



# **Peace Airshed Zone Association**

## **Ambient Air Monitoring Network Summary**

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

November 30, 2016

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

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

Enclosed is the PAZA Ambient Monitoring Network Report for the month of October 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 October, 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 October.

**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 October.

**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 October.

**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 October.

**Valleyview Station:**

- ◆ The measured ambient air quality was within the AAAQO for the Valleyview station, with the exception of one 1-hour H<sub>2</sub>S exceedance, recorded on October 19 at 21:00 MST. The concentration recorded was 14 ppb. Refer to the attached non-compliance report for details (AEP reference #317399). A second hourly exceedance was also reported on the same report, however following monthly QA/QC, the hourly average was below the AAAQO.
- ◆ All analyzers and sensors at the Valleyview station had an operational uptime greater than 90% for the month of October.

**Donnelly Station:**

- ◆ 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 October

**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 October.
- ◆ A 55i analyzer was installed on October 13, enabling the monitoring of CH<sub>4</sub> and NMHC, in addition to THC.

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

There were five duplicate sites sampled in the month of October: Gordondale, Bear Lake, Wembley, Deer Mountain 2, 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 0.3 ppb, with a mean of 0.1 ppb.
- Monthly average concentrations for NO<sub>2</sub> passives ranged from 0.4 ppb to 8.1 ppb, with a mean of 1.3 ppb.
- Monthly average concentrations for O<sub>3</sub> passives ranged from 13.8 ppb to 30.1 ppb, with a mean of 22.2 ppb.
- Monthly average concentrations for H<sub>2</sub>S passives ranged from BDL to 0.3 ppb, with a mean of 0.2 ppb.

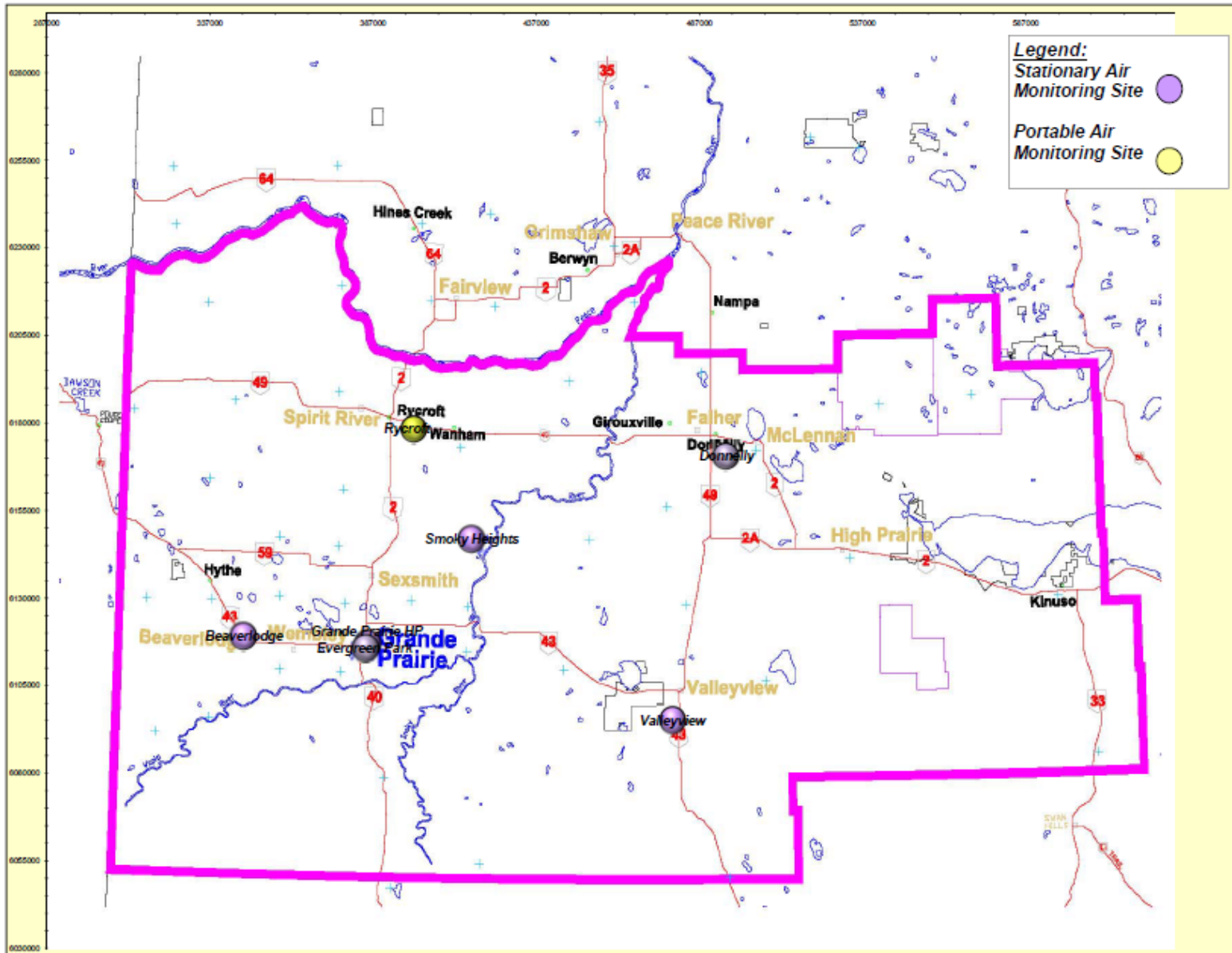
If you have any questions or concerns, please contact Patrick Andersen at 403.505.1041 or the PAZA office at 780.833.4343.

On Behalf of the  
Peace Airshed Zone Association



Patrick Andersen, B.Sc.  
Program Manager

# Location of PAZA Continuous Monitoring Stations



## PAZA Monthly Continuous Data Summary

Oct-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	0.1	0	0	1.9	Oct-03 20:00	0.5	Oct-16	99.7%	Oct-04
SO <sub>2</sub> (ppb)	172	48	Evergreen Park	0.1	0	0	0.8	Oct-16 17:00	0.3	Oct-16	100.0%	Oct-03
SO <sub>2</sub> (ppb)	172	48	Smoky Heights	0.2	0	0	2.5	Oct-18 04:00	0.6	Oct-02	100.0%	Oct-18
SO <sub>2</sub> (ppb)	172	48	Beaverlodge	0.1	0	0	0.7	Oct-18 12:00	0.4	Oct-16	100.0%	Oct-17
SO <sub>2</sub> (ppb)	172	48	Valleyview	0.9	0	0	161.7	Oct-02 03:00	20.8	Oct-02	100.0%	Oct-20
SO <sub>2</sub> (ppb)	172	48	Donnelly	0.1	0	0	1.2	Oct-20 19:00	0.2	Oct-22	100.0%	Oct-19
SO <sub>2</sub> (ppb)	172	48	Rycroft-Portable	0.1	0	0	6.1	Oct-03 11:00	0.6	Oct-30	99.3%	Oct-12
NO (ppb)			Henry Pirker	3.7	-	-	72.5	Oct-11 21:00	17.4	Oct-19	99.9%	Oct-04
NO <sub>2</sub> (ppb)	159	106	Henry Pirker	6.3	0	0	31.2	Oct-11 21:00	16.6	Oct-20	99.9%	Oct-04
NO <sub>x</sub> (ppb)			Henry Pirker	10.4	-	-	104.4	Oct-11 21:00	33.2	Oct-20	99.9%	Oct-04
NO (ppb)			Beaverlodge	0.6	-	-	14.4	Oct-20 14:00	3.1	Oct-20	100.0%	Oct-17
NO <sub>2</sub> (ppb)	159	106	Beaverlodge	3.1	0	0	18.5	Oct-18 19:00	8.4	Oct-20	100.0%	Oct-17
NO <sub>x</sub> (ppb)			Beaverlodge	3.7	-	-	28.1	Oct-20 14:00	11.5	Oct-20	100.0%	Oct-17
NO (ppb)			Rycroft-Portable	0.3	-	-	5.0	Oct-19 12:00	1.0	Oct-19	99.3%	Oct-12
NO <sub>2</sub> (ppb)	159	106	Rycroft-Portable	1.5	0	0	12.1	Oct-20 02:00	3.9	Oct-20	99.3%	Oct-12
NO <sub>x</sub> (ppb)			Rycroft-Portable	1.7	-	-	13.4	Oct-20 02:00	4.8	Oct-19	99.3%	Oct-12
O <sub>3</sub> (ppb)	82		Henry Pirker	12.7	0	-	35.8	Oct-22 15:00	20.9	Oct-07	99.9%	Oct-04
O <sub>3</sub> (ppb) - 8-hr			Henry Pirker		0				30.4	Oct-22		-
O <sub>3</sub> (ppb)	82		Beaverlodge	16.2	0	-	36.7	Oct-22 14:00	29.1	Oct-21	100.0%	Oct-17
O <sub>3</sub> (ppb) - 8-hr			Beaverlodge		0				34.3	Oct-22		-
O <sub>3</sub> (ppb)	82		Rycroft-Portable	17.3	0	-	37.1	Oct-21 16:00	27.5	Oct-21	99.3%	Oct-12
O <sub>3</sub> (ppb) - 8-hr			Rycroft-Portable		0				34.1	Oct-21		-
CO (ppm)	13		Henry Pirker	0.19	0	-	1.1	Oct-11 21:00	0.4	Oct-20	99.9%	Oct-04
CO (ppm) - 8-hr		5	Henry Pirker		0				0.4	Sep-23		-



## PAZA Monthly Continuous Data Summary – continued

Oct-2016		Peace Airshed Zone Association					Maximum Recorded Values						
							1-hr		24-hr / 8-hr				
THC (ppm)			Henry Pirker	2.0	-	-	3.0	Oct-11 20:00	2.3	Oct-20	99.7%	Oct-11	
CH <sub>4</sub> (ppm)			Henry Pirker	2.0	-	-	3.0	Oct-11 20:00	2.3	Oct-20	99.7%	Oct-11	
NMHC (ppm)			Henry Pirker	0.0	-	-	0.0	Oct-04 07:00	0.0	Oct-04	99.7%	Oct-11	
THC (ppm)			Rycroft-Portable	1.9	-	-	2.2	Oct-19 15:00	2.1	Oct-19	97.9%	Oct-14	
CH <sub>4</sub> (ppm)			Rycroft-Portable	2.0	-	-	2.2	Oct-19 15:00	2.0	Oct-19	99.3%	Oct-14	
NMHC (ppm)			Rycroft-Portable	0.0	-	-	0.0	Oct-21 17:00	0.0	Oct-21	99.3%	Oct-14	
TRS (ppb)			Henry Pirker	0.3	-	-	1.1	Oct-20 11:00	0.6	Oct-20	99.9%	Oct-04	
TRS (ppb)			Evergreen Park	0.3	-	-	1.6	Oct-29 16:00	0.5	Oct-19	100.0%	Oct-03	
TRS (ppb)			Smoky Heights	0.1	-	-	0.7	Oct-16 09:00	0.3	Oct-19	100.0%	Oct-18	
TRS (ppb)			Rycroft-Portable	0.3	-	-	0.8	Oct-02 14:00	0.5	Oct-26	99.3%	Oct-12	
H <sub>2</sub> S (ppb)	10	3	Valleyview	0.2	1	0	14.4	Oct-19 21:00	1.4	Oct-19	100.0%	Oct-20	
H <sub>2</sub> S (ppb)	10	3	Donnelly	0.1	0	0	3.1	Oct-28 09:00	0.3	Oct-01	100.0%	Oct-19	
PM <sub>2.5</sub> (µg/m <sup>3</sup> )	80	30	Henry Pirker	4.9	0	0	40.9	Oct-23 09:00	11.5	Oct-20	99.9%	Sep-07	
PM <sub>2.5</sub> (µg/m <sup>3</sup> )	80	30	Evergreen Park	3.0	0	0	38.1	Oct-03 12:00	8.6	Oct-03	99.2%	Sep-06	
PM <sub>2.5</sub> (µg/m <sup>3</sup> )	80	30	Smoky Heights	4.0	0	0	58.8	Oct-18 20:00	8.4	Oct-18	100.0%	Sep-09	
PM <sub>2.5</sub> (µg/m <sup>3</sup> )	80	30	Beaverlodge	4.2	0	0	15.0	Oct-20 12:00	8.7	Oct-20	99.7%	Sep-13	
PM <sub>2.5</sub> (µg/m <sup>3</sup> )	80	30	Rycroft-Portable	1.5	0	0	2.4	Oct-23 11:00	4.1	Oct-23	96.0%	Mar-03	
RH (%)			Henry Pirker	79.3	-	-	89.4	Oct-27 11:00	88.3	Oct-27	99.9%	-	
RH (%)			Evergreen Park	89.3	-	-	100.0	Oct-27 03:00	99.7	Oct-29	100.0%	-	
RH (%)			Beaverlodge	89.1	-	-	100.0	Oct-01 03:00	100.0	Oct-27	99.7%	-	
RH (%)			Valleyview	81.9	-	-	100.0	Oct-28 00:00	100.0	Oct-28	99.2%	-	
SR (W/m <sup>2</sup> )			Henry Pirker	45.5	-	-	445.9	Oct-03 13:00	123.6	Oct-03	99.9%	-	
Temp (°C)			Henry Pirker	0.5	-	-	13.1	Oct-03 15:00	5.6	Oct-03	99.9%	-	
Temp (°C)			Evergreen Park	0.3	-	-	12.6	Oct-03 16:00	4.3	Oct-21	100.0%	-	
Temp (°C)			Smoky Heights	0.0	-	-	11.7	Oct-03 16:00	4.1	Oct-03	100.0%	-	
Temp (°C)			Beaverlodge	0.2	-	-	12.1	Oct-03 15:00	4.9	Oct-03	99.7%	-	
Temp (°C)			Valleyview	1.7	-	-	12.8	Oct-03 16:00	6.1	Oct-21	99.2%	-	
Temp (°C)			Donnelly	0.5	-	-	10.1	Oct-03 16:00	4.8	Oct-21	100.0%	-	
Temp (°C)			Rycroft-Portable	-0.1	-	-	11.2	Oct-03 14:00	4.6	Oct-21	98.3%	-	

## PAZA Monthly Continuous Data Summary – continued

Oct-2016		Peace Airshed Zone Association					Maximum Recorded Values					
							1-hr		24-hr / 8-hr			
WSPD s (km/hr)		Henry Pirker	5.6	-	-	17.0	Oct-22 15:00	10.6	Oct-07	100.0%	-	
WSPD s (km/hr)		Evergreen Park	6.7	-	-	24.0	oct 21 0600	13.1	Oct-01	100.0%	-	
WSPD s (km/hr)		Smoky Heights	8.5	-	-	22.0	Oct-07 13:00	14.5	Oct-04	100.0%	-	
WSPD s (km/hr)		Beaverlodge	8.3	-	-	30.0	Oct-07 10:00	21.6	Oct-07	99.5%	-	
WSPD s (km/hr)		Valleyview	3.1	-	-	13.0	Oct-22 15:00	7.2	Oct-04	98.3%	-	
WSPD s (km/hr)		Donnelly	8.1	-	-	23.0	Oct-22 16:00	13.4	Oct-02	99.3%	-	
WSPD s (km/hr)		Rycroft-Portable	8.7	-	-	26.0	Oct-07 14:00	16.8	Oct-07	98.3%	-	
WSPD v (km/hr)		Henry Pirker	1.9	-	-	17.0	Oct-22 15:00	10.3	Oct-07	100.0%	-	
WSPD v (km/hr)		Evergreen Park	2.2	-	-	24.0	Oct-21 06:00	12.3	Oct-01	100.0%	-	
WSPD v (km/hr)		Smoky Heights	4.1	-	-	22.0	Oct-07 13:00	14.3	Oct-04	100.0%	-	
WSPD v (km/hr)		Beaverlodge	3.7	-	-	29.0	Oct-07 10:00	21.3	Oct-07	99.5%	-	
WSPD v (km/hr)		Valleyview	0.9	-	-	12.0	Oct-22 16:00	7.0	Oct-04	98.3%	-	
WSPD v (km/hr)		Donnelly	1.9	-	-	23.0	Oct-22 16:00	12.3	Oct-02	99.3%	-	
WSPD v (km/hr)		Rycroft-Portable	3.1	-	-	26.0	Oct-07 14:00	16.6	Oct-07	98.3%	-	
WDIR		Henry Pirker	N	-	-	-	-	-	-	100.0%	-	
WDIR		Evergreen Park	NNE	-	-	-	-	-	-	100.0%	-	
WDIR		Smoky Heights	NNW	-	-	-	-	-	-	100.0%	-	
WDIR		Beaverlodge	NE	-	-	-	-	-	-	99.5%	-	
WDIR		Valleyview	NNE	-	-	-	-	-	-	98.3%	-	
WDIR		Donnelly	E	-	-	-	-	-	-	99.3%	-	
WDIR		Rycroft-Portable	NNE	-	-	-	-	-	-	98.3%	-	

# Continuous Network Equipment Summary

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## PAZA – Henry Pirker Station

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### General Station Issues:

Power disruption at the station on Oct 31.

Parameter	Make	Model	Notes
SO <sub>2</sub>	TEI	43i	Instrument malfunctioning and a power failure resulted in an uptime of 99.7%.
NOx/NO/NO <sub>2</sub>	TEI	42i	A power failure resulted in an uptime of 99.9%.
O <sub>3</sub>	TEI	49i	A power failure resulted in an uptime of 99.9%.
CO	TEI	48C	A power failure resulted in an uptime of 99.9%.
THC/CH <sub>4</sub> /NMHC	TEI	55I	Instrument malfunctioning and a power failure resulted in an uptime of 99.7%.
TRS	TEI	45C/43C	A power failure resulted in an uptime of 99.9%.
PM <sub>2.5</sub>	Sharp	5030	A power failure resulted in an uptime of 99.9%.
RH	Met One	083D	A power failure resulted in an uptime of 99.9%.
ET	Met One	083D	A power failure resulted in an uptime of 99.9%.
SR	Met One	096-1	A power failure resulted in an uptime of 99.9%.
WS / WD	Met One	010C/020C	No operational issues observed.

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**PAZA – Evergreen Park Station**

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**General Station Issues**

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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.
TRS	TEI	43C	No operational issues observed.
PM <sub>2.5</sub>	Sharp	5030	Maintenance and instrument malfunctioning resulted in an uptime of 99.2%.
ET	Met One/Gill	083D	No operational issues observed.
RH	Met One/Gill		No operational issues observed.
WS / WD	Met One/ Gill		No operational issues observed.

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**PAZA – Smoky Heights Station**

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**General Station Issues**

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<b>Parameter</b>	<b>Make</b>	<b>Model</b>	<b>Notes</b>
SO <sub>2</sub>	TEI	43C	No operational issues observed.
TRS	TEI	43i	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	No operational issues observed.

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**PAZA – Beaverlodge Station**

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**General Station Issues**

Data logger issues.

<b>Parameter</b>	<b>Make</b>	<b>Model</b>	<b>Notes</b>
SO <sub>2</sub>	TEI	43CTL	No operational issues observed.
NO <sub>x</sub> /NO/NO <sub>2</sub>	TEI	42C	No operational issues observed.
O <sub>3</sub>	TEI	49C	No operational issues observed.
PM <sub>2.5</sub>	Sharp	5030	Instrument malfunctioning resulted in an uptime of 99.7%
ET	n/a	n/a	Instrument malfunctioning resulted in an uptime of 99.7%
RH	n/a	n/a	Instrument malfunctioning resulted in an uptime of 99.7%
WS / WD	Blue Sky	857	Instrument malfunctioning resulted in an uptime of 99.5%

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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	Instrument malfunctioning resulted in an uptime of 99.2%
RH	Gill	Met Pak 3	Instrument malfunctioning resulted in an uptime of 99.2%
WS / WD	Gill	Met Pak 3	Instrument malfunctioning resulted in an uptime of 98.3%

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**PAZA – Donnelly Station**

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**General Station Issues**

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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	Instrument malfunctioning resulted in an uptime of 99.3%

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**PAZA – Portable-Rycroft**

**General Station Issues**

Parameter	Make	Model	Notes
SO <sub>2</sub>	TEI	43i	Data logger malfunctioning resulted in an uptime of 99.3%.
NO <sub>x</sub>	TEI	42i	Data logger malfunctioning resulted in an uptime of 99.3%.
O <sub>3</sub>	TEI	49i	Data logger malfunctioning resulted in an uptime of 99.3%.
TRS	TEI	39C	Data logger malfunctioning resulted in an uptime of 99.3%.
THC/CH <sub>4</sub> /NMHC	TEI	55i	-55i analyzer was installed on October 13, CH <sub>4</sub> and NMHC parameters are now monitored. -Data logger malfunctioning and span system maintenance resulted in an uptime of 97.9% for THC. -CH <sub>4</sub> /NMHC began reporting October 13. Span system maintenance resulted in an uptime of 99.3%.
PM <sub>2.5</sub>	Sharp	5030	Data logger malfunctioning, analyzer maintenance and intermittent instrument malfunctioning resulted in an uptime of 96.0%
ET	Gill	Met Pak 3	Data logger malfunctioning resulted in an uptime of 98.3%.
WS / WD	Gill	Met Pak 3	Data logger malfunctioning resulted in an uptime of 98.3%.

PAZA

Henry Pirker Station

Monthly Summary Tables, Graphs and  
Roses

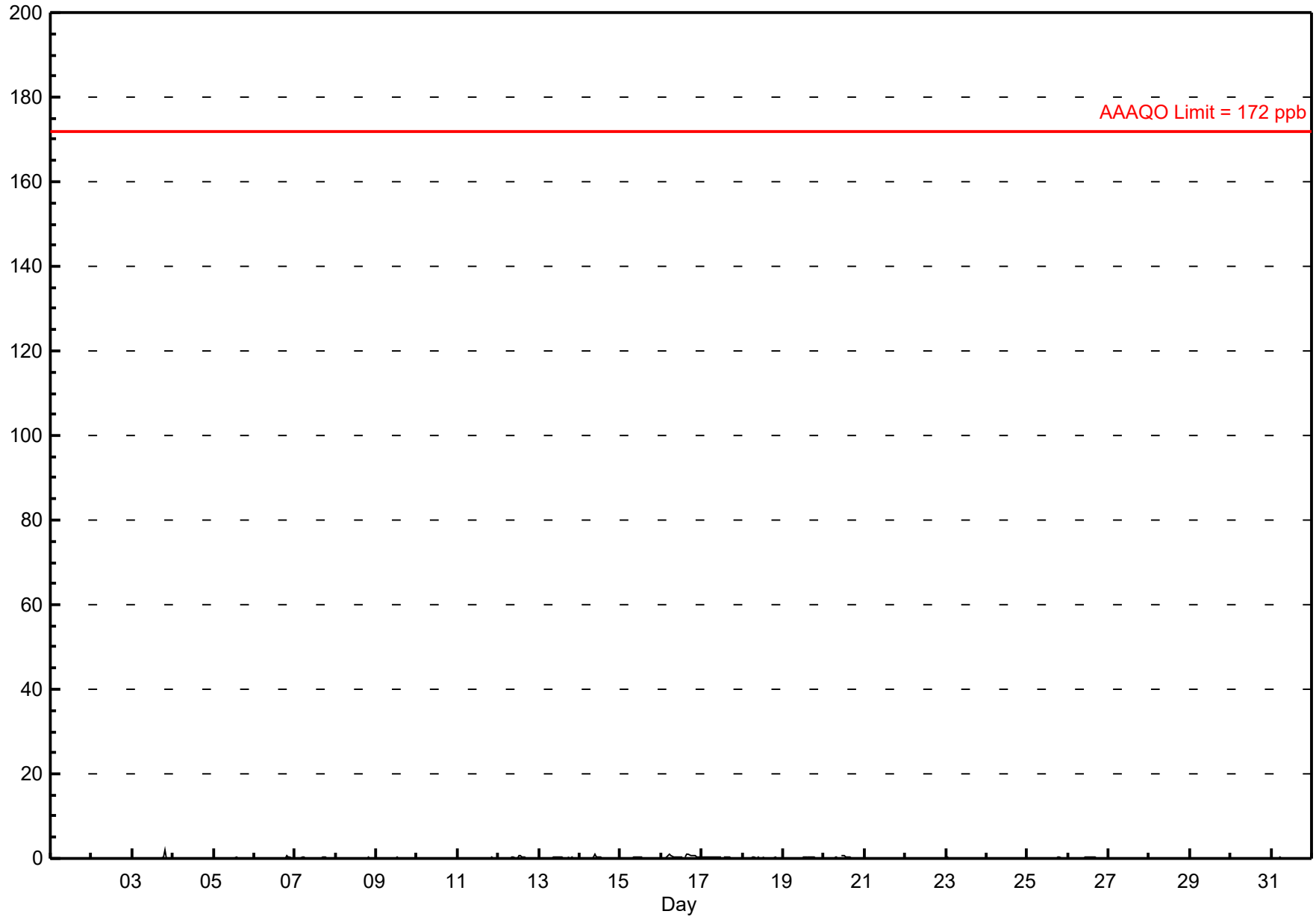
## Hourly Averages

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

Henry Pirker - October 2016

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 1.9 ppb on Oct 3 20:00      Maximum Daily Average: 0.5 ppb on Oct 16		Hours in Service: 744 Hours of Data: 706 Hours of Missing Data: 38 Hours of Calibration: 36 Percent Operational Time: 99.7																								
Minimum Value: 0 ppb on Oct 1 01:00 Maximum Diurnal Average: 0.2 ppb at hour 20 Monthly Average: 0.08 ppb		Minimum Daily Average: 0.0 ppb on Oct 10 Minimum Diurnal Average: 0.0 ppb at hour 2 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> = 0.2 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-Oct	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
2-Oct	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
3-Oct	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0.1	1.9	
4-Oct	0	0	A	0	0	0	0	0	C	C	C	0	0	N	0	0	0	0	0	0	0	0	0	0.0	0.0	
5-Oct	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.2	
6-Oct	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0.1	0.5	
7-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.1	0.4	
8-Oct	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	
9-Oct	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	
10-Oct	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	
11-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.0	0.4	
12-Oct	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	A	0	0	0	0	0	0	0.2	0.7	
13-Oct	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	A	0	0	0	0	0	0	0	0.2	0.5	
14-Oct	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	A	0	0	0	0	0	0	0	0.1	0.9	
15-Oct	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	
16-Oct	0	0	0	0	1	1	1	0	0	0	0	0	0	A	0	1	1	1	1	1	1	0	0	0.5	1.0	
17-Oct	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	
18-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2	
19-Oct	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3	
20-Oct	0	0	0	0	0	0	0	0	0	A	1	1	1	0	0	0	0	0	0	0	0	0	0	0.2	0.6	
21-Oct	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	0.2	
22-Oct	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.2	
23-Oct	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	
24-Oct	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1	
25-Oct	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0.0	0.5	
26-Oct	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3	
27-Oct	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	
28-Oct	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	
29-Oct	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	
30-Oct	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	
31-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	P	0	0	0	0	0	A	0	0.0	0.2	
																								Diurnal Average	Diurnal Maximum	
																								0.0	0.3	
																								0.0	0.2	
																								0.0	0.3	
																								0.0	0.3	
																								0.0	0.7	
																								0.1	0.9	
																								0.1	0.6	
																								0.1	0.4	
																								0.1	0.3	
																								0.1	0.9	
																								0.1	0.6	
																								0.1	0.6	
																								0.1	0.6	
																								0.1	0.7	
																								0.1	0.4	
																								0.1	0.9	
																								0.1	1.0	
																								0.1	0.7	
																								0.1	0.5	
																								0.2	1.9	
																								0.1	0.6	
																								0.0	0.4	
																								0.0	0.3	
																								0.0	0.3	

C - Calibration      P - Power Failure      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 Maximums

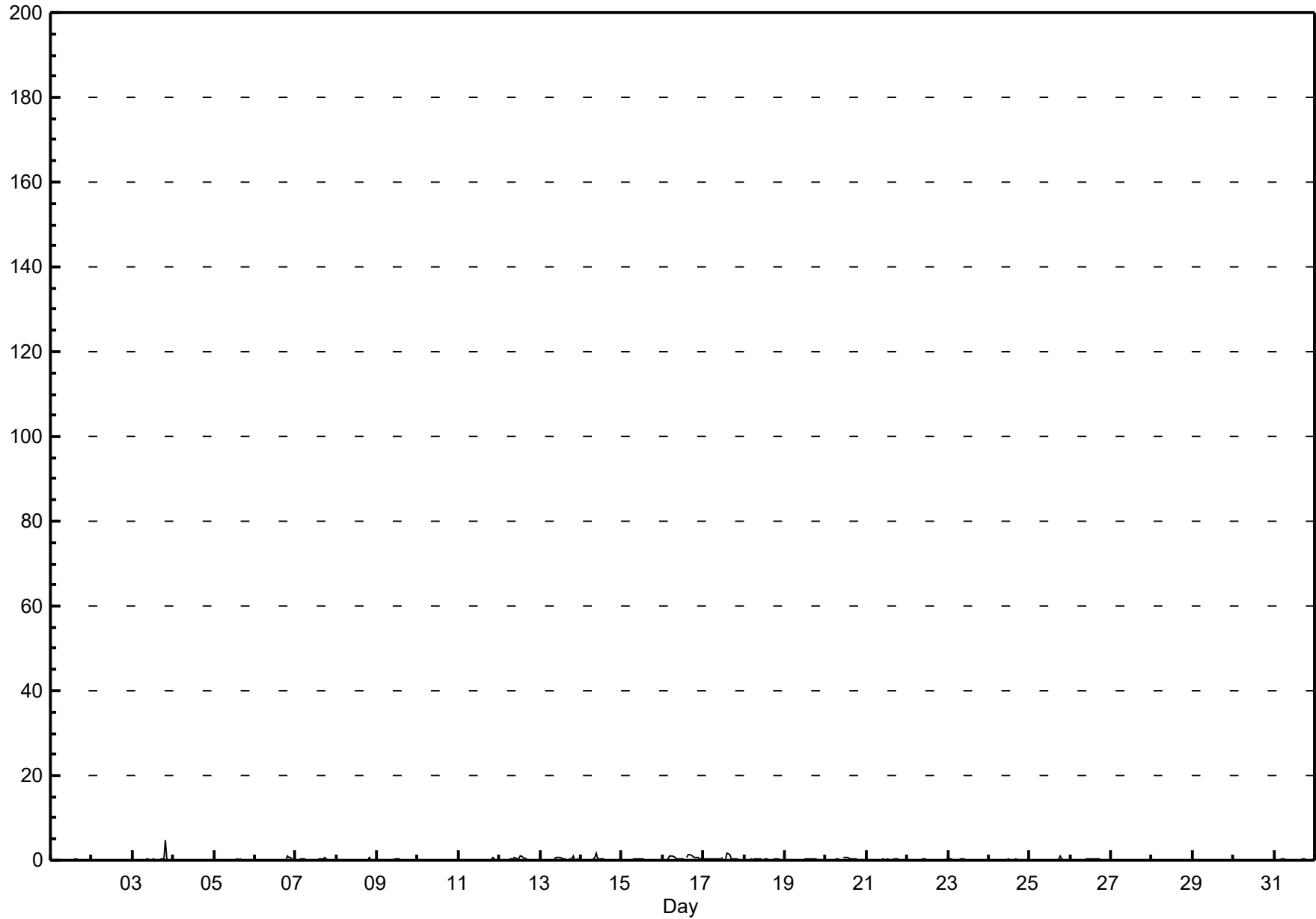
Sulphur Dioxide (SO<sub>2</sub>) - ppb

Henry Pirker - October 2016

Maximum Value: 4.7 ppb on Oct 3 20:00		Maximum Daily Average: 0.6 ppb on Oct 16		Hours in Service: 744																						
Minimum Value: 0 ppb on Oct 29 04:00		Minimum Daily Average: 0.0 ppb on Oct 4		Hours of Data: 706																						
Maximum Diurnal Average: 0.4 ppb at hour 20		Minimum Diurnal Average: 0.1 ppb at hour 2		Hours of Missing Data: 38																						
Monthly Average: 0.16 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> = 0.4 P <sub>99</sub> = 1.1		Hours of Calibration: 36																						
				Percent Operational Time: 99.7																						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Oct	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
2-Oct	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.2
3-Oct	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0.4	4.7
4-Oct	0	0	A	0	0	0	0	0	C	C	C	0	0	N	0	0	0	0	0	0	0	0	0	0	0.0	0.0
5-Oct	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
6-Oct	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	A	0.1	0.9
7-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	A	0	0.2	0.6
8-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	A	0	0	0.1	0.7
9-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.1	0.4
10-Oct	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
11-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	1	0	0	0	0.1	0.5
12-Oct	0	0	0	0	0	0	0	0	0	1	0	0	1	1	1	0	0	A	0	0	0	0	0	0	0.3	1.2
13-Oct	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	A	0	0	1	0	0	0	0	0.3	0.9
14-Oct	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.3	1.6
15-Oct	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
16-Oct	0	0	0	0	1	1	1	1	0	0	0	1	0	A	1	1	1	1	1	1	1	1	0	0	0.6	1.4
17-Oct	0	0	0	0	0	0	0	0	0	0	0	1	A	0	2	1	0	0	0	0	0	0	0	0	0.4	1.7
18-Oct	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3
19-Oct	0	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
20-Oct	0	0	0	0	0	0	0	0	0	A	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0.3	0.7
21-Oct	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
22-Oct	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
23-Oct	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
24-Oct	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
25-Oct	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0.1	1.1
26-Oct	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4
27-Oct	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.2
28-Oct	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
29-Oct	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
30-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.0	0.2
31-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	P	0	0	0	0	0	0	A	0	0.1	0.4
		0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.4	0.2	0.1	0.1	0.1	Diurnal Average
		0.3	0.4	0.3	0.4	0.9	1.0	1.0	0.6	0.6	1.6	0.7	0.7	0.9	1.2	1.7	1.4	1.3	0.9	1.1	4.7	0.7	0.7	0.4	0.4	Diurnal Maximum
C - Calibration		P - Power Failure					N - Not Valid					A - Automated Daily Zero Span														

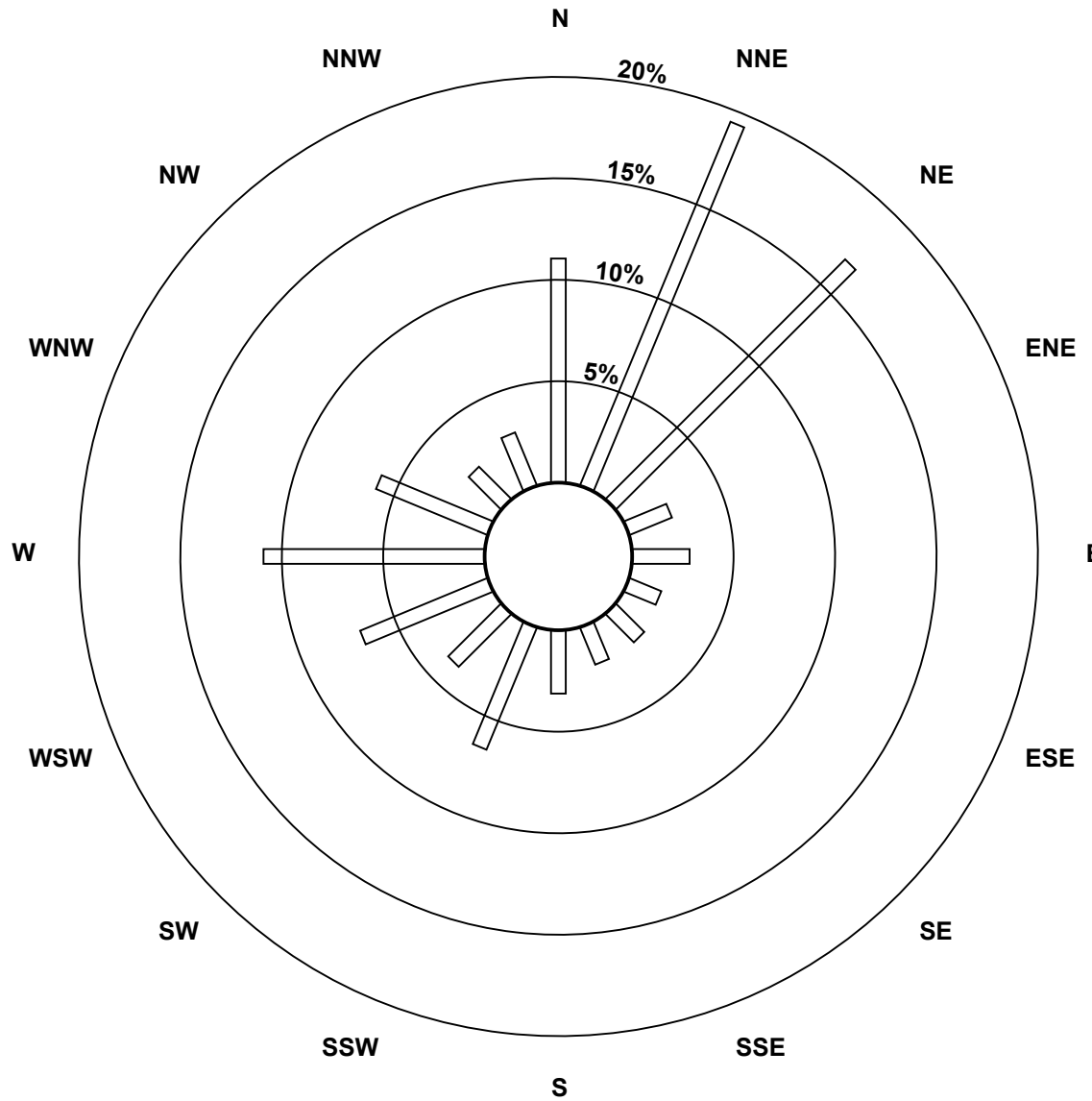
### Hourly Maximums

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

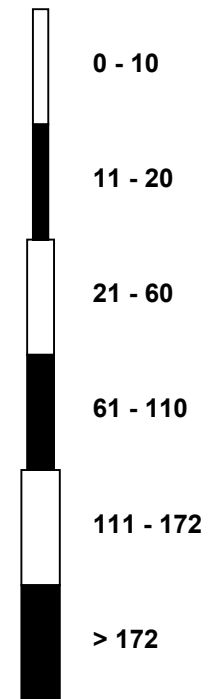


**Pollutant Rose**

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

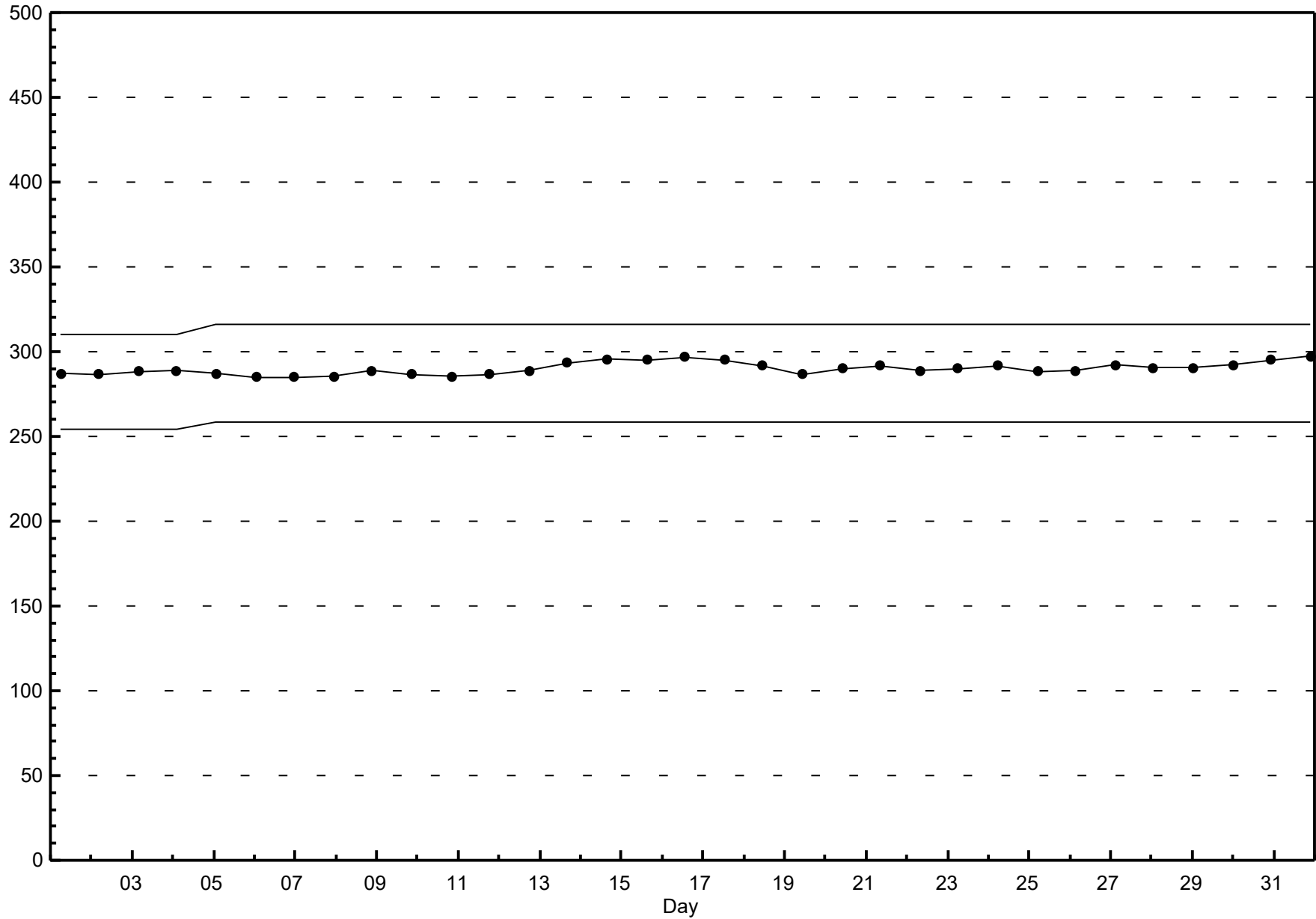


**Pollutant Classes (ppb)**



### Span Responses

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



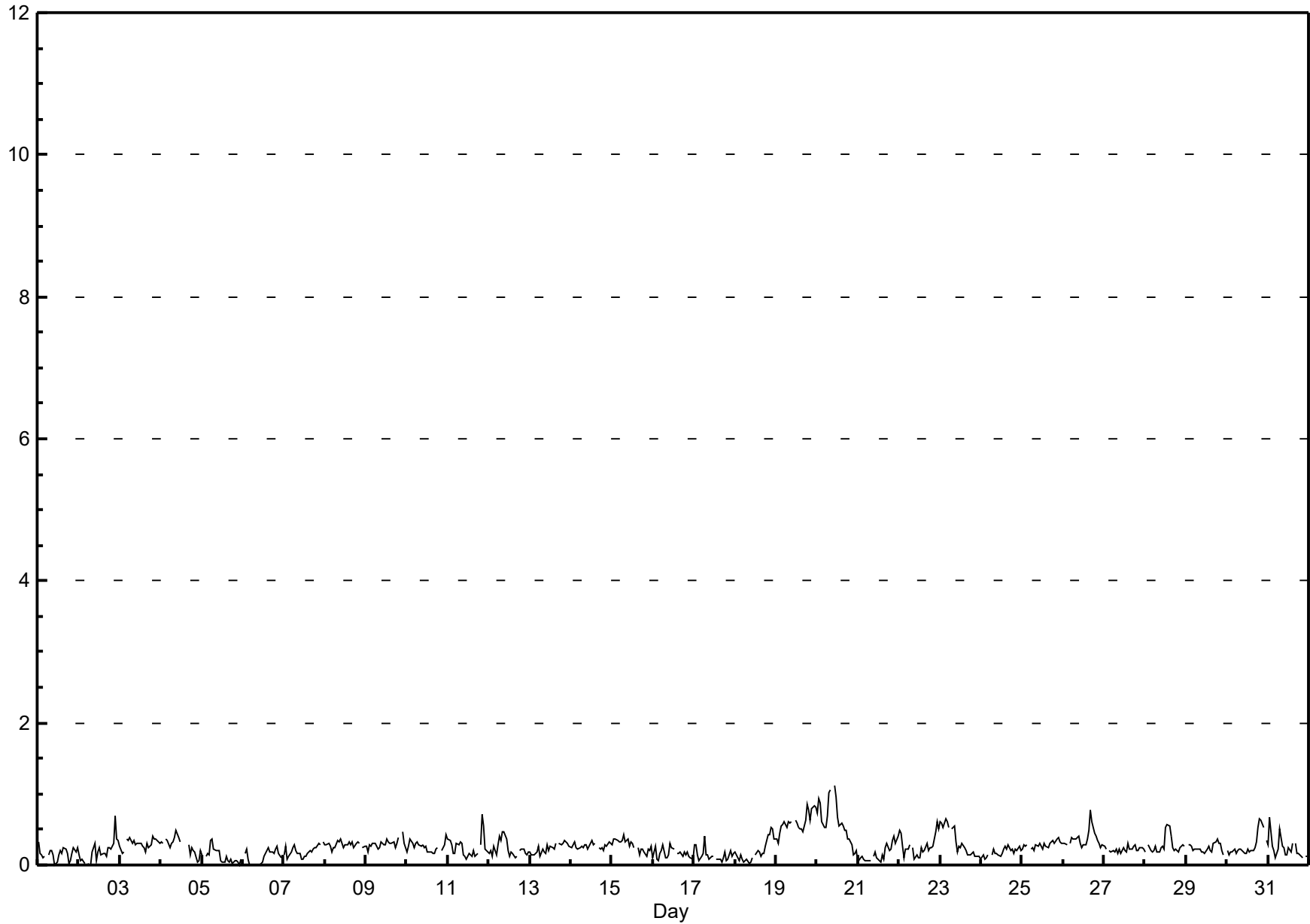


## Hourly Averages

Total Reduced Sulphur (TRS) - ppb

Henry Pirker - October 2016

Maximum Value: 1.1 ppb on Oct 20 11:00		Maximum Daily Average: 0.6 ppb on Oct 20		Hours in Service: 744																							
Minimum Value: 0 ppb on Oct 1 11:00		Minimum Daily Average: 0.1 ppb on Oct 6		Hours of Data: 706																							
Maximum Diurnal Average: 0.3 ppb at hour 22		Minimum Diurnal Average: 0.2 ppb at hour 4		Hours of Missing Data: 38																							
Monthly Average: 0.26 ppb		Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.1 Q <sub>1</sub> = 0.2 Median = 0.2 Q <sub>3</sub> = 0.3 P <sub>90</sub> = 0.4 P <sub>99</sub> = 0.8		Hours of Calibration: 37																							
				Percent Operational Time: 99.9																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Oct	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3	
2-Oct	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0.2	0.7
3-Oct	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.4	
4-Oct	0	0	A	0	0	0	0	0	0	0	0	C	C	C	C	0	0	0	0	0	0	0	0	0	0.3	0.5	
5-Oct	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.4	
6-Oct	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3	
7-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.2	0.3	
8-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.3	0.4	
9-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.3	0.5	
10-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.3	0.4	
11-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	1	1	0	0	0.2	0.7	
12-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0.2	0.5	
13-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0.2	0.3	
14-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.3	0.3	
15-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.3	0.4	
16-Oct	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	
17-Oct	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	
18-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0.2	0.5	
19-Oct	0	0	0	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	0.6	0.8	
20-Oct	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0.6	1.1	
21-Oct	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4	
22-Oct	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.3	0.6	
23-Oct	1	1	1	1	1	1	A	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.6	
24-Oct	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3	
25-Oct	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.4	
26-Oct	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0.4	0.8	
27-Oct	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3	
28-Oct	0	A	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0.3	0.6	
29-Oct	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	
30-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	A	0	0.3	0.6	
31-Oct	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	P	0	0	0	0	0	0	A	0	0.2	0.7	
	0.3	0.3	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	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	Diurnal Average	
	0.7	0.9	0.9	0.6	0.6	0.6	0.7	1.0	1.1	0.6	1.1	0.9	0.7	0.6	0.6	0.6	0.8	0.6	0.8	0.8	0.7	0.8	0.8	0.8	Diurnal Maximum		
C - Calibration		P - Power Failure					A - Automated Daily Zero Span																				

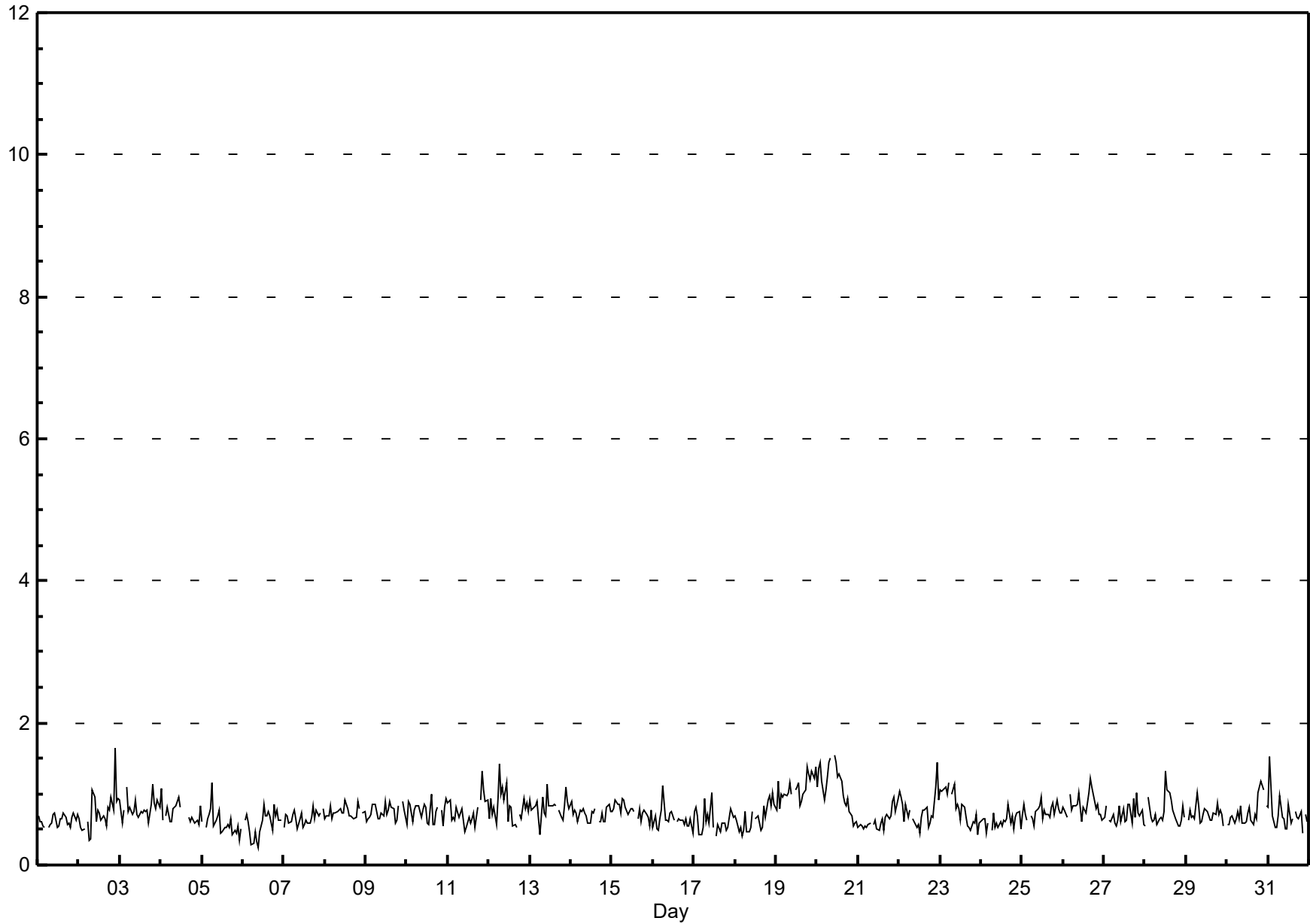


## Hourly Maximums

Total Reduced Sulphur (TRS) - ppb

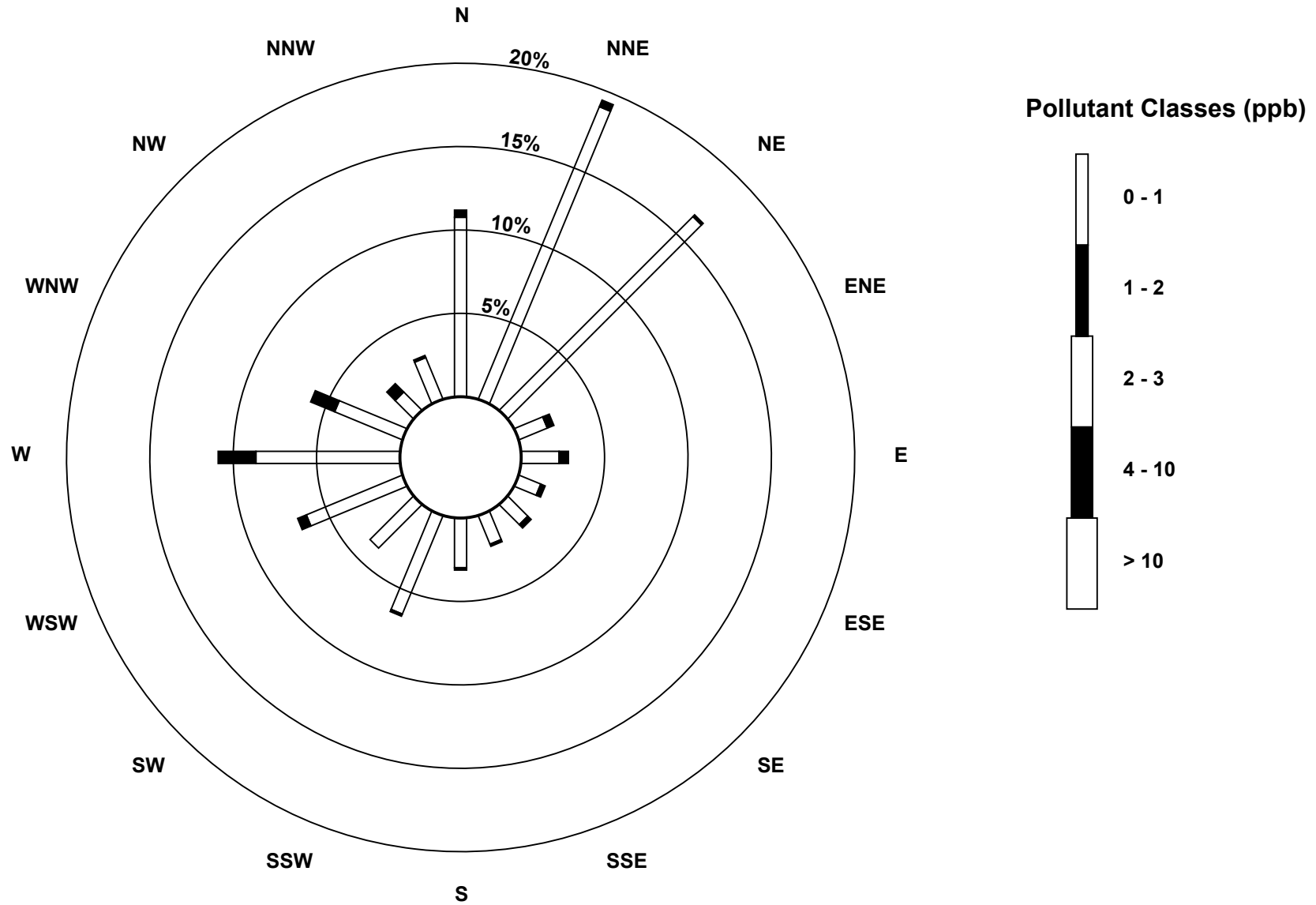
Henry Pirker - October 2016

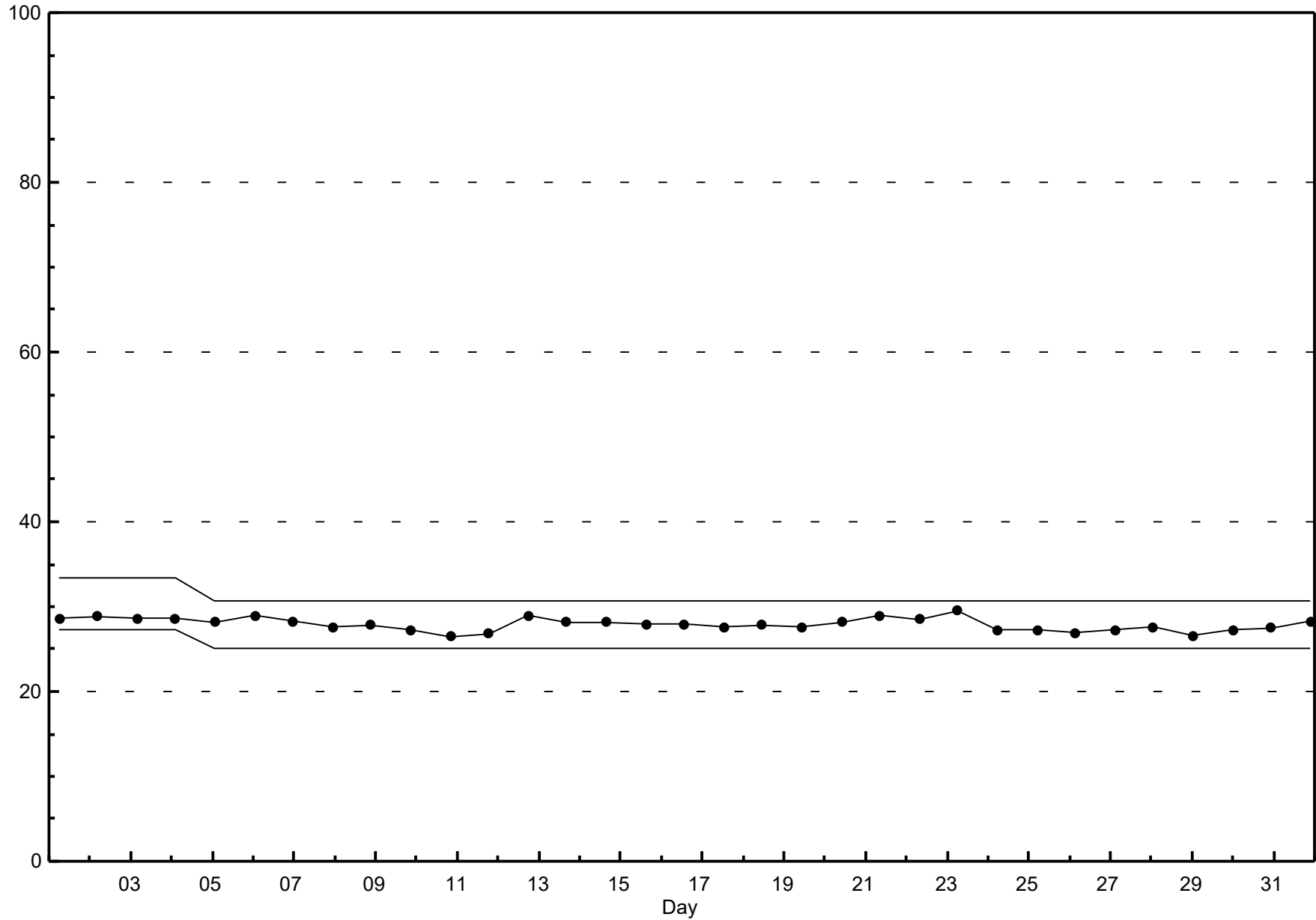
Maximum Value: 1.6 ppb on Oct 2 22:00		Maximum Daily Average: 1.1 ppb on Oct 19		Hours in Service: 744																						
Minimum Value: 0 ppb on Oct 6 10:00		Minimum Daily Average: 0.6 ppb on Oct 6		Hours of Data: 706																						
Maximum Diurnal Average: 0.8 ppb at hour 22		Minimum Diurnal Average: 0.7 ppb at hour 4		Hours of Missing Data: 38																						
Monthly Average: 0.74 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> = 0.8 P <sub>90</sub> = 1.0 P <sub>99</sub> = 1.4		Hours of Calibration: 37																						
				Percent Operational Time: 99.9																						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Oct	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.6	0.7
2-Oct	1	1	0	1	A	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	0.7	1.6
3-Oct	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.1
4-Oct	1	1	A	1	1	1	1	1	1	1	1	C	C	C	C	1	1	1	1	1	1	1	1	1	0.7	1.1
5-Oct	1	A	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	0	0	0	1	0	1	0.6	1.1
6-Oct	A	1	1	1	0	0	0	0	0	0	0	1	1	1	1	1	1	0	1	1	1	1	1	1	0.6	0.9
7-Oct	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	0.8
8-Oct	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	A	1	0.7	0.9
9-Oct	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
10-Oct	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	0.8	1.0
11-Oct	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	A	1	1	1	1	1	0.8	1.3
12-Oct	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	0.8	1.4
13-Oct	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	0.8	1.1
14-Oct	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
15-Oct	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
16-Oct	1	1	1	0	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	0	0.6	1.1
17-Oct	1	1	1	0	0	1	1	1	1	1	1	1	A	0	1	0	1	1	1	1	0	1	1	1	0.6	1.0
18-Oct	1	1	0	1	0	0	1	0	0	1	1	A	1	1	1	0	1	1	1	1	1	1	1	1	0.7	1.0
19-Oct	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1.1	1.4
20-Oct	1	1	1	1	1	1	1	1	2	A	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1.1	1.5
21-Oct	1	1	1	1	1	1	1	1	A	1	1	1	0	1	1	0	1	1	1	1	1	1	1	1	0.6	1.0
22-Oct	1	1	1	1	1	1	1	A	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	0.8	1.4
23-Oct	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	0	1	0.8	1.2
24-Oct	1	1	1	0	1	A	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.6	0.9
25-Oct	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.0
26-Oct	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	1.2
27-Oct	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.0
28-Oct	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.3
29-Oct	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.0
30-Oct	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	1.2
31-Oct	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	P	1	1	1	1	1	0	A	1	0.7	1.5
		0.7	0.8	0.7	0.7	0.7	0.7	0.8	0.7	0.8	0.7	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.8	0.8	Diurnal Average
		1.1	1.5	1.4	1.2	1.1	1.2	1.4	1.4	1.5	1.0	1.5	1.4	1.3	1.3	1.2	1.0	1.2	1.1	1.4	1.3	1.3	1.6	1.4	1.4	Diurnal Maximum
C - Calibration		P - Power Failure					A - Automated Daily Zero Span																			



**Pollutant Rose**

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





## Hourly Averages

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

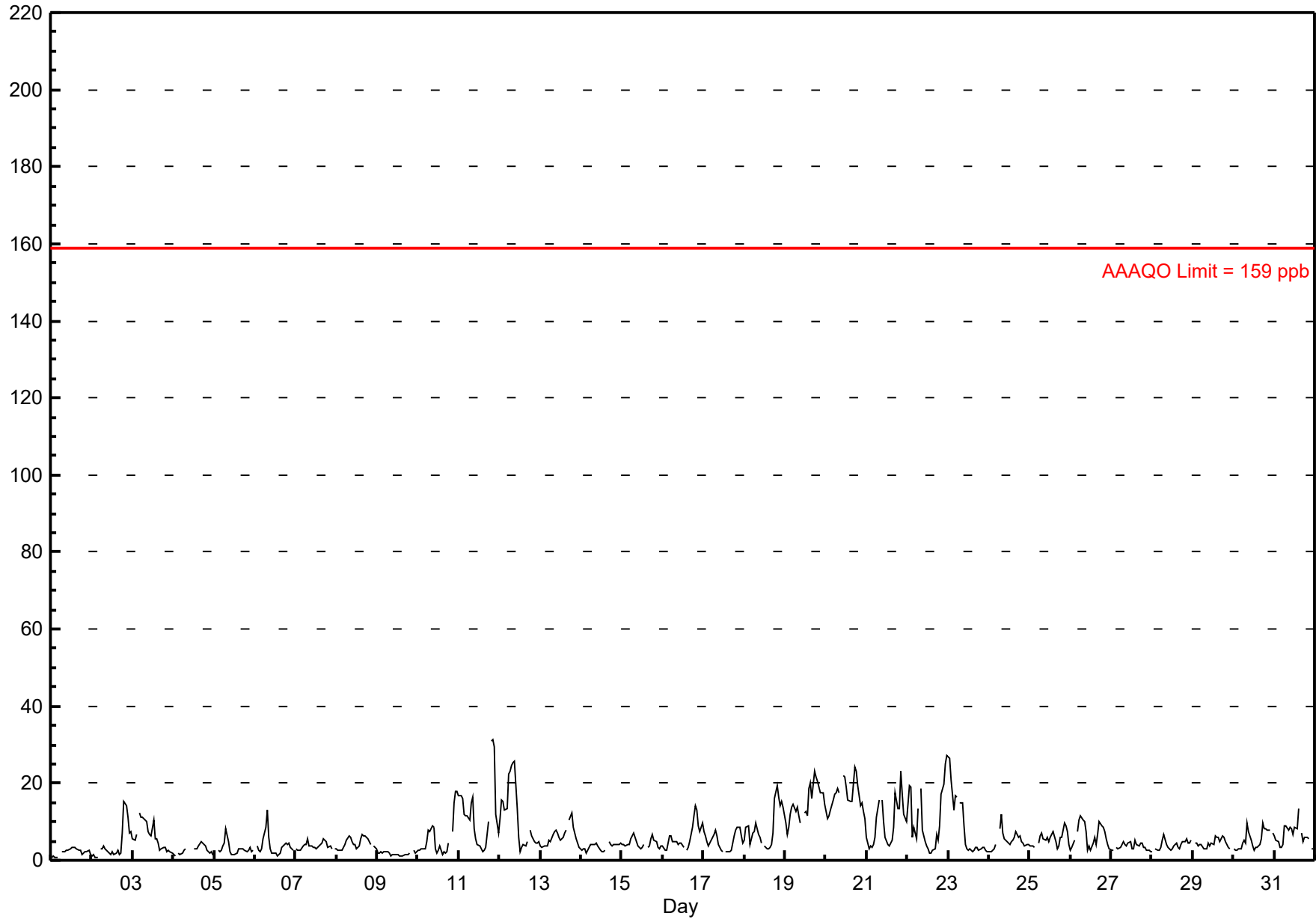
Henry Pirker - October 2016

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0	Hours in Service: 744
Maximum Value: 31.2 ppb on Oct 11 21:00	Maximum Daily Average: 16.6 ppb on Oct 20
Minimum Value: 1 ppb on Oct 2 04:00	Hours of Data: 706
Maximum Diurnal Average: 8.7 ppb at hour 8	Hours of Missing Data: 38
Monthly Average: 6.34 ppb	Hours of Calibration: 37
Minimum Daily Average: 1.7 ppb on Oct 9	Percent Operational Time: 99.9
Minimum Diurnal Average: 4.3 ppb at hour 14	
Percentiles: P <sub>1</sub> = 1.0 P <sub>10</sub> = 2.2 Q <sub>1</sub> = 2.9 Median = 4.3 Q <sub>3</sub> = 7.4 P <sub>90</sub> = 14.3 P <sub>99</sub> = 25.2	

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-Oct	1	1	1	1	1	A	2	2	2	2	3	3	3	4	3	3	3	2	2	2	2	3	1	2.2	3.5	
2-Oct	1	1	1	1	A	3	3	4	3	2	2	2	2	1	2	2	2	2	7	15	14	11	7	7	4.2	15.1
3-Oct	6	5	7	A	12	11	11	10	10	7	7	6	10	6	6	4	3	3	3	3	2	3	2	2	6.1	12.1
4-Oct	1	1	A	2	2	2	3	3	C	C	C	C	3	3	3	4	5	5	4	4	3	2	2	2	2.7	4.7
5-Oct	2	A	3	2	3	4	4	8	5	2	2	2	2	2	3	3	3	3	3	2	2	3	2	3	2.9	8.1
6-Oct	A	4	2	2	3	6	9	13	6	3	2	2	2	1	2	2	3	4	5	4	4	4	3	A	3.9	12.9
7-Oct	3	2	2	3	4	4	4	6	4	4	4	3	3	3	4	4	6	5	5	3	4	3	A	3	3.7	5.8
8-Oct	3	2	3	3	3	4	5	6	6	5	4	4	3	4	6	7	6	6	6	5	4	A	4	3	4.4	6.7
9-Oct	2	2	2	2	2	2	2	2	1	2	2	1	1	1	1	1	1	2	2	2	A	3	2	2	1.7	2.5
10-Oct	3	3	3	3	3	5	8	7	9	9	3	2	2	4	2	2	2	2	5	A	7	15	18	18	5.8	17.9
11-Oct	17	17	16	12	11	11	11	15	16	8	6	4	4	3	2	2	3	10	A	31	31	29	12	7	12.2	31.2
12-Oct	11	16	15	13	13	22	23	25	25	26	13	6	2	3	4	4	5	A	8	6	5	5	4	5	11.3	25.6
13-Oct	4	3	4	4	4	5	5	7	7	8	7	6	5	6	7	8	A	11	12	9	7	6	5	3	6.1	12.2
14-Oct	3	3	3	2	2	4	4	4	4	4	4	3	2	2	2	A	5	4	4	4	4	4	4	4	3.5	4.7
15-Oct	4	4	4	4	4	6	7	7	6	4	3	3	3	4	A	3	4	5	7	5	5	3	3	4	4.4	6.9
16-Oct	4	3	3	5	6	6	5	5	5	4	4	5	3	A	3	3	5	8	11	14	13	9	7	10	6.2	14.3
17-Oct	7	7	5	4	5	6	7	8	6	4	2	2	A	2	2	2	3	4	6	8	8	9	6	4	5.2	8.7
18-Oct	5	8	9	4	6	7	7	10	7	6	5	A	4	3	3	3	4	7	16	20	16	14	15	14	8.4	19.6
19-Oct	10	7	8	12	14	15	13	14	12	10	A	12	13	12	19	20	16	23	22	20	19	18	18	15	14.7	23.2
20-Oct	13	11	11	13	16	17	17	19	17	A	22	22	19	16	15	15	20	24	23	20	14	15	13	11	16.6	24.4
21-Oct	6	3	4	3	4	6	11	16	A	16	10	6	4	4	5	5	9	18	13	13	23	17	12	10	9.5	23.3
22-Oct	14	20	19	6	8	6	13	A	19	8	5	4	3	2	2	3	3	7	5	9	17	20	25	27	10.6	27.4
23-Oct	27	26	21	13	17	16	A	15	15	9	4	3	3	3	2	2	3	3	3	3	3	3	3	2	8.7	26.9
24-Oct	2	2	3	3	4	A	8	12	7	6	5	5	4	5	5	6	7	6	6	5	5	4	4	4	5.1	11.8
25-Oct	4	4	4	3	A	5	6	7	6	5	6	5	6	7	7	5	3	4	6	6	10	9	7	4	5.6	9.7
26-Oct	3	3	5	A	7	10	12	11	10	7	2	4	3	4	6	4	7	10	9	8	7	6	4	3	6.4	11.7
27-Oct	3	3	A	3	3	4	4	5	4	4	4	5	3	3	5	4	4	4	4	3	3	3	2	2	3.6	5.4
28-Oct	2	A	3	2	3	3	5	7	4	3	3	2	3	4	5	3	3	4	5	5	5	5	4	5	3.9	6.7
29-Oct	A	5	5	4	4	4	3	3	3	4	4	4	4	6	6	6	5	6	6	5	4	3	3	A	4.4	6.3
30-Oct	3	3	3	3	3	4	5	5	10	7	5	4	3	3	3	4	6	10	8	8	8	8	A	7	5.3	9.7
31-Oct	6	5	5	4	3	4	9	9	8	8	8	7	9	8	13	P	7	5	6	6	5	A	3	3	6.4	13.3

5.8	6.0	5.9	4.6	5.9	7.0	7.6	8.7	8.2	6.5	5.2	4.7	4.4	4.3	4.9	4.8	5.1	7.0	7.4	8.3	8.6	8.0	6.8	6.4	Diurnal Average
26.9	26.4	20.9	13.1	16.9	22.3	23.1	24.7	25.2	25.6	22.0	21.6	19.1	15.5	18.7	20.2	19.9	24.4	23.3	31.0	31.2	29.3	24.9	27.4	Diurnal Maximum

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





## Hourly Maximums

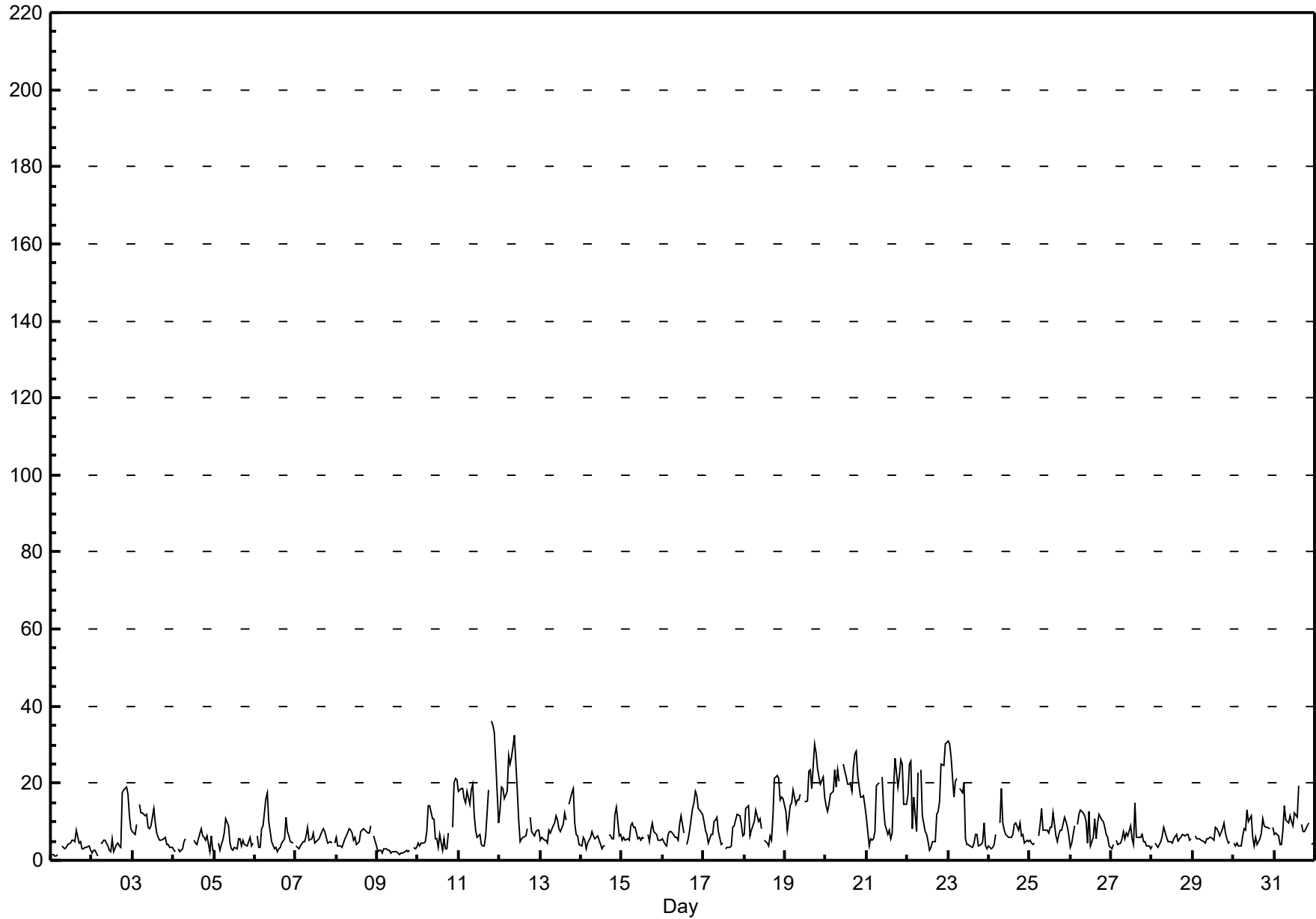
Nitrogen Dioxide (NO<sub>2</sub>) - ppb

Henry Pirker - October 2016

Maximum Value: 36.0 ppb on Oct 11 20:00		Maximum Daily Average: 19.8 ppb on Oct 20		Hours in Service: 744																						
Minimum Value: 1 ppb on Oct 1 04:00		Minimum Daily Average: 2.4 ppb on Oct 9		Hours of Data: 706																						
Maximum Diurnal Average: 11.6 ppb at hour 8		Minimum Diurnal Average: 6.2 ppb at hour 4		Hours of Missing Data: 38																						
Monthly Average: 8.77 ppb		Percentiles: P <sub>1</sub> = 1.8 P <sub>10</sub> = 3.3 Q <sub>1</sub> = 4.6 Median = 6.5 Q <sub>3</sub> = 10.8 P <sub>90</sub> = 18.4 P <sub>99</sub> = 30.2		Hours of Calibration: 37																						
				Percent Operational Time: 99.9																						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Oct	1	2	1	1	2	A	4	3	3	3	4	4	5	5	5	8	5	5	3	3	3	3	4	3	3.5	8.0
2-Oct	2	2	2	1	A	5	5	5	5	4	3	2	6	2	4	4	4	3	17	18	19	17	11	8	6.6	19.2
3-Oct	7	7	9	A	15	12	12	12	12	9	8	9	14	10	7	6	5	5	6	6	4	4	3	3	8.0	14.6
4-Oct	3	2	A	3	2	3	5	6	C	C	C	C	5	4	4	5	8	6	6	5	6	2	6	2	4.6	8.3
5-Oct	3	A	4	3	4	5	7	11	9	5	3	3	3	3	6	6	4	5	4	4	5	6	4	4	4.7	10.8
6-Oct	A	6	3	3	8	9	16	18	10	8	5	3	3	2	3	3	4	6	11	8	6	5	4	A	6.7	17.6
7-Oct	4	3	3	4	5	5	6	9	5	6	7	5	5	5	5	7	8	8	6	4	5	4	A	4	5.4	8.7
8-Oct	6	4	4	4	5	6	6	8	8	7	5	6	4	5	8	8	8	8	7	7	9	A	6	4	6.2	9.0
9-Oct	2	3	3	2	3	3	3	3	2	2	2	2	2	2	2	2	2	3	2	3	A	3	3	3	2.4	3.4
10-Oct	4	4	5	5	5	7	14	14	11	11	6	6	3	7	3	5	3	3	7	A	9	20	21	21	8.4	21.1
11-Oct	18	19	19	16	15	18	15	18	20	12	8	6	7	4	4	4	6	18	A	36	35	33	26	10	15.8	36.0
12-Oct	13	19	19	16	18	27	25	27	29	32	18	10	5	6	6	6	8	A	11	8	6	7	8	8	14.5	32.4
13-Oct	5	6	5	5	4	8	7	9	10	12	11	8	7	9	12	10	A	15	17	19	10	7	6	4	9.0	18.6
14-Oct	4	6	5	3	5	6	7	6	6	6	7	4	3	4	4	A	7	6	6	6	12	14	6	7	6.0	13.9
15-Oct	5	6	5	5	5	9	10	9	8	6	6	5	6	6	A	7	5	8	10	8	7	5	5	5	6.5	9.7
16-Oct	5	4	4	7	7	7	7	6	6	5	9	12	7	A	4	5	8	14	15	18	17	14	13	12	9.0	17.7
17-Oct	10	8	7	5	7	7	10	10	11	8	4	4	A	3	3	3	4	8	9	11	12	12	9	6	7.4	11.8
18-Oct	7	13	14	6	8	9	10	13	10	11	8	A	5	4	4	6	5	12	21	22	21	16	17	16	11.3	22.1
19-Oct	12	8	11	14	15	18	15	16	16	17	A	15	15	15	23	24	19	30	28	24	21	20	21	16	18.0	30.1
20-Oct	14	13	15	17	18	24	19	24	21	A	25	23	22	20	20	18	24	28	28	22	16	16	17	14	19.8	28.4
21-Oct	11	4	6	5	6	8	19	20	A	22	14	9	7	8	6	7	19	26	19	22	26	25	15	15	13.8	26.4
22-Oct	17	25	26	8	16	7	23	A	23	12	7	7	5	3	3	5	5	12	13	15	25	25	30	30	14.9	30.5
23-Oct	31	30	27	16	20	21	A	19	18	20	6	4	4	4	3	4	7	7	4	4	5	10	4	3	11.8	30.8
24-Oct	4	3	4	4	7	A	10	18	10	8	7	6	6	6	7	9	10	8	10	6	7	5	5	5	7.0	18.5
25-Oct	5	4	4	5	A	6	9	13	8	8	8	7	8	8	12	6	5	7	8	8	11	10	9	6	7.7	13.4
26-Oct	3	5	9	A	9	12	13	12	12	10	5	13	4	6	11	6	10	12	10	10	9	7	6	4	8.5	12.9
27-Oct	3	4	A	5	4	5	5	7	6	7	6	9	6	4	15	6	6	6	7	5	5	4	4	3	5.7	15.1
28-Oct	4	A	4	3	4	5	7	8	6	5	5	5	4	5	7	5	5	6	7	6	7	7	5	6	5.5	8.4
29-Oct	A	6	5	5	6	5	5	4	6	6	6	6	5	9	8	8	6	8	10	7	6	5	5	A	6.2	9.8
30-Oct	5	4	4	4	4	6	8	8	13	10	11	6	4	6	4	6	7	11	9	9	9	8	A	9	7.1	13.2
31-Oct	7	7	6	4	4	8	14	11	10	12	10	9	12	11	20	P	9	7	8	9	10	A	4	5	8.9	19.6
		7.4	7.8	8.1	6.2	7.9	9.4	10.5	11.6	10.7	9.7	7.7	7.2	6.4	6.2	7.4	6.9	7.5	10.0	10.6	11.1	11.4	10.8	9.6	8.2	Diurnal Average
		30.8	30.1	27.0	17.0	20.5	27.3	24.8	27.0	29.4	32.4	24.8	23.3	21.8	19.6	23.0	23.5	24.3	30.1	28.4	36.0	35.0	33.2	30.3	30.5	Diurnal Maximum
C - Calibration		P - Power Failure					A - Automated Daily Zero Span																			

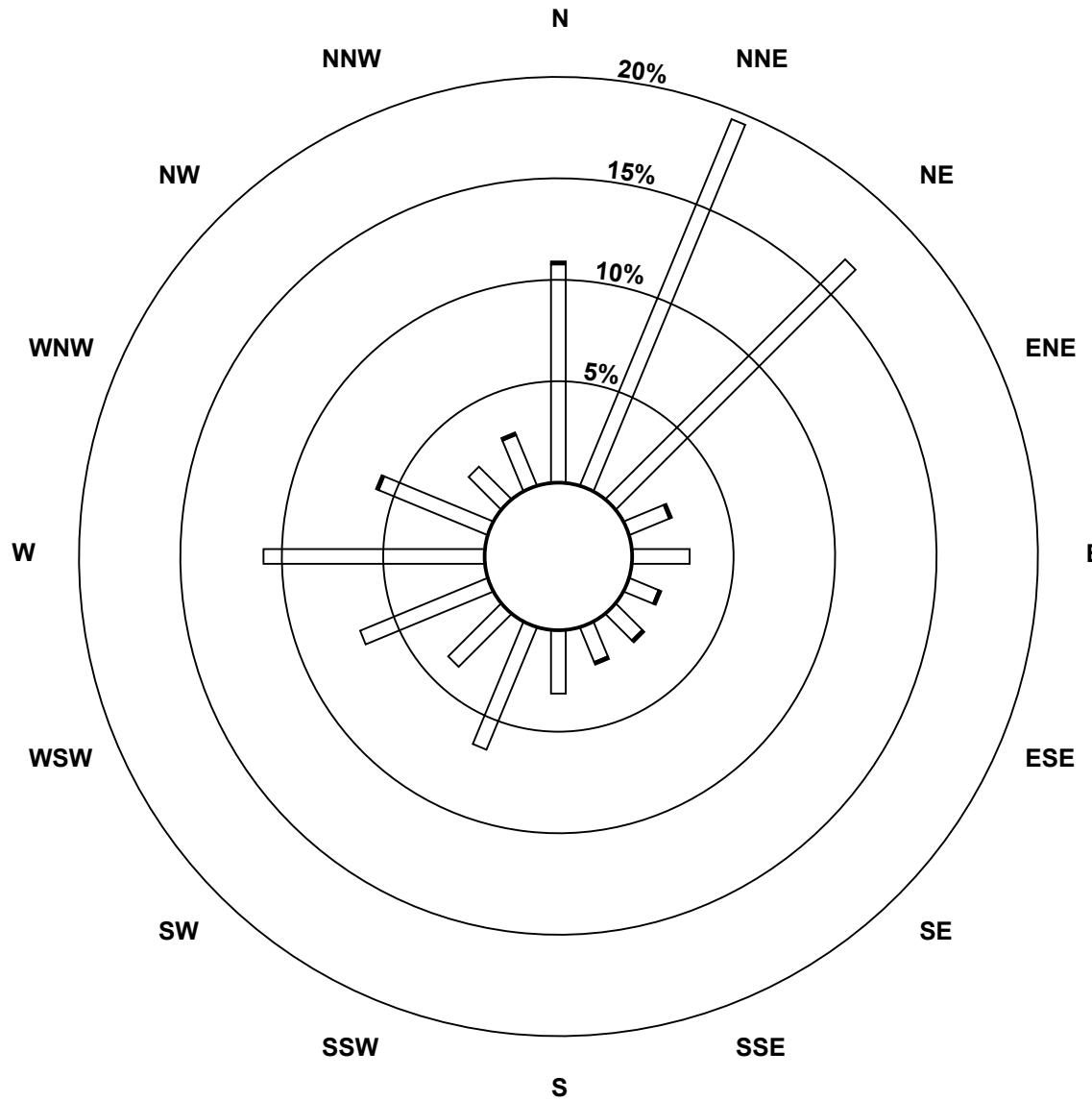
**Hourly Maximums**

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

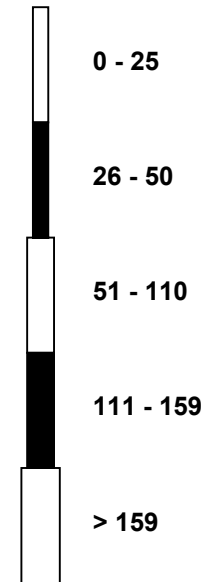


**Pollutant Rose**

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

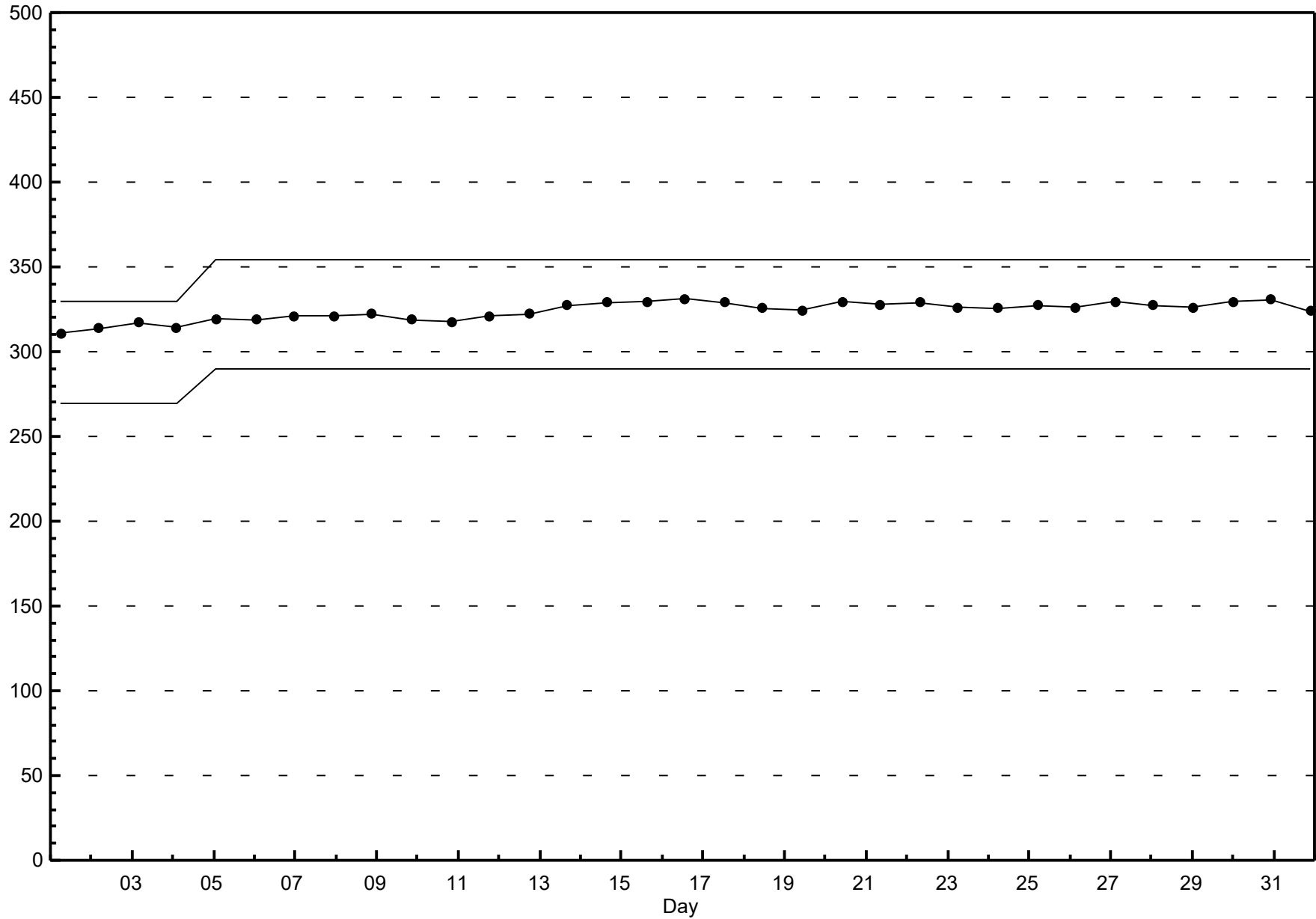


**Pollutant Classes (ppb)**



### Span Responses

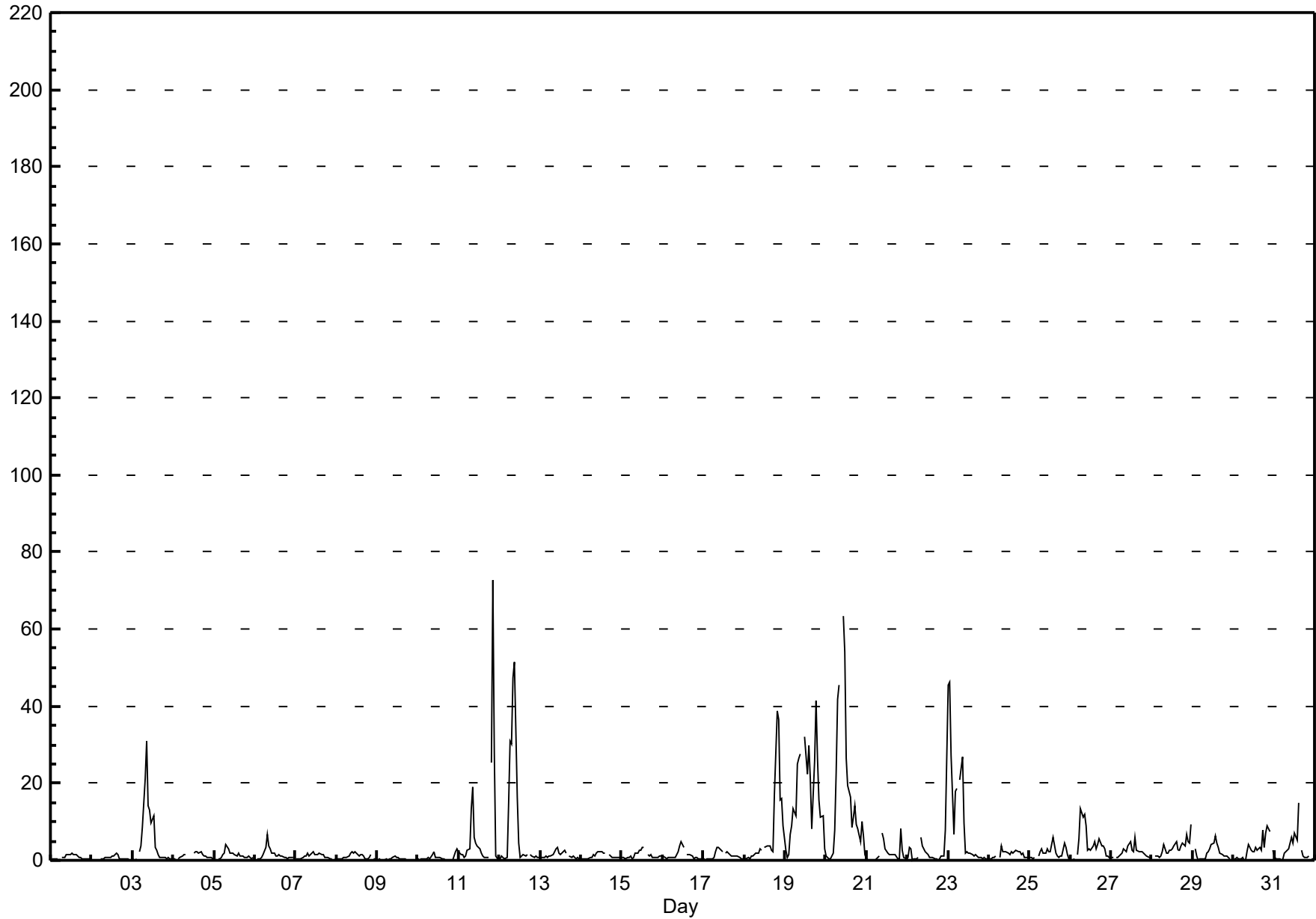
Nitrogen Dioxide (NO<sub>2</sub>)  
Henry Pirker - October 2016



## Hourly Averages

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

Maximum Value: 72.5 ppb on Oct 11 21:00		Maximum Daily Average: 17.4 ppb on Oct 19		Hours in Service: 744																							
Minimum Value: 0 ppb on Oct 22 04:00		Minimum Daily Average: 0.3 ppb on Oct 9		Hours of Data: 706																							
Maximum Diurnal Average: 8.8 ppb at hour 9		Minimum Diurnal Average: 0.9 ppb at hour 4		Hours of Missing Data: 38																							
Monthly Average: 3.71 ppb		Percentiles: P <sub>1</sub> = 0.1 P <sub>10</sub> = 0.3 Q <sub>1</sub> = 0.6 Median = 1.2 Q <sub>3</sub> = 2.7 P <sub>90</sub> = 8.2 P <sub>99</sub> = 44.8		Hours of Calibration: 37																							
				Percent Operational Time: 99.9																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Oct	0	0	0	0	0	A	1	1	1	1	2	2	2	2	1	1	1	1	0	0	0	0	0	0	0.8	1.8	
2-Oct	0	0	0	0	A	0	0	0	1	1	1	1	1	1	2	1	0	0	0	0	0	0	0	0	0.6	1.9	
3-Oct	0	0	0	A	2	4	8	21	31	14	13	10	11	3	3	2	1	1	1	1	1	1	0	0	5.6	30.9	
4-Oct	0	1	A	0	1	1	1	1	C	C	C	C	2	2	2	2	2	1	1	1	1	1	1	0	1.2	2.4	
5-Oct	1	A	0	0	1	1	2	4	3	2	2	2	1	1	2	1	1	1	1	1	1	1	0	1	1.3	4.0	
6-Oct	A	0	0	0	1	2	3	7	4	3	2	2	1	1	1	1	1	1	1	1	1	1	1	A	1.5	6.8	
7-Oct	0	0	0	0	1	1	1	2	1	2	2	2	2	2	2	1	1	1	1	1	1	0	A	0	1.1	2.4	
8-Oct	0	0	0	0	1	1	1	1	2	2	2	2	2	1	1	2	1	0	0	0	0	2	A	1	1.1	2.2	
9-Oct	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	1	A	0	0	0.3	1.0	
10-Oct	0	0	0	0	0	0	1	0	1	2	1	1	1	1	0	0	0	0	0	A	0	1	2	3	0.7	3.1	
11-Oct	2	2	1	1	1	3	3	13	19	6	4	4	3	2	1	1	1	1	A	25	73	28	1	0	8.5	72.5	
12-Oct	0	1	1	0	1	15	31	30	48	51	16	4	1	1	1	1	1	A	1	1	1	1	1	1	9.2	51.5	
13-Oct	1	1	1	1	1	1	1	2	2	3	3	2	2	2	3	2	A	1	1	1	1	0	1	0	1.4	3.4	
14-Oct	0	0	0	0	1	1	1	1	1	2	2	2	2	2	2	A	2	1	1	1	1	1	1	1	1.1	2.2	
15-Oct	1	1	1	1	1	1	0	1	2	2	3	3	3	3	A	1	1	1	1	1	1	1	1	1	1.3	3.5	
16-Oct	1	1	0	1	1	1	1	1	2	2	4	5	3	A	1	1	1	1	0	1	1	0	0	1	1.3	4.7	
17-Oct	0	0	0	0	0	1	1	2	3	3	3	2	A	2	2	1	1	1	1	1	1	1	0	0	1.2	3.5	
18-Oct	0	0	1	0	1	1	1	2	2	3	3	A	3	4	4	3	2	17	39	36	16	16	9	7.2	38.6		
19-Oct	2	1	1	7	9	14	11	25	26	27	A	32	27	22	30	21	8	26	41	27	16	11	11	3	17.4	41.3	
20-Oct	1	1	0	0	2	8	23	42	45	A	63	54	27	19	16	9	11	14	9	8	5	10	6	1	16.3	63.3	
21-Oct	0	0	0	0	0	0	1	1	A	7	6	3	2	1	2	1	1	2	0	0	8	2	1	0	1.7	8.0	
22-Oct	1	3	3	0	0	0	1	A	6	4	2	2	2	1	1	1	0	0	0	0	1	1	8	27	2.8	26.9	
23-Oct	45	46	27	7	18	19	A	21	27	10	2	2	2	2	1	1	1	1	1	1	1	1	0	0	10.3	46.3	
24-Oct	0	0	1	1	1	A	1	4	2	2	2	2	2	2	2	2	3	2	2	1	2	1	1	1	1.6	3.8	
25-Oct	1	1	1	1	A	1	2	3	2	2	3	2	2	4	6	2	1	1	1	1	4	3	1	0	2.0	5.9	
26-Oct	0	0	0	A	1	6	13	11	12	9	3	3	3	4	5	3	4	5	4	4	3	1	1	1	4.2	13.4	
27-Oct	1	1	A	1	1	1	2	3	3	2	4	5	3	2	6	3	2	2	2	2	2	1	1	1	2.1	5.9	
28-Oct	1	A	1	1	1	1	2	4	2	2	3	3	3	4	5	3	2	4	4	4	7	5	4	9	3.2	9.4	
29-Oct	A	3	1	0	0	0	0	0	2	2	3	4	4	6	5	3	2	1	1	1	1	1	1	A	1.9	6.2	
30-Oct	1	0	1	0	1	1	0	0	2	4	3	2	2	3	3	3	3	8	4	7	9	8	A	3	2.9	9.1	
31-Oct	1	0	0	0	0	0	2	2	3	5	6	5	7	5	15	P	3	1	1	1	1	A	1	1	2.7	14.9	
	2.2	2.3	1.5	0.9	1.6	2.9	3.9	6.9	8.8	6.1	5.6	5.6	4.2	3.6	4.2	2.6	2.0	2.8	3.3	4.4	6.0	3.4	2.2	2.3	Diurnal Average		
	45.4	46.3	27.4	6.6	18.1	18.8	30.9	41.9	47.5	51.5	63.3	53.9	27.1	22.3	29.9	21.1	11.2	25.9	41.3	38.6	72.5	28.3	15.9	26.9	Diurnal Maximum		
C - Calibration		P - Power Failure					A - Automated Daily Zero Span																				



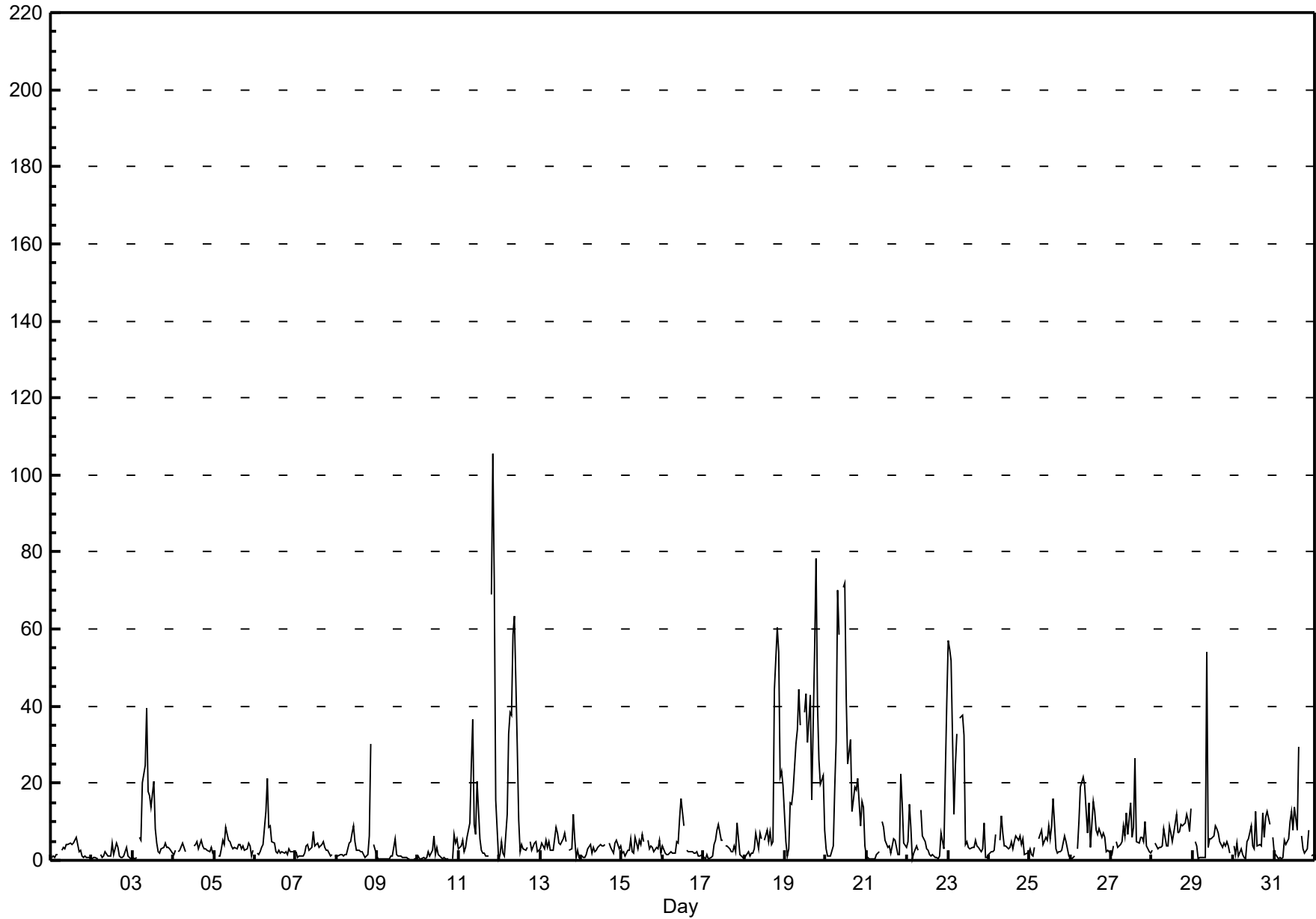
## Hourly Maximums

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

Maximum Value: 105.5 ppb on Oct 11 21:00		Maximum Daily Average: 28.5 ppb on Oct 19		Hours in Service: 744																							
Minimum Value: 0 ppb on Oct 22 04:00		Minimum Daily Average: 0.9 ppb on Oct 9		Hours of Data: 706																							
Maximum Diurnal Average: 15.6 ppb at hour 9		Minimum Diurnal Average: 2.4 ppb at hour 4		Hours of Missing Data: 38																							
Monthly Average: 7.31 ppb		Percentiles: P <sub>1</sub> = 0.3 P <sub>10</sub> = 0.8 Q <sub>1</sub> = 1.8 Median = 3.5 Q <sub>3</sub> = 6.4 P <sub>90</sub> = 16.8 P <sub>99</sub> = 68.3		Hours of Calibration: 37																							
				Percent Operational Time: 99.9																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Oct	1	1	1	1	1	A	2	3	3	4	4	4	4	5	5	6	2	3	1	1	1	1	1	1	2.4	6.0	
2-Oct	0	1	1	0	A	1	1	1	2	1	1	1	5	2	5	3	1	1	1	1	4	1	1	0	1.5	4.5	
3-Oct	1	0	1	A	6	5	20	25	39	18	17	14	21	8	5	2	2	3	3	4	3	3	3	2	8.9	39.4	
4-Oct	1	3	A	2	3	4	3	2	C	C	C	C	4	4	5	3	5	4	3	3	3	2	3	2	3.2	5.3	
5-Oct	2	A	1	1	3	5	4	9	5	5	4	3	4	3	4	4	3	4	2	3	5	4	1	3	3.5	8.7	
6-Oct	A	2	2	2	3	4	13	21	9	9	5	4	2	2	3	2	2	2	2	1	3	2	2	A	4.5	21.1	
7-Oct	2	1	1	1	1	2	4	4	2	3	7	4	4	5	3	4	5	3	3	2	1	1	A	1	2.9	7.4	
8-Oct	1	1	1	1	1	2	2	4	5	7	9	5	3	2	2	2	1	1	1	0	6	30	A	4	2	4.1	30.0
9-Oct	0	0	0	0	0	0	0	1	1	1	6	2	1	1	1	1	1	1	0	0	A	0	0	1	0.9	5.7	
10-Oct	1	0	1	1	1	1	2	1	2	6	1	3	2	1	1	1	0	0	0	A	0	7	4	5	1.9	6.7	
11-Oct	3	4	5	2	3	6	10	25	37	9	7	21	5	3	2	2	1	1	A	69	105	72	16	0	17.7	105.5	
12-Oct	2	5	2	1	12	33	38	38	58	63	29	11	2	4	3	3	3	A	5	2	4	5	2	3	14.3	63.4	
13-Oct	3	4	3	5	3	5	3	3	6	8	7	4	4	6	7	5	A	3	3	12	6	1	3	1	4.5	11.8	
14-Oct	1	1	1	2	3	4	2	3	2	3	3	4	4	4	4	A	5	3	3	2	5	5	3	4	3.1	5.4	
15-Oct	2	2	1	3	2	6	2	2	6	3	5	4	7	5	A	5	3	4	3	2	3	3	5	2	3.5	6.6	
16-Oct	4	2	1	2	2	2	2	2	5	5	11	16	9	A	3	2	2	2	2	2	2	1	1	2	3.5	16.1	
17-Oct	1	0	1	1	1	1	4	5	8	9	5	5	A	4	4	3	2	2	4	2	10	1	1	1	3.3	9.5	
18-Oct	1	1	2	1	2	2	3	7	3	7	6	A	5	8	5	7	4	5	44	60	54	22	23	19	12.7	60.5	
19-Oct	5	1	3	15	15	18	30	34	45	35	A	39	43	31	36	43	16	55	78	41	26	20	22	8	28.5	78.3	
20-Oct	3	1	1	1	4	19	31	70	58	A	71	72	42	25	31	13	15	19	18	21	9	15	14	4	24.3	72.0	
21-Oct	1	0	0	0	0	0	2	2	A	10	9	5	4	4	2	4	6	5	1	2	22	14	5	3	4.4	22.4	
22-Oct	5	15	9	0	2	4	3	A	13	6	5	3	3	1	1	2	1	1	0	1	7	3	23	41	6.4	41.0	
23-Oct	57	55	52	12	25	33	A	37	38	32	4	5	4	3	3	3	5	4	3	2	3	10	1	1	17.0	57.0	
24-Oct	1	2	2	3	7	A	5	12	7	4	4	3	3	5	3	5	6	5	6	4	6	2	2	2	4.3	11.7	
25-Oct	3	2	1	3	A	5	7	8	4	6	5	9	6	9	16	3	2	2	2	3	6	5	3	1	4.8	16.0	
26-Oct	1	0	1	A	3	10	19	22	19	13	7	15	3	15	13	8	7	8	6	7	6	2	3	2	8.3	21.6	
27-Oct	1	4	A	5	3	4	5	9	6	12	7	15	6	9	27	5	5	6	6	5	10	4	2	2	6.8	26.6	
28-Oct	3	A	5	3	3	3	4	8	4	4	9	7	5	7	12	7	8	9	9	10	12	11	7	13	7.1	13.4	
29-Oct	A	5	4	0	1	1	1	1	54	3	5	6	6	9	8	7	5	3	5	4	5	4	2	A	6.3	54.1	
30-Oct	4	1	5	1	3	2	1	0	5	6	9	4	3	12	4	4	4	12	6	11	13	9	A	6	5.4	12.6	
31-Oct	2	1	1	1	0	1	5	4	5	10	13	8	14	8	29	P	6	3	2	3	8	A	1	2	5.7	29.3	
		3.8	4.0	3.7	2.4	3.9	6.3	7.6	12.1	15.6	10.5	9.5	10.2	7.5	6.7	8.2	5.5	4.3	5.8	7.5	9.6	12.4	7.9	5.4	4.5	Diurnal Average	
		57.0	54.6	51.7	14.8	24.7	32.8	38.4	70.2	58.4	63.4	70.8	72.0	43.3	30.6	36.2	42.9	15.5	54.6	78.3	68.9	105.5	72.1	23.1	41.0	Diurnal Maximum	
C - Calibration		P - Power Failure					A - Automated Daily Zero Span																				

