



# **Peace Airshed Zone Association**

## **Ambient Air Monitoring Network Summary**

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

September 30, 2016

**Alberta Environment**  
 11<sup>th</sup> Floor, Oxbridge Place  
 9820-106 Street  
 Edmonton Alberta T5K 2J6

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

Enclosed is the PAZA Ambient Monitoring Network Report for the month of August 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

<b>Company</b>	<b>Facility</b>	<b>LSD</b>	<b>EPEA Approval Number</b>
	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 August, 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 August.

**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 August.

**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 August.

**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 August, with the exception of the PM<sub>2.5</sub> analyzer. Data logger and instrument malfunctioning resulted in an uptime of 86.4% for the month of August. AEP Reference #316445.

**Valleyview Station:**

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

**Donnelly Station:**

- ◆ The Donnelly station began operations on August 16.
- ◆ The measured ambient air quality was within the AAAQO for the Donnelly station.
- ◆ All analyzers and sensors at the Donnelly station had an operational uptime greater than 90% for the month of August.

**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 August.

**Passive Monitoring - 46 Stations throughout the PAZA zone:**

There were five duplicate sites sampled in the month of August: Silver Creek, Pinto Creek, Clairmont Lake, Peavine, and Girouxville 3 (H<sub>2</sub>S). 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 SO<sub>2</sub> passives ranged from 0.0 ppb to 0.5 ppb, with a mean of 0.2 ppb.
- Monthly average concentrations for NO<sub>2</sub> passives ranged from 0.1 ppb to 2.1 ppb, with a mean of 0.7 ppb.
- Monthly average concentrations for O<sub>3</sub> passives ranged from 9.4 ppb to 23.3 ppb, with a mean of 14.7 ppb.
- Monthly average concentrations for H<sub>2</sub>S passives ranged from 0.1 ppb to 0.4 ppb, with a mean of 0.3 ppb.

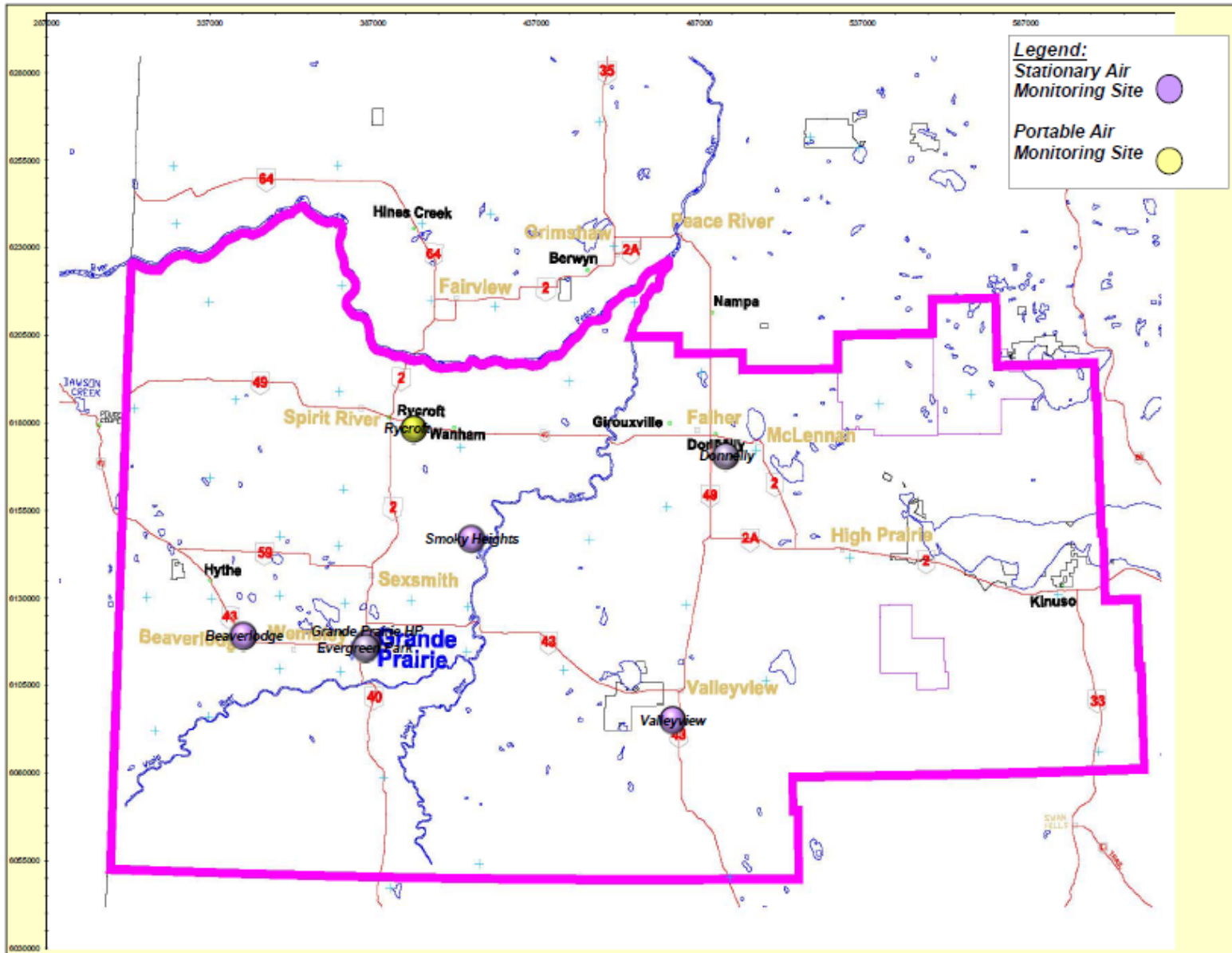
If you have any questions or concerns, please contact Patrick Andersen at 403.505.1041 or the PAZA office at 780.833.4343.

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

Aug-2016 Peace Airshed Zone Association							Maximum Recorded Values				Operational Time (%)	Calibration Date
Pollutant (units)	Objectives		Station	Monthly Average	Exceedence		1-hr		24-hr / 8-hr			
	1-hr	24-hr			1-hr	24-hr	Conc	Day	Conc	Day		
SO <sub>2</sub> (ppb)	172	48	Henry Pirker	0.0	0	0	4.0	Aug-08 01:00	0.3	Aug-08	99.5%	Aug-03
SO <sub>2</sub> (ppb)	172	48	Evergreen Park	0.1	0	0	1.1	Aug-11 08:00	0.3	Aug-05	96.2%	Aug-05
SO <sub>2</sub> (ppb)	172	48	Smoky Heights	0.3	0	0	6.7	Aug-03 04:00	0.9	Aug-15	98.9%	Aug-09
SO <sub>2</sub> (ppb)	172	48	Beaverlodge	0.1	0	0	1.7	Aug-02 16:00	0.3	Aug-02	92.6%	Aug-11
SO <sub>2</sub> (ppb)	172	48	Valleyview	0.4	0	0	19.2	Aug-09 11:00	2.5	Aug-01	100.0%	Aug-10
SO <sub>2</sub> (ppb)	172	48	Donnelly	0.1	0	0	0.4	Aug-19 14:00	0.1	Aug-30	100.0%	Aug-16
SO <sub>2</sub> (ppb)	172	48	Rycroft-Portable	0.1	0	0	6.8	Aug-19 10:00	0.4	Aug-16	100.0%	Aug-17
NO (ppb)			Henry Pirker	1.1	0	0	13.5	Aug-25 08:00	2.7	Aug-13	99.5%	Aug-03
NO <sub>2</sub> (ppb)	159	106	Henry Pirker	3.6	0	0	21.8	Aug-12 22:00	6.8	Aug-26	99.5%	Aug-03
NO <sub>x</sub> (ppb)			Henry Pirker	5.1	0	0	28.5	Aug-12 22:00	9.7	Aug-13	99.5%	Aug-03
NO (ppb)			Beaverlodge	0.3	0	0	9.0	Aug-24 08:00	1.1	Aug-24	90.3%	Aug-11
NO <sub>2</sub> (ppb)	159	106	Beaverlodge	2.3	0	0	12.6	Aug-19 22:00	3.6	Aug-24	90.3%	Aug-11
NO <sub>x</sub> (ppb)			Beaverlodge	2.6	0	0	16.3	Aug-24 08:00	4.7	Aug-24	90.3%	Aug-11
NO (ppb)			Rycroft-Portable	0.2	0	0	1.5	Aug-12 09:00	0.4	Aug-24	100.0%	Aug-17
NO <sub>2</sub> (ppb)	159	106	Rycroft-Portable	1.2	0	0	4.7	Aug-25 02:00	1.8	Aug-20	100.0%	Aug-17
NO <sub>x</sub> (ppb)			Rycroft-Portable	1.4	0	0	6.2	Aug-25 02:00	2.1	Aug-20	100.0%	Aug-17
O <sub>3</sub> (ppb)	82		Henry Pirker	18.6	0	-	45.6	Aug-09 15:00	27.8	Aug-06	99.5%	Aug-03
O <sub>3</sub> (ppb) - 8-hr			Henry Pirker		0				35.1	Aug-09		-
O <sub>3</sub> (ppb)	82		Beaverlodge	17.8	0	-	39.2	Aug-05 23:00	26.5	Aug-06	90.3%	Aug-11
O <sub>3</sub> (ppb) - 8-hr			Beaverlodge		0				33.5	Aug-06		-
O <sub>3</sub> (ppb)	82		Rycroft-Portable	16.8	0	-	37.9	Aug-03 13:00	27.7	Aug-16	100.0%	Aug-17
O <sub>3</sub> (ppb) - 8-hr			Rycroft-Portable		0				35.8	Aug-03		-
CO (ppm)	13		Henry Pirker	0.16	0	-	0.5	Aug-21 23:00	0.2	Aug-02	99.5%	Aug-04
CO (ppm) - 8-hr		5	Henry Pirker		0				0.3	Aug-13		-



## PAZA Monthly Continuous Data Summary – continued

Aug-2016		Peace Airshed Zone Association					Maximum Recorded Values						
							1-hr		24-hr / 8-hr				
THC (ppm)			Henry Pirker	2.1	-	-	5.3	Aug-19 00:00	2.4	Aug-13	99.5%	Aug-04	
CH <sub>4</sub> (ppm)			Henry Pirker	2.1	-	-	5.3	Aug-19 00:00	2.4	Aug-13	99.5%	Aug-04	
NMHC (ppm)			Henry Pirker	0.0	-	-	0.0	Aug-01 12:00	0.0	Aug-01	99.5%	Aug-04	
THC (ppm)			Rycroft-Portable	1.8	-	-	2.1	Aug-09 06:00	1.9	Aug-09	100.0%	Aug-29	
TRS (ppb)			Henry Pirker	0.3	-	-	3.0	Aug-24 04:00	0.7	Aug-24	99.5%	Aug-04	
TRS (ppb)			Evergreen Park	0.3	-	-	0.9	Aug-18 06:00	0.4	Aug-25	96.2%	Aug-05	
TRS (ppb)			Smoky Heights	0.2	-	-	0.8	Aug-09 22:00	0.5	Aug-09	100.0%	Aug-09	
TRS (ppb)			Rycroft-Portable	0.4	-	-	1.1	Aug-21 02:00	0.5	Aug-21	100.0%	Aug-17	
H <sub>2</sub> S (ppb)	10	3	Valleyview	0.2	0	0	1.3	Aug-01 03:00	0.4	Aug-01	100.0%	Aug-10	
H <sub>2</sub> S (ppb)	10	3	Donnelly	0.3	0	0	3.3	Aug-22 01:00	0.8	Aug-21	100.0%	Aug-16	
PM <sub>2.5</sub> (µg/m <sup>3</sup> )	80	30	Henry Pirker	4.9	0	0	18.9	Aug-05 23:00	9.1	Aug-09	99.5%	Jun-10	
PM <sub>2.5</sub> (µg/m <sup>3</sup> )	80	30	Evergreen Park	2.8	0	0	24.7	Aug-11 08:00	5.2	Aug-18	96.0%	Jun-14	
PM <sub>2.5</sub> (µg/m <sup>3</sup> )	80	30	Smoky Heights	4.8	0	0	72.7	Aug-18 22:00	10.5	Aug-19	100.0%	Jun-06	
PM <sub>2.5</sub> (µg/m <sup>3</sup> )	80	30	Beaverlodge	4.7	0	0	40.5	Aug-13 09:00	18.4	Aug-13	86.4%	Jun-22	
PM <sub>2.5</sub> (µg/m <sup>3</sup> )	80	30	Rycroft-Portable	2.2	0	0	11.7	Aug-16 17:00	4.7	Aug-08	99.9%	Mar-03	
RH (%)			Henry Pirker	69.2	-	-	91.2	Aug-03 07:00	87.2	Aug-31	99.5%	-	
RH (%)			Evergreen Park	75.9	-	-	100.0	Aug-03 00:00	96.4	Aug-31	96.4%	-	
RH (%)			Beaverlodge	75.1	-	-	100.0	Aug-02 07:00	100.0	Aug-31	92.5%	-	
RH (%)			Valleyview	69.4	-	-	100.0	Aug-02 07:00	88.1	Aug-21	100.0%	-	
SR (W/m <sup>2</sup> )			Henry Pirker	156.5	-	-	775.9	Aug-02 13:00	253.5	Aug-03	99.5%	-	
Temp (°C)			Henry Pirker	16.7	-	-	27.8	Aug-15 17:00	21.1	Aug-15	99.5%	-	
Temp (°C)			Evergreen Park	16.1	-	-	27.7	Aug-15 17:00	20.1	Aug-15	96.4%	-	
Temp (°C)			Smoky Heights	15.7	-	-	27.2	Aug-13 19:00	19.2	Aug-15	100.0%	-	
Temp (°C)			Beaverlodge	15.5	-	-	26.2	Aug-13 16:00	19.5	Aug-13	92.5%	-	
Temp (°C)			Valleyview	16.8	-	-	27.0	Aug-15 18:00	19.9	Aug-15	100.0%	-	
Temp (°C)			Donnelly	14.5	-	-	23.0	Aug-19 17:00	17.3	Aug-20	100.0%	-	
Temp (°C)			Rycroft-Portable	16.1	-	-	27.9	Aug-13 14:00	20.2	Aug-13	100.0%	-	

## PAZA Monthly Continuous Data Summary – continued

Aug-2016		Peace Airshed Zone Association					Maximum Recorded Values					
							1-hr		24-hr / 8-hr			
WSPD s (km/hr)		Henry Pirker	5.8	-	-	21.0	Aug-27 17:00	10.6	Aug-27	99.5%	-	
WSPD s (km/hr)		Evergreen Park	8.9	-	-	35.0	Aug-27 18:00	17.0	Aug-27	96.4%	-	
WSPD s (km/hr)		Smoky Heights	9.1	-	-	29.0	Aug-17 14:00	16.1	Aug-27	99.9%	-	
WSPD s (km/hr)		Beaverlodge	9.1	-	-	29.0	Aug-16 15:00	14.8	Aug-16	91.1%	-	
WSPD s (km/hr)		Valleyview	3.7	-	-	18.0	Aug-27 21:00	9.9	Aug-22	100.0%	-	
WSPD s (km/hr)		Donnelly	9.1	-	-	24.0	Aug-27 16:00	13.8	Aug-27	100.0%	-	
WSPD s (km/hr)		Rycroft-Portable	8.2	-	-	26.0	Aug-16 10:00	13.8	Aug-16	100.0%	-	
WSPD v (km/hr)		Henry Pirker	2.7	-	-	21.0	Aug-27 17:00	8.5	Aug-27	99.5%	-	
WSPD v (km/hr)		Evergreen Park	5.0	-	-	35.0	Aug-27 18:00	13.9	Aug-27	96.4%	-	
WSPD v (km/hr)		Smoky Heights	4.0	-	-	28.0	Aug-17 14:00	14.3	Aug-27	99.9%	-	
WSPD v (km/hr)		Beaverlodge	4.0	-	-	29.0	Aug-16 15:00	13.3	Aug-16	91.1%	-	
WSPD v (km/hr)		Valleyview	1.7	-	-	18.0	Aug-27 21:00	9.3	Aug-22	100.0%	-	
WSPD v (km/hr)		Donnelly	1.7	-	-	24.0	Aug-27 16:00	11.4	Aug-27	100.0%	-	
WSPD v (km/hr)		Rycroft-Portable	2.6	-	-	26.0	Aug-16 10:00	12.4	Aug-16	100.0%	-	
WDIR		Henry Pirker	WSW	-	-	-	-	-	-	99.5%	-	
WDIR		Evergreen Park	W	-	-	-	-	-	-	96.4%	-	
WDIR		Smoky Heights	WSW	-	-	-	-	-	-	99.9%	-	
WDIR		Beaverlodge	NW	-	-	-	-	-	-	91.1%	-	
WDIR		Valleyview	NW	-	-	-	-	-	-	100.0%	-	
WDIR		Donnelly	WSW	-	-	-	-	-	-	100.0%	-	
WDIR		Rycroft-Portable	W	-	-	-	-	-	-	100.0%	-	

# Continuous Network Equipment Summary

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## PAZA – Henry Pirker Station

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### General Station Issues:

Power failure on August 6-7.

Parameter	Make	Model	Notes
SO <sub>2</sub>	TEI	43i	Power disruption resulted in an uptime of 99.5%.
NO <sub>x</sub> /NO/NO <sub>2</sub>	TEI	42i	Power disruption and one hour of data flagged as recovery following the power disruption, resulting in an uptime of 99.5%.
O <sub>3</sub>	TEI	49i	Power disruption resulted in an uptime of 99.5%.
CO	TEI	48C	Power disruption and one hour of data flagged as recovery following the power disruption, resulting in an uptime of 99.5%.
THC/CH <sub>4</sub> /NMHC	TEI	55I	Power disruption and one hour of data flagged as recovery following the power disruption, resulting in an uptime of 99.5%.
TRS	TEI	45C/43C	Power disruption and one hour of data flagged as recovery following the power disruption, resulting in an uptime of 99.5%.
PM <sub>2.5</sub>	Sharp	5030	Power disruption resulted in an uptime of 99.5%.
RH	Met One	083D	Power disruption resulted in an uptime of 99.5%.
ET	Met One	083D	Power disruption resulted in an uptime of 99.5%.
SR	Met One	096-1	Power disruption resulted in an uptime of 99.5%.
WS / WD	Met One	010C/020C	Power disruption resulted in an uptime of 99.5%.

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**PAZA – Evergreen Park Station**

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**General Station Issues**

Power failure on August 6-7.

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<b>Parameter</b>	<b>Make</b>	<b>Model</b>	<b>Notes</b>
SO <sub>2</sub>	TEI	43i	Power disruption and one hour of data flagged as recovery following the power disruption, resulting in an uptime of 96.2%.
TRS	TEI	43C	Power disruption and one hour of data flagged as recovery following the power disruption, resulting in an uptime of 96.2%.
PM <sub>2.5</sub>	Sharp	5030	Power disruption and maintenance, resulting in an uptime of 96.0%.
ET	Met One/Gill	083D	Power disruption, resulting in an uptime of 96.4%.
RH	Met One/Gill		Power disruption, resulting in an uptime of 96.4%.
WS / WD	Met One/ Gill		Power disruption, resulting in an uptime of 96.4%.

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**PAZA – Smoky Heights Station**

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**General Station Issues**

<b>Parameter</b>	<b>Make</b>	<b>Model</b>	<b>Notes</b>
SO <sub>2</sub>	TEI	43C	Instrument malfunctioning followed by one hour of maintenance resulted in an uptime of 98.9%
TRS	TEI	43C	No operational issues observed.
PM <sub>2.5</sub>	Sharp	5030	No operational issues observed.
ET	Met One	083D	No operational issues observed.
WS / WD	Met One	010C/020C	The wind instrument returned an uptime of 99.9% due to instrument malfunctioning.

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**PAZA – Beaverlodge Station**

**General Station Issues**

Data logger issues.

<b>Parameter</b>	<b>Make</b>	<b>Model</b>	<b>Notes</b>
SO <sub>2</sub>	TEI	43CTL	Data logger malfunctioning resulted in an uptime of 92.6%.
NO <sub>x</sub> /NO/NO <sub>2</sub>	TEI	42C	Data logger malfunctioning and instrument malfunctioning resulted in an uptime of 90.3%.
O <sub>3</sub>	TEI	49C	Data logger malfunctioning and instrument malfunctioning resulted in an uptime of 90.3%.
PM <sub>2.5</sub>	Sharp	5030	Data logger malfunctioning and instrument malfunctioning resulted in an uptime of 86.4%. Refer to the attached non-compliance report for details. AEP Reference #316445.
ET	n/a	n/a	Data logger malfunctioning and instrument malfunctioning resulted in an uptime of 92.5%.
RH	n/a	n/a	Data logger malfunctioning and instrument malfunctioning resulted in an uptime of 92.5%.
WS / WD	Blue Sky	857	Data logger malfunctioning and instrument malfunctioning resulted in an uptime of 91.1%.

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**PAZA – Valleyview Station**

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**General Station Issues**

<b>Parameter</b>	<b>Make</b>	<b>Model</b>	<b>Notes</b>
SO <sub>2</sub>	TEI	43i	No operational issues observed.
H <sub>2</sub> S	TEI	43A	No operational issues observed.
ET	Gill	Met Pak 3	No operational issues observed.
RH	Gill	Met Pak 3	No operational issues observed.
WS / WD	Gill	Met Pak 3	No operational issues observed.

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**PAZA – Donnelly Station**

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**General Station Issues**

Station began operations on August 16.

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

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**PAZA – Portable-Rycroft**

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**General Station Issues**

<b>Parameter</b>	<b>Make</b>	<b>Model</b>	<b>Notes</b>
SO <sub>2</sub>	TEI	43i	No operational issues observed.
NO <sub>x</sub>	TEI	42i	No operational issues observed.
O <sub>3</sub>	TEI	49i	No operational issues observed.
TRS	TEI	39C	No operational issues observed.
THC	TEI	51C	No operational issues observed.
PM <sub>2.5</sub>	Sharp	5030	One hour of data flagged as routine maintenance, returning an uptime of 99.9%.
ET	Gill	Met Pak 3	No operational issues observed.
WS / WD	Gill	Met Pak 3	No operational issues observed.

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PAZA

Henry Pirker Station

Monthly Summary Tables, Graphs and  
Roses

## Hourly Averages

Sulphur Dioxide (SO<sub>2</sub>) - ppb

Henry Pirker - August 2016

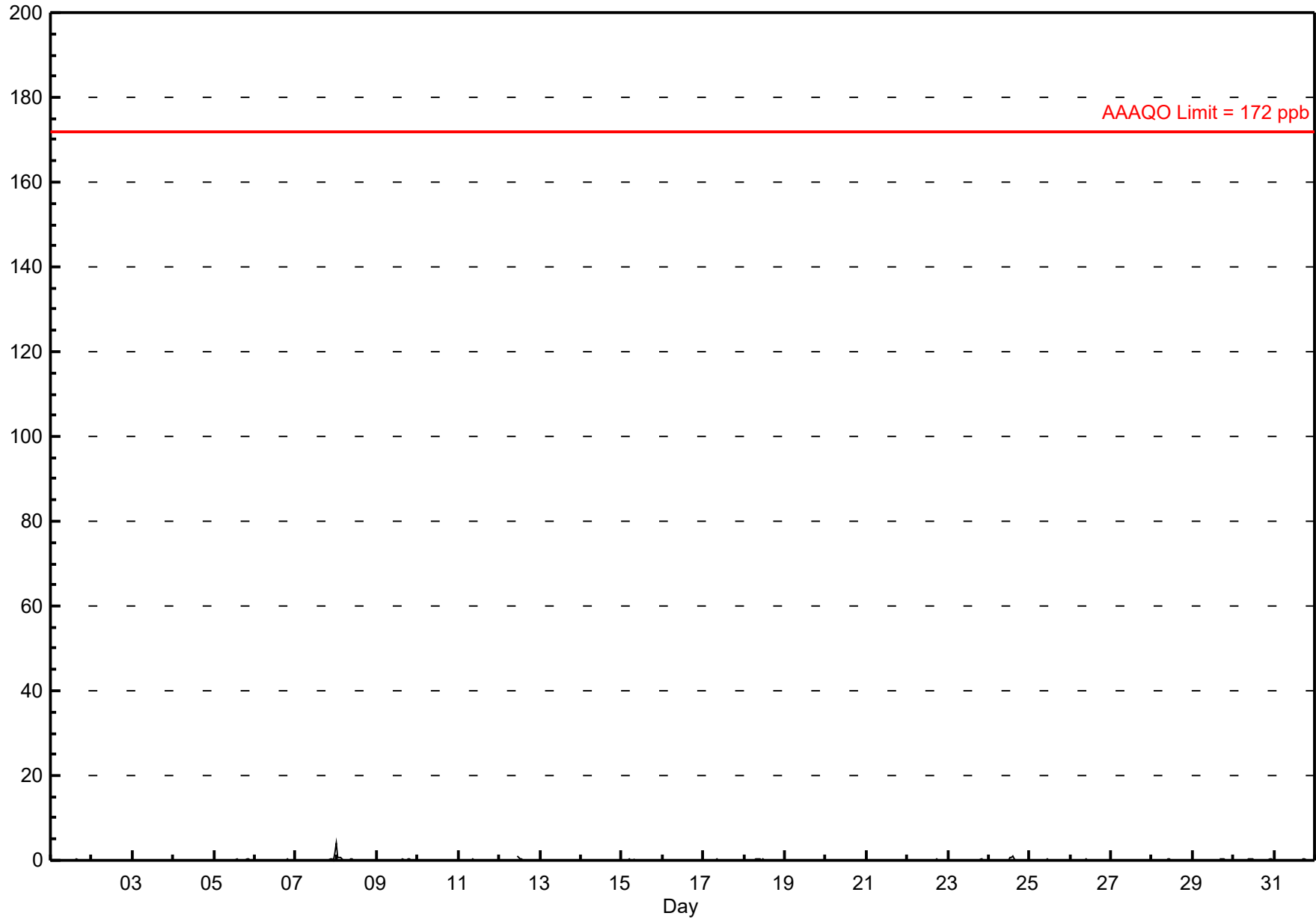
Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 4.0 ppb on Aug 8 01:00	Maximum Daily Average: 0.3 ppb on Aug 8		Hours of Data:	705
Minimum Value: 0 ppb on Aug 1 01:00	Minimum Daily Average: 0.0 ppb on Aug 10		Hours of Missing Data:	39
Maximum Diurnal Average: 0.1 ppb at hour 1	Minimum Diurnal Average: 0.0 ppb at hour 7		Hours of Calibration:	35
Monthly Average: 0.04 ppb	Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.0 Q <sub>1</sub> = 0.0 Median = 0.0 Q <sub>3</sub> = 0.0 P <sub>90</sub> = 0.1 P <sub>99</sub> = 0.5		Percent Operational Time:	99.5

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.0	0.2
2-Aug	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
3-Aug	0	0	0	0	0	0	0	0	0	C	C	C	0	0	0	0	0	0	0	A	0	0	0	0	0.0	0.0
4-Aug	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
5-Aug	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
6-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	P	0.0	0.3
7-Aug	P	P	P	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	2	0.1	1.8
8-Aug	4	1	1	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.3	4.0
9-Aug	0	0	0	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
10-Aug	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
11-Aug	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.2
12-Aug	0	0	0	0	0	0	0	0	0	0	A	1	1	0	0	0	0	0	0	0	0	0	0	0	0.1	1.2
13-Aug	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
14-Aug	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
15-Aug	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.2
16-Aug	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
17-Aug	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.3
18-Aug	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
19-Aug	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
20-Aug	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
21-Aug	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
22-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.2
23-Aug	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
24-Aug	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	A	0	0	0.1	0.9
25-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.0	0.2
26-Aug	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
27-Aug	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
28-Aug	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
29-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.1	0.4
30-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.1	0.4
31-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.1	0.4
	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	Diurnal Average	
	4.0	0.8	0.8	0.3	0.2	0.2	0.1	0.2	0.3	0.3	1.2	0.6	0.6	0.5	0.9	0.3	0.4	0.4	0.4	0.4	0.3	0.4	0.3	1.8	Diurnal Maximum	

C - Calibration      P - Power Failure      A - Automated Daily Zero Span  
 Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb    24-hr 48 ppb    30-day 11 ppb

### Hourly Averages

Sulphur Dioxide (SO<sub>2</sub>) - ppb  
Henry Pirker - August 2016



## Hourly Maximums

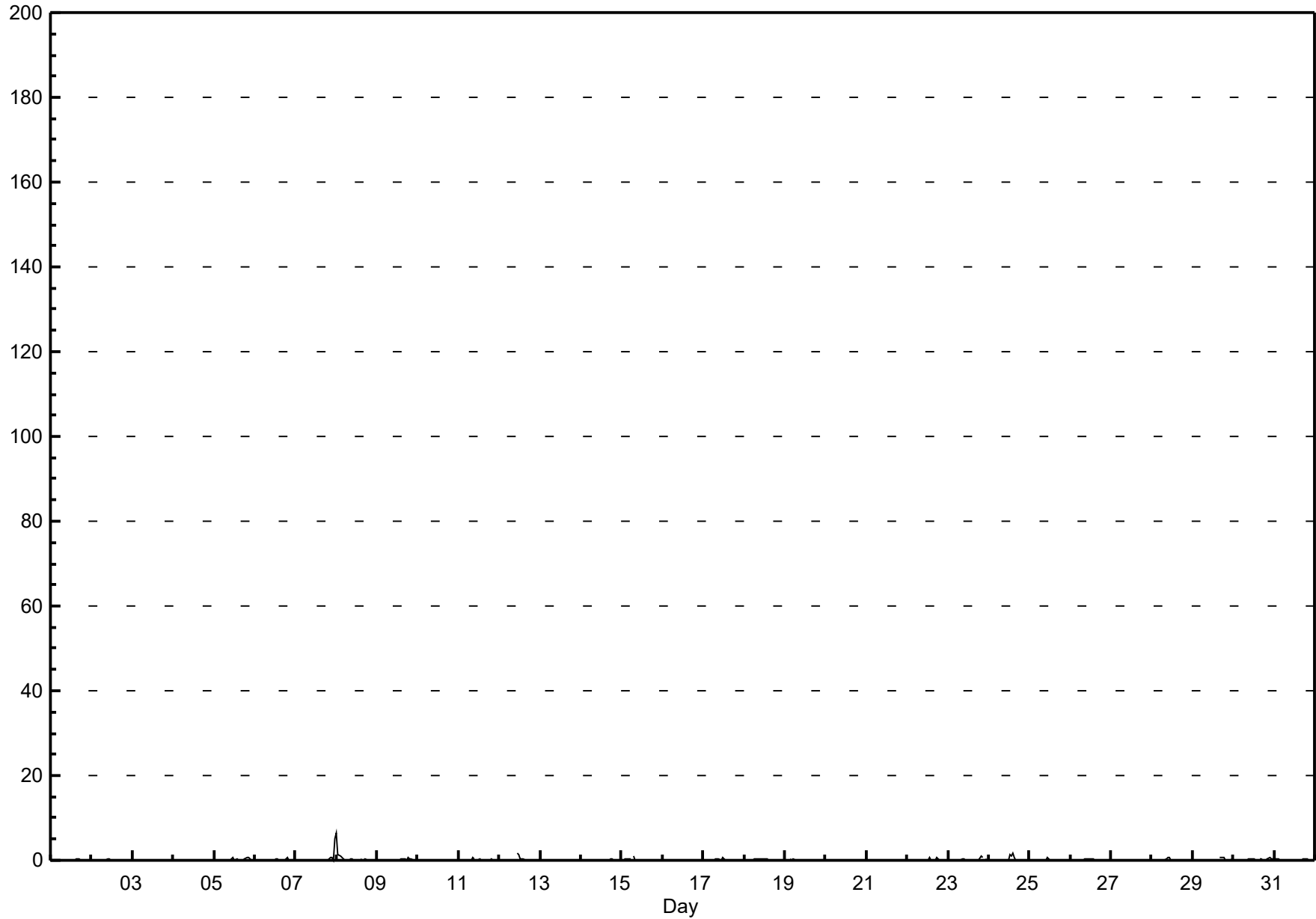
Sulphur Dioxide (SO<sub>2</sub>) - ppb

Henry Pirker - August 2016

Maximum Value: 6.4 ppb on Aug 8 01:00		Maximum Daily Average: 0.5 ppb on Aug 8		Hours in Service: 744																						
Minimum Value: 0 ppb on Aug 3 03:00		Minimum Daily Average: 0.0 ppb on Aug 3		Hours of Data: 705																						
Maximum Diurnal Average: 0.2 ppb at hour 1		Minimum Diurnal Average: 0.0 ppb at hour 7		Hours of Missing Data: 39																						
Monthly Average: 0.11 ppb		Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.0 Q <sub>1</sub> = 0.0 Median = 0.0 Q <sub>3</sub> = 0.1 P <sub>90</sub> = 0.3 P <sub>99</sub> = 1.2		Hours of Calibration: 35																						
				Percent Operational Time: 99.5																						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.1	0.4
2-Aug	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
3-Aug	0	0	0	0	0	0	0	0	0	C	C	C	0	0	0	0	0	0	0	A	0	0	0	0.0	0.0	
4-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0.0	0.0	
5-Aug	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	A	0	0	1	1	0	0	0.2	0.6	
6-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	1	0	0	0	0.1	0.7	
7-Aug	P	P	P	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	1	1	0	0.3	5.0	
8-Aug	6	1	1	1	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.5	6.4	
9-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	1	0	0	0	0	0.1	0.7	
10-Aug	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	
11-Aug	0	0	0	0	0	0	0	0	1	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.6	
12-Aug	0	0	0	0	0	0	0	0	0	0	A	2	1	0	0	0	0	0	0	0	0	0	0	0.2	1.6	
13-Aug	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.2	
14-Aug	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.4	
15-Aug	0	0	0	0	0	0	0	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	1.0	
16-Aug	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	
17-Aug	0	0	0	0	0	A	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0.1	0.6	
18-Aug	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.5	
19-Aug	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	
20-Aug	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	
21-Aug	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	
22-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0.1	0.7	
23-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	A	0	0.1	1.2	
24-Aug	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	1	0	0	0	0	A	0	0	0.2	1.6	
25-Aug	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	A	0	0	0	0.1	0.6	
26-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.1	0.3	
27-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0.0	0.2	
28-Aug	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0.1	0.7	
29-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	1	1	0	0	0	0	0.2	0.7	
30-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	1	0	0.2	0.7	
31-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.1	0.4	
		0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	Diurnal Average	
		6.4	1.2	1.0	0.6	0.3	0.3	0.3	1.0	0.6	0.6	1.6	1.3	1.4	0.9	1.6	0.7	0.7	0.7	0.7	1.2	0.7	0.7	0.4	5.0	Diurnal Maximum
C - Calibration		P - Power Failure						A - Automated Daily Zero Span																		

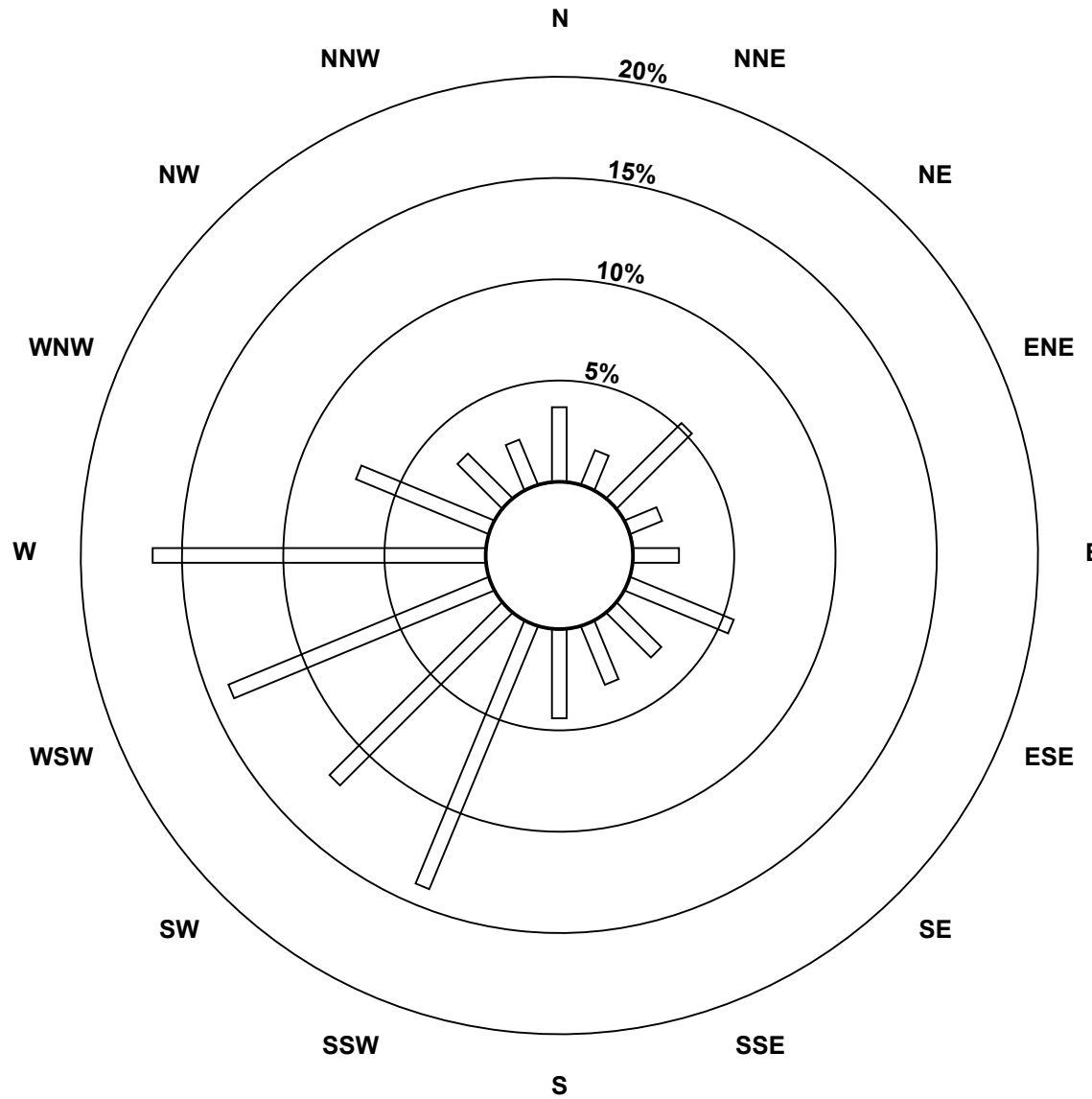
### Hourly Maximums

**Sulphur Dioxide (SO<sub>2</sub>) - ppb**  
**Henry Pirker - August 2016**

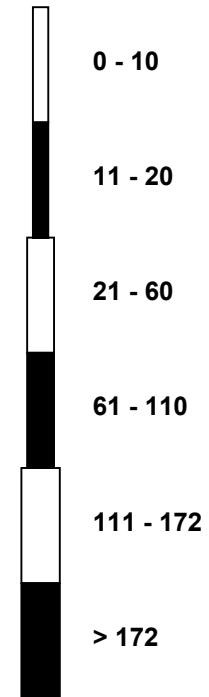


**Pollutant Rose**

**Sulphur Dioxide (SO<sub>2</sub>) - ppb**  
**Henry Pirker - August 2016**

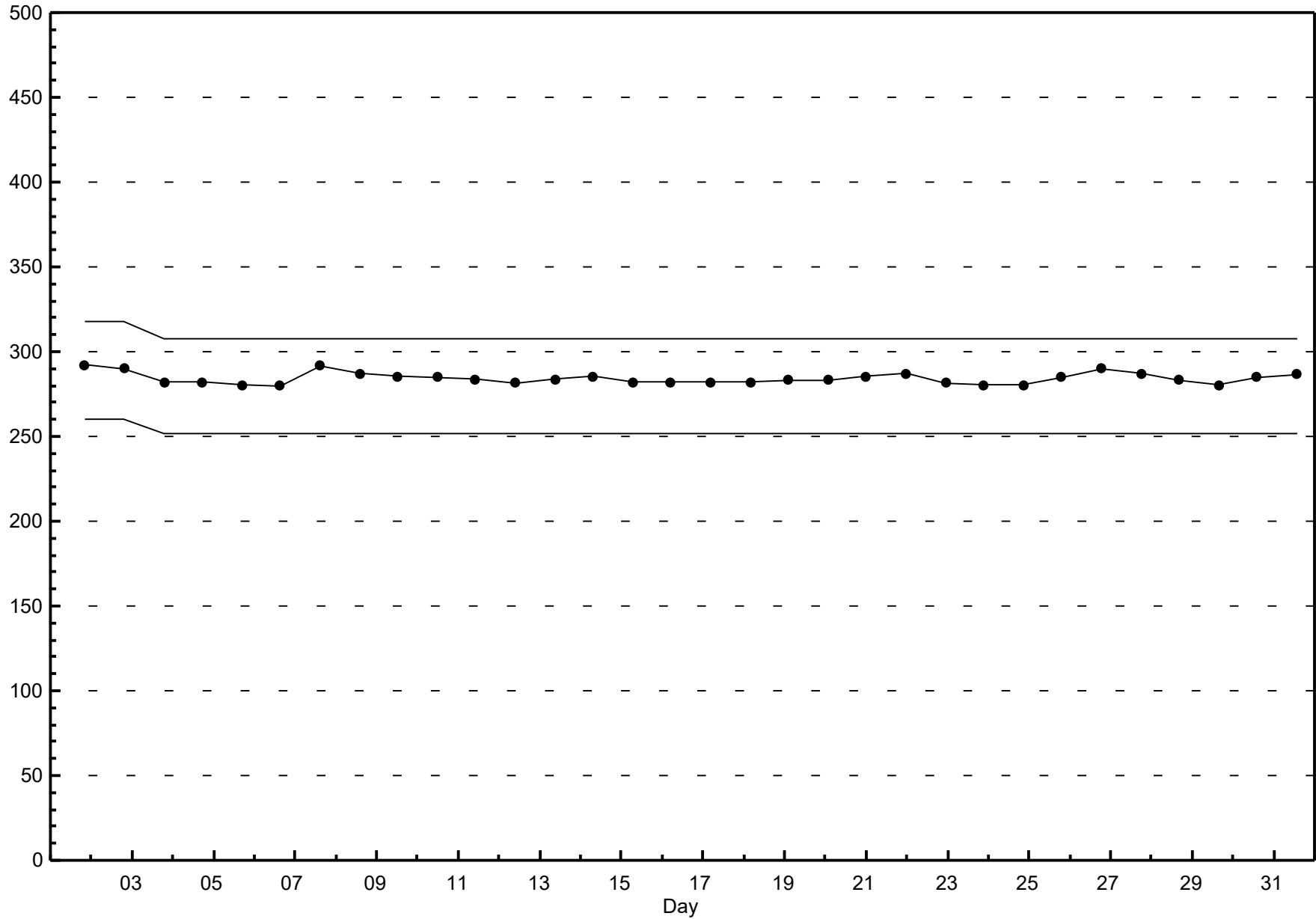


**Pollutant Classes (ppb)**



### Span Responses

Sulphur Dioxide (SO<sub>2</sub>)  
Henry Pirker - August 2016



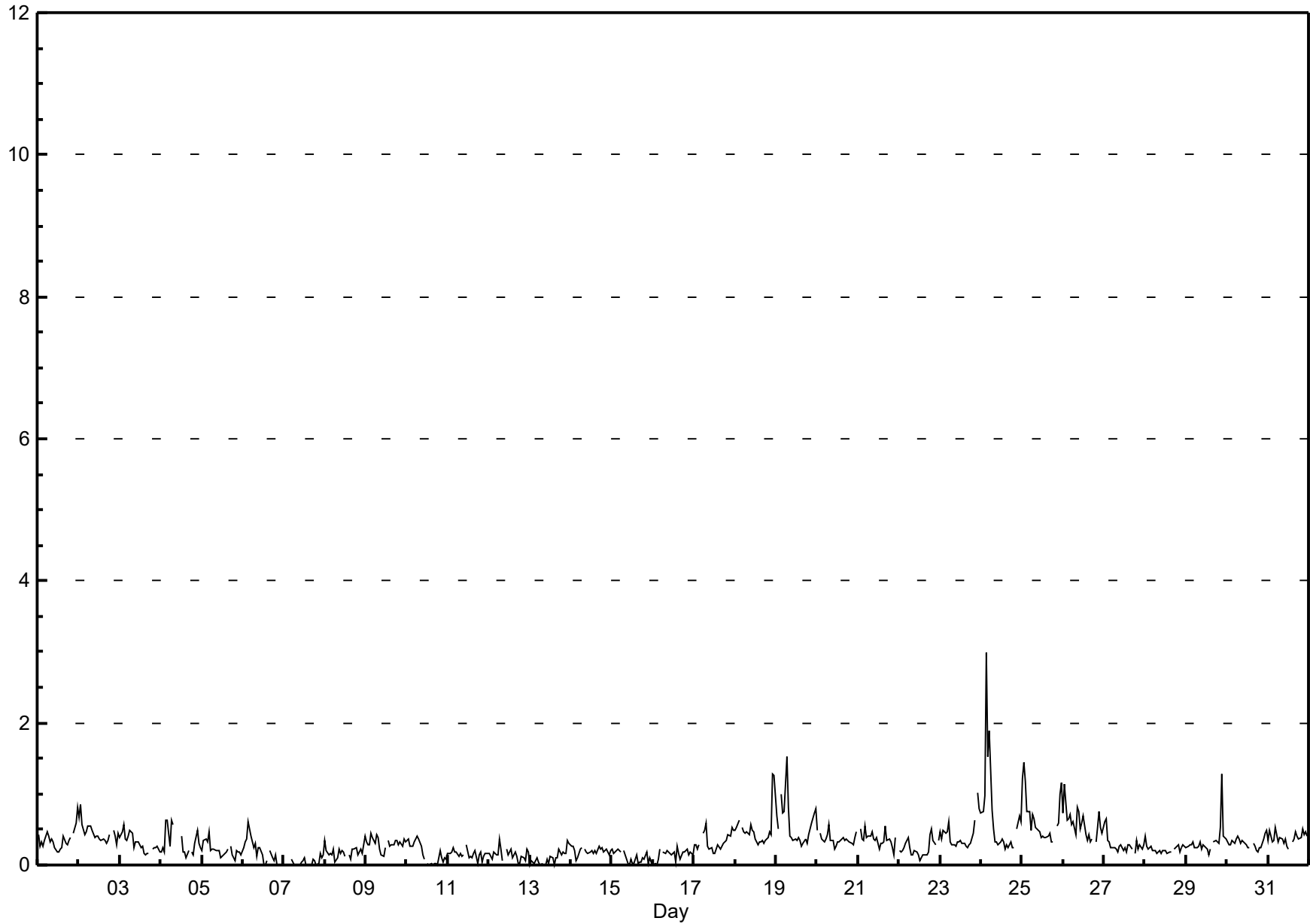


## Hourly Averages

Total Reduced Sulphur (TRS) - ppb

Henry Pirker - August 2016

Number of Exceedences (AAAQO):		1-hr: 0		24-hr: 0		Hours in Service:		744																				
Maximum Value: 3.0 ppb on Aug 24 04:00		Maximum Daily Average: 0.7 ppb on Aug 24		Hours of Data:		703		Hours of Missing Data:		41																		
Minimum Value: 0 ppb on Aug 6 13:00		Minimum Daily Average: 0.0 ppb on Aug 7		Hours of Calibration:		37		Percent Operational Time:		99.5																		
Maximum Diurnal Average: 0.4 ppb at hour 4		Minimum Diurnal Average: 0.2 ppb at hour 14		Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.1 Q <sub>1</sub> = 0.2 Median = 0.3 Q <sub>3</sub> = 0.4 P <sub>90</sub> = 0.5 P <sub>99</sub> = 1.3																								
Monthly Average: 0.31 ppb																												
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24				
1-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	1	1	0.4	0.8		
2-Aug	1	1	1	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.5	0.9	
3-Aug	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0.3	0.6	
4-Aug	0	0	0	1	1	0	1	1	C	C	C	C	0	0	0	0	0	0	A	0	0	0	0	0	0	0.3	0.6	
5-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0.2	0.5	
6-Aug	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	P	0.2	0.6	
7-Aug	P	P	P	R	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	
8-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.2	0.4	
9-Aug	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	0.5	
10-Aug	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4	
11-Aug	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3	
12-Aug	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.4	
13-Aug	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.4	
14-Aug	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3	
15-Aug	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2	
16-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3	
17-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0.3	0.6	
18-Aug	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.5	1.3	
19-Aug	1	1	0	1	1	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0.6	1.5	
20-Aug	0	0	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	0.6	
21-Aug	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.5	
22-Aug	0	0	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	0.5	
23-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0.4	1.0	
24-Aug	1	1	1	3	2	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.7	3.0	
25-Aug	1	1	1	1	1	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.7	1.4	
26-Aug	1	1	1	1	1	1	1	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.6	1.1	
27-Aug	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.7	
28-Aug	0	0	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	0.4	
29-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0.3	1.3
30-Aug	0	0	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	0.5	
31-Aug	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.5	
		0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.4	0.4	Diurnal Average	
		1.2	1.4	1.2	3.0	1.5	1.9	1.5	0.8	0.8	0.7	0.5	0.6	0.7	0.4	0.4	0.4	0.5	0.4	0.4	0.5	0.6	1.3	1.3	1.3	1.3	Diurnal Maximum	
C - Calibration		R - Recovery						P - Power Failure						A - Automated Daily Zero Span														
Alberta Ambient Air Quality Objectives (AAAQO):		1-hr 10 ppb						24-hr 3 ppb																				

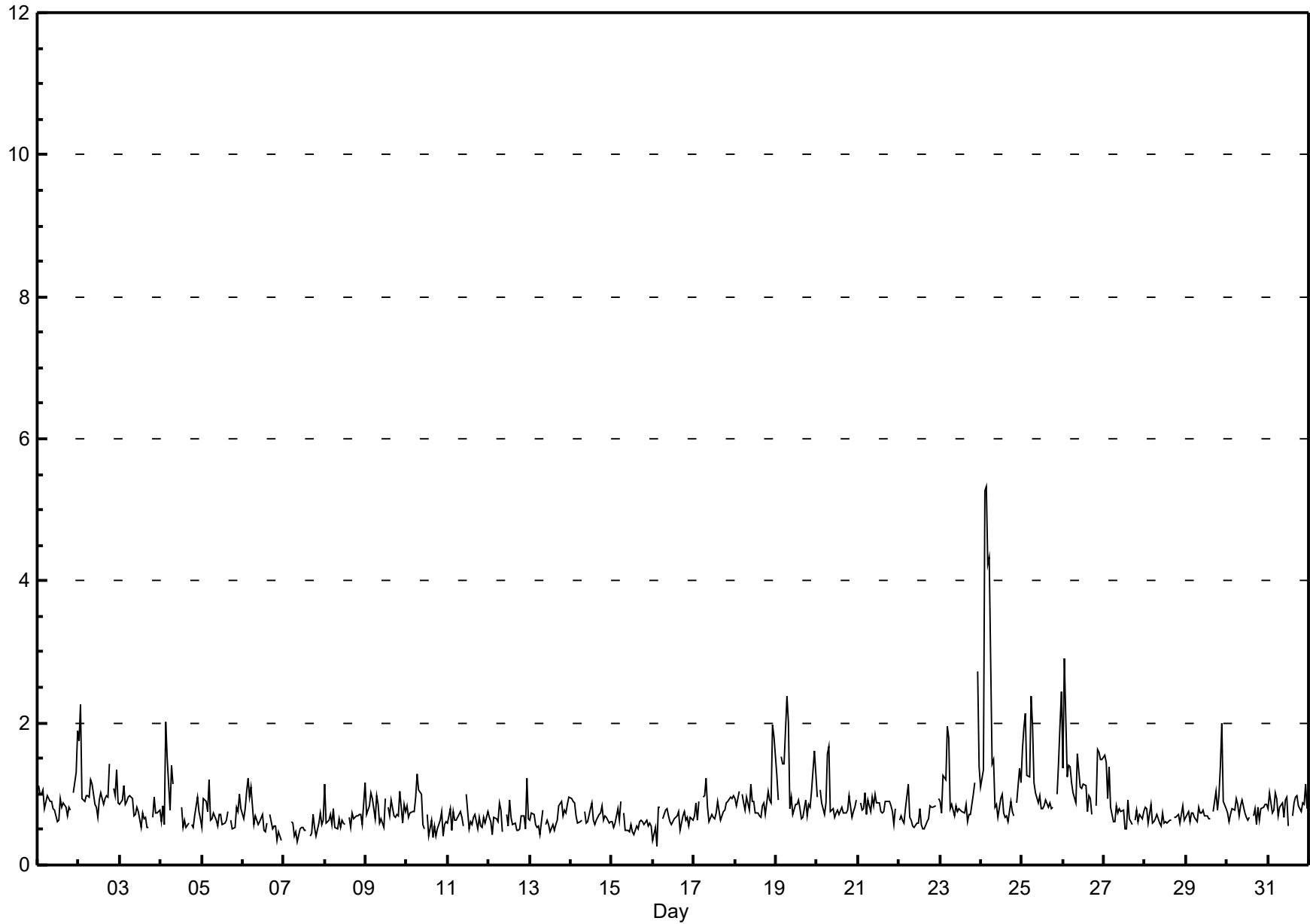


## Hourly Maximums

Total Reduced Sulphur (TRS) - ppb

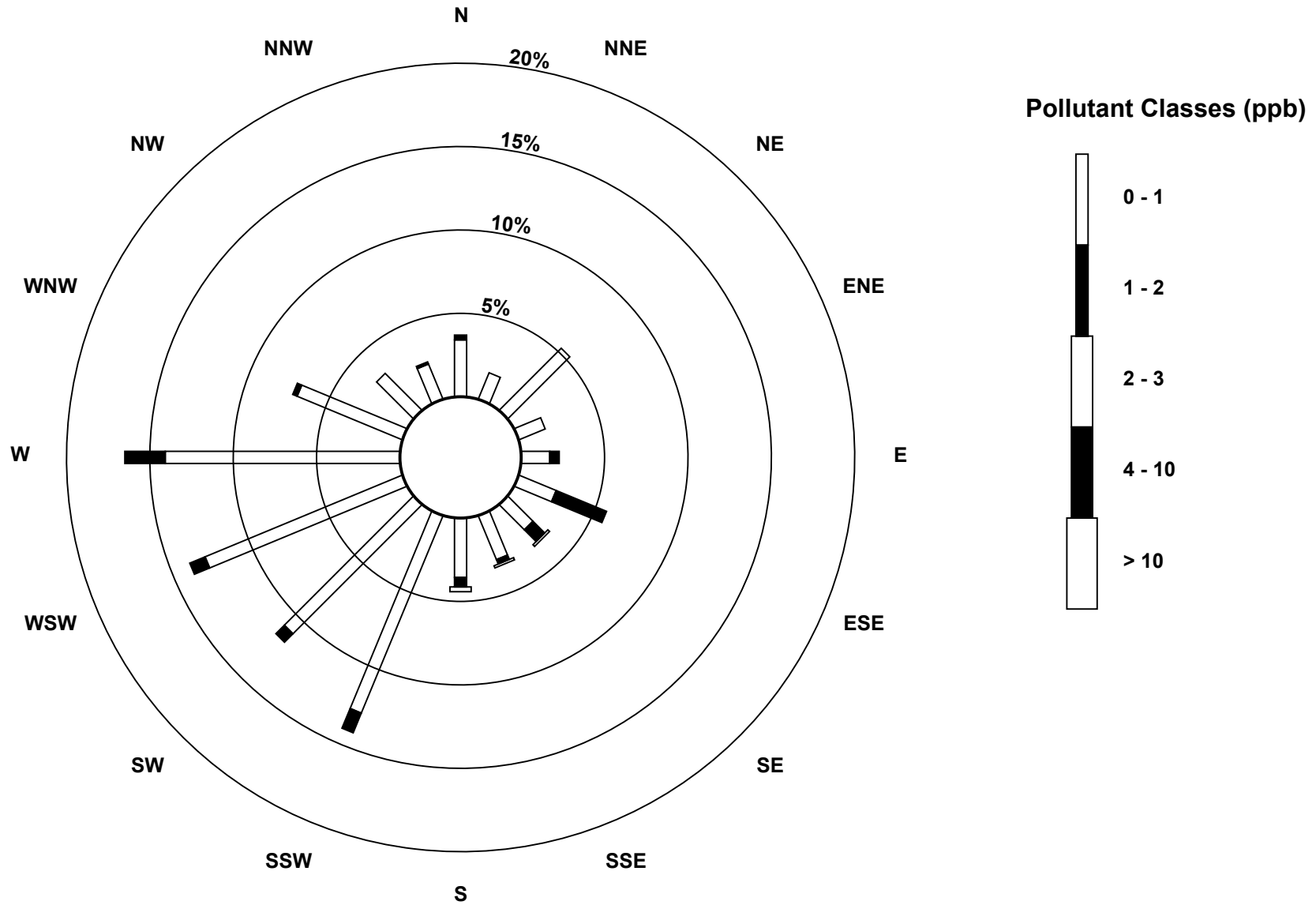
Henry Pirker - August 2016

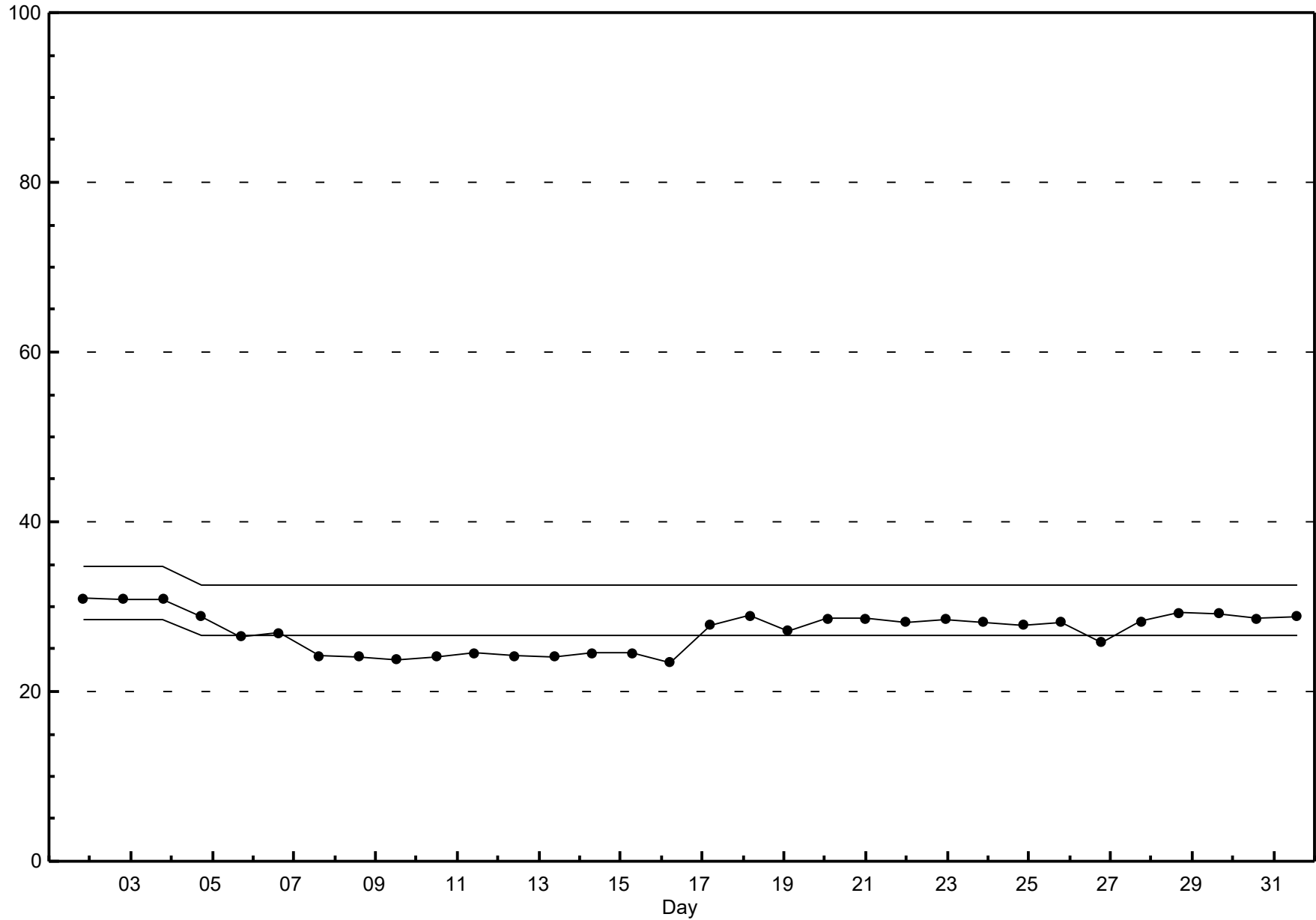
Maximum Value: 5.3 ppb on Aug 24 04:00		Maximum Daily Average: 1.6 ppb on Aug 24		Hours in Service: 744																							
Minimum Value: 0 ppb on Aug 16 03:00		Minimum Daily Average: 0.5 ppb on Aug 7		Hours of Data: 703																							
Maximum Diurnal Average: 1.1 ppb at hour 4		Minimum Diurnal Average: 0.7 ppb at hour 14		Hours of Missing Data: 41																							
Monthly Average: 0.84 ppb		Percentiles: P <sub>1</sub> = 0.4 P <sub>10</sub> = 0.5 Q <sub>1</sub> = 0.6 Median = 0.7 Q <sub>3</sub> = 0.9 P <sub>90</sub> = 1.2 P <sub>99</sub> = 2.3		Hours of Calibration: 37																							
				Percent Operational Time: 99.5																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Aug	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	2	0.9	1.9	
2-Aug	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1.1	2.3	
3-Aug	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	
4-Aug	1	1	1	2	2	1	1	1	C	C	C	C	1	1	1	1	1	A	1	1	1	1	1	1	0.8	2.0	
5-Aug	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	0.7	1.2	
6-Aug	1	1	1	1	1	1	1	1	1	1	1	0	0	1	A	1	1	1	1	1	0	0	0	P	0.7	1.2	
7-Aug	P	P	P	R	1	1	0	0	0	0	1	1	0	0	A	0	0	1	1	0	1	1	1	1	0.5	0.7	
8-Aug	1	1	1	1	1	1	1	0	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	0.7	1.2	
9-Aug	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	
10-Aug	1	1	1	1	1	1	1	1	1	1	1	A	1	0	1	0	1	0	1	1	1	0	1	1	0.7	1.3	
11-Aug	1	1	0	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	0.6	1.0	
12-Aug	1	1	0	1	1	1	1	1	0	A	1	1	1	1	1	1	0	0	1	1	1	0	1	1	0.7	1.2	
13-Aug	1	1	1	1	1	1	0	1	A	1	1	1	0	1	0	1	1	1	1	1	1	1	1	1	0.7	1.0	
14-Aug	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	0.9	
15-Aug	1	1	1	1	1	1	A	1	0	0	0	1	0	0	1	1	1	1	1	1	1	1	1	1	0.6	0.9	
16-Aug	0	1	0	1	1	A	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	0.6	0.8	
17-Aug	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	1.2	
18-Aug	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	1.0	2.0	
19-Aug	1	1	A	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1.1	2.4	
20-Aug	1	A	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.7	
21-Aug	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	
22-Aug	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.1	
23-Aug	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	3	1	1.0	2.7	
24-Aug	1	1	5	5	4	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1.6	5.3	
25-Aug	2	2	2	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	2	2	1.3	2.4	
26-Aug	1	3	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	A	1	2	2	1	1	1.3	2.9	
27-Aug	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	0.8	1.6	
28-Aug	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	0.7	0.9	
29-Aug	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	2	1	1	0.8	2.0	
30-Aug	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	0.9	
31-Aug	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	1.1	
		0.9	1.0	1.0	1.1	1.0	1.0	0.9	0.9	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8	1.0	1.0	Diurnal Average	
		1.8	2.9	5.3	5.3	4.2	4.3	2.4	2.0	1.6	1.3	1.1	1.1	1.1	1.1	0.9	1.0	1.0	1.0	1.4	1.0	1.6	2.0	2.7	2.4	Diurnal Maximum	
C - Calibration		R - Recovery					P - Power Failure					A - Automated Daily Zero Span															



**Pollutant Rose**

**Total Reduced Sulphur (TRS) - ppb**  
**Henry Pirker - August 2016**





## Hourly Averages

Nitrogen Dioxide (NO<sub>2</sub>) - ppb

Henry Pirker - August 2016

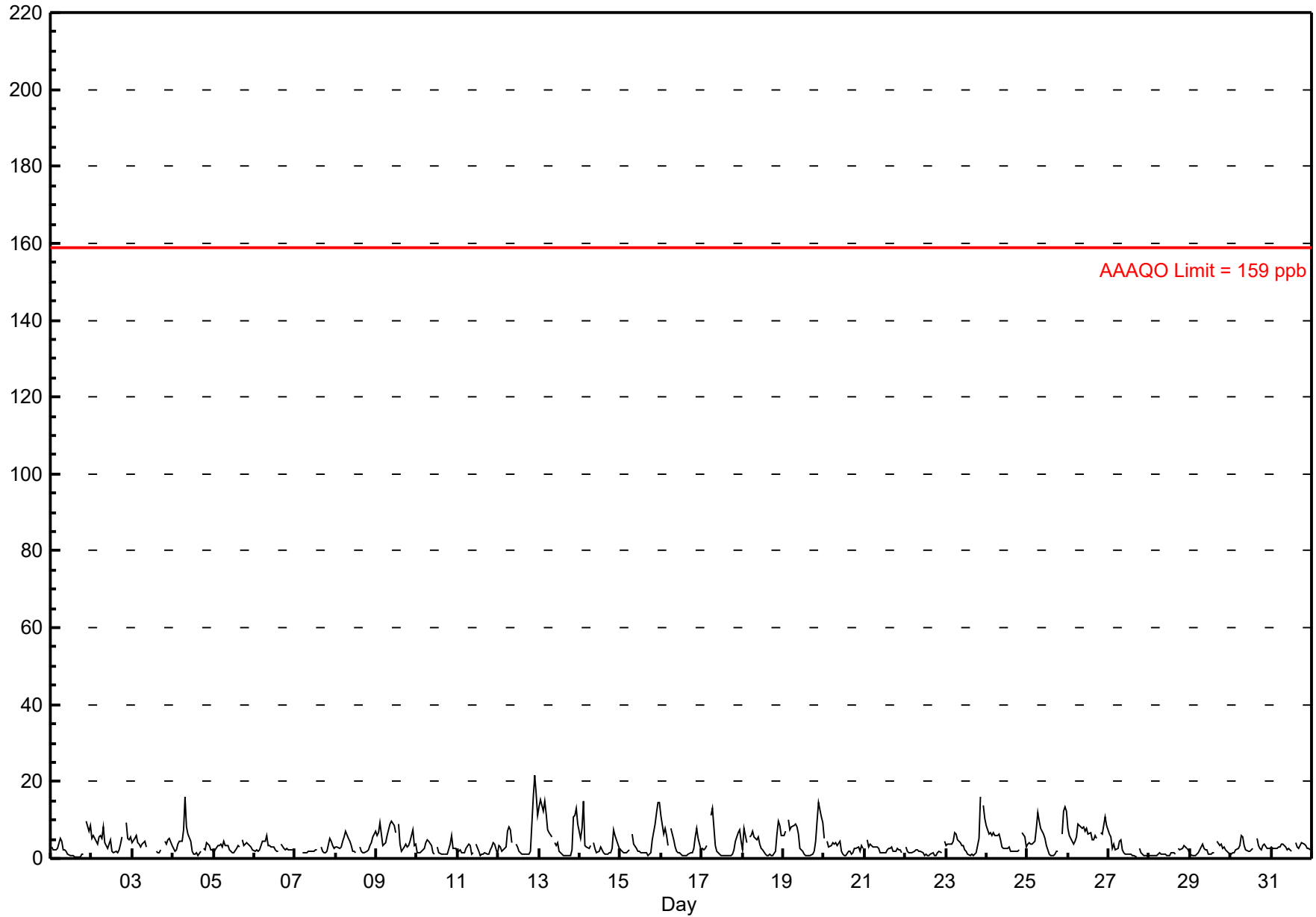
Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0	Hours in Service: 744
Maximum Value: 21.8 ppb on Aug 12 22:00	Maximum Daily Average: 6.8 ppb on Aug 26
Minimum Value: 0 ppb on Aug 1 16:00	Hours of Data: 702
Maximum Diurnal Average: 6.2 ppb at hour 22	Hours of Missing Data: 42
Monthly Average: 3.64 ppb	Hours of Calibration: 38
Minimum Daily Average: 1.5 ppb on Aug 28	Percent Operational Time: 99.5
Minimum Diurnal Average: 1.6 ppb at hour 16	
Percentiles: P <sub>1</sub> = 0.6 P <sub>10</sub> = 1.0 Q <sub>1</sub> = 1.6 Median = 2.7 Q <sub>3</sub> = 4.6 P <sub>90</sub> = 7.7 P <sub>99</sub> = 15.0	

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-Aug	3	2	2	2	3	5	4	2	2	2	1	1	1	1	0	0	0	1	1	1	A	10	7	8	2.6	9.7
2-Aug	5	6	5	4	6	6	5	8	4	3	4	5	2	2	2	1	2	4	5	A	9	5	5	6	4.5	9.2
3-Aug	4	5	6	4	4	3	4	4	3	C	C	C	C	C	2	1	1	2	A	5	4	5	5	3	3.7	5.9
4-Aug	3	2	2	4	5	5	7	16	8	6	4	2	1	1	2	1	2	A	3	2	4	3	2	2	3.8	15.9
5-Aug	1	2	3	3	4	3	5	3	3	2	2	2	1	2	3	3	A	5	3	4	4	3	3	2	3.0	4.8
6-Aug	2	2	2	2	3	5	4	6	3	3	3	3	2	2	2	A	4	3	2	3	2	2	2	P	2.9	5.9
7-Aug	P	P	P	R	1	2	1	1	2	2	2	2	2	2	A	3	2	2	1	2	5	5	3	3	2.3	5.1
8-Aug	3	3	3	3	5	6	7	5	5	3	2	2	1	A	3	2	1	2	2	2	3	4	6	7	3.4	7.1
9-Aug	6	7	9	6	3	4	6	8	9	10	8	7	A	9	4	2	3	4	3	3	4	7	3	4	5.6	9.6
10-Aug	2	2	2	2	2	4	5	4	3	2	1	A	3	2	1	1	1	1	1	4	6	3	3	3	2.5	5.9
11-Aug	2	2	2	2	1	3	4	3	1	2	A	4	2	1	1	1	1	1	1	2	3	4	4	1	2.0	4.2
12-Aug	3	3	2	2	3	7	8	7	4	A	4	3	2	2	1	1	1	1	1	2	16	22	17	11	5.4	21.8
13-Aug	13	15	12	15	12	8	7	5	A	4	3	4	2	1	1	1	1	1	1	2	11	11	13	9	6.6	15.2
14-Aug	5	8	15	3	3	3	3	A	4	2	2	2	3	2	2	1	1	1	2	2	7	6	4	3	3.7	15.1
15-Aug	2	2	2	1	2	2	A	6	4	3	2	2	2	1	1	1	1	1	1	5	9	12	15	14	4.0	14.6
16-Aug	11	6	8	6	3	A	8	5	3	2	2	1	1	1	1	1	1	2	2	3	6	8	5	2	3.8	11.3
17-Aug	3	2	3	3	A	11	13	8	3	2	1	1	1	1	1	1	1	1	1	2	5	7	7	4	3.5	13.0
18-Aug	2	8	4	A	6	6	7	5	5	6	4	3	2	1	1	1	1	1	1	2	6	10	9	6	4.1	9.7
19-Aug	6	7	A	10	7	8	9	9	8	6	3	2	1	1	1	1	1	1	2	5	10	14	11	9	5.7	14.5
20-Aug	5	A	4	3	3	4	4	4	3	4	2	1	1	1	2	2	1	1	3	3	3	2	3	3	2.7	5.4
21-Aug	A	5	3	4	3	3	3	3	3	2	1	2	2	2	3	2	3	2	2	3	2	2	2	A	2.5	4.8
22-Aug	3	2	2	1	1	2	2	2	2	2	1	1	1	1	1	1	2	1	1	1	2	2	A	4	1.6	4.4
23-Aug	3	4	4	4	5	7	6	5	4	3	3	2	2	1	1	1	1	1	2	5	16	A	14	10	4.5	16.1
24-Aug	8	6	7	6	7	6	6	6	5	3	3	2	3	3	2	2	2	2	2	2	A	7	6	3	4.2	8.5
25-Aug	4	4	4	4	4	8	12	10	8	6	5	3	2	1	1	1	1	2	2	A	6	12	14	12	5.5	13.5
26-Aug	8	6	4	4	5	6	9	8	8	8	7	8	6	7	5	5	6	5	A	7	6	9	11	9	6.8	10.8
27-Aug	6	6	3	4	2	3	5	5	2	2	1	1	1	1	1	1	1	A	3	1	1	1	1	1	2.2	6.4
28-Aug	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	A	3	2	3	3	3	2	2	1.5	3.4
29-Aug	1	1	1	1	1	1	3	4	3	2	2	1	1	1	1	A	4	3	4	3	3	2	2	1	2.0	4.5
30-Aug	1	1	2	2	2	3	6	6	3	2	2	2	2	3	A	5	3	3	2	3	4	3	3	3	2.9	6.0
31-Aug	3	3	3	3	3	3	4	4	3	2	3	2	2	A	4	3	3	3	4	4	3	3	2	2	3.0	4.1

C - Calibration	R - Recovery	P - Power Failure	A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 159 ppb 24-hr 106 ppb			

### Hourly Averages

Nitrogen Dioxide (NO<sub>2</sub>) - ppb  
Henry Pirker - August 2016





## Hourly Maximums

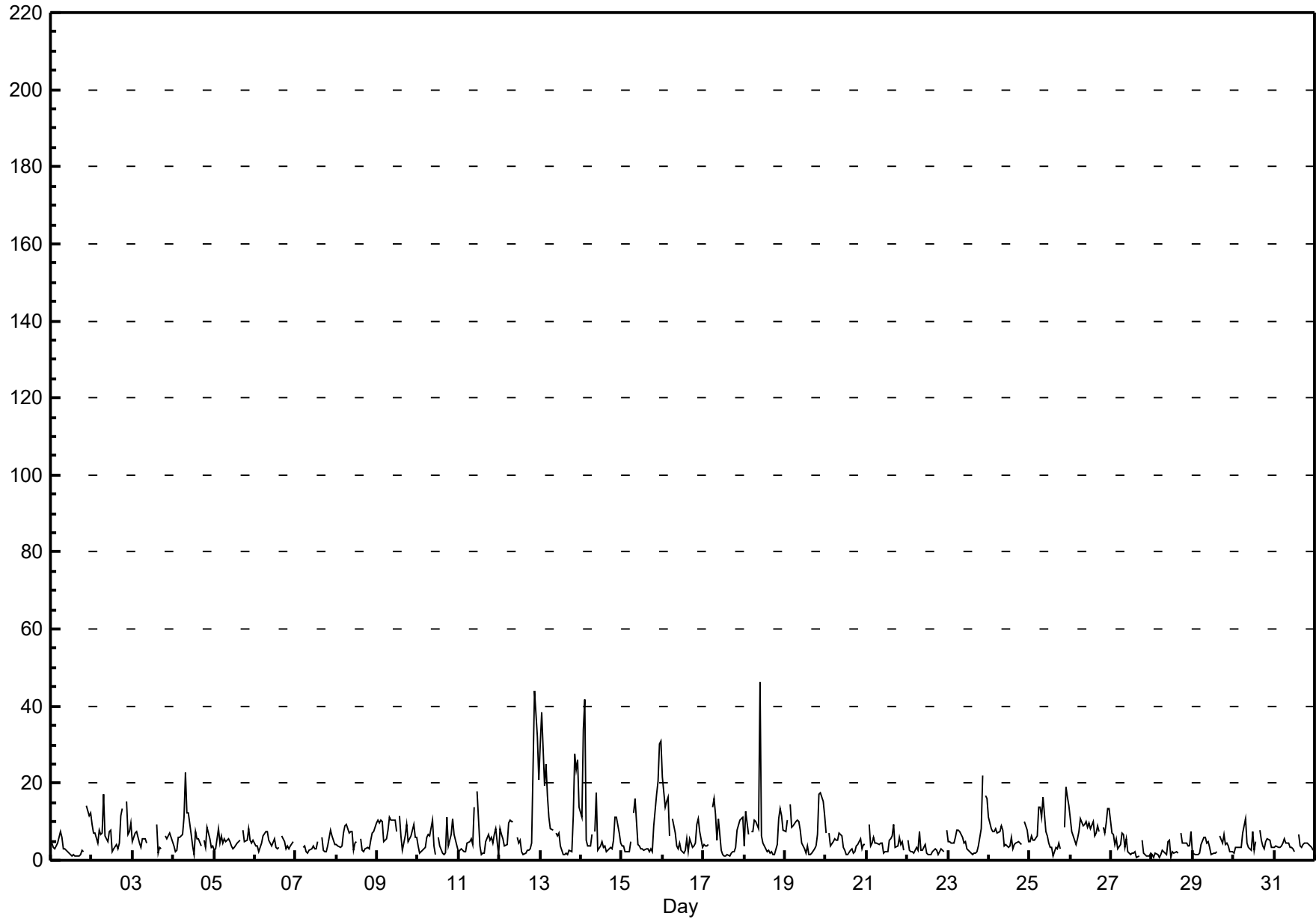
Nitrogen Dioxide (NO<sub>2</sub>) - ppb

Henry Pirker - August 2016

Maximum Value: 46.4 ppb on Aug 18 10:00		Maximum Daily Average: 12.8 ppb on Aug 13		Hours in Service: 744																						
Minimum Value: 1 ppb on Aug 28 12:00		Minimum Daily Average: 2.9 ppb on Aug 22		Hours of Data: 702																						
Maximum Diurnal Average: 10.0 ppb at hour 21		Minimum Diurnal Average: 3.1 ppb at hour 13		Hours of Missing Data: 42																						
Monthly Average: 6.09 ppb		Percentiles: P <sub>1</sub> = 1.0 P <sub>10</sub> = 1.9 Q <sub>1</sub> = 3.0 Median = 4.5 Q <sub>3</sub> = 7.4 P <sub>90</sub> = 11.2 P <sub>99</sub> = 31.0		Hours of Calibration: 38																						
				Percent Operational Time: 99.5																						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Aug	5	3	3	4	5	8	6	3	3	3	2	2	1	2	1	1	1	2	2	2	A	14	12	12	4.1	14.1
2-Aug	9	7	7	5	8	7	7	17	6	5	7	8	2	3	4	3	4	12	13	A	15	7	7	10	7.6	17.2
3-Aug	5	7	8	6	5	3	6	6	4	C	C	C	C	C	9	2	3	3	A	6	5	6	7	5	5.4	9.3
4-Aug	4	2	3	6	6	7	11	23	12	12	7	4	2	7	6	6	4	A	5	3	8	6	3	4	6.5	22.6
5-Aug	3	3	8	5	6	4	6	5	6	5	4	3	4	4	5	5	A	8	5	5	8	5	5	5	5.0	8.3
6-Aug	4	4	2	3	5	6	7	7	5	5	4	6	3	3	3	A	6	5	3	4	3	4	5	P	4.4	7.4
7-Aug	P	P	P	R	3	4	2	2	3	3	4	3	3	5	A	6	3	2	2	4	8	6	5	4	3.8	8.0
8-Aug	4	4	3	4	7	9	9	7	7	8	3	4	5	A	6	3	2	3	4	3	5	7	7	10	5.4	9.7
9-Aug	10	10	11	10	5	5	8	11	10	10	11	8	A	11	6	3	6	9	5	5	6	9	6	6	7.9	11.4
10-Aug	4	2	2	3	4	6	7	6	10	4	2	A	6	4	2	2	2	11	4	7	11	7	5	4	4.9	11.2
11-Aug	2	3	2	2	2	4	5	6	4	14	A	18	4	2	2	2	5	7	5	6	4	7	8	1	5.0	18.1
12-Aug	8	7	6	4	4	10	10	10	10	A	6	5	5	2	2	2	3	3	4	44	38	32	21	10.3	44.0	
13-Aug	30	38	19	25	17	11	8	8	A	7	6	7	4	2	1	2	1	3	2	12	27	23	26	14	12.8	38.4
14-Aug	11	34	42	5	4	4	7	A	7	17	3	4	5	3	4	2	3	3	3	5	11	11	7	4	8.7	41.7
15-Aug	4	4	2	2	2	5	A	12	16	4	4	3	3	3	3	3	2	3	2	9	17	21	30	31	8.0	30.8
16-Aug	21	14	15	17	6	A	11	7	4	3	4	3	2	3	6	2	5	3	4	5	9	11	8	3	7.2	21.5
17-Aug	4	4	4	4	A	14	16	12	5	11	3	1	1	1	1	1	2	2	2	3	8	11	11	11	5.8	16.0
18-Aug	4	13	7	A	7	8	10	10	8	46	6	5	4	2	3	2	1	2	4	11	13	11	8	8.1	46.4	
19-Aug	7	11	A	14	8	9	10	10	10	8	5	3	2	4	2	1	2	3	4	7	17	18	15	11	7.9	17.7
20-Aug	7	A	7	4	5	5	5	5	7	6	3	2	2	2	3	3	2	2	4	4	6	3	4	4	4.1	7.2
21-Aug	A	9	4	4	6	4	4	4	5	5	2	2	2	5	5	6	9	3	4	6	4	5	3	A	4.7	9.3
22-Aug	5	3	2	2	2	3	3	7	2	3	4	2	2	1	1	2	3	2	2	2	3	2	A	8	2.9	7.7
23-Aug	5	5	5	5	6	8	8	7	6	4	5	3	3	2	1	2	2	2	4	8	22	A	17	16	6.3	22.1
24-Aug	11	8	8	7	8	7	8	9	8	4	4	3	4	6	3	4	4	5	4	4	A	10	8	5	6.2	11.2
25-Aug	5	6	5	5	7	14	14	11	16	8	6	5	3	3	1	3	3	5	3	A	9	19	16	14	7.9	18.8
26-Aug	11	7	5	4	6	7	11	9	9	10	9	10	8	10	6	7	9	8	A	9	7	10	14	13	8.6	13.6
27-Aug	7	7	4	6	3	4	7	7	3	6	2	2	2	2	2	1	1	A	5	2	2	1	1	2	3.4	7.2
28-Aug	1	1	2	2	1	2	3	2	2	5	5	1	2	2	2	2	A	7	4	4	4	4	4	8	3.0	7.6
29-Aug	2	1	1	2	2	4	6	6	4	5	3	2	2	2	2	A	6	5	7	4	5	4	2	2	3.4	6.8
30-Aug	2	3	3	3	3	7	9	11	5	3	3	7	3	5	A	8	5	4	3	5	6	5	3	3	4.7	10.9
31-Aug	3	4	3	3	4	5	6	5	5	3	3	3	2	A	7	4	3	4	5	5	4	4	3	3	3.9	6.7
		6.8	7.7	6.7	5.7	5.2	6.5	7.6	8.2	6.8	7.8	4.4	4.4	3.1	3.6	3.4	3.1	3.6	4.4	3.9	5.1	10.0	9.7	9.6	8.3	Diurnal Average
		30.0	38.4	41.7	25.1	16.7	13.9	16.0	22.6	16.4	46.4	10.5	18.1	8.2	11.4	9.3	7.8	9.3	11.6	13.5	11.5	44.0	38.1	32.0	30.8	Diurnal Maximum
C - Calibration		R - Recovery					P - Power Failure					A - Automated Daily Zero Span														

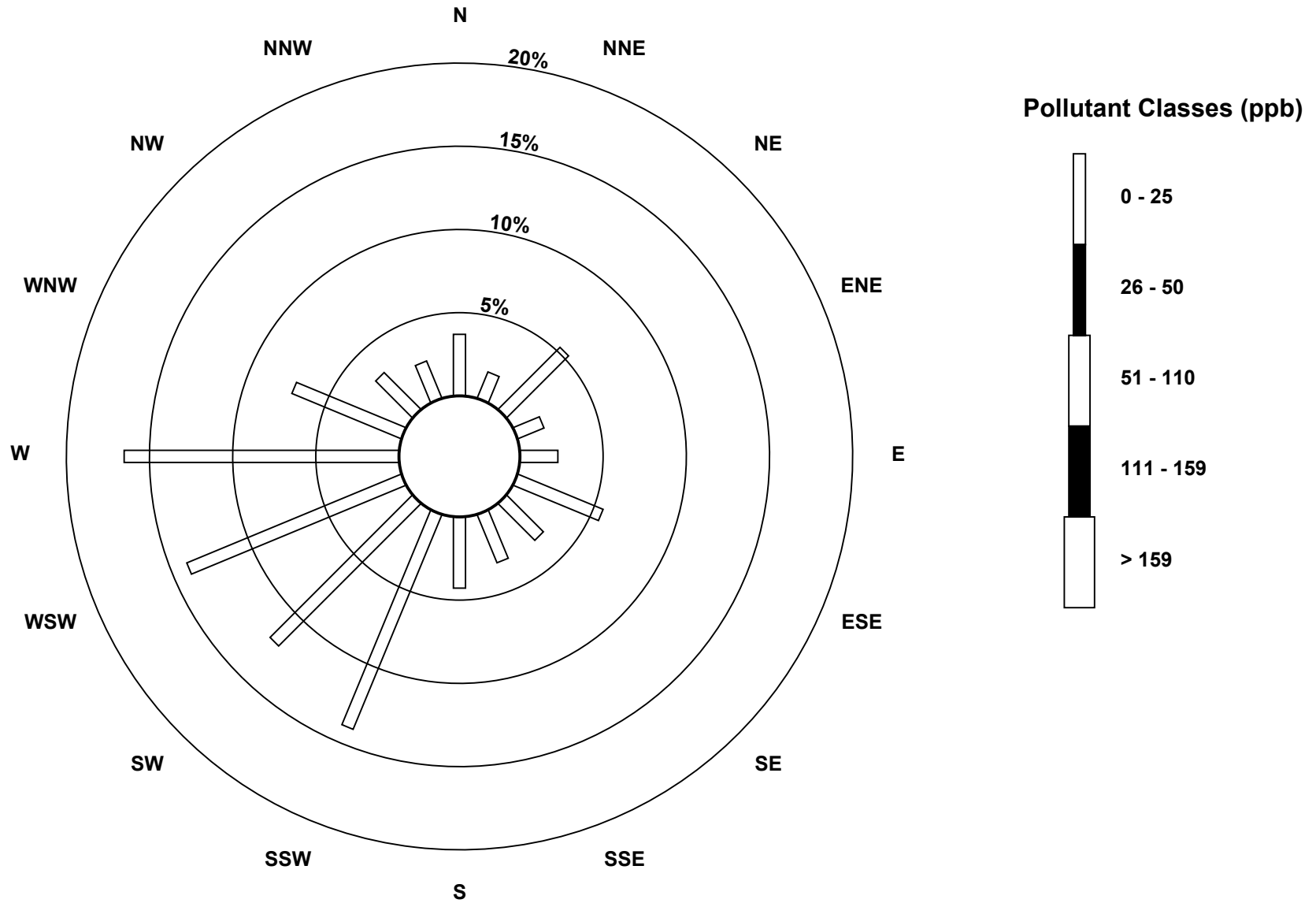
**Hourly Maximums**

**Nitrogen Dioxide (NO<sub>2</sub>) - ppb**  
**Henry Pirker - August 2016**



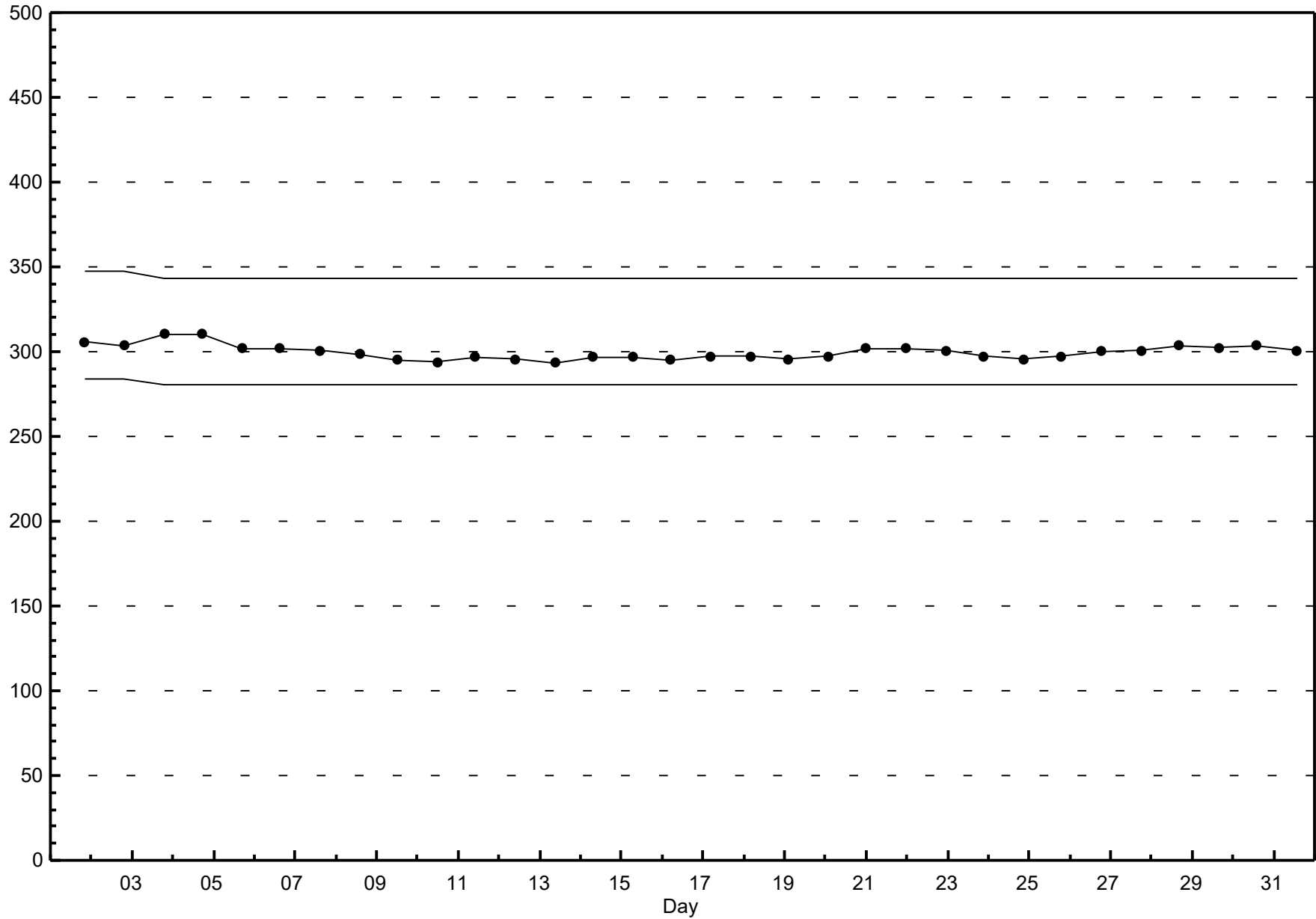
**Pollutant Rose**

**Nitrogen Dioxide (NO<sub>2</sub>) - ppb**  
**Henry Pirker - August 2016**



### Span Responses

**Nitrogen Dioxide (NO<sub>2</sub>)**  
**Henry Pirker - August 2016**



## Hourly Averages

Nitrogen Oxide (NO) - ppb

Henry Pirker - August 2016

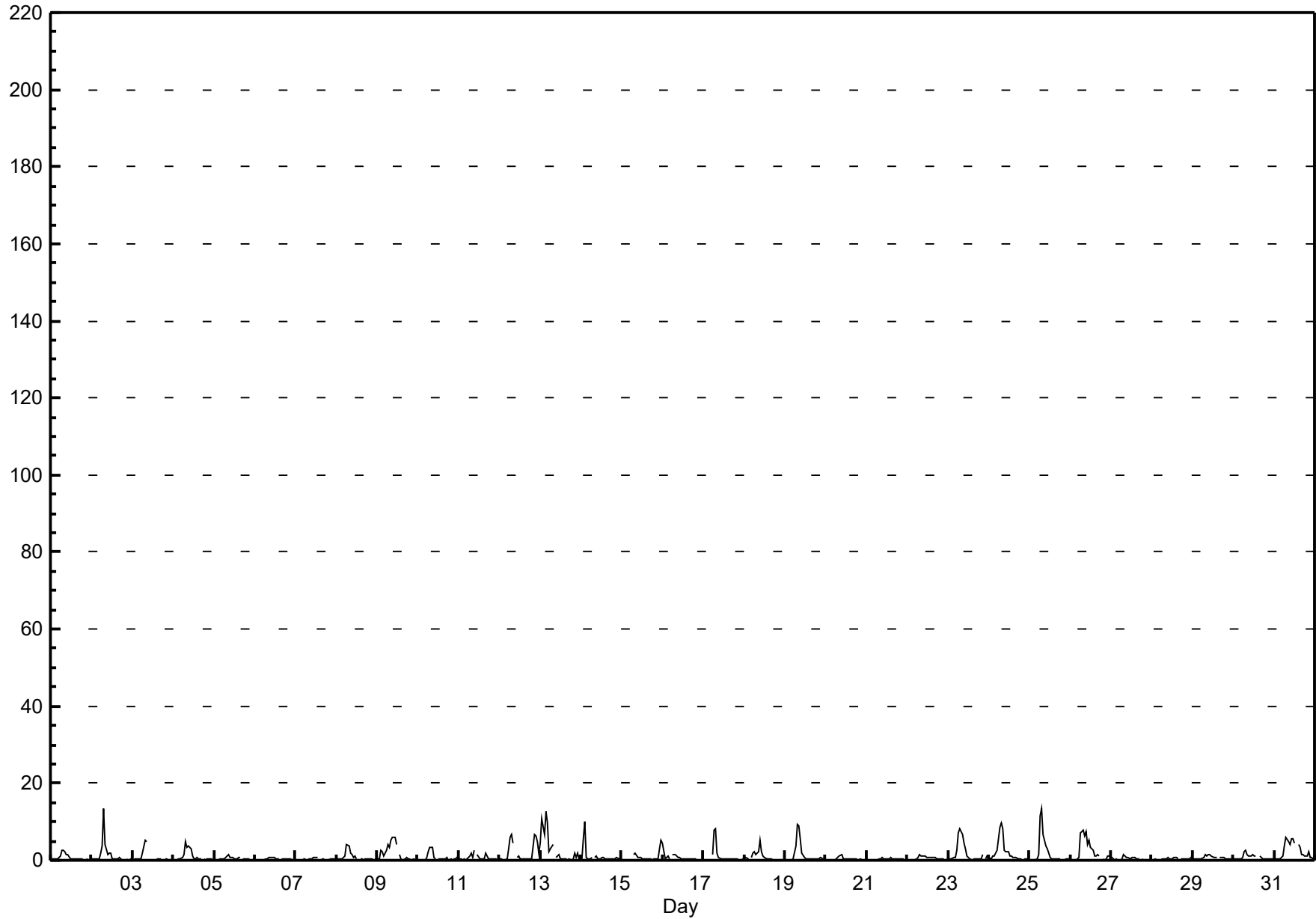
Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 13.5 ppb on Aug 25 08:00	Maximum Daily Average: 2.7 ppb on Aug 13		Hours of Data:	702
Minimum Value: 0 ppb on Aug 17 02:00	Minimum Daily Average: 0.3 ppb on Aug 7		Hours of Missing Data:	42
Maximum Diurnal Average: 4.2 ppb at hour 8	Minimum Diurnal Average: 0.3 ppb at hour 20		Hours of Calibration:	38
Monthly Average: 1.11 ppb	Percentiles: P <sub>1</sub> = 0.1 P <sub>10</sub> = 0.1 Q <sub>1</sub> = 0.2 Median = 0.4 Q <sub>3</sub> = 0.9 P <sub>90</sub> = 3.1 P <sub>99</sub> = 9.6		Percent Operational Time:	99.5

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Aug	0	0	0	0	0	1	3	2	2	2	1	0	0	0	0	0	0	0	0	0	A	0	0	0	0.7	2.8	
2-Aug	0	0	0	0	1	2	4	13	4	2	2	2	0	0	0	0	1	0	0	A	0	0	0	0	1.5	13.4	
3-Aug	0	0	0	0	0	1	2	5	5	C	C	C	C	C	0	0	0	0	A	0	0	0	0	0	0.9	5.4	
4-Aug	0	0	0	0	0	1	1	5	3	4	3	1	0	1	1	0	0	A	0	0	0	0	0	0	1.0	4.7	
5-Aug	0	0	0	0	0	0	1	1	1	1	1	1	0	0	1	1	A	0	0	0	0	0	0	0	0.4	1.3	
6-Aug	0	0	0	0	0	0	0	1	1	1	1	1	1	0	0	A	0	0	0	0	0	0	0	P	0.4	0.8	
7-Aug	P	P	P	R	0	0	0	0	0	0	1	1	1	1	A	0	0	0	0	0	0	0	0	0	0.3	0.6	
8-Aug	0	0	0	0	1	1	4	4	2	1	1	1	0	A	0	0	0	0	0	0	0	0	0	0	0.8	4.0	
9-Aug	0	0	3	2	1	2	4	3	5	6	6	4	A	2	0	0	0	1	0	0	0	0	0	0	1.8	6.0	
10-Aug	0	0	0	0	0	1	2	3	4	1	0	A	0	0	0	0	0	1	0	0	0	0	0	1	0.7	3.5	
11-Aug	0	0	0	0	0	0	1	2	1	3	A	2	0	0	0	0	2	0	0	0	0	0	1	0	0.7	2.8	
12-Aug	0	0	0	0	0	3	6	7	5	A	1	1	0	0	0	0	0	0	0	0	0	7	6	5	2	2.0	6.8
13-Aug	4	11	7	13	10	2	3	4	A	1	1	2	0	0	0	0	0	0	0	0	2	1	2	0	2.7	12.6	
14-Aug	1	6	10	1	0	0	1	A	1	1	0	0	1	1	1	0	0	0	0	0	0	1	0	0	1.1	10.2	
15-Aug	0	0	0	0	0	0	A	2	2	1	1	1	0	0	0	0	0	0	0	0	0	0	3	5	0.8	5.1	
16-Aug	5	0	1	1	0	A	1	1	1	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0.7	4.5	
17-Aug	0	0	0	0	A	1	8	8	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.0	8.1	
18-Aug	0	1	0	A	1	2	2	2	2	5	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0.9	5.2	
19-Aug	0	0	A	0	0	0	4	9	9	6	2	1	1	0	0	0	0	0	0	0	0	1	0	0	1.6	9.4	
20-Aug	0	A	0	0	0	0	0	1	1	2	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0.4	1.5	
21-Aug	A	0	0	0	0	0	0	0	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	A	0.3	0.6
22-Aug	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	A	0	0.6	1.5	
23-Aug	0	0	0	1	1	3	7	8	7	5	3	1	1	0	0	0	0	0	0	0	2	A	0	1	1.8	8.0	
24-Aug	1	0	1	1	2	3	9	10	8	2	2	2	1	1	1	1	1	0	0	0	A	0	0	0	2.1	9.8	
25-Aug	0	0	0	0	0	1	12	13	7	4	3	2	1	0	0	0	0	0	0	A	0	0	0	0	2.0	13.5	
26-Aug	0	0	0	0	0	1	7	8	6	7	4	5	3	2	1	1	1	1	A	0	0	0	1	1	2.3	7.9	
27-Aug	1	1	0	0	0	0	0	1	1	1	1	1	1	1	1	0	0	A	0	0	0	0	0	0	0.5	1.4	
28-Aug	0	0	0	0	0	0	0	0	0	1	1	0	0	1	1	1	A	0	0	0	0	0	0	1	0.4	0.8	
29-Aug	0	0	0	0	0	0	1	1	1	1	1	2	1	1	1	1	A	1	1	0	0	0	0	0	0.7	1.6	
30-Aug	0	0	0	0	0	1	2	2	1	1	1	1	1	1	A	1	1	0	0	0	0	0	0	0	0.8	2.4	
31-Aug	0	0	0	1	1	1	4	6	5	4	6	6	4	A	4	3	2	2	1	1	2	1	1	1	2.4	6.0	
	0.5	0.8	0.9	0.8	0.7	1.0	3.0	4.2	3.0	2.2	1.6	1.3	0.8	0.6	0.6	0.5	0.5	0.5	0.3	0.3	0.6	0.5	0.6	0.6	Diurnal Average		
	4.5	10.8	10.2	12.6	9.6	3.0	11.7	13.5	8.8	7.5	6.0	5.8	4.5	2.4	4.0	3.5	2.0	1.6	0.9	1.1	6.8	6.2	4.8	5.1	Diurnal Maximum		

C - Calibration      R - Recovery      P - Power Failure      A - Automated Daily Zero Span

**Hourly Averages**

**Nitrogen Oxide (NO) - ppb**  
**Henry Pirker - August 2016**



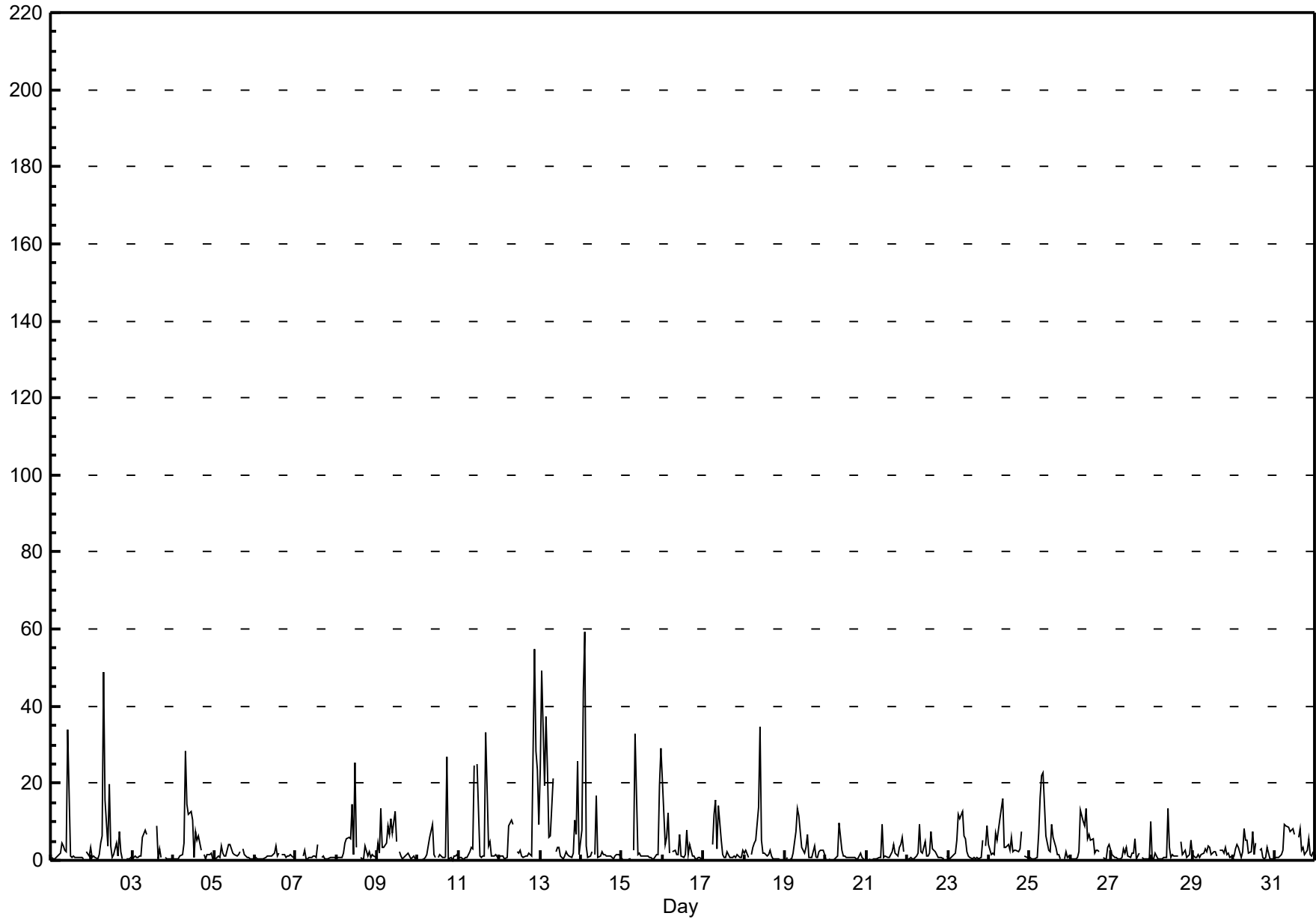
## Hourly Maximums

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

Maximum Value: 59.3 ppb on Aug 14 03:00		Maximum Daily Average: 10.9 ppb on Aug 13		Hours in Service: 744																						
Minimum Value: 0 ppb on Aug 17 02:00		Minimum Daily Average: 1.0 ppb on Aug 7		Hours of Data: 702																						
Maximum Diurnal Average: 9.1 ppb at hour 8		Minimum Diurnal Average: 1.1 ppb at hour 19		Hours of Missing Data: 42																						
Monthly Average: 3.64 ppb		Percentiles: P <sub>1</sub> = 0.1 P <sub>10</sub> = 0.4 Q <sub>1</sub> = 0.6 Median = 1.3 Q <sub>3</sub> = 3.5 P <sub>90</sub> = 9.1 P <sub>99</sub> = 33.0		Hours of Calibration: 38																						
				Percent Operational Time: 99.5																						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Aug	1	0	0	1	1	2	5	4	3	2	34	1	1	1	1	1	1	1	1	0	A	2	1	3	2.8	33.8
2-Aug	1	1	1	0	1	5	6	49	16	4	20	4	1	1	4	1	8	2	0	A	0	0	0	1	5.5	48.7
3-Aug	1	1	1	1	1	1	6	8	7	C	C	C	C	C	9	1	3	1	A	1	0	0	0	0	2.3	8.9
4-Aug	0	0	0	0	1	1	5	28	15	12	13	10	1	8	5	6	3	A	1	0	1	1	2	0	5.0	28.3
5-Aug	1	0	1	1	4	2	1	1	4	4	3	2	2	1	2	2	A	3	1	1	1	0	0	0	1.6	4.1
6-Aug	1	0	0	0	0	0	1	1	1	1	1	2	4	1	2	A	2	2	1	1	1	1	1	P	1.1	3.9
7-Aug	P	P	P	R	1	2	0	0	1	1	1	1	1	4	A	1	1	0	0	0	1	1	1	1	1.0	4.0
8-Aug	0	1	1	1	2	4	5	6	6	14	1	25	3	A	1	0	0	4	1	2	1	1	1	1	3.6	25.2
9-Aug	5	2	13	4	3	5	9	7	11	7	13	5	A	2	1	0	1	1	2	1	0	1	0	0	4.1	13.5
10-Aug	0	0	0	0	1	2	4	6	9	1	1	A	1	2	1	1	1	27	0	1	0	1	1	1	2.6	26.9
11-Aug	1	1	0	0	1	1	2	3	3	25	A	25	1	1	1	1	33	4	5	1	1	1	2	0	4.9	33.3
12-Aug	1	1	1	0	1	9	10	10	9	A	2	2	2	1	1	1	1	2	1	1	55	28	24	9	7.6	54.7
13-Aug	23	49	19	37	24	6	6	21	A	2	4	3	1	0	1	2	1	1	1	2	10	7	26	1	10.9	49.3
14-Aug	8	44	59	4	1	1	2	A	1	17	1	1	2	2	2	1	1	1	1	0	1	1	1	1	6.7	59.3
15-Aug	0	0	0	0	1	0	A	3	33	2	2	1	1	1	1	1	1	1	0	0	1	1	19	29	4.3	32.9
16-Aug	21	4	6	12	2	A	2	3	2	1	7	1	1	1	8	1	4	1	1	0	0	1	1	0	3.5	20.9
17-Aug	0	0	0	0	A	4	12	16	3	14	5	1	1	1	2	1	1	1	1	1	1	1	1	3	3.0	15.6
18-Aug	2	3	1	A	2	3	4	5	14	34	5	2	2	1	2	3	1	0	0	0	0	0	0	0	3.7	34.5
19-Aug	0	1	A	0	0	2	7	13	12	7	3	2	3	7	1	1	1	4	1	1	2	3	3	2	3.2	13.3
20-Aug	0	A	0	0	0	0	1	1	10	3	1	1	1	1	1	1	1	1	0	0	2	1	0	0	1.1	9.8
21-Aug	A	0	0	0	0	0	0	1	1	9	1	1	1	1	1	2	4	2	1	3	4	6	2	A	1.9	9.2
22-Aug	0	0	1	0	0	1	2	9	2	2	5	1	1	2	7	3	2	1	1	1	1	1	A	1	2.0	9.2
23-Aug	1	1	1	1	2	5	12	11	13	6	5	2	1	1	0	1	0	1	0	1	5	A	4	9	3.6	12.6
24-Aug	4	2	2	2	7	5	11	13	16	4	4	4	2	6	2	3	3	2	3	8	A	1	1	0	4.5	16.2
25-Aug	1	0	0	0	1	7	17	22	23	6	4	3	2	9	6	3	2	1	0	A	0	2	1	1	4.9	22.6
26-Aug	0	0	0	0	1	2	13	10	9	13	5	7	5	6	2	3	3	2	A	1	0	0	3	4	4.0	13.3
27-Aug	2	1	1	1	0	0	1	3	2	3	1	1	2	2	6	1	2	A	1	0	0	0	0	10	1.7	10.1
28-Aug	0	0	2	0	0	0	1	1	1	13	3	1	1	1	1	1	A	5	2	2	1	1	2	5	2.0	13.3
29-Aug	2	1	1	1	1	1	2	3	2	4	3	2	2	2	1	A	2	2	2	3	2	2	1	1	1.9	3.7
30-Aug	1	3	4	3	1	2	8	5	5	2	2	7	2	5	A	2	3	1	0	1	3	1	0	0	2.7	8.2
31-Aug	0	1	1	1	2	3	9	9	8	7	8	8	7	A	6	8	3	3	2	3	6	1	1	2	4.3	9.5
		2.6	4.1	4.0	2.6	2.0	2.6	5.5	9.1	8.0	7.6	5.5	4.4	1.9	2.5	2.6	1.8	3.0	2.7	1.1	1.3	3.6	2.3	3.3	3.1	Diurnal Average
		23.4	49.3	59.3	37.4	23.9	8.8	16.5	48.7	32.9	34.5	33.8	25.2	6.6	9.2	8.9	8.1	33.3	26.9	4.9	7.6	54.7	28.4	25.7	29.2	Diurnal Maximum
C - Calibration		R - Recovery					P - Power Failure					A - Automated Daily Zero Span														

### Hourly Maximums

**Nitrogen Oxide (NO) - ppb**  
**Henry Pirker - August 2016**





## Hourly Averages

## Oxides of Nitrogen (NO<sub>x</sub>) - ppb

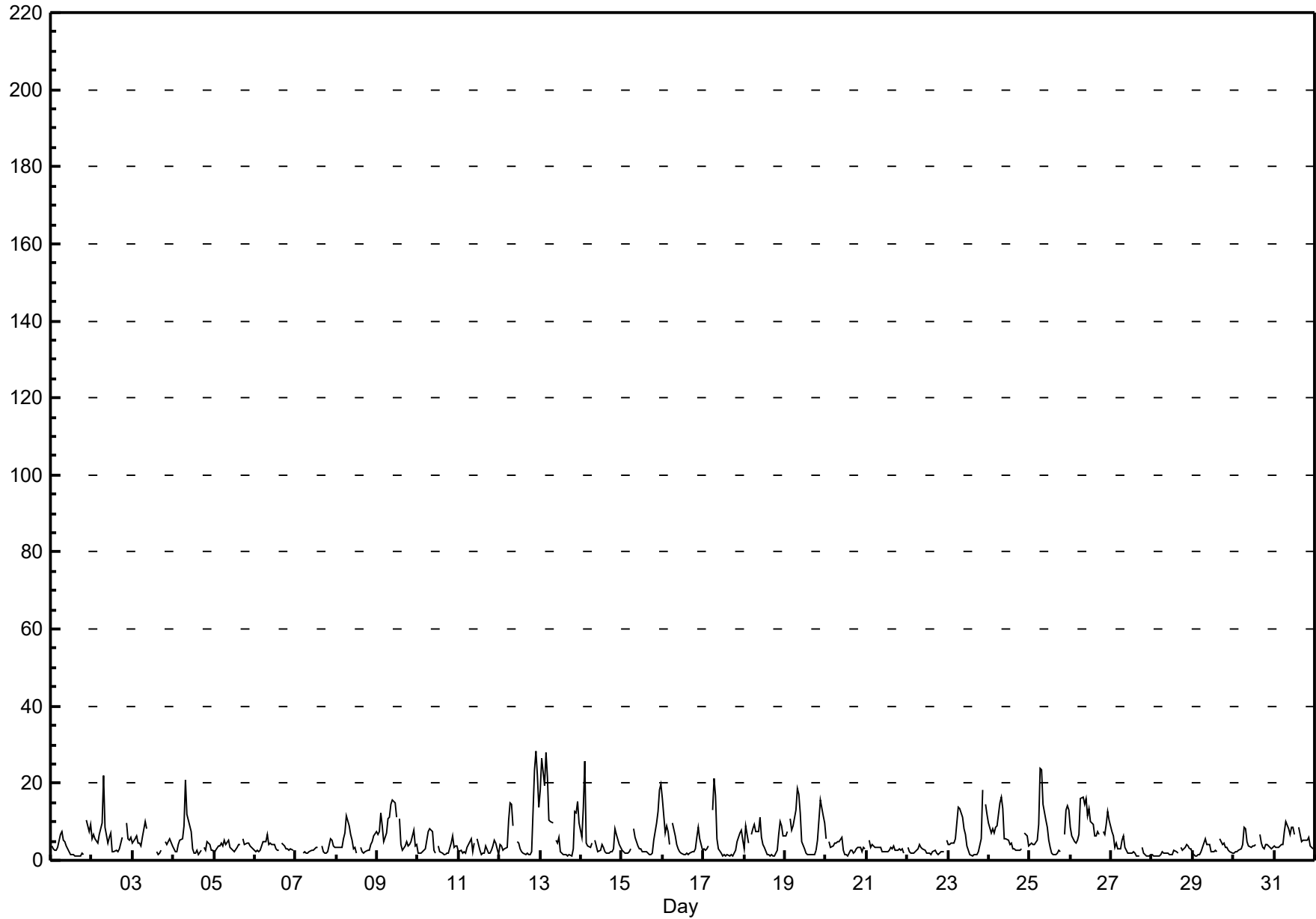
### Henry Pirker - August 2016

Number of Exceedences (AAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 28.5 ppb on Aug 12 22:00	Maximum Daily Average: 9.7 ppb on Aug 13		Hours of Data:	702
Minimum Value: 1 ppb on Aug 18 18:00	Minimum Daily Average: 2.2 ppb on Aug 28		Hours of Missing Data:	42
Maximum Diurnal Average: 10.0 ppb at hour 8	Minimum Diurnal Average: 2.4 ppb at hour 16		Hours of Calibration:	38
Monthly Average: 5.05 ppb	Percentiles: P <sub>1</sub> = 1.1 P <sub>10</sub> = 1.6 Q <sub>1</sub> = 2.2 Median = 3.6 Q <sub>3</sub> = 6.1 P <sub>90</sub> = 10.3 P <sub>99</sub> = 23.3		Percent Operational Time:	99.5

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Aug	4	3	3	3	3	7	8	5	5	4	3	2	1	1	1	1	1	1	2	1	A	10	8	9	3.7	10.5
2-Aug	6	7	6	4	7	8	10	22	9	5	6	7	2	2	3	2	3	4	6	A	10	6	5	6	6.3	22.1
3-Aug	4	6	6	4	4	4	6	10	8	C	C	C	C	C	2	2	2	3	A	5	4	5	6	4	4.7	10.0
4-Aug	3	2	2	4	5	5	9	21	12	10	8	3	2	2	3	2	3	A	3	3	5	4	3	3	5.0	21.0
5-Aug	2	3	4	4	4	4	5	4	5	3	3	2	2	3	4	4	A	6	4	4	4	4	3	3	3.7	5.5
6-Aug	2	3	2	3	4	5	5	7	4	4	4	4	3	3	3	A	4	4	3	3	3	3	3	P	3.5	6.7
7-Aug	P	P	P	R	2	2	2	2	2	3	3	3	3	3	A	4	2	2	2	2	6	5	4	3	2.9	5.7
8-Aug	3	3	3	3	5	7	11	9	7	5	3	3	2	A	4	2	2	2	3	3	4	5	6	7	4.5	11.4
9-Aug	7	8	12	9	5	7	11	11	15	16	15	11	A	11	4	2	4	5	4	4	5	8	4	4	7.8	15.8
10-Aug	2	2	2	3	3	5	7	8	7	2	2	A	4	2	2	2	2	2	2	4	6	3	4	4	3.4	8.0
11-Aug	2	3	2	2	2	3	5	6	2	5	A	5	3	2	2	2	4	2	2	3	4	5	5	1	3.0	5.6
12-Aug	4	4	3	3	4	11	15	14	9	A	5	4	3	2	2	2	2	2	2	2	23	28	22	14	7.7	28.5
13-Aug	18	26	19	28	22	10	10	10	A	5	5	6	2	1	1	1	1	1	1	3	13	12	15	10	9.7	27.8
14-Aug	6	14	26	4	4	3	4	A	5	4	2	3	4	3	2	2	2	2	2	3	8	7	4	3	5.1	25.7
15-Aug	3	2	2	2	2	3	A	8	6	4	3	3	2	2	2	2	1	2	2	5	10	13	18	20	5.0	19.9
16-Aug	16	7	9	7	4	A	10	6	4	3	2	2	1	1	2	1	2	2	2	3	6	8	6	3	4.7	16.1
17-Aug	3	3	3	4	A	13	21	17	6	3	2	1	1	1	1	1	1	1	2	3	5	7	8	5	4.9	21.3
18-Aug	3	9	5	A	7	8	9	7	8	11	6	4	3	2	1	1	2	1	1	2	7	10	9	6	5.3	11.1
19-Aug	6	8	A	11	8	9	13	19	17	12	5	3	2	1	1	1	1	2	2	5	10	16	12	10	7.6	18.8
20-Aug	6	A	5	3	4	4	4	5	5	6	3	2	1	1	2	3	2	2	3	3	3	2	4	3	3.3	6.1
21-Aug	A	5	3	4	4	3	3	3	3	2	2	2	2	3	3	3	4	2	2	3	3	3	2	A	3.0	5.1
22-Aug	3	2	2	2	2	2	3	4	3	3	3	2	2	2	2	2	3	2	2	2	2	2	A	5	2.5	5.1
23-Aug	4	4	5	5	6	10	14	13	11	8	7	4	3	2	1	1	1	2	2	6	18	A	15	12	6.6	18.1
24-Aug	10	7	8	7	9	9	15	17	14	6	5	5	4	4	3	3	3	3	3	3	A	7	6	4	6.7	16.5
25-Aug	4	4	4	4	5	9	24	24	15	10	9	5	3	2	1	1	2	3	2	A	7	13	14	13	7.8	23.9
26-Aug	8	7	5	4	5	7	16	16	14	16	12	13	10	10	6	6	8	7	A	7	7	9	12	10	9.4	16.3
27-Aug	7	7	3	4	3	3	5	6	3	3	2	2	2	2	2	1	1	A	3	2	1	1	1	1	2.9	7.4
28-Aug	1	1	1	1	1	2	2	2	2	2	2	1	2	2	2	2	A	4	3	3	4	4	3	3	2.2	4.0
29-Aug	2	1	1	1	2	2	4	5	4	4	4	2	2	3	2	A	5	4	5	3	3	3	2	2	3.0	5.5
30-Aug	2	2	2	3	3	4	9	8	5	4	3	4	4	4	A	7	5	3	3	4	4	3	3	3	4.0	8.6
31-Aug	4	3	3	4	4	4	8	10	8	7	9	8	7	A	8	7	5	5	5	5	6	4	3	3	5.7	10.3

5.0	5.3	5.2	4.9	4.7	5.8	9.0	10.0	7.3	5.9	4.6	4.1	2.9	2.8	2.6	2.4	2.6	2.7	2.6	3.5	6.6	7.0	7.0	6.0	Diurnal Average
18.3	26.3	25.7	27.8	21.6	12.9	23.9	23.6	17.3	16.0	14.8	13.4	9.9	10.9	8.4	6.7	7.6	6.5	5.9	7.4	23.4	28.5	22.1	19.9	Diurnal Maximum

C - Calibration      R - Recovery      P - Power Failure      A - Automated Daily Zero Span



## Hourly Maximums

Oxides of Nitrogen (NO<sub>x</sub>) - ppb

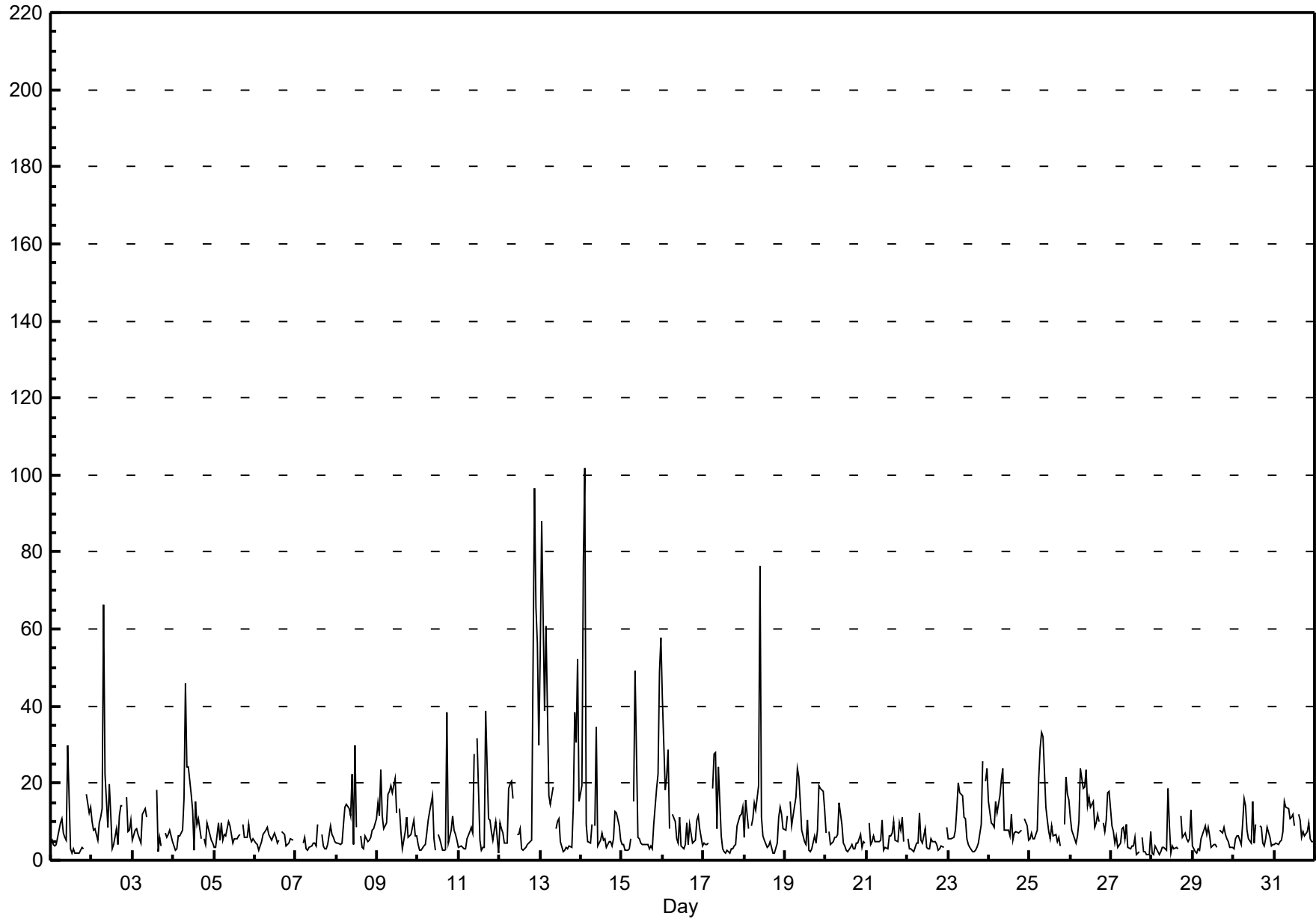
Henry Pirker - August 2016

Maximum Value: 101.7 ppb on Aug 14 03:00		Maximum Daily Average: 23.2 ppb on Aug 13		Hours in Service: 744																							
Minimum Value: 1 ppb on Aug 28 02:00		Minimum Daily Average: 4.6 ppb on Aug 22		Hours of Data: 702																							
Maximum Diurnal Average: 16.5 ppb at hour 8		Minimum Diurnal Average: 4.8 ppb at hour 16		Hours of Missing Data: 42																							
Monthly Average: 9.59 ppb		Percentiles: P <sub>1</sub> = 1.9 P <sub>10</sub> = 2.9 Q <sub>1</sub> = 4.2 Median = 6.4 Q <sub>3</sub> = 10.6 P <sub>90</sub> = 18.5 P <sub>99</sub> = 65.0		Hours of Calibration: 38																							
				Percent Operational Time: 99.5																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Aug	6	4	4	4	6	10	11	7	6	5	30	3	2	3	2	2	2	3	3	3	A	17	12	14	6.8	30.0	
2-Aug	10	8	8	5	10	11	14	67	22	9	20	12	3	4	8	4	11	14	14	A	16	7	8	11	12.9	66.5	
3-Aug	5	8	8	7	5	5	12	13	11	C	C	C	C	C	18	2	6	4	A	7	6	7	8	5	7.6	18.4	
4-Aug	4	3	3	6	6	8	16	46	24	24	17	13	3	15	9	11	6	A	6	4	10	7	5	4	10.9	45.8	
5-Aug	3	3	10	5	10	5	7	6	10	9	7	4	6	6	6	7	A	9	6	6	9	6	5	5	6.5	10.1	
6-Aug	4	4	3	4	5	7	8	9	7	6	5	7	6	4	5	A	7	7	4	4	4	6	5	P	5.5	8.5	
7-Aug	P	P	P	R	5	6	3	3	3	4	4	5	4	9	A	7	4	3	3	4	9	7	6	5	4.9	9.3	
8-Aug	4	4	4	4	9	14	15	14	12	22	4	30	9	A	6	3	3	6	5	5	6	8	8	11	9.0	30.0	
9-Aug	15	12	23	12	8	10	17	18	19	18	21	12	A	14	8	3	8	11	6	6	7	10	6	6	11.7	23.4	
10-Aug	4	2	3	4	4	7	10	13	17	6	3	A	7	6	3	3	3	38	4	8	12	8	7	5	7.6	38.4	
11-Aug	3	4	3	3	3	6	8	9	7	27	A	32	5	3	3	3	39	11	10	7	5	8	10	2	9.2	38.7	
12-Aug	10	8	7	4	5	18	20	20	16	A	7	7	8	3	3	3	4	5	5	5	97	66	56	30	17.7	96.7	
13-Aug	54	88	39	61	39	17	15	19	A	8	10	11	5	2	3	3	3	4	3	14	38	31	52	15	23.2	88.0	
14-Aug	19	77	102	9	5	4	9	A	9	35	4	5	7	5	5	3	5	5	4	6	13	12	9	5	15.5	101.7	
15-Aug	4	4	3	3	3	6	A	15	49	6	6	4	4	4	4	4	3	4	3	9	19	22	49	58	12.4	57.7	
16-Aug	42	18	22	29	8	A	12	10	5	5	11	4	3	4	10	4	9	4	5	5	10	12	8	4	10.6	42.2	
17-Aug	4	4	4	4	A	19	27	28	8	24	6	3	2	2	2	2	3	3	4	4	9	12	12	14	8.7	28.0	
18-Aug	6	16	8	A	9	11	15	13	19	77	11	6	5	3	4	5	3	2	2	4	11	14	12	8	11.5	76.6	
19-Aug	8	12	A	15	9	11	16	24	22	15	8	5	4	10	3	2	3	6	4	8	19	19	18	13	11.1	24.0	
20-Aug	7	A	8	4	5	6	6	7	15	9	4	4	2	2	3	4	3	3	4	5	7	3	5	4	5.2	14.8	
21-Aug	A	10	4	5	6	5	5	5	5	10	3	3	3	6	6	7	10	5	5	10	8	11	5	A	6.3	11.1	
22-Aug	6	3	3	3	2	5	4	12	5	4	8	3	3	3	5	5	5	4	3	3	4	3	A	8	4.6	12.2	
23-Aug	6	6	5	6	8	13	20	18	17	11	11	5	4	3	2	2	3	3	4	9	26	A	20	24	9.9	25.8	
24-Aug	15	10	9	9	15	12	17	21	24	8	8	8	7	12	5	7	7	7	8	8	A	11	9	5	10.5	23.8	
25-Aug	6	7	5	6	8	21	29	33	32	14	10	7	5	9	6	7	5	6	4	A	9	21	17	16	12.4	33.2	
26-Aug	11	8	6	5	7	10	24	19	19	24	14	17	14	15	9	10	12	10	A	10	8	11	17	18	12.8	24.0	
27-Aug	9	8	5	6	3	4	8	8	6	9	3	3	4	4	6	2	2	A	6	2	2	2	1	7	4.8	9.4	
28-Aug	2	1	4	2	2	2	3	3	3	19	9	2	4	3	3	3	A	12	6	7	6	5	5	13	5.1	18.6	
29-Aug	4	2	2	3	3	6	8	9	7	9	6	3	4	4	3	A	8	7	9	7	5	5	3	3	5.2	8.9	
30-Aug	3	5	6	6	4	10	16	14	8	6	5	15	4	9	A	9	9	5	4	6	8	6	4	4	7.2	16.0	
31-Aug	4	5	4	5	5	7	15	14	13	11	11	12	9	A	12	11	6	7	6	7	10	5	5	5	8.3	15.4	
		9.6	11.8	10.8	8.2	7.2	9.2	13.0	16.5	14.0	14.9	9.2	8.5	5.0	6.0	5.7	4.8	6.6	7.2	5.1	6.3	13.5	12.0	13.0	11.1	Diurnal Average	
		53.9	88.0	101.7	60.9	39.2	21.1	29.2	66.5	49.3	76.6	30.0	31.8	13.9	15.4	18.4	10.8	38.7	38.4	14.2	13.9	96.7	65.5	56.1	57.7	Diurnal Maximum	
C - Calibration		R - Recovery				P - Power Failure				A - Automated Daily Zero Span																	

**Hourly Maximums**

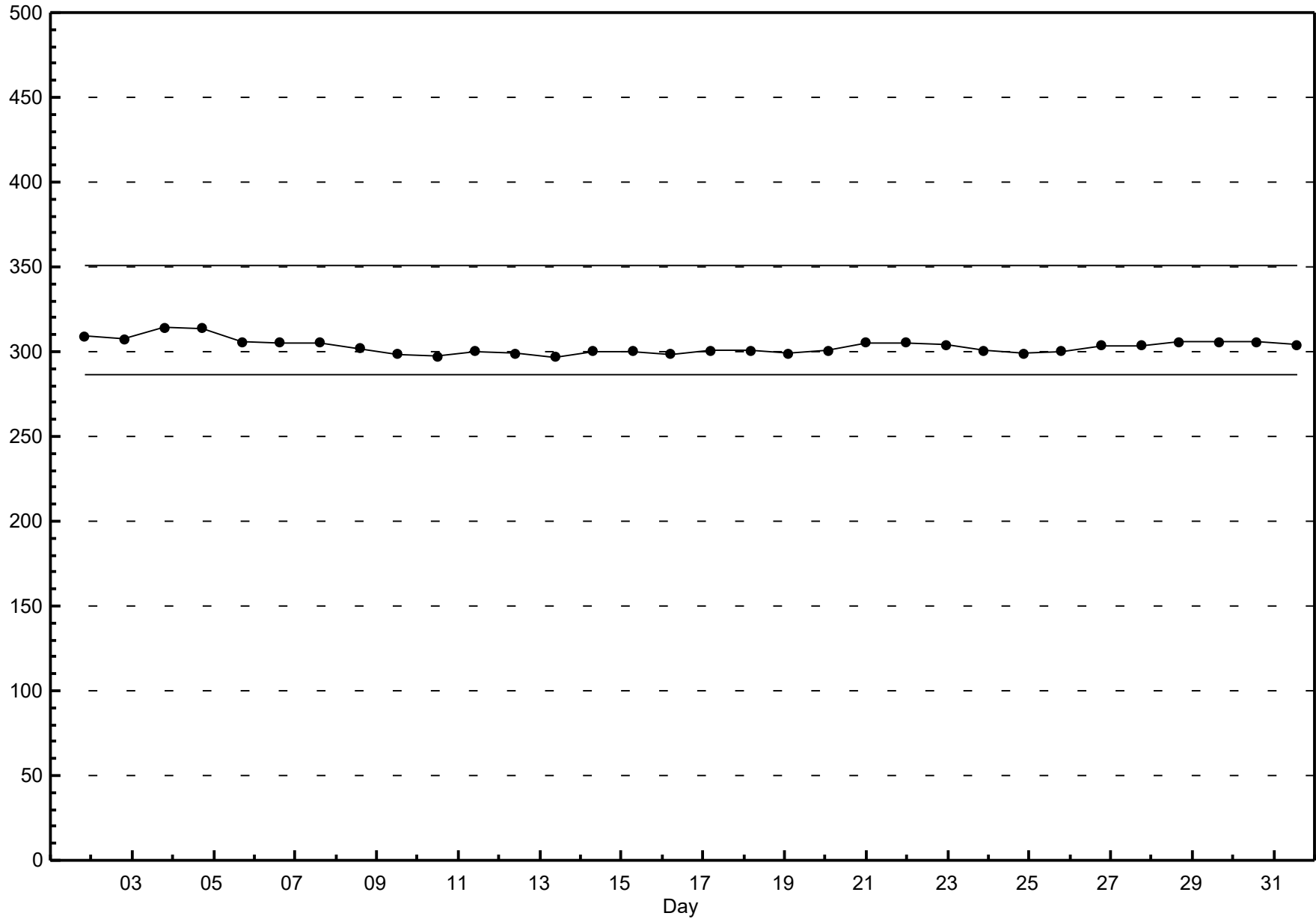
**Oxides of Nitrogen (NO<sub>x</sub>) - ppb**

**Henry Pirker - August 2016**



### Span Responses

Oxides of Nitrogen (NO<sub>x</sub>)  
Henry Pirker - August 2016





Peace Airshed Zone Association

# Hourly Averages

Ozone (O<sub>3</sub>) - ppb

Henry Pirker - August 2016

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0	Hours in Service: 744
Maximum Value: 45.6 ppb on Aug 9 15:00	Maximum Daily Average: 27.8 ppb on Aug 6
Minimum Value: 2 ppb on Aug 24 07:00	Hours of Data: 705
Maximum Diurnal Average: 27.4 ppb at hour 17	Hours of Missing Data: 39
Monthly Average: 18.60 ppb	Hours of Calibration: 35
Minimum Daily Average: 4.3 ppb on Aug 31	Percent Operational Time: 99.5
Minimum Diurnal Average: 10.1 ppb at hour 7	
Percentiles: P <sub>1</sub> = 3.0 P <sub>10</sub> = 6.4 Q <sub>1</sub> = 11.7 Median = 18.0 Q <sub>3</sub> = 25.2 P <sub>90</sub> = 31.3 P <sub>99</sub> = 37.4	

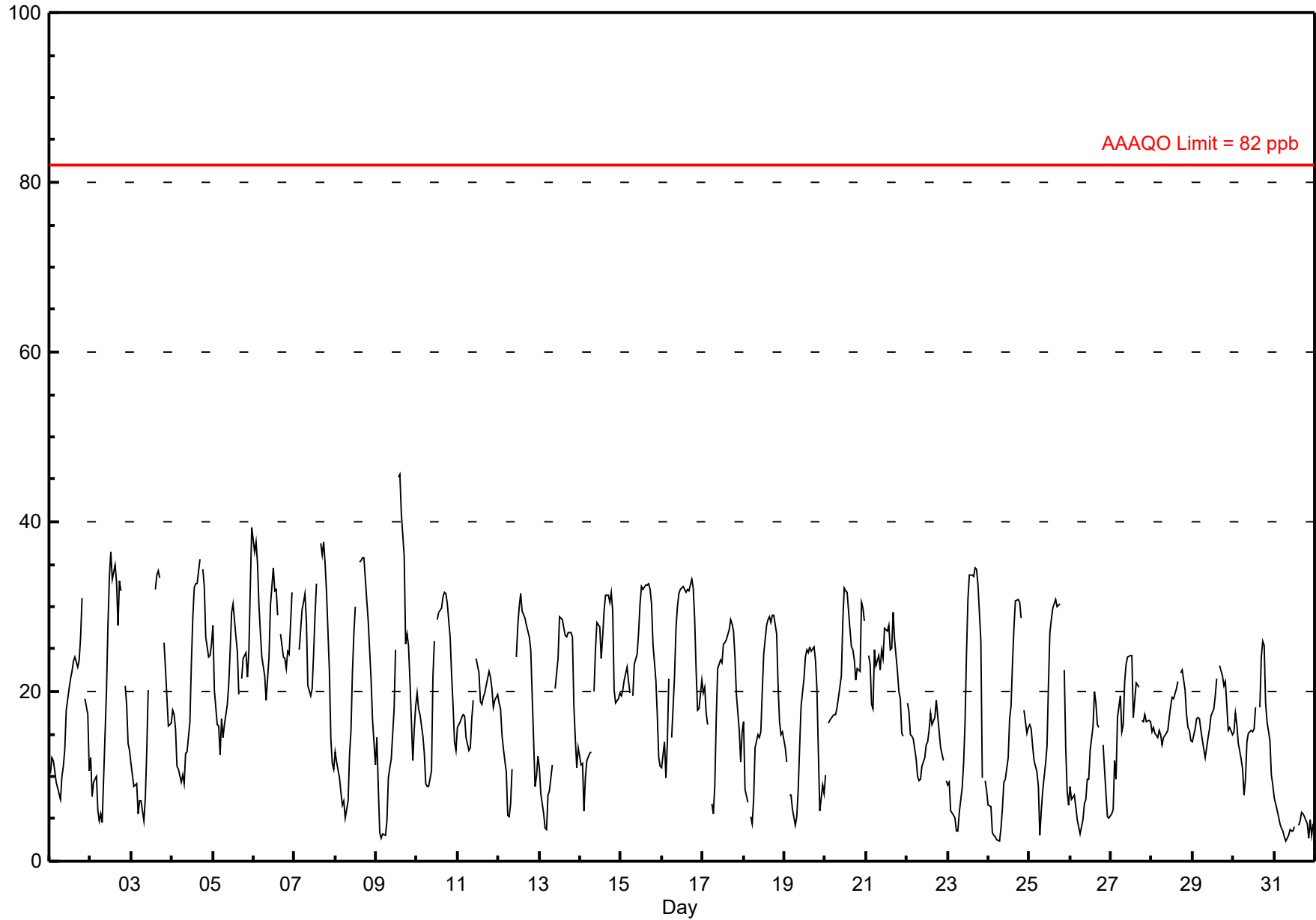
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Aug	10	12	12	11	9	8	7	10	11	13	18	20	22	22	24	24	23	24	27	31	A	19	17	11	16.7	31.1
2-Aug	12	8	9	10	6	5	6	5	10	20	28	34	36	33	35	33	28	33	32	A	21	18	14	13	19.5	36.5
3-Aug	12	9	9	9	6	7	7	5	7	13	20	C	C	C	32	34	34	33	A	26	23	19	16	16	16.9	34.3
4-Aug	18	17	16	11	11	9	10	9	13	13	16	23	29	32	33	33	36	A	34	32	26	24	24	26	21.5	35.6
5-Aug	28	20	16	16	13	17	15	16	19	21	25	29	30	26	25	20	A	22	24	25	22	25	32	39	22.7	39.3
6-Aug	37	38	35	30	27	24	22	19	22	24	30	34	32	32	29	A	27	24	24	23	25	24	32	P	27.8	37.6
7-Aug	P	P	P	25	30	30	32	28	21	19	20	24	29	33	A	37	36	38	35	32	22	14	12	11	26.4	37.6
8-Aug	13	12	10	8	7	7	5	7	13	15	22	27	30	A	35	35	36	36	31	28	25	21	17	11	19.6	35.7
9-Aug	15	9	3	3	3	3	5	10	11	12	18	25	A	45	46	41	36	26	27	25	21	12	16	18	18.7	45.6
10-Aug	20	18	17	15	13	9	9	9	11	22	26	A	28	29	30	31	32	31	30	26	22	18	14	13	20.6	31.8
11-Aug	16	16	17	17	17	15	13	13	17	19	A	24	22	19	19	20	22	22	22	20	18	19	20	18.5	23.9	
12-Aug	19	18	15	13	10	5	5	7	11	A	24	28	30	32	30	29	28	27	26	25	14	9	10	12	18.6	31.6
13-Aug	11	8	6	4	4	8	8	11	A	20	22	24	29	28	27	27	26	27	27	26	18	14	11	13	17.4	28.8
14-Aug	11	12	6	10	12	13	13	A	20	25	28	28	24	26	30	31	31	31	32	30	20	19	19	20	21.3	31.6
15-Aug	19	20	21	23	21	20	A	19	23	24	27	30	32	32	33	33	33	32	30	26	21	17	12	11	24.4	32.7
16-Aug	11	14	10	14	22	A	15	22	27	30	31	32	32	32	32	32	32	33	32	28	23	18	18	21	24.4	33.3
17-Aug	20	21	18	16	A	7	6	9	17	23	24	23	26	26	26	27	28	28	27	24	20	15	12	15	19.8	28.5
18-Aug	16	8	7	A	5	4	7	13	15	15	15	20	24	28	28	29	28	29	29	27	21	16	15	15	18.1	29.0
19-Aug	13	12	A	8	8	6	4	5	8	14	18	22	24	25	24	25	25	25	24	20	13	6	9	8	15.1	25.2
20-Aug	10	A	16	17	17	17	17	18	19	22	28	32	32	32	27	25	25	24	21	23	22	31	30	28	23.2	32.2
21-Aug	A	24	23	18	18	25	23	24	23	25	24	27	27	28	25	25	29	26	22	20	19	15	15	A	23.0	29.3
22-Aug	19	18	15	15	14	12	10	10	10	11	12	14	14	15	17	16	17	19	17	15	13	12	A	9	14.1	19.1
23-Aug	9	9	6	5	5	4	4	6	9	12	16	24	31	34	34	34	35	34	33	26	10	A	9	8	17.2	34.6
24-Aug	7	6	3	3	3	3	2	4	6	9	10	12	17	18	23	27	31	31	31	29	A	18	15	16	14.1	30.9
25-Aug	16	16	14	12	11	9	3	6	8	12	14	21	27	28	30	31	30	30	A	22	13	8	7	17.3	30.8	
26-Aug	9	7	8	6	5	4	3	5	7	7	10	10	13	16	20	19	16	16	A	14	11	8	5	5	9.7	20.0
27-Aug	6	6	12	10	17	19	15	16	21	23	24	24	24	17	19	21	21	A	17	17	17	17	17	16	17.2	24.3
28-Aug	15	16	15	15	15	15	14	15	15	17	18	19	19	20	21	A	22	22	20	17	16	15	14	17.1	22.5	
29-Aug	14	16	17	17	17	15	13	12	13	15	16	17	18	19	22	A	23	22	21	19	15	16	15	17.0	23.0	
30-Aug	15	17	16	14	12	11	8	10	14	15	15	15	16	18	A	18	24	26	25	19	16	14	10	9	15.6	25.9
31-Aug	8	7	5	4	4	4	3	2	3	4	4	4	4	A	4	5	6	6	5	4	3	5	3	4	4.3	7.5

14.7	14.2	13.0	12.6	12.0	11.2	10.1	11.5	14.1	17.1	20.1	23.0	24.9	26.7	26.8	27.0	27.4	26.7	26.1	23.6	18.8	16.4	15.4	14.7	Diurnal Average
36.5	37.6	35.2	30.2	29.7	30.5	31.6	28.2	27.4	29.9	31.5	34.5	36.5	45.3	45.6	41.0	36.1	37.6	35.2	32.4	26.5	30.6	32.3	39.3	Diurnal Maximum

C - Calibration      P - Power Failure      A - Automated Daily Zero Span  
 Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 82 ppb      24-hr na

### Hourly Averages

Ozone (O<sub>3</sub>) - ppb  
Henry Pirker - August 2016



# Hourly Maximums

Ozone (O<sub>3</sub>) - ppb

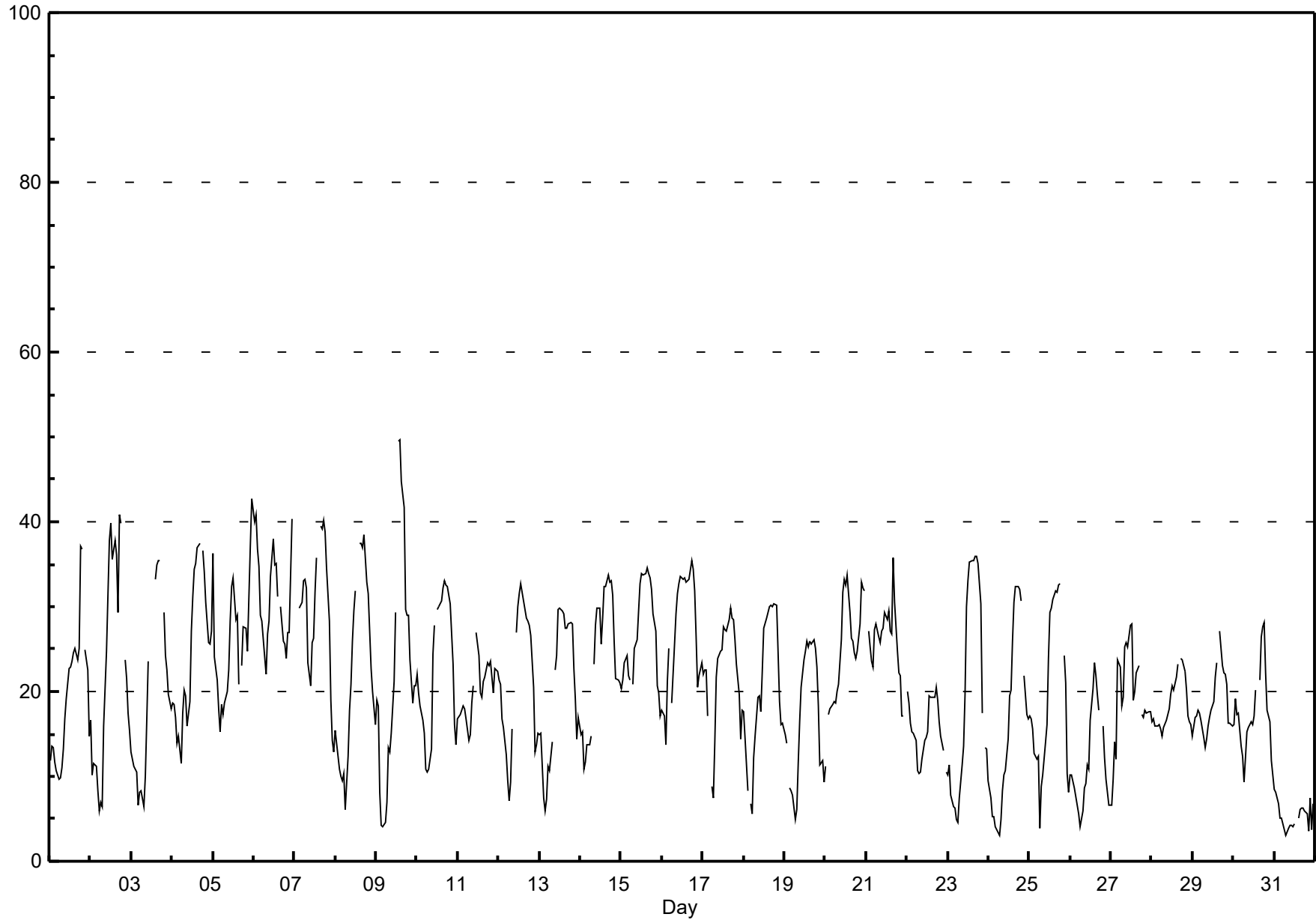
Henry Pirker - August 2016

Maximum Value: 49.6 ppb on Aug 9 15:00		Maximum Daily Average: 31.1 ppb on Aug 6		Hours in Service: 744																							
Minimum Value: 3 ppb on Aug 31 08:00		Minimum Daily Average: 5.3 ppb on Aug 31		Hours of Data: 705																							
Maximum Diurnal Average: 29.5 ppb at hour 17		Minimum Diurnal Average: 12.1 ppb at hour 7		Hours of Missing Data: 39																							
Monthly Average: 20.95 ppb		Percentiles: P <sub>1</sub> = 3.8 P <sub>10</sub> = 8.3 Q <sub>1</sub> = 14.5 Median = 20.5 Q <sub>3</sub> = 27.9 P <sub>90</sub> = 33.1 P <sub>99</sub> = 40.7		Hours of Calibration: 35																							
				Percent Operational Time: 99.5																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Aug	12	14	13	12	11	10	10	11	13	17	19	23	23	24	25	25	24	25	37	37	A	25	23	15	19.3	37.0	
2-Aug	17	10	12	11	8	6	7	6	16	25	31	38	40	36	38	36	29	41	40	A	24	22	18	15	22.8	40.9	
3-Aug	13	11	11	10	7	8	8	6	10	17	24	C	C	C	33	35	35	35	A	29	24	23	20	18	18.9	35.4	
4-Aug	19	18	17	14	15	11	17	20	19	16	19	27	31	34	35	37	38	A	37	34	30	26	26	27	24.7	37.5	
5-Aug	36	24	21	18	15	19	17	19	20	23	28	32	33	29	29	21	A	23	28	27	25	31	37	43	26.0	42.7	
6-Aug	40	41	37	35	29	28	24	22	27	28	34	38	35	35	31	A	30	26	26	24	27	27	40	P	31.1	40.8	
7-Aug	P	P	P	30	31	33	33	32	23	21	26	26	32	36	A	39	39	40	39	35	28	19	14	13	29.5	40.1	
8-Aug	15	14	11	10	10	10	6	12	18	21	26	30	32	A	37	38	37	38	33	32	27	23	20	16	22.4	38.4	
9-Aug	19	18	8	4	4	5	7	13	13	15	21	29	A	50	50	45	42	30	29	29	24	19	21	21	22.4	49.6	
10-Aug	22	20	18	17	15	11	11	11	13	24	28	A	30	30	31	32	33	33	32	30	27	23	16	14	22.6	33.1	
11-Aug	17	17	18	18	18	17	14	15	19	21	A	27	24	20	19	21	22	23	23	24	22	20	23	22	20.1	27.0	
12-Aug	21	21	17	16	12	9	7	9	16	A	27	30	32	33	32	30	29	28	28	27	21	13	14	15	21.1	32.7	
13-Aug	15	15	7	6	7	11	11	14	A	23	24	30	30	29	29	27	28	28	28	28	23	19	14	17	20.2	29.8	
14-Aug	15	15	11	12	14	14	15	A	23	28	30	30	26	29	32	32	34	33	33	31	26	21	21	21	23.7	33.7	
15-Aug	20	21	23	24	22	21	A	21	25	26	30	33	34	34	34	35	34	33	32	29	27	21	20	17	26.8	34.7	
16-Aug	18	17	14	21	25	A	19	26	29	32	33	34	33	33	33	33	33	35	34	32	26	20	22	23	27.2	35.4	
17-Aug	22	23	23	17	A	9	8	14	22	24	25	25	28	27	27	28	30	29	28	26	23	20	14	18	22.1	29.8	
18-Aug	18	15	8	A	7	6	12	15	19	20	18	22	27	29	29	30	30	30	30	30	25	19	16	16	20.5	30.4	
19-Aug	15	14	A	9	8	8	5	6	11	16	20	24	25	26	25	26	26	26	25	23	18	11	12	9	16.9	26.1	
20-Aug	11	A	17	18	19	19	19	20	21	26	32	33	33	34	29	26	26	25	24	25	28	33	32	32	25.2	33.7	
21-Aug	A	27	25	23	23	27	28	27	26	27	27	29	29	30	27	27	36	31	25	22	22	17	17	A	26.0	35.7	
22-Aug	20	19	16	15	15	14	11	10	11	12	14	15	15	19	19	19	19	20	19	16	15	13	A	11	15.6	20.5	
23-Aug	10	11	8	6	6	5	5	7	11	14	20	30	33	35	35	35	36	36	35	30	17	A	13	13	19.7	36.0	
24-Aug	9	8	5	5	4	4	3	5	8	10	11	14	19	20	26	30	32	32	32	31	A	22	17	17	15.9	32.4	
25-Aug	17	17	16	13	12	12	4	9	10	14	16	24	29	30	31	32	32	33	33	A	24	21	10	8	19.4	32.7	
26-Aug	10	10	9	8	7	6	4	6	9	9	11	11	17	20	23	22	20	18	A	16	12	10	8	7	11.8	23.4	
27-Aug	7	10	14	12	24	23	18	19	25	26	25	28	28	19	20	22	23	A	17	17	18	18	18	18	19.5	28.0	
28-Aug	16	17	16	16	16	16	15	16	17	18	20	21	20	22	23	A	24	24	22	20	17	17	16	16	18.5	23.9	
29-Aug	15	17	17	18	17	17	15	13	14	16	17	18	19	22	23	A	27	23	22	22	21	16	16	16	18.3	27.2	
30-Aug	16	19	17	17	14	12	9	12	15	16	16	16	17	20	A	21	26	28	28	22	18	16	12	10	17.4	28.2	
31-Aug	9	8	7	5	5	4	4	3	4	4	4	4	4	A	5	6	6	6	6	6	6	4	8	4	7	5.3	8.5
		17.0	16.9	15.0	14.7	14.0	13.2	12.1	14.0	16.9	19.5	22.4	25.5	26.8	28.6	28.7	28.8	29.5	28.7	28.5	26.1	22.2	19.7	18.5	17.1	Diurnal Average	
		40.0	40.8	36.7	34.8	30.6	33.1	33.3	32.3	29.2	31.6	33.5	38.0	39.8	49.6	49.6	44.7	41.7	40.9	39.8	36.7	30.4	32.9	40.4	42.7	Diurnal Maximum	
C - Calibration		P - Power Failure						A - Automated Daily Zero Span																			



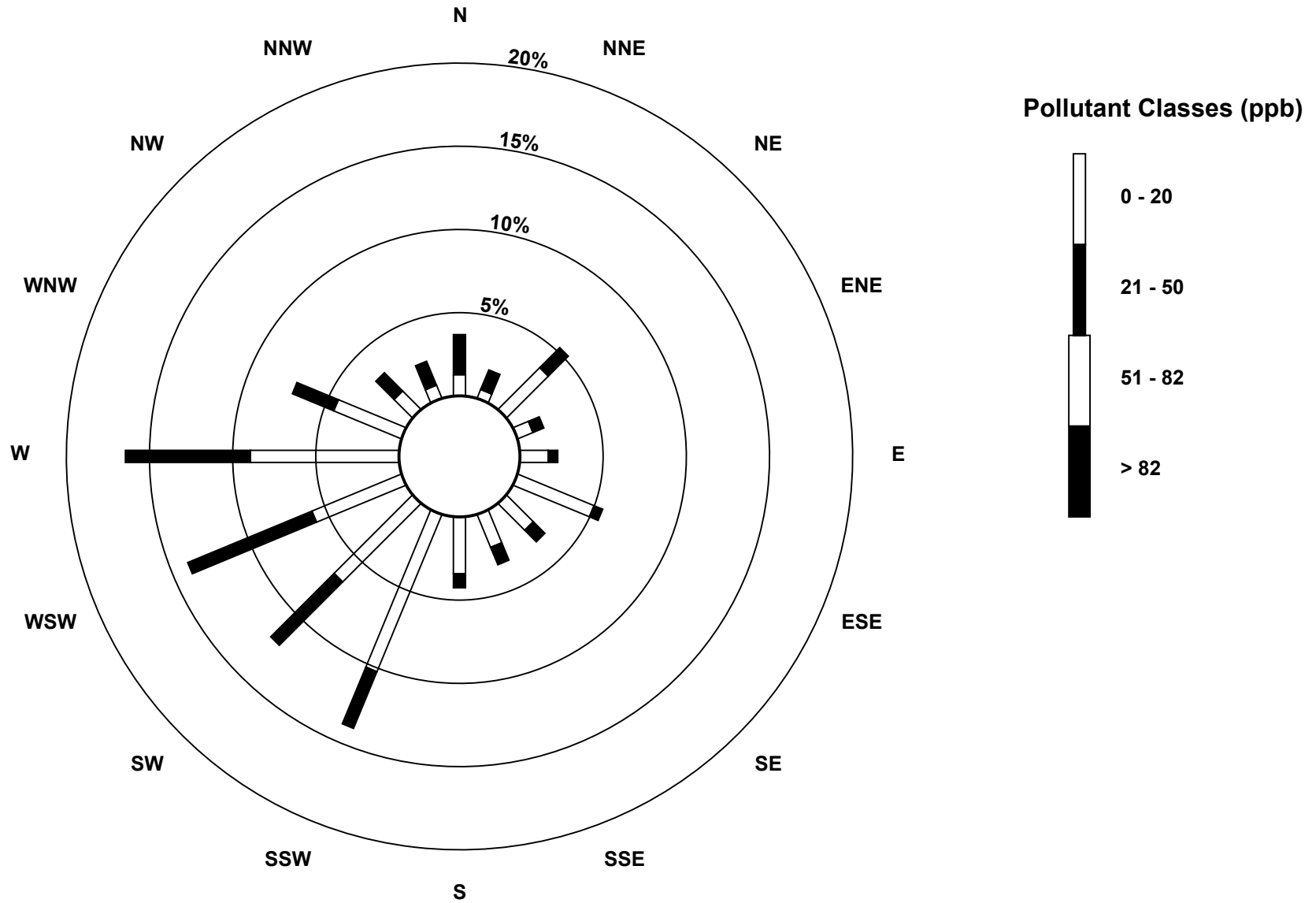
### Hourly Maximums

Ozone (O<sub>3</sub>) - ppb  
Henry Pirker - August 2016



**Pollutant Rose**

**Ozone (O<sub>3</sub>) - ppb**  
**Henry Pirker - August 2016**



# Eight Hour Running Averages

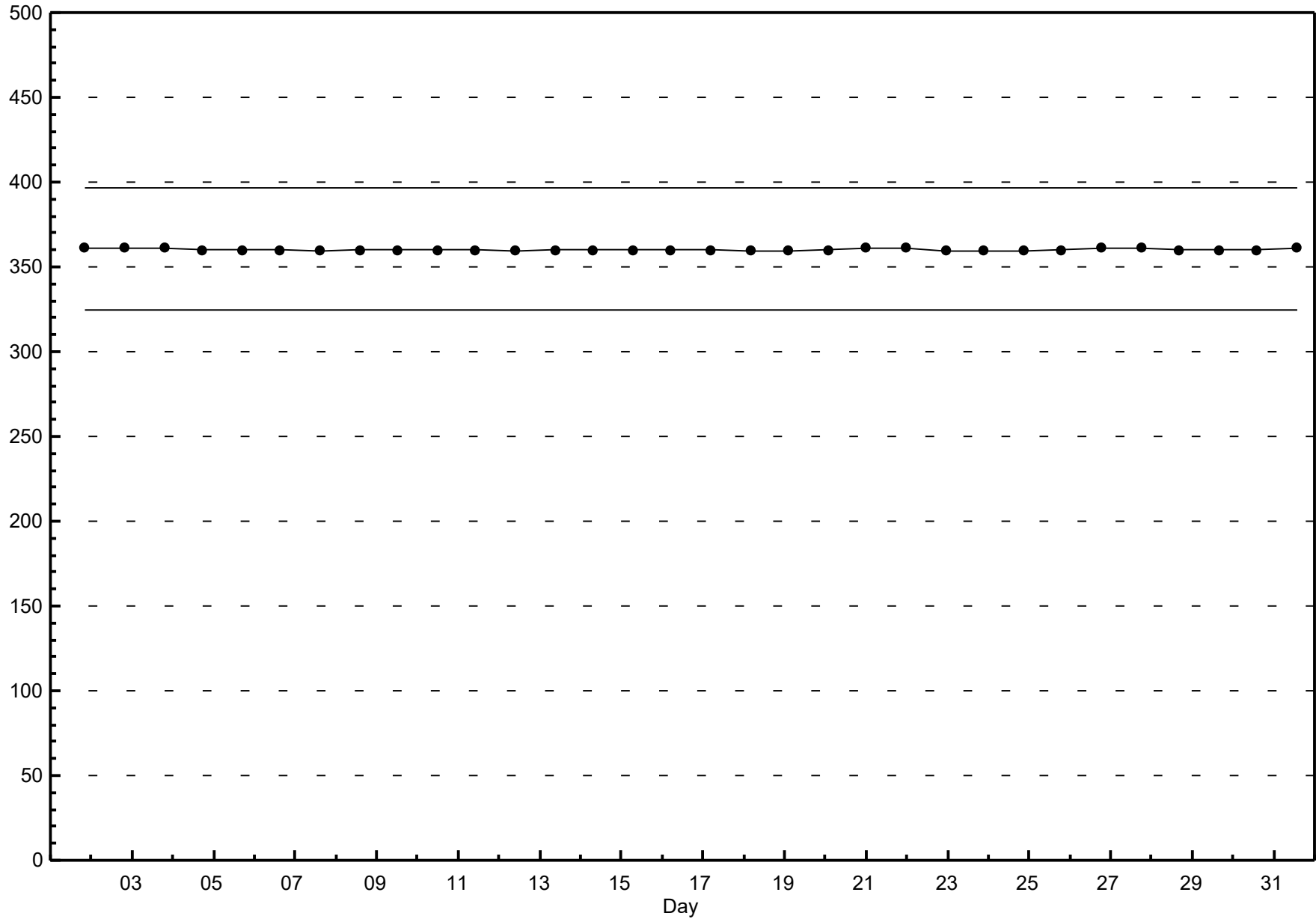
Ozone (O<sub>3</sub>) - ppb

Henry Pirker - August 2016

Maximum Value: 35.1 ppb on Aug 9 20:00 Minimum Value: 3.3 ppb on Aug 31 12:00 Percentiles: P <sub>1</sub> = 3.9 P <sub>10</sub> = 8.7 Q <sub>1</sub> = 13.1 Median = 18.4 Q <sub>3</sub> = 25.0 P <sub>90</sub> = 28.6 P <sub>99</sub> = 33.1																					Hours in Service: 744 Hours of Data: 730 Hours of Missing Data: 14 Hours of Calibration: 7 Percent Operational Time: 99.1				
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-Aug	19	17	15	13	11	11	10	10	10	10	11	12	14	15	18	19	21	22	23	24	25	24	24	22	24.9
2-Aug	20	18	15	12	12	10	8	7	7	9	11	14	18	21	25	29	31	32	33	33	31	29	26	23	33.0
3-Aug	20	17	14	13	11	10	9	8	7	8	9	9	10	N	N	N	N	N	N	N	30	29	26	24	30.3
4-Aug	22	19	19	17	16	14	14	13	12	11	12	13	15	18	21	24	27	29	31	33	32	31	30	29	32.7
5-Aug	28	27	25	23	21	20	19	18	16	16	18	19	21	23	24	24	25	25	25	24	23	23	24	27	27.8
6-Aug	28	30	31	32	33	33	31	29	27	25	25	25	26	27	28	29	30	30	29	27	26	25	25	25	32.8
7-Aug	25	N	N	N	N	N	N	N	28	26	26	26	26	26	25	26	28	31	33	34	33	31	28	25	34.2
8-Aug	22	19	16	13	11	10	9	9	9	9	11	13	16	17	21	25	29	32	33	33	32	31	29	26	33.0
9-Aug	23	20	16	13	10	8	6	6	6	6	8	11	12	18	24	28	32	34	35	35	33	29	25	23	35.1
10-Aug	21	20	18	17	16	16	15	14	13	13	14	14	16	19	22	25	28	30	30	30	29	28	26	23	30.3
11-Aug	21	20	18	17	16	16	16	16	16	16	16	17	18	18	19	20	20	21	21	21	20	20	20	20	21.4
12-Aug	20	20	19	18	17	15	13	12	11	10	11	13	16	19	23	26	28	28	29	28	26	23	21	19	28.6
13-Aug	17	14	12	9	8	8	8	7	7	9	11	14	18	20	23	25	26	26	27	27	26	24	22	20	27.3
14-Aug	19	17	14	12	11	11	11	11	12	14	17	20	21	23	26	27	28	29	29	29	29	28	27	25	29.3
15-Aug	24	22	21	20	20	20	21	21	21	22	23	24	25	27	28	29	31	31	32	31	30	28	25	23	31.9
16-Aug	20	18	15	14	14	13	14	15	18	20	23	26	27	28	30	31	32	32	32	32	31	29	27	26	32.2
17-Aug	24	23	21	19	19	17	15	14	13	14	14	15	17	19	22	24	25	26	26	27	26	25	23	21	26.6
18-Aug	20	17	15	13	11	10	9	9	9	10	11	12	14	17	20	22	23	25	27	28	27	26	24	22	27.8
19-Aug	21	18	17	14	12	11	9	8	7	8	9	11	13	15	18	20	22	24	24	24	23	20	18	16	24.2
20-Aug	14	13	12	11	12	13	15	16	17	18	19	21	23	25	26	27	28	28	27	26	25	25	25	25	28.2
21-Aug	26	26	26	25	25	24	23	22	22	22	23	24	25	25	25	25	26	26	26	25	24	23	21	21	26.4
22-Aug	19	18	17	16	16	15	15	14	13	12	12	12	12	12	13	14	15	16	16	16	16	16	16	15	19.5
23-Aug	14	12	11	9	8	7	6	6	6	6	7	10	13	17	21	24	27	30	32	32	30	29	26	22	32.4
24-Aug	18	14	10	7	6	5	4	4	4	4	5	6	8	10	12	15	18	21	24	26	27	27	26	24	27.2
25-Aug	22	20	18	15	15	13	12	11	10	9	9	10	12	15	18	21	24	26	28	29	29	27	24	20	29.5
26-Aug	17	14	11	10	8	7	6	6	6	6	6	6	7	9	11	13	14	15	16	16	16	15	13	11	17.1
27-Aug	9	8	8	8	9	10	11	13	15	17	18	20	21	21	21	22	22	21	20	19	18	18	18	17	21.7
28-Aug	16	16	16	16	16	16	15	15	15	15	15	16	16	17	17	18	19	20	20	21	20	19	18	18	20.7
29-Aug	18	17	16	16	16	16	15	15	15	15	15	15	15	15	16	17	18	19	20	21	21	20	19	19	20.9
30-Aug	18	17	17	16	15	15	14	13	13	12	12	12	13	14	15	16	17	19	20	21	21	20	19	18	20.9
31-Aug	16	14	11	9	8	6	5	5	4	4	3	3	3	3	4	4	4	5	5	5	5	5	5	4	15.9
28.1 30.1 31.5 32.2 32.8 32.7 31.4 28.9 27.6 26.4 25.7 25.6 27.1 27.7 29.9 31.1 31.9 33.8 35.0 35.1 33.4 31.2 30.0 28.9 Diurnal Maximums																									
N - Not Valid																									

### Span Responses

Ozone (O<sub>3</sub>)  
Henry Pirker - August 2016



## Hourly Averages

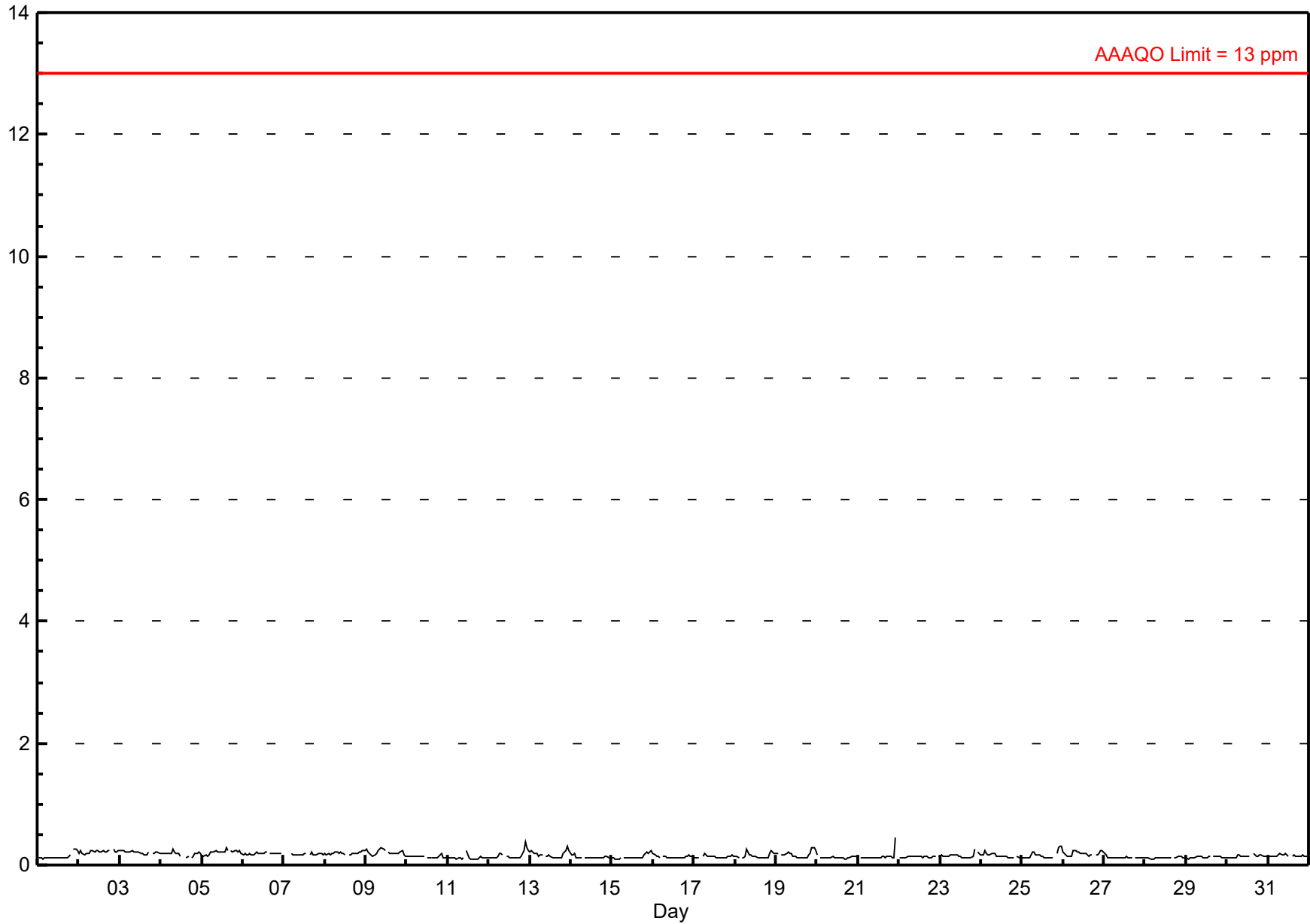
Carbon Monoxide (CO) - ppm

Henry Pirker - August 2016

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 0.45 ppm on Aug 21 23:00      Maximum Daily Average: 0.22 ppm on Aug 2		Hours in Service: 744 Hours of Data: 704 Hours of Missing Data: 40 Hours of Calibration: 36 Percent Operational Time: 99.5																																															
Minimum Value: 0.1 ppm on Aug 11 15:00 Maximum Diurnal Average: 0.20 ppm at hour 23 Monthly Average: 0.156 ppm		Minimum Daily Average: 0.12 ppm on Aug 28 Minimum Diurnal Average: 0.14 ppm at hour 17 Percentiles: P <sub>1</sub> = 0.10 P <sub>10</sub> = 0.11 Q <sub>1</sub> = 0.12 Median = 0.14 Q <sub>3</sub> = 0.19 P <sub>90</sub> = 0.22 P <sub>99</sub> = 0.28																																															
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Aug	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	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	0.3	0.3	0.2	0.14	0.27																							
2-Aug	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.3	0.2	0.2	0.2	0.22	0.26																						
3-Aug	0.2	0.2	0.2	0.2	0.2	0.2	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	0.21	0.24																							
4-Aug	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.1	C	C	C	0.1	0.1	A	0.1	0.1	0.2	0.2	0.2	0.2	0.18	0.26																							
5-Aug	0.1	0.1	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.21	0.28																							
6-Aug	0.2	0.2	0.2	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	P	0.19	0.21																							
7-Aug	P	P	P	R	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	0.18	0.20																							
8-Aug	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.19	0.24																							
9-Aug	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.21	0.28																							
10-Aug	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	A	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.13	0.19																							
11-Aug	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	A	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.12	0.24																							
12-Aug	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	A	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.4	0.3	0.2	0.16	0.37																						
13-Aug	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.2	0.17	0.32																							
14-Aug	0.2	0.2	0.2	0.1	0.1	0.1	0.1	A	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.13	0.19																							
15-Aug	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	0.2	0.2	0.13	0.24																							
16-Aug	0.2	0.2	0.2	0.1	0.1	A	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.14	0.19																							
17-Aug	0.1	0.1	0.1	0.1	A	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.14	0.18																							
18-Aug	0.1	0.1	0.1	A	0.1	0.1	0.2	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.15	0.26																							
19-Aug	0.2	0.2	A	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	0.2	0.3	0.3	0.2	0.17	0.28																						
20-Aug	0.2	A	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.12	0.18																							
21-Aug	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	0.5	A	0.14	0.45																							
22-Aug	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	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	0.13	0.14																							
23-Aug	0.1	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.3	A	0.2	0.2	0.15	0.27																							
24-Aug	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	0.1	0.1	0.1	0.1	0.1	0.1	A	0.1	0.1	0.1	0.16	0.24																							
25-Aug	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	A	0.2	0.3	0.3	0.3	0.16	0.31																							
26-Aug	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.19	0.25																							
27-Aug	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	A	0.1	0.1	0.1	0.1	0.1	0.1	0.12	0.19																							
28-Aug	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	A	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.12	0.14																							
29-Aug	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	A	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.13	0.15																							
30-Aug	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.2	A	0.2	0.2	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.14	0.20																							
31-Aug	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	A	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.1	0.1	0.1	0.15	0.18																							
																								0.16	0.15	0.15	0.14	0.14	0.15	0.17	0.18	0.16	0.16	0.15	0.15	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.15	0.18	0.19	0.20	0.18	Diurnal Average
																								0.26	0.24	0.24	0.22	0.20	0.21	0.23	0.26	0.26	0.28	0.26	0.24	0.22	0.22	0.28	0.23	0.22	0.23	0.24	0.24	0.27	0.37	0.45	0.30	Diurnal Maximum	
C - Calibration      R - Recovery      P - Power Failure      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 - August 2016**



