.0	2.44	4.82	
23-Jul	2.0	2.0	2.0	1.9	1.9	2.0	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.8	3.1	2.4	2.05	3.14	
24-Jul	2.0	2.2	2.9	2.5	2.0	A	2.0	2.0	1.9	1.9	1.9	2.2	1.9	1.9	1.9	1.9	1.9	2.0	1.9	1.9	1.9	1.9	2.0	2.1	2.03	2.89	
25-Jul	2.1	2.2	4.0	4.8	A	2.0	2.1	2.2	2.1	2.2	1.9	1.9	1.9	1.9	1.9	2.0	2.1	1.9	1.9	1.9	1.9	5.2	3.2	2.4	2.44	5.23	
26-Jul	4.9	3.6	2.2	A	2.9	2.2	2.2	2.0	2.0	2.2	2.2	2.1	1.9	2.1	2.1	2.0	1.9	1.9	1.9	1.9	2.7	3.3	2.9	2.8	2.44	4.89	
27-Jul	2.3	6.2	A	2.3	2.8	2.4	2.2	2.1	C	C	C	2.0	2.0	1.9	1.9	1.9	2.0	1.9	1.9	1.9	1.9	1.9	2.0	2.3	2.28	6.18	
28-Jul	2.4	A	2.1	6.8	3.9	4.5	2.5	2.4	2.3	2.6	2.1	2.0	1.9	2.0	2.1	2.0	1.9	1.9	1.9	1.9	3.1	2.7	3.1	3.6	2.69	6.83	
29-Jul	A	2.4	2.4	2.7	2.8	7.6	4.7	2.2	2.3	2.3	2.3	2.3	2.0	2.0	1.9	1.9	2.0	2.0	1.9	1.9	1.9	2.4	2.4	A	2.57	7.65	
30-Jul	6.3	6.7	4.9	2.2	2.2	2.2	2.3	2.1	2.0	1.9	2.0	2.0	2.1	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	A	2.1	2.54	6.67	
31-Jul	2.1	2.0	2.1	2.1	2.0	2.0	3.0	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	2.0	A	2.1	3.4	2.12	3.42	
2.64 2.77 2.65 2.67 2.48 2.56 2.37 2.14 2.12 2.05 2.02 1.99 1.95 1.98 1.96 1.96 1.98 2.00 1.99 1.99 2.18 2.41 2.44 2.53																									Diurnal Average		
6.29 6.67 5.59 6.83 5.01 7.65 4.73 2.44 2.80 2.58 2.51 2.30 2.08 2.23 2.32 2.38 2.70 2.69 2.46 2.39 3.66 5.23 4.26 6.69																									Diurnal Maximum		
C - Calibration M - Maintenance A - Automated Daily Zero Span																											

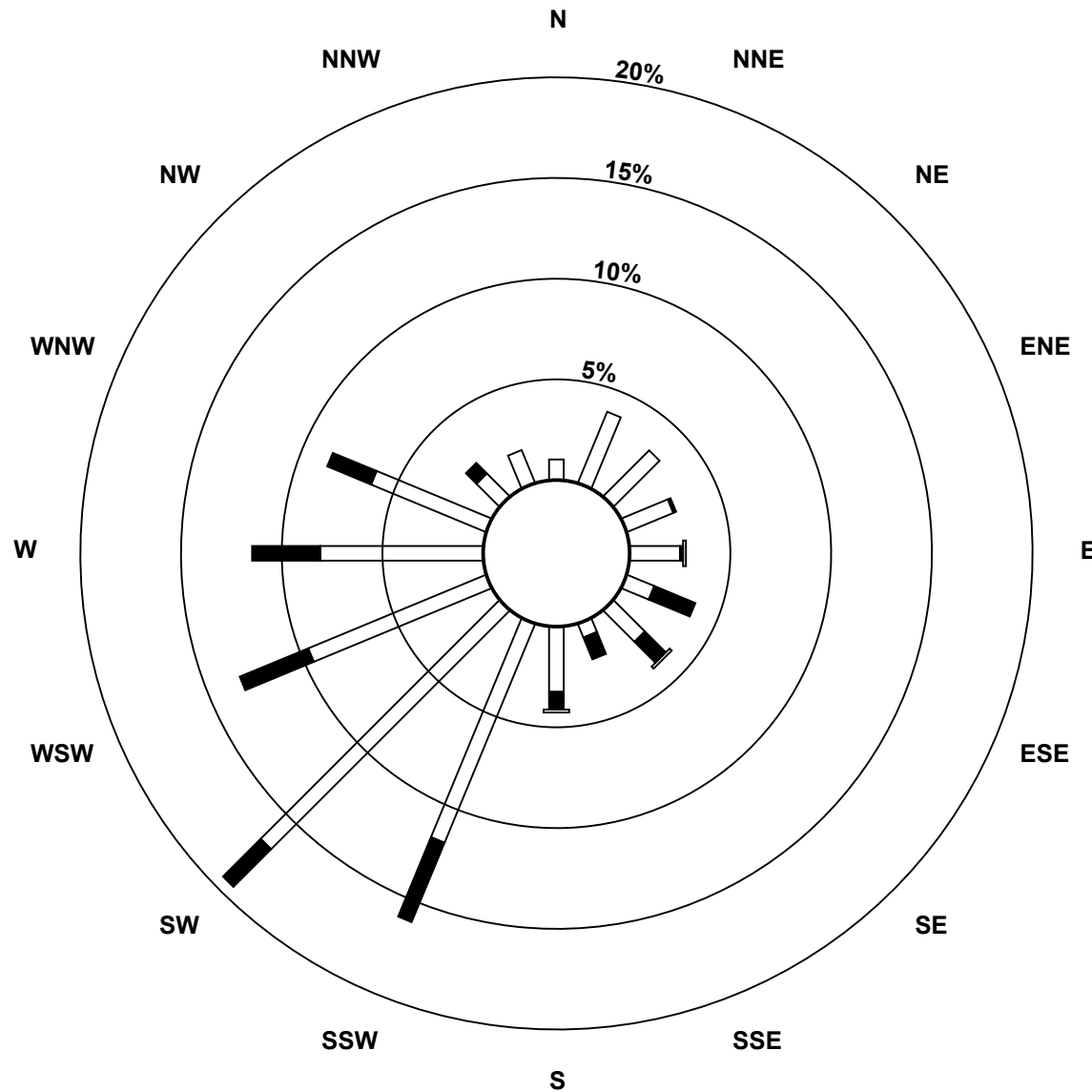
Hourly Maximums

Methane (CH₄) - ppm
Henry Pirker - July 2016

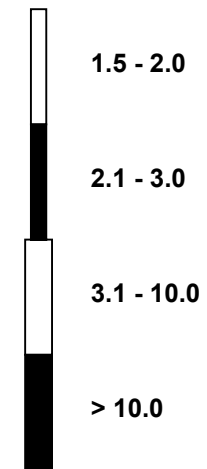


Pollutant Rose

Methane (CH₄) - ppm
Henry Pirker - July 2016

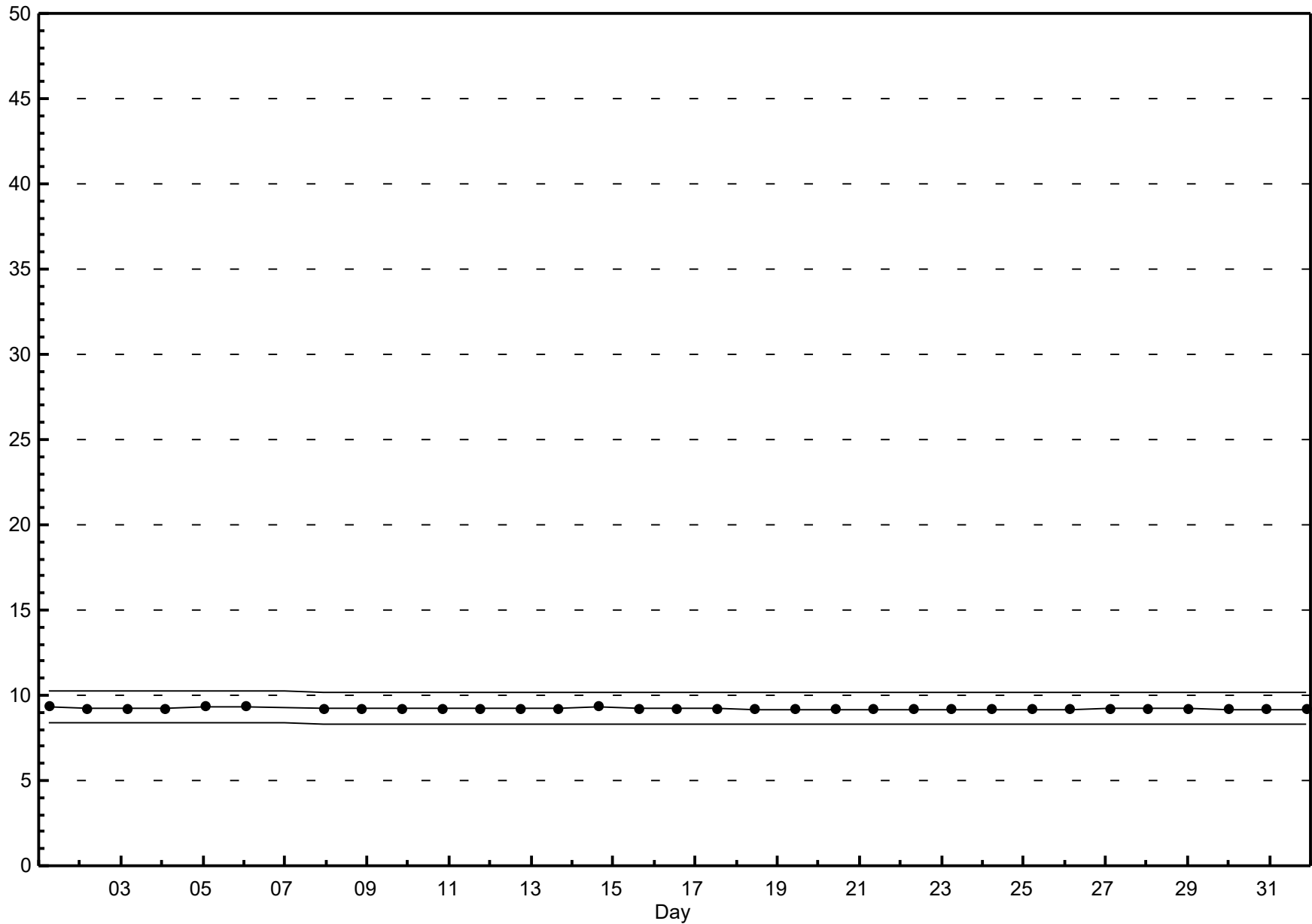


Pollutant Classes (ppm)



Span Responses

Methane (CH₄)
Henry Pirker - July 2016

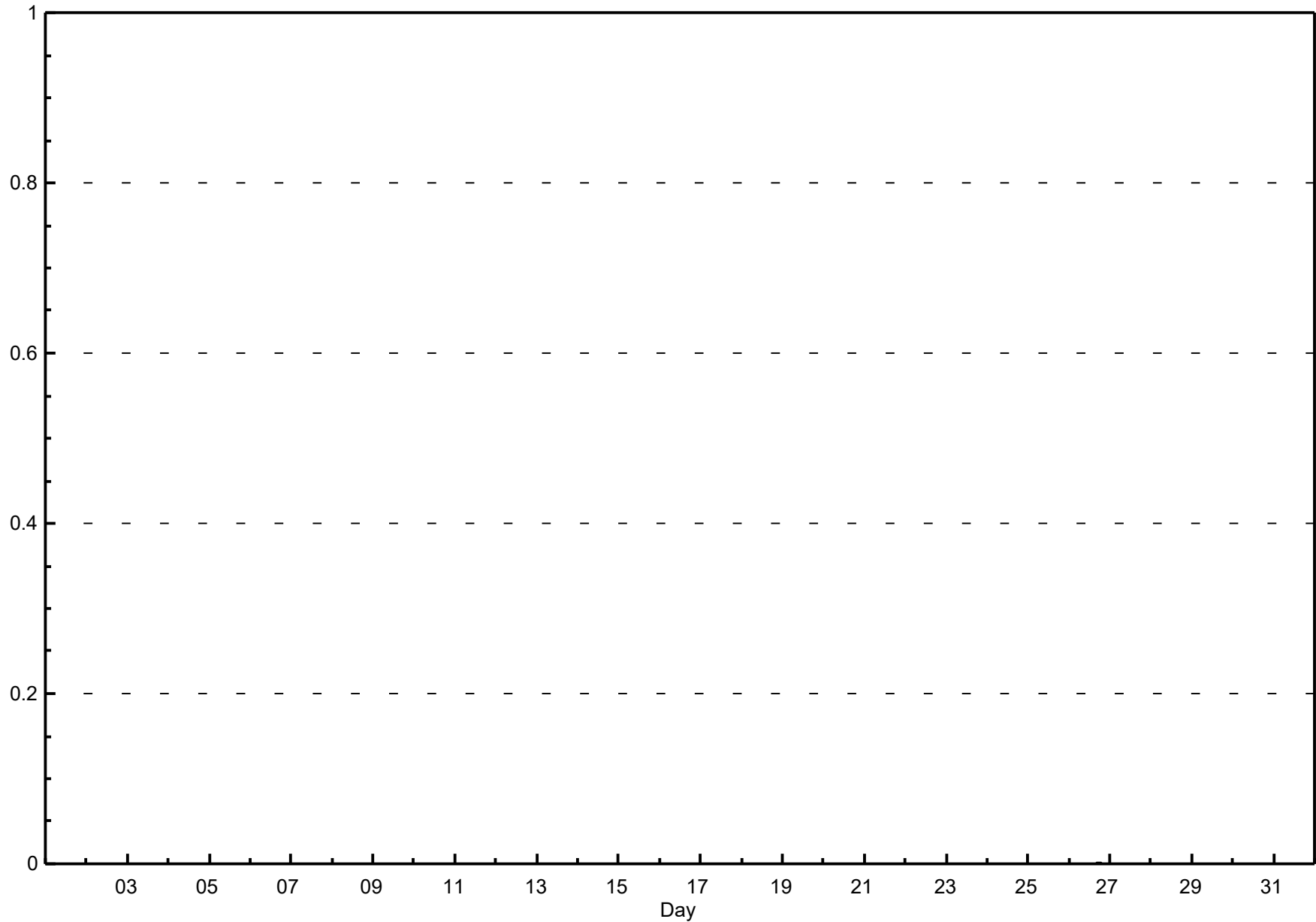


Hourly Averages

Non Methane Hydrocarbon (NMHC) - ppm

Henry Pirker - July 2016

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 0.00 ppm on Jul 26 18:00 Maximum Daily Average: 0.00 ppm on Jul 26																								Hours in Service: 744 Hours of Data: 680 Hours of Missing Data: 64 Hours of Calibration: 41 Percent Operational Time: 96.9		
Minimum Value: 0.0 ppm on Jul 1 01:00 Minimum Daily Average: 0.00 ppm on Jul 19 Maximum Diurnal Average: 0.00 ppm at hour 19 Minimum Diurnal Average: 0.00 ppm at hour 13 Monthly Average: 0.000 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																										
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	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	A	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
2-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
3-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
4-Jul	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
5-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
6-Jul	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	M	M	M	M	M	M	M	M	M	M	M	M	--	0.00
7-Jul	M	M	M	M	M	M	M	M	M	M	M	C	C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	--	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	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
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	0.0	0.0	0.0	0.0	0.0	0.0	A	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	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
11-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
12-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
13-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
14-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
15-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
16-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
17-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
18-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
19-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
20-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
21-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
22-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	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	0.0	0.0	0.00	0.00
23-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
24-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
25-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
26-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
27-Jul	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	C	C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
28-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
29-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
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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.00	0.00
0.00 0.00																								Diurnal Average		
0.00 0.00																								Diurnal Maximum		
C - Calibration M - Maintenance A - Automated Daily Zero Span																										

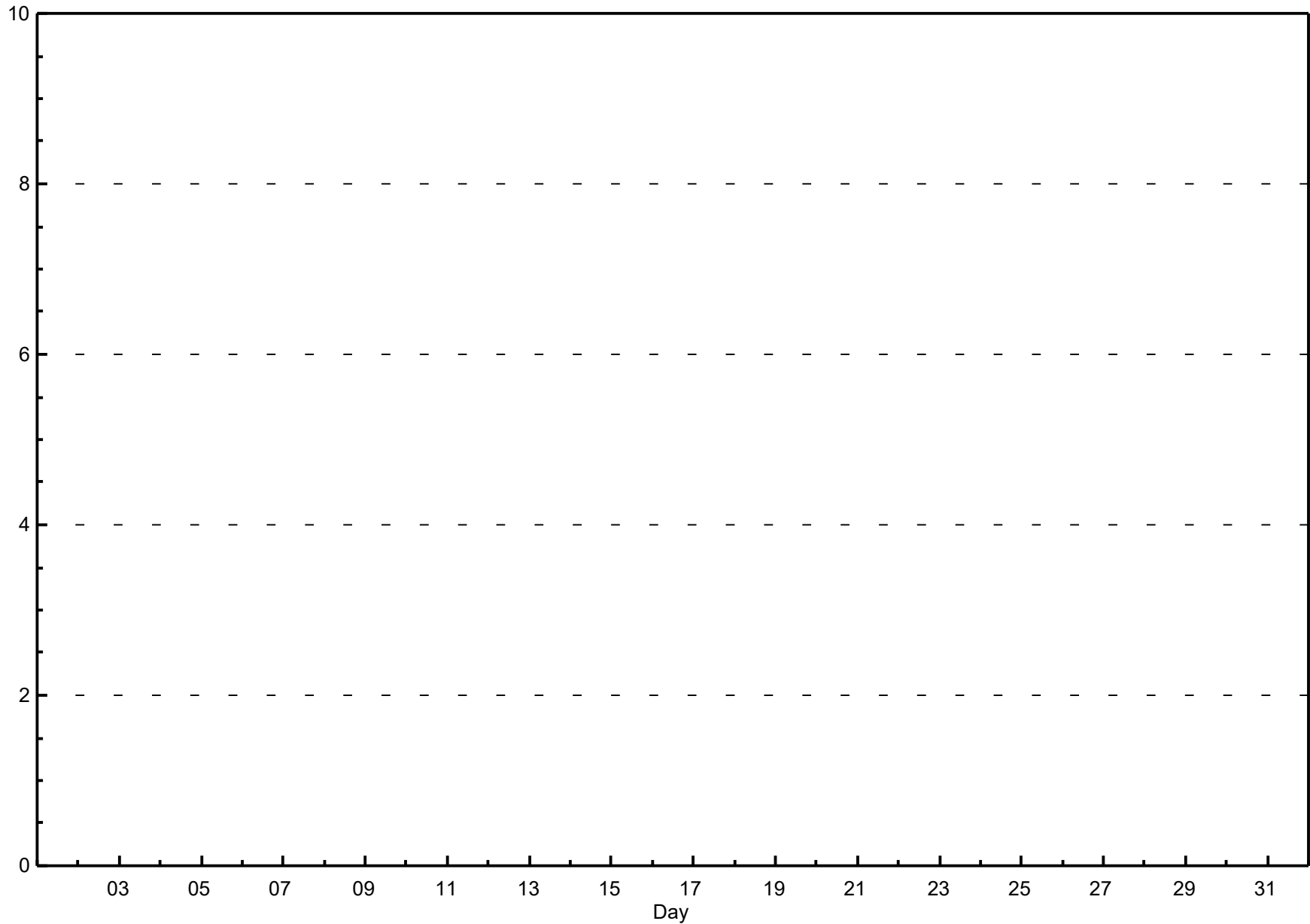


Hourly Maximums

Non Methane Hydrocarbon (NMHC) - ppm

Henry Pirker - July 2016

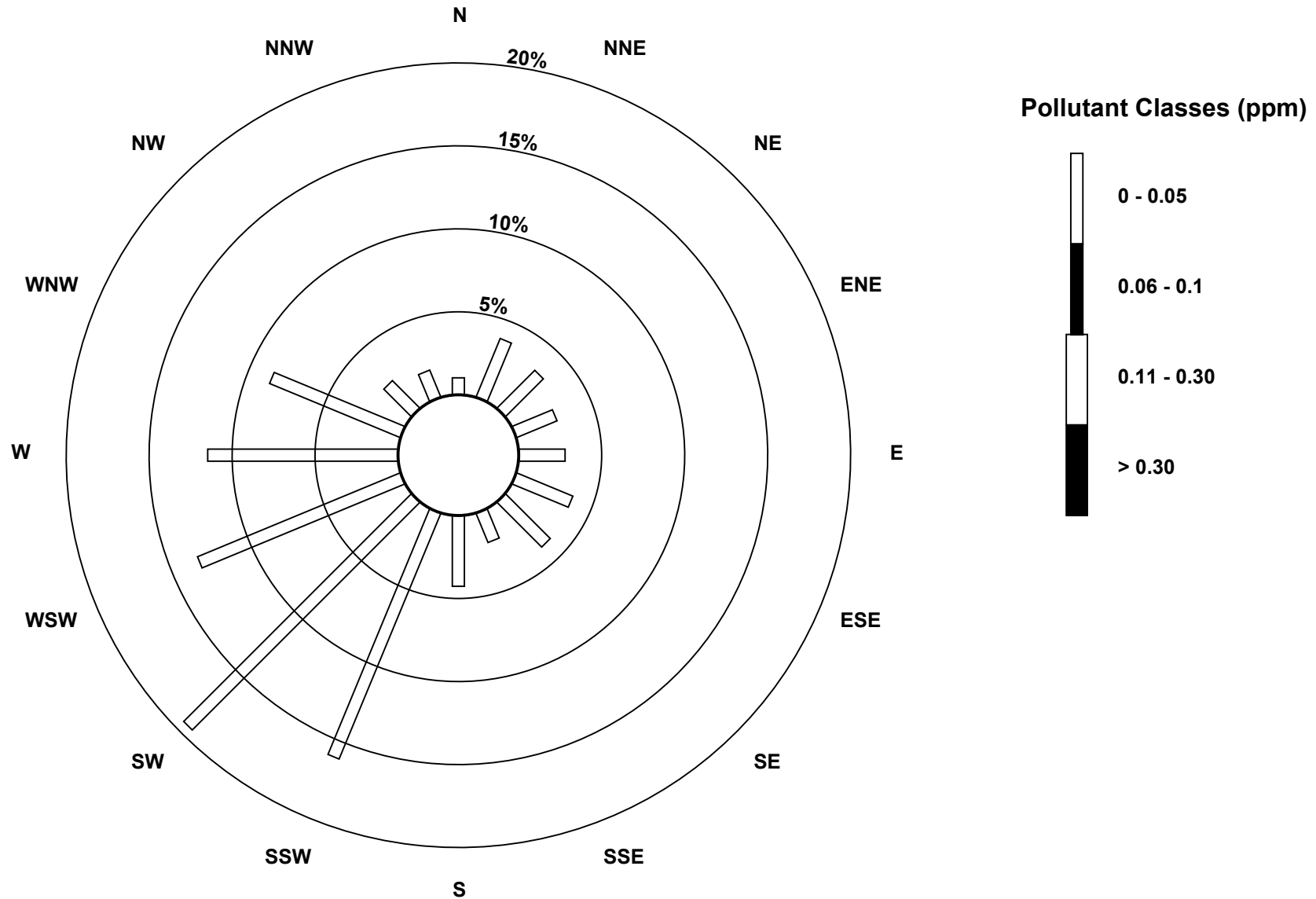
Maximum Value: 0.00 ppm on Jul 26 19:00																				Maximum Daily Average: 0.00 ppm on Jul 29					Hours in Service: 744	
Minimum Value: 0.0 ppm on Jul 26 09:00																				Minimum Daily Average: 0.00 ppm on Jul 5					Hours of Data: 680	
Maximum Diurnal Average: 0.00 ppm at hour 19																				Minimum Diurnal Average: 0.00 ppm at hour 5					Hours of Missing Data: 64	
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: 41	
																				Percent Operational Time: 96.9						
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	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
2-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
3-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
4-Jul	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
5-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
6-Jul	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	M	M	M	M	M	M	M	M	M	M	M	M	--	0.00
7-Jul	M	M	M	M	M	M	M	M	M	M	M	C	C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	--	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	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
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	0.0	0.0	0.0	0.0	0.0	0.0	A	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	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
11-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
12-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
13-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
14-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
15-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
16-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
17-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
18-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
19-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
20-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
21-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
22-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	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	0.0	0.0	0.00	0.00
23-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
24-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
25-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
26-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
27-Jul	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	C	C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
28-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
29-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
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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.00	0.00
0.00 0.00																									Diurnal Average	
0.00 0.00																									Diurnal Maximum	
C - Calibration M - Maintenance A - Automated Daily Zero Span																										

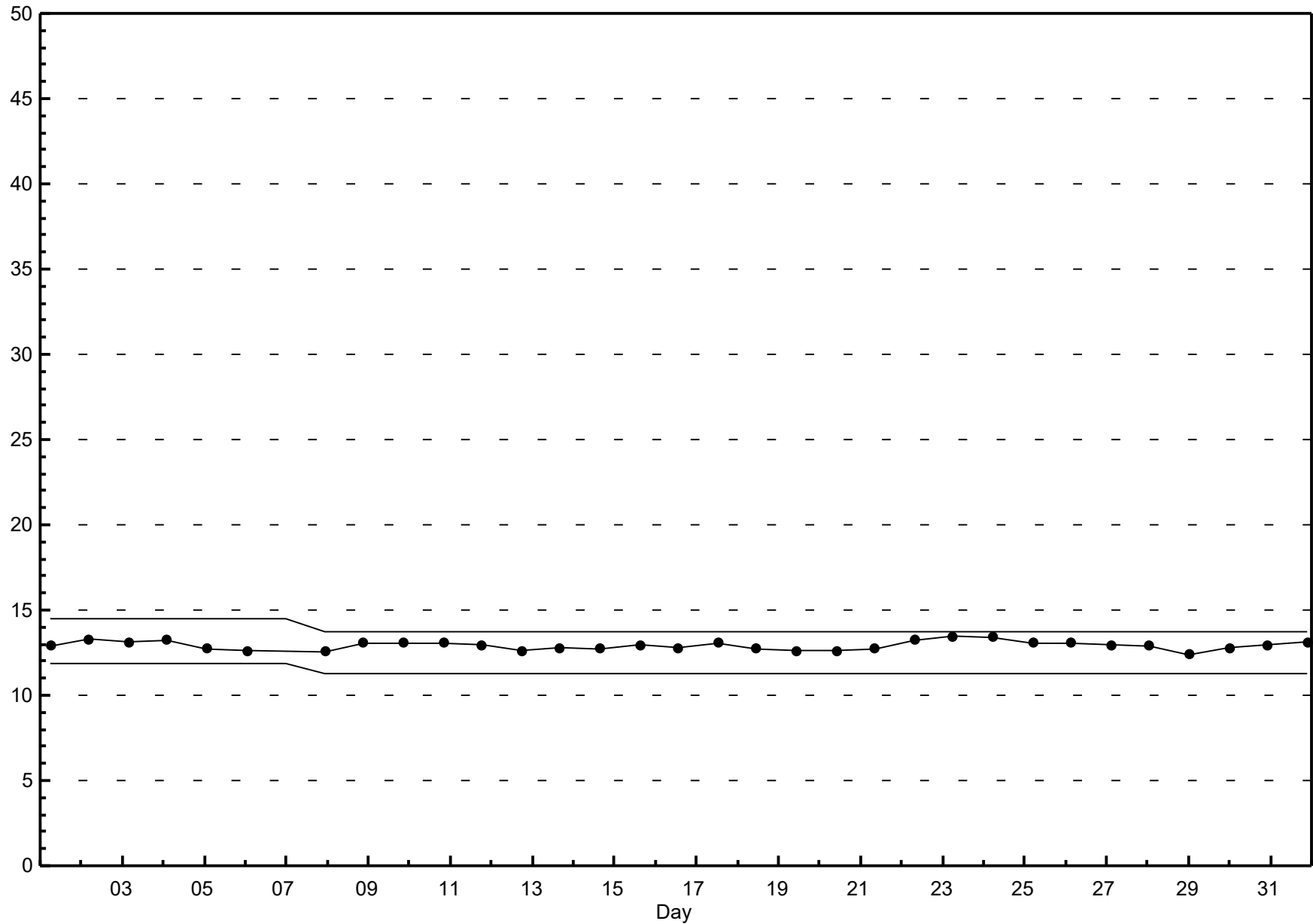


Pollutant Rose

Non Methane Hydrocarbon (NMHC) - ppm

Henry Pirker - July 2016



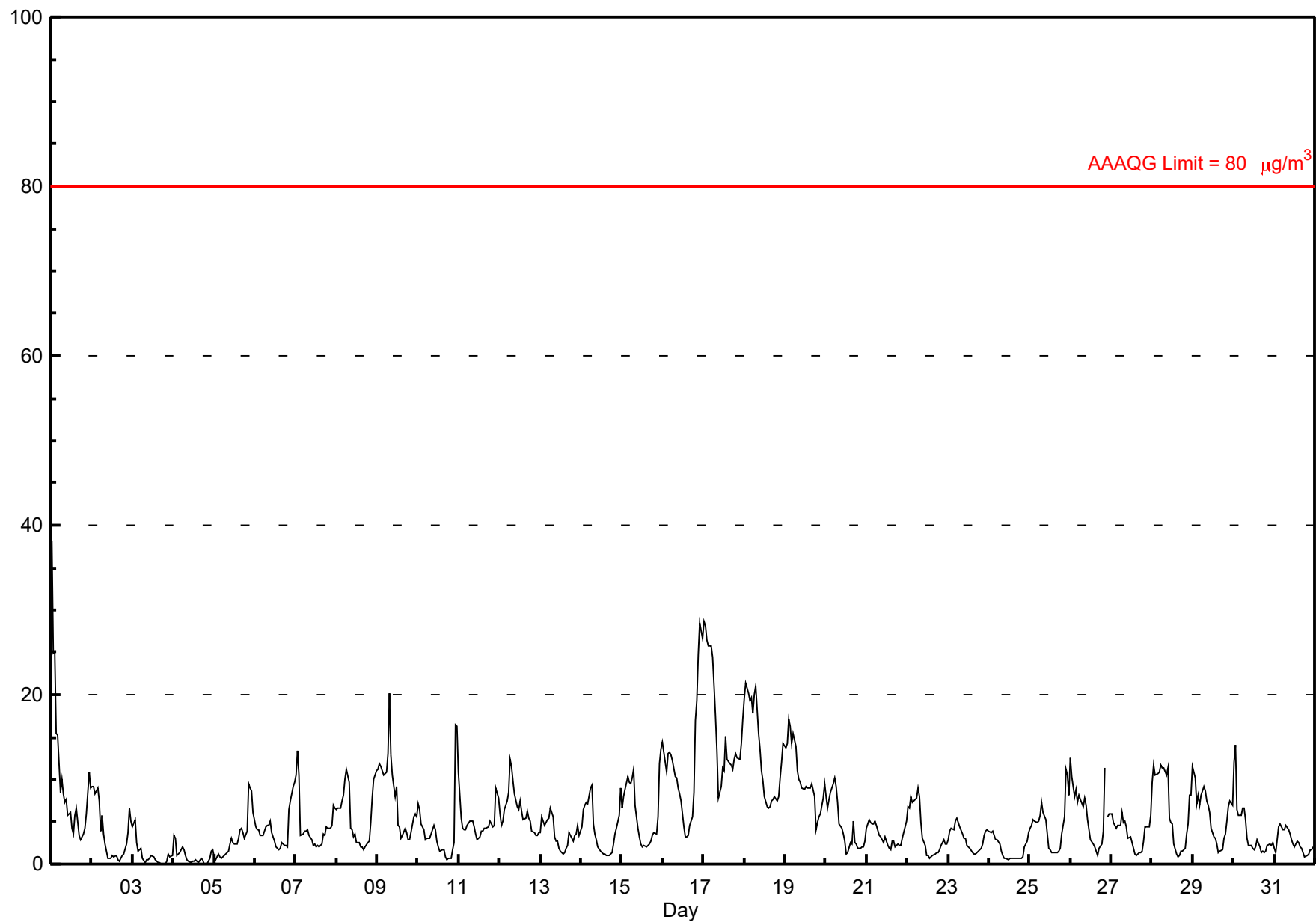


Hourly Averages

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

Henry Pirker - July 2016

Number of Exceedences: 1-hr: 0 24-hr: 0 Maximum Value: 38.1 µg/m³ on Jul 1 01:00 Maximum Daily Average: 16.4 µg/m³ on Jul 17																					Hours in Service: 744 Hours of Data: 743 Hours of Missing Data: 1 Hours of Calibration: 0 Percent Operational Time: 99.9					
Minimum Value: 0 µg/m³ on Jul 3 18:00 Maximum Diurnal Average: 9.3 µg/m³ at hour 1 Monthly Average: 5.52 µg/m³										Minimum Daily Average: 0.9 µg/m³ on Jul 4 Minimum Diurnal Average: 2.8 µg/m³ at hour 15 Percentiles: P ₁ = 0.2 P ₁₀ = 1.1 Q ₁ = 2.1 Median = 4.1 Q ₃ = 7.5 P ₉₀ = 11.4 P ₉₉ = 25.0																
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	38	25	25	15	15	8	10	8	7	8	6	6	4	4	6	7	3	3	3	4	4	6	11	9	9.8	38.1
2-Jul	9	9	8	9	8	4	6	3	2	1	1	1	1	1	1	0	0	1	1	1	2	4	7	5	3.5	9.2
3-Jul	4	5	3	1	2	2	1	0	0	0	1	1	1	1	0	0	0	0	0	0	0	1	1	1	1.1	5.3
4-Jul	3	3	1	1	1	2	2	1	1	0	0	0	0	0	0	0	1	0	0	0	0	1	2	2	0.9	3.3
5-Jul	1	0	1	1	1	1	1	1	1	2	3	3	2	2	3	4	4	4	3	4	10	9	9	6	3.2	9.5
6-Jul	4	4	4	3	3	3	4	5	5	5	4	3	2	2	2	2	3	2	2	2	6	8	9	10	4.1	9.7
7-Jul	10	13	11	3	4	4	4	4	3	3	2	2	2	2	2	2	4	3	4	4	4	5	7	7	4.6	13.4
8-Jul	7	7	7	7	8	10	11	10	4	4	3	4	3	2	2	2	2	2	3	3	5	8	10	11	5.6	11.2
9-Jul	11	12	12	11	10	11	13	20	13	10	8	9	5	4	3	3	4	4	3	3	4	6	6	6	8.0	20.1
10-Jul	7	6	5	4	3	3	3	3	4	4	4	3	2	2	2	2	1	1	1	1	2	3	16	16	4.0	16.5
11-Jul	11	5	4	4	4	5	5	5	5	4	4	3	3	4	4	4	4	4	5	5	4	5	9	8	4.9	10.9
12-Jul	6	5	5	7	8	9	12	12	10	8	7	6	7	6	5	5	6	5	5	4	4	3	3	4	6.4	12.4
13-Jul	4	6	5	5	5	5	7	6	3	3	3	2	1	1	1	2	2	4	3	3	3	4	5	3	3.5	6.6
14-Jul	4	6	7	7	7	9	9	5	4	3	2	2	1	1	1	1	1	1	1	2	4	4	6	9	4.1	9.4
15-Jul	7	8	9	10	10	9	10	11	7	4	3	2	2	2	2	2	2	3	3	4	4	6	12	13	6.1	13.5
16-Jul	14	12	11	13	13	13	12	10	10	9	8	7	4	3	3	3	5	6	8	17	19	25	29	27	11.8	28.5
17-Jul	29	28	26	26	26	24	21	18	13	8	9	11	11	15	12	12	12	11	12	13	13	12	14	17	16.4	28.7
18-Jul	19	21	20	19	20	18	20	21	15	13	11	10	8	7	7	7	8	8	8	7	8	10	12	14	13.0	21.4
19-Jul	14	14	17	16	14	16	14	11	10	10	9	9	9	9	9	9	9	8	4	5	6	6	8	9	10.2	17.1
20-Jul	8	7	8	8	10	10	9	7	5	4	3	3	1	1	2	2	5	3	2	2	2	2	2	3	4.6	10.2
21-Jul	4	5	5	5	5	5	5	3	3	3	3	3	2	2	2	3	3	2	2	2	2	3	4	5	3.4	5.2
22-Jul	7	7	8	7	8	8	9	8	5	3	2	1	1	1	1	1	1	1	1	2	2	3	2	2	3.8	9.0
23-Jul	3	4	4	4	5	5	5	4	4	3	3	2	2	2	1	1	1	1	2	2	2	3	4	4	3.1	5.5
24-Jul	4	4	4	3	3	3	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	4	1.8	3.9
25-Jul	4	5	5	5	5	5	6	7	6	5	4	2	2	1	1	1	1	1	2	4	6	11	10	8	4.5	11.1
26-Jul	12	10	8	9	7	8	8	7	8	7	5	4	3	2	2	2	1	2	2	4	11	N	6	6	5.8	12.5
27-Jul	6	5	5	4	5	5	6	5	5	4	3	3	3	2	1	1	1	1	2	3	4	4	4	6	3.7	6.2
28-Jul	10	12	10	11	11	12	11	11	10	11	5	5	5	2	1	1	1	2	2	2	3	5	8	8	6.7	11.7
29-Jul	12	10	7	8	7	8	9	9	7	7	6	4	3	3	2	1	2	2	3	4	5	7	8	7	5.9	11.6
30-Jul	12	14	6	6	6	7	7	5	3	2	2	2	2	2	3	2	1	2	1	2	2	2	2	3	4.0	14.1
31-Jul	2	1	4	5	4	4	4	4	4	3	3	2	2	3	3	2	2	1	1	1	1	2	2	2	2.6	4.7
																									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

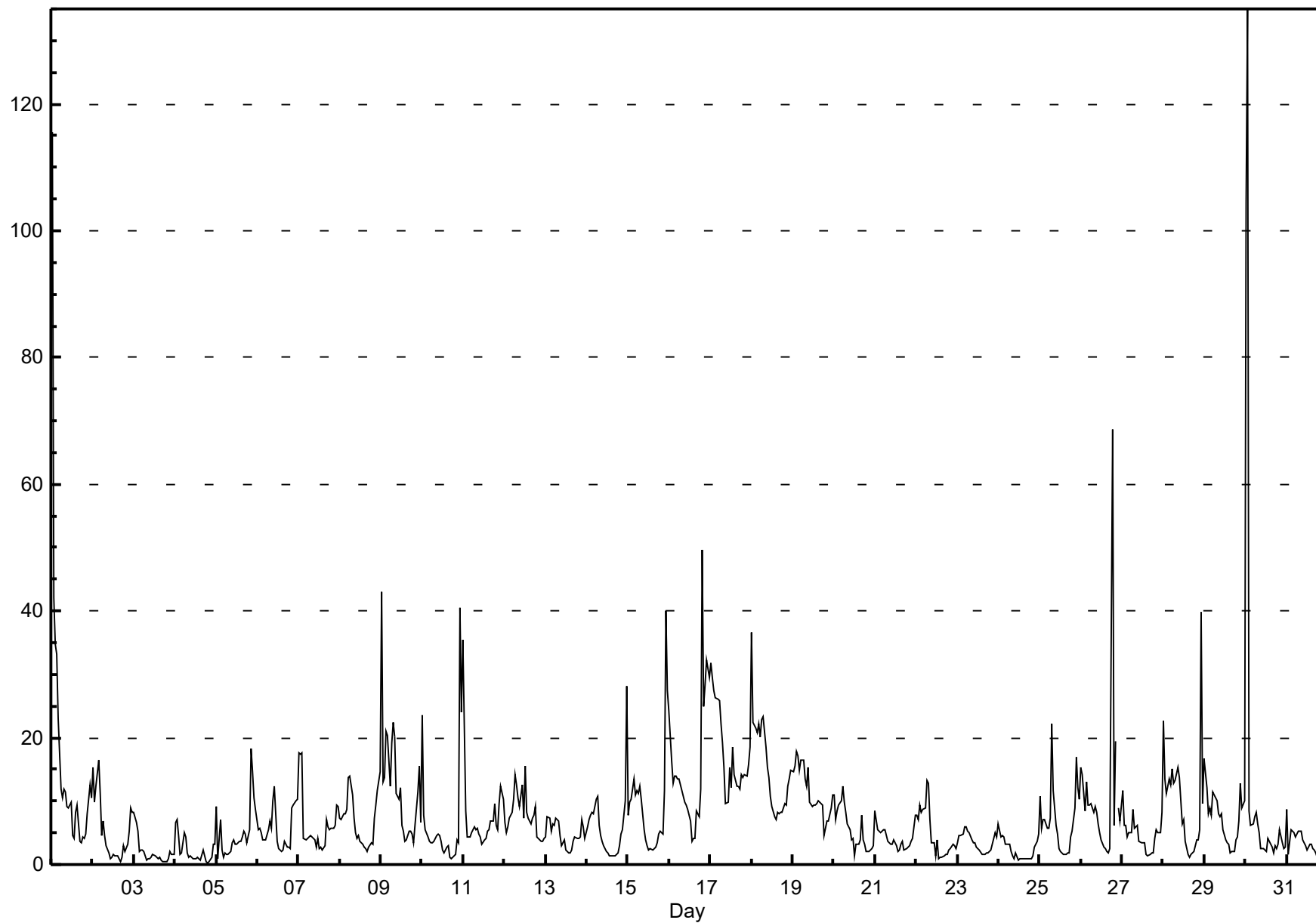
Henry Pirker - July 2016

Maximum Value: 134.9 µg/m ³ on Jul 30 02:00																								Maximum Daily Average: 18.0 µg/m ³ on Jul 17										Hours in Service: 744	
Minimum Value: 0 µg/m ³ on Jul 4 20:00																								Minimum Daily Average: 2.0 µg/m ³ on Jul 3										Hours of Data: 743	
Maximum Diurnal Average: 20.9 µg/m ³ at hour 1																								Minimum Diurnal Average: 3.5 µg/m ³ at hour 16										Hours of Missing Data: 1	
Monthly Average: 7.79 µg/m ³																								Percentiles: P ₁ = 0.7 P ₁₀ = 1.5 Q ₁ = 2.9 Median = 5.2 Q ₃ = 9.5 P ₉₀ = 15.1 P ₉₉ = 41.2										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	116	42	35	33	23	12	11	12	11	9	9	10	5	4	8	9	4	3	4	4	5	8	13	10	16.7	115.6									
2-Jul	15	10	12	17	11	5	7	5	3	2	1	1	2	1	1	1	1	1	3	2	3	5	9	8	5.2	16.5									
3-Jul	8	7	5	2	2	2	2	1	1	1	1	2	1	1	1	1	1	1	0	1	1	2	2	2	2.0	8.3									
4-Jul	7	7	5	2	2	5	4	2	1	1	1	1	1	1	1	1	2	1	1	0	0	1	3	3	2.2	7.1									
5-Jul	9	1	7	2	1	2	2	2	2	3	4	3	3	4	4	4	5	5	3	5	18	15	11	9	5.2	18.3									
6-Jul	5	6	5	4	4	4	6	7	6	10	12	4	2	2	2	2	4	3	3	3	9	9	10	10	5.5	12.3									
7-Jul	18	17	18	4	4	4	4	5	4	4	3	4	2	3	2	3	7	6	5	6	6	6	9	9	6.4	17.7									
8-Jul	7	7	8	8	9	14	14	11	7	5	4	5	4	3	3	3	2	3	3	3	7	9	12	15	6.9	14.7									
9-Jul	43	13	14	21	20	12	19	22	20	11	10	12	6	5	4	4	5	5	5	3	6	11	16	7	12.4	43.0									
10-Jul	24	8	5	4	4	3	3	4	5	5	5	4	2	2	3	3	1	1	1	2	4	3	41	24	6.6	40.6									
11-Jul	35	8	4	4	4	5	6	6	6	5	4	3	4	4	5	5	7	7	10	6	6	10	12	10	7.4	35.4									
12-Jul	7	5	6	7	8	10	14	13	11	9	12	7	16	8	7	6	7	8	9	4	4	4	4	4	8.0	15.6									
13-Jul	4	8	7	5	6	6	7	7	5	3	3	4	2	2	2	2	4	4	4	4	4	7	6	4	4.7	7.6									
14-Jul	6	7	8	8	8	10	11	6	5	4	3	2	2	1	1	1	1	2	2	3	5	5	10	28	5.8	28.1									
15-Jul	8	10	10	14	11	12	11	12	10	6	4	3	2	2	2	2	3	3	5	5	5	12	40	28	9.2	40.0									
16-Jul	24	16	13	14	14	14	13	12	11	10	9	9	7	4	4	4	8	7	12	50	25	28	32	30	15.4	49.7									
17-Jul	32	30	28	26	26	26	22	19	15	10	10	15	12	19	14	12	12	12	14	14	14	14	16	19	18.0	31.7									
18-Jul	37	22	22	21	22	20	23	23	18	15	14	11	9	8	7	8	8	8	8	10	9	12	13	15	15.2	36.7									
19-Jul	15	16	18	17	15	16	16	13	12	15	10	9	9	9	10	10	10	9	5	6	7	7	9	11	11.5	18.0									
20-Jul	11	7	9	9	10	12	10	8	7	5	4	4	1	3	3	4	8	4	3	2	2	2	3	3	5.6	12.3									
21-Jul	9	6	5	5	5	5	5	4	3	3	3	4	3	2	2	3	4	2	3	3	3	4	4	8	4.1	8.6									
22-Jul	8	7	9	8	9	9	13	13	7	3	3	1	4	1	1	1	1	2	2	2	3	3	3	3	4.9	13.3									
23-Jul	3	5	5	5	6	6	5	5	4	3	3	3	2	2	2	2	2	2	2	2	3	4	5	4	3.5	5.9									
24-Jul	6	4	5	4	3	3	3	2	1	1	2	1	1	1	1	1	1	1	1	1	1	3	4	5	2.3	6.4									
25-Jul	11	6	7	7	6	6	7	22	12	6	5	2	2	2	2	2	2	2	4	5	9	17	12	10	6.9	22.1									
26-Jul	15	14	8	13	9	9	10	8	9	8	6	5	4	3	3	2	2	3	69	6	19	N	9	7	10.5	68.7									
27-Jul	12	6	6	4	5	5	9	6	6	6	4	3	3	3	2	1	2	2	2	4	5	5	5	8	4.8	11.6									
28-Jul	23	14	11	14	13	15	13	13	15	14	10	6	7	4	1	1	2	2	2	4	4	6	40	10	10.1	39.9									
29-Jul	17	12	8	9	8	11	11	10	8	7	8	5	4	3	3	2	2	2	4	4	7	13	9	10	7.4	16.8									
30-Jul	104	135	9	6	6	8	8	6	5	2	3	2	2	4	4	3	2	3	3	3	5	3	3	3	13.8	134.9									
31-Jul	9	2	5	5	5	4	5	5	5	4	3	3	2	3	3	3	2	2	1	1	1	2	2	3	3.4	8.7									
20.9 14.7 10.2 9.8 9.0 9.0 9.5 9.2 7.6 6.2 5.6 4.8 4.2 3.7 3.5 3.5 3.9 3.7 6.2 5.5 6.5 7.7 11.8 10.3																									Diurnal Average										
115.6 134.9 34.8 33.2 26.0 25.9 23.0 23.4 20.3 15.4 13.7 15.4 15.6 18.6 14.2 12.4 12.4 12.0 68.7 49.7 24.9 28.3 40.6 29.5																									Diurnal Maximum										
N - Not Valid																																			

Hourly Maximums

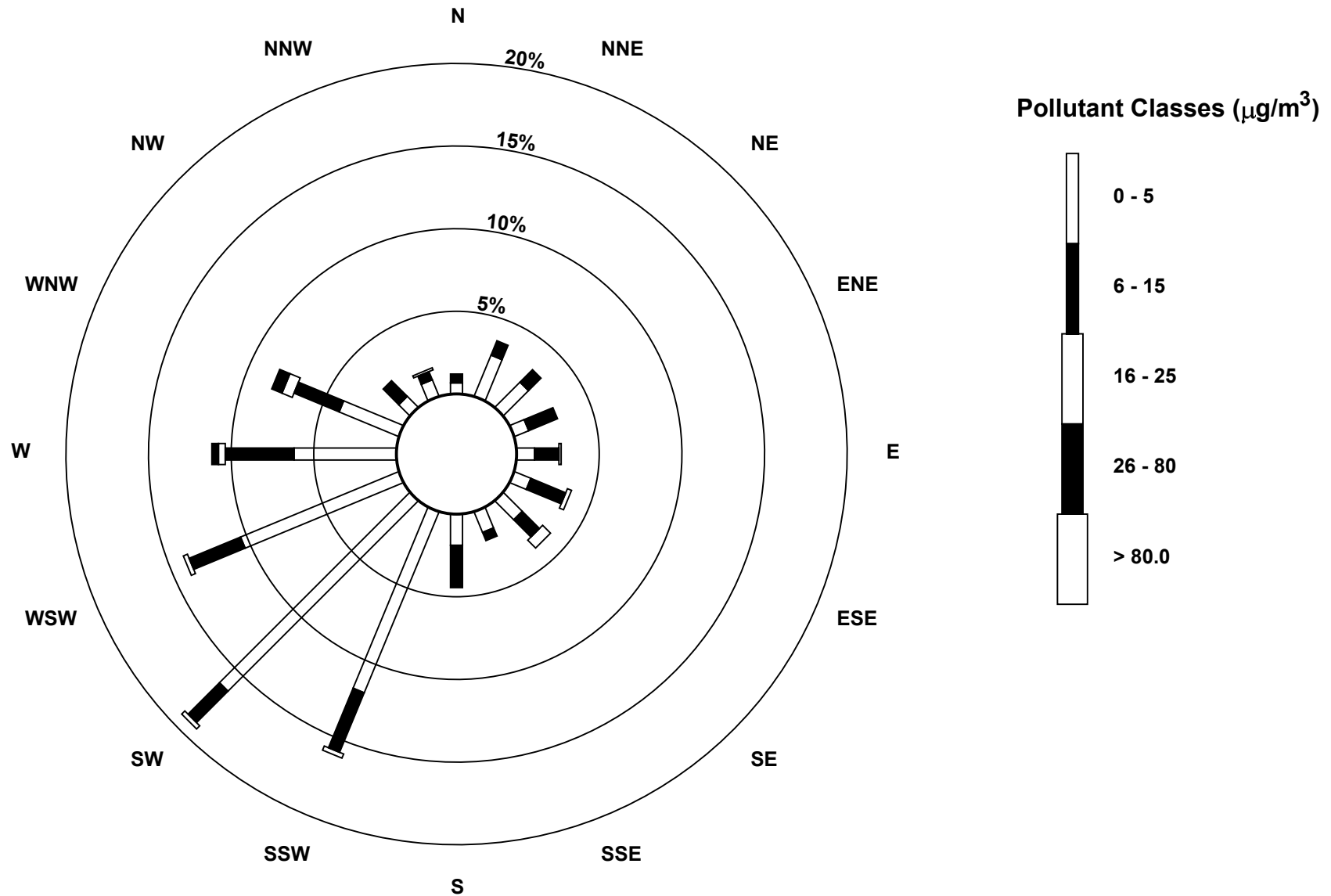
Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$

Henry Pirker - July 2016



Pollutant Rose

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Henry Pirker - July 2016



Hourly Averages

External Temperature (ET) - °C

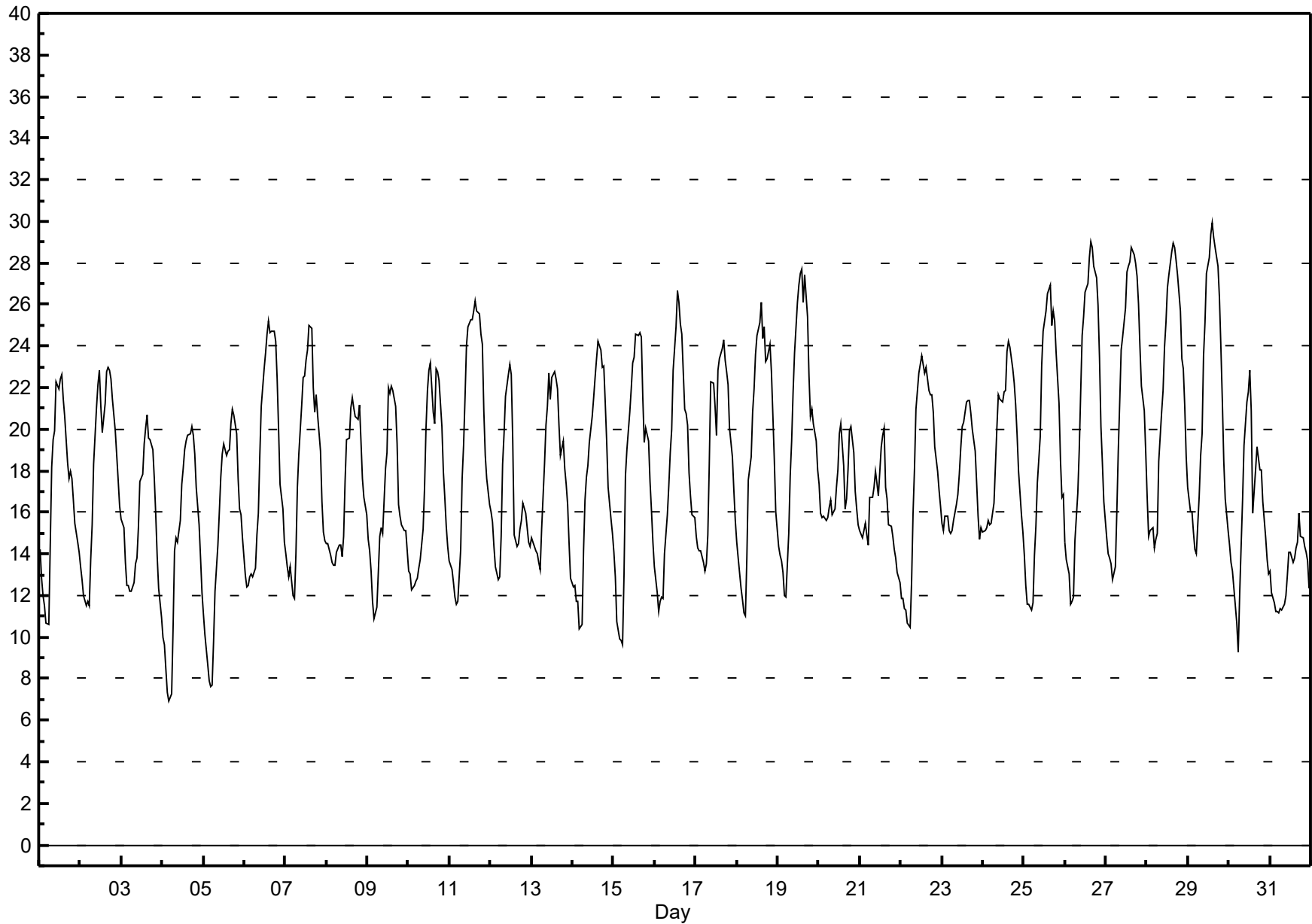
Henry Pirker - July 2016

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 29.9 °C on Jul 29 15:00 Maximum Daily Average: 21.8 °C on Jul 28																								Hours in Service: 744 Hours of Data: 744 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0		
Minimum Value: 7 °C on Jul 4 05:00 Maximum Diurnal Average: 22.8 °C at hour 15 Monthly Average: 17.96 °C												Minimum Daily Average: 13.1 °C on Jul 31 Minimum Diurnal Average: 12.1 °C at hour 6 Percentiles: P ₁ = 8.6 P ₁₀ = 12.2 Q ₁ = 14.3 Median = 17.5 Q ₃ = 21.5 P ₉₀ = 24.5 P ₉₉ = 28.7														
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	14	13	12	12	11	11	14	18	20	20	22	22	22	23	21	21	18	18	18	18	17	15	15	14	17.0	22.6
2-Jul	13	13	12	12	12	11	14	15	18	21	22	23	21	20	21	23	23	23	22	21	20	19	18	16	18.1	23.0
3-Jul	16	15	14	12	12	12	12	13	14	14	15	18	18	19	20	21	20	20	19	18	16	14	12	11	15.6	20.7
4-Jul	10	10	8	7	7	7	10	14	15	15	16	17	18	19	19	20	20	20	20	19	17	15	14	12	14.6	20.1
5-Jul	11	10	9	8	8	8	10	12	14	16	18	19	19	19	19	19	20	21	21	20	18	16	16	15	15.2	21.0
6-Jul	13	12	12	13	13	13	13	15	16	19	21	23	24	25	25	25	25	25	24	22	20	17	16	15	18.6	25.2
7-Jul	14	13	13	13	12	12	14	17	19	21	22	23	23	24	25	25	22	21	22	21	19	17	15	15	18.4	25.0
8-Jul	15	14	14	14	13	13	14	14	14	14	15	17	20	20	21	22	21	21	20	21	19	18	17	16	17.0	21.5
9-Jul	15	14	13	12	11	11	13	15	15	15	18	19	22	22	22	22	21	19	16	16	15	15	15	14	16.3	22.1
10-Jul	13	13	12	12	13	13	13	14	15	17	20	22	23	23	21	20	23	23	22	20	18	17	15	14	17.4	23.2
11-Jul	14	13	13	12	12	12	14	18	19	22	24	25	25	25	26	26	26	26	25	24	21	19	18	16	19.7	26.2
12-Jul	16	16	14	13	13	13	15	18	20	22	23	23	23	19	15	14	15	15	16	16	16	15	15	14	16.6	23.1
13-Jul	15	15	14	14	14	13	15	18	20	21	23	21	22	23	22	22	20	19	19	18	17	16	15	13	17.9	22.8
14-Jul	12	13	12	12	10	11	14	17	18	18	19	21	22	23	23	24	24	23	23	21	19	17	16	15	17.8	24.2
15-Jul	14	13	11	10	10	10	13	18	19	21	22	23	23	25	25	25	24	21	19	20	19	17	16	15	18.0	24.6
16-Jul	13	12	11	12	12	12	14	16	17	19	20	23	25	27	26	25	25	21	21	20	18	17	16	16	18.2	26.6
17-Jul	15	14	14	14	14	13	14	15	18	22	22	21	20	23	23	24	24	23	23	22	20	19	17	16	18.8	24.3
18-Jul	15	14	12	12	11	11	14	18	19	21	22	24	24	25	26	24	25	23	23	24	23	21	19	16	19.4	26.1
19-Jul	14	14	14	13	12	12	15	18	19	22	24	26	27	27	28	26	27	25	23	21	21	20	19	18	20.2	27.7
20-Jul	17	16	16	16	16	16	16	17	16	16	17	18	20	20	18	16	17	18	20	20	19	17	16	15	17.2	20.3
21-Jul	15	15	15	15	15	14	17	17	17	18	17	17	19	20	20	17	17	15	15	15	14	14	13	13	16.0	20.0
22-Jul	12	12	11	11	11	10	13	16	18	21	23	23	24	23	23	23	22	22	22	21	19	18	17	16	17.9	23.5
23-Jul	15	15	16	16	15	15	15	16	16	17	18	19	20	20	21	21	21	21	20	19	17	16	15	15	17.5	21.4
24-Jul	15	15	15	16	15	15	16	18	20	22	21	21	22	22	24	24	24	23	22	21	20	18	16	15	19.2	24.2
25-Jul	14	12	12	12	11	12	14	15	17	20	23	25	25	26	27	27	25	26	25	24	21	18	17	17	19.3	27.0
26-Jul	15	14	13	12	12	12	15	17	19	22	25	25	27	27	28	29	29	28	27	26	23	20	18	16	20.7	29.0
27-Jul	15	14	14	14	13	13	16	19	21	24	24	26	28	28	28	29	28	28	27	26	24	22	21	19	21.7	28.7
28-Jul	17	15	15	15	14	15	15	18	21	22	24	25	27	27	29	29	29	28	27	26	23	23	21	19	21.8	28.9
29-Jul	17	16	16	15	14	14	17	19	20	24	25	27	28	29	30	29	29	28	26	24	21	18	17	15	21.6	29.9
30-Jul	14	14	13	12	11	9	12	14	17	19	21	22	23	21	16	18	19	19	18	18	17	15	14	13	16.2	22.8
31-Jul	13	12	12	11	11	11	11	11	12	12	13	14	14	14	14	14	15	16	15	15	14	14	14	12	13.1	15.9
14.2 13.6 13.0 12.6 12.1 12.1 14.0 16.1 17.5 19.2 20.7 21.7 22.5 22.8 22.8 22.7 22.5 21.8 21.4 20.5 18.9 17.3 16.1 15.0																								Diurnal Average		
17.4 16.0 16.0 15.8 15.6 15.7 16.8 18.9 21.3 23.8 25.1 27.5 28.3 29.3 29.9 29.2 28.8 28.1 27.4 26.0 23.9 22.9 21.1 18.9																								Diurnal Maximum		

Hourly Averages

External Temperature (ET) - °C

Henry Pirker - July 2016



Hourly Averages

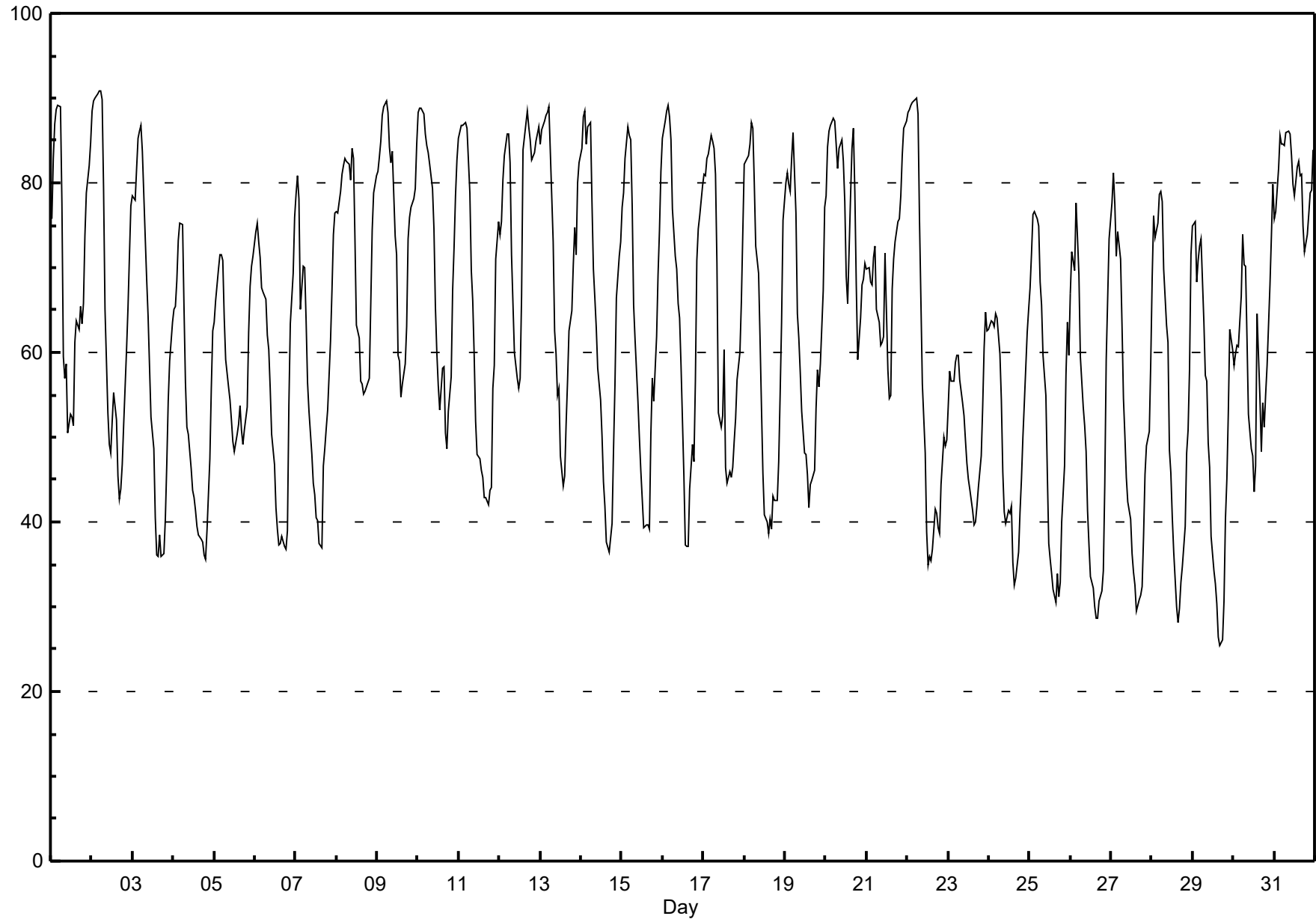
Relative Humidity (RH) - %

Henry Pirker - July 2016

Number of Exceedences (AAAQO): Maximum Value: 90.8 % on Jul 2 06:00																				1-hr: 0 24-hr: 0 Maximum Daily Average: 80.7 % on Jul 31				Hours in Service: 744 Hours of Data: 744 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0			
Minimum Value: 25 % on Jul 29 17:00 Maximum Diurnal Average: 80.1 % at hour 5 Monthly Average: 62.44 %																				Minimum Daily Average: 50.1 % on Jul 24 Minimum Diurnal Average: 46.5 % at hour 14 Percentiles: P ₁ = 29.9 P ₁₀ = 39.0 Q ₁ = 48.2 Median = 62.9 Q ₃ = 77.5 P ₉₀ = 85.1 P ₉₉ = 89.5							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jul	76	83	87	89	89	89	78	59	57	59	51	53	52	51	61	64	63	65	63	66	74	79	82	85	69.7	89.1	
2-Jul	88	90	90	91	91	91	90	79	65	53	49	48	52	55	52	45	43	44	47	51	60	65	71	77	66.2	90.8	
3-Jul	79	78	82	85	86	87	84	74	69	64	58	52	49	40	36	36	39	36	36	40	47	54	59	64	59.7	86.8	
4-Jul	65	65	68	73	75	75	65	56	51	50	46	44	43	41	39	38	38	38	36	36	39	47	56	63	52.1	75.3	
5-Jul	63	66	70	72	71	71	64	59	56	54	52	50	48	50	52	54	51	49	51	54	62	68	70	71	59.5	71.5	
6-Jul	74	75	73	71	68	67	66	62	60	56	50	47	42	39	37	37	38	37	37	39	54	63	69	76	55.8	76.0	
7-Jul	79	81	78	65	70	70	64	56	53	48	45	43	40	40	37	37	47	49	51	53	61	67	74	76	57.7	80.8	
8-Jul	77	76	79	81	82	83	82	82	80	84	83	73	63	62	57	56	55	55	56	57	66	74	79	81	71.9	84.0	
9-Jul	81	83	85	88	89	90	88	84	82	84	74	72	60	59	55	56	59	63	73	76	77	78	79	85	75.8	89.6	
10-Jul	88	89	89	88	86	84	84	82	79	74	65	60	56	53	58	58	50	49	53	57	67	72	78	83	71.1	88.9	
11-Jul	85	87	87	87	87	86	79	70	66	60	52	48	47	46	45	43	43	42	44	44	56	58	71	75	62.9	87.1	
12-Jul	74	75	80	83	86	86	82	72	66	60	57	56	57	67	84	87	88	87	85	83	84	85	86	87	77.3	88.4	
13-Jul	85	86	87	88	88	89	84	73	63	60	55	56	48	44	45	52	57	63	65	70	75	72	80	82	69.4	88.9	
14-Jul	84	88	88	85	87	87	78	70	66	63	58	54	50	45	42	38	36	38	40	48	56	66	71	73	63.0	88.5	
15-Jul	77	79	83	87	86	85	77	66	61	54	50	46	43	39	40	40	39	50	57	54	62	69	74	81	62.5	86.6	
16-Jul	85	87	89	89	88	85	77	71	70	66	64	59	45	37	37	37	44	49	47	57	71	75	76	80	66.0	89.1	
17-Jul	81	81	83	83	86	85	84	81	71	53	51	53	60	46	45	46	45	46	50	52	57	60	66	74	64.1	85.6	
18-Jul	82	82	83	84	87	86	80	73	69	62	54	46	41	40	39	40	39	43	42	43	47	55	64	76	60.7	87.1	
19-Jul	80	81	80	79	83	86	76	65	62	58	53	48	48	46	42	44	45	46	53	58	56	59	67	77	62.1	85.9	
20-Jul	78	84	86	87	88	87	85	82	84	85	83	78	69	66	78	84	86	79	68	59	64	68	69	71	77.8	87.6	
21-Jul	70	70	68	68	71	73	65	63	61	61	62	72	58	55	55	68	71	73	75	76	79	83	86	87	69.6	87.3	
22-Jul	88	89	89	89	90	90	88	76	66	56	48	39	35	36	35	37	42	41	39	39	44	50	49	50	58.5	90.0	
23-Jul	54	58	57	57	59	60	60	57	54	53	50	47	45	44	41	40	40	42	44	48	54	60	65	62	52.0	64.7	
24-Jul	63	64	64	63	65	64	60	54	46	41	40	41	41	42	35	33	33	36	41	45	50	54	62	65	50.1	65.1	
25-Jul	68	72	76	77	76	75	68	66	60	55	46	38	36	34	32	30	34	31	33	40	47	58	63	60	53.0	76.5	
26-Jul	67	72	70	78	74	69	59	53	51	48	41	37	34	32	30	29	29	31	32	34	44	59	66	73	50.6	77.7	
27-Jul	78	81	77	71	74	71	63	55	50	45	42	40	36	34	33	30	31	31	32	38	46	49	51	59	50.7	81.1	
28-Jul	69	76	74	75	79	79	78	70	63	61	48	46	40	36	30	28	30	33	35	40	48	51	58	71	54.9	78.9	
29-Jul	75	75	68	71	73	73	64	57	57	49	46	38	34	33	30	26	25	26	31	40	45	53	63	60	50.6	75.5	
30-Jul	58	60	61	61	67	74	70	70	62	53	49	48	44	47	65	55	48	54	51	55	58	68	74	80	59.6	79.8	
31-Jul	76	77	82	86	85	85	84	86	86	86	83	80	78	82	83	81	81	75	72	74	76	79	79	84	80.7	86.2	
																									Diurnal Average		
																									Diurnal Maximum		

Hourly Averages

Relative Humidity (RH) - %
Henry Pirker - July 2016



Hourly Averages

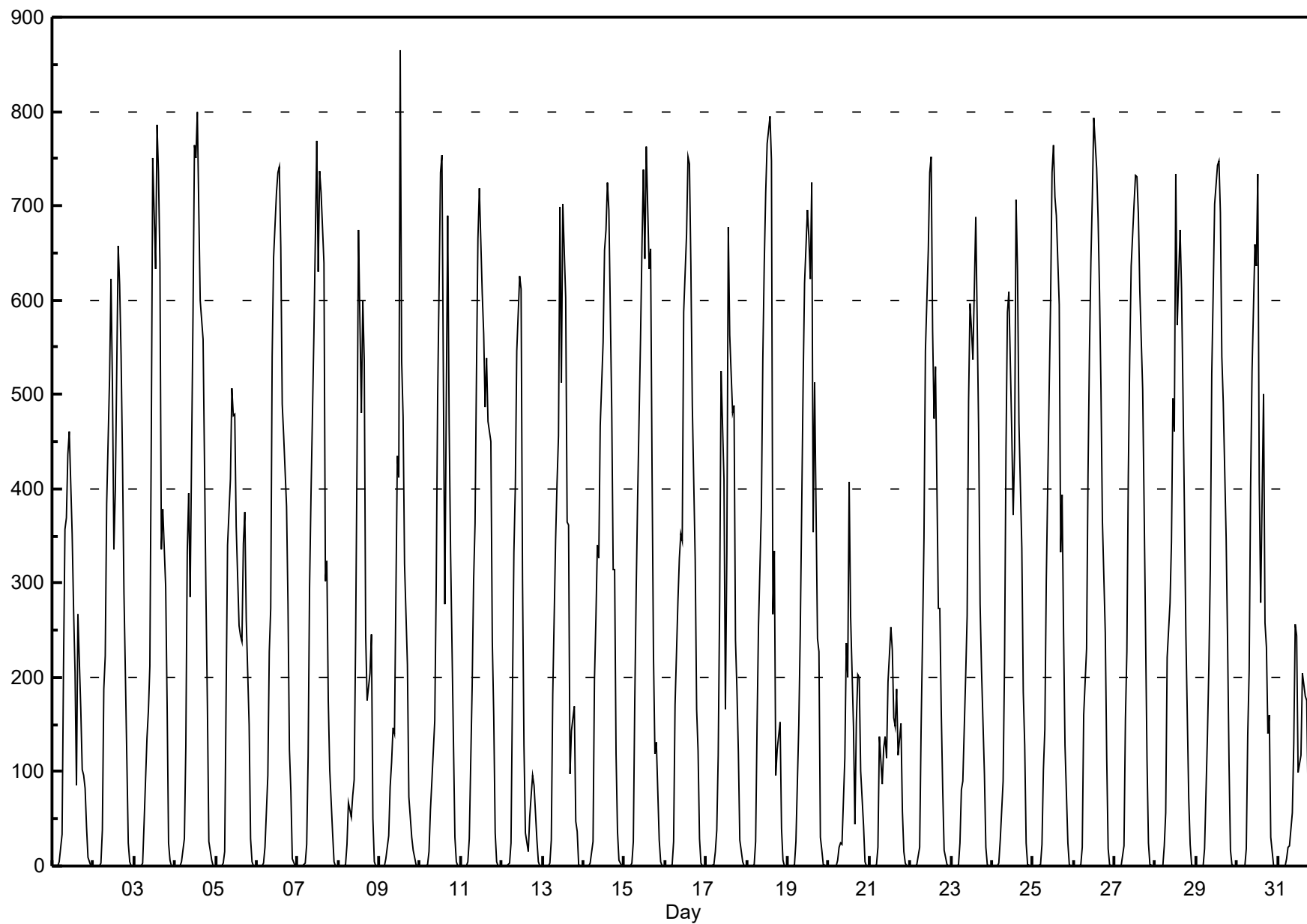
Solar Radiation (SR) - W/m²

Henry Pirker - July 2016

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 864.4 W/m ² on Jul 9 13:00 Maximum Daily Average: 285.0 W/m ² on Jul 4																								Hours in Service: 744 Hours of Data: 744 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0		
Minimum Value: 0 W/m ² on Jul 1 01:00 Maximum Diurnal Average: 590.0 W/m ² at hour 13 Monthly Average: 220.77 W/m ²												Minimum Daily Average: 77.1 W/m ² on Jul 31 Minimum Diurnal Average: 0.0 W/m ² at hour 24 Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.2 Median = 120.6 Q ₃ = 406.3 P ₉₀ = 638.4 P ₉₉ = 762.8														
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jul	0	0	0	0	5	33	211	357	370	436	461	352	271	206	86	267	166	102	96	83	41	9	0	0	148.0	461.3
2-Jul	0	0	0	0	3	38	187	222	384	517	622	509	336	397	657	617	542	431	290	203	24	4	0	0	249.3	657.0
3-Jul	0	0	0	0	0	4	45	136	165	212	456	750	633	785	735	639	336	379	296	171	24	5	0	0	240.6	785.5
4-Jul	0	0	0	0	5	29	126	334	396	286	586	765	751	799	698	599	558	424	286	169	25	6	0	0	285.0	799.2
5-Jul	0	0	0	0	3	15	178	341	411	507	478	479	361	255	244	238	341	375	261	150	29	5	0	0	194.6	507.0
6-Jul	0	0	0	0	3	20	96	227	274	540	645	714	736	742	656	490	456	381	277	123	79	8	0	0	269.4	741.8
7-Jul	0	0	0	0	3	22	116	296	393	563	664	769	631	737	714	639	302	323	176	102	35	5	0	0	270.3	768.7
8-Jul	0	0	0	0	2	23	68	52	74	91	239	437	675	481	599	536	245	176	204	245	50	4	0	0	175.0	674.7
9-Jul	0	0	0	0	7	32	84	110	146	141	435	411	864	536	476	320	214	73	52	30	17	2	0	0	164.7	864.4
10-Jul	0	0	0	0	2	15	59	90	154	296	496	614	735	754	277	488	690	468	333	131	30	4	0	0	234.9	753.7
11-Jul	0	0	0	0	5	28	190	303	362	524	665	718	607	565	487	538	471	449	238	159	35	5	0	0	264.5	717.8
12-Jul	0	0	0	0	3	24	183	333	403	546	625	612	303	129	35	16	51	74	96	86	28	5	0	0	148.0	624.7
13-Jul	0	0	0	0	4	28	182	346	408	456	699	512	701	603	364	362	97	144	169	47	37	2	0	0	215.0	701.2
14-Jul	0	0	0	0	4	26	198	262	340	326	467	556	652	675	725	696	484	315	314	119	36	6	0	0	258.4	724.9
15-Jul	0	0	0	0	2	25	175	293	391	558	656	738	644	763	633	655	424	224	118	131	28	4	0	0	269.2	763.0
16-Jul	0	0	0	0	2	26	171	281	326	352	344	587	670	752	745	636	488	324	167	121	29	4	0	0	251.0	752.5
17-Jul	0	0	0	0	1	15	38	117	279	525	410	166	332	677	564	480	488	240	188	120	28	5	0	0	194.7	677.5
18-Jul	0	0	0	0	2	25	149	254	380	538	639	714	766	795	748	267	334	95	124	152	40	7	0	0	251.3	794.8
19-Jul	0	0	0	0	2	26	149	245	376	511	618	696	667	622	725	355	512	241	227	30	17	1	0	0	250.8	724.7
20-Jul	0	0	0	0	0	6	20	24	23	115	236	200	408	265	147	44	152	202	200	100	42	5	0	0	91.2	407.7
21-Jul	0	0	0	0	1	21	138	88	125	138	115	195	254	229	158	148	188	118	152	58	15	3	0	0	89.3	253.7
22-Jul	0	0	0	0	1	21	145	243	348	547	652	736	751	567	474	530	273	273	164	82	16	1	0	0	242.7	751.4
23-Jul	0	0	0	0	1	24	81	90	203	265	493	597	569	537	688	575	460	277	207	97	20	1	0	0	216.1	688.1
24-Jul	0	0	0	0	2	27	90	216	442	588	609	460	372	443	706	631	469	337	184	128	25	2	0	0	238.8	705.8
25-Jul	0	0	0	0	2	24	103	145	303	503	599	736	765	709	689	595	332	393	249	128	24	2	0	0	262.5	764.8
26-Jul	0	0	0	0	1	19	160	230	415	544	640	709	793	741	687	609	506	366	248	115	18	1	0	0	283.5	792.8
27-Jul	0	0	0	0	0	21	155	228	413	540	637	702	733	730	691	611	504	380	248	113	24	1	0	0	280.5	732.8
28-Jul	0	0	0	0	0	21	57	221	280	343	496	461	733	574	674	612	500	379	247	71	23	1	0	0	237.2	733.5
29-Jul	0	0	0	0	0	18	138	212	316	521	608	702	743	748	692	540	491	348	238	111	17	1	0	0	268.5	748.1
30-Jul	0	0	0	0	0	18	140	207	401	524	660	636	733	407	279	500	257	231	141	160	30	1	0	0	221.9	733.1
31-Jul	0	0	0	0	0	8	20	21	56	130	257	243	100	118	205	192	179	175	62	65	19	1	0	0	77.1	256.8
Diurnal Average																										
Diurnal Maximum																										

Hourly Averages

Solar Radiation (SR) - W/m²
Henry Pirker - July 2016



Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Henry Pirkner - July 2016

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1 Spd	2	0	0	1	0	1	2	3	4	3	4	8	6	3	2	16	15	6	2	3	4	3	5	4	1.8	16.4
Dir	293	122	207	180	269	120	113	173	172	133	89	88	78	87	229	228	232	259	246	134	130	121	106	87	170.6	228.1
2 Spd	3	2	1	1	2	1	1	3	4	6	7	7	10	12	12	8	8	8	8	9	7	6	6	6	4.3	12.4
Dir	80	70	80	88	191	167	184	199	187	217	217	209	169	133	136	150	130	127	117	123	105	91	68	66	138.0	136.0
3 Spd	4	3	13	6	7	8	10	11	10	14	16	16	15	18	20	16	16	16	19	16	11	10	10	6	11.5	19.6
Dir	65	156	233	266	233	196	206	222	219	215	224	211	220	218	226	223	228	204	211	204	207	224	220	200	217.0	225.7
4 Spd	3	5	2	4	5	3	5	6	12	11	15	13	11	9	11	11	11	9	10	10	8	3	7	10	7.5	14.9
Dir	159	168	210	110	123	121	188	220	208	194	198	210	205	187	208	208	189	205	217	215	211	192	206	206	198.8	198.1
5 Spd	11	6	4	4	4	5	8	9	9	8	7	6	4	4	4	5	5	5	7	5	3	4	5	6	5.3	10.6
Dir	211	209	234	225	226	225	206	211	209	207	208	227	249	271	268	268	270	267	273	261	256	241	215	229	230.9	211.2
6 Spd	3	2	4	5	8	9	5	9	10	10	9	8	10	9	10	9	9	11	12	13	4	4	8	6	6.1	13.3
Dir	273	225	238	230	218	225	226	224	222	233	240	243	237	250	256	255	258	252	247	234	345	40	76	100	238.9	234.2
7 Spd	5	3	3	5	5	4	5	4	5	4	3	5	4	4	5	2	9	6	5	7	9	6	1	3	1.5	9.5
Dir	114	126	190	217	236	234	217	208	224	221	244	157	226	209	263	10	132	132	283	31	68	73	44	44	177.2	132.3
8 Spd	4	3	1	2	1	1	2	4	4	3	4	3	2	2	2	4	1	2	5	4	6	5	3	4	1.3	5.9
Dir	52	43	175	301	130	244	193	216	234	263	264	329	336	96	43	49	15	34	30	45	23	33	19	14	15.7	22.9
9 Spd	3	3	2	1	2	1	3	2	3	3	2	2	5	5	4	5	8	11	7	4	2	1	2	2	1.6	11.4
Dir	18	17	302	269	269	284	297	338	14	44	60	35	49	24	344	23	51	87	140	192	270	277	294	128	38.8	86.9
10 Spd	3	3	4	3	5	3	3	4	3	3	3	4	5	6	10	9	7	6	7	6	5	3	2	3	3.7	10.0
Dir	144	195	201	201	226	230	218	212	237	241	232	216	198	183	258	283	261	259	248	256	228	200	124	134	229.2	257.7
11 Spd	3	3	3	3	4	3	4	4	4	4	3	4	4	3	5	3	7	7	8	7	7	2	1	2	2.8	8.2
Dir	155	206	241	249	244	245	249	239	231	242	244	248	267	229	253	276	286	296	295	317	42	88	267	233	263.5	295.3
12 Spd	5	7	3	2	2	2	2	4	5	4	3	6	6	10	17	8	7	6	5	4	6	6	4	3	2.9	16.5
Dir	244	242	257	270	253	265	272	318	323	348	352	23	9	142	233	278	303	305	290	236	204	208	230	243	264.5	233.5
13 Spd	4	4	2	2	2	2	3	3	3	2	2	6	8	8	5	6	2	10	6	4	3	1	2	3	3.0	9.8
Dir	283	294	271	218	228	254	277	261	280	283	299	306	323	301	297	19	183	220	257	262	270	60	250	285	279.6	219.8
14 Spd	4	4	1	2	2	2	2	3	4	3	3	4	4	7	6	7	6	7	6	7	5	2	3	4	2.9	7.4
Dir	296	307	303	306	244	280	306	35	42	22	17	29	19	32	24	9	3	34	29	44	92	179	288	305	12.4	44.2
15 Spd	3	4	2	1	3	1	2	1	2	3	4	4	5	5	6	5	3	11	10	6	4	1	1	1	0.8	11.0
Dir	298	290	281	197	287	265	277	205	88	67	51	38	345	23	8	33	35	110	133	159	188	267	290	241	53.8	109.8
16 Spd	2	1	1	3	3	3	3	5	4	5	5	6	7	7	12	11	11	19	9	9	4	4	4	6	4.6	19.2
Dir	288	244	206	208	211	210	198	200	209	189	186	199	239	242	284	288	293	307	301	295	275	233	266	284	263.8	307.3
17 Spd	5	5	2	3	3	4	3	2	1	2	1	4	5	3	2	4	2	1	3	3	2	3	2	1	0.8	5.3
Dir	295	293	271	274	288	296	284	255	224	203	68	35	64	101	112	181	244	222	255	277	131	129	110	131	264.2	294.7
18 Spd	1	1	1	0	1	1	1	1	3	3	6	4	5	5	5	4	3	2	0	4	2	2	1	2	1.4	5.6
Dir	125	295	239	199	90	268	127	113	88	72	94	68	78	64	352	5	61	75	189	73	318	333	300	278	54.0	94.3
19 Spd	2	1	3	3	3	1	3	5	5	4	5	5	7	9	13	12	11	15	9	0	2	5	3	8	4.5	15.3
Dir	252	242	229	282	254	270	214	201	201	174	192	217	257	259	260	237	236	227	257	229	67	103	305	280	239.0	226.8
20 Spd	9	6	2	2	4	3	3	5	6	8	12	13	10	7	7	5	2	5	10	14	8	7	8	9	5.7	13.9
Dir	269	284	271	159	134	142	212	206	200	198	201	228	278	232	186	221	142	157	211	214	205	202	200	192	212.2	213.6
21 Spd	9	8	10	8	4	4	6	8	9	9	10	4	11	9	6	6	6	6	6	4	5	5	3	2	3.4	10.6
Dir	195	199	200	205	265	249	232	244	245	238	242	254	220	225	261	341	358	348	32	51	98	130	121	94	231.0	219.9
22 Spd	2	4	2	3	1	2	2	2	4	8	12	22	26	24	26	26	20	20	18	19	14	11	13	15	11.2	26.4
Dir	108	111	111	117	106	114	120	141	175	205	221	223	228	229	231	235	237	225	224	227	221	243	240	227	224.5	228.0

Hourly Averages

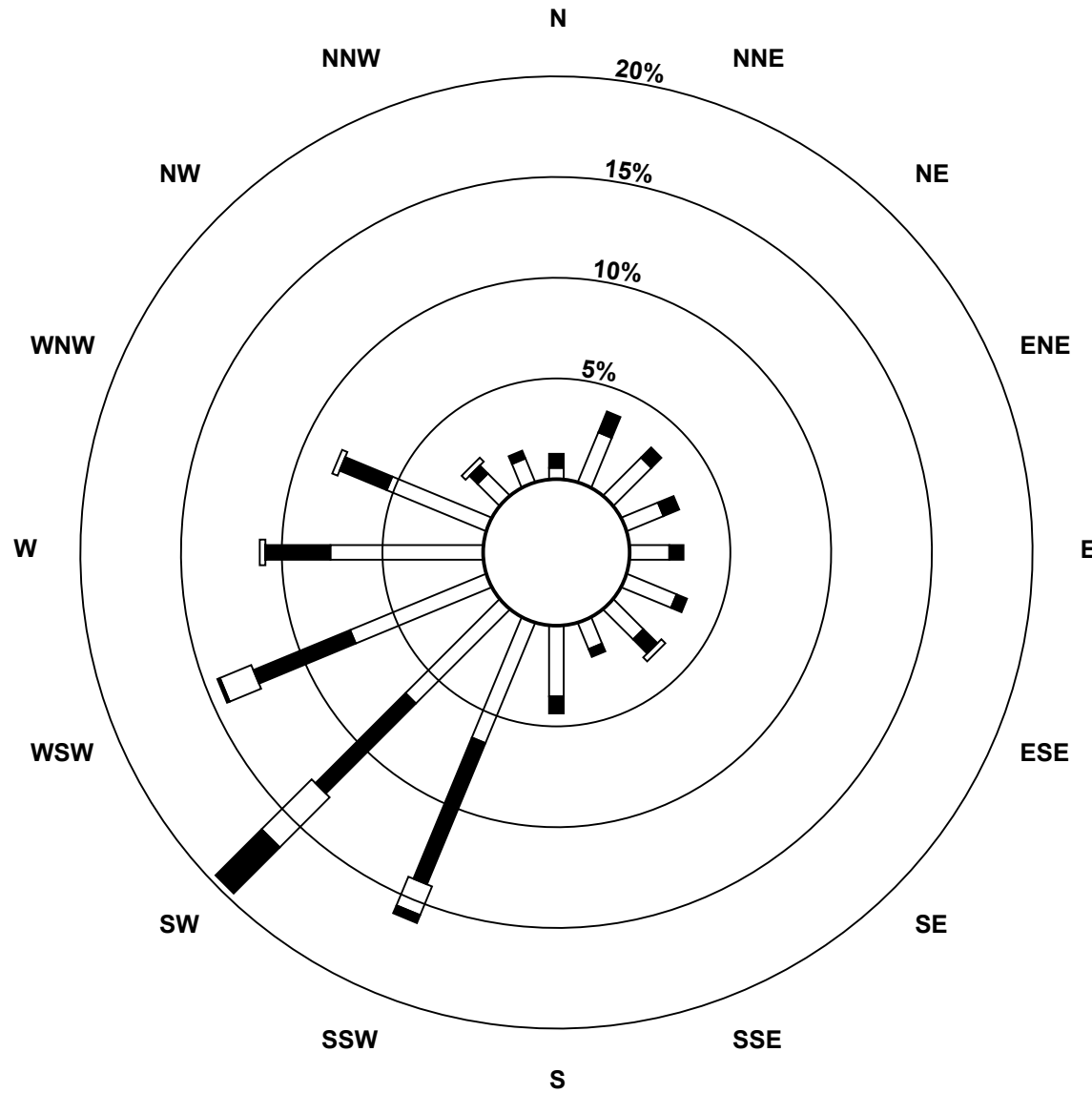
Wind Speed (km/h)
Wind Direction (deg)
Henry Pirkner - July 2016

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	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	8	14	15	15	10	11	19	21	23	26	23	21	22	24	24	23	23	23	15	8	3	2	6	16.2	25.8
Dir	220	203	210	214	213	207	207	215	219	226	228	226	222	224	218	223	216	215	220	220	213	199	204	215	218.3	227.6
24 Spd	6	5	5	8	9	10	7	9	16	19	27	23	21	20	25	25	25	25	17	14	9	8	5	6	14.1	27.5
Dir	200	208	168	168	197	212	221	213	221	237	225	219	221	212	211	214	216	219	229	237	215	213	205	207	216.6	224.9
25 Spd	5	2	1	1	1	1	1	1	4	4	4	7	9	8	6	6	4	8	7	4	2	1	2	3	3.5	9.4
Dir	203	240	225	235	294	295	299	209	194	176	222	205	226	240	223	219	268	259	263	271	262	168	184	232	231.1	226.5
26 Spd	1	2	2	0	2	3	6	7	5	3	5	10	10	8	5	5	6	7	5	5	2	1	3	2	3.6	9.9
Dir	264	202	277	229	231	241	229	209	200	176	193	217	204	181	188	240	275	281	295	283	280	256	280	243	229.6	204.1
27 Spd	3	1	2	2	1	3	4	6	4	6	7	5	7	8	9	7	6	5	6	5	6	4	3	1	3.2	9.2
Dir	270	283	246	272	224	237	243	232	214	239	280	262	252	264	277	280	273	280	288	16	39	31	23	348	272.9	277.3
28 Spd	2	3	2	1	1	1	3	2	2	4	9	9	7	8	11	11	11	8	6	2	1	5	3	2	3.9	10.7
Dir	288	292	318	96	206	213	225	261	198	206	248	252	237	254	229	227	255	277	290	267	212	197	292	107	246.5	227.0
29 Spd	1	3	3	2	1	1	3	4	5	4	4	6	8	6	9	13	13	13	13	11	8	3	4	3	5.0	13.2
Dir	225	255	242	257	255	177	178	189	198	189	172	216	205	214	231	247	250	249	269	272	292	269	247	251	240.0	249.1
30 Spd	1	2	3	5	4	2	3	7	6	2	2	3	4	11	16	13	6	3	5	9	6	3	5	6	4.5	16.5
Dir	235	161	216	228	249	265	286	279	280	306	243	257	231	266	300	308	334	307	332	296	294	283	280	248	282.0	300.1
31 Spd	7	10	7	8	10	9	8	7	9	9	11	12	10	12	12	14	15	13	8	9	7	8	6	2	8.9	14.5
Dir	211	211	197	201	215	215	224	233	235	236	250	254	251	258	249	223	219	237	257	256	246	232	229	210	233.0	219.0
Spd	2.0	2.1	2.7	2.5	3.0	2.8	3.3	4.3	4.8	4.8	5.7	5.6	5.6	5.5	7.1	6.4	5.6	5.4	5.3	4.0	1.7	1.7	1.8	2.1	Diurnal Average	
Dir	227.2	223.6	223.7	217.9	223.0	223.2	221.9	221.7	218.5	219.1	223.8	225.8	230.4	224.8	240.7	243.9	240.0	235.7	244.4	240.3	217.7	200.4	228.2	223.0	Diurnal Maximum	
Spd	11.5	9.8	13.9	15.1	14.8	10.4	11.4	18.8	21.5	22.6	27.5	23.4	26.4	24.3	25.9	26.0	25.2	25.4	23.4	19.0	14.2	11.2	13.1	15.3	Diurnal Maximum	
Dir	219.5	211.4	210.2	214.1	212.8	206.6	207.3	214.7	219.1	226.4	224.9	219.1	228.0	229.0	230.8	235.3	216.3	218.5	219.7	226.8	220.9	243.4	239.8	226.8		
Maximum Speed Value: 27 km/h on Jul 24 11:00								Minimum Speed Value: 0 km/h on Jul 1 03:00												Hours in Service: 744						
Maximum Daily Speed Average: 16.2 km/h on Jul 23								Minimum Daily Speed Average: 0.8 km/h on Jul 18												Hours of Data: 744						
Maximum Diurnal Speed Average: 7.1 km/h at hour 15								Minimum Diurnal Speed Average: 1.7 km/h at hour 21												Hours of Missing Data: 0						
Monthly Average Velocity: 3.94 km/h 229.15 deg								Speed Percentiles: P ₁ = 0.5 P ₁₀ = 1.6 Q ₁ = 2.9 Median = 4.7 Q ₃ = 8.1 P ₉₀ = 12.3 P ₉₉ = 25.1												Percent Operational Time: 100.0						
All monthly, daily, and diurnal averages have been calculated using vector methods																										
Frequency Distribution																										
Speed Range (km/h)																										
Direction	0 to 5		5 to 11		11 to 19		19 to 28		28 to 38		> 38		Total													
North	17		10		0		0		0		0		27													
NorthEast	33		16		0		0		0		0		49													
East	31		13		1		0		0		0		45													
SouthEast	35		10		2		0		0		0		47													
South	50		30		4		0		0		0		84													
SouthWest	101		100		47		27		0		0		275													
West	93		59		12		0		0		0		164													
NorthWest	34		15		3		1		0		0		53													
Total	394		253		69		28		0		0		744													

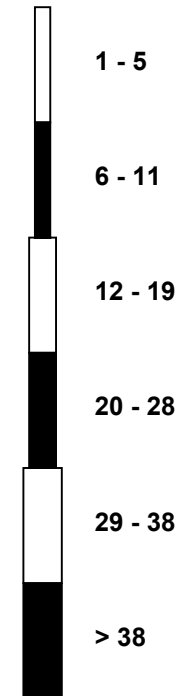
Wind Rose

Wind Speed (WS) (km/h)

Henry Pirker - July 2016



Wind Speed Classes (km/h)



Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Henry Pirker - July 2016

Maximum Speed: 28 km/h on Jul 24 11:00																				Maximum Daily Speed Average: 16.5 km/h on Jul 23										Hours in Service: 744	
Minimum Speed: 0 km/h on Jul 1 03:00																				Minimum Daily Speed Average: 2.9 km/h on Jul 18										Hours of Data: 744	
Maximum Diurnal Speed Average: 10.7 km/h at hour 15																				Minimum Diurnal Speed Average: 3.5 km/h at hour 6										Hours of Missing Data: 0	
Monthly Average Speed: 6.60 km/h																				Percentiles: P ₁ = 0.7 P ₁₀ = 2.0 Q ₁ = 3.2 Median = 5.1 Q ₃ = 8.3 P ₉₀ = 12.9 P ₉₉ = 25.7										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	2	0	0	1	1	1	2	3	5	3	4	8	6	4	4	17	16	6	2	4	4	4	5	4	4.4	16.6					
2-Jul	3	2	2	1	2	1	1	3	5	7	8	7	10	12	13	9	9	9	9	10	7	6	6	6	6.1	12.7					
3-Jul	4	6	13	7	7	8	10	11	11	14	16	17	16	19	20	17	16	17	19	16	11	11	10	7	12.6	20.2					
4-Jul	3	5	3	4	5	4	5	6	12	12	15	14	12	10	12	12	12	9	11	10	8	4	8	10	8.5	15.3					
5-Jul	11	7	5	4	4	5	8	10	9	8	7	7	5	4	4	5	5	5	7	5	3	4	6	7	6.1	10.7					
6-Jul	3	2	4	5	8	9	6	9	10	11	10	8	11	9	10	10	10	12	12	13	7	5	8	7	8.3	13.5					
7-Jul	5	3	4	5	5	4	5	4	6	5	4	5	5	6	6	4	11	6	6	7	9	6	2	3	5.3	10.8					
8-Jul	4	3	2	2	1	1	2	5	5	3	4	3	4	3	4	5	3	3	5	5	6	5	3	5	3.5	6.2					
9-Jul	3	3	2	1	2	1	3	2	3	3	4	3	6	6	5	6	8	12	8	5	2	1	3	2	3.9	12.2					
10-Jul	3	3	4	3	5	3	4	4	4	3	4	5	6	7	11	9	7	6	7	6	5	4	2	3	4.9	10.9					
11-Jul	3	4	3	3	4	3	4	4	4	5	4	5	5	4	6	4	8	7	9	8	7	3	4	3	4.6	8.6					
12-Jul	5	7	3	2	2	2	2	4	5	4	5	7	6	15	17	8	7	6	6	4	6	6	4	3	5.8	17.3					
13-Jul	4	4	3	2	2	2	3	4	3	3	3	7	8	8	6	7	7	10	6	4	3	3	3	3	4.6	10.0					
14-Jul	4	4	1	3	2	2	2	3	5	4	4	5	5	7	7	8	7	7	7	8	7	3	3	4	4.6	7.7					
15-Jul	4	4	2	2	3	1	2	1	2	3	5	6	6	5	7	6	4	13	10	6	4	2	1	1	4.2	12.8					
16-Jul	2	1	1	3	3	3	4	5	4	5	5	6	7	7	13	12	12	19	9	9	4	5	4	6	6.3	19.3					
17-Jul	5	5	2	3	3	4	3	2	2	2	2	4	5	4	5	4	4	2	4	3	2	3	2	0	3.2	5.4					
18-Jul	0	2	1	1	1	1	1	1	3	4	6	5	6	6	6	5	4	2	1	4	3	3	2	3	2.9	6.2					
19-Jul	2	1	3	3	3	2	3	5	5	4	6	6	7	10	13	13	12	16	9	1	2	5	5	8	5.9	15.8					
20-Jul	10	6	2	3	4	4	3	5	6	8	12	14	10	8	8	6	2	5	11	14	8	7	8	9	7.2	14.4					
21-Jul	9	8	10	8	5	4	6	8	10	9	10	4	11	9	6	7	6	7	6	4	5	5	3	2	6.8	10.8					
22-Jul	2	4	2	3	1	2	2	3	4	8	13	22	27	25	26	26	20	20	18	19	14	11	13	15	12.6	26.8					
23-Jul	12	8	14	15	15	11	11	19	22	23	26	24	21	23	24	25	24	24	24	16	8	3	2	6	16.5	26.2					
24-Jul	7	6	5	8	10	10	7	9	16	19	28	24	22	21	25	26	26	26	18	15	9	9	5	6	14.7	27.8					
25-Jul	6	3	2	1	2	1	1	2	4	4	5	8	10	9	7	8	6	9	8	4	2	2	2	3	4.5	10.3					
26-Jul	1	2	2	0	3	3	6	7	5	3	5	10	11	9	7	6	7	7	5	6	2	2	3	2	4.8	11.0					
27-Jul	3	1	2	2	1	4	4	7	5	6	8	6	7	9	10	8	7	6	7	6	6	4	3	1	5.0	9.6					
28-Jul	2	3	2	2	2	1	3	2	2	4	9	9	9	8	12	12	11	8	6	2	2	5	5	3	5.2	11.9					
29-Jul	2	3	3	2	1	1	3	5	5	5	5	7	9	7	9	13	13	13	13	11	8	3	4	4	6.2	13.4					
30-Jul	2	3	3	5	4	3	3	7	6	3	3	4	5	12	17	13	7	5	5	9	6	3	5	6	5.8	16.7					
31-Jul	7	10	7	9	10	9	8	7	9	10	11	12	10	12	12	14	15	14	8	9	8	8	6	2	9.5	14.7					
4.3 4.0 3.6 3.6 3.9 3.5 4.1 5.3 6.3 6.6 8.1 8.7 9.3 9.7 10.7 10.4 9.8 10.1 8.9 7.9 5.8 4.5 4.5 4.6																									Diurnal Average						
11.6 9.9 14.0 15.2 14.9 10.6 11.5 19.0 21.7 22.8 27.8 23.8 26.8 24.6 26.3 26.3 25.7 25.7 23.6 19.1 14.5 11.3 13.2 15.5																									Diurnal Maximum						

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

Hourly Standard Deviations

Wind Direction (WD) - deg

Henry Pirker - July 2016

Maximum Value: 90.7 deg on Jul 18 04:00																		Hours in Service: 744							
Minimum Value: 6.4 deg on Jul 23 05:00																		Hours of Data: 744							
																		Hours of Missing Data: 0							
																		Hours of Calibration: 0							
Percentiles: P ₁ = 7.8 P ₁₀ = 9.7 Q ₁ = 12.9 Median = 20.3 Q ₃ = 33.2 P ₉₀ = 51.4 P ₉₉ = 81.5																		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	33	56	33	28	77	58	24	29	21	24	39	21	25	38	48	12	11	12	31	28	11	12	13	17	77.0
2-Jul	16	20	46	32	27	42	78	23	17	19	29	19	21	13	13	26	25	25	18	16	14	12	8	10	78.5
3-Jul	12	51	13	10	27	10	12	12	16	12	11	13	18	13	14	17	15	14	12	12	10	12	10	26	50.6
4-Jul	16	16	56	50	9	20	16	25	14	17	12	18	19	25	25	22	15	15	23	18	11	11	10	10	56.0
5-Jul	9	13	37	22	27	23	10	13	15	17	22	25	34	24	25	16	21	18	14	10	10	9	15	17	37.3
6-Jul	14	23	16	15	8	9	15	10	10	14	16	18	18	24	17	19	17	10	9	10	56	31	14	15	55.9
7-Jul	10	15	24	19	8	13	16	15	19	29	52	46	45	55	44	83	45	28	46	17	15	14	30	18	83.3
8-Jul	15	19	58	51	72	36	37	19	51	31	24	36	63	62	60	51	78	86	20	39	19	12	24	28	86.2
9-Jul	22	28	26	80	32	42	20	31	42	32	67	57	30	34	48	36	24	20	31	15	53	66	26	20	79.7
10-Jul	20	25	15	26	16	23	33	19	20	18	29	31	31	33	25	16	22	19	18	9	17	25	30	24	33.2
11-Jul	21	30	13	17	12	13	11	19	25	22	34	43	36	58	34	74	22	23	17	23	20	52	85	41	85.3
12-Jul	24	28	25	14	18	16	16	34	24	34	56	31	27	63	18	14	12	13	13	23	16	10	21	18	62.8
13-Jul	9	10	24	34	29	14	13	16	41	47	67	35	25	26	25	26	80	12	16	15	17	79	45	20	79.7
14-Jul	17	16	45	34	20	23	40	35	23	33	33	32	43	27	35	29	29	24	20	13	38	35	19	7	45.4
15-Jul	8	11	37	61	18	30	17	41	65	42	46	49	48	36	28	40	52	33	11	18	23	27	58	54	64.8
16-Jul	19	39	45	17	18	20	14	18	20	14	19	18	24	21	24	19	19	7	17	13	19	21	19	10	45.3
17-Jul	9	18	36	8	13	8	13	20	41	40	90	45	21	70	82	34	62	70	61	25	55	10	9	88	89.9
18-Jul	67	78	75	91	67	54	69	82	35	30	24	42	44	49	35	41	67	63	72	22	61	39	50	26	90.7
19-Jul	34	52	34	13	19	10	26	16	14	31	26	27	34	17	15	11	18	16	13	90	39	17	60	7	90.1
20-Jul	14	12	58	61	13	33	34	14	17	14	11	24	15	33	13	49	31	17	23	11	13	10	9	7	61.2
21-Jul	8	8	9	13	20	14	11	10	10	9	21	17	14	13	24	32	24	25	15	24	20	11	9	27	32.5
22-Jul	12	9	50	12	41	26	10	25	21	17	14	11	10	9	9	9	9	10	9	8	14	7	8	8	50.2
23-Jul	8	10	8	8	6	10	9	8	8	9	9	10	14	12	11	10	9	10	9	9	14	25	25	11	25.3
24-Jul	12	25	19	15	11	9	15	13	12	11	9	10	12	12	9	11	11	10	14	9	16	10	14	11	25.2
25-Jul	14	33	60	37	40	37	67	48	22	25	50	20	27	27	33	35	67	25	12	11	10	58	10	23	67.3
26-Jul	40	19	28	53	44	20	18	18	13	30	24	23	26	30	46	35	27	21	30	15	9	13	26	61	61.3
27-Jul	19	77	38	16	43	14	10	12	23	26	26	34	21	27	18	27	45	40	24	26	12	11	14	58	77.4
28-Jul	35	26	43	56	49	57	33	36	33	27	12	16	38	26	24	26	15	19	18	10	30	15	74	66	73.9
29-Jul	70	16	24	19	35	45	15	15	16	29	31	30	28	29	22	14	11	9	8	7	10	17	12	12	69.9
30-Jul	60	48	32	22	14	20	28	11	30	55	61	48	52	27	11	11	33	55	22	16	12	14	10	9	60.9
31-Jul	23	12	13	12	8	8	11	16	13	12	9	9	8	10	12	9	9	17	10	8	13	11	11	35	35.3
69.9 78.4 75.0 90.7 77.0 57.7 78.5 82.2 64.8 55.0 89.9 56.6 62.7 69.5 82.4 83.3 79.7 86.2 71.6 90.1 61.5 79.0 85.3 88.0																									

PAZA
Evergreen Park Station
Monthly Summary Tables, Graphs and
Roses

Hourly Averages

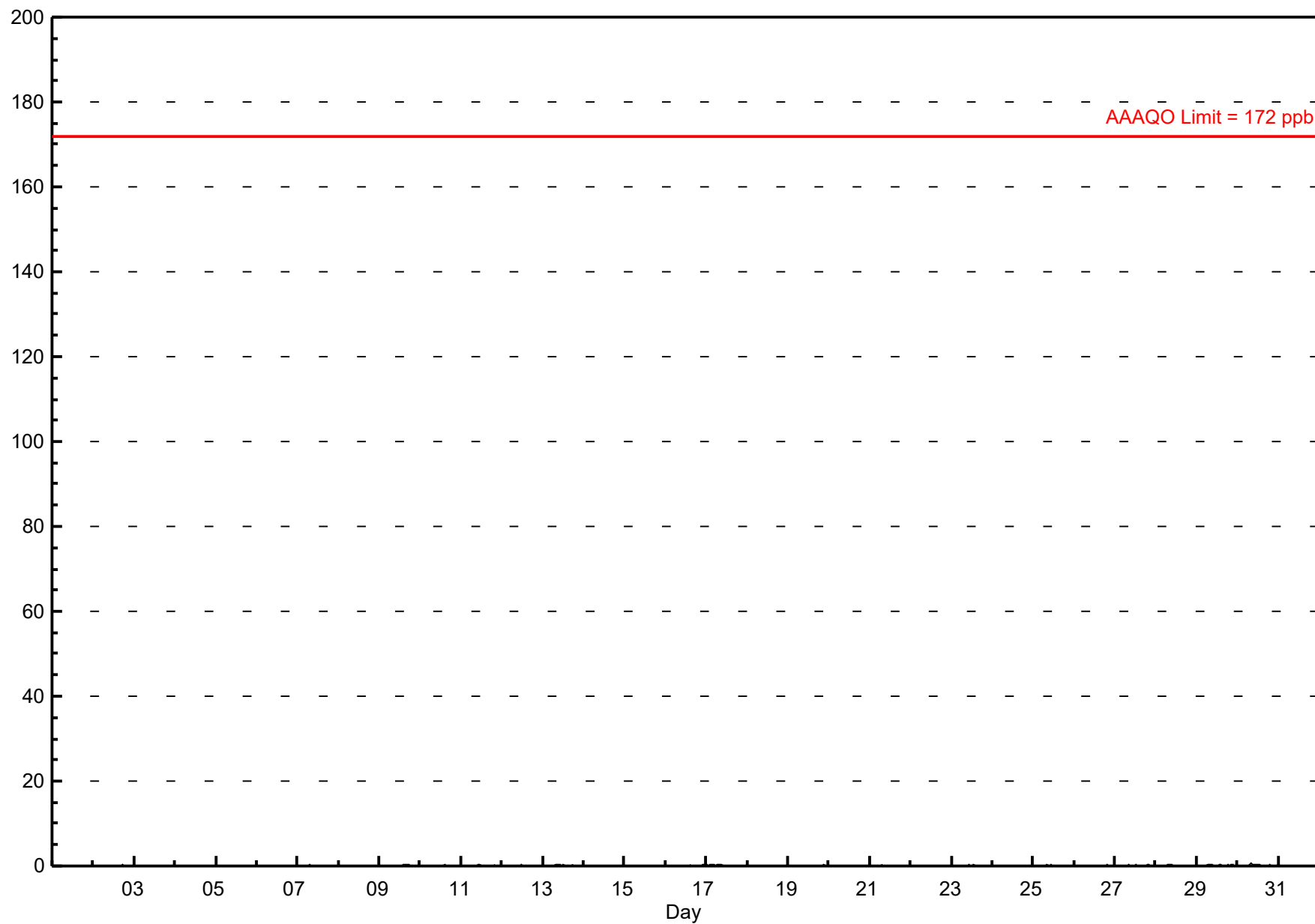
Sulphur Dioxide (SO₂) - ppb

Evergreen Park - July 2016

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																				Hours in Service: 744						
Maximum Value: 0.8 ppb on Jul 30 09:00																				Maximum Daily Average: 0.2 ppb on Jul 30		Hours of Data: 708				
Minimum Value: 0 ppb on Jul 1 02:00																				Minimum Daily Average: 0.0 ppb on Jul 22		Hours of Missing Data: 36				
Maximum Diurnal Average: 0.1 ppb at hour 8																				Minimum Diurnal Average: 0.0 ppb at hour 2		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 = 0.3		Percent Operational Time: 100.0				
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jul	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1
2-Jul	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
3-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	0.1
4-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
5-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
6-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
7-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.1	0.5
8-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	0.0
9-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
10-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
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	0.1	0.3
12-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
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	0.2	0.4
14-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
15-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
16-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
17-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
18-Jul	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
19-Jul	0	0	0	0	0	0	0	0	0	0	A	C	C	C	0	0	0	0	0	0	0	0	0	0	0.1	0.4
20-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
21-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	0.2
22-Jul	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
23-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
24-Jul	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
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	0.0	0.3
26-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	0.2
27-Jul	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
28-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
29-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	0.3
30-Jul	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.2	0.8
31-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
0.0 0.0 0.0 0.0 0.0 0.0 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.0 0.1 0.1 0.1 0.1 0.1 0.0 0.0																								Diurnal Average		
0.3 0.1 0.2 0.2 0.2 0.1 0.2 0.5 0.8 0.3 0.4 0.3 0.3 0.3 0.2 0.2 0.3 0.3 0.2 0.3 0.3 0.4 0.3 0.3																								Diurnal Maximum		
C - Calibration A - Automated Daily Zero Span																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb 30-day 11 ppb																										

Hourly Averages

Sulphur Dioxide (SO₂) - ppb
Evergreen Park - July 2016



Hourly Maximums

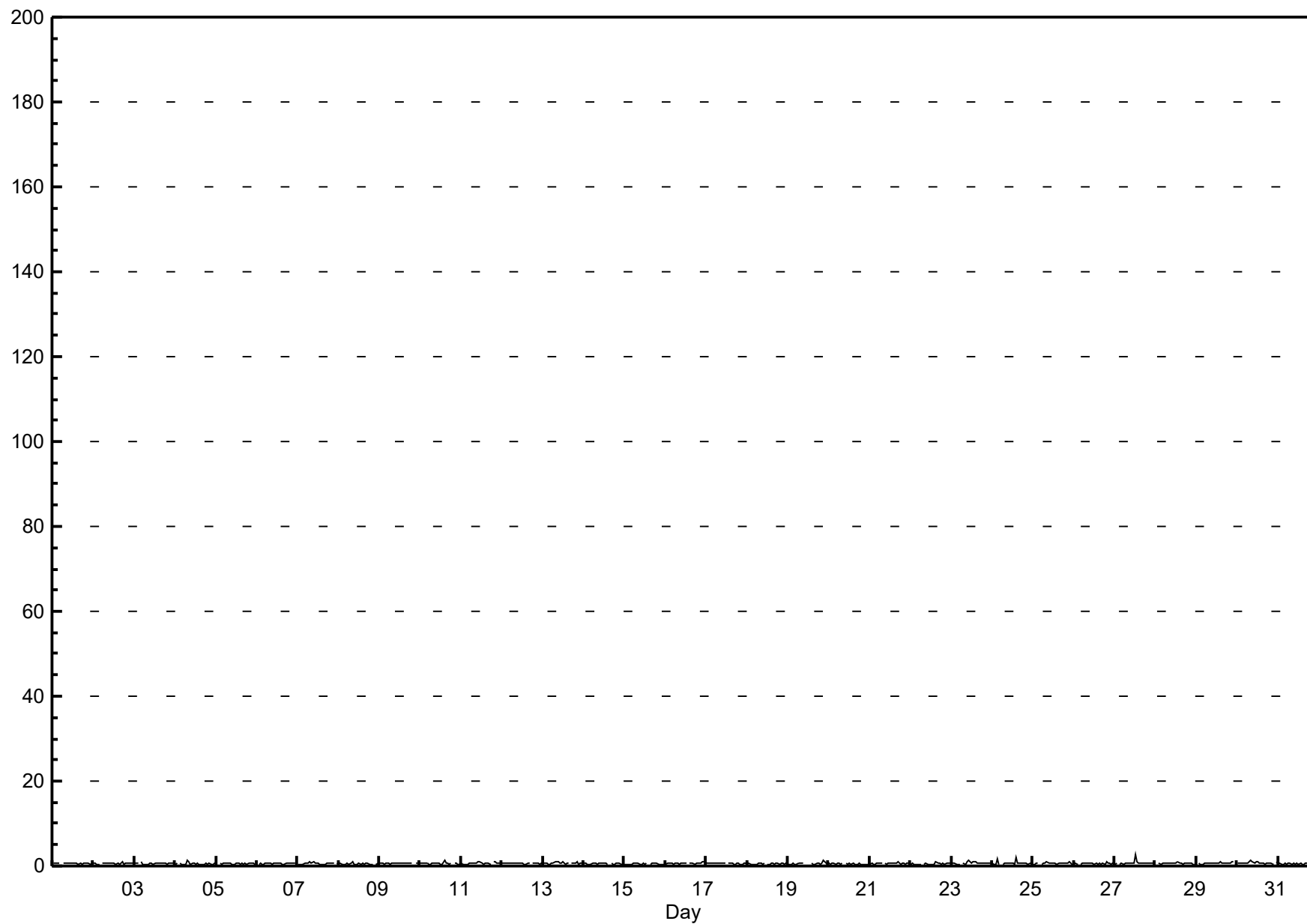
Sulphur Dioxide (SO₂) - ppb

Evergreen Park - July 2016

Maximum Value: 2.7 ppb on Jul 27 13:00																				Maximum Daily Average: 0.7 ppb on Jul 30				Hours in Service: 744		
Minimum Value: 0 ppb on Jul 22 04:00																				Minimum Daily Average: 0.5 ppb on Jul 18				Hours of Data: 708		
Maximum Diurnal Average: 0.7 ppb at hour 8																				Minimum Diurnal Average: 0.5 ppb at hour 3				Hours of Missing Data: 36		
Monthly Average: 0.60 ppb																				Percentiles: P ₁ = 0.3 P ₁₀ = 0.4 Q ₁ = 0.5 Median = 0.6 Q ₃ = 0.7 P ₉₀ = 0.8 P ₉₉ = 1.4				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	A	1	1	1	1	1	1	1	1	0	1	0	1	1	1	1	0	1	0.6	0.7	
2-Jul	1	1	0	0	A	1	1	1	1	1	1	1	1	0	1	0	1	1	0	1	1	1	1	1	0.6	1.1
3-Jul	1	1	1	A	1	0	0	0	0	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	0.6	0.9
4-Jul	0	1	A	1	0	0	0	1	1	1	1	1	0	1	0	0	0	0	1	0	1	0	0	1	0.6	1.3
5-Jul	1	A	1	0	1	1	1	1	1	1	0	0	1	1	0	1	1	1	0	1	1	1	1	0	0.6	0.8
6-Jul	A	0	1	0	1	1	1	1	1	0	1	1	1	1	1	0	0	1	1	1	1	1	1	A	0.6	0.8
7-Jul	0	0	0	0	1	1	1	1	1	1	1	1	1	0	0	0	0	1	1	1	1	A	1	1	0.6	1.2
8-Jul	0	1	0	0	0	1	0	1	1	0	0	0	1	0	1	0	1	1	0	0	0	A	0	1	0.5	1.2
9-Jul	1	1	1	0	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	0.6	0.8
10-Jul	1	1	1	1	1	0	0	1	1	1	1	1	0	0	1	1	1	0	1	A	1	1	0	0	0.6	1.4
11-Jul	1	0	0	0	0	1	1	1	1	1	1	1	1	0	1	1	1	0	A	1	1	1	1	1	0.6	1.0
12-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	A	1	1	1	1	0	1	0.6	0.8
13-Jul	1	1	1	0	0	1	1	1	1	1	1	1	1	0	1	1	A	1	1	1	1	0	1	1	0.7	0.9
14-Jul	1	1	0	0	0	1	1	1	0	1	1	1	1	1	0	A	1	0	0	1	1	1	0	0	0.5	0.8
15-Jul	0	0	0	0	0	1	1	1	1	0	0	1	0	1	A	0	1	1	1	1	0	0	0	0	0.5	0.8
16-Jul	0	1	1	1	1	0	1	1	0	1	1	1	1	A	1	1	1	0	1	1	1	1	1	1	0.6	0.9
17-Jul	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	0	1	1	1	0	1	1	0.6	0.8
18-Jul	0	1	0	0	0	0	0	1	1	0	1	A	0	0	1	1	0	1	1	0	1	1	0	1	0.5	0.7
19-Jul	0	0	0	1	0	0	1	1	1	1	A	C	C	C	1	0	0	1	1	0	1	1	1	0	0.6	1.4
20-Jul	1	0	1	1	0	1	1	0	1	A	1	0	1	0	1	0	1	1	1	0	0	0	0	0	0.5	0.6
21-Jul	0	1	0	0	1	1	1	1	A	1	0	1	1	1	1	1	1	1	0	1	1	1	1	1	0.6	0.9
22-Jul	0	1	1	0	0	0	1	A	0	1	1	0	0	0	0	1	1	1	0	1	0	1	1	1	0.5	0.9
23-Jul	1	1	1	0	0	0	A	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.4
24-Jul	1	0	1	2	0	A	0	1	1	1	1	1	1	0	2	1	1	1	1	1	1	0	1	0	0.7	2.0
25-Jul	0	0	1	1	A	0	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	0	0.6	1.1
26-Jul	0	1	0	A	0	1	1	1	1	1	1	1	0	1	1	1	0	1	0	1	1	1	0	1	0.6	1.1
27-Jul	0	1	A	0	1	0	1	1	1	1	1	1	3	1	1	1	1	1	1	1	1	1	1	1	0.7	2.7
28-Jul	1	A	1	0	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	0	0	0.6	0.9
29-Jul	A	1	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	0.7	0.9
30-Jul	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	0	1	1	1	1	0	A	1	0.7	1.5
31-Jul	0	1	0	0	1	0	1	1	0	1	0	1	0	1	0	0	1	1	1	1	1	A	0	1	0.5	0.8
0.5 0.5 0.5 0.5 0.5 0.6 0.6 0.7 0.7 0.7 0.6 0.6 0.7 0.6 0.7 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.6																									Diurnal Average	
0.8 0.7 0.7 1.5 0.9 0.8 0.8 1.3 1.5 0.9 1.4 1.0 2.7 1.1 2.0 0.9 0.8 1.1 0.8 1.1 0.9 1.4 0.9 0.9 0.9																									Diurnal Maximum	
C - Calibration A - Automated Daily Zero Span																										

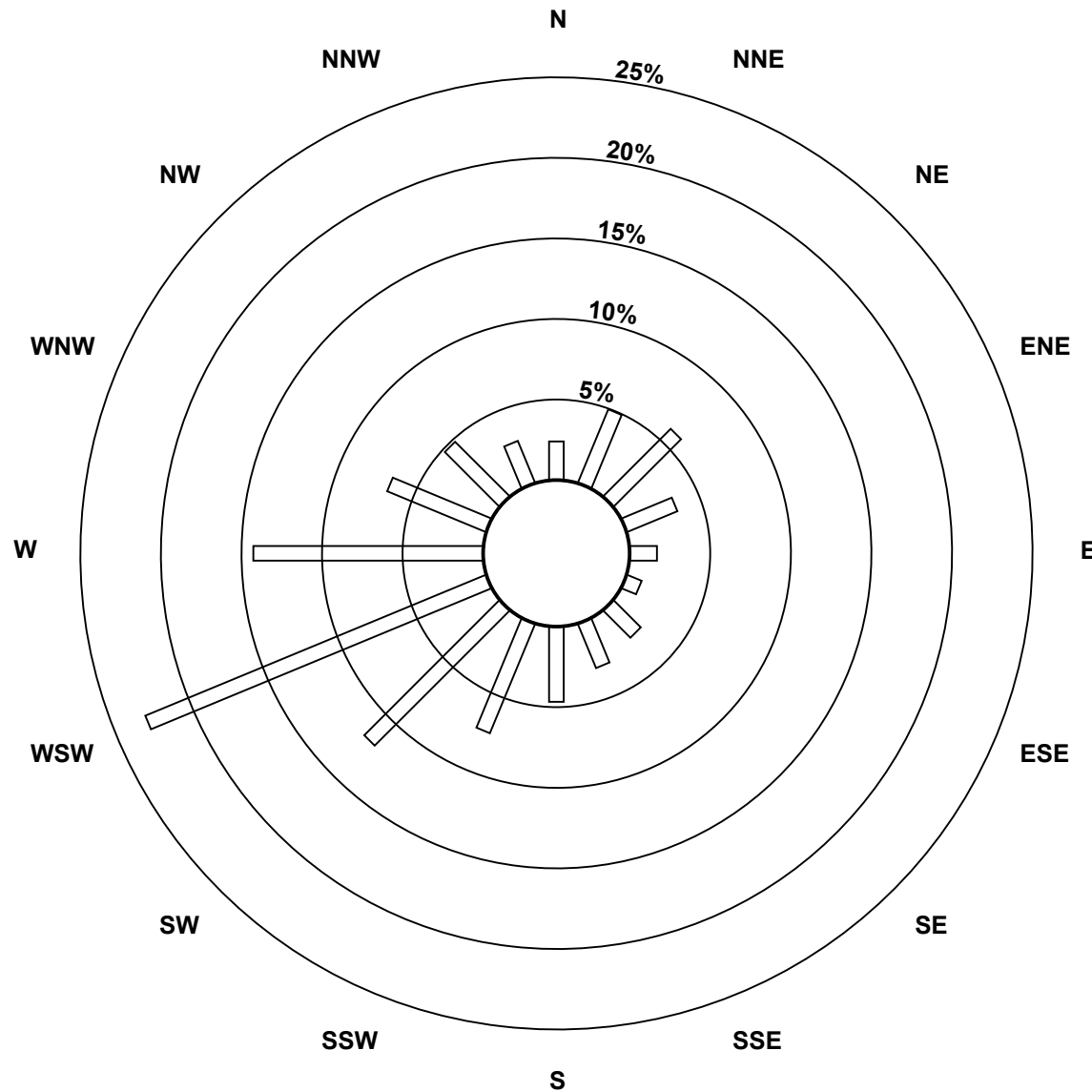
Hourly Maximums

Sulphur Dioxide (SO₂) - ppb
Evergreen Park - July 2016

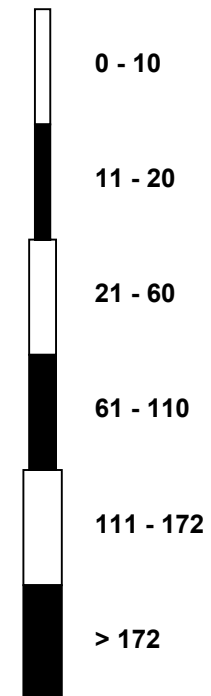


Pollutant Rose

Sulphur Dioxide (SO₂) - ppb
Evergreen Park - July 2016

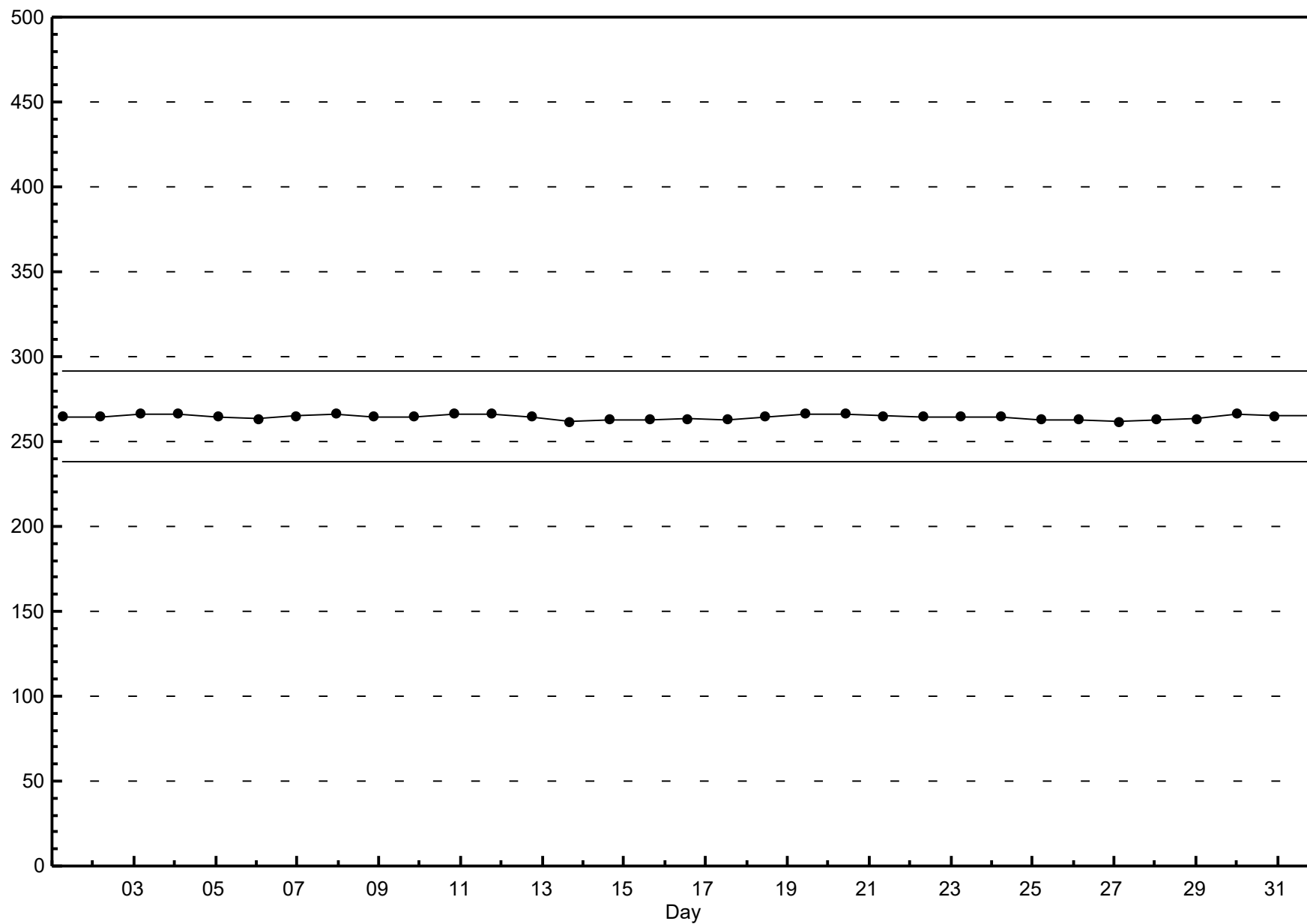


Pollutant Classes (ppb)



Span Responses

Sulphur Dioxide (SO₂)
Evergreen Park - July 2016



Hourly Averages

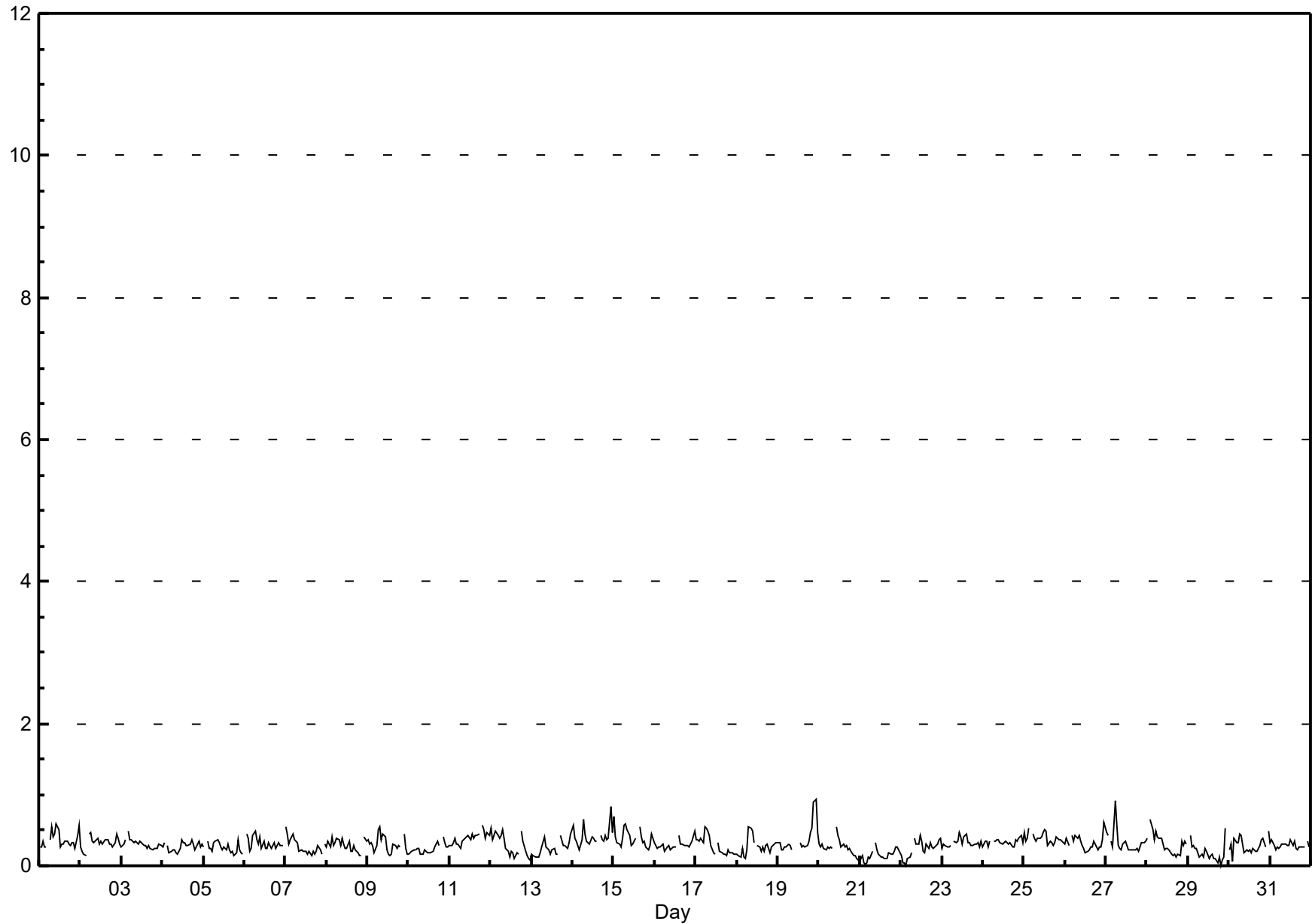
Total Reduced Sulphur (TRS) - ppb

Evergreen Park - July 2016

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 0.9 ppb on Jul 19 23:00 Maximum Daily Average: 0.4 ppb on Jul 14																				Hours in Service: 744 Hours of Data: 708						
Minimum Value: 0 ppb on Jul 22 04:00 Minimum Daily Average: 0.1 ppb on Jul 21 Maximum Diurnal Average: 0.4 ppb at hour 8 Minimum Diurnal Average: 0.3 ppb at hour 15 Monthly Average: 0.30 ppb Percentiles: P ₁ = 0.0 P ₁₀ = 0.2 Q ₁ = 0.2 Median = 0.3 Q ₃ = 0.4 P ₉₀ = 0.4 P ₉₉ = 0.6																				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	0	0	0	0	0	A	0	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0.4	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	0.3	0.5
3-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	0.3	0.5
4-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
5-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	0.3	0.4
6-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
7-Jul	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.3	0.6
8-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	0.3	0.4
9-Jul	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.3	0.5
10-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	0.4
11-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	1	0	0	0	0.4	0.6
12-Jul	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0.3	0.5
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	0.2	0.4
14-Jul	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	1	0.4	0.8
15-Jul	1	0	0	0	0	0	1	1	1	0	0	0	0	0	A	1	0	0	0	0	0	0	0	0	0.4	0.7
16-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
17-Jul	0	0	0	0	0	1	1	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.3	0.5
18-Jul	0	0	0	0	0	0	0	1	1	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.6
19-Jul	0	0	0	0	0	0	0	0	0	C	C	C	C	0	0	0	0	0	0	0	1	1	1	0	0.4	0.9
20-Jul	0	0	0	0	0	0	0	0	0	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.5
21-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
22-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
23-Jul	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.5
24-Jul	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.4
25-Jul	0	0	0	1	A	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0.4	0.5
26-Jul	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.3	0.6
27-Jul	0	0	A	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.9
28-Jul	0	A	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.6
29-Jul	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	A	0.2	0.5
30-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	0.3	0.5
31-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	0.3	0.4
0.3 0.3 0.3 0.3 0.3 0.3 0.4 0.4 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3																									Diurnal Average	
0.7 0.5 0.6 0.5 0.5 0.9 0.7 0.6 0.5 0.5 0.6 0.5 0.5 0.5 0.4 0.5 0.4 0.5 0.5 0.6 0.5 0.9 0.9 0.6																									Diurnal Maximum	
C - Calibration A - Automated Daily Zero Span																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb																										

Hourly Averages

Total Reduced Sulphur (TRS) - ppb
Evergreen Park - July 2016



Hourly Maximums

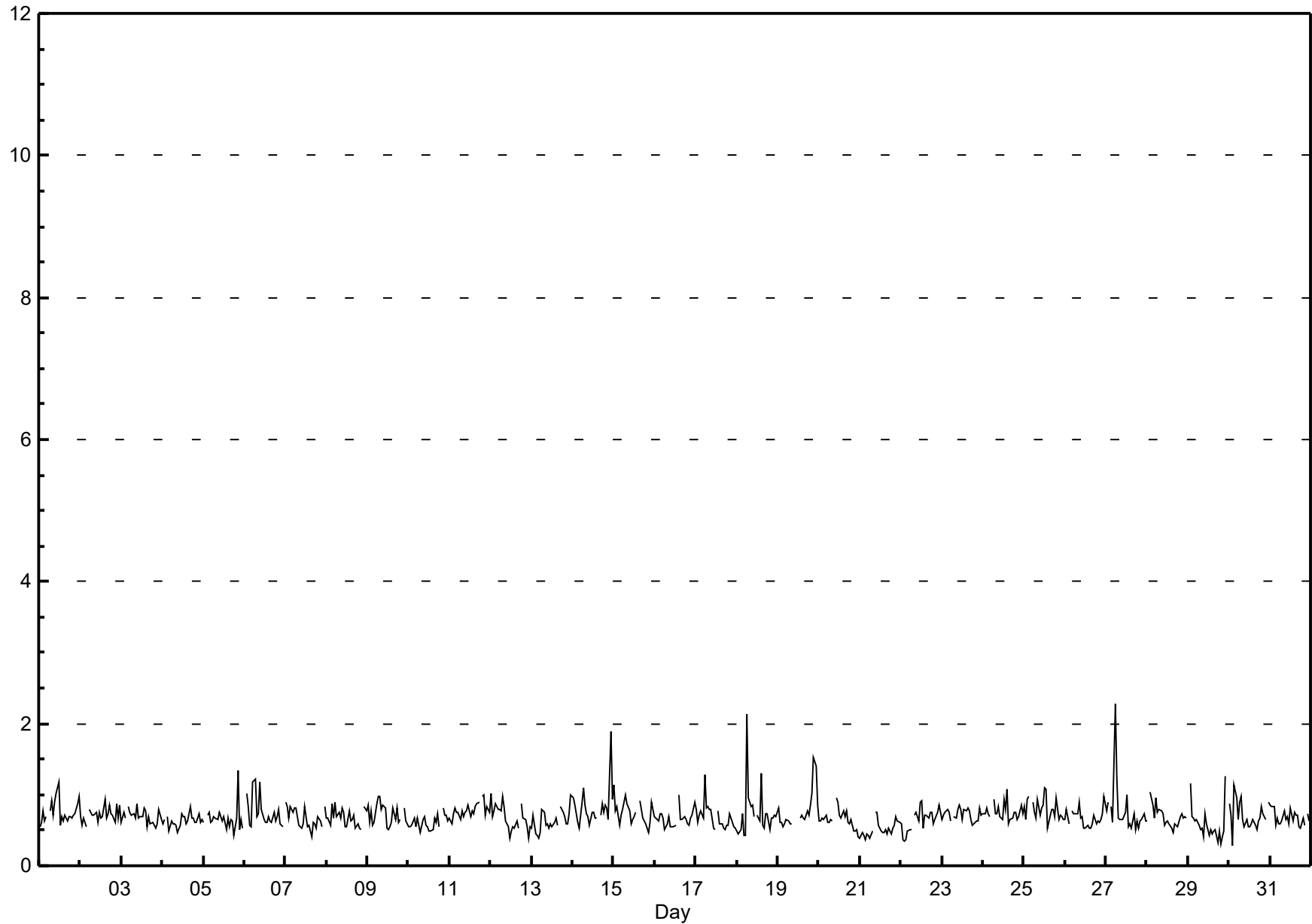
Total Reduced Sulphur (TRS) - ppb

Evergreen Park - July 2016

Maximum Value: 2.3 ppb on Jul 27 06:00																			Maximum Daily Average: 0.8 ppb on Jul 14										Hours in Service: 744	
Minimum Value: 0 ppb on Jul 30 03:00																			Minimum Daily Average: 0.5 ppb on Jul 21										Hours of Data: 708	
Maximum Diurnal Average: 0.8 ppb at hour 7																			Minimum Diurnal Average: 0.6 ppb at hour 19										Hours of Missing Data: 36	
Monthly Average: 0.70 ppb																			Percentiles: P ₁ = 0.4 P ₁₀ = 0.5 Q ₁ = 0.6 Median = 0.7 Q ₃ = 0.8 P ₉₀ = 0.9 P ₉₉ = 1.3										Hours of Calibration: 36	
																													Percent Operational Time: 100.0	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24						
1-Jul	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.2				
2-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				
3-Jul	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	0.9				
4-Jul	1	1	A	1	0	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.6	0.8				
5-Jul	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	0.7	1.3				
6-Jul	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	0.8	1.2				
7-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	A	1	0.7	0.9				
8-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	0.7	0.9				
9-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	0.7	1.0				
10-Jul	1	1	1	1	1	1	1	0	1	1	1	1	0	0	1	1	1	1	1	A	1	1	1	1	0.6	0.8				
11-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	1.0				
12-Jul	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	A	1	1	1	1	0	1	0.7	1.0				
13-Jul	1	1	0	0	0	0	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	0.6	1.0				
14-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	2	1	0.8	1.9				
15-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	0	1	1	1	0.8	1.1				
16-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				
17-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	1.3				
18-Jul	0	0	0	1	0	0	2	1	1	1	A	1	1	1	1	1	1	1	1	0	1	1	1	1	0.7	2.1				
19-Jul	1	1	1	1	1	1	1	1	1	C	C	C	C	1	1	1	1	1	1	1	1	2	1	1	0.8	1.5				
20-Jul	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	0	0	1	0	0.7	1.0				
21-Jul	0	0	0	0	0	0	0	0	A	1	1	1	0	0	0	1	0	1	0	1	1	1	1	1	0.5	0.8				
22-Jul	1	0	0	0	0	0	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.6	0.9				
23-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	0.7	0.9				
24-Jul	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.1				
25-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	0.8	1.1				
26-Jul	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.0				
27-Jul	1	1	A	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	2.3				
28-Jul	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	0.7	1.0				
29-Jul	A	1	1	1	1	1	1	1	1	0	1	1	0	1	0	0	1	0	0	0	0	0	1	A	0.6	1.3				
30-Jul	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	0.7	1.1				
31-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	0.8				
0.7 0.7 0.7 0.7 0.6 0.8 0.8 0.7 0.7 0.7 0.7 0.7 0.7 0.6 0.7 0.6 0.7 0.7 0.6 0.7 0.7 0.7 0.8 0.7																									Diurnal Average					
1.1 1.2 1.0 1.1 0.9 2.3 2.1 1.0 0.9 1.2 1.0 1.2 1.1 1.1 1.3 0.9 0.9 0.9 0.9 1.0 1.3 1.5 1.9 1.0																									Diurnal Maximum					
C - Calibration																									A - Automated Daily Zero Span					