**Hourly Maximums**

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



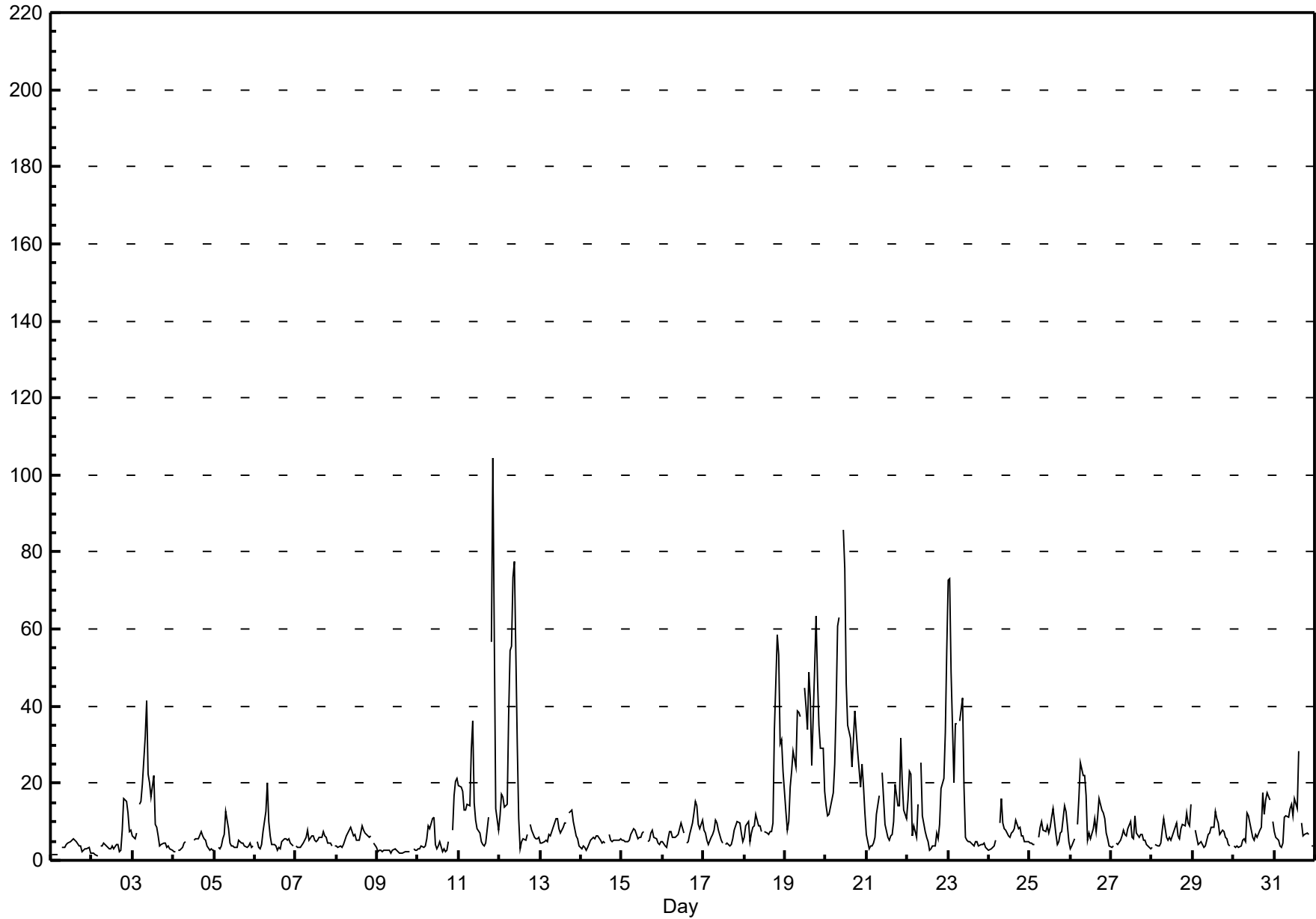


## Hourly Averages

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

Henry Pirker - October 2016

Maximum Value: 104.4 ppb on Oct 11 21:00		Maximum Daily Average: 33.2 ppb on Oct 20		Hours in Service: 744																							
Minimum Value: 1 ppb on Oct 2 04:00		Minimum Daily Average: 2.4 ppb on Oct 9		Hours of Data: 706																							
Maximum Diurnal Average: 17.3 ppb at hour 9		Minimum Diurnal Average: 5.8 ppb at hour 4		Hours of Missing Data: 38																							
Monthly Average: 10.35 ppb		Percentiles: P <sub>1</sub> = 1.7 P <sub>10</sub> = 3.1 Q <sub>1</sub> = 4.2 Median = 6.2 Q <sub>3</sub> = 10.3 P <sub>90</sub> = 22.1 P <sub>99</sub> = 72.5		Hours of Calibration: 37																							
				Percent Operational Time: 99.9																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Oct	2	2	1	1	2	A	3	4	3	4	5	5	5	5	5	4	4	2	2	3	3	3	2	3.3	5.5		
2-Oct	2	2	1	1	A	4	4	5	4	3	3	3	4	3	4	4	2	3	8	16	15	12	8	8	5.1	16.0	
3-Oct	6	6	7	A	15	15	20	32	41	22	20	17	22	9	9	6	4	4	4	5	3	4	3	3	12.1	41.2	
4-Oct	2	2	A	3	2	3	4	5	C	C	C	C	5	6	6	6	7	6	6	5	4	3	3	2	4.2	7.5	
5-Oct	3	A	3	3	4	5	7	13	8	5	4	4	3	3	5	5	4	4	4	3	4	4	3	4	4.6	12.5	
6-Oct	A	5	3	3	4	8	13	20	10	6	4	4	4	3	3	3	5	6	6	5	5	5	4	A	5.8	20.2	
7-Oct	4	3	3	4	5	5	6	8	5	6	6	5	5	5	6	6	7	6	6	4	5	4	A	4	5.2	7.9	
8-Oct	4	3	4	3	4	5	6	8	9	8	6	7	5	5	7	9	8	7	6	6	6	A	4	3	5.8	8.8	
9-Oct	2	3	3	2	3	3	3	3	2	3	3	2	2	2	2	2	2	2	2	2	A	3	3	3	2.4	3.0	
10-Oct	3	3	4	3	4	6	9	8	11	11	4	3	4	5	2	3	2	3	5	A	8	17	21	21	6.9	21.3	
11-Oct	19	19	18	13	13	15	14	29	36	15	11	8	7	5	4	4	4	11	A	57	104	58	14	8	21.1	104.4	
12-Oct	12	17	16	14	15	38	55	56	73	78	30	11	3	5	6	5	7	A	9	8	6	6	5	6	20.8	77.7	
13-Oct	5	4	5	5	5	7	6	9	10	11	11	8	7	8	10	10	A	12	13	10	8	6	5	4	7.8	13.1	
14-Oct	3	4	4	3	3	5	5	6	6	6	6	5	5	5	5	A	7	5	5	5	5	5	5	6	4.9	6.7	
15-Oct	5	5	5	5	5	7	7	8	8	6	6	6	7	8	A	5	5	7	8	6	6	5	4	5	6.0	8.1	
16-Oct	5	4	3	5	8	8	6	6	6	7	8	10	7	A	4	5	7	10	12	15	14	9	8	11	7.7	15.4	
17-Oct	8	7	5	4	6	7	8	10	10	8	5	5	A	4	4	4	4	6	8	9	10	10	7	5	6.7	10.4	
18-Oct	6	9	10	5	7	9	9	12	9	9	8	A	7	7	7	7	10	34	59	53	30	31	23	16.0	58.7		
19-Oct	13	8	10	19	23	28	24	39	38	37	A	45	40	34	49	42	25	49	63	47	35	29	29	18	32.4	63.4	
20-Oct	14	12	12	14	18	25	40	61	63	A	86	76	46	35	32	24	31	39	33	28	19	25	19	12	33.2	85.6	
21-Oct	7	3	4	4	4	6	12	17	A	23	16	9	6	5	6	7	10	20	14	14	32	20	13	11	11.4	31.6	
22-Oct	16	23	22	6	9	6	15	A	25	12	8	6	5	3	3	4	4	7	6	9	19	21	33	55	13.7	54.8	
23-Oct	73	73	49	20	35	35	A	36	42	19	6	5	5	5	4	4	5	5	4	4	4	4	3	3	19.3	73.3	
24-Oct	3	3	4	4	5	A	10	16	10	8	8	6	6	7	7	8	10	8	9	6	6	5	5	5	6.9	16.0	
25-Oct	5	4	4	4	A	6	9	10	8	7	9	7	8	11	13	7	4	5	7	7	14	13	9	5	7.7	14.2	
26-Oct	3	4	6	A	9	16	25	22	22	17	5	7	5	8	11	8	11	16	13	12	11	7	6	4	10.8	25.5	
27-Oct	4	4	A	5	4	5	6	8	7	6	8	10	6	5	12	7	6	7	7	5	5	4	3	3	5.9	11.6	
28-Oct	3	A	4	4	4	4	8	11	6	5	6	5	6	8	10	6	6	8	9	9	12	10	9	15	7.3	14.7	
29-Oct	A	8	6	4	4	5	3	4	5	7	7	9	9	6	13	11	10	7	8	7	6	6	4	4	A	6.6	12.7
30-Oct	4	3	4	3	4	5	5	5	12	12	8	6	5	7	6	8	8	18	12	16	17	16	A	10	8.4	17.5	
31-Oct	7	6	5	4	4	5	11	11	11	13	15	12	16	13	28	P	10	6	7	7	7	A	4	4	9.3	28.5	
		8.3	8.5	7.8	5.8	7.8	10.2	11.8	16.0	17.3	12.9	11.1	10.5	8.9	8.1	9.4	7.7	7.4	10.0	11.0	13.0	14.9	11.8	9.3	9.0	Diurnal Average	
		72.8	73.3	48.7	20.0	35.4	37.6	54.6	60.9	73.3	77.7	85.6	75.8	46.0	35.0	48.9	41.7	31.2	49.4	63.4	58.7	104.4	58.2	33.3	54.8	Diurnal Maximum	
C - Calibration		P - Power Failure					A - Automated Daily Zero Span																				



# Hourly Maximums

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

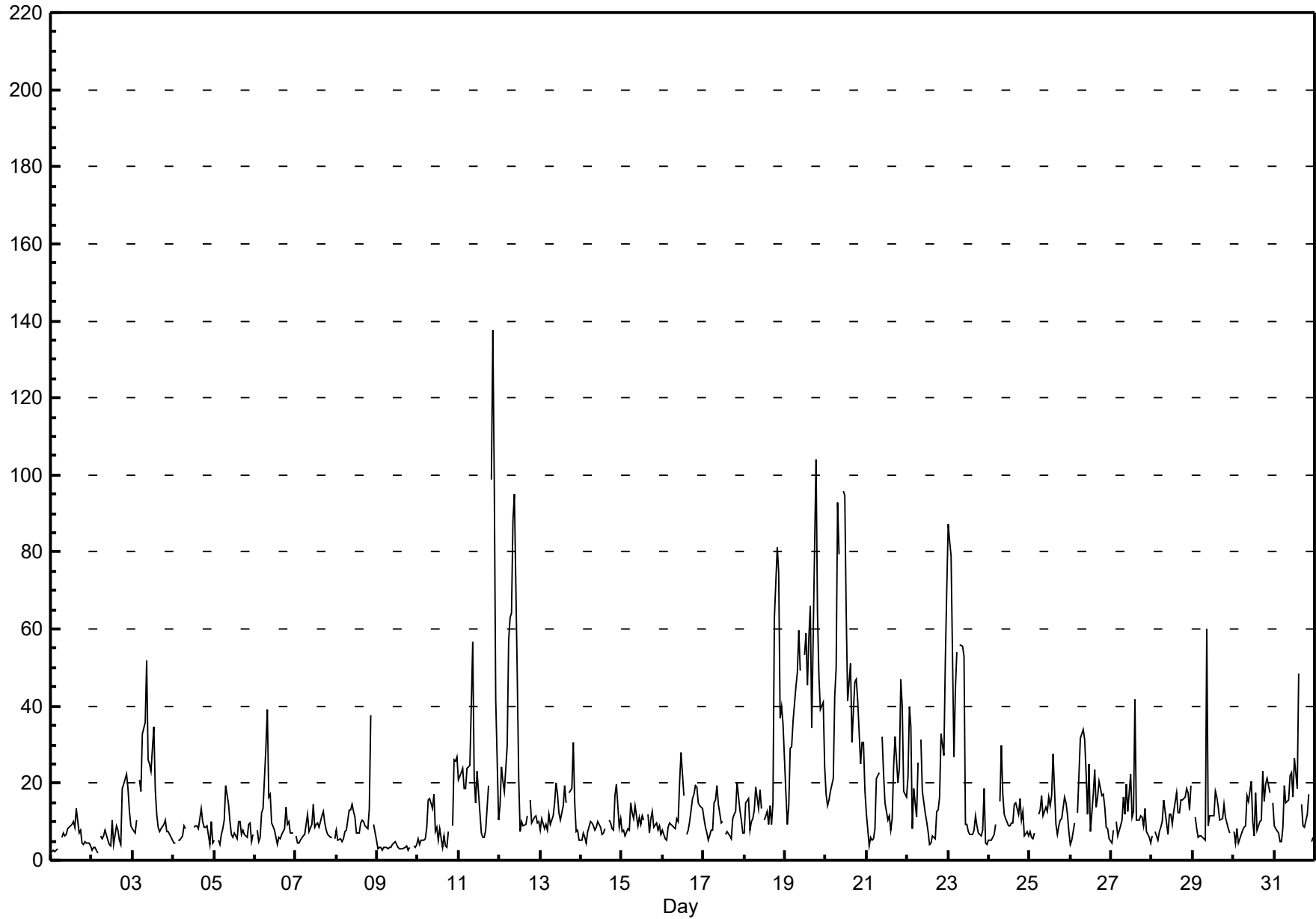
Henry Pirker - October 2016

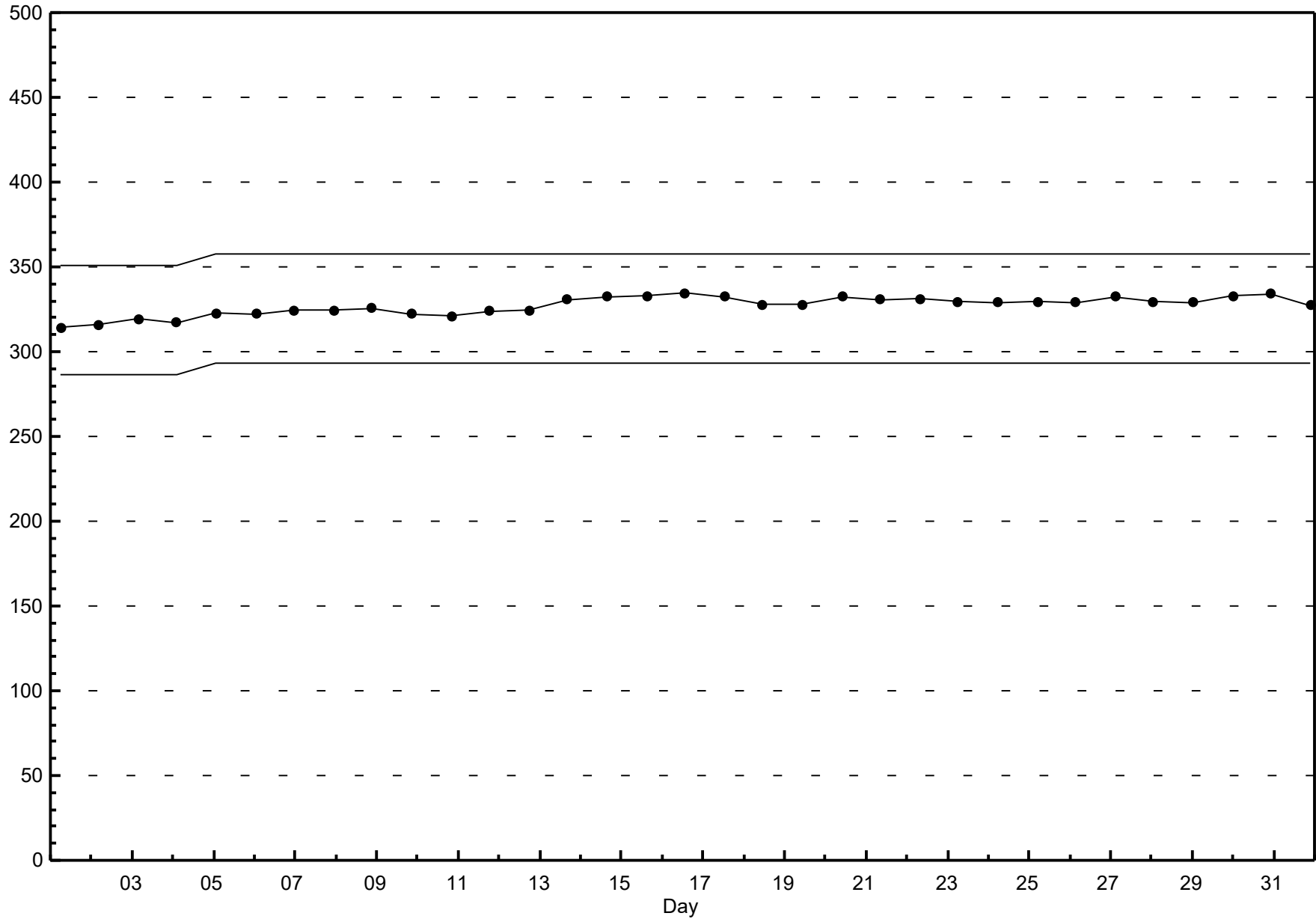
Maximum Value: 137.5 ppb on Oct 11 21:00		Maximum Daily Average: 45.9 ppb on Oct 19		Hours in Service: 744																						
Minimum Value: 2 ppb on Oct 2 04:00		Minimum Daily Average: 3.4 ppb on Oct 9		Hours of Data: 706																						
Maximum Diurnal Average: 26.2 ppb at hour 9		Minimum Diurnal Average: 8.6 ppb at hour 4		Hours of Missing Data: 38																						
Monthly Average: 15.92 ppb		Percentiles: P <sub>1</sub> = 2.8 P <sub>10</sub> = 5.0 Q <sub>1</sub> = 7.1 Median = 10.2 Q <sub>3</sub> = 17.3 P <sub>90</sub> = 33.7 P <sub>99</sub> = 94.7		Hours of Calibration: 37																						
Percent Operational Time: 99.9																										
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Oct	2	3	2	3	3	A	6	7	6	7	8	9	9	10	9	14	7	8	5	4	5	5	5	4	6.0	13.5
2-Oct	3	3	3	2	A	6	5	6	8	5	4	4	11	4	9	8	5	4	19	20	23	18	13	9	8.4	22.5
3-Oct	8	7	10	A	21	18	33	36	52	26	25	23	35	18	12	9	7	8	9	11	8	7	7	5	17.2	51.7
4-Oct	4	4	A	5	5	6	9	8	C	C	C	C	8	9	9	8	13	10	8	8	9	4	10	4	7.6	13.4
5-Oct	5	A	5	4	7	8	11	20	15	10	7	6	7	6	10	10	7	8	7	6	9	10	5	7	8.2	19.6
6-Oct	A	8	5	6	12	13	29	39	17	17	10	8	6	4	6	5	7	8	14	9	10	7	7	A	11.2	39.3
7-Oct	6	4	4	5	6	7	9	12	8	9	15	8	9	10	9	11	13	10	8	7	6	6	A	6	8.2	14.7
8-Oct	8	5	5	5	6	8	8	13	13	14	13	11	7	7	10	10	10	9	8	13	38	A	9	5	10.3	37.6
9-Oct	3	3	3	3	3	3	3	3	3	4	5	4	3	3	3	3	3	4	3	3	A	4	3	4	3.4	4.7
10-Oct	6	4	5	5	5	9	16	16	13	17	8	9	5	8	3	6	4	4	8	A	9	26	26	27	10.4	26.9
11-Oct	21	23	24	19	19	24	25	40	57	22	15	23	12	7	6	6	8	20	A	99	138	98	42	10	32.9	137.5
12-Oct	14	24	21	18	30	57	63	64	88	95	48	21	7	10	9	9	12	A	15	10	11	12	10	10	28.6	95.1
13-Oct	8	11	8	9	8	12	9	12	15	20	17	12	11	14	19	15	A	17	19	30	15	8	8	5	13.2	30.5
14-Oct	5	7	6	4	8	10	10	9	8	8	10	9	7	7	8	A	10	10	8	8	17	20	8	11	9.0	19.6
15-Oct	8	8	6	8	8	15	12	11	14	9	11	9	12	11	A	12	7	11	13	9	10	8	9	7	9.8	15.0
16-Oct	8	5	5	9	10	9	9	8	11	10	20	28	17	A	7	8	10	16	17	19	19	15	14	13	12.5	28.1
17-Oct	11	9	7	5	8	8	15	16	19	15	10	10	A	7	7	6	6	11	12	13	20	13	11	7	10.6	20.0
18-Oct	7	15	16	8	10	11	13	19	13	18	13	A	10	13	9	14	9	15	63	81	75	37	40	35	23.7	81.2
19-Oct	17	9	14	29	30	36	45	49	60	49	A	53	59	46	58	66	34	81	104	64	48	39	41	24	45.9	104.1
20-Oct	17	14	16	18	21	43	50	93	79	A	96	95	64	42	51	31	39	46	47	42	25	31	31	18	43.8	95.8
21-Oct	12	4	6	5	6	8	21	23	A	32	22	15	11	11	8	11	24	32	20	24	47	40	18	17	18.1	47.1
22-Oct	21	40	35	8	19	11	25	A	31	18	12	10	7	4	5	6	6	13	13	17	33	27	52	70	21.1	70.4
23-Oct	87	83	79	27	44	54	A	56	56	53	9	9	7	7	7	8	11	9	7	6	8	18	5	4	28.5	87.3
24-Oct	5	5	6	7	9	A	15	30	17	12	11	9	9	10	10	14	15	12	16	10	13	6	7	7	11.1	29.7
25-Oct	8	6	5	7	A	12	13	17	12	14	13	16	14	17	28	9	7	9	11	11	17	15	12	7	12.1	27.6
26-Oct	4	5	10	A	12	22	32	34	31	23	12	25	7	17	23	14	17	20	17	17	14	9	8	6	16.5	33.8
27-Oct	5	8	A	10	6	9	10	16	12	20	13	22	11	13	42	10	10	12	11	9	14	8	6	4	12.3	41.8
28-Oct	7	A	8	5	7	8	10	16	10	7	12	12	9	13	18	12	12	16	16	16	19	18	13	19	12.2	19.4
29-Oct	A	11	8	6	6	6	6	5	60	9	11	12	11	18	17	14	11	11	15	11	10	8	7	A	12.4	60.1
30-Oct	7	5	8	5	7	8	9	9	17	15	21	10	6	17	8	10	10	23	15	20	21	17	A	15	12.3	23.1
31-Oct	9	8	7	5	5	9	19	15	15	22	23	16	26	19	49	P	15	9	9	12	17	A	5	6	14.5	48.5
		11.3	11.8	11.7	8.6	11.7	15.5	18.0	23.3	26.2	20.0	17.0	17.3	14.0	12.7	15.5	12.5	11.6	15.5	17.8	20.3	23.4	18.4	14.8	12.7	Diurnal Average
		87.3	82.6	78.9	29.0	44.3	57.2	63.0	92.9	88.4	95.1	95.8	94.9	64.3	45.6	57.6	65.9	38.6	81.4	104.1	98.9	137.5	97.8	52.0	70.4	Diurnal Maximum
C - Calibration		P - Power Failure					A - Automated Daily Zero Span																			

**Hourly Maximums**

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

**Henry Pirker - October 2016**



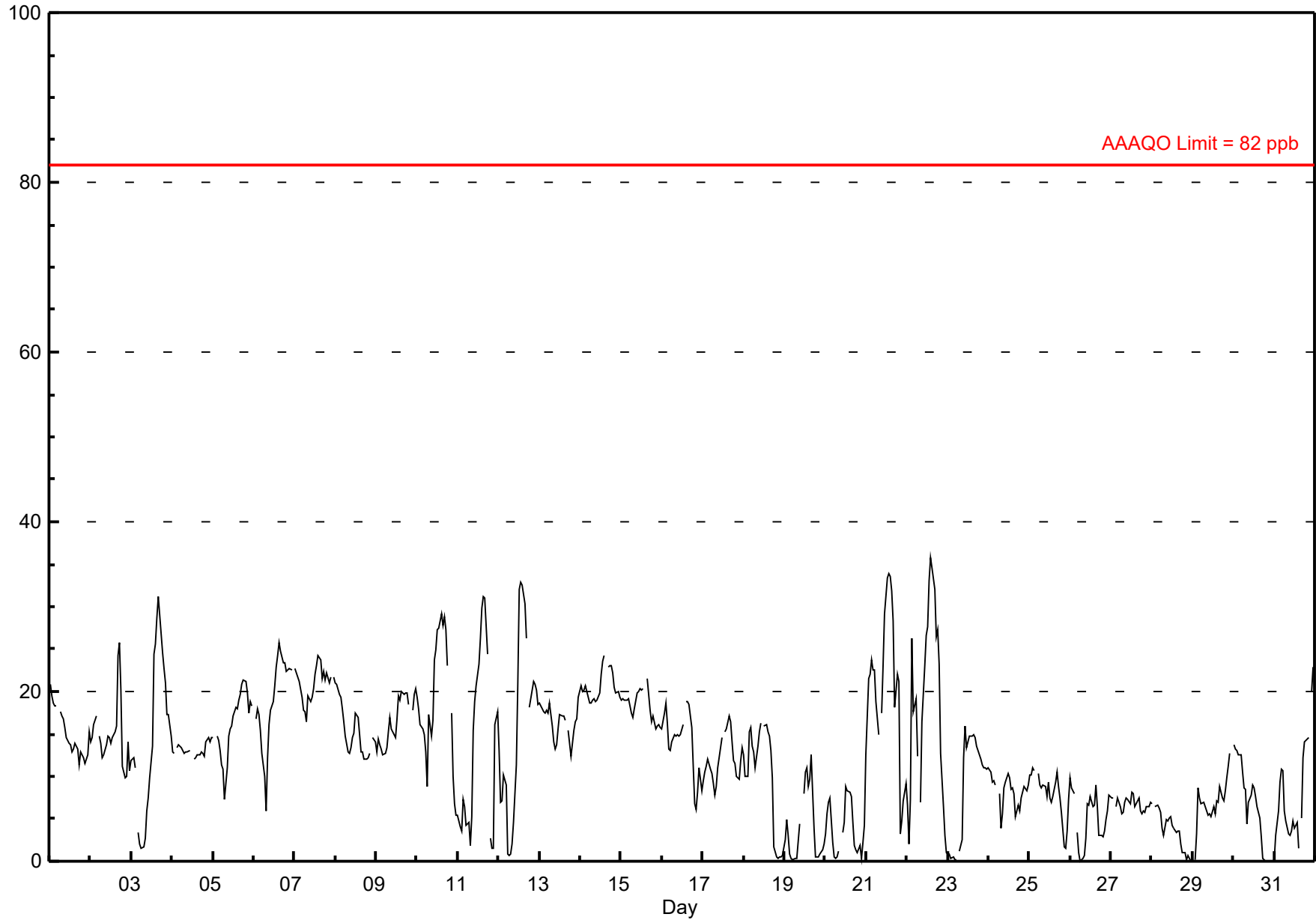


## Hourly Averages

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

Henry Pirker - October 2016

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 35.8 ppb on Oct 22 15:00 Maximum Daily Average: 20.9 ppb on Oct 7		Hours in Service: 744 Hours of Data: 708 Hours of Missing Data: 36 Hours of Calibration: 35 Percent Operational Time: 99.9																								
Minimum Value: 0 ppb on Oct 29 00:00 Maximum Diurnal Average: 17.2 ppb at hour 16 Monthly Average: 12.72 ppb		Minimum Daily Average: 3.6 ppb on Oct 28 Minimum Diurnal Average: 8.9 ppb at hour 8 Percentiles: P <sub>1</sub> = 0.2 P <sub>10</sub> = 2.5 Q <sub>1</sub> = 6.9 Median = 12.8 Q <sub>3</sub> = 18.0 P <sub>90</sub> = 22.3 P <sub>99</sub> = 32.8																								
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-Oct	21	19	19	18	18	A	18	17	17	16	15	14	14	13	13	14	13	11	13	13	12	11	13	15	15.1	20.9
2-Oct	14	15	16	17	A	15	14	12	13	14	15	15	14	15	15	16	24	26	20	11	10	10	14	11	15.0	25.7
3-Oct	12	12	11	A	3	2	1	2	3	6	8	10	14	24	26	29	31	29	25	23	21	17	17	15	14.8	31.1
4-Oct	13	13	A	13	14	13	13	13	13	13	13	C	C	12	12	13	12	13	13	12	14	15	14	15	13.1	14.7
5-Oct	15	A	15	14	13	11	11	7	11	15	16	16	17	18	18	19	20	21	21	21	20	18	19	18	16.2	21.3
6-Oct	A	17	18	17	15	13	10	6	12	16	18	19	21	23	24	26	25	23	23	22	23	23	23	A	18.9	25.8
7-Oct	23	22	22	21	19	18	18	16	19	19	19	20	22	23	24	24	21	22	21	22	21	22	A	22	20.9	24.2
8-Oct	21	21	20	19	18	16	15	13	13	13	15	15	17	17	15	13	13	12	12	12	13	A	15	14	15.3	21.1
9-Oct	13	14	14	13	12	13	13	15	17	16	15	15	17	20	19	20	20	20	18	A	18	20	20	20	16.6	20.4
10-Oct	19	18	16	16	15	13	9	17	15	17	24	25	27	27	29	28	29	27	23	A	17	10	7	5	18.9	29.2
11-Oct	5	4	4	7	6	4	5	2	5	15	19	21	23	26	30	31	31	24	A	3	2	2	16	18	13.2	31.1
12-Oct	13	7	7	10	9	1	1	1	2	5	11	21	32	33	33	30	26	A	18	19	21	21	20	18	15.6	32.9
13-Oct	19	18	18	17	18	17	19	16	14	13	14	16	17	17	17	17	A	15	12	14	15	16	17	19	16.4	19.4
14-Oct	21	20	20	21	20	19	19	19	19	19	19	20	22	24	24	A	23	23	23	22	21	20	20	19	20.7	24.2
15-Oct	19	19	19	19	19	18	17	17	18	20	20	20	20	20	A	21	20	18	16	17	16	16	16	16	18.4	21.5
16-Oct	16	18	19	16	13	13	14	15	15	15	15	15	16	A	19	19	18	16	11	7	6	8	11	8	14.0	18.8
17-Oct	9	11	11	12	11	10	9	8	9	11	13	14	A	15	16	17	16	14	12	11	10	10	12	13	12.0	17.0
18-Oct	13	10	10	15	16	14	13	11	14	15	16	A	16	16	15	15	13	10	2	1	0	1	1	1	10.2	16.3
19-Oct	3	5	3	1	0	0	0	0	2	4	A	8	10	11	9	10	13	4	1	1	0	1	1	2	3.9	12.6
20-Oct	3	6	7	7	2	1	0	1	1	A	3	5	9	8	8	8	5	2	1	1	2	0	2	4	3.7	8.8
21-Oct	13	21	22	24	23	23	19	15	A	17	23	29	33	34	34	32	28	18	22	21	3	5	7	9	20.6	34.0
22-Oct	7	2	7	26	18	19	12	A	7	16	23	27	28	33	36	35	32	26	27	23	13	6	3	1	18.6	35.8
23-Oct	1	1	0	0	0	0	A	1	3	12	16	13	14	15	15	15	15	13	13	12	11	11	11	11	8.9	15.9
24-Oct	11	11	9	9	9	A	8	4	6	9	9	10	10	8	9	8	5	7	6	7	8	9	8	9	8.2	11.0
25-Oct	10	10	11	11	A	10	9	9	9	9	8	9	7	7	8	9	11	9	7	6	2	2	4	7	7.9	11.0
26-Oct	10	9	8	A	3	1	0	0	1	3	7	7	8	6	7	9	6	3	3	3	4	5	6	8	5.0	9.8
27-Oct	7	7	A	6	8	6	6	6	7	8	7	7	8	8	7	7	7	6	6	6	6	6	7	7	6.7	8.2
28-Oct	7	A	6	7	6	6	4	3	5	5	5	5	4	4	3	3	4	2	1	1	0	1	0	0	3.6	6.8
29-Oct	A	0	3	9	7	7	7	6	6	5	6	5	6	6	7	7	9	7	7	8	10	11	13	A	7.0	12.7
30-Oct	14	13	13	13	12	10	9	8	4	7	8	9	9	8	6	5	3	0	0	0	0	0	0	0	6.6	13.7
31-Oct	0	3	6	9	11	11	6	5	3	3	4	5	4	5	2	P	5	12	14	14	15	A	20	23	8.1	22.8
12.0 11.9 12.2 13.5 11.7 10.5 9.9 8.9 9.4 11.8 13.4 14.3 15.9 16.5 16.6 17.2 16.6 14.5 13.1 11.8 10.5 10.1 11.6 11.3 22.6 22.3 22.1 26.3 22.6 22.5 18.8 19.0 19.5 19.9 23.7 29.1 33.3 34.0 35.8 34.5 32.0 29.0 27.2 23.2 22.6 22.7 22.5 22.8																								Diurnal Average	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 Maximums

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

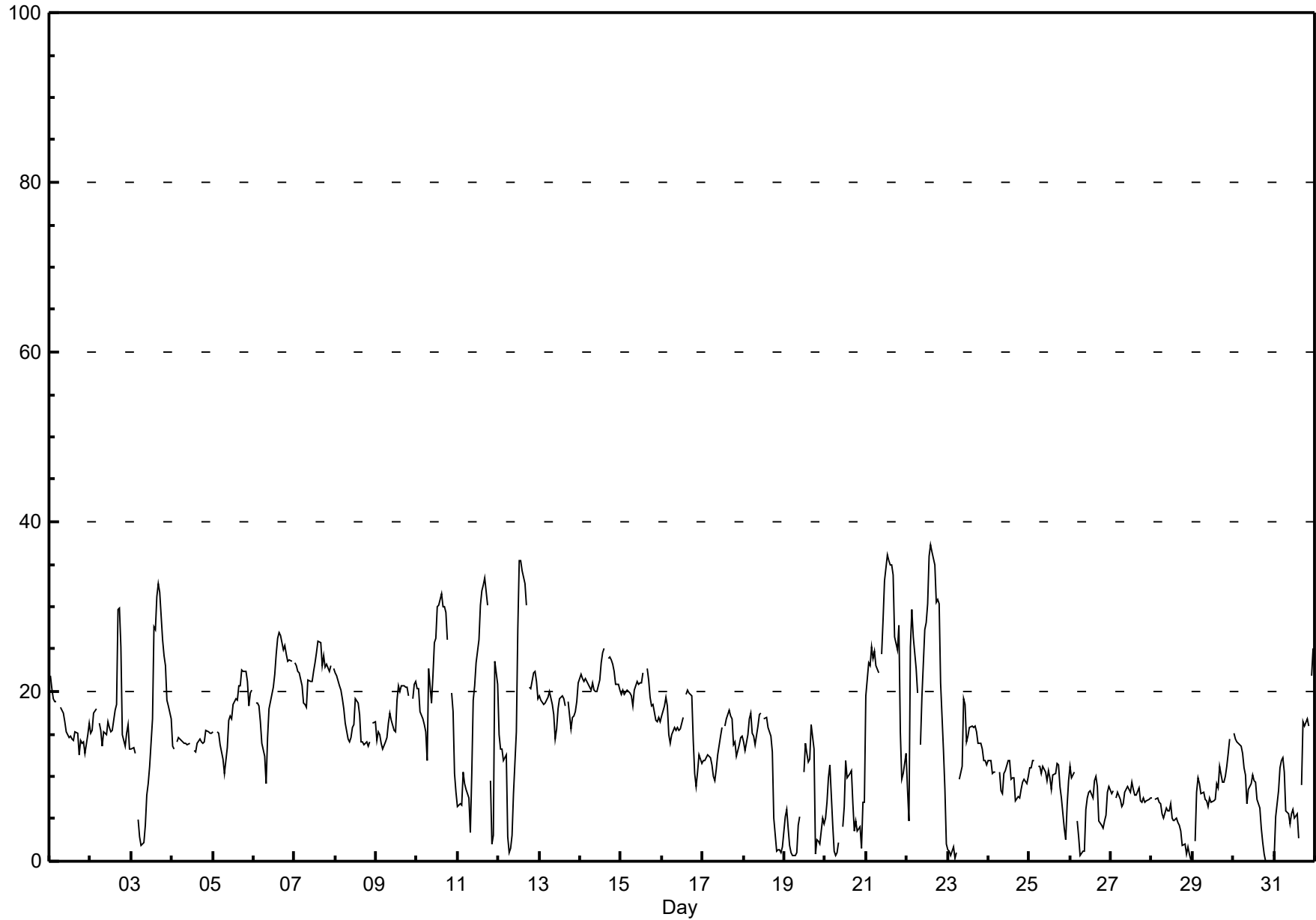
Henry Pirker - October 2016

Maximum Value: 37.3 ppb on Oct 22 15:00		Maximum Daily Average: 24.9 ppb on Oct 21		Hours in Service: 744																																													
Minimum Value: 0 ppb on Oct 30 21:00		Minimum Daily Average: 4.6 ppb on Oct 28		Hours of Data: 708																																													
Maximum Diurnal Average: 18.8 ppb at hour 16		Minimum Diurnal Average: 11.0 ppb at hour 8		Hours of Missing Data: 36																																													
Monthly Average: 14.56 ppb		Percentiles: P <sub>1</sub> = 0.6 P <sub>10</sub> = 4.3 Q <sub>1</sub> = 8.8 Median = 14.4 Q <sub>3</sub> = 19.7 P <sub>90</sub> = 24.2 P <sub>99</sub> = 35.4		Hours of Calibration: 35																																													
				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-Oct	22	20	19	19	19	A	18	18	17	16	15	15	15	14	14	15	15	13	14	14	14	13	15	16	16.1	21.8																							
2-Oct	15	15	17	18	A	16	15	13	15	15	16	16	15	15	18	19	30	30	25	15	14	15	16	13	17.3	29.8																							
3-Oct	13	13	13	A	5	3	2	2	4	8	9	11	17	28	27	31	33	32	26	24	23	19	18	17	16.5	32.7																							
4-Oct	14	13	A	14	15	14	14	14	14	14	14	C	C	13	13	14	14	14	14	14	15	15	15	15	14.1	15.4																							
5-Oct	15	A	15	15	14	13	12	10	13	17	17	17	18	19	19	21	21	23	22	22	21	18	20	20	17.5	22.5																							
6-Oct	A	19	19	18	16	14	12	9	15	18	19	21	22	24	26	27	27	25	25	24	24	24	24	A	20.5	26.9																							
7-Oct	23	23	22	22	21	19	18	18	21	21	21	22	23	25	26	26	23	24	23	23	22	23	A	23	22.4	25.9																							
8-Oct	22	22	21	20	19	18	16	14	14	15	16	16	19	19	17	14	14	14	14	14	14	A	16	16	16.7	22.2																							
9-Oct	14	15	15	14	13	14	15	16	17	17	15	15	19	21	20	21	21	20	20	19	A	19	21	21	17.6	21.2																							
10-Oct	20	20	18	17	16	15	12	23	19	22	26	26	30	30	32	30	30	29	26	A	20	18	10	8	21.6	31.5																							
11-Oct	7	7	7	10	9	8	8	3	10	19	21	23	26	30	32	33	33	30	A	9	2	3	23	21	16.3	33.5																							
12-Oct	15	13	13	12	12	3	1	2	3	8	15	27	35	35	34	33	30	A	21	20	22	22	21	19	18.2	35.4																							
13-Oct	20	19	18	19	19	19	20	18	17	14	16	18	19	19	19	18	A	19	16	17	17	18	19	21	18.2	21.0																							
14-Oct	22	21	21	22	21	21	20	21	20	20	20	21	23	25	25	A	24	24	24	23	22	21	21	20	21.9	25.0																							
15-Oct	20	20	20	20	20	20	19	18	20	21	21	21	21	22	A	23	21	19	18	19	17	16	17	16	19.6	22.8																							
16-Oct	17	18	19	18	15	14	15	16	15	16	15	16	17	A	20	20	20	19	14	10	9	11	13	12	15.6	20.2																							
17-Oct	12	12	12	13	12	11	10	9	11	13	15	16	A	16	17	18	17	17	14	14	12	14	15	15	13.6	17.7																							
18-Oct	14	13	15	17	17	15	15	14	16	17	18	A	17	17	16	15	15	13	5	1	1	1	1	2	11.9	17.5																							
19-Oct	5	6	4	2	1	1	1	1	1	4	5	A	10	14	13	12	12	16	13	1	3	2	2	5	4	6.0	16.1																						
20-Oct	5	7	10	11	4	1	1	1	2	A	4	6	12	10	10	11	7	4	5	4	4	2	7	7	5.8	11.9																							
21-Oct	20	23	23	25	24	25	23	22	A	24	29	33	36	36	35	35	34	26	25	28	15	10	10	13	24.9	36.1																							
22-Oct	8	5	25	30	26	23	20	A	14	19	27	28	30	36	37	36	35	30	31	30	21	13	9	2	23.3	37.3																							
23-Oct	1	1	1	2	0	1	A	10	11	19	18	14	15	16	16	16	16	15	14	14	13	12	12	11	10.8	19.1																							
24-Oct	12	12	10	10	11	A	11	8	8	10	11	12	12	10	10	10	7	8	8	8	9	10	9	10	9.8	11.9																							
25-Oct	11	11	12	12	A	11	11	10	11	10	10	11	10	8	10	10	12	11	9	8	4	3	7	10	9.6	11.9																							
26-Oct	11	10	10	A	5	3	1	1	1	6	7	8	8	8	10	10	9	5	4	4	5	5	8	9	6.4	11.2																							
27-Oct	8	8	A	7	8	7	6	7	8	9	9	8	9	9	8	8	9	7	7	7	7	7	8	8	7.8	9.3																							
28-Oct	8	A	7	7	7	7	6	5	6	6	6	7	5	5	5	5	4	4	2	2	1	2	1	0	4.6	7.5																							
29-Oct	A	2	8	10	9	8	8	7	7	6	7	7	7	7	9	9	11	9	9	10	11	13	14	A	8.7	14.5																							
30-Oct	15	14	14	14	14	13	11	10	7	8	9	10	9	9	7	6	4	2	1	0	0	0	A	1	7.8	15.1																							
31-Oct	1	5	8	11	12	12	11	6	6	4	6	6	5	6	3	P	9	16	16	17	16	A	22	25	10.1	25.1																							
																								13.4	13.5	14.4	14.8	13.3	12.0	11.7	11.0	11.7	14.0	15.0	15.9	17.6	18.1	18.2	18.8	18.6	17.2	15.1	14.0	12.6	12.0	13.6	12.9	Diurnal Average	
																								23.4	23.4	25.2	29.7	26.4	24.7	23.0	22.7	21.4	24.5	28.5	33.1	36.1	35.9	37.3	36.5	34.9	31.8	30.8	30.3	23.5	23.7	23.6	25.1	Diurnal Maximum	
C - Calibration																								P - Power Failure						A - Automated Daily Zero Span																			



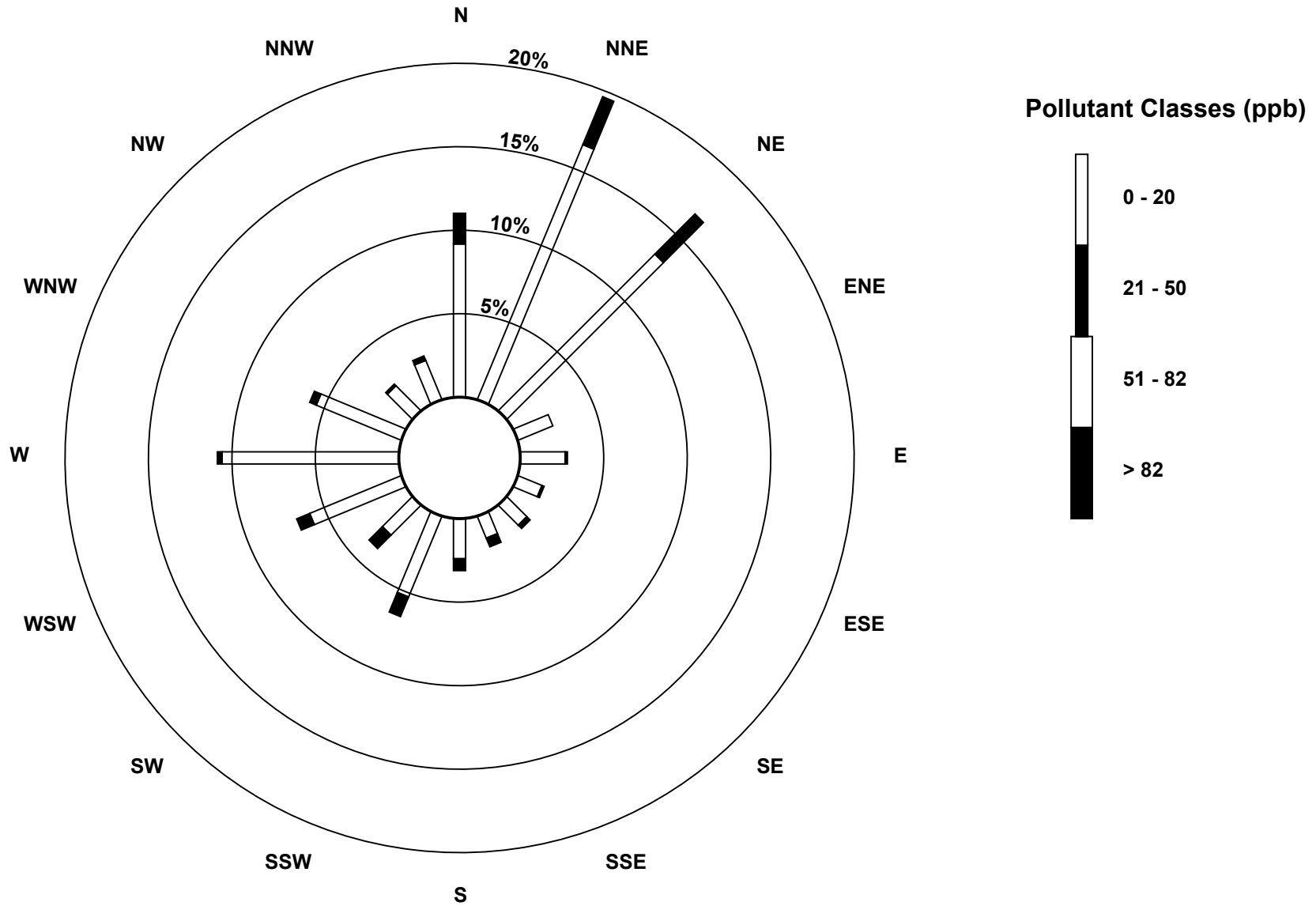
### Hourly Maximums

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



**Pollutant Rose**

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



# Eight Hour Running Averages

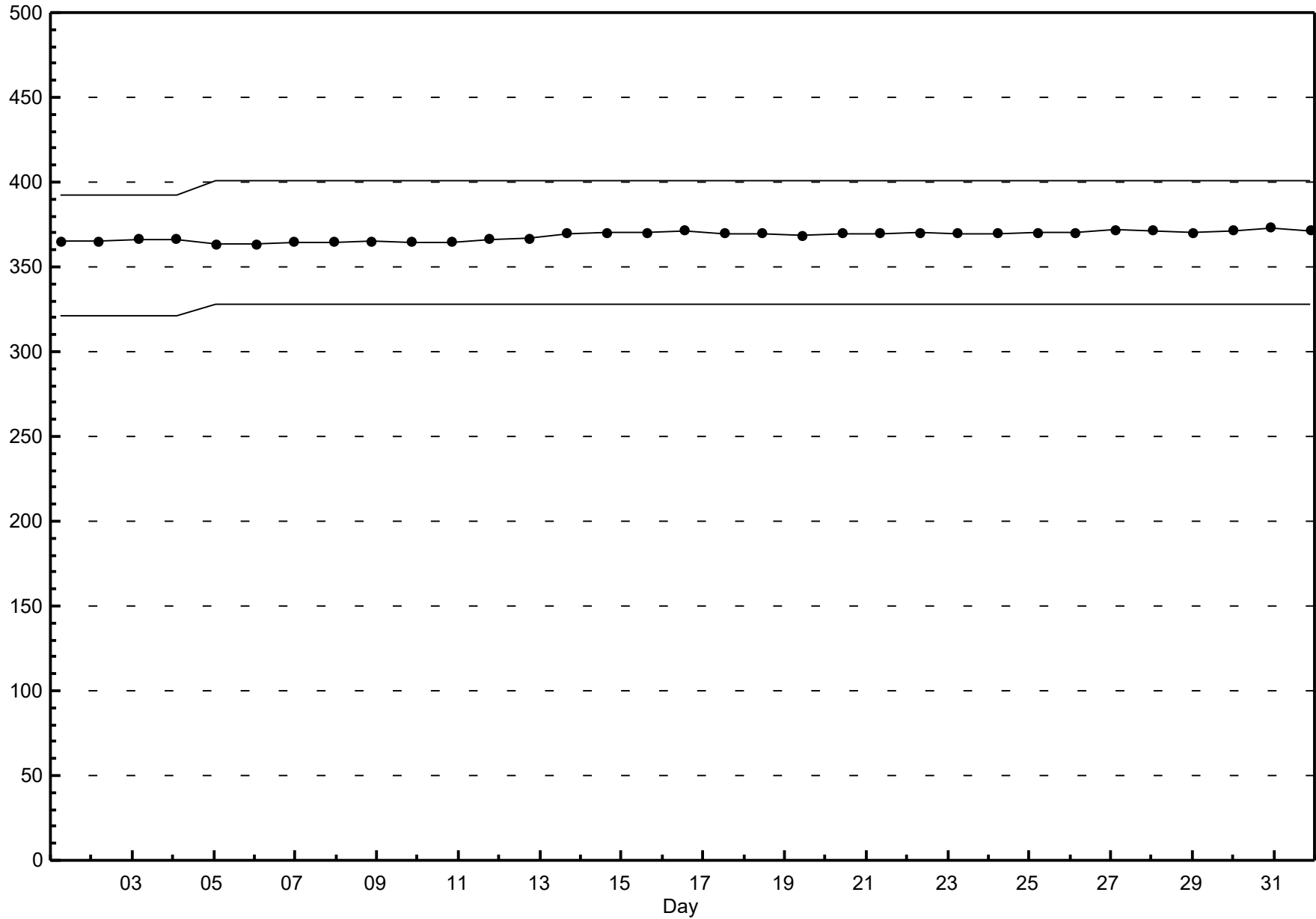
Ozone (O<sub>3</sub>) - ppb

Henry Pirker - October 2016

Maximum Value: 30.4 ppb on Oct 22 19:00		Hours in Service: 744																							
Minimum Value: 0.0 ppb on Oct 31 01:00		Hours of Data: 744																							
Percentiles: P <sub>1</sub> = 0.7 P <sub>10</sub> = 4.1 Q <sub>1</sub> = 6.8 Median = 13.1 Q <sub>3</sub> = 17.9 P <sub>90</sub> = 21.3 P <sub>99</sub> = 28.7		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-Oct	20	20	20	20	20	20	19	19	18	18	17	16	15	15	14	14	13	13	13	13	13	13	13	13	20.2
2-Oct	13	13	14	14	14	15	15	15	14	14	14	14	14	14	14	14	16	17	18	18	17	17	16	16	18.1
3-Oct	14	13	11	11	10	9	8	6	5	4	4	4	6	8	11	15	18	21	23	25	26	25	24	22	25.9
4-Oct	20	18	17	16	15	14	13	13	13	13	13	13	13	13	13	13	13	13	12	12	13	13	13	13	19.9
5-Oct	14	14	14	14	14	14	13	12	12	12	12	12	13	14	15	16	17	18	19	19	20	20	20	20	19.8
6-Oct	20	19	19	18	17	17	16	14	14	13	13	14	14	16	17	20	21	22	23	23	24	24	23	23	23.7
7-Oct	23	23	22	22	22	21	20	20	19	19	19	19	19	20	20	21	22	22	22	23	22	22	22	22	22.8
8-Oct	22	21	21	21	20	20	19	18	17	16	15	15	15	15	15	15	15	14	14	13	13	13	13	13	21.6
9-Oct	13	13	14	14	14	14	13	14	14	14	14	14	15	16	17	17	18	18	19	19	19	19	19	19	19.5
10-Oct	19	19	19	18	18	17	16	15	15	15	16	17	18	20	23	24	26	27	27	27	26	23	20	17	27.3
11-Oct	14	10	8	7	6	5	5	5	5	6	8	10	12	15	18	21	25	26	27	24	21	17	15	14	26.6
12-Oct	11	9	8	9	10	10	8	6	5	4	5	6	9	13	17	21	24	27	28	27	26	24	22	21	27.6
13-Oct	20	19	19	19	19	18	18	18	17	17	16	16	16	16	16	16	16	16	16	16	15	15	15	16	19.5
14-Oct	16	17	18	19	19	20	20	20	20	19	19	19	19	20	21	21	21	22	23	23	23	22	22	21	23.0
15-Oct	21	20	20	19	19	19	19	18	18	18	19	19	19	19	19	20	20	20	19	19	18	18	17	17	20.9
16-Oct	16	16	17	16	16	16	16	15	15	15	14	14	15	15	16	16	17	17	16	15	14	13	12	11	16.8
17-Oct	10	9	9	10	10	10	10	10	10	10	10	11	11	11	12	14	15	15	15	15	14	13	13	12	15.2
18-Oct	12	11	11	12	12	13	13	13	13	13	14	14	14	14	15	15	15	14	12	11	9	7	5	3	15.3
19-Oct	2	1	2	2	2	2	2	2	2	1	1	2	4	5	6	8	9	9	8	7	6	5	4	3	9.3
20-Oct	2	2	3	3	4	4	4	3	3	3	2	2	3	4	5	6	6	6	6	5	4	3	3	2	6.5
21-Oct	3	6	8	11	14	16	18	20	21	20	20	21	23	24	26	29	29	29	29	28	24	20	17	14	28.9
22-Oct	12	10	8	8	10	12	13	13	13	15	17	17	19	21	24	25	29	30	30	30	28	25	21	17	30.4
23-Oct	13	9	6	3	2	1	1	1	1	2	5	6	8	11	11	13	14	14	14	14	14	13	13	12	14.5
24-Oct	12	11	11	11	10	10	10	9	8	8	8	8	8	8	8	9	9	8	8	8	7	7	7	7	11.7
25-Oct	8	9	9	10	10	10	10	10	10	10	9	9	9	8	8	8	8	8	8	8	7	7	6	6	10.1
26-Oct	6	6	6	6	6	6	5	4	3	2	2	3	3	4	5	6	7	7	6	6	5	5	5	5	6.6
27-Oct	5	5	6	6	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	6	6	6	6	7.3
28-Oct	6	6	6	6	7	6	6	6	5	5	5	5	5	4	4	4	4	4	3	3	2	2	2	1	6.6
29-Oct	1	0	1	2	3	4	5	6	6	6	7	6	6	6	6	6	6	7	7	7	8	8	9	9	9.3
30-Oct	10	11	12	12	13	13	12	12	10	10	9	9	8	8	7	7	7	6	5	4	3	2	1	0	12.7
31-Oct	0	0	1	3	4	6	6	6	7	7	6	6	5	4	4	4	4	5	7	8	9	10	13	15	14.7
Diurnal Maximums																									

### Span Responses

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

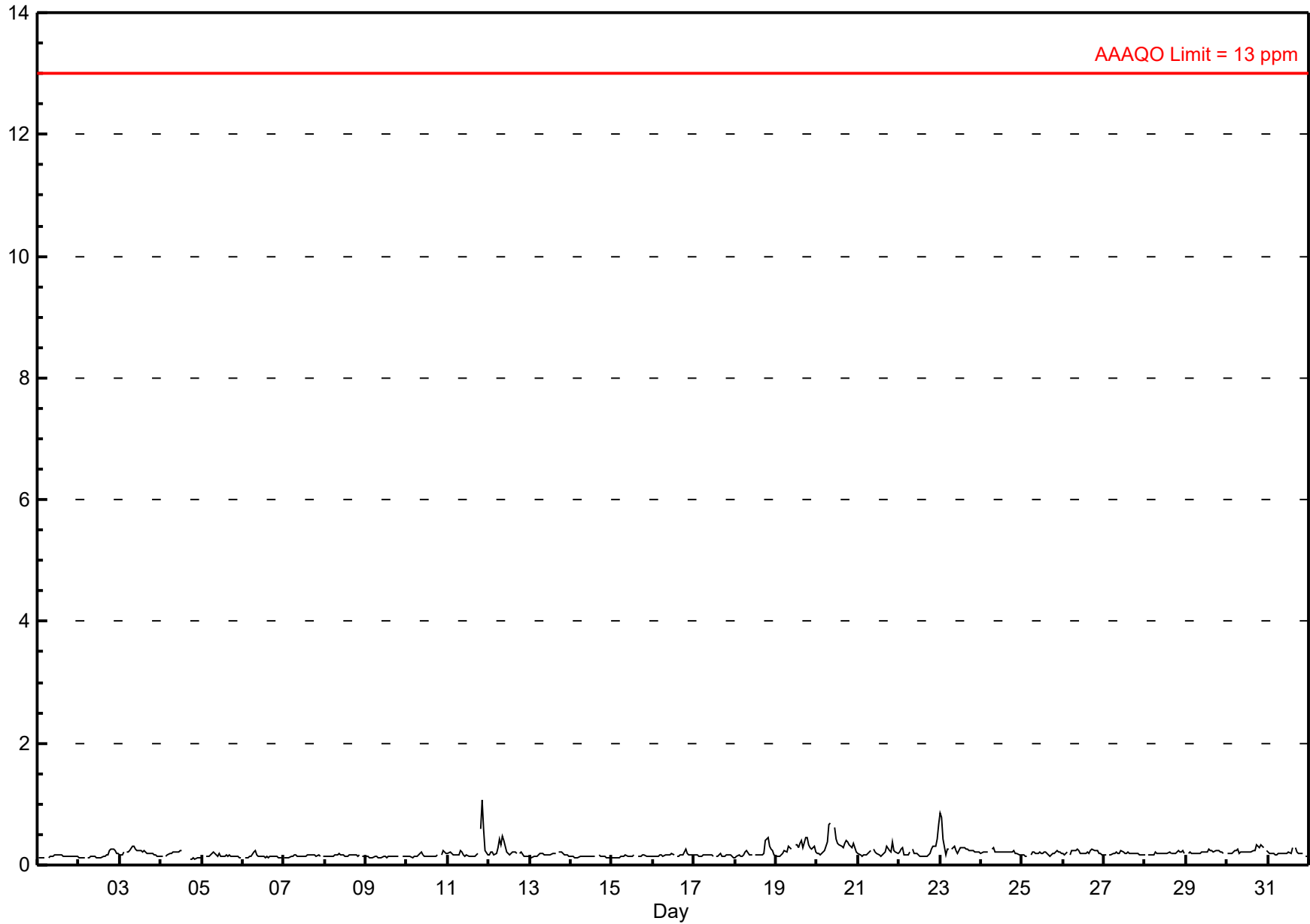


## Hourly Averages

Carbon Monoxide (CO) - ppm

Henry Pirker - October 2016

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 1.07 ppm on Oct 11 21:00 Maximum Daily Average: 0.35 ppm on Oct 20		Hours in Service: 744 Hours of Data: 706 Hours of Missing Data: 38 Hours of Calibration: 37 Percent Operational Time: 99.9																																														
Minimum Value: 0.1 ppm on Oct 4 18:00 Maximum Diurnal Average: 0.24 ppm at hour 21 Monthly Average: 0.194 ppm		Minimum Daily Average: 0.13 ppm on Oct 9 Minimum Diurnal Average: 0.15 ppm at hour 4 Percentiles: P <sub>1</sub> = 0.12 P <sub>10</sub> = 0.13 Q <sub>1</sub> = 0.14 Median = 0.17 Q <sub>3</sub> = 0.21 P <sub>90</sub> = 0.27 P <sub>99</sub> = 0.58																																														
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																								
1-Oct	0.1	0.1	0.1	0.1	0.1	A	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.14	0.17																						
2-Oct	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	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.16	0.27																						
3-Oct	0.2	0.2	0.2	A	0.2	0.2	0.2	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.21	0.31																						
4-Oct	0.2	0.2	A	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	C	C	C	C	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.16	0.23																						
5-Oct	0.1	A	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.15	0.20																						
6-Oct	A	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.14	0.25																						
7-Oct	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	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.1	A	0.1	0.14	0.18																						
8-Oct	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.1	0.16	0.20																						
9-Oct	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	A	0.1	0.1	0.13	0.14																						
10-Oct	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	A	0.2	0.2	0.2	0.2	0.16	0.24																						
11-Oct	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.2	A	0.6	1.1	0.6	0.2	0.2	0.25	1.07																						
12-Oct	0.2	0.2	0.2	0.2	0.2	0.3	0.4	0.3	0.5	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.1	0.1	0.1	0.23	0.48																						
13-Oct	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	A	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.17	0.22																						
14-Oct	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	A	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.14	0.16																						
15-Oct	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.2	0.1	0.2	0.2	A	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.14	0.16																						
16-Oct	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.1	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.17	0.26																						
17-Oct	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	A	0.1	0.1	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.15	0.18																						
18-Oct	0.1	0.1	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	0.4	0.4	0.3	0.3	0.2	0.2	0.20	0.45																						
19-Oct	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.3	0.3	0.3	A	0.3	0.3	0.3	0.3	0.4	0.3	0.5	0.5	0.3	0.3	0.3	0.3	0.2	0.28	0.46																						
20-Oct	0.2	0.2	0.2	0.2	0.2	0.3	0.4	0.7	0.7	A	0.6	0.4	0.4	0.3	0.3	0.3	0.3	0.4	0.4	0.3	0.3	0.3	0.3	0.2	0.35	0.68																						
21-Oct	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	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.4	0.2	0.2	0.2	0.21	0.37																						
22-Oct	0.2	0.3	0.3	0.2	0.2	0.2	0.2	A	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.3	0.4	0.7	0.23	0.68																						
23-Oct	0.8	0.8	0.4	0.2	0.3	0.3	A	0.3	0.3	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.30	0.85																						
24-Oct	0.2	0.2	0.2	0.2	0.2	A	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.21	0.28																						
25-Oct	0.2	0.2	0.1	0.1	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.19	0.24																						
26-Oct	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.21	0.27																						
27-Oct	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.19	0.25																						
28-Oct	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.19	0.25																						
29-Oct	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.21	0.26																						
30-Oct	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	A	0.2	0.23	0.34																						
31-Oct	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	P	0.3	0.2	0.2	0.2	0.2	A	0.1	0.1	0.20	0.29																						
																								0.18	0.18	0.17	0.15	0.17	0.18	0.20	0.22	0.22	0.19	0.20	0.19	0.18	0.18	0.19	0.19	0.19	0.20	0.21	0.22	0.24	0.21	0.19	0.18	Diurnal Average
																								0.85	0.79	0.43	0.20	0.25	0.31	0.43	0.67	0.68	0.41	0.61	0.43	0.36	0.34	0.35	0.41	0.35	0.46	0.46	0.60	1.07	0.60	0.42	0.68	Diurnal Maximum
C - Calibration      P - Power Failure      A - Automated Daily Zero Span Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 13 ppm      24-hr na																																																



# Hourly Maximums

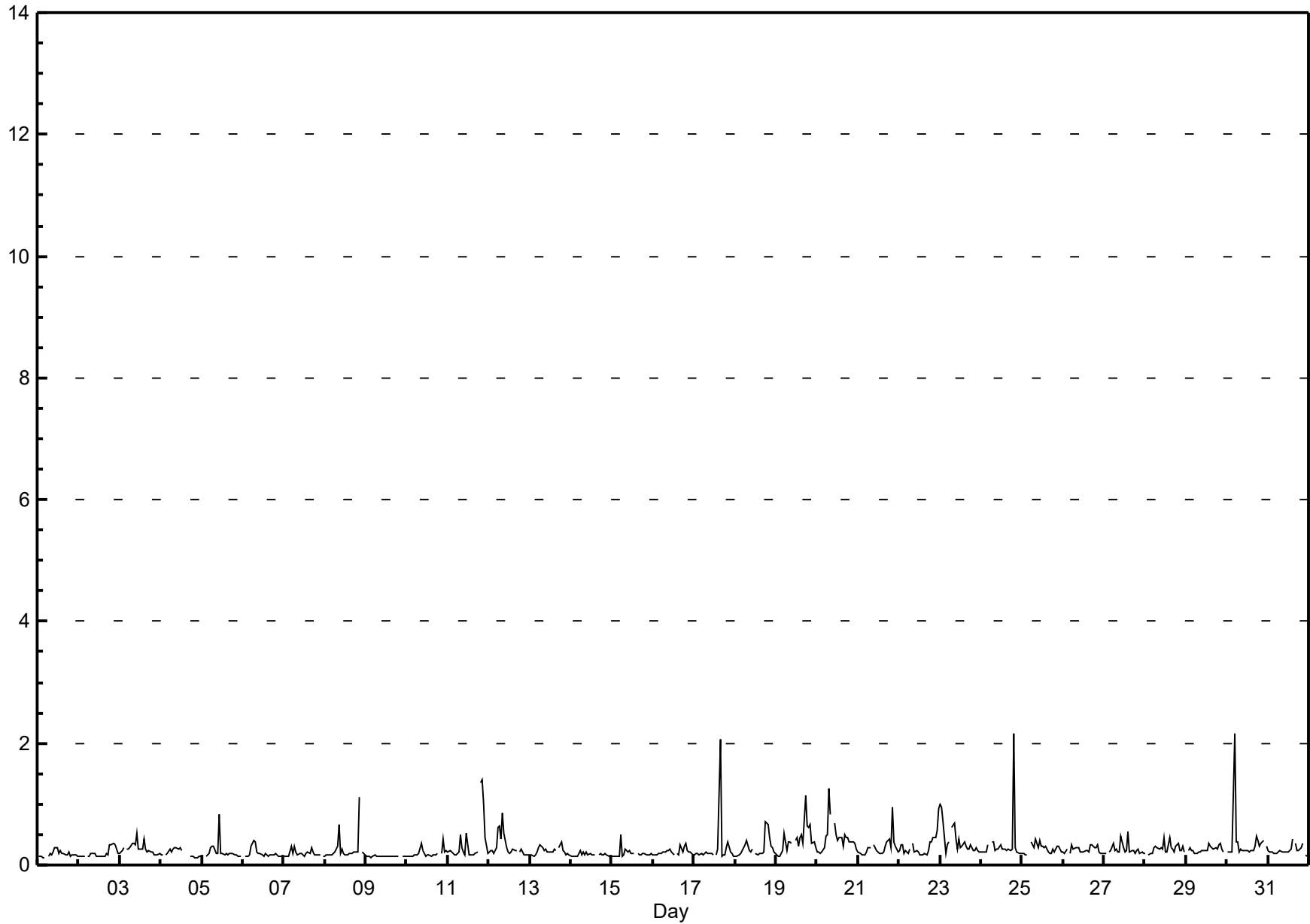
Carbon Monoxide (CO) - ppm

Henry Pirker - October 2016

Maximum Value: 2.16 ppm on Oct 24 20:00		Maximum Daily Average: 0.44 ppm on Oct 20		Hours in Service: 744																							
Minimum Value: 0.1 ppm on Oct 1 04:00		Minimum Daily Average: 0.14 ppm on Oct 9		Hours of Data: 706																							
Maximum Diurnal Average: 0.38 ppm at hour 20		Minimum Diurnal Average: 0.17 ppm at hour 4		Hours of Missing Data: 38																							
Monthly Average: 0.263 ppm		Percentiles: P <sub>1</sub> = 0.13 P <sub>10</sub> = 0.15 Q <sub>1</sub> = 0.17 Median = 0.21 Q <sub>3</sub> = 0.28 P <sub>90</sub> = 0.39 P <sub>99</sub> = 1.07		Hours of Calibration: 37																							
				Percent Operational Time: 99.9																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Oct	0.1	0.1	0.1	0.1	0.1	A	0.1	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.1	0.18	0.30	
2-Oct	0.1	0.1	0.1	0.1	A	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.4	0.3	0.3	0.2	0.19	0.36
3-Oct	0.2	0.2	0.3	A	0.3	0.3	0.3	0.3	0.3	0.3	0.5	0.3	0.3	0.3	0.4	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.27	0.52	
4-Oct	0.2	0.2	A	0.2	0.2	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.2	C	C	C	C	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.20	0.29	
5-Oct	0.2	A	0.2	0.2	0.2	0.3	0.3	0.3	0.2	0.2	0.8	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	0.22	0.84	
6-Oct	A	0.1	0.1	0.1	0.2	0.3	0.4	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	A	0.19	0.41	
7-Oct	0.1	0.1	0.1	0.1	0.3	0.2	0.3	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.19	0.30	
8-Oct	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.7	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	1.1	A	0.2	0.2	0.25	1.10	
9-Oct	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	0.2	0.1	0.2	0.1	0.1	0.2	0.2	A	0.1	0.2	0.1	0.14	0.16	
10-Oct	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.4	0.2	0.2	0.1	0.2	0.2	0.1	0.2	0.2	0.2	0.2	A	0.2	0.4	0.2	0.2	0.19	0.43	
11-Oct	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.5	0.3	0.2	0.2	0.5	0.2	0.2	0.2	0.2	0.2	0.2	A	1.4	1.4	1.0	0.4	0.2	0.37	1.39	
12-Oct	0.2	0.2	0.2	0.2	0.3	0.6	0.6	0.4	0.9	0.5	0.3	0.2	0.2	0.2	0.3	0.2	0.2	A	0.2	0.3	0.2	0.2	0.2	0.2	0.30	0.85	
13-Oct	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.2	0.3	0.2	0.2	0.2	0.2	0.3	0.2	A	0.3	0.4	0.2	0.2	0.2	0.2	0.2	0.23	0.38	
14-Oct	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.17	0.23	
15-Oct	0.1	0.1	0.1	0.1	0.2	0.5	0.1	0.2	0.3	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.19	0.50	
16-Oct	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	A	0.2	0.2	0.3	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.22	0.35	
17-Oct	0.2	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	0.3	2.1	0.2	0.2	0.2	0.3	0.4	0.2	0.1	0.28	2.08	
18-Oct	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.4	0.2	0.2	0.3	A	0.2	0.2	0.2	0.2	0.2	0.2	0.7	0.7	0.5	0.3	0.3	0.2	0.28	0.71	
19-Oct	0.2	0.1	0.2	0.2	0.2	0.5	0.2	0.4	0.4	0.3	A	0.4	0.5	0.3	0.4	0.5	0.4	1.1	0.7	0.6	0.7	0.4	0.4	0.3	0.41	1.14	
20-Oct	0.2	0.2	0.2	0.2	0.3	0.5	0.5	1.3	0.8	A	0.7	0.5	0.4	0.4	0.4	0.3	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.3	0.44	1.26	
21-Oct	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	A	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.4	0.4	0.3	1.0	0.4	0.3	0.2	0.29	0.96	
22-Oct	0.2	0.3	0.3	0.2	0.2	0.2	0.3	A	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.4	0.4	0.4	0.4	0.6	0.9	0.30	0.93	
23-Oct	1.0	0.9	0.7	0.2	0.3	0.4	A	0.6	0.7	0.4	0.3	0.4	0.3	0.3	0.4	0.3	0.3	0.3	0.3	0.2	0.2	0.3	0.2	0.2	0.41	0.99	
24-Oct	0.2	0.2	0.2	0.2	0.3	A	0.4	0.4	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.3	0.2	0.3	2.2	0.3	0.2	0.2	0.2	0.34	2.16	
25-Oct	0.2	0.2	0.2	0.2	A	0.4	0.3	0.3	0.4	0.3	0.4	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.3	0.2	0.3	0.3	0.3	0.2	0.27	0.42	
26-Oct	0.2	0.2	0.3	A	0.2	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.25	0.34	
27-Oct	0.2	0.2	A	0.2	0.2	0.4	0.2	0.3	0.2	0.2	0.5	0.3	0.2	0.2	0.5	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.25	0.54	
28-Oct	0.2	A	0.2	0.2	0.2	0.3	0.3	0.3	0.2	0.3	0.2	0.5	0.2	0.2	0.4	0.3	0.3	0.2	0.3	0.4	0.2	0.2	0.3	0.2	0.27	0.45	
29-Oct	A	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.26	0.35	
30-Oct	0.2	0.2	0.2	0.2	2.2	0.4	0.4	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.5	0.4	0.3	0.3	0.4	A	0.3	0.36	2.15	
31-Oct	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.4	P	0.4	0.2	0.2	0.3	0.4	A	0.2	0.2	0.2	0.24	0.42	
		0.21	0.21	0.21	0.17	0.28	0.29	0.27	0.32	0.32	0.25	0.29	0.26	0.22	0.22	0.26	0.29	0.24	0.26	0.28	0.38	0.37	0.27	0.23	0.21	Diurnal Average	
		0.99	0.95	0.70	0.24	2.15	0.62	0.64	1.26	0.85	0.51	0.84	0.52	0.46	0.45	0.54	2.08	0.49	1.14	0.71	2.16	1.39	1.02	0.56	0.93	Diurnal Maximum	
C - Calibration		P - Power Failure						A - Automated Daily Zero Span																			

**Hourly Maximums**

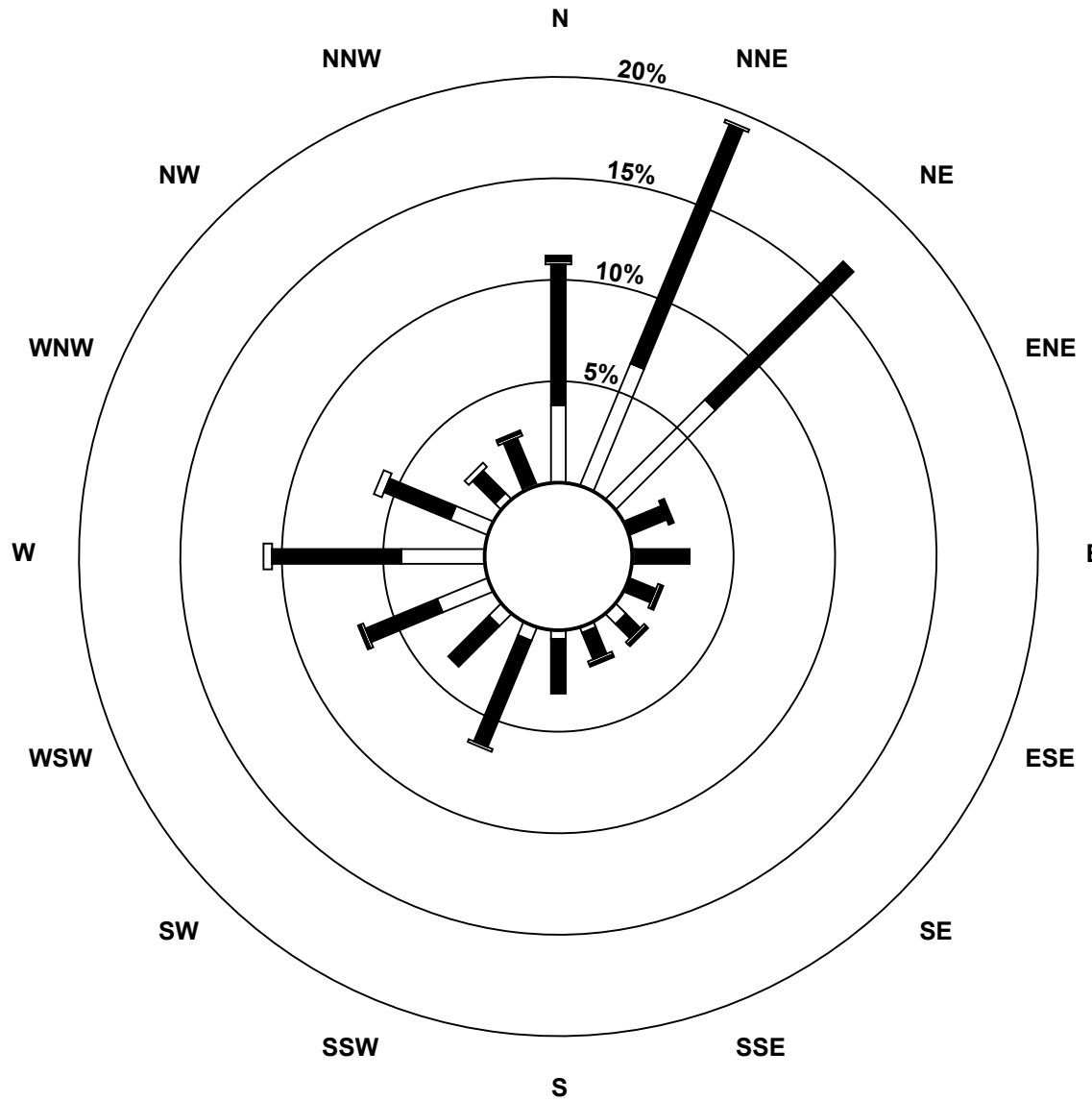
**Carbon Monoxide (CO) - ppm**  
**Henry Pirker - October 2016**



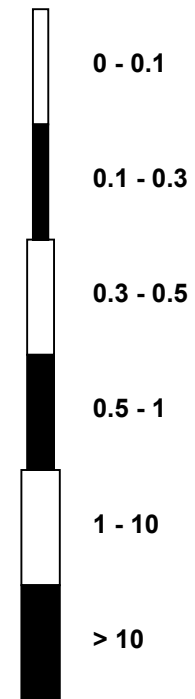


**Pollutant Rose**

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



**Pollutant Classes (ppm)**



## Eight Hour Running Averages

Carbon Monoxide (CO) - ppm

Henry Pirker - October 2016

Number of Exceedences (AAAQO): 8-hr: 0	Hours in Service: 744
Maximum Value: 0.51 ppm on Oct 23 03:00	Hours of Data: 737
Minimum Value: 0.11 ppm on Oct 4 23:00	Hours of Missing Data: 7
	Hours of Calibration: 7
	Percent Operational Time: 100.0
Percentiles: P <sub>1</sub> = 0.12 P <sub>10</sub> = 0.13 Q <sub>1</sub> = 0.15 Median = 0.18 Q <sub>3</sub> = 0.21 P <sub>90</sub> = 0.26 P <sub>99</sub> = 0.48	

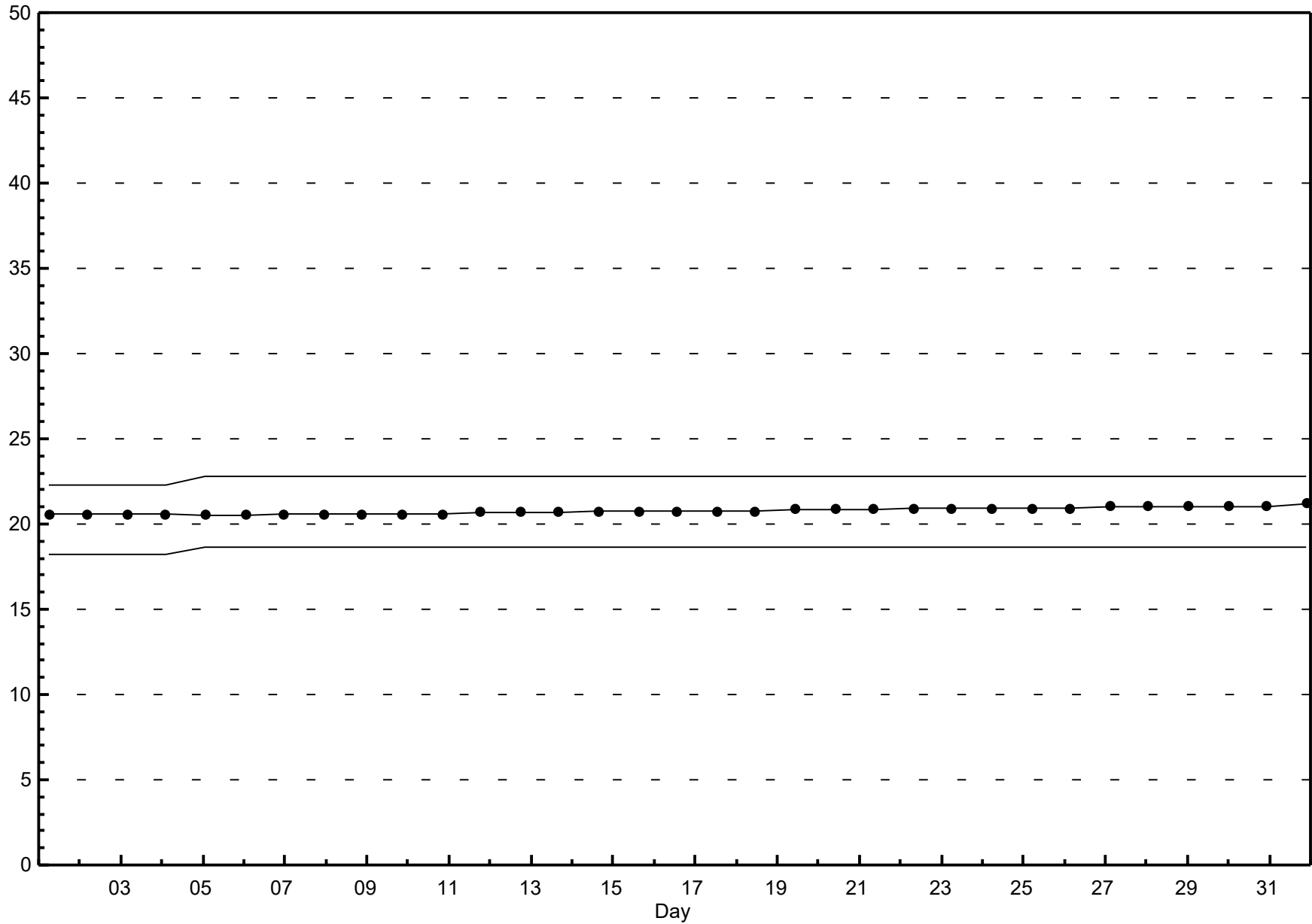
Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Oct	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.16
2-Oct	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.21
3-Oct	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.26
4-Oct	0.2	0.2	0.2	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	0.1	0.22
5-Oct	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	0.1	0.1	0.1	0.1	0.1	0.1	0.17
6-Oct	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.16
7-Oct	0.1	0.1	0.1	0.1	0.1	0.1	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	0.16
8-Oct	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.17
9-Oct	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	0.1	0.1	0.1	0.15
10-Oct	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	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.18
11-Oct	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.3	0.4	0.4	0.4	0.43
12-Oct	0.4	0.4	0.4	0.4	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.43
13-Oct	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.19
14-Oct	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	0.1	0.17
15-Oct	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.15
16-Oct	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	0.2	0.19
17-Oct	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.1	0.19
18-Oct	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	0.3	0.3	0.3	0.27
19-Oct	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	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.36
20-Oct	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.50
21-Oct	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.30
22-Oct	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.31
23-Oct	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.51
24-Oct	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.23
25-Oct	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.20
26-Oct	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	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-Oct	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.21
28-Oct	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.21
29-Oct	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.24
30-Oct	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.29
31-Oct	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.28
	0.43	0.48	0.51	0.49	0.49	0.48	0.49	0.43	0.36	0.38	0.44	0.47	0.49	0.50	0.49	0.43	0.38	0.38	0.36	0.36	0.36	0.41	0.42	0.43	

Diurnal Maximums

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

### Span Responses

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

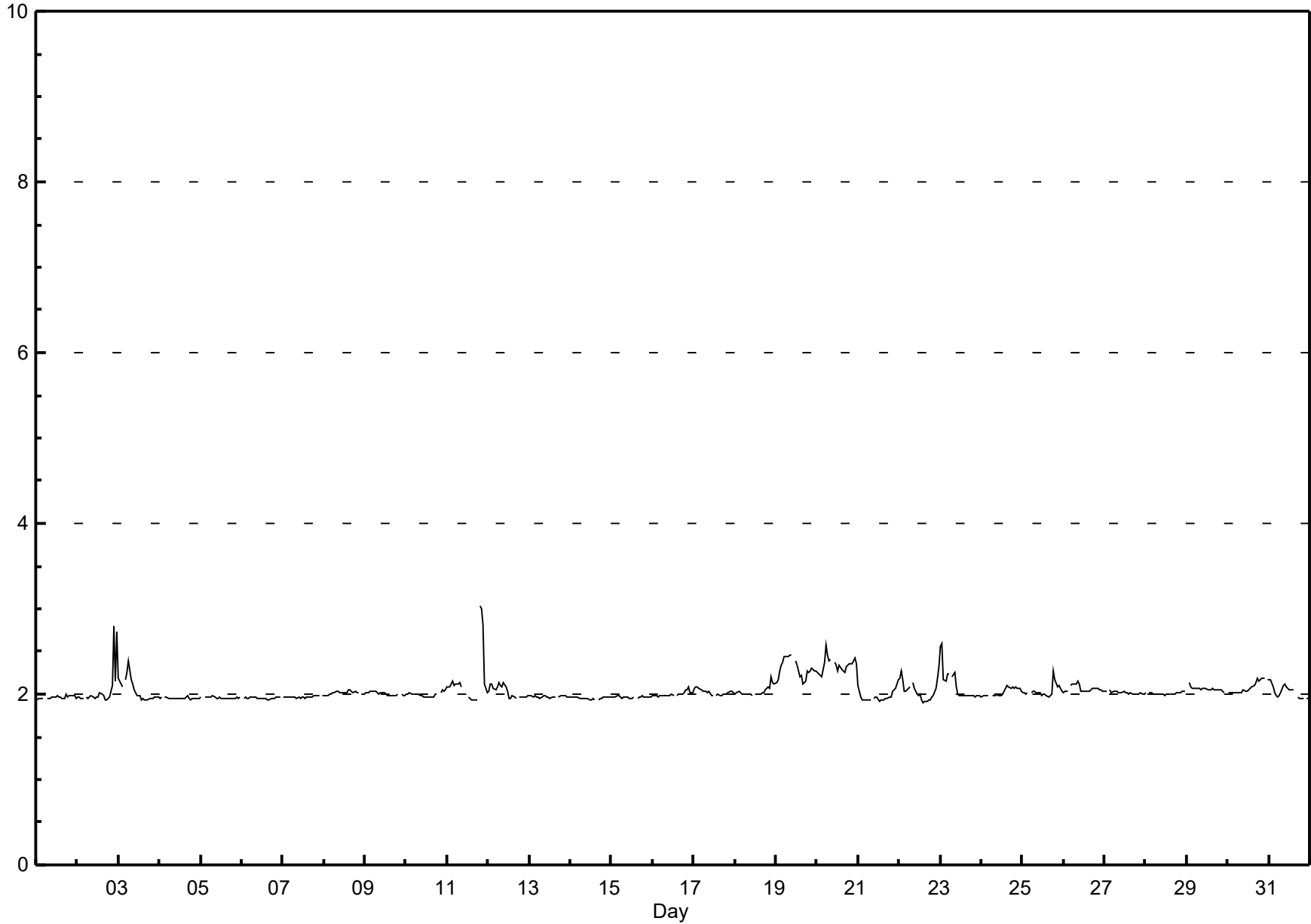


# Hourly Averages

Total Hydrocarbons (THC) - ppm

Henry Pirker - October 2016

Maximum Value: 3.03 ppm on Oct 11 20:00		Maximum Daily Average: 2.34 ppm on Oct 20		Hours in Service: 744																							
Minimum Value: 1.9 ppm on Oct 22 15:00		Minimum Daily Average: 1.95 ppm on Oct 14		Hours of Data: 706																							
Maximum Diurnal Average: 2.10 ppm at hour 22		Minimum Diurnal Average: 2.00 ppm at hour 17		Hours of Missing Data: 38																							
Monthly Average: 2.036 ppm		Percentiles: P <sub>1</sub> = 1.93 P <sub>10</sub> = 1.95 Q <sub>1</sub> = 1.96 Median = 2.00 Q <sub>3</sub> = 2.05 P <sub>90</sub> = 2.17 P <sub>99</sub> = 2.58		Hours of Calibration: 36																							
				Percent Operational Time: 99.7																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Oct	1.9	1.9	1.9	1.9	1.9	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.96	2.00	
2-Oct	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	2.0	2.0	2.0	1.9	1.9	1.9	2.0	2.1	2.8	2.1	2.7	2.05	2.80	
3-Oct	2.2	2.1	2.1	A	2.2	2.3	2.4	2.2	2.1	2.1	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.04	2.39	
4-Oct	2.0	2.0	A	2.0	2.0	2.0	1.9	1.9	1.9	2.0	2.0	2.0	1.9	1.9	2.0	2.0	2.0	1.9	1.9	2.0	1.9	1.9	2.0	2.0	1.95	1.98	
5-Oct	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	2.0	1.9	2.0	2.0	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	1.96	1.98	
6-Oct	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	A	1.96	1.97		
7-Oct	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	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	1.97	1.98	
8-Oct	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	2.01	2.05	
9-Oct	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	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	2.01	2.04	
10-Oct	2.0	2.0	2.0	2.0	2.0	2.0	2.0	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	2.1	2.0	2.1	2.00	2.05	
11-Oct	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	C	C	C	2.0	2.0	1.9	1.9	1.9	1.9	A	3.0	2.8	2.1	2.0	2.18	3.03		
12-Oct	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	1.9	2.0	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.03	2.14		
13-Oct	2.0	2.0	2.0	2.0	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	1.97	1.99	
14-Oct	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	1.95	1.97	
15-Oct	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.96	1.98	
16-Oct	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.1	2.0	2.0	2.00	2.09	
17-Oct	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.02	2.08	
18-Oct	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	2.2	2.1	2.1	2.03	2.20	
19-Oct	2.1	2.2	2.3	2.3	2.4	2.4	2.4	2.4	2.5	2.5	A	2.4	2.3	2.3	2.2	2.2	2.1	2.1	2.3	2.3	2.3	2.3	2.3	2.3	2.30	2.46	
20-Oct	2.3	2.2	2.2	2.2	2.4	2.6	2.5	2.4	2.4	A	2.4	2.3	2.3	2.3	2.3	2.3	2.2	2.3	2.3	2.4	2.3	2.4	2.4	2.4	2.34	2.58	
21-Oct	2.1	2.0	1.9	1.9	1.9	1.9	1.9	1.9	A	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.1	2.1	2.2	1.97	2.16		
22-Oct	2.2	2.3	2.2	2.0	2.0	2.1	2.1	A	2.1	2.1	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.1	2.2	2.3	2.05	2.32	
23-Oct	2.6	2.6	2.2	2.2	2.2	2.2	A	2.2	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.10	2.59	
24-Oct	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	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.03	2.11	
25-Oct	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	2.0	2.0	2.0	2.0	2.0	2.3	2.2	2.1	2.1	2.1	2.0	2.03	2.27	
26-Oct	2.0	2.0	2.0	A	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.06	2.15	
27-Oct	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.02	2.04	
28-Oct	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.01	2.04	
29-Oct	A	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.1	2.1	2.0	2.1	2.0	2.0	2.0	2.0	A	2.06	2.14	
30-Oct	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.2	2.2	2.2	A	2.2	2.07	2.19	
31-Oct	2.2	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.0	2.0	P	N	2.0	2.0	1.9	2.0	A	1.9	2.0	2.03	2.18	
		2.05	2.06	2.04	2.03	2.04	2.06	2.05	2.04	2.05	2.03	2.01	2.02	2.01	2.00	2.00	2.00	2.00	2.01	2.02	2.06	2.06	2.10	2.04	2.07	Diurnal Average	
		2.56	2.59	2.27	2.34	2.38	2.58	2.47	2.44	2.46	2.46	2.38	2.39	2.33	2.33	2.30	2.26	2.25	2.32	2.35	3.03	3.00	2.81	2.42	2.73	Diurnal Maximum	
C - Calibration		P - Power Failure					N - Not Valid					A - Automated Daily Zero Span															



## Hourly Maximums

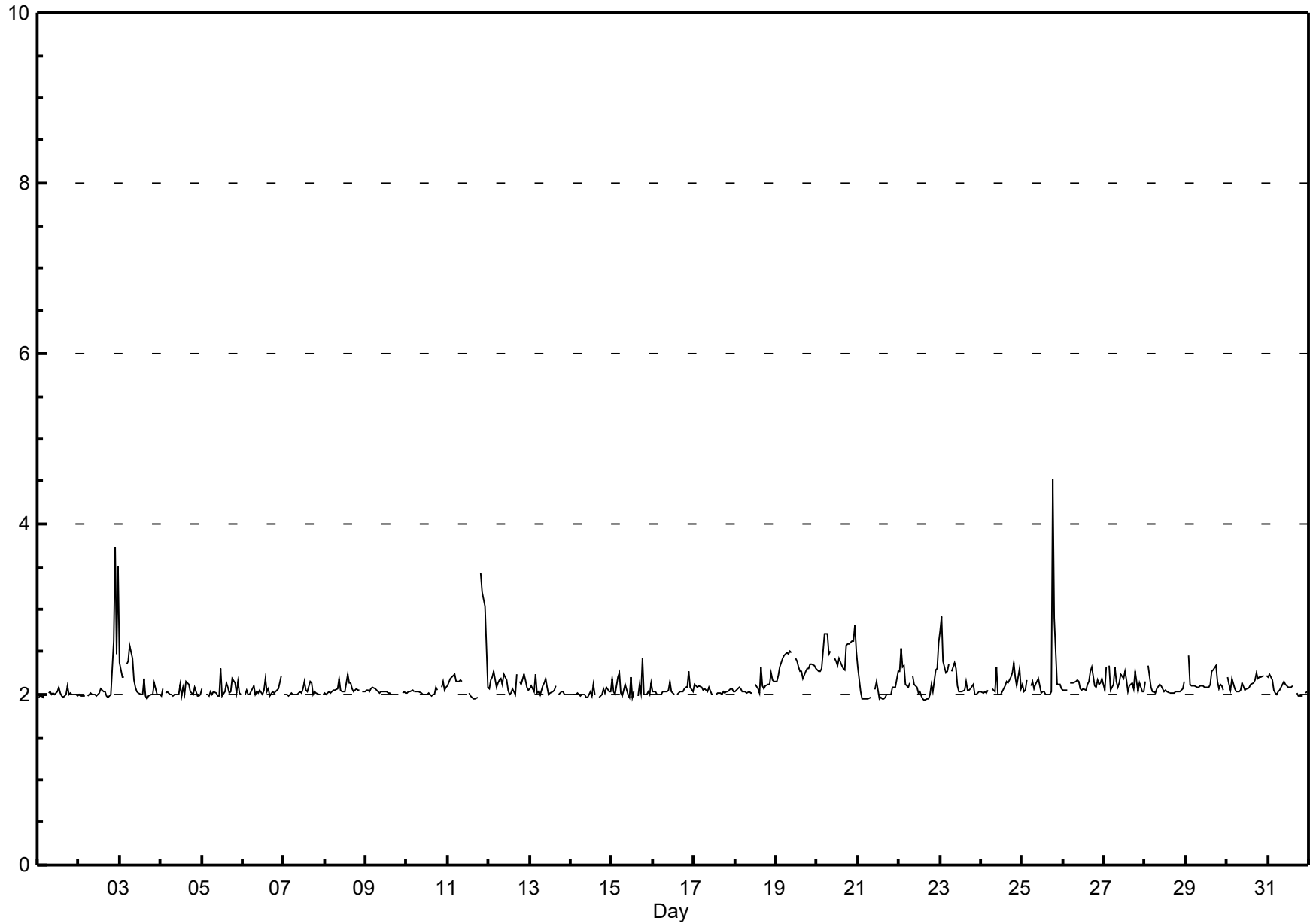
Total Hydrocarbons (THC) - ppm

Henry Pirker - October 2016

Maximum Value: 4.52 ppm on Oct 25 19:00		Maximum Daily Average: 2.48 ppm on Oct 20		Hours in Service: 744																																												
Minimum Value: 1.9 ppm on Oct 22 16:00		Minimum Daily Average: 2.01 ppm on Oct 1		Hours of Data: 706																																												
Maximum Diurnal Average: 2.22 ppm at hour 22		Minimum Diurnal Average: 2.06 ppm at hour 15		Hours of Missing Data: 38																																												
Monthly Average: 2.116 ppm		Percentiles: P <sub>1</sub> = 1.95 P <sub>10</sub> = 1.99 Q <sub>1</sub> = 2.02 Median = 2.05 Q <sub>3</sub> = 2.15 P <sub>90</sub> = 2.30 P <sub>99</sub> = 2.99		Hours of Calibration: 36																																												
Percent Operational Time: 99.7																										Daily Average	Daily Maximum																					
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																								
1-Oct	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	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.01	2.10																					
2-Oct	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	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.6	3.7	2.5	3.5	2.19	3.72																					
3-Oct	2.4	2.2	2.2	A	2.3	2.4	2.6	2.4	2.2	2.1	2.0	2.0	2.0	2.0	2.2	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.0	2.0	2.14	2.57																						
4-Oct	2.0	2.1	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.1	2.0	2.1	2.1	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.03	2.15																						
5-Oct	2.1	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.3	2.0	2.0	2.1	2.1	2.0	2.0	2.2	2.1	2.0	2.2	2.0	2.0	2.05	2.31																						
6-Oct	A	2.0	2.1	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.1	2.0	2.1	2.2	2.0	2.1	2.0	2.0	2.0	2.0	2.1	2.1	2.2	A	2.05	2.22																						
7-Oct	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	2.1	2.0	2.2	2.1	2.0	2.0	2.0	2.0	2.0	A	2.0	2.03	2.16																						
8-Oct	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.2	2.1	2.0	2.0	2.0	2.2	2.1	2.1	2.1	2.0	2.1	2.1	2.1	A	2.0	2.0	2.06	2.23																						
9-Oct	2.1	2.1	2.0	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	2.03	2.08																						
10-Oct	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	A	2.1	2.1	2.1	2.1	2.03	2.15																						
11-Oct	2.1	2.2	2.2	2.2	2.2	2.1	2.1	2.2	2.2	C	C	C	2.0	2.0	2.0	2.0	1.9	2.0	A	3.4	3.2	3.1	3.0	2.1	2.31	3.43																						
12-Oct	2.1	2.2	2.2	2.3	2.1	2.1	2.2	2.2	2.1	2.2	2.2	2.1	2.0	2.0	2.1	2.0	2.2	A	2.2	2.1	2.2	2.2	2.1	2.1	2.13	2.27																						
13-Oct	2.1	2.1	2.0	2.2	2.0	2.0	2.0	2.1	2.1	2.2	2.1	2.0	2.0	2.0	2.1	2.1	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.05	2.23																						
14-Oct	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.0	A	2.0	2.0	2.0	2.1	2.0	2.1	2.0	2.0	2.01	2.12																						
15-Oct	2.2	2.0	2.0	2.2	2.3	2.0	2.0	2.1	2.1	2.0	2.0	2.2	2.0	2.0	A	2.0	2.1	2.0	2.4	2.0	2.0	2.0	2.0	2.1	2.08	2.43																						
16-Oct	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.0	2.0	A	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.3	2.1	2.0	2.05	2.28																						
17-Oct	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	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	2.1	2.0	2.05	2.11																						
18-Oct	2.0	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.1	2.1	2.0	2.3	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.09	2.32																						
19-Oct	2.2	2.2	2.3	2.4	2.4	2.5	2.5	2.5	2.5	2.5	A	2.4	2.4	2.3	2.3	2.3	2.2	2.3	2.3	2.3	2.3	2.3	2.4	2.3	2.35	2.50																						
20-Oct	2.3	2.3	2.3	2.3	2.7	2.7	2.7	2.5	2.5	A	2.4	2.4	2.3	2.4	2.3	2.3	2.3	2.6	2.6	2.6	2.6	2.6	2.8	2.5	2.48	2.82																						
21-Oct	2.3	2.0	2.0	2.0	2.0	1.9	2.0	2.0	A	2.1	2.1	2.2	1.9	2.0	2.0	1.9	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.3	2.03	2.32																						
22-Oct	2.3	2.6	2.3	2.3	2.1	2.1	2.1	A	2.2	2.1	2.1	2.0	2.0	2.0	1.9	1.9	1.9	2.0	2.0	2.1	2.0	2.3	2.3	2.6	2.15	2.61																						
23-Oct	2.7	2.9	2.4	2.3	2.3	2.4	A	2.3	2.4	2.3	2.1	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.20	2.91																						
24-Oct	2.0	2.0	2.0	2.0	2.1	A	2.1	2.1	2.0	2.3	2.0	2.0	2.0	2.1	2.1	2.2	2.1	2.2	2.3	2.4	2.2	2.1	2.3	2.1	2.11	2.37																						
25-Oct	2.1	2.0	2.1	2.2	A	2.1	2.2	2.1	2.1	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	4.5	2.9	2.1	2.1	2.1	2.1	2.22	4.52																						
26-Oct	2.1	2.1	2.1	A	2.1	2.1	2.1	2.1	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.3	2.3	2.1	2.1	2.2	2.1	2.1	2.2	2.13	2.32																						
27-Oct	2.1	2.3	A	2.3	2.1	2.1	2.3	2.2	2.1	2.1	2.2	2.2	2.3	2.2	2.0	2.1	2.1	2.1	2.3	2.2	2.0	2.1	2.0	2.0	2.15	2.33																						
28-Oct	2.1	A	2.3	2.1	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.07	2.33																						
29-Oct	A	2.5	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.3	2.3	2.3	2.1	2.1	2.1	2.1	2.1	2.1	2.14	2.45																						
30-Oct	2.2	2.1	2.1	2.2	2.1	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.3	2.2	2.2	2.2	2.2	A	2.2	2.13	2.25																						
31-Oct	2.2	2.2	2.2	2.1	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	P	N	2.0	2.0	2.0	2.0	2.0	A	2.0	2.07	2.23																						
																								2.13	2.15	2.10	2.12	2.11	2.11	2.11	2.10	2.12	2.10	2.07	2.09	2.06	2.08	2.06	2.08	2.07	2.08	2.19	2.17	2.16	2.22	2.16	2.16	Diurnal Average
																								2.75	2.91	2.38	2.37	2.70	2.72	2.72	2.48	2.52	2.49	2.42	2.43	2.38	2.43	2.34	2.32	2.29	2.58	4.52	3.43	3.21	3.72	3.04	3.50	Diurnal Maximum
C - Calibration																								P - Power Failure				N - Not Valid				A - Automated Daily Zero Span																