# Hourly Maximums

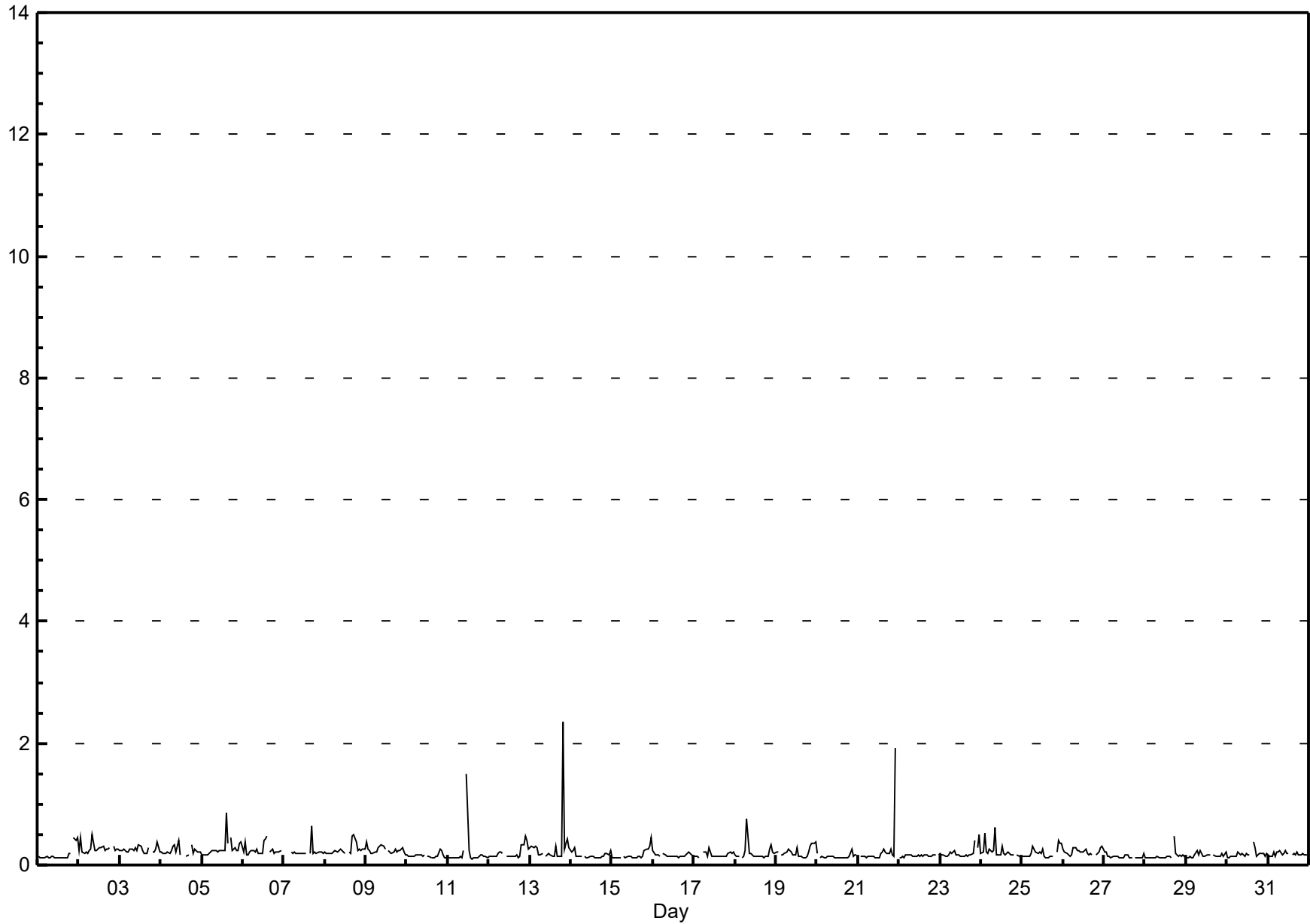
Carbon Monoxide (CO) - ppm

Henry Pirker - August 2016

Maximum Value: 2.34 ppm on Aug 13 20:00      Maximum Daily Average: 0.32 ppm on Aug 13 Minimum Value: 0.1 ppm on Aug 11 15:00      Minimum Daily Average: 0.14 ppm on Aug 20 Maximum Diurnal Average: 0.30 ppm at hour 23      Minimum Diurnal Average: 0.16 ppm at hour 4 Monthly Average: 0.202 ppm      Percentiles: P <sub>1</sub> = 0.11 P <sub>10</sub> = 0.12 Q <sub>1</sub> = 0.14 Median = 0.17 Q <sub>3</sub> = 0.22 P <sub>90</sub> = 0.29 P <sub>99</sub> = 0.59																								Hours in Service:	744																								
																								Hours of Data:	704																								
																								Hours of Missing Data:	40																								
																								Hours of Calibration:	36																								
																								Percent Operational Time:	99.5																								
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Aug	0.1	0.1	0.1	0.1	0.1	0.1	0.1	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	0.4	0.4	0.4	0.17	0.45																							
2-Aug	0.2	0.5	0.2	0.2	0.2	0.2	0.2	0.3	0.5	0.2	0.2	0.3	0.3	0.3	0.3	0.2	0.3	0.3	0.3	A	0.3	0.2	0.3	0.3	0.27	0.49																							
3-Aug	0.2	0.2	0.3	0.2	0.2	0.2	0.3	0.3	0.2	0.3	0.2	0.3	0.3	0.2	0.2	0.2	0.3	A	0.2	0.2	0.3	0.4	0.2	0.25	0.38																								
4-Aug	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.4	0.2	C	C	C	0.1	0.2	A	0.3	0.2	0.3	0.2	0.2	0.23	0.40																								
5-Aug	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.9	0.4	A	0.4	0.2	0.3	0.2	0.2	0.3	0.4	0.28	0.86																							
6-Aug	0.2	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.4	0.4	0.5	A	0.2	0.3	0.2	0.2	0.2	0.2	0.2	P	0.25	0.46																							
7-Aug	P	P	P	R	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.6	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.22	0.63																							
8-Aug	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	0.5	0.5	0.4	0.2	0.3	0.2	0.3	0.3	0.25	0.51																							
9-Aug	0.4	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	A	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.24	0.38																							
10-Aug	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.2	0.2	0.1	0.1	0.16	0.26																							
11-Aug	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	A	1.5	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.20	1.51																							
12-Aug	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	A	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.3	0.3	0.5	0.4	0.3	0.20	0.47																							
13-Aug	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.1	0.1	0.3	0.1	0.1	0.1	2.3	0.3	0.3	0.4	0.3	0.32	2.34																							
14-Aug	0.2	0.2	0.3	0.1	0.1	0.1	0.1	A	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.16	0.28																							
15-Aug	0.1	0.1	0.1	0.1	0.1	0.1	A	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.3	0.3	0.4	0.16	0.44																							
16-Aug	0.2	0.2	0.2	0.2	0.1	A	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.16	0.24																							
17-Aug	0.1	0.1	0.1	0.1	A	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.17	0.30																							
18-Aug	0.2	0.1	0.1	A	0.1	0.1	0.2	0.8	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.3	0.2	0.2	0.20	0.76																							
19-Aug	0.2	0.2	A	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.4	0.4	0.4	0.22	0.37																							
20-Aug	0.2	A	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.2	0.2	0.2	0.14	0.25																							
21-Aug	A	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	0.3	0.2	0.2	0.2	0.3	0.2	0.1	1.9	A	0.24	1.93																							
22-Aug	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.1	0.2	0.1	0.2	0.2	0.1	0.1	0.1	0.2	0.2	A	0.2	0.15	0.17																							
23-Aug	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.1	0.2	0.2	0.2	0.4	A	0.3	0.5	0.20	0.50																							
24-Aug	0.2	0.2	0.5	0.2	0.2	0.3	0.2	0.2	0.6	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.1	0.22	0.61																							
25-Aug	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.3	0.1	0.1	0.1	0.1	0.1	0.1	A	0.2	0.4	0.4	0.4	0.20	0.41																							
26-Aug	0.3	0.2	0.2	0.2	0.1	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.3	0.3	0.22	0.31																							
27-Aug	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	0.2	0.2	0.1	0.1	A	0.1	0.1	0.1	0.1	0.1	0.2	0.14	0.22																							
28-Aug	0.1	0.1	0.1	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	0.5	0.2	0.1	0.2	0.2	0.2	0.1	0.15	0.47																								
29-Aug	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.2	A	0.2	0.2	0.2	0.1	0.2	0.1	0.2	0.1	0.16	0.24																							
30-Aug	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	A	0.4	0.3	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.18	0.39																							
31-Aug	0.2	0.1	0.1	0.2	0.1	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	0.18	0.25																							
																								0.19	0.19	0.18	0.16	0.16	0.18	0.20	0.22	0.22	0.19	0.18	0.22	0.19	0.18	0.19	0.17	0.19	0.20	0.18	0.27	0.23	0.24	0.30	0.24	Diurnal Average	
																								0.38	0.46	0.53	0.31	0.28	0.26	0.32	0.76	0.61	0.32	0.40	1.51	0.40	0.43	0.86	0.39	0.63	0.51	0.37	2.34	0.40	0.47	1.93	0.50	Diurnal Maximum	
C - Calibration																								R - Recovery				P - Power Failure				A - Automated Daily Zero Span																	

**Hourly Maximums**

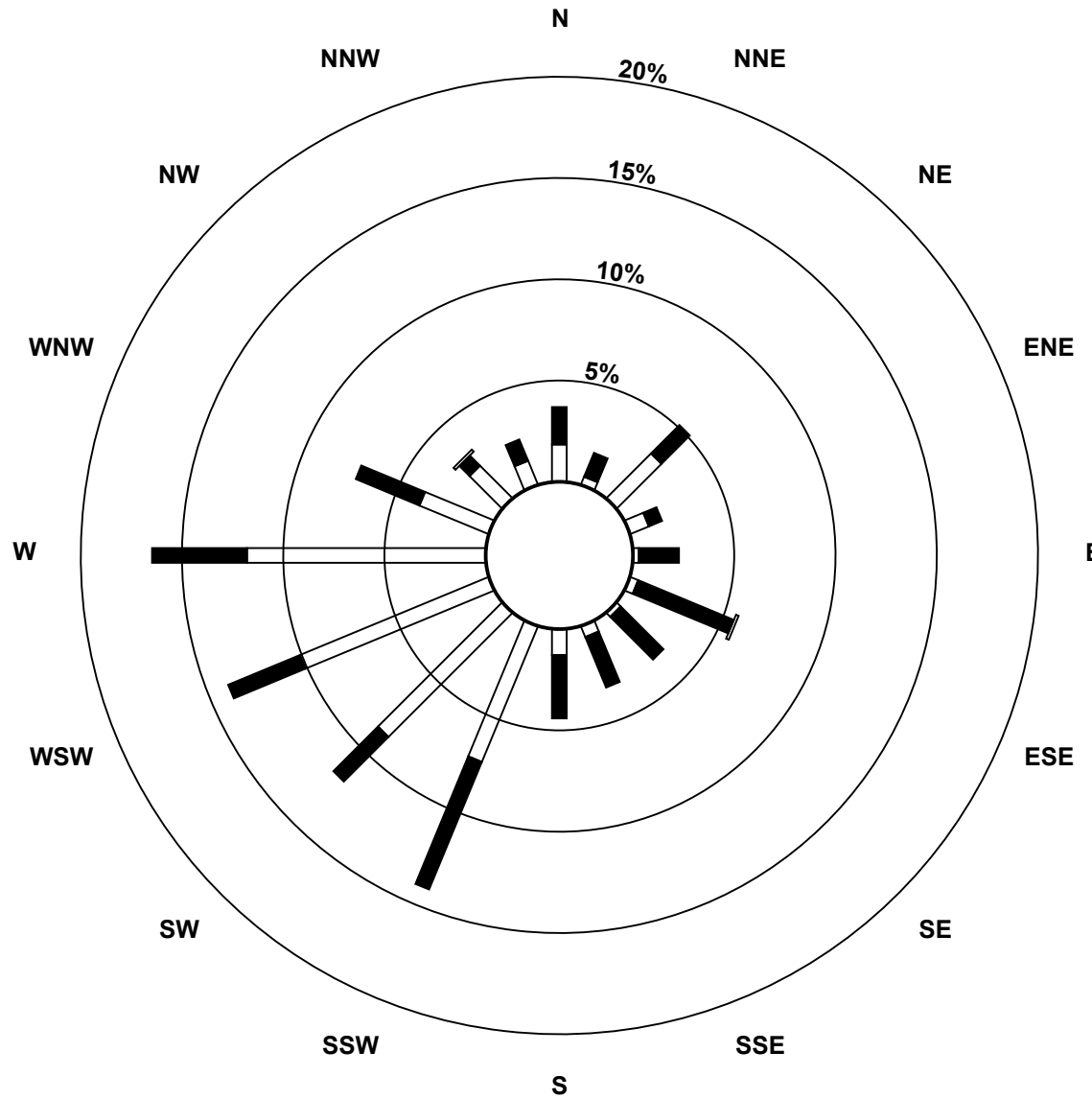
**Carbon Monoxide (CO) - ppm**  
**Henry Pirker - August 2016**



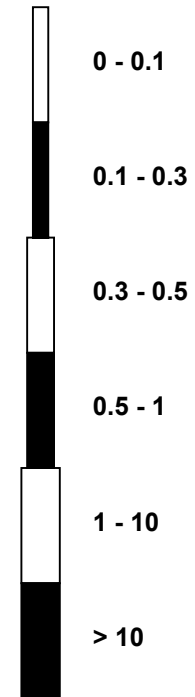


**Pollutant Rose**

**Carbon Monoxide (CO) - ppm**  
**Henry Pirker - August 2016**



**Pollutant Classes (ppm)**





Peace Airshed Zone Association

### Eight Hour Running Averages

Carbon Monoxide (CO) - ppm

Henry Pirker - August 2016

Number of Exceedences (AAAQO): 8-hr: 0	Hours in Service: 744
Maximum Value: 0.25 ppm on Aug 13 04:00	Hours of Data: 729
Minimum Value: 0.11 ppm on Aug 28 06:00	Hours of Missing Data: 15
	Hours of Calibration: 7
	Percent Operational Time: 98.9
Percentiles: P <sub>1</sub> = 0.11 P <sub>10</sub> = 0.12 Q <sub>1</sub> = 0.13 Median = 0.15 Q <sub>3</sub> = 0.18 P <sub>90</sub> = 0.21 P <sub>99</sub> = 0.24	

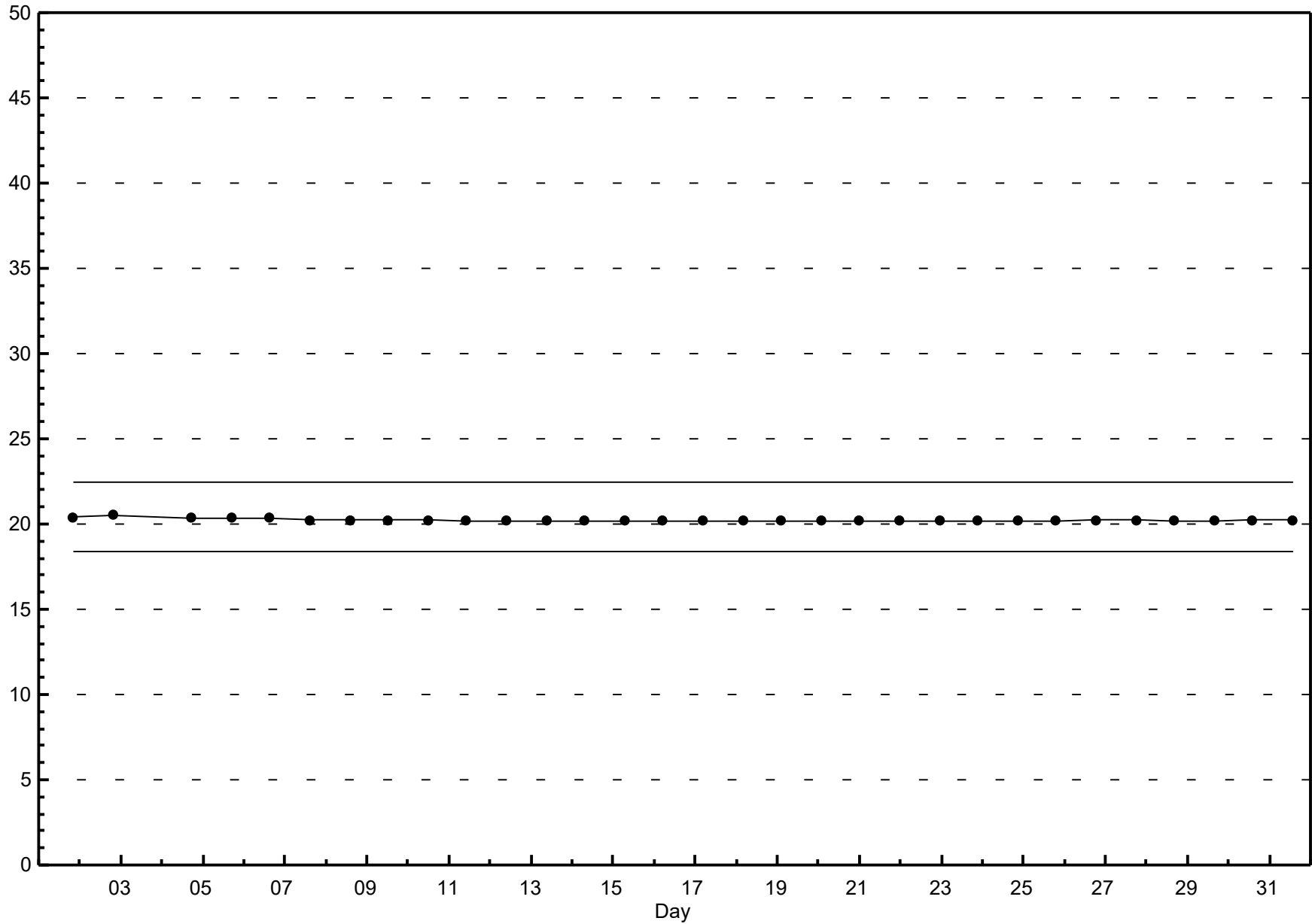
Day	Hourly Period Ending At (MST)																								Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Aug	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.18	
2-Aug	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.23
3-Aug	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.24
4-Aug	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	N	N	N	N	N	N	N	0.1	0.2	0.2	0.20	
5-Aug	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.24	
6-Aug	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.21
7-Aug	0.2	N	N	N	N	N	N	N	N	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.19
8-Aug	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.21
9-Aug	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.24
10-Aug	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	0.1	0.19
11-Aug	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.13
12-Aug	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.20
13-Aug	0.2	0.2	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	0.2	0.2	0.2	0.2	0.25
14-Aug	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.21
15-Aug	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.17	
16-Aug	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.19
17-Aug	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.15
18-Aug	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.16
19-Aug	0.2	0.2	0.2	0.2	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	0.2	0.2	0.2	0.19
20-Aug	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.21
21-Aug	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	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	0.18	
22-Aug	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.18
23-Aug	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.17	
24-Aug	0.2	0.2	0.2	0.2	0.2	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	0.20
25-Aug	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.20	
26-Aug	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.23
27-Aug	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.20
28-Aug	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.13
29-Aug	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.13
30-Aug	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.16
31-Aug	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.17
	0.23	0.24	0.24	0.25	0.24	0.23	0.23	0.23	0.22	0.22	0.22	0.22	0.23	0.24	0.24	0.23	0.22	0.23	0.23	0.23	0.24	0.23	0.23	0.23		

Diurnal Maximums

N - Not Valid  
 Alberta Ambient Air Quality Objectives (AAAQO): 8-hr 5 ppm

### Span Responses

**Carbon Monoxide (CO)**  
**Henry Pirker - August 2016**



## Hourly Averages

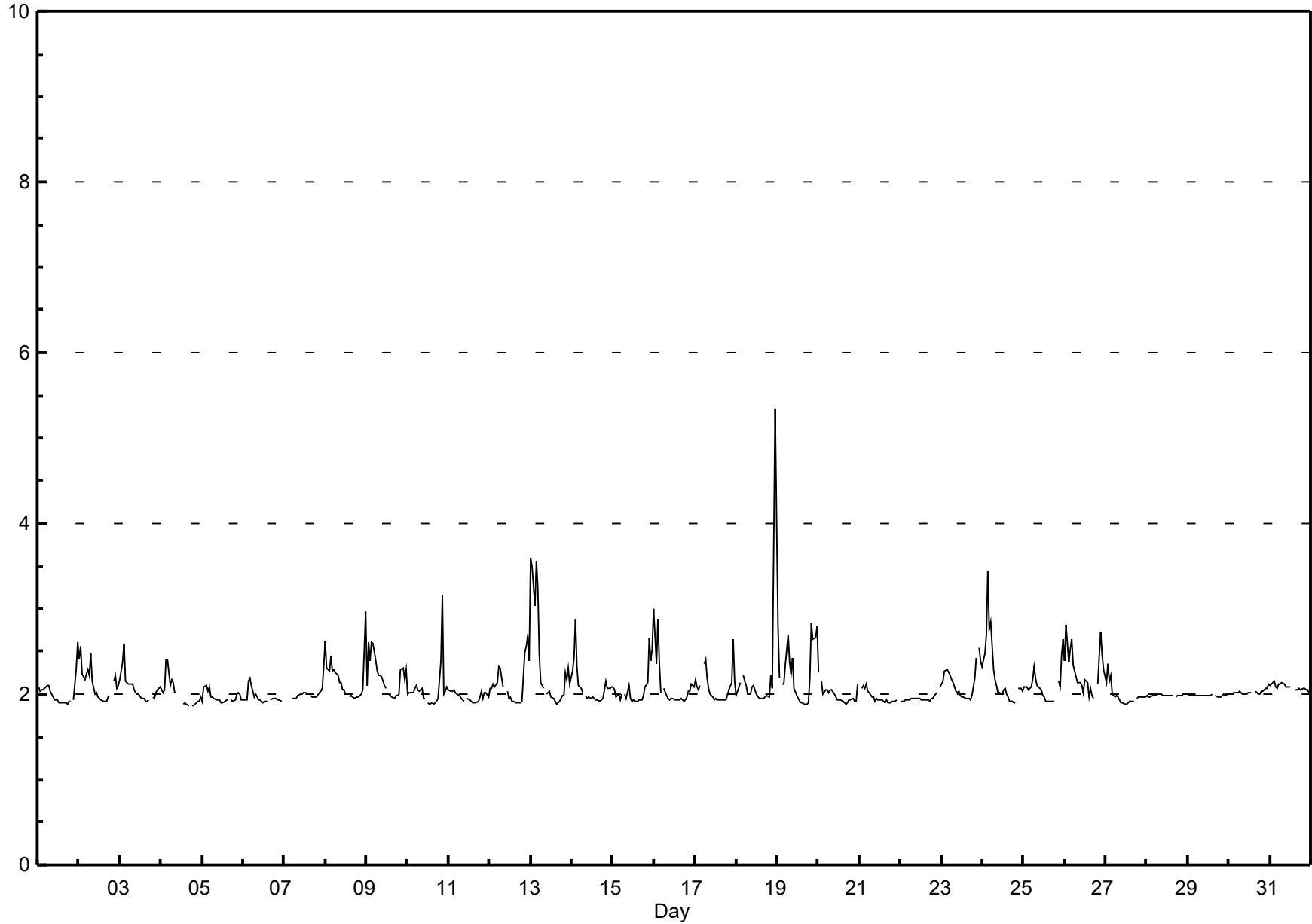
Total Hydrocarbons (THC) - ppm

Henry Pirker - August 2016

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 5.33 ppm on Aug 19 00:00      Maximum Daily Average: 2.35 ppm on Aug 13		Hours in Service: 744 Hours of Data: 704 Hours of Missing Data: 40 Hours of Calibration: 36 Percent Operational Time: 99.5																																															
Minimum Value: 1.9 ppm on Aug 4 19:00 Maximum Diurnal Average: 2.33 ppm at hour 24 Monthly Average: 2.082 ppm		Minimum Daily Average: 1.95 ppm on Aug 22 Minimum Diurnal Average: 1.93 ppm at hour 17 Percentiles: P <sub>1</sub> = 1.89 P <sub>10</sub> = 1.92 Q <sub>1</sub> = 1.94 Median = 2.00 Q <sub>3</sub> = 2.11 P <sub>90</sub> = 2.34 P <sub>99</sub> = 3.13																																															
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Aug	2.1	2.0	2.1	2.0	2.1	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	A	1.9	2.3	2.6	2.02	2.60																							
2-Aug	2.4	2.6	2.2	2.2	2.2	2.3	2.2	2.5	2.2	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	2.0	2.0	A	2.1	2.2	2.1	2.1	2.12	2.56																							
3-Aug	2.2	2.4	2.6	2.2	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	A	2.0	1.9	2.0	2.1	2.1	2.07	2.60																							
4-Aug	2.1	2.0	2.0	2.4	2.4	2.1	2.2	2.1	2.0	2.0	C	C	C	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	1.9	1.9	2.0	2.01	2.41																							
5-Aug	1.9	2.1	2.1	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	A	1.9	1.9	1.9	2.0	2.0	2.0	1.9	1.97	2.10																							
6-Aug	1.9	1.9	1.9	2.2	2.2	2.1	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	2.0	1.9	2.0	1.9	1.9	1.9	P	1.97	2.19																							
7-Aug	P	P	P	R	2.0	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.3	2.01	2.32																							
8-Aug	2.6	2.3	2.3	2.4	2.3	2.3	2.3	2.2	2.1	2.1	2.1	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	3.0	2.17	2.96																							
9-Aug	2.1	2.6	2.4	2.6	2.6	2.4	2.3	2.2	2.2	2.2	2.1	2.1	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.3	2.3	2.2	2.3	2.21	2.62																							
10-Aug	2.0	2.0	2.0	2.0	2.1	2.1	2.0	2.0	2.1	1.9	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.4	3.2	2.0	2.0	2.1	2.06	3.15																							
11-Aug	2.1	2.0	2.0	2.1	2.0	2.0	2.0	2.0	1.9	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	1.97	2.06																							
12-Aug	2.1	2.1	2.1	2.1	2.1	2.3	2.3	2.2	2.1	A	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.5	2.6	2.7	2.4	2.12	2.69																							
13-Aug	3.6	3.5	3.0	3.6	3.2	2.5	2.1	2.1	A	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.3	2.2	2.3	2.1	2.35	3.60																							
14-Aug	2.3	2.4	2.9	2.3	2.1	2.1	2.0	A	2.0	2.0	2.0	1.9	2.0	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.2	2.1	2.1	2.1	2.08	2.88																							
15-Aug	2.1	2.0	2.0	2.0	1.9	2.0	A	2.0	2.0	2.1	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.1	2.1	2.7	2.4	2.5	2.06	2.66																							
16-Aug	3.0	2.4	2.9	2.4	2.0	A	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	2.0	2.0	2.0	2.1	2.1	2.10	3.01																							
17-Aug	2.2	2.1	2.1	2.1	A	2.3	2.4	2.2	2.1	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.1	2.6	2.2	2.08	2.64																							
18-Aug	2.0	2.0	2.1	A	2.2	2.1	2.1	2.0	2.0	2.1	2.0	2.0	2.0	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.2	2.1	3.7	5.3	2.26	5.33																							
19-Aug	2.8	2.2	A	2.1	2.1	2.3	2.7	2.4	2.2	2.4	2.1	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.2	2.8	2.6	2.7	2.8	2.25	2.83																							
20-Aug	2.3	A	2.2	2.0	2.0	2.1	2.0	2.1	2.1	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	1.9	1.9	2.1	1.99	2.26																								
21-Aug	A	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.97	2.12																							
22-Aug	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	A	2.1	1.95	2.09																							
23-Aug	2.1	2.2	2.3	2.3	2.2	2.2	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	2.0	2.2	2.4	A	2.6	2.4	2.13	2.55																							
24-Aug	2.3	2.5	2.7	3.4	2.8	2.8	2.3	2.2	2.1	2.0	2.0	2.0	2.1	2.1	2.0	2.0	1.9	1.9	1.9	1.9	A	2.1	2.1	2.0	2.22	3.45																							
25-Aug	2.1	2.1	2.1	2.1	2.1	2.2	2.3	2.2	2.1	2.1	2.1	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	A	2.1	2.1	2.5	2.6	2.09	2.65																							
26-Aug	2.4	2.8	2.4	2.5	2.6	2.3	2.3	2.1	2.1	2.1	2.1	2.0	2.2	2.1	2.0	2.1	2.0	1.9	A	2.1	2.4	2.7	2.5	2.3	2.27	2.81																							
27-Aug	2.1	2.4	2.2	2.2	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	2.0	2.0	2.0	2.0	2.0	1.99	2.36																							
28-Aug	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.98	2.00																							
29-Aug	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.98	2.00																							
30-Aug	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.02	2.12																							
31-Aug	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	A	2.1	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.08	2.15																							
																								2.23	2.23	2.23	2.25	2.19	2.16	2.13	2.09	2.04	2.02	2.00	1.97	1.97	1.95	1.94	1.94	1.93	1.94	1.95	2.00	2.15	2.12	2.22	2.33	Diurnal Average	
																								3.60	3.49	3.03	3.56	3.24	2.85	2.69	2.48	2.24	2.42	2.11	2.09	2.17	2.14	2.06	2.06	2.05	2.06	2.06	2.38	3.15	2.72	3.72	5.33	Diurnal Maximum	
C - Calibration				R - Recovery				P - Power Failure				A - Automated Daily Zero Span																																					

**Hourly Averages**

**Total Hydrocarbons (THC) - ppm**  
**Henry Pirker - August 2016**



## Hourly Maximums

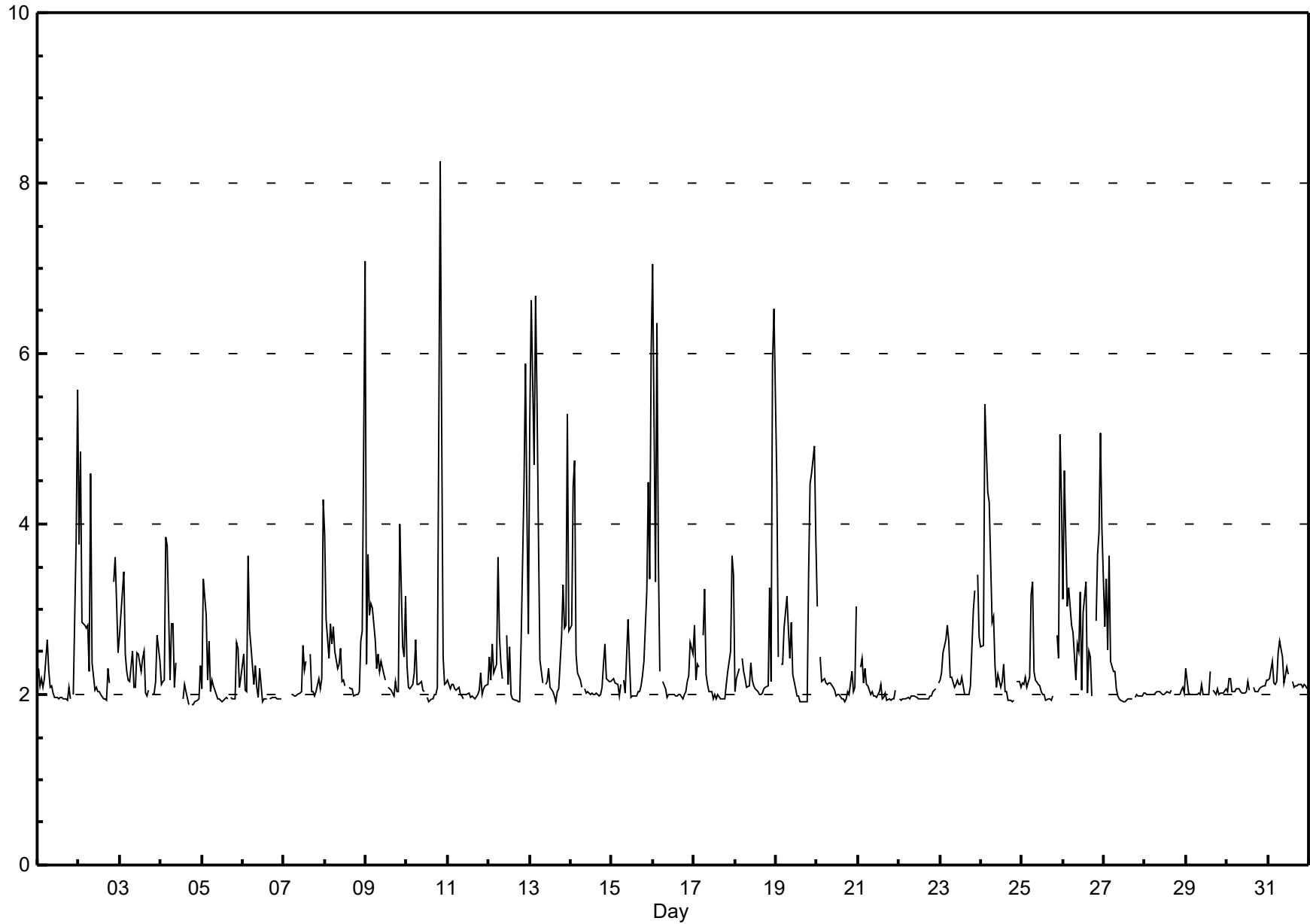
Total Hydrocarbons (THC) - ppm

Henry Pirker - August 2016

Maximum Value: 8.25 ppm on Aug 10 20:00		Maximum Daily Average: 3.27 ppm on Aug 13		Hours in Service: 744																							
Minimum Value: 1.9 ppm on Aug 4 20:00		Minimum Daily Average: 1.98 ppm on Aug 22		Hours of Data: 704																							
Maximum Diurnal Average: 3.18 ppm at hour 24		Minimum Diurnal Average: 2.00 ppm at hour 17		Hours of Missing Data: 40																							
Monthly Average: 2.401 ppm		Percentiles: P <sub>1</sub> = 1.91 P <sub>10</sub> = 1.95 Q <sub>1</sub> = 2.00 Median = 2.10 Q <sub>3</sub> = 2.42 P <sub>90</sub> = 3.21 P <sub>99</sub> = 6.27		Hours of Calibration: 36																							
				Percent Operational Time: 99.5																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Aug	2.3	2.1	2.2	2.1	2.2	2.6	2.3	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	2.1	1.9	A	2.0	3.8	5.6	2.31	5.58	
2-Aug	3.8	4.8	2.8	2.8	2.8	2.8	2.3	4.6	2.4	2.1	2.1	2.0	2.0	2.0	1.9	1.9	1.9	2.3	2.1	A	3.3	3.6	3.1	2.5	2.70	4.85	
3-Aug	2.7	3.2	3.4	2.5	2.3	2.2	2.2	2.5	2.1	2.1	2.5	2.5	2.3	2.4	2.5	2.0	2.0	2.1	A	2.0	2.0	2.2	2.7	2.4	2.37	3.44	
4-Aug	2.1	2.1	2.2	3.9	3.7	2.2	2.8	2.8	2.1	2.4	C	C	C	1.9	2.1	2.0	1.9	A	1.9	1.9	1.9	1.9	1.9	2.3	2.31	3.86	
5-Aug	2.1	3.4	2.9	2.2	2.6	2.0	2.2	2.1	2.0	2.0	2.0	1.9	1.9	2.0	2.0	1.9	A	2.0	1.9	1.9	2.6	2.5	2.1	2.2	2.19	3.36	
6-Aug	2.5	2.1	2.0	3.6	2.8	2.6	2.1	2.3	2.1	2.0	2.3	1.9	1.9	1.9	1.9	A	2.0	2.0	2.0	2.0	1.9	2.0	1.9	P	2.17	3.62	
7-Aug	P	P	P	R	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.6	2.3	2.4	A	2.5	2.0	2.0	2.0	2.0	2.2	2.1	2.2	4.3	2.24	4.29	
8-Aug	3.9	2.9	2.4	2.8	2.6	2.8	2.5	2.3	2.4	2.5	2.1	2.2	2.1	A	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.6	2.7	7.1	2.62	7.08	
9-Aug	2.3	3.6	2.9	3.1	3.0	2.6	2.3	2.5	2.3	2.4	2.2	2.2	A	2.1	2.1	2.0	2.2	2.0	2.0	4.0	2.6	2.4	3.1	2.52	4.00		
10-Aug	2.3	2.1	2.1	2.1	2.3	2.6	2.1	2.1	2.1	2.1	2.0	A	2.0	1.9	2.0	1.9	2.0	2.0	2.1	8.2	5.1	2.4	2.1	2.1	2.52	8.25	
11-Aug	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.3	2.0	2.1	2.1	2.1	2.05	2.25	
12-Aug	2.4	2.2	2.6	2.3	2.3	3.6	2.7	2.4	2.2	A	2.7	2.1	2.6	2.0	1.9	1.9	1.9	1.9	1.9	2.6	4.5	5.9	4.1	2.7	2.67	5.88	
13-Aug	5.2	6.6	4.7	6.7	5.4	3.9	2.4	2.1	A	2.1	2.1	2.3	2.1	2.0	2.0	1.9	2.0	2.1	2.7	3.3	2.8	2.8	5.3	2.7	3.27	6.67	
14-Aug	2.8	4.4	4.8	2.5	2.3	2.2	2.1	A	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.3	2.6	2.2	2.1	2.1	2.38	4.75	
15-Aug	2.2	2.2	2.1	2.1	2.0	2.1	A	2.2	2.0	2.9	2.4	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.2	2.4	3.2	4.5	3.3	6.0	2.52	6.02	
16-Aug	7.0	3.3	6.4	3.6	2.3	A	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.2	2.6	2.5	2.62	7.05	
17-Aug	2.8	2.2	2.4	2.3	A	2.7	3.2	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.3	2.5	3.6	3.4	2.33	3.63	
18-Aug	2.0	2.2	2.3	A	2.4	2.3	2.2	2.1	2.1	2.4	2.2	2.1	2.1	2.0	2.0	2.0	2.0	2.1	2.1	2.1	3.3	2.1	5.9	6.5	2.54	6.53	
19-Aug	4.5	2.4	A	2.4	2.4	2.8	3.1	2.8	2.4	2.9	2.2	2.1	2.0	2.0	1.9	1.9	1.9	1.9	1.9	3.4	4.5	4.6	4.9	3.8	2.81	4.92	
20-Aug	3.0	A	2.4	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	1.9	2.0	2.0	2.0	2.0	2.3	2.0	2.1	3.0	2.16	3.04	
21-Aug	A	2.3	2.4	2.1	2.3	2.1	2.1	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	2.0	2.1	A	2.06	2.42	
22-Aug	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	2.0	2.0	2.0	2.1	A	2.1	1.98	2.13	
23-Aug	2.2	2.3	2.5	2.6	2.8	2.6	2.2	2.2	2.1	2.1	2.2	2.1	2.1	2.2	2.0	2.0	2.0	2.0	2.1	3.0	3.2	A	3.4	2.7	2.37	3.40	
24-Aug	2.6	2.6	5.4	4.9	4.4	4.2	2.9	2.9	2.3	2.1	2.2	2.1	2.1	2.3	2.0	2.0	1.9	1.9	1.9	1.9	A	2.2	2.2	2.1	2.66	5.40	
25-Aug	2.1	2.1	2.2	2.1	2.2	3.2	3.3	2.3	2.2	2.1	2.1	2.0	2.0	2.0	1.9	1.9	1.9	1.9	2.0	A	2.7	2.4	5.1	4.3	2.44	5.06	
26-Aug	3.1	4.6	3.0	3.3	3.0	2.8	2.7	2.2	2.6	2.5	3.2	2.1	3.0	3.3	2.0	2.5	2.4	2.0	A	2.9	3.6	3.9	5.1	3.9	3.03	5.07	
27-Aug	2.8	3.4	2.5	3.6	2.4	2.3	2.3	2.1	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	2.0	2.0	2.0	2.0	2.0	2.0	2.20	3.63	
28-Aug	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	A	2.0	2.0	2.0	2.0	2.1	2.1	2.0	2.02	2.08	
29-Aug	2.3	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.3	A	2.1	2.0	2.1	2.0	2.0	2.0	2.0	2.1	2.04	2.30	
30-Aug	2.0	2.2	2.2	2.0	2.0	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.1	2.1	A	2.1	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.2	2.07	2.18	
31-Aug	2.2	2.2	2.4	2.1	2.1	2.2	2.5	2.6	2.4	2.1	2.2	2.3	2.2	A	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.20	2.62	
		2.81	2.81	2.80	2.76	2.56	2.52	2.36	2.32	2.14	2.16	2.17	2.08	2.09	2.09	2.02	2.02	2.00	2.01	2.04	2.43	2.70	2.59	2.97	3.18	Diurnal Average	
		7.05	6.62	6.36	6.67	5.44	4.25	3.31	4.60	2.60	2.88	3.21	2.58	2.97	3.32	2.50	2.52	2.44	2.31	2.68	8.25	5.13	5.88	5.90	7.08	Diurnal Maximum	
C - Calibration		R - Recovery					P - Power Failure					A - Automated Daily Zero Span															

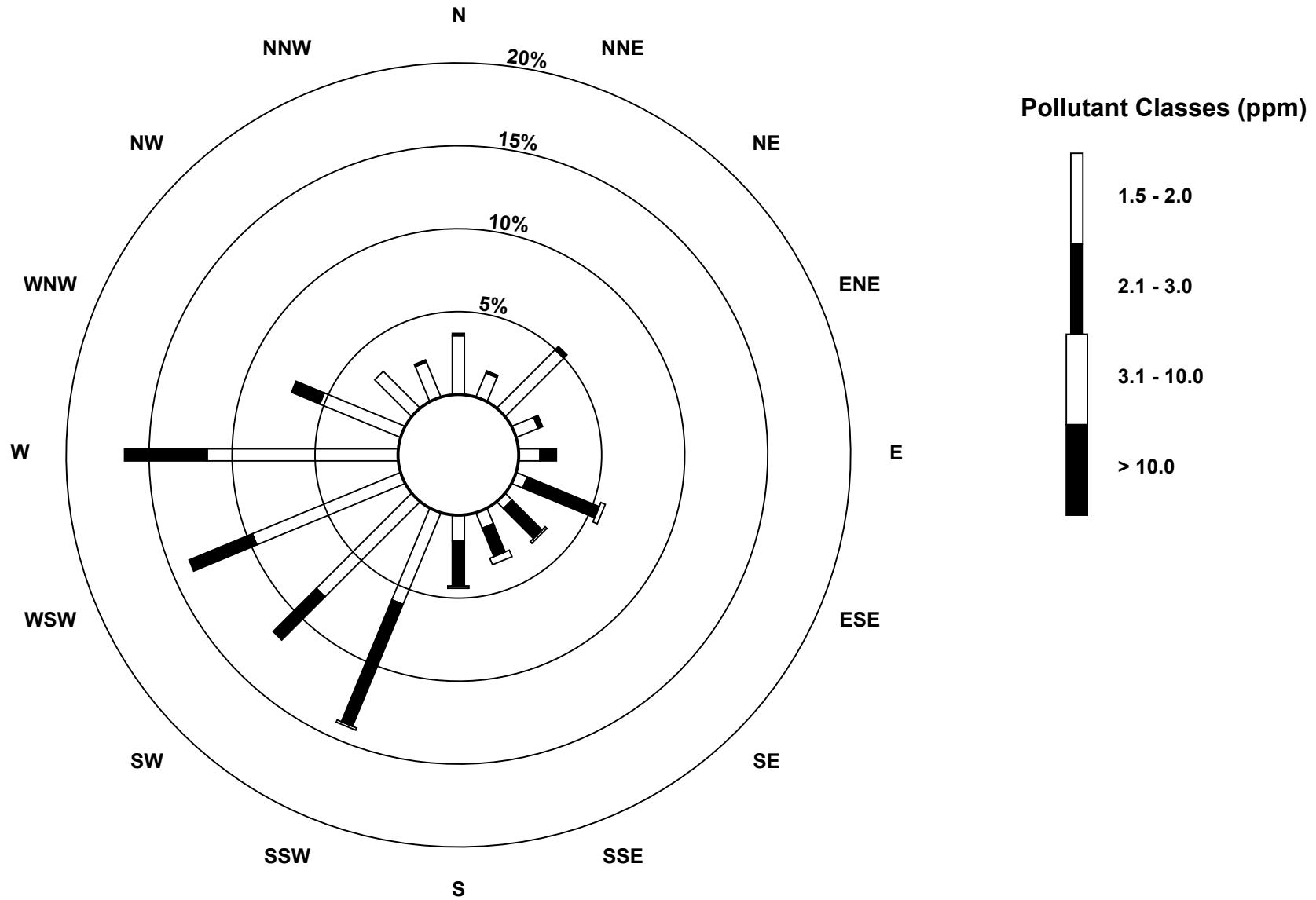
**Hourly Maximums**

**Total Hydrocarbons (THC) - ppm**  
**Henry Pirker - August 2016**



**Pollutant Rose**

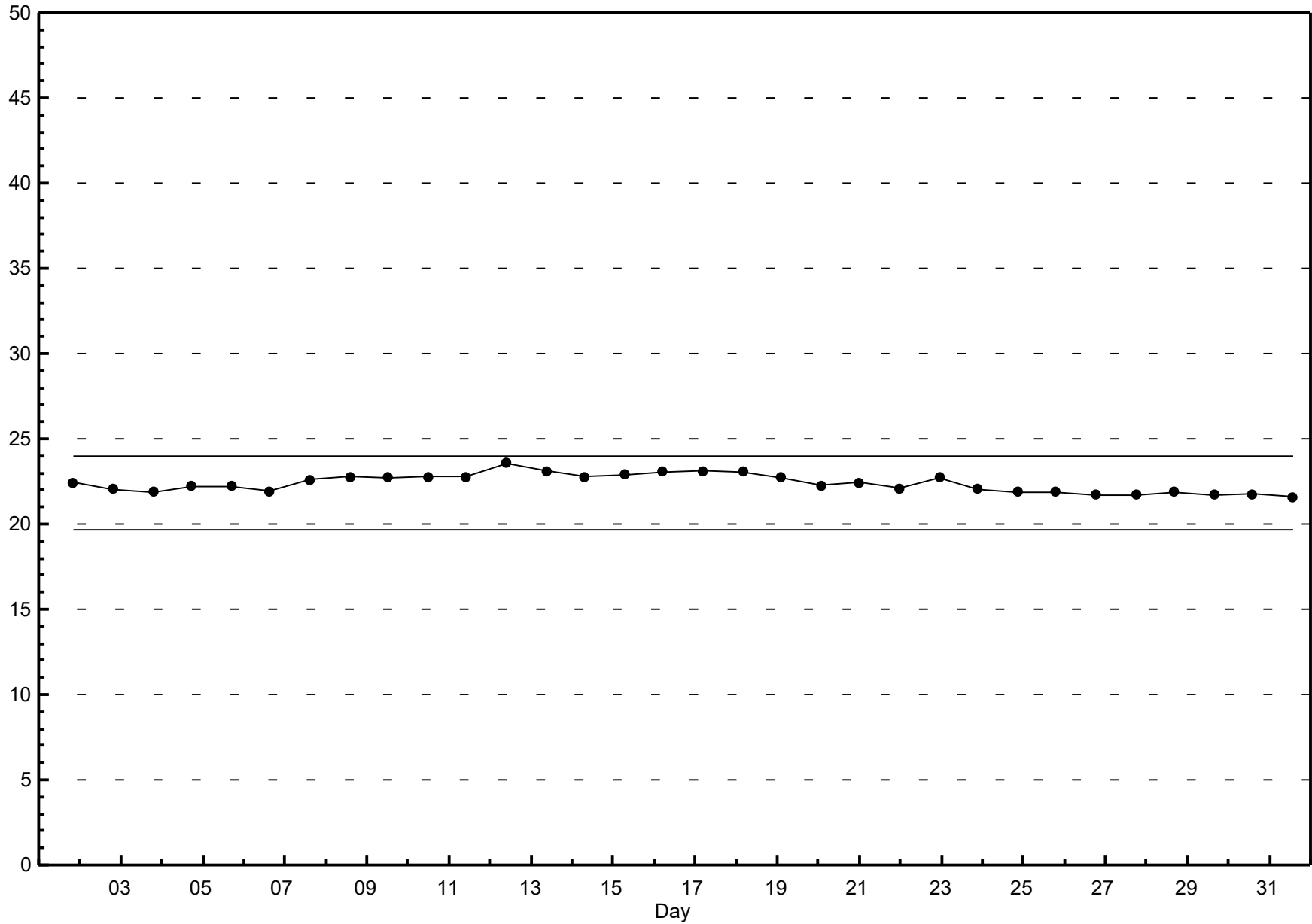
**Total Hydrocarbons (THC) - ppm**  
**Henry Pirker - August 2016**





### Span Responses

**Total Hydrocarbons (THC)**  
**Henry Pirker - August 2016**



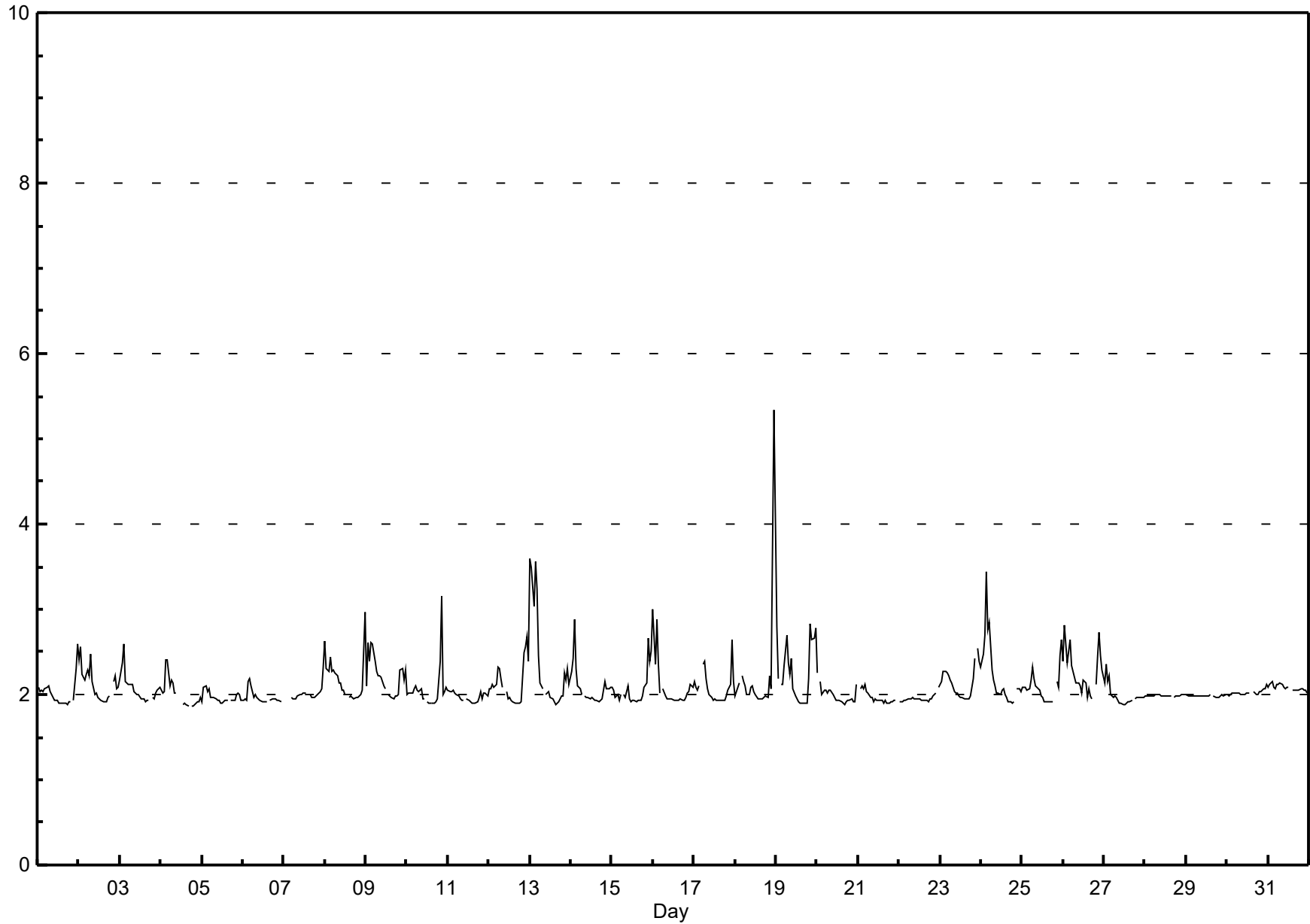
## Hourly Averages

Methane (CH<sub>4</sub>) - ppm  
Henry Pirker - August 2016

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0		Maximum Value: 5.34 ppm on Aug 19 00:00		Maximum Daily Average: 2.35 ppm on Aug 13		Hours in Service: 744		Hours of Data: 704		Hours of Missing Data: 40		Hours of Calibration: 36		Percent Operational Time: 99.5																																		
Minimum Value: 1.9 ppm on Aug 4 19:00		Maximum Diurnal Average: 2.33 ppm at hour 24		Monthly Average: 2.083 ppm		Minimum Daily Average: 1.95 ppm on Aug 22		Minimum Diurnal Average: 1.93 ppm at hour 17		Percentiles: P <sub>1</sub> = 1.89 P <sub>10</sub> = 1.92 Q <sub>1</sub> = 1.95 Median = 2.00 Q <sub>3</sub> = 2.11 P <sub>90</sub> = 2.34 P <sub>99</sub> = 3.13																																						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																								
1-Aug	2.1	2.0	2.0	2.0	2.1	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	A	1.9	2.3	2.6	2.02	2.60																						
2-Aug	2.4	2.6	2.2	2.2	2.2	2.3	2.2	2.5	2.2	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	2.0	2.0	A	2.1	2.2	2.1	2.1	2.12	2.56																						
3-Aug	2.2	2.4	2.6	2.2	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	A	2.0	1.9	2.0	2.1	2.1	2.07	2.60																						
4-Aug	2.1	2.0	2.0	2.4	2.4	2.1	2.2	2.1	2.0	2.0	C	C	C	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	1.9	1.9	2.0	2.01	2.41																						
5-Aug	1.9	2.1	2.1	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	A	1.9	1.9	1.9	2.0	2.0	2.0	1.9	1.97	2.10																						
6-Aug	1.9	1.9	1.9	2.2	2.2	2.1	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	2.0	2.0	2.0	1.9	1.9	1.9	P	1.97	2.19																						
7-Aug	P	P	P	R	2.0	2.0	1.9	1.9	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.3	2.01	2.32																						
8-Aug	2.6	2.3	2.3	2.4	2.3	2.3	2.3	2.2	2.1	2.1	2.1	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	3.0	2.17	2.96																						
9-Aug	2.1	2.6	2.4	2.6	2.6	2.4	2.3	2.2	2.2	2.2	2.1	2.1	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.3	2.3	2.2	2.3	2.21	2.62																						
10-Aug	2.0	2.0	2.0	2.0	2.1	2.1	2.0	2.0	2.1	1.9	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.4	3.2	2.0	2.0	2.1	2.06	3.15																						
11-Aug	2.1	2.0	2.0	2.1	2.0	2.0	2.0	2.0	1.9	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	1.97	2.06																						
12-Aug	2.1	2.1	2.1	2.1	2.1	2.3	2.3	2.2	2.1	A	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.5	2.6	2.7	2.4	2.12	2.69																						
13-Aug	3.6	3.5	3.0	3.6	3.2	2.5	2.1	2.1	A	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.3	2.2	2.3	2.1	2.35	3.60																						
14-Aug	2.3	2.4	2.9	2.3	2.1	2.1	2.0	A	2.0	2.0	2.0	1.9	2.0	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.2	2.1	2.1	2.1	2.08	2.88																						
15-Aug	2.1	2.0	2.0	2.0	1.9	2.0	A	2.0	2.0	2.1	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.1	2.1	2.7	2.4	2.5	2.06	2.66																						
16-Aug	3.0	2.4	2.9	2.4	2.0	A	2.1	2.0	1.9	1.9	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.1	2.1	2.1	2.10	3.00																						
17-Aug	2.2	2.1	2.1	2.1	A	2.3	2.4	2.2	2.1	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.1	2.6	2.2	2.08	2.64																							
18-Aug	2.0	2.0	2.1	A	2.2	2.1	2.1	2.0	2.0	2.1	2.0	2.0	2.0	2.0	1.9	1.9	1.9	2.0	2.0	2.2	2.1	3.7	5.3	2.26	5.34																							
19-Aug	2.8	2.2	A	2.1	2.1	2.3	2.7	2.4	2.2	2.4	2.1	2.0	1.9	1.9	1.9	1.9	1.9	1.9	2.2	2.8	2.6	2.7	2.8	2.25	2.83																							
20-Aug	2.3	A	2.2	2.0	2.0	2.1	2.0	2.1	2.1	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	1.9	1.9	2.1	1.99	2.26																							
21-Aug	A	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.97	2.12																						
22-Aug	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	A	2.1	1.95	2.09																							
23-Aug	2.1	2.2	2.3	2.3	2.2	2.2	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	2.0	2.2	2.4	A	2.5	2.4	2.13	2.55																						
24-Aug	2.3	2.5	2.7	3.4	2.8	2.8	2.3	2.2	2.1	2.0	2.0	2.0	2.1	2.1	2.0	2.0	1.9	1.9	1.9	1.9	A	2.1	2.1	2.0	2.22	3.45																						
25-Aug	2.1	2.1	2.1	2.1	2.1	2.2	2.3	2.2	2.1	2.1	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	A	2.1	2.1	2.5	2.6	2.09	2.64																						
26-Aug	2.4	2.8	2.4	2.5	2.6	2.3	2.3	2.1	2.1	2.1	2.1	2.0	2.2	2.1	2.0	2.1	2.0	1.9	A	2.1	2.4	2.7	2.5	2.3	2.27	2.81																						
27-Aug	2.1	2.4	2.2	2.2	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	2.0	2.0	2.0	2.0	2.0	1.99	2.36																						
28-Aug	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.98	2.00																						
29-Aug	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.98	2.00																						
30-Aug	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.02	2.12																						
31-Aug	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	A	2.1	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.08	2.15																						
																								2.23	2.23	2.23	2.25	2.19	2.16	2.13	2.09	2.04	2.02	2.00	1.98	1.97	1.95	1.94	1.94	1.93	1.94	1.95	2.00	2.15	2.12	2.22	2.33	Diurnal Average
																								3.60	3.49	3.03	3.56	3.24	2.85	2.69	2.47	2.23	2.42	2.11	2.09	2.17	2.14	2.06	2.06	2.05	2.06	2.06	2.38	3.15	2.72	3.72	5.34	Diurnal Maximum
C - Calibration																								R - Recovery				P - Power Failure				A - Automated Daily Zero Span																

**Hourly Averages**

**Methane (CH<sub>4</sub>) - ppm**  
**Henry Pirker - August 2016**



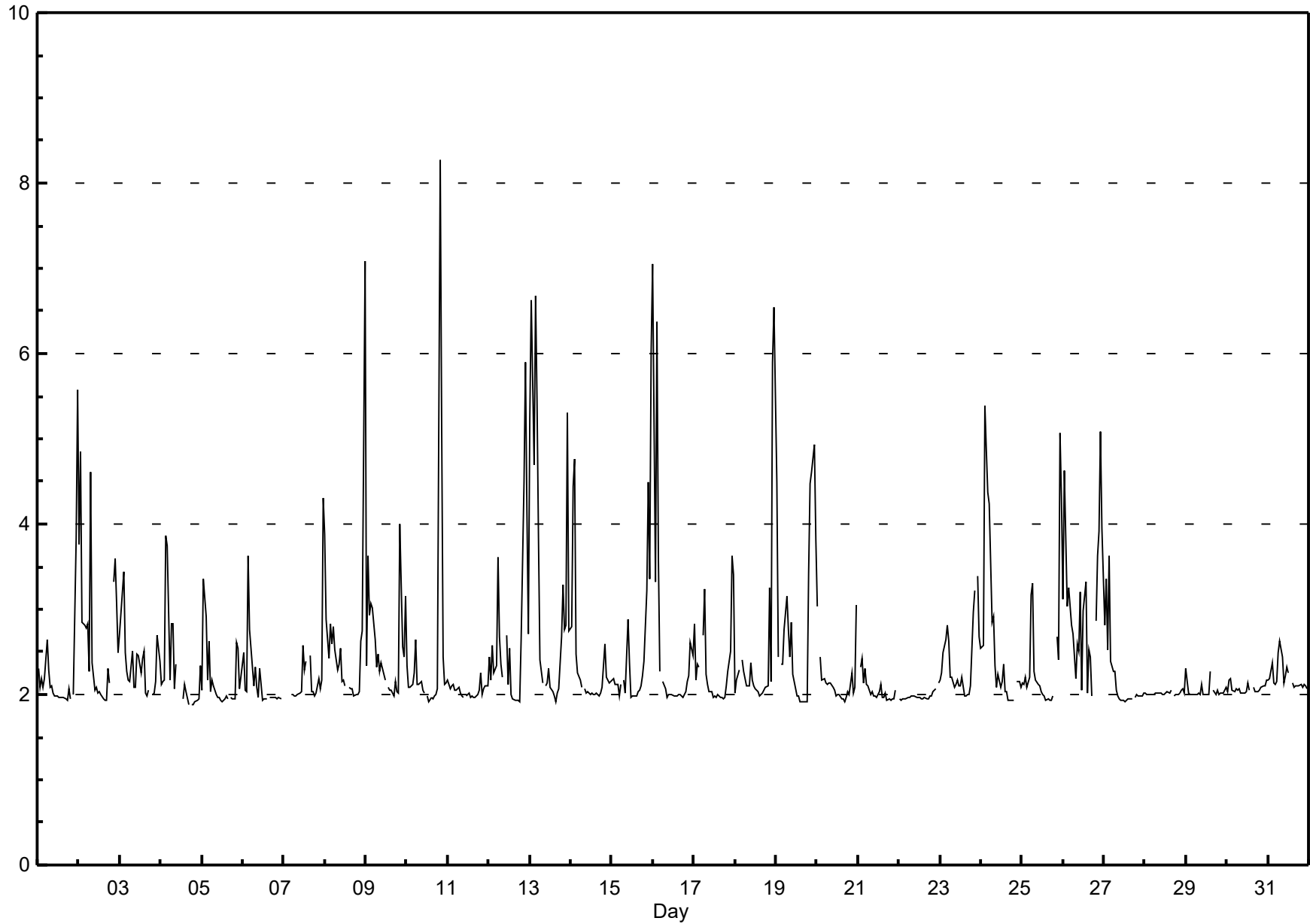
## Hourly Maximums

Methane (CH<sub>4</sub>) - ppm  
Henry Pirker - August 2016

Maximum Value: 8.27 ppm on Aug 10 20:00		Maximum Daily Average: 3.27 ppm on Aug 13		Hours in Service: 744																							
Minimum Value: 1.9 ppm on Aug 4 19:00		Minimum Daily Average: 1.98 ppm on Aug 22		Hours of Data: 704																							
Maximum Diurnal Average: 3.18 ppm at hour 24		Minimum Diurnal Average: 2.00 ppm at hour 17		Hours of Missing Data: 40																							
Monthly Average: 2.401 ppm		Percentiles: P <sub>1</sub> = 1.91 P <sub>10</sub> = 1.95 Q <sub>1</sub> = 2.00 Median = 2.09 Q <sub>3</sub> = 2.42 P <sub>90</sub> = 3.21 P <sub>99</sub> = 6.28		Hours of Calibration: 36																							
				Percent Operational Time: 99.5																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Aug	2.3	2.1	2.2	2.1	2.2	2.6	2.3	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	2.1	1.9	A	2.0	3.8	5.6	2.31	5.57	
2-Aug	3.8	4.8	2.8	2.8	2.8	2.8	2.3	4.6	2.4	2.0	2.1	2.0	2.0	2.0	1.9	1.9	1.9	2.3	2.1	A	3.3	3.6	3.1	2.5	2.70	4.85	
3-Aug	2.7	3.2	3.4	2.5	2.3	2.2	2.2	2.5	2.1	2.1	2.5	2.5	2.3	2.4	2.5	2.0	2.0	2.1	A	2.0	2.0	2.2	2.7	2.4	2.37	3.44	
4-Aug	2.1	2.1	2.2	3.9	3.8	2.2	2.8	2.8	2.1	2.4	C	C	C	1.9	2.1	2.0	1.9	A	1.9	1.9	1.9	1.9	1.9	2.3	2.31	3.86	
5-Aug	2.1	3.4	2.9	2.2	2.6	2.0	2.2	2.1	2.0	2.0	2.0	1.9	1.9	2.0	2.0	1.9	A	2.0	1.9	1.9	2.6	2.5	2.1	2.2	2.19	3.36	
6-Aug	2.5	2.0	2.0	3.6	2.8	2.5	2.1	2.3	2.1	2.0	2.3	1.9	1.9	1.9	1.9	A	2.0	2.0	2.0	2.0	1.9	2.0	1.9	P	2.17	3.62	
7-Aug	P	P	P	R	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.6	2.3	2.4	A	2.5	2.0	2.0	2.0	2.0	2.2	2.1	2.2	4.3	2.24	4.30	
8-Aug	3.9	2.9	2.4	2.8	2.6	2.8	2.5	2.3	2.4	2.5	2.2	2.2	2.1	A	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.6	2.7	7.1	2.62	7.08	
9-Aug	2.3	3.6	2.9	3.1	3.0	2.6	2.3	2.5	2.3	2.4	2.2	2.2	A	2.1	2.1	2.1	2.0	2.2	2.0	2.0	4.0	2.6	2.4	3.1	2.52	4.01	
10-Aug	2.3	2.1	2.1	2.1	2.2	2.6	2.1	2.1	2.1	2.1	2.0	A	2.0	1.9	2.0	1.9	2.0	2.0	2.1	8.3	5.1	2.4	2.1	2.1	2.52	8.27	
11-Aug	2.2	2.1	2.1	2.1	2.1	2.0	2.1	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.3	2.0	2.1	2.1	2.1	2.05	2.25	
12-Aug	2.4	2.2	2.6	2.2	2.3	3.6	2.7	2.4	2.2	A	2.7	2.1	2.5	2.0	1.9	1.9	1.9	1.9	1.9	2.6	4.5	5.9	4.1	2.7	2.67	5.89	
13-Aug	5.2	6.6	4.7	6.7	5.4	3.9	2.4	2.1	A	2.1	2.1	2.3	2.1	2.0	2.0	1.9	2.0	2.1	2.7	3.3	2.8	2.8	5.3	2.7	3.27	6.67	
14-Aug	2.8	4.4	4.8	2.5	2.2	2.2	2.1	A	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.3	2.6	2.2	2.1	2.1	2.37	4.76	
15-Aug	2.2	2.2	2.1	2.1	2.0	2.1	A	2.2	2.0	2.9	2.4	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.2	2.4	3.2	4.5	3.4	6.0	2.52	6.04	
16-Aug	7.0	3.3	6.4	3.6	2.3	A	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.2	2.6	2.5	2.62	7.05	
17-Aug	2.8	2.2	2.4	2.3	A	2.7	3.2	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.3	2.5	3.6	3.4	2.33	3.63	
18-Aug	2.0	2.2	2.3	A	2.4	2.3	2.2	2.1	2.1	2.4	2.2	2.1	2.1	2.0	2.0	2.0	2.0	2.1	2.1	2.1	3.3	2.1	5.9	6.5	2.54	6.54	
19-Aug	4.5	2.4	A	2.4	2.4	2.8	3.1	2.8	2.4	2.9	2.2	2.1	2.0	2.0	1.9	1.9	1.9	1.9	1.9	3.4	4.5	4.6	4.9	3.8	2.81	4.93	
20-Aug	3.0	A	2.4	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	1.9	2.0	2.0	2.0	2.3	2.0	2.1	3.0	2.16	3.05		
21-Aug	A	2.3	2.4	2.1	2.3	2.1	2.1	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	2.0	2.1	A	2.06	2.42		
22-Aug	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	2.0	2.0	2.0	2.1	A	2.1	1.98	2.13	
23-Aug	2.2	2.3	2.5	2.6	2.8	2.6	2.2	2.2	2.1	2.1	2.2	2.1	2.1	2.2	2.0	2.0	2.0	2.0	2.1	3.0	3.2	A	3.4	2.7	2.37	3.39	
24-Aug	2.5	2.6	5.4	4.9	4.4	4.2	2.9	2.9	2.3	2.1	2.2	2.1	2.1	2.4	2.0	2.0	1.9	1.9	1.9	1.9	A	2.2	2.2	2.1	2.66	5.40	
25-Aug	2.1	2.1	2.2	2.1	2.2	3.2	3.3	2.3	2.2	2.1	2.1	2.0	2.0	2.0	1.9	1.9	1.9	1.9	2.0	A	2.7	2.4	5.1	4.3	2.44	5.07	
26-Aug	3.1	4.6	3.0	3.3	3.0	2.8	2.7	2.2	2.6	2.5	3.2	2.0	3.0	3.3	2.0	2.5	2.4	2.0	A	2.9	3.6	3.9	5.1	4.0	3.04	5.08	
27-Aug	2.8	3.4	2.5	3.6	2.4	2.3	2.3	2.1	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.20	3.63	
28-Aug	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	A	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.01	2.08	
29-Aug	2.3	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.3	A	2.1	2.0	2.1	2.0	2.0	2.0	2.1	2.04	2.30	
30-Aug	2.0	2.2	2.2	2.0	2.0	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.1	2.1	A	2.1	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.2	2.07	2.18	
31-Aug	2.2	2.2	2.4	2.1	2.1	2.2	2.5	2.6	2.4	2.1	2.2	2.3	2.2	A	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.20	2.62	
		2.81	2.81	2.80	2.75	2.56	2.52	2.36	2.32	2.14	2.16	2.17	2.08	2.09	2.09	2.02	2.02	2.00	2.01	2.04	2.43	2.70	2.59	2.97	3.18	Diurnal Average	
		7.05	6.63	6.37	6.67	5.44	4.25	3.31	4.61	2.60	2.88	3.20	2.58	2.98	3.32	2.50	2.52	2.45	2.31	2.68	8.27	5.14	5.89	5.90	7.08	Diurnal Maximum	
C - Calibration		R - Recovery					P - Power Failure					A - Automated Daily Zero Span															

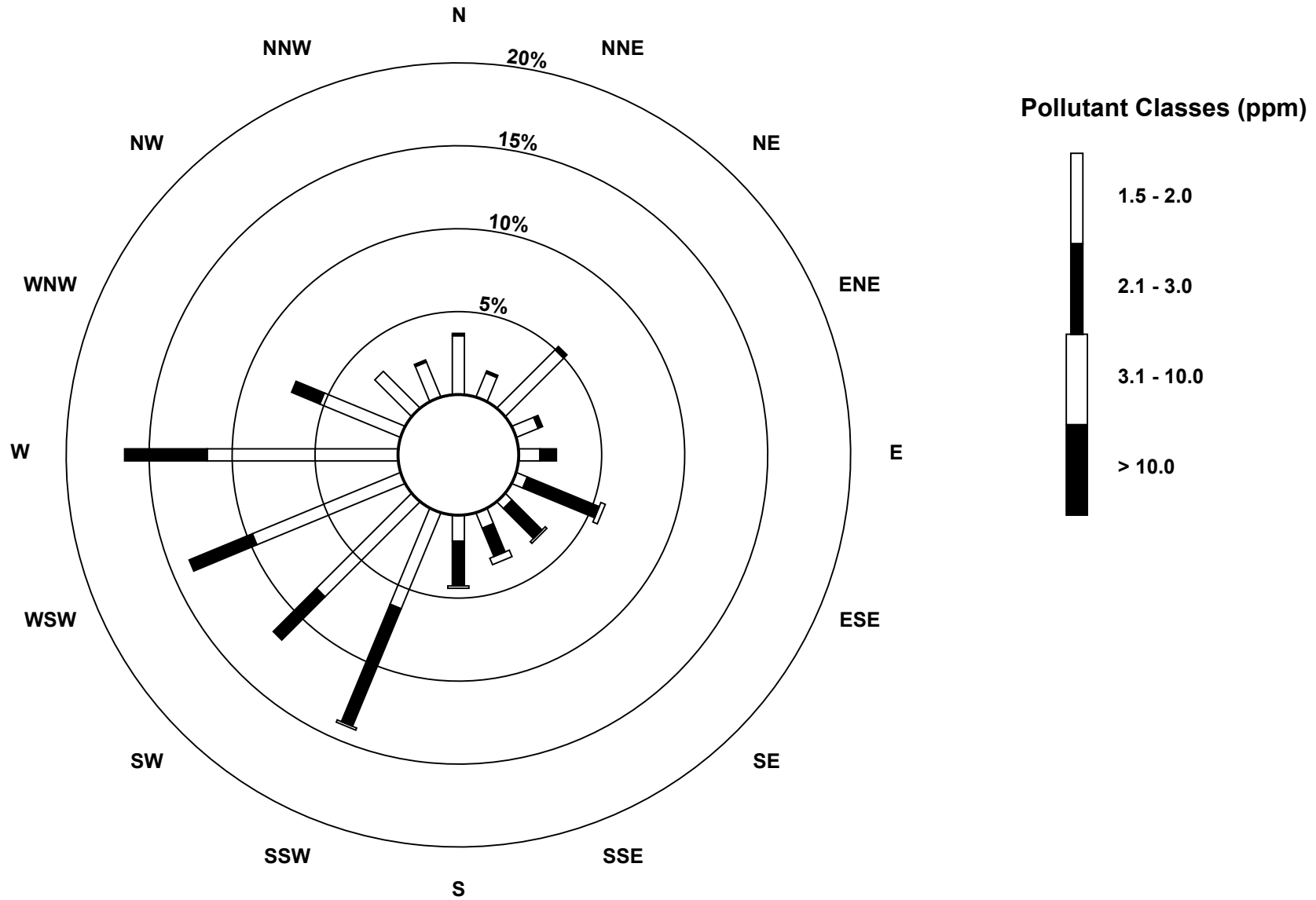
### Hourly Maximums

Methane (CH<sub>4</sub>) - ppm  
Henry Pirker - August 2016



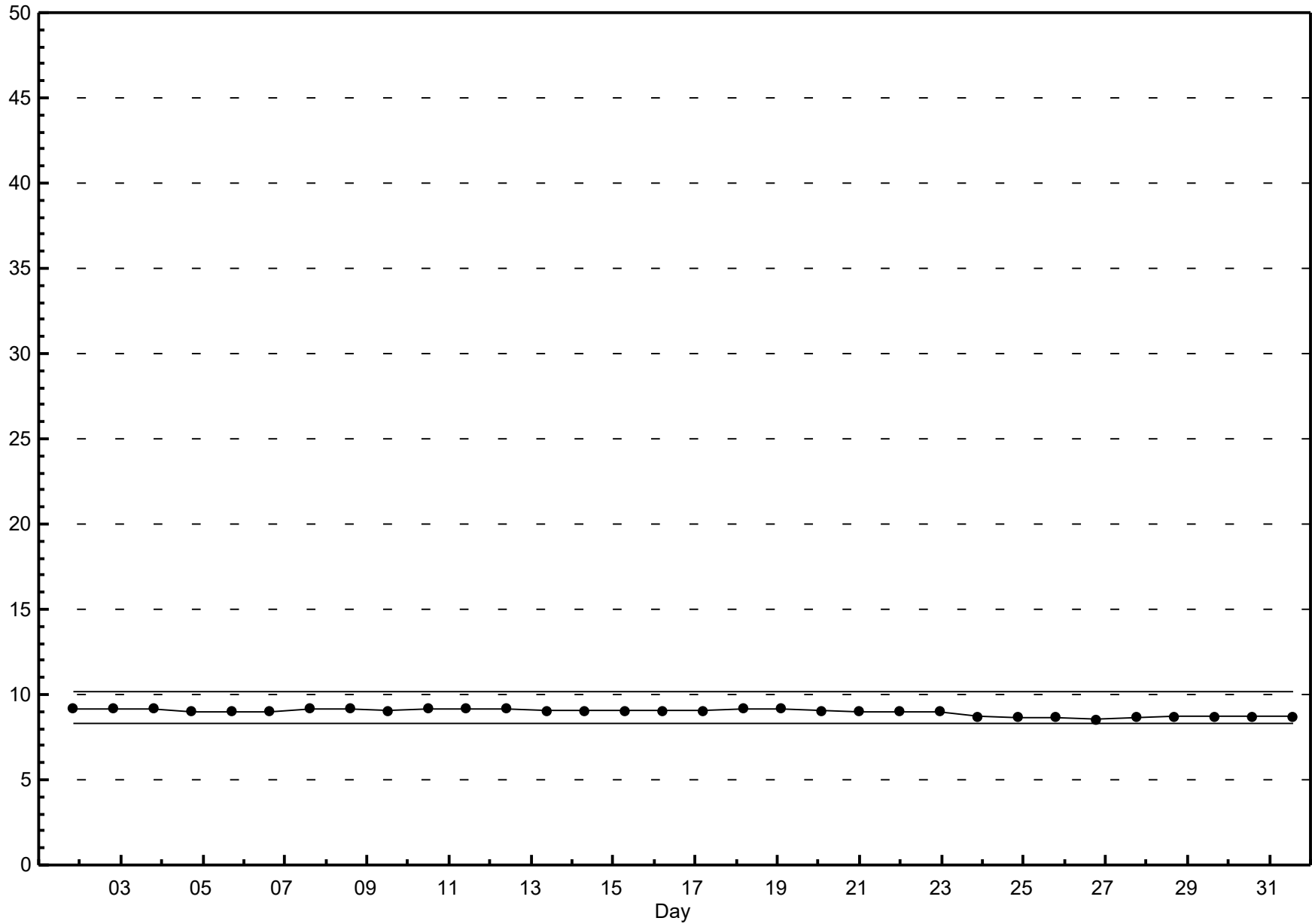
**Pollutant Rose**

**Methane (CH<sub>4</sub>) - ppm**  
**Henry Pirker - August 2016**



### Span Responses

Methane (CH<sub>4</sub>)  
Henry Pirker - August 2016



## Hourly Averages

## Non Methane Hydrocarbon (NMHC) - ppm

### Henry Pirker - August 2016

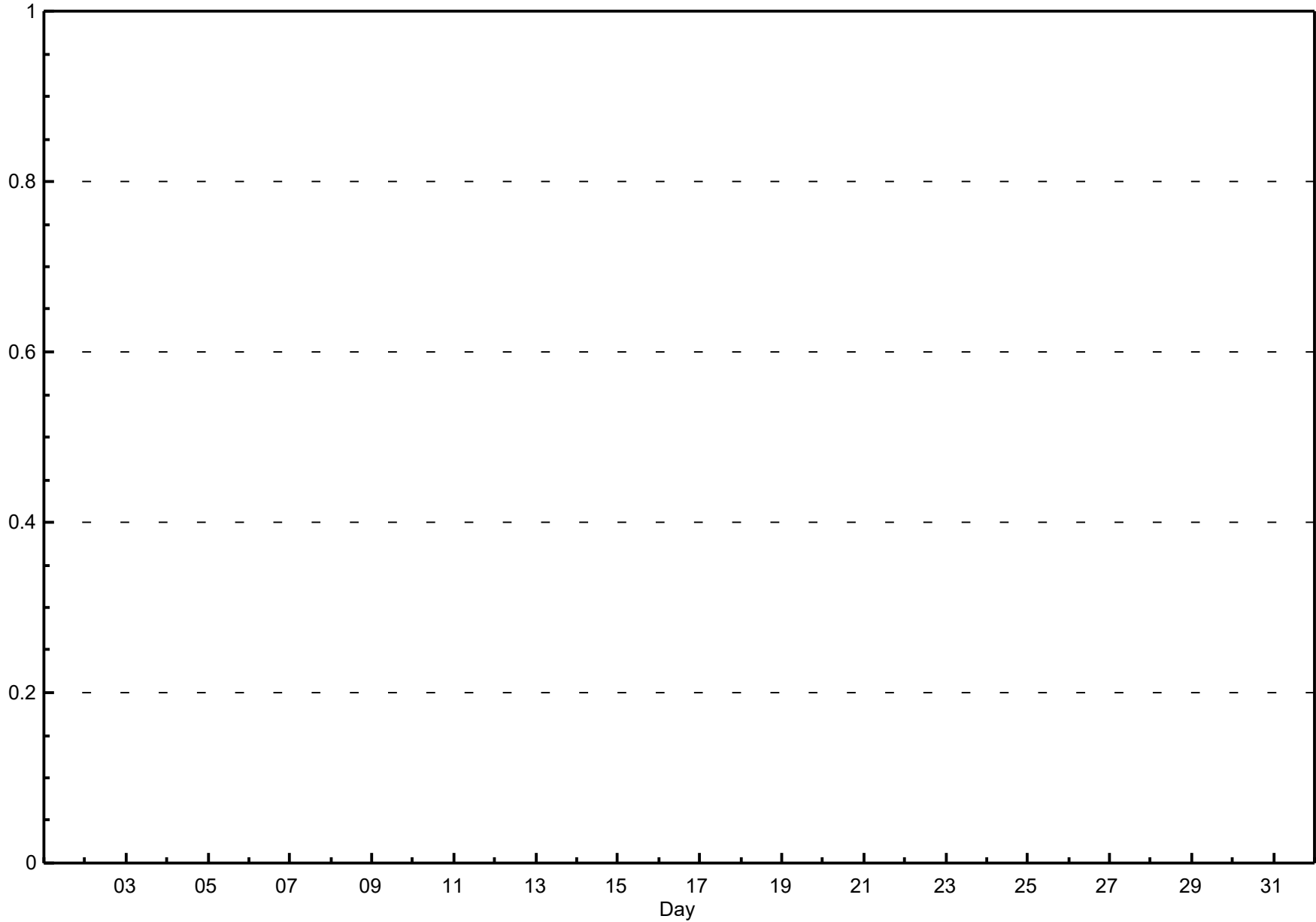
Number of Exceedences (AAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 0.00 ppm on Aug 1 12:00	Maximum Daily Average: 0.00 ppm on Aug 1		Hours of Data:	704
Minimum Value: 0.0 ppm on Aug 1 01:00	Minimum Daily Average: 0.00 ppm on Aug 6		Hours of Missing Data:	40
Maximum Diurnal Average: 0.00 ppm at hour 3	Minimum Diurnal Average: 0.00 ppm at hour 20		Hours of Calibration:	36
Monthly Average: 0.000 ppm	Percentiles: P <sub>1</sub> = 0.00 P <sub>10</sub> = 0.00 Q <sub>1</sub> = 0.00 Median = 0.00 Q <sub>3</sub> = 0.00 P <sub>90</sub> = 0.00 P <sub>99</sub> = 0.00		Percent Operational Time:	99.5

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Aug	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
2-Aug	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.00	0.00
3-Aug	0.0	0.0	0.0	0.0	0.0	0.0	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
4-Aug	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	C	C	C	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
5-Aug	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
6-Aug	0.0	0.0	0.0	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	P	0.00	0.00
7-Aug	P	P	P	R	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
8-Aug	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
9-Aug	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
10-Aug	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	0.0	0.00	0.00
11-Aug	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	0.0	0.00	0.00
12-Aug	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	0.0	0.00	0.00
13-Aug	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	0.0	0.00	0.00
14-Aug	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
15-Aug	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	0.0	0.00	0.00
16-Aug	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	0.0	0.00	0.00
17-Aug	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	0.0	0.00	0.00
18-Aug	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	0.0	0.00	0.00
19-Aug	0.0	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	0.0	0.00	0.00
20-Aug	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	0.0	0.00	0.00
21-Aug	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	0.0	A	0.00	0.00
22-Aug	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.00	0.00
23-Aug	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.00	0.00
24-Aug	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.00	0.00
25-Aug	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.00	0.00
26-Aug	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
27-Aug	0.0	0.0	0.0	0.0	0.0	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
28-Aug	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
29-Aug	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
30-Aug	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
31-Aug	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00

0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Diurnal Average
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Diurnal Maximum

C - Calibration                      R - Recovery                      P - Power Failure                      A - Automated Daily Zero Span





# Hourly Maximums

## Non Methane Hydrocarbon (NMHC) - ppm

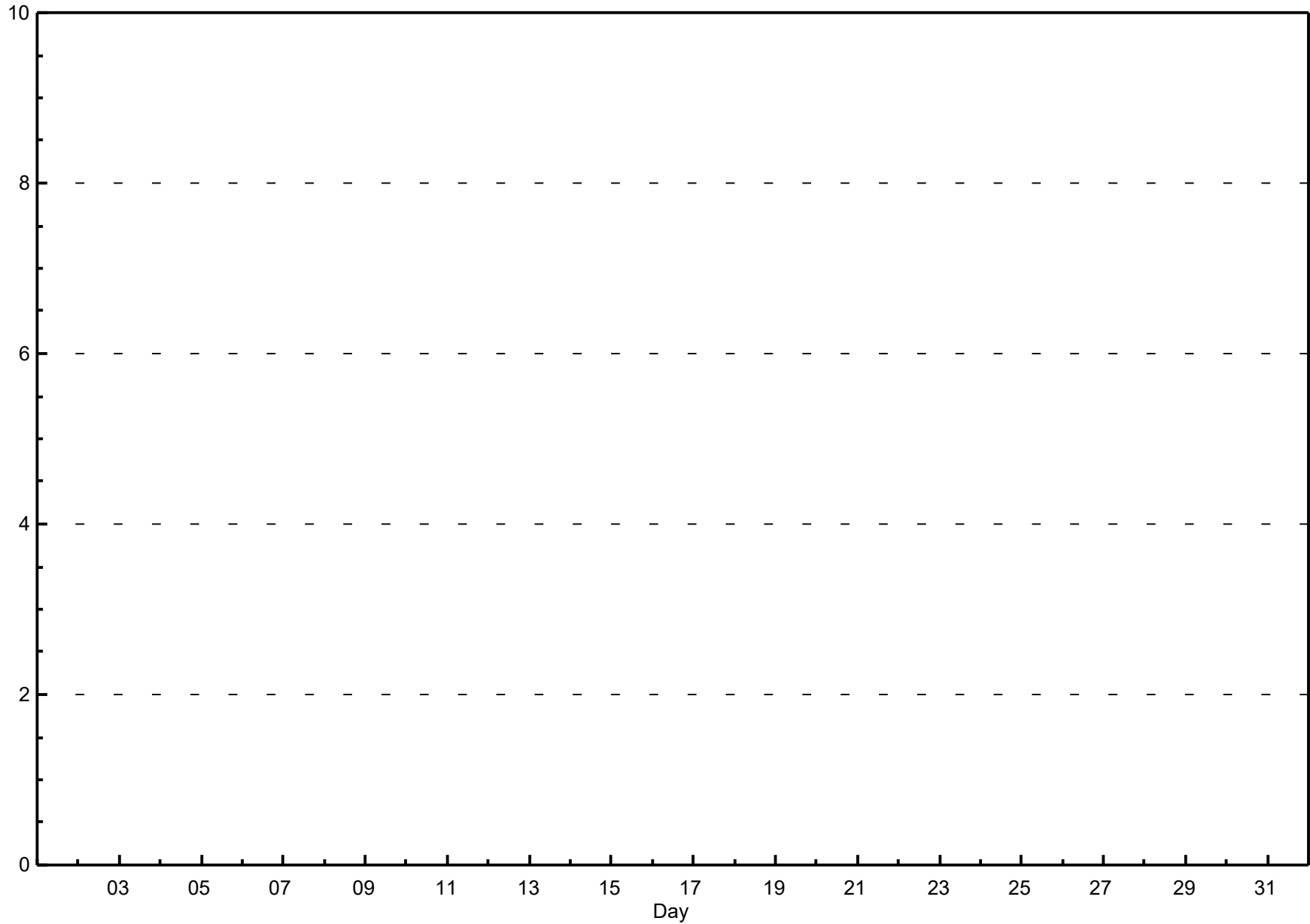
### Henry Pirker - August 2016

Maximum Value: 0.00 ppm on Aug 30 01:00      Maximum Daily Average: 0.00 ppm on Aug 1 Minimum Value: 0.0 ppm on Aug 13 08:00      Minimum Daily Average: 0.00 ppm on Aug 8 Maximum Diurnal Average: 0.00 ppm at hour 5      Minimum Diurnal Average: 0.00 ppm at hour 21 Monthly Average: 0.001 ppm      Percentiles: P <sub>1</sub> = 0.00 P <sub>10</sub> = 0.00 Q <sub>1</sub> = 0.00 Median = 0.00 Q <sub>3</sub> = 0.00 P <sub>90</sub> = 0.00 P <sub>99</sub> = 0.00																								Hours in Service: 744 Hours of Data: 704 Hours of Missing Data: 40 Hours of Calibration: 36 Percent Operational Time: 99.5			
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Aug	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
2-Aug	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.00	0.00
3-Aug	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.00	0.00	
4-Aug	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	C	C	C	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	
5-Aug	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	
6-Aug	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	
7-Aug	P	P	P	R	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	
8-Aug	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	
9-Aug	0.0	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	
10-Aug	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	
11-Aug	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	
12-Aug	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	
13-Aug	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	
14-Aug	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	
15-Aug	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	
16-Aug	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	
17-Aug	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	
18-Aug	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	
19-Aug	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	
20-Aug	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	
21-Aug	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	0.0	0.00	0.00	
22-Aug	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.00	0.00	
23-Aug	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.00	0.00	
24-Aug	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.00	0.00	
25-Aug	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	
26-Aug	0.0	0.0	0.0	0.0	0.0	0.0	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	
27-Aug	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	
28-Aug	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	
29-Aug	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	
30-Aug	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	
31-Aug	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	
																								Diurnal Average			
																								Diurnal Maximum			
C - Calibration      R - Recovery      P - Power Failure      A - Automated Daily Zero Span																											

**Hourly Maximums**

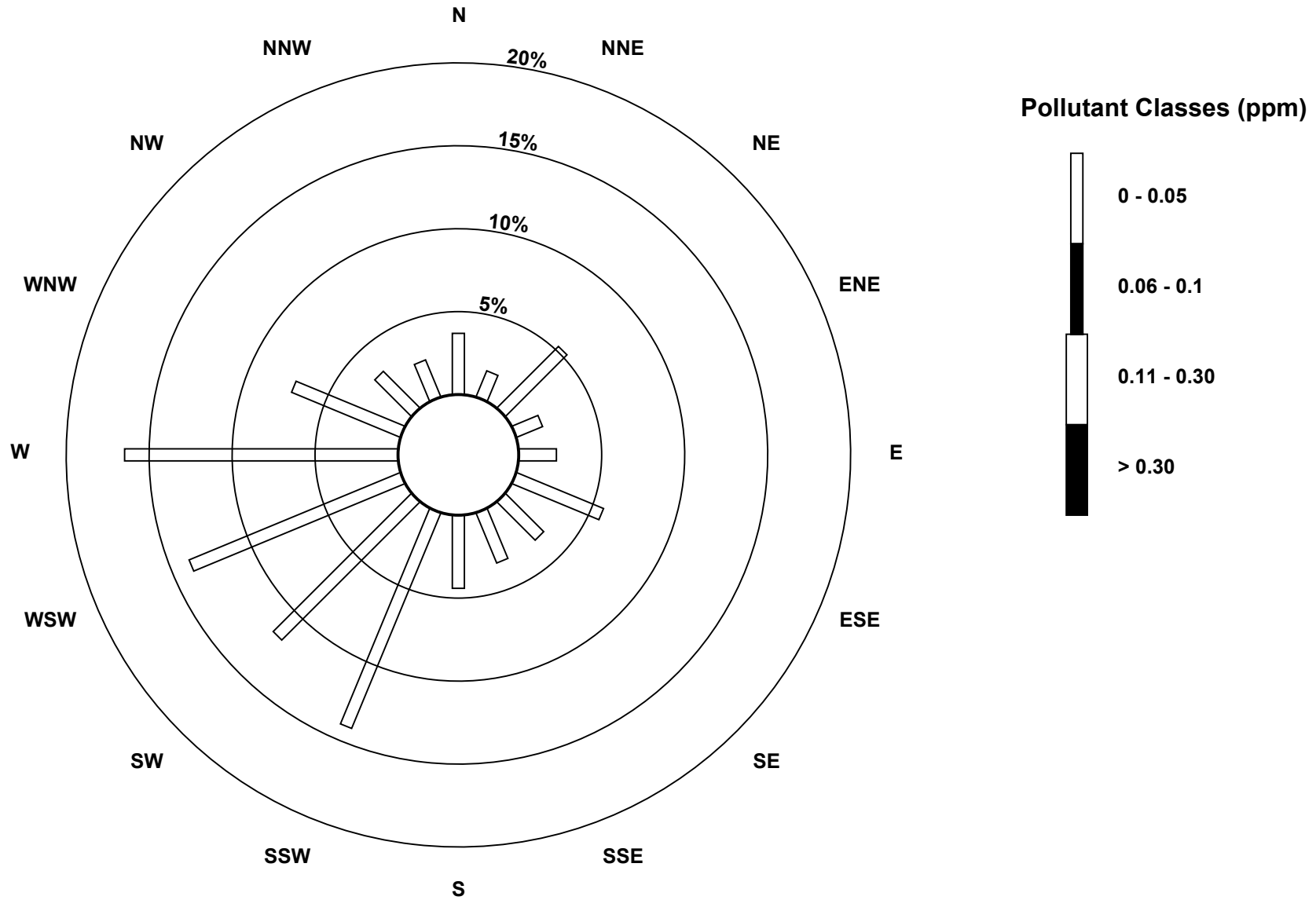
**Non Methane Hydrocarbon (NMHC) - ppm**

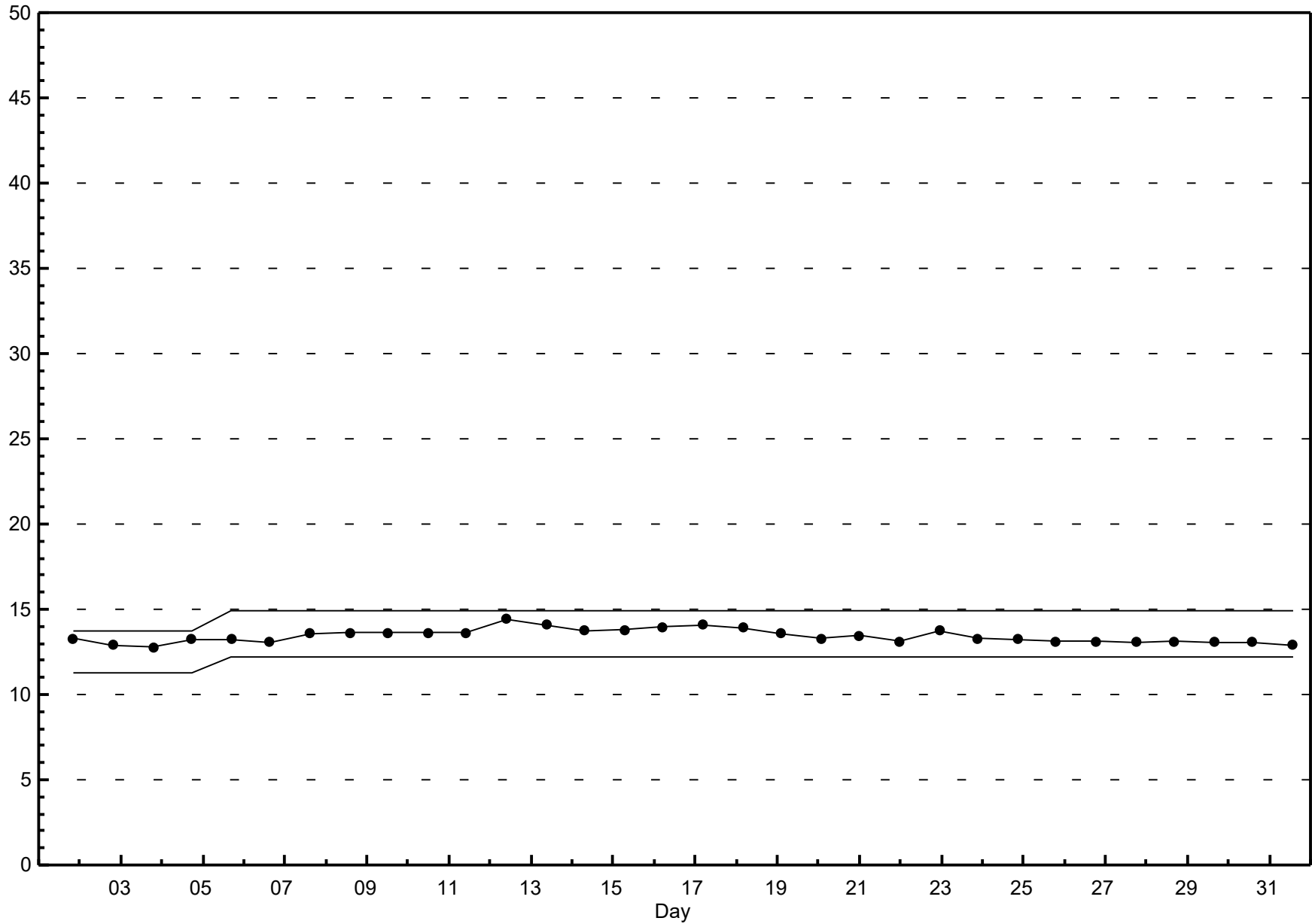
**Henry Pirker - August 2016**



**Pollutant Rose**

**Non Methane Hydrocarbon (NMHC) - ppm**  
**Henry Pirker - August 2016**





## Hourly Averages

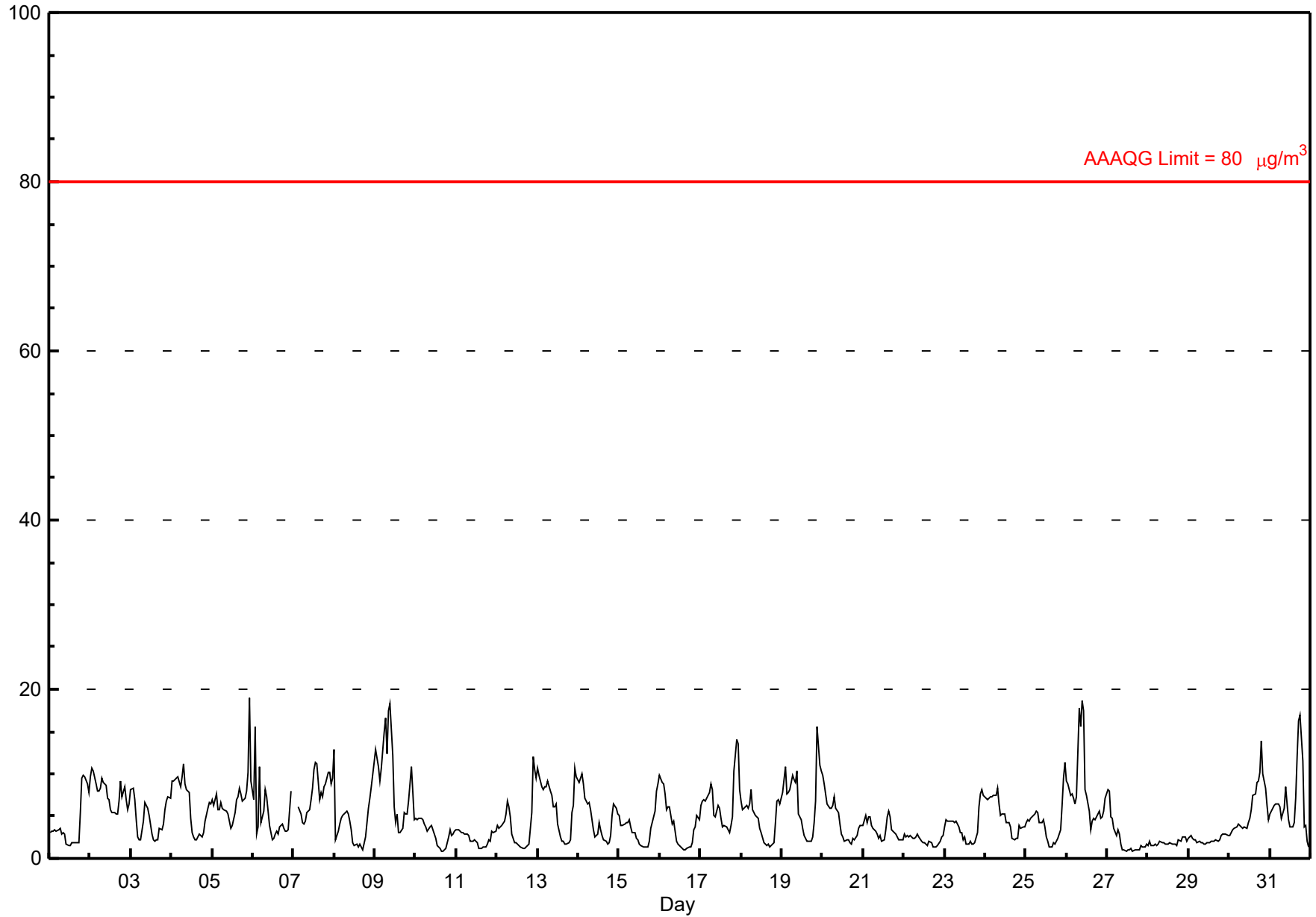
## Particulate Matter 2.5 (PM<sub>2.5</sub>) - µg/m<sup>3</sup>

### Henry Pirker - August 2016

Number of Exceedences: 1-hr: 0 24-hr: 0	Hours in Service: 744
Maximum Value: 18.9 µg/m <sup>3</sup> on Aug 5 23:00	Maximum Daily Average: 9.1 µg/m <sup>3</sup> on Aug 9
Minimum Value: 1 µg/m <sup>3</sup> on Aug 27 16:00	Hours of Data: 740
Maximum Diurnal Average: 6.7 µg/m <sup>3</sup> at hour 23	Hours of Missing Data: 4
Monthly Average: 4.90 µg/m <sup>3</sup>	Hours of Calibration: 0
Minimum Daily Average: 1.9 µg/m <sup>3</sup> on Aug 28	Percent Operational Time: 99.5
Minimum Diurnal Average: 2.9 µg/m <sup>3</sup> at hour 16	
Percentiles: P <sub>1</sub> = 1.0 P <sub>10</sub> = 1.7 Q <sub>1</sub> = 2.3 Median = 4.2 Q <sub>3</sub> = 6.8 P <sub>90</sub> = 9.1 P <sub>99</sub> = 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-Aug	3	3	3	3	3	3	4	3	3	3	2	2	2	2	2	2	2	2	5	10	10	10	9	8	4.0	9.8																						
2-Aug	10	11	10	9	8	8	8	9	9	9	7	7	6	5	6	5	5	7	9	7	9	7	6	6	7.6	10.6																						
3-Aug	8	8	7	5	2	2	2	4	7	6	6	5	3	2	2	2	4	3	4	6	7	7	7	7	4.7	8.3																						
4-Aug	9	9	9	9	10	8	10	11	9	8	8	5	3	3	2	2	3	3	2	3	4	6	7	6	6.2	11.1																						
5-Aug	7	6	8	6	6	7	6	6	6	5	4	4	4	5	7	7	8	8	7	7	8	10	19	9	7.0	18.9																						
6-Aug	7	16	3	4	11	4	6	8	7	6	4	2	2	3	3	3	4	4	4	3	3	3	8	P	5.1	15.5																						
7-Aug	P	P	P	6	5	4	4	4	5	6	7	8	11	11	11	7	8	7	8	9	10	10	9	10	7.7	11.3																						
8-Aug	13	2	3	4	5	5	5	6	5	4	3	2	2	2	1	2	1	1	2	4	6	7	8	11	4.4	12.9																						
9-Aug	13	12	11	9	11	15	17	12	18	18	12	6	4	5	3	3	4	5	5	5	7	11	8	5	9.1	18.3																						
10-Aug	5	5	5	5	5	4	4	3	4	4	3	3	2	2	1	1	1	1	1	2	3	3	3	3	3.0	4.7																						
11-Aug	3	3	3	3	3	3	3	3	2	2	2	2	2	1	1	1	1	1	2	2	2	3	3	3	2.3	3.4																						
12-Aug	4	4	4	4	4	5	7	6	5	3	2	2	2	2	1	1	1	1	1	2	5	12	10	9	4.1	12.0																						
13-Aug	11	10	9	8	8	9	9	8	7	6	6	7	4	3	2	2	2	2	2	2	5	6	11	10	6.2	10.7																						
14-Aug	9	9	10	9	7	6	7	6	5	3	2	3	4	3	3	2	2	2	2	3	5	6	6	5	5.0	10.1																						
15-Aug	5	4	4	4	4	4	5	4	3	3	2	2	2	1	1	1	1	1	2	4	5	6	8	9	3.6	8.8																						
16-Aug	10	9	9	8	6	6	6	4	4	3	2	2	1	1	1	1	1	1	1	2	3	4	5	5	4.0	9.8																						
17-Aug	6	7	7	7	7	8	9	8	5	5	6	6	5	4	4	4	3	3	4	5	10	14	14	8	6.6	14.0																						
18-Aug	7	6	6	6	6	6	8	6	5	5	5	4	3	2	2	2	2	1	2	2	4	7	7	7	4.5	8.1																						
19-Aug	8	9	11	8	8	8	10	9	9	10	5	5	4	3	2	2	2	2	2	4	7	16	11	10	6.9	15.7																						
20-Aug	10	9	8	6	6	6	6	7	6	5	4	3	3	2	2	2	2	2	2	2	3	4	4	4	4.5	9.8																						
21-Aug	4	5	4	5	5	4	4	3	3	2	3	2	2	3	5	6	5	3	3	3	3	2	2	2	3.5	5.6																						
22-Aug	3	3	3	3	3	2	2	2	3	2	2	2	2	2	2	2	2	1	1	1	2	2	2	3	2.2	2.9																						
23-Aug	4	5	4	4	4	4	4	4	4	3	3	2	3	2	2	2	2	2	2	3	6	8	8	7	3.8	8.1																						
24-Aug	7	7	7	7	7	8	7	8	7	5	5	5	4	4	4	4	2	2	2	2	4	4	4	4	5.1	8.3																						
25-Aug	4	5	4	5	5	5	6	5	4	4	5	4	3	2	1	1	2	2	2	3	6	9	11	4.3	11.4																							
26-Aug	9	9	8	8	7	6	7	18	16	19	18	8	7	6	3	4	5	5	5	6	5	5	6	7	8.1	18.7																						
27-Aug	8	8	5	5	4	3	3	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2.4	8.2																						
28-Aug	2	2	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	2	1.9	2.6																						
29-Aug	2	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	2.2	2.8																						
30-Aug	3	3	3	3	4	4	4	4	3	4	4	4	5	6	7	8	9	9	10	14	10	8	6	4	5.8	13.8																						
31-Aug	5	6	6	6	7	7	6	5	6	8	6	5	4	4	4	7	12	16	17	11	4	4	2	1	6.6	17.0																						
																								6.6	6.5	5.9	5.6	5.6	5.5	5.8	6.0	5.6	5.4	4.6	3.7	3.3	3.1	3.0	2.9	3.2	3.3	3.8	4.2	5.1	6.3	6.7	6.1	Diurnal Average
																								12.9	15.5	10.8	9.5	10.8	14.9	16.7	17.8	17.5	18.7	17.5	8.2	10.5	11.3	11.2	7.6	12.1	16.2	17.0	13.8	10.4	15.7	18.9	11.4	Diurnal Maximum

P - Power Failure  
 Alberta Ambient Air Quality Guideline (AAAQG): 1-hr 80 µg/m<sup>3</sup> Alberta Ambient Air Quality Objective (AAAQO): 24-hr 30 µg/m<sup>3</sup>



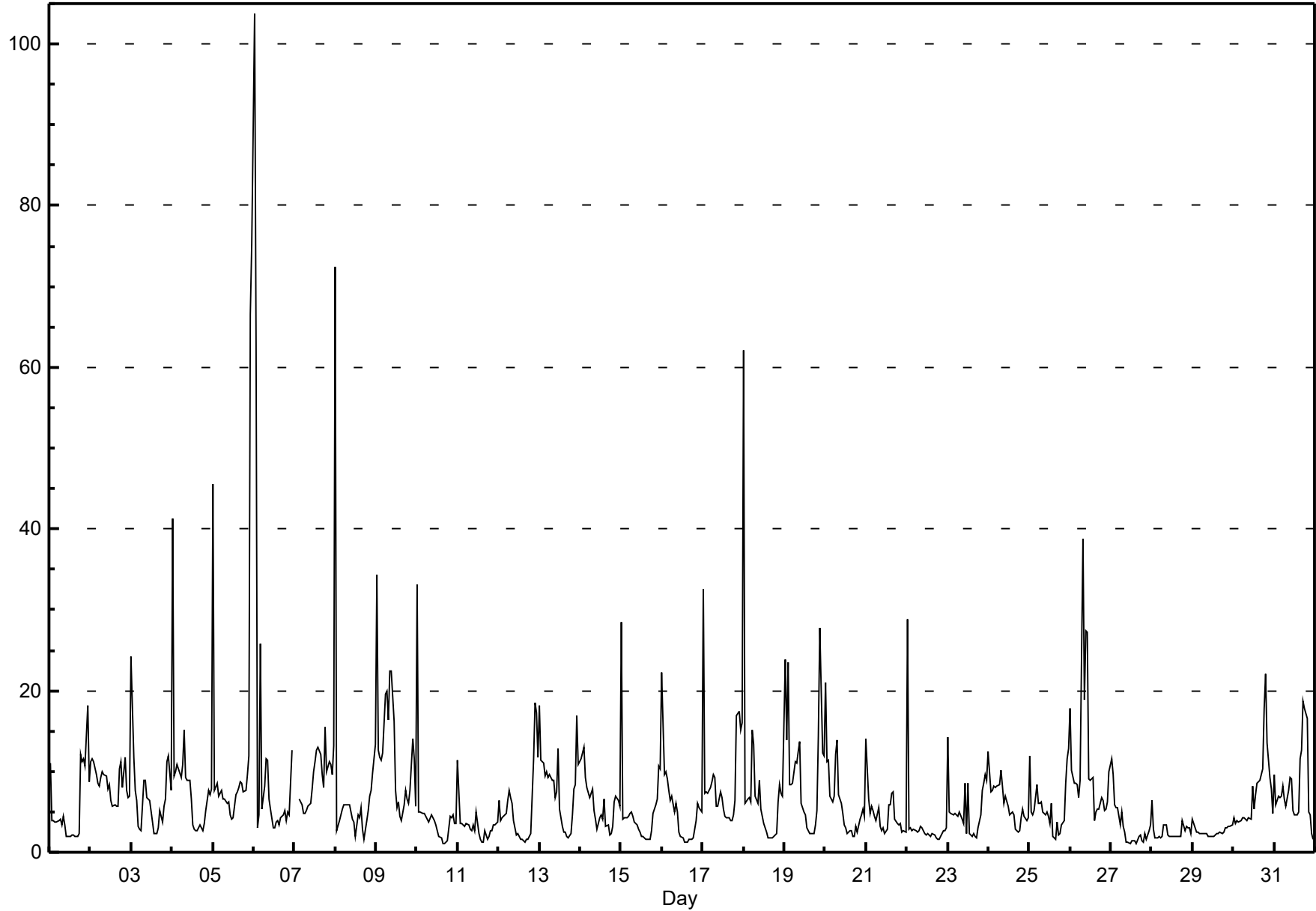
# Hourly Maximums

# Particulate Matter 2.5 (PM<sub>2.5</sub>) - µg/m<sup>3</sup>

## Henry Pirker - August 2016

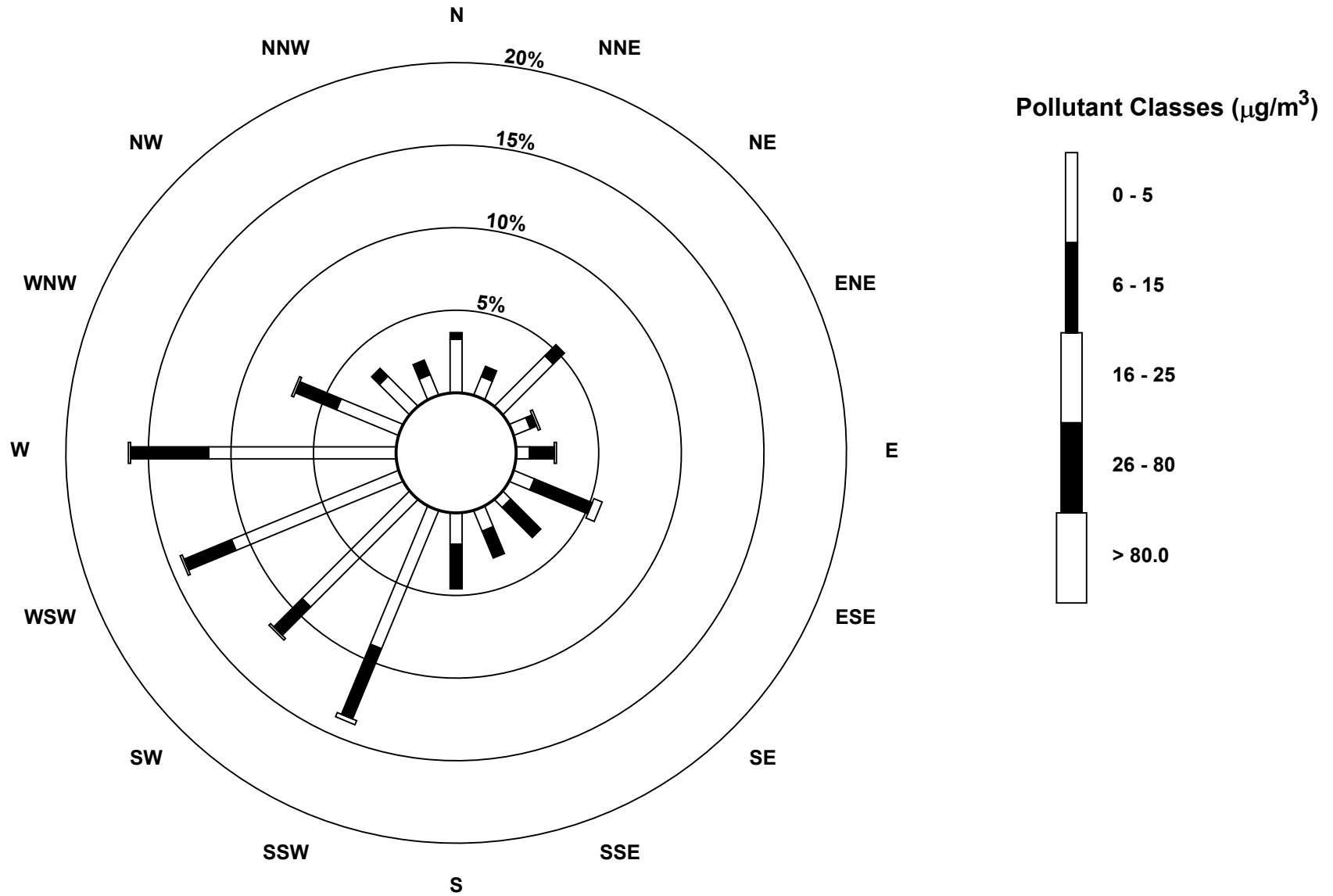
Maximum Value: 103.8 µg/m <sup>3</sup> on Aug 6 01:00		Maximum Daily Average: 14.2 µg/m <sup>3</sup> on Aug 5		Hours in Service: 744																							
Minimum Value: 1 µg/m <sup>3</sup> on Aug 27 16:00		Minimum Daily Average: 2.5 µg/m <sup>3</sup> on Aug 28		Hours of Data: 740																							
Maximum Diurnal Average: 25.0 µg/m <sup>3</sup> at hour 1		Minimum Diurnal Average: 3.7 µg/m <sup>3</sup> at hour 15		Hours of Missing Data: 4																							
Monthly Average: 7.01 µg/m <sup>3</sup>		Percentiles: P <sub>1</sub> = 1.3 P <sub>10</sub> = 2.0 Q <sub>1</sub> = 3.0 Median = 4.9 Q <sub>3</sub> = 8.3 P <sub>90</sub> = 12.1 P <sub>99</sub> = 30.7		Hours of Calibration: 0																							
				Percent Operational Time: 99.5																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Aug	11	4	4	4	4	4	4	3	4	3	2	2	2	2	2	2	2	2	12	11	12	11	18	9	5.6	18.2	
2-Aug	11	12	11	10	9	8	9	10	10	9	8	8	6	6	6	6	6	10	11	8	12	8	7	7	8.6	11.7	
3-Aug	24	12	8	6	3	3	3	9	9	7	7	6	4	2	2	2	3	5	4	6	7	11	12	8	6.8	24.3	
4-Aug	41	9	10	11	10	9	11	15	9	9	9	7	3	3	3	3	3	3	3	3	5	8	7	8	8.4	41.4	
5-Aug	46	8	8	7	7	8	7	7	6	6	5	4	4	7	7	8	9	9	7	8	10	12	67	75	14.2	75.3	
6-Aug	104	63	3	5	26	5	8	12	11	7	5	3	3	4	4	3	4	5	5	4	5	5	13	P	13.3	103.8	
7-Aug	P	P	P	7	6	5	5	5	6	6	8	10	11	13	13	12	10	8	16	10	11	11	10	13	9.2	15.5	
8-Aug	73	3	4	5	5	6	6	6	6	5	4	4	2	5	4	6	3	2	4	5	7	8	10	13	8.0	72.5	
9-Aug	34	13	12	11	12	20	20	16	22	22	16	8	6	6	4	4	6	8	7	6	8	14	12	6	12.2	34.3	
10-Aug	33	5	5	5	5	4	4	4	5	4	4	3	3	2	2	1	1	1	1	5	4	5	3	4	4.7	33.2	
11-Aug	11	4	3	3	3	4	3	3	3	3	3	5	2	2	1	1	3	2	2	3	3	3	3	4	3.2	11.4	
12-Aug	6	4	4	4	5	6	8	7	6	4	2	2	2	2	2	1	2	2	2	2	12	19	17	12	5.5	18.6	
13-Aug	18	11	11	9	10	9	10	9	9	7	7	13	5	3	3	2	2	2	2	5	8	8	17	11	8.0	18.1	
14-Aug	12	12	13	9	8	7	7	8	5	4	3	4	5	4	6	3	3	2	2	3	6	7	6	6	6.1	13.0	
15-Aug	28	4	4	4	4	5	5	4	4	3	3	3	2	2	2	2	2	2	3	5	6	7	11	10	5.1	28.4	
16-Aug	22	10	10	9	8	6	7	5	6	5	3	2	2	1	1	1	2	2	2	3	4	6	6	5	5.3	22.2	
17-Aug	33	7	7	7	8	9	10	9	6	6	7	7	5	4	4	4	4	4	5	6	17	17	15	16	9.1	32.6	
18-Aug	62	6	7	7	6	15	13	7	6	9	5	4	3	3	2	2	2	2	2	2	6	8	7	7	8.1	62.2	
19-Aug	24	14	24	8	8	9	11	11	12	14	6	5	5	3	3	2	2	2	3	5	14	28	12	12	9.9	27.8	
20-Aug	21	11	11	7	6	7	12	14	7	6	5	3	3	2	3	3	2	2	3	2	4	5	5	4	6.2	21.0	
21-Aug	14	7	5	6	5	4	4	6	3	3	3	2	3	6	6	7	7	4	4	3	3	3	3	2	4.7	14.1	
22-Aug	29	3	3	3	3	3	3	3	3	3	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3.5	28.8
23-Aug	14	5	5	5	5	5	4	5	4	4	9	2	9	2	2	2	2	2	3	5	8	8	10	9	5.3	14.3	
24-Aug	12	7	8	8	8	8	8	10	8	6	7	6	5	5	5	5	3	3	3	4	5	4	4	4	6.1	12.5	
25-Aug	12	5	5	5	8	6	6	6	5	5	5	4	3	6	2	2	4	2	2	3	4	8	12	13	5.6	12.7	
26-Aug	18	10	8	9	8	7	9	39	19	27	27	9	9	9	4	5	5	5	7	6	5	5	6	10	11.2	38.8	
27-Aug	12	10	6	6	6	3	5	3	2	1	1	1	1	1	1	1	2	2	1	1	2	2	3	3	3.2	11.5	
28-Aug	6	3	2	2	2	2	2	3	3	2	2	2	2	2	2	2	2	4	3	3	3	3	3	2	2.5	6.4	
29-Aug	4	3	3	3	2	2	2	2	2	2	2	2	2	2	2	2	3	2	2	3	3	3	3	3	2.6	4.1	
30-Aug	4	3	4	4	4	4	4	4	4	4	4	4	8	5	7	8	9	10	10	18	22	14	9	8	7.4	22.1	
31-Aug	10	6	7	7	7	8	7	6	8	9	9	5	5	5	5	12	13	19	18	17	5	5	2	2	8.0	18.7	
		25.0	9.1	7.1	6.2	6.9	6.5	7.0	8.1	6.9	6.7	5.9	4.8	4.0	4.0	3.7	3.8	3.9	4.1	5.1	5.5	6.9	8.1	10.1	9.5	Diurnal Average	
		103.8	62.8	23.5	11.4	25.9	19.6	19.9	38.8	22.4	27.3	27.2	12.8	11.1	12.6	13.1	12.1	12.7	18.7	17.8	22.1	16.9	27.8	66.6	75.3	Diurnal Maximum	
P - Power Failure																											





**Pollutant Rose**

**Particulate Matter 2.5 (PM<sub>2.5</sub>) - μg/m<sup>3</sup>**  
**Henry Pirker - August 2016**





Peace Airshed Zone Association

# Hourly Averages

External Temperature (ET) - °C

Henry Pirker - August 2016

Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 27.8 °C on Aug 15 17:00	Maximum Daily Average: 21.1 °C on Aug 15		Hours of Data:	740
Minimum Value: 7 °C on Aug 28 07:00	Minimum Daily Average: 9.3 °C on Aug 28		Hours of Missing Data:	4
Maximum Diurnal Average: 21.5 °C at hour 16	Minimum Diurnal Average: 12.0 °C at hour 6		Hours of Calibration:	0
Monthly Average: 16.65 °C	Percentiles: P <sub>1</sub> = 7.3 P <sub>10</sub> = 10.7 Q <sub>1</sub> = 13.0 Median = 15.9 Q <sub>3</sub> = 20.6 P <sub>90</sub> = 23.5 P <sub>99</sub> = 27.0		Percent Operational Time:	99.5

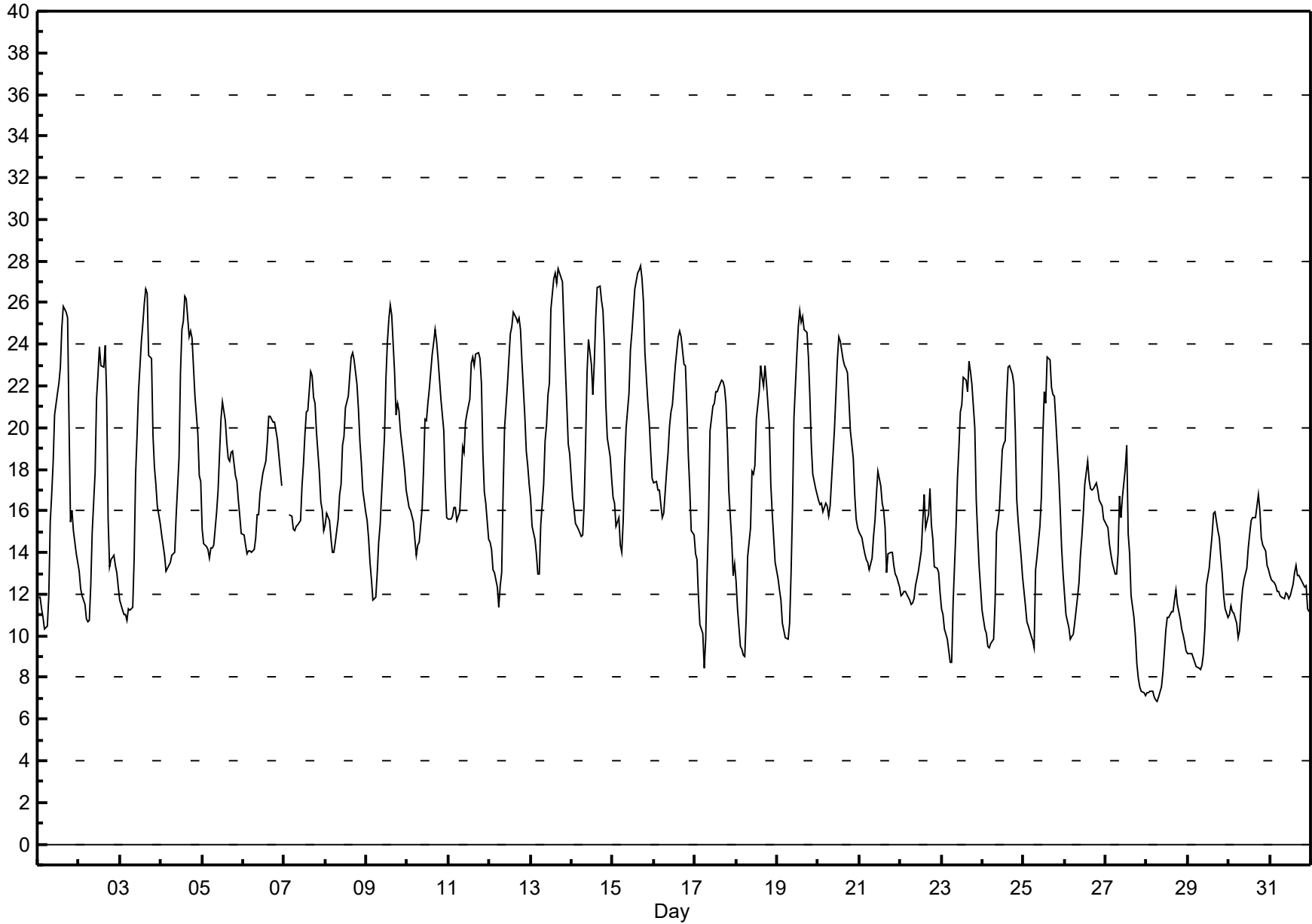
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Aug	12	12	11	11	10	10	12	15	17	18	21	22	22	23	25	26	26	25	20	15	16	15	14	14	17.2	25.8
2-Aug	13	12	12	12	11	11	11	12	15	18	21	23	24	23	23	24	21	16	13	14	14	13	13	12	15.9	23.9
3-Aug	12	11	11	11	11	11	11	11	14	18	20	22	24	25	26	27	26	23	23	20	18	17	16	15	17.7	26.7
4-Aug	15	14	14	13	13	14	14	14	14	16	19	23	25	25	26	26	24	25	24	23	22	20	18	17	19.0	26.3
5-Aug	15	14	14	14	14	14	14	14	16	17	19	20	21	20	19	18	18	19	19	18	17	16	16	15	16.9	21.2
6-Aug	15	14	14	14	14	14	14	15	16	16	17	18	18	18	19	21	21	20	20	20	19	19	17	P	17.1	20.6
7-Aug	P	P	P	16	16	15	15	15	15	16	17	18	20	21	21	23	23	21	21	20	18	16	16	15	18.0	22.7
8-Aug	15	16	16	15	14	14	15	16	17	17	19	20	21	22	22	23	24	23	22	21	19	18	17	16	18.4	23.6
9-Aug	16	15	14	13	12	12	13	14	15	17	20	22	24	25	26	25	23	21	21	20	19	18	17	17	18.4	25.9
10-Aug	17	16	16	15	15	14	14	14	16	18	20	20	21	22	24	24	25	24	23	21	21	20	17	16	18.9	24.7
11-Aug	16	16	16	16	16	16	16	18	19	19	20	21	21	23	23	23	24	24	23	22	19	17	16	15	19.1	23.6
12-Aug	14	14	13	13	12	11	12	13	17	20	22	23	25	25	26	25	25	25	25	23	21	19	18	17	19.1	25.6
13-Aug	17	15	15	14	13	13	15	17	19	20	22	22	26	27	27	27	28	27	27	25	23	21	19	19	20.8	27.6
14-Aug	17	16	15	15	15	15	15	16	19	23	24	23	22	23	25	27	27	26	26	24	21	20	19	18	20.4	26.8
15-Aug	17	16	15	16	14	14	16	18	20	22	24	25	26	27	27	28	28	27	26	24	21	20	19	18	21.1	27.8
16-Aug	17	17	17	17	16	16	16	18	19	20	21	21	23	24	24	25	24	23	23	21	19	17	15	15	19.5	24.6
17-Aug	14	14	12	11	10	8	10	13	16	20	21	21	22	22	22	22	22	22	21	19	17	15	13	13	16.6	22.3
18-Aug	13	11	10	9	9	9	11	14	15	18	18	18	20	22	23	22	22	23	22	20	17	16	15	14	16.3	23.0
19-Aug	13	12	12	11	10	10	10	11	13	16	21	23	25	26	25	25	25	25	23	21	19	18	17	17	17.8	25.6
20-Aug	16	16	16	16	16	16	16	16	18	20	22	23	24	24	23	23	23	23	21	20	19	17	16	15	19.1	24.4
21-Aug	15	15	14	14	14	13	13	14	15	16	17	18	17	16	16	15	13	14	14	14	13	13	13	12	14.5	17.9
22-Aug	12	12	12	12	12	12	12	12	12	12	13	14	14	16	17	15	16	17	15	15	13	13	13	12	13.4	17.1
23-Aug	11	11	10	10	9	9	9	12	15	18	19	21	21	22	22	22	23	23	22	20	17	15	13	12	16.1	23.2
24-Aug	11	10	10	9	9	10	10	12	15	15	16	19	19	19	21	23	23	23	22	20	17	15	14	13	15.7	23.0
25-Aug	12	11	11	10	10	10	9	13	14	15	17	20	22	21	23	23	22	22	22	20	18	16	14	13	16.2	23.4
26-Aug	12	11	10	10	10	10	11	12	13	14	15	16	17	18	18	17	17	17	17	17	17	16	16	16	14.4	18.4
27-Aug	15	15	14	14	14	13	13	14	17	16	17	18	19	15	14	12	11	10	9	8	8	7	7	7	12.7	19.1
28-Aug	7	7	7	7	7	7	7	7	8	8	9	10	11	11	11	11	12	12	11	11	10	10	9	9	9.3	12.2
29-Aug	9	9	9	9	9	9	8	8	8	9	10	12	13	14	15	16	16	15	15	14	13	12	11	11	11.5	16.0
30-Aug	11	11	11	11	11	10	10	11	12	13	13	14	15	16	16	16	16	16	17	16	15	14	14	13	13.3	16.8
31-Aug	13	13	13	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13	13	12	12	12	11	11	12.3	13.4

13.7	13.3	12.8	12.6	12.2	12.0	12.4	13.6	15.1	16.6	18.2	19.4	20.4	20.9	21.4	21.5	21.2	20.8	20.1	18.6	17.1	16.1	15.0	14.2	Diurnal Average	
17.4	17.4	17.0	17.0	16.4	16.2	16.0	18.2	20.0	22.6	24.3	24.6	25.7	27.1	27.4	27.5	27.8	27.4	27.0	24.9	22.9	21.1	19.2	18.7	Diurnal Maximum	

P - Power Failure

**Hourly Averages**

**External Temperature (ET) - °C**  
**Henry Pirker - August 2016**



## Hourly Averages

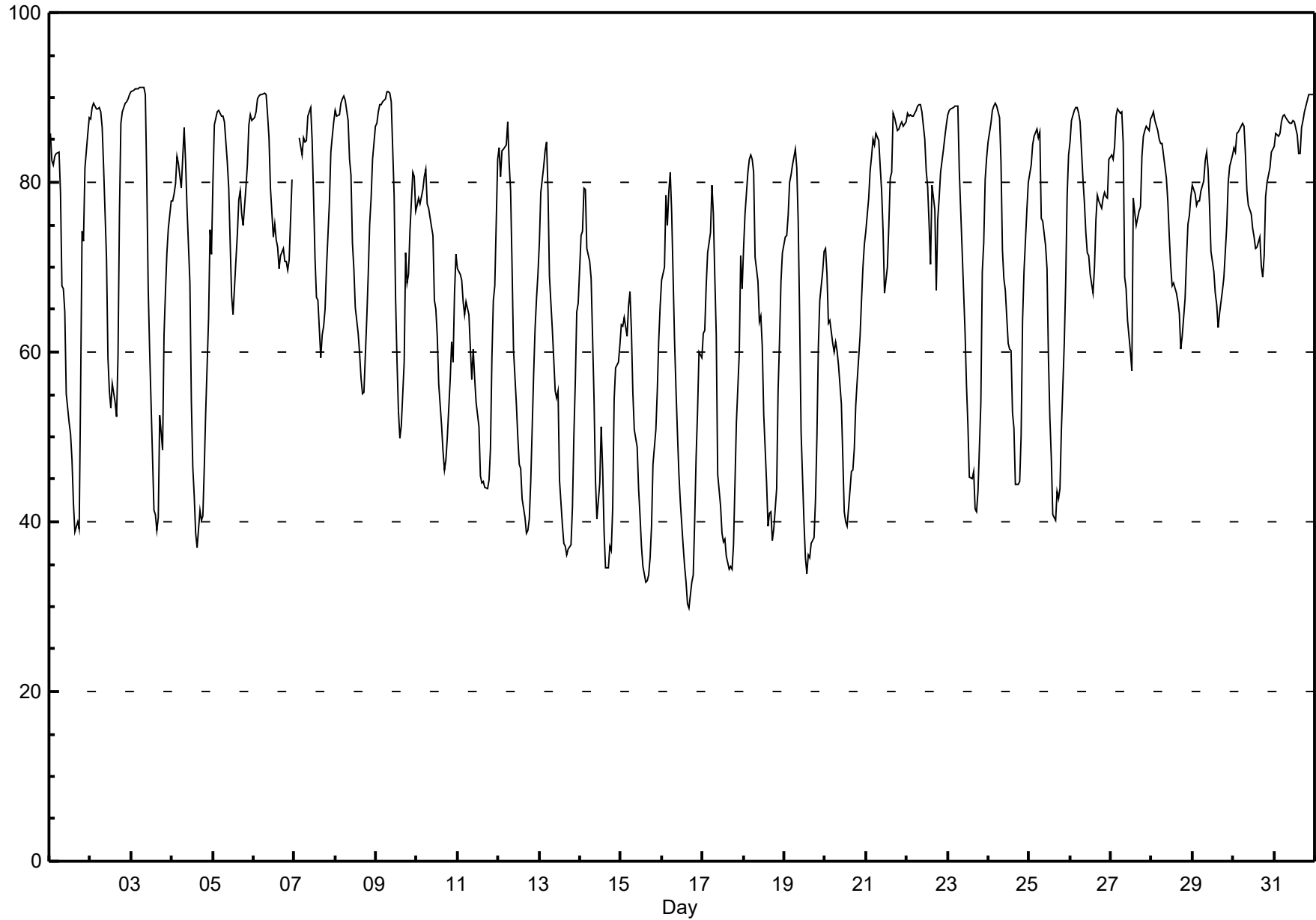
Relative Humidity (RH) - %

Henry Pirker - August 2016

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 91.2 % on Aug 3 07:00      Maximum Daily Average: 87.2 % on Aug 31		Hours in Service: 744 Hours of Data: 740 Hours of Missing Data: 4 Hours of Calibration: 0 Percent Operational Time: 99.5																								
Minimum Value: 30 % on Aug 16 17:00 Maximum Diurnal Average: 83.0 % at hour 6 Monthly Average: 69.24 %		Minimum Daily Average: 50.5 % on Aug 15 Minimum Diurnal Average: 53.0 % at hour 16 Percentiles: P <sub>1</sub> = 33.8 P <sub>10</sub> = 42.0 Q <sub>1</sub> = 57.1 Median = 72.5 Q <sub>3</sub> = 83.6 P <sub>90</sub> = 88.1 P <sub>99</sub> = 90.7																								
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-Aug	86	83	82	83	83	84	79	68	67	65	55	52	50	47	42	39	40	39	56	74	73	82	86	88	66.7	87.6
2-Aug	87	89	89	89	89	89	88	86	82	71	59	55	53	56	54	52	59	76	87	88	89	90	90	90	77.5	90.4
3-Aug	91	91	91	91	91	91	91	91	90	80	68	60	48	41	41	39	41	53	48	62	67	72	75	78	70.4	91.2
4-Aug	78	79	80	83	82	79	83	86	82	77	68	54	46	43	39	37	41	40	41	47	53	64	74	71	63.7	86.4
5-Aug	80	87	88	88	88	88	88	87	82	79	73	67	64	71	74	78	79	76	75	79	82	87	88	87	80.7	88.4
6-Aug	88	88	90	90	90	90	90	90	88	85	79	73	75	73	72	70	71	72	71	71	70	71	80	P	80.0	90.4
7-Aug	P	P	P	85	83	85	85	85	88	89	85	78	71	66	66	59	62	63	65	70	78	84	85	87	77.1	88.8
8-Aug	88	88	88	89	90	90	90	87	83	81	73	70	65	62	60	57	55	55	64	69	75	78	83	87	76.1	90.2
9-Aug	87	88	89	89	89	90	91	91	90	89	78	66	59	53	50	51	59	72	68	69	74	81	81	77	76.4	90.7
10-Aug	77	78	78	79	81	82	77	77	75	74	66	65	62	56	51	48	46	47	50	57	61	59	67	72	66.0	81.6
11-Aug	70	69	68	66	64	66	64	61	57	60	57	54	51	45	45	45	44	44	45	49	59	66	68	83	58.3	82.8
12-Aug	84	81	84	84	84	87	82	79	70	60	54	50	47	46	43	40	39	39	40	45	57	63	66	69	62.3	87.2
13-Aug	73	79	82	84	85	79	69	63	59	55	55	55	45	40	37	37	36	37	37	42	50	57	65	66	57.7	84.7
14-Aug	74	74	79	79	72	71	69	62	55	45	40	45	51	46	39	34	35	37	37	42	54	58	59	61	54.9	79.4
15-Aug	63	63	64	62	65	67	62	55	51	49	44	41	37	35	33	33	34	36	39	47	51	55	61	65	50.5	67.1
16-Aug	69	70	78	75	79	81	76	61	56	51	46	42	37	35	33	30	30	33	34	40	48	53	60	59	53.2	81.2
17-Aug	62	63	68	72	74	80	76	69	62	46	42	39	38	38	36	34	35	34	37	44	52	60	71	67	54.1	79.6
18-Aug	72	76	81	83	83	83	81	71	68	64	64	61	53	45	40	41	41	38	39	44	55	61	68	72	61.8	83.2
19-Aug	73	74	76	80	81	82	84	82	75	64	51	40	36	34	36	36	37	38	43	50	61	66	70	72	60.0	83.8
20-Aug	72	69	63	64	61	60	61	60	58	54	48	41	40	40	44	46	46	49	54	57	62	66	70	73	56.5	72.8
21-Aug	74	78	81	83	85	84	86	85	82	79	74	67	70	75	81	81	88	88	86	86	87	87	87	87	81.7	88.1
22-Aug	88	88	88	88	88	89	89	89	89	88	85	81	80	75	70	80	77	67	76	78	81	84	85	87	82.9	89.1
23-Aug	88	88	89	89	89	89	89	81	72	67	62	56	51	45	45	46	42	41	44	54	69	73	80	83	68.0	89.0
24-Aug	85	87	88	89	89	89	88	82	72	69	67	61	60	60	53	51	44	44	45	50	64	69	77	80	69.3	89.4
25-Aug	81	82	84	85	86	85	86	76	75	73	70	59	52	47	41	40	44	43	44	51	61	68	78	83	66.5	86.3
26-Aug	85	87	88	89	89	88	87	80	78	74	72	71	69	67	70	76	78	78	77	78	79	78	78	83	79.1	88.8
27-Aug	83	83	84	88	89	88	88	85	69	68	64	60	58	78	77	75	77	77	83	85	86	87	86	88	79.3	88.7
28-Aug	88	88	87	86	85	85	85	83	81	78	74	70	68	68	67	66	65	60	62	66	71	75	76	78	75.5	88.3
29-Aug	80	79	77	78	78	79	80	83	84	81	77	72	70	67	66	63	65	67	69	72	75	80	82	83	75.2	83.5
30-Aug	84	84	86	86	87	87	87	83	79	77	76	75	74	72	72	74	70	69	71	78	80	82	84	84	79.1	87.0
31-Aug	84	86	85	86	87	88	88	88	87	87	87	87	87	86	83	83	86	87	88	90	90	90	90	90	87.2	90.4
																								Diurnal Average		
																								Diurnal Maximum		
79.8 80.6 82.0 82.6 82.8 83.0 81.9 78.3 74.4 70.3 64.9 60.3 57.0 55.3 53.5 53.0 53.7 54.8 57.2 62.4 68.2 72.4 76.5 78.3 90.6 90.8 91.0 91.1 91.0 91.2 91.2 91.1 90.5 89.5 86.9 87.3 87.1 85.6 83.4 83.4 88.1 87.6 88.3 89.7 90.3 90.3 90.3 90.4																										
P - Power Failure																										

**Hourly Averages**

**Relative Humidity (RH) - %**  
**Henry Pirker - August 2016**



## Hourly Averages

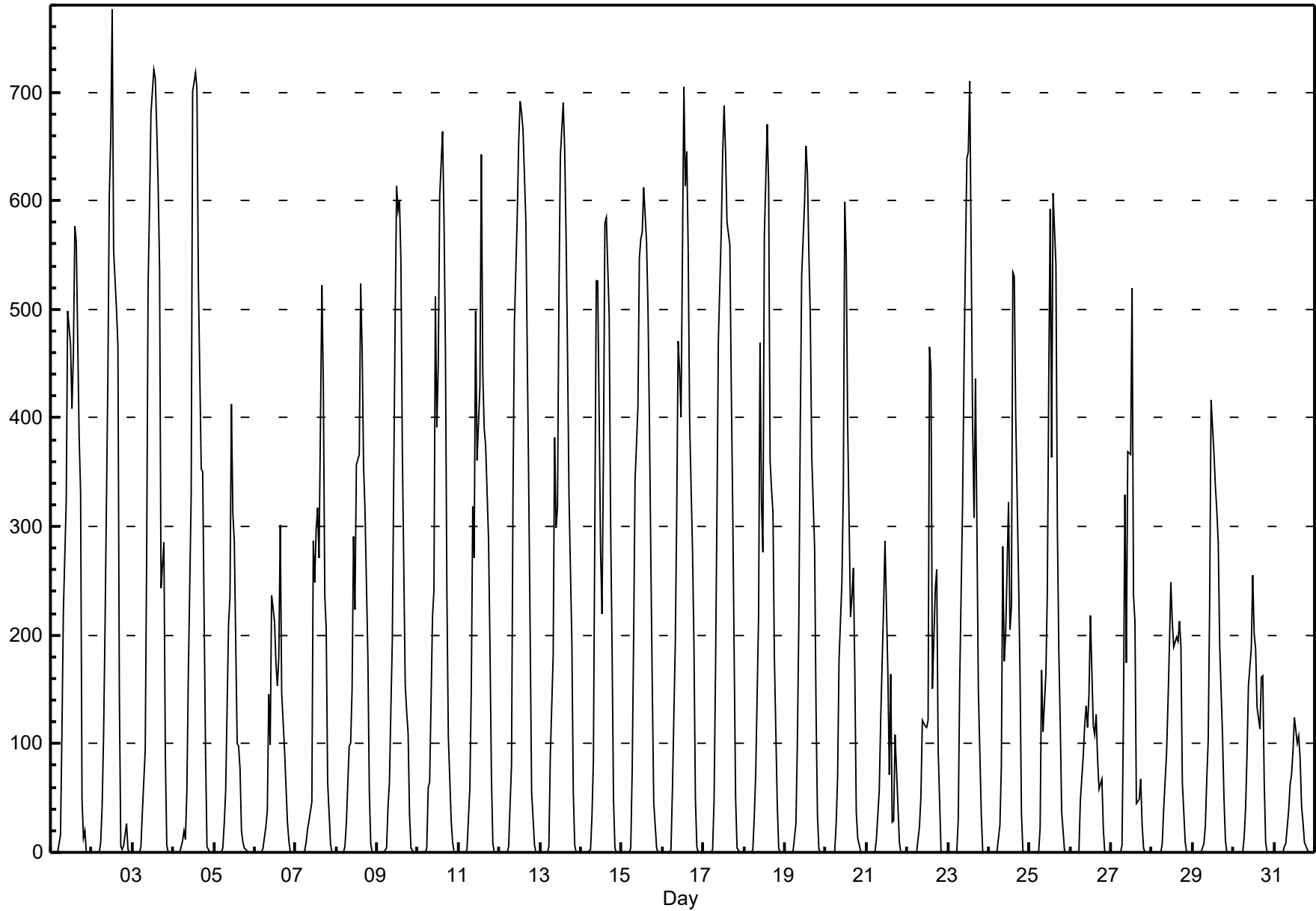
## Solar Radiation (SR) - W/m<sup>2</sup>

### Henry Pirker - August 2016

Number of Exceedences (AAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 775.9 W/m <sup>2</sup> on Aug 2 13:00	Maximum Daily Average: 253.5 W/m <sup>2</sup> on Aug 3		Hours of Data:	740
Minimum Value: 0 W/m <sup>2</sup> on Aug 1 01:00	Minimum Daily Average: 32.3 W/m <sup>2</sup> on Aug 31		Hours of Missing Data:	4
Maximum Diurnal Average: 446.8 W/m <sup>2</sup> at hour 13	Minimum Diurnal Average: 0.0 W/m <sup>2</sup> at hour 1		Hours of Calibration:	0
Monthly Average: 156.49 W/m <sup>2</sup>	Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.0 Q <sub>1</sub> = 0.0 Median = 44.0 Q <sub>3</sub> = 274.6 P <sub>90</sub> = 524.0 P <sub>99</sub> = 701.1		Percent Operational Time:	99.5

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																								
1-Aug	0	0	0	0	0	16	109	221	272	322	499	468	409	460	576	561	382	332	49	13	20	0	0	0	196.2	576.0																						
2-Aug	0	0	0	0	0	10	42	107	205	439	606	656	776	554	500	465	144	6	2	7	26	3	0	0	189.5	775.9																						
3-Aug	0	0	0	0	0	6	37	93	275	522	593	681	720	713	668	614	537	244	285	90	6	0	0	0	253.5	720.2																						
4-Aug	0	0	0	0	0	11	20	12	56	164	330	701	708	718	704	525	353	350	218	91	6	0	0	0	206.9	717.9																						
5-Aug	0	0	0	0	0	4	26	56	211	236	413	312	286	101	97	76	20	9	3	1	0	0	0	0	77.2	413.1																						
6-Aug	0	0	0	0	0	5	24	38	145	99	237	213	175	154	180	301	147	94	61	28	10	0	0	P	83.1	301.2																						
7-Aug	P	P	P	0	0	1	9	21	29	46	287	249	297	317	271	522	429	236	205	65	8	0	0	0	142.5	521.8																						
8-Aug	0	0	0	0	0	5	26	97	100	149	291	223	357	367	524	463	356	315	180	57	8	0	0	0	146.6	524.0																						
9-Aug	0	0	0	0	0	5	41	65	130	194	493	614	590	600	544	369	154	130	110	35	4	0	0	0	169.9	613.7																						
10-Aug	0	0	0	0	0	4	60	64	216	242	511	391	449	605	664	583	461	240	107	30	9	0	0	0	193.2	663.9																						
11-Aug	0	0	0	0	0	3	59	152	319	271	499	362	429	642	440	389	374	288	189	72	8	0	0	0	187.3	642.2																						
12-Aug	0	0	0	0	0	6	44	80	323	486	587	654	691	681	665	580	455	334	198	55	7	0	0	0	243.6	691.2																						
13-Aug	0	0	0	0	0	6	88	181	382	299	317	511	641	690	646	566	459	329	195	56	7	0	0	0	223.8	689.9																						
14-Aug	0	0	0	0	0	3	33	85	303	526	527	278	219	367	579	584	493	301	188	48	4	0	0	0	189.2	584.5																						
15-Aug	0	0	0	0	0	3	75	195	342	409	548	565	571	612	561	501	397	269	151	46	4	0	0	0	218.8	612.5																						
16-Aug	0	0	0	0	0	2	57	192	312	471	443	400	704	614	645	553	396	277	191	50	5	0	0	0	221.4	704.4																						
17-Aug	0	0	0	0	0	3	48	164	313	473	571	644	687	645	581	559	428	315	181	51	4	0	0	0	236.0	687.1																						
18-Aug	0	0	0	0	0	3	33	73	219	469	322	276	568	671	613	361	335	313	178	44	3	0	0	0	186.7	670.6																						
19-Aug	0	0	0	0	0	1	26	102	212	390	531	597	650	625	551	492	365	281	131	33	2	0	0	0	207.9	650.2																						
20-Aug	0	0	0	0	0	1	26	68	177	249	338	599	550	396	217	235	262	164	37	14	1	0	0	0	138.9	598.7																						
21-Aug	0	0	0	0	0	0	12	56	121	175	224	287	165	72	164	28	29	108	44	9	0	0	0	0	62.3	287.0																						
22-Aug	0	0	0	0	0	0	12	23	52	122	117	115	121	465	443	151	242	261	95	49	2	0	0	0	94.6	464.7																						
23-Aug	0	0	0	0	0	1	30	156	321	446	548	638	645	710	392	308	437	296	149	37	1	0	0	0	213.1	709.9																						
24-Aug	0	0	0	0	0	1	26	80	282	175	201	323	205	227	534	529	402	251	164	35	1	0	0	0	143.2	533.5																						
25-Aug	0	0	0	0	0	1	22	167	111	164	239	434	593	364	607	540	300	187	119	37	1	0	0	0	161.9	606.6																						
26-Aug	0	0	0	0	0	1	48	88	117	134	116	145	219	117	109	126	86	58	68	21	0	0	0	0	60.6	218.7																						
27-Aug	0	0	0	0	0	0	6	125	330	175	369	366	519	236	212	45	49	67	26	4	0	0	0	0	105.3	519.4																						
28-Aug	0	0	0	0	0	0	8	40	91	138	190	248	212	190	198	194	213	191	65	9	0	0	0	0	82.8	248.2																						
29-Aug	0	0	0	0	0	0	8	23	67	103	227	417	367	337	315	284	190	106	48	10	0	0	0	0	104.3	416.9																						
30-Aug	0	0	0	0	0	0	13	39	88	154	187	255	201	188	134	114	161	163	65	9	0	0	0	0	73.9	255.1																						
31-Aug	0	0	0	0	0	0	5	8	38	62	71	93	125	100	107	86	43	27	9	3	0	0	0	0	32.3	124.7																						
																								0.0	0.0	0.0	0.0	0.0	3.2	34.6	92.8	198.7	267.9	368.8	410.1	446.8	436.6	433.6	377.6	293.4	210.9	119.7	35.8	4.8	0.1	0.0	0.0	Diurnal Average
																								0.0	0.0	0.0	0.0	0.1	15.5	108.8	221.4	382.5	526.1	606.1	700.7	775.9	717.9	703.8	613.5	536.6	350.0	285.4	91.3	26.3	2.8	0.0	0.0	Diurnal Maximum

P - Power Failure





## Hourly Averages

Wind Speed (km/h)  
Wind Direction (deg)  
Henry Pirker - August 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	6	4	5	3	3	2	3	2	3	9	10	10	11	10	10	11	11	17	12	5	2	2	1	6.0	17.0
Dir	185	218	212	208	208	220	203	202	234	234	210	234	253	256	247	249	245	257	249	267	260	298	212	243	240.4	248.6
2 Spd	1	1	1	1	2	2	3	3	3	2	2	2	4	6	5	4	8	11	6	2	3	4	3	4	1.1	11.5
Dir	204	189	230	271	296	293	279	203	263	289	202	198	247	292	315	338	323	141	170	171	152	163	145	110	230.6	140.8
3 Spd	2	3	3	3	2	4	5	2	2	1	3	2	3	3	4	6	5	3	13	9	4	3	2	4	2.9	13.4
Dir	126	122	151	213	242	246	221	203	214	160	125	118	183	193	198	249	271	111	213	212	252	251	243	196	208.3	213.0
4 Spd	5	5	2	1	2	2	2	3	2	0	3	3	3	1	2	2	4	5	5	7	4	4	5	4	0.3	7.0
Dir	195	188	181	170	192	194	241	187	228	228	219	249	214	38	224	328	1	47	52	68	41	10	16	165	136.1	68.4
5 Spd	5	1	1	4	1	3	3	2	3	4	5	6	6	8	11	13	11	9	8	4	1	4	5	7	3.3	13.2
Dir	237	120	134	282	335	18	99	84	318	353	340	19	26	356	332	318	322	326	344	343	196	191	205	282	331.2	317.6
6 Spd	5	5	3	2	2	1	3	0	3	5	2	2	5	6	6	7	8	7	7	5	6	5	10	P	2.9	9.6
Dir	283	226	278	120	145	152	287	237	49	78	92	352	350	348	352	352	353	352	360	6	23	36	50	P	4.7	50.1
7 Spd	P	P	P	4	6	5	9	9	8	6	6	4	1	1	1	3	5	6	6	4	3	4	3	2	1.5	8.9
Dir	P	P	P	20	32	29	50	50	50	51	79	106	142	164	122	210	280	277	277	270	275	284	275	273	15.2	50.1
8 Spd	1	2	2	3	3	2	3	4	5	5	6	6	7	7	8	7	6	5	6	6	4	3	1	1	2.0	7.6
Dir	176	231	252	224	260	216	198	212	196	186	196	212	246	246	263	256	270	293	45	60	61	51	54	301	236.5	263.3
9 Spd	1	1	0	1	2	1	1	0	0	1	3	2	2	2	3	7	5	5	4	1	2	5	6	6	0.8	7.2
Dir	35	285	8	282	261	276	302	205	64	210	243	192	212	268	238	288	295	298	22	44	111	269	189	147	270.6	295.2
10 Spd	5	9	8	4	4	4	6	7	7	9	11	10	12	14	10	9	7	4	2	0	4	9	7	5	5.9	13.9
Dir	181	212	218	194	233	222	213	206	211	257	255	247	270	275	266	272	269	254	246	144	152	212	197	194	236.6	275.0
11 Spd	8	7	7	9	10	8	9	12	15	13	10	9	8	9	9	9	7	7	7	5	9	6	7	6	7.9	14.7
Dir	201	198	201	201	206	224	226	220	246	264	269	244	239	240	250	253	267	249	245	224	195	198	241	258	232.9	246.5
12 Spd	2	2	2	3	3	2	3	3	4	5	4	3	4	5	6	6	7	4	3	2	2	3	3	3	2.3	7.0
Dir	191	204	265	245	256	228	206	209	229	247	250	208	201	254	266	289	288	291	293	279	112	118	124	119	243.4	288.1
13 Spd	4	2	1	1	1	3	2	4	5	8	4	3	5	6	7	8	4	1	1	5	4	2	2	2	1.7	8.0
Dir	128	150	170	172	195	211	218	197	200	221	211	162	235	241	268	292	273	253	153	80	114	99	81	64	210.7	292.2
14 Spd	2	2	2	5	4	4	3	9	7	10	8	8	9	9	8	10	11	8	8	6	3	6	7	7	6.1	10.6
Dir	288	289	159	202	249	265	258	224	230	230	235	228	208	203	208	214	202	211	222	231	188	197	206	197	218.3	201.8
15 Spd	5	6	5	6	6	5	5	7	10	9	14	16	14	12	13	9	7	5	3	1	4	3	2	2	7.1	16.5
Dir	228	222	265	246	267	250	238	233	226	225	219	221	227	223	222	230	243	248	249	244	208	197	145	140	229.6	221.2
16 Spd	4	1	0	5	7	6	8	11	16	17	16	14	16	13	12	15	14	10	8	6	6	3	4	4	8.3	17.5
Dir	135	114	246	213	175	200	219	212	223	231	243	244	247	248	249	247	243	275	263	252	231	238	224	243	236.2	231.3
17 Spd	4	6	3	3	4	3	2	4	4	3	5	10	13	14	14	14	13	12	9	4	4	2	1	3	5.9	14.4
Dir	229	223	267	254	223	253	220	275	272	258	270	278	270	272	262	270	270	269	267	261	274	267	212	32	265.0	269.7
18 Spd	3	0	2	1	3	2	5	4	1	7	6	5	4	6	4	5	5	4	3	2	1	3	3	3	2.2	6.9
Dir	55	333	288	248	265	291	294	302	123	216	205	225	222	269	242	264	274	232	243	253	171	129	124	112	242.3	215.9
19 Spd	4	4	5	3	3	3	3	3	3	4	6	14	17	16	16	13	13	11	6	2	2	2	3	3	3.1	17.3
Dir	116	107	88	99	109	116	125	112	118	159	203	224	248	259	281	277	276	283	283	278	239	113	121	135	243.0	247.8
20 Spd	3	2	2	2	5	6	5	5	6	6	11	15	12	12	15	14	19	14	9	5	2	4	2	3	6.6	18.8
Dir	122	187	187	273	219	220	222	213	217	208	233	238	238	242	208	216	214	215	220	246	334	321	75	133	222.4	214.4
21 Spd	5	1	2	2	3	4	2	1	3	3	2	2	1	4	5	3	4	6	3	4	5	5	6	8	1.8	8.3
Dir	129	203	178	293	220	209	249	257	254	273	304	292	137	98	6	344	257	340	355	327	314	317	324	325	306.5	324.9
22 Spd	8	9	8	8	8	8	9	9	10	10	11	12	12	15	15	10	8	10	12	8	5	5	5	4	8.5	14.9
Dir	336	320	316	322	311	297	288	287	286	280	285	297	296	277	274	293	281	269	267	270	260	252	236	246	286.8	273.9



Peace Airshed Zone Association

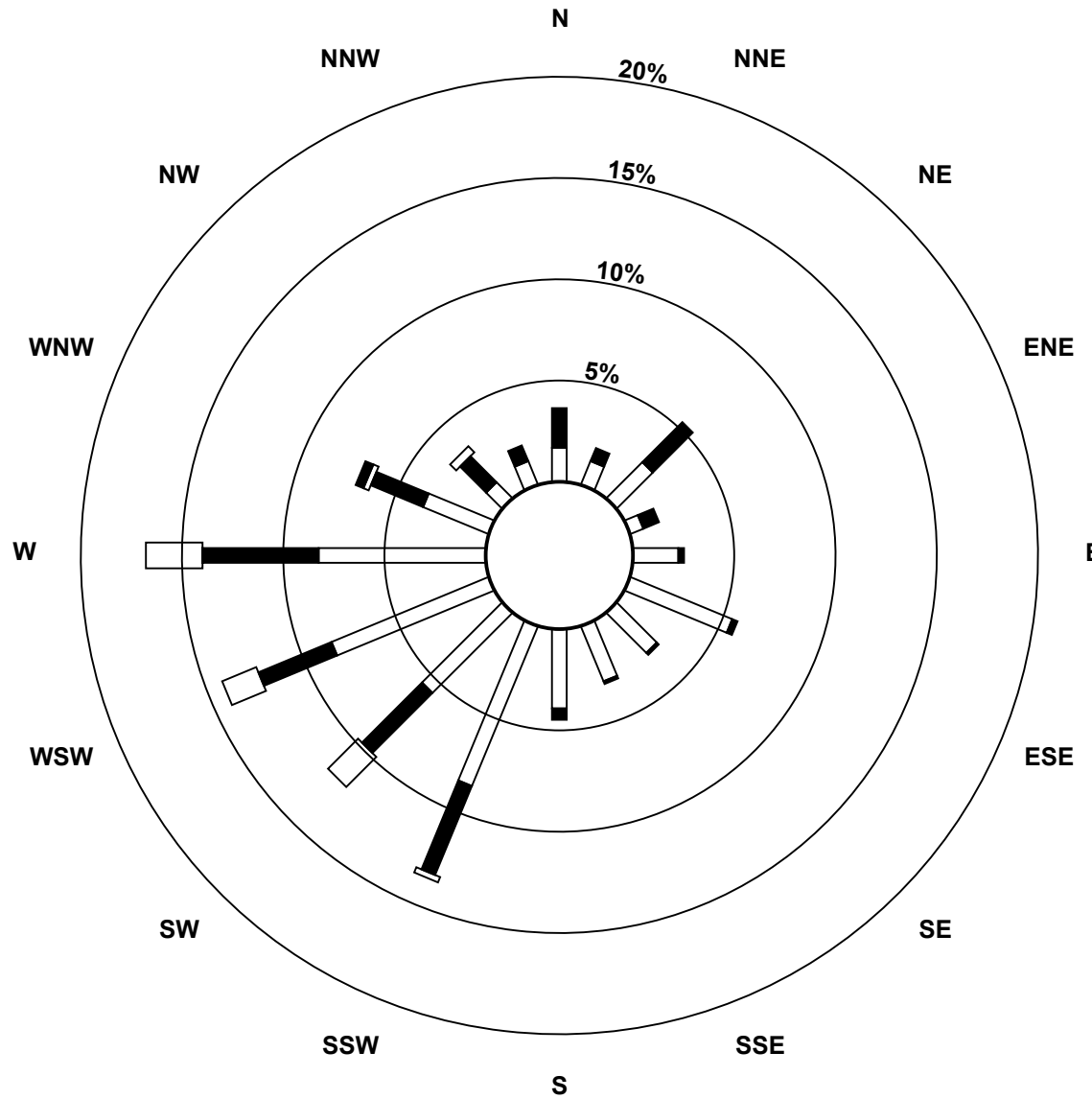
# Hourly Averages

Wind Speed (km/h)  
Wind Direction (deg)  
Henry Pirker - August 2016

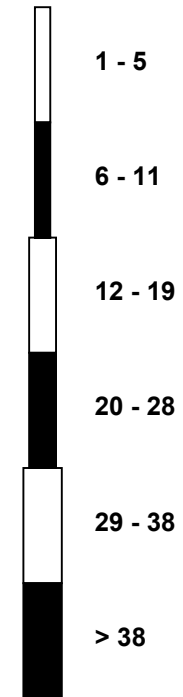
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
23 Spd	3	4	2	2	3	2	3	4	4	3	3	1	3	5	2	2	6	6	3	1	1	1	0	2	2.3	6.2	
Dir	239	237	210	205	217	197	194	204	212	197	172	229	165	185	227	256	281	271	250	274	277	276	230	260	228.1	270.7	
24 Spd	2	2	1	1	0	1	3	2	4	7	5	3	3	6	5	8	9	8	8	7	2	4	4	8	2.9	8.6	
Dir	271	244	249	166	175	175	144	184	203	215	220	227	259	283	310	319	322	328	317	308	255	272	280	280	279.7	322.3	
25 Spd	6	4	3	4	3	2	1	3	4	4	5	8	9	10	12	12	11	9	6	2	3	2	3	3	4.0	12.1	
Dir	278	271	259	275	262	252	251	231	199	201	210	217	226	262	266	266	269	278	277	79	136	104	119	133	248.8	265.7	
26 Spd	3	2	3	4	3	3	3	3	2	3	4	4	3	6	8	4	7	7	6	5	3	3	2	2	3.3	7.7	
Dir	123	127	117	116	120	116	107	97	109	107	109	98	129	185	208	150	101	106	116	118	117	116	100	84	122.3	208.2	
27 Spd	3	4	4	4	6	4	4	6	11	14	13	11	10	13	18	20	21	20	14	11	11	10	9	7	7.3	20.7	
Dir	95	151	205	160	183	173	163	212	231	221	227	213	238	323	321	301	294	288	275	262	271	267	270	262	262.6	294.2	
28 Spd	6	7	7	7	7	7	7	7	7	5	3	3	2	4	5	5	4	3	3	4	5	5	6	7	2.7	7.4	
Dir	265	266	275	277	272	275	280	283	282	274	276	253	217	203	203	202	278	315	25	53	51	46	50	47	282.0	274.9	
29 Spd	8	9	9	11	9	9	7	7	6	8	9	8	7	5	5	4	6	7	6	7	6	7	8	7	6.6	10.5	
Dir	48	44	46	46	51	50	49	50	58	52	54	70	75	56	81	53	3	356	0	3	0	354	357	9	38.0	45.8	
30 Spd	6	6	2	2	3	3	2	4	6	6	5	3	1	2	2	4	5	4	5	5	7	5	4	4	2.1	6.6	
Dir	29	35	19	346	351	1	0	37	52	59	66	52	56	2	16	345	302	274	265	275	293	254	273	236	348.7	292.9	
31 Spd	3	2	4	3	4	3	3	3	4	6	5	5	5	5	3	3	3	1	2	4	3	4	10	7	2.8	9.6	
Dir	257	245	202	247	274	204	194	191	167	198	188	166	161	178	192	249	273	274	257	274	274	266	269	303	228.8	269.4	
Spd	0.9	1.6	1.3	1.5	1.7	1.6	1.8	2.5	3.0	3.5	3.9	4.3	4.8	5.3	5.5	6.0	6.2	4.5	3.6	1.9	1.0	1.3	0.9	1.0	Diurnal Average		
Dir	202.3	219.5	228.9	236.0	236.8	236.5	231.6	220.7	229.0	231.2	229.8	231.6	241.2	258.7	262.2	270.5	275.6	276.4	269.6	278.5	258.5	250.3	237.5	240.2	Diurnal Maximum		
Spd	8.0	9.3	9.2	10.5	9.7	9.4	8.9	12.3	16.2	17.5	16.1	16.5	17.3	15.8	17.8	20.0	20.7	19.6	17.0	12.3	10.6	9.7	9.6	8.4	Diurnal Maximum		
Dir	201.0	212.3	46.3	45.8	205.5	50.1	226.1	220.0	222.8	231.3	243.1	221.2	247.8	259.1	321.1	301.5	294.2	288.5	248.6	267.1	271.1	267.3	269.4	279.7	Diurnal Maximum		
Maximum Speed Value: 21 km/h on Aug 27 17:00		Minimum Speed Value: 0 km/h on Aug 4 10:00																Hours in Service: 744									
Maximum Daily Speed Average: 8.5 km/h on Aug 27		Minimum Daily Speed Average: 0.3 km/h on Aug 9																Hours of Data: 740									
Maximum Diurnal Speed Average: 6.2 km/h at hour 17		Minimum Diurnal Speed Average: 0.9 km/h at hour 23																Hours of Missing Data: 4									
Monthly Average Velocity: 2.74 km/h 250.21 deg		Speed Percentiles: P <sub>1</sub> = 0.4 P <sub>10</sub> = 1.7 Q <sub>1</sub> = 2.8 Median = 4.4 Q <sub>3</sub> = 7.1 P <sub>90</sub> = 10.6 P <sub>99</sub> = 17.2																Percent Operational Time: 99.5									
All monthly, daily, and diurnal averages have been calculated using vector methods																											
P - Power Failure																											
Frequency Distribution																											
		Speed Range (km/h)																									
Direction	0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total																				
North	21	22	0	0	0	0	43																				
NorthEast	23	30	0	0	0	0	53																				
East	30	8	0	0	0	0	38																				
SouthEast	56	3	1	0	0	0	60																				
South	70	21	0	0	0	0	91																				
SouthWest	96	75	28	0	0	0	199																				
West	98	79	25	1	0	0	203																				
NorthWest	20	26	5	2	0	0	53																				
Total	414	264	59	3	0	0	740																				

**Wind Rose**

**Wind Speed (WS) (km/h)**  
**Henry Pirker - August 2016**



**Wind Speed Classes (km/h)**



# Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Henry Pirker - August 2016

Maximum Speed: 21 km/h on Aug 27 17:00	Maximum Daily Speed Average: 10.6 km/h on Aug 27	Hours in Service: 744
Minimum Speed: 0 km/h on Aug 9 09:00	Minimum Daily Speed Average: 2.8 km/h on Aug 9	Hours of Data: 740
Maximum Diurnal Speed Average: 8.8 km/h at hour 17	Minimum Diurnal Speed Average: 3.6 km/h at hour 3	Hours of Missing Data: 4
Monthly Average Speed: 5.76 km/h	Percentiles: P <sub>1</sub> = 0.8 P <sub>10</sub> = 2.1 Q <sub>1</sub> = 3.0 Median = 4.8 Q <sub>3</sub> = 7.6 P <sub>90</sub> = 10.8 P <sub>99</sub> = 17.7	Percent Operational Time: 99.5

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Aug	3	6	4	5	3	4	3	4	3	3	9	11	10	11	10	10	11	11	18	13	5	2	2	2	6.7	17.8
2-Aug	2	1	1	2	2	2	3	3	3	3	2	3	5	7	6	5	9	15	8	2	4	4	4	4	4.1	14.5
3-Aug	2	3	3	3	2	4	5	3	3	2	3	3	4	4	5	7	8	8	14	10	4	3	2	4	4.6	13.7
4-Aug	5	5	3	2	2	2	2	4	2	0	3	3	3	3	4	4	5	5	6	7	4	5	5	8	3.9	8.1
5-Aug	8	2	1	4	2	4	3	3	3	4	6	7	7	9	11	13	11	9	8	4	6	6	5	8	6.0	13.3
6-Aug	8	7	3	3	2	2	4	1	3	6	3	2	5	7	6	8	8	8	7	5	6	5	10	F		
7-Aug	F	F	F	4	6	6	9	9	8	6	6	5	2	1	3	4	5	7	6	4	3	4	3	2	4.9	8.9
8-Aug	2	3	2	3	4	2	3	4	5	5	6	6	7	8	8	7	7	6	6	6	5	3	1	1	4.6	8.0
9-Aug	1	1	1	2	2	1	1	1	0	1	3	2	2	2	3	4	8	6	6	4	2	2	5	6	2.8	7.6
10-Aug	5	9	8	4	4	4	6	7	7	10	11	10	12	14	10	10	8	5	2	1	4	9	7	5	7.2	14.2
11-Aug	8	7	7	9	10	9	9	12	15	13	10	9	9	10	10	10	8	7	7	6	9	7	8	6	8.9	14.9
12-Aug	3	3	3	3	3	2	3	3	5	5	4	4	5	6	7	6	7	5	3	2	2	3	3	3	3.8	7.3
13-Aug	4	2	2	1	1	3	2	4	5	8	5	4	5	7	8	8	5	2	2	5	4	3	2	2	3.9	8.3
14-Aug	3	3	3	5	5	4	3	9	7	10	9	9	9	10	8	11	11	8	8	6	3	6	8	7	6.8	10.8
15-Aug	6	6	5	6	6	5	5	7	10	9	15	17	14	13	12	13	10	7	5	3	1	4	3	2	7.8	16.9
16-Aug	4	2	1	6	7	6	8	12	16	18	16	15	16	14	13	15	14	10	8	6	6	4	4	5	9.4	17.8
17-Aug	4	6	3	3	4	3	2	4	4	4	6	10	13	15	14	15	13	12	9	4	4	2	1	4	6.6	14.8
18-Aug	3	2	2	1	3	3	6	5	2	8	6	6	5	7	6	6	6	4	3	3	2	3	3	3	4.0	7.7
19-Aug	4	5	5	4	3	3	3	3	4	4	7	15	18	16	16	13	13	11	6	2	2	2	3	3	6.9	17.7
20-Aug	3	2	3	3	5	6	5	5	6	6	11	16	13	12	15	15	19	15	10	5	4	4	2	3	7.8	19.1
21-Aug	5	2	2	3	3	4	3	1	3	4	2	3	4	4	5	5	6	7	3	4	6	5	6	8	4.0	8.4
22-Aug	8	9	9	8	8	8	9	9	10	10	11	12	13	15	15	11	8	11	12	8	5	5	5	4	9.3	15.2
23-Aug	4	4	2	2	3	2	3	4	4	3	3	2	4	5	3	3	7	6	4	1	2	1	1	2	3.1	6.5
24-Aug	2	2	1	1	1	2	3	2	4	7	6	3	3	6	6	8	9	8	8	7	3	4	4	8	4.5	8.9
25-Aug	6	4	3	4	3	2	1	3	4	4	5	8	10	10	12	12	12	9	6	3	3	2	3	3	5.6	12.5
26-Aug	3	2	3	4	3	3	3	3	3	3	5	4	3	7	8	5	7	7	6	5	3	3	2	3	4.0	7.9
27-Aug	3	4	4	5	6	4	4	6	11	14	14	12	13	14	18	20	21	20	14	11	11	10	9	7	10.6	20.9
28-Aug	6	7	7	7	7	7	7	7	7	5	4	4	3	4	5	6	4	4	4	4	5	5	6	7	5.5	7.5
29-Aug	8	9	9	11	10	10	7	7	7	8	9	8	8	6	6	5	6	7	6	7	6	7	8	8	7.6	10.6
30-Aug	7	6	3	2	3	4	3	5	6	7	5	4	2	3	3	4	5	4	5	5	7	6	4	4	4.4	6.8
31-Aug	3	2	4	4	4	3	3	4	4	6	5	5	5	5	4	3	3	2	2	4	3	5	10	8	4.2	9.7
	4.4	4.2	3.6	3.9	4.0	4.0	4.3	5.0	5.7	6.3	6.8	7.1	7.5	8.2	8.4	8.5	8.8	7.9	6.8	5.1	4.2	4.2	4.5	4.7	Diurnal Average	
	8.1	9.4	9.3	10.6	9.8	9.5	9.3	12.4	16.3	17.8	16.4	16.9	17.7	16.4	18.0	20.3	20.9	19.8	17.8	12.6	10.6	9.8	9.9	8.5	Diurnal Maximum	

P - Power Failure  
 All monthly, daily, and diurnal averages have been calculated using scalar methods

# Hourly Standard Deviations

Wind Direction (WD) - deg  
Henry Pirker - August 2016

Maximum Value: 93.8 deg on Aug 14 01:00																						Hours in Service:	744		
Minimum Value: 4.5 deg on Aug 26 06:00																						Hours of Data:	740		
Percentiles: P <sub>1</sub> = 6.3 P <sub>10</sub> = 9.2 Q <sub>1</sub> = 12.3 Median = 18.4 Q <sub>3</sub> = 29.2 P <sub>90</sub> = 47.6 P <sub>99</sub> = 82.7																						Hours of Missing Data:	4		
																						Hours of Calibration:	0		
																						Percent Operational Time:	99.5		
Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Aug	20	19	15	12	16	24	22	14	24	26	15	16	12	11	15	15	17	15	20	14	28	31	36	44	43.9
2-Aug	72	53	29	49	47	28	20	18	22	54	28	41	45	32	31	38	14	67	43	46	46	23	34	18	71.7
3-Aug	16	24	21	19	30	17	12	39	50	66	39	60	43	49	41	35	62	64	12	15	24	20	29	17	65.6
4-Aug	11	15	22	33	19	29	43	55	57	75	29	34	41	76	65	68	32	29	33	16	16	17	19	64	75.9
5-Aug	59	78	75	18	81	31	21	68	25	25	24	31	21	19	12	7	7	8	19	21	92	45	25	40	92.2
6-Aug	59	42	42	73	24	54	44	85	18	20	44	59	23	18	20	20	19	15	16	17	16	11	15	P	85.0
7-Aug	P	P	P	17	12	21	8	9	9	13	22	34	48	53	83	45	27	18	14	12	11	10	15	44	83.2
8-Aug	40	39	9	28	19	44	18	18	22	16	17	21	21	20	21	16	23	45	13	16	14	23	29	87	87.5
9-Aug	25	46	81	33	21	24	23	53	88	70	45	41	50	63	60	50	20	34	21	22	54	21	25	12	87.8
10-Aug	14	10	9	15	20	23	20	11	13	16	14	19	13	12	16	20	20	22	19	84	13	17	11	9	84.2
11-Aug	9	10	10	8	10	15	17	9	10	12	17	11	17	18	11	14	25	17	10	23	11	12	34	20	34.1
12-Aug	63	32	37	27	26	32	14	14	22	17	19	38	43	26	27	25	27	26	22	15	42	13	10	5	63.4
13-Aug	9	32	19	21	37	19	30	17	15	14	23	39	27	28	33	23	34	83	75	18	13	20	19	25	83.5
14-Aug	94	77	29	16	12	20	18	12	18	12	16	29	12	12	20	18	13	18	14	11	9	11	11	9	93.8
15-Aug	27	18	20	20	14	11	14	19	11	13	16	14	18	21	21	13	17	11	9	9	56	14	20	16	56.3
16-Aug	18	69	90	26	15	18	15	11	6	10	10	12	12	15	19	13	17	10	16	9	17	40	63	28	89.5
17-Aug	35	8	20	14	22	28	40	14	14	24	29	17	15	15	13	13	11	11	8	8	13	20	53	44	53.0
18-Aug	27	71	19	32	25	30	27	39	83	42	16	24	30	36	41	48	34	40	26	11	48	12	5	8	83.5
19-Aug	7	12	11	11	11	9	9	12	15	28	36	16	12	15	11	14	8	13	10	17	37	18	16	16	37.4
20-Aug	14	57	50	33	18	15	26	16	15	13	14	14	13	14	13	10	9	11	16	10	55	46	64	21	63.7
21-Aug	18	52	22	20	24	18	38	22	19	21	41	60	91	33	20	53	45	21	37	34	16	10	10	8	90.8
22-Aug	11	8	10	10	7	9	7	8	7	9	10	7	9	9	11	18	11	9	7	8	8	12	10	7	18.5
23-Aug	8	11	17	26	12	26	13	17	18	24	29	76	63	35	43	42	35	17	12	19	29	38	69	30	76.2
24-Aug	27	12	51	33	73	52	20	23	21	17	26	26	29	27	30	20	15	19	13	13	11	12	11	5	72.7
25-Aug	6	10	13	10	14	21	38	20	15	17	15	18	28	16	11	13	10	8	18	70	17	32	7	14	69.9
26-Aug	8	23	5	6	8	5	11	12	19	23	17	13	19	25	15	27	14	12	12	11	14	9	48	19	47.9
27-Aug	26	34	31	29	27	19	12	13	9	8	11	21	41	11	10	9	9	8	9	9	7	8	9	10	40.6
28-Aug	10	8	9	6	7	7	9	10	11	18	23	38	47	26	19	25	34	42	34	13	12	10	10	9	47.0
29-Aug	9	9	8	8	8	10	9	9	11	10	11	15	23	27	33	27	34	16	16	15	15	17	18	17	34.3
30-Aug	15	14	17	24	23	19	25	15	12	15	20	30	75	48	52	24	21	20	9	10	19	13	13	16	74.5
31-Aug	14	23	28	28	25	25	45	37	21	15	14	17	16	15	18	23	19	24	18	12	15	11	8	35	45.1
93.8	78.4	89.5	72.9	81.5	53.6	45.1	85.0	87.8	75.3	45.3	76.2	90.8	75.9	83.2	68.3	62.5	83.5	75.1	84.2	92.2	46.4	69.3	87.5		
P - Power Failure																									