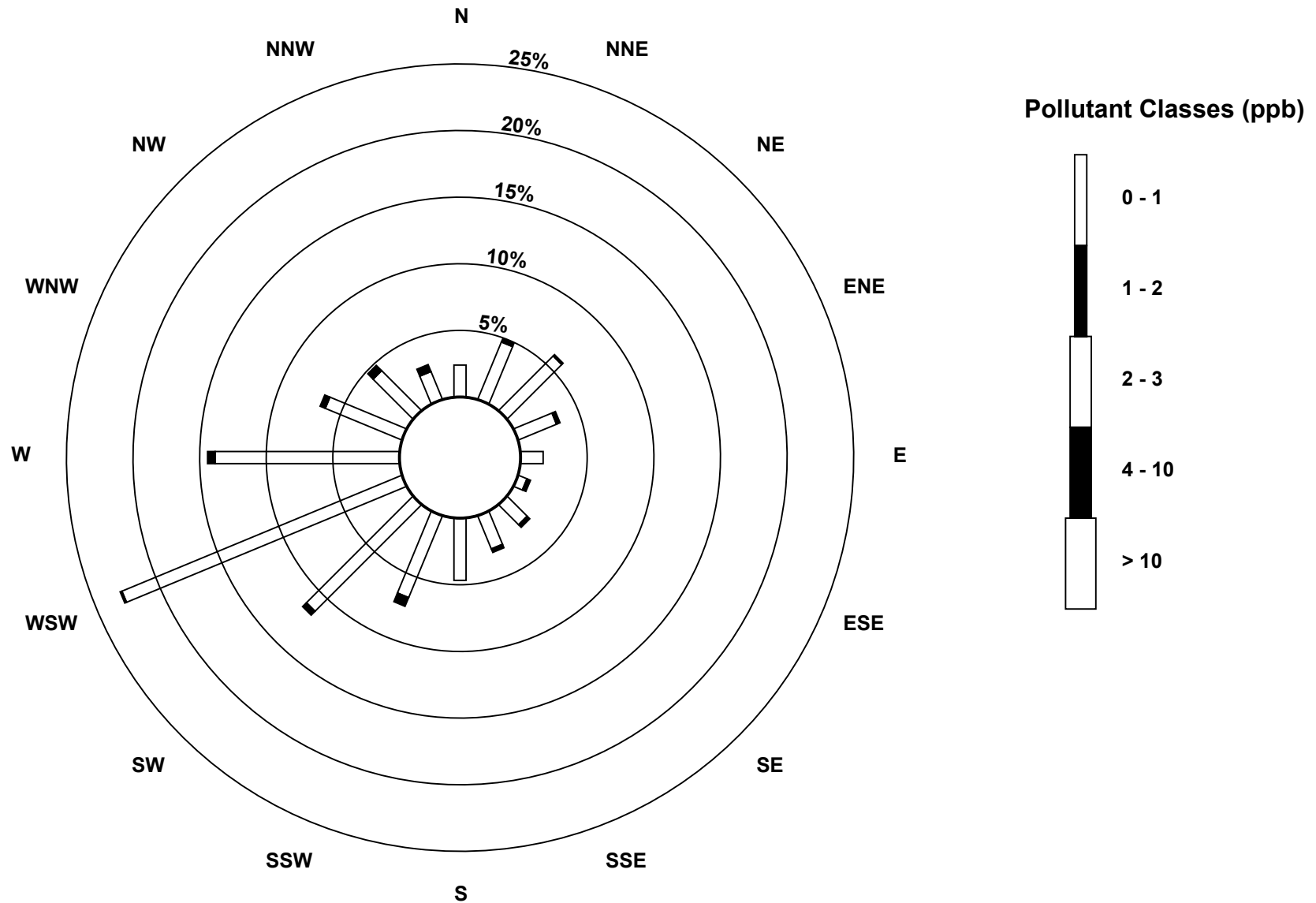
Hourly Maximums

Total Reduced Sulphur (TRS) - ppb
Evergreen Park - July 2016



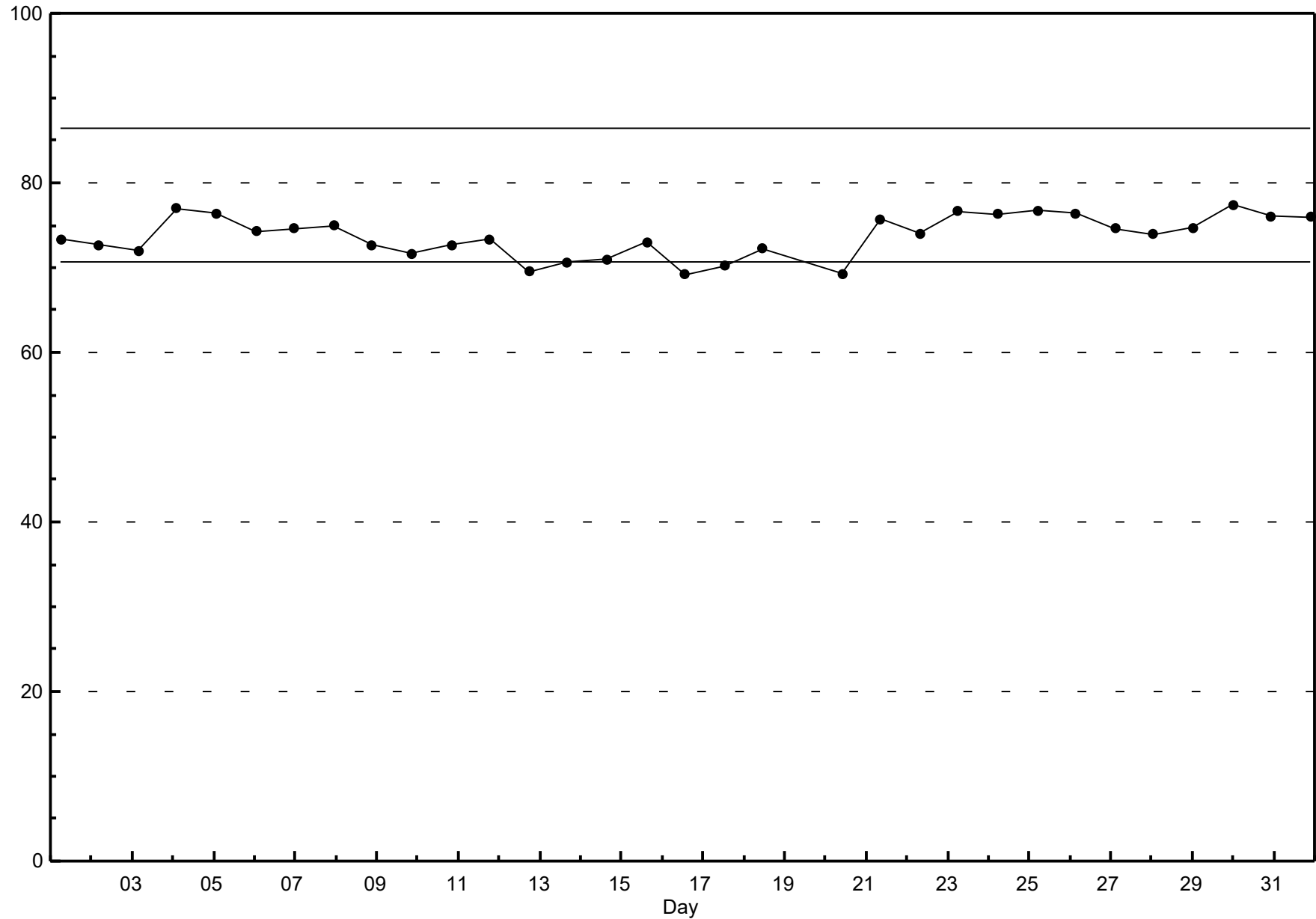
Pollutant Rose

Total Reduced Sulphur (TRS) - ppb
Evergreen Park - July 2016



Span Responses

Total Reduced Sulphur (TRS)
Evergreen Park - July 2016

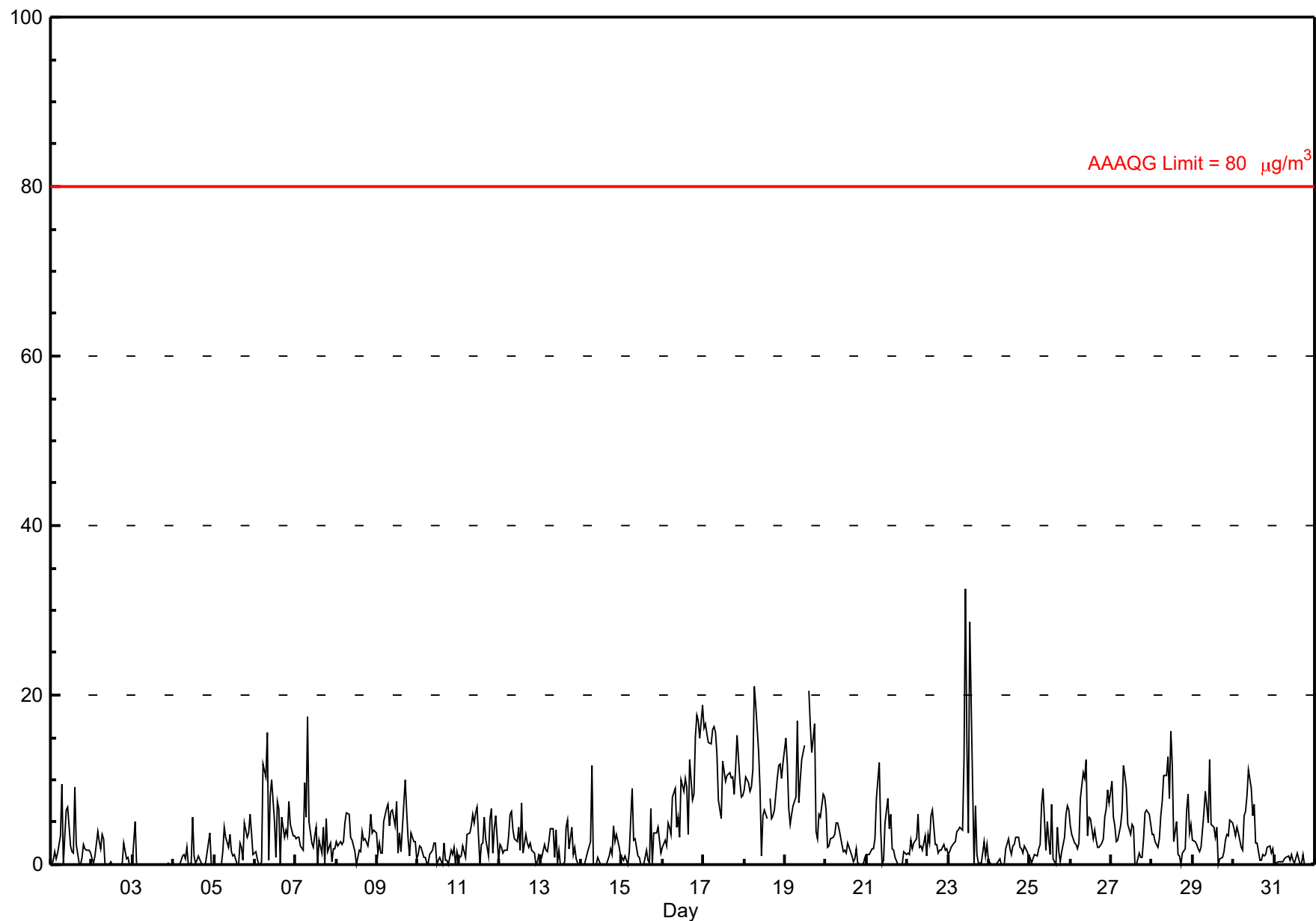


Hourly Averages

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

Evergreen Park - July 2016

Number of Exceedences: 1-hr: 0 24-hr: 0 Maximum Value: 32.5 µg/m³ on Jul 23 11:00 Maximum Daily Average: 12.0 µg/m³ on Jul 17																								Hours in Service: 744 Hours of Data: 741 Hours of Missing Data: 3 Hours of Calibration: 0 Percent Operational Time: 99.6		
Minimum Value: 0 µg/m³ on Jul 1 01:00 Maximum Diurnal Average: 6.8 µg/m³ at hour 8 Monthly Average: 3.71 µg/m³ Minimum Daily Average: 0.2 µg/m³ on Jul 3 Minimum Diurnal Average: 2.4 µg/m³ at hour 4 Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.9 Median = 2.4 Q ₃ = 5.2 P ₉₀ = 9.5 P ₉₉ = 16.5																										
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	2	1	1	3	9	0	3	7	7	2	1	1	9	2	0	0	1	2	2	2	2	1	2.5	9.5
2-Jul	1	0	1	4	3	2	4	3	0	0	0	0	0	0	0	0	0	0	0	3	1	1	0	0	0.9	3.8
3-Jul	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	5.1
4-Jul	0	0	0	0	0	1	1	1	2	0	0	6	1	0	1	1	0	0	0	0	1	4	0	0	0.8	5.7
5-Jul	0	0	0	0	0	1	4	3	2	3	2	1	1	0	0	2	2	0	5	3	4	6	4	1	1.9	6.0
6-Jul	2	1	0	0	0	12	10	16	1	8	10	5	1	7	7	0	6	3	4	3	7	5	3	3	4.8	15.5
7-Jul	3	3	3	2	2	10	6	18	5	3	2	3	4	0	3	1	4	0	5	2	3	0	2	2	3.6	17.5
8-Jul	3	2	3	2	3	5	6	6	3	3	2	2	0	2	2	4	3	3	2	3	6	4	4	4	3.2	6.0
9-Jul	1	2	1	1	5	7	7	5	6	6	5	8	1	4	2	4	10	6	3	1	4	3	3	1	4.0	9.9
10-Jul	1	2	2	1	1	0	0	1	2	3	3	0	0	1	0	3	0	1	0	2	1	2	0	2	1.1	2.6
11-Jul	1	1	2	2	1	4	4	5	6	5	6	7	0	2	3	6	3	1	5	7	1	4	6	1	3.4	6.7
12-Jul	2	2	1	2	2	3	6	6	4	3	3	4	2	7	1	4	3	2	3	2	1	0	0	1	2.7	7.4
13-Jul	1	1	2	2	2	3	4	4	1	4	0	2	0	0	0	4	5	2	4	1	2	1	0	0	1.9	5.3
14-Jul	0	0	0	1	2	3	12	0	0	0	1	0	0	0	0	0	1	2	1	5	3	4	2	1	1.5	11.8
15-Jul	1	0	1	0	2	5	9	3	3	1	1	0	0	0	2	0	0	7	0	4	4	4	3	1	2.1	8.9
16-Jul	2	3	2	5	4	4	8	9	4	6	3	10	9	10	9	4	12	8	8	15	18	17	15	19	8.5	18.9
17-Jul	16	17	15	14	14	16	16	16	13	8	5	12	11	10	11	11	10	10	8	11	15	10	8	8	12.0	16.7
18-Jul	9	10	10	9	9	11	21	19	13	9	1	6	6	5	N	8	5	6	6	10	12	12	10	12	9.6	20.9
19-Jul	15	12	7	5	6	7	8	17	7	10	12	14	M	M	20	16	13	17	4	3	6	6	8	8	10.1	20.5
20-Jul	6	2	2	3	3	4	5	5	4	2	2	2	1	3	2	1	0	1	2	0	0	0	0	1	2.1	6.5
21-Jul	1	1	1	2	2	3	8	12	4	0	0	5	8	4	6	2	2	1	0	0	0	0	1	1	2.7	12.1
22-Jul	1	1	3	2	3	3	6	2	2	2	3	1	4	3	6	6	2	2	1	2	2	2	2	2	2.6	6.4
23-Jul	1	1	2	3	3	4	4	4	4	12	32	14	4	29	9	0	7	1	0	0	1	3	1	2	6.0	32.5
24-Jul	1	0	0	0	0	0	1	0	0	0	2	3	2	1	2	2	3	3	2	2	1	2	2	1	1.3	3.3
25-Jul	1	0	1	1	1	2	2	7	9	2	5	3	1	7	1	0	4	2	0	2	3	6	7	6	3.0	9.0
26-Jul	5	3	3	2	2	3	8	11	10	12	3	6	5	3	4	3	2	2	3	3	6	7	9	7	5.1	12.4
27-Jul	10	6	5	3	3	5	6	12	11	9	5	3	5	4	0	0	1	1	1	3	6	7	6	5	4.8	11.6
28-Jul	4	4	3	2	3	6	7	11	10	13	8	16	12	3	5	1	1	0	1	2	6	8	4	5	5.6	15.8
29-Jul	3	3	2	2	2	2	6	9	7	5	12	5	4	3	4	0	1	1	1	3	4	3	5	5	3.8	12.4
30-Jul	4	3	4	4	2	2	6	6	8	11	9	6	7	2	3	0	0	1	1	1	2	2	1	2	3.7	11.3
31-Jul	0	0	0	0	0	0	1	1	1	1	1	0	0	1	1	0	0	1	0	0	0	0	0	0	0.4	1.4
3.0 2.8 2.5 2.4 2.5 4.2 6.3 6.8 4.8 4.7 4.7 4.7 3.0 3.8 3.7 2.8 3.3 2.7 2.4 3.0 3.9 4.0 3.5 3.3																								Diurnal Average		
16.1 16.7 15.4 14.4 14.3 16.0 20.9 18.9 13.5 12.7 32.5 15.8 11.6 28.6 20.5 16.4 13.3 16.6 8.4 15.1 17.6 17.0 15.0 18.9																								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

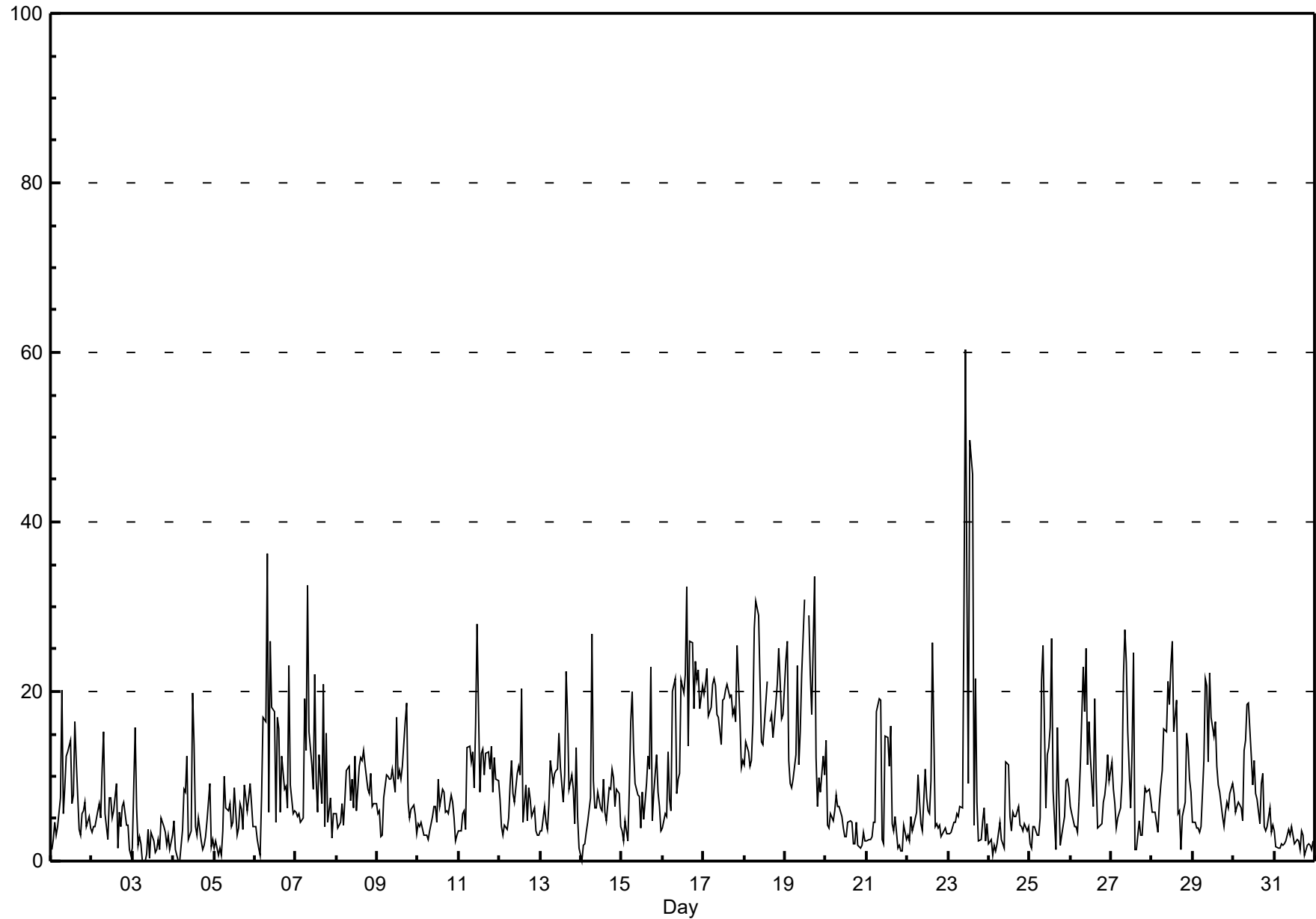
Particulate Matter 2.5 (PM_{2.5}) - µg/m³

Evergreen Park - July 2016

Maximum Value: 60.4 μg/m³ on Jul 23 11:00																								Maximum Daily Average: 18.5 μg/m³ on Jul 17						Hours in Service: 744	
Minimum Value: 0 μg/m³ on Jul 3 07:00																								Minimum Daily Average: 2.3 μg/m³ on Jul 31						Hours of Data: 741	
Maximum Diurnal Average: 14.2 μg/m³ at hour 8																								Minimum Diurnal Average: 4.8 μg/m³ at hour 4						Hours of Missing Data: 3	
Monthly Average: 8.95 μg/m³																								Percentiles: P ₁ = 0.6 P ₁₀ = 2.3 Q ₁ = 4.0 Median = 6.5 Q ₃ = 11.9 P ₉₀ = 19.7 P ₉₉ = 32.6						Hours of Calibration: 0	
																								Percent Operational Time: 99.6							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24							
1-Jul	1	3	5	3	4	7	20	6	9	12	13	14	7	8	16	12	4	3	6	6	7	4	5	4	7.4	20.2					
2-Jul	3	4	4	6	7	5	11	15	6	3	7	7	5	6	9	2	6	4	6	7	4	4	1	1	5.6	15.3					
3-Jul	2	16	6	2	3	2	0	0	1	4	0	3	2	1	1	3	1	5	4	3	2	3	1	3	2.9	15.8					
4-Jul	5	1	1	0	0	4	8	8	12	3	4	20	14	4	3	5	2	1	2	3	5	9	2	3	4.9	19.9					
5-Jul	2	2	1	2	1	4	10	6	6	7	4	5	9	3	4	7	6	4	9	6	7	9	7	4	5.1	9.9					
6-Jul	4	3	2	1	8	17	16	36	6	26	18	18	5	17	16	6	12	8	9	6	23	9	6	6	11.5	36.3					
7-Jul	6	5	6	5	5	19	13	33	15	11	8	22	9	6	13	7	21	4	15	5	7	3	6	6	10.4	32.6					
8-Jul	6	4	5	7	4	7	11	11	7	10	6	12	6	11	12	12	13	11	8	8	10	6	7	7	8.4	13.1					
9-Jul	6	6	3	3	7	10	10	10	10	11	8	17	10	11	10	11	16	19	7	5	6	7	5	3	8.8	18.7					
10-Jul	4	4	5	3	3	3	3	4	5	6	6	5	10	6	8	8	6	6	6	8	7	5	2	3	5.3	9.7					
11-Jul	4	4	6	6	4	13	14	12	13	9	16	28	8	13	13	10	13	13	11	14	8	12	10	9	10.8	28.0					
12-Jul	7	4	3	4	4	5	9	12	8	7	10	11	10	20	5	9	5	9	7	5	6	4	3	3	7.1	20.4					
13-Jul	4	4	6	4	4	7	12	9	10	11	11	15	11	7	10	22	17	8	10	8	4	13	5	2	9.0	22.4					
14-Jul	0	2	2	3	5	7	27	9	6	6	8	6	6	10	6	5	9	8	11	10	6	8	8	4	7.2	26.7					
15-Jul	4	2	5	2	8	17	20	13	9	8	8	4	8	5	9	12	11	23	5	8	13	8	6	4	8.8	22.8					
16-Jul	4	6	5	13	7	6	20	22	8	10	10	21	20	22	32	14	26	26	18	24	21	23	18	21	16.5	32.3					
17-Jul	20	21	23	17	18	21	22	21	17	17	14	19	19	20	21	19	20	17	18	17	26	17	11	12	18.5	25.5					
18-Jul	11	14	13	11	12	16	27	31	29	21	14	14	16	21	N	16	17	15	16	21	25	21	17	17	18.1	30.6					
19-Jul	24	26	12	9	9	10	13	23	11	15	22	31	M	M	29	22	17	34	12	6	10	8	12	10	16.6	33.6					
20-Jul	14	4	4	6	5	6	8	7	7	5	4	3	3	5	5	4	2	2	5	2	2	2	3	2	4.5	14.3					
21-Jul	2	3	3	3	5	5	18	19	19	3	2	15	15	11	16	4	4	5	2	2	1	1	4	3	6.8	19.2					
22-Jul	3	2	5	4	4	6	10	7	4	4	11	7	6	6	9	26	4	4	4	4	3	4	4	3	6.0	25.8					
23-Jul	3	3	3	5	5	6	5	6	6	30	60	33	9	50	46	4	22	7	2	3	5	6	2	4	13.6	60.4					
24-Jul	2	3	1	2	1	2	5	3	2	2	12	11	5	4	6	5	5	6	4	4	4	4	4	4	4.2	11.7					
25-Jul	2	2	4	4	3	3	5	21	26	6	13	13	16	26	8	1	16	8	2	3	5	9	10	9	9.0	26.3					
26-Jul	7	6	4	4	3	7	11	23	18	25	11	17	12	7	19	10	4	4	4	7	8	9	13	9	10.1	25.0					
27-Jul	12	8	7	4	5	6	9	22	27	23	15	6	13	25	1	1	5	3	3	6	9	8	8	7	9.8	27.2					
28-Jul	6	6	6	3	7	9	11	16	15	21	18	23	26	15	19	6	6	1	5	7	15	13	10	8	11.3	26.0					
29-Jul	5	5	4	4	3	4	12	22	21	12	22	17	15	16	11	9	8	5	4	6	7	6	8	9	9.7	22.3					
30-Jul	8	6	7	7	6	5	13	14	18	19	12	9	12	8	7	4	9	10	4	4	4	6	3	4	8.4	18.7					
31-Jul	4	2	2	2	2	2	2	2	4	3	4	3	2	3	2	1	4	3	1	2	2	2	1	2	2.3	4.1					
5.9 5.7 5.1 4.8 5.2 7.7 12.1 14.2 11.5 11.2 12.1 13.9 10.3 12.2 12.2 9.0 10.0 9.0 7.1 7.0 8.5 7.9 6.5 6.0																								Diurnal Average							
23.8 26.0 22.8 17.2 18.1 20.8 27.5 36.3 28.9 30.4 60.4 32.6 26.0 49.7 45.5 25.8 26.0 33.6 18.0 23.6 25.5 22.6 18.0 20.6																								Diurnal Maximum							
M - Maintenance N - Not Valid																															

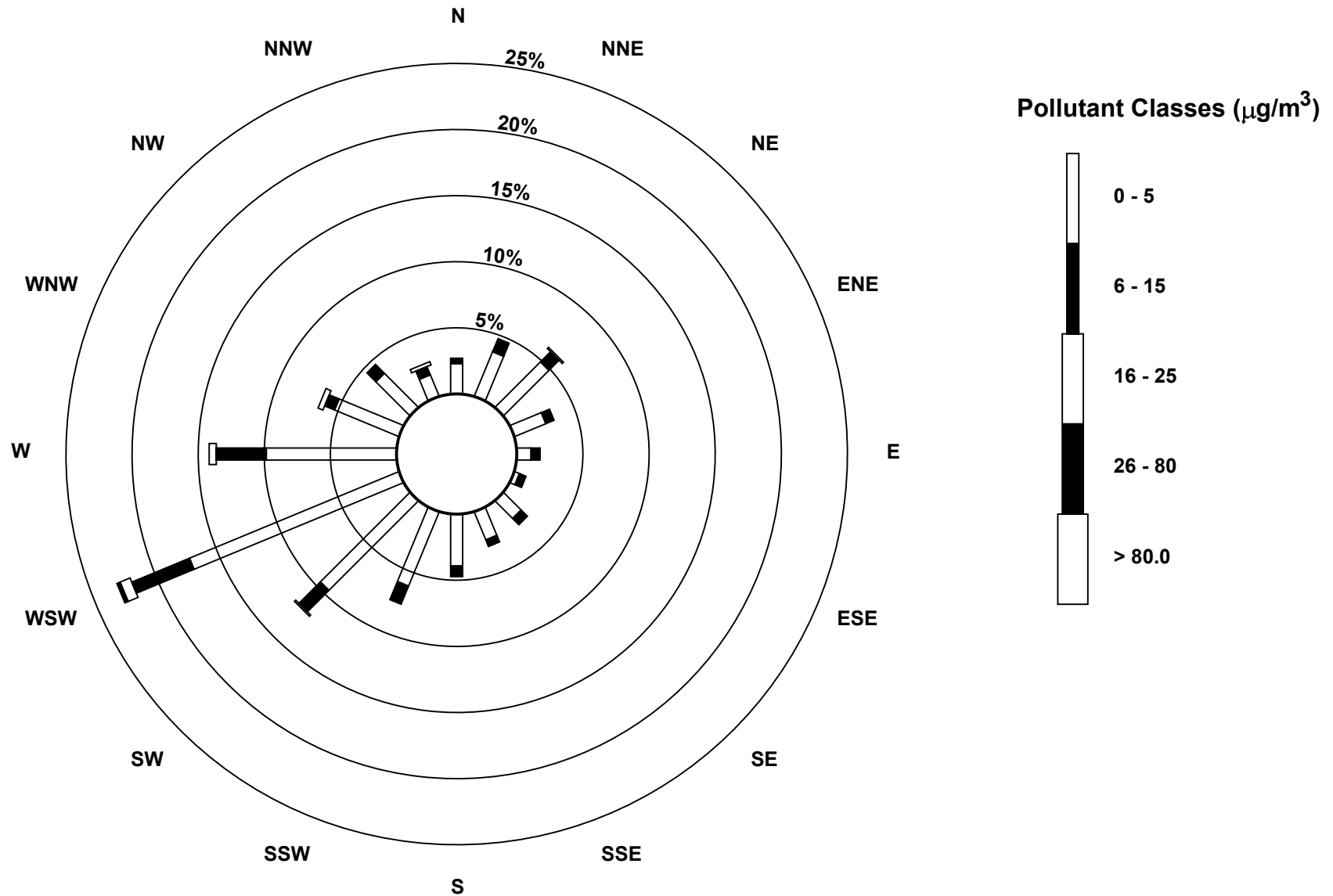
Hourly Maximums

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Evergreen Park - July 2016



Pollutant Rose

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Evergreen Park - July 2016



Hourly Averages

External Temperature (ET) - °C

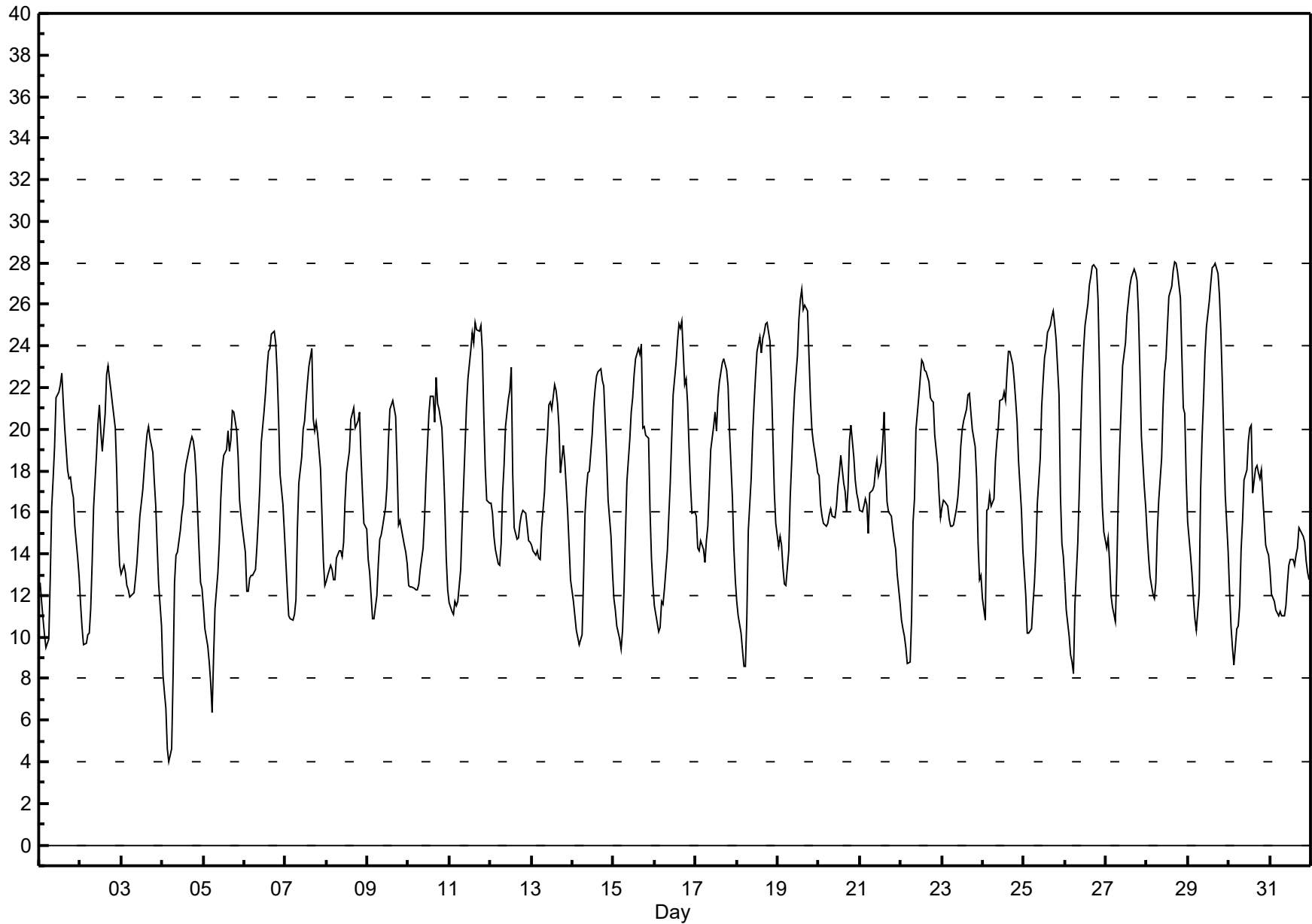
Evergreen Park - July 2016

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 28.0 °C on Jul 28 17:00 Maximum Daily Average: 20.6 °C on Jul 28																								Hours in Service: 744 Hours of Data: 744 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0		
Minimum Value: 4 °C on Jul 4 05:00 Maximum Diurnal Average: 22.1 °C at hour 16 Monthly Average: 17.20 °C												Minimum Daily Average: 12.9 °C on Jul 31 Minimum Diurnal Average: 11.5 °C at hour 6 Percentiles: P ₁ = 8.2 P ₁₀ = 11.2 Q ₁ = 13.5 Median = 16.7 Q ₃ = 20.8 P ₉₀ = 23.7 P ₉₉ = 27.8														
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jul	13	12	11	10	10	10	13	16	18	19	22	22	22	23	21	20	18	18	18	17	17	15	14	13	16.2	22.7
2-Jul	12	11	10	10	10	10	11	14	16	19	20	21	20	19	21	23	23	22	22	21	20	18	15	13	16.7	23.0
3-Jul	13	13	13	12	12	12	12	12	13	14	15	16	17	18	19	20	20	20	19	17	16	14	13	11	15.1	20.1
4-Jul	8	7	7	5	4	5	8	13	14	14	15	16	16	18	18	19	19	20	19	19	18	14	13	12	13.4	19.6
5-Jul	11	10	10	9	8	6	9	11	13	15	17	18	19	19	20	19	20	21	21	20	19	17	16	15	15.0	20.9
6-Jul	14	12	12	13	13	13	13	14	16	17	19	21	22	23	24	24	25	25	24	23	21	18	16	15	18.2	24.7
7-Jul	14	12	11	11	11	11	12	15	17	19	20	20	21	22	23	24	20	20	20	20	18	16	14	12	16.8	23.8
8-Jul	13	13	13	13	13	13	14	14	14	14	15	17	18	19	20	21	21	20	20	21	19	17	15	15	16.3	21.0
9-Jul	14	13	12	11	11	12	14	15	15	15	16	17	19	21	21	21	21	18	15	16	15	14	14	13	15.6	21.4
10-Jul	12	12	12	12	12	12	13	13	14	16	18	19	21	22	22	20	22	21	21	20	18	16	14	12	16.5	22.5
11-Jul	12	11	11	12	12	12	13	15	17	19	21	22	24	25	24	25	25	25	25	24	21	18	17	16	18.6	25.1
12-Jul	16	16	15	14	14	13	14	17	18	20	21	22	23	18	15	15	15	15	16	16	16	15	15	15	16.5	23.0
13-Jul	14	14	14	14	14	14	15	17	19	20	21	21	21	22	22	21	20	18	19	18	17	16	14	13	17.5	22.1
14-Jul	12	11	10	10	10	10	13	16	17	18	18	20	21	22	23	23	23	22	22	20	19	17	15	13	16.8	22.9
15-Jul	12	11	11	10	9	10	12	15	18	19	21	22	23	23	24	24	24	20	20	20	20	16	14	13	17.1	24.1
16-Jul	12	11	10	10	12	12	12	14	16	17	20	22	23	24	25	25	25	22	22	21	19	17	16	16	17.7	25.2
17-Jul	16	14	14	15	14	14	15	15	17	19	20	21	20	22	22	23	23	23	23	22	20	17	14	13	18.2	23.4
18-Jul	12	11	10	9	9	9	11	15	18	20	21	23	24	24	24	24	25	25	25	24	22	20	17	15	18.2	25.1
19-Jul	14	15	14	13	13	12	14	17	18	20	22	24	25	26	27	26	26	26	24	21	20	19	18	18	19.7	26.7
20-Jul	18	16	16	15	15	15	16	16	16	16	16	17	18	19	17	17	16	17	19	20	19	18	17	17	17.0	20.2
21-Jul	16	16	16	17	16	15	17	17	17	18	19	18	18	19	21	18	17	16	16	15	15	14	13	12	16.5	20.8
22-Jul	11	10	10	10	9	9	11	16	17	20	22	22	23	23	23	23	22	22	21	21	20	18	17	16	17.3	23.3
23-Jul	16	17	17	16	16	15	15	15	16	17	18	19	20	20	21	22	22	21	20	19	18	15	13	13	17.5	21.7
24-Jul	12	11	16	16	17	16	17	18	19	20	21	21	22	21	23	24	24	23	22	21	20	18	16	14	19.0	23.7
25-Jul	13	12	10	10	10	12	13	14	16	19	21	22	23	24	25	25	25	26	25	24	22	17	14	14	18.2	25.7
26-Jul	13	11	10	9	9	8	12	15	17	20	22	24	25	26	27	27	28	28	28	26	23	19	16	15	19.0	27.9
27-Jul	14	15	14	12	11	11	13	17	19	21	23	24	25	26	27	27	28	27	27	26	23	20	17	16	20.2	27.7
28-Jul	15	14	13	12	12	13	15	17	19	21	23	23	25	26	27	28	28	28	28	26	24	21	21	18	20.6	28.0
29-Jul	16	14	13	12	11	10	12	17	20	21	24	25	26	27	28	28	28	28	26	25	22	20	17	14	20.1	28.0
30-Jul	12	11	9	9	10	11	12	14	16	18	18	19	20	20	17	18	18	18	18	18	17	14	14	14	15.2	20.2
31-Jul	13	12	12	11	11	11	11	11	11	11	13	13	14	14	13	14	14	15	15	15	15	14	13	13	12.9	15.3
13.3 12.6 12.1 11.7 11.5 11.5 13.0 15.0 16.5 17.9 19.4 20.4 21.3 21.8 22.0 22.1 22.1 21.6 21.3 20.6 19.0 16.8 15.2 14.2																								Diurnal Average		
17.7 16.6 16.5 16.7 16.9 16.3 17.0 18.5 19.7 21.5 23.6 24.9 26.2 27.0 27.8 27.9 28.0 28.0 27.7 26.3 23.6 21.0 20.7 17.9																								Diurnal Maximum		

Hourly Averages

External Temperature (ET) - °C

Evergreen Park - July 2016



Hourly Averages

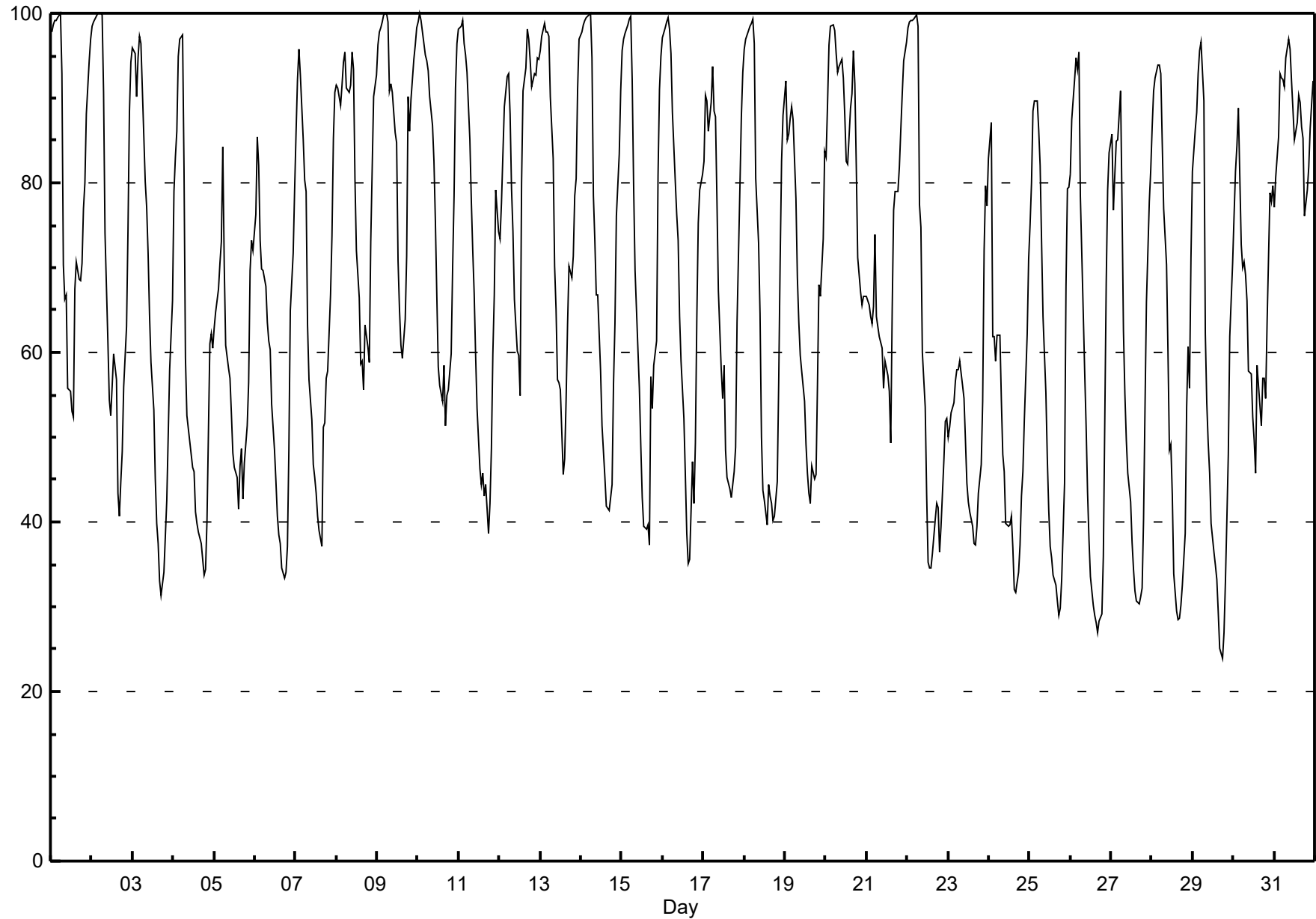
Relative Humidity (RH) - %

Evergreen Park - July 2016

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 100.0 % on Jul 2 04:00 Maximum Daily Average: 87.9 % on Jul 31																				Hours in Service: 744 Hours of Data: 744 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0						
Minimum Value: 24 % on Jul 29 18:00 Maximum Diurnal Average: 90.1 % at hour 6 Monthly Average: 68.07 %										Minimum Daily Average: 51.3 % on Jul 24 Minimum Diurnal Average: 47.7 % at hour 16 Percentiles: P ₁ = 28.7 P ₁₀ = 39.1 Q ₁ = 49.3 Median = 67.5 Q ₃ = 88.9 P ₉₀ = 96.4 P ₉₉ = 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	98	99	99	99	99	100	93	70	66	67	56	55	53	52	68	71	69	69	70	77	80	88	94	97	78.7	99.9
2-Jul	99	99	99	100	100	100	100	91	74	61	54	53	56	60	57	43	41	45	48	56	63	74	88	94	73.2	100.0
3-Jul	96	95	90	95	97	96	91	80	77	72	64	59	53	45	40	37	33	31	34	38	43	50	58	66	64.3	97.2
4-Jul	79	83	86	95	97	97	82	59	53	51	48	46	46	41	40	39	38	36	34	34	40	61	62	60	58.6	97.4
5-Jul	63	65	68	71	73	84	70	61	58	57	53	48	46	45	41	47	49	43	47	51	56	70	73	72	58.8	84.2
6-Jul	76	85	82	73	70	70	68	64	61	60	54	49	45	41	38	38	35	33	34	37	49	65	72	79	57.4	85.5
7-Jul	86	92	96	93	85	80	79	63	57	52	47	45	43	41	39	37	51	52	57	58	67	74	85	91	65.4	95.8
8-Jul	92	91	89	91	94	95	91	91	92	95	93	81	72	66	59	59	56	63	61	59	73	82	90	93	80.3	95.5
9-Jul	96	98	98	99	100	100	99	91	92	91	86	85	71	65	61	59	64	71	90	86	90	95	96	98	86.7	100.0
10-Jul	99	100	99	96	95	94	93	90	87	83	75	67	58	56	54	58	51	55	56	60	70	79	91	96	77.7	100.0
11-Jul	98	99	99	96	95	93	85	78	72	67	60	53	46	44	46	43	44	39	42	49	60	67	79	74	67.9	99.2
12-Jul	73	78	83	89	93	93	88	79	74	66	60	60	55	80	91	94	98	97	94	91	93	93	95	95	83.8	98.1
13-Jul	96	97	99	98	98	97	90	83	70	65	57	56	56	46	48	54	63	70	69	71	78	81	91	97	76.2	98.9
14-Jul	98	99	99	100	100	100	95	78	73	67	67	58	51	48	45	42	41	43	44	56	63	76	83	91	71.6	100.0
15-Jul	96	97	98	99	99	100	92	80	70	60	56	49	43	40	39	40	37	57	53	58	61	81	91	95	70.4	99.7
16-Jul	97	98	99	100	98	95	88	80	76	73	64	59	52	46	39	35	36	47	42	49	64	75	79	81	69.7	99.5
17-Jul	83	90	90	86	89	94	89	88	78	67	58	55	58	49	45	44	43	44	46	49	63	80	88	93	69.5	93.7
18-Jul	96	97	98	98	99	99	96	81	73	65	50	44	42	40	44	43	42	40	41	45	56	71	83	88	67.9	99.3
19-Jul	92	85	86	88	89	87	78	69	64	60	58	54	49	46	43	42	47	45	46	56	68	67	73	84	65.6	92.1
20-Jul	83	89	96	98	99	98	95	93	94	95	92	88	83	82	89	91	96	92	82	71	67	66	67	67	86.3	98.6
21-Jul	67	66	64	63	65	74	64	62	61	61	56	59	57	55	49	65	77	79	79	82	86	90	94	97	69.7	96.5
22-Jul	98	99	99	99	99	100	99	78	75	60	54	43	35	35	35	36	40	42	42	36	39	47	52	52	62.3	99.8
23-Jul	50	51	53	54	57	58	58	59	56	55	50	45	42	41	39	37	37	40	43	47	54	72	80	77	52.3	79.6
24-Jul	83	87	62	62	59	62	62	54	48	46	40	40	40	41	37	32	32	34	37	43	46	52	62	71	51.3	87.1
25-Jul	75	80	88	90	90	86	82	73	64	55	47	41	37	36	34	33	31	29	30	33	45	68	79	79	58.6	89.6
26-Jul	81	87	92	95	93	95	78	65	58	51	44	38	34	30	29	28	27	28	29	36	52	68	79	84	58.4	95.4
27-Jul	86	77	81	85	85	91	77	63	55	50	46	42	38	34	32	31	30	31	32	40	53	66	78	82	57.7	90.8
28-Jul	87	91	92	94	94	93	85	77	70	60	48	49	43	34	29	28	29	30	33	39	54	61	56	71	60.3	94.0
29-Jul	81	86	88	93	96	97	90	62	54	49	46	40	36	35	33	29	25	24	27	33	40	48	62	70	56.1	96.6
30-Jul	76	81	84	89	73	70	71	69	66	58	57	52	50	46	58	54	51	57	57	55	64	79	78	80	65.6	88.7
31-Jul	77	81	85	93	92	92	91	95	97	96	92	89	85	87	90	89	87	85	76	79	82	86	89	92	87.9	97.0
85.7 87.8 88.5 89.7 89.4 90.1 84.5 75.0 69.8 65.0 59.1 54.9 50.9 48.6 48.1 47.7 48.3 50.0 50.8 54.1 62.0 71.9 79.0 82.8																									Diurnal Average	
99.0 100.0 99.4 100.0 100.0 100.0 99.9 94.7 97.0 95.7 93.3 88.6 85.1 87.1 90.8 93.5 98.1 96.9 94.3 91.4 92.9 94.6 96.3 98.3																									Diurnal Maximum	

Hourly Averages

Relative Humidity (RH) - %
Evergreen Park - July 2016



Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Evergreen Park - July 2016

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	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	4	2	2	3	1	3	4	3	6	7	8	4	7	22	21	9	4	6	4	3	3	1	2.8	22.5
Dir	35	195	195	186	193	205	177	235	230	145	125	109	113	125	250	255	265	289	202	178	166	144	141	70	214.3	254.6
2 Spd	1	1	1	1	4	4	3	3	8	12	9	14	17	15	15	12	9	12	12	9	7	3	4	4	5.5	17.3
Dir	45	45	25	45	212	215	211	202	233	249	247	206	197	180	189	193	147	145	153	142	147	78	71	81	183.9	197.5
3 Spd	3	6	21	9	12	15	20	23	16	13	19	21	21	24	25	23	30	35	30	29	20	12	12	9	17.8	34.7
Dir	55	237	266	298	224	226	232	238	236	245	267	266	252	246	255	258	247	239	245	238	237	238	234	205	245.4	238.8
4 Spd	5	9	6	2	0	3	5	19	24	21	23	20	19	20	19	18	18	16	17	17	11	4	10	13	12.4	24.5
Dir	184	195	192	51	58	194	184	234	236	226	240	251	240	219	248	261	255	264	246	237	237	204	224	231	236.2	235.8
5 Spd	15	12	10	8	12	1	11	19	17	13	11	12	9	10	14	13	12	9	11	11	6	3	7	8	8.8	18.8
Dir	235	238	238	230	217	255	237	236	232	234	259	299	285	284	318	312	308	293	307	307	285	262	243	251	263.8	236.3
6 Spd	5	4	4	7	9	10	11	14	20	17	19	15	16	17	19	16	20	20	20	18	4	5	10	5	10.8	20.3
Dir	269	291	299	263	249	249	246	247	258	255	259	257	275	256	248	300	258	261	263	265	307	70	97	133	260.4	261.2
7 Spd	3	3	1	3	5	5	3	8	10	16	10	7	7	8	4	1	23	6	2	6	8	4	1	1	3.4	22.6
Dir	167	185	218	221	242	235	233	272	276	262	268	251	247	292	291	49	197	197	129	89	107	83	10	48	236.2	197.2
8 Spd	2	4	4	1	1	3	5	7	4	5	7	6	5	4	4	6	2	3	5	5	4	3	3	2	1.6	6.9
Dir	63	63	239	342	152	185	203	280	299	300	305	16	1	86	81	55	346	74	63	54	62	54	26	61	27.7	305.5
9 Spd	2	1	1	0	4	2	1	4	4	3	3	5	6	7	7	7	9	13	4	6	1	1	3	2	1.6	13.3
Dir	49	319	337	13	213	325	335	318	18	25	37	83	13	40	37	51	81	126	187	250	199	34	169	174	59.1	125.9
10 Spd	4	6	6	5	6	6	9	9	10	10	9	9	9	12	14	10	5	14	12	13	7	5	0	1	7.0	13.9
Dir	195	207	230	243	241	247	249	248	246	252	233	235	238	243	275	322	315	284	275	255	255	209	166	204	253.6	274.8
11 Spd	4	3	3	5	4	5	11	11	13	7	7	7	4	5	2	8	5	8	9	7	8	1	2	5	3.2	12.6
Dir	194	206	291	257	252	256	261	263	268	264	246	248	208	214	353	293	8	3	21	27	56	142	191	249	274.5	268.4
12 Spd	8	13	9	7	5	6	6	3	7	7	6	9	10	22	22	6	6	5	6	9	9	8	5	6	4.5	22.3
Dir	267	263	284	284	254	264	268	321	33	31	24	36	64	220	268	341	8	7	304	243	255	244	266	240	280.9	220.4
13 Spd	4	1	4	5	6	6	5	6	6	4	5	3	6	10	7	7	6	13	11	9	6	5	6	2	3.8	13.5
Dir	279	263	218	250	267	279	280	310	300	309	20	10	23	358	24	30	254	252	275	273	270	26	289	318	300.2	251.8
14 Spd	1	0	0	2	0	1	1	5	8	7	7	9	9	10	13	12	10	9	9	6	7	2	4	1	4.4	12.5
Dir	348	263	348	198	220	332	313	49	52	34	43	49	40	42	42	45	31	64	60	56	152	235	305	339	46.4	42.3
15 Spd	1	4	2	1	3	5	3	3	3	2	5	8	8	9	12	10	7	15	13	6	3	1	2	1	0.7	14.5
Dir	199	194	181	200	283	270	272	209	328	74	30	35	32	29	35	34	69	169	196	197	193	340	186	218	81.9	168.9
16 Spd	0	1	3	5	7	9	11	13	11	9	10	13	12	14	16	20	16	23	13	10	8	7	5	6	7.2	22.8
Dir	167	192	200	226	242	247	250	248	256	215	247	253	260	263	300	325	335	355	356	333	332	254	292	292	286.6	355.0
17 Spd	7	2	4	5	4	3	3	5	4	6	3	5	7	6	2	2	4	4	3	7	2	0	0	0	0.5	7.2
Dir	331	266	267	261	277	284	291	268	251	235	167	52	90	157	324	312	47	44	86	157	162	203	34	59	260.0	331.0
18 Spd	0	0	1	0	0	0	1	1	2	3	9	7	5	5	9	7	7	3	6	5	3	1	1	0	2.2	9.4
Dir	39	267	23	77	115	151	49	235	198	109	125	139	109	75	27	62	40	73	14	25	45	101	230	174	72.4	27.4
19 Spd	3	5	4	3	4	5	7	9	13	9	12	10	14	15	19	22	18	23	18	2	3	3	3	5	8.3	23.0
Dir	202	248	254	265	274	261	251	251	231	224	232	242	269	272	265	255	261	258	308	346	118	136	349	326	259.4	258.5
20 Spd	9	9	2	4	2	5	5	6	5	14	21	25	18	16	14	10	4	8	12	15	16	20	19	18	10.6	24.9
Dir	285	326	221	171	154	189	220	223	232	226	232	236	240	217	231	244	194	193	225	232	227	223	221	226	229.1	236.1
21 Spd	18	22	22	24	17	5	13	20	22	18	19	17	18	15	19	11	11	11	9	5	3	6	4	2	9.2	23.8
Dir	225	219	225	230	239	274	257	251	240	252	278	273	252	261	259	359	33	36	45	47	132	174	170	167	249.5	229.8
22 Spd	1	1	0	0	1	0	0	5	5	14	18	24	34	34	33	32	23	23	23	27	24	14	13	12	14.5	34.2
Dir	140	148	146	70	7	137	191	176	208	230	265	261	255	259	257	265	268	260	241	247	249	263	252	252	254.0	259.0

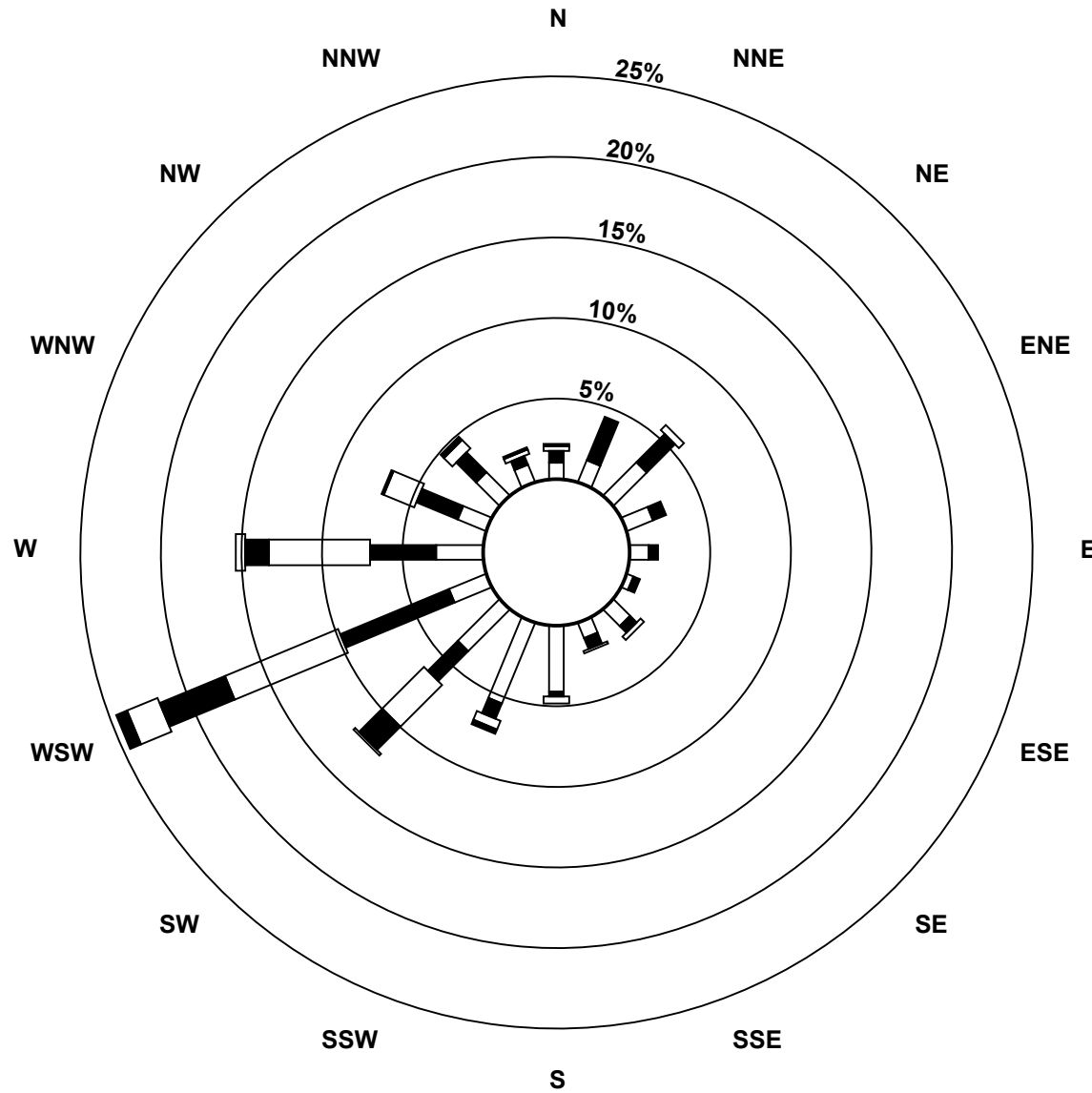
Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Evergreen Park - July 2016

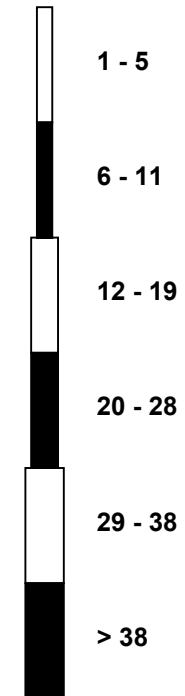
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
23 Spd	17	23	25	25	21	21	26	23	26	25	37	40	38	41	37	35	32	34	27	19	9	1	1	3	24.1	40.6
Dir	256	243	243	241	240	235	236	236	238	240	254	256	251	252	261	261	258	255	252	249	242	183	178	234	248.8	252.0
24 Spd	3	4	20	20	18	12	11	13	18	15	32	36	37	36	40	39	41	38	26	17	16	11	6	4	20.7	40.7
Dir	189	183	213	215	231	220	221	251	248	258	254	257	248	235	237	245	246	249	245	258	245	236	232	223	241.7	246.3
25 Spd	5	3	3	0	1	2	4	4	3	9	11	13	13	12	15	13	12	13	14	9	4	3	2	3	6.1	14.6
Dir	233	218	314	200	266	175	177	246	213	236	240	247	269	267	275	295	285	286	287	295	282	187	225	190	263.8	274.8
26 Spd	2	0	1	2	2	2	5	6	9	5	8	15	16	19	13	13	10	10	10	6	1	3	1	2	5.5	19.5
Dir	190	203	21	171	181	218	239	268	234	222	235	243	256	260	271	276	264	301	309	17	12	196	348	210	260.4	259.9
27 Spd	3	4	2	3	1	2	4	12	11	11	8	6	10	14	11	10	6	9	8	7	5	2	1	1	3.8	13.6
Dir	234	268	244	206	221	288	267	259	271	265	238	257	287	286	309	326	352	22	27	47	48	43	7	300	295.0	285.8
28 Spd	0	2	1	1	2	4	7	7	6	11	19	14	12	18	18	18	17	12	6	5	2	5	2	1	7.2	19.4
Dir	349	8	28	168	187	206	263	262	242	255	263	243	256	253	260	262	257	283	314	317	200	215	286	29	259.0	263.2
29 Spd	3	0	1	1	0	0	3	11	12	15	9	12	12	13	16	15	19	21	18	24	18	6	3	4	8.4	23.5
Dir	215	160	188	65	137	165	199	230	251	237	242	279	271	244	245	285	281	278	300	311	324	307	242	226	272.4	310.9
30 Spd	1	1	1	1	9	6	3	11	7	4	0	7	7	20	26	16	12	4	3	5	3	1	6	12	4.7	25.6
Dir	5	166	212	244	278	253	255	303	296	15	221	232	255	301	338	347	5	0	50	25	99	91	266	272	311.7	337.8
31 Spd	19	16	12	14	12	10	12	12	16	17	16	15	14	16	17	23	24	20	14	10	10	15	10	6	14.0	23.6
Dir	242	240	233	239	253	258	266	265	249	254	269	278	277	287	276	252	245	248	265	265	260	246	247	264	256.7	245.4
Spd	3.3	4.0	4.8	4.5	5.1	4.5	6.2	8.4	8.7	8.4	9.5	9.4	9.5	11.0	11.2	9.9	8.6	8.1	6.8	5.7	3.6	2.8	2.8	3.1	Diurnal Average	
Dir	241.8	235.3	239.6	237.6	239.9	240.7	243.0	250.7	249.1	246.5	254.3	256.8	256.8	254.2	270.1	281.7	268.7	265.1	270.7	265.0	246.1	229.5	238.9	238.9	Diurnal Maximum	
Spd	18.7	23.1	25.1	25.2	20.9	20.6	25.6	23.0	26.0	25.4	36.5	40.3	37.6	40.6	39.7	38.6	40.7	37.6	29.6	29.5	24.5	20.2	19.3	18.4	Diurnal Maximum	
Dir	241.8	243.4	243.5	241.0	239.5	235.1	236.4	236.2	238.5	239.5	253.5	255.6	251.5	252.0	236.6	245.1	246.3	249.2	244.6	237.7	248.8	223.2	221.4	226.3		
Maximum Speed Value: 41 km/h on Jul 24 17:00																								Minimum Speed Value: 0 km/h on Jul 18 02:00		
Maximum Daily Speed Average: 24.1 km/h on Jul 23																								Minimum Daily Speed Average: 0.5 km/h on Jul 18		
Maximum Diurnal Speed Average: 11.2 km/h at hour 15																								Minimum Diurnal Speed Average: 2.8 km/h at hour 22		
Monthly Average Velocity: 6.50 km/h 254.75 deg																								Speed Percentiles: P ₁ = 0.2 P ₁₀ = 1.2 Q ₁ = 3.4 Median = 7.2 Q ₃ = 13.4 P ₉₀ = 20.2 P ₉₉ = 37.5		
All monthly, daily, and diurnal averages have been calculated using vector methods																								Percent Operational Time: 100.0		
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	25	13	4	2	0	0	44																			
NorthEast	37	42	3	0	0	0	82																			
East	18	10	0	0	0	0	28																			
SouthEast	18	11	3	0	0	0	32																			
South	63	9	6	1	0	0	79																			
SouthWest	53	48	49	34	5	3	192																			
West	36	63	83	29	14	2	227																			
NorthWest	23	21	13	3	0	0	60																			
Total	273	217	161	69	19	5	744																			

Wind Rose

Wind Speed (WS) (km/h)
Evergreen Park - July 2016



Wind Speed Classes (km/h)



Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Evergreen Park - July 2016

Maximum Speed: 42 km/h on Jul 23 14:00																				Maximum Daily Speed Average: 25.0 km/h on Jul 23										Hours in Service: 744	
Minimum Speed: 0 km/h on Jul 18 00:00																				Minimum Daily Speed Average: 4.8 km/h on Jul 18										Hours of Data: 744	
Maximum Diurnal Speed Average: 17.4 km/h at hour 15																				Minimum Diurnal Speed Average: 4.9 km/h at hour 24										Hours of Missing Data: 0	
Monthly Average Speed: 10.43 km/h																				Percentiles: P ₁ = 0.7 P ₁₀ = 2.2 Q ₁ = 4.3 Median = 8.6 Q ₃ = 14.6 P ₉₀ = 21.0 P ₉₉ = 37.7										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	1	2	4	2	3	3	2	4	5	5	7	8	9	5	8	23	22	10	5	6	4	4	3	1	6.1	23.1					
2-Jul	2	1	2	2	4	5	4	4	9	13	11	15	18	16	16	14	12	13	13	10	8	3	4	4	8.3	17.7					
3-Jul	3	8	22	9	12	15	20	23	17	14	20	23	22	25	26	25	31	35	30	30	21	13	12	9	19.3	35.3					
4-Jul	5	9	7	2	1	3	5	20	25	22	23	21	20	21	21	19	19	17	19	18	12	4	10	13	14.0	25.0					
5-Jul	15	12	10	9	12	2	11	19	17	14	12	13	11	12	15	13	13	11	12	12	6	3	7	8	11.3	19.2					
6-Jul	6	4	5	7	9	10	11	15	21	18	20	17	19	18	20	18	21	21	21	18	11	7	11	6	14.0	21.4					
7-Jul	3	4	2	3	6	5	4	8	11	17	11	10	10	12	9	7	24	8	5	7	9	4	2	2	7.6	24.0					
8-Jul	3	5	5	5	4	4	5	7	6	6	8	7	6	6	6	8	5	4	6	6	4	3	3	3	5.3	8.4					
9-Jul	2	1	1	1	5	3	2	5	5	4	4	6	8	9	8	8	9	15	5	7	2	2	3	2	5.0	14.7					
10-Jul	4	6	6	5	6	7	9	9	10	11	10	10	11	14	16	12	10	15	13	14	7	5	1	1	8.9	16.5					
11-Jul	4	3	4	6	5	6	12	12	13	9	9	9	8	8	4	9	7	9	9	8	9	3	3	5	7.2	13.4					
12-Jul	9	13	10	8	6	6	7	5	9	9	9	11	12	27	23	8	7	5	6	9	10	9	5	6	9.4	27.0					
13-Jul	4	2	4	5	7	6	6	7	7	6	7	9	10	12	8	9	13	14	12	9	6	7	6	3	7.4	13.8					
14-Jul	1	1	1	2	1	2	2	6	9	8	8	10	11	12	14	14	12	11	10	6	8	2	4	1	6.4	14.0					
15-Jul	2	5	3	2	4	5	4	3	4	6	8	11	12	12	13	12	10	16	14	6	4	1	2	2	6.6	15.5					
16-Jul	1	2	3	6	7	10	11	14	11	10	10	13	14	16	18	21	18	24	14	12	8	8	6	6	10.9	24.0					
17-Jul	7	2	5	5	4	3	4	5	4	7	6	7	8	8	7	7	7	5	5	7	3	1	1	0	4.9	8.4					
18-Jul	1	0	1	1	1	2	1	1	3	7	10	9	9	9	11	9	9	6	7	6	3	4	3	1	4.8	10.7					
19-Jul	3	6	4	4	4	5	7	9	13	9	13	11	16	18	21	23	19	24	19	4	3	4	5	6	10.4	23.8					
20-Jul	11	10	4	5	2	5	5	7	6	14	21	25	19	17	14	11	4	8	13	15	16	20	19	19	12.0	25.2					
21-Jul	18	22	23	24	18	5	13	20	22	19	20	18	18	16	20	18	11	12	10	5	4	6	4	2	14.4	24.0					
22-Jul	1	2	1	1	1	1	1	6	5	15	19	25	35	35	33	33	24	24	23	27	25	15	14	13	15.8	35.1					
23-Jul	17	23	25	25	21	21	26	23	26	26	37	42	39	42	38	37	33	35	28	19	9	2	1	4	25.0	41.8					
24-Jul	3	6	20	20	19	12	11	14	18	16	33	37	38	37	40	40	41	38	26	18	16	11	6	4	21.9	41.4					
25-Jul	6	3	3	2	2	2	5	5	4	9	12	15	16	15	17	15	14	14	14	9	5	3	2	3	8.2	17.4					
26-Jul	3	1	1	3	2	2	6	7	10	6	10	16	18	21	16	15	13	12	11	6	1	3	3	2	7.9	21.4					
27-Jul	4	5	3	3	2	2	5	12	12	12	9	8	13	16	13	12	9	10	8	7	5	2	1	1	7.3	16.1					
28-Jul	1	2	1	2	3	4	7	8	7	13	21	15	13	20	20	19	18	14	8	5	3	5	4	3	8.9	20.5					
29-Jul	3	0	3	2	1	1	3	12	13	15	10	15	15	15	17	16	20	22	19	24	18	6	3	4	10.9	24.1					
30-Jul	2	3	2	3	10	7	4	12	8	8	5	9	9	23	27	18	13	8	3	6	4	2	6	13	8.6	27.0					
31-Jul	19	16	12	14	12	11	12	12	17	17	16	16	15	17	18	23	24	21	15	10	10	15	11	6	15.0	23.9					
5.3 5.8 6.3 6.1 6.2 5.6 7.3 10.1 11.2 11.7 13.6 14.8 15.5 17.2 17.4 16.6 15.9 15.4 13.0 11.2 8.2 5.8 5.3 4.9																								Diurnal Average							
19.0 23.3 25.3 25.4 21.2 20.8 25.8 23.2 26.3 25.8 37.5 41.6 38.7 41.8 40.4 39.5 41.4 38.2 30.1 29.8 24.7 20.4 19.4 18.6																								Diurnal Maximum							
All monthly, daily, and diurnal averages have been calculated using scalar methods																															

Hourly Standard Deviations

Wind Direction (WD) - deg

Evergreen Park - July 2016

Maximum Value: 99.2 deg on Jul 30 11:00																				Hours in Service: 744					
Minimum Value: 6.3 deg on Jul 24 03:00																				Hours of Data: 744					
																				Hours of Missing Data: 0					
																				Hours of Calibration: 0					
Percentiles: P ₁ = 7.6 P ₁₀ = 12.5 Q ₁ = 18.3 Median = 27.6 Q ₃ = 49.1 P ₉₀ = 73.0 P ₉₉ = 92.9																				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	41	58	27	60	40	47	68	51	37	65	38	27	23	36	20	13	20	20	57	17	20	26	31	72	72.4
2-Jul	78	49	58	91	24	40	54	63	26	22	38	20	14	16	21	28	44	26	23	19	27	16	9	15	90.8
3-Jul	31	94	18	23	23	12	12	8	10	13	18	20	17	19	17	20	14	11	11	9	10	15	11	16	94.4
4-Jul	22	8	42	34	86	48	26	12	12	15	16	20	19	19	27	22	22	24	22	17	10	27	14	10	86.2
5-Jul	7	11	13	18	9	80	30	11	12	17	28	30	41	34	28	15	19	34	28	23	20	24	15	13	80.2
6-Jul	34	18	27	24	13	13	13	12	14	18	20	26	30	21	21	25	20	19	14	15	72	54	18	35	71.7
7-Jul	59	54	90	47	29	36	59	20	28	21	36	48	54	63	75	93	25	67	69	28	22	24	74	77	93.0
8-Jul	41	26	67	87	93	35	25	26	66	53	28	41	43	60	63	50	74	25	30	32	24	22	20	31	93.0
9-Jul	37	41	73	74	44	55	68	50	34	52	55	35	55	48	33	32	22	29	57	32	87	85	54	40	86.6
10-Jul	21	18	17	30	22	25	20	19	19	26	18	26	36	33	33	39	75	26	24	16	20	33	78	68	78.4
11-Jul	21	65	36	29	26	27	16	19	20	52	44	51	72	62	67	40	45	34	24	24	28	72	68	45	72.0
12-Jul	26	15	22	20	25	23	24	50	36	43	51	40	41	50	20	48	39	33	24	22	24	27	27	16	51.3
13-Jul	28	51	28	17	22	22	27	28	47	65	65	74	77	42	36	40	86	14	23	19	27	74	22	52	86.2
14-Jul	56	73	57	40	85	54	48	41	34	34	27	33	42	37	28	31	34	29	27	22	32	52	24	80	85.4
15-Jul	69	29	53	73	42	26	38	37	78	85	60	51	52	46	32	40	62	22	18	21	38	63	54	72	85.3
16-Jul	86	72	25	32	24	16	15	15	16	24	18	22	28	32	30	20	41	18	24	33	26	24	21	22	86.3
17-Jul	25	48	31	18	31	19	24	30	29	40	64	54	37	54	94	92	65	48	54	17	85	94	77	86	94.4
18-Jul	77	90	77	69	92	92	52	96	68	74	32	53	74	65	31	36	42	63	37	43	29	88	95	96	95.9
19-Jul	35	14	43	31	36	27	16	19	13	21	17	42	29	29	24	16	21	16	20	68	50	33	75	35	74.8
20-Jul	30	46	55	26	34	19	17	14	37	12	9	9	12	13	20	28	44	18	20	11	10	8	8	7	55.1
21-Jul	8	7	10	8	33	38	15	10	7	21	16	20	12	15	17	51	25	25	30	33	58	13	16	32	57.5
22-Jul	56	62	89	84	54	88	89	22	29	23	18	16	16	13	14	15	18	14	8	9	8	16	15	15	89.4
23-Jul	12	8	8	8	9	8	8	9	9	11	13	14	14	13	13	14	13	13	11	13	18	91	50	22	90.8
24-Jul	74	64	6	12	8	10	15	14	15	20	12	13	12	10	11	13	11	10	12	14	13	12	15	11	73.5
25-Jul	11	32	30	91	71	56	40	46	58	38	29	26	34	43	35	30	34	25	22	18	50	33	63	47	91.3
26-Jul	62	84	58	68	64	51	26	37	24	55	39	22	32	25	32	32	46	34	25	23	80	18	85	75	84.8
27-Jul	40	43	79	22	65	73	44	16	21	26	46	60	46	33	47	34	50	36	20	24	19	21	27	76	79.2
28-Jul	92	36	89	86	82	37	24	30	27	23	20	22	25	26	24	23	20	31	45	22	32	25	55	90	92.3
29-Jul	49	70	90	88	76	88	53	19	18	12	26	35	44	30	22	27	19	20	18	12	13	22	46	28	90.0
30-Jul	75	81	83	90	30	24	50	21	58	68	99	50	51	31	20	21	32	66	44	37	47	85	33	19	99.2
31-Jul	11	10	15	11	12	17	17	22	22	14	17	18	18	21	18	11	9	16	15	16	15	10	11	19	21.9
92.3 94.4 90.0 91.3 93.0 91.6 88.6 95.9 77.9 85.3 99.2 73.8 77.1 65.1 94.4 93.0 86.2 66.8 68.8 68.1 86.6 93.6 95.3 95.7																									

PAZA
Smoky Heights Station
Monthly Summary Tables, Graphs and
Roses

Hourly Averages

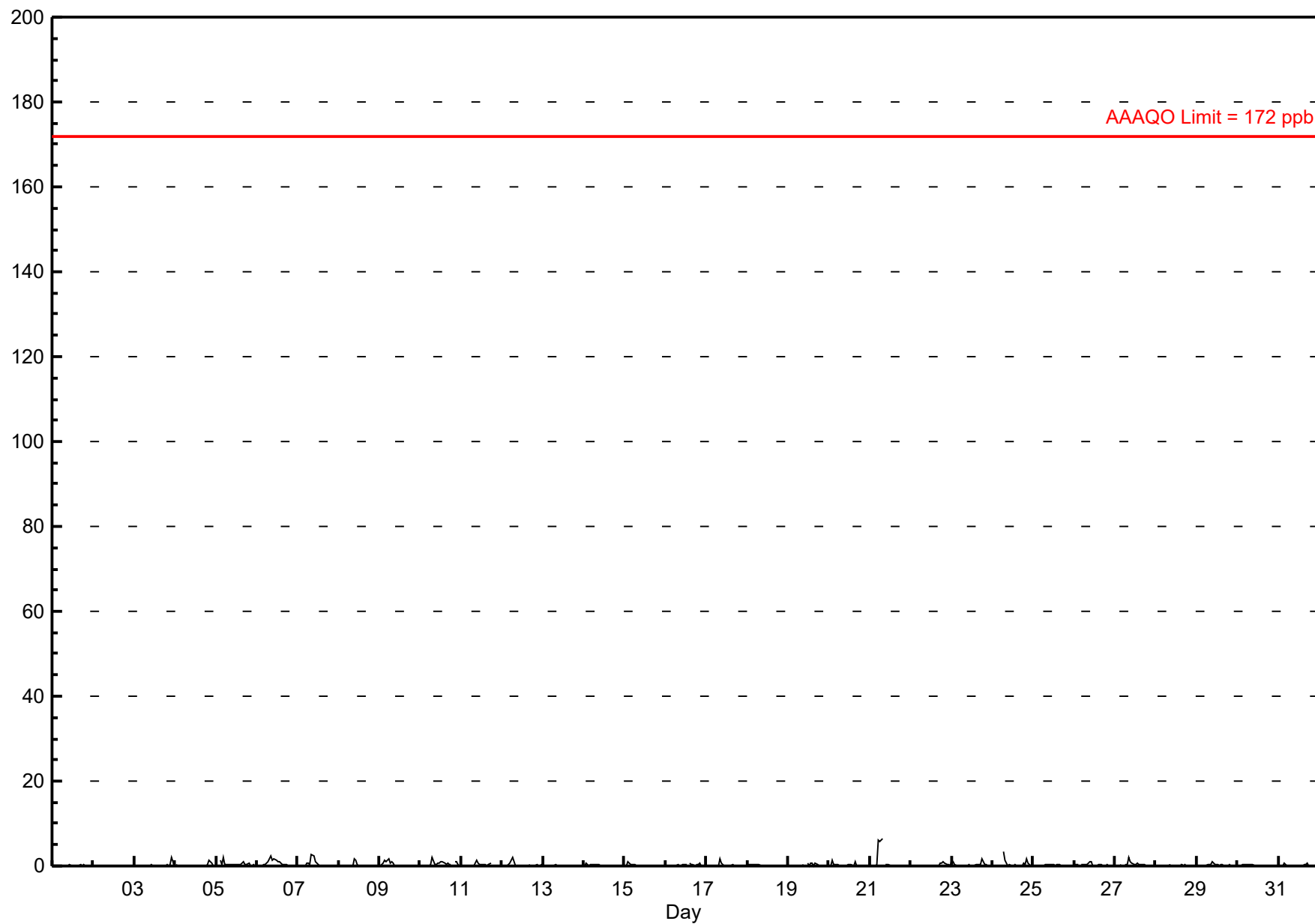
Sulphur Dioxide (SO₂) - ppb

Smoky Heights - July 2016

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 6.5 ppb on Jul 21 08:00 Maximum Daily Average: 0.9 ppb on Jul 21																				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 Minimum Daily Average: 0.0 ppb on Jul 2 Maximum Diurnal Average: 0.6 ppb at hour 8 Minimum Diurnal Average: 0.1 ppb at hour 24 Monthly Average: 0.26 ppb Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.1 Q ₃ = 0.2 P ₉₀ = 0.6 P ₉₉ = 2.1																										
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jul	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.4
2-Jul	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
3-Jul	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0.2	2.0
4-Jul	0	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0.2	1.3
5-Jul	0	A	1	0	2	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	0	0	0	0.5	2.2
6-Jul	A	0	0	0	0	0	1	2	2	1	2	1	1	1	1	0	0	0	0	0	0	0	0	A	0.6	2.2
7-Jul	0	0	0	0	0	1	1	0	3	3	1	1	0	0	0	0	0	0	0	0	0	0	A	0	0.4	2.7
8-Jul	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	A	0	0	0.2	1.8
9-Jul	0	0	1	1	1	2	1	1	1	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.4	1.8
10-Jul	0	0	0	0	0	0	0	2	0	0	1	1	1	1	1	0	1	0	0	A	1	1	0	0	0.5	2.2
11-Jul	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	1	A	0	0	0	0	0	0.3	1.2
12-Jul	0	0	0	0	1	1	2	1	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0.3	1.9
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	0.1	0.3
14-Jul	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.2	0.8
15-Jul	0	0	1	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.1	0.9
16-Jul	0	0	0	0	0	0	0	0	0	0	0	0	1	A	1	0	0	0	0	0	1	0	0	0	0.2	0.6
17-Jul	0	0	0	0	0	0	0	0	2	1	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.2	1.6
18-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
19-Jul	0	0	0	0	0	0	0	0	0	0	A	1	0	1	1	0	1	0	0	0	0	0	0	0	0.2	0.7
20-Jul	0	0	1	0	0	0	0	0	0	A	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0.2	1.3
21-Jul	0	0	0	0	0	6	6	7	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.9	6.5
22-Jul	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0.2	1.2
23-Jul	1	1	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0.3	1.8
24-Jul	0	0	0	0	0	A	3	1	1	0	0	0	0	0	0	0	0	0	1	0	2	1	0	0	0.4	3.3
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	0.2	0.3
26-Jul	0	0	0	A	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.1
27-Jul	0	0	A	0	0	0	0	0	2	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0.3	2.1
28-Jul	0	A	0	0	0	0	0	0	0	C	C	C	C	C	0	0	0	0	0	0	0	0	0	0	0.1	0.5
29-Jul	A	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	A	0.2	0.9
30-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
31-Jul	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	A	0	0	0.1	0.7
0.1 0.2 0.2 0.2 0.2 0.5 0.6 0.6 0.5 0.5 0.4 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																									Diurnal Average	
1.3 1.1 1.5 1.2 2.2 6.1 5.6 6.5 2.7 2.5 1.7 1.3 1.1 0.9 0.7 1.1 1.0 1.0 0.7 1.8 1.2 1.8 1.0 2.0 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
Smoky Heights - July 2016



Hourly Maximums

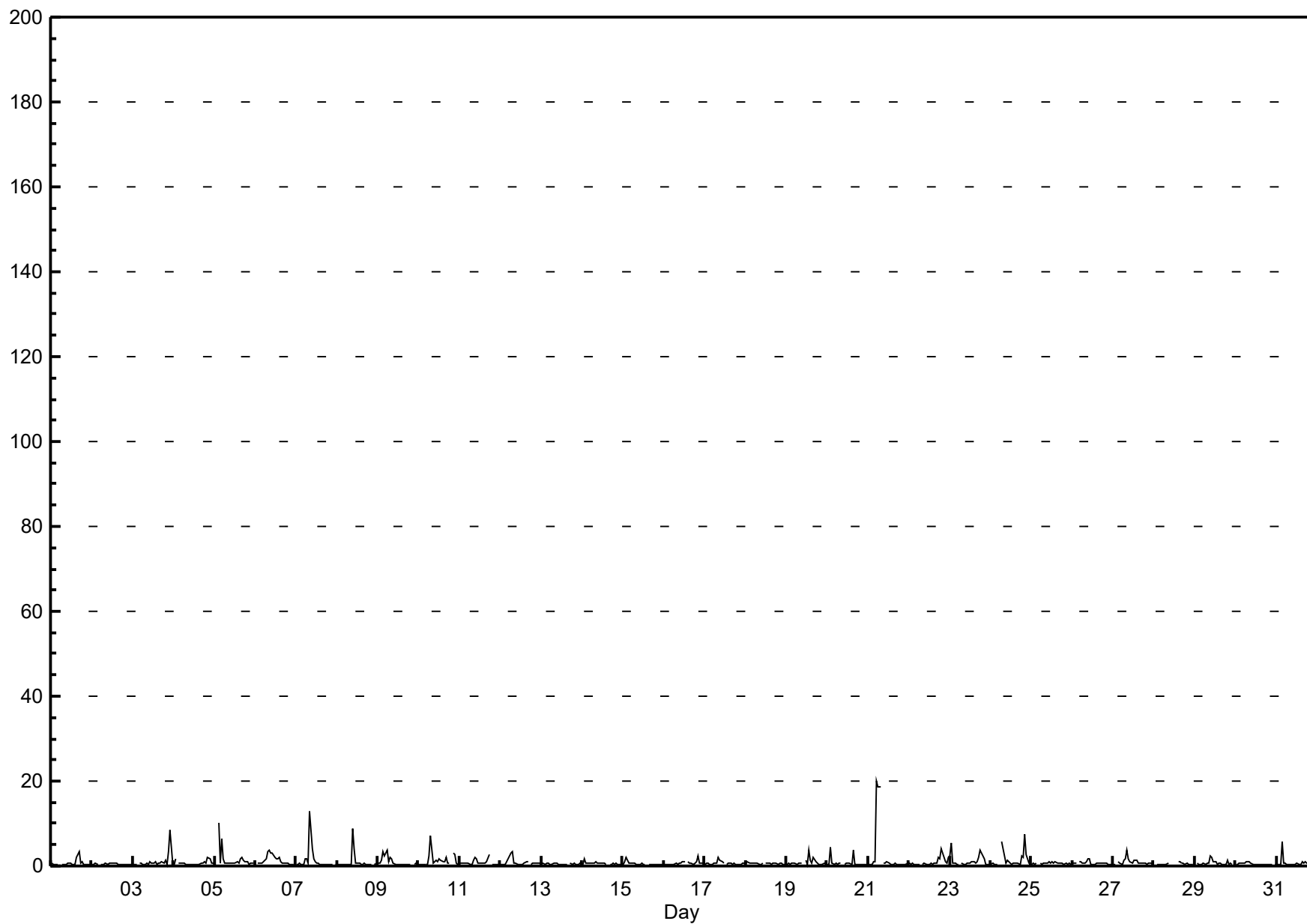
Sulphur Dioxide (SO₂) - ppb

Smoky Heights - July 2016

Maximum Value: 19.8 ppb on Jul 21 06:00																				Maximum Daily Average: 2.9 ppb on Jul 21										Hours in Service: 744	
Minimum Value: 0 ppb on Jul 30 15:00																				Minimum Daily Average: 0.4 ppb on Jul 2										Hours of Data: 706	
Maximum Diurnal Average: 1.8 ppb at hour 8																				Minimum Diurnal Average: 0.5 ppb at hour 24										Hours of Missing Data: 38	
Monthly Average: 0.93 ppb																				Percentiles: P ₁ = 0.3 P ₁₀ = 0.4 Q ₁ = 0.4 Median = 0.5 Q ₃ = 0.7 P ₉₀ = 1.7 P ₉₉ = 8.4										Hours of Calibration: 38	
																				Percent Operational Time: 100.0											
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24							
1-Jul	1	0	0	0	0	A	0	0	0	1	1	1	0	0	0	2	3	1	1	0	0	0	0	0	0.7	3.5					
2-Jul	0	0	1	0	A	0	1	0	1	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0.4	0.7					
3-Jul	0	0	0	A	1	1	0	0	1	0	1	1	1	1	0	1	1	1	1	1	0	3	9	0	1.1	8.5					
4-Jul	0	2	A	1	1	1	1	0	0	0	0	0	0	0	0	0	1	1	1	1	2	2	1	1	0.7	2.0					
5-Jul	0	A	10	1	6	2	1	1	1	1	1	1	1	1	1	2	2	1	1	1	0	1	1	1	1.5	10.3					
6-Jul	A	1	1	1	1	1	2	3	4	3	3	2	2	2	2	1	1	1	1	1	0	1	0	A	1.4	3.8					
7-Jul	0	0	1	0	0	2	2	1	13	4	2	1	1	1	0	0	0	0	0	0	0	0	A	0	1.3	12.8					
8-Jul	0	0	0	0	0	0	0	0	0	9	4	1	1	1	0	0	1	0	0	0	0	A	0	1	1.0	8.7					
9-Jul	1	1	1	3	2	4	1	2	2	1	1	0	0	0	0	0	0	0	0	0	A	0	1	0	1.0	3.9					
10-Jul	0	0	0	0	0	0	2	7	1	1	1	1	2	1	1	1	2	1	1	A	3	3	1	0	1.4	7.0					
11-Jul	1	1	1	1	1	1	0	1	1	2	2	1	1	1	1	1	1	3	A	0	0	0	0	0	0.8	2.7					
12-Jul	0	0	0	0	2	2	3	3	1	1	0	0	0	0	1	1	1	A	0	1	1	1	1	1	0.9	3.3					
13-Jul	0	1	0	1	1	0	0	1	1	1	0	1	0	0	0	0	A	1	0	1	0	0	0	1	0.5	0.8					
14-Jul	0	2	1	1	1	1	1	1	1	1	1	1	1	1	0	A	0	0	1	1	1	1	0	0	0.6	1.5					
15-Jul	0	1	2	1	1	1	1	1	0	0	0	1	0	0	A	0	0	0	0	0	0	0	0	0	0.6	1.9					
16-Jul	0	0	0	0	0	0	0	1	0	1	1	1	1	A	1	1	1	0	1	1	2	1	1	1	0.7	2.3					
17-Jul	0	1	1	0	0	1	1	1	2	2	1	1	A	0	1	1	0	1	0	0	0	0	1	1	0.7	2.2					
18-Jul	0	1	1	1	1	1	1	1	0	0	1	A	1	1	1	0	1	1	1	0	1	1	0	0	0.6	1.0					
19-Jul	1	1	1	1	1	1	0	1	1	1	A	1	0	4	1	1	2	1	1	0	0	0	1	0	0.8	3.9					
20-Jul	0	0	4	1	1	1	0	1	1	A	0	1	1	1	0	4	0	0	0	0	0	0	0	0	0.8	4.3					
21-Jul	0	0	0	1	1	20	19	19	A	1	1	1	1	0	0	0	1	0	0	0	0	0	0	1	2.9	19.8					
22-Jul	1	0	1	0	0	0	0	A	0	1	0	0	0	1	0	1	1	2	2	4	3	1	1	2	1.0	4.0					
23-Jul	2	5	1	1	0	0	A	1	0	0	1	1	1	1	1	1	1	2	4	2	2	0	0	0	1.2	5.3					
24-Jul	0	1	0	0	0	A	6	4	2	1	1	1	0	1	1	1	1	0	2	2	7	3	1	0	1.6	7.3					
25-Jul	0	1	0	1	A	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	0.6	1.1					
26-Jul	1	1	1	A	1	1	1	1	1	2	2	0	0	0	1	1	1	1	1	1	1	0	0	0	0.7	1.8					
27-Jul	0	0	A	1	1	0	1	2	4	2	1	1	1	1	1	1	1	1	1	1	0	1	1	0	1.0	3.8					
28-Jul	0	A	0	0	0	0	0	0	1	C	C	C	C	C	1	1	1	1	0	1	0	0	0	0	0.5	1.2					
29-Jul	A	1	0	0	0	1	0	1	1	2	2	1	1	0	1	1	0	0	0	1	0	1	0	A	0.8	2.4					
30-Jul	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0	0	1	0	0	0	0	0	A	0	0.5	1.0					
31-Jul	0	0	0	6	1	1	0	0	0	0	0	0	1	0	0	1	1	1	1	1	0	A	0	1	0.8	5.9					
																									Diurnal Average						
																									Diurnal Maximum						
C - Calibration																									A - Automated Daily Zero Span						

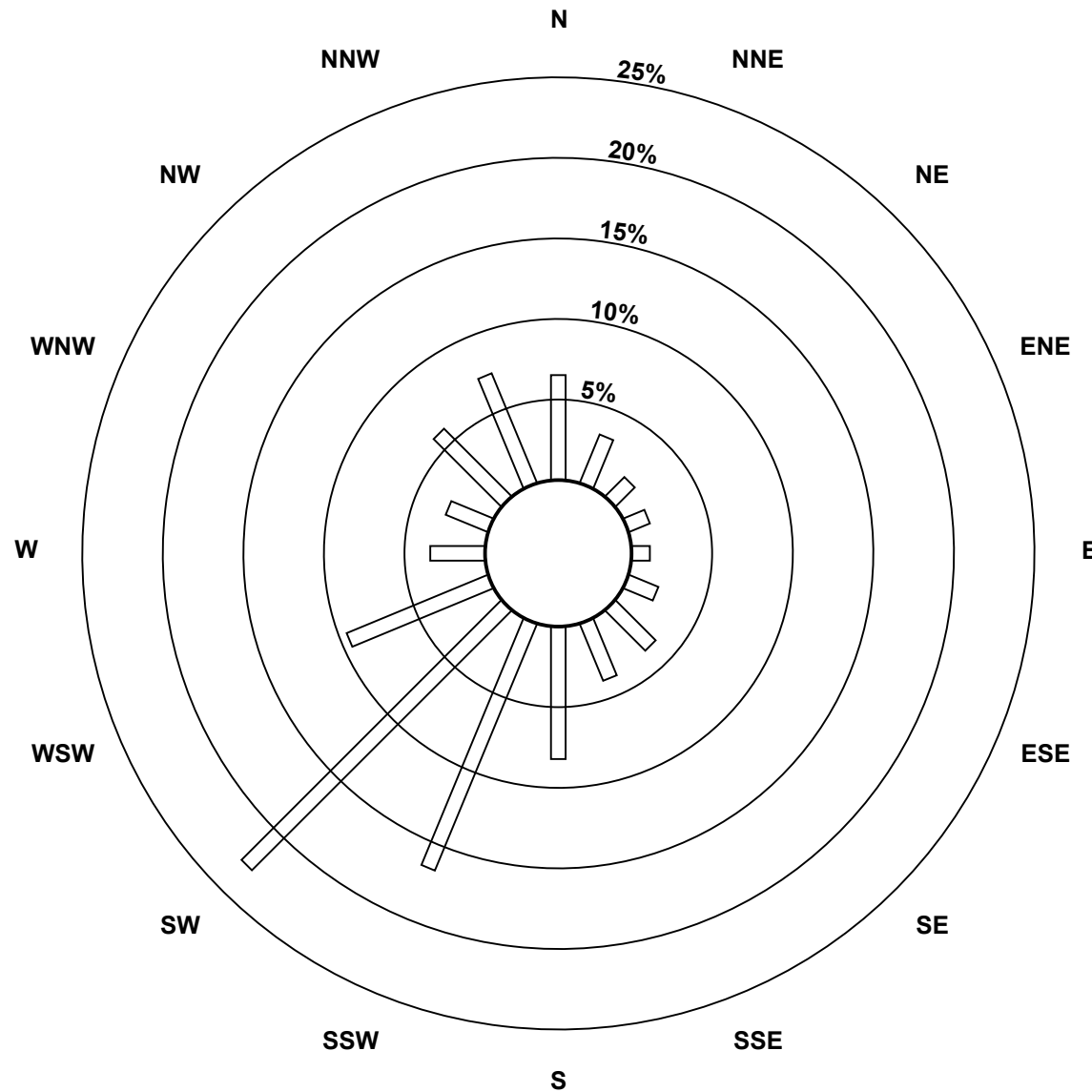
Hourly Maximums

Sulphur Dioxide (SO₂) - ppb
Smoky Heights - July 2016

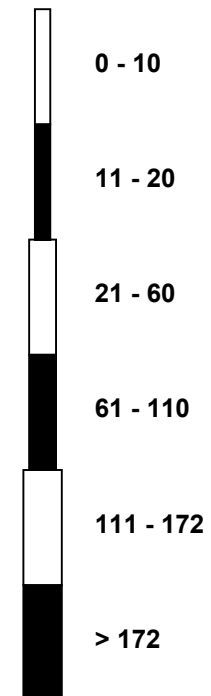


Pollutant Rose

Sulphur Dioxide (SO₂) - ppb
Smoky Heights - July 2016

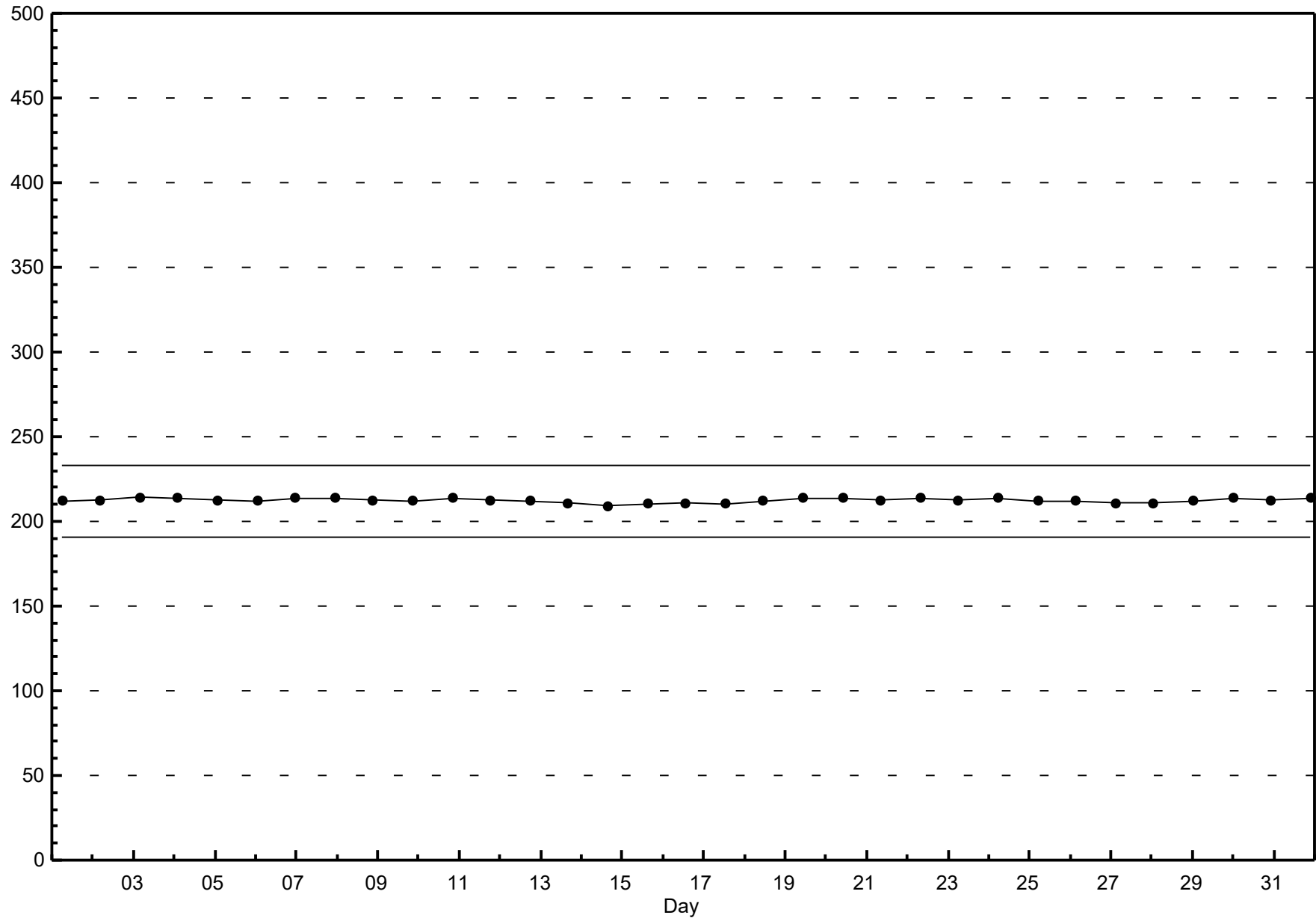


Pollutant Classes (ppb)



Span Responses

Sulphur Dioxide (SO₂)
Smoky Heights - July 2016



Hourly Averages

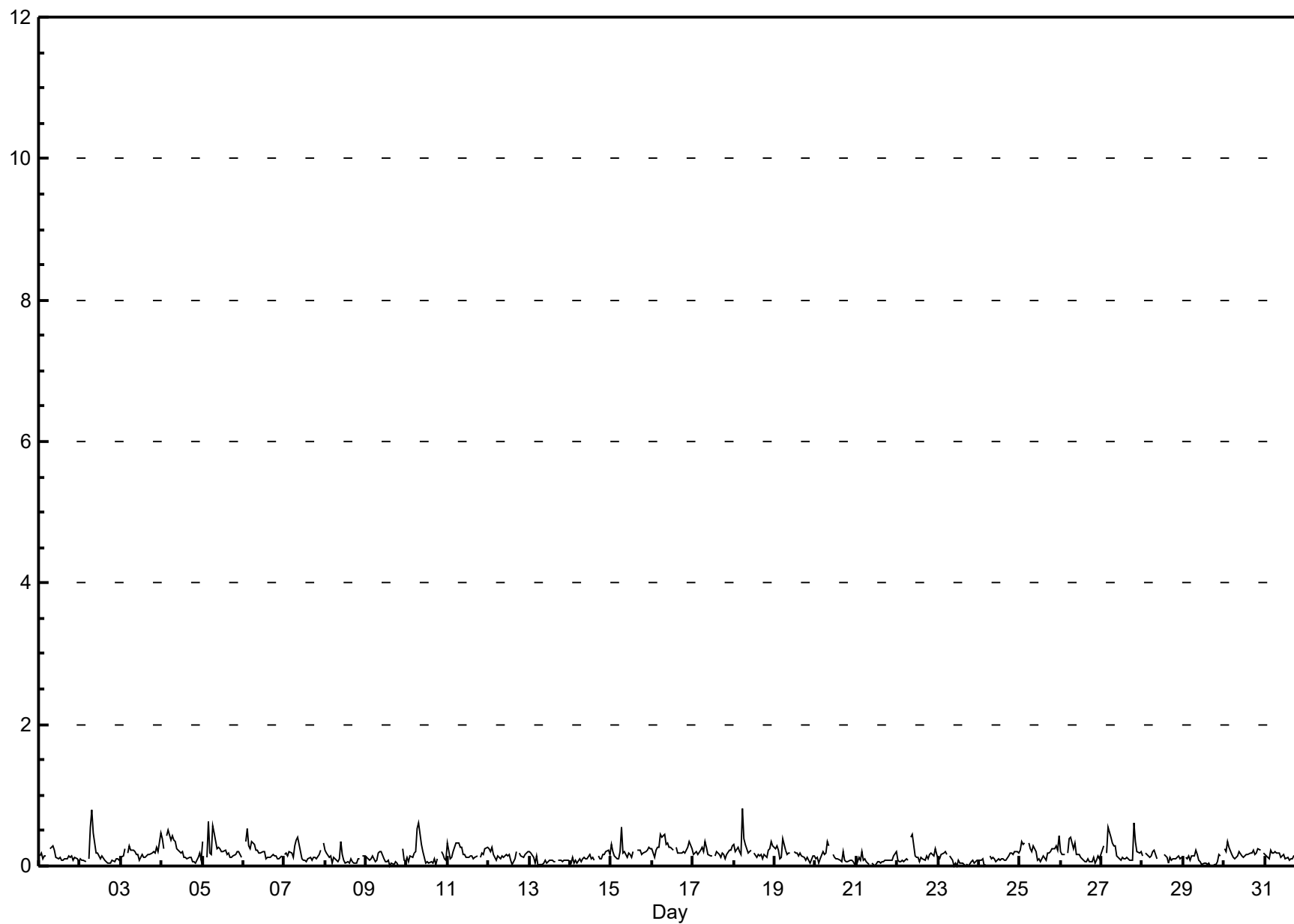
Total Reduced Sulphur (TRS) - ppb

Smoky Heights - July 2016

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																				Hours in Service: 744							
Maximum Value: 0.8 ppb on Jul 18 06:00																				Maximum Daily Average: 0.3 ppb on Jul 16		Hours of Data: 707					
Minimum Value: 0 ppb on Jul 9 15:00																				Minimum Daily Average: 0.1 ppb on Jul 23		Hours of Missing Data: 37					
Maximum Diurnal Average: 0.3 ppb at hour 7																				Minimum Diurnal Average: 0.1 ppb at hour 15		Hours of Calibration: 37					
Monthly Average: 0.16 ppb																				Percentiles: P ₁ = 0.0 P ₁₀ = 0.1 Q ₁ = 0.1 Median = 0.1 Q ₃ = 0.2 P ₉₀ = 0.3 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	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3	
2-Jul	0	0	0	0	A	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.8	
3-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	0.5	
4-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	0.5	
5-Jul	0	A	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.6	
6-Jul	A	0	1	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	
7-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.2	0.4	
8-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	
9-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	
10-Jul	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.2	0.6	
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	0.2	0.3	
12-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	0.3	
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	0.1	0.2	
14-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	
15-Jul	0	0	0	0	0	0	1	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.2	0.5	
16-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	
17-Jul	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3	
18-Jul	0	0	0	0	0	1	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.8	
19-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	0.4	
20-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	
21-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	0.2	
22-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	0.5	
23-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	0.2	
24-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	
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	0.2	0.4	
26-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	
27-Jul	0	0	A	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0.2	0.6	
28-Jul	0	A	0	0	0	0	0	0	0	C	C	C	C	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2	
29-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	0.2	
30-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.2	0.4	
31-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	
																									Diurnal Average		
																									Diurnal Maximum		
C - Calibration A - Automated Daily Zero Span																											
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb																											

Hourly Averages

Total Reduced Sulphur (TRS) - ppb
Smoky Heights - July 2016



Hourly Maximums

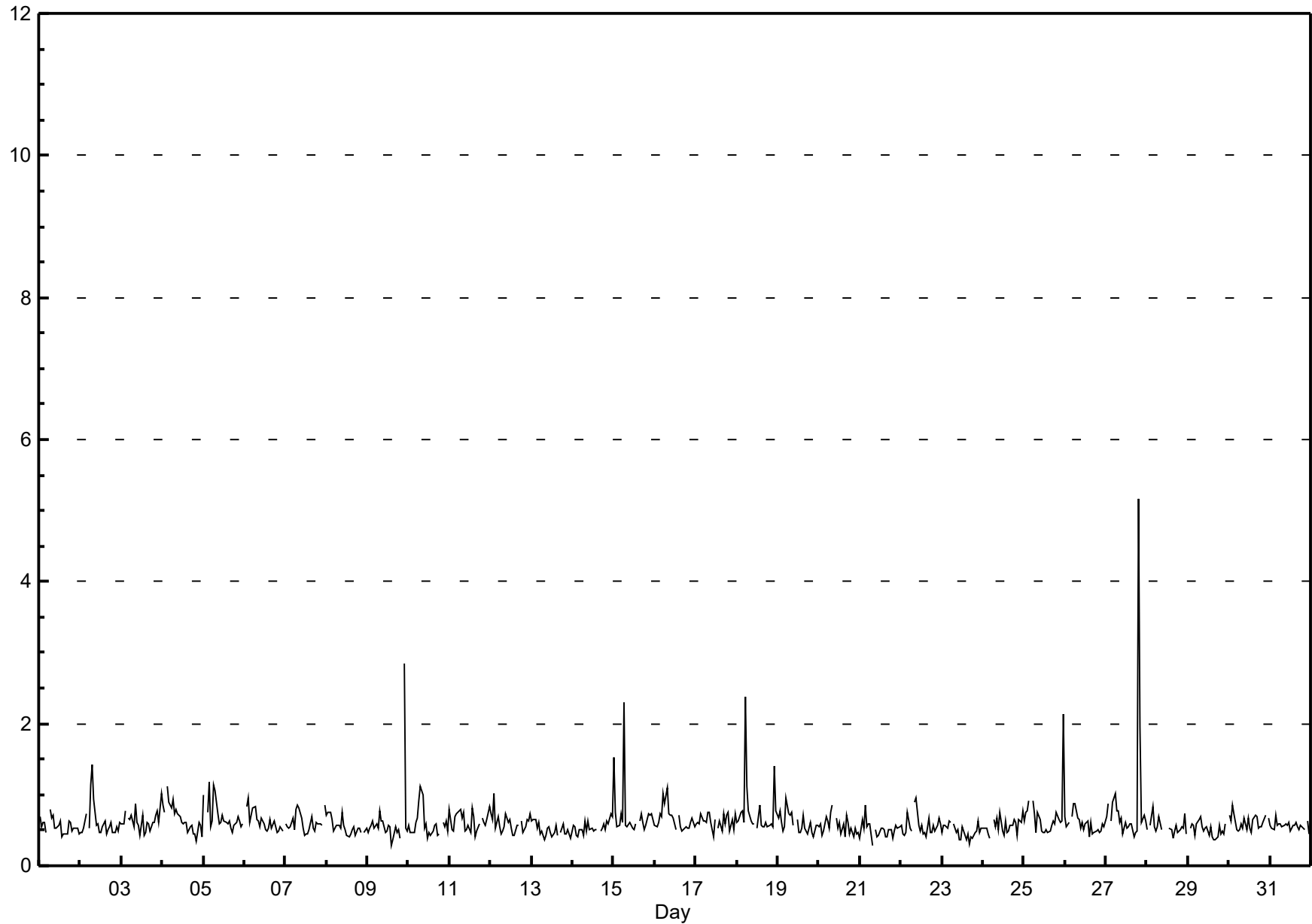
Total Reduced Sulphur (TRS) - ppb

Smoky Heights - July 2016

Maximum Value: 5.2 ppb on Jul 27 20:00																			Maximum Daily Average: 0.9 ppb on Jul 27										Hours in Service: 744	
Minimum Value: 0 ppb on Jul 9 15:00																			Minimum Daily Average: 0.5 ppb on Jul 23										Hours of Data: 707	
Maximum Diurnal Average: 0.8 ppb at hour 7																			Minimum Diurnal Average: 0.5 ppb at hour 13										Hours of Missing Data: 37	
Monthly Average: 0.61 ppb																			Percentiles: P ₁ = 0.4 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: 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	0	A	1	1	1	1	1	1	0	0	0	0	0	1	1	0	1	1	0	0	0.6	0.8				
2-Jul	0	0	1	1	A	1	1	1	1	1	1	0	0	1	1	0	0	1	1	0	0	1	0	1	0.6	1.4				
3-Jul	1	1	1	A	1	1	1	1	1	1	1	0	1	0	0	1	1	0	1	1	1	1	1	1	0.6	1.0				
4-Jul	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	0	0	0	1	1	0	0.7	1.1				
5-Jul	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	0.7	1.2				
6-Jul	A	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	0	0	1	0	A	0.6	0.9				
7-Jul	1	1	1	1	1	0	1	1	1	1	1	0	0	0	1	1	1	0	1	1	1	1	A	1	0.6	0.9				
8-Jul	1	1	1	1	0	1	1	1	1	1	1	1	0	0	0	0	1	0	1	1	0	A	0	1	0.6	0.8				
9-Jul	0	1	1	1	1	1	1	1	1	1	0	0	1	1	0	0	1	0	0	0	A	3	1	0	0.6	2.8				
10-Jul	1	0	0	0	1	1	1	1	1	1	1	0	0	0	0	1	1	0	0	A	1	1	1	0	0.6	1.1				
11-Jul	1	1	0	1	1	1	1	1	1	0	1	1	0	1	1	0	0	1	A	1	1	1	1	1	0.6	0.8				
12-Jul	1	1	1	1	1	1	0	0	1	1	1	1	1	0	0	1	1	A	1	0	1	1	1	1	0.6	1.0				
13-Jul	1	1	1	1	1	0	0	0	0	1	1	0	0	0	1	0	A	0	1	0	0	1	0	0	0.5	0.7				
14-Jul	1	1	0	0	1	1	0	1	0	1	0	1	0	1	1	A	0	1	1	1	1	1	1	1	0.5	0.7				
15-Jul	2	1	1	1	1	1	2	1	1	1	1	1	1	1	A	1	1	1	1	0	1	1	1	1	0.7	2.3				
16-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	0	1	1	1	1	1	1	1	0.7	1.1				
17-Jul	1	1	1	1	1	1	1	1	1	1	0	1	A	1	1	0	1	1	1	1	1	0	1	1	0.6	0.8				
18-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	0.8	2.4				
19-Jul	1	1	1	0	1	1	1	1	1	1	1	A	1	0	0	1	1	1	0	1	1	0	0	1	1	0.6	0.9			
20-Jul	1	1	0	0	1	1	1	1	1	A	1	1	1	0	1	0	1	1	0	1	0	1	0	0	0.6	0.8				
21-Jul	0	1	1	1	1	1	1	0	A	1	0	0	1	1	1	0	0	1	1	0	0	1	1	1	0.5	0.9				
22-Jul	1	0	0	0	1	1	0	A	1	1	1	0	1	0	0	0	1	0	0	1	0	1	1	1	0.6	0.9				
23-Jul	0	1	1	1	1	1	A	1	0	1	0	0	1	0	0	0	0	0	0	0	0	1	0	1	0.5	0.6				
24-Jul	1	1	1	0	0	A	1	1	1	1	1	0	0	1	0	0	1	1	1	1	0	1	1	1	0.6	0.8				
25-Jul	1	1	1	1	A	1	1	0	1	1	0	0	0	1	0	0	1	1	1	1	1	1	1	2	0.7	2.1				
26-Jul	1	1	1	A	1	1	1	1	1	1	1	1	1	1	0	1	0	0	0	0	1	0	0	1	0.6	0.9				
27-Jul	1	1	A	1	1	1	1	1	1	1	0	1	1	1	1	1	0	0	0	0	5	2	1	1	0.9	5.2				
28-Jul	1	A	1	1	1	0	1	1	1	1	C	C	C	C	1	0	0	0	1	0	1	1	1	0	0.5	0.8				
29-Jul	A	1	1	1	0	1	1	1	1	0	1	1	0	1	0	0	0	0	0	1	0	0	0	1	0.5	0.7				
30-Jul	1	1	1	1	1	0	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	A	1	0.6	0.9				
31-Jul	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	0	A	1	0	0.6	0.7				
																									Diurnal Average					
																									Diurnal Maximum					
C - Calibration																									A - Automated Daily Zero Span					

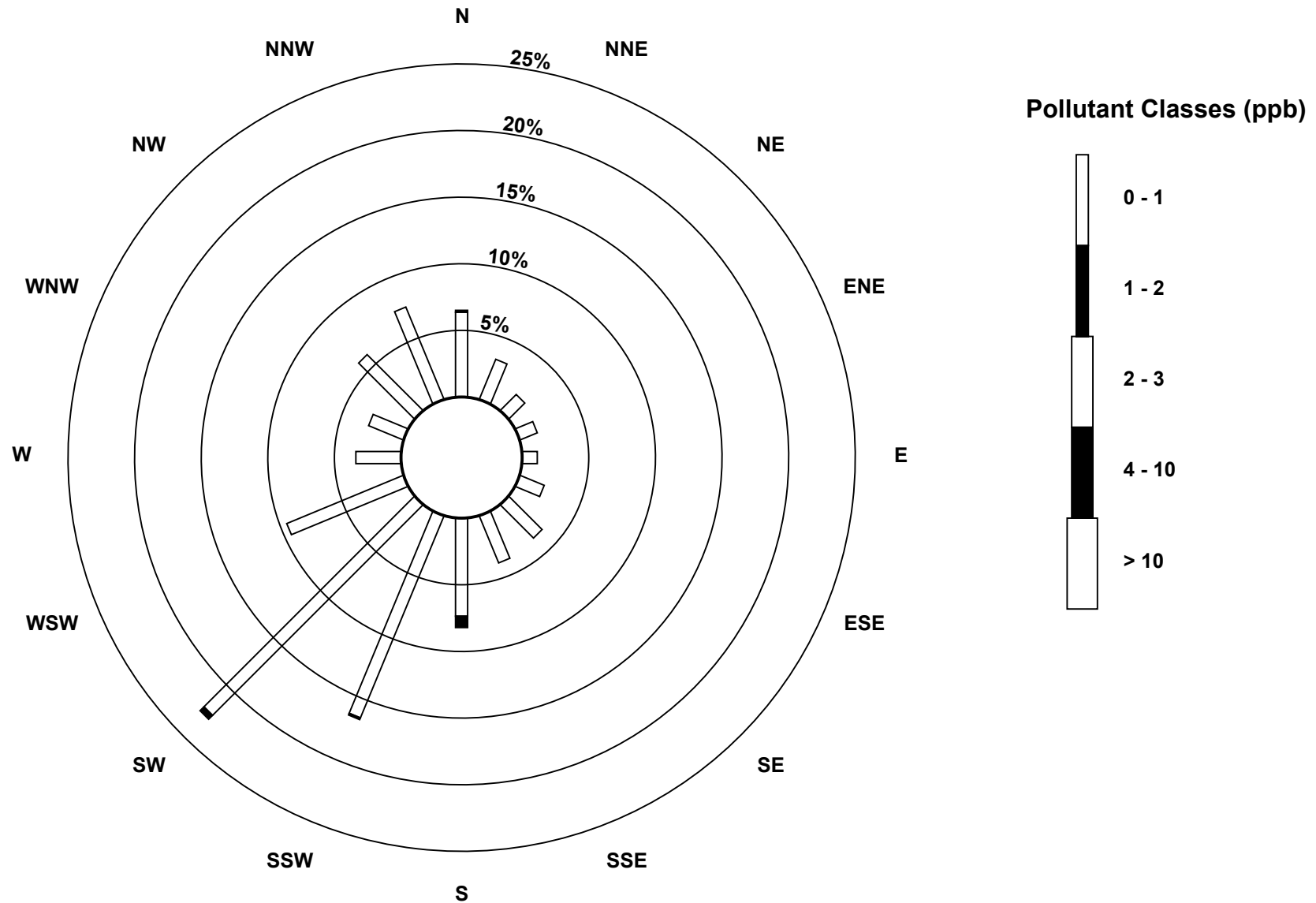
Hourly Maximums

Total Reduced Sulphur (TRS) - ppb
Smoky Heights - July 2016



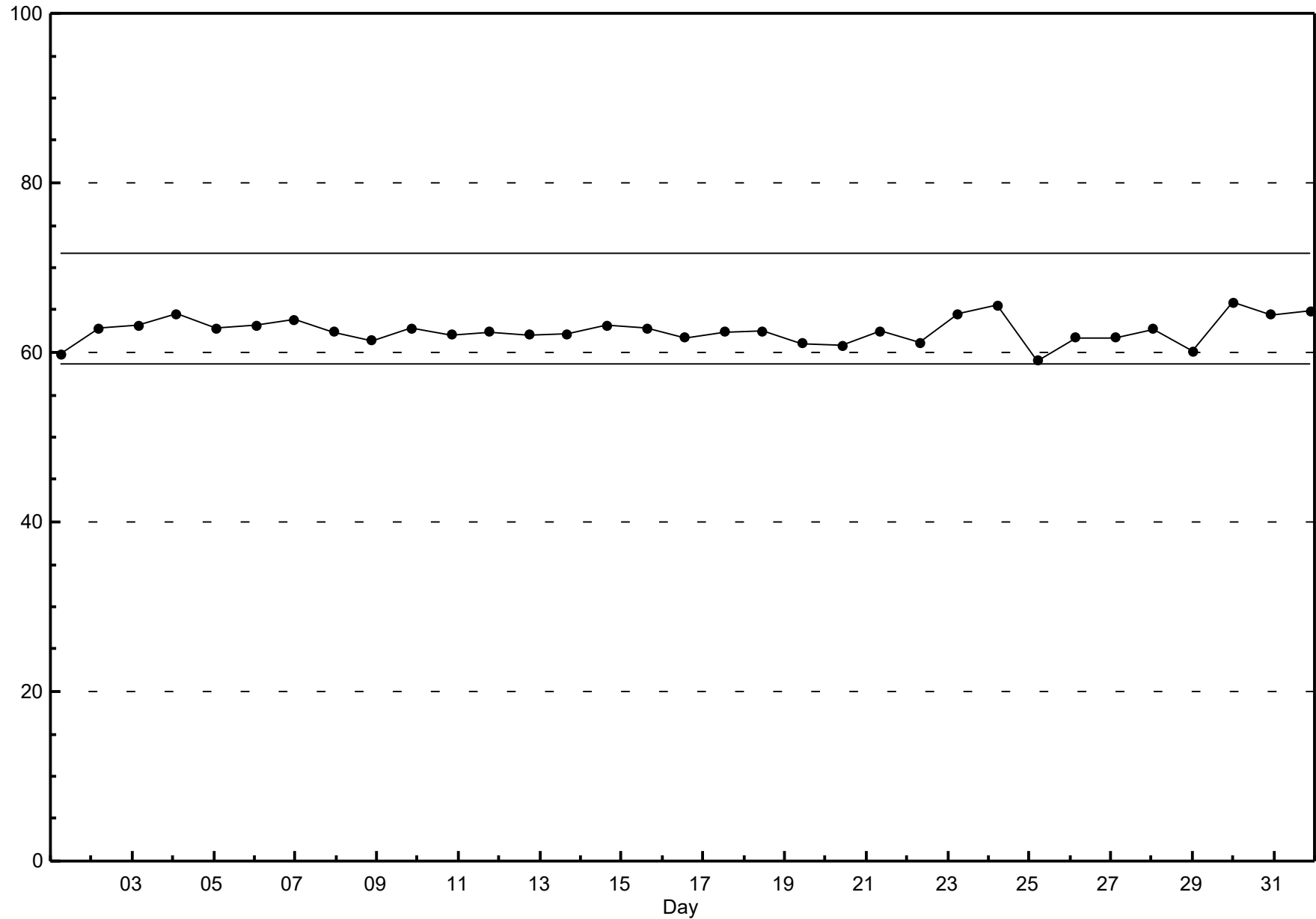
Pollutant Rose

Total Reduced Sulphur (TRS) - ppb
Smoky Heights - July 2016



Span Responses

Total Reduced Sulphur (TRS)
Smoky Heights - July 2016



Hourly Averages

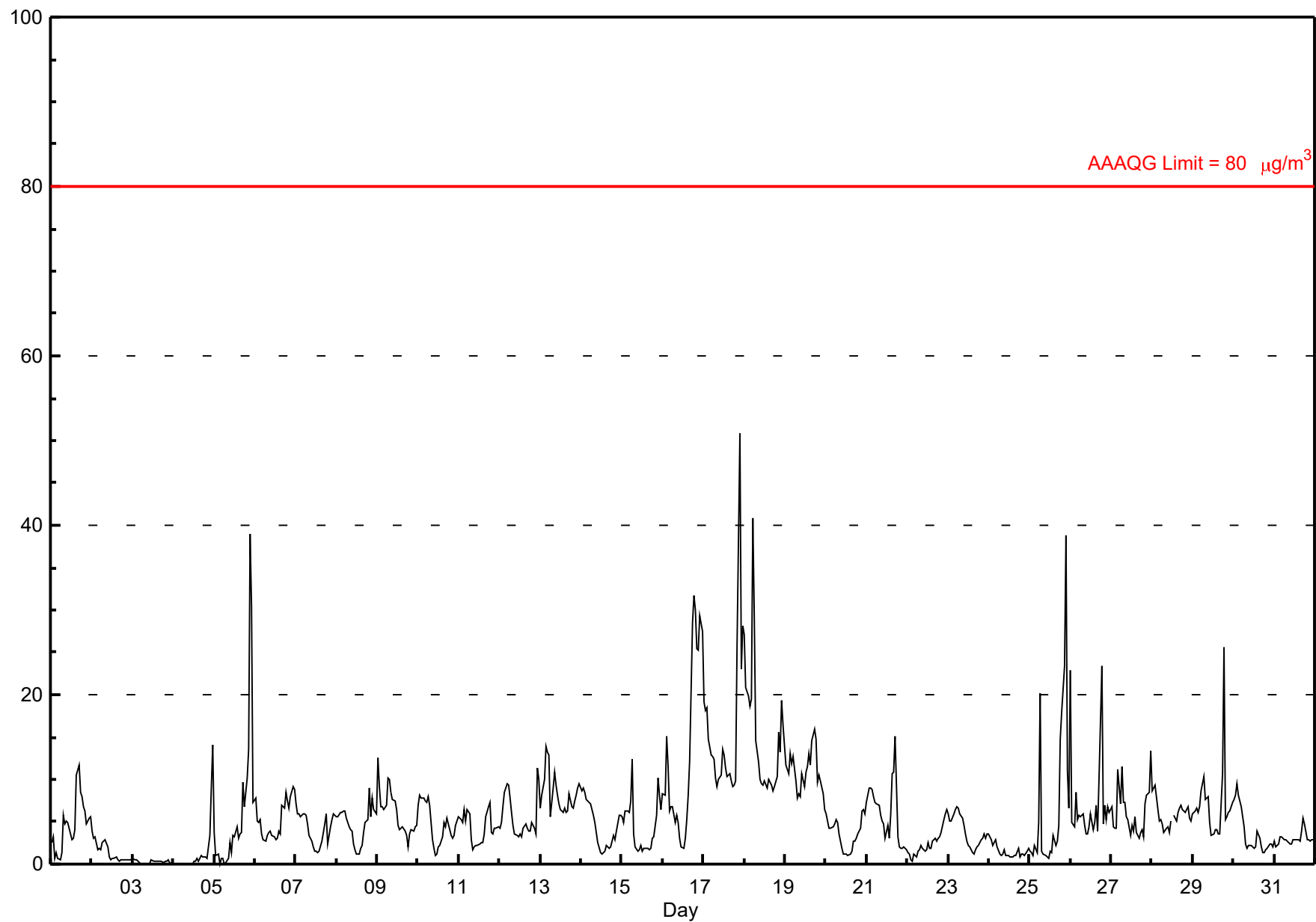
Particulate Matter 2.5 (PM_{2.5}) - µg/m³

Smoky Heights - July 2016

Number of Exceedences: 1-hr: 0 24-hr: 0 Maximum Value: 50.8 µg/m³ on Jul 17 22:00 Maximum Daily Average: 15.5 µg/m³ on Jul 17																								Hours in Service: 744 Hours of Data: 743 Hours of Missing Data: 1 Hours of Calibration: 0 Percent Operational Time: 99.9		
Minimum Value: 0 µg/m³ on Jul 3 07:00 Maximum Diurnal Average: 9.5 µg/m³ at hour 22 Monthly Average: 5.74 µg/m³ Minimum Daily Average: 0.3 µg/m³ on Jul 3 Minimum Diurnal Average: 3.3 µg/m³ at hour 14 Percentiles: P ₁ = 0.0 P ₁₀ = 0.9 Q ₁ = 2.2 Median = 4.5 Q ₃ = 7.2 P ₉₀ = 10.8 P ₉₉ = 29.4																										
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	3	3	1	1	1	1	1	6	5	5	5	4	3	3	4	11	12	9	8	7	6	5	5	6	4.7	11.8
2-Jul	4	3	3	2	2	2	3	3	3	2	1	0	1	1	1	1	0	0	0	0	0	0	0	0	1.4	3.9
3-Jul	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.6
4-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	1	3	9	14	1.3	14.1
5-Jul	4	1	1	0	1	1	0	0	1	2	1	3	3	4	3	4	4	10	7	10	13	39	30	7	6.3	38.9
6-Jul	8	5	5	5	4	3	3	3	4	4	3	3	3	3	4	3	7	7	8	7	7	8	9	9	5.2	9.1
7-Jul	7	6	6	6	6	6	6	5	3	3	2	2	2	1	2	3	4	5	6	2	4	5	6	6	4.2	7.2
8-Jul	6	6	6	6	6	6	5	4	4	4	2	2	1	1	2	2	4	5	5	9	6	8	6	6	4.7	9.0
9-Jul	12	9	7	7	6	7	10	10	8	8	8	6	5	4	4	4	4	3	2	4	4	4	4	5	6.1	12.5
10-Jul	7	8	8	8	7	7	8	7	3	2	1	1	2	2	3	5	4	5	5	3	3	3	5	5	4.7	8.2
11-Jul	6	5	5	6	5	6	6	3	2	2	2	2	2	3	3	4	6	7	7	4	4	4	4	4	4.2	7.3
12-Jul	4	5	7	9	9	9	8	6	5	3	3	3	3	3	4	5	4	4	4	5	4	4	11	10	5.6	11.3
13-Jul	7	8	10	14	13	13	6	9	11	9	8	7	6	6	7	6	6	8	7	7	7	8	9	10	8.4	13.9
14-Jul	9	9	8	8	7	7	7	6	5	4	2	1	1	1	2	2	2	2	3	3	3	4	6	6	4.5	9.0
15-Jul	6	5	6	6	6	7	12	4	2	2	2	2	2	2	2	2	2	2	3	3	6	10	8	6	4.5	12.3
16-Jul	8	8	15	11	6	7	7	5	6	5	3	2	2	3	5	8	12	29	32	30	25	25	29	27	13.0	31.7
17-Jul	19	18	18	15	13	13	12	10	9	10	11	14	13	11	10	11	10	9	9	10	26	51	23	28	15.5	50.8
18-Jul	27	21	20	19	20	41	29	15	12	10	9	9	10	9	10	10	9	9	9	10	16	13	19	16	15.5	40.9
19-Jul	12	11	11	13	12	13	10	8	8	8	11	9	11	12	13	12	15	16	15	10	10	10	8	7	10.9	16.0
20-Jul	6	5	4	4	4	5	5	5	4	2	1	1	1	1	1	1	3	3	3	4	4	6	6	6	3.6	6.5
21-Jul	7	9	9	9	8	7	7	7	6	5	5	3	5	3	6	11	11	15	3	2	2	2	2	2	6.0	15.1
22-Jul	1	1	0	0	1	1	2	2	2	2	2	2	3	2	2	3	3	3	3	3	4	5	6	6	2.4	6.5
23-Jul	6	5	5	6	6	7	7	6	5	5	4	3	2	2	1	1	2	2	2	3	3	4	3	4	3.9	6.8
24-Jul	3	3	2	3	3	2	1	1	1	2	1	1	1	1	1	1	1	2	1	1	1	1	2	2	1.6	3.5
25-Jul	1	1	1	2	1	5	20	2	1	1	1	1	2	1	3	2	3	5	15	18	23	39	11	7	6.9	38.8
26-Jul	23	5	4	8	5	6	6	6	5	4	4	4	6	4	5	7	4	10	23	5	7	5	7	6	7.0	23.4
27-Jul	7	4	4	4	11	7	11	7	7	6	5	3	5	4	6	4	3	4	4	3	7	8	8	13	6.1	13.5
28-Jul	9	9	9	6	5	5	5	4	4	4	4	5	M	6	5	6	7	7	6	6	6	7	5	5	5.9	9.4
29-Jul	6	6	7	6	7	9	10	8	8	8	5	3	4	4	4	4	4	11	26	5	6	6	6	7	7.0	25.6
30-Jul	8	8	9	8	7	6	4	2	2	2	2	2	2	2	4	3	2	1	1	2	2	2	2	2	3.6	9.4
31-Jul	3	2	2	3	3	3	3	3	2	2	2	3	3	3	3	3	4	5	5	3	3	3	3	3	3.0	5.4
7.3 6.2 6.3 6.3 6.0 6.8 6.9 5.0 4.4 4.0 3.5 3.3 3.4 3.3 3.9 4.4 4.8 6.4 7.2 5.8 6.9 9.5 8.3 7.6																								Diurnal Average		
27.1 20.9 19.8 18.6 19.5 40.9 29.2 14.6 12.1 10.0 10.7 13.6 12.9 11.6 13.0 11.7 14.5 28.5 31.7 29.9 25.7 50.8 30.5 28.2																								Diurnal Maximum		
M - Maintenance																										
Alberta Ambient Air Quality Guideline (AAAQG): 1-hr 80 µg/m³ Alberta Ambient Air Quality Objective (AAAQO): 24-hr 30 µg/m³																										

Hourly Averages

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Smoky Heights - July 2016



Hourly Maximums

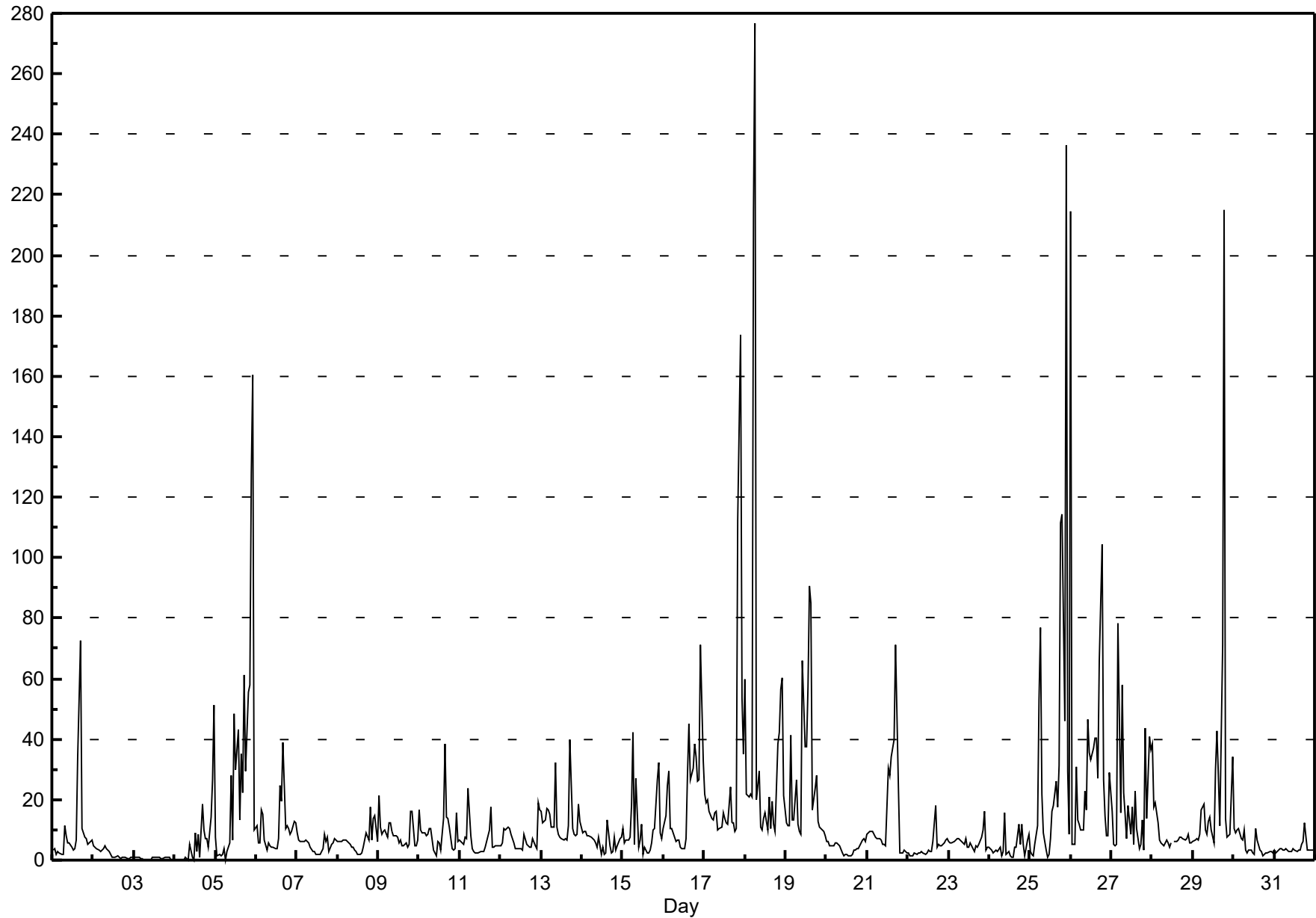
Particulate Matter 2.5 (PM_{2.5}) - µg/m³

Smoky Heights - July 2016

Maximum Value: 276.8 µg/m³ on Jul 18 07:00																								Maximum Daily Average: 43.2 µg/m³ on Jul 18										Hours in Service: 744	
Minimum Value: 0 µg/m³ on Jul 3 08:00																								Minimum Daily Average: 0.6 µg/m³ on Jul 3										Hours of Data: 743	
Maximum Diurnal Average: 26.5 µg/m³ at hour 22																								Minimum Diurnal Average: 6.7 µg/m³ at hour 10										Hours of Missing Data: 1	
Monthly Average: 13.62 µg/m³																								Percentiles: P ₁ = 0.0 P ₁₀ = 1.7 Q ₁ = 3.2 Median = 6.6 Q ₃ = 12.4 P ₉₀ = 29.4 P ₉₉ = 147.8										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	3	4	2	3	2	2	2	11	8	6	6	4	3	4	7	34	73	10	9	8	7	5	6	7	9.4	72.6									
2-Jul	5	4	4	3	3	3	4	5	4	3	2	1	1	1	1	1	0	1	1	1	0	0	1	1	2.0	4.9									
3-Jul	1	1	1	1	0	0	0	0	0	0	0	1	1	1	1	1	0	0	1	1	1	1	0	0	0.6	1.2									
4-Jul	0	0	0	0	0	0	1	0	0	5	1	0	9	3	9	1	19	10	7	7	4	14	26	51	7.0	51.3									
5-Jul	8	1	2	1	2	4	0	3	6	28	7	48	30	43	13	35	22	61	29	55	58	128	160	10	31.5	160.3									
6-Jul	11	6	6	17	15	7	3	6	5	4	4	4	4	7	25	19	39	11	11	10	9	10	13	12	10.7	39.1									
7-Jul	9	7	6	6	6	7	6	6	4	3	3	2	2	2	2	4	9	6	8	3	5	6	7	7	5.2	9.0									
8-Jul	6	6	6	7	7	7	6	5	4	4	3	3	2	2	2	4	7	9	7	17	7	14	15	6	6.5	17.3									
9-Jul	21	11	9	10	10	8	12	12	10	8	8	8	6	7	5	5	6	4	5	16	16	5	5	7	8.8	21.5									
10-Jul	17	10	9	9	8	9	10	11	3	2	1	6	6	3	14	38	14	14	11	4	3	4	16	6	9.5	38.3									
11-Jul	7	6	5	8	7	24	8	4	3	2	2	2	3	3	3	4	6	10	18	4	4	5	5	5	6.1	23.9									
12-Jul	5	6	10	10	11	10	9	7	6	4	4	4	4	3	9	5	5	4	4	7	5	4	19	17	7.1	18.8									
13-Jul	16	12	13	17	17	15	11	11	32	11	9	8	7	7	7	7	11	40	10	9	8	9	19	13	13.3	40.1									
14-Jul	9	10	9	8	8	8	7	7	6	4	8	2	4	2	2	13	5	2	3	8	3	5	7	8	6.1	13.4									
15-Jul	10	6	7	7	8	18	42	5	27	4	7	12	2	4	2	2	3	6	10	10	26	32	9	7	11.1	42.2									
16-Jul	10	15	25	30	10	10	9	6	7	7	4	4	4	7	28	45	27	30	38	34	26	26	71	33	21.1	71.3									
17-Jul	22	19	20	16	14	13	16	16	10	11	11	16	14	12	12	24	12	12	10	11	112	174	53	35	27.7	173.7									
18-Jul	60	22	21	22	21	215	277	20	30	11	10	14	16	10	21	10	20	12	10	38	42	57	60	21	43.2	276.8									
19-Jul	12	11	11	41	13	13	26	12	10	8	66	37	38	58	91	85	17	24	28	13	11	11	9	8	27.2	90.6									
20-Jul	6	6	5	5	5	6	6	5	5	2	1	2	2	1	1	2	3	3	4	4	6	7	7	6	4.1	7.1									
21-Jul	9	10	9	9	9	8	7	7	7	5	5	5	31	28	34	37	40	71	24	2	2	2	3	2	15.3	71.3									
22-Jul	2	1	1	1	2	2	2	2	3	2	2	2	3	3	3	6	18	4	5	5	5	6	7	7	3.9	18.1									
23-Jul	6	6	6	6	7	7	7	7	6	5	7	4	4	6	4	3	5	4	5	8	10	16	3	4	6.1	16.4									
24-Jul	4	3	2	3	3	3	4	1	3	16	2	3	1	1	1	4	4	12	5	12	5	1	7	9	4.6	15.6									
25-Jul	3	2	1	5	11	53	77	22	9	3	1	2	7	16	18	26	17	31	112	115	46	236	29	9	35.5	236.2									
26-Jul	215	5	5	31	13	12	10	10	23	17	47	36	33	37	41	40	27	66	104	27	15	8	8	29	35.8	214.7									
27-Jul	16	5	5	5	78	16	58	22	15	7	18	9	18	5	23	10	4	5	13	3	44	14	41	37	19.6	78.1									
28-Jul	38	17	19	12	7	6	5	5	7	6	4	6	M	6	6	7	8	8	7	7	7	9	6	6	9.0	38.3									
29-Jul	6	7	7	7	9	17	19	10	9	13	14	10	6	30	42	28	11	71	215	14	8	8	9	34	25.1	214.8									
30-Jul	10	9	10	10	7	7	10	3	2	3	3	2	2	11	7	3	3	1	2	2	2	3	3	2	5.0	10.5									
31-Jul	3	2	3	4	4	3	3	4	3	3	3	4	3	3	3	3	5	6	12	3	3	3	3	3	3.8	12.4									
17.8 7.4 7.7 10.1 10.2 16.5 21.2 7.9 8.5 6.7 8.5 8.3 8.8 10.5 14.1 16.4 14.2 17.8 23.5 14.7 16.2 26.5 20.2 13.0																								Diurnal Average											
214.7 22.0 24.9 41.3 78.1 214.7 276.8 22.2 32.5 28.1 66.0 48.4 37.7 57.6 90.6 85.0 72.6 71.3 214.8 114.5 112.4 236.2 160.3 51.3																								Diurnal Maximum											
M - Maintenance																																			