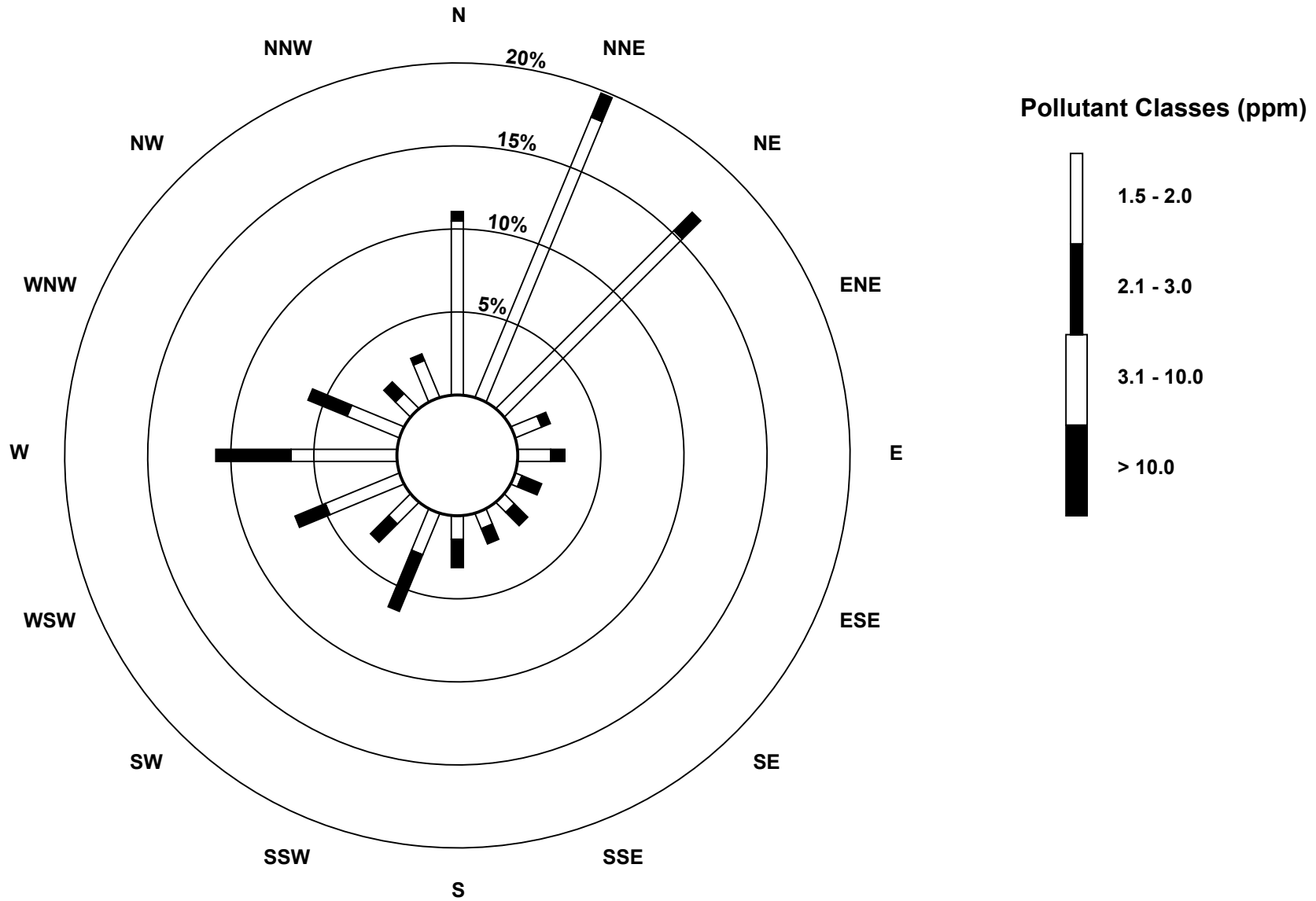
**Hourly Maximums**

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



**Pollutant Rose**

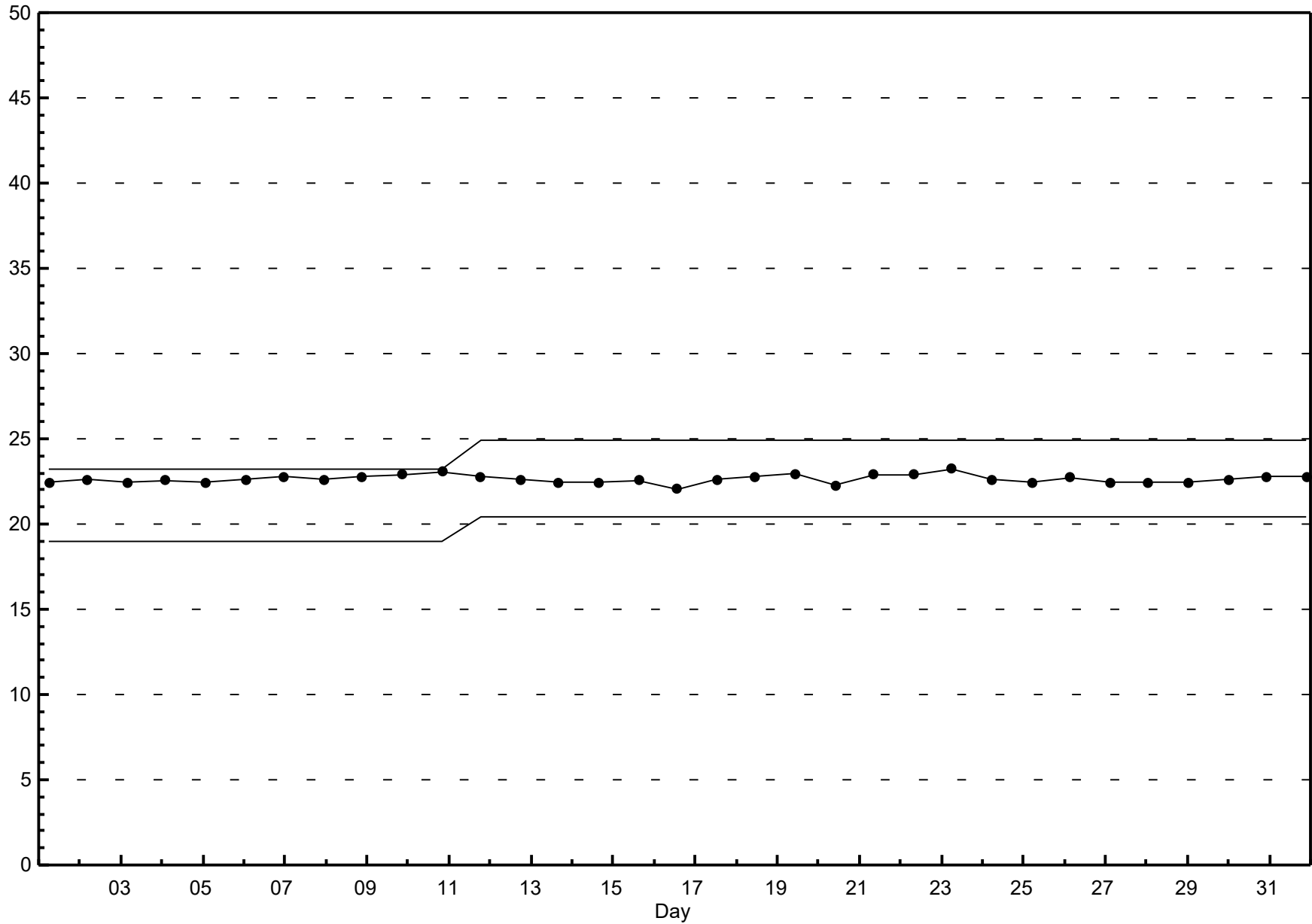
**Total Hydrocarbons (THC) - ppm**  
**Henry Pirker - October 2016**





**Span Responses**

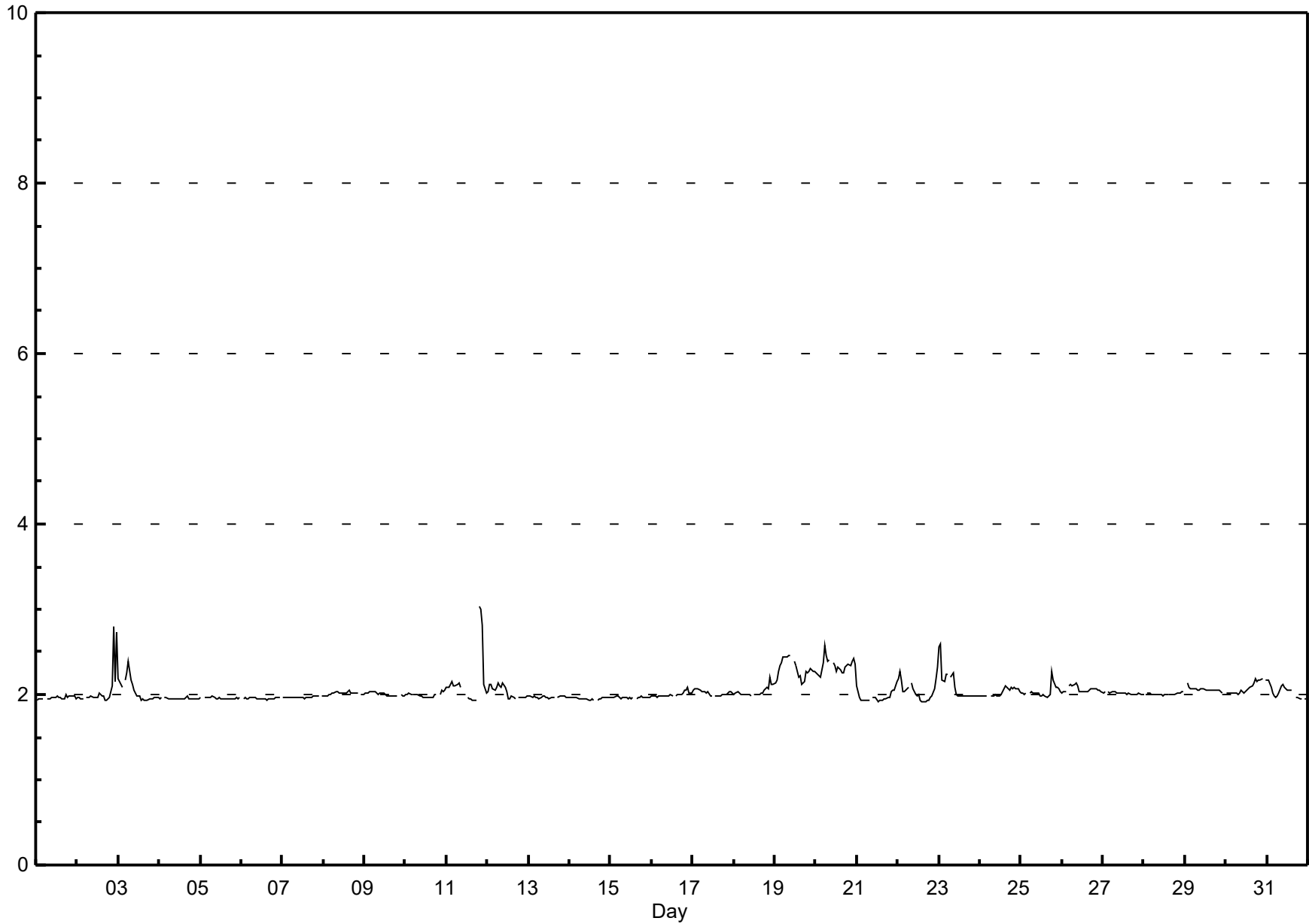
**Total Hydrocarbons (THC)  
Henry Pirker - October 2016**



# Hourly Averages

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

Maximum Value: 3.03 ppm on Oct 11 20:00		Maximum Daily Average: 2.34 ppm on Oct 20		Hours in Service:	744																																											
Minimum Value: 1.9 ppm on Oct 22 15:00		Minimum Daily Average: 1.95 ppm on Oct 14		Hours of Data:	706																																											
Maximum Diurnal Average: 2.10 ppm at hour 22		Minimum Diurnal Average: 2.00 ppm at hour 17		Hours of Missing Data:	38																																											
Monthly Average: 2.035 ppm		Percentiles: P <sub>1</sub> = 1.93 P <sub>10</sub> = 1.95 Q <sub>1</sub> = 1.97 Median = 2.00 Q <sub>3</sub> = 2.05 P <sub>90</sub> = 2.17 P <sub>99</sub> = 2.57		Hours of Calibration:	36																																											
				Percent Operational Time:	99.7																																											
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																								
1-Oct	1.9	1.9	1.9	1.9	1.9	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.96	1.99																						
2-Oct	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	2.0	2.0	2.0	1.9	1.9	1.9	2.0	2.1	2.8	2.1	2.7	2.05	2.80																						
3-Oct	2.2	2.1	2.1	A	2.2	2.3	2.4	2.2	2.1	2.1	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.04	2.39																						
4-Oct	2.0	2.0	A	2.0	2.0	2.0	1.9	1.9	1.9	2.0	2.0	2.0	1.9	2.0	2.0	2.0	2.0	1.9	1.9	2.0	2.0	1.9	2.0	2.0	1.95	1.98																						
5-Oct	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	2.0	1.9	2.0	2.0	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	1.96	1.98																						
6-Oct	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	A	1.96	1.97																						
7-Oct	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	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	1.97	1.98																						
8-Oct	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	2.01	2.05																						
9-Oct	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	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	2.00	2.04																						
10-Oct	2.0	2.0	2.0	2.0	2.0	2.0	2.0	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	2.1	2.0	2.1	2.00	2.05																						
11-Oct	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	C	C	C	2.0	2.0	1.9	1.9	1.9	1.9	A	3.0	2.8	2.1	2.0	2.18	3.03																							
12-Oct	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	1.9	2.0	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.03	2.14																							
13-Oct	2.0	2.0	2.0	2.0	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	1.97	1.99																						
14-Oct	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	1.95	1.97																						
15-Oct	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.97	1.98																						
16-Oct	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.1	2.0	2.0	2.00	2.09																						
17-Oct	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.02	2.08																						
18-Oct	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	2.2	2.1	2.1	2.03	2.20																						
19-Oct	2.1	2.2	2.3	2.3	2.4	2.4	2.4	2.4	2.5	2.5	A	2.4	2.3	2.3	2.2	2.2	2.1	2.1	2.3	2.3	2.3	2.3	2.3	2.3	2.30	2.46																						
20-Oct	2.3	2.2	2.2	2.2	2.4	2.6	2.5	2.4	2.4	A	2.4	2.3	2.3	2.3	2.3	2.3	2.2	2.3	2.3	2.4	2.3	2.4	2.4	2.4	2.34	2.58																						
21-Oct	2.1	2.0	1.9	1.9	1.9	1.9	1.9	1.9	A	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.1	2.2	1.97	2.16																							
22-Oct	2.2	2.3	2.2	2.0	2.0	2.1	2.1	A	2.1	2.1	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.1	2.2	2.3	2.05	2.32																						
23-Oct	2.6	2.6	2.2	2.2	2.2	2.2	A	2.2	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.10	2.59																						
24-Oct	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	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.02	2.10																						
25-Oct	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	2.0	2.0	2.0	2.0	2.0	2.3	2.2	2.1	2.1	2.1	2.0	2.03	2.26																						
26-Oct	2.0	2.0	2.0	A	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.06	2.14																						
27-Oct	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.02	2.04																						
28-Oct	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.01	2.04																						
29-Oct	A	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	A	2.06	2.14																						
30-Oct	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.2	2.2	2.2	A	2.2	2.07	2.19																						
31-Oct	2.2	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.0	2.0	P	N	2.0	2.0	1.9	2.0	A	1.9	2.0	2.03	2.18																						
																								2.05	2.06	2.04	2.03	2.04	2.06	2.05	2.04	2.05	2.03	2.01	2.02	2.00	2.00	2.00	2.00	2.00	2.00	2.02	2.06	2.06	2.10	2.04	2.07	Diurnal Average
																								2.56	2.59	2.27	2.33	2.38	2.58	2.46	2.44	2.46	2.46	2.38	2.39	2.33	2.33	2.29	2.26	2.25	2.31	2.34	3.03	3.00	2.81	2.42	2.72	Diurnal Maximum
C - Calibration																								P - Power Failure				N - Not Valid				A - Automated Daily Zero Span																



# Hourly Maximums

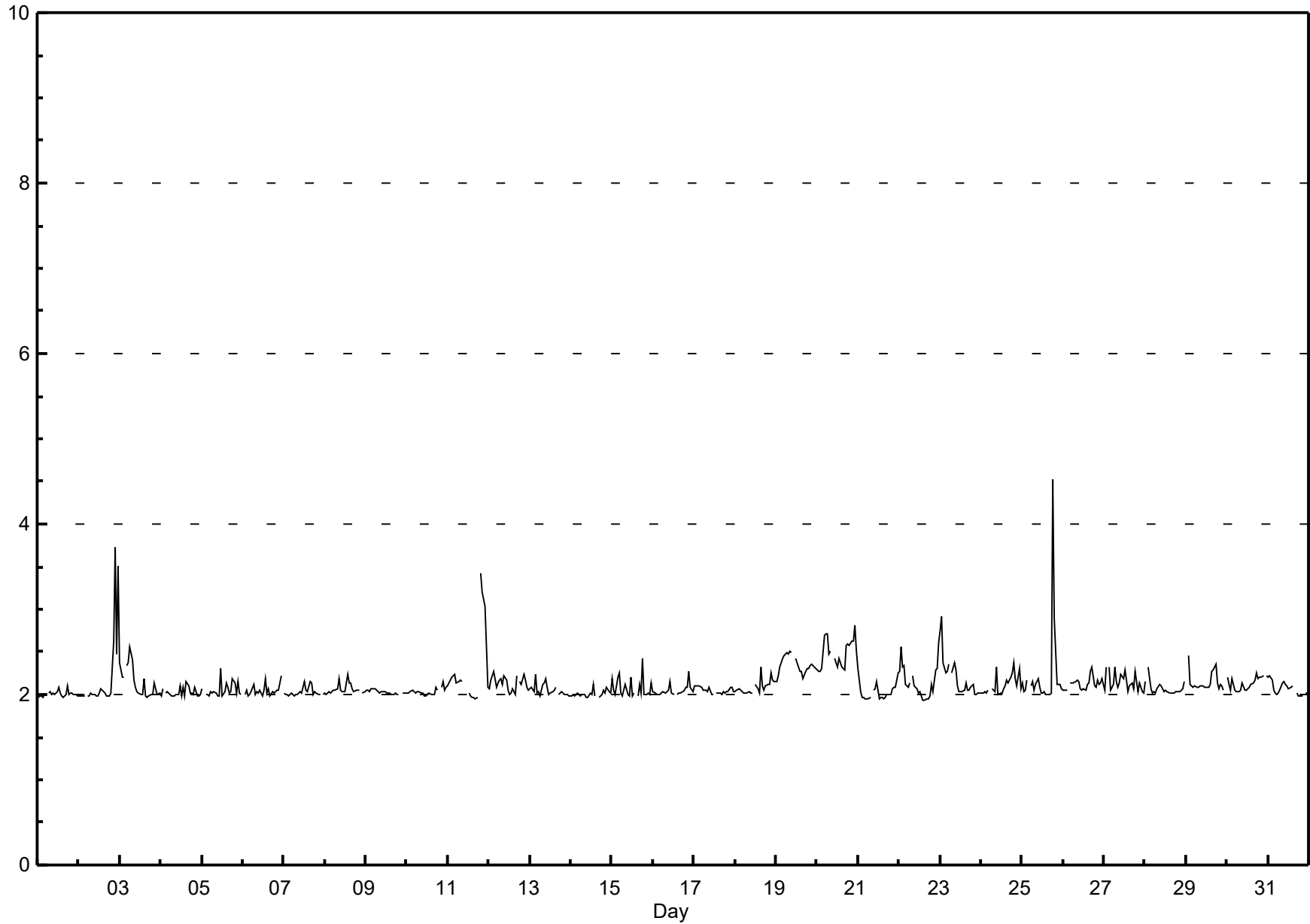
Methane (CH<sub>4</sub>) - ppm

Henry Pirker - October 2016

Maximum Value: 4.52 ppm on Oct 25 19:00		Maximum Daily Average: 2.48 ppm on Oct 20		Hours in Service: 744																																												
Minimum Value: 1.9 ppm on Oct 22 16:00		Minimum Daily Average: 2.01 ppm on Oct 1		Hours of Data: 706																																												
Maximum Diurnal Average: 2.22 ppm at hour 22		Minimum Diurnal Average: 2.06 ppm at hour 15		Hours of Missing Data: 38																																												
Monthly Average: 2.114 ppm		Percentiles: P <sub>1</sub> = 1.95 P <sub>10</sub> = 1.99 Q <sub>1</sub> = 2.01 Median = 2.05 Q <sub>3</sub> = 2.14 P <sub>90</sub> = 2.30 P <sub>99</sub> = 2.98		Hours of Calibration: 36																																												
				Percent Operational Time: 99.7																																												
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																								
1-Oct	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	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.01	2.09																						
2-Oct	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	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.6	3.7	2.5	3.5	2.19	3.73																						
3-Oct	2.4	2.2	2.2	A	2.3	2.4	2.6	2.4	2.2	2.1	2.0	2.0	2.0	2.2	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.0	2.0	2.13	2.57																						
4-Oct	2.0	2.1	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.1	2.0	2.1	2.1	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.02	2.15																						
5-Oct	2.1	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.3	2.0	2.0	2.1	2.1	2.0	2.0	2.2	2.1	2.0	2.2	2.0	2.0	2.05	2.31																						
6-Oct	A	2.0	2.1	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.1	2.0	2.1	2.2	2.0	2.1	2.0	2.0	2.0	2.0	2.1	2.1	2.2	A	2.05	2.22																						
7-Oct	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	2.0	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.03	2.16																						
8-Oct	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.2	2.1	2.0	2.0	2.2	2.1	2.1	2.1	2.0	2.1	2.0	2.0	2.0	A	2.0	2.0	2.06	2.23																						
9-Oct	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	2.0	2.03	2.07																						
10-Oct	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	A	2.1	2.1	2.1	2.1	2.1	2.03	2.15																						
11-Oct	2.1	2.2	2.2	2.2	2.2	2.1	2.2	2.2	2.2	C	C	C	2.0	2.0	2.0	2.0	2.0	2.0	A	3.4	3.2	3.1	3.0	2.1	2.31	3.43																						
12-Oct	2.1	2.2	2.2	2.3	2.1	2.1	2.2	2.2	2.1	2.2	2.2	2.1	2.0	2.0	2.1	2.0	2.2	A	2.2	2.1	2.2	2.2	2.1	2.1	2.13	2.27																						
13-Oct	2.1	2.1	2.0	2.2	2.0	2.0	2.0	2.1	2.1	2.2	2.1	2.0	2.0	2.1	2.1	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.05	2.23																						
14-Oct	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.0	A	2.0	2.0	2.0	2.1	2.0	2.1	2.0	2.0	2.01	2.12																						
15-Oct	2.2	2.0	2.0	2.2	2.3	2.0	2.0	2.1	2.1	2.0	2.0	2.2	2.0	2.0	A	2.0	2.1	2.0	2.4	2.0	2.0	2.0	2.1	2.1	2.08	2.43																						
16-Oct	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.0	2.0	A	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.3	2.1	2.0	2.05	2.27																						
17-Oct	2.1	2.1	2.1	2.1	2.1	2.0	2.1	2.1	2.0	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	2.1	2.0	2.05	2.10																						
18-Oct	2.0	2.0	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.1	2.1	2.0	2.3	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.1	2.08	2.32																						
19-Oct	2.2	2.2	2.3	2.4	2.4	2.5	2.5	2.5	2.5	2.5	A	2.4	2.4	2.3	2.3	2.3	2.2	2.3	2.3	2.3	2.3	2.4	2.3	2.3	2.35	2.50																						
20-Oct	2.3	2.3	2.3	2.3	2.7	2.7	2.7	2.5	2.5	A	2.4	2.4	2.3	2.4	2.3	2.3	2.3	2.6	2.6	2.6	2.6	2.6	2.8	2.5	2.48	2.82																						
21-Oct	2.3	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.1	2.1	2.2	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.3	2.03	2.32																						
22-Oct	2.3	2.6	2.3	2.3	2.1	2.1	2.1	A	2.2	2.1	2.1	2.0	2.0	2.0	1.9	1.9	1.9	2.0	2.0	2.1	2.0	2.3	2.3	2.6	2.14	2.61																						
23-Oct	2.7	2.9	2.4	2.2	2.3	2.4	A	2.3	2.4	2.3	2.1	2.0	2.0	2.0	2.1	2.1	2.0	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.20	2.92																						
24-Oct	2.0	2.0	2.0	2.0	2.0	A	2.1	2.0	2.0	2.3	2.0	2.0	2.0	2.1	2.1	2.2	2.1	2.2	2.2	2.4	2.2	2.1	2.3	2.1	2.11	2.37																						
25-Oct	2.1	2.0	2.1	2.2	A	2.1	2.2	2.1	2.1	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	4.5	2.9	2.1	2.1	2.1	2.1	2.22	4.52																						
26-Oct	2.1	2.1	2.1	A	2.1	2.1	2.1	2.1	2.2	2.2	2.1	2.0	2.1	2.1	2.1	2.1	2.3	2.3	2.1	2.1	2.2	2.1	2.1	2.2	2.13	2.32																						
27-Oct	2.0	2.3	A	2.3	2.1	2.1	2.3	2.2	2.1	2.1	2.2	2.2	2.3	2.2	2.0	2.1	2.1	2.1	2.3	2.2	2.0	2.1	2.0	2.0	2.15	2.33																						
28-Oct	2.1	A	2.3	2.1	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.07	2.33																						
29-Oct	A	2.5	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.3	2.3	2.4	2.1	2.1	2.1	2.1	2.0	A	2.14	2.45																						
30-Oct	2.2	2.1	2.1	2.2	2.1	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.2	A	2.2	2.12	2.25																						
31-Oct	2.2	2.2	2.2	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	P	N	2.0	2.0	2.0	2.0	2.0	A	2.0	2.07	2.22																						
																								2.13	2.14	2.10	2.11	2.11	2.10	2.11	2.10	2.11	2.10	2.06	2.08	2.06	2.08	2.06	2.08	2.07	2.08	2.19	2.17	2.16	2.22	2.16	2.16	Diurnal Average
																								2.74	2.92	2.38	2.37	2.70	2.72	2.71	2.47	2.51	2.50	2.42	2.42	2.38	2.42	2.33	2.32	2.29	2.58	4.52	3.43	3.20	3.73	3.03	3.51	Diurnal Maximum
C - Calibration																								P - Power Failure				N - Not Valid				A - Automated Daily Zero Span																

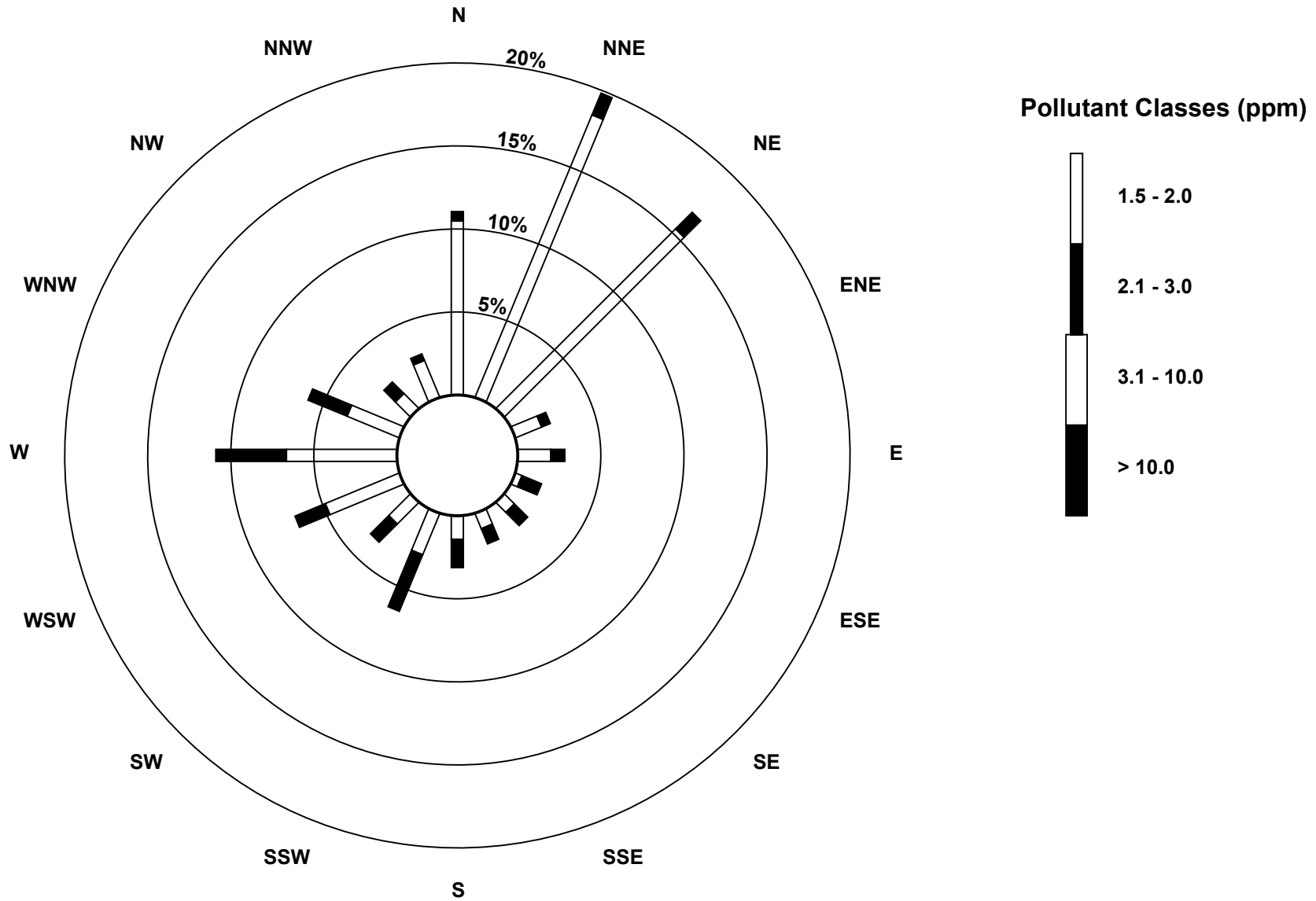
**Hourly Maximums**

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



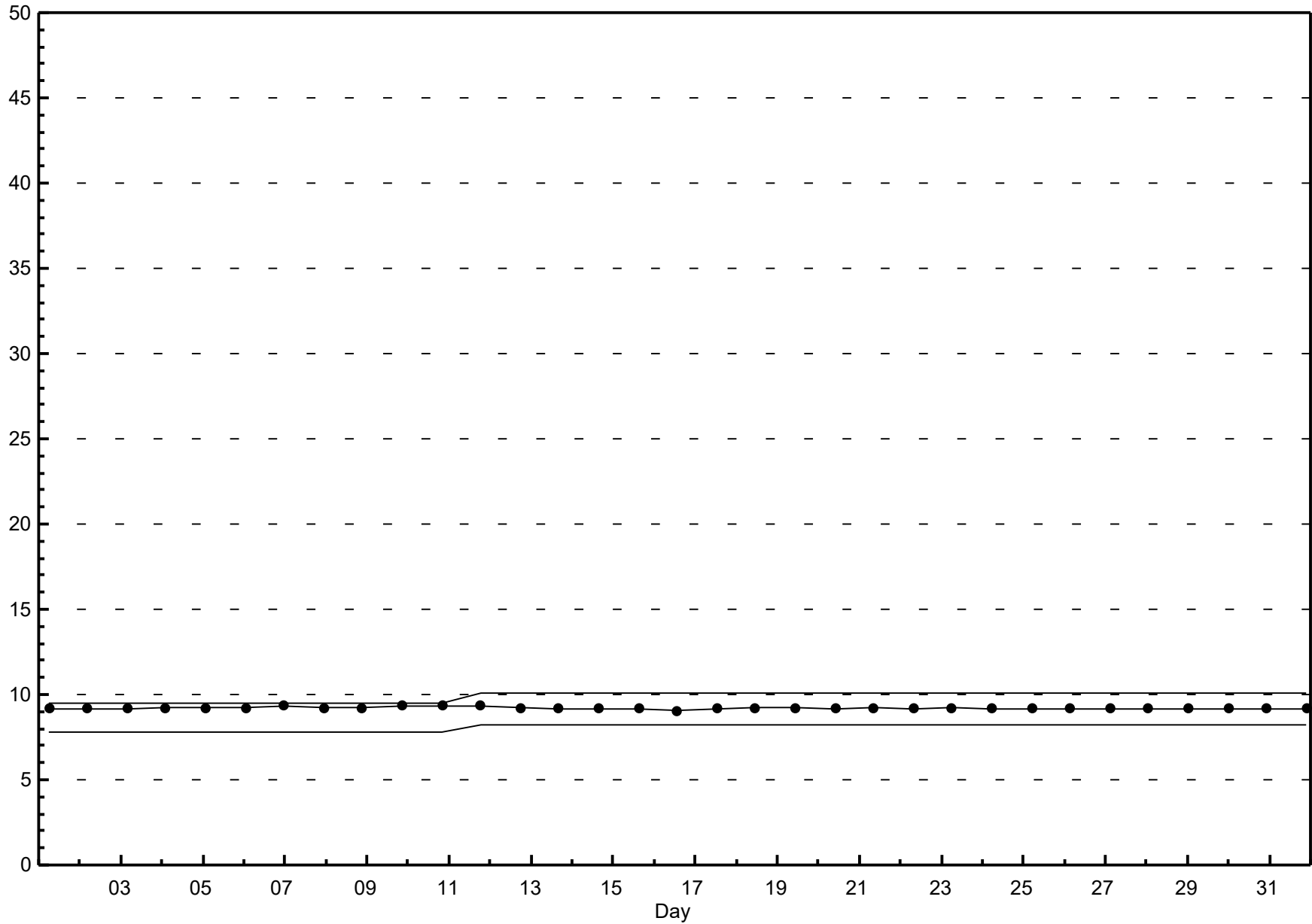
**Pollutant Rose**

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



### Span Responses

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



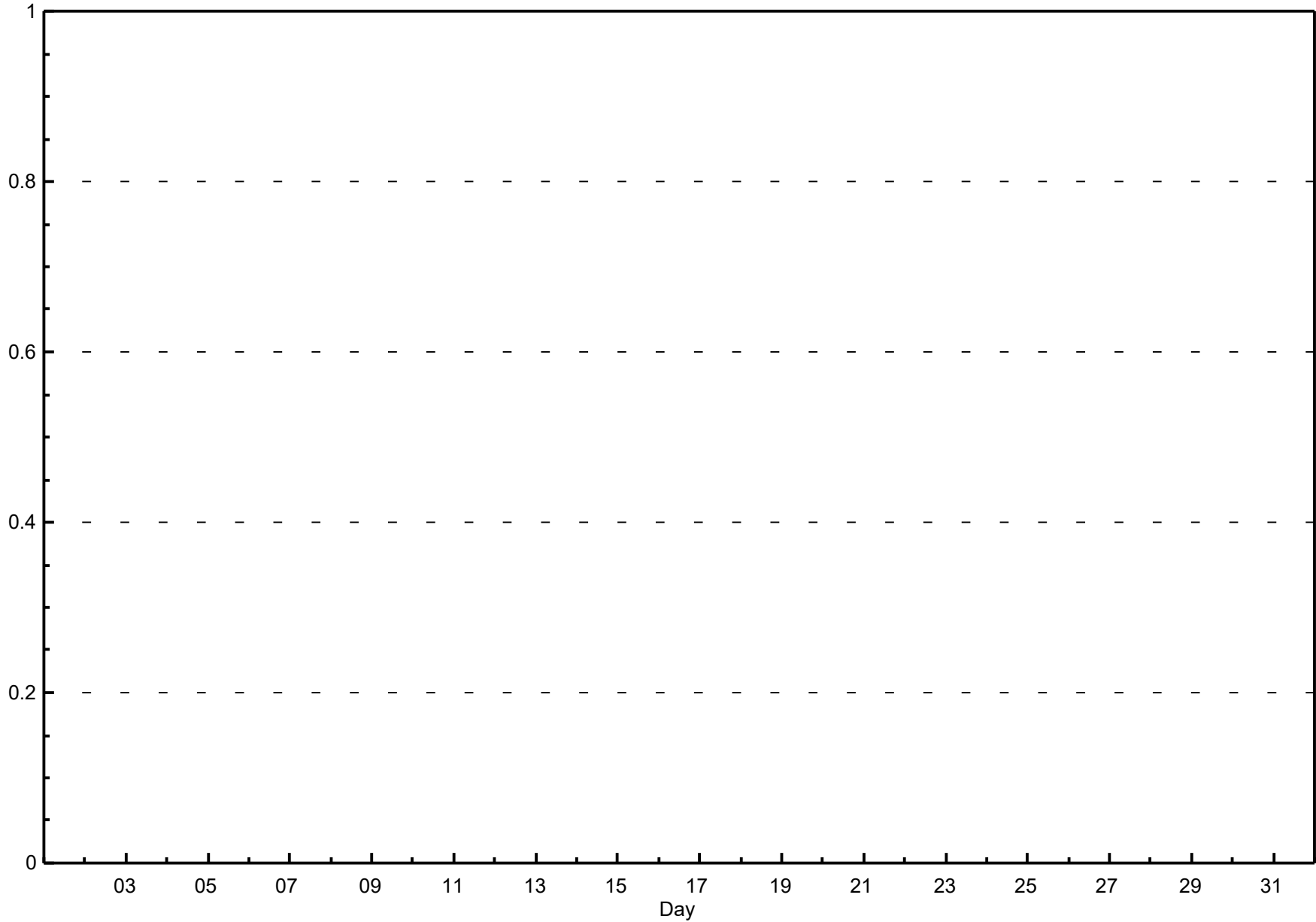
## Hourly Averages

## Non Methane Hydrocarbon (NMHC) - ppm

### Henry Pirker - October 2016

Maximum Value: 0.00 ppm on Oct 4 07:00		Maximum Daily Average: 0.00 ppm on Oct 4		Hours in Service:	744																					
Minimum Value: 0.0 ppm on Oct 1 01:00		Minimum Daily Average: 0.00 ppm on Oct 6		Hours of Data:	706																					
Maximum Diurnal Average: 0.00 ppm at hour 7		Minimum Diurnal Average: 0.00 ppm at hour 17		Hours of Missing Data:	38																					
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		Hours of Calibration:	36																					
				Percent Operational Time:	99.7																					
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Oct	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
2-Oct	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
3-Oct	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
4-Oct	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
5-Oct	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
6-Oct	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
7-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
8-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
9-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
10-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.00	0.00
11-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	C	C	C	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.00	0.00
12-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
13-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
14-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
15-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
16-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
17-Oct	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
18-Oct	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
19-Oct	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
20-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
21-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
22-Oct	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
23-Oct	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
24-Oct	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
25-Oct	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
26-Oct	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
27-Oct	0.0	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
28-Oct	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
29-Oct	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
30-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.00	0.00
31-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	P	N	0.0	0.0	0.0	0.0	A	0.0	0.0	0.00	0.00
																								Diurnal Average		
																								Diurnal Maximum		
C - Calibration			P - Power Failure					N - Not Valid					A - Automated Daily Zero Span													



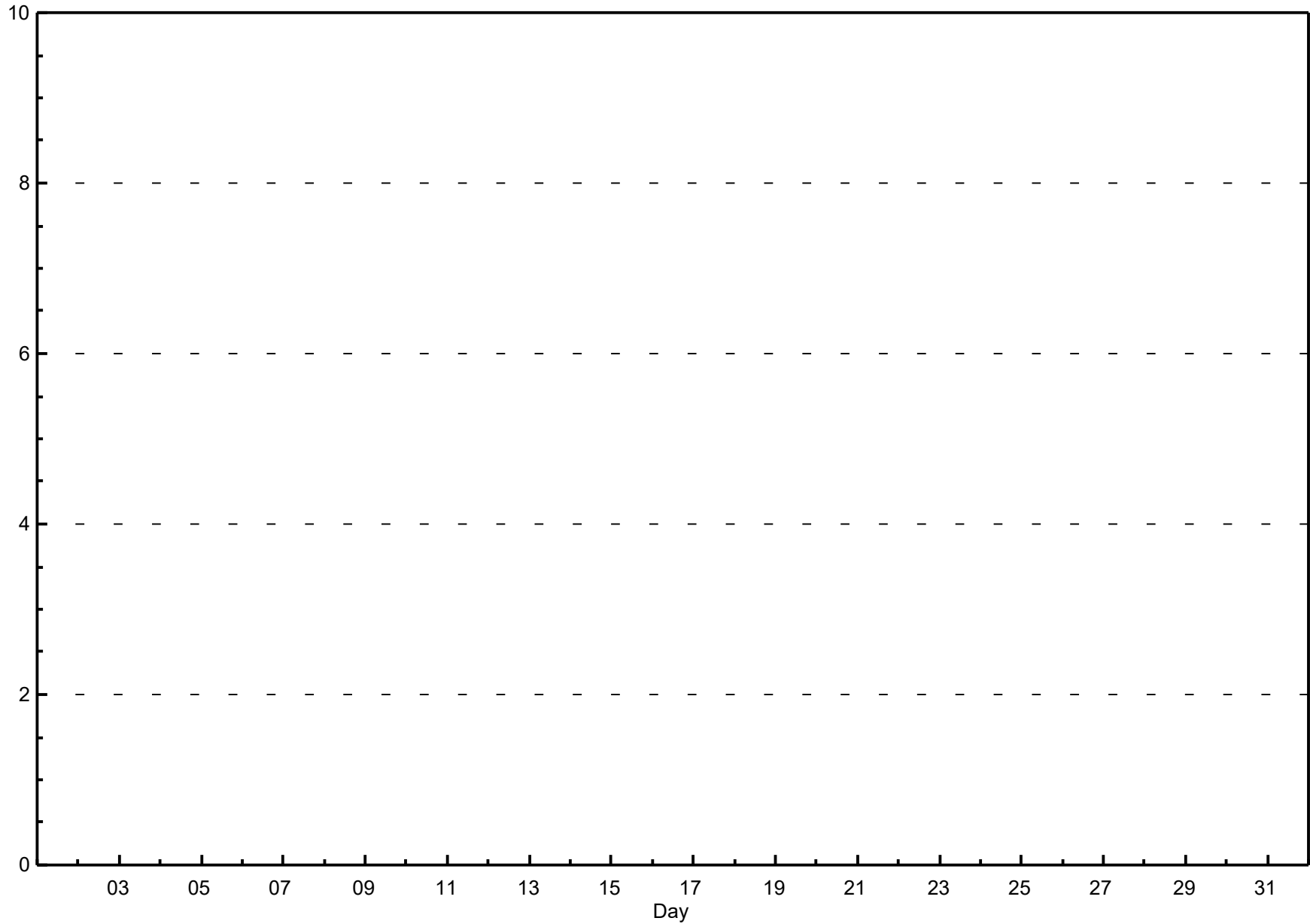


## Hourly Maximums

## Non Methane Hydrocarbon (NMHC) - ppm

### Henry Pirker - October 2016

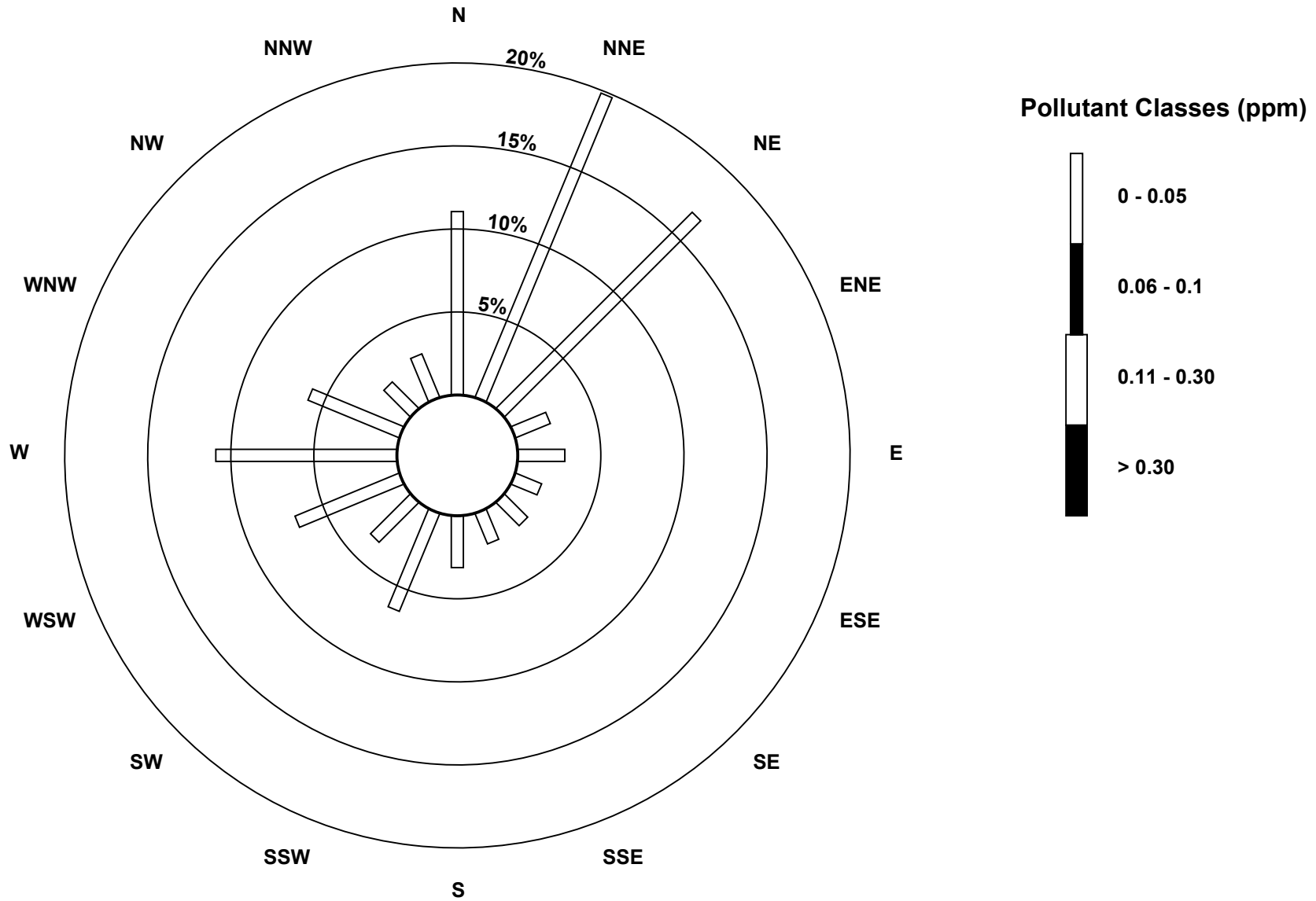
Maximum Value: 0.00 ppm on Oct 4 00:00		Maximum Daily Average: 0.00 ppm on Oct 20		Hours in Service: 744																																														
Minimum Value: 0.0 ppm on Oct 25 23:00		Minimum Daily Average: 0.00 ppm on Oct 6		Hours of Data: 706																																														
Maximum Diurnal Average: 0.00 ppm at hour 24		Minimum Diurnal Average: 0.00 ppm at hour 15		Hours of Missing Data: 38																																														
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 of Calibration: 36																																														
				Percent Operational Time: 99.7																																														
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																								
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																										
1-Oct	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																							
2-Oct	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																							
3-Oct	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																							
4-Oct	0.0	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																							
5-Oct	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																							
6-Oct	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																							
7-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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																							
8-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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																							
9-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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																							
10-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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																							
11-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	C	C	C	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00																							
12-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00																							
13-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00																							
14-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00																							
15-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00																							
16-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00																							
17-Oct	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																							
18-Oct	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																							
19-Oct	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																							
20-Oct	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																							
21-Oct	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	0.0	0.00	0.00																							
22-Oct	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																							
23-Oct	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																							
24-Oct	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																							
25-Oct	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																							
26-Oct	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																							
27-Oct	0.0	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																							
28-Oct	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																							
29-Oct	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	0.0	0.00	0.00																							
30-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.00	0.00																							
31-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	P	N	0.0	0.0	0.0	0.0	A	0.0	0.0	0.00	0.00																								
																								0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	Diurnal Maximum	
C - Calibration																								P - Power Failure				N - Not Valid				A - Automated Daily Zero Span																		

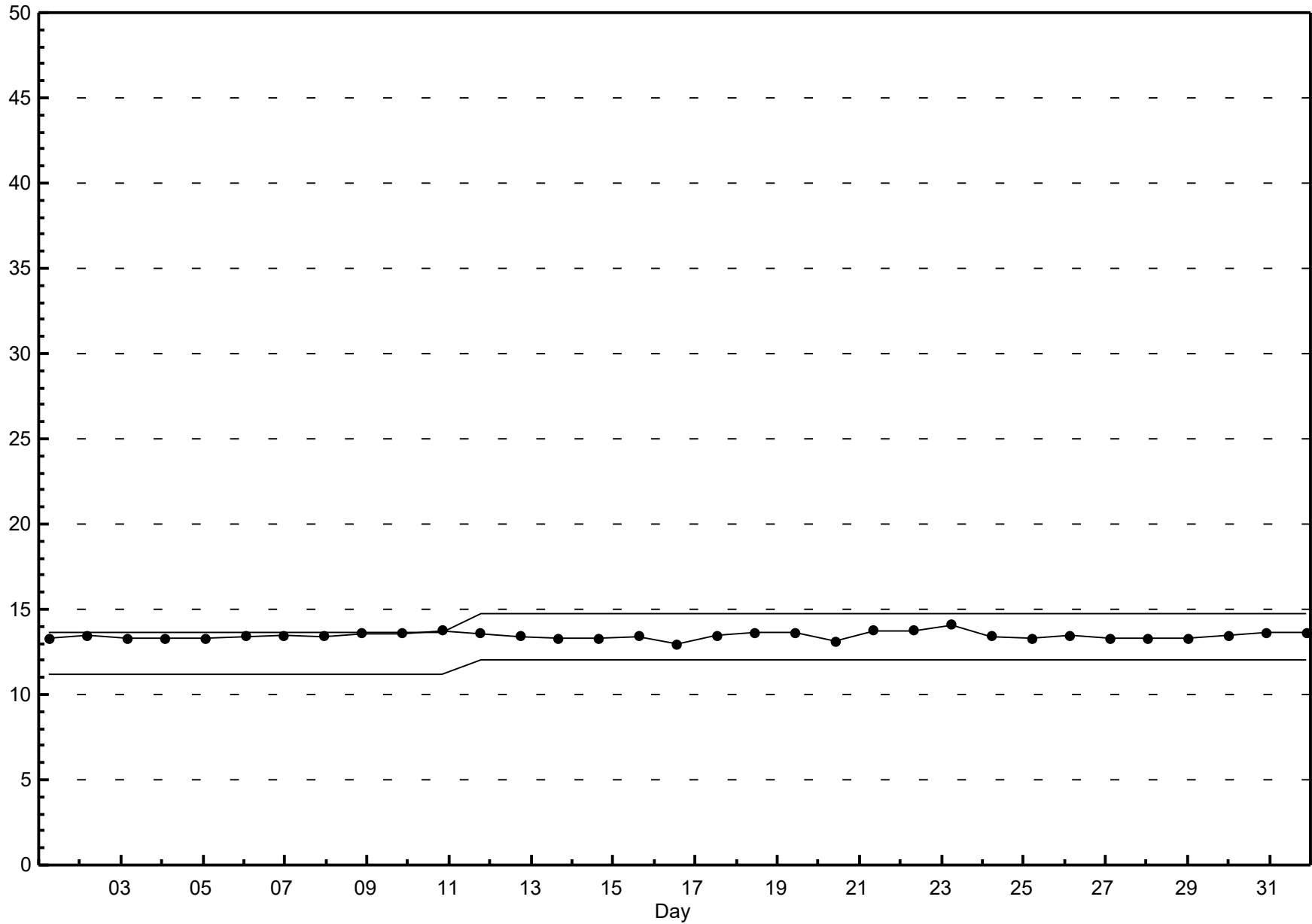


**Pollutant Rose**

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

**Henry Pirker - October 2016**





## Hourly Averages

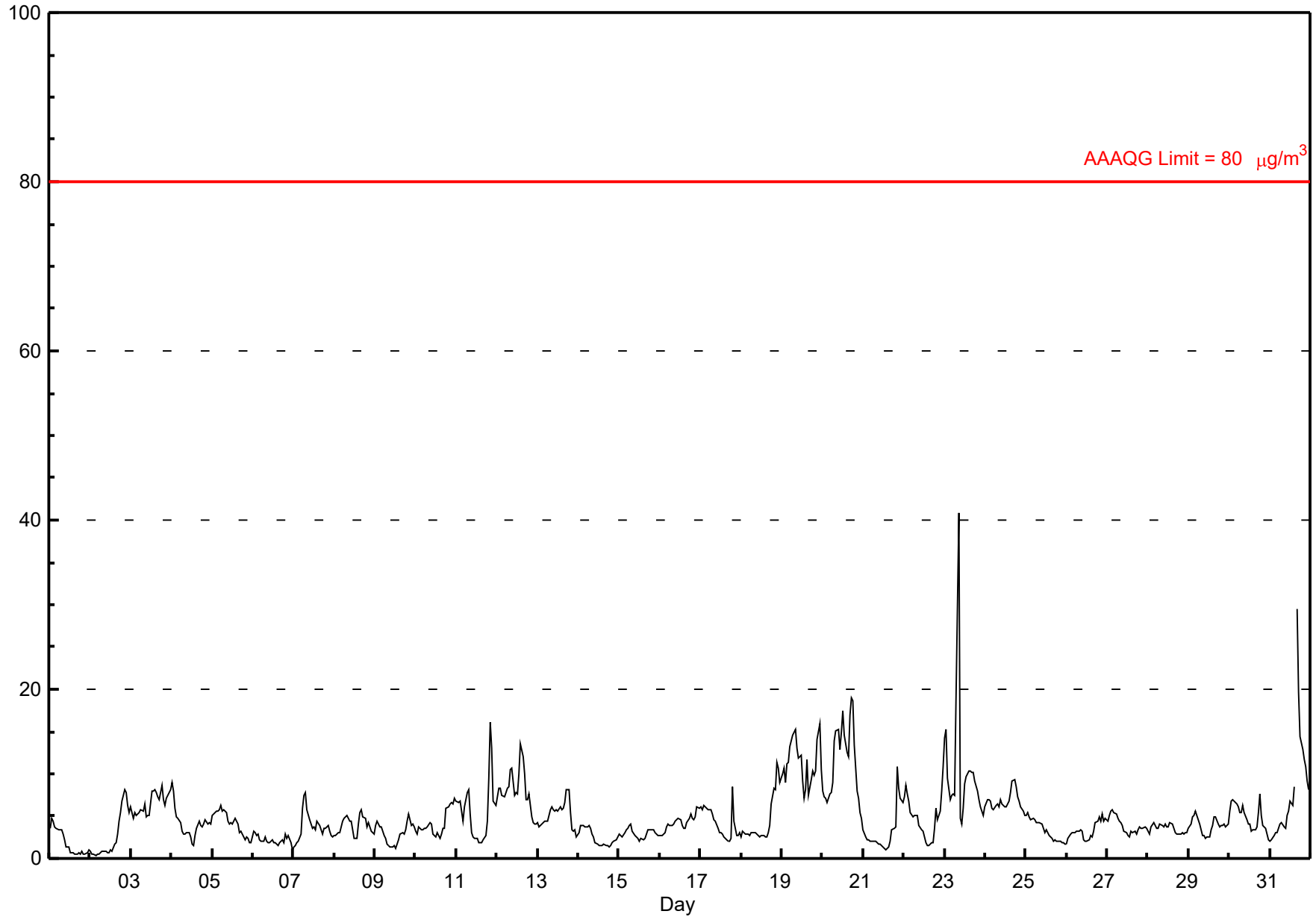
## Particulate Matter 2.5 (PM<sub>2.5</sub>) - µg/m<sup>3</sup>

### Henry Pirker - October 2016

Number of Exceedences: 1-hr: 0 24-hr: 0	Hours in Service: 744
Maximum Value: 40.9 µg/m <sup>3</sup> on Oct 23 09:00	Maximum Daily Average: 11.5 µg/m <sup>3</sup> on Oct 20
Minimum Value: 0 µg/m <sup>3</sup> on Oct 2 04:00	Hours of Data: 743
Maximum Diurnal Average: 6.1 µg/m <sup>3</sup> at hour 9	Hours of Missing Data: 1
Monthly Average: 4.88 µg/m <sup>3</sup>	Hours of Calibration: 0
Minimum Daily Average: 1.9 µg/m <sup>3</sup> on Oct 1	Percent Operational Time: 99.9
Minimum Diurnal Average: 4.0 µg/m <sup>3</sup> at hour 14	
Percentiles: P <sub>1</sub> = 0.5 P <sub>10</sub> = 1.9 Q <sub>1</sub> = 2.8 Median = 4.0 Q <sub>3</sub> = 6.0 P <sub>90</sub> = 8.4 P <sub>99</sub> = 16.2	

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-Oct	4	5	4	4	4	3	3	3	3	2	1	1	1	1	1	0	0	1	0	1	1	1	1	1	1.9	4.7
2-Oct	1	0	0	0	0	1	1	1	1	1	1	1	1	1	2	2	3	4	5	7	8	8	6	5	2.5	8.1
3-Oct	6	5	5	5	5	5	6	6	6	5	5	5	8	8	8	8	7	7	9	7	6	7	7	8	6.5	8.6
4-Oct	9	8	6	5	5	4	3	3	3	3	3	3	2	2	3	3	4	4	4	4	5	4	4	4	4.0	8.9
5-Oct	5	5	6	6	6	6	6	6	5	4	4	4	4	5	4	4	3	3	3	2	3	2	2	2	4.2	6.3
6-Oct	3	3	3	3	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	3	2	3	2	1	2.2	3.2
7-Oct	1	2	2	2	3	6	8	8	6	5	4	4	4	3	4	4	3	3	4	4	4	3	3	3	3.8	7.8
8-Oct	3	3	3	3	4	4	5	5	5	4	4	3	2	2	4	5	6	5	5	4	4	4	3	3	3.9	5.7
9-Oct	4	4	4	4	4	3	2	2	2	1	1	2	1	2	2	3	3	3	3	4	5	4	4	4	2.9	5.3
10-Oct	3	3	4	3	3	4	3	4	4	4	3	3	3	3	2	3	3	4	6	6	7	7	6	7	4.1	7.1
11-Oct	7	7	7	6	4	6	8	8	5	3	3	2	2	2	2	2	3	4	10	16	13	7	6	5.6	16.1	
12-Oct	7	8	8	7	7	8	8	8	11	11	7	8	8	10	14	12	10	7	7	8	5	4	4	4	8.0	13.5
13-Oct	4	4	4	4	4	4	4	6	6	6	6	6	6	6	6	6	7	8	8	5	3	3	3	3	5.1	8.2
14-Oct	3	4	4	4	4	4	4	4	3	3	2	2	1	1	2	2	2	1	1	2	2	2	2	2	2.5	3.9
15-Oct	3	3	3	3	3	4	4	4	3	3	3	2	2	2	2	2	3	3	3	3	3	3	3	3	3.0	4.1
16-Oct	3	3	3	3	4	4	4	4	4	4	5	5	5	4	4	4	4	5	5	5	5	5	6	6	4.2	6.1
17-Oct	6	6	6	6	6	6	6	5	5	4	4	3	3	3	3	2	2	2	2	8	4	3	3	3	4.2	8.5
18-Oct	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	7	8	8	11	11	9	4.4	11.3
19-Oct	10	11	9	11	11	13	15	15	15	13	12	12	9	7	8	12	8	9	10	10	10	14	16	11	11.3	16.0
20-Oct	8	7	7	7	8	8	9	14	15	15	13	15	17	15	13	12	17	19	19	13	8	7	5	5	11.5	19.0
21-Oct	3	3	2	2	2	2	2	2	2	2	2	2	1	1	1	1	2	3	3	4	11	8	7	7	3.1	10.8
22-Oct	7	9	8	7	5	5	5	5	5	4	3	3	3	2	2	2	2	2	4	6	5	6	8	11	4.9	10.9
23-Oct	14	15	10	7	8	8	7	19	41	5	4	6	9	10	10	10	10	10	9	8	7	6	6	5	10.1	40.9
24-Oct	6	7	7	7	6	6	6	6	6	7	6	6	6	6	7	8	9	9	8	7	7	6	6	5	6.7	9.4
25-Oct	5	5	5	5	5	5	4	4	4	4	4	3	3	3	2	2	2	2	2	2	2	2	2	2	3.3	5.4
26-Oct	2	2	3	3	3	3	3	3	3	3	2	2	2	2	3	3	3	4	4	5	4	5	4	5	3.3	5.3
27-Oct	4	5	6	6	5	5	5	4	4	4	4	3	3	3	3	3	3	3	3	4	4	4	4	3	3.9	5.7
28-Oct	3	3	4	4	4	4	4	4	4	4	4	4	4	4	4	4	3	3	3	3	3	3	3	3	3.5	4.2
29-Oct	4	4	5	5	6	5	4	3	3	3	2	3	2	3	4	5	5	4	4	4	4	4	4	4	3.9	5.5
30-Oct	6	7	7	7	6	6	5	5	6	5	5	4	4	3	3	3	4	5	8	5	4	4	3	2	4.9	7.7
31-Oct	2	2	3	3	3	4	4	4	4	4	5	6	7	6	8	P	29	20	14	13	12	11	9	8	7.9	29.4
	4.8	5.0	4.8	4.6	4.6	4.8	4.9	5.5	6.1	4.5	4.1	4.1	4.1	4.0	4.4	4.4	5.3	5.3	5.5	5.6	5.5	5.4	5.0	4.7	Diurnal Average	
	14.2	15.2	9.5	11.3	11.3	13.3	14.6	19.1	40.9	15.3	12.9	14.9	17.4	14.5	13.5	12.1	29.4	19.7	18.6	13.3	16.1	14.1	16.0	10.9	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>



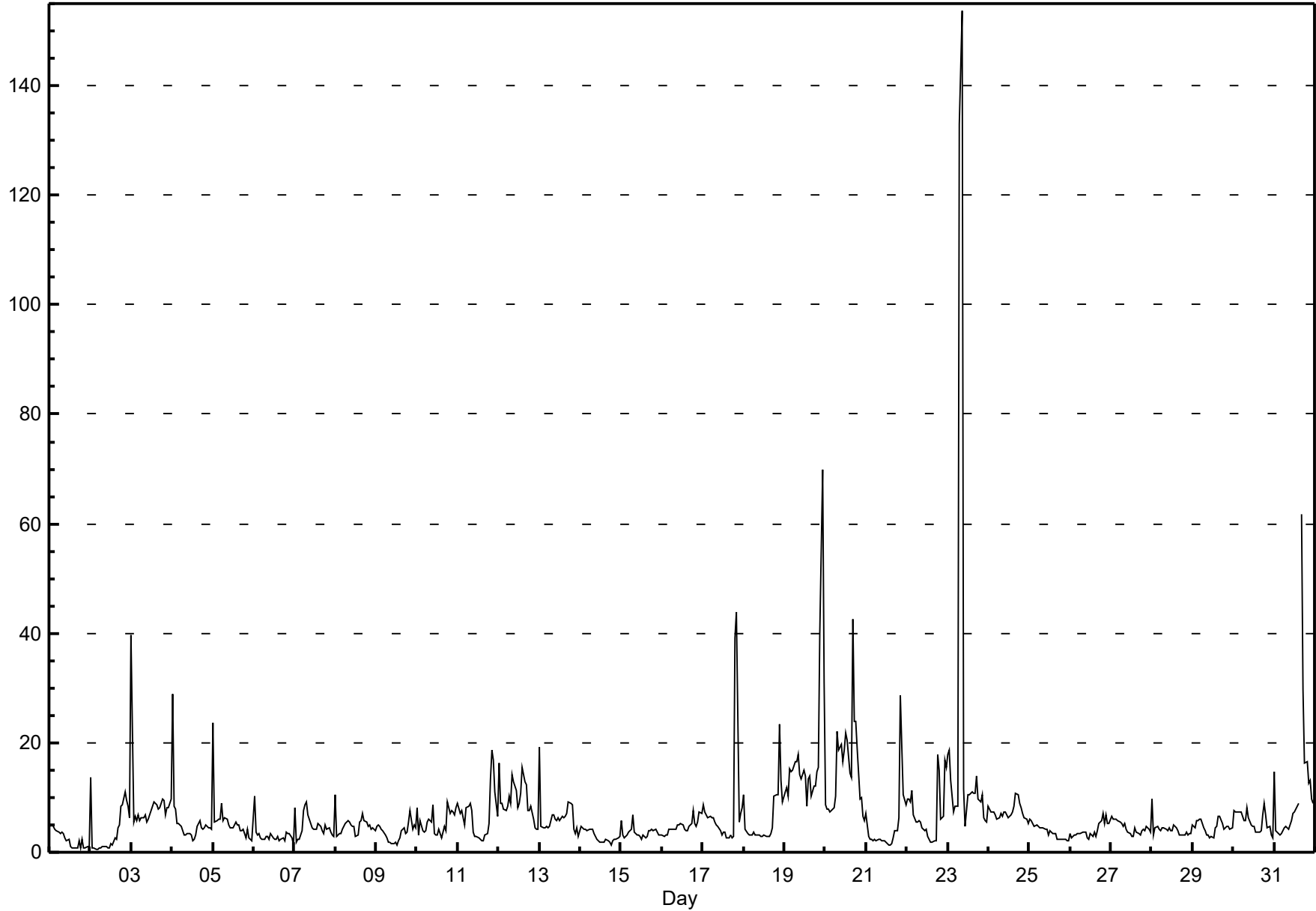
# Hourly Maximums

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

### Henry Pirker - October 2016

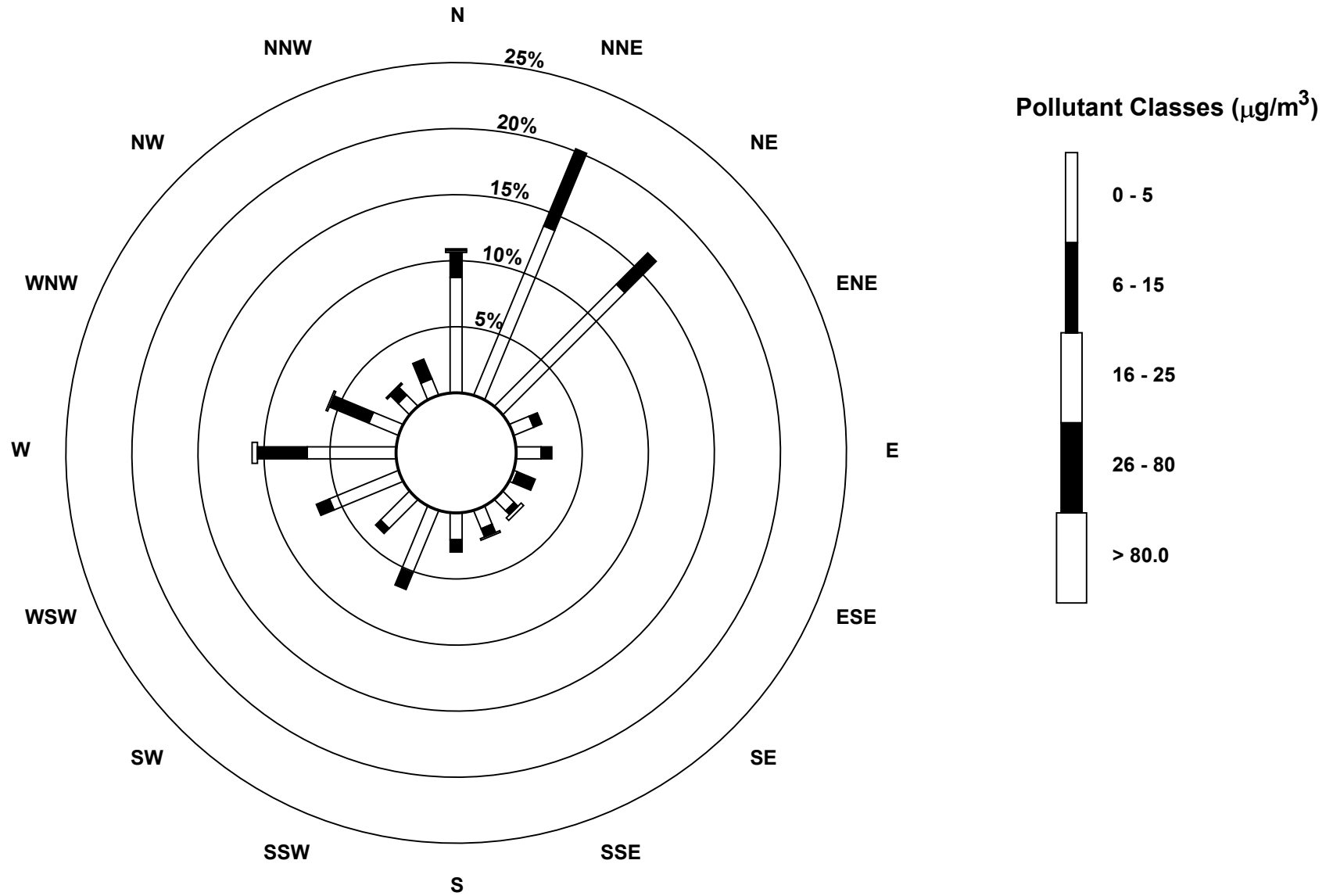
Maximum Value: 153.6 µg/m <sup>3</sup> on Oct 23 09:00		Maximum Daily Average: 21.1 µg/m <sup>3</sup> on Oct 23		Hours in Service: 744																							
Minimum Value: 1 µg/m <sup>3</sup> on Oct 2 04:00		Minimum Daily Average: 2.4 µg/m <sup>3</sup> on Oct 1		Hours of Data: 743																							
Maximum Diurnal Average: 11.1 µg/m <sup>3</sup> at hour 1		Minimum Diurnal Average: 4.8 µg/m <sup>3</sup> at hour 11		Hours of Missing Data: 1																							
Monthly Average: 6.68 µg/m <sup>3</sup>		Percentiles: P <sub>1</sub> = 0.8 P <sub>10</sub> = 2.3 Q <sub>1</sub> = 3.2 Median = 4.7 Q <sub>3</sub> = 7.4 P <sub>90</sub> = 10.8 P <sub>99</sub> = 37.9		Hours of Calibration: 0																							
				Percent Operational Time: 99.9																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Oct	5	5	5	4	4	4	3	4	3	3	2	2	1	1	1	1	1	2	1	2	1	1	1	1	2.4	4.9	
2-Oct	14	1	1	1	1	1	1	1	1	1	1	1	2	1	3	2	4	5	8	9	11	10	8	6	3.9	13.7	
3-Oct	40	5	6	6	7	6	6	6	7	6	6	7	8	9	9	9	8	8	10	9	7	8	8	10	8.8	39.8	
4-Oct	29	8	8	5	5	5	4	3	3	3	3	3	2	2	3	5	6	4	4	5	5	4	5	4	5.4	28.8	
5-Oct	24	6	6	6	6	9	6	6	6	5	4	4	4	5	5	5	4	4	4	3	4	3	2	2	5.6	23.7	
6-Oct	10	4	3	3	3	2	2	3	3	2	3	3	2	2	3	2	2	3	2	4	3	3	3	1	3.0	10.2	
7-Oct	8	2	2	2	4	8	9	9	7	5	4	4	4	4	5	5	4	3	5	4	4	4	3	3	4.7	9.1	
8-Oct	10	3	3	3	4	5	5	6	6	5	5	5	3	3	6	6	7	6	5	5	5	4	5	4	4.9	10.4	
9-Oct	5	5	5	4	4	3	3	2	2	2	2	1	2	3	4	5	3	4	5	8	4	5	5	5	3.6	7.6	
10-Oct	8	3	6	4	4	4	6	6	6	9	3	3	3	4	3	4	5	4	9	7	8	7	7	8	5.4	9.2	
11-Oct	9	7	8	6	5	8	8	9	8	4	3	3	3	2	2	2	3	3	5	13	19	17	11	7	6.9	18.7	
12-Oct	16	9	9	8	8	8	10	9	14	13	11	8	9	11	16	13	12	8	8	8	6	5	4	4	9.5	16.3	
13-Oct	19	5	5	4	5	5	5	7	7	6	6	6	6	7	6	6	7	9	9	9	4	3	4	3	6.4	19.2	
14-Oct	5	4	4	4	4	4	4	4	3	3	2	2	2	2	2	2	2	2	1	2	2	2	2	3	2.9	4.7	
15-Oct	6	3	3	3	4	4	4	7	4	3	3	3	2	3	3	3	4	4	4	4	4	4	3	3	3.7	6.8	
16-Oct	3	3	3	3	4	4	4	4	4	5	5	5	5	4	4	4	5	5	8	5	5	6	7	7	4.7	7.6	
17-Oct	9	7	7	6	7	6	6	6	5	5	4	3	4	4	3	3	3	3	3	39	44	6	7	8	8.2	43.9	
18-Oct	10	4	3	3	3	3	4	3	3	3	3	3	3	3	3	3	3	5	10	11	11	23	13	9	6.0	23.3	
19-Oct	11	12	10	15	15	15	16	17	18	14	13	15	14	8	13	14	10	12	12	15	15	40	70	31	17.8	69.9	
20-Oct	9	8	8	7	8	8	10	22	19	20	17	19	22	21	14	14	43	24	24	19	10	10	7	6	15.2	42.5	
21-Oct	7	3	2	2	2	2	2	2	2	2	2	2	1	1	2	3	4	4	6	29	19	11	9	5.1	28.7		
22-Oct	10	10	9	11	7	5	5	6	6	5	4	4	3	2	2	2	2	2	18	15	6	7	17	16	7.2	17.8	
23-Oct	18	19	13	7	8	8	8	133	154	11	5	8	10	10	11	11	11	14	10	9	11	6	6	6	21.1	153.6	
24-Oct	8	7	7	7	7	6	6	7	7	7	7	6	7	7	7	8	11	11	9	8	7	6	6	5	7.4	10.8	
25-Oct	6	6	5	5	5	5	4	5	5	4	4	3	4	4	3	3	2	2	2	2	2	2	2	2	3.7	6.0	
26-Oct	3	3	3	3	3	3	3	4	4	4	3	2	3	3	4	3	4	5	6	7	5	7	5	5	4.0	7.1	
27-Oct	7	6	6	6	6	5	5	5	5	4	4	3	3	3	4	4	3	3	4	4	4	5	4	4	4.5	6.6	
28-Oct	10	3	5	5	4	4	4	4	4	4	4	4	4	5	5	4	3	3	3	4	3	3	3	3	4.2	9.7	
29-Oct	5	4	6	6	6	6	4	4	3	3	3	3	3	4	5	7	6	5	4	4	5	5	4	4	4.6	6.5	
30-Oct	8	7	7	7	7	7	6	6	8	6	5	5	5	4	4	4	4	7	9	7	4	5	3	3	5.7	9.1	
31-Oct	15	4	3	3	3	4	5	5	4	5	6	7	7	8	9	P	62	30	16	17	13	13	10	9	11.2	61.7	
		11.1	5.7	5.5	5.3	5.2	5.4	5.6	10.1	10.6	5.5	4.8	4.8	4.9	4.9	5.2	5.0	8.0	6.6	7.2	8.4	8.5	7.8	8.0	6.2	Diurnal Average	
		39.8	18.6	13.1	15.1	14.7	15.0	16.5	133.0	153.6	19.7	16.6	18.7	21.8	20.6	15.5	13.9	61.7	29.6	24.0	39.1	43.9	40.1	69.9	31.2	Diurnal Maximum	
P - Power Failure																											





**Pollutant Rose**

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

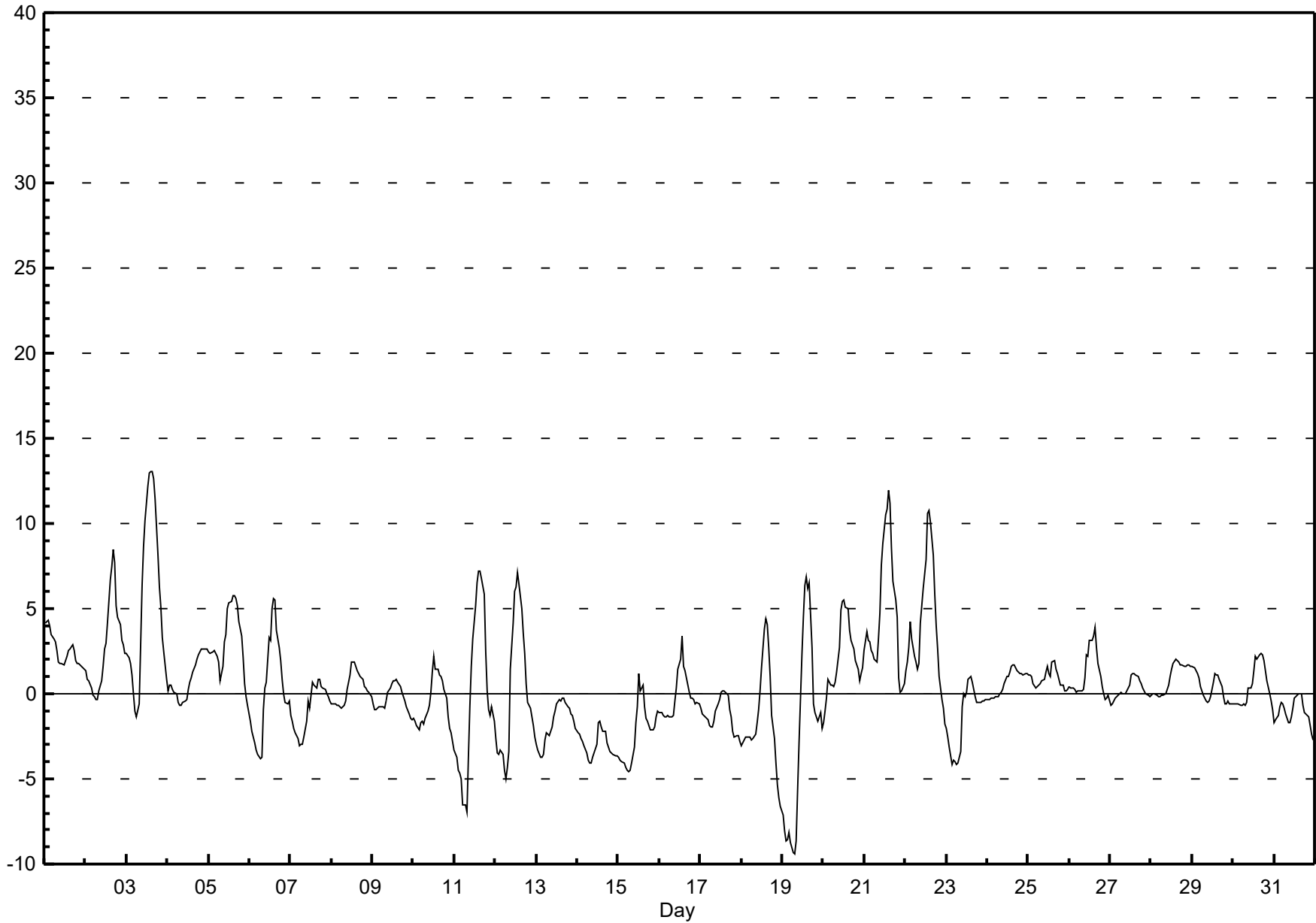


## Hourly Averages

External Temperature (ET) - °C

Henry Pirker - October 2016

Maximum Value: 13.1 °C on Oct 3 15:00		Maximum Daily Average: 5.6 °C on Oct 3		Hours in Service: 744																																												
Minimum Value: -9 °C on Oct 19 08:00		Minimum Daily Average: -3.0 °C on Oct 14		Hours of Data: 743																																												
Maximum Diurnal Average: 3.4 °C at hour 15		Minimum Diurnal Average: -1.5 °C at hour 8		Hours of Missing Data: 1																																												
Monthly Average: 0.46 °C		Percentiles: P <sub>1</sub> = -8.1 P <sub>10</sub> = -2.9 Q <sub>1</sub> = -1.2 Median = 0.1 Q <sub>3</sub> = 1.7 P <sub>90</sub> = 4.1 P <sub>99</sub> = 10.9		Hours of Calibration: 0																																												
				Percent Operational Time: 99.9																																												
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																								
1-Oct	4	4	4	4	3	3	3	3	2	2	2	2	2	3	3	3	3	2	2	2	2	2	1	2.5	4.4																							
2-Oct	1	1	1	0	0	0	0	0	0	1	2	3	3	4	7	7	8	8	5	4	4	3	3	2	2.8	8.5																						
3-Oct	2	2	2	1	0	-1	-1	-1	3	6	9	10	12	13	13	13	13	11	8	6	5	3	2	1	5.6	13.1																						
4-Oct	0	1	0	0	0	0	-1	-1	-1	-1	0	0	0	1	1	1	2	2	2	2	3	3	3	3	0.9	2.7																						
5-Oct	2	2	2	3	2	2	2	1	2	3	4	5	5	5	6	6	6	5	4	3	2	1	0	-1	3.0	5.8																						
6-Oct	-2	-2	-3	-3	-3	-4	-4	-4	-1	0	1	3	3	5	6	6	4	3	2	1	0	0	-1	0	0.3	5.6																						
7-Oct	-1	-2	-2	-2	-3	-3	-3	-3	-3	-2	0	-1	0	1	0	0	1	1	0	0	0	0	0	0	-0.9	0.9																						
8-Oct	-1	-1	-1	-1	-1	-1	-1	-1	0	0	1	1	2	2	2	1	1	1	1	0	0	0	0	0	0.3	1.9																						
9-Oct	-1	-1	-1	-1	-1	-1	-1	-1	0	0	1	1	1	1	1	1	0	0	0	0	-1	-1	-1	-2	-0.3	0.8																						
10-Oct	-1	-2	-2	-2	-2	-2	-2	-1	-1	-1	0	1	2	1	1	1	1	1	0	0	-1	-2	-2	-3	-0.6	2.2																						
11-Oct	-3	-4	-5	-5	-5	-7	-7	-7	-4	-1	2	3	5	6	7	7	7	6	2	0	-1	-1	-1	-2	-0.2	7.2																						
12-Oct	-3	-4	-4	-3	-4	-4	-5	-4	-3	1	4	6	6	7	6	5	4	2	1	0	-1	-1	-2	-3	0.1	7.1																						
13-Oct	-3	-3	-4	-4	-4	-3	-2	-2	-2	-2	-1	-1	-1	0	0	0	0	-1	-1	-1	-1	-1	-2	-2	-1.7	-0.2																						
14-Oct	-2	-2	-3	-3	-3	-3	-4	-4	-4	-4	-3	-3	-2	-2	-2	-2	-2	-3	-3	-3	-3	-4	-4	-4	-3.0	-1.6																						
15-Oct	-4	-4	-4	-4	-4	-4	-5	-5	-4	-3	-2	-1	1	0	1	-1	-1	-2	-2	-2	-2	-2	-1	-1	-2.3	1.2																						
16-Oct	-1	-1	-1	-1	-1	-1	-1	-1	-1	0	0	1	2	3	2	1	1	0	0	0	0	-1	0	-1	-0.1	3.4																						
17-Oct	-1	-1	-1	-1	-2	-2	-2	-2	-2	-1	-1	0	0	0	0	0	0	-1	-1	-2	-3	-2	-2	-3	-1.2	0.2																						
18-Oct	-3	-3	-3	-3	-3	-3	-3	-3	-2	-2	-1	0	2	4	4	4	3	1	-1	-3	-4	-5	-6	-7	-1.4	4.4																						
19-Oct	-7	-8	-9	-9	-8	-9	-9	-9	-9	-9	-6	-3	2	5	6	7	6	7	3	-1	-1	-2	-1	-2	-2.4	6.9																						
20-Oct	-2	-1	0	1	0	0	0	1	1	3	5	5	6	5	5	4	3	3	3	2	1	1	1	2	2.0	5.5																						
21-Oct	3	4	3	3	3	2	2	2	3	5	8	9	10	11	12	11	9	7	5	5	1	0	0	1	4.9	12.0																						
22-Oct	1	2	3	4	3	2	2	1	2	4	6	7	8	11	11	10	8	6	4	3	1	0	-1	-2	4.0	10.7																						
23-Oct	-2	-3	-3	-4	-4	-4	-4	-4	-3	-1	0	0	0	1	1	1	0	0	0	-1	0	0	0	0	-1.3	1.1																						
24-Oct	0	0	0	0	0	0	0	0	0	0	1	1	1	1	2	2	2	1	1	1	1	1	1	1	0.7	1.7																						
25-Oct	1	1	1	1	0	0	0	1	1	1	1	2	1	1	2	2	1	1	1	1	1	0	0	0	0.9	1.9																						
26-Oct	0	0	0	0	0	0	0	0	0	1	2	2	3	3	3	4	3	2	1	0	0	0	0	0	1.1	3.9																						
27-Oct	-1	-1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	0	0	0	0	0	0	0.2	1.2																						
28-Oct	0	0	0	0	0	0	0	0	0	0	0	1	1	2	2	2	2	2	2	2	2	2	2	2	0.9	2.0																						
29-Oct	2	2	1	1	1	0	0	0	0	0	-1	0	0	1	1	1	1	0	0	-1	-1	0	-1	-1	0.3	1.6																						
30-Oct	-1	-1	-1	-1	-1	-1	-1	-1	-1	0	0	1	1	2	2	2	2	2	2	1	1	0	0	-1	0.5	2.4																						
31-Oct	-2	-2	-1	-1	-1	-1	-1	-1	-2	-2	-1	-1	0	0	0	P	0	-1	-1	-1	-1	-2	-2	-3	-1.1	0.0																						
																								-0.7	-0.8	-0.9	-0.9	-1.1	-1.3	-1.5	-1.5	-1.0	0.1	1.1	1.9	2.7	3.2	3.4	3.3	2.8	2.1	1.2	0.6	0.1	-0.4	-0.5	-0.7	Diurnal Average
																								4.2	4.3	4.4	4.3	3.5	3.3	3.0	2.6	3.2	6.4	8.6	10.2	12.2	13.0	13.1	13.0	12.6	11.4	8.1	6.3	5.1	3.3	2.9	2.6	Diurnal Maximum
P - Power Failure																																																



# Hourly Averages

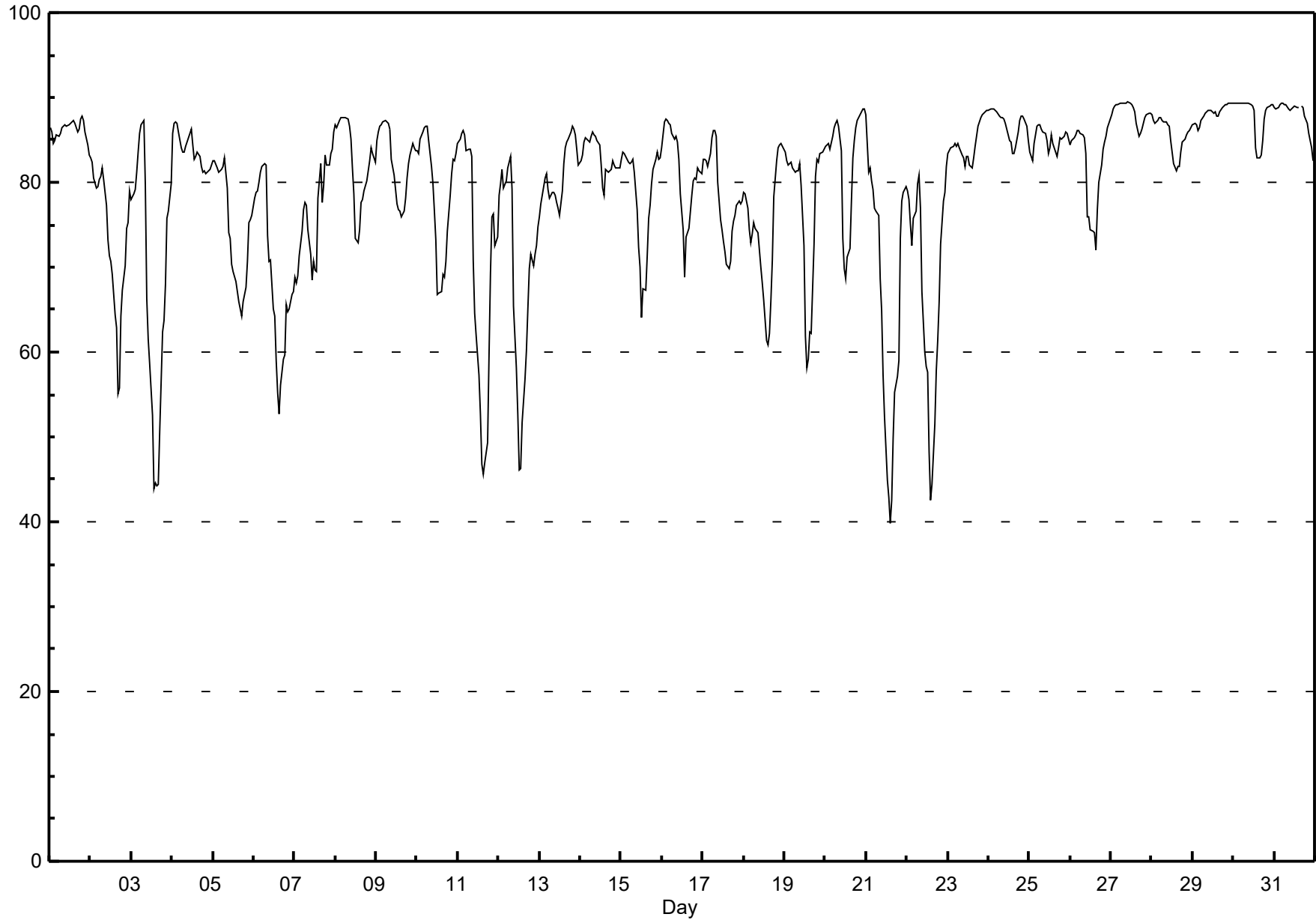
Relative Humidity (RH) - %

Henry Pirker - October 2016

<b>Maximum Value: 89.4 % on Oct 27 11:00</b>		<b>Maximum Daily Average: 88.3 % on Oct 27</b>		Hours in Service: 744 Hours of Data: 743 Hours of Missing Data: 1 Hours of Calibration: 0 Percent Operational Time: 99.9																							
<b>Minimum Value: 40 % on Oct 21 15:00</b>		<b>Minimum Daily Average: 66.0 % on Oct 21</b>																									
<b>Maximum Diurnal Average: 84.3 % at hour 8</b>		<b>Minimum Diurnal Average: 70.8 % at hour 15</b>																									
<b>Monthly Average: 79.30 %</b>		Percentiles: P <sub>1</sub> = 44.4 P <sub>10</sub> = 65.5 Q <sub>1</sub> = 75.8 Median = 82.6 Q <sub>3</sub> = 86.0 P <sub>90</sub> = 88.2 P <sub>99</sub> = 89.4																									
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-Oct	86	86	85	85	86	85	86	86	87	87	87	87	87	87	87	86	86	87	88	87	86	84	83	86.2	87.9		
2-Oct	83	82	81	79	79	80	81	82	80	77	73	71	71	69	64	63	55	56	64	67	70	75	75	79	73.2	82.9	
3-Oct	78	79	79	81	84	86	87	87	80	66	62	59	53	44	45	44	44	51	62	64	68	76	77	80	68.1	87.3	
4-Oct	86	87	87	87	86	84	84	84	84	85	86	86	84	83	83	84	83	82	81	81	81	81	82	82	83.8	87.1	
5-Oct	82	82	82	81	81	82	82	83	79	74	73	70	69	68	67	66	65	64	66	68	71	75	76	76	74.3	82.9	
6-Oct	78	79	79	80	81	82	82	82	74	71	71	65	64	59	55	53	56	59	60	66	65	65	67	67	69.1	82.2	
7-Oct	69	68	69	71	74	77	78	77	74	72	68	71	70	69	78	82	78	80	83	82	82	83	84	86	76.1	86.0	
8-Oct	87	86	87	88	88	88	88	87	87	85	82	79	73	73	74	78	78	79	80	81	82	84	83	82	82.5	87.7	
9-Oct	85	86	87	87	87	87	87	87	86	83	81	79	77	77	77	76	77	78	81	82	83	85	84	84	82.5	87.3	
10-Oct	84	83	85	86	87	87	87	85	82	80	77	73	67	67	67	69	69	71	74	78	81	83	83	83	78.6	86.6	
11-Oct	85	85	86	86	86	84	84	84	83	71	65	62	57	53	47	46	47	49	60	69	76	76	73	74	70.2	86.0	
12-Oct	78	80	82	79	80	82	82	83	79	65	58	53	46	46	52	57	60	65	70	72	70	72	72	75	69.1	83.1	
13-Oct	76	77	80	81	81	79	78	79	79	78	78	77	76	79	82	84	85	85	86	87	86	86	84	82	81.0	86.5	
14-Oct	83	83	85	85	85	85	85	86	86	85	85	84	82	79	78	82	81	81	82	83	82	82	82	82	83.0	85.9	
15-Oct	83	84	83	83	82	82	82	83	81	77	72	70	64	67	67	71	76	77	80	82	83	84	83	83	78.3	83.5	
16-Oct	84	87	87	87	87	87	86	85	85	85	83	79	74	69	74	74	75	78	80	81	80	82	81	81	81.3	87.5	
17-Oct	83	83	83	82	83	85	86	86	85	80	76	74	73	72	70	70	71	74	75	76	77	78	77	78	78.2	86.1	
18-Oct	79	79	77	74	73	74	75	75	74	72	70	68	66	61	61	62	66	71	78	83	84	84	85	84	74.0	84.6	
19-Oct	84	83	82	82	82	82	81	81	81	82	80	73	62	58	59	62	62	73	81	83	82	83	84	84	76.9	83.9	
20-Oct	84	84	85	84	85	86	87	87	87	84	73	70	69	71	72	78	83	85	86	87	88	88	89	89	82.5	88.7	
21-Oct	88	81	82	80	79	77	77	76	69	65	57	52	45	43	40	43	50	55	57	59	73	78	79	79	66.0	88.0	
22-Oct	79	78	75	73	76	77	80	81	77	67	60	58	58	48	43	44	52	58	61	66	73	78	79	82	67.5	81.8	
23-Oct	83	84	84	84	85	84	85	84	83	83	82	83	83	82	82	83	84	85	87	88	88	88	88	88	84.6	88.4	
24-Oct	89	89	89	89	89	88	88	88	88	87	87	86	85	85	83	83	84	86	87	88	88	87	87	85	86.8	88.7	
25-Oct	84	83	83	85	87	87	87	86	86	86	85	83	84	86	85	84	83	84	85	85	85	86	86	85	84.9	86.8	
26-Oct	84	85	85	86	86	86	86	86	85	83	76	76	74	74	74	72	77	80	82	84	85	85	86	87	81.9	86.9	
27-Oct	88	89	89	89	89	89	89	89	89	89	89	89	89	89	89	88	87	85	86	86	87	88	88	88	88.3	89.4	
28-Oct	88	87	87	87	88	88	87	87	87	87	85	84	82	81	82	82	84	85	85	86	86	86	86	86	85.6	88.0	
29-Oct	87	87	87	86	86	87	88	88	88	88	88	88	88	88	88	88	88	89	89	89	89	89	89	89	88.1	89.4	
30-Oct	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	88	84	83	83	83	85	87	88	89	87.9	89.4	
31-Oct	89	89	89	89	89	89	89	89	89	88	89	89	89	89	89	P	89	89	88	87	86	85	84	83	88.0	89.3	
		83.3	83.3	83.4	83.4	83.9	84.0	84.3	84.3	82.7	79.8	77.0	75.1	72.7	71.0	70.8	71.2	72.7	75.0	77.8	79.5	80.9	82.1	82.1	82.4	Diurnal Average	
		89.4	89.4	89.4	89.4	89.4	89.3	89.3	89.4	89.4	89.4	89.4	89.3	89.1	88.9	88.9	87.8	89.0	88.9	89.0	89.1	89.2	89.3	89.3	89.4	Diurnal Maximum	
P - Power Failure																											

**Hourly Averages**

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

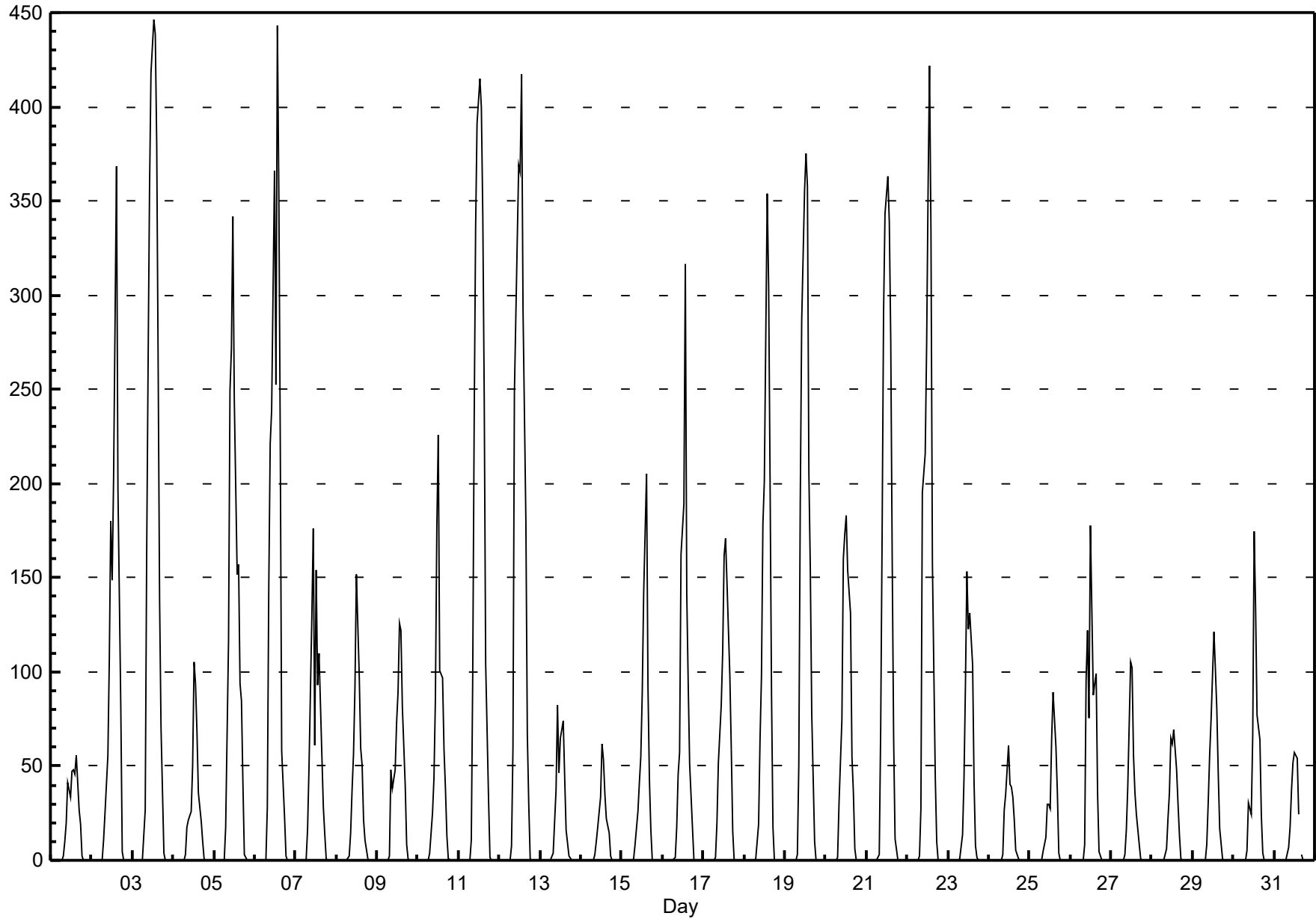


# Hourly Averages

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

Henry Pirker - October 2016

<b>Maximum Value: 445.9 W/m<sup>2</sup> on Oct 3 13:00</b>		<b>Maximum Daily Average: 123.6 W/m<sup>2</sup> on Oct 3</b>		Hours in Service: 744 Hours of Data: 743 Hours of Missing Data: 1 Hours of Calibration: 0 Percent Operational Time: 99.9																							
<b>Minimum Value: 0 W/m<sup>2</sup> on Oct 1 01:00</b>		<b>Minimum Daily Average: 10.5 W/m<sup>2</sup> on Oct 14</b>																									
<b>Maximum Diurnal Average: 184.9 W/m<sup>2</sup> at hour 14</b>		<b>Minimum Diurnal Average: 0.0 W/m<sup>2</sup> at hour 1</b>																									
<b>Monthly Average: 45.50 W/m<sup>2</sup></b>		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> = 48.0 P <sub>90</sub> = 161.0 P <sub>99</sub> = 412.9																									
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-Oct	0	0	0	0	0	0	0	2	10	20	41	34	47	48	46	56	27	19	2	0	0	0	0	0	14.7	55.5	
2-Oct	0	0	0	0	0	0	0	11	25	56	107	180	149	204	368	198	140	81	4	0	0	0	0	0	63.4	368.2	
3-Oct	0	0	0	0	0	0	0	27	161	263	356	418	446	439	380	263	138	70	4	0	0	0	0	0	123.6	445.9	
4-Oct	0	0	0	0	0	0	0	3	18	22	26	50	105	94	69	36	21	10	1	0	0	0	0	0	18.9	105.1	
5-Oct	0	0	0	0	0	0	0	18	116	249	271	342	245	152	157	94	84	42	3	0	0	0	0	0	73.9	341.7	
6-Oct	0	0	0	0	0	0	0	28	144	221	239	366	252	443	355	223	58	23	2	0	0	0	0	0	98.1	442.8	
7-Oct	0	0	0	0	0	0	0	16	49	129	176	61	154	93	110	55	28	14	1	0	0	0	0	0	37.0	176.3	
8-Oct	0	0	0	0	0	0	0	2	15	38	56	91	152	97	60	50	22	10	0	0	0	0	0	0	24.8	151.7	
9-Oct	0	0	0	0	0	0	0	2	48	38	48	73	89	126	122	81	40	8	1	0	0	0	0	0	28.2	125.6	
10-Oct	0	0	0	0	0	0	0	4	25	43	85	176	225	101	97	59	39	13	1	0	0	0	0	0	36.1	225.4	
11-Oct	0	0	0	0	0	0	0	11	99	233	335	391	415	400	343	246	105	33	1	0	0	0	0	0	108.8	414.8	
12-Oct	0	0	0	0	0	0	0	7	59	248	329	369	365	417	293	180	67	30	1	0	0	0	0	0	98.6	416.8	
13-Oct	0	0	0	0	0	0	0	4	20	38	82	47	65	74	44	16	9	2	0	0	0	0	0	0	16.7	82.4	
14-Oct	0	0	0	0	0	0	0	0	3	10	17	34	61	53	35	22	15	2	0	0	0	0	0	0	10.5	61.4	
15-Oct	0	0	0	0	0	0	0	0	8	26	41	55	88	142	205	91	43	16	0	0	0	0	0	0	29.9	205.3	
16-Oct	0	0	0	0	0	0	0	2	18	46	57	162	189	316	141	94	51	17	0	0	0	0	0	0	45.6	316.5	
17-Oct	0	0	0	0	0	0	0	1	20	52	83	111	162	171	147	97	59	15	0	0	0	0	0	0	38.2	171.2	
18-Oct	0	0	0	0	0	0	0	1	19	64	97	179	202	354	305	200	89	18	0	0	0	0	0	0	63.6	354.1	
19-Oct	0	0	0	0	0	0	0	3	51	189	286	355	375	358	206	155	77	10	0	0	0	0	0	0	86.1	375.2	
20-Oct	0	0	0	0	0	0	0	1	30	75	160	173	183	154	132	55	36	6	0	0	0	0	0	0	41.9	182.7	
21-Oct	0	0	0	0	0	0	0	3	70	174	291	343	363	339	276	162	65	11	0	0	0	0	0	0	87.4	362.8	
22-Oct	0	0	0	0	0	0	0	3	28	195	216	274	356	421	333	158	44	10	0	0	0	0	0	0	84.9	421.5	
23-Oct	0	0	0	0	0	0	0	0	13	43	93	153	123	131	104	41	8	2	0	0	0	0	0	0	29.7	153.4	
24-Oct	0	0	0	0	0	0	0	0	3	27	35	61	40	39	33	22	5	1	0	0	0	0	0	0	11.1	60.8	
25-Oct	0	0	0	0	0	0	0	0	5	13	30	30	27	64	89	60	36	4	0	0	0	0	0	0	14.9	89.2	
26-Oct	0	0	0	0	0	0	0	0	9	96	122	75	178	88	94	99	35	5	0	0	0	0	0	0	33.4	177.9	
27-Oct	0	0	0	0	0	0	0	0	3	16	39	105	102	55	36	24	8	1	0	0	0	0	0	0	16.3	105.0	
28-Oct	0	0	0	0	0	0	0	0	6	22	36	65	62	70	48	30	13	1	0	0	0	0	0	0	14.7	69.8	
29-Oct	0	0	0	0	0	0	0	0	8	31	55	75	121	101	80	46	17	1	0	0	0	0	0	0	22.3	120.9	
30-Oct	0	0	0	0	0	0	0	0	6	30	25	67	174	133	77	64	24	3	0	0	0	0	0	0	25.1	174.5	
31-Oct	0	0	0	0	0	0	0	0	7	17	38	52	57	54	24	P	3	0	0	0	0	0	0	0	11.0	57.0	
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.9	35.4	87.9	125.0	160.2	179.8	184.9	155.1	99.3	45.3	15.4	0.7	0.0	0.0	0.0	0.0	0.0	Diurnal Average	
		0.0	0.0	0.0	0.0	0.0	0.0	0.2	28.1	161.4	263.5	356.2	418.1	445.9	442.8	380.1	263.4	140.0	81.1	4.3	0.0	0.0	0.0	0.0	0.0	Diurnal Maximum	
P - Power Failure																											







Peace Airshed Zone Association

# Hourly Averages

Wind Speed (km/h)  
Wind Direction (deg)  
Henry Pirker - October 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	12	11	12	14	13	11	11	9	9	9	9	7	7	6	6	8	6	8	8	8	8	9	10	11	10	4.8	14.0
Dir	39	34	38	36	30	24	25	21	15	19	21	12	15	358	333	317	284	252	255	252	243	253	246	251	352.8	36.4	
2 Spd	11	10	11	12	10	8	6	5	7	6	5	4	5	7	6	4	9	7	3	2	3	4	5	5	4.3	11.9	
Dir	251	252	253	242	252	250	256	198	228	225	207	181	142	135	137	136	246	273	219	186	114	135	123	134	219.5	242.0	
3 Spd	5	5	5	2	3	5	2	2	2	2	3	2	2	3	3	3	4	6	7	7	8	7	6	7	1.5	8.1	
Dir	148	145	158	159	98	121	133	167	170	205	205	211	216	299	333	36	355	21	13	18	23	13	32	18	49.5	23.2	
4 Spd	7	7	7	8	9	6	8	8	8	7	8	8	8	9	9	7	6	5	5	5	7	8	8	7	7.0	8.7	
Dir	16	21	23	28	30	20	3	1	6	11	16	8	17	25	24	34	28	28	36	36	33	37	39	39	22.6	30.2	
5 Spd	6	7	8	7	7	6	9	5	8	11	12	9	9	9	8	8	9	8	7	8	9	7	6	5	7.6	11.7	
Dir	31	32	39	36	38	36	40	23	38	47	58	54	51	40	33	35	24	12	9	26	27	33	37	27	35.8	58.4	
6 Spd	4	5	4	6	5	4	4	3	4	7	8	7	12	11	9	8	7	8	7	7	7	6	6	8	6.3	11.6	
Dir	5	3	8	6	6	9	14	7	19	48	36	39	51	38	22	18	11	4	5	7	13	18	23	33	21.5	50.6	
7 Spd	9	10	11	11	10	12	12	11	13	11	11	11	12	12	11	9	7	9	8	10	10	10	10	10	10.3	13.2	
Dir	42	46	46	46	45	45	50	46	41	35	33	24	21	33	37	31	47	46	35	40	49	46	54	53	41.0	40.6	
8 Spd	8	9	8	8	7	5	5	3	4	2	1	2	1	1	3	3	3	3	2	5	6	5	6	5	2.5	8.7	
Dir	52	52	53	51	52	50	53	35	39	43	35	346	43	205	161	180	189	244	319	351	329	327	320	294	26.1	52.4	
9 Spd	6	7	5	6	6	7	9	10	11	9	10	11	13	14	14	14	13	11	10	9	9	8	8	8	9.4	14.3	
Dir	279	286	279	274	265	264	263	263	264	265	262	264	257	258	261	264	267	266	265	266	274	267	274	280	266.4	261.4	
10 Spd	6	5	5	4	4	3	2	3	2	4	2	2	2	3	4	5	4	4	5	6	5	3	5	5	0.4	6.3	
Dir	289	290	291	285	294	299	298	344	285	312	312	227	96	160	183	166	171	125	116	113	111	89	87	90	189.1	288.9	
11 Spd	4	3	2	2	5	5	4	4	4	7	7	7	6	6	9	10	7	4	1	1	2	2	5	5	3.6	9.5	
Dir	96	118	138	173	206	267	260	267	239	235	214	215	213	214	213	221	203	190	224	102	133	149	212	251	212.7	220.7	
12 Spd	3	0	2	3	2	1	2	3	1	1	4	4	6	4	6	8	8	6	5	6	7	7	5	4	2.0	8.2	
Dir	252	262	186	202	208	224	194	208	277	300	238	229	294	342	15	29	33	27	32	26	32	32	29	25	10.6	28.8	
13 Spd	5	4	5	5	5	6	9	8	6	5	6	5	5	5	4	4	3	2	2	4	5	6	6	8	4.8	8.8	
Dir	27	19	20	25	34	30	40	42	27	25	16	19	35	17	22	16	20	29	287	357	349	345	340	351	17.0	40.2	
14 Spd	7	5	8	7	7	9	11	10	9	10	10	10	8	8	9	6	7	6	7	6	6	7	6	5	7.5	10.5	
Dir	358	356	341	359	5	359	359	0	1	0	1	2	10	17	19	14	5	10	10	9	8	11	13	14	4.6	358.8	
15 Spd	5	5	4	4	4	3	3	4	4	4	3	2	1	2	3	4	5	4	4	5	5	7	9	8	4.1	8.5	
Dir	11	17	12	18	27	8	1	359	9	38	30	21	302	43	41	44	42	28	17	11	6	21	33	33	22.5	33.3	
16 Spd	7	11	12	12	11	9	8	7	6	5	3	3	4	7	7	5	5	4	2	2	3	0	2	3	2.8	11.7	
Dir	25	40	47	45	49	47	40	41	37	37	28	330	266	265	266	258	249	253	259	236	262	195	352	310	13.6	46.6	
17 Spd	2	4	5	6	5	7	7	7	6	7	9	9	10	10	9	8	7	7	6	6	4	3	4	5	6.3	10.3	
Dir	256	270	285	294	261	264	276	280	275	269	270	270	271	269	275	274	267	279	285	303	306	295	293	293	276.8	271.5	
18 Spd	3	2	3	4	4	4	5	3	5	5	4	4	3	4	3	3	3	3	2	2	3	4	3	4	2.2	5.5	
Dir	294	313	56	81	42	52	58	65	49	56	73	75	57	54	77	48	16	30	338	315	274	280	290	294	35.3	49.5	
19 Spd	4	4	4	3	3	3	4	3	3	3	3	2	3	4	2	2	3	2	2	2	4	1	1	3	2.4	4.2	
Dir	271	275	286	307	299	288	289	295	283	280	269	265	274	278	282	20	41	306	298	258	277	285	292	289	288.8	275.1	
20 Spd	3	3	4	2	3	1	3	2	1	0	2	3	3	3	3	4	3	2	2	3	2	3	4	3	1.3	4.0	
Dir	274	278	271	196	112	12	121	78	355	294	253	253	275	254	261	268	264	128	148	193	210	196	182	160	225.3	271.4	
21 Spd	9	9	7	8	8	9	7	6	6	5	4	5	3	2	1	3	6	4	5	3	3	3	2	3	3.0	9.3	
Dir	190	204	197	196	206	201	200	200	200	171	166	174	172	192	142	35	52	45	54	45	297	267	282	280	192.2	204.2	
22 Spd	2	2	4	3	4	6	3	3	6	8	10	10	9	11	17	13	9	6	7	3	4	2	0	0	4.7	17.0	
Dir	332	119	184	160	280	304	220	167	191	198	220	232	270	238	233	245	252	248	256	284	308	124	9	349	237.6	233.3	