PAZA

Evergreen Park Station

Monthly Summary Tables, Graphs and  
Roses

## Hourly Averages

## Sulphur Dioxide (SO<sub>2</sub>) - ppb Evergreen Park - August 2016

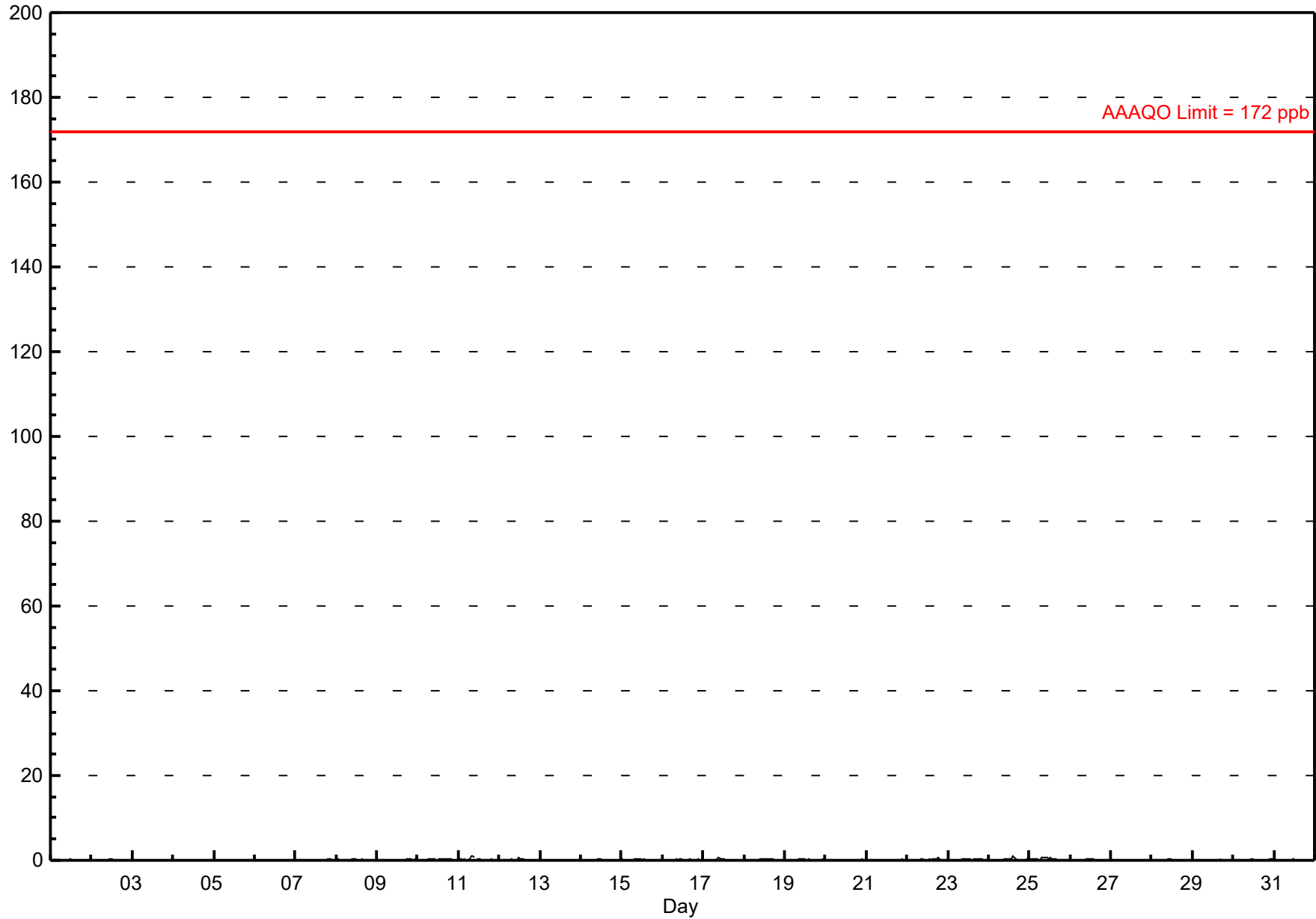
Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 1.1 ppb on Aug 11 08:00	Maximum Daily Average: 0.3 ppb on Aug 25		Hours of Data:	681
Minimum Value: 0 ppb on Aug 1 07:00	Minimum Daily Average: 0.0 ppb on Aug 27		Hours of Missing Data:	63
Maximum Diurnal Average: 0.2 ppb at hour 10	Minimum Diurnal Average: 0.0 ppb at hour 3		Hours of Calibration:	35
Monthly Average: 0.11 ppb	Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.0 Q <sub>1</sub> = 0.0 Median = 0.1 Q <sub>3</sub> = 0.1 P <sub>90</sub> = 0.3 P <sub>99</sub> = 0.6		Percent Operational Time:	96.2

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.1	0.2
2-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.1	0.3
3-Aug	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	0.1
4-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0.1	0.1
5-Aug	0	0	0	0	0	0	0	0	0	0	0	C	C	C	0	0	A	0	0	0	0	0	0	0	0.0	0.1
6-Aug	0	0	0	0	0	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	--	0.0
7-Aug	P	P	P	P	P	P	P	P	P	R	0	0	0	0	A	0	0	0	0	0	0	0	0	0	--	0.2
8-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.1	0.4
9-Aug	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
10-Aug	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	0.3
11-Aug	0	0	0	0	0	0	0	1	1	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.1
12-Aug	0	0	0	0	0	0	0	0	0	0	A	0	1	0	0	0	0	0	0	0	0	0	0	0	0.1	0.6
13-Aug	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1
14-Aug	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.4
15-Aug	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.4
16-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
17-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.5
18-Aug	0	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	0.5
19-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
20-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
21-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
22-Aug	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	0.6
23-Aug	0	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	0.4
24-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	A	0	0	0.2	1.0
25-Aug	0	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	0.8
26-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
27-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
28-Aug	0	0	0	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
29-Aug	0	0	0	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
30-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.5
31-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
	0.1	0.1	0.0	0.1	0.0	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	Diurnal Average	
	0.4	0.5	0.3	0.2	0.5	0.2	0.2	1.1	1.1	0.8	0.5	0.6	0.5	0.4	1.0	0.8	0.3	0.3	0.6	0.2	0.2	0.5	0.3	0.4	Diurnal Maximum	

C - Calibration      R - Recovery      P - Power Failure      A - Automated Daily Zero Span  
 Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb    24-hr 48 ppb    30-day 11 ppb

### Hourly Averages

Sulphur Dioxide (SO<sub>2</sub>) - ppb  
Evergreen Park - August 2016





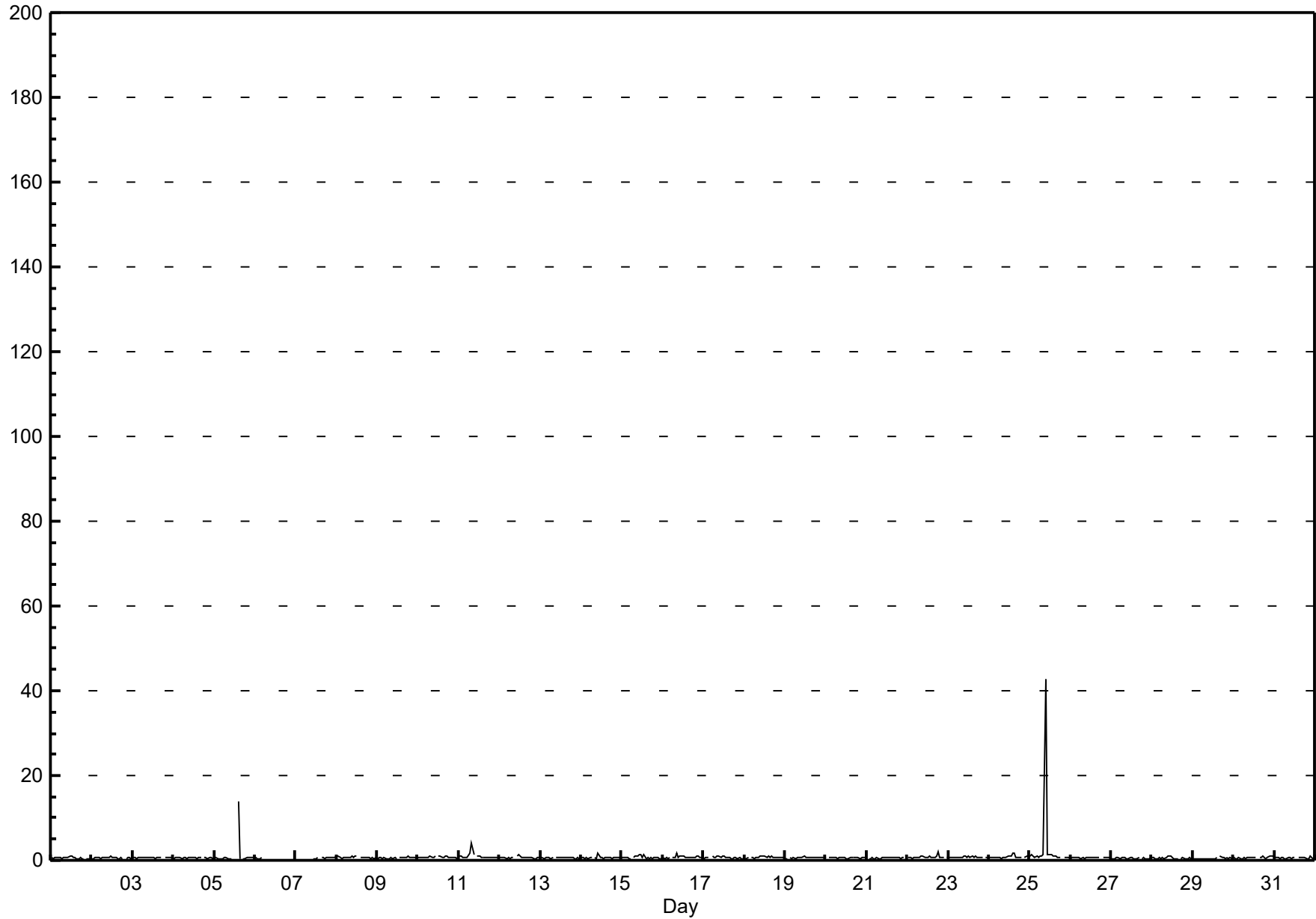
## Hourly Maximums

Sulphur Dioxide (SO<sub>2</sub>) - ppb  
Evergreen Park - August 2016

Maximum Value: 42.6 ppb on Aug 25 10:00		Maximum Daily Average: 2.7 ppb on Aug 25		Hours in Service: 744																						
Minimum Value: 0 ppb on Aug 6 02:00		Minimum Daily Average: 0.5 ppb on Aug 29		Hours of Data: 681																						
Maximum Diurnal Average: 2.2 ppb at hour 10		Minimum Diurnal Average: 0.5 ppb at hour 3		Hours of Missing Data: 63																						
Monthly Average: 0.73 ppb		Percentiles: P <sub>1</sub> = 0.3 P <sub>10</sub> = 0.4 Q <sub>1</sub> = 0.5 Median = 0.6 Q <sub>3</sub> = 0.7 P <sub>90</sub> = 0.9 P <sub>99</sub> = 1.7		Hours of Calibration: 35																						
				Percent Operational Time: 96.2																						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Aug	1	0	1	1	1	1	0	1	1	1	1	1	1	1	1	0	0	1	0	0	A	0	0	0	0.6	1.1
2-Aug	0	0	1	1	1	0	1	1	1	1	1	1	1	1	1	0	0	1	0	A	0	1	1	0	0.6	0.9
3-Aug	1	1	0	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	A	1	1	1	1	1	0.6	0.8
4-Aug	0	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	A	1	1	1	0	1	1	0	0.6	0.8
5-Aug	1	1	0	0	0	0	1	1	0	0	0	C	C	C	14	0	A	0	0	1	1	1	1	1	1.2	13.8
6-Aug	1	0	0	0	1	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	--	0.5
7-Aug	P	P	P	P	P	P	P	P	P	P	R	0	0	0	1	A	1	1	0	1	1	1	1	1	--	0.8
8-Aug	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	0	1	0	0.7	1.1
9-Aug	0	1	1	0	1	0	0	1	1	0	1	0	A	1	1	1	1	1	1	1	1	1	1	0	0.6	0.9
10-Aug	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	0	0.8	1.1
11-Aug	1	1	1	1	1	1	2	4	3	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	4.0
12-Aug	1	1	1	1	0	1	0	1	1	A	1	1	1	1	1	1	1	1	1	1	1	0	1	1	0.7	1.2
13-Aug	1	1	0	1	1	1	0	1	A	1	1	1	1	1	1	1	1	1	1	1	0	0	1	0	0.6	0.8
14-Aug	1	1	0	1	0	1	1	A	1	0	2	1	1	0	1	1	1	1	0	1	1	1	1	0	0.6	1.7
15-Aug	1	1	1	1	0	0	A	1	1	1	1	1	1	1	0	1	0	1	0	1	1	1	0	0	0.7	1.5
16-Aug	1	0	1	0	1	A	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.7
17-Aug	0	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	0	1	0	0	0.7	1.1
18-Aug	0	0	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.1
19-Aug	0	0	A	1	0	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.6	1.0
20-Aug	1	A	1	1	1	1	1	0	1	1	1	1	0	0	1	1	1	1	1	1	1	1	1	1	0.6	0.8
21-Aug	A	0	0	1	0	0	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.5	0.8
22-Aug	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	A	1	0.7	2.1
23-Aug	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
24-Aug	1	1	1	1	1	1	1	0	1	1	1	1	1	1	2	2	1	1	1	1	A	1	1	1	0.8	1.6
25-Aug	1	1	1	1	1	1	1	1	1	43	1	1	1	1	1	1	1	1	1	A	1	1	1	1	2.7	42.6
26-Aug	0	1	1	1	1	1	0	1	0	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	0.6	0.8
27-Aug	0	0	0	1	1	0	1	1	1	0	0	1	1	0	0	0	1	A	0	1	0	0	0	1	0.5	0.7
28-Aug	1	1	0	0	1	0	1	0	1	1	1	1	0	0	0	0	A	0	1	0	0	0	1	0	0.5	1.0
29-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	A	1	1	1	1	1	1	1	0	0.5	0.8
30-Aug	1	0	0	1	0	0	1	0	1	1	1	1	1	1	A	1	1	1	1	1	0	1	1	1	0.6	1.0
31-Aug	1	1	1	1	1	1	0	0	1	1	0	1	1	A	1	1	1	1	1	1	0	0	1	1	0.6	0.9
	0.6	0.6	0.5	0.6	0.6	0.6	0.6	0.7	0.8	2.2	0.8	0.8	0.8	0.7	1.2	0.7	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.6	Diurnal Average	
	1.1	1.3	0.9	0.8	1.1	0.9	1.6	4.0	2.6	42.6	1.7	1.3	1.4	1.3	13.8	1.5	1.1	0.9	2.1	0.8	1.0	1.0	0.9	1.0	Diurnal Maximum	
C - Calibration		R - Recovery					P - Power Failure					A - Automated Daily Zero Span														

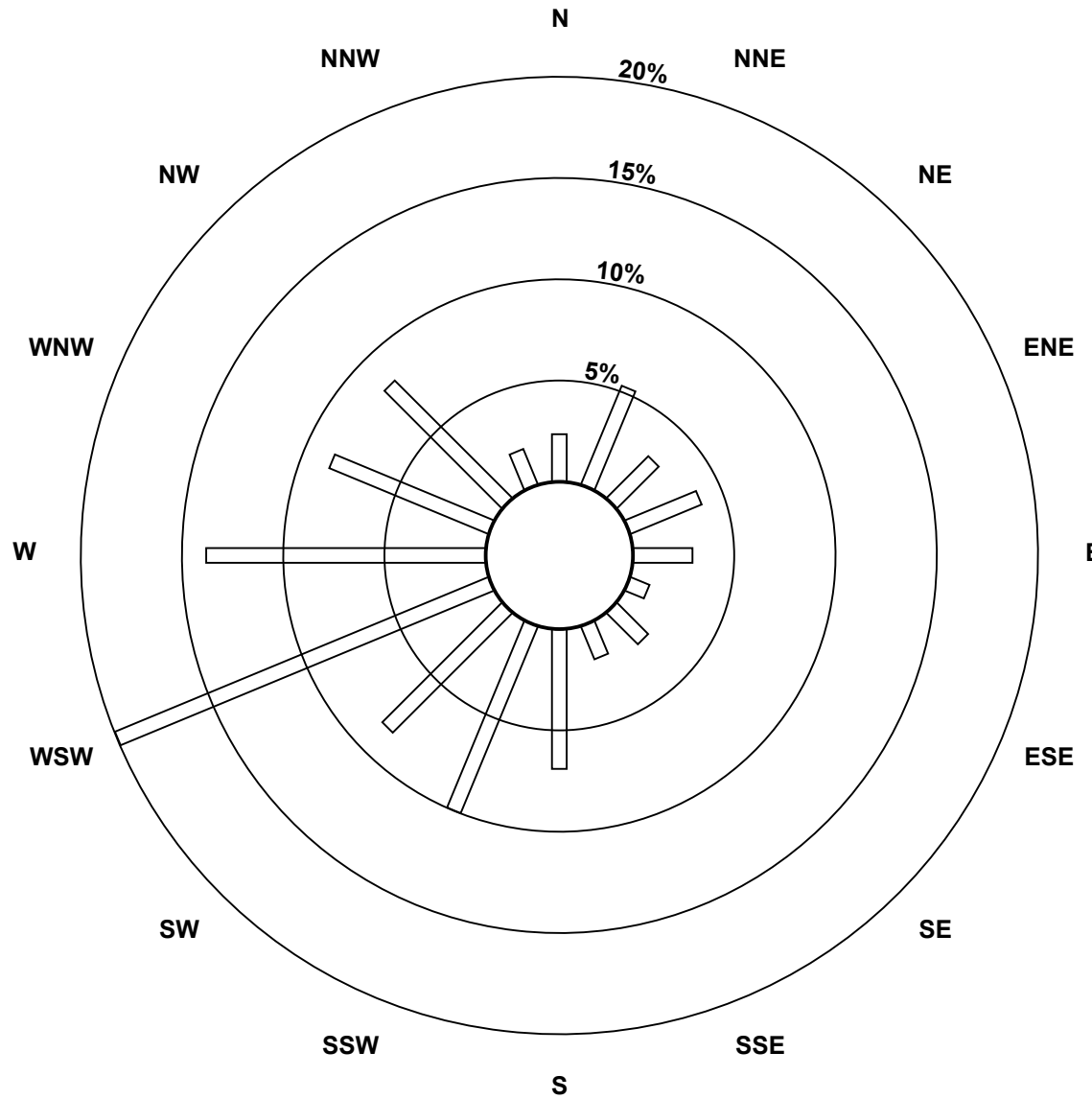
**Hourly Maximums**

**Sulphur Dioxide (SO<sub>2</sub>) - ppb**  
**Evergreen Park - August 2016**

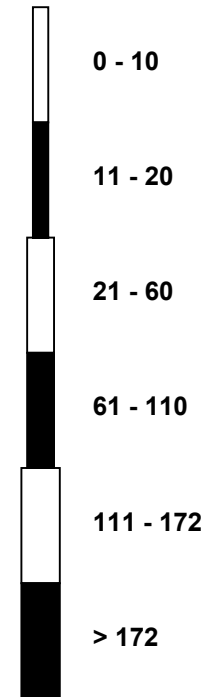


**Pollutant Rose**

**Sulphur Dioxide (SO<sub>2</sub>) - ppb**  
**Evergreen Park - August 2016**

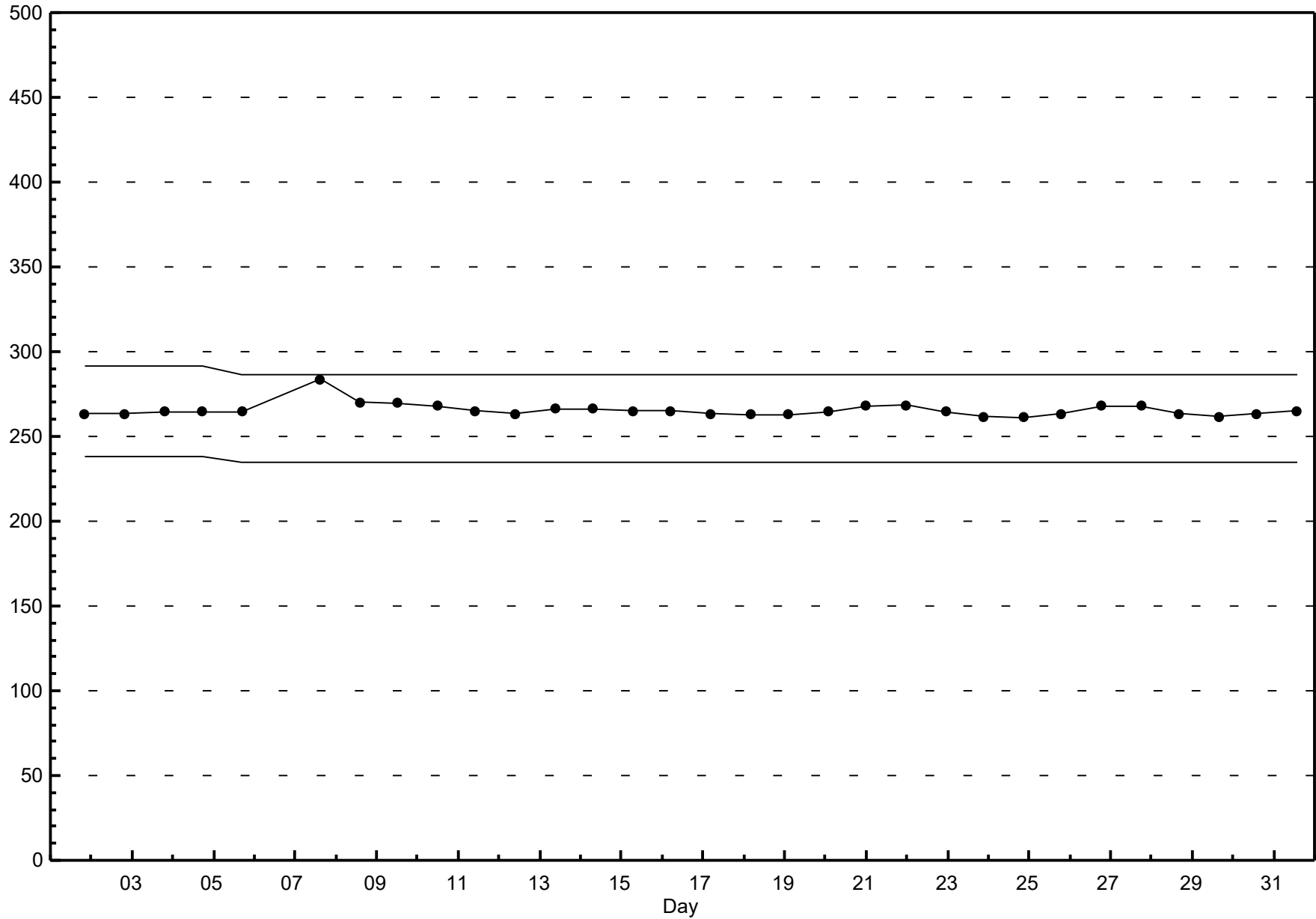


**Pollutant Classes (ppb)**



### Span Responses

Sulphur Dioxide (SO<sub>2</sub>)  
Evergreen Park - August 2016



## Hourly Averages

**Total Reduced Sulphur (TRS) - ppb**  
**Evergreen Park - August 2016**

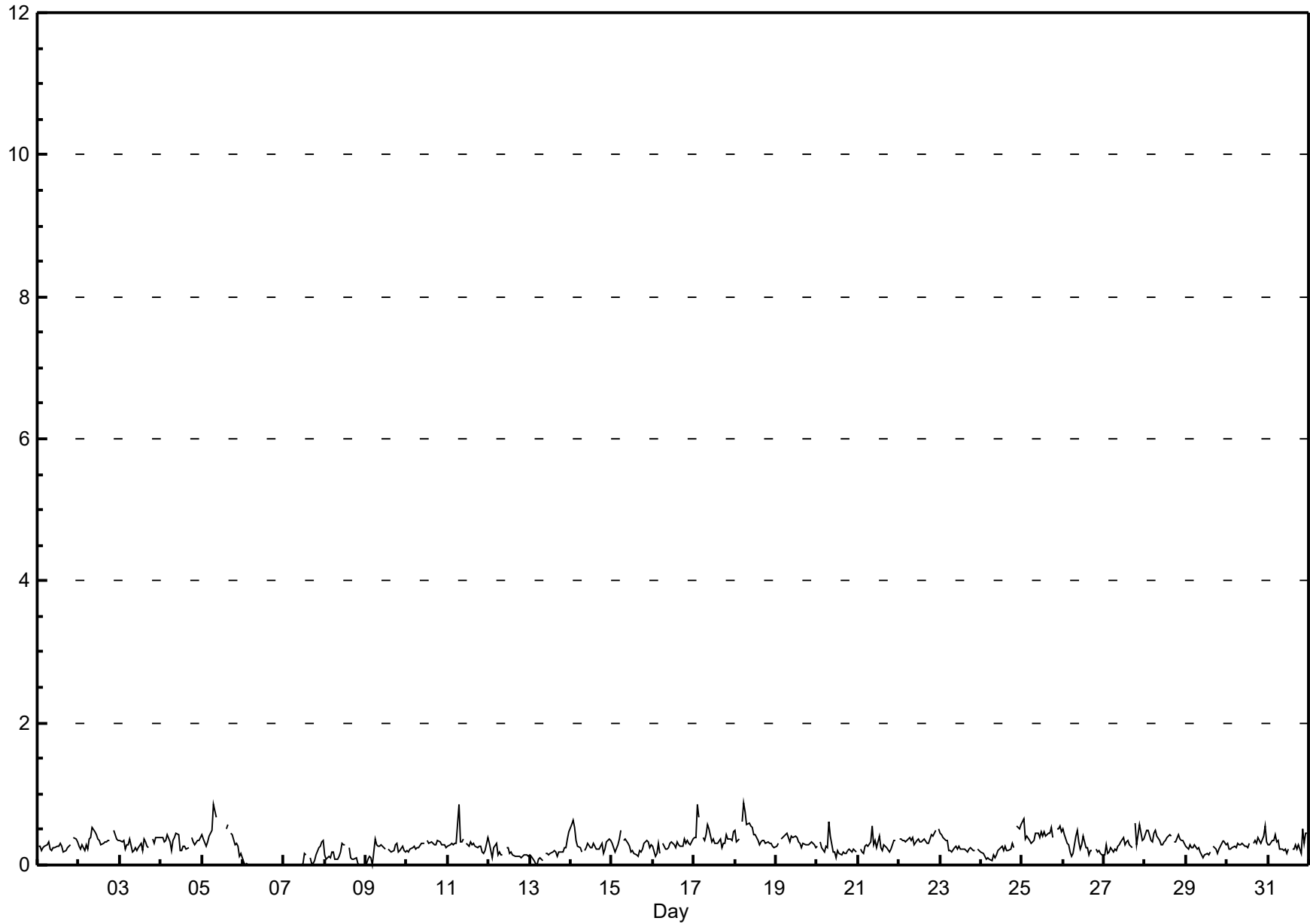
Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 0.9 ppb on Aug 18 06:00	Maximum Daily Average: 0.4 ppb on Aug 25		Hours of Data:	679
Minimum Value: 0 ppb on Aug 6 02:00	Minimum Daily Average: 0.1 ppb on Aug 8		Hours of Missing Data:	65
Maximum Diurnal Average: 0.3 ppb at hour 9	Minimum Diurnal Average: 0.2 ppb at hour 17		Hours of Calibration:	37
Monthly Average: 0.29 ppb	Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.1 Q <sub>1</sub> = 0.2 Median = 0.3 Q <sub>3</sub> = 0.3 P <sub>90</sub> = 0.4 P <sub>99</sub> = 0.7		Percent Operational Time:	96.2

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.3	0.4
2-Aug	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.3	0.5
3-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0.3	0.4
4-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0.3	0.5
5-Aug	0	0	0	0	0	0	0	1	1	C	C	C	C	C	1	1	A	0	0	0	0	0	0	0	0.4	0.8
6-Aug	0	0	0	0	0	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	--	0.0
7-Aug	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	--	0.3
8-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
9-Aug	0	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	0.4
10-Aug	0	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	0.3
11-Aug	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.8
12-Aug	0	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	0.3
13-Aug	0	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	0.5
14-Aug	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
15-Aug	0	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	0.5
16-Aug	0	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	0.4
17-Aug	0	0	1	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.9
18-Aug	0	0	0	0	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.9
19-Aug	0	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	0.4
20-Aug	0	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	0.6
21-Aug	0	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	0.6
22-Aug	0	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	0.5
23-Aug	0	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	0.4
24-Aug	0	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	0.6
25-Aug	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.7
26-Aug	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.5
27-Aug	0	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	0.6
28-Aug	0	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	0.5
29-Aug	0	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	0.4
30-Aug	0	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	0.6
31-Aug	0	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	0.5
	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	Diurnal Average
	0.6	0.7	0.9	0.7	0.6	0.9	0.8	0.8	0.7	0.5	0.5	0.5	0.4	0.5	0.5	0.6	0.5	0.5	0.6	0.4	0.5	0.6	0.6	0.6	0.6	Diurnal Maximum

C - Calibration      R - Recovery      P - Power Failure      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 - August 2016**



## Hourly Maximums

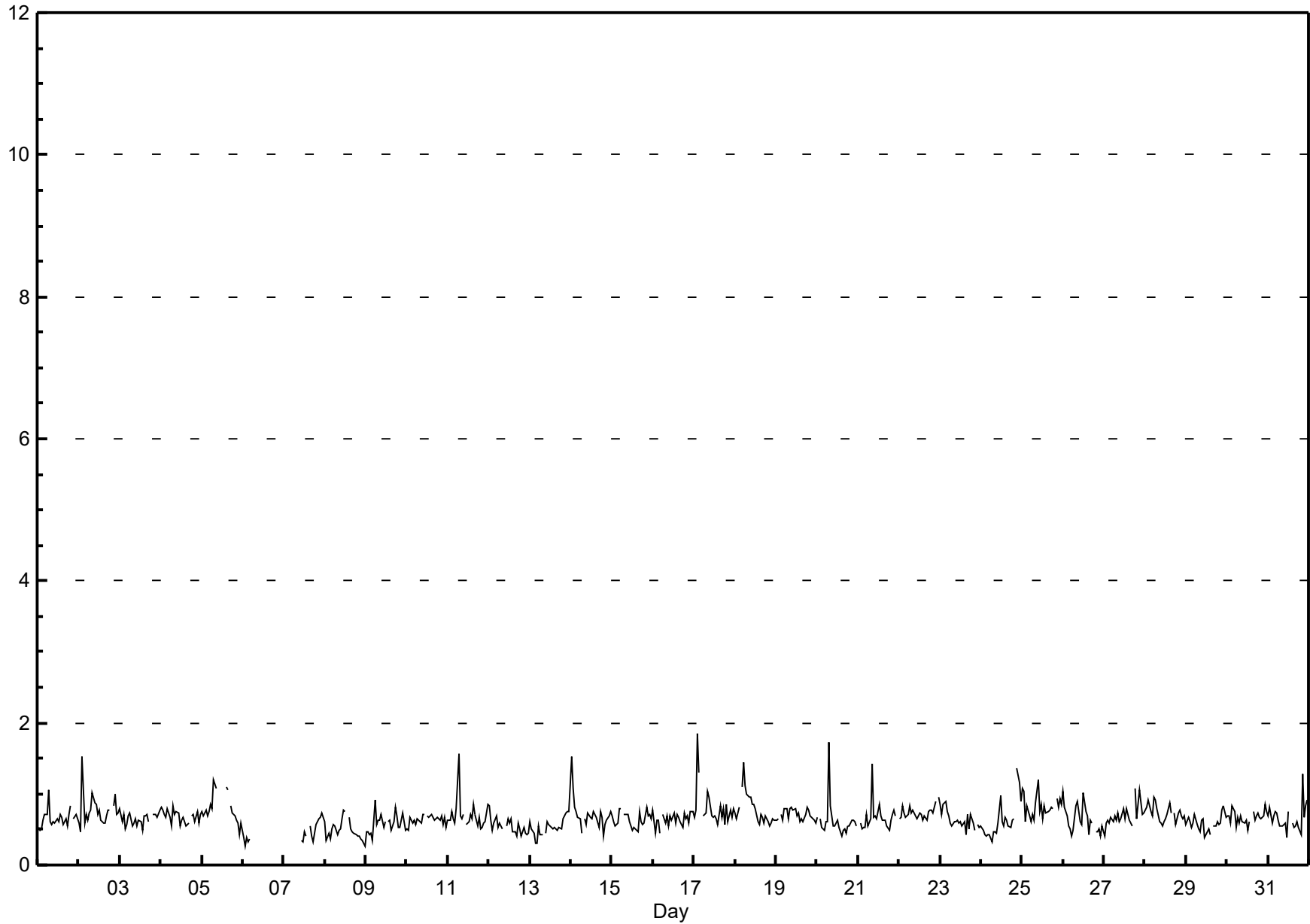
Total Reduced Sulphur (TRS) - ppb

Evergreen Park - August 2016

Maximum Value: 1.8 ppb on Aug 17 03:00		Maximum Daily Average: 0.8 ppb on Aug 25		Hours in Service: 744																						
Minimum Value: 0 ppb on Aug 6 02:00		Minimum Daily Average: 0.5 ppb on Aug 8		Hours of Data: 679																						
Maximum Diurnal Average: 0.7 ppb at hour 9		Minimum Diurnal Average: 0.6 ppb at hour 17		Hours of Missing Data: 65																						
Monthly Average: 0.66 ppb		Percentiles: P <sub>1</sub> = 0.3 P <sub>10</sub> = 0.5 Q <sub>1</sub> = 0.6 Median = 0.6 Q <sub>3</sub> = 0.7 P <sub>90</sub> = 0.8 P <sub>99</sub> = 1.4		Hours of Calibration: 37																						
				Percent Operational Time: 96.2																						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Aug	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	0.7	1.1
2-Aug	1	0	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	0.8	1.5
3-Aug	1	1	1	0	1	1	1	1	1	1	1	1	0	1	1	1	1	1	A	1	1	1	1	1	0.7	0.8
4-Aug	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	0.7	0.8
5-Aug	1	1	1	1	1	1	1	1	1	C	C	C	C	C	1	1	A	1	1	1	1	1	0	1	0.8	1.2
6-Aug	0	0	0	0	0	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	--	0.4
7-Aug	P	P	P	P	P	P	P	P	P	R	0	0	0	0	A	1	0	0	0	0	1	1	1	1	--	0.7
8-Aug	1	0	0	0	1	1	1	0	0	1	1	1	1	A	1	0	0	0	0	0	0	0	0	0	0.5	0.8
9-Aug	0	0	0	0	0	1	1	1	1	1	1	1	1	A	1	1	0	1	1	1	1	1	1	1	0.6	0.9
10-Aug	1	0	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	0.6	0.7
11-Aug	1	1	1	1	1	1	2	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.6
12-Aug	1	1	0	1	1	1	1	1	1	1	A	1	1	1	0	0	0	1	1	0	1	0	0	0	0.5	0.8
13-Aug	1	1	0	0	0	1	0	0	A	0	1	1	1	1	1	1	0	1	1	1	1	1	1	1	0.5	0.8
14-Aug	2	1	1	1	1	1	0	A	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	0.7	1.5
15-Aug	1	1	1	1	1	1	A	1	1	1	1	1	0	1	0	0	1	1	1	1	1	1	1	1	0.6	0.8
16-Aug	1	0	1	1	0	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.6	0.8
17-Aug	1	1	2	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.8
18-Aug	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	1.5
19-Aug	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	0.8
20-Aug	1	A	1	1	0	1	1	2	1	1	1	1	1	0	0	1	0	1	1	1	1	1	1	1	0.6	1.7
21-Aug	A	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	A	0.7	1.4
22-Aug	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	1.0
23-Aug	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	0	A	1	1	0.6	0.9
24-Aug	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	A	1	1	1	0.6	1.4
25-Aug	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	0.8	1.2
26-Aug	1	1	1	1	1	0	0	1	1	1	1	1	1	1	0	1	1	A	0	0	1	0	1	1	0.6	1.0
27-Aug	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	0.7	1.1
28-Aug	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	0.7	0.9
29-Aug	1	1	1	1	1	1	1	1	0	1	1	0	0	1	0	A	1	1	1	1	1	1	1	1	0.6	0.8
30-Aug	1	1	1	1	1	1	1	1	1	1	1	1	0	1	A	1	1	1	1	1	1	1	1	1	0.7	0.9
31-Aug	1	1	1	1	1	1	1	1	1	1	1	0	1	A	1	1	1	1	1	0	1	1	1	1	0.7	1.3
		0.7	0.6	0.7	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.6	0.6	0.7	0.6	0.6	0.6	0.6	0.6	0.7	0.6	0.7	0.7	0.7	0.7	Diurnal Average
		1.5	1.1	1.8	1.3	1.1	1.5	1.6	1.7	1.4	1.2	0.9	1.0	1.0	0.8	1.1	1.1	0.8	0.8	1.1	0.9	1.3	1.4	1.2	1.0	Diurnal Maximum
C - Calibration		R - Recovery					P - Power Failure					A - Automated Daily Zero Span														

**Hourly Maximums**

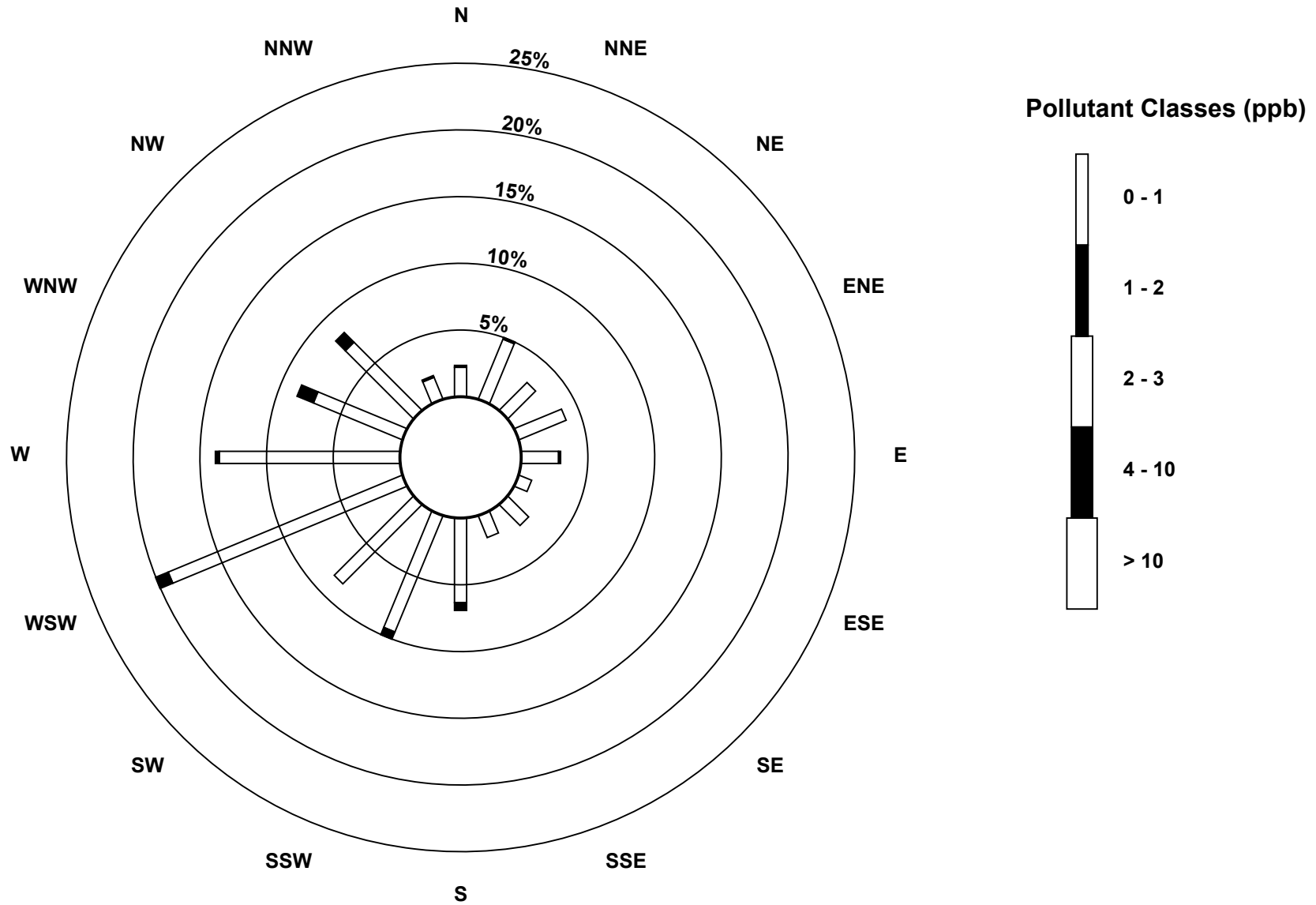
**Total Reduced Sulphur (TRS) - ppb**  
**Evergreen Park - August 2016**





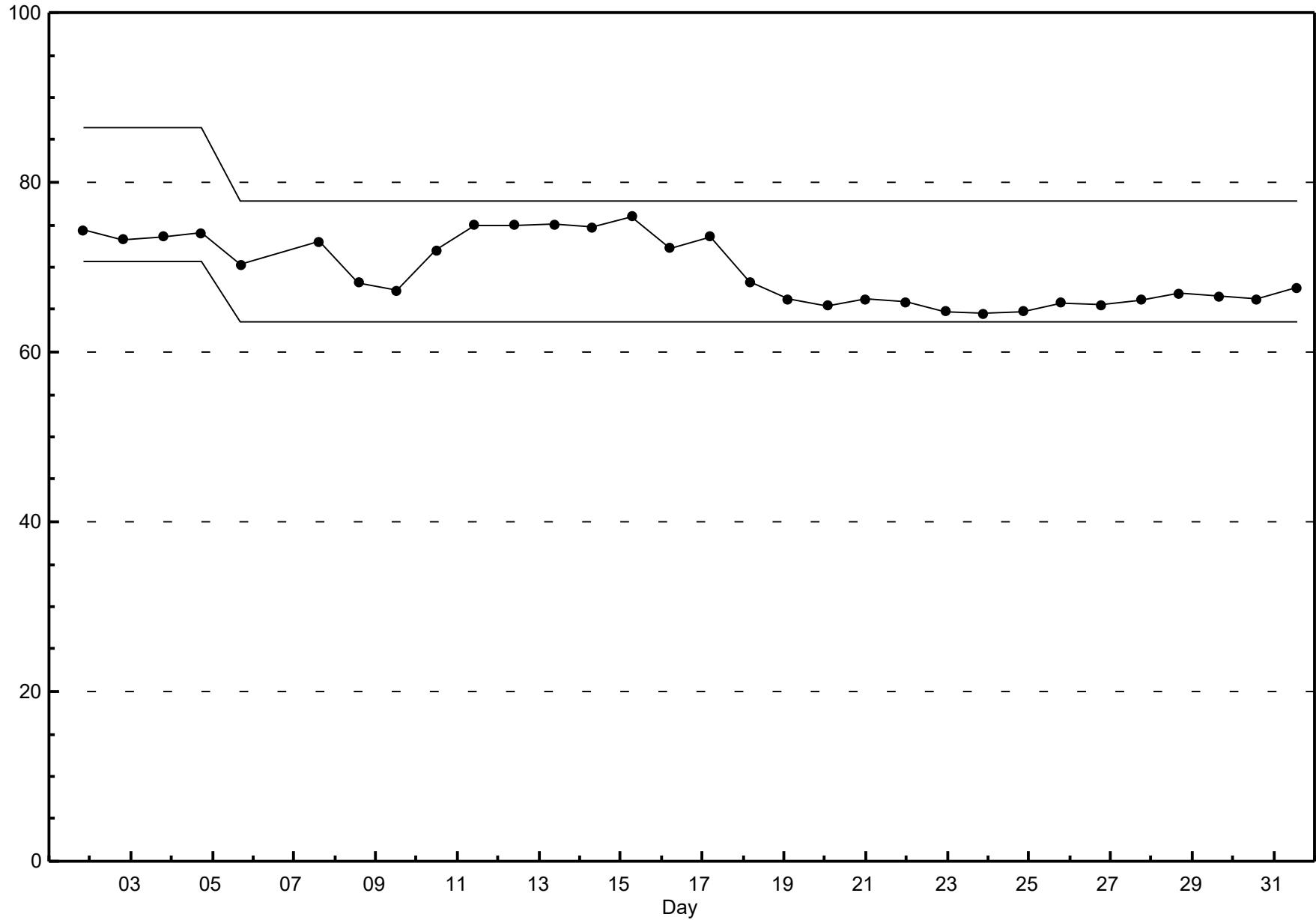
**Pollutant Rose**

**Total Reduced Sulphur (TRS) - ppb**  
**Evergreen Park - August 2016**



### Span Responses

**Total Reduced Sulphur (TRS)**  
**Evergreen Park - August 2016**



## Hourly Averages

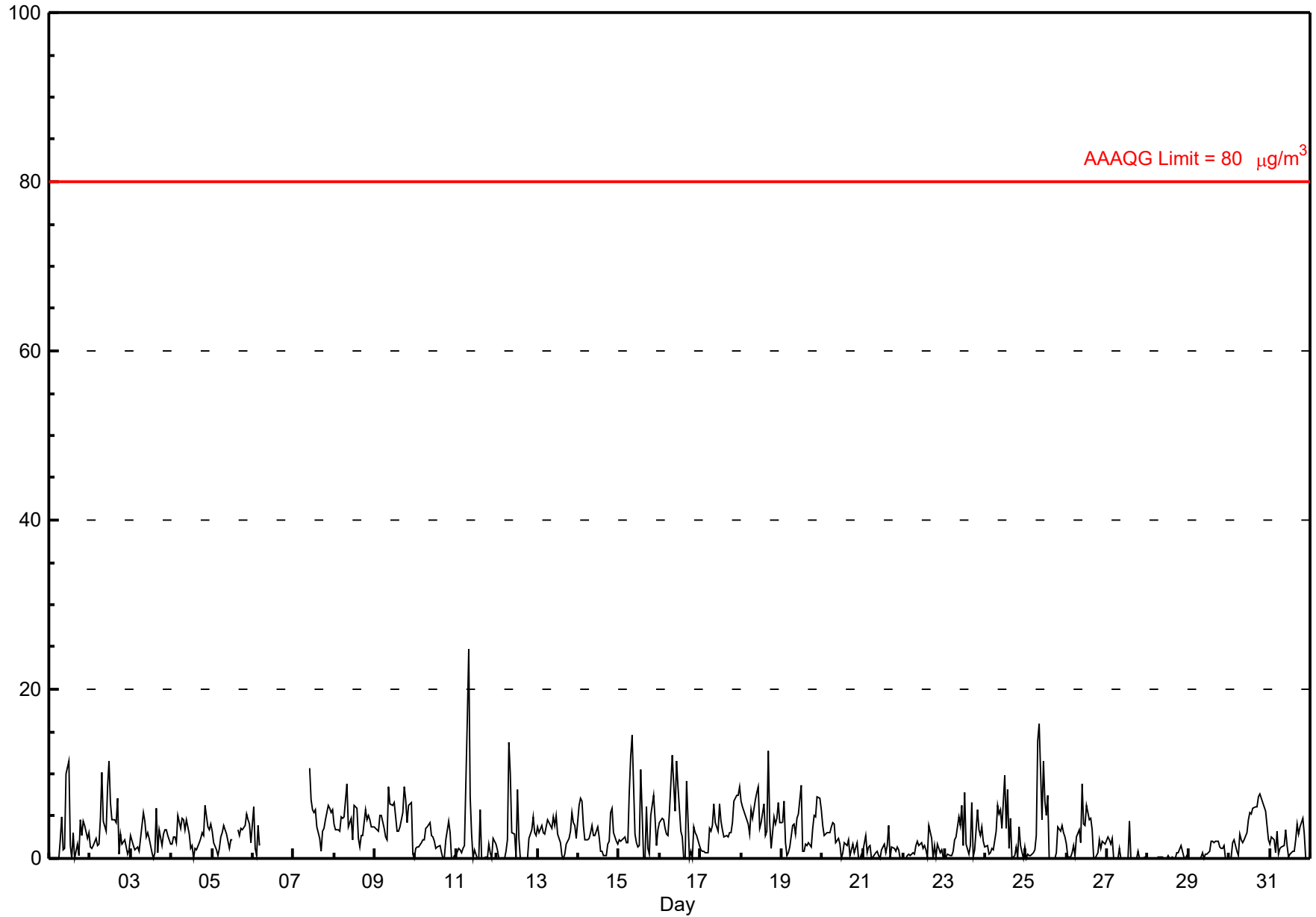
## Particulate Matter 2.5 (PM<sub>2.5</sub>) - µg/m<sup>3</sup>

### Evergreen Park - August 2016

Number of Exceedences: 1-hr: 0 24-hr: 0	Hours in Service: 744
Maximum Value: 24.7 µg/m <sup>3</sup> on Aug 11 08:00	Maximum Daily Average: 5.2 µg/m <sup>3</sup> on Aug 18
Minimum Value: 0 µg/m <sup>3</sup> on Aug 1 02:00	Hours of Data: 714
Maximum Diurnal Average: 5.6 µg/m <sup>3</sup> at hour 8	Hours of Missing Data: 30
Monthly Average: 2.80 µg/m <sup>3</sup>	Hours of Calibration: 0
Minimum Daily Average: 0.2 µg/m <sup>3</sup> on Aug 28	Percent Operational Time: 96.0
Minimum Diurnal Average: 1.7 µg/m <sup>3</sup> at hour 6	
Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.0 Q <sub>1</sub> = 0.7 Median = 2.2 Q <sub>3</sub> = 4.0 P <sub>90</sub> = 6.3 P <sub>99</sub> = 12.0	

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-Aug	0	0	0	0	0	0	2	5	1	1	10	12	1	0	3	0	2	0	5	3	4	4	2	3	2.4	11.5																						
2-Aug	1	1	2	2	2	2	5	10	4	3	9	12	7	5	5	4	7	0	3	2	2	1	0	1	3.7	11.6																						
3-Aug	3	2	1	1	1	1	2	5	4	2	3	2	1	0	1	6	1	3	1	3	3	3	3	2	2.3	5.9																						
4-Aug	2	2	3	2	5	4	5	5	3	5	3	1	2	0	1	1	2	2	3	3	6	4	3	4	2.9	6.2																						
5-Aug	3	2	1	0	1	3	3	4	3	2	1	2	2	M	M	3	3	3	3	4	5	5	4	2	2.7	5.3																						
6-Aug	6	1	0	4	1	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	--	6.2																						
7-Aug	P	P	P	P	P	P	P	P	P	P	11	7	6	5	6	4	2	1	3	4	5	6	6	5	6	--	10.8																					
8-Aug	4	3	3	3	5	5	5	9	4	4	5	2	6	6	2	1	3	3	6	5	5	5	4	4	4.2	8.8																						
9-Aug	4	3	3	5	5	4	3	2	8	7	6	7	5	3	3	4	5	8	7	4	6	7	0	0	4.6	8.5																						
10-Aug	1	1	1	2	2	2	4	4	4	4	3	3	2	1	1	2	1	0	0	2	4	3	0	0	1.8	4.4																						
11-Aug	0	1	1	1	1	1	16	25	7	3	0	1	0	0	6	0	0	0	0	2	1	0	2	2	2.9	24.7																						
12-Aug	1	0	0	0	0	1	2	14	10	3	3	0	8	2	0	0	0	0	0	2	3	5	3	3	2.5	13.7																						
13-Aug	4	3	4	3	3	4	4	4	4	5	4	5	3	2	0	0	1	2	2	3	5	4	4	2	3.1	5.5																						
14-Aug	6	7	7	4	2	2	2	3	4	3	3	4	3	1	1	0	0	2	2	5	6	3	2	2	3.1	7.0																						
15-Aug	2	2	2	3	2	2	8	12	15	3	2	1	1	11	0	0	6	1	1	5	7	5	2	3	4.0	14.5																						
16-Aug	4	5	5	4	3	3	5	12	9	6	11	9	3	2	0	0	9	0	1	0	4	3	3	2	4.2	12.1																						
17-Aug	1	1	1	1	1	4	3	4	6	4	3	6	4	3	3	3	3	3	3	4	7	8	7	8	3.8	8.5																						
18-Aug	7	6	5	5	4	3	6	5	7	8	8	4	4	6	3	3	13	4	1	5	4	5	7	4	5.2	12.6																						
19-Aug	4	7	2	0	1	1	4	4	3	5	5	9	1	1	2	2	2	1	4	5	5	7	7	6	3.6	8.6																						
20-Aug	4	3	3	3	3	4	4	4	2	2	2	0	1	2	2	2	0	1	2	1	2	0	0	0	1.9	4.2																						
21-Aug	1	3	1	1	2	0	0	1	1	0	0	1	2	1	2	4	0	1	1	1	1	1	0	0	1.0	3.9																						
22-Aug	0	0	0	0	0	1	1	1	2	2	2	1	2	1	0	4	2	0	1	0	2	1	1	0	1.0	3.9																						
23-Aug	0	0	1	0	0	1	2	3	5	4	6	1	8	2	0	2	7	0	1	6	3	3	4	2	2.5	7.7																						
24-Aug	1	2	1	1	1	1	3	6	5	6	4	10	4	8	1	5	0	0	1	0	4	1	0	1	2.8	9.8																						
25-Aug	0	1	0	0	1	1	3	14	16	5	11	7	5	7	0	0	0	0	1	4	3	4	3	3	3.7	15.9																						
26-Aug	2	0	0	1	2	0	3	3	2	9	4	4	6	5	5	3	0	0	1	2	1	2	2	2	2.4	8.9																						
27-Aug	3	2	2	2	0	0	0	1	0	0	0	0	0	4	0	0	0	0	1	0	0	0	0	0	0.7	4.4																						
28-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	1	0	0	0	0.2	1.5																						
29-Aug	0	0	0	0	0	0	0	0	1	0	1	1	1	2	2	2	2	2	1	1	1	1	0	0	0.8	2.1																						
30-Aug	0	0	2	2	1	0	3	2	2	2	3	5	5	5	6	6	6	7	8	7	7	6	4	2	3.8	7.7																						
31-Aug	2	3	2	1	3	1	1	1	2	3	2	0	1	1	1	2	4	3	4	5	3	0	0	0	1.8	4.7																						
																								2.2	2.0	1.7	1.7	1.7	1.7	3.4	5.6	4.6	3.6	4.0	3.8	3.1	3.0	1.8	2.0	2.6	1.8	2.3	3.1	3.7	3.1	2.4	2.1	Diurnal Average
																								6.7	7.0	6.8	5.0	5.1	4.7	16.4	24.7	15.9	10.8	11.5	11.6	8.1	10.6	5.9	6.2	12.6	8.5	7.7	7.2	7.4	7.5	7.4	8.5	Diurnal Maximum

P - Power Failure M - Maintenance  
 Alberta Ambient Air Quality Guideline (AAAQG): 1-hr 80 µg/m<sup>3</sup> Alberta Ambient Air Quality Objective (AAAQO): 24-hr 30 µg/m<sup>3</sup>

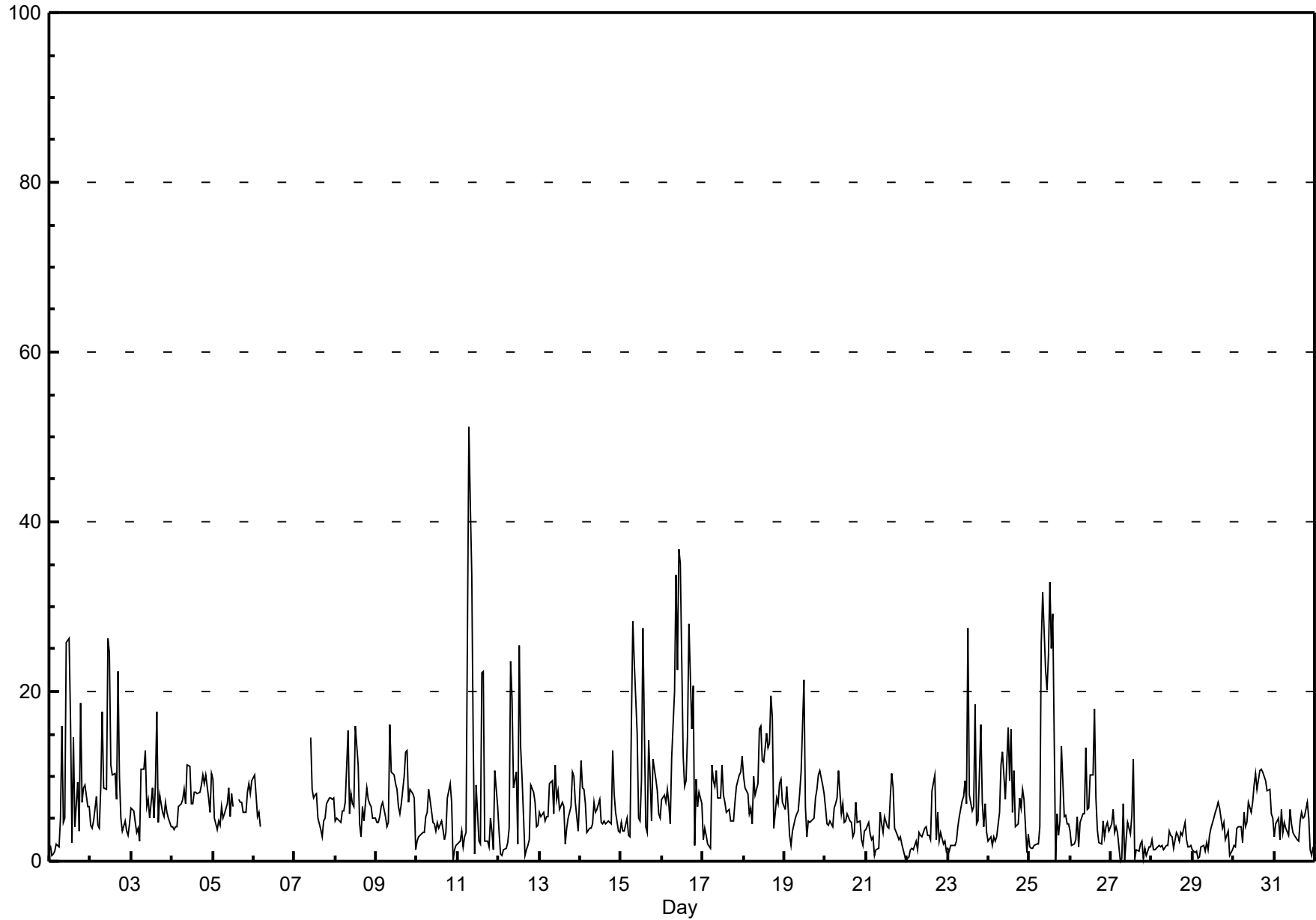


# Hourly Maximums

Particulate Matter 2.5 (PM<sub>2.5</sub>) - µg/m<sup>3</sup>

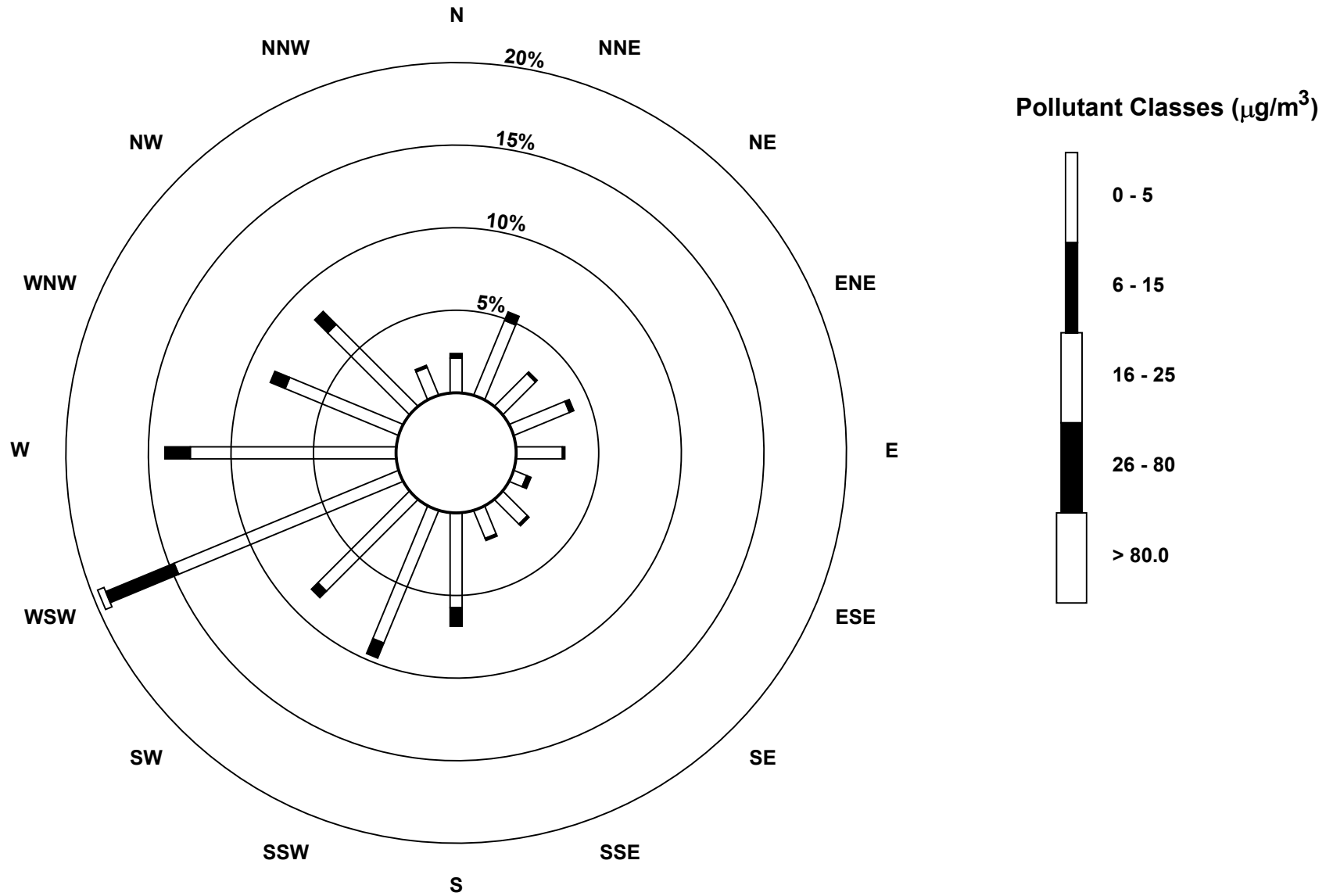
Evergreen Park - August 2016

<b>Maximum Value: 51.2 µg/m<sup>3</sup> on Aug 11 07:00</b>		<b>Maximum Daily Average: 14.3 µg/m<sup>3</sup> on Aug 16</b>		Hours in Service: 744 Hours of Data: 714 Hours of Missing Data: 30 Hours of Calibration: 0 Percent Operational Time: 96.0																							
<b>Minimum Value: 0 µg/m<sup>3</sup> on Aug 10 22:00</b> <b>Maximum Diurnal Average: 10.8 µg/m<sup>3</sup> at hour 8</b> <b>Monthly Average: 6.77 µg/m<sup>3</sup></b>		<b>Minimum Daily Average: 2.3 µg/m<sup>3</sup> on Aug 28</b> <b>Minimum Diurnal Average: 3.6 µg/m<sup>3</sup> at hour 6</b> Percentiles: P <sub>1</sub> = 0.4 P <sub>10</sub> = 1.8 Q <sub>1</sub> = 3.3 Median = 5.3 Q <sub>3</sub> = 8.2 P <sub>90</sub> = 12.4 P <sub>99</sub> = 32.2																									
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Aug	2	1	1	1	2	2	5	16	5	5	26	26	16	2	15	4	9	3	19	7	9	9	6	7	8.2	26.2	
2-Aug	4	4	5	8	4	4	9	18	9	8	26	25	11	10	10	7	22	10	5	4	5	4	3	4	9.1	26.2	
3-Aug	6	6	5	3	4	2	11	11	13	6	7	5	9	5	9	18	5	8	6	5	7	6	5	4	6.9	17.7	
4-Aug	4	4	4	4	7	7	7	8	7	11	11	7	7	8	8	8	8	9	10	9	10	7	6	10	7.6	11.4	
5-Aug	10	5	4	5	4	6	5	6	7	9	5	8	7	M	M	7	7	7	6	6	8	9	8	9	6.7	9.6	
6-Aug	10	8	5	6	4	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	--	10.2	
7-Aug	P	P	P	P	P	P	P	P	P	P	15	8	7	8	8	5	4	3	5	5	7	7	7	7	--	14.6	
8-Aug	5	5	5	5	6	6	7	16	6	8	7	6	16	11	4	3	7	5	9	7	7	7	5	5	6.9	16.0	
9-Aug	5	4	5	6	7	5	4	5	16	10	9	8	7	6	7	10	13	13	7	8	8	7	1	7.6	16.0		
10-Aug	2	3	3	3	3	5	6	8	6	5	4	4	5	4	5	4	3	3	7	9	7	0	1	2	4.3	9.2	
11-Aug	2	2	4	2	3	3	51	42	34	14	1	9	2	2	22	22	2	2	2	5	4	1	11	7	10.4	51.2	
12-Aug	3	1	1	1	2	2	4	24	19	9	10	2	26	13	10	1	1	2	3	9	8	7	4	4	6.9	25.5	
13-Aug	6	5	6	5	5	5	9	9	6	11	7	8	6	7	7	2	4	5	7	10	10	7	5	4	6.5	11.4	
14-Aug	12	9	8	7	3	4	4	4	7	6	6	7	4	4	5	4	5	5	4	13	8	6	4	3	5.9	13.1	
15-Aug	5	4	4	5	3	3	16	28	23	15	5	5	9	27	4	3	14	10	5	12	10	8	6	5	9.6	28.2	
16-Aug	7	8	7	8	7	4	12	20	34	23	37	35	12	9	9	15	28	16	21	2	10	7	8	7	14.3	36.7	
17-Aug	3	4	3	2	2	11	9	9	11	8	7	11	8	7	6	6	5	5	5	7	9	10	10	12	7.1	12.4	
18-Aug	10	9	8	6	6	4	10	8	9	16	16	12	12	15	13	14	19	17	4	7	7	9	10	7	10.3	19.4	
19-Aug	6	9	6	3	2	4	5	6	6	8	11	21	6	3	5	5	5	5	7	8	10	11	9	8	7.0	21.3	
20-Aug	6	4	4	5	4	6	7	7	11	6	7	5	5	6	5	5	3	3	7	5	5	3	2	4	5.1	10.7	
21-Aug	4	5	3	3	3	1	1	2	6	4	3	5	4	4	7	10	9	4	3	3	3	2	1	0	3.7	10.4	
22-Aug	0	0	1	2	1	2	1	3	3	3	4	4	3	3	3	8	10	3	6	2	3	2	2	1	3.0	10.2	
23-Aug	2	1	2	2	2	2	4	5	7	8	9	7	27	8	6	7	18	4	5	16	7	4	7	3	6.8	27.5	
24-Aug	2	3	2	3	2	3	6	11	13	10	7	16	9	16	6	11	4	4	7	6	8	7	1	3	6.7	15.8	
25-Aug	2	2	2	2	2	2	4	26	32	23	20	24	33	25	29	0	6	3	5	14	5	5	4	4	11.4	32.8	
26-Aug	4	2	2	3	5	2	5	6	6	13	6	6	10	10	18	7	4	2	2	5	3	4	5	4	5.5	17.9	
27-Aug	4	6	3	4	3	0	0	7	0	3	5	3	5	12	0	1	1	2	2	0	2	1	2	2	2.9	12.1	
28-Aug	3	1	1	2	2	2	2	1	2	2	4	3	3	2	3	3	2	3	5	3	2	2	2	2	2.3	4.6	
29-Aug	1	1	1	0	0	2	2	1	2	1	3	4	5	6	6	7	6	4	5	3	3	4	1	1	2.9	7.0	
30-Aug	2	2	4	4	4	2	6	4	5	7	6	7	9	10	8	11	11	10	10	9	8	8	6	5	6.6	10.9	
31-Aug	3	4	5	3	6	3	5	4	3	6	4	3	3	3	2	5	6	5	5	7	5	1	1	2	3.9	7.0	
		4.5	4.0	3.8	3.7	3.7	3.6	7.5	10.8	10.5	9.0	9.5	9.9	9.7	8.5	8.2	6.9	7.9	5.9	6.6	7.0	6.6	5.5	4.9	4.6	Diurnal Average	
		11.9	8.7	8.5	8.5	7.0	11.4	51.2	41.9	33.8	22.6	36.7	35.0	32.8	27.5	29.2	22.4	28.0	17.0	20.7	16.0	10.2	10.7	10.7	12.4	Diurnal Maximum	
P - Power Failure		M - Maintenance																									



**Pollutant Rose**

**Particulate Matter 2.5 (PM<sub>2.5</sub>) -  $\mu\text{g}/\text{m}^3$**   
**Evergreen Park - August 2016**



# Hourly Averages

External Temperature (ET) - °C

Evergreen Park - August 2016

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0	Hours in Service: 744
Maximum Value: 27.7 °C on Aug 15 17:00	Maximum Daily Average: 20.1 °C on Aug 15
Minimum Value: 7 °C on Aug 28 07:00	Hours of Data: 717
Minimum Daily Average: 9.0 °C on Aug 28	Hours of Missing Data: 27
Maximum Diurnal Average: 21.0 °C at hour 16	Hours of Calibration: 0
Monthly Average: 16.05 °C	Percent Operational Time: 96.4
Minimum Diurnal Average: 11.3 °C at hour 6	
Percentiles: P <sub>1</sub> = 7.3 P <sub>10</sub> = 10.1 Q <sub>1</sub> = 12.3 Median = 15.3 Q <sub>3</sub> = 19.8 P <sub>90</sub> = 23.2 P <sub>99</sub> = 26.8	

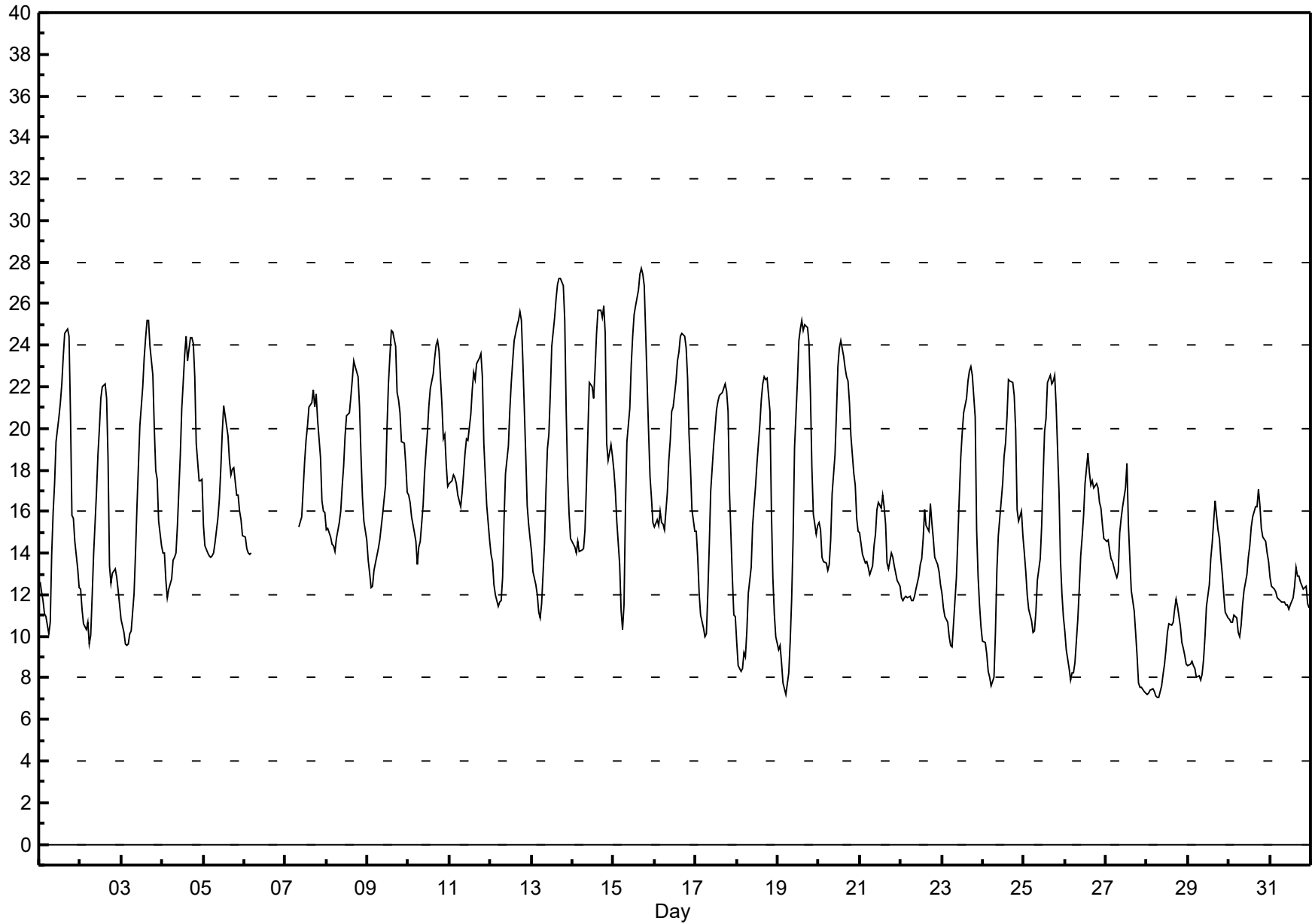
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																								
1-Aug	13	12	12	11	11	10	11	14	16	17	19	21	21	22	23	25	25	24	21	16	16	15	13	12	16.6	24.8																						
2-Aug	12	11	11	10	11	10	10	12	14	17	19	20	21	22	22	21	19	13	13	13	13	13	12	11	14.6	22.2																						
3-Aug	11	10	10	10	10	10	10	12	14	16	18	20	22	23	24	25	25	24	23	20	18	18	16	14	16.8	25.2																						
4-Aug	14	14	13	12	12	13	14	14	14	15	19	21	22	24	24	23	24	24	24	23	19	18	17	18	18.1	24.4																						
5-Aug	15	14	14	14	14	14	14	15	16	17	18	20	21	20	20	18	18	18	18	17	17	16	16	15	16.5	21.1																						
6-Aug	15	14	14	14	14	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	--	14.7																						
7-Aug	P	P	P	P	P	P	P	P	15	16	17	18	19	20	21	21	22	21	22	20	19	17	16	16	--	21.9																						
8-Aug	15	15	15	14	14	14	15	15	16	17	18	20	21	21	22	22	23	23	23	21	19	17	16	15	17.9	23.3																						
9-Aug	14	13	12	12	13	14	14	15	15	16	17	20	22	23	25	25	24	22	21	21	19	19	18	17	18.0	24.7																						
10-Aug	17	16	16	15	15	13	14	15	16	18	19	20	21	22	23	23	24	24	24	21	19	20	18	17	18.8	24.2																						
11-Aug	17	17	18	18	17	17	16	17	18	19	19	19	21	22	23	22	23	23	24	23	19	18	16	15	19.2	23.6																						
12-Aug	14	14	12	12	11	12	12	13	16	18	19	21	22	23	24	25	25	26	25	23	19	16	15	15	18.0	25.6																						
13-Aug	14	13	12	12	11	11	12	15	17	19	20	22	24	25	26	27	27	27	27	25	21	18	16	15	19.0	27.2																						
14-Aug	14	14	14	15	14	14	14	15	17	20	22	22	21	23	25	26	26	25	26	25	19	18	19	19	19.5	25.9																						
15-Aug	18	17	16	13	11	10	12	16	19	21	23	24	25	26	27	27	28	27	27	25	20	18	17	15	20.1	27.7																						
16-Aug	15	16	15	16	15	15	15	17	18	19	21	21	22	23	24	24	25	24	24	22	20	18	16	15	19.3	24.6																						
17-Aug	15	14	12	11	10	10	10	12	14	17	19	20	21	21	22	22	22	22	22	21	17	13	11	11	16.2	22.1																						
18-Aug	10	9	8	8	9	9	10	12	13	15	16	17	18	20	21	22	23	22	22	21	16	13	11	10	14.9	22.5																						
19-Aug	9	10	9	8	7	7	8	10	12	15	19	22	24	25	25	25	25	25	24	22	18	16	15	15	16.4	25.2																						
20-Aug	15	15	14	14	14	13	13	15	17	19	21	23	24	24	23	23	23	22	21	20	18	17	16	15	18.3	24.2																						
21-Aug	15	14	14	14	14	13	13	13	14	15	16	16	16	17	16	15	14	13	14	14	13	13	13	12	14.3	16.8																						
22-Aug	12	12	12	12	12	12	12	12	12	12	13	13	14	15	16	15	15	16	15	15	14	13	13	13	13.3	16.4																						
23-Aug	12	11	11	11	10	10	9	11	13	15	17	19	20	21	21	22	23	23	23	21	15	13	12	10	15.4	23.0																						
24-Aug	10	10	9	8	8	8	8	10	13	15	16	17	19	19	21	22	22	22	22	20	16	16	16	15	15.0	22.3																						
25-Aug	14	13	12	11	11	10	10	11	13	14	15	18	20	20	22	23	22	22	23	21	17	14	12	11	15.8	22.6																						
26-Aug	10	9	8	8	8	8	9	11	12	14	15	16	17	19	18	17	17	17	17	16	16	15	15	13.8	18.8																							
27-Aug	15	15	14	14	14	13	13	13	15	16	16	17	18	15	14	12	11	10	9	8	8	7	7	12.6	18.3																							
28-Aug	7	7	7	7	7	7	7	7	8	8	9	10	11	11	11	11	11	12	11	10	10	9	9	9	9.0	11.8																						
29-Aug	9	9	9	9	8	8	8	8	8	9	10	11	12	14	15	16	17	15	15	14	13	12	11	11	11.2	16.5																						
30-Aug	11	11	11	11	11	10	10	11	11	12	13	14	14	15	16	16	16	16	17	16	15	15	14	14	13.3	17.0																						
31-Aug	13	12	12	12	12	12	12	12	12	11	12	11	11	12	12	13	13	13	13	12	12	12	12	11	12.1	13.3																						
																								13.2	12.7	12.2	11.8	11.6	11.3	11.6	12.8	14.3	15.7	17.2	18.5	19.6	20.3	20.8	21.0	21.0	20.7	20.2	18.8	16.5	15.2	14.3	13.6	Diurnal Average
																								18.0	17.5	17.7	17.6	17.4	16.8	16.2	17.0	19.4	21.0	23.1	24.5	25.5	25.9	26.7	27.4	27.7	27.4	26.9	25.2	20.8	19.7	19.2	18.6	Diurnal Maximum

P - Power Failure



**Hourly Averages**

**External Temperature (ET) - °C**  
**Evergreen Park - August 2016**



# Hourly Averages

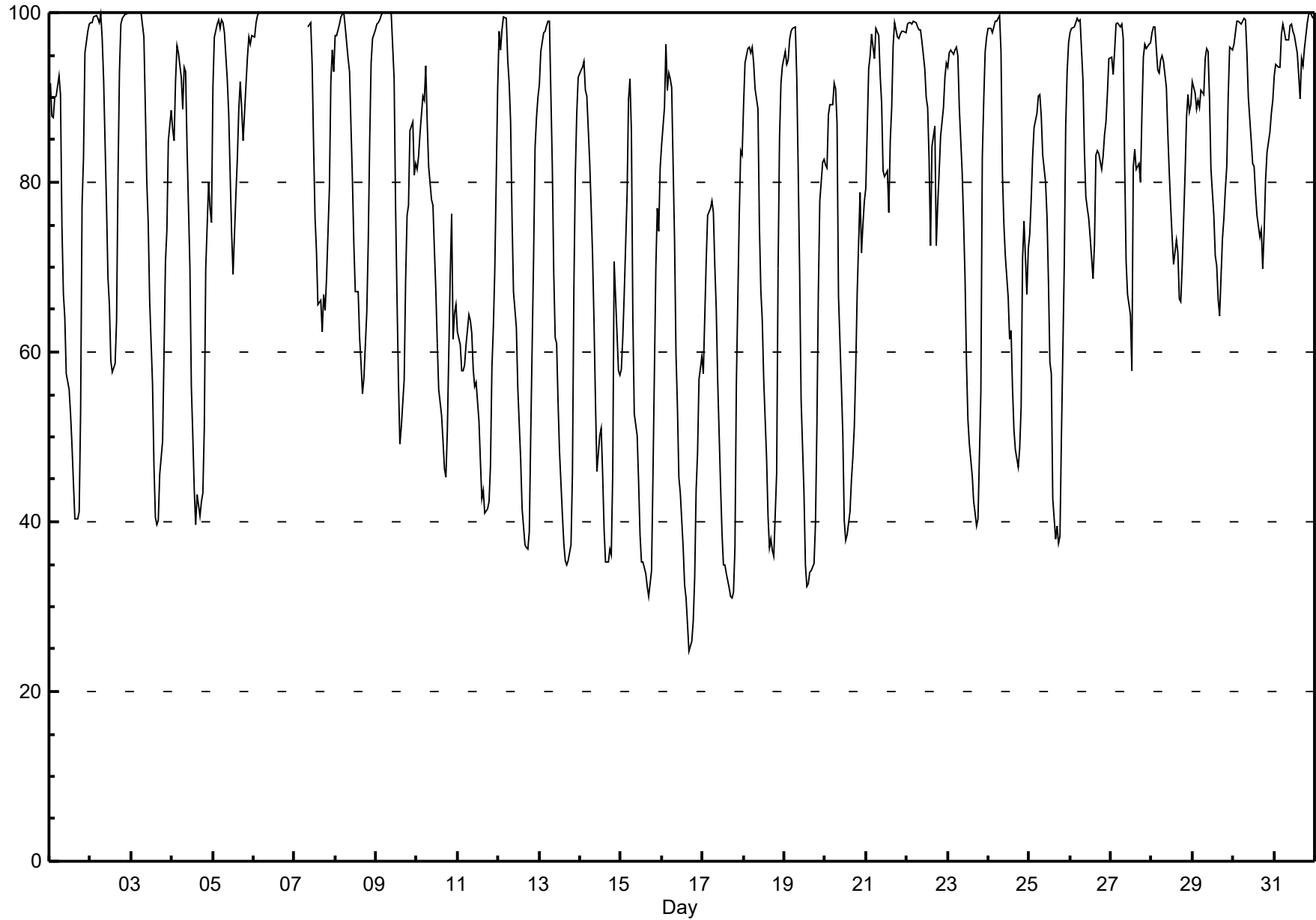
Relative Humidity (RH) - %

Evergreen Park - August 2016

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 100.0 % on Aug 3 00:00      Maximum Daily Average: 96.4 % on Aug 31		Hours in Service: 744 Hours of Data: 717 Hours of Missing Data: 27 Hours of Calibration: 0 Percent Operational Time: 96.4																									
Minimum Value: 25 % on Aug 16 17:00 Maximum Diurnal Average: 93.8 % at hour 5 Monthly Average: 75.92 %		Minimum Daily Average: 55.9 % on Aug 17 Minimum Diurnal Average: 54.4 % at hour 16 Percentiles: P <sub>1</sub> = 31.1 P <sub>10</sub> = 41.3 Q <sub>1</sub> = 59.3 Median = 81.7 Q <sub>3</sub> = 94.5 P <sub>90</sub> = 98.6 P <sub>99</sub> = 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-Aug	92	88	88	90	90	93	90	75	67	64	57	56	53	49	45	40	40	41	53	77	83	95	98	99	71.8	98.7	
2-Aug	99	99	99	100	99	99	100	97	92	77	69	66	59	58	59	64	81	93	99	99	100	100	100	100	87.7	100.0	
3-Aug	100	100	100	100	100	100	100	97	89	80	75	66	56	47	40	40	40	46	49	60	71	74	85	88	75.2	100.0	
4-Aug	86	85	92	96	95	92	89	93	93	84	70	56	50	44	40	43	41	42	43	51	70	80	77	75	70.3	96.1	
5-Aug	91	97	99	99	98	99	99	98	92	88	81	74	69	79	83	89	92	89	85	92	95	97	96	97	90.7	99.1	
6-Aug	97	99	100	100	100	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	--	100.0	
7-Aug	P	P	P	P	P	P	P	P	98	99	94	84	76	72	66	66	62	67	65	69	79	92	96	93	--	98.8	
8-Aug	97	97	99	99	100	100	98	94	93	87	80	73	67	67	62	59	55	57	65	73	85	94	97	98	83.2	99.9	
9-Aug	99	99	99	100	100	100	100	100	100	100	92	77	66	57	49	51	57	69	76	77	86	87	81	82	83.5	100.0	
10-Aug	82	83	86	90	90	94	87	82	78	77	72	67	61	56	53	50	46	45	51	69	76	62	65	66	70.2	93.7	
11-Aug	62	61	58	58	58	61	64	64	62	58	56	57	52	47	43	44	41	42	42	47	58	63	70	91	56.6	91.0	
12-Aug	98	96	98	100	99	94	92	87	76	67	63	56	52	47	41	37	37	37	39	50	71	84	88	90	70.8	99.5	
13-Aug	92	96	98	98	99	99	99	82	69	62	61	54	48	41	37	35	35	35	37	46	67	81	88	92	68.8	99.0	
14-Aug	93	94	94	91	90	82	77	71	64	54	46	50	51	46	39	35	35	37	36	46	71	66	58	57	61.8	94.2	
15-Aug	58	62	67	79	90	92	86	64	53	50	45	38	35	35	34	32	31	33	34	46	70	77	74	82	56.9	92.3	
16-Aug	84	89	96	91	93	92	91	73	60	54	45	43	37	33	31	28	25	26	28	33	44	48	57	59	56.7	96.3	
17-Aug	57	64	71	76	77	78	76	70	65	57	44	39	35	35	34	32	31	31	32	37	56	76	84	83	55.9	83.8	
18-Aug	89	94	96	96	95	96	94	91	89	75	67	64	57	47	41	37	38	37	36	46	70	85	92	94	71.9	95.9	
19-Aug	95	94	94	97	98	98	98	92	81	69	54	43	35	32	33	34	34	35	40	52	67	78	82	83	67.5	98.3	
20-Aug	82	82	88	89	89	92	91	87	67	56	50	40	38	38	41	45	48	51	58	67	79	72	75	78	66.8	91.8	
21-Aug	79	93	95	97	96	95	98	97	93	89	81	81	81	76	85	89	96	99	97	97	97	98	98	98	91.9	98.8	
22-Aug	99	99	99	99	99	99	98	98	98	97	93	90	89	83	73	84	87	72	77	81	86	89	92	94	90.6	98.9	
23-Aug	94	95	96	95	96	96	95	89	81	75	69	59	52	49	45	42	41	40	40	55	83	90	95	97	73.7	97.2	
24-Aug	98	98	98	98	99	99	100	95	81	75	71	66	61	62	56	51	49	46	49	53	71	75	67	72	74.7	99.6	
25-Aug	74	78	83	86	88	90	90	88	83	80	76	68	59	57	43	38	39	37	38	50	70	87	93	97	70.6	96.5	
26-Aug	98	98	98	99	99	99	99	92	84	78	77	76	73	69	73	83	84	83	82	83	86	87	91	95	86.9	99.3	
27-Aug	95	93	95	99	99	98	99	97	82	71	67	64	58	82	84	81	82	80	88	95	96	96	96	96	87.2	98.8	
28-Aug	98	98	98	93	93	94	95	94	91	86	81	77	73	70	73	72	66	66	70	81	88	90	88	89	84.4	98.3	
29-Aug	92	90	89	90	89	91	90	95	96	95	90	82	76	71	70	66	64	73	76	79	82	90	96	96	84.5	95.9	
30-Aug	96	98	99	99	99	99	99	99	95	90	85	82	82	79	76	74	74	70	74	80	83	86	88	90	87.4	99.3	
31-Aug	92	94	94	94	97	99	98	97	97	98	99	98	97	95	93	90	95	94	96	99	100	100	100	99	96.4	100.0	
		88.9	90.4	92.1	93.2	93.8	93.8	92.9	88.3	82.3	76.4	70.4	64.9	60.0	57.4	54.7	54.4	54.9	55.7	58.5	66.3	78.0	83.3	85.5	87.7	Diurnal Average	
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.8	98.6	97.7	97.2	95.3	92.8	89.8	96.1	98.8	98.6	99.3	99.9	100.0	99.9	100.0	Diurnal Maximum	
P - Power Failure																											

**Hourly Averages**

**Relative Humidity (RH) - %  
Evergreen Park - August 2016**





Peace Airshed Zone Association

# Hourly Averages

Wind Speed (km/h)  
Wind Direction (deg)  
Evergreen Park - August 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	7	10	9	8	6	3	5	11	15	15	18	18	17	15	15	18	18	11	22	18	5	2	2	5	10.5	22.4
Dir	257	250	257	252	248	258	275	264	261	248	254	255	262	281	260	264	248	276	281	316	307	156	179	191	263.6	281.1
2 Spd	2	1	3	3	3	1	2	7	6	2	2	3	5	6	8	9	9	23	4	4	6	4	4	3	2.6	23.5
Dir	199	202	206	229	247	297	249	244	299	352	269	263	278	357	6	32	226	216	229	195	190	198	152	163	236.5	216.2
3 Spd	3	1	3	3	4	8	6	5	6	3	3	6	7	4	8	10	13	15	22	16	6	6	4	6	6.2	21.9
Dir	188	132	199	202	255	245	277	263	244	200	198	206	200	258	257	253	262	275	247	261	303	257	229	202	247.6	246.7
4 Spd	6	8	2	1	7	4	4	6	2	4	7	6	4	5	5	2	3	9	6	5	2	4	7	9	1.3	9.4
Dir	211	206	202	211	211	207	246	288	226	308	267	277	320	262	218	357	84	30	41	78	42	43	55	210	254.2	209.8
5 Spd	5	4	1	6	2	2	2	1	5	6	6	6	6	6	11	12	13	14	13	5	8	11	9	8	3.6	13.9
Dir	294	152	136	319	54	94	133	209	339	27	22	46	56	42	19	9	7	11	23	357	259	220	237	321	1.6	11.4
6 Spd	8	9	6	5	2	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	--	8.6
Dir	232	261	324	185	214	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	--	261.4
7 Spd	P	P	P	P	P	P	P	P	6	5	7	5	3	2	5	6	7	7	9	9	5	2	3	3	--	9.2
Dir	P	P	P	P	P	P	P	P	64	76	99	104	170	272	217	261	274	292	309	306	287	300	301	287	--	308.9
8 Spd	3	1	6	3	6	8	7	5	8	8	10	13	15	11	11	13	10	5	7	6	2	1	1	1	4.7	14.9
Dir	196	210	196	258	246	234	249	242	217	224	234	247	245	268	263	270	284	318	59	84	80	57	166	28	248.1	244.8
9 Spd	1	2	0	1	1	1	1	0	1	1	3	3	4	5	6	4	5	8	8	3	1	6	13	9	1.2	12.7
Dir	30	19	252	180	180	206	39	67	321	351	318	208	344	262	260	280	16	318	28	64	203	230	207	204	270.9	207.3
10 Spd	10	11	5	3	4	4	11	16	15	17	16	20	17	21	16	13	12	5	3	2	5	10	11	11	9.1	20.6
Dir	216	240	251	257	258	227	240	248	247	256	265	260	281	311	316	310	308	282	270	187	198	236	225	224	262.3	310.9
11 Spd	15	14	16	20	22	18	19	17	21	20	18	14	12	13	19	12	14	11	9	10	16	11	8	14	13.9	21.7
Dir	230	224	234	239	237	242	246	250	258	266	282	274	292	301	273	284	284	285	279	242	235	234	288	303	259.3	237.2
12 Spd	7	4	1	2	3	6	6	5	10	10	8	7	10	11	12	11	10	5	1	3	1	3	6	3	4.8	11.9
Dir	190	205	17	219	322	264	252	262	259	276	240	236	250	260	272	283	271	294	71	99	155	194	198	192	253.4	272.1
13 Spd	1	1	1	2	3	3	2	7	8	9	10	10	8	10	11	8	7	3	3	3	0	0	1	2	3.1	11.1
Dir	204	191	200	203	187	191	203	223	242	247	269	250	272	285	301	290	328	20	39	115	156	15	41	50	264.4	300.8
14 Spd	2	3	6	4	3	4	5	10	8	11	15	14	16	16	12	17	16	13	11	4	3	7	12	11	8.7	16.8
Dir	320	196	200	217	270	270	269	264	278	259	246	233	241	239	241	258	257	237	239	255	190	224	237	234	244.7	257.8
15 Spd	11	9	5	1	0	0	5	10	15	18	22	27	22	19	16	15	17	13	10	3	1	3	3	0	9.8	27.2
Dir	238	238	252	282	53	348	247	244	244	235	238	247	251	237	223	233	266	278	280	260	210	206	183	210	244.5	246.9
16 Spd	1	2	2	5	6	7	8	16	19	23	27	23	22	21	19	20	26	21	16	10	7	10	6	7	13.0	27.2
Dir	200	186	182	249	207	245	230	246	256	256	257	255	261	249	276	278	260	266	277	268	234	236	258	248	256.6	257.1
17 Spd	8	5	7	5	6	7	6	6	7	8	8	14	17	21	19	21	23	18	15	9	3	1	4	1	9.1	23.2
Dir	249	272	305	283	272	273	275	273	256	247	254	299	304	298	290	311	319	314	307	291	280	187	199	27	291.9	319.3
18 Spd	0	1	0	0	4	2	4	1	4	12	12	10	8	8	8	9	11	11	6	6	2	1	2	1	4.5	12.1
Dir	112	32	184	141	295	320	309	260	185	243	254	259	276	275	282	275	248	262	267	210	188	194	185	181	257.1	242.5
19 Spd	2	3	2	1	1	1	3	5	5	6	14	22	23	23	21	20	19	17	8	2	1	3	2	2	5.5	23.5
Dir	173	166	123	83	35	82	196	191	186	196	234	242	282	299	303	317	323	328	328	330	163	176	190	184	282.1	281.5
20 Spd	2	2	1	1	1	2	0	0	4	10	16	19	21	25	23	18	25	17	9	2	2	5	2	4	7.4	25.4
Dir	174	163	158	146	169	173	42	88	272	256	269	268	277	244	240	247	240	236	232	243	33	26	79	180	248.9	239.5
21 Spd	6	1	2	1	5	3	1	0	2	1	3	5	4	6	7	6	8	6	2	3	6	5	6	10	0.6	9.8
Dir	177	208	205	218	262	257	189	86	243	196	134	145	128	133	66	170	277	37	29	353	18	8	16	12	54.1	12.4
22 Spd	13	11	11	12	8	9	14	18	18	22	20	17	16	26	30	22	9	18	18	14	7	8	7	7	13.2	30.1
Dir	19	15	13	14	5	347	325	322	320	317	323	323	326	318	315	320	312	311	305	307	277	265	268	254	322.5	314.6



Peace Airshed Zone Association

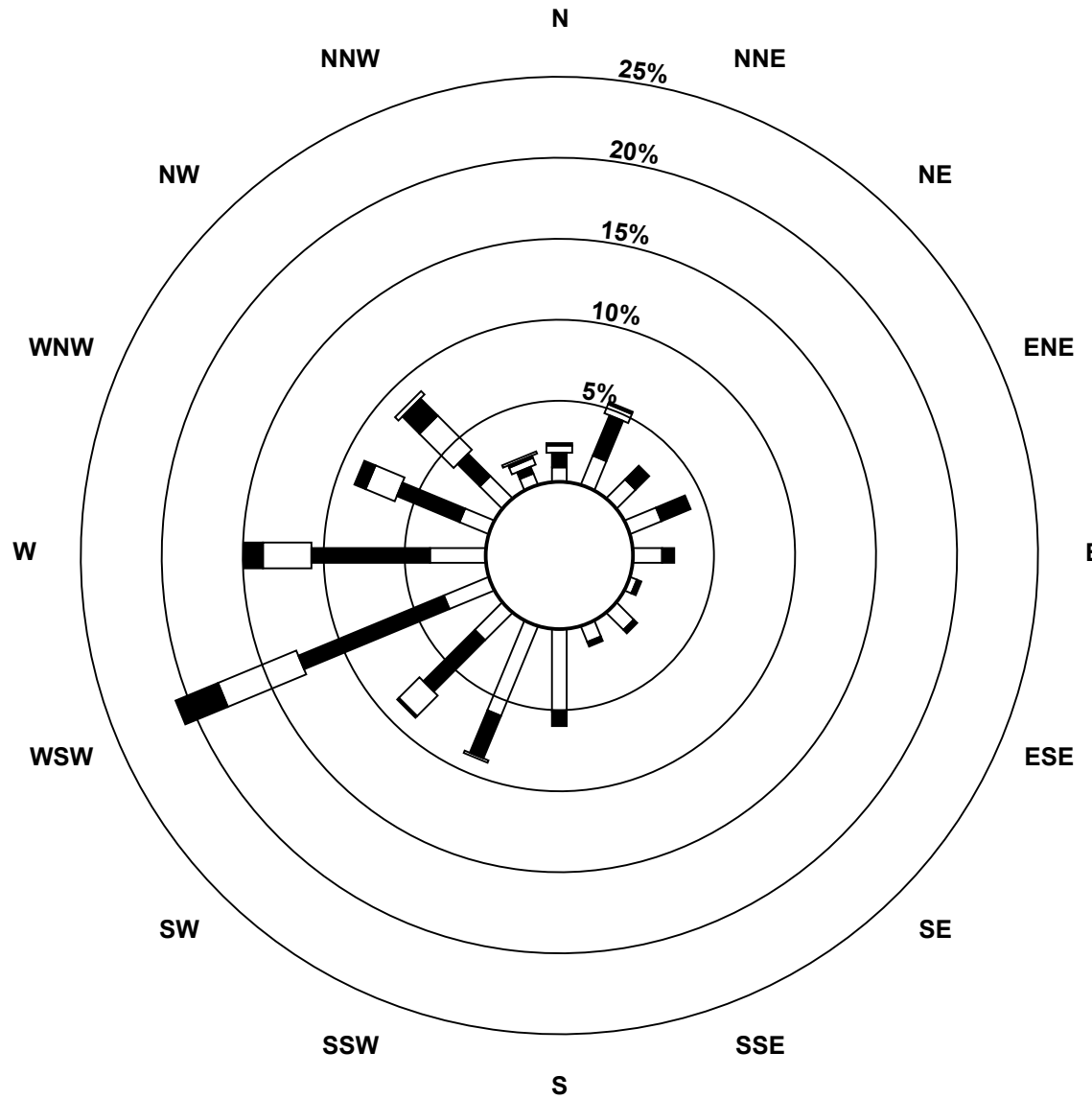
# Hourly Averages

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

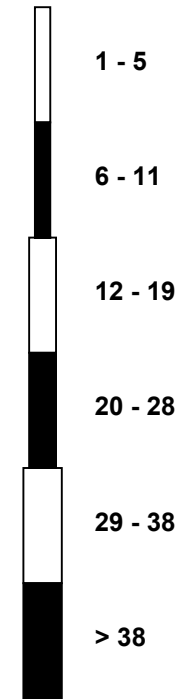
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
23 Spd	8	6	7	8	8	8	9	11	10	9	8	3	6	3	10	13	11	10	8	1	0	0	2	1	6.4	12.5
Dir	251	264	249	252	252	253	250	264	261	261	236	310	253	230	236	249	252	263	285	292	120	184	199	200	254.1	249.5
24 Spd	3	5	3	4	3	3	3	4	8	11	10	9	4	5	8	11	13	11	9	6	3	5	9	13	2.9	13.1
Dir	225	220	197	190	190	187	186	204	231	245	259	247	266	238	353	5	9	21	24	6	224	286	299	311	289.7	311.3
25 Spd	9	6	6	6	8	6	6	11	11	10	12	15	14	13	18	21	19	12	7	0	3	1	0	2	7.8	20.8
Dir	291	270	251	258	248	255	257	252	253	232	249	243	249	242	287	319	310	310	286	303	183	183	186	197	268.8	319.3
26 Spd	2	1	1	2	1	1	1	4	4	5	5	5	5	13	11	4	8	10	9	8	7	4	1	3	3.8	13.1
Dir	204	186	191	194	192	124	123	145	144	139	144	137	172	228	228	184	144	157	162	171	183	179	101	86	172.5	228.0
27 Spd	1	6	4	9	11	8	6	5	21	27	20	18	21	20	26	26	29	35	23	20	15	15	15	12	10.6	34.5
Dir	136	211	196	198	209	209	208	214	236	244	258	237	256	5	16	341	331	323	307	283	293	294	300	301	288.5	322.7
28 Spd	10	9	9	13	9	7	8	8	7	7	4	2	3	7	12	9	3	4	4	2	2	4	5	6	3.9	13.2
Dir	283	284	292	318	311	297	287	302	303	325	325	308	223	254	240	242	12	42	74	91	81	64	60	64	301.8	318.2
29 Spd	5	8	8	9	9	7	5	5	4	6	8	8	8	7	5	6	7	10	10	10	7	8	8	8	6.6	9.9
Dir	59	60	64	70	73	71	71	70	76	62	88	105	113	96	74	80	64	29	27	33	41	26	31	47	61.8	29.2
30 Spd	9	3	2	3	2	4	2	5	4	6	3	2	1	3	2	1	5	8	9	9	8	8	6	7	2.6	9.5
Dir	37	38	338	24	26	36	13	52	67	74	99	80	80	58	33	6	339	312	292	308	316	284	287	261	344.8	307.6
31 Spd	7	8	11	8	3	7	6	7	8	13	13	10	9	11	9	8	5	4	7	5	7	6	14	15	7.1	15.5
Dir	277	243	246	254	235	216	259	228	222	235	240	238	225	227	238	264	271	246	259	275	300	265	306	343	254.9	342.6
Spd	2.9	3.0	2.5	2.5	3.0	3.2	4.0	5.5	6.5	7.4	8.3	8.5	8.3	8.3	8.5	8.7	8.8	7.5	5.8	3.3	2.3	2.8	2.6	2.6	Diurnal Average	
Dir	244.9	238.1	249.5	255.1	248.0	248.6	256.8	255.7	255.1	255.2	257.2	253.4	265.4	275.5	282.8	291.5	289.3	296.9	297.1	291.9	264.7	251.9	260.4	270.7	Diurnal Maximum	
Spd	15.4	14.4	15.9	19.5	21.7	18.4	18.8	17.6	20.9	26.5	27.2	27.2	23.5	25.8	30.1	25.7	29.4	34.5	22.8	19.6	15.5	15.4	14.7	15.5	Diurnal Maximum	
Dir	230.4	224.3	233.7	238.7	237.2	242.1	245.7	322.0	236.4	243.9	257.1	246.9	281.5	317.8	314.6	341.2	331.2	322.7	306.8	283.3	235.1	294.5	299.9	342.6	Diurnal Maximum	
Maximum Speed Value: 35 km/h on Aug 27 18:00																		Minimum Speed Value: 0 km/h on Aug 18 04:00						Hours in Service: 744		
Maximum Daily Speed Average: 13.9 km/h on Aug 27																		Minimum Daily Speed Average: 0.6 km/h on Aug 9						Hours of Data: 717		
Maximum Diurnal Speed Average: 8.8 km/h at hour 17																		Minimum Diurnal Speed Average: 2.3 km/h at hour 21						Hours of Missing Data: 27		
Monthly Average Velocity: 5.04 km/h 268.68 deg																		Speed Percentiles: P <sub>1</sub> = 0.3 P <sub>10</sub> = 1.5 Q <sub>1</sub> = 3.3 Median = 6.7 Q <sub>3</sub> = 10.9 P <sub>90</sub> = 17.6 P <sub>99</sub> = 25.3						Percent Operational Time: 96.4		
All monthly, daily, and diurnal averages have been calculated using vector methods																										
P - Power Failure																										
Frequency Distribution																										
		Speed Range (km/h)																								
Direction	0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total																			
North	17	16	8	3	0	0	44																			
NorthEast	30	29	1	0	0	0	60																			
East	23	13	0	0	0	0	36																			
SouthEast	24	4	0	0	0	0	28																			
South	76	16	0	0	0	0	92																			
SouthWest	43	61	41	13	0	0	158																			
West	34	111	44	21	0	0	210																			
NorthWest	19	24	29	14	3	0	89																			
Total	266	274	123	51	3	0	717																			

**Wind Rose**

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



**Wind Speed Classes (km/h)**



# Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Evergreen Park - August 2016

Maximum Speed: 35 km/h on Aug 27 18:00	Maximum Daily Speed Average: 17.0 km/h on Aug 27	Hours in Service: 744
Minimum Speed: 0 km/h on Aug 18 04:00	Minimum Daily Speed Average: 4.7 km/h on Aug 9	Hours of Data: 717
Maximum Diurnal Speed Average: 14.3 km/h at hour 15	Minimum Diurnal Speed Average: 5.2 km/h at hour 3	Hours of Missing Data: 27
Monthly Average Speed: 8.94 km/h	Percentiles: P <sub>1</sub> = 0.7 P <sub>10</sub> = 2.2 Q <sub>1</sub> = 4.0 Median = 7.6 Q <sub>3</sub> = 11.8 P <sub>90</sub> = 18.6 P <sub>99</sub> = 26.6	Percent Operational Time: 96.4

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-Aug	7	10	9	8	6	3	6	11	15	15	19	19	18	16	17	19	20	13	25	19	8	4	2	5	12.3	24.7																						
2-Aug	2	2	4	4	4	2	3	7	6	4	5	7	8	8	10	9	14	27	5	6	7	4	4	3	6.6	27.5																						
3-Aug	3	2	3	3	4	8	6	6	7	4	5	7	9	7	11	11	15	18	22	17	7	7	4	6	8.1	22.4																						
4-Aug	6	8	2	2	7	4	6	9	4	4	9	8	7	7	8	4	6	10	7	6	2	4	7	11	6.1	11.1																						
5-Aug	8	5	2	6	3	4	2	2	6	6	7	8	8	7	11	12	13	14	14	6	14	13	11	10	8.0	14.4																						
6-Aug	12	13	7	6	3	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	--	10.8																						
8-Aug	3	2	6	3	7	8	7	6	9	9	11	14	16	11	12	14	12	7	8	6	3	1	2	1	7.5	15.7																						
9-Aug	1	2	2	1	1	2	1	1	2	3	5	6	5	7	8	7	9	9	4	2	7	13	9	9	4.7	12.9																						
10-Aug	10	11	6	4	5	5	11	16	16	17	17	21	19	22	18	15	13	6	4	2	5	10	11	11	11.5	22.4																						
11-Aug	16	15	16	20	22	19	19	18	21	20	20	15	14	16	21	14	15	12	9	11	16	11	12	15	16.1	21.8																						
12-Aug	7	4	2	2	4	7	6	5	10	11	9	9	11	14	14	12	11	6	4	3	2	3	6	3	7.0	14.2																						
13-Aug	1	2	1	2	3	3	2	7	8	10	11	11	10	12	14	11	9	5	3	4	1	0	1	2	5.6	13.6																						
14-Aug	4	4	6	4	3	5	6	10	9	12	15	15	16	16	13	18	17	13	11	4	3	7	12	11	9.8	17.9																						
15-Aug	11	9	5	2	1	1	5	11	16	18	23	28	23	20	17	17	18	14	10	4	2	3	4	1	10.8	27.8																						
16-Aug	2	6	4	6	8	8	8	17	19	24	28	24	23	23	20	22	27	22	17	11	7	10	6	9	14.6	28.3																						
17-Aug	8	6	8	6	6	8	6	7	8	9	10	16	19	23	21	22	24	19	16	9	3	1	4	4	10.9	23.7																						
18-Aug	2	2	2	0	4	2	6	4	5	15	13	12	9	11	11	13	12	7	7	2	1	2	2	2	6.4	15.2																						
19-Aug	3	3	2	1	1	1	3	5	5	7	15	22	26	24	23	20	20	17	8	2	2	4	3	2	9.2	25.9																						
20-Aug	2	2	2	2	1	2	1	1	5	11	17	21	23	26	24	19	26	18	10	3	3	6	4	5	9.6	25.7																						
21-Aug	6	2	3	2	6	5	3	1	2	3	4	6	5	7	8	9	13	6	3	4	6	5	6	10	5.2	13.0																						
22-Aug	14	11	11	12	9	9	14	18	18	22	20	17	16	26	31	22	9	18	19	14	8	8	8	7	15.1	30.8																						
23-Aug	8	6	7	8	8	8	9	11	11	9	8	8	8	7	11	14	13	11	9	2	1	1	2	1	7.6	13.6																						
24-Aug	3	5	3	4	3	4	3	4	8	12	11	10	5	6	9	12	14	12	9	6	3	6	9	13	7.3	13.8																						
25-Aug	9	7	6	6	8	6	6	12	12	10	13	15	15	14	22	22	20	12	8	3	3	1	1	2	9.7	21.8																						
26-Aug	2	1	1	2	1	1	1	4	4	5	5	5	6	14	12	5	8	10	10	8	7	4	3	3	5.0	13.9																						
27-Aug	1	6	4	9	12	8	7	5	21	27	21	19	22	23	26	27	30	35	24	20	16	16	16	13	17.0	35.1																						
28-Aug	10	9	9	13	9	7	8	9	8	8	5	3	4	9	12	9	6	5	4	2	3	4	5	6	7.1	13.4																						
29-Aug	5	8	9	10	10	7	5	5	5	6	9	9	9	9	6	8	9	10	10	10	7	8	8	8	8.0	10.2																						
30-Aug	10	4	2	3	2	5	2	5	4	6	5	4	4	5	4	2	7	9	9	10	9	9	7	8	5.5	10.4																						
31-Aug	7	8	11	9	4	8	7	8	9	14	13	10	9	12	9	9	6	4	7	6	8	6	15	18	9.0	18.0																						
																								6.1	5.9	5.2	5.3	5.6	5.5	5.9	7.8	9.3	10.9	12.0	12.4	12.4	13.5	14.3	13.5	14.0	12.8	10.4	7.2	5.5	5.5	6.4	6.9	Diurnal Average
																								15.6	14.6	16.3	19.6	21.8	18.6	19.0	17.8	21.3	26.9	28.3	27.8	25.9	26.2	30.8	26.7	30.1	35.1	24.7	20.1	16.1	16.0	15.5	18.0	Diurnal Maximum

P - Power Failure  
 All monthly, daily, and diurnal averages have been calculated using scalar methods

# Hourly Standard Deviations

Wind Direction (WD) - deg  
Evergreen Park - August 2016

Maximum Value: 98.3 deg on Aug 25 20:00	Hours in Service: 744
Minimum Value: 5.0 deg on Aug 12 23:00	Hours of Data: 717
Percentiles: P <sub>1</sub> = 8.1 P <sub>10</sub> = 12.6 Q <sub>1</sub> = 17.3 Median = 27.4 Q <sub>3</sub> = 46.6 P <sub>90</sub> = 74.4 P <sub>99</sub> = 92.3	Hours of Missing Data: 27
	Hours of Calibration: 0
	Percent Operational Time: 96.4

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-Aug	17	13	14	11	17	32	46	14	16	14	15	15	20	23	27	22	21	34	24	17	64	69	81	41	81.2
2-Aug	60	84	69	57	43	56	54	21	22	60	86	75	62	54	39	31	82	52	56	76	31	17	23	37	85.5
3-Aug	34	71	56	55	33	18	34	36	38	73	70	47	62	81	45	32	27	30	12	19	39	30	19	15	81.2
4-Aug	12	12	65	83	12	34	59	74	72	38	37	42	78	66	69	67	78	40	31	30	17	21	22	45	82.5
5-Aug	67	77	80	47	76	65	66	63	35	31	36	43	44	34	25	15	15	15	14	36	59	39	38	44	79.5
6-Aug	63	47	39	44	83	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	83.5
7-Aug	P	P	P	P	P	P	P	P	27	31	28	32	76	72	51	39	51	24	34	18	18	44	38	52	75.5
8-Aug	39	62	20	37	27	13	23	35	20	16	22	22	19	20	32	27	36	50	38	19	32	77	79	96	95.5
9-Aug	78	36	92	87	81	84	47	88	61	86	66	82	56	62	63	67	43	32	24	23	88	29	13	14	91.8
10-Aug	8	12	20	30	32	34	13	14	13	16	20	20	26	25	28	32	33	51	34	83	21	18	8	11	82.7
11-Aug	8	10	13	6	6	7	8	11	13	16	21	21	30	35	27	25	25	25	18	31	9	9	55	31	54.8
12-Aug	43	47	77	89	42	19	21	25	17	31	29	40	28	38	43	29	30	51	89	32	90	61	5	13	90.3
13-Aug	83	83	74	18	11	19	28	17	19	23	30	32	46	38	51	45	57	65	36	29	88	37	74	70	88.0
14-Aug	70	58	30	62	80	30	26	18	30	24	16	15	10	12	29	19	18	16	17	34	38	10	8	12	80.3
15-Aug	9	9	21	66	89	91	53	16	16	10	12	12	16	18	21	23	22	23	15	40	57	30	16	66	91.1
16-Aug	83	81	93	49	40	32	23	11	14	13	16	13	20	20	21	23	16	18	18	20	19	9	23	41	92.6
17-Aug	15	25	12	23	16	23	31	34	27	31	44	27	26	24	26	20	12	19	17	18	38	67	10	91	91.0
18-Aug	74	90	95	93	31	79	80	84	43	45	21	27	44	45	47	43	30	26	32	23	43	51	33	52	95.5
19-Aug	32	27	58	60	59	92	30	21	14	18	21	12	25	19	23	14	19	17	20	35	78	68	60	53	92.4
20-Aug	36	32	69	87	70	52	74	89	45	22	21	23	27	12	13	13	8	10	17	71	71	32	58	45	89.2
21-Aug	18	92	69	80	46	61	93	79	69	85	75	49	30	34	32	56	65	23	54	39	15	20	17	15	93.0
22-Aug	11	16	12	11	15	20	11	8	8	8	11	12	13	11	12	12	27	13	15	13	22	18	18	12	26.7
23-Aug	11	18	11	12	13	13	15	18	17	27	22	78	57	83	37	26	32	35	25	49	82	94	81	37	93.8
24-Aug	33	20	14	11	13	19	43	21	18	15	23	27	45	45	34	31	22	21	18	19	57	35	11	9	56.5
25-Aug	14	14	17	16	12	20	24	10	15	17	14	15	20	34	33	19	19	15	29	98	41	65	95	46	98.3
26-Aug	30	44	45	40	66	68	64	27	29	23	31	30	41	22	17	34	17	15	18	13	10	37	65	33	68.4
27-Aug	85	42	26	17	54	9	26	16	10	10	16	14	19	25	12	16	14	11	16	13	18	15	19	19	84.7
28-Aug	19	21	16	8	10	14	14	15	16	26	41	85	77	31	20	27	76	38	24	26	27	13	20	23	85.1
29-Aug	17	22	18	19	19	18	25	20	27	23	32	31	32	42	61	51	46	17	16	17	22	24	15	17	60.9
30-Aug	39	44	30	17	38	13	59	16	29	30	63	76	81	53	61	66	36	22	18	13	30	18	27	22	80.6
31-Aug	21	18	18	26	57	26	46	34	17	13	14	12	14	17	18	27	38	33	26	29	25	19	17	31	57.0
	84.7	92.4	95.5	92.5	88.7	92.4	93.0	89.2	72.2	86.2	85.5	85.1	80.6	83.1	69.1	67.1	82.4	64.6	88.7	98.3	90.3	93.8	95.0	95.5	

P - Power Failure



PAZA

## Smoky Heights Station

Monthly Summary Tables, Graphs and  
Roses

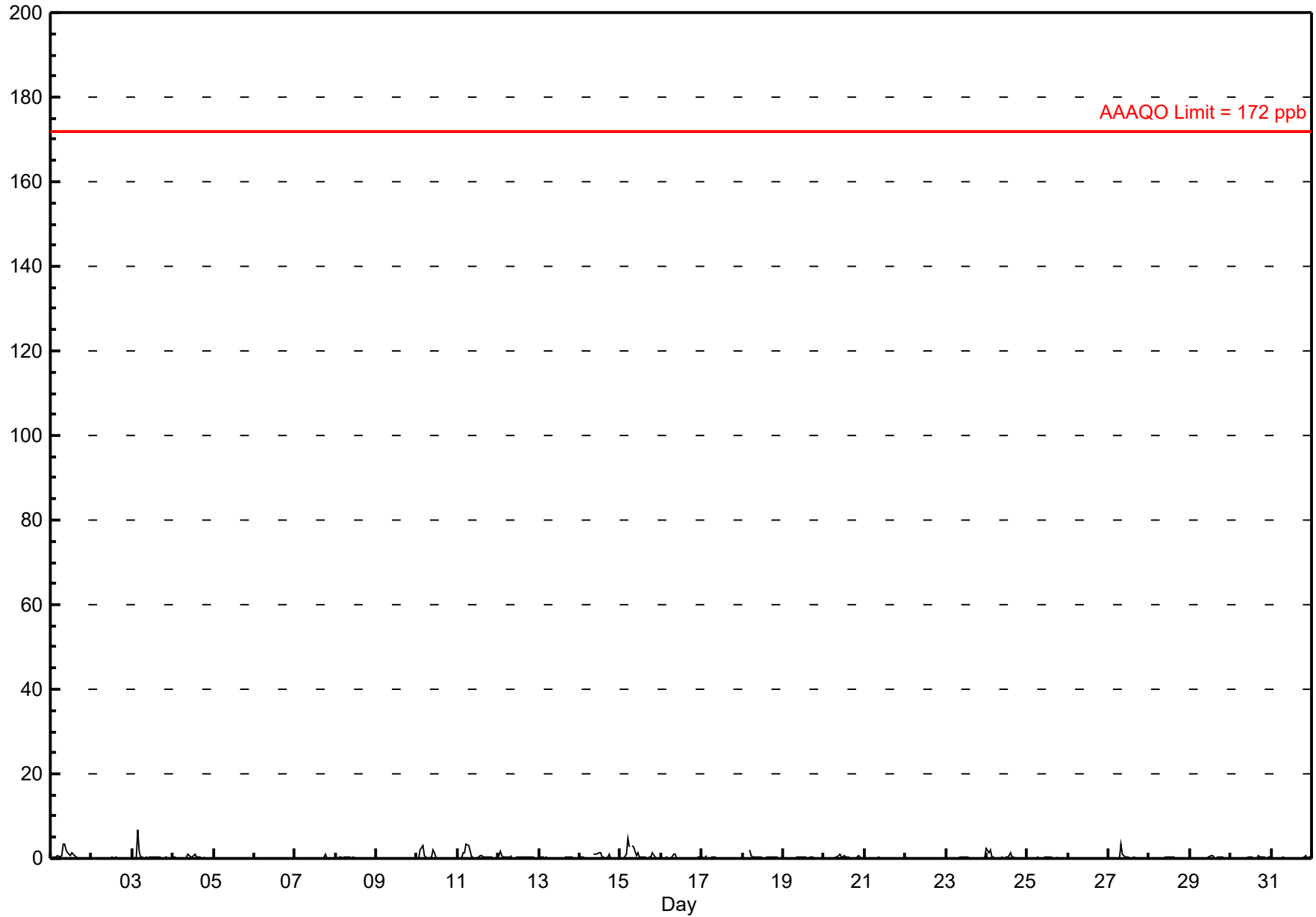
## Hourly Averages

## Sulphur Dioxide (SO<sub>2</sub>) - ppb Smoky Heights - August 2016

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 6.7 ppb on Aug 3 04:00      Maximum Daily Average: 0.9 ppb on Aug 15		Hours in Service: 744 Hours of Data: 701 Hours of Missing Data: 43 Hours of Calibration: 35 Percent Operational Time: 98.9																																															
Minimum Value: 0 ppb on Aug 5 18:00 Maximum Diurnal Average: 0.5 ppb at hour 4 Monthly Average: 0.27 ppb		Minimum Daily Average: 0.0 ppb on Aug 5 Minimum Diurnal Average: 0.1 ppb at hour 22 Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.0 Q <sub>1</sub> = 0.1 Median = 0.1 Q <sub>3</sub> = 0.2 P <sub>90</sub> = 0.5 P <sub>99</sub> = 3.1																																															
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-Aug	0	0	0	0	1	0	1	3	4	2	1	1	1	1	1	0	0	0	0	0	A	0	0	0	0.8	3.5																							
2-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.1	0.2																							
3-Aug	0	0	0	7	2	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0.6	6.7																							
4-Aug	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0	0	A	0	0	0	0	0	0	0.3	0.9																							
5-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0.0	0.1																							
6-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.1	0.1																							
7-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	1	0	0	0	0	0.1	1.1																							
8-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.1	0.4																							
9-Aug	0	0	0	0	0	0	0	0	0	C	C	C	C	C	C	0	0	0	0	0	0	0	0	0	0.1	0.1																							
10-Aug	0	0	2	3	1	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	3.1																							
11-Aug	0	0	0	1	1	4	3	2	0	0	A	0	0	1	1	0	0	0	0	0	0	0	0	0	0.7	3.5																							
12-Aug	1	2	1	0	0	0	0	0	1	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	1.8																							
13-Aug	0	0	0	0	0	0	0	N	N	N	N	N	N	N	M	0	0	0	0	0	0	0	0	0	--	0.4																							
14-Aug	0	0	0	0	0	0	0	A	1	1	1	1	1	1	0	0	0	0	1	0	0	0	0	0	0.4	1.2																							
15-Aug	0	0	0	1	5	3	A	3	3	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0.9	4.9																							
16-Aug	0	0	0	0	0	A	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.0																							
17-Aug	0	0	0	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.6																							
18-Aug	0	0	0	0	A	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.9																							
19-Aug	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																							
20-Aug	0	A	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.9																							
21-Aug	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.4																							
22-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3																							
23-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.1	0.3																							
24-Aug	3	1	2	1	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	A	0	0	0	0.5	2.5																							
25-Aug	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																							
26-Aug	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	0.1																							
27-Aug	0	0	0	0	0	0	0	3	1	1	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0.3	3.2																							
28-Aug	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	0.4																							
29-Aug	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	A	0	0	0	0	0	0	0	0	0.2	0.8																							
30-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	1	0	0	0	0	0	0	0.2	0.6																							
31-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	1	0	0	0.2	0.7																							
																								0.2	0.2	0.3	0.5	0.4	0.3	0.2	0.5	0.5	0.4	0.4	0.2	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	Diurnal Average
																								2.5	1.8	1.9	6.7	4.9	3.5	3.1	3.4	3.5	2.0	1.5	1.2	1.3	1.0	1.3	0.5	0.6	1.1	1.1	1.4	0.7	0.3	0.3	0.4	Diurnal Maximum	
C - Calibration      M - Maintenance      N - Not Valid      A - Automated Daily Zero Span Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb    24-hr 48 ppb    30-day 11 ppb																																																	

### Hourly Averages

Sulphur Dioxide (SO<sub>2</sub>) - ppb  
Smoky Heights - August 2016



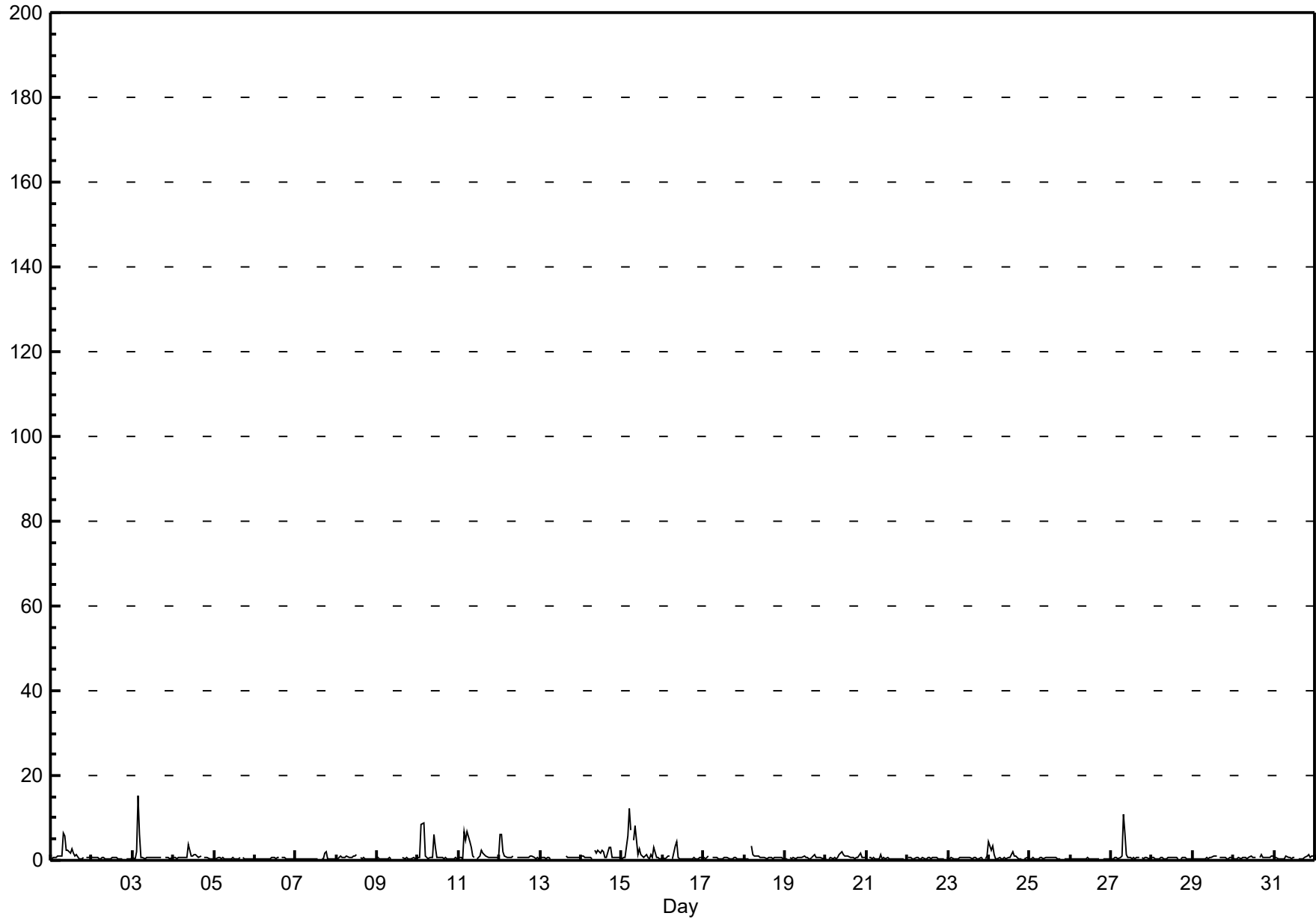
## Hourly Maximums

## Sulphur Dioxide (SO<sub>2</sub>) - ppb Smoky Heights - August 2016

Maximum Value: 15.4 ppb on Aug 3 04:00		Maximum Daily Average: 2.5 ppb on Aug 15		Hours in Service: 744																						
Minimum Value: 0 ppb on Aug 7 05:00		Minimum Daily Average: 0.4 ppb on Aug 5		Hours of Data: 701																						
Maximum Diurnal Average: 1.7 ppb at hour 4		Minimum Diurnal Average: 0.5 ppb at hour 22		Hours of Missing Data: 43																						
Monthly Average: 0.87 ppb		Percentiles: P <sub>1</sub> = 0.3 P <sub>10</sub> = 0.4 Q <sub>1</sub> = 0.5 Median = 0.5 Q <sub>3</sub> = 0.7 P <sub>90</sub> = 1.2 P <sub>99</sub> = 6.7		Hours of Calibration: 35																						
				Percent Operational Time: 98.9																						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Aug	0	1	1	1	1	1	1	6	6	3	2	2	3	2	1	1	0	0	0	1	A	1	1	1		
2-Aug	1	1	1	1	0	0	1	1	0	0	0	0	1	1	1	0	0	0	0	A	0	0	0	0		
3-Aug	1	0	2	15	6	1	1	0	1	1	1	1	1	1	1	1	1	1	A	1	1	1	0	1		
4-Aug	1	1	0	1	1	1	1	1	1	4	1	1	1	1	1	1	1	A	1	1	1	0	0	0		
5-Aug	0	0	1	1	0	1	0	0	0	0	0	1	0	0	1	A	1	0	0	0	0	0	0	0		
6-Aug	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1	A	1	1	0	0	0	0	0	0		
7-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	2	2	0	0	0	0	0		
8-Aug	0	0	1	1	1	1	1	1	1	1	1	1	1	A	1	0	1	0	0	0	0	0	0	0		
9-Aug	1	0	0	0	1	0	0	1	0	C	C	C	C	C	C	1	0	1	0	0	0	1	0	0		
10-Aug	1	1	9	9	1	1	0	1	1	6	3	1	1	1	1	0	1	0	1	1	0	1	0	0		
11-Aug	1	1	1	7	5	7	5	3	1	1	A	0	1	2	2	1	1	1	1	1	1	1	1	1		
12-Aug	6	6	2	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	0	1	0		
13-Aug	1	1	1	0	1	1	0	N	N	N	N	N	N	N	M	1	1	1	1	1	1	1	1	1		
14-Aug	1	1	1	1	1	1	0	A	2	2	2	2	2	2	2	1	1	3	3	1	1	1	1	1		
15-Aug	0	1	1	6	12	7	A	5	8	1	3	1	1	1	1	1	0	1	1	3	1	1	0	0		
16-Aug	1	0	1	1	1	A	0	3	4	1	0	0	0	0	0	0	0	0	1	0	0	0	1	1		
17-Aug	1	0	1	1	A	1	1	1	1	0	0	0	1	1	1	1	0	0	1	1	0	0	0	0		
18-Aug	0	0	0	A	3	1	1	1	1	1	1	1	1	0	1	1	1	0	1	1	1	1	1	1		
19-Aug	0	0	A	1	0	1	0	1	1	1	1	1	1	1	0	0	1	1	1	1	1	1	0	1		
20-Aug	1	A	0	1	0	1	0	1	1	1	2	1	1	1	1	1	1	0	1	1	1	2	1	1		
21-Aug	A	1	1	0	1	0	0	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	A		
22-Aug	1	1	1	0	0	1	1	0	0	1	0	0	1	1	0	1	1	1	0	0	0	0	A	1		
23-Aug	0	0	1	0	0	0	0	1	1	1	1	1	1	1	1	1	1	0	1	1	1	A	0	1		
24-Aug	4	2	3	1	1	0	1	0	0	1	0	1	1	1	2	1	1	0	0	0	A	0	1	0		
25-Aug	1	0	1	0	0	0	1	1	0	1	1	1	1	1	1	1	1	0	0	A	0	0	0	0		
26-Aug	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	A	0	0	0	0	0		
27-Aug	0	0	1	1	0	1	1	11	6	1	1	1	0	1	0	1	1	A	1	1	1	1	0	1		
28-Aug	1	1	0	0	0	1	1	0	0	1	1	1	1	1	1	0	A	0	1	1	0	0	0	0		
29-Aug	0	0	0	0	0	0	0	0	1	0	1	1	1	1	1	1	A	1	1	1	1	0	1	1		
30-Aug	0	0	0	1	0	1	1	1	0	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1		
31-Aug	1	1	1	0	1	1	0	1	1	1	0	1	1	A	0	0	0	0	0	1	1	1	1	1		
		0.8	0.8	1.0	1.7	1.3	1.0	0.7	1.4	1.5	1.1	0.9	0.7	0.8	0.8	0.7	0.6	0.7	0.7	0.6	0.6	0.6	0.5	0.5	0.5	
		6.0	6.2	8.6	15.4	12.2	7.2	4.6	11.0	8.1	6.0	3.0	1.8	2.9	2.2	2.0	1.4	3.2	3.2	2.1	3.1	1.8	0.8	1.1	1.1	
		C - Calibration				M - Maintenance				N - Not Valid				A - Automated Daily Zero Span												

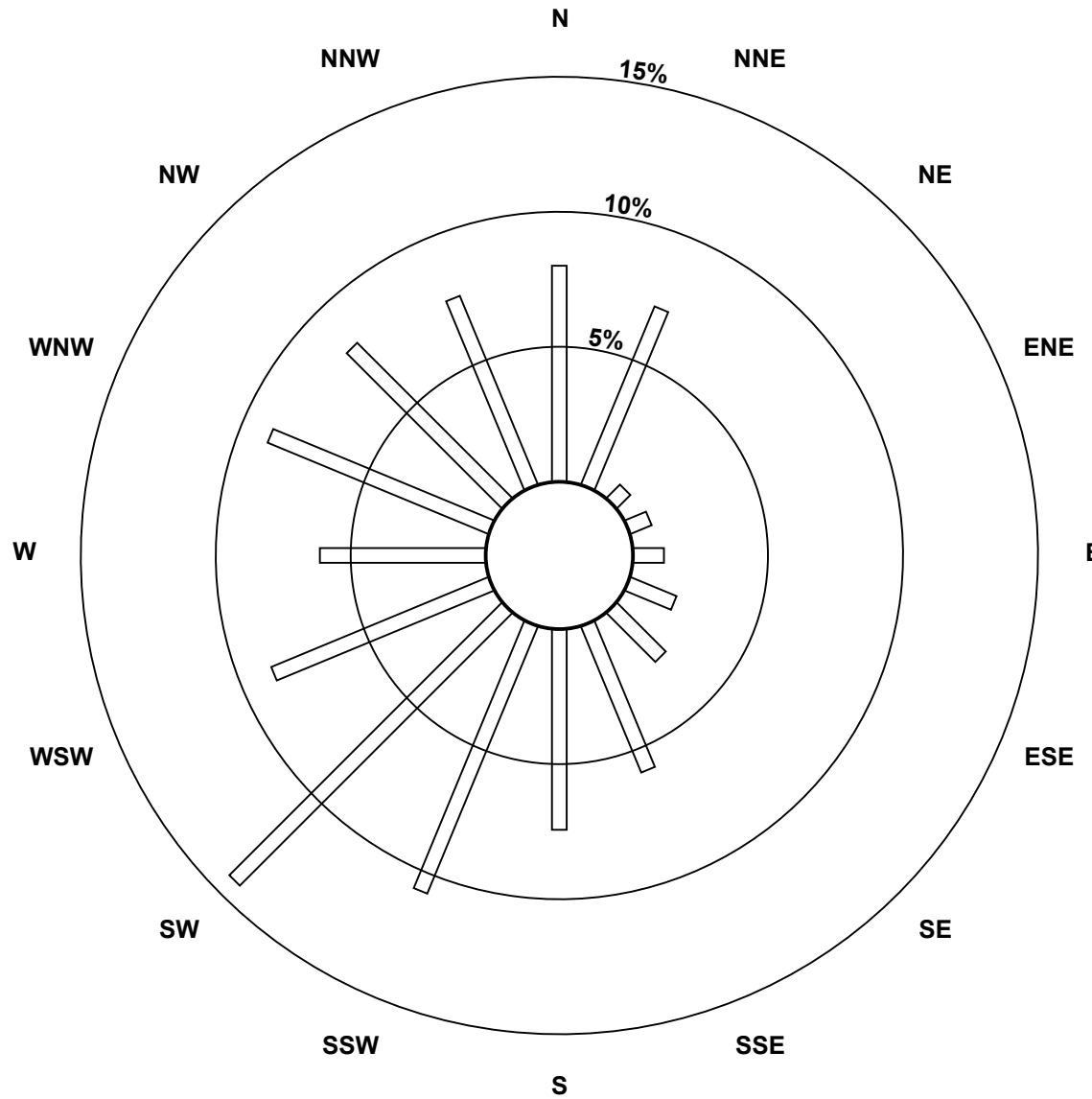
### Hourly Maximums

**Sulphur Dioxide (SO<sub>2</sub>) - ppb**  
**Smoky Heights - August 2016**

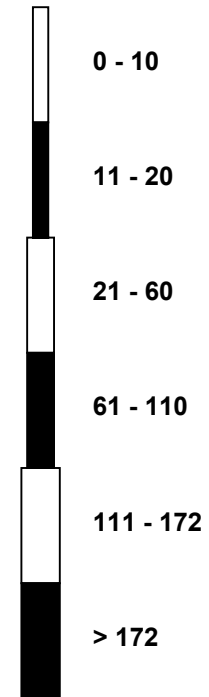


**Pollutant Rose**

**Sulphur Dioxide (SO<sub>2</sub>) - ppb**  
**Smoky Heights - August 2016**

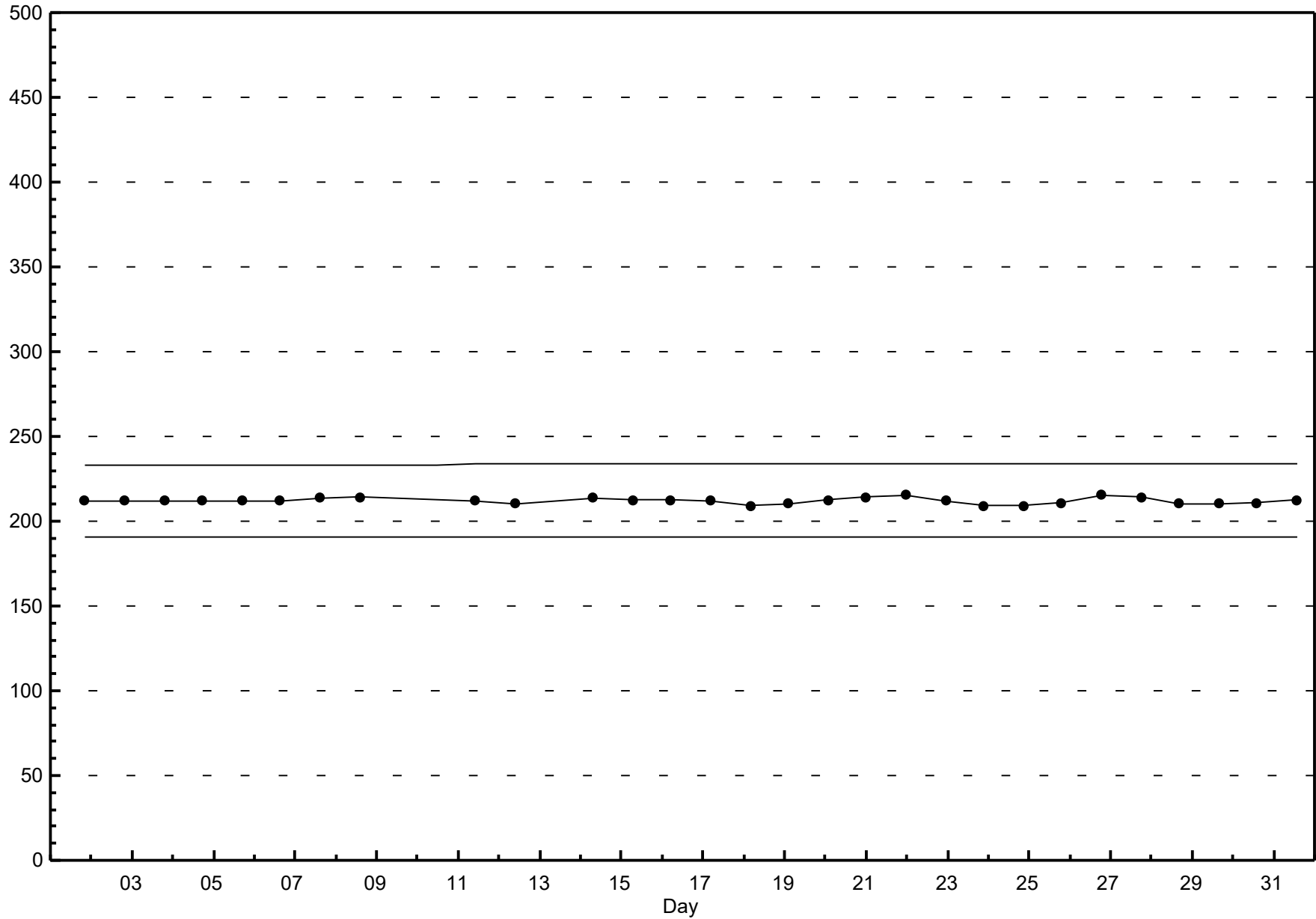


**Pollutant Classes (ppb)**



### Span Responses

Sulphur Dioxide (SO<sub>2</sub>)  
Smoky Heights - August 2016



## Hourly Averages

## Total Reduced Sulphur (TRS) - ppb Smoky Heights - August 2016

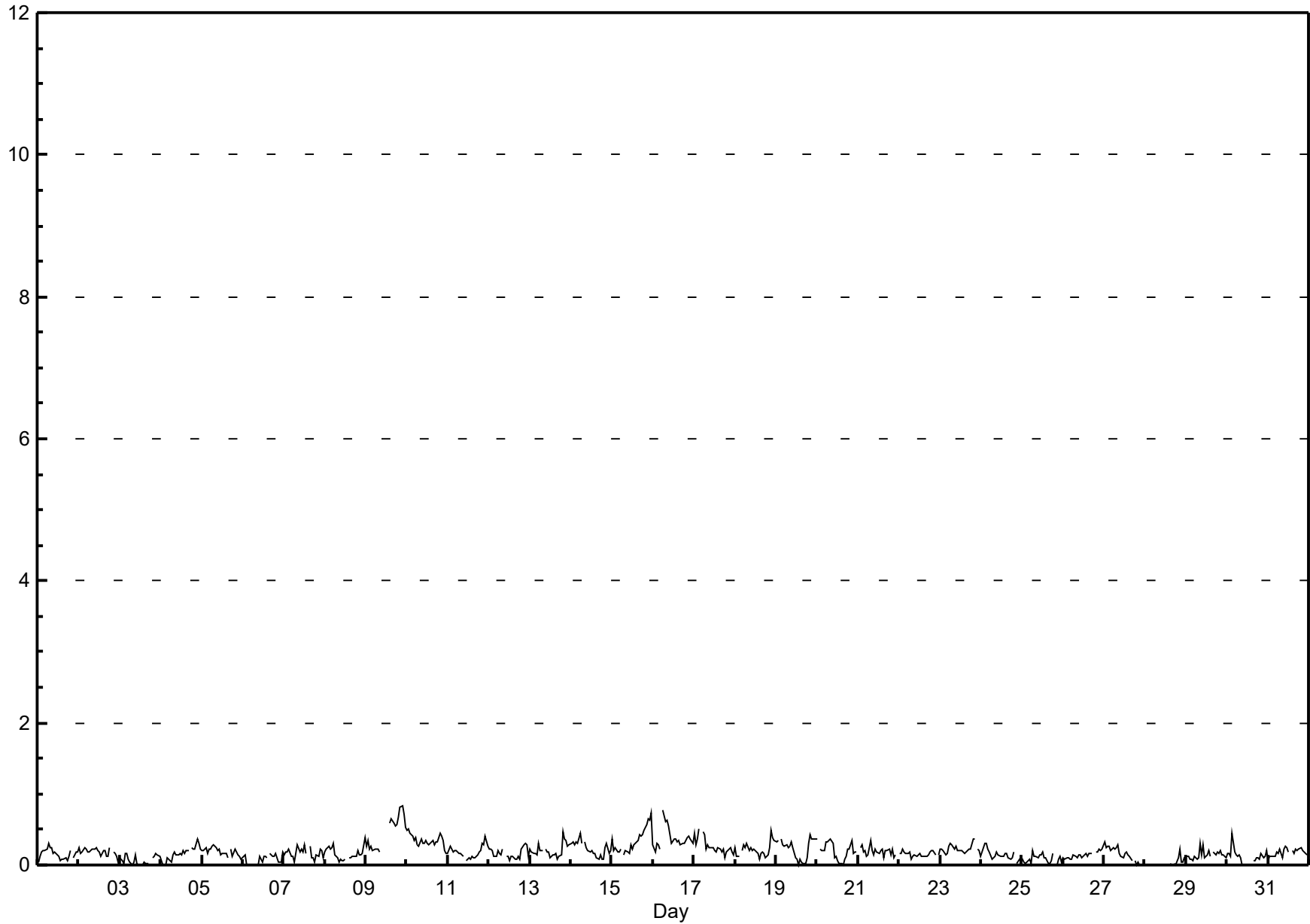
Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 0.8 ppb on Aug 9 22:00 Maximum Daily Average: 0.5 ppb on Aug 9		Hours in Service: 744 Hours of Data: 709 Hours of Missing Data: 35 Hours of Calibration: 35 Percent Operational Time: 100.0																								
Minimum Value: 0 ppb on Aug 3 08:00 Maximum Diurnal Average: 0.3 ppb at hour 21 Monthly Average: 0.19 ppb		Minimum Daily Average: 0.0 ppb on Aug 28 Minimum Diurnal Average: 0.1 ppb at hour 14 Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.0 Q <sub>1</sub> = 0.1 Median = 0.2 Q <sub>3</sub> = 0.2 P <sub>90</sub> = 0.3 P <sub>99</sub> = 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-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.2	0.3
2-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.2	0.3
3-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0.1	0.2
4-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0.2	0.4
5-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.2	0.3
6-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.1	0.2
7-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.2	0.3
8-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.2	0.4
9-Aug	0	0	0	0	0	0	0	0	0	C	C	C	C	A	1	1	1	1	1	1	1	1	1	1	0.5	0.8
10-Aug	0	1	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
11-Aug	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
12-Aug	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3
13-Aug	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	0.5
14-Aug	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
15-Aug	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0.3	0.7
16-Aug	0	0	0	0	0	A	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.8
17-Aug	0	0	0	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.5
18-Aug	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
19-Aug	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4
20-Aug	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4
21-Aug	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
22-Aug	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	0.2
23-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.2	0.4
24-Aug	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
25-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.1	0.2
26-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0.1	0.2
27-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0.1	0.3
28-Aug	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
29-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.1	0.3
30-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.1	0.4
31-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.2	0.3
																								Diurnal Average	Diurnal Maximum	
																								0.2	0.5	
																								0.2	0.5	
																								0.2	0.5	
																								0.2	0.5	
																								0.2	0.3	
																								0.2	0.5	
																								0.2	0.8	
																								0.2	0.6	
																								0.2	0.6	
																								0.2	0.6	
																								0.2	0.4	
																								0.1	0.3	
																								0.1	0.4	
																								0.1	0.4	
																								0.2	0.6	
																								0.2	0.6	
																								0.2	0.6	
																								0.2	0.5	
																								0.2	0.6	
																								0.2	0.7	
																								0.3	0.8	
																								0.2	0.8	
																								0.2	0.7	
																								0.2	0.7	

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 - August 2016**



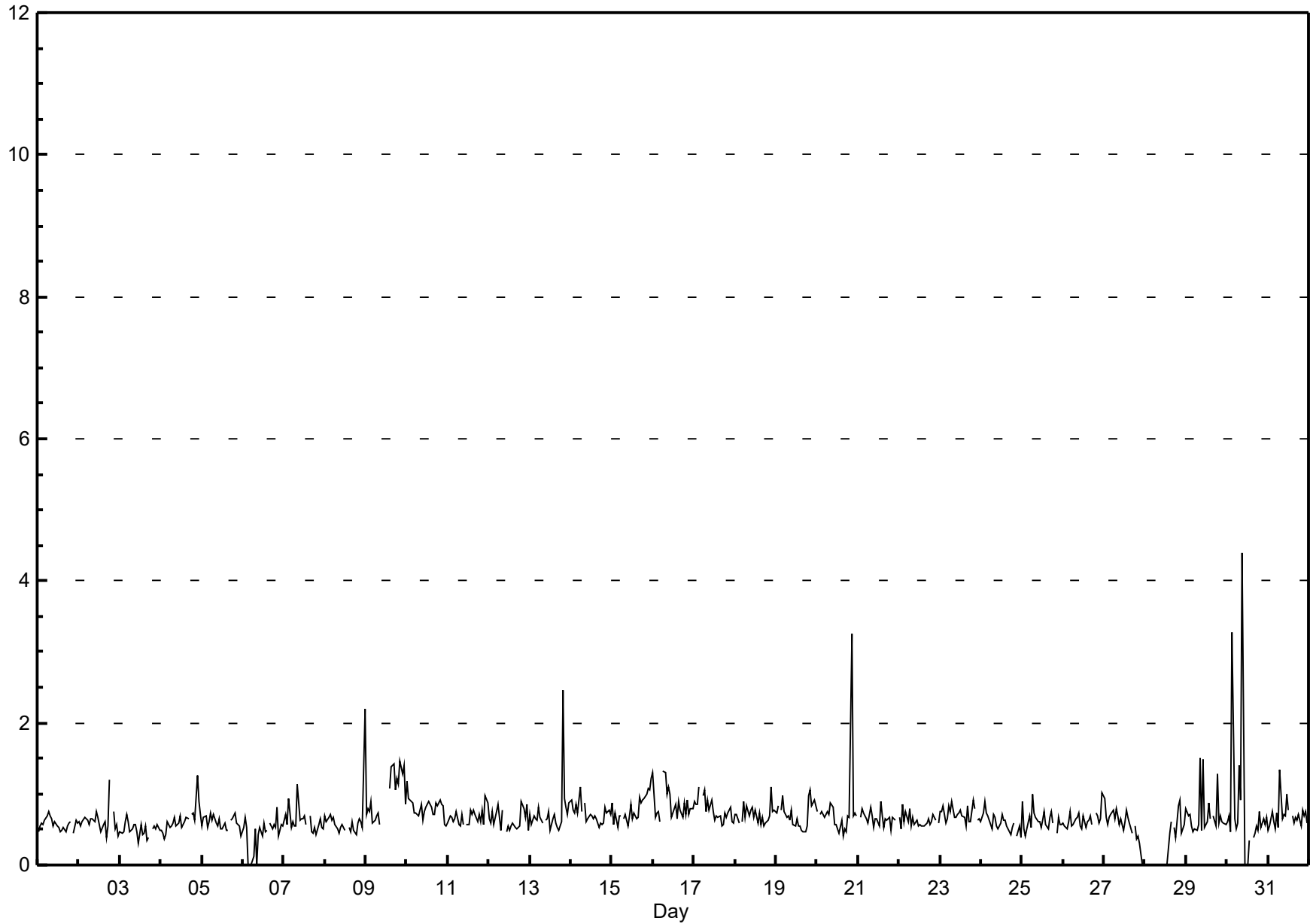
## Hourly Maximums

## Total Reduced Sulphur (TRS) - ppb Smoky Heights - August 2016

Maximum Value: 4.4 ppb on Aug 30 10:00		Maximum Daily Average: 1.0 ppb on Aug 9		Hours in Service: 744																						
Minimum Value: 0 ppb on Aug 6 05:00		Minimum Daily Average: 0.2 ppb on Aug 28		Hours of Data: 709																						
Maximum Diurnal Average: 0.8 ppb at hour 21		Minimum Diurnal Average: 0.6 ppb at hour 12		Hours of Missing Data: 35																						
Monthly Average: 0.67 ppb		Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.5 Q <sub>1</sub> = 0.6 Median = 0.6 Q <sub>3</sub> = 0.7 P <sub>90</sub> = 0.9 P <sub>99</sub> = 1.5		Hours of Calibration: 35																						
				Percent Operational Time: 100.0																						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Aug	0	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	0	1	1	1	A	0	1	1	0.6	0.8
2-Aug	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	0	1	1	A	1	1	1	0	0.6	1.2
3-Aug	0	0	0	1	1	1	0	1	1	1	0	0	1	0	0	1	0	0	A	1	1	1	1	0	0.5	0.7
4-Aug	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	0.6	1.3
5-Aug	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	A	1	1	1	1	1	1	1	0	0.6	0.7
6-Aug	1	1	1	0	0	0	0	1	0	0	1	0	1	0	0	A	1	1	1	1	1	0	1	1	0.4	0.8
7-Aug	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	0	0	1	0	1	1	1	1	0.6	1.1
8-Aug	1	1	1	1	1	1	1	1	0	1	1	0	A	1	0	1	0	0	1	1	1	1	2	0.6	2.2	
9-Aug	1	1	1	1	1	1	1	1	1	C	C	C	C	A	1	1	1	1	1	1	1	1	1	1	1.0	1.5
10-Aug	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.2
11-Aug	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.0
12-Aug	1	1	1	1	1	1	1	0	1	A	0	1	0	1	1	1	1	1	1	1	1	1	1	0	0.6	0.9
13-Aug	1	1	1	1	1	1	1	1	A	1	1	1	0	1	1	1	1	0	1	2	1	1	1	1	0.7	2.5
14-Aug	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.1
15-Aug	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
16-Aug	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.3
17-Aug	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
18-Aug	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.1
19-Aug	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	1	1	1	1	1	1	0.7	1.0
20-Aug	1	A	1	1	1	1	1	1	1	1	1	1	0	1	0	1	0	1	0	1	1	3	1	1	0.8	3.3
21-Aug	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	0.7	0.9
22-Aug	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	0.6	0.9
23-Aug	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
24-Aug	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	A	0	1	0	0.6	0.9
25-Aug	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	0	1	1	1	1	0.6	1.0
26-Aug	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	0.6	1.0
27-Aug	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	0	A	1	0	0	0	0	0	0	0.6	0.9
28-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	A	1	0	1	1	0	1	1	0.2	0.9
29-Aug	1	1	1	1	0	1	1	1	1	1	0	1	1	1	1	A	1	1	1	1	1	1	1	1	0.7	1.5
30-Aug	1	1	0	3	1	1	1	1	1	4	0	0	0	0	A	0	0	1	0	1	1	1	1	1	0.8	4.4
31-Aug	0	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	1.3
		0.7	0.6	0.6	0.7	0.6	0.7	0.6	0.7	0.7	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.8	0.7	0.7	0.7	Diurnal Average
		1.3	0.9	0.9	3.3	1.0	1.1	1.3	1.4	1.5	4.4	1.5	1.0	0.8	0.9	1.1	1.4	1.4	1.1	1.3	2.5	3.3	1.3	1.4	2.2	Diurnal Maximum
C - Calibration		A - Automated Daily Zero Span																								

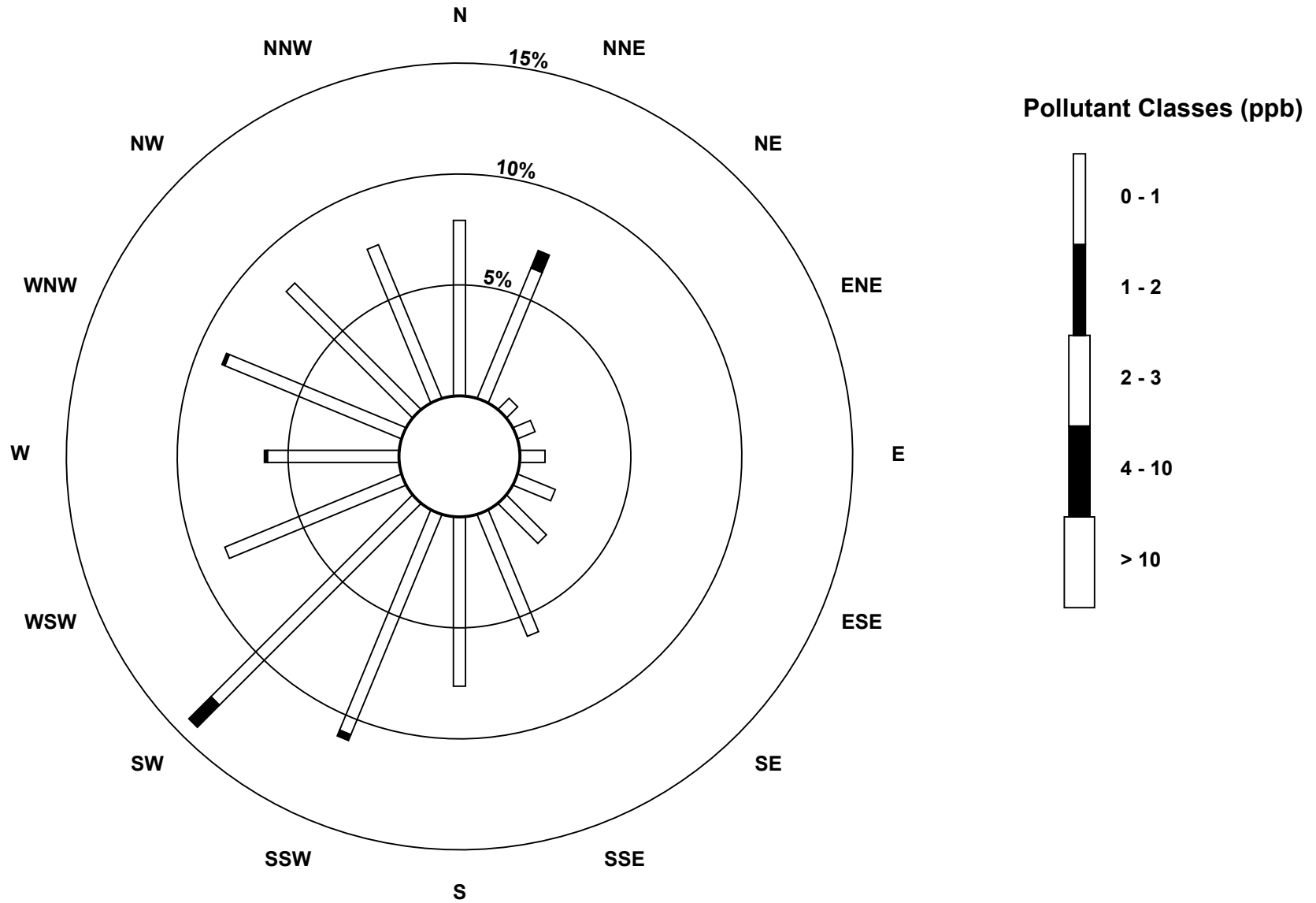
**Hourly Maximums**

**Total Reduced Sulphur (TRS) - ppb**  
**Smoky Heights - August 2016**



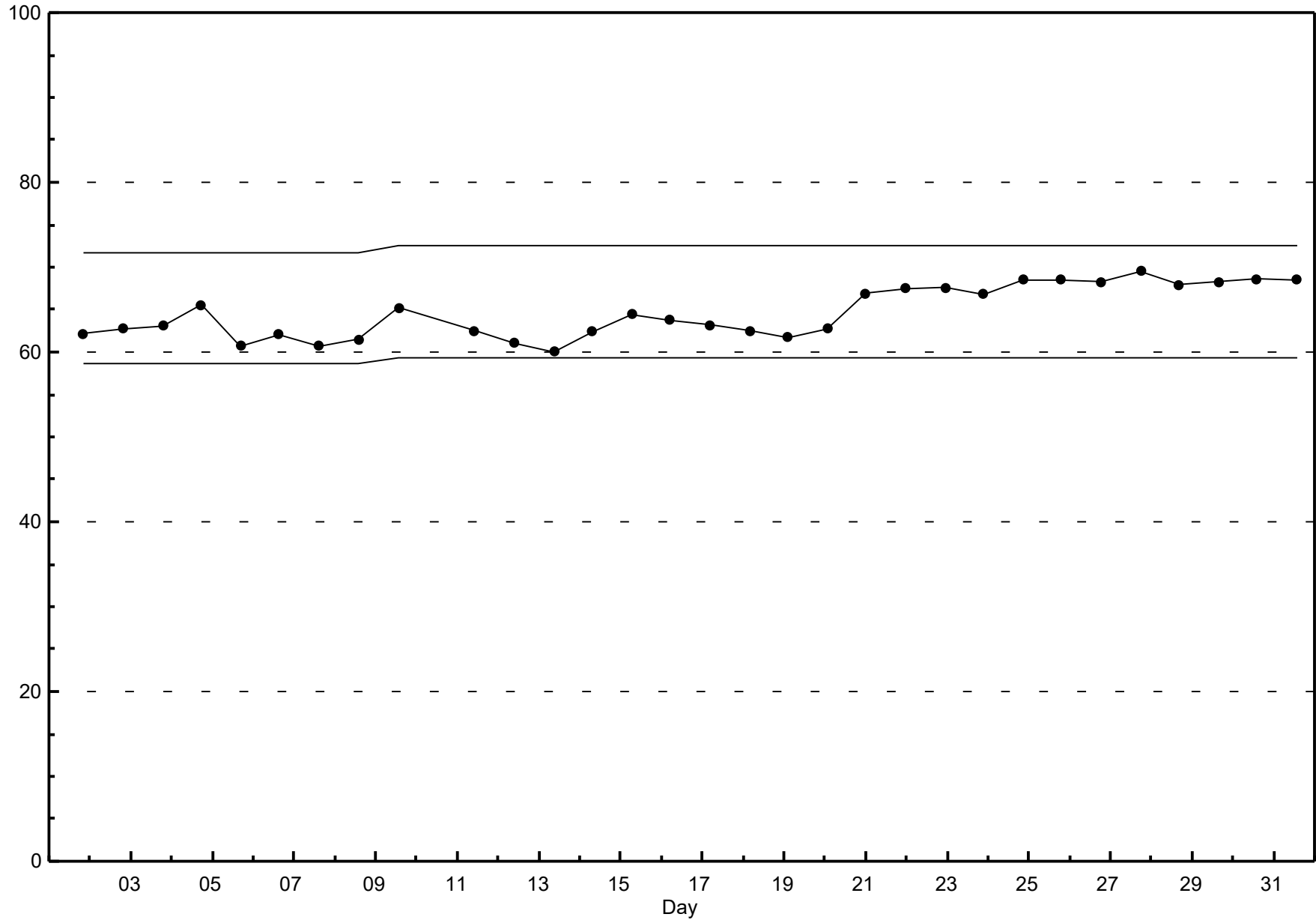
**Pollutant Rose**

**Total Reduced Sulphur (TRS) - ppb**  
**Smoky Heights - August 2016**



### Span Responses

**Total Reduced Sulphur (TRS)**  
**Smoky Heights - August 2016**



## Hourly Averages

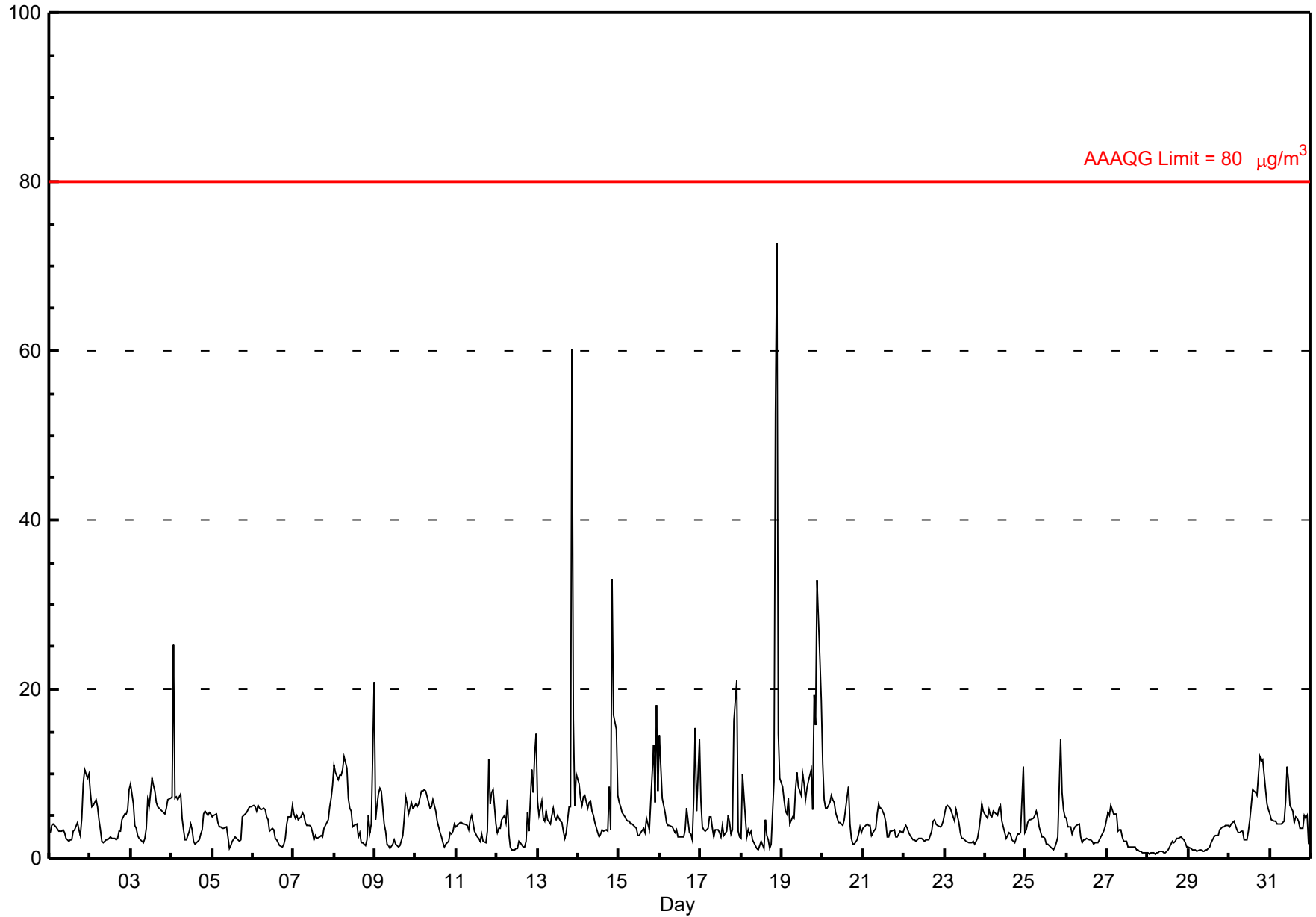
## Particulate Matter 2.5 (PM<sub>2.5</sub>) - µg/m<sup>3</sup>

### Smoky Heights - August 2016

Number of Exceedences: 1-hr: 0 24-hr: 0	Hours in Service: 744
Maximum Value: 72.7 µg/m <sup>3</sup> on Aug 18 22:00	Maximum Daily Average: 10.5 µg/m <sup>3</sup> on Aug 19
Minimum Value: 1 µg/m <sup>3</sup> on Aug 28 02:00	Hours of Data: 744
Maximum Diurnal Average: 10.4 µg/m <sup>3</sup> at hour 21	Hours of Missing Data: 0
Monthly Average: 4.83 µg/m <sup>3</sup>	Hours of Calibration: 0
Minimum Daily Average: 1.3 µg/m <sup>3</sup> on Aug 28	Percent Operational Time: 100.0
Minimum Diurnal Average: 3.2 µg/m <sup>3</sup> at hour 16	
Percentiles: P <sub>1</sub> = 0.7 P <sub>10</sub> = 1.7 Q <sub>1</sub> = 2.5 Median = 3.9 Q <sub>3</sub> = 5.8 P <sub>90</sub> = 8.0 P <sub>99</sub> = 22.3	

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Aug	3	4	4	4	4	3	3	3	3	3	2	2	2	2	3	3	4	3	3	5	9	10	9	10	4.3	10.4
2-Aug	8	6	6	7	6	5	3	2	2	2	2	2	2	2	2	2	2	3	3	5	5	5	6	8	4.1	8.1
3-Aug	9	6	4	4	3	2	2	2	2	4	7	6	10	9	8	7	6	6	6	5	5	6	7	7	5.5	9.6
4-Aug	7	25	7	7	7	8	5	3	2	2	3	4	3	2	2	2	2	3	3	5	6	5	5	5	5.2	25.3
5-Aug	5	5	5	4	4	4	4	4	4	2	1	2	2	3	2	2	2	2	5	5	5	6	6	6	3.8	6.1
6-Aug	6	6	6	6	6	6	6	6	5	5	3	3	3	2	2	2	1	1	2	2	4	5	5	6	4.2	6.4
7-Aug	5	5	5	5	5	5	5	4	4	4	4	3	2	3	2	3	3	3	3	4	5	6	7	9	4.3	8.6
8-Aug	11	10	9	10	10	11	12	11	7	6	6	4	4	4	2	3	2	2	2	2	5	3	4	21	6.7	20.9
9-Aug	5	6	8	8	8	4	3	2	1	1	2	2	2	1	1	2	3	5	7	6	5	7	6	6	4.2	8.3
10-Aug	6	6	6	8	8	8	8	7	6	6	7	6	6	4	3	2	2	1	2	2	3	3	3	4	5.0	8.1
11-Aug	4	4	4	4	4	4	4	3	5	5	4	3	2	2	2	3	2	2	3	12	6	8	8	4	4.3	11.6
12-Aug	3	4	4	5	5	4	7	3	1	1	1	1	1	2	2	1	1	2	5	3	10	8	12	15	4.3	14.8
13-Aug	7	5	7	5	4	6	5	4	5	6	5	5	5	4	4	3	2	3	6	6	60	16	6	10	7.9	60.2
14-Aug	9	7	6	7	7	6	7	7	6	5	4	3	3	3	3	3	3	3	8	3	33	17	15	7	7.4	33.1
15-Aug	7	6	5	5	5	4	4	4	4	4	4	3	3	3	4	3	5	4	3	7	13	7	18	8	5.5	18.1
16-Aug	14	7	6	5	4	4	4	4	3	3	3	3	3	3	3	3	6	3	3	2	7	15	6	14	5.4	15.4
17-Aug	7	4	3	3	4	5	5	4	3	3	3	3	3	4	3	3	5	4	3	3	16	21	3	3	4.9	21.0
18-Aug	2	10	5	3	3	3	3	2	1	1	1	2	2	1	5	3	2	1	2	9	52	73	15	10	8.8	72.7
19-Aug	8	7	6	5	7	4	5	5	8	10	8	7	10	9	7	8	9	10	6	19	16	33	24	19	10.5	32.9
20-Aug	11	7	6	6	7	7	7	7	5	4	4	4	4	5	7	8	4	2	2	2	2	3	4	3	5.1	11.2
21-Aug	4	4	4	4	4	3	3	4	5	6	6	6	5	4	2	3	3	3	3	3	3	3	3	3	3.8	6.5
22-Aug	4	4	4	3	3	2	2	2	2	2	2	2	2	2	2	2	3	4	5	4	4	4	4	4	3.1	4.5
23-Aug	5	6	6	6	5	5	4	6	4	3	2	2	2	2	2	2	2	2	2	2	3	5	7	6	3.9	6.5
24-Aug	5	5	6	5	5	6	5	5	6	6	4	3	2	3	3	3	2	2	2	3	3	3	11	3	4.2	10.9
25-Aug	3	4	5	5	5	5	6	5	4	3	3	2	2	2	1	1	1	1	2	3	14	8	6	5	3.9	14.1
26-Aug	5	4	4	3	3	4	4	4	3	2	2	2	2	2	2	2	2	2	2	2	3	3	3	4	2.8	4.7
27-Aug	5	5	6	6	5	5	3	3	3	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	2.6	6.2
28-Aug	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	3	2	2	2	1	1.3	2.5
29-Aug	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	3	3	3	4	4	4	4	4	2.0	3.9
30-Aug	4	4	4	4	3	3	3	3	3	2	2	3	5	6	8	8	8	10	12	12	12	8	7	6	5.8	12.0
31-Aug	5	5	4	4	4	4	4	4	4	7	11	9	6	6	4	5	5	4	4	4	5	5	5	2	5.0	10.8
	5.8	5.9	5.1	4.9	4.8	4.6	4.5	4.0	3.7	3.7	3.6	3.3	3.3	3.2	3.2	3.2	3.2	3.2	3.2	3.7	4.8	10.4	9.7	7.1	6.9	Diurnal Average
	14.5	25.3	9.4	9.9	9.8	10.5	12.1	10.6	8.1	10.1	10.8	9.2	10.0	8.9	8.1	8.5	9.2	10.5	12.0	19.4	60.2	72.7	23.7	20.9	Diurnal Maximum	

Alberta Ambient Air Quality Guideline (AAAQG): 1-hr 80 µg/m<sup>3</sup> Alberta Ambient Air Quality Objective (AAAQO): 24-hr 30 µg/m<sup>3</sup>



# Hourly Maximums

# Particulate Matter 2.5 (PM<sub>2.5</sub>) - µg/m<sup>3</sup>

## Smoky Heights - August 2016

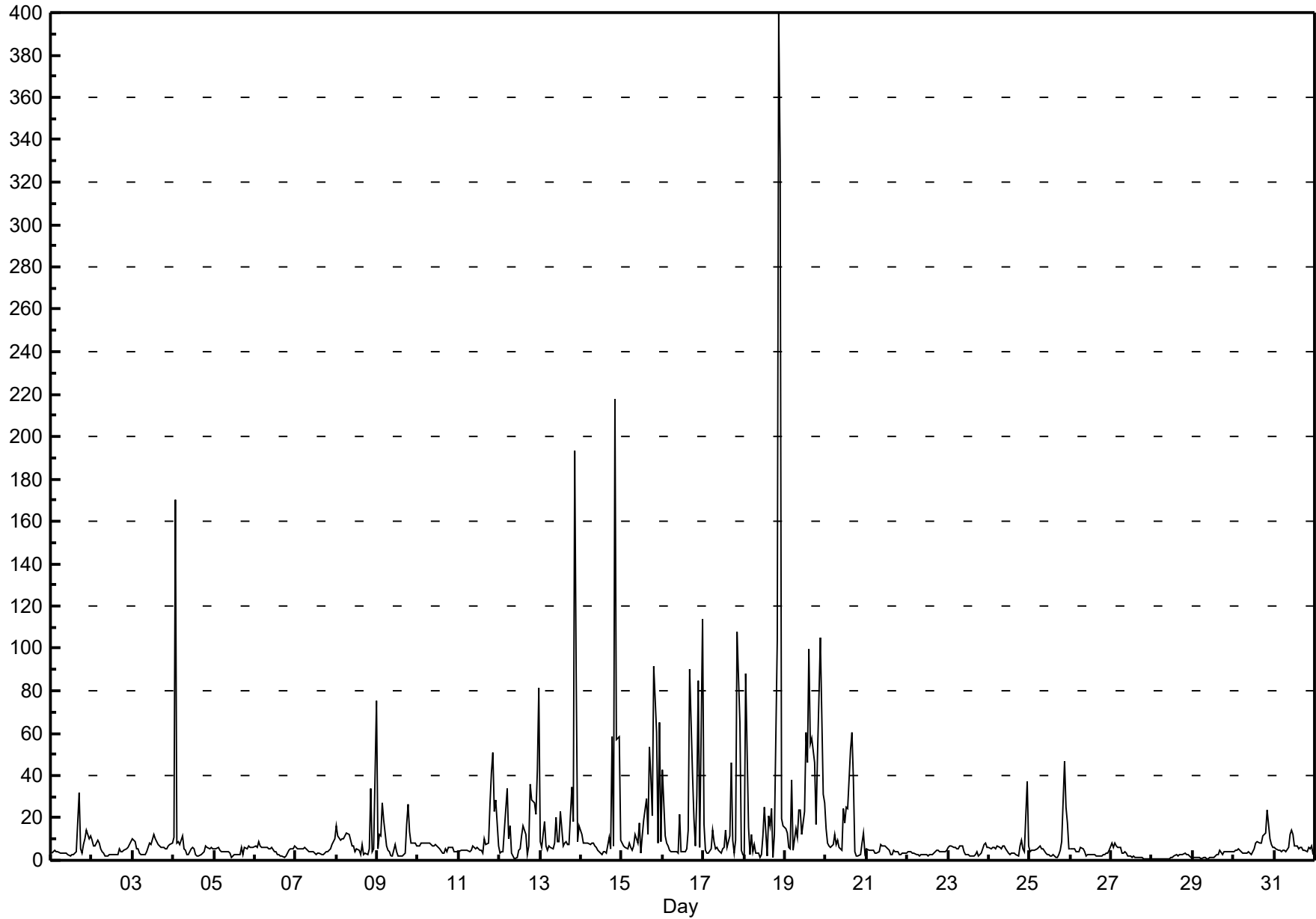
Maximum Value: 399.7 µg/m <sup>3</sup> on Aug 18 21:00 Minimum Value: 1 µg/m <sup>3</sup> on Aug 27 23:00 Maximum Diurnal Average: 44.0 µg/m <sup>3</sup> at hour 21 Monthly Average: 11.28 µg/m <sup>3</sup>		Maximum Daily Average: 47.0 µg/m <sup>3</sup> on Aug 18 Minimum Daily Average: 1.6 µg/m <sup>3</sup> on Aug 28 Minimum Diurnal Average: 5.1 µg/m <sup>3</sup> at hour 8 Percentiles: P <sub>1</sub> = 1.0 P <sub>10</sub> = 2.2 Q <sub>1</sub> = 3.4 Median = 5.3 Q <sub>3</sub> = 8.0 P <sub>90</sub> = 20.1 P <sub>99</sub> = 102.3		Hours in Service: 744 Hours of Data: 744 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0																						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Aug	4	4	5	4	4	4	4	3	4	3	3	2	2	3	3	4	32	6	3	7	10	14	10	11	6.3	31.7
2-Aug	10	7	7	10	8	6	4	3	2	2	2	3	3	3	2	2	6	4	4	5	6	6	7	9	5.0	9.7
3-Aug	10	9	5	5	3	3	3	2	4	6	8	8	12	10	9	7	7	6	6	6	6	7	8	8	6.5	12.4
4-Aug	11	170	8	9	8	12	5	5	2	3	5	6	5	3	2	2	3	3	4	7	6	6	6	6	12.3	170.0
5-Aug	6	6	6	5	4	4	4	4	4	3	1	2	2	3	2	2	6	2	6	6	7	6	6	6	4.3	7.1
6-Aug	7	6	9	7	6	6	6	6	5	6	6	4	4	3	3	2	2	1	2	3	5	5	6	7	4.8	8.5
7-Aug	6	5	6	5	5	6	5	5	4	4	4	3	3	3	3	3	3	3	4	4	5	8	9	10	4.9	10.0
8-Aug	17	12	10	11	10	12	13	12	10	7	7	4	5	5	3	7	2	3	3	5	34	4	5	75	11.4	75.0
9-Aug	5	12	11	27	19	7	5	4	2	2	8	4	2	2	2	2	4	17	26	13	8	8	8	7	8.5	27.4
10-Aug	7	7	8	8	8	8	8	8	7	7	8	7	6	5	4	4	5	4	6	6	6	4	4	4	6.2	8.3
11-Aug	4	5	5	5	5	5	4	5	7	6	5	6	5	5	3	10	8	8	26	42	51	23	28	7	11.5	50.5
12-Aug	4	4	4	14	34	10	16	4	2	1	1	5	5	11	17	12	2	7	36	29	27	21	43	82	16.3	81.6
13-Aug	9	6	18	7	5	7	6	5	8	20	9	9	23	7	8	9	8	7	35	18	193	89	9	16	22.1	193.2
14-Aug	12	8	8	8	8	8	8	8	7	6	5	3	3	4	4	4	11	6	58	7	217	57	58	9	21.9	217.4
15-Aug	8	7	6	5	8	6	5	7	12	8	18	3	11	19	29	12	53	39	21	92	60	8	65	9	21.3	91.6
16-Aug	43	11	8	7	5	4	4	4	4	3	22	4	4	4	5	14	90	41	20	7	30	85	6	114	22.5	114.1
17-Aug	17	5	4	4	5	14	9	5	6	5	4	5	6	14	6	11	46	10	4	9	108	65	5	3	15.4	108.0
18-Aug	3	88	16	3	12	4	7	4	3	2	2	11	25	2	21	16	24	2	12	104	400	330	20	17	47.0	399.7
19-Aug	15	13	6	6	38	5	15	11	24	24	12	23	60	46	100	55	57	46	17	50	77	105	32	27	35.9	105.3
20-Aug	15	8	7	6	8	12	7	10	6	5	25	17	25	24	53	60	38	4	2	2	2	8	13	4	15.0	60.1
21-Aug	5	5	5	5	5	4	4	4	7	7	7	7	6	5	3	3	5	4	4	3	3	3	3	3	4.5	7.3
22-Aug	4	4	4	3	3	3	3	2	3	3	3	2	2	2	2	2	4	5	5	4	4	4	4	5	3.4	4.9
23-Aug	6	7	7	6	6	6	6	7	7	4	3	2	2	2	2	2	3	4	2	3	5	7	8	6	4.7	7.8
24-Aug	6	6	6	6	6	7	6	6	7	7	6	4	3	3	3	3	3	2	7	10	5	4	38	7	6.6	37.6
25-Aug	4	5	5	5	5	6	7	6	6	3	3	3	2	2	3	1	2	2	5	9	47	25	17	5	7.4	46.9
26-Aug	5	5	5	4	4	4	6	5	4	2	2	3	3	2	2	2	2	2	2	3	3	3	4	5	3.5	6.1
27-Aug	8	6	8	7	6	6	4	4	4	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	3.1	8.0
28-Aug	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	2	2	3	3	2	2	2	2	1.6	3.1
29-Aug	2	1	1	1	1	1	1	1	1	1	1	1	1	2	2	3	5	3	4	4	4	4	4	4	2.3	4.9
30-Aug	4	5	5	5	4	3	3	3	4	4	3	4	5	8	9	8	8	12	12	13	24	10	7	6	7.1	23.9
31-Aug	6	5	5	5	4	5	5	4	6	12	14	12	7	7	5	6	6	5	5	4	6	6	7	2	6.2	14.2
	8.4	14.3	6.6	6.5	8.0	6.0	5.9	5.1	5.6	5.5	6.4	5.6	8.0	6.9	10.2	8.9	14.4	8.5	11.1	15.4	44.0	29.9	14.3	15.4	Diurnal Average	
	43.0	170.0	18.1	27.4	38.1	14.2	16.4	12.4	23.7	23.9	24.7	23.0	60.3	45.9	99.6	60.1	90.1	46.4	58.1	104.0	399.7	330.0	65.2	114.1	Diurnal Maximum	