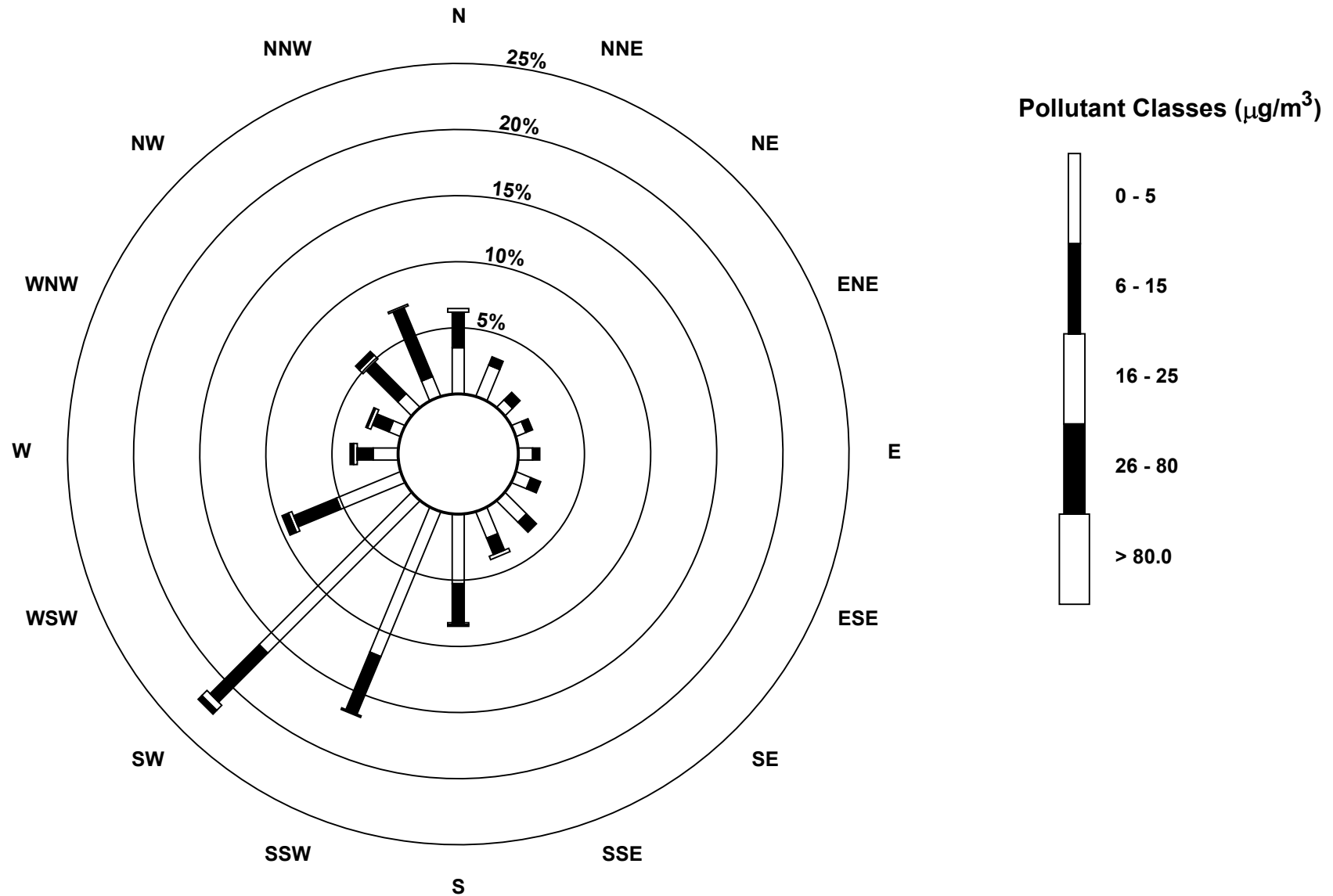
Hourly Maximums

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Smoky Heights - July 2016



Pollutant Rose

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Smoky Heights - July 2016



Hourly Averages

External Temperature (ET) - °C

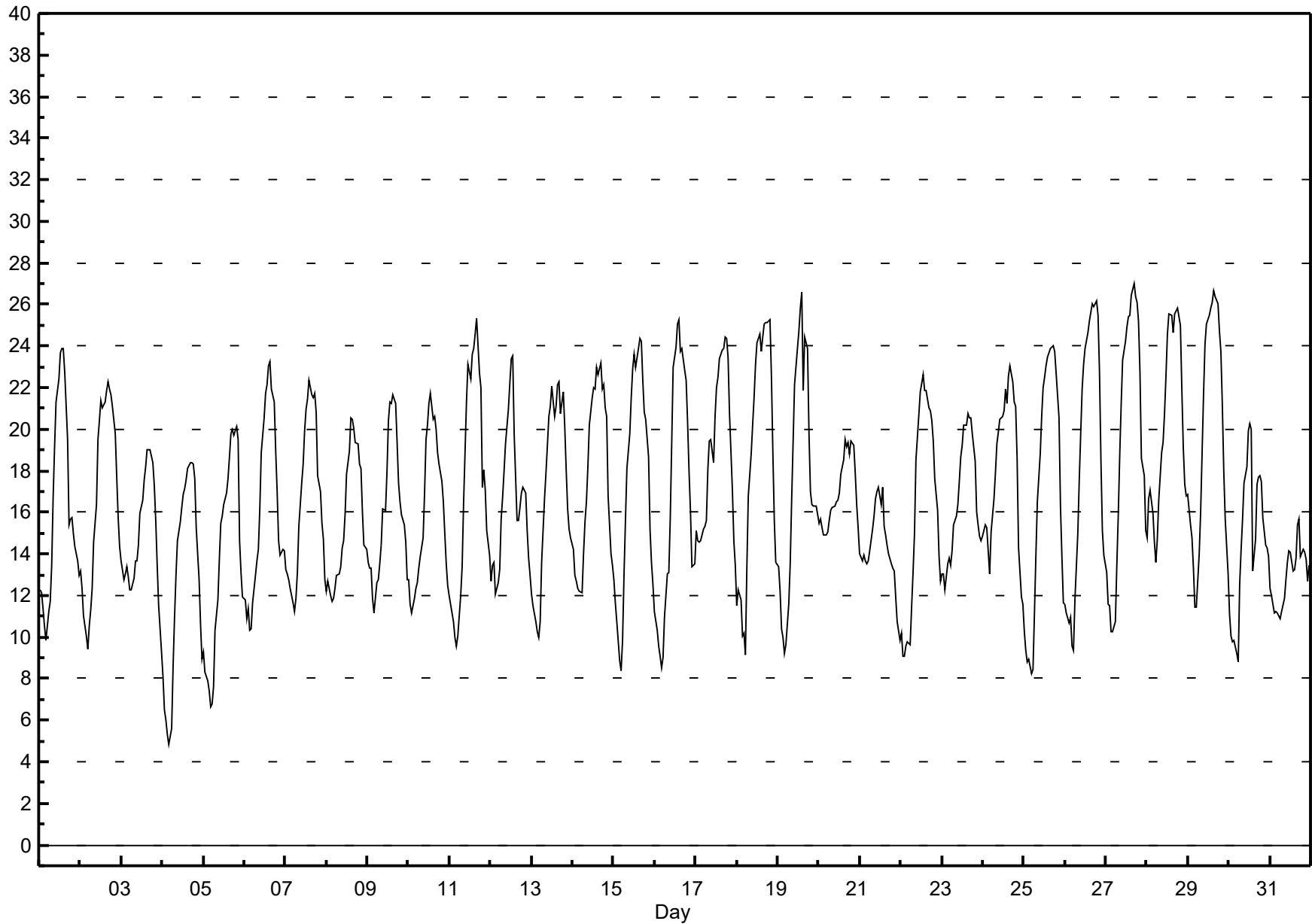
Smoky Heights - July 2016

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 27.0 °C on Jul 27 17:00 Maximum Daily Average: 20.1 °C on Jul 28																				Hours in Service: 744 Hours of Data: 744 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0						
Minimum Value: 5 °C on Jul 4 05:00 Maximum Diurnal Average: 21.7 °C at hour 17 Monthly Average: 16.68 °C										Minimum Daily Average: 12.7 °C on Jul 4 Minimum Diurnal Average: 10.9 °C at hour 5 Percentiles: P ₁ = 7.4 P ₁₀ = 10.9 Q ₁ = 13.0 Median = 16.1 Q ₃ = 20.6 P ₉₀ = 23.5 P ₉₉ = 25.9																
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	12	12	11	11	10	11	12	13	17	19	21	22	24	24	23	20	15	16	16	15	14	14	13	16.2	23.9	
2-Jul	13	12	11	10	9	11	11	12	15	16	20	20	21	21	22	22	22	22	21	20	18	16	14	16.7	22.3	
3-Jul	14	13	13	13	13	12	12	13	14	14	14	16	17	18	18	19	19	19	18	17	16	13	11	9	14.8	19.0
4-Jul	8	7	6	5	5	6	9	11	13	15	16	16	17	17	18	18	18	18	18	15	13	11	9	12.7	18.4	
5-Jul	9	8	8	7	7	7	8	10	12	14	15	16	16	17	18	19	20	20	20	20	15	13	12	13.7	20.1	
6-Jul	12	11	11	10	10	12	13	14	14	16	19	21	22	22	23	23	22	21	19	17	15	14	14	16.2	23.3	
7-Jul	13	13	13	12	12	11	12	13	15	17	18	20	21	21	22	22	21	22	21	18	17	15	15	13	16.6	22.4
8-Jul	12	13	12	12	12	12	13	13	13	14	15	16	18	19	21	20	20	19	19	18	16	14	14	15.6	20.5	
9-Jul	14	13	13	12	11	13	13	14	14	16	16	18	20	21	21	22	21	19	17	16	15	15	13	16.0	21.6	
10-Jul	13	12	11	12	12	13	13	14	15	17	20	20	21	22	20	21	20	19	18	17	17	15	14	13	16.1	21.7
11-Jul	12	11	11	10	10	10	12	13	16	19	21	23	22	24	24	25	25	23	22	17	18	17	15	14	17.3	25.3
12-Jul	13	13	14	12	13	13	16	17	18	19	21	22	23	24	20	16	16	16	17	17	17	15	14	13	16.6	23.5
13-Jul	12	12	11	10	10	11	14	17	18	19	21	21	22	21	21	22	22	21	22	20	18	16	15	15	17.1	22.3
14-Jul	14	13	13	12	12	12	14	16	16	18	20	22	22	22	23	23	23	22	22	21	21	17	14	13	17.7	23.2
15-Jul	13	12	11	9	8	10	13	16	18	20	22	23	24	23	24	24	24	22	21	20	19	15	14	13	17.3	24.4
16-Jul	11	10	10	9	9	9	11	13	13	16	19	23	24	25	25	24	24	23	22	20	18	16	13	14	16.7	25.3
17-Jul	15	15	15	15	15	15	16	18	19	20	18	21	22	23	23	24	24	24	24	23	21	17	15	13	19.0	24.4
18-Jul	12	12	12	10	10	9	13	17	19	20	22	23	24	25	24	24	25	25	25	25	23	19	16	14	18.6	25.3
19-Jul	13	12	10	10	9	10	12	14	17	19	22	24	25	26	27	22	24	24	20	17	16	16	16	16	17.5	26.6
20-Jul	15	16	15	15	15	15	16	16	16	16	17	17	17	18	19	19	19	19	19	19	19	18	16	15	17.0	19.5
21-Jul	14	14	14	14	14	14	14	15	16	17	17	17	16	17	15	15	14	14	14	13	13	12	11	10	14.3	17.2
22-Jul	10	9	9	10	10	10	11	13	15	19	21	22	22	23	22	22	21	21	20	19	18	16	14	13	16.2	22.6
23-Jul	13	13	12	13	14	13	14	15	16	16	18	19	19	20	20	21	21	21	20	18	16	15	15	15	16.6	20.8
24-Jul	15	15	15	14	13	15	17	18	19	20	20	21	21	22	21	23	23	22	21	21	19	14	12	12	18.1	23.0
25-Jul	10	9	9	9	8	8	11	14	16	19	21	22	23	23	23	24	24	24	24	23	21	16	14	12	16.9	24.0
26-Jul	12	11	11	11	10	9	12	15	18	20	22	23	24	25	25	26	26	26	26	25	23	18	15	14	18.6	26.1
27-Jul	13	12	11	10	10	11	13	16	19	21	23	24	25	25	25	26	27	26	26	25	23	19	18	15	19.4	27.0
28-Jul	15	17	17	16	15	14	15	17	19	19	21	23	25	26	25	25	26	26	26	25	22	19	17	17	20.1	25.8
29-Jul	17	15	15	13	11	11	14	16	19	22	24	25	25	26	26	27	26	26	25	24	21	18	16	13	19.8	26.6
30-Jul	11	10	10	10	9	9	13	14	16	17	18	20	20	20	13	15	17	18	18	17	16	14	14	14	14.7	20.3
31-Jul	12	12	11	11	11	11	11	11	12	13	14	14	14	13	13	14	15	16	14	14	14	14	13	13	12.9	15.7
12.7 12.1 11.8 11.2 10.9 11.2 12.8 14.4 16.0 17.7 19.2 20.4 21.2 21.6 21.5 21.5 21.7 21.1 20.5 19.6 18.1 15.9 14.3 13.2 16.9 16.6 17.0 15.9 15.2 15.4 16.7 18.1 19.4 21.7 24.1 25.1 25.5 25.8 26.6 26.6 27.0 26.4 26.1 25.5 22.8 19.1 17.8 16.8																								Diurnal Average		
																								Diurnal Maximum		

Hourly Averages

External Temperature (ET) - °C

Smoky Heights - July 2016



Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Smoky Heights - July 2016

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	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	3	2	3	5	6	6	6	6	7	6	7	7	6	6	3	7	12	11	6	4	5	5	7	6	4.6	12.3
Dir	210	192	177	197	190	179	181	134	144	140	123	119	124	118	134	241	199	193	263	117	121	114	143	159	163.0	198.7
2 Spd	4	6	6	4	6	7	7	9	8	10	10	10	10	13	11	15	13	13	13	11	8	4	2	5	7.3	14.7
Dir	206	221	217	182	170	182	182	171	176	128	199	208	155	183	185	159	153	144	123	121	115	82	137	135	162.9	158.7
3 Spd	3	3	7	16	6	8	13	11	14	19	25	33	29	29	27	26	25	26	25	23	20	22	19	13	18.2	32.8
Dir	164	242	207	225	234	175	200	205	203	211	224	228	223	221	221	223	224	225	222	224	214	219	213	209	218.6	228.2
4 Spd	11	11	9	7	7	5	7	12	18	20	20	20	19	19	16	19	18	20	16	12	9	9	10	11	13.2	20.3
Dir	227	226	205	214	219	200	177	198	208	208	199	190	201	209	206	221	219	223	222	223	226	226	237	226	212.3	208.3
5 Spd	15	16	17	17	16	16	12	15	18	16	12	12	12	11	11	11	10	9	6	2	1	7	9	8	11.1	17.8
Dir	221	233	220	219	219	203	189	205	205	201	197	199	200	215	209	223	212	237	229	335	285	237	245	233	214.9	204.6
6 Spd	9	10	7	1	3	5	9	12	14	15	9	11	16	19	18	18	16	1	11	18	15	5	8	5	9.3	18.8
Dir	229	227	229	170	176	205	209	218	219	218	219	190	209	218	216	226	254	328	211	234	221	45	273	88	220.7	218.4
7 Spd	15	8	5	4	3	3	6	2	4	2	6	6	6	5	4	10	10	10	11	6	7	4	1	3	1.8	15.1
Dir	200	219	170	191	240	204	229	224	200	132	68	67	77	78	86	31	43	31	37	78	53	100	19	241	89.2	200.5
8 Spd	5	3	4	3	2	2	2	2	4	12	12	8	6	7	1	2	6	7	6	9	6	5	6	8	3.1	12.1
Dir	238	336	356	353	316	317	51	26	209	237	244	254	296	316	226	27	352	20	16	357	9	345	336	326	316.5	243.9
9 Spd	7	7	6	4	5	7	7	8	8	7	6	5	7	6	6	5	6	12	12	7	10	4	2	7	3.0	12.3
Dir	331	328	326	344	356	332	311	333	335	345	345	342	349	347	319	355	32	135	162	204	241	10	150	219	328.0	134.7
10 Spd	3	3	2	4	4	4	5	6	8	10	8	9	8	9	14	13	9	10	8	9	10	8	9	7	6.6	14.0
Dir	258	201	276	171	219	203	177	187	194	197	187	199	179	234	248	233	199	135	194	210	222	165	216	222	205.1	248.1
11 Spd	8	7	6	7	6	5	6	5	4	6	7	6	3	7	8	6	4	6	5	9	3	3	6	3	2.3	8.8
Dir	231	209	189	161	172	181	158	130	119	119	140	162	233	277	279	293	333	255	280	73	324	307	253	268	209.2	72.8
12 Spd	4	8	4	1	2	5	8	10	9	8	8	8	7	8	12	18	12	5	0	2	2	6	7	3	3.3	18.0
Dir	224	252	286	183	335	342	319	328	336	346	356	352	9	15	300	205	236	203	19	318	217	212	228	205	291.6	204.6
13 Spd	3	4	2	1	1	0	2	6	6	5	7	9	8	8	6	9	9	6	6	6	5	5	6	7	4.6	9.3
Dir	220	244	233	206	152	31	65	327	332	325	329	303	328	343	316	344	345	336	355	344	330	326	317	324	327.3	344.0
14 Spd	7	6	7	6	7	5	6	8	8	7	7	8	9	6	7	7	9	10	8	8	4	4	3	4	6.3	10.0
Dir	323	334	327	330	327	339	338	358	8	9	3	28	31	11	18	9	347	34	6	29	13	356	343	326	359.5	34.1
15 Spd	5	4	4	1	4	4	1	2	3	4	5	6	7	6	6	7	5	3	12	9	6	10	11	6	1.1	12.0
Dir	325	353	359	108	248	274	194	96	39	16	353	342	350	356	357	3	14	84	161	146	180	233	241	242	315.2	161.1
16 Spd	4	4	4	4	5	8	6	7	7	8	8	10	9	7	11	22	15	16	9	11	3	4	5	9	3.9	22.2
Dir	160	216	206	163	207	175	160	155	139	137	141	159	225	245	237	245	261	321	314	326	345	356	275	260	231.6	245.4
17 Spd	8	6	8	7	6	5	3	2	3	2	5	4	3	3	2	3	3	3	2	5	4	4	5	3	1.7	8.4
Dir	302	313	297	314	309	321	242	317	14	36	35	98	166	235	305	285	336	9	43	134	171	210	235	215	302.7	302.0
18 Spd	4	3	1	2	2	1	3	0	2	4	5	6	5	4	6	1	4	4	5	3	4	1	2	3	0.8	5.7
Dir	233	190	274	11	320	235	257	290	66	90	101	108	122	111	78	16	4	0	356	356	321	329	268	165	56.7	107.6
19 Spd	3	5	5	6	6	8	7	8	9	9	10	11	14	15	18	13	9	12	14	7	8	6	10	10	6.9	18.1
Dir	170	229	190	185	188	177	162	136	143	139	171	195	211	210	214	250	212	227	235	305	126	194	254	293	204.4	213.9
20 Spd	1	9	10	7	6	10	10	8	9	11	13	12	13	9	12	14	20	17	15	16	27	24	18	19	11.9	26.8
Dir	131	232	204	198	212	200	212	210	202	202	205	252	306	280	233	214	208	206	207	199	217	213	204	207	215.1	216.9
21 Spd	15	18	17	14	14	19	17	18	15	11	9	9	7	6	4	5	9	6	1	7	5	6	6	7	6.9	19.1
Dir	211	202	209	229	221	228	228	232	234	225	243	318	1	17	7	352	1	353	351	160	197	225	231	222	231.9	227.8
22 Spd	5	6	8	8	6	7	8	11	9	14	25	30	33	31	31	34	25	24	20	14	11	8	11	12	15.7	33.5
Dir	188	185	215	198	200	189	168	190	205	196	207	218	231	214	218	237	232	229	233	229	213	222	221	214	217.6	237.3

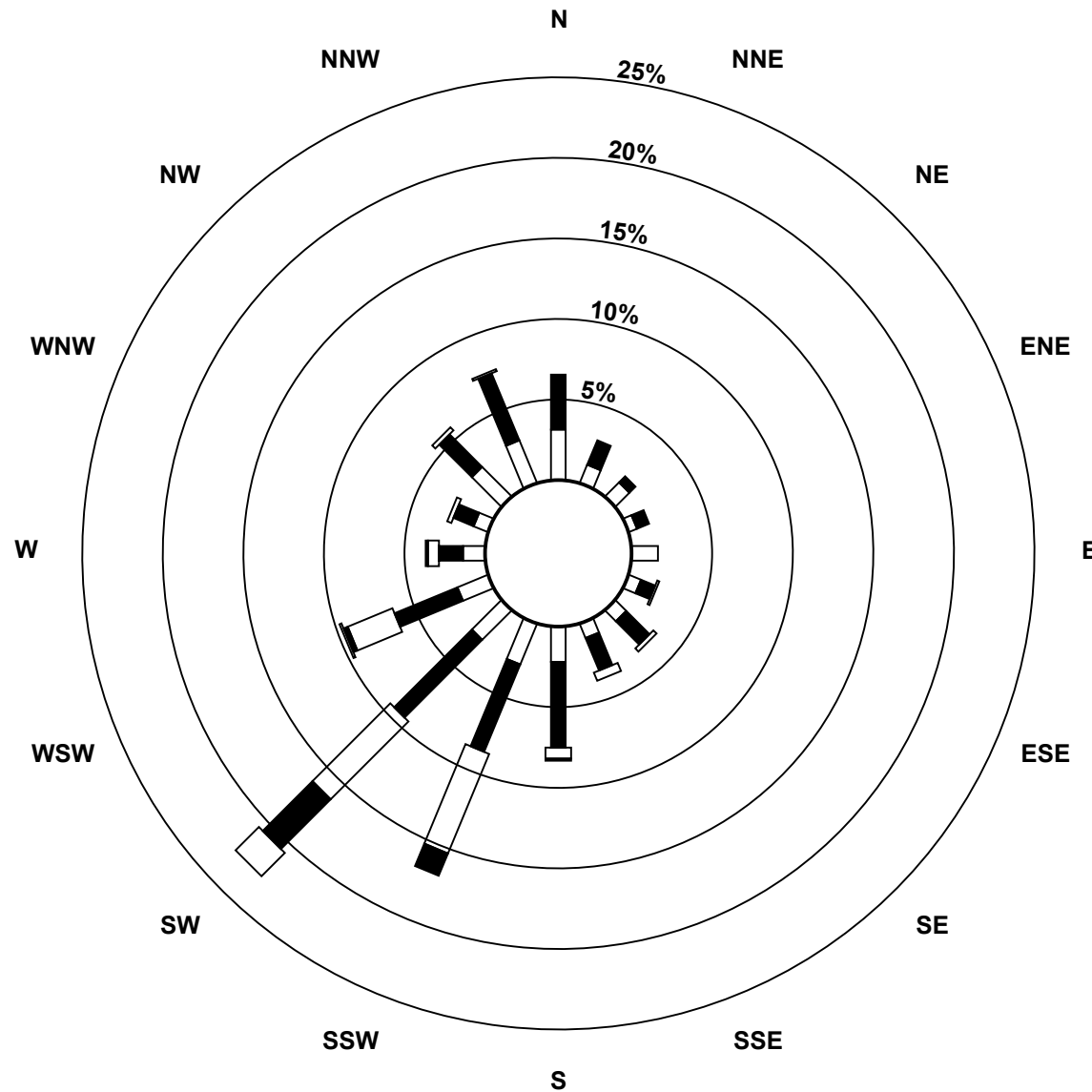
Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Smoky Heights - July 2016

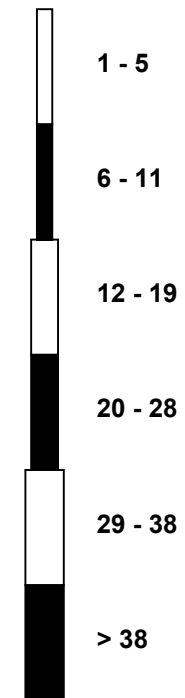
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
23 Spd	12	12	10	12	13	11	14	20	22	27	31	33	30	28	26	29	28	29	24	25	13	15	15	18	20.4	33.3
Dir	220	216	234	214	209	201	205	209	215	216	224	227	227	227	224	222	221	223	222	220	215	201	192	188	217.8	227.3
24 Spd	19	20	19	17	9	24	22	26	27	30	30	29	27	24	24	26	27	27	22	21	15	11	12	5	20.9	30.0
Dir	206	211	206	195	186	213	212	213	217	233	221	225	225	225	229	219	235	239	218	232	221	213	222	267	220.5	221.3
25 Spd	7	10	5	4	6	5	8	7	10	10	10	15	19	17	14	16	13	12	11	7	3	2	4	4	8.1	18.9
Dir	246	238	236	190	177	180	166	175	192	192	188	203	235	207	219	234	250	242	236	245	226	288	283	244	219.1	234.5
26 Spd	7	10	11	13	11	9	7	8	12	14	17	22	20	17	12	14	11	9	7	5	7	4	3	3	8.9	21.8
Dir	230	235	227	238	229	177	173	158	180	200	212	224	233	236	242	244	245	245	246	267	321	331	310	306	228.0	224.4
27 Spd	5	6	5	7	8	8	7	8	9	7	6	10	13	12	7	8	6	8	6	6	4	4	3	3	4.1	13.0
Dir	255	248	213	189	184	214	171	193	201	211	188	182	207	204	248	276	335	324	335	10	351	323	321	242	226.1	207.1
28 Spd	4	2	4	1	3	1	4	2	4	5	4	4	4	2	6	9	8	5	5	4	3	7	2	3	1.6	8.8
Dir	271	227	292	327	360	350	251	232	129	79	87	92	53	337	237	322	4	359	45	71	22	347	14	251	356.5	322.1
29 Spd	7	7	4	1	7	5	7	9	12	15	16	15	15	15	11	12	16	17	12	11	9	10	8	7	8.5	16.9
Dir	227	198	329	246	202	203	170	174	186	206	233	218	208	226	238	248	248	249	251	299	302	288	274	260	233.9	248.9
30 Spd	11	7	14	18	12	1	3	4	7	5	5	6	6	5	22	12	14	7	6	9	8	8	9	1	5.7	21.7
Dir	236	216	233	232	235	220	46	323	315	345	334	341	3	303	263	292	341	17	318	298	258	252	274	164	278.0	262.8
31 Spd	8	5	9	12	11	7	10	15	17	14	13	16	16	17	19	20	22	19	11	12	11	11	14	13	12.4	22.2
Dir	147	179	223	231	229	240	228	231	244	236	258	260	273	262	237	225	233	241	277	277	237	237	244	245	241.7	232.5
Spd	5.6	6.0	5.4	5.3	4.9	5.1	5.4	5.5	6.5	6.8	7.2	8.1	7.6	8.0	9.3	9.5	7.5	6.1	5.5	4.1	4.3	3.9	5.7	4.9	Diurnal Average	
Dir	225.4	227.8	227.3	216.3	217.8	208.9	201.7	205.4	207.7	207.1	213.6	219.3	228.4	229.9	233.8	238.8	242.7	235.9	231.7	235.2	227.1	233.2	237.9	230.2	Diurnal Maximum	
Spd	19.3	19.8	19.2	17.6	15.9	23.6	22.1	25.8	27.2	29.8	30.8	33.3	33.3	30.7	31.3	33.5	27.7	29.1	24.9	25.2	26.8	24.1	18.8	18.5	Diurnal Maximum	
Dir	205.5	210.5	205.6	231.7	218.7	213.0	212.1	213.4	217.2	232.6	224.1	227.3	231.2	214.4	218.1	237.3	221.1	223.5	221.7	219.8	216.9	213.0	213.0	207.1		
Maximum Speed Value: 34 km/h on Jul 22 16:00																								Hours in Service: 744		
Maximum Daily Speed Average: 20.9 km/h on Jul 24																								Hours of Data: 744		
Maximum Diurnal Speed Average: 9.5 km/h at hour 16																								Hours of Missing Data: 0		
Minimum Speed Value: 0 km/h on Jul 13 06:00																										
Minimum Daily Speed Average: 0.8 km/h on Jul 18																										
Minimum Diurnal Speed Average: 3.9 km/h at hour 22																										
Monthly Average Velocity: 6.05 km/h 224.80 deg																								Percent Operational Time: 100.0		
Speed Percentiles: P ₁ = 0.9 P ₁₀ = 2.9 Q ₁ = 5.0 Median = 7.6 Q ₃ = 12.1 P ₉₀ = 18.5 P ₉₉ = 30.6																										
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	34		50		1		0		0		0		85													
NorthEast	12		12		1		0		0		0		25													
East	13		9		0		0		0		0		22													
SouthEast	12		27		5		0		0		0		44													
South	26		75		27		2		0		0		130													
SouthWest	36		91		100		47		17		0		291													
West	23		21		16		1		0		0		61													
NorthWest	28		53		5		0		0		0		86													
Total	184		338		155		50		17		0		744													

Wind Rose

Wind Speed (WS) (km/h)
Smoky Heights - July 2016



Wind Speed Classes (km/h)



Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Smoky Heights - July 2016

Maximum Speed: 34 km/h on Jul 22 13:00																				Maximum Daily Speed Average: 21.6 km/h on Jul 24										Hours in Service: 744	
Minimum Speed: 2 km/h on Jul 18 08:00																				Minimum Daily Speed Average: 4.1 km/h on Jul 18										Hours of Data: 744	
Maximum Diurnal Speed Average: 14.0 km/h at hour 16																				Minimum Diurnal Speed Average: 7.1 km/h at hour 5										Hours of Missing Data: 0	
Monthly Average Speed: 10.06 km/h																				Percentiles: P ₁ = 2.1 P ₁₀ = 3.8 Q ₁ = 5.7 Median = 8.2 Q ₃ = 12.6 P ₉₀ = 18.8 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	3	2	4	5	6	6	6	7	7	6	7	7	6	6	3	7	18	14	7	5	5	5	7	6	6.5	18.0					
2-Jul	5	6	6	5	6	7	8	9	8	10	11	10	12	15	14	15	14	13	13	12	8	5	2	5	9.1	15.3					
3-Jul	4	3	8	17	8	9	14	12	14	19	25	33	30	30	28	27	25	26	25	23	20	22	19	14	18.9	33.1					
4-Jul	11	11	9	7	8	5	7	12	19	21	20	20	20	19	17	19	19	20	16	12	9	9	10	11	13.9	20.7					
5-Jul	15	16	17	17	16	16	12	15	18	17	13	12	12	11	11	11	10	10	6	3	2	7	9	8	11.8	18.0					
6-Jul	9	10	9	2	3	5	10	13	14	15	9	12	17	19	18	18	18	3	12	18	16	9	11	12	11.8	19.0					
7-Jul	16	10	5	4	4	3	7	3	5	3	6	6	7	7	6	11	10	10	13	7	7	4	2	4	6.7	15.6					
8-Jul	5	4	5	3	3	4	3	2	4	12	13	8	7	8	5	6	7	7	6	10	6	5	6	8	6.1	12.9					
9-Jul	7	7	6	4	5	7	7	8	9	7	6	6	8	7	7	6	6	13	12	8	11	5	3	7	7.2	13.4					
10-Jul	5	5	3	4	4	4	5	6	8	10	8	10	8	11	14	13	11	10	8	9	10	9	9	8	8.0	14.2					
11-Jul	8	7	6	7	7	6	6	5	4	6	7	7	6	8	9	7	6	8	13	10	4	7	7	4	6.8	13.3					
12-Jul	4	9	5	2	4	5	8	11	9	9	9	9	8	9	13	19	12	5	4	3	3	7	7	3	7.4	19.3					
13-Jul	3	4	4	2	2	3	3	7	6	6	8	10	9	9	7	10	9	7	6	6	6	5	6	7	6.0	9.8					
14-Jul	7	7	7	7	7	5	7	8	8	7	8	9	10	8	8	8	10	10	9	8	4	4	4	5	7.2	10.3					
15-Jul	5	5	5	2	4	4	2	3	3	5	6	7	8	8	7	7	6	9	12	9	8	10	11	7	6.4	12.5					
16-Jul	6	5	4	4	6	8	7	7	8	8	9	10	9	8	11	22	17	17	9	11	4	5	5	10	8.8	22.3					
17-Jul	9	6	8	7	7	5	4	3	4	3	5	6	5	5	6	5	4	4	3	5	4	4	6	4	5.0	8.5					
18-Jul	4	3	2	2	3	2	3	2	3	5	6	7	7	6	7	3	6	5	5	3	4	5	3	5	4.1	7.1					
19-Jul	3	6	5	6	6	8	7	8	9	10	10	12	14	15	19	13	10	12	18	10	9	6	11	10	9.9	18.8					
20-Jul	4	9	10	8	7	10	10	8	9	11	14	16	13	10	12	15	20	17	16	16	27	24	18	19	13.5	26.9					
21-Jul	15	18	17	14	14	19	18	18	15	11	10	9	7	6	5	6	9	7	3	7	7	6	6	7	10.6	19.2					
22-Jul	5	6	8	8	6	7	8	11	10	15	25	30	34	31	32	34	25	24	21	14	14	8	11	12	16.7	33.8					
23-Jul	12	13	10	12	13	11	14	20	23	27	31	34	31	29	26	29	28	29	25	25	13	15	15	18	20.9	33.6					
24-Jul	19	20	19	17	9	24	22	26	28	30	30	29	27	24	25	26	27	27	22	21	15	11	12	7	21.6	30.3					
25-Jul	7	10	5	5	6	6	9	7	11	10	10	16	19	18	15	16	14	13	11	7	3	4	4	4	9.6	19.3					
26-Jul	8	10	11	13	11	9	7	8	12	14	17	22	21	18	13	14	11	10	7	5	7	4	3	4	10.8	22.2					
27-Jul	5	6	6	8	8	8	7	8	9	8	7	11	13	13	8	9	7	8	7	6	4	4	4	4	7.4	13.3					
28-Jul	4	9	6	6	5	3	5	2	5	5	5	4	5	4	7	10	8	6	5	5	3	8	3	5	5.3	10.0					
29-Jul	9	7	5	3	7	6	7	9	13	15	16	15	16	15	13	12	17	17	12	12	9	10	8	7	10.9	17.3					
30-Jul	11	8	14	18	12	5	6	5	8	6	6	7	7	11	22	13	14	7	6	9	8	9	9	4	9.4	22.3					
31-Jul	9	5	9	12	11	7	10	15	17	14	14	17	16	17	19	20	22	19	12	15	11	11	14	13	13.7	22.3					
7.6 8.0 7.6 7.5 7.1 7.4 8.0 9.0 10.3 11.1 11.9 13.3 13.3 13.0 13.1 14.0 13.6 12.6 11.1 10.1 8.4 8.0 8.0 7.7																									Diurnal Average						
19.5 19.9 19.3 17.6 16.0 23.7 22.3 26.0 27.6 30.0 31.0 33.6 33.8 31.0 31.7 33.8 27.9 29.3 25.2 25.4 26.9 24.3 18.9 18.6																									Diurnal Maximum						
All monthly, daily, and diurnal averages have been calculated using scalar methods																															

Hourly Standard Deviations

Wind Direction (WD) - deg

Smoky Heights - July 2016

Maximum Value: 97.8 deg on Jul 28 06:00																				Hours in Service: 744					
Minimum Value: 3.3 deg on Jul 21 02:00																				Hours of Data: 744					
																				Hours of Missing Data: 0					
																				Hours of Calibration: 0					
																				Percent Operational Time: 100.0					
Percentiles: P ₁ = 3.9 P ₁₀ = 6.8 Q ₁ = 9.9 Median = 16.7 Q ₃ = 29.4 P ₉₀ = 51.0 P ₉₉ = 90.1																									
Day	Hourly Period Ending At (MST)																							Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jul	30	16	19	12	12	8	15	12	17	17	17	18	17	32	17	46	37	28	37	15	15	11	18		46.0
2-Jul	23	10	6	22	11	12	42	9	17	8	19	19	32	31	39	15	21	10	8	9	8	25	39	24	41.6
3-Jul	49	28	29	21	56	67	9	9	6	7	6	8	8	9	11	10	10	9	9	5	5	4	5	16	66.6
4-Jul	15	7	7	20	15	28	10	11	7	11	12	12	17	16	18	13	12	10	10	10	4	9	7	10	28.4
5-Jul	8	4	7	7	6	8	7	10	7	9	15	10	10	12	10	14	18	19	20	25	37	11	8	14	37.1
6-Jul	10	8	68	85	33	11	6	6	6	8	20	17	11	10	12	15	43	90	18	17	51	64	58	71	90.1
7-Jul	16	55	24	16	46	46	22	64	37	60	24	34	39	42	59	26	18	20	27	31	26	25	80	46	80.5
8-Jul	21	34	29	43	64	56	45	59	22	11	23	19	36	32	94	86	33	23	12	13	13	11	16	7	94.0
9-Jul	7	9	13	12	14	11	15	13	17	20	23	28	26	29	38	32	24	27	14	17	14	33	74	19	73.5
10-Jul	52	75	41	31	16	8	10	9	12	12	19	20	26	30	10	14	34	13	19	5	11	33	15	19	74.7
11-Jul	16	11	21	24	19	15	16	14	19	17	19	38	66	31	28	26	45	44	67	56	63	86	23	41	86.4
12-Jul	16	24	42	81	62	16	9	11	12	18	24	25	25	31	35	22	12	20	80	45	54	30	20	15	81.2
13-Jul	24	22	92	40	71	86	51	14	21	31	24	20	27	28	32	18	17	27	18	18	17	9	6	5	92.2
14-Jul	8	9	6	6	5	11	11	13	12	17	22	25	31	34	27	25	23	13	19	8	8	10	38	10	37.8
15-Jul	10	24	46	84	44	17	76	29	30	24	29	34	32	42	27	29	28	59	16	11	35	8	7	37	83.6
16-Jul	47	37	23	21	21	7	16	20	8	10	11	17	26	53	17	5	26	18	12	10	47	30	32	17	52.9
17-Jul	10	14	7	7	7	14	47	57	34	29	21	40	67	75	86	72	60	46	39	17	19	12	31	18	86.2
18-Jul	35	32	62	35	43	53	25	90	60	46	40	42	57	62	51	75	50	43	15	22	10	90	81	48	90.4
19-Jul	24	13	16	24	19	18	8	11	11	16	15	20	15	12	15	15	24	10	48	56	29	26	23	13	56.5
20-Jul	87	17	14	9	28	8	4	6	8	10	8	45	11	20	10	9	6	7	6	5	4	7	4	4	87.0
21-Jul	4	3	5	9	6	5	4	3	4	7	19	14	18	28	43	22	18	22	76	23	40	9	9	8	75.8
22-Jul	12	15	5	17	8	7	11	13	13	12	8	8	10	8	9	7	9	8	19	6	34	12	16	15	34.2
23-Jul	8	15	10	15	4	5	4	9	14	5	8	7	9	10	8	8	7	7	7	5	7	7	10	6	15.5
24-Jul	9	5	6	7	11	5	8	7	9	7	9	9	7	11	10	6	8	11	8	6	8	7	13	44	43.6
25-Jul	11	8	37	39	9	23	26	16	12	15	17	12	12	17	18	15	17	17	6	6	22	71	14	53	70.8
26-Jul	14	8	13	4	10	5	16	17	11	9	13	10	15	13	26	16	19	11	12	11	8	18	15	54	53.8
27-Jul	31	7	21	27	24	16	25	11	11	27	22	21	13	22	36	33	28	18	22	11	22	7	38	49	49.3
28-Jul	16	89	60	81	59	98	21	69	18	22	31	39	48	73	34	29	17	22	19	12	30	28	63	93	97.8
29-Jul	33	23	50	73	10	27	15	12	11	9	13	15	16	17	25	19	9	11	10	20	13	5	13	11	73.4
30-Jul	9	17	5	4	21	91	56	51	16	39	40	37	39	63	14	22	18	24	21	19	12	9	10	97	97.2
31-Jul	48	44	11	8	9	23	10	6	10	18	13	13	10	10	5	4	6	10	25	27	7	8	8	11	48.0
87.0 89.3 92.2 85.0 70.9 97.8 75.8 90.4 59.7 60.2 40.4 45.2 67.2 75.2 94.0 86.0 60.4 90.1 80.1 56.5 62.8 89.7 80.9 97.2																									

PAZA
Beaverlodge Station
Monthly Summary Tables, Graphs and
Roses

Hourly Averages

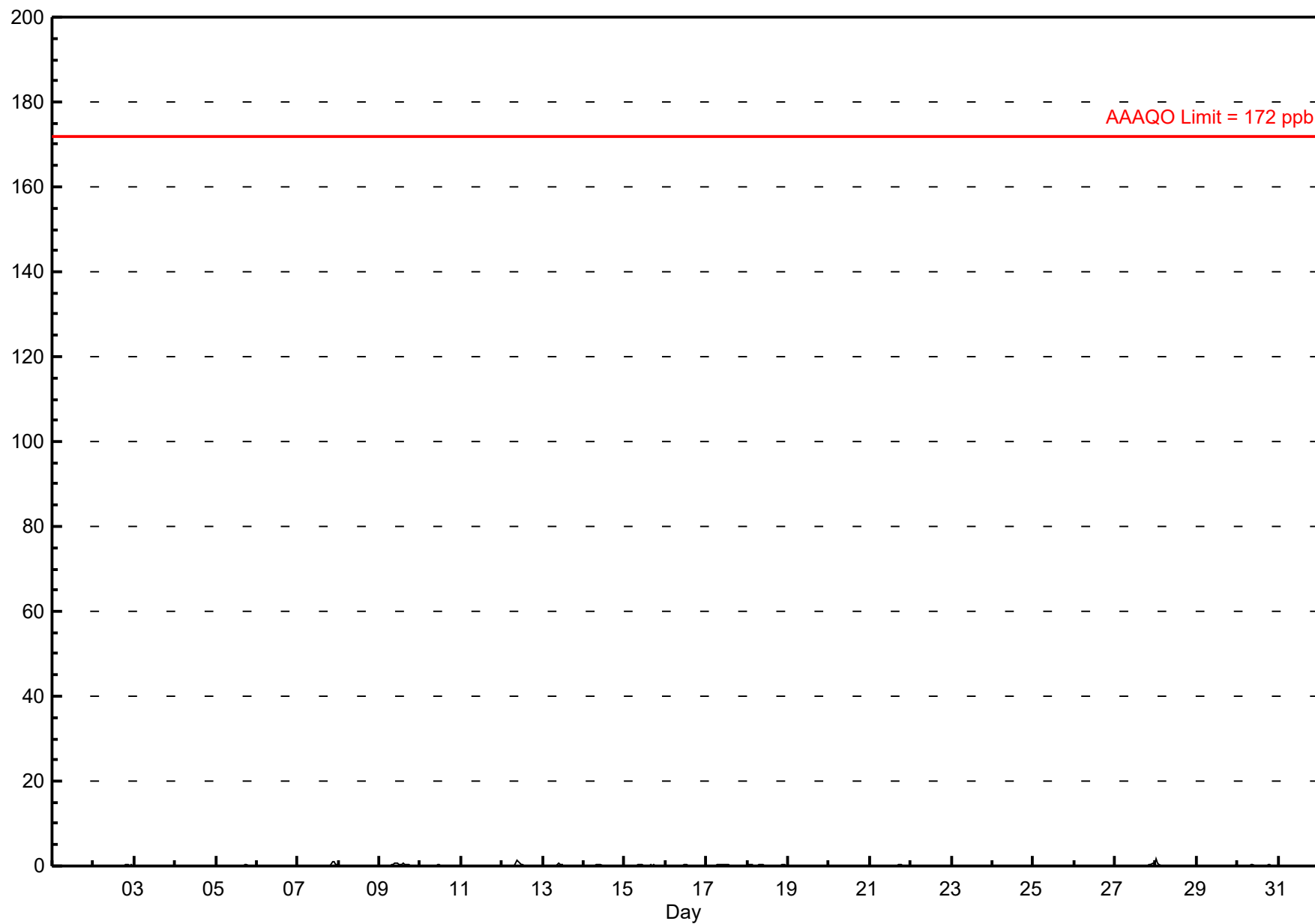
Sulphur Dioxide (SO₂) - ppb

Beaverlodge - July 2016

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 1.6 ppb on Jul 28 01:00 Maximum Daily Average: 0.2 ppb on Jul 9																				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 4 02:00 Maximum Diurnal Average: 0.2 ppb at hour 10 Monthly Average: 0.08 ppb										Minimum Daily Average: 0.0 ppb on Jul 23 Minimum Diurnal Average: 0.0 ppb at hour 4 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 = 0.6																
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jul	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1
2-Jul	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
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	0.0	0.1
4-Jul	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
5-Jul	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	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	0.0	0.1
7-Jul	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0.1	1.0
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	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0.2	0.8
10-Jul	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
11-Jul	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1
12-Jul	0	0	0	0	A	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.3
13-Jul	0	0	0	0	A	0	0	0	0	1	0	0	0	C	C	C	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	0.2
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	0.5
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	0.1
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	0.0	0.1
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	0.3
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	0.0	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	0.0	0.0
24-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
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	0.0	0.0
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	0.0	0.1
27-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	0.1	0.5
28-Jul	2	1	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	1.6
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	0.4
31-Jul	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
0.1 0.1 0.1 0.0 -- 0.0 0.1 0.1 0.1 0.2 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1																									Diurnal Average	
1.6 0.6 0.3 0.2 -- 0.1 0.4 0.4 0.5 1.3 0.8 0.5 0.3 0.4 0.5 0.3 0.2 0.2 0.3 0.3 1.0 1.0 0.5 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
Beaverlodge - July 2016



Hourly Maximums

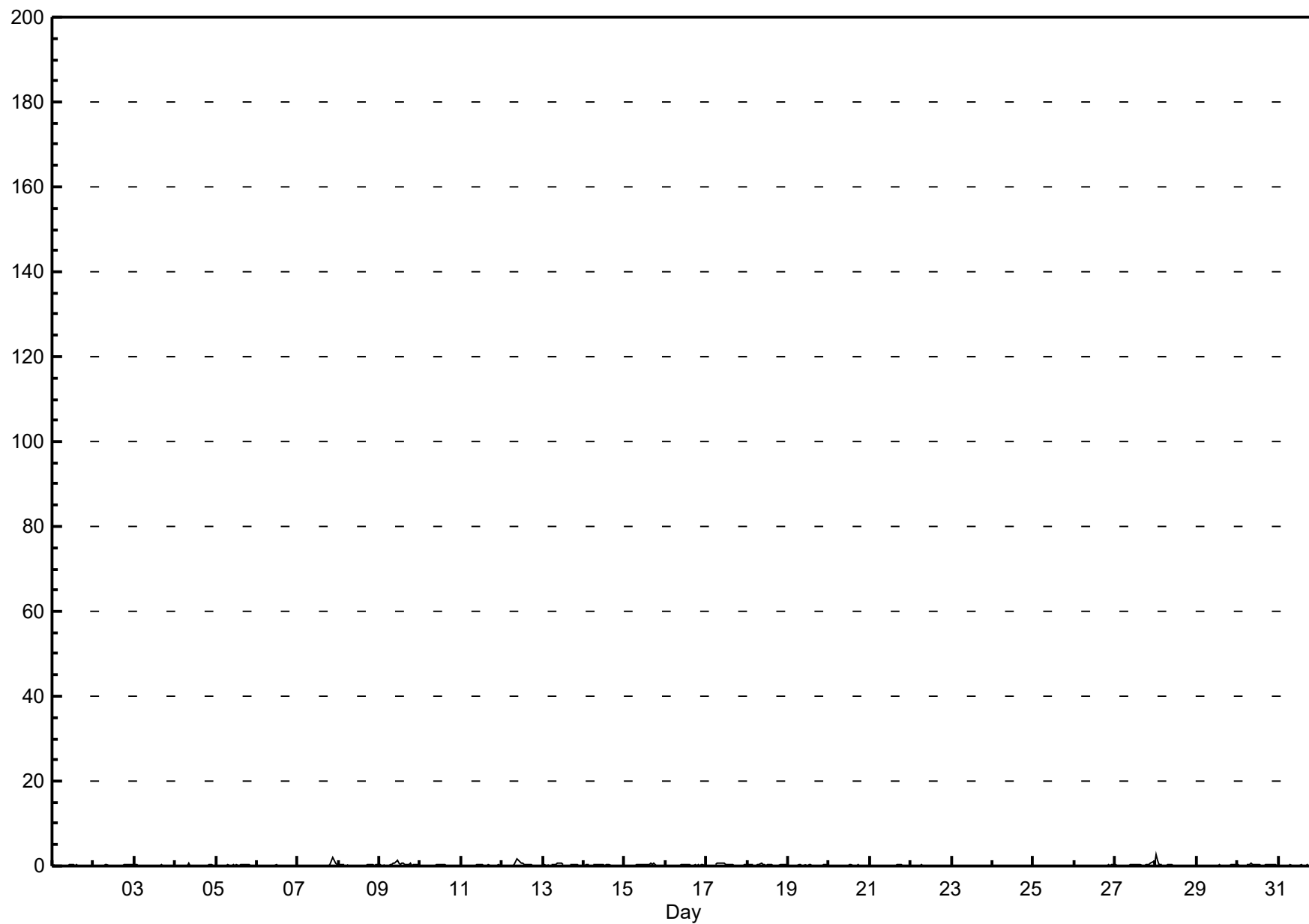
Sulphur Dioxide (SO₂) - ppb

Beaverlodge - July 2016

Maximum Value: 2.8 ppb on Jul 28 01:00																			Maximum Daily Average: 0.4 ppb on Jul 9							Hours in Service: 744		
Minimum Value: 0 ppb on Jul 27 09:00																			Minimum Daily Average: 0.1 ppb on Jul 23							Hours of Data: 710		
Maximum Diurnal Average: 0.3 ppb at hour 10																			Minimum Diurnal Average: 0.1 ppb at hour 4							Hours of Missing Data: 34		
Monthly Average: 0.19 ppb																			Percentiles: P ₁ = 0.1 P ₁₀ = 0.1 Q ₁ = 0.1 Median = 0.1 Q ₃ = 0.2 P ₉₀ = 0.3 P ₉₉ = 0.7							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	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	0.2	0.5		
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	0.4		
4-Jul	0	0	0	0	A	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.8		
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	0.3		
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	0.2		
7-Jul	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	1	0	0.3	2.0		
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	0.2	0.3		
9-Jul	0	0	0	0	A	0	0	0	1	1	1	1	0	1	1	0	0	0	1	0	0	0	0	0	0.4	1.2		
10-Jul	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.5		
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	1	2	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0.4	1.7		
13-Jul	0	0	0	0	A	0	0	0	1	1	1	1	0	C	C	C	0	0	0	0	0	0	0	0	0.3	0.7		
14-Jul	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4		
15-Jul	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0.2	0.8		
16-Jul	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.5		
17-Jul	0	0	0	0	A	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.6		
18-Jul	0	0	0	0	A	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0.3	0.7		
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	0.2	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	0.2		
21-Jul	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.5		
22-Jul	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2		
23-Jul	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2		
24-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		
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	0.2		
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	1	1	0	0.2	0.9		
28-Jul	3	2	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	2.8		
29-Jul	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3		
30-Jul	0	0	0	0	A	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0.2	0.6		
31-Jul	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.4		
0.2 0.2 0.1 0.1 --					0.1	0.2	0.2	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	Diurnal Average			
2.8 1.5 0.4 0.4 --					0.3	0.5	0.6	0.9	1.7	1.2	0.7	0.6	0.6	0.7	0.5	0.4	0.8	0.5	0.5	2.0	1.4	0.9	0.4	Diurnal Maximum				
C - Calibration					A - Automated Daily Zero Span																							

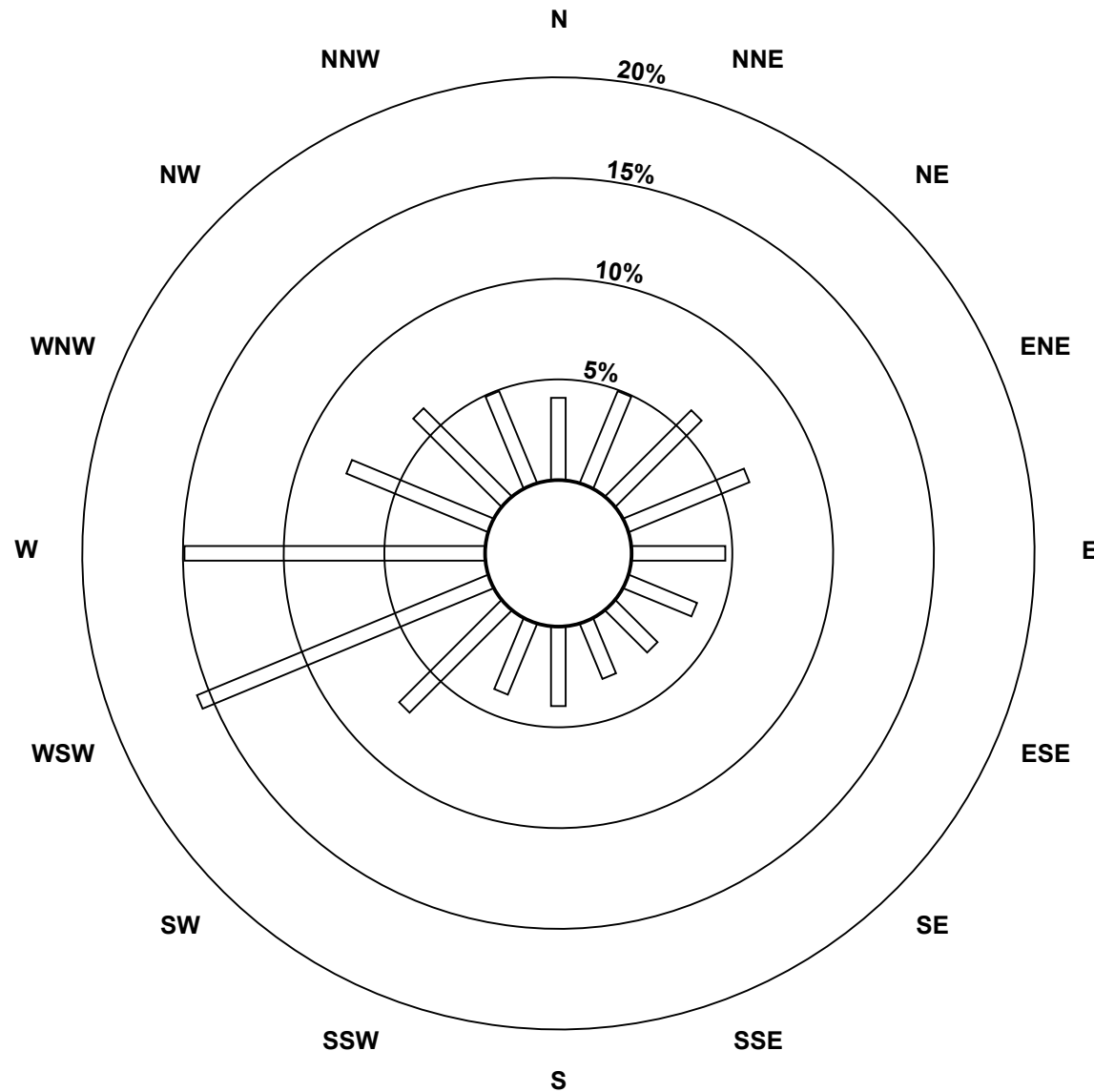
Hourly Maximums

Sulphur Dioxide (SO₂) - ppb
Beaverlodge - July 2016

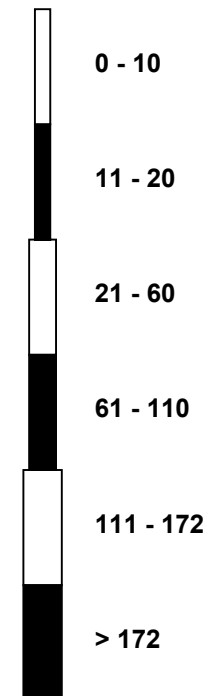


Pollutant Rose

Sulphur Dioxide (SO₂) - ppb
Beaverlodge - July 2016

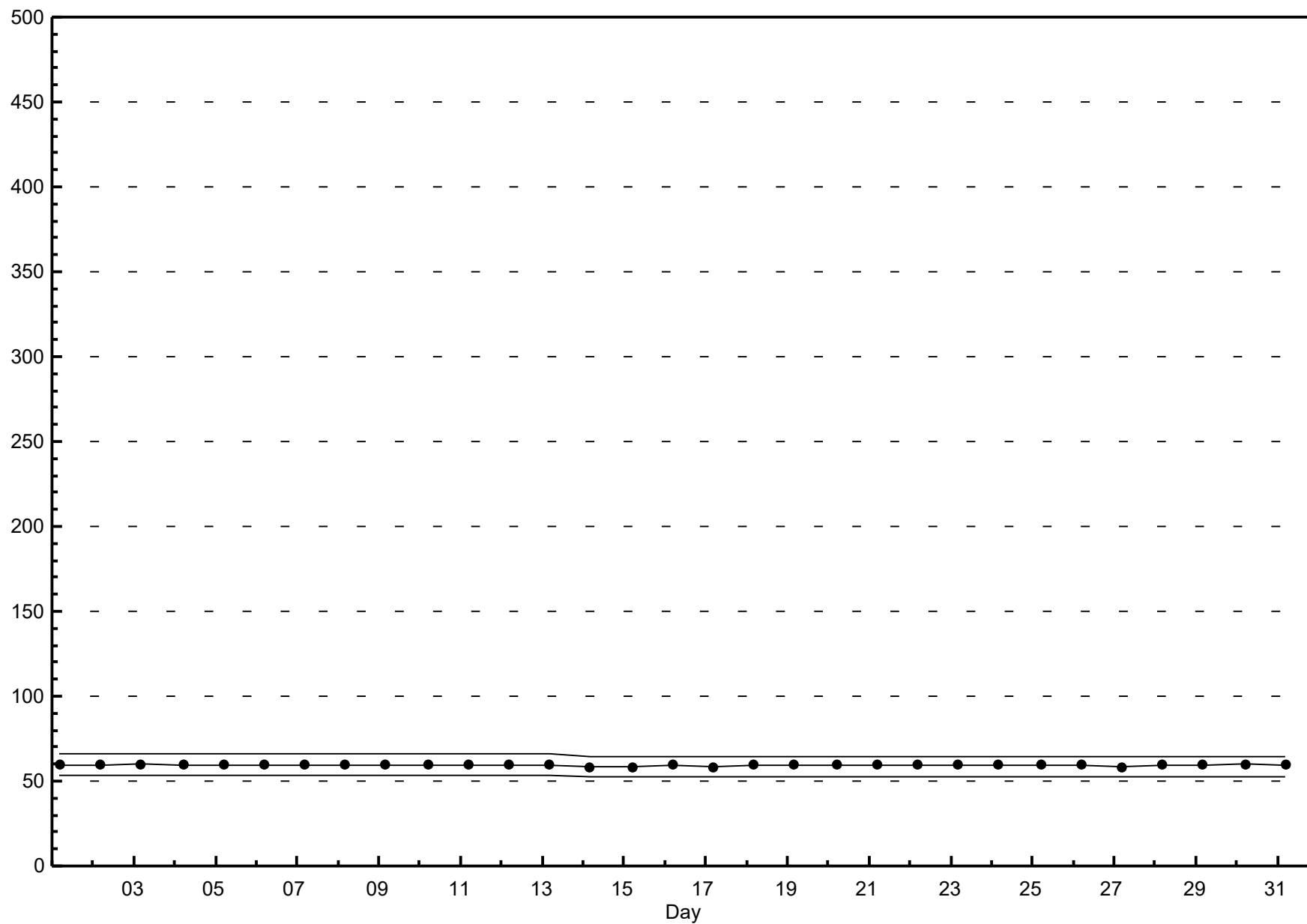


Pollutant Classes (ppb)



Span Responses

Sulphur Dioxide (SO₂)
Beaverlodge - July 2016



Hourly Averages

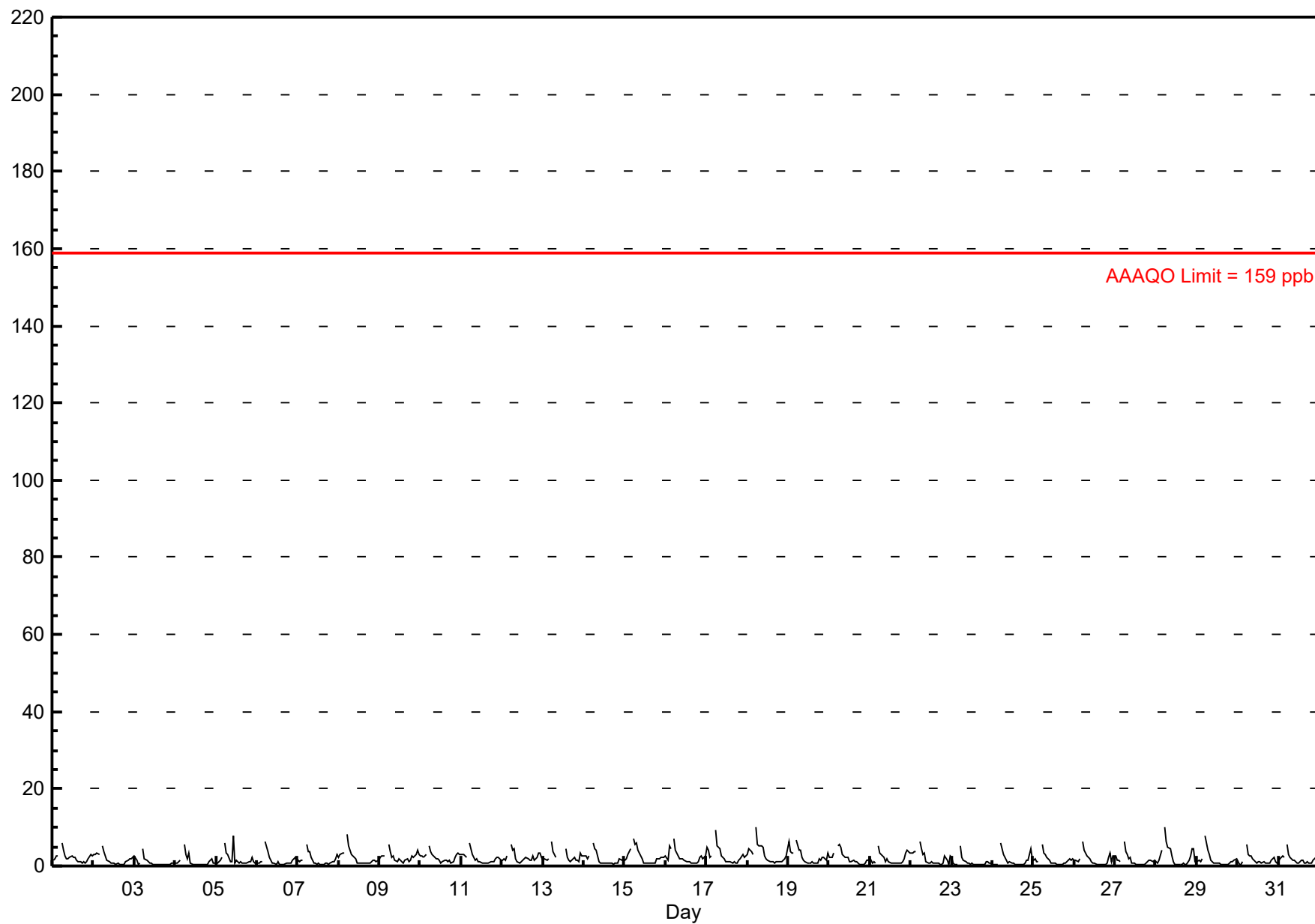
Nitrogen Dioxide (NO₂) - ppb

Beaverlodge - July 2016

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 10.1 ppb on Jul 18 06:00 Maximum Daily Average: 2.9 ppb on Jul 18																				Hours in Service: 744 Hours of Data: 708						
Minimum Value: 0 ppb on Jul 3 20:00 Minimum Daily Average: 0.9 ppb on Jul 3 Maximum Diurnal Average: 6.4 ppb at hour 6 Minimum Diurnal Average: 0.7 ppb at hour 17 Monthly Average: 1.86 ppb Percentiles: P ₁ = 0.3 P ₁₀ = 0.5 Q ₁ = 0.8 Median = 1.3 Q ₃ = 2.5 P ₉₀ = 4.0 P ₉₉ = 6.8																				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	2	2	3	3	A	6	4	3	2	2	2	3	2	2	2	1	1	1	1	1	1	2	3	3	2.1	6.1
2-Jul	3	3	3	3	A	5	4	3	2	1	1	1	1	1	1	0	0	0	0	1	2	2	2	2	1.7	5.3
3-Jul	3	2	0	1	A	4	2	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	1	1	0.9	4.4
4-Jul	1	1	1	2	A	5	3	2	3	1	1	1	0	0	0	0	0	0	0	0	1	2	1	1	1.2	5.4
5-Jul	1	1	1	2	A	6	3	3	1	1	8	1	1	1	1	1	1	1	1	1	1	2	1	1	1.8	7.8
6-Jul	1	1	1	1	A	6	4	2	1	1	1	1	1	0	0	0	0	1	1	1	1	2	2	1	1.3	6.4
7-Jul	2	1	1	1	A	6	4	4	2	1	1	1	1	0	0	0	1	1	1	1	1	1	2	3	1.5	5.7
8-Jul	2	3	3	3	A	8	5	3	3	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2.0	8.2
9-Jul	2	3	2	3	A	6	4	2	3	1	1	2	1	1	1	1	2	1	2	3	2	3	4	3	2.3	5.5
10-Jul	3	3	2	3	A	5	4	3	2	2	2	1	1	1	1	1	1	1	1	1	2	3	3	3	2.2	5.2
11-Jul	3	3	3	2	A	6	3	2	2	2	1	1	1	1	1	1	1	1	1	1	2	2	2	1	1.8	5.8
12-Jul	2	2	2	3	A	6	4	4	2	1	1	1	1	2	2	2	1	1	3	1	2	3	3	2	2.2	5.5
13-Jul	1	2	2	2	A	6	4	2	C	C	C	C	C	5	2	2	1	1	2	2	1	1	3	3	2.4	6.2
14-Jul	3	3	2	2	A	6	4	4	3	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	1.8	6.0
15-Jul	2	2	3	5	A	7	6	6	4	3	2	1	1	1	1	1	1	1	1	2	2	2	2	2	2.3	7.2
16-Jul	2	1	5	4	A	7	4	3	2	2	2	2	1	1	1	1	1	1	1	1	2	2	2	3	2.3	6.9
17-Jul	5	4	2	3	A	9	5	5	5	3	2	1	1	1	1	1	1	1	1	2	2	3	2	3	2.6	9.3
18-Jul	3	5	4	3	A	10	6	5	5	5	3	2	1	1	1	1	1	1	1	1	1	2	3	3	2.9	10.1
19-Jul	6	4	4	3	A	7	4	4	2	2	1	1	1	1	1	1	1	1	2	2	2	2	2	3	2.4	6.6
20-Jul	2	2	2	4	A	5	6	5	3	2	2	2	1	1	2	1	1	1	1	0	0	1	1	1	2.0	5.6
21-Jul	2	1	1	1	A	5	3	3	2	1	2	1	1	1	1	1	1	1	1	1	2	3	4	3	1.8	5.2
22-Jul	3	3	4	4	A	6	5	3	3	1	1	1	1	1	1	1	1	0	1	1	3	2	0	2	2.1	6.4
23-Jul	2	1	0	0	A	5	2	1	1	1	1	1	1	0	0	0	0	0	0	0	1	1	1	1	1.0	5.3
24-Jul	0	0	0	1	A	6	3	2	1	1	1	1	1	1	0	0	0	1	0	1	1	2	4	2	1.3	5.9
25-Jul	2	2	1	1	A	5	4	3	2	1	1	1	1	1	1	0	0	0	1	1	2	2	1	2	1.5	5.5
26-Jul	1	1	1	2	A	6	4	3	2	2	1	1	1	0	0	0	0	1	1	1	2	3	1	3	1.7	6.5
27-Jul	3	2	2	1	A	6	4	3	2	2	1	1	1	1	0	0	0	0	1	1	2	1	1	1	1.6	6.3
28-Jul	1	1	1	4	A	10	6	5	4	3	1	0	1	1	0	0	1	0	1	1	3	5	5	1	2.4	9.9
29-Jul	1	1	1	2	A	8	4	3	2	1	1	1	1	1	0	0	0	0	0	1	1	1	1	2	1.5	7.9
30-Jul	1	0	0	1	A	6	3	3	2	2	1	1	1	1	1	1	1	1	1	1	2	2	1	1	1.5	5.6
31-Jul	1	2	3	2	A	6	3	2	2	1	1	1	1	1	2	1	1	1	1	1	1	2	2	1	1.7	5.7
2.1 1.9 2.0 2.3 -- 6.4 3.9 3.1 2.4 1.7 1.5 1.0 0.9 0.9 0.9 0.8 0.7 0.7 0.8 1.0 1.6 2.0 2.1 1.9																									Diurnal Average	
6.3 4.6 5.2 4.6 -- 10.1 6.2 5.9 5.3 4.8 7.8 2.7 2.3 4.5 2.3 1.9 1.7 1.4 2.6 2.7 2.7 4.6 4.6 3.5																									Diurnal Maximum	
C - Calibration A - Automated Daily Zero Span																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 159 ppb 24-hr 106 ppb																										

Hourly Averages

Nitrogen Dioxide (NO₂) - ppb
Beaverlodge - July 2016



Hourly Maximums

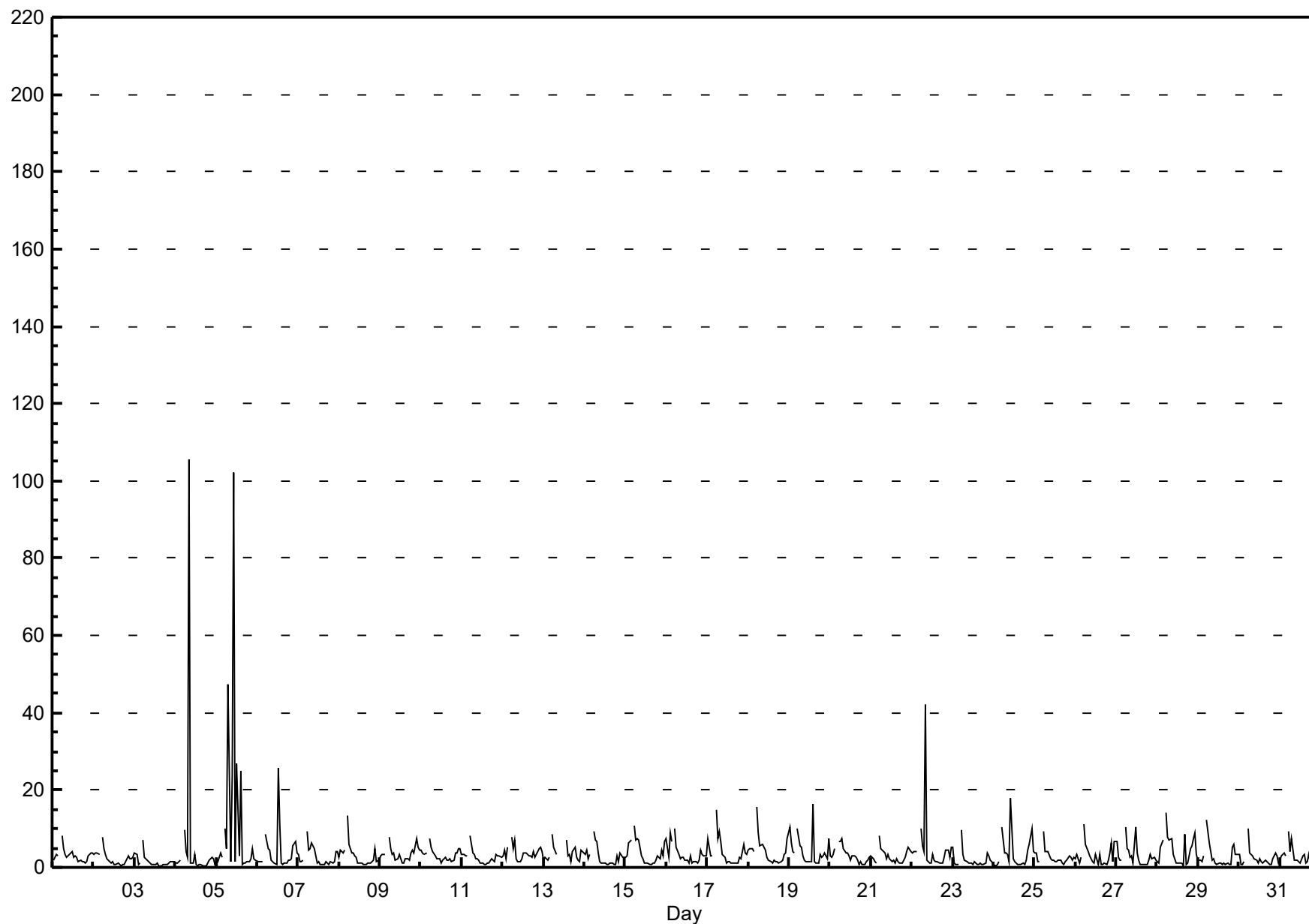
Nitrogen Dioxide (NO₂) - ppb

Beaverlodge - July 2016

Maximum Value: 105.7 ppb on Jul 4 09:00																				Maximum Daily Average: 11.8 ppb on Jul 5										Hours in Service: 744	
Minimum Value: 0 ppb on Jul 24 02:00																				Minimum Daily Average: 1.5 ppb on Jul 3										Hours of Data: 708	
Maximum Diurnal Average: 9.9 ppb at hour 6																				Minimum Diurnal Average: 1.3 ppb at hour 18										Hours of Missing Data: 36	
Monthly Average: 3.57 ppb																				Percentiles: P ₁ = 0.5 P ₁₀ = 0.9 Q ₁ = 1.3 Median = 2.3 Q ₃ = 3.9 P ₉₀ = 6.8 P ₉₉ = 24.4										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	2	2	3	3	A	8	5	3	3	3	3	4	3	3	3	2	2	1	2	1	1	3	4	4	2.9	8.2					
2-Jul	3	4	4	3	A	8	5	3	2	2	1	1	1	1	1	1	1	1	1	2	3	2	2	3	2.3	8.0					
3-Jul	4	3	1	1	A	7	3	2	1	1	1	1	1	1	0	0	0	1	1	1	1	1	1	1	1.5	7.0					
4-Jul	1	1	1	2	A	10	4	3	106	1	1	3	1	1	1	1	1	1	1	1	2	3	2	1	6.4	105.7					
5-Jul	2	1	4	3	A	10	5	47	2	23	102	1	27	3	25	1	1	1	2	2	2	5	2	2	11.8	102.3					
6-Jul	1	2	2	1	A	8	5	5	2	1	1	1	26	11	1	1	1	1	2	2	2	5	7	4	4.0	25.6					
7-Jul	3	1	2	2	A	9	4	5	6	5	3	1	2	1	1	1	1	1	1	1	2	4	4	4	2.6	9.2					
8-Jul	3	4	4	5	A	13	6	4	4	3	2	1	1	1	1	1	1	1	2	2	5	2	2	2	2.9	13.2					
9-Jul	3	3	3	3	A	8	5	3	4	2	2	3	2	1	1	2	2	2	4	4	4	7	5	4	3.5	8.0					
10-Jul	4	4	3	4	A	7	5	4	3	2	2	2	1	2	2	2	2	2	2	2	4	4	5	5	3.2	7.4					
11-Jul	3	3	3	3	A	8	4	3	2	2	2	1	1	1	1	1	1	2	2	2	3	3	3	3	2.5	8.2					
12-Jul	3	4	2	5	A	8	5	7	2	1	1	2	4	4	4	3	3	3	4	3	4	5	5	4	3.8	7.9					
13-Jul	2	3	2	3	A	9	5	3	C	C	C	C	C	7	3	3	1	4	5	3	2	2	5	4	3.6	8.5					
14-Jul	3	5	2	3	A	9	7	7	4	2	1	1	1	1	1	1	1	1	1	3	2	4	2	2	2.7	9.2					
15-Jul	3	3	6	7	A	11	7	8	7	3	2	1	1	1	1	1	1	1	2	3	2	5	3	7	3.7	10.8					
16-Jul	8	3	9	7	A	10	5	4	2	3	2	2	2	1	3	1	1	1	1	2	5	3	3	3	3.5	10.2					
17-Jul	7	5	3	3	A	15	7	9	7	3	2	1	1	1	1	1	1	1	1	2	2	6	4	3	3.9	15.0					
18-Jul	5	5	5	4	A	16	9	5	6	5	5	2	2	1	1	2	1	1	1	2	2	3	4	7	4.2	15.7					
19-Jul	10	6	4	4	A	10	6	5	3	2	2	1	1	2	16	1	1	1	3	3	3	4	2	8	4.3	16.3					
20-Jul	3	3	4	5	A	7	7	7	5	4	4	3	2	3	3	3	2	1	1	1	1	2	2	2	3.2	7.4					
21-Jul	3	2	1	1	A	8	5	4	4	2	3	2	1	2	1	2	2	1	1	2	3	4	5	4	2.8	8.2					
22-Jul	4	4	4	4	A	10	6	4	42	2	1	1	3	2	2	2	1	1	1	2	5	5	2	5	4.9	42.3					
23-Jul	5	1	1	1	A	10	3	2	2	1	1	1	1	1	1	1	1	1	1	1	4	3	2	1	2.0	9.7					
24-Jul	1	0	1	1	A	10	4	4	3	2	18	2	1	1	1	1	1	1	1	2	4	6	10	4	3.4	17.8					
25-Jul	4	4	1	1	A	9	4	4	4	2	2	2	1	1	2	2	1	1	1	2	3	3	2	3	2.6	9.2					
26-Jul	2	3	1	3	A	11	6	4	3	2	2	1	3	1	3	1	1	1	1	2	4	6	1	7	3.0	11.1					
27-Jul	7	2	2	2	A	11	5	4	3	3	1	10	4	2	1	1	1	1	1	2	3	2	3	2	3.1	10.5					
28-Jul	1	1	5	7	A	14	8	7	7	4	2	1	1	1	1	1	8	1	1	5	6	7	9	3	4.4	14.3					
29-Jul	2	2	1	3	A	12	6	4	2	2	1	1	1	1	1	1	1	1	1	5	6	3	3	3	2.7	12.3					
30-Jul	3	1	1	1	A	10	4	3	3	2	2	1	2	1	1	2	1	1	1	2	4	3	1	1	2.3	10.2					
31-Jul	2	3	4	3	A	9	4	8	2	2	2	1	1	3	3	1	1	3	2	1	2	2	3	2	2.8	9.4					
3.4 2.9 2.9 3.2 -- 9.9 5.3 6.0 8.1 3.1 5.9 2.0 3.3 2.1 2.7 1.3 1.4 1.3 1.5 1.9 2.9 3.9 3.6 3.5																									Diurnal Average						
10.4 6.3 8.9 7.2 -- 15.7 9.1 47.5 105.7 23.5 102.3 10.3 26.8 11.3 24.8 3.3 8.4 3.9 5.2 4.7 5.6 7.5 9.9 7.6																									Diurnal Maximum						
C - Calibration					A - Automated Daily Zero Span																										

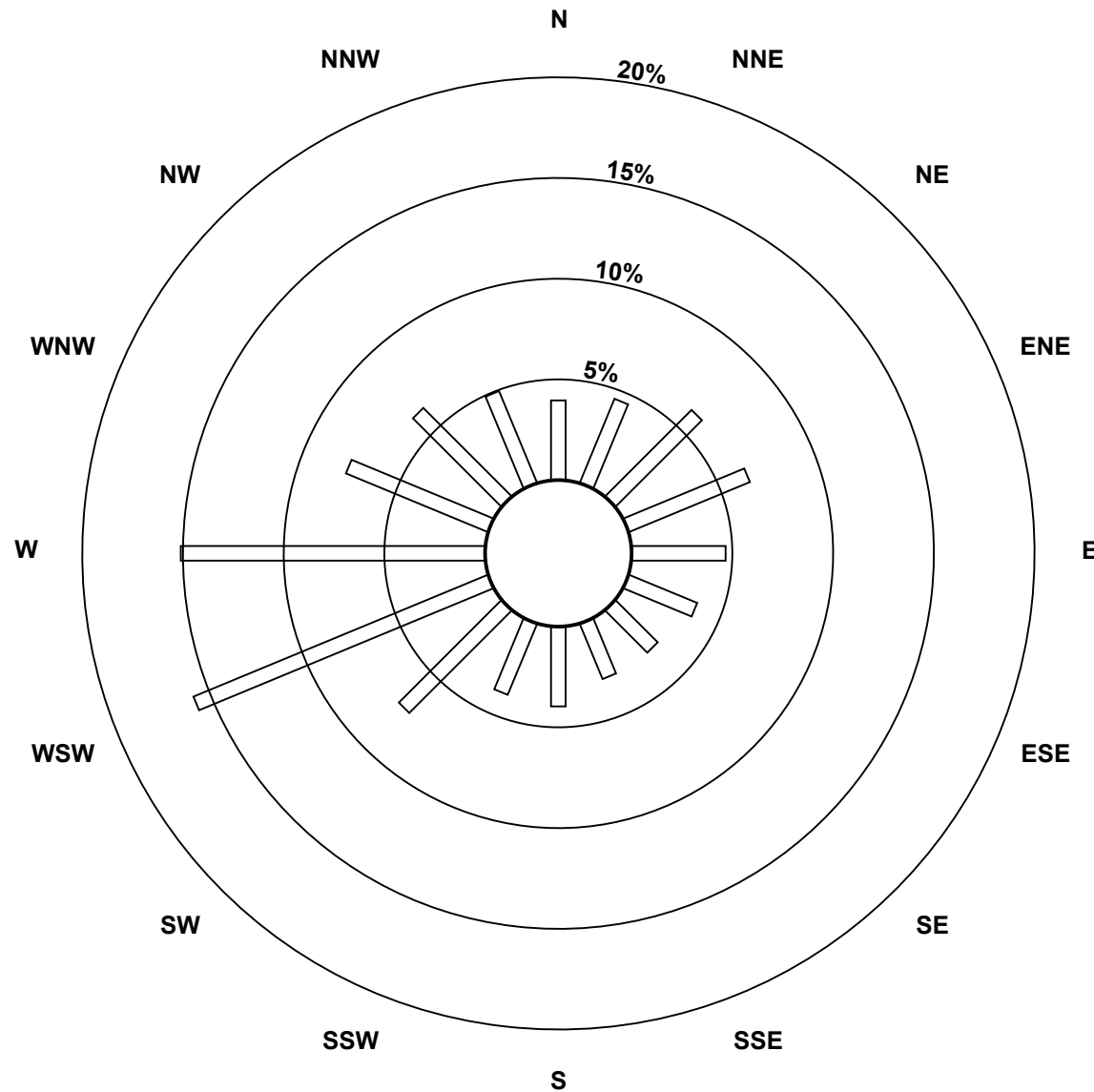
Hourly Maximums

Nitrogen Dioxide (NO₂) - ppb
Beaverlodge - July 2016

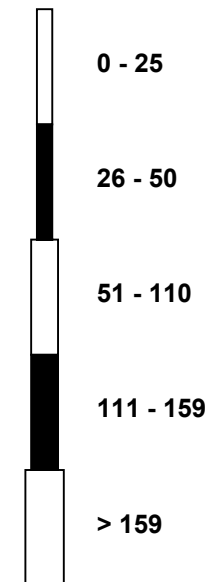


Pollutant Rose

Nitrogen Dioxide (NO₂) - ppb
Beaverlodge - July 2016

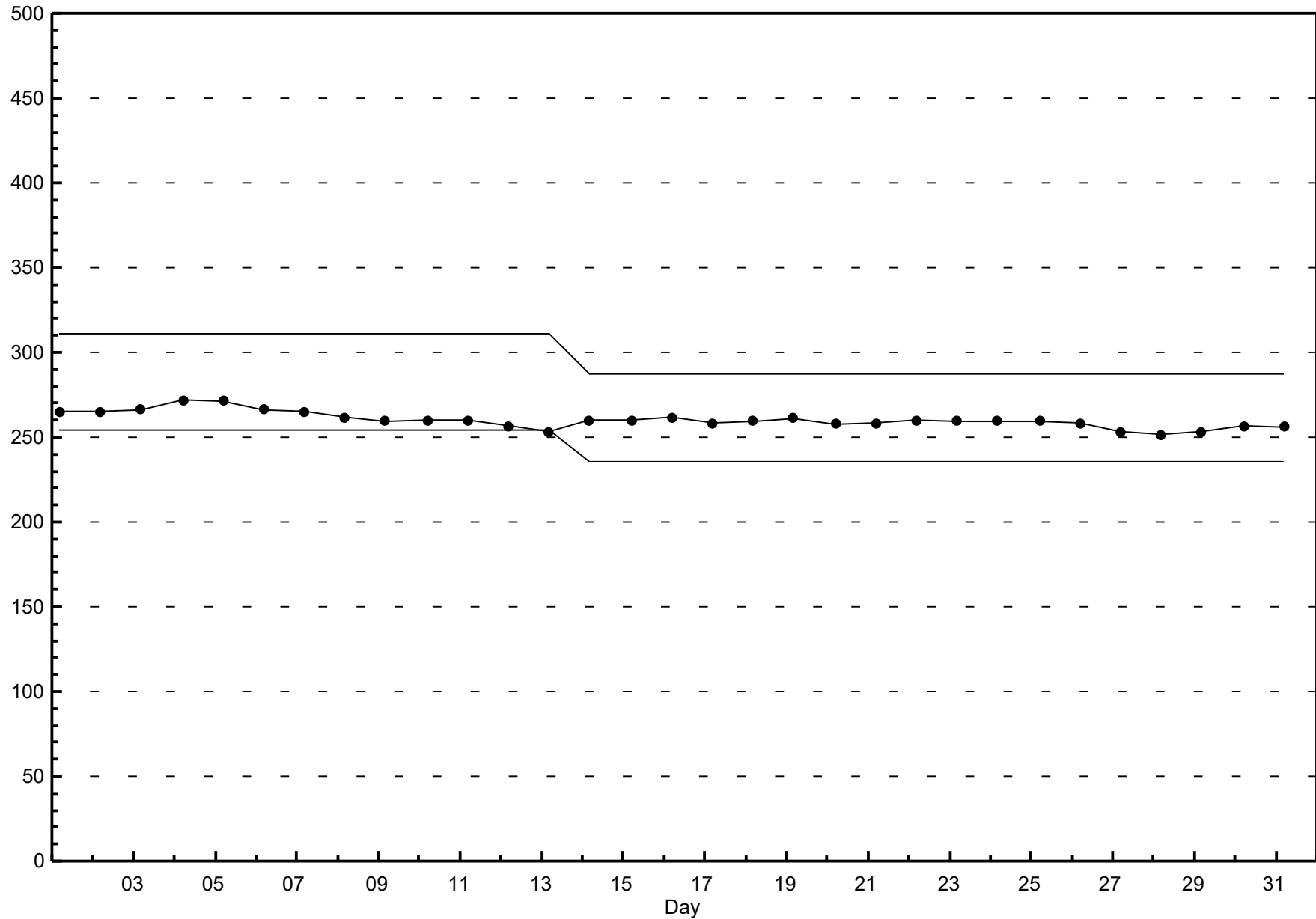


Pollutant Classes (ppb)



Span Responses

Nitrogen Dioxide (NO₂)
Beaverlodge - July 2016



Hourly Averages

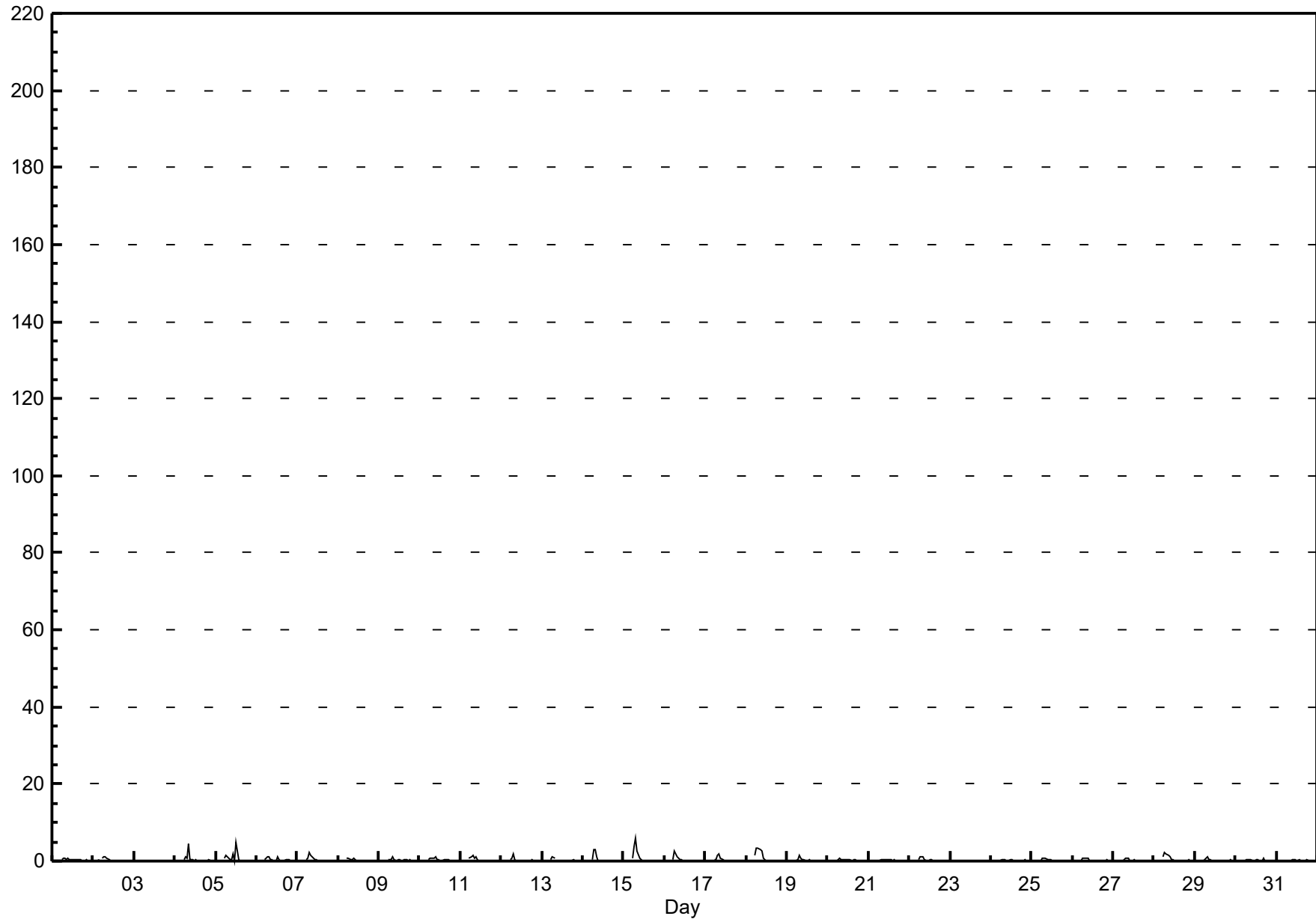
Nitrogen Oxide (NO) - ppb

Beaverlodge - July 2016

Number of Exceedences (AAAQO):																				1-hr: 0		24-hr: 0		Hours in Service: 744															
Maximum Value: 6.1 ppb on Jul 15 08:00																				Maximum Daily Average: 0.7 ppb on Jul 18										Hours of Data: 708									
Minimum Value: 0 ppb on Jul 6 00:00																				Minimum Daily Average: 0.1 ppb on Jul 23										Hours of Missing Data: 36									
Maximum Diurnal Average: 1.2 ppb at hour 8																				Minimum Diurnal Average: 0.0 ppb at hour 24										Hours of Calibration: 36									
Monthly Average: 0.28 ppb																				Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 0.1 Q ₃ = 0.2 P ₉₀ = 0.7 P ₉₉ = 3.0										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	A	0	1	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.9													
2-Jul	0	0	0	0	A	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.1													
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	1	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	4.4													
5-Jul	0	0	0	0	A	1	2	1	1	0	2	0	5	0	0	0	0	0	0	0	0	0	0	0	0.6	4.7													
6-Jul	0	0	0	0	A	1	1	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0.3	1.3													
7-Jul	0	0	0	0	A	0	1	2	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	2.3													
8-Jul	0	0	0	0	A	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.8													
9-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	1.1													
10-Jul	0	0	0	0	A	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.1													
11-Jul	0	0	0	0	A	1	1	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.6													
12-Jul	0	0	0	0	A	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.8													
13-Jul	0	0	0	0	A	0	1	1	C	C	C	C	C	0	0	0	0	0	0	0	0	0	0	0	0.2	0.9													
14-Jul	0	0	0	0	A	0	3	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	3.0													
15-Jul	0	0	0	0	A	1	4	6	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.7	6.1													
16-Jul	0	0	0	0	A	0	2	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	2.5													
17-Jul	0	0	0	0	A	1	1	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.7													
18-Jul	0	0	0	0	A	1	3	3	3	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.7	3.4													
19-Jul	0	0	0	0	A	0	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.5													
20-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	0.6													
21-Jul	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4													
22-Jul	0	0	0	0	A	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.2													
23-Jul	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2													
24-Jul	0	0	0	0	A	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.5													
25-Jul	0	0	0	0	A	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.9													
26-Jul	0	0	0	0	A	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.8													
27-Jul	0	0	0	0	A	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.8													
28-Jul	0	0	0	0	A	1	2	2	2	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0.4	2.4													
29-Jul	0	0	0	0	A	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.0													
30-Jul	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0.2	0.6													
31-Jul	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.4													
0.1 0.0 0.1 0.1 -- 0.4 1.0 1.2 0.9 0.5 0.3 0.2 0.4 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 0.2 0.2 -- 1.4 3.6 6.1 4.4 2.5 1.9 0.5 4.7 0.5 0.3 0.2 0.6 0.2 0.4 0.2 0.3 0.3 0.1 0.1																									Diurnal Maximum														
C - Calibration																									A - Automated Daily Zero Span														

Hourly Averages

Nitrogen Oxide (NO) - ppb
Beaverlodge - July 2016



Hourly Maximums

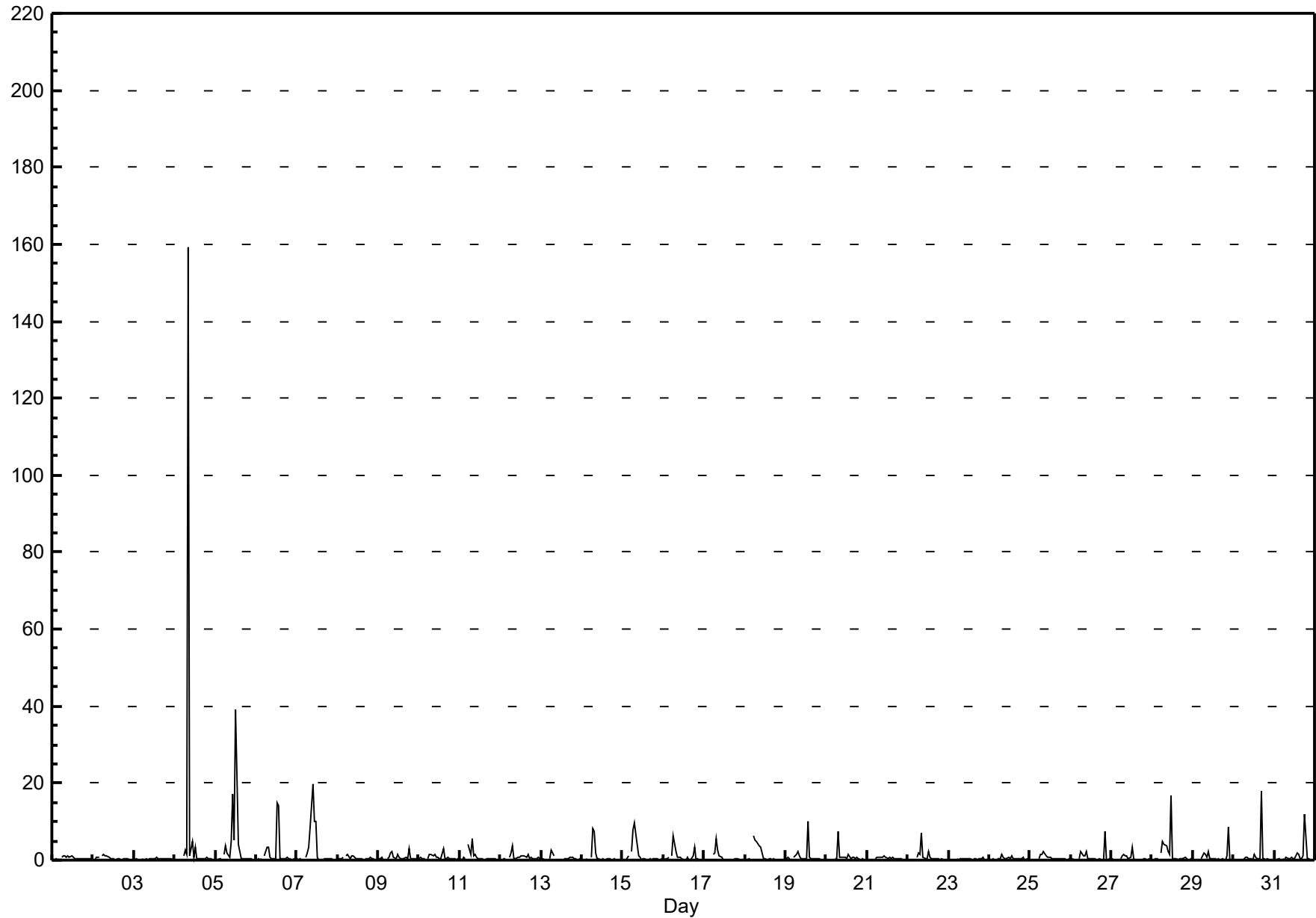
Nitrogen Oxide (NO) - ppb

Beaverlodge - July 2016

Maximum Value: 159.4 ppb on Jul 4 09:00																				Maximum Daily Average: 7.7 ppb on Jul 4					Hours in Service: 744	
Minimum Value: 0 ppb on Jul 29 02:00																				Minimum Daily Average: 0.3 ppb on Jul 23					Hours of Data: 708	
Maximum Diurnal Average: 7.1 ppb at hour 9																				Minimum Diurnal Average: 0.2 ppb at hour 1					Hours of Missing Data: 36	
Monthly Average: 1.18 ppb																				Percentiles: P ₁ = 0.1 P ₁₀ = 0.1 Q ₁ = 0.1 Median = 0.3 Q ₃ = 0.7 P ₉₀ = 1.8 P ₉₉ = 13.9					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	0	0	0	0	A	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0.5	1.2
2-Jul	0	0	1	1	A	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	1.4
3-Jul	0	0	0	0	A	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0.3	0.8
4-Jul	0	0	0	0	A	1	3	1	159	1	5	1	3	0	0	0	0	0	0	1	0	0	0	0	7.7	159.4
5-Jul	0	0	0	0	A	2	4	2	1	5	17	5	39	4	2	0	0	0	0	0	0	0	0	0	3.6	39.0
6-Jul	0	0	0	0	A	1	3	3	1	1	0	0	15	14	1	0	1	1	1	1	0	0	0	0	1.9	14.9
7-Jul	0	0	0	0	A	1	2	3	9	20	10	10	1	0	0	0	0	0	0	0	0	0	0	0	2.5	19.7
8-Jul	0	0	0	1	A	1	1	1	1	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0.5	1.5
9-Jul	0	0	1	0	A	0	1	2	2	1	0	2	1	0	0	0	1	0	3	0	0	0	0	0	0.7	2.8
10-Jul	0	1	0	0	A	0	2	2	1	1	1	1	0	0	3	0	1	1	0	0	0	0	0	1	0.7	3.0
11-Jul	0	0	1	0	A	4	2	6	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.9	5.7
12-Jul	0	0	0	0	A	1	2	4	1	0	1	1	1	1	1	1	1	0	1	0	0	0	1	0	0.8	3.6
13-Jul	0	0	0	0	A	1	3	1	C	C	C	C	C	0	0	1	0	1	1	0	0	0	0	0	0.5	2.5
14-Jul	0	0	0	0	A	1	8	8	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.0	8.1
15-Jul	0	0	0	1	A	2	8	10	7	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1.4	9.6
16-Jul	0	0	0	1	A	1	6	2	1	1	1	0	0	0	1	0	0	1	3	0	0	0	0	0	0.9	6.2
17-Jul	0	0	0	0	A	2	2	5	3	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.7	5.5
18-Jul	0	0	0	0	A	7	5	5	4	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1.2	6.5
19-Jul	0	1	0	0	A	1	1	2	1	1	0	0	0	10	1	0	0	0	0	0	0	0	0	0	0.9	9.9
20-Jul	0	0	0	0	A	1	1	7	1	1	1	1	0	1	0	1	1	0	1	0	0	0	0	0	0.7	7.3
21-Jul	0	0	0	0	A	0	1	1	1	1	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0.4	0.9
22-Jul	0	0	0	0	A	1	2	1	7	1	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0.8	6.9
23-Jul	0	0	0	0	A	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0.3	0.6
24-Jul	0	0	0	0	A	0	1	2	1	0	0	1	1	1	0	0	1	0	0	0	1	0	0	0	0.5	1.5
25-Jul	0	0	0	0	A	0	1	1	2	1	1	1	1	0	0	0	1	0	0	0	0	0	0	0	0.5	2.2
26-Jul	0	0	0	0	A	0	2	1	1	2	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0.8	7.5
27-Jul	0	0	0	0	A	0	1	2	1	1	0	1	3	0	0	0	0	0	0	0	1	0	1	0	0.6	3.5
28-Jul	0	0	0	1	A	2	5	4	4	2	1	17	0	0	0	0	1	0	0	1	1	0	0	0	1.7	16.7
29-Jul	0	0	0	0	A	1	2	2	1	2	0	0	0	0	0	0	0	0	0	0	1	9	0	0	0.8	8.5
30-Jul	0	0	0	0	A	0	0	1	1	1	0	0	1	1	0	0	18	0	0	0	0	0	0	0	1.1	17.7
31-Jul	0	0	0	0	A	0	0	1	0	1	1	0	1	2	1	0	0	1	12	0	0	0	0	0	1.0	12.0
0.2 0.2 0.3 0.3 -- 1.0 2.3 2.6 7.1 1.8 1.6 1.5 2.5 1.3 0.5 0.3 0.9 0.4 0.9 0.3 0.6 0.4 0.2 0.2																									Diurnal Average	
0.4 0.9 0.8 1.1 -- 6.5 8.1 9.6 159.4 19.7 17.3 16.7 39.0 14.2 3.0 0.7 17.7 1.2 12.0 0.8 7.5 8.5 0.6 0.5																									Diurnal Maximum	
C - Calibration A - Automated Daily Zero Span																										

Hourly Maximums

Nitrogen Oxide (NO) - ppb
Beaverlodge - July 2016



Hourly Averages

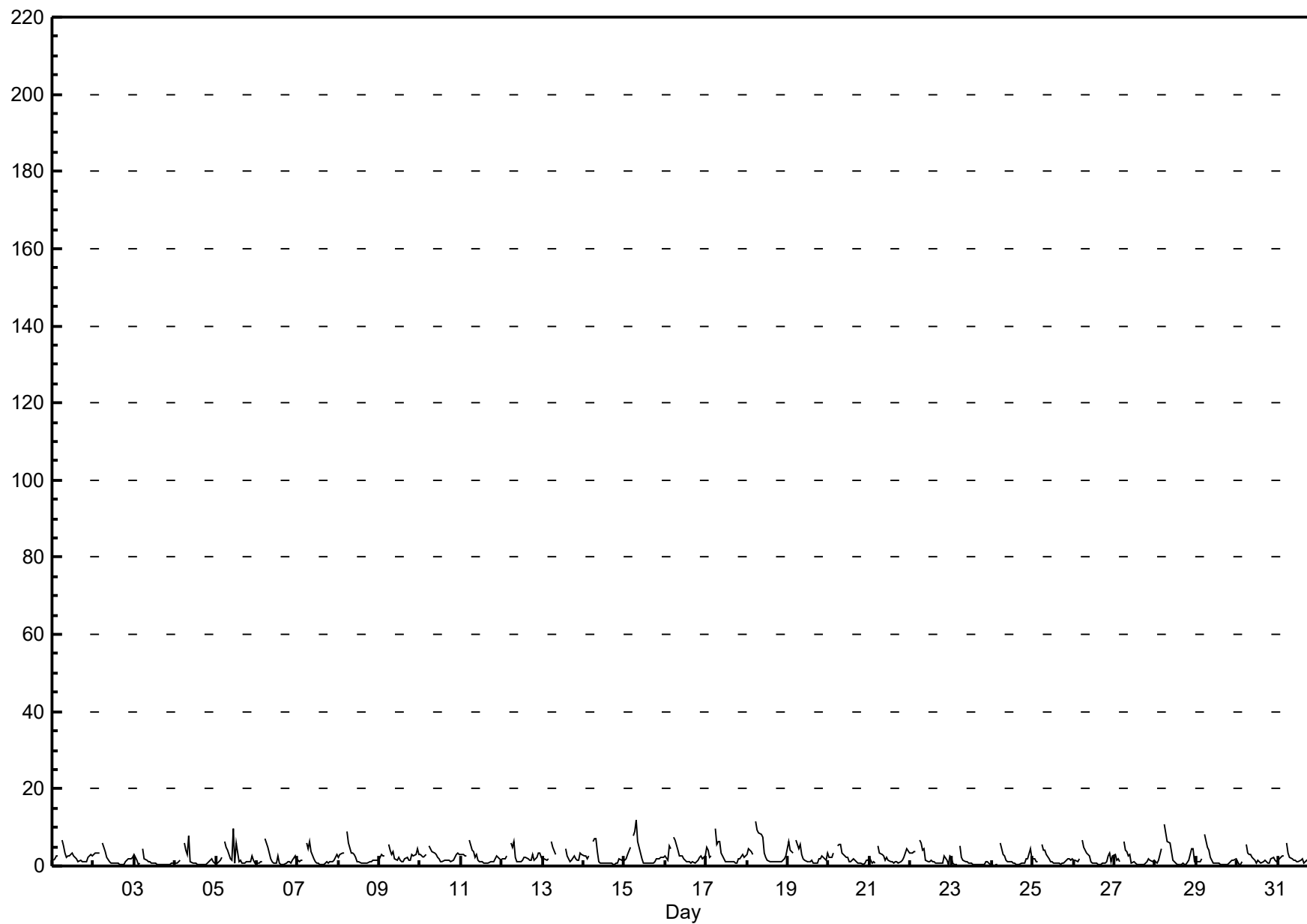
Oxides of Nitrogen (NO_x) - ppb

Beaverlodge - July 2016

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 11.9 ppb on Jul 15 08:00 Maximum Daily Average: 3.6 ppb on Jul 18																				Hours in Service: 744						
Minimum Value: 0 ppb on Jul 24 02:00 Minimum Daily Average: 1.0 ppb on Jul 3 Maximum Diurnal Average: 6.7 ppb at hour 6 Minimum Diurnal Average: 0.8 ppb at hour 18 Monthly Average: 2.13 ppb Percentiles: P ₁ = 0.3 P ₁₀ = 0.6 Q ₁ = 0.9 Median = 1.5 Q ₃ = 2.8 P ₉₀ = 4.6 P ₉₉ = 9.0																				Hours of Data: 708						
																				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	2	2	3	3	A	7	5	3	2	3	3	3	3	2	2	1	1	1	1	1	1	2	3	3	2.5	6.6
2-Jul	3	3	3	3	A	6	5	4	2	1	1	1	1	1	1	1	0	0	1	1	2	2	2	2	2.0	6.0
3-Jul	3	2	0	1	A	5	2	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	1	1	1.0	4.5
4-Jul	1	1	1	2	A	6	4	3	8	1	1	1	1	0	1	0	0	0	0	1	1	2	1	1	1.6	7.8
5-Jul	1	1	1	2	A	6	5	4	2	2	10	1	6	1	1	1	1	1	1	1	1	2	1	1	2.3	9.7
6-Jul	1	1	1	1	A	7	5	3	2	1	1	1	3	1	1	1	1	1	1	1	1	2	2	1	1.6	7.0
7-Jul	2	1	1	2	A	6	4	6	4	2	1	1	1	1	1	0	1	1	1	1	1	1	2	3	1.9	6.2
8-Jul	2	3	3	3	A	9	6	4	3	3	2	1	1	1	1	1	1	1	1	1	1	1	1	2	2.3	8.9
9-Jul	2	3	3	3	A	6	4	3	4	2	1	2	2	1	1	2	2	1	2	3	2	3	4	3	2.6	5.7
10-Jul	3	3	2	3	A	5	4	4	3	3	2	2	1	1	2	2	1	2	1	1	2	3	3	3	2.5	5.4
11-Jul	3	3	3	2	A	7	4	4	2	3	2	1	1	1	1	1	1	1	1	1	2	2	2	2	2.2	6.8
12-Jul	2	2	2	3	A	6	5	6	2	1	1	1	2	2	2	2	2	2	3	2	2	3	3	2	2.5	6.2
13-Jul	1	2	2	2	A	6	5	3	C	C	C	C	C	5	2	2	1	1	3	2	1	1	3	3	2.5	6.4
14-Jul	3	3	2	3	A	6	7	7	4	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2.1	7.2
15-Jul	2	2	3	5	A	8	9	12	6	3	2	1	1	1	1	1	1	1	1	2	2	2	2	2	3.0	11.9
16-Jul	2	2	5	5	A	7	7	4	3	2	3	2	1	1	1	1	1	1	1	1	2	2	2	3	2.6	7.3
17-Jul	5	4	2	3	A	10	6	6	6	3	2	1	1	1	1	1	1	1	1	2	2	3	2	3	2.9	9.8
18-Jul	3	5	4	3	A	11	9	9	8	7	3	2	2	1	1	1	1	1	1	1	1	2	2	3	3.6	11.5
19-Jul	6	4	4	3	A	7	5	6	3	2	2	1	1	1	1	1	1	1	2	2	3	2	2	3	2.7	6.8
20-Jul	2	2	2	4	A	5	6	5	3	3	2	2	1	1	2	1	1	1	1	1	1	1	1	1	2.2	5.7
21-Jul	2	1	1	1	A	5	4	3	3	1	2	1	1	1	1	1	1	1	1	1	2	3	4	4	2.0	5.2
22-Jul	3	4	4	4	A	7	6	4	4	1	1	1	1	1	1	1	1	1	1	1	3	2	0	2	2.3	6.7
23-Jul	2	1	0	0	A	5	2	1	1	1	1	1	1	1	0	0	0	0	0	0	1	1	1	1	1.0	5.4
24-Jul	0	0	0	0	A	6	3	3	2	1	1	1	1	1	0	1	1	1	1	1	2	2	4	2	1.4	6.0
25-Jul	2	2	1	1	A	6	4	4	3	2	1	1	1	1	1	1	0	1	1	1	2	2	1	2	1.7	5.6
26-Jul	2	1	1	2	A	7	5	4	3	2	1	1	1	1	1	1	0	1	1	1	3	3	1	3	1.9	6.6
27-Jul	3	2	2	1	A	6	4	4	3	3	1	1	1	1	0	0	0	0	1	1	2	1	1	1	1.7	6.4
28-Jul	1	1	1	4	A	11	9	6	6	4	2	1	1	1	0	0	1	0	1	1	3	5	5	1	2.8	11.0
29-Jul	1	1	1	2	A	8	5	4	2	1	1	1	1	1	0	0	0	1	0	1	1	1	1	2	1.6	8.1
30-Jul	1	0	0	1	A	6	3	3	3	2	2	1	1	1	1	1	1	1	1	1	2	2	1	1	1.7	5.6
31-Jul	1	2	3	2	A	6	3	2	2	2	2	1	1	2	2	1	1	1	1	1	1	2	2	2	1.8	5.8
2.2 2.0 2.0 2.4 -- 6.7 5.0 4.3 3.4 2.2 1.8 1.2 1.3 1.1 1.0 0.9 0.8 0.8 1.0 1.2 1.7 2.1 2.1 2.0																									Diurnal Average	
6.5 4.6 5.3 4.7 -- 11.5 9.1 11.9 8.4 7.3 9.7 3.3 6.1 4.6 2.4 2.0 2.1 1.6 3.0 2.9 2.9 4.5 4.5 3.5																									Diurnal Maximum	
C - Calibration					A - Automated Daily Zero Span																					

Hourly Averages

Oxides of Nitrogen (NO_x) - ppb
Beaverlodge - July 2016



Hourly Maximums

Oxides of Nitrogen (NO_x) - ppb

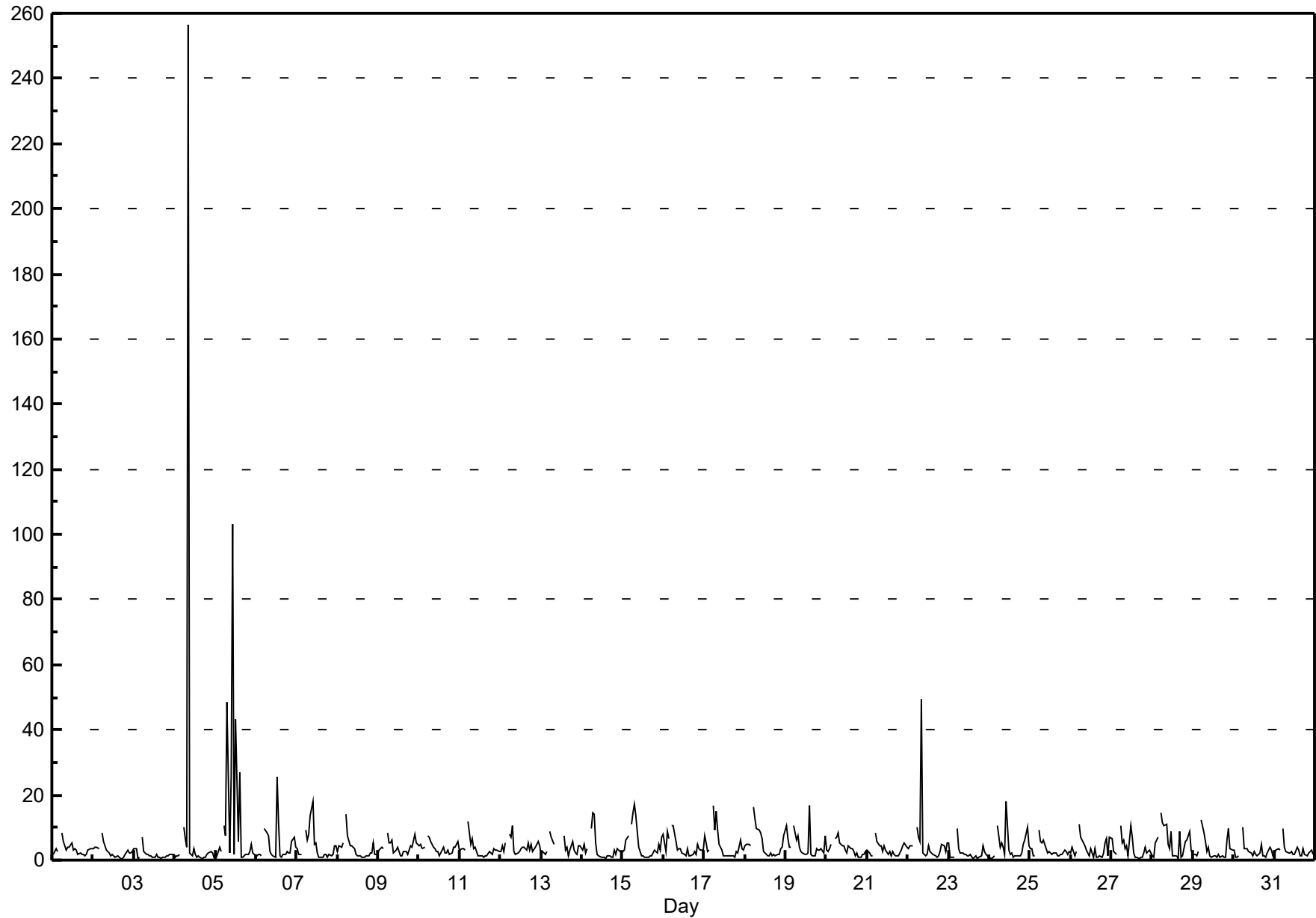
Beaverlodge - July 2016

Maximum Value: 256.6 ppb on Jul 4 09:00																				Maximum Daily Average: 13.3 ppb on Jul 4										Hours in Service: 744	
Minimum Value: 0 ppb on Jul 24 02:00																				Minimum Daily Average: 1.7 ppb on Jul 3										Hours of Data: 708	
Maximum Diurnal Average: 14.9 ppb at hour 9																				Minimum Diurnal Average: 1.5 ppb at hour 18										Hours of Missing Data: 36	
Monthly Average: 4.35 ppb																				Percentiles: P ₁ = 0.6 P ₁₀ = 1.1 Q ₁ = 1.5 Median = 2.7 Q ₃ = 4.5 P ₉₀ = 7.7 P ₉₉ = 25.2										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	2	3	4	3	A	8	6	4	3	4	4	5	3	3	3	2	2	2	2	1	2	3	4	4	3.3	8.4					
2-Jul	3	4	4	4	A	8	6	5	3	2	1	2	1	1	1	1	1	1	1	2	3	2	2	3	2.6	8.3					
3-Jul	4	3	1	1	A	7	3	2	2	1	1	1	1	2	1	1	1	1	1	1	1	2	2	2	1.7	7.1					
4-Jul	1	1	1	2	A	10	7	4	257	2	1	4	2	1	1	1	1	1	1	2	2	3	2	1	13.3	256.6					
5-Jul	2	2	4	3	A	10	8	48	2	26	103	2	43	6	27	1	1	1	2	2	3	5	2	2	13.2	102.9					
6-Jul	1	2	2	1	A	10	8	8	3	2	1	1	26	11	1	1	2	2	3	2	2	6	7	4	4.6	25.7					
7-Jul	3	2	2	2	A	9	6	8	14	18	5	5	2	1	1	1	2	2	1	2	1	2	4	4	4.2	18.2					
8-Jul	3	5	4	5	A	14	7	4	4	4	3	2	1	1	1	1	1	1	1	2	2	5	2	2	3.4	14.3					
9-Jul	3	4	4	3	A	8	5	5	6	2	3	4	2	1	1	3	3	2	3	5	4	8	5	5	3.9	8.2					
10-Jul	4	5	3	4	A	8	7	6	4	4	3	3	1	2	4	2	2	3	2	2	4	4	5	6	3.8	7.5					
11-Jul	3	3	3	3	A	12	5	6	3	4	3	1	1	1	1	1	1	3	2	2	4	3	3	3	3.2	11.9					
12-Jul	3	4	3	5	A	8	7	11	3	2	2	3	3	4	4	3	5	3	5	3	4	5	6	5	4.3	10.7					
13-Jul	2	3	2	3	A	9	7	5	C	C	C	C	C	7	3	4	2	3	6	3	2	2	5	4	3.9	8.6					
14-Jul	3	5	2	4	A	10	15	14	5	2	1	1	1	1	1	1	1	1	1	3	2	4	2	2	3.6	14.6					
15-Jul	3	3	6	7	A	11	15	17	14	4	3	1	1	1	1	1	1	1	2	3	2	5	3	7	4.9	17.3					
16-Jul	8	3	9	7	A	10	11	6	3	3	3	2	2	1	4	1	2	2	3	2	5	3	3	3	4.1	10.7					
17-Jul	7	5	3	3	A	17	9	15	9	5	3	1	1	1	1	1	1	1	1	3	2	6	4	3	4.5	16.6					
18-Jul	5	5	5	4	A	16	13	10	9	8	6	3	2	2	1	2	2	2	1	2	2	3	4	7	5.0	16.4					
19-Jul	11	7	4	4	A	11	6	8	4	3	2	2	2	2	17	2	1	1	4	3	3	4	2	8	4.7	16.8					
20-Jul	3	3	4	5	A	7	7	8	5	4	4	3	2	5	3	4	2	1	2	1	1	2	2	3	3.5	8.5					
21-Jul	3	2	1	1	A	8	6	4	5	3	4	3	2	2	1	3	2	1	1	2	3	4	5	4	3.2	8.3					
22-Jul	4	4	4	4	A	10	7	6	49	2	1	2	4	3	2	2	1	1	1	3	5	5	2	5	5.6	49.2					
23-Jul	5	1	1	1	A	10	3	2	2	2	2	1	1	2	1	1	2	1	1	1	4	3	2	1	2.2	9.8					
24-Jul	1	0	1	1	A	10	4	5	4	2	18	3	2	2	1	1	1	1	1	2	5	6	10	4	3.8	17.8					
25-Jul	4	4	1	1	A	9	6	5	6	3	2	3	2	2	2	2	2	1	2	2	3	3	2	3	3.0	9.2					
26-Jul	2	4	1	3	A	11	7	5	4	3	2	1	3	1	3	1	1	1	1	2	5	6	1	7	3.4	11.1					
27-Jul	7	3	2	2	A	11	5	6	4	4	1	10	7	2	1	1	1	1	1	2	4	2	3	2	3.5	10.5					
28-Jul	1	1	5	7	A	15	11	10	11	5	4	9	1	1	1	1	9	1	1	6	6	7	9	3	5.5	14.6					
29-Jul	2	2	1	3	A	12	8	6	3	4	1	1	1	1	1	2	1	1	1	1	6	10	3	3	3.2	12.3					
30-Jul	3	1	1	1	A	10	4	4	4	3	2	1	2	2	1	2	5	2	1	1	2	4	3	1	2.6	10.2					
31-Jul	2	3	4	3	A	9	4	3	2	2	3	2	2	4	3	1	2	3	2	1	2	3	3	2	2.8	9.5					
3.4 3.0 3.0 3.3 -- 10.3 7.2 8.1 14.9 4.5 6.5 2.7 4.2 2.5 3.1 1.6 1.9 1.5 1.8 2.2 3.2 4.1 3.7 3.6 Diurnal Average																															
10.6 6.5 9.0 7.4 -- 16.6 14.7 48.4 256.6 25.9 102.9 10.4 43.2 11.4 27.0 3.8 8.9 3.4 5.9 5.5 6.3 9.7 10.1 7.7 Diurnal Maximum																															
C - Calibration A - Automated Daily Zero Span																															

Hourly Maximums

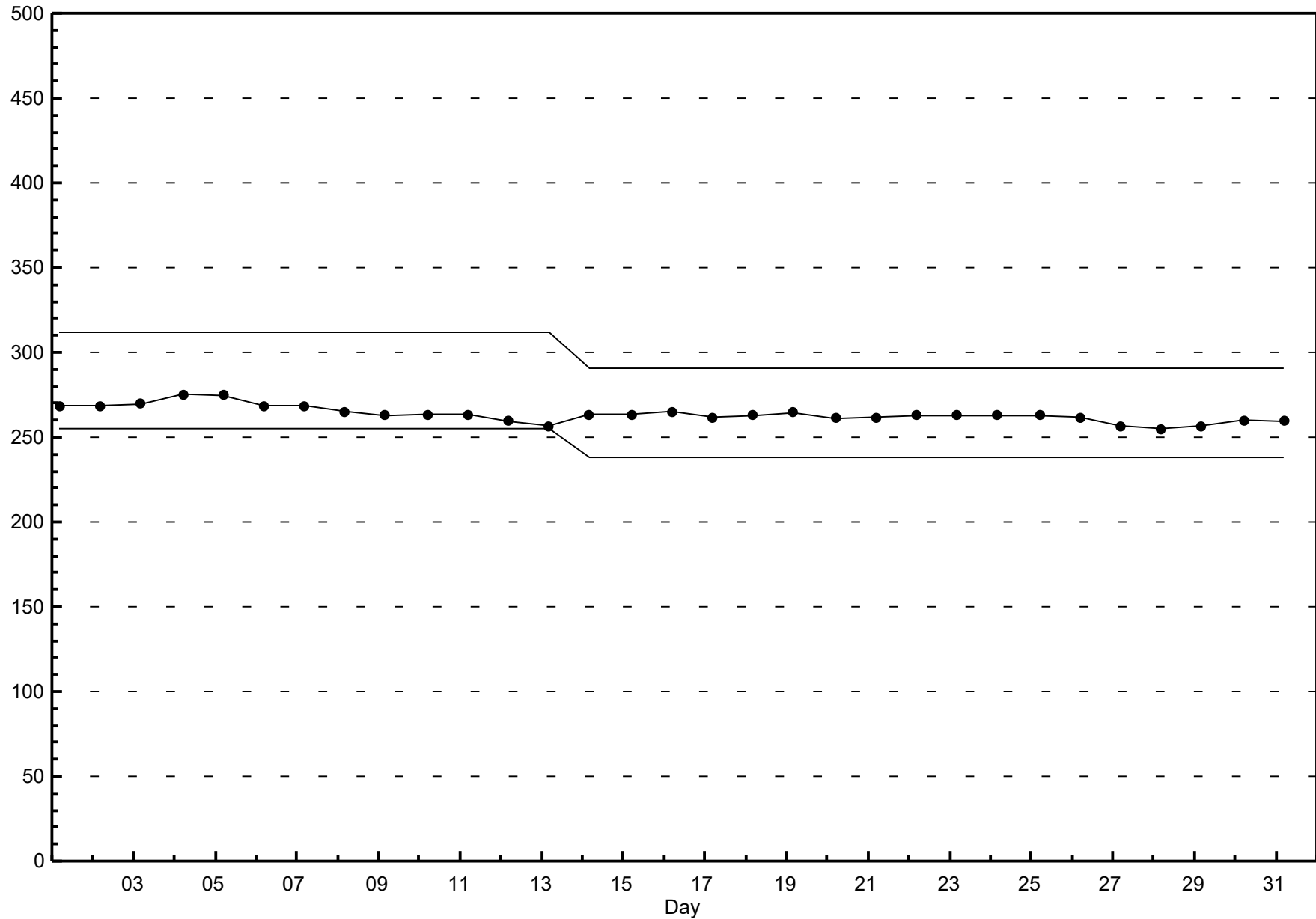
Oxides of Nitrogen (NO_x) - ppb

Beaverlodge - July 2016



Span Responses

Oxides of Nitrogen (NO_x)
Beaverlodge - July 2016



Hourly Averages

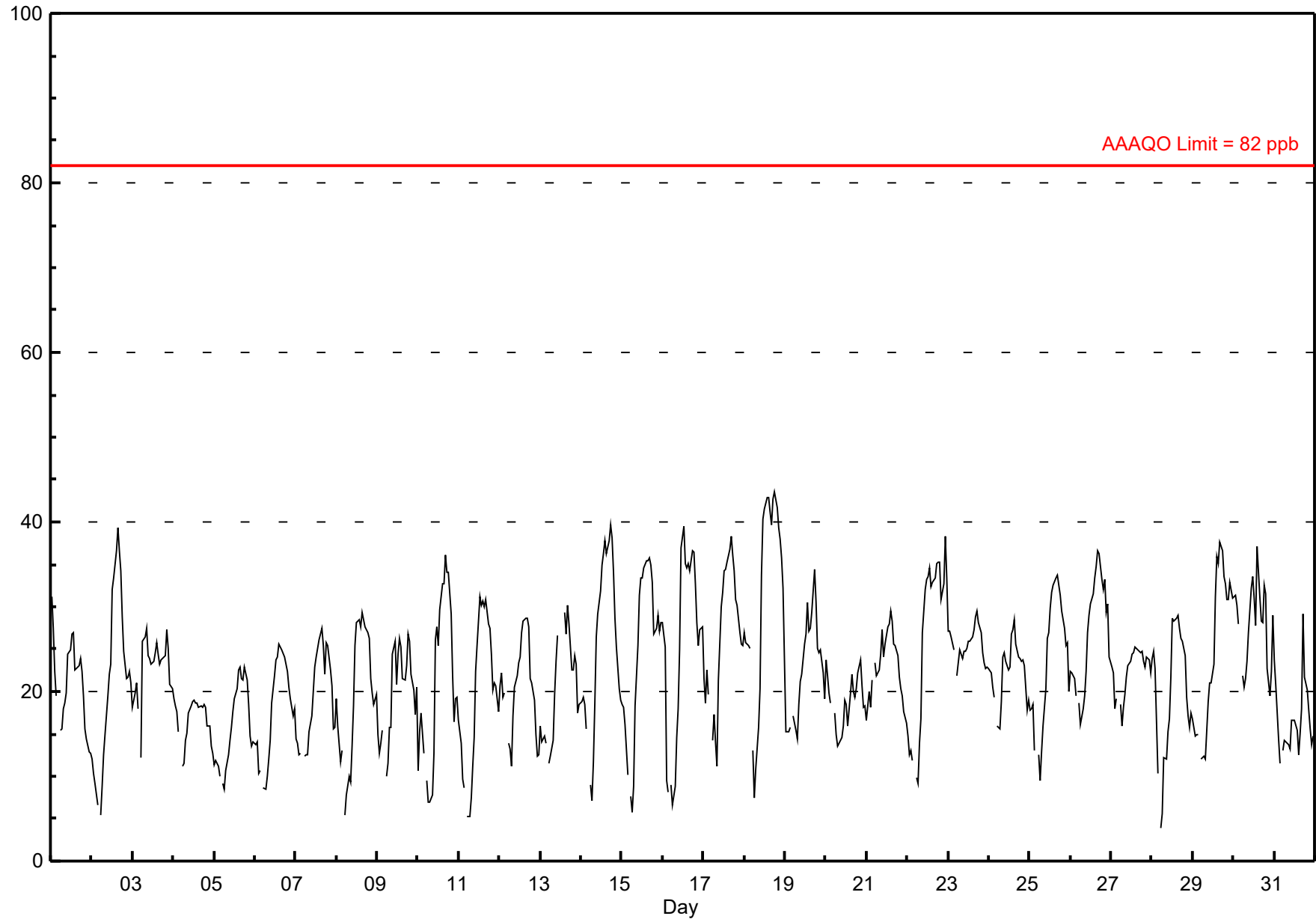
Ozone (O₃) - ppb

Beaverlodge - July 2016

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 43.6 ppb on Jul 18 19:00 Maximum Daily Average: 31.6 ppb on Jul 18																								Hours in Service: 744 Hours of Data: 710 Hours of Missing Data: 34 Hours of Calibration: 34 Percent Operational Time: 100.0		
Minimum Value: 4 ppb on Jul 28 06:00 Maximum Diurnal Average: 29.3 ppb at hour 18 Monthly Average: 22.29 ppb												Minimum Daily Average: 15.9 ppb on Jul 5 Minimum Diurnal Average: 12.5 ppb at hour 7 Percentiles: P ₁ = 6.5 P ₁₀ = 12.3 Q ₁ = 16.1 Median = 22.2 Q ₃ = 27.4 P ₉₀ = 33.3 P ₉₉ = 40.9														
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	31	27	22	19	A	15	16	18	19	20	24	25	27	27	22	23	23	24	22	19	16	14	13	13	20.9	31.2
2-Jul	12	10	9	7	A	6	9	13	15	20	22	23	32	33	37	39	37	34	29	25	21	22	22	21	21.6	39.4
3-Jul	18	20	21	18	A	12	26	26	27	24	24	23	23	24	26	24	23	24	24	24	27	25	21	20	22.9	27.5
4-Jul	19	18	18	15	A	11	12	14	15	18	18	19	19	19	19	18	18	18	18	18	16	16	13	13	16.6	19.1
5-Jul	11	12	11	10	A	9	8	11	13	14	16	18	19	20	22	23	22	21	23	21	19	15	14	14	15.9	23.0
6-Jul	14	14	10	11	A	9	8	10	12	14	19	22	24	24	26	25	25	24	23	22	21	19	17	18	17.9	25.6
7-Jul	14	14	13	13	A	12	13	13	15	17	20	23	24	25	26	27	25	22	26	25	23	21	16	16	19.2	27.4
8-Jul	19	16	12	13	A	5	8	10	9	14	18	25	28	28	28	29	29	28	27	26	22	20	18	20	19.7	29.4
9-Jul	15	13	14	15	A	10	11	16	16	24	26	21	24	26	25	22	21	23	27	26	22	20	17	21	19.8	26.8
10-Jul	11	15	18	13	A	9	7	7	8	13	26	28	25	30	33	33	36	34	34	29	22	16	19	19	21.1	36.2
11-Jul	17	14	10	9	A	5	5	7	11	15	22	25	31	30	31	30	31	28	28	24	20	21	21	18	19.7	31.1
12-Jul	21	22	19	20	A	14	13	11	17	21	22	23	24	27	28	29	29	28	21	21	19	15	12	13	20.4	28.7
13-Jul	16	14	15	14	A	12	12	14	20	24	27	C	C	C	29	27	30	28	23	23	24	23	17	19	20.5	30.2
14-Jul	19	19	19	16	A	9	7	12	19	26	29	32	35	36	38	36	38	40	38	34	29	25	20	19	25.9	39.7
15-Jul	19	18	16	10	A	8	6	9	18	25	31	33	33	34	35	35	36	35	33	27	27	29	27	28	25.0	35.7
16-Jul	28	25	10	8	A	9	7	9	15	18	25	37	39	35	35	35	34	37	36	33	28	25	27	28	25.3	39.5
17-Jul	22	19	22	20	A	14	17	14	11	21	30	32	34	34	35	37	38	36	34	31	30	27	26	25	26.5	38.3
18-Jul	27	26	25	25	A	13	7	11	16	20	34	40	41	43	43	41	40	43	44	42	39	38	36	32	31.6	43.6
19-Jul	15	15	15	16	A	17	15	14	18	21	22	26	27	30	27	28	29	34	30	25	24	25	22	19	22.5	34.4
20-Jul	24	22	20	19	A	17	15	14	14	15	16	19	18	16	20	22	20	19	20	22	24	21	18	18	18.8	23.8
21-Jul	17	20	18	21	A	23	22	23	24	27	24	26	28	28	29	28	26	25	24	22	20	20	18	16	23.0	29.4
22-Jul	15	13	13	12	A	10	9	14	17	27	32	33	34	35	32	33	33	35	35	35	31	33	38	33	26.1	38.3
23-Jul	27	27	26	25	A	22	23	25	24	25	25	25	26	26	26	27	29	30	28	27	25	23	23	23	25.5	29.5
24-Jul	23	22	21	19	A	16	16	19	24	25	24	23	23	27	27	28	26	24	24	24	24	23	18	19	22.4	28.5
25-Jul	18	18	18	13	A	12	9	13	16	20	26	27	30	32	33	33	34	33	31	29	27	25	26	20	23.7	33.7
26-Jul	22	22	21	19	A	19	16	18	19	22	27	29	30	32	33	35	37	36	33	32	33	29	30	24	27.0	36.7
27-Jul	23	22	18	19	A	18	16	18	20	22	23	24	24	25	25	25	25	25	25	23	23	24	24	22	22.3	25.3
28-Jul	24	25	23	10	A	4	6	12	12	15	17	22	29	28	29	29	27	26	26	24	19	17	16	18	19.9	29.0
29-Jul	17	15	15	15	A	12	12	12	15	19	21	21	23	31	36	35	38	37	34	33	31	31	33	31	24.6	37.7
30-Jul	31	31	30	28	A	22	20	22	24	27	32	34	31	28	37	31	28	28	32	31	23	20	22	29	27.9	37.1
31-Jul	24	21	14	12	A	13	14	14	14	13	17	17	17	15	13	15	18	29	22	20	18	16	14	15	16.6	29.2
19.7 19.0 17.3 15.6 -- 12.5 12.5 14.2 16.7 20.2 23.8 25.8 27.5 28.3 29.2 29.2 29.2 29.2 29.3 28.2 26.4 24.1 22.5 21.2 20.7																								Diurnal Average		
31.3 31.4 30.2 28.0 -- 23.3 26.0 26.4 27.5 27.3 33.8 40.4 41.5 42.8 42.9 41.1 39.6 42.8 43.6 41.7 39.4 38.0 38.3 33.4																								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 2016