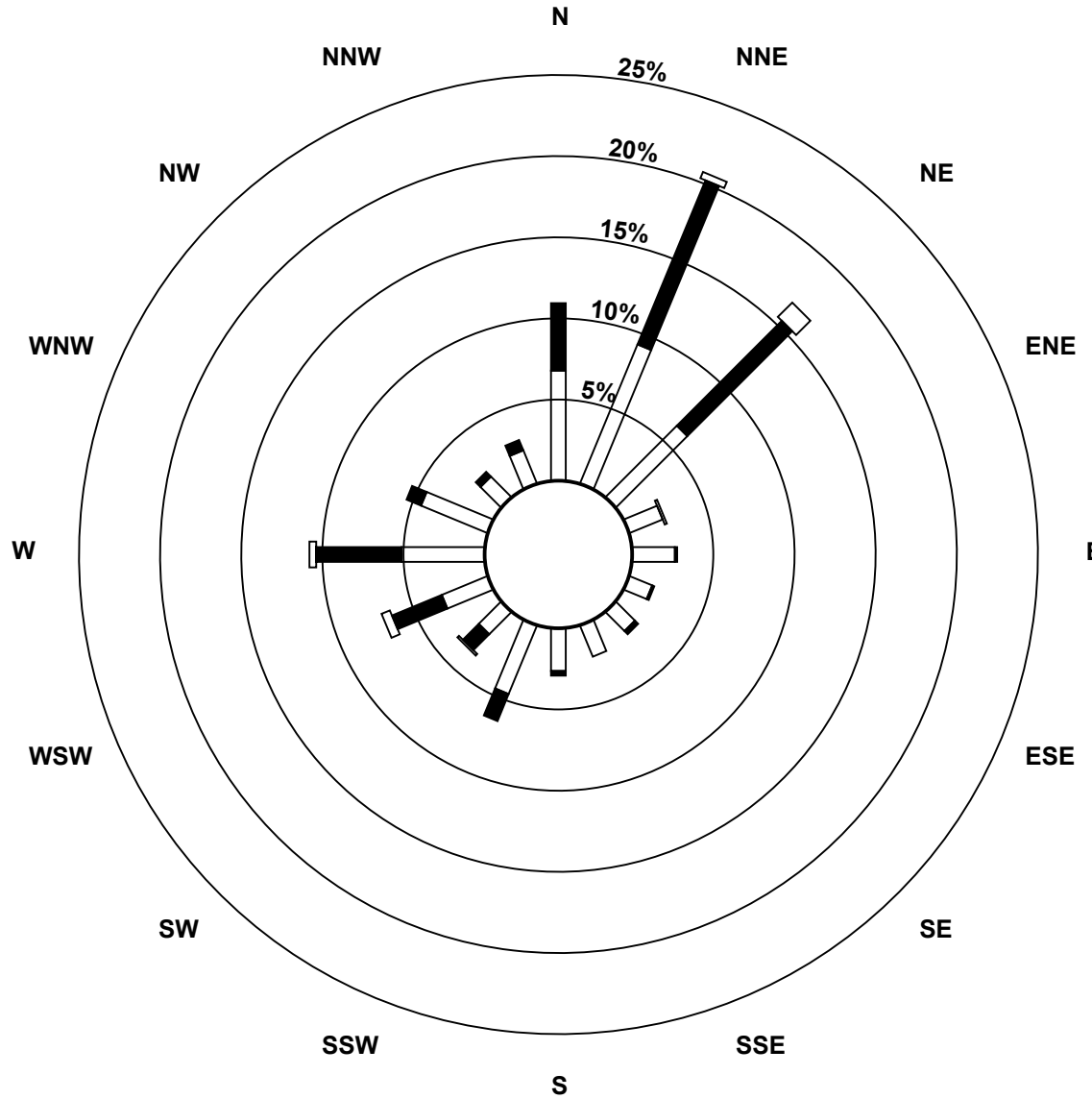
## Hourly Averages

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

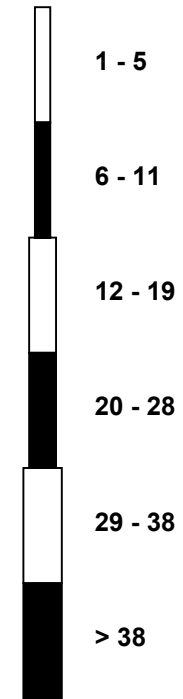
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
23 Spd	2	1	3	1	2	1	2	2	1	6	7	9	8	8	7	6	6	6	4	4	3	4	3	5	3.8	8.8
Dir	59	335	275	317	321	282	326	277	325	27	20	23	27	28	15	12	13	20	18	7	340	345	8	2	8.8	23.0
24 Spd	5	4	3	3	2	2	1	2	3	5	4	5	5	4	4	4	4	5	4	5	7	7	7	8	4.0	7.5
Dir	4	3	5	9	30	23	38	345	7	47	63	92	72	42	62	45	13	22	24	32	46	45	43	43	37.5	43.2
25 Spd	7	8	8	6	6	7	6	6	6	5	4	6	3	3	3	4	7	6	8	7	5	6	7	6	1.9	8.0
Dir	39	41	41	36	33	40	33	29	41	35	28	48	22	352	333	288	265	246	236	244	210	220	247	253	357.6	40.7
26 Spd	6	5	4	4	4	4	5	5	4	4	5	3	4	3	1	3	4	4	5	5	3	4	5	6	1.0	5.9
Dir	242	248	237	198	201	216	208	207	222	242	250	225	278	274	39	17	15	47	46	55	21	4	32	40	260.7	39.9
27 Spd	8	5	6	5	4	4	5	6	6	5	6	4	5	4	5	5	5	5	5	4	5	4	6	5	5.0	7.8
Dir	50	26	40	26	8	10	6	7	12	10	22	26	22	14	354	6	19	8	26	8	357	14	355	4	15.3	50.0
28 Spd	4	3	4	4	3	3	4	3	3	3	4	4	4	3	3	5	5	6	4	4	4	4	3	4	3.1	5.7
Dir	25	34	33	23	25	3	352	358	15	17	50	53	83	93	72	81	74	87	88	91	100	79	84	92	57.9	87.5
29 Spd	3	4	6	4	4	4	5	5	4	2	4	2	1	1	3	3	4	4	4	5	3	5	4	5	0.3	5.9
Dir	150	202	235	257	227	186	217	203	201	216	198	252	272	47	33	49	26	36	39	68	32	359	354	352	244.5	235.1
30 Spd	4	3	2	4	3	2	1	1	2	2	4	5	5	5	4	3	1	3	3	2	2	3	4	5	0.7	5.0
Dir	29	34	18	3	26	56	114	158	268	217	198	200	168	169	193	182	136	72	88	96	271	268	241	228	179.7	199.8
31 Spd	5	8	9	6	4	4	5	5	5	5	4	3	1	1	3	3	3	6	5	5	5	5	6	5	1.9	8.6
Dir	268	279	281	278	257	234	204	189	209	205	202	213	173	155	331	2	11	352	353	341	342	28	39	35	290.8	280.7
Spd	2.1	2.1	2.0	2.1	2.0	1.9	1.8	1.6	1.7	1.8	1.3	1.3	1.6	1.6	1.7	1.8	2.0	2.2	2.0	2.4	2.5	2.3	2.3	2.4	Diurnal Average	
Dir	4.7	1.5	1.0	11.1	8.3	1.6	5.2	358.2	354.3	6.7	358.5	351.4	357.6	350.4	341.0	350.4	345.4	354.0	355.4	8.2	358.7	4.6	5.7	0.1	Diurnal Maximum	
Spd	11.6	11.4	12.3	14.0	12.6	12.2	12.1	10.6	13.2	11.5	11.7	10.9	12.7	13.7	17.0	14.1	12.8	11.1	10.3	10.4	10.2	10.2	10.6	10.1	Diurnal Maximum	
Dir	38.7	40.0	38.3	36.4	29.6	44.5	50.5	45.9	40.6	47.1	58.4	263.8	257.2	258.5	233.3	263.9	267.3	265.9	265.0	39.9	48.6	253.2	246.1	250.7		
Maximum Speed Value: 17 km/h on Oct 22 15:00		Minimum Speed Value: 0 km/h on Oct 22 23:00												Hours in Service: 744												
Maximum Daily Speed Average: 10.3 km/h on Oct 7		Minimum Daily Speed Average: 0.3 km/h on Oct 20												Hours of Data: 744												
Maximum Diurnal Speed Average: 2.5 km/h at hour 21		Minimum Diurnal Speed Average: 1.3 km/h at hour 12												Hours of Missing Data: 0												
Monthly Average Velocity: 1.92 km/h 359.47 deg		Speed Percentiles: P <sub>1</sub> = 0.6 P <sub>10</sub> = 2.3 Q <sub>1</sub> = 3.3 Median = 4.9 Q <sub>3</sub> = 7.0 P <sub>90</sub> = 9.2 P <sub>99</sub> = 12.5												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	76	88	1	0	0	0	165																			
NorthEast	72	119	18	0	0	0	209																			
East	27	6	0	0	0	0	33																			
SouthEast	22	6	0	0	0	0	28																			
South	46	12	0	0	0	0	58																			
SouthWest	36	29	4	0	0	0	69																			
West	66	63	7	0	0	0	136																			
NorthWest	36	10	0	0	0	0	46																			
Total	381	333	30	0	0	0	744																			

**Wind Rose**

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



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



# Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Henry Pirker - October 2016

Maximum Speed: 17 km/h on Oct 22 15:00	Maximum Daily Speed Average: 10.6 km/h on Oct 7	Hours in Service: 744
Minimum Speed: 1 km/h on Oct 20 10:00	Minimum Daily Speed Average: 3.1 km/h on Oct 20	Hours of Data: 744
Maximum Diurnal Speed Average: 6.3 km/h at hour 15	Minimum Diurnal Speed Average: 5.1 km/h at hour 19	Hours of Missing Data: 0
Monthly Average Speed: 5.64 km/h	Percentiles: P <sub>1</sub> = 1.3 P <sub>10</sub> = 2.7 Q <sub>1</sub> = 3.6 Median = 5.1 Q <sub>3</sub> = 7.3 P <sub>90</sub> = 9.4 P <sub>99</sub> = 12.6	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-Oct	12	11	12	14	13	11	11	9	10	9	9	8	7	6	6	8	6	9	8	8	9	10	11	10	9.5	14.2
2-Oct	11	11	11	12	10	8	6	5	7	6	5	4	6	8	7	5	9	8	4	2	4	5	5	5	6.7	12.1
3-Oct	5	5	5	2	3	5	3	3	3	3	3	3	3	4	4	4	4	6	7	7	8	7	6	7	4.7	8.3
4-Oct	8	7	7	8	9	6	8	8	8	8	8	9	8	9	9	7	6	5	5	5	7	8	8	7	7.4	8.9
5-Oct	7	7	8	7	7	6	9	5	8	12	12	9	9	9	8	8	9	8	7	8	9	7	6	5	8.0	12.0
6-Oct	4	5	5	6	5	4	4	3	5	8	8	8	12	11	9	9	7	8	7	7	6	6	7	8	6.7	11.8
7-Oct	9	10	11	11	10	12	12	11	13	12	11	11	12	12	11	10	7	9	8	11	10	10	10	10	10.6	13.4
8-Oct	8	9	8	8	7	5	5	3	4	3	2	2	2	2	4	4	4	3	4	6	6	5	6	6	4.8	8.8
9-Oct	6	7	5	6	7	8	9	10	11	10	10	11	13	14	14	14	13	11	10	9	9	8	8	8	9.6	14.4
10-Oct	6	5	5	5	4	3	3	3	3	4	2	3	3	3	5	6	4	4	6	6	5	4	5	5	4.1	6.4
11-Oct	5	3	2	3	5	5	4	4	4	7	7	7	7	6	9	10	7	4	2	2	2	3	5	5	4.9	9.9
12-Oct	3	1	2	3	2	1	2	3	1	2	4	4	6	5	7	9	8	6	6	6	7	7	5	4	4.4	8.5
13-Oct	5	5	5	6	6	6	9	8	6	5	6	5	5	5	5	4	3	2	2	5	5	6	6	8	5.3	8.9
14-Oct	7	5	8	7	7	9	11	10	9	10	10	10	9	8	9	7	7	6	7	6	6	7	6	6	7.8	10.7
15-Oct	5	5	4	4	4	3	4	4	4	4	3	3	2	3	4	5	5	4	4	5	5	7	9	8	4.6	8.7
16-Oct	7	12	12	12	11	9	8	8	6	5	3	3	5	7	7	5	5	4	3	2	3	1	3	3	5.9	11.8
17-Oct	3	4	5	6	6	7	7	7	6	7	9	9	10	10	9	8	7	7	7	6	4	3	4	5	6.5	10.4
18-Oct	3	2	4	5	5	5	5	4	6	5	5	5	4	4	4	4	4	3	2	2	3	4	3	4	3.8	5.5
19-Oct	4	4	4	3	3	3	4	3	3	3	3	2	3	4	3	2	4	2	2	3	4	2	4	3	3.1	4.3
20-Oct	3	3	4	5	4	2	3	2	1	1	2	3	3	3	4	4	3	2	3	3	4	4	4	4	3.1	4.7
21-Oct	9	10	7	8	8	9	7	6	6	5	4	6	4	3	3	4	6	4	5	4	3	3	3	3	5.5	9.7
22-Oct	3	2	5	4	4	6	3	3	6	8	11	10	9	12	17	13	9	6	7	3	4	4	1	1	6.4	17.3
23-Oct	2	2	3	2	2	2	2	3	1	6	7	9	8	8	8	7	6	6	5	4	4	5	3	5	4.6	9.1
24-Oct	5	4	4	3	3	2	2	3	3	5	4	5	5	5	4	4	4	5	4	5	7	7	7	8	4.5	7.6
25-Oct	7	8	8	7	6	8	6	6	6	6	4	6	3	3	4	4	7	6	8	7	5	6	7	6	5.9	8.0
26-Oct	6	5	4	4	4	5	5	5	4	4	5	4	4	4	4	3	4	4	5	5	3	4	5	6	4.5	6.1
27-Oct	8	6	6	6	4	4	5	6	6	6	6	5	6	4	6	5	5	5	5	5	5	5	6	6	5.4	8.0
28-Oct	4	3	4	4	3	4	4	4	3	3	4	5	4	4	3	5	6	6	4	4	4	4	3	4	4.0	5.8
29-Oct	3	4	6	5	5	5	5	5	5	4	4	3	2	2	4	4	4	5	5	6	4	5	4	5	4.3	6.4
30-Oct	4	3	3	4	3	3	1	1	2	2	4	5	5	6	4	3	2	3	3	3	2	4	4	5	3.3	5.5
31-Oct	6	8	9	7	4	4	5	5	5	5	5	3	2	2	4	3	3	6	5	5	5	6	6	5	5.0	8.8
	5.7	5.7	6.0	6.0	5.6	5.5	5.5	5.2	5.3	5.7	5.9	5.8	5.9	6.1	6.3	6.0	5.8	5.5	5.1	5.1	5.3	5.3	5.5	5.6	Diurnal Average	
	11.8	11.7	12.5	14.2	12.8	12.3	12.2	10.7	13.4	11.7	12.0	11.0	12.8	13.8	17.3	14.3	12.9	11.2	10.3	10.5	10.3	10.3	10.7	10.2	Diurnal Maximum	

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

# Hourly Standard Deviations

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

Maximum Value: 97.0 deg on Oct 26 15:00																						Hours in Service:	744		
Minimum Value: 5.6 deg on Oct 10 00:00																						Hours of Data:	744		
Percentiles: P <sub>1</sub> = 6.3 P <sub>10</sub> = 8.7 Q <sub>1</sub> = 12.0 Median = 16.3 Q <sub>3</sub> = 23.9 P <sub>90</sub> = 40.3 P <sub>99</sub> = 85.4																						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-Oct	10	9	10	10	10	12	12	14	13	12	11	14	15	30	18	10	19	15	11	10	10	8	8	8	29.9
2-Oct	9	8	10	10	9	9	14	13	12	18	18	28	28	18	27	35	20	11	17	25	22	25	13	15	35.2
3-Oct	15	15	19	55	47	9	50	30	31	30	21	64	46	70	51	67	31	16	12	13	15	14	17	21	70.1
4-Oct	21	14	19	15	14	19	16	16	16	15	12	13	16	14	14	15	14	16	13	12	11	13	11	11	20.8
5-Oct	13	11	11	10	10	11	10	18	10	13	13	17	20	14	16	15	13	16	16	10	11	12	10	13	19.7
6-Oct	20	14	13	13	16	14	14	20	16	18	16	21	12	15	18	17	15	12	16	15	13	11	12	10	20.8
7-Oct	10	8	8	7	7	8	7	8	10	13	14	12	13	13	12	13	23	10	11	8	7	9	8	8	22.7
8-Oct	8	8	8	7	8	8	10	19	17	30	40	56	70	83	37	18	28	22	57	14	10	16	8	18	82.6
9-Oct	7	7	8	6	7	8	6	7	6	8	7	7	6	7	8	8	7	7	6	7	7	6	8	6	8.4
10-Oct	8	9	10	9	9	12	31	15	24	16	36	45	68	54	20	19	24	10	13	12	10	15	12	12	67.6
11-Oct	8	20	22	34	23	17	15	9	12	15	17	20	26	28	17	16	20	22	68	41	26	19	19	14	67.8
12-Oct	17	86	41	23	19	47	20	15	37	66	14	30	32	42	34	16	14	14	12	11	10	10	11	13	86.1
13-Oct	12	15	16	14	13	15	11	11	15	17	18	18	15	17	16	20	22	28	51	24	14	14	15	13	50.7
14-Oct	18	20	17	17	18	15	12	13	14	11	14	12	16	13	14	14	16	20	14	14	17	14	16	17	20.5
15-Oct	15	12	17	21	22	27	22	19	24	34	36	39	83	47	31	28	23	15	19	18	15	15	11	11	83.1
16-Oct	12	13	8	7	8	11	9	10	10	12	21	27	19	12	12	10	7	7	21	38	14	89	35	22	89.4
17-Oct	35	12	13	10	11	10	7	6	12	10	9	10	10	8	10	10	9	10	9	8	14	12	9	8	34.7
18-Oct	12	19	35	12	17	14	15	16	9	14	16	20	37	29	56	43	24	15	25	24	21	17	16	16	56.1
19-Oct	15	15	17	14	17	20	13	16	20	19	22	40	25	18	62	30	19	36	40	91	19	72	79	18	90.7
20-Oct	33	47	29	70	68	72	19	30	50	77	14	18	21	27	24	27	34	29	57	40	55	36	36	22	76.6
21-Oct	15	16	8	10	10	10	10	26	23	15	28	25	27	56	70	63	10	11	8	61	34	20	24	33	69.9
22-Oct	53	47	45	32	32	15	25	22	7	8	10	21	14	23	12	14	9	9	19	46	15	71	89	79	88.5
23-Oct	39	76	27	68	56	84	59	45	51	19	12	14	17	17	17	19	16	22	20	36	23	22	38	15	84.1
24-Oct	22	20	20	25	24	26	75	38	19	13	16	15	23	15	22	21	20	17	15	15	12	9	8	10	75.3
25-Oct	12	8	9	13	11	9	14	13	13	13	19	12	31	22	24	18	12	7	9	9	10	12	7	7	30.7
26-Oct	9	9	14	12	14	14	11	14	18	14	10	36	32	27	97	37	23	10	11	14	19	16	19	15	97.0
27-Oct	16	21	17	21	18	17	18	17	16	17	16	15	23	19	18	14	17	21	21	22	16	19	19	20	22.6
28-Oct	19	22	15	19	22	19	18	21	23	22	24	19	26	31	25	18	14	12	24	16	16	12	17	17	31.2
29-Oct	33	25	23	31	40	22	19	26	27	53	33	46	87	94	50	35	24	25	23	20	29	19	25	27	93.6
30-Oct	31	33	25	21	22	17	54	48	23	25	14	13	28	28	16	26	43	32	18	45	56	22	23	24	56.4
31-Oct	23	9	12	16	17	19	13	16	14	16	17	30	53	83	55	29	31	15	18	15	16	16	14	15	82.9
53.1	86.1	45.1	70.5	68.2	84.1	75.3	47.7	50.7	76.6	39.8	64.0	87.0	93.6	97.0	66.8	42.7	35.9	67.8	90.7	56.4	89.4	88.5	79.2		

PAZA

Evergreen Park Station

Monthly Summary Tables, Graphs and  
Roses

## Hourly Averages

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

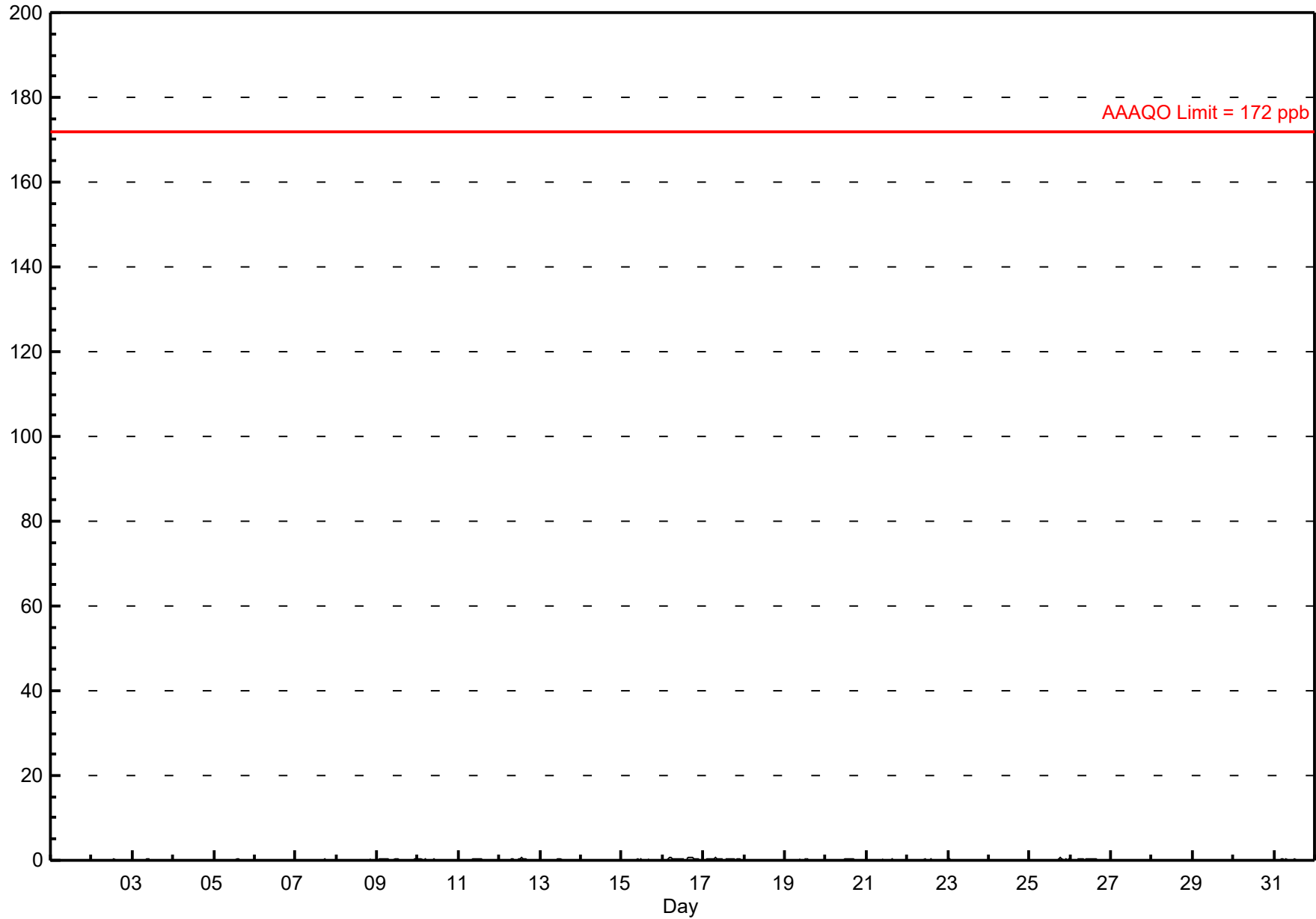
Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 0.8 ppb on Oct 16 17:00	Maximum Daily Average: 0.3 ppb on Oct 16		Hours of Data:	708
Minimum Value: 0 ppb on Oct 1 01:00	Minimum Daily Average: 0.0 ppb on Oct 14		Hours of Missing Data:	36
Maximum Diurnal Average: 0.1 ppb at hour 14	Minimum Diurnal Average: 0.1 ppb at hour 3		Hours of Calibration:	36
Monthly Average: 0.10 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> = 0.2 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-Oct	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
2-Oct	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
3-Oct	0	0	0	A	0	0	0	0	0	0	C	C	C	0	0	0	0	0	0	0	0	0	0	0	0.1	0.4
4-Oct	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
5-Oct	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
6-Oct	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
7-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.1	0.2
8-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.1	0.5
9-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.2	0.3
10-Oct	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
11-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0.1	0.5
12-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	A	0	0	0	0	0	0	0.1	0.6
13-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0.1	0.4
14-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.0	0.1
15-Oct	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
16-Oct	0	0	0	0	1	1	0	0	0	0	0	0	0	A	0	1	1	1	0	0	0	0	0	0	0.3	0.8
17-Oct	0	0	0	0	0	0	0	1	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.3	0.5
18-Oct	0	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
19-Oct	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
20-Oct	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.5
21-Oct	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
22-Oct	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.4
23-Oct	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
24-Oct	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
25-Oct	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0.1	0.5
26-Oct	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4
27-Oct	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1
28-Oct	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
29-Oct	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	0.1
30-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.1	0.1
31-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.1	0.4
	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	Diurnal Average	
	0.2	0.2	0.2	0.4	0.7	0.7	0.5	0.5	0.4	0.5	0.5	0.4	0.4	0.6	0.5	0.5	0.8	0.5	0.5	0.3	0.5	0.3	0.2	0.2	Diurnal Maximum	

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

**Hourly Averages**

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





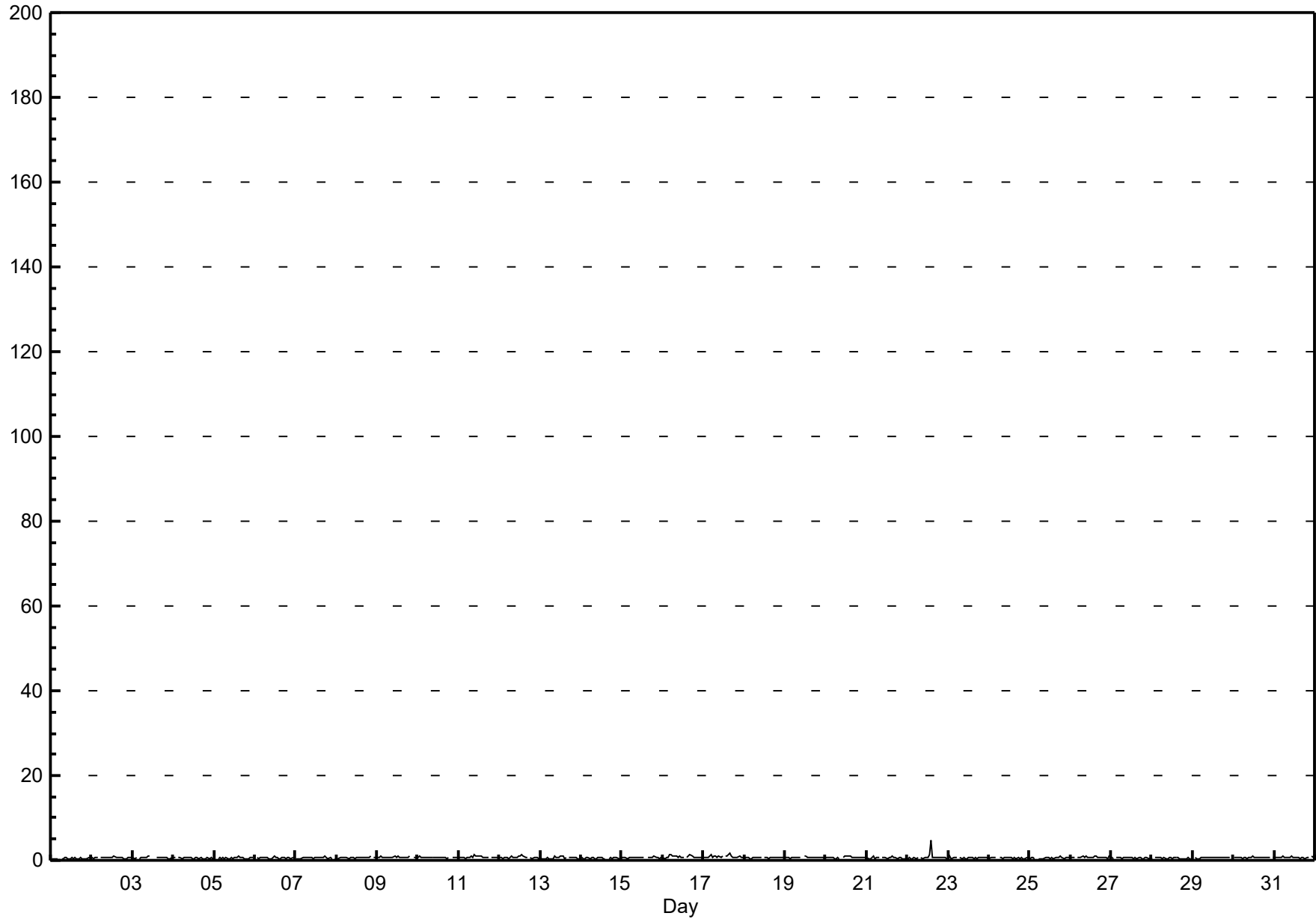
# Hourly Maximums

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

Maximum Value: 4.8 ppb on Oct 22 15:00		Maximum Daily Average: 0.9 ppb on Oct 17		Hours in Service: 744																																												
Minimum Value: 0 ppb on Oct 23 01:00		Minimum Daily Average: 0.5 ppb on Oct 1		Hours of Data: 708																																												
Maximum Diurnal Average: 0.8 ppb at hour 15		Minimum Diurnal Average: 0.6 ppb at hour 23		Hours of Missing Data: 36																																												
Monthly Average: 0.64 ppb		Percentiles: P <sub>1</sub> = 0.4 P <sub>10</sub> = 0.5 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> = 1.3		Hours of Calibration: 36																																												
				Percent Operational Time: 100.0																																												
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																								
1-Oct	0	0	0	0	0	A	0	0	1	1	0	0	1	0	1	0	0	1	0	0	0	1	1	1	0.5	0.6																						
2-Oct	1	0	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	0.6	0.9																						
3-Oct	1	1	1	A	0	1	1	1	1	1	1	C	C	C	1	1	1	1	1	1	1	0	0	1	0.7	1.0																						
4-Oct	1	1	A	1	1	0	1	1	1	1	1	1	0	1	1	0	1	0	0	0	1	0	1	0	0.5	0.7																						
5-Oct	0	A	0	1	0	1	0	1	1	0	1	0	1	1	1	1	1	1	0	0	0	1	1	1	0.6	1.0																						
6-Oct	A	1	0	1	1	1	1	1	0	0	0	1	1	1	0	0	1	1	0	1	1	0	1	A	0.6	0.9																						
7-Oct	0	0	0	0	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	0	1	0	A	0	0.6	0.9																						
8-Oct	1	0	1	1	1	1	1	0	1	1	1	0	1	1	1	1	1	1	1	1	1	A	1	1	0.6	1.0																						
9-Oct	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	0.7	1.1																						
10-Oct	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	A	1	1	1	1	0.7	0.9																						
11-Oct	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	0.7	1.2																						
12-Oct	1	1	0	1	1	0	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	0	0.7	1.5																						
13-Oct	1	0	0	0	1	0	0	0	1	1	1	1	1	1	0	1	A	1	1	1	1	1	0	0	0.6	1.1																						
14-Oct	1	0	0	1	1	0	1	1	0	0	1	1	1	0	0	A	0	1	1	1	1	1	0	0	0.5	0.7																						
15-Oct	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	0	0.7	0.9																						
16-Oct	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	1.4																						
17-Oct	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	2	1	1	1	1	1	1	1	1	0.9	1.8																						
18-Oct	0	1	1	0	0	1	1	1	1	1	1	1	A	1	1	0	1	1	1	1	1	1	1	1	0.6	0.8																						
19-Oct	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0.7	0.9																						
20-Oct	1	1	1	1	1	0	0	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.0																						
21-Oct	1	1	0	1	1	0	1	1	A	1	1	1	1	1	1	1	1	1	0	1	1	1	0	0	0.6	1.0																						
22-Oct	0	1	0	0	1	0	1	A	1	0	1	1	1	1	5	1	1	1	1	1	1	1	1	0	0.8	4.8																						
23-Oct	0	1	0	1	1	1	A	1	1	1	0	0	1	1	1	0	1	0	1	1	1	1	1	1	0.6	0.9																						
24-Oct	0	1	1	1	1	A	1	1	0	1	1	1	1	1	0	1	0	1	0	1	0	0	1	1	0.5	0.8																						
25-Oct	0	1	1	0	A	0	0	0	0	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	0.6	1.1																						
26-Oct	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0.7	1.0																						
27-Oct	1	0	A	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	0	1	0.6	0.7																						
28-Oct	0	A	1	1	1	1	0	1	0	0	1	1	1	1	1	1	1	1	0	0	0	1	0	1	0.5	0.8																						
29-Oct	A	1	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.6	0.8																						
30-Oct	1	1	1	1	1	0	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	0.7	0.9																						
31-Oct	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	0	1	1	A	1	1	0.7	1.0																						
																								0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.6	0.7	0.7	0.7	0.7	0.7	0.8	0.7	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.6	Diurnal Average
																								0.8	0.9	0.9	0.8	1.4	1.3	1.1	1.1	0.9	1.2	1.1	1.1	1.1	1.5	4.8	1.8	1.4	1.1	1.1	0.9	1.0	0.9	1.0	0.8	Diurnal Maximum
C - Calibration																								A - Automated Daily Zero Span																								

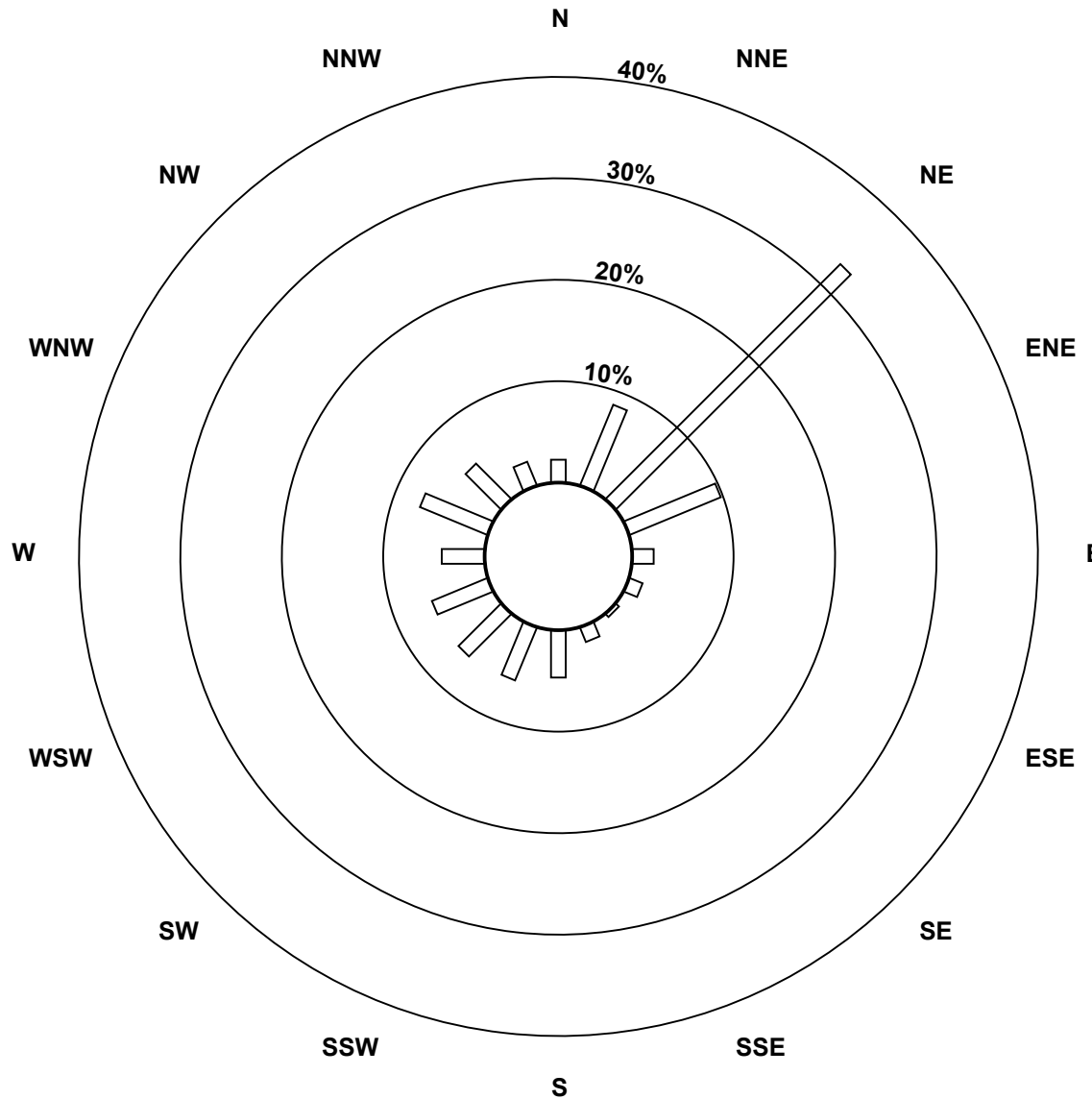
### Hourly Maximums

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

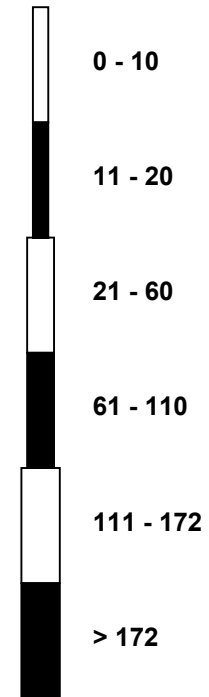


**Pollutant Rose**

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

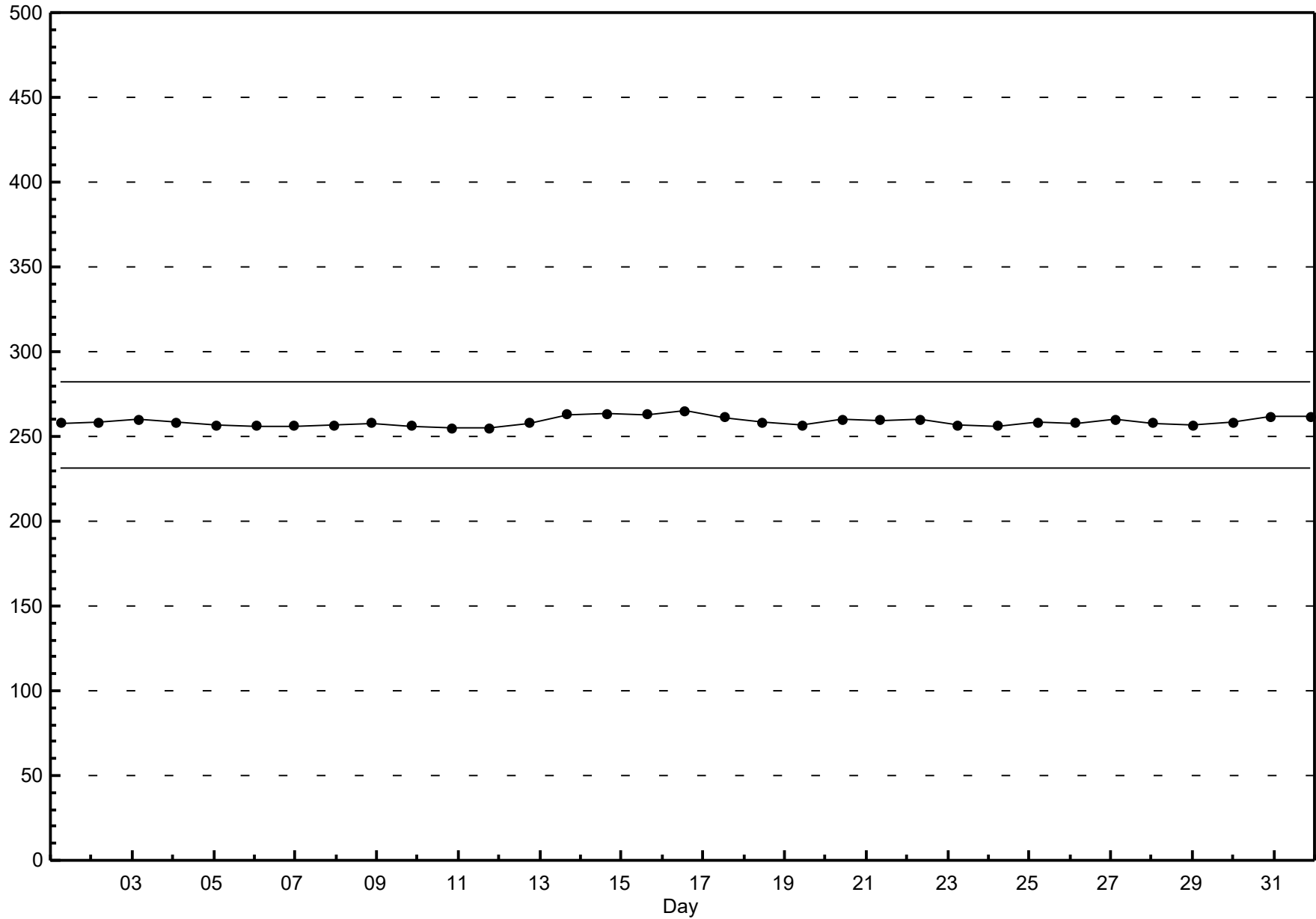


**Pollutant Classes (ppb)**



### Span Responses

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

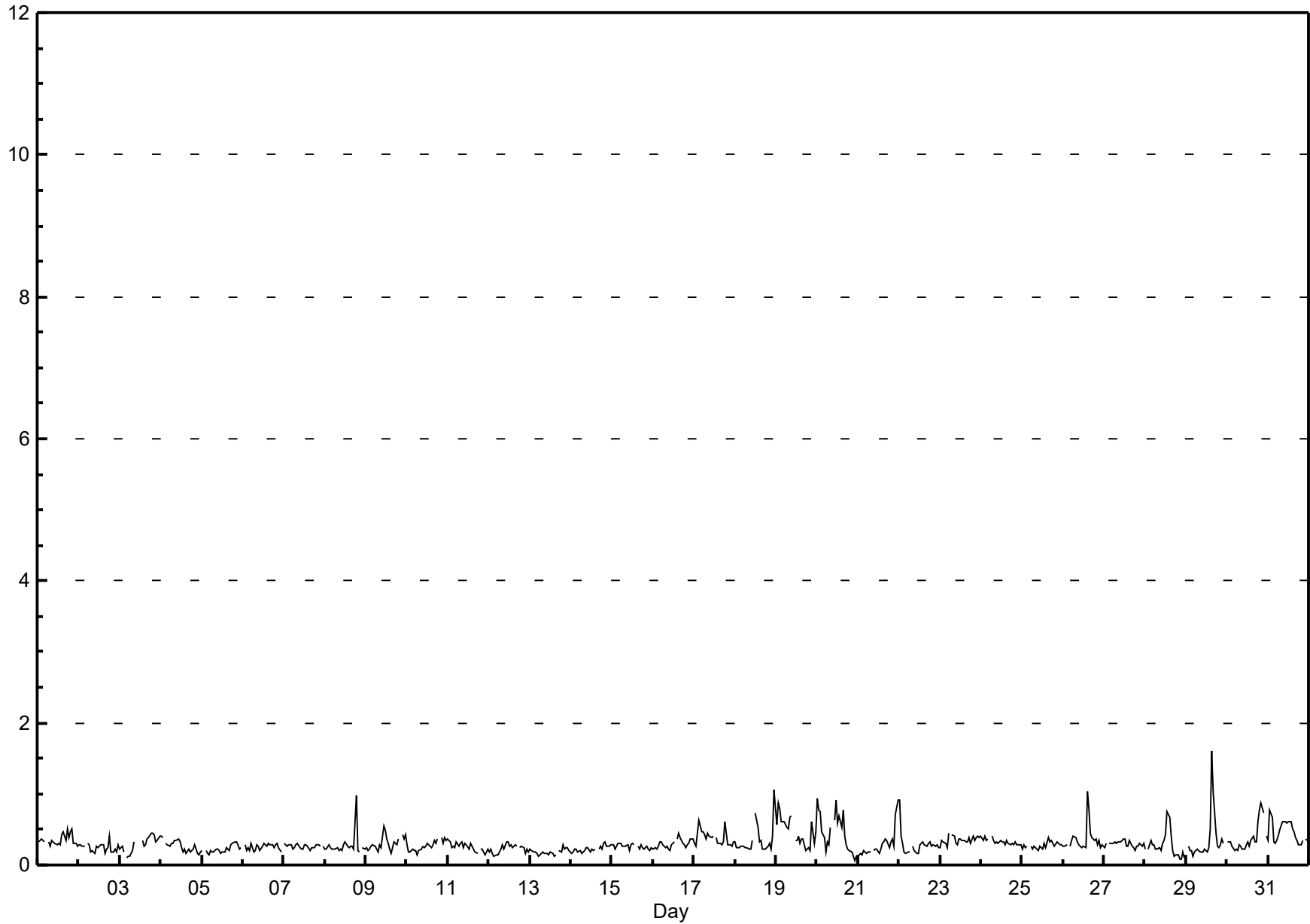


## Hourly Averages

Total Reduced Sulphur (TRS) - ppb

Evergreen Park - October 2016

Maximum Value: 1.6 ppb on Oct 29 16:00		Maximum Daily Average: 0.5 ppb on Oct 19		Hours in Service: 744																							
Minimum Value: 0 ppb on Oct 20 23:00		Minimum Daily Average: 0.2 ppb on Oct 13		Hours of Data: 707																							
Maximum Diurnal Average: 0.4 ppb at hour 16		Minimum Diurnal Average: 0.3 ppb at hour 5		Hours of Missing Data: 37																							
Monthly Average: 0.31 ppb		Percentiles: P <sub>1</sub> = 0.1 P <sub>10</sub> = 0.2 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> = 0.9		Hours of Calibration: 37																							
				Percent Operational Time: 100.0																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Oct	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0.4	0.5	
2-Oct	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4	
3-Oct	0	0	0	A	0	0	0	0	0	C	C	C	C	0	0	0	0	0	0	0	0	0	0	0	0.3	0.5	
4-Oct	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.4	
5-Oct	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3	
6-Oct	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.3	
7-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.3	0.3	
8-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	A	0	0	0.3	1.0	
9-Oct	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	A	0	0	0.3	0.5	
10-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.3	0.4	
11-Oct	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	
12-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0.2	0.3	
13-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0.2	0.3	
14-Oct	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	
15-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.3	0.3	
16-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.3	0.4	
17-Oct	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0.4	0.6	
18-Oct	0	0	0	0	0	0	0	0	0	0	0	A	1	1	0	0	0	0	0	0	0	0	0	1	0.3	1.1	
19-Oct	1	1	1	1	1	1	1	1	1	1	A	0	0	0	0	0	0	0	0	0	0	1	0	0	0.5	0.9	
20-Oct	1	1	1	0	0	0	0	0	1	A	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0.5	0.9	
21-Oct	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.3	0.9	
22-Oct	1	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.9	
23-Oct	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.4	
24-Oct	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.4	
25-Oct	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.4	
26-Oct	0	0	0	A	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0.4	1.0	
27-Oct	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.4	
28-Oct	0	A	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0.3	0.8	
29-Oct	A	0	0	0	0	0	0	0	0	0	0	0	0	1	2	1	0	0	0	0	0	0	0	0	0.3	1.6	
30-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	A	0	0.4	0.9	
31-Oct	0	1	1	0	0	0	0	0	1	1	1	1	1	1	1	0	0	0	0	0	0	A	0	0	0.5	0.8	
		0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	Diurnal Average	
		0.9	0.9	0.8	0.6	0.6	0.6	0.5	0.5	0.7	0.7	0.6	0.9	0.7	0.8	1.0	1.6	1.0	0.5	1.0	0.8	0.9	0.7	0.7	1.1	Diurnal Maximum	
C - Calibration		A - Automated Daily Zero Span																									



## Hourly Maximums

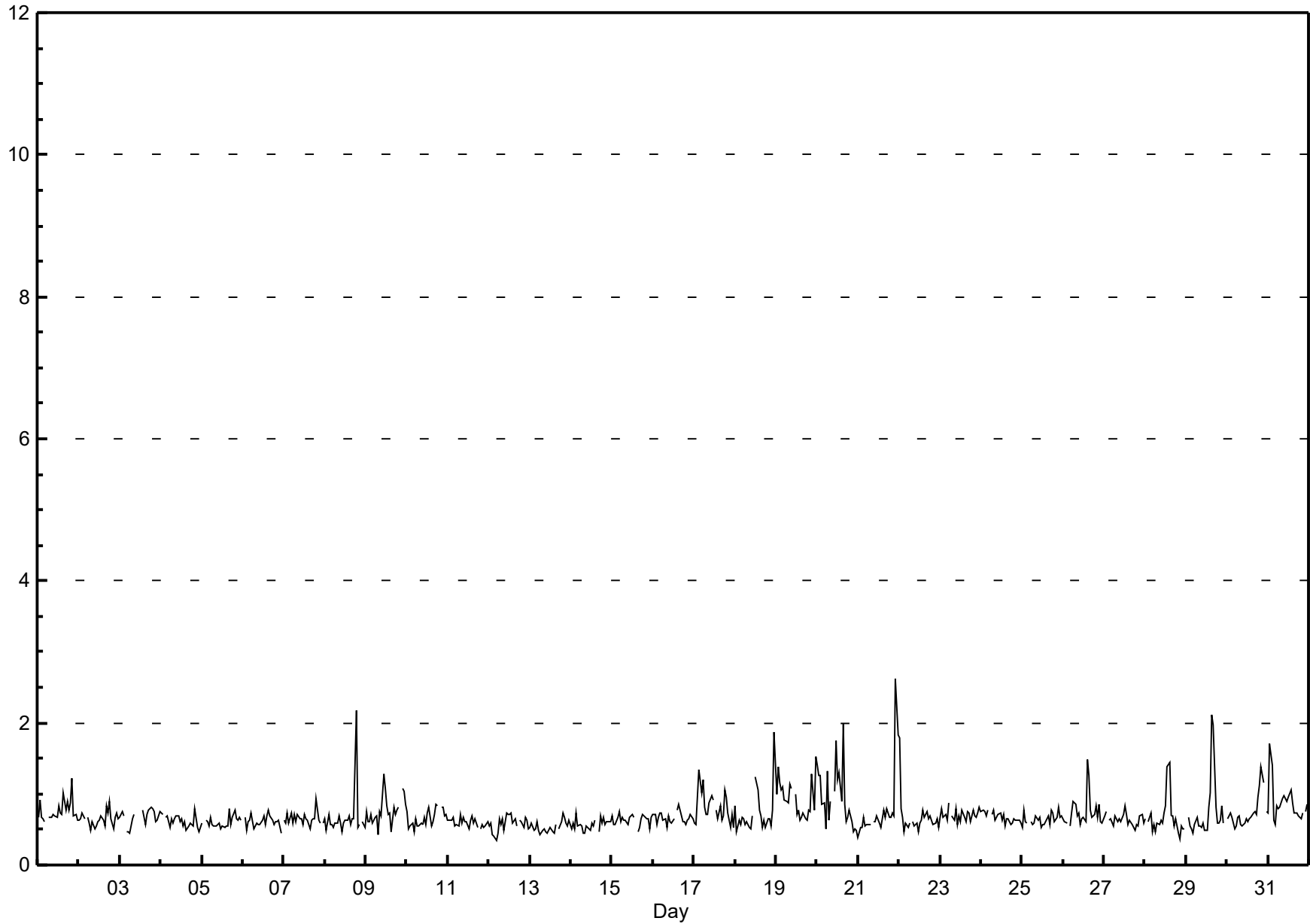
Total Reduced Sulphur (TRS) - ppb

Evergreen Park - October 2016

Maximum Value: 2.6 ppb on Oct 21 23:00		Maximum Daily Average: 1.0 ppb on Oct 20		Hours in Service: 744																																												
Minimum Value: 0 ppb on Oct 12 05:00		Minimum Daily Average: 0.5 ppb on Oct 13		Hours of Data: 707																																												
Maximum Diurnal Average: 0.8 ppb at hour 16		Minimum Diurnal Average: 0.6 ppb at hour 8		Hours of Missing Data: 37																																												
Monthly Average: 0.70 ppb		Percentiles: P <sub>1</sub> = 0.4 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> = 1.8		Hours of Calibration: 37																																												
				Percent Operational Time: 100.0																																												
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																								
1-Oct	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.2																						
2-Oct	1	1	1	1	A	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.6	0.9																						
3-Oct	1	1	1	A	0	0	0	1	1	C	C	C	C	1	1	1	1	1	1	1	1	1	1	1	0.7	0.8																						
4-Oct	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	0	1	0.6	0.8																						
5-Oct	1	A	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	0.6	0.8																						
6-Oct	A	1	0	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	A	0.6	0.8																						
7-Oct	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	A	1	0.6	0.9																						
8-Oct	1	0	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	2	1	1	A	1	1	0.7	2.2																						
9-Oct	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	0	1	1	1	1	1	A	1	1	0.8	1.3																						
10-Oct	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	0.7	0.9																						
11-Oct	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	0.7																						
12-Oct	1	1	0	0	0	0	1	1	1	0	1	1	1	1	1	1	1	A	1	1	1	1	1	1	0.6	0.7																						
13-Oct	1	1	0	1	1	0	0	0	1	0	0	0	1	0	0	1	A	1	1	1	1	1	1	1	0.5	0.7																						
14-Oct	1	1	0	1	1	1	1	0	0	1	1	0	1	1	1	A	0	1	1	1	1	1	1	1	0.6	0.7																						
15-Oct	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	0	1	1	1	1	1	1	1	1	0.6	0.7																						
16-Oct	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	0.7	0.9																						
17-Oct	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	0.8	1.3																						
18-Oct	1	0	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	2	0.7	1.9																						
19-Oct	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	1.5																						
20-Oct	1	1	1	1	1	0	1	1	1	A	1	2	1	1	1	2	1	1	1	1	1	0	1	0	1.0	2.0																						
21-Oct	0	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	3	2	0.8	2.6																						
22-Oct	2	1	1	0	1	1	1	A	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.8																						
23-Oct	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	0.9																						
24-Oct	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	0.8																						
25-Oct	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.6	0.8																						
26-Oct	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																						
27-Oct	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	0.6	0.8																						
28-Oct	1	A	1	1	0	1	0	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	0	0	0.7	1.5																						
29-Oct	A	1	1	1	0	1	1	1	1	1	0	0	1	1	2	2	1	1	1	1	1	1	1	0	0.8	2.1																						
30-Oct	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	1.4																						
31-Oct	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	0.9	1.7																						
																								0.7	0.7	0.7	0.7	0.6	0.6	0.7	0.6	0.7	0.6	0.7	0.7	0.7	0.7	0.7	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	Diurnal Average
																								1.8	1.7	1.4	1.3	1.1	1.2	1.3	0.9	1.1	1.1	1.3	1.8	1.2	1.4	1.5	2.1	2.0	0.9	2.2	1.1	1.4	1.3	2.6	1.9	Diurnal Maximum
C - Calibration																								A - Automated Daily Zero Span																								

**Hourly Maximums**

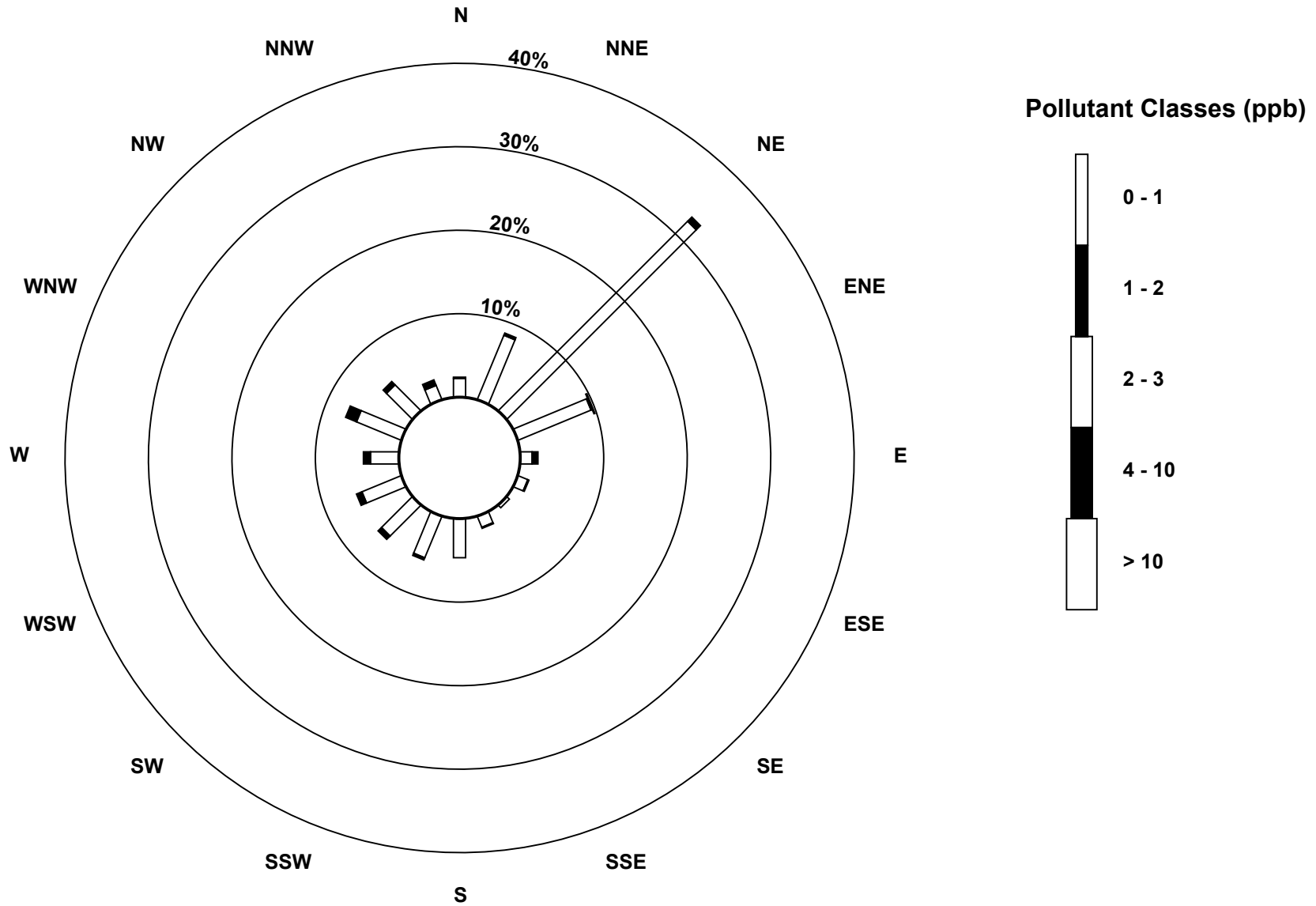
**Total Reduced Sulphur (TRS) - ppb**  
**Evergreen Park - October 2016**





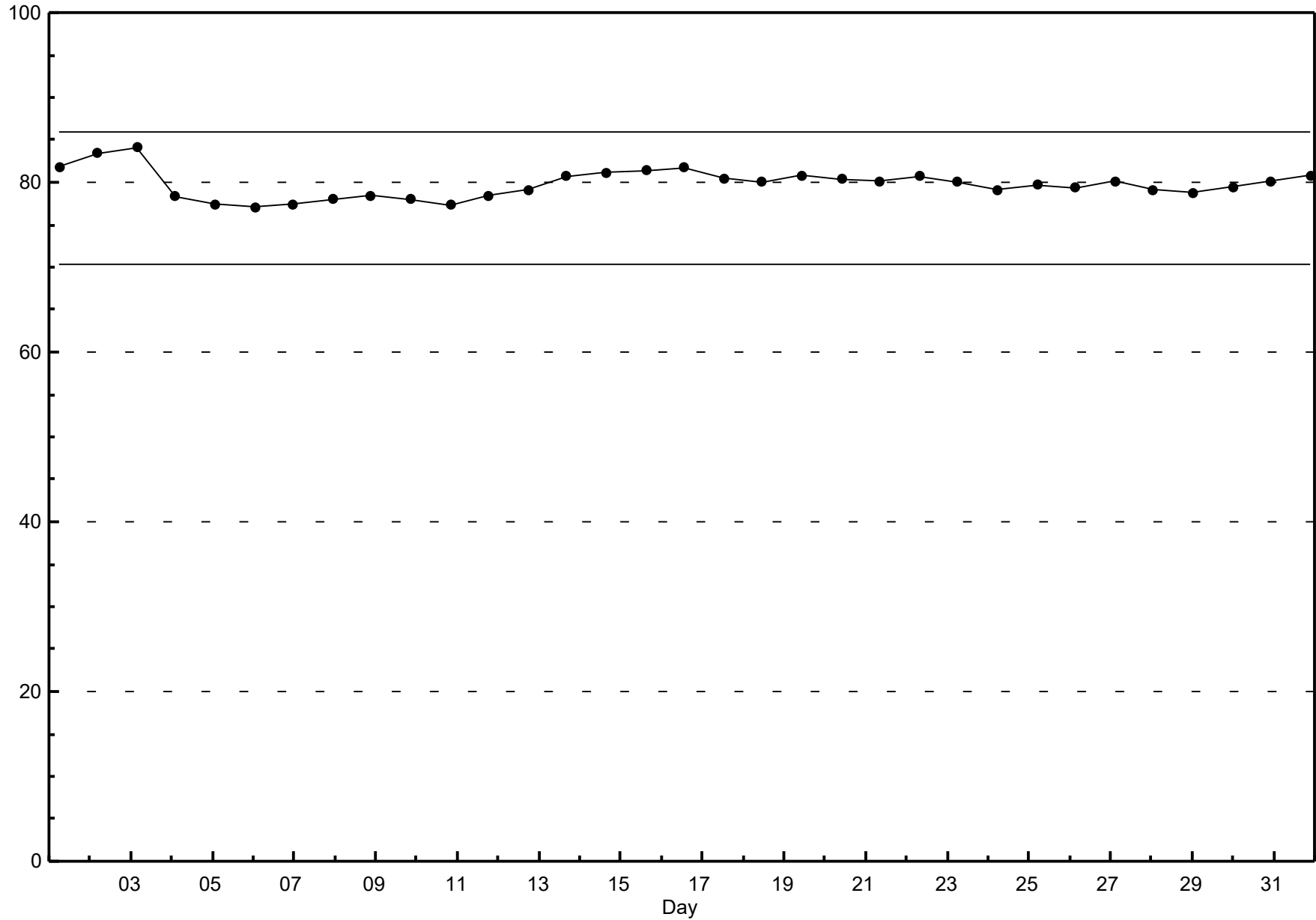
**Pollutant Rose**

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



### Span Responses

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



## Hourly Averages

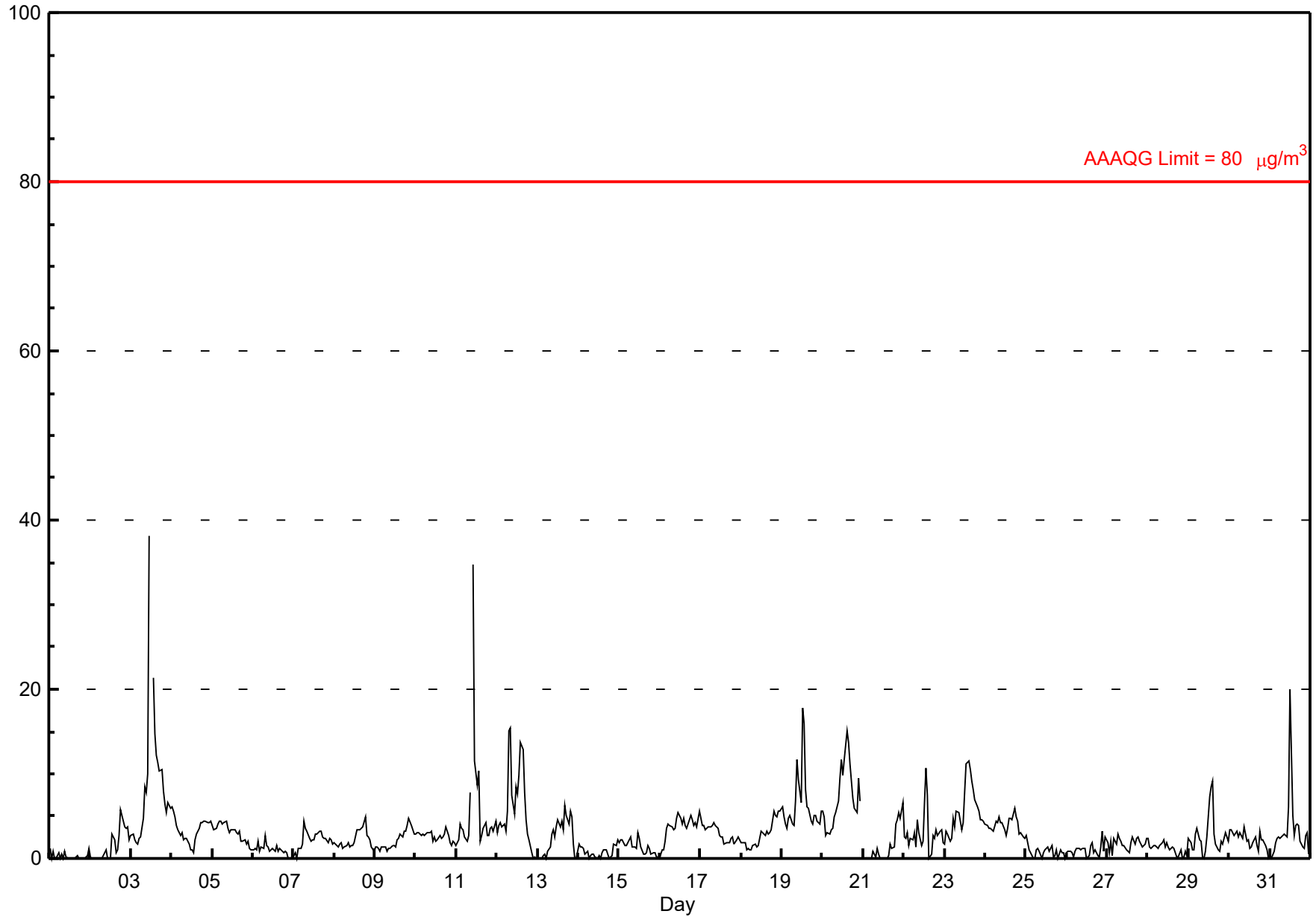
## Particulate Matter 2.5 (PM<sub>2.5</sub>) - µg/m<sup>3</sup>

### Evergreen Park - October 2016

Number of Exceedences: 1-hr: 0 24-hr: 0	Hours in Service: 744
Maximum Value: 38.1 µg/m <sup>3</sup> on Oct 3 12:00	Maximum Daily Average: 8.6 µg/m <sup>3</sup> on Oct 3
Minimum Value: 0 µg/m <sup>3</sup> on Oct 1 04:00	Hours of Data: 738
Minimum Daily Average: 0.3 µg/m <sup>3</sup> on Oct 1	Hours of Missing Data: 6
Maximum Diurnal Average: 4.7 µg/m <sup>3</sup> at hour 14	Hours of Calibration: 0
Monthly Average: 3.00 µg/m <sup>3</sup>	Percent Operational Time: 99.2
Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.2 Q <sub>1</sub> = 1.1 Median = 2.3 Q <sub>3</sub> = 3.8 P <sub>90</sub> = 5.6 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-Oct	1	0	1	0	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.3	1.2																						
2-Oct	0	0	0	0	0	0	0	0	0	1	0	0	0	3	2	1	1	3	6	5	4	4	4	2	1.5	5.7																						
3-Oct	3	3	2	2	2	2	3	5	8	8	10	38	M	21	15	12	11	10	10	8	6	5	7	6	8.6	38.1																						
4-Oct	6	6	5	4	3	3	3	2	2	2	2	1	1	1	2	3	4	4	4	4	4	4	4	4	3.3	6.1																						
5-Oct	4	3	4	4	4	4	4	4	4	4	3	3	3	3	3	3	3	2	2	2	2	2	1	1	3.1	4.5																						
6-Oct	1	1	1	2	1	1	1	3	2	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	1.0	2.8																						
7-Oct	0	1	0	1	1	2	4	4	3	2	2	2	2	3	3	3	3	3	2	2	2	2	2	2	2.2	4.5																						
8-Oct	2	2	1	2	2	1	1	2	2	1	1	1	2	3	3	3	4	4	5	3	3	2	1	1	2.2	4.9																						
9-Oct	1	1	1	1	1	1	1	1	1	1	1	1	2	1	2	3	3	3	3	4	5	4	3	3	2.1	4.7																						
10-Oct	3	3	3	3	3	3	3	3	3	3	2	3	2	2	3	2	3	3	4	3	2	2	2	2	2.6	3.7																						
11-Oct	2	2	4	4	3	3	2	3	8	M	35	12	9	10	2	3	4	4	3	3	4	4	3	4	5.6	34.7																						
12-Oct	3	4	4	4	4	3	6	15	15	7	5	9	8	10	14	13	8	5	3	2	1	0	0	0	5.9	15.4																						
13-Oct	0	0	0	0	1	0	1	1	3	3	3	4	5	4	4	3	6	5	4	6	5	2	0	0	2.5	6.2																						
14-Oct	2	1	1	1	1	1	0	0	1	0	0	0	0	0	1	1	1	1	0	0	0	2	1	2	0.8	2.2																						
15-Oct	2	2	2	1	2	2	2	2	1	1	1	3	2	1	0	0	1	2	1	0	1	1	0	0	1.4	3.0																						
16-Oct	0	1	1	2	4	4	4	4	3	4	5	5	5	4	5	4	4	5	5	5	4	4	4	6	3.7	5.6																						
17-Oct	5	4	4	3	4	4	4	4	4	4	4	3	2	3	2	2	2	2	2	3	2	2	3	2	3.0	4.8																						
18-Oct	2	2	2	1	1	1	1	1	2	1	2	2	3	3	3	3	3	3	3	6	5	5	6	6	2.8	5.7																						
19-Oct	6	5	4	3	5	5	4	4	7	12	9	7	18	16	8	6	6	4	4	5	5	4	4	6	6.5	17.7																						
20-Oct	6	5	3	3	3	3	4	5	5	7	10	12	10	12	15	14	11	9	7	6	5	10	7	N	7.4	15.0																						
21-Oct	N	N	N	0	0	0	1	0	1	0	0	0	0	0	0	0	2	1	1	4	5	5	5	7	1.6	6.6																						
22-Oct	3	2	3	2	2	2	3	1	5	3	1	2	7	11	7	0	0	3	2	3	3	3	3	2	3.1	10.7																						
23-Oct	2	3	3	2	2	5	4	6	5	4	3	4	8	11	12	10	9	8	7	6	6	5	5	4	5.6	11.6																						
24-Oct	4	4	4	4	3	3	4	4	5	4	4	3	3	4	5	5	5	6	5	4	3	3	3	2	3.9	6.0																						
25-Oct	3	2	1	1	0	0	1	1	1	0	1	1	1	1	1	2	0	0	1	0	1	1	1	0	0.8	2.7																						
26-Oct	1	1	1	1	0	1	1	1	1	1	1	1	0	0	2	2	1	1	0	0	1	3	1	3	1.0	3.2																						
27-Oct	2	1	2	0	2	2	3	2	2	1	2	1	1	1	2	3	2	2	3	2	2	1	2	2	1.8	2.9																						
28-Oct	2	1	1	2	1	1	1	1	2	2	1	2	1	1	1	1	1	0	0	1	0	0	1	0	1.1	2.3																						
29-Oct	2	2	1	1	3	3	2	2	0	0	1	3	7	8	9	3	2	1	1	2	2	2	3	2	2.6	9.2																						
30-Oct	3	3	3	3	3	3	3	3	2	4	2	2	1	1	2	3	2	1	3	2	2	1	1	0	2.3	3.8																						
31-Oct	0	0	1	2	2	3	2	3	3	3	3	6	20	5	3	4	4	4	2	1	1	3	3	1	3.2	20.0																						
																								2.3	2.2	2.1	1.9	2.1	2.2	2.4	2.9	3.3	2.9	3.7	4.3	4.1	4.7	4.2	3.7	3.3	3.2	3.1	3.0	2.7	2.8	2.6	2.4	Diurnal Average
																								6.1	5.5	4.9	4.1	4.7	5.1	5.6	15.1	15.4	11.6	34.7	38.1	20.0	21.3	15.0	13.7	11.4	10.3	10.5	7.9	6.5	9.6	6.7	6.6	Diurnal Maximum

M - Maintenance    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>

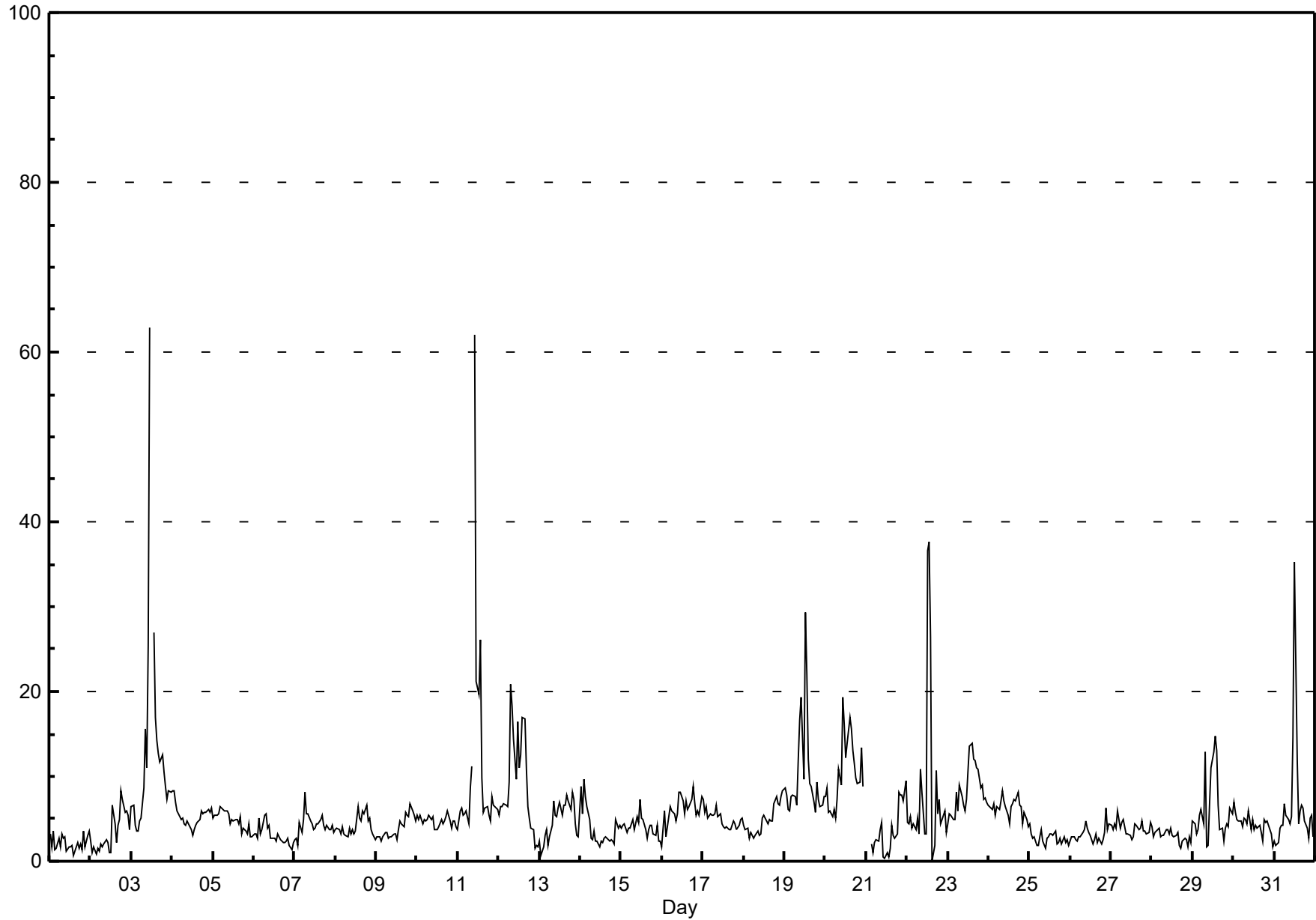


# Hourly Maximums

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

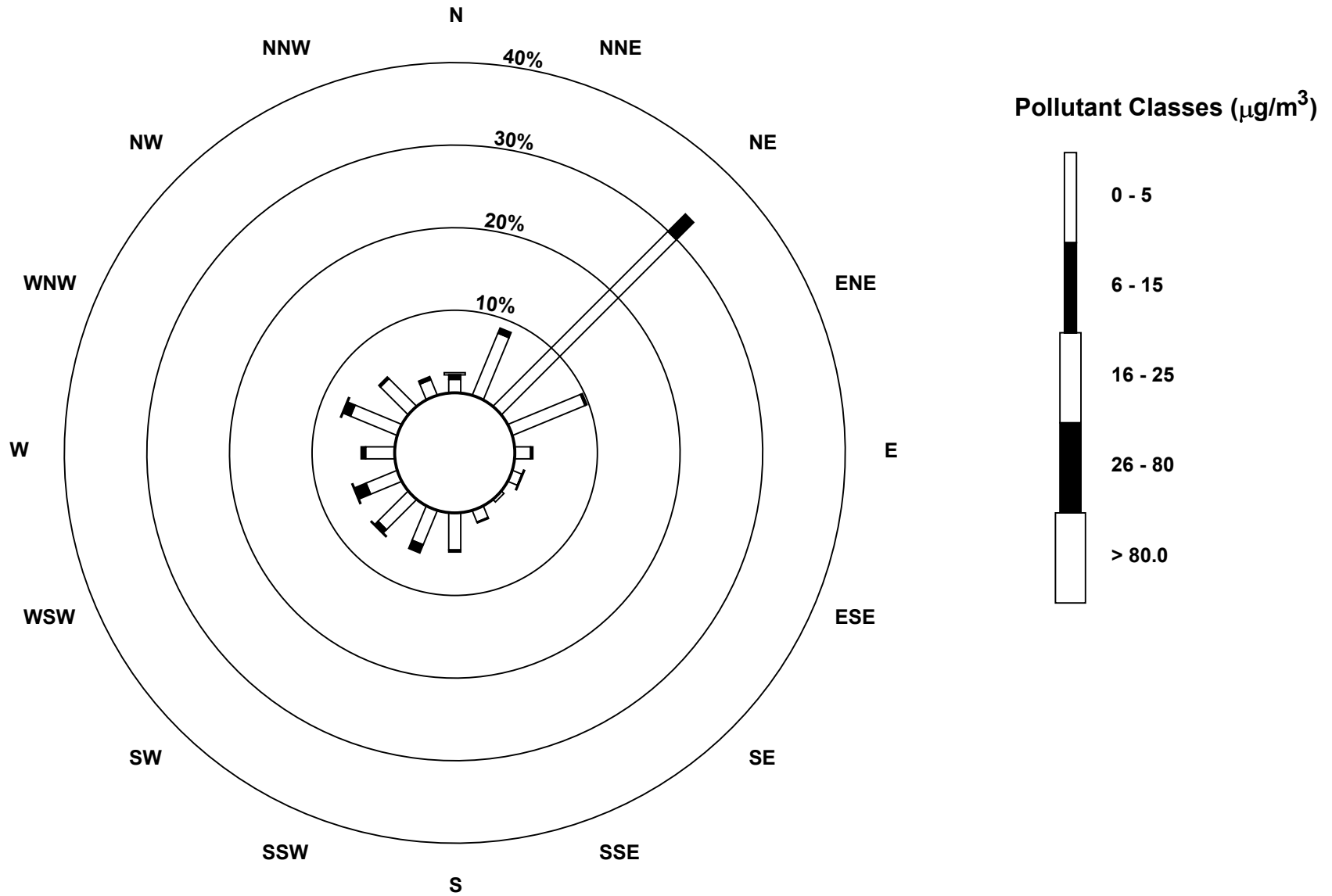
## Evergreen Park - October 2016

Maximum Value: 62.9 µg/m <sup>3</sup> on Oct 3 12:00 Minimum Value: 0 µg/m <sup>3</sup> on Oct 22 16:00 Maximum Diurnal Average: 8.6 µg/m <sup>3</sup> at hour 14 Monthly Average: 5.62 µg/m <sup>3</sup>		Maximum Daily Average: 12.9 µg/m <sup>3</sup> on Oct 3 Minimum Daily Average: 2.2 µg/m <sup>3</sup> on Oct 1 Minimum Diurnal Average: 4.2 µg/m <sup>3</sup> at hour 4 Percentiles: P <sub>1</sub> = 1.0 P <sub>10</sub> = 2.3 Q <sub>1</sub> = 3.2 Median = 4.5 Q <sub>3</sub> = 6.4 P <sub>90</sub> = 9.0 P <sub>99</sub> = 25.0		Hours in Service: 744 Hours of Data: 738 Hours of Missing Data: 6 Hours of Calibration: 0 Percent Operational Time: 99.2																																												
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																						
1-Oct	3	2	4	1	2	3	2	3	3	3	1	2	2	2	1	1	2	1	2	1	4	2	3	3	2.2	3.5																						
2-Oct	2	1	2	1	1	1	2	2	2	3	2	1	1	7	4	2	4	5	8	7	6	6	5	4	3.3	8.3																						
3-Oct	6	7	4	4	4	5	5	9	16	11	25	63	M	27	17	14	13	12	13	11	9	7	8	8	12.9	62.9																						
4-Oct	8	8	7	6	6	5	5	4	4	5	4	4	3	4	4	5	5	6	6	6	6	6	6	6	5.3	8.3																						
5-Oct	5	5	5	6	6	6	6	6	6	6	4	5	5	5	5	4	5	3	4	4	3	4	3	3	4.8	6.4																						
6-Oct	3	3	3	5	3	4	5	6	4	4	3	3	3	2	3	3	3	2	2	2	3	2	1	2	3.1	5.7																						
7-Oct	3	3	2	4	3	5	8	6	6	5	4	4	4	4	4	5	5	4	4	4	4	4	4	3	4.3	8.1																						
8-Oct	4	4	4	3	4	3	3	3	4	3	4	3	4	6	5	5	6	6	7	5	5	4	3	3	4.1	6.7																						
9-Oct	3	3	3	2	3	3	3	3	3	3	3	3	3	4	5	4	4	6	5	5	7	6	5	5	3.9	6.8																						
10-Oct	5	5	5	4	5	5	5	5	5	5	4	4	4	4	5	4	5	5	6	5	4	5	5	4	4.7	5.9																						
11-Oct	4	6	6	5	6	6	4	9	11	M	62	21	20	26	10	6	6	6	5	5	8	7	6	6	10.9	62.1																						
12-Oct	5	6	6	7	7	6	9	21	18	14	10	16	11	13	17	17	11	6	5	4	4	2	2	2	9.1	20.8																						
13-Oct	2	1	2	3	4	2	3	4	7	5	5	6	7	5	7	7	8	7	6	8	7	4	3	3	4.9	8.1																						
14-Oct	9	6	10	8	6	5	3	3	4	2	2	2	2	2	3	3	3	2	2	2	2	5	4	4	3.9	9.7																						
15-Oct	4	4	4	3	4	4	4	5	4	5	5	7	5	5	4	3	4	4	4	3	3	4	2	2	4.1	7.2																						
16-Oct	2	6	3	4	5	6	6	6	5	6	8	8	7	6	7	6	6	7	9	7	5	6	5	8	6.0	8.8																						
17-Oct	7	6	6	5	6	5	5	6	7	5	6	4	4	4	4	4	4	4	5	4	4	4	5	5	5.0	7.2																						
18-Oct	4	4	4	3	3	3	3	3	4	3	3	5	5	5	4	5	5	5	7	8	7	7	8	8	4.8	8.3																						
19-Oct	9	8	6	6	8	8	8	7	12	17	19	10	29	22	12	9	9	7	6	9	7	6	7	8	10.3	29.3																						
20-Oct	8	9	6	6	5	6	5	7	11	9	19	16	12	14	17	16	13	12	10	9	9	13	9	N	10.5	19.3																						
21-Oct	N	N	N	2	1	2	3	2	4	5	1	0	1	0	1	4	3	3	3	8	8	8	7	10	3.6	9.6																						
22-Oct	5	4	5	4	4	4	5	3	11	8	3	3	37	38	26	0	2	11	6	7	4	5	6	3	8.6	37.6																						
23-Oct	4	6	5	5	5	8	6	9	8	7	6	7	10	13	14	12	12	11	11	9	9	7	7	7	8.3	13.9																						
24-Oct	7	6	6	7	5	6	6	7	8	7	6	5	4	6	7	7	7	8	7	6	4	6	5	4	6.3	8.4																						
25-Oct	4	3	3	3	2	2	3	4	2	1	3	3	3	3	3	4	2	2	3	2	3	2	2	2	2.7	4.4																						
26-Oct	2	3	3	3	2	3	3	3	4	5	4	3	3	2	3	3	2	3	2	2	3	6	4	4	3.2	6.3																						
27-Oct	4	4	4	4	6	4	5	5	4	3	3	3	2	3	4	4	4	4	5	4	3	3	3	5	3.9	5.9																						
28-Oct	4	3	3	4	4	3	3	3	4	4	3	4	3	3	3	3	2	2	2	3	2	2	3	2	3.0	4.1																						
29-Oct	5	4	3	4	5	6	4	13	2	2	7	11	13	15	13	7	4	4	2	4	4	4	6	6	6.2	14.7																						
30-Oct	7	6	5	5	5	4	5	5	4	6	4	5	4	4	4	4	3	2	5	5	5	4	3	2	4.4	6.9																						
31-Oct	2	2	2	4	4	4	7	5	5	4	5	15	35	12	4	6	7	6	5	4	3	5	5	3	6.5	35.2																						
																								4.7	4.6	4.4	4.2	4.3	4.5	4.7	5.7	6.1	5.5	7.7	8.0	8.2	8.6	7.1	5.7	5.4	5.4	5.4	5.3	5.0	5.1	4.8	4.5	Diurnal Average
																								8.8	8.7	9.7	7.6	7.6	8.1	9.4	20.8	18.3	16.6	62.1	62.9	36.7	37.6	26.4	16.7	13.0	11.6	12.6	10.6	9.4	13.5	8.8	9.6	Diurnal Maximum
M - Maintenance      N - Not Valid																																																



**Pollutant Rose**

**Particulate Matter 2.5 (PM<sub>2.5</sub>) - μg/m<sup>3</sup>**  
**Evergreen Park - October 2016**



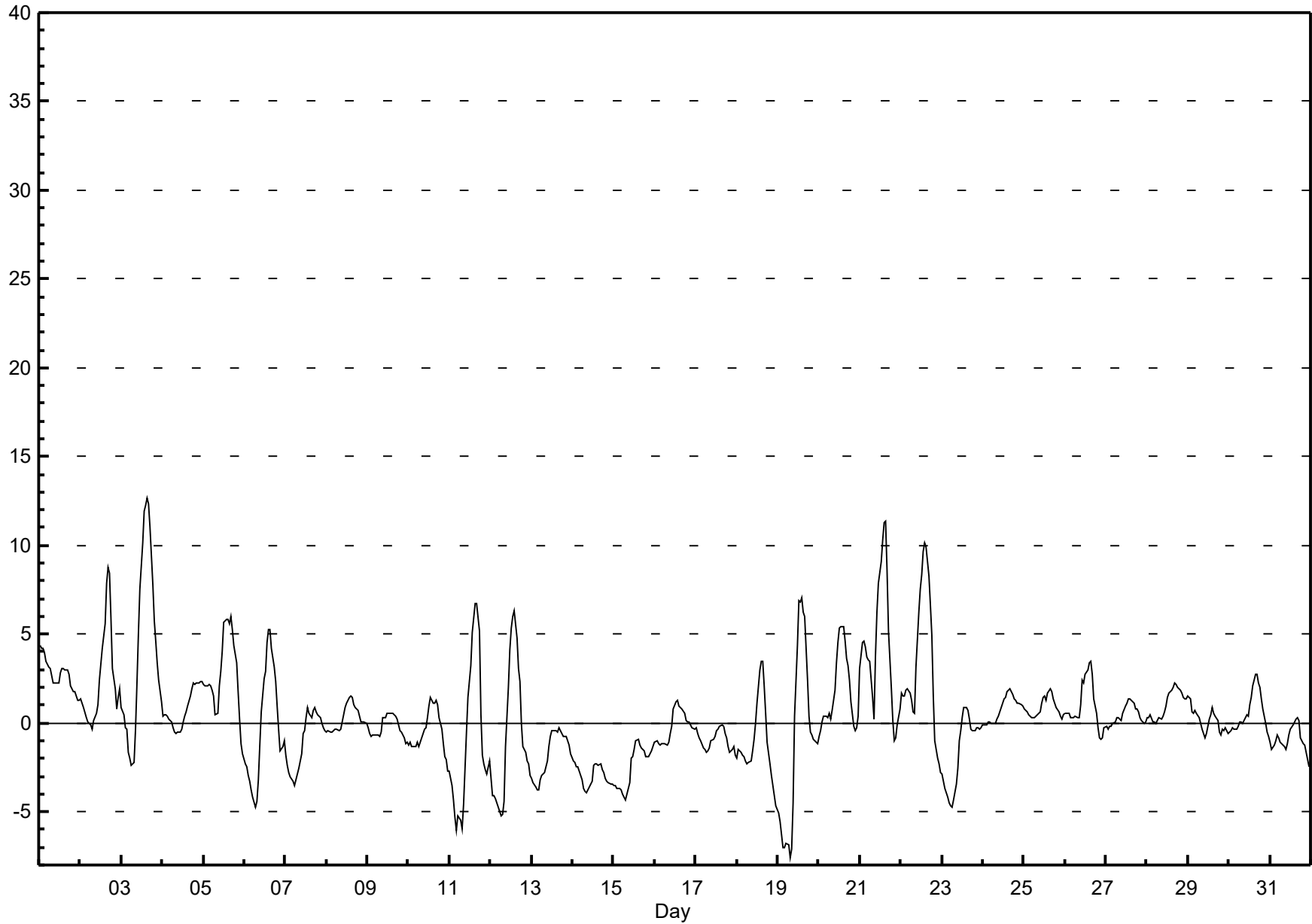
# Hourly Averages

External Temperature (ET) - °C

Evergreen Park - October 2016

<b>Maximum Value: 12.6 °C on Oct 3 16:00</b>		<b>Maximum Daily Average: 4.3 °C on Oct 21</b>		Hours in Service: 744 Hours of Data: 744 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0																						
<b>Minimum Value: -8 °C on Oct 19 08:00</b>		<b>Minimum Daily Average: -3.0 °C on Oct 14</b>																								
<b>Maximum Diurnal Average: 3.1 °C at hour 16</b>		<b>Minimum Diurnal Average: -1.5 °C at hour 8</b>																								
<b>Monthly Average: 0.34 °C</b>		Percentiles: P <sub>1</sub> = -6.0 P <sub>10</sub> = -3.1 Q <sub>1</sub> = -1.2 Median = 0.1 Q <sub>3</sub> = 1.4 P <sub>90</sub> = 3.9 P <sub>99</sub> = 10.8																								
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-Oct	4	4	4	4	3	3	3	3	2	2	2	2	3	3	3	3	3	3	2	2	2	2	1	1	2.7	4.3
2-Oct	1	1	1	0	0	0	0	0	0	1	1	2	3	4	6	8	9	8	6	3	2	1	1	2	2.5	8.7
3-Oct	1	0	0	0	-2	-2	-2	-2	0	2	5	8	10	12	12	13	12	11	8	6	5	3	2	1	4.3	12.6
4-Oct	0	0	0	0	0	0	0	-1	-1	-1	-1	0	0	0	1	1	2	2	2	2	2	2	2	2	0.8	2.4
5-Oct	2	2	2	2	2	2	2	0	1	2	3	4	6	6	6	6	6	5	4	3	2	0	-1	-2	2.7	6.0
6-Oct	-2	-2	-3	-3	-4	-4	-5	-4	-3	-1	1	2	3	5	5	5	4	3	2	1	0	-2	-1	-1	-0.2	5.2
7-Oct	-2	-2	-3	-3	-3	-4	-3	-3	-3	-2	-1	0	0	1	1	0	1	1	1	0	0	0	0	0	-1.0	0.9
8-Oct	0	0	0	0	0	0	0	0	0	0	0	1	1	1	2	1	1	1	1	0	0	0	0	0	0.3	1.5
9-Oct	0	-1	-1	-1	-1	-1	-1	-1	0	0	0	1	1	1	1	1	0	0	0	0	-1	-1	-1	-1	-0.2	0.6
10-Oct	-1	-1	-1	-1	-1	-1	-1	-1	-1	0	0	0	1	1	1	1	1	1	0	0	-1	-2	-2	-3	-0.5	1.5
11-Oct	-3	-4	-4	-5	-6	-5	-5	-6	-5	-3	-1	1	3	5	6	7	7	5	0	-2	-2	-3	-3	-2	-1.0	6.8
12-Oct	-3	-4	-4	-4	-5	-5	-5	-5	-4	-1	2	4	5	6	6	5	3	2	0	-1	-2	-2	-2	-3	-0.8	6.3
13-Oct	-3	-3	-4	-4	-4	-3	-3	-3	-3	-2	-1	-1	0	0	0	0	0	0	-1	-1	-1	-1	-1	-2	-1.7	-0.3
14-Oct	-2	-2	-2	-2	-3	-3	-4	-4	-4	-4	-4	-3	-2	-2	-2	-2	-2	-3	-3	-3	-3	-3	-3	-3	-3.0	-2.1
15-Oct	-4	-4	-4	-4	-4	-4	-4	-4	-4	-3	-2	-2	-1	-1	-1	-1	-1	-1	-2	-2	-2	-2	-2	-1	-2.5	-0.9
16-Oct	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0	1	1	1	1	1	1	1	0	0	0	0	0	0	-0.2	1.3
17-Oct	0	-1	-1	-1	-1	-2	-2	-2	-2	-1	-1	-1	0	0	0	0	0	-1	-1	-1	-2	-1	-1	-2	-1.0	-0.1
18-Oct	-2	-1	-2	-2	-2	-2	-2	-2	-2	-2	-1	0	1	3	3	3	2	1	-1	-2	-3	-4	-4	-5	-1.0	3.5
19-Oct	-5	-6	-6	-7	-7	-7	-7	-8	-7	-4	0	4	7	7	7	6	6	2	0	-1	-1	-1	-1	-1	-1.2	7.1
20-Oct	-1	0	0	0	0	0	1	0	1	2	3	5	5	5	5	5	4	3	2	1	0	0	0	0	1.7	5.5
21-Oct	3	5	5	4	4	4	3	1	0	4	6	8	9	10	11	11	9	5	2	0	-1	-1	0	1	4.3	11.4
22-Oct	2	2	1	2	2	2	1	1	1	3	6	8	8	10	10	10	8	7	5	2	-1	-2	-2	-3	3.4	10.1
23-Oct	-3	-3	-4	-4	-5	-5	-5	-4	-3	-3	-1	0	0	1	1	1	0	0	0	0	0	0	0	0	-1.6	0.9
24-Oct	0	0	0	0	0	0	0	0	0	0	1	1	1	1	2	2	2	2	1	1	1	1	1	1	0.8	1.9
25-Oct	1	1	1	0	0	0	0	0	0	1	1	1	1	1	2	2	2	1	1	1	1	0	0	0	0.9	2.0
26-Oct	1	1	1	0	0	0	0	0	0	1	2	2	3	3	3	3	3	1	1	0	-1	-1	-1	0	1.0	3.5
27-Oct	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0.4	1.4
28-Oct	0	0	0	0	0	0	0	0	0	0	1	1	1	2	2	2	2	2	2	2	2	1	1	1	1.0	2.2
29-Oct	2	1	1	1	1	1	0	0	0	-1	-1	-1	0	0	1	1	0	0	0	-1	0	0	0	-1	0.1	1.5
30-Oct	-1	0	0	0	0	0	0	0	0	0	0	1	1	2	3	3	2	2	1	1	0	-1	-1	-1	0.6	2.7
31-Oct	-1	-2	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0	0	0	0	0	0	-1	-1	-1	-2	-2	-2	-0.9	0.3
																								Diurnal Average		
																								Diurnal Maximum		





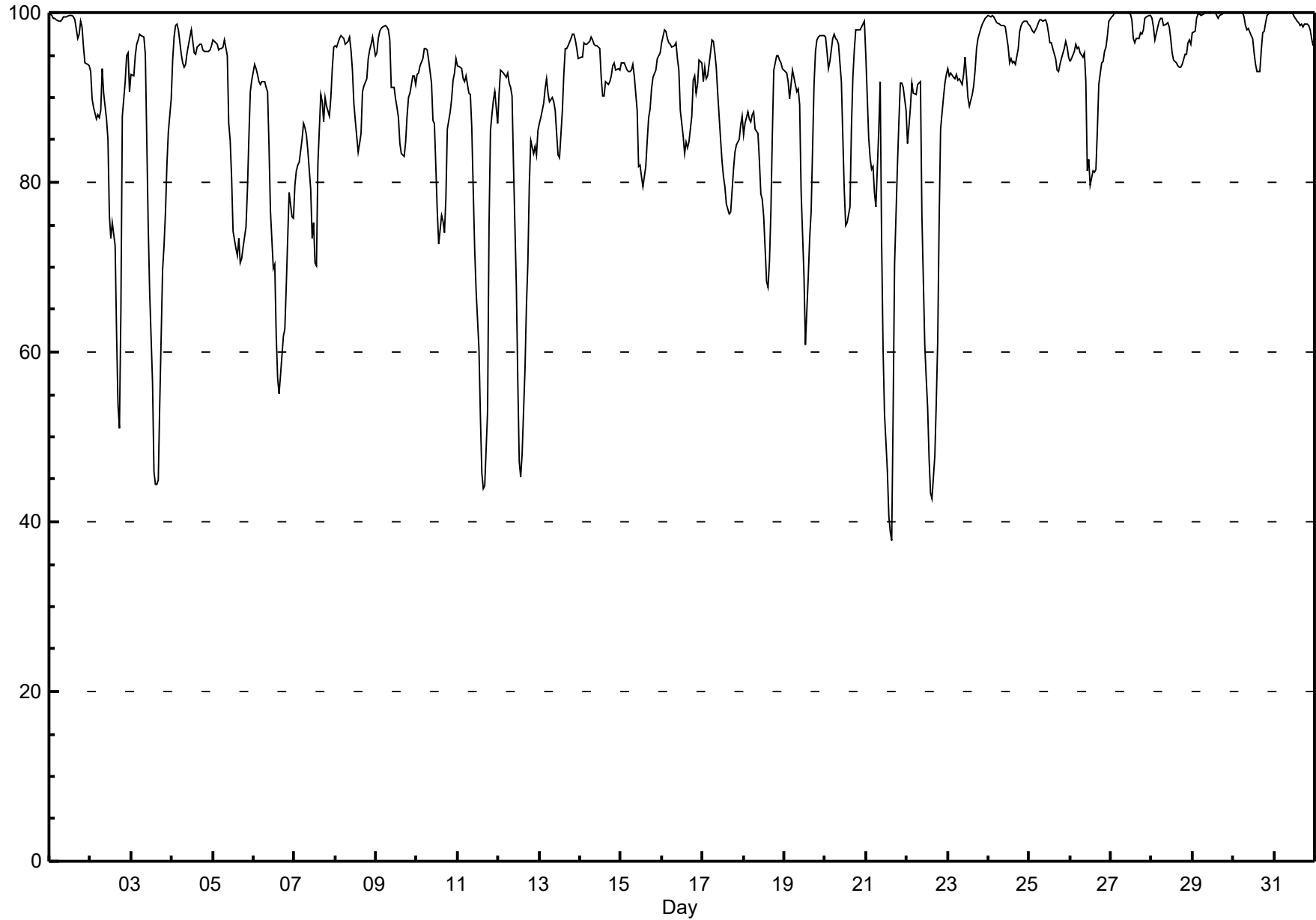
# Hourly Averages

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

Maximum Value: 100.0 % on Oct 27 03:00		Maximum Daily Average: 99.7 % on Oct 29		Hours in Service: 744																						
Minimum Value: 38 % on Oct 21 16:00		Minimum Daily Average: 73.5 % on Oct 21		Hours of Data: 744																						
Maximum Diurnal Average: 94.7 % at hour 6		Minimum Diurnal Average: 78.2 % at hour 14		Hours of Missing Data: 0																						
Monthly Average: 89.25 %		Percentiles: P <sub>1</sub> = 44.3 P <sub>10</sub> = 73.5 Q <sub>1</sub> = 86.1 Median = 93.3 Q <sub>3</sub> = 97.0 P <sub>90</sub> = 99.4 P <sub>99</sub> = 100.0		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-Oct	100	100	99	99	99	99	99	99	99	100	100	100	100	100	99	97	97	99	98	96	94	94	94	94	98.3	99.7
2-Oct	93	90	89	88	88	88	89	93	90	87	85	76	73	75	73	62	54	51	65	88	92	95	95	91	82.0	95.2
3-Oct	93	93	95	96	97	97	97	97	95	85	75	67	56	46	44	44	45	54	70	72	76	82	86	90	77.2	97.5
4-Oct	94	97	99	99	98	95	94	94	94	95	97	98	97	95	95	96	96	96	96	95	95	95	96	96	95.9	98.7
5-Oct	97	97	96	96	96	96	96	97	95	87	85	81	74	72	71	73	71	71	72	75	79	85	91	92	85.2	96.8
6-Oct	94	93	93	92	92	92	92	91	91	84	77	70	70	62	57	55	57	62	63	68	73	79	76	76	77.4	93.9
7-Oct	80	81	82	82	85	87	87	86	84	79	73	75	70	70	82	90	89	87	90	89	88	90	93	96	84.1	96.0
8-Oct	96	96	97	97	97	97	96	97	96	93	89	87	84	85	86	91	91	92	95	96	96	97	95	95	93.4	97.2
9-Oct	95	97	98	98	98	99	98	98	97	91	91	90	89	88	85	83	83	85	88	90	91	92	93	92	92.0	98.6
10-Oct	93	93	94	95	96	96	96	94	92	87	87	82	77	73	76	75	74	78	86	88	90	92	93	95	87.5	95.8
11-Oct	94	94	93	92	92	92	91	90	86	79	72	67	60	52	46	44	44	53	75	86	88	90	91	87	77.5	93.8
12-Oct	90	93	93	93	92	93	92	91	90	82	68	57	47	45	48	58	65	70	80	85	83	84	83	86	77.9	93.2
13-Oct	87	88	89	91	92	90	90	90	90	88	86	83	83	88	93	96	96	96	97	97	98	97	96	95	91.5	97.5
14-Oct	95	95	96	96	96	97	97	97	96	96	96	96	92	90	90	92	92	92	92	94	94	93	93	93	94.2	97.1
15-Oct	94	94	94	93	93	93	93	94	92	89	82	82	81	79	82	85	88	89	91	92	93	95	95	95	89.9	95.3
16-Oct	96	98	98	97	96	96	96	96	96	95	93	88	85	83	85	84	85	88	92	93	91	92	94	94	92.2	98.0
17-Oct	92	94	92	93	95	97	97	95	94	90	85	82	81	80	78	76	76	79	81	83	84	85	87	88	86.8	96.7
18-Oct	86	87	88	88	87	88	88	86	86	83	79	78	76	68	68	71	77	86	93	95	95	94	94	93	84.7	95.0
19-Oct	93	93	92	90	91	93	92	91	91	89	79	69	61	65	69	74	77	92	95	97	97	97	97	97	86.7	97.4
20-Oct	97	95	93	94	97	97	97	97	96	92	85	79	75	75	77	87	92	96	98	98	98	98	99	99	92.2	98.9
21-Oct	95	85	83	82	82	79	77	86	92	73	60	53	46	41	39	38	53	70	82	87	92	92	91	88	73.5	94.9
22-Oct	85	87	89	92	91	90	91	92	92	76	61	57	53	47	43	43	48	54	61	76	86	90	92	93	74.5	92.8
23-Oct	93	93	93	92	92	93	92	92	92	93	95	92	90	89	90	91	93	96	97	98	99	99	99	100	93.9	99.6
24-Oct	100	100	100	100	99	99	99	98	98	98	98	96	94	95	94	94	94	96	98	99	99	99	99	99	97.6	99.7
25-Oct	98	98	98	98	98	99	99	99	99	99	99	98	96	96	96	95	93	93	94	95	96	97	96	95	96.8	99.2
26-Oct	94	95	95	96	96	96	95	95	95	92	81	83	80	81	81	81	86	91	94	94	95	96	97	99	91.3	99.0
27-Oct	99	100	100	100	100	100	100	100	100	100	100	100	99	97	96	97	97	98	97	98	99	100	100	100	99.0	100.0
28-Oct	99	98	97	98	99	99	99	99	99	99	98	97	95	94	94	94	93	93	94	95	95	96	97	96	96.7	99.4
29-Oct	98	98	99	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	99.7	100.0
30-Oct	100	100	100	100	100	100	100	98	98	98	97	97	95	94	93	93	96	98	98	99	100	100	100	100	98.0	100.0
31-Oct	100	100	100	100	100	100	100	100	100	100	100	100	99	99	99	99	99	98	99	99	98	98	97	96	99.1	100.0
		94.2	94.2	94.3	94.4	94.7	94.7	94.4	94.6	94.1	90.4	86.4	83.3	80.1	78.2	78.3	79.2	80.7	83.9	88.0	90.9	92.1	93.3	93.9	93.8	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	99.6	99.3	99.6	99.9	100.0	100.0	100.0	100.0	100.0	100.0	Diurnal Maximum