**Hourly Maximums**

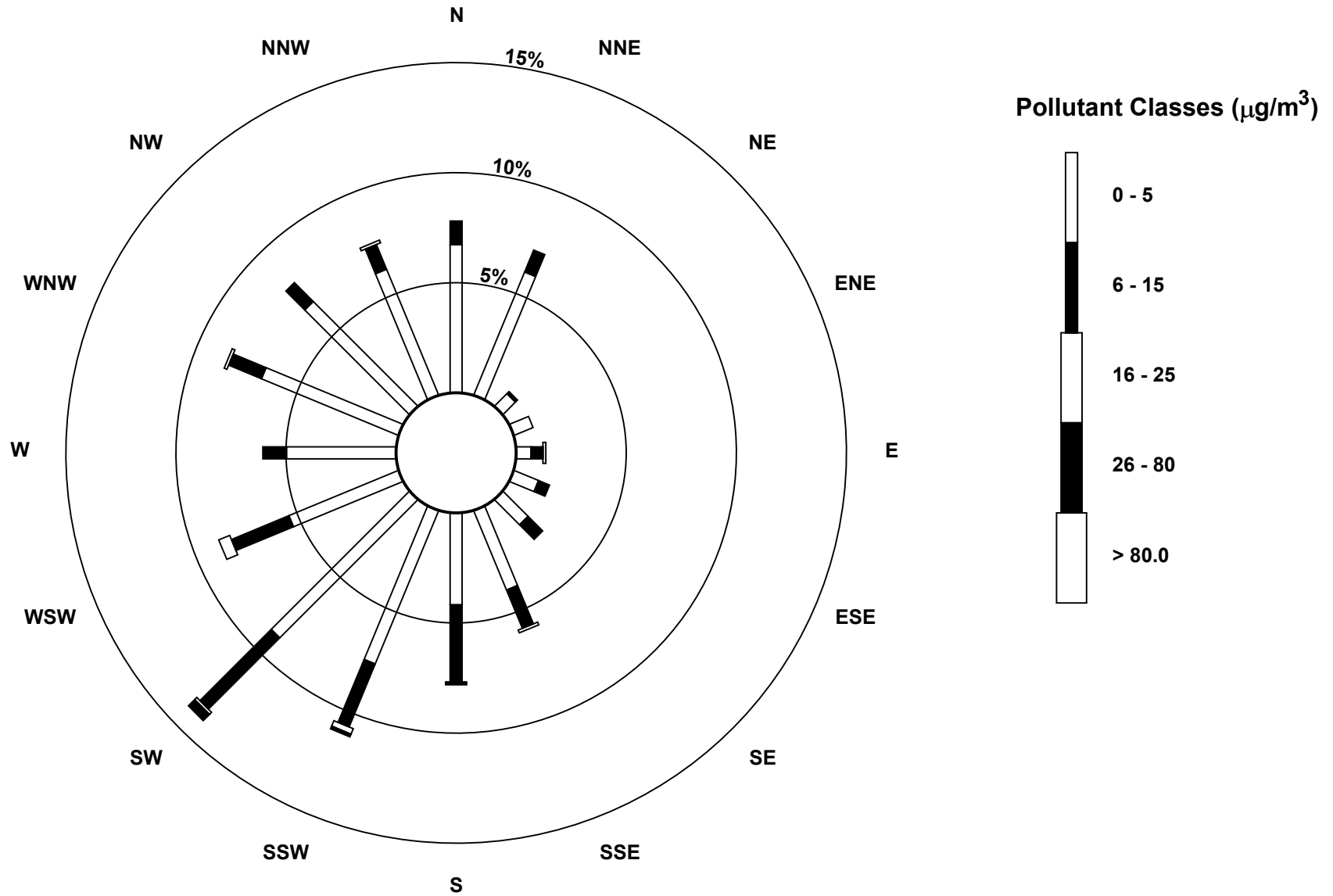
**Particulate Matter 2.5 (PM<sub>2.5</sub>) - μg/m<sup>3</sup>**

**Smoky Heights - August 2016**



**Pollutant Rose**

**Particulate Matter 2.5 (PM<sub>2.5</sub>) - μg/m<sup>3</sup>**  
**Smoky Heights - August 2016**



# Hourly Averages

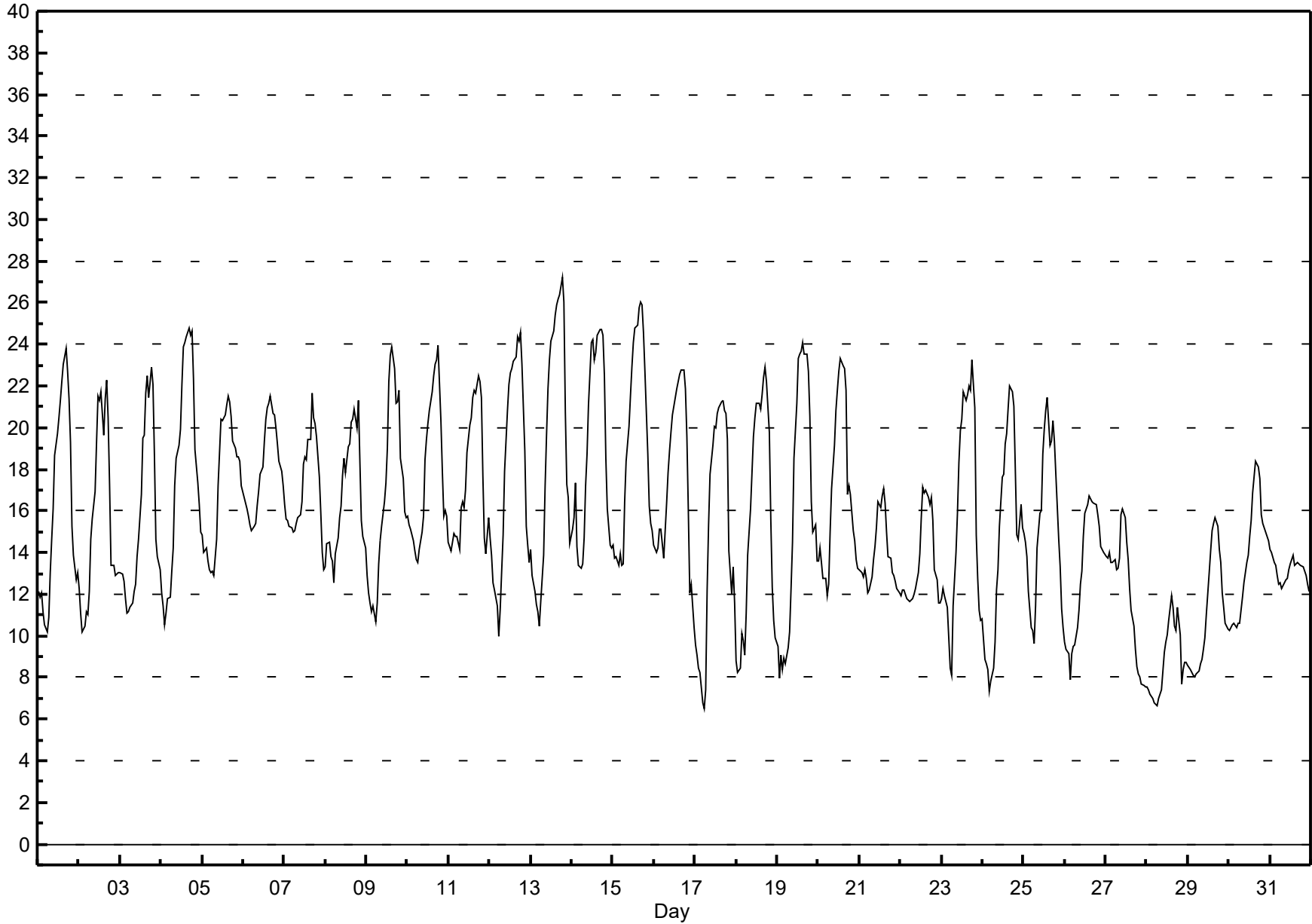
External Temperature (ET) - °C

Smoky Heights - August 2016

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 27.2 °C on Aug 13 19:00 Maximum Daily Average: 19.2 °C on Aug 15																	Hours in Service: 744 Hours of Data: 744									
Minimum Value: 6 °C on Aug 17 06:00 Minimum Daily Average: 8.8 °C on Aug 28 Maximum Diurnal Average: 20.6 °C at hour 17 Minimum Diurnal Average: 11.2 °C at hour 6 Monthly Average: 15.72 °C Percentiles: P <sub>1</sub> = 7.2 P <sub>10</sub> = 10.0 Q <sub>1</sub> = 12.4 Median = 15.0 Q <sub>3</sub> = 19.4 P <sub>90</sub> = 22.2 P <sub>99</sub> = 25.9																	Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0									
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Aug	12	12	12	11	11	10	11	13	15	16	19	20	21	22	23	24	23	21	19	15	14	13	13	16.3	23.8	
2-Aug	12	11	10	10	11	11	12	15	16	17	19	22	21	22	20	21	22	20	17	13	13	13	13	15.7	22.3	
3-Aug	13	13	13	12	11	11	11	12	12	12	14	15	17	20	20	22	23	21	23	22	19	15	14	13	15.6	22.9
4-Aug	12	11	11	11	12	12	13	14	17	19	19	20	22	24	24	24	25	24	25	22	19	17	16	15	17.9	24.8
5-Aug	15	14	14	14	13	13	13	13	15	17	19	20	20	21	21	21	21	19	19	19	19	18	17	17.4	21.5	
6-Aug	17	16	16	16	15	15	15	15	16	17	18	18	19	20	21	21	22	21	21	20	19	18	18	17	18.0	21.5
7-Aug	16	16	16	15	15	15	15	15	16	16	16	18	19	18	19	19	22	21	20	20	18	16	14	13	17.0	21.6
8-Aug	13	14	14	14	14	13	14	15	16	16	18	19	18	19	19	20	20	21	20	21	18	16	15	14	16.7	21.3
9-Aug	13	12	12	11	11	11	12	13	15	15	16	17	19	22	23	24	23	21	21	22	19	18	16	16	16.7	23.9
10-Aug	16	15	15	15	14	14	14	14	15	16	18	19	20	21	22	22	23	23	24	20	18	16	16	16	17.8	23.9
11-Aug	14	14	14	15	15	15	14	16	16	16	17	19	20	20	21	22	22	22	22	21	18	15	14	16	17.5	22.5
12-Aug	15	14	13	12	11	10	11	13	15	18	21	22	23	23	23	23	24	24	25	23	19	15	14	14	17.7	24.6
13-Aug	14	13	12	12	11	10	12	14	17	20	22	23	24	25	25	26	26	26	27	26	21	17	17	14	18.9	27.2
14-Aug	15	16	17	14	13	13	13	15	17	19	21	24	24	23	24	24	25	25	24	23	19	16	14	14	18.9	24.7
15-Aug	14	14	14	13	14	13	13	16	18	20	21	23	24	25	25	26	26	26	25	23	19	16	15	15	19.2	26.1
16-Aug	14	14	14	15	15	14	14	16	18	19	20	21	21	22	22	23	23	23	22	20	16	12	12	10	17.5	22.8
17-Aug	10	9	8	8	7	6	7	12	15	18	19	20	20	21	21	21	21	21	19	14	12	13	12	14.9	21.3	
18-Aug	9	8	8	10	10	9	11	14	16	18	20	20	21	21	22	22	23	22	20	16	12	11	10	15.6	22.9	
19-Aug	10	8	9	8	9	9	9	10	12	15	19	21	23	24	24	24	24	24	23	21	16	15	15	14	16.0	24.1
20-Aug	14	14	14	13	13	12	12	15	17	19	21	22	23	23	23	23	22	17	17	17	15	15	14	13	16.9	23.3
21-Aug	13	13	13	13	13	12	12	13	14	14	15	16	16	17	17	16	15	14	14	13	13	13	12	12	13.9	17.1
22-Aug	12	12	12	12	12	12	12	12	12	12	13	14	16	17	17	17	17	16	17	16	13	13	12	12	13.6	17.1
23-Aug	12	12	12	11	10	8	8	11	14	16	18	20	20	22	21	22	22	22	23	21	15	13	11	11	15.7	23.3
24-Aug	11	9	9	8	7	8	8	10	12	13	15	18	18	19	20	21	22	22	21	18	15	15	16	15	14.6	22.0
25-Aug	15	14	14	12	10	10	10	11	14	16	16	19	20	21	19	19	20	19	18	15	13	11	10	15.4	21.5	
26-Aug	10	9	9	8	9	9	10	10	11	12	13	15	16	16	17	17	16	16	16	16	15	14	14	14	13.1	16.7
27-Aug	14	14	14	14	14	14	13	13	14	16	16	16	15	14	12	11	10	9	9	8	8	8	8	8	12.0	16.1
28-Aug	8	7	7	7	7	7	7	7	7	8	9	10	10	11	12	11	10	10	11	10	8	8	9	9	8.8	12.0
29-Aug	9	8	8	8	8	8	8	9	9	9	10	11	13	14	15	15	16	15	14	14	12	11	11	10	11.1	15.7
30-Aug	10	10	11	11	10	11	11	11	12	13	14	14	15	16	17	18	18	18	18	16	15	15	15	15	13.8	18.4
31-Aug	14	14	14	13	13	12	13	12	13	13	13	13	13	14	13	13	14	13	13	13	13	13	12	12	13.1	14.2
																								Diurnal Average		
																								Diurnal Maximum		

**Hourly Averages**

**External Temperature (ET) - °C**  
**Smoky Heights - August 2016**





Peace Airshed Zone Association

# Hourly Averages

Wind Speed (km/h)  
Wind Direction (deg)  
Smoky Heights - August 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	11	11	13	13	14	13	12	10	10	11	14	16	20	18	13	15	17	11	5	9	11	4	8	8	11.5	19.7
Dir	219	221	222	222	222	229	225	216	200	200	199	198	208	229	225	233	238	237	254	205	196	235	224	219.8	207.6	
2 Spd	7	6	5	3	2	2	2	5	5	2	2	5	6	6	10	6	8	3	15	11	3	9	9	8	0.5	15.2
Dir	211	171	193	138	90	252	26	347	23	28	117	9	0	338	313	296	355	25	148	214	248	108	154	157	152.2	148.3
3 Spd	9	10	10	12	4	1	4	4	5	7	5	8	5	6	6	3	7	5	5	5	1	3	4	5	2.7	11.6
Dir	185	203	206	216	221	207	111	166	157	140	145	106	92	106	118	109	136	7	17	32	344	274	251	257	162.3	215.5
4 Spd	2	2	5	6	2	4	5	8	12	18	18	9	3	1	2	3	1	3	4	6	7	8	4	4	1.8	18.1
Dir	232	166	181	164	176	143	157	157	197	226	244	202	218	270	266	354	102	99	10	16	9	15	7	328	213.3	225.7
5 Spd	5	5	5	9	7	3	8	9	10	8	10	13	13	14	15	13	12	10	4	8	9	9	9	1	8.3	14.6
Dir	333	258	353	332	343	309	359	4	348	3	8	359	341	329	349	342	339	331	339	329	344	351	8	285	344.4	349.2
6 Spd	4	6	9	9	3	4	7	6	2	N	4	4	10	13	14	12	13	11	12	12	9	8	9	4	6.9	13.9
Dir	350	346	244	340	356	2	25	13	46	N	279	346	352	353	348	345	341	336	7	24	3	356	357	99	352.4	348.0
7 Spd	3	3	5	7	9	9	11	13	13	11	9	10	8	6	8	5	3	7	8	7	5	4	4	4	5.6	13.4
Dir	9	2	64	360	344	4	9	20	22	11	6	357	14	352	350	325	272	308	311	300	309	298	166	198	354.5	21.6
8 Spd	6	4	4	5	7	6	7	8	9	10	9	12	8	9	9	4	6	3	3	2	4	4	3	3	2.9	11.9
Dir	184	220	221	209	225	232	130	159	165	153	188	216	249	254	266	338	73	20	24	350	325	298	297	340	213.6	215.7
9 Spd	3	2	1	2	3	1	1	1	2	2	3	4	4	3	4	2	2	4	3	2	1	4	6	8	1.0	8.2
Dir	294	285	300	314	352	320	247	92	36	39	31	61	93	34	15	23	16	20	11	29	298	275	233	214	352.1	213.6
10 Spd	11	11	10	7	8	8	12	12	13	15	13	14	13	15	16	13	12	9	4	1	1	5	7	13	8.2	15.6
Dir	219	225	206	185	182	195	183	195	206	220	235	266	277	274	267	278	273	277	295	302	194	173	188	201	231.9	267.3
11 Spd	12	14	18	19	18	20	20	15	10	9	8	7	10	12	9	13	9	11	7	4	4	9	12	11	10.9	19.8
Dir	210	225	226	231	229	227	225	241	267	281	278	267	215	225	197	233	266	267	274	251	233	218	237	268	237.5	224.5
12 Spd	10	12	10	9	1	2	1	5	6	6	5	8	8	9	9	5	3	5	4	2	4	5	6	6	5.0	11.6
Dir	240	231	224	246	202	226	84	156	213	183	141	161	197	189	197	198	249	270	257	264	220	245	248	231	215.4	231.4
13 Spd	2	4	4	6	7	8	6	7	13	11	11	14	17	17	14	9	7	2	3	2	5	3	3	3	6.4	17.3
Dir	201	164	179	189	187	173	167	151	199	195	184	177	200	199	224	238	281	284	340	35	177	202	254	235	202.2	199.4
14 Spd	6	4	7	3	7	8	6	4	10	11	9	7	15	22	20	17	17	15	9	9	8	10	12	13	9.7	22.0
Dir	240	171	181	182	175	192	143	150	199	208	200	179	202	212	207	205	209	218	233	211	227	240	238	234	208.1	211.7
15 Spd	14	15	18	17	18	17	12	15	15	17	16	15	17	20	18	17	20	16	8	6	7	6	9	10	14.1	20.0
Dir	238	240	234	232	227	225	219	217	197	203	216	206	217	225	221	207	205	216	218	217	222	233	221	231	219.8	224.7
16 Spd	7	5	4	12	9	7	9	12	18	22	23	25	22	25	23	20	21	22	16	11	5	9	13	13	14.3	25.1
Dir	220	193	233	232	201	205	213	217	234	229	240	237	235	233	243	255	242	247	260	257	248	227	241	232	236.1	232.7
17 Spd	15	14	15	9	5	2	2	2	3	8	15	21	24	28	20	23	22	15	5	4	7	7	7	2	9.5	28.4
Dir	238	243	231	233	180	203	201	149	161	298	288	279	267	262	274	266	267	290	340	142	208	252	26	315	261.9	262.1
18 Spd	7	6	8	7	3	4	8	10	9	9	9	8	8	6	7	8	3	4	3	5	7	9	6	5	4.8	10.3
Dir	255	251	237	249	272	346	288	296	321	336	315	297	297	288	219	232	312	19	221	216	211	229	223	191	269.3	296.0
19 Spd	5	4	4	4	5	8	8	10	13	14	15	18	22	17	16	17	15	6	3	1	3	4	4	0	6.6	21.8
Dir	196	179	209	199	207	199	177	168	173	178	186	208	250	261	275	265	265	320	343	290	251	221	242	93	225.3	250.0
20 Spd	4	4	5	6	8	10	7	7	11	15	21	16	14	17	20	14	10	8	4	5	6	9	2	6	7.5	21.0
Dir	181	178	182	187	187	187	181	162	191	211	229	224	228	234	251	252	231	285	211	297	346	316	135	211	223.7	228.5
21 Spd	4	6	9	5	0	3	5	2	6	5	6	6	7	7	8	10	5	9	10	9	7	8	9	10	3.9	10.2
Dir	228	210	258	248	295	173	193	252	317	13	18	29	31	11	8	19	326	282	348	354	323	327	313	319	329.7	348.2
22 Spd	11	11	11	12	11	12	14	16	17	14	12	15	13	16	14	13	10	13	10	7	12	11	13	12	11.9	17.3
Dir	315	322	324	323	328	320	313	307	298	301	308	308	313	312	308	313	326	299	294	295	280	282	259	266	305.1	298.4

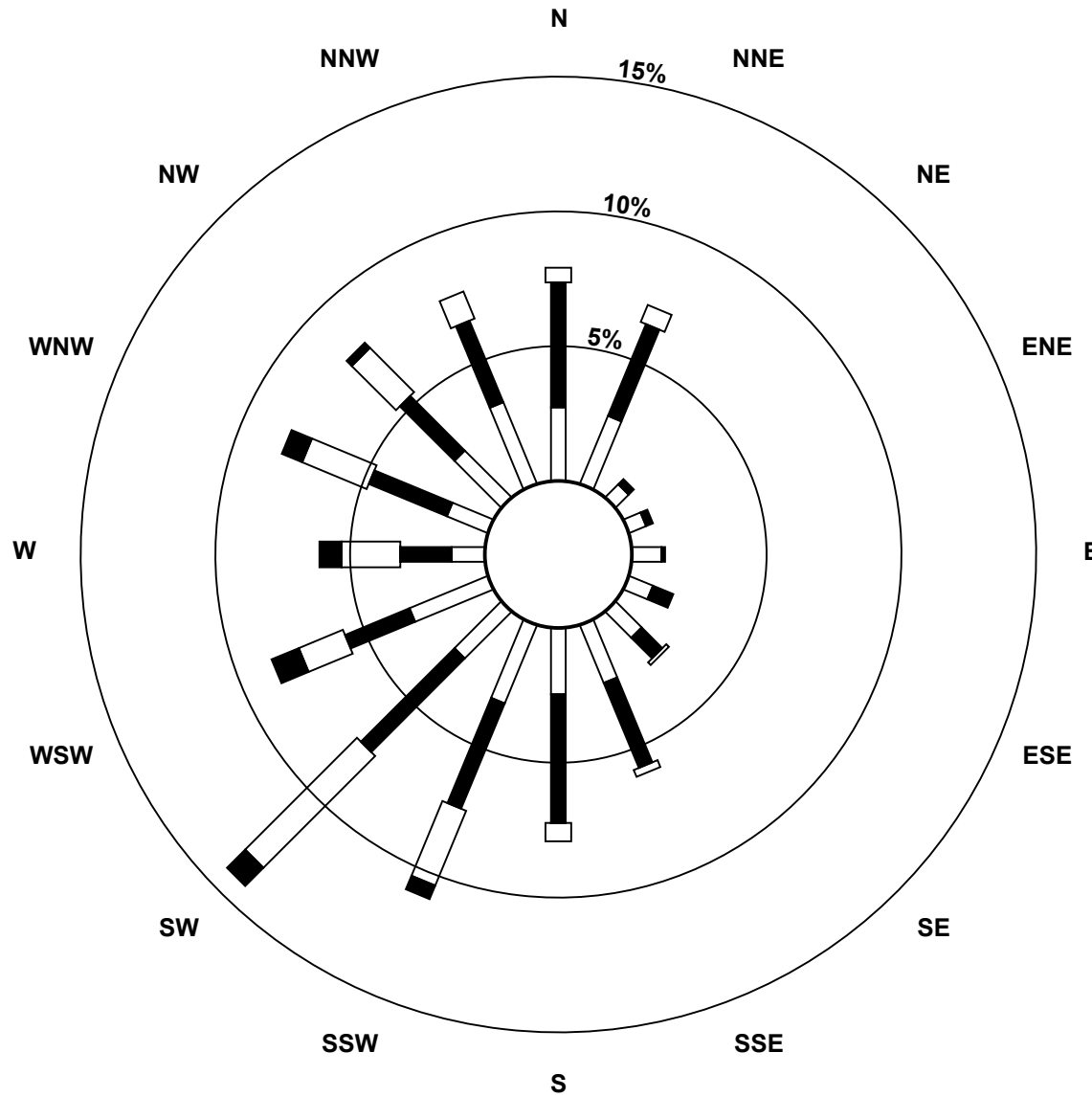
# Hourly Averages

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

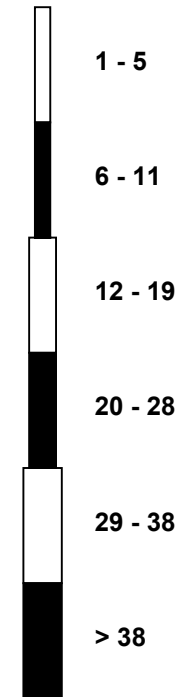
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
23 Spd	11	10	9	6	3	2	2	3	4	5	4	4	1	1	5	4	7	6	1	1	5	7	8	9	3.2	11.4
Dir	271	289	283	285	287	152	153	151	144	135	130	131	352	198	216	257	259	249	308	241	239	239	235	238	243.7	270.8
24 Spd	5	8	10	8	7	6	7	9	7	7	7	6	5	4	2	1	8	7	5	9	12	15	14	15	3.1	15.0
Dir	192	160	161	170	182	168	177	172	163	140	114	100	154	242	315	356	346	346	304	263	250	267	291	285	218.4	284.6
25 Spd	16	14	13	3	5	5	7	5	4	4	4	5	5	3	10	11	1	3	6	4	4	6	6	6	3.2	16.4
Dir	286	289	282	225	231	219	219	206	197	115	115	121	98	250	280	3	243	192	198	176	200	222	224	208	242.2	286.4
26 Spd	6	7	8	7	8	8	9	10	10	8	7	10	10	8	10	12	11	13	11	8	7	4	4	4	8.1	13.2
Dir	188	185	186	190	174	167	158	163	170	159	141	154	169	157	148	159	141	130	141	149	151	169	170	181	159.9	129.8
27 Spd	2	4	7	2	11	11	12	14	14	19	19	15	14	19	22	21	22	26	25	23	23	21	18	17	11.5	25.5
Dir	169	169	234	159	171	190	214	209	202	229	246	270	305	320	320	312	303	297	298	302	302	299	303	295	280.6	296.5
28 Spd	16	17	15	14	12	9	10	14	11	6	4	4	1	5	2	3	3	6	3	2	3	3	6	7	5.1	17.0
Dir	285	290	290	295	288	293	281	291	305	308	324	333	13	244	338	338	152	112	77	1	359	14	66	52	301.8	289.8
29 Spd	6	9	6	8	8	8	6	6	7	6	8	8	9	10	10	10	10	10	10	10	9	10	10	10	8.2	10.5
Dir	32	27	16	22	15	19	11	14	22	16	21	12	28	40	19	4	2	13	10	359	346	334	342	347	10.2	3.5
30 Spd	9	13	12	8	5	8	8	6	7	5	3	4	4	4	4	3	9	11	12	12	13	13	12	12	6.8	13.4
Dir	354	27	30	15	343	349	354	2	24	19	61	63	21	337	311	284	303	294	301	307	317	315	325	332	340.9	27.1
31 Spd	7	5	5	6	5	4	5	7	6	5	5	4	2	4	5	5	4	4	5	7	9	10	13	11	5.6	12.6
Dir	347	340	350	341	9	309	325	4	309	309	313	344	341	342	331	328	1	346	324	317	319	318	317	297	328.0	316.7
Spd	4.8	4.2	5.1	4.2	3.3	3.4	2.8	2.8	3.8	4.3	4.3	3.8	4.7	6.4	6.3	5.9	5.3	5.2	3.3	3.3	3.7	4.4	4.2	4.7	Diurnal Average	
Dir	248.2	243.0	236.8	243.4	228.2	223.8	217.4	215.4	218.9	222.0	235.7	238.3	251.1	259.5	268.9	272.5	273.0	286.2	296.7	293.5	282.8	277.5	270.6	255.8	Diurnal Maximum	
Spd	16.4	17.0	17.9	19.4	18.4	19.8	19.8	15.5	17.7	22.0	22.6	24.8	23.7	28.4	22.6	23.2	22.2	25.5	24.5	22.7	23.2	20.6	17.7	16.9	Diurnal Maximum	
Dir	286.4	289.8	226.3	230.6	226.7	227.1	224.5	307.0	234.0	229.1	239.5	237.1	267.1	262.1	242.5	265.7	267.3	296.5	298.5	302.3	302.4	298.9	303.2	294.8	Diurnal Maximum	
Maximum Speed Value: 28 km/h on Aug 17 14:00																		Minimum Speed Value: 0 km/h on Aug 20 00:00						Hours in Service: 744		
Maximum Daily Speed Average: 14.3 km/h on Aug 27																		Minimum Daily Speed Average: 0.5 km/h on Aug 9						Hours of Data: 743		
Maximum Diurnal Speed Average: 6.4 km/h at hour 14																		Minimum Diurnal Speed Average: 2.8 km/h at hour 7						Hours of Missing Data: 1		
Monthly Average Velocity: 3.99 km/h 254.43 deg																		Speed Percentiles: P <sub>1</sub> = 0.9 P <sub>10</sub> = 2.8 Q <sub>1</sub> = 4.6 Median = 7.9 Q <sub>3</sub> = 11.6 P <sub>90</sub> = 15.8 P <sub>99</sub> = 22.9						Percent Operational Time: 99.9		
All monthly, daily, and diurnal averages have been calculated using vector methods																										
N - Not Valid																										
Frequency Distribution																										
		Speed Range (km/h)																								
Direction	0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total																			
North	45	72	14	0	0	0	131																			
NorthEast	17	12	3	0	0	0	32																			
East	12	7	0	0	0	0	19																			
SouthEast	18	24	4	0	0	0	46																			
South	40	67	18	0	0	0	125																			
SouthWest	31	61	67	17	0	0	176																			
West	27	37	31	8	1	0	104																			
NorthWest	30	42	30	8	0	0	110																			
Total	220	322	167	33	1	0	743																			

**Wind Rose**

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



**Wind Speed Classes (km/h)**



# Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Smoky Heights - August 2016

Maximum Speed: 29 km/h on Aug 17 14:00	Maximum Daily Speed Average: 16.1 km/h on Aug 27	Hours in Service: 744
Minimum Speed: 1 km/h on Aug 21 05:00	Minimum Daily Speed Average: 3.5 km/h on Aug 9	Hours of Data: 743
Maximum Diurnal Speed Average: 11.9 km/h at hour 15	Minimum Diurnal Speed Average: 7.0 km/h at hour 21	Hours of Missing Data: 1
Monthly Average Speed: 9.10 km/h	Percentiles: P <sub>1</sub> = 2.0 P <sub>10</sub> = 3.7 Q <sub>1</sub> = 5.1 Median = 8.2 Q <sub>3</sub> = 11.9 P <sub>90</sub> = 16.3 P <sub>99</sub> = 23.4	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-Aug	11	11	13	13	14	13	12	11	10	11	14	16	20	18	13	15	17	11	5	14	12	6	8	10	12.4	20.0
2-Aug	9	6	5	4	3	3	3	6	5	3	3	6	6	7	10	11	9	5	17	11	5	10	9	8	6.8	16.8
3-Aug	10	11	10	14	5	3	5	5	5	7	6	9	6	7	6	6	7	6	5	5	2	3	5	5	6.4	13.9
4-Aug	3	3	5	6	3	5	5	8	13	19	18	10	5	3	5	4	5	5	4	7	8	8	6	5	6.8	19.4
5-Aug	6	6	5	9	8	4	9	10	10	8	11	14	14	14	15	13	12	11	6	8	9	9	9	4	9.3	15.0
6-Aug	4	7	13	9	4	4	7	6	3	N	4	5	10	13	14	13	13	11	12	12	10	8	9	11	8.8	14.1
7-Aug	4	3	7	8	9	10	12	13	14	11	9	10	9	6	8	6	4	8	8	7	5	4	4	4	7.6	13.6
8-Aug	6	5	5	6	7	7	7	8	9	10	10	13	9	9	6	8	3	4	2	4	4	4	4	3	6.6	12.8
9-Aug	3	3	2	3	3	2	2	2	2	3	4	5	5	4	6	3	3	4	3	2	3	4	7	8	3.5	8.4
10-Aug	11	11	11	8	8	8	12	12	14	15	14	14	14	16	16	14	13	10	5	2	2	5	8	14	10.6	16.1
11-Aug	12	14	18	19	18	20	20	16	11	9	8	7	11	12	11	14	9	11	7	4	5	9	12	14	12.2	19.9
12-Aug	11	12	10	10	3	3	2	5	6	6	5	8	9	10	10	10	6	4	5	4	3	5	5	6	6.6	11.9
13-Aug	2	4	4	6	7	8	7	8	13	12	11	14	17	18	18	14	9	7	3	3	2	5	3	3	8.2	17.7
14-Aug	6	7	11	5	7	8	7	5	10	12	9	7	15	22	20	17	18	15	10	9	8	10	12	13	11.0	22.2
15-Aug	14	15	18	17	18	17	12	15	15	17	16	16	17	21	19	17	20	16	8	6	8	6	9	10	14.6	20.6
16-Aug	7	5	5	12	9	7	9	13	18	22	23	25	22	25	23	21	21	22	16	11	5	10	13	14	15.0	25.5
17-Aug	15	14	15	10	6	3	2	2	5	9	15	22	24	29	21	24	23	18	6	4	7	9	7	4	12.3	28.7
18-Aug	7	6	9	7	5	4	9	11	9	9	9	9	7	7	9	9	5	6	5	7	9	7	6	7	7.5	10.5
19-Aug	5	5	4	4	5	8	8	10	13	14	16	19	23	18	16	17	15	6	3	2	3	4	4	2	9.4	22.5
20-Aug	4	4	5	6	8	10	7	7	11	15	21	17	14	17	20	14	13	9	5	7	6	9	5	6	10.1	21.1
21-Aug	4	7	9	6	1	3	5	3	6	5	6	7	7	8	9	10	6	9	11	10	7	9	9	10	7.0	11.0
22-Aug	12	11	11	12	11	12	14	16	17	14	13	15	13	16	15	13	11	13	10	7	12	11	13	12	12.6	17.4
23-Aug	11	10	9	6	5	4	3	3	4	6	4	5	4	4	6	5	8	6	2	2	5	8	8	9	5.7	11.4
24-Aug	5	8	10	9	7	6	7	9	7	8	7	6	6	5	4	3	9	8	7	9	12	15	14	15	8.1	15.1
25-Aug	16	14	13	5	7	6	7	5	4	4	5	5	7	6	11	12	3	3	6	5	5	6	6	6	6.9	16.4
26-Aug	6	7	8	7	8	8	9	10	10	8	8	10	10	9	10	12	11	13	12	8	7	4	4	4	8.6	13.3
27-Aug	4	4	7	4	12	11	12	14	14	19	19	15	14	19	22	21	22	26	25	23	23	21	18	17	16.1	25.7
28-Aug	16	17	15	14	12	9	10	14	11	6	5	4	2	6	5	4	5	6	3	2	3	3	6	7	7.8	17.1
29-Aug	6	9	6	9	8	8	6	6	7	6	8	8	9	10	10	11	10	10	10	10	9	10	10	10	8.7	10.8
30-Aug	10	14	13	8	5	8	8	7	7	5	4	4	4	5	5	5	10	11	12	13	13	13	12	12	8.6	14.0
31-Aug	7	6	5	6	5	4	5	7	6	5	6	4	3	5	5	5	4	4	5	7	10	11	13	12	6.3	12.7
	8.0	8.4	9.0	8.4	7.5	7.3	7.9	8.6	9.4	10.0	10.1	10.5	10.9	11.9	11.9	11.3	10.7	9.6	7.8	7.1	7.0	8.0	8.3	8.6	Diurnal Average	
	16.4	17.1	17.9	19.5	18.5	19.8	19.9	15.9	17.9	22.2	22.8	25.1	24.0	28.7	23.4	23.7	22.6	25.7	24.7	22.9	23.4	20.8	17.8	17.0	Diurnal Maximum	

N - Not Valid  
 All monthly, daily, and diurnal averages have been calculated using scalar methods



# Hourly Standard Deviations

Wind Direction (WD) - deg  
Smoky Heights - August 2016

Maximum Value: 100.3 deg on Aug 23 14:00		Hours in Service: 744																								
Minimum Value: 2.3 deg on Aug 23 00:00		Hours of Data: 743																								
Percentiles: P <sub>1</sub> = 3.0 P <sub>10</sub> = 7.0 Q <sub>1</sub> = 9.5 Median = 14.9 Q <sub>3</sub> = 28.2 P <sub>90</sub> = 50.3 P <sub>99</sub> = 87.6		Hours of Missing Data: 1																								
		Hours of Calibration: 0																								
		Percent Operational Time: 99.9																								
Day	Hourly Period Ending At (MST)																								Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Aug	8	5	4	4	4	3	5	6	11	10	11	9	9	10	14	20	12	9	10	50	25	41	9	35	49.5	
2-Aug	36	12	19	55	44	62	37	22	17	46	55	44	26	30	10	47	25	44	44	21	76	17	8	12	75.8	
3-Aug	21	12	12	36	24	72	29	43	23	17	41	18	34	35	18	52	20	38	15	13	72	24	51	51	72.3	
4-Aug	75	61	10	18	54	27	13	9	32	24	11	26	82	88	88	58	85	65	19	21	12	13	50	42	88.1	
5-Aug	59	34	32	11	12	67	28	23	15	18	15	16	13	10	13	10	9	12	50	9	8	9	13	70	69.9	
6-Aug	24	18	46	14	48	23	14	14	50	N	24	30	13	14	10	13	9	10	13	7	31	12	21	85	85.3	
7-Aug	39	25	42	23	11	16	11	8	9	11	11	13	14	16	21	40	65	31	12	12	16	41	32	15	64.8	
8-Aug	28	37	39	32	16	35	13	6	10	8	21	21	14	19	21	61	40	26	26	35	17	20	22	40	61.0	
9-Aug	27	65	53	33	34	71	64	64	56	53	32	32	50	47	50	77	48	33	16	37	88	20	9	16	88.2	
10-Aug	8	3	14	33	13	7	6	15	7	9	20	10	18	14	15	15	17	19	31	77	51	15	27	12	77.3	
11-Aug	6	5	2	3	5	4	5	14	14	10	14	24	28	15	39	24	10	14	10	15	22	14	6	45	45.4	
12-Aug	13	12	11	36	84	70	50	22	14	23	27	21	32	37	26	25	46	19	17	21	54	19	8	13	84.2	
13-Aug	46	12	9	10	11	7	12	10	12	13	15	13	12	10	18	18	19	25	52	8	41	9	11	36	52.0	
14-Aug	20	53	45	54	16	13	19	38	12	9	15	28	12	7	12	13	12	8	16	7	10	5	8	4	54.4	
15-Aug	5	4	3	2	4	3	6	6	9	12	12	14	14	13	14	10	8	10	6	13	17	17	12	9	17.0	
16-Aug	32	31	40	11	14	15	8	8	9	8	8	9	10	11	15	10	11	8	7	6	13	12	4	10	40.5	
17-Aug	3	8	4	49	43	64	43	23	50	23	11	10	10	10	13	13	11	37	24	37	22	44	27	73	73.1	
18-Aug	18	10	9	4	66	19	37	11	11	16	19	30	33	41	26	43	68	26	89	14	13	4	12	23	88.8	
19-Aug	9	13	17	31	17	21	10	5	9	7	22	16	14	15	14	12	13	11	36	86	40	25	32	92	92.5	
20-Aug	28	36	11	4	5	6	6	8	13	14	7	10	19	13	10	8	32	21	34	46	19	23	73	20	72.9	
21-Aug	50	20	9	46	88	15	20	58	12	20	23	29	15	28	16	11	38	18	23	24	10	10	8	10	87.5	
22-Aug	9	9	7	8	8	7	7	8	7	8	10	9	11	8	15	9	15	8	7	9	5	6	5	2	15.4	
23-Aug	5	5	8	28	86	53	73	23	17	18	35	42	86	100	54	45	24	20	53	28	19	10	8	9	100.3	
24-Aug	20	13	9	9	9	13	9	7	11	12	20	19	32	35	83	70	22	31	54	17	3	7	5	5	82.7	
25-Aug	4	5	7	64	42	53	26	16	28	28	20	25	68	73	24	25	91	22	15	17	17	10	12	12	90.9	
26-Aug	10	9	9	8	6	5	4	4	6	8	9	6	11	24	11	8	7	8	21	12	6	10	15	21	24.0	
27-Aug	58	23	22	58	23	9	12	12	6	7	13	12	8	8	9	8	7	7	6	7	6	6	8	7	58.3	
28-Aug	6	7	6	8	10	11	7	10	11	19	28	29	90	49	87	49	90	10	33	24	27	33	10	9	90.4	
29-Aug	9	7	10	9	10	10	15	12	9	13	9	12	17	14	14	15	15	9	9	9	10	9	8	12	17.1	
30-Aug	12	19	10	13	16	10	15	23	8	9	27	23	32	18	42	52	16	9	9	11	11	8	7	8	52.2	
31-Aug	20	35	22	16	18	28	26	21	19	15	21	26	55	19	14	22	23	19	18	13	9	8	6	23	54.8	
	75.1	65.4	52.7	64.4	87.5	72.3	73.0	63.5	56.3	52.9	54.6	43.6	90.4	100.3	88.1	77.5	90.9	64.9	88.8	85.6	88.2	43.9	72.9	92.5		
N - Not Valid																										

PAZA

Beaverlodge Station

Monthly Summary Tables, Graphs and  
Roses

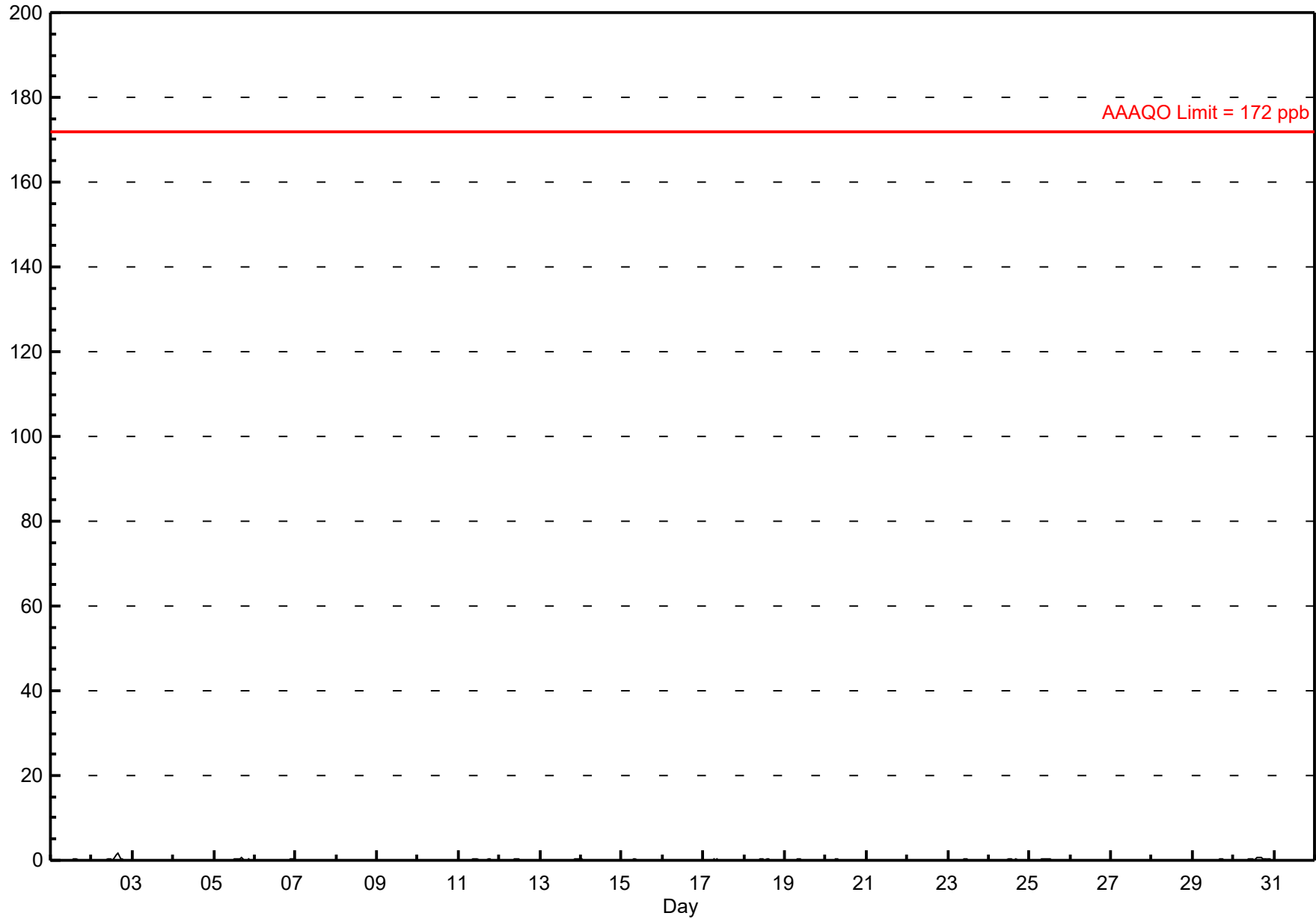
## Hourly Averages

## Sulphur Dioxide (SO<sub>2</sub>) - ppb Beaverlodge - August 2016

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 1.7 ppb on Aug 2 16:00 Maximum Daily Average: 0.3 ppb on Aug 2		Hours in Service: 744 Hours of Data: 657 Hours of Missing Data: 87 Hours of Calibration: 32 Percent Operational Time: 92.6																								
Minimum Value: 0 ppb on Aug 27 19:00 Maximum Diurnal Average: 0.2 ppb at hour 16 Monthly Average: 0.09 ppb		Minimum Daily Average: 0.0 ppb on Aug 28 Minimum Diurnal Average: 0.0 ppb at hour 4 Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.0 Q <sub>1</sub> = 0.0 Median = 0.1 Q <sub>3</sub> = 0.1 P <sub>90</sub> = 0.2 P <sub>99</sub> = 0.5																								
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Aug	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.5
2-Aug	0	0	0	0	A	0	0	0	0	0	0	0	0	0	1	2	1	0	0	0	0	0	0	0	0.3	1.7
3-Aug	0	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-Aug	0	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-Aug	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0.1	0.5
6-Aug	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.4
7-Aug	0	0	0	0	A	0	0	0	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	--	0.1
8-Aug	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	--	--
9-Aug	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	--	0.1
10-Aug	0	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
11-Aug	0	0	0	0	A	0	0	0	0	0	0	0	0	C	C	C	0	0	0	0	0	0	0	0	0.1	0.4
12-Aug	0	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
13-Aug	0	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
14-Aug	0	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-Aug	0	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-Aug	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
17-Aug	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
18-Aug	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.5
19-Aug	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
20-Aug	0	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-Aug	0	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
22-Aug	0	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-Aug	0	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-Aug	0	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
25-Aug	0	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-Aug	0	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
27-Aug	0	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
28-Aug	0	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
29-Aug	0	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-Aug	0	0	0	0	A	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0.2	0.6
31-Aug	0	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
		0.1	0.1	0.1	0.0	--	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	Diurnal Average
		0.2	0.2	0.2	0.1	--	0.2	0.2	0.2	0.3	0.3	0.5	0.4	0.4	1.2	1.7	1.1	0.5	0.4	0.3	0.2	0.3	0.4	0.2	0.1	Diurnal Maximum
C - Calibration      D - DAS Failure      A - Automated Daily Zero Span Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb    24-hr 48 ppb    30-day 11 ppb																										

### Hourly Averages

Sulphur Dioxide (SO<sub>2</sub>) - ppb  
Beaverlodge - August 2016



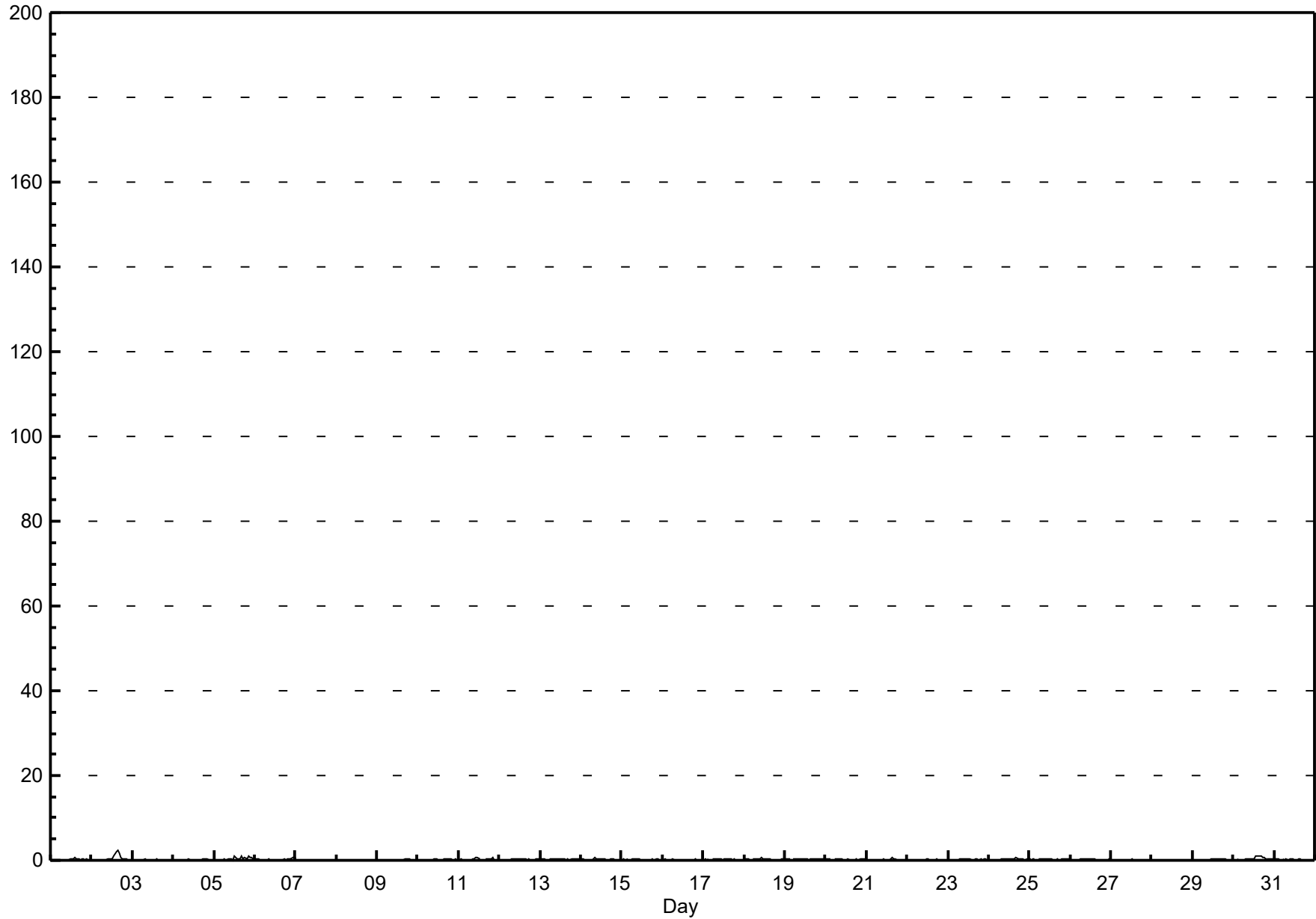
## Hourly Maximums

## Sulphur Dioxide (SO<sub>2</sub>) - ppb Beaverlodge - August 2016

Maximum Value: 2.3 ppb on Aug 2 16:00		Maximum Daily Average: 0.5 ppb on Aug 2		Hours in Service: 744																						
Minimum Value: 0 ppb on Aug 27 23:00		Minimum Daily Average: 0.1 ppb on Aug 28		Hours of Data: 657																						
Maximum Diurnal Average: 0.3 ppb at hour 16		Minimum Diurnal Average: 0.1 ppb at hour 4		Hours of Missing Data: 87																						
Monthly Average: 0.21 ppb		Percentiles: P <sub>1</sub> = 0.1 P <sub>10</sub> = 0.1 Q <sub>1</sub> = 0.1 Median = 0.2 Q <sub>3</sub> = 0.2 P <sub>90</sub> = 0.3 P <sub>99</sub> = 0.9		Hours of Calibration: 32																						
				Percent Operational Time: 92.6																						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Aug	0	0	0	0	A	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0.2	0.7
2-Aug	0	0	0	0	A	0	0	0	0	0	0	0	0	1	2	2	2	1	0	0	0	0	0	0	0.5	2.3
3-Aug	0	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-Aug	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
5-Aug	0	0	0	0	A	0	0	0	0	0	0	0	1	0	0	0	1	0	1	0	1	1	1	0	0.4	1.0
6-Aug	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.2	0.9
7-Aug	0	0	0	0	A	0	0	0	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	--	0.2
8-Aug	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	--	--
9-Aug	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	--	0.3
10-Aug	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.2
11-Aug	0	0	0	0	A	0	0	0	0	0	1	1	0	C	C	C	0	0	0	0	1	0	0	0	0.3	0.6
12-Aug	0	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
13-Aug	0	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
14-Aug	0	0	0	0	A	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.6
15-Aug	0	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
16-Aug	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
17-Aug	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3
18-Aug	0	0	0	0	A	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.7
19-Aug	0	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
20-Aug	0	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
21-Aug	0	0	0	0	A	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0.2	0.8
22-Aug	0	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
23-Aug	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3
24-Aug	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0.2	0.6
25-Aug	0	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
26-Aug	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.2
27-Aug	0	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
28-Aug	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
29-Aug	0	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-Aug	0	0	0	0	A	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	0	0	0	0	0.4	0.9
31-Aug	0	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
		0.2	0.2	0.1	0.1	--	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	Diurnal Average
		0.5	0.5	0.3	0.2	--	0.3	0.3	0.4	0.6	0.5	0.7	0.6	0.9	0.9	1.9	2.3	1.8	0.6	0.6	0.4	1.0	0.8	0.6	0.9	Diurnal Maximum
C - Calibration					D - DAS Failure					A - Automated Daily Zero Span																

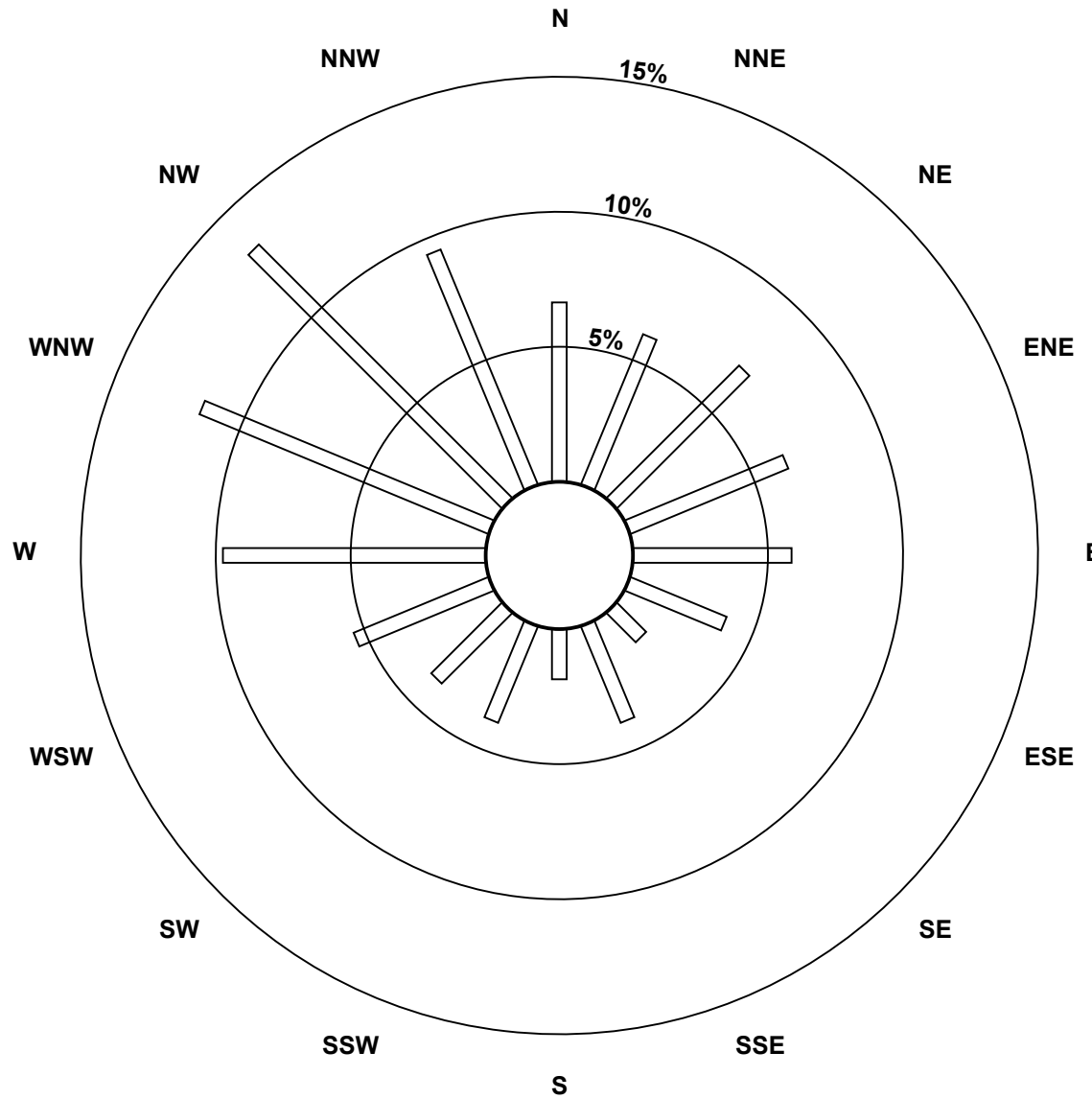
### Hourly Maximums

**Sulphur Dioxide (SO<sub>2</sub>) - ppb**  
**Beaverlodge - August 2016**

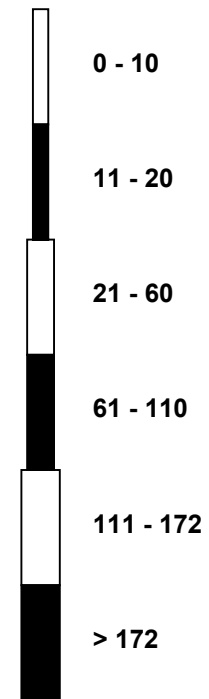


**Pollutant Rose**

**Sulphur Dioxide (SO<sub>2</sub>) - ppb**  
**Beaverlodge - August 2016**

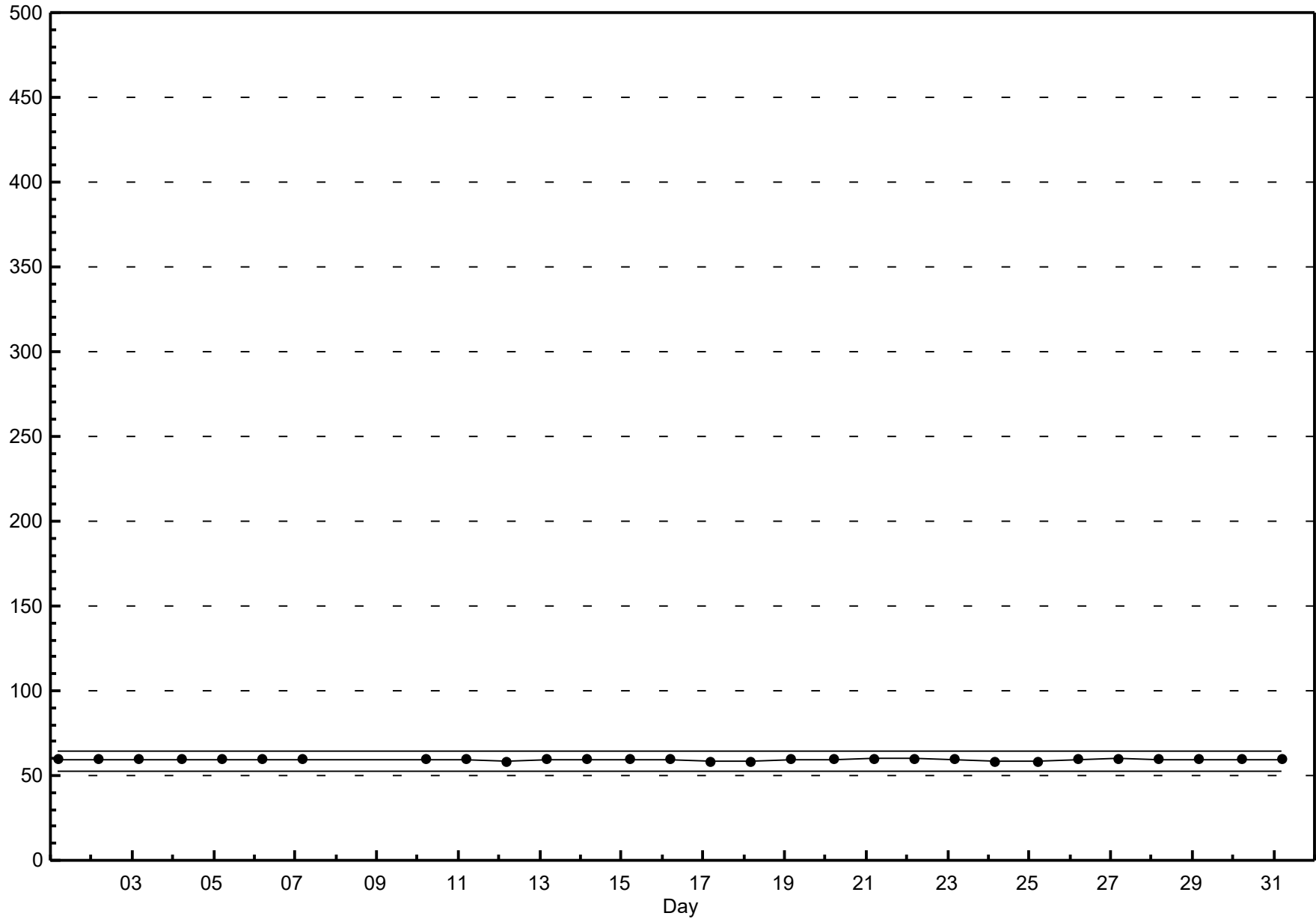


**Pollutant Classes (ppb)**



### Span Responses

Sulphur Dioxide (SO<sub>2</sub>)  
Beaverlodge - August 2016







Peace Airshed Zone Association

# Hourly Averages

Nitrogen Dioxide (NO<sub>2</sub>) - ppb

Beaverlodge - August 2016

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0	Hours in Service: 744
Maximum Value: 12.6 ppb on Aug 19 22:00	Maximum Daily Average: 3.6 ppb on Aug 24
Minimum Value: 0 ppb on Aug 23 14:00	Hours of Data: 639
Maximum Diurnal Average: 7.2 ppb at hour 6	Hours of Missing Data: 105
Monthly Average: 2.27 ppb	Hours of Calibration: 33
Minimum Daily Average: 1.7 ppb on Aug 16	Percent Operational Time: 90.3
Minimum Diurnal Average: 1.0 ppb at hour 16	
Percentiles: P <sub>1</sub> = 0.4 P <sub>10</sub> = 0.7 Q <sub>1</sub> = 1.0 Median = 1.7 Q <sub>3</sub> = 2.8 P <sub>90</sub> = 4.8 P <sub>99</sub> = 8.8	

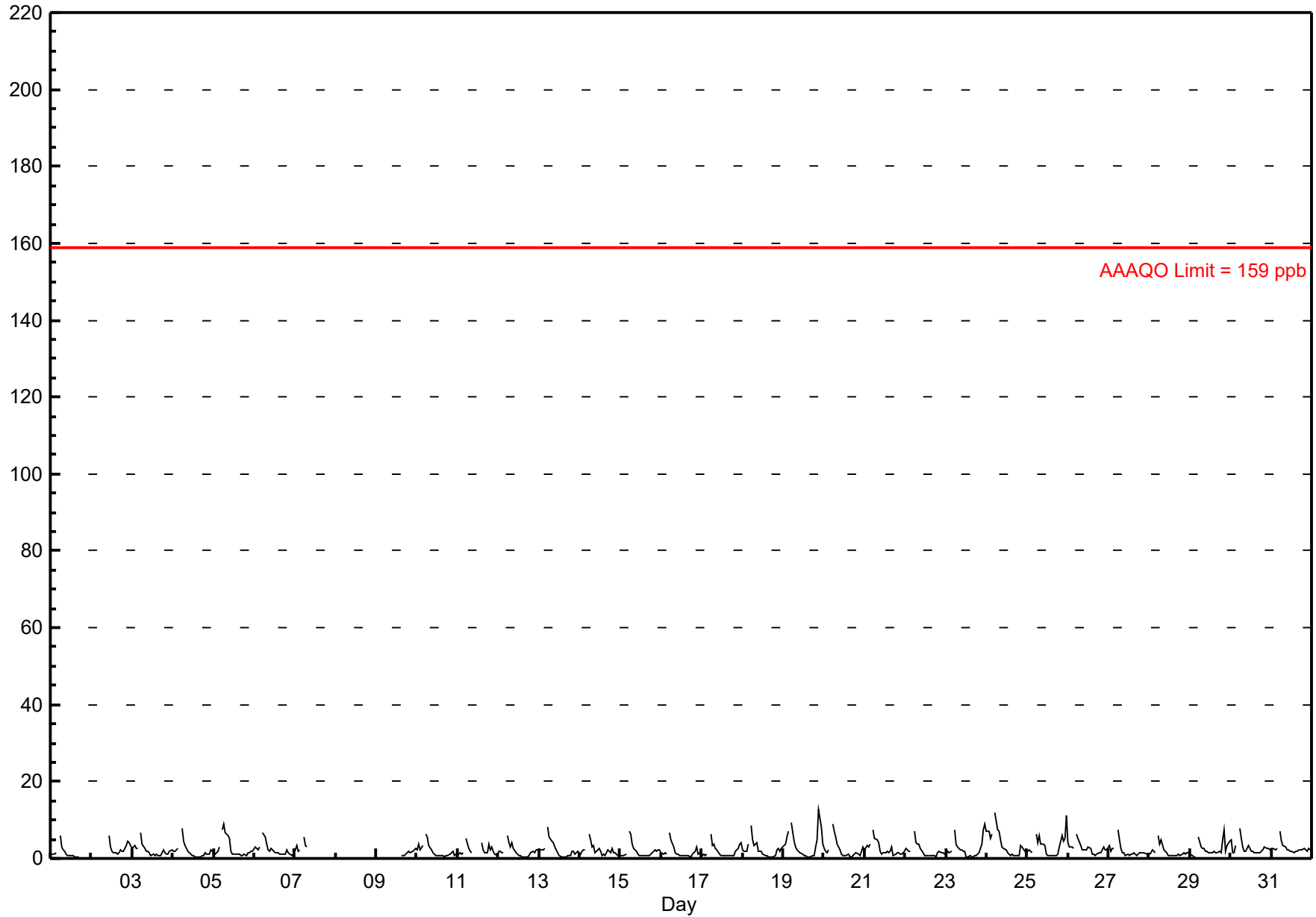
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Aug	1	1	1	1	A	6	3	2	2	1	1	1	1	1	0	0	0	N	N	N	N	N	N	N	--	5.9
2-Aug	N	N	N	N	N	N	N	N	N	M	6	3	2	2	1	1	2	2	2	2	3	5	4	3	--	5.8
3-Aug	3	3	3	3	A	7	4	3	2	2	2	1	1	1	1	1	1	2	1	1	1	1	2	2	1.9	6.7
4-Aug	2	2	2	2	A	8	5	3	2	2	1	1	1	0	0	0	0	1	1	1	1	1	2	2	1.8	7.7
5-Aug	2	1	2	3	A	7	9	7	6	5	2	1	1	1	1	1	1	1	1	1	1	2	2	2	2.6	9.0
6-Aug	3	3	2	3	A	7	6	4	2	2	3	2	1	2	1	1	1	1	1	2	2	1	1	2	2.2	6.7
7-Aug	2	3	2	2	A	6	4	3	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	--	5.8
8-Aug	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	--	--
9-Aug	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	--	--
10-Aug	2	4	2	3	A	6	5	3	2	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1.9	6.2
11-Aug	1	2	1	1	A	5	3	2	1	C	C	C	C	C	4	2	2	1	4	2	3	2	1	1	2.1	5.3
12-Aug	2	2	1	2	A	6	4	3	4	2	2	1	1	1	1	1	0	0	1	1	2	1	2	2	1.8	6.0
13-Aug	2	2	2	3	A	8	6	4	4	3	2	2	1	1	0	0	1	1	1	2	2	1	1	2	2.2	8.2
14-Aug	1	2	2	2	A	6	5	3	3	1	2	3	2	1	1	1	2	2	1	3	2	2	1	1	2.1	6.4
15-Aug	1	1	1	1	A	7	6	4	3	2	1	1	1	1	1	1	1	1	1	2	2	2	2	2	1.9	7.1
16-Aug	1	1	1	1	A	7	5	3	1	1	1	1	1	1	1	1	1	1	1	1	2	3	1	2	1.7	6.7
17-Aug	1	1	1	1	A	6	3	4	2	2	1	1	1	1	1	1	1	1	1	1	2	3	4	4	1.8	6.4
18-Aug	2	2	2	4	A	9	5	3	4	2	2	2	1	1	1	1	0	0	0	1	2	3	2	3	2.2	8.6
19-Aug	3	4	6	7	A	9	5	3	2	2	1	1	1	1	1	0	1	1	1	3	5	13	8	4	3.5	12.6
20-Aug	3	2	2	2	A	9	7	6	4	2	1	1	1	1	1	1	0	1	1	1	1	1	2	3	2.2	8.8
21-Aug	2	4	3	4	A	8	5	5	4	2	1	2	1	2	2	2	3	1	1	1	1	1	1	2	2.5	7.5
22-Aug	2	2	2	2	A	7	4	4	4	3	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1.9	6.9
23-Aug	1	2	2	2	A	7	4	3	2	2	2	2	0	0	1	1	1	1	1	1	2	4	7	9	2.5	8.9
24-Aug	7	7	5	6	A	12	8	7	5	3	2	2	1	1	1	1	1	1	1	1	3	3	2	1	3.6	12.1
25-Aug	2	2	2	2	A	6	4	6	4	4	3	1	1	1	1	1	1	1	1	3	6	4	5	11	3.1	11.3
26-Aug	4	3	3	3	A	7	5	3	2	2	2	2	3	3	1	1	1	1	2	1	2	3	2	2	2.6	6.5
27-Aug	3	2	3	2	A	8	5	3	1	2	1	1	1	1	1	1	1	1	2	1	1	2	1	1	2.0	7.5
28-Aug	1	1	2	1	A	6	4	5	2	2	2	1	1	1	1	1	1	1	1	1	2	1	1	1	1.7	5.9
29-Aug	1	1	1	0	A	6	3	3	2	2	2	1	1	2	2	2	2	2	2	5	8	2	3	4	2.4	7.6
30-Aug	5	2	2	3	A	8	5	3	2	2	4	3	2	2	2	2	2	1	2	2	3	3	2	2	2.7	7.9
31-Aug	3	3	2	3	A	7	4	3	3	2	2	2	2	2	2	2	2	2	2	3	2	2	2	2	2.6	7.1

2.3	2.3	2.1	2.5	--	7.2	4.8	3.7	2.9	2.2	1.9	1.4	1.1	1.0	1.1	1.0	1.0	1.0	1.0	1.2	1.8	2.4	2.5	2.4	2.7	Diurnal Average
7.0	7.0	5.8	7.1	--	12.1	9.0	7.2	6.0	5.1	5.8	2.9	3.0	2.6	4.2	2.3	3.0	2.3	3.6	4.8	7.6	12.6	8.2	11.3	Diurnal Maximum	

C - Calibration      D - DAS Failure      M - Maintenance      N - Not Valid      A - Automated Daily Zero Span  
 Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 159 ppb      24-hr 106 ppb

**Hourly Averages**

**Nitrogen Dioxide (NO<sub>2</sub>) - ppb**  
**Beaverlodge - August 2016**



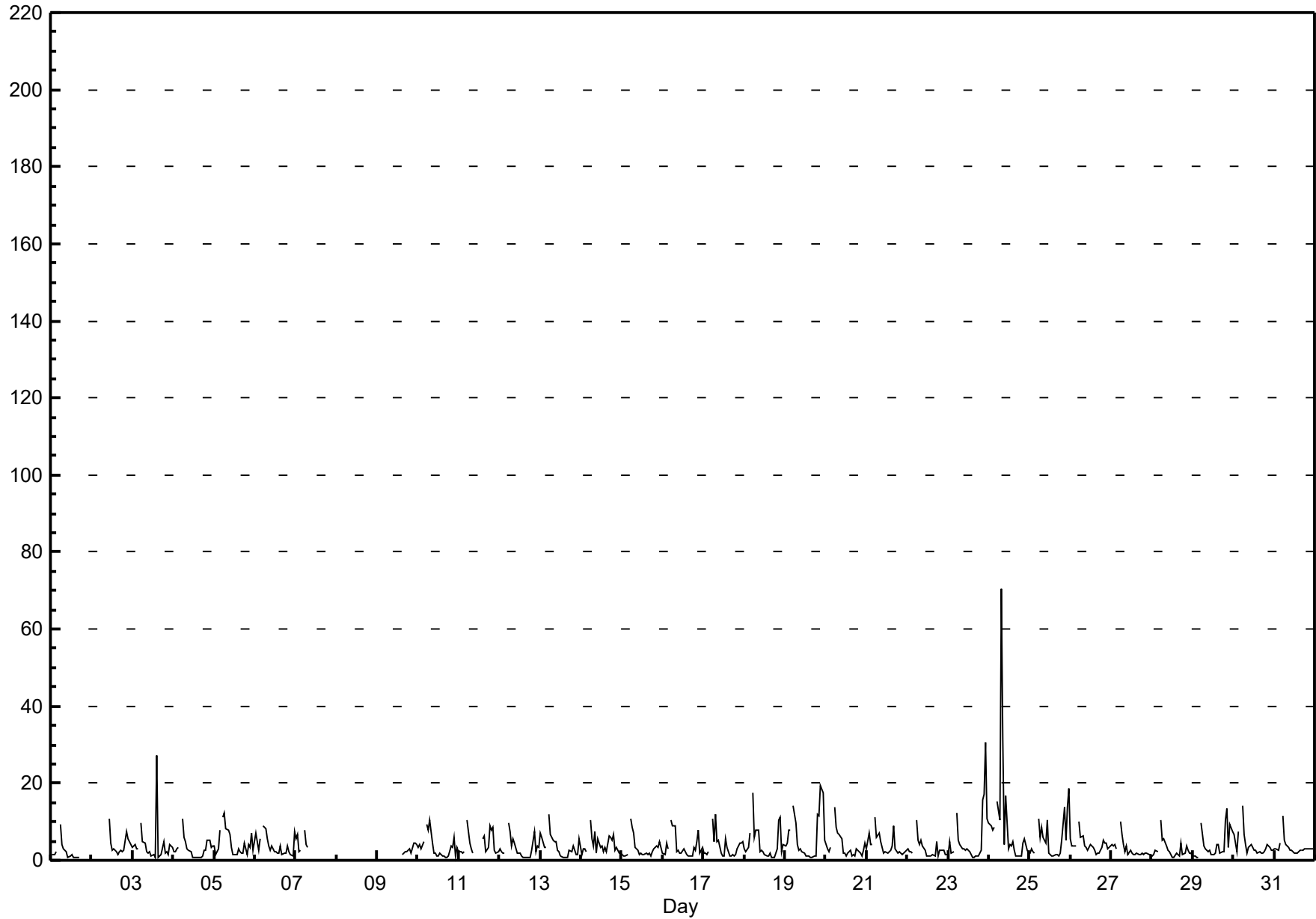
# Hourly Maximums

## Nitrogen Dioxide (NO<sub>2</sub>) - ppb Beaverlodge - August 2016

Maximum Value: 70.5 ppb on Aug 24 08:00		Maximum Daily Average: 9.6 ppb on Aug 24		Hours in Service: 744																							
Minimum Value: 1 ppb on Aug 1 17:00		Minimum Daily Average: 2.7 ppb on Aug 28		Hours of Data: 639																							
Maximum Diurnal Average: 11.2 ppb at hour 6		Minimum Diurnal Average: 1.8 ppb at hour 16		Hours of Missing Data: 105																							
Monthly Average: 3.99 ppb		Percentiles: P <sub>1</sub> = 0.7 P <sub>10</sub> = 1.1 Q <sub>1</sub> = 1.8 Median = 2.7 Q <sub>3</sub> = 4.6 P <sub>90</sub> = 8.5 P <sub>99</sub> = 18.0		Hours of Calibration: 33																							
				Percent Operational Time: 90.3																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Aug	1	1	1	2	A	9	4	3	3	2	1	1	1	1	1	1	1	N	N	N	N	N	N	N	--	9.3	
2-Aug	N	N	N	N	N	N	N	N	N	M	11	4	3	3	2	2	2	3	2	2	7	6	5	4	--	10.7	
3-Aug	3	4	3	3	A	10	5	5	2	2	2	1	1	1	27	1	1	2	5	2	2	1	4	3	4.0	27.4	
4-Aug	2	2	3	3	A	11	6	5	3	2	2	1	1	1	1	1	1	2	3	5	5	3	4	3.0	10.8		
5-Aug	4	2	3	8	A	11	12	8	8	7	3	2	1	2	3	2	2	2	4	1	4	3	7	3	4.4	12.3	
6-Aug	7	5	2	5	A	9	8	6	4	3	4	2	2	2	2	4	2	2	2	4	2	2	1	8	3.7	8.8	
7-Aug	6	7	2	2	A	8	4	3	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	--	7.8	
8-Aug	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	--	--	
9-Aug	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	--	--	
10-Aug	3	4	3	5	A	9	8	11	5	2	2	1	1	2	1	1	1	1	1	4	3	6	1	3	3.4	10.5	
11-Aug	2	2	2	2	A	10	4	3	2	C	C	C	C	C	6	6	2	3	9	8	8	3	2	2	4.3	10.3	
12-Aug	3	2	2	2	A	10	7	4	6	5	2	2	2	1	1	1	1	1	1	3	8	2	4	3	3.1	9.7	
13-Aug	7	6	3	3	A	12	7	5	5	5	3	2	1	1	1	1	1	3	2	4	3	2	2	6	3.5	12.0	
14-Aug	2	3	3	2	A	10	6	4	8	2	6	4	4	2	3	2	6	6	5	7	3	3	2	2	4.1	10.3	
15-Aug	2	1	1	2	A	11	9	7	3	3	2	2	1	2	2	1	2	1	2	3	4	3	5	3	3.1	10.8	
16-Aug	2	1	4	3	A	10	9	9	2	3	2	2	3	2	1	1	1	1	3	3	5	8	2	3	3.6	10.5	
17-Aug	2	2	1	2	A	11	5	12	5	5	2	1	1	6	3	1	1	1	1	2	3	4	5	5	3.6	12.1	
18-Aug	3	2	3	7	A	18	6	8	8	2	3	2	1	1	1	2	1	1	1	3	11	11	2	4	4.4	17.6	
19-Aug	4	4	8	8	A	14	10	4	3	3	2	2	1	1	1	1	1	1	1	12	12	19	17	5	5.8	19.3	
20-Aug	4	3	2	3	A	14	8	7	7	6	2	2	1	2	3	1	1	1	3	3	2	1	2	5	3.6	13.7	
21-Aug	3	7	4	4	A	11	6	7	5	3	2	2	2	3	4	9	3	2	2	2	2	2	3	3	3.9	11.1	
22-Aug	3	2	2	2	A	11	5	4	5	4	3	1	1	1	1	1	1	5	1	3	3	3	2	1	2.8	10.6	
23-Aug	2	5	2	2	A	12	5	4	3	3	3	3	3	2	1	1	1	1	1	2	16	17	30	11	5.6	30.4	
24-Aug	10	9	8	9	A	15	11	70	31	4	17	3	4	4	5	3	1	1	1	1	4	6	3	2	9.6	70.5	
25-Aug	2	3	2	2	A	11	6	8	6	4	11	2	1	1	1	1	1	1	2	5	14	5	14	19	5.4	18.6	
26-Aug	6	4	4	4	A	10	6	6	4	3	3	4	4	3	3	2	2	2	3	5	4	4	3	3	4.0	10.1	
27-Aug	4	4	4	3	A	10	7	4	2	4	1	3	2	2	2	2	2	2	2	2	2	2	2	1	2.9	10.1	
28-Aug	1	2	3	2	A	10	5	6	4	3	2	1	1	1	2	1	1	4	1	2	4	3	2	2	2.7	10.4	
29-Aug	1	1	1	1	A	10	4	3	3	2	3	2	2	2	4	4	2	2	2	11	13	3	9	7	4.0	13.3	
30-Aug	7	5	2	8	A	14	7	4	2	3	4	3	3	2	2	2	2	2	2	3	4	3	3	3	3.9	14.0	
31-Aug	3	3	3	5	A	12	5	4	3	3	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3.3	11.6
		3.5	3.4	3.0	3.7	--	11.2	6.6	8.0	5.2	3.4	3.6	2.1	1.9	1.9	3.0	1.8	1.8	2.0	2.5	3.7	5.4	4.8	5.0	4.3	Diurnal Average	
		9.8	9.0	7.8	8.6	--	17.6	12.3	70.5	31.2	6.8	16.7	4.4	4.2	5.7	27.4	6.3	8.9	5.8	8.9	12.0	15.8	19.3	30.4	18.6	Diurnal Maximum	
C - Calibration		D - DAS Failure				M - Maintenance				N - Not Valid				A - Automated Daily Zero Span													

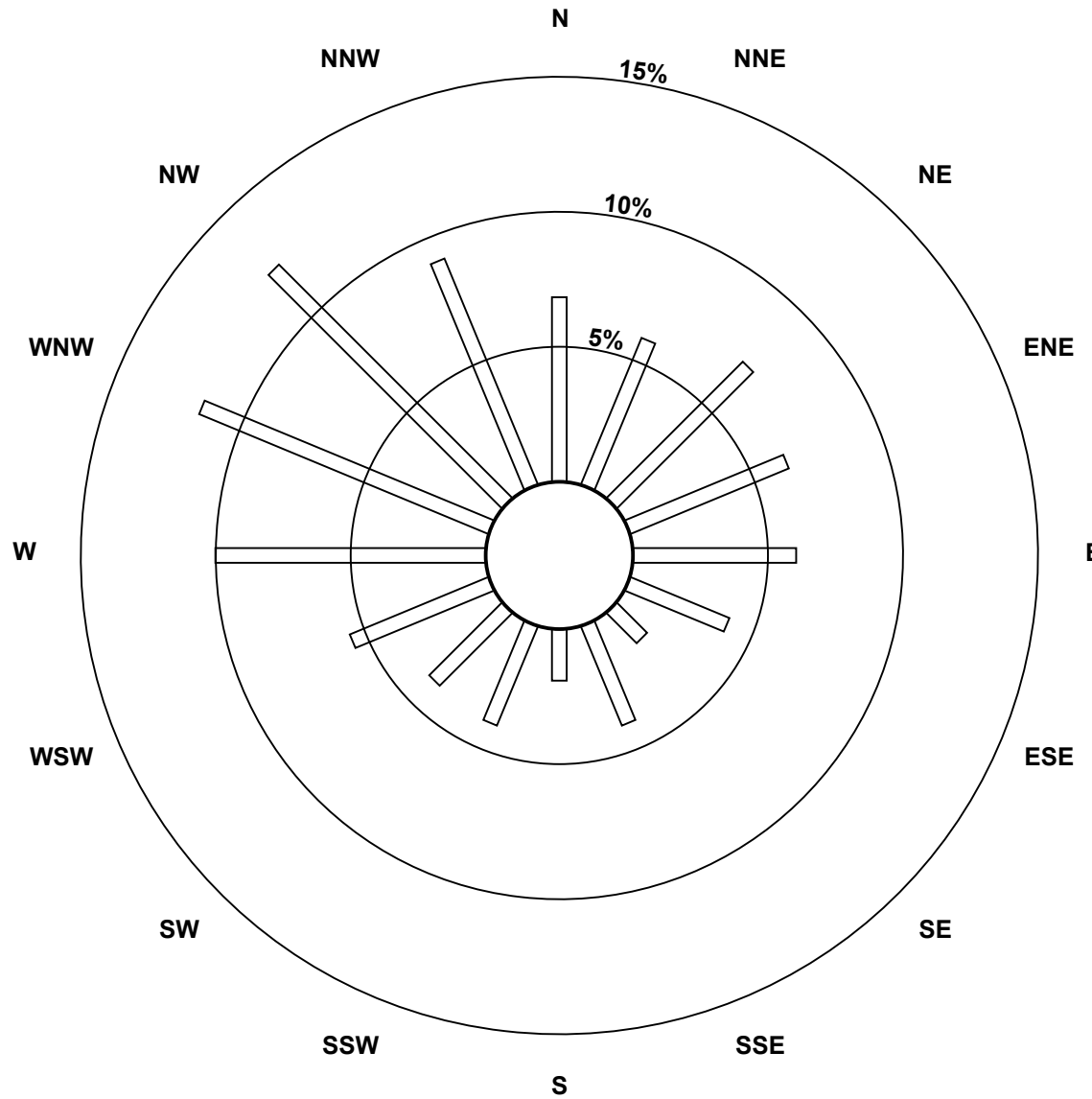
**Hourly Maximums**

**Nitrogen Dioxide (NO<sub>2</sub>) - ppb**  
**Beaverlodge - August 2016**

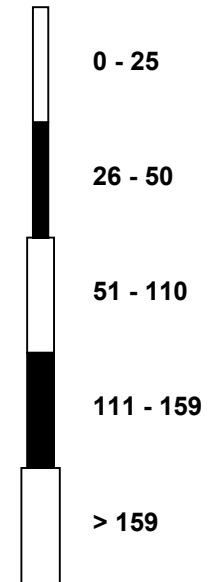


**Pollutant Rose**

**Nitrogen Dioxide (NO<sub>2</sub>) - ppb**  
**Beaverlodge - August 2016**

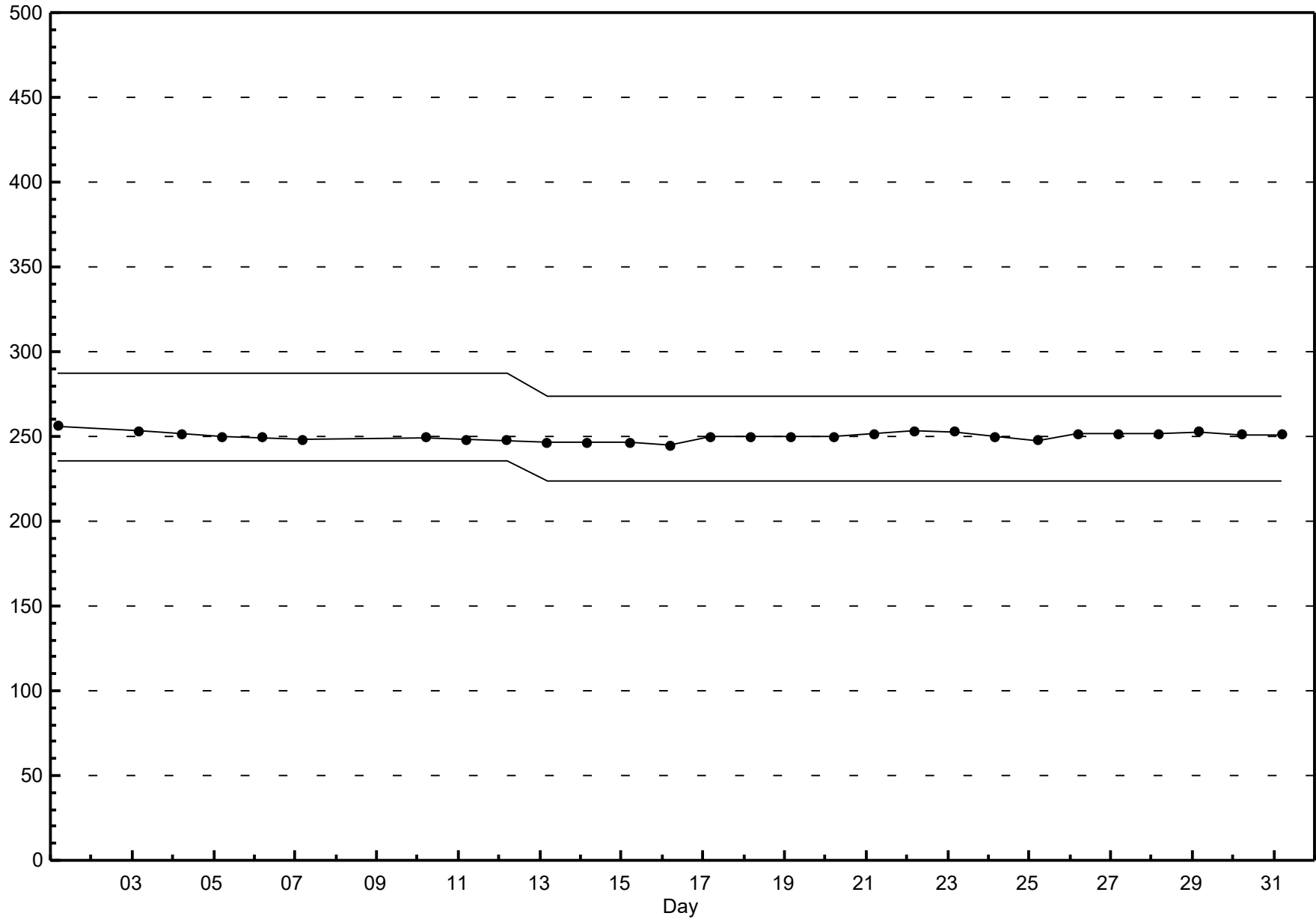


**Pollutant Classes (ppb)**



### Span Responses

**Nitrogen Dioxide (NO<sub>2</sub>)**  
**Beaverlodge - August 2016**



## Hourly Averages

**Nitrogen Oxide (NO) - ppb**  
**Beaverlodge - August 2016**

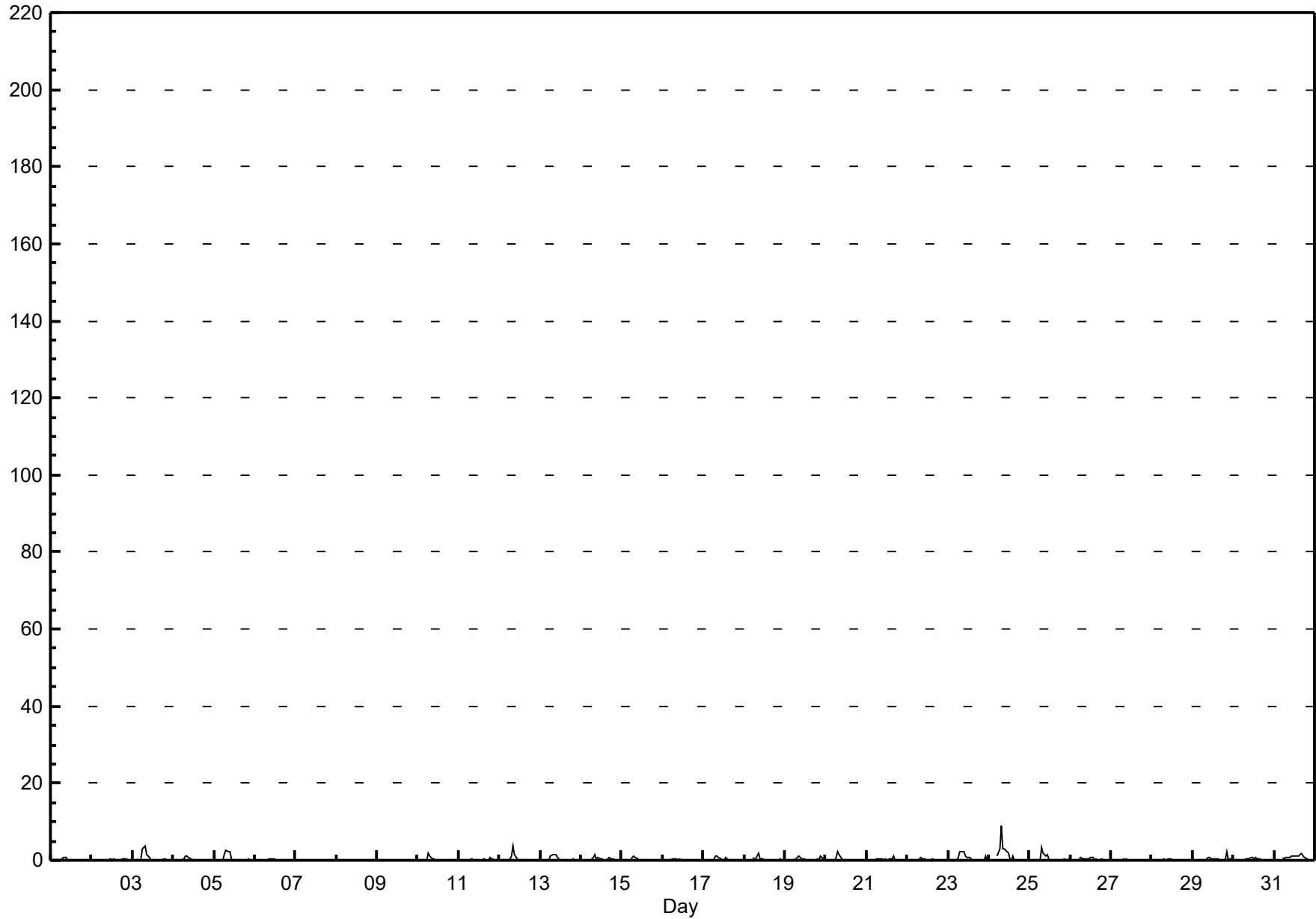
Number of Exceedences (AAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 9.0 ppb on Aug 24 08:00	Maximum Daily Average: 1.1 ppb on Aug 24		Hours of Data:	639
Minimum Value: 0 ppb on Aug 3 22:00	Minimum Daily Average: 0.1 ppb on Aug 27		Hours of Missing Data:	105
Maximum Diurnal Average: 1.3 ppb at hour 8	Minimum Diurnal Average: 0.0 ppb at hour 1		Hours of Calibration:	33
Monthly Average: 0.29 ppb	Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.0 Q <sub>1</sub> = 0.0 Median = 0.1 Q <sub>3</sub> = 0.3 P <sub>90</sub> = 0.8 P <sub>99</sub> = 3.0		Percent Operational Time:	90.3

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Aug	0	0	0	0	A	0	1	1	1	1	0	0	0	0	0	0	0	N	N	N	N	N	N	N	--	0.8
2-Aug	N	N	N	N	N	N	N	N	N	M	0	0	0	0	0	0	0	0	0	0	0	0	0	0	--	0.5
3-Aug	0	0	0	0	A	1	3	4	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.6	3.8	
4-Aug	0	0	0	0	A	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.2	
5-Aug	0	0	0	0	A	0	2	2	2	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0.5	2.4	
6-Aug	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	
7-Aug	0	0	0	0	A	0	0	0	0	D	D	D	D	D	D	D	D	D	D	D	D	D	D	--	0.0	
8-Aug	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	--	--	
9-Aug	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	--	0.1	
10-Aug	0	0	0	0	A	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.7	
11-Aug	0	0	0	0	A	0	0	0	0	C	C	C	C	C	0	0	0	0	1	0	0	0	0	0.2	0.9	
12-Aug	0	0	0	0	A	0	0	1	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	3.7	
13-Aug	0	0	0	0	A	0	1	2	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.7	
14-Aug	0	0	0	0	A	0	0	1	2	0	1	0	0	0	0	0	1	1	0	0	0	0	0	0.3	1.5	
15-Aug	0	0	0	0	A	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.1	
16-Aug	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	0.5	
17-Aug	0	0	0	0	A	0	0	1	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0.2	1.2	
18-Aug	0	0	0	0	A	1	0	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.8	
19-Aug	0	0	0	0	A	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0.3	1.1	
20-Aug	0	0	0	0	A	0	1	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	2.2	
21-Aug	0	0	0	0	A	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0.2	1.0	
22-Aug	0	0	0	0	A	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.7	
23-Aug	0	0	0	0	A	0	1	2	2	2	1	1	1	1	0	0	0	0	0	0	0	0	1	0.5	2.2	
24-Aug	0	0	0	0	A	1	3	9	3	3	3	2	0	0	1	0	0	0	0	0	0	0	0	1.1	9.0	
25-Aug	0	0	0	0	A	0	0	3	2	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0.4	3.4	
26-Aug	0	0	0	0	A	0	1	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0.2	0.9	
27-Aug	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	
28-Aug	0	0	0	0	A	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.5	
29-Aug	0	0	0	0	A	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1	2	0	0	0.3	2.1	
30-Aug	0	0	0	0	A	0	0	0	0	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0.2	0.9	
31-Aug	0	0	0	0	A	1	0	1	1	1	1	1	1	1	1	1	2	1	1	1	0	0	0	0.7	1.7	
	0.0	0.0	0.0	0.0	--	0.2	0.6	1.3	1.1	0.8	0.6	0.3	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.1	0.1	0.0	Diurnal Average	
	0.2	0.2	0.2	0.2	--	1.3	3.0	9.0	3.7	3.0	2.6	1.7	1.2	1.2	1.2	1.4	1.7	1.2	0.9	0.5	2.1	1.1	1.1	0.4	Diurnal Maximum	

C - Calibration      D - DAS Failure      M - Maintenance      N - Not Valid      A - Automated Daily Zero Span

**Hourly Averages**

**Nitrogen Oxide (NO) - ppb**  
**Beaverlodge - August 2016**





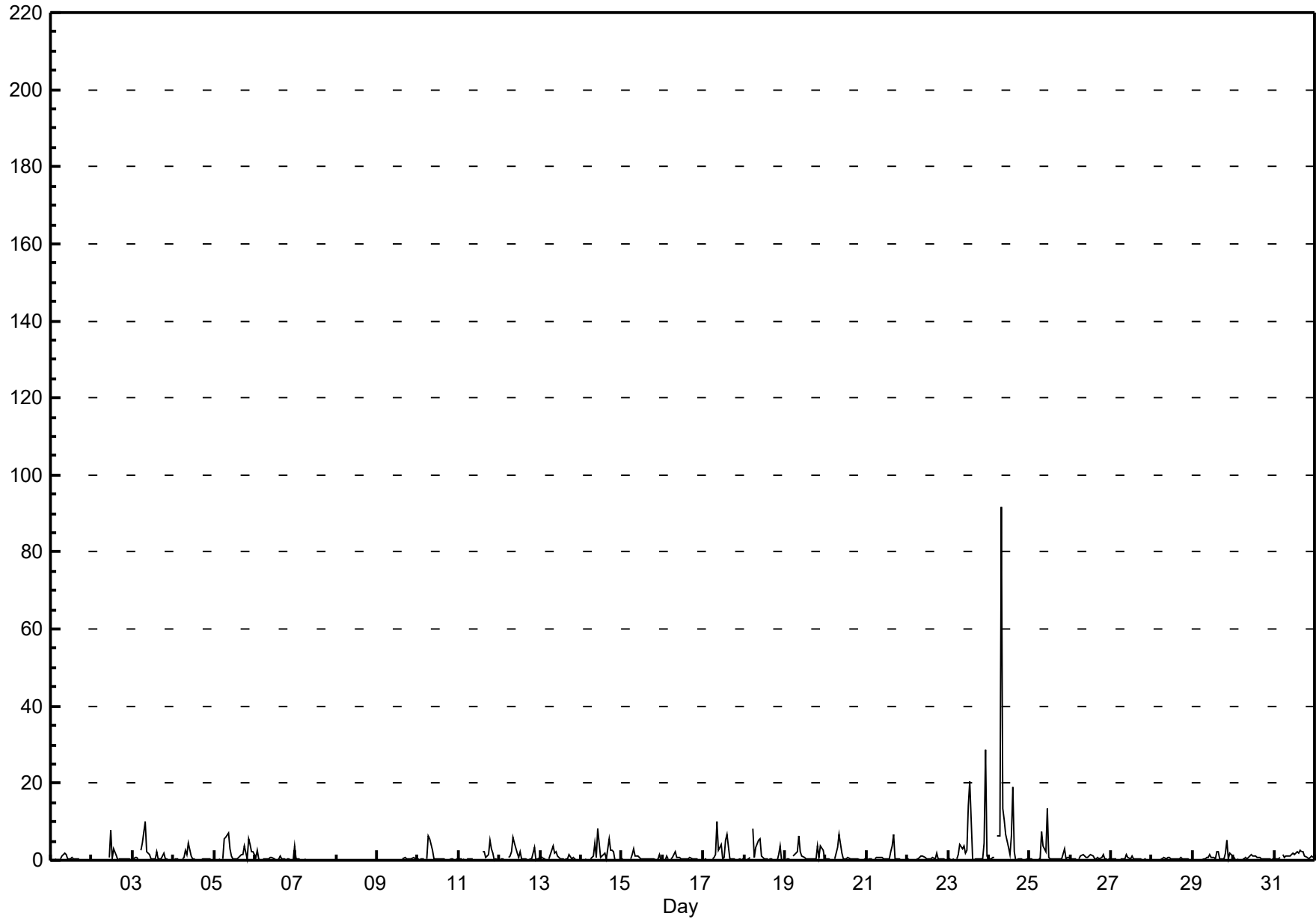
## Hourly Maximums

## Nitrogen Oxide (NO) - ppb Beaverlodge - August 2016

Maximum Value: 91.8 ppb on Aug 24 08:00		Maximum Daily Average: 7.4 ppb on Aug 24		Hours in Service: 744																						
Minimum Value: 0 ppb on Aug 5 01:00		Minimum Daily Average: 0.3 ppb on Aug 28		Hours of Data: 639																						
Maximum Diurnal Average: 5.7 ppb at hour 8		Minimum Diurnal Average: 0.3 ppb at hour 3		Hours of Missing Data: 105																						
Monthly Average: 1.28 ppb		Percentiles: P <sub>1</sub> = 0.1 P <sub>10</sub> = 0.1 Q <sub>1</sub> = 0.2 Median = 0.4 Q <sub>3</sub> = 1.0 P <sub>90</sub> = 2.6 P <sub>99</sub> = 12.7		Hours of Calibration: 33																						
				Percent Operational Time: 90.3																						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Aug	0	0	0	0	A	0	1	1	2	2	0	0	1	0	0	0	0	N	N	N	N	N	N	N	--	1.8
2-Aug	N	N	N	N	N	N	N	N	N	M	1	8	0	3	1	0	0	0	0	0	0	0	0	0	--	7.8
3-Aug	0	1	1	0	A	2	5	10	2	2	1	0	0	0	2	0	0	0	2	0	0	0	0	1.4	10.2	
4-Aug	0	0	0	0	A	1	1	3	2	4	1	0	0	0	0	0	0	0	1	0	0	0	0	0.6	4.3	
5-Aug	0	0	0	0	A	0	6	6	7	3	1	0	0	0	1	1	1	1	4	0	6	4	2	2	2.1	7.2
6-Aug	1	2	0	0	A	0	0	0	0	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0.6	3.6
7-Aug	0	0	0	0	A	0	0	0	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	--	0.5	
8-Aug	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	--	--	
9-Aug	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	--	0.6	
10-Aug	0	0	0	1	A	0	6	6	3	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0.9	6.3	
11-Aug	0	0	0	0	A	0	0	1	0	C	C	C	C	C	2	2	1	1	5	3	2	0	0	1.1	5.4	
12-Aug	0	0	0	0	A	1	1	2	6	5	2	1	2	0	0	0	0	0	0	0	3	0	0	1.1	6.1	
13-Aug	2	1	0	0	A	0	2	4	2	2	1	1	0	0	0	0	0	1	0	1	0	0	0	0.8	3.7	
14-Aug	0	0	0	0	A	0	1	1	4	1	8	1	1	1	2	1	6	3	3	2	0	0	0	1.5	8.1	
15-Aug	0	0	0	0	A	0	1	3	1	1	1	0	0	1	0	0	1	0	0	0	0	1	1	0.6	3.1	
16-Aug	0	0	1	1	A	0	1	2	1	1	1	0	0	0	0	0	1	0	1	0	0	0	0	0.5	2.1	
17-Aug	0	0	0	0	A	0	1	2	10	3	4	0	1	5	7	0	0	0	0	0	0	0	0	1.5	9.9	
18-Aug	0	0	0	1	A	8	1	3	5	5	1	1	0	0	0	0	0	0	0	0	1	4	0	1.4	8.1	
19-Aug	0	0	0	0	A	1	2	2	6	2	1	1	0	0	0	0	0	0	0	4	1	4	3	1.3	6.4	
20-Aug	0	0	0	0	A	0	2	3	7	2	0	1	0	1	1	0	0	0	0	0	0	0	0	0.8	6.6	
21-Aug	0	0	0	0	A	0	1	1	1	1	0	0	1	0	2	4	7	0	0	0	0	0	0	0.9	6.7	
22-Aug	0	0	0	0	A	0	0	1	1	1	1	0	0	0	1	0	2	0	0	0	0	0	0	0.5	2.0	
23-Aug	0	0	0	0	A	0	2	4	3	4	2	3	14	21	0	0	0	0	0	0	0	4	29	3.9	28.6	
24-Aug	0	0	1	1	A	6	6	92	13	10	7	3	2	6	19	2	0	0	0	0	0	0	0	7.4	91.8	
25-Aug	0	0	0	0	A	0	1	7	4	2	13	1	0	0	0	0	0	0	0	0	3	0	1	1.6	13.3	
26-Aug	0	0	0	0	A	0	1	1	1	1	1	1	1	1	0	1	0	1	2	0	0	0	0	0.7	1.5	
27-Aug	0	0	0	0	A	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0.4	1.4	
28-Aug	0	0	0	0	A	0	0	1	0	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0.3	0.8	
29-Aug	0	0	0	0	A	0	0	0	1	1	1	1	1	1	2	2	0	0	0	2	5	0	2	1.0	5.1	
30-Aug	1	0	0	1	A	0	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0.6	1.4	
31-Aug	0	0	0	1	A	2	1	1	1	1	1	2	2	2	2	2	2	2	1	1	1	1	1	1.2	2.4	
		0.3	0.3	0.3	0.3	--	0.9	1.5	5.7	3.1	2.2	2.0	1.1	1.2	1.7	1.6	0.8	0.8	0.6	0.8	0.7	1.0	0.8	1.5	0.5	Diurnal Average
		1.6	2.5	1.0	0.7	--	8.1	6.3	91.8	13.3	10.3	13.3	7.8	14.1	20.6	19.0	3.6	6.7	2.8	5.4	3.8	5.7	4.5	28.6	3.6	Diurnal Maximum
C - Calibration		D - DAS Failure				M - Maintenance				N - Not Valid				A - Automated Daily Zero Span												

### Hourly Maximums

**Nitrogen Oxide (NO) - ppb**  
**Beaverlodge - August 2016**



## Hourly Averages

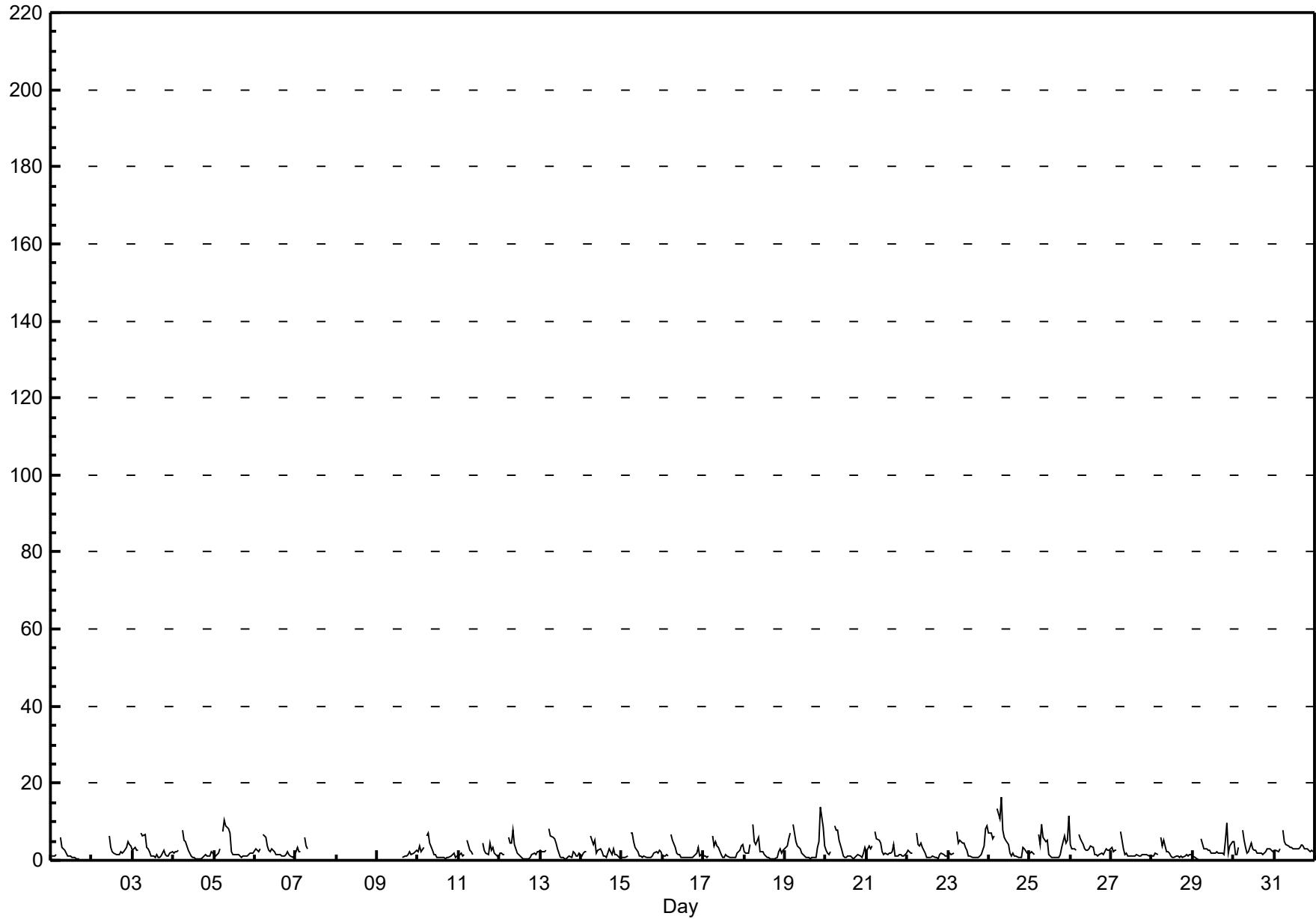
## Oxides of Nitrogen (NO<sub>x</sub>) - ppb Beaverlodge - August 2016

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0	Hours in Service: 744
Maximum Value: 16.3 ppb on Aug 24 08:00	Maximum Daily Average: 4.7 ppb on Aug 24
Minimum Value: 0 ppb on Aug 18 18:00	Hours of Data: 639
Maximum Diurnal Average: 7.3 ppb at hour 6	Hours of Missing Data: 105
Monthly Average: 2.59 ppb	Hours of Calibration: 33
Minimum Daily Average: 1.8 ppb on Aug 28	Percent Operational Time: 90.3
Minimum Diurnal Average: 1.1 ppb at hour 18	
Percentiles: P <sub>1</sub> = 0.5 P <sub>10</sub> = 0.7 Q <sub>1</sub> = 1.1 Median = 1.9 Q <sub>3</sub> = 3.2 P <sub>90</sub> = 5.4 P <sub>99</sub> = 10.5	

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-Aug	1	1	1	2	A	6	3	3	3	2	1	1	1	1	1	1	1	N	N	N	N	N	N	N	--	6.0																							
2-Aug	N	N	N	N	N	N	N	N	N	M	6	3	2	2	2	1	2	2	2	2	4	5	4	4	--	6.2																							
3-Aug	3	3	3	3	A	7	7	7	3	3	2	1	1	1	1	1	1	2	2	2	1	1	2	2	2.5	7.2																							
4-Aug	2	2	2	3	A	8	5	5	4	3	1	1	1	1	0	0	0	1	1	2	1	1	2	2	2.1	7.9																							
5-Aug	2	1	2	3	A	8	11	9	8	7	2	1	1	1	1	1	1	1	1	1	1	2	2	2	3.1	10.6																							
6-Aug	3	3	2	3	A	7	6	4	3	2	3	2	2	2	1	1	1	1	1	2	2	1	1	2	2.3	6.7																							
7-Aug	2	3	2	2	A	6	4	3	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	--	5.8																							
8-Aug	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	--	--																							
9-Aug	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	--	--																							
10-Aug	2	4	2	3	A	6	7	4	3	2	1	1	1	1	1	1	1	1	1	1	2	2	1	1	2.1	7.3																							
11-Aug	1	2	1	1	A	5	3	2	2	C	C	C	C	C	5	3	2	2	5	3	3	2	1	1	2.4	5.4																							
12-Aug	2	2	1	2	A	6	4	4	8	4	2	1	1	1	1	1	1	1	1	2	2	1	2	2	2.2	7.8																							
13-Aug	2	2	2	3	A	8	7	6	5	4	3	2	1	1	0	0	1	1	1	2	2	1	1	2	2.5	8.3																							
14-Aug	1	2	2	2	A	6	5	4	5	2	3	3	2	1	1	1	3	2	2	3	2	2	1	1	2.4	6.4																							
15-Aug	1	1	1	1	A	7	7	5	3	2	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2.0	7.1																							
16-Aug	1	1	2	1	A	7	5	3	2	1	1	1	1	1	1	1	1	1	1	2	2	3	1	2	1.8	6.8																							
17-Aug	1	1	1	1	A	7	4	5	4	3	1	1	1	2	1	1	1	1	1	1	2	3	4	4	2.1	6.5																							
18-Aug	2	2	2	4	A	9	5	4	6	2	2	2	1	1	1	1	0	0	0	1	2	3	2	3	2.4	9.4																							
19-Aug	3	4	6	7	A	9	5	4	3	3	2	1	1	1	1	1	1	1	1	3	5	14	9	4	3.7	13.7																							
20-Aug	3	2	2	2	A	9	8	8	5	2	1	1	1	1	1	1	0	1	1	2	1	1	2	3	2.5	8.9																							
21-Aug	2	4	3	4	A	8	6	5	5	2	1	2	2	2	2	4	1	1	1	1	1	1	1	2	2.7	7.6																							
22-Aug	2	2	2	2	A	7	4	4	5	3	2	1	1	1	1	1	1	1	1	2	2	1	1	1	2.0	6.9																							
23-Aug	1	2	2	2	A	7	4	5	4	5	3	3	1	1	1	1	1	1	1	3	4	8	9	3.0	9.1																								
24-Aug	7	7	5	7	A	13	11	16	8	6	5	4	2	1	2	1	1	1	1	3	3	2	1	1	4.7	16.3																							
25-Aug	2	2	2	2	A	7	4	9	6	5	5	2	1	1	1	1	1	1	3	6	4	5	11	3.6	11.5																								
26-Aug	4	3	3	3	A	7	6	4	3	2	3	3	4	3	1	1	1	1	2	2	2	3	2	2	2.9	6.6																							
27-Aug	3	2	3	2	A	8	5	3	2	2	1	1	1	1	1	2	1	1	2	1	1	1	1	1	2.1	7.5																							
28-Aug	1	1	2	1	A	6	4	5	2	2	2	1	1	1	1	1	1	1	1	2	1	1	1	1	1.8	5.9																							
29-Aug	1	1	0	0	A	6	3	3	3	3	3	2	2	2	2	2	2	2	2	5	10	2	4	5	2.7	9.7																							
30-Aug	5	2	2	3	A	8	5	3	2	2	4	3	2	3	2	2	2	1	2	2	3	3	2	2	2.9	7.9																							
31-Aug	3	3	2	3	A	8	5	4	4	3	3	3	3	3	3	3	4	4	3	3	3	2	3	2	3.3	7.7																							
																								2.3	2.3	2.2	2.6	--	7.3	5.4	5.1	4.1	3.0	2.5	1.8	1.4	1.3	1.1	1.2	1.1	1.4	1.9	2.5	2.5	2.5	2.8	Diurnal Average		
																								7.1	7.0	5.7	7.1	--	13.4	10.7	16.3	8.3	7.2	6.2	4.2	3.9	3.3	4.6	3.5	4.2	3.7	4.5	5.3	9.7	13.7	8.6	11.5	Diurnal Maximum	
C - Calibration																								D - DAS Failure				M - Maintenance				N - Not Valid				A - Automated Daily Zero Span													

**Hourly Averages**

**Oxides of Nitrogen (NO<sub>x</sub>) - ppb**  
**Beaverlodge - August 2016**



# Hourly Maximums

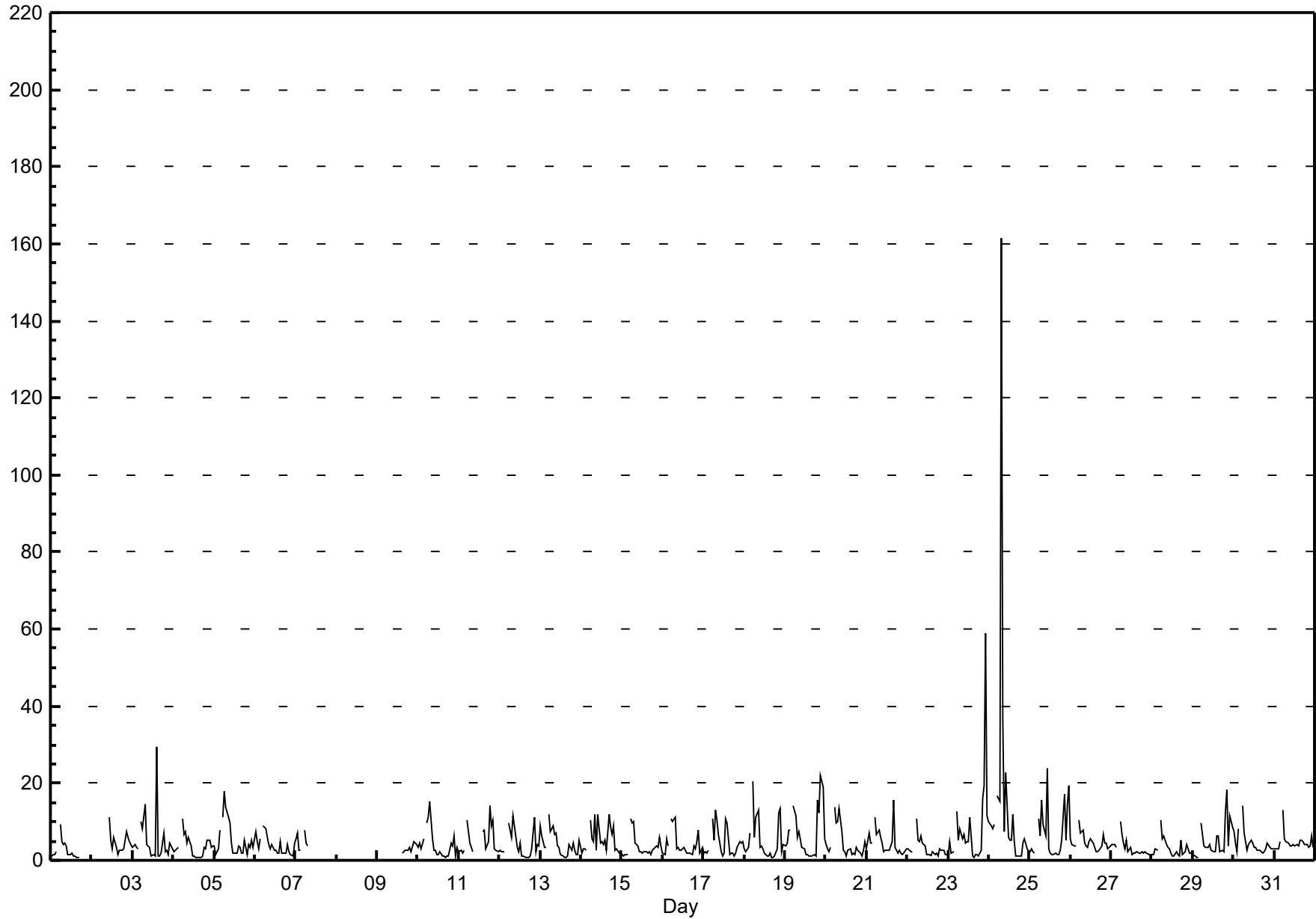
Oxides of Nitrogen (NO<sub>x</sub>) - ppb

Beaverlodge - August 2016

Maximum Value: 161.4 ppb on Aug 24 08:00 Minimum Value: 1 ppb on Aug 4 16:00 Maximum Diurnal Average: 13.5 ppb at hour 8 Monthly Average: 4.97 ppb		Maximum Daily Average: 15.2 ppb on Aug 24 Minimum Daily Average: 3.0 ppb on Aug 22 Minimum Diurnal Average: 2.4 ppb at hour 18 Percentiles: P <sub>1</sub> = 0.8 P <sub>10</sub> = 1.3 Q <sub>1</sub> = 2.0 Median = 3.3 Q <sub>3</sub> = 5.5 P <sub>90</sub> = 10.4 P <sub>99</sub> = 22.1		Hours in Service: 744 Hours of Data: 639 Hours of Missing Data: 105 Hours of Calibration: 33 Percent Operational Time: 90.3																						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Aug	1	2	1	2	A	9	5	4	4	4	1	2	2	1	1	1	1	N	N	N	N	N	N	N	--	9.4
2-Aug	N	N	N	N	N	N	N	N	N	M	11	5	3	6	3	2	3	3	3	3	8	6	5	4	--	11.0
3-Aug	3	4	3	3	A	10	8	15	4	4	3	1	2	1	29	1	1	2	7	2	3	1	4	3	5.1	29.4
4-Aug	2	3	3	3	A	11	7	7	5	6	4	1	1	1	1	1	1	1	3	3	5	5	3	4	3.5	10.9
5-Aug	4	2	3	8	A	11	18	14	11	10	5	2	2	2	4	3	2	2	5	2	4	3	5	3	5.4	18.0
6-Aug	7	5	3	6	A	9	8	6	4	3	4	3	3	2	2	5	2	2	2	4	2	2	1	4	3.8	9.1
7-Aug	5	7	2	3	A	8	4	4	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	--	7.9
8-Aug	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	--	--
9-Aug	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	--	--
10-Aug	3	4	3	6	A	10	11	15	6	3	2	1	1	2	1	1	1	1	1	4	4	6	1	3	4.0	15.1
11-Aug	2	3	2	3	A	10	5	3	2	C	C	C	C	C	7	8	3	5	14	9	10	3	3	2	5.2	14.2
12-Aug	3	2	2	2	A	10	8	6	11	9	3	2	4	1	1	1	1	1	1	3	11	2	4	4	4.0	11.4
13-Aug	9	7	3	3	A	12	7	9	7	7	4	3	1	1	1	1	1	4	3	4	3	1	2	5	4.3	12.1
14-Aug	2	3	3	3	A	10	6	5	12	3	12	4	5	4	5	3	12	8	7	9	3	3	2	2	5.4	12.0
15-Aug	2	1	1	2	A	11	10	10	5	4	2	2	2	2	2	2	2	1	2	3	4	3	6	4	3.6	10.7
16-Aug	2	2	6	4	A	11	10	11	3	3	3	3	3	2	2	2	2	2	4	3	5	8	2	3	4.1	11.2
17-Aug	2	2	2	3	A	11	5	13	10	7	2	1	2	11	10	1	2	2	1	2	3	5	5	5	4.6	13.0
18-Aug	3	2	4	7	A	21	6	11	13	3	4	3	2	1	1	2	1	1	1	3	12	13	2	4	5.2	20.6
19-Aug	4	4	8	8	A	14	11	6	7	5	3	3	1	1	1	1	1	2	1	16	12	22	19	6	6.8	21.9
20-Aug	4	3	2	3	A	14	10	10	13	7	2	2	1	3	3	2	2	1	3	3	2	1	3	5	4.3	13.6
21-Aug	3	7	4	4	A	11	7	8	6	4	2	3	2	3	4	5	16	3	2	3	2	2	2	3	4.6	15.6
22-Aug	3	2	2	2	A	11	5	5	6	5	4	1	1	1	1	2	1	2	1	3	3	3	2	1	3.0	10.8
23-Aug	2	5	2	2	A	13	5	8	6	7	5	5	5	11	1	1	1	1	1	3	16	19	59	11	8.2	58.9
24-Aug	10	9	8	9	A	17	15	161	36	8	23	6	5	5	12	5	1	1	1	1	5	6	3	2	15.2	161.4
25-Aug	2	3	2	2	A	11	6	16	9	6	24	3	2	2	2	2	2	2	2	5	17	5	14	19	6.9	23.9
26-Aug	6	4	4	4	A	10	7	8	5	4	3	5	6	5	3	2	2	3	4	7	5	4	3	3	4.6	10.4
27-Aug	4	4	4	3	A	10	7	4	3	5	2	3	2	2	2	2	2	2	2	2	2	2	2	2	3.1	10.2
28-Aug	1	2	3	3	A	10	5	6	4	3	3	2	1	1	2	2	1	5	2	2	4	3	2	2	3.0	10.3
29-Aug	1	1	1	1	A	10	4	3	3	3	4	2	2	2	6	6	2	2	2	13	18	4	11	8	4.9	18.3
30-Aug	7	4	2	8	A	14	7	5	3	4	5	5	4	3	3	3	2	2	2	3	4	3	3	3	4.4	14.2
31-Aug	3	3	3	5	A	13	6	5	4	4	4	4	4	4	4	5	5	5	4	4	3	4	6	3	4.5	13.2
		3.6	3.6	3.1	3.9	--	11.5	7.6	13.5	7.5	5.0	5.4	2.9	2.5	3.0	4.1	2.5	2.6	2.4	3.1	4.3	6.1	5.2	6.4	4.4	Diurnal Average
		10.0	9.1	8.1	9.2	--	20.6	18.0	161.4	36.4	9.7	23.9	6.0	5.7	11.1	29.4	7.8	15.6	8.4	14.2	15.7	18.3	21.9	58.9	19.2	Diurnal Maximum
C - Calibration		D - DAS Failure				M - Maintenance					N - Not Valid					A - Automated Daily Zero Span										

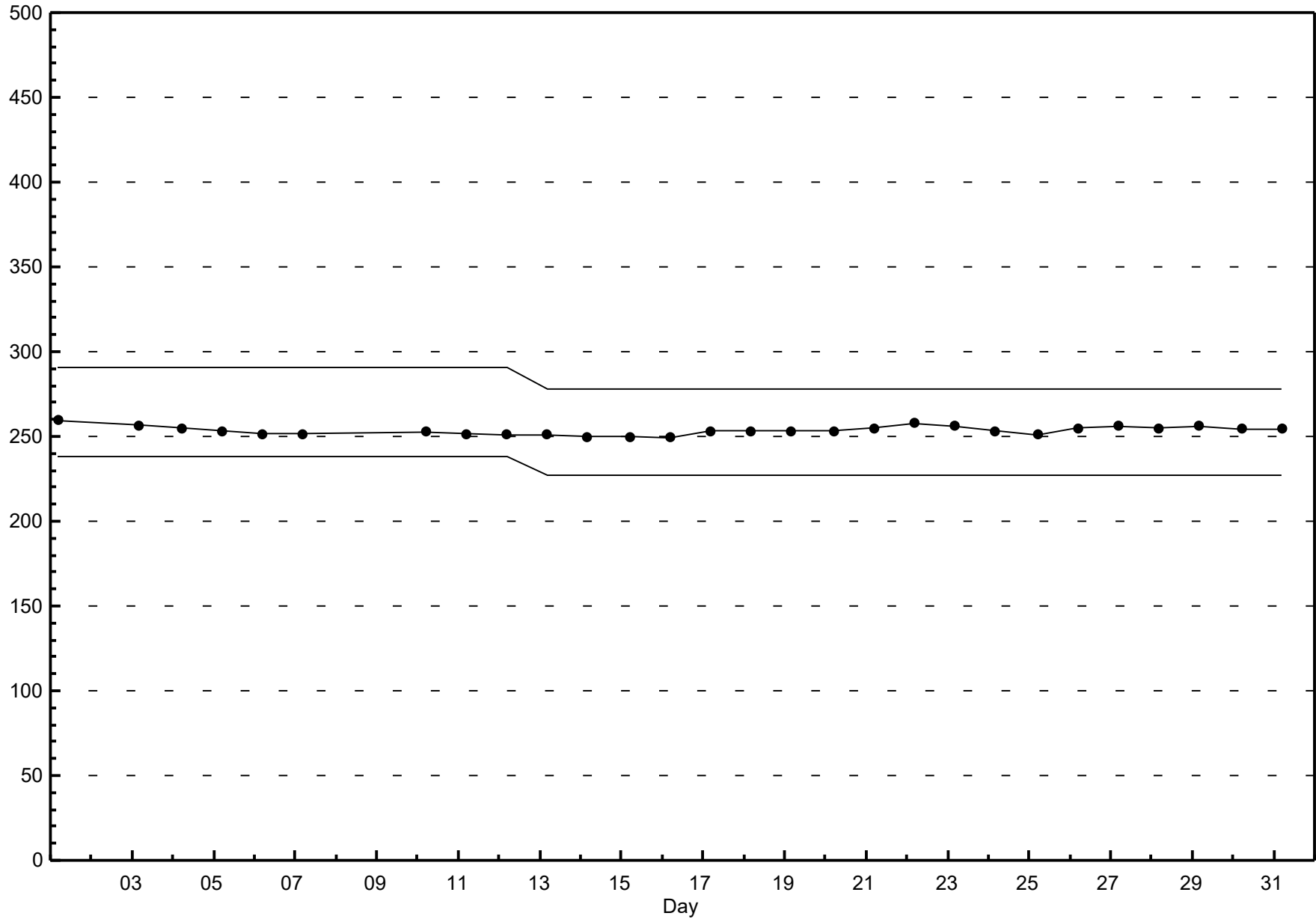
**Hourly Maximums**

**Oxides of Nitrogen (NO<sub>x</sub>) - ppb**  
**Beaverlodge - August 2016**



### Span Responses

Oxides of Nitrogen (NO<sub>x</sub>)  
Beaverlodge - August 2016



## Hourly Averages

Ozone (O<sub>3</sub>) - ppb  
Beaverlodge - August 2016

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0	Hours in Service: 744
Maximum Value: 39.2 ppb on Aug 5 23:00	Maximum Daily Average: 26.5 ppb on Aug 6
Minimum Value: 2 ppb on Aug 31 06:00	Hours of Data: 641
Maximum Diurnal Average: 23.8 ppb at hour 15	Hours of Missing Data: 103
Monthly Average: 17.77 ppb	Hours of Calibration: 31
Percentiles: P <sub>1</sub> = 2.0 P <sub>10</sub> = 8.2 Q <sub>1</sub> = 12.1 Median = 16.7 Q <sub>3</sub> = 23.7 P <sub>90</sub> = 28.8 P <sub>99</sub> = 33.5	Percent Operational Time: 90.3

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Aug	16	14	14	12	A	10	8	9	10	13	17	19	21	20	20	21	22	N	N	N	N	N	N	N	--	21.7	
2-Aug	N	N	N	N	N	N	N	N	N	M	27	30	30	30	32	31	26	23	20	19	15	14	13	12	--	32.1	
3-Aug	13	8	6	4	A	4	2	3	4	10	16	26	31	30	31	32	28	27	23	19	24	27	23	16	17.7	32.5	
4-Aug	17	15	12	13	A	10	10	11	11	16	23	25	27	28	29	29	29	29	29	26	27	28	30	27	21.8	29.5	
5-Aug	26	24	21	17	A	13	6	5	9	11	21	25	26	29	31	30	28	24	24	24	31	28	39	37	23.0	39.2	
6-Aug	31	34	36	29	A	21	20	21	21	25	25	33	37	32	30	28	28	27	23	18	16	22	25	25	26.5	36.9	
7-Aug	33	28	22	22	A	24	32	27	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	--	32.8	
8-Aug	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	--	--	
9-Aug	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	29	30	24	24	19	16	15	13	12	--	30.0
10-Aug	11	10	10	7	A	9	8	13	18	23	25	27	27	29	29	29	28	27	24	17	15	15	15	14	18.8	29.4	
11-Aug	14	14	15	15	A	16	15	15	14	15	14	15	C	C	C	19	20	21	18	19	14	15	16	18	16.1	20.8	
12-Aug	14	12	12	10	A	9	8	10	11	16	22	26	25	23	22	22	23	22	21	18	16	17	16	16	17.0	26.1	
13-Aug	15	14	13	12	A	10	9	10	13	14	18	22	24	24	24	24	24	23	22	17	18	21	22	20	18.0	24.4	
14-Aug	19	16	8	9	A	10	9	9	13	17	21	19	20	24	27	28	26	27	25	22	22	20	23	19	18.7	27.9	
15-Aug	20	18	18	16	A	15	14	16	19	20	24	27	28	31	31	30	30	30	27	24	25	22	18	18	22.6	30.9	
16-Aug	18	18	17	15	A	15	21	23	27	29	30	30	30	30	30	30	32	32	29	25	24	21	23	21	24.9	32.1	
17-Aug	23	22	19	16	A	17	16	16	17	20	22	22	23	24	24	26	27	26	26	24	23	19	16	13	20.9	26.7	
18-Aug	16	15	13	6	A	10	12	12	11	16	21	23	25	25	27	26	26	27	26	22	18	20	18	18	19.2	26.8	
19-Aug	16	15	14	11	A	8	9	9	10	13	17	20	23	23	23	23	23	23	22	18	13	7	11	11	15.8	23.4	
20-Aug	12	13	13	12	A	10	9	9	15	25	27	29	30	25	23	22	22	21	18	21	24	26	22	15	19.2	29.7	
21-Aug	18	14	15	10	A	11	9	10	12	13	19	23	23	19	17	15	18	27	25	17	16	14	15	14	16.3	27.4	
22-Aug	11	9	10	10	A	8	7	8	7	8	9	13	16	15	14	16	16	15	15	12	9	10	10	11	11.2	16.5	
23-Aug	11	9	9	8	A	6	5	6	8	10	15	23	28	29	31	32	33	34	33	31	25	23	19	10	19.1	34.2	
24-Aug	14	10	5	4	A	2	2	2	3	4	7	14	21	26	23	25	29	30	29	28	22	22	24	23	16.1	29.9	
25-Aug	20	19	19	18	A	14	13	10	13	14	17	21	24	28	29	30	31	31	29	27	16	18	17	10	20.3	30.8	
26-Aug	11	9	7	7	A	9	8	10	11	15	17	18	16	14	19	17	17	16	15	14	12	11	12	12	13.0	19.5	
27-Aug	11	9	8	11	A	15	12	14	20	20	22	22	17	16	18	15	15	15	15	15	14	14	14	14	15.1	22.5	
28-Aug	15	14	13	13	A	14	13	11	14	14	16	18	19	20	21	22	21	20	16	12	11	11	14	14	15.5	21.7	
29-Aug	14	14	15	15	A	14	13	12	12	12	13	15	17	18	18	21	20	18	17	12	8	13	12	11	14.5	20.7	
30-Aug	11	15	14	11	A	13	12	13	15	15	13	14	14	15	16	15	15	19	14	10	7	6	6	5	12.6	18.6	
31-Aug	5	4	4	3	A	2	2	2	3	3	3	3	3	3	3	3	3	2	2	2	2	2	2	4	2.8	4.6	

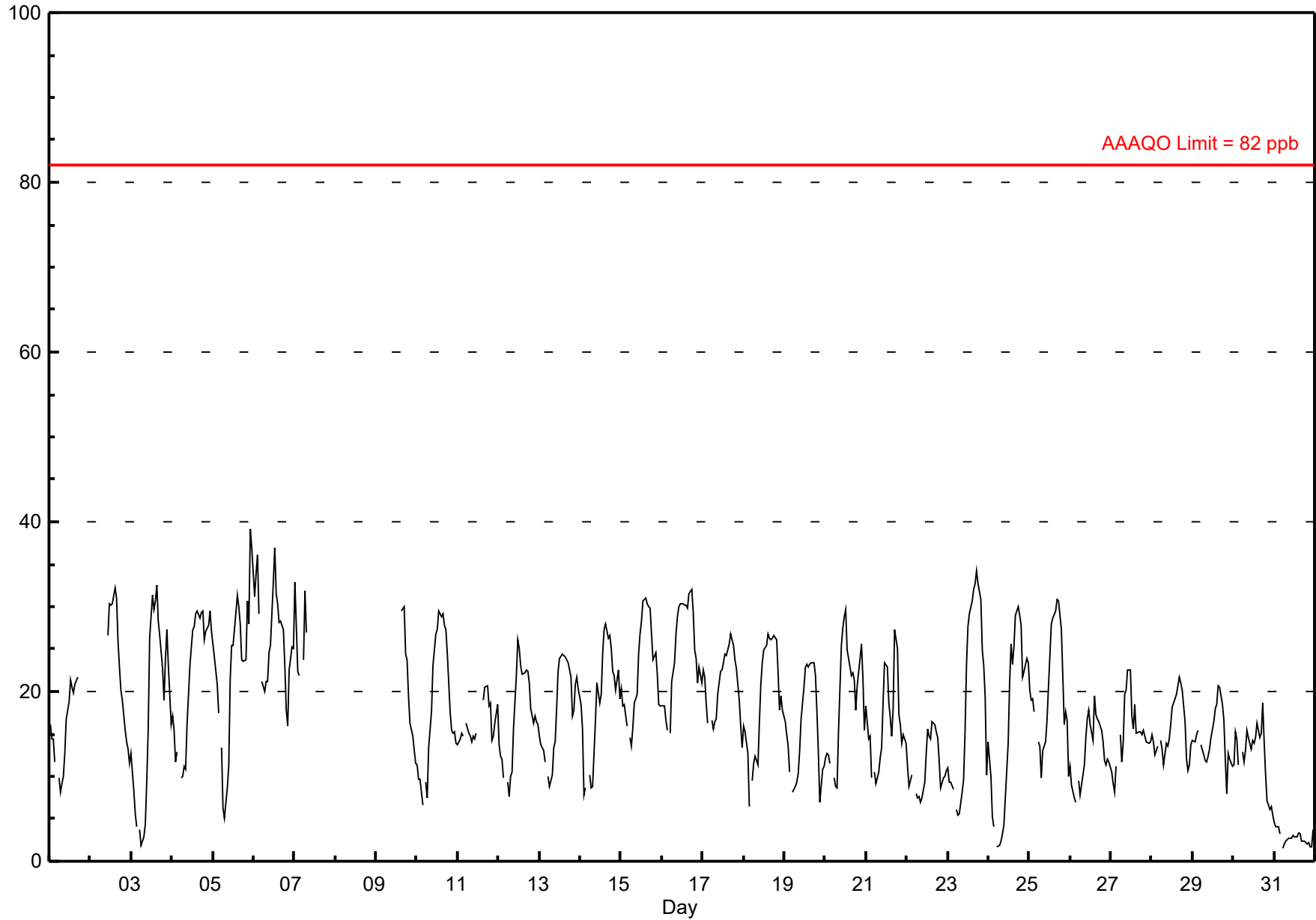
16.3	14.9	13.6	12.0	--	11.4	10.8	11.4	12.6	15.1	18.6	21.5	23.1	23.3	23.8	23.8	23.8	23.7	22.0	19.3	17.4	17.1	17.4	15.8	Diurnal Average
32.8	33.8	36.1	29.1	--	23.8	31.9	27.0	26.7	28.8	30.0	32.8	36.9	31.5	32.1	32.5	32.7	34.2	32.7	30.8	30.7	28.0	39.2	36.9	Diurnal Maximum

C - Calibration      D - DAS Failure      M - Maintenance      N - Not Valid      A - Automated Daily Zero Span  
 Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 82 ppb      24-hr na



### Hourly Averages

Ozone (O<sub>3</sub>) - ppb  
Beaverlodge - August 2016



# Hourly Maximums

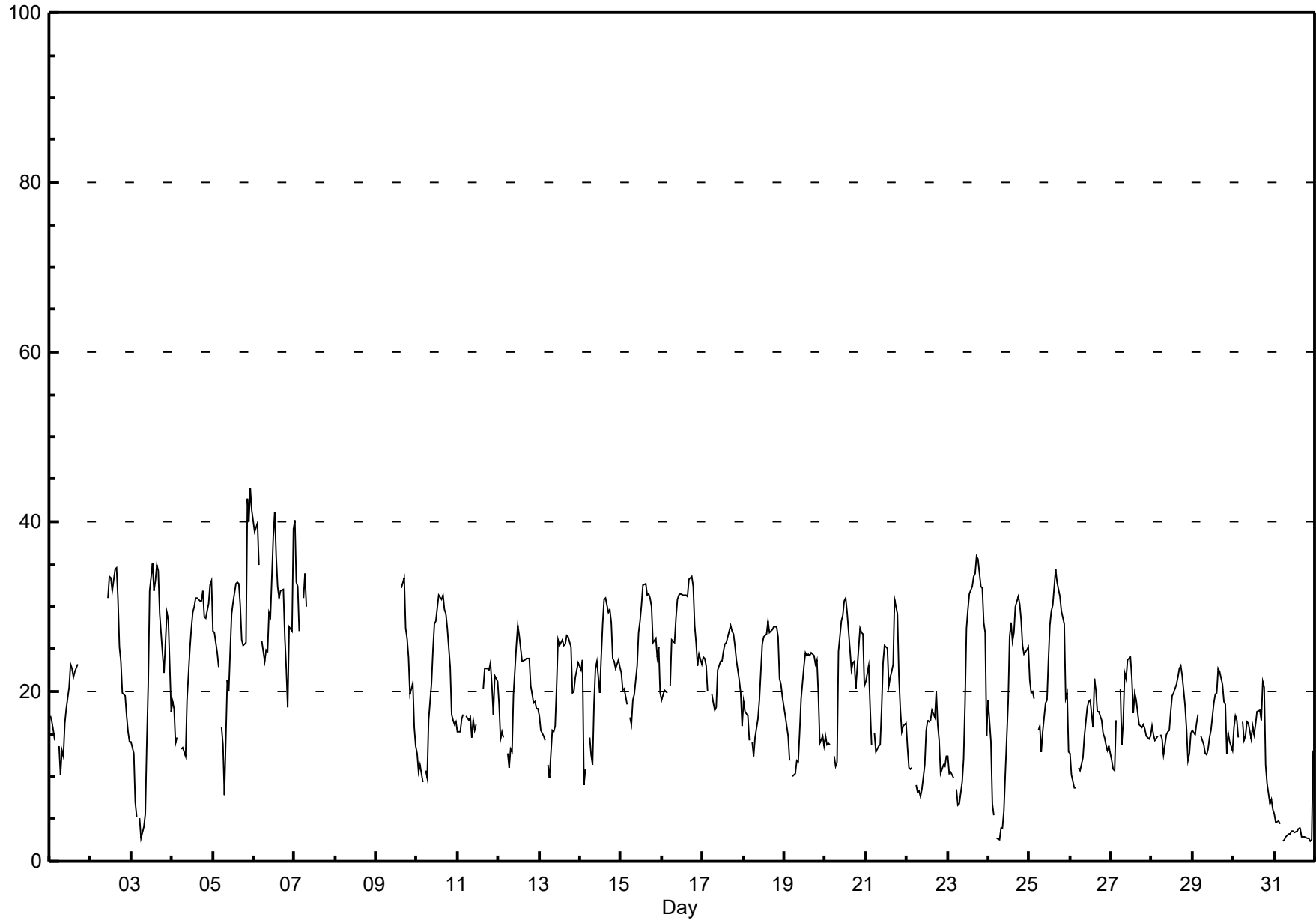
Ozone (O<sub>3</sub>) - ppb

Beaverlodge - August 2016

Maximum Value: 43.9 ppb on Aug 5 23:00		Maximum Daily Average: 31.1 ppb on Aug 6		Hours in Service: 744																							
Minimum Value: 2 ppb on Aug 31 22:00		Minimum Daily Average: 3.8 ppb on Aug 31		Hours of Data: 641																							
Maximum Diurnal Average: 26.0 ppb at hour 16		Minimum Diurnal Average: 13.1 ppb at hour 7		Hours of Missing Data: 103																							
Monthly Average: 20.29 ppb		Percentiles: P <sub>1</sub> = 2.6 P <sub>10</sub> = 10.4 Q <sub>1</sub> = 14.6 Median = 19.9 Q <sub>3</sub> = 26.3 P <sub>90</sub> = 31.1 P <sub>99</sub> = 39.8		Hours of Calibration: 31																							
				Percent Operational Time: 90.3																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Aug	17	17	15	14	A	14	10	13	12	16	18	21	23	23	22	22	23	N	N	N	N	N	N	N	--	23.3	
2-Aug	N	N	N	N	N	N	N	N	N	M	31	34	33	32	34	35	31	25	24	20	20	17	15	14	--	34.6	
3-Aug	14	13	7	5	A	5	3	4	6	14	21	32	35	32	33	35	34	29	24	22	26	29	28	18	20.4	35.0	
4-Aug	19	18	14	15	A	13	13	13	12	19	25	28	29	30	31	31	31	31	32	29	29	30	33	33	24.2	33.1	
5-Aug	27	27	25	23	A	16	14	8	21	20	25	29	30	33	33	33	30	26	25	26	43	40	44	41	27.8	43.9	
6-Aug	39	39	40	35	A	26	24	25	25	29	29	38	41	36	32	31	32	32	26	23	18	28	27	39	31.1	41.2	
7-Aug	40	33	32	27	A	31	34	30	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	--	40.2	
8-Aug	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	--	--	
9-Aug	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	--	33.3	
10-Aug	13	10	11	9	A	11	10	17	21	25	28	28	30	31	31	31	30	29	28	23	17	17	16	16	21.0	31.4	
11-Aug	15	15	17	17	A	17	17	17	15	17	15	16	C	C	C	20	23	23	23	23	21	17	22	21	18.5	23.5	
12-Aug	19	14	15	15	A	13	11	13	13	20	25	28	27	25	24	24	24	24	24	21	19	19	18	18	19.6	27.8	
13-Aug	17	15	15	14	A	11	10	15	15	16	21	26	25	26	26	26	27	26	25	20	20	22	23	23	20.2	26.7	
14-Aug	23	24	9	11	A	15	12	11	18	23	24	20	24	28	31	31	29	30	28	24	24	23	24	23	22.0	31.0	
15-Aug	22	20	20	18	A	17	16	19	20	23	27	28	30	33	33	31	32	31	30	26	26	24	25	20	24.9	32.7	
16-Aug	19	20	20	20	A	21	26	26	29	31	31	32	31	31	31	31	33	34	32	28	26	23	24	23	27.1	33.5	
17-Aug	24	24	23	20	A	20	19	18	18	22	24	24	25	26	26	27	28	27	27	25	24	21	20	16	22.9	27.8	
18-Aug	19	18	17	14	A	14	12	15	17	19	22	26	26	27	28	27	27	27	28	28	26	21	21	19	21.7	28.3	
19-Aug	17	16	15	12	A	10	10	12	12	15	19	23	25	24	24	24	25	24	23	24	20	14	15	14	18.1	24.6	
20-Aug	15	14	14	14	A	12	11	12	25	28	29	31	31	29	25	23	23	24	20	23	27	27	27	21	21.9	30.9	
21-Aug	21	23	18	14	A	15	13	14	14	18	23	25	25	21	22	22	23	31	29	22	18	15	16	16	19.9	30.8	
22-Aug	13	11	11	11	A	9	8	8	8	8	11	15	17	16	17	18	17	20	16	14	10	11	11	12	12.8	20.1	
23-Aug	12	10	10	10	A	8	7	7	9	12	19	28	30	32	32	34	34	36	36	32	32	28	27	15	21.7	36.0	
24-Aug	19	14	7	5	A	3	3	4	4	6	10	19	26	28	26	27	30	31	30	29	25	24	25	25	18.3	31.1	
25-Aug	21	20	20	19	A	15	16	13	15	19	19	24	28	30	30	34	33	32	31	30	28	19	20	13	23.0	34.4	
26-Aug	13	10	9	9	A	11	11	12	15	16	18	19	19	16	22	20	18	18	17	15	15	14	13	14	14.8	21.5	
27-Aug	12	11	11	17	A	20	14	16	22	22	24	24	22	17	20	19	16	16	16	16	16	15	14	15	17.1	24.1	
28-Aug	16	15	14	15	A	15	14	12	15	15	15	18	19	20	21	22	23	23	22	18	16	12	13	15	16.9	23.1	
29-Aug	15	15	16	17	A	15	14	13	13	13	15	15	19	20	20	23	22	21	19	18	13	15	14	13	16.4	22.8	
30-Aug	16	17	17	15	A	17	14	15	16	16	14	16	15	16	18	18	17	21	21	11	9	7	7	6	14.7	21.2	
31-Aug	6	5	5	4	A	2	3	3	3	3	4	4	3	3	4	4	3	3	3	3	3	2	3	13	3.8	13.1	
		18.7	17.4	16.0	15.0	--	14.1	13.1	13.7	15.3	18.0	20.9	23.9	25.5	25.3	25.7	26.0	25.9	25.8	24.5	22.0	21.0	19.9	20.0	19.0	Diurnal Average	
		40.2	39.4	39.8	35.0	--	31.0	33.9	30.0	28.6	30.9	31.4	38.3	41.2	35.9	34.5	34.9	34.2	36.0	35.6	32.3	42.7	40.0	43.9	41.4	Diurnal Maximum	
C - Calibration		D - DAS Failure				M - Maintenance				N - Not Valid				A - Automated Daily Zero Span													

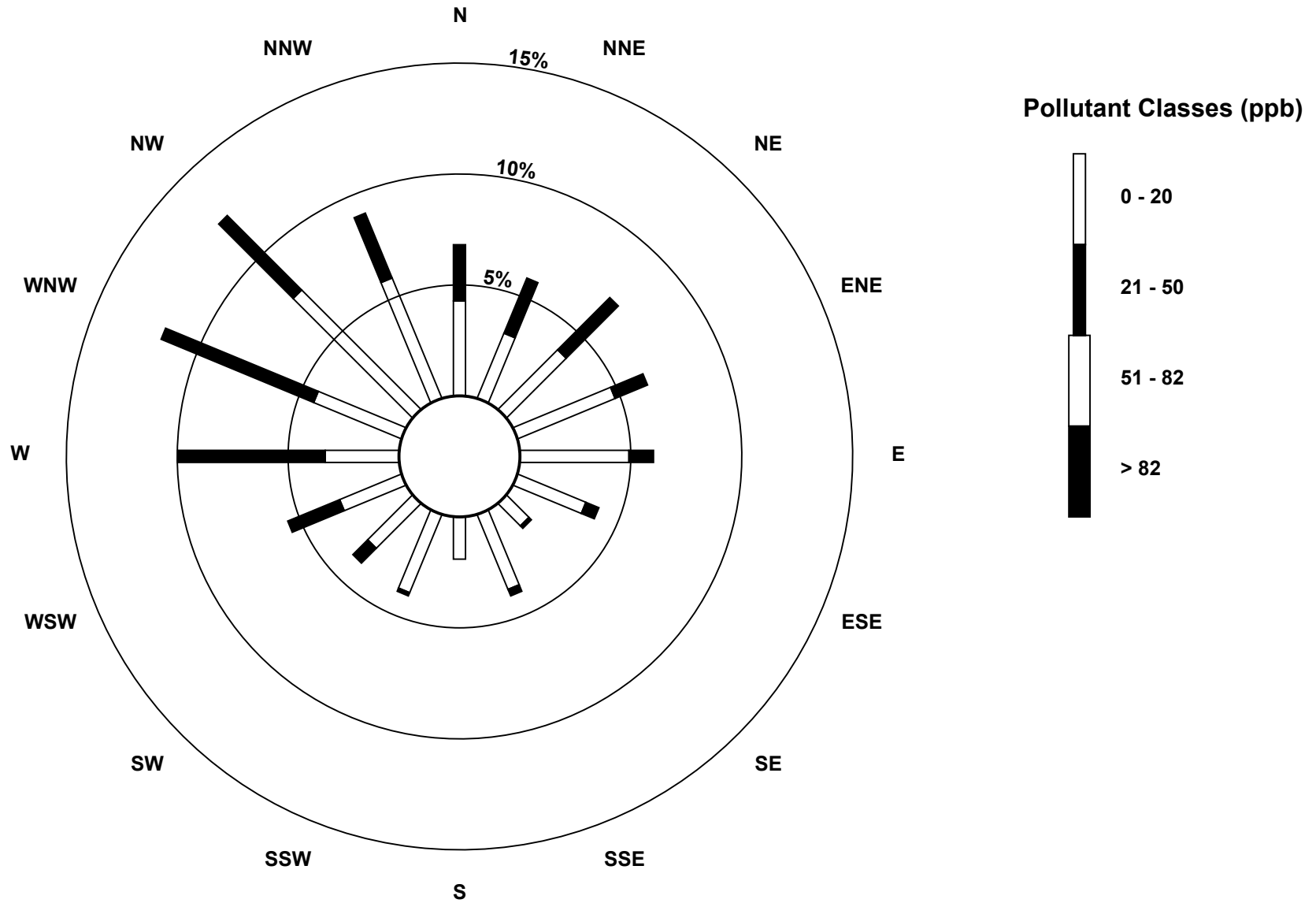
### Hourly Maximums

Ozone (O<sub>3</sub>) - ppb  
Beaverlodge - August 2016



**Pollutant Rose**

**Ozone (O<sub>3</sub>) - ppb**  
**Beaverlodge - August 2016**



## Eight Hour Running Averages

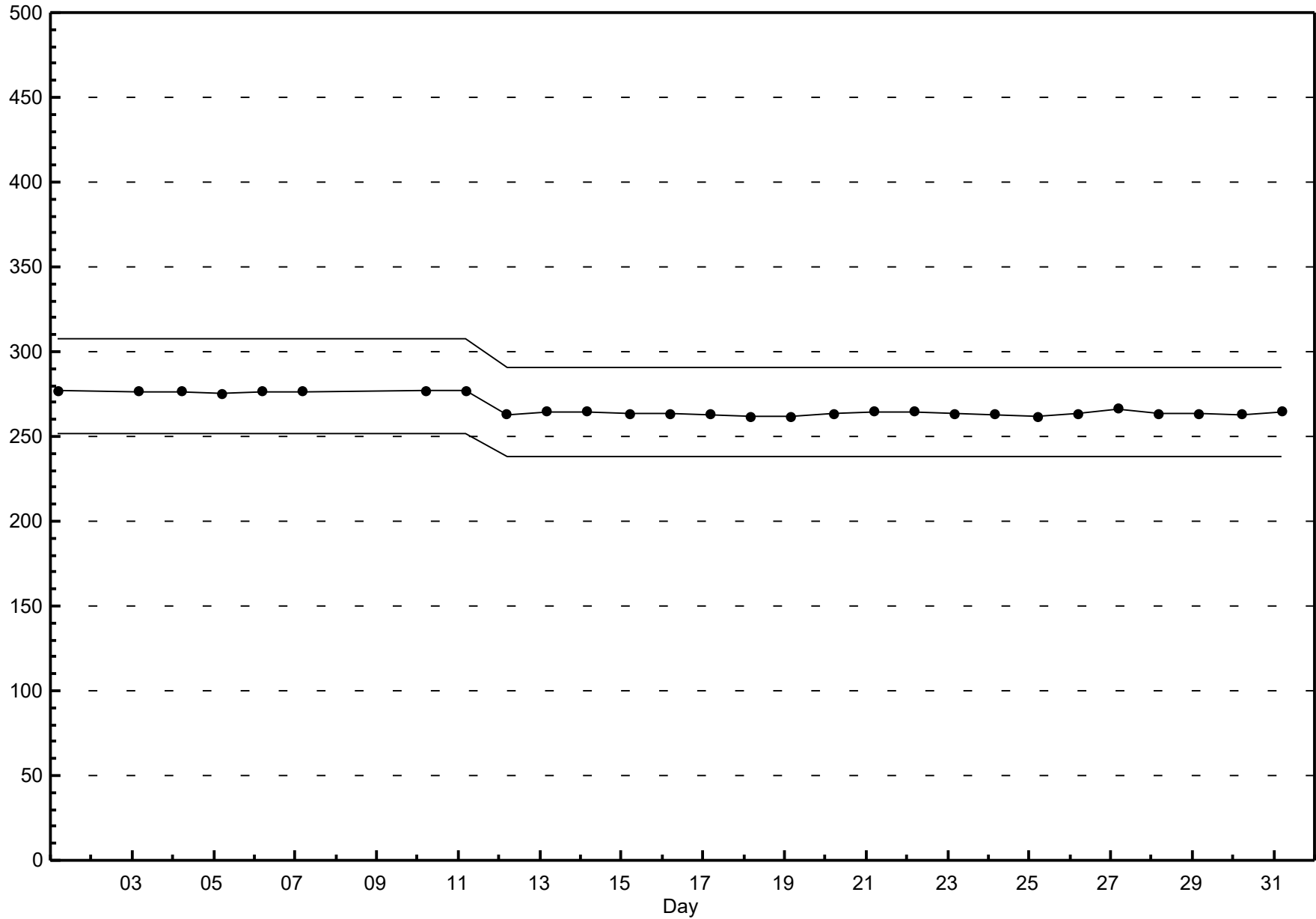
Ozone (O<sub>3</sub>) - ppb

Beaverlodge - August 2016

<b>Maximum Value: 33.5 ppb on Aug 6 05:00</b>																								Hours in Service: 744 Hours of Data: 659 Hours of Missing Data: 85 Hours of Calibration: 9 Percent Operational Time: 89.8		
<b>Minimum Value: 2.2 ppb on Aug 31 23:00</b>																										
Percentiles: P <sub>1</sub> = 2.6 P <sub>10</sub> = 10.2 Q <sub>1</sub> = 13.2 Median = 16.9 Q <sub>3</sub> = 22.7 P <sub>90</sub> = 26.7 P <sub>99</sub> = 30.9																										
Day	Hourly Period Ending At (MST)																								Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Aug	19	17	16	15	14	14	13	12	11	11	11	12	13	15	16	18	19	20	20	N	N	N	N	N	20.5	
2-Aug	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	30	30	29	28	26	25	23	20	18	30.1	
3-Aug	16	14	12	11	10	8	7	6	4	5	6	9	12	15	19	22	25	28	29	28	27	26	25	23	28.5	
4-Aug	22	21	19	18	18	15	13	13	12	12	13	15	17	19	21	24	26	27	28	28	28	28	28	28	28.4	
5-Aug	28	27	26	25	25	23	19	16	14	12	12	13	15	17	20	23	25	27	27	27	28	27	28	29	29.2	
6-Aug	30	31	32	33	33	32	30	28	26	25	23	24	25	27	28	29	30	30	30	28	25	24	24	23	33.5	
7-Aug	24	24	24	24	25	26	26	27	26	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	26.8	
8-Aug	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	
9-Aug	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	23.9	
10-Aug	17	15	13	12	11	10	9	10	11	12	15	18	19	21	24	26	27	28	28	26	25	23	21	20	27.7	
11-Aug	18	16	15	15	15	15	15	15	15	15	15	15	15	15	N	N	N	N	N	N	19	18	18	18	18.5	
12-Aug	17	16	15	14	14	13	12	11	10	11	12	14	16	17	19	21	22	23	23	23	22	21	20	19	19	23.1
13-Aug	18	17	16	15	15	14	13	12	12	12	12	14	15	17	19	21	22	23	23	23	22	22	21	21	23.5	
14-Aug	20	19	17	16	16	15	13	11	10	10	12	14	15	16	19	21	23	24	24	25	25	25	24	23	25.2	
15-Aug	22	21	20	20	19	18	17	17	16	17	17	19	20	22	24	26	28	29	29	29	28	27	26	24	29.2	
16-Aug	23	21	20	19	18	17	18	18	20	21	23	25	26	28	29	30	30	31	30	30	29	28	27	26	30.6	
17-Aug	25	23	22	21	21	20	19	18	17	17	18	19	19	20	21	22	24	24	25	25	25	24	23	22	25.0	
18-Aug	20	19	17	15	14	13	12	12	11	11	13	15	16	18	20	22	24	25	26	26	26	25	24	23	26.1	
19-Aug	22	20	19	17	16	14	13	12	11	11	11	12	14	16	17	19	21	22	23	22	21	19	18	16	22.7	
20-Aug	15	13	12	11	11	12	11	11	11	13	15	18	19	21	23	25	25	25	24	23	22	22	22	21	25.4	
21-Aug	21	20	19	18	17	15	13	12	12	11	12	14	15	16	17	18	18	20	21	20	19	19	18	18	20.9	
22-Aug	17	15	13	12	12	11	10	9	8	8	8	9	9	10	11	12	13	14	15	15	14	13	13	12	17.5	
23-Aug	11	11	10	10	10	9	9	8	7	8	8	10	13	15	19	22	25	28	30	31	31	30	29	26	31.2	
24-Aug	24	21	17	14	12	9	7	6	4	3	4	5	7	10	13	15	19	22	25	26	26	26	26	26	26.4	
25-Aug	25	23	22	21	21	20	18	16	15	14	14	15	16	17	19	22	24	26	28	29	27	26	25	22	28.5	
26-Aug	20	17	14	12	11	10	9	9	9	10	11	13	13	14	15	16	17	17	17	16	16	15	14	14	19.8	
27-Aug	13	12	11	11	11	11	11	11	13	14	16	18	18	18	19	19	18	18	17	16	16	15	15	15	18.9	
28-Aug	15	14	14	14	14	14	14	13	13	13	13	14	14	15	16	17	18	19	20	20	19	18	17	16	19.5	
29-Aug	15	14	13	13	13	14	14	14	13	13	13	13	13	14	15	16	17	18	18	18	17	16	15	14	18.0	
30-Aug	13	12	12	12	13	13	13	13	13	13	13	14	14	14	14	15	15	15	15	15	14	13	12	10	15.2	
31-Aug	9	7	6	5	5	4	4	3	3	3	2	2	2	3	3	3	3	3	3	3	3	2	2	2	9.1	
29.6 30.9 32.4 33.1 33.5 32.5 29.8 27.5 26.1 24.8 23.3 25.1 25.8 27.6 28.8 30.1 30.2 30.6 30.5 31.2 30.9 30.1 28.7 29.2																										
Diurnal Maximums																										
N - Not Valid																										

### Span Responses

Ozone (O<sub>3</sub>)  
Beaverlodge - August 2016



## Hourly Averages

## Particulate Matter 2.5 (PM<sub>2.5</sub>) - µg/m<sup>3</sup>

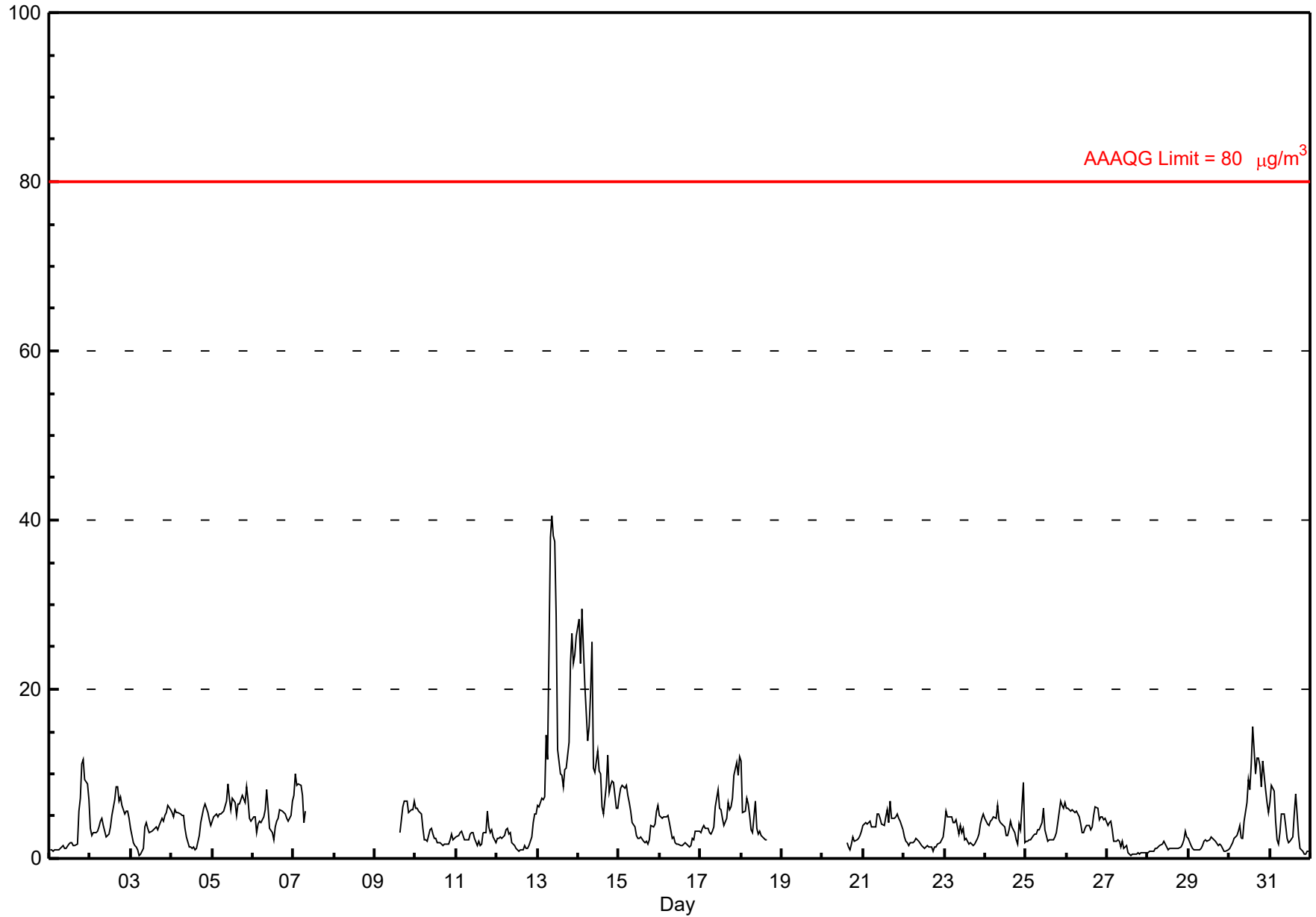
### Beaverlodge - August 2016

Number of Exceedences: 1-hr: 0 24-hr: 0	Hours in Service: 744
Maximum Value: 40.5 µg/m <sup>3</sup> on Aug 13 09:00	Maximum Daily Average: 18.4 µg/m <sup>3</sup> on Aug 13
Minimum Value: 0 µg/m <sup>3</sup> on Aug 3 06:00	Hours of Data: 643
Maximum Diurnal Average: 6.0 µg/m <sup>3</sup> at hour 9	Hours of Missing Data: 101
Monthly Average: 4.69 µg/m <sup>3</sup>	Hours of Calibration: 0
Minimum Daily Average: 1.4 µg/m <sup>3</sup> on Aug 28	Percent Operational Time: 86.4
Minimum Diurnal Average: 3.5 µg/m <sup>3</sup> at hour 13	
Percentiles: P <sub>1</sub> = 0.5 P <sub>10</sub> = 1.2 Q <sub>1</sub> = 2.0 Median = 3.6 Q <sub>3</sub> = 5.6 P <sub>90</sub> = 8.5 P <sub>99</sub> = 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-Aug	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	6	7	11	12	9	9	7	3.5	11.7	
2-Aug	3	3	3	3	3	4	4	5	4	3	3	3	4	5	7	9	8	7	7	6	5	6	6	5	4.8	8.5	
3-Aug	4	2	1	1	1	0	0	1	4	4	4	3	3	3	4	4	3	4	5	4	5	5	6	6	3.3	6.2	
4-Aug	5	5	6	5	5	5	5	5	4	3	1	1	1	1	1	1	3	4	5	6	6	5	5	4	3.9	6.5	
5-Aug	4	5	5	5	5	5	5	6	7	9	7	6	7	7	5	6	6	7	7	7	8	7	5	4	6.1	8.9	
6-Aug	5	5	3	4	4	4	5	6	8	6	4	3	2	4	4	5	6	6	5	5	5	4	5	7	4.8	8.1	
7-Aug	7	10	9	9	9	7	4	6	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	--	10.1	
8-Aug	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	--	--	
9-Aug	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	--	--	
10-Aug	6	6	6	5	4	2	2	2	3	4	3	2	2	2	2	2	2	2	2	2	2	3	2	2	2.9	6.0	
11-Aug	3	3	3	3	3	2	2	2	3	3	3	2	2	2	2	2	3	3	6	4	3	3	3	2	2.7	5.6	
12-Aug	2	2	3	2	3	3	3	3	3	2	2	1	1	1	1	1	1	1	1	2	2	4	5	5	2.3	5.2	
13-Aug	6	6	7	7	7	15	12	38	40	38	38	29	13	10	10	9	10	11	14	23	27	23	24	26	18.4	40.5	
14-Aug	28	23	30	25	20	14	16	20	26	11	10	13	10	10	6	5	9	12	8	9	9	9	6	6	13.9	29.6	
15-Aug	7	8	9	8	9	7	7	6	4	4	3	2	2	2	2	2	2	2	2	4	4	4	6	6	4.7	8.6	
16-Aug	5	5	5	5	5	5	4	2	2	2	2	2	2	1	2	2	2	1	1	2	2	3	3	3	2.9	5.1	
17-Aug	3	4	4	4	4	3	3	3	4	6	8	6	6	5	4	5	7	6	6	7	10	11	10	12	5.8	12.0	
18-Aug	12	6	6	7	7	5	3	3	7	4	3	3	3	2	2	2	N	N	N	N	N	N	N	N	--	11.5	
19-Aug	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
20-Aug	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	2	1	1	2	3	2	2	3	3	--	3.3	
21-Aug	4	4	4	4	4	4	4	4	5	5	5	4	4	5	6	4	7	5	5	5	5	5	4	3	4.6	6.7	
22-Aug	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	2	2	2	3	1.7	2.6	
23-Aug	4	6	5	5	5	4	4	5	3	4	3	4	2	2	2	2	2	1	2	2	3	4	5	5	3.5	5.6	
24-Aug	5	4	4	4	5	5	5	6	5	4	4	4	3	3	3	4	4	3	2	2	4	3	9	2	4.0	9.0	
25-Aug	2	2	2	2	3	3	3	3	3	4	6	3	3	2	2	2	2	3	3	4	7	6	6	7	3.5	6.8	
26-Aug	6	6	6	6	6	5	6	5	4	3	3	4	4	4	3	4	5	6	6	5	5	5	5	5	4.8	6.1	
27-Aug	4	4	4	3	2	2	2	2	1	2	1	2	1	1	0	0	0	0	1	1	1	1	1	1	1.6	4.5	
28-Aug	1	1	1	1	1	1	1	1	2	2	2	1	1	1	1	1	1	1	1	1	2	2	3	3	1.4	3.2	
29-Aug	2	2	1	1	1	1	1	1	2	2	2	2	2	3	2	2	2	2	2	2	1	1	1	1	1.6	2.5	
30-Aug	1	1	2	2	3	3	4	2	2	4	7	9	8	11	16	10	12	12	11	8	11	8	7	5	6.7	15.6	
31-Aug	7	9	8	4	2	2	3	5	5	4	2	2	2	3	5	8	5	3	1	1	0	0	1	1	3.5	8.7	

5.2	5.0	5.1	4.8	4.5	4.3	4.2	5.4	6.0	5.2	4.9	4.4	3.5	3.6	3.6	3.5	4.2	4.3	4.5	4.9	5.5	5.3	5.4	5.2	Diurnal Average	
28.4	23.0	29.6	24.9	20.5	14.5	15.6	37.9	40.5	38.1	37.5	28.6	12.8	11.1	15.6	10.1	11.9	12.1	13.8	23.2	26.6	23.1	24.1	26.3	Diurnal Maximum	

D - DAS Failure N - Not Valid  
 Alberta Ambient Air Quality Guideline (AAAQG): 1-hr 80 µg/m<sup>3</sup> Alberta Ambient Air Quality Objective (AAAQO): 24-hr 30 µg/m<sup>3</sup>





## Hourly Maximums

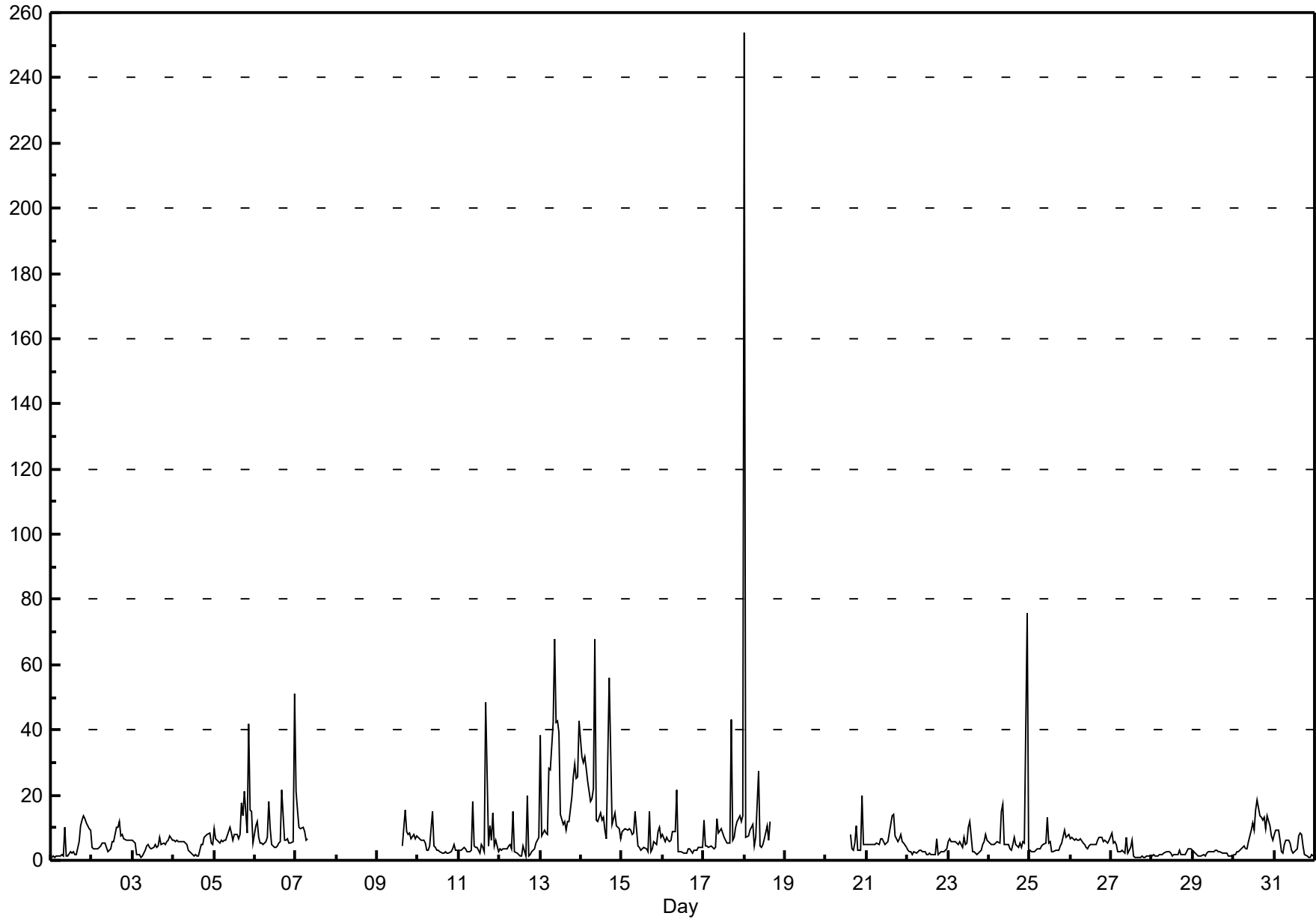
## Particulate Matter 2.5 (PM<sub>2.5</sub>) - µg/m<sup>3</sup>