Hourly Maximums

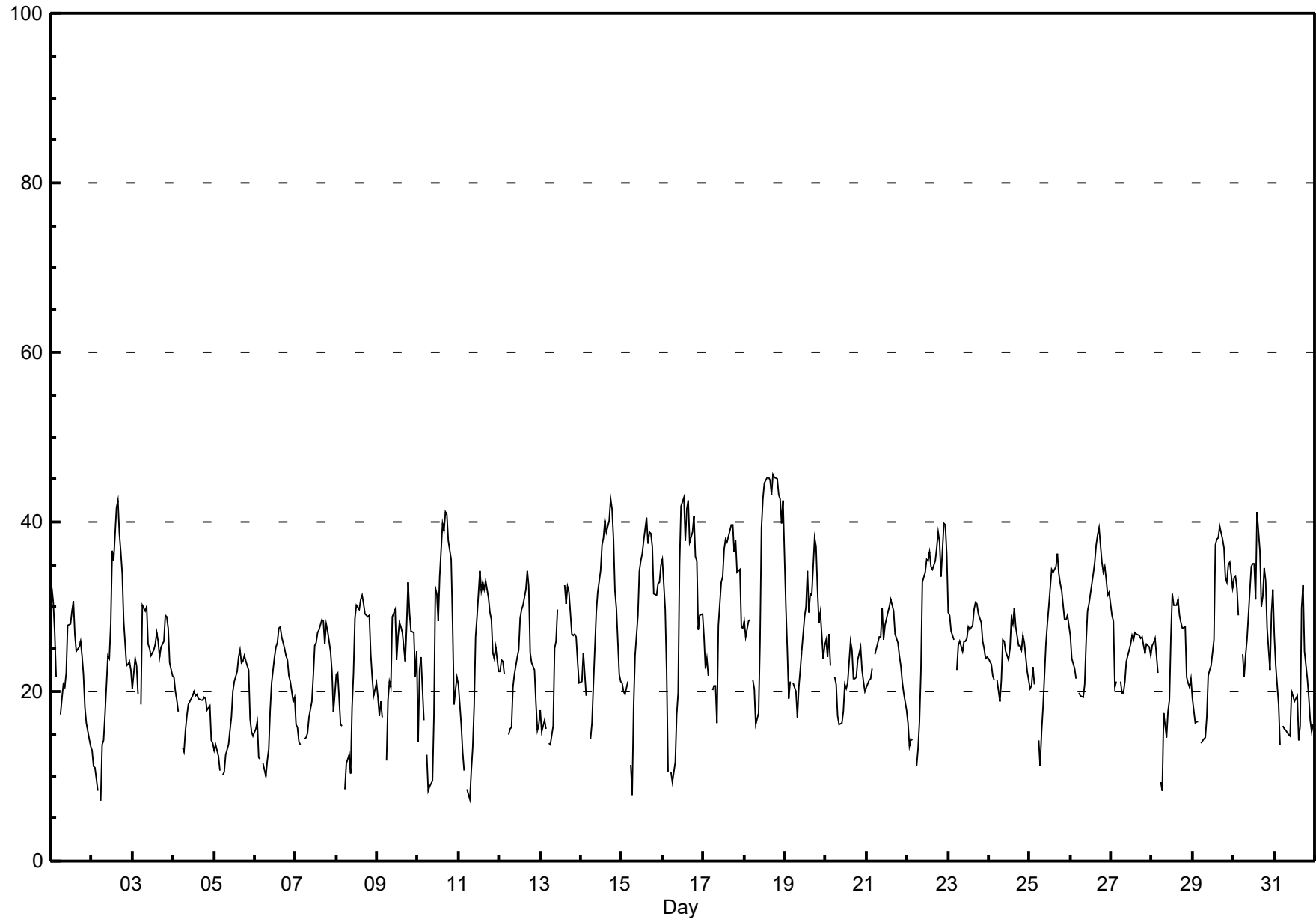
Ozone (O₃) - ppb

Beaverlodge - July 2016

Maximum Value: 45.6 ppb on Jul 18 18:00																				Maximum Daily Average: 35.7 ppb on Jul 18					Hours in Service: 744				
Minimum Value: 7 ppb on Jul 2 06:00																				Minimum Daily Average: 17.6 ppb on Jul 5					Hours of Data: 710				
Maximum Diurnal Average: 31.9 ppb at hour 15																				Minimum Diurnal Average: 15.5 ppb at hour 6					Hours of Missing Data: 34				
Monthly Average: 25.15 ppb																				Percentiles: P ₁ = 8.4 P ₁₀ = 14.6 Q ₁ = 19.6 Median = 24.9 Q ₃ = 30.1 P ₉₀ = 36.4 P ₉₉ = 44.3					Hours of Calibration: 34				
																				Percent Operational Time: 100.0									
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24					
1-Jul	32	31	27	22	A	17	19	21	20	22	28	28	29	31	27	25	25	26	24	22	18	16	14	14	23.4	32.2			
2-Jul	13	11	11	8	A	7	14	14	17	24	24	28	37	35	42	43	39	36	34	28	23	23	23	23	24.3	42.5			
3-Jul	20	24	23	20	A	19	30	30	30	26	25	24	25	26	27	26	24	25	26	29	29	27	23	22	25.2	30.2			
4-Jul	22	20	19	18	A	13	13	15	17	19	19	20	20	20	20	19	19	19	19	19	18	18	14	14	18.0	21.7			
5-Jul	13	14	12	11	A	10	11	13	14	15	17	20	21	22	24	25	23	24	24	23	23	17	15	15	17.6	25.0			
6-Jul	16	16	12	12	A	11	10	12	13	18	21	24	25	26	27	28	26	25	24	24	22	21	19	19	19.7	27.7			
7-Jul	16	16	14	14	A	14	15	15	17	19	22	25	26	27	27	29	28	26	28	27	25	22	18	20	21.2	28.5			
8-Jul	22	22	16	16	A	9	11	13	10	18	22	29	30	30	31	31	30	29	29	29	24	22	20	21	22.3	31.3			
9-Jul	19	17	19	17	A	12	19	21	20	29	30	24	26	28	28	27	24	28	33	29	27	27	22	25	23.9	32.8			
10-Jul	14	22	24	17	A	13	8	9	10	17	32	32	28	34	40	39	41	41	38	36	28	18	20	22	25.3	41.2			
11-Jul	21	16	13	11	A	8	7	11	13	18	26	29	34	32	33	32	33	31	29	28	25	24	25	22	22.7	34.3			
12-Jul	22	24	23	22	A	15	16	16	21	22	24	25	29	30	30	32	34	32	24	23	22	19	15	16	23.4	34.2			
13-Jul	18	15	17	16	A	14	14	16	25	26	30	C	C	C	33	30	32	32	27	27	27	26	24	21	23.4	32.6			
14-Jul	21	25	22	19	A	14	16	21	25	29	32	34	37	38	40	39	40	43	41	38	32	30	22	21	29.6	42.8			
15-Jul	21	20	20	21	A	11	8	18	24	29	34	35	36	38	40	38	39	39	37	32	31	33	33	35	29.2	40.4			
16-Jul	36	30	22	10	A	10	9	12	17	20	35	42	43	38	41	43	38	39	41	36	35	27	29	29	29.7	42.9			
17-Jul	27	23	24	22	A	20	21	21	16	28	33	34	37	38	38	39	40	40	36	38	34	34	28	27	30.2	39.7			
18-Jul	28	26	28	28	A	21	20	16	17	26	39	43	45	45	45	45	43	46	45	45	43	43	40	43	35.7	45.6			
19-Jul	30	25	19	21	A	21	20	17	20	23	25	29	30	34	29	31	31	38	37	32	28	29	24	25	27.0	38.1			
20-Jul	26	24	27	23	A	22	21	17	16	16	18	21	20	21	26	25	22	22	22	24	25	23	21	20	21.8	26.8			
21-Jul	20	21	21	23	A	24	25	26	27	30	26	28	29	30	31	30	29	27	26	24	23	21	20	18	25.3	30.8			
22-Jul	16	14	14	14	A	11	13	16	22	33	34	36	35	36	35	34	35	37	39	38	34	40	40	36	28.8	39.8			
23-Jul	29	29	27	26	A	23	25	26	25	26	26	26	28	27	28	30	31	30	29	28	26	25	24	24	26.9	30.5			
24-Jul	24	23	22	21	A	21	19	21	26	26	25	24	25	29	28	30	28	25	25	25	27	26	22	21	24.5	29.9			
25-Jul	20	21	23	21	A	14	11	15	18	26	28	30	32	34	34	35	36	34	33	32	29	28	29	28	26.6	36.3			
26-Jul	27	24	23	22	A	20	19	19	21	26	30	30	32	34	35	37	38	39	35	34	35	33	31	32	29.4	39.3			
27-Jul	29	28	20	21	A	21	20	20	21	24	24	26	27	26	27	27	27	26	26	25	25	26	25	24	24.6	28.9			
28-Jul	25	26	26	22	A	9	8	17	15	18	19	26	32	30	30	31	29	28	28	28	22	21	20	22	23.1	31.6			
29-Jul	19	16	16	16	A	14	14	15	17	22	23	23	26	37	38	38	39	38	37	33	33	35	35	32	26.9	39.5			
30-Jul	33	34	32	29	A	24	22	24	26	29	35	35	35	31	41	37	30	31	35	33	27	23	29	32	30.8	41.2			
31-Jul	27	23	18	14	A	16	16	15	15	15	20	19	19	20	14	16	30	33	25	22	19	17	15	16	19.2	32.5			
22.8 21.9 20.5 18.6 -- 15.5 16.0 17.5 19.3 23.1 26.6 28.2 29.9 30.9 31.9 31.9 31.8 31.9 30.9 29.4 27.0 25.6 23.9 23.8																													
35.6 33.5 32.3 28.9 -- 24.5 30.2 29.6 30.1 32.9 39.3 42.7 44.5 45.2 45.2 44.9 43.2 45.6 45.3 45.0 43.2 42.7 39.9 42.6																													
C - Calibration A - Automated Daily Zero Span																													

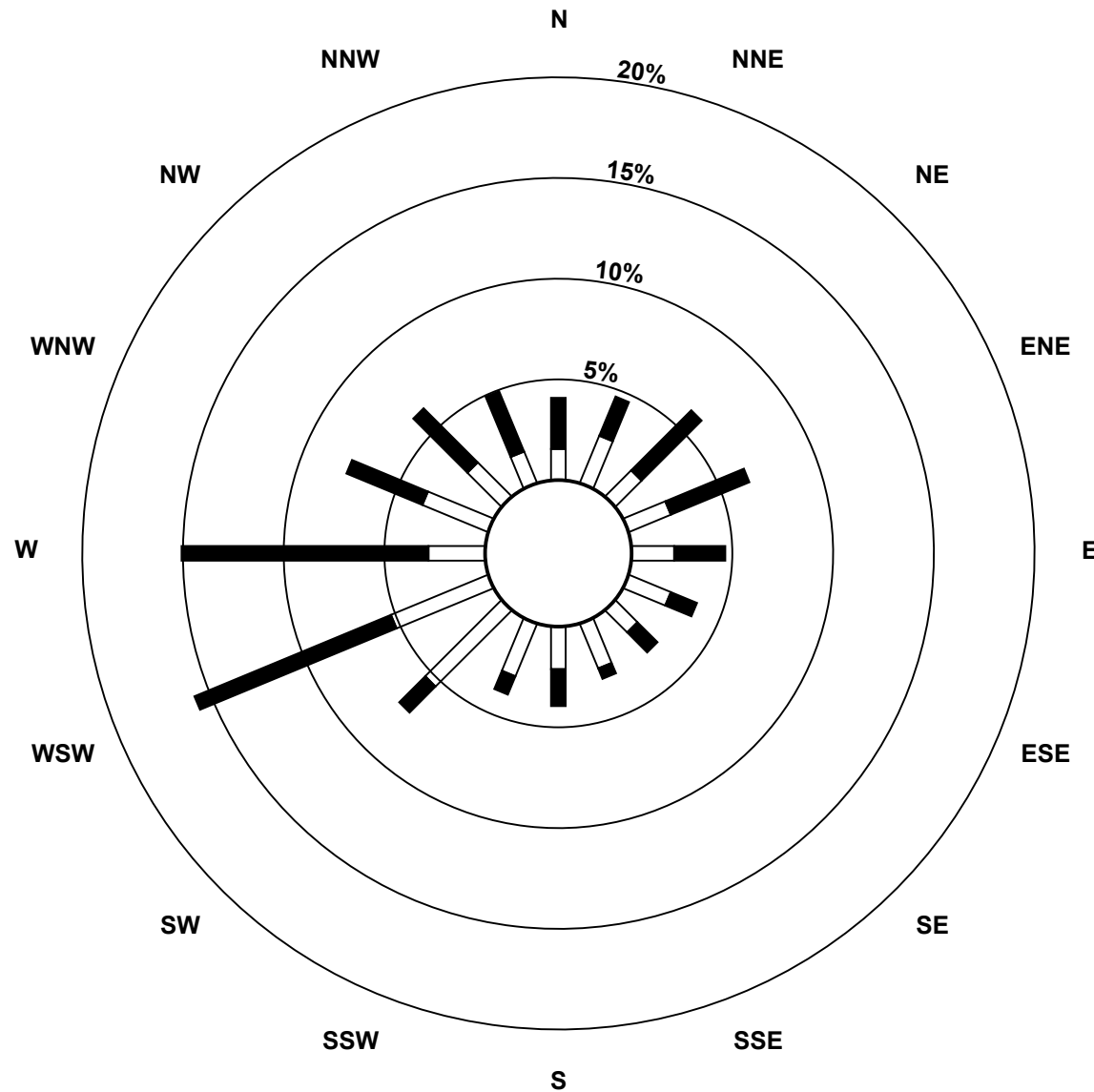
Hourly Maximums

Ozone (O₃) - ppb
Beaverlodge - July 2016

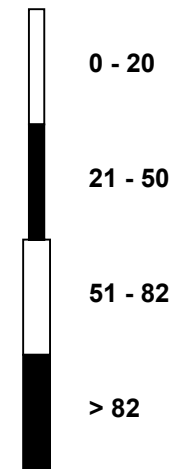


Pollutant Rose

Ozone (O₃) - ppb
Beaverlodge - July 2016



Pollutant Classes (ppb)



Eight Hour Running Averages

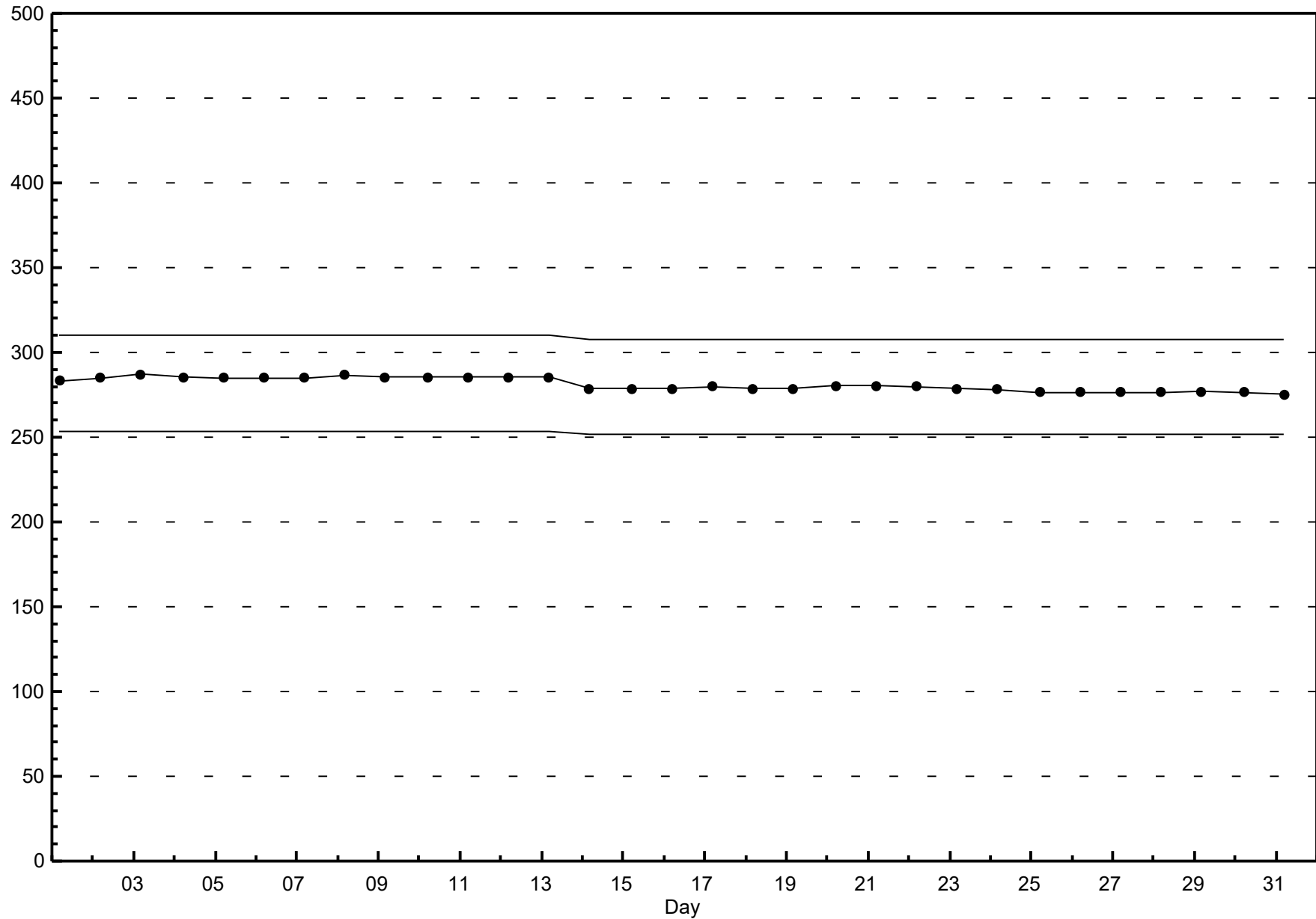
Ozone (O₃) - ppb

Beaverlodge - July 2016

Maximum Value: 42.0 ppb on Jul 18 20:00																								Hours in Service: 744	
Minimum Value: 8.8 ppb on Jul 11 09:00																								Hours of Data: 738	
																								Hours of Missing Data: 6	
Percentiles: P ₁ = 10.1 P ₁₀ = 13.8 Q ₁ = 17.3 Median = 21.7 Q ₃ = 26.2 P ₉₀ = 31.4 P ₉₉ = 38.1																								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	33	31	30	28	27	24	23	21	20	18	19	20	20	22	23	23	24	24	24	23	22	21	19	18	32.8
2-Jul	17	15	13	12	11	10	9	9	10	11	13	15	17	21	24	28	30	32	33	33	32	30	29	26	33.3
3-Jul	24	22	21	20	20	19	19	20	22	22	23	23	23	25	25	25	24	24	24	24	25	25	24	24	24.9
4-Jul	23	22	22	21	20	18	16	15	15	15	15	15	16	17	18	18	18	18	18	18	18	18	17	16	23.1
5-Jul	16	15	14	13	12	11	11	10	11	11	12	13	13	15	17	18	19	20	21	22	21	21	20	19	21.5
6-Jul	18	17	15	14	13	12	11	11	11	11	12	13	15	17	19	21	22	24	24	24	24	23	22	21	24.1
7-Jul	20	19	17	16	15	14	14	13	13	14	15	16	17	19	20	22	23	24	25	25	25	24	23	22	25.2
8-Jul	21	20	18	17	16	14	13	12	10	10	11	13	15	18	20	23	25	27	28	28	27	26	25	24	27.9
9-Jul	22	20	18	17	16	15	14	13	14	15	17	18	19	21	22	23	24	24	24	24	24	23	22	22	24.4
10-Jul	21	20	19	17	16	15	13	11	11	11	12	14	15	18	21	24	28	31	32	32	31	30	28	26	31.8
11-Jul	24	21	18	16	15	13	11	10	9	9	11	13	15	18	22	24	27	29	29	29	28	27	25	24	29.2
12-Jul	22	22	21	20	20	19	18	17	17	16	17	17	18	20	22	24	25	26	26	26	25	24	22	20	26.2
13-Jul	18	16	16	15	14	14	14	14	14	16	17	18	18	N	N	N	N	N	N	27	26	26	24	23	26.6
14-Jul	22	21	20	19	19	17	15	14	14	15	17	19	21	25	28	31	34	36	37	37	36	35	33	30	36.9
15-Jul	28	25	23	20	18	16	14	12	12	13	15	19	21	24	28	31	33	34	34	34	33	32	31	30	34.5
16-Jul	29	28	25	23	22	19	16	14	12	11	13	17	20	23	27	30	32	35	36	36	34	33	32	31	36.1
17-Jul	29	27	25	24	23	22	20	18	17	17	18	20	22	24	27	29	33	35	35	35	34	34	32	31	35.1
18-Jul	30	28	27	26	26	24	21	19	18	17	18	20	23	27	31	35	38	41	42	42	42	41	40	39	42.0
19-Jul	36	33	29	26	24	21	18	16	16	17	18	19	20	22	23	25	26	28	29	29	29	28	27	26	36.1
20-Jul	26	24	23	22	22	20	19	19	17	16	16	16	16	16	16	17	18	19	19	20	20	21	21	20	25.6
21-Jul	20	20	20	20	19	19	20	21	22	23	24	24	25	25	26	27	27	27	27	26	25	24	23	21	27.0
22-Jul	20	18	17	16	15	14	13	12	12	14	17	20	22	25	28	30	32	33	34	34	34	33	34	34	34.3
23-Jul	33	33	31	30	30	28	26	25	25	24	24	24	24	25	25	26	26	27	27	27	27	27	26	26	33.5
24-Jul	25	24	23	22	22	21	20	19	19	20	20	21	21	22	24	25	25	25	25	25	25	25	24	23	25.4
25-Jul	22	21	20	19	18	17	15	15	14	15	16	18	19	22	25	27	29	31	32	32	32	31	30	28	31.8
26-Jul	27	25	24	23	22	21	20	20	19	19	20	21	23	24	26	28	31	32	33	34	34	34	33	32	33.9
27-Jul	30	28	26	25	24	22	20	19	19	19	19	20	21	21	23	23	24	24	25	25	24	24	24	24	30.2
28-Jul	24	24	23	22	22	19	16	15	13	12	11	13	15	18	20	23	24	26	27	27	26	25	23	22	27.3
29-Jul	20	19	18	16	16	15	15	14	14	14	15	16	17	19	22	25	28	30	32	33	34	34	34	33	34.2
30-Jul	32	32	31	31	31	30	28	26	25	25	25	26	26	27	29	30	31	31	31	31	30	29	27	27	32.5
31-Jul	26	25	23	21	20	19	18	16	15	13	14	14	15	15	15	15	15	17	18	19	19	19	19	19	26.2
36.1 32.6 31.4 30.8 30.8 29.5 27.7 26.4 25.3 24.7 24.9 25.7 26.4 27.1 31.0 34.8 37.8 40.6 41.8 42.0 41.7 41.1 40.2 39.1																									
Diurnal Maximums																									
N - Not Valid																									

Span Responses

Ozone (O₃)
Beaverlodge - July 2016



Hourly Averages

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

Beaverlodge - July 2016

Number of Exceedences: 1-hr: 0 24-hr: 0 Maximum Value: 22.6 µg/m³ on Jul 17 02:00																								Maximum Daily Average: 15.4 µg/m³ on Jul 17				Hours in Service: 744 Hours of Data: 744 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0	
Minimum Value: 0 µg/m³ on Jul 5 04:00 Maximum Diurnal Average: 6.4 µg/m³ at hour 2 Monthly Average: 4.90 µg/m³												Minimum Daily Average: 0.9 µg/m³ on Jul 3 Minimum Diurnal Average: 3.5 µg/m³ at hour 16 Percentiles: P ₁ = 0.3 P ₁₀ = 1.0 Q ₁ = 2.1 Median = 4.1 Q ₃ = 6.6 P ₉₀ = 9.7 P ₉₉ = 18.8																	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24					
1-Jul	6	7	7	7	7	7	6	4	5	7	7	8	11	10	9	4	5	5	4	4	4	5	6	8	6.4	11.2			
2-Jul	10	13	11	7	3	5	4	3	3	2	1	2	1	1	1	1	1	1	2	2	2	3	4	4	3.7	13.1			
3-Jul	4	3	1	1	1	0	0	0	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	4.1			
4-Jul	1	1	1	0	0	0	0	0	1	0	0	0	0	0	0	1	1	1	1	1	2	10	1	1	1.0	9.9			
5-Jul	1	0	0	0	0	0	1	1	1	2	4	4	5	2	2	2	3	3	4	4	3	3	2	2	2.1	4.5			
6-Jul	2	3	3	3	3	3	3	4	5	9	6	5	6	5	5	5	4	5	4	3	3	5	6	5	4.3	8.7			
7-Jul	6	6	5	5	5	4	4	3	3	3	3	2	2	3	3	4	5	6	4	4	9	13	11	7	5.0	13.2			
8-Jul	6	7	7	7	5	7	5	3	3	3	2	3	4	2	2	2	2	2	2	2	2	3	7	10	4.1	9.7			
9-Jul	8	8	7	7	10	10	8	8	8	8	6	10	10	8	7	7	5	4	3	4	3	3	3	4	6.6	10.5			
10-Jul	2	2	2	3	3	2	2	2	2	3	2	2	3	3	4	3	2	3	3	3	4	4	4	4	2.7	3.8			
11-Jul	4	5	2	1	1	2	4	5	6	6	5	5	5	5	5	5	6	7	7	6	7	8	8	6	5.2	7.8			
12-Jul	5	6	6	6	6	6	6	7	8	8	6	7	5	5	3	3	4	4	6	5	5	5	5	6	5.5	7.9			
13-Jul	5	5	6	6	5	5	5	5	6	7	5	4	5	5	3	4	4	5	5	5	5	4	5	5	5.0	6.7			
14-Jul	6	6	7	8	6	6	4	4	5	5	4	4	3	3	3	3	2	2	2	2	3	4	4	4	4.2	7.7			
15-Jul	4	4	4	5	4	4	4	3	3	4	4	3	2	3	4	4	4	4	4	7	8	8	8	7	4.6	8.4			
16-Jul	9	11	12	11	10	10	9	7	8	8	7	5	4	5	5	6	7	15	10	13	19	19	19	19	10.3	19.2			
17-Jul	20	23	22	22	20	19	17	16	18	16	10	10	12	15	14	13	12	11	11	13	14	15	16	14	15.4	22.6			
18-Jul	13	13	13	14	14	14	12	12	15	17	15	13	13	12	10	10	10	8	8	8	9	10	11	12	12.0	16.7			
19-Jul	13	14	13	13	11	11	10	9	8	9	8	9	10	10	10	10	11	7	5	6	7	9	9	8	9.6	13.7			
20-Jul	7	8	6	5	5	4	4	3	3	2	3	4	4	3	3	2	2	2	4	5	6	5	5	6	4.2	7.9			
21-Jul	7	7	7	7	7	6	5	4	3	3	3	3	3	2	2	2	2	3	2	2	2	3	4	4	4.0	7.5			
22-Jul	7	8	8	8	6	7	7	5	4	3	3	3	3	3	3	4	5	5	5	6	6	6	4	6	5.2	7.9			
23-Jul	7	7	7	8	9	9	8	6	5	4	2	2	2	2	2	2	2	2	2	3	3	3	3	3	4.3	8.6			
24-Jul	2	2	1	2	1	2	1	1	1	1	1	1	1	1	2	1	2	1	1	1	1	1	1	1	1.3	2.4			
25-Jul	1	1	1	1	1	1	1	2	2	3	1	1	1	1	1	1	1	1	2	2	3	4	4	5	1.8	4.9			
26-Jul	5	5	4	4	4	4	4	3	4	6	4	1	1	2	2	2	2	3	3	5	6	7	6	7	3.8	7.5			
27-Jul	8	9	10	10	10	8	7	6	5	3	3	3	2	2	2	2	2	2	4	4	6	7	7	5	5.3	10.2			
28-Jul	4	3	5	7	7	7	7	6	6	6	4	3	1	1	1	2	2	2	3	4	7	9	10	6	4.7	9.8			
29-Jul	6	8	7	6	7	6	6	7	6	4	3	3	3	3	2	3	4	3	3	4	5	6	6	9	5.0	9.1			
30-Jul	5	5	5	6	6	5	4	3	2	1	1	1	2	2	1	2	2	2	1	1	2	4	1	1	2.8	6.0			
31-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.1	1.3			
6.0 6.4 6.2 6.1 5.8 5.7 5.1 4.7 4.9 4.9 4.1 3.9 4.2 3.9 3.6 3.5 3.7 3.9 3.7 4.3 5.2 6.1 6.0 5.8 20.0 22.6 21.6 22.1 20.1 18.9 16.5 15.8 17.6 16.7 15.0 12.8 13.3 15.3 13.6 12.7 11.9 14.7 10.6 13.3 18.8 19.2 18.9 19.0																								Diurnal Average	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

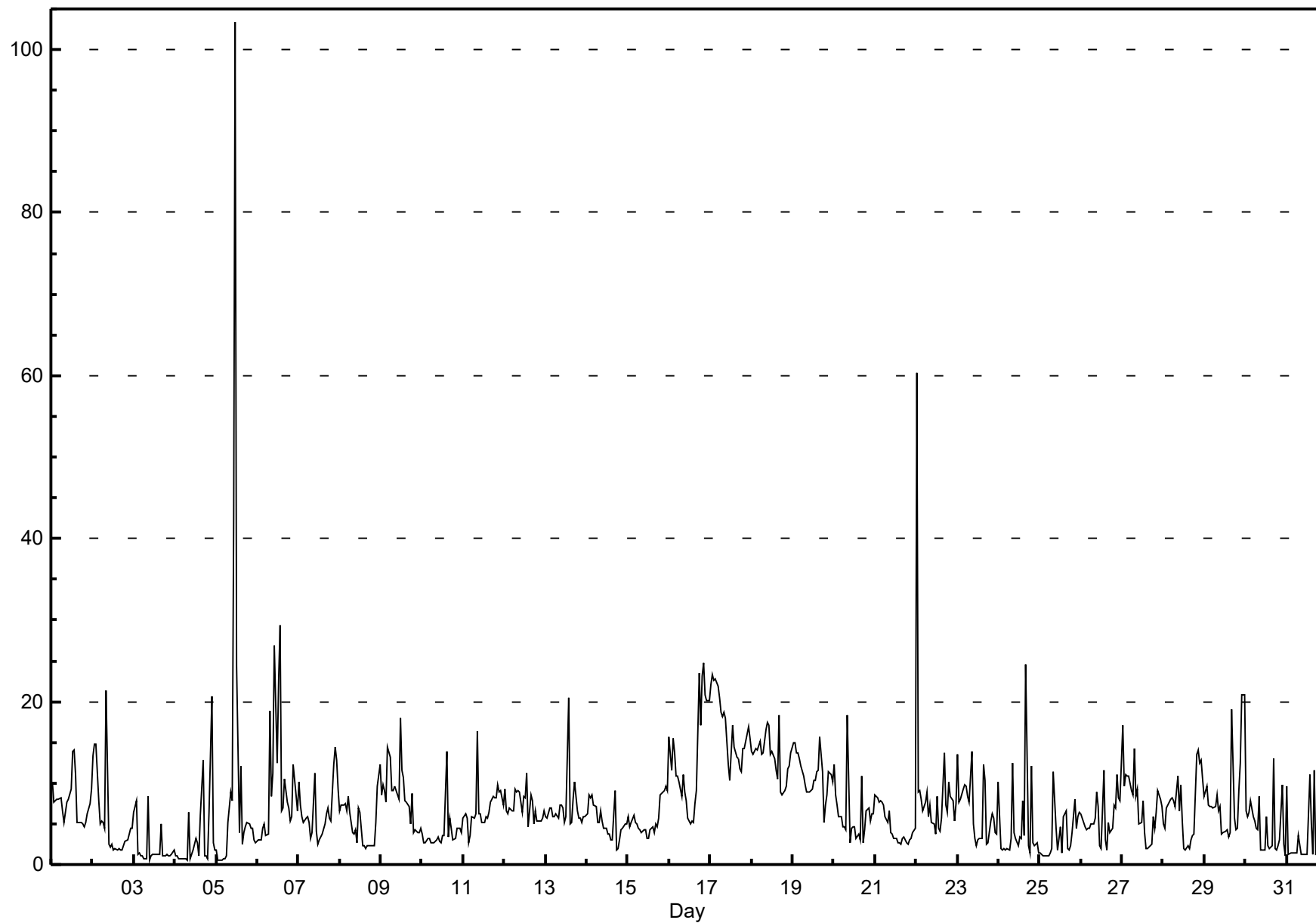
Particulate Matter 2.5 (PM_{2.5}) - µg/m³

Beaverlodge - July 2016

Maximum Value: 103.4 μg/m³ on Jul 5 12:00																					Maximum Daily Average: 16.7 μg/m³ on Jul 17										Hours in Service: 744	
Minimum Value: 1 μg/m³ on Jul 3 10:00																					Minimum Daily Average: 2.1 μg/m³ on Jul 3										Hours of Data: 744	
Maximum Diurnal Average: 10.4 μg/m³ at hour 1																					Minimum Diurnal Average: 4.9 μg/m³ at hour 19										Hours of Missing Data: 0	
Monthly Average: 7.07 μg/m³																					Percentiles: P ₁ = 0.8 P ₁₀ = 1.7 Q ₁ = 3.2 Median = 5.9 Q ₃ = 8.8 P ₉₀ = 13.7 P ₉₉ = 24.3										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	10	8	8	8	8	8	7	5	6	8	8	9	14	14	11	5	5	5	5	5	5	6	8	9	7.7	14.0						
2-Jul	13	15	15	8	5	5	5	4	21	2	2	2	2	2	2	2	2	2	2	3	3	4	4	4	5.4	21.3						
3-Jul	6	8	1	1	1	1	1	1	8	1	1	1	1	1	1	1	5	1	1	1	1	1	1	2	2.1	8.3						
4-Jul	1	1	1	1	1	1	1	1	6	1	2	2	3	3	1	6	13	1	1	1	6	21	3	2	3.2	20.6						
5-Jul	2	1	1	1	1	1	1	5	9	8	42	103	24	4	12	2	4	5	5	5	4	4	3	3	10.4	103.4						
6-Jul	3	3	3	4	5	3	4	19	8	11	27	12	23	29	7	7	11	8	7	5	6	12	9	7	9.7	29.4						
7-Jul	10	7	6	5	6	6	5	3	4	11	4	2	3	3	4	5	6	7	6	5	12	14	13	9	6.6	14.5						
8-Jul	7	7	7	7	7	8	6	4	4	4	3	7	6	2	2	2	2	2	2	2	2	5	10	12	5.1	12.3						
9-Jul	9	10	9	8	14	13	9	9	10	9	8	18	12	11	8	8	7	5	9	4	4	4	4	4	8.5	18.1						
10-Jul	4	3	3	3	3	3	3	3	3	3	3	3	3	3	14	3	6	4	3	3	4	4	4	4	3.9	13.9						
11-Jul	6	6	6	3	3	6	6	6	16	6	6	5	5	6	6	6	8	8	8	8	10	9	9	7	6.9	16.4						
12-Jul	9	7	6	7	7	7	9	9	9	9	6	8	8	11	5	9	8	5	7	5	5	5	6	7	7.2	11.2						
13-Jul	6	6	7	7	6	6	6	6	7	7	7	5	6	20	5	5	8	10	7	6	6	5	6	6	6.9	20.4						
14-Jul	6	9	8	9	7	7	5	5	7	5	4	4	4	4	3	3	9	2	2	3	4	4	5	5	5.2	9.1						
15-Jul	6	5	5	6	5	5	4	4	4	4	4	3	3	4	5	4	5	5	6	9	9	9	10	9	5.5	9.6						
16-Jul	16	12	15	14	11	11	10	8	11	9	8	6	5	5	5	7	9	24	17	23	25	21	20	20	13.0	24.8						
17-Jul	22	23	23	23	22	20	19	18	19	18	12	10	14	17	14	13	13	12	11	14	14	16	17	15	16.7	23.3						
18-Jul	14	14	14	14	15	15	13	14	16	17	17	14	14	13	12	11	18	9	9	9	10	12	12	14	13.3	18.4						
19-Jul	15	15	14	14	13	12	11	10	9	9	9	9	10	10	11	12	16	11	5	7	9	11	11	10	11.0	15.7						
20-Jul	12	9	7	6	6	5	5	4	18	3	4	5	5	3	4	3	11	3	4	7	7	5	6	6	6.1	18.4						
21-Jul	9	8	8	8	8	7	6	5	7	4	4	3	3	3	3	2	3	3	3	2	3	3	4	4	4.7	8.6						
22-Jul	60	9	9	8	7	8	9	6	7	5	5	4	8	4	4	6	14	7	6	10	8	8	5	7	9.4	60.3						
23-Jul	13	8	8	9	10	10	8	8	14	5	3	2	3	3	3	12	10	2	3	5	6	6	4	4	6.7	14.0						
24-Jul	10	2	2	2	2	2	2	3	12	4	3	2	3	3	8	3	25	2	2	12	3	2	3	1	4.7	24.5						
25-Jul	2	1	1	1	1	1	1	2	11	4	2	3	5	2	6	7	2	2	2	4	8	4	6	6	3.5	11.3						
26-Jul	6	6	5	4	4	4	5	5	6	9	7	2	2	12	3	2	5	4	4	7	7	11	8	8	5.7	11.5						
27-Jul	17	10	11	11	11	9	9	14	8	9	5	5	8	4	2	2	2	2	6	4	6	9	8	7	7.5	17.2						
28-Jul	5	4	7	8	8	8	8	7	11	7	10	5	2	2	2	2	3	3	4	13	14	13	13	11	7.0	14.0						
29-Jul	8	10	7	7	7	7	7	9	7	7	4	4	4	4	3	4	19	6	4	4	9	12	21	21	8.2	20.8						
30-Jul	7	6	6	8	6	5	4	4	8	2	2	2	6	2	2	2	13	2	2	2	3	10	2	1	4.5	13.0						
31-Jul	10	1	1	2	2	1	2	4	1	1	1	1	1	11	5	1	12	1	1	1	2	2	1	1	2.8	11.5						
10.4 7.4 7.2 6.9 6.8 6.7 6.1 6.6 9.3 6.6 7.2 8.6 6.8 7.0 5.5 5.1 8.8 5.3 4.9 6.2 7.0 8.2 7.6 7.4																									Diurnal Average	Diurnal Maximum						
60.3 23.3 22.6 22.8 21.8 20.4 18.6 18.9 21.3 17.9 42.4 103.4 24.3 29.4 14.5 13.3 24.5 23.5 17.1 23.1 24.8 20.8 20.8 20.8																																

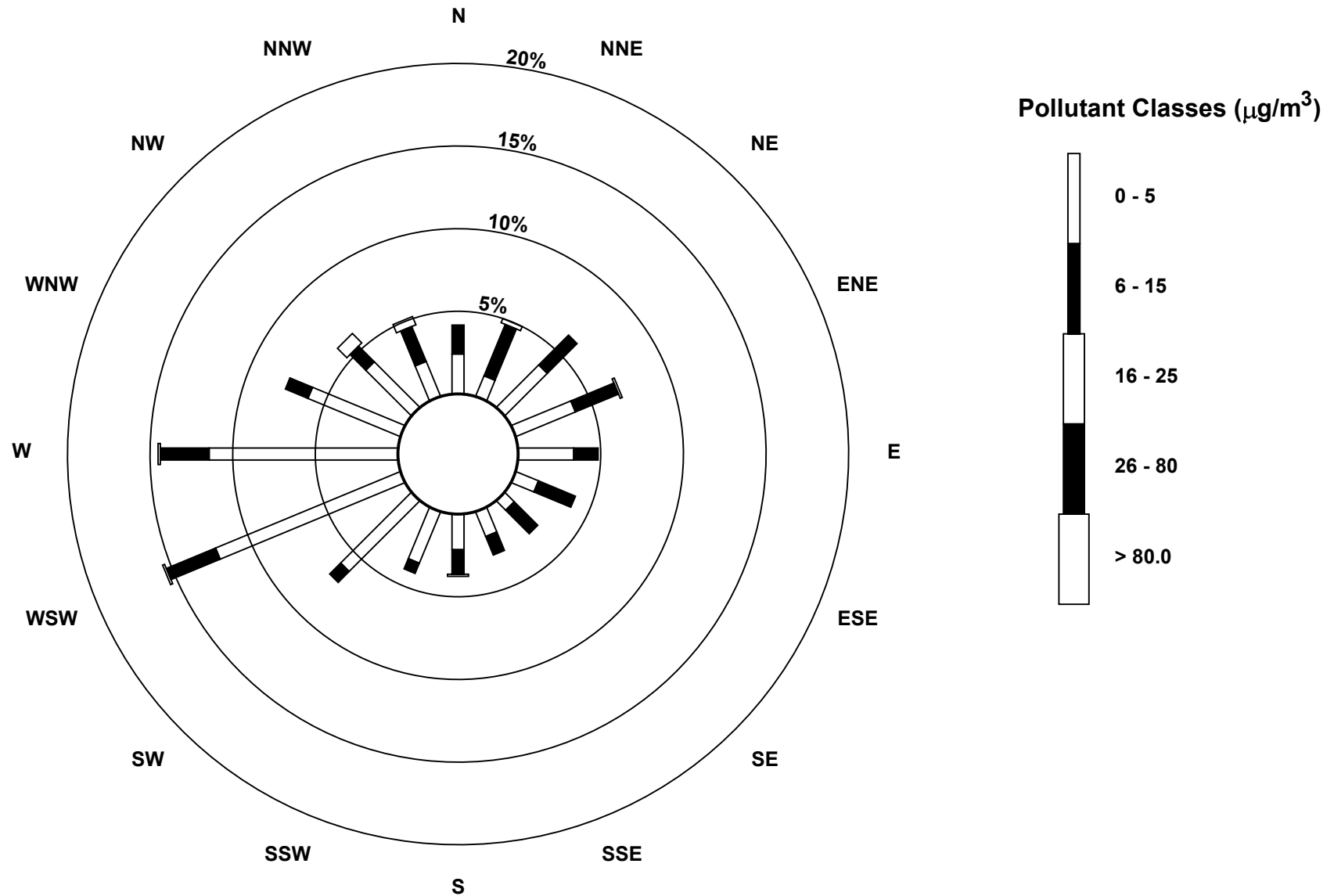
Hourly Maximums

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Beaverlodge - July 2016



Pollutant Rose

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Beaverlodge - July 2016



Hourly Averages

External Temperature (ET) - °C

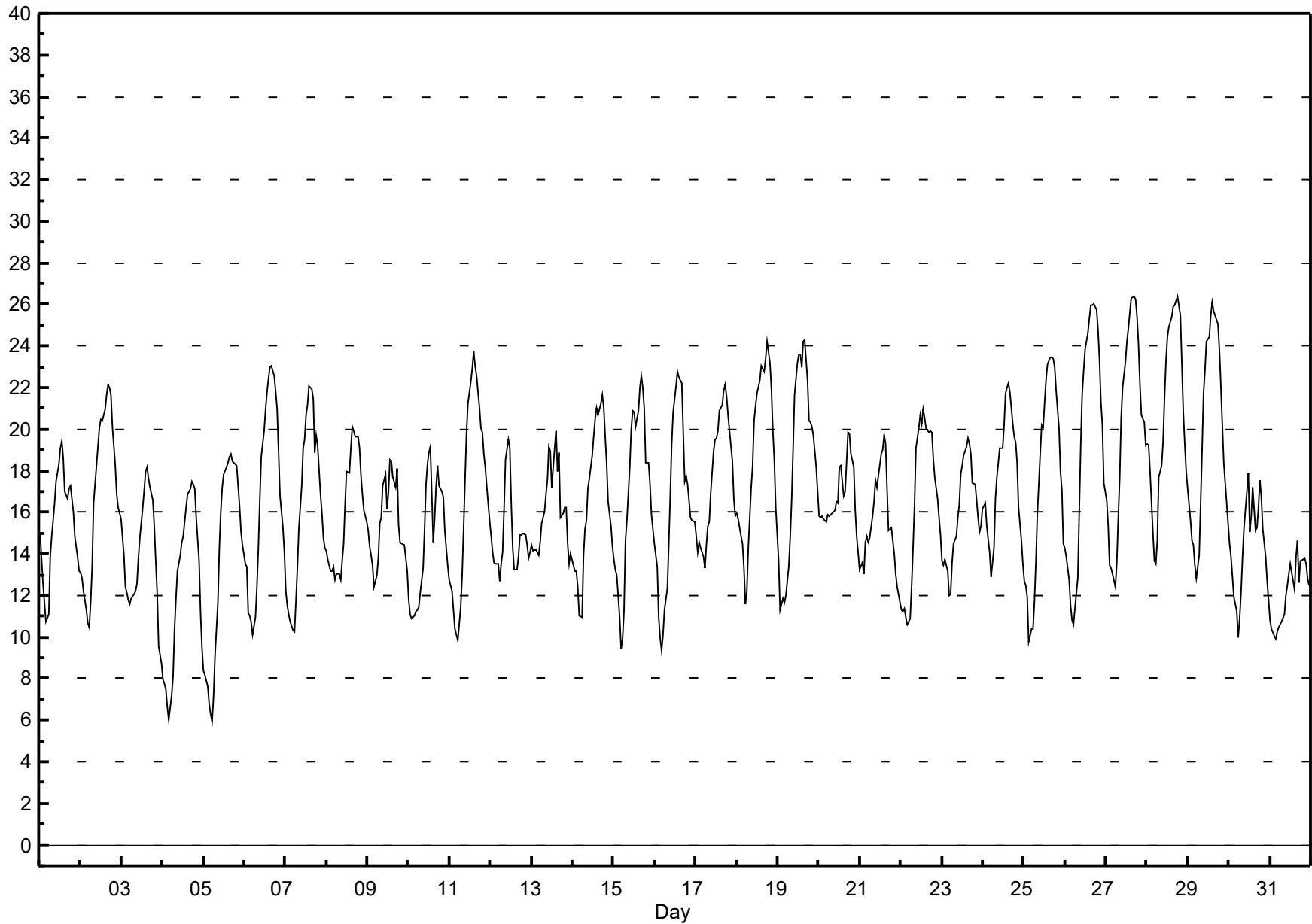
Beaverlodge - July 2016

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 26.4 °C on Jul 28 19:00 Maximum Daily Average: 20.8 °C on Jul 28																								Hours in Service: 744 Hours of Data: 744 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0			
Minimum Value: 6 °C on Jul 5 06:00 Maximum Diurnal Average: 20.5 °C at hour 17 Monthly Average: 16.47 °C												Minimum Daily Average: 12.1 °C on Jul 31 Minimum Diurnal Average: 11.5 °C at hour 6 Percentiles: P ₁ = 7.5 P ₁₀ = 11.3 Q ₁ = 13.5 Median = 16.1 Q ₃ = 19.3 P ₉₀ = 22.1 P ₉₉ = 25.9															
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	15	14	13	12	11	11	14	15	16	16	18	18	19	19	19	17	17	17	17	17	17	16	15	14	13	15.5	19.5
2-Jul	13	13	12	11	11	10	12	13	16	18	19	20	20	20	21	22	22	22	22	20	18	17	16	16	16	16.9	22.1
3-Jul	16	14	12	12	12	12	12	12	12	13	14	15	16	17	18	18	18	17	17	15	14	12	10	9	14.0	18.2	
4-Jul	8	8	7	7	6	7	8	10	12	13	14	15	15	16	16	17	17	17	17	17	16	14	11	10	12.4	17.5	
5-Jul	8	8	8	7	6	6	7	9	12	14	16	17	18	18	18	19	19	18	18	18	17	16	15	14	13.7	18.8	
6-Jul	13	13	11	11	11	10	11	12	14	17	19	20	21	22	22	23	23	23	22	21	19	17	15	14	16.8	23.0	
7-Jul	12	12	11	11	10	10	12	13	15	17	19	19	21	21	22	22	21	19	20	19	17	16	15	14	16.2	22.0	
8-Jul	14	14	13	13	13	13	13	13	13	14	15	16	18	18	19	20	20	20	20	19	18	17	16	16	16.0	20.1	
9-Jul	15	14	14	13	12	13	14	15	16	17	18	16	17	19	18	18	17	18	15	15	15	14	14	13	15.5	18.5	
10-Jul	12	11	11	11	11	11	11	12	13	15	17	18	19	19	15	16	17	18	17	17	17	15	14	13	14.7	19.1	
11-Jul	13	12	11	10	10	10	11	13	15	18	20	21	22	23	24	23	23	21	20	20	19	18	17	16	17.1	23.8	
12-Jul	15	14	14	14	13	13	14	14	16	19	20	19	16	14	13	13	14	15	15	15	15	14	14	14	14.9	19.5	
13-Jul	14	14	14	14	14	15	15	16	17	18	19	19	17	19	20	18	19	16	16	16	16	14	14	14	16.2	19.9	
14-Jul	13	13	13	12	11	11	14	15	16	17	18	19	20	21	21	21	21	22	21	20	18	17	15	14	16.8	21.7	
15-Jul	14	13	13	11	9	10	11	15	16	18	20	21	21	20	21	22	23	22	21	18	18	17	16	15	16.9	22.6	
16-Jul	14	13	11	10	9	10	11	12	15	17	19	21	22	23	22	22	22	18	18	17	17	16	16	16	16.3	22.8	
17-Jul	15	14	15	14	14	13	14	15	16	17	19	19	20	20	21	21	22	22	22	21	20	18	17	16	17.7	22.1	
18-Jul	16	16	15	15	13	12	12	14	17	18	20	21	22	22	23	23	23	23	24	23	22	20	19	16	18.7	24.2	
19-Jul	14	11	12	12	12	12	13	15	17	19	22	23	24	24	23	24	24	22	20	20	20	18	17	17	18.2	24.3	
20-Jul	16	16	16	16	16	16	16	16	16	16	17	16	18	18	17	17	18	20	20	19	18	16	15	14	16.7	19.9	
21-Jul	13	14	13	15	15	15	15	16	17	18	17	18	19	19	20	19	17	15	15	15	14	13	12	12	15.6	19.7	
22-Jul	11	11	11	11	11	11	12	14	16	19	20	21	20	21	21	20	20	20	20	19	18	17	16	15	16.4	20.9	
23-Jul	14	13	14	13	12	12	14	14	15	16	16	18	18	19	19	20	19	19	17	17	17	16	15	15	15.9	19.6	
24-Jul	16	16	15	15	14	13	14	17	18	18	19	19	20	22	22	22	22	20	20	19	18	16	15	14	17.7	22.2	
25-Jul	13	12	12	10	10	10	12	14	16	19	20	20	21	22	23	23	23	23	23	22	20	18	17	15	17.5	23.5	
26-Jul	14	14	13	12	11	11	11	13	16	19	22	23	24	25	25	26	26	26	26	25	23	21	20	17	19.3	26.0	
27-Jul	17	15	13	13	13	12	14	16	18	21	22	23	24	25	26	26	26	26	25	24	22	21	20	19	20.1	26.4	
28-Jul	19	19	18	15	14	14	15	18	18	19	22	23	24	25	25	26	26	26	26	25	23	21	19	18	20.8	26.4	
29-Jul	17	16	15	14	13	13	14	16	19	22	23	24	24	25	26	26	25	25	24	22	20	18	17	15	19.8	26.1	
30-Jul	15	14	13	12	11	10	11	12	14	15	17	18	15	16	17	15	15	16	18	17	15	14	13	12	14.3	17.9	
31-Jul	11	10	10	10	10	10	11	11	11	12	13	13	13	13	12	14	15	13	14	14	14	14	13	12	12.1	14.7	
13.9 13.3 12.7 12.1 11.6 11.5 12.5 13.9 15.3 17.0 18.4 19.2 19.7 20.1 20.3 20.4 20.5 20.0 19.7 18.9 17.9 16.5 15.4 14.5																								Diurnal Average			
19.3 19.2 18.0 15.7 15.6 15.9 15.8 17.7 19.0 21.7 22.8 24.2 24.4 25.5 26.1 26.3 26.4 26.3 26.4 25.5 23.3 21.3 20.3 19.2																								Diurnal Maximum			

Hourly Averages

External Temperature (ET) - °C

Beaverlodge - July 2016



Hourly Averages

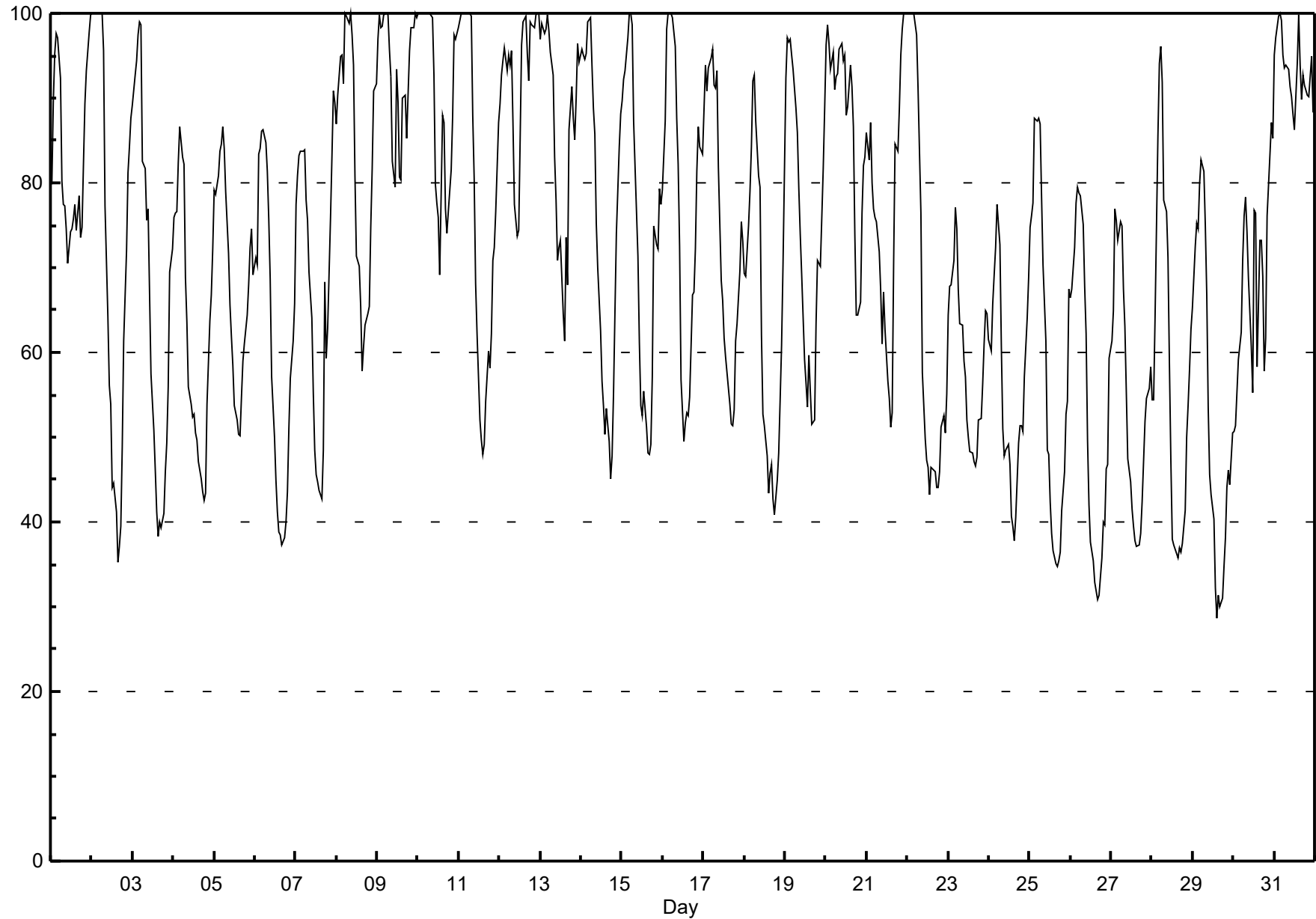
Relative Humidity (RH) - %

Beaverlodge - July 2016

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 100.0 % on Jul 2 01:00 Maximum Daily Average: 93.4 % on Jul 31																				Hours in Service: 744 Hours of Data: 744 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0						
Minimum Value: 29 % on Jul 29 15:00 Maximum Diurnal Average: 90.6 % at hour 6 Monthly Average: 71.74 % Minimum Daily Average: 52.8 % on Jul 29 Minimum Diurnal Average: 55.1 % at hour 16 Percentiles: P ₁ = 32.1 P ₁₀ = 44.1 Q ₁ = 54.1 Median = 73.9 Q ₃ = 89.8 P ₉₀ = 98.0 P ₉₉ = 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	90	95	98	97	92	80	78	77	75	71	74	75	76	77	74	78	74	75	82	89	93	98	100	83.2	99.8
2-Jul	100	100	100	100	100	100	100	96	77	64	56	54	44	45	41	35	37	40	49	61	72	81	84	88	71.8	100.0
3-Jul	89	93	94	97	99	99	83	82	76	77	67	58	51	46	41	38	40	39	41	46	49	56	70	72	66.8	99.0
4-Jul	76	76	77	82	87	83	82	69	64	56	54	52	53	51	50	47	45	44	43	43	54	64	67	72	62.0	86.7
5-Jul	79	79	81	84	85	87	84	79	72	66	62	59	54	52	50	50	55	59	61	64	68	72	75	69	68.5	86.5
6-Jul	71	70	83	84	86	86	85	81	76	69	57	50	45	41	39	38	37	38	40	44	51	57	61	66	60.7	86.3
7-Jul	77	81	83	84	84	84	78	76	69	64	55	48	46	45	44	43	48	68	59	63	76	83	91	89	68.3	90.8
8-Jul	87	90	95	95	92	100	100	99	100	98	94	81	71	70	65	58	61	63	65	65	75	82	91	92	82.8	100.0
9-Jul	97	100	98	98	100	100	100	96	93	82	80	93	90	81	80	90	90	85	91	96	98	98	100	99	93.1	100.0
10-Jul	100	100	100	100	100	100	100	100	99	93	80	78	76	69	88	87	77	74	77	82	88	97	97	98	90.0	100.0
11-Jul	98	100	100	100	100	100	100	100	88	81	68	62	52	50	48	49	54	60	58	62	71	72	77	87	76.6	100.0
12-Jul	89	93	94	96	93	95	94	96	87	77	74	74	85	96	99	100	95	92	99	99	98	100	100	100	92.7	100.0
13-Jul	97	99	98	98	100	98	95	93	83	78	71	72	73	65	61	73	68	86	91	88	85	90	96	94	85.5	99.8
14-Jul	96	95	95	95	99	100	94	89	86	75	70	63	57	54	50	53	50	45	48	55	65	74	84	88	74.1	99.5
15-Jul	90	92	93	97	100	100	99	87	82	71	61	54	52	55	51	48	48	49	57	75	73	72	79	77	73.5	100.0
16-Jul	79	87	98	100	100	100	99	96	88	82	73	57	50	52	53	53	55	67	67	72	81	87	84	83	77.6	100.0
17-Jul	89	94	91	94	95	96	92	91	93	82	69	66	62	59	58	54	51	51	53	61	63	70	75	73	74.2	95.8
18-Jul	69	69	75	79	84	92	93	87	81	79	62	53	51	48	43	46	47	43	41	45	48	54	61	70	63.4	92.8
19-Jul	92	97	97	97	95	93	89	86	79	74	69	59	56	54	60	55	52	52	63	71	70	70	82	89	75.1	97.2
20-Jul	96	99	96	93	95	91	93	93	96	96	94	95	88	89	94	91	87	74	64	64	66	76	82	83	87.4	98.7
21-Jul	86	83	87	80	77	76	75	72	67	61	67	63	57	55	51	53	70	85	84	89	95	98	100	100	76.3	100.0
22-Jul	100	100	100	100	100	97	91	84	76	58	50	47	46	43	46	46	46	44	44	46	51	53	51	55	65.6	100.0
23-Jul	64	68	68	71	77	75	68	63	63	59	57	52	50	48	48	47	47	48	52	52	56	61	65	65	59.3	77.1
24-Jul	61	60	66	69	72	77	73	61	51	48	49	49	47	41	40	38	41	49	51	51	51	57	64	69	55.6	77.4
25-Jul	75	76	78	88	87	88	87	78	70	61	48	48	42	39	37	35	35	35	36	41	46	53	54	67	58.6	87.7
26-Jul	66	67	72	78	79	79	78	75	68	62	50	42	38	35	33	32	31	31	36	40	40	46	47	59	53.5	79.4
27-Jul	61	65	77	76	73	75	75	67	63	55	47	45	41	40	38	37	37	39	42	47	52	55	56	58	55.1	76.9
28-Jul	54	54	64	86	94	96	92	78	77	71	59	47	38	37	36	36	37	36	37	41	50	54	58	63	58.2	96.1
29-Jul	65	73	75	75	80	83	81	75	67	54	46	43	40	32	29	31	30	31	35	38	44	46	44	51	52.8	82.7
30-Jul	51	51	55	59	62	71	76	78	74	69	61	55	77	76	58	73	73	69	58	62	76	83	87	85	68.4	87.1
31-Jul	95	97	100	100	99	95	94	94	93	91	90	88	86	94	100	94	90	93	92	90	90	92	95	88	93.4	100.0
81.7 83.8 86.6 88.8 90.1 90.6 88.0 83.8 78.6 71.9 64.8 60.7 57.8 56.0 55.1 55.1 55.2 56.9 58.4 62.5 67.5 72.5 76.6 79.0																									Diurnal Average	
100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 97.5 94.4 95.0 89.6 96.2 99.8 99.6 95.2 92.7 99.0 98.7 98.3 99.8 100.0 100.0																									Diurnal Maximum	

Hourly Averages

Relative Humidity (RH) - %
Beaverlodge - July 2016



Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Beaverlodge - July 2016

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	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	5	3	2	4	4	3	4	5	5	4	6	8	5	17	18	6	4	4	6	7	8	6	5	1.8	18.2
Dir	58	54	77	127	60	51	70	103	164	162	127	141	122	177	261	272	273	298	212	181	153	141	101	101	161	272
2 Spd	4	2	1	1	2	5	5	2	3	11	17	19	17	16	15	10	9	11	13	10	8	6	8	7	5.2	19.2
Dir	96	110	139	150	113	56	197	169	163	233	238	236	236	242	215	222	184	191	172	152	133	78	77	76	199	236
3 Spd	2	17	11	7	8	9	16	10	17	12	22	30	28	27	28	34	30	31	27	29	26	22	10	7	18.6	34.1
Dir	42	269	296	309	262	241	266	237	251	231	257	261	261	252	249	259	263	261	251	253	259	253	242	240	257	259
4 Spd	7	6	4	3	3	3	6	11	13	18	20	21	19	16	15	19	17	16	15	12	9	8	10	10	11.1	21.0
Dir	218	219	214	207	93	151	210	236	223	230	230	229	220	229	223	216	233	237	237	233	274	266	254	242	230	229
5 Spd	3	7	7	7	5	3	3	7	10	9	7	4	2	4	3	2	7	7	8	7	7	6	6	6	4.6	10.3
Dir	212	226	228	214	209	203	198	212	231	233	244	245	268	309	295	281	285	319	309	286	286	281	280	281	256	231
6 Spd	5	3	2	1	1	3	5	6	8	10	17	14	16	16	18	16	24	25	24	14	13	6	7	5	10.2	25.4
Dir	283	284	87	197	202	205	219	208	227	263	272	276	277	279	270	270	260	258	263	256	266	269	247	243	262	258
7 Spd	1	2	3	4	4	3	1	5	7	6	4	3	1	3	5	6	3	11	13	13	14	8	6	5	2.6	14.5
Dir	133	88	70	71	61	75	179	196	230	248	259	259	191	301	55	88	127	69	91	35	38	18	94	99	68	38
8 Spd	9	5	3	3	3	3	4	6	3	5	3	2	2	6	4	7	7	10	6	5	6	8	8	8	2.3	9.8
Dir	38	297	6	40	294	209	228	170	252	287	191	223	55	6	48	51	95	74	96	66	70	46	80	41	62	96
9 Spd	3	4	4	8	9	6	6	2	8	8	6	7	5	7	9	4	7	2	3	4	4	1	5	3	3.8	9.4
Dir	358	24	4	14	335	27	15	0	335	19	57	110	315	31	18	271	320	46	94	130	42	311	1	41	14	335
10 Spd	3	2	2	2	1	3	3	3	2	5	5	7	9	9	4	5	9	8	8	6	3	3	3	3	2.9	9.4
Dir	170	241	238	66	80	186	193	192	239	294	266	226	253	297	327	256	249	251	244	241	208	113	99	80	246	297
11 Spd	1	2	1	5	2	2	2	4	4	5	4	3	4	6	6	8	9	8	11	7	6	9	5	10	0.6	11.1
Dir	111	151	159	35	73	265	76	212	242	267	292	236	224	185	96	196	38	341	314	4	17	24	92	189	339	314
12 Spd	12	8	1	2	7	7	4	4	5	6	6	7	6	3	5	2	3	3	9	9	6	4	3	7	3.1	12.3
Dir	231	277	352	333	322	322	21	339	56	43	30	15	229	260	225	358	357	344	302	277	290	249	308	327	309	231
13 Spd	10	9	12	11	9	8	11	10	11	7	5	8	5	4	3	15	7	2	7	7	5	7	2	3	5.9	15.4
Dir	324	325	338	332	334	340	335	352	357	9	20	17	11	357	272	251	256	265	291	315	337	346	359	122	332	251
14 Spd	5	4	11	10	3	3	1	2	3	5	8	9	10	13	12	11	11	10	10	11	6	6	6	2	5.6	13.4
Dir	34	346	18	28	20	25	38	181	187	106	90	70	77	90	70	35	77	66	85	59	69	111	236	14	65	90
15 Spd	5	7	6	5	3	2	1	1	5	1	3	4	11	11	11	10	9	10	5	5	6	4	5	4	3.1	11.4
Dir	21	28	16	313	353	42	14	213	229	239	76	92	47	38	48	41	60	88	157	233	250	285	35	35	41	47
16 Spd	3	4	4	1	3	4	2	3	5	5	8	7	9	14	13	10	11	13	13	10	7	7	9	10	5.1	14.4
Dir	5	27	249	222	43	38	206	194	240	246	284	283	265	310	7	2	334	16	344	9	305	307	326	337	329	310
17 Spd	5	8	10	8	3	4	4	1	5	5	4	3	3	6	6	6	5	7	8	7	6	6	6	6	0.8	10.2
Dir	321	315	337	340	340	323	14	29	273	247	187	190	188	156	175	170	160	111	107	117	132	106	73	68	101	337
18 Spd	5	4	4	7	5	2	1	1	1	4	7	10	8	7	7	6	5	1	2	2	6	6	3	1	2.7	9.7
Dir	63	72	46	31	34	223	185	216	152	189	124	126	114	112	84	76	70	73	196	267	348	20	21	29	80	126
19 Spd	5	3	1	4	3	3	1	2	4	3	4	16	16	23	18	22	22	11	2	4	4	4	10	8	4.9	23.4
Dir	302	63	103	27	65	65	104	138	150	192	171	269	292	277	245	262	254	321	212	101	141	275	342	303	272	277
20 Spd	8	8	6	7	3	2	4	4	7	10	13	10	11	2	3	2	2	16	25	25	23	11	4	4	7.7	25.4
Dir	315	293	257	251	195	278	251	248	236	258	289	314	288	194	343	275	151	233	248	246	245	246	232	218	257	246
21 Spd	8	8	2	5	5	9	6	6	12	20	7	14	23	23	28	21	12	17	8	5	10	6	4	6	6.2	28.5
Dir	231	242	130	243	239	240	239	228	264	268	257	266	269	267	268	270	354	44	37	58	138	149	115	108	264	268
22 Spd	7	6	5	4	4	3	3	5	10	26	29	29	29	33	31	29	35	31	25	21	15	19	20	17	15.6	35.1
Dir	108	123	128	139	103	125	148	198	216	252	252	249	249	266	270	256	262	255	254	255	259	271	266	260	253	262

Hourly Averages

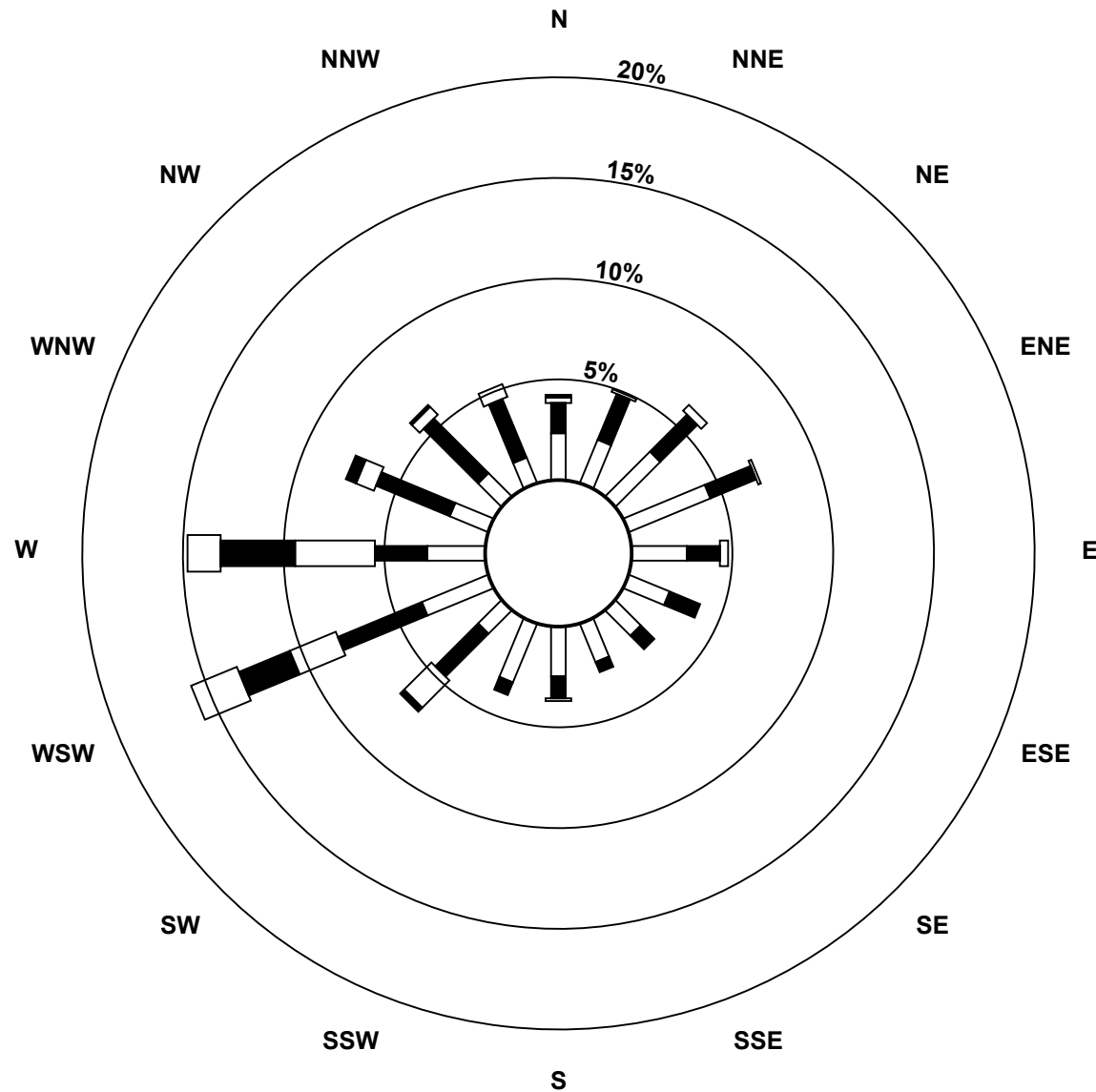
Wind Speed (km/h)
Wind Direction (deg)
Beaverlodge - July 2016

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum								
	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	10	12	13	13	13	17	23	22	30	28	32	36	36	31	30	33	35	28	27	22	11	9	14	22.0	36.0								
Dir	241	247	243	245	247	247	248	246	249	256	265	274	267	263	253	257	254	257	252	259	265	252	246	237	256	267								
24 Spd	20	27	19	14	8	9	1	12	26	36	31	27	30	35	36	35	38	18	24	21	21	12	5	0	20.5	38.2								
Dir	246	247	238	237	227	225	84	256	265	253	255	255	255	256	252	258	248	275	277	266	268	268	283	289	255	248								
25 Spd	3	2	5	5	6	3	3	2	5	10	21	18	17	22	21	21	20	21	17	11	6	3	3	2	7.5	21.6								
Dir	287	26	42	77	51	88	84	162	175	246	270	267	273	269	268	276	283	284	290	288	322	354	13	90	279	269								
26 Spd	1	2	4	4	2	2	3	4	4	4	11	16	14	11	11	11	14	20	9	7	7	8	9	1	4.4	19.7								
Dir	91	143	60	68	89	121	110	183	162	182	250	263	247	263	274	282	290	273	345	355	337	314	326	340	281	273								
27 Spd	2	2	3	3	2	3	3	3	4	5	12	8	8	6	6	6	6	6	12	9	8	10	10	3	3.1	11.8								
Dir	326	343	114	75	102	89	60	215	251	276	304	315	319	357	42	80	51	52	88	73	48	40	45	52	33	304								
28 Spd	3	5	1	6	4	1	2	3	4	6	8	17	18	17	18	15	10	15	6	5	7	4	3	3	6.1	18.1								
Dir	79	75	48	285	27	117	9	267	248	260	258	270	278	277	275	284	299	273	344	298	259	273	273	5	282	278								
29 Spd	2	3	3	2	4	5	4	2	4	13	16	16	22	32	30	27	25	25	20	14	10	9	8	11	9.7	32.3								
Dir	126	78	148	155	62	60	63	122	191	277	287	271	263	270	269	277	279	278	311	335	351	338	324	291	286	270								
30 Spd	4	8	6	4	6	6	7	9	8	4	1	7	4	18	21	13	13	6	4	6	7	6	2	7	6.0	21.0								
Dir	314	284	326	272	295	316	331	341	338	316	247	179	242	338	5	340	322	4	2	358	336	306	266	287	327	5								
31 Spd	10	7	7	6	3	4	6	8	7	11	18	21	20	10	3	10	11	9	13	11	7	5	8	8	8.6	21.0								
Dir	270	267	228	245	256	322	299	290	326	309	314	301	300	296	246	258	286	269	292	299	297	319	301	300	291	301								
Spd	1.7	2.6	1.4	1.4	1.1	0.8	1.4	3.1	5.0	7.6	8.1	9.0	9.7	10.0	8.5	9.8	8.7	7.1	6.0	4.8	4.1	3.1	2.0	1.6	Diurnal Average									
Dir	287	280	304	310	327	292	269	236	247	256	263	262	264	271	270	267	272	276	273	276	281	296	312	288										
Spd	20.3	26.7	19.0	13.8	13.0	12.9	17.3	23.3	25.7	35.7	31.0	31.9	36.0	35.6	35.6	35.5	38.2	35.3	28.0	28.6	25.7	22.3	20.5	17.1	Diurnal Maximum									
Dir	246	247	238	237	247	247	248	246	265	253	255	274	267	263	252	258	248	257	252	253	259	253	266	260										
Maximum Speed Value: 38 km/h on Jul 24 17:00																				Minimum Speed Value: 0 km/h on Jul 25 00:00										Hours in Service:				744
Maximum Daily Speed Average: 22.0 km/h on Jul 23																				Minimum Daily Speed Average: 0.6 km/h on Jul 18										Hours of Data:				744
Maximum Diurnal Speed Average: 10.0 km/h at hour 14																				Minimum Diurnal Speed Average: 0.8 km/h at hour 6										Hours of Missing Data:				0
Monthly Average Velocity: 4.79 km/h 270.3 deg										Speed Percentiles: P ₁ = 0.8 P ₁₀ = 2.3 Q ₁ = 3.8 Median = 6.6 Q ₃ = 10.9 P ₉₀ = 20.9 P ₉₉ = 35.4										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	32		35		7		1		0		0		75																					
NorthEast	44		32		5		0		0		0		81																					
East	42		37		5		0		0		0		84																					
SouthEast	31		16		0		0		0		0		47																					
South	37		11		2		0		0		0		50																					
SouthWest	38		46		24		11		0		0		119																					
West	35		50		45		41		32		1		204																					
NorthWest	17		57		7		3		0		0		84																					
Total	276		284		95		56		32		1		744																					

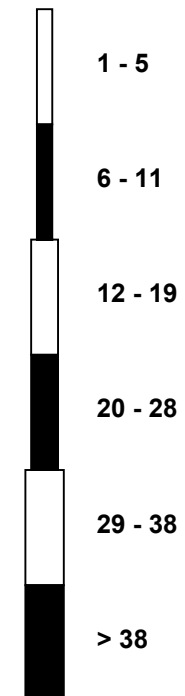
Wind Rose

Wind Speed (WS) (km/h)

Beaverlodge - July 2016



Wind Speed Classes (km/h)



Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Beaverlodge - July 2016

Maximum Speed: 38 km/h on Jul 24 17:00																				Maximum Daily Speed Average: 22.5 km/h on Jul 23										Hours in Service: 744	
Minimum Speed: 1 km/h on Jul 18 07:00																				Minimum Daily Speed Average: 5.1 km/h on Jul 10										Hours of Data: 744	
Maximum Diurnal Speed Average: 15.3 km/h at hour 14																				Minimum Diurnal Speed Average: 4.8 km/h at hour 6										Hours of Missing Data: 0	
Monthly Average Speed: 9.77 km/h																				Percentiles: P ₁ = 2.1 P ₁₀ = 3.3 Q ₁ = 4.6 Median = 7.2 Q ₃ = 11.7 P ₉₀ = 21.3 P ₉₉ = 35.8										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	4	5	3	2	4	4	3	4	5	7	5	7	9	8	18	18	7	4	4	6	7	8	7	5	6.4	18.3					
2-Jul	4	3	3	2	3	5	6	3	4	12	18	19	17	17	16	12	10	12	14	10	9	7	8	7	9.1	19.5					
3-Jul	3	17	11	7	11	9	16	11	18	12	23	31	29	28	29	34	31	32	28	29	26	22	10	7	19.7	34.5					
4-Jul	7	6	4	4	3	4	6	11	13	19	21	22	20	17	16	20	18	16	15	12	10	8	10	10	12.1	21.6					
5-Jul	4	7	7	7	5	3	3	7	11	9	7	5	4	5	5	4	7	8	9	7	7	6	6	6	6.2	10.5					
6-Jul	6	4	3	2	3	4	5	6	8	11	17	15	16	17	19	17	24	26	24	14	14	6	7	6	11.4	25.5					
7-Jul	3	3	3	4	4	3	2	5	7	7	6	4	6	6	7	7	6	11	13	13	15	11	7	9	6.8	14.5					
8-Jul	9	6	6	3	5	3	5	6	5	6	4	4	4	5	7	6	8	7	10	6	5	7	8	8	6.0	10.3					
9-Jul	5	5	5	8	10	6	6	4	8	9	8	8	5	8	9	6	8	6	3	4	4	3	5	4	6.2	9.9					
10-Jul	3	3	5	2	2	3	3	3	2	5	6	8	9	12	6	6	10	8	8	6	4	4	3	3	5.1	12.0					
11-Jul	4	3	2	5	2	4	4	4	4	6	6	6	5	7	7	8	10	10	11	9	8	9	7	11	6.3	11.3					
12-Jul	13	8	3	2	7	8	5	7	5	6	8	7	9	6	7	2	3	9	9	9	6	5	5	8	6.5	12.8					
13-Jul	10	9	12	11	9	9	11	10	11	7	7	9	5	4	7	16	9	5	8	7	6	8	6	5	8.3	15.5					
14-Jul	5	5	11	10	4	4	3	3	4	6	8	10	11	14	13	12	12	10	10	11	6	8	6	3	7.9	14.0					
15-Jul	6	7	6	9	4	3	3	2	5	3	4	7	12	11	11	11	10	11	10	6	6	5	6	4	6.8	12.0					
16-Jul	4	5	5	4	4	4	3	3	5	5	8	8	10	15	14	10	13	14	14	10	7	7	9	10	7.9	15.2					
17-Jul	6	8	11	8	4	4	5	3	5	5	5	4	3	6	7	7	6	8	9	7	6	6	6	6	6.1	10.5					
18-Jul	5	4	4	7	5	3	1	2	2	4	8	11	9	8	9	8	6	5	4	4	6	7	4	4	5.5	10.7					
19-Jul	6	6	3	4	4	3	2	3	4	4	5	18	16	24	19	23	23	15	5	4	5	7	10	8	9.1	24.1					
20-Jul	9	8	7	8	3	2	4	5	7	11	14	11	11	4	7	4	4	17	25	26	23	11	5	4	9.5	25.5					
21-Jul	8	8	3	6	6	10	6	6	12	20	7	15	23	23	29	22	20	17	8	7	10	6	4	6	11.7	29.0					
22-Jul	7	6	5	4	4	3	3	5	11	26	30	30	29	33	31	29	35	31	25	21	15	19	21	17	18.4	35.3					
23-Jul	9	10	12	13	13	13	17	23	22	30	28	32	36	36	32	31	33	36	28	27	22	12	9	14	22.5	36.4					
24-Jul	20	27	19	14	9	9	2	13	26	36	31	27	31	36	36	36	38	19	24	21	21	12	6	3	21.6	38.4					
25-Jul	6	6	6	5	6	3	3	3	5	10	22	19	18	22	21	22	20	21	17	11	6	5	4	3	11.0	22.2					
26-Jul	3	3	4	4	2	2	4	5	4	5	11	16	14	12	12	13	15	20	10	7	7	8	9	4	8.1	19.9					
27-Jul	6	5	4	3	3	4	3	3	4	6	12	9	10	8	8	8	7	7	12	9	8	10	10	4	6.8	12.3					
28-Jul	3	5	5	7	5	2	3	4	5	6	9	17	19	18	19	15	11	16	8	6	8	5	4	4	8.5	18.9					
29-Jul	3	3	3	3	5	5	5	3	5	14	16	18	22	33	30	28	25	26	20	14	10	10	8	11	13.3	32.5					
30-Jul	5	9	8	6	6	6	7	10	9	5	5	8	8	19	22	16	14	7	5	6	7	6	2	8	8.4	21.6					
31-Jul	10	7	7	6	4	5	6	9	7	11	18	21	20	12	4	10	12	12	13	11	7	5	8	8	9.7	21.3					
																									Diurnal Average						
																									Diurnal Maximum						

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

Hourly Standard Deviations

Wind Direction (WD) - deg

Beaverlodge - July 2016

Maximum Value: 96.9 deg on Jul 13 18:00																			Hours in Service: 744						
Minimum Value: 3.1 deg on Jul 23 06:00																			Hours of Data: 744						
																			Hours of Missing Data: 0						
Percentiles: P ₁ = 4.2 P ₁₀ = 7.3 Q ₁ = 11.5 Median = 21.0 Q ₃ = 41.6 P ₉₀ = 65.5 P ₉₉ = 88.3																			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	11	48	31	36	10	10	34	22	25	42	17	21	11	48	8	7	12	22	27	12	13	21	19	7	47.9
2-Jul	16	52	62	55	38	13	50	42	44	26	9	11	12	20	22	38	25	14	15	7	18	6	6	10	62.0
3-Jul	53	12	19	25	43	13	5	26	8	7	12	10	12	10	9	8	11	11	7	6	6	6	12	13	52.5
4-Jul	12	14	23	67	38	40	13	9	12	12	15	14	10	17	20	13	14	13	10	10	27	16	5	9	66.6
5-Jul	60	6	6	7	12	26	52	12	13	14	24	58	72	45	56	70	27	24	22	11	10	18	7	10	71.5
6-Jul	55	63	66	77	71	56	40	11	16	19	12	17	18	21	14	20	12	6	7	6	8	39	40	44	77.0
7-Jul	62	38	33	14	14	30	53	16	21	31	59	64	83	75	60	46	63	24	17	7	5	40	33	56	82.5
8-Jul	14	60	56	51	64	27	18	16	50	31	35	79	68	72	54	64	19	25	17	12	13	12	11	17	78.8
9-Jul	49	48	42	6	20	21	12	57	21	25	38	51	47	28	20	73	29	78	46	40	40	69	29	46	78.3
10-Jul	33	71	83	20	40	19	24	40	29	22	36	25	21	39	67	52	19	11	10	10	26	32	32	37	82.6
11-Jul	77	50	71	22	46	78	73	20	33	25	63	76	57	36	29	22	56	39	11	34	35	6	41	27	78.1
12-Jul	16	32	77	71	12	11	35	57	21	33	45	17	92	88	81	62	21	83	15	12	12	21	57	37	91.7
13-Jul	4	5	5	4	10	22	9	9	11	21	37	26	28	41	78	8	89	97	19	24	20	31	76	67	96.9
14-Jul	19	33	6	30	66	53	92	43	40	21	21	16	19	18	21	21	13	16	14	10	11	44	18	73	92.4
15-Jul	22	6	11	56	56	46	85	86	20	84	65	63	18	18	13	17	26	19	61	47	11	52	26	33	86.1
16-Jul	59	43	39	79	54	23	67	21	19	19	22	22	24	19	24	16	29	21	12	13	20	14	8	7	78.6
17-Jul	15	10	13	7	70	31	52	67	34	35	43	64	31	18	43	32	46	29	14	14	7	15	11	12	70.3
18-Jul	8	17	14	10	74	69	68	70	79	41	22	25	31	34	55	49	45	86	62	83	11	14	65	74	86.4
19-Jul	39	79	75	41	57	19	65	23	25	45	45	39	14	14	12	17	9	43	74	25	12	62	9	17	79.3
20-Jul	14	14	30	33	31	54	69	19	11	16	21	18	12	72	72	71	57	22	5	4	4	8	41	20	72.4
21-Jul	10	17	50	26	42	6	15	21	9	7	20	10	7	10	11	7	56	8	11	41	10	9	18	8	55.6
22-Jul	7	10	18	21	18	26	43	28	19	8	8	7	9	13	7	7	5	6	5	5	7	5	6	5	42.6
23-Jul	17	6	5	4	4	3	5	5	5	9	10	10	8	9	8	7	6	7	4	7	5	24	22	18	24.1
24-Jul	5	3	6	19	24	28	58	42	8	6	8	7	11	8	10	8	6	36	8	9	4	6	76	94	94.1
25-Jul	68	67	47	41	12	25	18	32	26	19	10	13	20	15	15	15	14	8	7	8	20	70	58	71	71.4
26-Jul	84	36	11	12	23	39	45	28	24	28	19	17	17	30	42	34	14	10	20	10	10	11	5	92	91.9
27-Jul	68	65	40	17	35	27	39	27	27	39	18	26	37	51	56	64	42	38	28	12	6	7	11	44	67.7
28-Jul	33	17	80	47	48	83	61	46	21	15	22	15	16	19	22	17	26	19	34	40	20	34	75	44	82.9
29-Jul	50	25	27	41	17	15	21	38	24	35	16	25	10	8	10	9	11	10	10	13	10	19	12	8	49.9
30-Jul	33	37	39	47	19	31	17	19	26	38	90	26	84	16	13	38	15	32	54	17	17	10	81	21	90.0
31-Jul	15	9	5	14	25	39	33	19	21	14	8	9	6	82	82	10	57	56	8	7	8	16	5	7	82.5
83.9 79.3 82.6 78.6 74.3 82.9 92.4 86.1 79.0 83.8 90.0 78.8 91.7 87.7 82.3 72.5 89.1 96.9 74.0 83.4 40.2 70.3 81.2 94.1																									

PAZA
Valleyview Station
Monthly Summary Tables, Graphs and
Roses

Hourly Averages

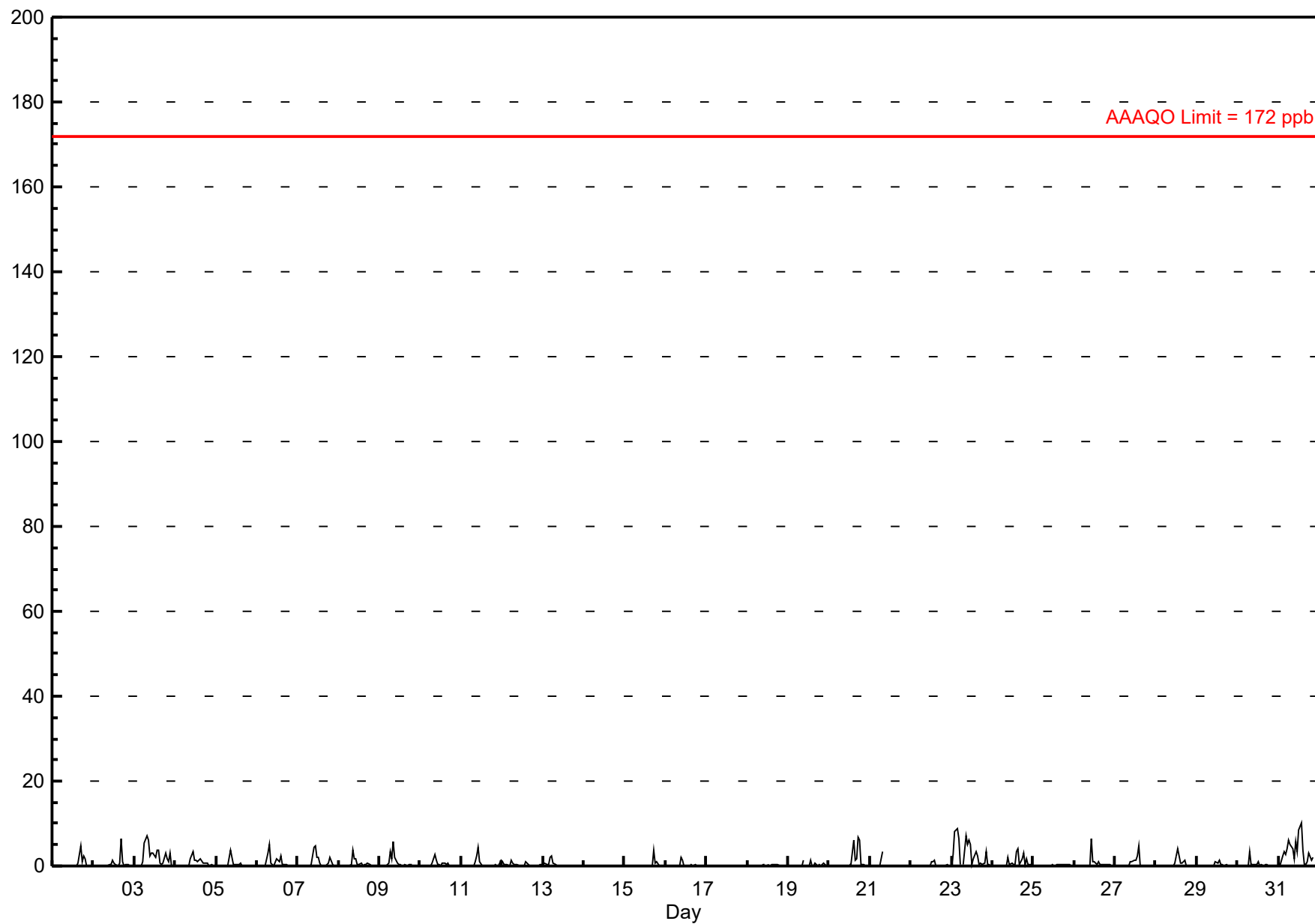
Sulphur Dioxide (SO₂) - ppb

Valleyview - July 2016

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 10.2 ppb on Jul 31 14:00 Maximum Daily Average: 3.3 ppb on Jul 31																				Hours in Service: 744 Hours of Data: 709						
Minimum Value: 0 ppb on Jul 1 01:00 Minimum Daily Average: 0.0 ppb on Jul 17 Maximum Diurnal Average: 1.4 ppb at hour 11 Minimum Diurnal Average: 0.1 ppb at hour 1 Monthly Average: 0.64 ppb Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.1 Q ₃ = 0.4 P ₉₀ = 2.1 P ₉₉ = 6.7																				Hours of Missing Data: 35 Hours of Calibration: 35 Percent Operational Time: 100.0						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jul	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	1	5	1	3	2	0	0	0	0	0.5	4.7
2-Jul	0	0	0	0	A	0	0	0	0	0	0	1	1	0	0	1	7	1	0	0	0	0	0	0	0.5	6.6
3-Jul	0	0	0	A	0	1	6	7	6	2	3	3	2	4	4	1	0	1	3	2	1	3	0	0	2.1	7.1
4-Jul	0	0	A	0	0	0	0	0	0	2	3	1	1	1	1	2	1	1	1	1	0	0	0	0	0.7	3.5
5-Jul	0	A	0	0	0	0	0	0	4	2	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0.4	3.7
6-Jul	A	0	0	0	0	0	3	5	1	0	0	2	1	1	3	0	0	0	0	0	0	0	0	A	0.8	5.0
7-Jul	0	0	0	0	0	0	0	0	0	4	5	2	2	1	0	0	0	0	1	2	0	0	A	0	0.8	4.7
8-Jul	0	0	0	0	0	0	0	4	2	2	0	0	1	0	0	0	0	1	0	0	0	A	0	0	0.5	3.7
9-Jul	0	0	0	0	0	1	3	2	6	2	1	0	0	0	0	0	0	0	0	0	A	0	0	0	0.7	5.7
10-Jul	0	0	0	0	0	0	0	1	3	1	0	0	0	1	1	0	1	0	0	A	0	0	0	0	0.4	2.8
11-Jul	0	0	0	0	0	0	0	0	1	3	4	1	0	0	0	0	0	0	A	0	0	0	0	1	0.5	4.4
12-Jul	1	0	0	0	0	1	1	0	0	0	0	0	0	0	1	0	0	A	0	0	0	0	0	0	0.3	1.2
13-Jul	0	1	0	0	2	2	1	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0.3	2.3
14-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
15-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	4	1	1	0	0	0	0	0.3	3.6
16-Jul	0	0	0	0	0	0	0	0	0	2	1	0	0	A	0	0	0	0	0	0	0	0	0	0	0.2	2.1
17-Jul	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
18-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	0.5
19-Jul	0	0	0	0	0	0	0	0	0	1	A	0	0	1	0	0	1	0	0	0	0	1	0	0	0.2	1.4
20-Jul	0	0	0	0	0	0	0	0	0	A	C	C	0	0	6	1	2	7	6	0	0	0	0	0	1.1	6.9
21-Jul	0	0	0	0	0	0	0	3	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	3.3
22-Jul	0	0	0	0	0	0	0	A	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0.2	1.3
23-Jul	0	3	8	9	7	0	A	0	7	5	6	5	0	2	4	2	0	1	0	1	3	0	0	0	2.8	9.0
24-Jul	0	0	0	0	0	A	0	0	0	2	0	1	0	0	3	4	0	2	3	0	2	0	0	0	0.8	4.0
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	A	0	0	0	0	0	0	6	1	1	0	1	0	0	0	0	0	0	0	0	0	0.5	6.4
27-Jul	0	0	A	0	0	0	0	0	0	1	1	1	1	2	5	0	0	0	0	0	0	0	0	0	0.5	4.7
28-Jul	0	A	0	0	0	0	0	0	0	0	0	1	2	4	1	1	1	1	0	0	0	0	0	0	0.5	4.1
29-Jul	A	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	A	0.2	1.2
30-Jul	0	0	0	0	0	0	0	3	0	0	0	0	1	0	0	0	0	0	0	0	0	0	A	0	0.3	3.4
31-Jul	0	0	2	3	3	4	6	5	4	2	6	3	9	10	4	0	0	1	3	1	2	A	3	4	3.3	10.2
0.1 0.1 0.4 0.5 0.4 0.3 0.7 0.9 1.2 1.1 1.4 0.9 0.9 1.1 1.2 0.5 0.7 0.7 0.8 0.4 0.4 0.2 0.2 0.2																									Diurnal Average	
1.0 2.7 8.0 9.0 6.6 3.9 6.1 7.1 7.2 5.0 6.4 5.1 8.5 10.2 5.9 4.0 6.6 6.9 6.0 1.9 3.3 3.0 3.0 3.9																									Diurnal Maximum	
C - Calibration A - Automated Daily Zero Span																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb 30-day 11 ppb																										

Hourly Averages

Sulphur Dioxide (SO₂) - ppb
Valleyview - July 2016



Hourly Maximums

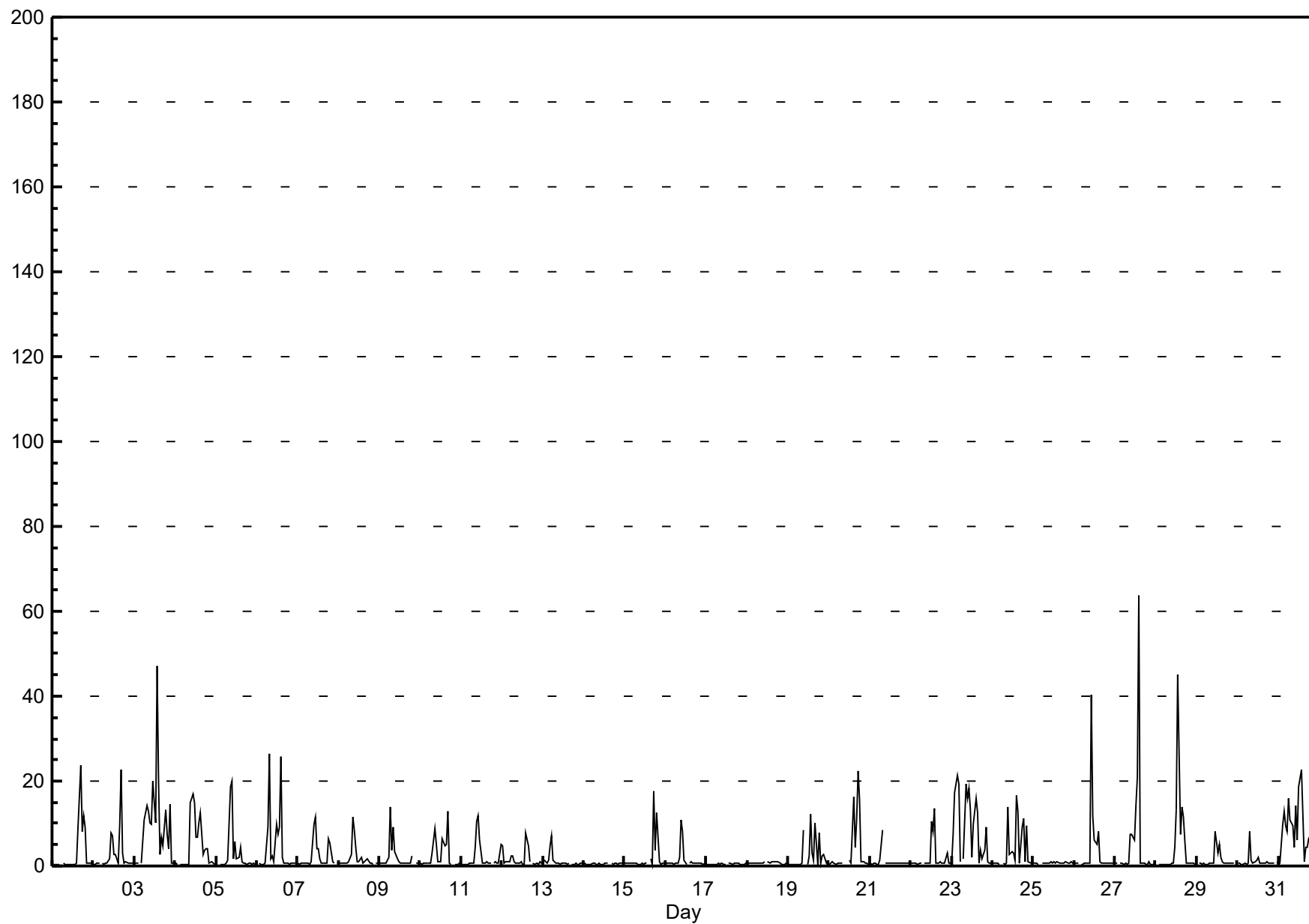
Sulphur Dioxide (SO₂) - ppb

Valleyview - July 2016

Maximum Value: 63.6 ppb on Jul 27 15:00																				Maximum Daily Average: 9.5 ppb on Jul 3										Hours in Service: 744									
Minimum Value: 0 ppb on Jul 31 01:00																				Minimum Daily Average: 0.5 ppb on Jul 17										Hours of Data: 709									
Maximum Diurnal Average: 8.0 ppb at hour 15																				Minimum Diurnal Average: 0.7 ppb at hour 1										Hours of Missing Data: 35									
Monthly Average: 3.02 ppb																				Percentiles: P ₁ = 0.3 P ₁₀ = 0.5 Q ₁ = 0.5 Median = 0.7 Q ₃ = 2.0 P ₉₀ = 9.8 P ₉₉ = 22.2										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	0	0	0	0	0	A	1	0	0	0	0	0	0	1	1	9	24	8	12	9	1	1	1	1	3.1	23.6													
2-Jul	0	0	1	1	A	1	0	1	1	2	8	7	3	3	1	10	23	3	1	1	1	1	1	1	2.9	22.7													
3-Jul	1	1	1	A	1	6	11	14	13	10	10	20	10	47	20	3	7	5	13	7	4	15	1	1	9.5	47.0													
4-Jul	1	0	A	0	0	0	0	0	0	15	17	15	7	7	10	12	3	4	4	4	1	1	1	0	4.6	17.0													
5-Jul	1	A	0	0	0	0	1	1	19	20	2	6	2	2	4	1	1	1	0	1	1	0	1	0	2.8	19.9													
6-Jul	A	1	0	0	0	1	9	26	2	2	1	10	7	9	26	2	1	1	1	1	1	1	1	A	4.6	26.3													
7-Jul	1	0	1	1	1	1	1	0	1	10	12	4	4	2	1	1	1	1	6	6	1	1	A	1	2.3	11.6													
8-Jul	1	1	1	1	1	1	1	3	12	8	5	1	1	2	1	1	2	2	1	1	1	A	1	1	1.9	11.6													
9-Jul	1	1	1	1	1	2	14	4	9	3	2	1	1	1	1	1	1	1	1	2	A	1	1	1	2.0	13.7													
10-Jul	1	0	1	1	1	1	1	3	9	5	1	1	1	7	5	5	13	1	1	A	0	0	0	1	2.5	12.8													
11-Jul	1	1	0	1	0	1	1	1	4	10	12	6	1	1	1	1	1	1	A	1	1	1	1	5	2.1	12.0													
12-Jul	5	1	1	1	1	2	2	1	1	1	1	0	0	8	5	1	A	1	0	1	1	1	1	1	1.5	7.7													
13-Jul	1	1	1	1	5	7	1	1	1	1	0	1	1	1	0	1	A	0	0	1	0	0	1	1	1.2	7.3													
14-Jul	1	0	0	0	0	1	1	0	0	1	0	0	1	1	1	A	1	0	1	1	0	1	1	1	0.5	0.8													
15-Jul	1	1	1	1	1	1	1	1	0	0	1	0	1	1	A	2	0	18	4	12	1	0	1	1	2.0	17.8													
16-Jul	1	1	1	1	1	0	1	1	2	11	8	1	1	A	1	1	1	1	1	1	1	1	0	1	1.5	11.0													
17-Jul	0	0	0	0	0	0	0	1	0	1	0	0	A	1	1	0	1	1	1	1	0	0	0	1	0.5	0.7													
18-Jul	0	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	0	0	0	1	0.7	1.0													
19-Jul	0	0	0	0	0	0	0	0	1	9	A	0	2	12	3	1	10	0	8	1	3	3	1	1	2.5	12.2													
20-Jul	0	1	1	1	1	1	1	1	1	A	C	C	1	1	16	4	11	22	15	1	1	1	1	0	3.9	22.3													
21-Jul	1	0	1	1	0	0	2	9	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	8.5													
22-Jul	1	1	1	1	1	1	1	A	1	1	1	1	10	8	13	1	1	1	1	1	1	3	1	1	2.0	13.4													
23-Jul	1	8	17	21	19	1	A	2	19	16	18	13	2	10	16	13	1	4	2	4	9	1	1	1	8.6	21.3													
24-Jul	1	1	1	1	0	A	1	0	1	14	3	3	3	1	17	13	1	9	11	1	10	1	1	1	4.0	16.5													
25-Jul	1	1	1	0	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.2													
26-Jul	1	1	1	A	0	0	1	1	1	1	40	12	6	5	8	1	1	1	1	1	1	1	1	0	3.6	40.2													
27-Jul	1	1	A	1	1	0	1	0	1	8	7	6	14	21	64	1	1	1	1	1	1	0	0	0	5.6	63.6													
28-Jul	0	A	0	0	0	0	0	0	0	1	1	5	13	45	7	14	11	6	1	1	1	1	1	0	4.7	45.0													
29-Jul	A	1	1	0	1	0	0	1	1	1	1	8	3	5	2	1	1	1	1	1	1	1	1	A	1.3	8.3													
30-Jul	1	1	0	0	1	0	1	8	1	1	1	1	2	1	1	1	1	1	1	1	1	1	A	1	1.1	8.3													
31-Jul	0	1	10	13	10	8	16	11	9	4	14	6	19	23	12	1	4	4	6	8	5	A	5	6	8.5	22.6													
0.7 0.8 1.5 1.7 1.6 1.3 2.3 3.0 3.7 5.2 5.8 4.6 4.0 7.2 8.0 3.5 4.0 3.2 3.1 2.2 1.5 1.3 0.8 1.0																									Diurnal Average														
4.8 7.6 17.3 21.3 19.2 8.2 16.0 26.3 19.3 19.9 40.2 19.8 18.6 47.0 63.6 13.9 23.6 22.3 15.4 12.4 9.5 14.7 5.0 6.1																									Diurnal Maximum														
C - Calibration																									A - Automated Daily Zero Span														

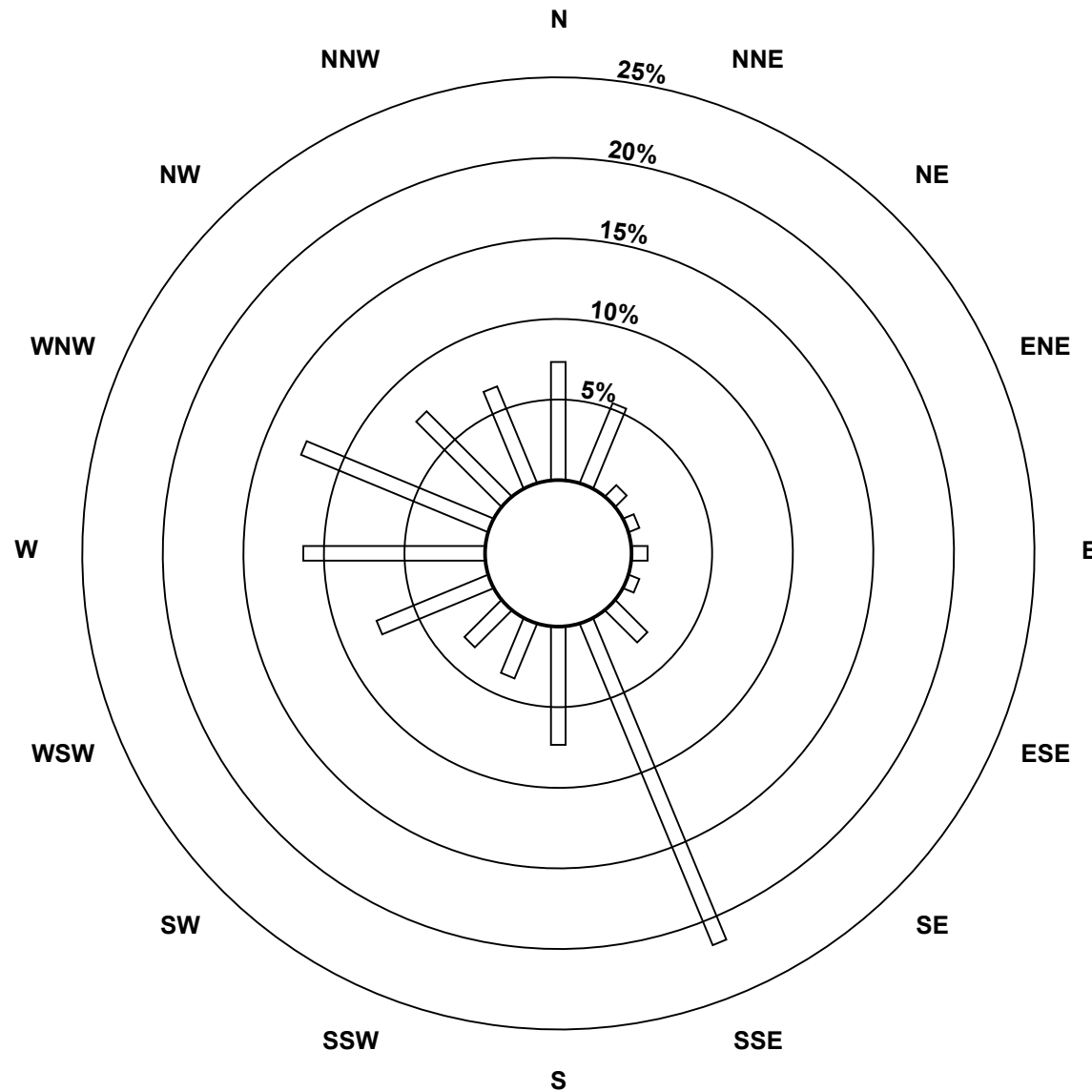
Hourly Maximums

Sulphur Dioxide (SO₂) - ppb
Valleyview - July 2016

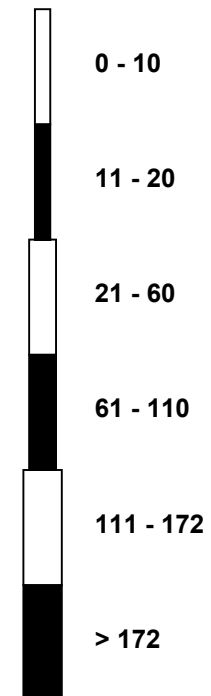


Pollutant Rose

Sulphur Dioxide (SO₂) - ppb
Valleyview - July 2016

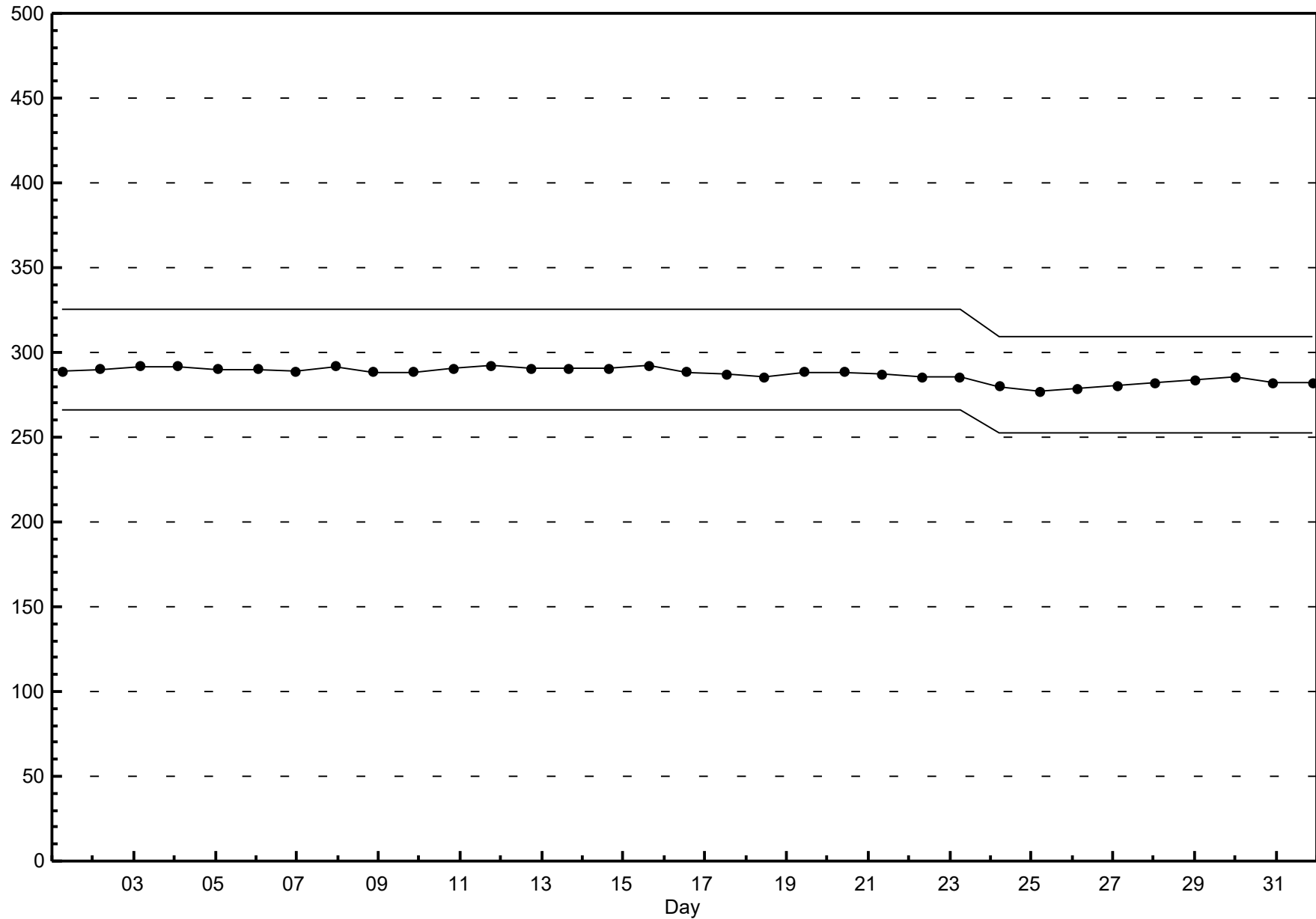


Pollutant Classes (ppb)



Span Responses

Sulphur Dioxide (SO₂)
Valleyview - July 2016



Hourly Averages

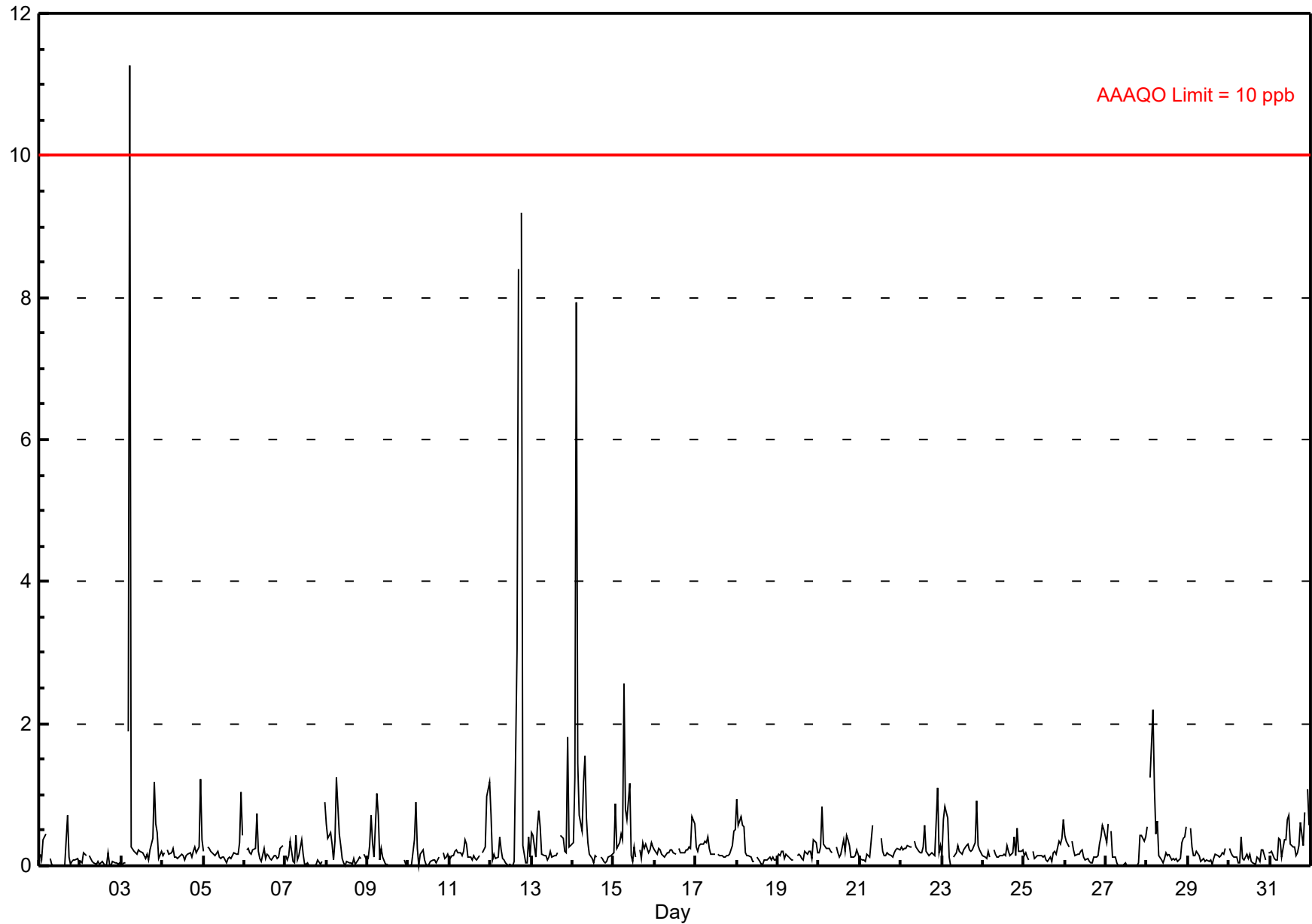
Hydrogen Sulphide (H₂S) - ppb

Valleyview - July 2016

Number of Exceedences (AAAQO): Maximum Value: 11.3 ppb on Jul 3 06:00																			1-hr: 1 24-hr: 0 Maximum Daily Average: 1.0 ppb on Jul 12					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 1 11:00 Maximum Diurnal Average: 0.6 ppb at hour 6 Monthly Average: 0.28 ppb																			Minimum Daily Average: 0.1 ppb on Jul 2 Minimum Diurnal Average: 0.1 ppb at hour 14 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 = 2.0									
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24				
1-Jul	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0.1	0.7		
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	A	2	11	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0.8	11.3		
4-Jul	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0.2	1.2		
5-Jul	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0.2	1.0		
6-Jul	A	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0.2	0.7		
7-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	0.1	0.9		
8-Jul	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.2	1.2		
9-Jul	0	0	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.2	1.0		
10-Jul	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.1	0.9		
11-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	1	1	0.2	1.2		
12-Jul	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	8	A	9	0	0	0	0	0	1.0	9.2		
13-Jul	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	2	0	0	0.3	1.8		
14-Jul	0	1	8	1	1	0	1	2	1	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.8	7.9		
15-Jul	0	1	0	0	0	0	3	1	1	1	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.5	2.6		
16-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	1	1	0.2	0.7		
17-Jul	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	1	0	0.2	0.5		
18-Jul	1	1	1	1	1	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.9		
19-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	0.4		
20-Jul	0	0	1	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.8		
21-Jul	0	0	0	0	0	0	0	1	A	C	C	C	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.6		
22-Jul	0	0	0	0	0	0	0	A	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0.3	1.1		
23-Jul	0	1	1	1	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0.3	0.9		
24-Jul	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	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	1	0	0.2	0.6		
26-Jul	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.2	0.6		
27-Jul	0	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.6		
28-Jul	1	A	1	2	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.4	2.2		
29-Jul	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0.1	0.5		
30-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		
31-Jul	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	0	1	A	1	1	0.4	1.1		
																									Diurnal Average			
																									Diurnal Maximum			
C - Calibration A - Automated Daily Zero Span																												
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb																												

Hourly Averages

Hydrogen Sulphide (H₂S) - ppb
Valleyview - July 2016



Hourly Maximums

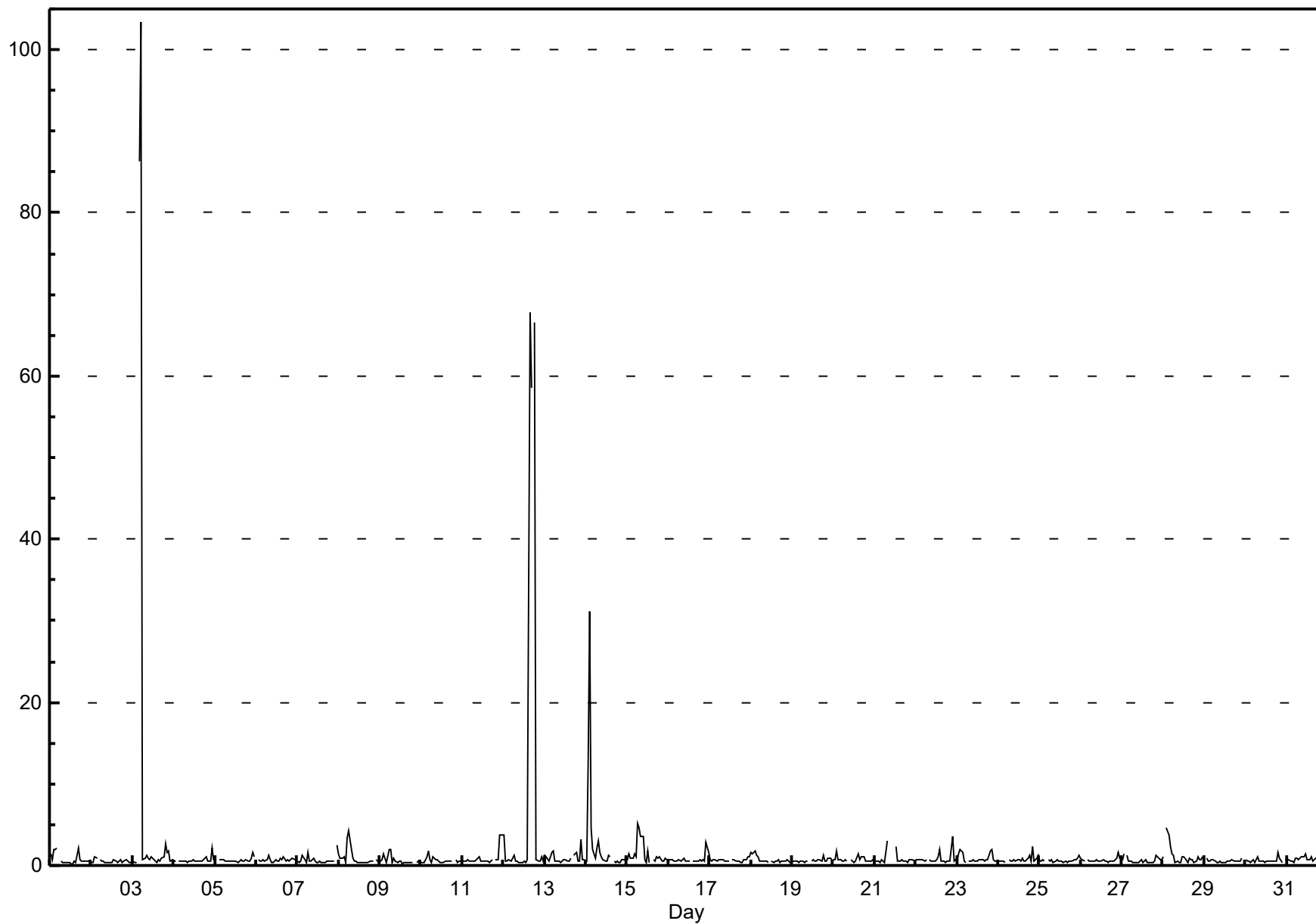
Hydrogen Sulphide (H₂S) - ppb

Valleyview - July 2016

Maximum Value: 103.4 ppb on Jul 3 06:00																			Maximum Daily Average: 9.1 ppb on Jul 3										Hours in Service: 744	
Minimum Value: 0 ppb on Jul 9 14:00																			Minimum Daily Average: 0.5 ppb on Jul 2										Hours of Data: 708	
Maximum Diurnal Average: 4.4 ppb at hour 6																			Minimum Diurnal Average: 0.6 ppb at hour 11										Hours of Missing Data: 36	
Monthly Average: 1.37 ppb																			Percentiles: P ₁ = 0.3 P ₁₀ = 0.4 Q ₁ = 0.5 Median = 0.6 Q ₃ = 0.8 P ₉₀ = 1.4 P ₉₉ = 2.6										Hours of Calibration: 36	
																			Percent Operational Time: 100.0											
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24						
1-Jul	1	1	2	2	2	A	0	0	0	0	0	0	0	0	0	0	2	1	0	1	1	1	0	0	0.8	2.1				
2-Jul	0	0	1	1	A	1	1	1	0	0	0	0	0	0	0	0	1	1	0	1	1	0	0	0	0.5	1.0				
3-Jul	0	0	0	A	86	103	1	1	1	1	1	1	1	0	1	0	1	1	1	3	2	2	1	1	9.1	103.4				
4-Jul	1	1	A	1	1	1	1	0	0	1	0	1	1	1	1	1	1	1	1	1	1	1	2	1	0.7	2.1				
5-Jul	1	A	1	1	1	1	0	0	1	1	1	0	0	0	1	1	1	1	1	1	1	1	2	1	0.6	1.5				
6-Jul	A	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	A	0.7	1.2				
7-Jul	1	0	1	1	1	0	2	0	0	1	1	0	0	1	0	0	0	0	1	0	1	0	A	3	0.7	2.5				
8-Jul	1	1	1	1	0	3	4	2	1	0	0	0	0	0	0	0	0	0	0	1	1	A	1	0	0.9	4.3				
9-Jul	1	1	1	1	0	2	2	0	1	0	0	0	0	0	0	0	0	0	0	0	A	0	1	0	0.6	2.0				
10-Jul	0	0	0	1	2	1	0	1	1	1	0	0	0	0	1	1	1	0	1	A	1	0	0	1	0.6	1.8				
11-Jul	0	0	1	1	1	1	1	0	1	1	1	1	0	0	1	0	0	1	A	1	1	1	4	4	0.9	3.8				
12-Jul	4	0	0	1	0	1	1	0	1	0	0	0	0	0	1	68	59	A	67	1	1	1	1	1	9.0	67.7				
13-Jul	1	1	1	1	2	2	1	1	0	0	1	1	1	1	0	1	A	1	2	1	1	3	1	1	1.0	3.2				
14-Jul	1	13	31	5	2	1	2	3	2	1	1	1	0	1	1	A	1	0	1	0	0	1	1	1	3.0	31.1				
15-Jul	1	1	1	1	1	1	5	5	4	4	1	0	2	0	A	1	1	1	1	1	1	1	1	1	1.4	5.2				
16-Jul	1	1	1	1	1	0	1	1	1	1	1	1	1	A	1	1	1	0	1	1	1	1	3	2	0.8	2.8				
17-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	0	1	1	0	0	1	1	1	0.7	1.1				
18-Jul	2	1	2	1	1	1	1	0	1	1	0	1	0	A	1	0	1	1	0	1	0	1	1	0	0.7	1.7				
19-Jul	1	0	1	1	0	1	0	0	0	0	A	1	1	1	0	1	1	1	1	1	0	1	1	1	0.6	1.3				
20-Jul	1	1	2	1	1	1	1	1	1	A	1	1	0	1	1	1	1	1	1	1	1	0	1	1	0.8	1.7				
21-Jul	1	0	0	0	1	1	0	3	A	C	C	C	2	1	0	1	1	0	1	0	1	1	1	1	0.8	3.1				
22-Jul	1	1	1	1	1	1	1	A	1	1	1	1	1	1	2	1	0	0	1	1	1	3	1	1	0.8	3.5				
23-Jul	1	1	2	2	1	0	A	0	1	1	1	1	1	1	1	1	1	1	1	2	2	1	1	1	0.9	1.9				
24-Jul	0	1	1	1	0	A	1	1	1	1	0	1	1	1	1	1	1	1	1	1	2	1	1	1	0.7	2.2				
25-Jul	1	1	1	0	A	1	1	1	0	1	1	0	1	0	0	0	0	1	1	1	1	1	1	1	0.6	1.3				
26-Jul	1	1	1	A	1	1	1	1	1	1	1	1	1	1	0	0	0	1	0	1	1	1	2	1	0.7	1.7				
27-Jul	1	1	A	1	1	1	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	1	1	1	0.6	1.4				
28-Jul	1	A	5	4	2	1	1	0	0	0	0	1	1	1	0	1	1	1	0	1	1	1	1	1	1.2	4.7				
29-Jul	A	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1	1	1	A	0.5	0.9				
30-Jul	1	1	0	0	1	0	1	1	0	0	0	0	0	0	1	1	0	0	0	2	1	0	A	1	0.6	1.6				
31-Jul	1	1	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	A	2	1	0.9	1.7				
0.8 1.2 2.0 1.1 3.8 4.4 1.0 0.9 0.7 0.7 0.6 0.6 0.6 0.6 0.7 2.8 2.6 0.6 2.9 0.7 0.8 0.9 1.0 0.9																								Diurnal Average						
3.8 13.1 31.1 4.7 86.3 103.4 5.2 4.6 3.5 3.6 1.1 1.3 2.3 1.2 2.0 67.7 58.6 1.2 66.5 2.6 2.2 3.5 3.8 3.8																								Diurnal Maximum						
C - Calibration A - Automated Daily Zero Span																														

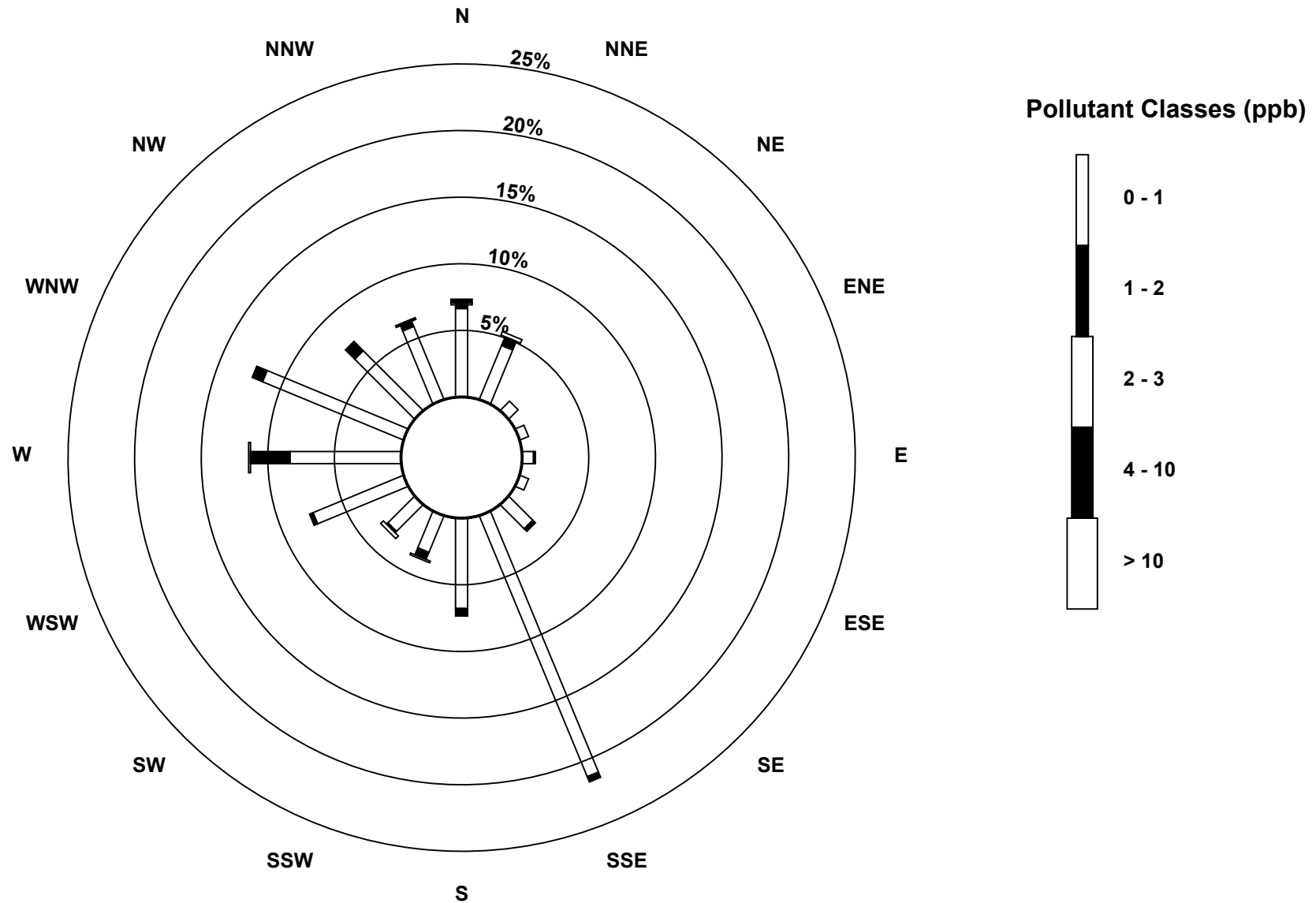
Hourly Maximums

Hydrogen Sulphide (H₂S) - ppb
Valleyview - July 2016



Pollutant Rose

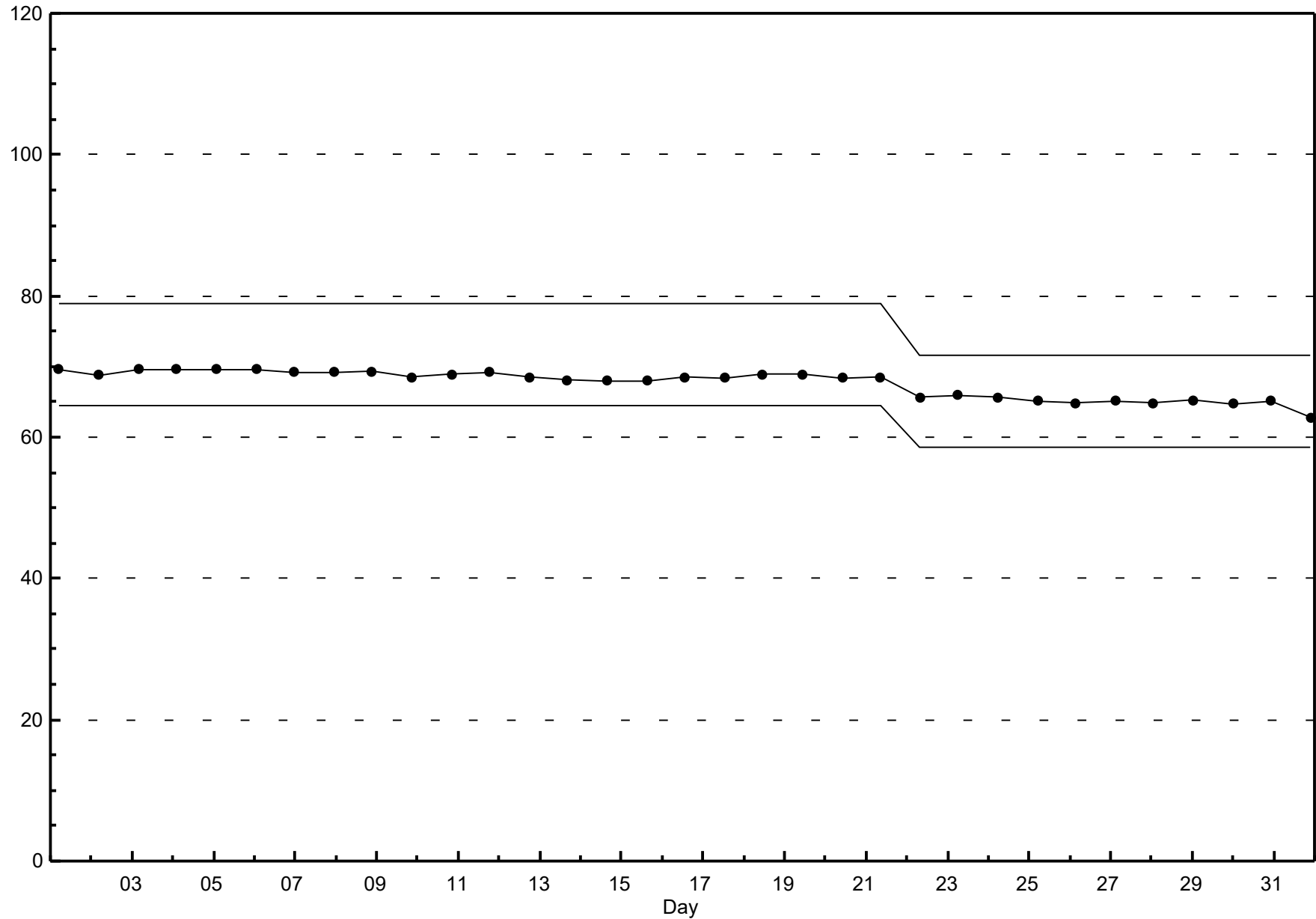
Hydrogen Sulphide (H₂S) - ppb
Valleyview - July 2016



Span Responses

Hydrogen Sulphide (H_2S)

Valleyview - July 2016



Hourly Averages

External Temperature (ET) - °C

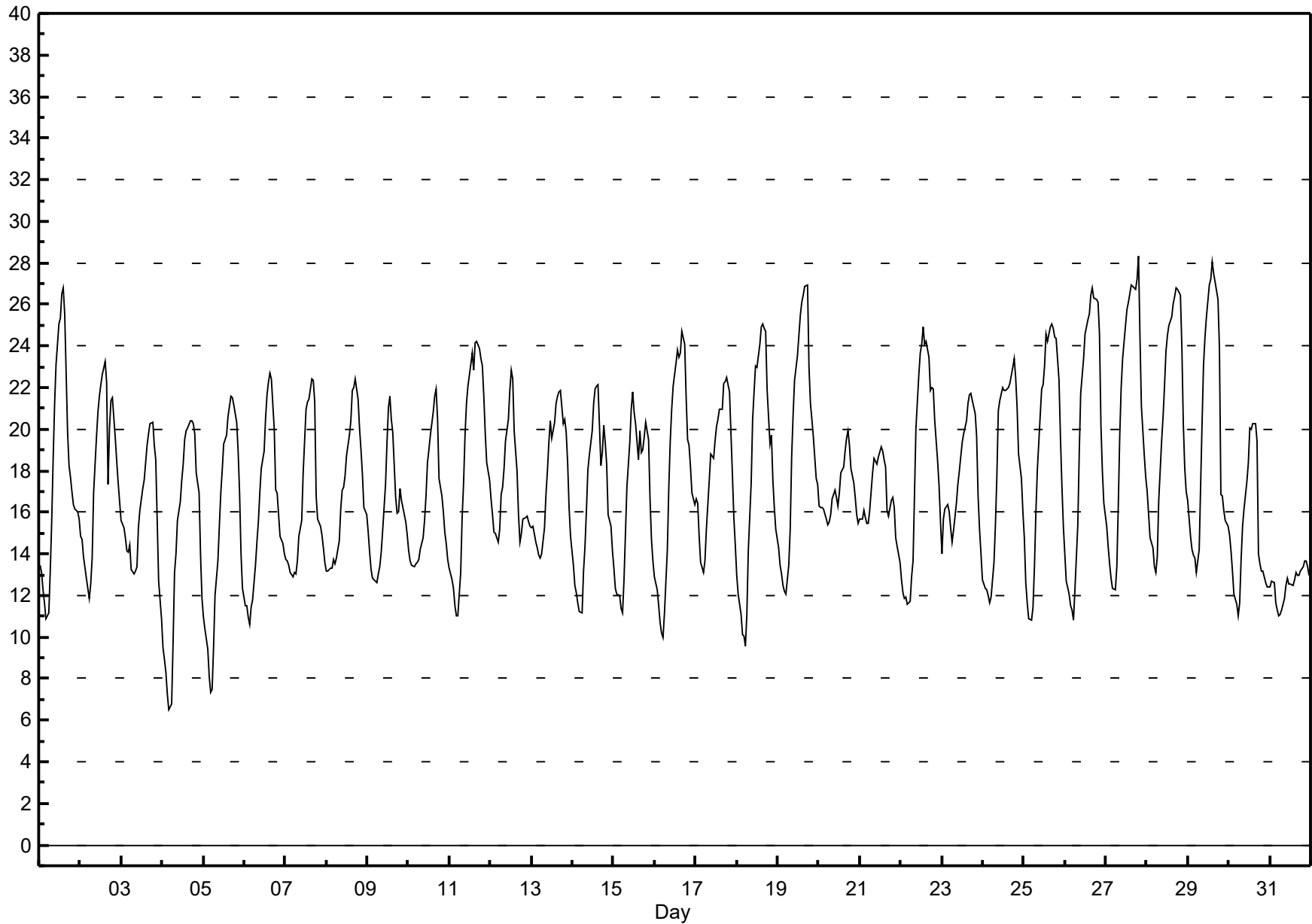
Valleyview - July 2016

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 28.4 °C on Jul 27 20:00 Maximum Daily Average: 20.7 °C on Jul 27																								Hours in Service: 744 Hours of Data: 744 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0			
Minimum Value: 7 °C on Jul 4 05:00 Maximum Diurnal Average: 22.2 °C at hour 16 Monthly Average: 17.41 °C												Minimum Daily Average: 12.5 °C on Jul 31 Minimum Diurnal Average: 12.1 °C at hour 6 Percentiles: P ₁ = 8.9 P ₁₀ = 12.1 Q ₁ = 13.7 Median = 16.8 Q ₃ = 20.6 P ₉₀ = 23.6 P ₉₉ = 26.9															
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	13	13	12	12	11	11	13	16	19	21	23	25	25	27	27	26	20	18	18	17	16	16	16	16	16	17.9	26.8
2-Jul	15	15	14	13	12	12	13	14	17	20	21	22	22	23	23	22	17	20	21	22	20	18	17	17	17	17.8	23.3
3-Jul	16	15	15	14	14	14	13	13	13	13	15	16	17	18	18	19	20	20	20	19	19	16	13	11	15.9	20.3	
4-Jul	9	9	8	7	7	7	10	13	14	16	17	18	18	19	20	20	20	20	20	20	18	17	14	12	14.7	20.4	
5-Jul	11	10	9	8	7	7	10	12	14	15	17	18	19	20	21	21	22	22	21	20	19	17	14	12	15.3	21.6	
6-Jul	12	12	11	11	11	12	13	15	16	17	18	19	21	22	22	23	22	20	17	17	16	15	14	14	16.2	22.7	
7-Jul	14	14	13	13	13	13	13	14	15	16	18	19	21	21	21	22	22	21	17	16	15	15	14	14	16.4	22.4	
8-Jul	13	13	13	13	14	14	14	15	16	17	17	18	19	20	20	22	22	22	21	20	19	18	16	16	17.2	22.4	
9-Jul	15	14	13	13	13	13	13	13	14	15	17	19	21	22	21	20	17	16	16	17	17	16	16	15	16.0	21.6	
10-Jul	14	14	13	13	14	14	14	14	15	16	17	18	19	20	21	22	22	20	18	17	16	15	14	14	16.4	22.0	
11-Jul	13	13	12	11	11	11	13	16	17	20	21	22	23	24	23	24	24	24	23	23	22	20	18	18	18.6	24.2	
12-Jul	17	16	15	15	15	15	17	17	18	19	20	22	23	22	20	18	16	15	15	16	16	16	16	15	17.2	22.9	
13-Jul	15	15	15	14	14	14	14	15	17	18	19	20	20	20	21	22	22	22	20	20	20	18	16	15	17.8	21.9	
14-Jul	13	13	12	12	11	11	13	14	16	18	19	20	21	22	22	22	18	19	20	19	18	16	15	14	16.7	22.2	
15-Jul	13	12	12	12	11	11	13	15	17	19	21	22	21	20	19	20	19	19	20	20	19	17	15	14	16.7	21.8	
16-Jul	13	12	12	11	10	10	11	14	17	19	21	22	23	24	23	24	25	24	22	20	19	18	17	16	17.8	24.7	
17-Jul	17	16	15	14	13	14	15	16	18	19	19	19	20	20	21	21	22	22	22	22	22	18	16	14	18.2	22.5	
18-Jul	13	12	11	10	10	10	11	14	17	20	22	23	23	24	25	25	25	25	22	19	20	18	16	15	17.9	25.1	
19-Jul	14	13	13	12	12	12	13	15	19	21	22	24	25	25	26	26	27	27	23	21	20	20	18	17	19.5	27.0	
20-Jul	16	16	16	16	16	15	16	16	17	17	17	16	17	18	18	19	20	20	19	18	17	17	16	15	17.0	19.9	
21-Jul	16	16	16	16	15	15	16	18	19	18	18	19	19	19	19	18	16	16	17	17	16	15	14	14	16.7	19.2	
22-Jul	13	12	12	12	12	12	13	14	17	20	23	24	24	25	24	24	23	22	22	22	20	18	17	16	18.3	24.9	
23-Jul	14	16	16	16	16	15	15	15	16	17	18	19	19	20	20	21	22	22	21	21	20	17	15	14	17.7	21.7	
24-Jul	13	12	12	12	12	12	14	15	18	21	21	22	22	22	22	22	22	23	23	23	21	19	18	16	18.2	23.4	
25-Jul	15	13	12	11	11	11	13	16	18	21	22	22	23	25	24	25	25	25	24	24	22	20	17	15	18.9	25.0	
26-Jul	14	13	12	11	11	11	12	15	19	22	23	23	25	25	26	26	27	26	26	26	25	20	18	16	19.7	26.8	
27-Jul	15	14	14	13	12	12	13	16	20	22	23	25	26	26	27	27	27	27	27	28	24	21	19	18	20.7	28.4	
28-Jul	17	16	15	14	13	13	14	17	19	21	22	24	24	25	25	26	26	27	27	26	24	20	18	17	20.5	26.8	
29-Jul	17	15	14	14	14	13	14	17	20	23	24	25	27	27	28	27	27	26	24	17	17	16	16	15	19.9	28.1	
30-Jul	15	14	13	12	12	11	12	14	15	16	17	18	20	20	20	20	19	14	13	13	13	13	12	12	15.0	20.3	
31-Jul	12	13	13	12	11	11	11	11	12	12	13	13	13	13	13	13	13	13	13	13	14	14	13	13	12.5	13.7	
14.1 13.6 13.0 12.5 12.2 12.1 13.2 14.8 16.7 18.4 19.6 20.5 21.3 21.8 21.9 22.2 21.6 21.2 20.5 19.8 18.8 17.1 15.8 14.8																								Diurnal Average			
17.0 16.5 16.3 16.4 16.0 15.5 16.8 17.9 20.3 23.1 24.4 25.4 26.9 27.2 28.1 27.5 27.1 27.0 27.2 28.4 24.6 21.1 18.7 17.7																								Diurnal Maximum			