**Hourly Averages**

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





Peace Airshed Zone Association

# Hourly Averages

Wind Speed (km/h)  
Wind Direction (deg)  
Evergreen Park - October 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	9	11	13	16	18	16	15	17	18	17	14	13	8	6	7	9	9	10	11	10	13	14	15	13	6.6	18.3	
Dir	51	49	57	51	50	46	47	45	44	46	46	47	44	348	348	345	311	282	297	277	279	268	251	256	15.3	44.0	
2 Spd	11	13	11	14	11	11	8	9	9	9	9	5	4	8	6	6	10	10	4	1	2	3	6	6	5.7	14.4	
Dir	269	285	288	303	290	279	251	210	241	230	221	253	179	170	160	197	271	297	289	172	178	195	189	187	251.2	302.9	
3 Spd	6	6	4	4	1	1	0	0	4	5	3	3	2	4	5	7	10	7	11	13	12	11	9	13	2.9	13.3	
Dir	189	191	211	204	121	189	115	178	213	223	237	235	334	0	7	53	35	53	44	44	44	44	53	42	47.3	42.4	
4 Spd	10	16	12	13	14	13	13	14	14	14	17	16	14	14	12	6	8	5	4	5	7	7	5	6	10.7	16.8	
Dir	44	45	47	49	46	40	37	36	35	39	41	40	44	46	47	52	46	45	49	53	52	52	55	50	43.9	41.5	
5 Spd	7	7	8	7	7	8	8	9	9	12	13	10	8	8	7	6	10	13	12	13	11	7	6	4	8.4	13.4	
Dir	48	49	52	56	56	51	59	53	48	65	79	81	104	76	77	58	50	39	38	46	58	45	41	49	57.0	39.4	
6 Spd	5	2	4	4	3	1	2	1	5	7	10	12	13	13	15	16	16	12	12	11	8	7	9	10	8.2	16.3	
Dir	40	25	358	23	24	2	44	32	55	59	48	51	52	57	44	38	42	40	41	41	45	41	47	53	44.0	37.7	
7 Spd	9	8	9	9	7	9	9	10	13	15	14	13	14	16	11	10	5	11	9	10	11	10	9	7	10.2	15.8	
Dir	54	55	52	51	51	54	68	62	61	51	61	50	53	68	56	57	57	76	61	69	75	64	71	69	60.3	68.1	
8 Spd	7	6	5	4	3	2	2	2	4	3	2	3	2	3	3	3	5	4	3	5	6	3	4	5	2.1	7.2	
Dir	74	77	65	68	58	55	59	45	54	41	14	29	60	152	165	220	233	295	327	28	25	2	7	357	43.8	73.7	
9 Spd	10	12	9	8	8	10	11	11	12	14	12	12	14	16	19	18	17	15	13	12	12	12	11	9	12.2	19.4	
Dir	320	318	312	303	285	281	283	284	290	290	292	284	290	298	287	284	295	297	297	299	302	300	303	291	294.5	286.6	
10 Spd	8	7	7	2	5	3	0	1	1	5	5	2	3	5	7	6	3	2	4	5	4	4	4	4	0.8	8.1	
Dir	298	312	318	305	313	320	349	16	12	20	29	329	229	194	206	185	185	135	139	156	151	155	149	152	233.5	297.9	
11 Spd	4	3	0	0	0	7	5	3	9	14	14	14	14	12	15	12	14	6	0	1	3	2	4	6	6.1	15.0	
Dir	155	190	222	225	235	268	276	271	248	259	253	246	259	251	251	243	230	200	187	193	196	178	205	213	242.5	250.7	
12 Spd	1	1	5	3	2	3	2	3	5	3	4	4	9	8	9	12	9	8	5	6	8	8	5	6	2.3	12.4	
Dir	271	238	205	199	174	183	199	201	197	288	282	264	335	338	26	53	56	51	52	44	50	47	46	47	33.3	53.4	
13 Spd	6	8	9	8	9	9	7	7	8	6	9	10	6	7	5	5	3	1	2	2	2	5	6	8	5.8	9.8	
Dir	50	49	48	53	50	49	51	48	43	43	51	55	46	35	37	33	28	339	322	258	354	20	24	27	41.5	54.8	
14 Spd	11	7	11	6	10	11	12	13	10	10	11	12	12	13	11	10	9	9	8	9	8	9	8	7	8	9.8	12.6
Dir	34	27	21	38	34	33	35	38	39	36	38	41	43	50	53	45	47	45	46	43	40	41	44	43	39.8	38.3	
15 Spd	7	8	6	3	3	3	3	3	3	5	3	4	4	3	4	5	5	4	4	8	6	10	11	9	5.0	10.9	
Dir	42	44	43	33	45	38	24	14	30	50	29	17	335	3	61	44	50	51	46	45	45	59	52	54	42.0	52.5	
16 Spd	10	13	12	11	12	10	8	6	4	2	2	3	8	11	9	9	5	2	2	2	2	1	1	3	3.0	13.0	
Dir	59	67	68	67	70	67	63	53	51	33	355	319	262	306	319	313	294	245	224	245	271	237	304	25	28.8	67.1	
17 Spd	0	2	5	4	7	8	9	10	8	9	16	16	18	17	14	13	11	9	7	6	4	1	1	2	7.9	17.7	
Dir	29	306	293	251	263	291	308	320	279	299	305	304	305	310	306	312	304	303	292	324	298	312	323	287	302.1	304.9	
18 Spd	1	1	1	1	2	2	2	2	3	4	4	4	4	2	4	5	8	3	1	0	0	0	1	1	1.8	7.6	
Dir	332	42	79	75	61	58	59	80	66	73	113	92	97	4	354	23	33	34	8	0	231	343	238	295	50.4	33.2	
19 Spd	1	2	2	0	1	1	2	1	2	2	2	2	2	5	5	7	4	2	0	0	0	1	1	1	0.8	6.5	
Dir	279	271	226	89	329	307	324	330	315	199	235	225	284	5	28	40	41	17	276	238	310	156	52	317	344.4	40.5	
20 Spd	1	2	5	3	3	1	0	2	1	1	2	3	4	4	2	5	3	1	3	4	0	1	0	2	1.2	5.2	
Dir	221	253	267	174	150	117	173	43	27	34	330	258	268	291	285	298	243	168	196	189	21	200	58	188	248.1	297.6	
21 Spd	16	21	18	17	20	24	20	4	6	6	7	7	8	5	2	1	5	5	1	1	0	1	1	2	6.8	23.8	
Dir	221	221	226	226	218	224	220	194	187	186	197	191	191	190	68	69	51	53	43	217	340	230	217	291	214.1	224.4	
22 Spd	2	2	3	2	3	1	4	3	3	7	14	18	20	20	21	19	14	8	6	1	1	1	1	1	6.8	21.2	
Dir	296	193	226	184	203	307	212	189	219	235	238	253	259	262	258	261	255	274	241	261	188	209	189	207	249.6	258.0	



Peace Airshed Zone Association

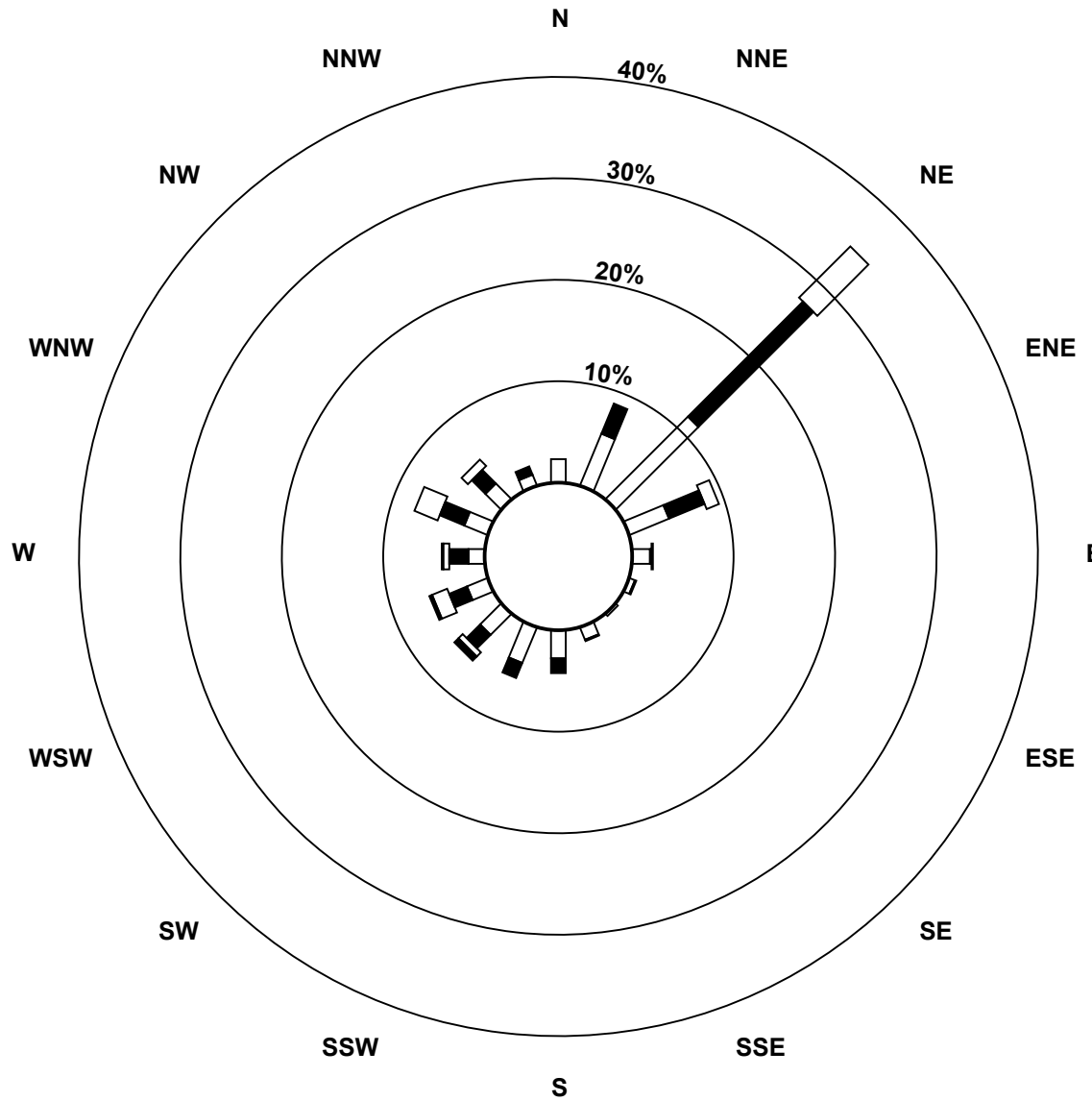
# Hourly Averages

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

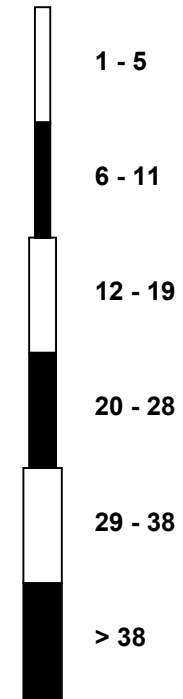
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
23 Spd	1	0	0	1	2	2	3	1	1	4	12	14	9	13	12	8	11	11	7	6	2	5	4	4	5.2	14.1
Dir	40	185	71	50	26	182	19	188	46	51	52	45	60	55	48	55	51	41	47	34	359	24	26	26	45.8	44.8
24 Spd	3	4	4	2	3	2	1	1	1	4	4	4	3	4	3	2	4	5	5	5	5	5	5	5	3.2	5.5
Dir	41	33	38	48	44	44	18	60	114	51	79	104	78	46	43	49	38	55	48	52	58	51	49	53	52.9	53.1
25 Spd	6	5	7	6	7	7	6	6	5	6	4	3	1	3	3	5	8	7	8	6	6	6	7	6	1.8	8.4
Dir	50	54	53	49	48	54	45	46	57	45	46	52	24	323	333	295	292	288	255	253	226	250	259	263	349.0	291.6
26 Spd	6	4	5	5	7	5	4	5	3	2	6	8	1	3	5	6	3	3	3	3	4	4	7	7	0.5	7.9
Dir	254	254	212	224	231	242	238	222	220	231	251	225	337	36	41	33	53	56	64	55	31	31	53	68	260.8	225.0
27 Spd	6	7	5	5	4	6	3	6	7	7	7	5	5	4	7	7	6	6	4	8	9	7	7	5	5.9	9.3
Dir	59	38	54	39	36	33	15	32	37	33	41	36	48	52	28	33	39	41	46	35	30	34	33	37	37.5	30.4
28 Spd	2	2	2	5	5	5	3	2	3	2	3	4	3	3	3	3	1	1	1	1	1	1	0	1	2.2	4.7
Dir	57	76	75	37	41	31	34	39	41	68	76	74	85	82	81	81	95	106	57	144	107	42	66	58	61.3	37.3
29 Spd	2	7	6	3	3	6	7	6	7	4	6	4	1	3	3	5	6	6	4	5	4	6	4	7	0.6	7.3
Dir	215	207	207	181	178	219	222	229	235	211	233	196	9	81	80	68	55	49	47	68	37	33	26	31	154.2	235.4
30 Spd	4	3	1	4	4	1	1	0	2	5	3	7	8	8	3	2	2	2	2	1	2	3	4	7	0.9	7.8
Dir	42	48	68	41	50	100	201	201	191	228	212	198	201	195	202	34	53	53	37	37	290	275	260	245	211.2	201.1
31 Spd	6	10	7	5	5	5	7	7	7	9	7	2	0	1	3	2	1	6	8	9	8	8	7	8	2.2	9.6
Dir	273	327	317	322	305	296	253	215	241	253	234	207	104	73	54	57	44	38	35	18	22	46	54	48	333.6	327.2
Spd	1.9	2.1	1.9	2.0	2.0	1.7	1.4	1.9	1.7	1.9	1.8	1.7	1.8	2.5	2.9	3.0	2.9	3.1	2.6	2.9	2.8	2.6	2.2	2.3	Diurnal Average	
Dir	24.2	18.0	16.1	32.4	30.7	6.4	8.4	31.9	24.0	16.1	14.6	9.9	351.2	4.4	5.9	6.1	1.8	16.1	18.2	30.4	29.0	28.5	31.9	32.1		
Spd	16.0	20.8	17.8	17.1	20.4	23.8	20.3	17.2	18.3	16.8	16.8	17.6	19.7	19.9	21.2	19.3	17.3	14.7	13.3	13.2	13.4	14.2	15.0	13.3	Diurnal Maximum	
Dir	220.9	220.6	225.8	226.3	218.2	224.4	220.3	44.9	44.0	45.9	41.5	252.6	258.6	261.7	258.0	261.4	294.9	297.4	297.3	45.9	278.8	268.2	251.3	42.4		
Maximum Speed Value: 24 km/h on Oct 21 06:00		Minimum Speed Value: 0 km/h on Oct 11 04:00																Hours in Service: 744								
Maximum Daily Speed Average: 12.2 km/h on Oct 1		Minimum Daily Speed Average: 0.5 km/h on Oct 19																Hours of Data: 744								
Maximum Diurnal Speed Average: 3.1 km/h at hour 18		Minimum Diurnal Speed Average: 1.4 km/h at hour 7																Hours of Missing Data: 0								
Monthly Average Velocity: 2.19 km/h 17.92 deg		Speed Percentiles: P <sub>1</sub> = 0.2 P <sub>10</sub> = 1.2 Q <sub>1</sub> = 2.8 Median = 5.4 Q <sub>3</sub> = 8.9 P <sub>90</sub> = 13.0 P <sub>99</sub> = 19.6																Percent Operational Time: 100.0								
All monthly, daily, and diurnal averages have been calculated using vector methods																										
Frequency Distribution																										
		Speed Range (km/h)																								
Direction	0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total																			
North	31	9	0	0	0	0	40																			
NorthEast	116	158	61	0	0	0	335																			
East	34	13	4	0	0	0	51																			
SouthEast	16	1	0	0	0	0	17																			
South	45	17	0	0	0	0	62																			
SouthWest	45	25	7	4	0	0	81																			
West	27	32	20	5	0	0	84																			
NorthWest	33	23	18	0	0	0	74																			
Total	347	278	110	9	0	0	744																			

**Wind Rose**

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



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



# Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Evergreen Park - October 2016

Maximum Speed: 24 km/h on Oct 21 06:00	Maximum Daily Speed Average: 13.1 km/h on Oct 1	Hours in Service: 744
Minimum Speed: 0 km/h on Oct 11 04:00	Minimum Daily Speed Average: 2.4 km/h on Oct 19	Hours of Data: 744
Maximum Diurnal Speed Average: 8.7 km/h at hour 14	Minimum Diurnal Speed Average: 5.5 km/h at hour 22	Hours of Missing Data: 0
Monthly Average Speed: 6.74 km/h	Percentiles: P <sub>1</sub> = 0.6 P <sub>10</sub> = 1.7 Q <sub>1</sub> = 3.2 Median = 5.8 Q <sub>3</sub> = 9.3 P <sub>90</sub> = 13.4 P <sub>99</sub> = 20.5	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-Oct	10	12	13	16	18	16	16	18	19	17	15	14	9	8	7	10	9	11	12	10	14	15	15	13	13.1	18.6
2-Oct	12	14	12	15	11	11	9	9	9	10	9	6	6	9	8	7	12	10	4	1	2	3	6	6	8.4	15.0
3-Oct	6	6	4	4	2	2	1	1	5	6	4	4	4	6	7	8	11	7	12	13	12	11	10	14	6.6	13.6
4-Oct	11	16	13	13	15	13	13	14	15	14	17	16	14	14	12	6	8	5	4	6	7	8	5	6	11.2	17.1
5-Oct	7	7	8	7	7	8	8	9	9	12	14	11	9	9	7	7	11	14	12	13	11	7	6	4	9.1	13.7
6-Oct	5	3	4	4	3	1	2	1	6	8	11	13	14	14	16	17	16	12	12	11	8	7	10	10	8.7	16.9
7-Oct	10	9	9	9	7	9	9	11	14	15	15	13	14	17	12	10	6	11	10	11	11	10	10	8	10.7	16.6
8-Oct	8	7	6	4	3	2	2	2	4	3	2	4	3	4	3	4	5	4	3	6	6	3	4	5	4.0	7.5
9-Oct	10	13	9	8	9	11	11	11	12	15	13	13	14	17	20	19	18	15	14	12	12	12	12	9	12.8	20.0
10-Oct	8	8	8	2	5	3	1	1	1	5	6	4	5	5	8	7	3	2	5	6	4	4	4	4	4.5	8.4
11-Oct	4	3	0	0	1	8	5	4	10	15	15	14	15	13	16	12	14	6	0	1	3	2	4	6	7.0	15.6
12-Oct	2	2	5	4	2	3	2	3	5	4	5	6	11	10	12	13	9	9	6	6	8	8	5	6	6.0	13.0
13-Oct	6	8	9	8	9	9	8	7	8	6	9	10	7	8	6	5	3	1	2	2	2	5	6	9	6.4	10.2
14-Oct	11	7	11	7	10	12	13	13	11	11	11	13	12	13	12	10	10	9	10	9	9	8	8	8	10.2	13.2
15-Oct	7	8	7	4	4	4	3	3	4	5	4	5	5	5	5	5	5	4	4	8	7	11	11	10	5.7	11.2
16-Oct	10	14	13	11	12	10	8	7	5	3	3	4	8	12	9	9	5	3	2	2	2	2	2	3	6.5	13.8
17-Oct	1	2	5	4	7	8	10	10	9	9	17	17	19	17	14	13	12	9	7	6	4	1	1	2	8.6	18.5
18-Oct	2	1	1	2	3	3	2	2	3	4	5	5	5	5	6	6	8	3	1	1	0	0	1	1	2.9	7.8
19-Oct	2	2	3	1	1	2	2	1	2	3	2	2	3	6	5	7	4	2	1	1	1	1	2	1	2.4	6.8
20-Oct	2	2	7	4	4	2	1	2	1	1	2	4	6	5	4	7	3	2	3	4	1	2	1	3	3.1	6.9
21-Oct	16	21	18	17	21	24	21	5	7	6	7	8	9	6	5	3	5	5	2	1	1	2	2	3	8.8	23.9
22-Oct	3	3	4	3	3	3	5	3	3	7	14	18	20	21	22	20	15	9	6	2	2	1	2	2	7.9	21.8
23-Oct	1	1	1	1	2	2	3	1	1	4	12	15	10	13	13	8	11	11	8	6	2	5	5	4	5.9	14.6
24-Oct	3	5	4	2	3	2	1	2	1	4	4	4	4	4	4	3	2	4	5	5	6	5	5	6	3.6	5.7
25-Oct	6	5	7	6	7	7	6	6	5	6	4	3	1	3	4	5	9	7	8	7	6	7	7	6	5.8	8.8
26-Oct	7	4	5	5	7	5	4	5	4	3	7	9	3	4	6	6	3	3	3	3	4	4	7	8	5.0	8.6
27-Oct	7	7	5	5	5	6	3	6	7	7	7	6	5	5	7	7	7	6	4	8	9	7	8	5	6.3	9.5
28-Oct	3	2	2	5	5	5	3	3	3	3	3	5	3	3	4	3	2	2	1	1	1	1	1	2	2.7	4.9
29-Oct	2	7	6	3	3	6	7	7	8	5	7	5	3	4	5	6	6	7	5	5	5	6	4	8	5.4	7.6
30-Oct	4	3	1	5	4	1	1	0	2	5	3	7	8	8	4	2	2	3	2	2	3	4	5	7	3.6	8.2
31-Oct	7	10	7	5	6	6	7	7	8	9	7	2	2	3	3	3	1	6	8	9	8	8	7	8	6.1	10.0
	6.2	6.7	6.7	6.0	6.4	6.6	6.1	5.6	6.4	7.2	8.2	8.3	8.1	8.7	8.5	8.0	7.6	6.5	5.6	5.7	5.5	5.5	5.6	5.9	Diurnal Average	
	16.3	21.0	18.0	17.3	20.5	23.9	20.5	17.6	18.6	17.2	17.1	18.1	20.5	20.6	21.8	19.7	17.9	15.2	13.7	13.4	13.9	14.8	15.2	13.6	Diurnal Maximum	

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

# Hourly Standard Deviations

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

Maximum Value: 95.8 deg on Oct 23 00:00		Hours in Service: 744																								
Minimum Value: 5.2 deg on Oct 6 01:00		Hours of Data: 744																								
Percentiles: P <sub>1</sub> = 7.4 P <sub>10</sub> = 12.5 Q <sub>1</sub> = 15.4 Median = 21.7 Q <sub>3</sub> = 35.1 P <sub>90</sub> = 59.7 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-Oct	25	15	16	13	12	16	16	12	12	13	15	16	22	40	22	29	12	20	16	21	16	17	10	13	39.6	
2-Oct	20	17	19	15	15	15	26	12	12	18	18	36	59	25	42	46	46	17	36	45	19	61	27	14	60.7	
3-Oct	19	12	27	29	79	84	95	83	48	24	55	57	74	61	55	38	22	16	13	10	11	11	15	13	95.0	
4-Oct	19	12	20	17	17	16	16	16	21	13	12	10	17	20	19	25	22	22	23	22	17	15	16	14	25.4	
5-Oct	12	13	15	15	14	11	12	17	15	17	19	31	50	30	27	24	19	12	13	12	15	15	12	11	49.8	
6-Oct	5	16	20	10	13	12	34	22	15	26	28	27	20	27	24	17	13	15	10	10	8	7	11	13	34.3	
7-Oct	14	11	12	14	14	16	17	19	18	17	20	17	21	19	20	19	22	20	19	17	19	15	17	18	21.6	
8-Oct	23	24	18	25	27	29	17	35	25	25	38	30	34	46	30	31	30	23	27	12	11	19	18	22	45.7	
9-Oct	10	8	12	15	16	13	15	18	13	17	16	15	16	18	14	15	15	14	16	15	14	14	14	14	18.2	
10-Oct	13	13	11	29	12	33	65	50	24	17	21	57	48	29	23	31	38	25	32	20	23	31	19	13	64.8	
11-Oct	13	46	95	95	74	15	20	28	14	15	14	17	20	26	17	19	14	11	62	13	12	16	16	21	95.1	
12-Oct	83	79	17	50	20	59	35	12	11	64	43	51	33	38	48	18	17	14	11	11	12	10	12	10	83.1	
13-Oct	13	11	11	14	14	15	15	15	15	19	19	18	34	16	28	18	34	40	19	46	44	17	26	16	46.0	
14-Oct	14	26	13	23	18	17	14	12	20	17	16	17	20	19	29	18	16	16	20	16	17	18	24	18	28.7	
15-Oct	15	16	23	23	31	30	23	25	31	40	57	39	34	50	45	26	24	21	19	16	25	15	15	15	56.8	
16-Oct	14	21	22	18	22	17	17	20	35	36	30	28	20	22	23	14	28	39	60	40	33	69	81	19	81.1	
17-Oct	73	78	18	15	16	25	19	13	24	21	19	17	18	14	16	15	14	12	13	22	15	34	35	37	77.6	
18-Oct	34	16	35	43	17	20	34	28	24	28	45	38	47	76	57	32	12	14	25	44	73	69	52	39	76.3	
19-Oct	32	29	33	86	77	58	29	69	52	75	35	52	40	31	23	16	13	34	78	95	78	74	78	44	95.4	
20-Oct	50	46	45	66	76	79	87	40	47	32	53	43	48	45	55	39	34	75	63	53	87	83	77	82	87.0	
21-Oct	11	7	7	7	7	7	8	51	31	13	13	21	25	44	84	95	15	11	37	51	86	81	79	60	94.7	
22-Oct	59	72	50	57	25	79	31	59	29	7	13	13	16	16	13	13	11	31	14	61	71	87	86	96	95.8	
23-Oct	77	82	87	66	13	74	38	82	63	14	14	17	24	24	20	25	22	20	21	35	39	18	20	19	87.3	
24-Oct	29	32	27	28	22	19	77	78	58	21	25	37	43	26	23	20	12	19	14	17	17	17	16	13	78.4	
25-Oct	12	18	13	16	14	18	15	20	22	15	26	33	31	24	42	27	18	16	13	15	17	12	13	17	42.4	
26-Oct	14	26	13	10	12	13	24	20	28	45	43	25	92	67	31	18	15	10	22	22	8	11	15	22	91.8	
27-Oct	28	16	26	30	46	23	29	18	15	17	33	37	30	26	19	20	21	17	27	17	13	14	21	23	46.1	
28-Oct	29	31	31	31	20	16	21	24	25	32	28	33	47	28	33	34	30	31	70	68	60	45	76	78	77.5	
29-Oct	54	8	19	28	37	23	24	37	26	58	39	50	92	74	47	34	30	27	39	29	34	24	31	31	91.6	
30-Oct	43	31	65	22	26	55	24	54	31	14	39	13	18	24	71	39	38	32	39	65	58	31	30	15	71.1	
31-Oct	26	22	19	30	33	40	13	13	14	14	19	64	89	76	35	28	59	37	15	15	13	20	19	17	88.9	
		83.1	81.9	95.1	94.7	79.2	84.0	95.0	83.5	63.4	74.9	56.8	63.7	91.8	76.4	84.1	94.7	58.5	74.8	77.8	95.4	86.7	86.8	85.7	95.8	



PAZA

## Smoky Heights Station

Monthly Summary Tables, Graphs and  
Roses

## Hourly Averages

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

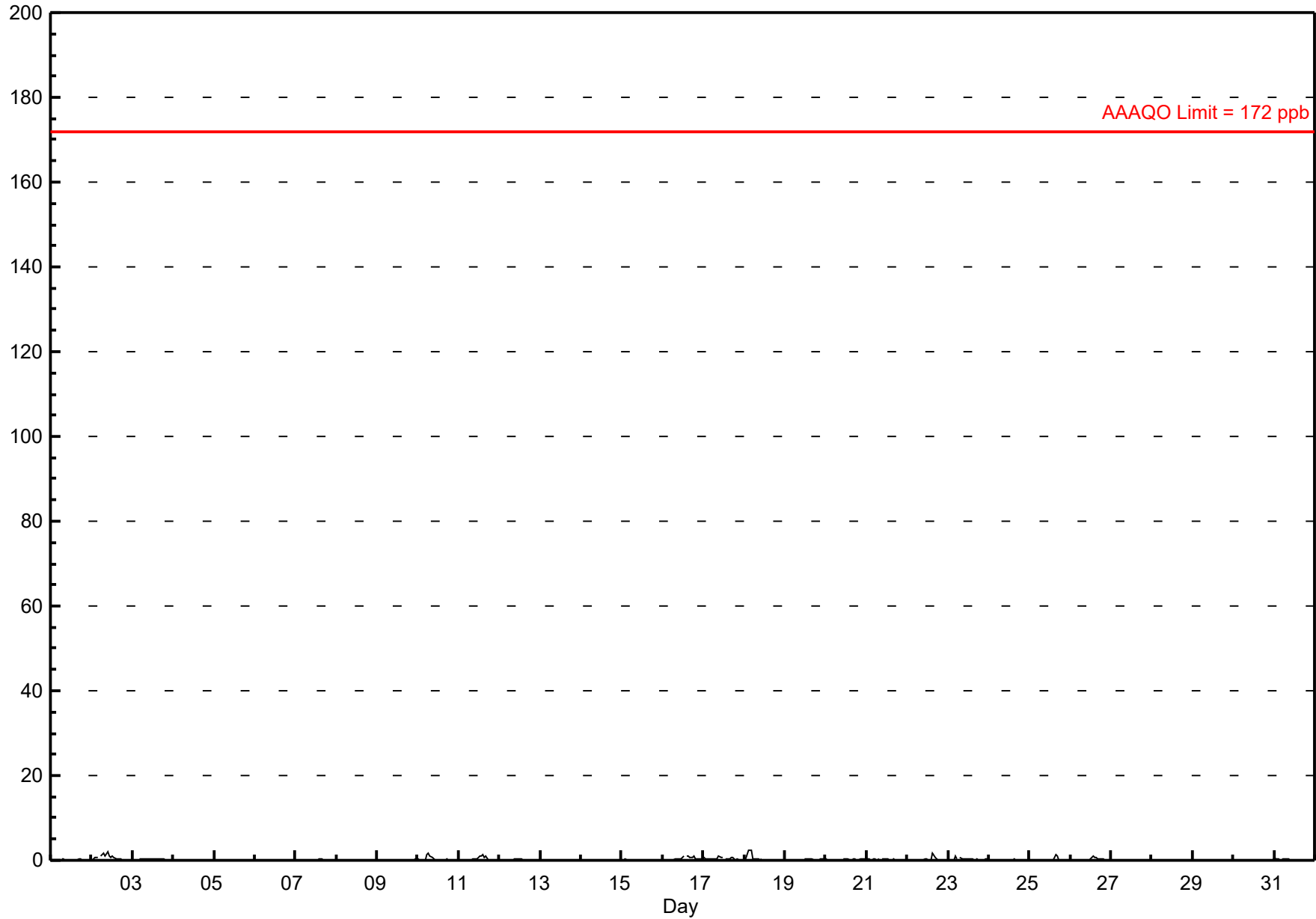
Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 2.5 ppb on Oct 18 04:00	Maximum Daily Average: 0.6 ppb on Oct 2		Hours of Data:	709
Minimum Value: 0 ppb on Oct 4 00:00	Minimum Daily Average: 0.0 ppb on Oct 8		Hours of Missing Data:	35
Maximum Diurnal Average: 0.3 ppb at hour 16	Minimum Diurnal Average: 0.1 ppb at hour 21		Hours of Calibration:	35
Monthly Average: 0.16 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> = 0.3 P <sub>99</sub> = 1.6		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-Oct	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
2-Oct	0	0	1	1	A	1	1	2	1	2	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0.6	2.0
3-Oct	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4
4-Oct	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
5-Oct	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
6-Oct	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
7-Oct	0	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
8-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
9-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	1	0.1	0.5
10-Oct	0	0	0	0	0	1	2	1	1	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.3	1.7
11-Oct	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	0	A	0	0	0	0	0	0.3	1.3
12-Oct	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
13-Oct	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
14-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.0	0.1
15-Oct	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
16-Oct	0	0	0	0	0	0	0	0	0	0	0	1	A	1	1	1	1	1	0	0	0	0	0	0	0.4	1.1
17-Oct	1	0	0	0	0	0	0	0	0	1	1	1	A	0	0	0	1	1	0	0	0	0	0	0	0.4	1.0
18-Oct	0	0	2	3	2	0	0	0	0	0	0	0	C	C	C	0	0	0	0	0	0	0	0	0	0.5	2.5
19-Oct	0	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-Oct	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	0.3
21-Oct	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3
22-Oct	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0.2	1.6
23-Oct	0	0	0	0	1	0	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.9
24-Oct	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
25-Oct	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0.1	1.5
26-Oct	0	0	0	A	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0.2	0.9
27-Oct	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1
28-Oct	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
29-Oct	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	0.2
30-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.1	0.2
31-Oct	1	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	0.6
	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	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	Diurnal Average	
	0.6	0.4	2.2	2.5	2.3	1.4	1.7	1.8	1.2	2.0	0.8	0.6	1.1	1.0	1.3	1.6	0.9	0.7	1.1	0.4	0.3	0.3	0.5	0.4	Diurnal Maximum	

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

### Hourly Averages

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



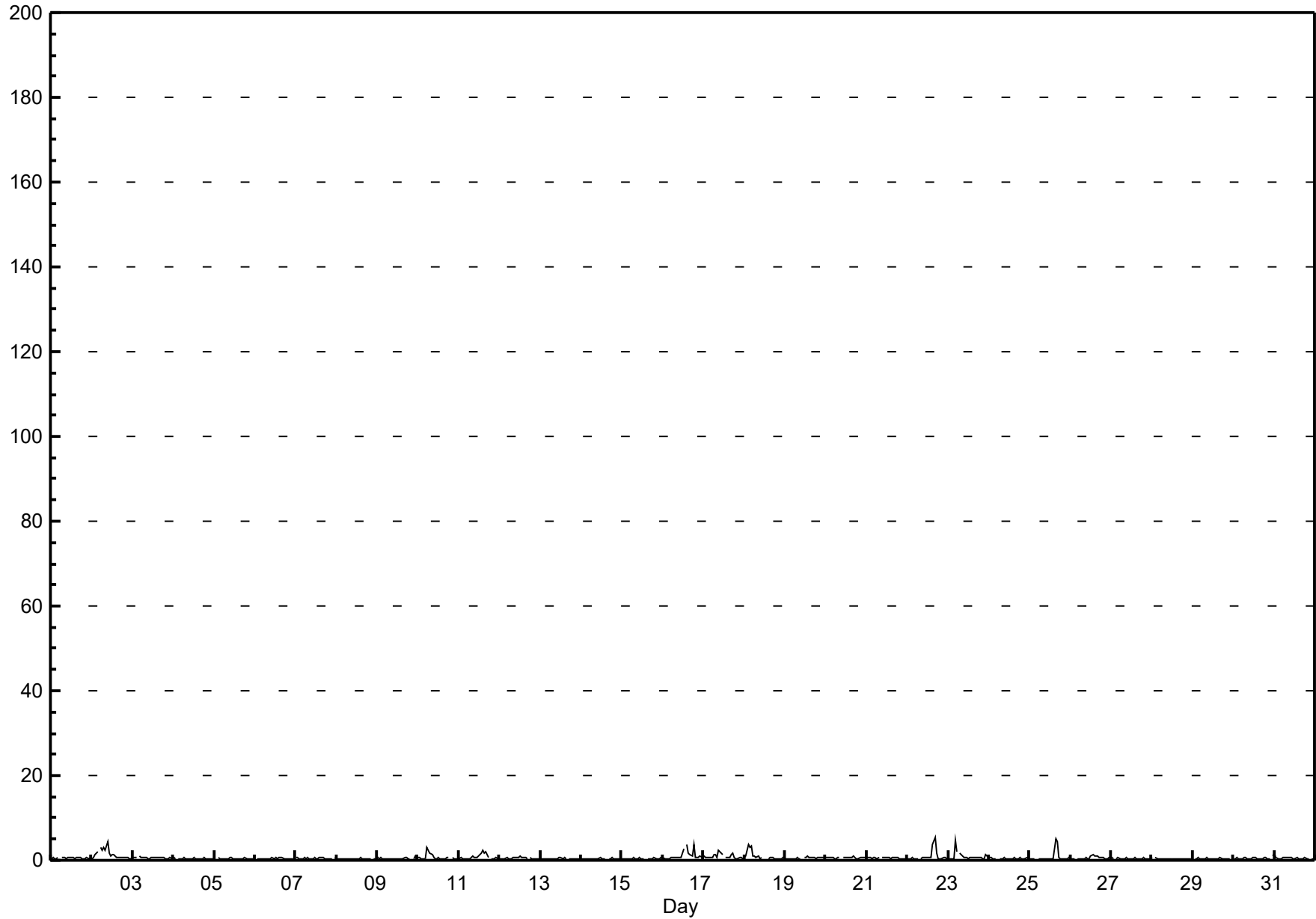
## Hourly Maximums

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

Maximum Value: 5.5 ppb on Oct 22 17:00		Maximum Daily Average: 1.3 ppb on Oct 2		Hours in Service: 744																							
Minimum Value: 0 ppb on Oct 31 21:00		Minimum Daily Average: 0.4 ppb on Oct 8		Hours of Data: 709																							
Maximum Diurnal Average: 1.0 ppb at hour 17		Minimum Diurnal Average: 0.4 ppb at hour 21		Hours of Missing Data: 35																							
Monthly Average: 0.62 ppb		Percentiles: P <sub>1</sub> = 0.3 P <sub>10</sub> = 0.4 Q <sub>1</sub> = 0.4 Median = 0.5 Q <sub>3</sub> = 0.6 P <sub>90</sub> = 0.8 P <sub>99</sub> = 3.6		Hours of Calibration: 35																							
				Percent Operational Time: 100.0																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Oct	0	1	0	0	1	A	1	1	1	0	1	1	1	1	0	1	1	1	0	0	0	1	0	1	0.5	0.7	
2-Oct	0	1	1	2	A	3	2	3	2	4	2	1	1	1	1	1	1	1	1	1	1	1	0	0	1.3	4.4	
3-Oct	1	1	1	A	1	1	1	1	1	0	0	1	1	1	1	1	1	1	1	0	0	0	1	0	0.6	1.1	
4-Oct	1	0	A	0	0	0	1	0	0	1	0	0	1	0	1	0	0	0	1	0	0	0	0	0	0.4	0.6	
5-Oct	0	A	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0.4	0.6	
6-Oct	A	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	0	0	0	0	0	1	0	A	0.4	0.8	
7-Oct	1	1	0	0	0	1	0	1	0	0	0	1	0	0	1	1	1	0	0	0	0	0	A	1	0.5	0.7	
8-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	A	0	0	0.4	0.5	
9-Oct	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	A	0	1	1	0.5	1.1	
10-Oct	1	1	0	0	0	3	2	2	1	1	1	1	0	0	0	0	0	1	1	A	1	0	0	0	0.8	3.1	
11-Oct	0	1	0	0	0	0	0	1	1	1	1	1	2	2	2	2	1	A	0	0	0	0	1	0	0.8	2.5	
12-Oct	0	0	0	0	1	0	0	0	1	1	1	1	1	1	1	1	0	A	1	1	0	0	0	0	0.5	0.9	
13-Oct	0	0	0	0	0	0	0	0	1	0	0	1	1	0	1	0	A	0	0	0	0	0	0	0	0.4	0.5	
14-Oct	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	A	0	0	1	0	0	0	0	0	0.4	0.6	
15-Oct	0	0	0	0	0	0	0	1	0	0	1	0	0	0	A	0	0	0	0	1	1	0	0	1	0.5	0.7	
16-Oct	1	0	0	0	0	1	1	1	1	1	1	3	A	4	2	1	1	4	1	1	1	1	1	1	1.1	3.7	
17-Oct	1	1	1	1	1	1	1	1	1	2	2	1	A	1	1	1	1	2	1	0	1	1	1	0	1.0	2.2	
18-Oct	1	1	4	3	3	1	1	1	1	0	1	C	C	C	0	1	1	1	0	0	0	0	0	1	1.0	3.6	
19-Oct	0	0	0	0	0	0	0	1	0	0	1	0	A	1	1	1	1	1	0	1	1	1	1	1	0.5	0.9	
20-Oct	1	1	1	1	1	0	0	1	1	A	1	1	1	1	1	1	1	1	0	0	1	1	1	1	0.6	0.9	
21-Oct	1	1	1	0	1	1	0	1	A	1	1	1	1	1	0	1	1	1	1	0	0	0	0	0	0.6	0.8	
22-Oct	0	0	0	1	0	0	0	A	0	1	1	1	1	1	1	4	5	2	0	0	0	1	1	0	0.9	5.5	
23-Oct	0	0	1	0	5	2	A	2	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	0.9	4.6	
24-Oct	1	1	1	0	0	A	1	0	0	1	1	0	0	0	0	1	0	0	1	0	1	0	1	0	0.5	0.6	
25-Oct	0	0	0	0	A	0	0	0	0	0	0	0	0	0	5	4	1	0	0	0	0	0	0	1	0.8	5.1	
26-Oct	0	0	0	A	0	1	0	0	0	1	0	1	1	1	1	1	1	1	1	1	0	0	0	1	0.6	1.4	
27-Oct	1	0	A	0	1	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	1	0	1	0	0.5	0.6	
28-Oct	1	A	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.7	
29-Oct	A	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0.4	0.7	
30-Oct	0	1	1	0	0	0	1	1	0	0	0	1	1	1	0	1	0	0	1	1	0	0	A	1	0.5	1.0	
31-Oct	2	1	0	0	0	1	1	1	1	1	1	0	0	1	0	0	0	0	1	0	0	A	0	0	0.6	1.8	
		0.6	0.5	0.6	0.6	0.7	0.7	0.6	0.7	0.6	0.7	0.6	0.6	0.7	0.6	0.7	0.9	1.0	0.6	0.6	0.5	0.4	0.5	0.5	0.5	Diurnal Average	
		1.8	0.9	3.6	3.1	4.6	3.1	2.4	3.0	2.2	4.4	1.8	1.4	2.8	1.6	3.7	5.1	5.5	1.7	3.6	0.8	0.7	0.8	1.5	1.0	Diurnal Maximum	
C - Calibration		A - Automated Daily Zero Span																									

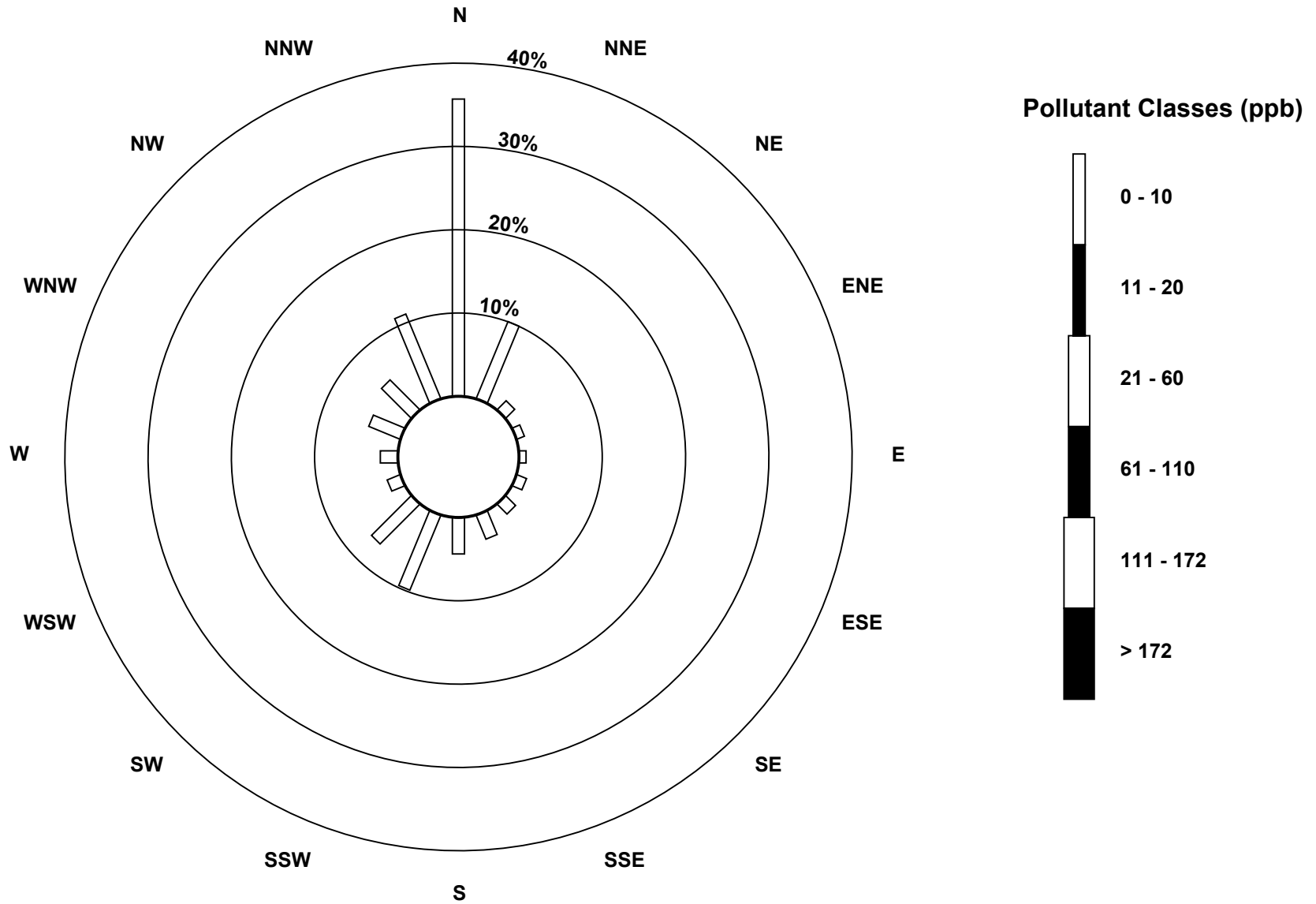
**Hourly Maximums**

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



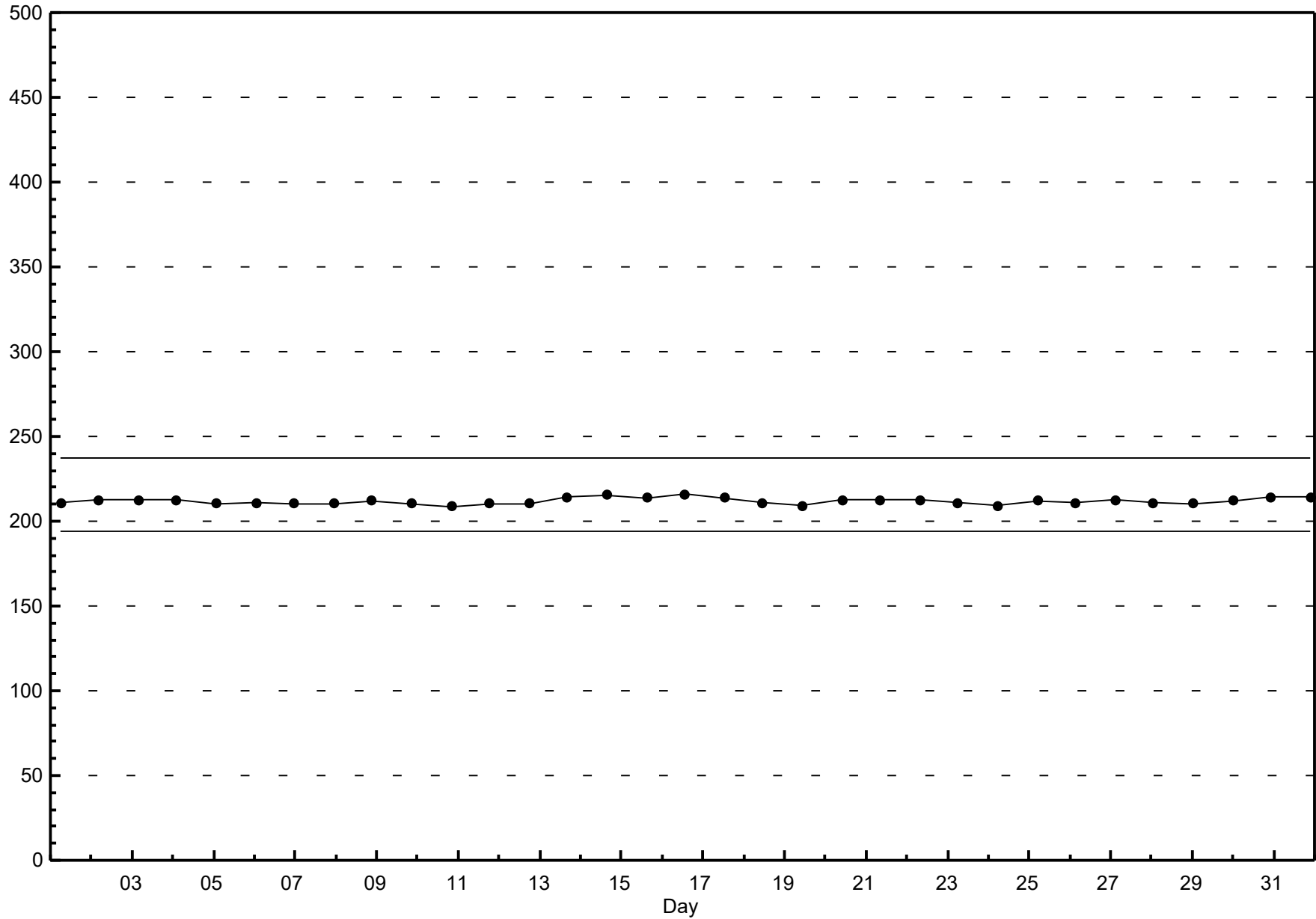
**Pollutant Rose**

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



### Span Responses

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



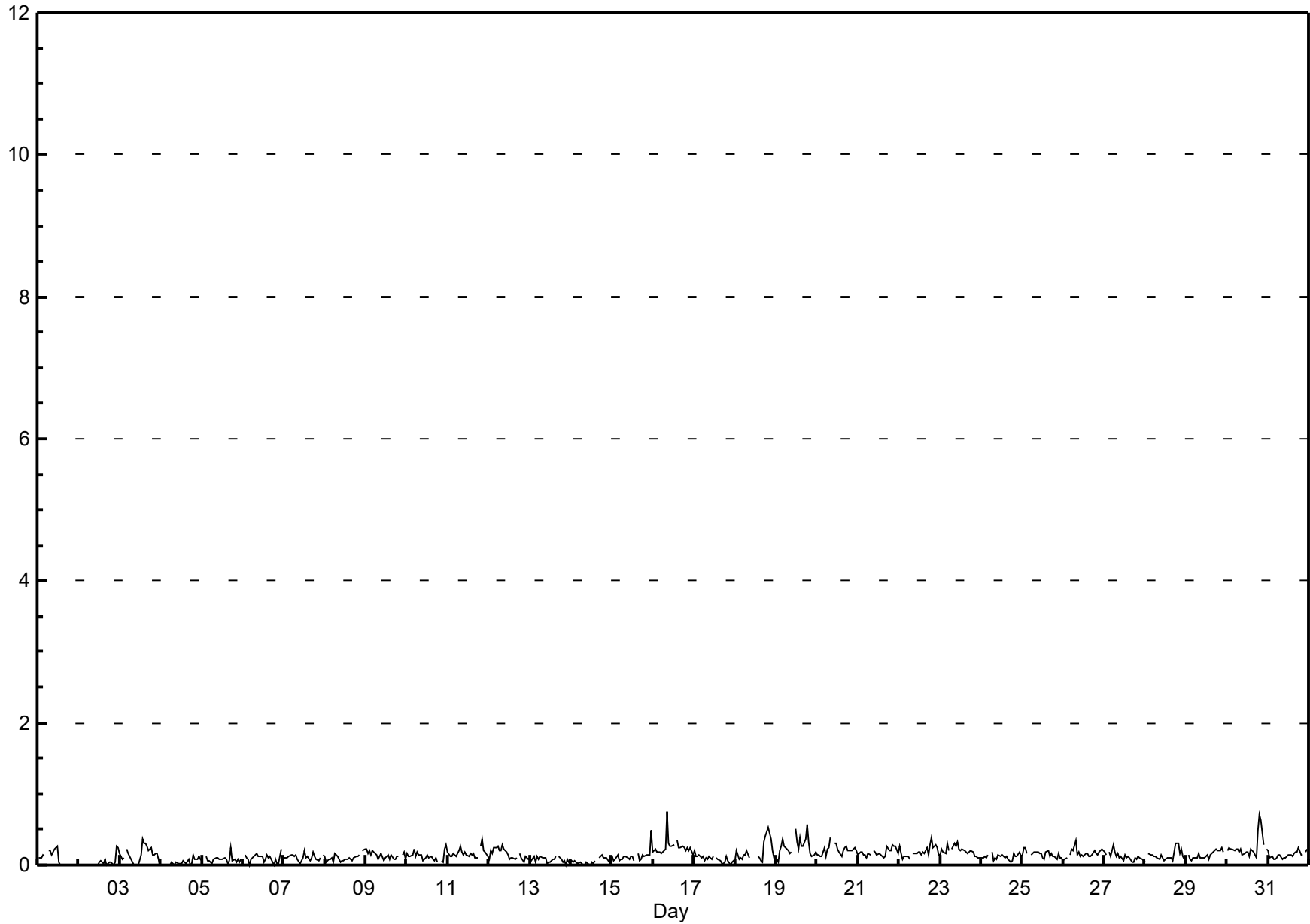
## Hourly Averages

Total Reduced Sulphur (TRS) - ppb

Smoky Heights - October 2016

Maximum Value: 0.7 ppb on Oct 16 09:00		Maximum Daily Average: 0.3 ppb on Oct 19		Hours in Service: 744																							
Minimum Value: 0 ppb on Oct 1 14:00		Minimum Daily Average: 0.0 ppb on Oct 2		Hours of Data: 708																							
Maximum Diurnal Average: 0.2 ppb at hour 20		Minimum Diurnal Average: 0.1 ppb at hour 17		Hours of Missing Data: 36																							
Monthly Average: 0.14 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> = 0.2 P <sub>99</sub> = 0.5		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-Oct	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3	
2-Oct	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.3	
3-Oct	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.4	
4-Oct	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.2	
5-Oct	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2	
6-Oct	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2	
7-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.1	0.2	
8-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.1	0.2	
9-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.1	0.2	
10-Oct	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	
11-Oct	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	
12-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0.2	0.3	
13-Oct	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	0.1	
14-Oct	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	
15-Oct	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	0.5	
16-Oct	0	0	0	0	0	0	0	0	1	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.3	0.7	
17-Oct	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2	
18-Oct	0	0	0	0	0	0	0	0	0	0	C	C	C	0	0	0	0	0	0	1	0	0	0	0	0.2	0.5	
19-Oct	0	0	0	0	0	0	0	0	0	0	0	A	0	1	0	0	0	0	0	0	0	0	0	0	0.3	0.6	
20-Oct	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4	
21-Oct	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3	
22-Oct	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4	
23-Oct	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3	
24-Oct	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2	
25-Oct	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.2	
26-Oct	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	
27-Oct	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3	
28-Oct	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3	
29-Oct	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2	
30-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	A	0	0.3	0.7	
31-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.1	0.2	
		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	0.2	0.2	0.2	0.1	0.2	0.1	Diurnal Average		
		0.3	0.2	0.2	0.3	0.4	0.3	0.2	0.3	0.7	0.3	0.3	0.5	0.3	0.4	0.4	0.3	0.3	0.4	0.6	0.7	0.6	0.4	0.3	0.5	Diurnal Maximum	
C - Calibration		A - Automated Daily Zero Span																									





## Hourly Maximums

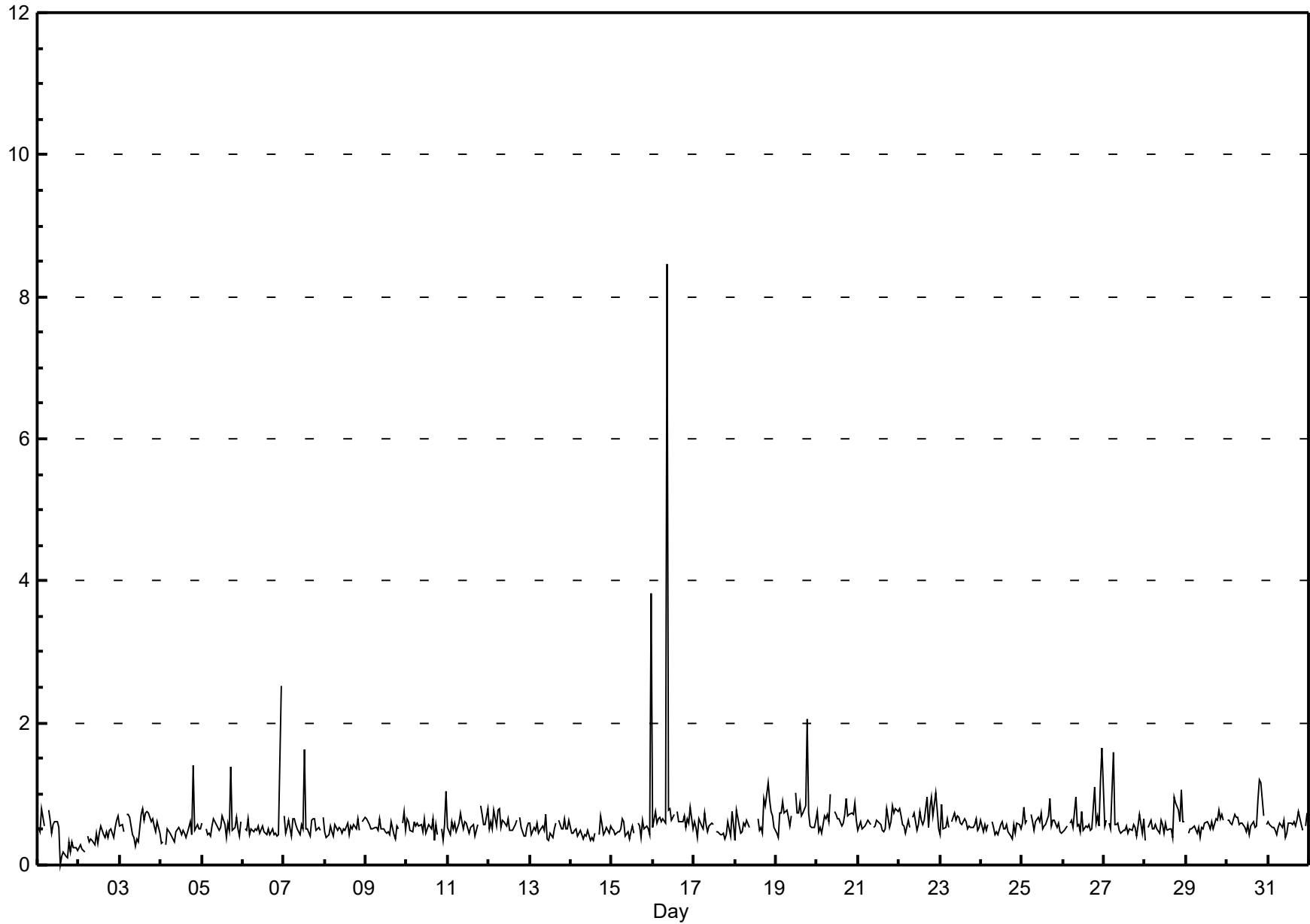
Total Reduced Sulphur (TRS) - ppb

Smoky Heights - October 2016

Maximum Value: 8.5 ppb on Oct 16 09:00		Maximum Daily Average: 1.0 ppb on Oct 16		Hours in Service: 744																						
Minimum Value: 0 ppb on Oct 1 14:00		Minimum Daily Average: 0.4 ppb on Oct 1		Hours of Data: 708																						
Maximum Diurnal Average: 0.8 ppb at hour 9		Minimum Diurnal Average: 0.5 ppb at hour 15		Hours of Missing Data: 36																						
Monthly Average: 0.59 ppb		Percentiles: P <sub>1</sub> = 0.2 P <sub>10</sub> = 0.4 Q <sub>1</sub> = 0.5 Median = 0.5 Q <sub>3</sub> = 0.6 P <sub>90</sub> = 0.7 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-Oct	1	0	1	1	1	A	1	1	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0.4	0.8
2-Oct	0	0	0	0	A	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	1	1	0.4	0.7
3-Oct	1	1	0	A	1	1	1	0	0	0	0	0	1	1	1	1	1	1	1	1	1	0	1	0	0.6	0.8
4-Oct	0	0	A	0	1	0	0	0	0	0	1	0	0	0	0	0	1	1	0	1	0	1	1	1	0.5	1.4
5-Oct	1	A	0	0	0	0	1	1	1	1	0	1	1	1	0	1	0	1	0	1	1	1	0	1	0.6	1.4
6-Oct	A	1	0	1	0	1	0	1	0	1	0	1	0	0	0	0	0	1	0	0	0	0	3	A	0.6	2.5
7-Oct	1	0	1	1	0	1	1	1	1	0	1	1	2	1	1	0	1	1	1	0	1	0	A	1	0.6	1.6
8-Oct	0	0	0	1	0	0	1	0	1	0	0	1	0	1	0	1	1	1	1	1	1	A	1	1	0.5	0.7
9-Oct	1	1	1	1	1	1	1	0	1	1	0	0	0	0	0	1	0	0	1	1	A	1	1	0	0.5	0.7
10-Oct	1	1	0	0	1	1	1	1	1	0	1	0	1	1	1	0	1	0	1	0	A	1	0	1	0.5	1.0
11-Oct	1	0	1	0	1	0	1	1	1	1	1	0	1	1	1	0	1	0	1	A	1	1	1	1	0.6	0.8
12-Oct	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	1	1	A	1	1	1	0	1	1	0.6	0.8
13-Oct	1	0	1	0	1	0	0	1	0	1	0	0	0	0	1	1	A	1	0	0	1	1	1	1	0.5	0.7
14-Oct	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	A	0	1	1	0	0	1	0	1	0.5	0.7
15-Oct	1	0	0	0	0	1	1	1	0	0	0	0	1	0	A	1	1	0	1	1	1	1	0	4	0.6	3.8
16-Oct	1	1	1	1	1	1	1	1	8	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1.0	8.5
17-Oct	1	1	0	1	1	1	1	1	0	1	1	1	A	0	0	0	0	0	0	0	0	1	0	1	0.5	0.7
18-Oct	0	1	1	0	0	1	1	1	1	C	C	C	1	0	1	0	1	1	1	1	1	1	1	1	0.6	1.2
19-Oct	0	0	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	2	1	1	1	1	1	0.8	2.0
20-Oct	1	0	1	0	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.0
21-Oct	0	1	1	1	1	1	1	1	1	A	1	1	1	1	0	0	1	1	1	1	1	1	1	1	0.6	0.8
22-Oct	1	1	1	1	0	1	1	A	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.0
23-Oct	0	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0.6	0.9
24-Oct	1	0	1	0	1	A	1	1	0	0	0	1	1	1	1	0	0	0	0	1	0	1	1	1	0.5	0.6
25-Oct	1	1	1	1	A	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0.6	0.9
26-Oct	0	0	1	A	1	1	1	1	1	1	0	1	0	1	1	1	0	1	1	1	1	1	1	2	0.7	1.6
27-Oct	1	1	A	1	1	2	1	1	1	0	0	0	0	1	0	1	0	1	1	0	1	1	0	1	0.6	1.6
28-Oct	0	A	1	1	1	0	1	1	0	1	1	0	1	0	1	0	1	1	1	1	1	1	1	1	0.6	1.1
29-Oct	A	0	1	1	1	1	0	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.6	0.8
30-Oct	1	1	1	1	1	1	1	1	1	1	1	0	1	0	1	1	1	1	1	1	1	1	A	1	0.7	1.2
31-Oct	1	1	1	1	0	0	1	1	1	1	0	0	1	1	1	1	1	1	1	1	0	A	1	1	0.6	0.8
		0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.8	0.5	0.5	0.5	0.6	0.5	0.5	0.6	0.5	0.6	0.7	0.6	0.6	0.6	0.7	0.7	Diurnal Average
		0.8	0.9	0.8	0.8	0.9	1.6	0.8	0.9	8.5	0.8	0.8	1.0	1.6	0.8	0.9	0.7	1.0	1.4	2.0	1.4	1.1	1.1	2.5	3.8	Diurnal Maximum
C - Calibration		A - Automated Daily Zero Span																								

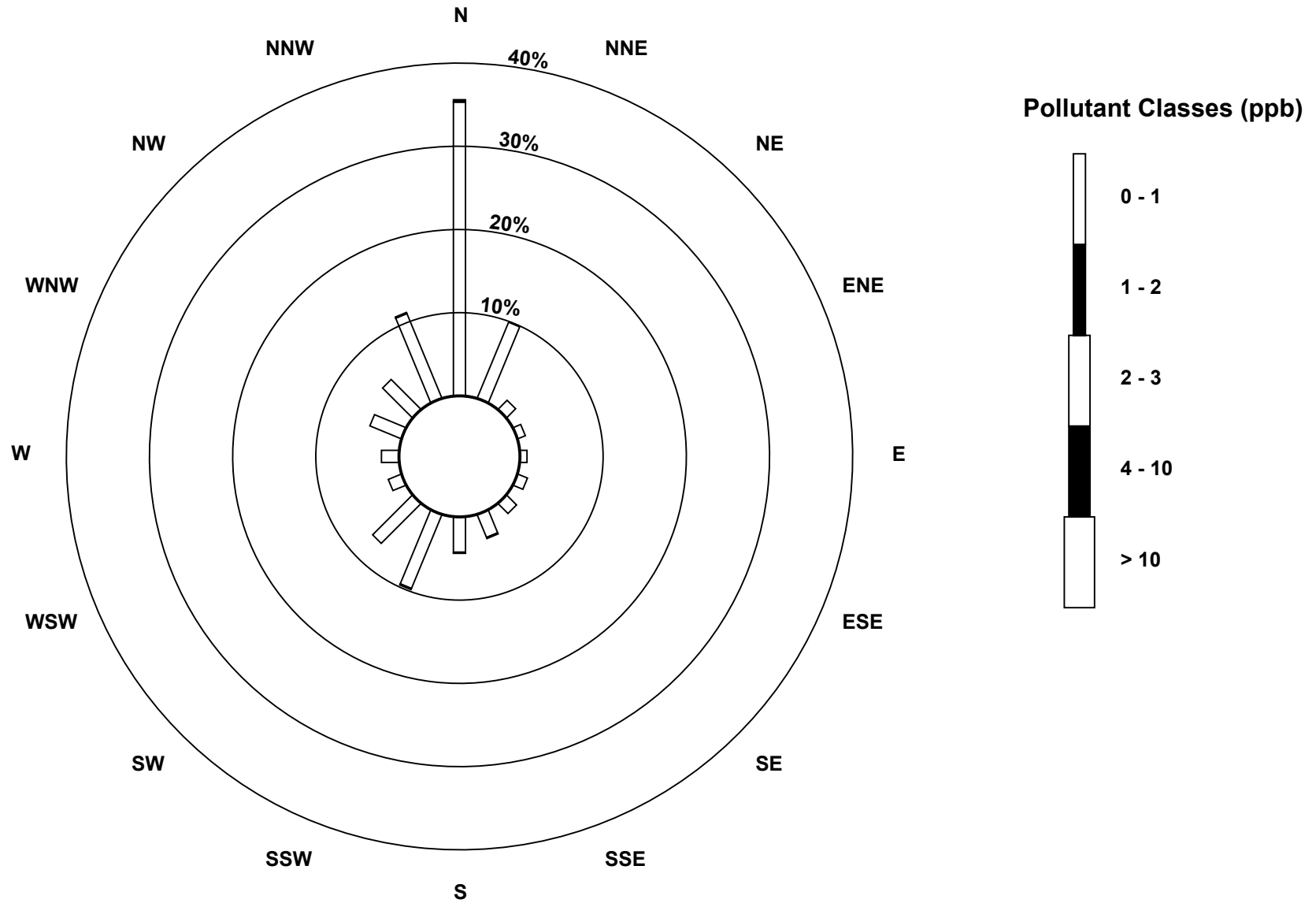
**Hourly Maximums**

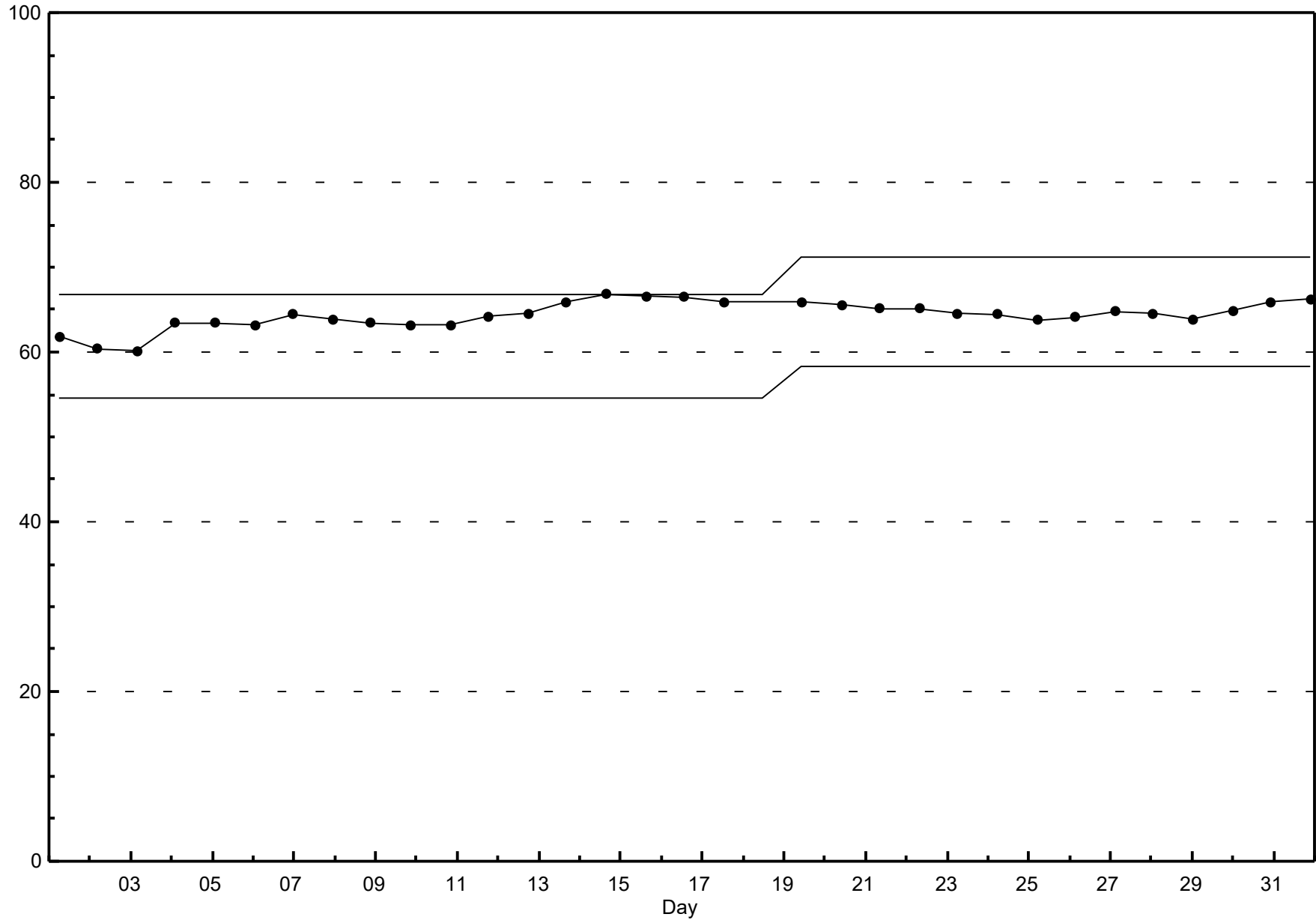
**Total Reduced Sulphur (TRS) - ppb**  
**Smoky Heights - October 2016**



**Pollutant Rose**

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





## Hourly Averages

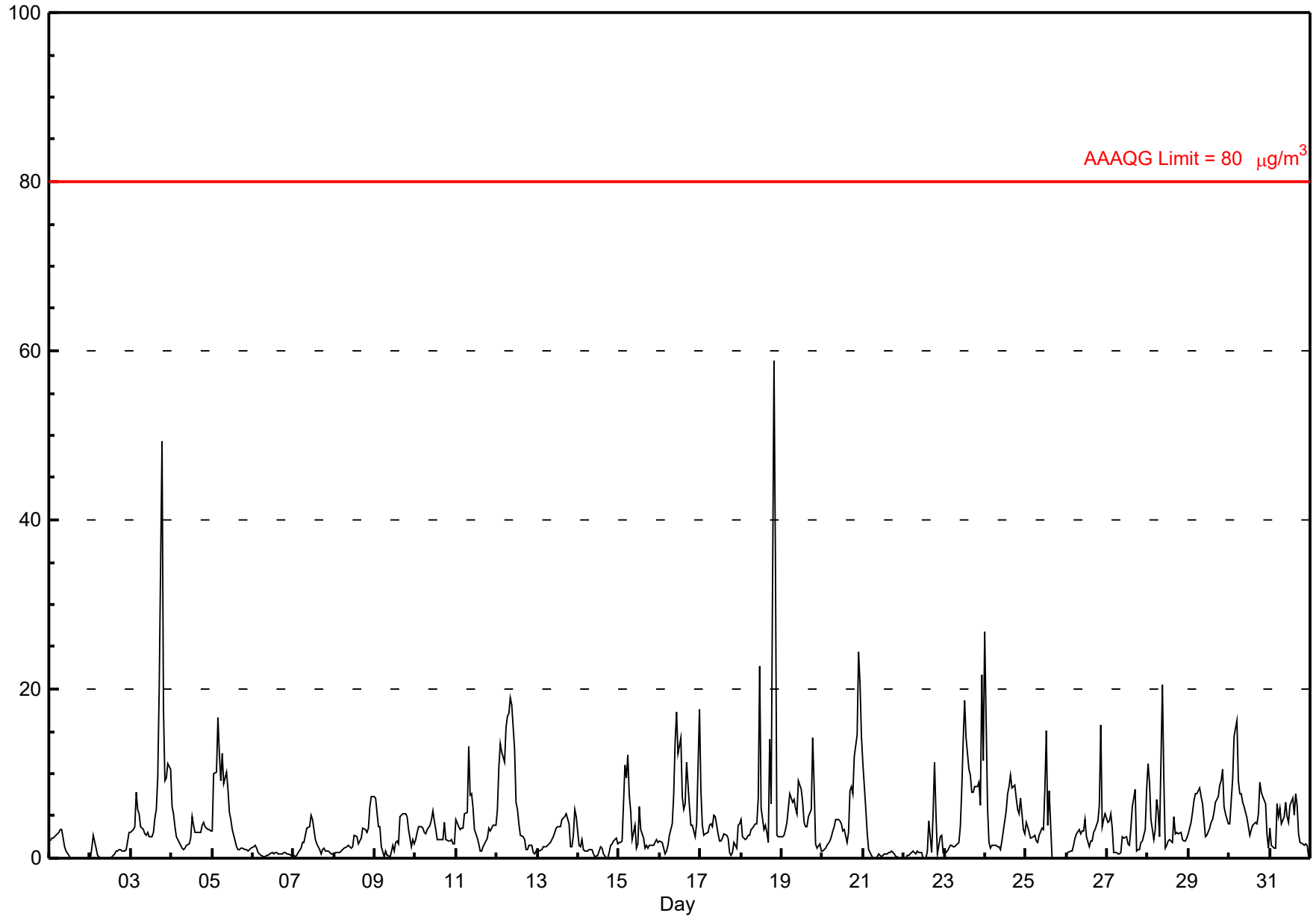
## Particulate Matter 2.5 (PM<sub>2.5</sub>) - µg/m<sup>3</sup>

### Smoky Heights - October 2016

Number of Exceedences: 1-hr: 0 24-hr: 0	Hours in Service: 744
Maximum Value: 58.8 µg/m <sup>3</sup> on Oct 18 20:00	Maximum Daily Average: 8.4 µg/m <sup>3</sup> on Oct 18
Minimum Value: 0 µg/m <sup>3</sup> on Oct 1 13:00	Hours of Data: 744
Minimum Daily Average: 0.6 µg/m <sup>3</sup> on Oct 6	Hours of Missing Data: 0
Maximum Diurnal Average: 5.7 µg/m <sup>3</sup> at hour 20	Hours of Calibration: 0
Monthly Average: 3.96 µg/m <sup>3</sup>	Percent Operational Time: 100.0
Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.5 Q <sub>1</sub> = 1.1 Median = 2.7 Q <sub>3</sub> = 4.9 P <sub>90</sub> = 8.6 P <sub>99</sub> = 20.6	

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-Oct	2	2	2	3	3	3	3	3	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1.1	3.4																						
2-Oct	0	1	3	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	2	3	0.7	3.1																					
3-Oct	3	3	4	8	6	5	4	3	3	3	3	3	3	3	5	6	10	20	49	18	9	9	11	11	8.3	49.3																						
4-Oct	6	5	4	3	2	1	1	1	1	2	2	2	5	4	3	3	3	3	4	4	4	3	3	3	3.1	6.1																						
5-Oct	3	10	10	17	12	9	12	9	10	8	5	5	3	2	1	1	1	1	1	1	1	1	1	1	5.3	16.7																						
6-Oct	1	1	1	1	0	0	0	0	0	0	0	1	1	1	1	1	0	0	1	1	1	0	0	0	0.6	1.5																						
7-Oct	0	0	0	1	1	2	2	3	4	4	5	5	3	2	2	1	1	1	1	1	1	1	1	0	1.7	5.1																						
8-Oct	1	1	1	1	1	1	1	1	2	1	1	1	3	2	2	2	4	3	3	4	6	7	7	7	2.4	7.4																						
9-Oct	7	5	4	4	1	0	1	0	0	0	1	1	2	2	2	5	5	5	5	5	3	1	2	2	2.7	7.2																						
10-Oct	2	3	4	4	4	3	3	3	4	5	6	4	3	2	2	2	2	4	2	2	2	2	2	2	3.0	5.6																						
11-Oct	4	4	3	4	4	5	5	13	7	8	6	3	2	2	1	1	1	2	2	4	3	4	4	4	4.0	13.3																						
12-Oct	6	11	14	13	11	15	17	17	19	18	13	7	6	4	3	2	2	1	1	1	2	1	1	1	7.7	19.0																						
13-Oct	1	1	1	1	1	1	2	2	2	3	3	4	4	4	5	5	5	5	4	1	1	3	6	5	2.9	5.8																						
14-Oct	1	1	2	1	1	1	1	1	1	0	0	0	1	1	1	1	0	0	1	1	2	2	2	2	1.1	2.4																						
15-Oct	2	2	2	11	10	12	7	6	2	4	1	2	6	3	2	1	1	1	1	2	2	2	2	2	3.6	12.2																						
16-Oct	2	2	1	0	1	1	3	4	7	14	17	12	14	7	6	6	11	6	4	4	3	3	4	18	6.3	17.7																						
17-Oct	8	4	3	3	3	4	4	4	5	5	3	2	2	2	3	3	2	1	0	1	2	1	4	4	3.0	7.9																						
18-Oct	5	2	2	2	3	3	3	4	4	4	7	23	6	3	4	3	2	14	6	59	35	3	3	3	8.4	58.8																						
19-Oct	3	3	3	4	6	8	7	7	6	5	9	8	7	4	4	4	5	6	14	8	2	1	2	1	5.2	14.2																						
20-Oct	1	1	1	1	2	2	3	4	5	5	4	4	3	3	2	3	8	8	8	12	15	24	21	14	6.5	24.5																						
21-Oct	11	6	3	1	1	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	1.2	11.2																						
22-Oct	0	0	0	0	1	1	1	1	1	1	1	0	0	0	1	4	1	5	11	5	0	2	3	1	1.6	11.4																						
23-Oct	1	1	1	2	2	1	1	2	2	4	8	14	19	14	10	10	8	8	8	9	9	6	22	12	7.1	21.6																						
24-Oct	27	6	2	1	2	2	2	1	1	1	2	4	6	8	9	10	8	9	7	6	5	7	3	3	5.5	26.8																						
25-Oct	4	4	3	2	3	3	2	2	3	4	3	8	15	4	8	0	0	0	0	0	0	0	0	0	2.8	15.1																						
26-Oct	0	1	1	1	2	2	3	3	3	3	3	5	3	1	2	2	3	3	4	6	16	4	5	5	3.4	15.8																						
27-Oct	4	4	5	4	1	1	1	1	1	3	2	3	2	2	4	6	8	1	1	1	2	2	3	8	2.8	8.2																						
28-Oct	11	9	4	2	3	7	6	3	20	9	1	2	2	2	2	5	3	3	3	3	2	2	2	2	4.6	20.5																						
29-Oct	3	4	5	7	8	8	8	7	6	5	3	3	3	4	5	5	7	7	9	9	11	6	5	4	5.9	10.5																						
30-Oct	4	7	9	14	16	9	8	8	7	6	5	4	3	3	4	4	4	5	9	8	7	6	3	1	6.4	16.3																						
31-Oct	4	2	1	1	6	5	6	4	5	7	5	4	6	7	5	8	6	3	2	2	2	2	1	0	3.9	7.6																						
																								4.1	3.4	3.3	3.8	3.7	3.8	3.8	3.8	4.3	4.2	3.9	4.3	4.3	3.2	3.1	3.4	3.6	4.2	5.3	5.7	4.7	3.4	4.0	3.8	Diurnal Average
																								26.8	10.7	13.5	16.7	16.3	15.5	16.7	17.2	20.5	18.2	17.3	22.7	18.6	14.2	10.5	9.8	11.4	19.8	49.3	58.8	34.9	24.5	21.6	17.7	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>



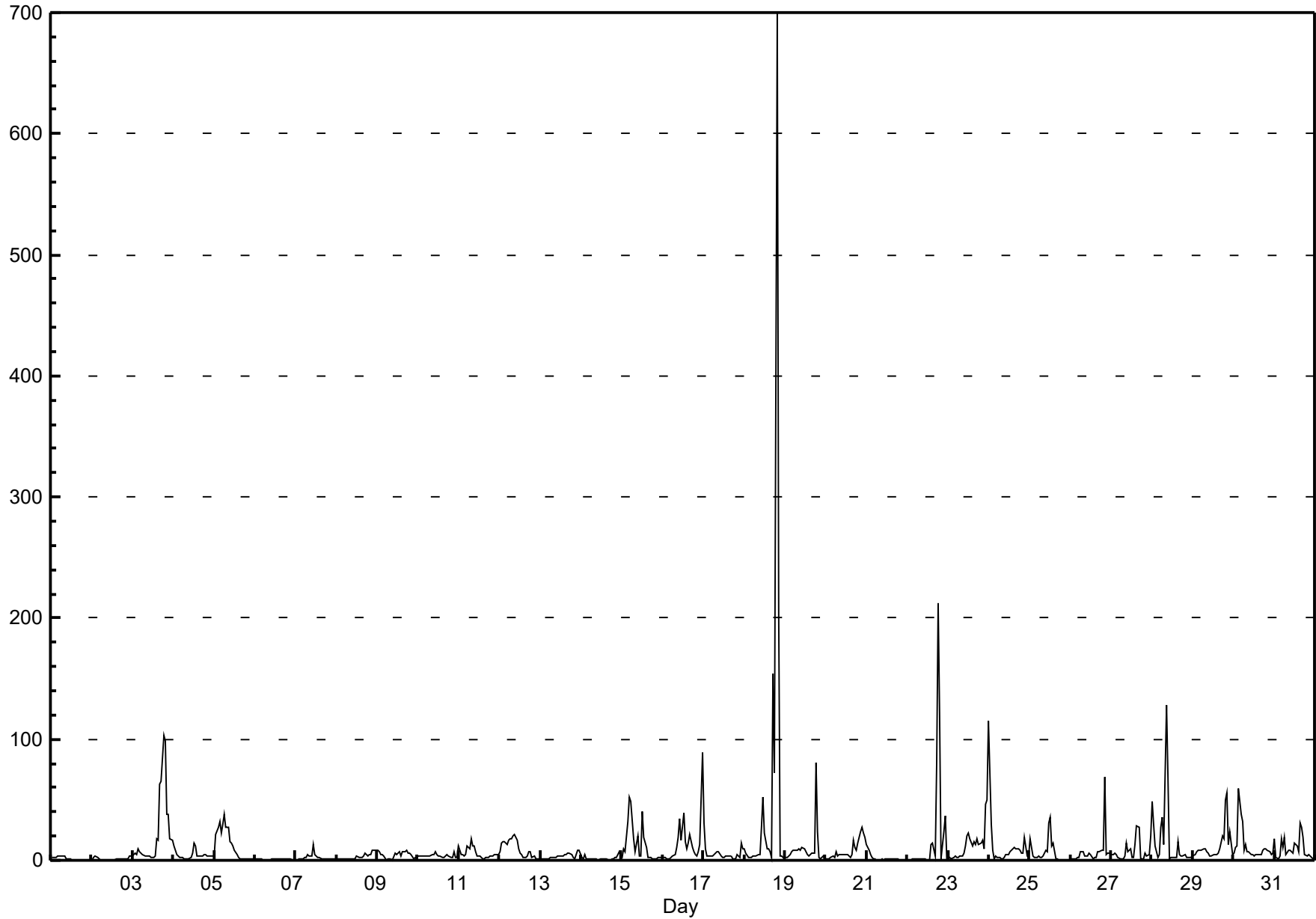
# Hourly Maximums

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

## Smoky Heights - October 2016

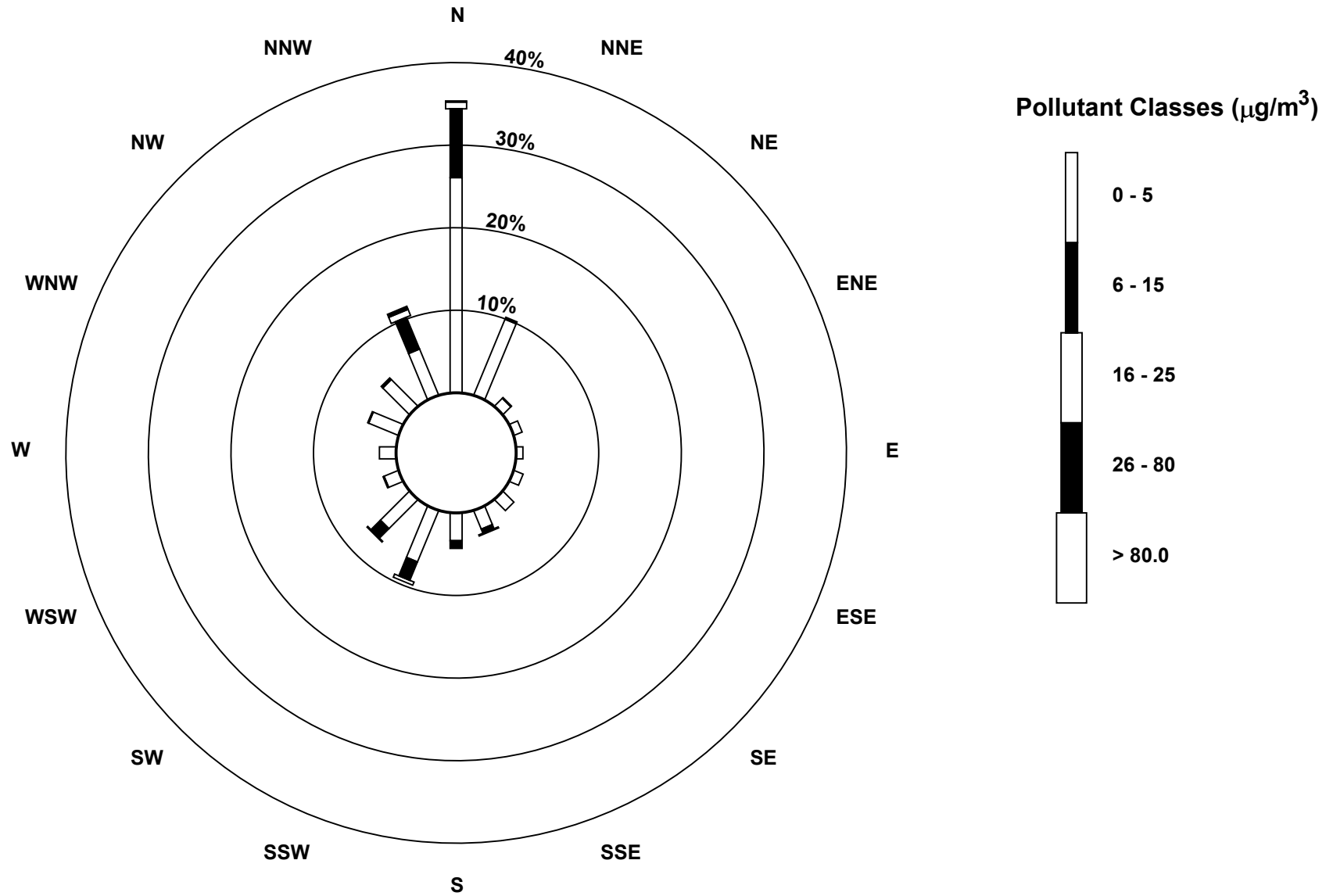
Maximum Value: 699.9 µg/m <sup>3</sup> on Oct 18 20:00 Minimum Value: 0 µg/m <sup>3</sup> on Oct 1 13:00 Maximum Diurnal Average: 35.3 µg/m <sup>3</sup> at hour 20 Monthly Average: 9.77 µg/m <sup>3</sup>		Maximum Daily Average: 54.8 µg/m <sup>3</sup> on Oct 18 Minimum Daily Average: 0.8 µg/m <sup>3</sup> on Oct 6 Minimum Diurnal Average: 5.1 µg/m <sup>3</sup> at hour 3 Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.7 Q <sub>1</sub> = 1.4 Median = 3.6 Q <sub>3</sub> = 8.3 P <sub>90</sub> = 19.5 P <sub>99</sub> = 107.8		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-Oct	2	3	3	3	3	3	4	4	4	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1.3	3.7
2-Oct	0	2	3	3	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	3	4	1.1	4.1	
3-Oct	3	6	5	10	7	6	4	4	4	3	3	3	3	4	18	17	63	66	104	98	38	38	18	16	22.5	103.8	
4-Oct	12	8	5	3	3	2	1	1	2	2	2	6	14	12	4	4	4	3	5	5	4	4	4	3	4.7	14.4	
5-Oct	3	22	27	31	23	30	38	27	28	15	14	12	8	4	2	1	1	1	1	1	1	1	1	1	12.3	37.8	
6-Oct	1	2	1	1	1	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0.8	1.7	
7-Oct	0	0	1	1	2	2	2	5	4	4	13	5	4	3	2	1	1	1	1	1	1	1	1	1	2.4	12.9	
8-Oct	1	1	1	1	1	1	1	1	2	2	1	2	4	3	2	3	3	6	4	4	5	8	8	8	3.1	8.3	
9-Oct	8	7	4	4	3	0	1	1	1	0	6	5	6	7	4	7	7	9	6	6	5	2	3	2	4.4	8.5	
10-Oct	3	3	4	4	4	4	3	4	4	5	7	5	4	3	2	3	3	5	3	2	3	7	2	2	3.8	7.1	
11-Oct	12	4	4	4	5	12	9	18	12	12	7	4	3	2	1	1	2	2	3	4	4	5	4	5	5.9	18.3	
12-Oct	7	14	15	15	13	16	18	18	21	22	17	9	6	5	3	3	3	7	7	2	3	1	1	1	9.5	21.9	
13-Oct	1	1	1	1	1	2	2	2	2	3	3	4	4	4	5	5	6	6	5	2	2	5	9	9	3.6	8.8	
14-Oct	2	1	5	1	1	1	1	1	1	1	0	1	1	1	1	1	0	0	1	2	2	3	7	4	1.7	6.6	
15-Oct	2	9	7	32	52	49	34	17	7	20	3	3	40	20	11	3	3	2	2	2	2	2	2	2	13.6	51.8	
16-Oct	2	2	2	1	1	2	3	5	11	19	34	17	40	16	10	14	22	10	7	4	4	7	13	89	14.0	89.1	
17-Oct	31	10	3	4	3	4	5	6	7	8	4	3	2	3	3	3	3	1	1	1	5	2	14	9	5.7	30.5	
18-Oct	9	6	3	3	3	3	4	4	5	5	27	52	23	9	9	7	3	154	72	700	203	4	3	3	54.8	699.9	
19-Oct	3	3	4	4	8	9	8	8	8	10	9	8	5	4	5	6	6	80	24	3	1	4	1	1	9.5	80.1	
20-Oct	1	1	1	2	3	3	7	4	5	5	5	5	4	4	3	5	17	11	9	14	24	28	22	19	8.4	27.6	
21-Oct	13	8	5	2	1	1	0	0	0	1	0	1	1	1	1	1	1	1	1	0	0	0	0	0	1.7	13.2	
22-Oct	0	0	0	1	1	1	1	1	1	1	1	0	0	0	13	14	4	82	213	122	1	23	37	1	21.6	212.7	
23-Oct	1	2	1	2	4	2	3	3	3	6	12	21	22	18	12	15	13	18	13	14	17	9	46	50	12.9	50.3	
24-Oct	115	30	8	2	3	2	2	2	2	2	4	5	7	8	10	10	9	10	8	6	6	19	4	3	11.5	114.5	
25-Oct	17	10	3	3	3	3	2	2	4	9	7	31	35	12	14	1	1	0	0	0	0	0	0	0	6.6	35.4	
26-Oct	1	1	1	1	2	3	7	7	3	3	4	6	4	2	2	2	7	8	9	9	68	5	6	6	7.0	68.4	
27-Oct	5	5	6	5	2	1	1	1	4	14	7	9	2	2	13	28	27	1	1	1	6	3	5	20	7.2	28.3	
28-Oct	48	30	12	3	5	27	35	13	128	68	1	2	3	3	2	15	5	3	3	5	2	2	2	3	17.5	128.4	
29-Oct	4	5	7	8	9	8	9	10	8	6	3	3	4	5	5	6	9	20	18	50	55	13	23	5	12.2	55.4	
30-Oct	5	10	12	59	38	32	9	13	8	7	5	5	3	5	5	5	5	9	10	9	8	8	5	6	11.7	58.9	
31-Oct	18	2	1	3	18	10	20	5	8	8	7	5	14	12	7	31	28	20	5	3	5	4	3	1	9.9	31.2	
	10.8	6.8	5.1	7.0	7.1	7.8	7.6	6.1	9.6	8.4	6.8	7.5	8.8	5.7	5.5	6.9	8.3	15.0	19.2	35.3	15.5	6.7	8.1	8.9	Diurnal Average		
	114.5	29.8	26.8	58.9	51.8	49.1	37.8	26.8	128.4	67.6	34.4	52.5	40.3	19.5	18.3	31.2	62.5	154.1	212.7	699.9	203.2	38.1	46.4	89.1	Diurnal Maximum		





**Pollutant Rose**

**Particulate Matter 2.5 (PM<sub>2.5</sub>) -  $\mu\text{g}/\text{m}^3$**   
**Smoky Heights - October 2016**

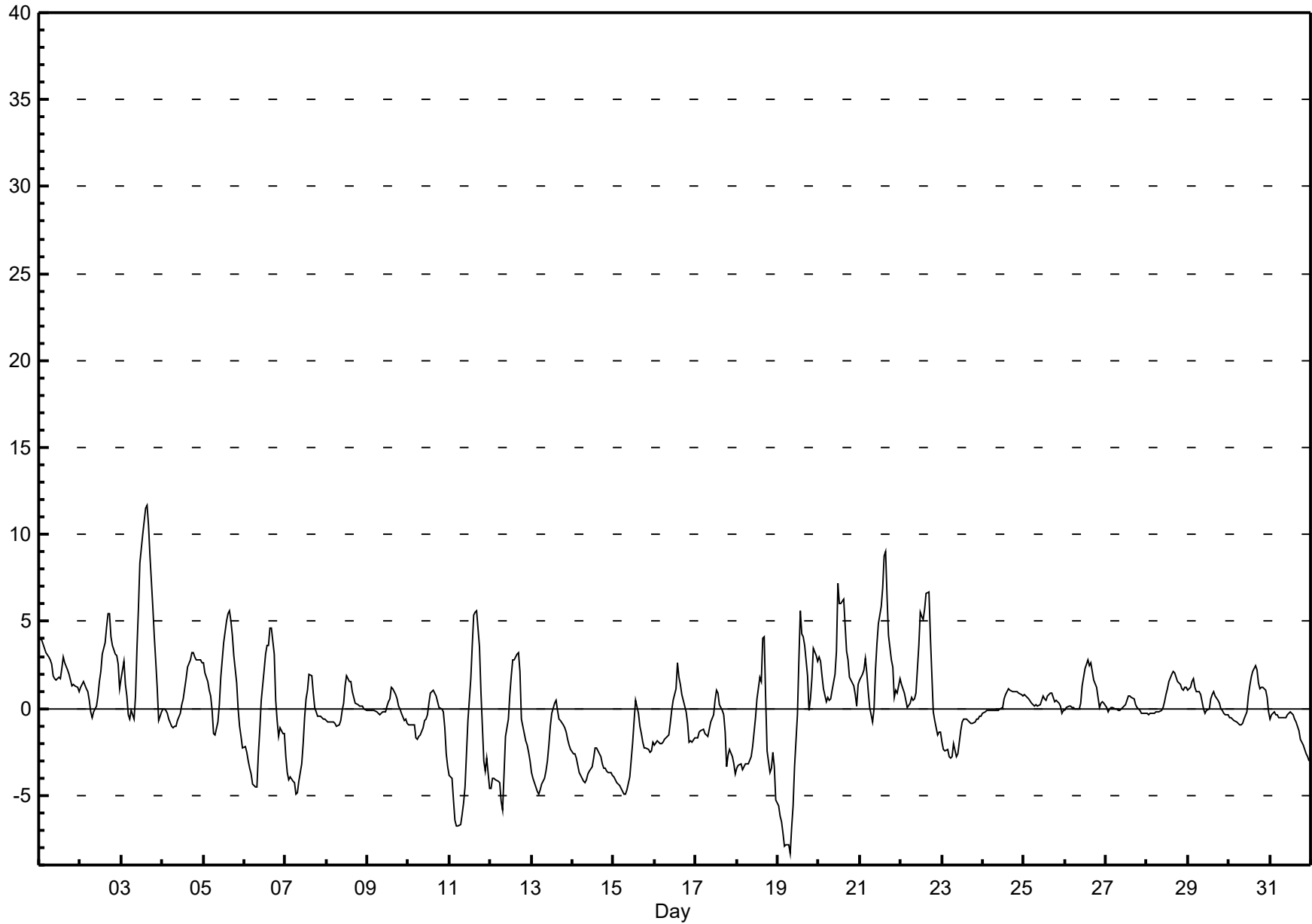


# Hourly Averages

External Temperature (ET) - °C

Smoky Heights - October 2016

Maximum Value: 11.7 °C on Oct 3 16:00 Minimum Value: -8 °C on Oct 19 08:00 Maximum Diurnal Average: 2.6 °C at hour 16 Monthly Average: -0.03 °C		Maximum Daily Average: 4.1 °C on Oct 3 Minimum Daily Average: -3.3 °C on Oct 14 Minimum Diurnal Average: -1.8 °C at hour 8 Percentiles: P <sub>1</sub> = -6.8 P <sub>10</sub> = -3.6 Q <sub>1</sub> = -1.4 Median = -0.1 Q <sub>3</sub> = 1.2 P <sub>90</sub> = 3.1 P <sub>99</sub> = 8.6		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-Oct	4	4	4	3	3	3	3	3	2	2	2	2	2	3	3	2	2	2	1	1	1	1	1	2.3	3.9	
2-Oct	1	1	2	1	1	0	0	-1	0	0	1	2	2	3	4	5	5	5	4	4	3	3	3	2.1	5.5	
3-Oct	2	3	1	1	0	-1	0	-1	1	3	6	8	10	11	12	12	11	9	6	4	3	1	-1	4.1	11.7	
4-Oct	0	0	0	0	-1	-1	-1	-1	-1	-1	0	0	1	1	2	2	3	3	3	3	3	3	3	1.0	3.2	
5-Oct	3	2	2	1	1	0	-1	-2	-1	0	2	3	4	5	5	6	5	4	3	1	0	-1	-2	1.6	5.6	
6-Oct	-2	-3	-3	-3	-4	-4	-4	-5	-3	-1	0	2	3	4	4	5	5	3	0	-1	-2	-1	-1	-0.5	4.6	
7-Oct	-3	-4	-4	-4	-4	-4	-5	-5	-4	-3	-2	-1	1	1	2	2	1	0	0	0	-1	-1	-1	-1.6	2.0	
8-Oct	-1	-1	-1	-1	-1	-1	-1	-1	-1	0	0	1	2	2	2	1	1	0	0	0	0	0	0	0.1	1.9	
9-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0	-1	-1	-1	0.0	1.3	
10-Oct	-1	-1	-1	-1	-2	-2	-2	-1	-1	-1	-1	0	0	1	1	1	1	0	0	0	0	-1	-3	-0.7	1.1	
11-Oct	-4	-4	-5	-6	-7	-7	-7	-6	-5	-4	-3	-1	2	4	5	6	6	4	1	-1	-3	-4	-3	-2.0	5.6	
12-Oct	-5	-4	-4	-4	-4	-4	-5	-6	-4	-2	-1	1	2	3	3	3	3	2	-1	-1	-2	-2	-3	-1.5	3.2	
13-Oct	-4	-4	-4	-5	-5	-5	-4	-4	-4	-3	-2	-1	0	0	0	0	-1	-1	-1	-1	-1	-2	-2	-2.3	0.5	
14-Oct	-3	-3	-3	-3	-4	-4	-4	-4	-4	-4	-4	-3	-3	-2	-2	-2	-3	-3	-3	-3	-4	-4	-4	-3.3	-2.3	
15-Oct	-4	-4	-4	-4	-5	-5	-5	-5	-5	-4	-3	-2	-1	0	0	-1	-1	-2	-2	-2	-2	-3	-2	-2.8	0.4	
16-Oct	-2	-2	-2	-2	-2	-2	-2	-2	-1	-1	0	1	1	3	2	1	1	0	0	-1	-2	-2	-2	-0.7	2.6	
17-Oct	-2	-2	-1	-1	-1	-1	-1	-2	-1	-1	0	1	1	1	0	0	0	-1	-3	-3	-2	-3	-3	-1.3	1.1	
18-Oct	-3	-3	-3	-3	-3	-3	-3	-3	-3	-2	-1	-1	1	2	2	4	4	1	-2	-4	-3	-3	-3	-1.7	4.1	
19-Oct	-6	-6	-7	-7	-8	-8	-8	-8	-7	-6	-3	0	3	6	4	4	4	2	0	1	2	3	3	-1.7	5.6	
20-Oct	3	3	2	1	0	1	0	1	1	2	3	7	6	6	6	5	3	3	2	2	1	1	0	2.5	7.2	
21-Oct	2	2	2	3	2	1	0	-1	0	2	4	5	6	7	9	9	6	4	3	2	1	1	1	3.0	9.0	
22-Oct	1	1	1	0	0	0	1	0	1	1	4	6	5	5	6	7	7	4	2	0	-1	-2	-1	1.9	6.7	
23-Oct	-2	-2	-2	-2	-3	-3	-3	-2	-3	-3	-2	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0	-1.5	-0.4	
24-Oct	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	0.4	1.1	
25-Oct	1	1	1	1	0	0	0	0	0	0	0	1	1	0	1	1	1	1	0	0	0	0	0	0.4	0.9	
26-Oct	0	0	0	0	0	0	0	0	0	0	1	2	2	3	2	3	2	2	1	1	0	0	0	0.8	2.8	
27-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0.1	0.8	
28-Oct	0	0	0	0	0	0	0	0	0	0	0	1	1	2	2	2	2	2	1	1	1	1	1	0.7	2.2	
29-Oct	1	1	2	2	1	1	1	1	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0.5	1.8	
30-Oct	0	-1	-1	-1	-1	-1	-1	-1	-1	-1	0	1	1	2	2	2	2	1	1	1	1	1	1	0.4	2.4	
31-Oct	-1	0	0	0	0	-1	-1	0	0	-1	0	0	0	0	-1	-1	-1	-1	-2	-2	-2	-3	-3	-1.0	-0.2	
	-0.8	-0.8	-1.0	-1.2	-1.5	-1.6	-1.8	-1.8	-1.4	-0.8	0.0	1.0	1.7	2.3	2.5	2.6	2.3	1.5	0.5	0.1	-0.3	-0.4	-0.7	-0.9	Diurnal Average	
	3.9	3.9	3.7	3.4	3.2	3.0	2.8	2.5	1.9	3.5	5.7	8.4	10.0	10.8	11.5	11.7	10.5	8.7	5.8	4.1	3.1	3.4	3.0	2.7	Diurnal Maximum	