### Beaverlodge - August 2016

Maximum Value: 253.9 µg/m <sup>3</sup> on Aug 18 01:00	Maximum Daily Average: 25.0 µg/m <sup>3</sup> on Aug 13	Hours in Service: 744
Minimum Value: 1 µg/m <sup>3</sup> on Aug 3 06:00	Minimum Daily Average: 2.1 µg/m <sup>3</sup> on Aug 28	Hours of Data: 643
Maximum Diurnal Average: 17.7 µg/m <sup>3</sup> at hour 1	Minimum Diurnal Average: 5.1 µg/m <sup>3</sup> at hour 13	Hours of Missing Data: 101
Monthly Average: 7.54 µg/m <sup>3</sup>	Percentiles: P <sub>1</sub> = 1.0 P <sub>10</sub> = 1.8 Q <sub>1</sub> = 3.0 Median = 5.1 Q <sub>3</sub> = 7.8 P <sub>90</sub> = 13.5 P <sub>99</sub> = 46.3	Hours of Calibration: 0
		Percent Operational Time: 86.4

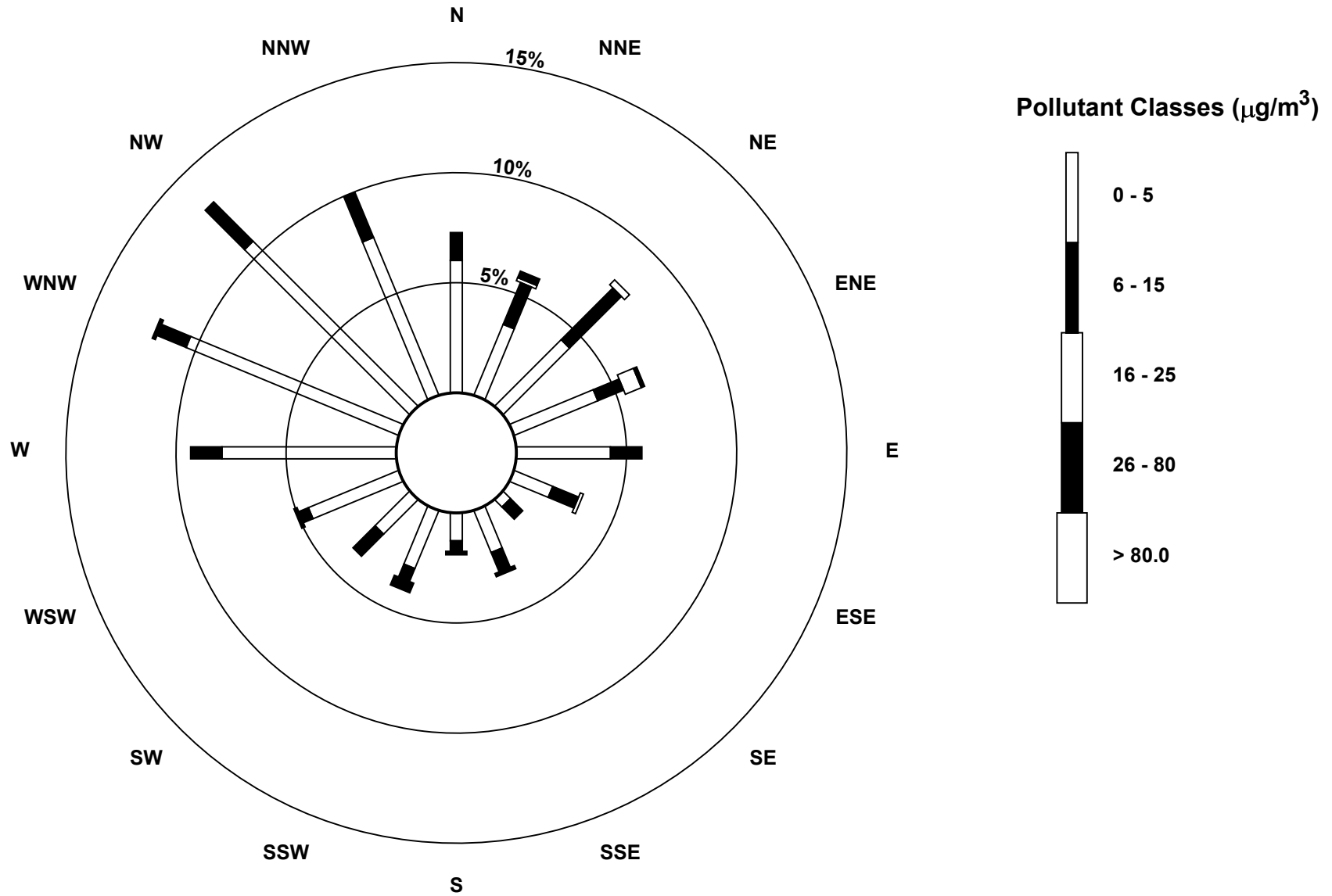
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																								
1-Aug	1	1	1	1	1	1	2	2	10	2	2	3	2	2	2	2	6	10	12	14	13	12	10	9	5.0	13.7																						
2-Aug	4	3	3	3	4	4	5	5	5	3	3	3	6	6	10	10	12	8	8	7	6	6	6	6	5.7	11.7																						
3-Aug	6	5	2	2	2	1	1	3	4	5	4	4	4	5	4	4	7	5	5	5	6	6	7	6	4.3	7.3																						
4-Aug	6	6	6	6	6	6	6	5	5	3	2	2	1	2	1	1	5	5	7	8	8	9	5	5	4.8	8.5																						
5-Aug	10	7	6	5	6	6	6	6	9	10	9	6	8	8	7	8	18	14	21	8	42	15	15	5	10.6	41.7																						
6-Aug	11	12	7	5	5	5	6	7	18	10	5	4	4	4	5	6	22	6	6	6	5	5	6	51	9.2	51.0																						
7-Aug	21	15	10	10	10	9	6	7	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	--	21.4																						
8-Aug	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	--	--																						
9-Aug	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	4	15	9	8	8	7	8	7	--	15.5																						
10-Aug	7	7	6	6	5	3	3	5	15	4	4	3	3	2	2	2	2	2	2	3	3	5	3	3	4.3	15.1																						
11-Aug	3	3	3	4	4	3	3	3	18	4	4	4	2	5	4	3	48	4	11	6	14	4	6	2	6.9	48.4																						
12-Aug	4	3	3	3	3	4	5	4	15	3	2	2	2	1	4	1	20	2	2	2	4	5	6	7	4.5	20.0																						
13-Aug	39	7	9	8	8	28	28	42	68	42	43	39	14	11	12	9	12	12	20	26	30	25	26	43	25.0	67.9																						
14-Aug	32	30	32	28	24	18	19	22	68	12	12	15	13	13	9	7	56	34	11	13	14	11	10	7	21.2	68.1																						
15-Aug	9	9	10	9	10	9	8	8	15	5	4	3	3	4	3	3	15	3	4	6	5	9	10	7	7.1	15.1																						
16-Aug	8	6	7	6	6	6	9	9	22	2	2	3	2	2	2	3	3	2	3	3	3	4	4	4	5.1	21.8																						
17-Aug	12	4	4	4	4	4	4	4	13	8	10	8	7	6	5	5	43	6	7	10	12	14	12	14	9.2	43.0																						
18-Aug	254	7	7	9	10	11	4	7	27	4	4	5	7	10	6	12	N	N	N	N	N	N	N	N	--	253.9																						
19-Aug	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--																						
20-Aug	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	8	3	3	5	10	3	3	20	5	5	--	19.8																					
21-Aug	5	5	5	5	5	5	5	5	7	7	6	5	6	9	11	14	14	7	6	7	8	6	5	4	6.6	13.9																						
22-Aug	3	3	3	2	3	2	3	3	3	2	2	2	2	2	2	2	2	7	2	2	2	3	3	3	2.6	6.5																						
23-Aug	6	7	6	6	6	5	5	6	4	7	5	5	10	12	2	2	2	2	2	3	5	6	8	6	5.3	11.9																						
24-Aug	6	5	5	5	5	6	5	15	17	5	5	5	3	3	5	7	5	4	5	4	6	5	76	2	8.7	75.7																						
25-Aug	3	3	3	3	3	3	3	4	5	5	13	5	6	3	3	3	3	3	4	5	9	7	7	8	4.8	13.0																						
26-Aug	7	7	6	6	6	6	6	5	5	4	4	4	5	5	5	5	6	7	7	6	6	6	5	6	5.7	7.1																						
27-Aug	8	5	6	5	3	3	3	3	2	7	2	4	6	1	1	1	1	1	1	1	1	1	1	1	2.9	8.3																						
28-Aug	1	2	1	1	2	2	2	2	2	3	2	2	2	2	2	2	3	2	2	2	2	3	4	3	2.1	3.7																						
29-Aug	3	2	2	1	1	2	2	2	2	2	3	3	3	3	3	3	3	2	2	2	2	1	2	2	2.1	3.1																						
30-Aug	2	2	3	3	3	4	4	3	4	6	9	12	9	16	18	13	13	13	13	10	14	11	8	6	8.2	18.4																						
31-Aug	8	9	9	6	3	2	5	6	6	5	3	2	2	3	8	9	8	5	2	1	1	1	2	1	4.5	9.5																						
																								17.7	6.5	6.1	5.8	5.5	5.8	5.9	7.2	14.2	6.6	6.2	5.9	5.1	5.4	5.4	5.2	12.9	6.6	6.8	6.3	8.5	7.7	9.5	8.4	Diurnal Average
																								253.9	30.0	31.5	28.2	24.1	28.1	27.7	42.4	68.1	42.4	42.7	39.0	14.2	15.6	18.4	13.8	56.2	34.1	21.4	25.7	41.7	25.0	75.7	51.0	Diurnal Maximum

D - DAS Failure    N - Not Valid



**Pollutant Rose**

**Particulate Matter 2.5 (PM<sub>2.5</sub>) - μg/m<sup>3</sup>**  
**Beaverlodge - August 2016**



## Hourly Averages

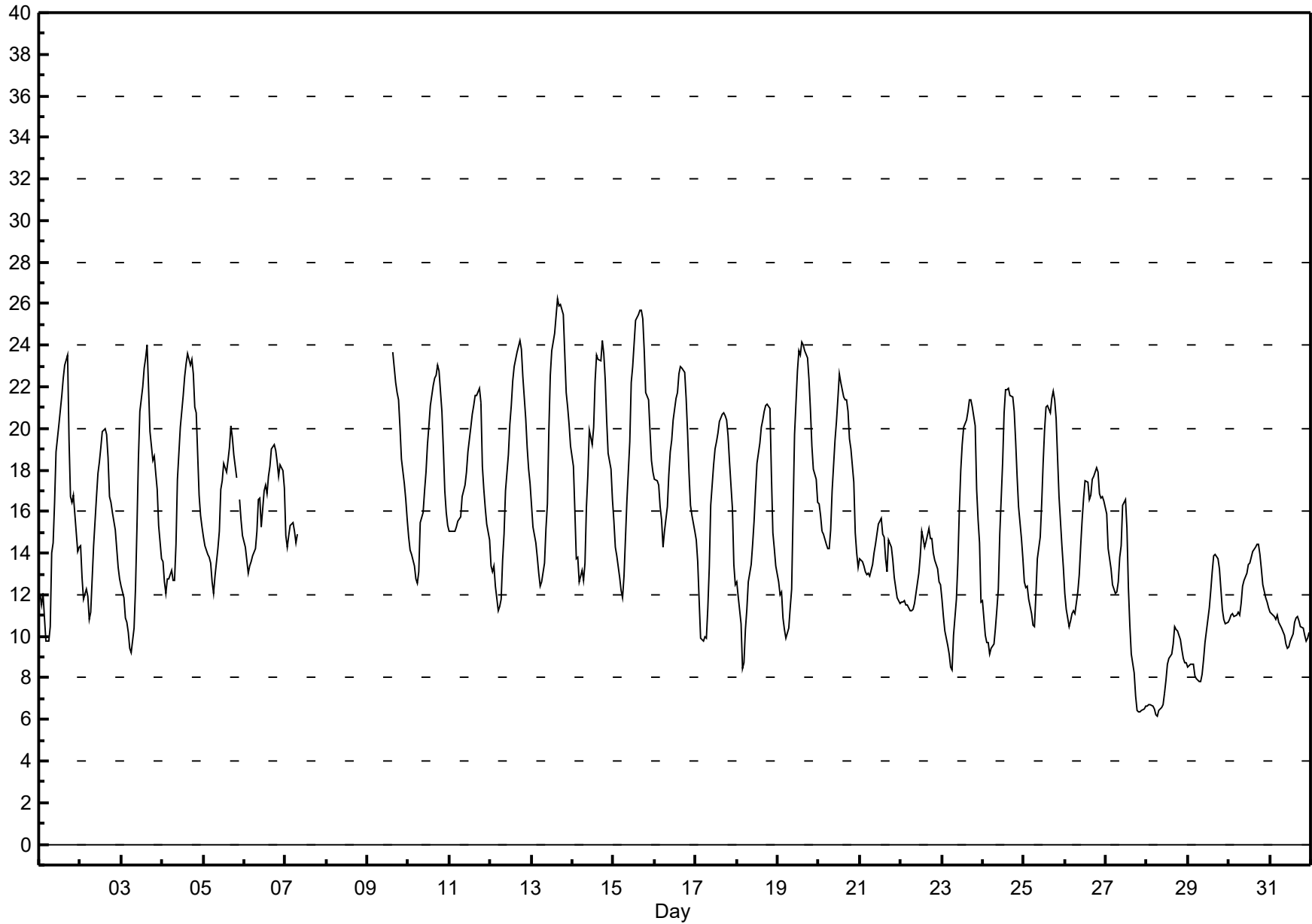
External Temperature (ET) - °C

Beaverlodge - August 2016

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 26.2 °C on Aug 13 16:00 Maximum Daily Average: 19.5 °C on Aug 13																	Hours in Service: 744 Hours of Data: 688																																
Minimum Value: 6 °C on Aug 28 07:00 Minimum Daily Average: 8.1 °C on Aug 28 Maximum Diurnal Average: 19.7 °C at hour 16 Minimum Diurnal Average: 11.5 °C at hour 6 Monthly Average: 15.53 °C Percentiles: P <sub>1</sub> = 6.5 P <sub>10</sub> = 10.0 Q <sub>1</sub> = 12.1 Median = 14.9 Q <sub>3</sub> = 19.1 P <sub>90</sub> = 21.9 P <sub>99</sub> = 25.5																	Hours of Missing Data: 56 Hours of Calibration: 0 Percent Operational Time: 92.5																																
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-Aug	12	12	12	11	10	10	10	14	15	16	19	20	21	22	22	23	24	19	17	16	17	16	14	14	16.1	23.5																							
2-Aug	14	13	12	12	12	11	11	13	14	17	18	18	19	20	20	20	19	17	16	16	15	14	13	13	15.3	20.0																							
3-Aug	12	12	11	11	10	9	9	10	12	15	19	21	22	23	23	24	22	20	18	19	18	17	15	14	16.1	24.0																							
4-Aug	14	13	12	13	13	13	13	13	14	18	20	21	22	22	23	24	23	23	23	21	21	17	16	15	17.7	23.6																							
5-Aug	15	14	14	14	13	13	12	13	14	15	17	17	18	18	18	19	20	20	19	18	N	17	16	15	16.0	20.1																							
6-Aug	14	14	13	13	14	14	14	15	17	17	15	17	17	17	18	18	19	19	19	18	18	18	18	17	16.4	19.2																							
7-Aug	15	14	15	15	15	15	14	15	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	--	15.5																							
8-Aug	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	--	--																							
9-Aug	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	--	--																							
10-Aug	15	14	14	13	13	13	13	15	16	17	18	19	20	21	22	22	23	23	23	21	19	17	16	15	17.6	23.0																							
11-Aug	15	15	15	15	15	16	16	17	17	17	18	19	20	21	21	22	22	22	21	18	17	16	15	15	17.7	21.9																							
12-Aug	13	13	13	12	11	11	12	14	15	17	19	20	21	22	23	24	24	24	24	23	20	19	18	17	17.9	24.2																							
13-Aug	16	15	15	14	13	12	13	14	15	16	20	23	24	25	25	26	26	26	25	24	22	21	20	19	19.5	26.2																							
14-Aug	18	16	14	14	13	13	13	13	16	18	20	19	20	22	24	23	23	24	24	22	20	19	18	17	18.5	24.2																							
15-Aug	16	14	14	13	12	12	13	15	16	19	22	23	24	25	25	26	26	25	24	22	21	20	18	18	19.3	25.7																							
16-Aug	18	17	17	16	16	14	15	16	18	19	19	20	21	22	23	23	23	23	21	20	18	16	16	15	18.6	23.0																							
17-Aug	15	14	12	10	10	10	10	11	13	16	18	19	19	20	20	21	21	21	20	20	18	16	13	12	15.8	20.7																							
18-Aug	13	12	11	8	9	10	11	13	13	14	16	17	18	19	20	20	21	21	21	21	18	15	14	13	15.4	21.2																							
19-Aug	13	12	12	11	10	10	10	11	12	16	20	23	24	24	24	24	24	23	22	21	19	18	18	16	17.4	24.2																							
20-Aug	16	16	15	15	14	14	14	15	17	19	20	21	23	22	22	21	21	21	20	19	17	15	14	13	17.8	22.6																							
21-Aug	14	14	13	13	13	13	13	13	14	14	15	15	16	15	15	14	13	15	14	14	13	12	12	12	13.7	15.7																							
22-Aug	12	12	12	12	11	11	11	11	12	12	13	14	15	15	14	15	15	15	15	14	14	13	13	12	13.0	15.2																							
23-Aug	12	11	10	10	9	9	8	10	12	14	16	18	19	20	20	21	21	21	21	20	17	16	14	12	15.1	21.4																							
24-Aug	12	10	10	10	9	9	10	10	11	12	15	18	21	22	22	22	22	22	22	21	19	18	16	15	14	15.4	21.9																						
25-Aug	13	12	12	12	11	11	10	12	14	15	16	18	20	21	21	21	21	22	21	20	17	16	14	13	16.0	21.8																							
26-Aug	12	11	10	11	11	11	11	12	13	14	16	17	17	17	17	18	18	18	18	17	17	17	17	17	14.8	18.1																							
27-Aug	16	14	14	13	12	12	12	13	14	14	16	17	15	12	11	9	8	7	6	6	6	6	7	7	11.2	16.6																							
28-Aug	7	7	7	7	6	6	6	6	7	7	8	9	9	9	10	10	10	10	10	10	9	9	9	9	8.1	10.4																							
29-Aug	9	9	9	9	8	8	8	8	8	9	10	10	11	12	13	14	14	14	13	12	11	11	11	11	10.4	14.0																							
30-Aug	11	11	11	11	11	11	11	12	12	13	13	13	14	14	14	14	14	14	14	13	13	12	12	11	12.5	14.4																							
31-Aug	11	11	11	11	11	11	11	10	10	10	9	9	10	10	11	11	11	11	10	10	10	10	10	10	10.4	11.1																							
																								13.4	12.8	12.4	12.0	11.6	11.5	11.6	12.6	13.7	15.1	16.6	17.7	18.6	19.0	19.3	19.7	19.6	19.4	18.7	17.8	16.5	15.4	14.6	13.9	Diurnal Average	
																								18.2	17.5	17.3	16.2	15.6	15.5	15.7	16.7	17.8	19.5	22.2	23.0	24.1	25.2	25.5	26.2	25.9	26.0	25.5	23.6	21.7	21.1	20.2	19.2	Diurnal Maximum	
D - DAS Failure N - Not Valid																																																	

**Hourly Averages**

**External Temperature (ET) - °C**  
**Beaverlodge - August 2016**



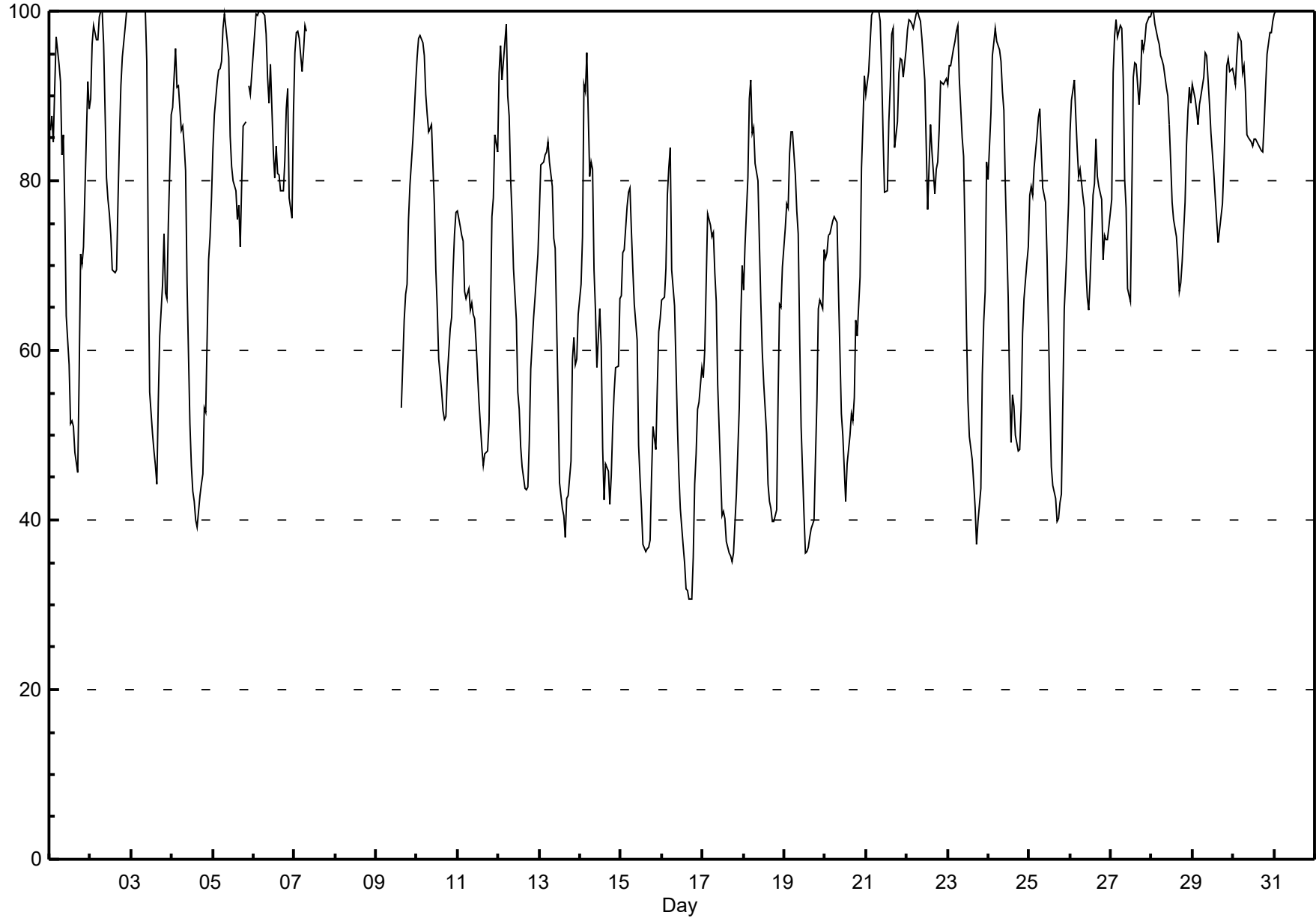
## Hourly Averages

Relative Humidity (RH) - %  
Beaverlodge - August 2016

Number of Exceedences (AAQO):		1-hr: 0    24-hr: 0		Hours in Service:		744																																											
Maximum Value: 100.0 % on Aug 2 07:00		Maximum Daily Average: 100.0 % on Aug 31		Hours of Data:		688																																											
Minimum Value: 31 % on Aug 16 17:00		Minimum Daily Average: 52.8 % on Aug 16		Hours of Missing Data:		56																																											
Maximum Diurnal Average: 90.9 % at hour 5		Minimum Diurnal Average: 58.7 % at hour 17		Hours of Calibration:		0																																											
Monthly Average: 75.10 %		Percentiles: P <sub>1</sub> = 35.7 P <sub>10</sub> = 44.9 Q <sub>1</sub> = 61.7 Median = 78.3 Q <sub>3</sub> = 91.8 P <sub>90</sub> = 98.3 P <sub>99</sub> = 100.0		Percent Operational Time:		92.5																																											
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-Aug	86	88	85	91	97	94	92	83	85	77	64	58	51	52	51	48	46	57	71	70	72	79	92	89	74.0	96.9																							
2-Aug	90	96	98	97	97	99	100	100	96	80	78	76	74	69	69	69	78	85	91	95	98	100	100	100	89.0	100.0																							
3-Aug	100	100	100	100	100	100	100	100	100	94	73	55	50	48	46	44	54	62	68	74	67	66	75	88	77.6	100.0																							
4-Aug	89	92	96	91	91	86	86	84	81	68	51	46	43	42	40	39	43	44	45	53	53	71	73	78	66.1	95.6																							
5-Aug	84	88	92	93	93	94	98	100	96	95	85	82	80	79	75	77	72	80	86	87	N	91	90	93	87.4	99.6																							
6-Aug	97	100	100	100	100	100	99	97	92	89	94	83	80	84	81	81	79	79	82	88	91	78	76	88	89.1	100.0																							
7-Aug	95	98	98	97	93	95	98	98	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	--	98.3																							
8-Aug	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	--	--																							
9-Aug	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	--	91.4																							
10-Aug	95	97	97	96	95	90	88	86	87	82	77	70	65	59	55	53	52	52	57	62	64	69	74	76	74.9	97.1																							
11-Aug	76	75	74	73	67	66	67	65	66	64	64	61	54	51	48	46	48	48	52	64	76	78	85	83	64.6	85.5																							
12-Aug	93	96	92	94	99	90	88	80	76	70	64	55	53	49	46	44	44	44	49	58	64	66	69	71	68.8	98.5																							
13-Aug	76	82	82	83	83	85	82	79	73	72	63	55	44	41	40	38	43	43	47	59	61	58	59	64	63.1	84.6																							
14-Aug	68	73	91	91	95	81	82	81	69	65	58	65	61	48	42	47	46	42	45	51	55	58	58	66	64.1	95.1																							
15-Aug	66	72	72	77	79	79	74	69	65	61	49	45	41	37	36	37	37	38	45	51	48	56	62	64	56.7	79.1																							
16-Aug	66	66	70	78	81	84	70	65	58	51	45	41	37	35	32	32	31	31	36	44	48	53	54	58	52.8	83.9																							
17-Aug	57	60	68	76	75	73	74	69	66	56	46	41	41	40	38	36	36	35	36	40	43	53	63	70	53.8	76.1																							
18-Aug	67	72	80	90	92	86	86	82	80	73	66	60	56	50	44	42	41	40	40	41	54	65	65	70	64.3	91.9																							
19-Aug	74	77	77	83	86	86	81	76	74	62	51	41	36	36	37	38	39	40	47	54	65	66	65	72	60.9	85.8																							
20-Aug	71	72	74	74	75	76	75	75	67	53	50	46	42	47	50	53	52	54	64	62	69	81	87	92	65.0	92.4																							
21-Aug	90	93	96	99	100	100	100	100	99	93	85	79	79	87	91	97	98	84	87	93	94	94	92	95	92.8	100.0																							
22-Aug	98	99	99	99	98	100	100	99	99	97	92	84	77	82	87	83	78	81	82	86	92	91	92	92	91.1	99.9																							
23-Aug	91	93	94	96	96	98	98	92	85	83	74	63	54	50	47	44	42	37	40	44	57	63	67	82	70.4	98.3																							
24-Aug	80	88	95	96	98	96	95	94	91	88	79	66	56	49	55	53	50	48	48	53	62	66	70	72	73.0	98.0																							
25-Aug	78	79	78	82	85	87	88	84	79	77	71	63	54	46	44	42	40	40	42	43	65	69	73	78	66.2	88.5																							
26-Aug	86	90	92	88	84	80	81	78	77	70	66	65	68	78	80	85	80	79	78	71	73	73	73	75	77.9	91.9																							
27-Aug	78	93	97	99	97	98	98	92	80	77	67	66	79	92	94	94	89	92	97	95	96	98	99	99	90.3	99.4																							
28-Aug	100	100	98	97	96	95	94	93	91	90	87	82	78	75	73	71	67	68	70	77	84	88	91	89	85.7	100.0																							
29-Aug	91	90	88	87	89	90	92	95	95	92	89	86	81	78	75	73	74	77	82	88	93	94	93	93	86.9	95.1																							
30-Aug	92	91	95	97	96	93	94	90	85	85	85	84	85	85	84	84	84	84	83	87	91	95	97	99	90.0	98.9																							
31-Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100.0	100.0																							
																								84.0	86.8	88.8	90.4	90.9	89.7	89.0	86.5	82.6	77.2	70.4	64.9	61.4	60.4	59.4	58.7	58.7	59.7	63.5	67.9	72.1	76.2	78.7	82.3	Diurnal Average	
																								100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	Diurnal Maximum
D - DAS Failure    N - Not Valid																																																	

**Hourly Averages**

**Relative Humidity (RH) - %  
Beaverlodge - August 2016**





### Hourly Averages

**Wind Speed (km/h)  
Wind Direction (deg)  
Beaverlodge - August 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	7	4	6	1	4	2	3	1	5	7	12	13	15	14	13	18	17	3	12	9	6	8	1	6	6.4	17.9	
Dir	296	294	309	320	64	345	68	247	235	246	280	298	301	296	270	265	275	308	307	313	347	330	64	14	295	265	
2 Spd	7	4	3	8	13	6	10	12	9	5	3	7	8	12	8	11	12	4	5	5	5	4	3	3	5.1	13.3	
Dir	321	330	322	325	331	307	303	320	347	28	291	303	354	5	10	14	314	297	230	142	201	233	233	68	326	331	
3 Spd	4	2	1	3	4	1	1	2	6	3	5	7	7	7	9	9	22	19	5	1	8	8	4	3	3.4	21.7	
Dir	58	135	80	53	40	162	64	156	207	209	191	228	231	277	313	314	252	258	244	103	294	312	279	131	262	252	
4 Spd	1	1	2	2	1	3	4	4	2	6	18	14	12	5	6	3	6	11	14	6	3	16	17	7	1.9	17.5	
Dir	205	115	77	116	187	208	204	197	138	247	260	271	274	304	348	284	40	87	88	109	35	315	340	227	294	260	
5 Spd	9	8	8	3	10	7	1	1	2	4	6	10	13	14	17	14	12	18	6	7	5	3	3	1	6.0	18.1	
Dir	285	356	37	310	355	348	14	132	285	287	43	29	29	17	21	29	41	45	48	50	73	104	119	33	25	45	
6 Spd	4	3	5	5	6	3	7	7	10	15	13	5	12	12	8	6	7	6	10	12	10	8	8	8	4.5	15.3	
Dir	262	201	293	283	358	31	18	38	64	113	165	75	74	68	59	42	41	47	15	326	330	23	47	98	47	113	
7 Spd	3	6	8	8	12	13	19	21	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	..	20.8	
Dir	6	8	42	49	44	56	79	89	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	..	89	
8 Spd	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	..	..	
Dir	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	..	..	
9 Spd	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	6	14	6	6	6	3	5	5	4	..	14.3
Dir	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	336	51	32	330	314	21	207	167	160	..	51
10 Spd	3	2	2	2	4	5	4	11	13	14	15	15	15	12	11	9	5	2	3	9	14	8	8	3	6.2	15.3	
Dir	183	92	73	180	217	246	272	294	285	295	292	300	315	320	307	297	292	163	132	239	266	258	254	214	283	292	
11 Spd	6	11	9	3	11	14	13	15	15	14	11	12	12	13	13	13	12	7	6	13	7	2	13	2	8.3	15.3	
Dir	203	229	240	248	263	271	273	289	302	306	299	290	293	284	299	296	310	300	271	240	247	89	25	61	283	289	
12 Spd	2	2	1	2	3	4	2	2	7	9	6	3	7	7	8	3	5	4	5	4	5	6	4	4	2.0	8.5	
Dir	176	63	51	49	53	0	23	263	278	293	291	295	317	318	324	268	340	359	70	92	61	75	104	75	348	293	
13 Spd	3	2	2	2	2	4	3	2	4	4	4	6	14	10	6	4	7	6	5	6	6	6	5	6	1.4	13.6	
Dir	72	115	81	109	68	65	79	155	207	202	239	286	286	292	332	317	37	42	86	101	71	63	67	17	22	286	
14 Spd	11	1	1	3	2	0	4	4	3	5	6	10	9	11	16	15	12	13	11	5	8	6	11	4	4.7	16.2	
Dir	21	23	186	58	66	119	52	63	201	206	230	220	232	244	251	214	249	261	273	273	267	286	277	220	252	251	
15 Spd	5	3	2	3	3	2	4	5	7	12	24	23	20	24	20	17	21	16	11	11	6	5	2	3	8.2	24.3	
Dir	220	150	133	91	103	129	187	181	202	233	250	251	255	263	286	293	273	282	280	287	303	295	220	105	261	250	
16 Spd	4	3	1	8	5	4	15	12	13	21	24	23	24	20	29	27	26	27	17	10	12	6	8	5	13.3	28.6	
Dir	62	45	150	232	213	231	269	228	264	277	283	277	273	292	277	268	271	271	277	274	275	288	299	272	273	277	
17 Spd	8	5	3	4	3	6	8	15	10	8	10	13	14	15	16	16	15	13	10	5	6	5	2	2	8.1	16.0	
Dir	299	293	1	47	38	346	332	323	332	351	358	335	313	320	304	318	321	320	336	345	334	327	93	46	328	318	
18 Spd	5	0	1	1	4	12	16	5	10	8	6	4	7	8	8	8	7	3	2	1	3	6	6	5	2.7	15.7	
Dir	38	207	286	3	350	2	35	27	293	289	308	295	280	270	302	287	252	286	247	258	73	73	91	108	329	35	
19 Spd	6	7	6	5	5	5	7	5	8	11	17	26	23	18	15	13	12	11	6	0	3	5	3	4	2.9	25.8	
Dir	97	123	144	163	145	135	162	180	196	220	232	271	290	309	323	338	331	323	14	306	72	62	113	118	278	271	
20 Spd	3	3	3	3	2	2	2	2	1	15	23	23	19	23	19	26	26	19	10	7	14	12	6	4	8.1	26.1	
Dir	150	148	169	163	143	113	108	98	0	270	272	271	273	250	264	247	250	252	249	286	355	29	310	197	263	250	
21 Spd	3	2	4	1	4	2	2	1	5	8	9	4	3	10	11	8	17	6	6	9	14	12	12	13	4.8	17.0	
Dir	224	202	230	49	188	240	249	172	287	322	330	12	310	300	7	313	21	0	354	360	31	23	18	1	352	21	
22 Spd	15	12	14	17	16	13	12	14	12	10	12	15	16	15	14	14	13	12	8	6	7	9	11	7	11.5	16.8	
Dir	357	7	3	2	352	337	334	333	332	329	336	353	353	353	6	358	322	320	351	349	312	284	299	311	330	342	2





Peace Airshed Zone Association

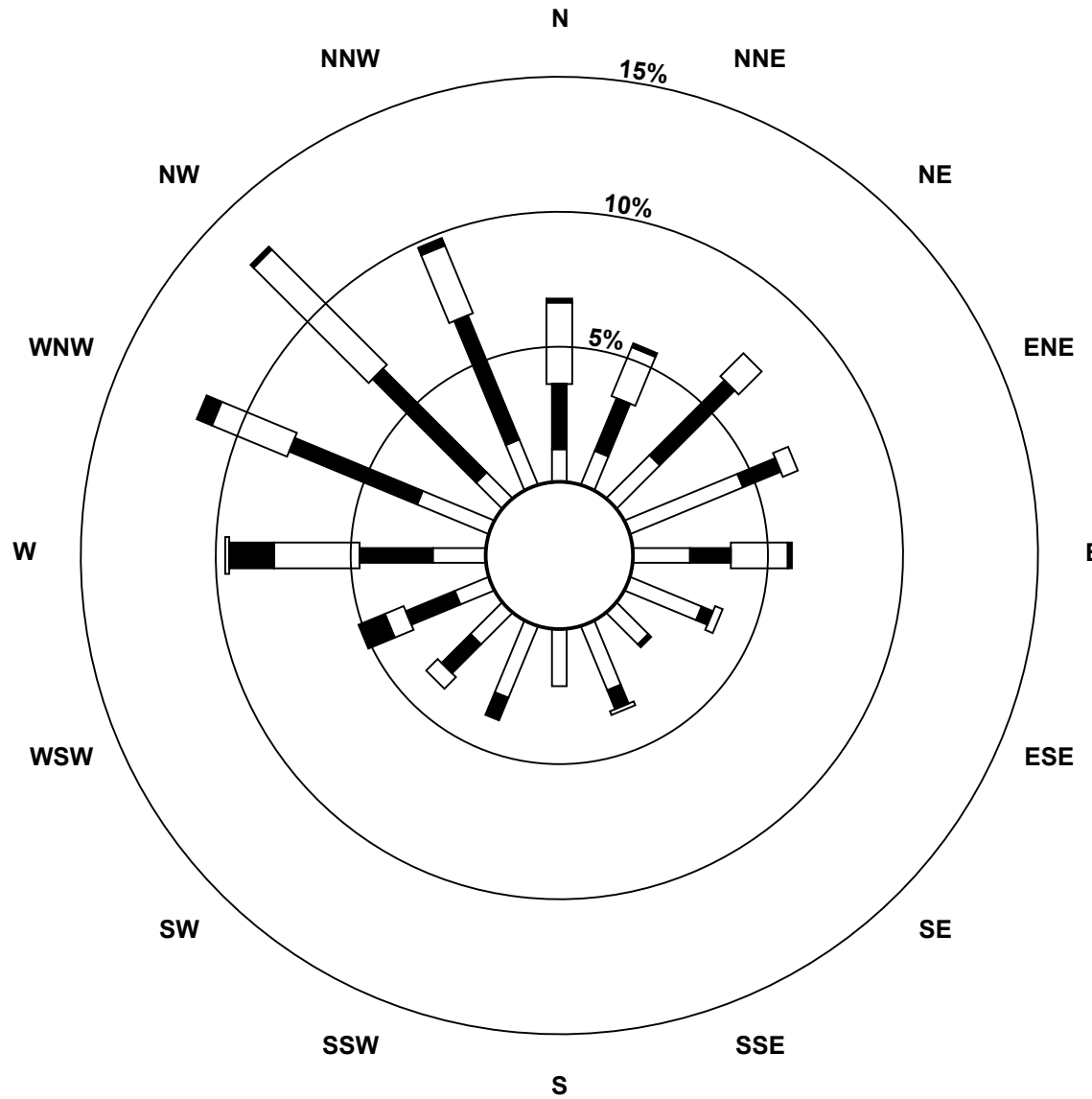
# Hourly Averages

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

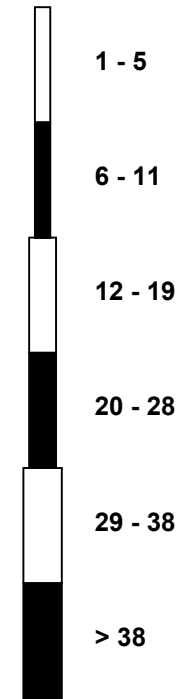
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
23 Spd	7	6	8	8	6	2	1	1	3	4	4	3	4	2	6	6	8	8	7	5	6	3	3	3	3.7	8.4	
Dir	321	331	323	320	330	351	354	176	268	247	249	268	311	317	275	268	281	296	316	337	38	20	330	53	311	296	
24 Spd	4	4	3	2	3	2	3	2	3	2	3	6	6	11	14	16	17	13	12	8	7	8	10	13	5.0	16.6	
Dir	54	79	161	107	105	112	110	155	152	159	271	304	303	344	12	359	4	2	4	350	328	322	320	329	353	4	
25 Spd	15	14	12	9	5	6	3	2	5	5	5	10	13	14	10	12	5	5	8	4	6	3	2	10	6.8	15.1	
Dir	324	326	328	332	347	320	346	285	273	289	288	290	291	328	335	346	326	280	286	300	275	36	93	277	314	324	
26 Spd	2	N	N	N	N	N	N	N	N	N	N	N	N	7	7	11	10	11	10	7	8	1	2	2	2	--	11.2
Dir	197	N	N	N	N	N	N	N	N	N	N	N	N	205	202	242	165	159	161	161	243	167	152	120	75	--	159
27 Spd	1	5	1	9	7	3	5	7	8	14	19	16	12	26	26	26	27	22	18	16	14	13	11	10	9.8	26.7	
Dir	151	203	105	232	244	177	202	265	266	265	289	280	354	22	353	335	337	324	315	322	322	314	299	300	315	337	
28 Spd	11	9	9	9	10	10	9	6	9	9	8	8	5	3	5	4	8	8	6	4	5	5	7	10	5.3	10.5	
Dir	316	321	326	327	319	329	342	345	341	329	325	352	357	336	273	336	20	38	46	70	71	86	77	83	352	316	
29 Spd	13	13	16	19	18	14	14	16	16	15	13	13	12	9	5	9	14	11	8	10	14	15	14	14	12.1	19.1	
Dir	88	88	87	86	94	97	94	90	102	99	94	92	93	98	81	84	71	64	55	40	43	43	27	33	78	86	
30 Spd	11	11	11	9	10	7	8	10	9	3	1	1	6	9	11	9	8	7	9	11	13	13	13	13	6.0	13.2	
Dir	48	61	77	54	49	52	67	84	98	100	17	337	53	43	46	28	20	14	343	335	321	315	316	307	25	315	
31 Spd	13	12	13	13	7	8	12	15	16	17	15	12	13	12	10	9	8	6	13	13	16	15	7	6	10.8	17.1	
Dir	313	305	304	332	342	275	314	315	312	309	304	279	312	315	331	333	318	85	320	322	319	328	4	351	317	309	
Spd	2.5	1.7	1.9	2.1	2.5	2.1	2.0	1.6	3.2	4.9	7.2	8.0	7.7	7.8	8.7	7.3	6.9	5.1	4.3	3.8	4.5	4.3	3.4	2.0	Diurnal Average		
Dir	344	359	4	5	8	351	1	333	291	281	281	289	301	315	320	310	316	321	325	317	333	344	346	2			
Spd	15.1	14.3	15.7	19.1	18.4	14.4	19.3	20.8	16.4	21.1	24.3	25.8	24.1	26.3	28.6	27.4	26.7	26.7	17.9	16.4	16.2	16.3	17.0	13.8	Diurnal Maximum		
Dir	324	326	87	86	94	97	79	89	102	277	250	271	273	22	277	268	337	271	315	322	319	315	340	33			
Maximum Speed Value: 29 km/h on Aug 16 15:00		Minimum Speed Value: 0 km/h on Aug 14 06:00		Hours in Service: 744																							
Maximum Daily Speed Average: 13.3 km/h on Aug 16		Minimum Daily Speed Average: 1.4 km/h on Aug 12		Hours of Data: 678																							
Maximum Diurnal Speed Average: 8.7 km/h at hour 15		Minimum Diurnal Speed Average: 1.6 km/h at hour 8		Hours of Missing Data: 66																							
Monthly Average Velocity: 3.99 km/h 318.6 deg				Speed Percentiles: P <sub>1</sub> = 0.8 P <sub>10</sub> = 2.1 Q <sub>1</sub> = 4.0 Median = 7.4 Q <sub>3</sub> = 12.2 P <sub>90</sub> = 15.6 P <sub>99</sub> = 26.3				Percent Operational Time: 91.1																			
All monthly, daily, and diurnal averages have been calculated using vector methods																											
D - DAS Failure N - Not Valid																											
Frequency Distribution																											
		Speed Range (km/h)					Total																				
Direction	0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38																					
North	18	38	29	2	0	0	87																				
NorthEast	33	36	19	0	0	0	88																				
East	37	21	18	3	0	0	79																				
SouthEast	30	2	1	0	0	0	33																				
South	28	11	2	0	0	0	41																				
SouthWest	25	24	7	1	0	0	57																				
West	23	42	31	24	1	0	121																				
NorthWest	22	78	69	3	0	0	172																				
Total	216	252	176	33	1	0	678																				

**Wind Rose**

**Wind Speed (WS) (km/h)**  
**Beaverlodge - August 2016**



**Wind Speed Classes (km/h)**



# Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Beaverlodge - August 2016

Maximum Speed: 29 km/h on Aug 16 15:00	Maximum Daily Speed Average: 14.8 km/h on Aug 16	Hours in Service: 744
Minimum Speed: 1 km/h on Aug 18 20:00	Minimum Daily Speed Average: 5.0 km/h on Aug 12	Hours of Data: 678
Maximum Diurnal Speed Average: 13.4 km/h at hour 15	Minimum Diurnal Speed Average: 6.4 km/h at hour 3	Hours of Missing Data: 66
Monthly Average Speed: 9.12 km/h	Percentiles: P <sub>1</sub> = 1.8 P <sub>10</sub> = 3.0 Q <sub>1</sub> = 5.0 Median = 8.0 Q <sub>3</sub> = 12.6 P <sub>90</sub> = 15.8 P <sub>99</sub> = 26.7	Percent Operational Time: 91.1

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-Aug	7	5	6	3	4	3	3	3	5	7	12	14	15	15	14	18	18	5	15	10	6	9	3	7	8.6	18.4
2-Aug	8	5	5	8	13	8	10	12	9	6	6	8	9	13	13	8	11	12	8	5	5	6	4	4	8.1	13.4
3-Aug	4	2	2	3	4	2	2	3	6	3	6	8	8	9	11	11	23	19	6	2	8	9	7	3	6.7	22.6
4-Aug	2	2	2	3	2	4	4	5	3	6	18	15	13	7	8	7	7	12	14	7	4	17	17	10	7.9	17.9
5-Aug	10	9	9	4	10	8	3	2	4	5	7	10	13	14	17	14	12	18	6	7	6	4	4	1	8.2	18.3
6-Aug	6	5	9	8	7	3	8	7	10	16	13	6	12	12	12	8	7	7	7	10	12	10	9	10	9.0	16.3
7-Aug	10	8	8	8	12	14	19	21	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D		
10-Aug	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D		
11-Aug	3	3	3	3	4	5	5	12	14	15	15	15	15	13	12	10	7	3	3	10	14	9	8	4	8.4	15.4
12-Aug	7	11	9	5	11	14	13	16	15	14	11	12	13	13	14	13	13	7	7	13	8	3	14	5	10.8	15.7
13-Aug	3	3	2	3	3	5	3	2	7	9	7	5	7	8	9	5	6	5	6	4	6	6	4	4	5.0	8.8
14-Aug	4	3	3	2	2	4	3	3	4	5	5	7	14	11	7	6	8	6	6	6	6	6	5	7	5.6	14.4
15-Aug	11	8	4	4	2	4	4	4	3	5	7	10	9	12	17	15	12	13	11	5	8	6	11	6	8.0	16.7
16-Aug	5	4	3	3	3	2	4	5	8	12	25	23	21	25	21	17	21	16	11	11	6	6	3	3	10.7	24.6
17-Aug	4	3	2	9	5	6	15	12	14	21	24	23	25	21	29	28	27	27	17	10	12	6	8	6	14.8	29.1
18-Aug	8	6	5	5	4	7	8	15	10	8	11	14	15	16	16	17	15	14	10	5	6	6	2	3	9.4	16.7
19-Aug	6	2	2	4	5	13	16	8	11	9	6	5	8	9	10	9	7	5	3	1	3	6	6	5	6.6	15.8
20-Aug	6	7	6	5	5	5	7	6	8	12	17	26	23	18	16	14	12	11	6	5	4	5	3	4	9.7	26.4
21-Aug	3	4	3	3	2	2	2	2	4	15	23	23	20	23	19	26	26	19	10	7	18	12	7	5	11.6	26.2
22-Aug	4	4	5	2	5	2	3	2	5	8	9	4	4	10	12	10	18	6	6	9	14	12	12	13	7.4	18.3
23-Aug	15	12	14	17	16	13	12	14	12	11	12	16	17	15	14	14	13	14	9	6	7	9	11	7	12.4	16.9
24-Aug	8	6	8	8	6	4	3	2	3	5	5	5	6	6	8	8	9	9	8	5	7	5	5	3	5.8	9.2
25-Aug	4	5	4	3	3	3	3	3	3	2	4	7	7	12	15	16	17	14	12	8	7	8	10	13	7.6	17.0
26-Aug	15	14	12	9	5	6	3	3	6	6	6	11	14	15	11	13	6	6	8	4	8	5	2	12	8.3	15.1
27-Aug	6	N	N	N	N	N	N	N	N	N	N	N	7	8	11	11	11	10	7	8	3	3	2	3	--	11.4
28-Aug	5	7	3	9	8	4	6	7	8	14	20	16	15	27	26	27	27	22	18	16	14	13	12	10	13.9	27.2
29-Aug	11	9	9	9	10	10	9	6	9	9	8	8	6	5	5	5	8	6	4	5	6	7	10		7.6	10.6
30-Aug	13	14	16	19	18	14	14	16	16	15	14	13	12	9	6	10	14	11	8	10	14	15	14	14	13.3	19.2
31-Aug	11	11	11	9	10	8	8	10	9	5	2	3	6	9	11	9	8	8	9	11	13	14	13	13	9.2	13.6
31-Aug	13	12	13	13	8	9	12	15	16	17	16	15	13	12	10	9	9	13	13	13	17	16	9	10	12.7	17.3
	7.2	6.5	6.4	6.5	6.8	6.5	7.3	7.7	8.2	9.6	11.4	11.9	12.4	13.0	13.4	12.7	13.3	11.2	8.9	7.6	8.4	8.1	7.5	6.9	Diurnal Average	
	15.1	14.4	15.8	19.2	18.5	14.4	19.4	20.9	16.5	21.3	24.5	26.4	24.7	27.2	29.1	27.8	26.9	26.9	18.0	16.5	17.6	17.2	17.0	13.9	Diurnal Maximum	

D - DAS Failure N - Not Valid  
 All monthly, daily, and diurnal averages have been calculated using scalar methods

## Hourly Standard Deviations

Wind Direction (WD) - deg  
 Beaverlodge - August 2016

Maximum Value: 91.5 deg on Aug 12 03:00																								Hours in Service:	744	
Minimum Value: 3.4 deg on Aug 25 01:00																								Hours of Data:	678	
Percentiles: P <sub>1</sub> = 4.2 P <sub>10</sub> = 7.0 Q <sub>1</sub> = 10.6 Median = 18.2 Q <sub>3</sub> = 38.4 P <sub>90</sub> = 59.9 P <sub>99</sub> = 89.2																								Hours of Missing Data:	66	
																								Hours of Calibration:	0	
																								Percent Operational Time:	91.1	
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-Aug	12	71	14	65	18	54	20	87	24	20	15	11	10	22	19	14	16	67	73	27	18	27	76	23	87.5	
2-Aug	39	39	52	27	7	66	9	6	17	47	84	30	24	13	16	12	14	26	62	18	10	23	52	29	83.6	
3-Aug	20	42	56	17	15	88	67	49	25	42	26	27	39	39	38	40	18	9	37	76	13	12	57	40	88.4	
4-Aug	78	47	36	35	64	44	47	24	39	26	12	19	21	67	50	80	26	18	13	29	33	18	4	68	80.5	
5-Aug	43	36	30	60	19	61	80	64	85	53	47	14	15	12	9	14	9	11	14	25	20	46	53	48	85.4	
6-Aug	70	89	70	58	40	42	9	14	16	21	23	53	9	9	8	11	17	10	24	15	10	18	24	29	89.2	
7-Aug	74	33	10	17	18	12	6	5	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	73.8	
8-Aug	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	--	
9-Aug	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	45	9	14	30	26	50	22	15	16	49.8
10-Aug	16	47	38	59	14	28	13	9	10	10	8	12	15	19	19	24	64	55	20	40	9	41	15	43	63.7	
11-Aug	16	8	11	88	10	4	5	12	6	10	15	14	13	18	13	18	11	16	19	10	19	55	14	81	87.9	
12-Aug	60	19	91	60	53	38	59	24	15	14	30	62	26	28	38	67	35	47	15	11	18	8	12	18	91.5	
13-Aug	24	41	35	39	31	13	17	54	16	21	56	52	18	21	35	70	28	27	27	18	10	7	14	51	70.5	
14-Aug	13	90	71	47	71	90	14	13	30	36	45	10	10	17	15	11	19	12	8	18	12	9	10	50	89.6	
15-Aug	40	52	44	21	19	29	42	17	18	10	8	9	14	14	10	13	13	8	6	4	9	40	68	23	67.5	
16-Aug	18	55	78	44	24	60	9	9	23	8	6	9	13	17	11	10	11	7	7	8	9	18	21	25	78.5	
17-Aug	16	65	51	36	55	26	17	4	9	24	20	21	17	19	14	16	15	12	14	11	4	26	38	66	65.6	
18-Aug	68	81	83	78	58	22	5	56	27	17	21	44	45	38	34	42	35	76	57	37	23	11	9	7	82.6	
19-Aug	7	19	15	8	12	18	11	19	12	15	16	13	14	11	19	20	17	11	7	88	68	10	35	21	87.9	
20-Aug	20	24	23	25	29	28	23	46	75	11	7	9	14	10	9	5	6	6	13	11	44	7	19	43	74.7	
21-Aug	47	90	41	78	35	62	51	46	42	17	15	33	50	20	19	46	28	33	15	12	6	6	6	12	90.5	
22-Aug	8	7	6	5	6	6	6	5	7	9	10	9	11	10	12	11	10	24	9	21	4	7	5	23	24.0	
23-Aug	11	27	12	15	23	56	85	46	32	26	41	65	72	91	46	38	36	21	13	12	27	52	50	30	90.7	
24-Aug	61	33	40	36	32	42	15	50	20	50	46	23	50	21	22	13	13	13	9	9	13	7	4	5	60.7	
25-Aug	3	5	5	7	16	30	48	59	32	29	19	16	21	20	23	13	35	26	15	11	61	39	34	47	61.0	
26-Aug	59	N	N	N	N	N	N	N	N	N	N	N	13	12	16	21	7	7	11	16	70	46	31	40	69.8	
27-Aug	65	61	61	12	38	35	38	20	11	8	11	15	39	15	7	8	8	7	6	7	7	6	5	7	65.3	
28-Aug	8	8	8	7	6	7	8	10	10	11	15	26	35	65	35	48	21	12	12	14	13	17	6	8	65.3	
29-Aug	6	5	5	5	4	5	5	4	5	9	9	11	14	19	31	32	9	9	11	11	5	11	5	7	32.0	
30-Aug	9	13	9	11	7	14	15	10	12	64	90	69	28	13	8	10	10	10	20	8	8	15	13	5	90.3	
31-Aug	5	9	21	7	38	18	8	10	6	7	17	37	9	9	12	12	23	72	7	7	21	10	44	55	72.2	
77.6	90.5	91.5	87.9	71.4	89.6	84.9	87.5	85.4	64.3	90.3	68.7	71.9	90.7	49.9	80.5	63.7	75.7	73.4	87.9	69.8	54.8	76.4	81.0			
D - DAS Failure    N - Not Valid																										

PAZA

## Valleyview Station

Monthly Summary Tables, Graphs and  
Roses

## Hourly Averages

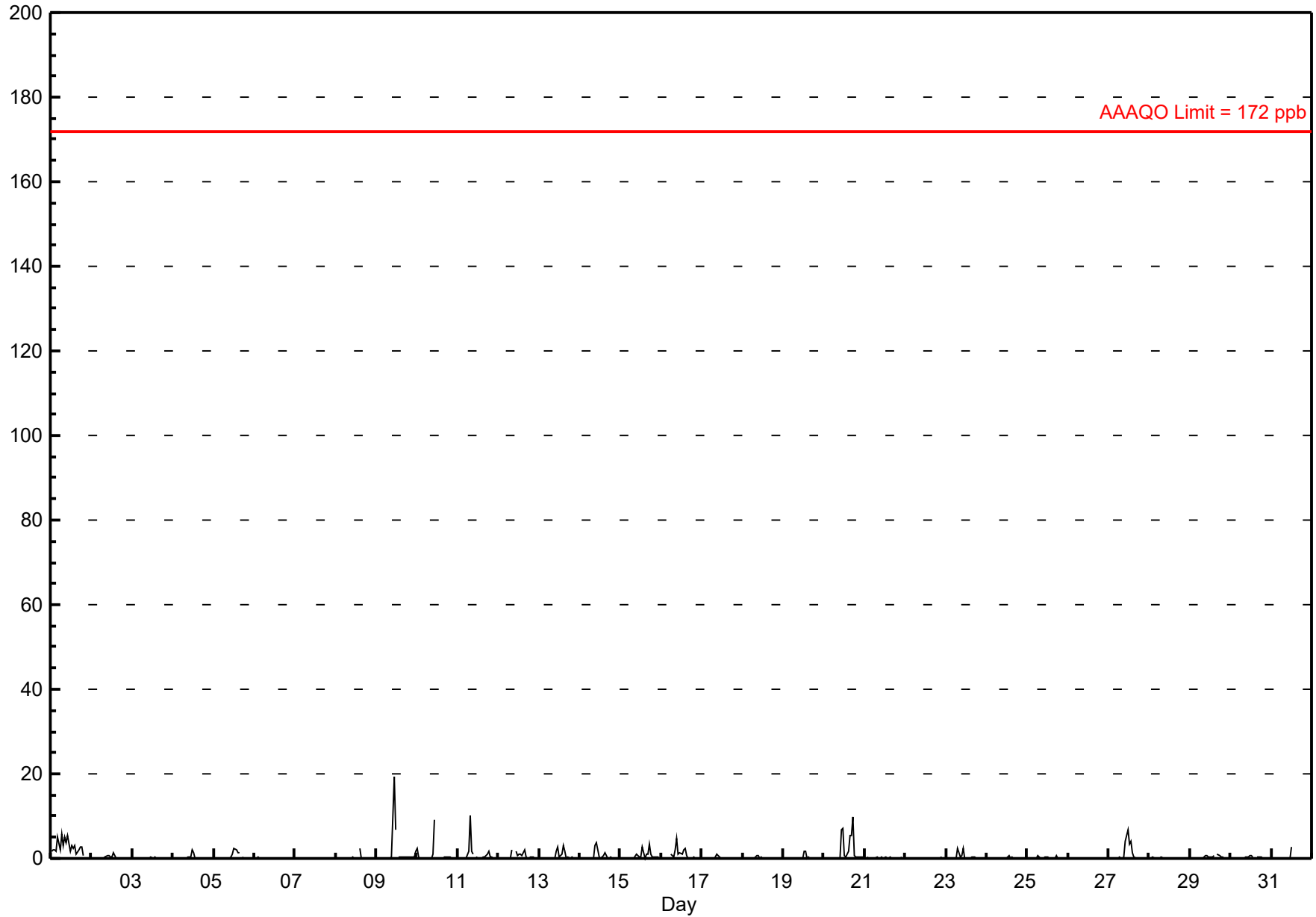
Sulphur Dioxide (SO<sub>2</sub>) - ppb

Valleyview - August 2016

Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 19.2 ppb on Aug 9 11:00	Maximum Daily Average: 2.5 ppb on Aug 1		Hours of Data:	709
Minimum Value: 0 ppb on Aug 1 23:00	Minimum Daily Average: 0.0 ppb on Aug 26		Hours of Missing Data:	35
Maximum Diurnal Average: 2.0 ppb at hour 11	Minimum Diurnal Average: 0.0 ppb at hour 23		Hours of Calibration:	35
Monthly Average: 0.44 ppb	Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.0 Q <sub>1</sub> = 0.0 Median = 0.1 Q <sub>3</sub> = 0.2 P <sub>90</sub> = 1.1 P <sub>99</sub> = 6.6		Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Aug	2	2	2	2	5	2	6	3	5	4	5	2	3	2	3	1	2	3	3	1	A	0	0	0	2.5	5.8
2-Aug	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	0	0	0	0	A	0	0	0	0	0.2	1.3
3-Aug	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	0.3
4-Aug	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	A	0	0	0	0	0	0	0.2	2.2
5-Aug	0	0	0	0	0	0	0	0	0	0	0	1	2	2	1	1	A	0	0	0	0	0	0	0	0.4	2.4
6-Aug	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	0.4
7-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.0	0.1
8-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	A	2	0	0	0	0	0	0	0	0	0	0.1	2.3
9-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1.3	19.2
10-Aug	2	0	0	0	0	0	0	0	0	1	9	C	C	C	C	0	0	0	0	0	0	0	0	0	0.7	9.1
11-Aug	0	0	0	0	0	0	2	10	2	1	A	0	0	0	0	0	0	1	2	0	0	0	0	0	0.8	10.1
12-Aug	0	0	0	0	0	0	0	0	2	A	2	1	1	1	1	2	0	0	0	0	0	0	0	0	0.5	2.2
13-Aug	0	0	0	0	0	0	0	0	A	0	2	3	0	1	3	2	0	0	0	0	0	0	0	0	0.5	2.9
14-Aug	0	0	0	0	0	0	0	A	0	3	4	0	0	0	1	1	0	0	0	0	0	0	0	0	0.4	3.6
15-Aug	0	0	0	0	0	0	A	0	0	1	1	0	0	3	0	1	1	3	1	0	0	0	0	0	0.6	3.5
16-Aug	0	0	0	0	0	A	1	0	2	5	1	1	1	2	3	1	0	0	0	0	0	0	0	0	0.8	4.8
17-Aug	0	0	0	0	A	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	1.0
18-Aug	0	0	0	A	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.8
19-Aug	0	0	A	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0.2	1.6
20-Aug	0	A	0	0	0	0	0	0	0	0	7	7	1	0	2	5	6	10	1	0	0	0	0	0	1.7	9.8
21-Aug	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	0.4
22-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
23-Aug	0	0	0	0	0	0	0	2	0	1	3	0	0	0	0	0	0	0	0	0	0	A	0	0	0.4	2.5
24-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	A	0	0	0	0.1	0.6
25-Aug	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	A	0	0	0	0	0.1	0.7
26-Aug	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
27-Aug	0	0	0	0	0	0	0	0	0	0	4	7	3	4	1	0	0	A	0	0	0	0	0	0	0.9	6.8
28-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0.1	0.2
29-Aug	0	0	0	0	0	0	0	0	0	1	1	0	0	0	1	A	1	1	0	0	0	0	0	0	0.3	0.9
30-Aug	0	0	0	0	0	0	0	0	0	0	1	1	0	A	0	0	0	0	0	0	0	0	0	0	0.2	0.5
31-Aug	0	0	0	0	0	0	0	0	0	0	0	0	3	A	0	0	0	0	0	0	0	0	0	0	0.1	2.6
	0.1	0.1	0.1	0.1	0.2	0.1	0.3	0.6	0.5	0.7	2.0	1.1	0.7	0.8	0.6	0.6	0.4	0.7	0.3	0.2	0.1	0.1	0.0	0.1	Diurnal Average	
	2.3	2.0	2.1	1.7	5.0	1.9	5.8	10.1	5.1	4.8	19.2	7.1	3.4	4.0	2.9	5.4	5.5	9.8	2.7	0.6	0.4	0.3	0.4	1.8	Diurnal Maximum	

C - Calibration      A - Automated Daily Zero Span  
 Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb    24-hr 48 ppb    30-day 11 ppb



## Hourly Maximums

Sulphur Dioxide (SO<sub>2</sub>) - ppb

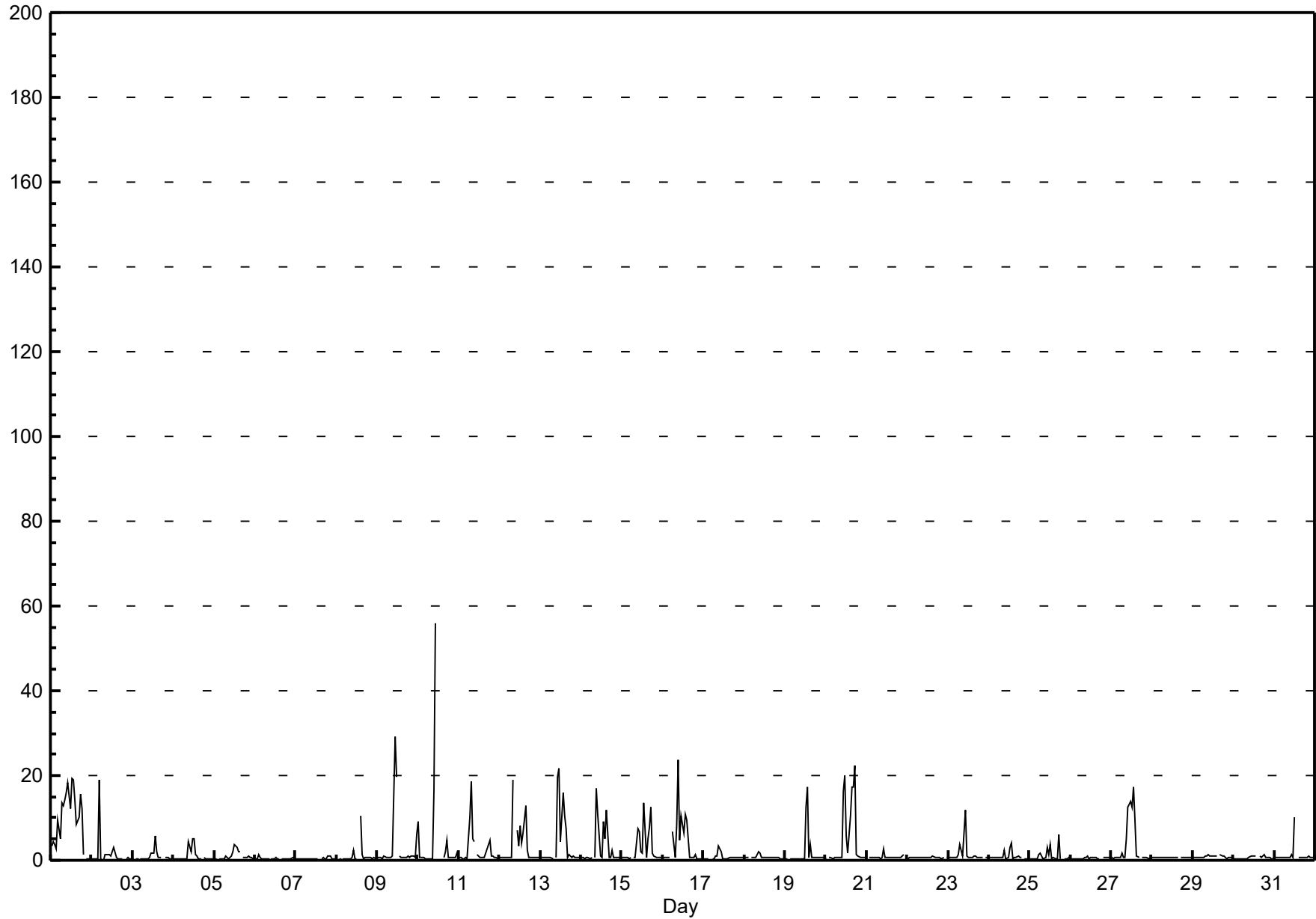
Valleyview - August 2016

Maximum Value: 55.8 ppb on Aug 10 11:00		Maximum Daily Average: 9.5 ppb on Aug 1		Hours in Service: 744																							
Minimum Value: 0 ppb on Aug 8 02:00		Minimum Daily Average: 0.5 ppb on Aug 6		Hours of Data: 709																							
Maximum Diurnal Average: 7.2 ppb at hour 11		Minimum Diurnal Average: 0.6 ppb at hour 4		Hours of Missing Data: 35																							
Monthly Average: 2.08 ppb		Percentiles: P <sub>1</sub> = 0.1 P <sub>10</sub> = 0.5 Q <sub>1</sub> = 0.5 Median = 0.6 Q <sub>3</sub> = 1.0 P <sub>90</sub> = 5.1 P <sub>99</sub> = 19.5		Hours of Calibration: 35																							
				Percent Operational Time: 100.0																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Aug	4	4	4	3	9	5	14	13	14	16	18	12	19	19	14	9	10	16	12	1	A	0	0	0	9.5	19.3	
2-Aug	0	0	0	0	19	0	0	0	1	1	1	1	2	3	1	0	0	0	0	A	0	1	0	0	1.6	19.1	
3-Aug	0	0	0	0	0	0	0	0	0	0	1	2	2	6	2	1	1	1	A	1	1	1	0	0	0.9	5.9	
4-Aug	0	0	0	0	0	0	0	0	0	4	2	5	5	1	1	0	0	A	1	0	0	0	0	0	1.2	5.1	
5-Aug	0	0	0	0	0	0	0	1	1	1	1	2	4	3	2	2	A	1	1	1	1	1	1	0	1.0	3.8	
6-Aug	1	1	1	1	0	0	0	0	0	0	0	0	1	0	0	A	0	0	0	0	0	0	1	0	0.5	1.3	
7-Aug	0	0	0	0	0	0	0	0	0	0	0	0	1	0	A	0	1	0	0	1	1	0	0	0	0.5	1.0	
8-Aug	0	0	0	0	0	0	0	0	0	1	2	0	0	A	10	1	0	1	1	1	1	0	1	0	1.0	10.5	
9-Aug	1	1	1	0	1	1	1	1	1	1	29	20	A	1	1	1	1	1	1	1	1	1	1	6	3.1	29.3	
10-Aug	9	1	1	1	0	0	0	0	1	17	56	C	C	C	C	1	2	5	1	1	1	1	1	2	4.9	55.8	
11-Aug	1	1	0	0	1	0	10	19	5	4	A	1	1	1	1	1	2	4	5	1	1	1	1	0	2.6	18.5	
12-Aug	1	1	1	1	1	1	1	1	19	A	7	3	8	4	6	13	2	1	1	1	1	1	1	1	3.2	18.8	
13-Aug	1	1	1	1	1	1	1	0	A	1	20	22	5	16	11	7	1	2	1	1	1	1	1	1	3.9	21.6	
14-Aug	1	1	0	1	1	0	1	A	1	17	11	1	1	9	5	12	1	1	2	1	1	1	1	0	2.9	16.9	
15-Aug	1	1	1	1	0	1	A	1	1	7	7	2	2	14	1	5	8	13	2	1	1	1	1	1	3.0	13.6	
16-Aug	1	1	1	1	1	A	7	1	9	24	5	11	6	11	10	5	1	1	1	2	1	0	0	0	4.2	23.7	
17-Aug	0	0	0	0	A	0	0	1	1	3	2	0	0	0	0	1	1	1	1	1	1	1	1	1	0.7	3.4	
18-Aug	1	1	1	A	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0.7	2.0	
19-Aug	0	0	A	0	0	0	0	0	0	0	1	1	12	17	1	4	1	1	1	1	1	1	1	1	1.9	17.2	
20-Aug	1	A	1	1	0	1	1	1	1	1	16	20	6	2	11	17	17	22	1	1	1	1	1	1	5.3	22.2	
21-Aug	A	1	1	1	1	1	1	1	0	1	3	1	1	1	1	1	1	1	1	1	1	1	1	A	0.8	2.7	
22-Aug	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	A	1	0.7	1.0	
23-Aug	1	1	1	1	1	1	1	4	1	7	12	1	1	1	1	1	1	1	1	1	1	A	1	1	1.6	11.8	
24-Aug	1	1	1	1	1	1	1	1	1	2	0	1	3	4	0	1	1	1	1	1	A	0	0	0	0.9	4.2	
25-Aug	0	0	0	0	0	1	2	1	0	1	3	1	4	0	1	0	0	6	0	A	0	0	0	1	1.1	6.1	
26-Aug	0	0	0	0	0	1	0	0	1	1	1	0	1	1	1	0	0	0	A	1	1	1	1	1	0.5	0.8	
27-Aug	1	0	1	1	1	1	2	1	1	5	13	14	12	17	10	1	1	A	1	1	1	1	0	1	3.6	17.3	
28-Aug	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	0.6	0.8	
29-Aug	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	A	2	1	1	1	1	1	1	1	0.8	1.5	
30-Aug	1	0	0	0	1	0	0	0	0	1	1	1	1	1	A	1	1	1	1	1	1	1	1	0	0.7	1.3	
31-Aug	1	1	1	1	1	1	1	1	1	1	1	1	10	A	1	1	1	1	1	1	1	1	1	1	1.0	10.2	
		0.9	0.7	0.6	0.6	1.5	0.7	1.6	1.7	2.1	4.0	7.2	4.2	3.8	4.8	3.3	3.0	1.9	2.8	1.3	0.7	0.7	0.6	0.6	0.8	Diurnal Average	
		9.1	4.3	3.6	2.6	19.1	5.1	13.6	18.5	18.8	23.7	55.8	21.6	19.3	18.9	14.2	17.2	17.2	22.2	12.3	1.5	1.2	1.0	1.5	6.2	Diurnal Maximum	
C - Calibration		A - Automated Daily Zero Span																									



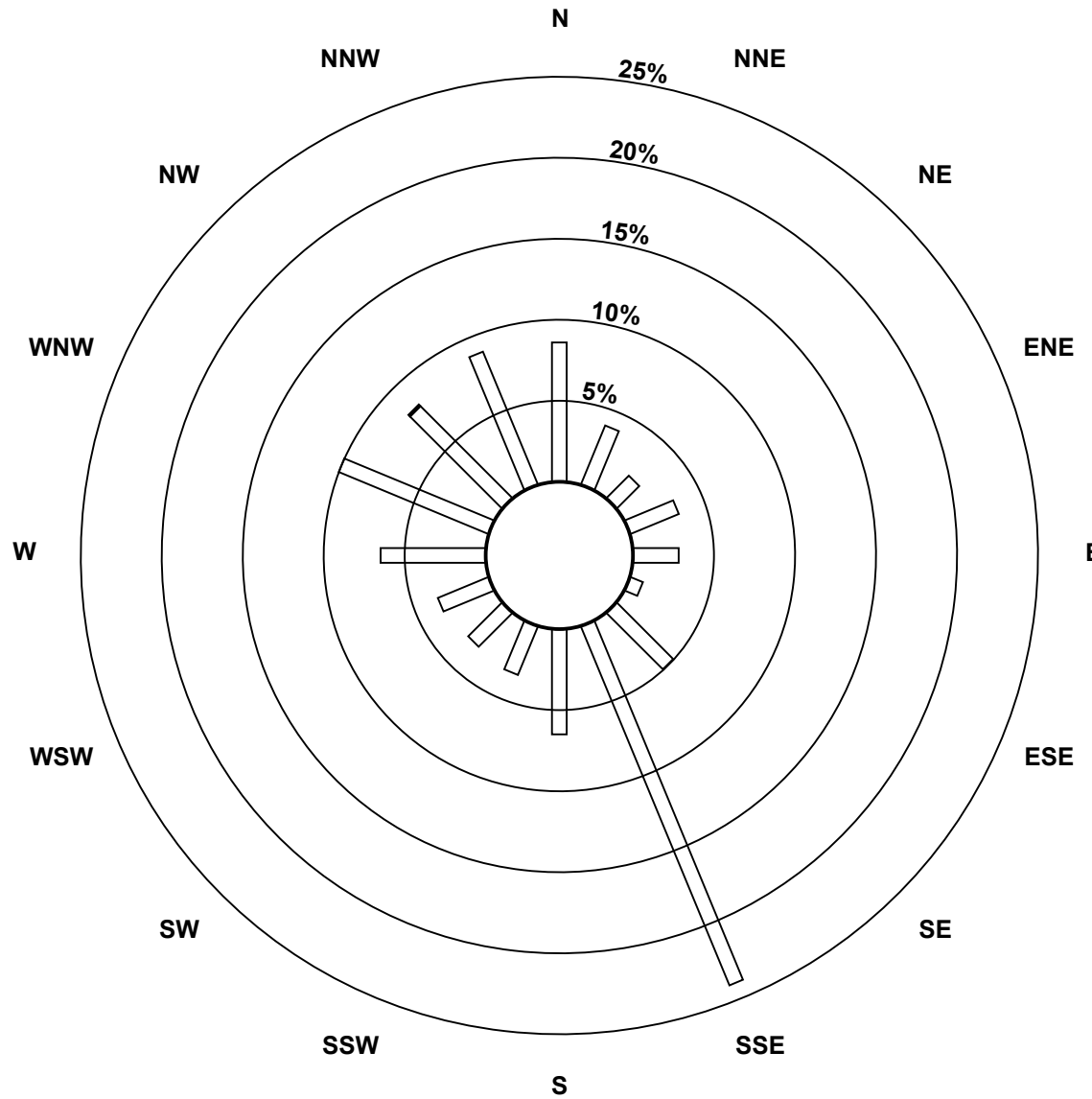
**Hourly Maximums**

**Sulphur Dioxide (SO<sub>2</sub>) - ppb**  
**Valleyview - August 2016**

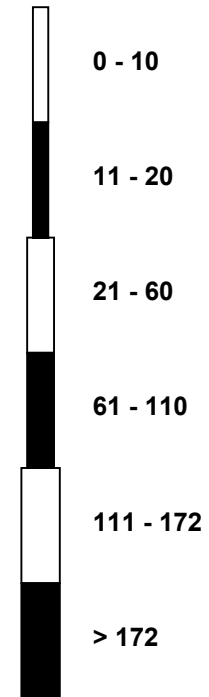


**Pollutant Rose**

**Sulphur Dioxide (SO<sub>2</sub>) - ppb**  
**Valleyview - August 2016**

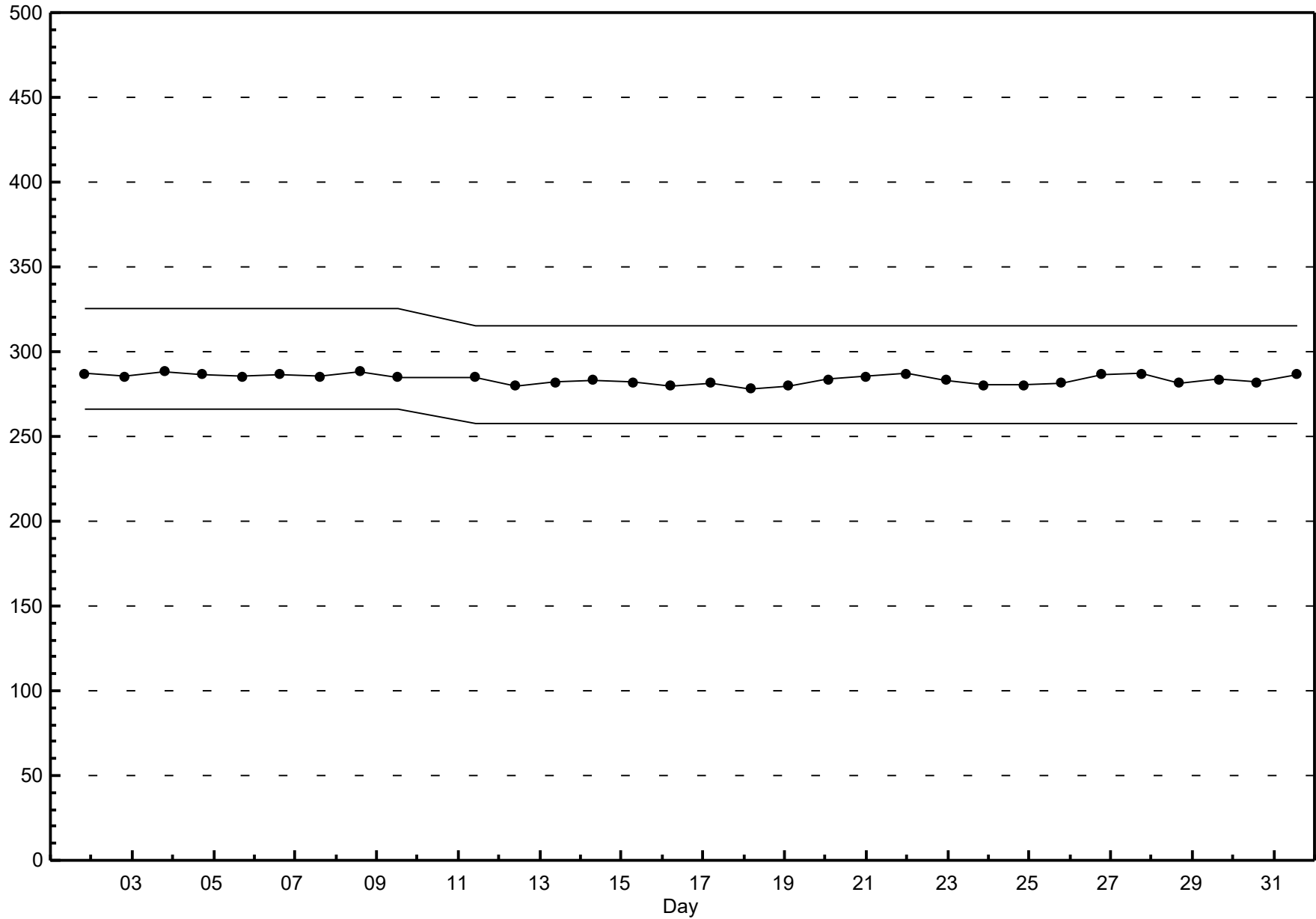


**Pollutant Classes (ppb)**



### Span Responses

Sulphur Dioxide (SO<sub>2</sub>)  
Valleyview - August 2016



## Hourly Averages

Hydrogen Sulphide (H<sub>2</sub>S) - ppb

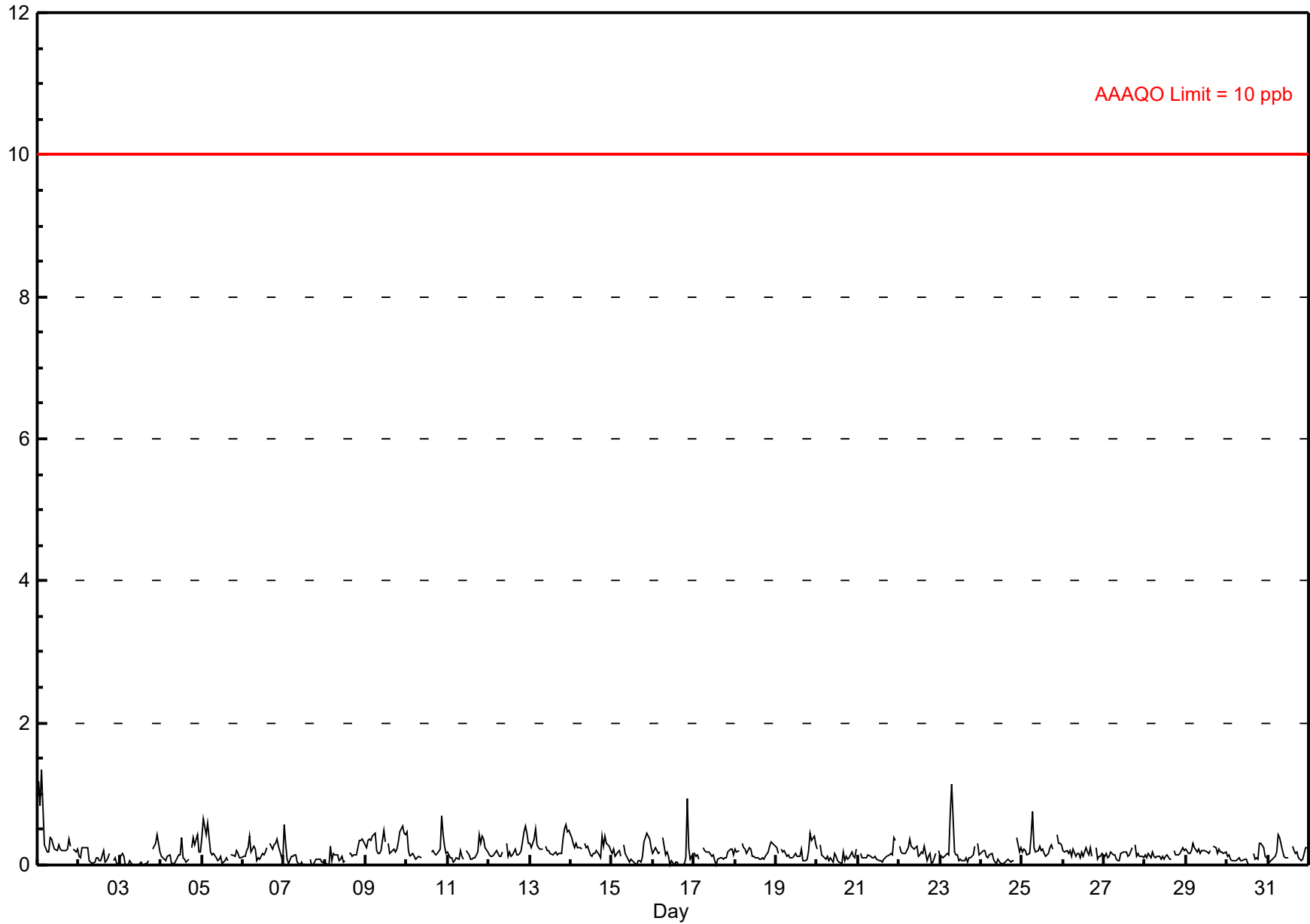
Valleyview - August 2016

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 1.3 ppb on Aug 1 03:00 Maximum Daily Average: 0.4 ppb on Aug 1		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 Aug 3 00:00 Maximum Diurnal Average: 0.3 ppb at hour 21 Monthly Average: 0.18 ppb		Minimum Daily Average: 0.1 ppb on Aug 3 Minimum Diurnal Average: 0.1 ppb at hour 14 Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.1 Q <sub>1</sub> = 0.1 Median = 0.2 Q <sub>3</sub> = 0.2 P <sub>90</sub> = 0.3 P <sub>99</sub> = 0.7																								
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Aug	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.4	1.3
2-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.1	0.3
3-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0.1	0.4
4-Aug	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	0.4
5-Aug	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.2	0.7
6-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.2	0.4
7-Aug	1	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	0.6
8-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.2	0.4
9-Aug	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	1	0	0	0.3	0.5
10-Aug	0	0	0	0	0	0	0	0	0	C	C	C	C	C	0	0	0	0	0	0	0	1	0	0	0.2	0.7
11-Aug	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
12-Aug	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	1	0	0	0.2	0.6
13-Aug	0	0	0	1	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0.3	0.6
14-Aug	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4
15-Aug	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
16-Aug	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	0.9
17-Aug	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
18-Aug	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3
19-Aug	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4
20-Aug	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
21-Aug	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0.1	0.4
22-Aug	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
23-Aug	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.2	1.1
24-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.1	0.4
25-Aug	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.3	0.7
26-Aug	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
27-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0.1	0.3
28-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0.1	0.2
29-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.2	0.3
30-Aug	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
31-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.2	0.4
																								Diurnal Average		
																								Diurnal Maximum		

C - Calibration A - Automated Daily Zero Span  
 Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb

**Hourly Averages**

**Hydrogen Sulphide (H<sub>2</sub>S) - ppb**  
**Valleyview - August 2016**



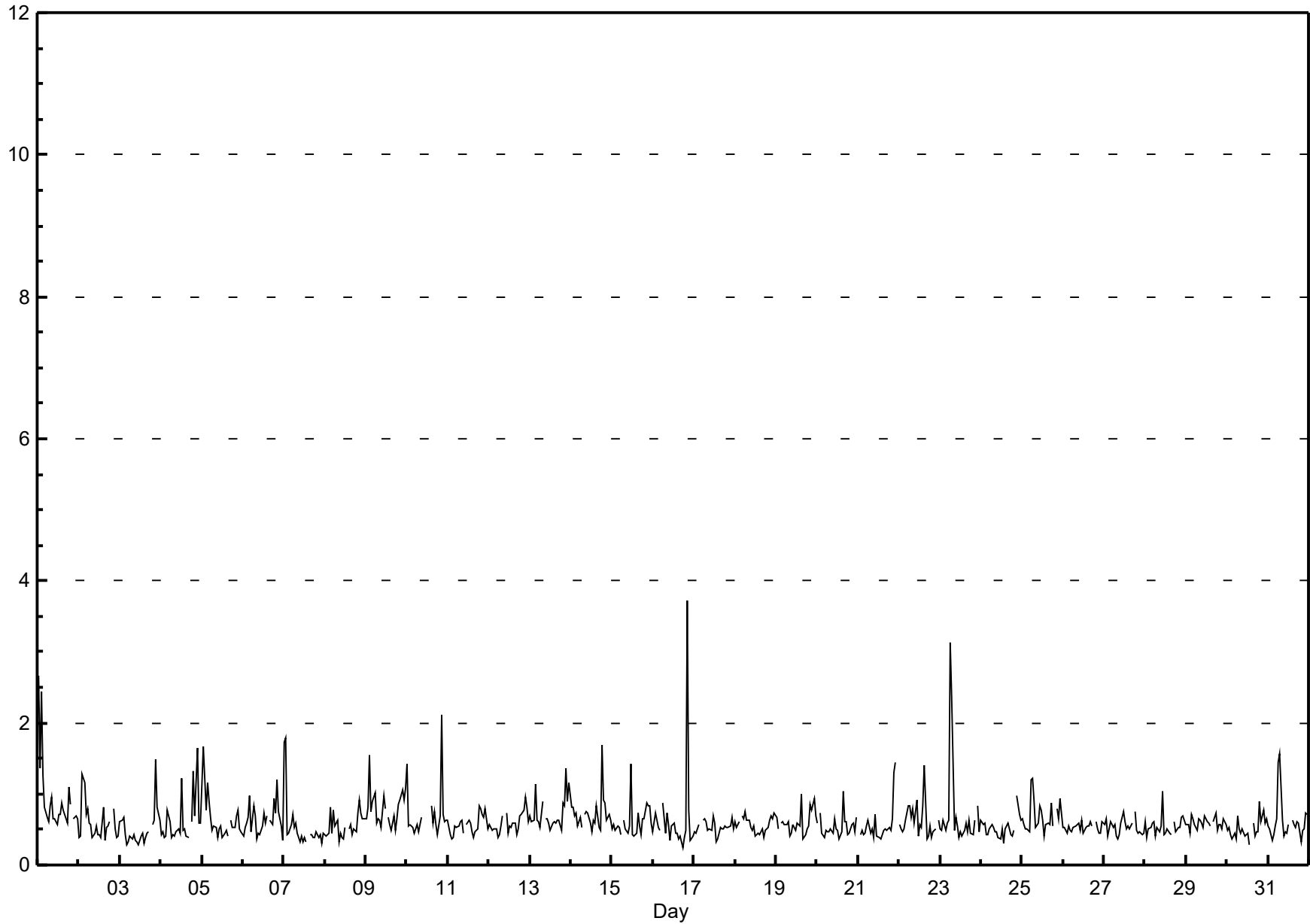
## Hourly Maximums

## Hydrogen Sulphide (H<sub>2</sub>S) - ppb Valleyview - August 2016

Maximum Value: 3.7 ppb on Aug 16 21:00		Maximum Daily Average: 0.9 ppb on Aug 1		Hours in Service: 744																							
Minimum Value: 0 ppb on Aug 16 18:00		Minimum Daily Average: 0.5 ppb on Aug 3		Hours of Data: 708																							
Maximum Diurnal Average: 0.8 ppb at hour 21		Minimum Diurnal Average: 0.5 ppb at hour 14		Hours of Missing Data: 36																							
Monthly Average: 0.62 ppb		Percentiles: P <sub>1</sub> = 0.3 P <sub>10</sub> = 0.4 Q <sub>1</sub> = 0.5 Median = 0.6 Q <sub>3</sub> = 0.7 P <sub>90</sub> = 0.8 P <sub>99</sub> = 1.6		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-Aug	3	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	0.9	2.7	
2-Aug	0	0	1	1	1	1	1	1	0	0	1	0	0	0	1	0	1	1	1	A	1	1	0	0	0.6	1.3	
3-Aug	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	1	1	1	1	0.5	1.5	
4-Aug	0	0	0	0	1	1	0	0	0	0	1	0	1	0	1	0	0	A	1	1	1	2	1	1	0.6	1.7	
5-Aug	1	2	1	1	1	1	0	1	1	0	0	1	0	0	0	0	A	1	1	1	1	1	0	0.7	1.7		
6-Aug	0	1	1	1	1	0	1	1	0	0	0	1	1	1	1	A	1	1	1	1	1	1	0	0.6	1.2		
7-Aug	2	2	0	0	1	1	1	1	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.6	1.8		
8-Aug	0	0	0	1	0	1	1	1	0	0	0	0	1	A	1	1	0	1	0	1	1	1	1	0.6	0.9		
9-Aug	1	1	2	1	1	1	1	1	1	1	1	1	A	1	1	0	1	0	1	1	1	1	1	0.8	1.5		
10-Aug	1	1	1	1	0	1	1	0	1	C	C	C	C	C	1	1	1	1	0	1	2	1	1	0.7	2.1		
11-Aug	1	0	0	0	1	1	1	1	1	0	A	1	1	1	0	0	0	1	1	1	1	1	1	0.6	0.8		
12-Aug	1	1	0	1	1	0	0	1	1	A	1	0	1	1	1	1	0	1	1	1	1	1	1	0.6	0.9		
13-Aug	1	1	1	1	1	1	1	1	A	1	1	1	0	1	1	1	1	1	0	1	1	1	1	0.7	1.4		
14-Aug	1	1	1	1	1	1	1	A	1	1	1	1	0	1	1	1	0	2	1	1	1	1	1	0.7	1.7		
15-Aug	1	1	0	1	1	0	A	1	1	0	1	1	0	0	0	1	1	0	1	1	1	1	1	0.6	1.4		
16-Aug	0	1	1	1	0	A	1	0	1	1	0	1	1	0	0	0	0	0	0	0	4	1	0	0.7	3.7		
17-Aug	0	0	0	1	A	1	1	1	0	1	0	1	1	0	0	1	1	0	1	1	1	1	1	0.5	0.7		
18-Aug	1	1	1	A	1	1	1	1	1	1	0	1	0	0	0	0	1	0	0	1	1	1	1	0.6	0.7		
19-Aug	1	1	A	1	1	1	1	1	0	0	1	0	1	1	1	1	0	0	1	1	1	1	1	0.6	1.0		
20-Aug	1	A	1	0	0	0	0	0	1	0	1	1	0	0	0	1	1	1	0	0	1	1	0	0.5	1.0		
21-Aug	A	0	0	0	0	1	1	0	1	0	1	0	0	0	0	1	0	1	0	1	1	1	A	0.6	1.4		
22-Aug	1	1	0	1	1	1	1	1	1	1	1	0	1	1	1	0	0	1	0	0	1	A	1	0.6	1.4		
23-Aug	1	0	1	0	1	1	3	2	0	1	1	0	0	0	0	1	0	1	0	0	1	A	1	0.7	3.1		
24-Aug	1	1	1	0	0	1	1	1	0	0	0	0	1	0	1	1	1	0	0	0	A	1	1	0.5	1.0		
25-Aug	1	1	1	1	0	1	1	1	1	1	1	1	0	1	1	1	1	1	A	1	1	1	1	0.7	1.2		
26-Aug	1	1	0	1	0	0	1	1	1	1	0	1	0	1	1	1	1	1	A	1	1	0	0	0.5	0.6		
27-Aug	1	1	0	1	1	1	1	0	0	0	1	1	1	1	1	1	1	A	1	0	0	0	0	0.5	0.8		
28-Aug	1	0	1	1	1	1	0	1	0	1	1	0	0	1	0	0	A	1	0	1	1	1	1	0.5	1.0		
29-Aug	1	1	0	1	1	1	0	1	1	1	1	1	1	1	1	A	1	0	1	1	1	1	1	0.6	0.7		
30-Aug	0	1	0	0	0	0	1	1	0	1	0	0	0	0	A	1	0	0	0	1	1	1	1	0.5	0.9		
31-Aug	1	1	0	0	1	1	1	2	1	0	0	0	1	A	1	1	1	1	1	0	0	1	1	0.6	1.6		
		0.7	0.6	0.7	0.6	0.6	0.6	0.7	0.7	0.5	0.5	0.6	0.5	0.5	0.5	0.6	0.6	0.5	0.5	0.6	0.6	0.8	0.8	0.7	0.6	Diurnal Average	
		2.7	1.8	2.4	1.3	1.0	1.2	3.1	2.4	0.9	0.8	1.0	1.4	1.2	0.7	0.9	1.4	0.8	0.9	1.7	1.3	3.7	1.7	1.4	1.2	Diurnal Maximum	
C - Calibration		A - Automated Daily Zero Span																									

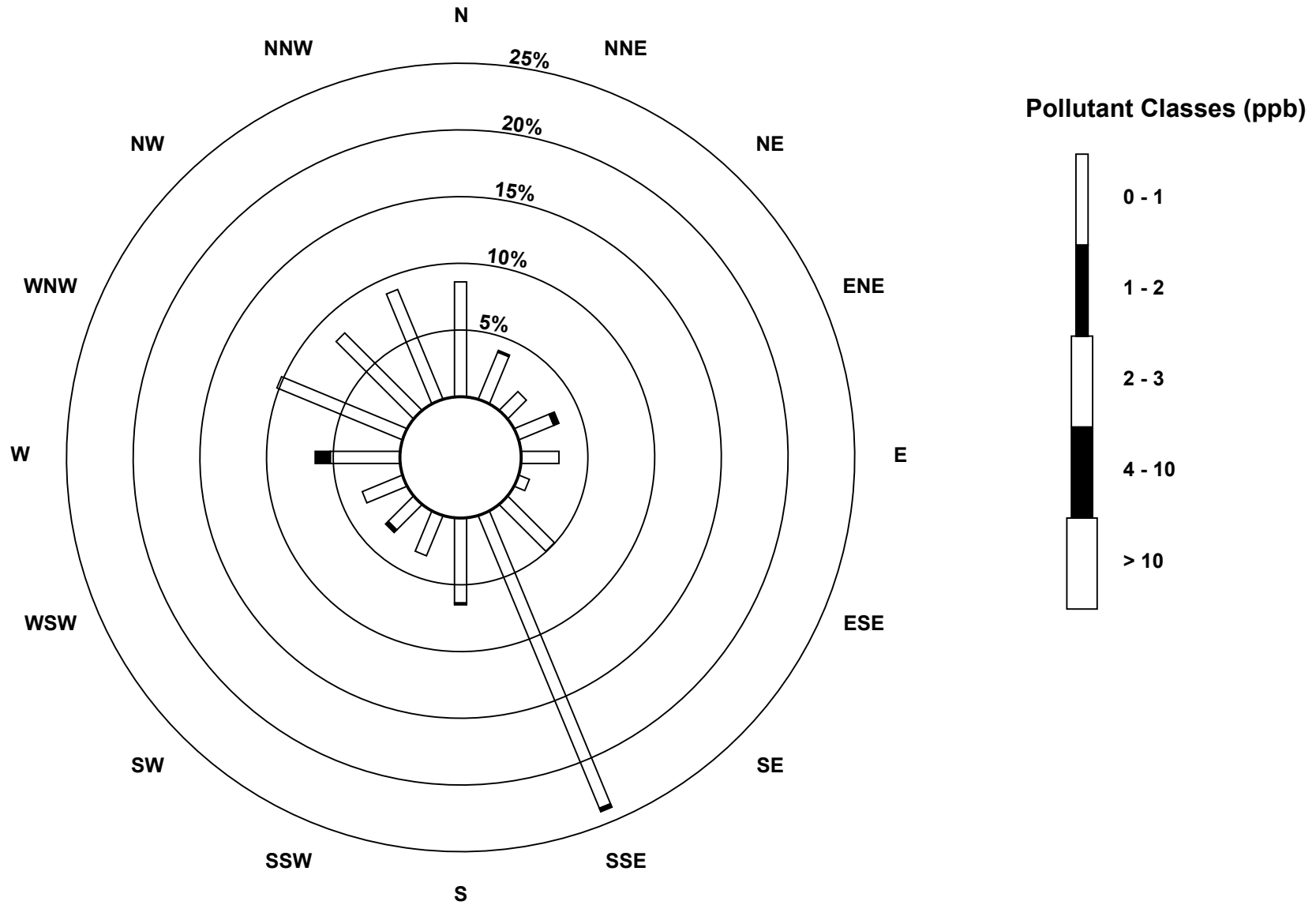
**Hourly Maximums**

**Hydrogen Sulphide (H<sub>2</sub>S) - ppb**  
**Valleyview - August 2016**



**Pollutant Rose**

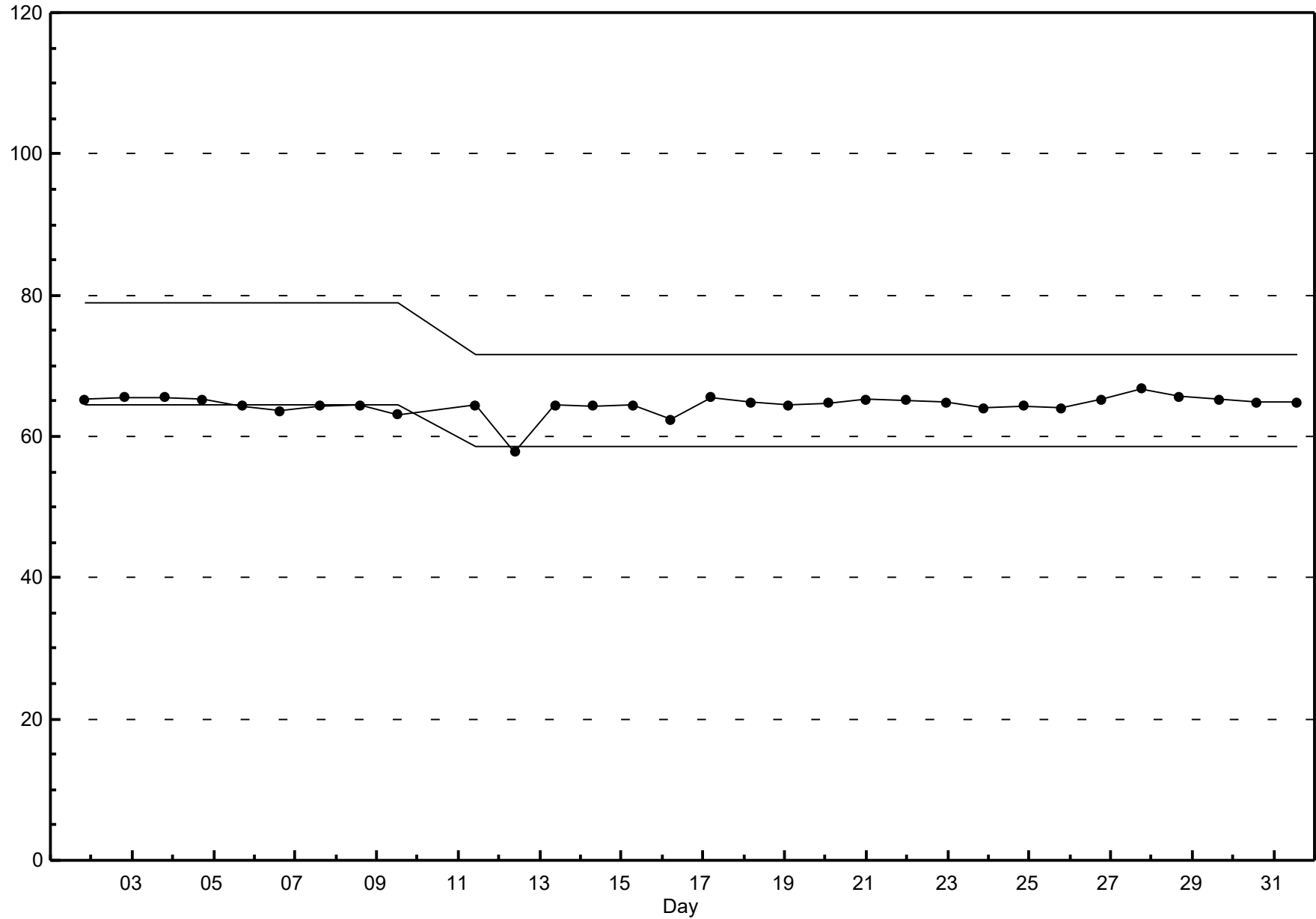
**Hydrogen Sulphide (H<sub>2</sub>S) - ppb**  
**Valleyview - August 2016**





### Span Responses

Hydrogen Sulphide (H<sub>2</sub>S)  
Valleyview - August 2016





Peace Airshed Zone Association

# Hourly Averages

External Temperature (ET) - °C

Valleyview - August 2016

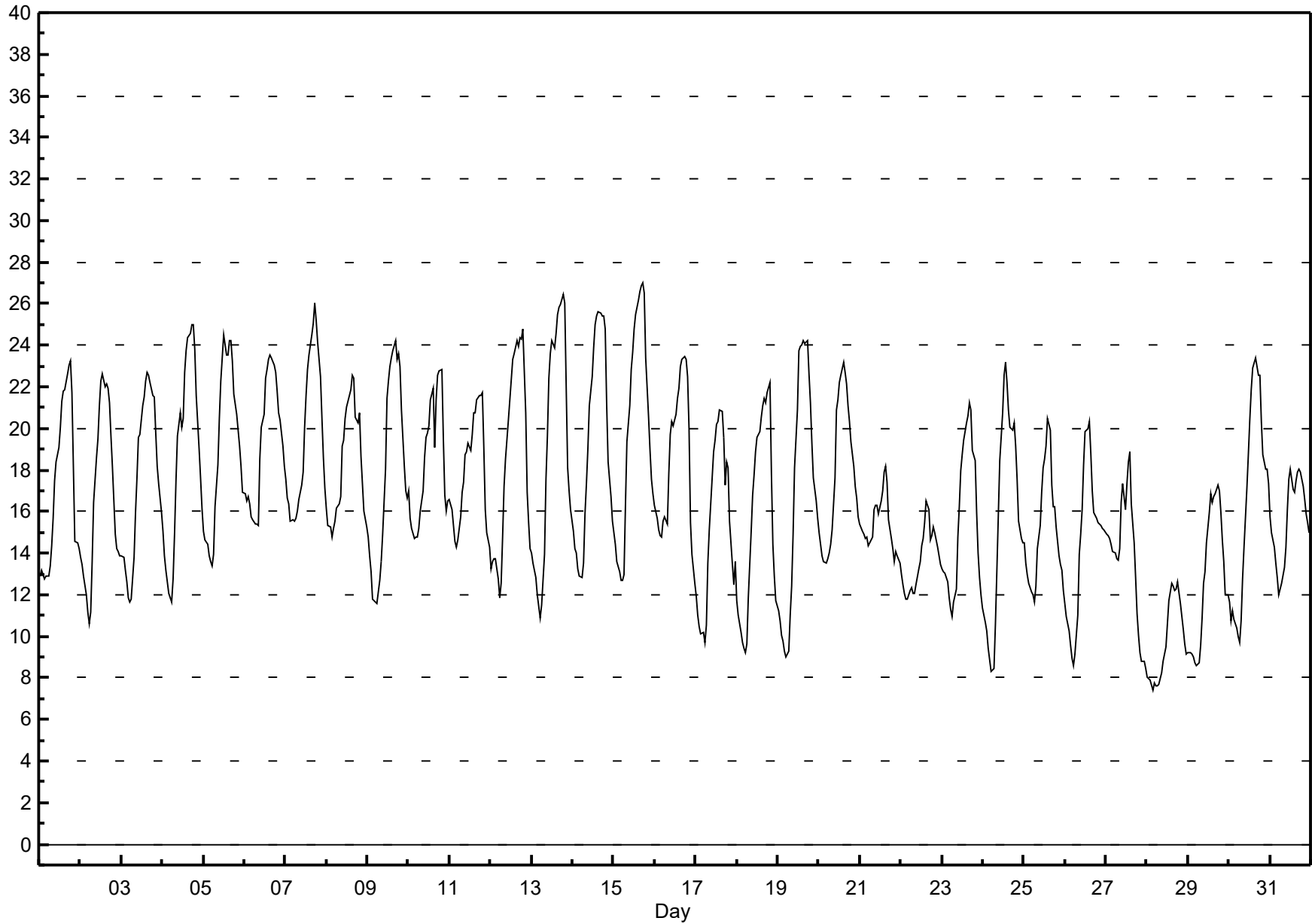
Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 27.0 °C on Aug 15 18:00	Maximum Daily Average: 19.9 °C on Aug 15		Hours of Data:	744
Minimum Value: 7 °C on Aug 28 04:00	Minimum Daily Average: 9.7 °C on Aug 28		Hours of Missing Data:	0
Maximum Diurnal Average: 21.4 °C at hour 16	Minimum Diurnal Average: 12.0 °C at hour 6		Hours of Calibration:	0
Monthly Average: 16.78 °C	Percentiles: P <sub>1</sub> = 8.0 P <sub>10</sub> = 11.1 Q <sub>1</sub> = 13.6 Median = 16.2 Q <sub>3</sub> = 20.4 P <sub>90</sub> = 23.0 P <sub>99</sub> = 25.9		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-Aug	13	13	13	13	13	13	13	14	16	17	18	19	20	21	22	22	23	23	23	22	18	15	14	14	17.2	23.3
2-Aug	14	13	13	12	11	11	11	14	16	19	19	21	22	23	22	22	22	21	20	18	15	14	14	14	16.7	22.6
3-Aug	14	14	13	13	12	12	12	14	16	18	20	20	21	22	22	23	23	22	22	22	20	18	17	16	17.6	22.7
4-Aug	15	14	13	13	12	12	13	15	17	20	21	20	20	23	24	24	25	25	25	24	22	19	18	16	18.7	25.0
5-Aug	15	15	14	14	14	13	14	16	18	20	22	23	25	24	24	24	24	23	22	21	20	19	18	17	19.1	24.5
6-Aug	17	16	17	16	16	16	15	15	15	19	20	21	22	23	23	24	23	23	23	22	21	20	19	18	19.4	23.5
7-Aug	18	17	16	16	16	16	16	16	17	17	18	20	22	23	24	25	25	26	25	24	23	20	19	17	19.7	26.0
8-Aug	16	15	15	15	15	16	16	16	17	19	19	20	21	22	22	23	22	21	20	21	19	17	16	15	18.3	22.6
9-Aug	15	14	13	12	12	12	12	13	14	15	18	21	22	23	23	24	24	23	24	23	21	18	17	17	17.9	24.2
10-Aug	17	16	15	15	15	15	15	16	17	19	20	20	21	22	19	21	23	23	23	20	17	16	17	17	18.3	22.8
11-Aug	17	16	15	15	14	15	16	17	17	19	19	19	19	20	21	21	21	22	22	22	19	16	15	14	17.9	21.7
12-Aug	13	14	14	14	13	12	13	15	17	19	20	21	22	23	24	24	24	24	24	25	21	17	15	14	18.4	24.8
13-Aug	14	14	13	12	11	11	12	14	18	20	22	24	24	24	25	25	26	26	26	26	22	18	17	16	19.1	26.5
14-Aug	15	14	14	13	13	13	13	16	17	19	21	23	24	25	25	26	26	25	25	25	21	18	17	16	19.4	25.6
15-Aug	15	14	14	13	13	13	13	16	19	21	23	24	25	25	26	27	27	27	26	23	21	19	18	17	19.9	27.0
16-Aug	16	16	15	15	15	16	16	15	18	20	20	20	21	21	22	23	23	23	23	22	20	15	14	13	18.4	23.5
17-Aug	12	11	10	10	10	10	11	14	15	16	19	19	20	20	21	21	20	17	18	18	16	13	12	14	15.3	20.9
18-Aug	12	11	10	10	9	9	10	12	15	17	18	19	20	20	21	21	21	21	22	22	18	14	13	12	15.7	22.2
19-Aug	11	11	10	10	9	9	9	11	12	15	18	21	24	24	24	24	24	24	23	21	19	18	17	16	16.8	24.2
20-Aug	15	14	14	14	14	14	14	14	15	18	21	21	22	23	23	23	22	21	20	19	18	17	17	16	17.9	23.2
21-Aug	15	15	15	15	15	14	14	15	16	16	16	16	17	17	18	18	17	16	15	14	14	14	14	14	15.4	18.2
22-Aug	13	13	12	12	12	12	12	12	12	12	13	14	14	15	16	16	16	15	15	15	15	14	14	13	13.6	16.5
23-Aug	13	13	13	13	12	11	11	12	12	15	16	18	19	19	20	21	21	21	19	18	16	14	13	12	15.5	21.3
24-Aug	11	11	10	9	9	8	8	11	13	16	18	21	23	23	22	21	20	20	20	19	18	16	15	15	15.7	23.2
25-Aug	15	14	13	13	12	12	12	12	14	15	17	18	19	19	20	20	17	16	16	15	14	13	13	12	15.1	20.5
26-Aug	12	11	10	10	9	9	9	11	14	15	16	18	20	20	20	19	17	16	16	16	15	15	15	15	14.5	20.4
27-Aug	15	15	15	14	14	14	14	14	14	16	17	16	17	18	19	16	15	13	11	10	9	9	9	8	13.9	18.9
28-Aug	8	8	8	7	8	8	8	8	8	9	9	10	11	12	13	12	12	12	13	12	11	10	10	9	9.7	12.6
29-Aug	9	9	9	9	9	9	9	10	11	13	13	15	16	17	16	17	17	17	17	16	15	14	12	12	12.8	17.2
30-Aug	12	11	11	11	10	10	10	11	13	14	17	19	20	22	23	23	23	23	23	20	19	18	18	17	16.6	23.4
31-Aug	16	15	14	14	13	12	12	13	13	14	16	18	18	17	17	17	18	18	18	17	17	16	15	15	15.5	18.0

13.9	13.4	13.0	12.5	12.2	12.0	12.3	13.6	15.1	16.8	18.3	19.3	20.3	20.9	21.4	21.4	21.3	20.9	20.6	19.9	17.8	16.1	15.2	14.5	Diurnal Average	
17.5	16.7	16.7	16.4	15.8	15.6	16.1	16.9	19.3	21.1	22.9	23.7	24.8	25.5	26.2	26.6	26.9	27.0	26.5	26.0	22.5	20.5	19.2	18.2	Diurnal Maximum	

**Hourly Averages**

**External Temperature (ET) - °C**  
**Valleyview - August 2016**



# Hourly Averages

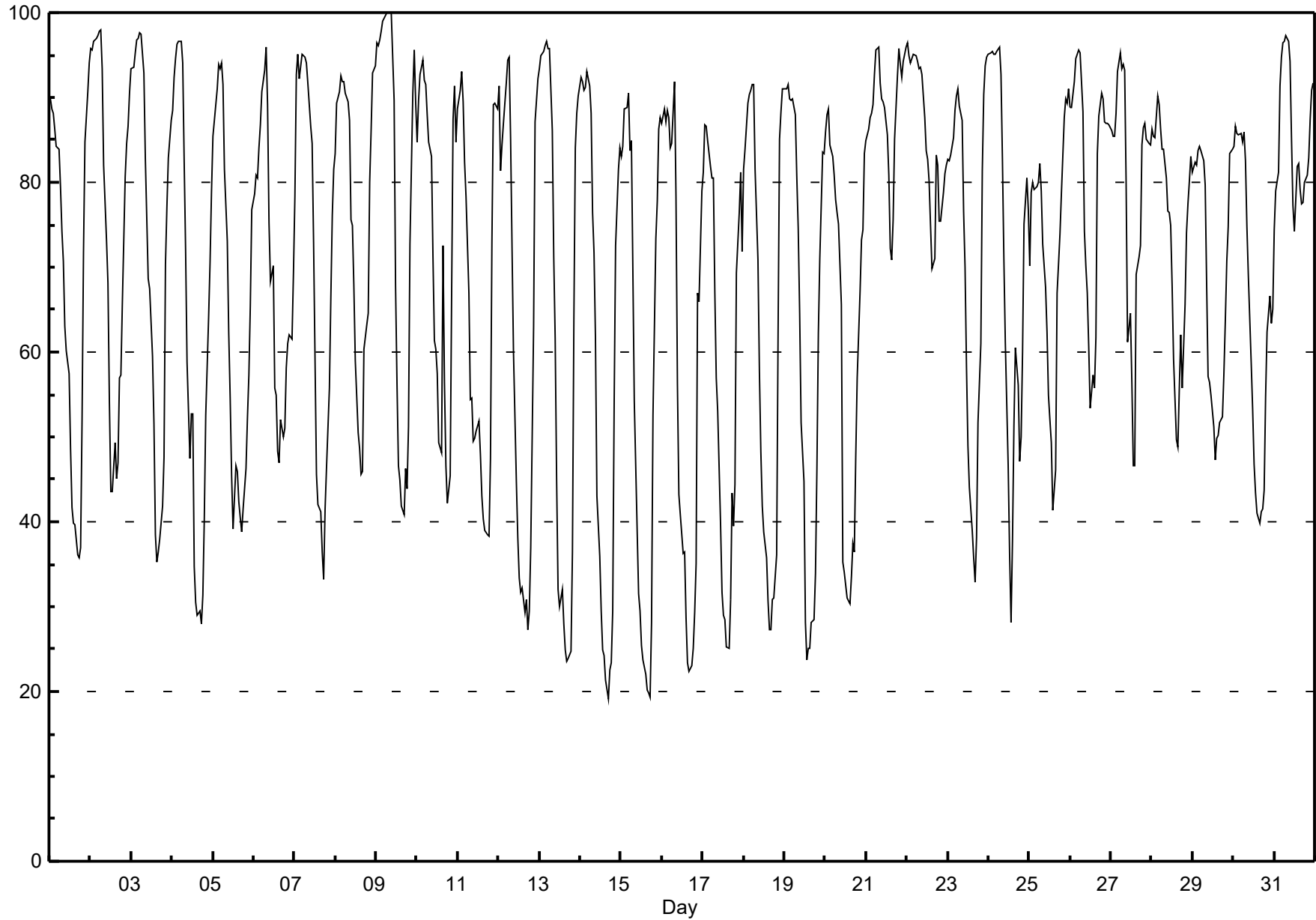
Relative Humidity (RH) - %

Valleyview - August 2016

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 100.0 % on Aug 9 07:00 Maximum Daily Average: 88.1 % on Aug 21		Hours in Service: 744 Hours of Data: 744 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0																									
Minimum Value: 19 % on Aug 14 17:00 Maximum Diurnal Average: 90.6 % at hour 5 Monthly Average: 69.44 %		Minimum Daily Average: 56.8 % on Aug 15 Minimum Diurnal Average: 42.5 % at hour 15 Percentiles: P <sub>1</sub> = 22.5 P <sub>10</sub> = 35.8 Q <sub>1</sub> = 50.5 Median = 76.6 Q <sub>3</sub> = 88.5 P <sub>90</sub> = 94.1 P <sub>99</sub> = 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-Aug	90	89	88	86	84	84	80	74	71	63	60	58	49	42	40	40	36	36	37	52	72	85	91	94	66.6	94.1	
2-Aug	96	96	97	97	97	98	98	93	82	73	68	54	44	44	49	45	47	57	57	66	81	85	87	90	75.0	97.9	
3-Aug	93	94	95	97	97	98	97	93	83	76	69	67	59	51	39	35	36	38	42	48	70	77	83	87	71.9	97.6	
4-Aug	88	92	95	96	97	97	94	83	72	59	47	53	53	35	30	29	30	28	31	40	53	64	70	79	63.1	96.6	
5-Aug	85	87	91	94	93	94	92	82	73	62	55	45	39	47	46	42	41	39	42	46	52	57	65	77	64.4	94.1	
6-Aug	79	81	81	84	87	91	93	96	89	75	68	70	56	55	48	47	52	50	51	58	61	62	62	69	69.3	95.9	
7-Aug	78	93	95	92	95	95	95	94	92	87	85	73	59	46	42	41	36	33	41	46	56	66	76	81	70.7	95.0	
8-Aug	83	89	91	93	92	92	91	90	87	76	75	68	59	51	49	46	46	60	63	65	80	86	93	94	75.7	93.8	
9-Aug	96	96	97	98	99	100	100	100	100	100	90	68	56	47	45	42	41	46	44	51	73	90	96	89	77.6	100.0	
10-Aug	85	90	93	94	92	91	88	85	83	71	61	60	57	49	48	73	56	47	42	45	67	88	91	85	72.6	94.4	
11-Aug	89	91	93	89	82	78	67	54	55	49	50	51	52	48	43	40	39	39	38	48	73	89	89	89	64.0	93.1	
12-Aug	91	81	84	87	92	94	95	85	72	60	45	38	33	32	32	29	31	27	29	37	63	87	90	92	62.8	94.8	
13-Aug	93	95	95	96	97	96	96	86	71	62	45	32	30	32	28	25	24	24	25	37	64	84	88	90	63.1	96.6	
14-Aug	92	92	91	91	93	91	88	76	72	62	43	36	29	25	24	21	19	23	23	29	54	73	82	84	58.9	93.1	
15-Aug	83	84	89	89	90	84	85	70	54	39	32	29	25	24	22	20	20	19	28	53	73	78	86	88	56.8	90.4	
16-Aug	87	89	87	89	88	84	85	92	78	56	43	41	36	36	29	23	22	23	25	29	35	67	66	79	57.9	91.8	
17-Aug	81	87	87	85	82	81	80	67	57	53	40	32	29	29	25	25	31	43	39	44	69	76	81	72	58.1	86.8	
18-Aug	82	84	89	90	91	92	92	82	71	58	48	42	39	36	31	27	27	31	31	36	62	85	88	91	62.7	91.6	
19-Aug	91	91	92	90	90	90	88	81	75	65	52	45	28	24	25	25	28	28	34	46	62	71	84	83	61.9	91.6	
20-Aug	86	88	89	84	83	81	78	76	75	66	35	34	33	31	30	33	37	36	48	57	67	73	74	83	61.6	88.7	
21-Aug	85	86	88	88	89	93	96	96	92	90	90	89	86	81	72	71	76	85	93	96	94	92	94	96	88.1	95.9	
22-Aug	96	95	94	95	95	95	94	93	94	93	88	84	83	80	75	70	71	83	82	75	75	79	81	82	85.5	96.4	
23-Aug	83	83	83	85	88	90	91	89	87	77	70	58	49	44	39	36	33	38	52	61	81	90	94	95	70.7	94.8	
24-Aug	95	95	95	95	95	95	96	93	83	71	61	47	36	28	38	51	61	56	47	50	60	75	80	77	70.0	95.9	
25-Aug	70	79	80	79	79	80	82	79	73	68	62	55	52	49	41	46	67	70	74	79	88	90	89	91	71.8	91.0	
26-Aug	89	89	92	95	95	96	95	88	74	70	67	61	53	57	56	62	83	88	90	90	87	87	87	87	80.7	95.5	
27-Aug	86	85	85	88	93	95	93	94	93	80	61	65	56	47	47	69	71	72	84	86	87	85	84	84	78.9	95.2	
28-Aug	86	85	85	90	89	86	84	84	81	77	76	75	68	59	50	49	56	62	56	66	74	77	80	83	74.1	90.1	
29-Aug	81	82	82	84	84	84	83	80	68	57	57	55	51	47	50	50	52	52	57	64	71	75	83	84	68.0	84.3	
30-Aug	84	87	86	86	86	85	86	83	75	69	59	53	47	43	41	40	41	42	44	55	62	67	63	65	64.4	86.6	
31-Aug	74	79	81	91	95	96	97	97	97	94	85	77	74	82	82	79	78	78	80	81	83	87	91	92	85.5	97.4	
		86.4	88.2	89.3	90.2	90.6	90.5	89.6	85.0	78.3	69.5	60.8	55.3	49.1	45.1	42.5	43.0	44.7	46.9	49.4	56.0	69.3	79.0	82.9	84.9	Diurnal Average	
		96.4	96.1	96.7	97.7	99.0	99.7	100.0	100.0	100.0	100.0	89.6	88.8	85.5	81.9	82.3	79.1	83.3	87.8	92.5	95.8	93.9	92.4	95.5	95.9	Diurnal Maximum	

**Hourly Averages**

**Relative Humidity (RH) - %**  
**Valleyview - August 2016**







Peace Airshed Zone Association

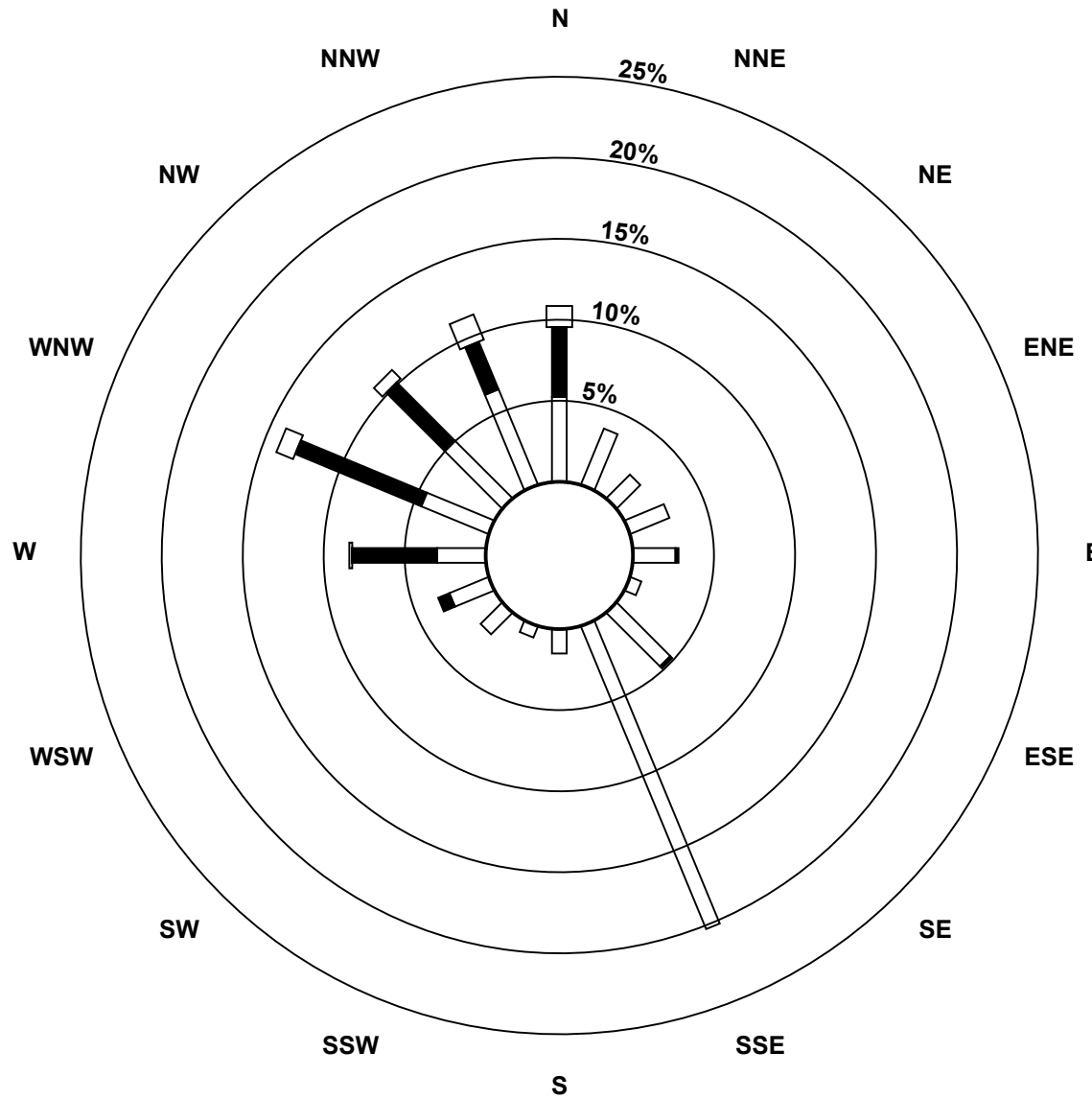
# Hourly Averages

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

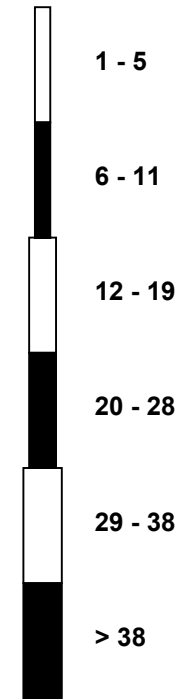
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
23 Spd	7	9	8	5	4	2	2	2	1	4	4	5	4	5	7	7	6	1	3	0	0	0	0	1	3.1	8.6	
Dir	294	296	298	306	313	316	272	272	339	295	285	334	347	341	302	322	326	320	137	132	197	166	168	162	309	296	
24 Spd	0	1	0	0	0	1	1	2	2	1	1	2	1	2	4	4	6	8	7	3	0	0	1	1	0.9	7.6	
Dir	168	157	197	196	226	228	170	157	183	200	153	222	230	268	314	322	357	355	8	340	202	185	168	298	329	355	
25 Spd	2	0	1	1	2	3	1	2	5	6	5	7	8	5	10	6	1	4	1	1	0	1	1	1	2.5	10.3	
Dir	298	163	247	291	289	282	262	275	302	303	294	288	292	345	318	333	20	252	169	161	158	156	159	160	298	318	
26 Spd	2	1	1	0	1	1	0	2	4	4	5	3	3	1	2	1	1	3	3	4	4	3	3	2	2.1	4.9	
Dir	160	161	159	163	160	159	149	155	157	158	158	161	158	160	223	214	151	154	150	155	161	159	160	157	161	158	
27 Spd	2	2	1	1	1	1	2	1	1	3	10	8	11	12	11	14	17	17	16	16	18	18	15	15	7.1	17.9	
Dir	158	160	161	165	150	172	262	170	161	247	274	264	281	279	298	331	337	334	326	325	334	345	347	341	319	334	
28 Spd	11	9	9	5	5	8	6	6	7	7	6	6	5	6	5	6	3	2	2	1	1	1	1	1	4.4	10.8	
Dir	334	323	335	356	332	332	327	321	328	335	339	309	337	322	312	307	334	71	96	91	33	52	101	98	333	334	
29 Spd	1	1	1	1	3	2	1	2	3	5	4	3	4	4	4	3	3	2	1	2	1	2	4	3	1.1	5.1	
Dir	97	44	357	357	347	3	14	30	126	139	137	146	145	148	143	134	136	127	94	19	33	6	339	351	103	139	
30 Spd	2	4	3	2	2	1	0	0	0	2	3	3	2	3	3	3	4	4	1	2	1	1	2	2	1.1	4.4	
Dir	12	339	18	25	20	60	11	344	66	155	162	157	169	140	140	130	135	145	146	147	152	120	114	27	119	145	
31 Spd	3	2	3	0	2	2	1	2	1	2	2	1	1	5	6	5	5	4	3	3	5	5	4	5	2.4	5.6	
Dir	347	19	17	137	335	313	239	347	162	159	247	222	312	327	310	317	342	2	13	11	15	5	353	352	345	310	
Spd	0.5	0.4	0.6	0.4	0.5	0.4	0.4	0.3	0.4	1.4	2.6	3.3	3.9	4.6	5.1	4.8	4.1	3.4	2.2	1.2	1.1	0.8	0.6	0.8	Diurnal Average		
Dir	315	310	316	317	335	337	278	258	251	271	291	295	305	307	305	317	324	326	341	341	330	347	346	321	Diurnal Maximum		
Spd	10.8	8.8	8.5	8.3	7.5	8.9	10.6	12.9	11.2	12.8	14.3	14.0	14.7	14.2	14.1	14.1	17.3	17.3	15.7	15.7	17.9	17.8	14.6	15.1	Diurnal Maximum		
Dir	334	323	335	273	5	359	354	358	359	285	358	351	343	357	353	322	337	334	326	325	334	345	347	341	Diurnal Maximum		
Maximum Speed Value: 18 km/h on Aug 27 21:00																		Minimum Speed Value: 0 km/h on Aug 13 22:00						Hours in Service:		744	
Maximum Daily Speed Average: 9.3 km/h on Aug 22																		Minimum Daily Speed Average: 0.5 km/h on Aug 4						Hours of Data:		744	
Maximum Diurnal Speed Average: 5.1 km/h at hour 15																		Minimum Diurnal Speed Average: 0.3 km/h at hour 8						Hours of Missing Data:		0	
Monthly Average Velocity: 1.74 km/h 312.3 deg																		Speed Percentiles: P <sub>1</sub> = 0.1 P <sub>10</sub> = 0.4 Q <sub>1</sub> = 0.9 Median = 2.0 Q <sub>3</sub> = 5.2 P <sub>90</sub> = 8.5 P <sub>99</sub> = 14.5						Percent Operational Time:		100.0	
All monthly, daily, and diurnal averages have been calculated using vector methods																											
Frequency Distribution																											
		Speed Range (km/h)																									
Direction		0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total																			
North		69	34	13	0	0	0	116																			
NorthEast		38	1	0	0	0	0	39																			
East		31	2	0	0	0	0	33																			
SouthEast		114	3	0	0	0	0	117																			
South		166	1	0	0	0	0	167																			
SouthWest		39	1	0	0	0	0	40																			
West		42	59	5	0	0	0	106																			
NorthWest		49	66	11	0	0	0	126																			
Total		548	167	29	0	0	0	744																			

**Wind Rose**

**Wind Speed (WS) (km/h)**  
**Valleyview - August 2016**



**Wind Speed Classes (km/h)**





# Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Valleyview - August 2016

Maximum Speed: 18 km/h on Aug 27 21:00	Maximum Daily Speed Average: 9.9 km/h on Aug 22	Hours in Service: 744
Minimum Speed: 0 km/h on Aug 18 04:00	Minimum Daily Speed Average: 2.2 km/h on Aug 4	Hours of Data: 744
Maximum Diurnal Speed Average: 7.4 km/h at hour 15	Minimum Diurnal Speed Average: 1.8 km/h at hour 5	Hours of Missing Data: 0
Monthly Average Speed: 3.73 km/h	Percentiles: P <sub>1</sub> = 0.2 P <sub>10</sub> = 0.5 Q <sub>1</sub> = 1.1 Median = 2.4 Q <sub>3</sub> = 5.6 P <sub>90</sub> = 8.8 P <sub>99</sub> = 14.7	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-Aug	2	4	8	8	3	1	2	7	6	7	8	7	8	10	9	10	10	8	4	0	8	6	1	1	5.8	9.8
2-Aug	1	1	0	1	1	1	1	1	1	1	2	2	2	4	9	8	2	2	3	8	5	1	0	1	2.3	8.6
3-Aug	1	1	1	1	0	1	1	2	2	3	2	5	4	5	7	8	5	6	5	1	1	1	1	0	2.6	8.2
4-Aug	1	1	1	0	0	0	1	2	2	2	5	7	3	6	3	3	3	2	1	1	1	3	2	2	2.2	6.5
5-Aug	1	1	1	1	2	2	2	2	3	3	3	4	5	5	5	7	6	5	4	4	2	2	2	4	3.1	7.0
6-Aug	3	3	3	1	2	2	2	3	8	5	4	4	6	3	2	1	1	1	1	1	1	4	4	1	2.7	7.5
7-Aug	1	2	4	3	2	3	3	2	2	3	4	5	5	5	4	2	2	1	1	2	3	2	2	2	2.7	5.4
8-Aug	2	1	1	1	1	0	1	2	2	3	1	3	5	6	7	6	7	9	2	1	1	0	1	0	2.7	8.8
9-Aug	0	0	1	2	1	0	1	2	2	1	2	2	4	5	6	5	6	7	4	1	1	1	1	4	2.4	6.7
10-Aug	2	1	1	1	1	1	2	2	1	5	9	11	10	10	9	8	9	8	6	2	1	0	0	3	4.3	10.7
11-Aug	1	2	1	1	2	1	5	9	9	13	14	13	12	10	10	7	5	6	5	1	0	0	1	1	5.4	14.2
12-Aug	1	2	1	1	1	1	0	1	2	4	3	4	5	6	6	7	6	6	4	0	0	0	0	1	2.6	7.2
13-Aug	1	0	0	0	1	0	1	2	1	2	4	8	9	9	8	7	7	5	2	0	0	1	0	1	2.9	9.3
14-Aug	0	1	1	1	1	1	1	2	2	3	6	7	6	7	8	8	9	7	5	1	0	0	0	1	3.2	8.8
15-Aug	1	1	1	1	1	1	1	1	1	5	8	9	9	8	8	8	6	5	0	0	0	0	1	1	3.2	8.7
16-Aug	0	0	1	1	3	2	4	2	5	9	10	8	10	9	10	11	10	8	5	2	2	1	0	1	4.8	10.8
17-Aug	1	1	1	2	2	2	1	1	3	3	3	8	10	12	14	14	15	9	7	1	0	1	2	2	4.8	14.6
18-Aug	1	1	0	0	0	0	0	1	1	2	6	8	9	9	10	9	7	3	3	0	1	1	0	1	3.1	10.2
19-Aug	1	1	2	1	2	1	1	2	3	3	3	3	8	13	11	10	9	8	4	0	0	0	1	1	3.8	13.2
20-Aug	1	0	1	1	1	2	2	2	2	2	9	12	9	10	10	6	7	7	2	1	1	1	1	1	3.8	11.7
21-Aug	1	2	1	2	1	1	1	1	1	1	1	2	1	2	2	3	3	6	6	4	5	5	3	2	2.3	6.5
22-Aug	5	5	7	7	8	9	11	13	11	12	14	14	15	14	14	13	11	6	6	10	9	7	7	8	9.9	14.9
23-Aug	7	9	9	5	4	3	2	2	2	4	5	6	5	6	7	7	7	6	3	0	0	0	0	1	4.2	8.7
24-Aug	0	1	0	0	0	1	1	2	2	2	1	3	2	3	4	4	6	8	7	3	1	0	1	2	2.3	7.9
25-Aug	2	1	1	2	2	3	2	3	6	7	5	8	9	6	11	7	3	5	1	1	0	1	1	1	3.6	10.9
26-Aug	2	1	1	0	1	1	0	2	4	4	5	3	3	1	3	2	1	3	3	4	4	3	3	2	2.3	5.0
27-Aug	2	2	1	1	1	1	4	1	1	3	10	8	11	12	12	14	17	18	16	16	18	18	15	15	9.1	18.1
28-Aug	11	9	9	6	6	8	6	6	7	8	7	7	6	6	6	6	4	3	3	1	1	1	1	1	5.2	11.0
29-Aug	1	1	1	2	3	2	1	2	3	5	4	3	4	5	4	3	3	3	1	2	1	2	4	3	2.7	5.2
30-Aug	3	4	3	2	2	1	0	1	1	2	4	4	3	3	3	3	4	5	2	2	1	1	2	2	2.3	4.5
31-Aug	3	3	4	1	3	3	2	2	1	2	3	1	2	6	6	6	5	4	3	3	5	5	4	5	3.3	5.9
	1.9	1.9	2.1	1.9	1.8	1.8	2.0	2.7	3.2	4.1	5.3	6.0	6.4	7.0	7.4	7.0	6.3	5.7	3.9	2.4	2.4	2.2	2.0	2.3	Diurnal Average	
	11.0	8.9	8.9	8.4	7.6	9.0	10.8	13.1	11.4	13.1	14.4	14.2	14.9	14.4	14.4	14.4	17.5	17.5	15.9	15.8	18.1	18.0	14.7	15.2	Diurnal Maximum	

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

# Hourly Standard Deviations

Wind Direction (WD) - deg  
Valleyview - August 2016

Maximum Value: 99.6 deg on Aug 31 04:00																	Hours in Service: 744																								
Minimum Value: 6.2 deg on Aug 19 02:00																	Hours of Data: 744																								
Percentiles: P <sub>1</sub> = 6.8 P <sub>10</sub> = 11.5 Q <sub>1</sub> = 16.8 Median = 27.1 Q <sub>3</sub> = 48.0 P <sub>90</sub> = 68.6 P <sub>99</sub> = 89.2																	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-Aug	51	23	11	10	56	55	44	20	22	21	19	19	20	20	18	17	15	20	17	38	45	65	69	30	69.1																
2-Aug	38	39	53	61	68	78	78	25	72	81	75	90	68	42	24	28	44	45	42	18	21	47	53	54	89.6																
3-Aug	75	76	44	51	38	63	26	40	52	52	88	35	53	45	27	17	19	14	17	52	55	64	89	30	89.2																
4-Aug	35	15	29	17	71	55	15	19	36	67	38	21	61	26	67	52	34	58	45	50	63	54	62	25	70.6																
5-Aug	67	85	69	42	59	17	25	27	22	41	65	44	47	27	29	25	26	26	25	21	48	49	12	9	85.0																
6-Aug	19	28	55	81	54	75	61	74	20	15	32	29	29	36	32	33	40	26	41	25	39	18	16	71	80.7																
7-Aug	76	65	51	77	63	31	42	39	18	12	15	15	13	17	21	26	35	71	42	64	74	35	46	53	76.7																
8-Aug	38	25	73	53	77	69	57	12	16	53	83	43	37	29	31	19	20	12	24	42	13	67	68	65	83.0																
9-Aug	67	47	83	22	48	74	59	19	45	77	72	83	47	38	27	36	31	16	15	77	71	75	55	39	83.4																
10-Aug	46	54	51	21	32	22	16	20	17	41	21	25	21	15	23	13	16	21	14	21	46	23	12	41	53.8																
11-Aug	35	9	13	10	8	26	31	11	13	12	12	15	14	17	17	18	26	17	21	71	34	20	23	18	70.8																
12-Aug	20	30	26	33	62	44	53	21	49	35	61	45	40	38	32	30	26	19	21	74	48	37	47	11	74.1																
13-Aug	28	17	85	78	35	59	49	15	37	26	52	26	24	17	26	30	23	28	31	42	40	85	81	66	85.5																
14-Aug	61	35	14	72	19	10	47	12	19	48	45	21	27	30	25	20	20	18	18	39	27	18	18	7	72.1																
15-Aug	21	17	27	11	21	10	25	25	40	30	20	17	21	19	35	31	24	26	78	86	68	41	6	15	86.5																
16-Aug	74	51	64	87	72	97	48	38	55	17	20	21	17	24	22	21	15	16	14	17	40	13	54	17	97.3																
17-Aug	19	13	25	16	23	57	40	65	42	49	75	30	19	20	16	12	31	14	21	89	54	22	70	86	89.0																
18-Aug	41	75	65	67	88	88	42	40	71	57	34	20	26	25	21	22	23	28	22	87	36	24	33	26	88.2																
19-Aug	6	6	6	10	8	16	11	9	8	13	13	14	49	22	17	25	27	17	14	56	82	70	23	27	82.2																
20-Aug	48	24	31	14	14	10	38	12	6	30	28	14	15	14	17	19	12	33	36	47	68	34	91	43	90.8																
21-Aug	21	10	12	7	39	13	41	13	48	45	93	59	66	57	35	38	37	15	14	52	44	33	66	59	93.3																
22-Aug	8	8	10	8	9	8	9	9	10	9	9	10	10	10	12	13	22	13	18	7	7	9	11	12	22.1																
23-Aug	12	10	9	34	20	44	39	46	26	37	29	36	40	38	23	25	19	90	22	51	51	57	17	13	90.0																
24-Aug	43	70	65	61	59	61	65	20	42	52	54	55	69	63	14	14	14	19	14	26	44	26	32	70	70.3																
25-Aug	31	92	54	40	62	26	48	33	24	23	30	22	22	44	19	50	89	49	30	29	21	11	13	9	92.1																
26-Aug	10	8	9	27	29	13	89	16	11	11	10	18	22	23	45	37	13	9	9	8	10	19	7	8	89.0																
27-Aug	7	9	17	23	19	59	64	43	26	48	13	16	16	16	26	11	9	9	8	9	9	9	8	8	63.8																
28-Aug	9	10	16	16	16	9	13	13	13	28	27	26	29	30	21	25	36	32	27	71	45	48	25	25	71.1																
29-Aug	28	31	40	31	15	16	26	31	21	14	18	18	28	16	18	17	25	23	46	13	51	41	13	22	50.6																
30-Aug	36	18	20	27	33	51	86	89	87	31	23	35	49	46	35	31	23	14	23	9	15	33	17	31	88.7																
31-Aug	47	41	59	100	65	53	71	66	43	23	54	74	55	25	17	17	17	15	21	21	13	13	13	15	99.6																
																	75.6	92.1	85.5	99.6	88.2	97.3	89.0	88.7	87.2	80.7	93.3	89.6	68.7	62.6	67.2	51.9	89.4	90.0	78.5	89.0	82.2	85.0	90.8	86.1	

PAZA

Donnelly Station

Monthly Summary Tables, Graphs and  
Roses

## Hourly Averages

## Sulphur Dioxide (SO<sub>2</sub>) - ppb

### Donnelly - August 2016

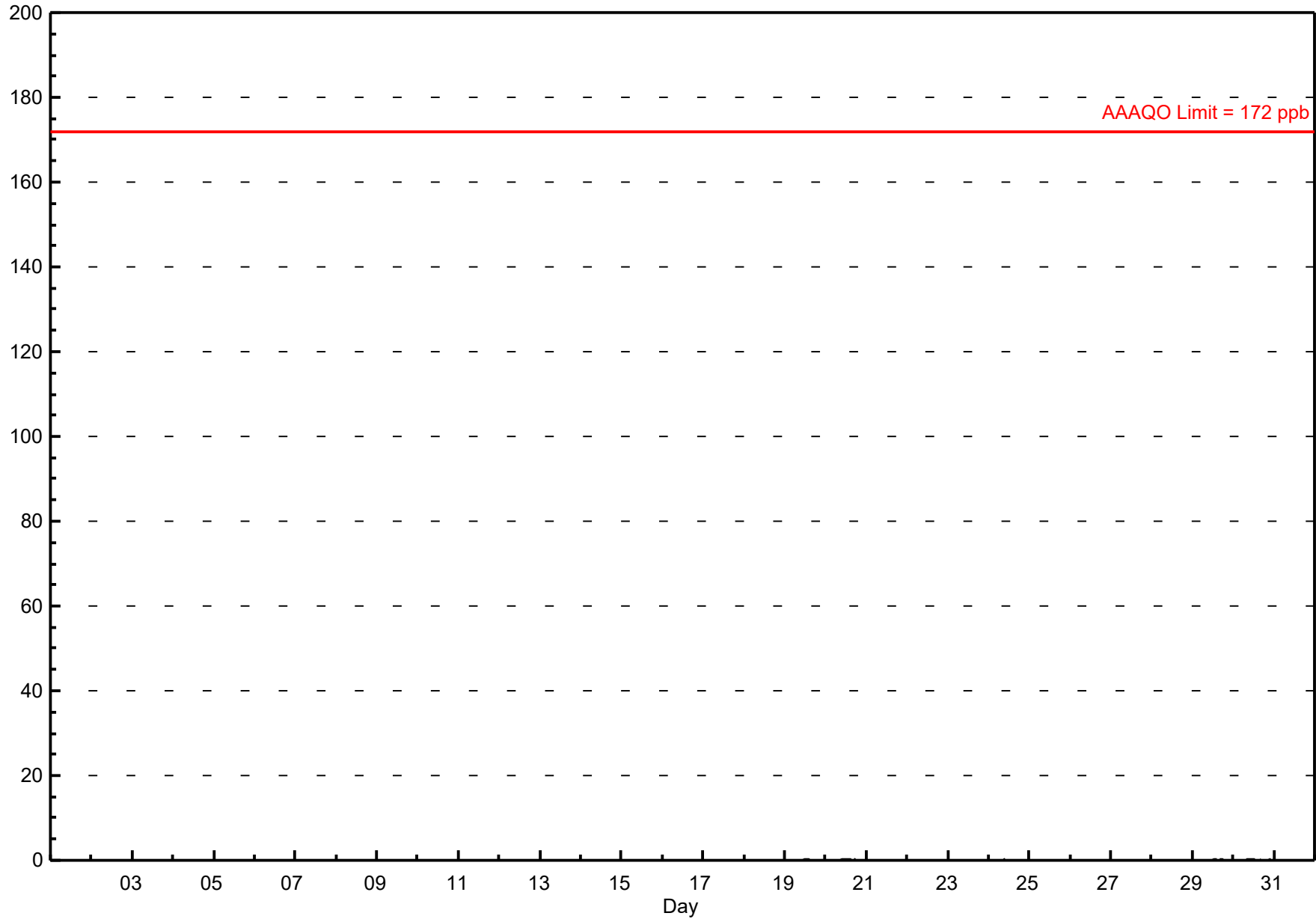
Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	374
Maximum Value: 0.4 ppb on Aug 19 14:00	Maximum Daily Average: 0.1 ppb on Aug 30		Hours of Data:	353
Minimum Value: 0 ppb on Aug 16 16:00	Minimum Daily Average: 0.0 ppb on Aug 25		Hours of Missing Data:	21
Maximum Diurnal Average: 0.1 ppb at hour 14	Minimum Diurnal Average: 0.0 ppb at hour 24		Hours of Calibration:	21
Monthly Average: 0.05 ppb	Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.0 Q <sub>1</sub> = 0.0 Median = 0.0 Q <sub>3</sub> = 0.1 P <sub>90</sub> = 0.1 P <sub>99</sub> = 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-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
2-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
3-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
4-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
5-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
6-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
7-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
8-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
9-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
10-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
11-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
12-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
13-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
14-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
15-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
16-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	C	C	C	C	C	0	0	0	0	0	0	0	0	0	--	0.0
17-Aug	0	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
18-Aug	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
19-Aug	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.4
20-Aug	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
21-Aug	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
22-Aug	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	0.1
23-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.0	0.1
24-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.0	0.2
25-Aug	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
26-Aug	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
27-Aug	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
28-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1
29-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
30-Aug	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
31-Aug	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	0.1
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	Diurnal Average
	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.1	0.1	Diurnal Maximum

C - Calibration      NS - Not in service      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 (SO<sub>2</sub>) - ppb**  
**Donnelly - August 2016**



## Hourly Maximums

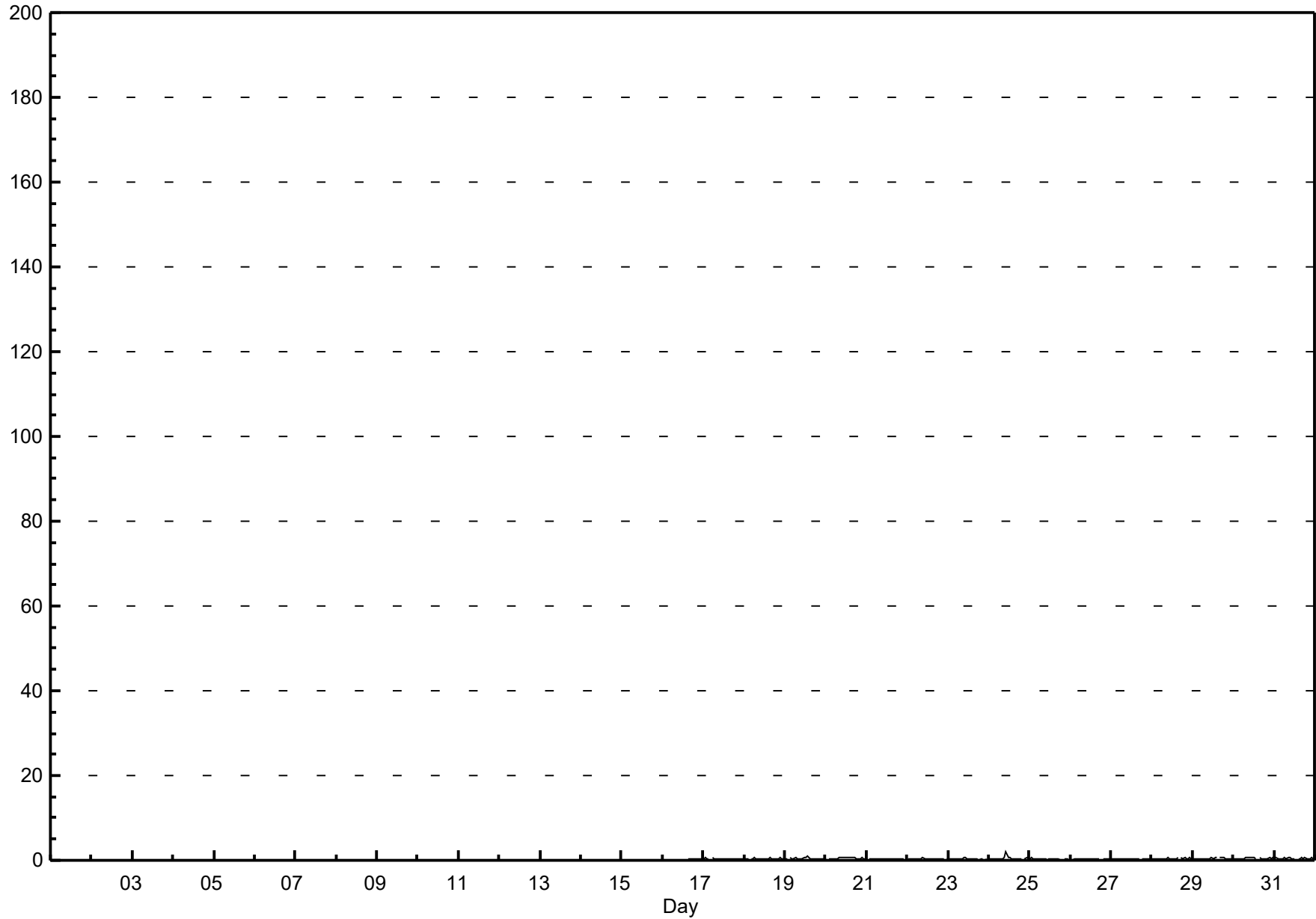
Sulphur Dioxide (SO<sub>2</sub>) - ppb

Donnelly - August 2016

Maximum Value: 2.0 ppb on Aug 24 11:00										Maximum Daily Average: 0.5 ppb on Aug 30										Hours in Service: 374						
Minimum Value: 0 ppb on Aug 26 01:00										Minimum Daily Average: 0.3 ppb on Aug 27										Hours of Data: 353						
Maximum Diurnal Average: 0.5 ppb at hour 11										Minimum Diurnal Average: 0.3 ppb at hour 3										Hours of Missing Data: 21						
Monthly Average: 0.39 ppb										Percentiles: P <sub>1</sub> = 0.2 P <sub>10</sub> = 0.2 Q <sub>1</sub> = 0.3 Median = 0.4 Q <sub>3</sub> = 0.5 P <sub>90</sub> = 0.6 P <sub>99</sub> = 0.8										Hours of Calibration: 21						
																				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-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
2-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
3-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
4-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
5-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
6-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
7-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
8-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
9-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
10-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
11-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
12-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
13-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
14-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
15-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
16-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	C	C	C	C	C	0	0	0	0	0	0	0	0	0	--	0.4
17-Aug	0	1	0	0	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.6
18-Aug	0	0	0	A	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0.4	0.7
19-Aug	0	0	A	1	0	0	0	1	0	0	0	1	1	1	1	0	0	0	0	0	1	0	0	0	0.5	0.9
20-Aug	0	A	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	0	0	0	1	0	0	0.5	0.8
21-Aug	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	0.5
22-Aug	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.4	0.6
23-Aug	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	A	0	0	0.3	0.5
24-Aug	0	0	0	0	0	0	0	0	0	1	2	1	1	0	0	0	0	0	0	0	A	0	1	0	0.4	2.0
25-Aug	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.3	0.6
26-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0.3	0.4
27-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0.3	0.4
28-Aug	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	A	1	0	1	0	0	1	0	0.4	0.6
29-Aug	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	A	1	1	1	0	0	0	0	0	0.5	0.8
30-Aug	0	0	0	0	0	0	0	1	1	1	1	1	1	0	A	1	0	0	1	0	0	1	0	1	0.5	0.7
31-Aug	0	1	0	0	0	0	1	0	1	1	0	1	0	A	0	0	1	0	1	0	0	0	1	0	0.5	0.7
																				Diurnal Average						
																				Diurnal Maximum						
C - Calibration										NS - Not in service										A - Automated Daily Zero Span						

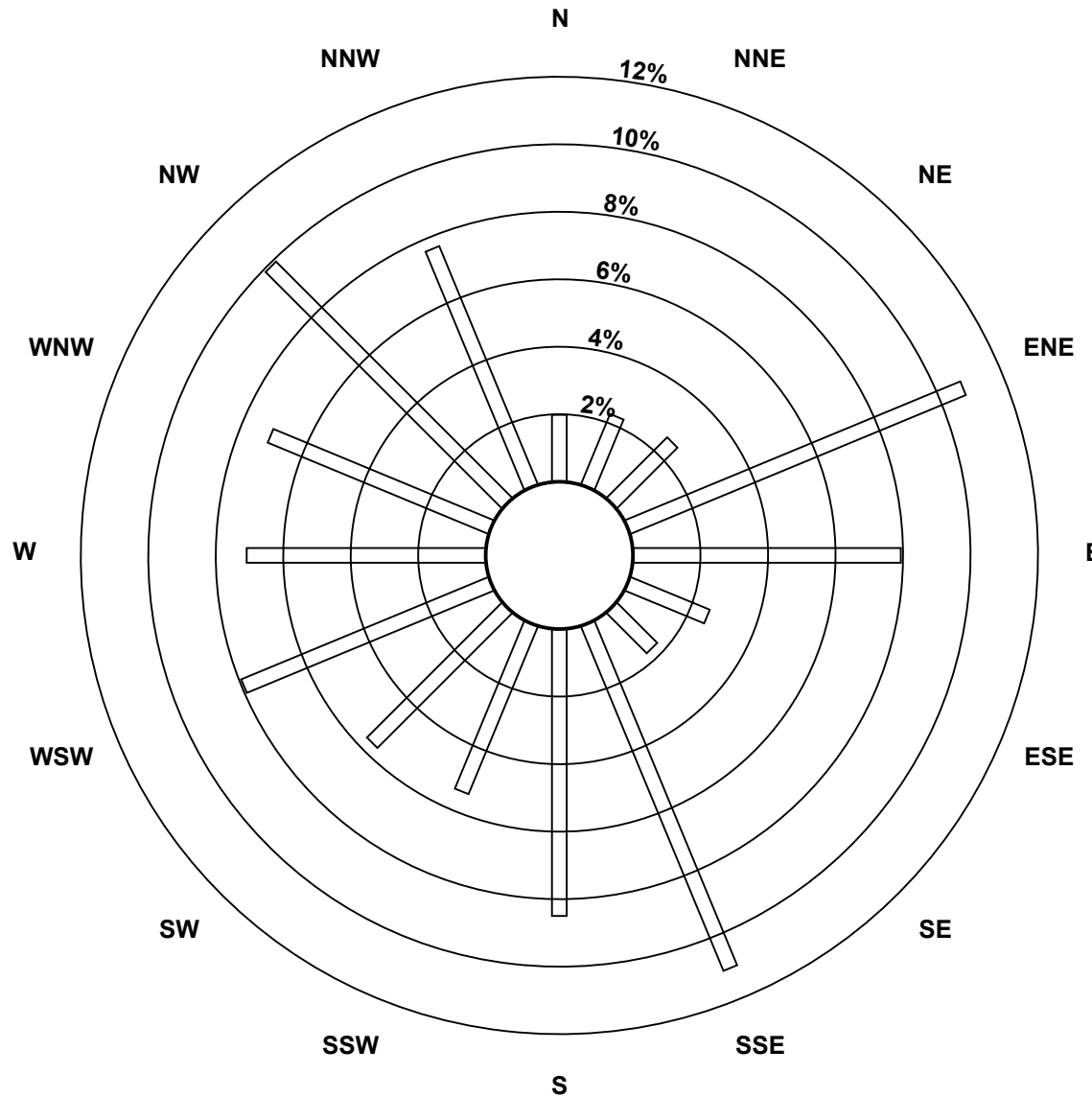
### Hourly Maximums

**Sulphur Dioxide (SO<sub>2</sub>) - ppb**  
**Donnelly - August 2016**

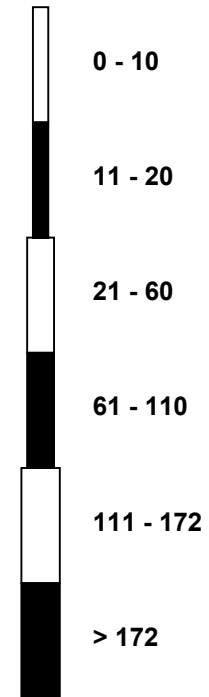


**Pollutant Rose**

**Sulphur Dioxide (SO<sub>2</sub>) - ppb**  
**Donnelly - August 2016**



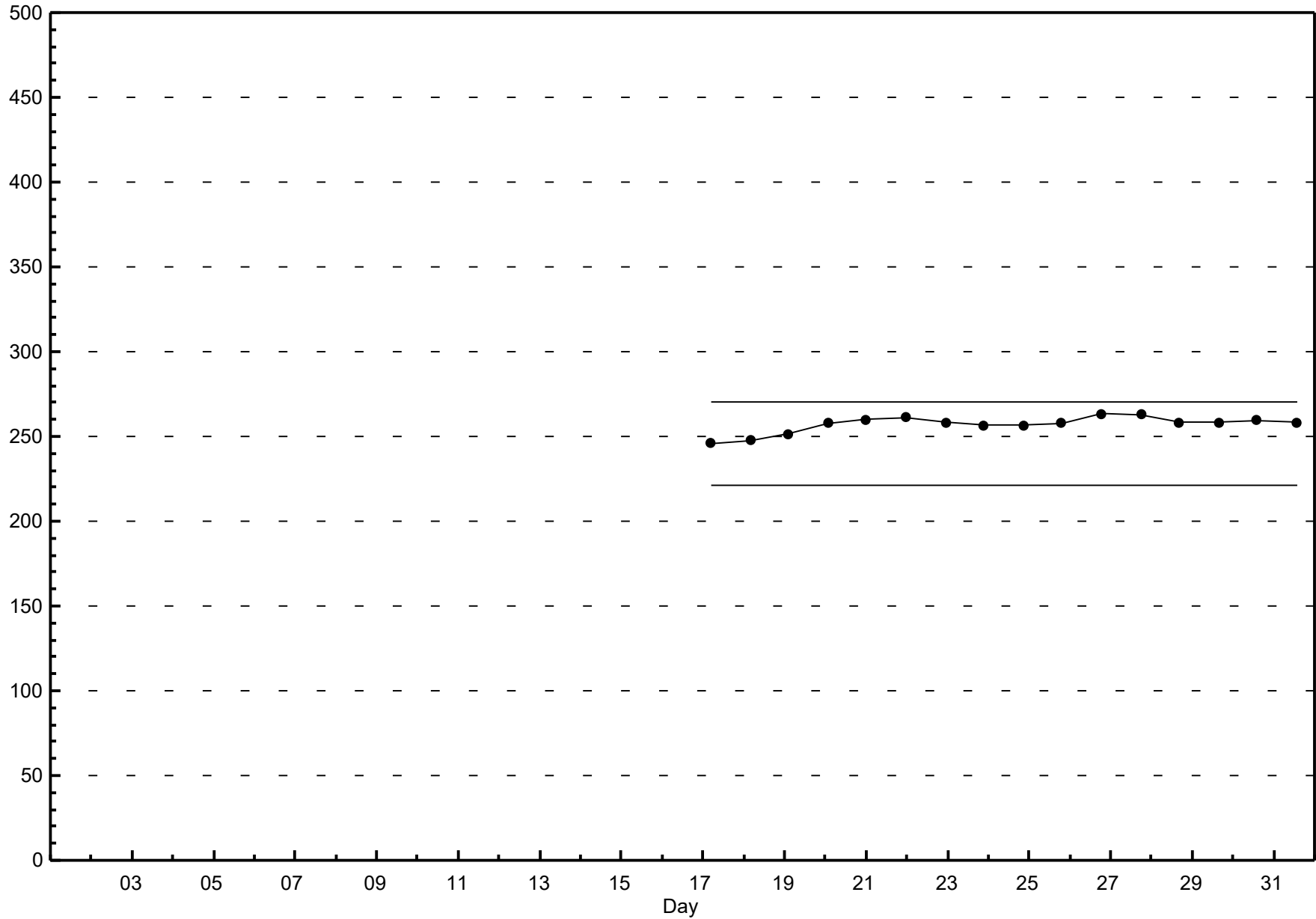
**Pollutant Classes (ppb)**





### Span Responses

**Sulphur Dioxide (SO<sub>2</sub>)**  
**Donnelly - August 2016**



## Hourly Averages

## Hydrogen Sulphide (H<sub>2</sub>S) - ppb

### Donnelly - August 2016

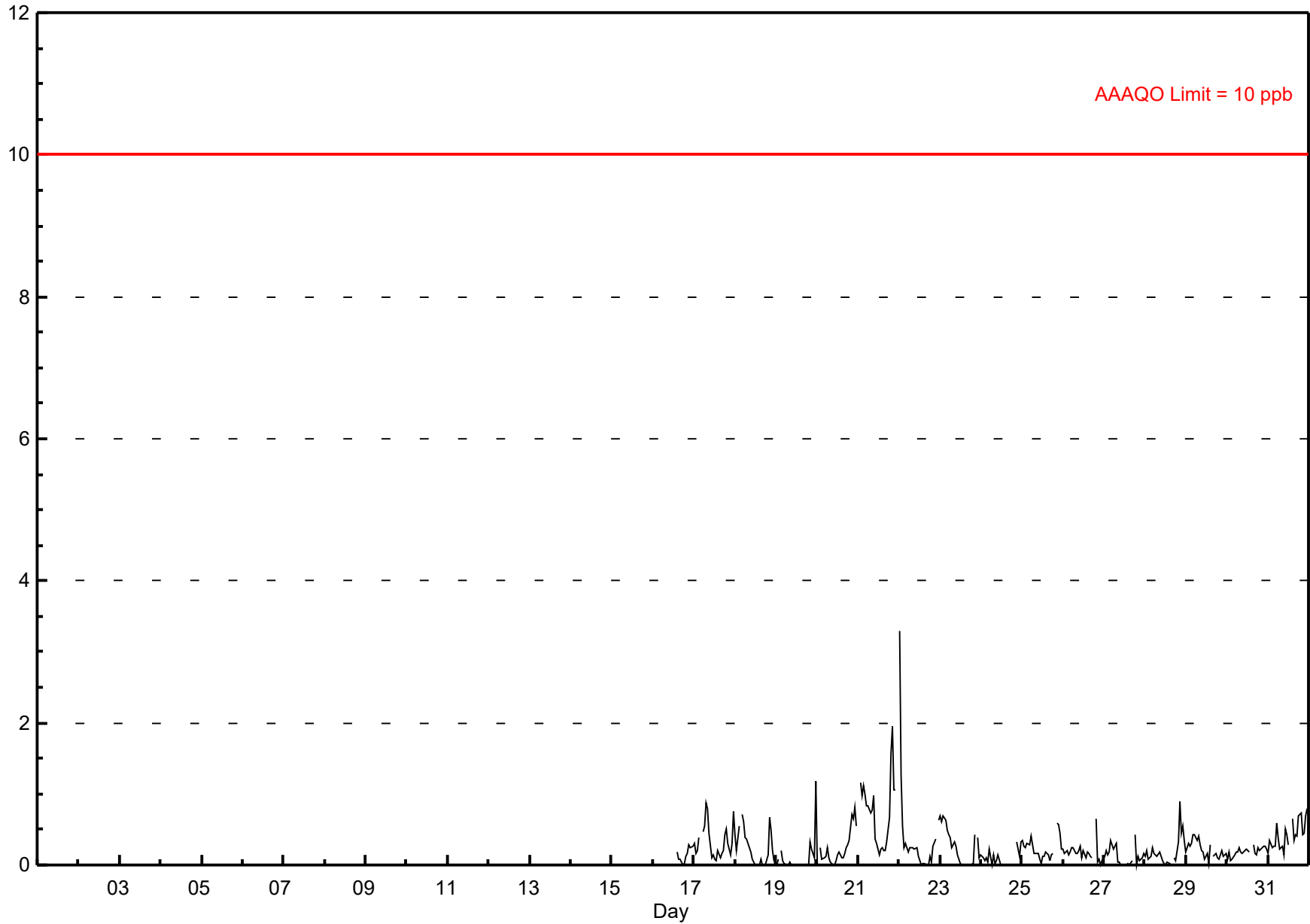
Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0	Hours in Service: 374
Maximum Value: 3.3 ppb on Aug 22 01:00	Maximum Daily Average: 0.8 ppb on Aug 24
Minimum Value: 0 ppb on Aug 18 13:00	Hours of Data: 354
Maximum Diurnal Average: 0.5 ppb at hour 21	Hours of Missing Data: 20
Monthly Average: 0.26 ppb	Hours of Calibration: 20
Minimum Daily Average: 0.1 ppb on Aug 24	Percent Operational Time: 100.0
Minimum Diurnal Average: 0.1 ppb at hour 14	
Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.0 Q <sub>1</sub> = 0.1 Median = 0.2 Q <sub>3</sub> = 0.3 P <sub>90</sub> = 0.6 P <sub>99</sub> = 1.3	

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																								
1-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--																						
2-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--																						
3-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--																						
4-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--																						
5-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--																						
6-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--																						
7-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--																						
8-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--																						
9-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--																						
10-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--																						
11-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--																						
12-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--																						
13-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--																						
14-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--																						
15-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--																						
16-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	C	C	C	C	0	0	0	0	0	0	0	0	0	0	--	0.3																						
17-Aug	0	0	0	0	A	0	1	1	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0.3	0.9																						
18-Aug	0	0	1	A	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0.2	0.7																						
19-Aug	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	1.2																						
20-Aug	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0.2	0.8																						
21-Aug	A	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	1	2	2	1	1	A	0.8	1.9																						
22-Aug	3	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	0.4	3.3																						
23-Aug	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.3	0.7																						
24-Aug	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																						
25-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	1	0	0	0.2	0.6																						
26-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	0	0	0	0	0.2	0.6																						
27-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0.1	0.4																						
28-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	1	0	0.2	0.9																						
29-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.2	0.4																						
30-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.2	0.3																						
31-Aug	0	0	0	0	0	1	0	0	0	0	1	0	0	A	1	0	0	0	1	1	0	0	1	1	0.4	0.8																						
																								0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.5	0.4	0.4	0.4	Diurnal Average
																								3.3	1.3	1.0	1.1	1.0	0.8	0.8	0.9	0.8	1.0	0.5	0.4	0.3	0.2	0.6	0.3	0.4	0.4	0.7	1.6	1.9	1.1	1.1	1.2	Diurnal Maximum

C - Calibration      NS - Not in service      A - Automated Daily Zero Span  
 Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb      24-hr 3 ppb

**Hourly Averages**

**Hydrogen Sulphide (H<sub>2</sub>S) - ppb**  
**Donnelly - August 2016**



# Hourly Maximums

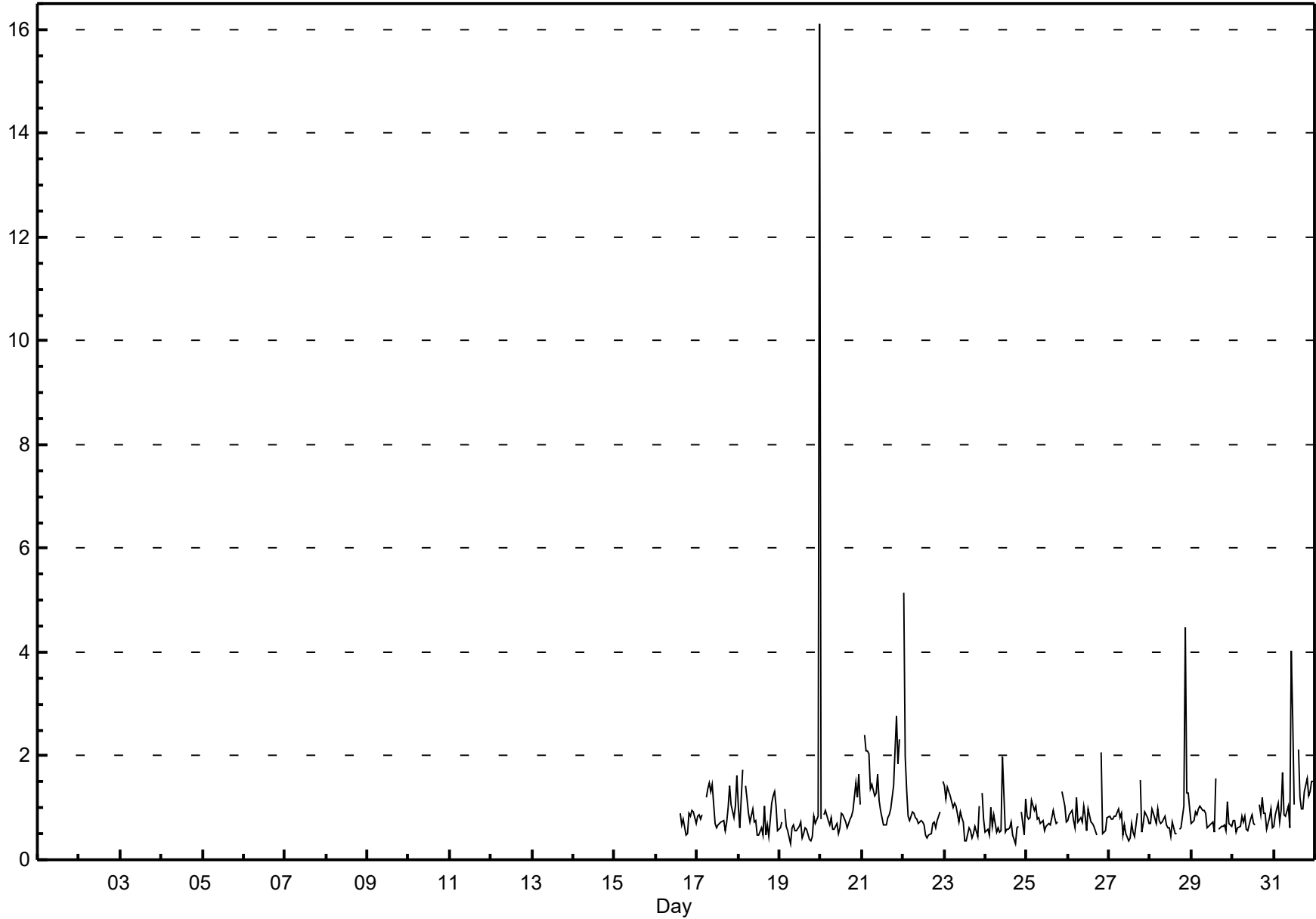
## Hydrogen Sulphide (H<sub>2</sub>S) - ppb

### Donnelly - August 2016

Maximum Value: 16.1 ppb on Aug 20 00:00		Maximum Daily Average: 1.5 ppb on Aug 21		Hours in Service: 374																							
Minimum Value: 0 ppb on Aug 19 07:00		Minimum Daily Average: 0.7 ppb on Aug 24		Hours of Data: 354																							
Maximum Diurnal Average: 2.0 ppb at hour 24		Minimum Diurnal Average: 0.6 ppb at hour 14		Hours of Missing Data: 20																							
Monthly Average: 0.94 ppb		Percentiles: P <sub>1</sub> = 0.4 P <sub>10</sub> = 0.5 Q <sub>1</sub> = 0.6 Median = 0.8 Q <sub>3</sub> = 1.0 P <sub>90</sub> = 1.4 P <sub>99</sub> = 4.0		Hours of Calibration: 20																							
				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-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	
2-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
3-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
4-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
5-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
6-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
7-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
8-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
9-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
10-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
11-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
12-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
13-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
14-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
15-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
16-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	C	C	C	C	1	1	1	0	1	1	1	1	1	1	--	0.9	
17-Aug	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.6	
18-Aug	1	1	2	A	1	1	1	1	1	1	1	0	0	1	0	1	0	1	0	1	1	1	1	1	0.9	1.7	
19-Aug	1	1	A	1	1	1	0	1	1	1	1	1	1	0	1	1	1	0	0	1	1	1	1	16	1.3	16.1	
20-Aug	1	A	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	2	1	0.8	1.6	
21-Aug	A	2	2	2	2	1	1	1	1	2	1	1	1	1	1	1	1	1	2	3	2	2	A	1.5	2.8		
22-Aug	5	2	1	1	1	1	1	1	1	1	1	1	0	0	0	1	1	1	1	1	1	A	2	1.0	5.1		
23-Aug	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	0	1	1	0	1	A	1	1	0.9	1.4		
24-Aug	1	1	0	1	1	1	1	1	1	1	2	1	1	1	1	1	0	0	1	1	A	1	0	0.7	2.0		
25-Aug	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	1.3		
26-Aug	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	A	2	1	1	1	1	0.8	2.1		
27-Aug	1	1	1	1	1	1	1	1	0	1	0	0	0	1	1	0	1	A	2	1	1	1	1	0.7	1.5		
28-Aug	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	A	1	1	4	1	1	1	0.9	4.5		
29-Aug	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	A	1	1	1	1	1	1	1	0.8	1.6		
30-Aug	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	0.8	1.2		
31-Aug	1	1	1	1	1	2	1	1	1	1	4	3	1	A	2	1	1	1	1	2	1	1	2	1.3	4.0		
		1.1	1.0	1.0	1.0	1.0	0.9	0.9	0.8	0.8	1.0	0.8	0.7	0.6	0.8	0.7	0.7	0.7	0.8	1.0	1.3	1.1	1.1	2.0	Diurnal Average		
		5.1	2.4	2.1	2.1	2.0	1.7	1.5	1.5	1.3	1.7	4.0	2.7	1.1	0.9	2.1	1.2	1.0	1.2	1.5	2.1	4.5	1.9	2.3	16.1	Diurnal Maximum	
C - Calibration		NS - Not in service										A - Automated Daily Zero Span															