Hourly Averages

External Temperature (ET) - °C

Valleyview - July 2016



Hourly Averages

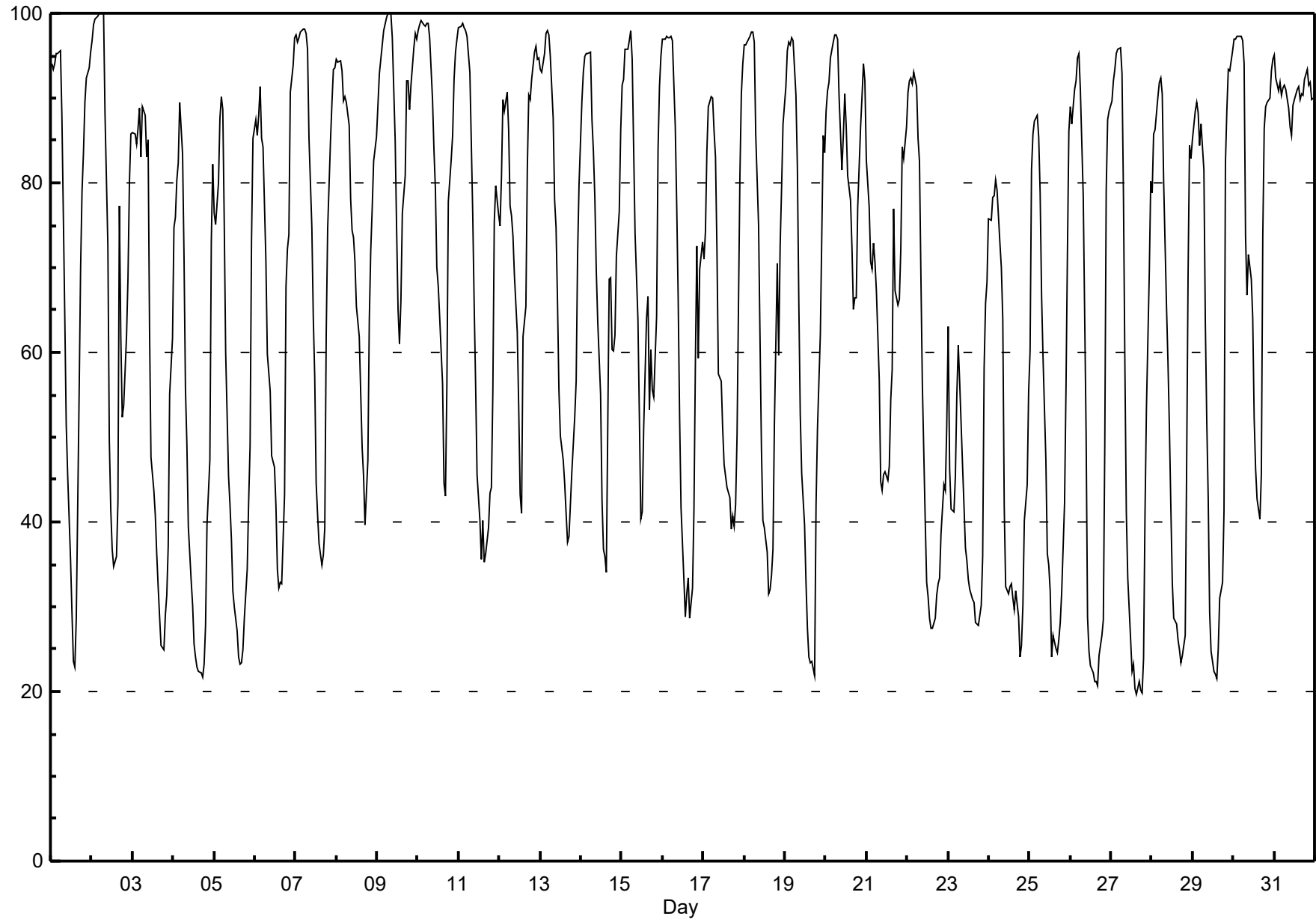
Relative Humidity (RH) - %

Valleyview - July 2016

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 100.0 % on Jul 2 05:00 Maximum Daily Average: 90.7 % on Jul 31																						Hours in Service: 744 Hours of Data: 744 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0					
Minimum Value: 20 % on Jul 27 16:00 Maximum Diurnal Average: 91.1 % at hour 5 Monthly Average: 66.44 %																						Minimum Daily Average: 43.3 % on Jul 23 Minimum Diurnal Average: 39.5 % at hour 16 Percentiles: P ₁ = 21.2 P ₁₀ = 28.9 Q ₁ = 42.4 Median = 72.0 Q ₃ = 89.9 P ₉₀ = 96.2 P ₉₉ = 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	94	93	94	95	95	96	88	76	64	52	46	36	29	24	23	29	55	70	79	84	89	92	94	95	70.5	95.7	
2-Jul	97	99	99	100	100	100	100	100	88	73	50	41	37	35	36	42	77	62	52	54	62	69	80	86	72.4	100.0	
3-Jul	86	86	85	86	89	83	89	88	83	85	63	48	44	41	36	32	29	25	25	29	31	37	55	62	59.0	89.0	
4-Jul	75	76	80	82	89	83	71	56	49	39	33	30	26	24	23	22	22	22	23	28	40	47	73	82	49.9	89.5	
5-Jul	77	75	80	88	90	89	75	60	45	42	38	32	30	27	24	23	23	25	29	34	42	49	73	85	52.3	90.1	
6-Jul	87	86	88	91	85	84	71	60	58	55	48	47	42	34	32	33	33	43	68	72	74	91	94	97	65.5	97.1	
7-Jul	97	97	97	98	98	98	98	96	85	75	64	57	45	41	38	35	36	39	62	75	85	89	93	94	74.6	98.2	
8-Jul	95	94	94	93	90	90	89	87	78	74	74	71	65	62	55	49	45	40	47	64	72	77	83	85	73.9	94.6	
9-Jul	89	93	95	96	98	99	100	100	100	97	85	74	65	61	66	76	81	92	92	89	92	96	98	97	88.8	100.0	
10-Jul	98	99	99	99	98	99	99	97	90	84	79	70	68	64	56	45	43	56	78	83	86	92	95	97	82.2	99.2	
11-Jul	98	98	99	98	98	97	93	85	76	66	56	46	40	36	40	35	36	39	43	44	55	75	80	76	67.2	98.7	
12-Jul	75	81	90	88	91	86	77	76	74	69	62	54	43	41	62	65	82	90	90	92	95	96	95	95	77.9	96.2	
13-Jul	93	93	95	98	98	97	95	88	78	75	66	56	50	47	45	41	38	38	46	49	52	57	72	80	68.6	98.0	
14-Jul	90	93	95	95	95	95	88	84	78	70	64	55	43	37	36	34	69	69	60	60	62	71	77	86	71.0	95.4	
15-Jul	92	92	96	96	97	98	95	84	74	64	52	40	41	51	64	67	53	60	56	55	64	84	91	95	73.4	98.0	
16-Jul	97	97	97	97	97	97	97	87	77	67	53	42	33	29	31	33	29	32	41	59	73	59	70	73	65.3	97.3	
17-Jul	71	74	84	89	90	90	86	83	72	58	57	51	47	45	44	43	39	41	39	42	50	81	90	94	65.0	94.0	
18-Jul	96	96	97	97	98	98	97	86	75	62	48	40	39	37	32	32	34	37	52	70	60	73	79	87	67.5	97.8	
19-Jul	91	96	97	96	97	97	90	82	66	53	46	40	33	28	24	23	23	22	42	51	57	62	86	84	61.8	97.2	
20-Jul	88	91	92	95	97	97	98	97	90	81	86	91	87	81	78	72	65	67	66	77	87	90	94	92	85.7	97.5	
21-Jul	83	77	71	70	73	71	67	57	45	44	46	46	45	47	54	58	77	67	66	66	72	84	83	87	64.7	86.7	
22-Jul	91	92	92	92	93	91	85	83	69	56	40	33	31	29	28	27	29	31	33	33	39	44	44	52	55.7	93.1	
23-Jul	63	46	41	41	45	55	61	57	47	42	37	35	33	32	31	30	28	28	28	30	36	58	66	68	43.3	68.3	
24-Jul	76	76	78	78	80	79	73	70	64	42	32	32	32	33	31	30	32	29	24	25	30	40	44	56	49.4	80.3	
25-Jul	60	82	86	87	88	86	79	67	59	47	36	35	32	24	27	25	25	26	28	32	42	56	72	86	53.6	88.0	
26-Jul	89	87	91	92	95	95	91	78	64	51	29	25	23	22	21	21	21	24	27	28	49	79	87	88	57.4	95.2	
27-Jul	90	92	93	95	96	96	93	79	58	41	33	26	22	23	20	20	21	20	20	24	41	53	70	80	54.5	95.9	
28-Jul	79	86	86	90	92	92	91	80	65	59	51	42	33	29	28	26	25	23	24	27	47	69	84	83	58.8	92.4	
29-Jul	85	89	90	88	84	87	82	64	52	43	29	25	22	22	22	25	31	33	41	82	89	93	93	96	61.1	95.5	
30-Jul	97	97	97	97	97	97	94	74	67	72	69	64	52	46	43	40	46	74	86	89	89	90	93	95	77.7	97.3	
31-Jul	95	92	91	92	90	91	91	91	89	87	86	89	90	91	91	90	91	90	92	93	91	92	90	90	90.7	95.1	
		86.9	87.9	89.3	90.4	91.1	90.8	87.2	79.6	70.4	62.0	53.4	47.4	42.6	40.0	40.0	39.5	43.1	45.7	50.3	56.2	63.0	72.5	80.6	84.6	Diurnal Average	
		98.2	98.7	99.3	99.7	100.0	100.0	100.0	100.0	100.0	97.2	85.6	90.6	89.8	91.1	91.3	89.8	90.6	92.0	92.1	93.5	95.5	96.2	97.6	97.1	Diurnal Maximum	

Hourly Averages

Relative Humidity (RH) - %
Valleyview - July 2016



Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Valleyview - July 2016

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1 Spd	1	0	1	0	0	1	1	2	2	1	1	1	3	2	1	2	4	5	4	2	1	1	0	0	0.8	4.6
Dir	163	175	233	161	197	161	163	154	151	168	152	166	151	133	141	298	258	253	253	305	116	243	172	193	209	253
2 Spd	1	2	1	0	0	1	1	1	1	1	4	3	1	1	1	5	9	1	2	1	3	4	3	3	1.1	8.7
Dir	158	157	262	253	222	174	162	167	148	166	296	282	287	148	177	248	285	180	160	158	158	157	157	160	212	285
3 Spd	3	3	1	2	1	3	7	7	7	3	10	13	13	12	10	11	10	10	9	5	6	5	1	0	5.7	13.3
Dir	159	161	157	163	225	269	259	261	263	245	275	282	280	282	282	294	296	288	270	275	277	261	215	186	273	282
4 Spd	1	1	0	0	0	1	1	1	3	5	9	7	6	6	8	7	6	7	6	5	3	1	1	1	3.0	8.6
Dir	161	163	170	183	174	195	156	161	233	258	273	271	260	256	255	271	289	269	299	320	332	294	165	172	268	273
5 Spd	1	1	1	1	0	0	1	3	6	4	3	4	2	4	3	3	4	5	6	5	2	1	0	1	1.6	5.7
Dir	174	162	157	149	162	148	156	241	263	255	251	250	264	294	293	291	309	329	345	339	345	318	171	156	286	345
6 Spd	1	1	1	1	1	1	2	6	5	5	7	6	5	11	11	9	10	7	3	2	3	0	1	1	2.9	10.7
Dir	159	162	158	153	165	145	240	279	285	295	298	280	284	285	289	304	321	11	31	128	306	74	148	177	297	289
7 Spd	3	1	1	1	1	0	1	1	0	1	1	1	1	2	4	3	2	3	2	2	1	0	0	0	0.5	3.7
Dir	153	158	90	97	157	148	149	132	30	275	238	101	145	20	358	29	72	131	173	62	154	159	176	351	97	358
8 Spd	2	1	1	1	1	1	2	2	1	0	1	1	1	1	2	1	1	3	2	2	3	4	4	4	1.1	3.7
Dir	15	322	343	36	111	287	288	287	307	211	168	62	278	260	156	156	49	338	6	14	354	347	357	1	347	357
9 Spd	1	0	0	0	1	0	1	0	1	2	3	7	6	7	6	0	3	2	3	1	1	1	2	1	1.4	6.8
Dir	347	287	212	166	252	335	267	235	50	31	18	2	359	5	10	300	149	343	336	178	195	338	329	170	359	5
10 Spd	1	1	1	0	0	0	1	0	4	5	5	4	5	3	3	4	4	2	3	2	1	1	0	0	1.2	5.4
Dir	215	174	249	291	167	176	160	241	270	283	301	298	309	305	315	301	304	114	160	154	144	154	163	168	283	309
11 Spd	0	1	1	0	0	0	1	1	2	1	1	2	2	3	8	5	9	9	4	3	1	0	1	3	1.8	9.2
Dir	153	154	163	180	217	233	184	175	259	317	292	346	321	318	304	314	326	355	12	9	21	236	245	268	324	326
12 Spd	2	0	1	1	1	0	2	4	4	4	6	6	8	6	3	2	4	4	2	1	0	0	0	1	1.8	7.8
Dir	307	13	156	197	165	220	310	354	354	357	359	358	9	337	207	236	11	330	338	166	175	225	212	223	344	9
13 Spd	1	1	3	2	4	3	3	4	4	4	5	5	10	9	8	9	9	9	7	3	4	4	2	1	4.2	9.8
Dir	254	292	285	265	268	291	301	309	330	335	338	1	337	329	332	346	1	0	359	353	352	359	336	291	335	337
14 Spd	0	1	1	1	0	0	1	3	3	3	5	7	5	6	5	4	3	1	1	1	4	3	1	0	1.4	6.6
Dir	268	349	350	313	317	153	33	20	27	14	356	344	18	25	30	34	172	168	145	190	141	155	319	169	24	344
15 Spd	0	0	0	0	0	1	1	1	1	0	0	2	4	3	1	0	1	6	4	3	1	0	0	1	0.4	5.8
Dir	297	329	232	23	356	318	24	141	32	94	229	358	11	160	134	69	176	268	287	279	247	200	294	160	286	268
16 Spd	1	1	0	0	0	0	1	1	1	1	3	6	7	9	7	5	4	6	7	3	1	2	1	4	2.4	9.0
Dir	160	158	166	202	194	171	164	167	210	278	315	305	313	338	342	340	352	326	326	32	17	326	311	306	328	338
17 Spd	6	4	3	3	3	1	1	1	2	5	5	6	5	5	6	4	3	3	4	2	0	0	0	0	2.7	5.9
Dir	311	290	310	311	303	315	348	326	320	355	355	341	345	345	354	357	4	22	5	21	294	148	327	225	341	311
18 Spd	0	0	0	0	0	0	0	1	2	2	3	3	1	1	3	3	1	3	3	1	2	1	2	1	1.0	3.1
Dir	275	188	289	313	191	239	202	161	162	161	160	159	143	159	142	124	91	50	226	155	159	160	161	163	151	50
19 Spd	0	1	1	0	1	1	1	1	1	1	2	3	4	4	6	7	6	6	10	8	3	1	2	2	2.0	10.1
Dir	177	160	168	176	162	162	151	151	166	252	195	247	264	278	303	303	298	323	258	243	239	290	162	162	263	258
20 Spd	1	0	3	1	1	1	1	1	3	6	7	5	7	10	11	11	9	6	9	2	2	1	1	1	3.7	10.8
Dir	208	15	264	189	179	156	158	159	246	258	259	247	245	250	268	290	280	267	261	211	160	166	165	175	255	290
21 Spd	1	1	3	3	1	2	4	10	15	14	14	11	15	11	7	7	9	7	2	1	0	0	1	1	3.9	14.7
Dir	177	197	223	231	197	230	243	267	280	300	296	306	327	326	355	21	17	19	80	336	212	168	156	160	309	327
22 Spd	1	2	2	3	3	3	2	2	3	2	6	8	10	11	9	12	14	10	7	7	3	4	2	1	3.1	14.4
Dir	160	158	158	157	156	158	156	156	157	157	241	245	253	284	286	312	328	321	313	306	301	285	295	243	281	328

Hourly Averages

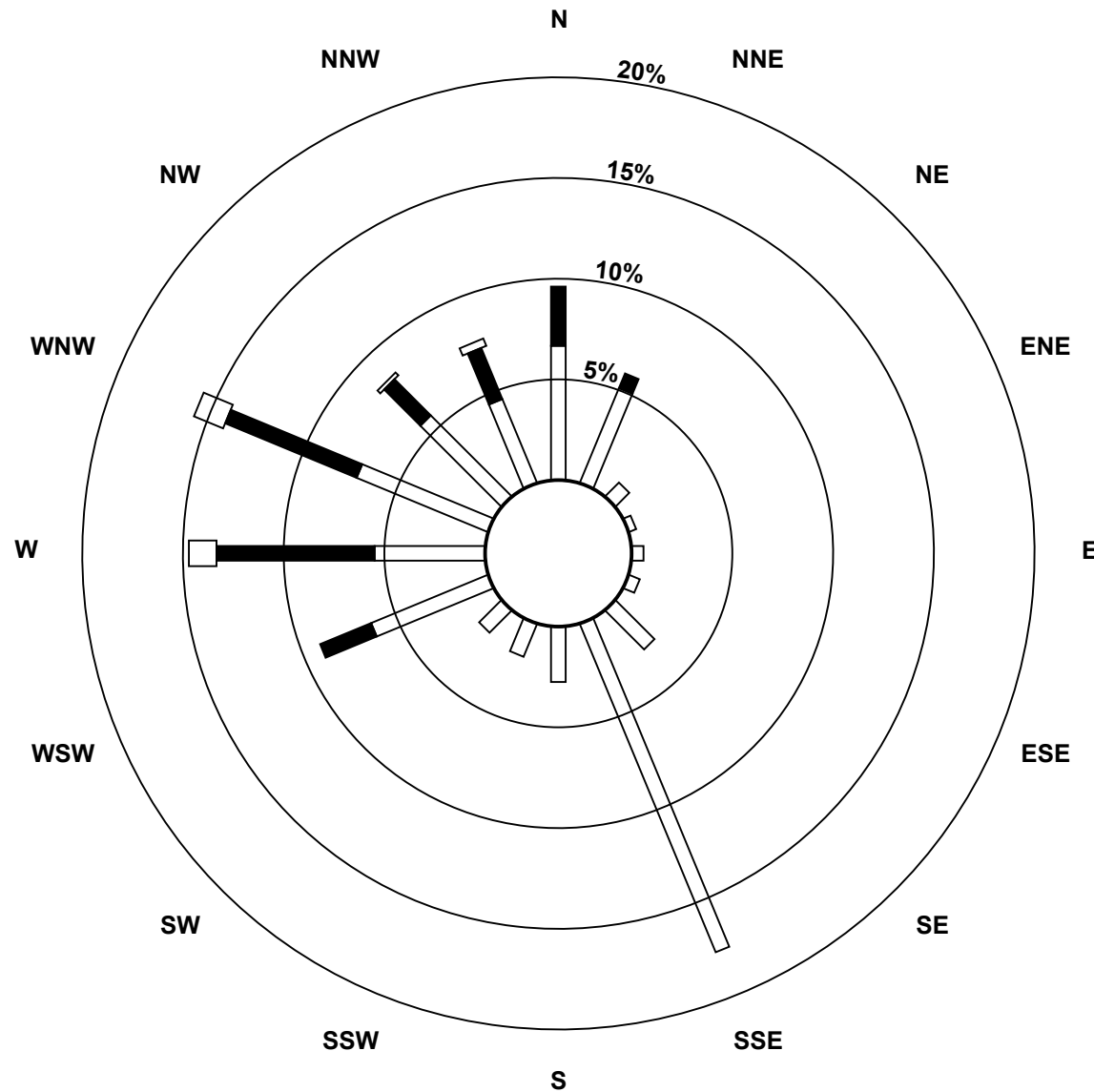
Wind Speed (km/h)
Wind Direction (deg)
Valleyview - July 2016

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	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	4	6	7	4	1	1	3	7	10	14	13	15	15	15	11	12	11	12	8	3	1	0	1	7.0	15.5
Dir	187	264	269	266	255	184	187	240	261	270	272	272	287	282	279	278	293	282	294	289	264	192	176	171	276	282
24 Spd	1	1	1	2	1	0	1	1	2	5	10	11	9	10	13	13	11	9	11	9	5	2	2	1	4.6	13.3
Dir	193	171	158	158	168	184	152	157	160	255	295	292	293	302	277	264	245	254	274	288	280	238	252	268	271	264
25 Spd	1	0	1	1	1	0	1	3	1	1	1	3	1	0	3	2	2	3	5	3	2	2	0	0	0.4	5.0
Dir	327	166	168	165	169	163	154	153	143	146	139	143	217	182	20	88	29	9	352	2	2	319	268	172	45	352
26 Spd	0	0	0	1	1	0	1	2	1	1	6	5	5	4	5	3	4	4	3	2	0	0	0	0	1.1	5.7
Dir	173	189	188	156	159	183	154	155	153	183	272	300	286	266	285	331	304	14	28	23	149	165	163	203	294	272
27 Spd	0	1	1	1	1	0	1	2	1	3	4	4	6	6	7	7	7	5	2	0	1	0	0	0	1.7	7.3
Dir	340	335	282	171	182	165	154	150	175	251	250	265	270	257	297	307	321	352	17	343	11	341	316	238	289	307
28 Spd	0	0	2	0	0	0	1	1	2	1	1	4	10	10	8	9	8	5	4	3	1	0	0	2	2.5	10.0
Dir	207	344	301	204	316	357	139	165	155	154	213	281	295	290	284	294	300	295	321	296	346	310	169	13	292	290
29 Spd	0	1	1	1	1	1	2	2	2	1	4	3	1	4	3	2	1	5	2	3	1	1	0	1	0.6	4.6
Dir	253	197	160	159	160	35	157	162	156	176	234	268	234	258	308	56	34	358	161	179	214	164	196	157	204	358
30 Spd	1	0	1	1	1	1	1	4	6	5	1	1	1	5	2	3	7	10	1	3	1	1	1	1	1.3	9.6
Dir	168	168	174	159	158	157	156	274	345	10	91	30	135	354	2	349	353	339	125	265	250	274	177	153	340	339
31 Spd	1	0	5	7	5	8	9	8	6	6	7	8	8	8	9	8	9	11	6	6	3	6	5	3	6.2	10.5
Dir	266	32	256	251	256	277	269	260	276	284	276	278	265	265	278	304	293	288	278	287	264	273	272	261	275	288
Spd	0.4	0.4	0.8	0.7	0.7	0.5	0.9	1.3	1.7	2.1	3.5	3.9	4.2	4.6	4.5	4.3	4.4	3.9	2.9	1.7	0.7	0.6	0.4	0.4	Diurnal Average	
Dir	216	204	243	223	219	239	227	246	272	285	285	292	298	298	299	306	313	320	302	298	281	266	247	217	Diurnal Maximum	
Spd	5.9	4.0	6.2	6.9	5.2	7.6	8.8	9.8	14.5	13.9	14.1	13.3	14.7	15.5	14.7	13.3	14.4	10.9	11.9	8.5	6.2	5.7	5.2	3.7	Diurnal Maximum	
Dir	311	264	269	251	256	277	269	267	280	300	272	282	327	282	279	264	328	282	294	288	277	273	272	1		
Maximum Speed Value: 15 km/h on Jul 23 14:00																								Hours in Service: 744		
Maximum Daily Speed Average: 7.0 km/h on Jul 23																								Hours of Data: 744		
Maximum Diurnal Speed Average: 4.6 km/h at hour 14																								Hours of Missing Data: 0		
Minimum Speed Value: 0 km/h on Jul 27 20:00																								Percent Operational Time: 100.0		
Minimum Daily Speed Average: 0.4 km/h on Jul 15																										
Minimum Diurnal Speed Average: 0.4 km/h at hour 23																										
Monthly Average Velocity: 1.87 km/h 291.3 deg																										
Speed Percentiles: P ₁ = 0.1 P ₁₀ = 0.4 Q ₁ = 0.8 Median = 2.0 Q ₃ = 4.7 P ₉₀ = 8.1 P ₉₉ = 13.8																										
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	67		36		0		0		0		0		103													
NorthEast	26		1		0		0		0		0		27													
East	12		0		0		0		0		0		12													
SouthEast	88		0		0		0		0		0		88													
South	173		0		0		0		0		0		173													
SouthWest	54		6		0		0		0		0		60													
West	77		71		14		0		0		0		162													
NorthWest	71		40		8		0		0		0		119													
Total	568		154		22		0		0		0		744													

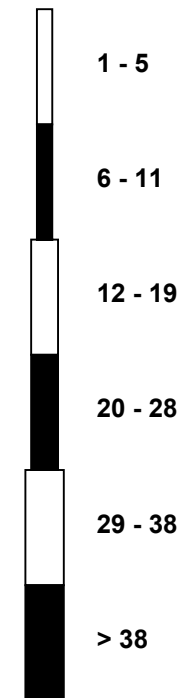
Wind Rose

Wind Speed (WS) (km/h)

Valleyview - July 2016



Wind Speed Classes (km/h)



Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Valleyview - July 2016

Maximum Speed: 16 km/h on Jul 23 14:00																				Maximum Daily Speed Average: 7.6 km/h on Jul 23										Hours in Service: 744	
Minimum Speed: 0 km/h on Jul 17 23:00																				Minimum Daily Speed Average: 1.7 km/h on Jul 18										Hours of Data: 744	
Maximum Diurnal Speed Average: 6.9 km/h at hour 14																				Minimum Diurnal Speed Average: 1.2 km/h at hour 6										Hours of Missing Data: 0	
Monthly Average Speed: 3.60 km/h																				Percentiles: P ₁ = 0.2 P ₁₀ = 0.6 Q ₁ = 1.1 Median = 2.4 Q ₃ = 5.4 P ₉₀ = 8.7 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	0	1	0	0	1	1	2	2	2	2	3	2	1	4	6	5	4	2	1	1	0	0		1.8	6.1					
2-Jul	1	2	1	0	1	1	1	1	1	2	5	4	2	2	1	6	9	2	2	1	3	4	3	3	2.4	9.0					
3-Jul	3	3	1	2	2	4	7	7	7	4	10	14	14	12	11	12	10	10	9	6	6	5	1	1	6.7	13.8					
4-Jul	1	1	1	0	0	1	1	2	4	6	9	8	8	7	9	8	7	7	6	5	3	1	1	1	4.0	9.2					
5-Jul	1	1	1	1	0	0	1	3	6	5	4	5	4	5	4	4	5	6	6	5	2	1	0	1	3.0	6.0					
6-Jul	1	1	1	1	1	1	3	6	5	6	8	6	6	11	11	10	11	7	4	2	4	2	1	2	4.6	11.2					
7-Jul	3	1	1	1	1	0	1	1	1	2	2	2	2	3	5	3	3	4	3	5	1	0	0	0	1.9	4.8					
8-Jul	2	2	1	2	2	1	3	3	2	1	1	2	2	2	2	2	3	4	2	2	4	4	4	4	2.3	3.9					
9-Jul	2	1	0	0	1	1	1	1	1	3	3	7	6	7	6	1	4	3	4	2	2	2	2	1	2.6	7.4					
10-Jul	1	1	1	1	0	1	1	1	4	5	5	4	6	4	3	5	5	4	3	2	1	1	0	1	2.5	6.0					
11-Jul	0	1	1	0	0	0	1	1	3	2	2	3	3	5	9	6	10	9	4	3	1	0	1	3	2.8	9.6					
12-Jul	3	1	1	1	1	1	2	4	4	5	6	6	8	6	5	5	5	4	3	1	1	0	1	1	3.1	8.4					
13-Jul	1	1	3	2	4	3	3	4	5	4	6	6	10	10	8	10	9	9	7	3	4	4	2	1	5.0	10.3					
14-Jul	0	1	1	1	0	0	1	3	3	4	5	7	6	7	6	5	4	1	1	1	4	3	2	1	2.8	7.1					
15-Jul	0	1	0	0	1	1	1	1	2	2	2	3	5	3	2	1	3	6	4	3	2	1	1	1	1.8	6.2					
16-Jul	1	1	1	0	0	0	1	1	2	3	4	6	7	10	8	6	5	6	9	4	1	3	1	4	3.4	9.6					
17-Jul	6	4	3	3	3	1	1	1	2	5	6	6	6	6	5	4	4	4	4	2	0	0	0	0	3.2	6.3					
18-Jul	0	0	1	1	0	0	0	1	2	2	3	3	2	2	3	3	2	3	4	1	2	1	2	1	1.7	4.3					
19-Jul	1	1	1	0	1	1	1	1	1	2	2	3	5	5	7	8	7	6	11	8	3	2	2	2	3.4	10.9					
20-Jul	3	1	4	1	1	1	1	1	3	6	8	6	8	10	11	11	10	6	10	2	2	1	2	1	4.6	11.2					
21-Jul	1	1	3	3	1	2	4	10	15	14	14	12	15	11	8	7	9	7	2	1	0	1	1	1	6.0	15.1					
22-Jul	1	2	2	3	3	3	2	2	3	2	6	9	10	12	9	13	15	10	7	7	3	4	2	1	5.5	14.7					
23-Jul	1	4	6	7	4	1	1	3	7	10	14	14	15	16	15	12	12	11	12	8	4	1	0	1	7.6	16.0					
24-Jul	1	2	1	2	1	1	1	1	2	6	11	12	9	11	13	14	11	10	11	9	5	2	2	2	5.8	13.8					
25-Jul	3	1	1	1	1	0	1	3	1	1	2	3	2	3	4	3	3	4	5	3	2	2	1	1	2.0	5.1					
26-Jul	0	1	0	1	1	0	1	2	1	2	6	6	6	6	5	5	5	3	2	0	0	0	0	0	2.5	6.4					
27-Jul	0	1	1	1	1	0	1	2	1	3	4	5	6	7	8	8	8	6	2	0	1	0	1	1	2.9	8.1					
28-Jul	1	1	2	1	1	1	1	1	2	1	2	5	10	10	9	10	8	6	5	3	1	0	0	2	3.5	10.5					
29-Jul	1	1	1	1	1	1	2	2	2	2	4	4	3	5	4	3	1	5	5	5	1	2	1	1	2.5	5.1					
30-Jul	1	0	1	1	1	1	1	4	7	6	1	2	2	6	3	3	7	11	1	3	2	2	1	2	2.8	10.6					
31-Jul	2	1	6	7	5	8	9	8	6	6	7	8	8	8	10	8	10	11	7	6	3	6	5	3	6.6	10.8					
1.4 1.3 1.6 1.5 1.3 1.2 1.8 2.7 3.4 4.0 5.3 5.9 6.4 6.9 6.7 6.5 6.8 6.2 5.2 3.4 2.3 1.8 1.3 1.3																									Diurnal Average						
6.3 4.3 6.4 7.1 5.3 7.8 9.0 10.2 14.9 14.2 14.4 13.8 15.1 16.0 15.3 13.8 14.7 11.4 12.4 8.7 6.3 5.9 5.4 3.8																									Diurnal Maximum						

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

Hourly Standard Deviations

Wind Direction (WD) - deg

Valleyview - July 2016

Maximum Value: 94.5 deg on Jul 10 04:00																								Hours in Service: 744	
Minimum Value: 4.4 deg on Jul 22 05:00																								Hours of Data: 744	
																								Hours of Missing Data: 0	
Percentiles: P ₁ = 8.0 P ₁₀ = 13.4 Q ₁ = 19.2 Median = 32.5 Q ₃ = 56.2 P ₉₀ = 75.2 P ₉₉ = 93.3																								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	16	59	78	60	60	11	12	15	19	43	57	59	31	49	52	68	73	32	19	47	48	40	76	65	77.8
2-Jul	10	9	52	83	63	37	27	30	55	58	55	58	71	85	49	55	17	66	25	30	9	8	11	8	85.5
3-Jul	9	9	31	29	47	24	13	16	16	44	18	16	15	17	23	23	18	20	14	14	16	16	32	36	46.7
4-Jul	19	10	18	47	33	32	31	28	43	49	22	34	39	41	30	30	34	35	27	24	17	37	13	16	49.2
5-Jul	28	31	23	27	37	37	17	52	21	37	66	44	73	47	56	71	34	39	20	12	16	60	64	40	73.4
6-Jul	11	18	19	21	25	22	50	32	34	20	20	25	48	18	17	20	18	15	45	25	56	93	63	30	92.9
7-Jul	10	32	48	65	54	70	85	35	92	66	68	87	77	78	59	61	55	43	71	74	36	50	72	48	92.1
8-Jul	23	71	87	63	54	38	26	21	56	81	56	77	85	88	42	82	60	29	26	50	14	7	14	11	87.9
9-Jul	70	72	84	56	58	70	65	78	66	37	43	23	32	30	34	90	72	30	38	58	46	81	65	52	89.7
10-Jul	25	53	79	95	88	39	26	63	24	18	26	30	28	47	54	39	39	62	18	17	20	12	70	72	94.5
11-Jul	49	51	34	41	49	62	48	45	54	67	80	79	78	67	26	48	18	19	17	24	43	71	58	43	79.6
12-Jul	28	88	30	25	29	52	32	20	40	31	34	29	22	19	62	70	36	23	69	56	32	72	62	32	88.2
13-Jul	32	51	21	18	15	16	21	23	28	31	26	33	19	20	24	23	15	20	8	12	10	13	14	56	56.4
14-Jul	76	41	78	49	91	79	25	28	30	39	22	27	35	37	34	52	32	44	25	38	17	18	87	88	91.2
15-Jul	74	90	80	94	94	32	48	52	75	93	91	78	52	28	54	88	56	21	19	47	51	54	78	78	94.5
16-Jul	58	39	79	60	42	22	22	22	53	77	51	31	28	20	19	45	29	17	32	85	84	42	75	39	84.8
17-Jul	22	13	18	9	13	36	57	85	39	30	16	21	32	22	21	29	33	27	22	55	94	61	82	69	94.1
18-Jul	81	86	57	50	59	64	60	38	21	23	33	22	53	54	45	49	47	39	69	45	15	23	8	8	85.7
19-Jul	32	15	35	43	10	32	29	24	41	74	60	63	52	56	25	29	33	22	27	20	34	86	12	26	86.5
20-Jul	59	94	44	29	24	12	11	23	52	11	12	24	22	11	13	14	15	19	13	39	10	14	15	17	94.0
21-Jul	19	36	31	27	28	38	28	22	13	11	13	18	14	14	27	23	13	21	62	74	37	28	29	8	73.7
22-Jul	8	6	6	13	4	8	8	8	15	17	44	35	16	22	21	18	12	11	15	14	14	18	34	24	43.8
23-Jul	26	27	15	13	15	26	21	39	14	15	12	17	13	15	17	19	17	18	16	15	25	24	13	13	39.4
24-Jul	33	32	14	11	74	73	17	17	23	50	17	17	18	19	16	16	17	28	17	14	30	27	14	68	73.6
25-Jul	83	35	9	29	45	67	27	9	37	56	62	17	64	89	67	50	68	23	13	13	21	50	68	68	89.0
26-Jul	76	58	42	23	18	40	19	13	33	60	28	31	37	52	55	74	44	35	15	28	65	87	56	72	86.6
27-Jul	80	63	88	33	27	33	20	12	46	54	36	48	37	31	34	30	32	22	49	88	51	66	86	76	88.4
28-Jul	74	93	75	82	94	89	58	54	21	26	45	50	22	18	21	21	23	29	28	47	53	67	37	86	94.3
29-Jul	70	35	17	9	52	74	11	9	22	44	44	57	82	46	81	36	61	12	88	57	68	72	82	72	88.1
30-Jul	42	51	33	22	44	29	18	35	27	27	74	88	69	42	57	34	29	46	58	30	44	72	51	49	88.3
31-Jul	62	80	22	13	15	13	12	11	18	16	11	11	13	13	19	13	13	14	24	19	23	14	18	26	80.2
83.5 94.0 88.2 94.5 94.3 89.4 84.6 85.1 92.1 92.6 91.4 88.3 85.0 89.0 81.0 89.7 72.6 65.9 88.1 88.4 94.1 92.9 87.2 88.1																									

PAZA

Portable – Rycroft Station

Monthly Summary Tables, Graphs and
Roses

Hourly Averages

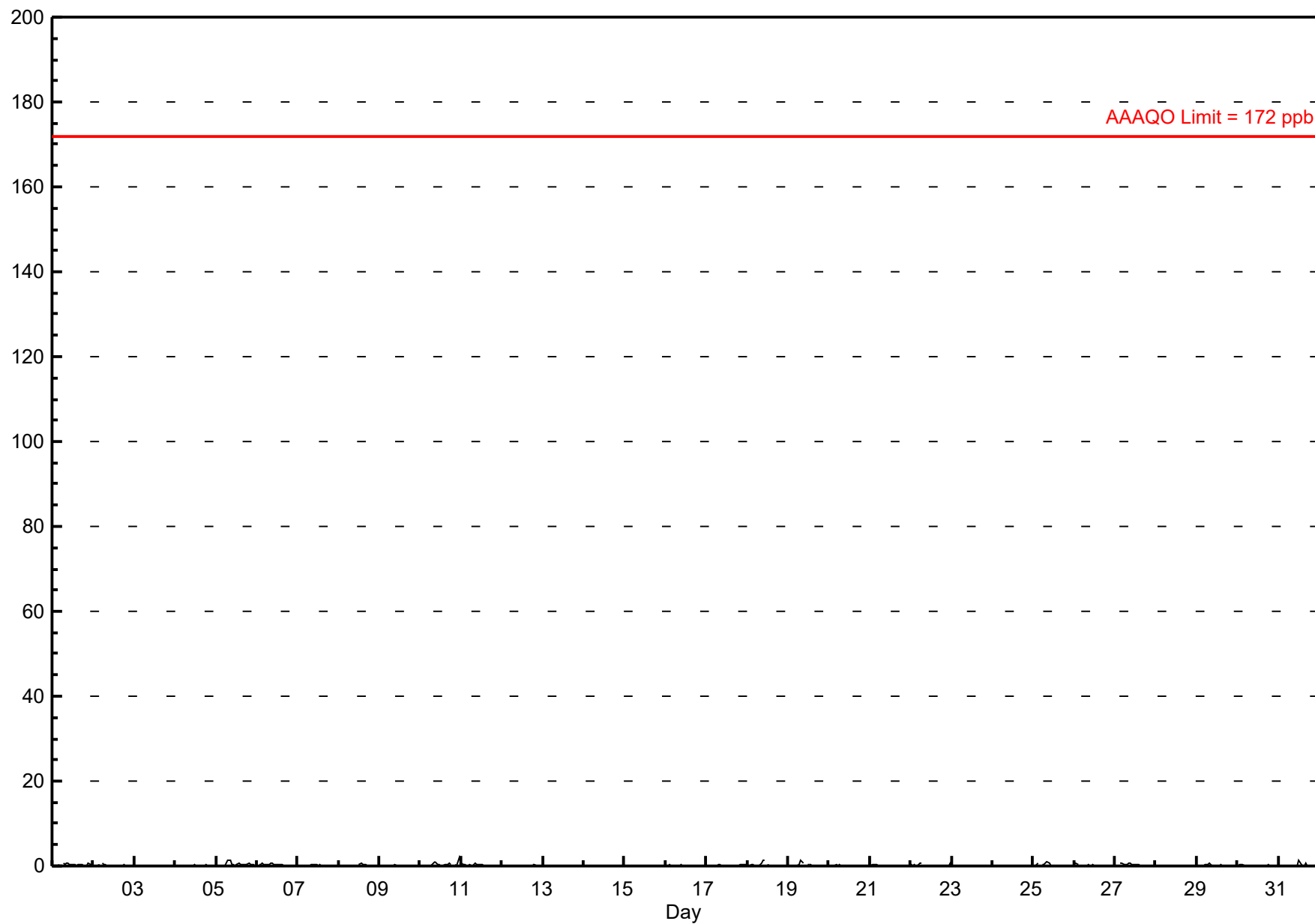
Sulphur Dioxide (SO₂) - ppb

Portable Rycroft - July 2016

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																				Hours in Service: 744						
Maximum Value: 2.1 ppb on Jul 11 00:00																				Maximum Daily Average: 0.4 ppb on Jul 10		Hours of Data: 708				
Minimum Value: 0 ppb on Jul 1 19:00																				Minimum Daily Average: 0.0 ppb on Jul 28		Hours of Missing Data: 36				
Maximum Diurnal Average: 0.3 ppb at hour 9																				Minimum Diurnal Average: 0.0 ppb at hour 21		Hours of Calibration: 36				
Monthly Average: 0.13 ppb																				Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 0.1 P ₉₀ = 0.4 P ₉₉ = 1.2		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	0	0	0	0	0	A	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0.3	0.7
2-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	0.1	0.6
3-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
4-Jul	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.3
5-Jul	0	A	0	0	0	0	1	1	1	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0.4	1.3
6-Jul	A	0	1	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.6
7-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
8-Jul	0	0	0	0	0	0	0	0	0	C	C	C	0	1	0	0	0	0	0	0	0	A	0	0	0.1	0.6
9-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
10-Jul	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	1	0	A	0	0	1	2	0.4	2.1
11-Jul	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0.2	0.8
12-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	0.3
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
14-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
15-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
16-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	0.3
17-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	0.4
18-Jul	0	0	0	0	0	0	0	0	1	1	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.5
19-Jul	0	0	0	0	0	0	0	1	1	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.3
20-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	0.3
21-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
22-Jul	0	0	0	0	0	1	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0.1	0.8
23-Jul	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.2
24-Jul	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
25-Jul	0	0	0	1	A	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.9
26-Jul	0	1	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.6
27-Jul	0	0	A	1	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.8
28-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
29-Jul	A	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0.1	0.5
30-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.1	0.5
31-Jul	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	A	0	0	0.2	1.4
0.1 0.1 0.1 0.1 0.1 0.1 0.2 0.2 0.3 0.3 0.2 0.1 0.2 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.0 0.1 0.1 0.1																									Diurnal Average	
0.8 0.6 0.5 0.6 0.8 0.6 0.8 1.3 1.3 1.5 1.4 0.5 1.4 0.7 0.4 0.4 0.8 0.6 0.4 0.7 0.3 0.6 1.0 2.1																									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
Portable Rycroft - July 2016



Hourly Maximums

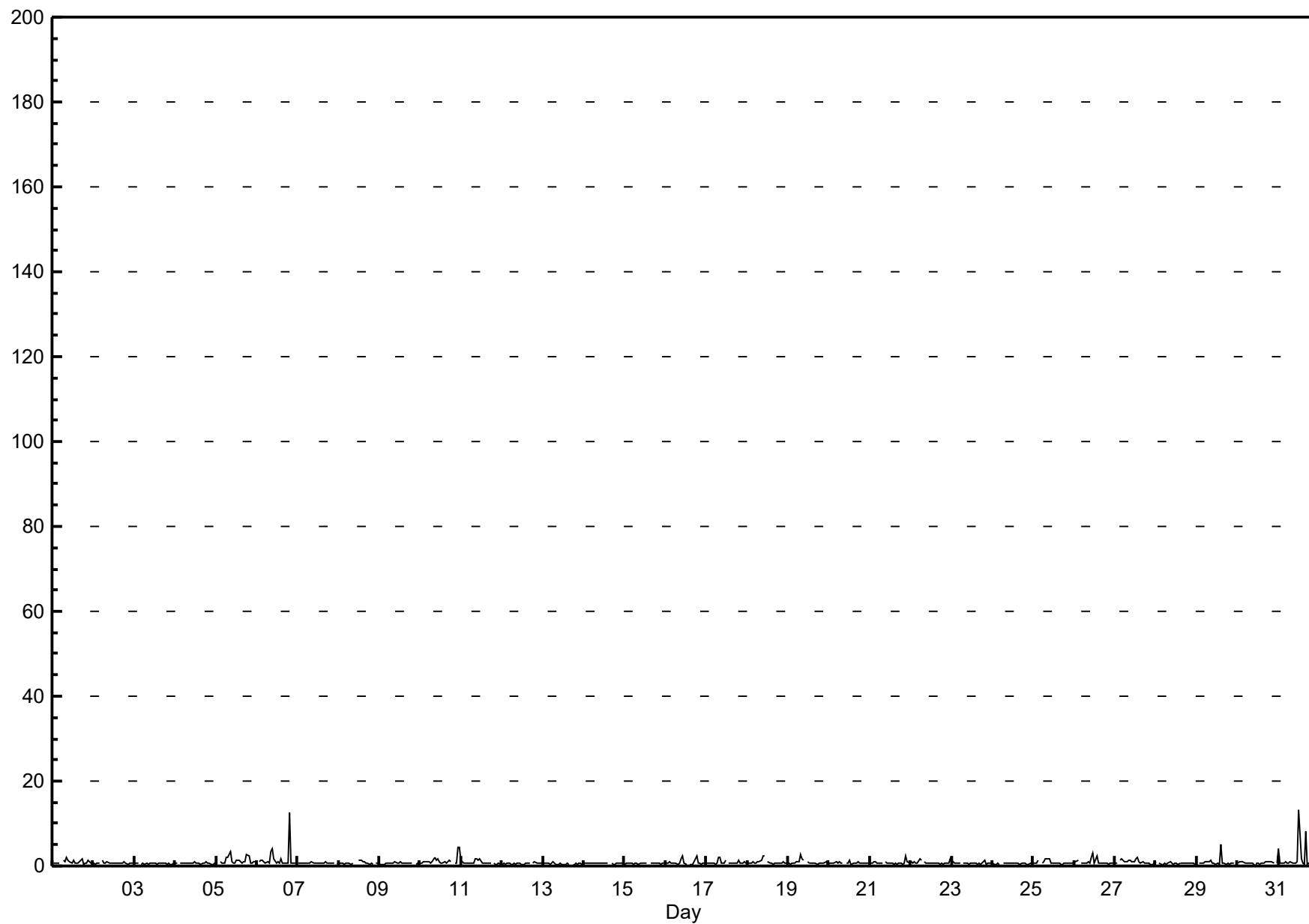
Sulphur Dioxide (SO₂) - ppb

Portable Rycroft - July 2016

Maximum Value: 13.3 ppb on Jul 31 13:00																				Maximum Daily Average: 1.7 ppb on Jul 6										Hours in Service: 744	
Minimum Value: 0 ppb on Jul 30 11:00																				Minimum Daily Average: 0.5 ppb on Jul 13										Hours of Data: 708	
Maximum Diurnal Average: 1.2 ppb at hour 13																				Minimum Diurnal Average: 0.6 ppb at hour 21										Hours of Missing Data: 36	
Monthly Average: 0.84 ppb																				Percentiles: P ₁ = 0.3 P ₁₀ = 0.5 Q ₁ = 0.6 Median = 0.7 Q ₃ = 0.8 P ₉₀ = 1.2 P ₉₉ = 4.0										Hours of Calibration: 36	
																				Percent Operational Time: 100.0											
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24							
1-Jul	1	1	1	1	1	A	1	1	2	1	1	1	1	1	1	1	1	2	0	1	1	1	1	1	1.0	2.1					
2-Jul	1	0	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.3					
3-Jul	1	1	1	A	1	1	0	1	0	1	1	1	1	0	1	1	1	1	1	0	1	0	0	1	0.6	0.8					
4-Jul	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	0	0	1	0.7	1.1					
5-Jul	1	A	1	1	1	1	2	2	3	1	1	1	1	1	1	1	1	1	3	3	1	1	1	1	1.2	3.3					
6-Jul	A	1	1	1	1	1	1	1	3	4	2	1	1	1	2	1	1	1	1	13	1	1	1	A	1.7	12.5					
7-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	0.8	1.1					
8-Jul	0	1	1	0	1	1	1	0	1	C	C	C	1	1	1	1	1	1	0	1	0	A	1	1	0.7	1.2					
9-Jul	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	0	1	0	0.6	0.9					
10-Jul	1	1	1	1	1	1	1	1	2	1	2	1	1	1	1	1	1	1	1	A	1	1	4	4	1.3	4.3					
11-Jul	1	1	1	1	1	1	1	1	2	2	1	2	1	1	1	1	1	1	A	1	0	0	1	0	0.9	1.8					
12-Jul	0	1	0	1	1	0	0	1	0	1	1	0	0	0	1	1	1	A	1	1	1	1	1	1	0.6	1.1					
13-Jul	1	1	1	1	0	1	1	0	1	0	1	0	0	0	1	0	A	0	0	1	0	1	1	0	0.5	1.1					
14-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	0	0	1	1	1	1	1	0.7	0.8					
15-Jul	0	1	1	1	1	0	1	1	0	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	0.6	0.8					
16-Jul	1	1	1	1	1	1	1	0	1	2	2	1	0	A	0	0	0	2	2	1	1	0	1	1	0.8	2.5					
17-Jul	1	1	1	1	1	0	1	2	2	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	0.9	2.2					
18-Jul	1	1	1	1	1	1	1	1	2	2	2	A	1	1	1	1	1	1	1	1	1	1	1	1	0.9	2.4					
19-Jul	1	0	1	1	1	1	1	3	2	1	A	1	1	1	1	1	1	0	1	1	1	1	1	0	0.8	2.6					
20-Jul	1	1	1	1	1	1	1	1	1	A	1	1	1	0	1	1	1	1	1	1	1	1	1	1	0.7	1.4					
21-Jul	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	0	1	1	0	1	2	1	1	0.7	2.4					
22-Jul	1	1	1	1	1	2	1	A	1	1	1	1	1	1	1	1	1	0	1	0	1	1	2	1	0.8	1.6					
23-Jul	1	1	1	1	1	1	A	1	1	1	0	1	1	1	1	0	1	1	1	1	0	1	1	1	0.6	1.2					
24-Jul	1	0	0	1	0	A	1	1	1	1	1	1	1	1	1	1	0	1	1	1	0	0	1	1	0.6	0.7					
25-Jul	1	1	1	1	A	1	1	2	2	2	1	1	1	1	1	1	0	0	1	1	1	1	1	1	0.8	1.7					
26-Jul	1	1	1	A	1	1	1	1	1	1	2	3	1	2	1	1	1	1	1	1	0	1	1	1	0.9	2.9					
27-Jul	1	1	A	1	2	1	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1	0	1	1	1.0	2.1					
28-Jul	1	A	1	0	0	1	0	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	0	1	0.6	0.9					
29-Jul	A	1	1	1	1	1	1	1	1	1	1	0	1	0	5	1	1	0	1	0	1	1	1	A	0.9	4.9					
30-Jul	1	1	1	1	1	1	1	1	1	1	0	1	1	0	1	1	1	1	1	1	1	1	A	1	0.7	1.2					
31-Jul	4	1	1	1	1	1	1	1	1	1	1	1	13	2	1	0	8	0	1	0	0	A	1	1	1.7	13.3					
0.8 0.7 0.8 0.8 0.7 0.7 0.8 0.9 1.2 1.1 0.9 0.8 1.2 0.8 0.9 0.6 0.9 0.7 0.8 1.2 0.6 0.7 0.8 0.8																									Diurnal Average						
4.0 1.2 1.4 1.4 1.6 1.5 2.1 2.6 3.3 4.1 2.5 2.9 13.3 2.3 4.9 1.0 8.2 1.7 2.8 12.5 1.0 2.4 4.3 4.3																									Diurnal Maximum						
C - Calibration																									A - Automated Daily Zero Span						

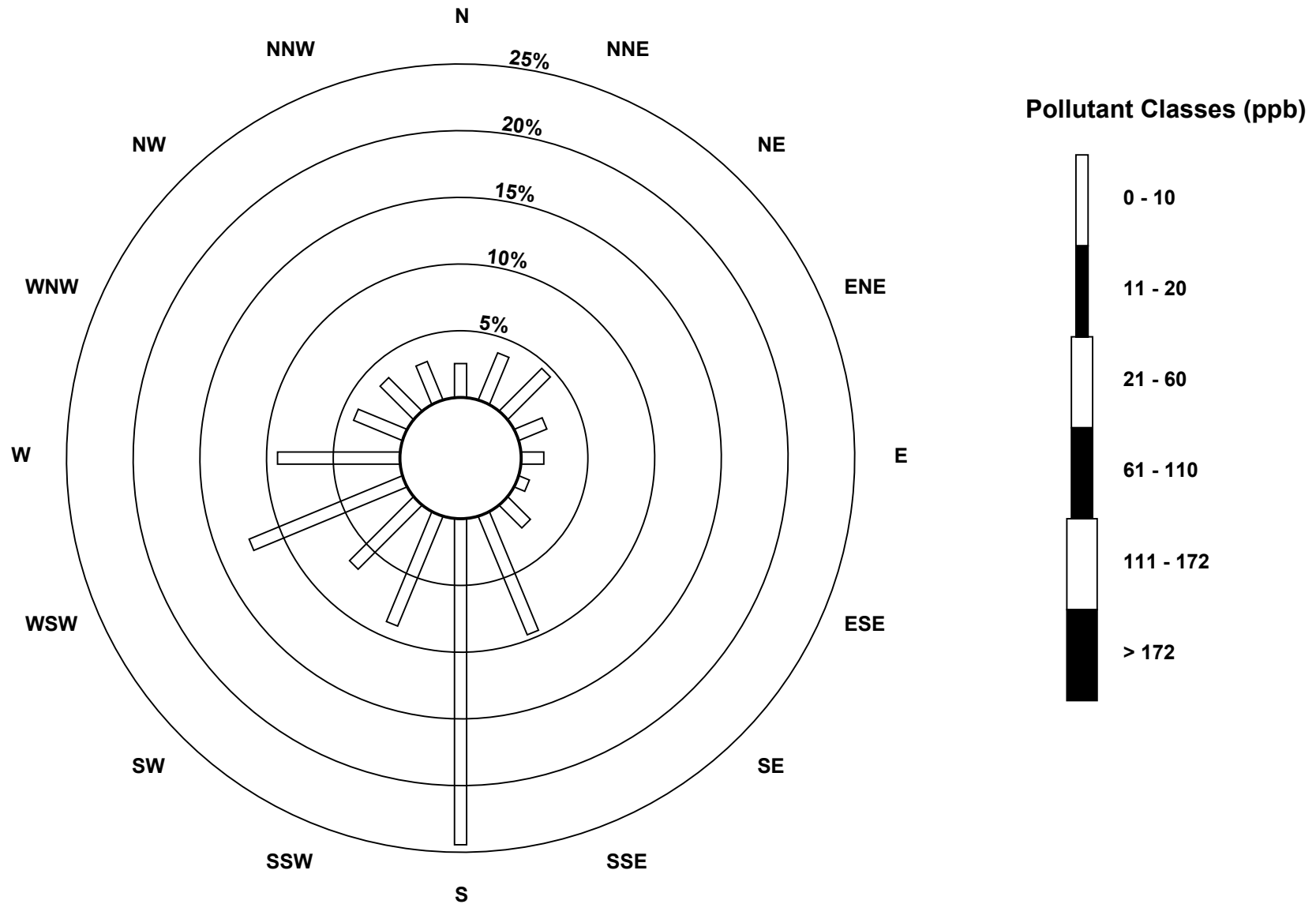
Hourly Maximums

Sulphur Dioxide (SO₂) - ppb
Portable Rycroft - July 2016



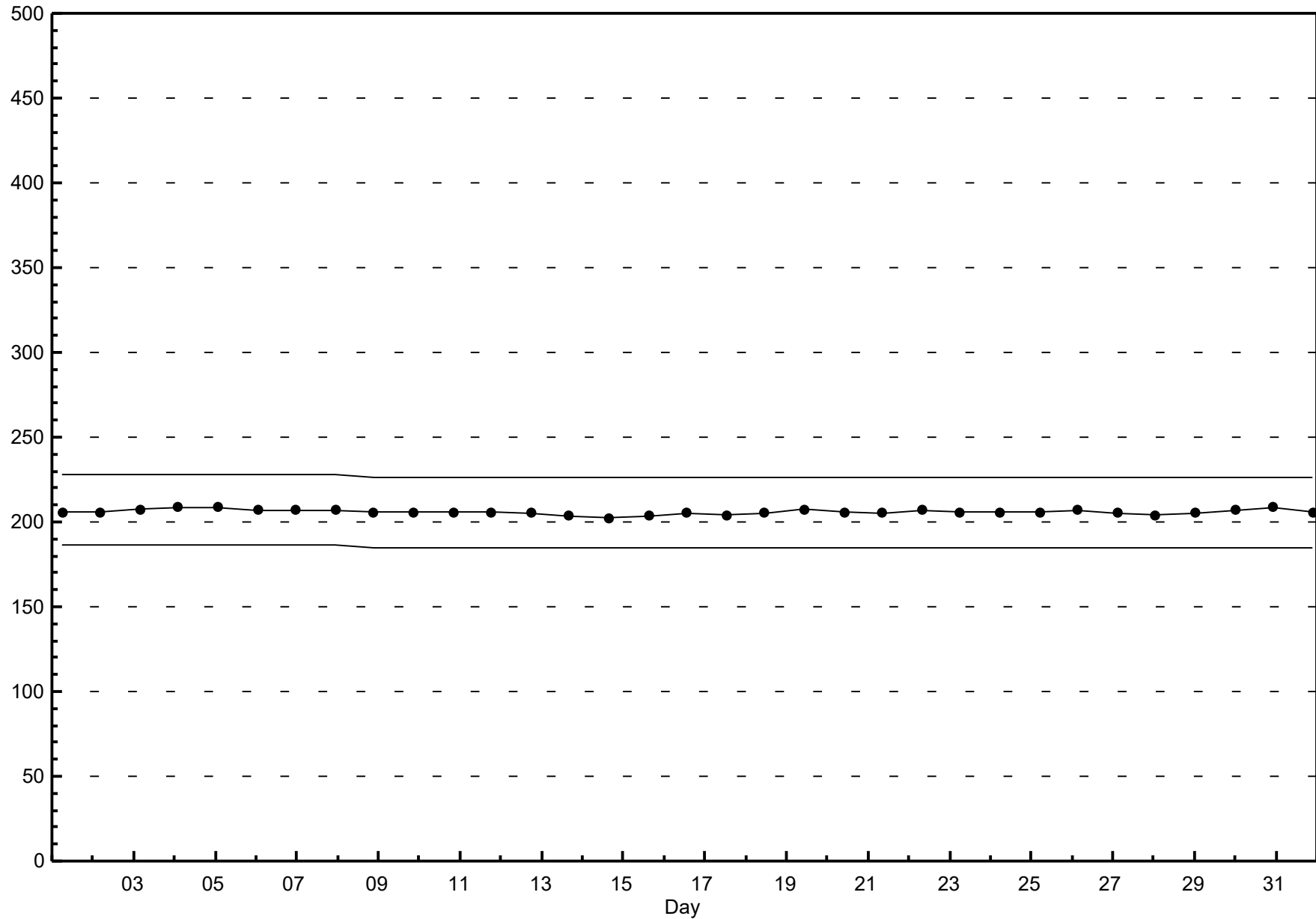
Pollutant Rose

Sulphur Dioxide (SO₂) - ppb
Portable Rycroft - July 2016



Span Responses

Sulphur Dioxide (SO₂)
Portable Rycroft - July 2016



Hourly Averages

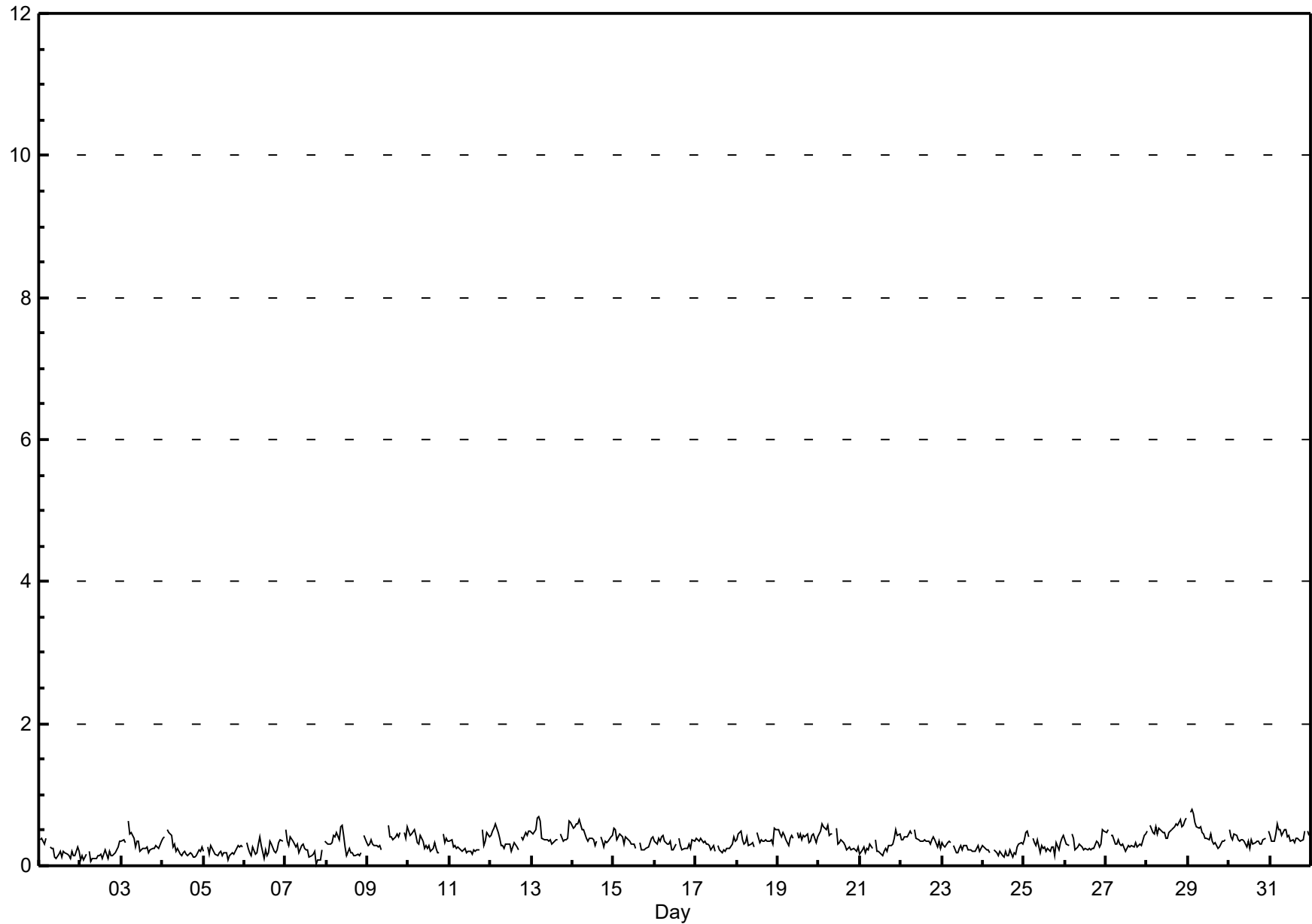
Total Reduced Sulphur (TRS) - ppb

Portable Rycroft - July 2016

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 0.8 ppb on Jul 29 03:00 Maximum Daily Average: 0.5 ppb on Jul 28																				Hours in Service: 744 Hours of Data: 708						
Minimum Value: 0 ppb on Jul 7 19:00 Minimum Daily Average: 0.2 ppb on Jul 2 Maximum Diurnal Average: 0.4 ppb at hour 5 Minimum Diurnal Average: 0.3 ppb at hour 19 Monthly Average: 0.32 ppb Percentiles: P ₁ = 0.1 P ₁₀ = 0.2 Q ₁ = 0.2 Median = 0.3 Q ₃ = 0.4 P ₉₀ = 0.5 P ₉₉ = 0.6																				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	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
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	0.4
3-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	0.3	0.6
4-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	0.2	0.5
5-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
6-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	0.4
7-Jul	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.2	0.5
8-Jul	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.3	0.6
9-Jul	0	0	0	0	0	0	0	0	0	C	C	C	1	0	0	0	0	0	0	0	A	0	0	1	0.4	0.6
10-Jul	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.3	0.5
11-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	0	0	0	0	0.3	0.5
12-Jul	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0.4	0.6
13-Jul	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	1	1	0.4	0.7
14-Jul	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.4	0.6
15-Jul	1	1	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.3	0.5
16-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
17-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
18-Jul	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	1	1	0.4	0.5
19-Jul	1	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.5
20-Jul	0	0	1	1	1	1	0	0	0	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.6
21-Jul	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0.3	0.5
22-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	0.4	0.5
23-Jul	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.3
24-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	0.3
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	0.3	0.5
26-Jul	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0.3	0.5
27-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	0.5
28-Jul	0	A	1	0	0	1	0	1	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	0.5	0.7
29-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	0.4	0.8
30-Jul	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.4	0.5
31-Jul	0	0	0	0	1	1	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.4	0.6
0.4 0.4 0.4 0.4 0.4 0.4 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.4 0.4																								Diurnal Average		
0.5 0.8 0.8 0.7 0.7 0.6 0.5 0.5 0.6 0.6 0.5 0.5 0.6 0.5 0.5 0.5 0.5 0.6 0.6 0.6 0.6 0.6 0.6 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
Portable Rycroft - July 2016



Hourly Maximums

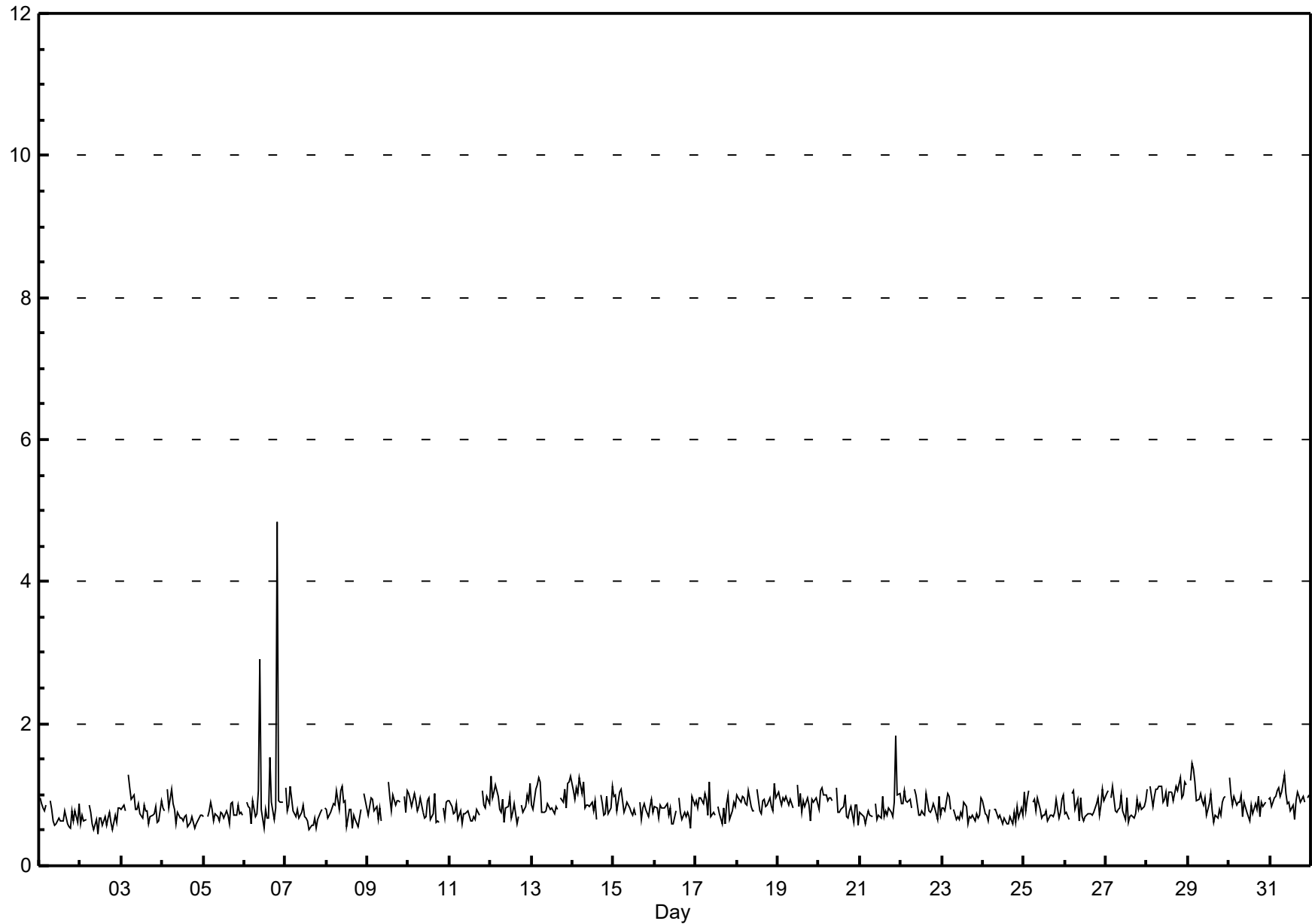
Total Reduced Sulphur (TRS) - ppb

Portable Rycroft - July 2016

Maximum Value: 4.8 ppb on Jul 6 20:00																			Maximum Daily Average: 1.1 ppb on Jul 6										Hours in Service: 744	
Minimum Value: 0 ppb on Jul 2 11:00																			Minimum Daily Average: 0.7 ppb on Jul 2										Hours of Data: 708	
Maximum Diurnal Average: 0.9 ppb at hour 5																			Minimum Diurnal Average: 0.7 ppb at hour 15										Hours of Missing Data: 36	
Monthly Average: 0.84 ppb																			Percentiles: P ₁ = 0.5 P ₁₀ = 0.6 Q ₁ = 0.7 Median = 0.8 Q ₃ = 0.9 P ₉₀ = 1.0 P ₉₉ = 1.2										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	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.0				
2-Jul	1	1	1	1	A	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	0.9				
3-Jul	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.3				
4-Jul	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.1				
5-Jul	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	0.9				
6-Jul	A	1	1	1	1	1	1	1	1	3	1	1	1	1	1	2	1	1	1	5	1	1	1	A	1.1	4.8				
7-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	0.7	1.1				
8-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	1.1				
9-Jul	1	1	1	1	1	1	1	1	1	C	C	C	1	1	1	1	1	1	1	1	A	1	1	1	0.9	1.2				
10-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	1.0				
11-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	0.8	1.1				
12-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	0.9	1.3				
13-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	1.3				
14-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	1.2				
15-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	0.8	1.1				
16-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	1.0				
17-Jul	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	0.8	1.2				
18-Jul	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.2				
19-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	1.1				
20-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	0.9	1.1				
21-Jul	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	0.8	1.8				
22-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	0.8	1.1				
23-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	0.8	1.0				
24-Jul	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	0.9				
25-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	0.8	1.1				
26-Jul	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.1				
27-Jul	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.1				
28-Jul	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.3				
29-Jul	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	0.9	1.4				
30-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	0.9	1.2				
31-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	1.0	1.3				
0.9 0.9 0.9 0.9 0.9 0.9 0.8 0.8 0.8 0.9 0.8 0.8 0.8 0.8 0.7 0.8 0.8 0.8 0.8 0.8 0.9 0.8 0.8 0.9 0.9																									Diurnal Average					
1.3 1.2 1.4 1.4 1.3 1.2 1.2 1.1 1.3 2.9 1.1 1.1 1.2 1.0 1.0 1.5 1.0 1.1 1.1 1.1 4.8 1.0 1.8 1.2 1.3																									Diurnal Maximum					
C - Calibration A - Automated Daily Zero Span																														

Hourly Maximums

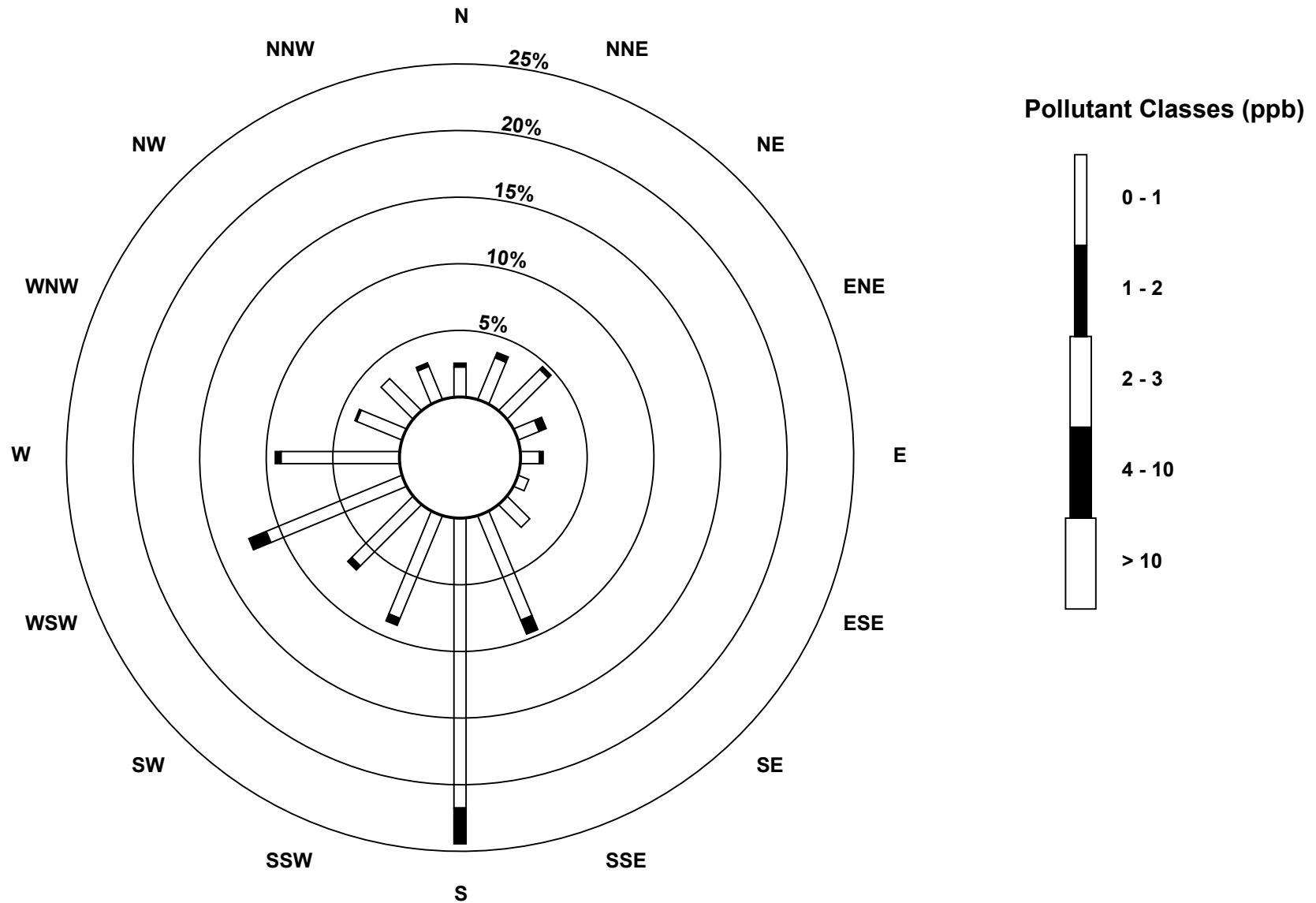
Total Reduced Sulphur (TRS) - ppb
Portable Rycroft - July 2016



Pollutant Rose

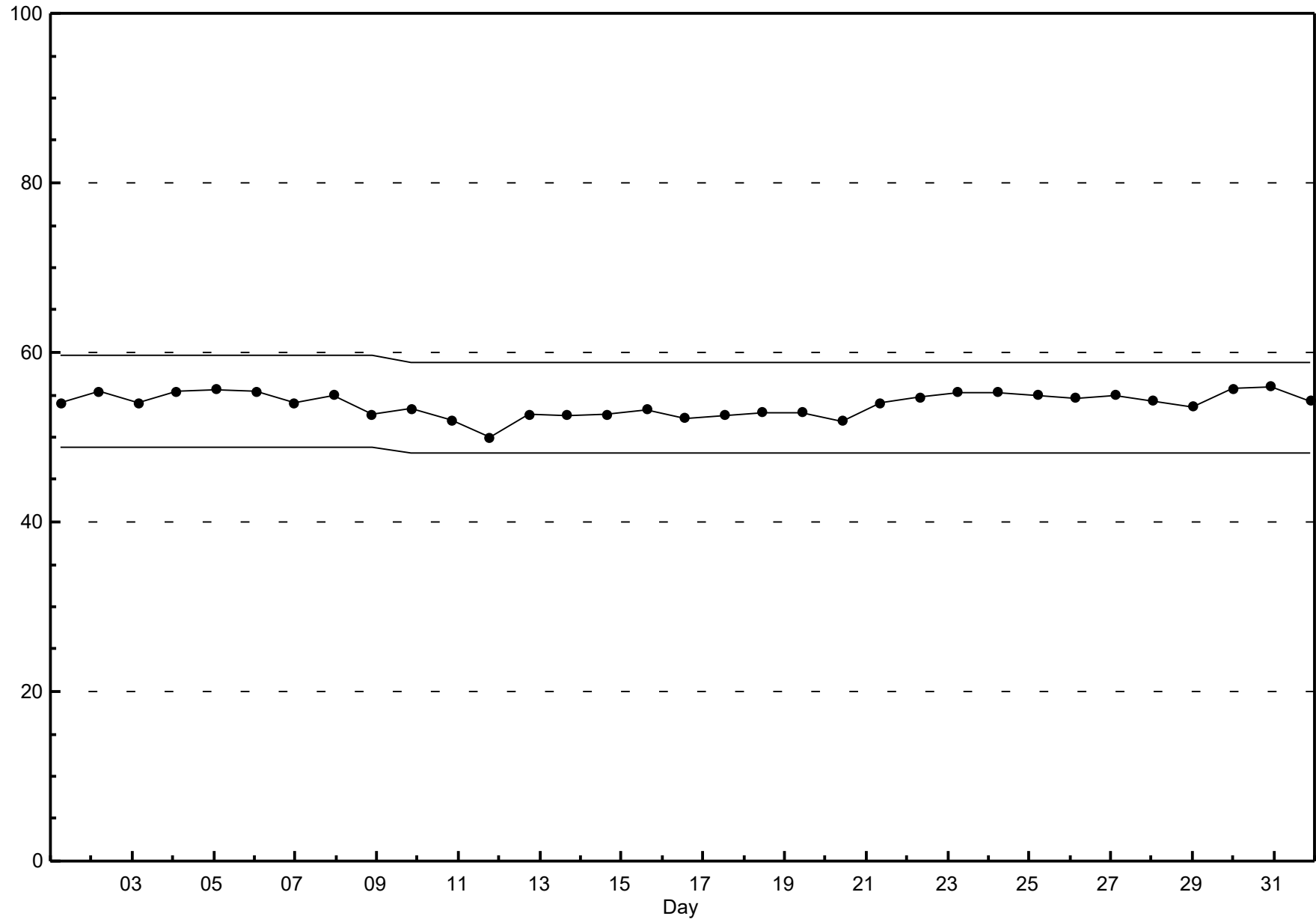
Total Reduced Sulphur (TRS) - ppb

Portable Rycroft - July 2016



Span Responses

Total Reduced Sulphur (TRS)
Portable Rycroft - July 2016



Hourly Averages

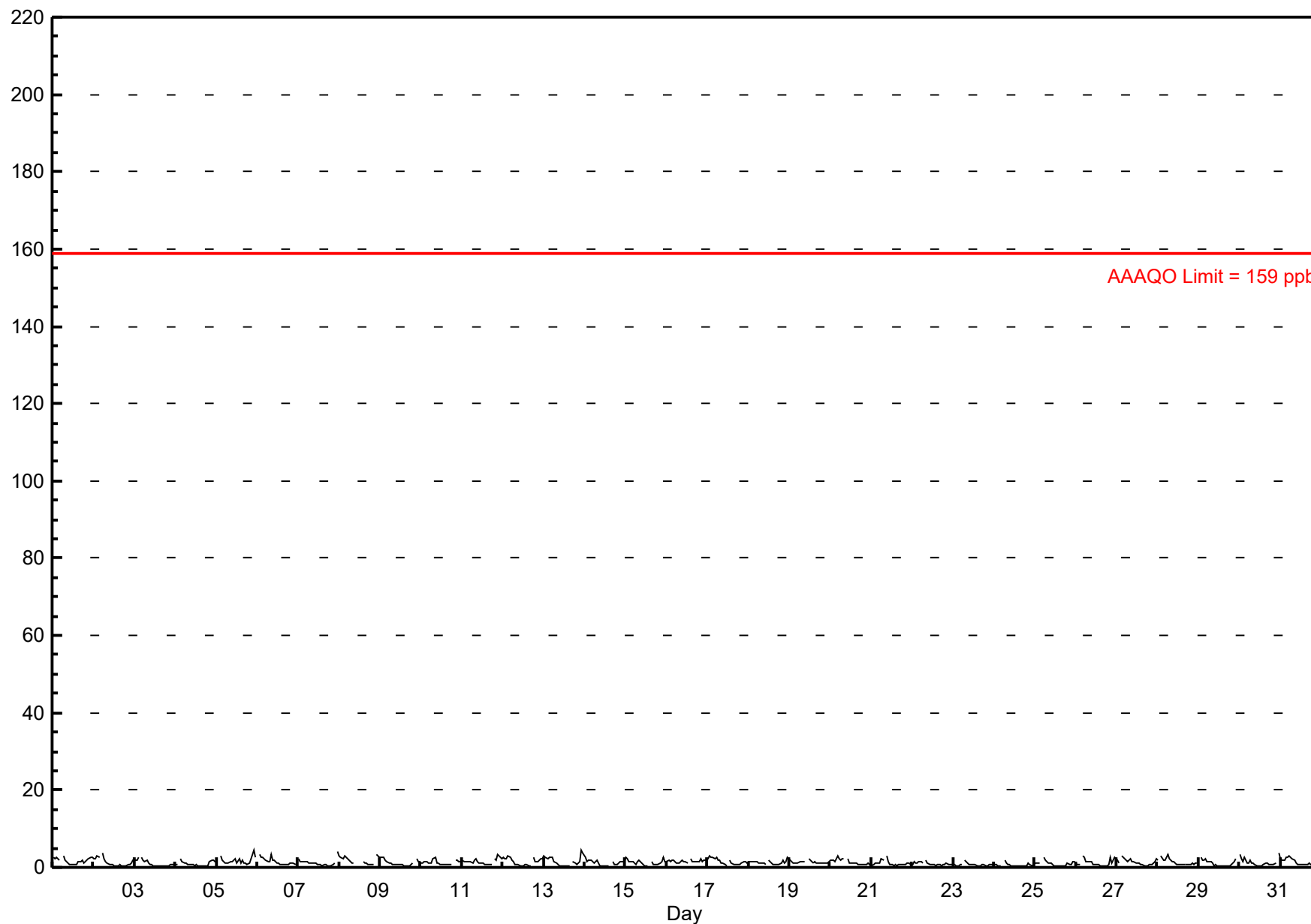
Nitrogen Dioxide (NO₂) - ppb

Portable Rycroft - July 2016

Number of Exceedences (AAAQO): Maximum Value: 4.6 ppb on Jul 5 23:00																			1-hr: 0 24-hr: 0 Maximum Daily Average: 1.8 ppb on Jul 5					Hours in Service: 744 Hours of Data: 706 Hours of Missing Data: 38 Hours of Calibration: 38 Percent Operational Time: 100.0				
Minimum Value: 0 ppb on Jul 13 14:00 Maximum Diurnal Average: 1.9 ppb at hour 24 Monthly Average: 1.28 ppb																			Minimum Daily Average: 0.6 ppb on Jul 24 Minimum Diurnal Average: 0.7 ppb at hour 14 Percentiles: P ₁ = 0.3 P ₁₀ = 0.5 Q ₁ = 0.7 Median = 1.1 Q ₃ = 1.7 P ₉₀ = 2.4 P ₉₉ = 3.6									
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24				
1-Jul	3	2	3	2	2	A	3	2	1	1	1	1	1	1	1	1	2	2	1	1	2	2	3	2	1.7	3.1		
2-Jul	2	2	3	2	A	4	2	2	1	1	1	1	1	0	0	1	1	0	0	1	1	1	1	2	1.2	3.6		
3-Jul	2	2	3	A	3	2	2	2	1	1	1	0	0	0	0	0	0	0	0	0	0	1	1	1	1.0	2.7		
4-Jul	1	1	A	2	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	1	2	2	2	0.9	2.4		
5-Jul	1	A	3	2	1	1	1	1	2	1	2	2	1	2	1	2	1	1	1	1	2	3	5	3	1.8	4.6		
6-Jul	A	3	2	3	2	2	1	2	3	2	2	1	1	1	1	1	1	1	1	1	1	1	1	A	1.5	3.3		
7-Jul	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	A	4	1.1	4.1		
8-Jul	3	3	2	3	3	2	2	1	1	C	C	C	C	C	2	1	1	1	1	1	1	A	3	3	1.8	3.2		
9-Jul	3	3	3	2	2	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	A	2	1	1	1.2	2.5		
10-Jul	1	1	1	1	1	1	1	2	3	1	1	1	1	1	1	1	1	1	1	A	2	2	2	2	1.2	2.6		
11-Jul	2	2	2	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1	A	2	2	3	3	2	1.5	3.3		
12-Jul	3	2	2	3	3	2	1	1	1	1	1	0	0	1	1	1	0	A	3	2	2	2	2	2	1.4	2.9		
13-Jul	3	2	2	3	2	3	2	1	1	0	0	0	0	0	0	0	A	2	1	1	1	2	4	4	1.5	4.4		
14-Jul	3	2	2	2	2	1	1	2	1	1	0	0	0	0	0	A	2	1	1	1	1	1	1	2	1.2	2.6		
15-Jul	3	2	2	2	2	1	1	2	2	1	1	0	0	0	A	2	1	1	1	1	1	2	3	2	1.3	2.7		
16-Jul	2	2	2	2	2	1	1	1	1	2	2	1	1	A	2	2	1	1	2	1	2	2	2	2	1.6	2.2		
17-Jul	2	3	2	3	2	3	2	2	1	1	1	0	A	2	1	1	1	1	1	1	1	1	1	1	1.5	2.8		
18-Jul	1	1	1	2	2	1	1	1	1	1	1	A	2	1	1	1	1	1	1	1	2	1	1	3	1.2	2.7		
19-Jul	2	1	1	1	1	1	1	2	1	2	A	2	2	1	1	1	1	1	1	1	1	1	1	2	1.4	2.2		
20-Jul	2	2	2	2	3	2	2	2	2	A	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1.4	3.0		
21-Jul	1	1	1	1	1	1	2	2	A	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	2.9		
22-Jul	1	1	1	1	2	1	1	A	2	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	0.9	2.0		
23-Jul	1	1	0	1	1	1	A	2	1	1	1	1	1	1	1	0	0	1	1	0	0	1	1	1	0.7	2.0		
24-Jul	1	1	1	1	1	A	2	1	1	1	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0.6	2.0		
25-Jul	1	1	1	1	A	3	2	1	1	1	1	0	0	0	0	0	0	0	1	1	1	1	2	1	1.0	2.8		
26-Jul	1	1	1	A	3	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	3	1	2	3	1.2	3.1		
27-Jul	2	1	A	3	3	2	1	2	2	1	1	1	1	1	1	1	0	0	0	1	1	1	1	2	1.3	3.0		
28-Jul	2	A	3	2	2	2	3	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.4	3.3		
29-Jul	A	3	2	2	2	2	1	1	1	0	1	0	0	0	1	0	0	0	1	1	1	1	2	A	1.1	2.6		
30-Jul	3	2	2	2	1	1	2	1	1	1	0	1	0	0	1	1	1	1	1	1	1	1	A	4	1.3	3.6		
31-Jul	2	2	2	2	3	3	3	2	2	1	1	1	1	1	1	1	1	1	1	1	1	A	3	4	1.6	4.3		
1.8 1.8 1.8 1.9 1.8 1.8 1.6 1.5 1.4 1.1 0.9 0.8 0.7 0.7 0.7 0.8 0.7 0.8 0.8 0.8 0.9 1.2 1.4 1.8 1.9																									Diurnal Average			
3.3 3.2 3.0 3.0 3.1 3.6 3.3 2.3 3.3 2.9 2.2 2.2 1.8 2.1 2.2 1.9 1.6 1.7 2.6 2.1 2.5 3.4 4.6 4.3																									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
Portable Rycroft - July 2016



Hourly Maximums

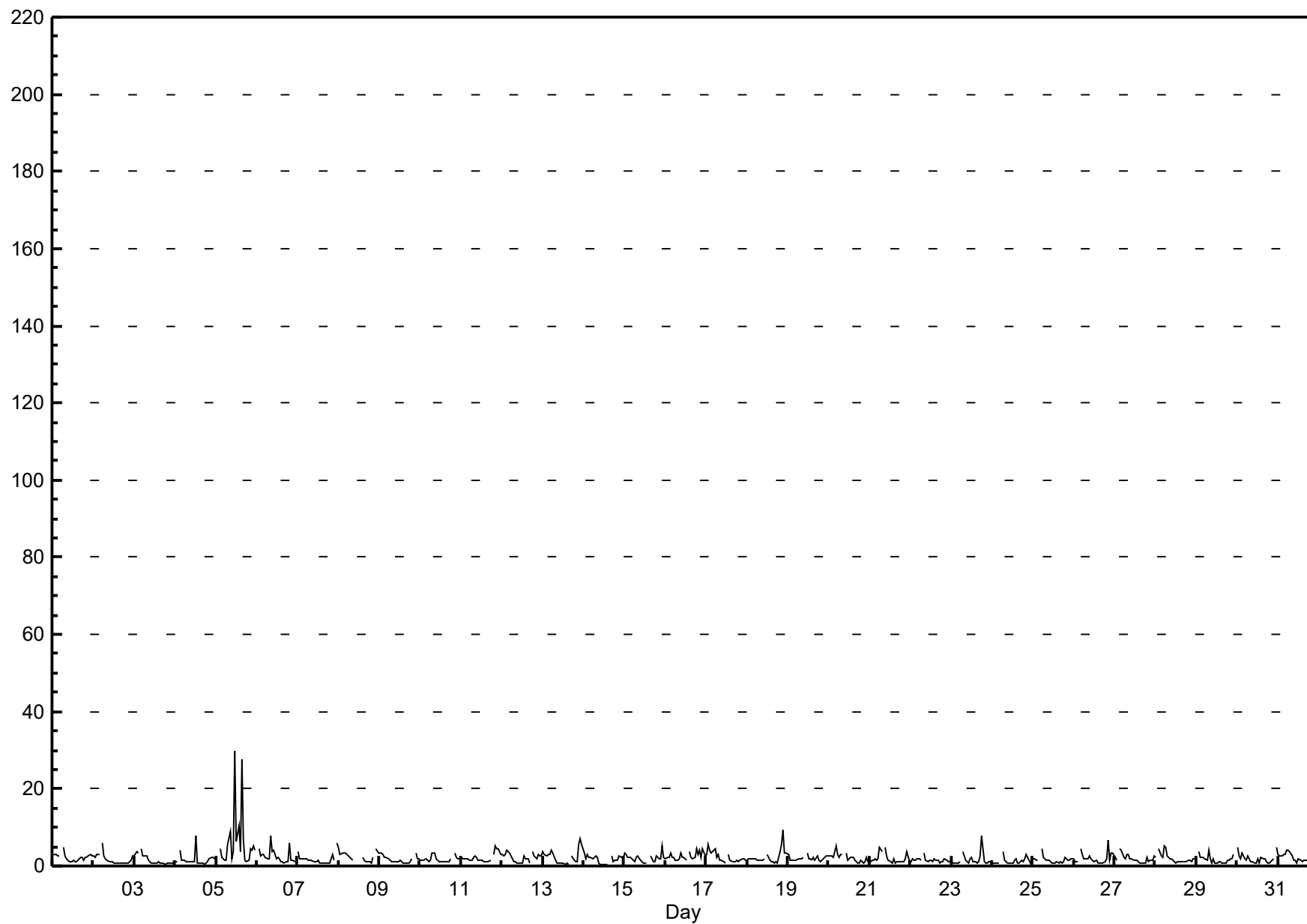
Nitrogen Dioxide (NO₂) - ppb

Portable Rycroft - July 2016

Maximum Value: 29.9 ppb on Jul 5 12:00																				Maximum Daily Average: 6.1 ppb on Jul 5										Hours in Service: 744	
Minimum Value: 0 ppb on Jul 13 14:00																				Minimum Daily Average: 1.3 ppb on Jul 24										Hours of Data: 706	
Maximum Diurnal Average: 2.9 ppb at hour 24																				Minimum Diurnal Average: 1.2 ppb at hour 18										Hours of Missing Data: 38	
Monthly Average: 2.08 ppb																				Percentiles: P ₁ = 0.6 P ₁₀ = 0.8 Q ₁ = 1.1 Median = 1.7 Q ₃ = 2.5 P ₉₀ = 3.6 P ₉₉ = 7.5										Hours of Calibration: 38	
																				Percent Operational Time: 100.0											
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24							
1-Jul	3	3	3	3	3	A	5	3	2	2	1	1	2	1	1	2	2	2	2	2	2	3	3	3	2.3	4.8					
2-Jul	3	2	3	3	A	6	3	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	1.7	6.0					
3-Jul	3	4	3	A	4	3	3	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.5	4.4					
4-Jul	1	1	A	4	2	2	1	1	1	1	1	1	8	1	1	1	1	1	1	1	2	2	2	2	1.6	7.7					
5-Jul	2	A	5	2	2	2	2	5	9	2	4	30	6	10	4	28	7	1	1	1	5	4	5	4	6.1	29.9					
6-Jul	A	5	3	3	3	2	2	2	8	4	4	2	2	2	1	1	1	1	1	6	1	2	1	A	2.6	7.8					
7-Jul	4	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	3	1	A	6	1.7	5.8					
8-Jul	5	3	3	3	3	3	2	2	1	C	C	C	C	C	2	1	1	1	1	1	2	A	4	3	2.4	5.0					
9-Jul	3	3	3	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2	A	4	2	2	1.7	3.5					
10-Jul	2	2	2	2	2	1	2	3	3	2	1	1	1	1	1	1	1	1	2	A	3	2	2	2	1.7	3.2					
11-Jul	2	2	2	2	2	2	1	2	3	2	2	1	1	1	1	1	1	1	A	3	5	5	4	3	2.1	5.1					
12-Jul	3	3	3	4	3	2	2	1	1	1	1	1	1	3	2	2	1	A	4	3	2	3	3	3	2.1	4.2					
13-Jul	4	3	3	3	3	4	3	2	1	1	1	1	1	0	1	1	A	3	2	1	1	6	7	6	2.4	7.3					
14-Jul	3	2	3	2	2	2	2	2	2	1	1	1	1	1	1	A	3	1	1	1	1	3	2	2	1.7	3.5					
15-Jul	3	3	2	2	2	1	1	2	3	1	1	1	1	1	A	3	2	1	1	3	2	2	5	2	1.9	5.1					
16-Jul	2	2	2	3	2	2	2	1	2	3	2	2	1	A	4	2	2	2	4	3	4	2	5	3	2.6	4.6					
17-Jul	3	6	4	3	4	4	2	3	1	1	1	1	A	3	1	1	1	1	1	1	1	2	2	2	2.2	5.7					
18-Jul	2	2	2	2	2	2	1	1	1	1	2	A	3	2	1	1	1	1	1	4	5	9	3	3	2.3	9.3					
19-Jul	3	2	1	1	1	2	2	2	2	2	A	3	2	2	2	2	1	3	2	1	2	2	3	3	2.0	3.5					
20-Jul	3	3	3	2	5	3	2	3	3	A	3	2	2	2	2	1	1	1	1	1	1	1	2	1	2.1	5.3					
21-Jul	1	1	1	2	1	2	5	4	A	5	2	1	1	1	2	1	1	1	1	1	1	2	4	1	1.8	4.9					
22-Jul	1	2	2	2	2	2	1	A	3	2	1	1	1	1	2	2	1	1	1	1	2	1	1	1	1.5	3.3					
23-Jul	1	1	1	1	1	1	A	4	1	1	1	2	2	1	1	1	1	3	8	1	1	1	1	1	1.6	8.0					
24-Jul	1	1	1	1	1	A	4	2	1	1	1	1	1	1	2	1	1	1	1	2	3	2	1	1	1.3	3.6					
25-Jul	2	2	1	1	A	5	2	2	2	1	1	1	1	1	1	1	1	1	1	2	1	1	2	2	1.5	4.6					
26-Jul	2	1	1	A	4	3	2	2	2	3	2	1	1	1	1	1	1	1	1	2	7	2	3	3	2.0	6.8					
27-Jul	2	1	A	5	4	2	2	3	3	2	2	2	2	2	1	1	1	1	1	2	1	1	2	3	1.9	4.7					
28-Jul	2	A	5	2	2	5	5	3	2	2	1	1	1	1	1	1	1	1	1	2	1	1	2	2	2.0	5.0					
29-Jul	A	4	2	2	2	2	2	4	2	1	2	1	1	1	1	1	1	1	1	1	2	2	3	A	1.8	4.1					
30-Jul	5	3	2	3	2	2	2	2	1	1	1	1	2	1	2	2	2	1	1	1	1	2	A	5	1.9	5.0					
31-Jul	3	3	3	3	3	4	4	4	3	2	1	1	2	2	1	2	1	1	1	1	1	A	4	13	2.7	12.9					
2.5 2.4 2.4 2.5 2.5 2.5 2.3 2.4 2.3 1.7 1.5 2.2 1.7 1.6 1.4 2.1 1.3 1.2 1.5 1.8 2.2 2.4 2.8 2.9																									Diurnal Average						
5.0 5.7 4.6 4.7 5.3 6.0 5.0 5.5 8.8 4.9 4.2 29.9 7.7 10.3 3.9 27.7 6.6 2.8 8.0 6.1 6.8 9.3 7.3 12.9																									Diurnal Maximum						
C - Calibration																									A - Automated Daily Zero Span						

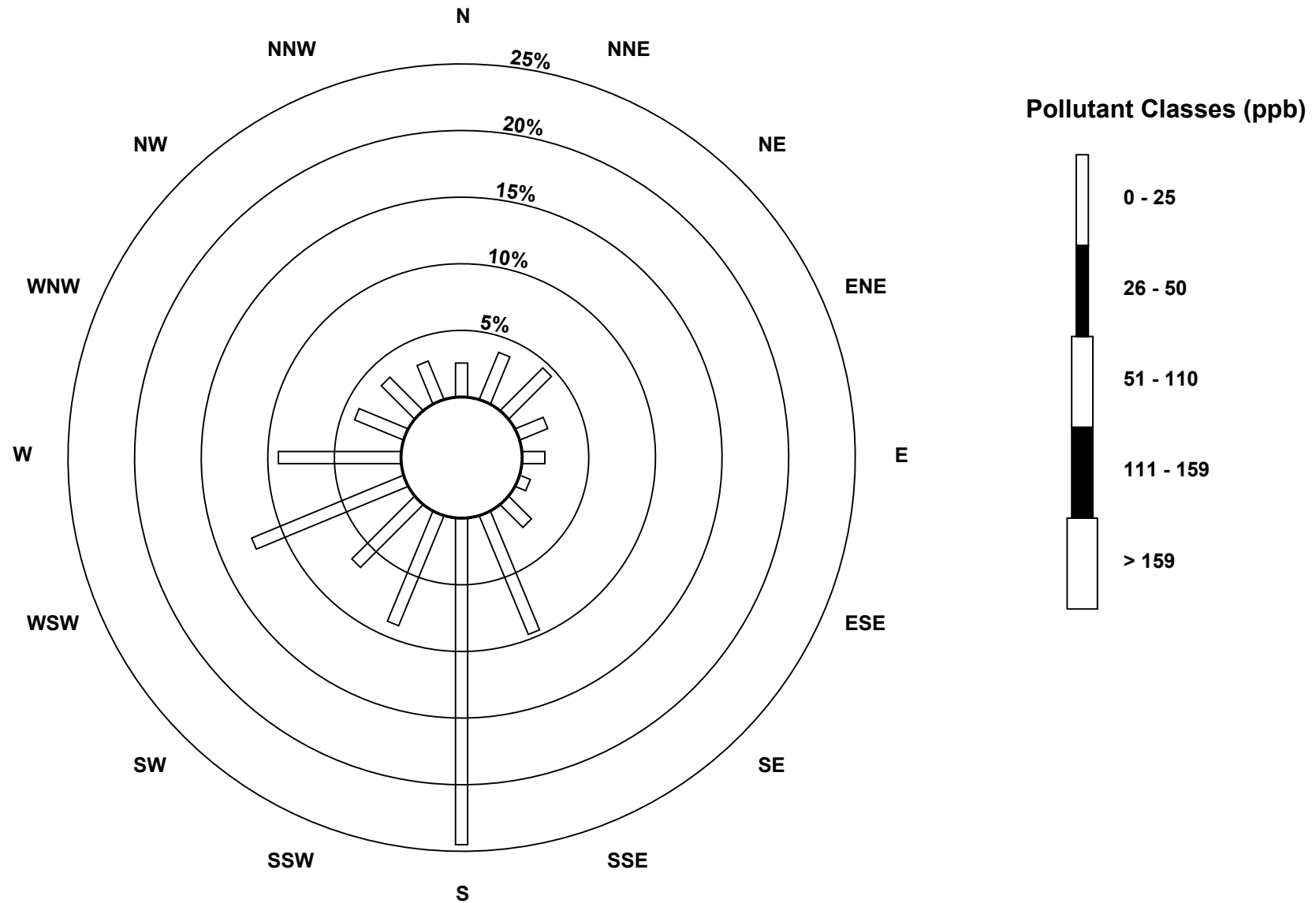
Hourly Maximums

Nitrogen Dioxide (NO₂) - ppb
Portable Rycroft - July 2016



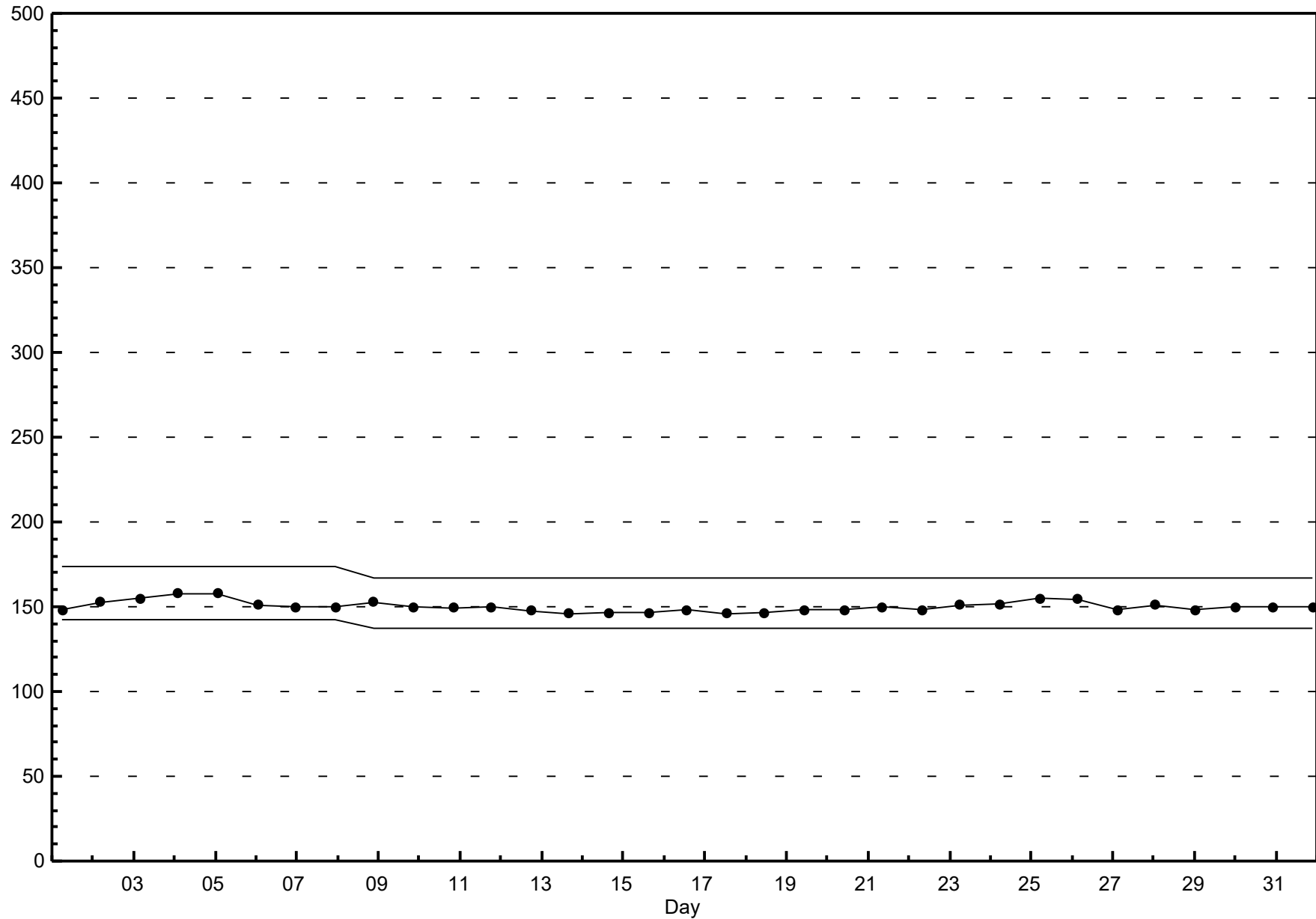
Pollutant Rose

Nitrogen Dioxide (NO₂) - ppb
Portable Rycroft - July 2016



Span Responses

Nitrogen Dioxide (NO₂)
Portable Rycroft - July 2016



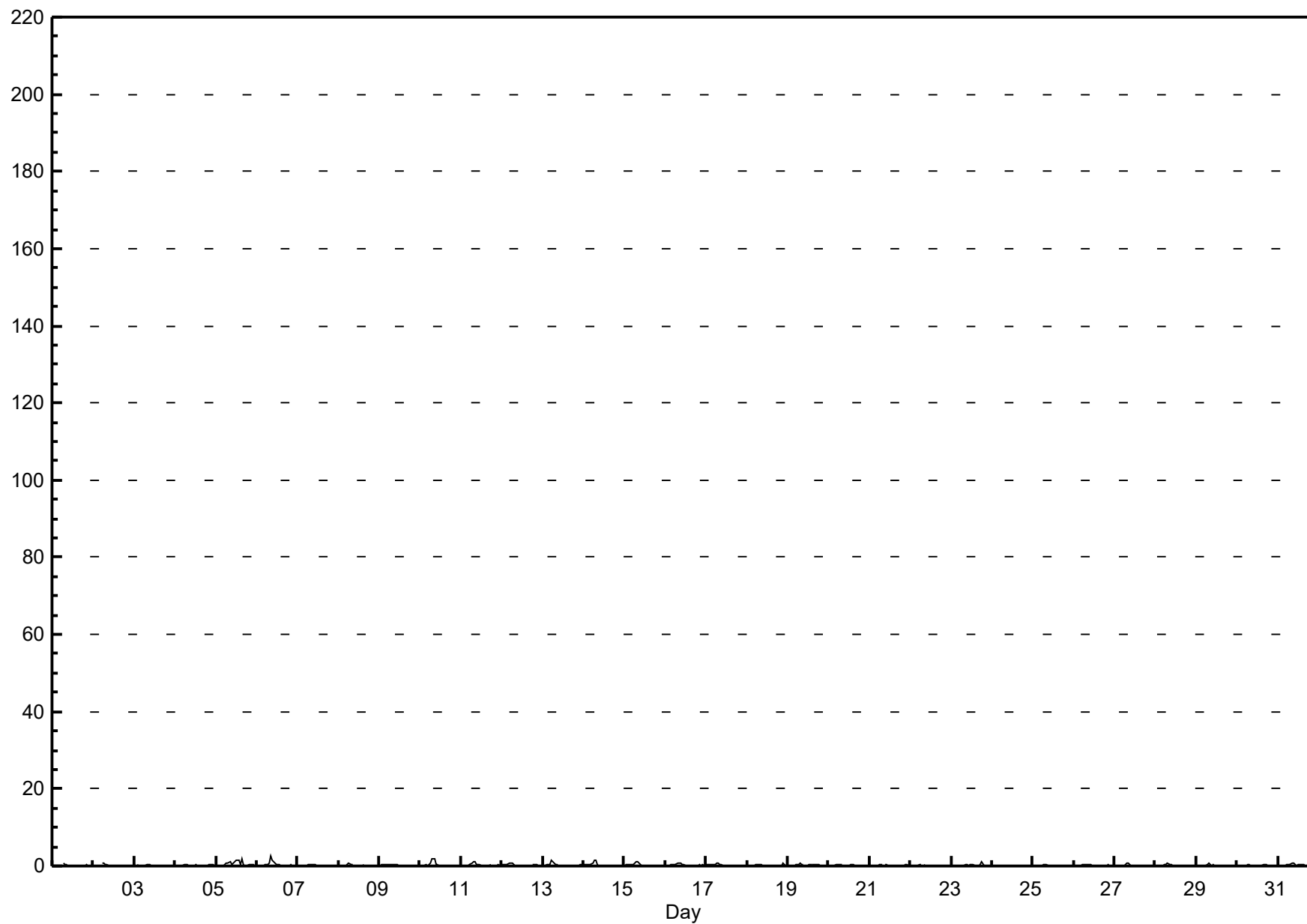
Hourly Averages

Nitrogen Oxide (NO) - ppb
Portable Rycroft - July 2016

Number of Exceedences (AAAQO): Maximum Value: 2.6 ppb on Jul 6 09:00										1-hr: 0 24-hr: 0 Maximum Daily Average: 0.6 ppb on Jul 5										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 17:00 Maximum Diurnal Average: 0.6 ppb at hour 8 Monthly Average: 0.21 ppb										Minimum Daily Average: 0.1 ppb on Jul 25 Minimum Diurnal Average: 0.1 ppb at hour 22 Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 0.1 Q ₃ = 0.2 P ₉₀ = 0.4 P ₉₉ = 1.6																			
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24					
1-Jul	0	0	0	0	0	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.6			
2-Jul	0	0	0	0	A	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.7			
3-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			
4-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			
5-Jul	0	A	0	0	0	0	1	1	1	1	1	1	1	2	0	2	0	0	0	0	0	0	0	0	0.6	1.9			
6-Jul	A	0	0	0	0	0	0	1	3	2	1	0	0	0	0	0	0	0	0	0	0	0	0	A	0.4	2.6			
7-Jul	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.1	0.5			
8-Jul	0	0	0	0	0	0	1	0	0	C	C	C	C	C	0	0	0	0	0	0	0	A	0	0	0.2	0.6			
9-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	A	0	0	0.2	0.4			
10-Jul	0	0	0	0	0	0	1	2	2	1	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.3	2.0			
11-Jul	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0.3	1.2			
12-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	0.2	0.7			
13-Jul	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	1	0.3	1.6			
14-Jul	0	0	0	0	0	1	2	2	1	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.3	1.6			
15-Jul	0	0	0	0	0	1	1	1	1	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.3	1.1			
16-Jul	0	0	0	0	0	0	0	1	1	1	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.3	0.7			
17-Jul	0	0	0	0	0	0	1	1	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.2	0.8			
18-Jul	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	1	0	0	0.2	0.9			
19-Jul	0	0	0	0	0	0	1	1	1	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.7			
20-Jul	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4			
21-Jul	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.5			
22-Jul	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.5			
23-Jul	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0.2	1.3			
24-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			
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	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.4			
27-Jul	0	0	A	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.7			
28-Jul	0	A	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.6			
29-Jul	A	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0.1	0.8			
30-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	0.3			
31-Jul	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	A	0	1	0.3	1.5			
		0.1	0.1	0.1	0.1	0.2	0.4	0.5	0.6	0.6	0.3	0.2	0.1	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	Diurnal Average				
		0.3	0.2	0.3	0.5	0.6	1.6	1.6	2.0	2.6	1.6	1.2	1.1	1.5	1.7	0.3	1.9	0.4	0.5	1.3	0.2	0.3	0.9	0.3	1.5	Diurnal Maximum			
C - Calibration		A - Automated Daily Zero Span																											

Hourly Averages

Nitrogen Oxide (NO) - ppb
Portable Rycroft - July 2016



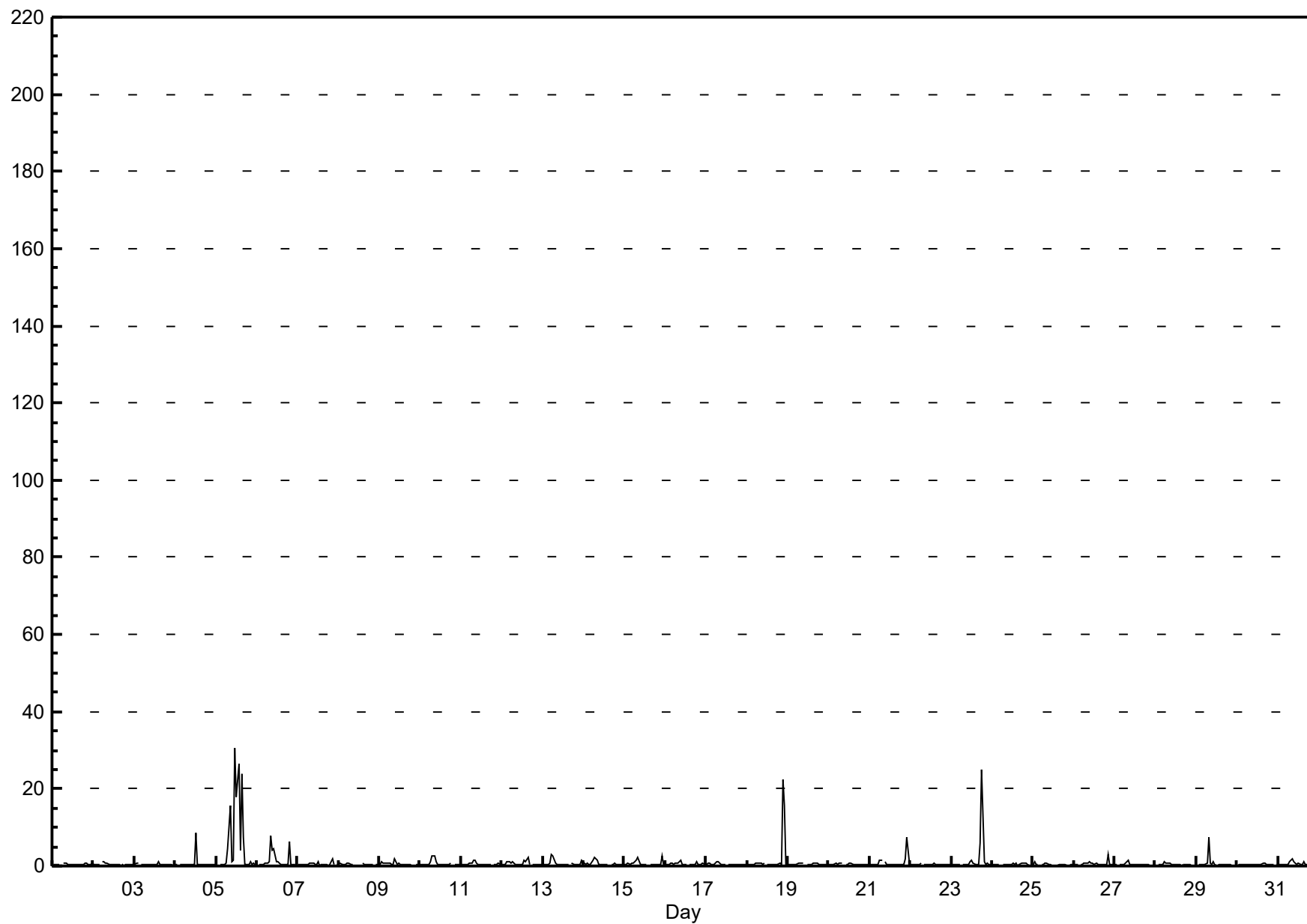
Hourly Maximums

Nitrogen Oxide (NO) - ppb
Portable Rycroft - July 2016

Maximum Value: 30.5 ppb on Jul 5 12:00																				Maximum Daily Average: 6.1 ppb on Jul 5										Hours in Service: 744	
Minimum Value: 0 ppb on Jul 4 00:00																				Minimum Daily Average: 0.3 ppb on Jul 25										Hours of Data: 706	
Maximum Diurnal Average: 1.6 ppb at hour 9																				Minimum Diurnal Average: 0.3 ppb at hour 1										Hours of Missing Data: 38	
Monthly Average: 0.83 ppb																				Percentiles: P ₁ = 0.1 P ₁₀ = 0.2 Q ₁ = 0.3 Median = 0.4 Q ₃ = 0.6 P ₉₀ = 1.0 P ₉₉ = 14.7										Hours of Calibration: 38	
																				Percent Operational Time: 100.0											
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24							
1-Jul	0	0	0	0	0	A	1	1	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0.4	0.8					
2-Jul	0	0	0	0	A	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	1.0					
3-Jul	0	1	1	A	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0.4	1.0					
4-Jul	0	0	A	0	0	1	1	0	0	0	0	0	9	0	0	0	0	0	0	0	1	0	0	0	0.7	8.6					
5-Jul	0	A	0	0	0	1	1	5	16	1	2	30	18	27	4	24	7	0	0	0	1	1	1	0	6.1	30.5					
6-Jul	A	0	0	0	0	1	1	1	8	4	5	1	1	1	0	0	0	0	0	6	0	0	0	A	1.5	7.8					
7-Jul	0	0	0	0	0	0	1	1	1	1	0	0	1	0	0	0	0	0	0	0	2	0	A	1	0.5	1.9					
8-Jul	1	1	0	0	0	1	1	1	1	C	C	C	C	C	1	0	0	0	0	0	A	A	0	0	0.5	0.9					
9-Jul	0	1	1	1	1	1	1	0	0	2	0	1	0	0	0	0	0	0	0	0	A	0	0	0	0.5	2.0					
10-Jul	0	0	0	0	0	0	1	3	3	1	1	0	0	0	0	0	0	0	1	A	0	0	0	0	0.6	2.8					
11-Jul	0	0	0	0	0	1	1	1	2	1	0	0	0	0	0	0	0	0	A	0	0	0	1	0	0.5	1.6					
12-Jul	0	0	1	1	1	1	1	1	0	0	0	0	0	2	1	2	0	A	0	0	0	0	0	0	0.7	2.1					
13-Jul	0	0	0	0	1	3	3	1	0	0	0	0	0	0	0	0	A	1	0	0	0	1	1	1	0.7	3.0					
14-Jul	1	0	1	1	1	2	2	2	2	1	0	0	0	0	0	A	0	0	1	1	0	0	0	1	0.7	2.2					
15-Jul	0	1	1	0	1	1	1	1	2	1	0	0	0	0	A	1	1	0	0	0	0	0	3	0	0.7	2.7					
16-Jul	0	0	0	1	1	1	1	1	1	2	0	0	0	A	0	0	0	0	1	0	0	0	1	0	0.6	1.5					
17-Jul	0	1	1	0	1	1	1	1	1	1	1	0	A	0	0	0	0	0	0	0	0	0	0	0	0.5	1.3					
18-Jul	0	0	0	0	0	1	1	1	1	0	1	A	0	0	0	0	0	0	0	1	0	22	16	1	2.0	22.4					
19-Jul	0	0	0	0	0	0	1	1	1	1	A	0	0	0	0	1	1	1	0	0	0	0	0	0	0.5	0.9					
20-Jul	0	0	0	0	1	0	1	1	1	A	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0.4	0.9					
21-Jul	0	0	0	0	0	0	2	1	A	1	0	0	0	0	0	0	0	0	0	0	0	2	8	0	0.8	7.5					
22-Jul	0	0	0	0	0	0	1	A	1	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0.4	0.8					
23-Jul	0	0	0	0	0	0	A	0	0	0	0	1	2	1	0	0	0	6	25	1	0	1	0	0	1.8	25.1					
24-Jul	0	0	0	0	0	A	0	0	0	0	0	0	1	0	1	0	0	1	1	1	1	0	0	0	0.4	0.9					
25-Jul	0	1	0	0	A	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.0					
26-Jul	0	0	0	A	0	0	1	1	1	1	1	1	0	1	0	0	0	0	0	0	3	0	0	0	0.5	3.0					
27-Jul	0	0	A	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	1.4					
28-Jul	0	A	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	1.1					
29-Jul	A	0	0	0	0	0	1	7	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	A	0.7	7.4					
30-Jul	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	A	0	0.3	0.7					
31-Jul	0	0	0	0	0	0	1	1	2	1	1	0	1	0	0	1	0	0	0	0	0	A	0	9	0.9	9.1					
0.3 0.4 0.4 0.4 0.4 0.7 0.9 1.3 1.6 0.8 0.6 1.4 1.4 1.3 0.6 1.2 0.6 0.5 1.2 0.6 0.5 1.1 1.2 0.7																									Diurnal Average						
0.7 1.2 0.9 1.1 1.1 3.0 2.6 7.4 15.8 3.9 4.5 30.5 18.0 26.5 4.2 23.7 7.4 6.0 25.1 6.4 3.0 22.4 15.7 9.1																									Diurnal Maximum						
C - Calibration																									A - Automated Daily Zero Span						

Hourly Maximums

Nitrogen Oxide (NO) - ppb
Portable Rycroft - July 2016



Hourly Averages

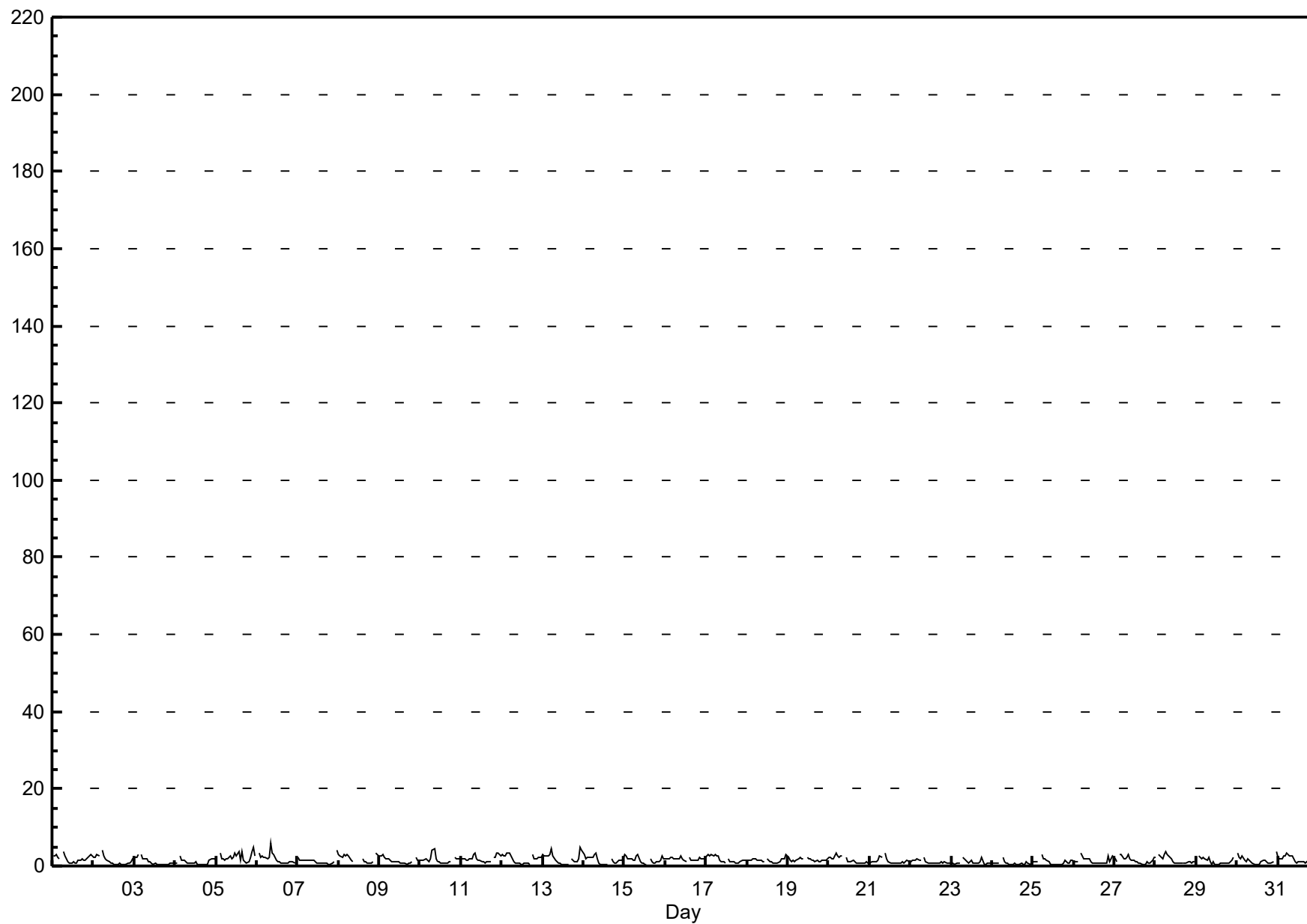
Oxides of Nitrogen (NO_x) - ppb

Portable Rycroft - July 2016

Number of Exceedences (AAAQO):										1-hr: 0 24-hr: 0										Hours in Service: 744									
Maximum Value: 5.9 ppb on Jul 6 09:00										Maximum Daily Average: 2.3 ppb on Jul 5										Hours of Data: 706									
Minimum Value: 0 ppb on Jul 25 14:00										Minimum Daily Average: 0.7 ppb on Jul 24										Hours of Missing Data: 38									
Maximum Diurnal Average: 2.1 ppb at hour 7										Minimum Diurnal Average: 0.9 ppb at hour 17										Hours of Calibration: 38									
Monthly Average: 1.49 ppb										Percentiles: P ₁ = 0.3 P ₁₀ = 0.5 Q ₁ = 0.8 Median = 1.3 Q ₃ = 2.0 P ₉₀ = 2.8 P ₉₉ = 4.3										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	3	2	3	2	2	A	4	2	2	1	1	1	1	1	1	1	2	2	1	2	2	2	3	3	1.9	3.7			
2-Jul	2	2	3	3	A	4	3	2	1	1	1	1	1	0	0	1	1	0	0	1	1	1	1	2	1.4	4.2			
3-Jul	2	2	3	A	3	2	2	2	1	1	1	1	1	0	1	0	0	0	0	0	0	1	1	1	1.1	2.9			
4-Jul	1	1	A	2	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	1	2	2	2	2	1.0	2.5			
5-Jul	2	A	3	2	2	2	2	2	3	2	2	3	3	4	1	4	2	1	1	1	2	4	5	3	2.3	5.0			
6-Jul	A	3	2	3	2	2	2	2	6	3	3	1	1	1	1	1	1	1	1	1	1	1	1	A	1.9	5.9			
7-Jul	2	2	1	1	1	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	A	4	1.3	4.3			
8-Jul	3	3	2	3	3	3	3	1	1	C	C	C	C	C	2	1	1	1	1	1	1	A	3	3	2.0	3.3			
9-Jul	3	3	3	2	2	2	1	1	1	1	1	1	1	1	1	1	0	1	1	1	A	2	2	1	1.4	2.9			
10-Jul	1	1	2	2	1	1	2	4	4	2	1	1	1	1	1	1	1	1	1	A	2	2	2	2	1.6	4.3			
11-Jul	2	2	2	2	2	2	2	3	3	2	1	1	1	1	1	1	1	1	A	2	2	3	3	2	1.9	3.4			
12-Jul	3	2	3	3	3	2	2	1	1	1	1	0	0	1	1	1	0	A	3	2	2	2	2	2	1.7	3.4			
13-Jul	3	3	3	3	3	4	3	2	1	1	1	0	0	0	0	0	A	2	1	1	1	2	5	4	1.8	4.7			
14-Jul	3	2	2	2	2	2	3	3	2	1	0	0	0	0	0	A	2	1	1	1	1	1	2	2	1.5	3.5			
15-Jul	3	2	2	2	2	2	1	3	3	1	1	1	0	0	A	2	1	1	1	1	1	2	3	2	1.6	3.0			
16-Jul	2	2	2	2	2	2	2	2	2	3	2	2	1	A	2	2	2	2	2	2	2	2	2	2	1.9	2.6			
17-Jul	2	3	3	3	3	3	3	2	1	1	1	1	A	2	1	1	1	1	1	1	1	1	2	1	1.7	3.1			
18-Jul	1	2	2	2	2	2	1	2	1	1	1	A	2	1	1	1	1	1	1	1	2	2	2	3	1.5	2.9			
19-Jul	2	2	1	1	1	1	2	2	2	2	A	2	2	2	1	2	1	1	1	1	1	1	1	2	1.6	2.4			
20-Jul	2	2	2	2	3	3	2	3	3	A	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1.6	3.4			
21-Jul	1	1	1	1	1	1	3	2	A	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1.2	3.3			
22-Jul	1	1	1	1	2	2	2	A	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.1	2.3			
23-Jul	1	1	1	1	1	1	A	2	1	1	1	1	1	1	1	1	1	1	2	0	1	1	1	1	0.9	2.2			
24-Jul	1	1	1	1	1	A	2	1	1	1	1	0	0	1	1	0	0	1	0	1	1	1	1	1	0.7	2.1			
25-Jul	1	1	1	1	A	3	2	2	2	1	1	0	0	0	0	0	0	1	1	1	1	1	2	1	1.0	2.9			
26-Jul	1	1	1	A	3	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	3	1	2	3	1.4	3.2			
27-Jul	2	1	A	3	3	2	2	2	3	2	2	1	1	1	1	1	1	1	1	1	1	1	2	2	1.5	3.0			
28-Jul	2	A	3	2	2	3	4	3	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.5	3.8			
29-Jul	A	3	2	2	2	2	2	2	1	1	1	0	0	1	1	1	1	1	1	1	1	1	2	A	1.3	2.7			
30-Jul	3	2	2	3	1	1	2	1	1	1	1	1	0	0	1	1	2	1	1	1	1	1	A	4	1.4	3.7			
31-Jul	2	2	2	3	3	3	3	3	3	2	1	1	1	1	1	1	1	1	1	1	1	A	3	6	1.9	5.8			
2.0 1.9 2.0 2.0 2.1 2.1 2.1 2.1 2.0 1.4 1.1 0.9 0.9 0.9 0.9 1.0 0.9 0.9 0.9 0.9 1.0 1.3 1.5 1.9 2.1																								Diurnal Average					
3.3 3.3 3.2 3.4 3.4 4.3 3.8 4.1 5.9 3.5 2.9 3.3 2.7 3.7 2.3 3.9 1.7 1.8 2.8 2.3 2.7 3.6 5.0 5.8																								Diurnal Maximum					
C - Calibration																								A - Automated Daily Zero Span					

Hourly Averages

Oxides of Nitrogen (NO_x) - ppb
Portable Rycroft - July 2016



Hourly Maximums

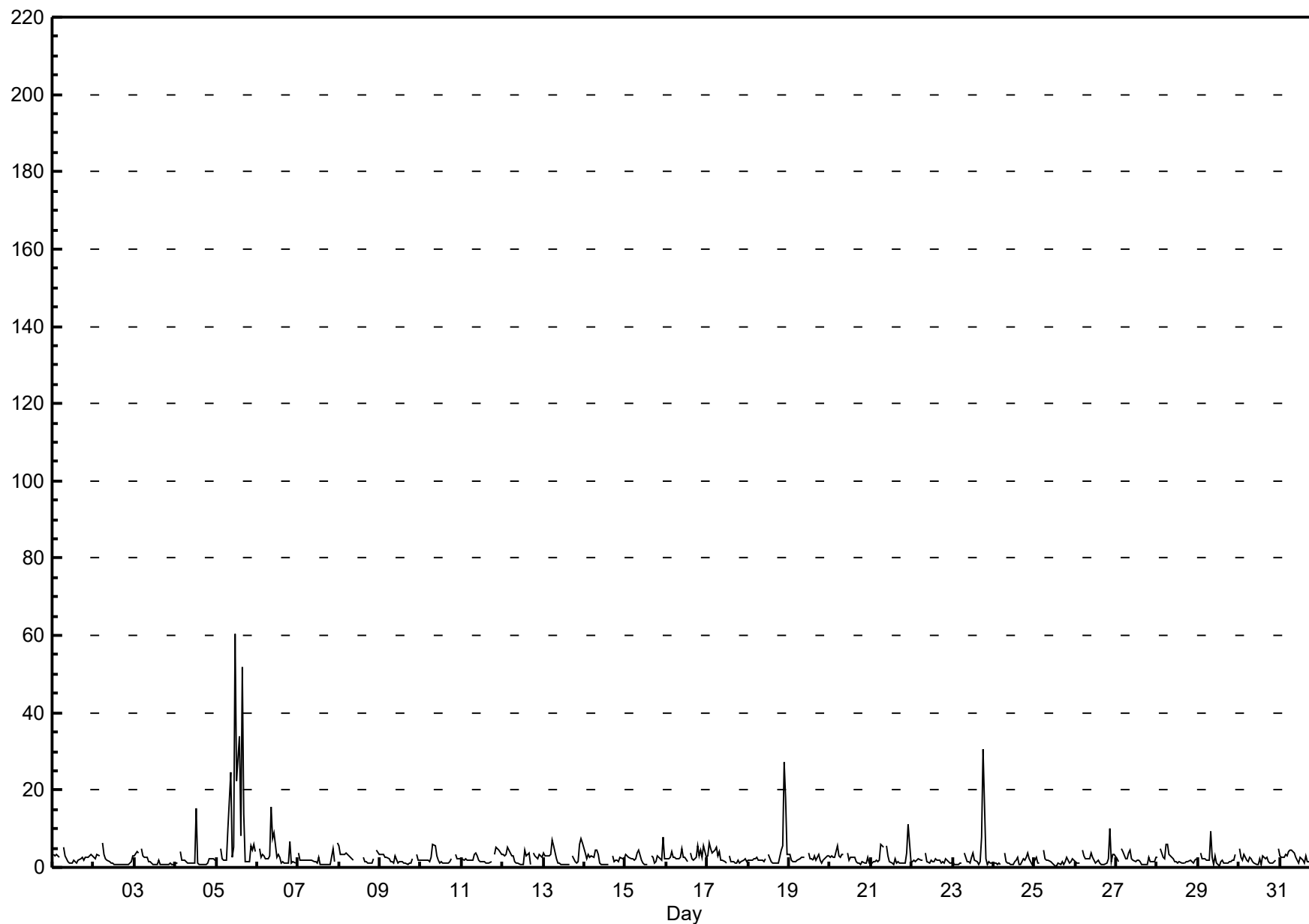
Oxides of Nitrogen (NO_x) - ppb

Portable Rycroft - July 2016

Maximum Value: 60.6 ppb on Jul 5 12:00																				Maximum Daily Average: 11.9 ppb on Jul 5										Hours in Service: 744									
Minimum Value: 1 ppb on Jul 29 13:00																				Minimum Daily Average: 1.5 ppb on Jul 24										Hours of Data: 706									
Maximum Diurnal Average: 3.8 ppb at hour 23																				Minimum Diurnal Average: 1.6 ppb at hour 18										Hours of Missing Data: 38									
Monthly Average: 2.70 ppb																				Percentiles: P ₁ = 0.6 P ₁₀ = 0.9 Q ₁ = 1.2 Median = 1.9 Q ₃ = 2.9 P ₉₀ = 4.4 P ₉₉ = 21.3										Hours of Calibration: 38									
																				Percent Operational Time: 100.0																			
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24															
1-Jul	3	3	3	3	3	A	5	3	2	2	1	1	2	1	1	2	2	2	2	2	3	3	3	3	2.5	5.2													
2-Jul	3	2	3	3	A	6	3	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	1.8	6.3													
3-Jul	3	4	4	A	5	3	3	3	2	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1.7	4.7													
4-Jul	1	1	A	4	2	2	1	1	1	1	1	1	15	1	1	1	1	1	1	1	2	2	2	2	2.0	15.4													
5-Jul	2	A	5	2	2	2	2	10	25	3	5	61	22	34	8	52	14	2	1	2	5	5	6	4	11.9	60.6													
6-Jul	A	5	3	3	3	2	2	3	16	7	9	3	4	2	1	1	1	1	1	7	1	2	1	A	3.6	15.8													
7-Jul	4	2	2	2	2	2	2	2	2	2	1	1	2	1	1	1	1	1	1	1	5	1	A	6	1.9	6.2													
8-Jul	5	3	3	3	4	3	3	2	2	C	C	C	C	C	3	2	1	1	1	1	2	A	5	3	2.7	5.4													
9-Jul	3	3	3	2	2	2	2	1	1	3	1	1	1	1	1	1	1	1	1	2	A	3	2	2	1.9	3.5													
10-Jul	2	2	2	2	2	1	3	6	6	3	2	1	1	1	1	1	1	1	2	A	3	2	2	2	2.2	5.9													
11-Jul	2	2	2	2	2	2	2	3	4	3	2	2	2	1	1	1	1	2	A	3	5	5	5	3	2.5	5.3													
12-Jul	3	3	3	5	4	3	3	2	1	1	1	1	1	4	3	4	1	A	4	3	2	3	3	3	2.6	5.2													
13-Jul	4	3	3	3	3	7	6	2	1	1	1	1	1	1	1	1	A	3	2	1	2	6	8	6	2.8	7.6													
14-Jul	4	2	4	3	3	3	4	4	3	1	1	1	1	1	1	A	3	1	2	2	1	2	2	2	2.2	4.4													
15-Jul	3	3	3	2	2	2	2	4	5	2	1	1	1	1	A	3	3	1	2	3	2	2	8	2	2.4	7.9													
16-Jul	2	2	3	4	3	2	2	2	3	5	3	2	1	A	4	2	2	2	5	3	4	2	5	3	3.0	5.5													
17-Jul	3	6	5	4	4	5	3	4	2	2	1	1	A	3	2	1	1	1	2	1	1	2	2	2	2.6	6.4													
18-Jul	2	2	2	2	2	3	2	2	2	2	2	A	3	2	1	1	1	1	1	4	6	27	18	4	3.9	27.3													
19-Jul	3	2	2	2	2	2	2	3	3	3	A	4	2	2	2	3	2	3	2	1	2	2	3	3	2.3	3.6													
20-Jul	3	3	3	2	6	3	3	3	3	A	4	2	3	3	3	1	1	1	1	1	1	1	3	1	2.3	5.7													
21-Jul	1	1	2	2	1	2	6	5	A	6	3	1	1	1	2	1	1	1	1	1	1	4	11	1	2.5	11.2													
22-Jul	1	2	2	2	2	2	2	A	4	2	1	2	2	2	2	2	2	1	1	1	2	1	1	1	1.7	3.7													
23-Jul	2	1	1	1	1	1	A	4	2	2	1	3	4	2	1	1	1	8	30	2	1	2	1	1	3.1	30.4													
24-Jul	1	1	1	1	1	A	4	2	1	1	1	1	1	2	3	1	1	2	2	3	4	2	1	1	1.5	3.6													
25-Jul	2	3	1	1	A	5	2	2	2	1	1	1	1	1	1	1	1	1	1	3	1	1	2	2	1.6	4.7													
26-Jul	2	1	1	A	4	3	2	2	2	4	3	2	1	2	1	1	1	1	1	2	10	1	3	3	2.4	10.0													
27-Jul	2	1	A	5	4	2	2	4	4	2	2	2	2	2	1	1	1	1	1	2	1	1	2	3	2.1	4.9													
28-Jul	3	A	5	2	2	6	6	4	3	2	2	1	1	2	1	1	1	1	2	2	2	1	2	2	2.3	5.8													
29-Jul	A	4	2	2	2	2	2	9	3	1	3	1	1	1	2	1	1	1	2	2	2	2	3	A	2.2	9.5													
30-Jul	5	3	2	3	2	2	3	2	2	1	1	1	2	1	3	2	3	2	1	1	1	2	A	5	2.1	4.9													
31-Jul	3	3	2	3	3	4	4	5	4	2	2	1	2	2	1	3	1	1	1	1	2	A	4	22	3.4	22.0													
2.6 2.6 2.6 2.7 2.7 2.9 2.9 3.4 3.6 2.2 2.0 3.4 2.8 2.7 1.8 3.1 1.7 1.6 2.5 2.0 2.6 3.2 3.8 3.3																									Diurnal Average														
5.4 6.4 4.8 5.2 5.7 7.0 6.0 10.2 24.7 7.3 8.8 60.6 22.5 33.9 8.1 51.7 13.6 8.0 30.4 6.6 10.0 27.3 17.9 22.0																									Diurnal Maximum														
C - Calibration																									A - Automated Daily Zero Span														