# Hourly Averages

Wind Speed (km/h)  
Wind Direction (deg)  
Smoky Heights - October 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	20	18	19	18	17	17	16	16	16	17	17	13	14	15	12	12	12	9	11	9	7	4	7	10	11.6	19.6
Dir	20	18	22	18	13	13	6	3	1	1	360	351	356	360	352	325	327	321	317	293	264	299	269	256	353.6	19.9
2 Spd	10	9	11	10	12	11	13	10	11	11	12	13	11	10	11	8	7	8	6	4	5	4	5	4	7.6	13.3
Dir	250	262	249	235	256	231	217	208	227	213	208	207	191	178	168	160	151	166	159	156	178	207	240	222	209.9	207.4
3 Spd	6	6	6	7	6	7	7	7	8	8	4	3	4	4	1	7	9	10	10	11	7	12	16	16	1.2	16.5
Dir	215	200	194	215	189	191	207	199	177	155	143	121	116	144	152	1	344	349	352	5	346	343	355	356	327.4	355.3
4 Spd	18	17	16	17	19	19	19	15	14	13	12	10	12	14	14	13	12	11	14	14	15	12	12	14	14.3	19.5
Dir	359	357	357	6	4	4	6	9	3	360	3	0	3	5	4	2	3	9	22	19	13	17	16	23	6.5	4.2
5 Spd	11	9	10	10	9	10	8	7	10	12	13	13	12	12	13	13	13	13	13	11	7	7	7	7	10.2	13.3
Dir	20	359	360	358	357	2	355	348	358	359	359	358	360	5	9	15	15	24	31	25	11	9	357	357	6.4	14.8
6 Spd	8	7	7	7	8	9	8	8	10	10	9	11	14	14	14	16	14	10	8	8	10	12	11	10	9.8	15.7
Dir	347	340	341	340	346	348	350	352	355	358	358	7	10	9	11	10	19	8	344	344	354	11	16	30	1.5	10.4
7 Spd	9	7	9	10	8	10	10	12	17	17	18	19	22	22	21	18	14	10	10	11	10	8	8	7	12.6	22.3
Dir	358	354	354	7	17	14	7	3	3	4	7	17	20	23	29	41	41	23	19	16	12	11	7	25	15.6	20.5
8 Spd	9	9	9	9	7	7	7	6	6	6	4	2	4	5	6	8	8	7	7	7	7	7	8	8	6.3	9.4
Dir	28	26	27	28	21	9	5	5	8	6	358	339	352	350	5	359	350	335	342	339	343	340	328	319	359.0	28.1
9 Spd	9	8	8	8	7	7	8	8	10	13	10	10	9	10	13	14	14	13	12	13	11	4	5	4	9.2	13.7
Dir	320	322	323	309	305	305	296	306	304	291	283	293	280	282	283	290	286	284	278	273	292	331	318	308	294.5	285.6
10 Spd	4	6	6	5	7	6	7	5	6	6	5	4	3	3	2	5	5	4	6	8	8	7	1	1	0.9	8.1
Dir	315	329	342	341	325	307	314	323	322	324	1	18	8	78	149	139	163	161	145	145	137	139	184	64	354.9	136.6
11 Spd	2	3	6	6	7	8	8	10	10	8	7	8	9	10	14	16	14	9	5	4	2	4	5	7	7.2	16.4
Dir	146	223	239	185	187	195	205	214	217	201	189	194	198	186	208	212	229	213	242	284	282	212	205	202	208.9	212.3
12 Spd	11	12	4	7	5	7	5	4	1	3	6	8	8	10	10	9	10	11	7	7	9	9	7	6	3.2	12.1
Dir	224	226	228	205	203	202	196	194	160	7	356	1	7	358	4	6	11	359	355	341	352	16	5	344	338.9	226.0
13 Spd	10	11	9	10	10	11	14	15	16	15	15	15	14	13	14	11	11	9	11	11	10	10	11	12	11.9	16.1
Dir	349	349	356	350	349	355	4	0	1	0	1	3	359	358	14	19	11	5	357	351	350	338	338	345	357.4	0.9
14 Spd	15	8	14	16	15	15	16	16	16	16	18	16	16	16	17	16	15	13	11	10	12	11	10	11	14.1	18.3
Dir	0	357	348	360	1	359	351	360	2	355	357	353	359	2	4	4	3	3	359	358	360	1	5	358.9	357.3	357.3
15 Spd	10	10	9	8	7	6	7	8	8	8	6	5	4	3	5	6	6	7	9	12	13	12	9	9	7.7	13.1
Dir	6	0	356	347	351	347	334	344	352	355	347	346	347	356	340	335	358	356	1	359	8	8	13	18	356.7	8.5
16 Spd	9	12	15	14	12	10	9	7	6	7	6	6	5	5	7	6	4	4	6	7	7	6	2	4	6.7	14.9
Dir	10	17	14	21	18	8	9	28	9	350	344	342	329	348	348	338	347	346	322	305	290	315	329	344	355.5	14.4
17 Spd	3	2	4	6	9	8	8	4	2	6	5	4	1	1	9	8	6	7	9	10	0	1	1	1	4.2	10.1
Dir	352	265	301	287	277	288	310	306	349	350	319	12	63	326	291	297	329	307	277	271	15	125	325	260	301.7	270.6
18 Spd	1	4	4	4	5	1	2	2	3	5	5	5	5	3	4	1	1	2	5	4	4	4	5	10	2.6	9.9
Dir	7	1	353	356	356	48	333	28	352	13	359	348	357	345	348	5	73	353	334	341	330	287	238	239	338.9	238.6
19 Spd	10	10	10	9	11	9	9	10	10	8	9	9	7	2	7	3	3	5	4	5	4	8	0	5	4.5	11.3
Dir	234	224	223	207	225	207	201	184	168	162	156	153	159	122	110	119	274	293	349	343	111	135	283	225	191.0	225.2
20 Spd	6	7	8	7	3	3	2	4	8	9	5	0	1	4	5	6	8	5	4	6	8	11	7	9	5.0	11.1
Dir	206	188	201	173	148	144	56	199	234	237	220	269	101	155	192	229	233	255	207	190	212	216	206	212	207.8	216.1
21 Spd	11	13	15	16	15	11	11	14	15	10	12	10	11	8	4	4	7	2	0	3	3	4	3	4	7.8	16.1
Dir	211	218	221	218	220	212	204	221	224	229	207	216	225	208	206	206	167	263	348	333	335	318	291	253	220.5	218.2
22 Spd	2	1	4	5	3	4	4	3	2	4	13	15	20	15	6	8	4	2	2	2	3	2	2	4	3.3	20.2
Dir	226	110	100	215	190	181	123	141	197	193	197	205	229	234	286	350	19	64	347	283	264	250	211	223	219.3	228.6

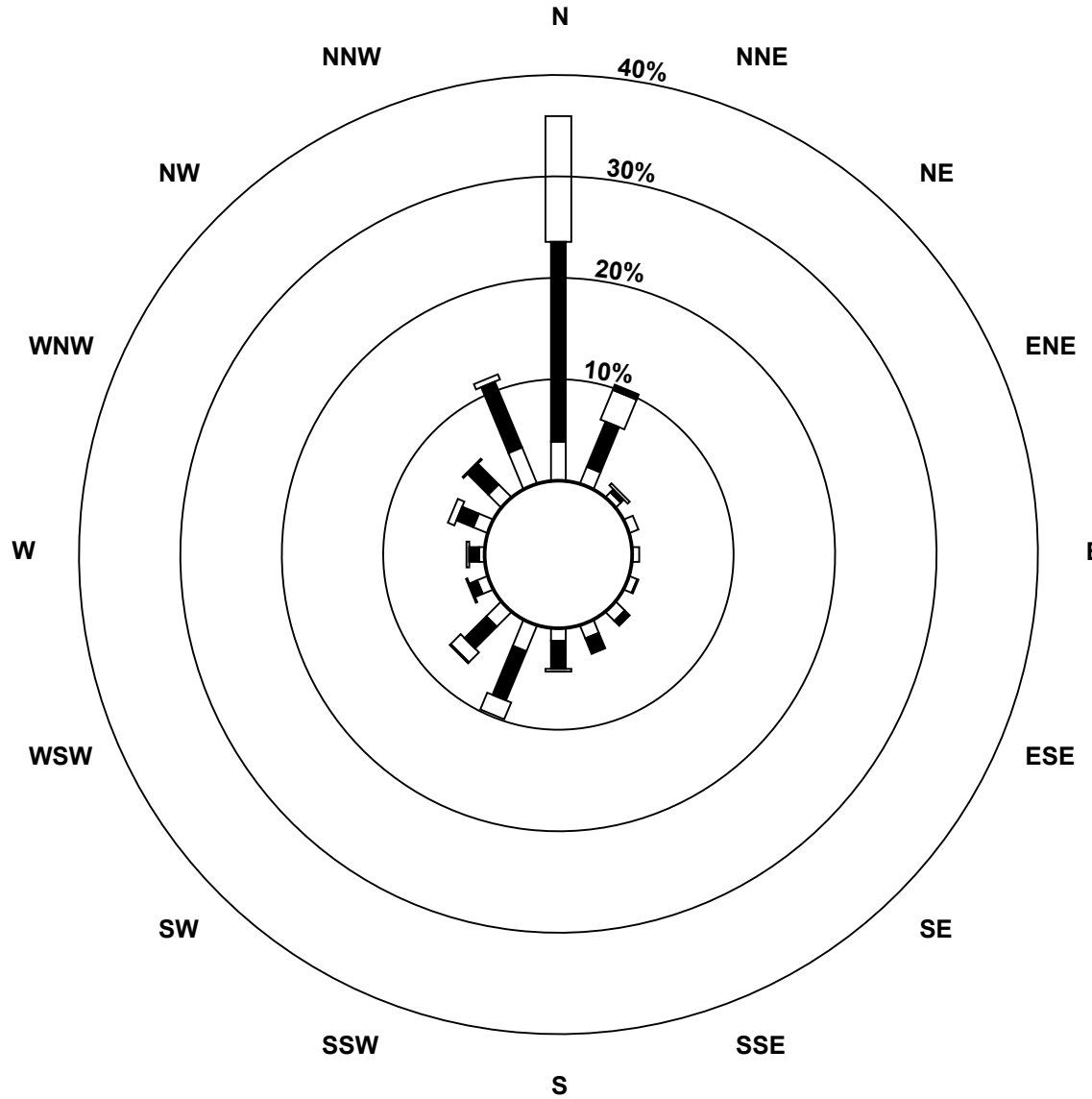
## Hourly Averages

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

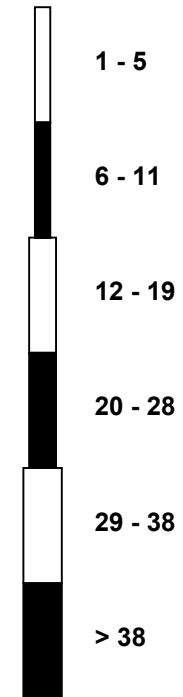
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
23 Spd	3	3	1	3	3	6	6	12	17	15	14	15	15	18	18	17	15	13	11	9	8	7	7	6	9.2	18.3
Dir	201	190	214	219	332	0	348	355	357	360	3	1	358	353	354	357	356	352	349	351	326	336	334	352.8	354.3	
24 Spd	7	7	6	8	5	5	6	6	7	7	6	6	8	9	10	9	10	8	7	7	6	8	8	7.1	10.4	
Dir	348	357	360	11	8	4	0	1	358	3	5	14	15	4	4	1	6	4	360	6	6	5	16	1	4.0	1.1
25 Spd	6	9	9	11	10	10	10	10	11	12	11	9	8	7	4	4	5	3	4	5	5	6	6	4	5.5	11.8
Dir	358	9	13	4	4	6	7	358	359	2	2	351	344	333	340	315	317	312	258	286	198	230	230	219	346.0	2.0
26 Spd	6	5	5	6	4	4	4	0	2	3	1	4	4	1	2	3	3	4	5	6	5	7	8	9	0.7	9.1
Dir	210	204	186	197	226	214	229	40	143	149	170	146	166	92	57	33	21	52	39	44	358	22	22	21	77.3	21.3
27 Spd	11	8	8	12	14	13	14	12	11	11	13	12	10	11	9	11	11	13	12	10	7	7	8	8	10.3	14.0
Dir	46	44	23	2	5	14	6	2	359	0	359	359	1	360	349	354	353	2	4	5	347	339	345	347	2.8	4.6
28 Spd	8	9	10	7	7	6	6	4	5	6	5	5	3	4	1	1	1	2	2	3	1	2	1	3	3.7	9.6
Dir	350	349	360	11	3	355	355	359	357	356	9	14	46	23	26	341	62	20	12	14	97	85	156	183	5.8	359.9
29 Spd	4	5	8	12	10	8	9	13	15	13	13	13	9	6	2	3	5	6	8	8	7	9	9	8	3.2	14.9
Dir	183	189	191	211	215	208	185	194	196	191	204	206	191	200	252	91	11	8	7	10	5	19	2	16	204.8	196.3
30 Spd	10	10	9	6	7	5	3	1	4	8	9	11	10	9	12	11	12	11	7	6	5	6	8	5	3.3	11.9
Dir	8	9	6	351	345	2	6	219	205	196	195	205	192	175	183	180	194	174	177	183	200	198	211	283	199.1	193.8
31 Spd	5	5	7	3	4	4	2	1	4	5	1	3	5	7	8	8	9	9	11	10	11	11	10	11	5.0	11.3
Dir	324	220	289	293	338	338	340	309	201	230	86	39	3	347	356	336	356	1	9	12	358	357	2	14	349.1	14.1
Spd	4.0	3.5	4.0	3.6	4.2	3.8	3.8	3.4	3.8	4.2	3.7	3.5	3.5	4.1	4.7	4.9	4.8	4.8	5.1	4.9	4.2	3.8	4.2	3.9	Diurnal Average	
Dir	344.3	337.4	340.1	336.9	335.8	341.7	340.0	339.1	336.4	340.9	343.5	345.6	346.5	353.9	353.3	352.7	352.3	350.0	350.6	346.5	346.5	350.1	343.8	340.3		
Spd	19.6	17.8	19.4	18.2	19.2	19.5	18.9	15.8	16.7	17.4	18.3	19.1	22.3	21.8	20.5	18.1	15.5	13.2	13.7	14.3	15.1	12.4	16.5	16.0	Diurnal Maximum	
Dir	19.9	18.1	22.0	17.8	3.9	4.2	6.4	359.6	2.7	1.1	357.3	16.8	20.5	22.6	28.7	41.3	359.2	284.5	21.7	18.7	12.8	8.4	355.3	355.8		
Maximum Speed Value: 22 km/h on Oct 7 13:00																		Minimum Speed Value: 0 km/h on Oct 19 23:00						Hours in Service:		744
Maximum Daily Speed Average: 14.3 km/h on Oct 4																		Minimum Daily Speed Average: 0.7 km/h on Oct 18						Hours of Data:		744
Maximum Diurnal Speed Average: 5.1 km/h at hour 19																		Minimum Diurnal Speed Average: 3.4 km/h at hour 8						Hours of Missing Data:		0
Monthly Average Velocity: 4.08 km/h 344.95 deg																		Speed Percentiles: P <sub>1</sub> = 0.8 P <sub>10</sub> = 3.1 Q <sub>1</sub> = 5.1 Median = 8.0 Q <sub>3</sub> = 11.0 P <sub>90</sub> = 14.3 P <sub>99</sub> = 19.3						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	49	205	124	6	0	0	384																			
NorthEast	15	14	5	2	0	0	36																			
East	11	1	0	0	0	0	12																			
SouthEast	21	9	0	0	0	0	30																			
South	19	50	7	0	0	0	76																			
SouthWest	23	44	27	1	0	0	95																			
West	17	20	9	0	0	0	46																			
NorthWest	22	41	2	0	0	0	65																			
Total	177	384	174	9	0	0	744																			

**Wind Rose**

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



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



# Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Smoky Heights - October 2016

Maximum Speed: 22 km/h on Oct 7 13:00	Maximum Daily Speed Average: 14.5 km/h on Oct 4	Hours in Service: 744
Minimum Speed: 1 km/h on Oct 21 19:00	Minimum Daily Speed Average: 3.8 km/h on Oct 18	Hours of Data: 744
Maximum Diurnal Speed Average: 9.5 km/h at hour 10	Minimum Diurnal Speed Average: 7.0 km/h at hour 23	Hours of Missing Data: 0
Monthly Average Speed: 8.52 km/h	Percentiles: P <sub>1</sub> = 1.5 P <sub>10</sub> = 3.5 Q <sub>1</sub> = 5.3 Median = 8.1 Q <sub>3</sub> = 11.1 P <sub>90</sub> = 14.4 P <sub>99</sub> = 19.4	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-Oct	20	18	19	18	18	17	16	16	16	17	17	13	14	15	12	12	12	9	11	10	7	4	7	10	13.7	19.7
2-Oct	10	9	11	10	12	11	13	10	11	11	13	14	11	10	11	8	8	8	6	5	5	5	5	4	9.2	13.5
3-Oct	6	7	7	7	6	7	7	8	8	8	5	4	5	5	6	8	9	10	10	11	8	12	17	16	8.1	16.6
4-Oct	18	17	16	17	19	20	19	15	14	13	12	11	13	14	14	13	12	11	14	14	15	12	12	14	14.5	19.5
5-Oct	11	9	10	10	9	10	8	8	10	12	13	13	12	12	13	13	13	13	13	11	7	7	7	7	10.5	13.5
6-Oct	8	7	7	7	8	9	8	8	10	10	9	11	15	15	15	16	14	11	8	8	10	12	11	10	10.2	16.0
7-Oct	9	7	9	10	8	10	10	12	17	17	18	19	22	22	21	18	14	10	10	11	10	9	9	7	13.0	22.4
8-Oct	9	9	9	9	7	7	7	6	6	6	4	2	4	5	7	9	8	8	7	7	7	7	8	8	6.8	9.4
9-Oct	9	8	8	8	7	7	8	9	10	13	11	10	10	10	13	14	14	13	13	13	12	4	5	4	9.7	13.8
10-Oct	4	6	6	6	7	6	7	5	6	6	5	4	3	3	3	5	5	4	6	8	8	7	2	2	5.1	8.2
11-Oct	2	4	6	6	7	8	8	10	10	8	7	9	10	10	14	17	14	9	6	5	3	4	5	7	7.9	16.7
12-Oct	12	12	4	7	5	7	6	4	3	4	6	8	8	10	10	9	10	11	7	7	9	9	7	6	7.6	12.2
13-Oct	10	11	10	10	10	11	14	15	16	15	15	15	14	14	14	11	11	9	11	11	10	10	11	12	12.2	16.2
14-Oct	15	8	14	16	15	15	16	16	16	16	18	17	16	16	17	16	15	13	11	10	12	11	11	11	14.2	18.4
15-Oct	10	10	9	8	7	6	7	8	8	9	6	5	4	3	5	6	6	7	9	12	13	12	9	9	8.0	13.2
16-Oct	9	12	15	14	12	10	9	7	6	7	6	6	5	6	7	7	4	5	6	7	8	6	4	4	7.6	15.1
17-Oct	3	3	4	6	9	9	8	5	3	6	5	4	2	4	10	8	6	8	9	10	2	2	2	2	5.4	10.2
18-Oct	1	4	4	4	5	1	2	2	3	5	5	5	5	3	4	2	1	2	5	4	4	4	5	10	3.8	10.1
19-Oct	10	10	11	9	11	9	9	10	11	8	9	9	7	2	7	4	3	5	4	5	5	8	1	5	7.2	11.4
20-Oct	6	7	8	7	3	4	5	5	8	9	5	1	2	4	5	7	8	6	5	6	8	11	7	9	6.2	11.1
21-Oct	12	13	15	16	15	11	11	14	15	11	12	10	11	8	4	4	7	3	1	3	3	5	4	5	8.9	16.1
22-Oct	2	5	4	6	4	5	4	3	3	5	13	15	20	15	7	8	5	3	3	3	4	3	3	5	6.2	20.3
23-Oct	4	4	2	3	4	7	6	12	17	15	14	15	15	18	18	17	16	13	11	9	8	7	7	6	10.3	18.4
24-Oct	7	7	6	8	5	5	6	6	7	7	6	6	6	8	9	10	9	10	8	7	7	6	8	8	7.2	10.4
25-Oct	6	9	9	11	10	10	10	10	11	12	11	9	8	7	4	4	5	4	5	5	5	6	6	4	7.6	11.9
26-Oct	6	5	5	6	4	4	4	2	3	3	2	4	4	2	2	3	4	4	5	6	5	7	8	9	4.6	9.2
27-Oct	11	8	8	12	14	13	14	12	11	11	13	12	11	11	10	11	11	13	12	10	7	7	8	8	10.7	14.1
28-Oct	8	9	10	8	7	6	6	4	5	6	5	5	4	4	2	1	1	2	2	3	3	2	2	3	4.4	9.9
29-Oct	4	5	8	13	10	8	9	13	15	13	13	13	10	7	3	4	5	7	9	8	7	9	10	8	8.7	15.2
30-Oct	10	10	9	6	7	5	3	2	4	8	9	12	10	9	12	11	12	11	7	6	5	6	9	7	8.0	12.0
31-Oct	6	6	7	4	4	4	2	2	4	5	3	3	5	7	8	8	9	9	11	10	11	11	10	11	6.8	11.4
	8.3	8.4	8.8	9.0	8.7	8.5	8.5	8.3	9.3	9.5	9.4	9.2	9.2	9.0	9.3	9.2	8.8	8.1	7.9	8.0	7.3	7.3	7.0	7.5	Diurnal Average	
	19.7	17.9	19.5	18.3	19.4	19.5	19.0	15.9	17.0	17.4	18.4	19.2	22.4	21.9	20.7	18.4	15.5	13.3	13.7	14.3	15.2	12.5	16.6	16.1	Diurnal Maximum	

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



# Hourly Standard Deviations

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

Maximum Value: 94.7 deg on Oct 19 23:00																		Hours in Service: 744							
Minimum Value: 3.1 deg on Oct 21 04:00																		Hours of Data: 744							
Percentiles: P <sub>1</sub> = 4.4 P <sub>10</sub> = 5.6 Q <sub>1</sub> = 6.8 Median = 9.3 Q <sub>3</sub> = 15.6 P <sub>90</sub> = 34.6 P <sub>99</sub> = 81.6																		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-Oct	5	6	6	6	6	6	6	5	19	5	5	6	8	5	7	8	7	7	9	23	11	12	15	15	23.1
2-Oct	7	12	9	13	9	16	6	6	9	10	9	11	9	13	13	15	17	12	11	37	14	22	18	16	37.2
3-Oct	8	18	21	15	26	20	22	19	9	13	26	52	36	40	93	21	9	7	5	6	9	11	7	6	92.9
4-Oct	6	6	6	6	7	5	5	7	7	7	7	15	8	6	6	7	6	7	6	6	6	6	7	6	15.4
5-Oct	6	7	5	6	7	6	9	7	10	6	7	8	10	12	9	11	8	9	6	7	9	6	6	11	11.8
6-Oct	5	9	7	8	6	7	8	5	6	8	13	14	13	13	9	11	10	7	9	16	8	6	8	14	16.0
7-Oct	12	9	12	6	8	9	9	14	5	5	8	6	5	6	8	10	10	6	5	6	8	7	10	7	14.0
8-Oct	5	5	5	5	6	7	6	8	7	9	18	19	29	15	15	11	11	7	7	8	9	9	10	7	29.0
9-Oct	6	8	8	8	7	8	7	9	8	7	7	8	13	13	11	8	8	7	7	5	22	19	10	16	22.1
10-Oct	15	9	8	15	10	9	8	11	8	10	21	16	23	43	39	17	9	6	8	5	9	7	76	66	75.5
11-Oct	36	30	18	12	7	5	7	6	7	11	13	15	16	14	15	11	7	9	34	27	25	18	8	8	36.1
12-Oct	13	5	45	8	9	12	41	23	70	41	11	14	16	12	12	13	10	6	8	5	5	12	18	13	69.6
13-Oct	8	6	12	6	5	5	5	13	4	5	5	5	6	8	12	8	6	6	6	5	20	7	6	7	20.0
14-Oct	8	10	8	5	5	5	5	6	6	4	4	5	5	6	14	5	5	5	6	7	7	7	6	6	14.4
15-Oct	7	6	8	7	7	5	7	6	7	7	12	12	19	52	11	17	12	6	4	5	7	7	7	11	52.2
16-Oct	6	9	8	5	6	8	13	6	11	12	8	9	14	17	13	10	11	8	10	12	12	21	54	13	54.0
17-Oct	18	41	10	11	6	8	10	40	47	10	25	15	67	82	11	15	11	20	8	6	83	34	62	68	83.1
18-Oct	77	14	8	8	10	38	14	32	23	8	14	9	14	38	12	92	19	50	8	9	16	13	21	10	92.5
19-Oct	7	6	8	8	7	8	10	17	13	7	6	6	21	43	8	57	11	7	22	23	37	10	95	23	94.7
20-Oct	11	9	5	13	36	46	60	31	9	8	16	77	72	20	19	35	17	24	27	26	16	4	17	16	77.0
21-Oct	12	6	6	3	3	7	8	6	8	26	8	9	8	9	25	28	12	15	81	14	30	12	42	56	80.7
22-Oct	46	87	38	30	32	34	33	28	60	39	6	6	6	13	30	12	28	47	31	41	24	57	57	31	87.1
23-Oct	33	27	58	42	38	17	11	6	18	5	6	6	5	7	5	10	6	6	9	10	7	10	8	10	57.6
24-Oct	8	7	5	10	16	6	5	8	6	7	6	13	12	8	7	4	5	5	10	8	8	18	15	7	17.9
25-Oct	8	11	5	6	5	7	7	6	9	7	7	8	10	6	8	7	11	44	26	15	9	7	9	20	44.3
26-Oct	7	13	12	13	8	24	23	82	20	11	52	26	61	63	34	25	22	27	13	10	12	11	9	10	82.2
27-Oct	11	12	9	4	7	5	7	5	8	5	6	7	7	7	10	18	6	6	7	8	10	9	7	8	18.2
28-Oct	7	6	13	8	7	18	7	11	10	9	9	13	26	24	49	50	37	21	10	16	52	49	59	19	58.9
29-Oct	9	9	7	7	14	8	10	8	11	11	12	17	14	35	72	63	25	12	9	14	12	12	12	9	72.2
30-Oct	9	9	9	17	7	17	18	79	8	9	9	9	9	12	9	9	9	7	8	9	14	12	14	39	78.9
31-Oct	47	39	15	24	16	18	55	51	17	12	78	22	15	12	8	12	14	10	9	11	10	7	8	9	78.4
	77.0	87.1	57.6	42.0	38.1	45.7	60.4	82.2	69.6	41.3	78.4	77.0	72.0	81.9	92.9	92.5	37.1	50.0	80.7	40.7	83.1	56.5	94.7	68.3	

PAZA

## Beaverlodge Station

Monthly Summary Tables, Graphs and  
Roses

# Hourly Averages

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

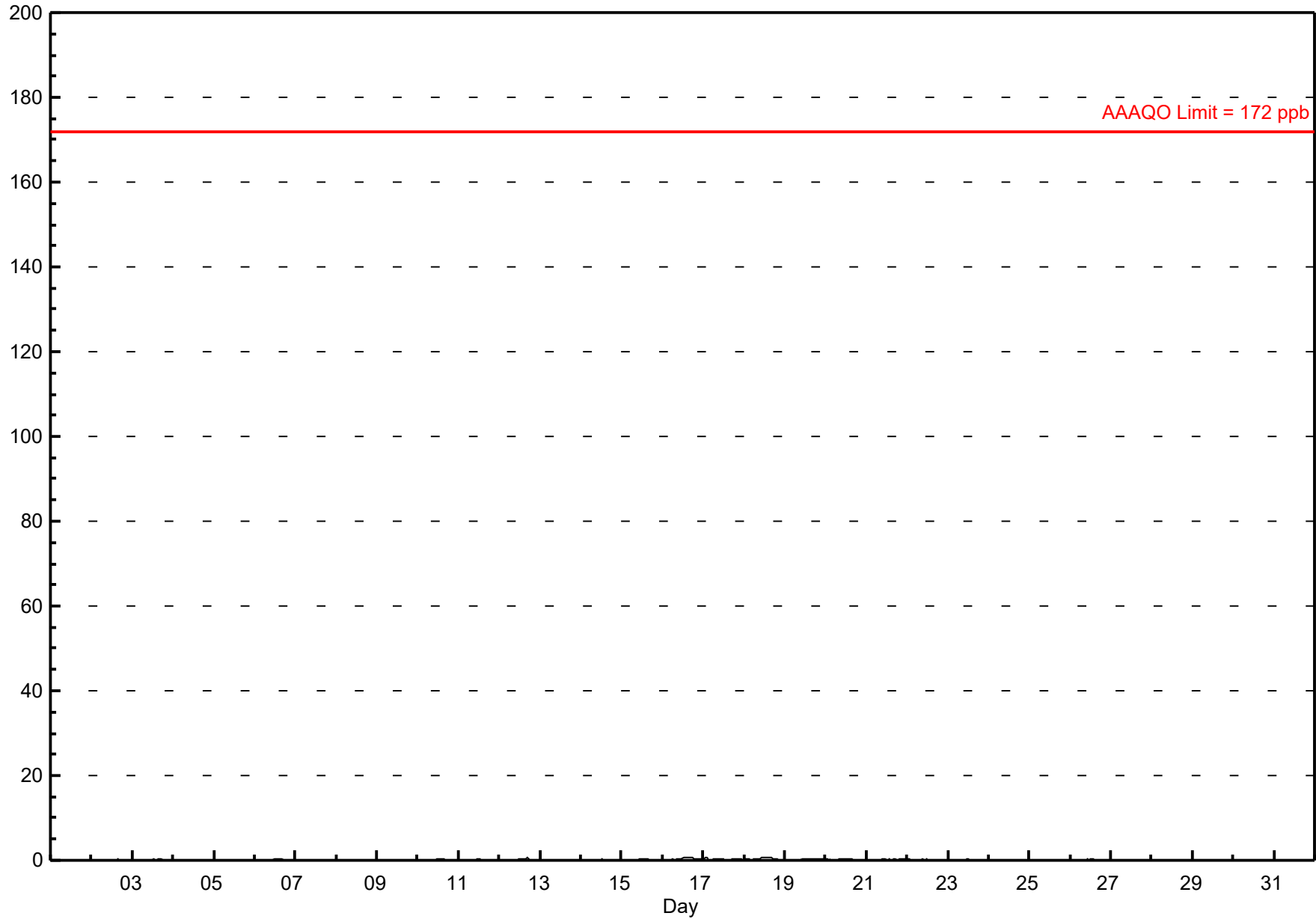
Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0	Hours in Service: 744
Maximum Value: 0.7 ppb on Oct 18 12:00	Maximum Daily Average: 0.4 ppb on Oct 16
Minimum Value: 0 ppb on Oct 4 10:00	Hours of Data: 710
Maximum Diurnal Average: 0.2 ppb at hour 13	Hours of Missing Data: 34
Monthly Average: 0.12 ppb	Hours of Calibration: 34
Minimum Daily Average: 0.0 ppb on Oct 31	Percent Operational Time: 100.0
Minimum Diurnal Average: 0.1 ppb at hour 8	
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> = 0.1 P <sub>90</sub> = 0.2 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-Oct	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1	
2-Oct	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
3-Oct	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
4-Oct	0	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
5-Oct	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1
6-Oct	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
7-Oct	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
8-Oct	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1
9-Oct	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1
10-Oct	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.4
11-Oct	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
12-Oct	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	0.1	0.6
13-Oct	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
14-Oct	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
15-Oct	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.4
16-Oct	0	0	0	0	A	0	0	0	0	0	0	0	1	1	1	1	1	1	1	0	0	0	0	0	0	0.4	0.7
17-Oct	0	1	1	0	A	0	0	0	0	0	0	0	C	C	C	0	0	0	0	0	0	0	0	0	0	0.3	0.6
18-Oct	0	0	0	0	A	0	0	0	0	0	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0.3	0.7
19-Oct	0	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
20-Oct	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4
21-Oct	0	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
22-Oct	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
23-Oct	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
24-Oct	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
25-Oct	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1
26-Oct	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
27-Oct	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1
28-Oct	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1
29-Oct	0	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
30-Oct	0	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
31-Oct	0	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
	0.1	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	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	Diurnal Average	
	0.4	0.5	0.6	0.5	--	0.3	0.3	0.3	0.3	0.4	0.6	0.7	0.7	0.6	0.5	0.7	0.7	0.6	0.5	0.4	0.4	0.3	0.4	0.4	0.4	Diurnal Maximum	

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

**Hourly Averages**

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



# Hourly Maximums

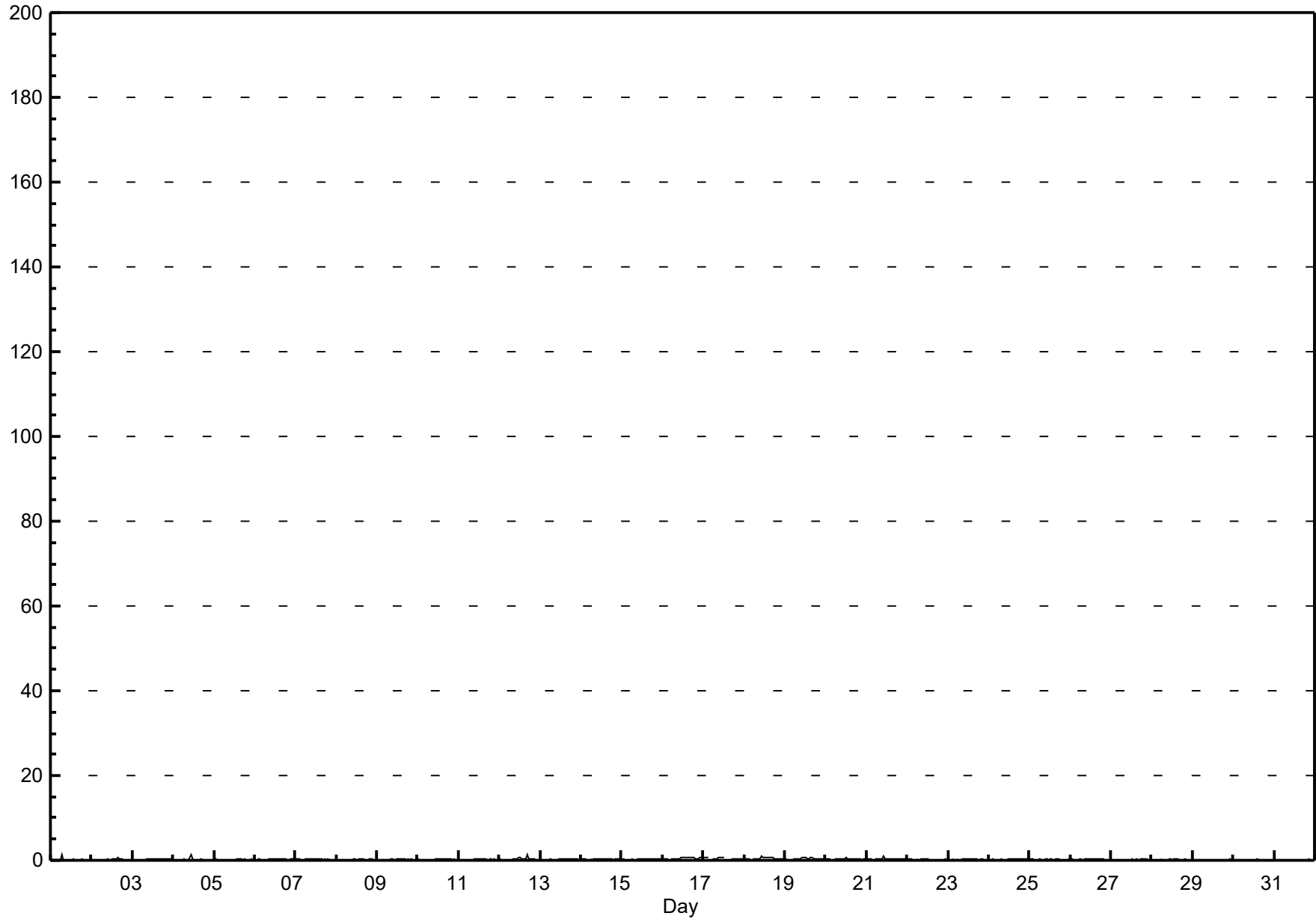
Sulphur Dioxide (SO<sub>2</sub>) - ppb

Beaverlodge - October 2016

Maximum Value: 1.5 ppb on Oct 12 17:00		Maximum Daily Average: 0.5 ppb on Oct 16		Hours in Service: 744																								
Minimum Value: 0 ppb on Oct 4 10:00		Minimum Daily Average: 0.1 ppb on Oct 31		Hours of Data: 710																								
Maximum Diurnal Average: 0.3 ppb at hour 11		Minimum Diurnal Average: 0.2 ppb at hour 8		Hours of Missing Data: 34																								
Monthly Average: 0.23 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> = 0.4 P <sub>99</sub> = 0.8		Hours of Calibration: 34																								
				Percent Operational Time: 100.0																								
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24				
1-Oct	0	0	0	0	A	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.4		
2-Oct	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		
3-Oct	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3		
4-Oct	0	0	0	0	A	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.3		
5-Oct	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.2		
6-Oct	0	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		
7-Oct	0	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		
8-Oct	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.2		
9-Oct	0	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		
10-Oct	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.5		
11-Oct	0	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		
12-Oct	0	0	0	0	A	0	0	0	0	0	0	1	1	0	0	0	2	0	0	0	0	0	0	0	0.3	1.5		
13-Oct	0	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		
14-Oct	0	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		
15-Oct	0	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		
16-Oct	0	0	0	0	A	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	0	0	1	1	0.5	0.8		
17-Oct	1	1	1	1	A	0	0	0	0	1	1	1	1	C	C	C	0	0	0	0	0	0	0	0	0.4	0.8		
18-Oct	0	0	0	0	A	0	0	0	0	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0.5	0.9		
19-Oct	0	0	0	0	A	0	0	0	0	0	1	1	1	0	0	1	1	0	0	0	0	0	0	0	0.4	0.7		
20-Oct	0	0	0	0	A	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0.3	0.5		
21-Oct	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	1.0		
22-Oct	0	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		
23-Oct	0	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-Oct	0	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		
25-Oct	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.2		
26-Oct	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4		
27-Oct	0	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		
28-Oct	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.2		
29-Oct	0	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-Oct	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2		
31-Oct	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2		
		0.2	0.2	0.2	0.2	--	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	Diurnal Average		
		0.5	0.7	0.8	0.5	--	0.4	1.4	0.4	0.4	0.5	1.3	0.8	0.8	0.8	0.7	0.8	1.5	0.7	0.6	0.5	0.5	0.4	0.5	0.5	Diurnal Maximum		
C - Calibration					A - Automated Daily Zero Span																							

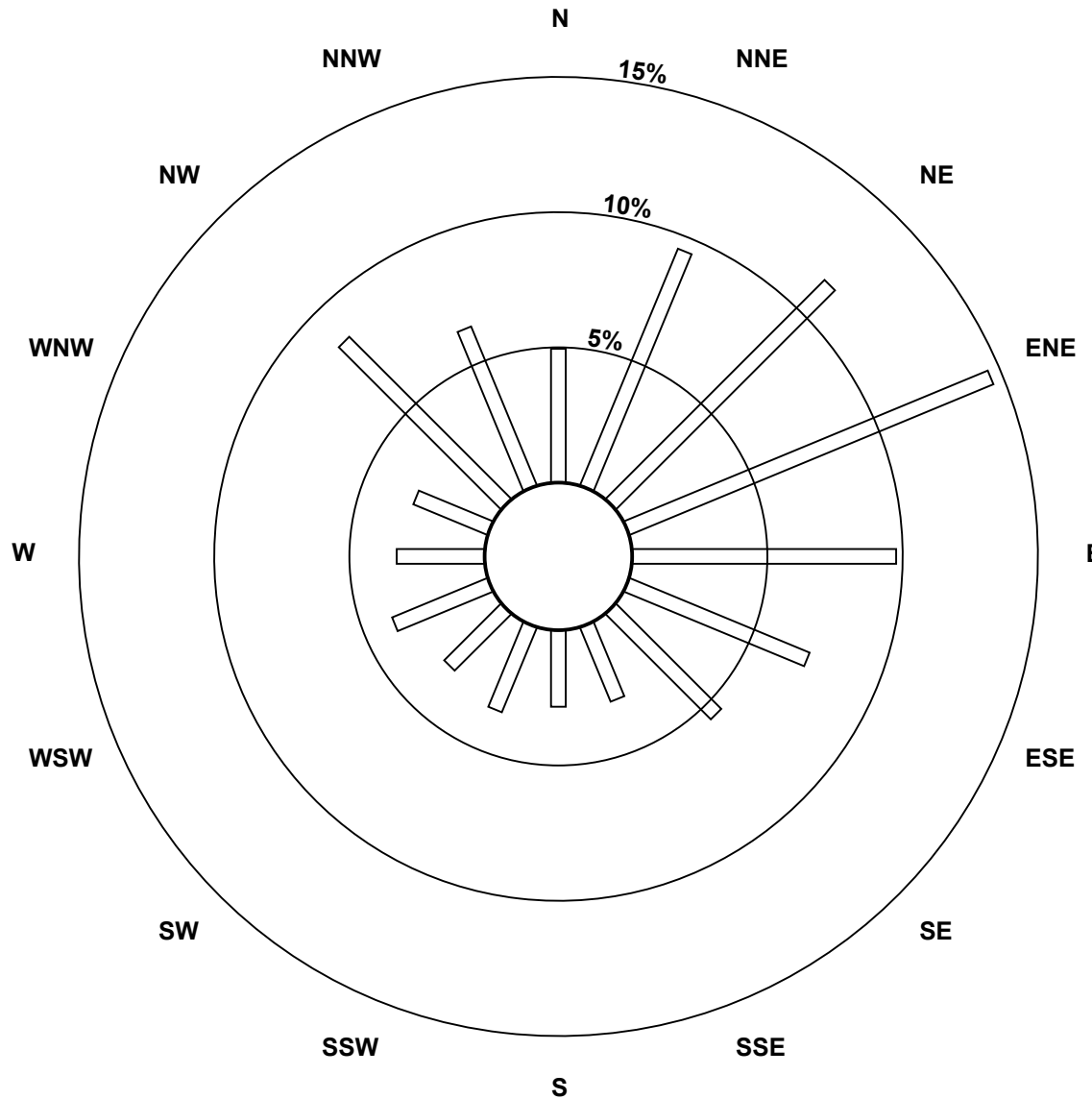
**Hourly Maximums**

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

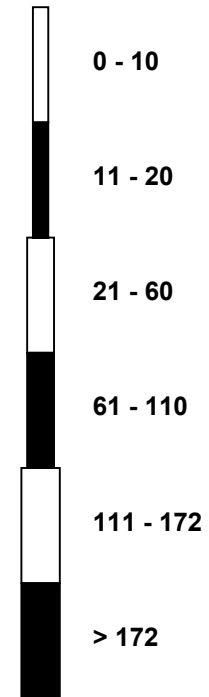


**Pollutant Rose**

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

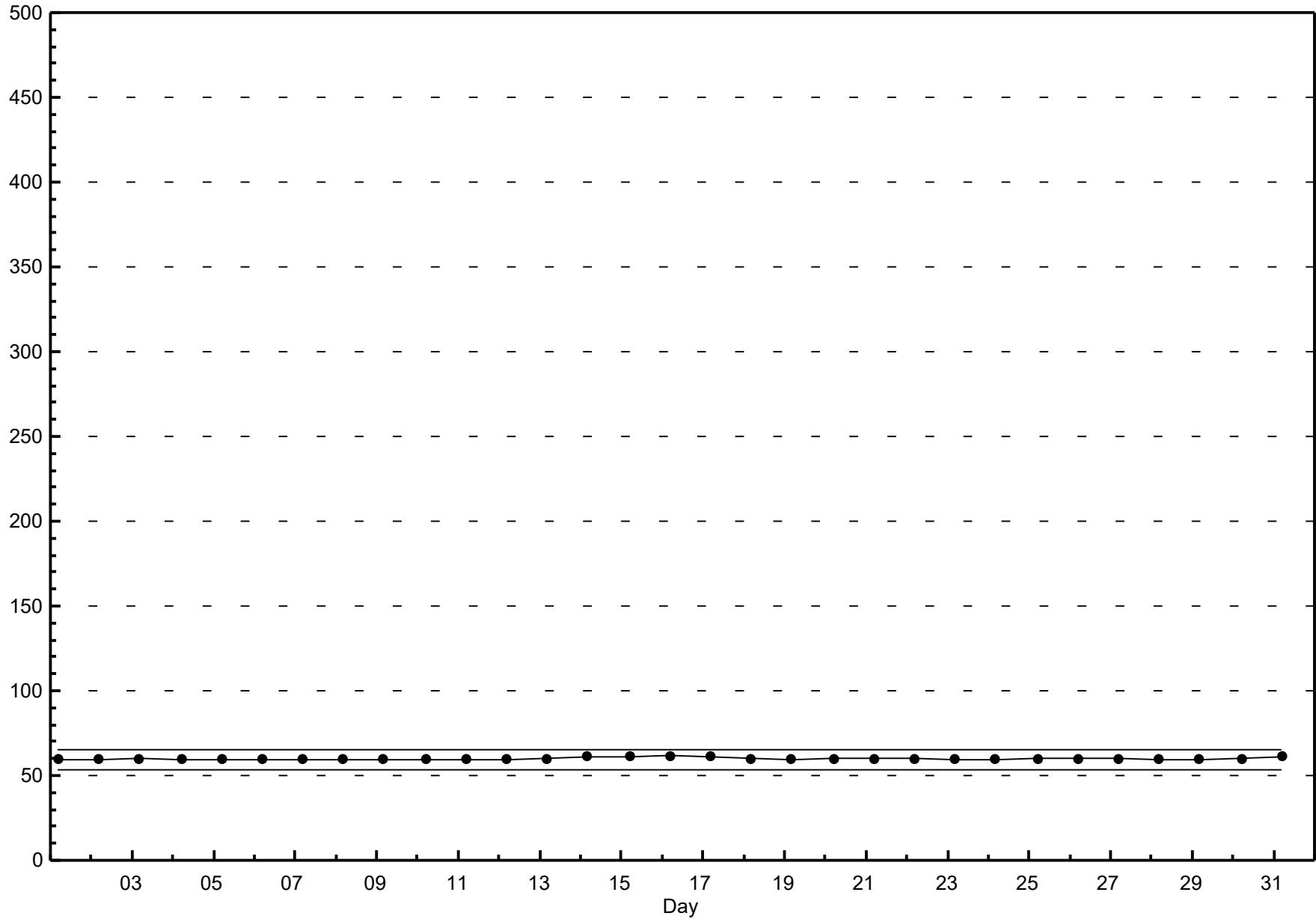


**Pollutant Classes (ppb)**



### Span Responses

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





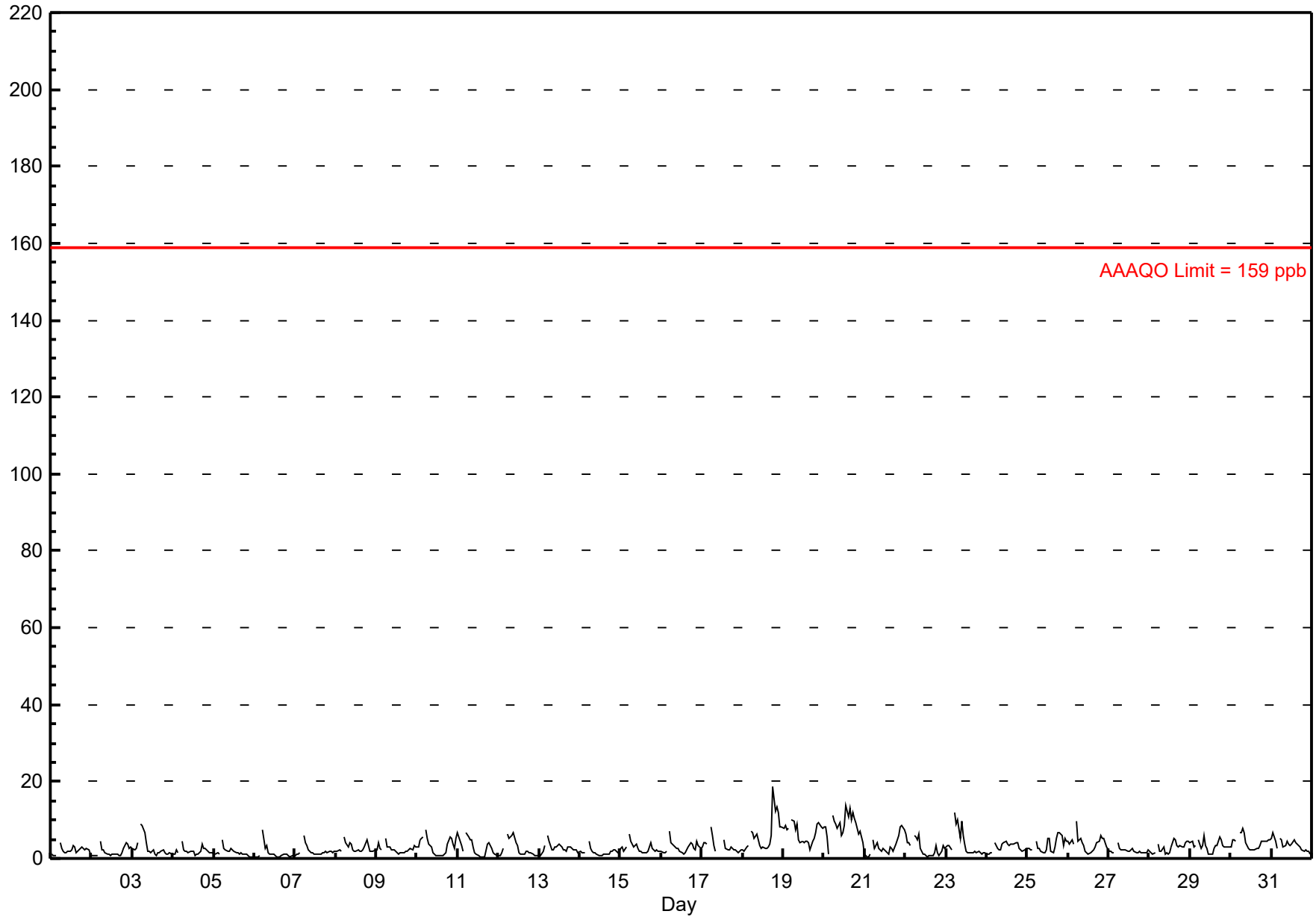
# Hourly Averages

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

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 18.5 ppb on Oct 18 19:00      Maximum Daily Average: 8.4 ppb on Oct 20		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 Oct 11 15:00 Maximum Diurnal Average: 6.4 ppb at hour 6 Monthly Average: 3.11 ppb		Minimum Daily Average: 1.2 ppb on Oct 6 Minimum Diurnal Average: 2.2 ppb at hour 15 Percentiles: P <sub>1</sub> = 0.4 P <sub>10</sub> = 1.0 Q <sub>1</sub> = 1.5 Median = 2.4 Q <sub>3</sub> = 4.0 P <sub>90</sub> = 6.1 P <sub>99</sub> = 11.7																									
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-Oct	1	1	1	1	A	4	3	2	2	2	2	2	3	3	2	2	3	3	3	2	3	2	1	2.1	4.0		
2-Oct	1	1	1	1	A	5	2	2	2	1	1	1	1	1	1	1	1	1	2	3	4	4	3	3	1.7	4.6	
3-Oct	3	2	3	4	A	9	8	7	4	2	2	2	1	1	1	1	2	2	2	1	1	1	1	2.7	9.0		
4-Oct	1	1	2	2	A	4	2	2	2	1	2	2	1	1	1	2	4	3	3	2	2	1	1	1.9	4.4		
5-Oct	1	1	1	1	A	5	3	2	2	2	2	2	2	1	1	1	1	1	1	1	1	0	1	0	1.5	4.9	
6-Oct	0	0	1	1	A	7	3	3	2	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1.2	7.3	
7-Oct	1	1	1	1	A	6	4	3	2	2	1	1	1	1	1	1	1	1	2	2	2	2	2	2	1.8	5.8	
8-Oct	2	2	2	2	A	5	4	3	4	4	2	2	2	2	2	2	2	3	5	3	2	2	2	2	2.7	5.5	
9-Oct	2	4	3	2	A	5	3	3	3	2	2	2	2	1	1	1	1	2	2	2	3	2	3	3	2.4	5.2	
10-Oct	3	3	5	5	A	7	5	4	3	1	1	1	1	1	1	1	1	1	4	6	5	4	3	5	3.1	7.4	
11-Oct	7	4	3	2	A	7	5	5	5	3	1	1	1	0	0	0	0	4	4	3	3	2	1	1	2.7	6.6	
12-Oct	1	1	1	3	A	6	5	6	6	7	4	3	1	1	1	1	2	2	1	1	1	1	1	1	2.5	6.6	
13-Oct	1	1	2	3	A	6	5	2	2	3	3	3	4	3	2	2	2	3	3	2	2	2	2	2	2.6	5.9	
14-Oct	2	1	2	1	A	5	2	2	2	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	1.6	4.6	
15-Oct	3	3	2	3	A	6	5	4	3	4	3	2	2	1	1	2	2	3	4	3	2	2	2	2	2.7	6.4	
16-Oct	2	2	1	2	A	7	4	3	3	3	3	2	2	1	2	2	3	4	4	3	2	5	3	3	2.8	7.2	
17-Oct	3	4	4	4	A	8	6	3	2	C	C	C	C	5	3	2	2	3	3	2	2	2	2	2	3.2	8.1	
18-Oct	2	2	3	3	A	7	7	5	6	5	3	3	3	3	3	3	4	6	19	12	13	12	8	8	6.1	18.5	
19-Oct	8	8	7	8	A	10	10	7	9	5	4	5	4	4	4	4	2	5	5	7	9	9	8	8	6.6	10.2	
20-Oct	8	8	6	1	A	11	10	9	8	9	6	7	9	14	11	13	10	12	10	9	6	7	6	4	8.4	13.6	
21-Oct	1	0	0	1	A	5	3	4	2	2	2	2	1	1	3	3	2	4	5	6	8	9	7	7	3.3	8.5	
22-Oct	7	4	4	3	A	6	6	5	6	3	1	1	1	0	1	1	1	1	3	1	1	2	3	3	2.8	6.5	
23-Oct	3	3	3	2	A	12	9	10	5	10	6	4	2	1	1	2	2	2	2	2	1	1	1	1	3.7	11.8	
24-Oct	1	1	2	2	A	4	2	2	2	4	4	4	4	3	4	4	4	4	4	3	2	2	2	2	2.9	4.3	
25-Oct	3	3	2	2	A	5	3	2	2	2	2	2	5	5	2	1	3	5	7	7	6	4	5	4	3.5	6.6	
26-Oct	5	4	5	4	A	10	5	5	4	3	2	1	1	1	2	2	3	4	5	6	5	5	4	3	3.9	9.7	
27-Oct	2	2	2	1	A	4	2	2	2	2	2	2	2	2	3	2	2	2	2	2	2	2	2	2	2.0	4.1	
28-Oct	2	2	1	2	A	4	2	2	3	1	2	1	2	3	5	5	4	3	4	3	3	4	5	5	2.8	5.1	
29-Oct	4	4	3	3	A	5	3	3	6	3	2	1	1	1	2	3	4	6	5	3	3	3	3	3	3.3	6.1	
30-Oct	3	5	5	4	A	7	7	8	7	4	3	2	2	2	2	2	3	3	4	5	4	5	5	5	4.2	7.8	
31-Oct	5	7	4	2	A	5	5	3	3	4	4	3	4	5	4	4	3	3	2	2	2	2	2	1	3.5	6.8	
		2.8	2.8	2.7	2.5	--	6.4	4.5	4.0	3.6	3.2	2.5	2.2	2.2	2.4	2.2	2.3	2.3	3.1	3.9	3.5	3.3	3.2	3.0	2.9	Diurnal Average	
		8.4	8.5	7.4	7.8	--	11.8	9.7	10.0	9.1	9.7	6.1	6.7	8.6	13.6	10.7	13.1	10.0	11.8	18.5	12.5	13.4	12.0	8.5	8.0	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**  
**Beaverlodge - October 2016**



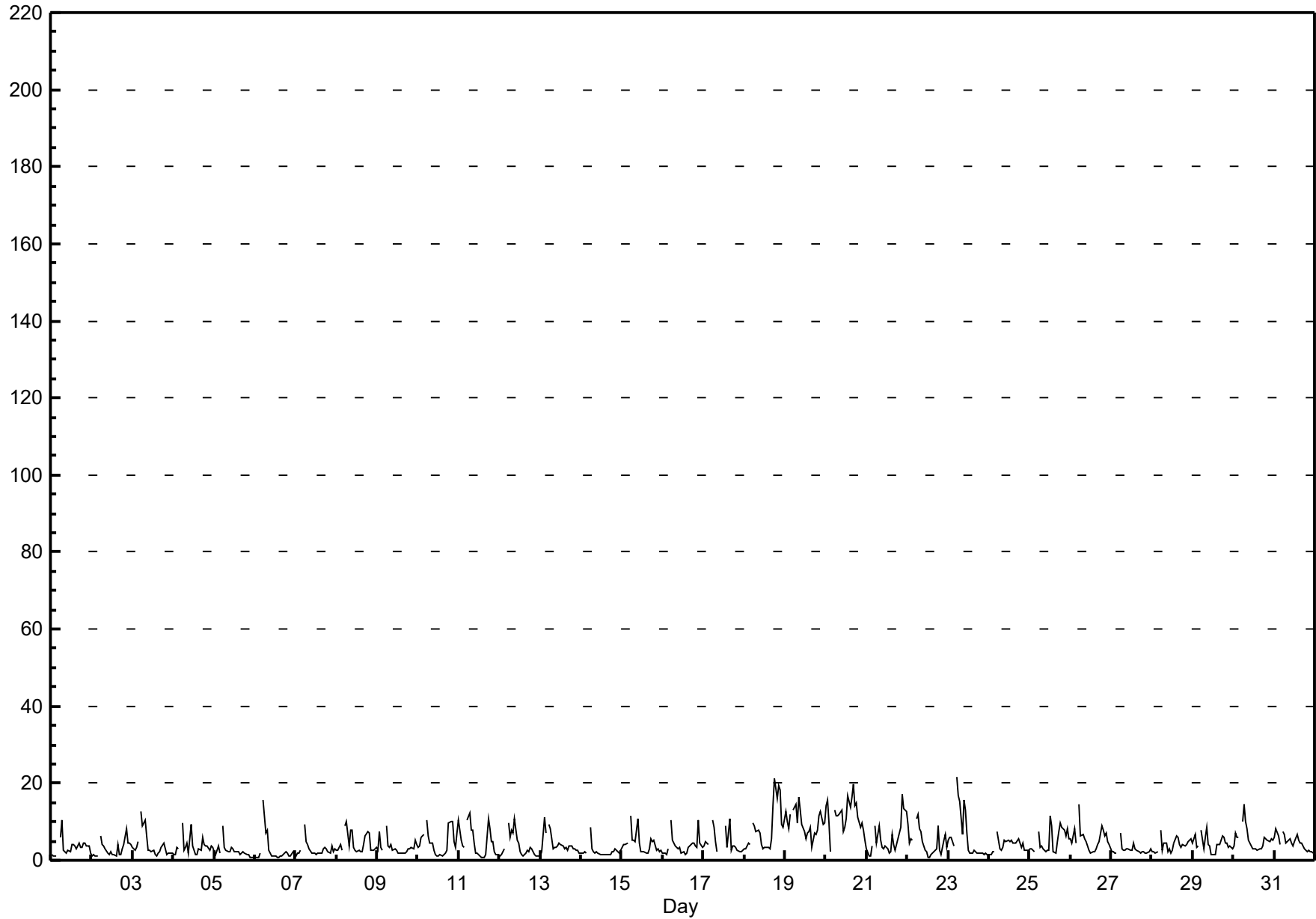
# Hourly Maximums

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

Maximum Value: 21.8 ppb on Oct 23 06:00		Maximum Daily Average: 11.7 ppb on Oct 20		Hours in Service: 744																							
Minimum Value: 1 ppb on Oct 6 01:00		Minimum Daily Average: 2.3 ppb on Oct 14		Hours of Data: 709																							
Maximum Diurnal Average: 10.1 ppb at hour 6		Minimum Diurnal Average: 2.9 ppb at hour 15		Hours of Missing Data: 35																							
Monthly Average: 4.61 ppb		Percentiles: P <sub>1</sub> = 0.7 P <sub>10</sub> = 1.6 Q <sub>1</sub> = 2.2 Median = 3.4 Q <sub>3</sub> = 5.9 P <sub>90</sub> = 9.6 P <sub>99</sub> = 16.4		Hours of Calibration: 35																							
				Percent Operational Time: 100.0																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Oct	1	1	1	1	A	6	10	3	2	2	2	4	4	4	3	4	3	4	4	4	4	4	2	3.3	10.4		
2-Oct	1	2	1	1	A	6	4	4	3	2	1	2	2	1	1	4	2	2	3	4	8	4	5	4	2.9	8.3	
3-Oct	3	3	3	5	A	13	9	10	6	3	2	2	3	2	1	2	2	4	4	3	1	2	2	2	3.8	12.6	
4-Oct	1	2	3	3	A	10	3	3	4	2	9	4	2	1	2	3	3	6	4	4	4	3	4	3	3.6	9.6	
5-Oct	2	1	4	2	A	9	3	3	2	2	3	3	2	2	2	2	2	2	2	1	1	1	1	1	2.3	8.9	
6-Oct	1	1	1	2	A	16	7	8	3	2	1	1	1	1	1	1	1	2	2	2	1	1	2	2	2.5	15.8	
7-Oct	1	2	2	3	A	9	5	4	3	2	2	2	1	2	2	2	3	3	3	2	2	4	2	3	2.8	9.3	
8-Oct	2	3	4	2	A	9	10	4	8	8	3	2	2	3	2	2	4	6	7	7	2	3	3	3	4.4	10.2	
9-Oct	3	7	3	3	A	9	4	3	4	3	3	3	2	2	2	2	2	2	3	3	3	5	4	4	3.3	8.9	
10-Oct	3	4	6	7	A	11	6	5	5	2	1	1	1	1	1	1	2	3	10	10	10	5	3	7	4.6	10.5	
11-Oct	10	5	4	3	A	11	12	8	8	4	2	2	1	1	1	1	2	11	8	5	5	2	1	2	4.7	12.4	
12-Oct	1	2	2	3	A	10	6	8	7	11	5	5	2	1	1	2	3	2	3	3	1	1	1	1	3.6	10.7	
13-Oct	1	2	11	7	A	9	8	3	3	3	4	4	4	4	3	3	3	4	4	3	3	2	3	2	4.1	11.2	
14-Oct	2	2	2	2	A	9	3	2	2	2	2	1	2	1	2	1	1	1	2	2	3	3	2	3	2.3	8.5	
15-Oct	3	4	4	4	A	11	5	5	5	11	5	2	2	2	2	2	3	5	5	5	3	3	2	3	4.2	11.4	
16-Oct	2	2	2	3	A	11	5	4	3	3	3	2	2	2	2	3	4	5	4	4	3	10	4	3	3.8	10.6	
17-Oct	4	5	5	4	A	10	9	5	2	C	C	C	C	9	3	11	3	4	4	4	3	2	2	3	4.8	10.7	
18-Oct	3	3	4	4	A	10	9	7	8	7	4	3	3	4	3	3	6	14	21	16	19	18	9	8	8.2	21.1	
19-Oct	13	10	8	12	A	13	14	10	16	13	9	7	6	7	8	9	3	7	7	8	11	12	9	10	9.7	16.4	
20-Oct	14	16	10	2	A	13	11	12	12	13	8	9	11	17	14	16	20	14	15	11	9	10	8	5	11.7	19.8	
21-Oct	3	1	1	4	A	9	5	9	5	3	3	4	3	2	2	7	4	3	6	7	9	17	14	13	5.7	17.3	
22-Oct	9	5	6	5	A	11	12	8	7	5	3	2	1	1	1	2	3	3	9	3	2	5	7	3	4.9	11.8	
23-Oct	5	6	6	4	A	22	17	15	7	16	13	7	3	2	2	2	2	2	2	2	2	2	2	2	6.1	21.8	
24-Oct	2	1	2	2	A	7	3	3	3	5	5	5	5	5	4	4	5	5	5	4	5	2	3	3	3.8	7.3	
25-Oct	3	3	3	2	A	7	3	4	3	2	2	3	12	9	2	2	5	7	10	9	8	6	8	5	5.1	11.6	
26-Oct	6	4	8	5	A	15	6	7	5	5	4	3	2	2	2	3	4	5	9	8	6	7	5	4	5.4	14.6	
27-Oct	2	2	2	2	A	7	3	3	3	3	3	3	3	4	3	2	2	2	2	2	2	2	2	3	2.7	7.0	
28-Oct	2	2	2	2	A	8	3	4	4	2	3	2	2	5	6	6	4	3	4	4	4	5	5	6	3.9	7.7	
29-Oct	5	7	3	4	A	8	3	6	9	4	4	2	1	1	4	4	4	6	6	5	5	3	4	3	4.4	8.7	
30-Oct	4	7	6	6	A	10	14	10	8	5	4	3	3	3	3	3	3	4	6	6	5	5	6	5	5.6	14.4	
31-Oct	6	8	6	4	A	8	7	4	5	6	4	4	5	7	5	5	4	4	3	2	3	2	2	2	4.6	8.3	
		3.9	3.9	4.1	3.7	--	10.1	7.1	5.9	5.4	5.1	3.9	3.1	3.1	3.5	2.9	3.7	3.6	4.7	5.7	4.9	4.8	4.8	4.2	3.9	Diurnal Average	
		14.3	15.8	11.2	12.0	--	21.8	16.7	15.1	16.4	15.6	12.9	8.5	11.6	16.7	13.6	16.3	19.8	14.1	21.1	15.9	19.3	18.3	13.6	12.7	Diurnal Maximum	
C - Calibration		A - Automated Daily Zero Span																									

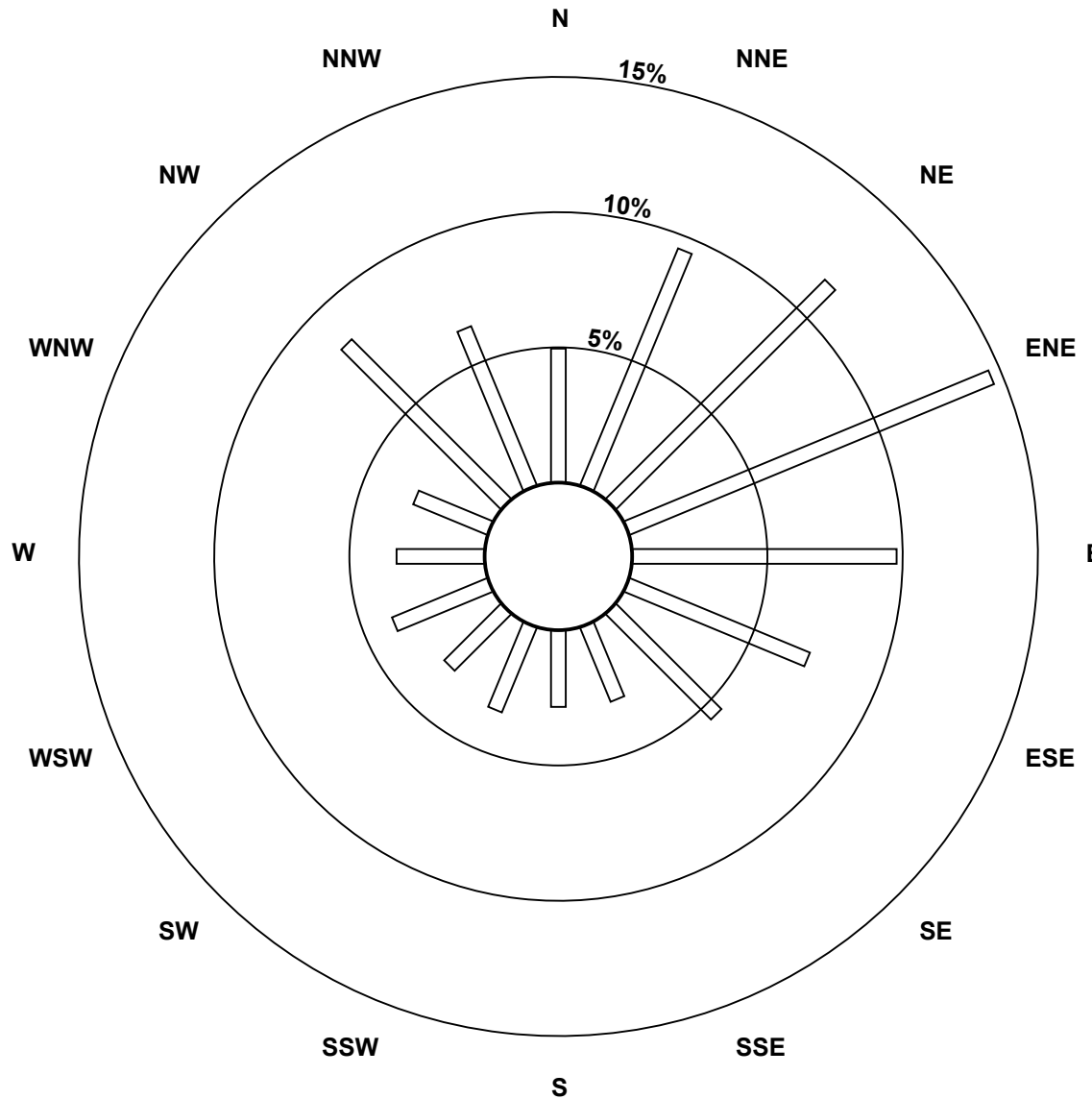
**Hourly Maximums**

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

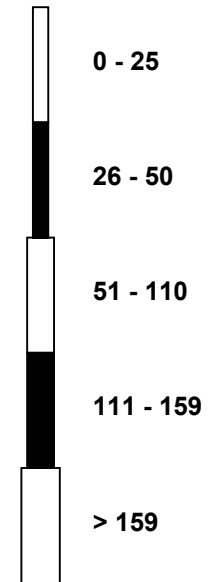


**Pollutant Rose**

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

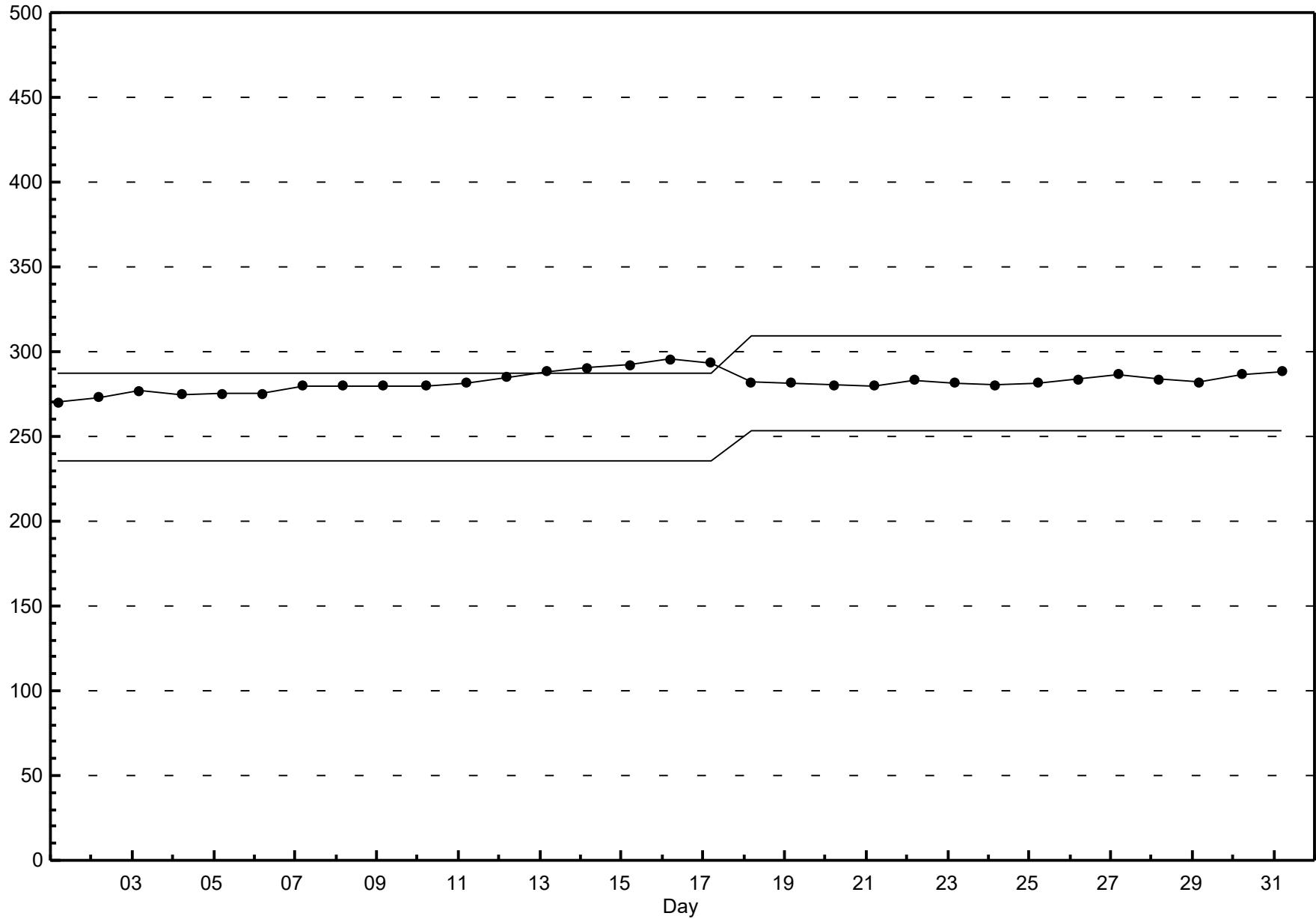


**Pollutant Classes (ppb)**



### Span Responses

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



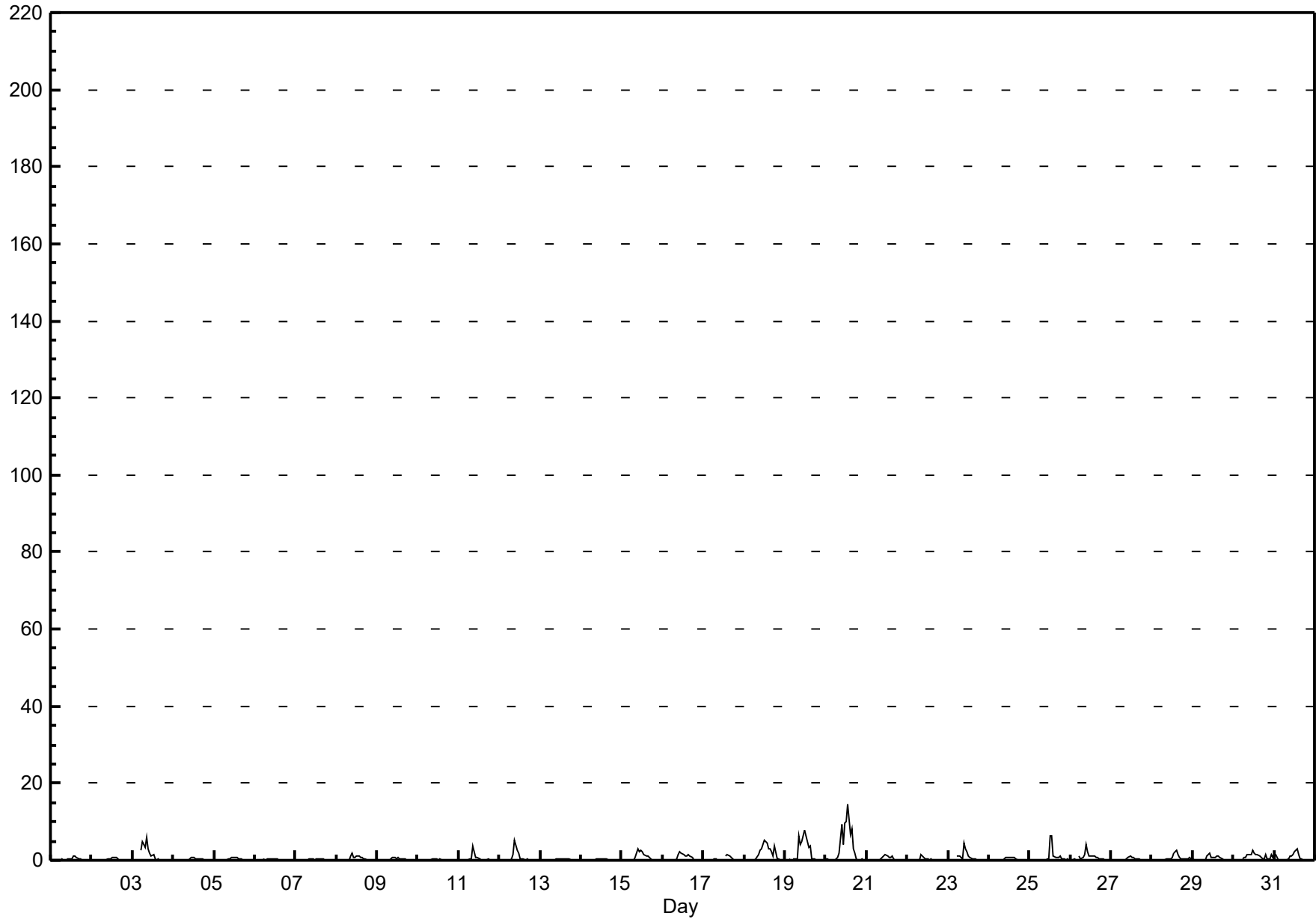
## Hourly Averages

Nitrogen Oxide (NO) - ppb  
Beaverlodge - October 2016

Maximum Value: 14.4 ppb on Oct 20 14:00		Maximum Daily Average: 3.1 ppb on Oct 20		Hours in Service: 744																								
Minimum Value: 0 ppb on Oct 2 04:00		Minimum Daily Average: 0.1 ppb on Oct 10		Hours of Data: 709																								
Maximum Diurnal Average: 1.7 ppb at hour 10		Minimum Diurnal Average: 0.1 ppb at hour 4		Hours of Missing Data: 35																								
Monthly Average: 0.61 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> = 0.5 P <sub>90</sub> = 1.4 P <sub>99</sub> = 6.2		Hours of Calibration: 35																								
				Percent Operational Time: 100.0																								
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24				
1-Oct	0	0	0	0	A	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0.3	1.2		
2-Oct	0	0	0	0	A	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0.2	0.8		
3-Oct	0	0	0	0	A	3	5	3	6	3	2	1	1	0	0	0	0	0	0	0	0	0	0	0	1.1	6.1		
4-Oct	0	0	0	0	A	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0.2	0.9		
5-Oct	0	0	0	0	A	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0.2	0.6		
6-Oct	0	0	0	0	A	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.5		
7-Oct	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.4		
8-Oct	0	0	0	0	A	0	0	0	1	2	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0.4	1.7		
9-Oct	0	0	0	0	A	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0.2	0.9		
10-Oct	0	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		
11-Oct	0	0	0	0	A	0	0	0	4	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.4	3.8		
12-Oct	0	0	0	0	A	0	0	0	1	5	3	2	1	0	0	0	0	0	0	0	0	0	0	0	0.6	5.2		
13-Oct	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	0.5		
14-Oct	0	0	0	0	A	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0.1	0.5		
15-Oct	0	0	0	0	A	0	0	0	1	3	2	3	2	1	1	1	1	0	0	0	0	0	0	0	0.7	3.0		
16-Oct	0	0	0	0	A	0	0	0	1	1	2	2	2	1	1	2	1	1	0	0	0	0	0	0	0.6	2.3		
17-Oct	0	0	0	0	A	0	0	0	0	C	C	C	C	1	1	1	1	0	0	0	0	0	0	0	0.3	1.4		
18-Oct	0	0	0	0	A	0	0	0	2	3	3	4	5	4	3	3	2	1	4	0	0	0	0	0	1.5	5.1		
19-Oct	0	0	0	0	A	0	0	1	6	4	5	8	6	5	3	4	0	0	0	0	0	0	0	0	1.9	7.8		
20-Oct	0	0	0	0	A	0	0	1	2	9	4	10	10	14	7	8	3	2	0	0	0	0	0	0	3.1	14.4		
21-Oct	0	0	0	0	A	0	0	0	0	1	1	2	1	1	1	1	0	0	0	0	0	0	0	0	0.4	1.7		
22-Oct	0	0	0	0	A	0	0	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.3		
23-Oct	0	0	0	0	A	1	1	1	0	4	3	2	1	1	0	0	0	0	0	0	0	0	0	0	0.7	4.4		
24-Oct	0	0	0	0	A	0	0	0	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0.3	0.9		
25-Oct	0	0	0	0	A	0	0	0	0	0	0	0	6	6	1	1	1	1	1	0	0	0	0	0	0.9	6.5		
26-Oct	0	0	0	0	A	1	0	1	1	4	2	1	1	1	1	1	0	0	0	0	0	0	0	0	0.8	3.9		
27-Oct	0	0	0	0	A	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0.3	1.1		
28-Oct	0	0	0	0	A	0	0	0	0	0	1	0	1	2	3	2	1	0	0	0	0	0	1	1	0.6	2.7		
29-Oct	0	0	0	0	A	0	0	0	1	1	2	1	1	1	1	1	1	0	0	0	0	0	0	0	0.5	1.7		
30-Oct	0	0	0	0	A	0	1	1	1	1	1	3	2	1	1	1	1	0	0	1	0	0	1	1	0.9	2.7		
31-Oct	1	1	0	0	A	0	0	0	0	1	1	1	2	3	1	0	0	0	0	0	0	0	0	0	0.6	3.1		
		0.1	0.1	0.1	0.1	--	0.3	0.3	0.3	1.1	1.7	1.4	1.6	1.7	1.7	1.1	1.0	0.5	0.3	0.3	0.1	0.1	0.1	0.1	0.1	Diurnal Average		
		1.3	1.5	0.3	0.3	--	2.7	4.7	3.3	6.2	9.2	5.0	9.6	9.9	14.4	6.8	8.2	2.9	1.8	3.8	1.3	0.4	0.5	1.4	0.6	Diurnal Maximum		
C - Calibration					A - Automated Daily Zero Span																							

**Hourly Averages**

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





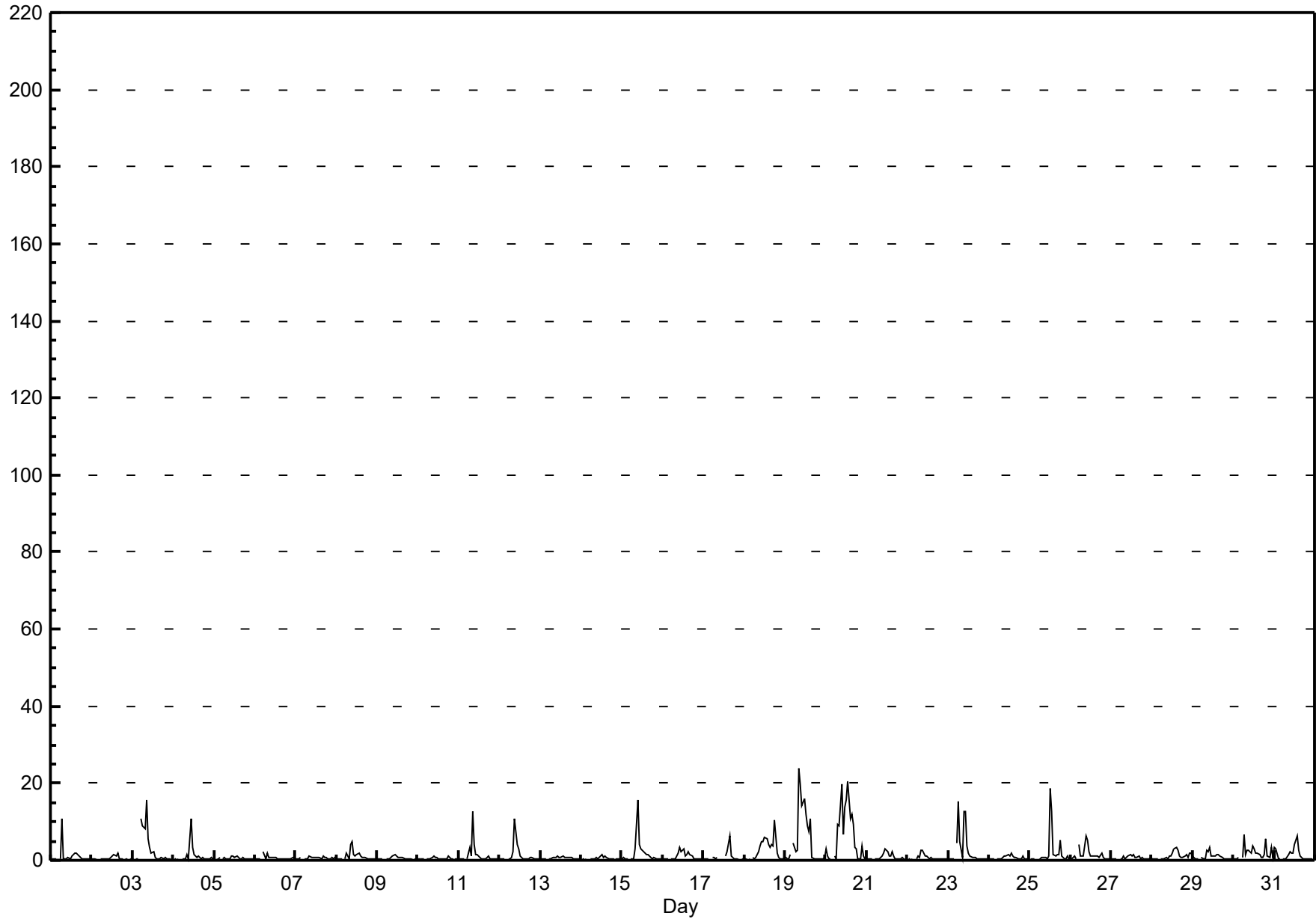
## Hourly Maximums

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

Maximum Value: 24.0 ppb on Oct 19 09:00		Maximum Daily Average: 6.3 ppb on Oct 20		Hours in Service: 744																							
Minimum Value: 0 ppb on Oct 17 22:00		Minimum Daily Average: 0.4 ppb on Oct 10		Hours of Data: 709																							
Maximum Diurnal Average: 4.2 ppb at hour 10		Minimum Diurnal Average: 0.3 ppb at hour 4		Hours of Missing Data: 35																							
Monthly Average: 1.46 ppb		Percentiles: P <sub>1</sub> = 0.2 P <sub>10</sub> = 0.2 Q <sub>1</sub> = 0.3 Median = 0.5 Q <sub>3</sub> = 1.2 P <sub>90</sub> = 3.2 P <sub>99</sub> = 15.7		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-Oct	0	0	0	0	A	0	11	1	0	1	1	0	1	2	2	2	1	1	0	0	0	0	1	0	1.1	10.8	
2-Oct	0	0	0	0	A	0	0	0	0	0	0	1	1	1	1	2	0	0	0	0	0	0	0	0	0.5	1.7	
3-Oct	0	0	0	0	A	11	9	8	16	6	3	2	2	1	0	0	0	1	0	1	0	0	0	0	2.7	15.7	
4-Oct	0	0	0	0	A	0	0	0	1	0	11	3	1	1	1	1	0	1	0	0	1	0	1	0	1.1	10.8	
5-Oct	0	0	1	1	A	0	1	0	0	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0.5	1.1	
6-Oct	0	0	0	0	A	2	1	2	1	1	1	1	1	0	0	0	0	0	0	0	0	0	1	0	0.6	2.3	
7-Oct	0	0	0	1	A	0	0	0	1	1	1	1	1	1	1	0	1	1	1	0	0	1	0	1	0.6	1.1	
8-Oct	0	0	1	0	A	0	2	0	4	5	1	1	2	2	1	1	1	1	0	0	0	0	0	0	1.0	4.8	
9-Oct	0	0	0	0	A	0	0	0	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0.5	1.4	
10-Oct	0	0	0	0	A	0	0	0	1	1	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0.4	1.3	
11-Oct	0	0	0	0	A	0	3	1	13	4	1	1	1	0	0	0	0	1	0	0	0	0	0	0	1.3	12.8	
12-Oct	0	0	0	0	A	0	0	1	2	11	4	3	1	1	0	1	1	1	1	1	0	0	0	0	1.2	10.9	
13-Oct	0	0	0	0	A	0	0	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0.6	1.1	
14-Oct	0	0	0	0	A	0	0	0	1	1	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0.5	1.4	
15-Oct	0	1	0	0	A	0	0	0	3	16	4	3	3	2	2	1	1	1	0	1	0	0	0	0	1.8	15.8	
16-Oct	0	0	0	0	A	0	0	0	1	2	3	2	3	1	2	2	2	1	0	0	0	0	0	0	1.0	3.2	
17-Oct	0	0	0	0	A	1	1	0	1	C	C	C	C	1	2	6	1	1	0	0	0	0	0	0	0.9	6.3	
18-Oct	0	0	0	0	A	1	0	1	2	4	5	5	6	6	4	3	4	4	11	2	1	0	0	0	2.5	10.6	
19-Oct	1	0	0	2	A	4	2	2	24	20	14	16	12	9	7	11	1	0	0	0	0	0	1	5.6	24.0		
20-Oct	3	1	0	0	A	1	1	9	9	20	7	14	16	21	11	12	9	3	3	0	0	4	1	0	6.3	20.5	
21-Oct	0	0	0	0	A	0	0	0	1	1	2	3	2	1	1	2	1	0	0	0	0	1	0	0	0.8	3.0	
22-Oct	0	0	0	0	A	0	1	1	3	3	1	1	1	0	1	1	0	0	0	0	0	0	0	0	0.6	2.6	
23-Oct	0	0	0	0	A	5	15	5	1	13	13	4	2	1	1	1	1	0	0	0	0	0	0	0	2.7	15.2	
24-Oct	0	0	0	0	A	1	0	0	1	1	1	1	1	2	1	1	1	0	0	0	1	0	0	0	0.7	1.9	
25-Oct	0	0	0	0	A	0	0	1	1	1	1	1	19	13	2	1	1	1	5	1	1	0	1	0	2.2	18.6	
26-Oct	0	0	1	0	A	4	1	1	4	6	5	2	1	1	1	1	1	2	1	0	0	0	0	0	1.6	6.2	
27-Oct	0	0	0	0	A	0	0	1	1	1	1	2	1	2	1	1	1	0	1	0	0	0	1	0	0.6	1.6	
28-Oct	0	0	0	0	A	0	0	1	1	0	1	1	2	3	3	3	1	1	1	1	1	1	2	2	1.1	3.3	
29-Oct	1	0	0	0	A	1	1	0	3	2	3	1	1	1	2	1	1	1	0	0	0	0	0	0	1.0	3.2	
30-Oct	0	0	0	1	A	1	7	2	3	2	2	4	3	2	2	2	1	1	2	6	1	1	3	1	1.9	6.6	
31-Oct	3	3	0	0	A	0	0	1	2	2	2	2	4	6	3	1	1	0	0	0	0	0	0	0	1.4	6.4	
		0.5	0.4	0.3	0.3	--	1.2	1.9	1.3	3.2	4.2	3.1	2.6	3.0	2.7	1.8	2.0	1.2	0.8	1.1	0.6	0.4	0.4	0.5	0.4	Diurnal Average	
		3.5	2.8	1.2	1.6	--	11.0	15.2	9.1	24.0	19.8	14.1	15.9	18.6	20.5	10.9	11.8	9.4	3.6	10.6	5.6	1.5	3.9	3.2	1.8	Diurnal Maximum	
C - Calibration		A - Automated Daily Zero Span																									

### Hourly Maximums

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

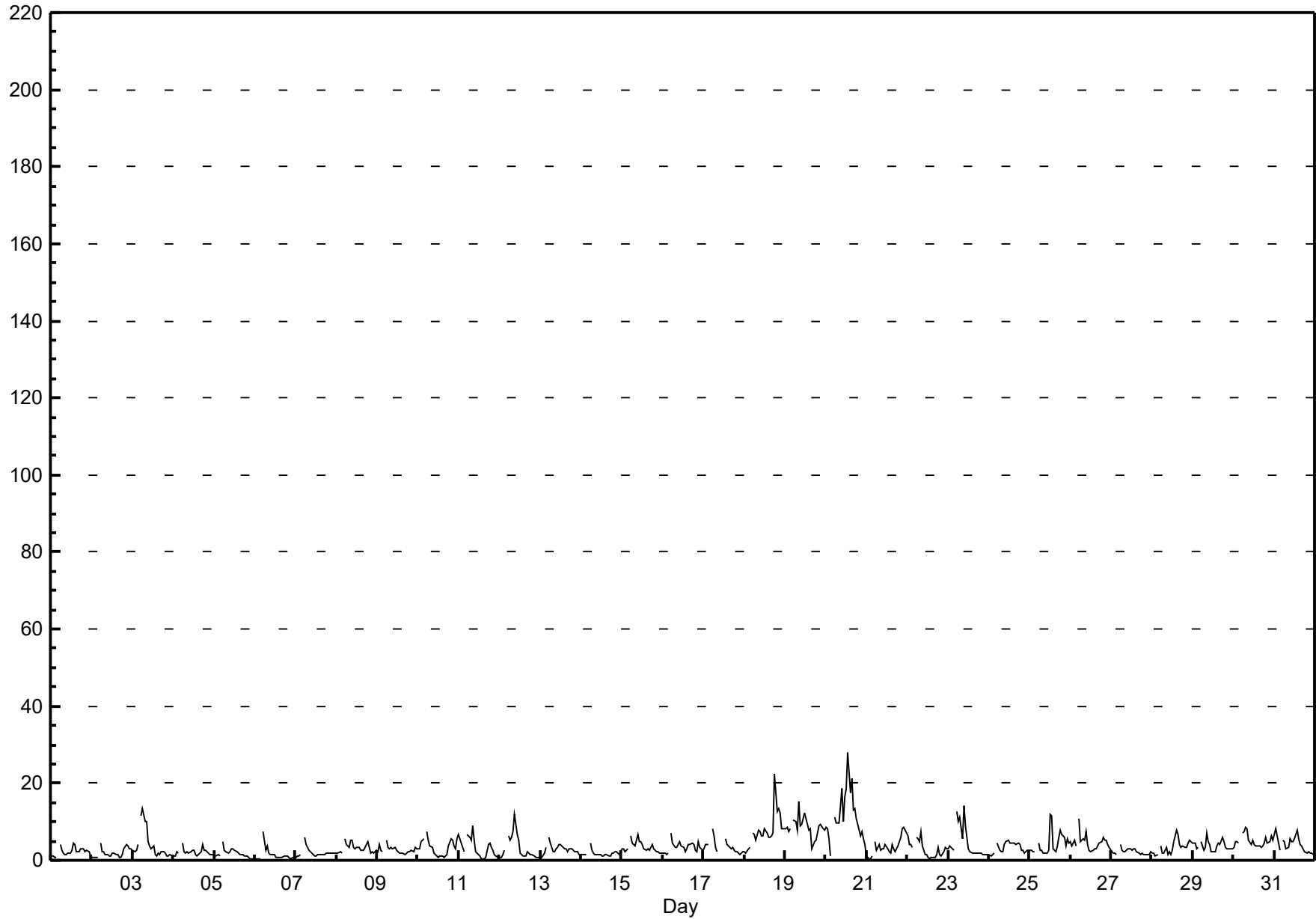


# Hourly Averages

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

Beaverlodge - October 2016

Maximum Value: 28.1 ppb on Oct 20 14:00 Minimum Value: 0 ppb on Oct 6 01:00 Maximum Diurnal Average: 6.6 ppb at hour 6 Monthly Average: 3.72 ppb		Maximum Daily Average: 11.5 ppb on Oct 20 Minimum Daily Average: 1.4 ppb on Oct 6 Minimum Diurnal Average: 2.6 ppb at hour 4 Percentiles: P <sub>1</sub> = 0.5 P <sub>10</sub> = 1.2 Q <sub>1</sub> = 1.8 Median = 2.8 Q <sub>3</sub> = 4.6 P <sub>90</sub> = 7.5 P <sub>99</sub> = 15.6		Hours in Service: 744 Hours of Data: 709 Hours of Missing Data: 35 Hours of Calibration: 35 Percent Operational Time: 100.0																						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
1-Oct	1	1	1	1	A	4	2	2	2	2	2	2	3	4	4	2	2	3	3	3	2	3	2	1	2.3	4.4
2-Oct	1	1	1	1	A	5	2	2	2	1	1	1	2	2	2	1	1	1	2	3	4	4	3	3	1.9	4.6
3-Oct	3	2	3	4	A	12	13	10	10	5	4	3	4	1	1	2	2	2	2	2	1	1	1	1	3.9	13.3
4-Oct	1	1	2	2	A	5	2	2	2	2	2	3	3	1	1	1	2	4	3	3	2	2	1	2	2.1	4.5
5-Oct	1	1	1	1	A	5	3	2	2	2	3	3	2	2	2	1	2	1	1	1	1	0	0	0	1.7	5.0
6-Oct	0	0	1	1	A	8	3	4	2	2	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1.4	7.6
7-Oct	1	1	1	2	A	6	4	4	2	2	2	1	1	2	2	2	2	2	2	2	2	2	2	2	2.0	5.8
8-Oct	2	2	2	2	A	5	4	3	5	5	3	3	3	3	3	3	3	3	5	3	2	2	2	3	3.2	5.5
9-Oct	2	4	3	2	A	5	3	3	4	3	3	3	2	2	2	2	2	2	2	2	3	2	3	3	2.7	5.3
10-Oct	3	3	5	6	A	7	5	4	3	2	2	1	1	1	1	1	1	1	4	6	5	4	3	5	3.2	7.5
11-Oct	7	4	3	2	A	7	6	5	9	5	2	2	1	1	0	0	1	4	4	3	3	2	1	1	3.2	8.8
12-Oct	1	1	1	3	A	6	5	6	7	12	7	5	2	1	1	1	2	2	2	1	1	1	1	1	3.1	11.8
13-Oct	1	1	2	3	A	6	5	2	2	3	4	4	4	3	3	3	2	3	3	3	2	2	2	2	2.8	6.0
14-Oct	2	1	2	1	A	5	3	2	2	2	1	1	1	1	2	1	1	1	2	2	2	2	2	2	1.8	4.6
15-Oct	3	3	2	3	A	6	5	4	4	7	5	5	4	3	3	3	3	3	3	4	3	2	2	2	3.5	6.8
16-Oct	2	2	1	2	A	7	4	3	3	4	5	4	3	2	3	4	4	5	4	3	2	5	3	3	3.4	7.2
17-Oct	3	4	4	4	A	8	6	3	2	C	C	C	C	6	4	3	3	3	3	2	2	2	2	2	3.5	8.2
18-Oct	2	2	3	3	A	7	7	5	8	8	6	6	8	7	6	6	6	7	22	13	14	12	8	8	7.6	22.4
19-Oct	8	9	8	8	A	11	10	8	15	9	9	12	11	9	8	8	3	5	5	7	9	9	8	8	8.6	15.3
20-Oct	9	8	6	1	A	11	10	10	10	19	10	16	19	28	17	21	13	14	11	9	6	7	6	4	11.5	28.1
21-Oct	1	0	0	1	A	5	3	4	3	3	3	4	3	2	2	4	3	2	4	5	6	8	9	7	3.6	8.5
22-Oct	6	4	4	3	A	6	6	5	7	4	2	2	1	0	1	1	1	2	3	1	1	2	3	3	3.0	7.5
23-Oct	3	4	3	3	A	13	10	11	6	14	9	6	3	2	2	2	2	2	2	2	1	1	2	1	4.5	14.2
24-Oct	1	1	2	2	A	4	3	2	2	4	5	5	4	4	5	5	4	4	4	3	3	2	2	3	3.2	5.2
25-Oct	3	3	2	2	A	5	3	3	2	2	2	3	12	11	3	2	4	6	8	7	6	4	6	4	4.4	11.8
26-Oct	5	4	5	4	A	11	5	6	5	7	4	3	2	3	3	3	4	5	5	6	5	5	4	3	4.6	10.8
27-Oct	2	2	2	2	A	4	3	2	2	3	3	3	2	3	3	2	2	2	2	2	2	2	2	2	2.3	4.1
28-Oct	2	2	1	2	A	4	2	2	3	1	2	1	2	5	8	7	4	3	4	3	4	4	5	5	3.3	7.7
29-Oct	4	4	3	3	A	5	3	3	7	5	4	2	2	2	4	4	4	6	5	3	3	3	3	3	3.8	7.2
30-Oct	3	5	5	5	A	7	7	8	8	5	4	5	4	4	4	4	3	4	5	6	5	5	6	5	5.1	8.5
31-Oct	7	8	5	3	A	5	5	3	3	5	5	5	6	8	6	4	4	3	2	2	2	2	2	1	4.2	8.3
	2.9	2.9	2.7	2.6	--	6.6	4.8	4.3	4.7	4.9	3.9	3.8	3.9	4.1	3.3	3.4	2.9	3.4	4.1	3.6	3.4	3.3	3.1	2.9	Diurnal Average	
	8.7	8.6	7.5	8.1	--	12.8	13.3	11.1	15.3	18.6	10.1	16.3	18.5	28.1	17.5	21.3	12.9	13.5	22.4	12.6	13.6	12.1	8.5	8.1	Diurnal Maximum	
C - Calibration		A - Automated Daily Zero Span																								



## Hourly Maximums

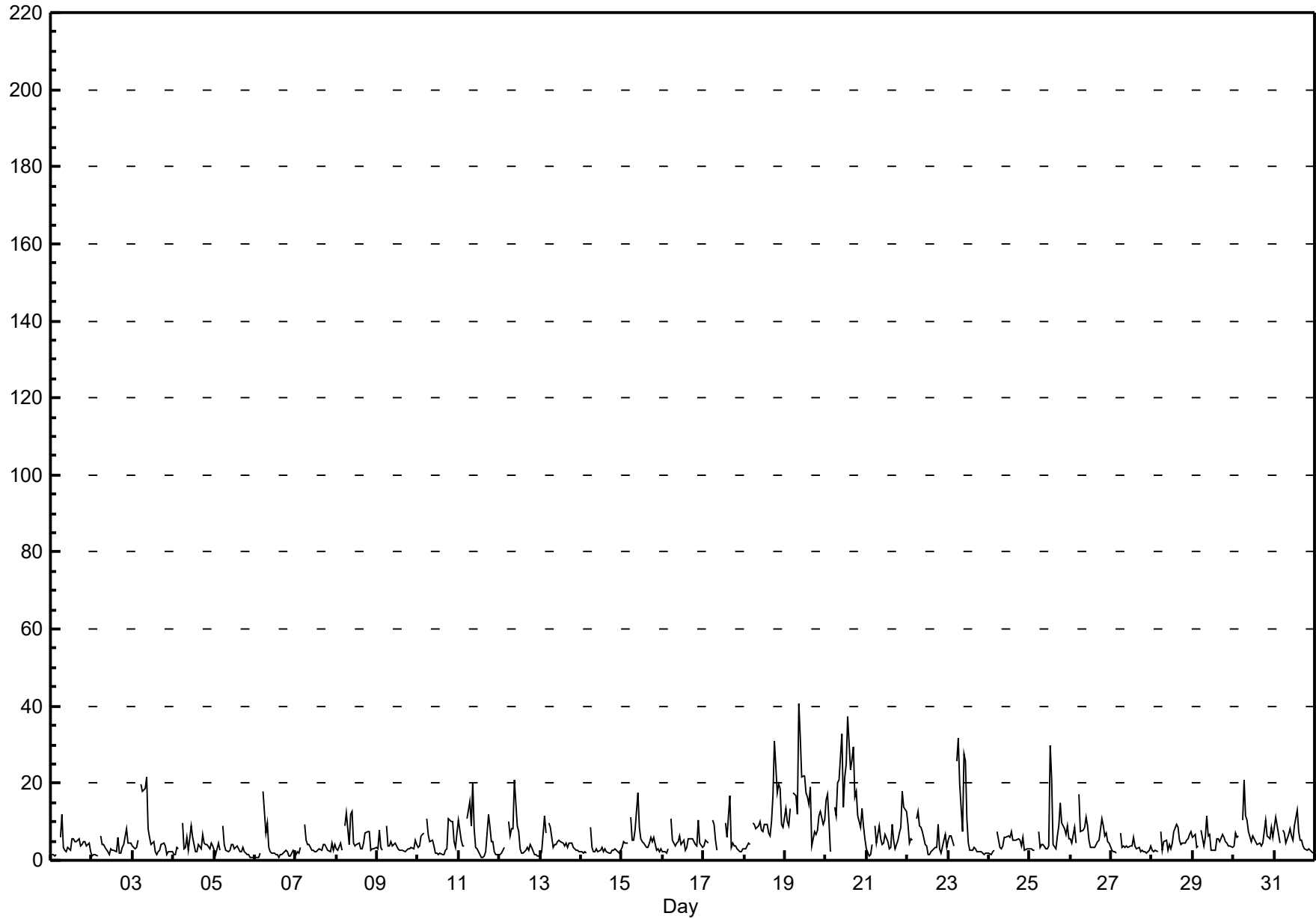
Oxides of Nitrogen (NO<sub>x</sub>) - ppb