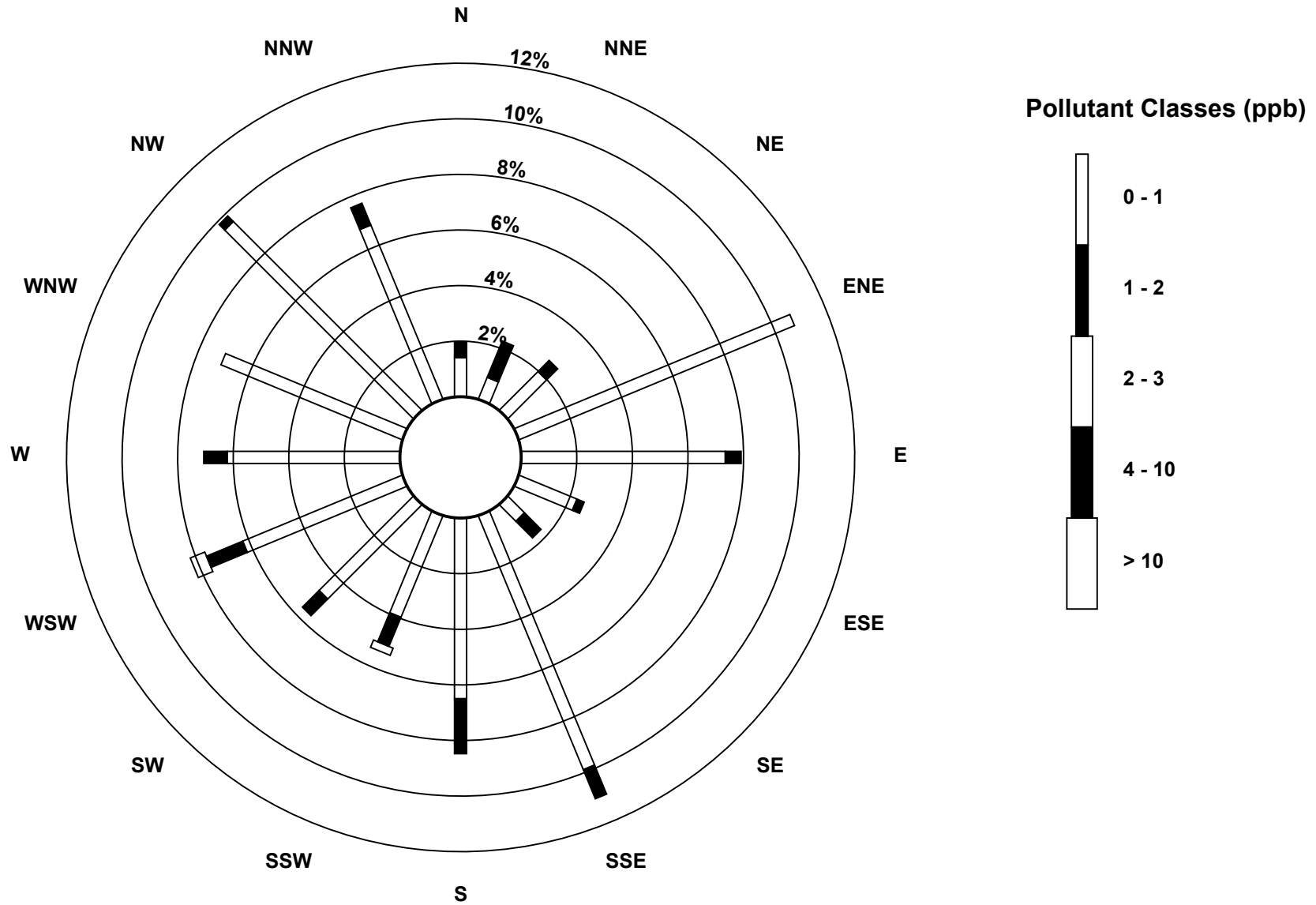
**Hourly Maximums**

**Hydrogen Sulphide (H<sub>2</sub>S) - ppb**  
**Donnelly - August 2016**



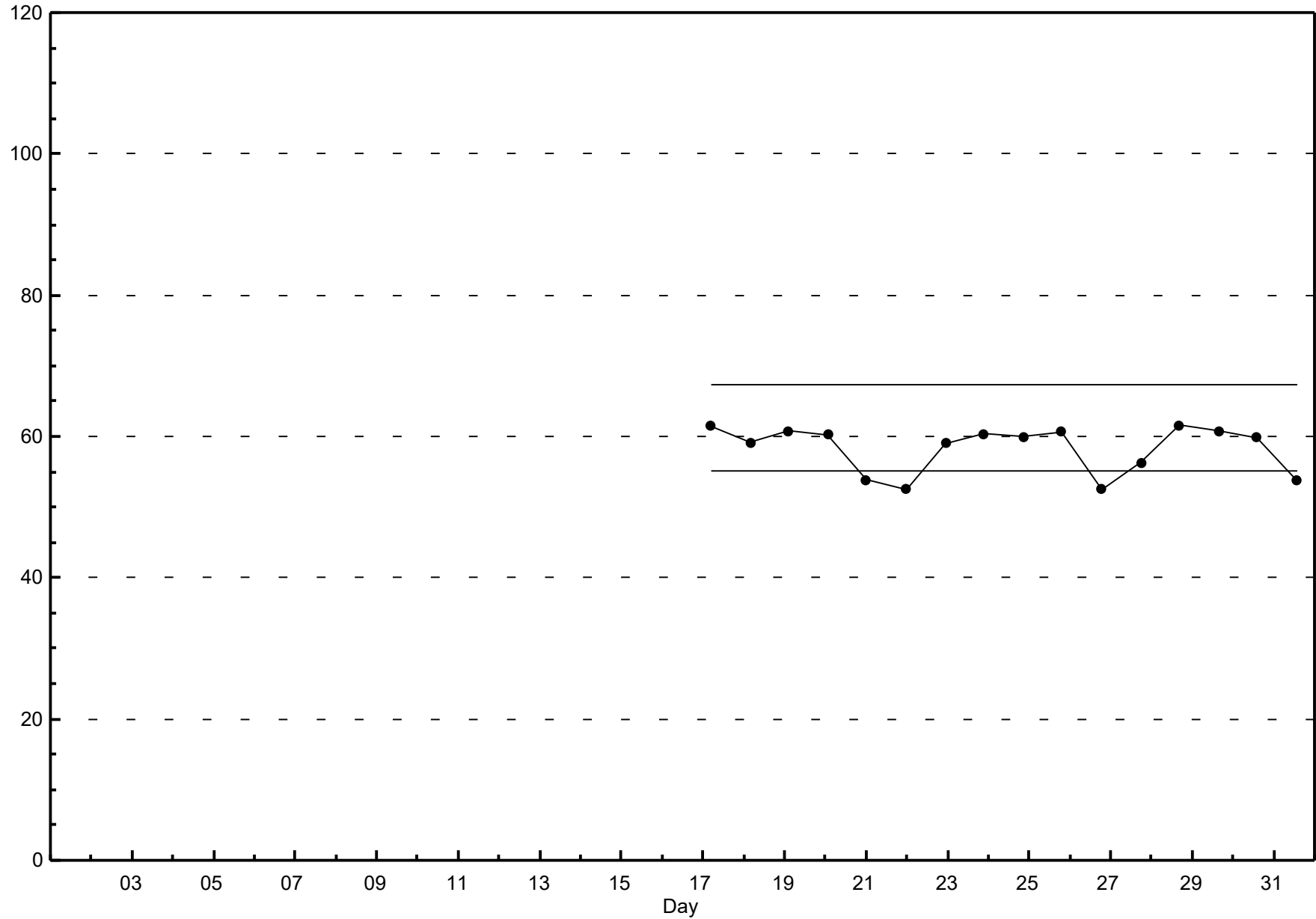
**Pollutant Rose**

**Hydrogen Sulphide (H<sub>2</sub>S) - ppb**  
**Donnelly - August 2016**



**Span Responses**

**Hydrogen Sulphide (H<sub>2</sub>S)**  
**Donnelly - August 2016**





Peace Airshed Zone Association

# Hourly Averages

External Temperature (ET) - °C

Donnelly - August 2016

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0	Hours in Service: 372
Maximum Value: 23.0 °C on Aug 19 17:00	Maximum Daily Average: 17.3 °C on Aug 20
Minimum Value: 6 °C on Aug 29 01:00	Hours of Data: 372
Minimum Daily Average: 8.6 °C on Aug 28	Hours of Missing Data: 0
Maximum Diurnal Average: 18.9 °C at hour 17	Hours of Calibration: 0
Monthly Average: 14.49 °C	Percent Operational Time: 100.0
Percentiles: P <sub>1</sub> = 6.0 P <sub>10</sub> = 8.6 Q <sub>1</sub> = 11.9 Median = 14.1 Q <sub>3</sub> = 17.1 P <sub>90</sub> = 20.8 P <sub>99</sub> = 22.8	

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-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--																						
2-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--																						
3-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--																						
4-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--																						
5-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--																						
6-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--																						
7-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--																						
8-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--																						
9-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--																						
10-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--																						
11-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--																						
12-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--																						
13-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--																						
14-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--																						
15-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--																						
16-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	21	22	22	23	22	23	22	20	17	14	13	13	--	22.7																						
17-Aug	12	11	10	9	9	8	9	10	12	16	17	19	20	21	15	17	18	15	16	16	14	13	12	10	13.7	20.8																						
18-Aug	8	9	8	8	8	7	8	10	12	15	17	18	19	20	21	22	22	22	21	20	15	13	14	15	14.8	22.2																						
19-Aug	15	15	14	13	13	13	13	13	13	14	17	20	22	21	23	23	23	23	22	19	15	14	14	14	16.9	23.0																						
20-Aug	15	14	15	14	14	13	13	15	17	19	20	20	21	21	22	22	22	22	20	17	15	15	15	14	17.3	22.1																						
21-Aug	14	13	13	13	13	12	13	13	14	14	15	16	17	18	17	17	17	16	15	14	14	14	13	13	14.5	17.8																						
22-Aug	13	13	13	12	12	12	11	12	12	12	12	13	14	16	17	17	18	18	17	16	14	13	12	11	13.7	17.9																						
23-Aug	11	11	11	10	9	8	8	10	12	15	18	19	20	21	21	22	22	22	22	20	15	13	14	14	15.2	22.2																						
24-Aug	13	12	12	12	12	11	12	13	14	16	16	18	21	22	21	20	20	20	20	18	16	14	13	13	15.8	21.8																						
25-Aug	12	11	10	9	9	8	8	10	13	16	18	19	19	20	21	21	21	21	20	17	15	12	12	14	14.9	21.5																						
26-Aug	14	14	13	13	12	12	11	13	14	16	17	18	19	19	18	17	17	16	16	15	15	15	15	15	15.1	19.0																						
27-Aug	14	14	15	14	14	14	14	14	14	14	15	16	16	14	14	13	12	11	10	9	9	9	8	8	12.7	16.1																						
28-Aug	8	8	8	8	7	7	7	7	7	8	8	9	10	12	11	12	11	12	10	8	7	6	6	6	8.6	11.9																						
29-Aug	6	6	6	7	7	7	7	8	9	9	11	12	13	14	15	15	17	16	15	14	13	12	12	12	11.0	16.9																						
30-Aug	12	11	12	12	11	11	11	12	14	15	17	18	20	21	22	23	22	21	20	18	16	16	15	15	16.1	22.7																						
31-Aug	14	13	13	14	13	13	12	13	13	14	15	16	16	17	17	18	17	16	16	16	15	15	14	14	14.7	17.9																						
																								12.0	11.7	11.4	11.1	10.7	10.4	10.5	11.5	12.8	14.2	15.6	16.8	17.9	18.6	18.6	18.8	18.9	18.3	17.7	16.2	14.1	13.0	12.7	12.6	Diurnal Average
																								15.0	14.5	14.6	14.3	14.1	13.8	13.7	15.1	17.0	19.0	19.7	20.3	21.7	22.0	22.8	23.0	23.0	22.8	22.0	20.2	16.7	15.8	15.5	15.4	Diurnal Maximum

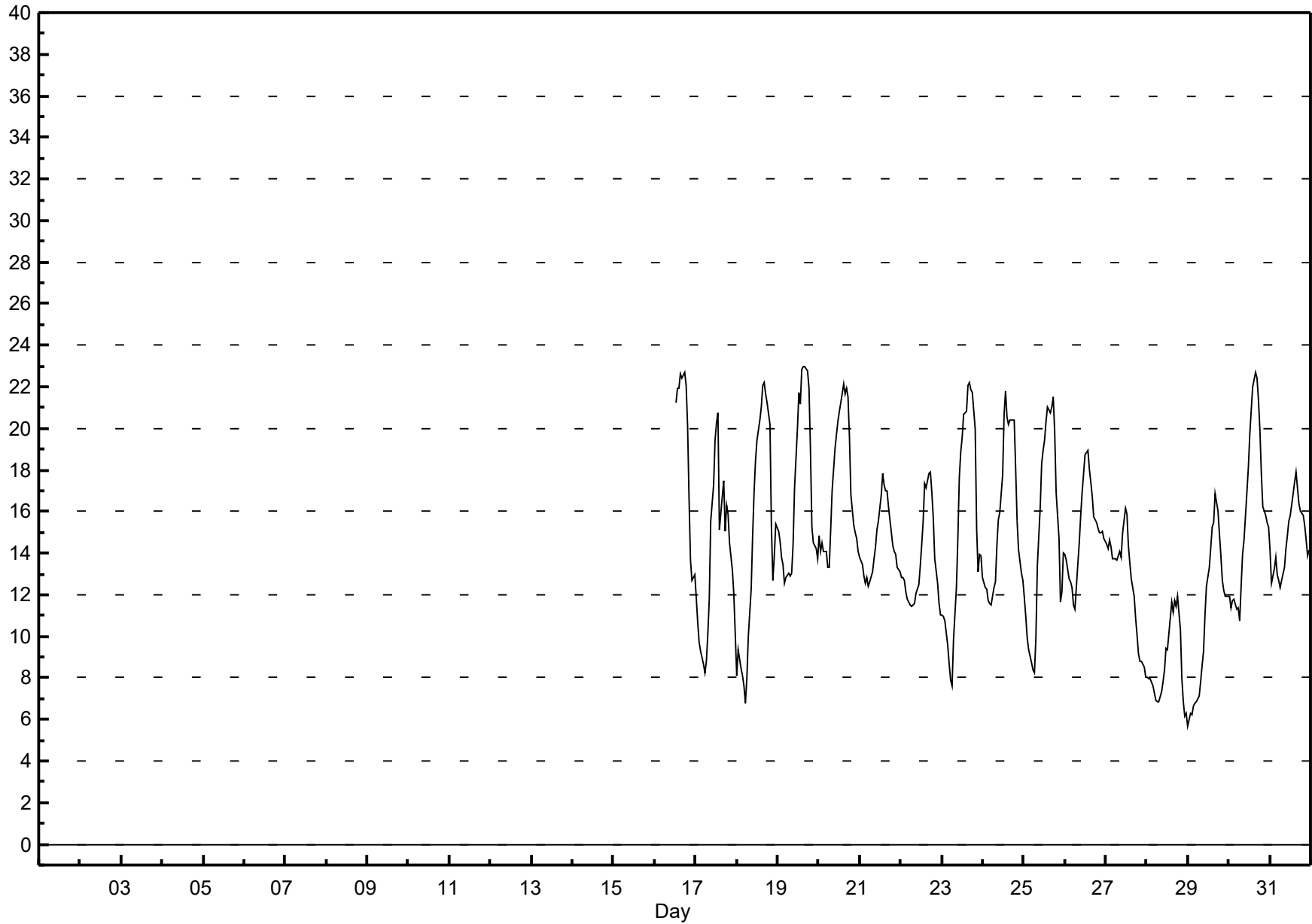
NS - Not in service



**Hourly Averages**

**External Temperature (ET) - °C**

**Donnelly - August 2016**





Peace Airshed Zone Association

# Hourly Averages

Wind Speed (km/h)  
Wind Direction (deg)  
Donnelly - August 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	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	
Dir	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
2 Spd	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	
Dir	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
3 Spd	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	
Dir	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
4 Spd	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	
Dir	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
5 Spd	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	
Dir	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
6 Spd	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	
Dir	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
7 Spd	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	
Dir	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
8 Spd	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	
Dir	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
9 Spd	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	
Dir	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
10 Spd	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	
Dir	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
11 Spd	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	
Dir	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
12 Spd	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	
Dir	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
13 Spd	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	
Dir	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
14 Spd	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	
Dir	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
15 Spd	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	
Dir	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
16 Spd	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	19	20	22	20	18	21	14	8	6	4	11	9	--	21.6	
Dir	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	248	258	254	259	249	254	260	266	237	171	173	175	--	254	
17 Spd	8	7	6	5	5	5	4	5	9	13	15	20	22	19	13	13	8	7	8	8	4	3	5	2	7.0	21.5	
Dir	192	207	198	193	192	203	200	234	243	260	260	264	278	276	257	224	274	207	190	191	346	356	179	125	242	278	
18 Spd	5	6	3	1	3	4	3	4	4	5	7	9	11	12	12	13	13	11	10	4	4	5	8	10	3.6	13.2	
Dir	193	184	189	236	196	213	198	246	290	310	312	320	322	328	332	296	287	272	252	240	156	151	158	156	271	296	
19 Spd	10	12	14	15	14	16	18	22	22	20	14	13	13	10	11	12	9	9	6	4	2	2	2	4	6.3	21.9	
Dir	157	158	160	160	159	156	158	162	167	170	184	214	262	294	283	294	315	319	345	44	93	100	93	168	182	167	
20 Spd	5	5	4	5	3	3	4	5	9	13	12	12	10	15	15	14	9	9	4	3	3	4	7	11	4.1	15.3	
Dir	147	146	112	91	99	109	111	155	190	221	252	275	272	259	264	279	285	275	322	33	166	184	214	180	236	259	
21 Spd	7	3	5	4	4	5	4	3	2	7	4	7	8	4	5	9	9	5	3	1	2	3	3	1	1.6	9.1	
Dir	211	228	272	255	192	172	181	2	35	29	47	41	52	85	64	45	42	26	344	206	239	18	32	287	41	45	
22 Spd	2	4	8	6	8	10	10	11	8	11	12	11	14	16	16	15	17	18	15	8	6	5	4	4	9.4	18.0	
Dir	248	343	7	360	345	352	338	343	336	336	334	325	328	330	330	341	338	336	339	323	295	278	271	272	333	336	

# Hourly Averages

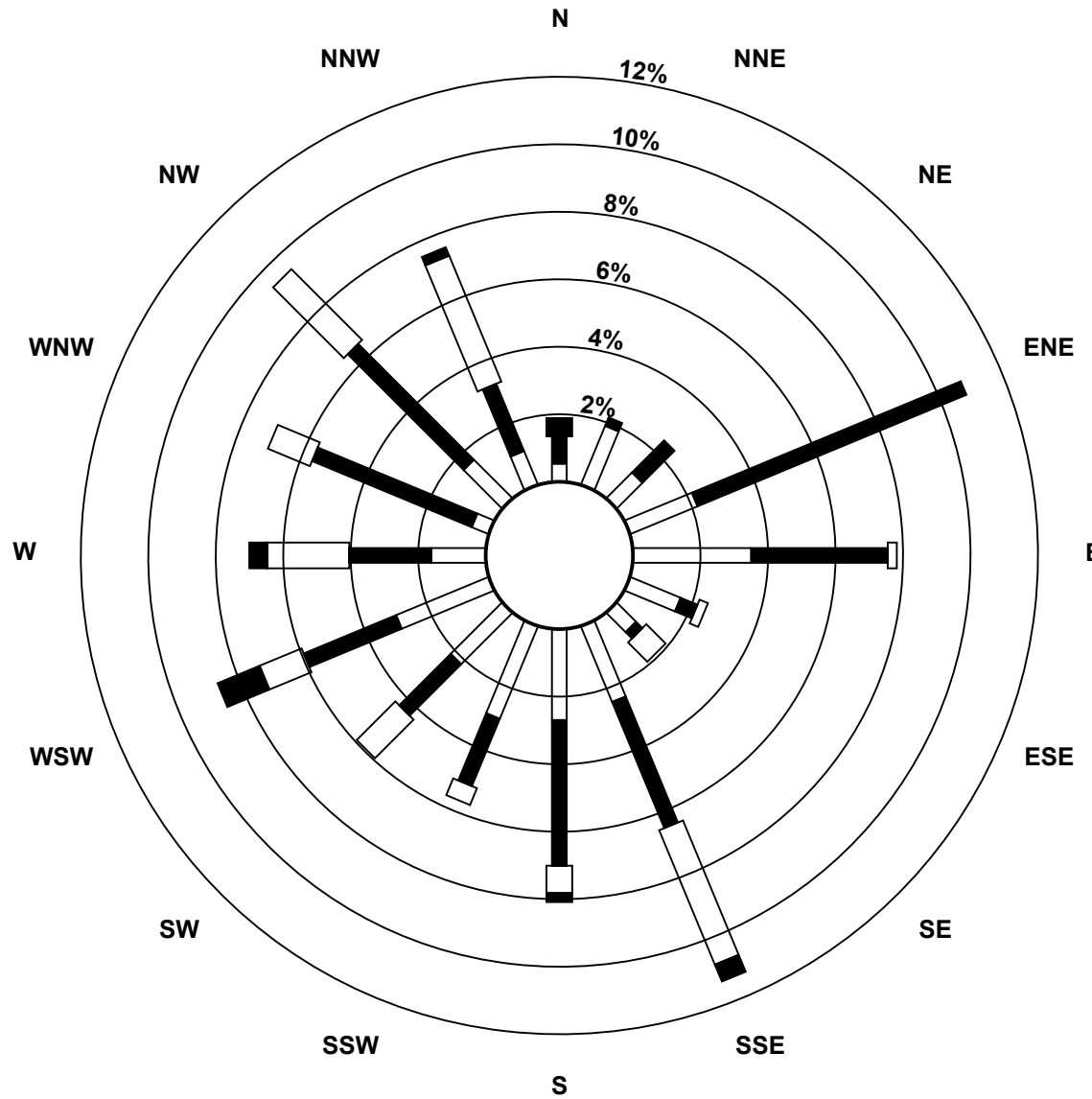
**Wind Speed (km/h)**  
**Wind Direction (deg)**  
**Donnelly - August 2016**

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	3	6	6	4	5	5	5	5	5	8	8	9	9	10	10	10	8	7	6	3	4	7	10	4.2	10.3
Dir	261	258	258	253	234	227	224	245	301	314	305	313	303	293	303	311	305	334	319	264	149	150	157	167	280	311
24 Spd	10	10	10	8	7	4	7	7	11	14	10	9	8	10	12	10	13	5	10	8	7	7	3	3	5.9	14.0
Dir	169	175	174	187	173	185	180	204	198	207	220	230	234	239	267	304	340	314	254	221	218	250	275	245	222	207
25 Spd	5	6	6	5	6	4	5	5	9	12	14	14	12	11	12	14	12	11	9	9	3	2	6	8	5.8	14.0
Dir	241	242	230	227	234	237	208	253	287	302	304	320	324	329	323	306	303	288	269	258	170	142	168	167	282	306
26 Spd	8	8	12	12	11	8	4	7	11	12	14	15	15	13	15	12	12	14	14	15	14	13	13	9	11.4	15.5
Dir	158	153	161	158	156	156	122	151	159	149	166	161	164	153	164	194	176	170	151	142	144	140	152	151	157	161
27 Spd	3	6	7	4	5	6	7	9	11	12	15	17	21	8	23	24	21	16	16	19	18	18	16	13	6.0	24.3
Dir	111	131	153	170	169	169	183	188	210	224	214	222	238	258	350	351	345	329	321	327	330	321	332	318	297	351
28 Spd	14	11	13	13	11	8	9	9	10	11	10	9	10	9	10	10	9	6	5	2	2	2	2	2	7.3	13.6
Dir	304	300	304	309	320	310	294	294	286	297	295	291	306	279	260	317	290	292	312	32	80	103	90	93	300	304
29 Spd	2	2	3	4	6	6	6	8	8	9	9	10	9	9	10	11	10	10	8	6	5	6	6	6	6.9	10.6
Dir	83	83	65	71	64	70	67	69	72	66	67	78	82	77	73	66	69	73	78	70	72	66	69	71	71	66
30 Spd	7	7	8	8	8	10	8	9	12	11	11	14	11	8	9	10	9	9	8	7	8	10	10	8	9.0	14.1
Dir	76	74	91	79	76	75	77	75	91	91	97	117	107	94	76	75	87	74	72	82	86	93	91	89	87	117
31 Spd	6	7	6	10	8	5	5	7	8	4	6	5	7	5	4	5	8	8	4	5	3	3	3	2	3.3	10.0
Dir	65	56	75	93	83	36	68	67	60	71	114	90	92	95	165	236	287	306	323	21	64	65	23	347	64	93
Spd	2.9	2.5	2.5	2.3	2.4	2.1	2.4	2.0	2.8	2.7	3.5	3.8	5.5	5.4	5.9	6.9	6.6	5.2	3.7	1.4	0.6	1.0	2.1	3.1	Diurnal Average	
Dir	179	173	170	161	154	154	160	175	197	234	248	260	275	284	295	306	312	301	297	285	146	111	150	161	Diurnal Maximum	
Spd	13.6	11.6	13.8	15.4	14.3	16.2	18.3	21.9	21.9	20.2	15.2	20.2	21.5	19.6	23.1	24.3	21.0	20.9	16.4	19.3	18.0	18.0	16.2	13.3	Diurnal Maximum	
Dir	304	158	160	160	159	156	158	162	167	170	214	264	278	258	350	351	345	254	321	327	330	321	332	318	Diurnal Maximum	
Maximum Speed Value: 24 km/h on Aug 27 16:00		Minimum Speed Value: 1 km/h on Aug 22 00:00																Hours in Service: 372								
Maximum Daily Speed Average: 11.4 km/h on Aug 27		Minimum Daily Speed Average: 1.6 km/h on Aug 21																Hours of Data: 372								
Maximum Diurnal Speed Average: 6.9 km/h at hour 16		Minimum Diurnal Speed Average: 0.6 km/h at hour 21																Hours of Missing Data: 0								
Monthly Average Velocity: 1.68 km/h 253.6 deg		Speed Percentiles: P <sub>1</sub> = 1.7 P <sub>10</sub> = 3.3 Q <sub>1</sub> = 5.0 Median = 8.2 Q <sub>3</sub> = 11.4 P <sub>90</sub> = 14.7 P <sub>99</sub> = 21.9																Percent Operational Time: 100.0								
All monthly, daily, and diurnal averages have been calculated using vector methods																										
NS - Not in service																										
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	7	7	5	3	0	0	22																			
NorthEast	13	15	0	0	0	0	28																			
East	19	41	2	0	0	0	62																			
SouthEast	8	13	9	0	0	0	30																			
South	18	26	16	3	0	0	63																			
SouthWest	16	19	8	1	0	0	44																			
West	11	24	16	7	0	0	58																			
NorthWest	4	30	30	1	0	0	65																			
Total	96	175	86	15	0	0	372																			

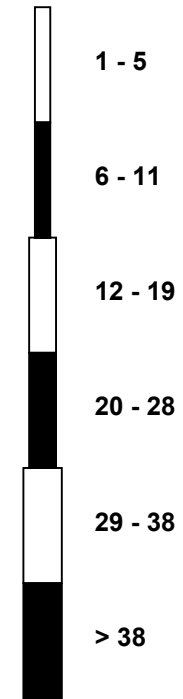
**Wind Rose**

**Wind Speed (WS) (km/h)**

**Donnelly - August 2016**



**Wind Speed Classes (km/h)**



# Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Donnelly - August 2016

Maximum Speed: 24 km/h on Aug 27 16:00	Maximum Daily Speed Average: 13.8 km/h on Aug 27	Hours in Service: 372
Minimum Speed: 2 km/h on Aug 21 20:00	Minimum Daily Speed Average: 4.9 km/h on Aug 21	Hours of Data: 372
Maximum Diurnal Speed Average: 13.1 km/h at hour 16	Minimum Diurnal Speed Average: 6.1 km/h at hour 22	Hours of Missing Data: 0
Monthly Average Speed: 9.06 km/h	Percentiles: P <sub>1</sub> = 2.0 P <sub>10</sub> = 3.8 Q <sub>1</sub> = 5.5 Median = 8.5 Q <sub>3</sub> = 11.8 P <sub>90</sub> = 14.9 P <sub>99</sub> = 22.0	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-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--																						
2-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--																						
3-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--																						
4-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--																						
5-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--																						
6-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--																						
7-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--																						
8-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--																						
9-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--																						
10-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--																						
11-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--																						
12-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--																						
13-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--																						
14-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--																						
15-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--																						
16-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	20	20	22	21	19	21	14	9	6	4	11	10	--	22.2																						
17-Aug	9	7	6	5	5	5	5	5	9	13	15	21	22	19	15	13	11	8	8	8	8	6	5	2	9.6	22.1																						
18-Aug	6	6	3	2	3	5	3	4	5	5	8	9	12	13	13	14	14	12	10	5	4	5	8	10	7.4	14.0																						
19-Aug	10	12	14	15	14	16	18	22	22	20	14	13	14	10	12	13	10	9	7	4	2	2	2	6	11.8	21.9																						
20-Aug	5	5	6	7	3	4	5	6	9	13	12	12	11	16	16	14	10	9	7	5	5	4	7	11	8.4	15.7																						
21-Aug	7	4	5	4	4	5	4	5	2	7	4	7	8	5	5	9	9	5	3	2	3	4	3	2	4.9	9.2																						
22-Aug	2	4	8	7	8	10	10	11	8	11	12	11	14	16	17	15	18	18	15	8	6	5	4	4	10.1	18.3																						
23-Aug	4	3	6	6	4	5	5	5	6	6	9	9	10	9	10	11	10	8	8	6	3	4	7	10	6.8	11.0																						
24-Aug	10	10	10	8	7	4	7	7	11	15	11	10	9	11	12	11	13	6	10	8	7	7	3	3	8.7	14.7																						
25-Aug	6	6	6	5	6	4	5	6	10	13	14	14	12	13	13	15	12	12	9	9	5	4	6	8	8.8	14.6																						
26-Aug	8	8	12	12	11	8	5	8	11	12	14	16	15	13	15	12	13	14	14	15	14	13	13	9	11.8	15.7																						
27-Aug	4	6	7	5	5	6	7	9	11	13	15	18	21	17	23	24	21	16	17	19	18	18	16	14	13.8	24.5																						
28-Aug	14	12	13	13	11	8	10	9	10	12	10	10	11	10	11	11	10	7	6	2	2	2	2	2	8.5	13.6																						
29-Aug	2	2	3	4	6	6	6	8	8	9	9	10	9	9	10	11	10	10	8	6	5	6	6	7	7.1	10.8																						
30-Aug	7	7	8	8	8	10	8	9	12	12	11	14	11	9	9	10	9	9	8	7	8	10	10	9	9.4	14.2																						
31-Aug	6	7	7	10	8	5	5	8	8	5	7	5	7	6	5	6	9	8	4	5	3	3	3	2	5.9	10.1																						
																								6.6	6.6	7.6	7.3	6.9	6.8	6.8	8.2	9.5	11.0	11.1	11.9	12.9	12.2	13.0	13.1	12.3	10.9	9.3	7.5	6.3	6.1	6.7	6.7	Diurnal Average
																								13.6	11.7	13.9	15.4	14.3	16.3	18.4	21.9	21.9	20.3	15.5	20.5	22.1	20.3	23.2	24.5	21.1	21.1	16.5	19.5	18.1	18.2	16.4	13.5	Diurnal Maximum

NS - Not in service  
 All monthly, daily, and diurnal averages have been calculated using scalar methods

# Hourly Standard Deviations

Wind Direction (WD) - deg

Donnelly - August 2016

Maximum Value: 75.7 deg on Aug 17 21:00																								Hours in Service:	372	
Minimum Value: 3.2 deg on Aug 19 03:00																								Hours of Data:	372	
Percentiles: P <sub>1</sub> = 3.9 P <sub>10</sub> = 6.8 Q <sub>1</sub> = 9.8 Median = 14.2 Q <sub>3</sub> = 21.4 P <sub>90</sub> = 32.7 P <sub>99</sub> = 68.5																								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-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	
2-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	
3-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	
4-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	
5-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	
6-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	
7-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	
8-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	
9-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	
10-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	
11-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	
12-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	
13-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	
14-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	
15-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	
16-Aug	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	15	15	13	14	11	9	11	12	19	10	3	17	18.6	
17-Aug	6	16	29	19	9	14	19	25	10	17	13	11	13	15	24	10	47	39	19	4	76	71	27	16	75.7	
18-Aug	20	7	23	56	16	15	19	13	30	32	22	21	23	17	21	20	24	19	9	30	11	5	10	5	56.3	
19-Aug	4	4	3	4	5	5	4	4	4	7	9	19	24	19	21	18	16	16	15	33	18	12	15	50	49.7	
20-Aug	10	24	46	36	21	16	25	28	15	13	16	21	19	13	13	11	21	13	69	70	56	32	15	7	70.3	
21-Aug	22	45	13	16	23	10	17	66	32	12	15	11	21	22	21	12	8	22	24	52	44	35	25	59	66.4	
22-Aug	40	22	11	15	8	7	7	6	11	6	6	10	9	9	11	12	11	9	8	10	11	27	9	17	40.2	
23-Aug	19	16	10	7	11	10	9	34	23	27	18	23	23	26	23	21	19	21	35	13	33	8	5	9	35.0	
24-Aug	4	6	4	9	33	33	11	33	8	21	26	20	26	23	15	27	10	42	12	17	14	14	23	36	41.9	
25-Aug	18	13	10	11	10	18	14	20	15	12	17	15	21	24	25	17	14	27	8	10	45	49	20	9	48.6	
26-Aug	9	7	5	4	6	11	19	23	12	12	20	9	12	8	8	14	8	5	10	7	6	5	7	10	22.5	
27-Aug	33	18	23	56	21	10	7	10	6	22	7	10	8	66	6	7	6	11	8	8	8	8	7	12	65.8	
28-Aug	4	14	7	9	7	15	7	11	12	9	14	18	22	21	21	19	26	30	22	35	17	21	17	22	35.4	
29-Aug	34	37	19	30	13	12	11	9	10	11	12	12	19	13	14	12	15	11	12	12	13	10	9	11	37.1	
30-Aug	15	14	9	12	12	10	10	12	9	11	11	10	14	21	16	14	14	13	12	12	13	8	11	11	20.7	
31-Aug	16	13	12	7	18	30	20	19	14	25	15	24	15	23	38	30	19	14	17	8	25	21	48	47	47.9	
	40.2	45.2	46.2	56.3	32.9	32.6	25.2	66.4	31.9	32.4	25.8	24.4	25.9	65.8	38.3	29.7	47.1	41.9	68.8	70.3	75.7	71.2	47.9	58.6		
NS - Not in service																										

PAZA

Portable – Rycroft Station

Monthly Summary Tables, Graphs and  
Roses



Peace Airshed Zone Association

# Hourly Averages

## Sulphur Dioxide (SO<sub>2</sub>) - ppb Portable Rycroft - August 2016

Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 6.8 ppb on Aug 19 10:00	Maximum Daily Average: 0.4 ppb on Aug 16		Hours of Data:	709
Minimum Value: 0 ppb on Aug 2 11:00	Minimum Daily Average: 0.0 ppb on Aug 31		Hours of Missing Data:	35
Maximum Diurnal Average: 0.4 ppb at hour 10	Minimum Diurnal Average: 0.0 ppb at hour 20		Hours of Calibration:	35
Monthly Average: 0.11 ppb	Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.0 Q <sub>1</sub> = 0.0 Median = 0.0 Q <sub>3</sub> = 0.1 P <sub>90</sub> = 0.3 P <sub>99</sub> = 0.5		Percent Operational Time:	100.0

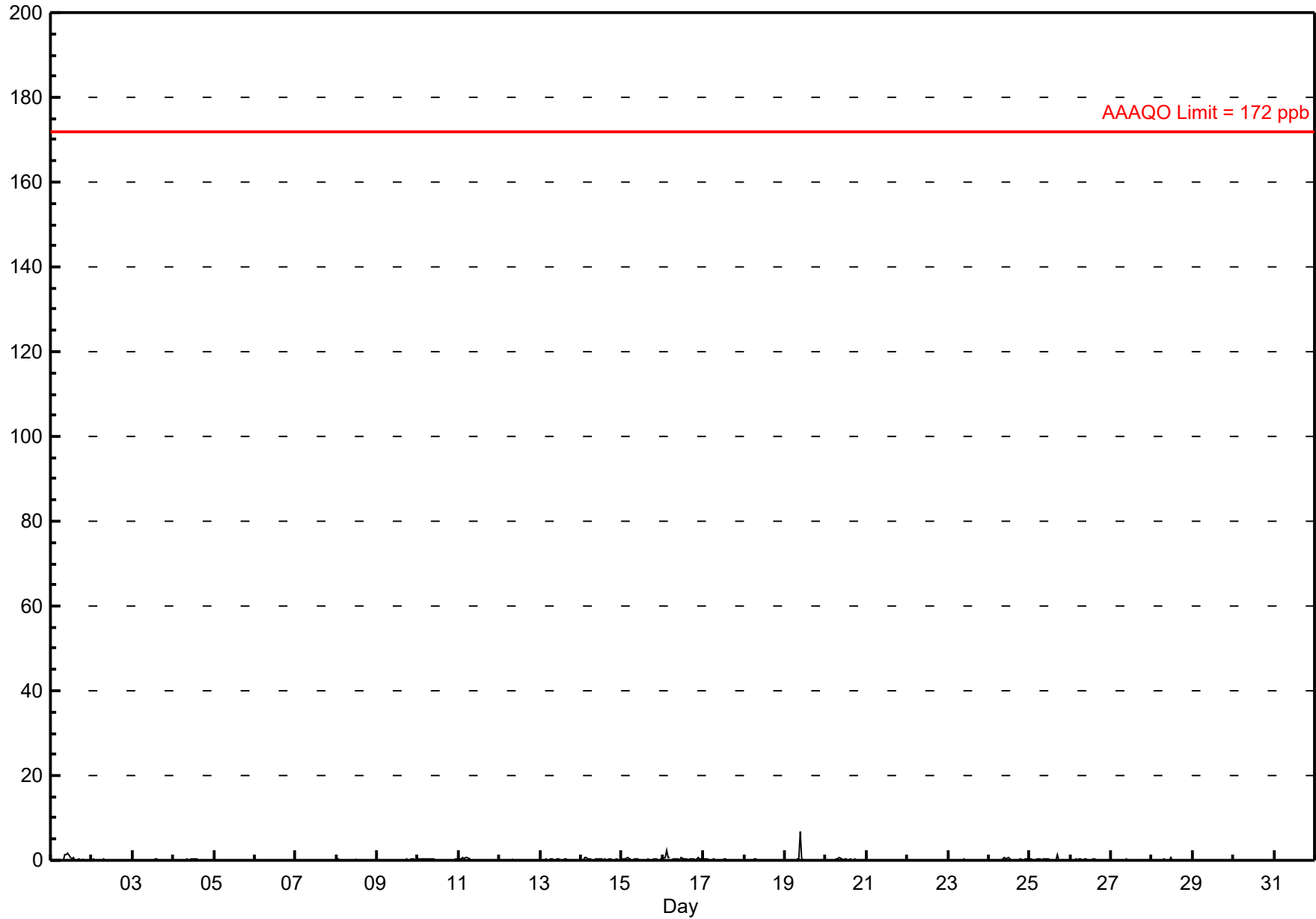
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Aug	0	0	0	0	0	0	0	0	1	1	2	1	0	1	0	0	0	0	0	0	A	0	0	0	0.3	1.6
2-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.1	0.4
3-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.0	0.3	
4-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0.1	0.4	
5-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0.0	0.1	
6-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0.0	0.1	
7-Aug	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	
8-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.0	0.3	
9-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.1	0.2	
10-Aug	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4	
11-Aug	0	0	1	0	1	1	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.6	
12-Aug	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.2	
13-Aug	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3	
14-Aug	0	0	1	1	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.6	
15-Aug	0	0	0	1	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.7	
16-Aug	0	1	2	1	1	A	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0.4	2.3	
17-Aug	0	0	0	0	A	0	0	0	C	C	C	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4	
18-Aug	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2	
19-Aug	0	0	A	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	6.8	
20-Aug	0	A	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.7	
21-Aug	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	
22-Aug	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	
23-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.0	0.2	
24-Aug	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	A	0	0	0.2	0.6	
25-Aug	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	A	0	0	0	0.2	1.3	
26-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.1	0.4	
27-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0.0	0.2	
28-Aug	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	A	0	0	0	0	0	0.1	0.5	
29-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0.0	0.1	
30-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.0	0.2	
31-Aug	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	
	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.4	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.1	Diurnal Average	
	0.4	0.7	2.3	0.7	0.6	0.5	0.5	0.5	1.3	6.8	1.6	0.8	0.5	0.7	0.4	0.2	1.3	0.3	0.4	0.2	0.4	0.5	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 (SO<sub>2</sub>) - ppb  
Portable Rycroft - August 2016



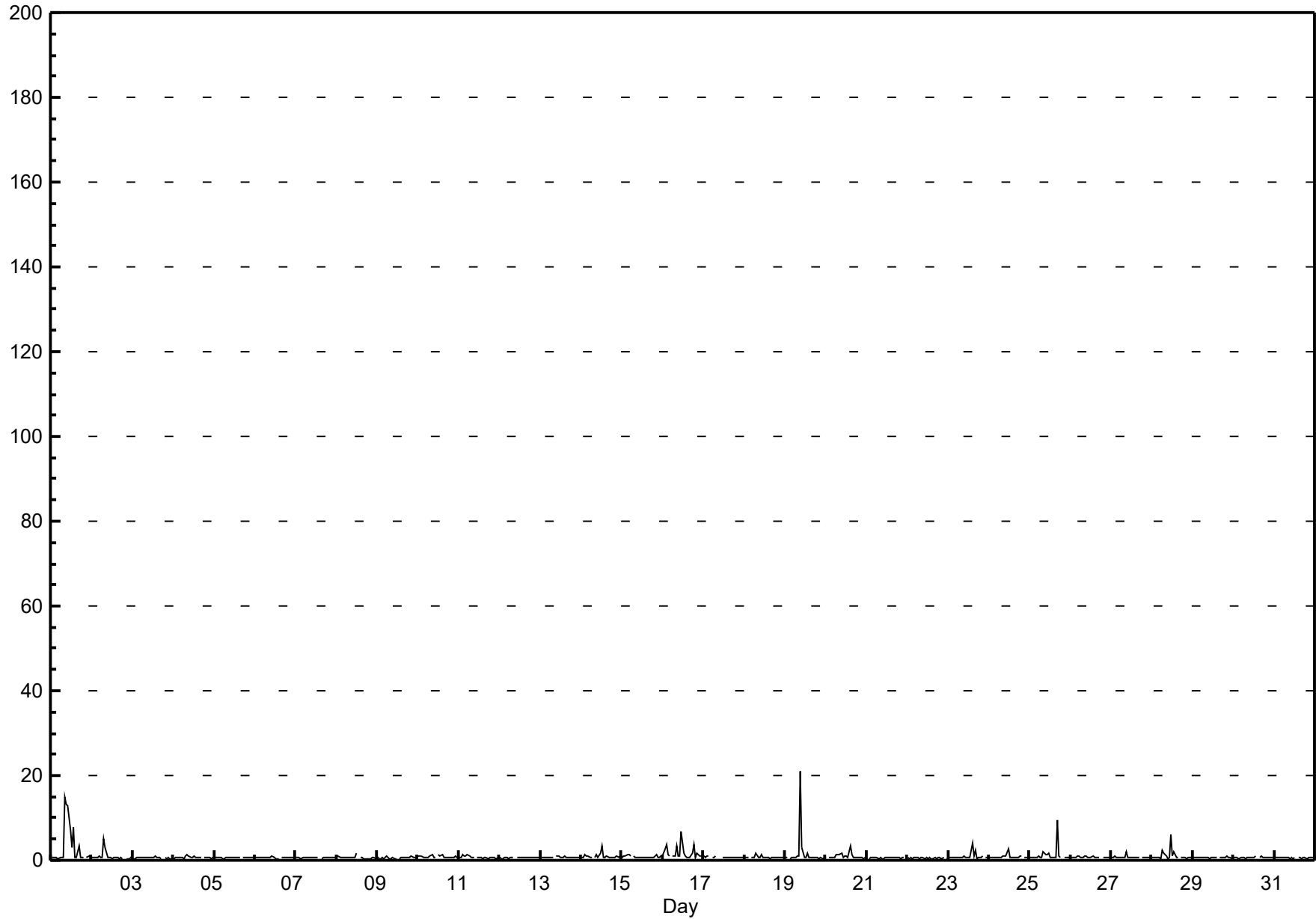
## Hourly Maximums

## Sulphur Dioxide (SO<sub>2</sub>) - ppb Portable Rycroft - August 2016

Maximum Value: 21.2 ppb on Aug 19 10:00		Maximum Daily Average: 3.2 ppb on Aug 1		Hours in Service: 744																							
Minimum Value: 0 ppb on Aug 2 19:00		Minimum Daily Average: 0.5 ppb on Aug 22		Hours of Data: 709																							
Maximum Diurnal Average: 2.0 ppb at hour 10		Minimum Diurnal Average: 0.6 ppb at hour 23		Hours of Missing Data: 35																							
Monthly Average: 0.90 ppb		Percentiles: P <sub>1</sub> = 0.3 P <sub>10</sub> = 0.5 Q <sub>1</sub> = 0.6 Median = 0.7 Q <sub>3</sub> = 0.8 P <sub>90</sub> = 1.1 P <sub>99</sub> = 6.8		Hours of Calibration: 35																							
				Percent Operational Time: 100.0																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Aug	1	1	1	1	0	1	1	1	15	13	13	7	3	8	1	1	3	1	1	1	A	1	1	1	3.2	14.9	
2-Aug	1	1	1	1	1	1	1	5	3	1	1	1	0	1	1	1	0	1	0	A	1	0	0	1	0.9	4.9	
3-Aug	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	A	1	0	1	0	0	0.6	1.1	
4-Aug	0	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	0	1	0.7	1.2	
5-Aug	1	1	1	1	1	0	0	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	0.6	0.8	
6-Aug	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	0.6	0.9	
7-Aug	1	1	1	0	1	1	1	1	1	1	1	1	1	1	A	0	1	1	1	1	1	1	1	1	0.6	0.8	
8-Aug	1	1	1	1	1	1	1	1	1	1	1	1	2	A	1	1	1	1	1	1	0	0	1	1	0.6	1.5	
9-Aug	1	1	0	1	0	1	1	0	0	1	0	0	A	0	1	1	1	1	1	1	1	1	1	1	0.6	1.0	
10-Aug	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.3	
11-Aug	1	1	1	1	1	1	1	1	1	1	A	1	1	1	0	1	1	1	1	1	1	1	0	1	0.8	1.4	
12-Aug	1	0	0	1	1	0	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.6	0.7	
13-Aug	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.2	
14-Aug	1	1	1	1	1	1	1	A	1	1	1	2	3	1	1	1	1	1	1	1	1	1	1	1	1.0	3.3	
15-Aug	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.3	
16-Aug	1	3	4	1	1	A	1	1	3	1	1	7	2	1	1	1	1	2	4	1	2	1	1	1	1.8	6.6	
17-Aug	1	1	1	1	A	1	1	1	C	C	C	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.1	
18-Aug	1	1	1	A	1	1	1	2	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	0.7	1.8	
19-Aug	1	1	A	0	1	1	1	1	1	21	3	1	1	2	1	1	1	1	1	1	0	1	0	1	1.7	21.2	
20-Aug	1	A	1	1	1	1	1	1	1	2	1	1	1	1	4	1	1	1	1	1	1	1	0	1	1.0	3.5	
21-Aug	A	0	1	1	1	1	1	0	1	0	0	1	1	1	1	1	1	1	1	1	0	1	1	A	0.6	0.8	
22-Aug	1	0	1	0	1	1	1	0	1	1	0	1	0	1	0	1	1	0	1	1	0	1	A	0	0.5	0.8	
23-Aug	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	1	2	0	1	1	1	A	1	1	0.9	4.1	
24-Aug	1	1	1	1	1	1	1	1	1	1	1	3	1	1	1	1	1	1	1	1	1	A	1	1	0.9	2.8	
25-Aug	1	1	1	1	1	1	1	1	2	1	1	2	1	1	1	1	10	1	1	A	1	1	1	1	1.3	9.5	
26-Aug	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	
27-Aug	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	A	1	1	1	1	1	1	0.7	2.0	
28-Aug	1	1	1	1	1	0	2	2	1	0	1	6	1	2	1	1	A	1	1	1	0	1	1	1	1.0	6.0	
29-Aug	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	0	0.6	0.9	
30-Aug	1	1	1	0	1	1	1	0	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	0.7	1.1	
31-Aug	1	1	1	1	1	1	1	1	1	0	1	0	1	A	1	1	0	1	1	0	1	1	1	1	0.6	0.8	
		0.7	0.7	0.8	0.7	0.7	0.7	0.8	0.9	1.5	2.0	1.2	1.4	0.9	1.1	0.9	0.7	1.1	0.7	0.7	0.7	0.7	0.7	0.6	0.7	Diurnal Average	
		1.2	2.6	3.8	1.3	1.3	1.2	2.4	4.9	14.9	21.2	12.9	7.1	3.3	7.7	4.1	1.2	9.5	1.8	3.9	0.9	1.8	1.4	1.1	1.3	Diurnal Maximum	
C - Calibration		A - Automated Daily Zero Span																									

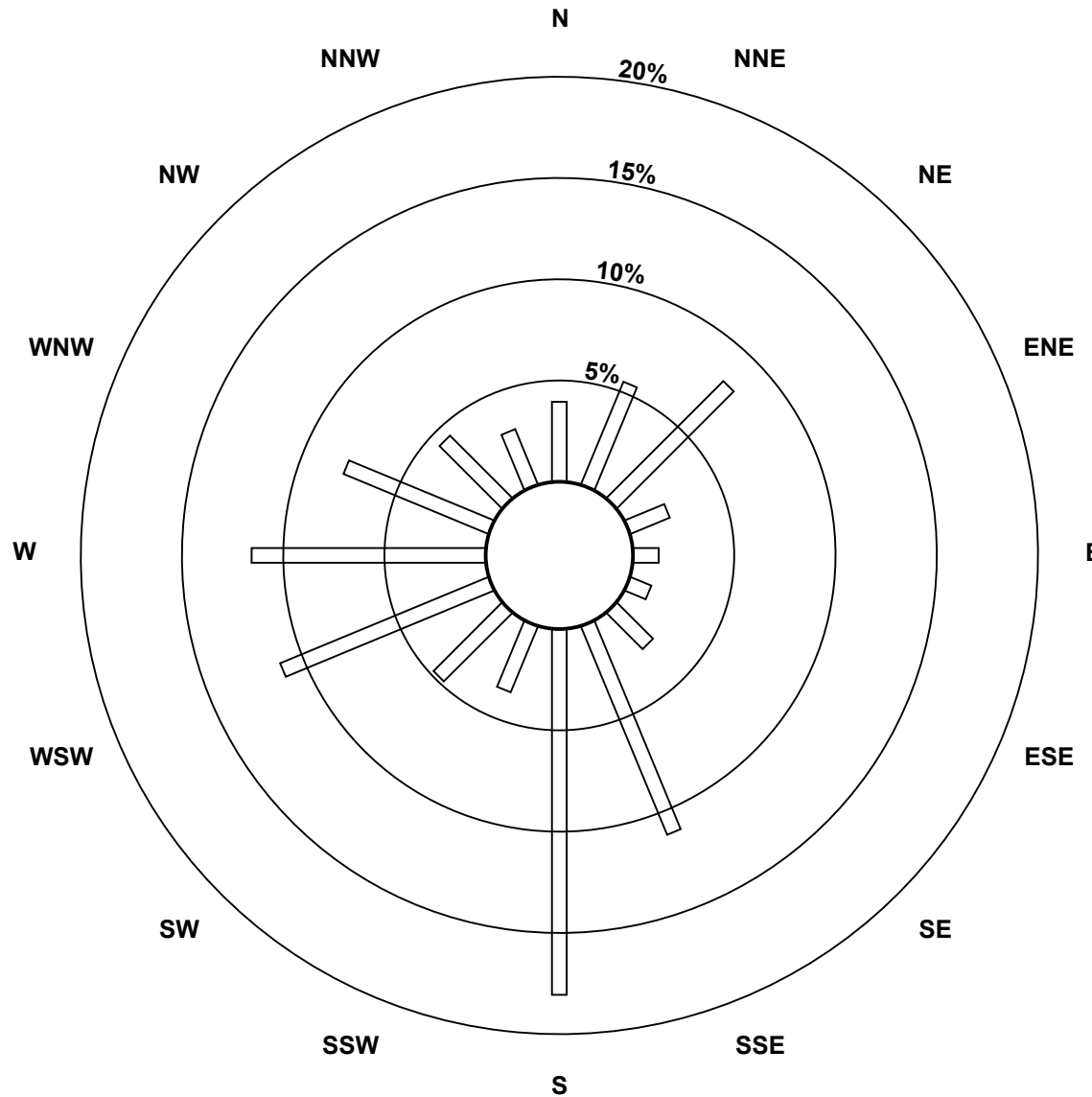
**Hourly Maximums**

**Sulphur Dioxide (SO<sub>2</sub>) - ppb**  
**Portable Rycroft - August 2016**

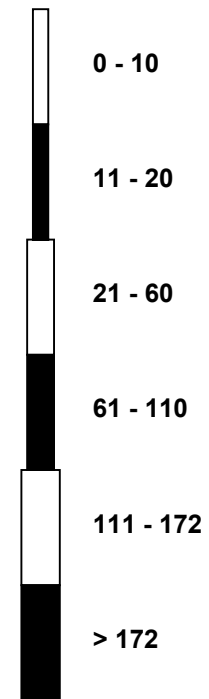


**Pollutant Rose**

**Sulphur Dioxide (SO<sub>2</sub>) - ppb**  
**Portable Rycroft - August 2016**

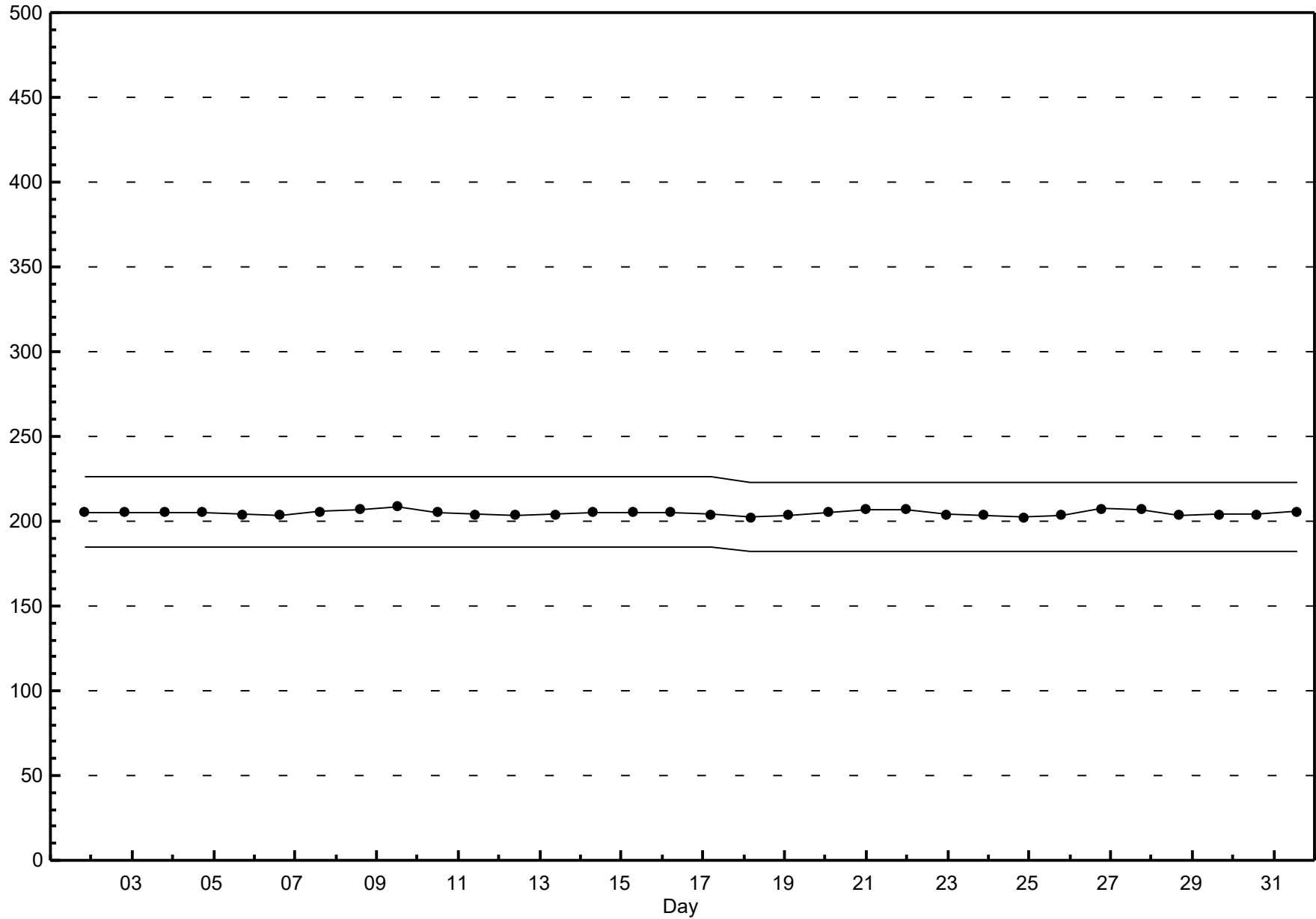


**Pollutant Classes (ppb)**



### Span Responses

Sulphur Dioxide (SO<sub>2</sub>)  
Portable Rycroft - August 2016



## Hourly Averages

Total Reduced Sulphur (TRS) - ppb

Portable Rycroft - August 2016

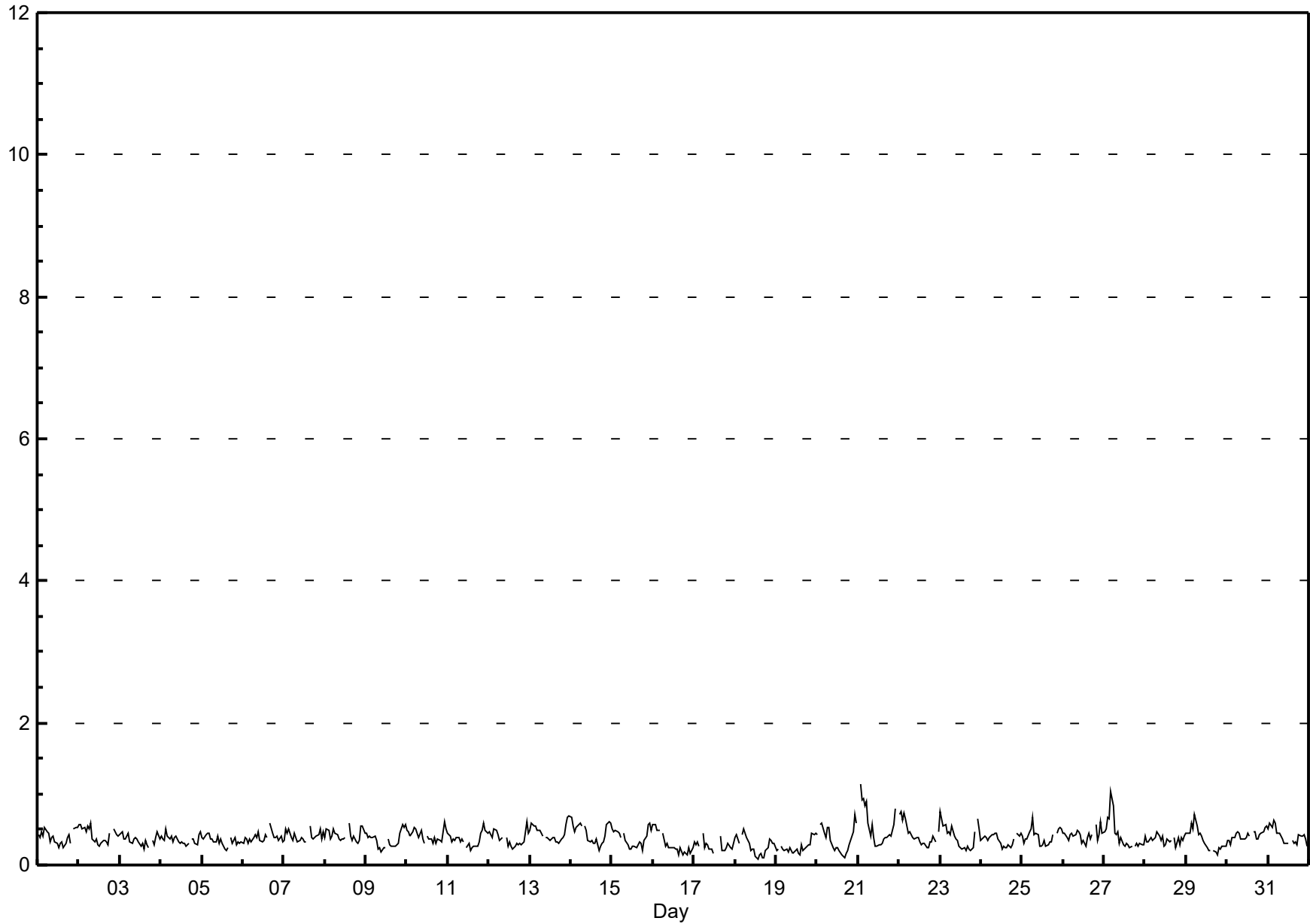
Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 1.1 ppb on Aug 21 02:00	Maximum Daily Average: 0.5 ppb on Aug 19		Hours of Data:	709
Minimum Value: 0 ppb on Aug 18 14:00	Minimum Daily Average: 0.3 ppb on Aug 19		Hours of Missing Data:	35
Maximum Diurnal Average: 0.5 ppb at hour 4	Minimum Diurnal Average: 0.3 ppb at hour 15		Hours of Calibration:	35
Monthly Average: 0.38 ppb	Percentiles: P <sub>1</sub> = 0.1 P <sub>10</sub> = 0.2 Q <sub>1</sub> = 0.3 Median = 0.4 Q <sub>3</sub> = 0.4 P <sub>90</sub> = 0.5 P <sub>99</sub> = 0.8		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-Aug	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	1	1	0.4	0.5																							
2-Aug	1	1	1	1	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	A	1	0	0	0	0.4	0.6																						
3-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.4	0.5																							
4-Aug	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0.4	0.5																							
5-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.3	0.5																							
6-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	0	0	0	0	0	0	0	0	0.4	0.6																							
7-Aug	0	1	0	1	0	0	0	0	0	0	0	0	0	0	A	1	0	0	0	0	0	0	0	0	0.4	0.5																							
8-Aug	0	1	0	0	0	1	0	0	0	0	0	0	0	A	1	0	0	0	0	0	0	0	1	1	0.4	0.6																							
9-Aug	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	1	1	0.4	0.6																							
10-Aug	0	0	0	0	1	1	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.4	0.6																						
11-Aug	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	1	0	0.4	0.6																							
12-Aug	0	0	0	1	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0.4	0.6																						
13-Aug	0	1	1	1	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0.5	0.7																						
14-Aug	1	1	0	1	1	1	1	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0.4	0.7																						
15-Aug	1	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0.4	0.6																						
16-Aug	1	1	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.6																						
17-Aug	0	0	0	0	A	0	0	0	0	0	0	0	C	C	C	0	0	0	0	0	0	0	0	0	0	0.3	0.4																						
18-Aug	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.5																						
19-Aug	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	0.3	0.5																						
20-Aug	0	A	1	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.4	0.7																						
21-Aug	A	1	1	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	A	0.5	1.1																						
22-Aug	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.4	0.8																						
23-Aug	1	1	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	1	0.4	0.7																						
24-Aug	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	0.5																						
25-Aug	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	1	1	1	0.4	0.7																						
26-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	0	0	1	0	0.4	0.6																							
27-Aug	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0.4	1.0																						
28-Aug	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	0.4	0.5																						
29-Aug	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.4	0.7																						
30-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	1	1	0.4	0.6																						
31-Aug	0	1	1	1	1	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.4	0.6																						
																								0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.5	0.4	Diurnal Average
																								0.7	1.1	0.9	0.9	1.0	0.9	0.7	0.6	0.6	0.5	0.4	0.4	0.4	0.4	0.6	0.5	0.6	0.5	0.4	0.6	0.5	0.6	0.8	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 - August 2016**



## Hourly Maximums

Total Reduced Sulphur (TRS) - ppb

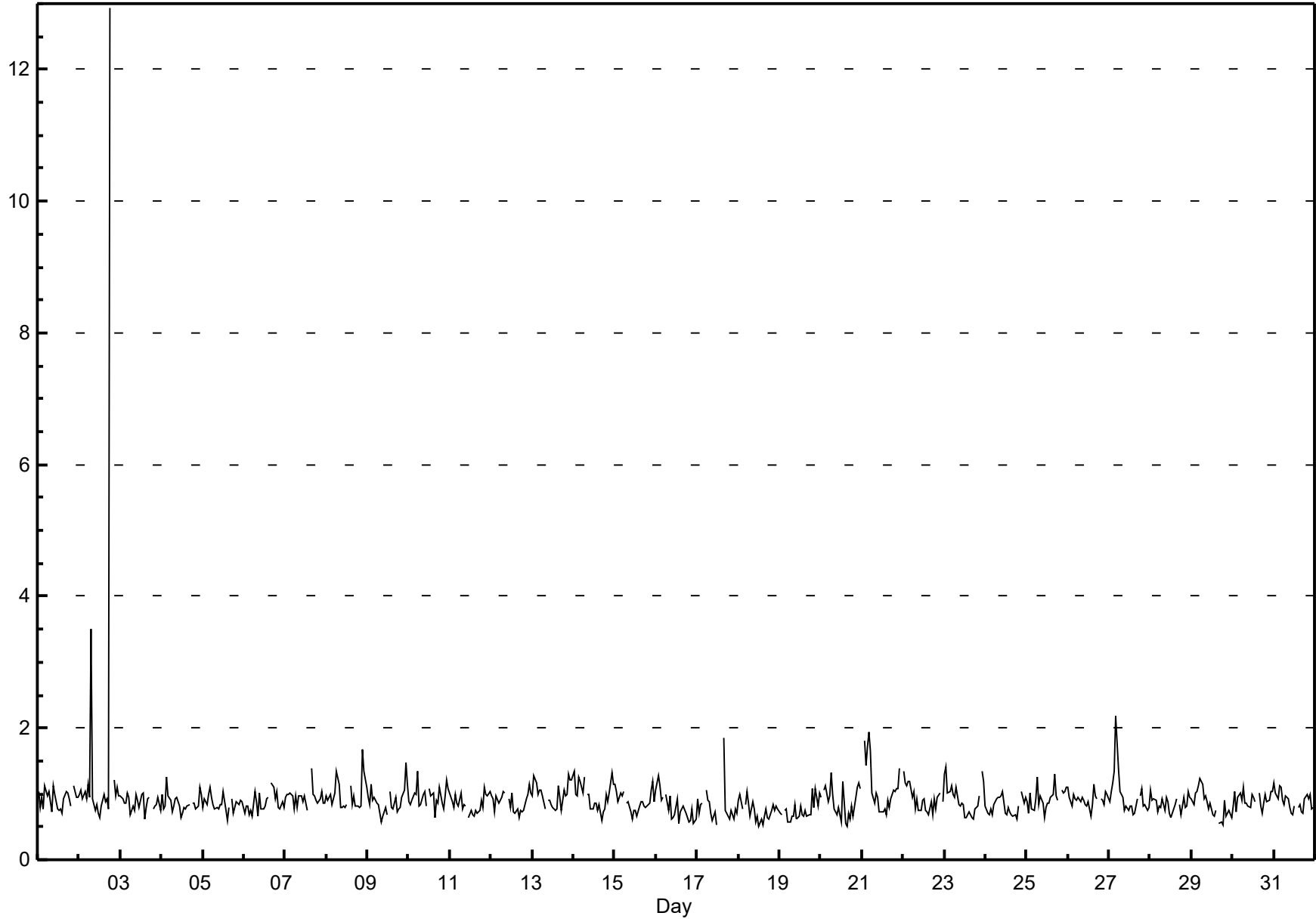
Portable Rycroft - August 2016

Maximum Value: 12.9 ppb on Aug 2 19:00		Maximum Daily Average: 1.6 ppb on Aug 2		Hours in Service: 744																							
Minimum Value: 1 ppb on Aug 20 16:00		Minimum Daily Average: 0.7 ppb on Aug 18		Hours of Data: 709																							
Maximum Diurnal Average: 1.2 ppb at hour 19		Minimum Diurnal Average: 0.8 ppb at hour 12		Hours of Missing Data: 35																							
Monthly Average: 0.91 ppb		Percentiles: P <sub>1</sub> = 0.6 P <sub>10</sub> = 0.7 Q <sub>1</sub> = 0.8 Median = 0.9 Q <sub>3</sub> = 1.0 P <sub>90</sub> = 1.1 P <sub>99</sub> = 1.7		Hours of Calibration: 35																							
				Percent Operational Time: 100.0																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Aug	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	0.9	1.1	
2-Aug	1	1	1	1	1	1	1	3	1	1	1	1	1	1	1	1	1	1	13	A	1	1	1	1	1.6	12.9	
3-Aug	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	0.9	1.0	
4-Aug	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	
5-Aug	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	1.1	
6-Aug	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	
7-Aug	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	0.9	1.4	
8-Aug	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	2	1	1	1.0	1.7	
9-Aug	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	0.9	1.5	
10-Aug	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.3	
11-Aug	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	
12-Aug	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	1.2	
13-Aug	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.3	
14-Aug	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.3	
15-Aug	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.2	
16-Aug	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	1.3	
17-Aug	1	1	1	1	A	1	1	1	1	1	1	C	C	C	2	1	1	1	1	1	1	1	1	1	0.8	1.8	
18-Aug	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	
19-Aug	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	
20-Aug	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.3	
21-Aug	A	2	1	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.1	1.9	
22-Aug	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.3	
23-Aug	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	0.9	1.4	
24-Aug	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	0.8	1.0	
25-Aug	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	0.9	1.3	
26-Aug	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	0.9	1.1	
27-Aug	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1.0	2.2	
28-Aug	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	0.8	1.1	
29-Aug	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	0.8	1.2	
30-Aug	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	0.9	1.1	
31-Aug	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	0.9	1.2	
		1.0	1.0	0.9	1.0	1.0	1.0	1.0	0.9	0.8	0.8	0.8	0.8	0.8	0.8	0.9	0.8	0.8	1.2	0.9	0.9	1.0	1.0	0.9	Diurnal Average		
		1.3	1.8	1.4	1.7	2.2	1.6	1.3	3.5	1.0	1.1	1.0	1.0	1.1	1.2	1.1	1.8	1.3	1.1	12.9	1.1	1.2	1.7	1.5	1.2	Diurnal Maximum	
C - Calibration		A - Automated Daily Zero Span																									



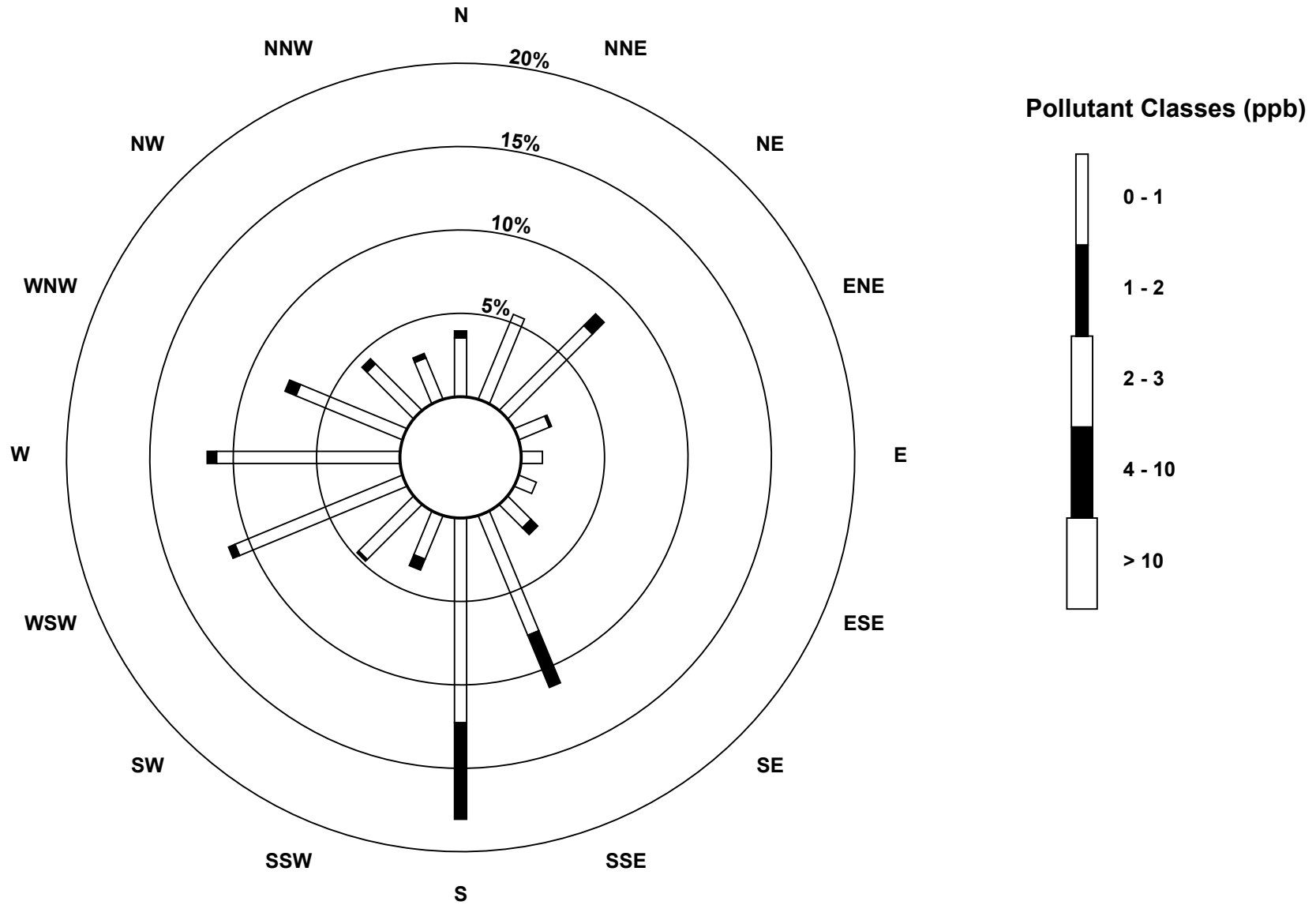
**Hourly Maximums**

**Total Reduced Sulphur (TRS) - ppb**  
**Portable Rycroft - August 2016**



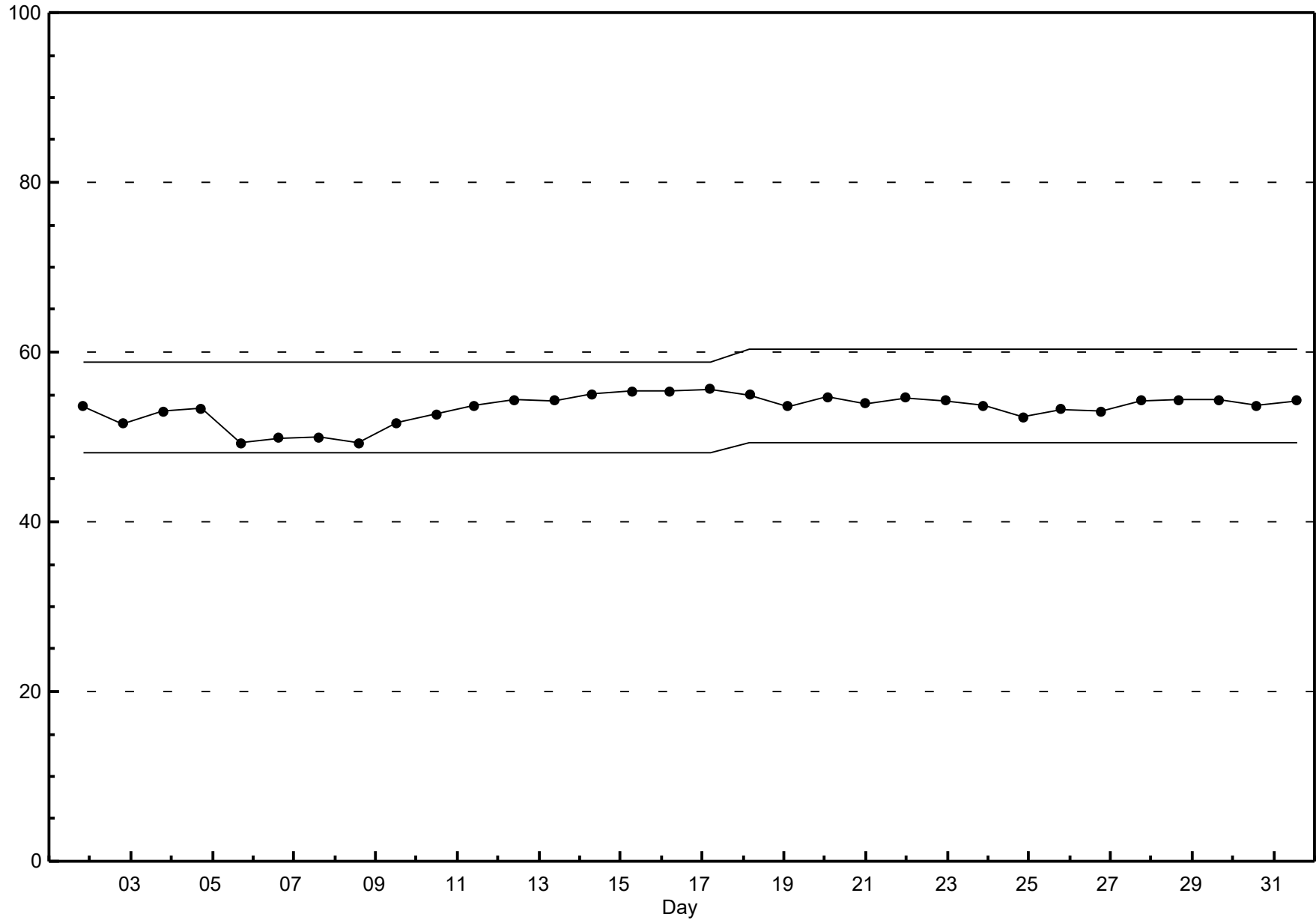
**Pollutant Rose**

**Total Reduced Sulphur (TRS) - ppb**  
**Portable Rycroft - August 2016**



### Span Responses

**Total Reduced Sulphur (TRS)  
Portable Rycroft - August 2016**



## Hourly Averages

## Nitrogen Dioxide (NO<sub>2</sub>) - ppb Portable Rycroft - August 2016

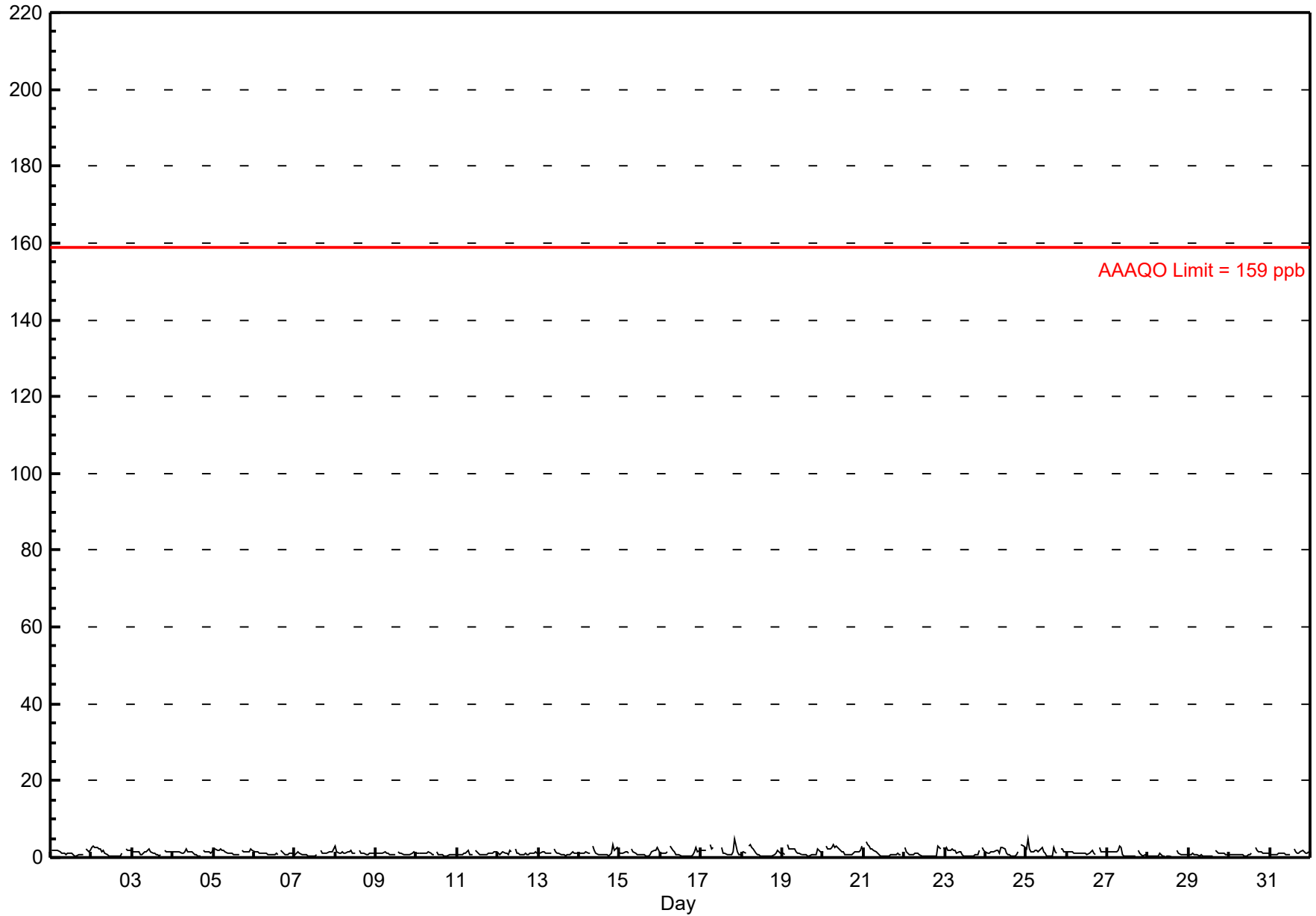
Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0	Hours in Service: 744
Maximum Value: 4.7 ppb on Aug 25 02:00	Maximum Daily Average: 1.8 ppb on Aug 20
Minimum Value: 0 ppb on Aug 28 16:00	Hours of Data: 708
Maximum Diurnal Average: 1.6 ppb at hour 21	Hours of Missing Data: 36
Monthly Average: 1.21 ppb	Hours of Calibration: 36
Minimum Daily Average: 0.5 ppb on Aug 28	Percent Operational Time: 100.0
Minimum Diurnal Average: 0.7 ppb at hour 14	
Percentiles: P <sub>1</sub> = 0.2 P <sub>10</sub> = 0.5 Q <sub>1</sub> = 0.7 Median = 1.1 Q <sub>3</sub> = 1.5 P <sub>90</sub> = 2.2 P <sub>99</sub> = 3.4	

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-Aug	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	2	2	2	1.2	2.4																						
2-Aug	3	3	3	3	2	2	2	2	1	1	1	1	1	0	0	0	0	0	0	1	A	2	2	2	1.5	2.9																						
3-Aug	2	1	1	2	1	1	1	1	1	2	2	1	1	1	1	0	1	1	A	2	1	1	1	1	1.3	2.1																						
4-Aug	1	1	1	1	1	1	1	1	2	2	1	1	1	1	1	0	0	A	2	1	1	2	1	2	1.3	2.1																						
5-Aug	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	A	2	1	2	1	2	2	1	2	1.5	2.2																						
6-Aug	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	2	1	1	1	1	1	1	1	1.0	1.8																						
7-Aug	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	2	1	1	1	1	1	1	1	2	2	1.1	2.2																					
8-Aug	3	1	1	1	2	1	1	1	1	2	1	1	1	A	2	1	1	1	1	1	1	1	1	1	1.3	2.8																						
9-Aug	1	1	1	1	1	1	1	1	1	1	1	1	A	2	1	1	1	1	1	1	1	1	1	1	1.0	1.6																						
10-Aug	1	1	1	1	1	1	1	1	1	1	1	A	2	1	1	1	0	1	1	1	1	1	1	1	0.9	1.6																						
11-Aug	1	1	1	1	1	1	2	1	1	1	A	2	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.7																						
12-Aug	1	1	1	2	1	1	1	2	2	A	2	1	1	1	1	1	1	1	1	1	1	1	2	1	1.1	2.3																						
13-Aug	1	1	1	1	1	1	1	1	A	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1.1	2.1																						
14-Aug	1	1	1	1	1	1	1	A	3	2	1	1	1	1	1	1	1	1	1	1	3	2	3	2	1.3	3.2																						
15-Aug	1	1	1	1	1	1	A	2	2	1	1	1	1	1	1	1	0	0	1	2	2	2	3	2	1.2	2.6																						
16-Aug	1	1	1	1	1	A	3	2	1	1	1	0	0	0	0	0	0	0	1	1	2	2	2	2	1.1	2.9																						
17-Aug	2	2	2	2	A	3	2	3	C	C	C	C	2	1	1	1	1	1	1	2	5	1	1	1	1.7	4.7																						
18-Aug	1	1	1	A	3	3	3	2	1	1	1	0	0	0	0	0	0	0	1	1	1	2	2	1	1.2	3.3																						
19-Aug	1	1	A	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	1.3	3.4																						
20-Aug	1	A	3	2	2	3	3	3	3	2	2	2	1	1	1	1	1	1	1	1	2	2	2	3	1.8	3.2																						
21-Aug	A	4	3	3	2	2	2	2	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	A	1.3	4.0																						
22-Aug	3	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	3	2	A	3	1.0	2.9																						
23-Aug	2	3	2	2	2	2	2	1	2	1	1	1	0	0	0	0	1	0	1	1	2	A	3	2	1.3	2.8																						
24-Aug	1	1	1	2	2	1	2	2	1	3	3	2	1	1	1	1	0	0	1	1	A	3	3	3	1.6	3.4																						
25-Aug	2	5	2	1	2	2	2	1	2	3	2	1	1	0	0	0	3	1	1	A	2	2	2	1	1.7	4.7																						
26-Aug	1	2	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	A	3	2	2	2	1	1.3	2.6																						
27-Aug	2	2	2	1	1	1	2	3	3	1	0	0	0	0	0	0	0	A	2	1	1	1	1	1	1.1	3.1																						
28-Aug	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	A	2	1	1	1	1	1	0.5	1.7																						
29-Aug	1	1	1	1	1	1	1	1	0	0	0	0	0	0	1	A	2	1	1	1	1	1	1	1	0.8	1.9																						
30-Aug	1	1	1	1	1	1	1	1	1	0	1	1	1	1	A	3	2	2	2	1	1	1	1	1	1.0	2.5																						
31-Aug	1	1	1	1	1	1	1	1	1	1	1	1	1	A	2	1	1	1	1	2	2	1	1	2	1.1	2.1																						
																								1.4	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.3	1.2	1.0	0.9	0.8	0.7	0.7	0.7	0.8	0.8	0.9	1.1	1.6	1.5	1.5	1.5	Diurnal Average
																								2.8	4.7	3.4	3.4	3.1	3.4	3.2	3.1	3.1	2.7	2.8	2.4	2.5	1.6	2.1	2.5	2.8	2.0	1.9	2.6	4.7	3.4	2.9	3.0	Diurnal Maximum

C - Calibration      A - Automated Daily Zero Span  
 Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 159 ppb    24-hr 106 ppb

### Hourly Averages

Nitrogen Dioxide (NO<sub>2</sub>) - ppb  
Portable Rycroft - August 2016



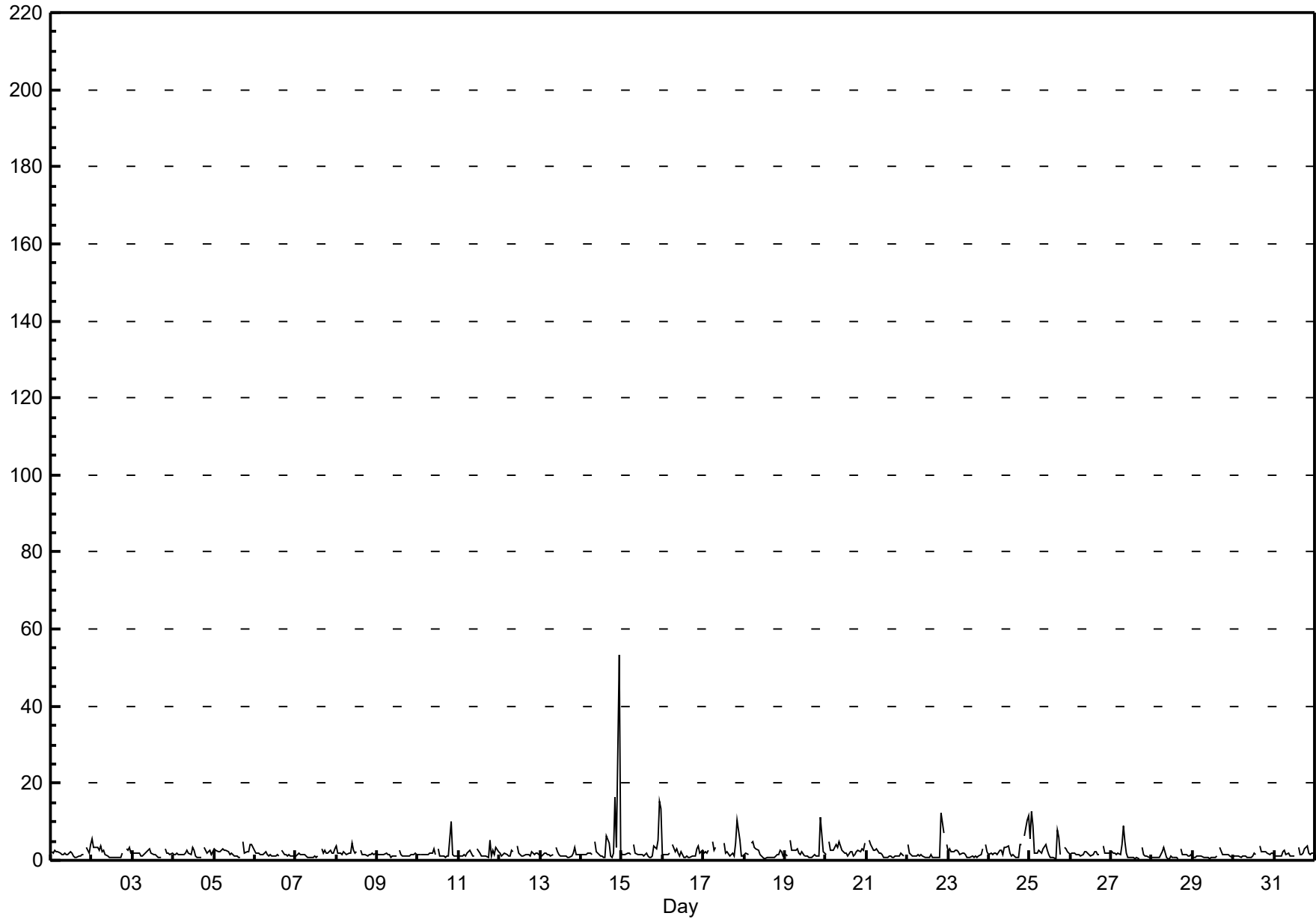
## Hourly Maximums

## Nitrogen Dioxide (NO<sub>2</sub>) - ppb Portable Rycroft - August 2016

Maximum Value: 53.3 ppb on Aug 14 23:00		Maximum Daily Average: 5.0 ppb on Aug 14		Hours in Service: 744																						
Minimum Value: 0 ppb on Aug 28 16:00		Minimum Daily Average: 1.1 ppb on Aug 29		Hours of Data: 708																						
Maximum Diurnal Average: 4.4 ppb at hour 23		Minimum Diurnal Average: 1.1 ppb at hour 14		Hours of Missing Data: 36																						
Monthly Average: 2.05 ppb		Percentiles: P <sub>1</sub> = 0.5 P <sub>10</sub> = 0.8 Q <sub>1</sub> = 1.1 Median = 1.6 Q <sub>3</sub> = 2.2 P <sub>90</sub> = 3.4 P <sub>99</sub> = 11.2		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-Aug	2	2	3	2	2	2	1	1	2	2	2	2	2	1	1	1	1	1	1	1	A	3	2	4	1.8	4.1
2-Aug	6	3	3	3	3	4	2	3	1	1	1	1	1	1	1	1	1	1	2	A	3	3	3	2	2.1	5.6
3-Aug	2	2	2	2	2	1	1	2	2	3	3	2	2	2	1	1	1	1	A	3	2	2	2	2	1.8	3.1
4-Aug	2	2	2	2	2	1	1	2	3	2	2	3	2	1	1	1	1	A	3	3	2	3	2	2	1.9	3.3
5-Aug	3	3	2	2	3	3	3	3	2	1	2	1	1	1	1	1	A	5	2	2	2	4	4	3	2.4	4.7
6-Aug	2	2	2	1	1	1	2	1	1	1	1	1	1	1	1	A	3	1	1	1	1	1	1	1	1.4	2.7
7-Aug	1	2	2	1	1	1	1	1	1	1	1	1	1	1	A	3	2	3	2	2	3	2	2	3	1.6	3.1
8-Aug	4	2	2	2	2	2	2	2	2	5	2	2	2	A	3	2	1	2	1	1	1	2	1	2	2.0	4.6
9-Aug	1	1	1	1	2	2	1	2	1	1	1	1	A	3	1	1	1	1	1	1	1	2	2	2	1.4	2.6
10-Aug	2	1	1	1	1	1	1	2	2	3	1	A	3	1	1	1	1	1	1	1	10	1	1	1	1.8	9.9
11-Aug	1	1	1	1	1	2	3	2	1	1	A	3	2	1	1	1	1	1	5	1	3	2	4	2	1.8	5.4
12-Aug	2	1	2	2	1	1	1	3	2	A	4	2	1	1	1	1	2	1	1	2	1	2	2	1	1.7	3.6
13-Aug	1	1	2	2	2	1	1	1	A	3	2	2	1	1	1	1	1	1	2	3	2	1	2	1.6	3.4	
14-Aug	2	1	1	1	2	2	1	A	5	2	2	1	1	1	1	6	5	1	1	2	17	4	53	2	5.0	53.3
15-Aug	2	2	1	2	2	1	A	4	2	2	2	1	1	1	2	1	1	1	1	4	3	5	15	13	3.0	15.2
16-Aug	1	1	2	1	2	A	4	2	3	2	1	2	1	1	1	1	1	1	1	1	3	4	2	2	1.8	4.1
17-Aug	2	2	2	2	A	5	3	3	C	C	C	C	4	2	2	1	2	2	1	4	10	5	1	1	2.9	10.4
18-Aug	1	2	2	A	4	5	3	3	3	2	2	1	1	1	1	1	1	1	1	1	2	3	2	1	1.8	4.8
19-Aug	1	1	A	5	3	3	3	3	2	1	2	1	1	1	1	1	1	1	1	1	11	2	2	2	2.2	11.0
20-Aug	2	A	5	3	3	3	4	4	5	3	2	2	2	1	2	2	1	1	2	3	2	3	3	4	2.7	5.0
21-Aug	A	5	4	4	3	3	3	2	2	1	1	1	1	1	1	1	1	1	1	1	2	2	1	A	1.8	5.2
22-Aug	4	2	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	12	7	A	4	2.1	12.1
23-Aug	2	3	2	2	3	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	3	A	4	2	1.9	4.3
24-Aug	2	2	2	2	2	2	3	3	2	3	3	4	2	1	1	1	1	1	4	4	A	6	10	12	3.0	11.5
25-Aug	6	13	9	2	2	2	2	2	3	4	3	2	1	1	1	1	8	6	1	A	4	3	2	2	3.4	12.7
26-Aug	2	2	2	2	1	1	1	1	2	2	2	2	1	1	2	2	1	1	A	4	2	2	2	2	1.8	3.8
27-Aug	2	2	2	2	2	2	4	9	5	2	1	1	1	1	1	1	1	A	4	2	1	1	1	1	1.9	9.1
28-Aug	1	1	1	1	1	1	2	4	1	0	0	1	1	1	1	0	A	3	1	1	1	1	1	1	1.1	3.5
29-Aug	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	3	2	1	1	1	1	1	1	1.1	3.3
30-Aug	1	1	1	1	1	1	1	1	1	1	1	1	2	1	A	4	2	2	2	2	2	2	2	2	1.5	3.9
31-Aug	1	1	1	1	1	2	3	2	2	1	1	1	1	A	3	2	1	2	3	4	2	1	2	2	1.7	3.6
		2.0	2.2	2.1	1.9	1.9	2.0	2.1	2.3	2.0	1.9	1.6	1.5	1.4	1.1	1.3	1.4	1.6	1.6	1.7	2.3	3.2	2.9	4.4	2.7	Diurnal Average
		5.7	12.7	9.0	5.2	4.5	4.9	4.3	9.1	5.0	4.6	3.6	3.6	4.5	2.6	3.5	6.4	7.7	6.1	5.4	9.9	16.5	11.0	53.3	13.4	Diurnal Maximum
C - Calibration		A - Automated Daily Zero Span																								

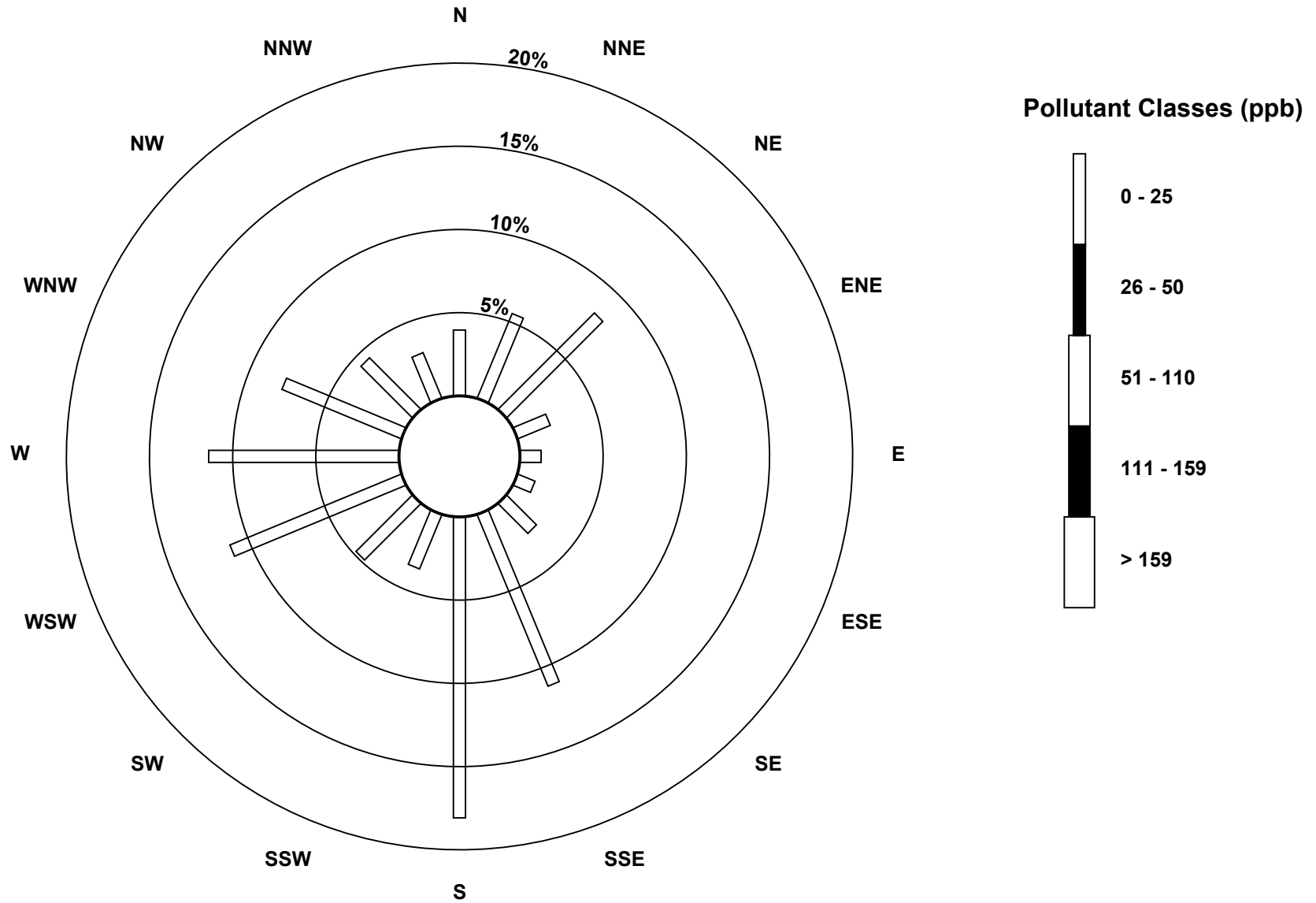
**Hourly Maximums**

**Nitrogen Dioxide (NO<sub>2</sub>) - ppb**  
**Portable Rycroft - August 2016**



**Pollutant Rose**

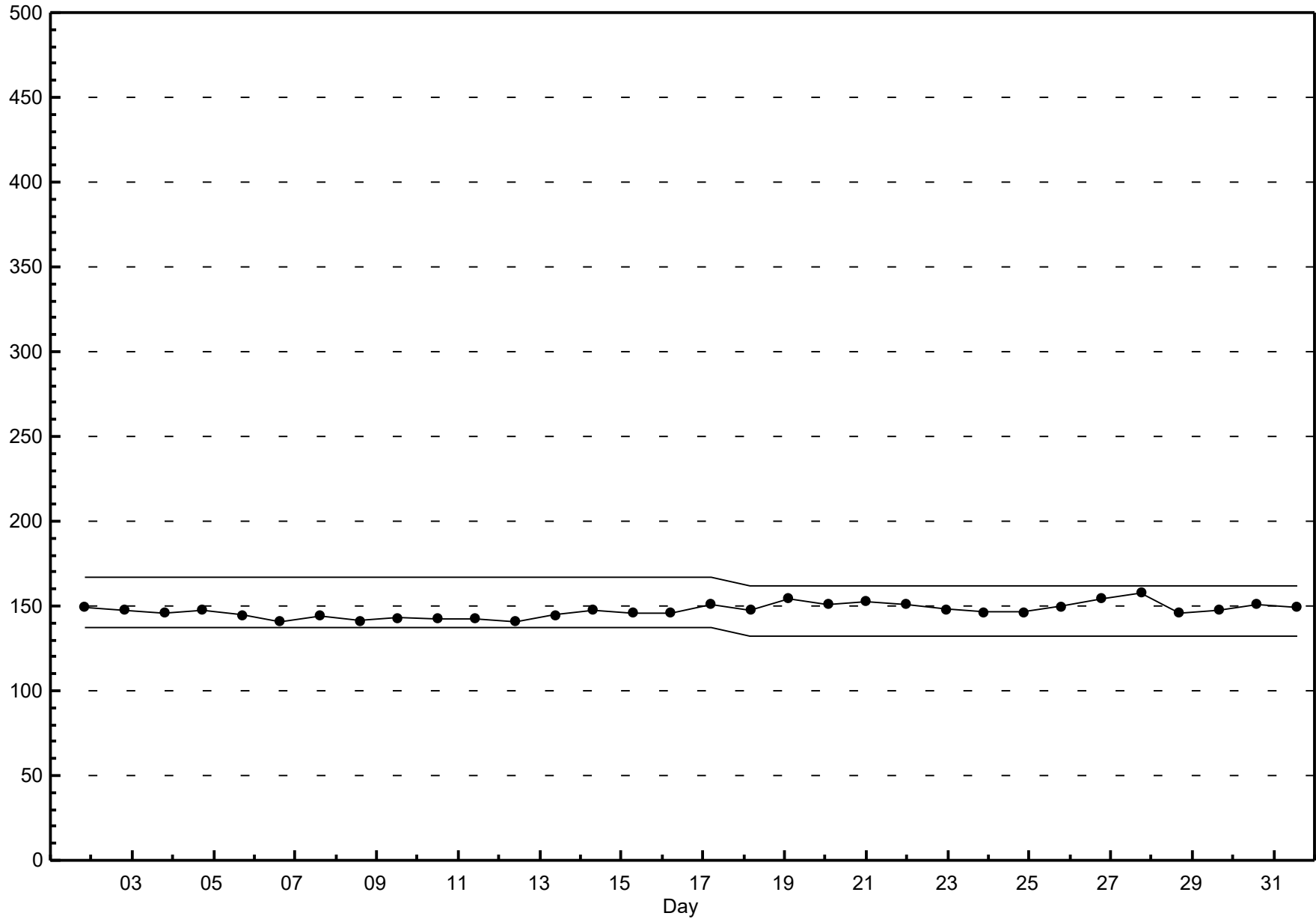
**Nitrogen Dioxide (NO<sub>2</sub>) - ppb**  
**Portable Rycroft - August 2016**





### Span Responses

**Nitrogen Dioxide (NO<sub>2</sub>)**  
**Portable Rycroft - August 2016**





Peace Airshed Zone Association

# Hourly Averages

Nitrogen Oxide (NO) - ppb

Portable Rycroft - August 2016

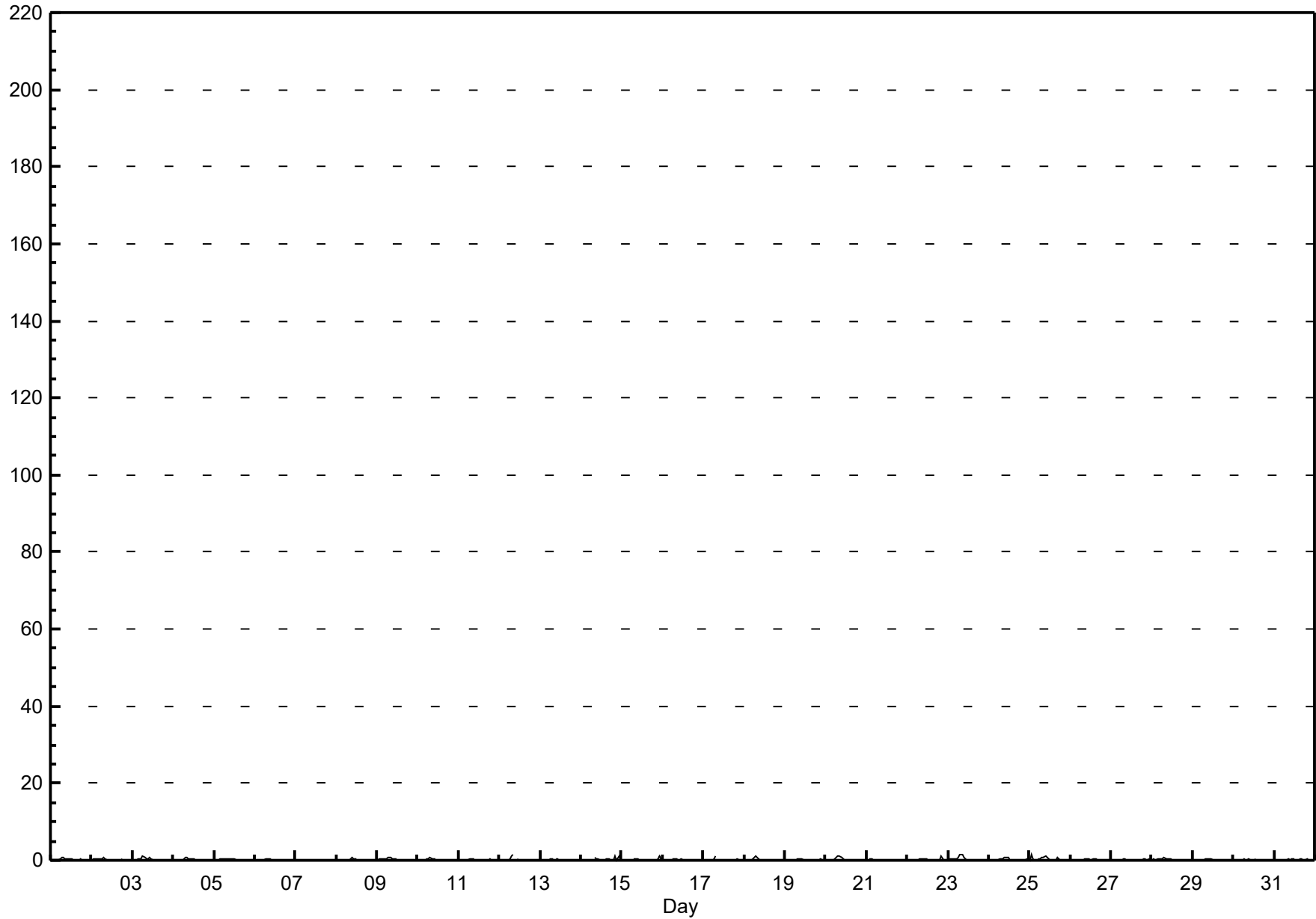
Number of Exceedences (AAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 1.5 ppb on Aug 12 09:00	Maximum Daily Average: 0.4 ppb on Aug 25		Hours of Data:	708
Minimum Value: 0 ppb on Aug 16 21:00	Minimum Daily Average: 0.1 ppb on Aug 16		Hours of Missing Data:	36
Maximum Diurnal Average: 0.5 ppb at hour 8	Minimum Diurnal Average: 0.1 ppb at hour 22		Hours of Calibration:	36
Monthly Average: 0.19 ppb	Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.0 Q <sub>1</sub> = 0.1 Median = 0.1 Q <sub>3</sub> = 0.2 P <sub>90</sub> = 0.4 P <sub>99</sub> = 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-Aug	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.2	0.7
2-Aug	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.2	0.9
3-Aug	0	0	0	0	0	1	1	1	0	1	1	0	0	0	0	0	0	0	A	0	0	0	0	0	0.3	1.0
4-Aug	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0.2	0.7
5-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0.2	0.5
6-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.1	0.3
7-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.1	0.2
8-Aug	0	0	0	0	0	0	0	0	0	1	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.2	0.7
9-Aug	0	0	0	0	0	0	1	1	1	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.2	0.7
10-Aug	0	0	0	0	0	0	0	1	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.7
11-Aug	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
12-Aug	0	0	0	0	0	0	1	1	2	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.5
13-Aug	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
14-Aug	0	0	0	0	0	0	0	A	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0.2	1.1
15-Aug	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0.2	1.2
16-Aug	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
17-Aug	0	0	0	0	A	0	0	1	C	C	C	C	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.1
18-Aug	0	0	0	A	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	1.2
19-Aug	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.4
20-Aug	0	A	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.2
21-Aug	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0.1	0.3
22-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	A	0.2	0.9
23-Aug	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.3	1.5
24-Aug	0	0	0	0	0	0	0	1	0	1	1	1	0	0	0	0	0	0	0	0	0	A	0	0	0.3	0.9
25-Aug	0	1	0	0	0	0	0	1	1	1	1	0	0	0	0	0	1	0	0	0	A	0	0	0	0.4	1.5
26-Aug	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	0.4
27-Aug	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	0.4
28-Aug	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0.2	0.8
29-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.1	0.3
30-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.1	0.2
31-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.2	0.2
	0.1	0.2	0.1	0.1	0.2	0.2	0.4	0.5	0.5	0.4	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	Diurnal Average	
	0.2	1.5	0.3	0.4	0.5	0.6	1.0	1.4	1.5	1.3	0.8	0.9	0.4	0.2	0.3	0.4	0.7	0.4	0.3	0.2	1.0	0.3	1.2	0.4	Diurnal Maximum	

C - Calibration                      A - Automated Daily Zero Span

### Hourly Averages

**Nitrogen Oxide (NO) - ppb**  
**Portable Rycroft - August 2016**



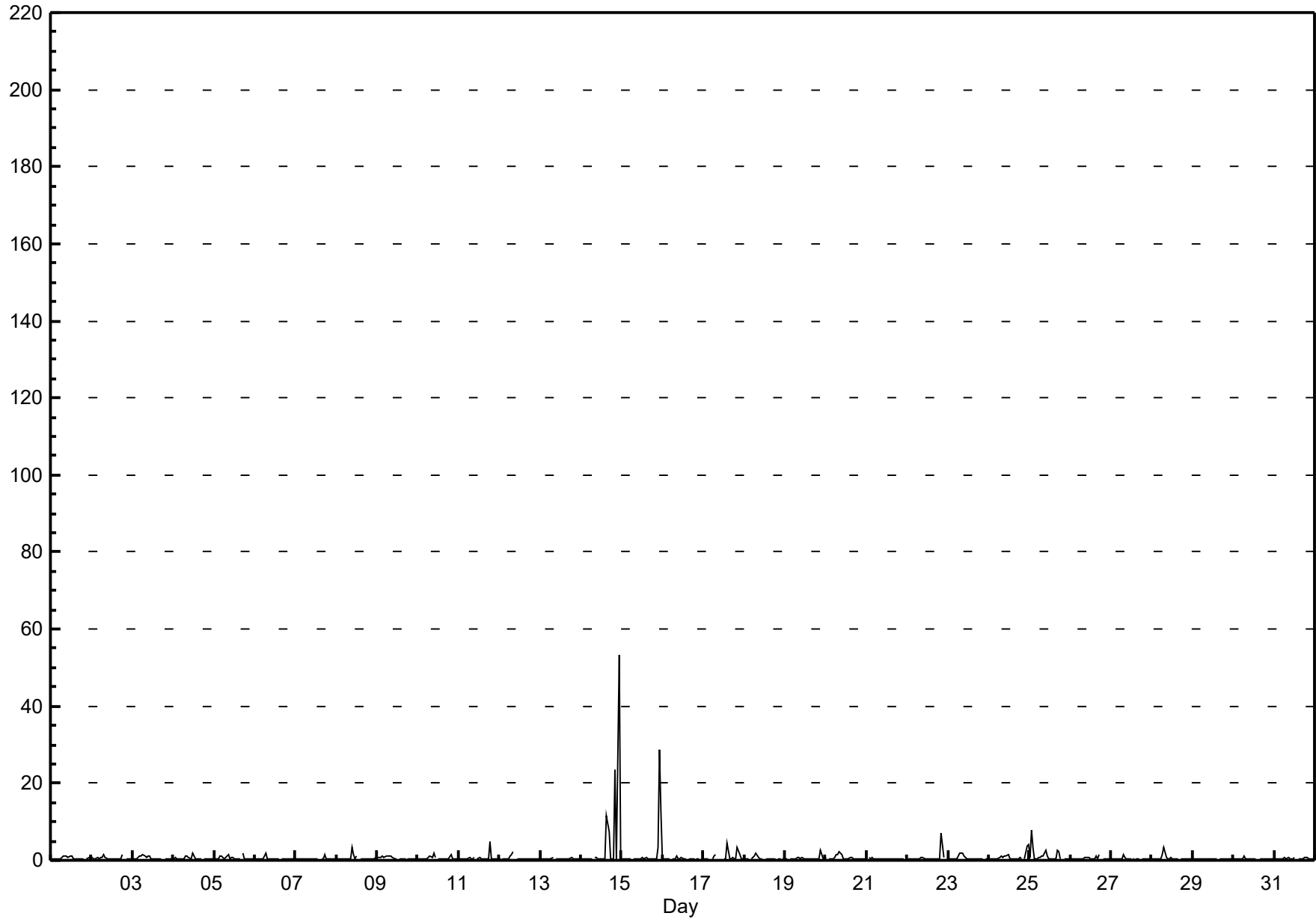
## Hourly Maximums

## Nitrogen Oxide (NO) - ppb Portable Rycroft - August 2016

Maximum Value: 53.4 ppb on Aug 14 23:00		Maximum Daily Average: 4.5 ppb on Aug 14		Hours in Service: 744																							
Minimum Value: 0 ppb on Aug 18 13:00		Minimum Daily Average: 0.3 ppb on Aug 16		Hours of Data: 708																							
Maximum Diurnal Average: 3.1 ppb at hour 23		Minimum Diurnal Average: 0.3 ppb at hour 14		Hours of Missing Data: 36																							
Monthly Average: 0.71 ppb		Percentiles: P <sub>1</sub> = 0.2 P <sub>10</sub> = 0.2 Q <sub>1</sub> = 0.3 Median = 0.3 Q <sub>3</sub> = 0.5 P <sub>90</sub> = 1.0 P <sub>99</sub> = 7.5		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-Aug	0	0	0	0	0	0	1	1	1	1	1	1	0	0	0	1	0	0	0	A	0	1	0	0	0.6	1.3	
2-Aug	1	0	0	1	0	1	1	1	1	0	0	0	0	0	0	0	0	0	1	A	0	0	0	0	0.5	1.5	
3-Aug	0	0	0	1	1	1	2	1	1	1	1	0	0	0	0	0	0	0	A	0	0	0	0	0	0.6	1.6	
4-Aug	0	1	0	0	0	0	0	1	1	1	1	2	1	0	0	0	0	A	0	0	0	0	0	0	0.5	1.8	
5-Aug	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	A	2	0	0	0	0	0	0	0	0.6	2.0	
6-Aug	0	0	0	0	0	0	2	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.4	1.7	
7-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	1	0	0	0	0	0	0	0.4	1.3	
8-Aug	0	0	0	0	0	0	0	0	1	3	2	0	1	A	0	0	0	0	0	0	0	0	1	1	0.6	3.3	
9-Aug	1	1	1	1	1	1	1	1	1	1	1	1	A	0	0	0	0	0	0	0	0	0	0	1	0.6	1.2	
10-Aug	1	0	0	0	0	0	1	1	1	2	1	A	0	0	0	0	0	0	0	0	1	0	0	0	0.5	1.9	
11-Aug	0	0	0	0	0	0	1	1	0	1	A	0	1	0	0	0	0	0	5	0	0	0	0	0	0.5	4.9	
12-Aug	0	0	0	0	0	1	1	2	2	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	2.2	
13-Aug	0	0	0	0	0	0	1	1	A	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0.4	0.7	
14-Aug	0	0	0	0	0	0	0	A	1	1	0	0	0	0	0	11	8	0	0	0	24	0	53	0	4.5	53.4	
15-Aug	0	0	0	0	0	0	A	1	1	0	1	0	1	0	1	0	0	0	0	0	0	3	29	13	2.3	28.7	
16-Aug	0	0	0	0	0	A	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.9	
17-Aug	0	0	0	0	A	0	1	1	C	C	C	C	0	0	5	0	0	1	0	0	3	2	0	0	0.9	4.6	
18-Aug	0	0	0	A	0	1	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	2.0	
19-Aug	0	0	A	0	0	0	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0	3	0	0	0.4	2.7	
20-Aug	1	A	0	0	0	1	2	2	2	1	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0.6	2.3	
21-Aug	A	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.8	
22-Aug	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	7	1	A	0	0.7	7.0	
23-Aug	0	0	0	0	0	0	1	2	2	1	1	0	0	0	0	0	0	0	0	0	0	A	0	0	0.5	1.8	
24-Aug	0	0	0	0	0	0	1	1	1	1	1	1	0	0	0	0	0	0	1	0	A	0	4	4	0.8	4.1	
25-Aug	1	8	3	0	0	1	1	1	1	3	1	1	0	0	0	0	3	2	0	A	0	0	0	0	1.2	7.9	
26-Aug	0	0	0	0	0	0	0	0	1	1	1	1	0	0	1	1	0	1	A	0	0	0	0	0	0.5	1.4	
27-Aug	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0.4	1.4	
28-Aug	0	0	0	0	0	0	2	3	1	1	0	1	0	0	0	0	A	0	0	0	0	0	0	0	0.6	3.2	
29-Aug	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.4	0.5	
30-Aug	0	0	0	0	0	0	1	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.4	1.1	
31-Aug	0	0	0	0	0	1	1	0	1	0	0	0	1	A	0	0	0	0	1	1	0	0	0	0	0.5	0.8	
		0.4	0.6	0.4	0.4	0.4	0.5	0.8	1.0	0.9	0.8	0.6	0.5	0.4	0.3	0.5	0.7	0.6	0.5	0.5	0.4	1.4	0.5	3.1	0.9	Diurnal Average	
		0.8	7.9	3.3	1.2	1.2	1.1	1.7	3.2	2.3	3.3	1.6	1.8	1.2	0.5	4.6	11.4	7.6	2.2	4.9	1.3	23.6	3.3	53.4	12.8	Diurnal Maximum	
C - Calibration		A - Automated Daily Zero Span																									

### Hourly Maximums

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



## Hourly Averages

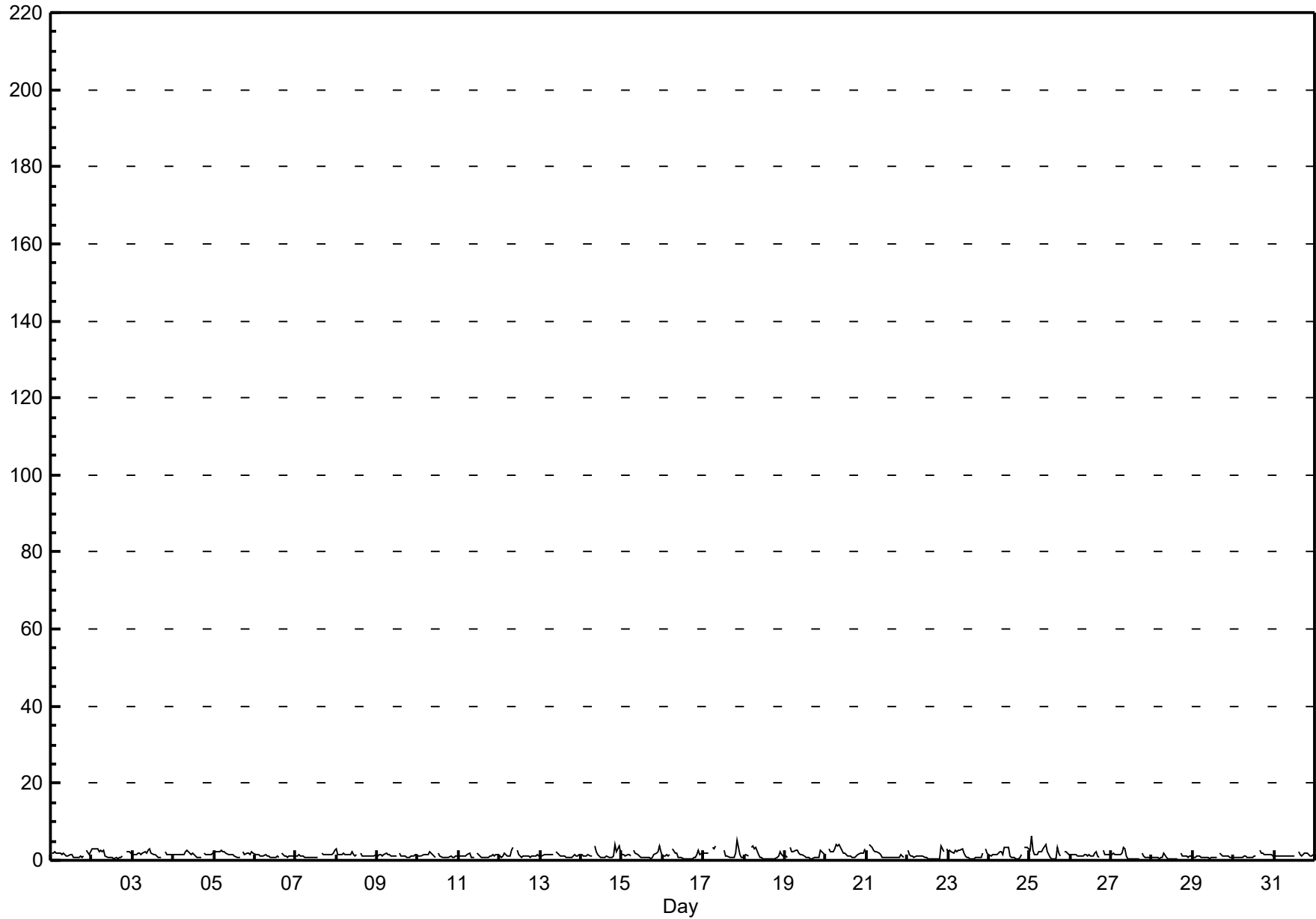
Oxides of Nitrogen (NO<sub>x</sub>) - ppb

Portable Rycroft - August 2016

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0		Hours in Service: 744																									
Maximum Value: 6.2 ppb on Aug 25 02:00		Maximum Daily Average: 2.1 ppb on Aug 20																									
Minimum Value: 0 ppb on Aug 28 16:00		Hours of Data: 708																									
Maximum Diurnal Average: 2.0 ppb at hour 8		Hours of Missing Data: 36																									
Monthly Average: 1.41 ppb		Hours of Calibration: 36																									
Minimum Daily Average: 0.8 ppb on Aug 28		Percent Operational Time: 100.0																									
Minimum Diurnal Average: 0.8 ppb at hour 14																											
Percentiles: P <sub>1</sub> = 0.3 P <sub>10</sub> = 0.6 Q <sub>1</sub> = 0.9 Median = 1.2 Q <sub>3</sub> = 1.7 P <sub>90</sub> = 2.4 P <sub>99</sub> = 3.9																											
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-Aug	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	A	2	2	2	1.5	2.5	
2-Aug	3	3	3	3	2	3	2	3	1	1	1	1	1	1	1	1	1	1	1	A	2	2	2	2	1.7	3.1	
3-Aug	2	2	2	2	2	1	2	2	2	3	3	2	1	1	1	1	1	A	2	2	2	2	1	1	1.6	2.8	
4-Aug	2	1	2	2	1	1	1	2	3	2	2	2	1	1	1	1	1	A	2	2	1	2	1	2	1.5	2.7	
5-Aug	2	2	2	2	3	2	2	2	1	1	2	1	1	1	1	1	A	2	1	2	2	1	2	2	1.8	2.7	
6-Aug	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	A	2	1	1	1	1	1	1	1	1.1	1.9	
7-Aug	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	2	1	1	1	1	1	2	1	2	2	1.2	2.4
8-Aug	3	2	1	1	2	1	1	2	2	2	2	1	1	A	2	1	1	1	1	1	1	1	1	1	1.5	3.1	
9-Aug	1	1	1	1	1	2	2	2	1	1	1	1	A	2	1	1	1	1	1	1	1	1	2	1	1.3	1.7	
10-Aug	1	1	1	1	1	1	1	2	1	1	1	A	2	1	1	1	1	1	1	1	1	1	1	1	1.1	2.2	
11-Aug	1	1	1	1	1	1	2	1	1	1	A	2	1	1	1	1	1	1	1	1	1	1	1	1	1.1	2.0	
12-Aug	1	1	1	2	1	1	1	3	3	A	3	1	1	1	1	1	1	1	1	1	1	1	2	1	1.4	3.2	
13-Aug	1	1	2	2	1	1	1	2	A	2	2	1	1	1	1	1	1	1	1	1	2	1	1	1	1.3	2.4	
14-Aug	1	1	1	1	1	1	1	A	4	2	1	1	1	1	1	1	1	1	1	1	4	2	4	2	1.5	4.2	
15-Aug	1	1	1	2	1	1	A	3	2	1	1	1	1	1	1	1	1	1	1	2	2	2	4	2	1.4	3.8	
16-Aug	1	1	1	1	1	A	3	2	2	1	1	1	0	0	0	0	0	0	1	1	2	2	2	2	1.2	3.1	
17-Aug	2	2	2	2	A	4	3	4	C	C	C	C	3	1	1	1	1	1	1	2	5	1	1	1	1.9	5.1	
18-Aug	1	1	1	A	3	4	3	4	1	1	0	0	0	0	0	0	0	0	1	1	1	2	2	1	1.3	3.7	
19-Aug	1	1	A	4	2	2	3	2	1	2	1	1	1	1	1	1	1	1	1	1	1	3	2	2	1.4	3.5	
20-Aug	1	A	3	2	2	3	4	4	4	3	2	2	2	1	1	1	1	1	1	1	1	2	2	3	2.1	4.2	
21-Aug	A	4	4	3	3	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1.5	4.3	
22-Aug	3	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	1	4	2	A	3	1.2	3.8	
23-Aug	2	3	2	2	2	2	2	3	3	2	1	1	1	0	0	0	1	1	1	1	2	A	3	2	1.6	3.2	
24-Aug	1	1	1	2	2	1	2	2	2	3	4	3	1	1	1	0	0	1	2	A	4	3	3	2	1.8	3.5	
25-Aug	2	6	2	1	2	2	2	2	3	4	2	1	1	0	0	0	3	2	1	A	2	2	2	2	2.1	6.2	
26-Aug	1	2	2	1	1	1	1	1	1	2	1	1	1	1	2	2	1	1	A	3	2	2	2	2	1.4	2.6	
27-Aug	2	2	2	2	2	2	2	3	3	1	0	0	0	0	0	0	0	A	2	1	1	1	1	1	1.2	3.4	
28-Aug	1	1	1	1	1	1	1	2	1	0	0	0	0	0	0	0	A	2	1	1	1	1	1	1	0.8	2.0	
29-Aug	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	2	1	1	1	1	1	1	1	0.9	2.0	
30-Aug	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	3	2	2	2	1	1	1	1	1	1.2	2.7	
31-Aug	1	1	1	1	1	1	1	1	1	1	1	1	1	A	2	2	1	1	2	2	2	1	1	2	1.3	2.3	
		1.5	1.7	1.6	1.6	1.7	1.8	2.0	1.8	1.5	1.3	1.1	1.0	0.8	0.8	0.9	1.0	1.0	1.0	1.2	1.7	1.6	1.7	1.6	Diurnal Average		
		3.1	6.2	3.7	3.5	3.2	3.7	4.0	3.8	4.2	3.9	3.5	3.2	2.5	1.7	2.3	2.7	3.5	2.2	2.0	2.6	5.1	3.5	3.8	3.1	Diurnal Maximum	
C - Calibration		A - Automated Daily Zero Span																									

**Hourly Averages**

**Oxides of Nitrogen (NO<sub>x</sub>) - ppb**  
**Portable Rycroft - August 2016**



## Hourly Maximums

Oxides of Nitrogen (NO<sub>x</sub>) - ppb

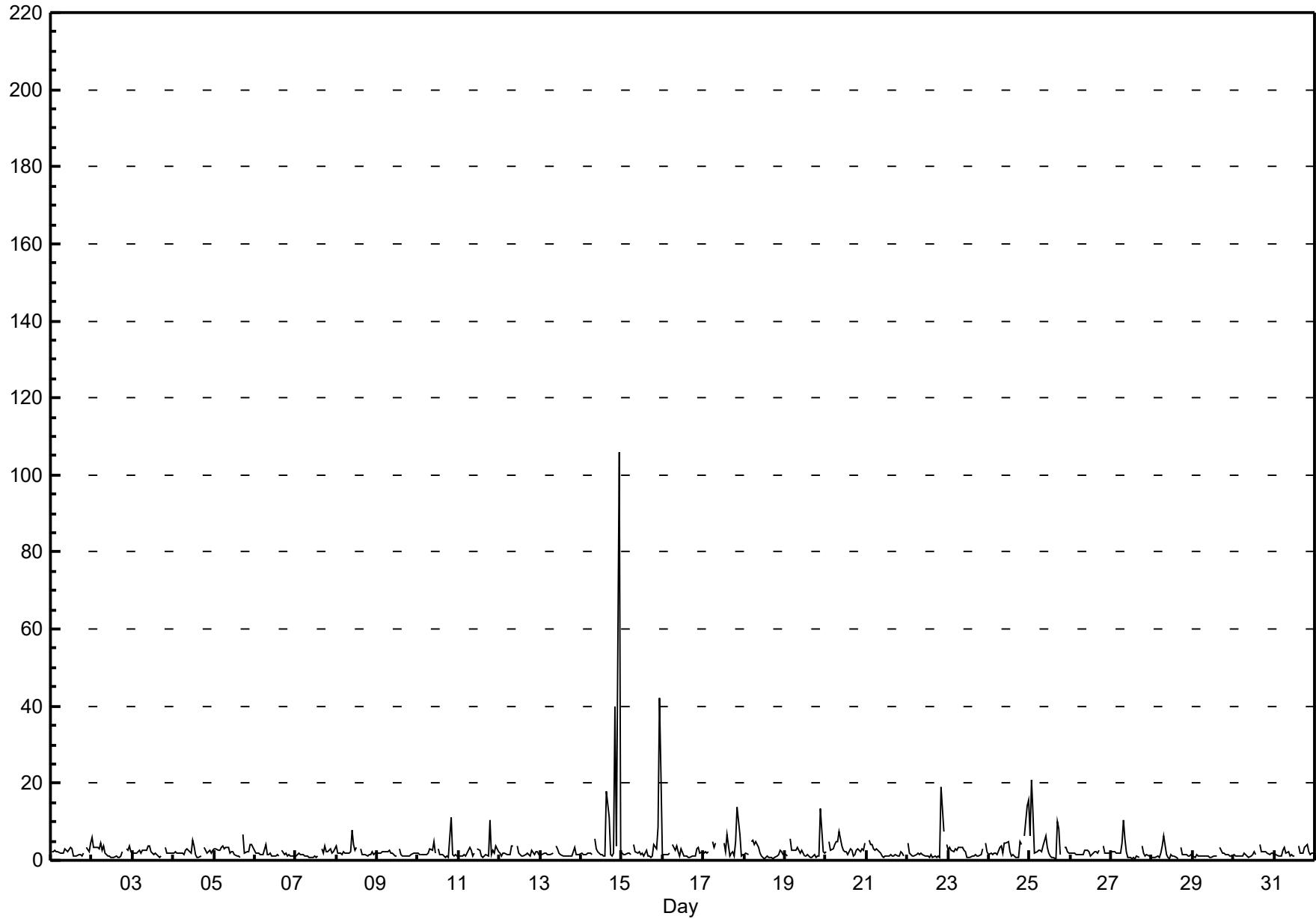
Portable Rycroft - August 2016

Maximum Value: 105.9 ppb on Aug 14 23:00		Maximum Daily Average: 9.2 ppb on Aug 14		Hours in Service: 744																							
Minimum Value: 0 ppb on Aug 28 16:00		Minimum Daily Average: 1.3 ppb on Aug 29		Hours of Data: 708																							
Maximum Diurnal Average: 7.3 ppb at hour 23		Minimum Diurnal Average: 1.3 ppb at hour 14		Hours of Missing Data: 36																							
Monthly Average: 2.57 ppb		Percentiles: P <sub>1</sub> = 0.6 P <sub>10</sub> = 1.0 Q <sub>1</sub> = 1.2 Median = 1.8 Q <sub>3</sub> = 2.6 P <sub>90</sub> = 3.9 P <sub>99</sub> = 17.4		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-Aug	2	2	3	2	2	2	2	2	3	2	2	3	3	1	1	1	2	1	1	2	A	4	2	4	2.2	4.3	
2-Aug	6	3	4	3	3	4	3	4	2	1	1	1	1	1	1	1	1	1	2	A	3	2	4	2	2.4	6.1	
3-Aug	2	2	2	2	3	2	2	3	2	4	4	2	2	2	1	1	1	1	A	3	2	2	2	2	2.1	3.6	
4-Aug	2	2	2	2	2	2	2	3	3	3	3	2	5	4	1	1	1	1	A	3	3	2	3	2	3	2.2	5.1
5-Aug	3	3	2	3	3	4	3	3	3	2	2	2	1	1	1	1	A	7	2	2	2	4	4	3	2.8	6.8	
6-Aug	2	2	2	2	2	1	4	1	2	2	1	1	1	2	1	A	3	2	2	1	1	1	1	1	1.6	4.0	
7-Aug	1	1	2	2	1	1	1	1	1	1	1	1	1	1	A	3	2	4	2	2	3	2	2	3	1.7	3.7	
8-Aug	4	2	2	2	2	2	2	2	2	8	4	3	3	A	3	2	1	2	1	1	2	2	2	2	2.4	7.9	
9-Aug	2	2	2	2	2	2	2	3	2	2	1	1	A	3	1	1	1	1	1	1	2	2	2	2	1.7	2.9	
10-Aug	2	2	2	2	2	2	2	3	3	5	2	A	3	1	1	1	1	1	1	1	1	1	1	1	2.2	11.0	
11-Aug	1	1	1	1	1	2	3	3	1	2	A	3	2	1	1	1	1	1	1	10	1	3	2	4	2	2.2	10.3
12-Aug	2	1	2	2	2	1	2	4	4	A	4	2	1	1	1	2	2	2	2	1	3	1	2	2	2	1.9	3.9
13-Aug	1	1	2	2	2	2	2	2	A	4	3	2	1	1	1	1	1	1	1	2	3	2	2	2	1.7	3.8	
14-Aug	2	2	1	2	2	2	2	A	6	3	2	1	1	1	1	18	11	1	1	2	40	4	106	2	9.2	105.9	
15-Aug	2	2	1	2	2	1	A	4	2	2	2	2	2	1	3	1	1	1	1	4	3	8	42	23	4.9	42.2	
16-Aug	1	1	2	1	2	A	4	3	4	2	1	3	1	1	1	1	1	1	1	1	3	4	2	2	1.9	4.3	
17-Aug	2	2	2	2	A	5	3	4	C	C	C	C	5	2	7	1	2	2	1	5	14	7	1	1	3.6	13.9	
18-Aug	2	2	2	A	5	5	4	5	3	2	1	1	1	1	1	1	1	1	1	1	1	3	2	1	1.9	5.3	
19-Aug	1	1	A	5	3	2	3	3	2	2	3	1	1	1	1	1	1	1	1	1	1	14	2	2	2.4	13.6	
20-Aug	2	A	5	3	3	4	5	5	7	4	2	2	2	1	3	3	1	1	3	3	2	3	3	4	3.1	7.3	
21-Aug	A	5	4	4	3	3	3	2	2	1	1	1	1	1	2	1	1	1	1	1	2	2	1	A	2.0	5.3	
22-Aug	4	2	2	1	1	1	2	2	2	2	1	1	1	1	2	1	1	1	1	1	19	8	A	4	2.6	18.9	
23-Aug	3	3	3	2	3	3	3	3	3	3	2	1	1	1	1	1	2	1	1	2	3	A	4	2	2.2	4.4	
24-Aug	2	2	2	2	2	2	3	4	2	4	4	5	2	1	1	1	1	1	5	4	A	6	14	16	3.7	15.7	
25-Aug	6	21	12	2	2	3	3	2	4	7	3	2	1	1	1	1	10	8	2	A	4	3	2	2	4.4	20.8	
26-Aug	2	2	2	2	1	1	1	1	3	3	3	2	1	2	2	2	2	3	A	4	2	2	2	2	2.0	3.9	
27-Aug	2	2	2	2	2	2	5	10	6	2	1	1	0	1	0	1	1	A	4	2	1	1	1	1	2.2	10.5	
28-Aug	1	1	1	1	1	2	4	6	1	1	1	2	1	1	1	0	A	3	1	1	1	1	1	1	1.5	6.4	
29-Aug	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	4	2	2	1	2	1	1	1	1.3	3.5	
30-Aug	1	1	1	1	1	1	2	1	1	1	1	1	2	2	A	4	2	2	2	2	2	2	2	2	1.7	4.0	
31-Aug	1	1	1	1	1	3	3	2	2	1	1	1	1	A	4	2	2	2	4	4	2	2	2	2	2.0	4.3	
		2.2	2.5	2.3	2.0	2.0	2.2	2.6	3.1	2.7	2.6	2.0	1.9	1.7	1.3	1.6	1.9	2.0	2.0	2.0	2.5	4.4	3.3	7.3	3.3	Diurnal Average	
		6.4	20.8	12.3	5.4	4.7	5.3	4.9	10.5	7.3	7.9	4.4	5.1	4.6	2.9	6.6	17.9	11.2	8.2	10.3	11.0	40.1	13.6	105.9	22.9	Diurnal Maximum	
C - Calibration		A - Automated Daily Zero Span																									



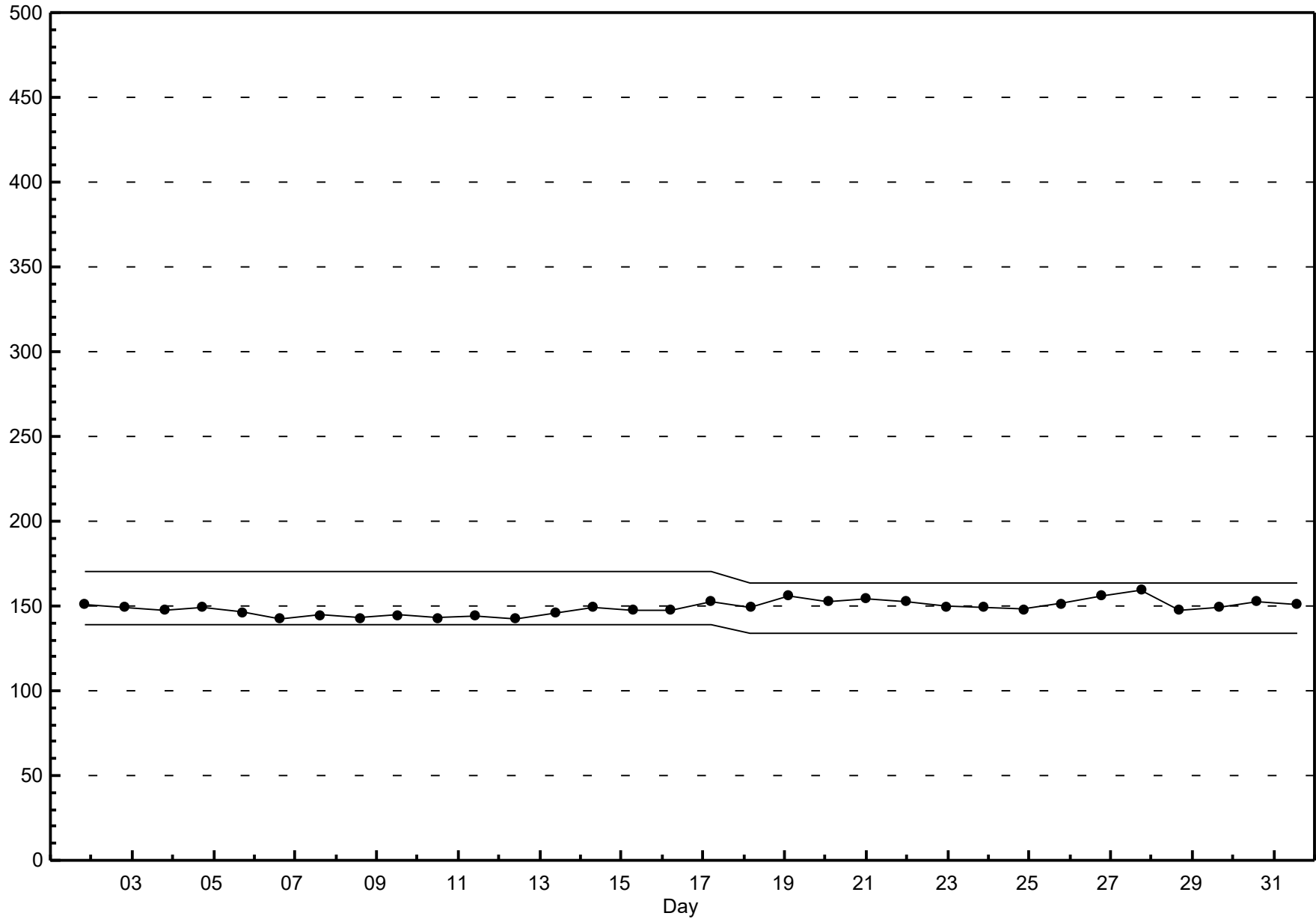
### Hourly Maximums

Oxides of Nitrogen (NO<sub>x</sub>) - ppb  
Portable Rycroft - August 2016



### Span Responses

Oxides of Nitrogen (NO<sub>x</sub>)  
Portable Rycroft - August 2016



## Hourly Averages

Ozone (O<sub>3</sub>) - ppb

Portable Rycroft - August 2016

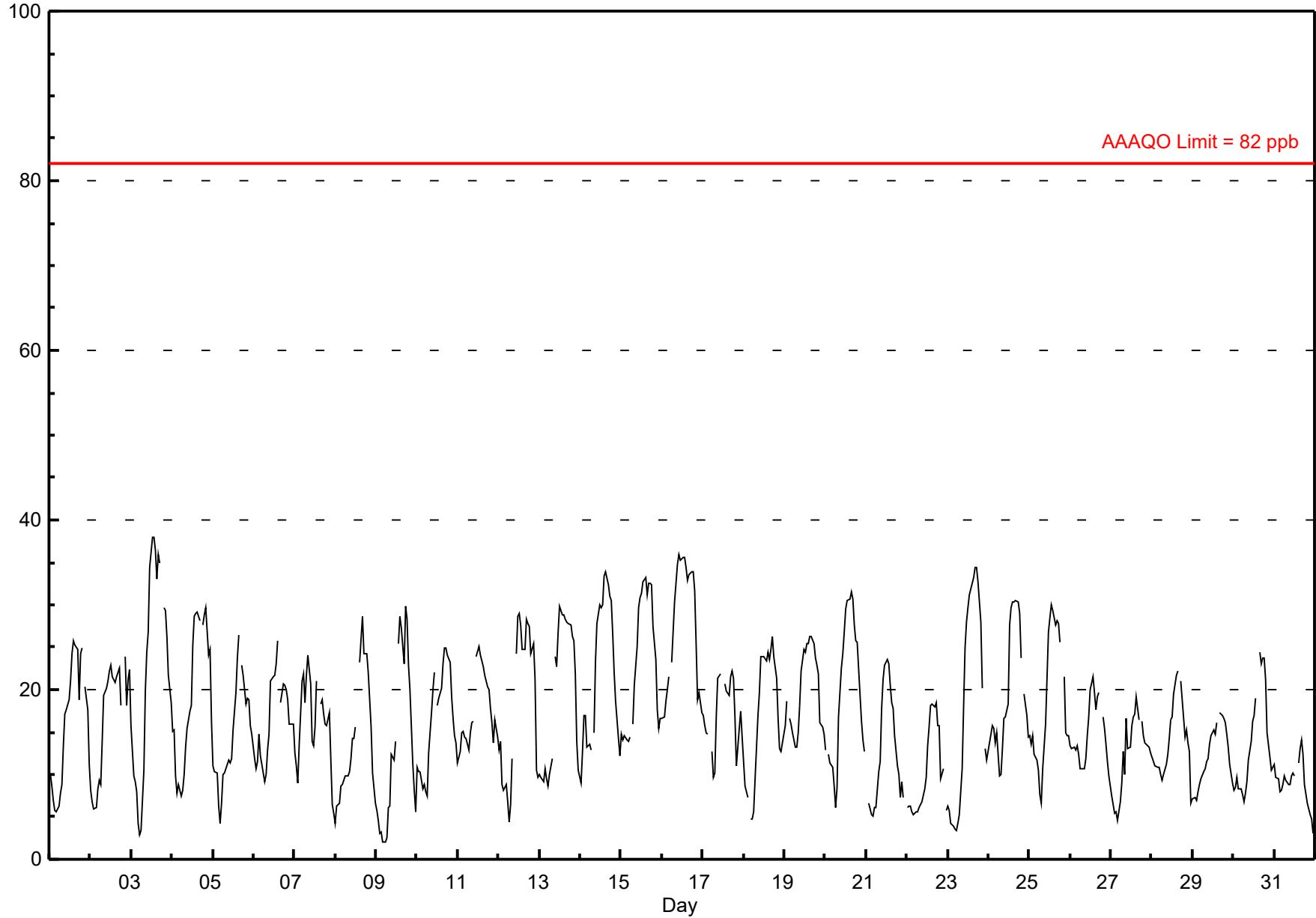
Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 37.9 ppb on Aug 3 13:00	Maximum Daily Average: 27.7 ppb on Aug 16		Hours of Data:	710
Minimum Value: 2 ppb on Aug 9 05:00	Minimum Daily Average: 9.0 ppb on Aug 31		Hours of Missing Data:	34
Maximum Diurnal Average: 25.1 ppb at hour 16	Minimum Diurnal Average: 9.1 ppb at hour 7		Hours of Calibration:	34
Monthly Average: 16.83 ppb	Percentiles: P <sub>1</sub> = 3.3 P <sub>10</sub> = 6.7 Q <sub>1</sub> = 10.5 Median = 15.7 Q <sub>3</sub> = 22.9 P <sub>90</sub> = 28.6 P <sub>99</sub> = 35.4		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-Aug	10	9	7	6	6	6	8	9	13	17	18	19	21	24	26	25	25	19	24	25	A	20	18	11	15.9	25.8																						
2-Aug	8	7	6	6	8	9	9	14	19	20	21	22	23	22	21	21	22	23	18	A	24	18	21	22	16.8	23.9																						
3-Aug	16	10	9	8	4	3	3	11	20	24	27	34	38	38	36	33	36	35	A	30	29	26	22	18	22.2	37.9																						
4-Aug	15	15	10	8	9	7	8	10	13	15	18	18	25	29	29	29	28	A	28	29	30	24	25	16	19.1	29.6																						
5-Aug	11	10	10	6	4	7	10	10	11	12	11	12	15	20	24	26	A	23	22	18	19	19	16	15	14.4	26.5																						
6-Aug	12	11	11	15	12	11	9	10	13	15	21	22	22	23	26	A	18	21	20	20	19	16	16	16	16.4	25.8																						
7-Aug	13	11	9	14	21	22	18	22	24	21	14	13	16	21	A	18	19	17	16	16	17	12	6	5	15.8	24.0																						
8-Aug	4	6	7	9	9	9	10	10	10	12	14	14	16	A	23	26	29	24	24	22	19	16	10	7	14.3	28.6																						
9-Aug	6	5	3	3	2	2	3	6	6	12	12	14	A	25	29	27	23	30	28	23	20	11	8	6	13.2	29.8																						
10-Aug	11	10	10	8	9	8	8	13	17	20	22	A	18	19	20	23	25	25	24	23	19	17	15	14	16.4	24.9																						
11-Aug	11	13	15	15	14	14	13	15	16	16	A	24	25	24	23	23	22	20	20	18	16	14	16	14	17.5	25.1																						
12-Aug	13	14	9	8	9	7	4	6	12	A	24	29	29	28	25	25	28	28	27	24	25	21	11	10	18.1	29.0																						
13-Aug	10	10	9	11	9	9	10	12	A	24	23	27	30	29	29	28	28	28	28	26	26	22	14	10	19.6	29.8																						
14-Aug	9	13	17	17	13	14	13	A	15	23	28	30	30	30	33	34	32	31	30	27	22	19	14	12	22.0	33.9																						
15-Aug	15	14	15	14	14	14	A	16	21	25	30	31	31	33	33	31	33	33	32	27	24	18	15	17	23.2	33.2																						
16-Aug	17	17	19	20	22	A	23	30	32	35	36	35	36	36	34	33	33	34	34	32	25	19	20	17	27.7	35.9																						
17-Aug	17	16	15	15	A	13	10	10	17	21	22	C	C	21	20	19	21	22	21	17	11	15	17	14	16.9	22.3																						
18-Aug	11	9	7	A	5	5	6	10	17	20	24	24	24	23	24	24	25	26	24	21	17	13	13	14	16.7	26.3																						
19-Aug	16	19	A	17	16	15	13	13	15	18	22	25	24	26	25	26	26	25	24	23	22	16	16	15	19.8	26.3																						
20-Aug	13	A	12	11	11	9	6	8	17	23	24	27	30	30	31	32	31	28	26	26	19	16	14	13	19.8	31.5																						
21-Aug	A	7	6	5	5	6	6	10	12	18	21	23	24	23	21	18	18	15	11	10	7	9	7	A	12.8	23.6																						
22-Aug	6	6	6	6	5	6	6	6	6	7	8	10	13	16	18	18	18	19	16	16	10	11	A	6	10.3	18.5																						
23-Aug	6	6	4	4	4	3	4	5	11	18	25	28	30	31	33	33	34	34	33	28	20	A	13	12	18.2	34.5																						
24-Aug	13	15	16	15	14	15	10	10	13	17	17	18	28	30	30	30	30	30	29	24	A	19	17	14	19.7	30.4																						
25-Aug	15	14	15	12	12	10	8	7	11	16	21	27	29	30	29	28	28	28	26	A	22	15	15	15	18.7	30.1																						
26-Aug	13	13	13	13	13	12	11	11	11	12	15	17	20	22	20	18	19	20	A	17	16	14	11	10	14.7	21.6																						
27-Aug	7	6	5	6	5	7	9	13	10	17	13	13	16	17	17	19	16	A	16	15	14	14	13	13	12.2	19.1																						
28-Aug	12	12	11	11	11	10	9	10	11	12	14	16	17	20	22	22	A	21	19	14	15	14	13	7	14.0	22.2																						
29-Aug	7	7	7	8	9	10	10	11	11	12	14	15	15	15	16	A	17	17	17	16	15	13	11	9	12.2	17.3																						
30-Aug	8	8	10	8	8	8	7	8	9	12	14	16	17	19	A	24	23	24	24	21	15	12	11	11	13.8	24.5																						
31-Aug	11	10	10	8	8	9	10	9	9	9	10	10	10	A	11	13	14	12	9	7	6	5	5	3	9.0	14.0																						
																								11.2	10.7	10.1	10.2	9.7	9.3	9.1	11.1	14.1	17.4	19.4	21.1	23.1	24.9	25.1	25.1	24.9	24.5	23.1	21.2	18.7	15.9	14.1	12.2	Diurnal Average
																								16.9	18.6	18.7	20.0	21.6	21.8	23.2	30.4	32.5	34.7	35.9	35.3	37.9	37.9	36.4	33.9	35.9	34.9	33.9	31.7	29.6	26.3	24.8	22.4	Diurnal Maximum

C - Calibration      A - Automated Daily Zero Span  
 Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 82 ppb    24-hr na

### Hourly Averages

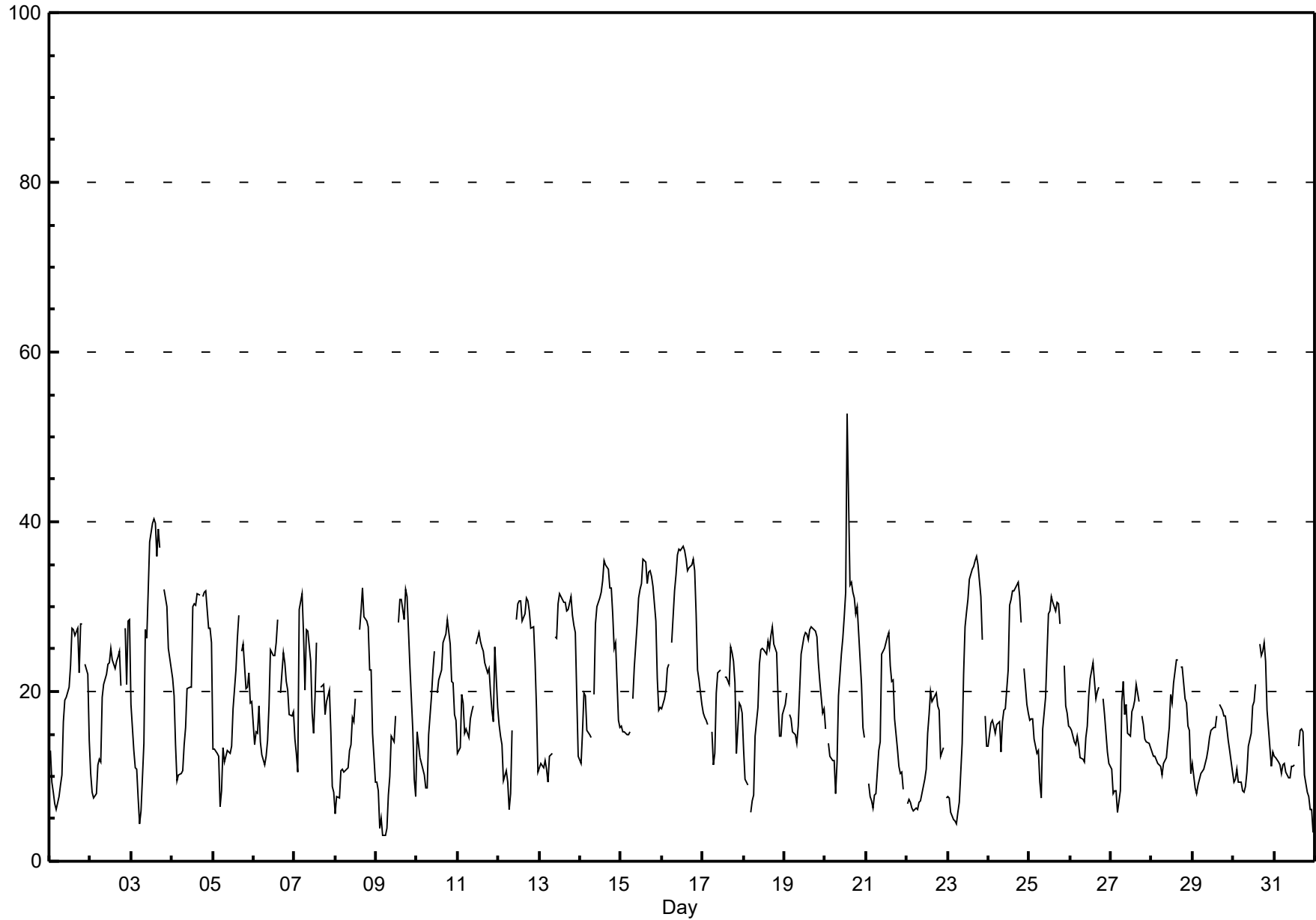
Ozone (O<sub>3</sub>) - ppb  
Portable Rycroft - August 2016





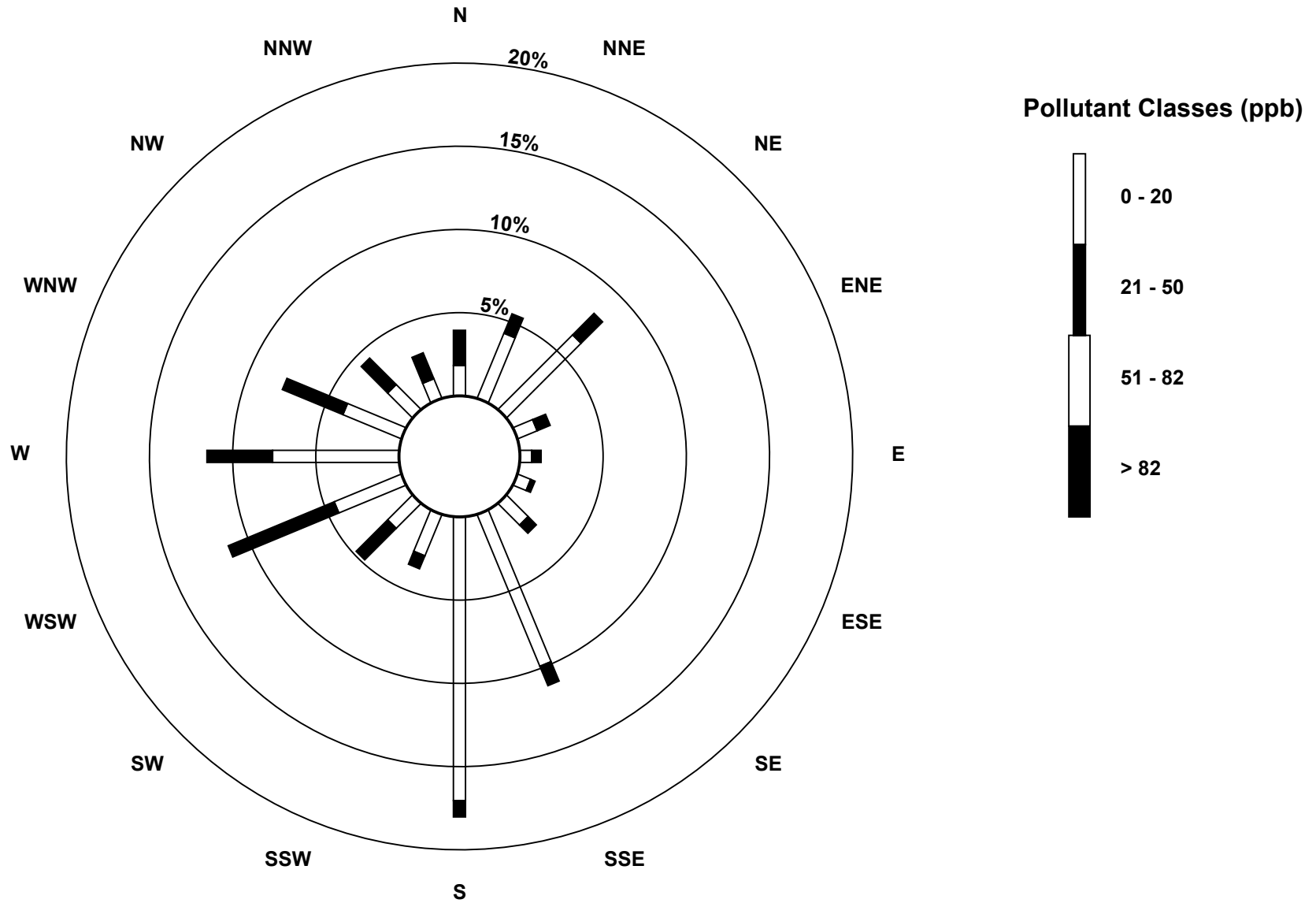
### Hourly Maximums

Ozone (O<sub>3</sub>) - ppb  
Portable Rycroft - August 2016



**Pollutant Rose**

**Ozone (O<sub>3</sub>) - ppb**  
**Portable Rycroft - August 2016**



# Eight Hour Running Averages

Ozone (O<sub>3</sub>) - ppb

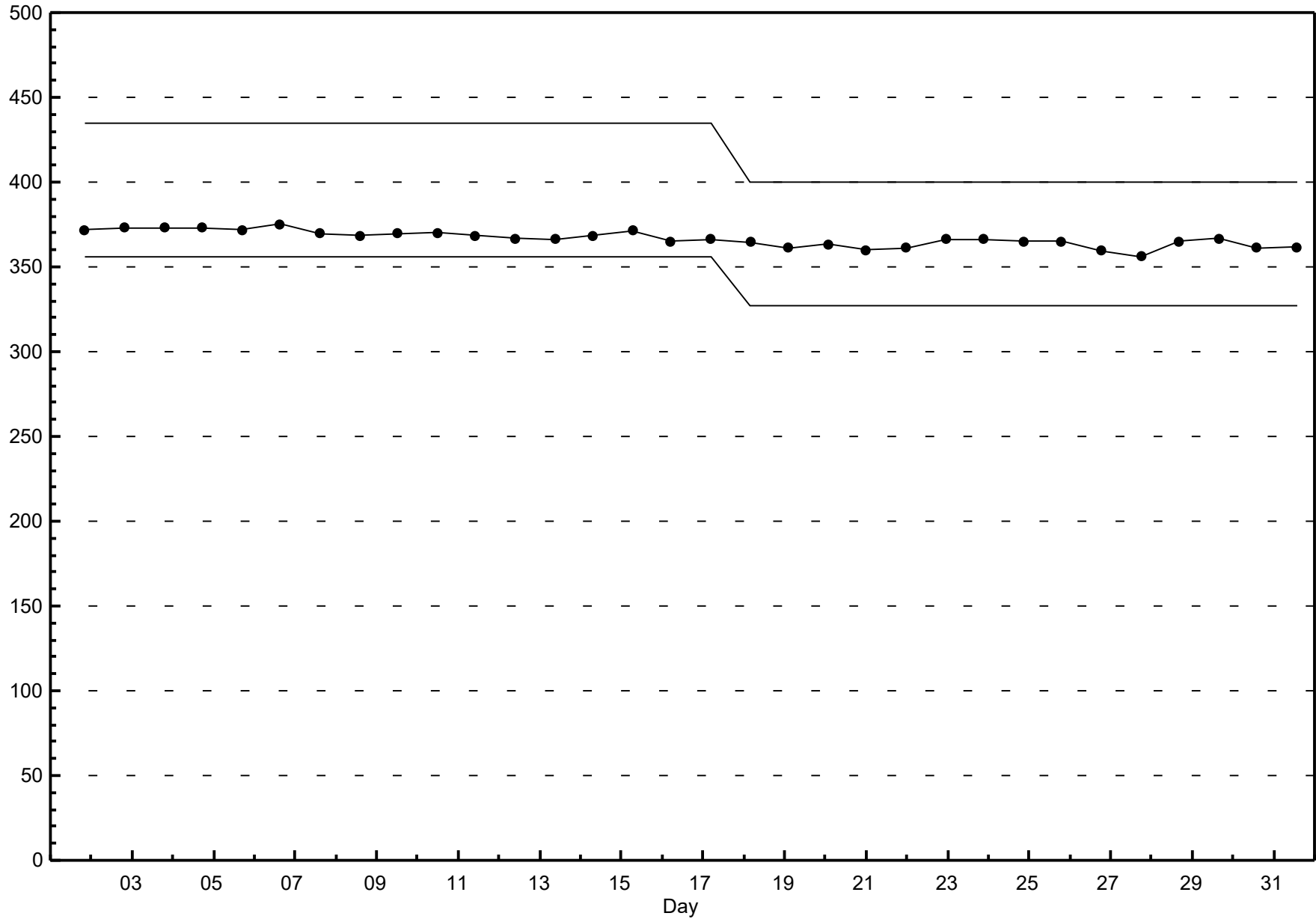
Portable Rycroft - August 2016

Maximum Value: 35.8 ppb on Aug 3 19:00																					Hours in Service:	744			
Minimum Value: 3.7 ppb on Aug 9 08:00																					Hours of Data:	744			
Percentiles: P <sub>1</sub> = 4.7 P <sub>10</sub> = 8.8 Q <sub>1</sub> = 11.9 Median = 16.0 Q <sub>3</sub> = 21.2 P <sub>90</sub> = 26.8 P <sub>99</sub> = 34.2																					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-Aug	17	15	13	11	9	8	8	7	8	9	10	12	14	16	18	20	22	22	23	24	24	23	22	20	24.0
2-Aug	18	16	14	11	11	9	8	8	10	11	13	15	17	19	20	21	22	22	21	21	22	21	21	21	21.8
3-Aug	20	18	17	16	14	12	9	8	8	10	13	16	20	24	29	31	33	35	36	35	34	32	30	28	35.8
4-Aug	25	22	21	18	15	13	11	10	10	10	11	12	14	17	20	22	24	25	27	28	29	28	27	26	28.8
5-Aug	23	22	19	17	13	11	9	9	9	9	9	10	11	13	14	16	17	19	20	21	22	22	20	19	23.2
6-Aug	18	16	15	15	14	13	12	11	12	12	13	14	15	17	19	20	21	22	22	21	21	20	19	18	21.8
7-Aug	18	16	15	14	14	15	15	16	18	19	19	19	19	19	19	18	17	17	17	18	18	16	15	14	19.4
8-Aug	12	10	9	8	7	7	7	8	9	9	10	11	12	12	14	16	19	21	22	23	24	23	21	19	23.9
9-Aug	16	14	11	8	6	5	4	4	4	5	6	7	8	11	15	18	20	23	25	26	26	24	21	19	26.5
10-Aug	17	15	12	11	9	9	9	10	10	12	13	14	15	17	18	20	21	22	22	22	22	22	21	20	22.3
11-Aug	18	17	16	15	14	14	14	14	14	15	15	16	18	19	21	22	22	23	23	22	21	19	19	18	23.0
12-Aug	16	16	14	13	12	11	10	9	9	8	10	13	16	19	22	24	27	27	27	27	26	25	24	22	27.3
13-Aug	20	17	15	13	11	10	10	10	10	12	14	16	19	22	25	27	27	28	28	28	28	27	25	23	28.2
14-Aug	20	18	17	16	14	13	13	14	14	16	17	19	22	24	27	28	30	31	31	31	30	29	26	23	31.3
15-Aug	21	19	17	16	15	14	14	15	15	17	19	21	24	27	27	29	31	32	32	32	31	29	27	25	32.1
16-Aug	23	21	19	18	18	18	19	21	23	26	28	30	32	33	34	35	35	35	34	34	33	31	29	27	34.7
17-Aug	25	22	20	18	17	16	15	14	14	14	15	15	15	17	18	20	21	21	21	20	19	18	18	18	24.7
18-Aug	16	15	13	12	11	10	8	7	8	10	12	14	16	18	21	22	23	24	24	24	23	22	20	19	24.3
19-Aug	18	17	16	15	15	15	16	15	15	15	16	17	18	20	21	23	24	25	25	25	25	23	22	21	25.2
20-Aug	19	18	17	15	13	12	11	10	11	12	14	16	18	21	24	27	28	29	29	29	28	26	24	22	29.1
21-Aug	20	17	14	11	9	8	7	6	7	9	10	13	15	17	19	20	21	20	19	17	15	14	12	11	20.7
22-Aug	9	8	7	7	7	6	6	6	6	6	6	7	8	9	11	12	13	15	16	17	16	16	15	13	16.7
23-Aug	12	10	8	7	6	5	5	5	5	7	9	12	16	19	23	26	29	31	32	32	31	31	28	25	32.0
24-Aug	22	19	17	15	14	14	14	13	13	14	14	14	16	18	20	23	25	27	28	29	29	28	26	23	29.1
25-Aug	21	19	17	15	15	14	12	11	11	11	12	14	16	18	21	24	26	27	28	28	27	25	23	21	28.2
26-Aug	19	17	15	15	14	13	13	12	12	12	12	13	13	15	16	17	18	19	19	19	19	17	16	15	19.3
27-Aug	13	12	11	9	8	7	7	7	8	9	10	11	12	13	14	15	16	16	16	17	16	16	15	14	16.6
28-Aug	14	13	13	12	12	12	11	11	11	11	11	12	13	14	15	17	18	19	20	19	19	18	17	15	19.5
29-Aug	14	12	11	10	9	8	8	9	9	10	11	11	12	13	14	14	15	16	16	16	16	16	15	14	16.2
30-Aug	13	12	11	10	10	9	8	8	8	9	9	10	11	13	14	16	18	20	21	22	21	20	19	18	21.7
31-Aug	16	14	13	11	10	10	10	9	9	9	9	9	9	10	10	10	11	12	11	11	10	10	9	8	16.1
25.0 22.4 20.7 18.2 17.9 18.0 19.1 21.0 23.3 25.8 28.3 30.5 32.5 32.9 34.3 34.6 34.7 34.7 35.8 35.1 33.8 32.2 30.1 28.0																									
Diurnal Maximums																									



### Span Responses

Ozone (O<sub>3</sub>)  
Portable Rycroft - August 2016



## Hourly Averages

## Total Hydrocarbons (THC) - ppm

### Portable Rycroft - August 2016

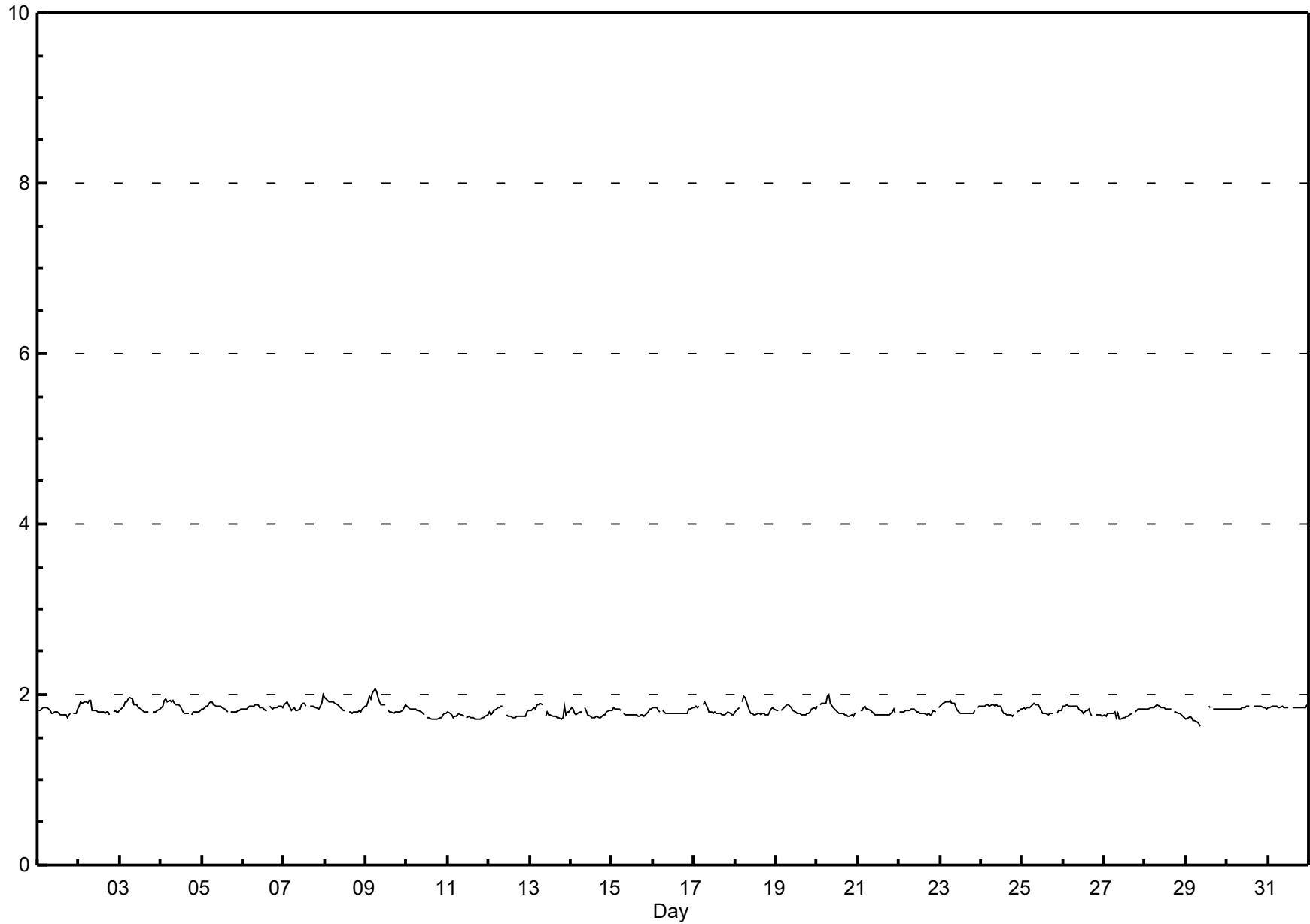
Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0	Hours in Service: 744
Maximum Value: 2.06 ppm on Aug 9 06:00	Maximum Daily Average: 1.88 ppm on Aug 9
Minimum Value: 1.6 ppm on Aug 29 09:00	Hours of Data: 708
Maximum Diurnal Average: 1.87 ppm at hour 7	Hours of Missing Data: 36
Monthly Average: 1.817 ppm	Hours of Calibration: 36
Minimum Daily Average: 1.74 ppm on Aug 11	Percent Operational Time: 100.0
Minimum Diurnal Average: 1.78 ppm at hour 18	
Percentiles: P <sub>1</sub> = 1.71 P <sub>10</sub> = 1.75 Q <sub>1</sub> = 1.78 Median = 1.82 Q <sub>3</sub> = 1.85 P <sub>90</sub> = 1.89 P <sub>99</sub> = 1.98	

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Aug	1.8	1.8	1.8	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	1.7	1.8	1.8	A	1.8	1.8	1.8	1.79	1.85																							
2-Aug	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	1.8	1.8	A	1.8	1.8	1.8	1.84	1.93																							
3-Aug	1.8	1.8	1.9	1.9	1.9	2.0	2.0	2.0	1.9	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	1.85	1.97																							
4-Aug	1.8	1.9	1.9	2.0	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	A	1.8	1.8	1.8	1.8	1.8	1.8	1.85	1.95																							
5-Aug	1.8	1.8	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	A	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.84	1.92																							
6-Aug	1.8	1.8	1.8	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.8	1.8	A	1.9	1.8	1.8	1.8	1.9	1.9	1.9	1.9	1.85	1.88																							
7-Aug	1.9	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	1.9	1.9	1.8	1.9	1.9	2.0	1.87	1.99																							
8-Aug	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.8	1.8	A	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.85	1.97																							
9-Aug	1.9	1.9	2.0	2.0	2.0	2.1	2.0	2.0	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	1.9	1.88	2.06																							
10-Aug	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	A	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.8	1.78	1.86																								
11-Aug	1.8	1.8	1.8	1.7	1.8	1.8	1.8	1.8	1.8	1.7	A	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	1.74	1.80																							
12-Aug	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.9	1.9	A	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.8	1.7	1.7	1.7	1.7	1.7	1.8	1.78	1.87																							
13-Aug	1.8	1.8	1.8	1.8	1.9	1.9	1.9	1.9	A	1.7	1.8	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.9	1.8	1.8	1.8	1.79	1.91																							
14-Aug	1.9	1.8	1.8	1.8	1.8	1.8	1.8	A	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	1.8	1.8	1.8	1.78	1.85																							
15-Aug	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	1.79	1.85																							
16-Aug	1.8	1.9	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	1.9	1.80	1.86																							
17-Aug	1.9	1.9	1.9	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	1.81	1.92																							
18-Aug	1.8	1.8	1.8	A	1.9	2.0	2.0	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	1.98																							
19-Aug	1.8	1.8	A	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	1.9	1.8	1.81	1.88																							
20-Aug	1.9	A	1.9	1.9	1.9	1.9	2.0	2.0	1.9	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	1.8	1.8	1.83	2.01																							
21-Aug	A	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	1.8	1.8	1.8	1.8	1.8	A	1.79	1.86																							
22-Aug	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	1.8	1.8	A	1.8	1.80	1.85																							
23-Aug	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	1.8	1.8	1.8	A	1.9	1.9	1.84	1.93																							
24-Aug	1.9	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	1.8	A	1.8	1.8	1.8	1.83	1.89																							
25-Aug	1.8	1.8	1.8	1.8	1.8	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	1.82	1.90																							
26-Aug	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	1.82	1.87																							
27-Aug	1.8	1.8	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	1.8	1.8	A	1.8	1.8	1.8	1.8	1.8	1.8	1.77	1.83																							
28-Aug	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	A	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.82	1.87																							
29-Aug	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	C	C	C	C	1.9	1.8	A	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.77	1.86																							
30-Aug	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.8	1.85	1.87																							
31-Aug	1.8	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.9	1.9	1.8	1.8	1.9	A	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.8	1.85	1.88																							
																								1.83	1.84	1.85	1.85	1.85	1.86	1.87	1.86	1.83	1.82	1.82	1.81	1.79	1.79	1.78	1.78	1.78	1.78	1.78	1.78	1.80	1.80	1.81	1.83	Diurnal Average	
																								1.97	1.95	1.98	1.95	2.01	2.06	2.03	2.01	1.92	1.89	1.89	1.90	1.89	1.87	1.85	1.87	1.87	1.86	1.87	1.87	1.86	1.86	1.86	1.90	1.99	Diurnal Maximum