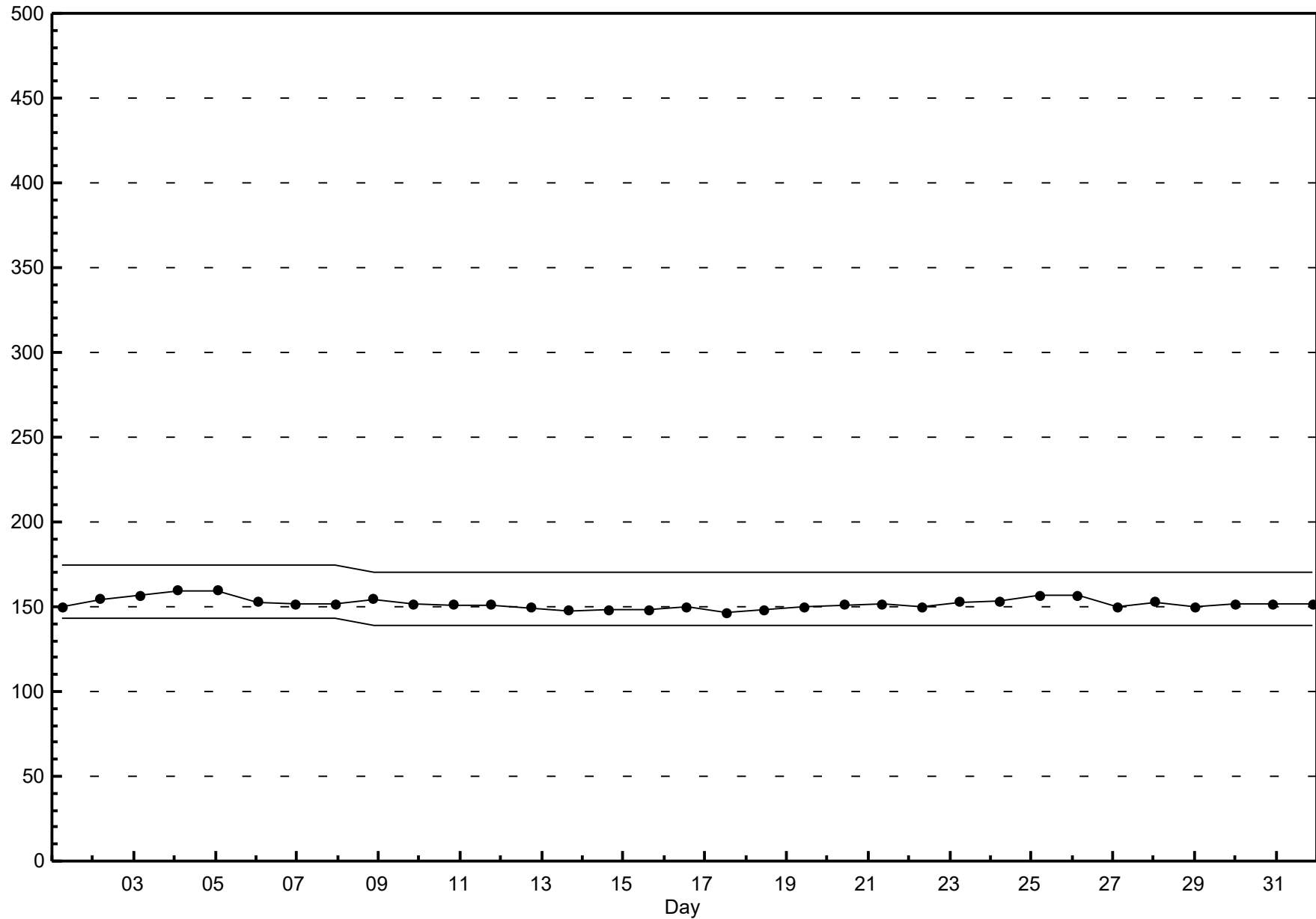
Hourly Maximums

Oxides of Nitrogen (NO_x) - ppb
Portable Rycroft - July 2016



Span Responses

Oxides of Nitrogen (NO_x)
Portable Rycroft - July 2016



Hourly Averages

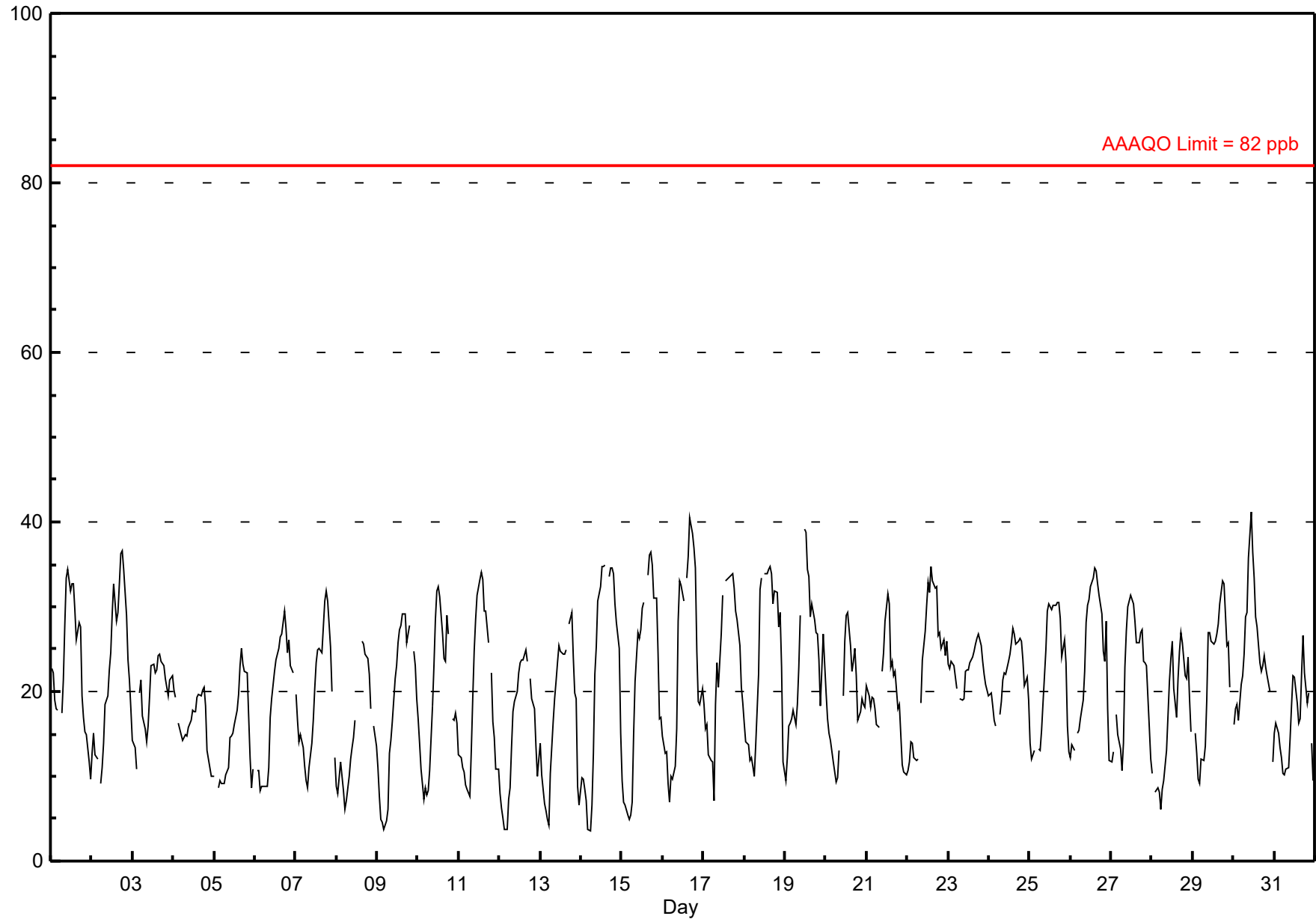
Ozone (O₃) - ppb

Portable Rycroft - July 2016

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 41.1 ppb on Jul 30 11:00 Maximum Daily Average: 24.7 ppb on Jul 30																					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 14 06:00 Maximum Diurnal Average: 28.6 ppb at hour 18 Monthly Average: 20.40 ppb										Minimum Daily Average: 14.8 ppb on Jul 5 Minimum Diurnal Average: 11.2 ppb at hour 6 Percentiles: P ₁ = 4.7 P ₁₀ = 9.6 Q ₁ = 13.8 Median = 20.4 Q ₃ = 26.3 P ₉₀ = 31.8 P ₉₉ = 36.4																
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	23	22	19	18	18	A	17	21	28	33	34	32	33	33	30	26	28	28	20	17	15	15	12	10	23.1	34.4
2-Jul	13	15	13	12	A	9	11	14	19	20	22	25	29	33	28	29	33	36	37	34	29	24	21	18	22.7	36.6
3-Jul	14	13	11	A	20	21	17	16	14	16	19	23	23	22	22	24	24	24	23	22	21	20	21	22	19.7	24.4
4-Jul	20	19	A	16	16	14	15	15	15	16	17	18	18	18	19	20	20	20	20	18	13	11	10	10	16.4	20.5
5-Jul	10	A	9	9	9	9	9	10	11	15	15	15	16	18	20	23	25	23	22	22	17	12	9	11	14.8	25.0
6-Jul	A	11	11	8	9	9	9	9	11	17	19	22	24	24	25	26	27	30	27	25	26	23	22	A	18.8	29.5
7-Jul	20	17	14	15	13	11	9	9	11	14	17	20	23	25	25	25	28	31	32	31	25	20	A	12	19.4	31.9
8-Jul	9	8	12	10	8	6	7	10	12	13	14	17	C	C	C	26	26	24	24	22	18	A	16	14	14.8	26.0
9-Jul	11	8	5	5	4	5	6	13	14	16	21	23	26	27	28	29	29	26	27	28	A	25	23	19	18.1	29.1
10-Jul	17	14	11	7	9	8	8	11	18	23	28	32	32	31	27	24	24	29	27	A	17	17	17	16	19.4	32.3
11-Jul	13	12	11	10	9	8	8	13	19	25	28	31	33	34	33	29	29	26	A	22	16	15	11	11	19.5	34.0
12-Jul	8	6	5	4	4	7	9	13	18	19	20	22	23	24	24	25	24	A	21	19	18	13	10	12	15.1	24.9
13-Jul	14	10	7	6	5	4	10	16	19	21	23	25	25	24	24	25	A	28	29	24	20	19	9	7	17.2	29.4
14-Jul	10	10	9	7	4	4	7	13	22	25	31	32	35	35	35	A	34	35	35	34	30	28	25	15	22.3	34.9
15-Jul	9	7	7	5	5	5	7	15	21	27	26	27	30	30	A	34	36	36	35	31	31	25	17	17	21.0	36.4
16-Jul	15	13	13	9	7	10	10	11	16	28	33	32	31	A	33	36	40	39	37	35	25	19	18	20	23.0	40.5
17-Jul	19	16	16	12	12	12	7	19	23	20	27	31	A	33	33	34	34	34	32	29	28	25	21	19	23.3	33.8
18-Jul	16	14	14	12	12	11	10	14	22	32	33	A	34	34	34	35	34	30	32	32	28	29	23	12	23.8	34.7
19-Jul	9	12	16	16	17	18	16	18	23	29	A	39	39	34	34	29	30	28	27	27	24	18	27	23	24.1	39.2
20-Jul	20	17	15	14	12	10	9	10	13	A	20	26	29	29	25	22	24	25	22	17	18	19	19	18	18.8	29.4
21-Jul	21	20	18	19	19	18	16	16	A	22	25	28	32	30	23	24	22	22	18	19	15	11	10	10	19.9	31.5
22-Jul	11	12	14	14	12	12	12	A	19	24	27	30	33	32	35	33	32	32	27	27	25	26	24	26	23.4	34.8
23-Jul	23	23	24	23	22	20	A	19	19	19	22	23	23	23	24	25	26	26	27	25	24	22	21	20	22.7	26.8
24-Jul	19	20	18	17	16	A	17	19	21	22	22	24	24	26	27	27	26	26	26	26	24	21	22	19	22.1	27.5
25-Jul	14	12	13	13	A	13	13	15	19	25	30	30	30	30	30	30	30	31	29	24	26	23	16	13	22.1	30.5
26-Jul	12	14	13	A	15	15	17	19	22	28	30	31	32	33	34	34	33	31	29	25	24	28	18	12	23.9	34.5
27-Jul	12	13	A	17	15	13	11	14	23	27	30	31	31	30	28	26	26	27	27	24	23	23	16	12	21.7	31.4
28-Jul	10	A	8	9	8	6	8	10	13	17	21	24	26	20	17	22	25	27	26	22	22	24	19	15	17.3	27.0
29-Jul	A	15	13	10	9	12	12	14	19	27	27	26	26	26	27	28	30	33	33	29	25	26	20	A	22.1	33.1
30-Jul	16	18	18	17	21	22	24	29	29	36	41	36	33	29	28	23	22	23	24	23	22	20	A	12	24.7	41.1
31-Jul	15	16	15	13	12	10	10	11	11	14	18	22	22	19	16	17	22	27	22	19	20	A	14	9	16.3	26.6
14.5 14.0 12.7 12.0 11.7 11.2 11.4 14.5 18.1 22.4 24.8 26.7 28.0 27.8 27.3 27.0 28.0 28.6 27.2 25.0 22.3 20.7 17.6 14.9 23.3 22.6 23.5 23.1 21.7 21.9 24.4 28.8 29.3 35.8 41.1 39.2 38.8 34.8 34.9 35.9 40.5 38.6 37.0 34.6 31.0 29.4 26.8 26.0																									Diurnal Average	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
Portable Rycroft - July 2016



Hourly Maximums

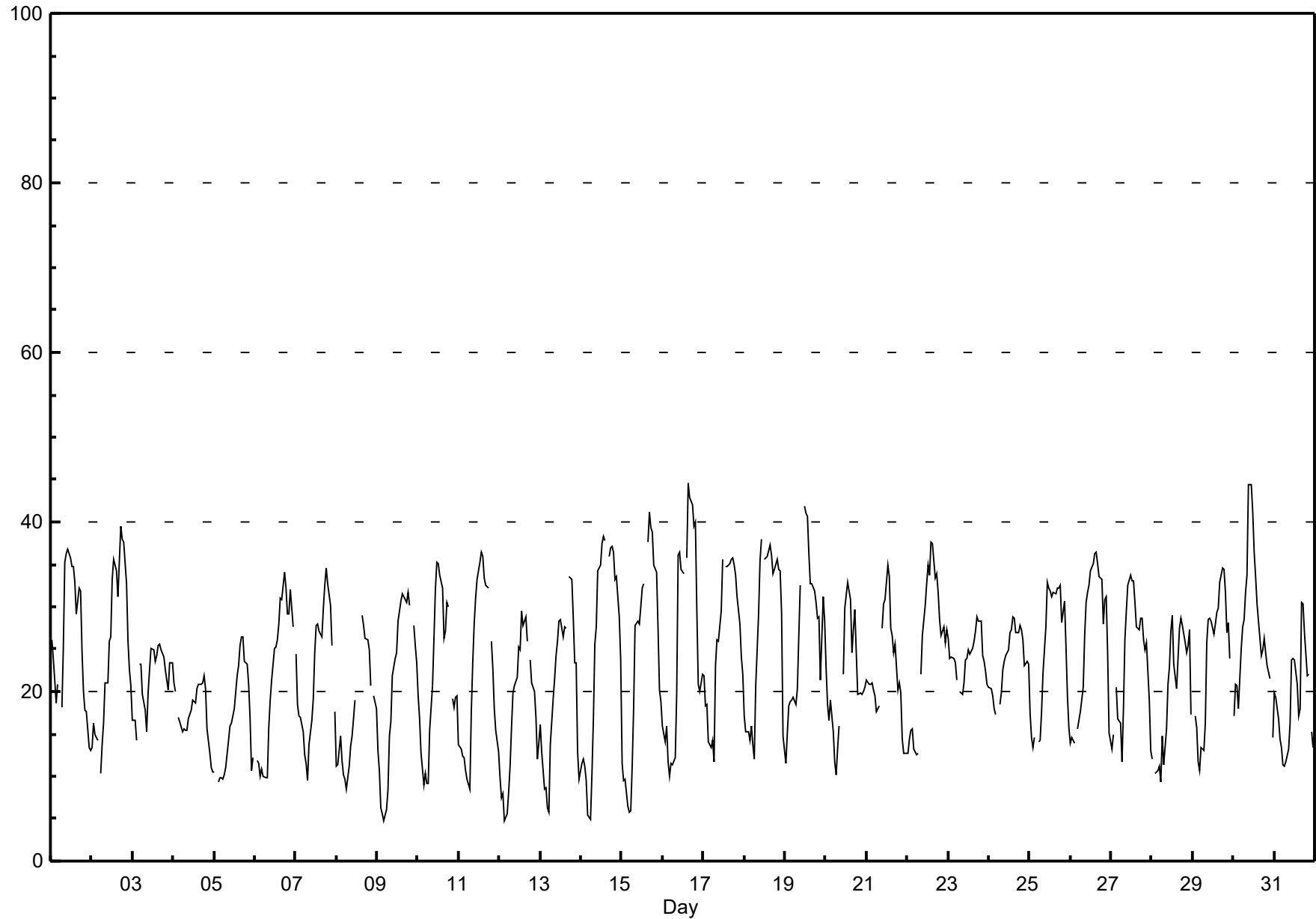
Ozone (O₃) - ppb

Portable Rycroft - July 2016

Maximum Value: 44.6 ppb on Jul 16 16:00																								Hours in Service: 744		
Maximum Daily Average: 27.8 ppb on Jul 30																								Hours of Data: 708		
Minimum Value: 5 ppb on Jul 9 05:00																								Hours of Missing Data: 36		
Maximum Diurnal Average: 31.4 ppb at hour 18																								Hours of Calibration: 36		
Monthly Average: 22.96 ppb																								Percent Operational Time: 100.0		
Minimum Daily Average: 16.6 ppb on Jul 5																										
Minimum Diurnal Average: 12.9 ppb at hour 6																										
Percentiles: P ₁ = 5.8 P ₁₀ = 11.4 Q ₁ = 15.8 Median = 23.3 Q ₃ = 29.4 P ₉₀ = 34.5 P ₉₉ = 40.8																										
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	26	24	21	19	21	A	18	25	35	36	37	36	35	35	33	29	32	32	25	20	18	18	13	13	26.1	36.8
2-Jul	13	16	15	14	A	10	14	16	21	21	26	26	33	36	34	31	35	40	38	38	33	26	23	21	25.2	39.5
3-Jul	17	17	14	A	23	23	20	18	15	20	23	25	25	24	24	25	26	25	24	23	21	20	23	23	21.6	25.7
4-Jul	21	20	A	17	16	15	16	15	15	17	18	19	19	19	20	21	21	21	22	20	16	13	11	10	17.5	21.8
5-Jul	10	A	9	10	10	10	10	11	14	16	16	17	18	22	23	25	26	26	24	23	21	17	11	12	16.6	26.5
6-Jul	A	12	12	10	11	10	10	10	16	19	21	25	25	26	28	31	31	34	32	29	29	32	28	A	21.9	34.1
7-Jul	24	19	17	17	15	13	12	10	14	17	19	25	28	28	27	26	30	32	35	33	30	25	A	18	22.3	34.5
8-Jul	11	11	15	12	10	10	8	11	14	15	17	19	C	C	C	29	28	26	26	25	21	A	19	18	17.2	28.9
9-Jul	13	11	6	6	5	6	8	15	16	22	24	25	28	30	31	32	31	31	32	30	A	28	25	23	20.7	31.8
10-Jul	20	17	13	9	10	9	9	15	21	26	32	35	35	34	32	26	27	31	30	A	19	18	19	19	22.1	35.3
11-Jul	14	13	12	12	11	10	8	18	23	28	31	33	35	36	36	33	32	32	A	26	23	18	15	13	22.4	36.4
12-Jul	10	8	8	5	6	8	11	16	20	21	22	25	25	30	28	29	26	A	24	21	20	17	12	14	17.5	29.5
13-Jul	16	13	8	9	6	6	14	19	22	24	26	28	28	26	28	27	A	34	33	29	23	23	13	10	20.2	33.6
14-Jul	12	12	11	9	5	5	10	17	26	28	34	35	37	38	38	A	36	37	37	36	33	34	29	24	25.4	38.3
15-Jul	12	9	10	6	6	6	11	18	28	28	28	30	32	33	A	38	41	39	39	35	34	27	20	19	23.9	41.2
16-Jul	16	14	16	12	10	11	11	12	20	36	36	34	34	A	36	45	43	42	40	40	30	21	20	22	26.1	44.6
17-Jul	22	18	18	14	13	14	12	23	26	26	29	36	A	35	35	35	36	36	35	34	31	28	24	22	26.2	35.7
18-Jul	17	15	15	14	16	14	12	21	29	35	38	A	36	36	37	37	36	34	34	36	34	34	29	15	27.2	37.9
19-Jul	11	15	18	19	19	19	18	20	27	33	A	42	41	41	36	33	33	32	30	29	29	21	31	28	27.2	41.9
20-Jul	23	19	17	19	15	12	10	13	16	A	22	30	31	33	31	25	27	30	25	20	20	20	20	21	21.6	32.9
21-Jul	21	21	21	21	20	19	18	18	A	27	30	31	35	34	28	27	25	26	20	21	20	14	13	13	22.7	34.9
22-Jul	13	14	15	16	13	12	13	A	22	27	30	33	35	34	38	37	33	34	32	28	27	28	26	27	25.5	37.6
23-Jul	26	24	24	24	23	21	A	20	20	21	24	24	25	24	25	26	27	29	28	28	24	24	22	21	24.1	28.8
24-Jul	20	20	20	18	17	A	19	20	23	23	24	25	27	27	29	29	27	27	28	27	26	23	24	23	23.7	28.8
25-Jul	17	15	13	15	A	14	14	18	22	28	33	32	32	31	32	32	32	32	33	28	31	25	20	16	24.5	32.9
26-Jul	14	15	14	A	16	17	18	21	27	31	32	32	34	35	36	36	35	34	33	28	31	31	24	15	26.4	36.4
27-Jul	13	15	A	20	17	16	12	18	26	30	33	34	33	33	31	28	27	29	29	26	25	26	19	13	23.9	33.7
28-Jul	12	A	10	11	11	9	15	11	16	21	23	27	29	23	20	24	27	29	28	26	25	25	27	17	20.3	28.9
29-Jul	A	17	16	12	11	13	13	16	26	28	29	28	27	28	29	30	33	35	34	32	27	28	24	A	24.3	34.5
30-Jul	17	21	21	18	25	28	29	32	34	44	44	41	36	34	30	26	24	25	26	25	23	21	A	14	27.8	44.4
31-Jul	20	19	17	14	13	11	11	12	13	16	24	24	24	21	17	18	31	30	27	22	22	A	15	13	18.9	30.5
16.6 16.0 14.7 13.8 13.6 12.9 13.4 16.9 21.5 25.4 27.5 29.2 30.5 30.5 30.0 29.7 30.6 31.4 30.1 27.9 25.5 23.7 20.7 17.9																								Diurnal Average		
26.3 23.9 24.1 23.8 25.0 27.7 28.5 31.7 35.3 44.4 44.4 41.9 41.0 40.7 37.7 44.6 42.9 42.1 39.6 40.0 34.4 34.3 31.1 28.3																								Diurnal Maximum		
C - Calibration A - Automated Daily Zero Span																										

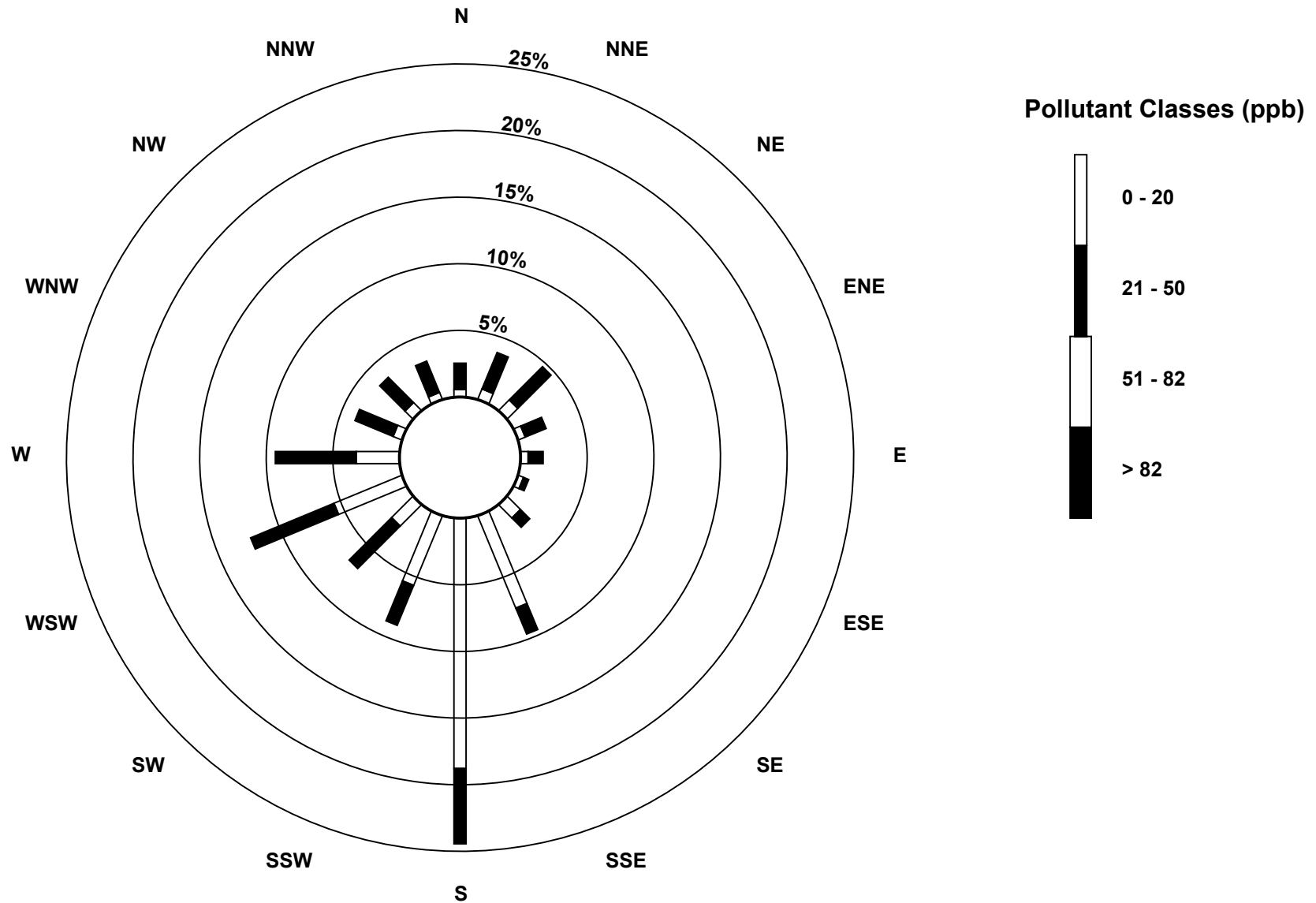
Hourly Maximums

Ozone (O₃) - ppb
Portable Rycroft - July 2016



Pollutant Rose

Ozone (O₃) - ppb
Portable Rycroft - July 2016



Eight Hour Running Averages

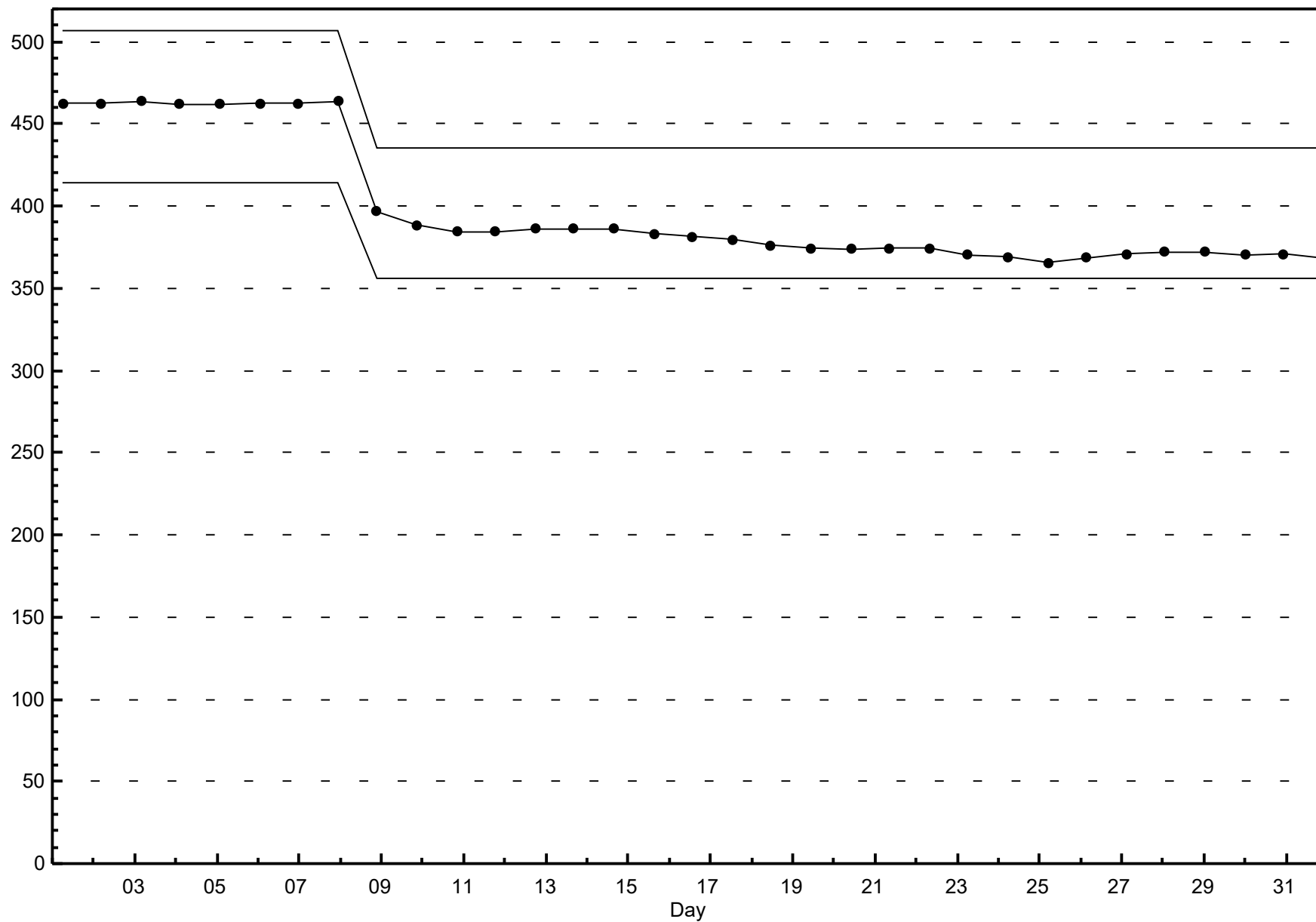
Ozone (O₃) - ppb

Portable Rycroft - July 2016

Maximum Value: 35.8 ppb on Jul 16 20:00																								Hours in Service: 744	
Minimum Value: 6.7 ppb on Jul 12 07:00																								Hours of Data: 738	
																								Hours of Missing Data: 6	
Percentiles: P ₁ = 7.3 P ₁₀ = 11.6 Q ₁ = 15.2 Median = 20.4 Q ₃ = 25.4 P ₉₀ = 29.9 P ₉₉ = 33.4																								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	30	28	25	24	23	21	20	21	22	24	26	28	29	30	31	31	30	29	27	25	22	20	18	32.0
2-Jul	16	14	14	13	13	12	12	12	13	14	15	17	19	21	24	26	27	29	31	32	32	31	30	29	32.4
3-Jul	27	24	21	19	17	17	16	16	16	16	18	18	19	19	19	21	22	23	23	23	23	22	22	22	26.7
4-Jul	21	21	21	20	19	18	17	16	16	15	15	16	16	16	17	17	18	19	19	19	19	18	17	15	21.5
5-Jul	14	13	12	10	10	9	9	9	10	10	11	12	13	14	15	17	18	19	20	21	21	21	19	18	21.3
6-Jul	17	15	13	11	10	10	10	9	9	10	11	13	15	17	19	21	23	25	26	26	26	26	26	26	26.3
7-Jul	25	23	21	20	18	16	14	14	12	12	12	13	14	16	18	20	22	24	26	27	28	27	27	25	27.6
8-Jul	23	20	17	14	11	9	9	9	9	10	11	11	12	N	N	N	N	N	N	23	23	22	21	23.3	
9-Jul	18	16	13	11	9	8	7	7	7	8	11	13	16	18	21	23	25	26	27	27	28	27	27	25	27.6
10-Jul	23	22	19	17	16	13	12	11	11	12	14	17	20	23	25	27	28	28	28	28	25	23	22	21	28.4
11-Jul	19	17	15	14	13	12	11	11	11	13	15	18	21	24	27	29	30	31	31	30	27	24	21	19	30.9
12-Jul	16	13	12	9	8	7	7	7	8	10	12	14	16	18	20	22	23	23	23	23	22	21	19	17	23.3
13-Jul	15	15	13	11	10	9	9	9	10	11	13	16	18	21	22	23	24	25	26	26	25	24	22	19	25.9
14-Jul	18	16	13	11	9	7	7	8	9	11	14	17	21	25	28	31	32	34	34	34	34	33	31	29	34.4
15-Jul	26	23	19	16	13	10	8	8	9	12	14	17	20	23	25	28	30	31	33	33	33	33	31	28	33.4
16-Jul	26	23	20	17	14	13	12	11	11	13	15	18	21	23	26	30	33	35	36	36	35	33	31	29	35.8
17-Jul	26	24	21	18	17	16	14	14	15	15	17	19	20	23	27	29	30	32	33	33	32	31	30	28	33.0
18-Jul	26	23	21	19	17	15	13	13	14	16	18	19	22	26	29	32	34	34	33	33	32	32	30	27	33.7
19-Jul	24	22	20	18	17	15	15	15	17	19	20	23	26	28	31	32	33	33	33	31	29	27	26	26	33.5
20-Jul	24	23	21	20	18	17	15	13	13	12	13	14	17	19	22	24	25	25	25	24	23	21	21	20	25.3
21-Jul	20	19	19	19	19	19	19	18	18	18	19	21	22	24	25	26	26	26	25	24	22	19	18	16	26.2
22-Jul	15	13	13	12	12	12	12	12	13	15	17	19	22	25	28	29	31	32	32	31	30	30	28	27	31.8
23-Jul	26	25	25	24	24	23	23	22	21	21	21	21	21	21	22	22	23	24	25	25	25	25	24	24	26.4
24-Jul	23	22	21	20	19	19	18	18	18	19	19	20	21	22	23	24	25	25	26	26	26	25	25	24	26.0
25-Jul	22	20	19	17	16	15	14	13	14	16	18	21	22	24	26	28	29	30	30	29	29	28	26	24	30.1
26-Jul	22	20	18	17	15	14	14	15	16	19	21	22	24	27	29	31	32	32	32	32	30	30	28	25	32.4
27-Jul	22	20	19	18	16	14	13	14	15	17	19	21	22	25	27	28	29	29	28	27	26	26	24	22	28.7
28-Jul	20	19	17	15	12	10	9	8	9	10	12	13	16	17	18	20	21	23	23	23	22	23	23	22	23.3
29-Jul	22	20	19	17	15	13	12	12	13	14	16	18	20	22	24	26	27	28	29	29	29	29	28	28	28.9
30-Jul	26	24	22	20	19	19	19	21	22	25	27	30	31	32	33	32	31	30	27	26	24	23	23	21	32.7
31-Jul	20	19	18	16	15	13	13	13	12	12	13	14	15	16	17	17	19	20	21	20	20	20	20	19	20.7
Diurnal Maximums																									
N - Not Valid																									

Span Responses

Ozone (O₃)
Portable Rycroft - July 2016



Hourly Averages

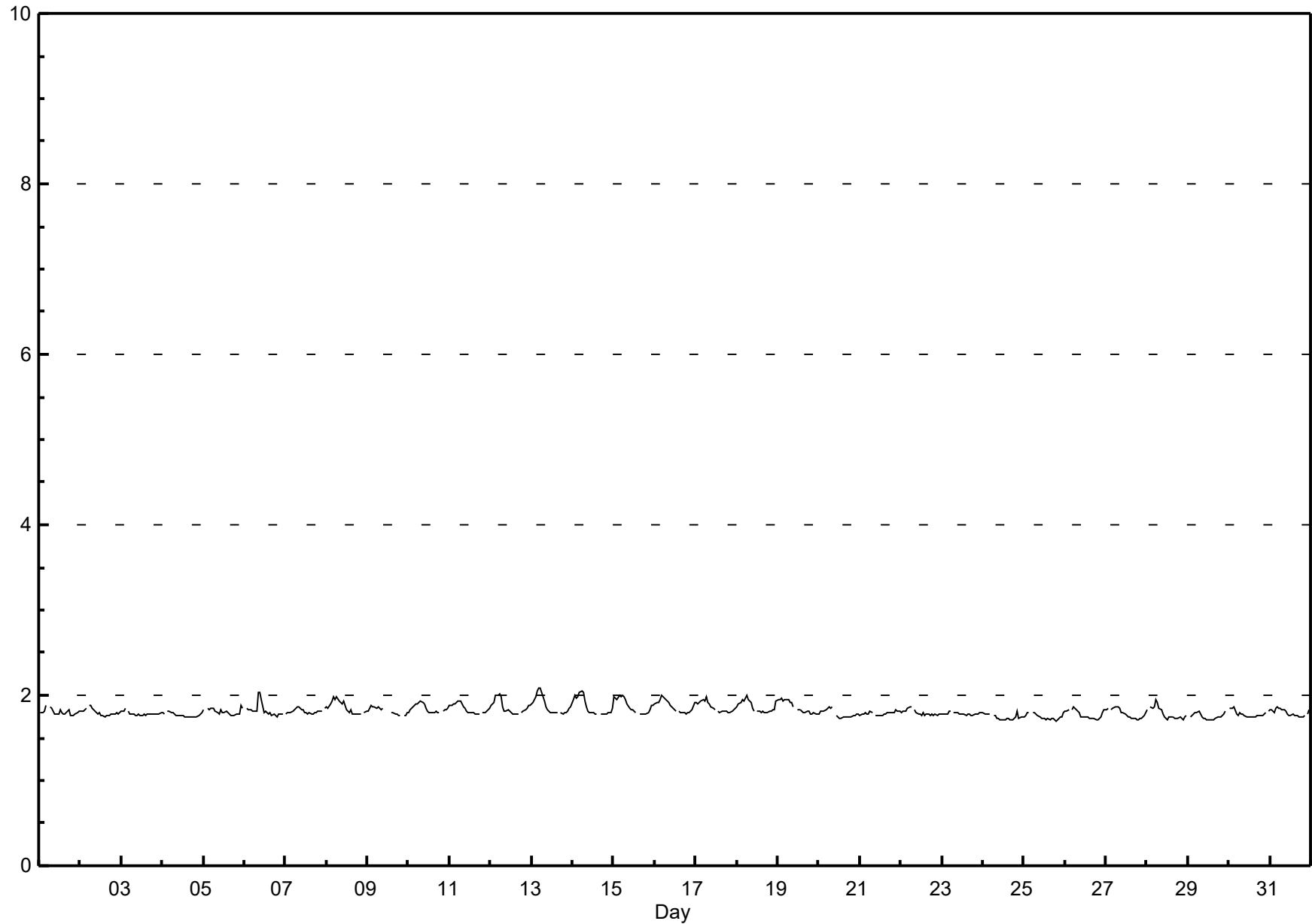
Total Hydrocarbons (THC) - ppm

Portable Rycroft - July 2016

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 2.09 ppm on Jul 13 05:00 Maximum Daily Average: 1.88 ppm on Jul 13																				Hours in Service: 744 Hours of Data: 707 Hours of Missing Data: 37 Hours of Calibration: 37 Percent Operational Time: 100.0						
Minimum Value: 1.7 ppm on Jul 25 20:00 Maximum Diurnal Average: 1.89 ppm at hour 7 Monthly Average: 1.813 ppm										Minimum Daily Average: 1.75 ppm on Jul 24 Minimum Diurnal Average: 1.77 ppm at hour 19 Percentiles: P ₁ = 1.72 P ₁₀ = 1.74 Q ₁ = 1.77 Median = 1.80 Q ₃ = 1.84 P ₉₀ = 1.91 P ₉₉ = 2.03																
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	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	1.8	1.8	1.8	1.8	1.9	A	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.80	1.88
2-Jul	1.8	1.8	1.8	1.8	A	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.80	1.88
3-Jul	1.8	1.8	1.8	A	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.78	1.84
4-Jul	1.8	1.8	A	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.7	1.8	1.7	1.7	1.8	1.8	1.8	1.77	1.81
5-Jul	1.8	A	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.8	1.81	1.89
6-Jul	A	1.8	1.8	1.8	1.8	1.8	1.8	1.8	2.0	2.0	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.8	1.8	1.8	A	1.83	2.04
7-Jul	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	A	1.9	1.81	1.87
8-Jul	1.9	1.9	1.9	1.9	2.0	1.9	2.0	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	A	1.8	1.8	1.86	1.98
9-Jul	1.8	1.8	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.8	C	C	C	C	1.8	1.8	1.8	1.8	1.8	1.8	A	1.8	1.8	1.8	1.82	1.88
10-Jul	1.8	1.8	1.8	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	A	1.8	1.8	1.8	1.8	1.84	1.94
11-Jul	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	A	1.8	1.8	1.8	1.8	1.8	1.84	1.94
12-Jul	1.9	1.9	1.9	2.0	2.0	2.0	2.0	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	A	1.8	1.8	1.8	1.9	1.9	1.9	1.86	2.02
13-Jul	1.9	1.9	2.0	2.1	2.1	2.1	2.0	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	A	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.88	2.09
14-Jul	2.0	2.0	2.0	2.0	2.0	2.1	2.0	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	A	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.87	2.05
15-Jul	2.0	2.0	1.9	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.8	1.8	1.8	1.8	A	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.9	1.87	2.00
16-Jul	1.9	1.9	1.9	1.9	2.0	2.0	2.0	1.9	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	1.8	1.8	1.9	1.87	2.01
17-Jul	1.9	1.9	1.9	1.9	2.0	1.9	2.0	1.9	1.9	1.9	1.9	1.8	A	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.86	1.98
18-Jul	1.9	1.9	1.9	1.9	1.9	2.0	2.0	1.9	1.9	1.9	1.9	1.8	A	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.87	2.00
19-Jul	1.9	1.9	2.0	1.9	2.0	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	1.8	1.8	1.8	1.8	1.86	1.96
20-Jul	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.9	1.9	A	1.8	1.7	1.7	1.7	1.7	1.8	1.7	1.7	1.7	1.8	1.8	1.8	1.8	1.8	1.78	1.86
21-Jul	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	A	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.79	1.82
22-Jul	1.8	1.8	1.8	1.8	1.8	1.9	1.9	A	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.80	1.86
23-Jul	1.8	1.8	1.8	1.8	1.8	1.8	A	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.78	1.81
24-Jul	1.8	1.8	1.8	1.8	1.8	A	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.8	1.7	1.7	1.7	1.75	1.82
25-Jul	1.7	1.8	1.8	1.8	A	1.8	1.8	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.8	1.8	1.75	1.80
26-Jul	1.8	1.8	1.8	A	1.8	1.9	1.8	1.8	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.8	1.8	1.77	1.86
27-Jul	1.8	1.9	A	1.8	1.8	1.9	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.8	1.8	1.79	1.87
28-Jul	1.8	A	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.8	1.8	1.78	1.94
29-Jul	A	1.7	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.8	1.8	1.8	A	1.75	1.81
30-Jul	1.8	1.8	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.8	1.8	1.8	1.8	1.8	1.8	A	1.8	1.78	1.87
31-Jul	1.8	1.8	1.8	1.9	1.9	1.8	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.7	1.8	A	1.8	1.8	1.80	1.87
1.84 1.84 1.86 1.87 1.88 1.89 1.89 1.86 1.84 1.82 1.80 1.78 1.78 1.77 1.77 1.77 1.77 1.77 1.77 1.77 1.78 1.79 1.80 1.82																								Diurnal Average		
1.98 1.99 1.97 2.05 2.09 2.08 2.03 1.95 2.04 2.03 1.94 1.89 1.84 1.82 1.82 1.81 1.82 1.83 1.81 1.82 1.83 1.85 1.89 1.94																								Diurnal Maximum		
C - Calibration A - Automated Daily Zero Span																										

Hourly Averages

Total Hydrocarbons (THC) - ppm
Portable Rycroft - July 2016



Hourly Maximums

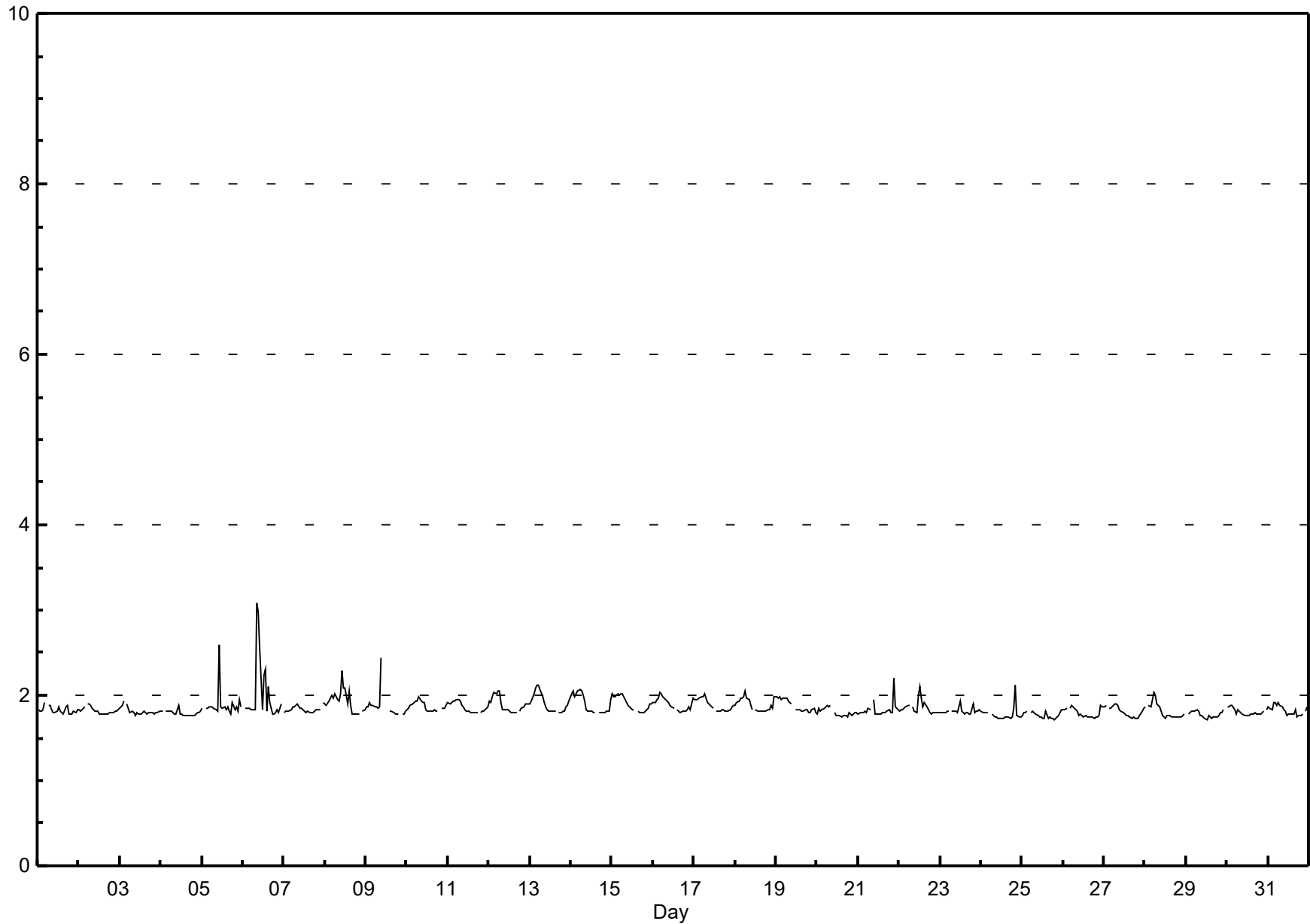
Total Hydrocarbons (THC) - ppm

Portable Rycroft - July 2016

Maximum Value: 3.09 ppm on Jul 6 09:00																					Maximum Daily Average: 2.03 ppm on Jul 6				Hours in Service: 744	
Minimum Value: 1.7 ppm on Jul 25 20:00																					Minimum Daily Average: 1.77 ppm on Jul 25				Hours of Data: 707	
Maximum Diurnal Average: 1.91 ppm at hour 7																					Minimum Diurnal Average: 1.79 ppm at hour 18				Hours of Missing Data: 37	
Monthly Average: 1.848 ppm																					Percentiles: P ₁ = 1.73 P ₁₀ = 1.76 Q ₁ = 1.79 Median = 1.82 Q ₃ = 1.88 P ₉₀ = 1.96 P ₉₉ = 2.28				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	1.8	1.8	1.8	1.8	1.9	A	1.9	1.9	1.8	1.8	1.8	1.8	1.9	1.8	1.8	1.8	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.83	1.91
2-Jul	1.8	1.8	1.8	1.9	A	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.82	1.90
3-Jul	1.8	1.9	1.9	A	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.81	1.93
4-Jul	1.8	1.8	A	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.79	1.87
5-Jul	1.8	A	1.9	1.8	1.9	1.9	1.9	1.8	1.8	1.8	2.6	1.9	1.8	1.9	1.8	1.9	1.8	1.8	1.9	1.8	1.9	1.8	1.9	1.9	1.88	2.60
6-Jul	A	1.9	1.8	1.8	1.8	1.8	1.8	1.8	3.1	3.0	2.6	1.8	2.2	2.3	1.8	2.1	1.9	1.8	1.8	1.8	1.8	1.8	1.9	A	2.03	3.09
7-Jul	1.8	1.8	1.8	1.8	1.8	1.9	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	A	1.9	1.83	1.91
8-Jul	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	1.9	2.0	2.3	2.1	2.1	1.9	2.0	1.9	1.8	1.8	1.8	1.8	1.8	1.8	A	1.8	1.93	2.29
9-Jul	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.4	C	C	C	C	1.8	1.8	1.8	1.8	1.8	1.8	A	1.8	1.8	1.8	1.87	2.44
10-Jul	1.8	1.8	1.9	1.9	1.9	1.9	1.9	2.0	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	A	1.8	1.9	1.8	1.9	1.87	1.99
11-Jul	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	A	1.8	1.8	1.8	1.8	1.9	1.86	1.95
12-Jul	1.9	1.9	2.0	2.0	2.0	2.1	2.0	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	A	1.8	1.8	1.9	1.9	1.9	1.9	1.89	2.05
13-Jul	1.9	1.9	2.0	2.1	2.1	2.1	2.1	2.0	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	A	1.8	1.8	1.8	1.8	1.9	1.9	1.9	1.90	2.12
14-Jul	2.0	2.0	2.0	2.0	2.1	2.1	2.0	2.0	1.9	1.8	1.8	1.8	1.8	1.8	1.8	A	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.90	2.07
15-Jul	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.8	1.8	1.8	A	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.9	1.9	1.90	2.02
16-Jul	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.8	A	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.8	2.0	1.89	2.04
17-Jul	2.0	1.9	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.8	A	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.9	1.9	1.89	2.01
18-Jul	1.9	1.9	1.9	2.0	2.0	2.0	2.1	2.0	1.9	1.9	1.8	A	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.8	2.0	1.89	2.05
19-Jul	2.0	2.0	2.0	1.9	2.0	2.0	2.0	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	1.8	1.8	1.8	1.8	1.88	1.99
20-Jul	1.8	1.8	1.8	1.8	1.8	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	1.8	1.8	1.8	1.8	1.8	1.80	1.88
21-Jul	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	A	2.0	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	2.2	1.9	1.8	1.83	2.21
22-Jul	1.8	1.8	1.8	1.8	1.9	1.9	1.9	A	1.9	1.8	1.8	2.0	2.1	2.0	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.86	2.10
23-Jul	1.8	1.8	1.8	1.8	1.8	1.8	A	1.8	1.8	1.8	1.8	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.8	1.8	1.8	1.8	1.81	1.93
24-Jul	1.8	1.8	1.8	1.8	1.8	A	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.8	2.1	1.8	1.7	1.8	1.78	2.12
25-Jul	1.8	1.8	1.8	1.8	A	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.7	1.7	1.8	1.7	1.7	1.7	1.7	1.7	1.8	1.8	1.8	1.8	1.77	1.82
26-Jul	1.8	1.8	1.8	A	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.7	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.8	1.9	1.9	1.79	1.88
27-Jul	1.9	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.8	1.8	1.9	1.81	1.91
28-Jul	1.9	A	1.9	1.9	1.9	2.0	2.0	1.9	1.9	1.8	1.8	1.7	1.7	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.8	1.8	1.81	2.04
29-Jul	A	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.8	1.7	1.7	1.7	1.8	1.8	1.8	1.8	1.8	A	1.8	1.77	1.83
30-Jul	1.9	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	A	1.8	1.80	1.89
31-Jul	1.9	1.8	1.8	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	A	1.8	1.9	1.83	1.92
1.86 1.87 1.88 1.89 1.91 1.91 1.91 1.89 1.90 1.90 1.88 1.82 1.83 1.82 1.80 1.80 1.79 1.79 1.79 1.79 1.81 1.82 1.83 1.85																									Diurnal Average	
2.02 2.04 2.01 2.09 2.12 2.11 2.06 1.99 3.09 2.99 2.60 2.09 2.24 2.31 2.04 2.10 1.92 1.88 1.91 1.90 2.12 2.21 1.94 1.99																									Diurnal Maximum	
C - Calibration A - Automated Daily Zero Span																										

Hourly Maximums

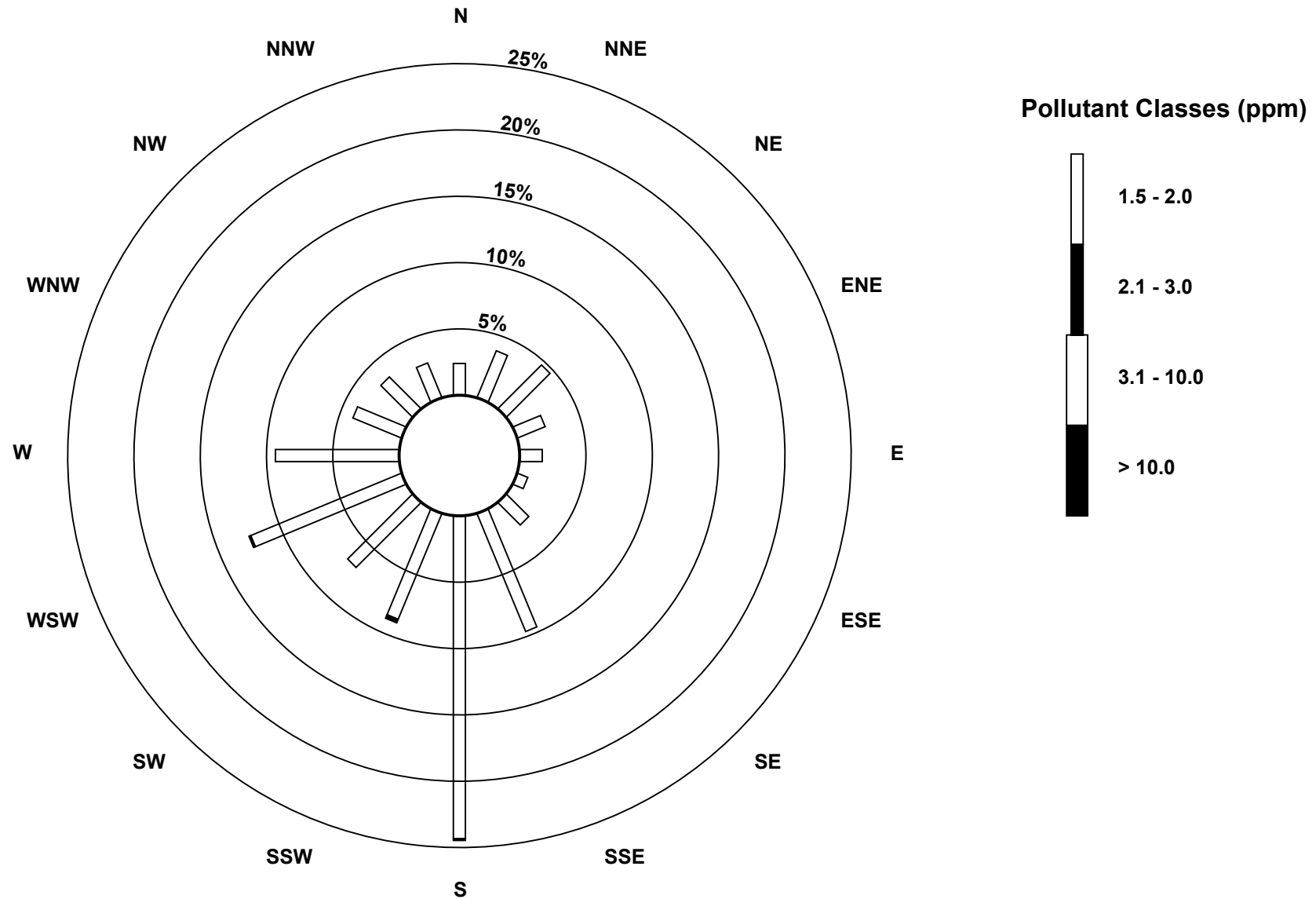
Total Hydrocarbons (THC) - ppm
Portable Rycroft - July 2016



Pollutant Rose

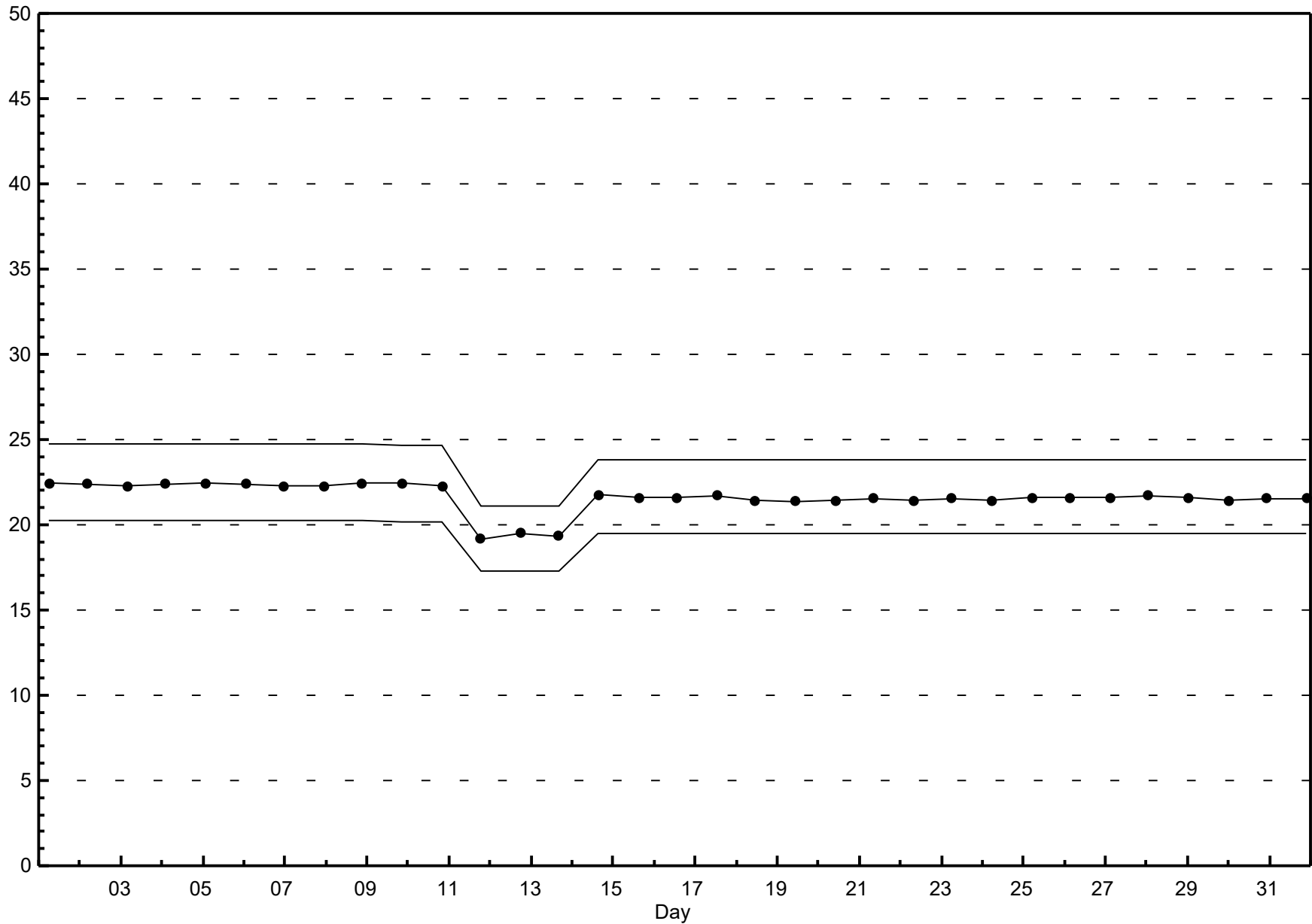
Total Hydrocarbons (THC) - ppm

Portable Rycroft - July 2016



Span Responses

Total Hydrocarbons (THC)
Portable Rycroft - July 2016



Hourly Averages

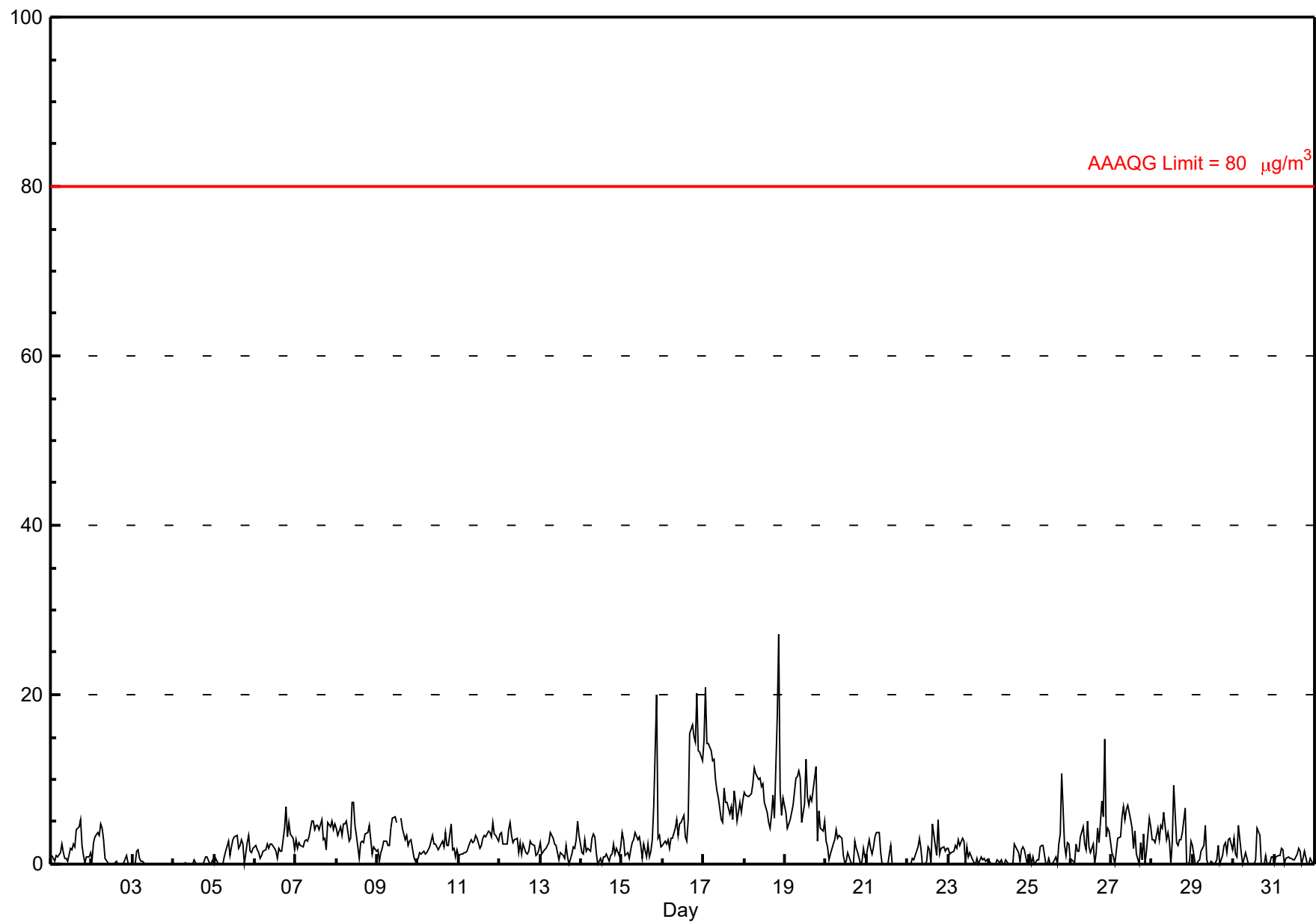
PM2.5 (PM_{2.5}) - µg/m³

Portable Rycroft - July 2016

Number of Exceedences: 1-hr: 0 24-hr: 0 Maximum Value: 27.2 µg/m³ on Jul 18 21:00 Minimum Value: 0 µg/m³ on Jul 2 11:00 Maximum Diurnal Average: 4.3 µg/m³ at hour 21 Monthly Average: 2.70 µg/m³																				Maximum Daily Average: 9.3 µg/m³ on Jul 17 Minimum Daily Average: 0.1 µg/m³ on Jul 4 Minimum Diurnal Average: 2.1 µg/m³ at hour 3 Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.6 Median = 1.9 Q ₃ = 3.4 P ₉₀ = 6.0 P ₉₉ = 14.4					Hours in Service: 744 Hours of Data: 742 Hours of Missing Data: 2 Hours of Calibration: 2 Percent Operational Time: 100.0	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jul	1	1	0	1	1	1	2	1	1	1	0	2	2	2	2	4	4	5	2	1	0	1	1	1	1.6	5.2
2-Jul	0	3	3	4	3	5	4	3	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1.2	4.7
3-Jul	0	0	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.7
4-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0.1	0.8
5-Jul	0	1	0	0	0	0	1	2	3	1	2	3	3	3	2	2	3	2	0	3	3	1	1	2	1.6	3.4
6-Jul	2	2	1	1	1	2	2	2	2	2	2	2	2	1	2	2	2	4	7	3	5	4	3	2	2.3	6.8
7-Jul	3	2	2	2	2	3	3	3	3	5	5	4	5	5	4	5	3	3	2	5	4	5	4	5	3.6	5.2
8-Jul	4	3	4	3	5	5	5	3	3	7	7	5	3	1	3	3	3	4	4	5	3	1	2	2	3.6	7.3
9-Jul	2	0	1	2	3	3	2	2	4	5	6	5	C	C	5	4	3	3	2	3	3	1	0	0	2.7	5.7
10-Jul	1	1	1	2	1	1	2	2	3	2	2	2	2	2	3	2	4	2	2	5	2	2	1	2	2.0	4.7
11-Jul	1	1	1	1	1	2	2	3	3	3	3	3	2	2	3	3	3	4	4	3	5	3	3	3	2.7	5.0
12-Jul	4	4	2	2	2	4	5	3	2	3	3	1	2	1	2	1	1	2	3	2	2	1	1	2	2.4	4.9
13-Jul	3	1	2	2	2	2	4	3	2	2	1	1	1	1	1	2	1	0	1	2	2	3	5	3	2.0	5.1
14-Jul	1	1	3	2	2	2	3	4	3	1	0	1	0	1	1	1	0	1	1	2	1	2	1	2	1.5	3.6
15-Jul	4	3	1	1	1	2	3	3	4	3	3	2	1	2	1	2	1	2	3	7	20	3	3	2	3.2	20.0
16-Jul	2	3	2	3	2	3	3	4	5	3	5	5	6	3	3	5	15	16	15	14	20	13	13	12	7.4	20.2
17-Jul	15	21	14	14	13	12	12	10	9	8	5	5	9	7	7	6	7	5	9	7	5	7	6	8	9.3	20.9
18-Jul	8	8	8	8	8	10	11	11	10	10	9	9	7	6	5	4	6	8	5	17	27	9	6	8	9.2	27.2
19-Jul	6	4	5	5	6	7	10	10	11	10	5	7	12	8	7	8	7	10	12	3	6	4	4	5	7.2	12.4
20-Jul	3	2	0	1	2	3	4	3	3	3	1	0	0	1	0	0	0	3	2	1	0	0	2	1	1.6	4.0
21-Jul	1	3	2	1	2	3	4	4	1	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	1.0	3.7
22-Jul	0	0	0	1	1	2	2	3	2	0	0	0	2	2	0	5	2	1	5	1	2	2	2	2	1.5	5.3
23-Jul	2	1	1	1	2	2	3	2	3	3	0	2	1	1	1	0	0	1	0	1	1	1	0	1	1.2	3.1
24-Jul	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2	2	1	0	2	2	2	0	0	0.6	2.3
25-Jul	1	0	1	0	0	0	2	2	2	0	0	1	0	0	0	1	0	2	4	11	2	1	3	2	1.5	10.7
26-Jul	1	0	0	2	2	2	3	4	2	2	5	2	1	2	0	1	4	2	8	6	15	3	4	4	3.2	14.7
27-Jul	1	1	0	2	3	3	6	7	5	6	7	5	4	2	4	1	0	3	0	4	0	1	5	4	3.1	6.9
28-Jul	3	3	3	4	3	4	4	6	3	4	3	0	3	9	3	2	3	3	4	7	0	0	0	3	3.2	9.4
29-Jul	2	0	0	0	0	2	2	5	1	0	0	0	0	0	1	2	0	1	2	3	1	3	3	2	1.2	4.5
30-Jul	3	1	1	5	1	0	1	1	1	0	0	0	0	1	4	3	0	0	0	1	0	0	1	1	1.0	4.5
31-Jul	0	1	1	1	2	2	0	1	1	1	1	1	0	1	2	2	0	1	2	0	0	1	0	0	0.8	1.8
2.4 2.3 2.1 2.4 2.4 2.8 3.4 3.5 3.0 2.8 2.5 2.2 2.3 2.2 2.2 2.4 2.4 2.9 3.2 3.8 4.3 2.4 2.5 2.5																								Diurnal Average		
14.6 20.9 14.2 14.3 13.4 12.2 12.4 10.8 11.0 10.2 9.1 9.5 12.4 9.4 7.3 8.0 15.4 16.4 15.0 17.5 27.2 13.4 13.1 12.2																								Diurnal Maximum		
C - Calibration 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}) - $\mu\text{g}/\text{m}^3$
Portable Rycroft - July 2016



Hourly Maximums

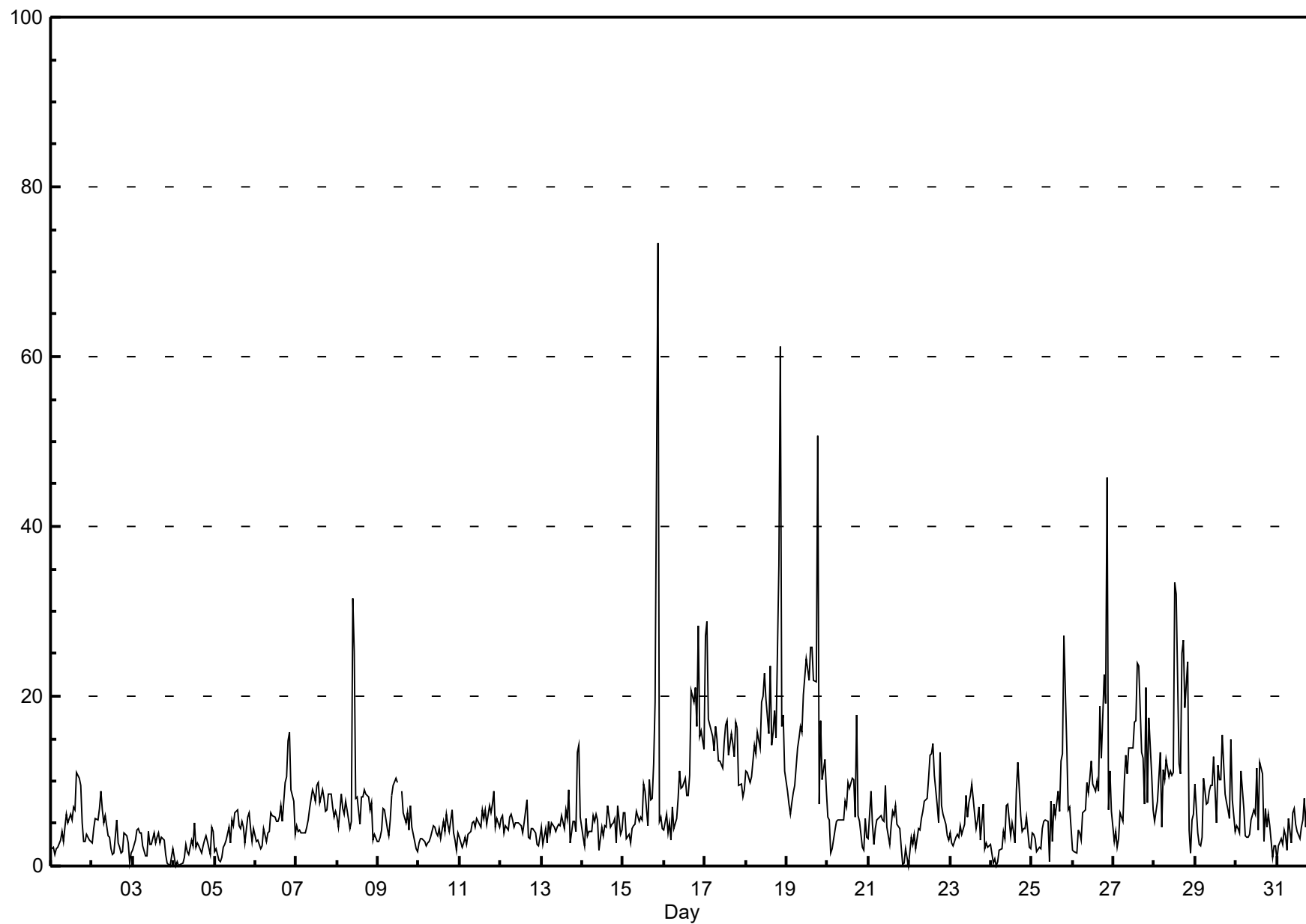
PM2.5 (PM_{2.5}) - µg/m³

Portable Rycroft - July 2016

Maximum Value: 73.3 μg/m ³ on Jul 15 21:00																								Maximum Daily Average: 18.3 μg/m ³ on Jul 18										Hours in Service: 744	
Minimum Value: 0 μg/m ³ on Jul 3 23:00																								Minimum Daily Average: 2.1 μg/m ³ on Jul 4										Hours of Data: 742	
Maximum Diurnal Average: 11.7 μg/m ³ at hour 21																								Minimum Diurnal Average: 4.1 μg/m ³ at hour 3										Hours of Missing Data: 2	
Monthly Average: 7.20 μg/m ³																								Percentiles: P ₁ = 0.3 P ₁₀ = 2.2 Q ₁ = 3.4 Median = 5.3 Q ₃ = 8.8 P ₉₀ = 14.2 P ₉₉ = 30.9										Hours of Calibration: 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	2	2	1	2	2	3	4	3	5	6	5	6	5	7	7	11	10	10	5	3	3	4	3	3	4.7	11.0									
2-Jul	3	4	6	5	7	9	7	5	6	4	3	2	1	2	5	3	2	1	2	4	4	3	0	1	3.7	8.8									
3-Jul	2	3	4	4	4	4	2	1	1	4	3	3	4	3	3	4	3	3	3	1	0	0	0	2	2.6	4.3									
4-Jul	1	0	0	0	0	0	1	3	2	1	3	2	5	2	3	2	2	2	3	4	3	1	4	4	2.1	5.1									
5-Jul	2	2	1	0	1	2	3	3	5	3	5	5	6	7	5	4	5	5	3	6	6	4	3	4	3.7	6.6									
6-Jul	3	3	3	2	2	4	3	4	4	6	6	6	5	5	6	7	5	10	11	15	16	9	8	4	6.1	15.8									
7-Jul	5	4	4	4	4	4	5	5	7	9	9	8	10	10	8	9	8	7	7	8	9	7	6	6	6.6	9.8									
8-Jul	6	5	9	7	6	8	7	4	5	32	25	8	8	5	8	8	9	8	8	7	8	3	4	3	8.3	31.5									
9-Jul	3	3	4	7	7	4	4	5	8	10	10	10	C	C	9	6	5	6	4	7	5	3	2	2	5.6	10.3									
10-Jul	3	3	3	3	2	3	3	3	5	5	4	4	4	3	5	4	6	5	4	7	4	3	2	4	3.8	6.6									
11-Jul	3	2	3	3	3	4	4	5	5	5	6	5	5	7	6	7	5	7	6	7	9	5	6	5	5.0	8.7									
12-Jul	6	6	4	5	4	6	6	5	5	5	5	5	5	4	5	8	3	3	4	4	4	3	2	3	4.6	7.8									
13-Jul	5	3	4	3	5	4	5	5	4	5	5	5	6	4	7	6	9	3	5	5	4	13	14	6	5.6	14.2									
14-Jul	3	2	6	4	4	4	6	5	6	5	2	5	4	5	5	7	5	5	5	6	3	7	4	4	4.6	7.1									
15-Jul	6	6	3	4	3	4	5	5	6	5	6	5	10	9	5	10	8	8	12	19	73	5	6	4	9.5	73.3									
16-Jul	4	6	4	5	3	7	4	6	8	11	9	9	10	8	8	11	21	19	21	16	28	15	16	14	11.1	28.2									
17-Jul	27	29	17	17	15	13	16	15	12	12	12	15	17	17	13	16	14	13	17	16	10	10	8	9	15.0	28.8									
18-Jul	11	11	10	11	12	14	13	16	14	19	20	23	20	16	23	14	16	18	15	35	61	16	18	11	18.3	61.2									
19-Jul	9	7	6	7	9	10	14	15	16	16	20	24	23	22	26	26	22	22	51	7	17	10	12	9	16.7	50.7									
20-Jul	6	5	2	2	4	5	5	5	5	5	8	7	10	9	10	10	6	18	6	5	2	2	6	3	6.2	17.9									
21-Jul	3	9	5	3	4	5	6	6	5	5	10	5	3	5	6	6	7	5	4	2	0	0	2	0	4.4	9.5									
22-Jul	2	3	3	4	2	4	4	6	6	8	8	10	13	13	14	11	7	5	13	7	6	5	4	3	6.7	14.4									
23-Jul	4	3	2	3	4	3	5	4	5	8	6	7	8	10	6	4	5	7	3	7	2	3	2	2	4.8	9.6									
24-Jul	2	0	1	0	0	2	2	4	3	7	7	4	5	4	3	9	12	6	4	4	4	6	2	2	4.0	12.3									
25-Jul	4	4	3	2	2	2	4	5	5	5	0	8	3	7	6	9	6	12	13	27	14	7	7	4	6.7	27.2									
26-Jul	2	2	1	4	4	3	6	7	10	9	10	12	10	9	10	9	19	13	23	19	46	7	11	7	10.4	45.7									
27-Jul	3	4	2	3	6	5	10	13	11	14	14	14	17	17	24	23	13	13	7	21	7	18	11	7	11.6	23.9									
28-Jul	5	7	8	13	5	11	10	13	10	11	11	11	33	32	12	11	25	27	19	24	4	1	5	6	13.1	33.4									
29-Jul	10	4	3	2	3	10	7	7	9	9	9	13	5	12	10	10	15	8	8	7	6	15	8	4	8.1	15.5									
30-Jul	5	4	4	11	7	4	3	3	4	5	7	6	12	4	12	11	3	7	5	6	5	1	2	2	5.5	12.2									
31-Jul	1	2	3	3	4	4	2	6	3	6	7	5	4	3	5	6	8	5	8	5	2	3	3	1	4.1	8.3									
4.8 4.8 4.1 4.6 4.5 5.4 5.7 6.2 6.5 8.2 8.2 8.1 9.0 8.7 8.8 9.1 9.2 9.0 9.6 10.1 11.7 6.1 5.8 4.5																								Diurnal Average											
27.1 28.8 17.4 16.7 15.3 14.2 16.4 15.7 16.4 31.5 25.3 24.4 33.4 32.1 25.7 25.8 25.1 26.7 50.7 35.4 73.3 17.5 17.8 13.8																								Diurnal Maximum											
C - Calibration																																			

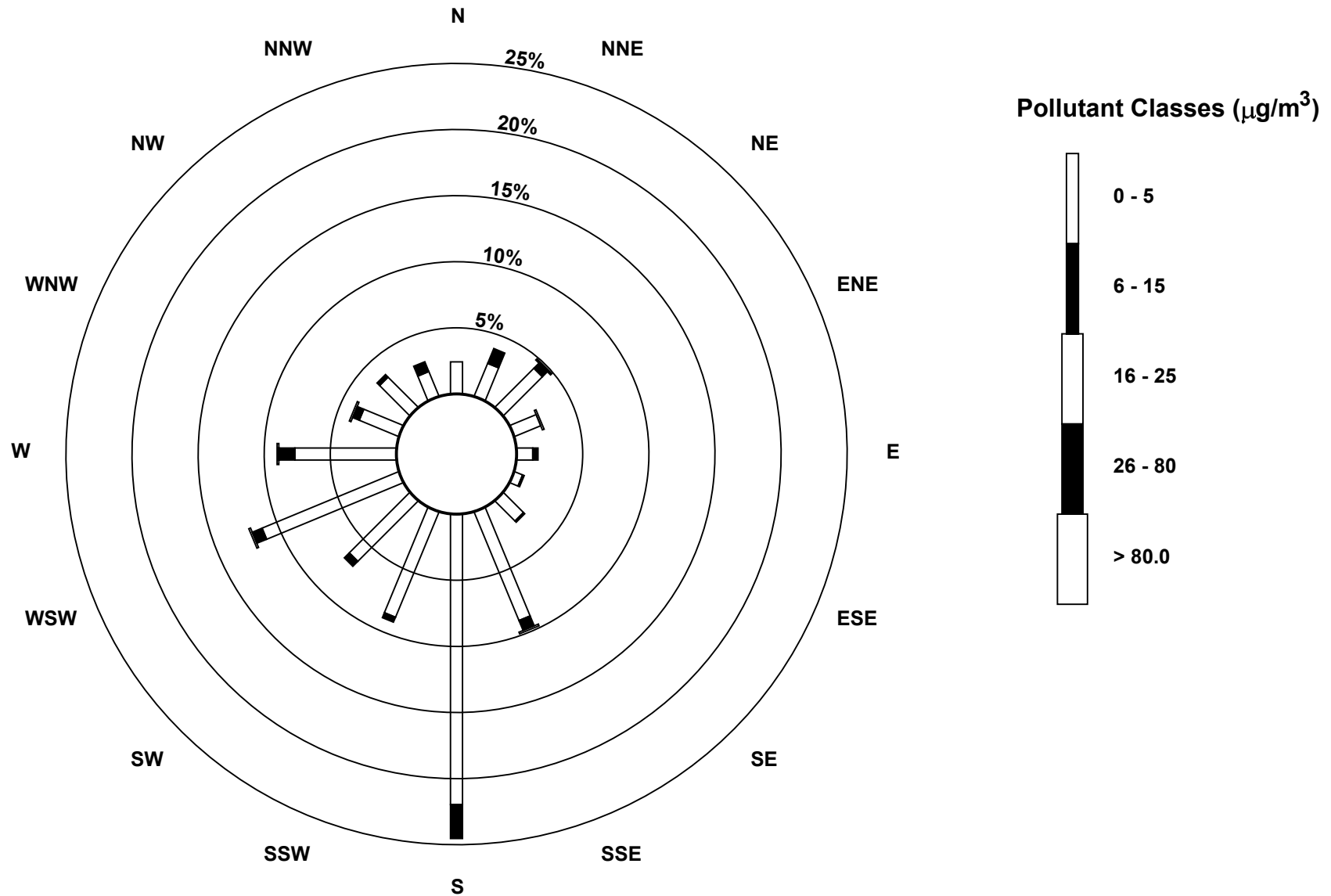
Hourly Maximums

PM2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Portable Rycroft - July 2016



Pollutant Rose

PM_{2.5} (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Portable Rycroft - July 2016



Hourly Averages

External Temperature (ET) - °C

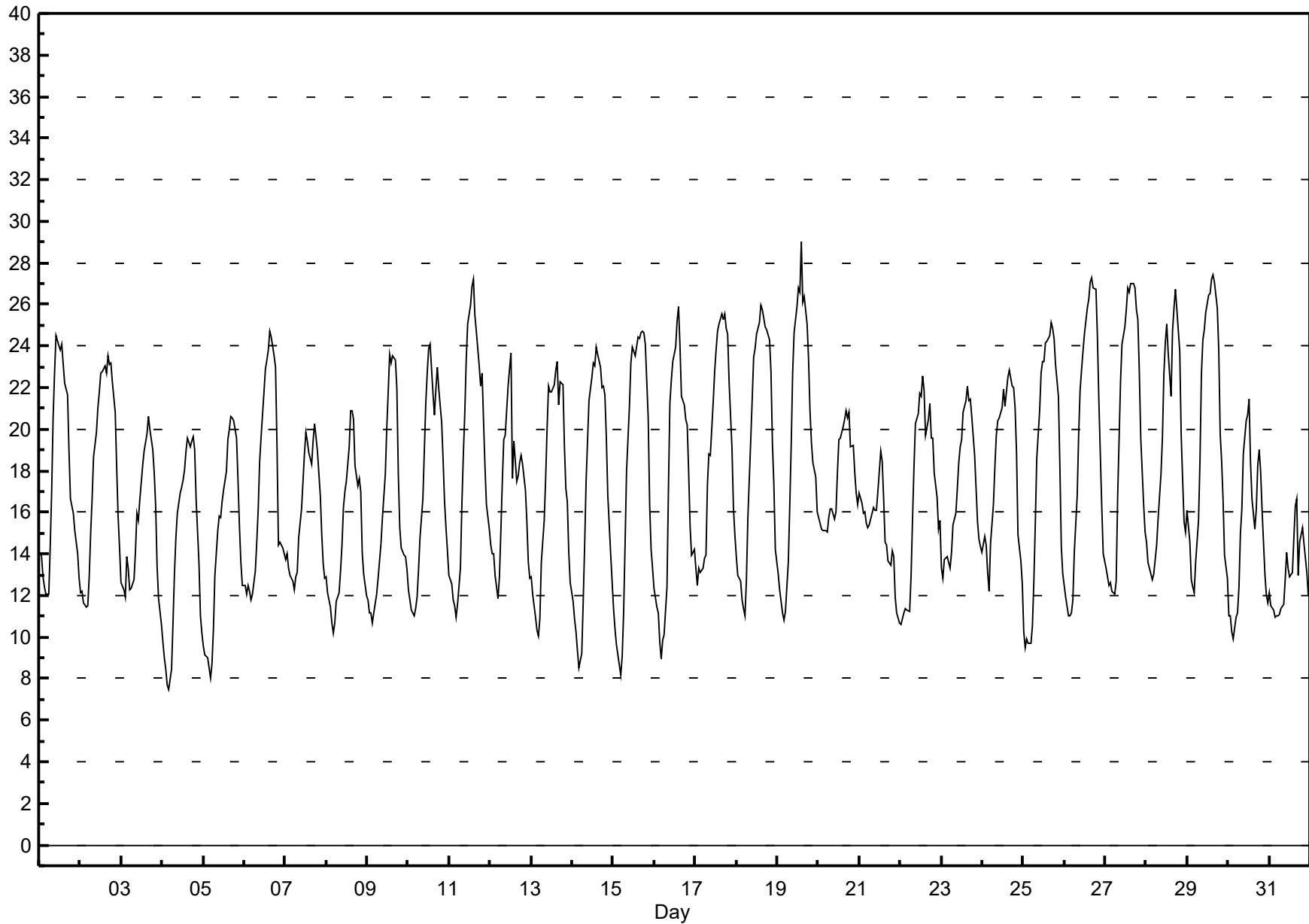
Portable Rycroft - July 2016

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 29.0 °C on Jul 19 15:00 Maximum Daily Average: 20.0 °C on Jul 27																								Hours in Service: 744 Hours of Data: 744 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0		
Minimum Value: 7 °C on Jul 4 05:00 Maximum Diurnal Average: 22.4 °C at hour 15 Monthly Average: 17.29 °C												Minimum Daily Average: 13.0 °C on Jul 31 Minimum Diurnal Average: 11.3 °C at hour 5 Percentiles: P ₁ = 8.5 P ₁₀ = 11.3 Q ₁ = 13.1 Median = 16.6 Q ₃ = 21.4 P ₉₀ = 24.3 P ₉₉ = 27.0														
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jul	14	14	13	12	12	12	14	17	21	23	25	24	24	24	23	22	22	19	17	16	16	15	14	13	17.7	24.5
2-Jul	12	12	12	11	12	13	15	17	19	20	21	22	23	23	23	23	24	23	23	22	21	18	16	14	18.2	23.5
3-Jul	13	12	12	14	13	12	12	13	14	16	16	17	18	19	19	20	21	20	19	18	16	13	12	11	15.4	20.6
4-Jul	10	9	8	8	7	8	11	13	15	16	17	17	18	18	19	20	19	19	20	19	17	14	11	10	14.3	19.7
5-Jul	10	9	9	9	8	9	10	13	15	16	16	17	17	18	20	20	21	21	20	20	18	15	14	12	14.8	20.6
6-Jul	12	12	12	12	12	12	13	15	16	18	20	22	23	23	24	25	24	24	23	19	14	15	14	14	17.5	24.7
7-Jul	14	14	13	13	13	12	13	13	15	16	17	19	20	19	19	18	19	20	20	19	17	15	13	13	16.0	20.2
8-Jul	13	12	11	11	10	11	12	12	13	14	16	17	17	19	21	21	21	18	17	18	17	14	13	12	15.0	20.9
9-Jul	12	11	11	11	11	12	13	14	14	16	18	20	22	24	23	24	23	22	18	15	14	14	14	13	16.2	23.6
10-Jul	12	12	11	11	11	12	13	15	17	19	21	23	24	24	22	21	22	23	22	20	19	17	15	14	17.5	24.1
11-Jul	13	13	12	12	11	12	13	16	19	21	23	25	26	27	27	25	25	23	22	23	20	18	16	15	19.0	27.2
12-Jul	14	14	14	13	12	13	15	17	20	20	22	23	24	18	19	18	18	18	19	18	17	16	14	13	17.0	23.7
13-Jul	13	12	11	10	10	11	14	16	18	20	22	22	22	22	23	23	21	22	22	19	17	16	14	13	17.2	23.3
14-Jul	12	11	10	9	9	9	12	14	17	19	21	22	23	23	24	24	23	22	22	22	20	17	14	13	17.2	24.0
15-Jul	11	10	10	9	8	9	11	15	18	21	23	24	24	24	24	24	25	25	25	24	21	16	14	13	17.8	24.7
16-Jul	12	11	11	10	9	10	10	12	17	21	22	23	24	25	26	24	22	21	20	20	18	15	14	14	17.2	25.9
17-Jul	13	13	13	13	13	14	14	17	19	19	21	23	24	25	25	26	25	26	25	25	22	19	16	15	19.3	25.6
18-Jul	14	13	13	12	11	11	13	16	19	21	23	24	25	25	26	26	25	25	25	24	23	19	17	14	19.4	25.9
19-Jul	13	12	12	11	11	11	14	16	19	23	25	26	27	27	29	26	26	25	23	21	19	18	18	16	19.5	29.0
20-Jul	16	15	15	15	15	15	16	16	16	16	16	18	20	20	20	20	21	21	21	19	19	18	17	16	17.5	20.9
21-Jul	17	16	16	16	15	15	15	16	16	16	16	17	19	18	17	15	14	14	13	14	14	12	11	11	15.2	19.0
22-Jul	11	11	11	11	11	11	13	16	18	20	21	22	22	23	22	20	20	21	20	20	18	17	15	16	17.0	22.6
23-Jul	13	13	14	14	14	13	14	15	16	17	18	19	19	21	21	22	21	21	21	19	17	16	15	14	17.0	22.0
24-Jul	14	15	14	13	12	15	16	18	20	20	21	21	22	21	22	22	23	22	22	21	19	15	14	13	18.1	22.8
25-Jul	10	10	10	10	10	11	13	15	19	21	23	23	23	24	24	25	25	25	24	23	22	18	14	13	18.1	25.1
26-Jul	12	12	11	11	11	12	14	17	20	22	23	24	25	26	26	27	27	27	27	24	21	19	16	14	19.5	27.3
27-Jul	13	13	12	13	12	12	13	17	19	22	24	25	26	27	27	27	27	27	26	25	23	20	16	15	20.0	27.0
28-Jul	15	14	13	13	13	14	14	16	18	20	23	24	25	24	22	25	26	27	26	24	20	18	16	15	19.2	26.7
29-Jul	16	15	13	12	12	14	16	18	23	24	25	26	26	27	27	27	27	26	24	20	18	17	14	13	20.0	27.4
30-Jul	11	11	10	10	11	11	12	15	16	19	20	21	21	18	17	15	16	18	19	18	16	13	12	12	15.1	21.5
31-Jul	12	12	11	11	11	11	11	11	12	13	14	13	13	13	15	16	17	13	15	15	15	14	13	12	13.0	16.7
12.8 12.3 12.0 11.6 11.3 11.8 13.2 15.2 17.3 19.0 20.4 21.3 22.0 22.2 22.4 22.2 22.3 21.8 21.2 20.1 18.3 16.1 14.4 13.4																								Diurnal Average		
16.9 16.4 16.0 16.0 15.5 15.2 16.3 18.5 22.6 24.3 24.8 25.9 26.8 26.8 29.0 27.4 27.3 26.8 26.7 25.2 22.8 19.5 17.7 16.4																								Diurnal Maximum		

Hourly Averages

External Temperature (ET) - °C

Portable Rycroft - July 2016



Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Portable Rycroft - July 2016

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1 Spd	5	6	6	8	7	7	8	7	4	2	2	5	5	5	3	3	5	10	3	3	4	7	7	6	4.6	9.6
Dir	156	138	145	147	173	172	173	181	171	166	100	147	100	108	110	188	207	230	147	125	135	149	146	162	158.2	229.6
2 Spd	6	8	9	8	7	7	8	8	8	8	9	8	10	9	11	11	11	9	6	8	9	6	6	5	7.8	11.0
Dir	152	160	169	168	166	154	161	177	180	188	188	189	206	195	158	158	174	179	189	155	141	145	155	161	170.5	158.0
3 Spd	5	3	2	13	10	8	4	4	5	6	9	11	11	10	12	12	9	10	12	12	11	10	12	10	8.0	12.5
Dir	177	149	255	241	248	249	213	184	186	210	201	227	224	219	230	233	209	204	194	191	190	185	185	185	209.6	240.9
4 Spd	10	10	10	9	11	10	10	8	7	7	7	6	7	9	10	7	8	5	5	4	3	6	7	6	7.5	10.7
Dir	181	179	180	175	173	173	178	192	196	204	186	194	179	178	168	180	168	162	191	191	197	185	176	179	180.6	173.0
5 Spd	9	9	9	10	8	10	9	7	3	6	6	1	2	4	6	6	11	14	15	10	4	3	4	7	5.8	14.7
Dir	173	175	176	175	180	176	178	182	200	250	253	208	142	181	209	213	246	258	264	255	237	227	197	178	209.2	264.0
6 Spd	7	7	6	2	3	5	4	2	8	18	16	12	14	15	14	10	11	10	4	8	7	1	5	5	6.0	18.4
Dir	168	170	172	209	170	180	183	203	249	253	251	263	266	260	277	276	270	277	306	191	173	47	187	158	241.2	253.3
7 Spd	0	2	3	5	5	1	3	4	3	6	9	12	15	15	13	11	14	15	17	10	8	5	4	3	6.5	17.2
Dir	83	104	86	134	163	103	147	143	109	61	49	37	33	41	51	46	39	41	44	57	53	60	37	273	52.9	44.3
8 Spd	2	3	8	6	3	4	2	6	6	2	2	2	3	5	4	2	6	15	17	11	7	6	4	5	3.8	16.8
Dir	280	62	45	56	35	81	28	30	28	46	263	222	224	254	290	299	331	39	38	33	22	18	24	323	23.2	38.3
9 Spd	3	1	3	4	3	3	4	4	3	5	7	3	4	2	4	3	3	1	9	7	6	5	4	2	2.1	9.2
Dir	310	195	255	264	275	298	312	3	296	293	339	324	353	334	322	2	14	136	293	219	55	52	190	194	311.3	293.5
10 Spd	5	5	5	2	5	4	2	3	3	3	3	1	3	3	5	8	5	5	6	6	6	6	7	6	3.6	8.3
Dir	160	152	168	181	173	168	219	259	261	262	278	315	263	262	196	188	200	216	185	179	173	151	159	177	189.8	187.6
11 Spd	7	6	7	6	6	6	5	3	4	5	3	2	2	4	4	3	3	9	5	2	4	3	2	4	2.0	8.7
Dir	172	166	170	172	172	182	182	204	248	260	271	296	283	326	272	290	235	310	301	355	358	316	291	315	240.2	310.5
12 Spd	4	3	3	3	4	7	5	5	6	8	8	11	8	5	1	9	7	5	7	9	8	4	3	4	2.2	10.5
Dir	263	185	216	229	233	263	275	309	338	359	9	12	3	358	339	45	172	205	249	266	264	239	218	177	291.4	12.3
13 Spd	4	3	5	4	3	4	8	10	7	6	7	9	9	10	7	9	3	6	8	11	4	0	4	4	2.5	10.8
Dir	178	207	183	197	198	240	263	266	279	304	332	317	308	23	357	16	59	34	13	42	62	86	269	248	322.5	42.5
14 Spd	6	6	3	3	4	4	3	2	2	4	5	5	4	5	5	9	9	7	7	4	3	2	3	3	1.6	9.0
Dir	252	259	240	187	180	184	204	202	356	1	9	10	341	8	22	2	18	51	41	78	55	73	160	180	13.9	17.6
15 Spd	5	5	4	7	7	5	4	3	3	2	3	4	6	6	6	7	6	5	3	2	3	5	6	6	1.0	7.2
Dir	186	175	179	183	181	179	176	233	288	329	317	10	40	49	27	37	28	25	21	37	154	171	180	178	134.3	183.5
16 Spd	6	6	5	3	7	8	7	7	4	8	8	11	9	11	7	18	21	5	12	8	9	6	8	8	5.5	20.9
Dir	179	182	184	207	182	170	175	180	188	260	269	268	284	270	288	316	328	302	281	276	263	253	265	247	261.0	327.8
17 Spd	8	8	8	5	6	4	5	7	7	3	3	3	4	2	3	3	2	1	2	1	3	3	5	7	2.9	7.9
Dir	250	250	245	245	261	233	190	259	264	330	205	208	201	223	177	222	189	345	21	93	162	140	156	153	225.8	245.5
18 Spd	6	7	5	5	4	5	5	4	1	6	5	4	3	0	2	3	5	7	3	2	2	2	4	7	1.7	6.9
Dir	156	170	174	177	182	182	178	188	120	35	19	50	94	15	54	51	30	18	66	75	36	97	151	187	122.8	170.2
19 Spd	7	6	7	7	7	8	3	3	4	3	5	5	5	3	5	13	16	11	3	5	7	4	20	1	3.7	20.4
Dir	173	178	172	171	173	168	203	211	177	173	176	190	186	283	319	276	278	338	186	166	168	184	270	248	218.9	270.5
20 Spd	3	6	4	3	2	4	3	2	2	8	10	4	7	8	6	5	9	10	9	7	10	11	7	5	4.3	11.2
Dir	210	188	177	163	235	183	190	194	211	306	327	5	248	242	227	204	191	189	189	185	188	182	228	189	208.4	182.2
21 Spd	10	5	6	7	7	5	8	9	10	13	6	7	3	5	11	14	6	2	6	4	5	4	5	5	3.6	13.8
Dir	192	208	231	195	195	225	256	258	256	251	262	292	320	340	346	329	327	209	173	185	170	170	160	155	244.0	329.2
22 Spd	4	7	9	10	10	9	9	11	11	10	15	18	17	15	25	23	15	16	13	15	13	7	4	9	10.5	24.8
Dir	143	153	158	159	162	165	175	184	191	209	229	234	233	248	239	240	235	238	254	250	240	227	218	226	220.1	239.4

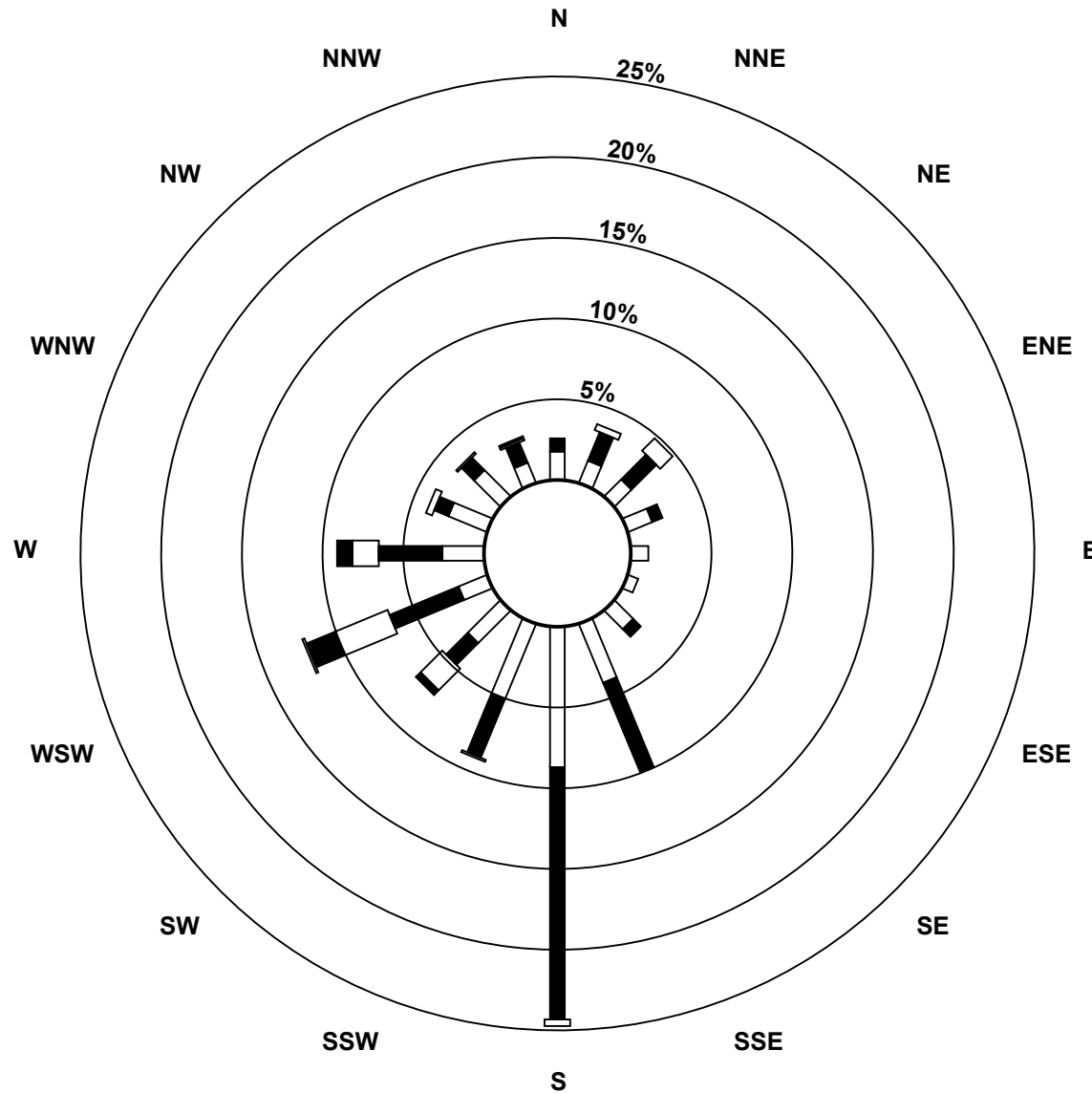
Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Portable Rycroft - July 2016

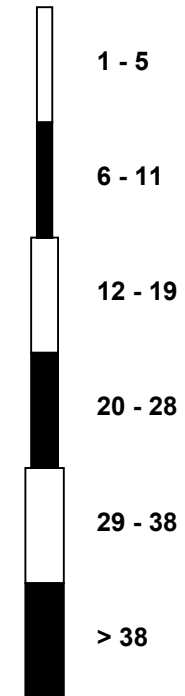
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
23 Spd	4	6	7	8	8	8	8	6	7	8	21	21	23	24	17	17	17	19	16	10	9	10	9	10	11.2	24.2	
Dir	202	191	190	187	187	190	195	200	200	213	233	242	245	251	236	237	236	235	231	213	188	182	177	180	220.6	251.1	
24 Spd	7	12	10	5	3	6	8	8	10	15	12	21	20	26	27	28	28	30	26	25	12	3	4	6	13.2	30.3	
Dir	185	186	187	189	196	196	198	199	207	227	223	232	232	243	241	250	245	245	238	243	240	314	80	148	230.1	245.0	
25 Spd	3	5	7	7	8	7	6	4	2	6	8	8	10	12	12	9	6	8	5	4	3	3	5	6	4.5	12.2	
Dir	134	161	168	160	164	158	174	170	156	175	205	210	217	231	238	236	243	258	306	20	59	138	171	180	199.9	237.6	
26 Spd	9	8	7	9	11	11	9	8	5	15	15	15	15	10	12	6	3	6	3	5	3	3	6	6	5.1	15.4	
Dir	170	163	149	168	170	169	170	183	196	250	245	248	254	254	256	243	294	325	340	341	31	137	176	158	216.0	245.1	
27 Spd	7	8	8	7	7	7	7	3	6	4	5	8	10	11	14	11	11	7	8	3	1	4	5	6	4.1	14.3	
Dir	165	164	171	177	170	184	178	218	264	300	266	258	260	263	264	287	286	330	319	299	189	164	176	173	237.9	263.9	
28 Spd	5	3	4	6	6	5	3	2	3	3	1	4	4	13	9	9	7	3	3	10	13	8	5	8	2.4	13.1	
Dir	182	226	167	157	172	247	34	299	129	168	95	67	69	15	43	68	56	60	86	32	12	70	177	175	73.2	15.2	
29 Spd	5	4	5	8	7	9	8	6	6	12	21	18	13	12	15	13	13	21	22	12	6	5	7	8	7.9	21.6	
Dir	189	347	167	168	159	158	164	183	199	225	245	238	235	244	251	280	263	272	272	272	248	172	171	174	234.1	271.5	
30 Spd	7	6	7	7	9	1	9	9	9	4	4	8	8	10	9	5	11	14	13	12	11	11	5	3	6.1	13.9	
Dir	175	183	180	241	300	261	254	266	259	284	302	323	349	331	257	209	263	284	286	282	275	258	234	197	268.7	283.8	
31 Spd	5	11	8	9	9	6	5	10	17	22	22	23	20	17	20	21	17	4	3	5	13	8	9	4	11.6	22.7	
Dir	255	265	263	251	237	239	236	240	252	259	264	267	259	249	241	243	255	312	184	222	253	236	236	255	251.9	266.6	
Spd	4.6	4.6	4.8	5.1	5.0	4.9	4.4	3.8	3.6	4.7	5.1	5.0	5.0	5.0	5.4	4.8	4.9	4.1	3.5	2.5	2.0	2.6	4.0	4.5	Diurnal Average		
Dir	184.4	182.1	180.2	185.1	188.1	186.7	193.8	211.7	226.5	249.0	252.4	256.0	253.2	261.6	251.9	261.8	259.6	268.1	263.4	238.2	212.1	179.6	194.8	186.7	Diurnal Maximum		
Spd	10.2	12.5	9.8	12.5	10.9	10.9	9.8	11.3	16.7	21.7	21.6	22.7	23.2	26.1	26.5	28.4	28.2	30.3	26.2	24.9	13.3	11.4	20.4	10.0			
Dir	181.2	186.3	179.8	240.9	170.4	168.8	177.8	183.8	252.4	259.2	264.0	266.6	245.0	243.3	241.0	249.7	244.8	245.0	238.4	242.9	239.6	257.6	270.5	180.1			
Maximum Speed Value: 30 km/h on Jul 24 18:00																		Minimum Speed Value: 0 km/h on Jul 13 22:00						Hours in Service: 744			
Maximum Daily Speed Average: 13.2 km/h on Jul 24																		Minimum Daily Speed Average: 1.0 km/h on Jul 9						Hours of Data: 744			
Maximum Diurnal Speed Average: 5.4 km/h at hour 15																		Minimum Diurnal Speed Average: 2.0 km/h at hour 21						Hours of Missing Data: 0			
Monthly Average Velocity: 3.60 km/h 222.88 deg																		Speed Percentiles: P ₁ = 0.9 P ₁₀ = 2.8 Q ₁ = 4.0 Median = 6.2 Q ₃ = 9.0 P ₉₀ = 12.8 P ₉₉ = 23.7						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		23	21	2	0	0	0	46																			
NorthEast		23	27	10	0	0	0	60																			
East		21	2	0	0	0	0	23																			
SouthEast		20	22	0	0	0	0	42																			
South		77	180	8	0	0	0	265																			
SouthWest		40	42	27	14	2	0	125																			
West		31	56	36	8	1	0	132																			
NorthWest		28	20	2	1	0	0	51																			
Total		263	370	85	23	3	0	744																			

Wind Rose

Wind Speed (WS) (km/h)
Portable Rycroft - July 2016



Wind Speed Classes (km/h)



Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Portable Rycroft - July 2016

Maximum Speed: 30 km/h on Jul 24 18:00																				Maximum Daily Speed Average: 15.0 km/h on Jul 24										Hours in Service: 744	
Minimum Speed: 2 km/h on Jul 27 21:00																				Minimum Daily Speed Average: 4.9 km/h on Jul 11										Hours of Data: 744	
Maximum Diurnal Speed Average: 10.7 km/h at hour 16																				Minimum Diurnal Speed Average: 5.7 km/h at hour 22										Hours of Missing Data: 0	
Monthly Average Speed: 7.73 km/h																				Percentiles: P ₁ = 2.1 P ₁₀ = 3.4 Q ₁ = 4.7 Median = 6.6 Q ₃ = 9.4 P ₉₀ = 13.2 P ₉₉ = 24.8										Percent Operational Time: 100.0	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24							
1-Jul	6	6	6	8	7	7	8	7	4	3	4	5	5	5	4	4	5	10	4	3	4	7	7	6	5.6	9.8					
2-Jul	6	8	9	8	8	7	8	8	9	8	10	9	10	10	11	11	11	9	7	8	9	7	6	6	8.4	11.4					
3-Jul	5	5	4	13	10	8	4	4	5	6	10	11	12	11	13	12	10	10	12	12	11	10	12	10	9.2	13.3					
4-Jul	10	10	10	9	11	10	10	8	7	8	8	7	7	9	10	8	8	6	5	4	3	6	7	6	7.9	10.7					
5-Jul	9	9	9	10	8	10	9	7	4	6	6	2	3	5	6	6	12	14	15	10	4	4	5	8	7.5	14.9					
6-Jul	7	7	6	2	4	5	4	2	8	18	16	12	15	15	14	11	12	10	4	9	11	5	6	5	8.6	18.5					
7-Jul	3	3	4	5	5	3	3	4	5	6	9	12	16	15	13	11	14	15	17	10	8	5	4	4	8.2	17.3					
8-Jul	3	3	8	6	4	4	3	6	6	3	2	4	4	6	4	3	6	16	17	11	7	6	4	5	6.0	17.0					
9-Jul	3	2	4	5	4	3	4	4	4	6	7	5	5	4	5	5	4	2	11	9	7	6	5	3	4.9	10.7					
10-Jul	5	6	5	3	6	5	2	4	3	4	4	4	4	4	6	8	5	6	6	6	6	6	7	6	4.9	8.4					
11-Jul	7	6	7	6	6	6	5	3	5	5	4	3	5	5	5	5	4	9	5	2	4	3	2	5	4.9	9.2					
12-Jul	4	3	3	3	4	7	5	6	6	9	8	11	10	8	3	11	8	6	8	9	8	5	4	4	6.3	11.1					
13-Jul	4	3	5	4	3	4	8	10	8	7	7	10	14	11	8	9	5	6	8	11	4	2	4	4	6.6	14.4					
14-Jul	6	6	4	3	4	4	3	3	3	5	5	6	6	6	6	10	11	8	7	5	3	3	3	3	5.1	10.5					
15-Jul	5	5	4	7	7	5	4	4	3	3	4	5	7	7	7	7	7	5	3	2	3	5	6	6	5.1	7.3					
16-Jul	6	6	6	4	7	8	7	7	4	8	8	11	10	11	8	18	21	6	13	9	9	6	8	8	8.7	21.1					
17-Jul	8	8	8	6	6	5	5	7	7	4	4	5	5	4	5	5	3	3	2	2	3	3	5	7	4.9	8.0					
18-Jul	6	7	5	5	4	5	5	4	2	6	6	7	5	6	5	5	6	7	3	2	2	2	4	7	4.9	7.1					
19-Jul	7	6	7	7	7	8	3	4	4	3	5	5	6	5	5	14	17	11	6	5	7	4	21	3	7.1	21.4					
20-Jul	4	6	4	3	3	4	3	2	2	8	10	5	7	8	6	5	9	10	9	7	10	11	8	5	6.3	11.2					
21-Jul	10	6	6	7	7	5	8	9	10	13	7	7	4	5	11	14	7	3	6	5	5	4	5	5	7.0	14.1					
22-Jul	4	7	9	10	10	9	9	11	11	10	15	18	17	16	25	24	15	16	13	15	13	7	4	9	12.5	25.5					
23-Jul	4	6	7	8	8	8	8	7	8	8	22	21	23	24	18	17	17	19	16	11	9	10	9	10	12.4	24.5					
24-Jul	7	12	10	5	3	6	8	8	10	15	13	21	20	26	27	29	28	30	26	25	12	6	5	6	15.0	30.5					
25-Jul	3	5	7	7	8	7	6	4	3	6	8	9	10	12	12	10	7	8	6	5	4	3	5	6	6.8	12.4					
26-Jul	9	8	7	9	11	11	9	8	6	15	16	15	15	11	13	7	7	6	4	5	3	3	6	6	8.7	15.7					
27-Jul	7	8	8	7	7	7	7	4	6	4	5	9	11	11	15	12	11	7	8	4	2	4	5	6	7.2	14.8					
28-Jul	5	5	5	6	6	6	8	5	3	3	3	6	6	13	9	10	8	5	4	11	14	8	6	8	6.7	14.0					
29-Jul	9	5	5	8	7	9	8	6	6	12	22	18	13	13	15	13	14	21	22	12	6	5	8	8	11.0	21.7					
30-Jul	7	7	7	8	9	4	9	9	9	4	6	9	9	10	10	5	12	14	13	12	11	11	6	3	8.6	14.5					
31-Jul	6	11	8	9	9	6	6	11	17	22	22	23	20	17	20	21	18	7	3	6	13	8	9	5	12.4	22.8					
6.0 6.3 6.3 6.5 6.5 6.4 6.0 5.9 6.0 7.7 8.9 9.6 9.8 10.2 10.3 10.7 10.3 9.9 9.1 7.9 7.0 5.7 6.4 5.9																									Diurnal Average						
10.2 12.5 9.9 13.3 11.0 11.0 9.9 11.3 17.0 21.9 21.7 22.8 23.3 26.2 26.8 28.6 28.4 30.5 26.4 25.0 14.0 11.4 21.4 10.0																									Diurnal Maximum						

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

Hourly Standard Deviations

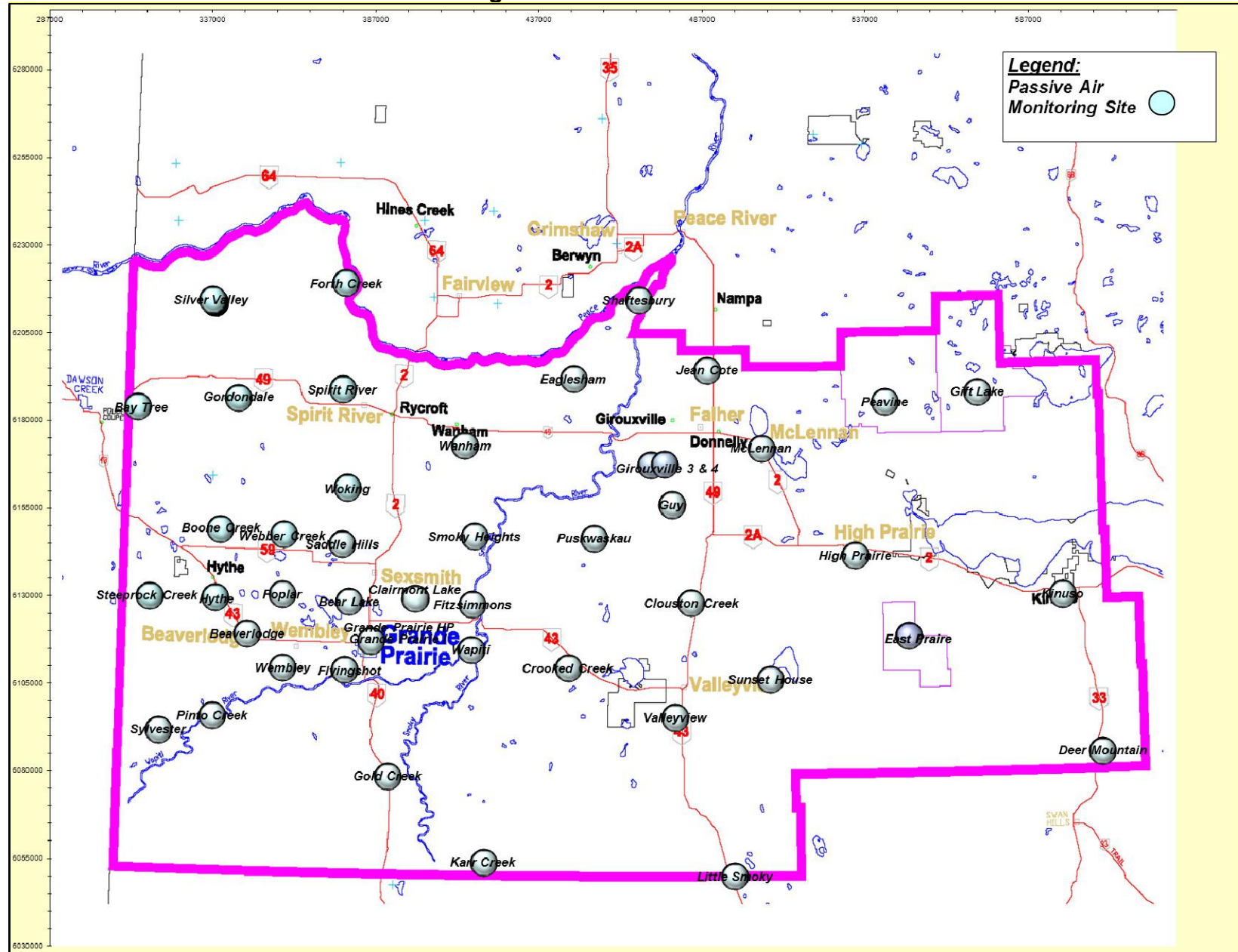
Wind Direction (WD) - deg
Portable Rycroft - July 2016

Maximum Value: 94.5 deg on Jul 18 14:00																			Hours in Service: 744						
Minimum Value: 2.9 deg on Jul 26 05:00																			Hours of Data: 744						
																			Hours of Missing Data: 0						
Percentiles: P ₁ = 3.8 P ₁₀ = 6.1 Q ₁ = 9.0 Median = 16.4 Q ₃ = 29.8 P ₉₀ = 48.8 P ₉₉ = 85.6																			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	16	11	7	6	7	5	5	6	19	45	65	30	27	30	41	18	16	16	36	21	9	7	5	10	65.1
2-Jul	10	8	7	8	11	10	10	8	11	11	14	21	17	16	19	19	16	11	16	17	9	10	8	20	21.2
3-Jul	8	56	76	23	27	30	26	27	16	26	13	12	17	16	17	16	16	14	9	5	5	6	4	9	75.7
4-Jul	4	5	5	5	4	5	7	10	14	23	25	24	16	17	14	28	18	37	21	19	9	4	6	5	36.5
5-Jul	3	4	4	4	6	5	6	9	33	23	24	72	53	23	23	21	18	13	9	6	22	15	16	7	72.1
6-Jul	6	11	11	30	23	6	11	20	30	7	10	17	12	13	15	20	19	12	11	45	54	86	36	36	85.9
7-Jul	91	53	34	13	10	64	44	20	49	16	14	16	12	10	10	11	9	9	7	8	9	8	34	67	91.2
8-Jul	85	33	7	14	44	21	43	8	10	79	53	65	48	37	38	79	31	14	8	12	9	6	11	9	84.6
9-Jul	29	67	31	36	22	14	19	34	42	25	18	48	51	71	46	58	45	79	41	47	27	51	43	33	79.3
10-Jul	15	7	20	44	13	24	36	31	37	50	52	73	61	52	25	6	14	28	10	6	9	10	9	6	72.9
11-Jul	8	11	12	6	7	11	9	39	41	23	61	76	75	47	60	49	32	20	22	41	10	26	37	19	75.8
12-Jul	31	14	19	26	19	6	13	16	30	22	22	19	34	67	76	42	23	20	19	9	8	19	24	12	76.5
13-Jul	22	17	10	22	17	13	6	7	20	28	23	25	51	33	33	18	59	31	12	7	25	84	20	18	83.8
14-Jul	6	11	32	20	11	8	28	48	61	41	26	24	47	34	33	33	33	24	15	17	11	54	16	42	61.2
15-Jul	21	31	13	6	6	8	11	33	38	60	32	41	48	35	35	35	20	21	23	29	46	20	11	8	59.6
16-Jul	18	9	30	24	11	4	5	4	25	28	22	14	16	18	31	9	8	28	26	19	10	23	14	8	31.4
17-Jul	8	9	6	11	5	29	15	15	43	57	47	44	90	52	77	67	72	49	73	15	5	15	4		90.2
18-Jul	9	3	18	6	24	7	10	17	77	31	40	62	60	94	86	76	46	26	34	29	23	13	22	5	94.5
19-Jul	10	8	4	8	10	9	35	29	21	33	24	37	30	62	35	26	12	17	82	17	10	24	20	85	85.0
20-Jul	26	10	21	38	31	6	18	23	27	29	16	36	20	22	16	18	8	9	8	6	5	5	34	19	38.3
21-Jul	8	47	23	19	13	24	13	7	7	6	33	16	39	19	13	13	34	32	22	21	14	15	16	19	47.3
22-Jul	15	8	5	6	8	5	6	5	7	13	10	11	12	26	17	6	9	11	7	12	8	15	15	6	26.0
23-Jul	11	5	4	4	5	4	7	9	9	12	10	11	6	9	12	10	9	7	7	15	8	5	7	5	15.0
24-Jul	7	4	10	17	25	11	7	10	11	12	13	9	11	6	8	8	7	7	7	5	10	74	41	7	74.1
25-Jul	49	12	7	9	4	10	6	13	61	25	14	16	16	15	14	24	34	26	24	30	22	24	13	7	61.0
26-Jul	4	9	11	7	3	4	7	6	31	12	12	15	12	29	25	45	77	18	31	27	18	25	16	16	77.4
27-Jul	15	6	8	7	4	16	8	42	16	31	34	26	24	21	16	23	19	17	13	17	45	15	14	7	45.3
28-Jul	18	39	39	28	18	46	82	92	28	56	93	59	47	9	17	19	24	58	44	20	26	15	22	10	92.6
29-Jul	52	53	11	5	13	8	9	17	20	9	10	14	16	18	21	20	24	10	7	8	39	9	9	7	53.2
30-Jul	8	35	10	24	9	82	17	12	18	49	63	24	28	16	28	14	19	16	10	7	7	4	32	16	81.9
31-Jul	39	4	6	9	12	17	23	28	12	6	6	6	6	9	4	6	24	69	26	24	7	6	8	54	68.6
91.2 66.6 75.7 44.2 44.0 81.9 81.6 92.1 76.7 79.3 92.6 75.8 75.5 94.5 86.3 78.7 77.4 79.3 81.9 72.8 53.6 85.9 42.9 85.0																									

PAZA

Monthly Passive Data Summary

Location of PAZA Passive Monitoring Stations



PAZA Passive Results for July 2016

Station Number	Station Name	SO2 ppb	O3 ppb	NO2 ppb	H2S ppb	Site Legal
Duplicates						
3a	Fourth Creek	0.1	27.2	0.2		
3b	Fourth Creek	0.1	27.6	0.2		
38a	Karr Creek	0.0	17.5	0.2		
38b	Karr Creek	0.0	20.3	0.4		
37a	Crooked Creek	0.0	18.3	0.3		
37b	Crooked Creek	0.0	19.9	0.3		
40a	McLennan	0.2	22.2	0.6		
40b	McLennan	0.2	N/S	0.4		
64a	Girouxville 4				0.3	
64b	Girouxville 4				0.3	

1	Silver Valley	0.1	22.6	0.4		08-27-081-11 W6M
2	Bay Tree	0.0	22.4	0.2		13-16-078-13 W6M
3	Fourth Creek	0.1	27.4	0.2		04-13-082-07 W6M
4	Gordondale	0.1	22.4	0.7		04-34-078-10 W6M
5	Boone Creek	0.1	21.2	0.2		16-36-074-11 W6M
7	Steeprock Creek	0.0	26.0	N/S		09-35-072-13 W6M
9	Spirit River	0.1	21.1	0.4		08-12-079-07 W6M
10	Woking	0.1	23.6	0.2		01-13-076-07 W6M
11	Webber Creek	0.1	19.4	0.4		09-36-074-09 W6M
12	Hythe	0.1	18.7	0.3		14-36-072-11 W6M
14	Sylvester	0.0	16.6	0.2		08-06-069-12 W6M
16	Beaverlodge	0.1	29.0	0.4		15-36-071-10 W6M
17	Poplar	0.1	20.1	0.5		13-06-073-08 W6M
18	Saddle Hills	0.4	19.3	0.2		04-25-074-07 W6M
19	Wanham	0.1	27.5	0.2		16-22-077-03 W6M
20	Shaftesbury	0.1	27.2	0.3		04-03-082-23 W5M
21	Eaglesham	0.1	18.2	0.2		16-21-079-25 W5M
23	Bear Lake	0.1	21.2	0.4		15-31-072-06 W6M
24	Wembley	0.0	19.4	0.4		12-31-070-08 W6M
25	Pinto Creek	0.0	22.7	0.3		04-24-069-11 W6M
26	Flyingshot	0.1	23.1	0.3		15-36-070-07 W6M
27	Grande Prairie I	0.0	23.0	0.8		08-15-071-06 W6M

PAZA Passive Results for July 2016 (Continued)

28	Clairmont Lake	0.2	18.1	0.5	09-06-073-04 W6M
29	Smoky Heights	0.3	30.4	0.3	04-06-075-02 W6M
30	Fitzsimmons	0.1	14.2	0.5	15-36-072-03 W6M
32	Gold Creek	0.1	17.9	0.8	06-33-067-05 W6M
33	Wapiti	0.0	24.6	0.5	02-25-071-03 W6M
34	Puskwaskau	0.1	15.7	0.2	15-35-074-25 W5M
35	Jean Cote	0.1	24.2	0.3	12-35-079-21 W5M
36	Guy	0.1	19.5	0.6	03-04-076-22 W5M
37	Crooked Creek	0.0	19.1	0.3	16-01-071-26 W5M
38	Karr Creek	0.0	18.9	0.3	10-16-065-02 W6M
39	Clouston Creek	0.1	20.3	0.2	12-01-073-22 W5M
40	McLennan	0.2	N/S	0.5	03-29-077-19 W5M
41	Valleyview	0.0	26.5	0.4	09-30-069-22 W5M
42	Sunset House	0.1	20.8	0.3	05-32-070-19 W5M
43	High Prairie	0.1	17.3	0.3	16-13-074-17 W5M
44	Peavine	0.1	18.4	BDL	03-05-079-15 W5M
45	Gift Lake	0.1	16.2	BDL	0.2 10-07-079-12 W5M
46	Little Smoky	0.0	19.0	0.6	12-01-065-21 W5M
47	Kinuso	0.0	21.1	0.3	12-10-073-10 W5M
65	Deer Mountain 2	0.0	18.7	0.3	15-22-068-09 W5M
49	Grande Prairie HP	0.1	25.4	0.9	17-26-071-06 W6M
50	East Prairie	0.0	19.6	0.1	13-02-072-15 W5M
63	Girouxville 3			0.3	14-02-077-23 W5M
64	Girouxville 4			0.3	4-08-077-22 W5M

*BDL = Below Detection Level

*NS - No sample

Passive Summary for July 2016

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 2016 (PAZA Zone)				
Mean	0.1	21.3	0.4	0.2
Standard Deviation	0.1	3.8	0.2	0.1
Minimum	0.0	14.2	0.1	0.2
Minimum At	Karr Creek (#38a)	Fitzsimmons (#30)	East Prairie (#50)	Gift Lake (#45)
Maximum	0.4	30.4	0.9	0.3
Maximum At	Saddle Hills (#18)	Smoky Heights (#29)	Grande Prairie HP	Girouxville 3 (#63)

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

	SO ₂	O ₃	NO ₂
PAZA Beaverlodge station	0.1	33.7	1.8
PAZA Beaverlodge passive	0.1	29.0	0.4

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

	SO ₂	O ₃	NO ₂
PAZA Henry Pirker station	0.1	29.6	4.2
PAZA Grande Prairie passive	0.1	25.4	0.9

PAZA Passive SO₂ Stations
Average Concentrations in ppb
July 2016

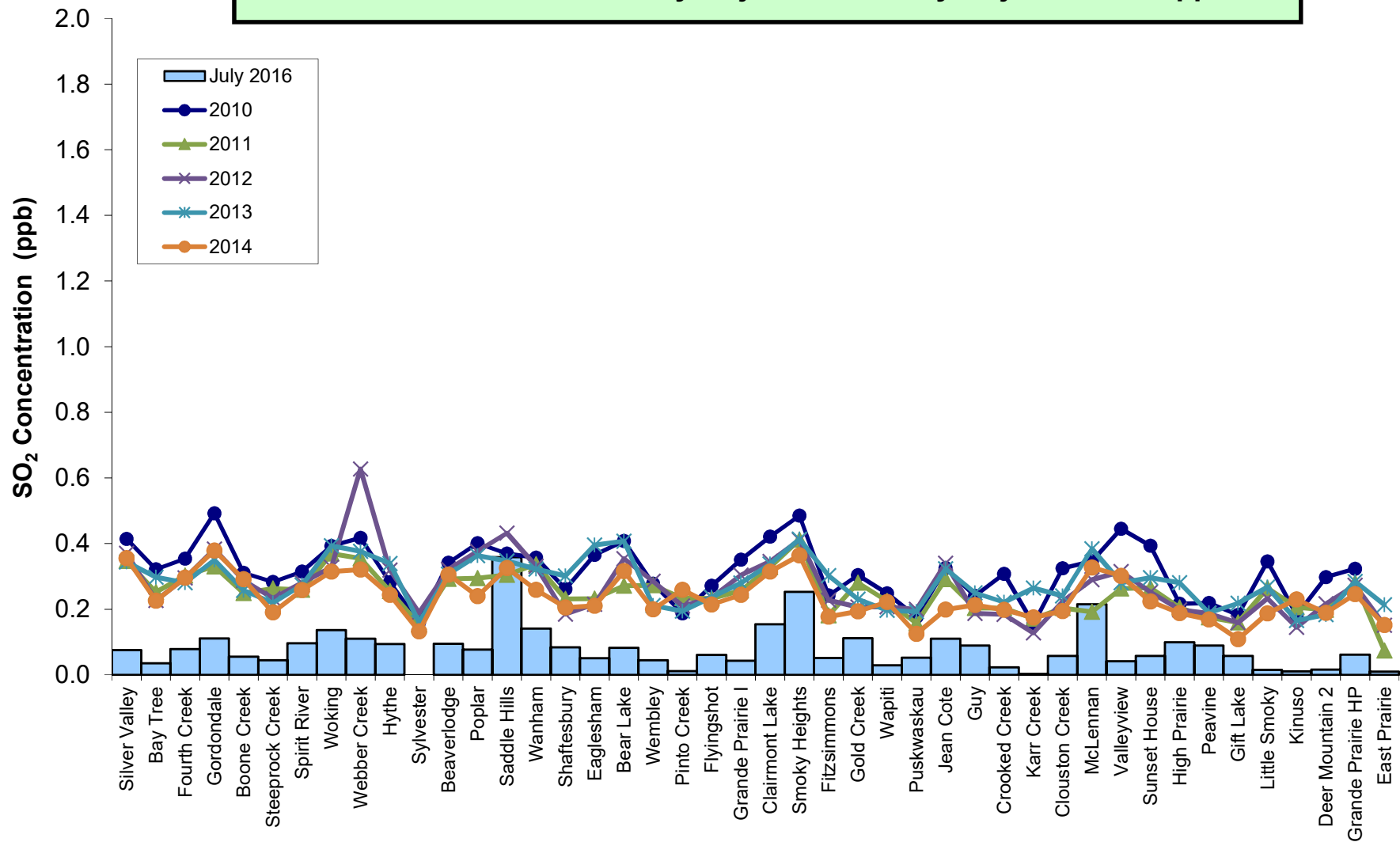
The map displays the following locations and their associated SO₂ concentrations (ppb):

- Hines Creek: 0.1
- Grimshaw: 0.1
- Berwyn: 0.1
- Fairview: 0.1
- Nampa: 0.1
- Spirit River: 0.1
- Rycroft: 0.1
- Wanham: 0.1
- Girouxville: 0.1
- Falher: 0.1
- McLennan: 0.1
- High Prairie: 0.1
- Hythe: 0.1
- Sexsmith: 0.1
- Beaverlodge: 0.1
- Wembley: 0.1
- Grande Prairie: 0.1
- Valleyview: 0.1
- Kindersley: 0.0
- Other locations: 0.0

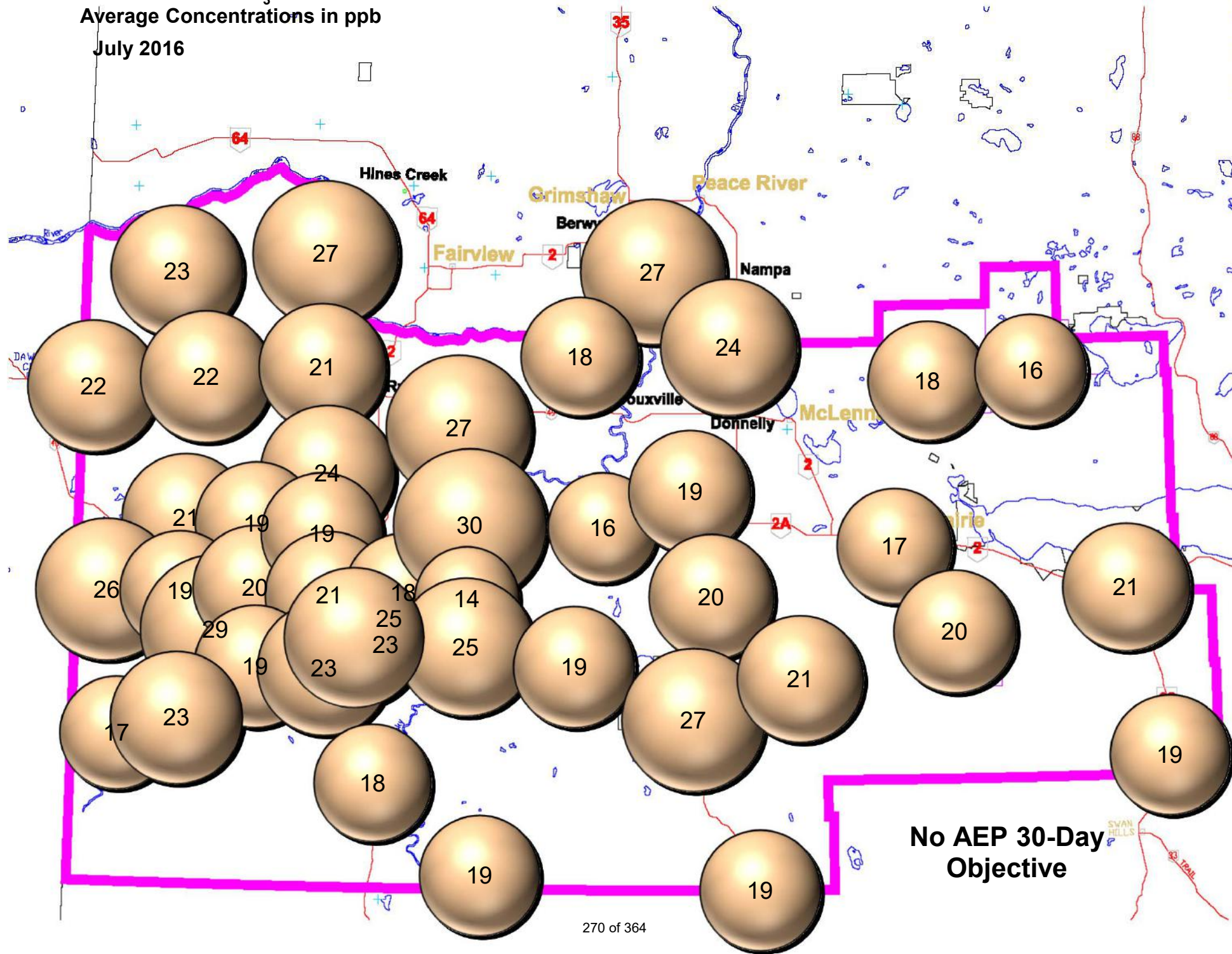
AEP 30 - Day Objective 11 ppb

268 of 364

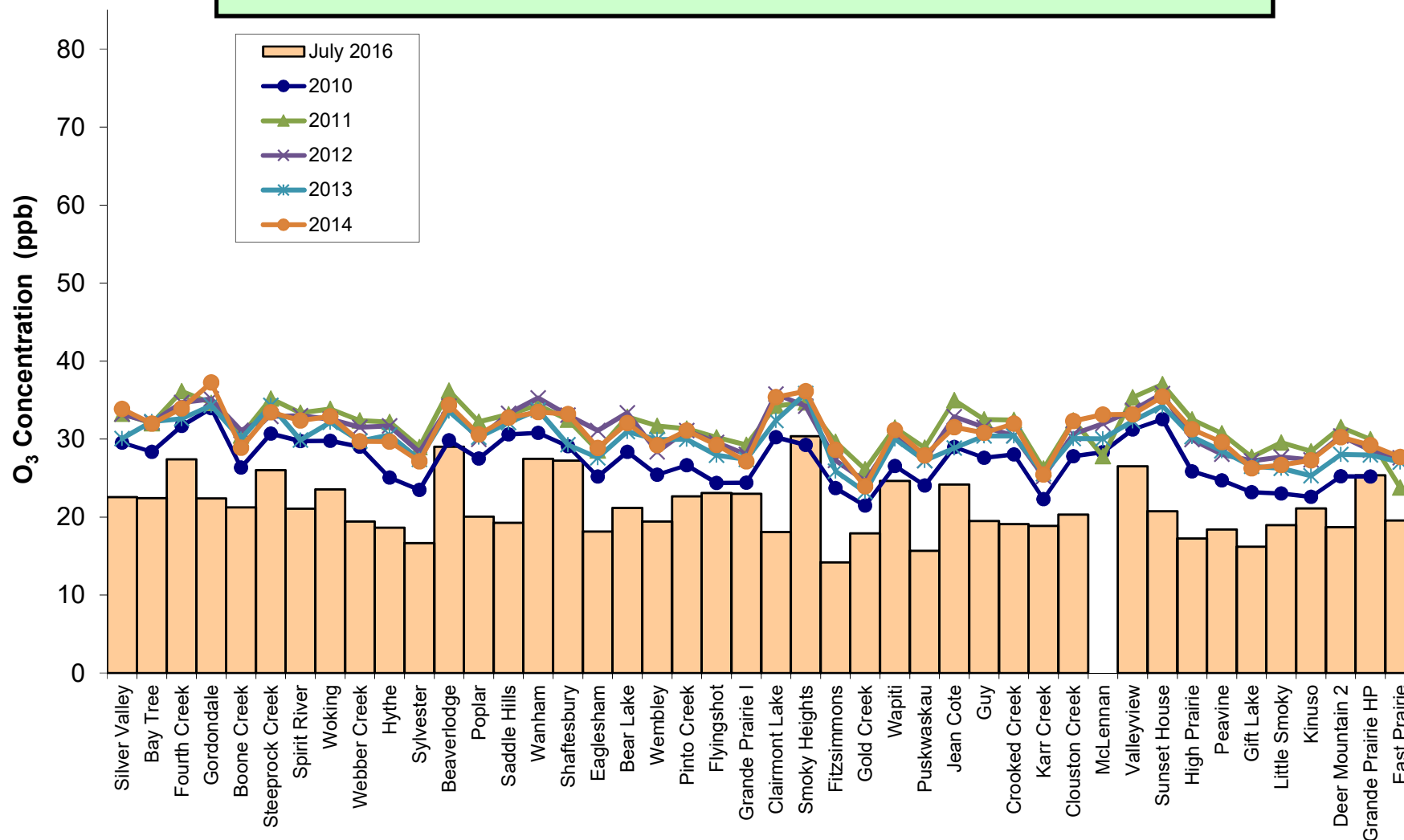
Alberta Ambient Air Quality Objective - 30-day Objective is 11 ppb