Beaverlodge - October 2016

Maximum Value: 40.5 ppb on Oct 19 09:00		Maximum Daily Average: 17.5 ppb on Oct 20		Hours in Service: 744																							
Minimum Value: 1 ppb on Oct 6 00:00		Minimum Daily Average: 2.7 ppb on Oct 14		Hours of Data: 709																							
Maximum Diurnal Average: 10.9 ppb at hour 6		Minimum Diurnal Average: 3.9 ppb at hour 4		Hours of Missing Data: 35																							
Monthly Average: 5.90 ppb		Percentiles: P <sub>1</sub> = 0.9 P <sub>10</sub> = 2.0 Q <sub>1</sub> = 2.7 Median = 4.2 Q <sub>3</sub> = 7.2 P <sub>90</sub> = 11.4 P <sub>99</sub> = 28.9		Hours of Calibration: 35																							
				Percent Operational Time: 100.0																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Oct	1	1	1	1	A	6	12	3	2	2	3	2	5	6	5	5	5	4	4	5	5	4	4	2	4.0	12.1	
2-Oct	1	2	1	1	A	6	4	4	3	2	2	3	3	3	2	6	2	2	3	4	8	4	5	4	3.3	8.3	
3-Oct	4	3	3	5	A	20	18	19	22	8	6	4	5	2	2	2	3	4	4	4	2	2	2	2	6.3	21.6	
4-Oct	2	2	3	3	A	10	3	3	6	3	9	6	4	2	2	4	3	7	4	4	4	3	5	4	4.2	9.9	
5-Oct	3	2	4	3	A	9	4	3	2	3	4	4	3	4	3	2	2	3	2	2	1	1	1	1	2.8	9.0	
6-Oct	1	1	1	2	A	18	7	10	3	2	2	2	1	1	1	1	2	2	2	2	1	1	3	2	3.0	18.0	
7-Oct	2	2	2	3	A	9	5	4	4	2	2	2	2	3	3	2	4	4	4	2	2	4	3	4	3.3	9.4	
8-Oct	3	3	5	3	A	9	12	4	12	13	5	4	4	5	3	3	5	7	8	8	3	3	3	4	5.4	12.7	
9-Oct	3	8	3	3	A	9	4	4	5	4	4	4	3	3	3	2	2	3	3	3	3	3	5	4	3.8	8.8	
10-Oct	3	4	6	7	A	11	7	5	5	4	2	2	1	2	1	2	2	3	11	10	10	5	3	7	4.9	10.8	
11-Oct	10	5	4	4	A	11	15	9	20	8	3	3	2	1	1	1	2	12	8	5	5	2	2	2	5.9	20.2	
12-Oct	1	2	3	3	A	10	6	8	8	21	9	7	3	2	2	3	3	3	4	3	1	2	1	1	4.7	20.9	
13-Oct	1	2	11	7	A	10	9	4	4	4	5	5	5	4	4	4	3	4	5	3	3	3	3	2	4.6	11.4	
14-Oct	2	2	2	2	A	9	3	2	2	3	2	3	3	2	3	2	2	2	2	3	3	3	2	3	2.7	8.5	
15-Oct	3	5	5	5	A	11	5	5	8	18	8	5	5	5	4	4	4	6	5	6	3	3	2	3	5.5	17.7	
16-Oct	2	2	2	3	A	11	5	4	4	5	6	4	5	3	3	6	5	6	5	4	4	11	4	4	4.7	10.7	
17-Oct	4	5	5	4	A	10	9	5	3	C	C	C	C	10	6	17	3	4	4	4	3	2	2	3	5.5	16.8	
18-Oct	3	3	4	4	A	10	9	8	9	10	8	8	9	9	7	6	10	17	31	18	20	19	9	9	10.4	31.0	
19-Oct	13	10	9	14	A	17	17	12	41	32	22	22	18	16	14	19	4	7	7	8	12	13	9	10	15.0	40.5	
20-Oct	16	17	10	2	A	14	12	20	21	33	14	22	25	37	23	26	29	16	18	12	9	13	9	5	17.5	37.1	
21-Oct	3	1	1	4	A	9	4	9	6	4	5	7	5	3	3	9	5	3	5	7	9	18	14	13	6.4	17.8	
22-Oct	9	5	6	5	A	11	13	9	9	7	4	4	2	1	2	2	3	3	9	3	2	5	7	3	5.4	12.6	
23-Oct	5	6	6	4	A	26	32	20	7	28	26	11	4	3	3	3	3	2	2	2	2	2	2	2	8.7	31.8	
24-Oct	2	2	2	2	A	8	3	3	4	6	6	6	6	7	5	5	5	6	5	4	6	3	3	3	4.4	7.6	
25-Oct	3	3	3	3	A	7	3	4	4	3	3	4	30	21	4	3	6	9	15	10	8	7	9	6	7.3	29.7	
26-Oct	6	4	9	5	A	17	7	8	9	11	9	5	3	3	3	4	5	5	11	9	6	7	5	4	6.8	17.1	
27-Oct	3	2	2	2	A	7	3	4	3	4	4	4	4	6	4	3	3	2	3	2	2	2	2	4	3.3	7.1	
28-Oct	3	2	3	2	A	8	3	5	5	3	4	3	4	8	9	9	5	4	5	4	5	6	7	7	4.9	9.3	
29-Oct	6	7	4	4	A	8	4	6	11	6	7	3	3	2	6	5	5	7	6	5	5	4	4	3	5.2	11.4	
30-Oct	4	7	6	6	A	10	21	11	11	8	5	6	6	5	4	5	4	4	8	11	6	6	9	6	7.3	20.8	
31-Oct	9	11	7	4	A	8	7	5	7	8	6	5	9	13	8	5	5	4	3	3	3	3	2	2	5.9	13.0	
		4.2	4.2	4.3	3.9	--	10.9	8.6	7.1	8.4	8.8	6.5	5.7	6.0	6.2	4.6	5.5	4.7	5.3	6.6	5.4	5.0	5.2	4.5	4.2	Diurnal Average	
		15.8	17.0	11.4	13.5	--	25.7	31.8	20.3	40.5	33.0	25.6	22.2	29.7	37.1	23.4	26.1	29.3	16.8	31.0	17.6	19.8	18.5	13.7	12.6	Diurnal Maximum	
C - Calibration		A - Automated Daily Zero Span																									

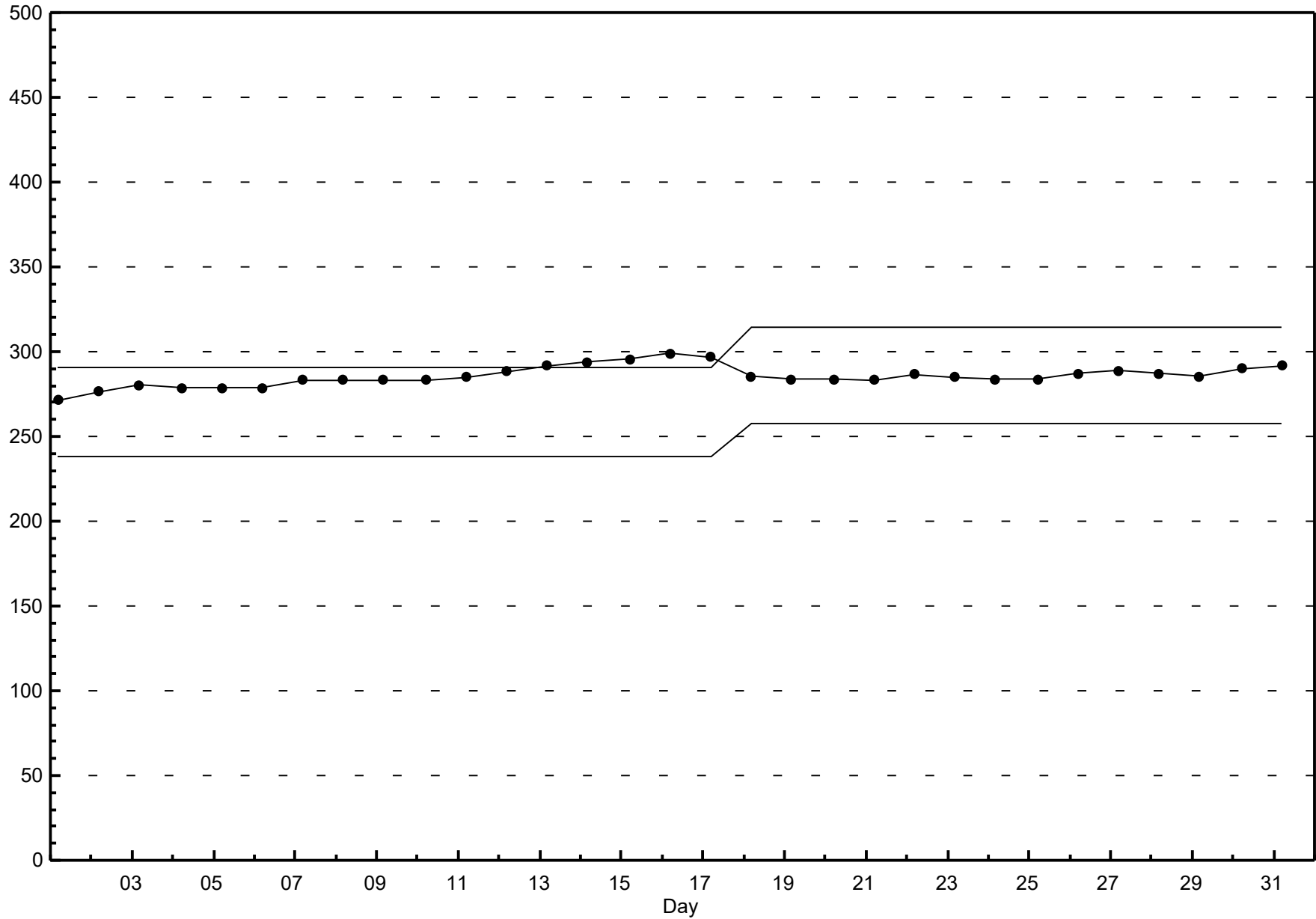
**Hourly Maximums**

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



**Span Responses**

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



## Hourly Averages

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

Beaverlodge - October 2016

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0	Hours in Service: 744
Maximum Value: 36.7 ppb on Oct 22 14:00	Maximum Daily Average: 29.1 ppb on Oct 21
Minimum Value: 1 ppb on Oct 3 07:00	Hours of Data: 711
Minimum Daily Average: 5.2 ppb on Oct 30	Hours of Missing Data: 33
Maximum Diurnal Average: 19.6 ppb at hour 16	Hours of Calibration: 33
Monthly Average: 16.17 ppb	Percent Operational Time: 100.0
Percentiles: P <sub>1</sub> = 1.2 P <sub>10</sub> = 6.8 Q <sub>1</sub> = 10.9 Median = 15.9 Q <sub>3</sub> = 21.1 P <sub>90</sub> = 26.1 P <sub>99</sub> = 34.1	

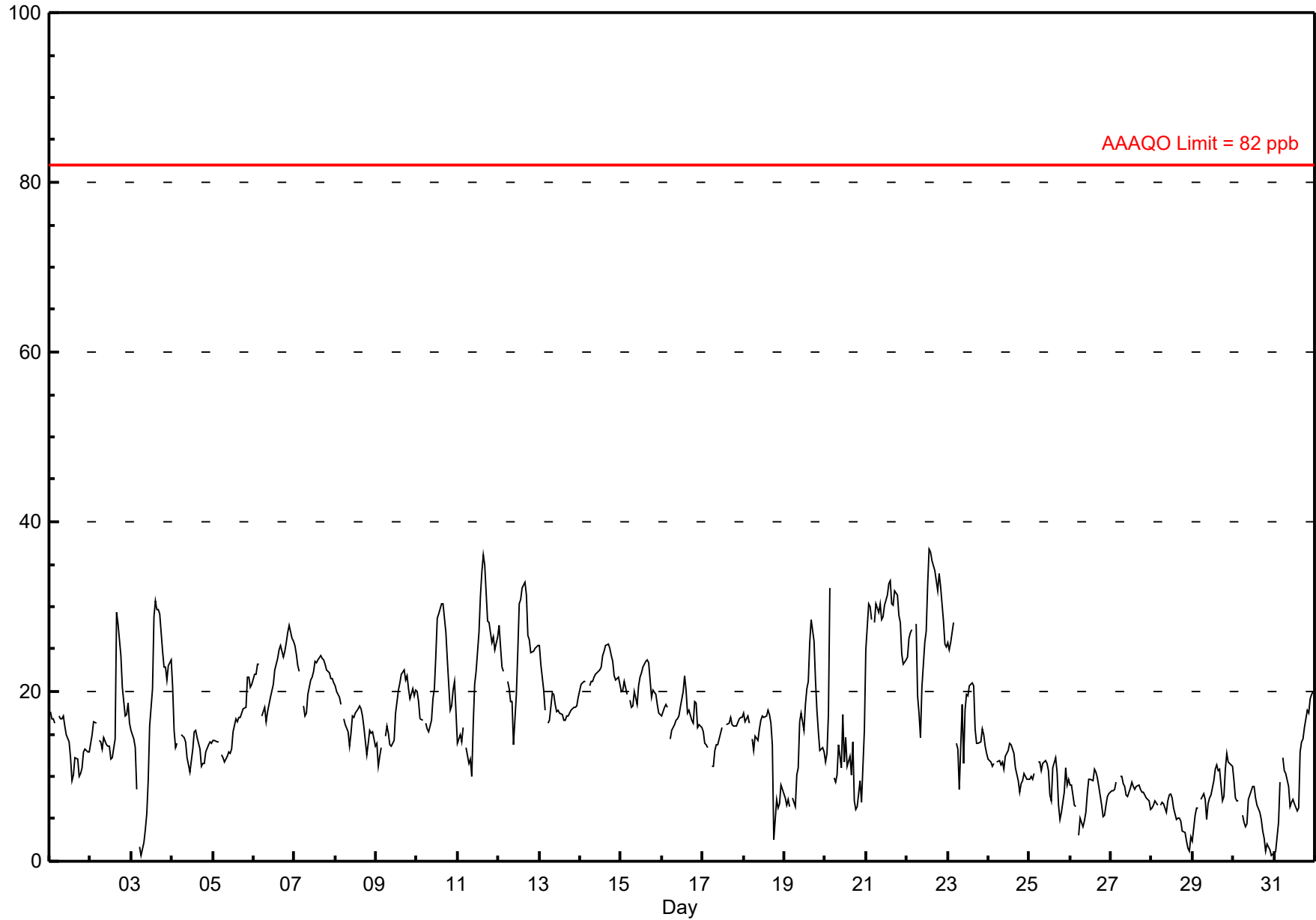
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																								
1-Oct	18	17	17	16	A	17	17	17	17	16	15	14	12	9	10	12	12	10	10	11	13	13	13	13	13.9	17.7																						
2-Oct	14	15	17	16	A	14	14	13	15	14	14	14	12	12	14	29	28	26	24	20	17	17	19	16	17.2	29.3																						
3-Oct	15	14	13	8	A	2	1	2	4	6	10	16	20	29	31	30	30	29	25	23	23	21	23	24	17.3	30.7																						
4-Oct	20	15	13	14	A	15	15	15	14	12	10	12	13	15	15	15	13	11	12	12	13	14	14	14	13.8	20.5																						
5-Oct	14	14	14	14	A	12	12	12	12	13	13	13	15	17	16	17	17	17	18	18	22	22	21	21	15.9	21.7																						
6-Oct	22	22	23	23	A	17	18	17	18	19	19	21	23	23	24	25	25	24	25	26	27	28	26	26	22.6	27.8																						
7-Oct	25	24	23	22	A	18	17	17	20	21	22	22	24	23	24	24	24	24	23	23	22	21	22	21	22.1	25.5																						
8-Oct	21	20	19	18	A	17	16	15	14	15	17	17	17	18	18	17	16	13	14	15	15	15	14	14	16.5	20.7																						
9-Oct	14	11	12	13	A	15	16	15	14	14	14	17	19	20	21	22	23	21	22	20	19	20	19	20	17.5	22.6																						
10-Oct	20	19	17	17	A	16	16	15	17	19	20	24	29	29	30	30	29	27	24	18	18	20	21	18	21.4	30.4																						
11-Oct	14	15	14	16	A	13	12	12	10	16	21	22	27	31	34	36	35	28	28	27	26	26	25	26	22.4	36.0																						
12-Oct	28	25	23	22	A	21	20	19	19	14	20	25	30	31	32	33	31	27	26	25	25	25	25	25	24.8	32.8																						
13-Oct	25	23	20	18	A	16	17	20	20	18	18	18	17	17	17	17	17	17	18	18	18	18	18	19	18.5	25.5																						
14-Oct	21	21	21	21	A	21	21	21	22	22	22	22	23	24	25	25	26	25	24	24	22	21	22	21	22.5	25.6																						
15-Oct	20	20	21	20	A	19	18	18	20	19	21	22	22	23	24	24	23	21	19	20	20	18	17	17	20.3	23.7																						
16-Oct	17	18	18	18	A	14	15	16	17	17	17	18	20	22	20	17	18	17	16	19	19	16	16	16	17.5	21.9																						
17-Oct	15	14	14	13	A	11	11	13	14	14	15	16	C	C	16	16	17	16	16	16	16	17	17	17	14.9	17.0																						
18-Oct	18	16	17	16	A	14	13	15	14	16	17	17	17	17	18	17	16	14	3	7	6	7	9	8	13.6	17.8																						
19-Oct	7	7	7	6	A	7	6	10	11	16	18	15	18	20	21	26	28	26	21	18	15	13	13	13	15.0	28.4																						
20-Oct	12	13	17	32	A	10	9	10	14	11	17	12	15	11	12	10	14	7	6	6	9	7	11	15	12.3	32.2																						
21-Oct	25	30	30	29	A	28	30	29	30	29	29	30	31	33	33	30	30	32	31	29	28	24	23	24	29.1	33.0																						
22-Oct	24	26	27	27	A	28	20	18	15	21	26	27	33	37	36	35	34	33	32	34	32	28	26	25	28.0	36.7																						
23-Oct	26	25	26	28	A	14	13	8	18	11	18	20	20	21	21	21	16	14	14	14	16	15	14	13	17.5	28.1																						
24-Oct	12	12	11	11	A	12	12	11	12	11	12	13	14	14	13	13	11	9	8	9	9	10	10	10	11.3	13.9																						
25-Oct	10	10	10	10	A	12	12	11	12	12	12	11	8	7	11	12	10	7	5	6	8	11	9	10	9.7	12.2																						
26-Oct	9	9	7	6	A	3	5	4	5	6	8	10	10	10	11	10	10	9	7	5	5	7	8	8	7.4	10.8																						
27-Oct	8	8	9	9	A	10	10	9	9	8	8	9	9	9	8	9	9	9	8	8	8	7	7	6	8.4	10.0																						
28-Oct	6	7	7	7	A	7	7	7	6	7	8	8	7	6	5	5	5	5	4	3	2	1	1	3	5.4	7.9																						
29-Oct	2	5	6	6	A	7	8	7	5	7	7	8	9	11	11	11	11	7	8	11	13	12	11	11	8.5	12.6																						
30-Oct	9	7	7	7	A	5	5	4	4	7	8	9	9	7	7	6	5	4	3	1	2	1	1	1	5.2	9.5																						
31-Oct	1	1	5	9	A	12	11	10	9	7	7	7	7	6	6	13	14	14	16	18	17	19	20	20	10.8	19.9																						
																								15.9	15.7	15.7	16.0	--	13.8	13.4	13.3	13.8	14.0	15.5	16.4	17.7	18.4	18.9	19.6	19.3	17.6	16.4	16.2	16.3	16.1	16.0	16.0	Diurnal Average
																								27.8	30.4	30.1	32.2	--	28.2	30.3	29.4	30.3	28.5	28.8	30.1	32.6	36.7	36.5	36.0	34.8	33.1	31.8	33.9	32.4	28.3	26.3	26.5	Diurnal Maximum

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



### Hourly Averages

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



# Hourly Maximums

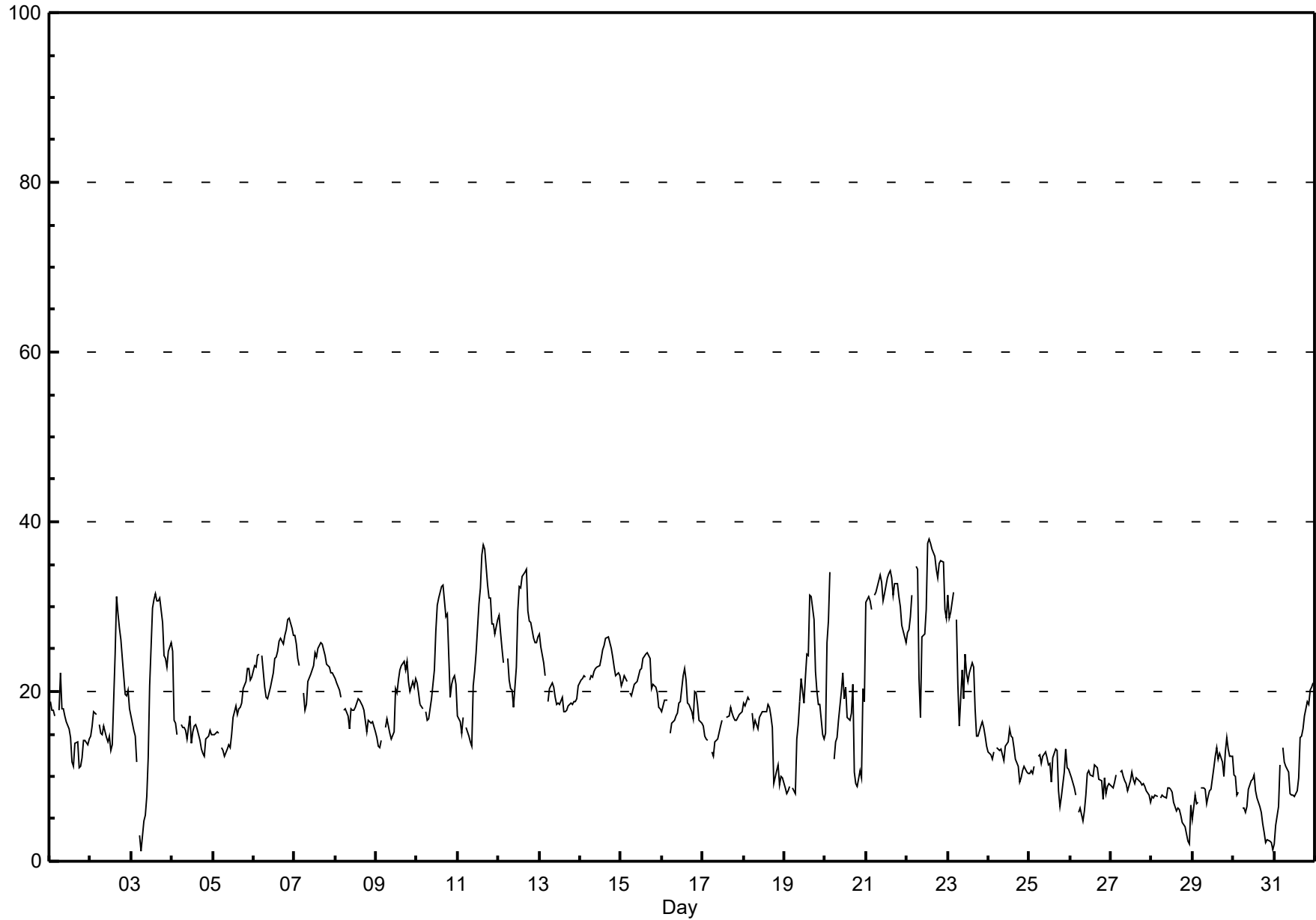
Ozone (O<sub>3</sub>) - ppb

Beaverlodge - October 2016

Maximum Value: 38.0 ppb on Oct 22 14:00		Maximum Daily Average: 31.4 ppb on Oct 22		Hours in Service: 744																							
Minimum Value: 1 ppb on Oct 3 07:00		Minimum Daily Average: 6.3 ppb on Oct 30		Hours of Data: 711																							
Maximum Diurnal Average: 21.2 ppb at hour 16		Minimum Diurnal Average: 15.2 ppb at hour 8		Hours of Missing Data: 33																							
Monthly Average: 17.92 ppb		Percentiles: P <sub>1</sub> = 2.3 P <sub>10</sub> = 8.2 Q <sub>1</sub> = 12.3 Median = 17.6 Q <sub>3</sub> = 22.6 P <sub>90</sub> = 28.7 P <sub>99</sub> = 35.6		Hours of Calibration: 33																							
				Percent Operational Time: 100.0																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Oct	19	18	18	17	A	18	22	18	18	17	16	16	15	12	11	14	14	11	11	12	14	14	14	14	15.4	22.2	
2-Oct	15	16	18	17	A	16	15	15	16	15	14	15	13	14	24	31	29	27	26	24	20	19	20	18	19.0	31.1	
3-Oct	17	15	15	12	A	3	1	5	5	8	12	21	30	31	32	31	31	31	28	24	24	23	25	26	19.5	31.6	
4-Oct	25	17	16	15	A	16	16	16	15	14	17	14	15	16	16	16	14	13	13	12	14	15	15	15	15.5	24.8	
5-Oct	15	15	15	15	A	13	13	12	13	14	13	15	17	18	17	18	18	19	20	21	23	23	21	22	17.0	22.8	
6-Oct	23	23	24	24	A	24	20	19	19	20	21	22	24	24	25	26	26	26	27	27	29	29	27	27	24.2	28.6	
7-Oct	27	26	24	23	A	20	18	18	21	22	23	23	25	24	25	26	26	25	24	23	23	22	22	22	23.1	26.6	
8-Oct	21	21	20	19	A	18	18	17	16	18	18	18	18	19	19	19	18	18	15	17	17	16	16	15	17.9	21.5	
9-Oct	15	14	13	14	A	16	17	16	15	14	15	20	20	21	22	23	24	23	24	21	20	21	20	21	18.7	23.6	
10-Oct	21	20	18	18	A	18	17	17	19	21	23	27	30	31	32	33	31	29	29	19	21	22	22	21	23.3	32.6	
11-Oct	17	16	15	17	A	16	15	14	14	21	22	25	30	32	36	37	37	32	31	31	28	28	27	28	24.8	37.2	
12-Oct	29	27	25	23	A	24	21	20	20	18	23	29	32	32	33	34	34	29	28	28	26	26	26	26	26.9	34.5	
13-Oct	27	25	23	22	A	19	20	21	21	19	18	19	18	19	18	18	18	19	19	19	19	19	21	21	19.9	26.7	
14-Oct	21	22	22	22	A	21	22	22	22	23	23	23	24	25	25	26	26	26	25	24	23	22	22	22	23.2	26.4	
15-Oct	21	21	22	21	A	20	19	20	21	21	22	23	23	24	24	24	24	24	20	21	21	20	18	18	21.4	24.5	
16-Oct	18	19	19	19	A	15	16	17	17	17	19	19	22	23	21	19	18	18	17	20	20	18	17	16	18.4	22.7	
17-Oct	16	15	14	14	A	13	12	14	14	14	16	17	C	C	17	17	18	18	17	17	17	17	18	18	15.8	18.1	
18-Oct	19	18	19	19	A	18	16	17	16	17	17	18	18	18	18	17	16	9	11	11	9	10	10	10	15.5	19.4	
19-Oct	9	8	8	9	A	9	8	14	16	19	22	19	22	24	24	31	31	28	22	20	19	19	15	14	17.8	31.3	
20-Oct	15	26	28	34	A	12	14	15	17	20	22	19	20	17	17	17	21	10	9	9	11	10	20	19	17.5	34.1	
21-Oct	31	31	31	30	A	31	32	33	34	33	31	32	33	34	34	33	31	33	33	31	30	28	27	26	31.3	34.3	
22-Oct	27	27	29	31	A	35	34	22	17	26	27	30	37	38	37	37	36	34	33	35	35	35	30	29	31.4	38.0	
23-Oct	31	29	29	32	A	28	21	16	23	19	24	22	21	22	23	23	18	15	15	16	16	16	15	14	21.2	31.7	
24-Oct	13	12	12	13	A	13	13	13	12	12	14	14	16	15	15	13	12	11	9	10	11	11	10	10	12.4	15.6	
25-Oct	10	11	10	11	A	12	12	12	12	13	12	11	11	9	12	13	13	8	6	8	11	13	11	11	11.1	13.2	
26-Oct	10	10	9	8	A	6	6	5	6	8	10	11	10	10	11	11	11	10	9	7	10	8	9	9	8.9	11.4	
27-Oct	9	9	9	10	A	11	11	10	10	9	8	10	10	10	9	10	10	9	9	9	9	8	8	7	9.2	10.7	
28-Oct	8	8	8	8	A	7	8	8	7	9	9	8	8	7	6	6	6	5	5	4	3	2	2	7	6.4	8.7	
29-Oct	5	8	7	7	A	9	9	9	7	8	8	8	11	12	13	12	13	12	10	13	15	13	12	12	10.1	14.5	
30-Oct	10	10	8	8	A	6	6	6	7	9	9	10	10	8	7	6	6	4	3	2	3	2	2	1	6.3	10.1	
31-Oct	2	4	7	11	A	13	12	11	11	8	8	8	8	8	10	15	15	16	17	19	18	20	21	21	12.2	21.0	
		17.6	17.4	17.3	17.5	--	16.1	15.7	15.2	15.5	16.3	17.3	18.2	19.7	19.9	20.6	21.2	20.9	19.3	18.2	17.9	18.0	17.7	17.5	17.4	Diurnal Average	
		31.4	31.2	30.7	34.1	--	34.7	34.5	33.1	33.8	32.8	30.6	31.6	37.4	38.0	37.5	37.2	36.8	34.4	33.4	35.1	35.4	35.2	29.6	28.6	Diurnal Maximum	
C - Calibration					A - Automated Daily Zero Span																						

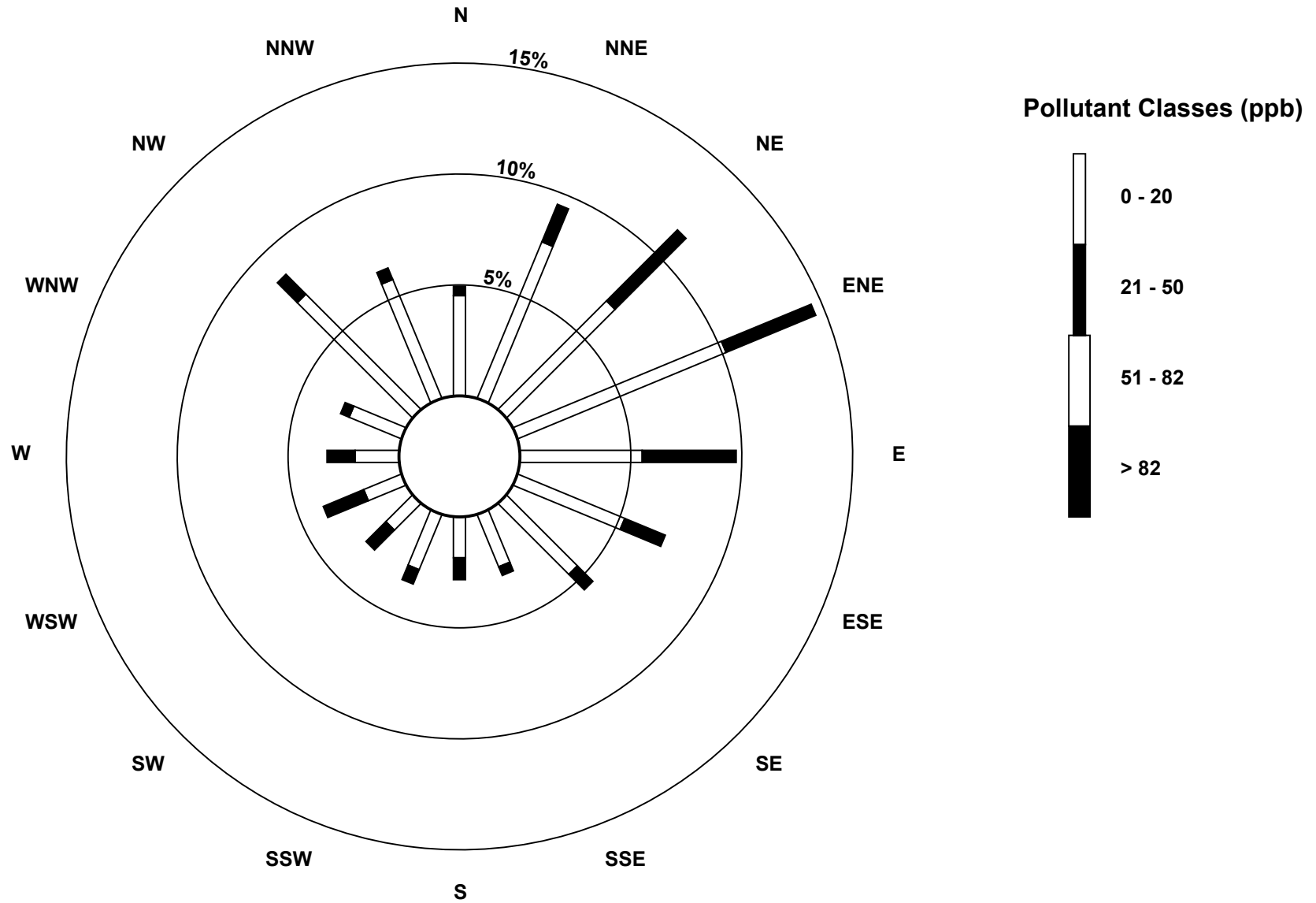
**Hourly Maximums**

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



**Pollutant Rose**

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





Peace Airshed Zone Association

### Eight Hour Running Averages

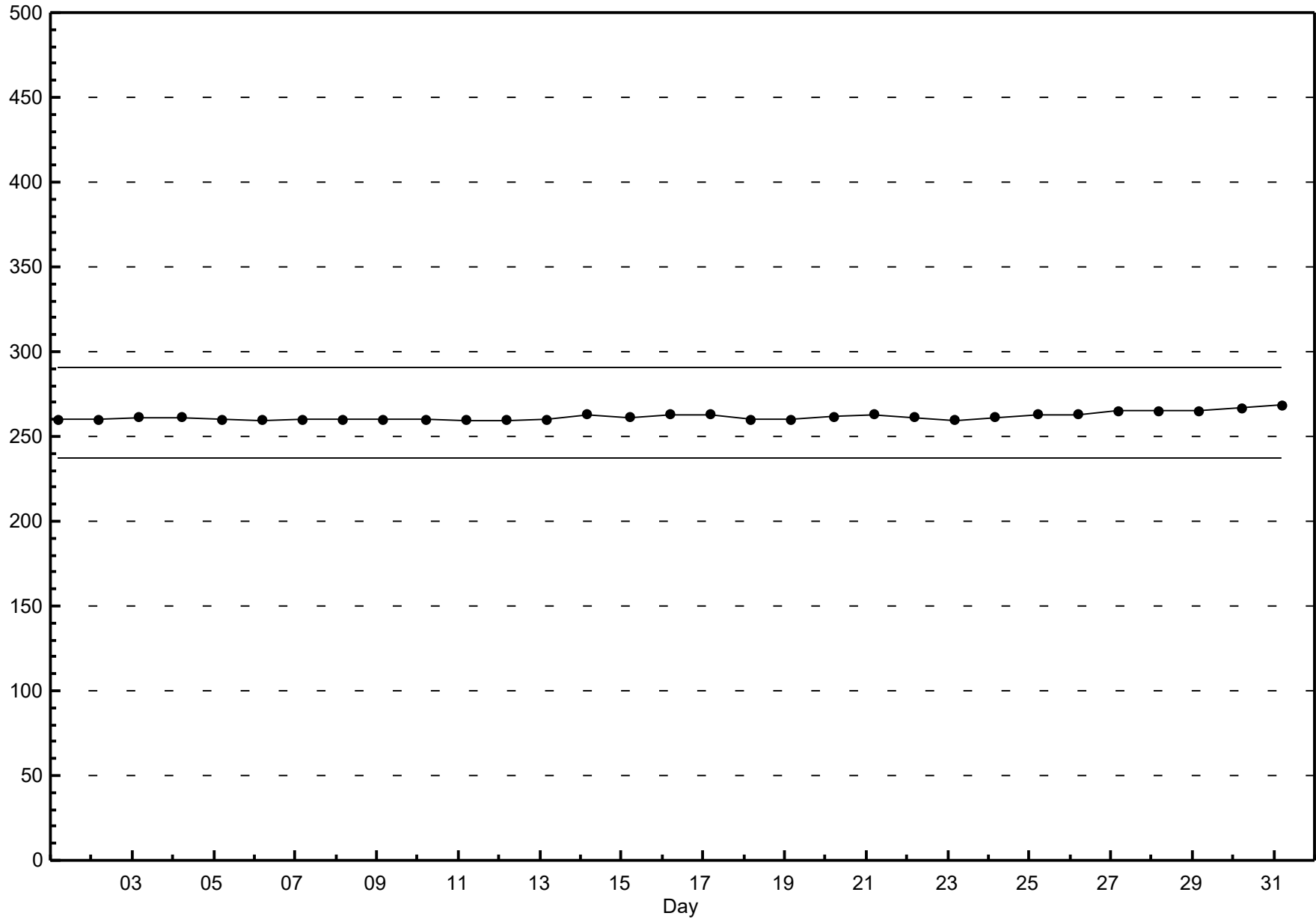
Ozone (O<sub>3</sub>) - ppb

Beaverlodge - October 2016

Maximum Value: 34.3 ppb on Oct 22 20:00																					Hours in Service:	744			
Minimum Value: 1.3 ppb on Oct 31 02:00																					Hours of Data:	744			
Percentiles: P <sub>1</sub> = 2.8 P <sub>10</sub> = 7.2 Q <sub>1</sub> = 10.8 Median = 16.2 Q <sub>3</sub> = 20.8 P <sub>90</sub> = 25.4 P <sub>99</sub> = 30.9																					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-Oct	18	18	18	18	18	17	17	17	17	17	16	16	16	15	14	13	13	12	11	11	11	11	12	12	18.1
2-Oct	12	13	14	14	14	15	15	15	15	15	14	14	14	13	13	15	17	19	20	21	21	22	23	21	22.6
3-Oct	19	18	17	15	15	13	10	8	6	5	5	6	7	11	15	18	21	24	26	27	27	26	25	25	27.3
4-Oct	24	22	20	19	19	18	17	15	14	14	14	13	13	13	13	13	13	13	13	13	13	13	13	13	23.5
5-Oct	13	13	14	14	14	14	14	13	13	13	13	12	13	13	14	15	15	16	16	17	18	18	19	19	19.4
6-Oct	20	21	21	22	22	21	21	20	20	19	19	18	19	20	20	21	22	23	24	24	25	25	26	26	25.9
7-Oct	26	26	26	25	25	24	22	21	20	20	20	20	20	21	22	23	23	23	24	24	23	23	23	22	25.9
8-Oct	22	22	21	21	20	20	19	18	17	16	16	16	16	16	17	17	17	17	16	16	16	15	15	15	22.1
9-Oct	14	14	14	14	14	13	14	14	14	14	14	15	15	16	17	18	19	20	21	21	21	21	21	21	21.1
10-Oct	20	20	19	19	19	18	18	17	17	17	17	18	20	21	23	25	26	27	28	27	26	25	23	22	27.7
11-Oct	20	18	17	17	17	16	14	14	13	13	14	15	17	19	22	25	28	29	30	31	31	30	29	28	30.8
12-Oct	27	26	26	25	25	24	24	23	21	20	19	20	21	22	24	25	27	29	29	29	29	28	27	26	29.4
13-Oct	25	25	24	23	23	22	21	20	19	18	18	18	18	18	18	18	17	17	17	17	17	17	18	18	25.4
14-Oct	18	19	19	20	20	20	21	21	21	21	21	22	22	22	23	23	24	24	24	24	24	24	24	23	24.4
15-Oct	22	22	21	21	21	20	20	19	19	19	19	19	20	20	21	22	22	22	22	22	22	21	20	20	22.4
16-Oct	19	18	18	18	18	17	17	17	17	17	16	16	17	18	18	19	19	19	19	19	18	18	17	17	18.9
17-Oct	17	16	16	15	15	14	13	13	13	13	13	13	13	14	15	15	16	16	16	16	16	16	16	16	16.7
18-Oct	16	17	17	17	17	17	16	16	15	15	15	15	15	16	16	17	17	17	15	14	12	11	10	9	16.9
19-Oct	8	7	7	7	7	8	7	7	8	9	11	12	13	14	16	18	20	22	22	22	21	20	19	19	22.4
20-Oct	16	15	14	16	16	16	15	15	15	15	15	12	12	12	13	13	13	12	11	10	10	9	9	10	16.4
21-Oct	11	14	17	20	21	24	27	29	30	29	29	29	30	30	31	31	31	31	31	31	31	30	29	28	31.4
22-Oct	27	26	26	26	25	26	25	24	23	22	22	22	23	24	26	29	31	33	33	34	34	33	32	31	34.3
23-Oct	30	28	28	27	26	24	22	20	19	17	16	15	15	16	17	19	18	19	18	17	17	16	15	14	29.5
24-Oct	14	14	13	13	13	12	12	12	12	11	12	12	12	12	13	13	13	12	12	11	11	10	10	10	13.8
25-Oct	9	10	10	10	10	10	10	11	11	11	11	11	11	10	10	10	10	10	9	8	8	9	8	8	11.4
26-Oct	8	8	9	9	9	8	7	6	6	5	5	6	6	7	8	9	9	10	9	9	8	8	8	7	9.6
27-Oct	7	7	7	8	8	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	8	8	8	8	9.2
28-Oct	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	6	6	6	5	4	4	3	3	3	7.4
29-Oct	3	3	3	4	4	5	5	6	6	7	7	7	8	8	9	9	9	9	10	10	10	10	10	10	10.5
30-Oct	10	10	10	10	9	8	7	6	6	6	6	6	6	7	7	7	7	7	6	5	4	3	3	2	10.3
31-Oct	2	1	2	3	3	4	6	7	8	9	9	9	9	8	7	8	8	9	10	12	13	15	16	17	17.3
29.5 28.5 27.7 27.0 26.2 25.6 26.8 28.8 29.6 29.3 29.1 29.4 29.6 30.2 30.5 30.6 31.1 32.7 33.4 34.3 34.3 33.2 31.8 30.6 Diurnal Maximums																									

### Span Responses

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



## Hourly Averages

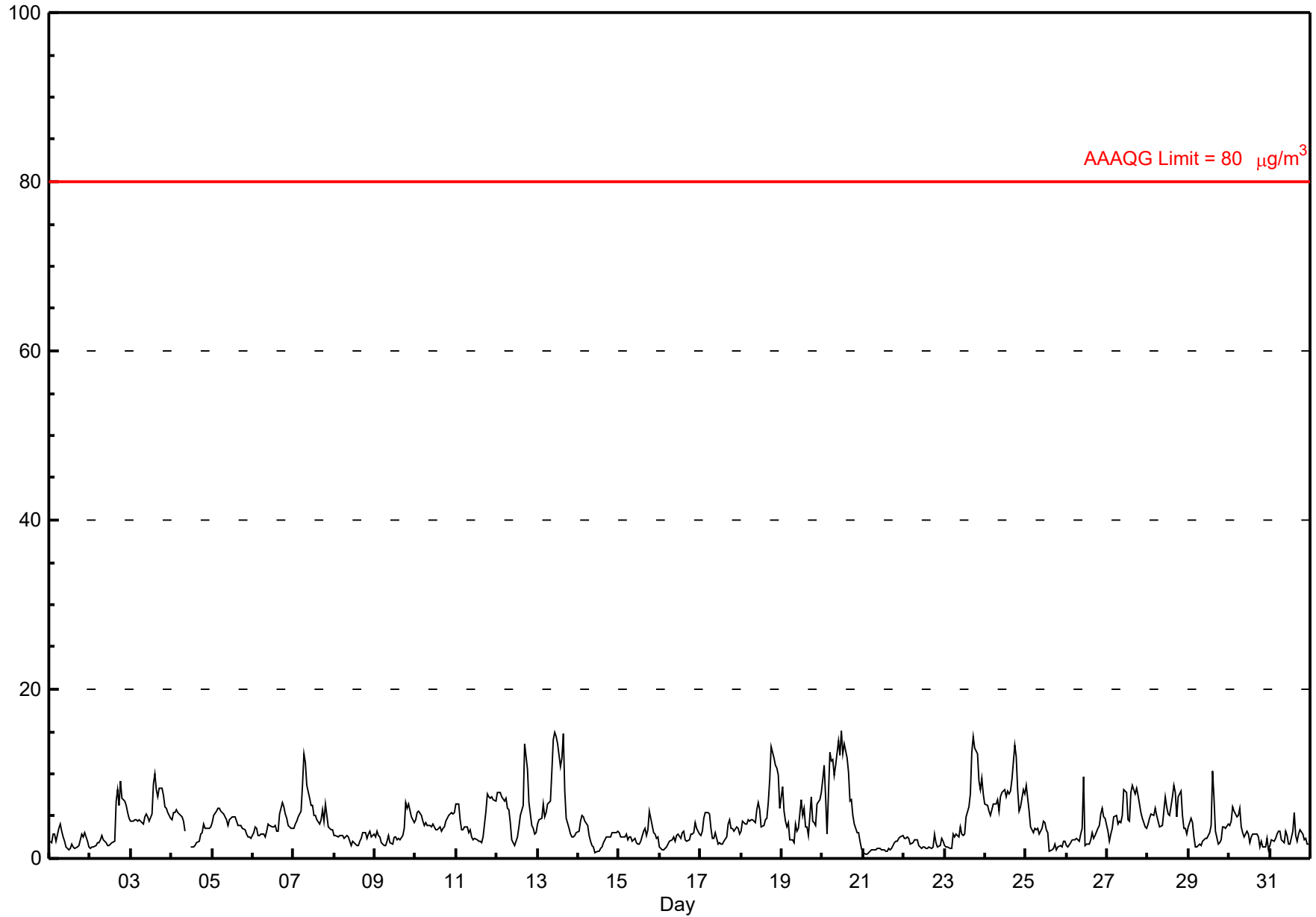
## Particulate Matter 2.5 (PM<sub>2.5</sub>) - µg/m<sup>3</sup>

### Beaverlodge - October 2016

Number of Exceedences: 1-hr: 0 24-hr: 0	Hours in Service: 744
Maximum Value: 15.0 µg/m <sup>3</sup> on Oct 20 12:00	Maximum Daily Average: 8.7 µg/m <sup>3</sup> on Oct 20
Minimum Value: 0 µg/m <sup>3</sup> on Oct 21 02:00	Hours of Data: 742
Minimum Daily Average: 1.3 µg/m <sup>3</sup> on Oct 21	Hours of Missing Data: 2
Maximum Diurnal Average: 5.3 µg/m <sup>3</sup> at hour 19	Hours of Calibration: 0
Monthly Average: 4.18 µg/m <sup>3</sup>	Percent Operational Time: 99.7
Percentiles: P <sub>1</sub> = 0.9 P <sub>10</sub> = 1.5 Q <sub>1</sub> = 2.3 Median = 3.5 Q <sub>3</sub> = 5.3 P <sub>90</sub> = 7.7 P <sub>99</sub> = 13.5	

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-Oct	2	2	3	3	2	4	4	3	2	2	1	1	1	2	1	1	1	1	2	3	3	3	2	1	2.2	4.1																						
2-Oct	1	1	1	2	2	2	2	3	2	2	2	1	2	2	2	7	8	6	9	7	7	6	5	5	3.6	9.1																						
3-Oct	4	4	5	5	4	5	4	4	5	5	5	4	5	9	10	8	7	8	8	7	6	6	5	5	5.9	10.0																						
4-Oct	5	5	5	6	5	5	5	4	3	N	N	1	1	1	2	2	2	3	3	4	4	4	4	4	3.5	5.7																						
5-Oct	4	5	6	6	6	6	5	5	5	4	5	5	5	5	4	4	4	4	4	3	3	3	2	2	4.3	6.0																						
6-Oct	3	4	4	3	3	3	3	3	3	4	4	4	4	4	3	3	5	7	6	5	5	4	4	4	3.8	6.5																						
7-Oct	4	4	4	5	6	9	12	11	9	7	6	6	5	5	5	4	5	6	4	6	4	3	3	3	5.7	12.3																						
8-Oct	3	3	2	3	3	3	2	3	3	2	2	2	2	2	2	2	2	3	3	2	3	3	2	3	2.4	3.2																						
9-Oct	2	3	3	2	2	1	2	2	3	2	2	2	3	2	2	2	3	4	7	6	6	5	5	4	3.1	6.7																						
10-Oct	5	5	6	5	4	4	4	4	4	4	4	4	3	3	4	3	3	4	4	5	5	5	5	5	4.4	5.7																						
11-Oct	6	6	5	3	3	4	4	3	3	3	2	2	2	2	2	2	3	6	8	7	7	7	7	7	4.4	7.7																						
12-Oct	8	8	8	7	7	7	6	6	4	2	2	2	2	4	5	6	14	12	11	7	4	4	3	3	5.8	13.5																						
13-Oct	4	5	5	6	5	5	6	7	10	14	15	14	14	11	12	15	8	5	4	3	2	3	3	3	7.4	14.8																						
14-Oct	3	4	5	5	4	4	3	2	2	1	1	1	1	1	1	2	3	3	3	3	3	3	3	3	2.6	5.0																						
15-Oct	3	3	3	3	3	2	2	3	2	2	2	2	2	3	4	3	3	3	6	5	3	3	2	2	2.8	5.6																						
16-Oct	1	1	1	1	1	2	2	2	2	2	3	3	2	3	3	2	2	2	3	3	3	4	4	3	2.4	4.2																						
17-Oct	3	3	5	5	5	5	4	2	2	3	2	2	2	2	2	3	4	5	4	3	3	4	4	3	3.3	5.5																						
18-Oct	3	4	4	4	5	4	5	5	4	6	7	6	4	4	5	5	7	9	13	12	11	11	10	6	6.3	13.3																						
19-Oct	8	6	4	4	4	2	2	2	4	3	4	7	5	6	4	4	3	7	4	4	4	6	7	8	4.7	8.5																						
20-Oct	9	11	7	3	12	11	12	10	11	14	12	15	12	14	12	10	7	7	5	4	3	3	2	1	8.7	15.0																						
21-Oct	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	3	3	1.3	2.7																						
22-Oct	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	3	2	1	2	2	2	1.8	2.9																						
23-Oct	2	1	1	1	1	3	3	3	2	4	3	3	3	5	6	8	13	14	13	12	9	8	9	8	5.6	14.4																						
24-Oct	6	6	6	5	6	6	7	7	6	7	8	8	7	8	8	8	9	13	12	8	6	6	8	8	7.5	13.3																						
25-Oct	9	7	6	4	3	4	3	4	3	4	4	4	3	3	1	1	1	2	1	1	1	1	2	2	3.1	8.7																						
26-Oct	1	1	2	2	2	2	2	2	3	4	10	1	2	2	2	3	2	3	4	4	5	6	5	5	3.1	9.7																						
27-Oct	3	2	3	4	5	5	4	4	4	5	8	8	5	4	8	9	8	8	7	6	5	5	4	3	5.4	8.7																						
28-Oct	4	5	5	5	6	5	4	4	4	6	7	6	5	5	7	9	8	5	7	8	5	4	4	3	5.4	8.6																						
29-Oct	4	5	4	3	1	1	2	2	2	2	2	2	3	4	10	7	3	2	2	2	4	4	4	4	3.3	10.3																						
30-Oct	4	4	6	6	5	5	6	4	3	2	3	3	2	3	3	3	3	3	1	2	1	1	2	1	3.2	6.1																						
31-Oct	1	2	2	2	3	3	3	2	2	3	3	2	2	3	5	3	2	3	3	3	2	2	2	2	2.6	5.4																						
																								3.9	4.0	4.0	3.7	3.9	4.0	4.1	3.8	3.8	4.1	4.3	4.0	3.6	3.9	4.4	4.5	4.6	5.1	5.3	4.9	4.3	4.2	4.1	3.7	Diurnal Average
																								9.3	10.9	7.9	7.3	12.5	11.5	12.3	11.4	11.0	14.1	14.8	15.0	13.6	13.6	11.9	14.8	13.5	14.4	13.3	12.3	11.1	10.8	9.9	7.8	Diurnal Maximum

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>



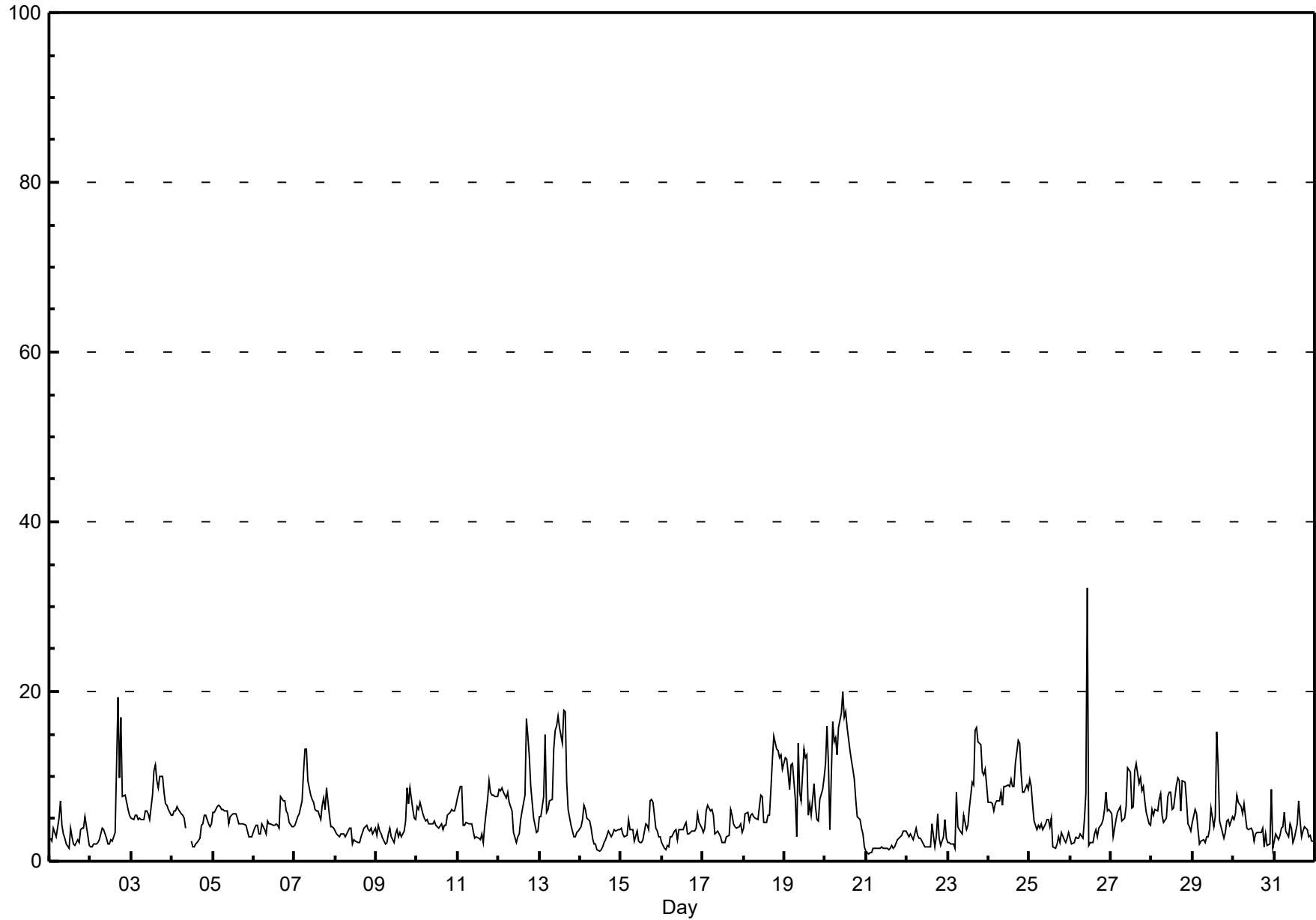


# Hourly Maximums

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

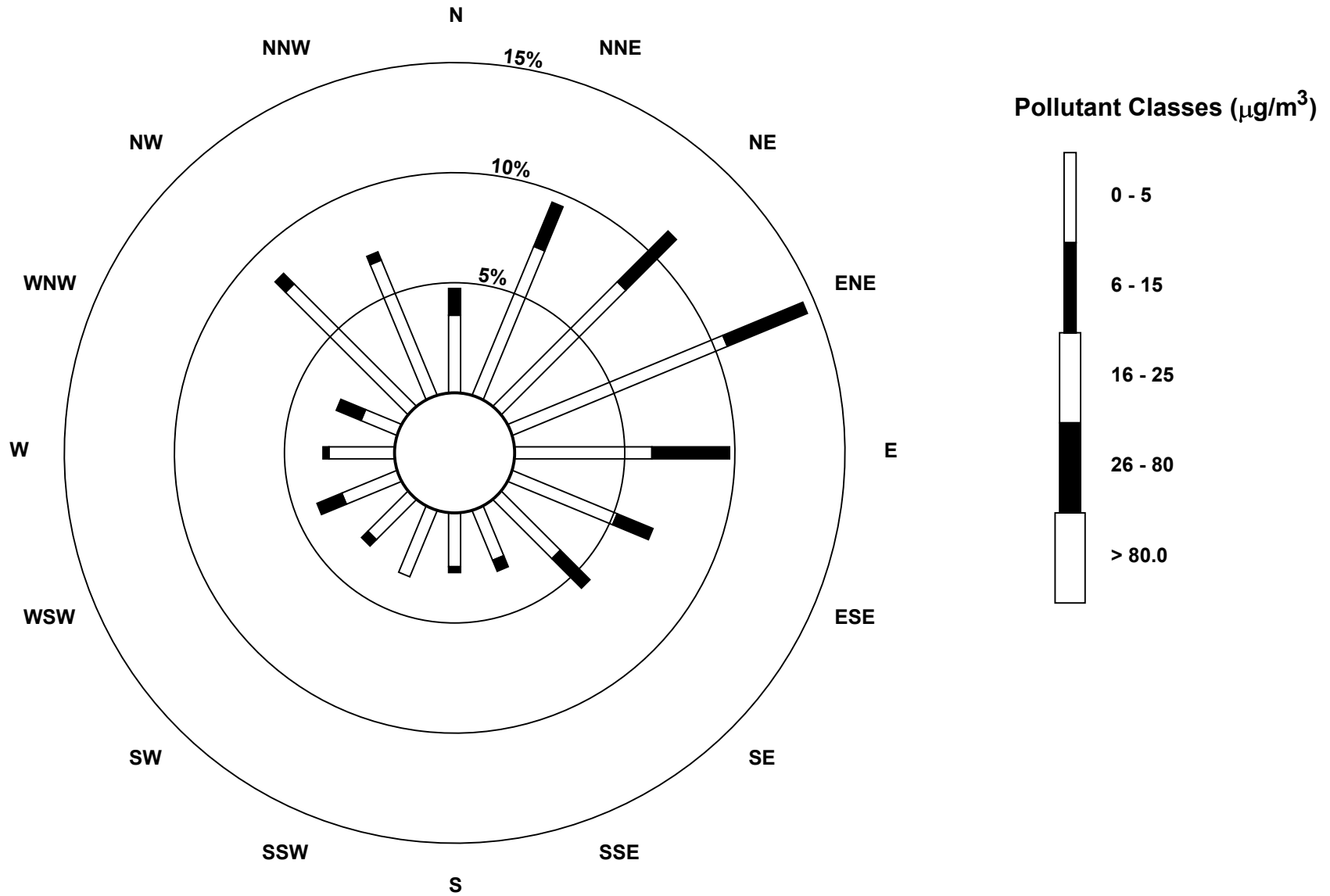
## Beaverlodge - October 2016

Maximum Value: 32.2 µg/m <sup>3</sup> on Oct 26 11:00		Maximum Daily Average: 11.5 µg/m <sup>3</sup> on Oct 20		Hours in Service: 744																							
Minimum Value: 1 µg/m <sup>3</sup> on Oct 21 02:00		Minimum Daily Average: 1.8 µg/m <sup>3</sup> on Oct 21		Hours of Data: 742																							
Maximum Diurnal Average: 6.9 µg/m <sup>3</sup> at hour 19		Minimum Diurnal Average: 4.7 µg/m <sup>3</sup> at hour 24		Hours of Missing Data: 2																							
Monthly Average: 5.45 µg/m <sup>3</sup>		Percentiles: P <sub>1</sub> = 1.3 P <sub>10</sub> = 2.2 Q <sub>1</sub> = 3.2 Median = 4.4 Q <sub>3</sub> = 6.6 P <sub>90</sub> = 9.8 P <sub>99</sub> = 17.3		Hours of Calibration: 0																							
				Percent Operational Time: 99.7																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Oct	3	2	4	3	3	5	7	4	3	3	2	1	4	3	2	2	2	2	4	4	4	5	3	2	3.3	7.0	
2-Oct	2	2	2	2	2	2	3	4	4	3	2	2	2	2	3	11	19	10	17	8	8	7	6	5	5.4	19.2	
3-Oct	5	5	5	5	5	5	5	5	6	6	6	5	8	11	11	10	9	10	10	8	7	7	6	5	6.8	11.3	
4-Oct	5	6	6	6	6	6	5	5	4	N	N	2	2	2	2	2	3	4	4	5	5	4	4	4	4.3	6.4	
5-Oct	6	6	6	7	6	6	6	6	6	4	5	5	6	6	5	4	4	4	4	4	3	3	3	3	5.0	6.6	
6-Oct	4	4	4	3	3	4	4	3	5	4	4	4	4	4	4	4	8	7	7	6	6	5	4	4	4.6	7.6	
7-Oct	4	5	5	6	7	11	13	13	10	8	7	7	6	6	6	5	7	7	6	9	5	4	4	4	6.8	13.2	
8-Oct	4	3	3	3	3	3	3	3	4	4	2	2	2	2	2	3	3	4	4	4	3	4	3	4	3.2	4.2	
9-Oct	3	4	4	3	3	2	2	3	4	3	2	3	4	3	3	3	3	5	9	7	9	6	5	5	4.1	8.7	
10-Oct	6	6	7	6	5	5	5	4	4	4	4	5	4	4	4	4	4	4	4	5	6	6	6	6	7	5.1	6.9
11-Oct	7	9	9	4	4	5	4	4	4	4	3	3	3	3	3	2	4	7	10	8	8	8	8	8	5.5	9.5	
12-Oct	9	8	9	8	7	8	7	6	6	3	2	3	3	5	6	8	17	15	12	9	5	4	3	4	7.0	16.7	
13-Oct	5	5	8	15	6	6	7	7	13	15	16	17	16	14	18	18	9	6	4	3	3	3	3	3	9.3	17.8	
14-Oct	4	5	7	6	5	5	4	3	2	2	1	1	1	2	2	3	3	3	3	3	4	4	4	4	3.3	6.6	
15-Oct	4	3	3	3	5	4	4	4	2	3	2	2	2	2	4	4	4	7	7	7	4	3	3	3	3.8	7.3	
16-Oct	2	1	1	2	2	3	3	3	4	3	4	4	4	4	5	3	3	3	4	3	4	6	5	4	3.3	5.6	
17-Oct	3	4	6	7	6	6	5	3	3	4	3	2	2	2	3	3	6	5	4	4	4	4	4	3	4.1	6.6	
18-Oct	4	6	6	5	5	6	5	5	5	7	8	8	5	5	5	5	9	12	15	13	13	12	13	11	7.7	14.7	
19-Oct	12	12	10	8	11	12	7	3	14	8	7	13	12	13	5	7	5	9	6	5	5	7	8	10	8.8	13.9	
20-Oct	12	16	12	4	16	14	15	12	16	17	20	17	18	16	13	12	11	10	7	5	5	4	3	2	11.5	20.0	
21-Oct	1	1	1	1	1	1	2	1	2	2	2	1	2	1	1	2	2	2	2	3	3	3	3	4	1.8	3.5	
22-Oct	3	3	3	3	3	4	3	3	3	2	2	2	2	2	2	4	2	3	6	3	2	3	5	3	2.8	5.6	
23-Oct	2	2	2	2	2	8	4	4	3	5	5	4	4	6	9	9	15	16	14	14	11	10	11	9	7.1	15.7	
24-Oct	7	7	7	6	7	7	7	8	7	9	9	9	9	10	9	9	12	14	14	10	8	8	9	9	8.7	14.2	
25-Oct	10	9	7	5	4	4	4	4	4	4	5	5	4	5	2	1	2	3	2	3	2	2	3	3	4.1	9.6	
26-Oct	3	2	2	3	3	3	3	3	5	8	32	2	2	2	3	4	3	4	4	5	6	8	6	6	5.1	32.2	
27-Oct	6	3	4	5	6	6	5	5	5	6	11	11	6	6	11	12	9	10	8	9	7	6	4	4	6.9	11.5	
28-Oct	6	5	6	6	7	8	5	5	5	8	8	8	6	6	9	10	10	6	10	9	7	4	4	3	6.8	9.8	
29-Oct	5	6	6	4	2	2	3	2	3	3	4	6	4	5	15	11	5	3	3	3	5	5	4	5	4.7	15.2	
30-Oct	5	6	8	7	6	6	7	5	4	4	4	4	2	3	3	3	3	4	2	3	2	2	8	1	4.3	8.5	
31-Oct	2	3	3	3	4	4	6	4	3	4	4	2	3	4	7	5	3	3	4	4	3	3	2	2	3.6	7.2	
		5.0	5.1	5.3	4.9	5.1	5.5	5.3	4.7	5.2	5.4	6.2	5.2	4.9	5.2	5.8	5.9	6.4	6.6	6.9	6.0	5.4	5.2	5.1	4.7	Diurnal Average	
		12.2	15.9	11.6	14.9	16.5	14.0	14.5	13.2	15.7	17.4	32.2	17.2	17.7	15.7	17.8	17.6	19.2	15.7	17.0	13.8	13.0	12.3	12.5	10.9	Diurnal Maximum	
N - Not Valid																											



**Pollutant Rose**

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

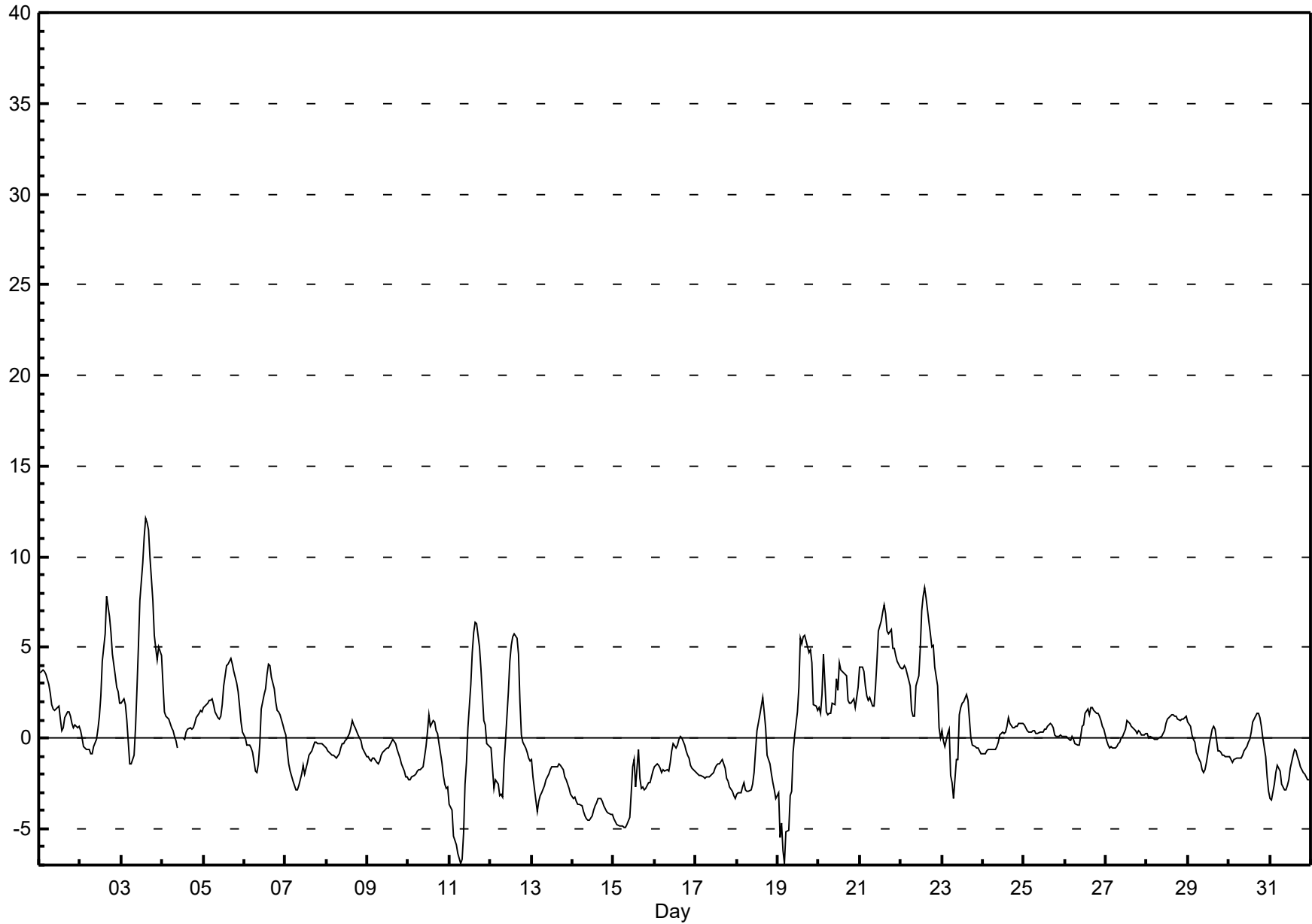


# Hourly Averages

External Temperature (ET) - °C

Beaverlodge - October 2016

Maximum Value: 12.1 °C on Oct 3 15:00 Minimum Value: -7 °C on Oct 11 07:00 Maximum Diurnal Average: 2.2 °C at hour 16 Monthly Average: 0.16 °C		Maximum Daily Average: 4.9 °C on Oct 3 Minimum Daily Average: -3.9 °C on Oct 14 Minimum Diurnal Average: -1.4 °C at hour 8 Percentiles: P <sub>1</sub> = -5.5 P <sub>10</sub> = -2.9 Q <sub>1</sub> = -1.6 Median = -0.1 Q <sub>3</sub> = 1.4 P <sub>90</sub> = 3.9 P <sub>99</sub> = 7.1		Hours in Service: 744 Hours of Data: 742 Hours of Missing Data: 2 Hours of Calibration: 0 Percent Operational Time: 99.7																																												
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																								
1-Oct	4	4	4	4	4	3	2	2	2	2	2	2	1	0	1	1	1	1	1	1	1	1	1	1	1	1.8	3.7																					
2-Oct	0	0	0	-1	-1	-1	-1	-1	0	0	0	1	2	4	6	8	7	7	6	5	3	3	3	2	2	2.2	7.8																					
3-Oct	2	2	2	1	0	-1	-1	-1	1	3	5	8	10	11	12	12	12	10	8	6	5	4	5	5	4.9	12.1																						
4-Oct	3	1	1	1	1	1	0	0	0	-1	N	N	0	0	0	0	1	1	1	1	1	1	1	1	0.8	3.0																						
5-Oct	2	2	2	2	2	2	2	1	1	1	1	2	3	4	4	4	4	4	4	3	3	2	1	0	2.3	4.4																						
6-Oct	0	0	0	0	-1	-1	-2	-2	-1	0	2	2	3	3	4	4	3	3	2	2	1	1	1	0	1.0	4.1																						
7-Oct	0	-1	-1	-2	-2	-3	-3	-3	-3	-2	-2	-2	-2	-1	-1	-1	0	0	0	0	0	0	0	0	-1.3	0.2																						
8-Oct	-1	-1	-1	-1	-1	-1	-1	-1	-1	0	0	0	0	0	1	1	1	1	0	0	0	-1	-1	-1	-0.3	1.0																						
9-Oct	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0	0	0	0	-1	-1	-1	-1	-2	-2	-2	-1.0	0.0																						
10-Oct	-2	-2	-2	-2	-2	-2	-2	-2	-2	-1	0	0	1	1	1	1	0	0	0	-1	-2	-3	-3	-3	-1.1	1.3																						
11-Oct	-4	-4	-5	-6	-6	-6	-7	-7	-5	-3	-1	1	3	5	6	6	6	5	4	2	1	1	0	0	-0.6	6.4																						
12-Oct	-1	-2	-3	-2	-3	-3	-3	-3	-1	0	3	4	5	6	6	6	5	2	0	0	-1	-1	-1	-1	0.4	5.8																						
13-Oct	-1	-2	-3	-4	-4	-3	-3	-3	-2	-2	-2	-2	-2	-2	-2	-2	-1	-1	-2	-2	-2	-3	-3	-3	-2.3	-1.2																						
14-Oct	-3	-3	-4	-4	-4	-4	-4	-4	-4	-5	-5	-4	-4	-4	-4	-3	-3	-3	-4	-4	-4	-4	-4	-4	-3.9	-3.3																						
15-Oct	-4	-5	-5	-5	-5	-5	-5	-5	-5	-4	-3	-2	-1	-3	-1	-2	-3	-3	-3	-3	-2	-2	-2	-2	-3.3	-0.6																						
16-Oct	-2	-1	-1	-2	-2	-2	-2	-2	-2	-1	-1	0	-1	0	0	0	0	0	-1	-1	-1	-2	-2	-2	-1.1	0.1																						
17-Oct	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-1	-1	-1	-1	-1	-2	-2	-2	-3	-3	-3	-3	-2.1	-1.2																						
18-Oct	-3	-3	-3	-3	-2	-3	-3	-3	-3	-3	-2	-1	0	1	2	2	1	1	-1	-1	-2	-2	-3	-3	-1.5	2.2																						
19-Oct	-3	-5	-5	-6	-7	-5	-5	-3	-3	-1	0	1	3	5	5	6	6	5	5	5	4	2	2	2	0.3	5.6																						
20-Oct	2	1	2	5	1	1	1	1	2	2	3	3	4	4	4	3	3	2	2	2	2	2	2	3	2.4	4.7																						
21-Oct	4	4	4	3	2	2	2	2	2	3	4	6	6	7	7	7	6	6	6	5	5	5	4	4	4.4	7.3																						
22-Oct	4	4	4	4	4	3	2	1	1	3	3	5	7	8	8	8	6	6	5	5	4	3	1	0	4.1	8.3																						
23-Oct	0	0	-1	0	0	-2	-2	-3	-1	-1	1	2	2	2	2	2	1	0	0	0	-1	-1	-1	-1	0.0	2.4																						
24-Oct	-1	-1	-1	-1	-1	-1	-1	-1	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	0.1	1.1																						
25-Oct	1	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0.4	0.8																						
26-Oct	0	0	0	0	0	0	0	0	0	0	1	1	1	2	1	2	2	2	1	1	1	1	1	1	0.7	1.7																						
27-Oct	0	0	-1	-1	-1	-1	0	0	0	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0.1	1.0																						
28-Oct	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.6	1.3																						
29-Oct	1	1	0	0	0	-1	-1	-1	-2	-2	-2	-1	0	0	1	1	0	-1	-1	-1	-1	-1	-1	-1	-0.6	0.9																						
30-Oct	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0	0	0	0	1	1	1	1	1	1	0	-1	-2	-3	-0.4	1.4																						
31-Oct	-3	-3	-3	-2	-1	-2	-2	-3	-3	-3	-3	-2	-2	-1	-1	-1	-1	-1	-2	-2	-2	-2	-2	-2	-2.0	-0.6																						
																								-0.3	-0.6	-0.8	-0.8	-1.0	-1.2	-1.4	-1.4	-1.1	-0.6	0.1	0.7	1.3	1.7	2.1	2.2	2.0	1.5	1.0	0.6	0.3	0.0	-0.2	-0.4	Diurnal Average
																								3.9	3.9	4.0	4.7	3.5	2.9	2.5	1.8	1.9	2.9	5.1	7.6	9.6	11.1	12.1	11.9	11.5	10.0	7.6	5.6	4.9	4.5	5.0	4.5	Diurnal Maximum
N - Not Valid																																																



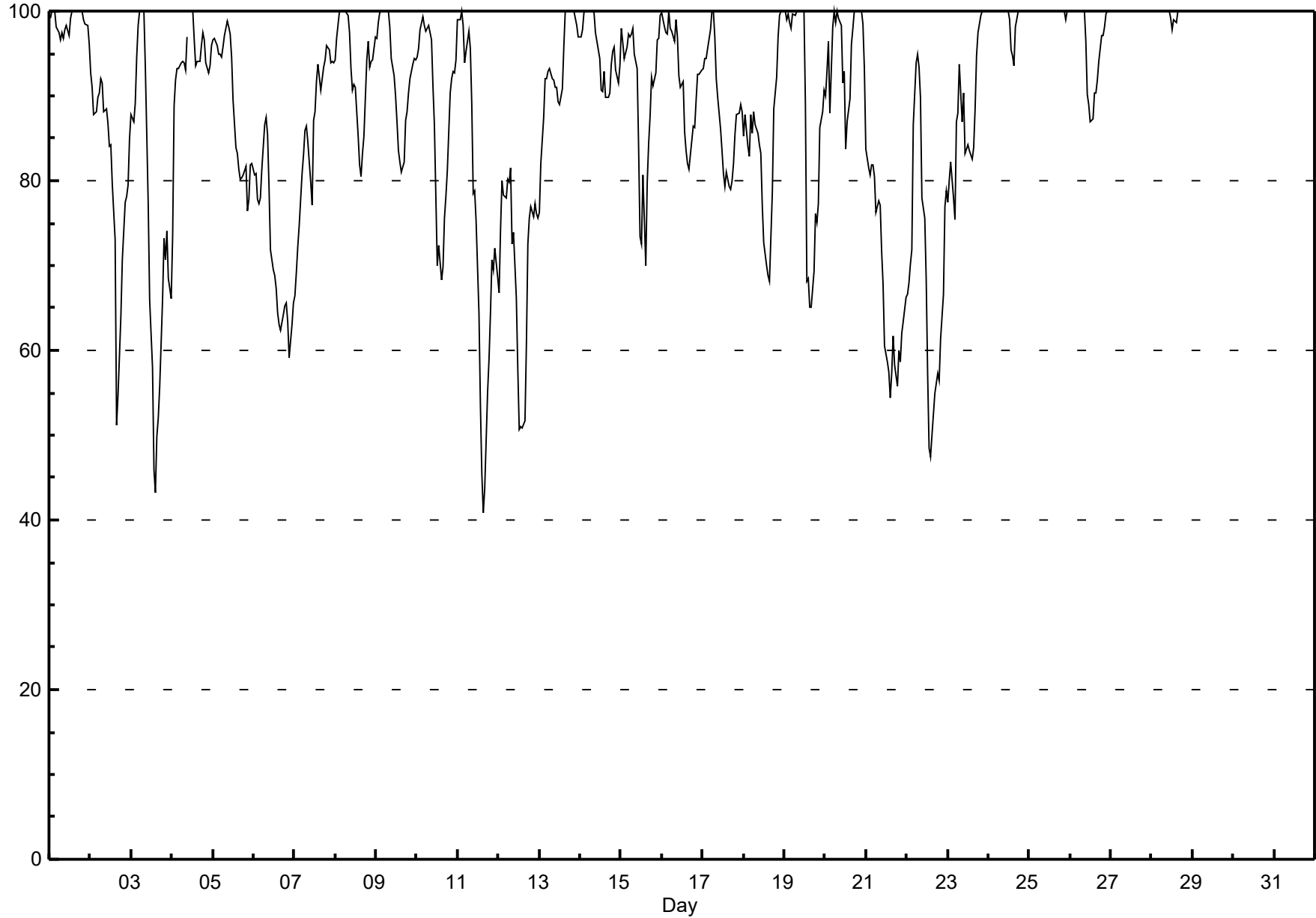
# Hourly Averages

Relative Humidity (RH) - %  
Beaverlodge - October 2016

Maximum Value: 100.0 % on Oct 1 03:00		Maximum Daily Average: 100.0 % on Oct 27		Hours in Service: 744																							
Minimum Value: 41 % on Oct 11 16:00		Minimum Daily Average: 68.1 % on Oct 21		Hours of Data: 742																							
Maximum Diurnal Average: 95.6 % at hour 8		Minimum Diurnal Average: 80.3 % at hour 16		Hours of Missing Data: 2																							
Monthly Average: 89.11 %		Percentiles: P <sub>1</sub> = 49.8 P <sub>10</sub> = 68.3 Q <sub>1</sub> = 82.0 Median = 94.0 Q <sub>3</sub> = 100.0 P <sub>90</sub> = 100.0 P <sub>99</sub> = 100.0		Hours of Calibration: 0																							
				Percent Operational Time: 99.7																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Oct	99	100	100	100	98	97	97	98	97	98	98	97	99	100	100	100	100	100	100	99	98	98	96	98.7	100.0		
2-Oct	93	91	88	88	90	90	92	91	88	88	87	84	84	80	73	51	55	59	64	71	77	78	79	85	80.3	92.8	
3-Oct	88	87	89	95	98	100	100	100	93	85	77	66	58	46	43	50	52	56	66	73	71	74	68	66	75.1	100.0	
4-Oct	74	89	92	93	93	94	94	94	93	97	N	N	100	97	94	94	94	96	97	97	94	93	94	96	93.5	100.0	
5-Oct	97	97	96	95	95	95	96	97	99	98	97	95	89	84	83	81	80	80	81	82	76	78	82	82	88.9	98.8	
6-Oct	81	81	78	77	78	81	87	87	85	79	72	70	69	67	64	63	62	64	65	66	63	59	63	66	72.0	87.4	
7-Oct	66	69	72	75	81	83	86	86	85	80	77	87	88	92	94	91	92	93	94	96	95	94	94	94	86.0	95.9	
8-Oct	94	97	100	100	100	100	100	100	97	93	91	91	91	85	82	80	83	85	94	96	93	94	94	97	93.3	100.0	
9-Oct	97	99	100	100	100	100	100	100	100	98	94	92	90	87	84	82	81	82	87	88	90	92	94	94	94	92.8	100.0
10-Oct	95	96	98	99	98	98	98	98	97	91	87	78	70	72	68	70	76	78	81	90	92	93	93	94	87.9	99.3	
11-Oct	99	99	100	98	94	95	98	96	89	78	79	75	64	53	45	41	44	55	59	64	71	69	72	69	75.3	100.0	
12-Oct	67	74	80	78	78	80	80	81	73	74	66	58	51	51	51	52	61	72	76	77	76	77	76	76	70.2	81.5	
13-Oct	76	82	88	92	92	93	93	92	92	91	91	89	89	91	96	100	100	100	100	100	100	99	98	97	93.4	100.0	
14-Oct	97	98	100	100	100	100	100	100	100	97	96	94	91	91	93	90	90	90	94	95	96	93	92	94	95.4	100.0	
15-Oct	98	96	94	96	97	97	97	98	95	93	84	73	72	81	70	80	84	88	92	91	93	97	97	100	90.2	99.5	
16-Oct	100	98	97	97	100	98	98	96	99	97	92	91	92	86	84	82	81	85	86	86	89	93	93	93	92.2	100.0	
17-Oct	93	94	94	96	98	100	100	97	92	90	86	84	81	79	81	79	79	80	82	85	88	88	89	88	88.5	100.0	
18-Oct	85	88	84	83	88	86	88	87	86	84	83	77	73	70	69	68	73	79	88	92	97	100	100	100	84.5	100.0	
19-Oct	100	99	100	99	98	100	100	100	100	100	100	100	89	68	68	65	65	69	76	75	77	86	88	91	88.0	100.0	
20-Oct	90	93	96	88	98	100	99	100	99	98	92	93	84	87	90	96	98	100	100	100	100	100	99	93	95.5	100.0	
21-Oct	84	82	81	82	82	80	76	78	77	72	68	61	59	57	54	57	62	58	56	60	59	62	63	66	68.1	83.7	
22-Oct	67	68	70	72	87	94	95	93	90	78	76	68	57	48	48	50	55	56	57	56	61	67	77	79	69.5	94.9	
23-Oct	78	80	82	78	75	87	88	94	87	90	83	84	84	84	83	84	88	95	98	100	100	100	100	100	88.3	100.0	
24-Oct	100	100	100	100	100	100	100	100	100	100	100	100	99	95	95	93	98	100	100	100	100	100	100	100	99.2	100.0	
25-Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	99	100	100	100.0	100.0	
26-Oct	100	100	100	100	100	100	100	100	100	96	90	89	87	87	90	90	92	94	97	97	98	100	100	100	96.2	100.0	
27-Oct	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	
28-Oct	100	100	100	100	100	100	100	100	100	100	100	100	99	98	99	99	100	100	100	100	100	100	100	100	99.8	100.0	
29-Oct	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	
30-Oct	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	
31-Oct	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	
		90.8	92.1	92.9	92.9	94.1	95.1	95.5	95.6	93.9	91.8	88.8	86.4	84.0	81.7	80.6	80.3	82.2	84.5	86.8	88.4	89.0	89.8	90.4	90.8	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	Diurnal Maximum	
N - Not Valid																											

**Hourly Averages**

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



### Hourly Averages

**Wind Speed (km/h)**  
**Wind Direction (deg)**  
**Beaverlodge - October 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	21	17	19	25	22	25	23	21	18	19	16	7	6	7	11	12	10	10	10	9	10	8	12	11	8.8	25.0
Dir	61	57	71	70	68	65	61	58	57	59	47	39	319	249	327	332	316	322	306	298	305	305	294	299	33	65
2 Spd	11	12	15	12	8	8	7	5	4	4	4	6	9	8	7	22	16	9	5	1	2	4	4	3	5.3	22.5
Dir	304	304	307	312	306	287	265	274	279	231	228	202	194	201	210	294	299	310	301	16	126	149	159	133	279	294
3 Spd	3	2	2	5	5	4	3	4	2	2	3	3	4	2	2	6	10	12	13	16	15	14	12	6	4.7	15.9
Dir	115	147	115	94	158	138	128	70	133	101	157	197	147	71	107	72	89	68	47	43	38	19	62	62	71	43
4 Spd	12	18	10	10	8	9	10	12	12	12	4	1	0	9	4	4	4	6	6	7	9	10	9	9	7.3	18.0
Dir	19	40	38	47	78	76	69	64	61	55	62	270	251	61	72	53	29	340	356	5	32	49	64	59	48	40
5 Spd	12	8	9	9	10	8	14	14	14	11	12	11	13	14	14	12	11	14	12	15	22	24	26	24	13.5	26.1
Dir	70	54	60	80	76	70	81	71	72	103	95	72	110	96	84	70	64	63	53	54	76	84	92	91	78	92
6 Spd	17	12	9	5	4	1	5	6	3	1	1	9	14	16	17	16	16	19	18	17	23	19	21	11.1	22.8	
Dir	86	58	55	81	55	4	23	11	15	304	85	105	78	76	81	76	63	54	48	42	52	71	63	73	64	71
7 Spd	21	19	20	20	22	23	23	24	27	29	28	24	24	20	18	19	19	21	18	18	20	22	19	19	21.3	29.5
Dir	79	77	82	79	86	76	80	81	77	80	81	77	67	64	65	63	63	67	73	79	87	93	90	98	78	80
8 Spd	17	13	11	8	6	5	4	2	2	4	4	5	5	5	4	2	4	4	6	7	10	9	8	6	4.3	17.0
Dir	103	103	92	88	81	74	68	67	310	25	34	37	28	27	26	2	316	334	325	5	14	11	357	339	43	103
9 Spd	8	7	8	9	10	11	10	10	12	12	13	14	15	14	11	13	12	10	9	9	10	9	9	9	10.4	14.8
Dir	340	319	318	318	315	315	319	317	311	307	306	309	316	317	319	322	330	329	326	327	328	328	322	316	319	316
10 Spd	6	6	8	9	8	9	8	8	8	8	6	5	3	1	6	4	7	9	7	6	5	4	5	3	1.5	9.1
Dir	317	326	330	327	327	336	342	345	352	13	12	29	162	221	231	186	198	186	139	128	103	79	92	132	340	327
11 Spd	5	5	1	5	5	3	3	2	2	2	4	5	5	8	10	11	10	8	2	1	0	3	9	6	3.3	11.5
Dir	109	174	112	247	265	274	66	101	86	168	189	206	224	230	260	261	265	243	246	112	96	238	245	245	237	261
12 Spd	4	1	3	2	2	3	2	3	2	2	2	1	10	7	9	11	15	14	11	11	13	20	17	12	6.1	19.8
Dir	243	122	82	105	128	73	85	67	95	158	133	274	0	24	38	42	90	79	42	63	72	86	88	81	70	86
13 Spd	12	10	4	4	8	6	3	10	12	10	13	11	8	10	8	8	8	9	11	5	1	11	8	12	7.3	13.1
Dir	64	61	330	322	22	21	22	60	68	73	65	74	63	36	28	27	16	5	12	74	6	3	354	5	37	65
14 Spd	13	7	14	13	10	15	20	23	21	18	20	20	18	16	11	11	13	14	11	12	12	11	7	14.0	23.4	
Dir	31	29	30	36	30	29	29	36	36	33	36	43	52	50	44	47	50	42	41	36	36	43	43	28	38	36
15 Spd	8	5	5	4	2	5	6	5	5	4	1	2	2	4	0	5	8	8	7	8	6	16	16	15	4.3	15.9
Dir	39	18	36	16	337	7	35	12	27	280	251	231	185	212	43	143	125	92	77	36	26	55	61	67	53	55
16 Spd	21	18	20	19	N	N	N	N	7	5	6	6	9	8	6	7	7	7	9	10	8	5	7	7	6.3	21.2
Dir	68	76	75	76	N	N	N	N	39	5	14	12	311	317	331	305	322	323	336	341	343	316	335	348	16	68
17 Spd	8	6	7	8	7	7	5	7	8	11	12	12	13	12	11	10	9	7	7	7	9	10	9	8	8.0	12.9
Dir	349	347	330	326	327	312	339	334	333	325	318	329	328	327	319	331	328	328	348	24	28	27	29	28	340	328
18 Spd	6	5	4	1	0	5	5	9	8	8	8	6	4	4	3	2	3	2	2	1	1	2	1	1	2.9	8.6
Dir	32	54	43	103	127	132	116	111	128	134	130	126	124	175	121	59	59	108	127	256	152	172	240	44	113	111
19 Spd	1	0	0	1	2	3	3	4	2	3	4	2	2	3	3	8	8	8	5	4	4	6	1	3	2.4	8.5
Dir	229	289	104	72	77	82	66	52	49	59	72	168	104	108	142	116	106	80	106	117	109	282	11	19	92	116
20 Spd	3	8	8	9	4	2	2	3	2	2	1	2	3	4	1	5	2	7	2	4	2	4	3	8	0.7	9.2
Dir	350	298	32	35	246	261	359	31	325	55	79	279	351	285	305	27	87	222	103	114	121	189	230	222	333	35
21 Spd	13	12	11	12	7	10	11	7	0	1	5	4	5	6	7	8	6	7	7	3	3	5	4	7	2.8	13.5
Dir	242	250	246	236	239	223	255	245	174	194	179	144	135	86	112	113	95	79	75	108	160	149	124	121	189	242
22 Spd	6	3	0	8	9	5	7	6	3	5	10	7	15	28	21	18	17	13	8	6	5	5	5	7	6.2	28.1
Dir	108	100	178	305	345	319	212	210	199	240	233	227	259	265	261	263	265	276	310	317	4	336	205	42	268	265



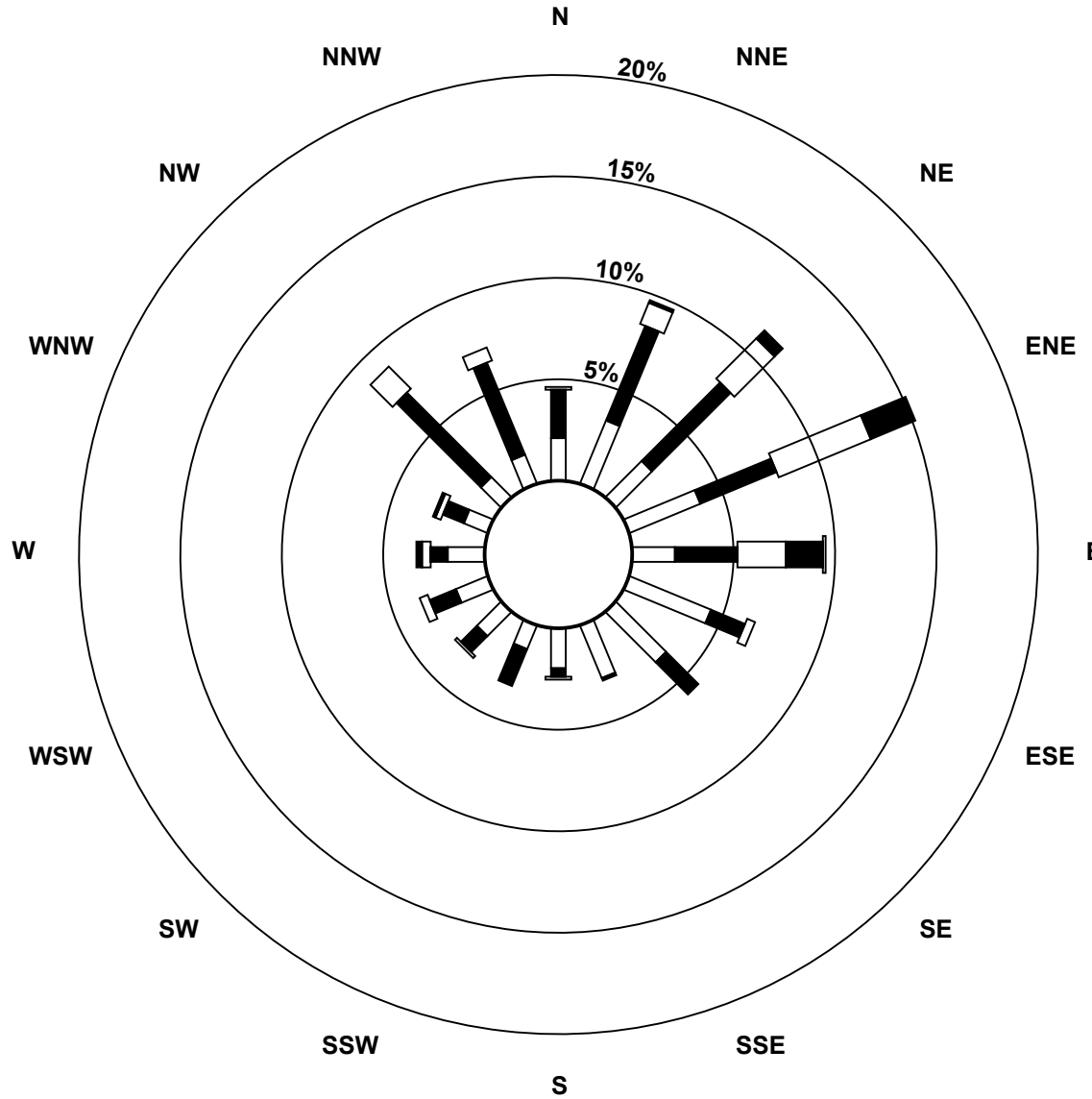
## Hourly Averages

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

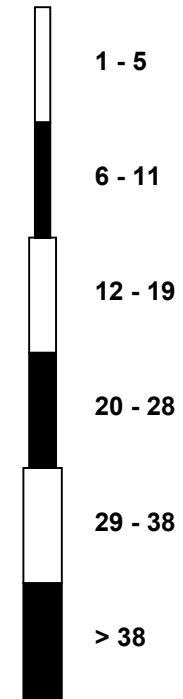
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
23 Spd	2	1	2	4	5	1	4	3	4	4	2	6	1	9	4	7	12	11	12	7	9	6	8	9	4.0	11.8
Dir	55	333	9	27	27	85	47	218	339	301	172	210	21	26	59	29	24	22	33	55	84	89	43	34	37	33
24 Spd	9	8	7	6	4	5	5	4	3	2	1	1	9	8	5	3	5	5	7	8	8	10	12	12	5.2	12.3
Dir	37	40	32	42	44	10	354	3	67	124	110	131	111	127	103	99	63	58	54	84	68	82	87	88	69	87
25 Spd	13	13	11	11	13	12	11	10	11	11	7	7	4	6	7	5	7	8	7	5	7	7	6	8	4.6	13.2
Dir	86	87	79	72	76	79	72	59	66	68	52	41	316	323	336	337	325	313	285	299	299	306	299	307	37	76
26 Spd	8	6	5	3	1	3	4	5	7	4	5	7	1	3	7	4	5	4	3	3	4	8	5	4	0.6	8.4
Dir	309	311	281	259	282	255	244	245	267	283	226	210	161	129	135	109	114	102	119	139	64	82	59	79	195	309
27 Spd	9	10	11	13	9	8	8	8	6	7	7	4	4	1	5	8	7	7	8	7	7	7	4	1	6.0	12.7
Dir	117	100	94	70	88	41	39	31	30	46	44	73	149	257	39	45	40	33	40	85	94	71	53	85	65	70
28 Spd	3	6	5	4	6	6	7	3	3	4	6	6	7	8	6	6	8	7	7	8	6	5	4	3	4.6	8.4
Dir	27	56	89	30	51	97	94	130	130	102	119	125	133	114	135	145	133	138	134	151	140	147	154	180	119	133
29 Spd	7	10	6	2	3	7	6	5	6	6	5	1	2	3	3	1	2	8	2	5	3	5	5	4	1.5	10.4
Dir	222	238	270	253	222	212	211	219	208	206	196	225	103	70	118	283	344	16	210	161	49	10	25	42	222	238
30 Spd	2	6	8	6	4	4	5	3	3	1	2	4	8	5	5	5	5	3	1	2	2	3	4	1	0.8	7.8
Dir	330	306	358	5	348	283	291	309	286	174	195	162	195	183	197	189	174	132	105	109	155	50	274	39	243	358
31 Spd	4	6	8	12	1	4	5	6	4	4	3	2	1	5	8	9	10	11	10	8	7	8	6	7	2.8	12.4
Dir	16	26	171	171	137	331	268	239	250	230	178	158	352	3	17	6	6	14	7	3	343	348	341	356	353	171
Spd	5.1	4.2	4.3	4.1	3.4	3.2	3.6	3.9	3.9	3.3	2.7	2.0	1.9	1.9	2.2	3.0	3.4	4.4	4.9	4.6	5.1	5.6	4.6	4.5	Diurnal Average	
Dir	55	47	46	47	44	41	46	47	46	54	67	74	60	35	36	23	33	32	32	45	49	54	56	56		
Spd	21.2	18.6	20.1	24.8	22.0	25.0	23.0	24.5	27.3	29.5	28.0	24.3	23.7	28.1	21.5	22.5	18.9	21.0	19.0	17.8	21.6	24.2	26.1	24.0	Diurnal Maximum	
Dir	68	77	82	70	68	65	80	81	77	80	81	77	67	265	261	294	63	67	48	79	76	84	92	91		
Maximum Speed Value: 29 km/h on Oct 7 10:00		Minimum Speed Value: 0 km/h on Oct 15 15:00		Hours in Service: 744																						
Maximum Daily Speed Average: 21.3 km/h on Oct 7		Minimum Daily Speed Average: 0.6 km/h on Oct 19		Hours of Data: 740																						
Maximum Diurnal Speed Average: 5.6 km/h at hour 22		Minimum Diurnal Speed Average: 1.9 km/h at hour 13		Hours of Missing Data: 4																						
Monthly Average Velocity: 3.68 km/h 46.7 deg		Speed Percentiles: P <sub>1</sub> = 0.5 P <sub>10</sub> = 2.0 Q <sub>1</sub> = 4.0 Median = 6.9 Q <sub>3</sub> = 10.4 P <sub>90</sub> = 15.5 P <sub>99</sub> = 24.6		Percent Operational Time: 99.5																						
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	27	47	5	0	0	0	79																			
NorthEast	41	78	46	13	0	0	178																			
East	50	46	41	25	2	0	164																			
SouthEast	45	25	0	0	0	0	70																			
South	31	10	1	0	0	0	42																			
SouthWest	24	26	3	0	0	0	53																			
West	26	11	7	1	1	0	46																			
NorthWest	17	69	21	1	0	0	108																			
Total	261	312	124	40	3	0	740																			

**Wind Rose**

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



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



# Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Beaverlodge - October 2016

Maximum Speed: 30 km/h on Oct 7 10:00	Maximum Daily Speed Average: 21.6 km/h on Oct 7	Hours in Service: 744
Minimum Speed: 1 km/h on Oct 18 05:00	Minimum Daily Speed Average: 4.1 km/h on Oct 30	Hours of Data: 740
Maximum Diurnal Speed Average: 9.5 km/h at hour 22	Minimum Diurnal Speed Average: 7.0 km/h at hour 12	Hours of Missing Data: 4
Monthly Average Speed: 8.33 km/h	Percentiles: P <sub>1</sub> = 1.5 P <sub>10</sub> = 3.0 Q <sub>1</sub> = 4.4 Median = 7.2 Q <sub>3</sub> = 10.8 P <sub>90</sub> = 15.7 P <sub>99</sub> = 24.7	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-Oct	21	17	19	25	22	25	23	21	18	19	16	7	6	12	12	12	10	10	11	9	10	9	12	11	14.9	25.1
2-Oct	11	13	15	13	8	8	7	6	4	4	4	7	9	9	8	23	16	9	5	2	2	4	4	4	8.1	22.8
3-Oct	4	3	2	5	5	4	4	4	3	3	4	4	5	4	4	7	10	12	13	16	15	14	13	8	6.9	16.0
4-Oct	12	18	10	10	8	9	10	12	12	12	9	3	3	9	5	4	5	6	6	7	9	11	9	9	8.7	18.0
5-Oct	12	8	9	9	10	8	15	14	15	12	12	12	14	15	14	12	12	14	12	16	22	24	26	24	14.2	26.1
6-Oct	17	12	10	7	6	4	5	6	4	2	3	10	14	16	17	16	16	16	19	18	17	23	19	21	12.4	22.9
7-Oct	21	19	20	20	22	23	23	25	27	30	28	24	24	20	18	19	19	21	18	18	20	22	19	19	21.6	29.6
8-Oct	17	13	11	8	6	5	4	2	2	4	4	5	5	5	4	3	4	5	6	7	10	9	8	6	6.5	17.1
9-Oct	8	7	8	9	10	11	10	10	12	12	13	14	15	14	12	13	12	10	9	9	10	9	9	9	10.6	14.9
10-Oct	6	6	8	9	8	9	8	8	8	6	5	3	2	6	4	7	9	7	7	5	4	5	6	3	6.2	9.1
11-Oct	5	5	2	5	5	3	3	2	3	2	4	5	6	9	11	12	10	8	2	2	2	3	9	7	5.2	12.1
12-Oct	4	2	3	2	2	3	3	3	2	2	2	3	10	8	10	11	16	14	11	11	13	20	18	12	7.7	19.9
13-Oct	12	11	5	5	8	6	5	10	13	10	13	11	9	11	8	9	8	10	12	12	12	12	8	12	9.7	13.3
14-Oct	13	7	14	13	10	15	20	23	21	18	20	20	19	16	11	12	11	13	14	11	12	12	11	7	14.2	23.4
15-Oct	8	5	5	4	3	5	6	5	5	4	2	2	2	4	1	5	9	8	7	8	7	16	16	15	6.3	16.0
16-Oct	21	19	20	19	N	N	N	N	7	6	6	7	9	8	7	7	7	8	9	10	8	6	7	7	9.9	21.3
17-Oct	8	6	7	8	7	7	5	7	8	12	12	12	13	13	12	10	9	7	7	8	9	10	9	8	8.9	13.1
18-Oct	6	6	4	2	1	5	6	9	8	8	8	6	5	4	4	2	3	3	2	1	2	2	1	2	4.1	8.8
19-Oct	1	2	1	3	3	4	4	4	4	4	4	3	3	4	3	9	8	8	6	4	6	7	3	3	4.2	8.6
20-Oct	4	9	8	9	6	2	5	3	3	3	2	3	4	5	3	6	6	7	5	4	4	4	5	8	4.9	9.3
21-Oct	14	12	11	12	8	10	12	7	4	3	5	5	6	6	8	8	6	7	7	4	3	6	4	7	7.4	14.4
22-Oct	6	4	2	9	11	6	7	7	4	5	11	7	16	28	22	18	17	13	8	6	6	7	5	7	9.6	28.3
23-Oct	4	2	3	5	5	3	4	4	6	5	4	6	6	10	6	7	12	11	12	8	9	6	8	9	6.5	11.8
24-Oct	9	8	7	6	4	5	5	4	4	3	1	2	10	8	5	4	6	6	7	8	8	10	12	12	6.5	12.4
25-Oct	13	13	11	11	13	12	12	10	11	11	8	7	4	6	7	6	7	8	7	6	7	7	6	8	8.7	13.2
26-Oct	9	6	5	3	2	3	4	5	7	4	5	7	3	4	7	4	5	4	4	3	5	8	6	6	5.0	8.5
27-Oct	9	10	12	13	10	8	8	8	6	7	7	5	4	4	6	8	7	7	8	8	7	8	4	3	7.4	12.9
28-Oct	3	6	5	4	6	6	7	4	3	4	7	6	7	8	6	6	8	7	7	8	7	5	4	3	5.7	8.5
29-Oct	7	11	6	3	4	7	7	5	7	6	5	3	3	4	4	4	3	8	3	5	3	5	5	4	5.1	10.7
30-Oct	3	6	8	6	4	4	5	3	3	2	2	5	8	5	5	6	5	3	2	3	2	3	4	1	4.1	8.1
31-Oct	5	6	13	13	9	5	5	7	5	4	3	3	3	6	8	9	10	11	10	8	8	8	6	7	7.1	13.3
	9.5	8.8	8.6	8.7	7.6	7.6	8.0	8.0	7.7	7.3	7.4	7.0	7.9	9.0	8.0	9.0	9.2	9.0	8.3	7.9	8.4	9.5	8.9	8.5	Diurnal Average	
	21.3	19.4	20.2	24.9	22.3	25.1	23.1	24.6	27.4	29.6	28.1	24.4	23.8	28.3	21.6	22.8	19.0	21.1	19.0	17.9	21.8	24.3	26.1	24.0	Diurnal Maximum	

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

# Hourly Standard Deviations

Wind Direction (WD) - deg  
Beaverlodge - October 2016

Maximum Value: 93.2 deg on Oct 4 12:00		Hours in Service: 744																								
Minimum Value: 3.1 deg on Oct 6 00:00		Hours of Data: 740																								
Percentiles: P <sub>1</sub> = 3.9 P <sub>10</sub> = 5.2 Q <sub>1</sub> = 7.5 Median = 13.1 Q <sub>3</sub> = 29.2 P <sub>90</sub> = 56.8 P <sub>99</sub> = 89.9		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-Oct	6	6	8	4	19	4	8	12	7	5	6	22	18	57	26	8	8	9	12	6	6	10	6	6	57.0	
2-Oct	6	8	9	8	11	10	12	20	11	25	26	14	13	21	30	9	6	13	11	64	31	15	31	40	63.6	
3-Oct	39	48	52	17	20	25	32	19	53	42	51	49	40	67	86	39	15	8	5	4	5	8	25	49	85.7	
4-Oct	24	5	7	7	24	10	10	12	9	22	83	93	85	10	31	29	20	23	12	13	17	7	9	10	93.2	
5-Oct	5	12	15	10	10	13	5	8	9	13	16	14	8	10	11	9	10	5	12	11	6	5	3	3	16.3	
6-Oct	9	19	22	70	50	88	17	9	35	66	82	24	13	12	14	15	8	7	5	10	17	5	5	4	88.1	
7-Oct	7	5	5	6	5	5	5	5	5	6	5	5	6	6	7	6	6	5	6	6	4	4	4	4	7.2	
8-Oct	4	4	4	5	6	10	16	54	31	34	26	21	15	12	17	48	22	19	10	16	5	4	7	9	53.8	
9-Oct	7	6	6	5	5	6	5	5	5	5	7	8	7	8	10	10	9	8	7	8	5	7	5	4	10.4	
10-Oct	14	10	5	4	5	4	8	5	11	12	13	36	72	13	33	22	6	11	14	20	15	11	10	21	71.7	
11-Oct	16	22	53	60	23	60	19	26	42	37	19	26	29	21	24	20	15	4	78	70	77	32	6	10	78.0	
12-Oct	38	61	17	33	36	13	26	28	41	31	55	87	25	24	13	11	21	13	5	11	8	4	4	9	87.3	
13-Oct	7	39	32	40	8	26	55	10	9	9	9	9	15	15	7	24	7	27	26	67	92	8	11	10	92.3	
14-Oct	9	17	6	5	8	5	5	3	3	4	4	7	7	8	7	8	8	6	5	8	6	6	4	7	16.5	
15-Oct	7	11	19	18	47	10	17	14	14	37	88	45	45	23	89	44	18	6	23	7	19	5	5	8	89.3	
16-Oct	4	22	6	4	N	N	N	N	15	9	5	20	9	13	15	14	10	8	6	6	12	20	6	8	22.4	
17-Oct	11	9	8	6	8	8	15	12	10	7	7	8	8	9	9	8	10	8	7	9	5	4	4	4	14.8	
18-Oct	7	7	10	76	75	17	29	12	13	8	7	16	23	33	32	29	12	39	63	77	62	34	51	93	92.5	
19-Oct	82	86	88	81	77	37	56	46	76	27	31	48	40	27	28	9	9	9	22	23	58	45	77	42	88.4	
20-Oct	62	58	15	6	53	39	61	45	64	49	70	77	47	45	71	37	70	8	62	30	48	19	78	13	78.1	
21-Oct	23	10	15	12	20	13	7	14	85	86	35	27	33	8	16	9	12	7	5	53	41	48	45	6	85.7	
22-Oct	16	42	83	26	32	45	18	12	20	20	10	7	22	5	5	6	4	11	11	13	38	83	24	37	83.3	
23-Oct	70	88	70	61	25	91	45	21	49	25	56	29	88	34	85	12	6	7	4	30	8	18	5	6	90.7	
24-Oct	8	5	5	10	12	13	10	28	46	66	76	35	17	12	22	29	12	11	13	7	5	7	5	6	75.7	
25-Oct	5	4	6	6	4	7	6	7	6	4	13	5	37	8	10	14	13	10	6	18	5	10	9	11	36.8	
26-Oct	7	6	21	32	45	35	23	17	10	13	20	13	74	43	11	13	23	20	24	34	14	9	26	47	74.5	
27-Oct	10	8	20	11	19	14	7	5	7	17	6	32	23	92	34	9	9	5	7	16	9	13	29	80	91.6	
28-Oct	47	19	11	12	5	15	7	28	24	25	8	12	12	10	17	10	7	9	14	11	15	16	20	23	47.1	
29-Oct	10	13	19	53	39	13	18	29	20	24	20	80	44	47	46	90	68	7	75	28	33	13	13	26	89.9	
30-Oct	65	15	18	11	24	19	12	19	22	47	19	24	13	15	17	11	13	24	52	57	31	31	41	90	90.0	
31-Oct	22	29	61	33	86	25	20	15	18	28	30	72	72	33	13	10	9	8	8	7	9	11	10	13	86.0	
	82.4	88.5	88.4	80.9	86.0	90.7	60.9	53.8	84.8	85.7	88.4	93.2	87.9	91.6	89.3	89.9	70.3	39.1	78.0	76.9	92.3	82.9	78.1	92.5		
N - Not Valid																										