C - Calibration                      A - Automated Daily Zero Span

**Hourly Averages**

**Total Hydrocarbons (THC) - ppm**  
**Portable Rycroft - August 2016**



## Hourly Maximums

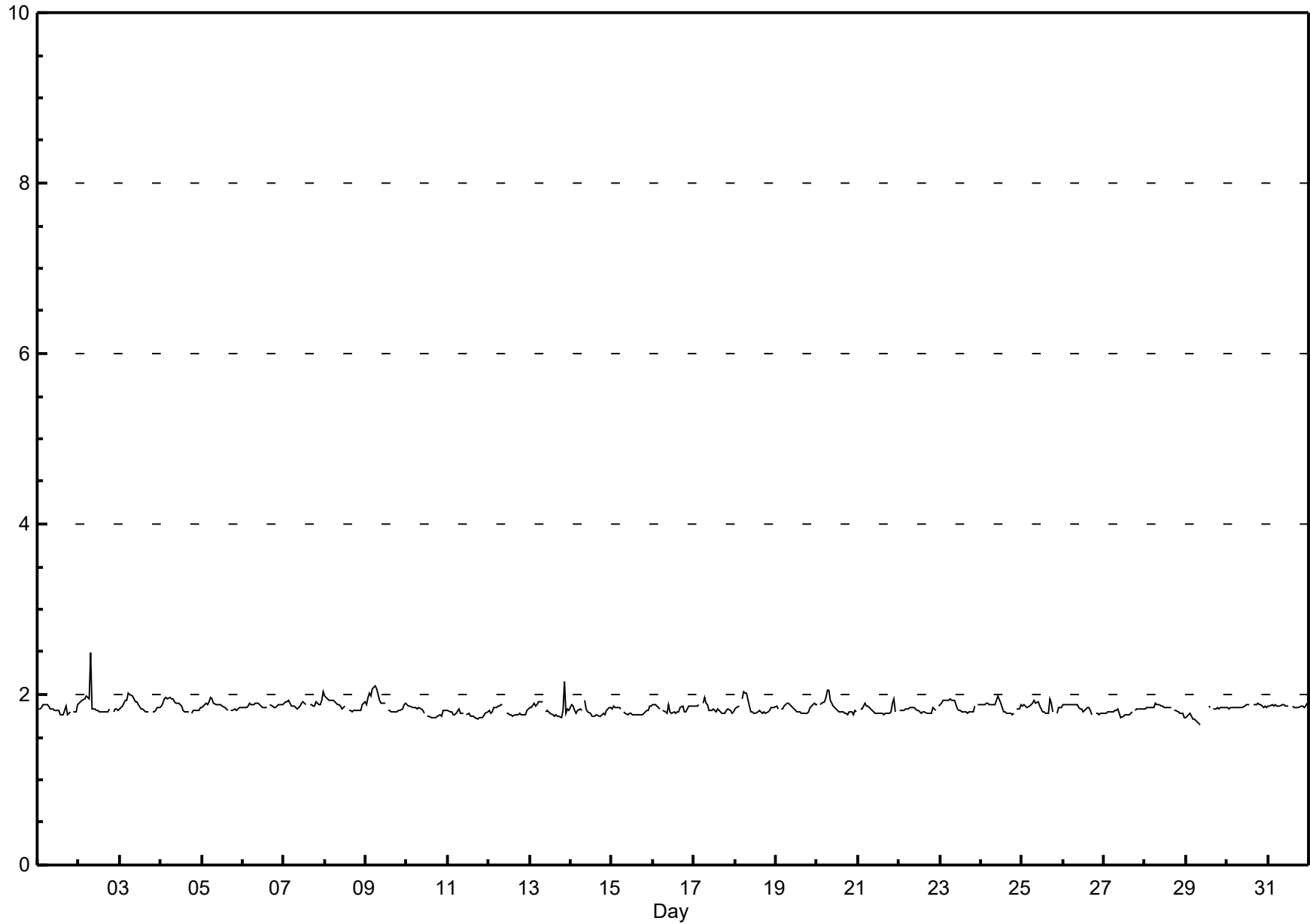
Total Hydrocarbons (THC) - ppm

Portable Rycroft - August 2016

Maximum Value: 2.49 ppm on Aug 2 08:00      Maximum Daily Average: 1.91 ppm on Aug 9 Minimum Value: 1.6 ppm on Aug 29 09:00      Minimum Daily Average: 1.76 ppm on Aug 11 Maximum Diurnal Average: 1.90 ppm at hour 8      Minimum Diurnal Average: 1.79 ppm at hour 16 Monthly Average: 1.840 ppm      Percentiles: P <sub>1</sub> = 1.72 P <sub>10</sub> = 1.77 Q <sub>1</sub> = 1.79 Median = 1.84 Q <sub>3</sub> = 1.88 P <sub>90</sub> = 1.91 P <sub>99</sub> = 2.05																								Hours in Service: 744 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-Aug	1.8	1.8	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.8	1.8	1.8	A	1.8	1.8	1.9	1.82	1.88																						
2-Aug	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.5	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	A	1.8	1.8	1.8	1.8	1.88	2.49																						
3-Aug	1.8	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	1.9	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	1.87	2.01																						
4-Aug	1.9	1.9	2.0	2.0	2.0	2.0	1.9	2.0	1.9	1.9	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	1.87	1.97																						
5-Aug	1.9	1.9	1.9	1.9	1.9	2.0	2.0	1.9	1.9	1.9	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	1.86	1.97																						
6-Aug	1.8	1.9	1.8	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.8	A	1.9	1.9	1.9	1.8	1.9	1.9	1.9	1.9	1.87	1.90																						
7-Aug	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	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	2.0	1.89	2.04																						
8-Aug	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.9	A	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.9	1.87	1.99																						
9-Aug	1.9	2.0	2.0	2.0	2.1	2.1	2.1	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	1.9	1.9	1.91	2.09																						
10-Aug	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.8	A	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.8	1.7	1.8	1.8	1.8	1.80	1.89																						
11-Aug	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	A	1.8	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.8	1.8	1.76	1.83																						
12-Aug	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	1.7	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.80	1.89																						
13-Aug	1.9	1.8	1.9	1.9	1.9	1.9	1.9	1.9	A	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.7	1.8	2.1	1.8	1.8	1.8	1.83	2.15																						
14-Aug	1.9	1.9	1.8	1.8	1.8	1.8	1.8	A	1.9	1.8	1.8	1.8	1.7	1.7	1.7	1.8	1.7	1.7	1.8	1.8	1.8	1.8	1.8	1.8	1.80	1.92																						
15-Aug	1.8	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	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.9	1.80	1.87																						
16-Aug	1.9	1.9	1.9	1.9	1.8	A	1.8	1.8	1.8	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.8	1.8	1.8	1.9	1.9	1.9	1.83	1.88																						
17-Aug	1.9	1.9	1.9	1.9	A	1.9	2.0	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.83	1.96																						
18-Aug	1.8	1.8	1.9	A	2.0	2.0	2.0	2.0	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.9	1.85	2.03																						
19-Aug	1.9	1.8	A	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	1.9	1.9	1.9	1.9	1.84	1.90																						
20-Aug	1.9	A	1.9	1.9	1.9	2.0	2.1	2.0	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.85	2.05																						
21-Aug	A	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	1.9	1.9	1.8	A	1.82	1.95																						
22-Aug	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	A	1.9	1.81	1.86																						
23-Aug	1.9	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	1.8	1.8	1.9	A	1.9	1.9	1.86	1.96																						
24-Aug	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	1.8	1.8	1.8	1.8	1.8	1.8	1.8	A	1.8	1.8	1.9	1.85	1.98																						
25-Aug	1.9	1.9	1.9	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	1.9	1.9	1.8	A	1.8	1.9	1.9	1.8	1.86	1.95																						
26-Aug	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	1.8	1.84	1.89																						
27-Aug	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	1.8	1.8	1.8	1.8	A	1.8	1.8	1.8	1.8	1.8	1.8	1.80	1.84																						
28-Aug	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	A	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.83	1.90																						
29-Aug	1.7	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.6	C	C	C	C	1.9	1.9	A	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.78	1.87																						
30-Aug	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.86	1.90																						
31-Aug	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.87	1.90																						
																								1.85	1.86	1.87	1.87	1.88	1.89	1.90	1.90	1.86	1.85	1.84	1.83	1.81	1.80	1.80	1.79	1.80	1.80	1.80	1.81	1.83	1.83	1.84	1.85	Diurnal Average
																								1.99	1.97	2.01	1.99	2.07	2.09	2.06	2.49	1.96	1.94	1.98	1.91	1.90	1.88	1.86	1.88	1.95	1.89	1.90	1.92	2.15	1.95	1.94	2.04	Diurnal Maximum
C - Calibration																								A - Automated Daily Zero Span																								

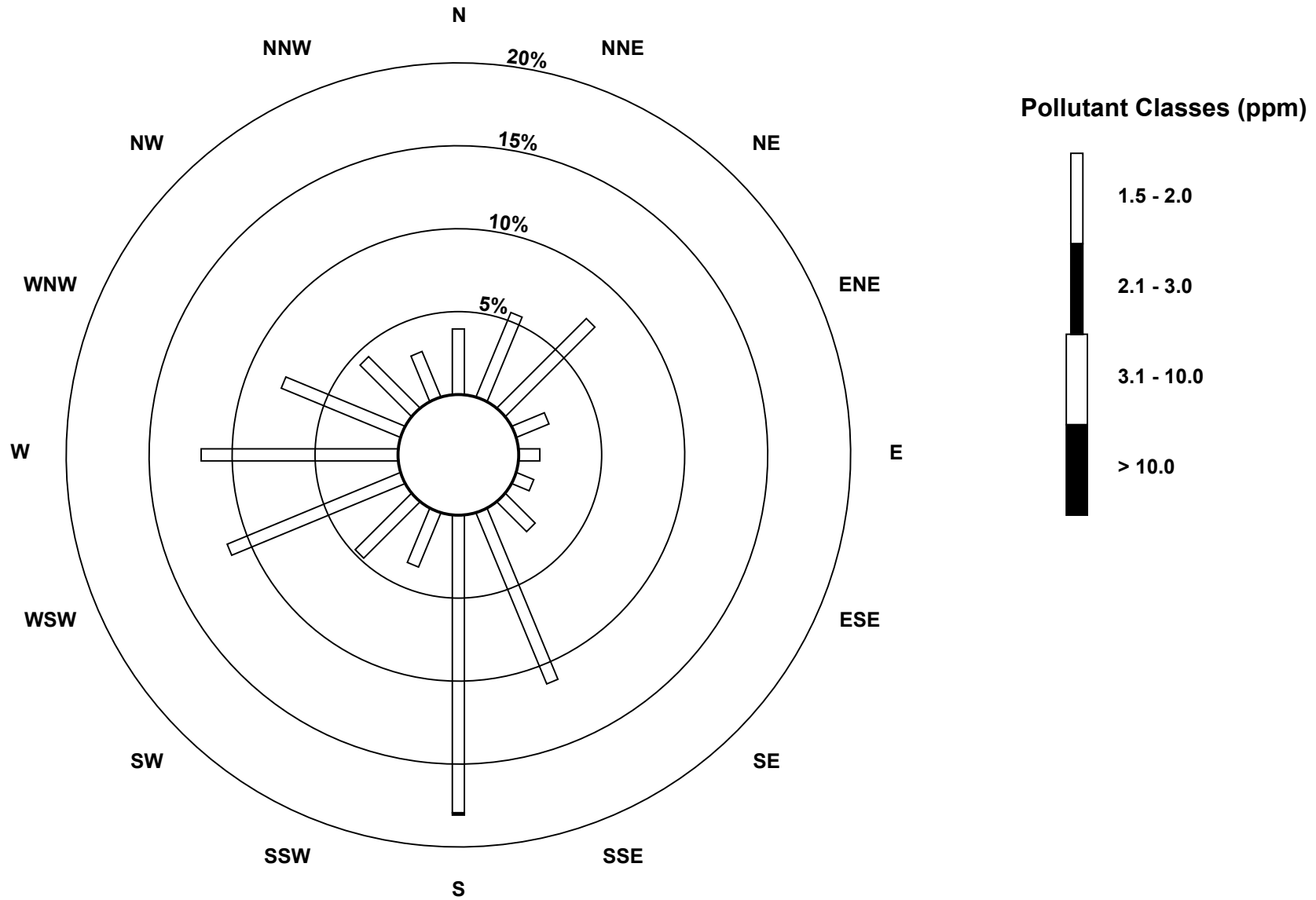
**Hourly Maximums**

**Total Hydrocarbons (THC) - ppm**  
**Portable Rycroft - August 2016**



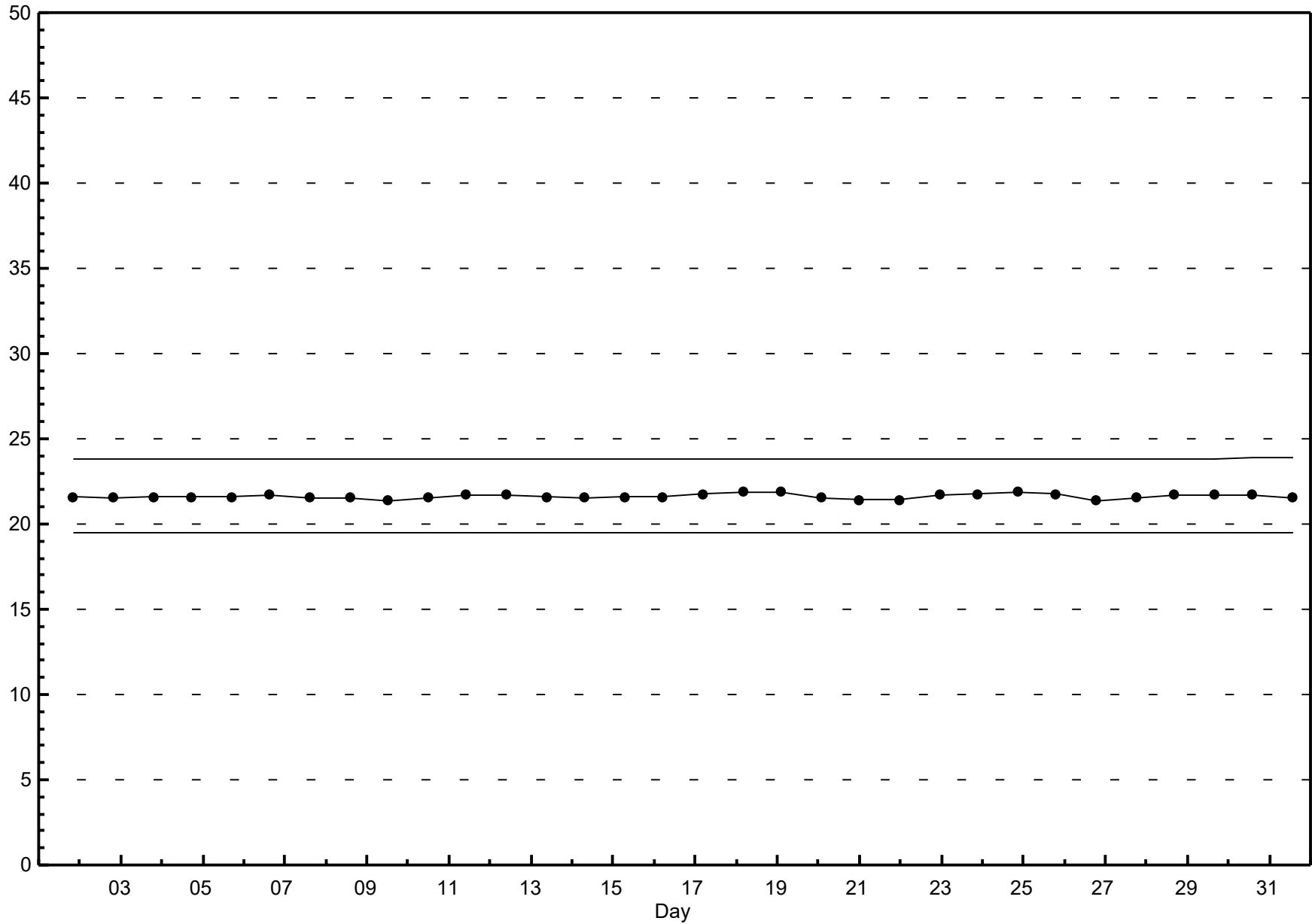
**Pollutant Rose**

**Total Hydrocarbons (THC) - ppm**  
**Portable Rycroft - August 2016**



### Span Responses

Total Hydrocarbons (THC)  
Portable Rycroft - August 2016



## Hourly Averages

PM2.5 (PM<sub>2.5</sub>) - µg/m<sup>3</sup>

Portable Rycroft - August 2016

Number of Exceedences: 1-hr: 0 24-hr: 0	Hours in Service: 744
Maximum Value: 11.7 µg/m <sup>3</sup> on Aug 16 17:00	Maximum Daily Average: 4.7 µg/m <sup>3</sup> on Aug 8
Minimum Value: 0 µg/m <sup>3</sup> on Aug 1 01:00	Hours of Data: 743
Maximum Diurnal Average: 3.5 µg/m <sup>3</sup> at hour 8	Hours of Missing Data: 1
Monthly Average: 2.20 µg/m <sup>3</sup>	Hours of Calibration: 0
Minimum Daily Average: 0.1 µg/m <sup>3</sup> on Aug 28	Percent Operational Time: 99.9
Minimum Diurnal Average: 1.4 µg/m <sup>3</sup> at hour 3	
Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.0 Q <sub>1</sub> = 0.7 Median = 1.7 Q <sub>3</sub> = 3.3 P <sub>90</sub> = 5.0 P <sub>99</sub> = 7.4	

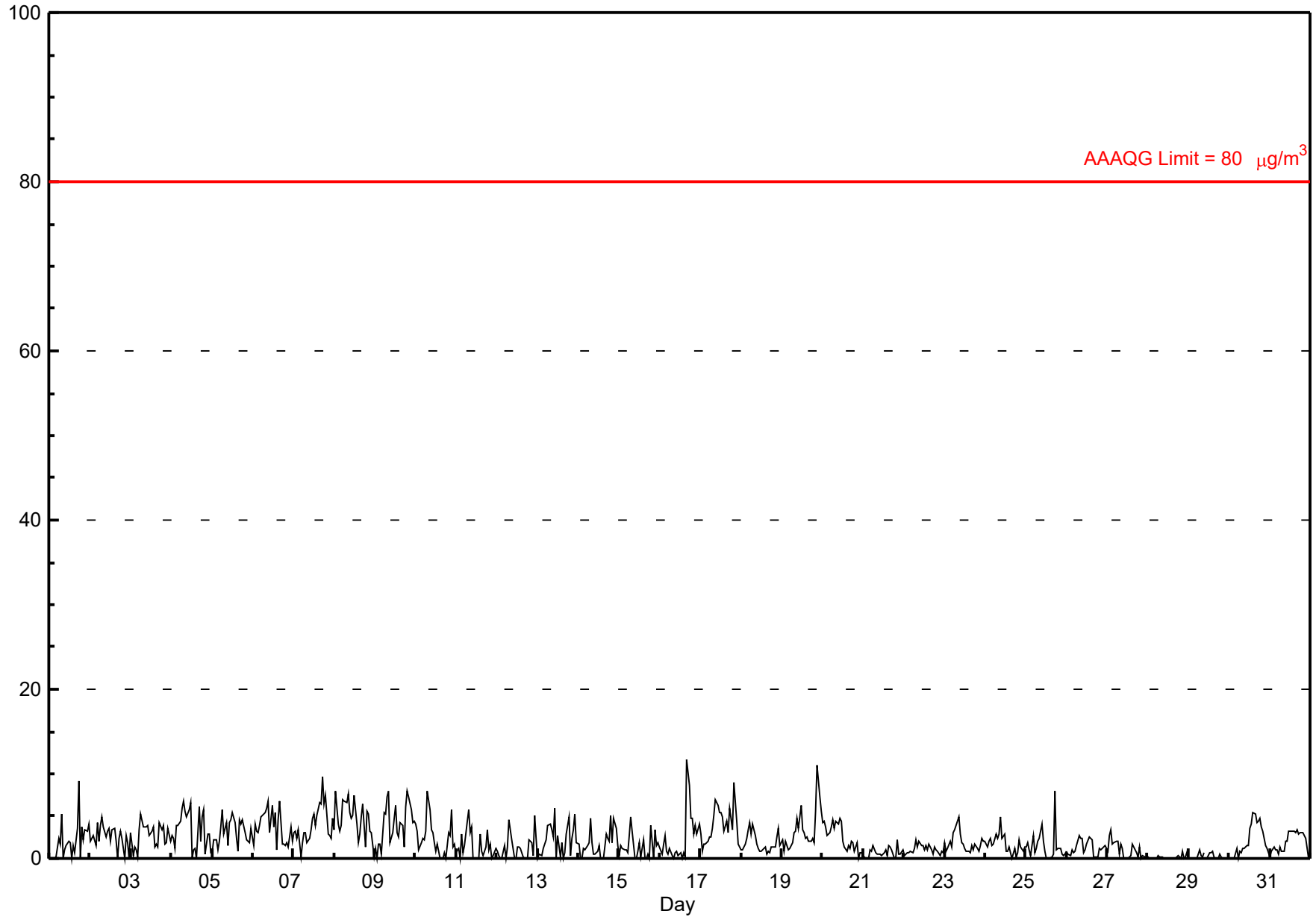
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																								
1-Aug	0	0	0	0	0	2	2	5	0	1	2	2	2	0	2	1	4	9	0	4	2	3	3	4	2.0	9.1																						
2-Aug	2	2	3	1	4	2	4	5	4	3	3	4	2	3	3	2	0	2	3	2	0	3	2	0	2.5	4.8																						
3-Aug	3	0	1	1	0	3	5	4	4	4	4	3	3	4	1	2	1	4	3	4	2	2	4	2	2.7	5.3																						
4-Aug	3	2	1	4	4	4	6	7	6	5	6	7	0	1	1	0	6	2	5	6	0	3	3	1	3.4	6.8																						
5-Aug	1	2	2	1	2	4	6	3	4	2	4	5	6	4	2	1	5	4	5	3	2	2	2	3	3.1	5.7																						
6-Aug	2	4	3	3	4	5	5	5	6	7	3	6	4	5	1	5	7	2	2	2	2	1	4	2	3.7	6.8																						
7-Aug	3	3	2	3	0	2	3	3	2	2	3	5	5	4	5	7	6	10	6	7	3	3	2	5	4.0	9.6																						
8-Aug	3	8	4	3	4	7	7	7	8	5	5	5	7	4	2	3	5	6	1	6	5	3	3	0	4.7	8.0																						
9-Aug	1	0	2	2	1	5	5	7	8	2	3	5	6	3	3	4	4	1	6	8	7	6	4	4	4.1	8.0																						
10-Aug	4	3	1	2	2	2	3	8	6	3	3	2	1	2	0	0	0	1	0	3	3	6	1	2	2.4	8.0																						
11-Aug	1	1	0	3	1	2	4	6	3	4	0	0	0	0	3	1	0	1	3	1	2	0	0	1	1.5	5.7																						
12-Aug	1	0	0	0	2	0	1	5	3	2	0	0	1	1	1	0	0	0	0	2	2	0	5	2	1.3	5.1																						
13-Aug	0	1	0	1	2	2	4	4	3	3	6	0	3	0	2	0	1	3	5	0	2	3	5	2	2.2	6.0																						
14-Aug	2	0	0	1	1	2	2	5	2	0	1	1	2	0	0	0	3	2	2	5	2	5	4	2	1.7	5.2																						
15-Aug	0	2	1	1	1	1	3	5	3	0	0	1	2	0	2	0	0	0	0	4	0	3	2	2	1.4	5.0																						
16-Aug	1	1	2	3	1	0	1	0	0	1	1	0	1	0	1	0	12	9	5	5	3	4	3	4	2.3	11.7																						
17-Aug	3	1	2	2	2	2	2	4	5	7	6	5	5	5	3	4	3	6	5	3	9	4	2	1	3.9	9.0																						
18-Aug	1	1	2	2	3	4	3	4	3	2	1	1	1	1	1	1	1	1	1	1	1	3	4	1	1.9	4.2																						
19-Aug	2	1	2	2	1	1	2	3	3	5	4	6	3	3	2	3	2	2	2	2	6	11	7	6	3.4	11.0																						
20-Aug	4	4	4	3	3	4	5	4	4	4	5	4	2	1	1	1	1	2	2	1	2	0	1	1	2.6	4.7																						
21-Aug	0	0	0	0	1	1	1	1	1	1	0	0	1	1	0	2	1	1	0	0	2	1	1	1	0.7	2.2																						
22-Aug	0	0	1	1	1	1	1	2	1	2	2	2	1	2	1	2	1	0	1	1	1	0	1	1	1.1	2.2																						
23-Aug	2	1	1	2	1	3	3	4	5	3	2	2	1	1	1	1	2	1	2	1	1	2	2	2	1.9	4.8																						
24-Aug	2	1	2	2	2	2	3	2	3	5	2	3	1	1	1	1	0	1	0	1	2	1	1	1	1.7	4.9																						
25-Aug	1	2	1	0	3	1	1	2	2	4	2	1	0	0	0	0	0	8	1	1	1	1	0	1	1.4	7.9																						
26-Aug	1	1	0	1	1	1	2	3	2	2	1	1	2	3	2	2	0	0	0	1	1	1	1	1	1.3	2.6																						
27-Aug	1	3	3	2	2	2	2	1	2	1	0	0	0	0	0	2	1	1	0	1	0	0	0	0	1.0	3.3																						
28-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0.1	0.9																						
29-Aug	0	0	0	0	0	0	1	0	0	1	M	0	1	1	1	0	0	0	1	0	0	0	0	0	0.2	1.0																						
30-Aug	0	0	0	0	1	0	1	1	1	1	1	2	4	4	5	5	4	4	5	4	3	2	1	1	2.1	5.3																						
31-Aug	0	1	1	1	1	1	1	1	1	2	2	3	3	3	3	3	3	3	3	3	3	2	1	0	1.9	3.3																						
																								1.4	1.5	1.4	1.5	1.6	2.1	2.9	3.5	3.1	2.7	2.4	2.4	2.2	1.9	1.7	1.6	2.4	2.8	2.3	2.7	2.3	2.4	2.2	1.7	Diurnal Average
																								4.3	8.0	4.0	3.8	4.2	7.0	6.8	8.0	7.9	7.0	6.2	6.6	7.4	5.4	5.3	6.6	11.7	9.6	6.4	8.0	9.0	11.0	7.2	5.5	Diurnal Maximum

M - Maintenance  
 Alberta Ambient Air Quality Guideline (AAAQG): 1-hr 80 µg/m<sup>3</sup> Alberta Ambient Air Quality Objective (AAAQO): 24-hr 30 µg/m<sup>3</sup>



### Hourly Averages

PM2.5 (PM<sub>2.5</sub>) -  $\mu\text{g}/\text{m}^3$   
Portable Rycroft - August 2016



## Hourly Maximums

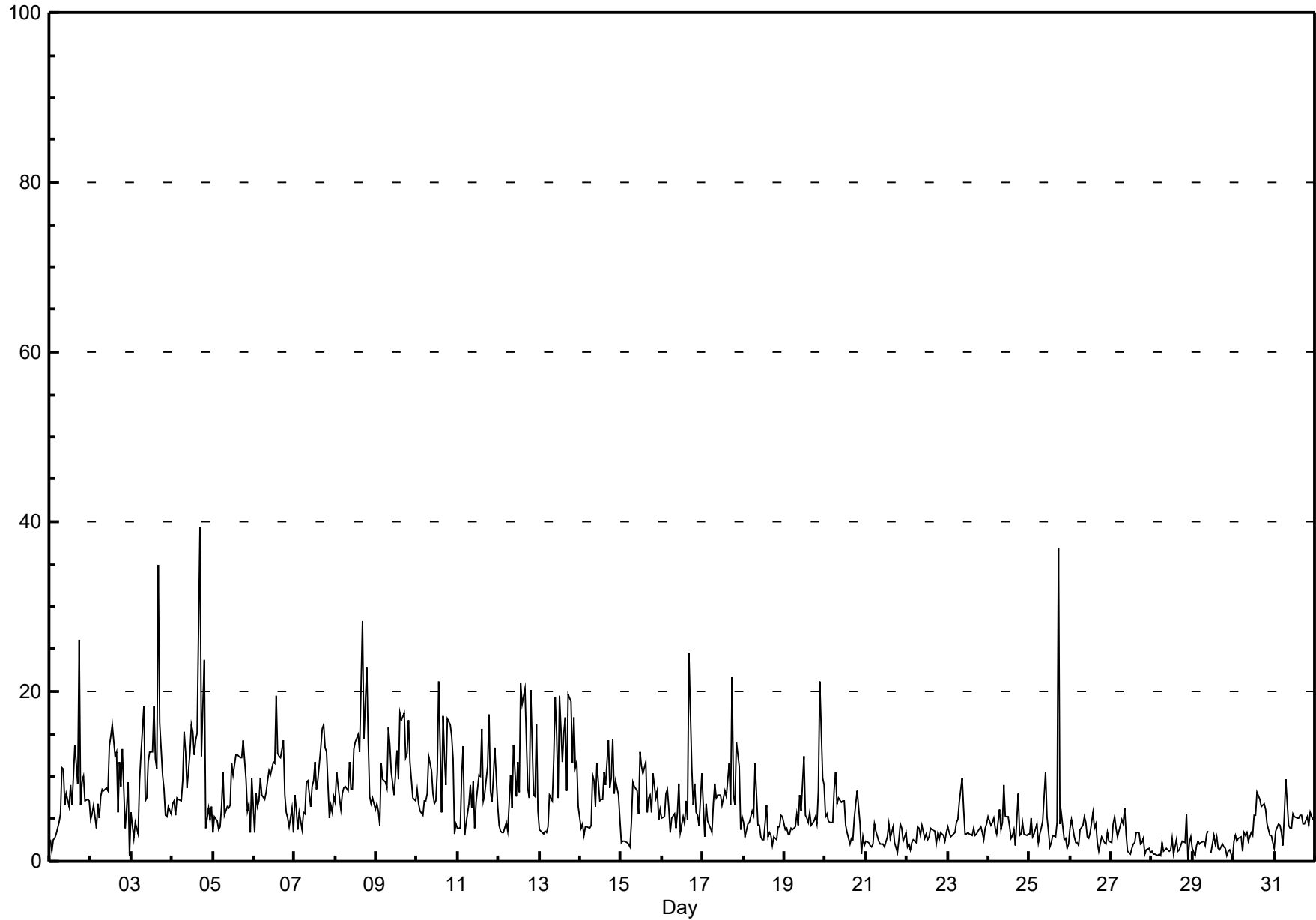
PM2.5 (PM<sub>2.5</sub>) - µg/m<sup>3</sup>

Portable Rycroft - August 2016

Maximum Value: 39.3 µg/m <sup>3</sup> on Aug 4 17:00 Minimum Value: 0 µg/m <sup>3</sup> on Aug 28 22:00 Maximum Diurnal Average: 10.3 µg/m <sup>3</sup> at hour 17 Monthly Average: 6.72 µg/m <sup>3</sup>		Maximum Daily Average: 12.0 µg/m <sup>3</sup> on Aug 4 Minimum Daily Average: 1.7 µg/m <sup>3</sup> on Aug 28 Minimum Diurnal Average: 4.2 µg/m <sup>3</sup> at hour 1 Percentiles: P <sub>1</sub> = 0.8 P <sub>10</sub> = 2.1 Q <sub>1</sub> = 3.3 Median = 5.4 Q <sub>3</sub> = 8.7 P <sub>90</sub> = 12.9 P <sub>99</sub> = 23.0		Hours in Service: 744 Hours of Data: 743 Hours of Missing Data: 1 Hours of Calibration: 0 Percent Operational Time: 99.9																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
1-Aug	3	1	3	3	3	5	6	11	11	7	8	6	9	7	10	14	9	26	7	9	10	7	7	7	7.8	26.1	
2-Aug	5	6	7	4	7	5	8	8	8	9	8	14	15	16	12	13	6	12	9	13	4	6	9	1	8.5	16.0	
3-Aug	6	3	5	4	3	9	13	18	7	8	12	13	13	18	12	11	35	16	10	8	5	5	7	6	10.3	35.0	
4-Aug	7	7	5	7	7	7	10	15	13	9	13	16	15	13	14	15	39	12	18	24	4	6	5	6	12.0	39.3	
5-Aug	3	5	5	4	4	7	10	5	6	6	7	11	10	12	13	12	12	12	14	10	6	7	3	10	8.2	14.3	
6-Aug	3	8	6	7	10	8	7	8	10	11	10	12	12	19	13	12	12	14	8	6	5	4	6	3	8.9	19.4	
7-Aug	8	6	4	6	4	6	6	9	10	6	9	10	12	8	10	13	16	16	13	13	5	7	6	8	8.7	16.1	
8-Aug	7	11	7	6	8	9	9	8	12	8	9	13	14	15	13	21	28	14	23	14	8	7	8	6	11.5	28.3	
9-Aug	7	6	4	12	10	9	9	16	14	10	8	10	13	10	18	17	18	12	13	17	12	7	7	7	11.0	17.5	
10-Aug	9	7	6	5	7	7	8	12	11	8	7	7	10	21	6	17	12	9	17	16	15	12	3	4	9.9	21.1	
11-Aug	4	4	10	14	3	4	7	9	6	10	4	7	10	10	16	7	8	11	17	8	7	10	13	7	8.6	17.3	
12-Aug	4	4	3	3	5	4	7	10	6	14	8	12	8	21	19	20	14	9	7	20	8	8	16	6	9.8	21.0	
13-Aug	4	4	3	4	3	4	8	7	12	19	15	8	20	12	15	17	8	20	19	12	17	11	12	6	10.8	19.6	
14-Aug	4	4	3	4	4	4	4	10	9	7	12	7	7	7	10	9	14	9	10	14	8	9	8	5	7.7	14.5	
15-Aug	2	2	2	2	2	2	5	9	9	8	6	13	11	10	12	6	8	8	6	10	7	8	5	6	6.6	12.9	
16-Aug	5	5	8	8	6	3	5	6	4	6	9	3	5	4	7	5	25	11	7	9	6	5	4	10	7.0	24.6	
17-Aug	7	3	7	5	4	3	7	9	7	8	8	7	7	8	8	11	7	22	8	7	14	11	4	5	7.8	21.8	
18-Aug	5	3	4	5	5	6	6	12	4	4	3	3	2	7	3	3	3	2	3	2	4	4	5	5	4.3	11.5	
19-Aug	4	4	3	3	4	4	4	6	4	8	6	12	5	5	5	6	4	5	5	4	8	21	10	9	6.2	21.3	
20-Aug	5	6	5	5	5	9	10	7	7	7	7	7	4	3	2	3	3	5	7	8	4	1	3	2	5.2	10.5	
21-Aug	2	2	2	2	2	4	4	2	2	2	2	2	3	4	3	3	4	2	1	2	4	4	2	3	2.7	4.4	
22-Aug	2	2	1	2	3	2	4	4	3	4	3	3	2	3	4	4	3	2	3	3	3	3	2	3	2.9	4.2	
23-Aug	4	3	3	3	3	5	5	7	10	6	3	3	3	3	3	4	3	3	4	4	3	3	4	4	4.1	9.8	
24-Aug	5	4	5	5	4	3	6	4	5	9	5	5	4	3	3	4	2	8	3	3	5	3	3	3	4.3	9.0	
25-Aug	3	5	3	3	4	2	3	4	5	11	5	3	2	2	3	3	5	37	4	6	3	3	2	2	5.1	36.9	
26-Aug	4	5	3	2	2	2	4	4	5	5	3	3	3	6	4	4	2	1	3	3	2	2	3	2	3.2	5.8	
27-Aug	2	4	5	4	3	4	5	4	6	3	1	1	1	2	2	3	3	2	2	3	1	1	2	1	2.8	6.2	
28-Aug	1	1	1	1	1	1	2	1	1	1	1	1	3	1	3	1	1	2	2	2	6	0	2	3	1.7	5.5	
29-Aug	1	1	2	2	2	2	2	2	3	4	M	1	3	2	3	1	1	2	2	1	1	1	1	0	1.8	3.6	
30-Aug	2	3	2	3	3	1	3	3	3	2	3	3	5	5	8	7	6	7	7	6	4	3	3	2	4.1	8.1	
31-Aug	2	4	4	4	3	2	5	10	4	4	4	6	5	5	5	5	5	4	4	5	4	6	5	5	4.7	9.6	
		4.2	4.3	4.3	4.6	4.3	4.6	6.1	7.8	7.1	7.2	6.6	7.2	7.7	8.5	8.2	8.8	10.3	10.2	8.3	8.5	6.2	6.0	5.5	4.8	Diurnal Average	
		8.5	10.6	10.3	13.6	9.8	9.5	12.8	18.3	13.8	19.4	15.1	16.2	19.5	21.1	18.5	20.5	39.3	36.9	22.9	23.8	17.0	21.3	16.1	10.3	Diurnal Maximum	
M - Maintenance																											

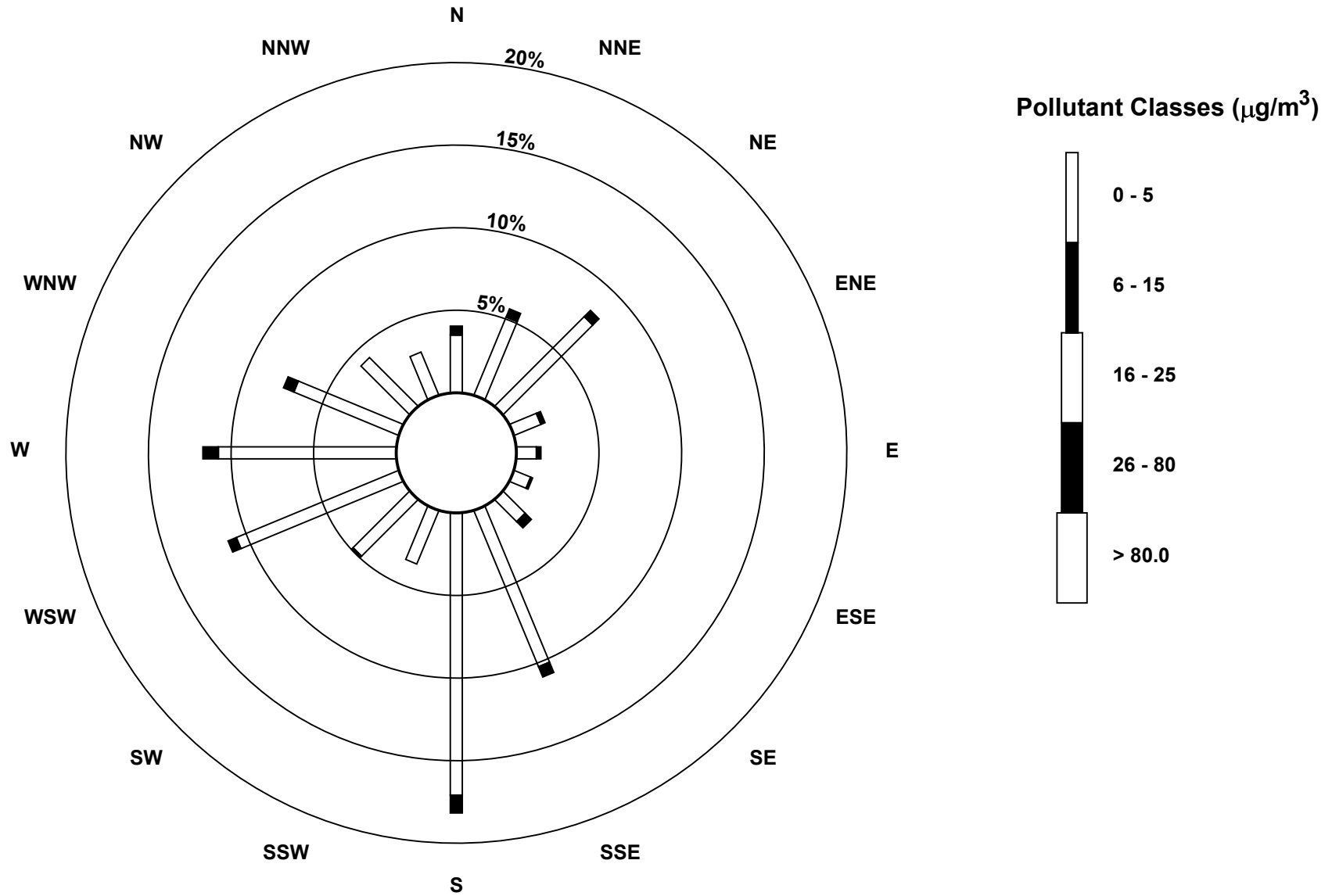
### Hourly Maximums

PM2.5 (PM<sub>2.5</sub>) -  $\mu\text{g}/\text{m}^3$   
Portable Rycroft - August 2016



**Pollutant Rose**

**PM<sub>2.5</sub> (PM<sub>2.5</sub>) -  $\mu\text{g}/\text{m}^3$**   
**Portable Rycroft - August 2016**





Peace Airshed Zone Association

# Hourly Averages

External Temperature (ET) - °C

Portable Rycroft - August 2016

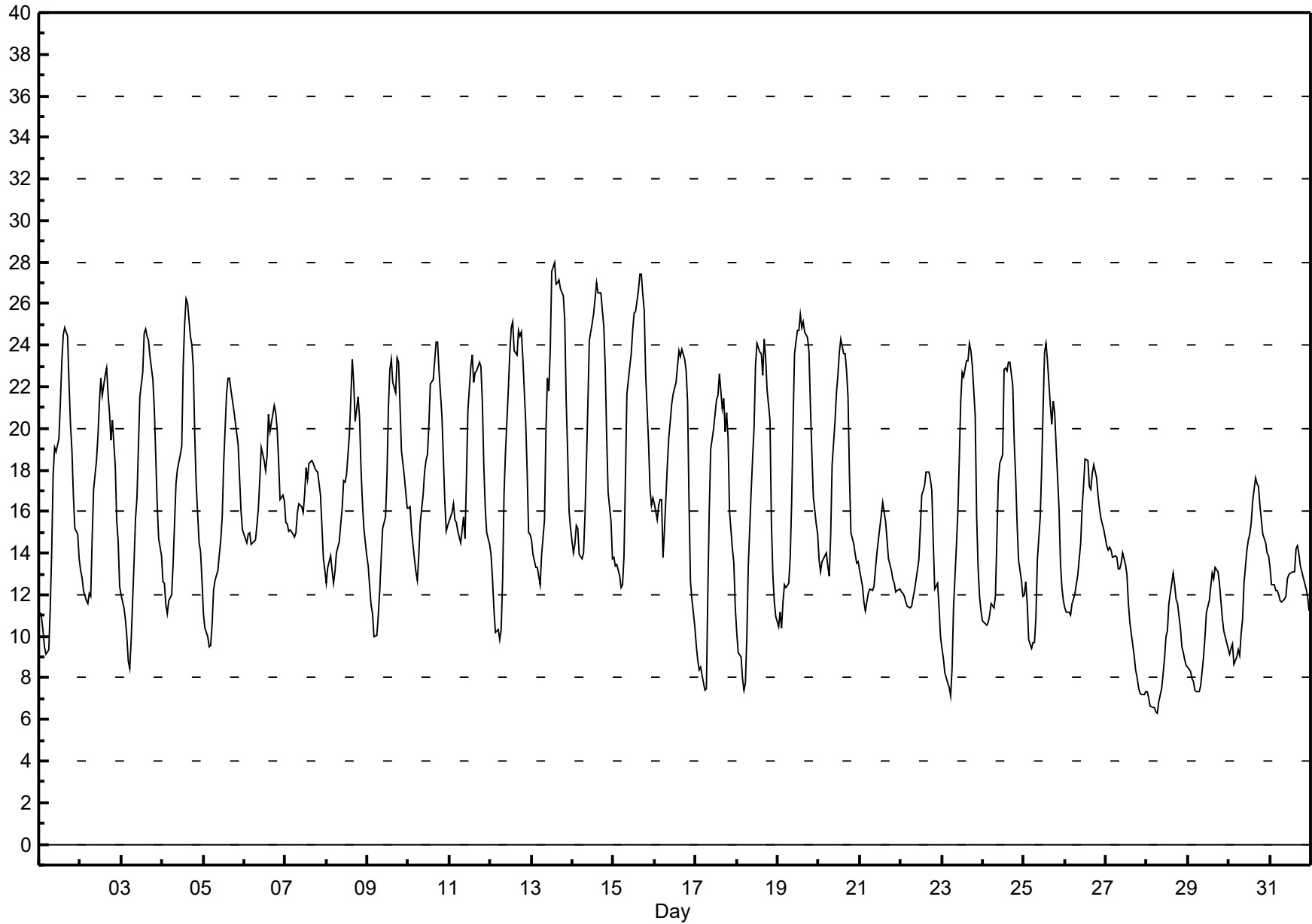
Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 27.9 °C on Aug 13 14:00	Maximum Daily Average: 20.2 °C on Aug 13		Hours of Data:	744
Minimum Value: 6 °C on Aug 28 07:00	Minimum Daily Average: 9.1 °C on Aug 28		Hours of Missing Data:	0
Maximum Diurnal Average: 21.2 °C at hour 15	Minimum Diurnal Average: 11.2 °C at hour 6		Hours of Calibration:	0
Monthly Average: 16.06 °C	Percentiles: P <sub>1</sub> = 7.1 P <sub>10</sub> = 10.0 Q <sub>1</sub> = 12.3 Median = 15.2 Q <sub>3</sub> = 20.2 P <sub>90</sub> = 23.4 P <sub>99</sub> = 27.0		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-Aug	11	11	10	10	9	9	11	14	18	19	19	21	23	24	25	24	22	20	19	17	15	15	14	16.7	24.8	
2-Aug	13	13	12	12	12	12	12	15	17	18	20	21	22	22	23	23	22	21	19	20	18	16	15	12	17.0	22.9
3-Aug	12	11	11	10	9	8	10	14	16	17	19	22	23	25	25	24	24	23	22	21	19	16	15	14	17.0	24.8
4-Aug	13	13	12	11	12	12	13	15	17	18	19	19	23	25	26	26	24	24	23	20	17	15	14	13	17.6	26.2
5-Aug	11	10	10	10	10	11	12	13	13	14	15	16	18	22	22	22	22	21	21	20	19	18	16	15	15.8	22.4
6-Aug	15	15	15	15	14	14	15	15	16	18	19	18	18	19	21	20	20	21	21	20	18	17	17	17	17.4	21.1
7-Aug	15	15	15	15	15	15	15	16	16	16	16	17	18	18	18	18	18	18	18	18	17	15	14	13	16.3	18.5
8-Aug	13	13	14	13	13	13	14	15	15	16	18	17	18	20	21	23	22	22	20	21	18	16	15	14	16.8	23.3
9-Aug	13	12	11	11	10	10	11	12	14	15	16	18	21	23	23	22	22	23	23	21	19	18	17	16	16.8	23.4
10-Aug	16	16	15	14	13	13	14	15	17	18	18	19	20	22	22	23	24	24	23	21	19	16	15	15	18.0	24.2
11-Aug	16	16	16	16	15	15	15	15	16	15	18	21	23	24	22	23	23	23	23	21	18	16	15	14	18.2	23.5
12-Aug	14	13	11	10	10	10	10	13	17	19	22	24	25	25	24	24	25	24	25	23	20	18	15	15	18.1	25.1
13-Aug	15	14	13	13	13	12	14	16	20	22	22	24	28	28	27	27	27	27	26	25	21	19	16	15	20.2	27.9
14-Aug	14	14	15	15	14	14	14	16	18	21	24	25	26	26	27	27	27	26	25	23	20	17	16	14	19.9	27.0
15-Aug	14	13	13	13	12	12	14	18	22	23	24	25	26	26	27	27	27	26	26	23	19	17	16	17	20.0	27.4
16-Aug	16	16	16	17	17	14	15	18	20	20	21	22	22	23	24	23	24	23	23	21	16	13	12	10	18.6	23.8
17-Aug	10	9	8	9	8	7	8	12	16	19	20	21	21	22	23	21	21	20	21	20	16	14	14	11	15.4	22.6
18-Aug	10	9	9	8	7	8	10	13	17	19	20	23	24	24	24	23	24	23	22	20	15	13	12	11	16.2	24.3
19-Aug	10	11	10	12	12	12	13	14	16	20	24	25	25	25	25	25	25	24	24	21	19	17	15	15	18.3	25.5
20-Aug	14	13	14	14	14	13	13	15	18	20	22	23	24	24	24	24	23	22	18	15	14	14	14	14	17.5	24.3
21-Aug	13	12	12	11	12	12	12	12	12	13	14	15	16	16	16	16	15	14	13	13	13	12	12	12	13.3	16.5
22-Aug	12	12	12	12	11	11	11	12	12	13	14	15	17	17	17	18	18	18	17	15	12	13	11	10	13.7	17.9
23-Aug	9	9	8	8	8	7	8	11	14	16	18	21	23	22	23	23	24	24	23	21	16	13	12	11	15.6	24.1
24-Aug	11	11	11	11	11	12	11	12	15	17	18	19	23	23	23	23	23	22	19	18	15	14	13	12	16.1	23.2
25-Aug	12	13	12	10	9	10	10	11	14	16	18	21	24	24	23	21	20	21	21	19	16	14	12	12	15.9	24.1
26-Aug	11	11	11	11	12	12	12	13	14	14	16	17	19	18	17	17	18	18	18	17	16	16	15	15	15.0	18.5
27-Aug	14	14	14	14	14	14	14	13	13	14	14	13	13	12	11	10	9	8	8	8	7	7	7	7	11.4	14.4
28-Aug	7	7	7	7	7	6	6	7	7	8	9	10	10	12	13	13	13	13	12	10	10	9	9	9	9.1	13.0
29-Aug	9	8	8	8	7	7	7	8	8	9	10	11	12	12	13	13	13	13	13	12	11	10	10	9	10.1	13.3
30-Aug	9	9	10	9	9	9	9	10	11	13	14	15	15	15	17	18	17	17	16	16	15	15	14	14	13.1	17.6
31-Aug	13	12	13	12	12	12	12	12	12	12	13	13	13	13	14	14	14	14	13	13	13	12	12	11	12.6	14.3

12.5	12.2	11.9	11.5	11.3	11.2	11.8	13.4	15.2	16.5	17.8	19.0	20.3	20.9	21.2	21.2	21.1	20.6	19.9	18.5	16.3	14.6	13.7	13.0	Diurnal Average	
16.4	16.2	16.3	16.6	16.6	15.1	15.1	18.3	21.7	23.0	24.2	25.0	27.6	27.9	27.0	27.4	27.4	26.7	26.4	25.2	21.3	18.9	16.9	16.6	Diurnal Maximum	

**Hourly Averages**

**External Temperature (ET) - °C**  
**Portable Rycroft - August 2016**





Peace Airshed Zone Association

# Hourly Averages

Wind Speed (km/h)  
Wind Direction (deg)  
Portable Rycroft - August 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	5	5	7	6	6	6	5	7	12	14	12	13	15	12	10	13	7	12	1	7	4	5	5	5.9	14.8
Dir	195	186	181	179	178	177	175	182	237	255	261	258	247	248	250	237	254	269	345	57	172	143	176	205	231.5	248.4
2 Spd	6	5	2	2	6	5	4	5	4	4	5	5	9	11	7	9	8	5	1	5	5	2	4	2.8	11.4	
Dir	171	180	213	212	254	244	167	253	285	355	1	325	321	301	299	307	290	284	275	359	146	185	160	158	269.5	298.9
3 Spd	6	5	5	2	2	2	2	3	3	3	2	2	2	4	4	6	7	7	8	7	3	4	4	3	0.7	8.4
Dir	171	164	172	193	150	177	181	190	181	230	344	31	12	352	313	297	322	46	52	66	88	147	155	113	111.9	51.9
4 Spd	4	5	7	7	5	5	5	3	4	4	2	3	1	2	1	1	9	10	12	11	11	5	2	3	0.9	11.5
Dir	179	175	185	172	171	170	170	186	185	174	141	82	33	238	268	254	33	33	35	354	355	35	106	302	87.7	35.0
5 Spd	5	3	0	1	3	5	3	4	1	5	4	5	5	9	13	11	10	9	7	4	4	5	4	5	3.8	12.7
Dir	275	201	92	224	262	253	291	23	28	357	307	310	302	338	353	356	355	21	355	350	48	47	11	33	346.5	353.4
6 Spd	5	1	3	7	10	3	4	6	8	8	6	8	11	14	11	7	9	12	12	11	6	9	8	8	7.2	13.6
Dir	24	167	120	50	16	46	48	22	42	53	44	32	7	6	8	24	6	36	36	43	45	33	55	63	33.5	8.3
7 Spd	8	8	4	7	10	13	12	16	20	19	17	15	18	17	16	10	8	4	6	8	8	5	4	5	7.9	19.6
Dir	45	42	64	63	32	37	36	24	49	42	45	51	39	44	36	39	6	23	290	263	247	229	193	191	36.9	49.3
8 Spd	4	6	5	4	4	5	5	4	3	9	11	9	10	8	7	6	13	6	3	3	2	2	4	2	2.0	13.3
Dir	186	172	168	188	195	178	172	185	215	245	261	280	261	280	311	339	346	12	40	67	50	169	160	114	250.9	346.0
9 Spd	4	4	3	4	2	3	1	1	1	4	4	4	10	11	9	7	4	5	4	1	3	4	4	1	2.5	11.1
Dir	157	188	172	157	193	175	142	112	78	19	40	57	46	38	57	46	45	69	92	126	151	147	162	128	81.8	38.4
10 Spd	2	3	5	4	5	6	5	11	15	20	20	21	22	18	10	13	11	8	2	2	4	6	6	7	6.2	22.5
Dir	155	141	162	174	170	177	183	244	266	262	254	265	268	274	288	284	303	329	347	97	136	146	163	164	252.6	267.7
11 Spd	9	9	7	4	5	3	10	19	16	13	10	7	7	10	9	9	8	7	4	4	5	5	7	6	6.6	19.0
Dir	186	186	203	209	190	217	249	263	261	259	252	255	259	263	240	300	254	231	204	180	162	173	273	172	238.4	263.0
12 Spd	6	7	3	6	6	6	4	4	5	3	5	9	8	6	3	4	7	7	6	2	2	5	6	8	3.8	9.0
Dir	180	182	218	184	170	179	193	182	223	220	271	254	252	268	316	286	264	256	239	251	151	156	172	163	215.9	254.2
13 Spd	6	6	7	6	7	7	7	7	5	4	8	5	4	8	9	12	15	14	7	4	1	5	6	7	4.4	14.9
Dir	154	161	168	156	164	174	178	178	196	209	169	231	332	263	243	258	254	267	297	337	124	165	173	176	212.2	253.6
14 Spd	5	7	7	6	5	5	5	3	4	6	9	15	12	9	13	17	11	13	13	8	3	7	6	7	6.6	17.2
Dir	180	166	153	180	182	158	174	188	275	266	270	254	255	224	239	243	230	243	243	254	205	172	177	174	223.7	242.8
15 Spd	6	9	8	7	7	7	8	6	6	6	15	16	13	15	13	11	12	12	9	5	4	7	5	7	7.6	15.5
Dir	155	168	169	173	173	172	170	170	187	207	238	236	231	233	238	233	230	233	231	225	199	175	189	165	209.2	236.4
16 Spd	9	4	5	5	4	5	4	11	20	26	25	24	24	20	19	21	19	23	20	10	4	5	10	9	12.4	26.2
Dir	168	180	182	184	191	188	201	233	243	248	251	247	247	241	245	247	247	254	249	234	228	196	186	183	235.6	247.7
17 Spd	9	7	7	4	3	6	7	5	10	18	24	24	26	25	20	18	16	8	3	9	6	7	5	5	7.4	25.8
Dir	184	188	180	192	180	182	180	177	244	272	273	265	274	276	291	279	316	10	128	274	242	39	93	171	263.1	273.8
18 Spd	5	6	6	3	3	7	4	6	8	8	9	7	7	9	8	7	4	6	5	4	5	6	8	8	4.0	9.2
Dir	185	173	173	222	183	246	214	220	283	284	249	294	314	277	288	258	293	195	176	190	174	174	161	168	229.9	249.4
19 Spd	8	8	8	8	10	11	10	10	11	7	12	13	17	17	12	11	8	5	4	2	3	4	6	4	3.1	17.1
Dir	150	155	159	151	151	150	162	160	172	189	269	289	292	280	298	325	326	337	151	126	134	155	160	155	212.0	279.9
20 Spd	3	3	6	6	6	3	3	4	9	13	11	10	11	17	21	18	13	5	8	6	6	3	5	6	6.5	20.5
Dir	152	186	162	173	179	232	191	184	245	259	299	286	269	260	259	260	252	219	223	247	253	179	169	183	242.4	259.1
21 Spd	2	2	3	4	5	4	8	7	5	6	8	8	8	8	12	10	9	7	9	12	3	8	7	8	4.2	11.8
Dir	244	206	222	179	150	173	11	7	50	29	353	342	358	7	356	9	332	305	328	354	244	288	281	268	339.2	353.6
22 Spd	8	7	6	7	9	10	11	11	12	11	12	12	12	11	16	14	12	11	9	11	8	10	8	5	9.2	15.9
Dir	280	299	293	290	280	272	269	276	268	270	284	289	295	304	324	308	309	311	288	271	249	240	235	227	283.6	324.3

## Hourly Averages

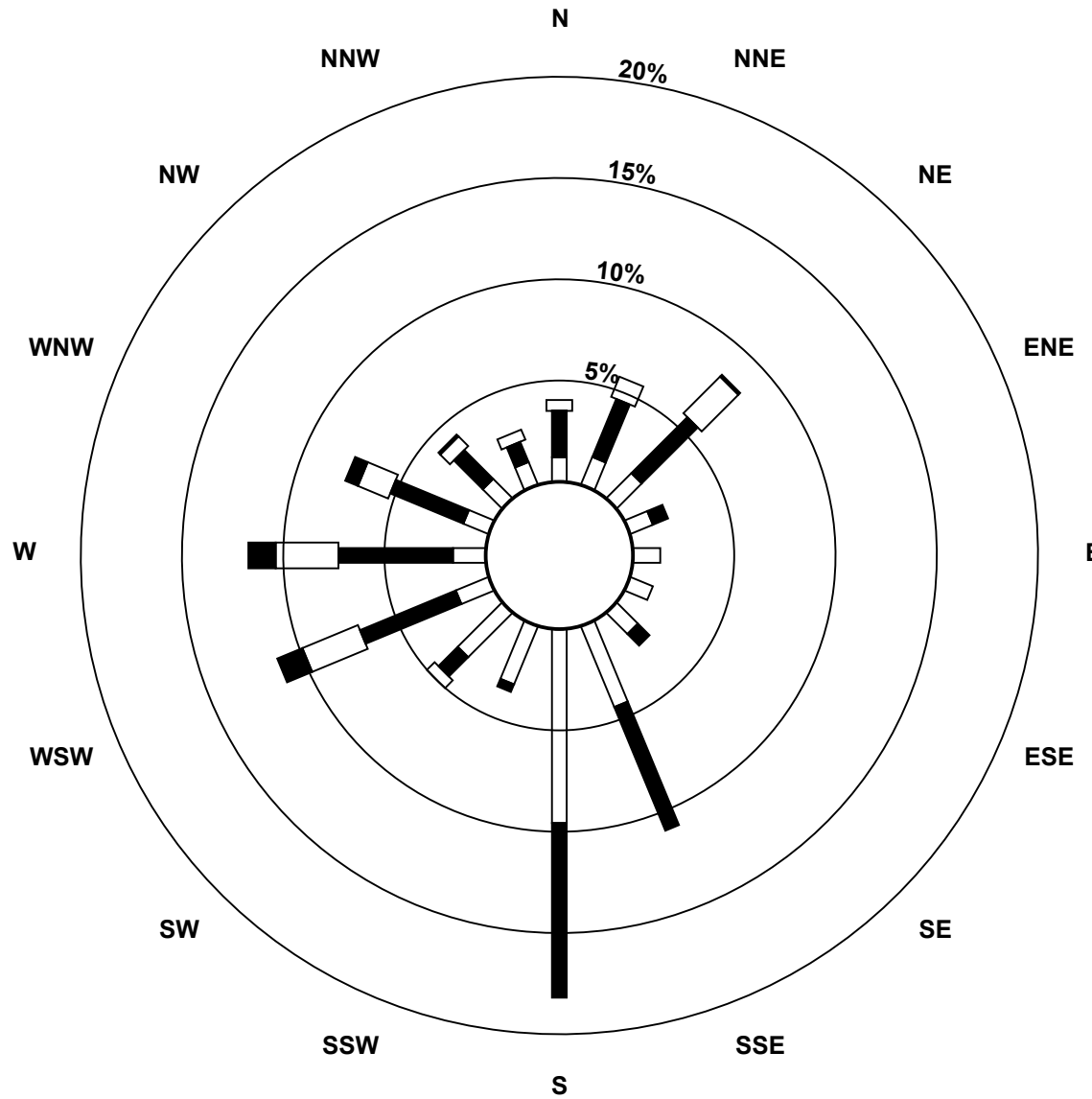
Wind Speed (km/h)  
Wind Direction (deg)  
Portable Rycroft - August 2016

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	5	5	6	7	6	6	4	2	3	5	5	3	3	2	5	3	7	7	6	3	6	8	8	8	3.8	7.9
Dir	178	181	180	182	187	182	169	161	267	240	247	311	263	218	228	277	264	260	262	239	187	175	168	168	208.8	168.0
24 Spd	8	9	8	8	5	5	3	6	6	5	6	8	6	10	12	11	10	17	9	3	10	12	12	11	4.6	17.5
Dir	164	162	158	162	179	172	271	152	174	233	270	248	315	328	332	311	304	293	301	217	243	263	253	249	256.5	292.6
25 Spd	10	11	8	4	4	3	4	4	3	8	10	5	9	14	10	6	8	5	1	2	3	5	7	8	3.8	13.8
Dir	250	248	239	216	209	205	174	178	230	250	251	250	302	286	308	71	257	299	191	112	87	153	171	166	242.3	286.2
26 Spd	8	8	8	7	8	8	9	8	11	8	8	9	9	9	10	8	9	10	7	6	7	6	4	2	7.7	11.4
Dir	158	153	150	149	156	145	151	161	167	158	142	152	164	185	169	154	147	146	149	139	143	148	155	110	154.2	167.2
27 Spd	4	3	4	3	3	6	5	4	8	12	13	13	18	20	15	19	23	22	25	25	21	21	16	15	11.1	25.2
Dir	53	125	181	181	160	172	238	229	270	262	302	310	329	326	291	285	281	282	287	283	278	280	274	272	284.2	286.6
28 Spd	15	14	12	12	12	9	9	11	11	10	7	3	5	7	8	3	2	2	1	4	2	3	2	3	5.4	15.1
Dir	274	273	267	277	274	277	269	257	266	271	278	280	276	258	286	302	98	106	113	57	96	77	84	57	274.1	274.3
29 Spd	4	6	8	9	14	15	15	12	11	12	15	15	17	17	15	15	16	15	13	11	8	7	6	6	11.8	17.0
Dir	39	32	43	48	43	49	51	55	59	51	49	47	43	29	24	26	17	16	21	24	27	26	20	12	35.8	43.0
30 Spd	6	6	11	8	6	7	3	5	8	9	8	9	5	7	2	4	8	9	10	10	10	10	7	4	3.9	10.8
Dir	44	48	32	41	42	31	18	24	30	24	37	46	38	44	82	302	287	286	268	272	272	278	290	344	353.9	31.6
31 Spd	4	3	2	3	3	4	6	8	9	8	6	7	7	9	6	2	4	5	6	7	6	8	10	8	4.2	10.4
Dir	351	315	350	315	332	339	343	3	12	18	20	50	52	41	35	330	306	288	302	277	313	310	278	283	341.3	277.8
Spd	2.9	3.5	3.3	2.7	2.3	2.6	2.0	1.9	2.9	4.5	5.4	5.4	5.8	6.6	6.3	5.9	6.5	4.7	3.4	2.4	1.5	2.0	2.8	2.9	Diurnal Average	
Dir	182.3	180.3	176.0	174.4	177.2	180.4	186.9	218.2	249.8	268.3	277.7	281.3	293.8	292.7	298.2	294.6	293.1	294.2	291.5	295.5	233.5	204.7	198.7	189.5	Diurnal Maximum	
Spd	15.1	14.0	11.8	12.2	13.6	15.2	15.0	19.0	20.1	26.2	25.2	24.4	25.8	25.5	20.5	20.9	22.6	22.8	25.2	24.7	21.3	20.9	15.8	15.1	Diurnal Maximum	
Dir	274.3	273.2	267.3	276.7	42.8	49.1	50.5	263.0	242.8	247.7	251.2	265.0	273.8	275.8	259.1	246.8	281.3	254.4	286.6	283.1	277.7	279.9	274.3	272.3	Diurnal Maximum	
Maximum Speed Value: 26 km/h on Aug 16 10:00																		Minimum Speed Value: 0 km/h on Aug 5 03:00						Hours in Service: 744		
Maximum Daily Speed Average: 12.4 km/h on Aug 16																		Minimum Daily Speed Average: 0.7 km/h on Aug 3						Hours of Data: 744		
Maximum Diurnal Speed Average: 6.6 km/h at hour 14																		Minimum Diurnal Speed Average: 1.5 km/h at hour 21						Hours of Missing Data: 0		
Monthly Average Velocity: 2.55 km/h 259.42 deg																		Speed Percentiles: P <sub>1</sub> = 1.2 P <sub>10</sub> = 2.8 Q <sub>1</sub> = 4.4 Median = 6.7 Q <sub>3</sub> = 10.0 P <sub>90</sub> = 14.3 P <sub>99</sub> = 24.2						Percent Operational Time: 100.0		
All monthly, daily, and diurnal averages have been calculated using vector methods																										
Frequency Distribution																										
		Speed Range (km/h)																								
Direction	0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total																			
North	16	29	10	0	0	0	55																			
NorthEast	21	51	26	2	0	0	100																			
East	18	2	0	0	0	0	20																			
SouthEast	33	27	0	0	0	0	60																			
South	71	119	1	0	0	0	191																			
SouthWest	38	29	16	6	0	0	89																			
West	18	80	46	20	0	0	164																			
NorthWest	17	33	14	1	0	0	65																			
Total	232	370	113	29	0	0	744																			

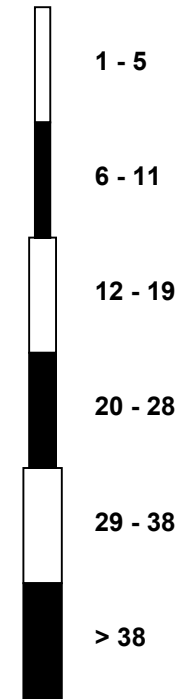


**Wind Rose**

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



**Wind Speed Classes (km/h)**



# Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Portable Rycroft - August 2016

Maximum Speed: 26 km/h on Aug 16 10:00	Maximum Daily Speed Average: 13.8 km/h on Aug 16	Hours in Service: 744
Minimum Speed: 2 km/h on Aug 28 19:00	Minimum Daily Speed Average: 4.6 km/h on Aug 9	Hours of Data: 744
Maximum Diurnal Speed Average: 12.0 km/h at hour 14	Minimum Diurnal Speed Average: 5.7 km/h at hour 4	Hours of Missing Data: 0
Monthly Average Speed: 8.17 km/h	Percentiles: P <sub>1</sub> = 2.1 P <sub>10</sub> = 3.6 Q <sub>1</sub> = 4.9 Median = 7.0 Q <sub>3</sub> = 10.2 P <sub>90</sub> = 14.4 P <sub>99</sub> = 24.6	Percent Operational Time: 100.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Aug	5	5	5	7	6	6	6	5	8	13	14	12	13	15	13	10	14	7	13	4	7	4	5	6	8.4	15.1
2-Aug	6	6	4	3	6	5	4	6	4	5	6	7	6	10	12	8	10	8	5	3	5	5	7	4	6.0	12.4
3-Aug	6	6	5	2	3	3	3	4	4	4	3	3	4	5	5	9	10	10	9	7	3	4	4	4	5.0	10.4
4-Aug	4	6	7	7	5	6	5	3	4	4	3	3	3	4	4	5	9	10	12	13	12	6	3	4	5.9	13.1
5-Aug	5	3	2	3	3	5	4	5	3	5	5	6	6	10	13	11	10	9	7	4	4	6	4	6	5.7	13.0
6-Aug	5	3	4	7	11	5	5	7	9	8	7	6	8	11	14	11	7	10	12	12	11	6	9	8	8.2	14.1
7-Aug	8	8	5	7	10	13	12	18	20	20	17	15	18	17	16	10	8	5	6	8	8	6	4	5	11.0	19.7
8-Aug	4	6	5	4	4	5	5	4	5	9	11	9	10	9	7	12	14	6	3	3	2	3	4	3	6.2	13.9
9-Aug	4	4	3	4	2	3	2	2	2	4	5	5	11	12	9	7	4	5	4	2	3	4	5	3	4.6	11.5
10-Aug	2	3	5	4	5	6	5	11	15	20	20	21	23	18	11	13	11	8	2	2	4	6	6	7	9.6	22.8
11-Aug	9	9	8	5	5	3	10	19	16	13	10	8	8	11	10	9	9	8	5	4	5	6	9	6	8.5	19.0
12-Aug	6	8	5	6	6	6	4	4	6	4	5	10	9	7	4	4	7	7	6	3	3	5	6	8	5.8	9.6
13-Aug	6	6	7	6	8	7	7	7	6	4	8	6	6	9	10	13	16	14	7	4	3	5	6	7	7.3	15.5
14-Aug	6	7	7	6	5	6	5	4	4	7	10	15	13	9	14	18	12	13	14	8	3	7	6	7	8.5	17.7
15-Aug	6	9	8	7	7	7	8	6	6	7	15	16	13	15	13	12	12	12	9	5	5	7	5	7	9.0	15.9
16-Aug	9	4	5	6	5	5	4	11	20	26	26	24	24	20	19	21	19	23	20	10	4	5	10	9	13.8	26.5
17-Aug	9	7	7	4	3	6	7	5	10	19	24	25	26	26	21	18	19	9	4	9	6	9	6	5	11.8	26.4
18-Aug	5	6	6	4	3	8	5	7	9	9	10	8	8	10	9	7	5	6	5	4	5	6	8	8	6.7	10.1
19-Aug	8	8	8	8	10	11	10	10	11	8	14	15	17	18	12	12	9	5	4	3	3	4	6	4	9.0	17.8
20-Aug	3	3	6	6	6	4	4	4	9	14	11	11	12	18	21	18	13	8	9	6	6	4	5	6	8.6	20.7
21-Aug	3	3	3	4	5	5	12	7	6	7	9	8	8	9	12	10	9	7	9	12	4	8	7	8	7.3	12.1
22-Aug	8	7	6	7	9	10	11	11	12	11	12	12	12	11	16	15	12	11	9	12	8	10	8	5	10.2	16.3
23-Aug	5	5	6	7	6	6	4	3	4	5	6	5	5	4	6	5	7	8	7	3	6	8	8	8	5.7	7.9
24-Aug	8	9	8	8	5	6	5	6	6	6	7	8	8	11	12	12	10	18	11	3	10	12	12	11	8.8	18.0
25-Aug	10	11	8	4	4	3	4	4	4	9	10	6	10	15	13	8	8	5	3	3	3	5	7	8	6.9	14.6
26-Aug	8	8	8	7	8	8	9	8	11	9	8	10	9	9	10	8	9	10	7	6	7	6	4	3	8.0	11.5
27-Aug	5	4	5	3	4	6	5	4	8	13	13	13	18	20	15	19	23	22	25	25	21	21	16	15	13.5	25.4
28-Aug	15	14	12	12	12	10	9	11	11	10	8	5	5	8	8	5	3	3	2	4	2	3	2	3	7.3	15.1
29-Aug	4	6	8	9	14	15	15	12	11	12	15	15	17	17	15	15	15	16	15	13	11	8	7	6	12.2	17.2
30-Aug	6	6	11	8	6	7	4	5	8	10	9	9	6	7	4	5	8	9	11	10	10	10	7	4	7.5	10.8
31-Aug	4	3	3	4	4	5	6	9	10	8	6	7	7	9	6	3	4	5	6	7	7	8	11	9	6.2	10.6
	6.3	6.2	6.1	5.7	6.0	6.4	6.5	7.2	8.4	9.7	10.5	10.4	11.1	12.0	11.5	10.8	10.6	9.6	8.4	6.8	6.2	6.6	6.7	6.4	Diurnal Average	
	15.1	14.1	11.8	12.3	13.7	15.3	15.0	19.0	20.2	26.5	25.7	24.9	26.4	26.3	20.7	21.2	22.7	23.1	25.4	24.7	21.4	21.0	15.9	15.1	Diurnal Maximum	

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

# Hourly Standard Deviations

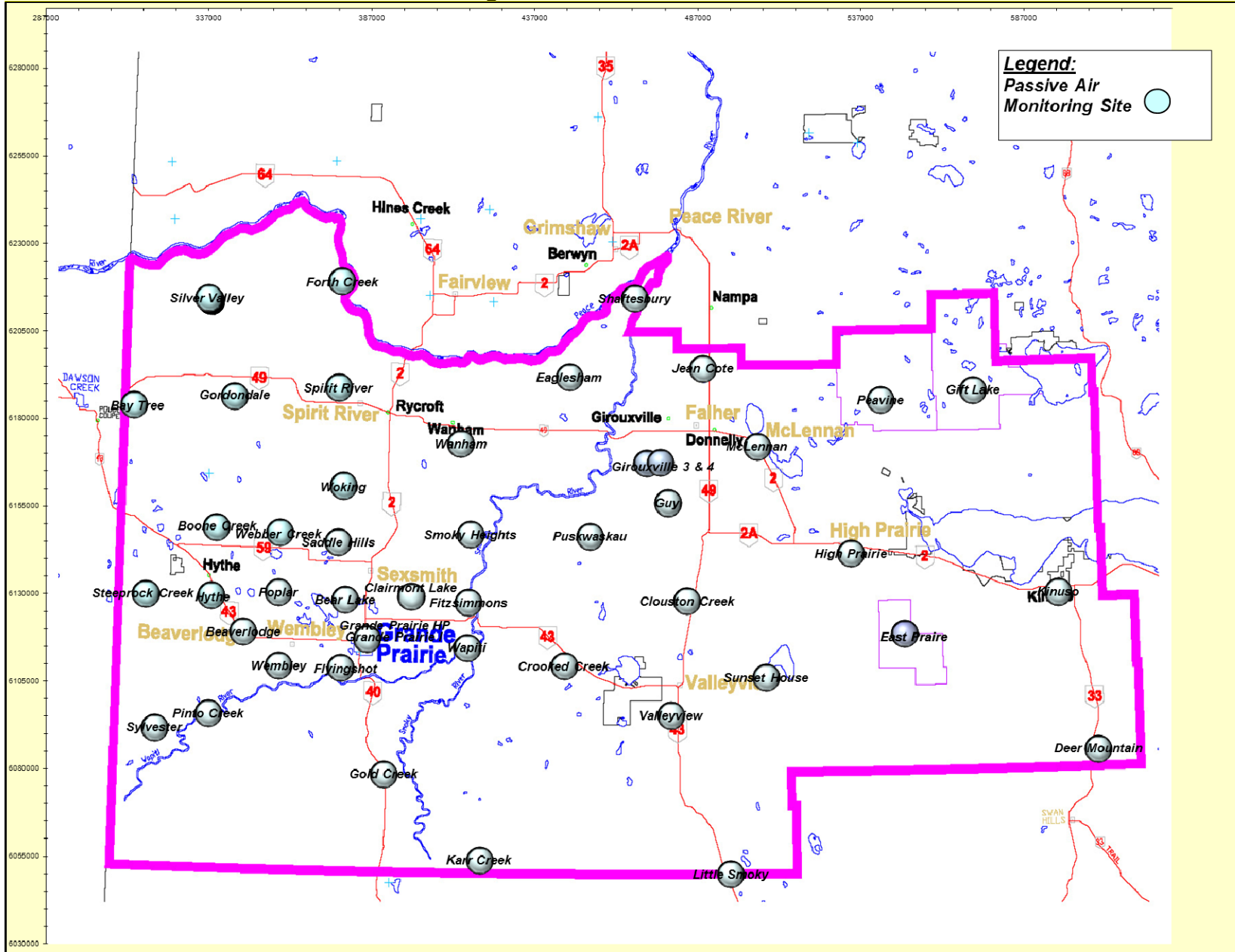
Wind Direction (WD) - deg  
 Portable Rycroft - August 2016

Maximum Value: 94.8 deg on Aug 5 03:00																		Hours in Service: 744							
Minimum Value: 2.3 deg on Aug 22 22:00																		Hours of Data: 744							
Percentiles: P <sub>1</sub> = 3.4 P <sub>10</sub> = 6.1 Q <sub>1</sub> = 8.8 Median = 14.1 Q <sub>3</sub> = 26.6 P <sub>90</sub> = 43.7 P <sub>99</sub> = 77.9																		Hours of Missing Data: 0							
																		Hours of Calibration: 0							
																		Percent Operational Time: 100.0							
Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Aug	16	5	9	6	7	6	6	10	25	9	6	9	10	12	17	17	22	12	24	80	10	13	12	31	80.4
2-Aug	12	14	49	30	17	24	15	23	42	29	44	41	53	21	22	40	13	9	11	68	25	10	76	31	76.0
3-Aug	8	10	20	47	52	31	55	33	45	35	74	68	69	50	53	46	47	42	20	14	23	18	18	26	73.6
4-Aug	23	13	7	8	7	11	37	30	13	21	28	29	75	85	80	79	33	11	8	37	18	47	45	73	85.4
5-Aug	14	40	95	81	19	12	57	35	93	31	33	14	34	20	13	13	12	11	6	31	23	25	12	31	94.8
6-Aug	12	71	46	35	27	71	32	25	15	12	20	25	13	8	15	7	9	16	8	4	7	19	8	11	71.3
7-Aug	9	7	19	13	7	10	13	22	7	7	6	9	8	8	8	11	11	33	18	5	12	16	14	16	32.6
8-Aug	18	9	14	12	16	8	15	11	40	7	10	18	10	25	16	61	18	11	26	20	62	24	27	52	62.4
9-Aug	17	13	30	34	18	25	46	62	72	35	32	42	17	17	18	18	11	27	30	35	22	13	17	75	74.6
10-Aug	43	28	19	23	11	5	17	11	11	9	6	9	10	14	18	17	18	14	31	24	11	6	15	17	43.4
11-Aug	4	4	18	22	9	31	22	4	5	5	9	29	41	26	20	22	29	25	31	8	12	26	44	17	44.0
12-Aug	11	4	50	8	10	8	37	17	30	28	37	26	35	46	56	52	46	34	19	24	22	13	10	5	56.2
13-Aug	10	9	8	9	11	5	8	6	27	21	12	38	59	33	26	20	19	18	13	8	72	9	6	8	72.4
14-Aug	13	11	13	16	27	17	15	35	56	29	32	10	21	21	20	14	17	13	9	18	19	6	10	6	56.1
15-Aug	12	4	3	4	3	3	3	6	15	22	10	13	15	13	22	18	14	9	8	19	24	7	11	19	24.5
16-Aug	7	21	14	20	13	11	16	8	8	8	11	11	9	10	18	11	13	9	7	6	37	14	3	3	36.6
17-Aug	6	4	7	10	30	7	5	12	18	12	12	11	13	15	9	10	35	36	52	8	14	34	34	28	52.1
18-Aug	9	5	4	37	29	28	36	35	17	16	24	29	38	37	26	30	55	21	24	16	5	6	10	8	54.8
19-Aug	7	8	6	6	5	5	7	6	7	14	27	27	14	17	17	26	19	32	22	32	11	20	12	32	31.7
20-Aug	38	32	8	9	9	31	22	12	17	13	12	19	25	15	8	10	13	50	29	18	15	56	12	7	55.6
21-Aug	55	40	21	20	11	37	45	14	20	18	18	14	17	15	13	14	11	6	23	6	45	8	9	4	55.1
22-Aug	10	12	8	6	7	5	5	4	6	6	8	6	10	9	14	10	10	7	9	7	11	2	6	9	14.3
23-Aug	8	6	9	5	4	7	24	23	61	32	37	78	56	70	43	61	32	22	18	22	4	8	4	6	78.1
24-Aug	4	4	6	7	24	10	55	20	10	35	29	11	39	19	20	16	14	17	40	15	7	7	3	7	55.4
25-Aug	5	4	18	22	18	26	12	17	45	10	10	47	36	18	38	65	16	22	63	43	16	14	8	6	64.9
26-Aug	6	8	6	6	9	7	12	6	7	14	12	10	13	12	7	10	12	8	12	11	7	7	23	37	36.7
27-Aug	27	35	45	30	20	13	27	26	14	9	18	9	8	11	9	6	7	7	6	5	4	5	6	4	44.8
28-Aug	4	6	5	7	5	10	12	7	7	10	15	60	28	22	21	60	65	45	45	13	24	17	25	19	64.6
29-Aug	13	11	8	6	5	5	4	7	7	6	9	10	9	9	8	7	9	6	5	4	4	4	9	16	16.3
30-Aug	14	33	7	6	10	5	50	22	11	11	20	15	30	23	72	34	16	9	10	6	9	5	13	15	72.1
31-Aug	17	33	70	39	48	32	11	31	13	12	11	15	13	9	14	50	24	11	13	8	12	9	12	36	70.5
Average	55.1	71.3	94.8	81.3	51.7	71.2	56.7	61.7	93.3	35.1	73.6	78.1	75.2	85.4	80.4	79.1	64.6	50.3	63.0	80.4	72.4	55.6	76.0	74.6	

# PAZA

## Monthly Passive Data Summary

# Location of PAZA Passive Monitoring Stations



## PAZA Passive Results for August 2016

Station Number	Station Name	SO2 ppb	O3 ppb	NO2 ppb	H2S ppb	Site Legal
<b>Duplicates</b>						
1a	Silver Valley	0.1	18.0	0.6		
1b	Silver Valley	0.2	12.3	0.8		
25a	Pinto Creek	0.1	15.5	0.9		
25b	Pinto Creek	0.1	15.1	0.8		
28a	Clairmont Lake	0.2	16.0	0.6		
28b	Clairmont Lake	0.3	17.5	0.9		
44a	Peavine	0.1	12.1	BDL		
44b	Peavine	0.1	11.7	BDL		
63a	Girouxville 3				0.3	
63b	Girouxville 3				0.3	
1	Silver Valley	0.1	15.2	0.7		08-27-081-11 W6M
2	Bay Tree	0.1	15.5	0.4		13-16-078-13 W6M
3	Fourth Creek	N/S	N/S	N/S		04-13-082-07 W6M
4	Gordondale	0.1	16.8	0.9		04-34-078-10 W6M
5	Boone Creek	0.1	12.8	0.4		16-36-074-11 W6M
7	Steeprock Creek	0.1	14.2	0.6		09-35-072-13 W6M
9	Spirit River	0.2	14.8	1.2		08-12-079-07 W6M
10	Woking	0.2	13.5	0.6		01-13-076-07 W6M
11	Webber Creek	0.3	13.3	0.8		09-36-074-09 W6M
12	Hythe	0.2	14.1	0.9		14-36-072-11 W6M
14	Sylvester	0.0	11.3	0.4		08-06-069-12 W6M
16	Beaverlodge	0.1	18.9	0.7		15-36-071-10 W6M
17	Poplar	0.2	13.8	0.6		13-06-073-08 W6M
18	Saddle Hills	0.2	14.8	0.4		04-25-074-07 W6M
19	Wanham	0.2	19.0	0.3		16-22-077-03 W6M
20	Shaftesbury	0.1	14.0	0.4		04-03-082-23 W5M
21	Eaglesham	0.1	16.0	0.3		16-21-079-25 W5M
23	Bear Lake	0.2	12.3	1.0		15-31-072-06 W6M
24	Wembley	0.1	14.5	0.6		12-31-070-08 W6M
25	Pinto Creek	0.2	16.8	0.7		04-24-069-11 W6M
26	Flyingshot	0.2	12.3	0.8		15-36-070-07 W6M
27	Grande Prairie I	0.2	17.0	1.7		08-15-071-06 W6M
28	Clairmont Lake	0.1	15.3	0.9		09-06-073-04 W6M

## PAZA Passive Results for August 2016 (Continued)

29	Smoky Heights	0.5	19.8	0.4		04-06-075-02 W6M
30	Fitzsimmons	0.1	11.8	0.4		15-36-072-03 W6M
32	Gold Creek	0.2	9.9	1.0		06-33-067-05 W6M
33	Wapiti	0.1	16.7	1.2		02-25-071-03 W6M
34	Puskwaskau	0.1	9.4	BDL		15-35-074-25 W5M
35	Jean Cote	0.2	14.2	0.4		12-35-079-21 W5M
36	Guy	0.2	14.7	0.3		03-04-076-22 W5M
37	Crooked Creek	0.1	16.5	0.6		16-01-071-26 W5M
38	Karr Creek	0.1	12.0	0.5		10-16-065-02 W6M
39	Clouston Creek	0.1	13.3	0.4		12-01-073-22 W5M
40	McLennan	0.2	17.5	0.4		03-29-077-19 W5M
41	Valleyview	0.1	16.0	0.9		09-30-069-22 W5M
42	Sunset House	0.1	23.3	0.3		05-32-070-19 W5M
43	High Prairie	0.1	13.5	0.5		16-13-074-17 W5M
44	Peavine	0.1	11.9	BDL		03-05-079-15 W5M
45	Gift Lake	0.1	10.7	0.1	0.1	10-07-079-12 W5M
46	Little Smoky	0.1	17.3	0.9		12-01-065-21 W5M
47	Kinuso	0.1	15.0	0.5		12-10-073-10 W5M
65	Deer Mountain 2	0.1	14.0	0.2		15-22-068-09 W5M
49	Grande Prairie HP	0.1	18.5	2.1		17-26-071-06 W6M
50	East Prairie	0.2	12.3	BDL		13-02-072-15 W5M
63	Girouville 3				0.3	14-02-077-23 W5M
64	Girouville 4				0.4	4-08-077-22 W5M

\*BDL = Below Detection Level

\*NS - No sample

## Passive Summary for August 2016

Stats	Sulphur Dioxide SO <sub>2</sub>	Ozone O <sub>3</sub>	Nitrogen Dioxide NO <sub>2</sub>	Hydrogen Sulphide H <sub>2</sub> S
	ppb	ppb	ppb	ppb

Passive Summary for August 2016 (PAZA Zone)				
<b>Mean</b>	<b>0.2</b>	<b>14.7</b>	<b>0.7</b>	<b>0.3</b>
<b>Standard Deviation</b>	<b>0.1</b>	<b>2.8</b>	<b>0.4</b>	<b>0.1</b>
<b>Minimum</b>	<b>0.0</b>	<b>9.4</b>	<b>0.1</b>	<b>0.1</b>
<b>Minimum At</b>	<b>Sylvester (#14)</b>	<b>Puskwaskau (#34)</b>	<b>Gift Lake (#45)</b>	<b>Gift Lake (#45)</b>
<b>Maximum</b>	<b>0.5</b>	<b>23.3</b>	<b>2.1</b>	<b>0.4</b>
<b>Maximum At</b>	<b>Smoky Heights (#29)</b>	<b>Sunset House (#42)</b>	<b>Grande Prairie HP</b>	<b>Girouxville 4 (#64)</b>

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

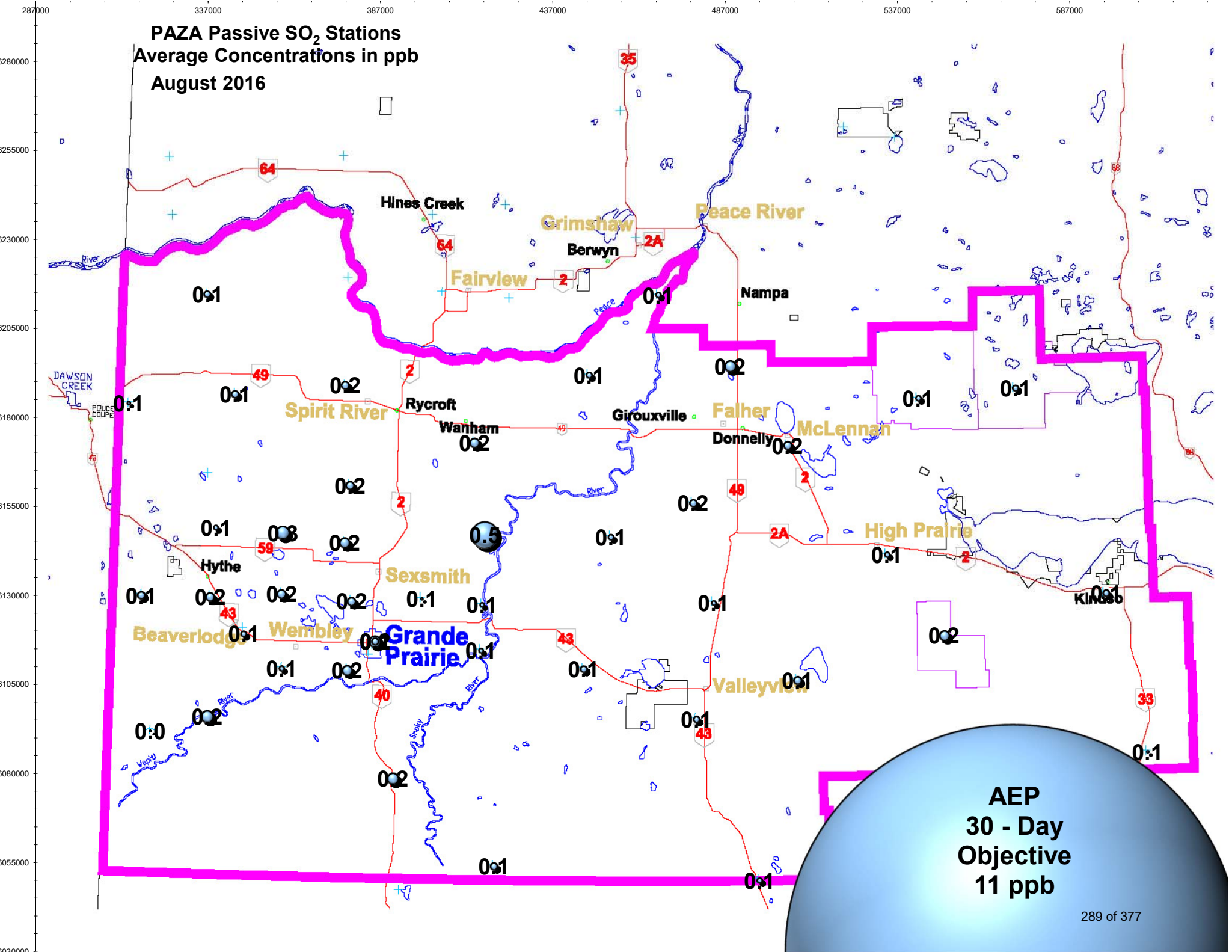
	SO <sub>2</sub>	O <sub>3</sub>	NO <sub>2</sub>
<b>PAZA Beaverlodge station</b>	<b>0.1</b>	<b>17.8</b>	<b>4.0</b>
<b>PAZA Beaverlodge passive</b>	<b>0.1</b>	<b>18.9</b>	<b>0.7</b>

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

	SO <sub>2</sub>	O <sub>3</sub>	NO <sub>2</sub>
<b>PAZA Henry Pirker station</b>	<b>0.0</b>	<b>18.6</b>	<b>3.6</b>
<b>PAZA Grande Prairie passive</b>	<b>0.1</b>	<b>18.5</b>	<b>2.1</b>

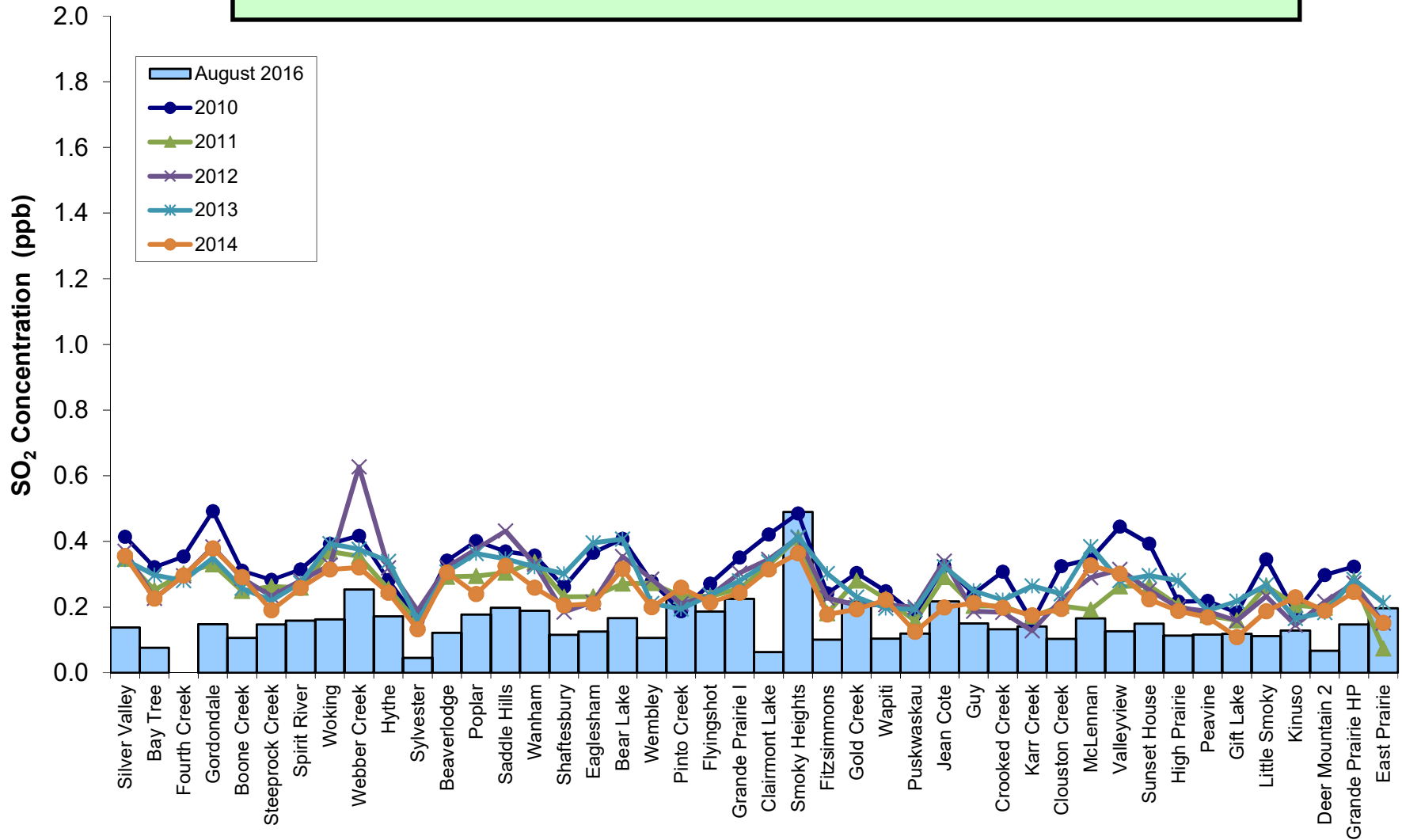


**PAZA Passive SO<sub>2</sub> Stations**  
**Average Concentrations in ppb**  
**August 2016**

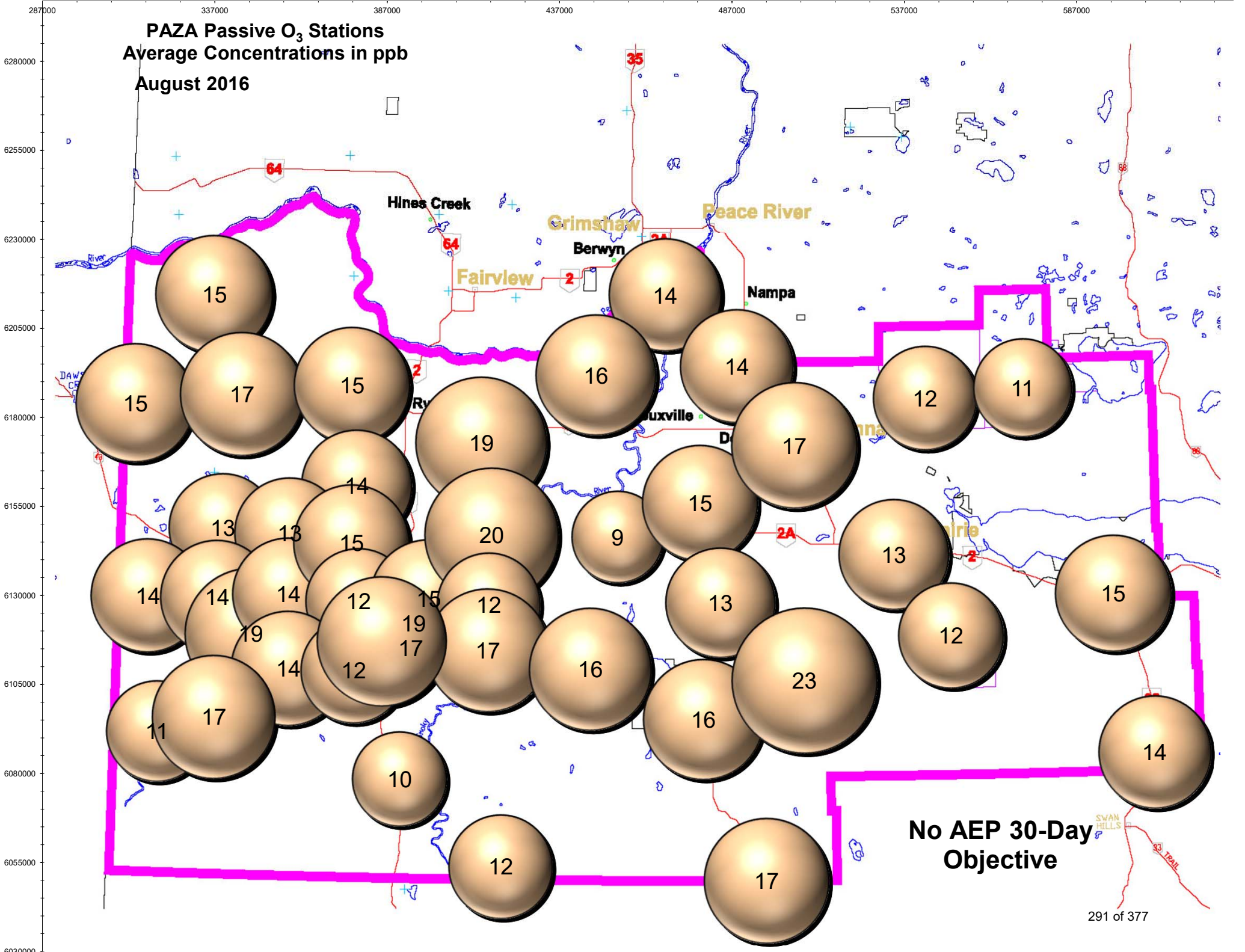


**AEP**  
**30 - Day**  
**Objective**  
**11 ppb**

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

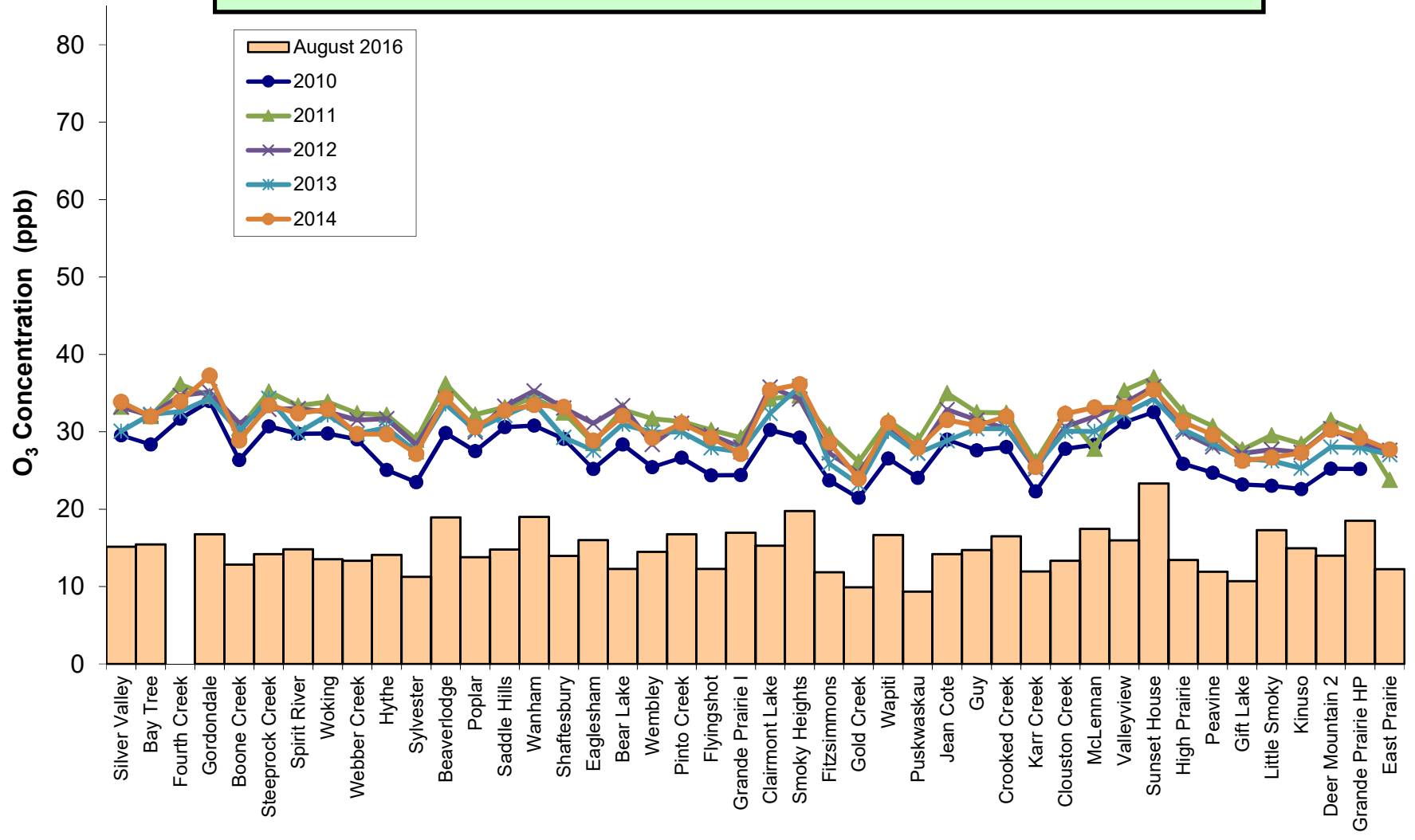


# PAZA Passive O<sub>3</sub> Stations Average Concentrations in ppb August 2016

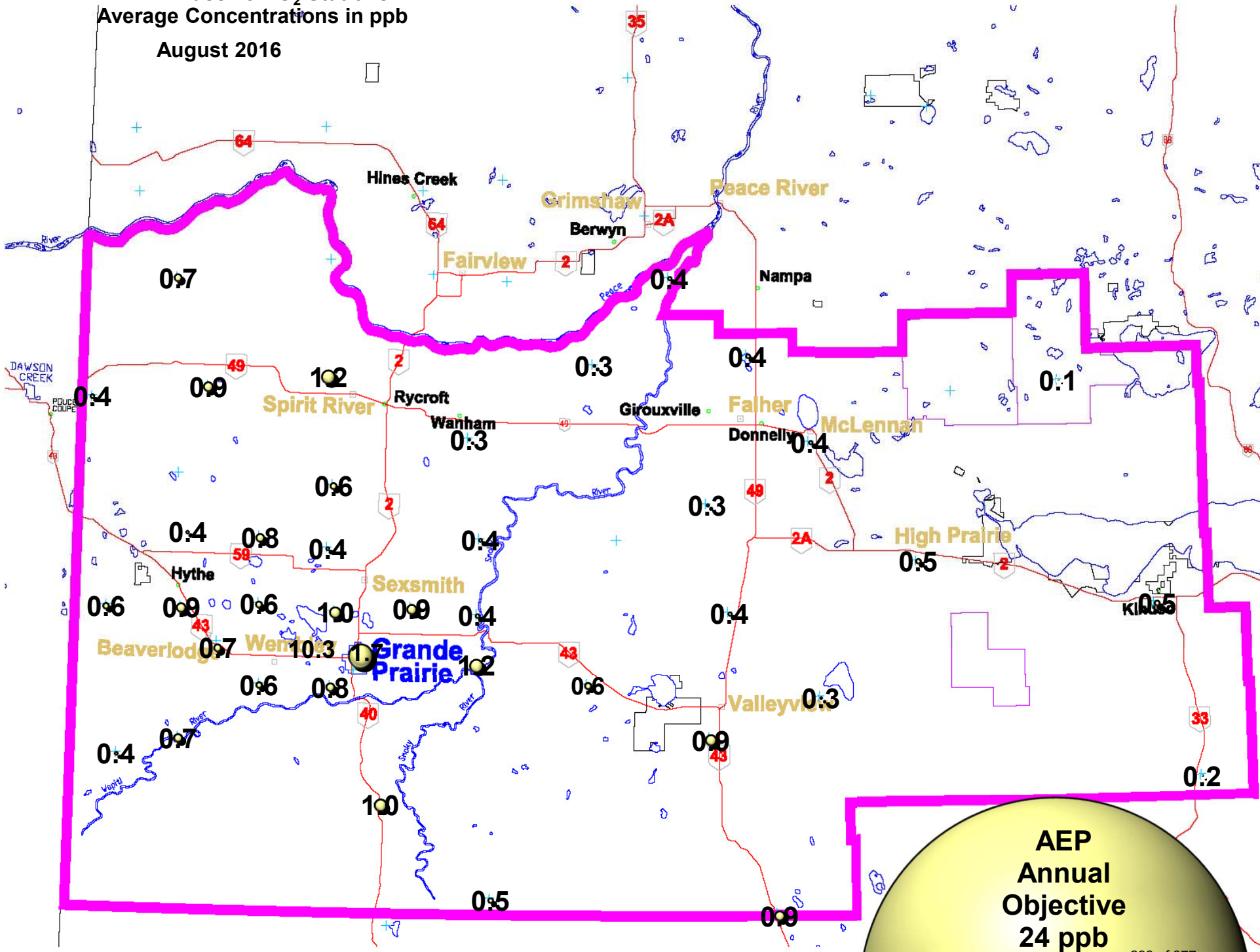


No AEP 30-Day  
Objective

## Alberta Ambient Air Quality Objective - No Annual O<sub>3</sub> Objective

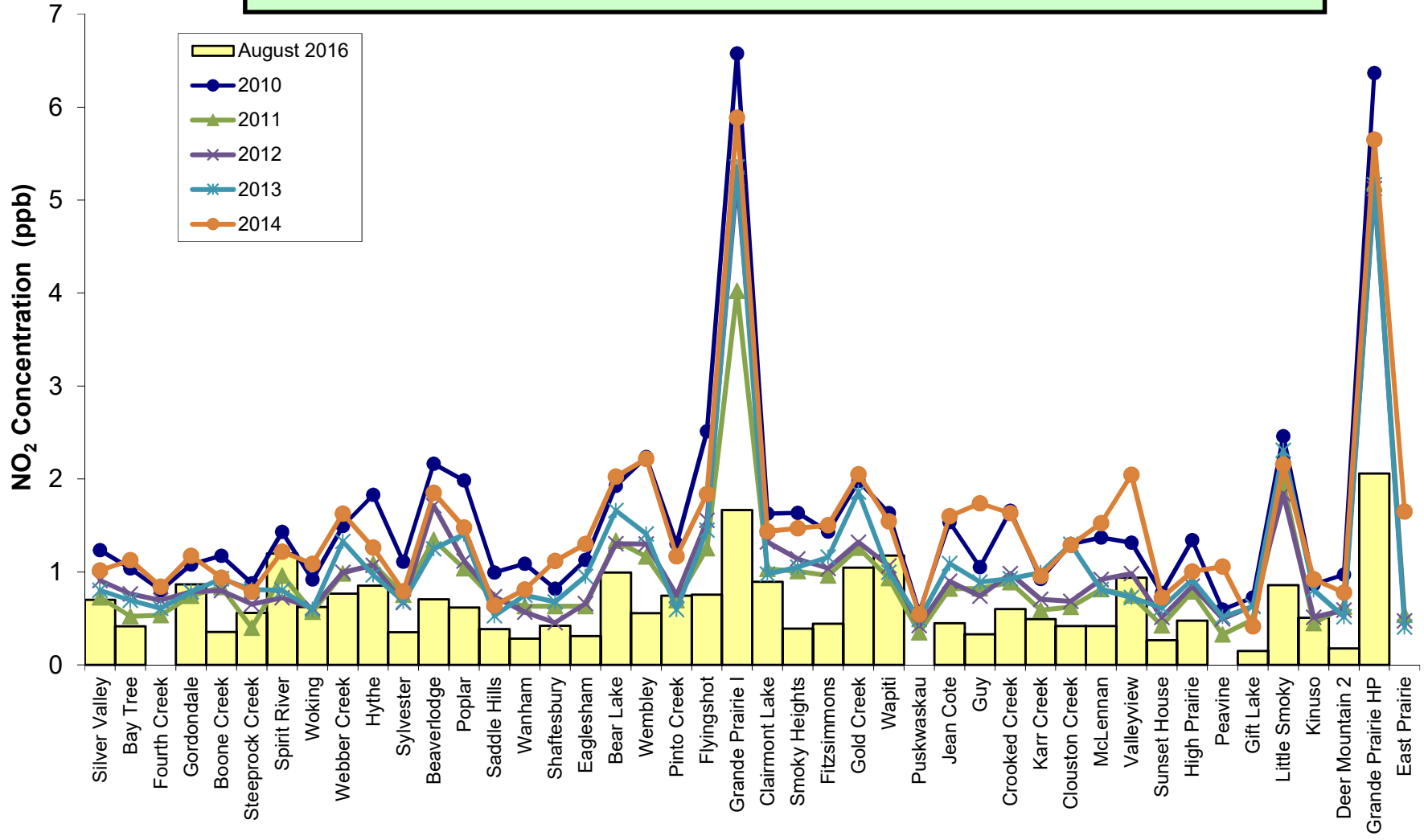


**PAZA Passive NO<sub>2</sub> Stations**  
**Average Concentrations in ppb**  
**August 2016**

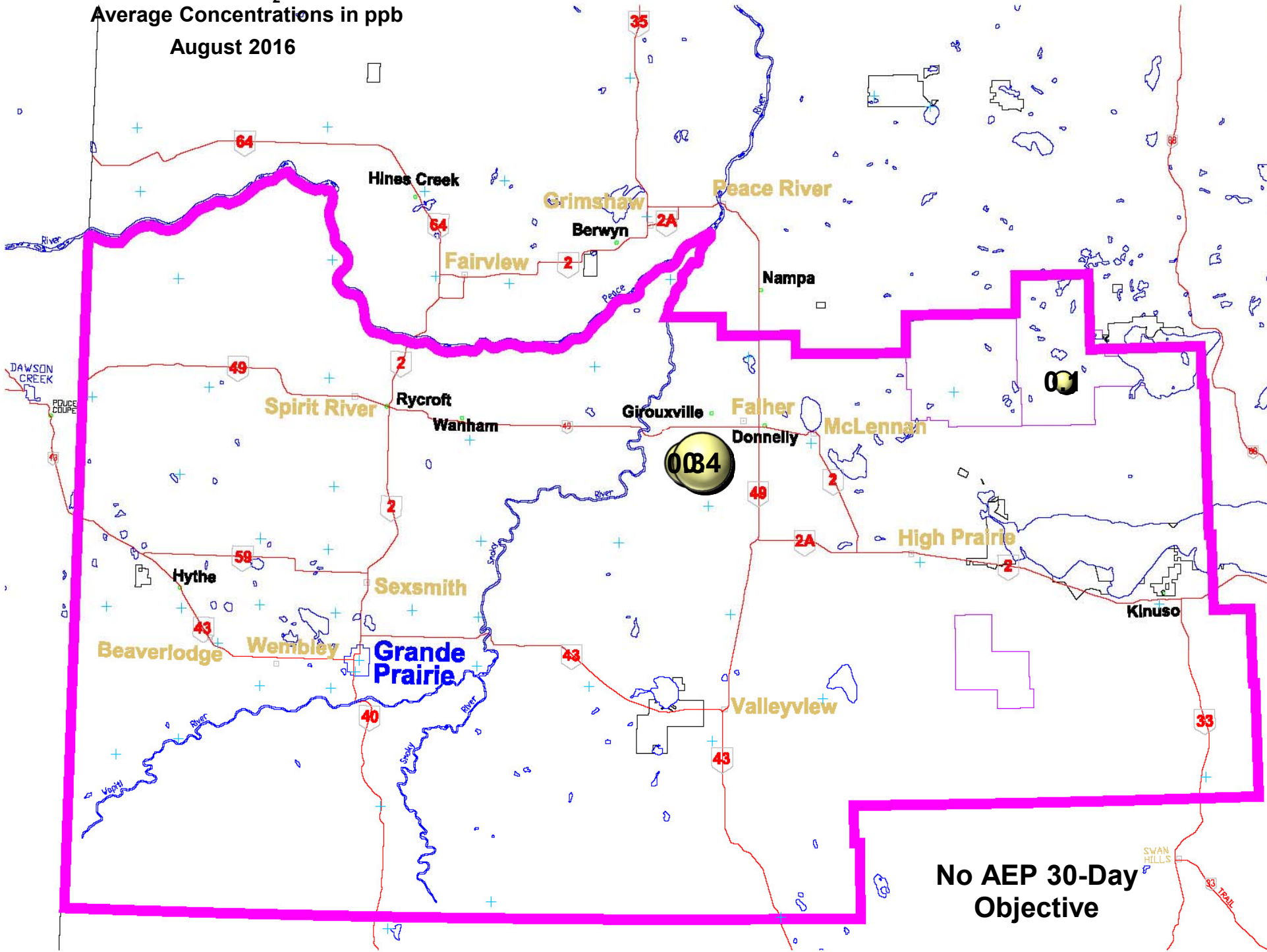


**AEP**  
**Annual**  
**Objective**  
**24 ppb**

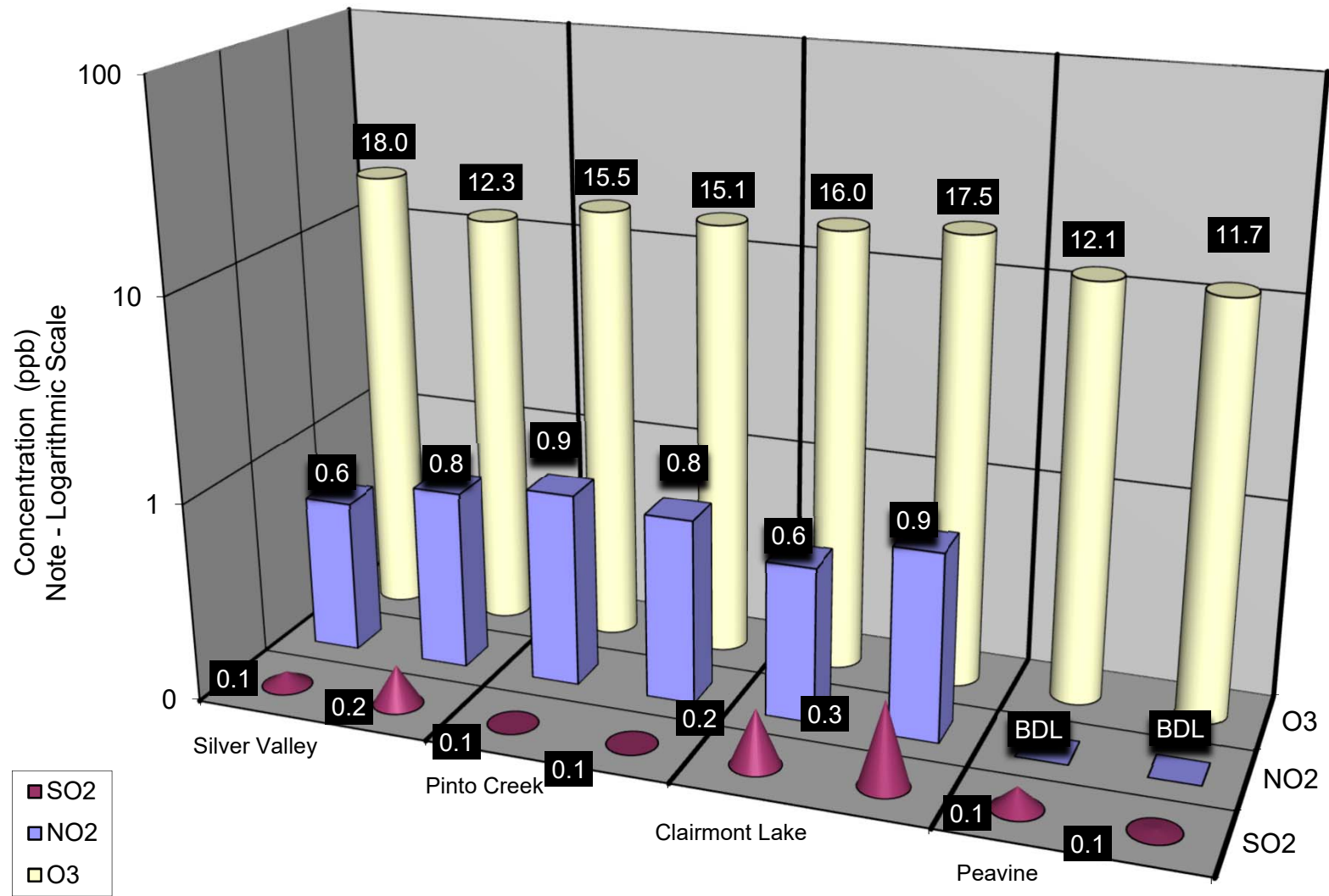
**Alberta Ambient Air Quality Objective - Annual NO<sub>2</sub> Objective is 24 ppb**



**PAZA Passive H<sub>2</sub>S Stations  
Average Concentrations in ppb  
August 2016**



**No AEP 30-Day  
Objective**



Duplicate Summary Chart



# August 2016 Calibration Reports

**PAZA - Henry Pirker Station with the following calibrations:  
SO<sub>2</sub>, NO, NO<sub>2</sub>, NO<sub>x</sub>, O<sub>3</sub>, CO, THC, TRS**

**PAZA – Evergreen Park Station with the following calibrations:  
SO<sub>2</sub> & TRS**

**PAZA – Smoky Heights Station with the following calibrations:  
SO<sub>2</sub> & TRS**

**PAZA – Beaverlodge Station with the following calibrations:  
SO<sub>2</sub>, NO, NO<sub>2</sub>, NO<sub>x</sub>, O<sub>3</sub>**

**PAZA – Valleyview Station with the following calibrations:  
SO<sub>2</sub> & H<sub>2</sub>S**

**PAZA – Donnelly Station with the following calibrations:  
SO<sub>2</sub> & H<sub>2</sub>S**

**PAZA – Rycroft Station with the following calibrations:  
SO<sub>2</sub>, NO, NO<sub>2</sub>, NO<sub>x</sub>, O<sub>3</sub>, THC, TRS**

# Calibration Report



AIR QUALITY MONITORING

Parameter SO2

Air Monitoring Network PAZA

## Station Information

Calibration Date	August 3, 2016	Previous Calibration	July 7, 2016
Station Number	1	Station Location	Henry Pirker
Reason:	<input checked="" type="checkbox"/> Routine	<input type="checkbox"/> Install	<input type="checkbox"/> Removal
			<input type="checkbox"/> Other:
Start Time (MST)	9:00	End Time (MST)	11:25
Barometric Pressure	726.000 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	0.994119
Calculated intercept	0.884810	Calculated intercept	1.189632
Analyzer make	TEI 43I-TLE	Analyzer serial #	1507864682 (AMU 2006)

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
Background	1.52		1.47	
Coefficient	0.977		0.948	
Pressure	672.5	mm Hg	671.6	mm Hg
Flow	0.443	lpm	0.442	lpm
Lamp intensity	83	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	0.1	N/A
4998	39.94	394.0	396.0	0.9949
4997	19.99	198.0	196.6	1.0071
4999	9.89	98.1	96.7	1.0152
4996	0.00	0.0	0.1	As Found Zero
4996	39.93	394.1	407.2	As Found Span
Average Correction Factor				1.0057

Calculated value of As Found Response: 403.5 ppb      Percent Change of As Found: -2.4%

	before calibration		after calibration	
Auto zero	0.1	ppb	0.1	ppb
Auto span	287.8	ppb	282.3	ppb

Notes: Span adjustment made

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Calibration Performed By: Dmytro Dolotii

# Calibration Summary



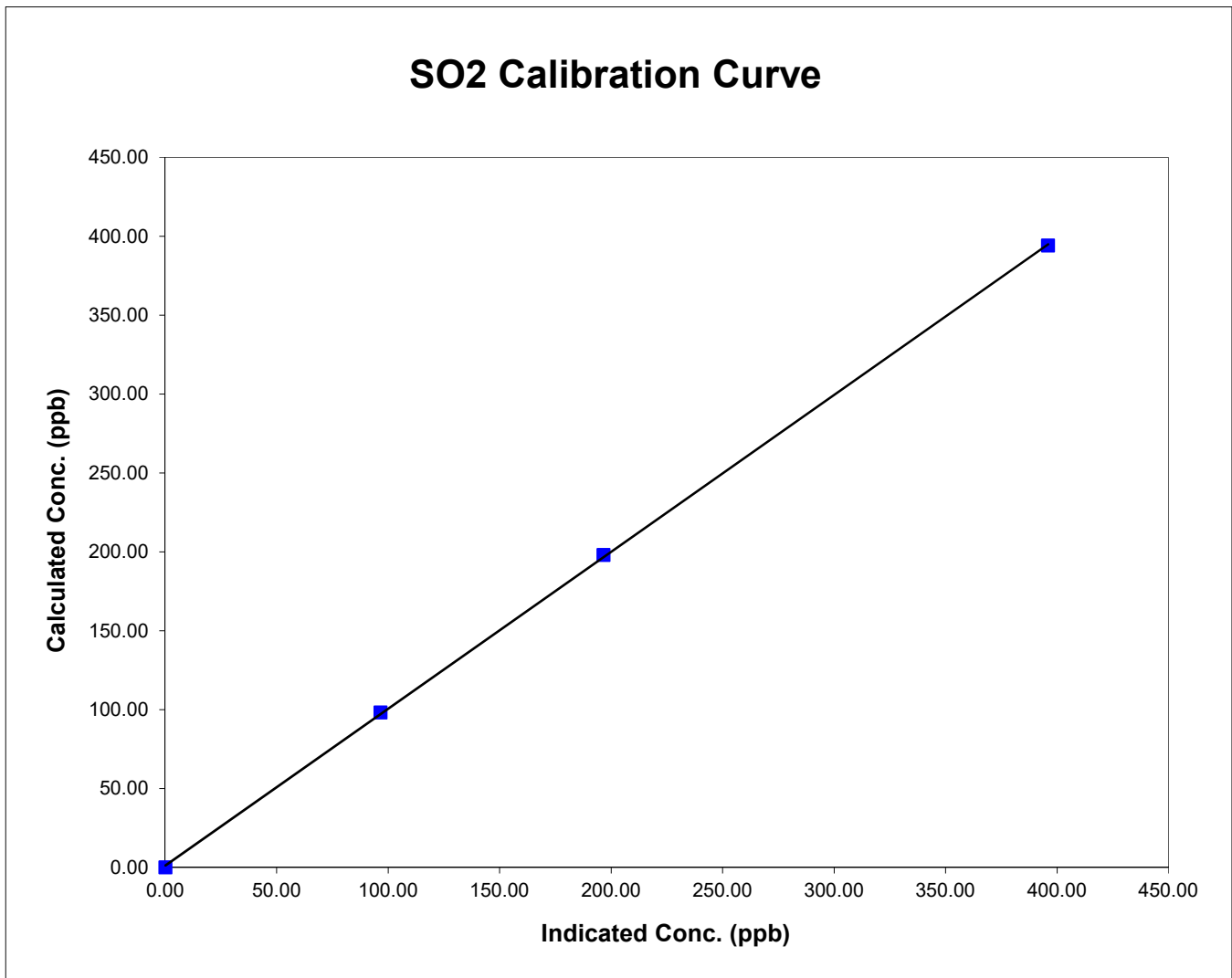
Parameter SO2  
 Air Monitoring Network PAZA

### Station Information

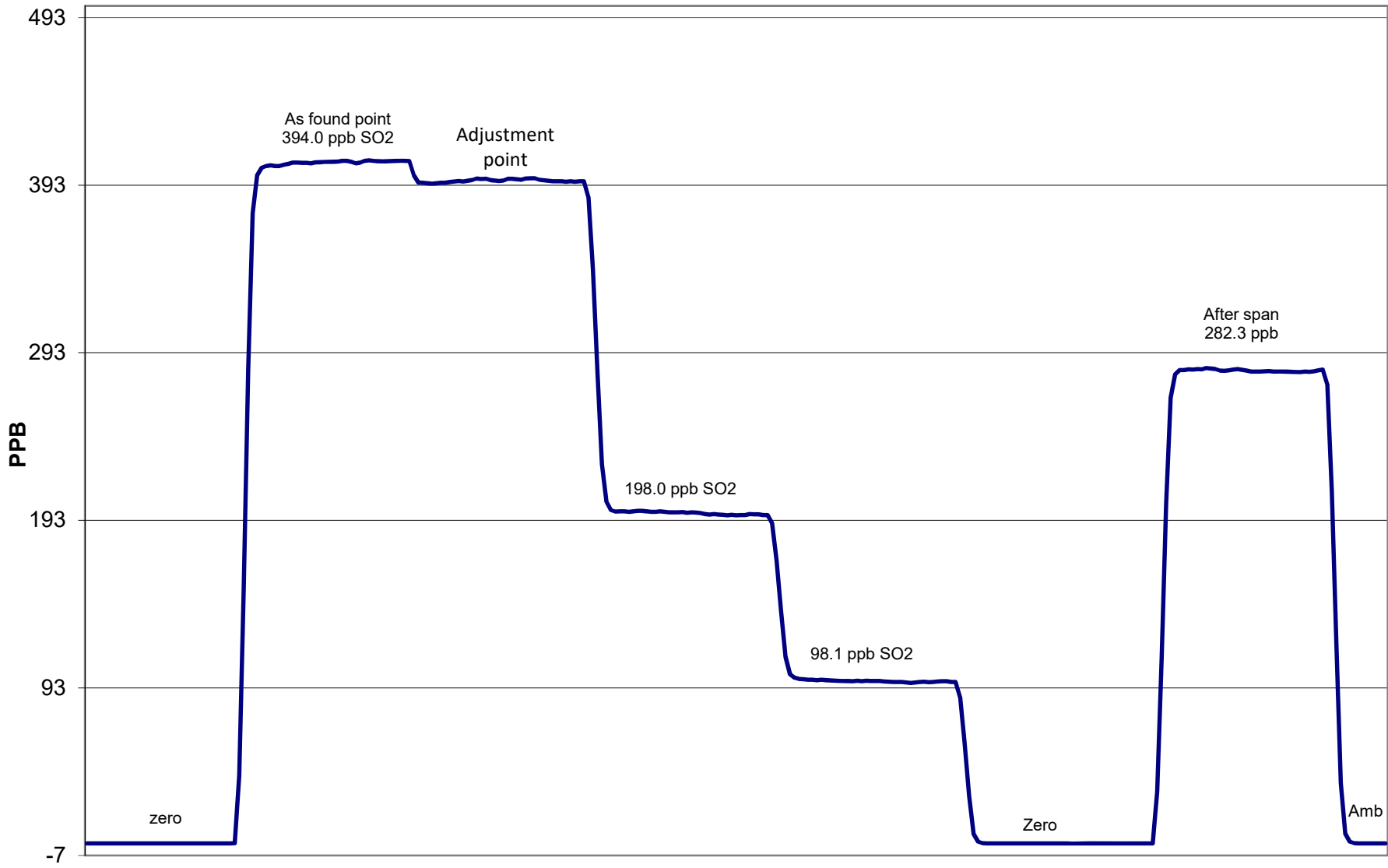
Calibration Date	August 3, 2016	Previous Calibration	July 7, 2016
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	9:00	End Time (MST)	11:25
Analyzer make/model	TEI 43I-TLE	Analyzer serial #	1507864682 (AMU 2006)

### Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.1	N/A		
394.0	396.0	0.9949	Correlation Coefficient	0.999939
198.0	196.6	1.0071		
98.1	96.7	1.0152	Slope	0.994119
			Intercept	1.189632



# SO2 Calibration



August 3, 2016

# Calibration Report

Parameter **NO<sub>x</sub>-NO-NO<sub>2</sub>**  
 Air Monitoring Network **PAZA**



## Station Information

Calibration Date	August 3, 2016	Previous Calibration	July 6, 2016
Station Number	1	Station Location	Henry Pirker
Reason:	<b>Routine</b>	Installation	Removal
Start Time (MST)	8:00	End Time (MST)	13:15:00 PM
Barometric Pressure	726.000 mm	Station Temperature	21.0 Deg C
Calibrator	Envionics	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
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Parameter		NO2	NOx	NO
Before	Data Slope	1.002705	1.004354	0.997813
	Data Offset	0.314781	0.239074	-0.000959
After	Data Slope	1.001513	0.997733	0.991500
	Data Offset	-0.071796	0.403248	0.381798
Channel #		8	6	7
Voltage Range		0 - 5 VDC	0 - 5 VDC	0 - 5 VDC

## Analyzer Information

Analyzer make/model	42i	Analyzer serial #	906535087
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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	327.6	Deg C	323.7	Deg C
Cooler Temp	-2.9	Deg C	-2.9	Deg C
PMT Volt	-844.3	mV	-844.0	mV
R Cell Press	169.2	in Hg	166.7	in Hg
Sample Flow	0.620	LPM	0.620	LPM

Notes: No adjustment made

# Calibration Report



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

## Station Information

Calibration Date: August 3, 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	0.4	0.7	0.0	N/A	N/A	
1	4997	39.96	406.2	403.8	2.4	407.0	407.4	0.0	0.9980	0.9912	
2	4998	19.95	203.6	202.4	1.2	203.6	203.3	0.1	1.0000	0.9956	
3	4997	9.94	101.6	101.0	0.6	100.5	100.4	0.1	1.0118	1.0063	
AFZ	4996	0.00	0.0	0.0	0.0	0.4	0.7	0.0	0.0000	0.0000	
AFS	4996	39.92	405.9	403.5	0.8	407.0	407.4	0.0	0.9972	0.9904	
									Average Correction Factor	1.0033	0.9977

As Found Concentrations: NO<sub>x</sub>= 408.6 NO= 405.8 As Found Percent Change NO<sub>x</sub>= 0.7% NO= 0.6%

## GPT Calibration Data

Dilution Flow 4995 ccm Source Gas Flow 39.93 ccm

O3 Setpoint (ppb)	Indicated NO high point (ppb)	Indicated NO drop conc (ppb)	Calculated NO2 conc (ppb)	Indicated NOx conc (ppb)	Indicated NO conc (ppb)	Indicated NO2 conc (ppb)	NOx Correction factor	NO Correction factor	NO2 Correction factor	Converter Efficiency	
0	0.7	0.7	0.0	0.4	0.7	0.0	N/A	N/A	N/A	N/A	
NO point	407.0	407.0	0.0	406.5	407.0	-0.2	1.0012	1.0000	N/A	N/A	
300	407.0	74.9	332.1	406.6	74.9	331.5	1.0009	1.0000	1.0016	99.8%	
200	407.0	183.1	223.9	407.7	183.1	223.8	0.9982	1.0000	1.0004	100.0%	
100	407.0	298.5	108.5	407.8	298.5	108.4	0.9979	1.0000	1.0008	99.9%	
							Average Correction Factor	0.9990	1.0000	1.0010	99.9%

## AIC Data

Parameter	Previous calibration				Current calibration			
	NOx	NO2	NO		NOx	NO2	NO	
Auto zero	0.1	0.0	0.5	ppb	0.3	0.0	0.7	ppb
Auto span	318.8	315.3	3.3	ppb	321.8	318.0	3.7	ppb

Calibration Performed By: Dmytro Dolotii

# Calibration Summary



Parameter NO<sub>2</sub>

Air Monitoring Network PAZA

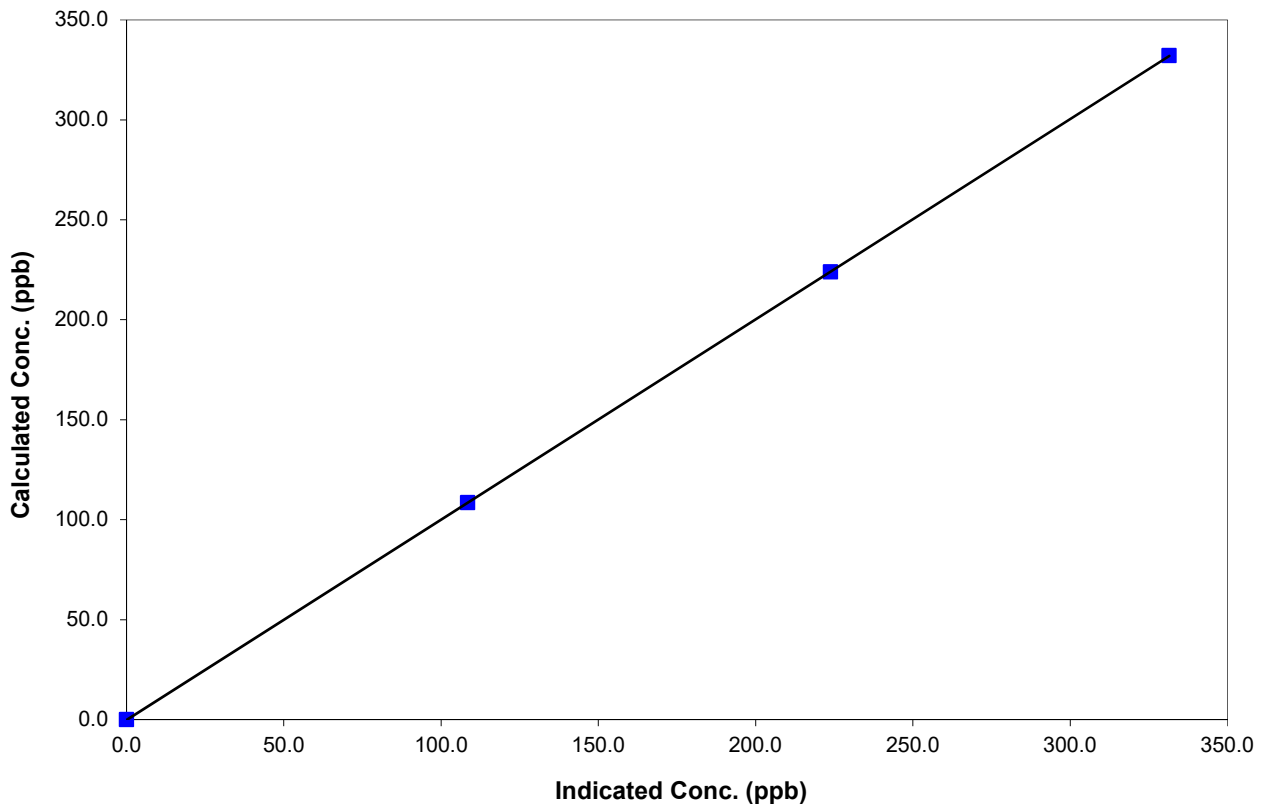
### Station Information

Calibration Date	August 3, 2016	Previous Calibration	July 6, 2016
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	8:00	End Time (MST)	13:15:00 PM
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	0.999999
332.1	331.5	1.0016		
223.9	223.8	1.0004	Slope	1.001513
108.5	108.4	1.0008		
			Intercept	-0.071796

**NO<sub>2</sub> Calibration Curve**



# Calibration Summary



Parameter NO<sub>x</sub>

Air Monitoring Network PAZA

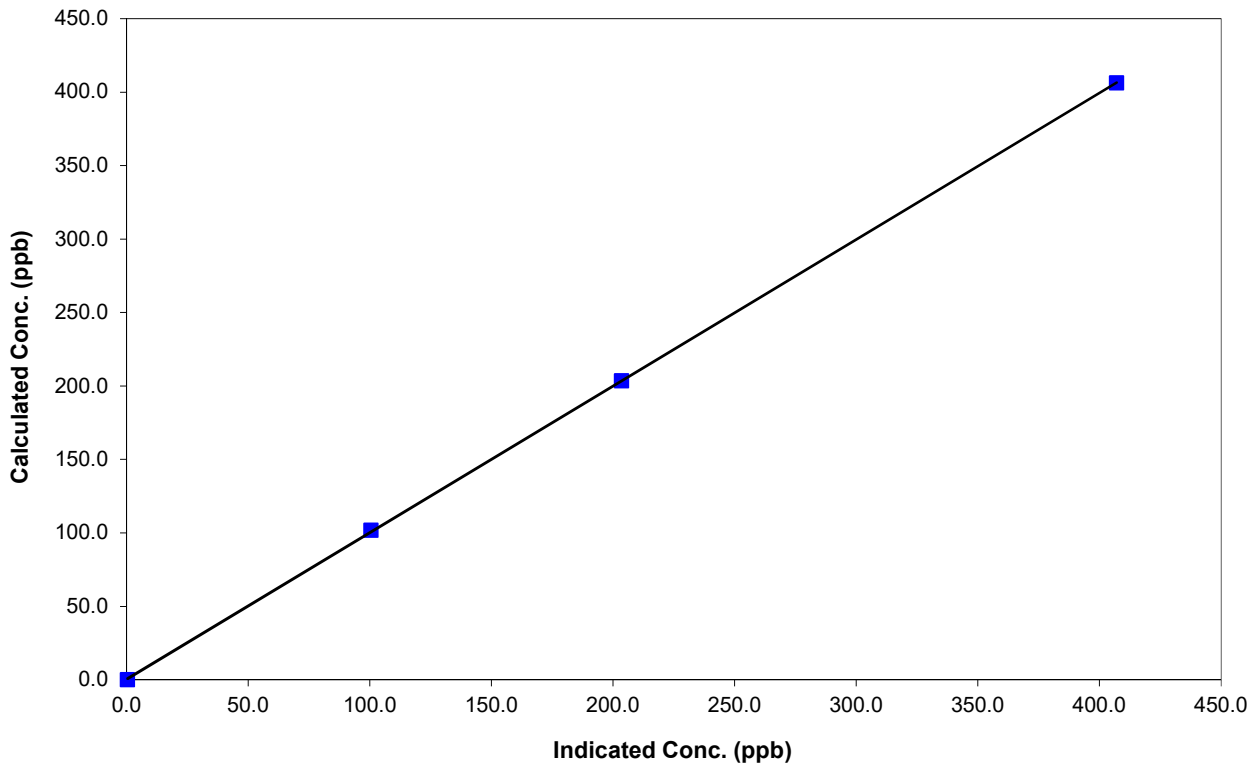
## Station Information

Calibration Date	August 3, 2016	Previous Calibration	July 6, 2016
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	8:00	End Time (MST)	13:15:00 PM
Analyzer make	42i	Analyzer serial #	906535087

## Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.4	N/A	Correlation Coefficient	0.999981
406.2	407.0	0.9980		
203.6	203.6	1.0000	Slope	0.997733
101.6	100.5	1.0118		
			Intercept	0.403248

## NO<sub>x</sub> Calibration Curve





# Calibration Summary

Parameter NO

Air Monitoring Network PAZA



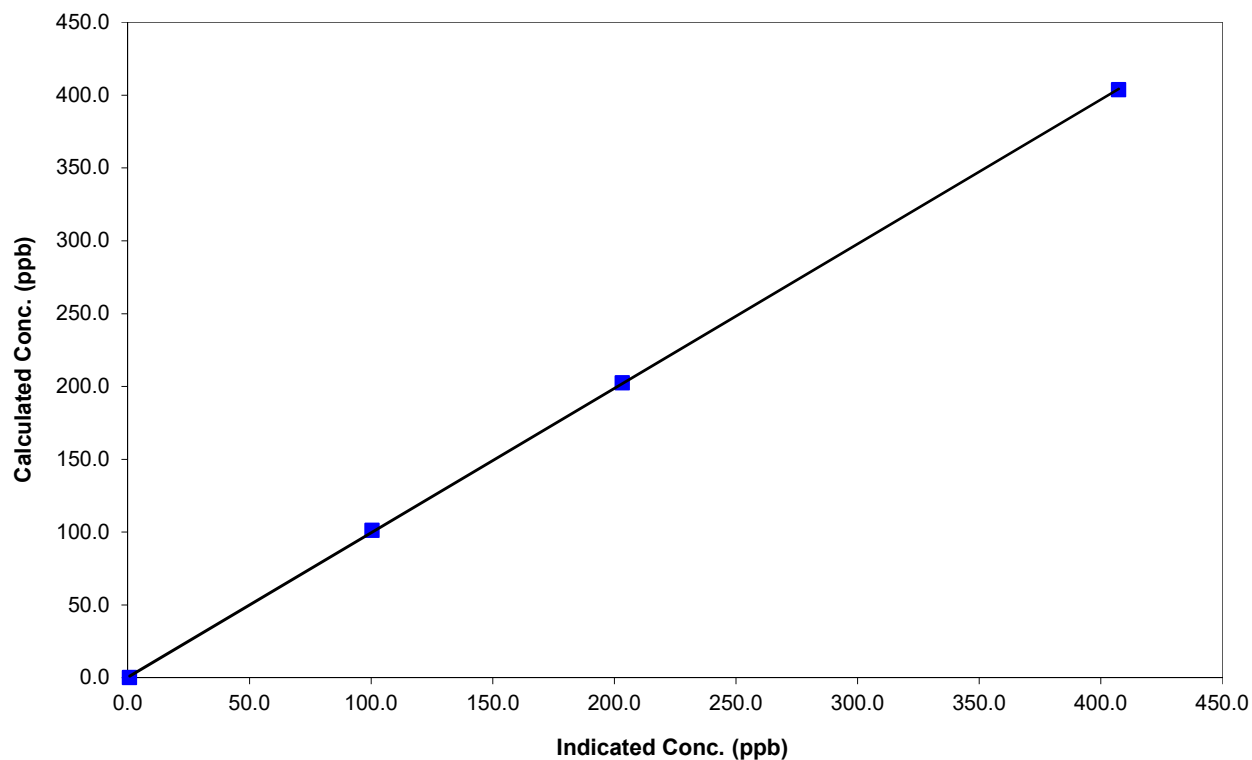
## Station Information

Calibration Date	August 3, 2016	Previous Calibration	July 6, 2016
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	8:00	End Time (MST)	13:15:00 PM
Analyzer make	42i	Analyzer serial #	906535087

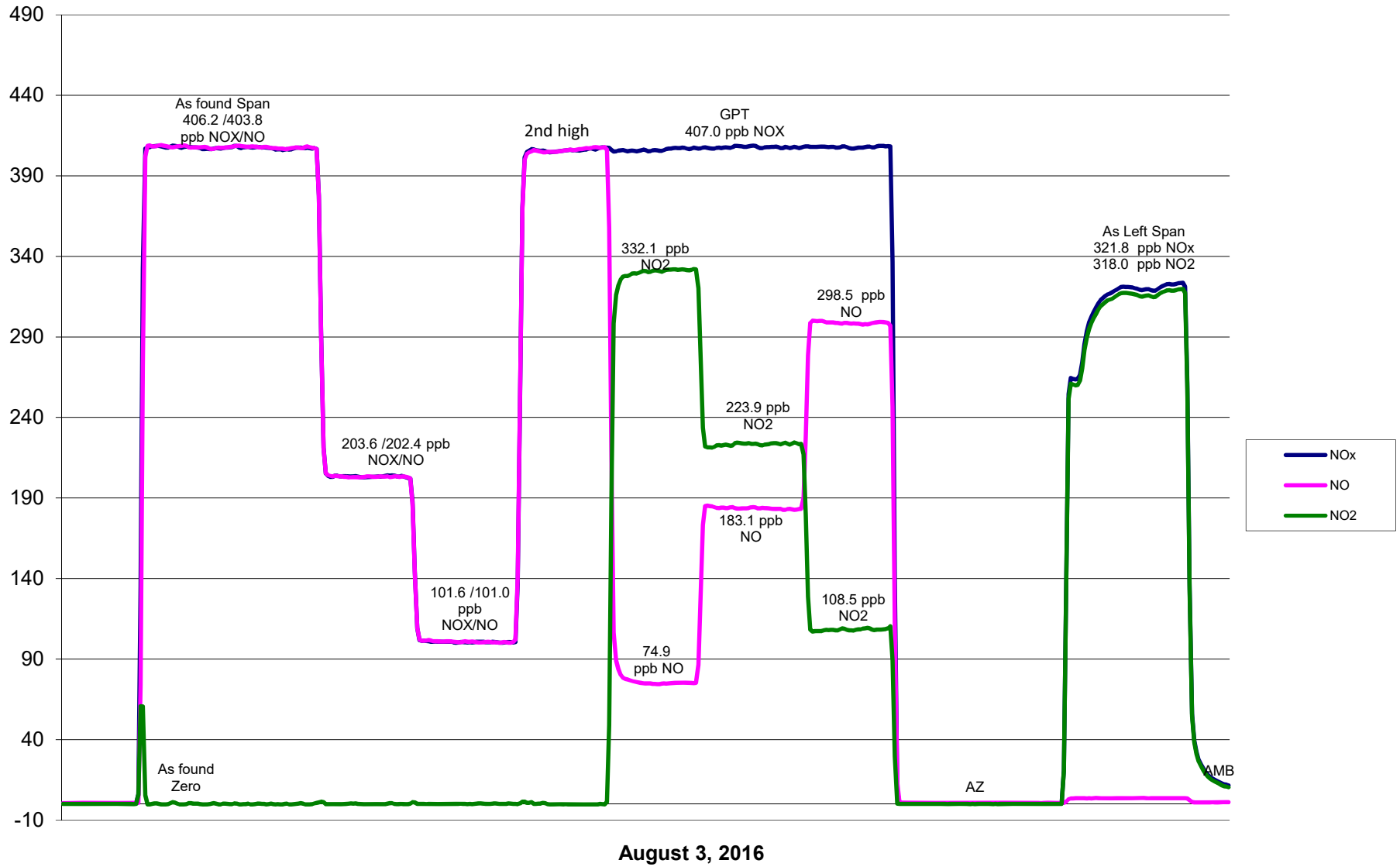
## Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.7	N/A	Correlation Coefficient	0.999969
403.8	407.4	0.9912		
202.4	203.3	0.9956	Slope	0.991500
101.0	100.4	1.0063		

## NO Calibration Curve



# NO<sub>x</sub> Calibration



# Calibration Report



AIR QUALITY MONITORING

Parameter 03  
Air Monitoring Network PAZA

## Station Information

Calibration Date	August 3, 2016	Previous Calibration	July 6, 2016
Station Number	1	Station Location	Henry Pirker
Reason:	<input checked="" type="checkbox"/> Routine	<input type="checkbox"/> Install	<input type="checkbox"/> Removal
		<input type="checkbox"/> Other:	
Start Time (MST)	12:00	End Time (MST)	14:15:00 PM
Barometric Pressure	726.000 mm	Station Temperature	21.0 Deg C
Calibrator	Envionics	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	1.001973	Calculated slope	0.997505
Calculated intercept	0.458167	Calculated intercept	0.355979
Analyzer make	Teco 49I	Analyzer serial #	1507964699 (AMU:2015)

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
offset	-1.10	ppb	-1.20	ppb
slope	1.017		1.017	
Lamp temp	53.6	mV	53.5	mV
Lamp Intensity A/B	75531/82524	mV	75123/82658	mV
Pressure	694.3	mm Hg	695.1	mm Hg
Flow A	0.733	ccm	0.734	ccm
Flow B	0.734	ccm	0.733	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	-0.6	N/A
4999	0.3	332.1	333.0	0.9972
4999	0.2	223.9	222.9	1.0044
4998	0.1	108.5	109.4	0.9918
4997	0.0	0.0	-0.6	As found zero
4997	0.3	332.1	333.0	As found span
Average Correction Factor				0.9978

Calculated value of As Found Response: 334.8 ppm Percent Change of As Found: 0.8%

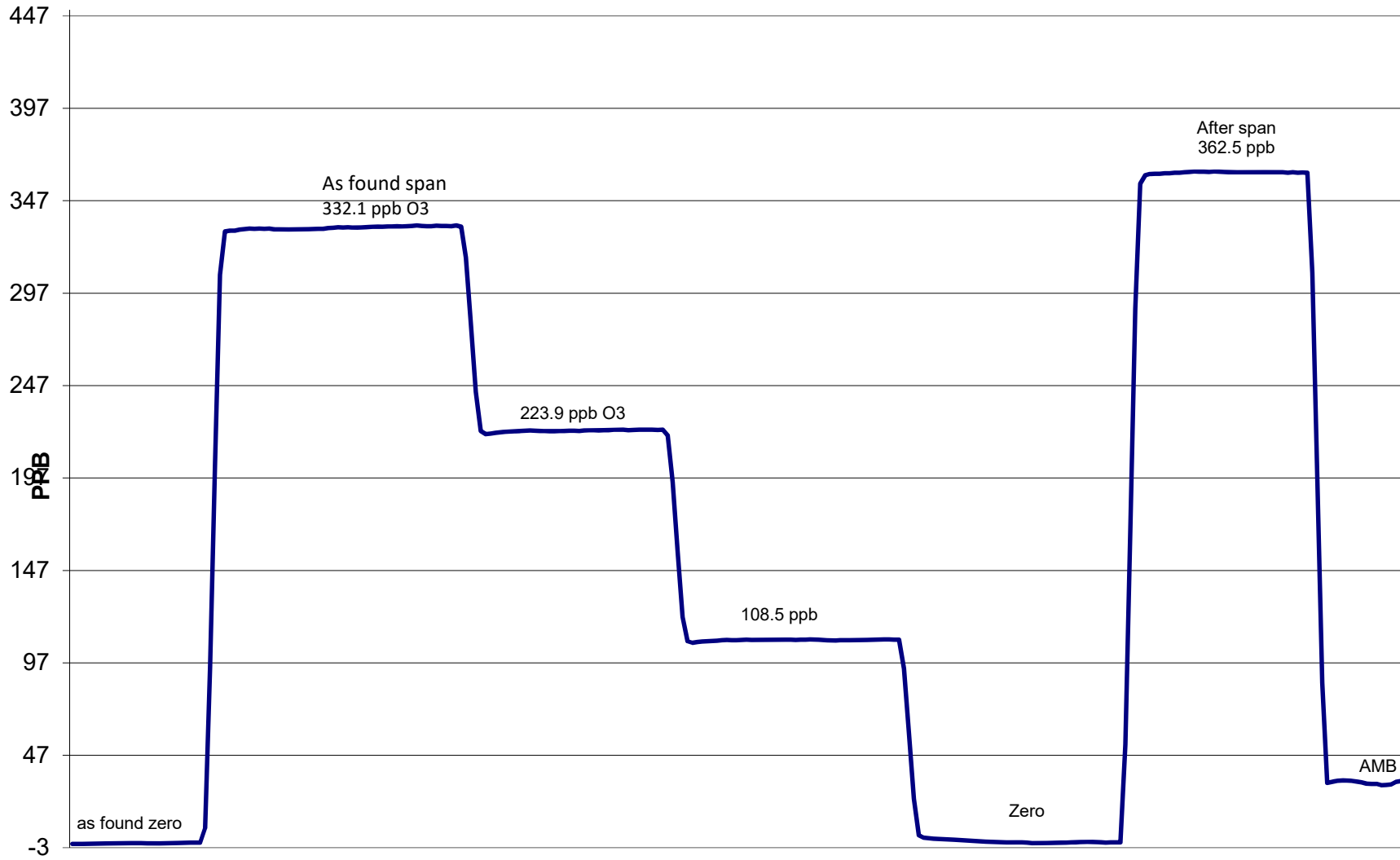
	before calibration		after calibration	
Auto zero	1.0	ppb	-0.2	ppb
Auto span	367.1	ppb	362.5	ppb

Notes: No adjustment made

Calibration Performed By: Dmytro Dolotii



# O3 Calibration



August 3, 2016

# Calibration Report



AIR QUALITY MONITORING

Parameter CO

Air Monitoring Network PAZA

## Station Information

Calibration Date	August 4, 2016	Previous Calibration	July 7, 2016
Station Number	1	Station Location	Henry Pirker
Reason:	<input checked="" type="checkbox"/> Routine	<input type="checkbox"/> Install	<input type="checkbox"/> Removal
		<input type="checkbox"/> Other:	
Start Time (MST)	12:10	End Time (MST)	15:20:00 PM
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
	<b>Before</b>		<b>After</b>
Calculated slope	1.008010	Calculated slope	0.991683
Calculated intercept	-0.178105	Calculated intercept	-0.187154
Analyzer make	Model 48I-TLE	Analyzer serial #	1408761378

	before		after	
Concentration range	0 - 50	ppm	0 - 50	ppm
CO zero setting	5.705		5.856	
CO span setting	1.047		1.047	
Sample pressure	700.1	mm Hg	698.9	mm Hg
Sample Flow	0.451	LPM	0.451	LPM

## Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4995	0.00	0.00	0.01	N/A
4999	69.80	40.02	40.45	0.9894
4998	34.97	20.19	20.64	0.9781
4995	17.96	10.41	10.87	0.9579
4995	0.00	0.00	0.14	As Found Zero
4995	69.80	40.05	40.73	As Found Span
Average Correction Factor				0.9752

Calculated value of As Found Response: 40.734 ppm      Percent Change of As Found: -1.7%

	before calibration		after calibration	
Auto zero	0.01	ppm	0.01	ppm
Auto span	20.27	ppm	20.32	ppm

Notes: Zero adjustment made

Calibration Performed By: Dmytro Dolotii

# Calibration Summary



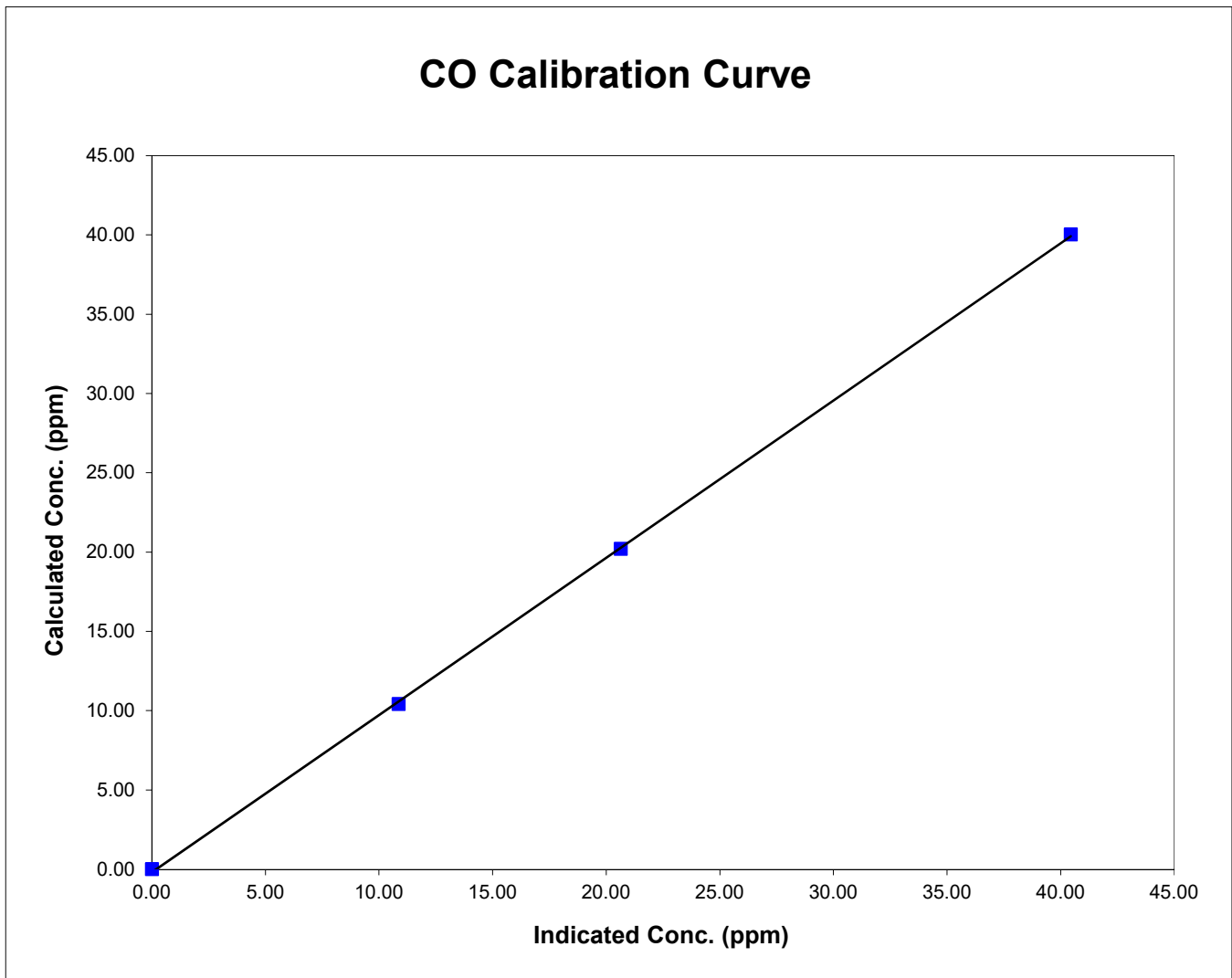
Parameter CO  
 Air Monitoring Network PAZA

### Station Information

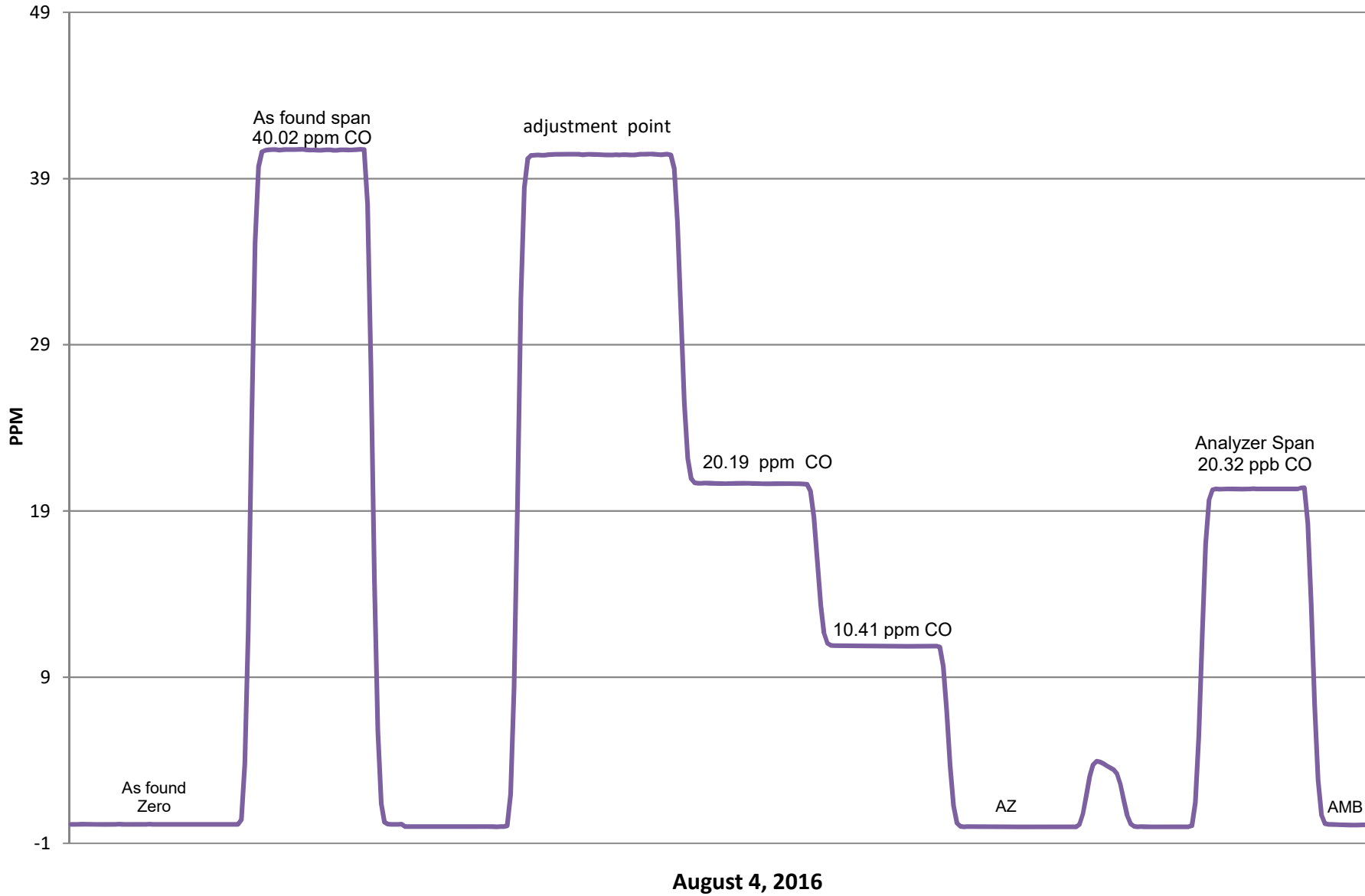
Calibration Date	August 4, 2016	Previous Calibration	July 7, 2016
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	12:10	End Time (MST)	15:20:00 PM
Analyzer make/model	Model 48I-TLE	Analyzer serial #	1408761378

### Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.011	N/A	Correlation Coefficient	0.999907
40.017	40.445	0.9894		
20.191	20.643	0.9781	Slope	0.991683
10.411	10.868	0.9579		
			Intercept	-0.187154



# CO Calibration





# Calibration Report



Parameter CH4 / NMHC / THC

Air Monitoring Network PAZA

## Station Information

Calibration Date	August 4, 2016	Previous Calibration	July 27, 2016
Station Number	1	Station Location	Henry Pirker
Reason:	<input checked="" type="checkbox"/> Routine	<input type="checkbox"/> Install	<input type="checkbox"/> Removal
		<input type="checkbox"/> Other:	

Start Time (MST)	10:10	End Time (MST)	13:05:00 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 551 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		6.41	E <sup>-4</sup>
NMHC cal factor	2.84		2.92	E <sup>-4</sup>
Rt	12.74	Sec	12.31	Sec
Pk Index	23.22		23.43	

## 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	7.72	1.0046
1999	15.97	3.06	3.39	0.9029
1995	0.00	0.00	0.02	As Found Zero
1995	68.93	12.89	14.97	As Found Span
Average Correction Factor				0.9685

Calculated value of As Found Response: 14.747 ppm Percent Change of As Found: -14.4%

	Before		After
Calculated slope	0.986053	Calculated slope	1.009169
Calculated intercept	0.004700	Calculated intercept	-0.140055

## Final Zero/Span Data

	before calibration		after calibration	
Auto zero	0.03	ppm	0.03	ppm
Auto span	9.25	ppm	9.01	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	19.04	0.9979
1998	40.99	11.44	11.88	0.9635
1999	15.97	4.51	5.52	0.8175
1995	0.00	0.00	0.02	As Found Zero
1995	68.93	19.01	20.02	As Found Span
Average Correction Factor				0.9263

Calculated value of As Found Response: 19.458 ppm      Percent Change of As Found: -2.4%

	Before		After
Calculated slope	0.984732	Calculated slope	1.010911
Calculated intercept	-0.237184	Calculated intercept	-0.474327

#### Final Zero/Span Data

	before calibration		after calibration	
Auto zero	0.02	ppm	0.02	ppm
Auto span	13.06	ppm	12.90	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	31.92	0.9988
1998	40.99	19.20	19.58	0.9807
1999	15.97	7.57	8.89	0.8518
1995	0.00	0.00	0.03	As Found Zero
1995	68.93	31.90	35.36	As Found Span
Average Correction Factor				0.9438

Calculated value of As Found Response: 34.604 ppm      Percent Change of As Found: -8.5%

	Before		After
Calculated slope	0.986026	Calculated slope	1.011181
Calculated intercept	-0.225809	Calculated intercept	-0.610220

#### Final Zero/Span Data

	before calibration		after calibration	
Auto zero	0.02	ppm	0.02	ppm
Auto span	22.30	ppm	21.90	ppm

Notes: Span adjustment made

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Calibration Performed By: Dmytro Dolotii

# Calibration Summary



Parameter CH4  
 Air Monitoring Network PAZA

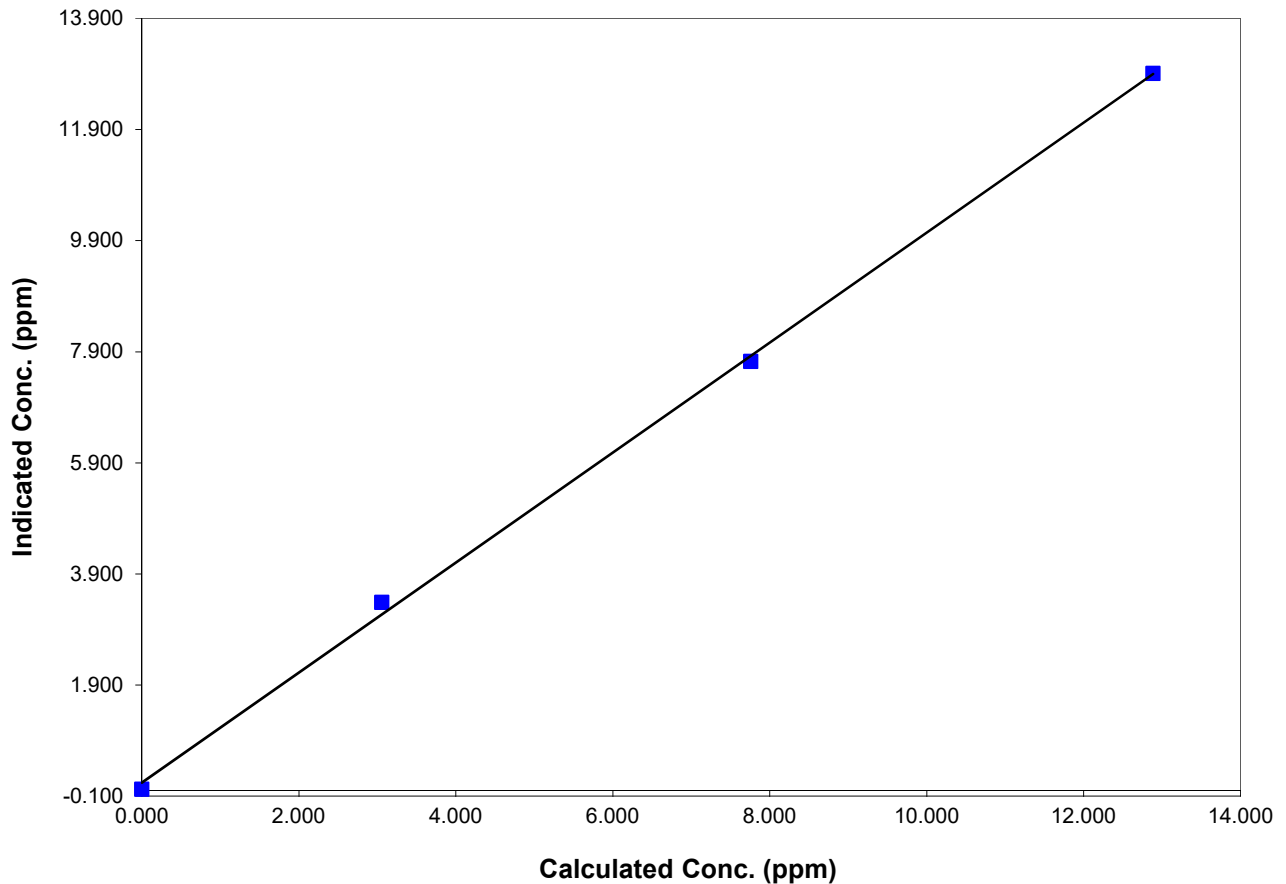
### Station Information

Calibration Date	August 4, 2016	Previous Calibration	July 27, 2016
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	10:10	End Time (MST)	13:05:00 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	0.999223
12.884	12.911	0.9979		
7.760	7.724	1.0046	Slope	1.009169
3.059	3.388	0.9029		
			Intercept	-0.140055

## CH4 Calibration Data



# Calibration Summary



Parameter          **NMHC**           
 Air Monitoring Network          **PAZA**         

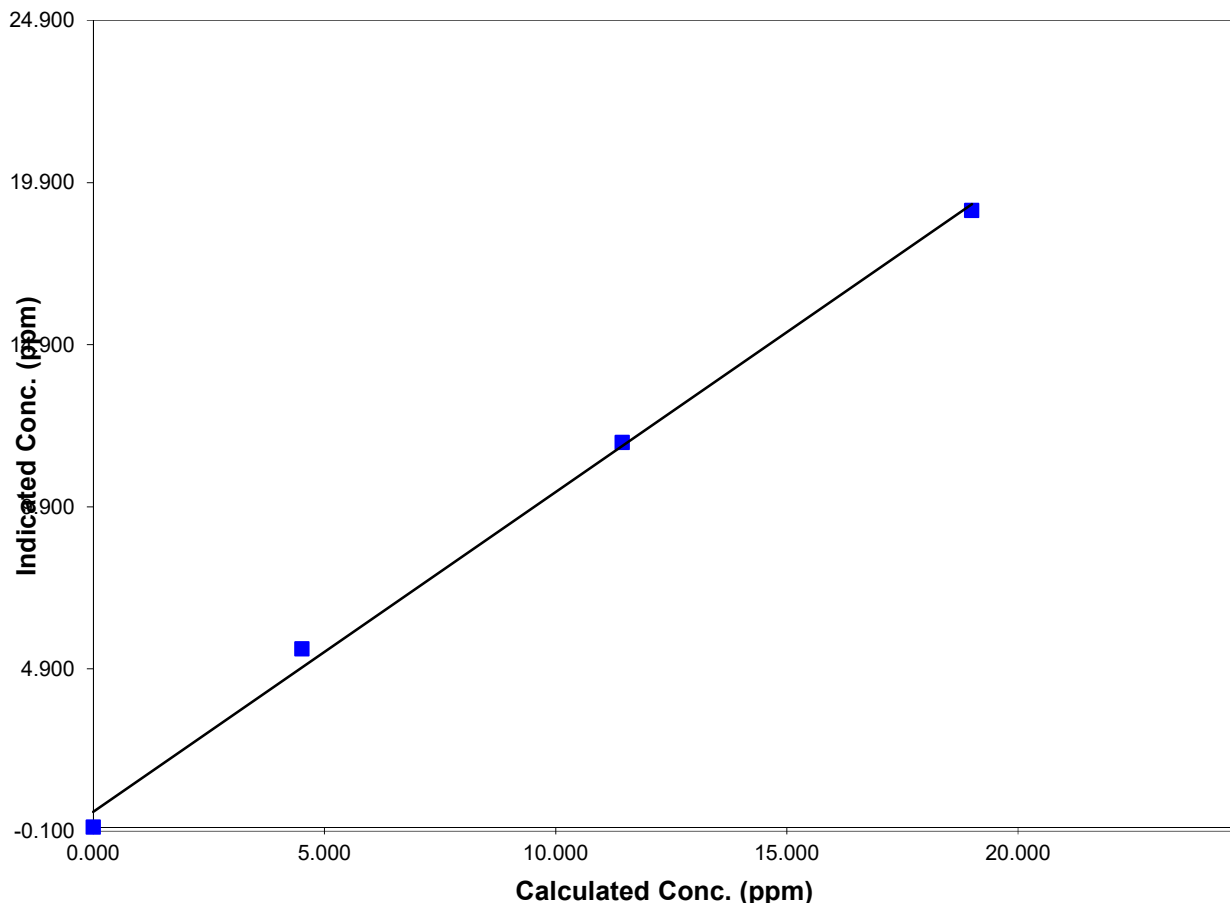
### Station Information

Calibration Date	August 4, 2016	Previous Calibration	July 27, 2016
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	10:10	End Time (MST)	13:05:00 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	0.997012
19.001	19.041	0.9979		
11.444	11.878	0.9635		
4.512	5.519	0.8175		
			Slope	1.010911
			Intercept	-0.474327

## NMHC Calibration Data



# Calibration Summary



Parameter THC  
 Air Monitoring Network PAZA

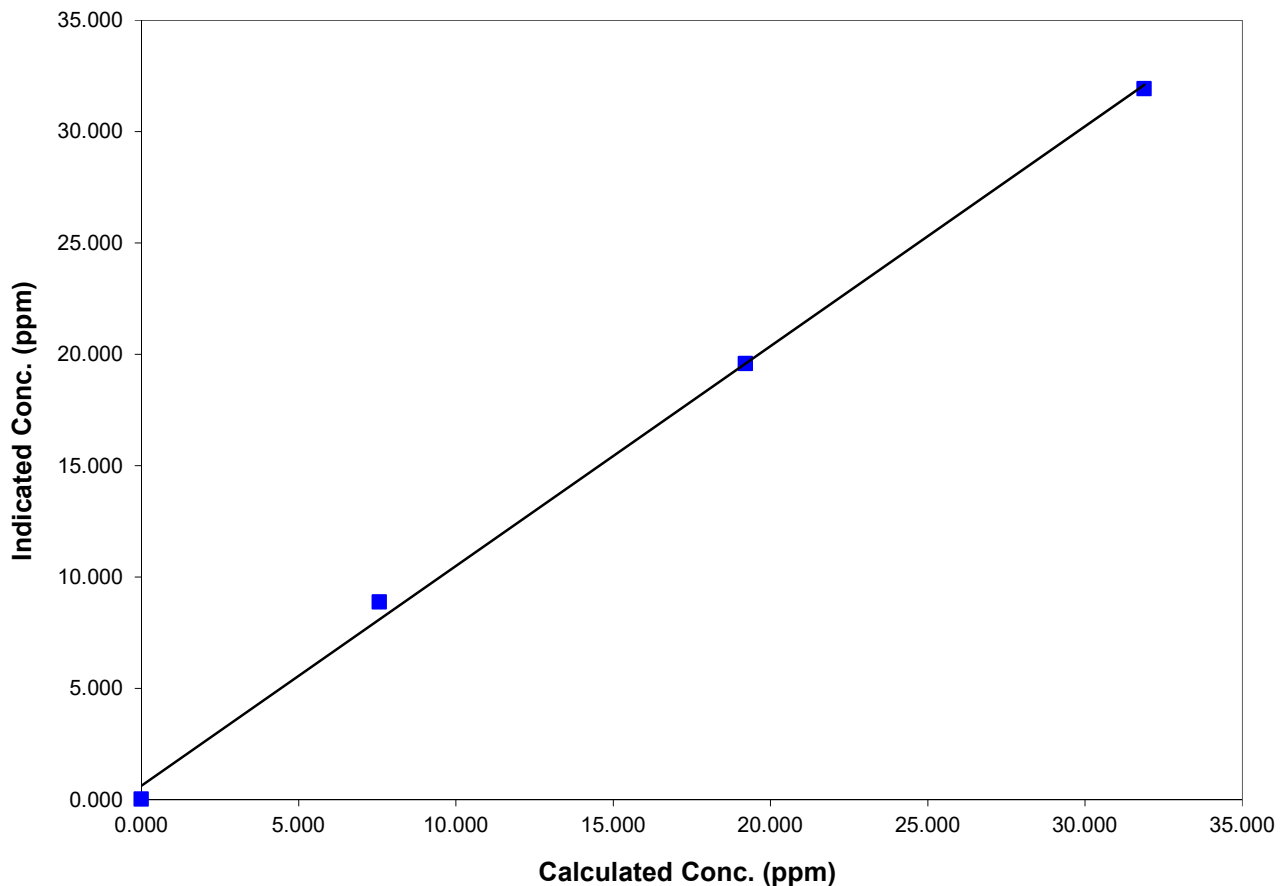
### Station Information

Calibration Date	August 4, 2016	Previous Calibration	July 27, 2016
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	10:10	End Time (MST)	13:05:00 PM
Analyzer make/model	TEI 55I	Analyzer serial #	1134650658