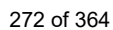


PAZA Passive O₃ Stations
Average Concentrations in ppb
July 2016



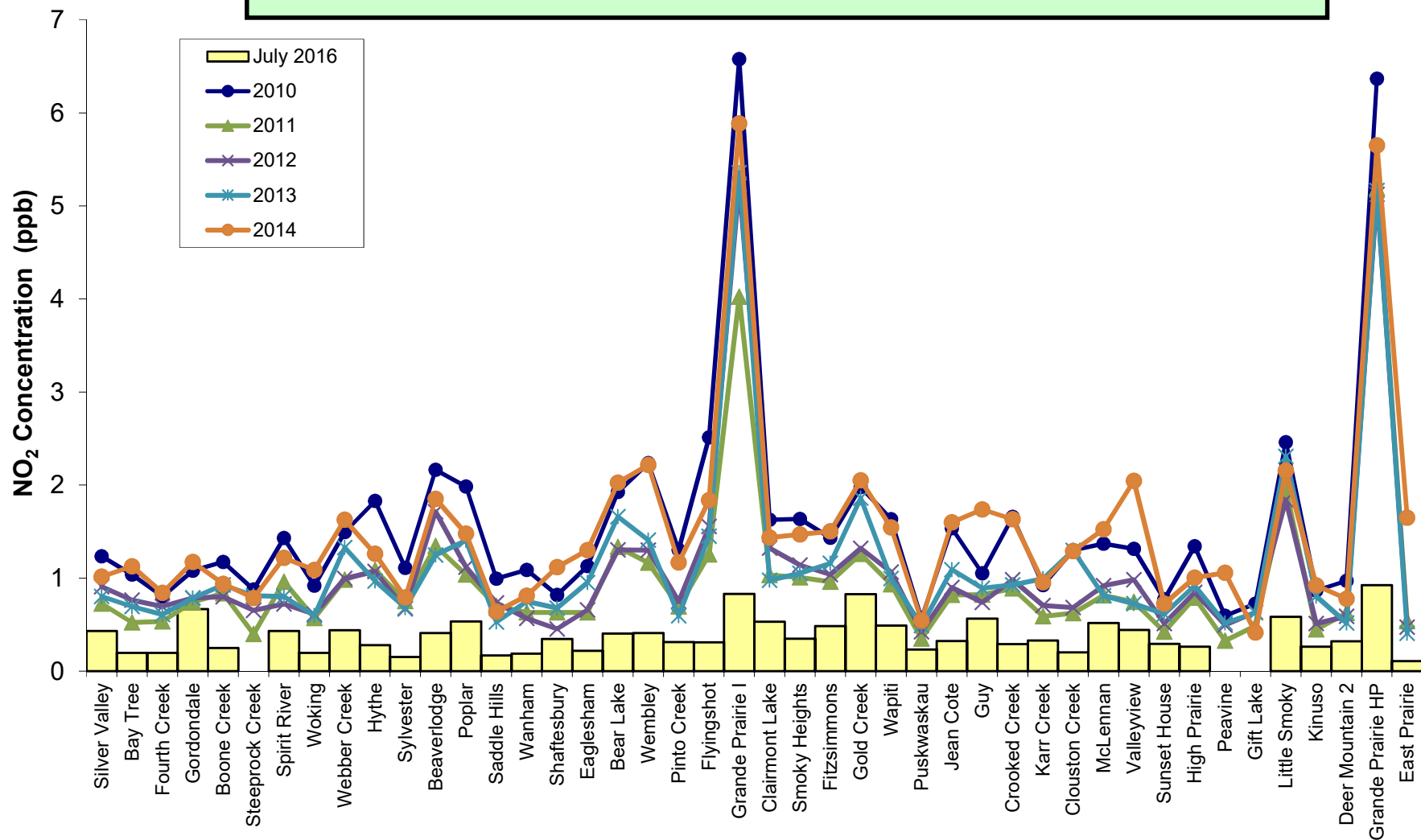
Alberta Ambient Air Quality Objective - No Annual O₃ Objective



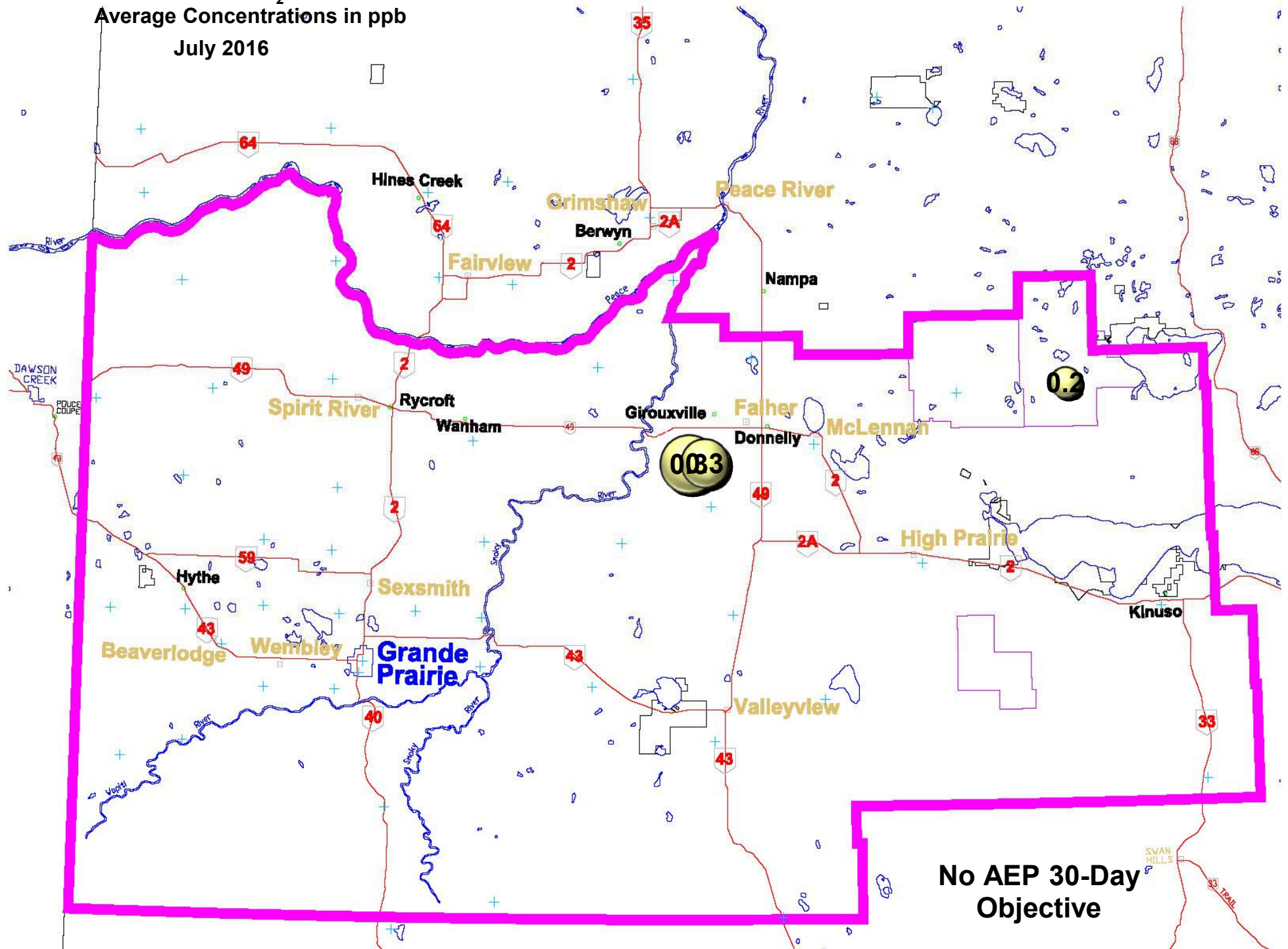
July 2016

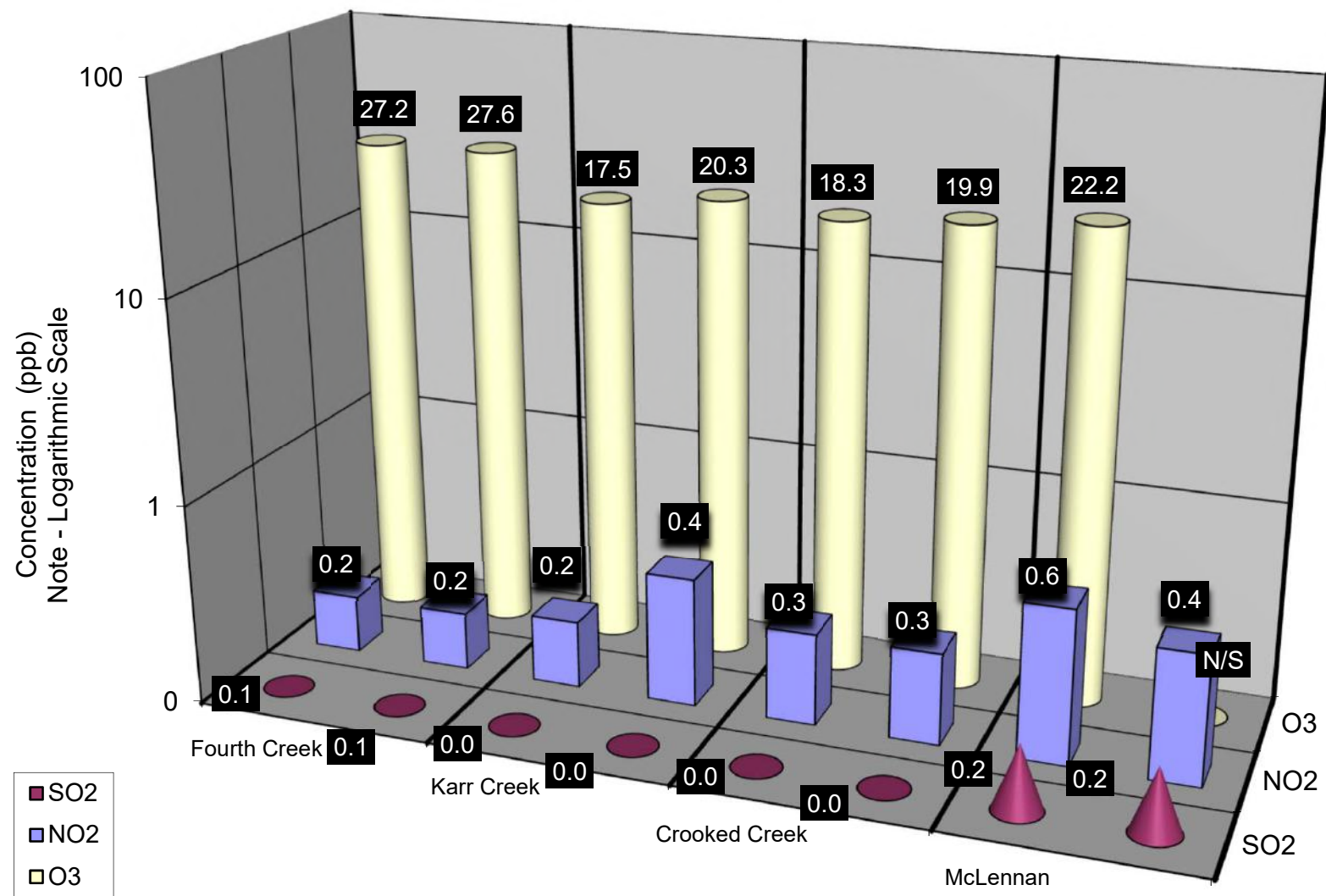
AEP
Annual
Objective
24 ppb

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



PAZA Passive H₂S Stations
Average Concentrations in ppb
July 2016





Duplicate Summary Chart

July 2016 Calibration Reports

**PAZA - Henry Pirker Station with the following calibrations:
SO₂, NO, NO₂, NO_x, O₃, CO, THC, TRS**

**PAZA – Evergreen Park Station with the following calibrations:
SO₂ & TRS**

**PAZA – Smoky Heights Station with the following calibrations:
SO₂ & TRS**

**PAZA – Beaverlodge Station with the following calibrations:
SO₂, NO, NO₂, NO_x, O₃**

**PAZA – Valleyview Station with the following calibrations:
SO₂ & H₂S**

**PAZA – Rycroft Station with the following calibrations:
SO₂, NO, NO₂, NO_x, O₃, THC, TRS, PM_{2.5}**

Calibration Report

Parameter SO2

Air Monitoring Network PAZA



Station Information

Calibration Date	July 6, 2016	Previous Calibration	June 10, 2016
Station Number	1	Station Location	Henry Pirker
Reason:	☒ Routine	☐ Install	☐ Removal
		☐ Other:	
Start Time (MST)	8:50	End Time (MST)	11:43
Barometric Pressure	728.000 mm	Station Temperature	21.0 Deg C
Calibrator	EnviroNics	Serial Number	6586
Cal Gas Conc	49.7 ppm	Cal Gas Cert Date	October 5, 2018
		Cal Gas Cylinder #	LL103793
DACS make	CR3000	DACS serial No.	5408
DACS voltage range	0 - 1 volt	DACS channel #	10
	Before		After
Calculated slope	0.989153	Calculated slope	0.972849
Calculated intercept	0.884810	Calculated intercept	0.913412
Analyzer make	TEI 43I-TLE	Analyzer serial #	1507864682 (AMU 2006)

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
Background	1.52		1.53	
Coefficient	0.977		0.977	
Pressure	670.4	mm Hg	667.9	mm Hg
Flow	0.441	lpm	0.440	lpm
Lamp intensity	82	Hz	82	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)
4996	0.00	0.0	0.3	N/A
4998	39.94	394.0	404.7	0.9736
4997	19.99	198.0	201.9	0.9807
4999	9.89	98.1	98.8	0.9932
4996	0.00	0.0	0.3	As Found Zero
4996	39.93	394.1	404.7	As Found Span
Average Correction Factor				0.9825

Calculated value of As Found Response: 400.9 ppb Percent Change of As Found: -1.7%

	before calibration		after calibration	
Auto zero	0.1	ppb	0.1	ppb
Auto span	287.8	ppb	292.8	ppb

Notes: No adjustment made

Calibration Performed By: Dmytro Dolotii

Calibration Summary

Parameter SO2

Air Monitoring Network PAZA



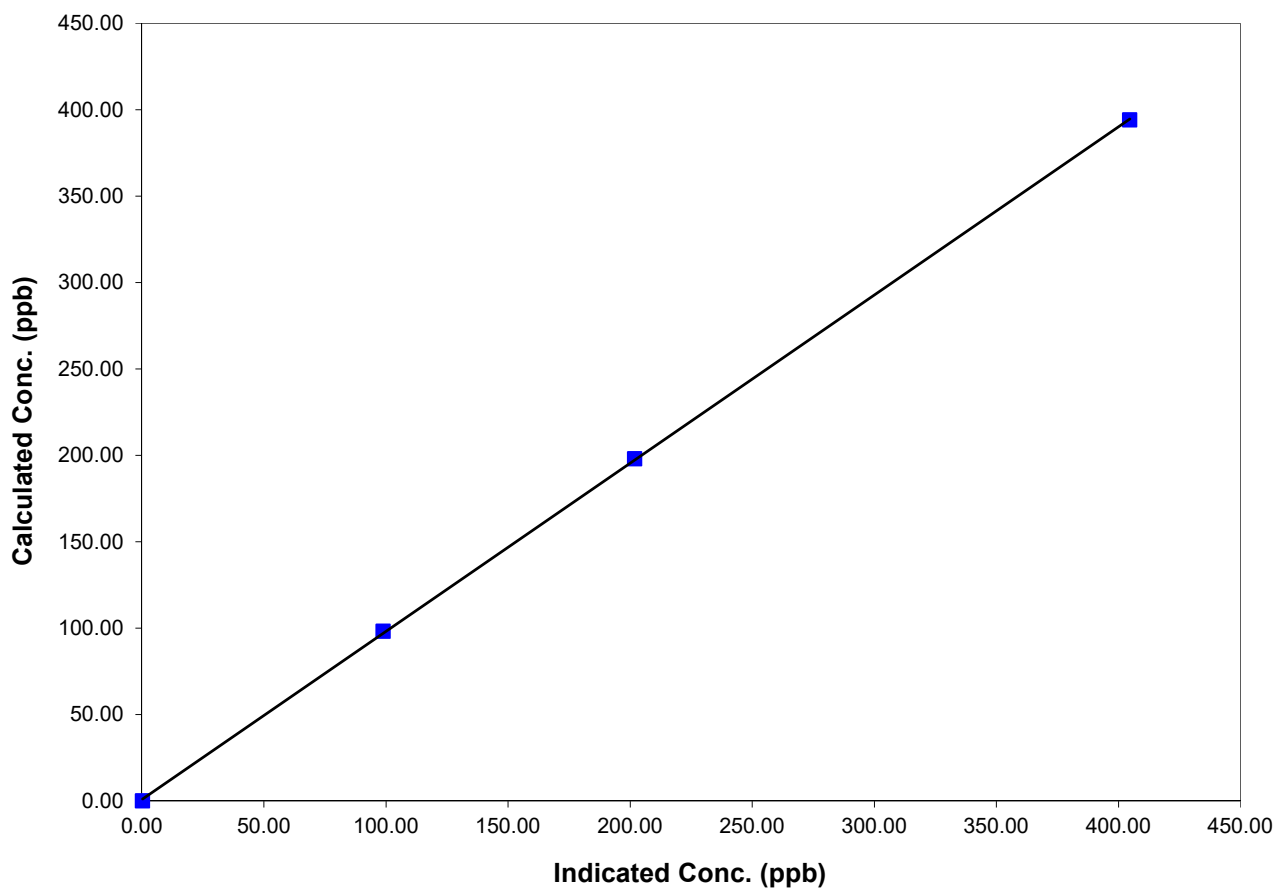
Station Information

Calibration Date	July 6, 2016	Previous Calibration	June 10, 2016
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	8:50	End Time (MST)	11:43
Analyzer make/model	TEI 43I-TLE	Analyzer serial #	1507864682 (AMU 2006)

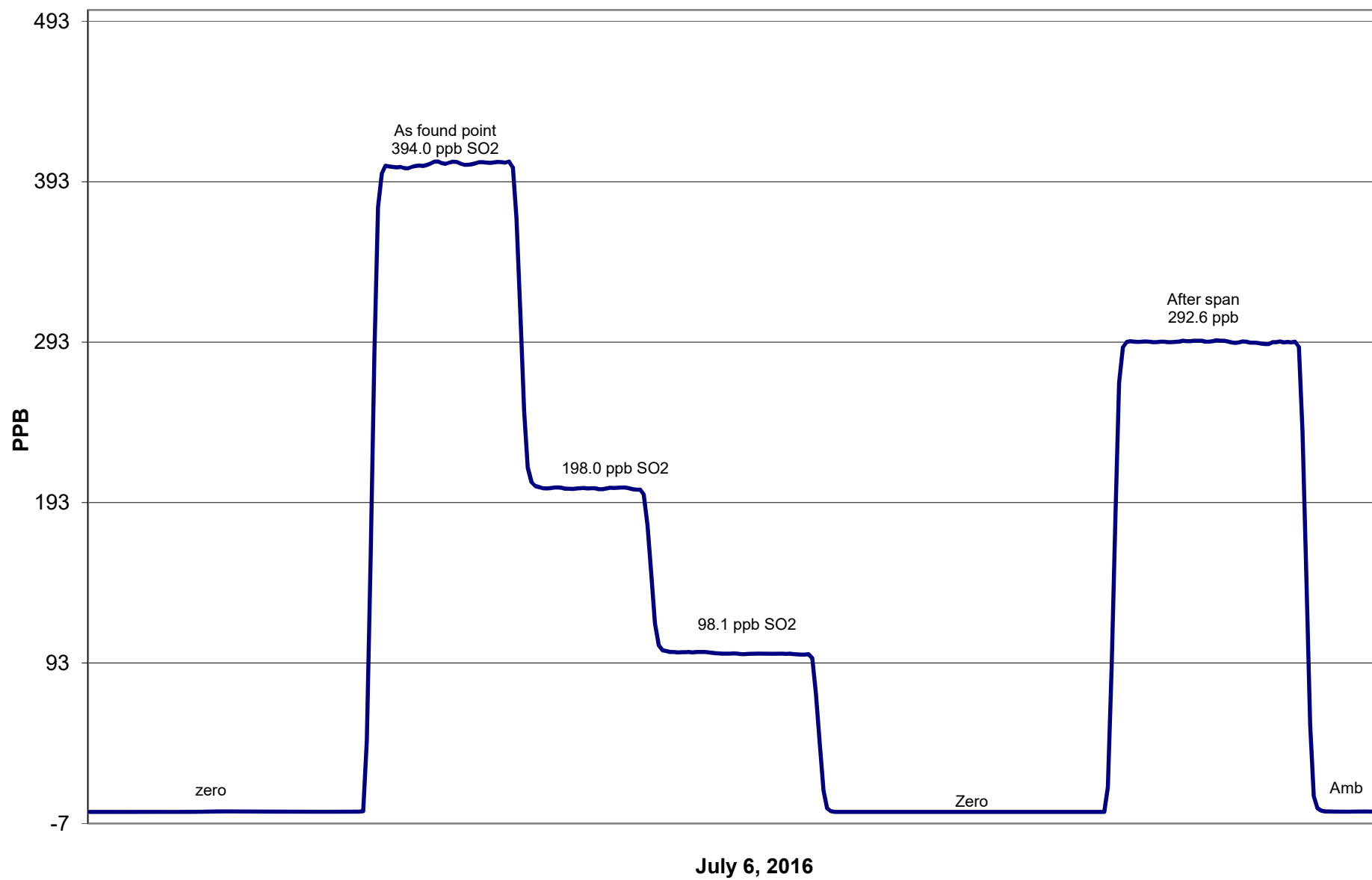
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.3	N/A	Correlation Coefficient	0.999960
394.0	404.7	0.9736		
198.0	201.9	0.9807		
98.1	98.8	0.9932	Slope	0.972849
			Intercept	0.913412

SO2 Calibration Curve



SO2 Calibration



Calibration Report

Parameter

NO_x-NO-NO₂

Air Monitoring Network

PAZA



Station Information

Calibration Date	July 6, 2016	Previous Calibration	June 10, 2016
Station Number	1	Station Location	Henry Pirker
Reason:	Routine	Installation	Removal
Start Time (MST)	8:50	End Time (MST)	12:50
Barometric Pressure	721.000 mm	Station Temperature	21.0 Deg C
Calibrator	EnviroNics	Serial Number	906535067(AMU 197)
NO Cal Gas Conc	50.9 ppm	Cal Gas Expiry Date	October 5, 2018
NOx Cal Gas Conc	51.2 ppm	Cal Gas Serial #	LL103793

DACS Information

DACS make	CR3000	DACS serial No.	5408
-----------	--------	-----------------	------

Parameter		NO2	NOx	NO
Before	Data Slope	1.002705	1.004354	0.997813
	Data Offset	0.314781	0.239074	-0.000959
After	Data Slope	1.000615	0.995698	0.989479
	Data Offset	-0.105468	0.645789	0.382962
Channel #		8	6	7
Voltage Range		0 - 5 VDC	0 - 5 VDC	0 - 5 VDC

Analyzer Information

Analyzer make/model	42i	Analyzer serial #	906535087
---------------------	-----	-------------------	-----------

Test Point	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
NO offset	6.1	mV	6.1	mV
NOx bkgnd	6.6	mV	6.6	mV
NO coefficient	0.960		0.960	
NOx coefficient	1.000		1.000	
NO2 conv temp	322.1	Deg C	321.8	Deg C
Cooler Temp	-2.9	Deg C	-2.9	Deg C
PMT Volt	-844.3	mV	-844.3	mV
R Cell Press	166.7	in Hg	167.4	in Hg
Sample Flow	0.610	LPM	0.619	LPM

Notes:

No adjustment made

Calibration Report

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

Station Information

Calibration Date: July 6, 2016 Station Location: Henry Pirker

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	4996	0.00	0.0	0.0	0.0	0.2	0.6	0.0	N/A	N/A
1	4997	39.96	406.2	403.8	2.4	407.7	408.3	0.0	0.9962	0.9889
2	4998	19.95	203.6	202.4	1.2	203.3	203.2	0.0	1.0015	0.9958
3	4997	9.94	101.6	101.0	0.6	100.7	101.1	0.0	1.0096	0.9996
AFZ	4996	0.00	0.0	0.0	0.0	0.2	0.6	0.0	0.0000	0.0000
AFS	4996	39.92	405.9	403.5	0.8	407.7	408.3	0.0	0.9954	0.9881
Average Correction Factor									1.0024	0.9948

As Found Concentrations: NO_x= 409.6 NO= 406.9 As Found Percent Change NO_x= 0.9% NO= 0.8%

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	0.6	0.6	0.0	0.2	0.6	0.0	N/A	N/A	N/A	N/A
NO point	407.3	407.3	0.0	406.9	407.3	-0.2	1.0010	1.0000	N/A	N/A
300	407.3	69.7	337.6	407.4	69.7	337.2	0.9996	1.0000	1.0012	99.9%
200	407.3	179.3	228.0	408.2	179.3	228.4	0.9978	1.0000	0.9981	100.2%
100	407.3	295.7	111.6	408.3	295.7	111.6	0.9976	1.0000	1.0002	100.0%
Average Correction Factor							0.9983	1.0000	0.9998	100.0%

AIC Data

	Previous calibration				Current calibration			
Parameter	NOx	NO2	NO		NOx	NO2	NO	
Auto zero	0.1	0.0	0.5	ppb	0.2	0.0	0.7	ppb
Auto span	318.8	315.3	3.3	ppb	320.4	316.7	3.4	ppb

Calibration Performed By: Dmytro Dolotii

Calibration Summary

Parameter NO₂

Air Monitoring Network PAZA



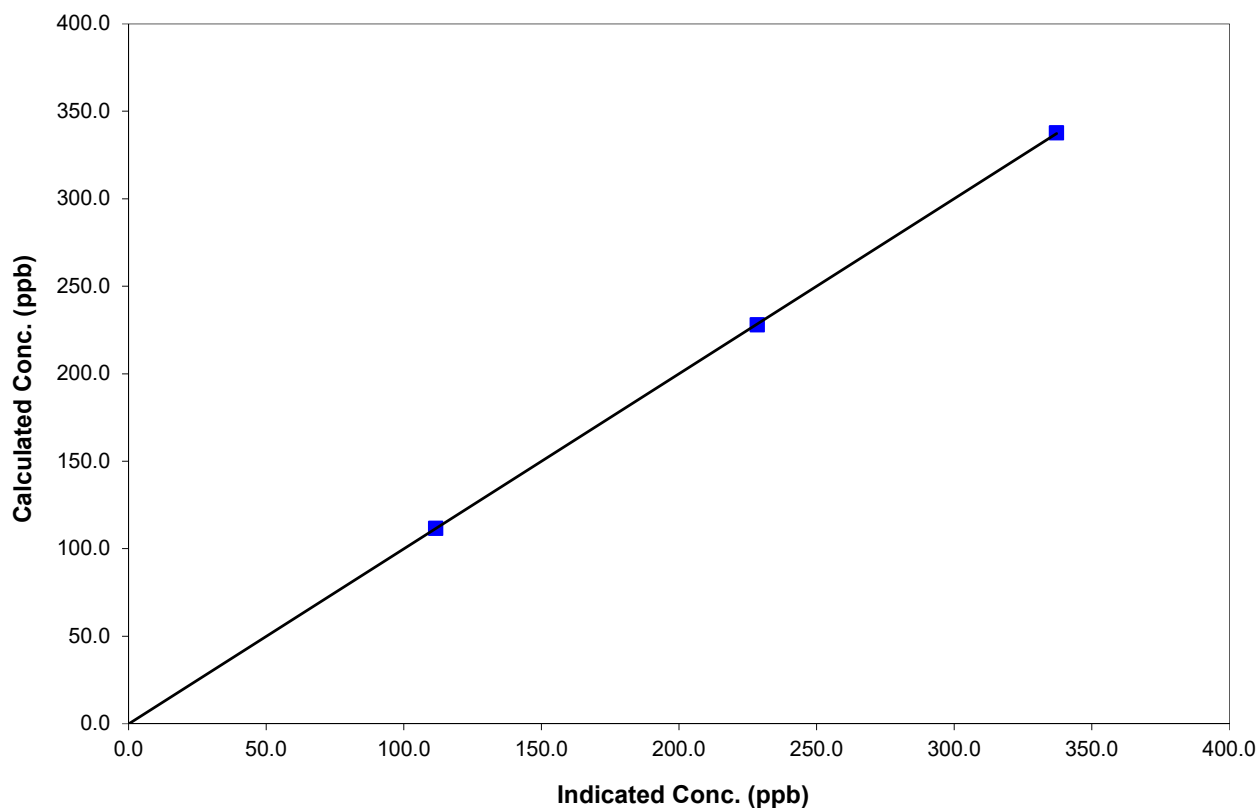
Station Information

Calibration Date	July 6, 2016	Previous Calibration	June 10, 2016
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	8:50	End Time (MST)	12:50
Analyzer make	42i	Analyzer serial #	906535087

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.0	N/A	Correlation Coefficient	0.999995
337.6	337.2	1.0012		
228.0	228.4	0.9981		
111.6	111.6	1.0002	Slope	1.000615
			Intercept	-0.105468

NO₂ Calibration Curve



Calibration Summary

Parameter NO_x

Air Monitoring Network PAZA



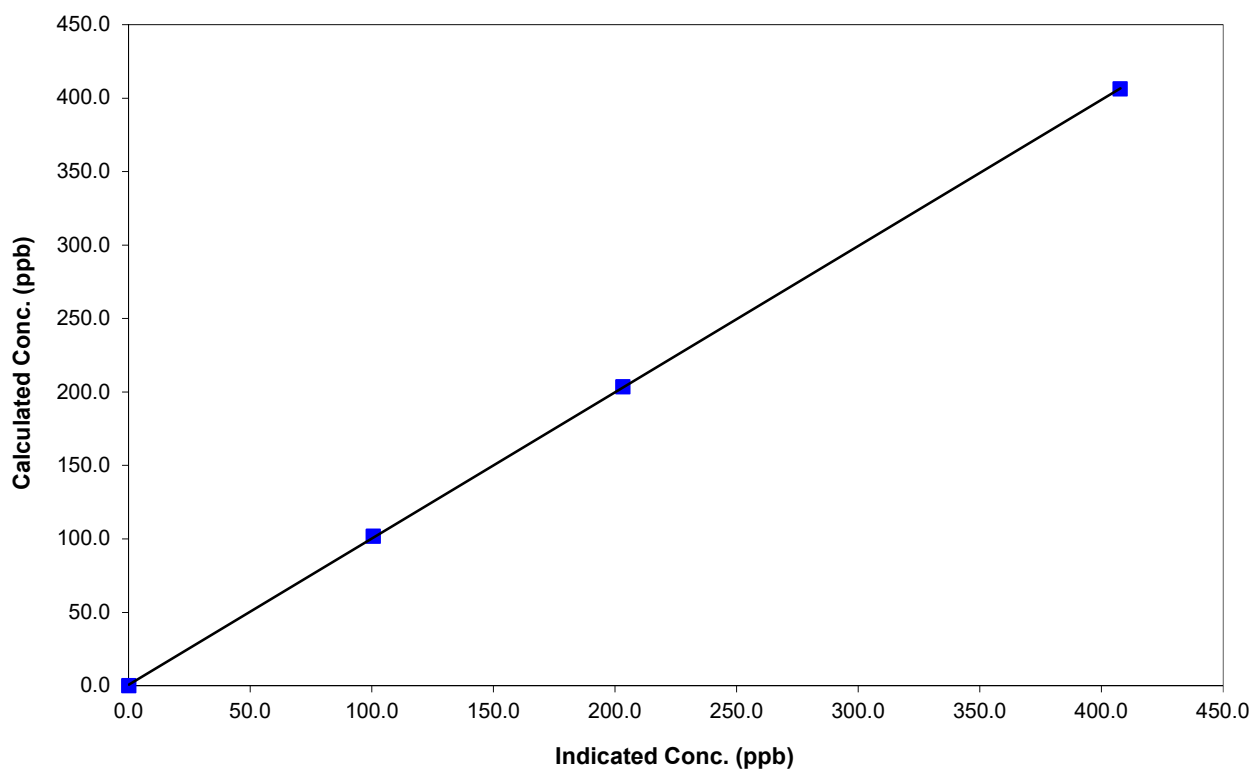
Station Information

Calibration Date	July 6, 2016	Previous Calibration	June 10, 2016
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	8:50	End Time (MST)	12:50
Analyzer make	42i	Analyzer serial #	906535087

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.2	N/A	Correlation Coefficient	0.999981
406.2	407.7	0.9962		
203.6	203.3	1.0015		
101.6	100.7	1.0096	Slope	0.995698
			Intercept	0.645789

NO_x Calibration Curve



Calibration Summary

Parameter NO

Air Monitoring Network PAZA



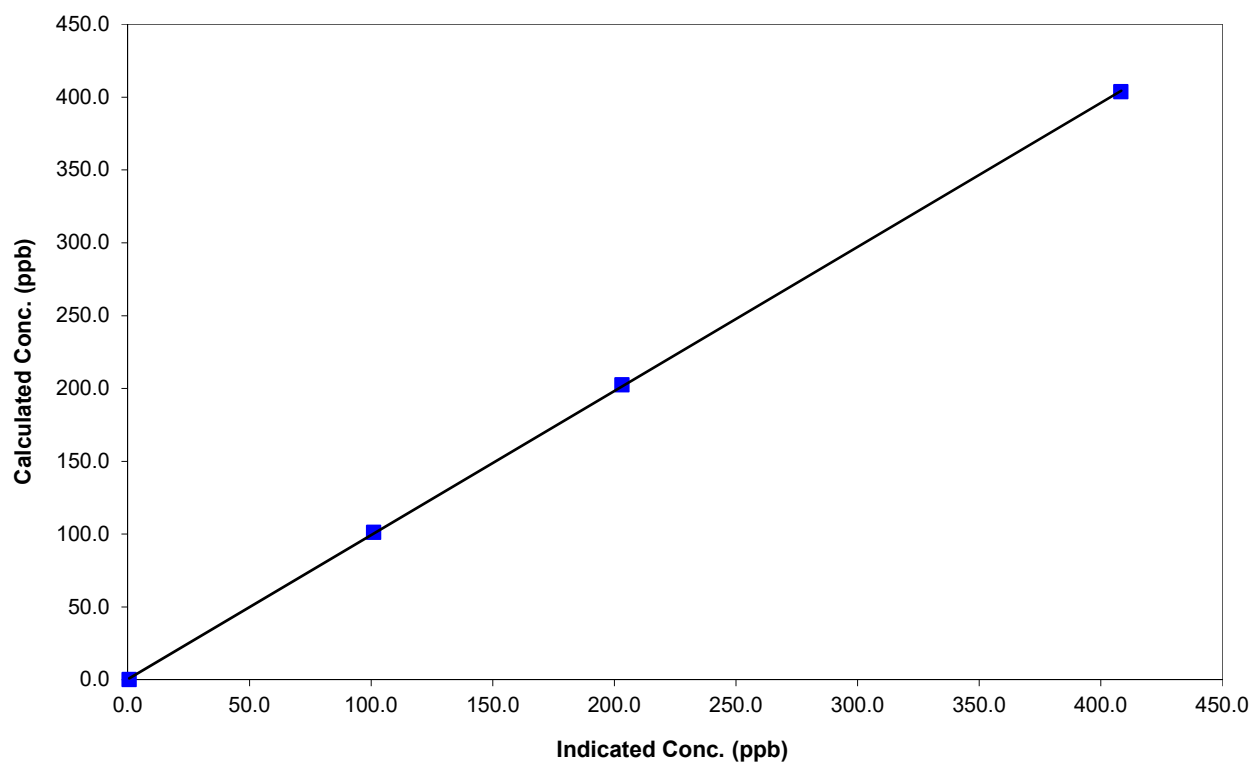
Station Information

Calibration Date	July 6, 2016	Previous Calibration	June 10, 2016
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	8:50	End Time (MST)	12:50
Analyzer make	42i	Analyzer serial #	906535087

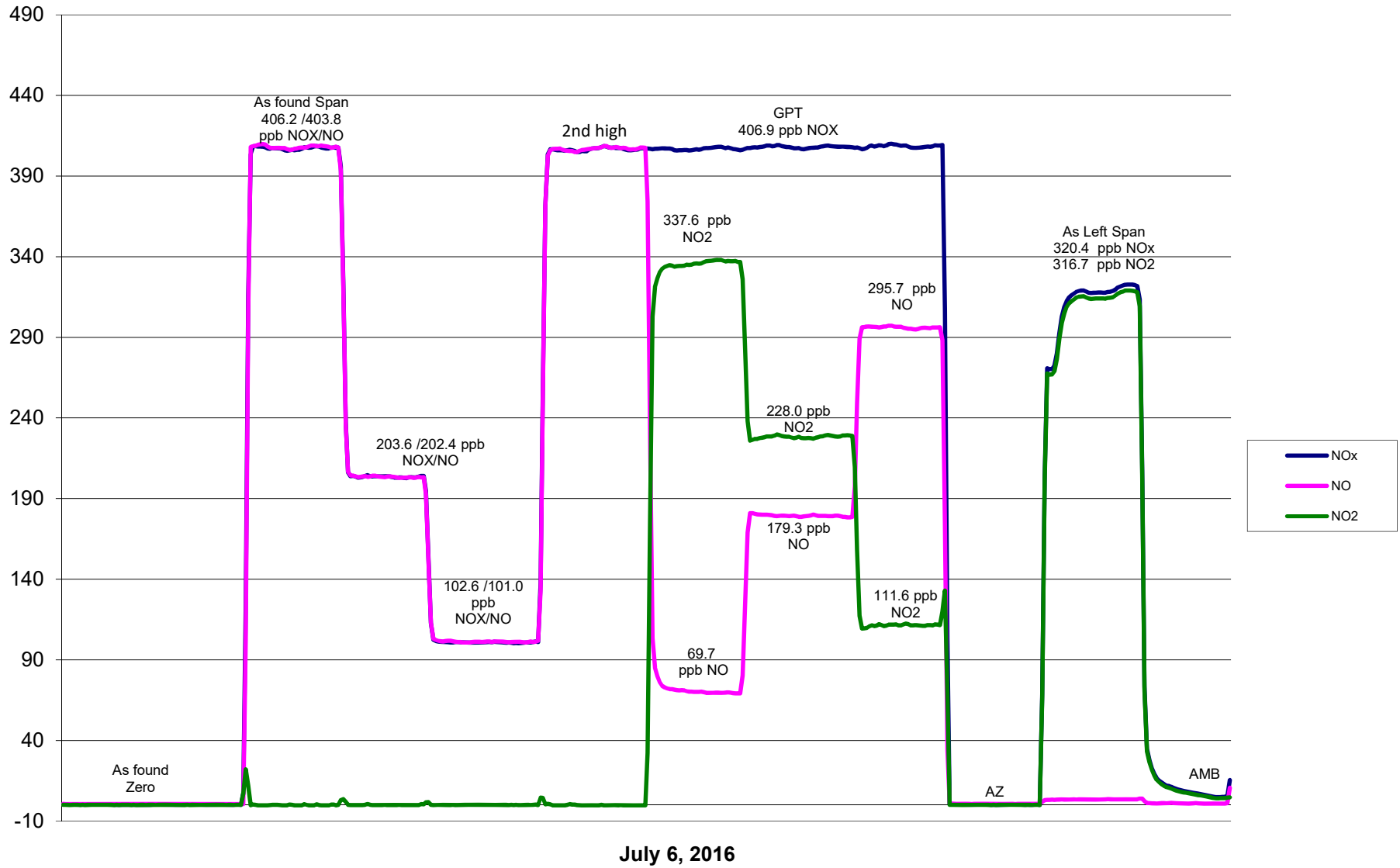
Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.6	N/A	Correlation Coefficient	0.999972
403.8	408.3	0.9889		
202.4	203.2	0.9958		
101.0	101.1	0.9996	Slope	0.989479
			Intercept	0.382962

NO Calibration Curve



NO_x Calibration



Calibration Report



AIR QUALITY MONITORING

Parameter 03

Air Monitoring Network PAZA

Station Information

Calibration Date	July 6, 2016	Previous Calibration	June 10, 2016
Station Number	1	Station Location	Henry Pirker
Reason:	Routine	Install	Removal
		Other:	

Start Time (MST)	12:23	End Time (MST)	14:08
Barometric Pressure	728.000 mm	Station Temperature	21.0 Deg C
Calibrator	EnviroNics	Serial Number	6586
Cal Gas Concentration	NA	Cal Gas Expiry Date	NA

DACS make	CR3000	DACS serial No.	5237
DACS voltage range	0 - 5 volt	DACS channel #	9
	Before		After
Calculated slope	1.001439	Calculated slope	1.003129
Calculated intercept	0.497742	Calculated intercept	-0.356648

Analyzer make	Teco 49I	Analyzer serial #	1507964699 (AMU:2015)
---------------	----------	-------------------	-----------------------

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
offset	-1.20	ppb	-1.20	ppb
slope	1.017		1.017	
Lamp temp	53.6	mV	53.5	mV
Lamp Intensity A/B	76909/83899	mV	77034/83953	mV
Pressure	691.3	mm Hg	689.2	mm Hg
Flow A	0.731	ccm	0.73	ccm
Flow B	0.732	ccm	0.731	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)
4997	0.0	0.0	1.0	N/A
4999	0.3	337.6	338.0	0.9987
4999	0.2	228.0	226.0	1.0089
4998	0.1	111.6	111.5	1.0010
4997	0.0	0.0	1.0	As found zero
4997	0.3	337.6	338.0	As found span
Average Correction Factor				1.0029

Calculated value of As Found Response: 338.0 ppm Percent Change of As Found: 0.1%

	before calibration		after calibration	
Auto zero	1.0	ppb	0.0	ppb
Auto span	367.1	ppb	361.9	ppb

Notes: No adjustment made

Calibration Performed By: Dmytro Dolotii

Calibration Summary

Parameter O3

Air Monitoring Network PAZA



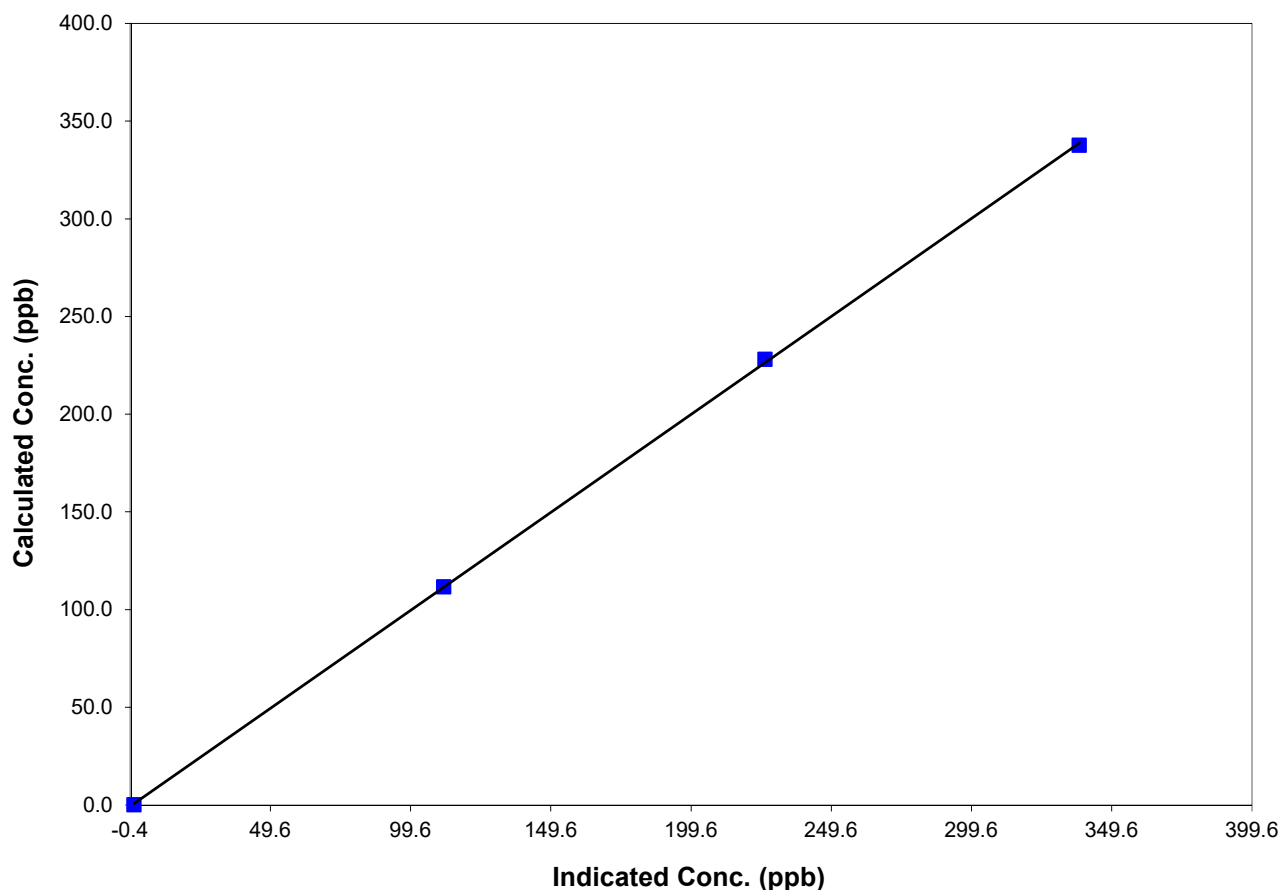
Station Information

Calibration Date	July 6, 2016	Previous Calibration	June 10, 2016
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	12:23	End Time (MST)	14:08
Analyzer make/model	Teco 49I	Analyzer serial #	1507964699 (AMU:2015)

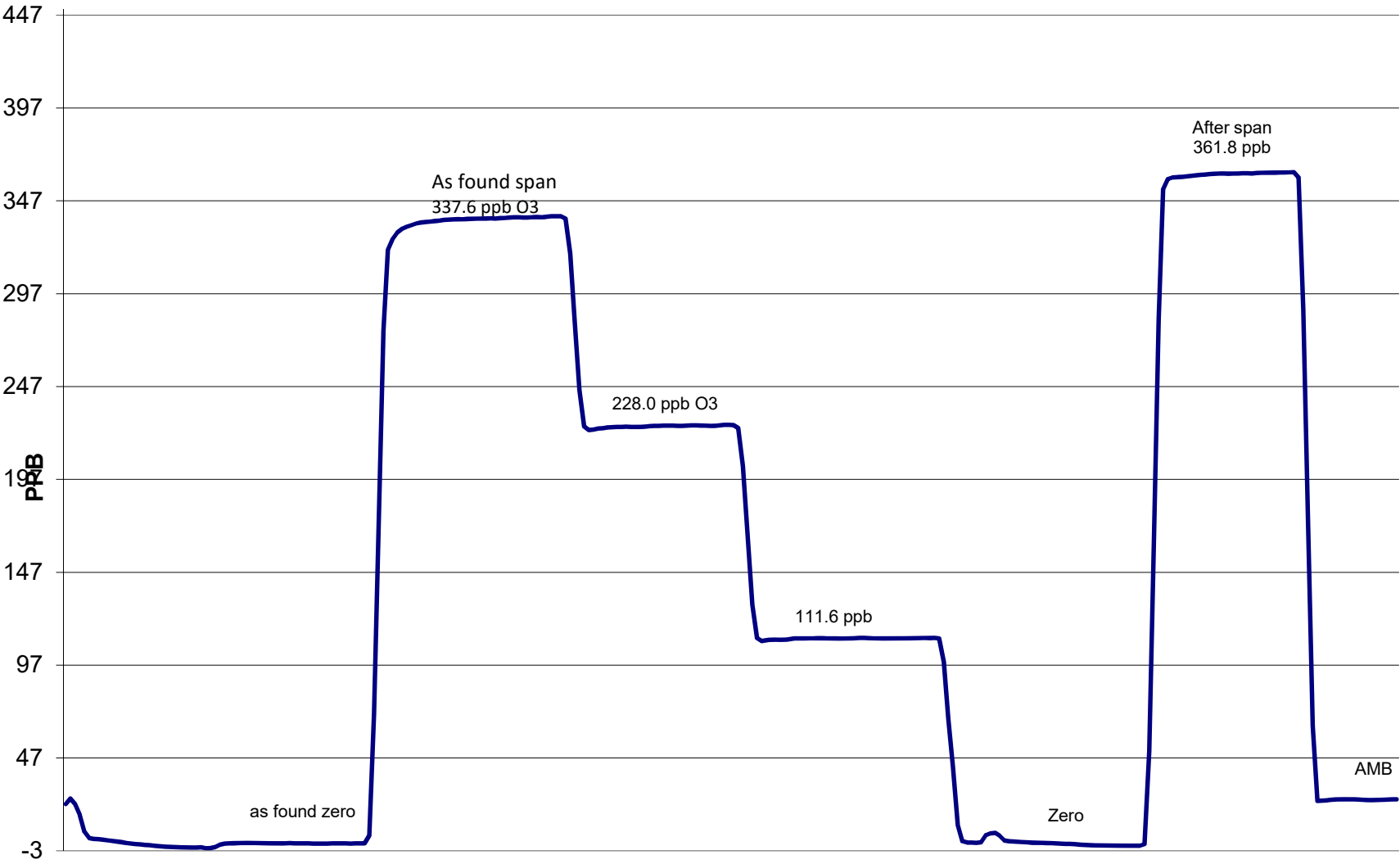
Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	1.0	NA	Correlation Coefficient	0.999930
337.6	338.0	0.9987		
228.0	226.0	1.0089		
111.6	111.5	1.0010	Slope	1.003129
			Intercept	-0.356648

O3 Calibration Curve



O3 Calibration



July 6, 2016

Calibration Report



Parameter CO

Air Monitoring Network PAZA

Station Information

Calibration Date	July 7, 2016	Previous Calibration	June 9, 2016
Station Number	1	Station Location	Henry Pirker
Reason:	Routine	☐ Install	☐ Removal
		☐ Other:	
Start Time (MST)	9:50	End Time (MST)	12:01
Barometric Pressure	726.0 mm/hg	Station Temperature	21.0 Deg C
Calibrator	EnviroNics 6100	Serial Number	6586
Cal Gas Conc	2906 ppm	Cal Gas Expiry Date	7/7/2023
		Cal Gas Cylinder #	LL109096
DACS make	CR3000	DACS serial No.	5408
DACS voltage range	0 - 5 volt	DACS channel #	9
	Before		After
Calculated slope	1.008010	Calculated slope	0.988915
Calculated intercept	-0.178105	Calculated intercept	-0.242124
Analyzer make	Model 48I-TLE	Analyzer serial #	1408761378

	before		after	
Concentration range	0 - 50	ppm	0 - 50	ppm
CO zero setting	5.740		5.696	
CO span setting	1.047		1.047	
Sample pressure	694.1	mm Hg	693.5	mm Hg
Sample Flow	0.448	LPM	0.448	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	0.07	N/A
4999	69.80	40.02	40.61	0.9853
4998	34.97	20.19	20.76	0.9727
4995	17.96	10.41	10.95	0.9507
4995	0.00	0.00	0.07	As Found Zero
4995	69.80	40.05	40.61	As Found Span
Average Correction Factor				0.9696

Calculated value of As Found Response: 40.693 ppm Percent Change of As Found: -1.6%

	before calibration		after calibration	
Auto zero	0.01	ppm	0.07	ppm
Auto span	20.27	ppm	20.36	ppm

Notes: No adjustment made

Calibration Performed By: Dmytro Dolotii

Calibration Summary

Parameter CO

Air Monitoring Network PAZA



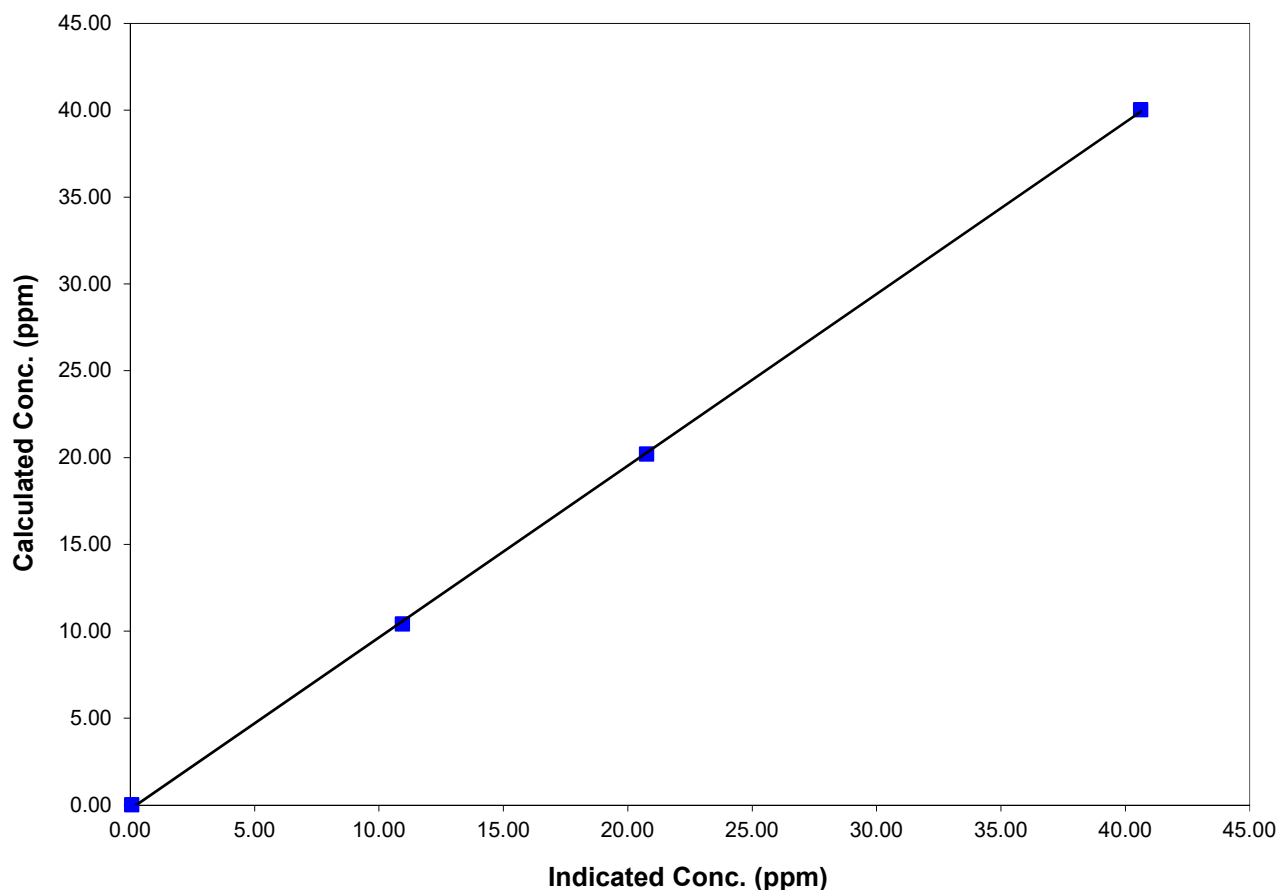
Station Information

Calibration Date	July 7, 2016	Previous Calibration	June 9, 2016
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	9:50	End Time (MST)	12:01
Analyzer make/model	Model 48I-TLE	Analyzer serial #	1408761378

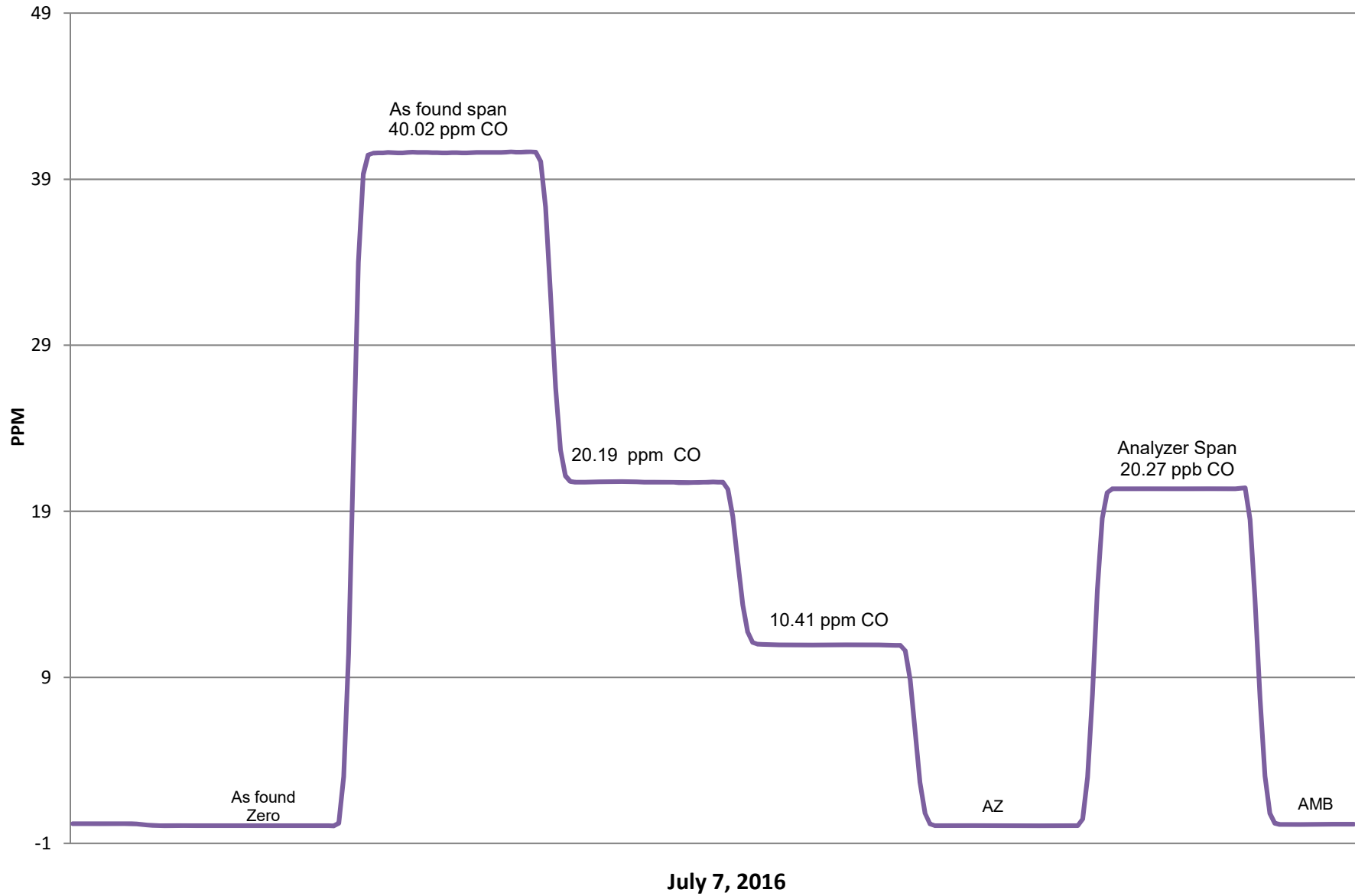
Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.067	N/A	Correlation Coefficient	0.999908
40.017	40.614	0.9853		
20.191	20.758	0.9727		
10.411	10.952	0.9507	Slope	0.988915
			Intercept	-0.242124

CO Calibration Curve



CO Calibration



Calibration Report

Parameter CH4 / NMHC / THC

Air Monitoring Network

PAZA



Station Information

Calibration Date	July 7, 2016	Previous Calibration	June 9, 2016
Station Number	1	Station Location	Henry Pirker
Reason:	Routine	Install	Removal
			Other:

Start Time (MST)	12:10	End Time (MST)	14:35:00 PM
Barometric Pressure	726.00 mm/hg	Station Temperature	21.0 Deg C
Calibrator	EnviroNics 6103	Serial Number	6586
Cal Gas CH4 Conc	386 ppm CH4	Cal Gas Expiry Date	3/28/2014
Cal Gas C3H8 Conc	207 569.25 ppm CH4	Cal Gas Cylinder #	LL34318
DACS make	CR3000	DACS serial No.	5408
DACS voltage range	0 - 5 volt	DACS channel #	SE 11,12,13

Analyzer make	TEI 55I	Analyzer serial #	1134650658
---------------	---------	-------------------	------------

	before		after	
Concentration range	0-20 (CH4, NMHC); 0-40 (THC)	ppm	0-20 (CH4, NMHC); 0-40 (THC)	ppm
Air pressure	27.8	PSI	27.8	PSI
Fuel pressure	42.1	PSI	42.1	PSI
Carrier pressure	30.3	PSI	30.3	PSI
CH4 cal factor	6.26		6.26	E ⁻⁴
NMHC cal factor	2.84		2.84	E ⁻⁴
Rt	12.74	Sec	12.74	Sec
Pk Index	23.22		23.22	

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)
1995	0.00	0.00	0.02	N/A
1997	68.96	12.88	12.91	0.9979
1998	40.99	7.76	7.77	0.9990
1999	15.97	3.06	3.06	0.9996
1995	0.00	0.00	0.02	As Found Zero
1995	68.93	12.89	12.64	As Found Span
Average Correction Factor				0.9988

Calculated value of As Found Response: 12.604 ppm Percent Change of As Found: 2.2%

	Before		After
Calculated slope	0.999114	Calculated slope	0.999114
Calculated intercept	-0.008403	Calculated intercept	-0.008403

Final Zero/Span Data

	before calibration		after calibration	
Auto zero	0.03	ppm	0.03	ppm
Auto span	9.33	ppm	9.33	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)
1995	0.00	0.00	0.02	N/A
1997	68.96	19.00	19.01	0.9998
1998	40.99	11.44	11.78	0.9714
1999	15.97	4.51	4.97	0.9086
1995	0.00	0.00	0.02	As Found Zero
1995	68.93	19.01	17.95	As Found Span
Average Correction Factor				0.9599

Calculated value of As Found Response: 17.769 ppm Percent Change of As Found: 6.5%

	<u>Before</u>		<u>After</u>
Calculated slope	1.004767	Calculated slope	1.004767
Calculated intercept	-0.246211	Calculated intercept	-0.246211

Final Zero/Span Data

	before calibration		after calibration	
Auto zero	0.02	ppm	0.02	ppm
Auto span	13.16	ppm	13.16	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)
1995	0.00	0.00	0.03	N/A
1997	68.96	31.89	31.89	0.9999
1998	40.99	19.20	19.53	0.9834
1999	15.97	7.57	8.01	0.9453
1995	0.00	0.00	0.03	As Found Zero
1995	68.93	31.90	30.57	As Found Span
Average Correction Factor				0.9762

Calculated value of As Found Response: 30.387 ppm Percent Change of As Found: 4.8%

	<u>Before</u>		<u>After</u>
Calculated slope	1.003261	Calculated slope	1.003261
Calculated intercept	-0.248183	Calculated intercept	-0.248183

Final Zero/Span Data

	before calibration		after calibration	
Auto zero	0.02	ppm	0.02	ppm
Auto span	22.49	ppm	22.49	ppm

Notes: Column conditioning procedure done
No adjustment made

Calibration Performed By: Dmytro Dolotii

Calibration Summary

Parameter CH4

Air Monitoring Network PAZA



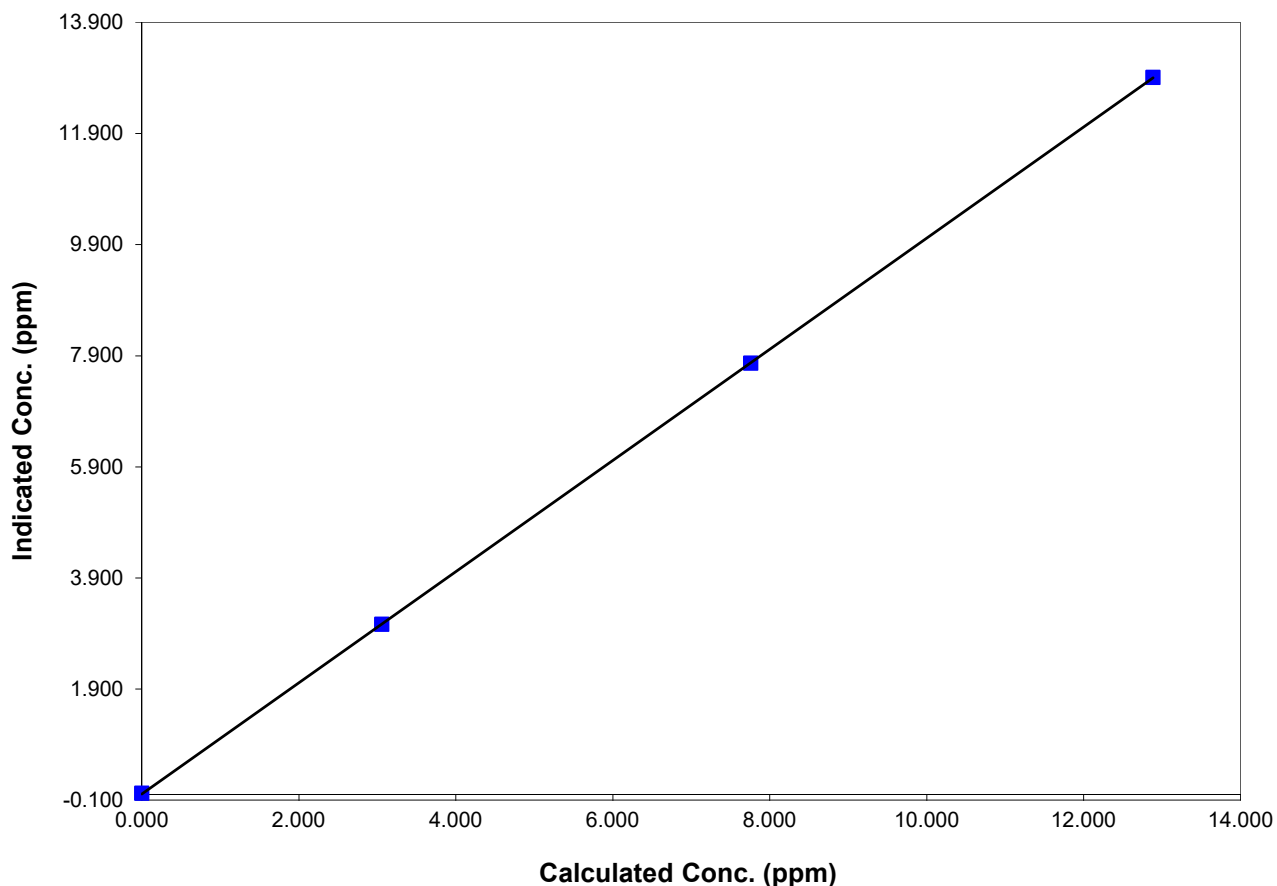
Station Information

Calibration Date	July 7, 2016	Previous Calibration	June 9, 2016
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	12:10	End Time (MST)	14:35:00 PM
Analyzer make/model	TEI 55I	Analyzer serial #	1134650658

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.019	N/A	Correlation Coefficient	0.999997
12.884	12.911	0.9979		
7.760	7.767	0.9990		
3.059	3.061	0.9996	Slope	0.999114
			Intercept	-0.008403

CH4 Calibration Data



Calibration Summary

Parameter NMHC

Air Monitoring Network PAZA



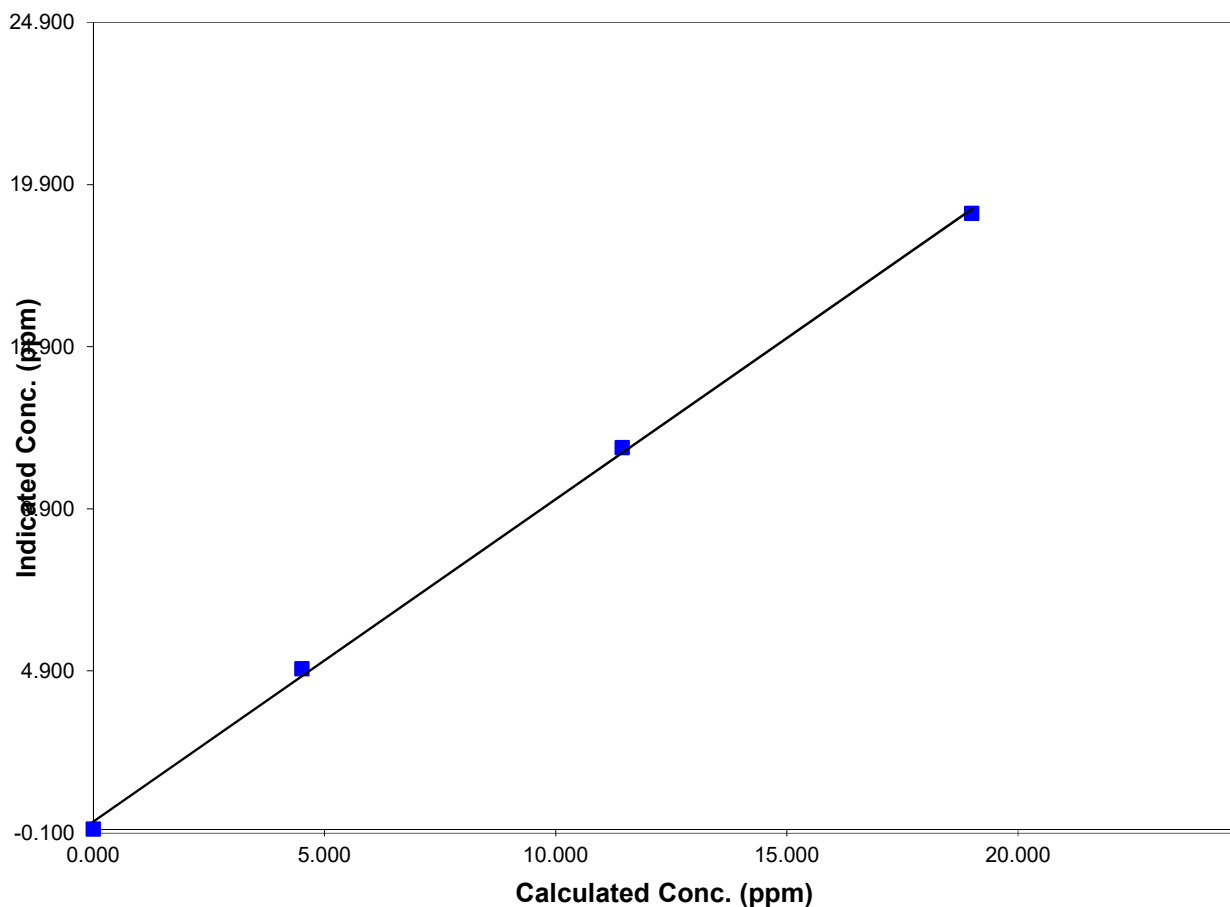
Station Information

Calibration Date	July 7, 2016	Previous Calibration	June 9, 2016
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	12:10	End Time (MST)	14:35:00 PM
Analyzer make/model	TEI 55I	Analyzer serial #	1134650658

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.019	N/A	Correlation Coefficient	0.999279
19.001	19.006	0.9998		
11.444	11.781	0.9714		
4.512	4.965	0.9086	Slope	1.004767
			Intercept	-0.246211

NMHC Calibration Data



Calibration Summary

Parameter THC

Air Monitoring Network PAZA



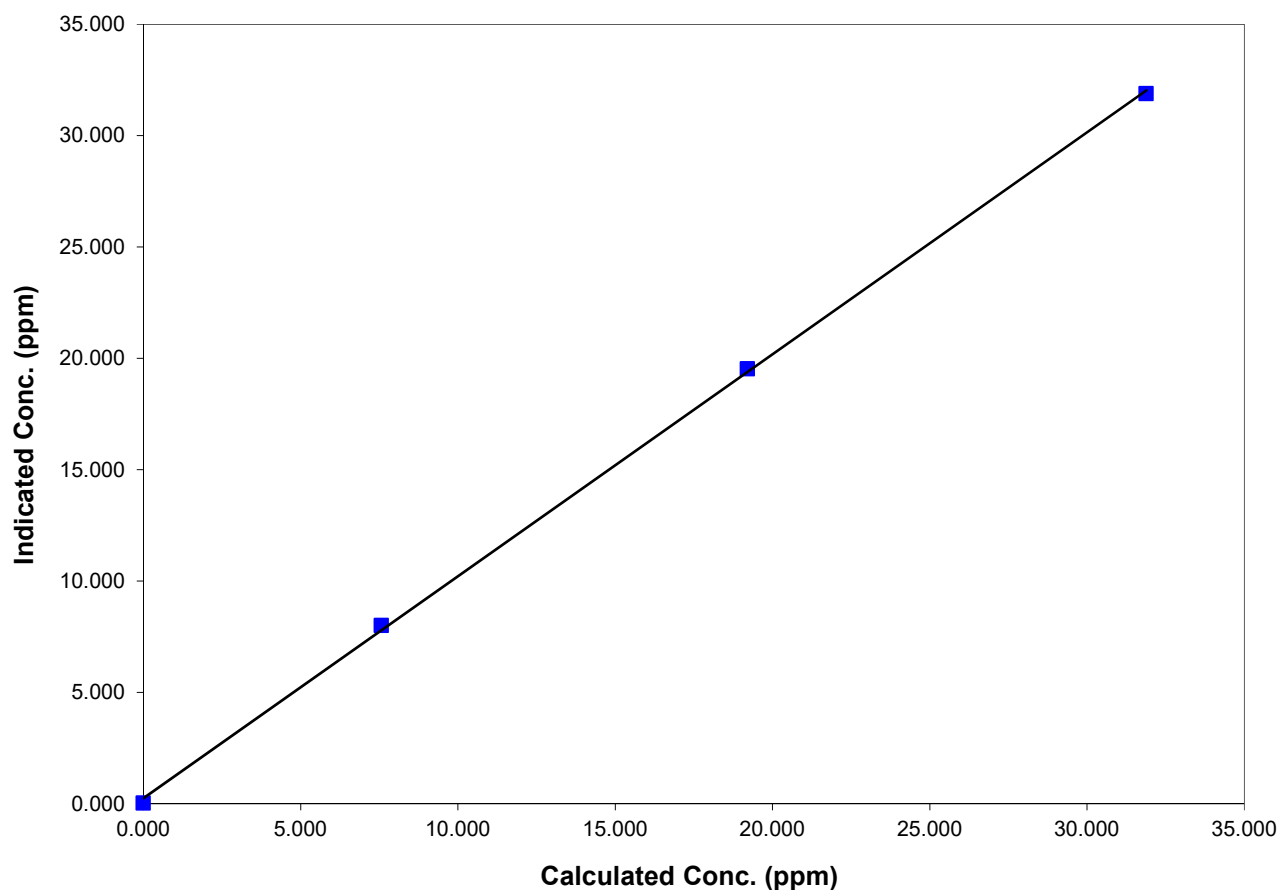
Station Information

Calibration Date	July 7, 2016	Previous Calibration	June 9, 2016
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	12:10	End Time (MST)	14:35:00 PM
Analyzer make/model	TEI 55I	Analyzer serial #	1134650658

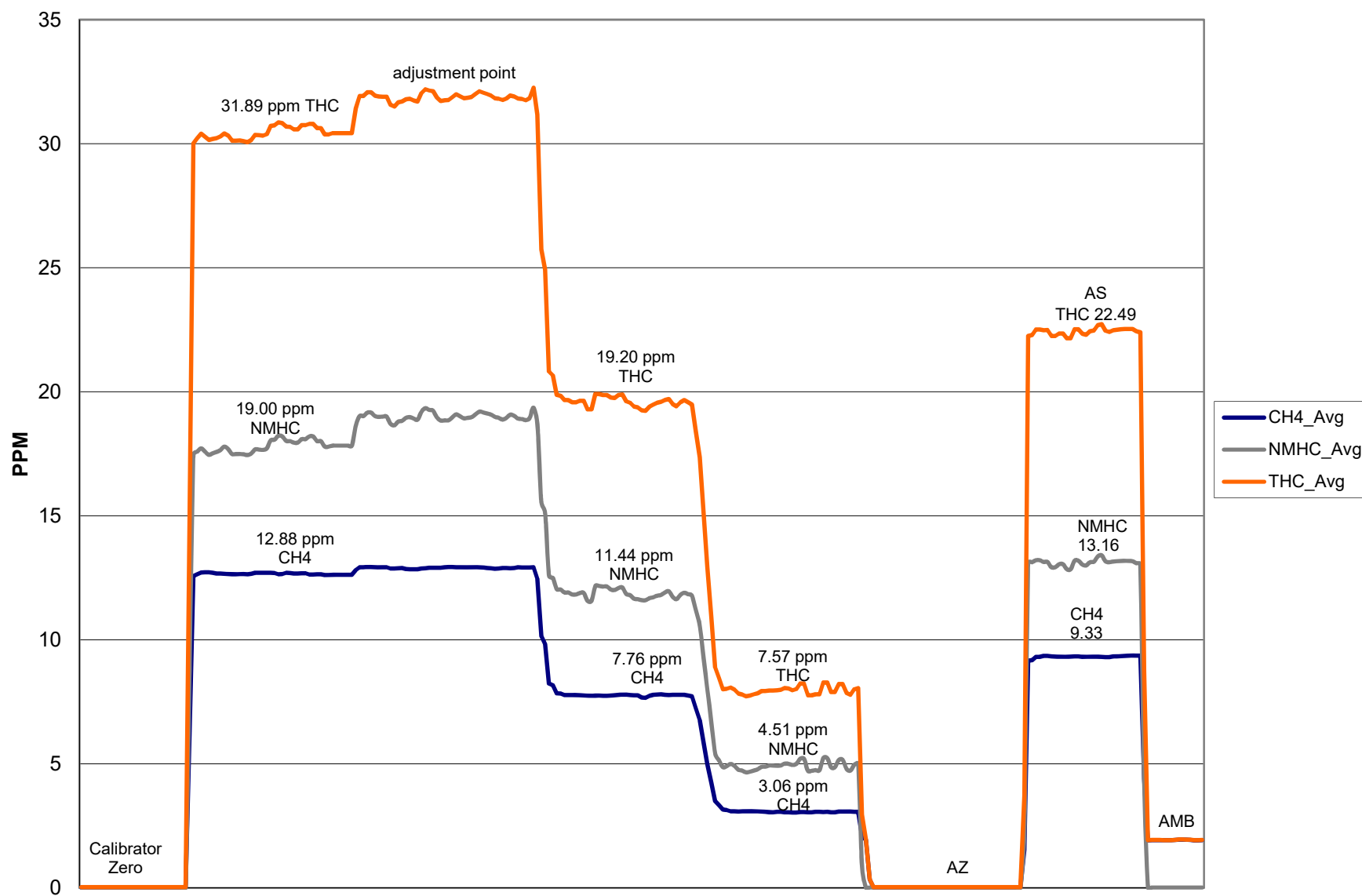
Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.032	N/A	Correlation Coefficient	0.999773
31.885	31.890	0.9999		
19.203	19.528	0.9834		
7.571	8.009	0.9453	Slope	1.003261
			Intercept	-0.248183

THC Calibration Data



THC/CH₄/NMHC Calibration



Calibration Report



Parameter CH4 / NMHC / THC

Air Monitoring Network PAZA

Station Information

Calibration Date	July 22, 2016	Previous Calibration	July 7, 2016
Station Number	1	Station Location	Henry Pirker
Reason:	Routine	Install	Removal
			Other:

Start Time (MST)	8:25	End Time (MST)	10:25
Barometric Pressure	726.00 mm/hg	Station Temperature	21.0 Deg C
Calibrator	EnviroNics 6103	Serial Number	6586
Cal Gas CH4 Conc	386 ppm CH4	Cal Gas Expiry Date	3/28/2014
Cal Gas C3H8 Conc	207 569.25 ppm CH4	Cal Gas Cylinder #	LL34318
DACS make	CR3000	DACS serial No.	5408
DACS voltage range	0 - 5 volt	DACS channel #	SE 11,12,13

Analyzer make TEI 55I Analyzer serial # 1134650658

	before		after	
Concentration range	0-20 (CH4, NMHC); 0-40 (THC)	ppm	0-20 (CH4, NMHC); 0-40 (THC)	ppm
Air pressure	27.8	PSI	27.8	PSI
Fuel pressure	42.1	PSI	42.1	PSI
Carrier pressure	30.3	PSI	30.3	PSI
CH4 cal factor	6.26		6.26	E ⁻⁴
NMHC cal factor	2.84		2.84	E ⁻⁴
Rt	12.74	Sec	12.74	Sec
Pk Index	23.22		23.22	

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)
1995	0.00	0.00	0.02	N/A
1997	68.96	12.88	12.93	0.9969
1998	40.99	7.76	7.78	0.9971
1999	15.97	3.06	3.05	1.0026
1995	0.00	0.00	0.02	As Found Zero
1995	68.93	12.89	12.93	As Found Span
Average Correction Factor				0.9989

Calculated value of As Found Response: 12.886 ppm Percent Change of As Found: 0.0%

	Before		After
Calculated slope	0.999114	Calculated slope	0.997568
Calculated intercept	-0.008403	Calculated intercept	-0.004139

Final Zero/Span Data

	before calibration		after calibration	
Auto zero	0.03	ppm	0.03	ppm
Auto span	9.33	ppm	9.19	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)
1995	0.00	0.00	0.02	N/A
1997	68.96	19.00	19.25	0.9870
1998	40.99	11.44	11.55	0.9907
1999	15.97	4.51	4.81	0.9385
1995	0.00	0.00	0.02	As Found Zero
1995	68.93	19.01	19.25	As Found Span
Average Correction Factor				0.9721

Calculated value of As Found Response: 19.078 ppm Percent Change of As Found: -0.3%

	Before		After
Calculated slope	1.004767	Calculated slope	0.992892
Calculated intercept	-0.246211	Calculated intercept	-0.104823

Final Zero/Span Data

	before calibration		after calibration	
Auto zero	0.02	ppm	0.02	ppm
Auto span	13.16	ppm	12.41	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)
1995	0.00	0.00	0.03	N/A
1997	68.96	31.89	32.16	0.9916
1998	40.99	19.20	19.31	0.9944
1999	15.97	7.57	7.84	0.9657
1995	0.00	0.00	0.03	As Found Zero
1995	68.93	31.90	32.16	As Found Span
Average Correction Factor				0.9839

Calculated value of As Found Response: 31.980 ppm Percent Change of As Found: -0.2%

	Before		After
Calculated slope	1.003261	Calculated slope	0.995217
Calculated intercept	-0.248183	Calculated intercept	-0.099252

Final Zero/Span Data

	before calibration		after calibration	
Auto zero	0.02	ppm	0.02	ppm
Auto span	22.49	ppm	21.60	ppm

Notes: Column conditioning procedure done
No adjustment made

Calibration Performed By: Dmytro Dolotii

Calibration Summary

Parameter CH4

Air Monitoring Network PAZA



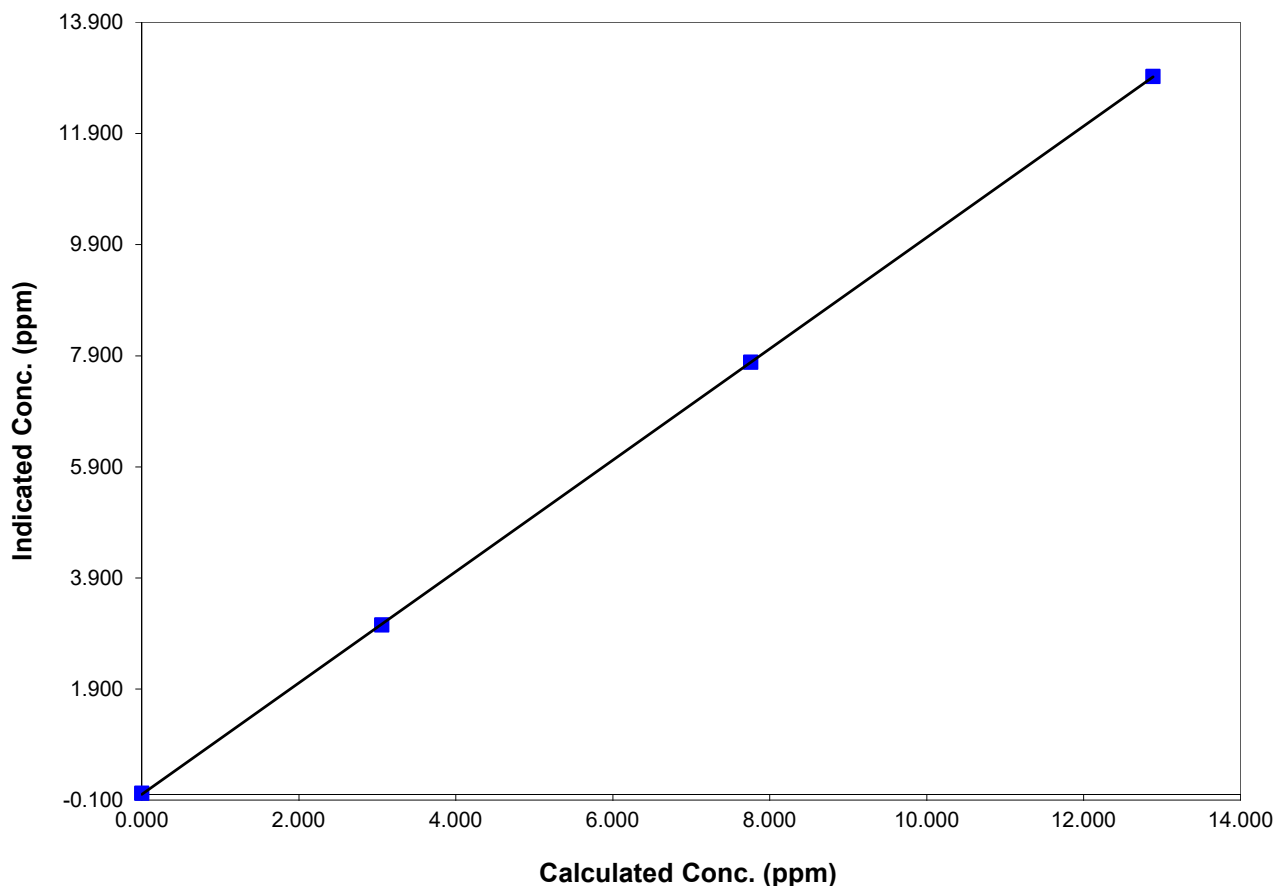
Station Information

Calibration Date	July 22, 2016	Previous Calibration	July 7, 2016
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	8:25	End Time (MST)	10:25
Analyzer make/model	TEI 55I	Analyzer serial #	1134650658

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.019	N/A	Correlation Coefficient	0.999993
12.884	12.925	0.9969		
7.760	7.782	0.9971		
3.059	3.051	1.0026	Slope	0.997568
			Intercept	-0.004139

CH4 Calibration Data



Calibration Summary

Parameter NMHC

Air Monitoring Network PAZA



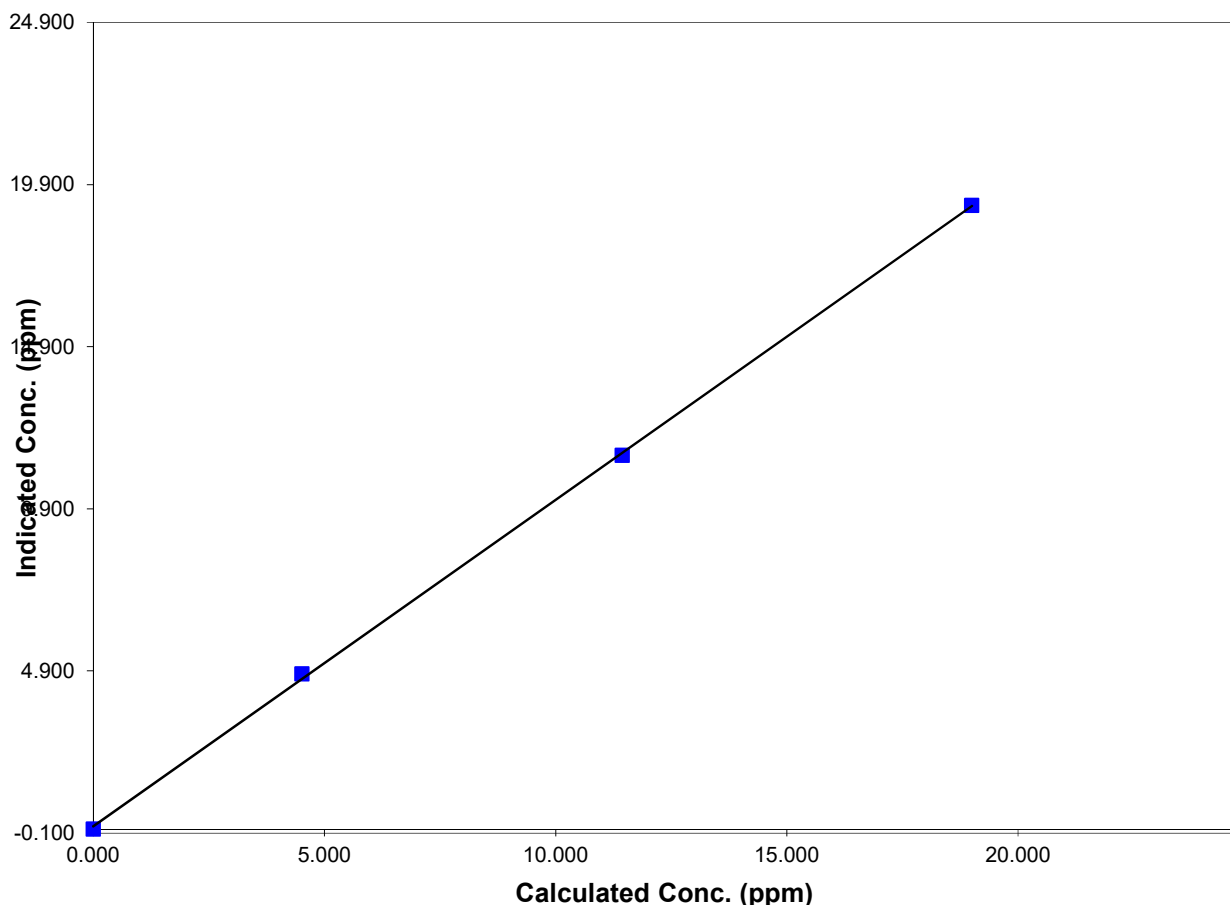
Station Information

Calibration Date	July 22, 2016	Previous Calibration	July 7, 2016
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	8:25	End Time (MST)	10:25
Analyzer make/model	TEI 55I	Analyzer serial #	1134650658

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.019	N/A	Correlation Coefficient	0.999815
19.001	19.251	0.9870		
11.444	11.552	0.9907		
4.512	4.807	0.9385	Slope	0.992892
			Intercept	-0.104823

NMHC Calibration Data



Calibration Summary

Parameter THC

Air Monitoring Network PAZA



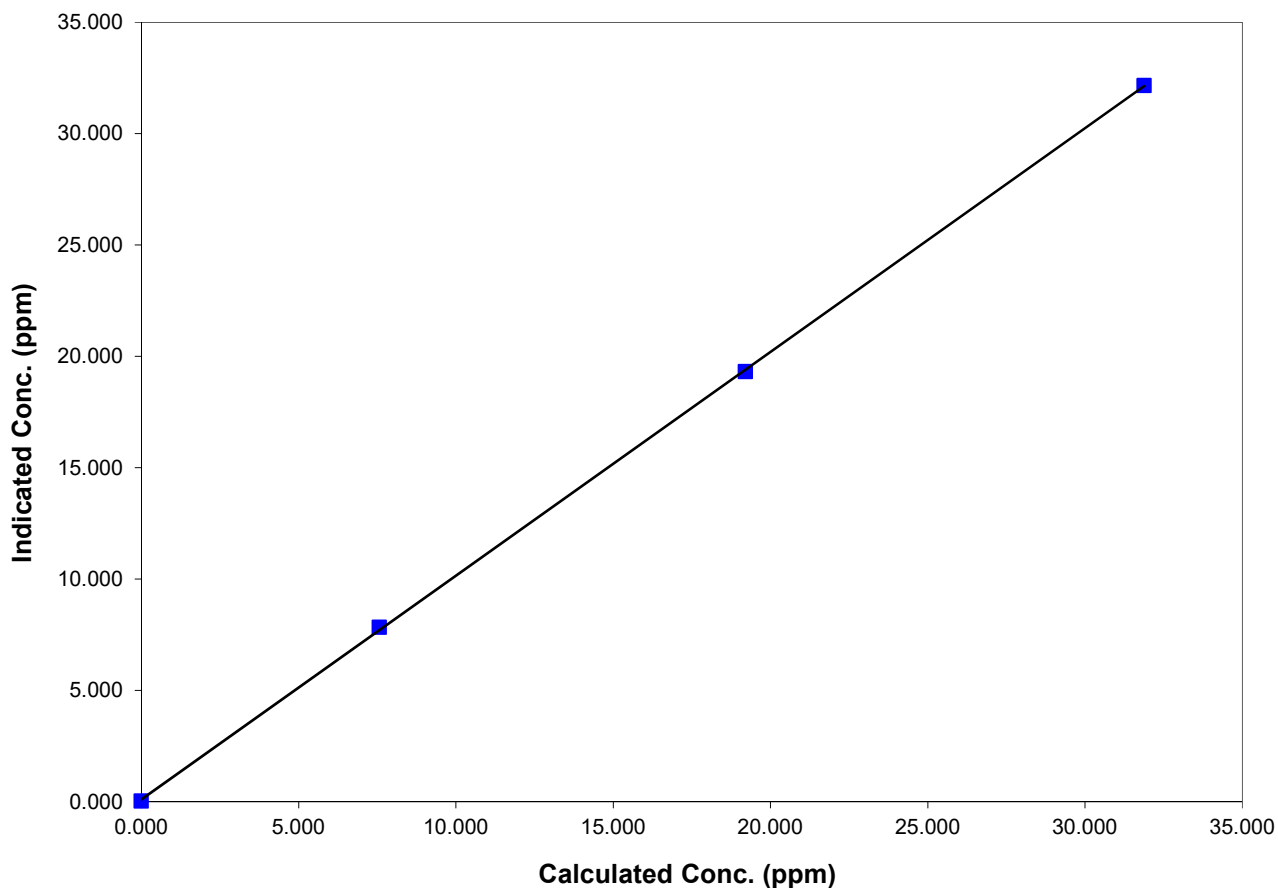
Station Information

Calibration Date	July 22, 2016	Previous Calibration	July 7, 2016
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	8:25	End Time (MST)	10:25
Analyzer make/model	TEI 55I	Analyzer serial #	1134650658

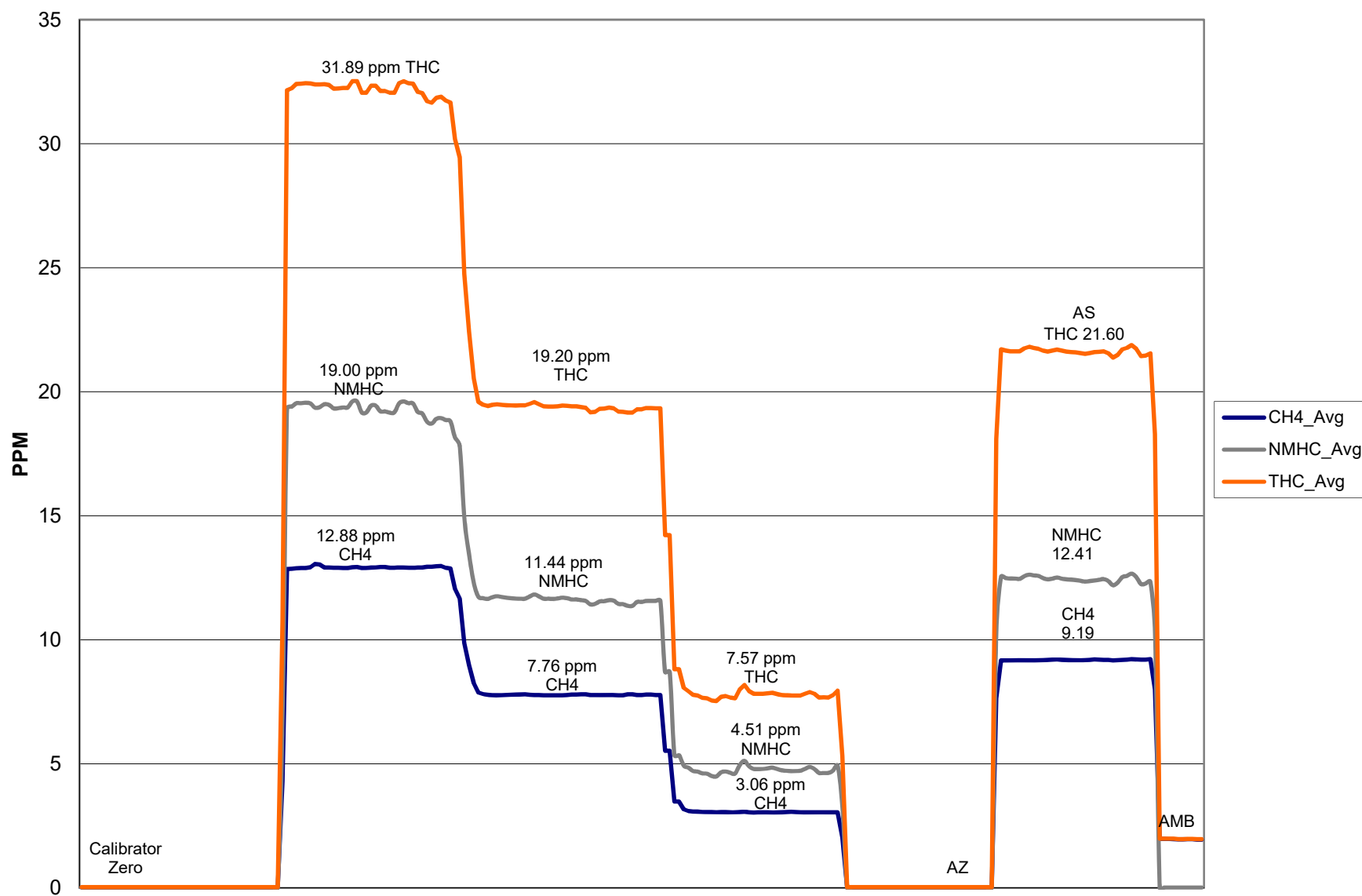
Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.032	N/A	Correlation Coefficient	0.999950
31.885	32.156	0.9916		
19.203	19.312	0.9944		
7.571	7.840	0.9657	Slope	0.995217
			Intercept	-0.099252

THC Calibration Data



THC/CH₄/NMHC Calibration



Calibration Report



Parameter CH4 / NMHC / THC

Air Monitoring Network PAZA

Station Information

Calibration Date	July 27, 2016	Previous Calibration	July 22, 2016
Station Number	1	Station Location	Henry Pirker
Reason:	Routine	Install	Removal
		Other:	

Start Time (MST)	8:25	End Time (MST)	11:10
Barometric Pressure	726.00 mm/hg	Station Temperature	21.0 Deg C
Calibrator	EnviroNics 6103	Serial Number	6586
Cal Gas CH4 Conc	386 ppm CH4	Cal Gas Expiry Date	3/28/2014
Cal Gas C3H8 Conc	207 569.25 ppm CH4	Cal Gas Cylinder #	LL34318
DACS make	CR3000	DACS serial No.	5408
DACS voltage range	0 - 5 volt	DACS channel #	SE 11,12,13

Analyzer make TEI 55I Analyzer serial # 1134650658

	before		after	
Concentration range	0-20 (CH4, NMHC); 0-40 (THC)	ppm	0-20 (CH4, NMHC); 0-40 (THC)	ppm
Air pressure	27.8	PSI	27.8	PSI
Fuel pressure	42.1	PSI	42.1	PSI
Carrier pressure	30.3	PSI	30.3	PSI
CH4 cal factor	6.26		6.26	E ⁻⁴
NMHC cal factor	2.84		2.84	E ⁻⁴
Rt	12.74	Sec	12.74	Sec
Pk Index	23.22		23.22	

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)
1995	0.00	0.00	0.02	N/A
1997	68.96	12.88	13.07	0.9855
1998	40.99	7.76	7.85	0.9880
1999	15.97	3.06	3.07	0.9956
1995	0.00	0.00	0.02	As Found Zero
1995	68.93	12.89	13.05	As Found Span
Average Correction Factor				0.9897

Calculated value of As Found Response: 12.993 ppm Percent Change of As Found: -0.8%

	Before		After
Calculated slope	0.997568	Calculated slope	0.986053
Calculated intercept	-0.004139	Calculated intercept	0.004700

Final Zero/Span Data

	before calibration		after calibration	
Auto zero	0.03	ppm	0.03	ppm
Auto span	9.19	ppm	9.25	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)
1995	0.00	0.00	0.02	N/A
1997	68.96	19.00	19.36	0.9815
1998	40.99	11.44	12.06	0.9486
1999	15.97	4.51	5.02	0.8987
1995	0.00	0.00	0.02	As Found Zero
1995	68.93	19.01	19.17	As Found Span
Average Correction Factor				0.9429

Calculated value of As Found Response: 18.909 ppm Percent Change of As Found: 0.5%

	<u>Before</u>		<u>After</u>
Calculated slope	0.992892	Calculated slope	0.984732
Calculated intercept	-0.104823	Calculated intercept	-0.237184

Final Zero/Span Data

	before calibration		after calibration	
Auto zero	0.02	ppm	0.02	ppm
Auto span	12.41	ppm	13.06	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)
1995	0.00	0.00	0.03	N/A
1997	68.96	31.89	32.41	0.9839
1998	40.99	19.20	19.90	0.9652
1999	15.97	7.57	8.07	0.9378
1995	0.00	0.00	0.03	As Found Zero
1995	68.93	31.90	32.19	As Found Span
Average Correction Factor				0.9623

Calculated value of As Found Response: 31.906 ppm Percent Change of As Found: 0.0%

	<u>Before</u>		<u>After</u>
Calculated slope	0.995217	Calculated slope	0.986026
Calculated intercept	-0.099252	Calculated intercept	-0.225809

Final Zero/Span Data

	before calibration		after calibration	
Auto zero	0.02	ppm	0.02	ppm
Auto span	21.60	ppm	22.30	ppm

Notes: Hydrogen cylinder replaced
No adjustment made

Calibration Performed By: Dmytro Dolotii

Calibration Summary

Parameter CH4

Air Monitoring Network PAZA



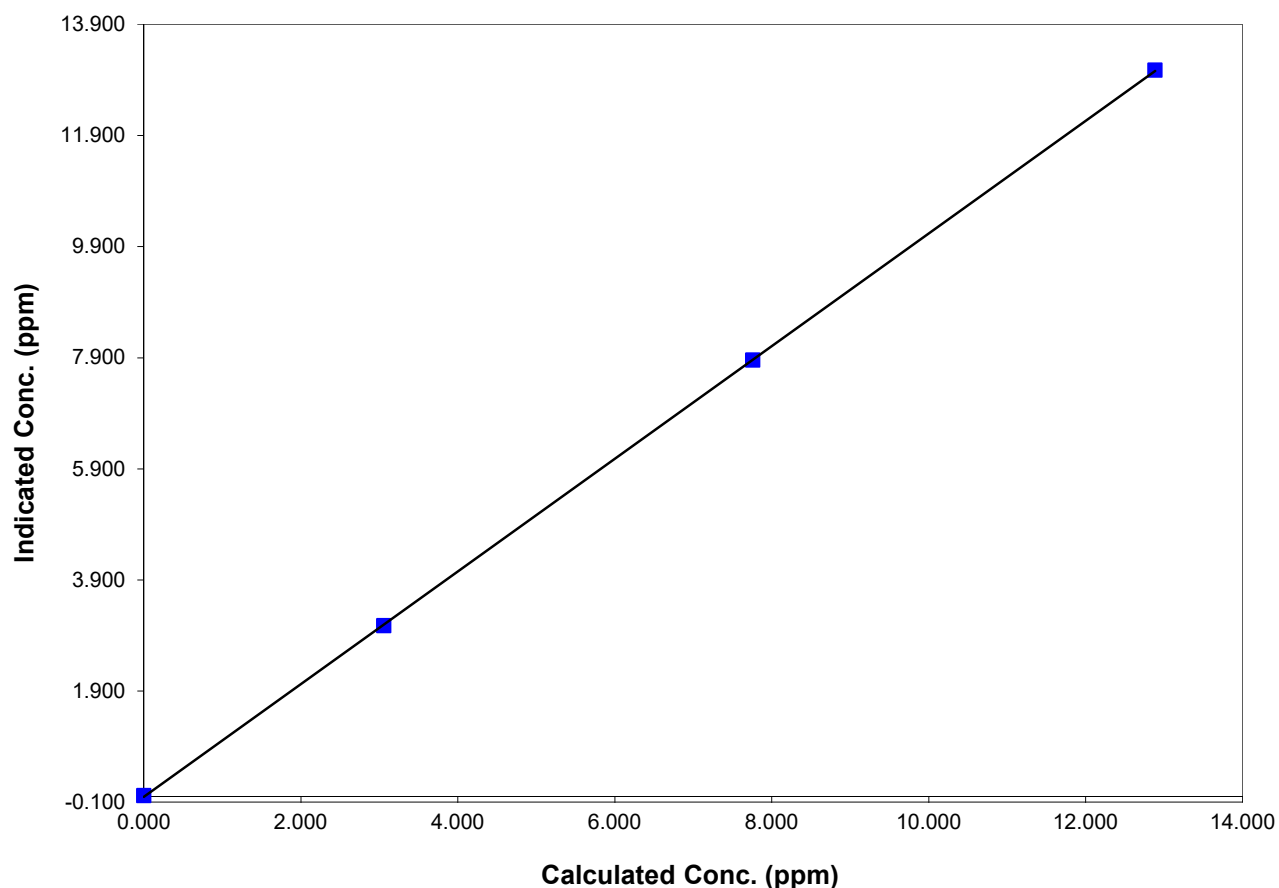
Station Information

Calibration Date	July 27, 2016	Previous Calibration	July 22, 2016
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	8:25	End Time (MST)	11:10
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	Correlation Coefficient	0.999986
12.884	13.074	0.9855		
7.760	7.854	0.9880		
3.059	3.073	0.9956	Slope	0.986053
			Intercept	0.004700

CH4 Calibration Data



Calibration Summary

Parameter NMHC

Air Monitoring Network PAZA



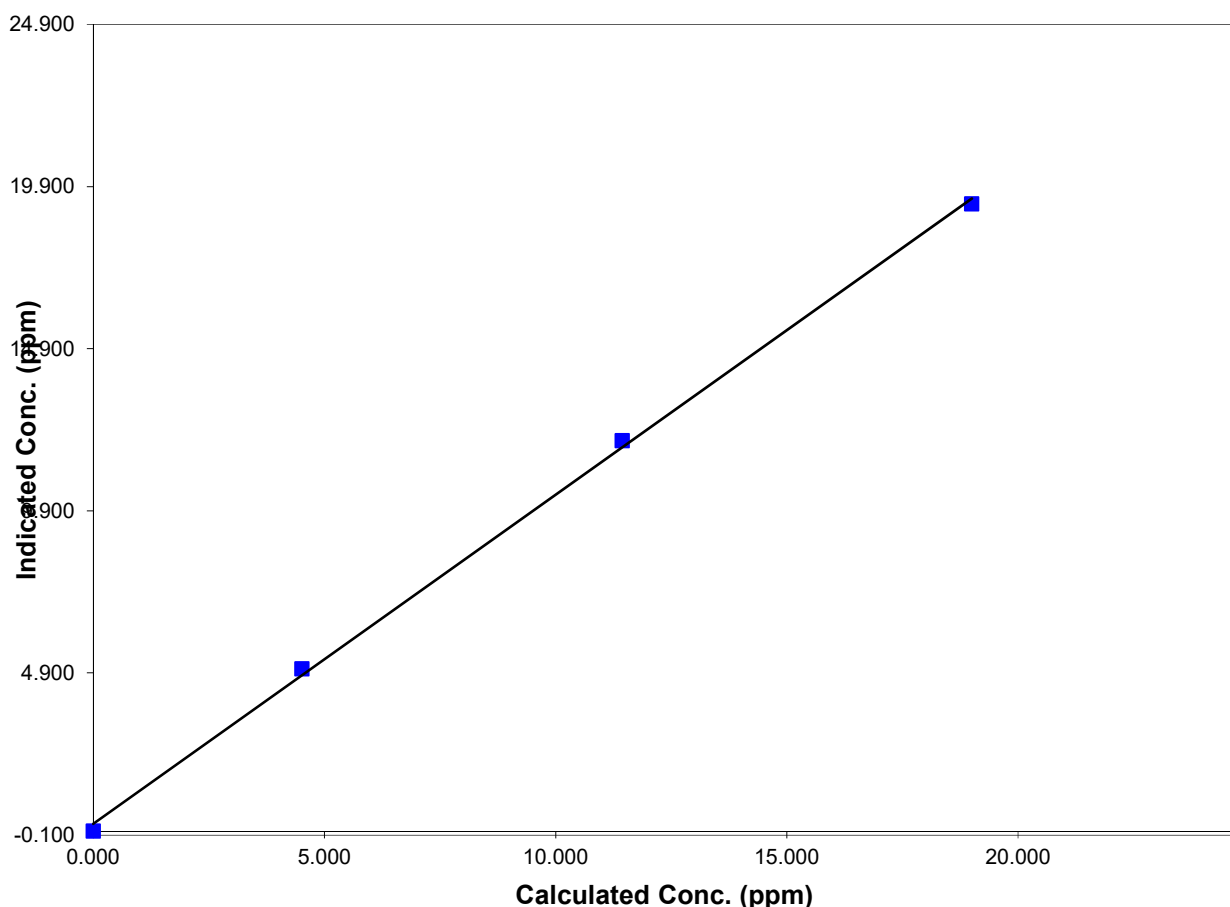
Station Information

Calibration Date	July 27, 2016	Previous Calibration	July 22, 2016
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	8:25	End Time (MST)	11:10
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	Correlation Coefficient	0.999248
19.001	19.360	0.9815		
11.444	12.063	0.9486		
4.512	5.020	0.8987	Slope	0.984732
			Intercept	-0.237184

NMHC Calibration Data



Calibration Summary

Parameter THC

Air Monitoring Network PAZA



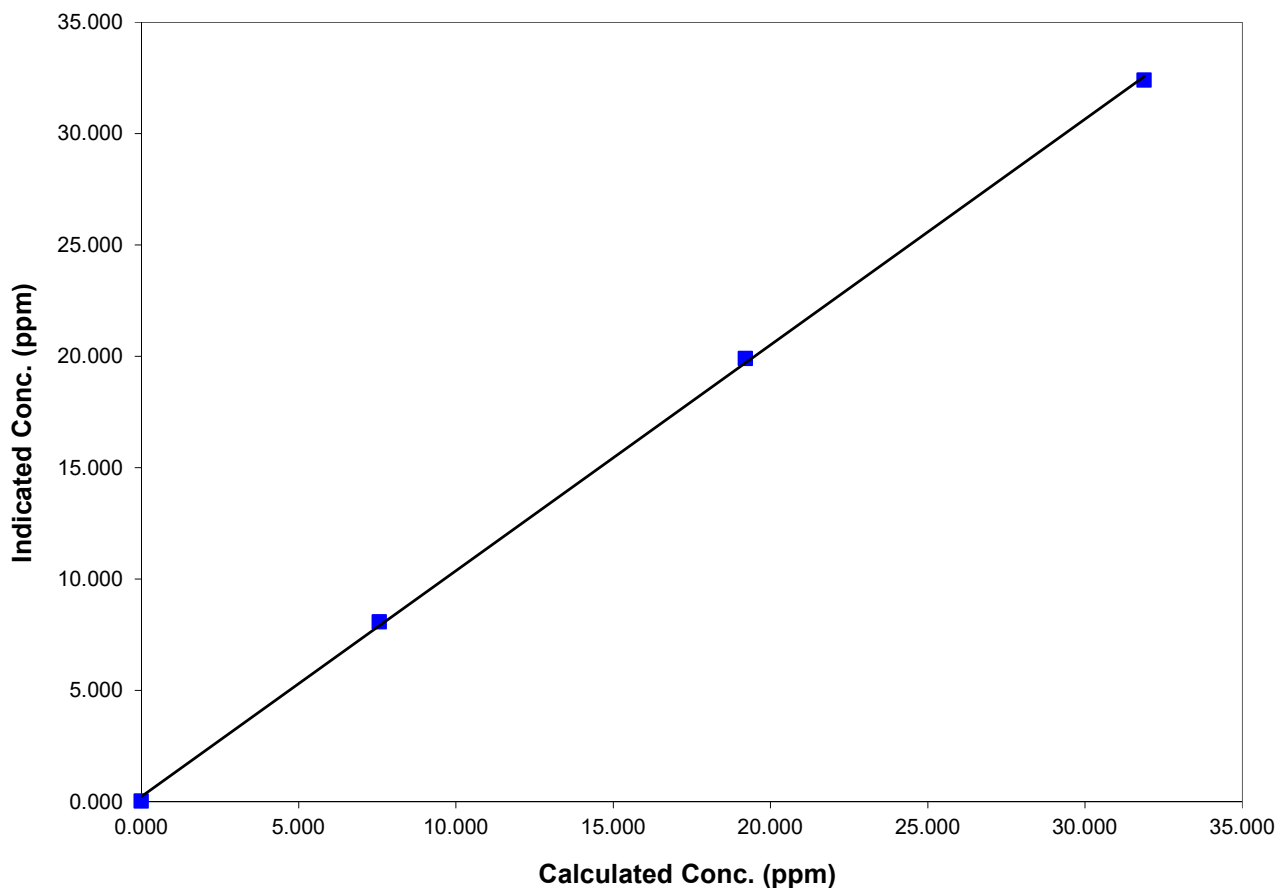
Station Information

Calibration Date	July 27, 2016	Previous Calibration	July 22, 2016
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	8:25	End Time (MST)	11:10
Analyzer make/model	TEI 55I	Analyzer serial #	1134650658

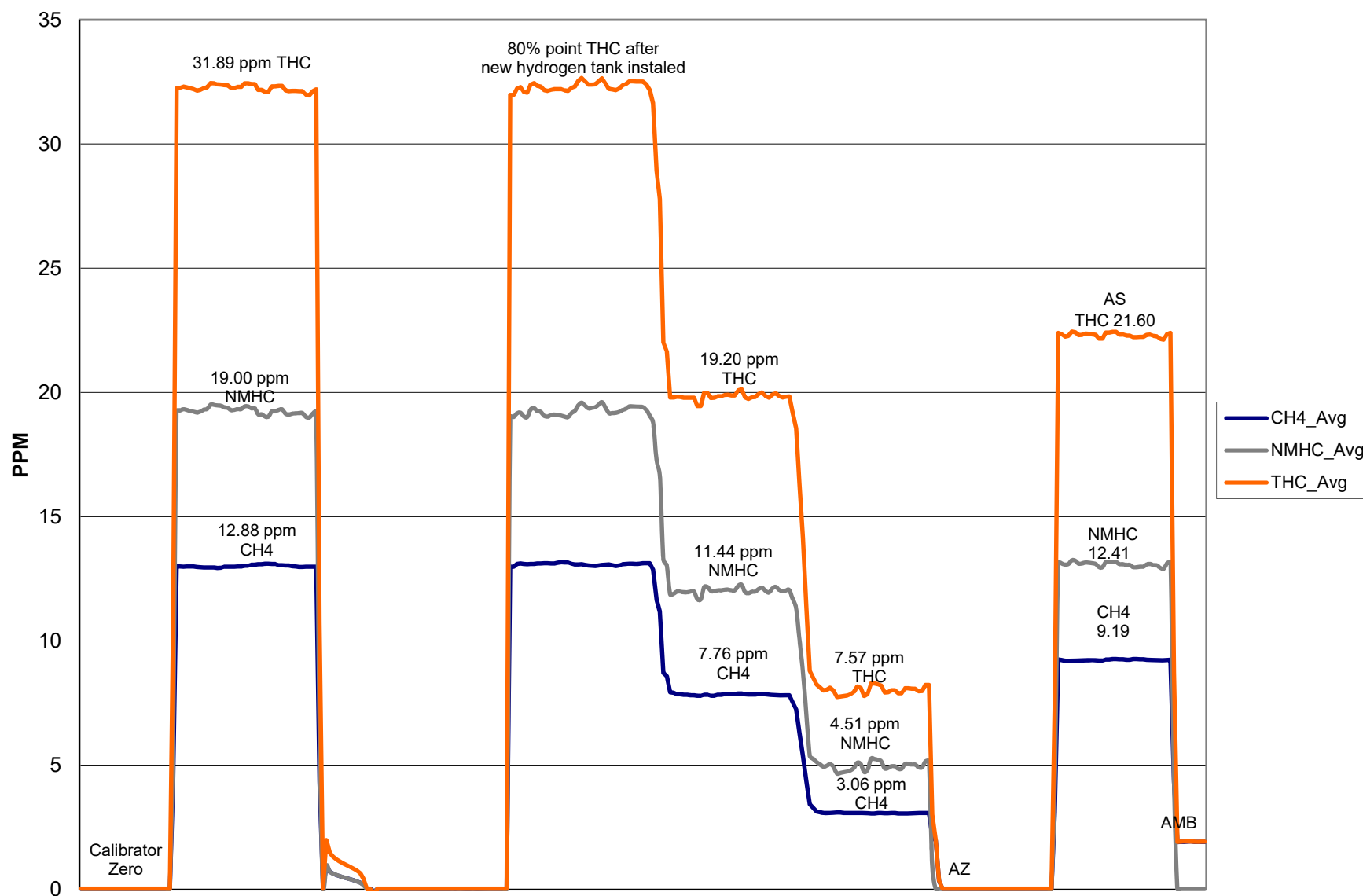
Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.030	N/A	Correlation Coefficient	0.999784
31.885	32.407	0.9839		
19.203	19.897	0.9652		
7.571	8.074	0.9378	Slope	0.986026
			Intercept	-0.225809

THC Calibration Data



THC/CH₄/NMHC Calibration



Calibration Report

Parameter TR5

Air Monitoring Network PAZA



Station Information

Calibration Date	July 7, 2016	Previous Calibration	June 9, 2016
Station Number	1	Station Location	Henry Pirker
Reason:	Routine	Install	Removal
		Other:	
Start Time (MST)	8:00	End Time (MST)	11:20
Barometric Pressure	726.00 mm/Hg	Station Temperature	21.0 Deg C
Calibrator	EnviroNics 6103	Serial Number	6586
Cal Gas Conc	10.3 ppb	Cal Gas Expiry Date	02/23/2019
		Cal Gas Cylinder #	EY0000380
DACS make	CR3000	DACS serial No.	5408
DACS voltage range	0 - 1 volt	DACS channel #	9
	Before		After
Calculated slope	0.987062	Calculated slope	1.005541
Calculated intercept	-0.392416	Calculated intercept	-0.207110
Analyzer make	TEI 45C	Analyzer serial #	630718528

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Coefficient	0.997		0.997	
Background	20.5		20.5	
Pressure	661.0	mm Hg	660.0	mm Hg
Flow	0.443	ccm	0.443	ccm
Lamp Voltage	904	V	904	V

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4997	0.00	0.00	0.07	N/A
4999	39.97	81.70	81.40	1.0037
4999	19.98	41.00	41.05	0.9989
6998	10.01	14.70	14.96	0.9828
4997	0.00	0.00	0.07	As Found Zero
4997	39.93	81.65	81.40	As Found Span
Average Correction Factor				0.9951

Calculated value of As Found Response: 79.9 ppb Percent Change of As Found: 2.2%

	before calibration		after calibration	
Auto zero	0.27	ppb	0.14	ppb
Auto span	32.48	ppb	32.71	ppb

Notes: No adjustment made

Calibration Performed By: Dmytro Dolotii

Calibration Summary

Parameter TRS

Air Monitoring Network PAZA



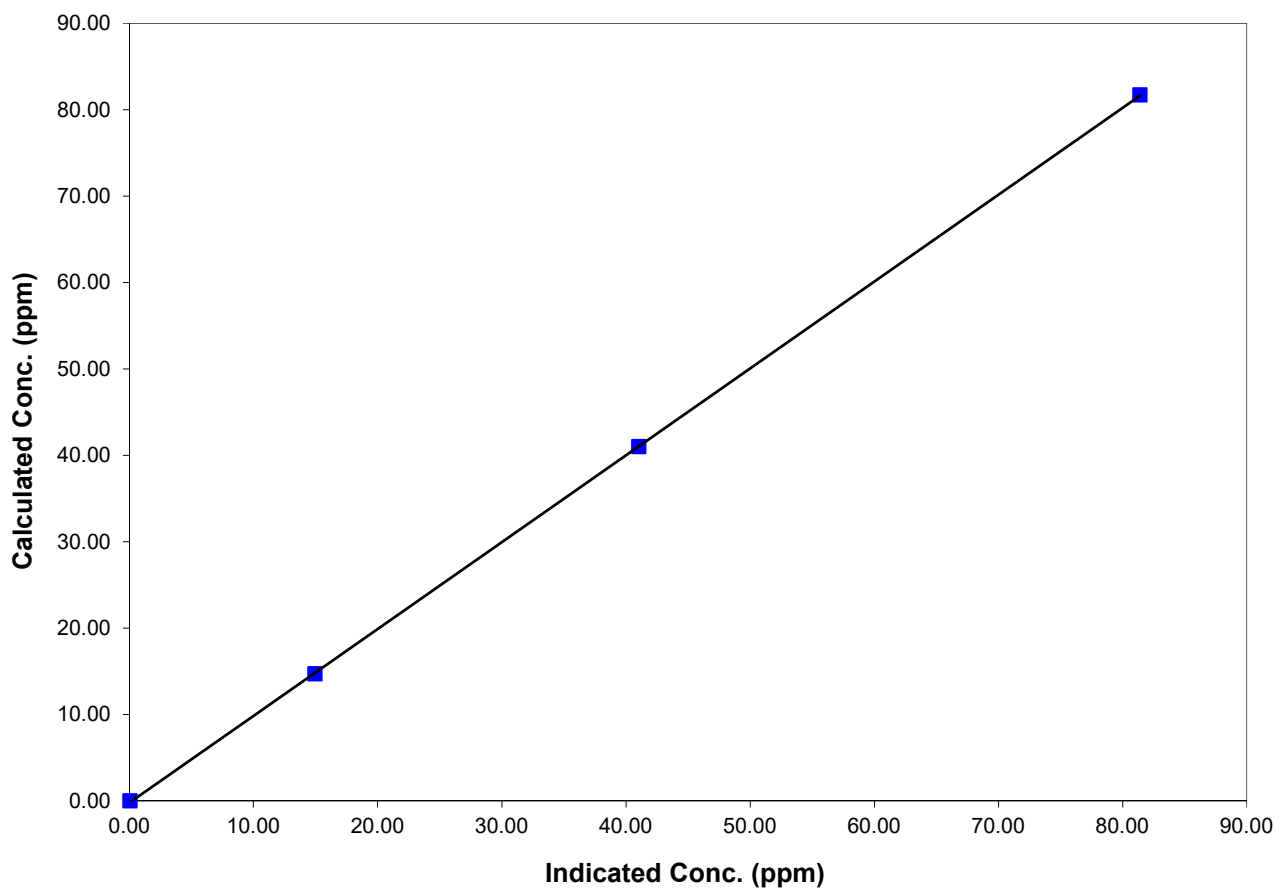
Station Information

Calibration Date	July 7, 2016	Previous Calibration	June 9, 2016
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	8:00	End Time (MST)	11:20
Analyzer make/model	TEI 45C	Analyzer serial #	630718528

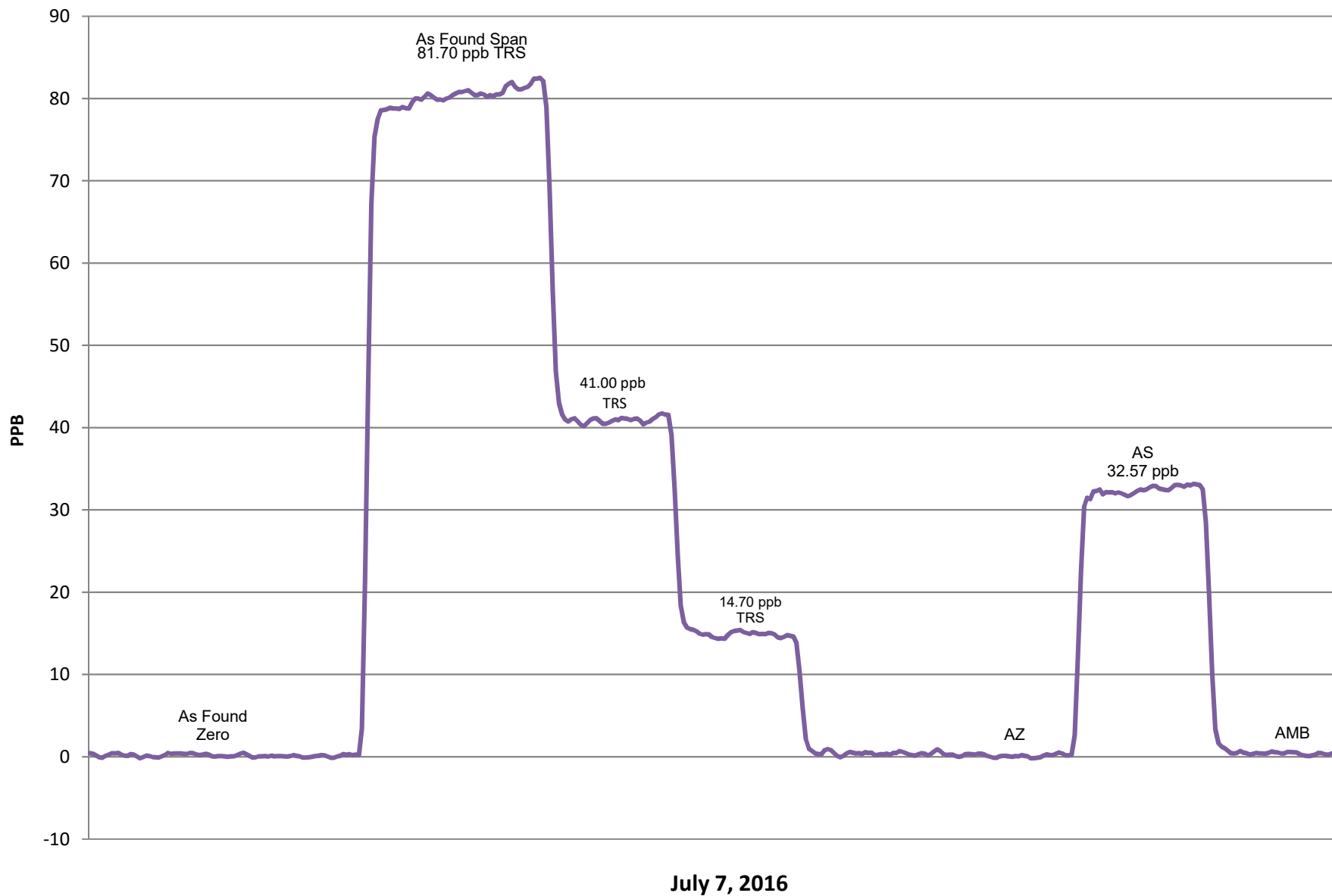
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.065	N/A	Correlation Coefficient	0.999988
81.701	81.400	1.0037		
41.003	41.048	0.9989		
14.705	14.963	0.9828	Slope	1.005541
			Intercept	-0.207110

TRS Calibration Curve



TRS Calibration



Calibration Report



Parameter SO₂

Air Monitoring Network PAZA

Station Information

Calibration Date	July 19 2016	Previous Calibration	June 14 2016
Station Number	2	Station Location	Evergreen Park
Reason:	Routine	Install	Removal
		Other:	
Start Time (MST)	11:10	End Time (MST)	13:50
Barometric Pressure	0.920 ATM	Station Temperature	21.0 Deg C
Calibrator	EnviroNics	Serial Number	6586
Cal Gas Concentration	49.7 ppm	Cal Gas Expiry Date	10/5/2018
Correction factor	0.031167	Cal Gas Cylinder #	LL103793
DACS make	CR3000	DACS serial No.	5236
DACS voltage range	0 - 5 volt	DACS channel #	6
	<u>Before</u>		<u>After</u>
Calculated slope	0.988653	Calculated slope	0.980172
Calculated intercept	0.890879	Calculated intercept	0.910564
Analyzer make	Teco 43i	Analyzer serial #	701120008

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
Background	11.8		11.8	
coefficient	1.257		1.257	
Lamp Voltage	827	volts	827	volts
Chamber Temp	45	Deg C	45	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	665.9	mm Hg	662.3	mm Hg
Sample Flow	0.447	ccm	0.448	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)
4996	0.0	0.00	0.4	N/A
4998	39.95	394.1	401.7	0.9811
4998	19.96	197.7	200.4	0.9864
4997	9.99	99.2	98.7	1.0051
4996	0.0	0.0	0.4	As Found Zero
4996	39.93	394.1	401.7	As Found Span
Average Correction Factor				0.9908

Calculated value of As Found Response: 397.616 ppm Percent Change of As Found: -0.9%

	before calibration		after calibration	
Auto zero	0.6	ppm	0.5	ppm
Auto span	256.2	ppm	266.3	ppm

Notes: No adjustment made

Calibration Performed By: Dmytro Dolotii

Calibration Summary

Parameter SO2

Air Monitoring Network PAZA



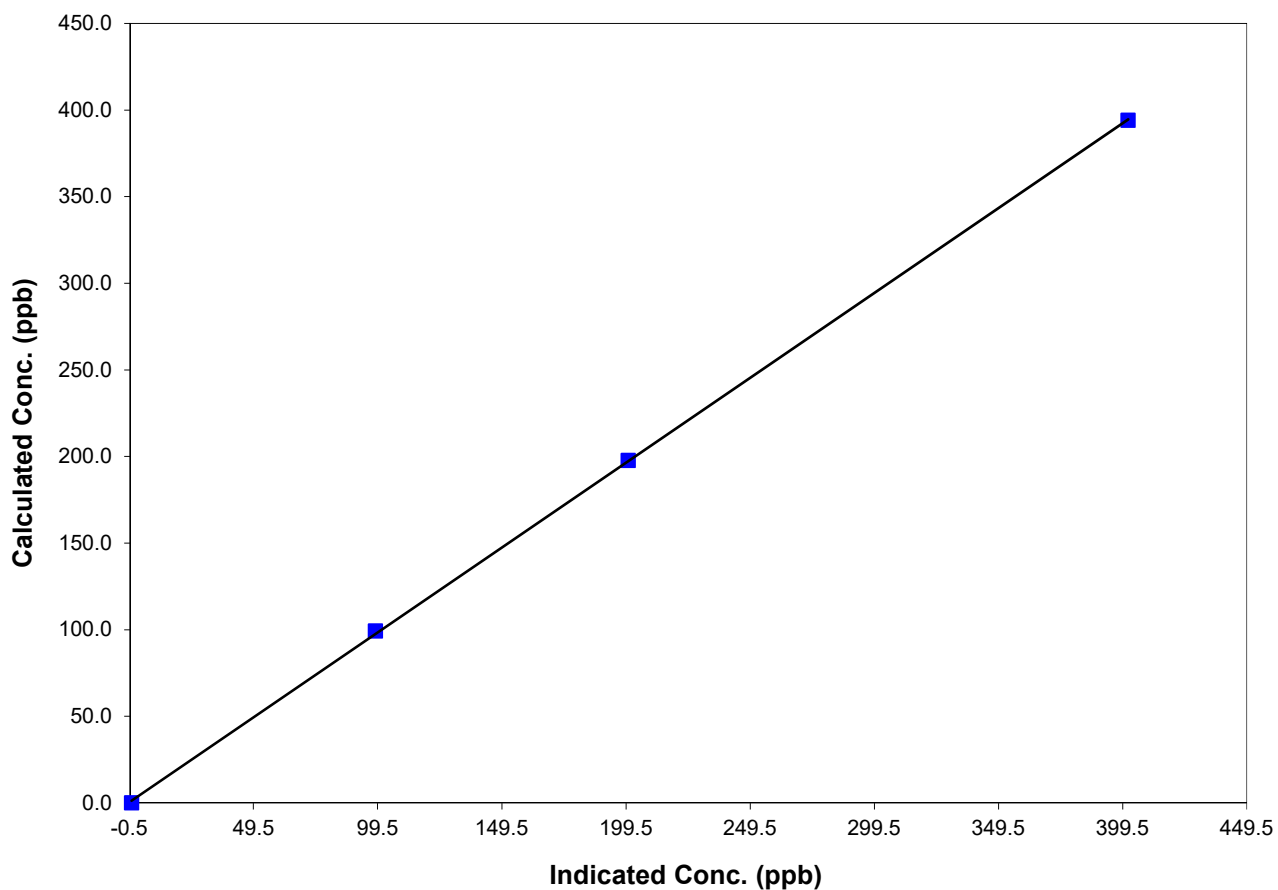
Station Information

Calibration Date	July 19 2016	Previous Calibration	June 14 2016
Station Number	2	Station Location	Evergreen Park
Start Time (MST)	11:10	End Time (MST)	13:50
Analyzer make/model	Teco 43i	Analyzer serial #	701120008

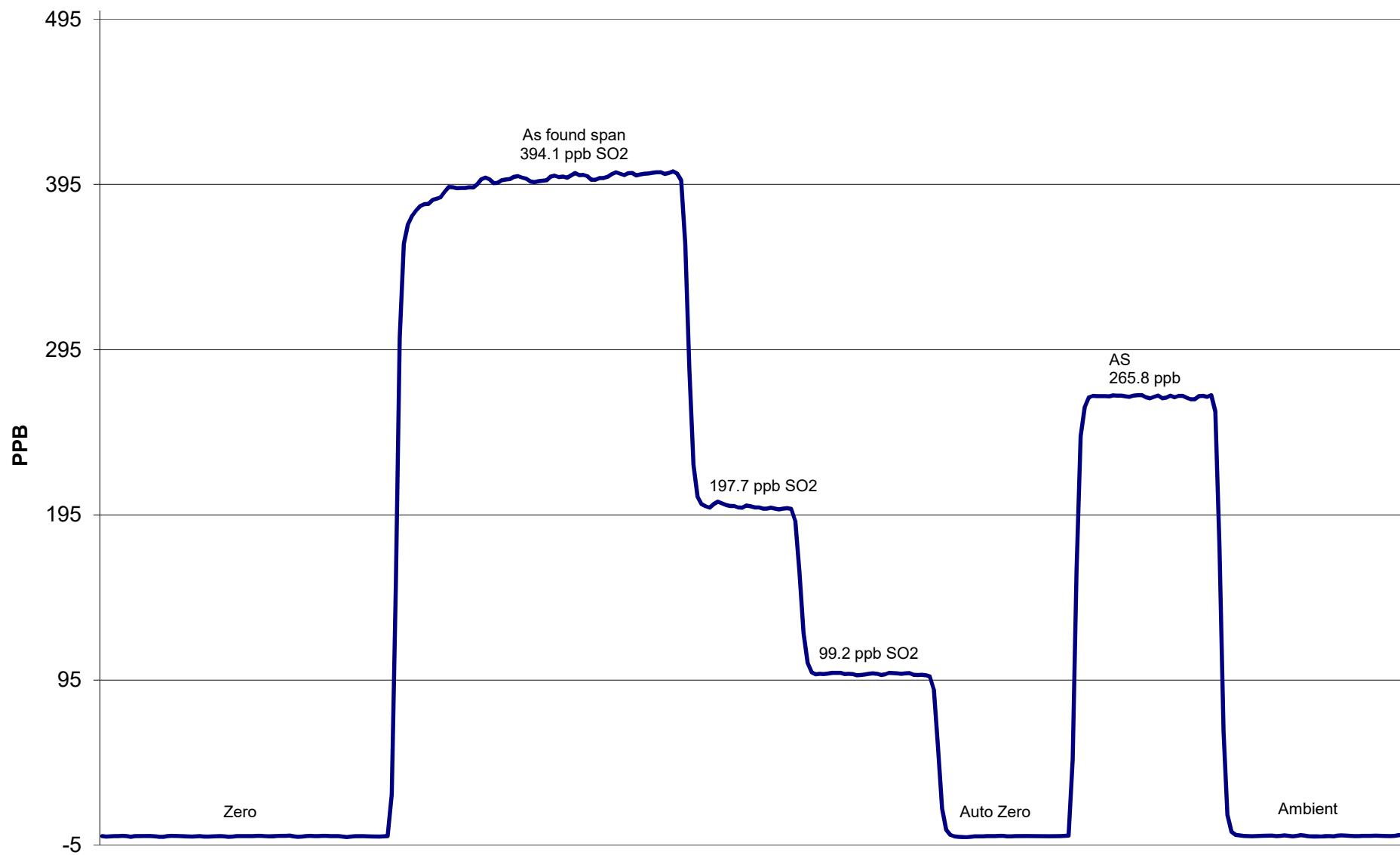
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.4	N/A	Correlation Coefficient	0.999946
394.1	401.7	0.9811		
197.7	200.4	0.9864		
99.2	98.7	1.0051	Slope	0.980172
			Intercept	0.910564

SO2 Calibration Curve



SO2 Calibration



July 19 2016

Calibration Report



Parameter TRS

Air Monitoring Network PAZA

Station Information

Calibration Date	July 19 2016	Previous Calibration	June 14 2016
Station Number	2	Station Location	Evergreen Park
Reason:	Routine	Install	Removal
			Other:
Start Time (MST)	9:10	End Time (MST)	12:29
Barometric Pressure	0.920 ATM	Station Temperature	21.0 Deg C
Calibrator	Envionics	Serial Number	6586
Cal Gas Conc	10.3 ppm	Cal Gas Expiry Date	7/8/2016
Correction factor	0.031167	Cal Gas Cylinder #	LL110781
DACS make	CR3000	DACS serial No.	5236
DACS voltage range	0 - 5 volt	DACS channel #	5
	Before		After
Calculated slope	0.995955	Calculated slope	1.000180
Calculated intercept	-0.600750	Calculated intercept	-0.625493

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

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Background	15.3	ppb	15.7	ppb
coefficient	1.006		1.032	
Lamp Voltage	977	volts	977	volts
Chamber Temp	44.5	Deg C	44.5	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	646.3	mm Hg	643.8	mm Hg
Sample Flow	0.554	ccm	0.549	ccm
Lamp Intensity	37,220	mv	37,370	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)
4996	0.00	0.00	0.6	N/A
4995	39.95	81.73	82.3	0.9932
4998	19.96	40.97	41.7	0.9829
6997	9.89	14.54	15.2	0.9583
4999	9.98		3.9	Sox Test
4996	0.00	0.00	0.6	As Found Zero
4996	39.93	81.67	79.1	As Found Span
Average Correction Factor				0.9781

Calculated value of As Found Response: 77.65 ppm Percent Change of As Found: **4.9%**

	before calibration		after calibration	
Auto zero	0.5	ppm	0.7	ppm
Auto span	78.5	ppm	78.5	ppm

Notes: Span adjustment made
Sox scrubber check performed

Calibration Performed By: Dmytro Dolotii

Calibration Summary

Parameter TRS

Air Monitoring Network PAZA



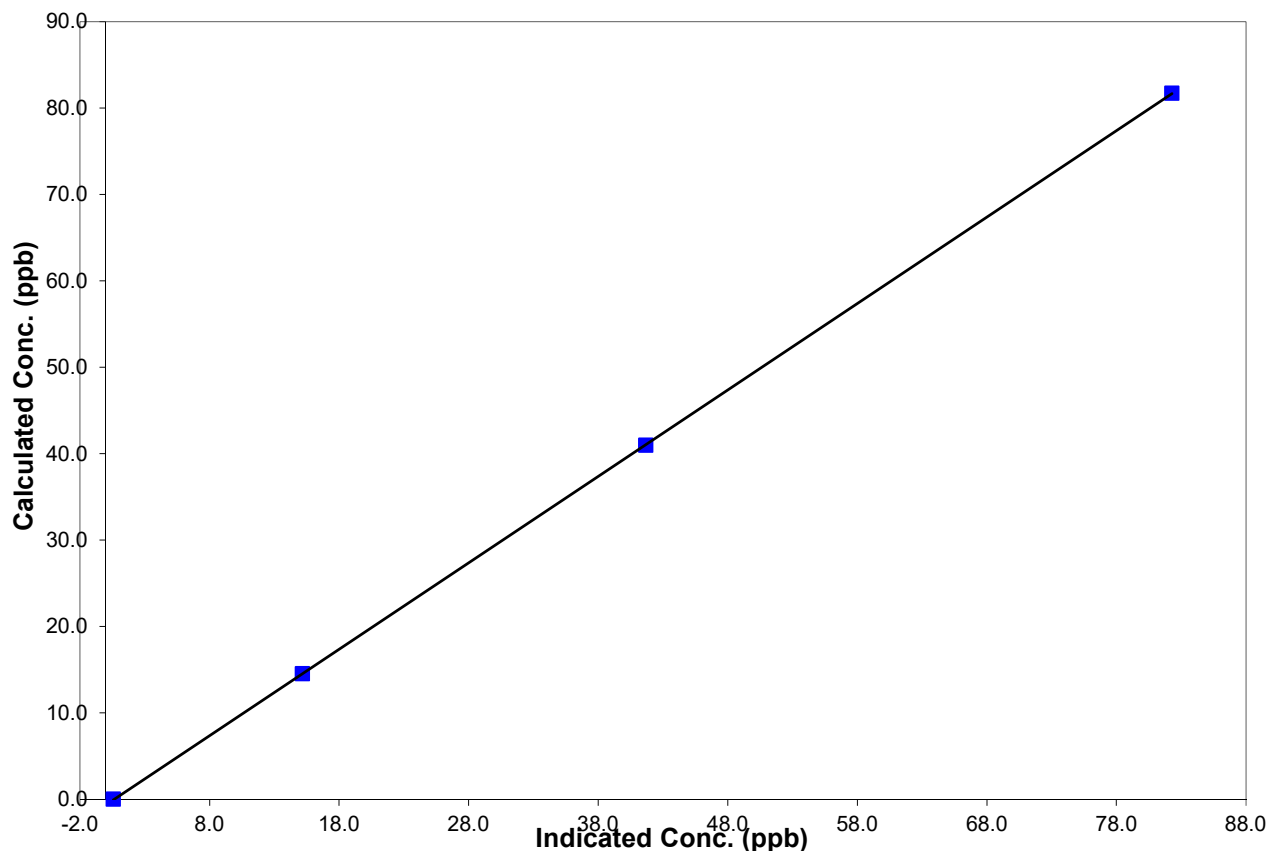
Station Information

Calibration Date	July 19 2016	Previous Calibration	June 14 2016
Station Number	2	Station Location	Evergreen Park
Start Time (MST)	9:10	End Time (MST)	12:29
Analyzer make/model	TEI Model 43C	Analyzer serial #	31990000000491

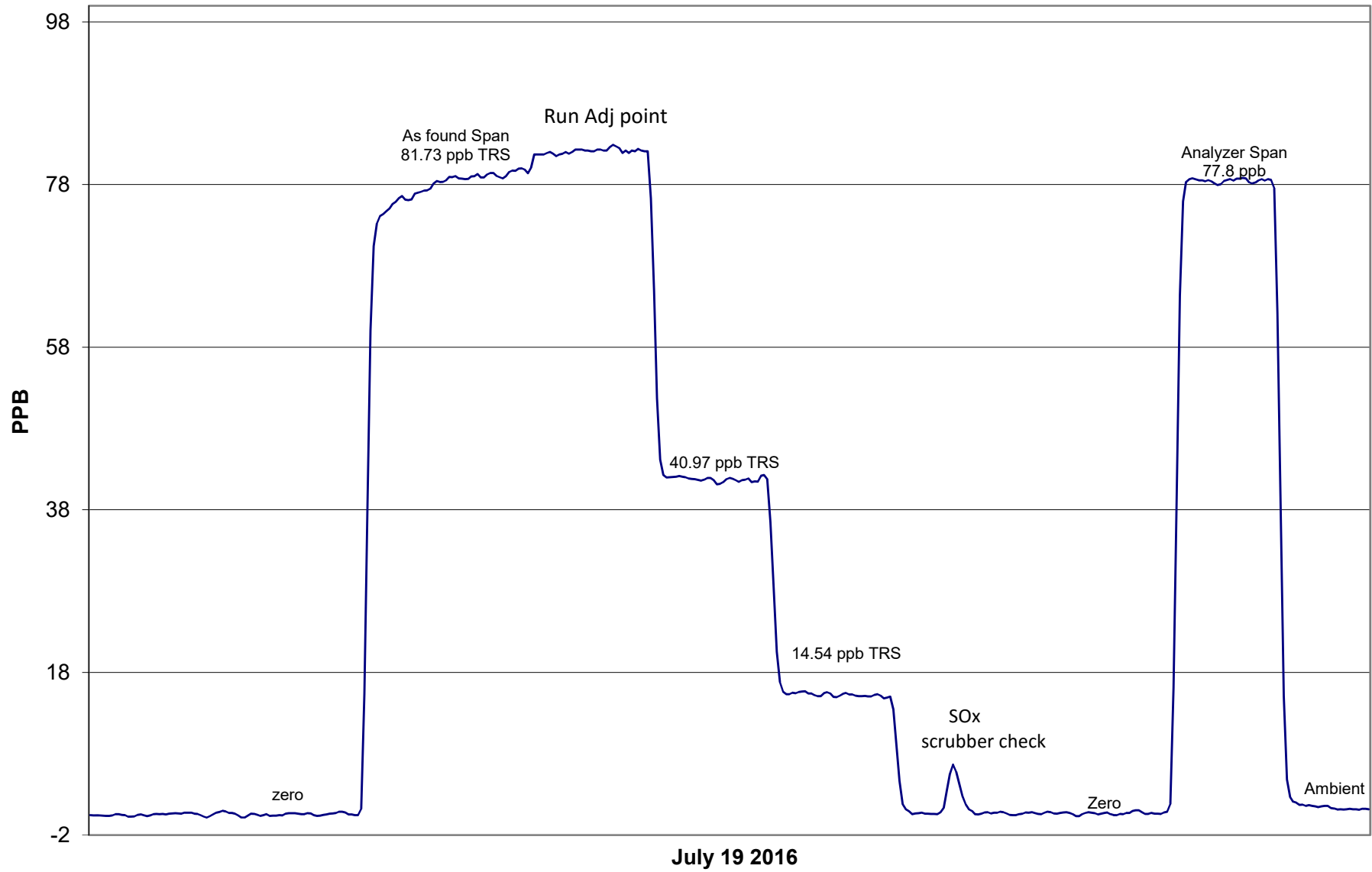
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.6	N/A	Correlation Coefficient	0.999996
81.7	82.3	0.9932		
41.0	41.7	0.9829		
14.5	15.2	0.9583	Slope	1.000180
			Intercept	-0.625493

TRS Calibration Curve



TRS Calibration



Calibration Report



Parameter SO₂

Air Monitoring Network PAZA

Station Information

Calibration Date	July 28, 2016	Previous Calibration	June 6, 2016
Station Number	3	Station Location	Smokey Heights
Reason:	Routine	Install	Removal
			Other:
Start Time (MST)	11:40	End Time (MST)	13:40:00 AM
Barometric Pressure	0.927 ATM	Station Temperature	20.0 Deg C
Calibrator	EnviroNics	Serial Number	3474
Cal Gas Concentration	49.7 ppm	Cal Gas Cert Date	11/5/2018
Correction factor	0.031511	Cal Gas Cylinder #	LL103793
DACS make	CR3000	DACS serial No.	5238
DACS voltage range	0 - 5 volt	DACS channel #	6
	Before		After
Calculated slope	0.997376	Calculated slope	0.994379
Calculated intercept	0.491883	Calculated intercept	0.740955
Analyzer make	Teco 43i	Analyzer serial #	701120009

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
Background	12.8		12.8	
coefficient	0.939		0.939	
Lamp Voltage	939	volts	939	volts
Chamber Temp	45	Deg C	45	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	666.1	mm Hg	666.1	mm Hg
Sample Flow	0.446	lpm	0.446	lpm
Lamp Intensity	88	%	88	%

Dilution air flow rate (cc/min)	Corrected gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4996	0.0	0.00	0.4	N/A
4998	39.92	393.82	395.8	0.9950
4996	19.95	197.67	197.6	1.0001
4991	9.98	99.18	97.7	1.0150
4996	0.0	0.00	0.4	As Found Zero
4998	39.92	393.82	395.8	As Found Span
Average Correction Factor				1.0034

Calculated value of As Found Response: 394.846 ppm Percent Change of As Found: -0.3%

	before calibration		after calibration	
Auto zero	0.5	ppb	0.5	ppb
Auto span	211.9	ppb	210.6	ppb

Notes: Analyzer front screen isnt working,but analyzer calibrated with no issues & no adjustments

Calibration Performed By: Dmytro Dolotii

Calibration Summary

Parameter SO2

Air Monitoring Network PAZA



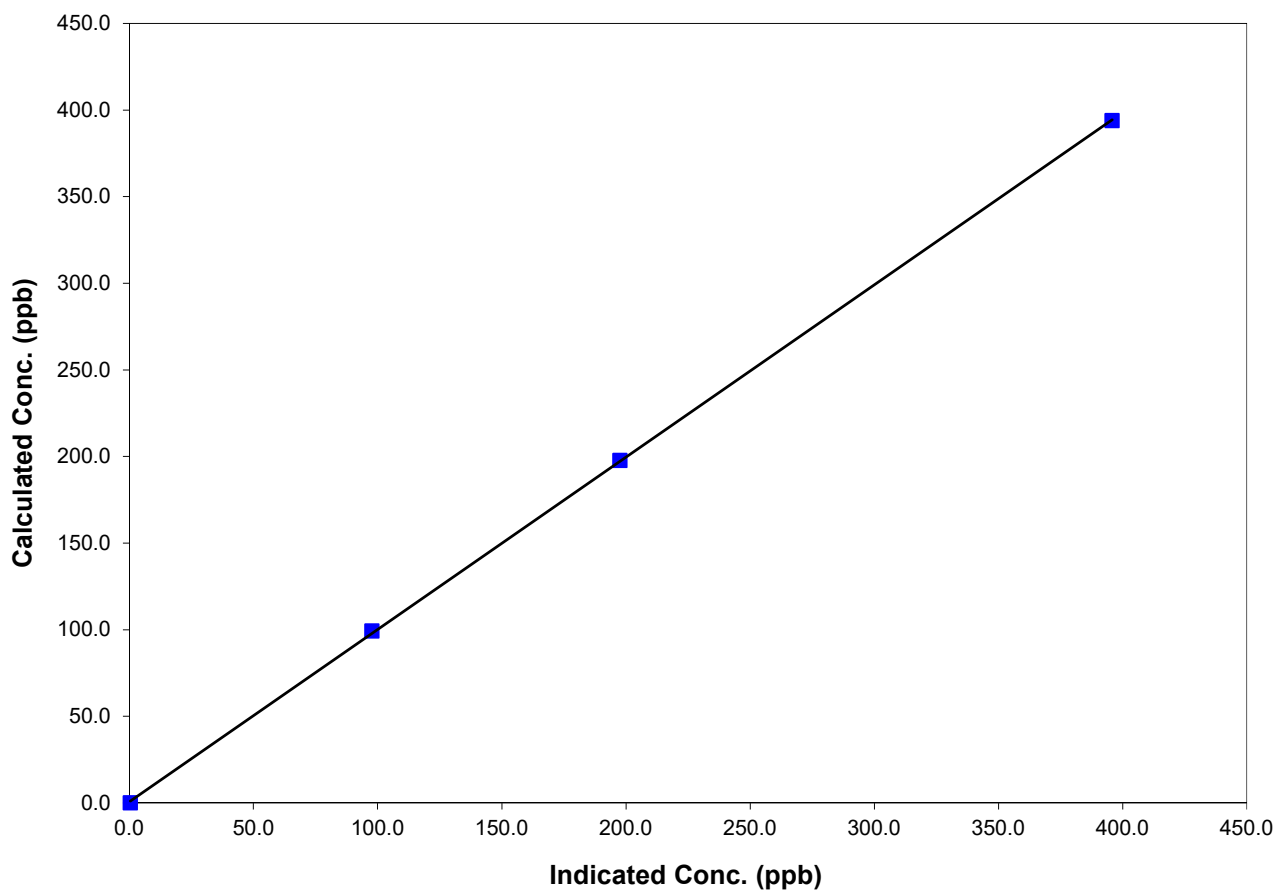
Station Information

Calibration Date	July 28, 2016	Previous Calibration	June 6, 2016
Station Number	3	Station Location	Smokey Heights
Start Time (MST)	11:40	End Time (MST)	13:40:00 AM
Analyzer make/model	Teco 43i	Analyzer serial #	701120009

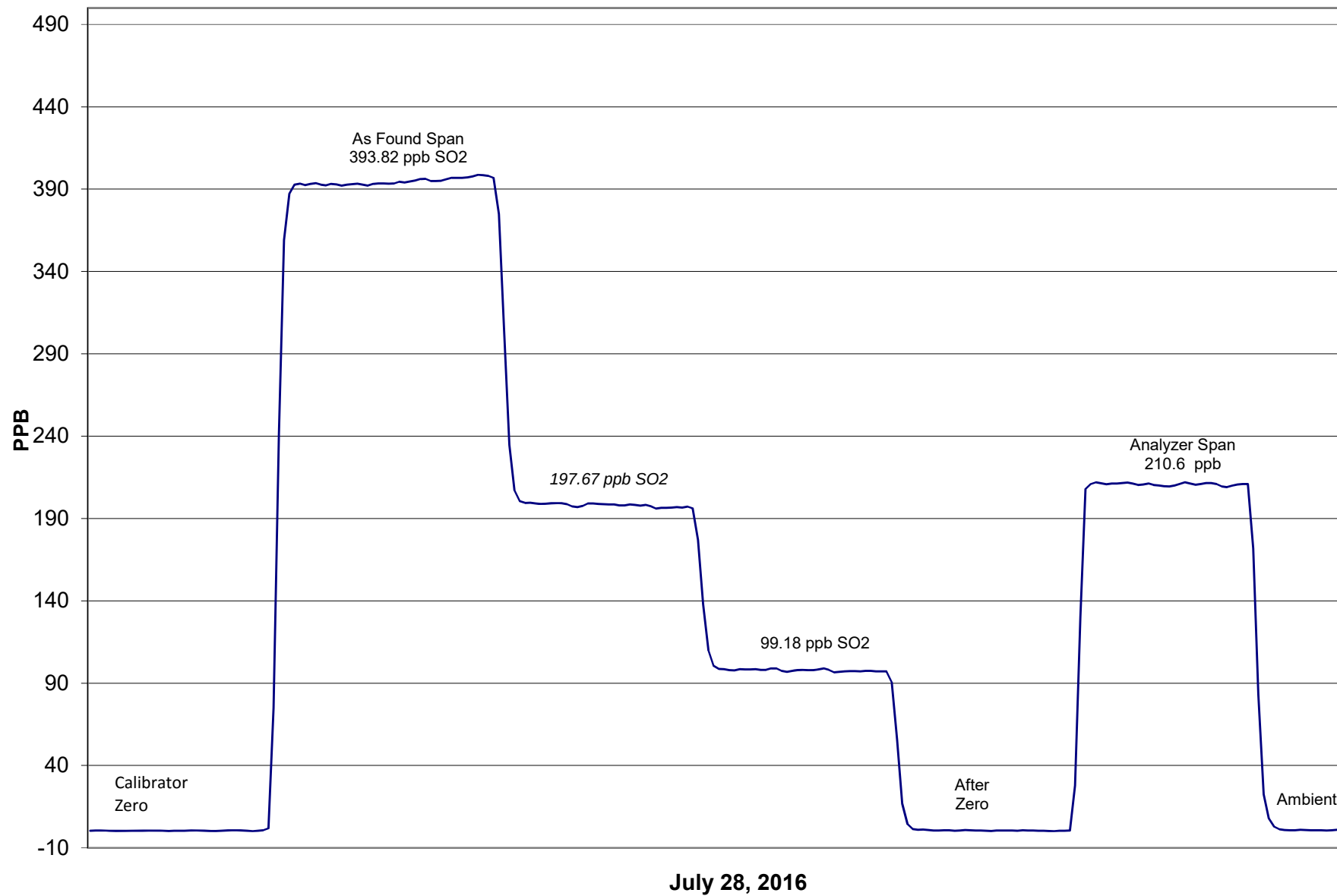
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.4	N/A	Correlation Coefficient	0.999960
393.8	395.8	0.9950		
197.7	197.6	1.0001		
99.2	97.7	1.0150	Slope	0.994379
			Intercept	0.740955

SO2 Calibration Curve



Smokey Heights SO₂ Calibration



Calibration Report



Parameter TRS

Air Monitoring Network PAZA

Station Information

Calibration Date	July 28, 2016	Previous Calibration	June 6, 2016
Station Number	3	Station Location	Smokey Heights
Reason:	☐ Routine	☒ Install	☐ Removal
			☐ Other:
Start Time (MST)	9:40	End Time (MST)	12:45
Barometric Pressure	0.927 ATM	Station Temperature	20.0 Deg C
Calibrator	Envionics	Serial Number	3474
Cal Gas Conc	10.2 ppm	Cal Gas Expiry Date	7/8/2016
Correction factor	0.031511	Cal Gas Cylinder #	BLM00586
DACS make	CR3000	DACS serial No.	5238
DACS voltage range	0 - 5 volt	DACS channel #	5
	<u>Before</u>		<u>After</u>
Calculated slope	0.998685	Calculated slope	0.984570
Calculated intercept	0.713060	Calculated intercept	0.805372

Analyzer make TEI Model 43I APSAA Analyzer serial # 1153630151

	before		after	
Concentration range	100	ppb	100	ppb
Background	14	ppb	13.9	ppb
coefficient	1.021		1.021	
Lamp Voltage	796	volts	797	volts
Chamber Temp	44.9	Deg C	45	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	679.2	mm Hg	678.3	mm Hg
Sample Flow	0.424	lpm	0.423	lpm
Lamp Intensity	90	mv	90	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)
4990	0.0	0.00	-0.2	N/A
4987	39.85	80.86	81.7	0.9897
4988	19.91	40.55	39.7	1.0220
6991	9.92	14.45	13.5	1.0682
4990	9.92		1.4	Sox test
4990	0.0	0.00	-0.2	As Found Zero
4987	39.85	80.86	81.7	As Found Span
Average Correction Factor				1.0266

Calculated value of As Found Response: 82.49 ppm Percent Change of As Found: -2.0%

	before calibration		after calibration	
Auto zero	0.1	ppm	-0.3	ppm
Auto span	68.8	ppm	66.9	ppm

Notes: No adjustment made
Sox scrubber check done

Calibration Performed By: Dmytro Dolotii

Calibration Summary

Parameter TRS

Air Monitoring Network PAZA



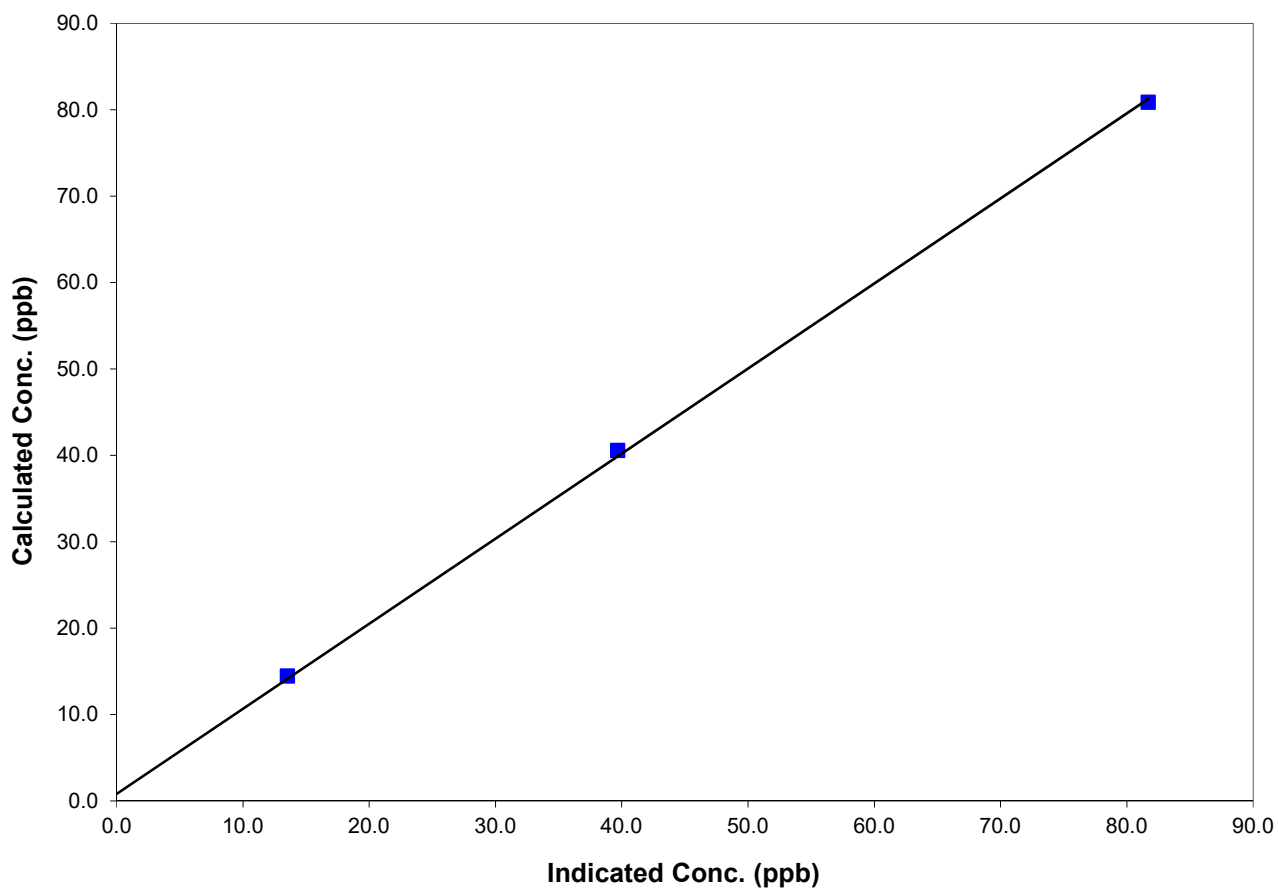
Station Information

Calibration Date	July 28, 2016	Previous Calibration	June 6, 2016
Station Number	3	Station Location	Smokey Heights
Start Time (MST)	9:40	End Time (MST)	12:45
Analyzer make/model	TEI Model 43I APSAA	Analyzer serial #	1153630151

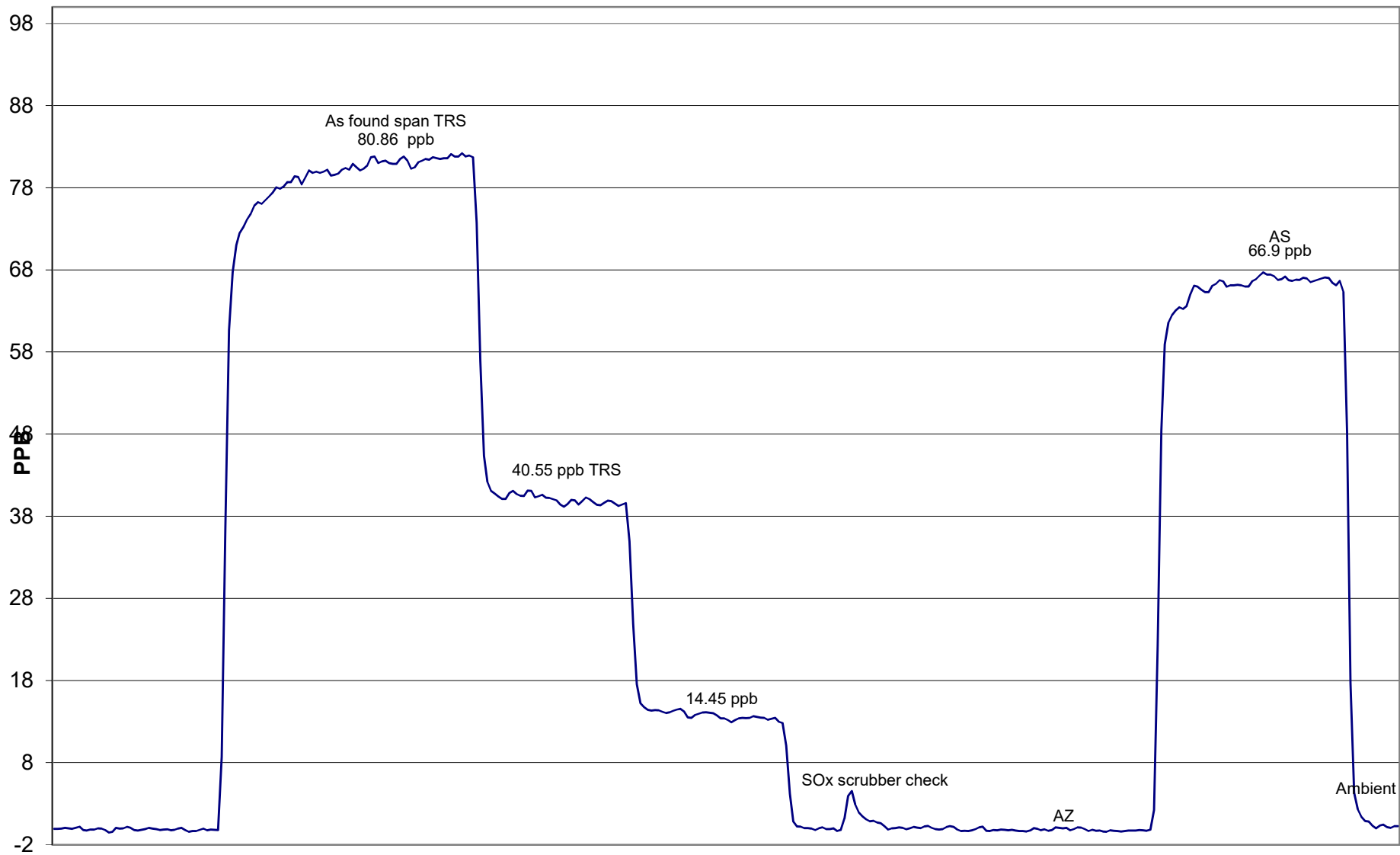
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.2	N/A	Correlation Coefficient	0.999709
80.9	81.7	0.9897		
40.6	39.7	1.0220		
14.5	13.5	1.0682	Slope	0.984570
			Intercept	0.805372

TRS Calibration Curve



Smokey Heights TRS Calibration



Calibration Report

Parameter SO2
Air Monitoring Network

PAZA



Station Information

Calibration Date	July 13, 2016	Previous Calibration	June 8, 2016
Station Number	4	Station Location	Beaverlodge
Reason:	Routine	Install	Removal
		Other:	
Start Time (MST)	13:19	End Time (MST)	15:37
Barometric Pressure	0.928 atm	Station Temperature	20.0 Deg C
Calibrator	Envionics	Serial Number	3474
Cal Gas Concentration	10.5 ppm	Cal Gas Expiry Date	1/12/2019
Gas Cert Reference	FF16108		
DACS make	CR3000	DACS serial No.	5237
DACS voltage range	0 - 5 volt	DACS channel #	5
	<u>Before</u>		<u>After</u>
DACS Scale High	100	DACS slope	100
DACS Scale Low	0	DACS intercept	0
Calculated slope	1.011988	Calculated slope	0.980646
Calculated intercept	-0.290359	Calculated intercept	-0.204710
Analyzer make	TEI Model 43i-TLE	Analyzer serial #	713021137

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Background	2.52		2.52	
Coefficient	0.969		0.969	
PMT	-768.1	V	-768.1	V
UV Lamp Voltage	1096	V	1109	V
Chamber Temp	44.7	Deg C	45	Deg C
Pressure	667.3	mm Hg	662.8	mm Hg
Sample Flow	0.464	LPM	0.463	LPM
Lamp Intensity	95	%	96	%

Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4989	0.00	0.0	0.1	N/A
4989	39.84	83.2	85.0	0.9789
4989	19.92	41.8	42.9	0.9734
4989	9.91	20.8	21.5	0.9699
4989	0.00	0.0	0.1	As found zero
4989	39.84	83.2	85.0	As found span
Average Correction Factor				0.9741

Calculated value of As Found Response: 85.565 ppm Percent Change of As Found: -2.9%

	before calibration		after calibration	
Auto zero	0.0	ppb	0.0	ppb
Auto span	57.5	ppb	57.4	ppb

Notes: No adjustment made

Calibration Summary

Parameter SO2

Air Monitoring Network PAZA



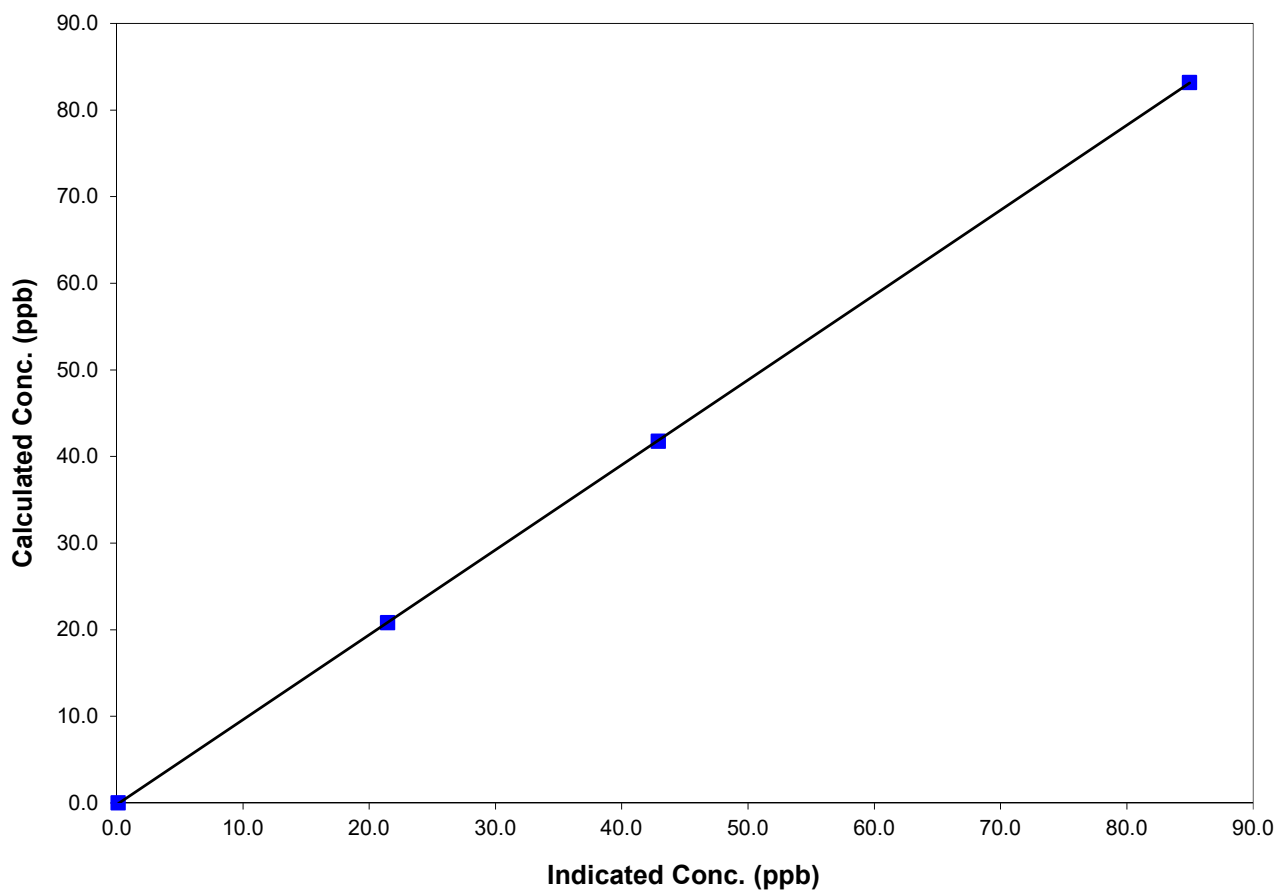
Station Information

Calibration Date	July 13, 2016	Previous Calibration	June 8, 2016
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	13:19	End Time (MST)	15:37
Analyzer make/model	TEI Model 43i-TLE	Analyzer serial #	713021137

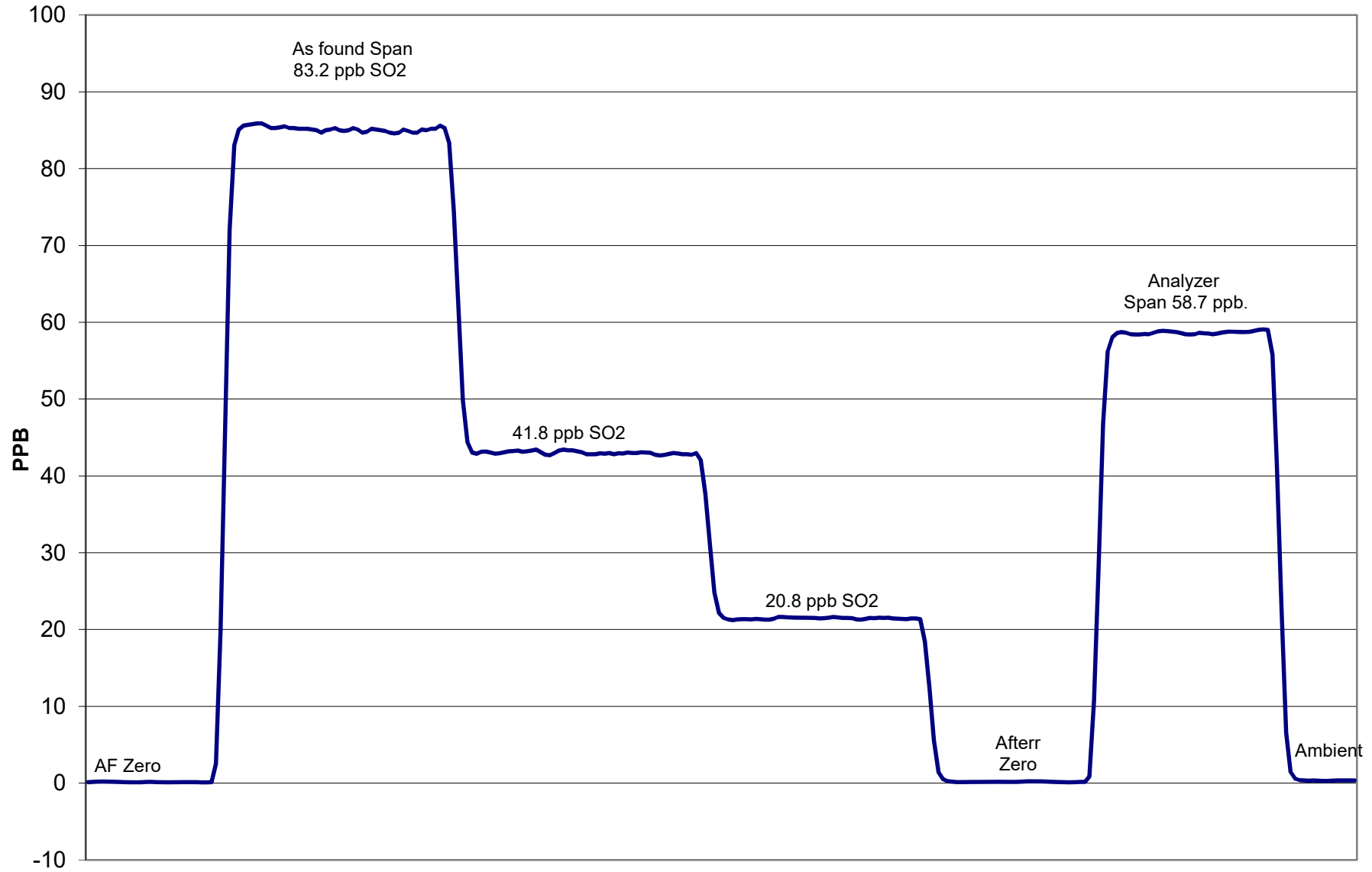
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.1	N/A	Correlation Coefficient	0.999995
83.2	85.0	0.9789		
41.8	42.9	0.9734		
20.8	21.5	0.9699	Slope	0.980646
			Intercept	-0.204710

SO2 Calibration Curve



SO2 Calibration



July 13, 2016

Calibration Report

Parameter
Air Monitoring Network

NO_x-NO-NO₂
PAZA



Station Information

Calibration Date	July 13, 2016	Previous Calibration	June 8, 2016
Station Number	4	Station Location	Beaverlodge
Reason:	Routine	Installation	Removal
Other:			
Start Time (MST)	8:10	End Time (MST)	13:05
Barometric Pressure	0.928	Atm	Station Temperature
Calibrator	EnviroNics	Serial Number	3474
NO Cal Gas Conc	48.9	ppm	Cal Gas Expiry Date
NOx Cal Gas Conc	48.9	ppm	Cal Gas Serial #
			LL105132

DACS Information

DACS make	CR3000	DACS serial No.	5237
	Parameter	NO2	NOx
Before	Data Slope	0.995545	0.998832
	Data Offset	-0.977138	0.374850
After	Data Slope	1.005357	0.998152
	Data Offset	0.316070	-0.184583
	Channel #	8	6
	Voltage Range	0 - 5 VDC	0 - 5 VDC

Analyzer Information

Analyzer make/model	TEI 42i	Analyzer serial #	906535068
Test Point	before		after
Concentration range	0-500	ppb	0-500
NO offset	2.7	mV	2.8
NOx bkgnd	3.2	mV	3.3
NO coefficient	1.151		1.190
NOx coefficient	1.005		0.999
NO2 conv temp	323.8	Deg C	323.8
PMT Temp	-3.0	Deg C	-3.0
PMT Volt	-730.0	mV	-730.0
R Cell Press	190.9	in Hg	190.6
Sample Flow	0.704	LPM	0.700

Notes: Span adjustment made, run adjustment point.

Calibration Report

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



Station Information

Calibration Date: July 13, 2016 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	4990	0.00	0.0	0.0	0.0	0.6	-0.2	0.6	N/A	N/A
1	4990	39.87	387.6	387.6	0.0	388.5	388.1	-0.5	0.9978	0.9986
2	4990	19.92	194.4	194.4	0.0	195.5	194.8	-0.1	0.9945	0.9981
3	4990	9.92	97.0	97.0	0.0	96.5	96.5	-0.1	1.0051	1.0052
AFZ	4990	0.00	0.0	0.0	0.0	0.6	-0.2	0.6	0.0000	0.0000
AFS	4990	39.92	388.1	388.1	0.8	378.8	375.9	2.1	1.0245	1.0325
Average Correction Factor									0.9991	1.0006

As Found Concentrations: NO_x= 378.2 NO= 376.2 As Found Percent Change NO_x= -2.6% NO= -3.1%

GPT Calibration Data

Dilution Flow 4995 ccm Source Gas Flow 39.93 ccm

O3 Setpoint (ppb)	Indicated NOx high point (ppb)	Indicated NO drop conc (ppb)	Calculated NO2 conc (ppb)	Indicated NOx conc (ppb)	Indicated NO conc (ppb)	Indicated NO2 conc (ppb)	NOx Correction factor	NO Correction factor	NO2 Correction factor	Converter Efficiency
0	-0.2	-0.2	0.0	0.6	-0.2	0.6	N/A	N/A	N/A	N/A
NO point	388.7	388.7	0.0	388.3	388.7	-1.3	1.0011	1.0000	N/A	N/A
300	388.7	137.4	251.3	388.4	137.4	250.1	1.0008	1.0000	1.0048	99.5%
200	388.7	238.7	150.0	387.9	238.7	148.5	1.0020	1.0000	1.0100	99.0%
100	388.7	326.0	62.7	387.5	326.0	61.0	1.0031	1.0000	1.0271	97.4%
Average Correction Factor							1.0020	1.0000	1.0139	98.6%

AIC Data

	Previous calibration				Current calibration			
Parameter	NOx	NO2	NO		NOx	NO2	NO	
Auto zero	-0.1	-0.2	0.0	ppb	0.2	0.1	-0.1	ppb
Auto span	283.3	280.5	2.0	ppb	269.8	266.5	2.4	ppb

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter NO₂

Air Monitoring Network PAZA



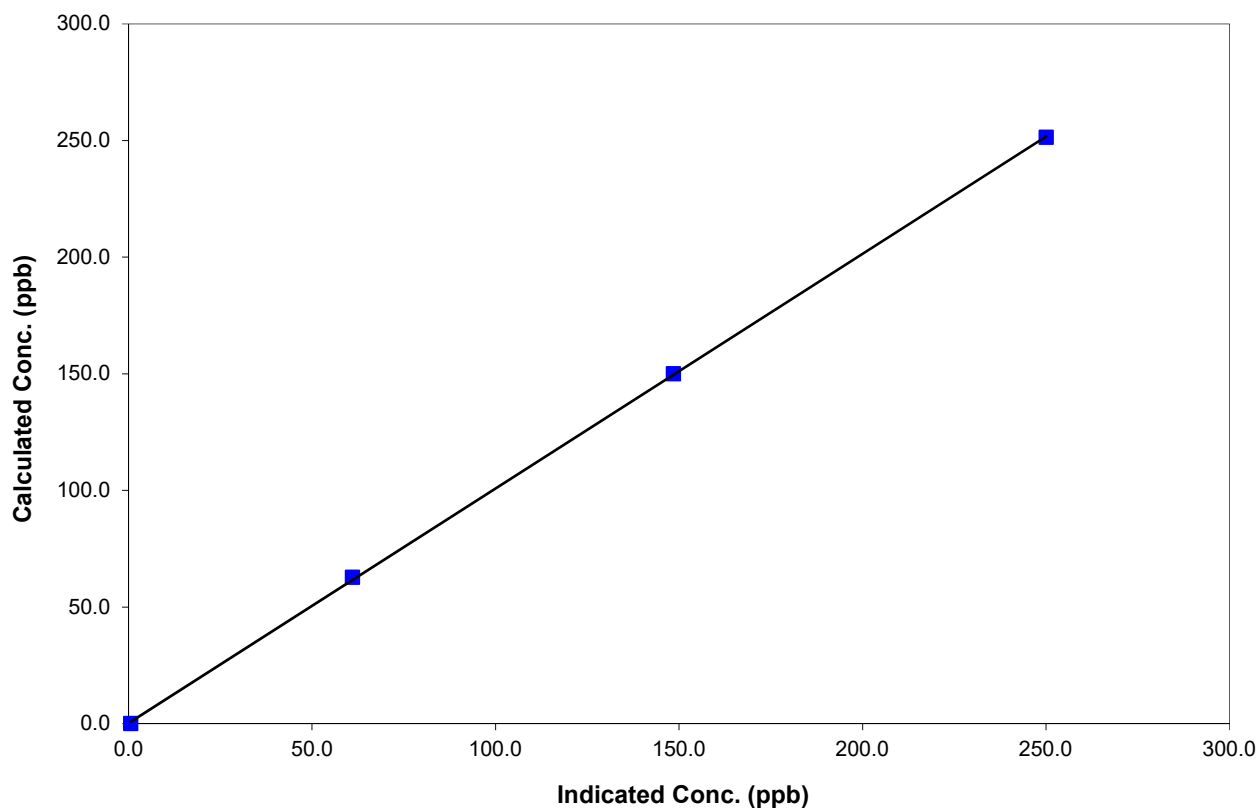
Station Information

Calibration Date	July 13, 2016	Previous Calibration	June 8, 2016
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	8:10	End Time (MST)	13:05
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	0.6	N/A	Correlation Coefficient	0.999938
251.3	250.1	1.0048		
150.0	148.5	1.0100		
62.7	61.0	1.0271	Slope	1.005357
			Intercept	0.316070

NO₂ Calibration Curve



Calibration Summary

Parameter NO_x

Air Monitoring Network PAZA



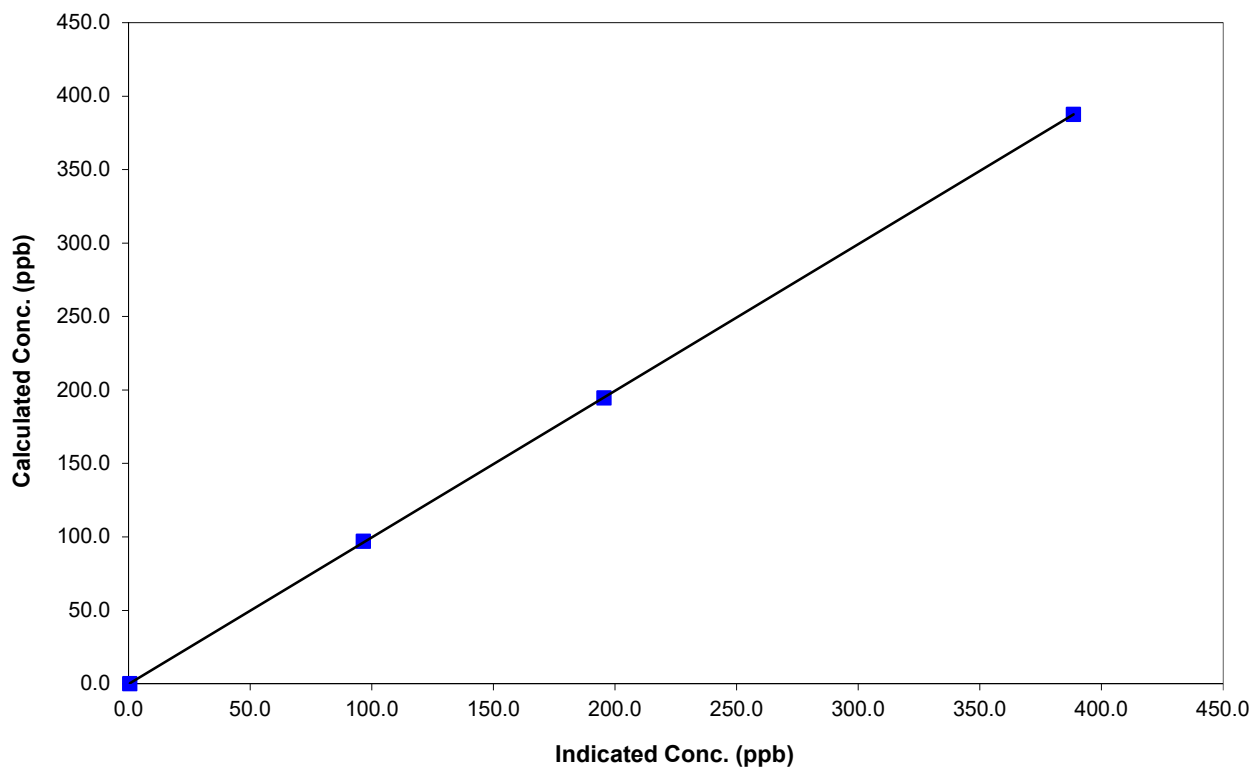
Station Information

Calibration Date	July 13, 2016	Previous Calibration	June 8, 2016
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	8:10	End Time (MST)	13:05
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	0.6	N/A	Correlation Coefficient	0.999986
387.6	388.5	0.9978		
194.4	195.5	0.9945		
97.0	96.5	1.0051	Slope	0.998152
			Intercept	-0.184583

NO_x Calibration Curve



Calibration Summary

Parameter NO

Air Monitoring Network PAZA



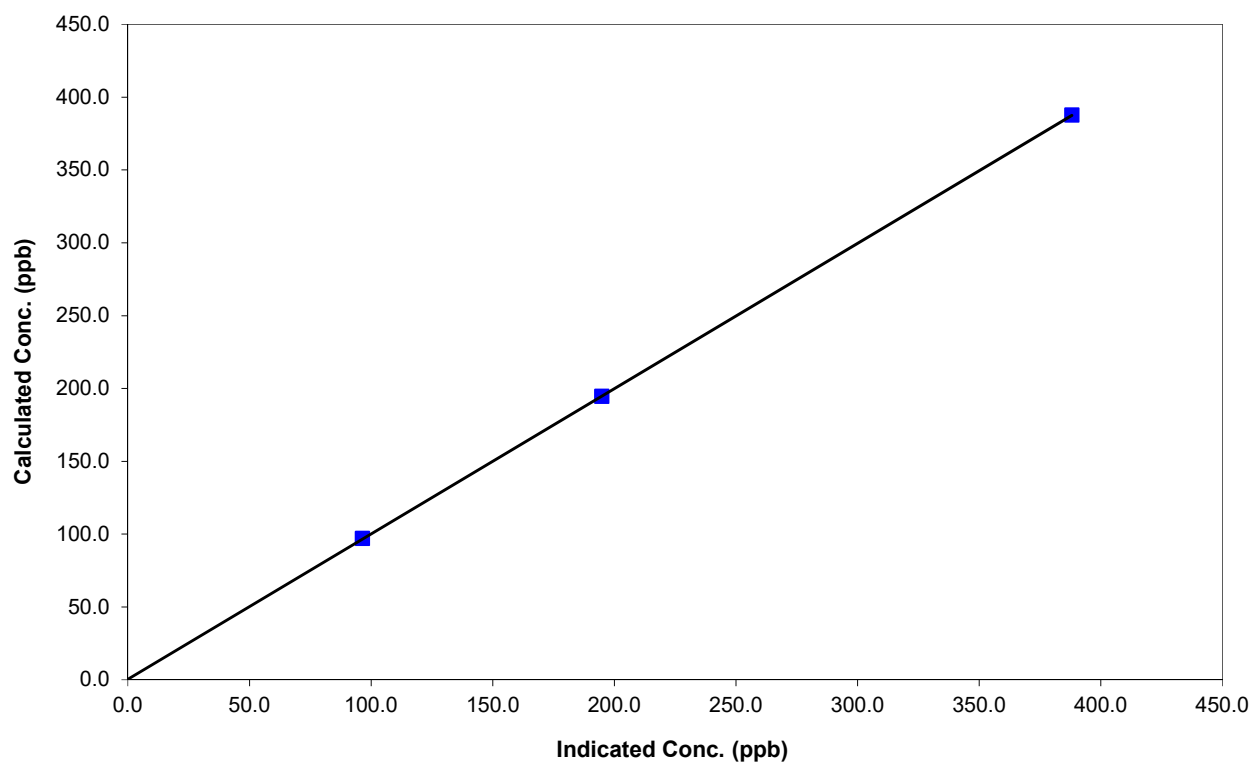
Station Information

Calibration Date	July 13, 2016	Previous Calibration	June 8, 2016
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	8:10	End Time (MST)	13:05
Analyzer make	TEI 42i	Analyzer serial #	906535068

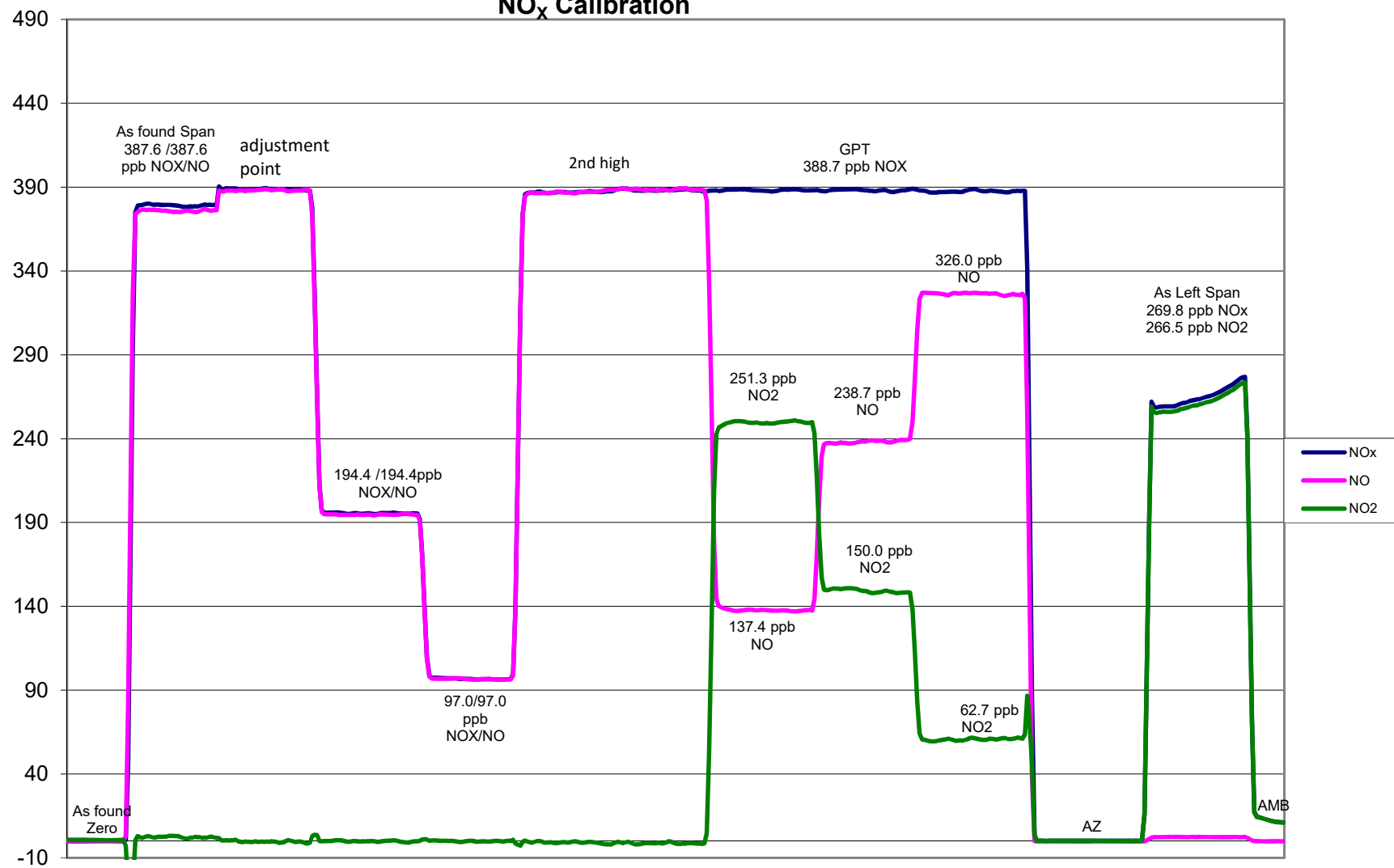
Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.2	N/A	Correlation Coefficient	0.999997
387.6	388.1	0.9986		
194.4	194.8	0.9981		
97.0	96.5	1.0052	Slope	0.997723
			Intercept	0.323781

NO Calibration Curve



NO_x Calibration



July 13, 2016

Calibration Report



Parameter 03

Air Monitoring Network PAZA

Station Information

Calibration Date	July 13, 2016	Previous Calibration	June 8, 2016
Station Number	4	Station Location	Beaverlodge
Reason:	Routine	Install	Removal
		Other:	

Start Time (MST)	11:50	End Time (MST)	13:54
Barometric Pressure	0.928 atm	Station Temperature	20.0 Deg C
Calibrator	EnviroNics	Serial Number	3474
Cal Gas Concentration	NA	Cal Gas Expiry Date	NA

DACS make	CR3000	DACS serial No.	5237
DACS voltage range	0 - 5 volt	DACS channel #	9
	Before		After
Calculated slope	0.998519	Calculated slope	1.003153
Calculated intercept	0.369326	Calculated intercept	-0.424299

Analyzer make	Teco 49i	Analyzer serial #	1136451236,AMU 1879
---------------	----------	-------------------	---------------------

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
offset	-0.30	ppb	-0.30	ppb
slope	1.061		1.061	
Lamp temp	53.8	mV	53.8	mV
Lamp Intensity A/B	47457/52986	mV	47463/52853	mV
Pressure	684.5	mm Hg	689.2	mm Hg
Flow A	0.788	LPM	0.788	LPM
Flow B	0.726	LPM	0.748	LPM

Calibration Data

Dilution air flow rate (cc/min)	Calibrator Setting	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
5028	0.00	0.0	0.2	N/A
5028	0.30	251.3	250.3	1.0041
5028	0.20	150.0	151.1	0.9924
5028	0.10	62.7	62.7	1.0007
5028	0.00	0.0	0.2	As found zero
5028	0.30	251.3	250.3	As found span
Average Correction Factor				0.9991

Calculated value of As Found Response: 250.1 ppm Percent Change of As Found: -0.5%

	before calibration		after calibration	
Auto zero	0.6	ppb	0.2	ppb
Auto span	265.4	ppb	280.1	ppb

Notes: No adj needed.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter 03

Air Monitoring Network PAZA



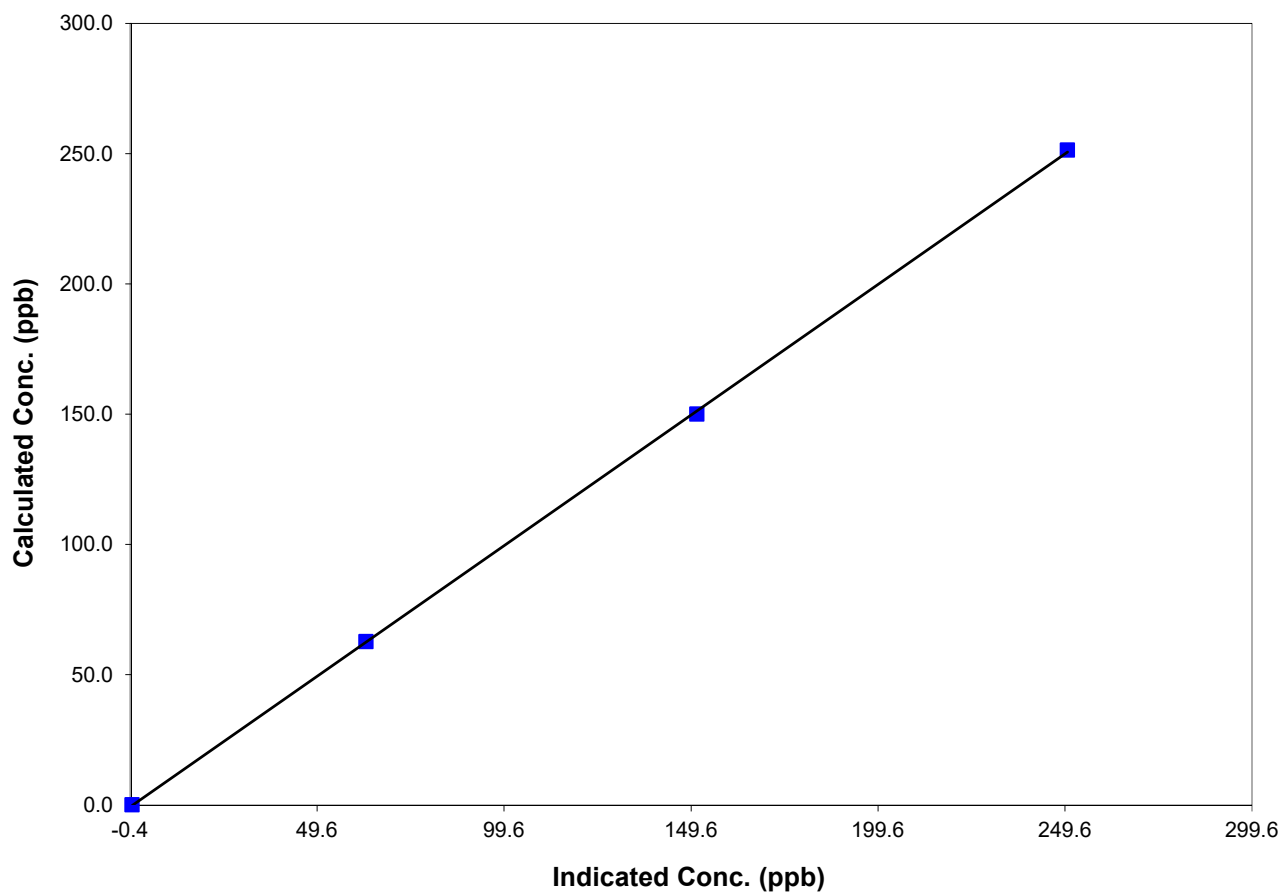
Station Information

Calibration Date	July 13, 2016	Previous Calibration	June 8, 2016
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	11:50	End Time (MST)	13:54
Analyzer make/model	Teco 49i	Analyzer serial #	1136451236,AMU 1879

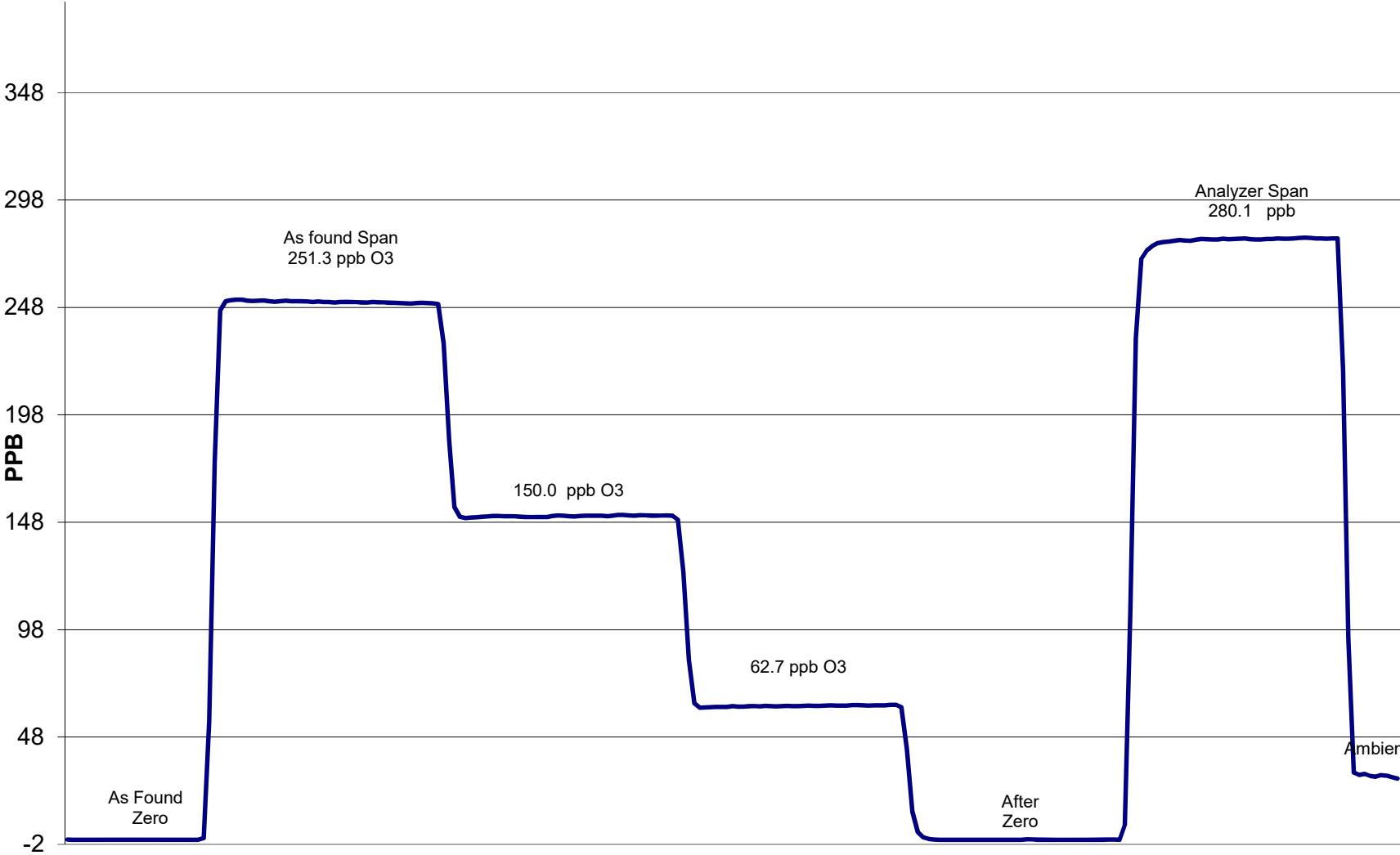
Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.2	NA	Correlation Coefficient	0.999944
251.3	250.3	1.0041		
150.0	151.1	0.9924		
62.7	62.7	1.0007	Slope	1.003153
			Intercept	-0.424299

O3 Calibration Curve



O3 Calibration



July 13, 2016

Calibration Report



AIR QUALITY MONITORING

Parameter SO2

Air Monitoring Network PAZA

Station Information

Calibration Date	July 20 2016	Previous Calibration	June 15 2016
Station Number	6	Station Location	Valleyview
Reason:	Routine	Install	Removal
		Other:	
Start Time (MST)	10:05	End Time (MST)	0:05
Barometric Pressure	0.927 atm	Station Temperature	20.5 Deg C
Calibrator	Envionics	Serial Number	3016
Cal Gas Concentration	49.7 ppm	Cal Gas Exp Date	November 5, 2018
Gas Cylinder Num.	LL103793		
DACS make	CR3000	DACS serial No.	5409
DACS voltage range	0 - 5 volt	DACS channel #	4
	<u>Before</u>		<u>After</u>
DACS Scale High	500	DACS slope	500
DACS Scale Low	0	DACS intercept	0
Calculated slope	1.000076	Calculated slope	0.989764
Calculated intercept	0.065676	Calculated intercept	0.668312
Analyzer make	TEI 43C	Analyzer serial #	609716239

	before		after	
Concentration range	0-500	ppb	0-500	ppb
Background	15.8		15.8	
Coefficient	1.031		1.031	
UV Lamp Voltage	729	LPM	729	LPM
Chamber Temp	43	V	43.1	V
Perm Gas Temp	45	C	45	C
Pressure	670.8	in Hg	669.5	in Hg
Sample Flow	0.485	LPM	0.484	LPM
Lamp Intensity	47549	Hz	47736	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	1.0	N/A
4997	39.93	394.0	398.4	0.9888
4999	19.99	197.9	197.8	1.0009
4995	9.95	98.8	98.0	1.0079
4995	0.00	0.0	1.0	As found zero
4995	39.93	394.2	398.4	As found span
Average Correction Factor				0.9992

Calculated value of As Found Response: 397.6 ppm Percent Change of As Found: -0.9%

	before calibration		after calibration	
Auto zero	0.8	ppm	0.9	ppm
Auto span	294.3	ppm	288.0	ppm

Notes: No adjustment made

Calibration Summary

Parameter SO2

Air Monitoring Network PAZA



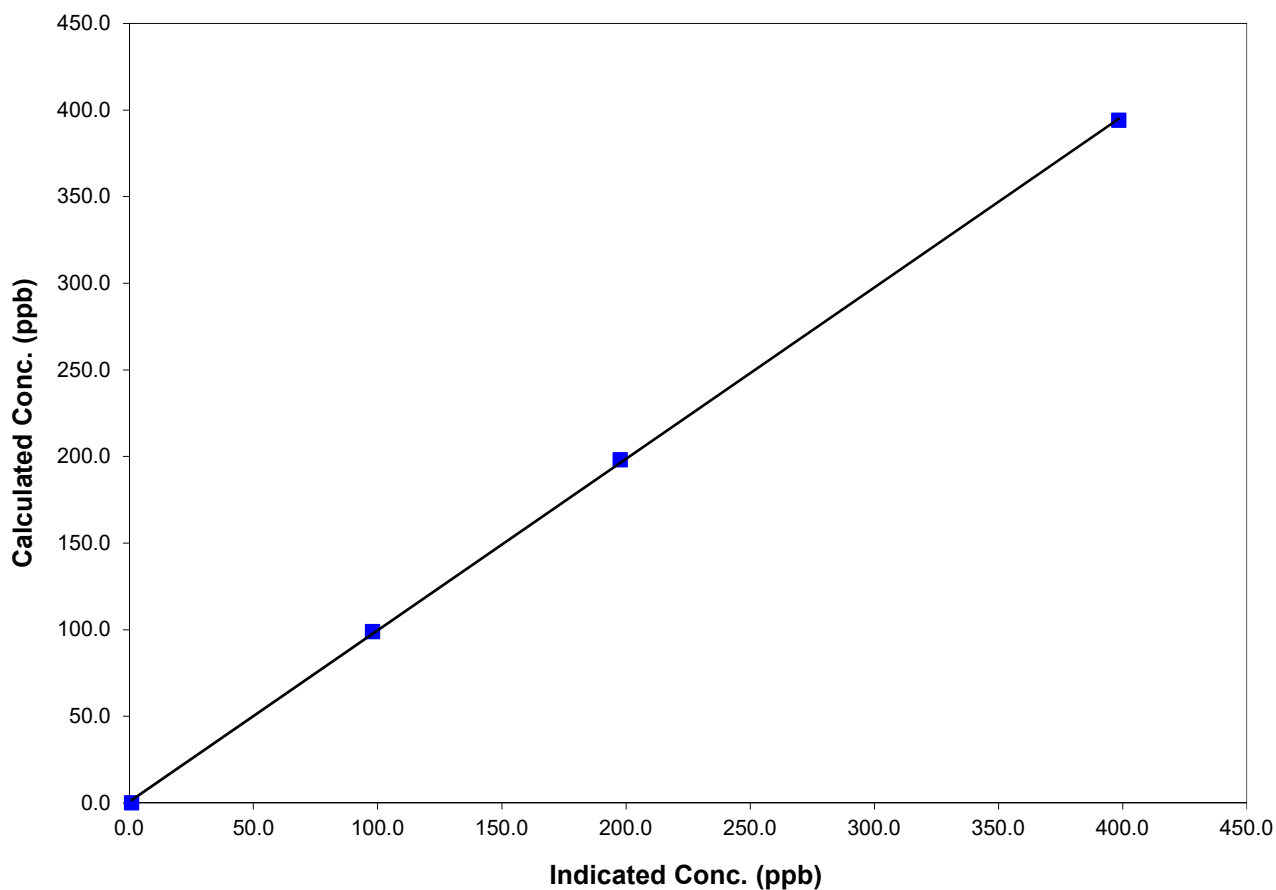
Station Information

Calibration Date	July 20 2016	Previous Calibration	June 15 2016
Station Number	6	Station Location	Valleyview
Start Time (MST)	10:05	End Time (MST)	0:05
Analyzer make/model	TEI 43C	Analyzer serial #	609716239

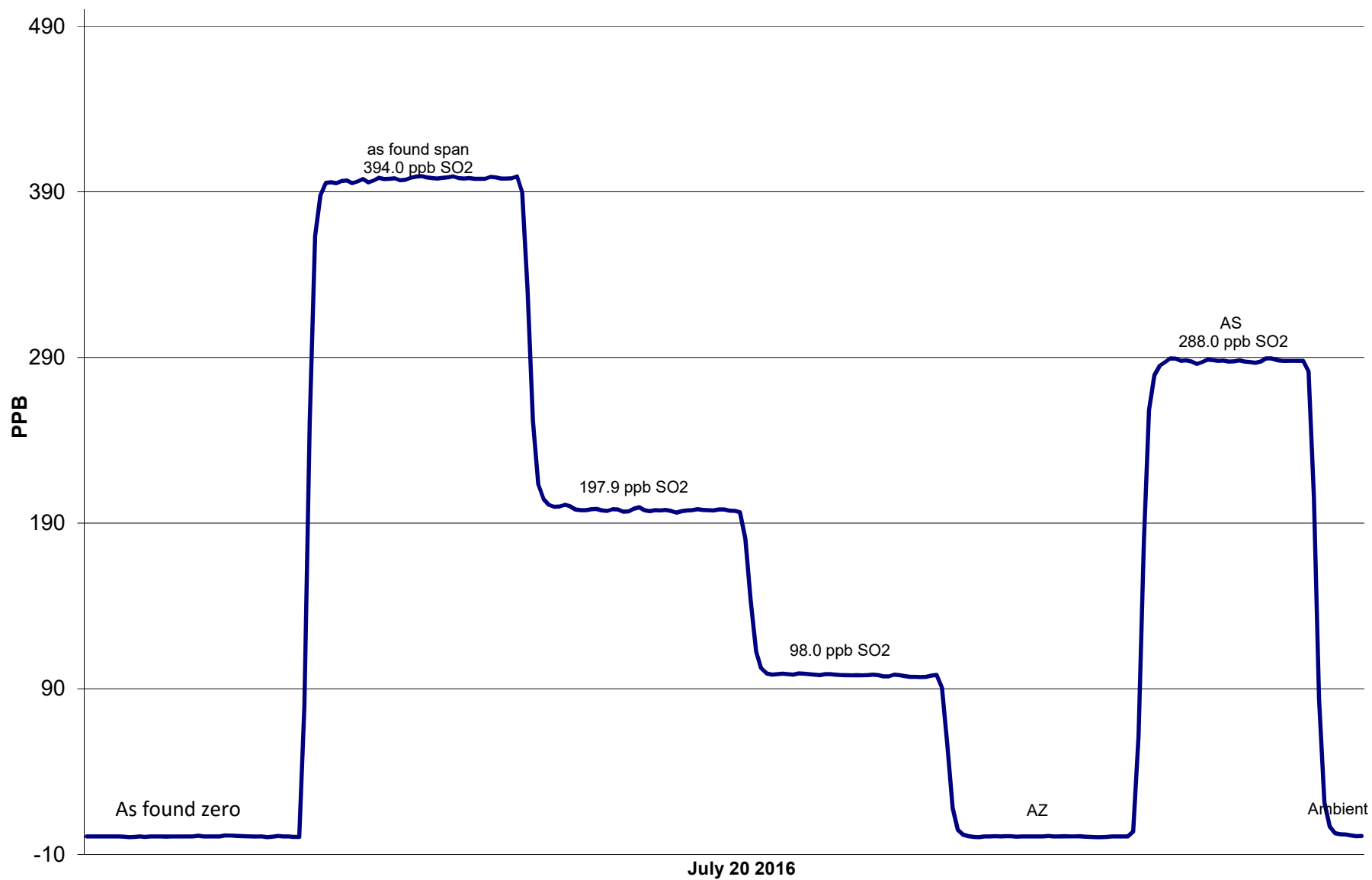
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	1.0	N/A	Correlation Coefficient	0.999914
394.0	398.4	0.9888		
197.9	197.8	1.0009		
98.8	98.0	1.0079	Slope	0.989764
			Intercept	0.668312

SO2 Calibration Curve



SO2 Calibration



Calibration Report



Parameter H2S

Air Monitoring Network PAZA

Station Information

Calibration Date	July 21 2016	Previous Calibration	June 15 2016
Station Number	6	Station Location	Valleyview
Reason:	Routine	Install	Removal
		Other:	
Start Time (MST)	9:35	End Time (MST)	12:20
Barometric Pressure	0.927 atm	Station Temperature	20.5 Deg C
Calibrator	EnviroNics	Serial Number	6586
Cal Gas Concentration	10.2 ppm	Cal Gas Expiry Date	July 03 2016
Gas Cert Reference	LL110781		
DACS make	CR3000	DACS serial No.	5409
DACS voltage range	0 - 5 volt	DACS channel #	9
	<u>Before</u>		<u>After</u>
DACS Scale High	100	DACS slope	100
DACS Scale Low	0	DACS intercept	0
Calculated slope	0.994813	Calculated slope	0.994840
Calculated intercept	0.054909	Calculated intercept	-0.094533
Analyzer make	TEI Model 43i - APSCB	Analyzer serial #	701120010

	<u>before</u>		<u>after</u>	
Concentration range	0 - 100	ppb	0 - 100	ppb
Back Ground	8.3	ppb	7.8	ppb
Coefficient	0.898		0.859	
Lamp Voltage	790	V	792	V
Chamber Temp	45	c	45	c
Perm Oven Temp	45	c	45	c
Pressure	534.20	mm Hg	543.70	mm Hg
Sample Flow	0.367	ccm	0.373	lpm
Lamp Intensity	91	%	91	%

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)
4996	0.00	0.0	0.3	N/A
4998	39.98	80.9	81.6	0.9923
4998	19.96	40.6	40.7	0.9966
6999	10.09	14.7	14.7	0.9982
4997	9.97		2.8	Sox Test
4997	0.00	0.0	0.3	As found zero
4997	39.93	80.9	84.7	As found span
Average Correction Factor				0.9957

Calculated value of As Found Response: 84.03 ppm Percent Change of As Found: -3.9%

	<u>before calibration</u>		<u>after calibration</u>	
Auto zero	0.4	ppm	0.4	ppm
Auto span	72.1	ppm	67.0	ppm

Notes: Span adjustment,ran adjustment point
Sox scrubber check is done

Calibration Summary

Parameter H2S

Air Monitoring Network PAZA



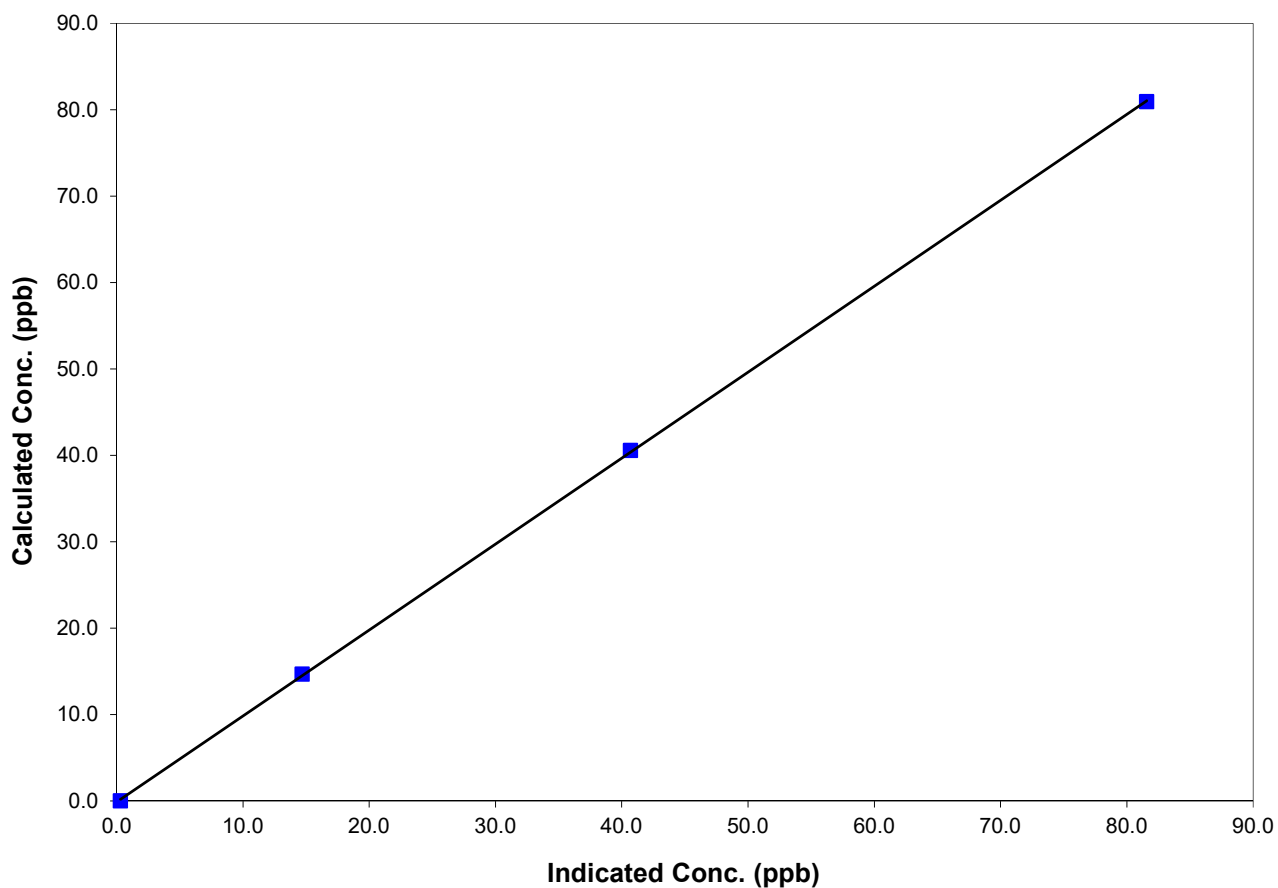
Station Information

Calibration Date	July 21 2016	Previous Calibration	June 15 2016
Station Number	6	Station Location	Valleyview
Start Time (MST)	9:35	End Time (MST)	12:20
Analyzer make/model	TEI Model 43i - APSCB	Analyzer serial #	701120010

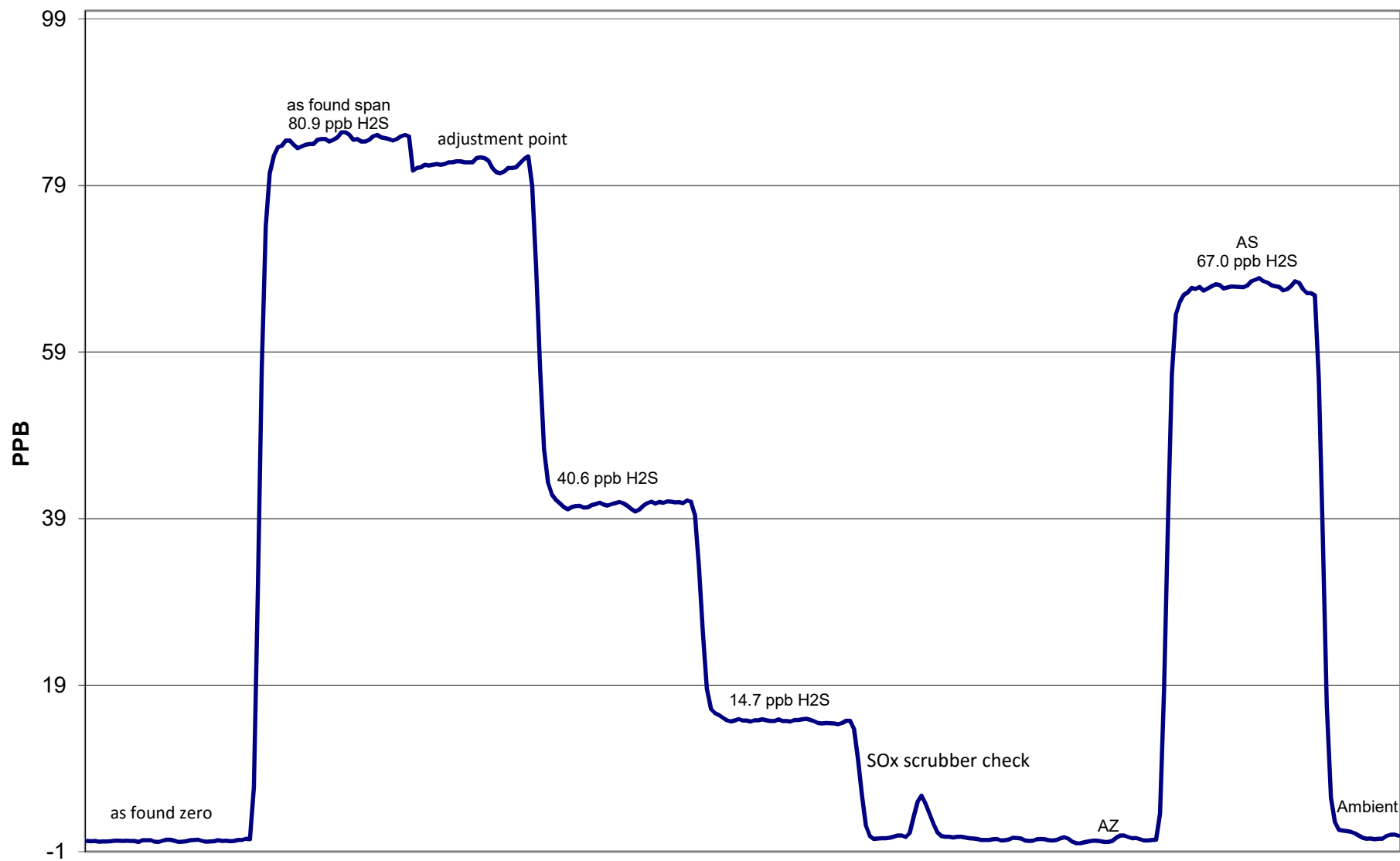
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.3	N/A	Correlation Coefficient	0.999973
80.9	81.6	0.9923		
40.6	40.7	0.9966		
14.7	14.7	0.9982	Slope	0.994840
			Intercept	-0.094533

H2S Calibration Curve



H2S Calibration



July 21 2016

Calibration Report

Parameter SO2
Air Monitoring Network PAZA



Station Information

Calibration Date	July 8, 2016	Previous Calibration	June 16, 2016
Station Number	10	Station Location	Rycroft
Reason:	☒ Routine	☐ Install	☐ Removal
		☐ Other:	
Start Time (MST)	9:40	End Time (MST)	11:45
Barometric Pressure	0.929 Atm	Station Temperature	21.0 Deg C
Calibrator	EnviroNics 6103	Serial Number	6586
Cal Gas Concentration	49.8 ppm	Cal Gas Expiry Date	3/10/2017
Gas Cert Reference	LL119493		
DACS make	CR3000	DACS serial No.	5407
DACS voltage range	0 - 5 Volt	DACS channel #	2
	Before		After
DACS Scale High	500	DACS slope	500
DACS Scale Low	0	DACS intercept	0
Calculated slope	1.000511	Calculated slope	0.982176
Calculated intercept	1.252912	Calculated intercept	0.595659
Analyzer make	TEI 43C	Analyzer serial #	436610005

	before		after	
Concentration range	0-500	ppb	0-500	ppb
Background	23.5		23.5	
Coefficient	1.058		1.058	
UV Lamp Voltage	886	V	887	V
Chamber Temp	44.1	C	44.1	C
Perm Gas Temp	45	C	45	C
Pressure	672.9	mm Hg	672.9	mm Hg
Sample Flow	0.467	LPM	0.467	LPM
Lamp Intesity	30393	Hz	30288	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)
4998	0.00	0.0	0.3	N/A
4996	39.95	395.1	402.3	0.9821
4997	19.98	198.3	200.2	0.9906
4999	9.94	98.8	99.6	0.9923
4998	0.00	0.0	0.3	As found zero
4999	39.93	394.6	402.3	As found span
Average Correction Factor				0.9883

Calculated value of As Found Response: 403.469 ppm Percent Change of As Found: -2.2%

	before calibration		after calibration	
Auto zero	0.3	ppm	0.3	ppm
Auto span	208.2	ppm	209.8	ppm

Notes: No adjustment made

Calibration Summary

Parameter SO2

Air Monitoring Network PAZA



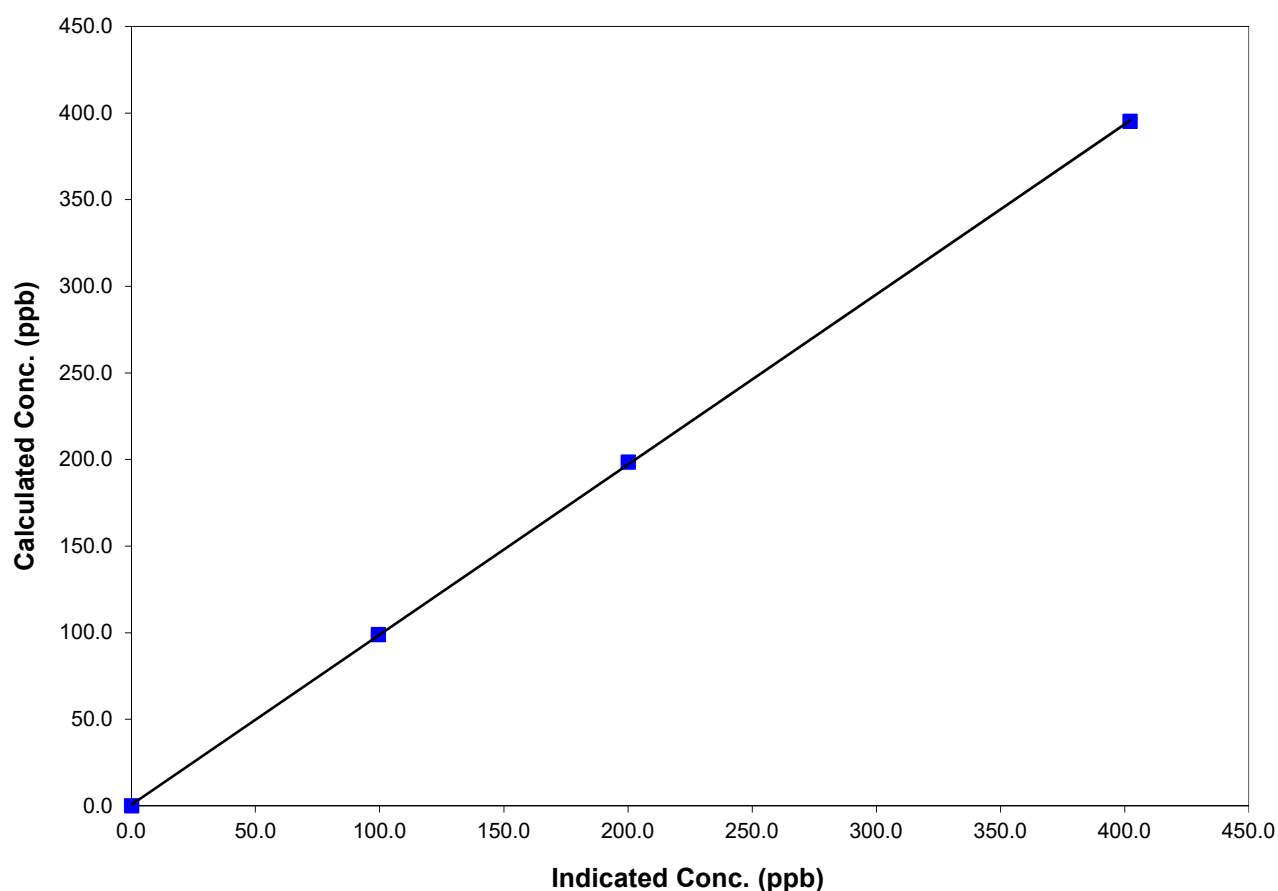
Station Information

Calibration Date	July 8, 2016	Previous Calibration	June 16, 2016
Station Number	10	Station Location	Rycroft
Start Time (MST)	9:40	End Time (MST)	11:45
Analyzer make/model	TEI 43C	Analyzer serial #	436610005

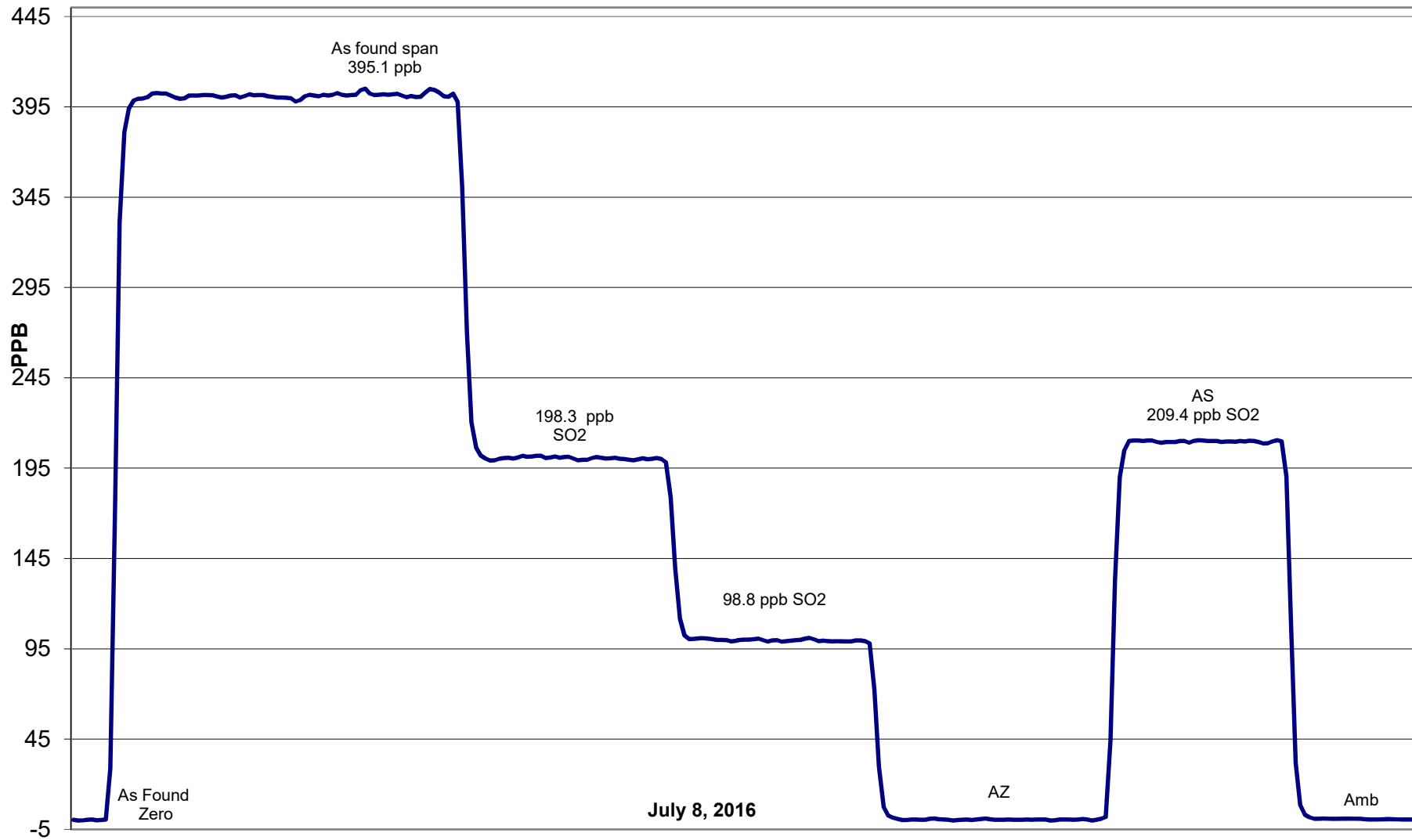
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.3	N/A	Correlation Coefficient	0.999971
395.1	402.3	0.9821		
198.3	200.2	0.9906		
98.8	99.6	0.9923	Slope	0.982176
			Intercept	0.595659

SO2 Calibration Curve



SO2 Calibration



Parameter

Air Monitoring Network

NO_x-NO-NO₂
PAZA



Station Information

Calibration Date	July 8, 2016		Previous Calibration	June 16, 2016	
Station Number	10		Station Location	Rycroft	
Reason:	☒ Routine	☐ Installation	☐ Removal	Other:	
Start Time (MST)	9:45		End Time (MST)	13:25	
Barometric Pressure	0.929	Atm	Station Temperature	21.0	Deg C
Calibrator	EnviroNics		Serial Number	6586	
NO Cal Gas Conc	50.9	ppm	Cal Gas Expiry Date	March 10, 2017	
NOx Cal Gas Conc	51.2	ppm	Cal Gas Serial #	LL119493	

DACS Information

DACS make		CR3000		DACS serial No.		5407	
	Parameter	NO2	NOx	NO			
Before	Data Slope	0.997829	1.006380	1.004732			
	Data Offset	0.651723	2.138174	1.708379			
After	Data Slope	1.002181	1.003981	1.001286			
	Data Offset	-0.369639	0.607442	0.245639			
Channel #		8	6	7			
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	7.6	mV	7.7	mV
NOx bkgnd	7.9	mV	8.1	mV
NO coefficient	1.311		1.335	
NOx coefficient	0.999		0.999	
NO2 conv temp	324.2	Deg C	326.8	Deg C
PMT Temp	-2.9	Deg C	-3.0	Deg C
PMT Volt	-835.5	mV	-834.5	mV
R Cell Press	215.3	in Hg	214.7	in Hg
Sample Flow	0.679	LPM	0.680	LPM

Notes: Span adjustment made

Calibration Report

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

Station Information

Calibration Date: July 8, 2016 Station Location: Rycroft

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	4994	0.00	0.0	0.0	0.0	-0.5	-0.4	-0.2	N/A	N/A
1	4995	39.92	405.9	403.6	2.4	403.5	402.7	-1.0	1.0060	1.0022
2	4994	19.96	203.8	202.6	1.2	203.1	202.3	-0.2	1.0034	1.0017
3	4998	9.98	102.0	101.4	0.6	100.4	101.1	-0.7	1.0160	1.0030
AFZ	4994	0.00	0.0	0.0	0.0	-0.5	-0.4	-0.2	0.0000	0.0000
AFS	4999	39.92	405.6	403.2	0.8	397.4	396.3	-0.6	1.0208	1.0176
Average Correction Factor									1.0085	1.0023

As Found Concentrations: NO_x= 402.6 NO= 400.2 As Found Percent Change NO_x= -0.8% NO= -0.7%

GPT Calibration Data

Dilution Flow 4995 ccm Source Gas Flow 39.93 ccm

O3 Setpoint (ppb)	Indicated NOx high point (ppb)	Indicated NO drop conc (ppb)	Calculated NO2 conc (ppb)	Indicated NOx conc (ppb)	Indicated NO conc (ppb)	Indicated NO2 conc (ppb)	NOx Correction factor	NO Correction factor	NO2 Correction factor	Converter Efficiency
0	-0.4	-0.4	0.0	-0.5	-0.4	-0.2	N/A	N/A	N/A	N/A
NO point	404.1	404.1	0.0	404.5	404.1	-1.8	0.9990	1.0000	N/A	N/A
300	404.1	70.2	333.9	404.9	70.2	333.0	0.9982	1.0000	1.0027	99.7%
200	404.1	179.3	224.8	406.6	179.3	225.2	0.9940	1.0000	0.9982	100.2%
100	404.1	295.2	109.0	407.1	295.2	109.7	0.9927	1.0000	0.9933	100.7%
Average Correction Factor							0.9950	1.0000	0.9981	100.2%

AIC Data

	Previous calibration				Current calibration			
Parameter	NOx	NO2	NO		NOx	NO2	NO	
Auto zero	-0.7	-0.4	-0.5	ppb	-0.6	-0.3	-0.4	ppb
Auto span	160.5	158.8	0.8	ppb	155.7	153.9	1.0	ppb

Calibration Performed By: Dmytro Dolotii

Calibration Summary

Parameter NO₂

Air Monitoring Network PAZA



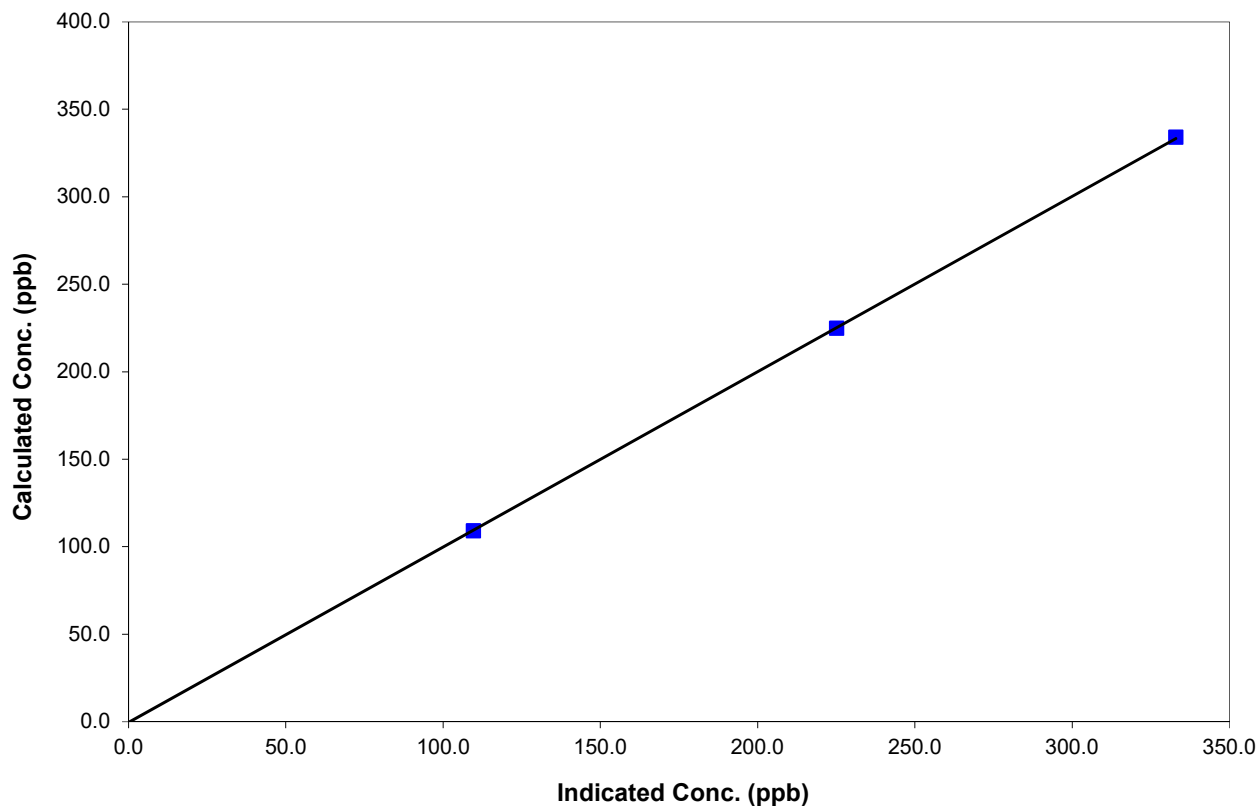
Station Information

Calibration Date	July 8, 2016	Previous Calibration	June 16, 2016
Station Number	10	Station Location	Rycroft
Start Time (MST)	9:45	End Time (MST)	13:25
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	0.999980
333.9	333.0	1.0027		
224.8	225.2	0.9982		
109.0	109.7	0.9933	Slope	1.002181
			Intercept	-0.369639

NO₂ Calibration Curve



Calibration Summary

Parameter NO_x

Air Monitoring Network PAZA



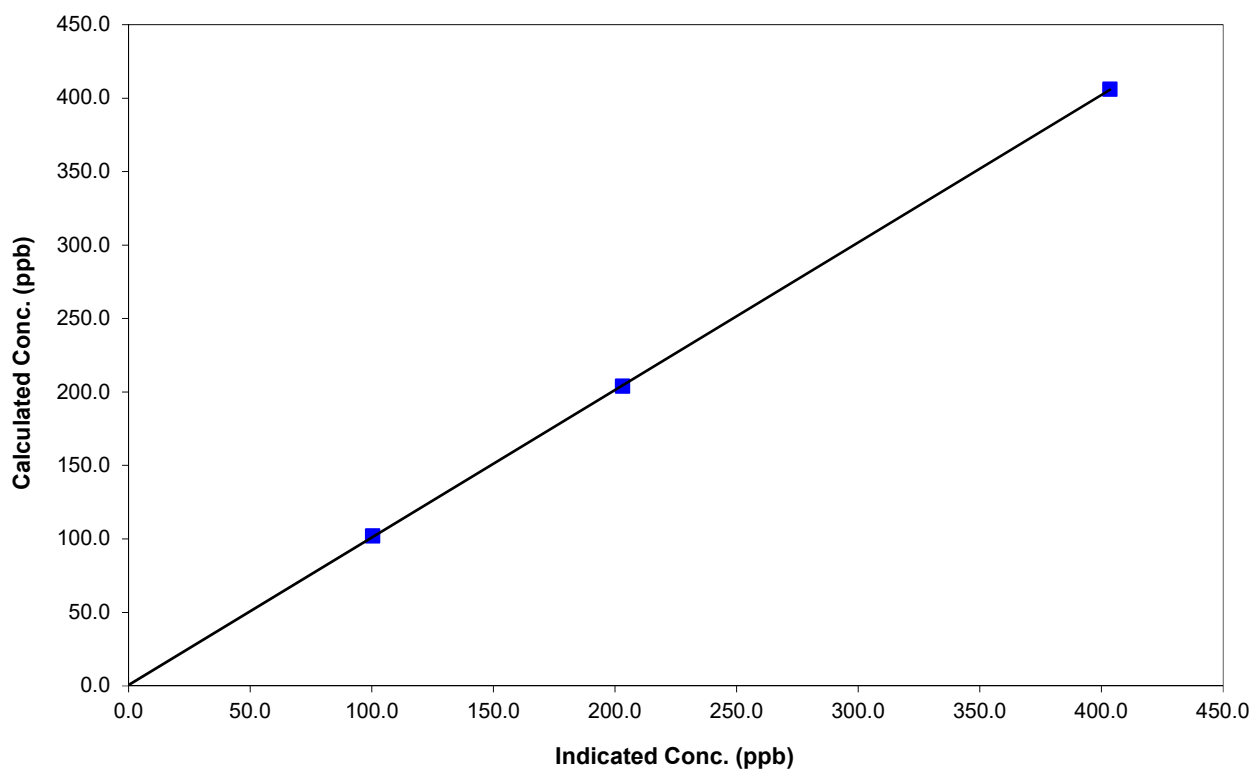
Station Information

Calibration Date	July 8, 2016	Previous Calibration	June 16, 2016
Station Number	10	Station Location	Rycroft
Start Time (MST)	9:45	End Time (MST)	13:25
Analyzer make	TEI 42i	Analyzer serial #	0701120011

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.5	N/A	Correlation Coefficient	0.999990
405.9	403.5	1.0060		
203.8	203.1	1.0034		
102.0	100.4	1.0160	Slope	1.003981
			Intercept	0.607442

NO_x Calibration Curve



Calibration Summary

Parameter NO

Air Monitoring Network PAZA



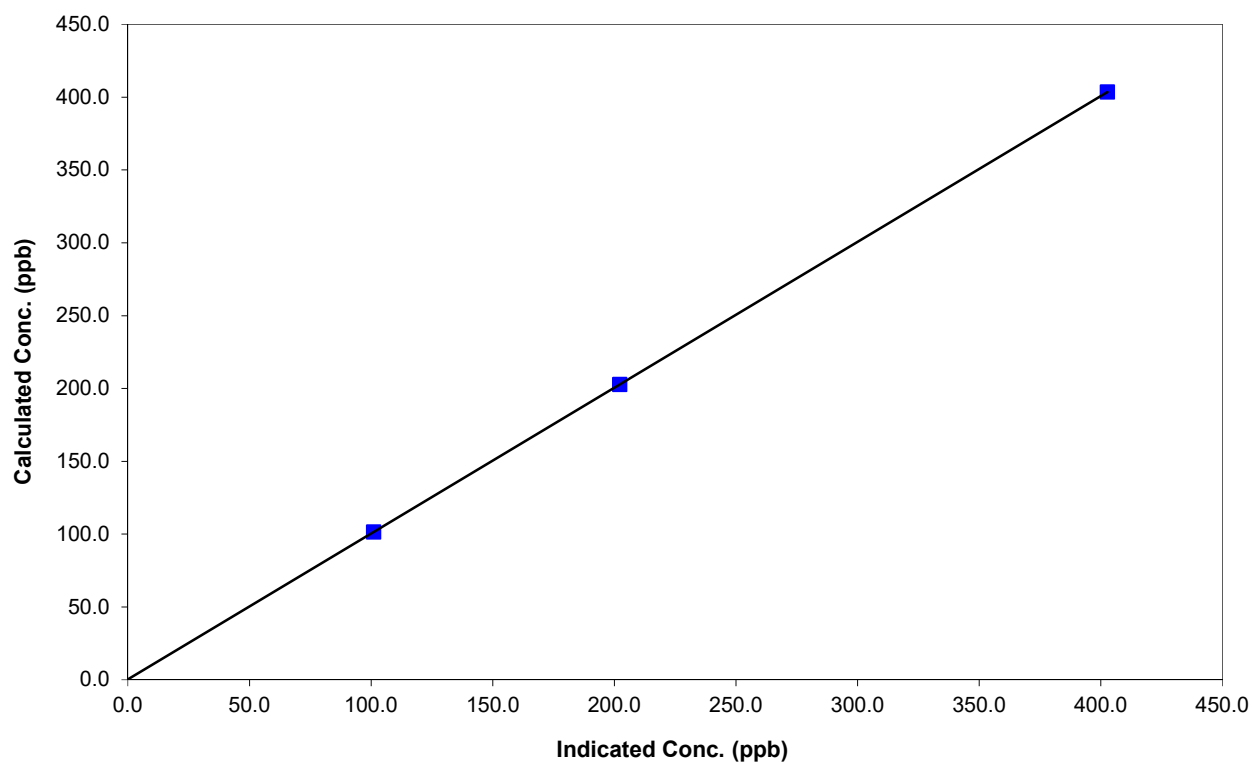
Station Information

Calibration Date	July 8, 2016	Previous Calibration	June 16, 2016
Station Number	10	Station Location	Rycroft
Start Time (MST)	9:45	End Time (MST)	13:25
Analyzer make	TEI 42i	Analyzer serial #	0701120011

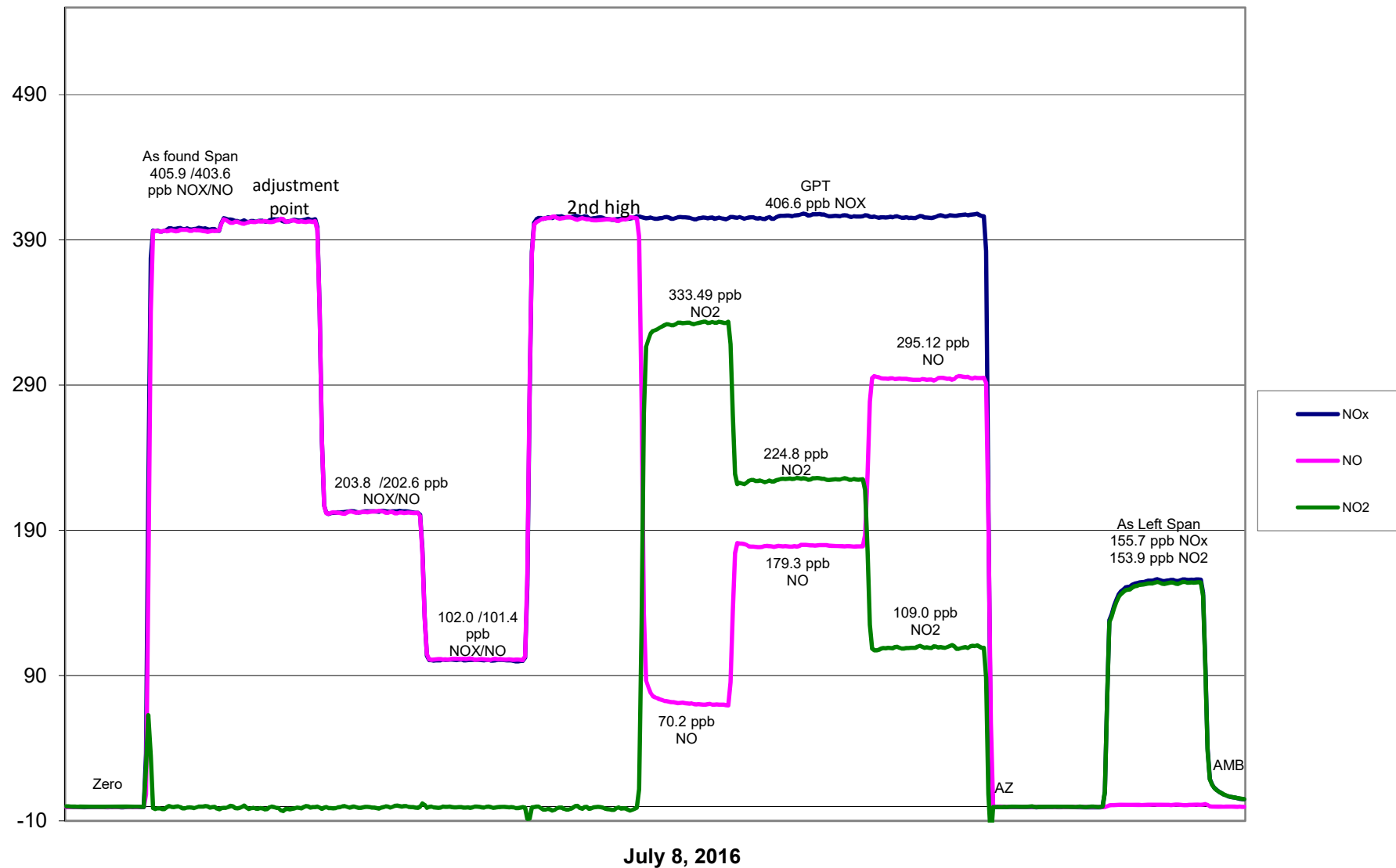
Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.4	N/A	Correlation Coefficient	0.999999
403.6	402.7	1.0022		
202.6	202.3	1.0017		
101.4	101.1	1.0030	Slope	1.001286
			Intercept	0.245639

NO Calibration Curve



NO_x Calibration



Calibration Report



Parameter 03

Air Monitoring Network PAZA

Station Information

Calibration Date	July 8 2016	Previous Calibration	June 16 2016
Station Number	10	Station Location	Rycroft
Reason:	☐ Routine	☒ Install	☐ Removal
		☐ Other:	
Start Time (MST)	12:40	End Time (MST)	15:15
Barometric Pressure	0.929 atm	Station Temperature	21.0 Deg C
Calibrator	Envionics 6103	Serial Number	6586
DACS make	CR3000	DACS serial No.	5407
DACS voltage range	0 - 5 Volts	DACS channel #	6
	Before		After
Calculated slope	0.999563	Calculated slope	1.019185
Calculated intercept	0.496297	Calculated intercept	-0.759433
Analyzer make	Model 49-I	Analyzer serial #	1153630156

	before		after	
Concentration range	0-500	ppb	0-500	ppb
Offset	-0.6	ppb	-0.6	ppb
Span	0.994		0.994	
Cell A intensity	95941	Hz	95889	Hz
Cell B intensity	127643	Hz	127589	Hz
Pressure	693.80	in Hg	694.10	in Hg
CellA Flow	0.693	ccm	0.692	ccm
Cell B Flow	0.690	cmm	0.691	cmm

Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
5015	0.00	0.0	0.4	N/A
5020	0.30	333.9	328.5	1.0165
5025	0.20	224.8	220.8	1.0183
5020	0.10	109.0	108.5	1.0046
5015	0.00	0.0	0.4	As found zero
5020	0.30	333.9	328.5	As found span
Average Correction Factor				1.0132

Calculated value of As Found Response: 328.4 ppm Percent Change of As Found: -1.6%

	before calibration		after calibration	
Auto zero	-0.2	ppb	-0.2	ppb
Auto span	460.3	ppb	397.6	ppb

Notes: No adjustment made

Calibration Performed By: Dmytro Dolotii

Calibration Summary

Parameter 03

Air Monitoring Network PAZA



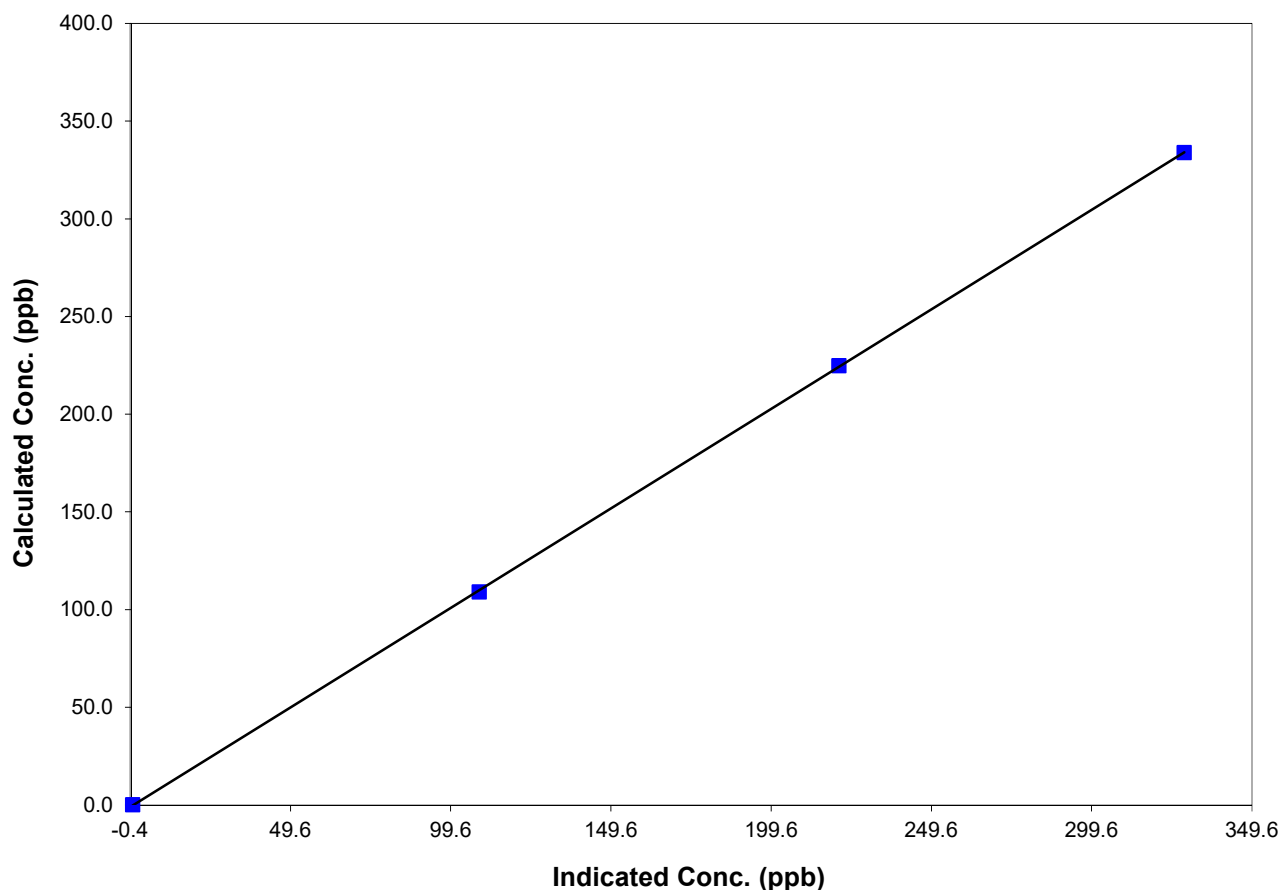
Station Information

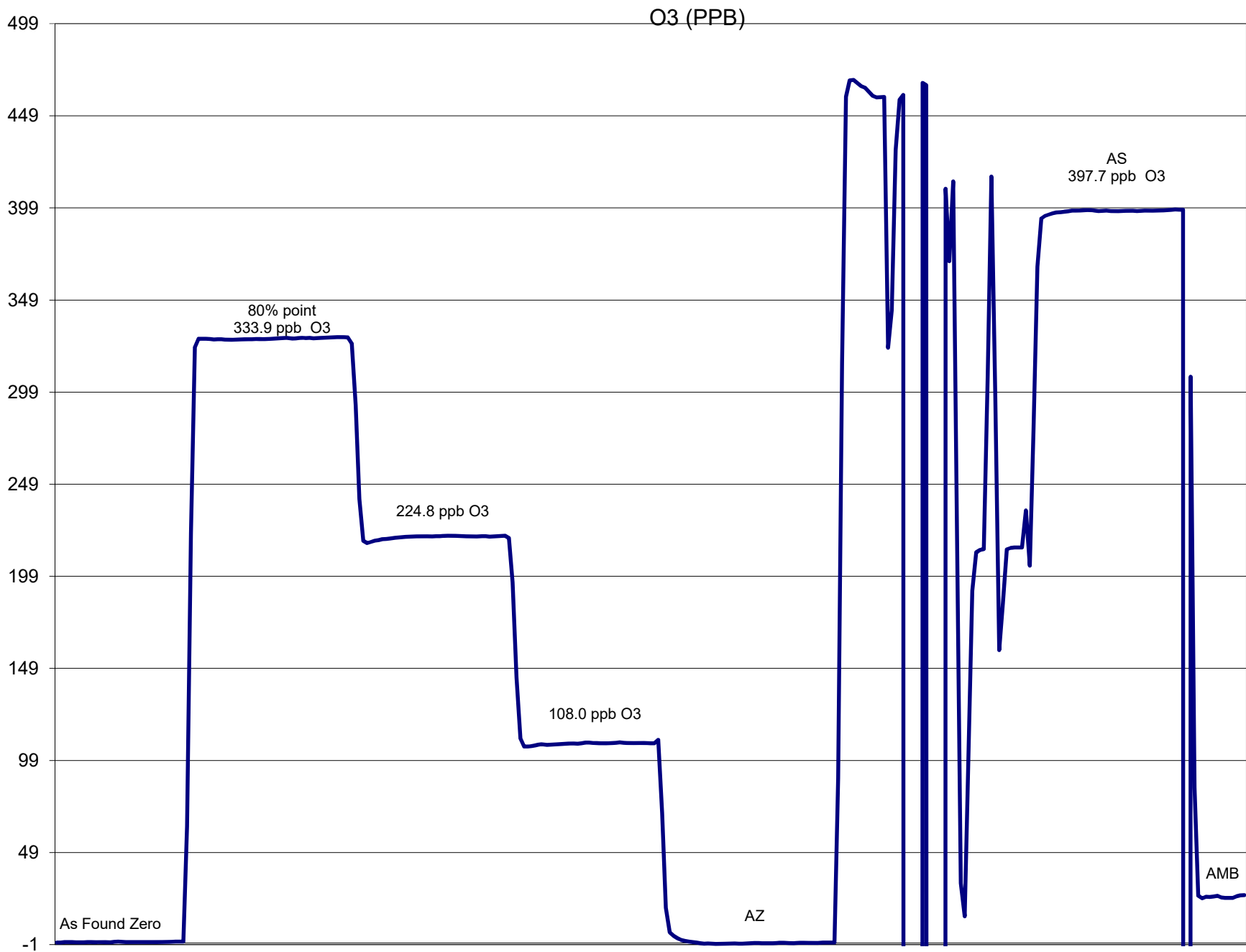
Calibration Date	July 8 2016	Previous Calibration	June 16 2016
Station Number	10	Station Location	Rycroft
Start Time (MST)	12:40	End Time (MST)	15:15
Analyzer make/model	Model 49-I	Analyzer serial #	1153630156

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.4	NA	Correlation Coefficient	0.999982
333.9	328.5	1.0165		
224.8	220.8	1.0183		
109.0	108.5	1.0046	Slope	1.019185
			Intercept	-0.759433

O3 Calibration Curve





July 8 2016

Calibration Report



Parameter THC
Air Monitoring Network PAZA

Station Information

Calibration Date	July 9, 2016	Previous Calibration	June 26, 2016
Station Number	10	Station Location	Rycroft Rover
Reason:	Routine	Install	Removal
Start Time (MST)	11:49	End Time (MST)	13:36
Barometric Pressure	0.925 ATM	Station Temperature	21.0 Deg C
Calibrator	EnviroNics 6103	Serial Number	6586
Cal Gas Concentration	404 ppm CH4/ 201 ppm C3H8	Cal Gas Expiry Date	3/28/2014
Cal Gas CH4 equiv	956.75 ppm	Cal Gas Cylinder #	LL34989
DACS make	CR3000	DACS serial No.	5407
DACS voltage range	0 - 1 volt	DACS channel #	12
	<u>Before</u>		<u>After</u>
Calculated slope	0.994643	Calculated slope	0.992447
Calculated intercept	0.159637	Calculated intercept	0.297945
Analyzer make	TEI Model 51C-LT	Analyzer serial #	51CLT-79009-390

	before		after	
Concentration range	0 - 25	ppm	0 - 25	ppm
THC sample pressure	6.50	psi	6.50	psi
THC zero counts	1510	capture	1510	capture
THC span counts	11040	capture	11040	capture
THC zero offset	2273	capture	2273	capture
THC span offset	2267	capture	2267	capture

Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
2996	0.00	0.00	-0.09	N/A
2998	69.96	21.82	21.76	1.0026
2997	29.98	9.48	9.11	1.0406
2998	9.99	3.18	2.76	1.1532
2996	0.00	0.00	-0.09	As Found Zero
2996	69.93	21.82	21.76	As Found Span
Average Correction Factor				1.0655

Calculated value of As Found Response: 21.895 ppm Percent Change of As Found: -0.3%

	before calibration		after calibration	
Auto zero	0.04	ppm	-0.07	ppm
Auto span	22.57	ppm	22.46	ppm

Notes: NO adjustment made.
Span cylinder is almost out of gas-will be replaced on the next visit.

Calibration Summary

Parameter THC

Air Monitoring Network PAZA



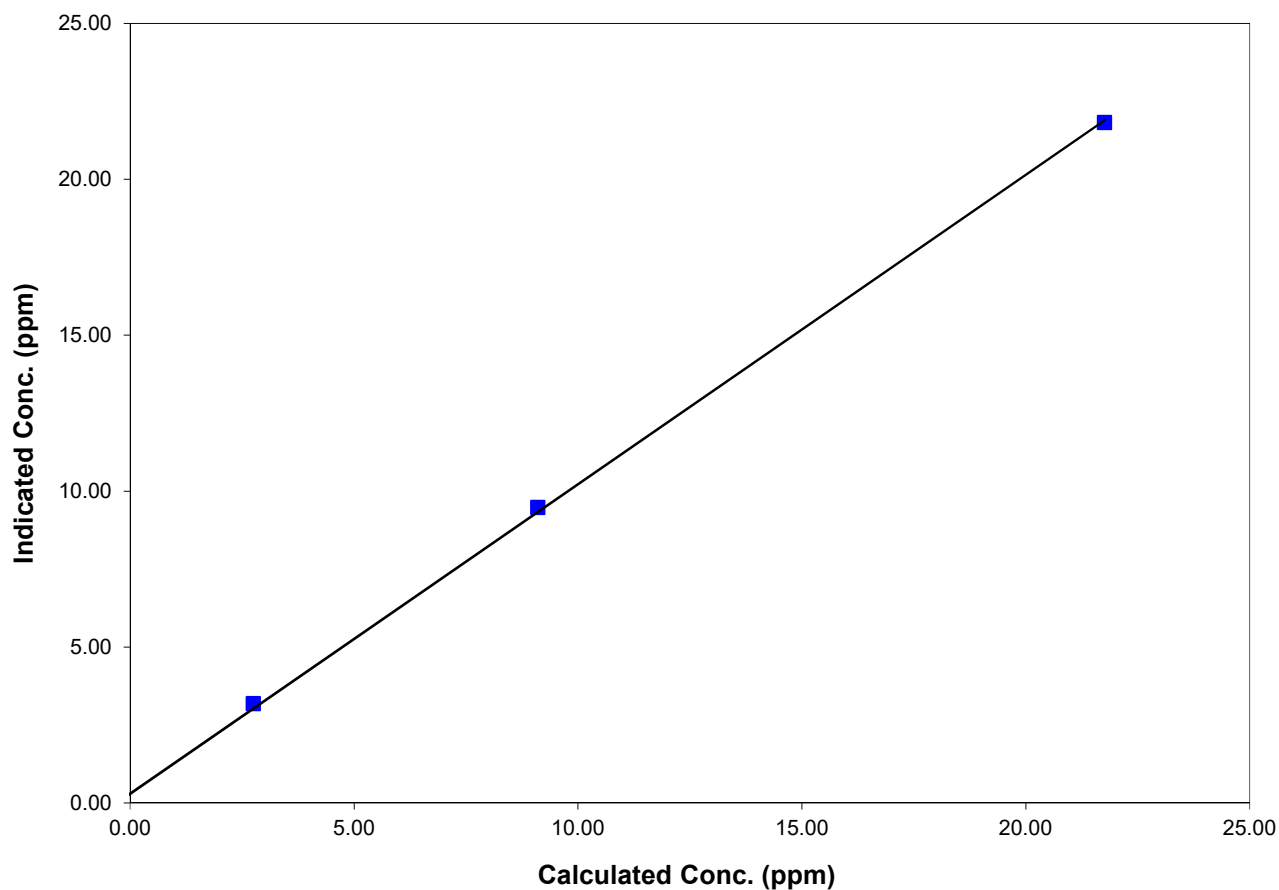
Station Information

Calibration Date	July 9, 2016	Previous Calibration	June 26, 2016
Station Number	10	Station Location	Rycroft Rover
Start Time (MST)	11:49	End Time (MST)	13:36
Analyzer make/model	TEI Model 51C-LT	Analyzer serial #	51CLT-79009-390

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	-0.091	N/A		
21.82	21.76	1.0026	Correlation Coefficient	0.999677
9.48	9.11	1.0406		
3.18	2.76	1.1532	Slope	0.992447
			Intercept	0.297945

THC Calibration Curve



THC Calibration



Calibration Report

Parameter **TRS**
Air Monitoring Network

PAZA



Station Information

Calibration Date	July 9, 2016	Previous Calibration	June 17, 2016
Station Name	PAZA Rover	Station Location	Rycroft
Reason:	Routine	☐ Install	☐ Removal
		☐ Other:	
Start Time (MST)	9:00 AM	End Time (MST)	12:25
Barometric Pressure	0.925 Atm	Station Temperature	21.0 Deg C
Calibrator	EnviroNics	Serial Number	6586
Cal Gas Concentration	10.2 ppm	Cal Gas Expiry Date	02/23/2019
Gas Cert Reference	EY0000380		
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	0.993195	Calculated slope	1.006843
Calculated intercept	-0.162311	Calculated intercept	-0.129934
Analyzer make	TEI 43C	Analyzer serial #	609716238

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Background	26.2	ppb	26.2	ppb
Coefficient	0.956		0.956	
Lamp Voltage	793	V	793	V
Chamber Temp	43.8	C	43.8	C
Perm gas Temp	45	C	45	C
Pressure	662.6	mmHg	661.8	mmHg
Sample Flow	0.449	lpm	0.448	lpm
Lamp Intensity	43399	Hz	43146	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)
4996	0.0	0.0	0.1	N/A
4997	39.94	80.9	80.4	1.0063
4997	19.91	40.5	40.5	0.9989
6998	9.97	14.5	14.5	1.0030
4996	9.97		0.2	Sox Test
4995	0.00	0.0	0.1	As found zero
4995	39.93	80.9	80.4	As found span
Average Correction Factor				1.0027

Calculated value of As Found Response: 79.57 ppm Percent Change of As Found: 1.6%

	before calibration		after calibration	
Auto zero	0.3	ppm	0.1	ppm
Auto span	55.7	ppm	57.4	ppm

Notes: No adjustments made
Sox scrubber check performed

Calibration Summary

Parameter TRS

Air Monitoring Network PAZA



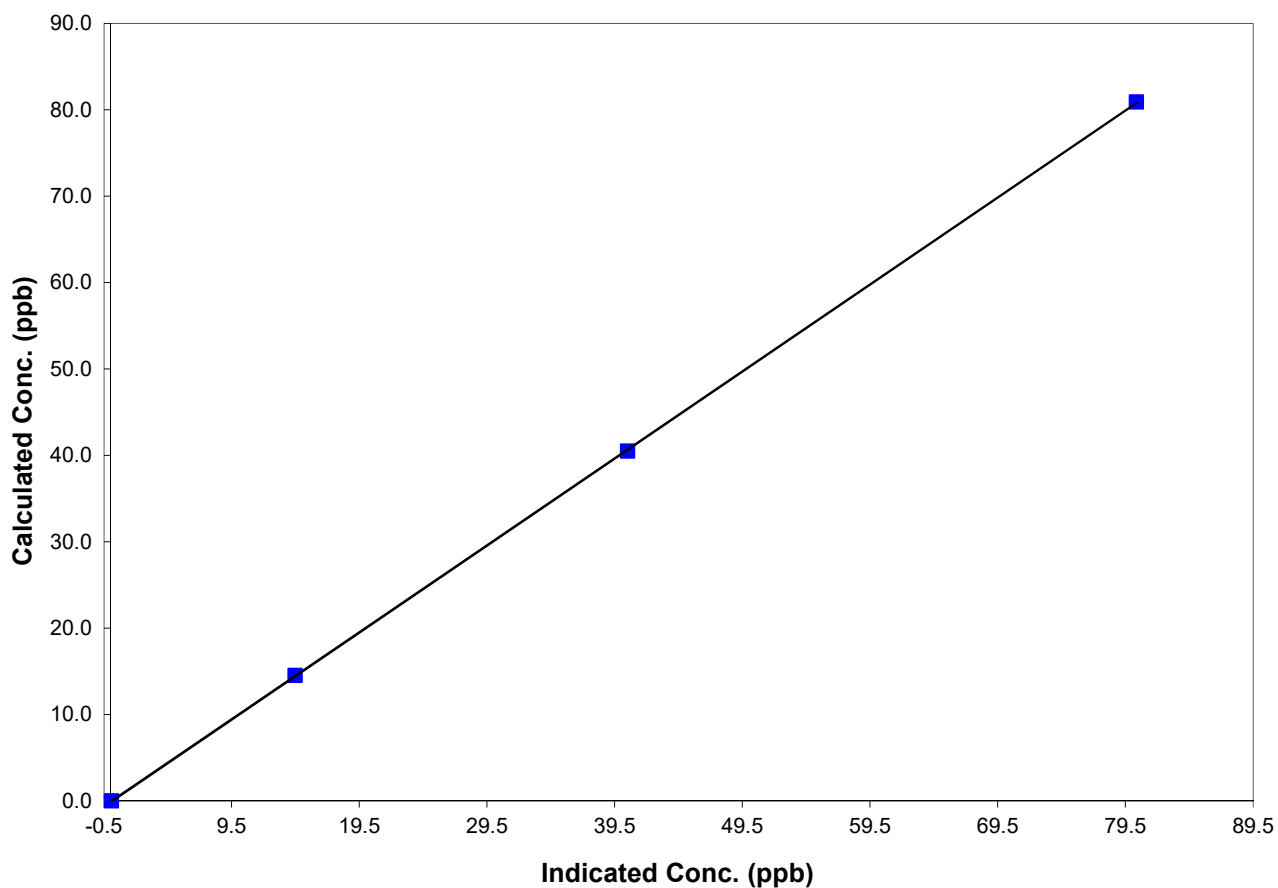
Station Information

Calibration Date	July 9, 2016	Previous Calibration	June 17, 2016
Station Number	PAZA Rover	Station Location	Rycroft
Start Time (MST)	9:00	End Time (MST)	12:25
Analyzer make/model	TEI 43C	Analyzer serial #	609716238

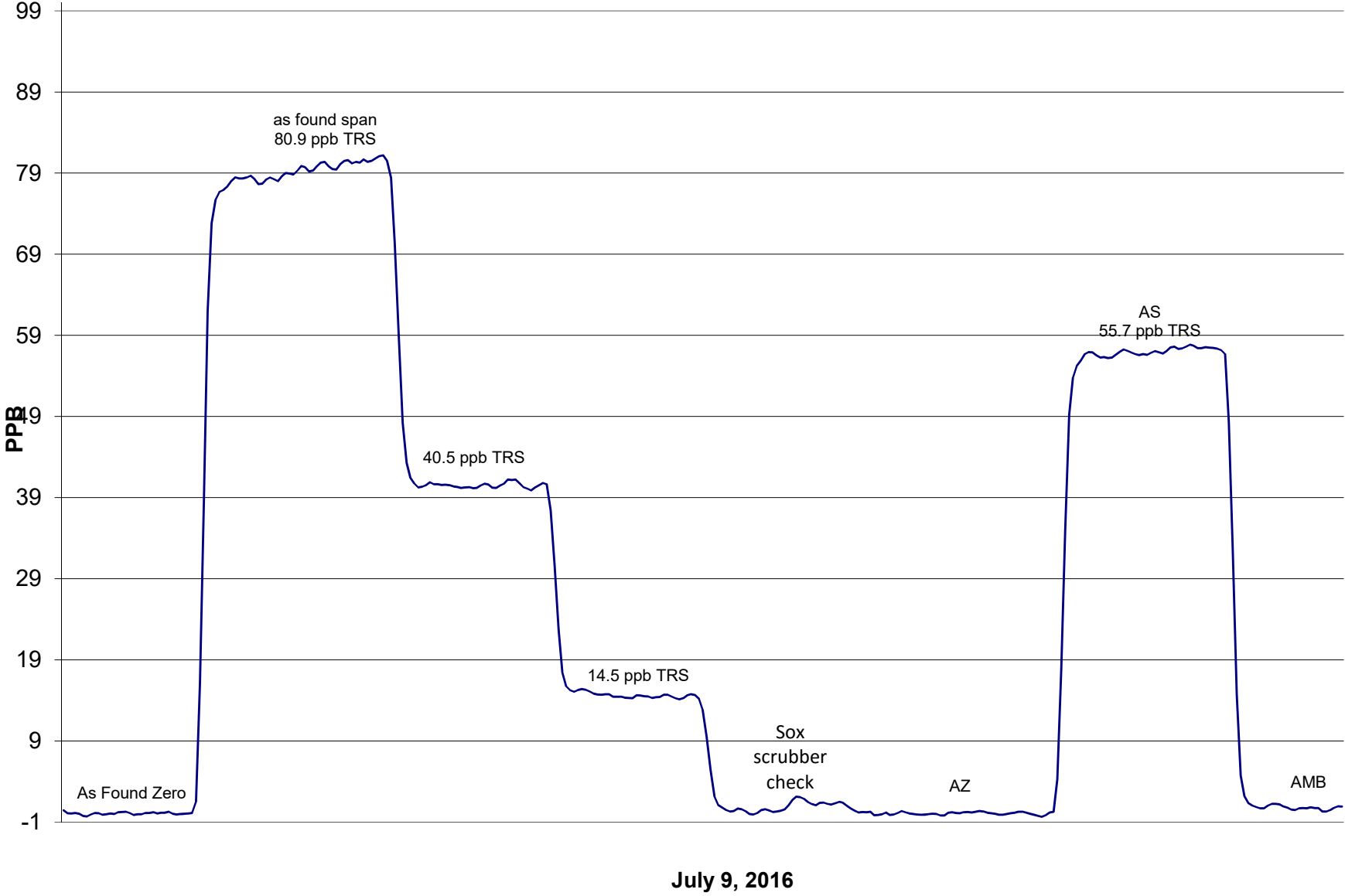
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.1	N/A	Correlation Coefficient	0.999987
80.9	80.4	1.0063		
40.5	40.5	0.9989		
14.5	14.5	1.0030	Slope	1.006843
			Intercept	-0.129934

TRS Calibration Curve



TRS Calibration



AB TEOM PM2.5 Calibration



STATION: Rover-Rycroft
 LOCATION: PAZA - Grande Prairie

OPERATOR: Dmytro Dolotii, Grover Christi
 DATE: 9-Jul-16

MONITOR INFO / PARAMETER VALUES:

Make/Model	TEOM AB
Configuration	PM2.5
Serial Number	21551
Site Number	10
Inlet Type	PM 10 / SCC
FAdj. Main Setting	1.000
FAdj. Aux. Setting	0.990
T-Case Indicated / Set Point	40/40
T-Air Indicated / Set Point	40/40
T-Cap Indicated / Set Point	40/40
Splitter Assembly Alignment (cm)	15.5

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

RECENT CALIBRATION AND AUDIT HISTORY

Previous Audit	
Previous Calibration	9-Mar-16

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	0.032	0.030
PUMP OFF	0.000	0.000
NET	0.032	0.030
LIMITS	<0.15	<0.60

	Ambient Temp. (^o C)	Ambient Pres. (atm)	Ko *	Bypass flow (lpm)	Sample flow (lpm)
SET POINT (S)	na	na	12893	13.66	3.000
INDICATED (I)	21.3	0.932		13.68	3.000
MEASURED (AF)	21.8	0.933		13.81	3.002
MEASURED (M)	21.8	0.933	12981	13.81	3.001
DIFFERENCE (M-I)	0.5	0.001	0.7%	0.15	0.00
LIMITS	± 2^o C	± 0.005 atm	± 2.5 %	± 1.0 L/min	± 0.2 L/min

As Found Data
 Adjusted Data

Ko Audit Filter data

Weight: 0.11251

Serial #: CVK 3316

COMMENTS: Pass

Full audit was performed.

Sample Head Inspection/Cleaning:

Large In Line Filter Inspection & Or Cleaning:

PAZA

ALBERTA ENVIRONMENT AND PARKS INCIDENCE REPORT

July 2016

Air Monitoring Directive Exceedance Report

Alberta Environmental Monitoring, Evaluation and Reporting Agency

Energy & Environmental Response

111 Twin Atria Building

4999 – 98th Avenue

Edmonton, Alberta T6B 2X3

erc.environment@gov.ab.ca

Phone: (780) 422-4505

Fax: (780) 427-1044

Reference Number:	313315	Reported To (AESRD Contact):	Vincent
Date & Time Incident Reported to AESRD:	July 3, 2016 6:38	Reported By:	Christopher Hendrickson
Reported on Behalf of:	PASZA	Approval Number (if applicable):	N/A
Location(s) of Incident:	Valleyview		
Start Date & Time of Incident:	July 3, 2016 5:00	End Date & Time of Incident:	July 3, 2016 6:00
Reason or Nature of Incident:			
H2S 1-hour exceedance between 5:00 and 6:00 H2S limit is 10ppb. The one-hour average was 11.9ppb. Winds were WS 3.3 km/h WD 268.7deg			
Immediate Actions Taken:			
Confirmed validity of data and proceeded to call in the exceedance to AEMERA Called Barrick Energy Control Room			
Investigation Details:			
Actions Taken to Prevent Reoccurrence (if any):			
N/A			
Additional Actions Required (if any):			
N/A			
Report Completed By:	Christopher Hendrickson	Date Report Submitted:	July 3, 2016
7-Day Letter Due Date:	July 10, 2016		

Air Monitoring Directive Exceedance Report

Alberta Environmental Monitoring, Evaluation and Reporting Agency
 Energy & Environmental Response
 111 Twin Atria Building
 4999 – 98th Avenue
 Edmonton, Alberta T6B 2X3
erc.environment@gov.ab.ca
 Phone: (780) 422-4505
 Fax: (780) 427-1044

Reference Number:	313753 (UPDATE)	Reported To (AESRD Contact):	Erin
Date & Time Incident Reported to AESRD:	July 12, 2016 19:43	Reported By:	Christopher Hendrickson
Reported on Behalf of:	PASZA	Approval Number (if applicable):	N/A
Location(s) of Incident:	Valleyview		
Start Date & Time of Incident:	July 12, 2016 18:00	End Date & Time of Incident:	July 12, 2016 19:00
Reason or Nature of Incident:			
H2S 1-hour exceedance between 18:00 and 19:00 H2S limit is 10ppb. The one-hour average was 10ppb. Winds were WS 2.5 km/h WD 338deg UPDATE: Following monthly QA/QC, the one-hour average did not exceed the AAAQO.			
Immediate Actions Taken:			
Confirmed validity of data and proceeded to call in the exceedance to AEMERA Called CNRL Control room.			
Investigation Details:			
Actions Taken to Prevent Reoccurrence (if any):			
N/A			
Additional Actions Required (if any):			
N/A			
Report Completed By:	Christopher Hendrickson	Date Report Submitted:	July 12, 2016
7-Day Letter Due Date:	July 19, 2016		