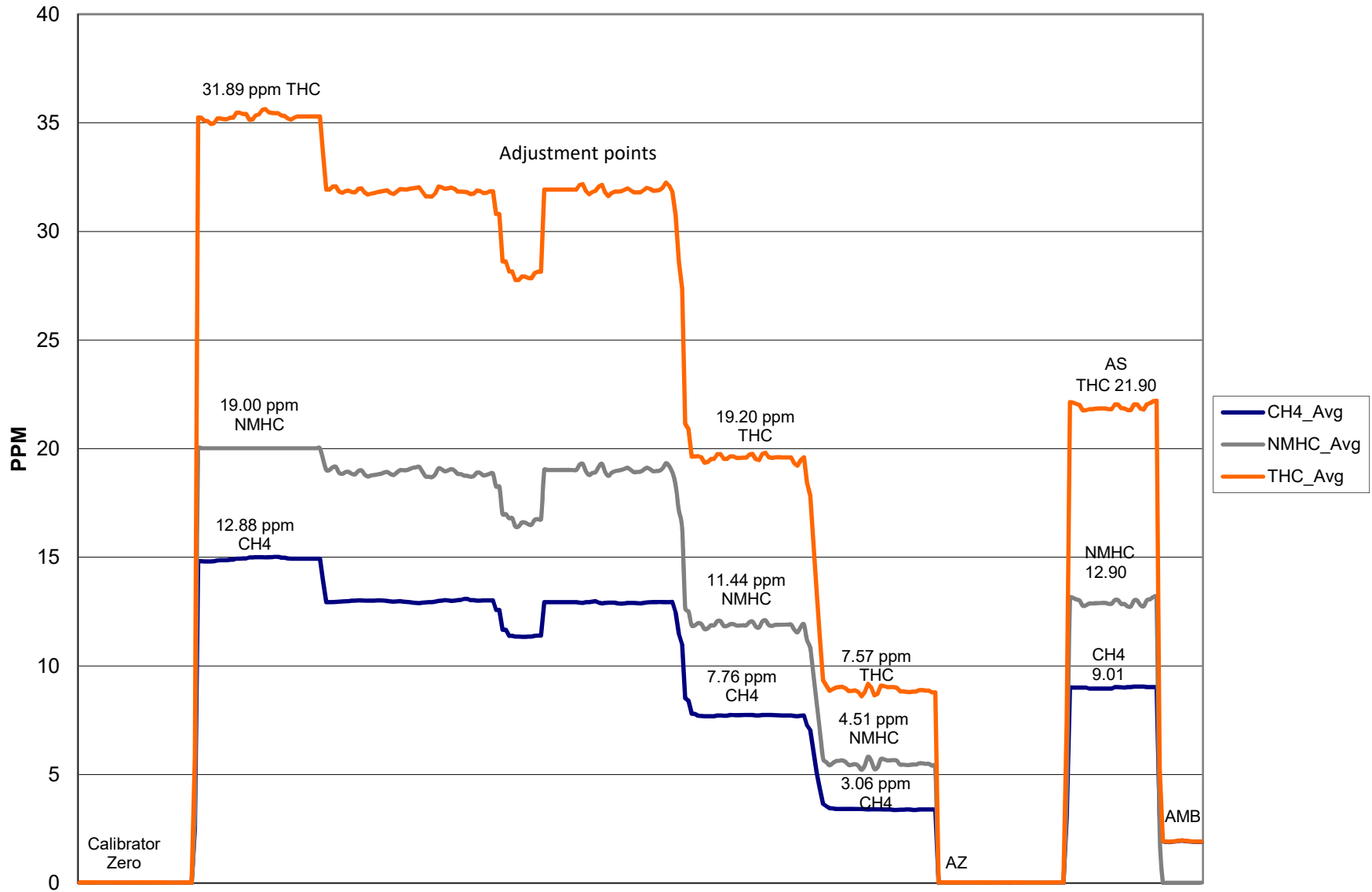
### Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.032	N/A	Correlation Coefficient	0.998231
31.885	31.923	0.9988		
19.203	19.582	0.9807	Slope	1.011181
7.571	8.888	0.8518		
			Intercept	-0.610220

## THC Calibration Data



### THC/CH<sub>4</sub>/NMHC Calibration

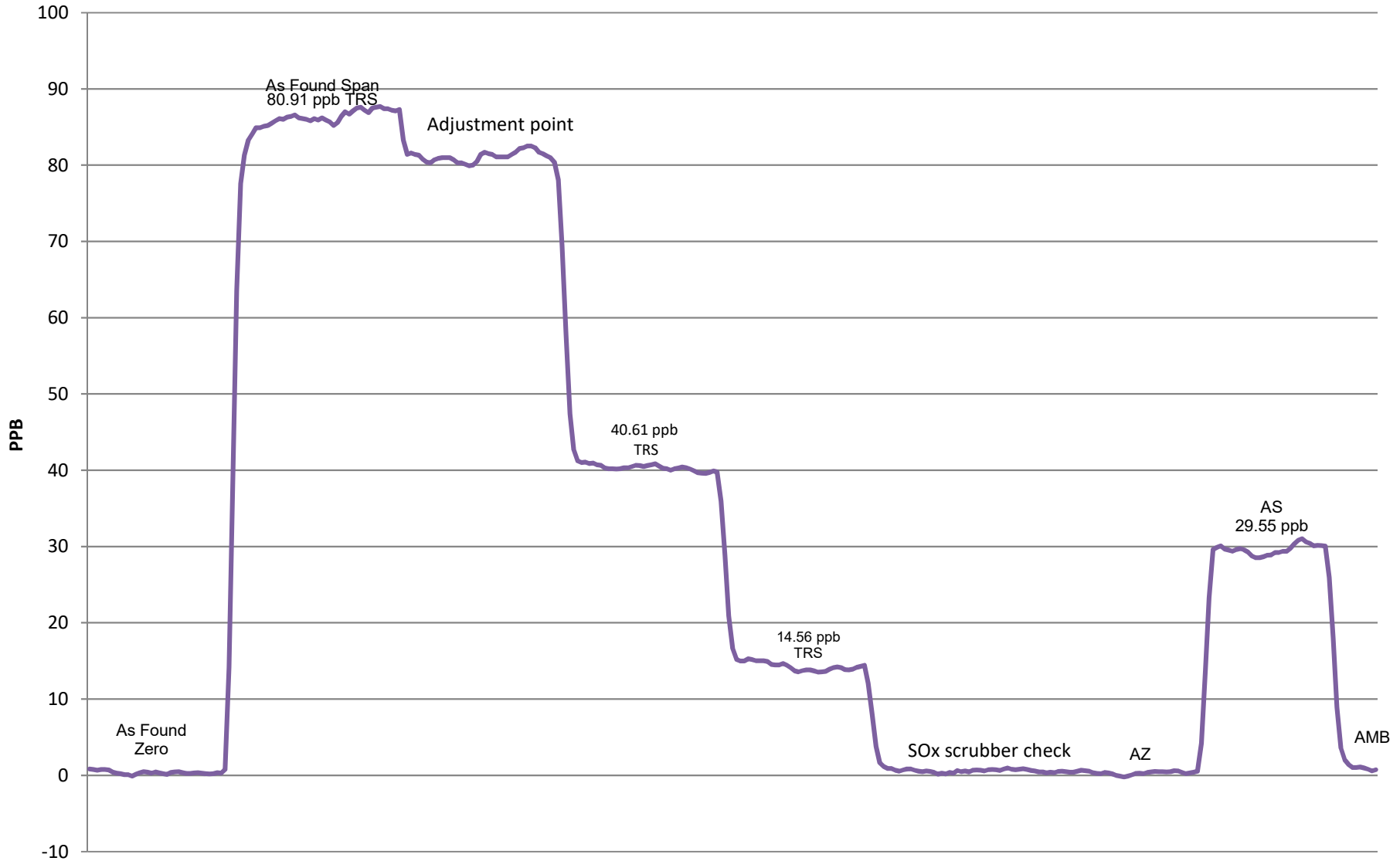








# TRS Calibration



August 4, 2016

# Calibration Report



Parameter SO<sub>2</sub>  
 Air Monitoring Network PAZA

### Station Information

Calibration Date	August 5 2016	Previous Calibration	July 19 2016
Station Number	2	Station Location	Evergreen Park
Reason:	<input checked="" type="checkbox"/> Routine	<input type="checkbox"/> Install	<input type="checkbox"/> Removal
		<input type="checkbox"/> Other:	
Start Time (MST)	12:00	End Time (MST)	14:07:00 PM
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	0.980172	Calculated slope	0.974226
Calculated intercept	0.910564	Calculated intercept	1.206196
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	826	volts	827	volts
Chamber Temp	45	Deg C	45	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	672.2	mm Hg	671.6	mm Hg
Sample Flow	0.45	ccm	0.451	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	0.6	N/A
4998	39.95	394.1	404.2	0.9749
4998	19.96	197.7	200.7	0.9853
4997	9.99	99.2	98.8	1.0039
4996	0.0	0.0	0.6	As Found Zero
4996	39.93	394.1	404.2	As Found Span
Average Correction Factor				0.9880

Calculated value of As Found Response: 396.526 ppm      Percent Change of As Found: -0.6%

	before calibration		after calibration	
Auto zero	0.5	ppm	0.4	ppm
Auto span	266.3	ppm	264.6	ppm

Notes: No adjustment made

Calibration Performed By: Dmytro Dolotii

# Calibration Summary

Parameter SO2  
 Air Monitoring Network PAZA

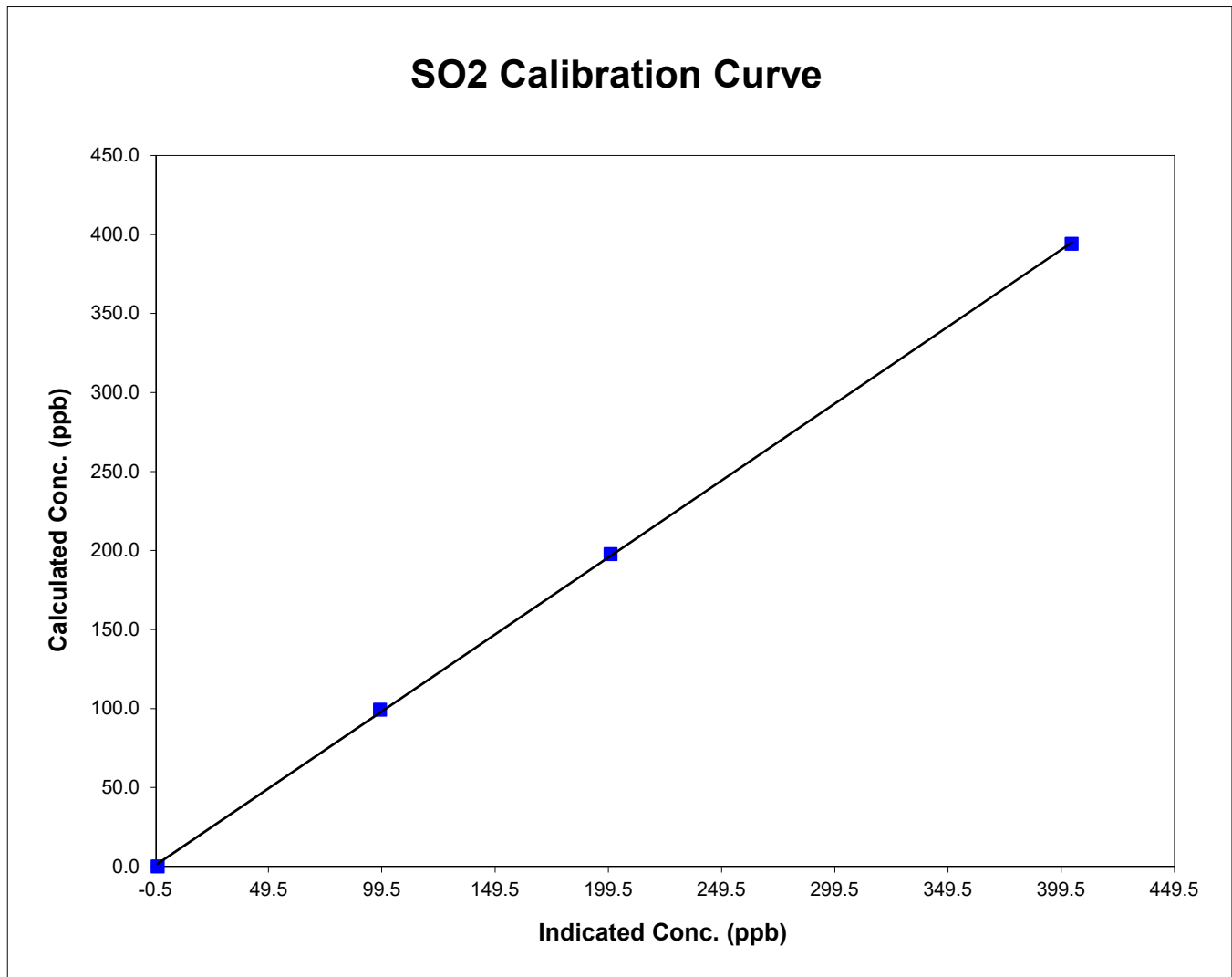


### Station Information

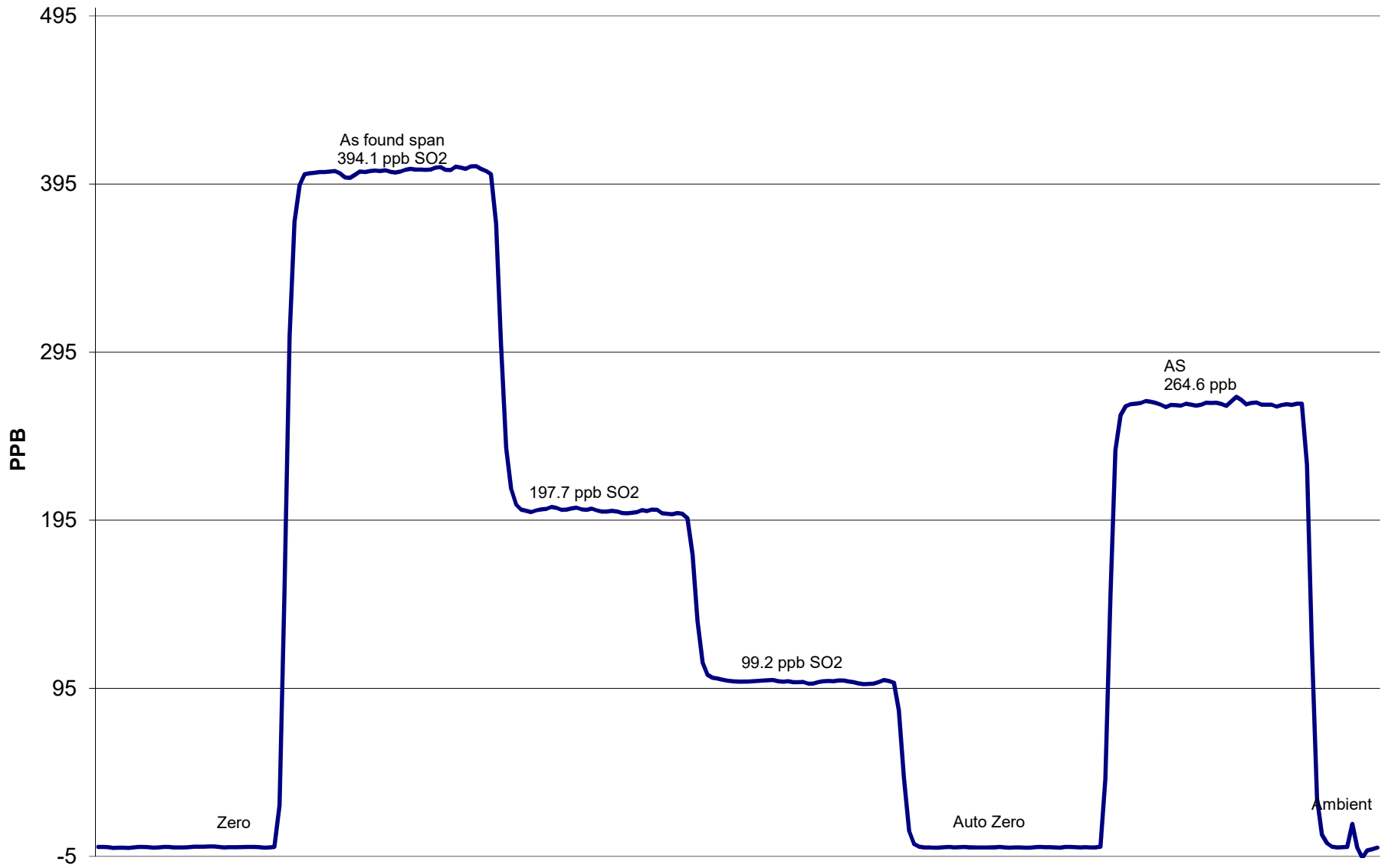
Calibration Date	August 5 2016	Previous Calibration	July 19 2016
Station Number	2	Station Location	Evergreen Park
Start Time (MST)	12:00	End Time (MST)	14:07:00 PM
Analyzer make/model	Teco 43i	Analyzer serial #	701120008

### Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.6	N/A	Correlation Coefficient	0.999904
394.1	404.2	0.9749		
197.7	200.7	0.9853	Slope	0.974226
99.2	98.8	1.0039		
			Intercept	1.206196



# SO2 Calibration



August 5 2016

# Calibration Report

Parameter TRS

Air Monitoring Network PAZA



## Station Information

Calibration Date	August 5 2016	Previous Calibration	July 19 2016
Station Number	2	Station Location	Evergreen Park
Reason:	<b>Routine</b>	Install	Removal
			Other:
Start Time (MST)	9:25	End Time (MST)	12:40
Barometric Pressure	0.920 ATM	Station Temperature	21.0 Deg C
Calibrator	Envionics	Serial Number	6586
Cal Gas Conc	10.2 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
	<u>Before</u>		<u>After</u>
Calculated slope	1.000180	Calculated slope	1.000362
Calculated intercept	-0.625493	Calculated intercept	-0.578443
Analyzer make	TEI Model 43C	Analyzer serial #	3.199E+13

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Background	15.6	ppb	15	ppb
coefficient	1.032		0.990	
Lamp Voltage	976	volts	975	volts
Chamber Temp	44	Deg C	44	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	652.1	mm Hg	651.5	mm Hg
Sample Flow	0.543	ccm	0.538	ccm
Lamp Intensity	37,240	mv	37,245	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	0.7	N/A
4995	39.95	80.93	81.6	0.9924
4998	19.96	40.57	41.0	0.9891
6997	9.89	14.40	14.9	0.9665
4999	9.98		#DIV/0!	Sox Test
4996	0.00	0.00	0.7	As Found Zero
4996	39.93	80.88	83.3	As Found Span
Average Correction Factor				0.9827

Calculated value of As Found Response: 82.01 ppm Percent Change of As Found: **-1.4%**

	before calibration		after calibration	
Auto zero	0.7	ppm	0.7	ppm
Auto span	78.5	ppm	77.1	ppm

Notes: Span adjustment made  
Sox scrubber material replaced

Calibration Performed By: Dmytro Dolotii

# Calibration Summary

Parameter                    TRS                     
Air Monitoring Network                    PAZA                   



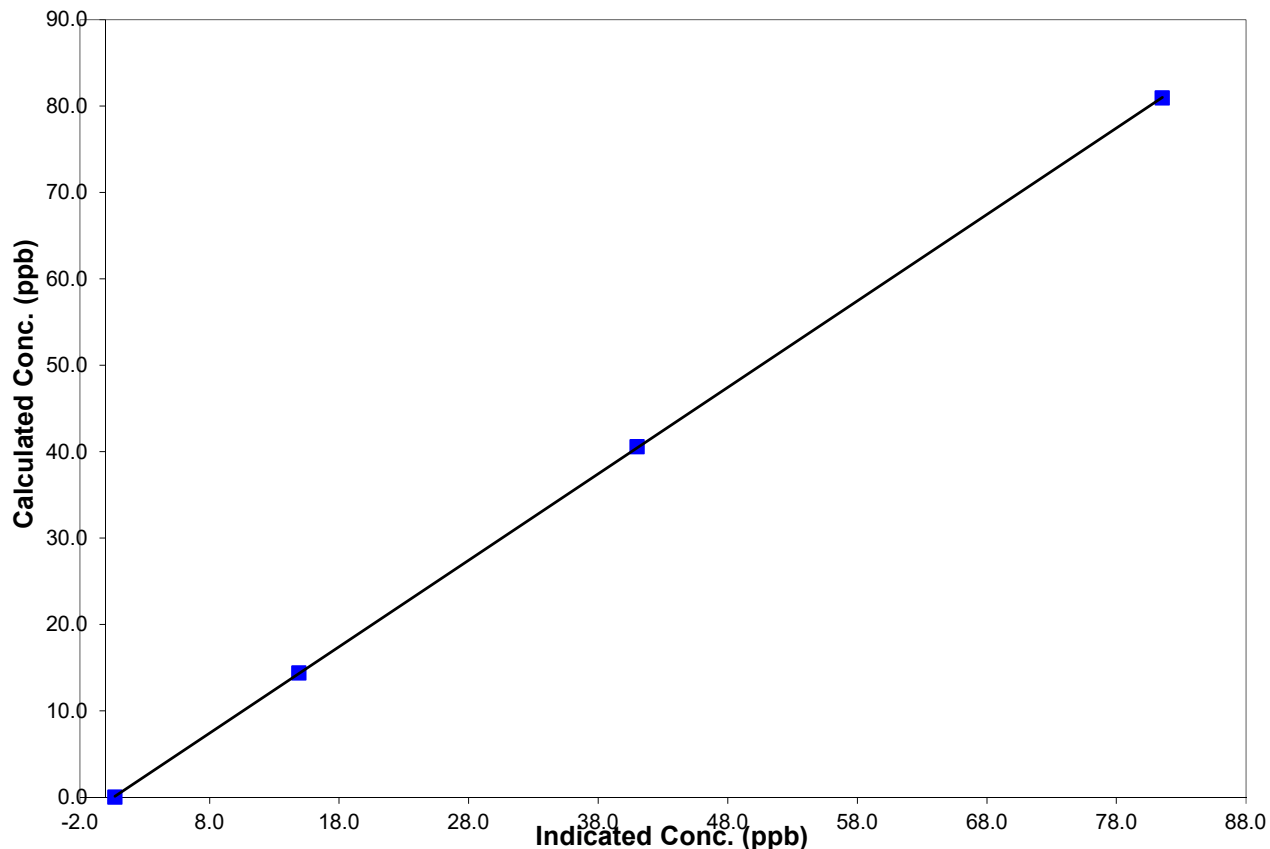
## Station Information

Calibration Date	August 5 2016	Previous Calibration	July 19 2016
Station Number	2	Station Location	Evergreen Park
Start Time (MST)	9:25	End Time (MST)	12:40
Analyzer make/model	TEI Model 43C	Analyzer serial #	3199000000491

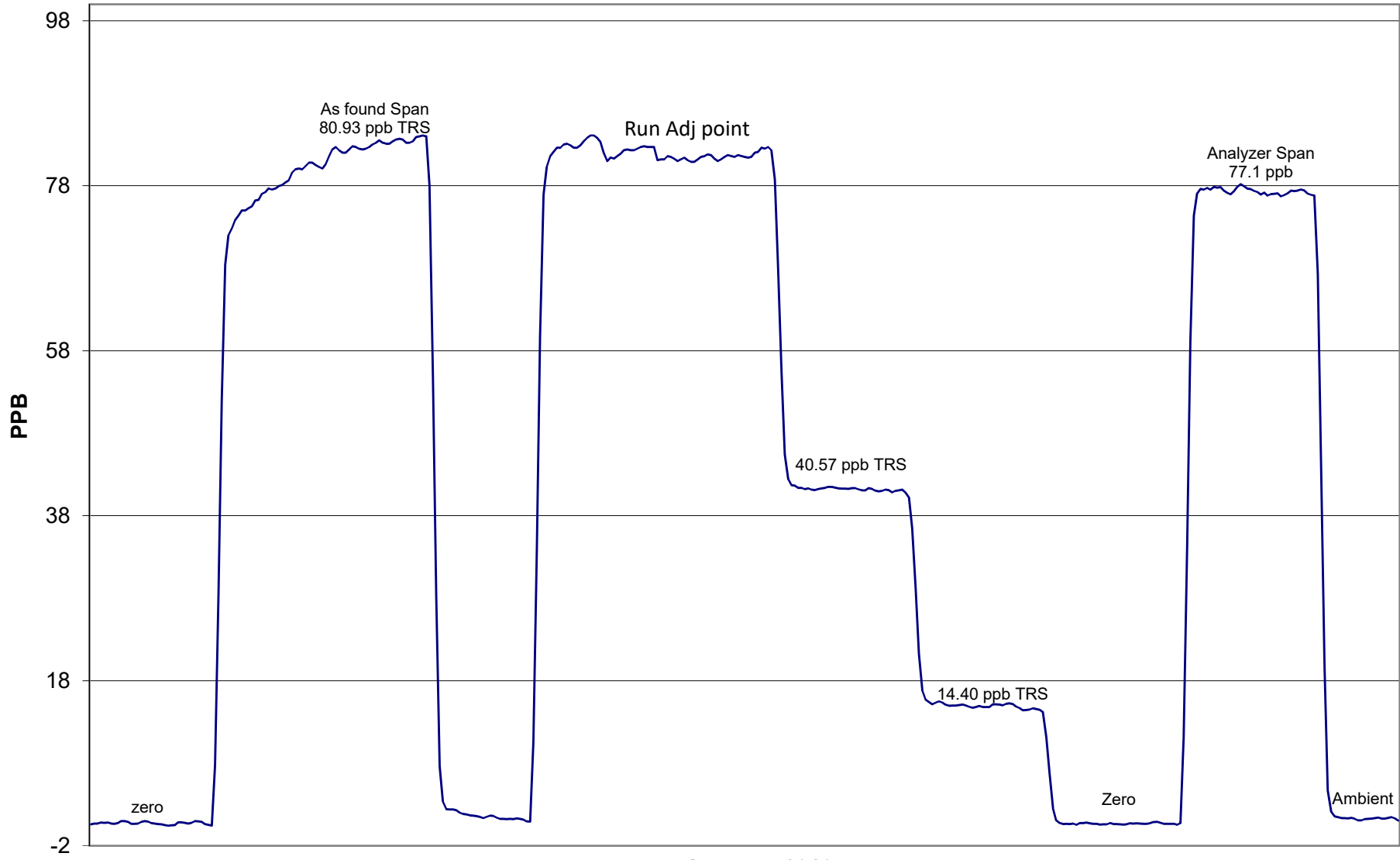
## Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.7	N/A		
80.9	81.6	0.9924	Correlation Coefficient	0.999990
40.6	41.0	0.9891		
14.4	14.9	0.9665		
			Slope	1.000362
			Intercept	-0.578443

## TRS Calibration Curve



# TRS Calibration



August 5 2016

# Calibration Report



Parameter SO<sub>2</sub>

Air Monitoring Network PAZA

## Station Information

Calibration Date	August 9, 2016	Previous Calibration	July 28, 2016
Station Number	3	Station Location	Smokey Heights
Reason:	<input checked="" type="checkbox"/> Routine	<input type="checkbox"/> Install	<input type="checkbox"/> Removal
			<input type="checkbox"/> Other:
Start Time (MST)	13:03:00 PM	End Time (MST)	15:05:00 PM
Barometric Pressure	0.930 ATM	Station Temperature	22.0 Deg C
Calibrator	EnviroNics	Serial Number	3474
Cal Gas Concentration	49.7 ppm	Cal Gas Cert Date	11/5/2018
Correction factor	0.031399	Cal Gas Cylinder #	LL103793
DACS make	CR3000	DACS serial No.	5238
DACS voltage range	0 - 5 volt	DACS channel #	6
	<u>Before</u>		<u>After</u>
Calculated slope	0.994379	Calculated slope	0.980821
Calculated intercept	0.740955	Calculated intercept	0.719550
Analyzer make	Teco 43i	Analyzer serial #	701120009

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
Background	12.8		12.7	
coefficient	0.939		0.939	
Lamp Voltage	935	volts	936	volts
Chamber Temp	45	Deg C	45.3	Deg C
Perm Gas Temp	45	Deg C	45.01	Deg C
Pressure	663.3	mm Hg	666	mm Hg
Sample Flow	0.445	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	0.6	N/A
4998	39.92	393.82	401.4	0.9812
4996	19.95	197.67	200.4	0.9865
4991	9.98	99.18	98.9	1.0026
4996	0.0	0.00	0.6	As Found Zero
4998	39.92	393.82	401.4	As Found Span
Average Correction Factor				0.9901

Calculated value of As Found Response: 399.259 ppm      Percent Change of As Found: -1.4%

	before calibration		after calibration	
Auto zero	0.5	ppb	0.6	ppb
Auto span	210.6	ppb	213.6	ppb

Notes: No adjustment made

Calibration Performed By: Dmytro Dolotii



# Calibration Summary

Parameter SO2  
 Air Monitoring Network PAZA



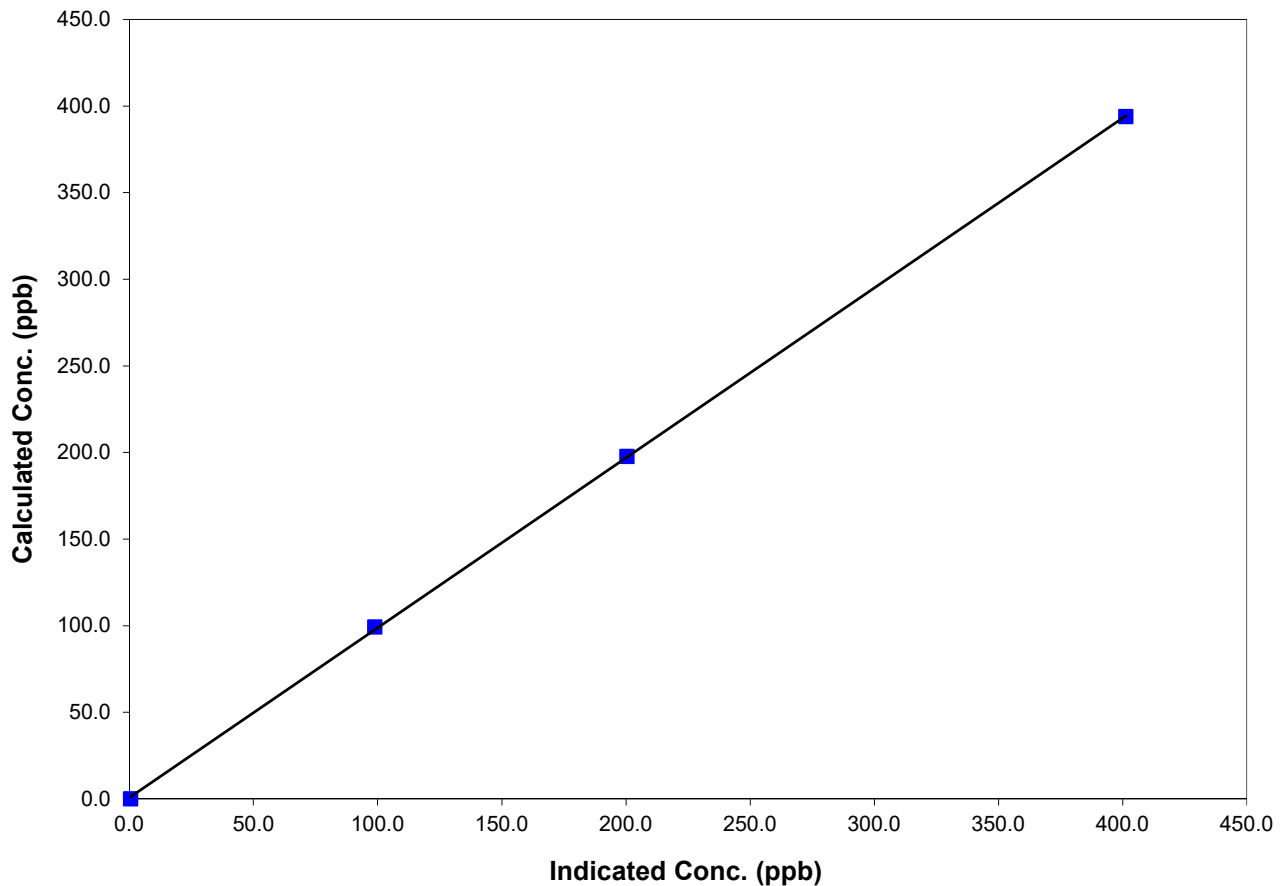
### Station Information

Calibration Date	August 9, 2016	Previous Calibration	July 28, 2016
Station Number	3	Station Location	Smokey Heights
Start Time (MST)	13:03:00 PM	End Time (MST)	15:05:00 PM
Analyzer make/model	Teco 43i	Analyzer serial #	701120009

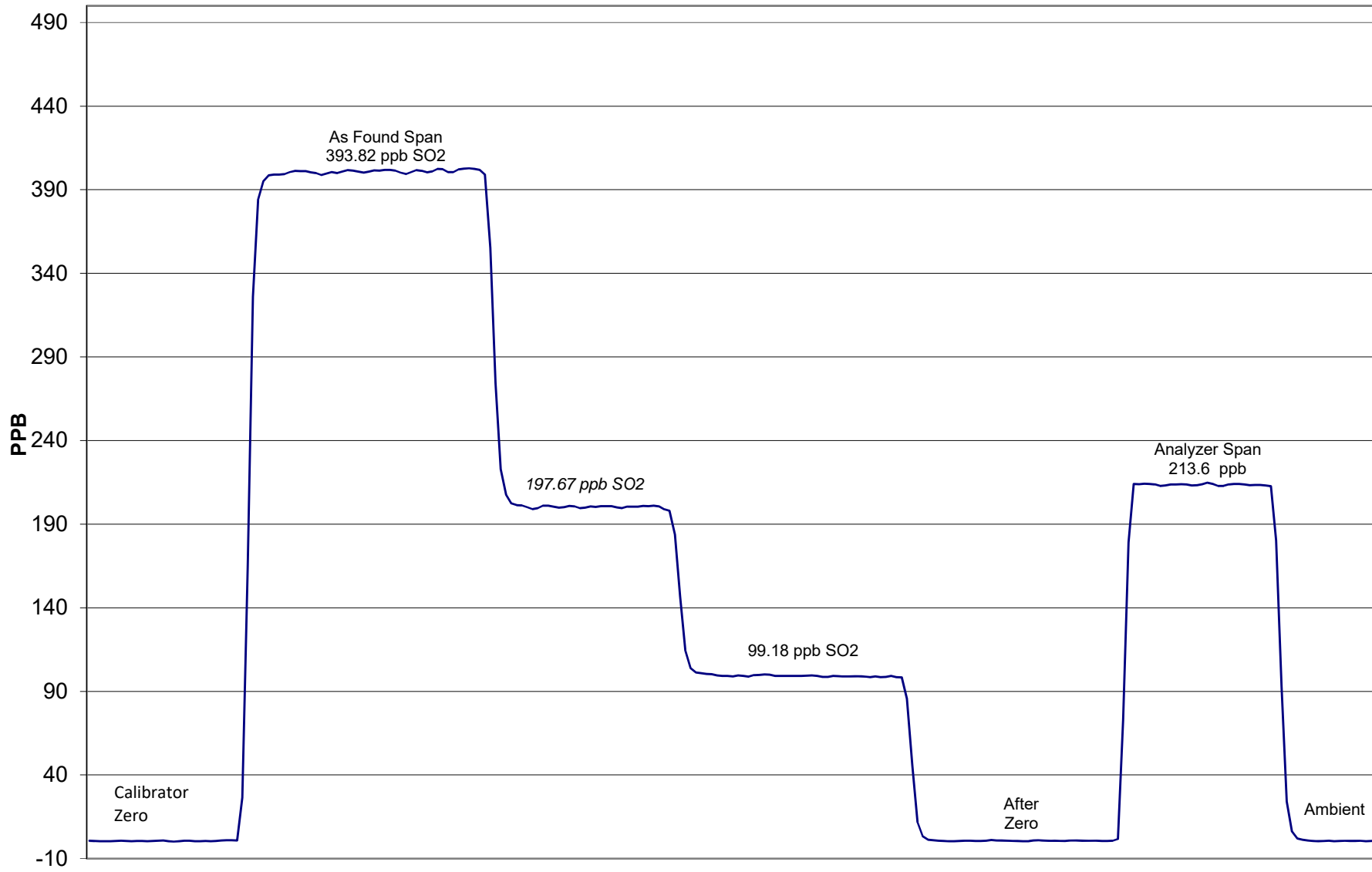
### Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.6	N/A	Correlation Coefficient	0.999950
393.8	401.4	0.9812		
197.7	200.4	0.9865	Slope	0.980821
99.2	98.9	1.0026		
			Intercept	0.719550

## SO2 Calibration Curve



# Smokey Heights SO<sub>2</sub> Calibration



August 9, 2016

# Calibration Report



Parameter TRS

Air Monitoring Network PAZA

## Station Information

Calibration Date	August 9, 2016	Previous Calibration	July 28, 2016
Station Number	3	Station Location	Smokey Heights
Reason:	<input type="checkbox"/> Routine	<input checked="checked" type="checkbox"/> Install	<input type="checkbox"/> Removal
			Other: <input type="checkbox"/>
Start Time (MST)	9:15	End Time (MST)	13:45:00 PM
Barometric Pressure	0.930 ATM	Station Temperature	22.0 Deg C
Calibrator	EnviroNics	Serial Number	3474
Cal Gas Conc	10.2 ppm	Cal Gas Expiry Date	7/8/2016
Correction factor	0.031399	Cal Gas Cylinder #	BLM00586
DACS make	CR3000	DACS serial No.	5238
DACS voltage range	0 - 5 volt	DACS channel #	5
	Before		After
Calculated slope	0.984570	Calculated slope	0.988924
Calculated intercept	0.805372	Calculated intercept	0.855478
Analyzer make	TEI Model 43I APSAA	Analyzer serial #	1153630151

	before		after	
Concentration range	100	ppb	100	ppb
Background	14.1	ppb	15.1	ppb
coefficient	1.021		1.009	
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	672.2	mm Hg	671.9	mm Hg
Sample Flow	0.421	lpm	0.420	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	81.3	0.9947
4988	19.91	40.55	39.5	1.0269
6991	9.92	14.45	13.3	1.0840
4990	9.92		74.7	Sox test
4990	0.0	0.00	-0.2	As Found Zero
4987	39.85	80.86	75.5	As Found Span
Average Correction Factor				1.0352

Calculated value of As Found Response: 75.33 ppm      Percent Change of As Found: 6.8%

	before calibration		after calibration	
Auto zero	-0.3	ppm	-0.1	ppm
Auto span	66.9	ppm	65.2	ppm

Notes: Span adjustment made  
Sox scrubber material replaced  
Last dilution point got interrupted by daily zero/span check

Calibration Performed By: Dmytro Dolotii

# Calibration Summary

Parameter                                  **TRS**  
 Air Monitoring Network                                  **PAZA**



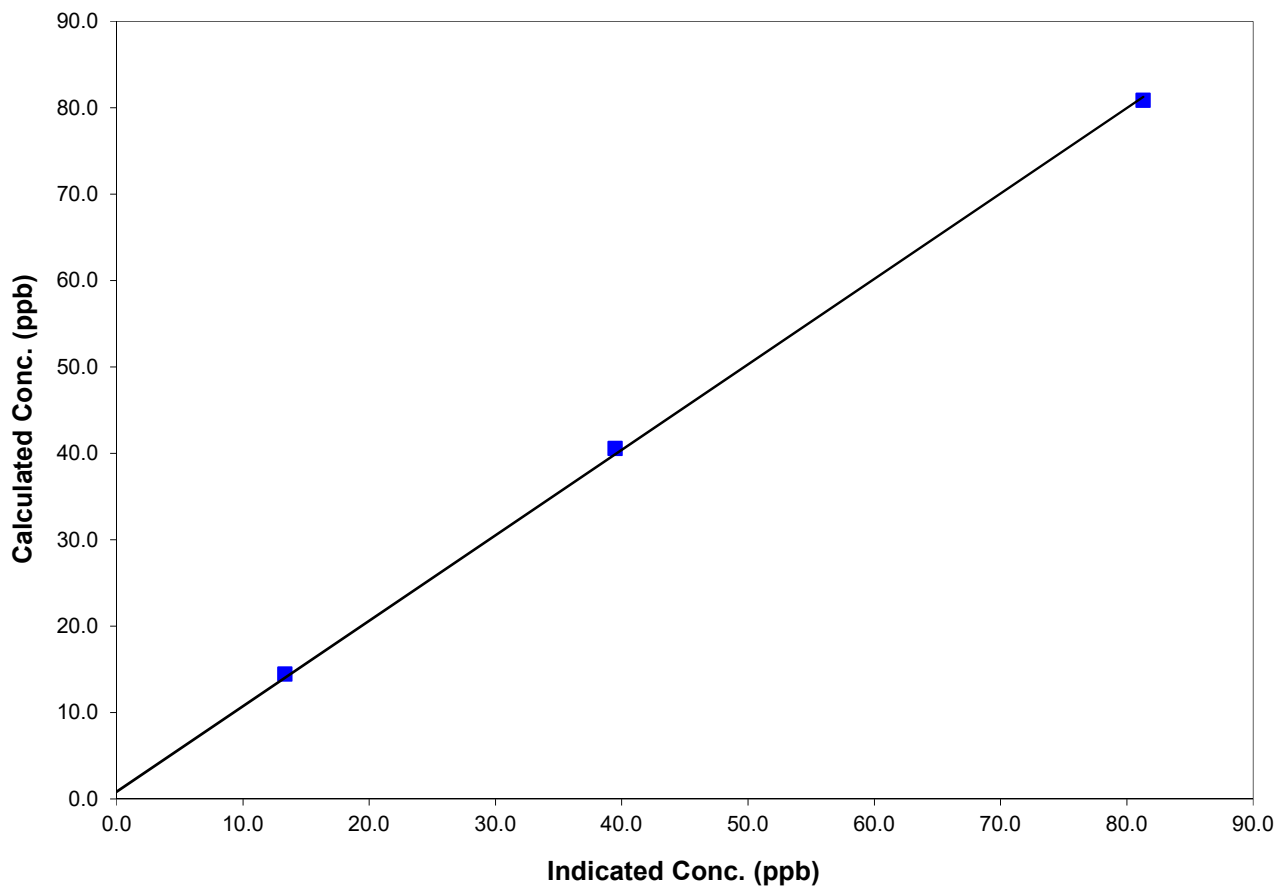
## Station Information

Calibration Date	<u>                                </u> August 9, 2016	Previous Calibration	<u>                                </u> July 28, 2016
Station Number	<u>                                </u> 3	Station Location	<u>                                </u> Smokey Heights
Start Time (MST)	<u>                                </u> 9:15	End Time (MST)	<u>                                </u> 13:45:00 PM
Analyzer make/model	<u>                                </u> TEI Model 43I APSAA	Analyzer serial #	<u>                                </u> 1153630151

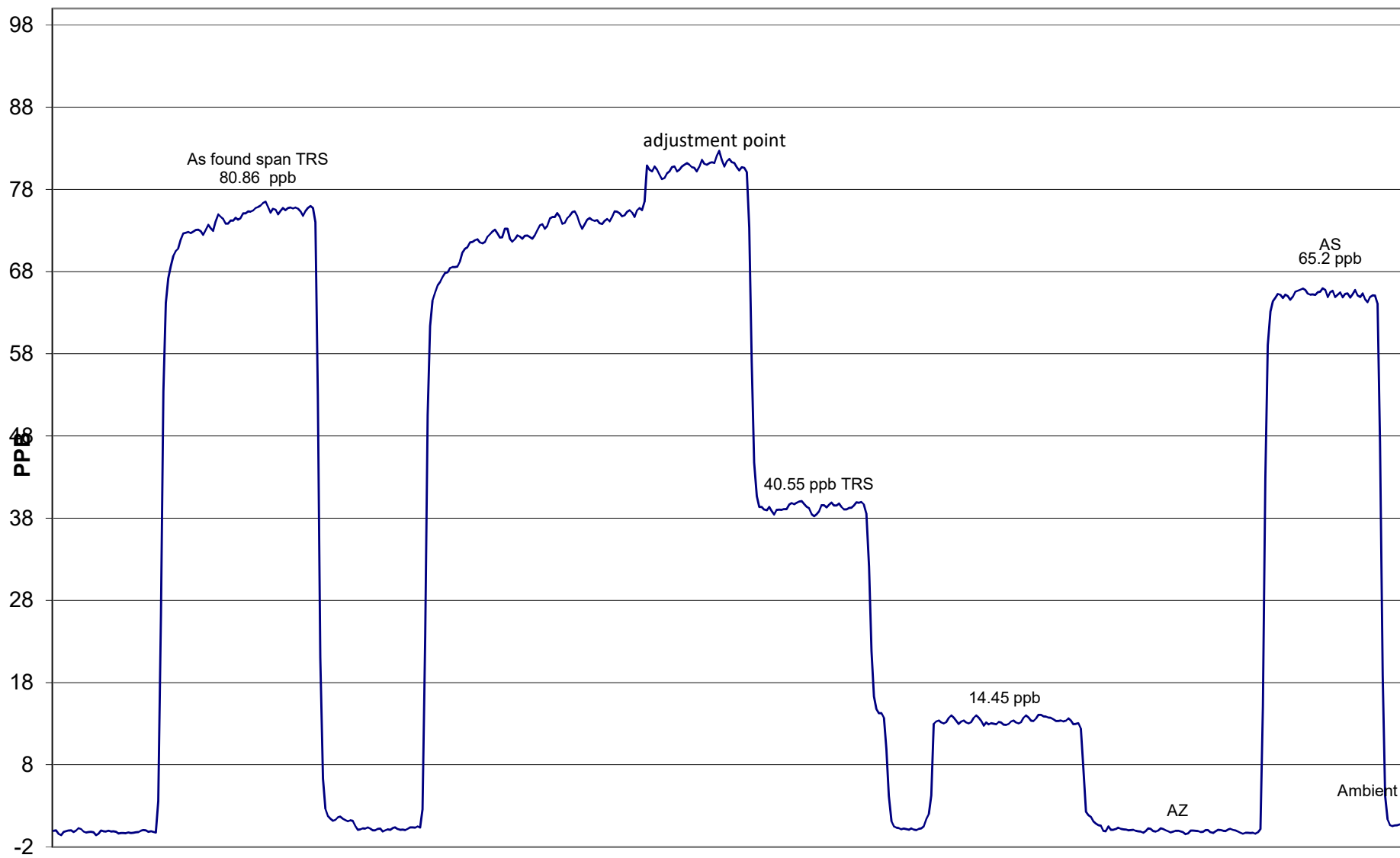
## Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.2	N/A		
80.9	81.3	0.9947	Correlation Coefficient	0.999686
40.6	39.5	1.0269		
14.5	13.3	1.0840	Slope	0.988924
			Intercept	0.855478

### TRS Calibration Curve



# Smokey Heights TRS Calibration



August 9, 2016

# Calibration Report



AIR QUALITY MONITORING

Parameter SO2

Air Monitoring Network PAZA

## Station Information

Calibration Date	August 11, 2016	Previous Calibration	July 13, 2016
Station Number	4	Station Location	Beaverlodge
Reason:	<input checked="" type="checkbox"/> Routine	<input type="checkbox"/> Install	<input type="checkbox"/> Removal
		<input type="checkbox"/> Other:	
Start Time (MST)	13:35	End Time (MST)	15:40:00 PM
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	0.980646	Calculated slope	0.988354
Calculated intercept	-0.204710	Calculated intercept	-0.293957
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	-768.9	V	-768.1	V
UV Lamp Voltage	1098	V	1109	V
Chamber Temp	45	Deg C	45	Deg C
Pressure	666.5	mm Hg	666.1	mm Hg
Sample Flow	0.462	LPM	0.463	LPM
Lamp Intensity	96	%	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	0.2	N/A
4989	39.84	83.2	84.4	0.9859
4989	19.92	41.8	42.7	0.9788
4989	9.91	20.8	21.5	0.9691
4989	0.00	0.0	0.2	As found zero
4989	39.84	83.2	84.4	As found span
Average Correction Factor				0.9779

Calculated value of As Found Response: 82.389 ppm      Percent Change of As Found: 1.0%

	before calibration		after calibration	
Auto zero	0.0	ppb	-0.1	ppb
Auto span	57.4	ppb	57.7	ppb

Notes: No adjustment made

# Calibration Summary

Parameter SO2  
 Air Monitoring Network PAZA



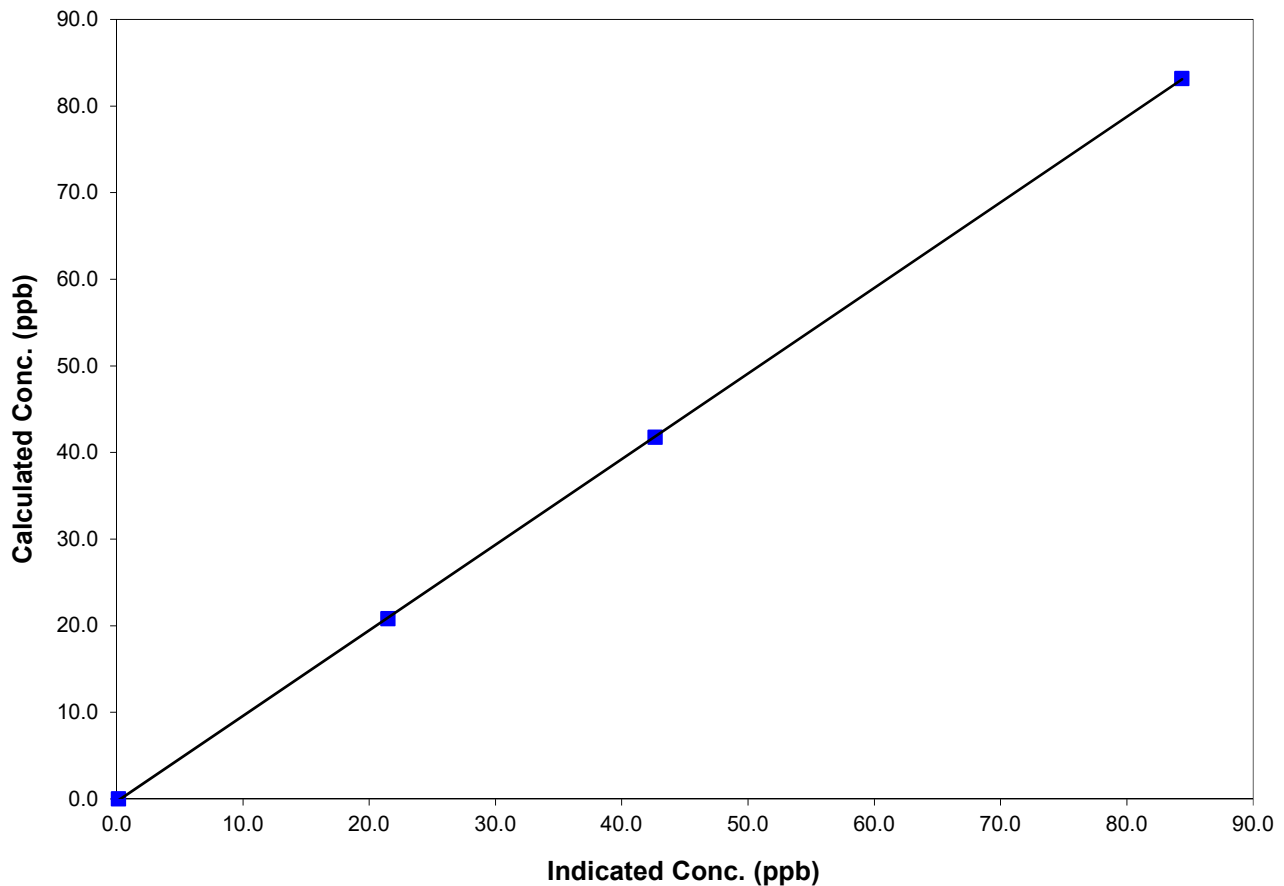
### Station Information

Calibration Date	August 11, 2016	Previous Calibration	July 13, 2016
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	13:35	End Time (MST)	15:40:00 PM
Analyzer make/model	TEI Model 43i-TLE	Analyzer serial #	713021137

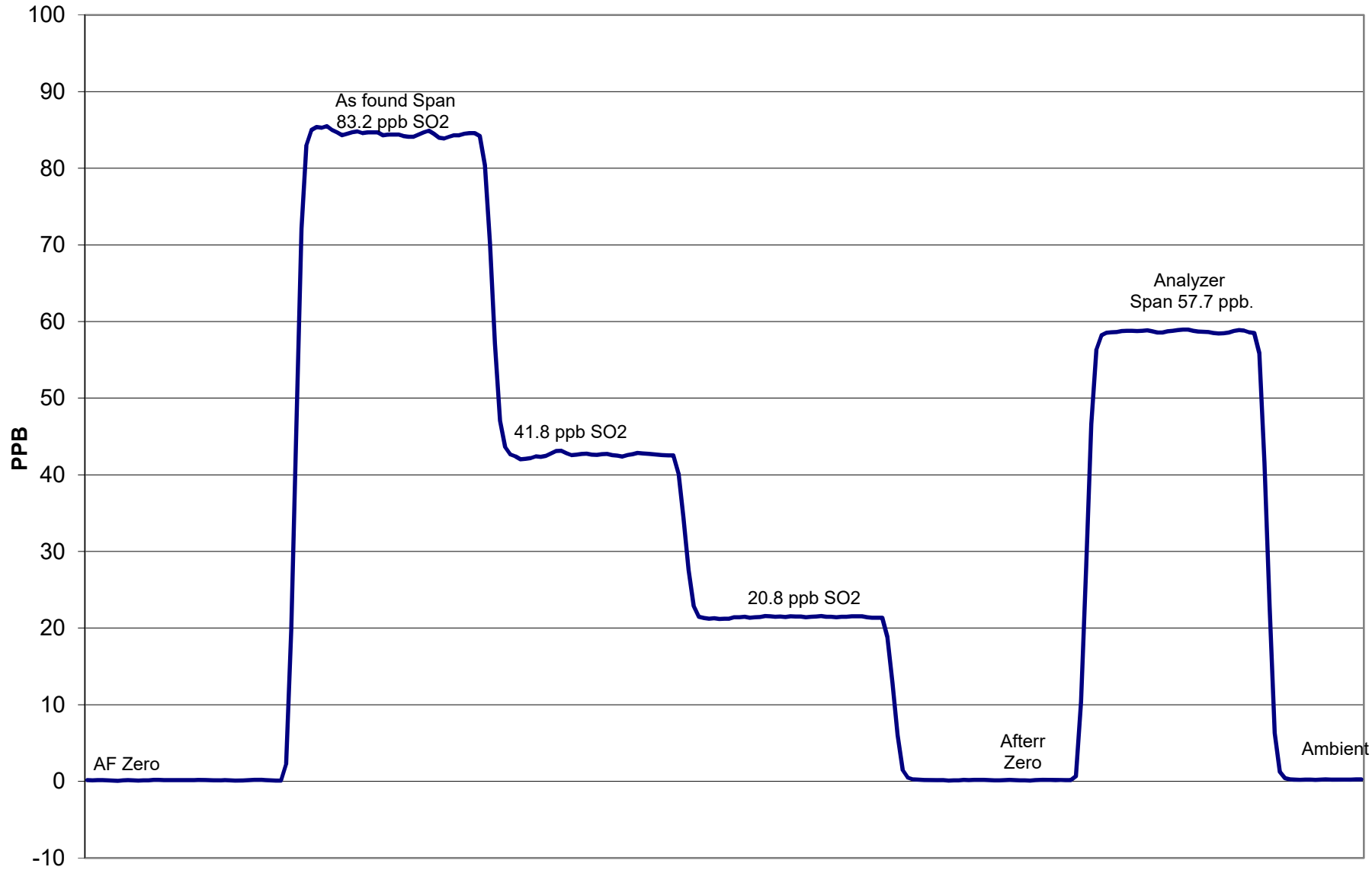
### Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.2	N/A	Correlation Coefficient	0.999985
83.2	84.4	0.9859		
41.8	42.7	0.9788	Slope	0.988354
20.8	21.5	0.9691		
			Intercept	-0.293957

## SO2 Calibration Curve



# SO2 Calibration



August 11, 2016



# Calibration Report

Parameter

NO<sub>x</sub>-NO-NO<sub>2</sub>

Air Monitoring Network

PAZA



## Station Information

Calibration Date	August 11, 2016	Previous Calibration	July 13, 2016
Station Number	4	Station Location	Beaverlodge
Reason:	<b>Routine</b>	Installation	Removal
Other:			
Start Time (MST)	9:05	End Time (MST)	13:15:00 PM
Barometric Pressure	0.928	Atm	Station Temperature
Calibrator	EnviroNics		20.0 Deg C
NO Cal Gas Conc	50.9	ppm	Serial Number
NO <sub>x</sub> Cal Gas Conc	51.2	ppm	3474
			Cal Gas Expiry Date
			November 5, 2018
			Cal Gas Serial #
			LL103793

## DACS Information

DACS make	CR3000	DACS serial No.	5237
Parameter	NO <sub>2</sub>	NO <sub>x</sub>	NO
Before	Data Slope	1.005357	0.998152
	Data Offset	0.316070	-0.184583
After	Data Slope	1.000537	1.002965
	Data Offset	-0.660950	0.347586
Channel #	8	6	7
Voltage Range	0 - 5 VDC	0 - 5 VDC	0 - 5 VDC

## Analyzer Information

Analyzer make/model	TEI 42i	Analyzer serial #	906535068	
Test Point	before		after	
Concentration range	0-500	ppb	0-500	ppb
NO offset	2.8	mV	2.8	mV
NO <sub>x</sub> bkgnd	3.3	mV	3.3	mV
NO coefficient	1.190		1.190	
NO <sub>x</sub> coefficient	0.999		0.999	
NO <sub>2</sub> conv temp	322.4	Deg C	322.6	Deg C
PMT Temp	-3.0	Deg C	-3.0	Deg C
PMT Volt	-729.0	mV	-730.0	mV
R Cell Press	191.5	in Hg	192.7	in Hg
Sample Flow	0.689	LPM	0.691	LPM

Notes: No adjustment made

# Calibration Report



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

## Station Information

Calibration Date: August 11, 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	0.5	-0.1	0.5	N/A	N/A
1	4990	39.87	405.8	403.5	2.4	404.7	403.5	0.4	1.0028	1.0000
2	4990	19.92	203.6	202.4	1.2	202.3	201.1	0.2	1.0066	1.0063
3	4990	9.92	101.6	101.0	0.6	100.1	99.7	0.2	1.0148	1.0131
AFZ	4990	0.00	0.0	0.0	0.0	0.5	-0.1	0.5	0.0000	0.0000
AFS	4990	39.92	406.3	404.0	0.8	404.7	403.5	0.4	1.0041	1.0012
Average Correction Factor									1.0081	1.0064

As Found Concentrations: NO<sub>x</sub>= 403.3 NO= 403.0 As Found Percent Change NO<sub>x</sub>= -0.8% NO= -0.2%

## 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	-0.1	-0.1	0.0	0.5	-0.1	0.5	N/A	N/A	N/A	N/A
NO point	403.8	403.8	0.0	404.3	403.8	-0.5	0.9990	1.0000	N/A	N/A
300	403.8	71.0	332.8	405.4	71.0	333.4	0.9962	1.0000	0.9983	100.2%
200	403.8	179.7	224.1	405.0	179.7	224.4	0.9972	1.0000	0.9989	100.1%
100	403.8	295.0	108.8	405.4	295.0	109.8	0.9961	1.0000	0.9908	100.9%
Average Correction Factor							0.9965	1.0000	0.9960	100.4%

## AIC Data

Parameter	Previous calibration				Current calibration			
	NOx	NO2	NO		NOx	NO2	NO	
Auto zero	0.2	0.1	-0.1	ppb	0.4	0.4	-0.1	ppb
Auto span	269.8	266.5	2.4	ppb	282.5	279.0	2.6	ppb

Calibration Performed By: Dmytro Dolotii

# Calibration Summary



Parameter NO<sub>2</sub>

Air Monitoring Network PAZA

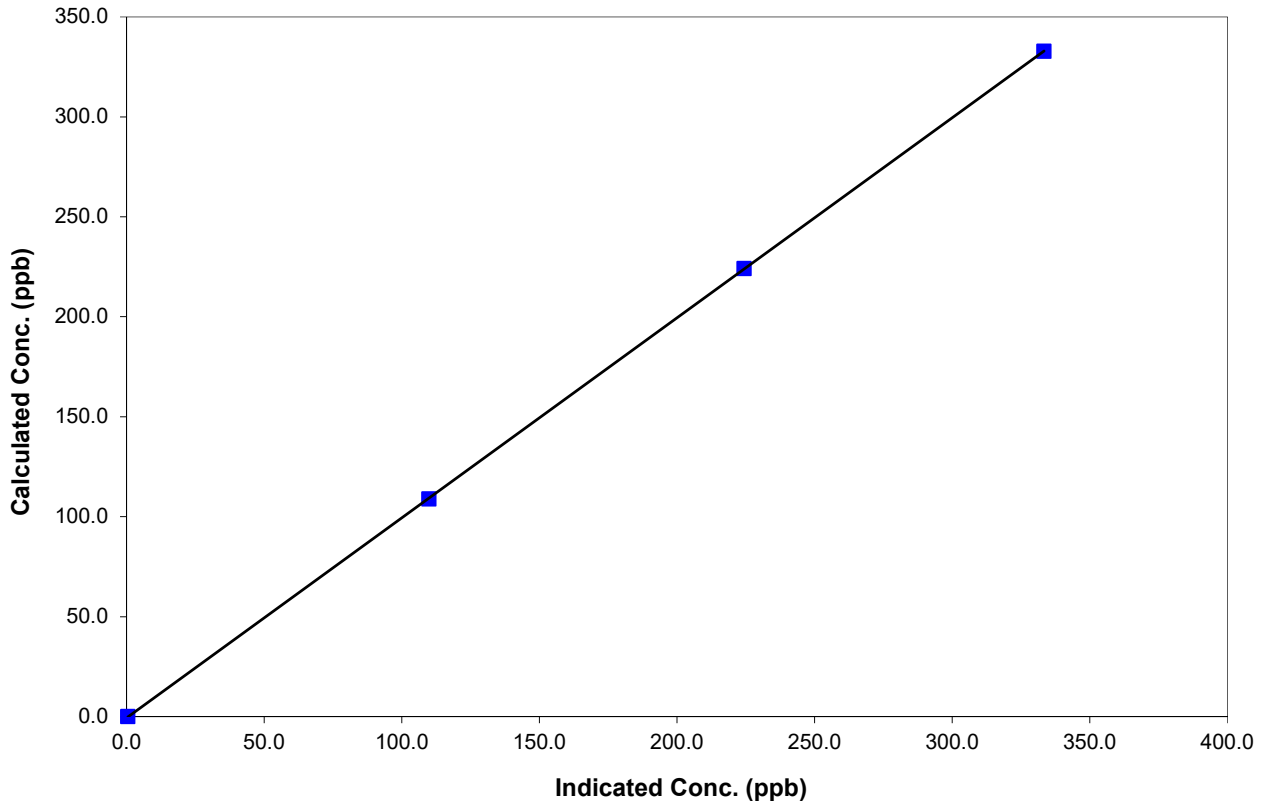
## Station Information

Calibration Date	August 11, 2016	Previous Calibration	July 13, 2016
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	9:05	End Time (MST)	13:15:00 PM
Analyzer make	TEI 42i	Analyzer serial #	906535068

## Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.5	N/A	Correlation Coefficient	0.999995
332.8	333.4	0.9983		
224.1	224.4	0.9989	Slope	1.000537
108.8	109.8	0.9908		
			Intercept	-0.660950

**NO<sub>2</sub> Calibration Curve**



# Calibration Summary



Parameter NO<sub>x</sub>

Air Monitoring Network PAZA

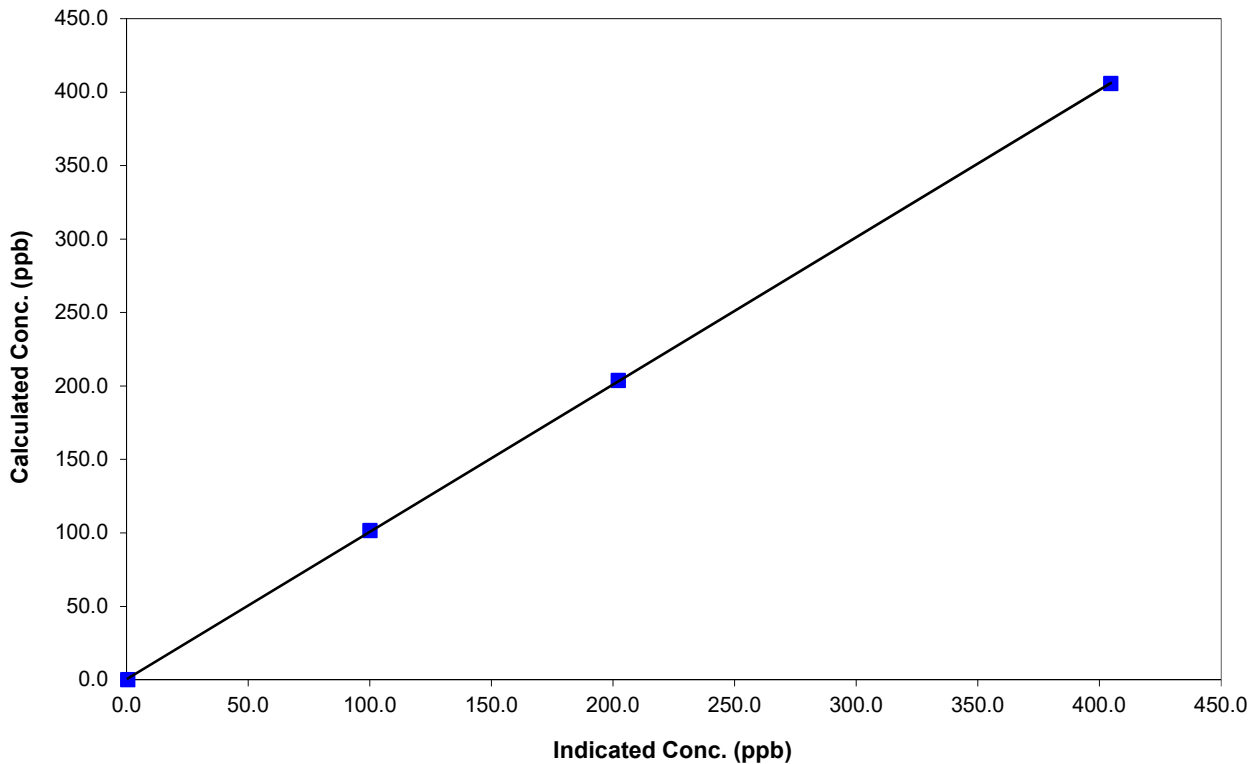
## Station Information

Calibration Date	August 11, 2016	Previous Calibration	July 13, 2016
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	9:05	End Time (MST)	13:15:00 PM
Analyzer make	TEI 42i	Analyzer serial #	906535068

## Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.5	N/A	Correlation Coefficient	0.999981
405.8	404.7	1.0028		
203.6	202.3	1.0066	Slope	1.002965
101.6	100.1	1.0148		
			Intercept	0.347586

## NO<sub>x</sub> Calibration Curve



# Calibration Summary



Parameter NO  
 Air Monitoring Network PAZA

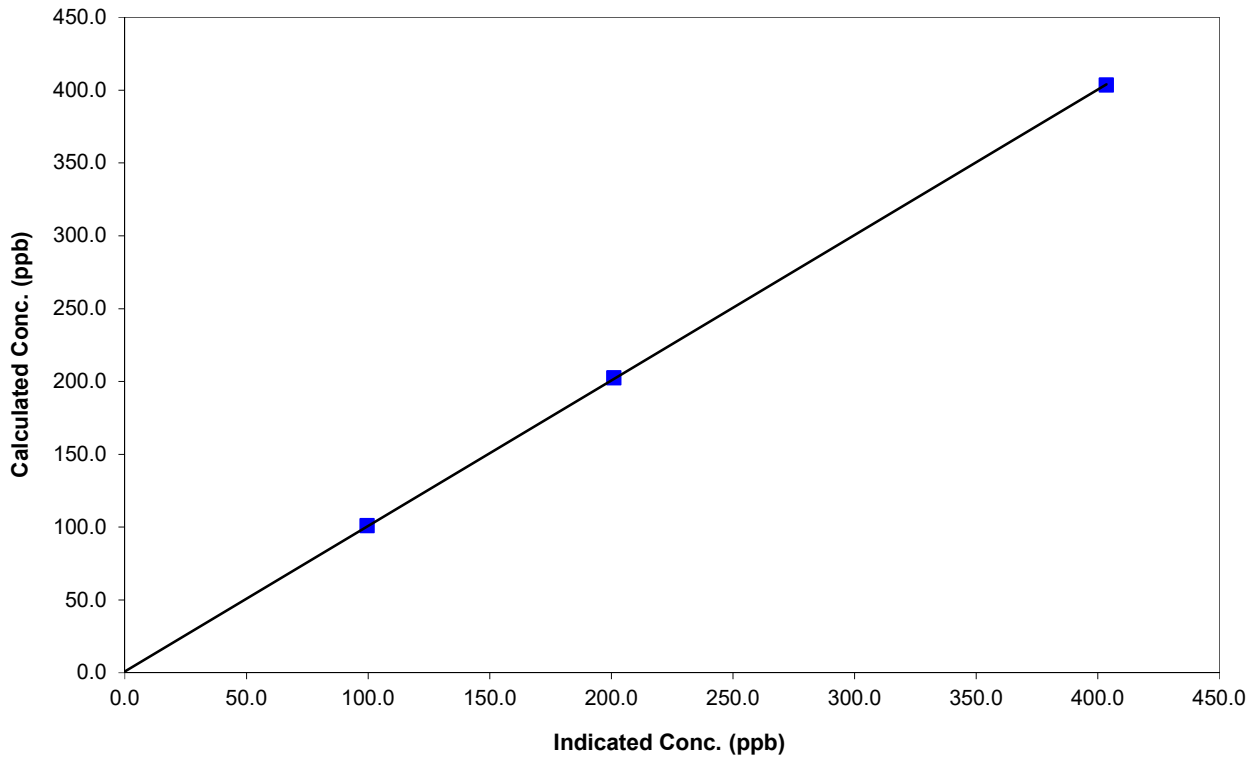
## Station Information

Calibration Date	August 11, 2016	Previous Calibration	July 13, 2016
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	9:05	End Time (MST)	13:15:00 PM
Analyzer make	TEI 42i	Analyzer serial #	906535068

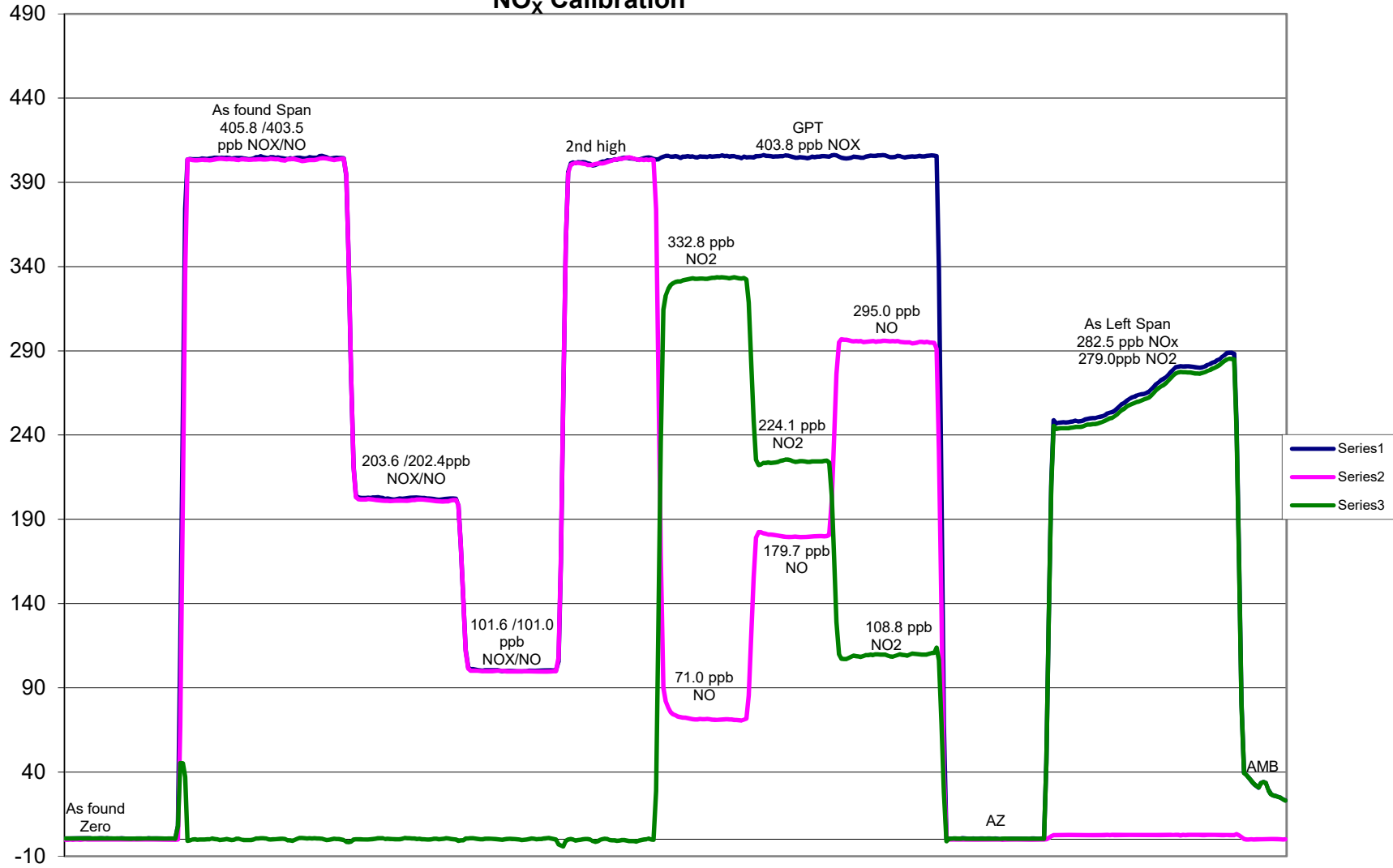
## Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.1	N/A	Correlation Coefficient	0.999984
403.5	403.5	1.0000		
202.4	201.1	1.0063		
101.0	99.7	1.0131	Slope	0.998942
			Intercept	0.855990

## NO Calibration Curve



# NO<sub>x</sub> Calibration



August 11, 2016

# Calibration Report



Parameter 03  
Air Monitoring Network PAZA

## Station Information

Calibration Date	August 11, 2016	Previous Calibration	July 13, 2016
Station Number	4	Station Location	Beaverlodge
Reason:	<b>Routine</b>	Install	Removal
		Other:	
Start Time (MST)	11:55	End Time (MST)	14:30:00 PM
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	0.996038
Calculated intercept	0.369326	Calculated intercept	0.308780
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	46871/52426	mV	46721/52916	mV
Pressure	681.7	mm Hg	689.2	mm Hg
Flow A	0.787	LPM	0.787	LPM
Flow B	0.743	LPM	0.742	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	332.8	334.6	0.9945
5028	0.20	224.1	223.6	1.0023
5028	0.10	108.8	108.7	1.0012
5028	0.00	0.0	0.2	As found zero
5028	0.30	332.8	347.2	As found span
Average Correction Factor				0.9994

Calculated value of As Found Response: 346.9 ppm      Percent Change of As Found: 4.2%

	before calibration		after calibration	
Auto zero	0.2	ppb	0.2	ppb
Auto span	280.1	ppb	262.5	ppb

Notes: Span adjustment made

Calibration Performed By: Dmytro Dolotii

# Calibration Summary

Parameter                      **O3**

Air Monitoring Network    **PAZA**



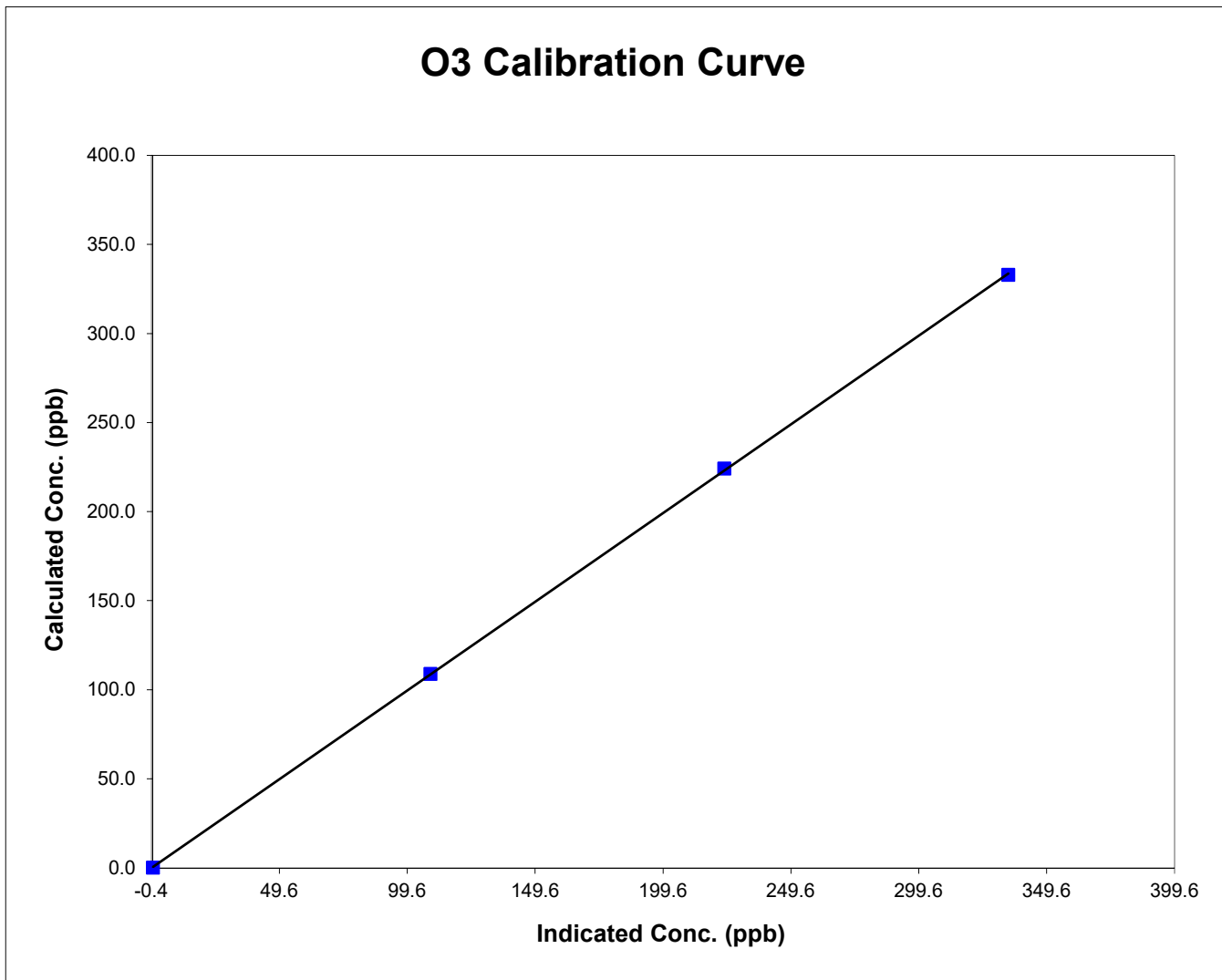
### Station Information

Calibration Date	<u>                    </u> August 11, 2016	Previous Calibration	<u>                    </u> July 13, 2016
Station Number	<u>                    </u> 4	Station Location	<u>                    </u> Beaverlodge
Start Time (MST)	<u>                    </u> 11:55	End Time (MST)	<u>                    </u> 14:30:00 PM
Analyzer make/model	<u>                    </u> Teco 49i	Analyzer serial #	<u>                    </u> 1136451236,AMU 1879

### Calibration Data

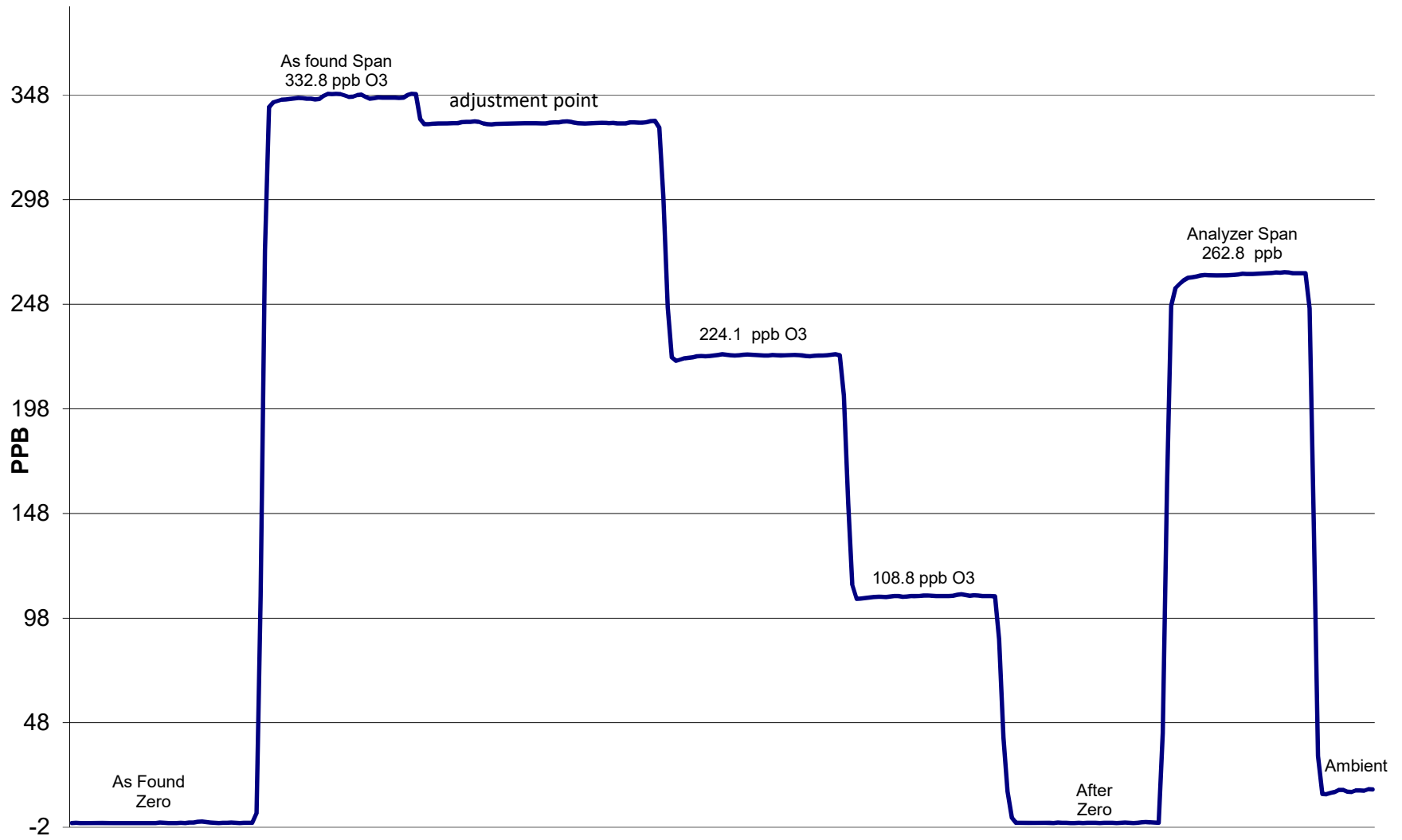
Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.2	NA	Correlation Coefficient	0.999964
332.8	334.6	0.9945		
224.1	223.6	1.0023		
108.8	108.7	1.0012	Slope	0.996038
			Intercept	0.308780

## O3 Calibration Curve





# O3 Calibration



August 11, 2016

# Calibration Report



AIR QUALITY MONITORING

Parameter SO2

Air Monitoring Network PAZA

## Station Information

Calibration Date	August 10 2016	Previous Calibration	July 20 2016
Station Number	6	Station Location	Valleyview
Reason:	<b>Routine</b>	Install	Removal
			Other:
Start Time (MST)	12:15	End Time (MST)	14:30:00 PM
Barometric Pressure	0.927 atm	Station Temperature	22.0 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	0.989764	Calculated slope	0.990489
Calculated intercept	0.668312	Calculated intercept	0.053535
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	730	LPM	730	LPM
Chamber Temp	42.8	V	43	V
Perm Gas Temp	45	C	45	C
Pressure	670.1	in Hg	670	in Hg
Sample Flow	0.485	LPM	0.485	LPM
Lamp Intensity	47629	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	0.9	N/A
4997	39.93	394.0	398.3	0.9892
4999	19.99	197.9	198.9	0.9951
4995	9.95	98.8	99.1	0.9973
4995	0.00	0.0	0.9	As found zero
4995	39.93	394.2	398.3	As found span
Average Correction Factor				0.9938

Calculated value of As Found Response: 394.1 ppm      Percent Change of As Found: 0.0%

	before calibration		after calibration	
Auto zero	0.9	ppm	1.1	ppm
Auto span	288.0	ppm	286.1	ppm

Notes: No span adjustments

# Calibration Summary

Parameter SO2  
 Air Monitoring Network PAZA



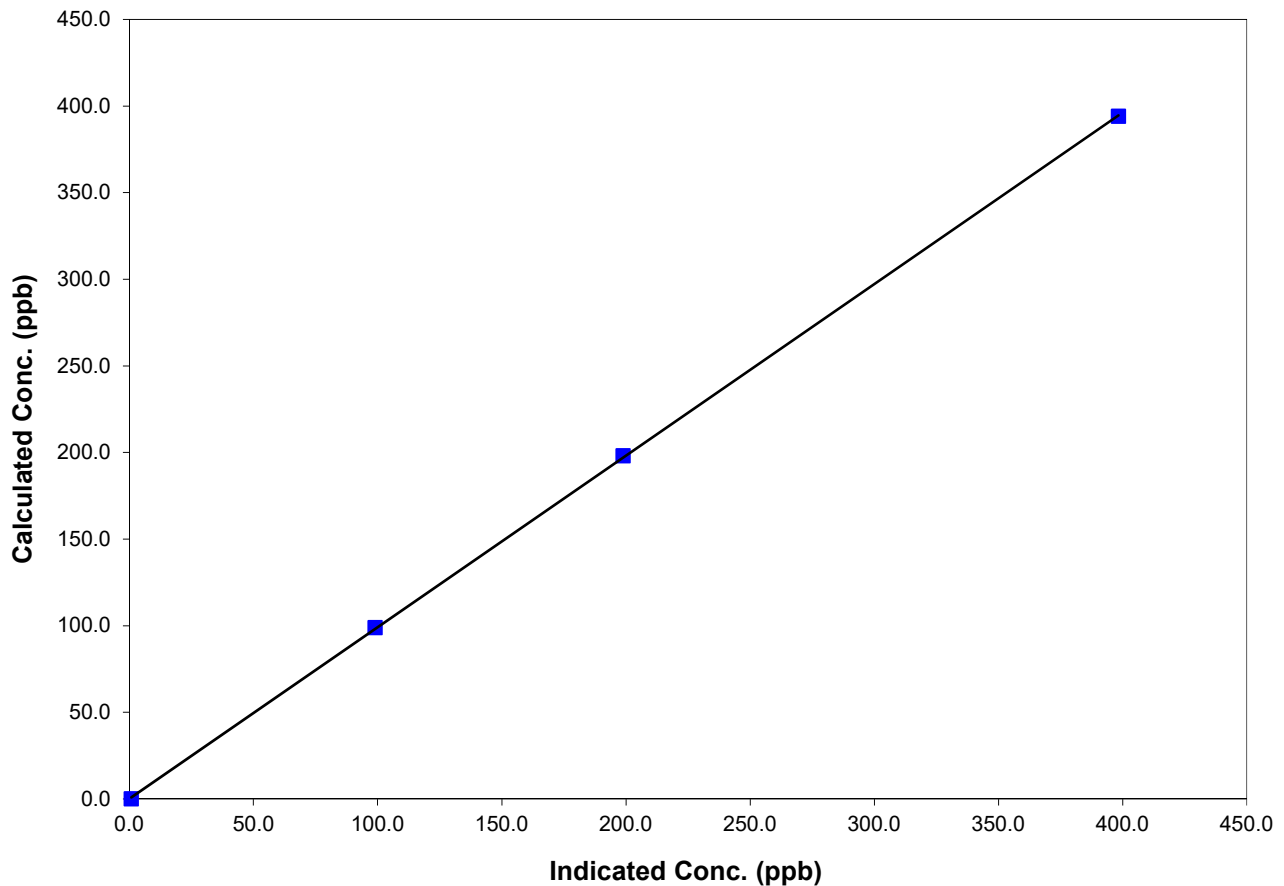
### Station Information

Calibration Date	August 10 2016	Previous Calibration	July 20 2016
Station Number	6	Station Location	Valleyview
Start Time (MST)	12:15	End Time (MST)	14:30:00 PM
Analyzer make/model	TEI 43C	Analyzer serial #	609716239

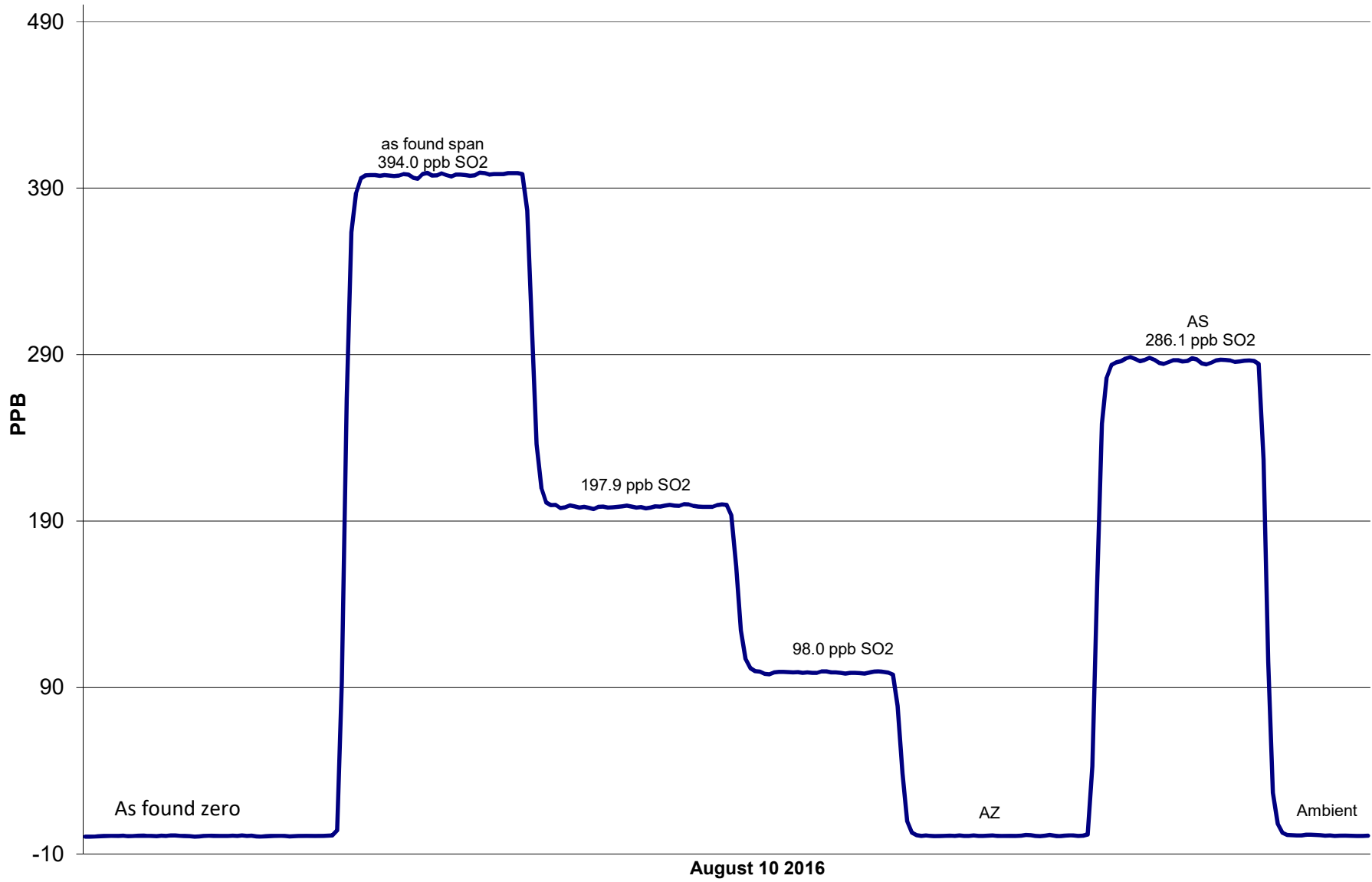
### Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.9	N/A	Correlation Coefficient	0.999973
394.0	398.3	0.9892		
197.9	198.9	0.9951	Slope	0.990489
98.8	99.1	0.9973		
			Intercept	0.053535

## SO2 Calibration Curve



### SO2 Calibration



# Calibration Report



Parameter                         H2S                        

AIR QUALITY MONITORING

Air Monitoring Network   PAZA  

## Station Information

Calibration Date	<u>                        August 10 2016                        </u>	Previous Calibration	<u>                        July 21 2016                        </u>
Station Number	<u>                        6                        </u>	Station Location	<u>                        Valleyview                        </u>
Reason:	<b>Routine</b>	<input type="checkbox"/> Install	<input type="checkbox"/> Removal
		<input type="checkbox"/> Other:	
Start Time (MST)	<u>                        9:55                        </u>	End Time (MST)	<u>                        13:10:00 PM                        </u>
Barometric Pressure	<u>                        0.927                        atm                        </u>	Station Temperature	<u>                        22.0                        Deg C                        </u>
Calibrator	<u>                        Envionics                        </u>	Serial Number	<u>                        6586                        </u>
Cal Gas Concentration	<u>                        10.2                        ppm                        </u>	Cal Gas Expiry Date	<u>                        July 03 2016                        </u>
Gas Cert Reference	<u>                        LL110781                        </u>		
DACS make	<u>                        CR3000                        </u>	DACS serial No.	<u>                        5409                        </u>
DACS voltage range	<u>                        0 - 5 volt                        </u>	DACS channel #	<u>                        9                        </u>
	<u>                        Before                        </u>		<u>                        After                        </u>
DACS Scale High	<u>                        100                        </u>	DACS slope	<u>                        100                        </u>
DACS Scale Low	<u>                        0                        </u>	DACS intercept	<u>                        0                        </u>
Calculated slope	<u>                        0.994840                        </u>	Calculated slope	<u>                        1.001844                        </u>
Calculated intercept	<u>                        -0.094533                        </u>	Calculated intercept	<u>                        -0.031764                        </u>
Analyzer make	<u>                        TEI Model 43i - APSCB                        </u>	Analyzer serial #	<u>                        701120010                        </u>

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Back Ground	8.0	ppb	8.0	ppb
Coefficient	0.859		0.859	
Lamp Voltage	788	V	792	V
Chamber Temp	45.2	c	45	c
Perm Oven Temp	45	c	45	c
Pressure	536.30	mm Hg	537.60	mm Hg
Sample Flow	0.368	ccm	0.369	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	0.2	N/A
4998	39.98	80.9	81.0	0.9998
4998	19.96	40.6	40.3	1.0078
6999	10.09	14.7	14.7	1.0002
4997	9.97		2.8	Sox Test
4997	0.00	0.0	0.2	As found zero
4997	39.93	80.9	81.0	As found span
Average Correction Factor				1.0026

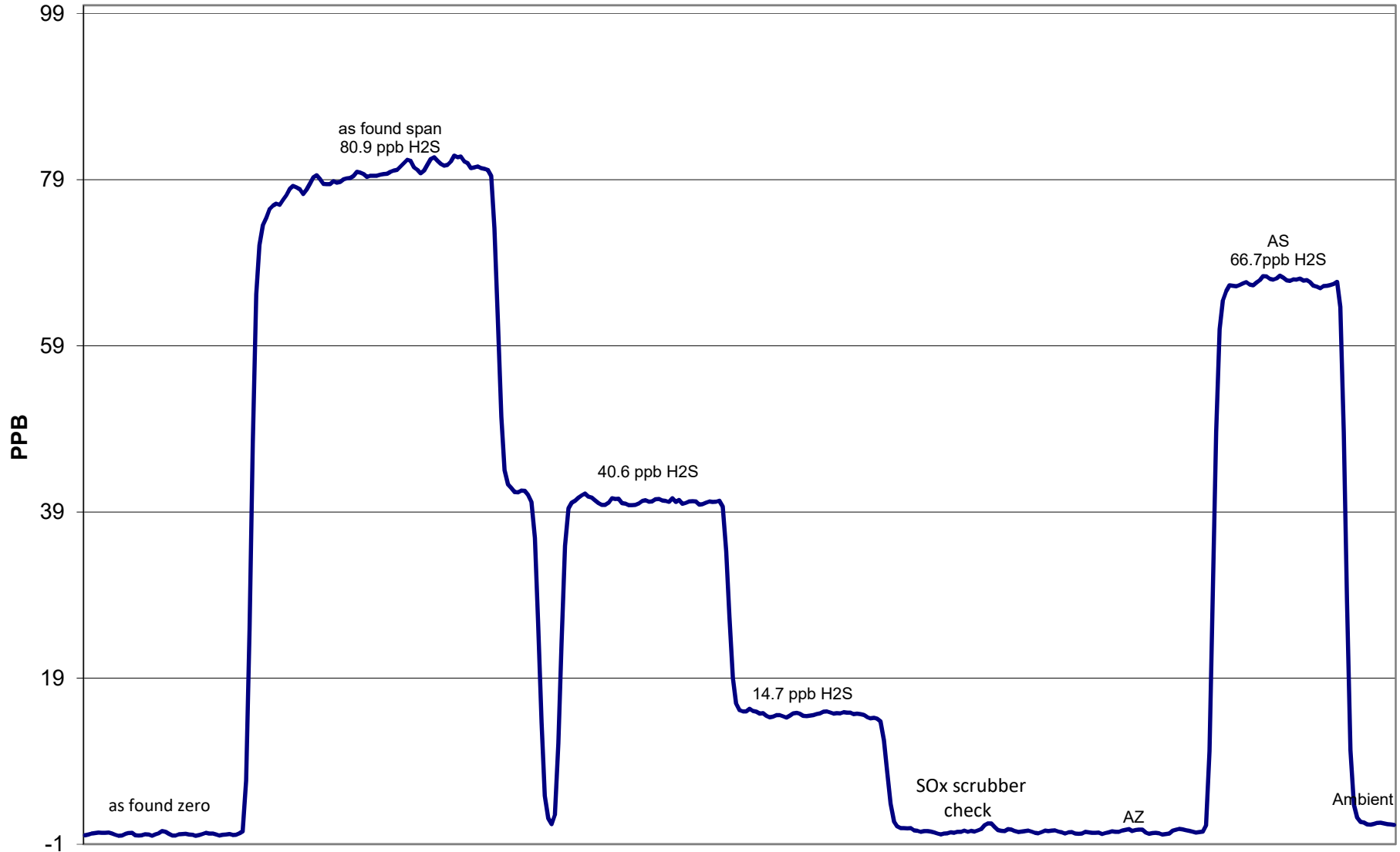
Calculated value of As Found Response:                         80.28 ppm                              Percent Change of As Found:                         0.7%                        

	before calibration		after calibration	
Auto zero	0.4	ppm	0.5	ppm
Auto span	67.0	ppm	66.7	ppm

Notes:                         No adjustments made                          
                        Sox scrubber check is done



# H2S Calibration



August 10 2016

# Calibration Report



Parameter SO<sub>2</sub>

Air Monitoring Network PAZA

## Station Information

Calibration Date	August 16, 2016	Previous Calibration	February 24, 2016
Station Number	1	Station Location	Donnelly
Reason:	<input type="checkbox"/> Routine	<input type="checkbox"/> Install	<input checked="" type="checkbox"/> Removal
			<input type="checkbox"/> Other:
Start Time (MST)	12:30	End Time (MST)	14:50:00 PM
Barometric Pressure	0.921 mm	Station Temperature	22.0 Deg C
Calibrator	EnviroNics	Serial Number	6586
Cal Gas Concentration	49.7 ppm	Cal Gas Expiry Date	11/5/2018
Correction factor	0.031095	Cal Gas Cylinder #	LL103793
DACS make	CR1000	DACS serial No.	3980
DACS voltage range	0 - 5 volt	DACS channel #	6
	<u>Before</u>		<u>After</u>
Calculated slope	0.985045	Calculated slope	0.999584
Calculated intercept	0.479657	Calculated intercept	0.763148
Analyzer make	Teco 43i	Analyzer serial #	1207452008

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
Background	5.5		6.5	
coefficient	0.905		0.929	
Lamp Voltage	816	volts	821	volts
Chamber Temp	45	Deg C	45	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	679.1	mm Hg	680.6	mm Hg
Sample Flow	0.399	ccm	0.399	ccm
Lamp Intensity	97	%	97	%

Dilution air flow rate (cc/min)	Corrected gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4995	0.0	0.00	0.4	N/A
4995	39.93	394.2	394.3	0.9996
4995	19.96	197.8	196.0	1.0093
4995	9.97	99.0	97.6	1.0148
4995	0.0	0.0	0.4	As Found Zero
4995	39.93	394.2	382.3	As Found Span
Average Correction Factor				1.0079

Calculated value of As Found Response: 376.676 ppm      Percent Change of As Found: 4.4%

	before calibration		after calibration	
Auto zero	0.7	ppm	0.4	ppm
Auto span	265.4	ppm	242.0	ppm

Notes: Span adjustment made

Calibration Performed By: Dmytro Dolotii, Grover Christiansen



# Calibration Summary

Parameter SO2  
 Air Monitoring Network PAZA

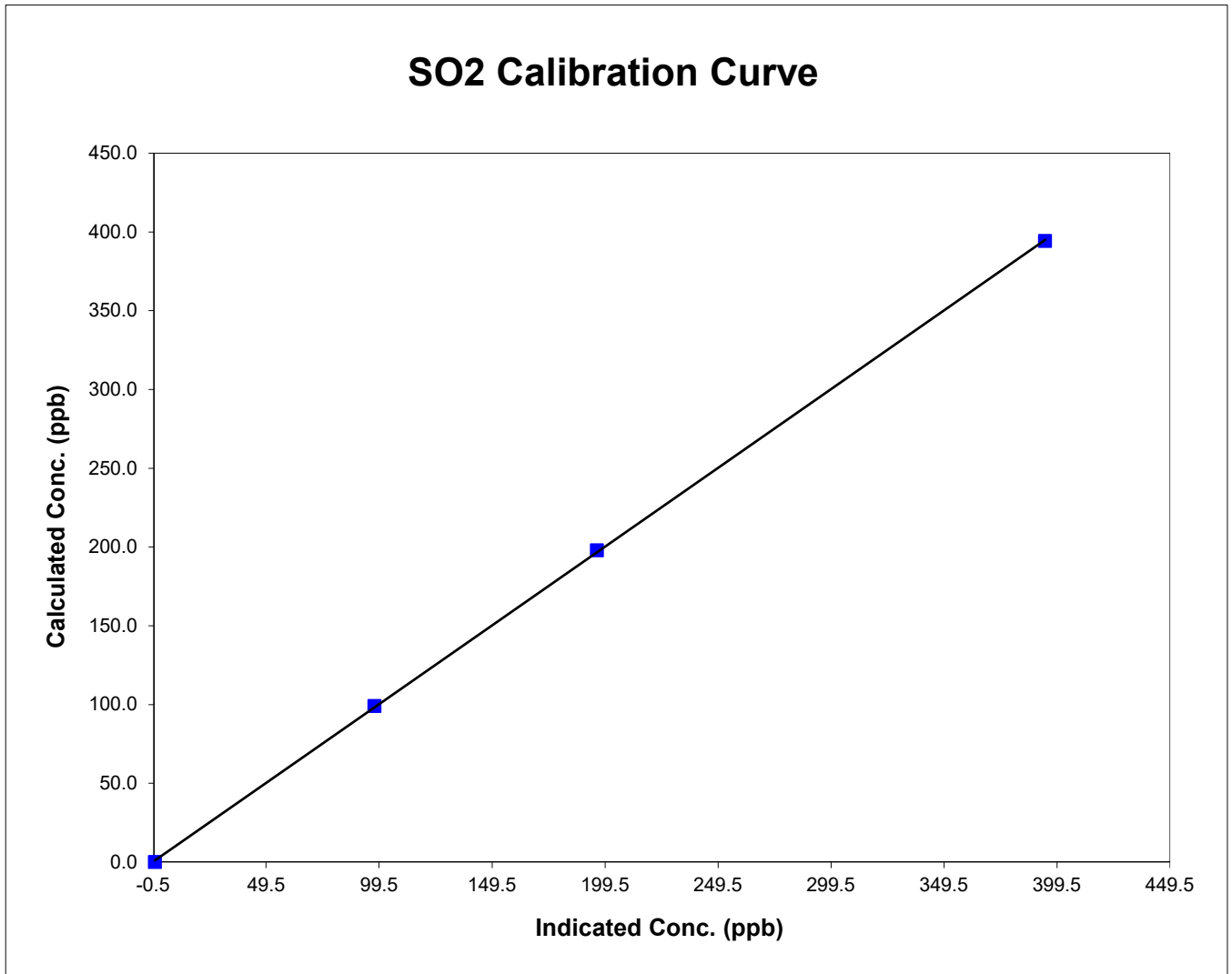


### Station Information

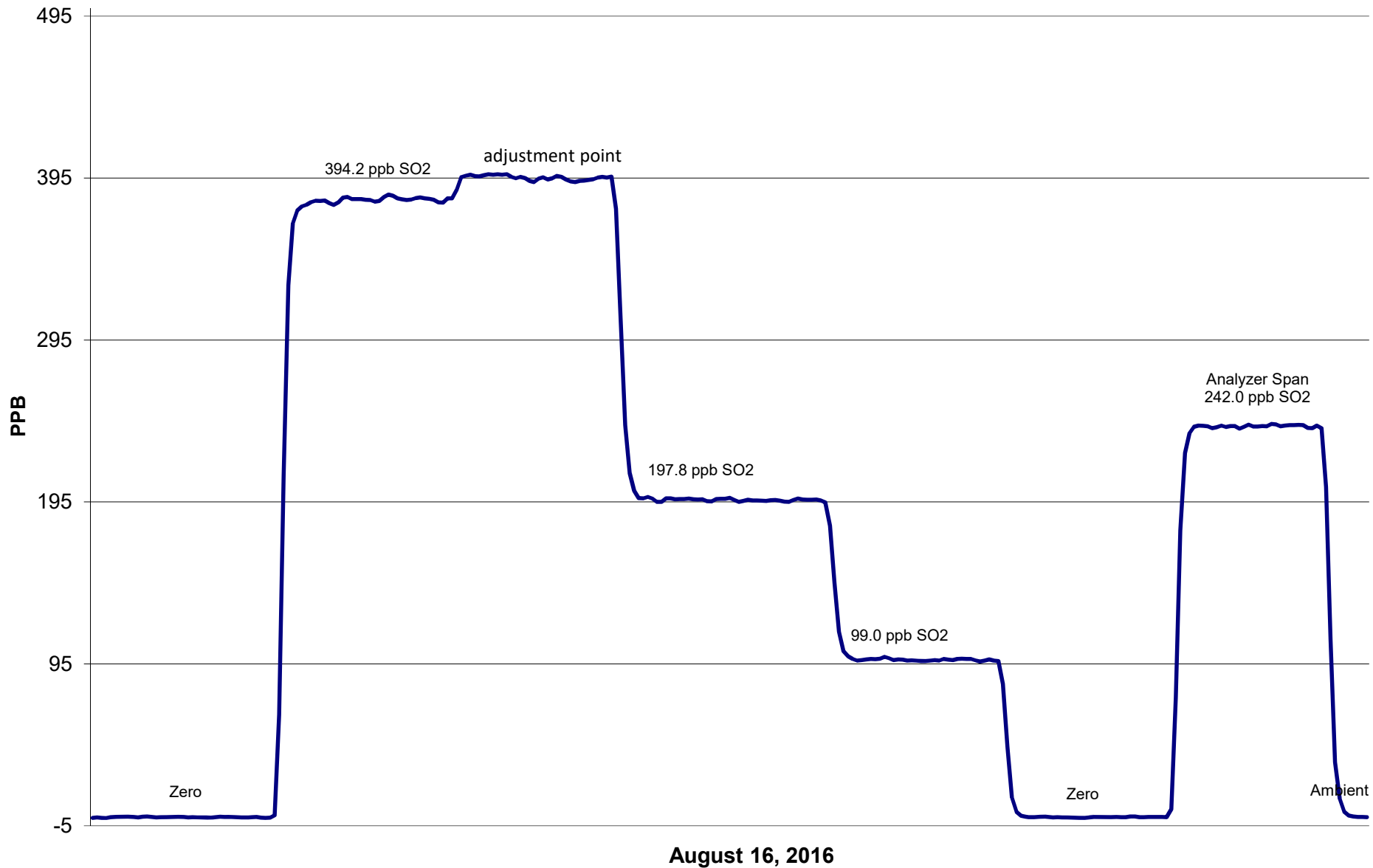
Calibration Date	August 16, 2016	Previous Calibration	February 24, 2016
Station Number	1	Station Location	Donnelly
Start Time (MST)	12:30	End Time (MST)	14:50:00 PM
Analyzer make/model	Teco 43i	Analyzer serial #	1207452008

### Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.4	N/A	Correlation Coefficient	0.999957
394.2	394.3	0.9996		
197.8	196.0	1.0093	Slope	0.999584
99.0	97.6	1.0148		
			Intercept	0.763148



# SO2 Calibration



# Calibration Report



Parameter                   H2S                  

Air Monitoring Network   PAZA  

## Station Information

Calibration Date	August 16, 2016	Previous Calibration	February 24, 2016
Station Number	1	Station Location	Donnelly
Reason:	<span style="background-color: yellow;">Routine</span>	<input type="checkbox"/> Install	<input type="checkbox"/> Removal
		<input type="checkbox"/> Other:	
Start Time (MST)	9:50	End Time (MST)	13:30:00 PM
Barometric Pressure	0.926 mm	Station Temperature	22.0 Deg C
Calibrator	EnviroNics	Serial Number	6586
Cal Gas Conc	10.2 ppm	Cal Gas Expiry Date	7/8/2016
Correction factor	0.031264	Cal Gas Cylinder #	LL103793
DACS make	CR1000	DACS serial No.	3980
DACS voltage range	0 - 5 volt	DACS channel #	5
	<u>Before</u>		<u>After</u>
Calculated slope	0.990164	Calculated slope	0.990748
Calculated intercept	-0.219665	Calculated intercept	-0.430598
Analyzer make	Thermo 450i	Analyzer serial #	1207452006

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Background	15.7	ppb	15.5	ppb
coefficient	1.109		1.09	
Lamp Voltage	796	volts	798	volts
Chamber Temp	45	Deg C	45	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	499	mm Hg	498.5	mm Hg
Sample Flow	0.781	lpm	0.778	lpm
Lamp Intensity	90	mv	90	mv

## Calibration Data

Dilution air flow rate (cc/min)	Corrected gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4995	0.00	0.00	0.3	N/A
4995	39.93	80.89	82.1	0.9856
4995	19.96	40.60	41.4	0.9813
6994	9.97	14.52	15.2	0.9522
4995	0.00	0.00	0.3	As Found Zero
4995	39.93	80.89	80.2	As Found Span
Average Correction Factor				0.9730

Calculated value of As Found Response: 78.84 ppm      Percent Change of As Found: 2.5%

	before calibration		after calibration	
Auto zero	0.3	ppm	0.6	ppm
Auto span	57.3	ppm	63.2	ppm

Notes: Span adjustment done

Calibration Performed By: Dmytro Dolotii, Grover Christiansen

# Calibration Summary

Parameter                     H2S                      
Air Monitoring Network   PAZA  



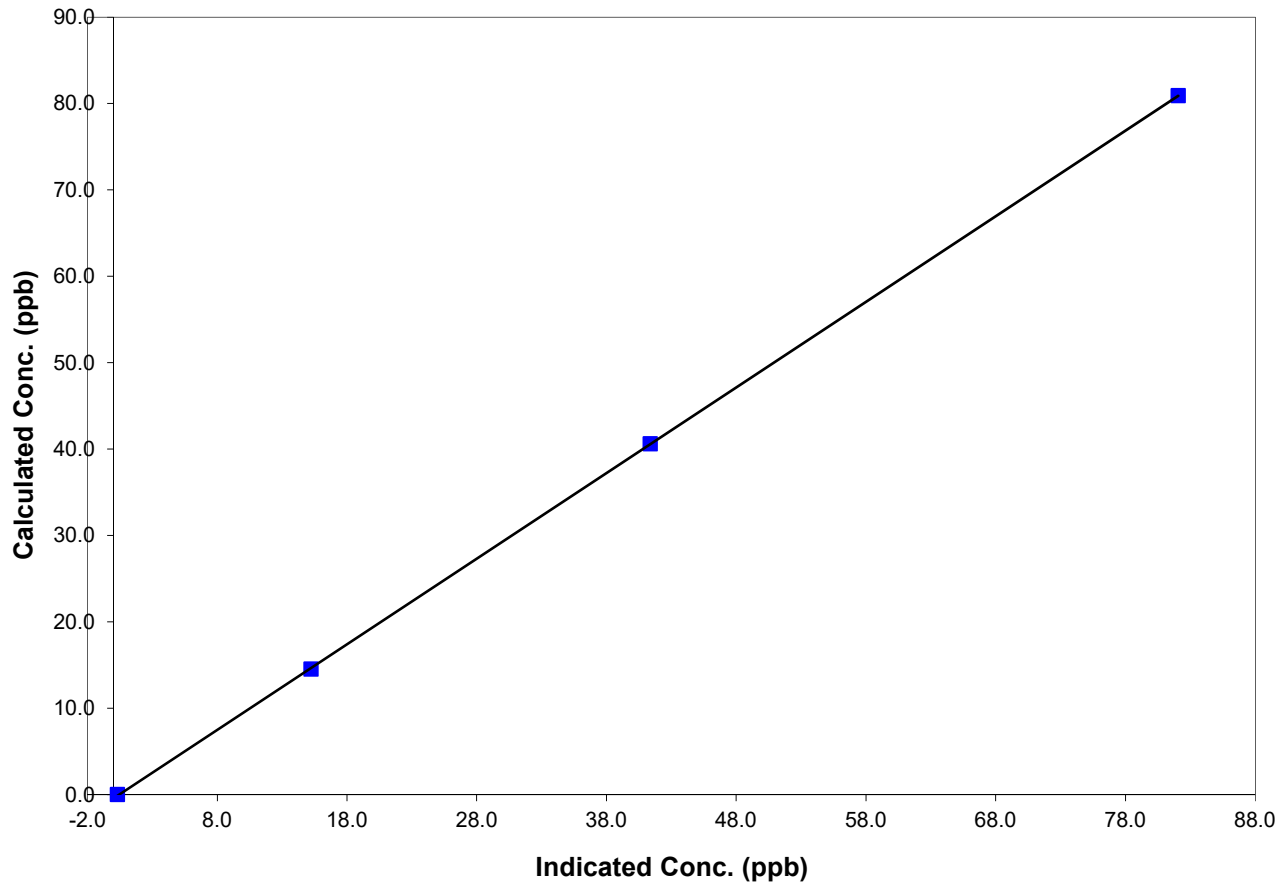
## Station Information

Calibration Date	<u>                    August 16, 2016                    </u>	Previous Calibration	<u>                    February 24, 2016                    </u>
Station Number	<u>                    1                    </u>	Station Location	<u>                    Donnelly                    </u>
Start Time (MST)	<u>                    9:50                    </u>	End Time (MST)	<u>                    13:30:00 PM                    </u>
Analyzer make/model	<u>                    Thermo 450i                    </u>	Analyzer serial #	<u>                    1207452006                    </u>

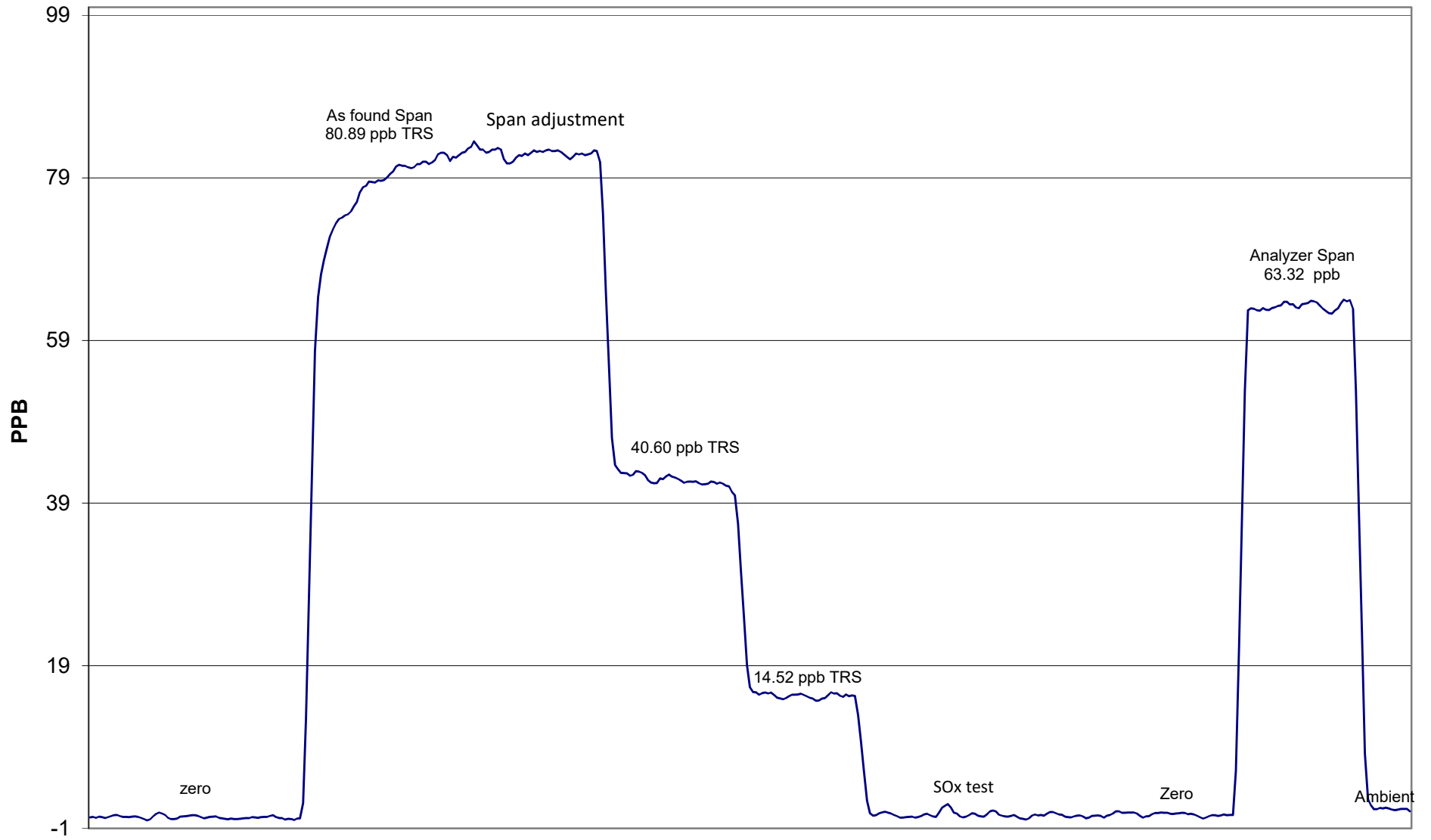
## Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.3	N/A		
80.9	82.1	0.9856	Correlation Coefficient	0.999990
40.6	41.4	0.9813		
14.5	15.2	0.9522	Slope	0.990748
			Intercept	-0.430598

## TRS Calibration Curve



# H2S Calibration



August 16, 2016

# Calibration Report



**AIR QUALITY MONITORING**

Parameter SO2  
Air Monitoring Network \_\_\_\_\_

PAZA

## Station Information

Calibration Date	August 17, 2016	Previous Calibration	July 8, 2016
Station Number	10	Station Location	Clairmont
Reason:	<input checked="" type="checkbox"/> Routine	<input type="checkbox"/> Install	<input type="checkbox"/> Removal
		<input type="checkbox"/> Other:	
Start Time (MST)	8:10	End Time (MST)	10:45
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
	<u>Before</u>		<u>After</u>
DACS Scale High	500	DACS slope	500
DACS Scale Low	0	DACS intercept	0
Calculated slope	0.982176	Calculated slope	0.985671
Calculated intercept	0.595659	Calculated intercept	0.810058
Analyzer make	TEI 43C	Analyzer serial #	436610005

	before		after	
Concentration range	0-500	ppb	0-500	ppb
Background	23.3		23.3	
Coefficient	1.058		1.058	
UV Lamp Voltage	887	V	887	V
Chamber Temp	44.1	C	44.3	C
Perm Gas Temp	45	C	45	C
Pressure	680.9	mm Hg	681.1	mm Hg
Sample Flow	0.47	LPM	0.47	LPM
Lamp Intesity	30472	Hz	30362	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	400.7	0.9859
4997	19.98	198.3	199.2	0.9956
4999	9.94	98.8	98.8	1.0001
4998	0.00	0.0	0.3	As found zero
4999	39.93	394.6	400.7	As found span
Average Correction Factor				0.9939

Calculated value of As Found Response: 393.935 ppm      Percent Change of As Found: 0.2%

	before calibration		after calibration	
Auto zero	0.3	ppm	0.3	ppm
Auto span	209.8	ppm	202.4	ppm

Notes: No adjustment made

# Calibration Summary

Parameter SO2  
 Air Monitoring Network PAZA



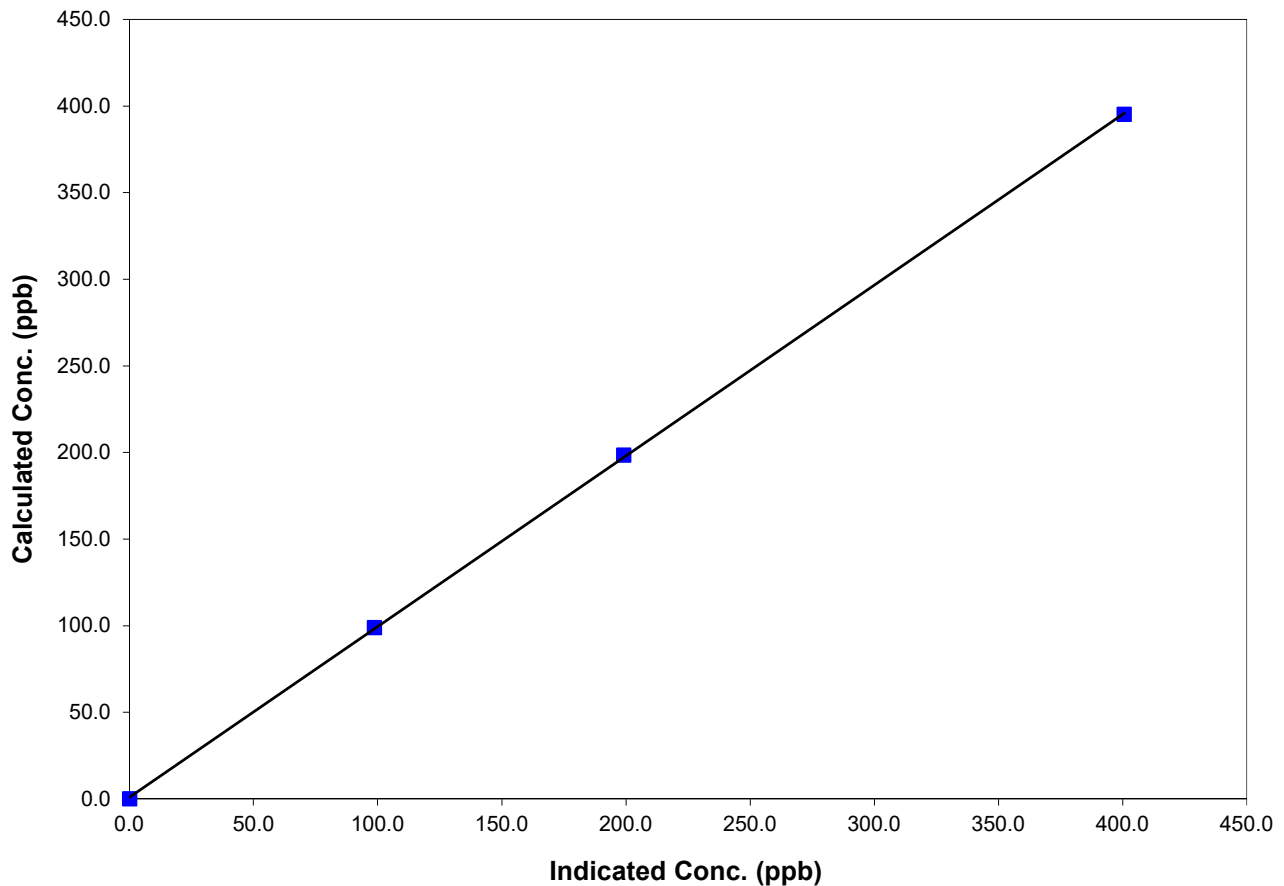
### Station Information

Calibration Date	August 17, 2016	Previous Calibration	July 8, 2016
Station Number	10	Station Location	Clairmont
Start Time (MST)	8:10	End Time (MST)	10:45
Analyzer make/model	TEI 43C	Analyzer serial #	436610005

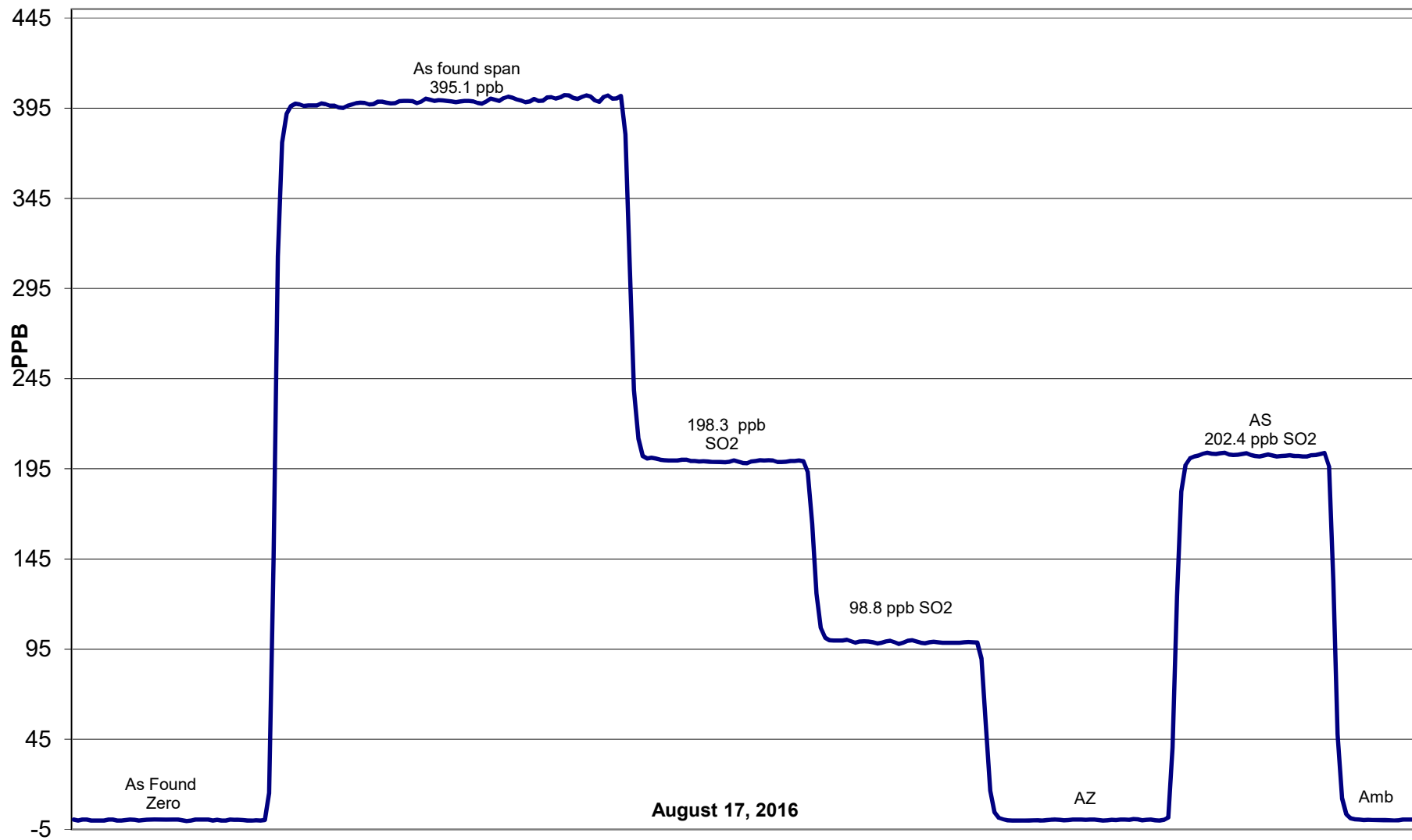
### Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.3	N/A	Correlation Coefficient	0.999960
395.1	400.7	0.9859		
198.3	199.2	0.9956	Slope	0.985671
98.8	98.8	1.0001		
			Intercept	0.810058

## SO2 Calibration Curve



# SO2 Calibration





# Calibration Report

Parameter

NO<sub>x</sub>-NO-NO<sub>2</sub>

Air Monitoring Network

PAZA



### Station Information

Calibration Date	August 17, 2016	Previous Calibration	July 8, 2016
Station Number	10	Station Location	Rycroft
Reason:	<b>Routine</b> Installation    Removal    Other:		
Start Time (MST)	8:15	End Time (MST)	11:55
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	1.002181	1.003981	1.001286
	Data Offset	-0.369639	0.607442	0.245639
After	Data Slope	1.002549	0.999333	0.994649
	Data Offset	-1.518571	0.768206	0.717907
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	7.8	mV
NOx bkgnd	8.0	mV	8.2	mV
NO coefficient	1.335		1.374	
NOx coefficient	0.999		0.999	
NO2 conv temp	326.0	Deg C	326.4	Deg C
PMT Temp	-3.0	Deg C	-3.0	Deg C
PMT Volt	-835.5	mV	-834.5	mV
R Cell Press	220.7	in Hg	219.3	in Hg
Sample Flow	0.674	LPM	0.678	LPM

Notes: Span adjustment done

# Calibration Report



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

## Station Information

Calibration Date: August 17, 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	0.0	-0.3	0.3	N/A	N/A	
1	4995	39.92	405.9	403.6	2.4	405.8	405.3	-1.3	1.0004	0.9958	
2	4994	19.96	203.8	202.6	1.2	202.9	202.6	-0.6	1.0044	1.0001	
3	4998	9.98	102.0	101.4	0.6	100.5	101.0	-0.5	1.0158	1.0043	
AFZ	4994	0.00	0.0	0.0	0.0	0.0	-0.3	0.3	0.0000	0.0000	
AFS	4999	39.92	405.6	403.2	0.8	393.5	392.3	-0.5	1.0308	1.0280	
									Average Correction Factor	1.0068	1.0001

As Found Concentrations: NO<sub>x</sub>= 395.7 NO= 393.4 As Found Percent Change NO<sub>x</sub>= -2.5% NO= -2.5%

## 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	-0.3	-0.3	0.0	0.0	-0.3	0.3	N/A	N/A	N/A	N/A	
NO point	404.1	404.1	0.0	405.1	404.1	-1.1	0.9973	1.0000	N/A	N/A	
300	404.1	66.8	337.3	404.8	66.8	336.5	0.9981	1.0000	1.0024	99.8%	
200	404.1	178.5	225.6	408.8	178.5	228.2	0.9885	1.0000	0.9887	101.1%	
100	404.1	295.9	108.2	408.5	295.9	110.4	0.9891	1.0000	0.9794	102.1%	
							Average Correction Factor	0.9919	1.0000	0.9901	101.0%

## AIC Data

Parameter	Previous calibration				Current calibration			
	NOx	NO2	NO		NOx	NO2	NO	
Auto zero	-0.6	-0.3	-0.4	ppb	-0.2	0.1	-0.4	ppb
Auto span	155.7	153.9	1.0	ppb	153.7	151.8	1.0	ppb

Calibration Performed By: Dmytro Dolotii

# Calibration Summary



Parameter NO<sub>2</sub>

Air Monitoring Network PAZA

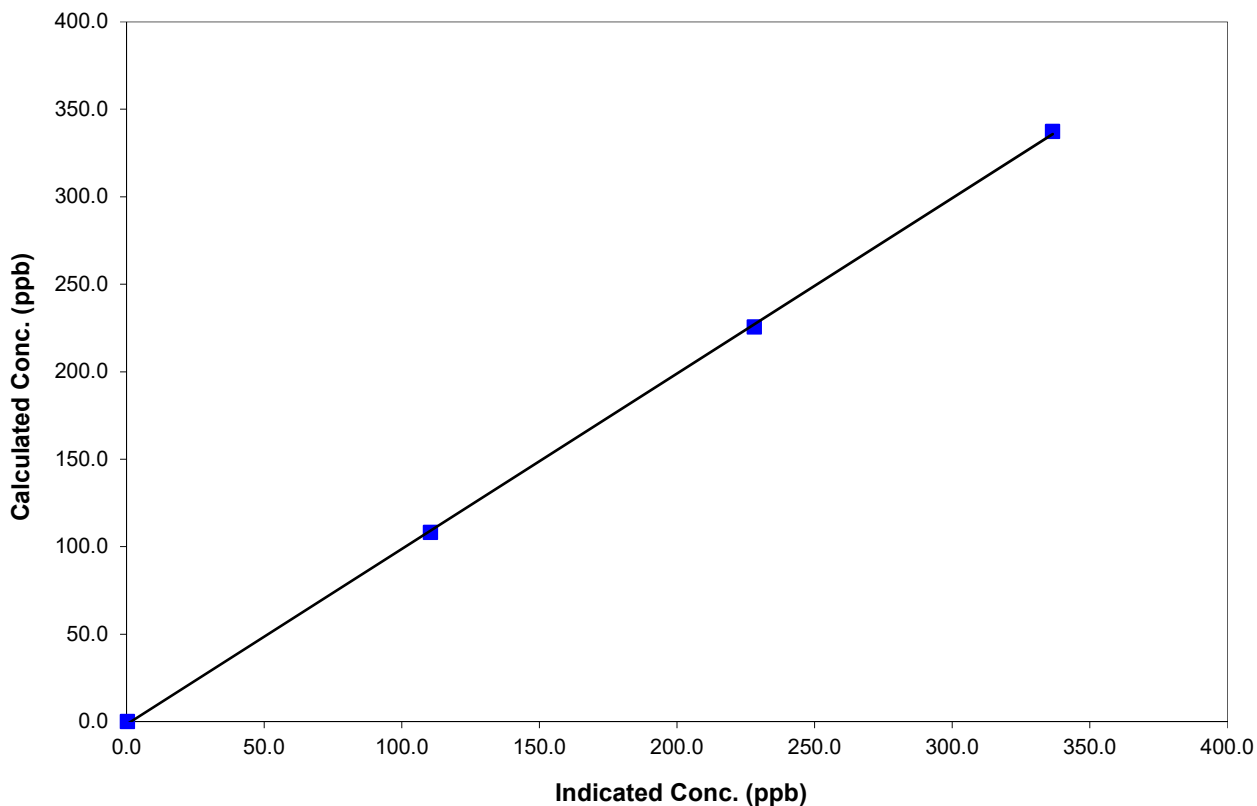
## Station Information

Calibration Date	August 17, 2016	Previous Calibration	July 8, 2016
Station Number	10	Station Location	Rycroft
Start Time (MST)	8:15	End Time (MST)	11:55
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	0.3	N/A	Correlation Coefficient	0.999884
337.3	336.5	1.0024		
225.6	228.2	0.9887	Slope	1.002549
108.2	110.4	0.9794		
			Intercept	-1.518571

### NO<sub>2</sub> Calibration Curve



# Calibration Summary



Parameter NO<sub>x</sub>

Air Monitoring Network PAZA

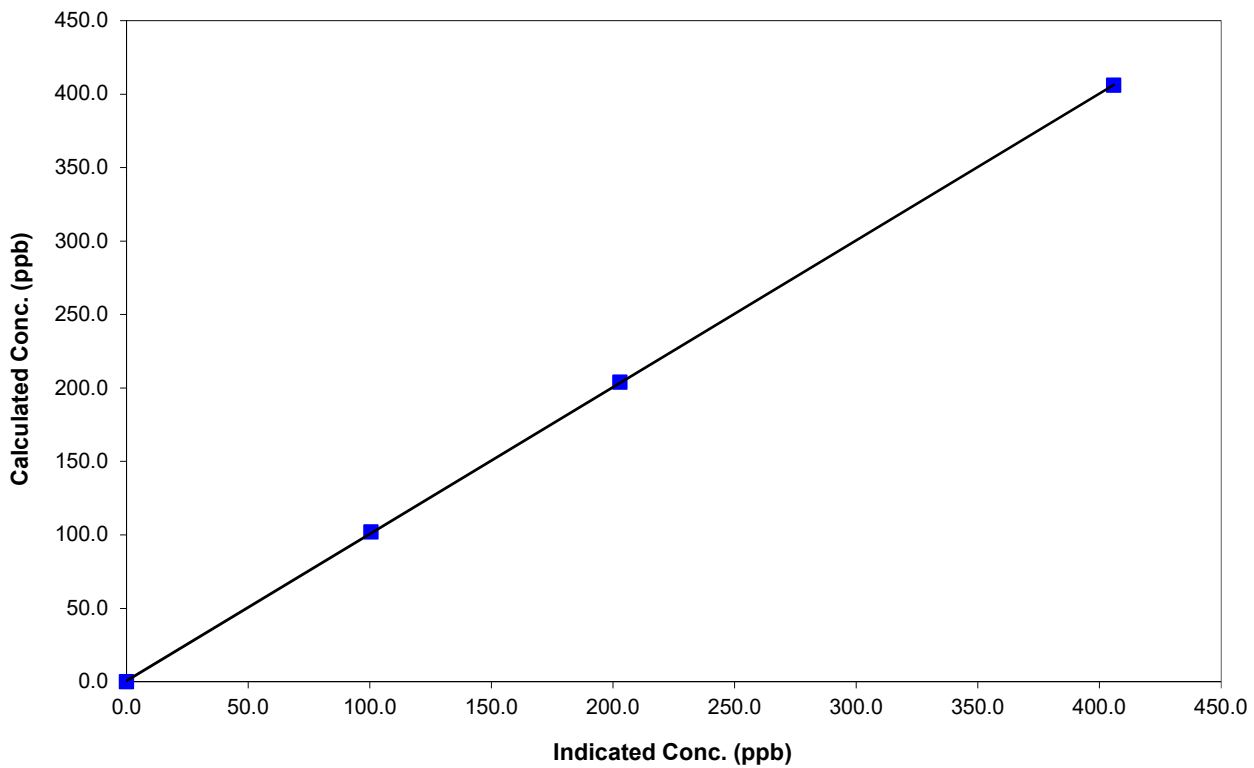
## Station Information

Calibration Date	August 17, 2016	Previous Calibration	July 8, 2016
Station Number	10	Station Location	Rycroft
Start Time (MST)	8:15	End Time (MST)	11:55
Analyzer make	TEI 42i	Analyzer serial #	0701120011

## Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.0	N/A	Correlation Coefficient	0.999982
405.9	405.8	1.0004		
203.8	202.9	1.0044	Slope	0.999333
102.0	100.5	1.0158		
			Intercept	0.768206

## NO<sub>x</sub> Calibration Curve



# Calibration Summary



Parameter NO  
 Air Monitoring Network PAZA

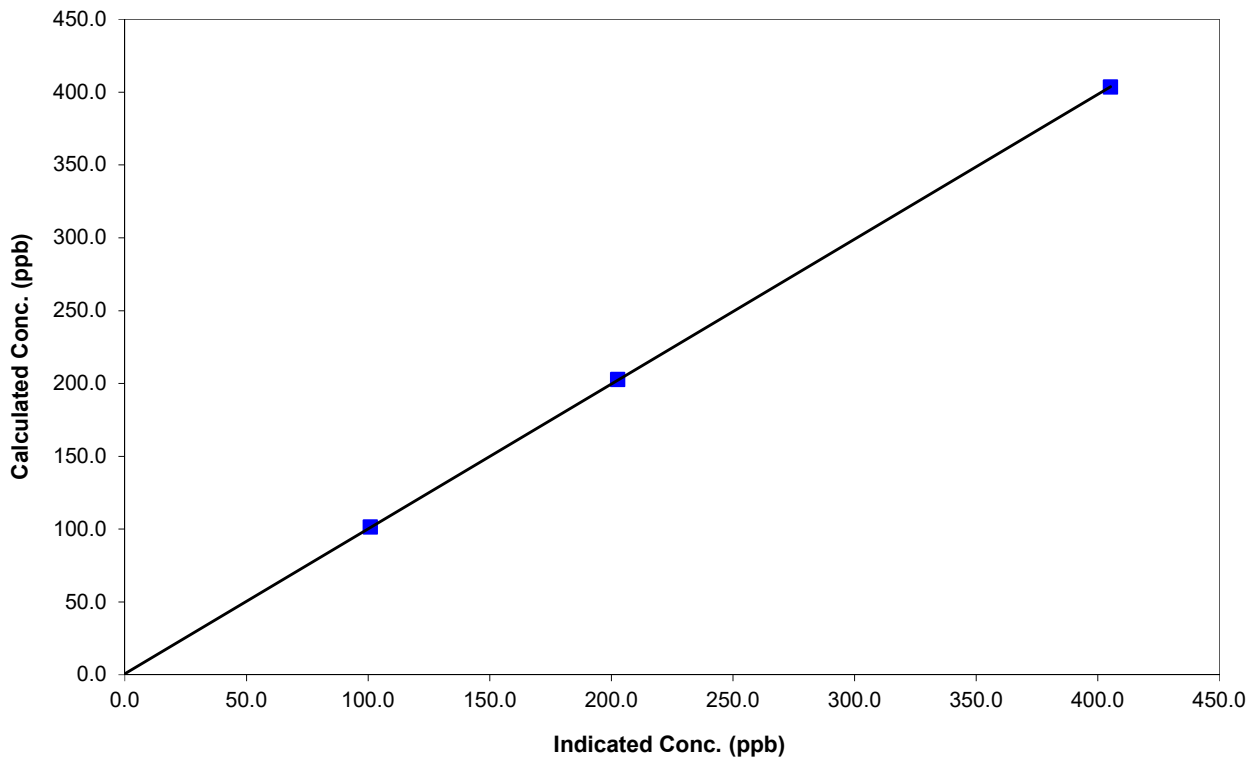
## Station Information

Calibration Date	August 17, 2016	Previous Calibration	July 8, 2016
Station Number	10	Station Location	Rycroft
Start Time (MST)	8:15	End Time (MST)	11:55
Analyzer make	TEI 42i	Analyzer serial #	0701120011

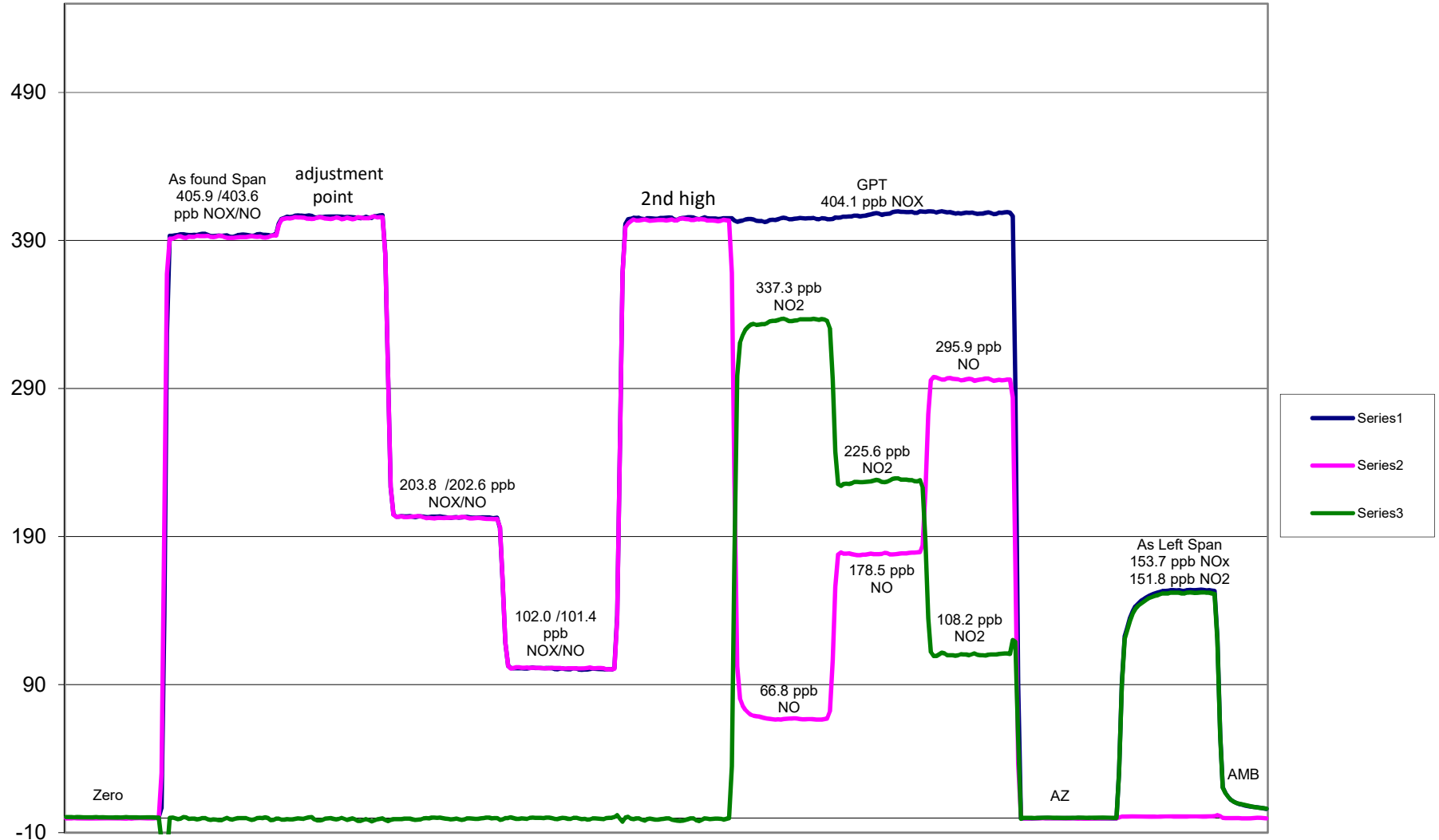
## Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.3	N/A	Correlation Coefficient	0.999995
403.6	405.3	0.9958		
202.6	202.6	1.0001	Slope	0.994649
101.4	101.0	1.0043		

## NO Calibration Curve



# NO<sub>x</sub> Calibration



August 17, 2016

# Calibration Report



AIR QUALITY MONITORING

Parameter 03

Air Monitoring Network PAZA

## Station Information

Calibration Date	August 17 2016	Previous Calibration	July 8 2016
Station Number	10	Station Location	Rycroft
Reason:	<b>Routine</b>	Install	Removal
		Other:	
Start Time (MST)	11:00	End Time (MST)	13:00:00 PM
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	1.019185	Calculated slope	1.020464
Calculated intercept	-0.759433	Calculated intercept	-1.620406
Analyzer make	Model 49-I	Analyzer serial #	1153630156

	before		after	
Concentration range	0-500	ppb	0-500	ppb
Offset	-0.5	ppb	-0.5	ppb
Span	0.994		0.994	
Cell A intensity	92997	Hz	95889	Hz
Cell B intensity	121143	Hz	121436	Hz
Pressure	701.10	in Hg	701.70	in Hg
CellA Flow	0.696	ccm	0.696	ccm
Cell B Flow	0.695	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	0.6	N/A
5020	0.30	337.3	331.6	1.0171
5025	0.20	225.6	222.7	1.0129
5020	0.10	108.2	109.0	0.9924
5015	0.00	0.0	0.6	As found zero
5020	0.30	337.3	331.6	As found span
Average Correction Factor				1.0075

Calculated value of As Found Response: 336.6 ppm      Percent Change of As Found: -0.2%

	before calibration		after calibration	
Auto zero	-0.2	ppb	0.4	ppb
Auto span	397.6	ppb	364.6	ppb

Notes: No adjustment made

Calibration Performed By: Dmytro Dolotii

# Calibration Summary

Parameter 03  
Air Monitoring Network PAZA

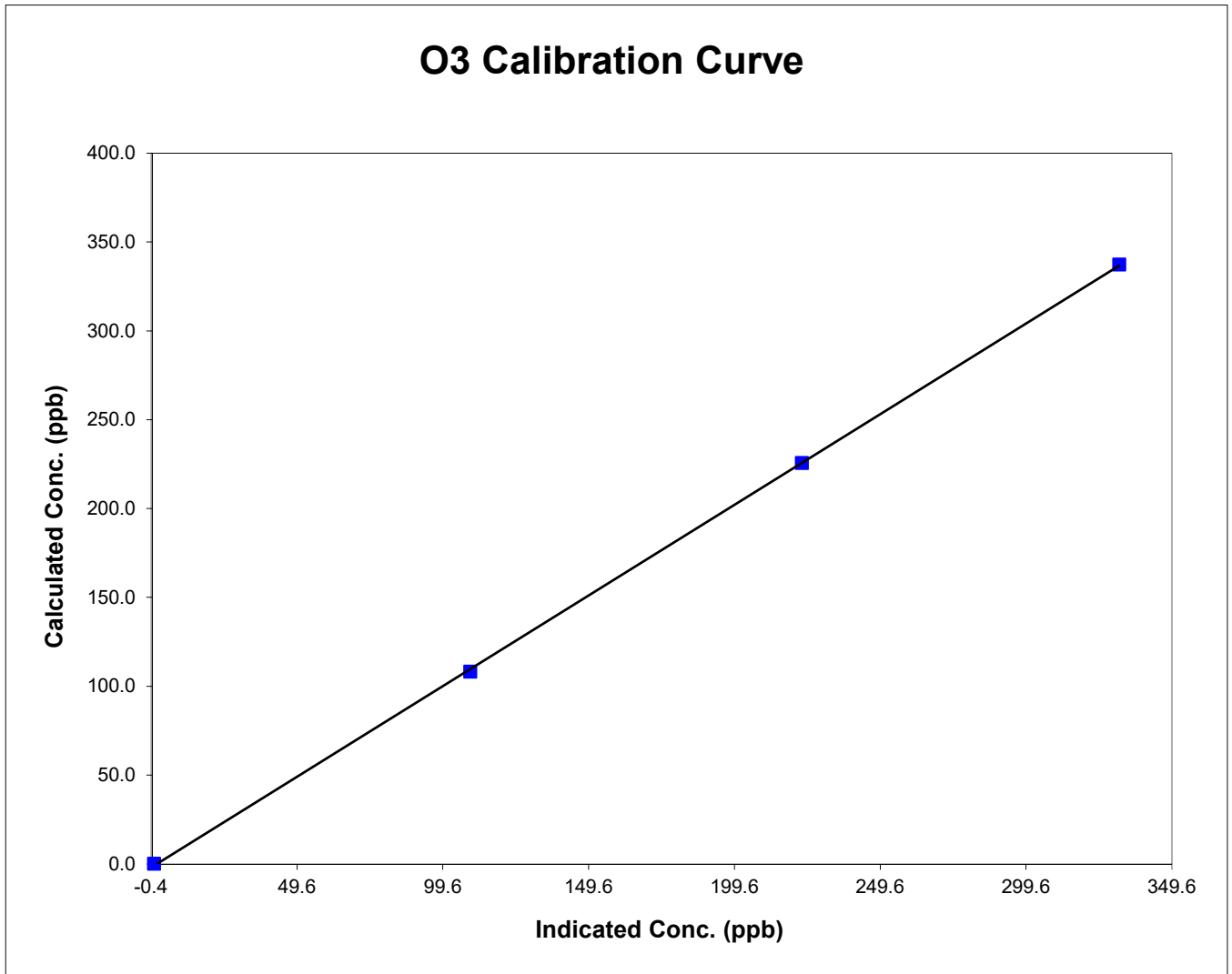


### Station Information

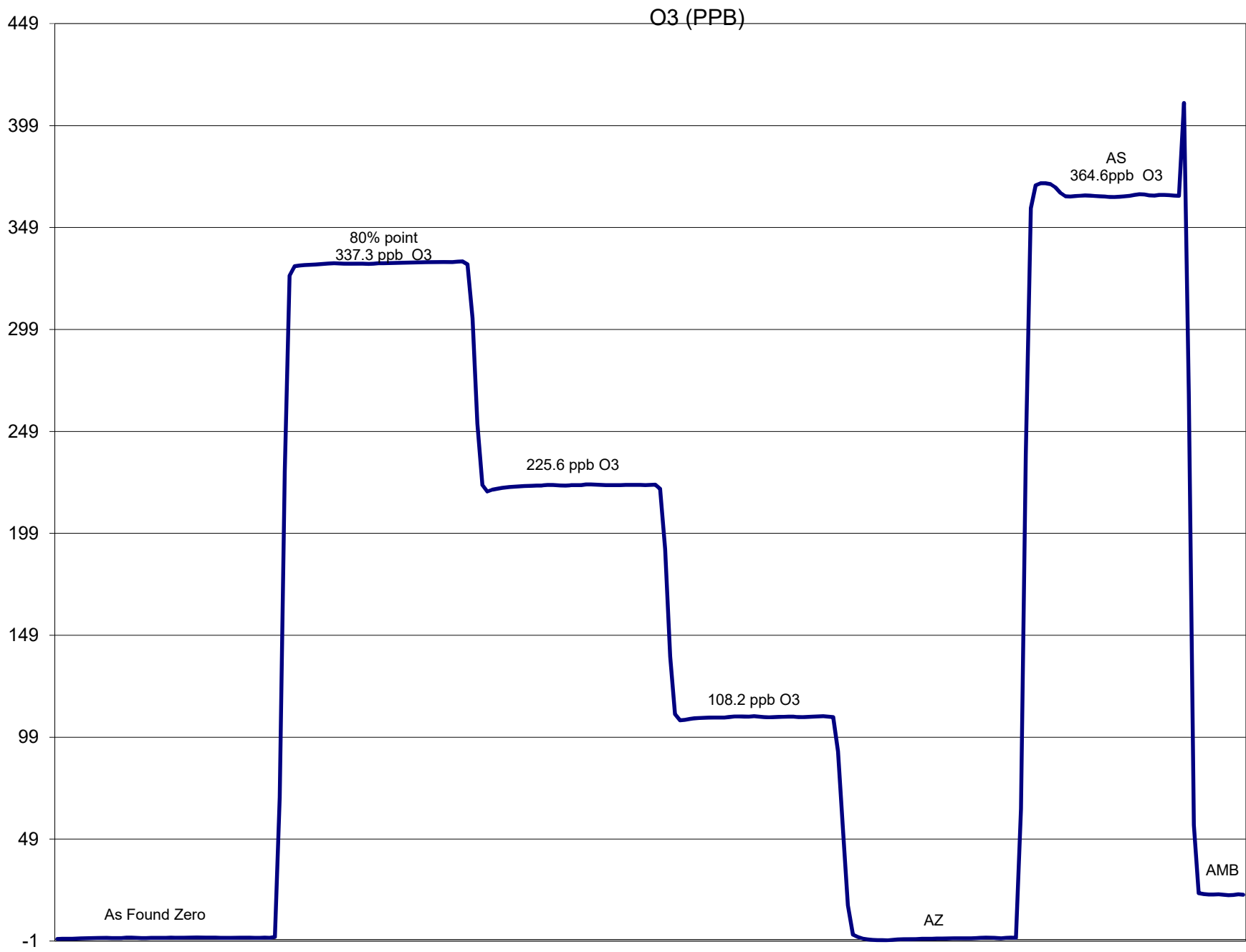
Calibration Date	August 17 2016	Previous Calibration	July 8 2016
Station Number	10	Station Location	Rycroft
Start Time (MST)	11:00	End Time (MST)	13:00:00 PM
Analyzer make/model	Model 49-I	Analyzer serial #	1153630156

### Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.6	NA	Correlation Coefficient	0.999948
337.3	331.6	1.0171		
225.6	222.7	1.0129	Slope	1.020464
108.2	109.0	0.9924		
			Intercept	-1.620406







August 17 2016

# Calibration Report



Parameter THC  
 Air Monitoring Network PAZA

### Station Information

Calibration Date	July 29, 2016	Previous Calibration	July 9, 2016
Station Number	10	Station Location	Rycroft Rover
Reason:	<input checked="" type="checkbox"/> Routine	<input type="checkbox"/> Install	<input type="checkbox"/> Removal
			<input type="checkbox"/> Other:
Start Time (MST)	9:40	End Time (MST)	12:30
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	0.989191
Calculated intercept	0.159637	Calculated intercept	0.085558
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	2256	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	0.01	N/A
2998	69.96	21.82	22.02	0.9910
2997	29.98	9.48	9.40	1.0078
2998	9.99	3.18	3.07	1.0337
2996	0.00	0.00	-0.05	As Found Zero
2996	69.93	21.82	22.06	As Found Span
Average Correction Factor				1.0108

Calculated value of As Found Response: 22.157 ppm      Percent Change of As Found: -1.5%

	before calibration		after calibration	
Auto zero	-0.07	ppm	0.00	ppm
Auto span	22.46	ppm	21.71	ppm

Notes: Zero adjustment made.

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# Calibration Summary



Parameter THC  
 Air Monitoring Network PAZA

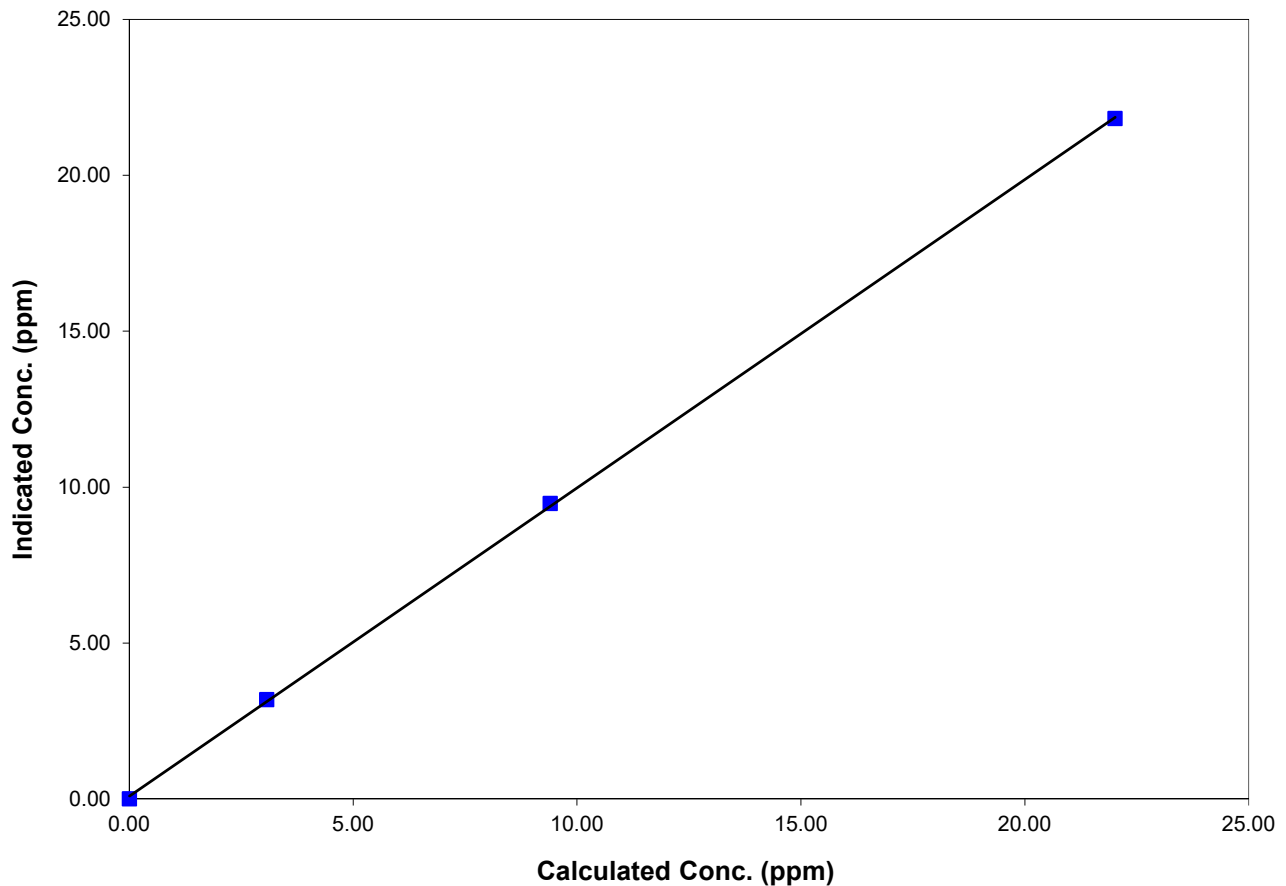
### Station Information

Calibration Date	July 29, 2016	Previous Calibration	July 9, 2016
Station Number	10	Station Location	Rycroft Rover
Start Time (MST)	9:40	End Time (MST)	12:30
Analyzer make/model	TEI Model 51C-LT	Analyzer serial #	51CLT-79009-390

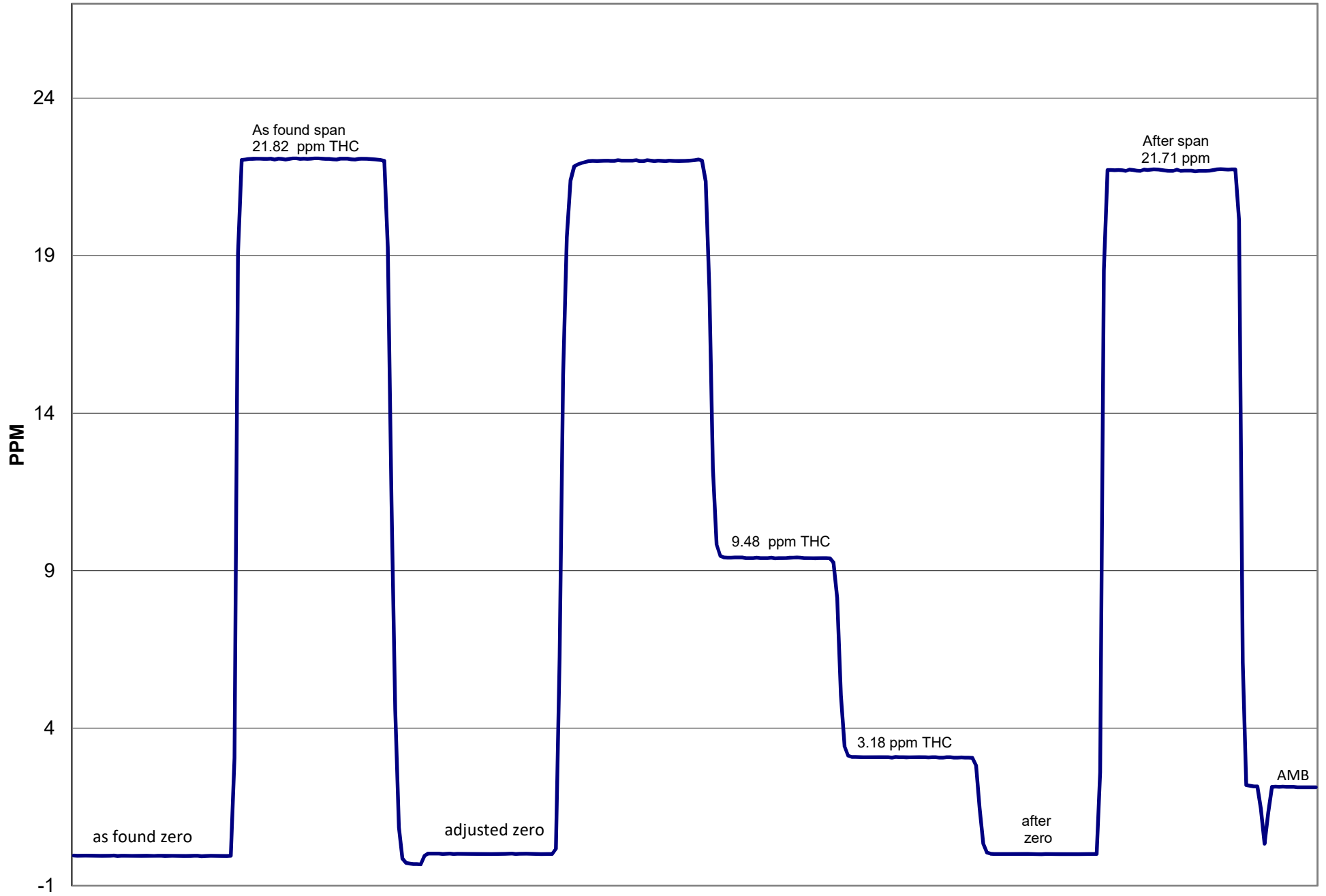
### Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.010	N/A	Correlation Coefficient	0.999922
21.82	22.02	0.9910		
9.48	9.40	1.0078	Slope	0.989191
3.18	3.07	1.0337		
			Intercept	0.085558

## THC Calibration Curve



# THC Calibration



# Calibration Report

Parameter TR5  
 Air Monitoring Network PAZA



### Station Information

Calibration Date	<u>August 17, 2016</u>	Previous Calibration	<u>July 9, 2016</u>
Station Name	<u>PAZA Rover</u>	Station Location	<u>Rycroft</u>
Reason:	<input checked="" type="checkbox"/> Routine	<input type="checkbox"/> Install	<input type="checkbox"/> Removal
			<input type="checkbox"/> Other:
Start Time (MST)	<u>12:05 PM</u>	End Time (MST)	<u>15:05:00 PM</u>
Barometric Pressure	<u>0.925 Atm</u>	Station Temperature	<u>21.0 Deg C</u>
Calibrator	<u>EnviroNics</u>	Serial Number	<u>6586</u>
Cal Gas Concentration	<u>10.2 ppm</u>	Cal Gas Expiry Date	<u>02/23/2019</u>
Gas Cert Reference	<u>EY0000380</u>		
DACS make	<u>CR3000</u>	DACS serial No.	<u>5407</u>
DACS voltage range	<u>0 - 5 Volt</u>	DACS channel #	<u>1</u>
	<u>Before</u>		<u>After</u>
DACS Scale High	<u>100</u>	DACS slope	<u>100</u>
DACS Scale Low	<u>0</u>	DACS intercept	<u>0</u>
Calculated slope	<u>1.006843</u>	Calculated slope	<u>0.992001</u>
Calculated intercept	<u>-0.129934</u>	Calculated intercept	<u>-0.132212</u>
Analyzer make	<u>TEI 43C</u>	Analyzer serial #	<u>609716238</u>

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Background	26.1	ppb	25.4	ppb
Coefficient	0.956		0.934	
Lamp Voltage	794	V	793	V
Chamber Temp	43.7	C	43.8	C
Perm gas Temp	45	C	45	C
Pressure	668.0	mmHg	669.2	mmHg
Sample Flow	0.451	lpm	0.452	lpm
Lamp Intensity	43704	Hz	43245	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	0.2	N/A
4997	39.94	80.9	81.6	0.9909
4997	19.91	40.5	41.1	0.9851
6998	9.97	14.5	14.6	0.9958
4996	9.97		0.5	Sox Test
4995	0.00	0.0	0.2	As found zero
4995	39.93	80.9	82.0	As found span
Average Correction Factor				0.9906

Calculated value of As Found Response: 82.20 ppm      Percent Change of As Found: -1.6%

	before calibration		after calibration	
Auto zero	0.1	ppm	0.4	ppm
Auto span	57.4	ppm	55.8	ppm

Notes: Span adjustment made  
Sox scrubber check performed

# Calibration Summary



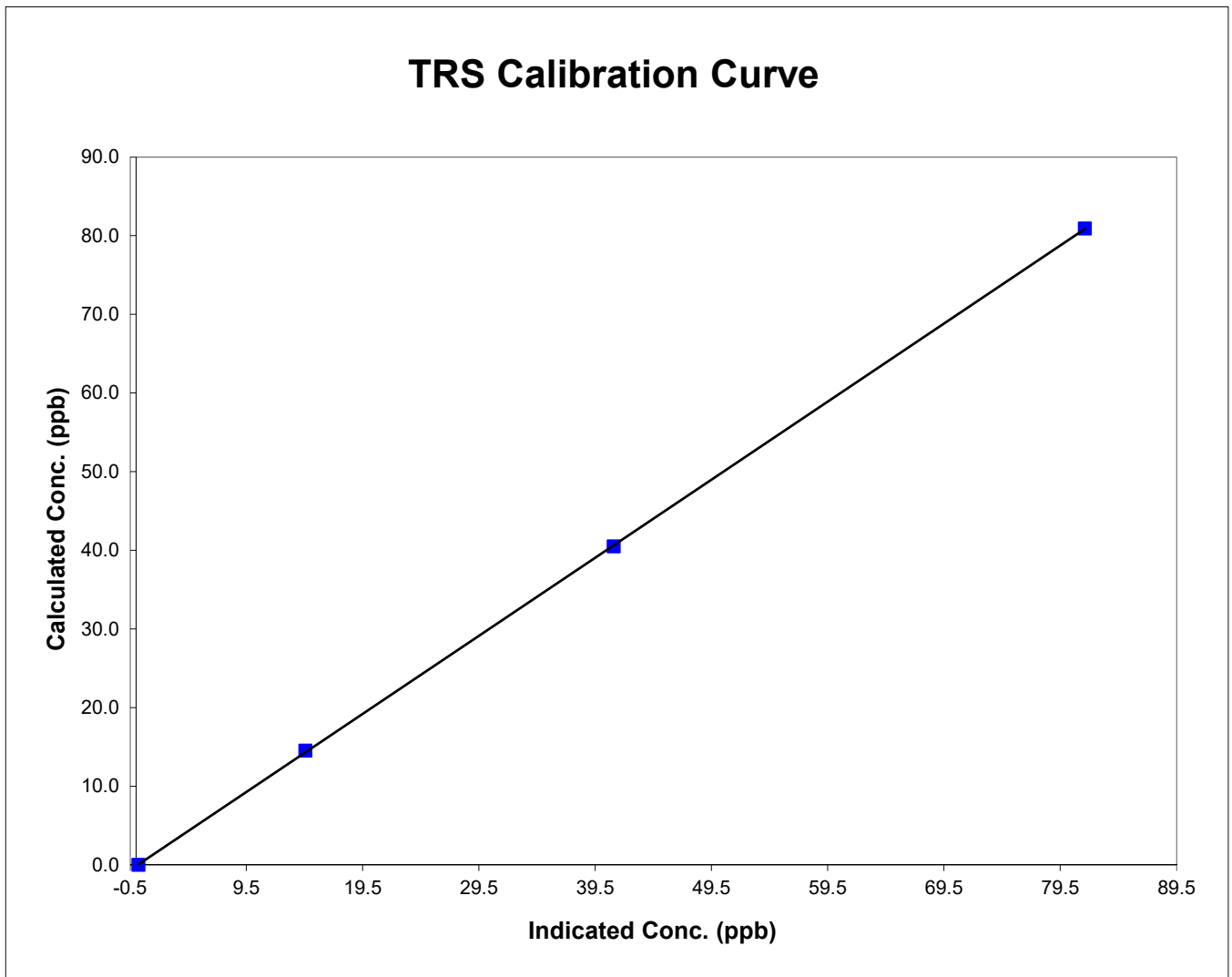
Parameter TRS  
 Air Monitoring Network PAZA

## Station Information

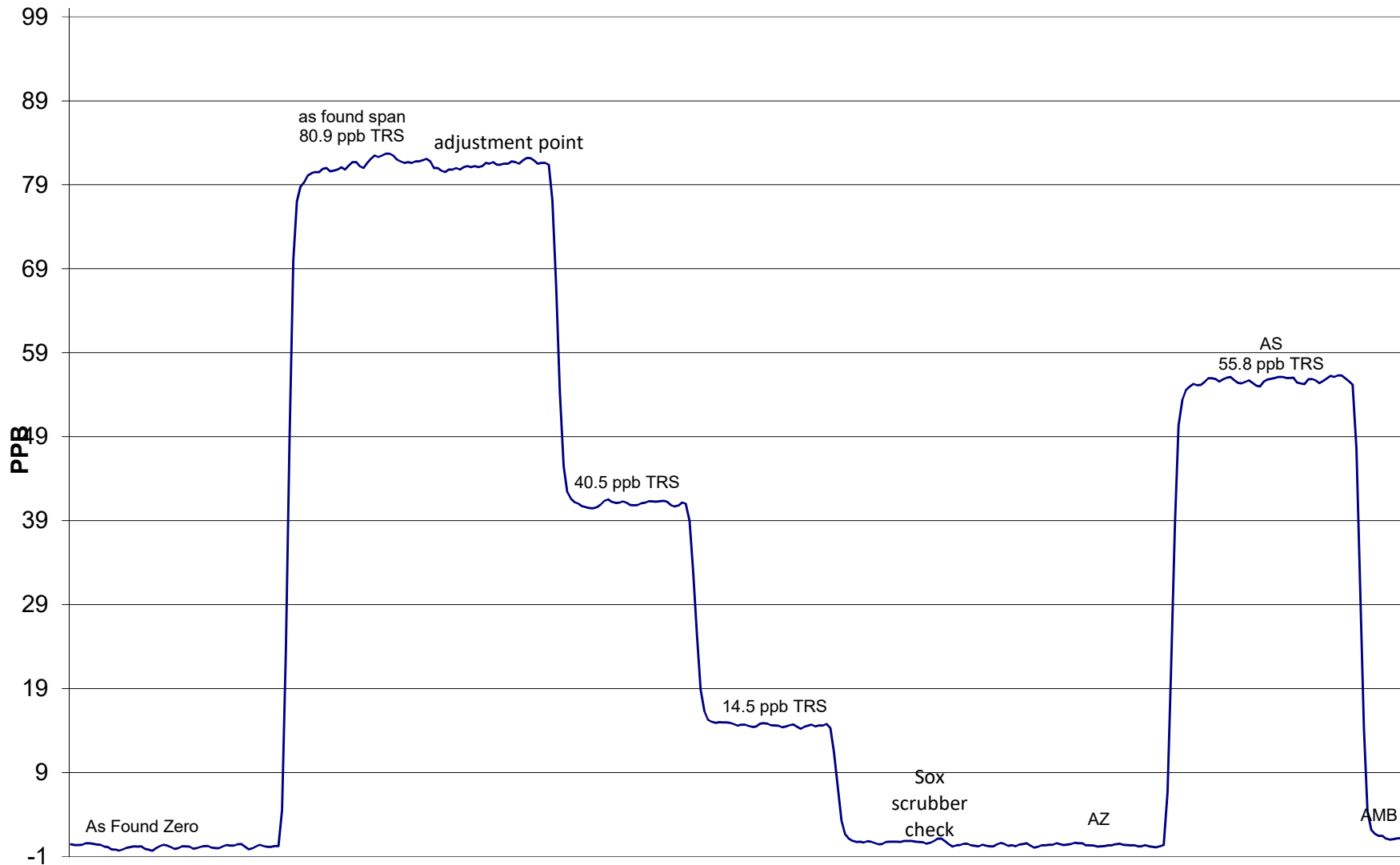
Calibration Date	August 17, 2016	Previous Calibration	July 9, 2016
Station Number	PAZA Rover	Station Location	Rycroft
Start Time (MST)	12:05	End Time (MST)	15:05:00 PM
Analyzer make/model	TEI 43C	Analyzer serial #	609716238

## Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.2	N/A	Correlation Coefficient	0.999983
80.9	81.6	0.9909		
40.5	41.1	0.9851	Slope	0.992001
14.5	14.6	0.9958		
			Intercept	-0.132212



# TRS Calibration



August 17, 2016

# PAZA

## **ALBERTA ENVIRONMENT AND PARKS INCIDENCE REPORT**

### **August 2016**



## Air Monitoring Directive Exceedence Report

### Alberta Environmental Monitoring, Evaluation and Reporting Agency

#### Energy & Environmental Response

111 Twin Atria Building

4999 – 98<sup>th</sup> Avenue

Edmonton, Alberta T6B 2X3

[erc.environment@gov.ab.ca](mailto:erc.environment@gov.ab.ca)

Phone: (780) 422-4505

Fax: (780) 427-1044

<b>Reference Number:</b> 316445		<b>Reported To (AESRD Contact):</b> Vincent	
<b>Date &amp; Time Incident Reported to AESRD:</b>	August 21, 2016 17:08	<b>Reported By:</b>	Grover Christiansen
<b>Reported on Behalf of:</b>	PAZA	<b>Approval Number (if applicable):</b>	N/A
<b>Location(s) of Incident:</b> Beaverlodge Monitoring station (AG Centre)			
<b>Start Date &amp; Time of Incident:</b>	Aug 01, 2016	<b>End Date &amp; Time of Incident:</b>	August 31, 2016
<b>Reason or Nature of Incident:</b>			
PM2.5 Data for the Sharp 5030 was below 90% capture objective for the month of August.			
<b>Immediate Actions Taken:</b>			
Confirmed loss of data, call in exceedence to AEMERA			
<b>Investigation Details:</b>			
CR3000 data logger at the site began to have problems which caused it to create a new file every time it was polled remotely and affected some automatic alarms which would normally be sent out. Sharp sample tape broke Aug 18 <sup>th</sup> at 16:01 mst and was replaced Aug 20 <sup>th</sup> at 13:29 mst.			
<b>Actions Taken to Prevent Reoccurrence (if any):</b>			
Following extensive trouble shooting of polling system & data logger it was determined that the logger OS firmware was faulty. Firmware was upgraded to OS29 which solved the problem.			
<b>Additional Actions Required (if any):</b>			
N/A			
<b>Report Completed By:</b>	Grover Christiansen	<b>Date Report Submitted:</b>	August 21 2016
<b>7-Day Letter Due Date:</b>	August 28 2016		