**PAZA**  
**Valleyview Station**  
**Monthly Summary Tables, Graphs and**  
**Roses**

## Hourly Averages

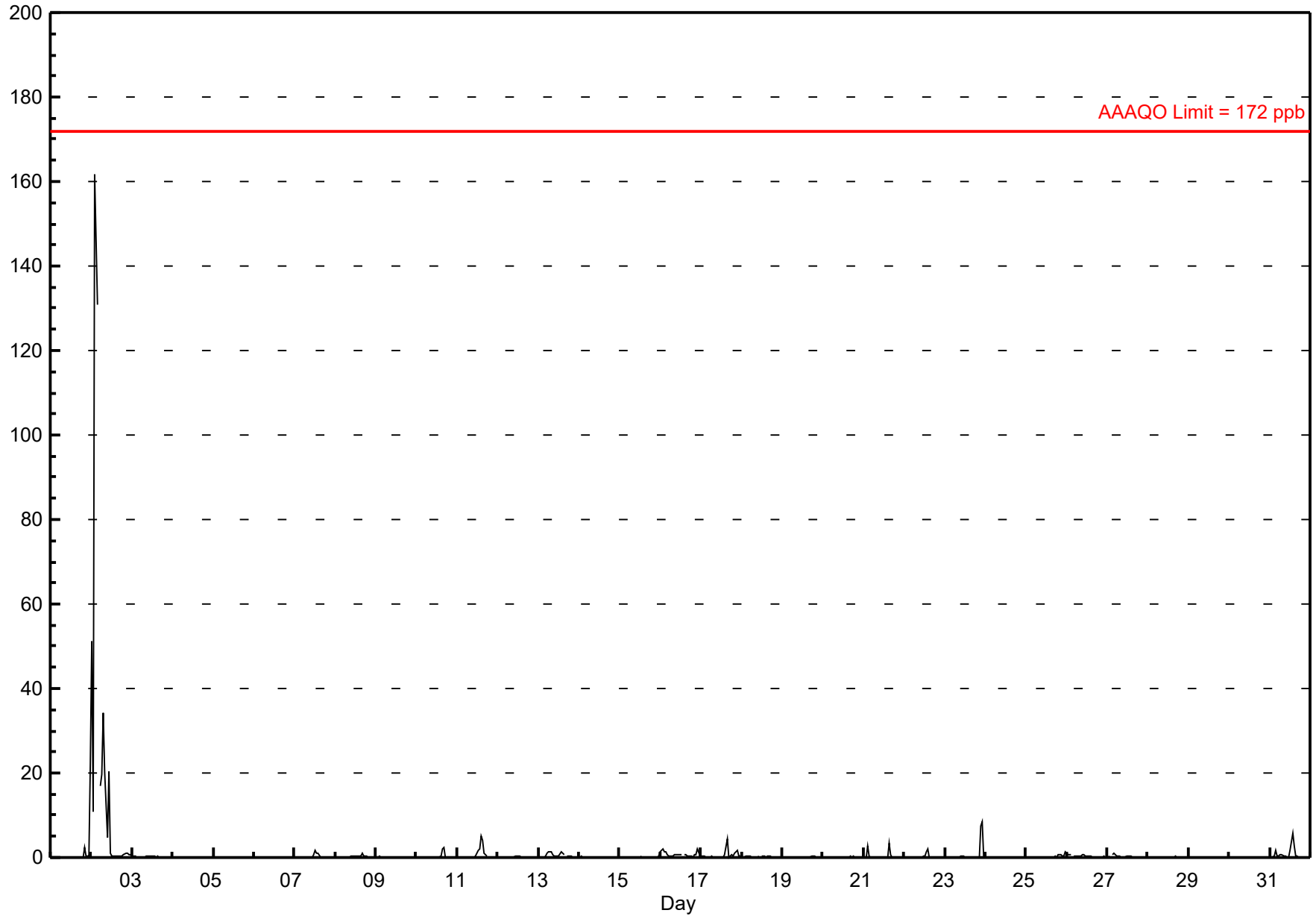
Sulphur Dioxide (SO<sub>2</sub>) - ppb

Valleyview - October 2016

Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 161.7 ppb on Oct 2 03:00	Maximum Daily Average: 20.8 ppb on Oct 2		Hours of Data:	707
Minimum Value: 0 ppb on Oct 1 14:00	Minimum Daily Average: 0.0 ppb on Oct 29		Hours of Missing Data:	37
Maximum Diurnal Average: 5.8 ppb at hour 3	Minimum Diurnal Average: 0.1 ppb at hour 19		Hours of Calibration:	37
Monthly Average: 0.92 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> = 0.2 P <sub>90</sub> = 0.6 P <sub>99</sub> = 20.2		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-Oct	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	22	1.1	22.5
2-Oct	51	11	162	131	A	17	20	34	20	5	20	1	0	0	0	0	0	0	0	1	1	1	1	1	20.8	161.7
3-Oct	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4
4-Oct	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
5-Oct	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
6-Oct	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0.0	0.1
7-Oct	0	0	0	0	0	0	0	0	0	0	0	1	2	1	1	0	0	0	0	0	0	0	A	0	0.2	1.7
8-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	A	0	0	0.2	0.9
9-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.1	0.2
10-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	A	0	0	0	0	0.2	2.3
11-Oct	0	0	0	0	0	0	0	0	0	0	0	0	2	2	5	4	1	0	A	0	0	0	0	0	0.6	4.9
12-Oct	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
13-Oct	0	0	0	0	0	1	1	1	1	0	0	0	1	1	1	A	0	0	0	0	0	0	0	0	0.5	1.4
14-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.0	0.4
15-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.0	0.2
16-Oct	1	2	1	1	1	0	0	0	1	1	1	1	1	A	1	1	0	0	0	0	1	1	2	0	0.7	1.9
17-Oct	0	0	0	0	0	0	0	0	0	0	0	0	A	0	1	5	0	0	1	0	1	2	0	0	0.5	4.6
18-Oct	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.2	0.5
19-Oct	0	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-Oct	0	0	0	0	0	0	0	0	0	0	A	0	C	C	C	C	0	0	0	0	0	0	0	0	0.1	0.5
21-Oct	0	0	3	0	0	0	0	0	A	0	0	0	0	0	0	3	1	0	0	0	0	0	0	0	0.3	3.3
22-Oct	0	0	0	0	0	0	0	A	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0.2	2.1
23-Oct	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	9	0	0.8	8.6
24-Oct	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.2
25-Oct	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0.2	1.2
26-Oct	1	1	1	A	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.9
27-Oct	0	0	A	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.9
28-Oct	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.2
29-Oct	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
30-Oct	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
31-Oct	0	0	0	2	0	0	1	1	0	0	0	0	2	6	3	0	0	0	0	0	0	A	0	0	0.7	5.7
	1.9	0.5	5.8	4.7	0.1	0.7	0.8	1.3	0.8	0.3	0.8	0.2	0.3	0.5	0.5	0.6	0.3	0.1	0.1	0.1	0.2	0.4	0.5	0.9	Diurnal Average	
	51.3	10.9	161.7	130.8	0.9	17.0	19.7	34.3	20.4	4.6	20.3	0.9	1.7	5.7	4.9	4.6	2.3	0.3	0.5	0.6	2.4	7.4	8.6	22.5	Diurnal Maximum	

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



## Hourly Maximums

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

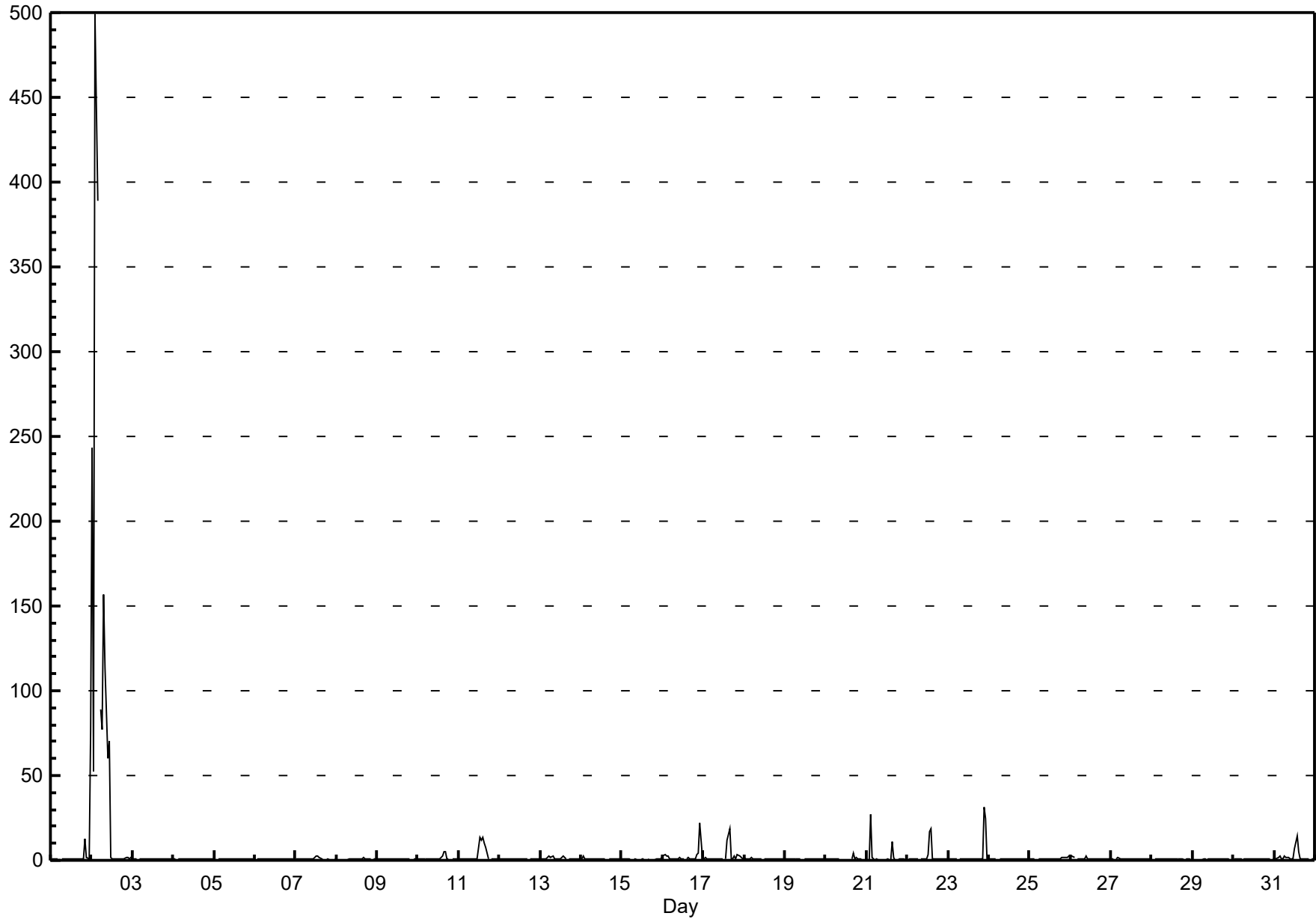
Valleyview - October 2016

Maximum Value: 498.8 ppb on Oct 2 03:00		Maximum Daily Average: 76.8 ppb on Oct 2		Hours in Service: 744																							
Minimum Value: 0 ppb on Oct 29 23:00		Minimum Daily Average: 0.4 ppb on Oct 29		Hours of Data: 707																							
Maximum Diurnal Average: 18.8 ppb at hour 3		Minimum Diurnal Average: 0.6 ppb at hour 18		Hours of Missing Data: 37																							
Monthly Average: 3.67 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> = 0.8 P <sub>90</sub> = 1.5 P <sub>99</sub> = 70.9		Hours of Calibration: 37																							
				Percent Operational Time: 100.0																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Oct	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	0	0	1	0	0	13	1	1	77	4.4	77.3	
2-Oct	243	52	499	389	A	89	77	157	114	60	70	2	1	1	1	1	1	1	1	1	2	2	1	2	76.8	498.8	
3-Oct	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	
4-Oct	1	1	A	1	1	1	1	1	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0.5	0.7	
5-Oct	0	A	0	0	0	0	0	0	1	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0.5	1.0	
6-Oct	A	1	1	0	0	0	0	1	1	0	0	1	0	0	1	1	1	0	0	1	1	0	0	A	0.6	1.0	
7-Oct	1	0	0	0	1	0	0	0	0	0	0	1	2	2	1	1	0	0	0	1	0	0	A	1	0.7	2.4	
8-Oct	1	0	0	0	0	0	0	0	1	1	1	1	1	1	0	1	2	1	1	1	1	A	1	1	0.7	1.8	
9-Oct	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	0.6	1.2	
10-Oct	0	1	1	0	0	1	0	0	0	0	0	0	0	0	2	5	5	1	0	A	0	0	0	0	1.0	4.9	
11-Oct	1	0	0	0	1	1	0	0	1	1	1	1	13	12	14	10	8	1	A	1	1	1	1	1	2.9	13.6	
12-Oct	1	1	1	1	1	1	1	1	0	1	1	1	1	1	0	1	1	A	0	1	0	0	0	1	0.6	1.0	
13-Oct	0	0	0	1	1	2	2	2	1	1	1	1	1	2	2	1	A	1	1	1	1	1	1	1	1.1	2.4	
14-Oct	1	3	1	1	1	1	1	1	1	1	1	1	1	1	0	A	0	0	0	0	0	0	0	0	0.6	2.5	
15-Oct	0	0	0	0	1	0	0	0	1	0	0	0	1	1	A	1	0	0	0	0	0	1	0	1	0.5	1.1	
16-Oct	2	3	2	2	1	1	1	1	1	1	1	1	1	A	1	2	1	1	1	1	1	3	4	22	2.4	22.0	
17-Oct	1	2	1	1	1	1	1	1	0	1	0	0	A	0	12	18	1	1	2	1	3	3	2	1	2.3	18.3	
18-Oct	2	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	1.5	
19-Oct	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.6	1.1	
20-Oct	1	1	1	1	1	1	1	1	1	A	1	C	C	C	C	1	4	1	1	1	1	0	0	0	0.8	4.0	
21-Oct	0	0	27	1	0	0	1	0	A	0	0	0	1	0	0	11	2	0	0	1	1	1	0	0	2.1	26.9	
22-Oct	0	0	0	1	0	0	0	A	0	0	0	1	4	17	19	1	1	0	1	0	0	0	0	0	2.2	18.8	
23-Oct	0	1	0	0	0	0	A	0	0	1	1	1	1	0	0	0	0	0	0	0	0	31	25	1	3.0	30.9	
24-Oct	0	0	0	1	0	A	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	0.5	1.0	
25-Oct	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	1	1	1	1	2	2	1	1	3	0.8	3.0	
26-Oct	2	3	2	A	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.1	2.7	
27-Oct	1	1	A	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0.7	1.6	
28-Oct	0	A	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0.5	0.7	
29-Oct	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0.4	0.6	
30-Oct	0	0	0	0	0	0	0	0	0	0	1	1	1	0	1	1	1	1	1	1	1	1	1	1	0.5	0.6	
31-Oct	1	1	2	2	1	1	3	2	2	1	1	1	7	14	5	1	1	1	1	1	1	1	A	1	2.1	14.5	
		9.1	2.6	18.8	14.1	0.7	3.7	3.2	5.9	4.4	2.6	3.0	0.7	1.5	2.1	2.4	2.1	1.2	0.6	0.7	0.6	1.2	1.9	2.2	3.4	Diurnal Average	
		243.5	52.3	498.8	389.1	1.6	88.6	76.9	157.1	113.8	59.8	70.4	1.9	13.4	16.6	18.8	18.3	7.9	1.0	2.5	1.5	12.6	30.9	24.9	77.3	Diurnal Maximum	
C - Calibration		A - Automated Daily Zero Span																									



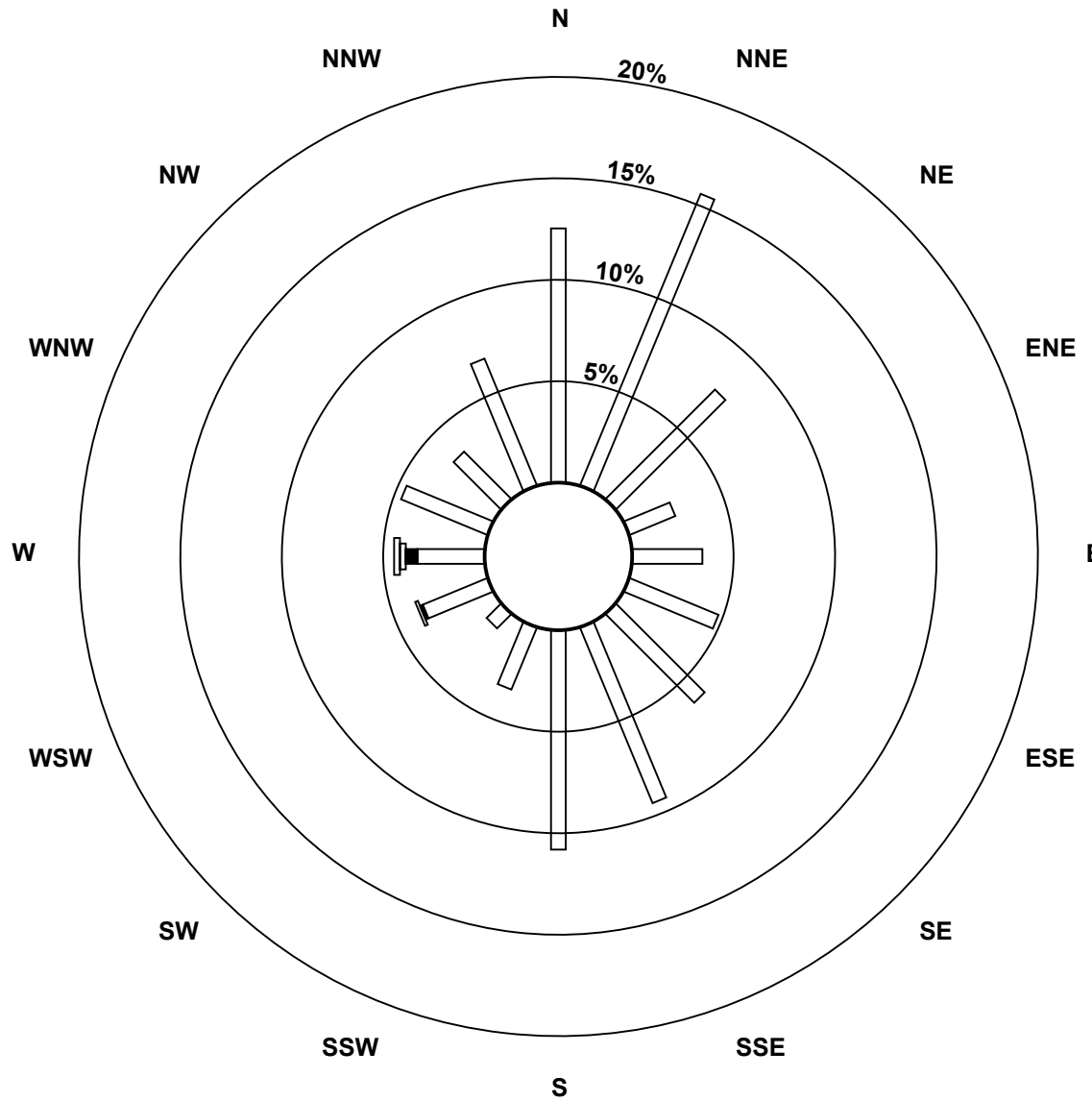
**Hourly Maximums**

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

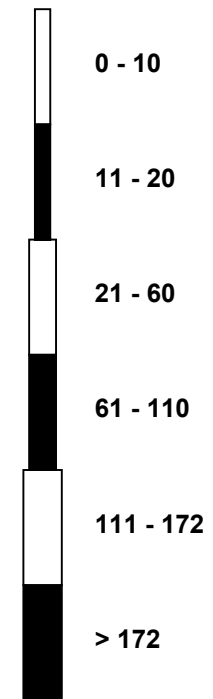


**Pollutant Rose**

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

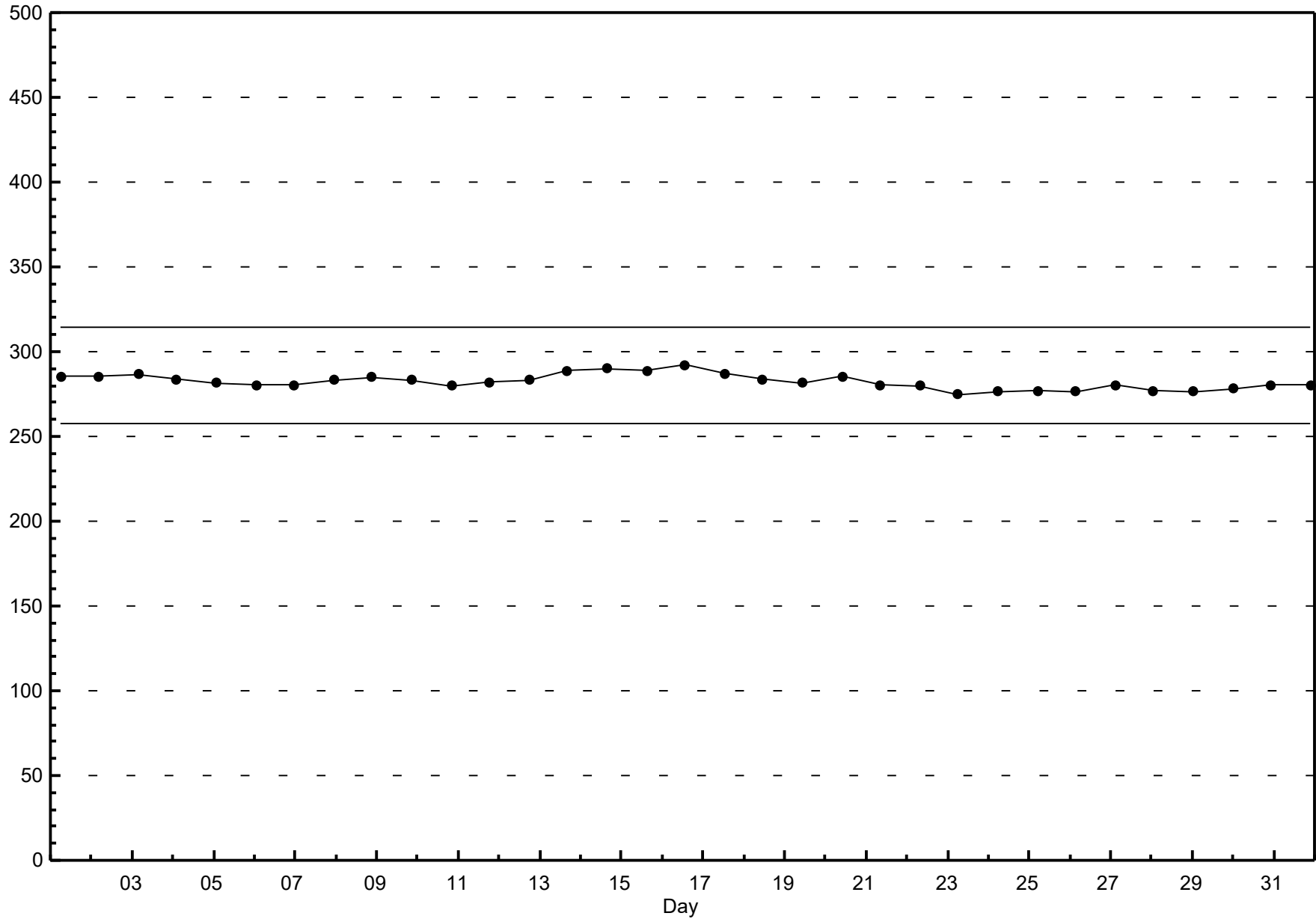


**Pollutant Classes (ppb)**



### Span Responses

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



## Hourly Averages

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

### Valleyview - October 2016

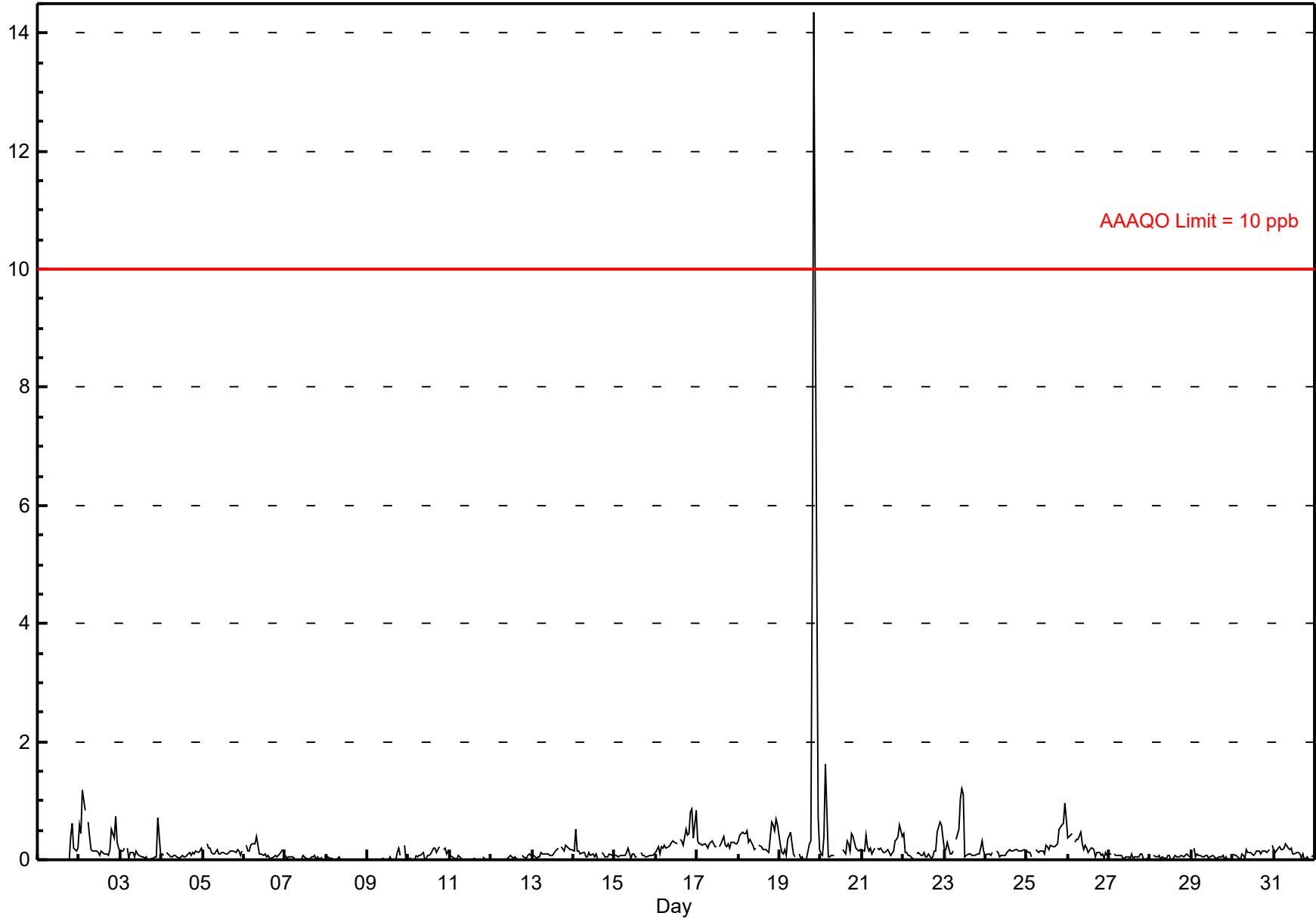
Number of Exceedences (AAAQO):	1-hr: 1	24-hr: 0	Hours in Service:	744
Maximum Value: 14.4 ppb on Oct 19 21:00	Maximum Daily Average: 1.4 ppb on Oct 19		Hours of Data:	708
Minimum Value: 0 ppb on Oct 1 01:00	Minimum Daily Average: 0.0 ppb on Oct 8		Hours of Missing Data:	36
Maximum Diurnal Average: 0.7 ppb at hour 21	Minimum Diurnal Average: 0.1 ppb at hour 13		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> = 0.0 Median = 0.1 Q <sub>3</sub> = 0.2 P <sub>90</sub> = 0.3 P <sub>99</sub> = 1.1		Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Oct	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0.1	0.6
2-Oct	1	0	1	1	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0.3	1.2
3-Oct	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0.1	0.7
4-Oct	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
5-Oct	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
6-Oct	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
7-Oct	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
8-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.0	0.1
9-Oct	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	0.3
10-Oct	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
11-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0.0	0.1
12-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0.0	0.1
13-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0.1	0.2
14-Oct	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.1	0.5
15-Oct	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
16-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	1	0	0	1	1	0	1	0.4	0.9
17-Oct	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.3	0.4
18-Oct	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	1	1	1	1	0.4	0.7
19-Oct	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	5	14	10	1	0	1.4	14.4
20-Oct	0	0	0	2	0	0	0	0	0	A	R	C	C	0	0	0	0	0	0	0	0	0	0	0	0.2	1.6
21-Oct	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0.2	0.6
22-Oct	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0.2	0.6
23-Oct	0	0	0	0	0	0	A	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.2
24-Oct	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
25-Oct	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0.3	1.0
26-Oct	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
27-Oct	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1
28-Oct	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
29-Oct	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
30-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.1	0.2
31-Oct	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
	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.7	0.6	0.2	0.2	Diurnal Average	
	0.6	0.5	1.2	1.6	0.4	0.6	0.5	0.5	0.5	1.0	1.2	1.1	0.3	0.2	0.3	0.4	0.3	0.5	0.4	5.3	14.4	9.6	1.0	0.8	Diurnal Maximum	

C - Calibration      R - Recovery      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 - October 2016**



## Hourly Maximums

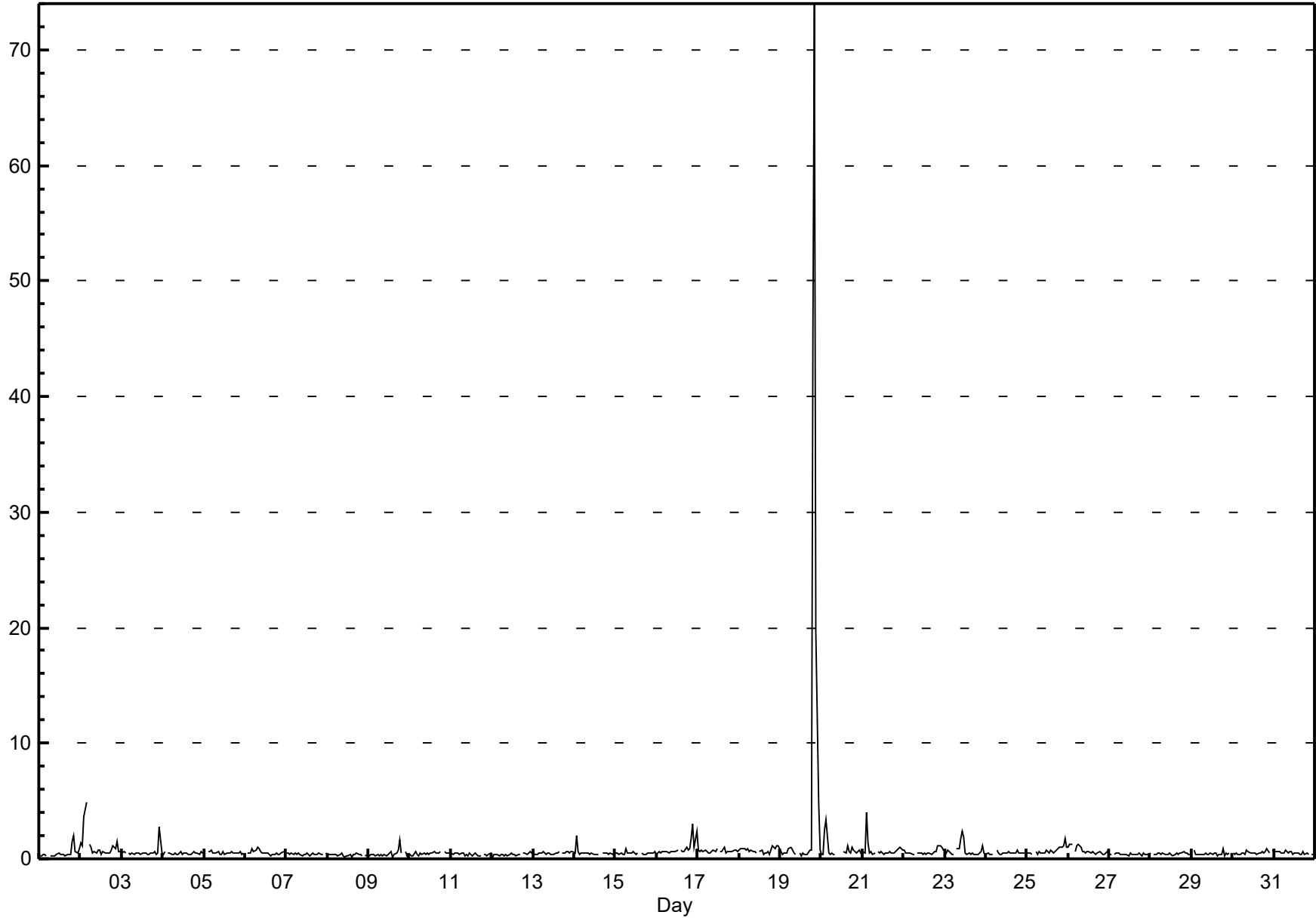
## Hydrogen Sulphide (H<sub>2</sub>S) - ppb

### Valleyview - October 2016

Maximum Value: 74.0 ppb on Oct 19 21:00		Maximum Daily Average: 6.7 ppb on Oct 19		Hours in Service: 744																							
Minimum Value: 0 ppb on Oct 8 11:00		Minimum Daily Average: 0.3 ppb on Oct 8		Hours of Data: 708																							
Maximum Diurnal Average: 3.1 ppb at hour 21		Minimum Diurnal Average: 0.5 ppb at hour 13		Hours of Missing Data: 36																							
Monthly Average: 0.77 ppb		Percentiles: P <sub>1</sub> = 0.2 P <sub>10</sub> = 0.3 Q <sub>1</sub> = 0.4 Median = 0.5 Q <sub>3</sub> = 0.6 P <sub>90</sub> = 0.8 P <sub>99</sub> = 3.4		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-Oct	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	1	1	1	0.5	2.0	
2-Oct	1	1	4	5	A	1	1	1	1	0	1	1	0	1	0	0	0	0	1	1	1	2	1	1	1.1	4.9	
3-Oct	1	1	1	A	1	0	0	0	0	1	1	0	1	0	1	0	0	0	0	1	0	0	3	0	0.6	2.7	
4-Oct	0	1	A	1	0	0	0	0	0	0	1	0	0	0	1	0	0	1	1	0	0	0	1	0	0.5	0.6	
5-Oct	1	A	1	1	1	1	0	0	1	0	0	1	0	0	1	1	1	0	0	1	1	1	0	0	0.5	0.7	
6-Oct	A	1	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	1	1	A	0.6	1.1	
7-Oct	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	A	0	0.4	0.5	
8-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.3	0.5	
9-Oct	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	2	0	0	A	1	0	0.4	1.7	
10-Oct	0	0	0	1	0	0	1	0	1	0	0	0	1	1	0	1	1	1	1	A	1	0	0	0	0.5	0.7	
11-Oct	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0.4	0.5	
12-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	0	0	1	1	1	0.4	0.6	
13-Oct	1	0	0	0	0	1	1	0	0	0	0	0	0	0	1	1	A	1	0	1	1	1	1	1	0.5	0.7	
14-Oct	1	2	1	0	0	0	0	0	1	0	0	0	0	0	0	A	0	0	1	1	0	1	0	1	0.5	2.0	
15-Oct	0	0	0	1	0	0	1	0	1	0	1	1	0	0	A	0	0	0	0	0	1	0	0	1	0.5	0.9	
16-Oct	0	1	0	1	1	1	1	0	1	1	1	1	1	A	1	1	1	1	1	1	1	2	3	1	2	0.9	3.0
17-Oct	1	1	1	1	1	1	0	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	0.7	1.0
18-Oct	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	0	1	1	1	1	1	1	0.8	1.2
19-Oct	1	0	1	0	0	1	1	1	0	0	0	0	0	0	0	0	0	1	1	45	74	20	5	1	6.7	74.0	
20-Oct	0	0	3	3	1	0	0	0	0	A	R	C	C	1	0	1	1	0	1	1	1	1	1	1	0.8	3.4	
21-Oct	1	0	4	1	1	1	0	1	A	1	0	1	0	1	0	0	1	1	1	1	1	1	1	1	0.8	4.0	
22-Oct	1	0	1	0	0	0	0	A	0	0	1	0	0	0	0	1	0	1	1	1	1	1	1	1	0.6	1.2	
23-Oct	1	1	1	1	0	0	A	1	1	2	2	2	0	0	0	0	1	0	0	0	0	1	1	0	0.8	2.4	
24-Oct	0	0	0	0	0	A	1	1	0	0	0	0	1	1	0	0	1	0	1	0	1	1	1	0	0.5	0.7	
25-Oct	0	0	1	0	A	1	0	1	0	1	0	1	1	1	1	1	1	1	1	1	1	1	2	1	0.7	1.7	
26-Oct	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	0	0	0	1	0.7	1.3		
27-Oct	0	0	A	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0.4	0.5	
28-Oct	0	A	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0.4	0.6	
29-Oct	A	1	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	1	0	0	0	0	0	0.4	0.9	
30-Oct	0	0	0	0	0	0	0	0	1	1	0	0	0	1	0	0	0	1	1	1	1	0	A	1	0.5	0.9	
31-Oct	1	1	1	1	1	1	0	1	1	1	1	0	0	1	0	0	0	1	0	1	0	A	0	0	0.5	0.7	
		0.5	0.6	0.8	0.8	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6	2.1	3.1	1.4	0.9	0.6	Diurnal Average	
		1.4	2.0	4.0	4.9	0.8	1.3	1.3	1.1	0.9	1.8	2.4	1.9	0.7	0.7	0.8	1.2	0.7	1.0	1.7	45.5	74.0	19.7	4.8	2.3	Diurnal Maximum	
C - Calibration		R - Recovery					A - Automated Daily Zero Span																				

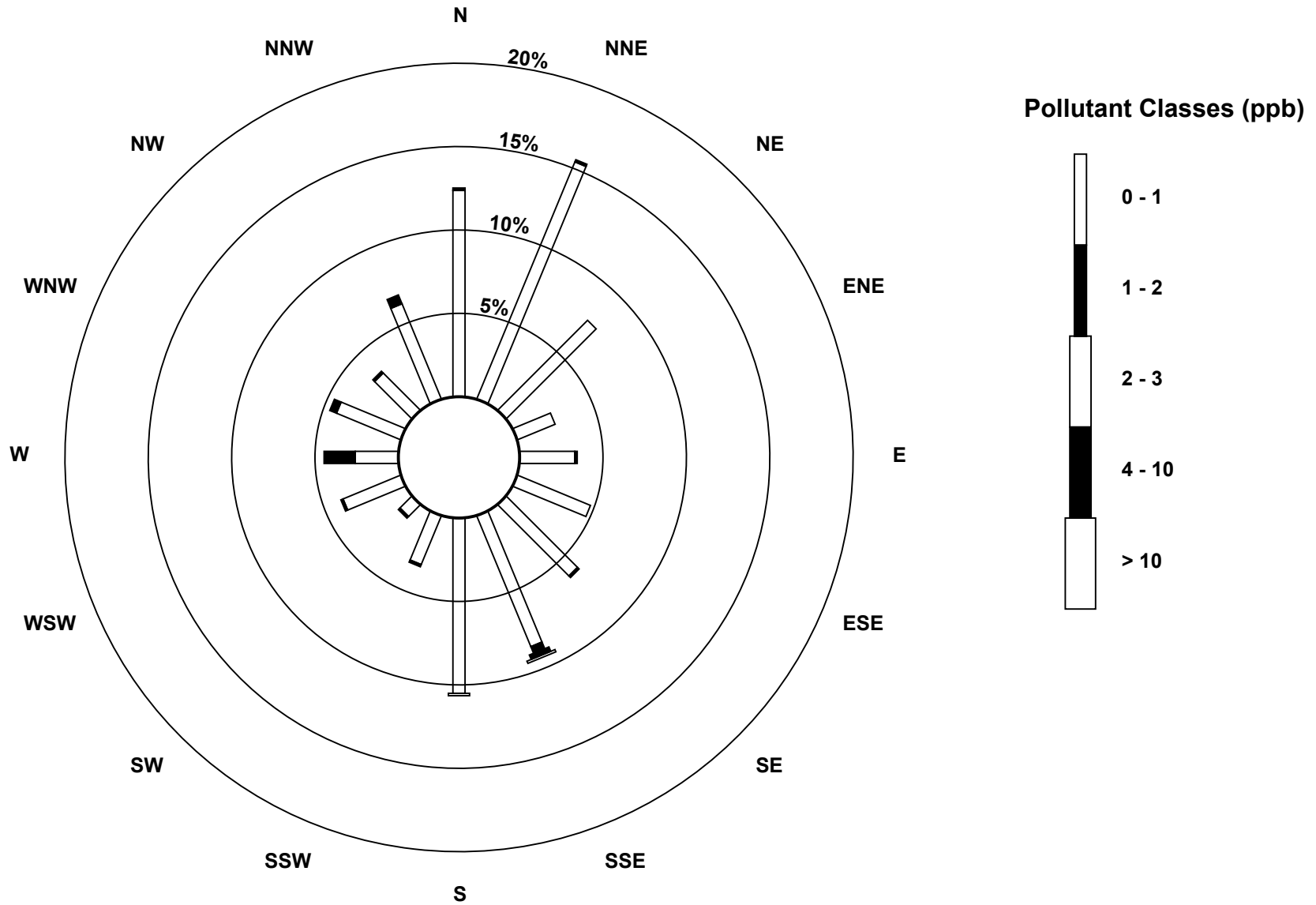
**Hourly Maximums**

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



**Pollutant Rose**

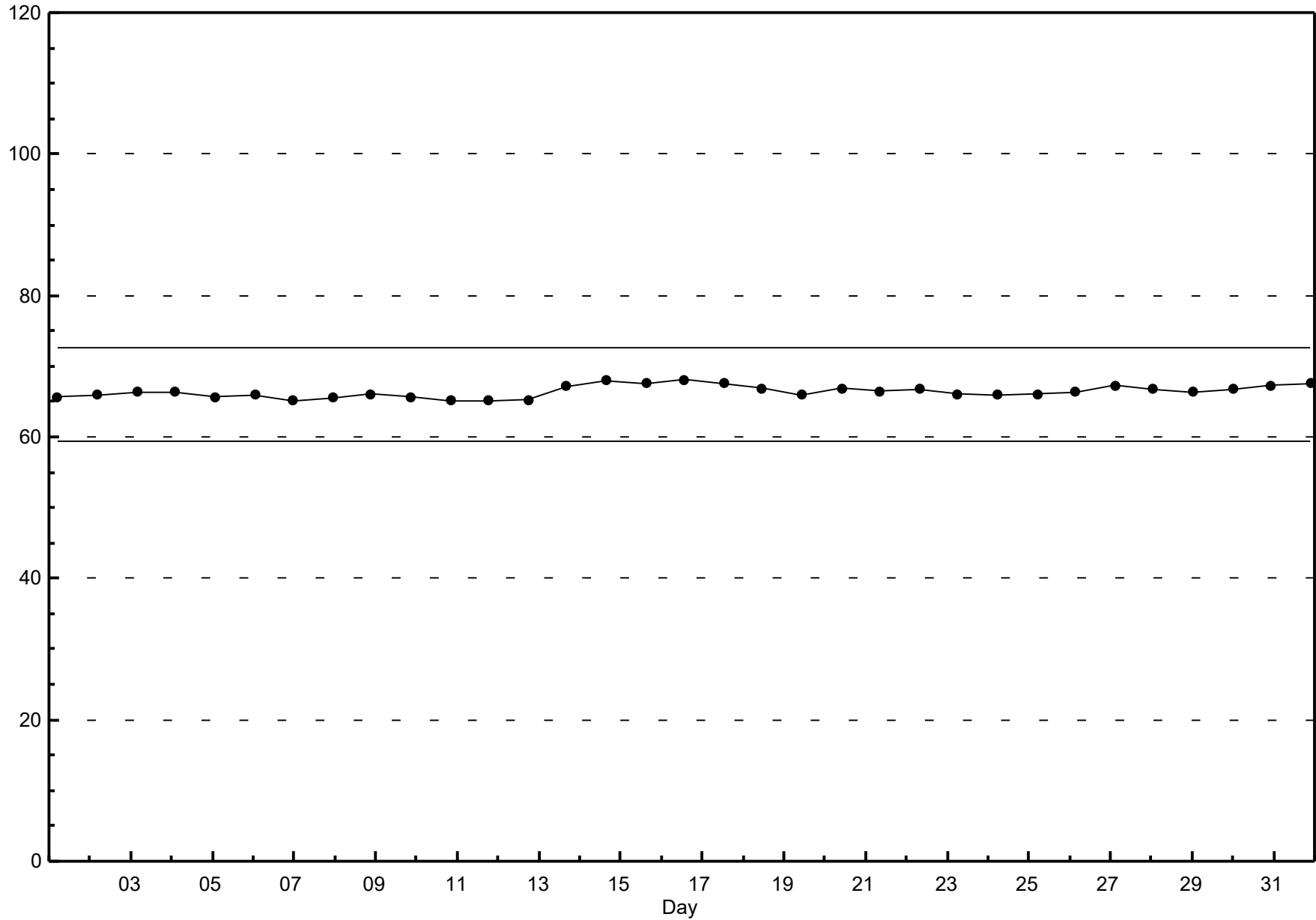
**Hydrogen Sulphide (H<sub>2</sub>S) - ppb**  
**Valleyview - October 2016**





### Span Responses

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



## Hourly Averages

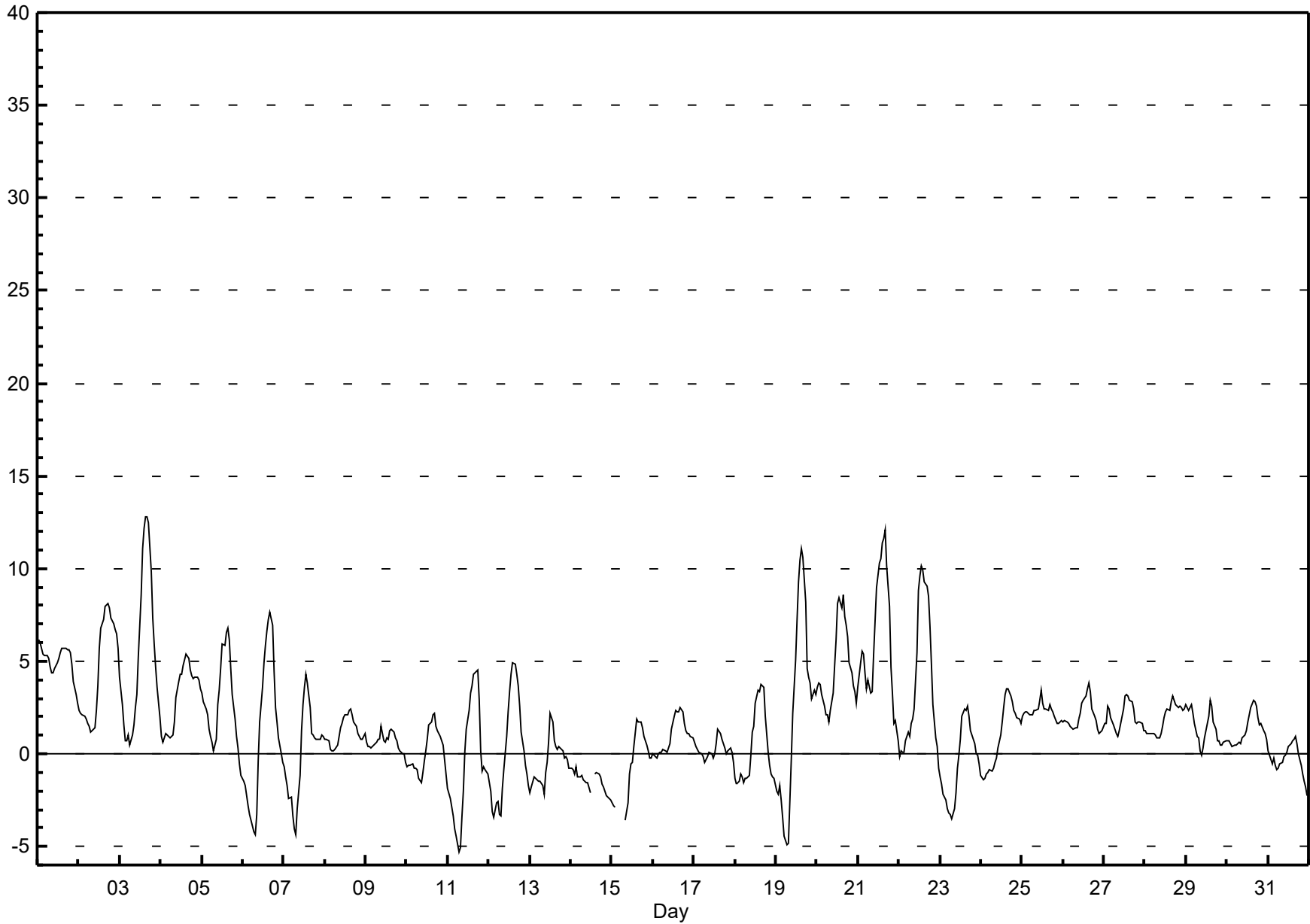
External Temperature (ET) - °C

Valleyview - October 2016

Maximum Value: 12.8 °C on Oct 3 16:00		Maximum Daily Average: 6.1 °C on Oct 21		Hours in Service: 744																							
Minimum Value: -5 °C on Oct 11 07:00		Minimum Daily Average: -1.5 °C on Oct 14		Hours of Data: 738																							
Maximum Diurnal Average: 4.4 °C at hour 16		Minimum Diurnal Average: -0.3 °C at hour 8		Hours of Missing Data: 6																							
Monthly Average: 1.65 °C		Percentiles: P <sub>1</sub> = -4.4 P <sub>10</sub> = -1.5 Q <sub>1</sub> = -0.1 Median = 1.2 Q <sub>3</sub> = 2.8 P <sub>90</sub> = 5.4 P <sub>99</sub> = 11.2		Hours of Calibration: 0																							
				Percent Operational Time: 99.2																							
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-Oct	6	6	6	5	5	5	5	5	4	4	5	5	5	5	6	6	6	6	6	5	5	4	3	3	5.0	6.2	
2-Oct	2	2	2	2	2	2	1	1	1	1	2	4	6	7	7	8	8	8	8	7	7	7	6	6	4.5	8.1	
3-Oct	4	3	2	1	1	1	1	1	2	3	3	5	9	11	12	13	13	13	10	7	6	5	4	2	5.3	12.8	
4-Oct	1	1	1	1	1	1	1	1	2	3	4	4	4	5	5	5	5	5	4	4	4	4	4	4	3.1	5.4	
5-Oct	3	3	2	2	1	1	1	0	1	3	3	5	6	6	7	7	6	5	3	2	1	0	-1	-1	2.7	6.8	
6-Oct	-1	-2	-2	-3	-3	-4	-4	-4	-3	0	2	4	5	6	7	7	8	7	4	2	2	1	0	0	1.1	7.7	
7-Oct	-1	-1	-2	-2	-2	-3	-4	-4	-3	-1	1	3	4	4	4	2	1	1	1	1	1	1	1	1	0.0	4.3	
8-Oct	1	1	1	0	0	0	0	1	1	1	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1.2	2.4	
9-Oct	1	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0.6	1.5	
10-Oct	-1	-1	-1	-1	-1	-1	-1	-1	-2	-1	0	0	1	2	2	2	2	2	1	1	1	0	0	-1	0.1	2.2	
11-Oct	-2	-2	-3	-3	-4	-4	-5	-5	-3	-2	0	1	2	3	4	4	4	5	3	0	-1	-1	-1	-1	-0.5	4.6	
12-Oct	-2	-2	-3	-3	-3	-3	-3	-3	-2	-1	1	2	3	4	5	5	4	4	3	1	0	-1	-1	-2	0.2	4.9	
13-Oct	-2	-2	-1	-1	-1	-2	-1	-2	-2	-1	0	1	2	2	1	0	0	0	0	0	0	0	0	-1	-0.5	2.2	
14-Oct	-1	-1	-1	-1	-1	-1	-1	-1	-1	-2	-2	-2	N	N	-1	-1	-1	-1	-2	-2	-2	-2	-2	-2	-1.5	-0.7	
15-Oct	-3	-3	-3	N	N	-3	N	N	-4	-3	-1	-1	0	0	2	2	2	2	1	1	0	0	0	0	-0.5	1.9	
16-Oct	0	0	0	0	0	0	0	0	0	0	1	1	2	2	2	2	3	2	2	1	1	1	1	1	1.0	2.5	
17-Oct	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0.2	1.3	
18-Oct	-1	-2	-1	-1	-1	-2	-1	-1	-1	0	1	1	3	3	3	4	4	4	2	0	-1	-1	-1	-1	0.4	3.8	
19-Oct	-2	-2	-2	-2	-3	-4	-5	-5	-3	0	2	5	7	9	10	11	11	8	5	4	4	3	3	3	2.4	11.1	
20-Oct	4	4	4	3	3	2	2	2	2	3	5	6	8	8	8	9	7	7	6	5	4	4	3	3	4.7	8.6	
21-Oct	4	5	6	5	4	3	4	3	3	5	7	9	10	10	11	12	12	10	8	5	3	2	2	1	6.1	12.1	
22-Oct	0	0	0	0	1	1	1	2	2	2	5	9	10	10	10	9	9	9	7	5	3	1	0	-1	3.9	10.1	
23-Oct	-1	-2	-2	-2	-3	-3	-3	-3	-3	-2	-1	0	1	2	2	2	3	2	1	1	1	0	0	-1	-0.5	2.6	
24-Oct	-1	-1	-1	-1	-1	-1	-1	-1	0	0	0	1	2	2	3	4	3	3	3	2	2	2	2	2	0.9	3.5	
25-Oct	2	2	2	2	2	2	2	2	2	2	3	3	3	2	2	2	3	2	2	2	2	2	2	2	2.3	3.4	
26-Oct	2	2	2	2	1	1	1	1	1	2	2	3	3	3	4	4	3	2	2	2	1	1	1	1	2.0	3.8	
27-Oct	2	2	3	2	2	2	1	1	1	1	2	2	3	3	3	3	3	2	2	2	2	2	2	1	2.0	3.2	
28-Oct	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	3	3	3	3	2	3	3	2	2	1.9	3.1	
29-Oct	3	2	3	3	2	2	1	1	0	0	1	2	2	2	3	3	2	1	1	1	0	0	1	1	1.4	2.9	
30-Oct	1	1	1	0	0	0	1	1	1	1	1	1	2	2	2	3	3	3	2	2	2	1	1	1	1.3	2.9	
31-Oct	0	0	-1	0	-1	-1	-1	-1	0	0	0	0	0	1	1	1	1	1	0	-1	-1	-1	-2	-2	-0.3	0.9	
		0.6	0.5	0.3	0.3	0.1	-0.2	-0.3	-0.3	-0.1	0.7	1.6	2.5	3.6	4.1	4.3	4.4	4.2	3.8	2.9	2.1	1.6	1.2	1.0	0.6	Diurnal Average	
		6.2	6.0	5.7	5.4	5.3	5.3	5.1	4.6	4.4	5.4	7.2	9.0	10.3	11.1	12.1	12.8	12.8	12.5	9.8	7.3	7.1	6.7	6.5	5.7	Diurnal Maximum	
N - Not Valid																											

**Hourly Averages**

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



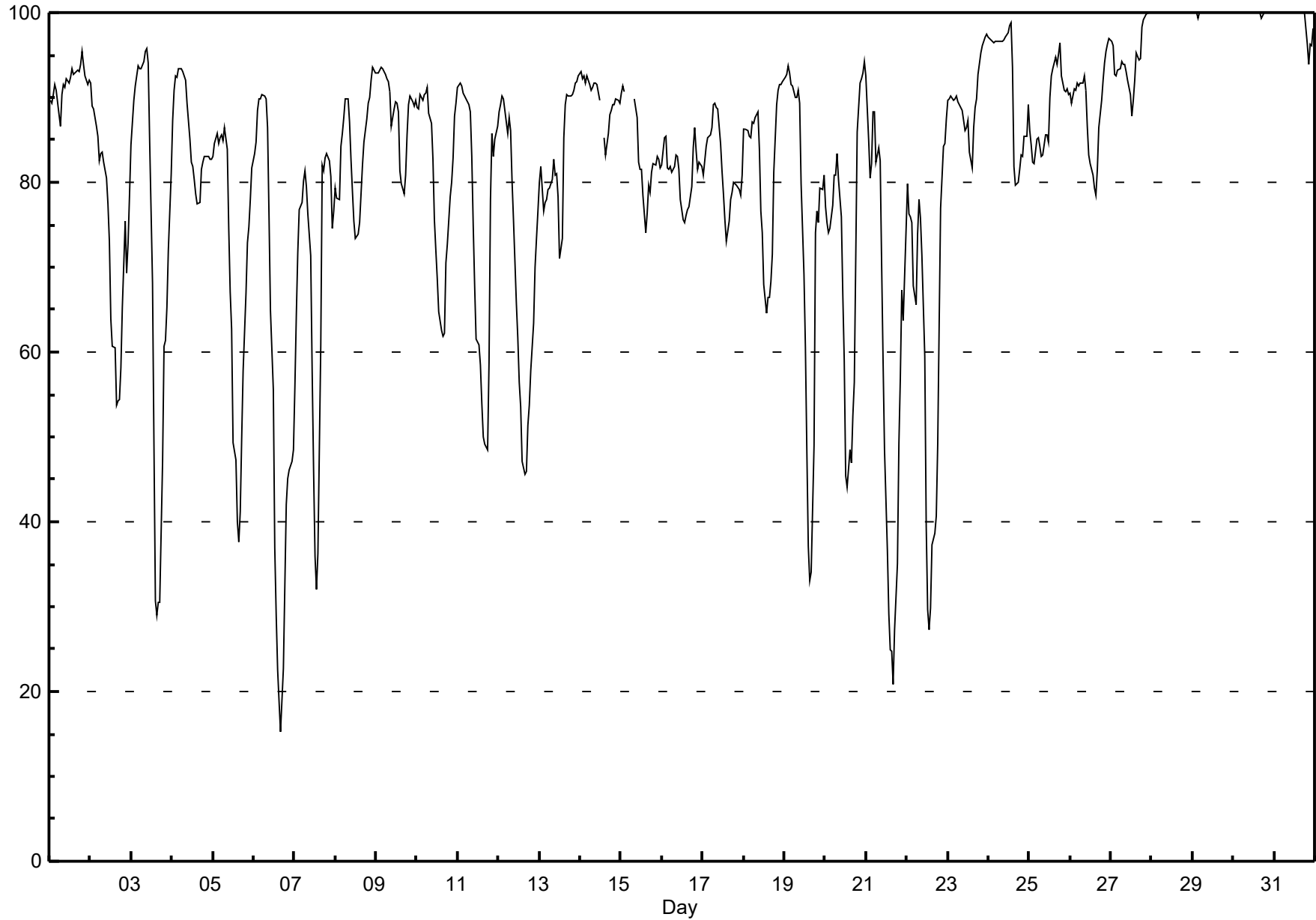
# Hourly Averages

Relative Humidity (RH) - %  
Valleyview - October 2016

Maximum Value: 100.0 % on Oct 28 00:00		Maximum Daily Average: 100.0 % on Oct 28		Hours in Service: 744																							
Minimum Value: 15 % on Oct 6 17:00		Minimum Daily Average: 58.2 % on Oct 6		Hours of Data: 738																							
Maximum Diurnal Average: 89.4 % at hour 8		Minimum Diurnal Average: 68.5 % at hour 15		Hours of Missing Data: 6																							
Monthly Average: 81.92 %		Percentiles: P <sub>1</sub> = 27.3 P <sub>10</sub> = 57.8 Q <sub>1</sub> = 77.5 Median = 86.1 Q <sub>3</sub> = 92.5 P <sub>90</sub> = 100.0 P <sub>99</sub> = 100.0		Hours of Calibration: 0																							
				Percent Operational Time: 99.2																							
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-Oct	90	89	90	92	91	88	87	90	92	91	92	92	92	93	93	93	93	94	95	94	92	92	92	92	91.7	95.3	
2-Oct	92	89	89	87	85	83	83	83	82	81	77	73	64	61	61	54	54	54	58	65	75	69	73	79	73.8	91.7	
3-Oct	84	90	91	93	94	93	93	94	95	96	94	85	68	49	31	29	31	31	47	61	61	65	72	81	72.0	95.8	
4-Oct	87	91	92	92	93	93	93	93	92	89	85	82	82	80	79	77	78	82	82	83	83	83	83	83	85.8	93.4	
5-Oct	83	85	86	85	85	86	85	86	84	75	67	63	49	47	40	38	41	50	58	67	73	75	78	82	69.4	86.5	
6-Oct	83	85	88	90	90	90	90	90	86	76	65	56	37	29	22	19	15	23	32	42	45	46	47	48	58.2	90.4	
7-Oct	56	64	72	77	78	80	81	79	76	71	58	46	36	32	36	61	82	81	83	83	82	81	75	77	68.7	83.5	
8-Oct	79	78	78	84	86	88	90	90	87	83	79	75	73	74	75	79	82	85	87	89	90	92	93	93	83.8	93.5	
9-Oct	93	93	93	94	93	93	92	92	91	87	89	90	89	88	81	80	79	81	86	89	90	90	89	90	88.7	93.6	
10-Oct	89	89	90	90	90	91	91	88	87	83	76	72	69	65	63	62	62	71	73	78	80	83	88	89	79.9	91.2	
11-Oct	91	92	91	91	90	90	89	88	83	75	68	62	61	58	54	50	49	48	59	78	86	83	85	87	75.3	91.7	
12-Oct	88	89	90	90	87	86	88	86	80	76	66	62	57	54	47	46	46	51	54	58	63	70	73	77	70.1	90.2	
13-Oct	80	82	77	78	78	79	79	80	83	81	81	78	71	73	85	89	90	90	90	90	91	92	92	93	83.4	92.5	
14-Oct	93	92	93	92	93	92	91	91	92	92	92	90	N	N	85	83	86	88	88	89	89	90	90	89	89.9	93.1	
15-Oct	91	91	91	N	N	90	N	N	90	88	82	82	81	78	74	76	80	79	81	82	82	83	83	82	83.3	91.3	
16-Oct	82	85	85	82	82	82	81	82	83	83	82	78	76	75	76	77	77	79	84	86	84	82	82	82	81.1	86.4	
17-Oct	81	83	84	85	86	86	89	89	89	89	84	81	79	76	73	75	78	79	80	80	80	79	78	81	81.9	89.4	
18-Oct	86	86	86	85	85	87	87	88	88	84	77	74	68	65	66	66	68	71	81	89	91	92	92	92	81.5	91.8	
19-Oct	92	93	94	93	92	91	90	91	89	80	69	61	48	37	33	34	49	74	77	75	79	79	81	74.6	93.7		
20-Oct	77	75	74	75	77	81	81	83	80	76	67	59	45	44	48	47	52	57	71	86	92	92	93	94	72.0	94.3	
21-Oct	93	85	81	82	88	88	82	84	83	70	59	48	37	29	25	25	21	27	35	49	57	67	64	74	60.6	92.6	
22-Oct	80	76	76	75	68	66	74	78	76	71	59	40	30	27	30	37	39	41	49	63	77	84	85	87	62.0	87.5	
23-Oct	90	90	90	90	90	90	90	89	88	87	86	87	87	84	82	86	89	90	93	95	96	97	97	97	90.0	97.4	
24-Oct	97	97	97	96	97	97	97	97	97	97	97	98	98	99	94	82	80	80	81	83	83	85	85	89	91.7	98.9	
25-Oct	86	84	82	82	85	85	84	83	83	86	85	85	90	93	93	95	94	95	96	93	91	91	91	90	88.5	96.5	
26-Oct	90	89	91	91	92	91	92	92	93	91	87	83	82	81	79	79	81	86	90	92	94	95	96	97	89.0	97.0	
27-Oct	97	96	93	93	93	93	94	94	94	93	92	90	88	90	92	95	94	94	98	99	100	100	100	100	94.7	100.0	
28-Oct	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	
29-Oct	100	100	100	99	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100.0	100.0	
30-Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	99	100	100	100	100	100	100	100	100.0	100.0	
31-Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	96	94	96	96	98	99.2	100.0	
		88.1	88.3	88.5	88.7	88.9	89.0	89.1	89.4	88.5	85.7	81.5	77.4	72.3	69.7	68.5	68.8	70.2	72.8	77.6	81.9	83.8	84.9	85.5	87.2	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	Diurnal Maximum	
N - Not Valid																											

**Hourly Averages**

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





Peace Airshed Zone Association

# Hourly Averages

Wind Speed (km/h)  
Wind Direction (deg)  
Valleyview - October 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	7	5	5	5	5	5	6	7	6	6	6	5	5	5	5	4	3	3	3	8	9	8	9	3.7	9.1	
Dir	46	39	38	31	46	57	53	46	36	36	22	29	23	26	24	32	43	16	356	303	273	283	286	268	13	283	
2 Spd	9	8	7	6	6	7	5	5	4	6	3	2	3	4	3	3	1	1	0	0	0	1	0	0	2.8	9.1	
Dir	271	278	266	270	279	275	271	259	258	249	262	175	170	166	166	174	173	214	215	144	146	150	168	201	252	271	
3 Spd	0	0	0	0	2	2	2	3	4	3	3	2	1	0	2	3	4	4	6	6	5	5	5	7	1.2	7.1	
Dir	184	172	189	186	171	167	161	158	162	164	169	169	175	352	12	15	13	17	20	23	17	5	0	2	32	2	
4 Spd	8	7	8	7	7	8	8	8	8	6	6	7	10	9	10	8	8	9	7	5	4	5	4	4	7.0	10.4	
Dir	8	11	12	9	6	11	8	3	13	17	23	7	9	17	28	32	39	14	19	19	25	25	20	26	16	9	
5 Spd	2	2	2	2	3	2	2	2	2	2	4	2	1	3	2	2	4	6	6	6	4	4	4	3	2.5	5.8	
Dir	20	40	41	63	66	56	40	22	38	91	124	91	56	32	0	79	53	41	27	11	2	359	352	349	35	41	
6 Spd	3	2	0	0	1	1	1	1	1	2	2	2	3	4	4	4	4	3	4	2	2	1	1	3	1.3	4.3	
Dir	355	10	168	62	4	12	27	345	338	130	109	113	125	96	113	133	127	32	15	60	79	89	123	146	87	113	
7 Spd	2	5	2	2	1	3	3	4	5	6	7	8	9	9	11	8	7	4	2	3	2	2	4	3	3.8	11.0	
Dir	136	137	135	63	61	27	24	24	40	53	82	110	115	122	127	133	124	115	73	73	67	68	123	113	101	127	
8 Spd	2	3	4	5	3	1	2	2	2	2	3	4	4	3	1	1	1	0	2	4	3	2	1	0	1.4	4.5	
Dir	118	128	130	129	130	137	135	135	151	157	162	164	167	164	163	308	10	187	336	11	27	19	39	285	129	129	
9 Spd	1	1	1	5	4	1	0	0	1	0	2	2	1	1	2	2	6	6	3	4	4	3	2	6	2.3	6.3	
Dir	352	358	334	347	345	332	277	258	330	303	353	358	295	296	298	297	309	317	293	315	338	320	332	343	327	343	
10 Spd	6	7	5	6	7	6	5	5	4	4	5	4	3	1	2	1	1	2	0	0	0	1	1	1	2.8	7.0	
Dir	345	342	340	337	341	351	2	15	13	8	17	359	350	342	21	343	14	315	301	130	187	164	148	166	354	341	
11 Spd	1	1	1	1	1	1	1	1	2	3	2	4	6	6	8	6	4	2	0	0	1	2	2	2	1.8	7.7	
Dir	150	170	155	171	169	176	187	169	159	169	192	237	251	283	273	272	258	242	191	188	190	189	176	171	231	273	
12 Spd	2	1	0	2	2	1	1	1	1	1	1	2	3	3	5	6	5	4	4	3	3	3	3	3	1.6	6.0	
Dir	176	187	213	180	171	162	165	185	143	118	18	27	24	34	27	13	21	40	38	29	4	350	351	344	26	13	
13 Spd	2	1	3	2	6	4	2	2	3	4	4	3	0	2	2	3	2	0	0	0	0	0	0	2	1.1	6.1	
Dir	20	91	129	124	124	120	83	26	19	13	18	28	144	175	169	160	138	147	142	82	18	48	36	10	87	124	
14 Spd	1	1	2	1	4	3	3	3	3	4	3	N	N	N	N	N	3	2	1	2	2	3	2	2	2.2	3.7	
Dir	24	323	20	16	12	26	39	43	47	41	47	N	N	N	N	66	46	37	36	19	7	11	20	1	29	41	
15 Spd	3	3	N	N	N	N	N	N	N	N	N	N	2	4	2	2	3	1	3	5	5	5	7	8	6	--	8.1
Dir	11	5	N	N	N	N	N	N	N	N	N	N	345	328	324	353	356	351	119	122	123	121	123	125	124	--	125
16 Spd	3	3	3	5	3	3	5	4	5	4	4	4	4	4	2	3	2	0	0	2	3	5	3	3	1.4	4.8	
Dir	119	94	99	120	116	127	155	159	155	153	154	159	164	184	250	250	276	273	303	299	279	285	257	293	171	120	
17 Spd	4	4	3	2	2	3	3	2	1	2	5	6	4	2	0	3	4	4	3	5	1	0	0	1	2.4	5.9	
Dir	305	359	356	349	338	354	329	294	303	316	1	12	12	40	278	289	299	300	320	341	306	302	19	318	336	12	
18 Spd	1	2	0	0	0	1	0	1	1	0	0	1	0	2	2	2	2	1	0	2	0	0	0	0	0.1	2.3	
Dir	301	310	331	301	330	333	331	0	339	349	132	346	34	160	157	170	155	159	83	335	331	225	197	255	297	155	
19 Spd	0	2	2	0	0	0	0	1	2	3	3	2	3	2	2	3	1	1	2	1	2	3	3	1	1.2	3.1	
Dir	221	178	179	257	328	295	219	189	184	174	160	170	155	162	165	168	133	2	336	160	163	167	163	174	169	160	
20 Spd	3	4	2	3	2	1	0	1	0	2	2	2	1	1	2	2	3	1	1	1	1	1	1	2	0.9	3.7	
Dir	175	183	186	183	205	181	310	156	185	164	169	164	16	235	254	326	352	319	315	196	183	188	131	167	194	183	
21 Spd	3	9	10	3	1	2	2	2	1	3	3	3	1	4	2	2	1	1	2	2	1	1	1	0	1.3	9.7	
Dir	182	240	261	237	189	211	211	169	147	180	172	173	191	247	279	15	54	59	46	340	327	325	94	201	229	261	
22 Spd	1	0	2	2	3	2	0	2	2	1	2	3	9	9	12	12	3	0	2	0	0	0	0	1	1.5	12.1	
Dir	212	212	197	178	176	204	4	176	185	164	163	271	286	284	315	339	0	351	17	277	274	336	291	178	293	339	



Peace Airshed Zone Association

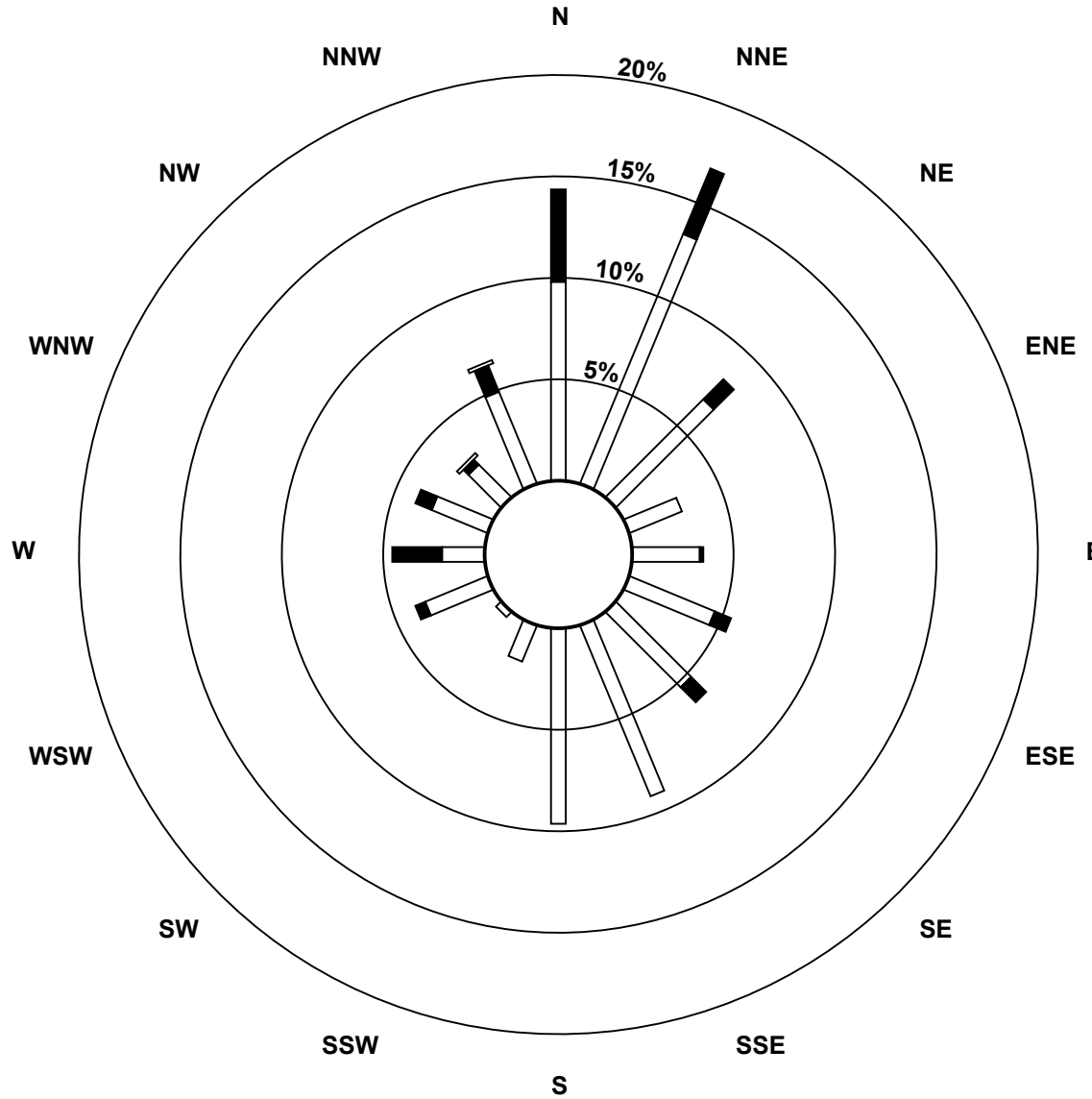
# Hourly Averages

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

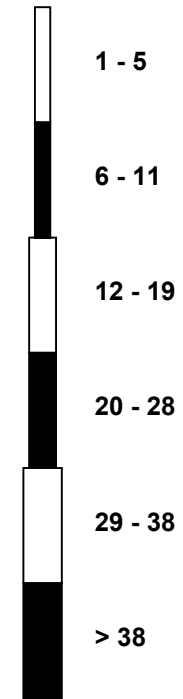
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
23 Spd	1	0	0	0	0	0	0	0	0	0	0	3	5	6	9	10	8	8	7	4	2	1	2	3	2.7	10.4
Dir	324	195	200	234	33	115	206	357	278	334	163	23	21	16	8	359	347	354	1	358	33	277	298	343	360	359
24 Spd	2	2	1	1	1	1	2	2	1	2	2	1	1	3	2	3	4	4	4	5	5	5	7	2	1.8	7.3
Dir	353	36	37	41	42	348	35	357	354	25	22	20	81	106	95	129	133	142	145	138	125	122	120	93	103	120
25 Spd	2	2	3	3	3	3	3	1	1	2	2	1	0	0	1	1	0	0	2	7	6	6	5	5	0.5	6.9
Dir	88	74	85	86	75	80	95	95	39	23	18	121	128	15	32	10	53	168	254	278	277	272	278	276	329	278
26 Spd	5	2	3	2	2	2	2	1	1	1	1	2	2	2	3	2	2	2	3	3	3	3	2	2	0.8	5.5
Dir	294	297	255	265	241	251	249	251	201	173	207	208	161	141	143	142	107	94	112	137	124	115	119	118	171	294
27 Spd	2	3	3	3	4	5	4	4	5	5	5	3	2	5	5	7	6	7	7	6	4	3	6	6	4.4	7.1
Dir	49	11	48	43	41	40	30	13	15	23	350	12	346	352	360	360	3	357	348	7	29	352	347	355	8	357
28 Spd	5	6	5	4	3	3	4	5	4	3	1	1	0	1	2	1	0	0	1	0	0	1	0	0	2.0	6.2
Dir	6	3	3	2	19	10	343	345	351	354	39	50	181	51	12	20	65	358	36	169	345	39	4	68	3	3
29 Spd	0	1	2	1	0	1	2	2	3	3	2	4	2	1	1	3	6	4	4	4	5	4	2	2	0.5	5.6
Dir	176	169	175	180	12	174	203	184	239	233	239	168	177	142	22	359	358	6	15	18	21	21	33	38	12	358
30 Spd	1	1	1	1	1	2	1	1	1	1	1	1	1	2	2	3	4	3	3	3	3	3	2	3	1.2	4.4
Dir	68	52	153	24	26	32	15	300	262	237	162	176	190	230	180	174	166	159	157	160	168	160	167	170	164	166
31 Spd	2	1	1	0	5	5	4	4	3	2	2	1	0	1	1	1	0	3	6	7	7	8	7	8	1.9	7.9
Dir	186	188	14	321	337	324	265	263	238	209	186	191	165	135	47	84	106	15	26	21	8	7	5	355	353	355
Spd	1.0	0.8	0.5	0.7	1.0	1.0	0.8	0.8	0.7	0.7	0.9	0.7	0.4	0.4	1.0	1.4	1.3	1.6	1.9	1.6	1.1	0.8	0.7	0.9	Diurnal Average	
Dir	357	3	6	25	24	18	20	14	23	56	69	75	34	28	14	15	30	17	18	12	7	3	20	349	Diurnal Maximum	
Spd	9.1	8.6	9.7	7.4	7.1	7.7	7.6	7.9	7.8	6.0	7.4	8.1	10.4	9.1	11.5	12.1	8.3	8.8	7.2	6.9	8.5	9.1	8.1	9.0	Diurnal Maximum	
Dir	271	240	261	9	6	11	8	3	13	53	82	110	9	284	315	339	39	14	1	278	273	283	125	268	Diurnal Maximum	
Maximum Speed Value: 12 km/h on Oct 22 16:00																		Minimum Speed Value: 0 km/h on Oct 29 05:00						Hours in Service: 744		
Maximum Daily Speed Average: 7.0 km/h on Oct 4																		Minimum Daily Speed Average: 0.1 km/h on Oct 18						Hours of Data: 731		
Maximum Diurnal Speed Average: 1.9 km/h at hour 19																		Minimum Diurnal Speed Average: 0.4 km/h at hour 13						Hours of Missing Data: 13		
Monthly Average Velocity: 0.89 km/h 19.0 deg																		Speed Percentiles: P <sub>1</sub> = 0.1 P <sub>10</sub> = 0.4 Q <sub>1</sub> = 1.2 Median = 2.4 Q <sub>3</sub> = 4.2 P <sub>90</sub> = 6.1 P <sub>99</sub> = 9.3						Percent Operational Time: 98.3		
All monthly, daily, and diurnal averages have been calculated using vector methods																										
N - Not Valid																										
Frequency Distribution																										
		Speed Range (km/h)																								
Direction	0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total																			
North	136	53	1	0	0	0	190																			
NorthEast	90	22	0	0	0	0	112																			
East	36	2	0	0	0	0	38																			
SouthEast	79	13	1	0	0	0	93																			
South	142	0	0	0	0	0	142																			
SouthWest	30	1	0	0	0	0	31																			
West	36	23	0	0	0	0	59																			
NorthWest	61	4	1	0	0	0	66																			
Total	610	118	3	0	0	0	731																			

**Wind Rose**

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



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





# Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Valleyview - October 2016

Maximum Speed: 13 km/h on Oct 22 15:00	Maximum Daily Speed Average: 7.2 km/h on Oct 4	Hours in Service: 744
Minimum Speed: 0 km/h on Oct 6 03:00	Minimum Daily Speed Average: 1.0 km/h on Oct 18	Hours of Data: 731
Maximum Diurnal Speed Average: 4.0 km/h at hour 15	Minimum Diurnal Speed Average: 2.5 km/h at hour 4	Hours of Missing Data: 13
Monthly Average Speed: 3.07 km/h	Percentiles: P <sub>1</sub> = 0.1 P <sub>10</sub> = 0.6 Q <sub>1</sub> = 1.4 Median = 2.6 Q <sub>3</sub> = 4.3 P <sub>90</sub> = 6.3 P <sub>99</sub> = 9.8	Percent Operational Time: 98.3

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-Oct	7	7	5	5	5	5	6	6	7	6	6	6	5	5	5	6	4	3	3	3	9	9	8	9	5.9	9.4	
2-Oct	9	8	7	6	6	7	5	5	5	6	3	3	3	4	3	3	2	1	0	0	0	1	0	0	3.8	9.3	
3-Oct	0	0	0	0	2	2	2	3	5	3	3	2	2	2	3	4	4	4	6	6	5	6	5	7	3.2	7.1	
4-Oct	9	7	8	8	7	8	8	8	8	6	6	7	11	9	10	8	8	9	7	6	4	5	4	4	7.2	10.6	
5-Oct	2	2	2	2	3	2	2	2	2	3	4	3	2	4	3	3	5	6	6	6	4	4	5	3	3.3	6.0	
6-Oct	3	2	0	0	1	1	1	1	1	3	3	3	4	5	5	4	4	4	4	2	2	1	2	3	2.4	5.0	
7-Oct	2	5	2	2	1	3	3	4	5	6	8	9	9	9	11	8	7	4	3	3	2	2	4	3	4.9	11.2	
8-Oct	2	3	4	5	4	2	2	2	2	3	4	4	4	3	2	1	2	1	2	4	3	2	2	0	2.5	4.6	
9-Oct	1	1	1	5	4	1	0	0	1	0	2	2	1	1	2	2	6	6	3	5	5	3	2	6	2.6	6.5	
10-Oct	6	7	5	6	7	6	5	5	4	4	6	5	3	2	2	1	1	2	1	1	0	1	1	1	3.3	7.0	
11-Oct	1	1	1	1	1	1	1	1	2	3	3	4	7	7	8	7	4	3	0	0	1	2	2	2	2.7	8.1	
12-Oct	2	1	0	2	2	1	1	1	1	2	2	2	4	4	5	6	5	4	4	3	3	3	3	3	2.6	6.3	
13-Oct	2	2	3	3	6	4	2	3	4	4	4	3	1	2	2	2	3	2	1	0	0	0	0	2	2.3	6.1	
14-Oct	1	2	2	1	4	4	3	3	3	4	3	N	N	N	N	3	2	1	2	2	3	3	2	2	2.4	3.9	
15-Oct	3	3	N	N	N	N	N	N	N	N	N	N	2	4	2	2	3	2	3	5	5	5	7	8	6	--	8.1
16-Oct	3	3	3	5	3	3	5	5	5	4	4	4	4	2	3	2	1	1	2	3	5	3	3	4	3.3	4.9	
17-Oct	4	4	3	2	2	3	3	2	1	2	5	6	4	2	1	3	5	4	3	5	1	0	0	1	2.8	6.0	
18-Oct	1	2	0	0	0	1	1	1	1	0	1	2	1	2	2	2	2	1	0	2	1	0	0	1	1.0	2.4	
19-Oct	1	2	2	0	0	1	0	1	2	3	3	2	3	2	3	3	1	2	2	1	2	3	3	1	1.7	3.2	
20-Oct	3	4	2	3	2	1	1	1	1	2	2	2	2	1	3	2	3	2	2	1	1	2	1	2	1.9	3.7	
21-Oct	3	9	10	3	1	2	2	2	1	3	3	3	2	4	3	2	1	1	2	2	1	1	1	0	2.7	10.0	
22-Oct	1	1	2	2	3	2	2	3	2	1	2	5	9	10	13	12	3	1	2	1	1	1	1	1	3.3	12.5	
23-Oct	1	0	0	0	0	0	0	1	0	0	1	3	5	7	9	11	8	8	7	4	3	2	2	3	3.2	10.6	
24-Oct	2	2	1	1	1	2	2	2	1	2	2	1	2	3	3	3	4	4	4	5	5	6	7	3	2.8	7.4	
25-Oct	2	2	3	3	3	3	4	2	2	2	2	1	0	0	1	1	0	1	2	7	6	6	5	5	2.6	7.0	
26-Oct	6	2	3	2	2	3	2	1	1	1	2	2	2	2	3	2	2	2	3	3	3	3	2	3	2.3	5.7	
27-Oct	2	3	4	3	4	5	4	5	5	5	6	4	3	5	5	7	7	7	7	6	4	3	6	6	4.7	7.4	
28-Oct	6	6	5	5	3	3	4	5	4	3	1	1	0	1	2	1	0	0	1	1	1	1	1	1	2.3	6.3	
29-Oct	0	1	2	1	0	1	2	2	4	3	2	4	3	2	1	3	6	4	5	4	5	4	3	2	2.7	5.8	
30-Oct	2	1	1	1	1	2	1	1	1	1	1	1	1	3	2	3	4	3	3	3	3	3	2	3	2.0	4.4	
31-Oct	2	1	2	1	5	5	4	4	3	2	2	1	1	1	1	1	1	1	4	6	7	7	8	7	8	3.4	8.0
	2.9	3.1	2.8	2.5	2.9	2.7	2.6	2.7	2.7	2.8	3.1	3.2	3.4	3.5	4.0	3.8	3.5	3.1	3.1	3.3	3.0	3.0	3.0	3.1	Diurnal Average		
	9.3	8.8	10.0	7.5	7.2	7.8	7.8	8.0	7.9	6.1	7.7	8.5	10.6	9.5	12.5	12.2	8.5	8.9	7.3	7.0	8.6	9.4	8.3	9.2	Diurnal Maximum		

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

# Hourly Standard Deviations

Wind Direction (WD) - deg  
Valleyview - October 2016

Maximum Value: 99.2 deg on Oct 22 07:00																	Hours in Service: 744									
Minimum Value: 3.7 deg on Oct 11 22:00																	Hours of Data: 731									
Percentiles: P <sub>1</sub> = 6.0 P <sub>10</sub> = 9.4 Q <sub>1</sub> = 12.8 Median = 18.7 Q <sub>3</sub> = 34.7 P <sub>90</sub> = 58.3 P <sub>99</sub> = 88.8																	Hours of Missing Data: 13									
																	Hours of Calibration: 0									
																	Percent Operational Time: 98.3									
Day	Hourly Period Ending At (MST)																								Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Oct	8	12	11	9	16	15	17	11	13	13	12	12	14	15	14	14	15	18	15	17	11	15	28	15	28.0	
2-Oct	13	14	15	19	16	14	14	16	30	20	52	34	31	17	15	18	19	34	58	35	59	17	16	24	59.5	
3-Oct	20	13	9	14	6	8	10	8	10	14	14	28	61	96	47	37	19	16	10	8	9	7	8	6	96.1	
4-Oct	8	9	9	10	10	9	10	8	9	12	13	13	12	12	13	12	11	9	9	10	10	10	11	11	13.3	
5-Oct	25	23	10	21	18	22	28	13	20	40	25	48	78	50	59	49	25	12	8	8	13	7	12	11	77.6	
6-Oct	10	35	55	57	30	34	14	19	14	59	46	55	54	35	30	36	30	28	17	43	16	29	27	17	59.4	
7-Oct	18	10	33	36	66	19	11	8	12	17	20	19	16	15	10	10	12	18	25	19	21	18	16	16	65.5	
8-Oct	23	12	13	12	12	17	13	16	14	22	16	15	15	17	41	76	66	94	16	15	11	12	39	79	94.1	
9-Oct	13	10	10	11	11	13	39	38	39	39	43	54	43	53	13	16	18	16	18	11	17	11	17	9	54.0	
10-Oct	9	7	6	7	6	11	9	13	9	14	19	23	29	46	38	52	40	23	81	58	51	38	24	21	80.8	
11-Oct	25	7	8	12	31	22	17	7	11	13	30	23	24	34	19	20	21	15	14	15	10	4	5	4	34.1	
12-Oct	8	44	24	10	15	34	35	18	39	43	35	35	34	34	25	18	11	9	10	21	7	18	12	13	43.7	
13-Oct	9	39	10	56	5	9	27	33	13	18	14	15	75	19	16	27	17	16	53	78	16	39	62	16	78.1	
14-Oct	90	34	29	54	9	11	11	12	19	15	16	N	N	N	N	18	13	18	14	14	10	13	17	14	89.8	
15-Oct	13	9	N	N	N	N	N	N	N	N	N	28	15	35	41	27	30	8	6	7	7	6	5	8	40.7	
16-Oct	14	20	20	9	14	21	15	15	12	15	13	14	11	21	27	27	23	44	11	18	13	23	15	15	44.2	
17-Oct	15	12	11	19	15	16	16	17	17	21	19	12	22	24	48	33	12	13	13	8	28	47	37	13	48.1	
18-Oct	18	13	70	57	22	8	38	22	67	49	70	59	89	33	30	33	17	23	58	21	80	78	81	43	89.4	
19-Oct	51	13	14	53	55	57	63	51	17	10	19	23	17	21	17	13	32	33	35	88	60	15	34	52	88.4	
20-Oct	11	7	20	9	19	60	85	47	20	23	10	26	87	52	35	50	28	70	81	38	26	49	56	20	87.3	
21-Oct	13	17	16	32	9	15	10	17	26	9	15	27	69	27	44	20	40	17	30	26	61	71	54	40	71.1	
22-Oct	28	87	37	39	13	29	99	40	12	20	13	72	13	19	23	8	40	78	35	81	80	83	76	25	99.2	
23-Oct	65	77	25	69	81	71	82	76	68	73	71	50	17	15	11	10	17	7	9	16	29	53	31	31	81.7	
24-Oct	43	30	43	33	19	43	36	22	23	22	16	30	37	24	31	13	10	12	13	13	6	9	9	22	43.3	
25-Oct	24	20	21	23	19	22	24	51	36	35	23	41	74	63	34	27	61	29	32	9	13	12	9	10	73.6	
26-Oct	19	24	13	22	19	26	34	32	39	59	39	38	29	51	26	34	22	26	28	17	16	26	19	36	59.4	
27-Oct	36	17	24	18	12	10	14	10	13	15	10	20	41	17	15	16	13	14	9	14	19	13	9	9	41.0	
28-Oct	8	10	10	7	17	22	9	9	13	19	40	60	87	51	27	40	64	80	67	46	88	93	44	83	93.0	
29-Oct	63	12	8	68	84	17	22	15	20	27	34	14	22	65	93	31	16	15	14	12	17	14	56	52	93.0	
30-Oct	50	50	33	27	21	18	16	26	25	38	16	17	26	30	13	14	8	12	12	12	11	13	13	11	50.2	
31-Oct	12	38	91	86	16	23	19	18	25	30	26	23	70	47	30	44	35	51	14	13	9	8	8	8	91.0	
	89.8	87.3	91.0	85.9	84.3	71.2	99.2	75.7	68.2	72.8	70.7	71.6	89.4	96.1	93.0	76.5	66.2	94.1	81.4	88.4	87.7	93.0	81.2	82.7		
N - Not Valid																										

PAZA

Donnelly Station

Monthly Summary Tables, Graphs and  
Roses

## Hourly Averages

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

### Donnelly - October 2016

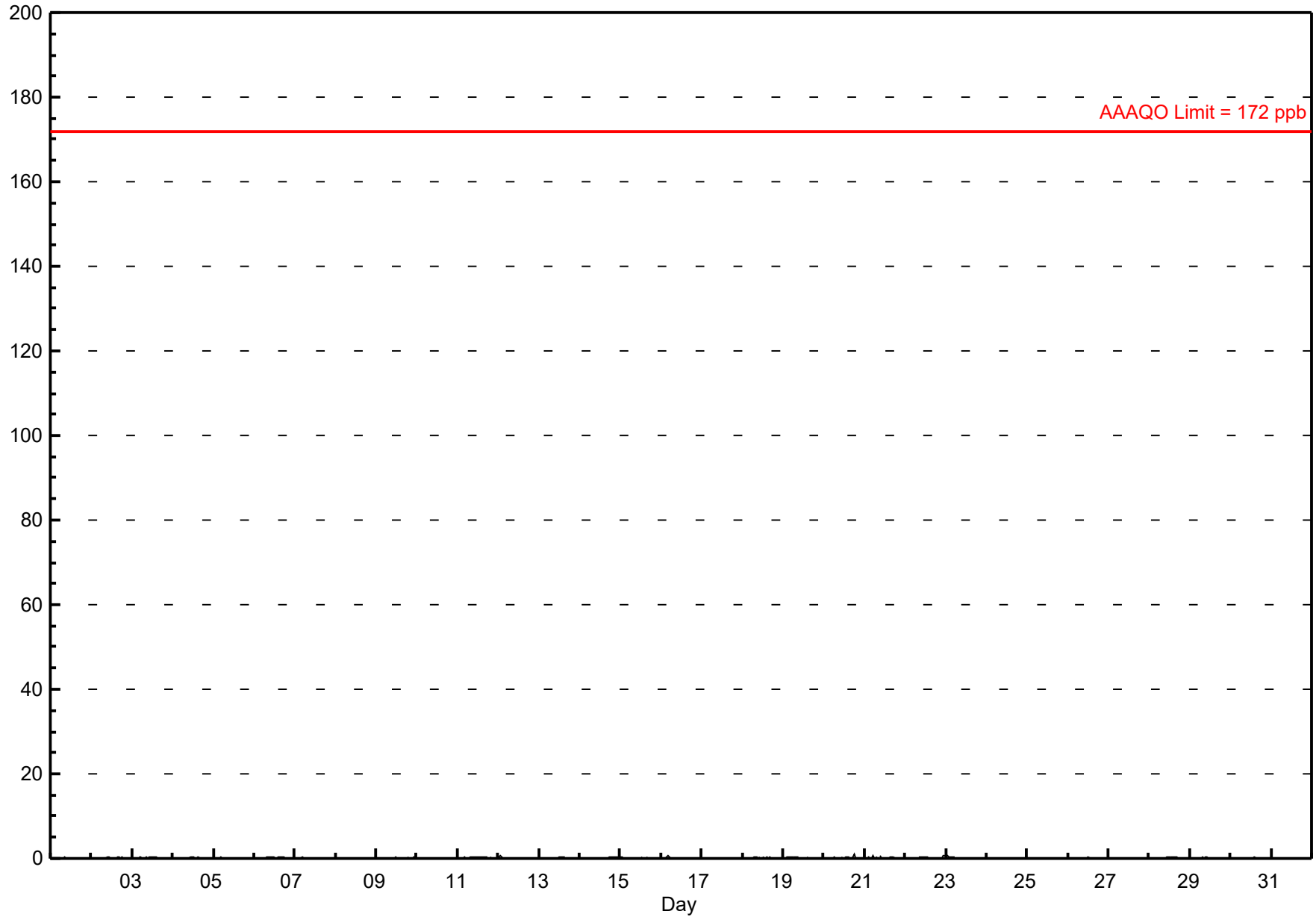
Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 1.2 ppb on Oct 20 19:00	Maximum Daily Average: 0.2 ppb on Oct 22		Hours of Data:	709
Minimum Value: 0 ppb on Oct 3 20:00	Minimum Daily Average: 0.0 ppb on Oct 25		Hours of Missing Data:	35
Maximum Diurnal Average: 0.1 ppb at hour 16	Minimum Diurnal Average: 0.1 ppb at hour 21		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> = 0.2 P <sub>99</sub> = 0.6		Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Oct	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
2-Oct	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.4
3-Oct	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
4-Oct	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
5-Oct	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
6-Oct	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
7-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.1	0.2
8-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.1	0.2
9-Oct	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
10-Oct	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	0.1
11-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0.2	0.3
12-Oct	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0.1	0.7
13-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0.1	0.4
14-Oct	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
15-Oct	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
16-Oct	0	0	0	0	1	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.1	0.6
17-Oct	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
18-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
19-Oct	0	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
20-Oct	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0.2	1.2
21-Oct	0	0	0	0	0	1	0	0	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.6
22-Oct	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.2	0.6
23-Oct	0	1	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.7
24-Oct	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
25-Oct	0	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
26-Oct	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
27-Oct	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1
28-Oct	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
29-Oct	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	0.5
30-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.0	0.3
31-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.0	0.1
	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	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	
	0.4	0.7	0.3	0.5	0.6	0.6	0.3	0.5	0.4	0.6	0.3	0.4	0.4	0.3	0.4	0.4	0.4	0.3	1.2	0.3	0.3	0.4	0.6	0.6	Diurnal Maximum	

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

### Hourly Averages

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



## Hourly Maximums

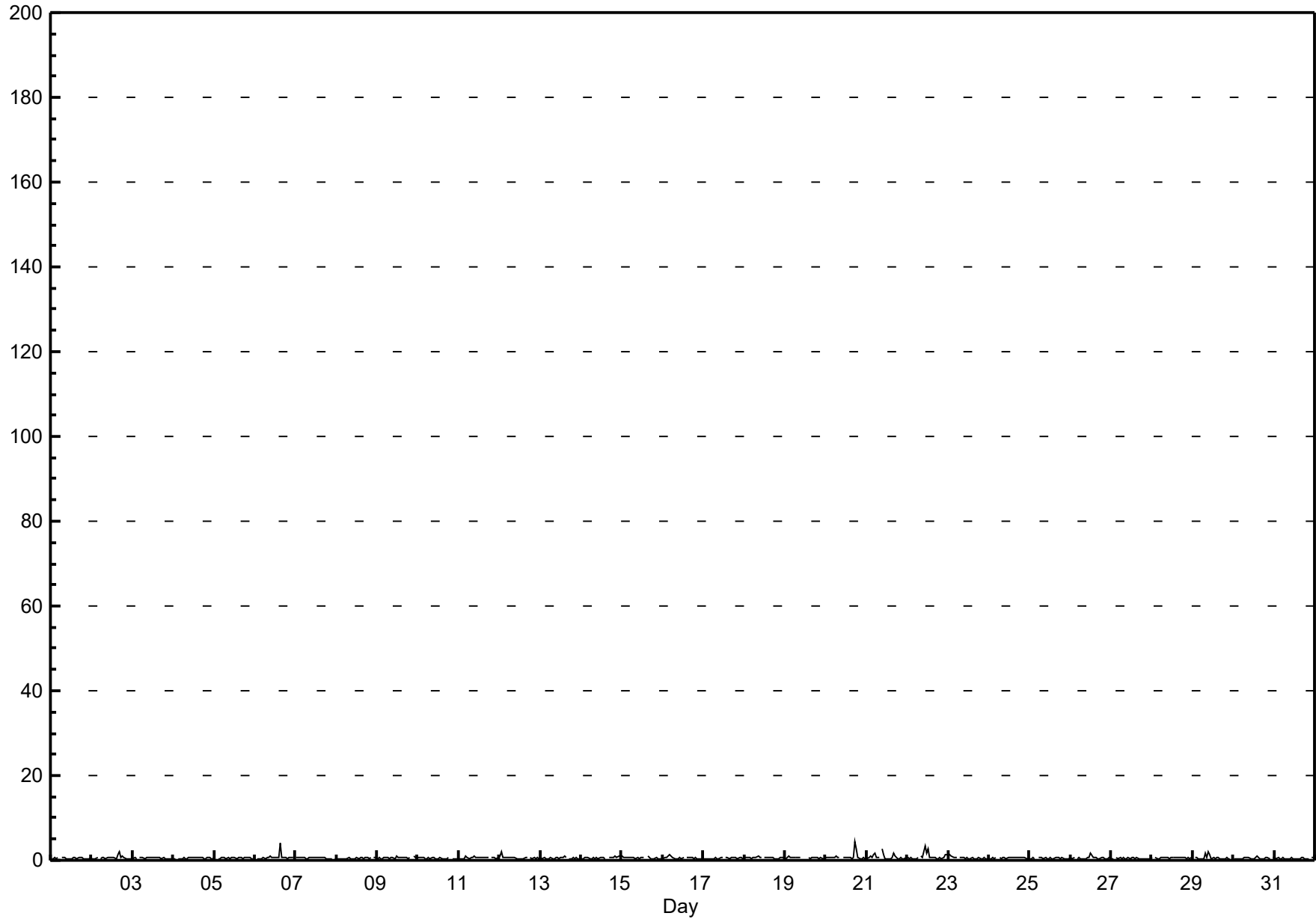
Sulphur Dioxide (SO<sub>2</sub>) - ppb

Donnelly - October 2016

Maximum Value: 4.3 ppb on Oct 20 18:00		Maximum Daily Average: 0.9 ppb on Oct 22		Hours in Service: 744																																													
Minimum Value: 0 ppb on Oct 17 02:00		Minimum Daily Average: 0.5 ppb on Oct 27		Hours of Data: 709																																													
Maximum Diurnal Average: 0.7 ppb at hour 16		Minimum Diurnal Average: 0.5 ppb at hour 22		Hours of Missing Data: 35																																													
Monthly Average: 0.60 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> = 0.6 P <sub>90</sub> = 0.8 P <sub>99</sub> = 2.0		Hours of Calibration: 35																																													
				Percent Operational Time: 100.0																																													
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Oct	0	0	1	0	1	A	1	1	1	0	0	0	1	1	0	1	1	1	1	0	0	0	0	1	0.5	0.7																							
2-Oct	0	1	0	1	A	0	1	1	0	1	1	1	1	1	0	1	2	1	1	1	0	0	0	0	0.7	2.2																							
3-Oct	0	1	0	A	1	1	1	0	1	1	1	1	1	1	1	1	1	0	1	0	0	0	0	0.6	0.8																								
4-Oct	0	0	A	0	0	0	1	0	0	1	1	1	1	1	1	1	1	1	0	0	1	1	0	0.5	0.8																								
5-Oct	1	A	0	1	1	1	1	0	1	0	1	1	1	1	1	1	1	0	1	1	1	1	0	0.5	0.8																								
6-Oct	A	0	0	0	0	1	0	1	1	1	1	1	1	1	4	1	1	1	1	0	1	1	1	A	0.8	4.2																							
7-Oct	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	A	0	0.5	0.7																							
8-Oct	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1	1	0	1	1	0	1	0	1	1	0.5	0.7																							
9-Oct	0	1	0	0	1	1	1	1	0	1	1	1	1	1	1	1	1	1	0	1	A	1	1	1	0.6	1.1																							
10-Oct	1	1	1	1	0	0	1	0	1	1	1	0	0	1	0	0	0	0	1	A	0	0	0	0	0.5	0.7																							
11-Oct	0	0	0	0	1	1	0	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	0	1	0.7	1.2																							
12-Oct	1	2	1	1	1	1	1	1	1	1	0	0	0	0	0	1	1	A	1	0	1	0	1	0	0.6	1.9																							
13-Oct	1	0	1	0	0	0	1	1	0	1	1	0	1	1	1	1	A	0	0	1	0	1	0	0	0.5	0.9																							
14-Oct	0	0	1	1	1	0	0	1	0	1	0	1	1	1	0	A	1	1	1	1	1	1	1	1	0.6	1.0																							
15-Oct	1	1	1	1	1	1	1	1	0	1	0	1	1	1	A	1	1	0	1	0	1	0	0	0	0.6	1.0																							
16-Oct	0	1	1	1	1	1	1	0	0	0	1	0	1	A	1	1	1	1	0	1	0	0	0	0	0.6	1.2																							
17-Oct	0	0	0	0	0	0	0	1	0	0	1	1	A	1	1	0	1	1	1	1	1	1	0	0	0.5	0.7																							
18-Oct	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	1	1	1	0.6	1.1																							
19-Oct	0	1	1	1	1	1	1	1	1	1	1	A	1	C	1	1	1	1	1	1	0	1	0	1	0.6	1.2																							
20-Oct	1	1	1	1	1	1	1	1	1	1	A	1	1	C	1	1	1	1	4	3	1	0	0	1	0.8	4.3																							
21-Oct	0	1	1	1	1	2	1	1	A	3	1	0	0	0	0	1	2	1	1	0	1	0	0	1	0.8	2.7																							
22-Oct	1	0	1	0	0	0	1	A	1	1	4	2	3	1	1	1	1	1	1	1	0	1	1	1	0.9	3.5																							
23-Oct	1	1	1	1	1	1	A	1	1	1	0	1	0	0	1	0	0	0	1	0	0	1	0	0	0.6	1.2																							
24-Oct	0	0	1	0	1	A	1	0	1	1	0	1	1	1	1	1	1	1	1	1	1	1	0	0	0.5	0.6																							
25-Oct	0	0	1	0	A	1	1	1	0	1	0	0	1	0	0	1	1	1	0	1	0	0	0	0	0.5	0.7																							
26-Oct	1	0	1	A	0	1	0	0	0	0	1	1	2	1	1	1	0	0	1	1	0	0	0	1	0.6	1.8																							
27-Oct	0	0	A	1	0	1	0	1	0	0	1	0	1	1	0	1	0	0	0	0	0	0	0	0	0.5	0.6																							
28-Oct	1	A	1	0	0	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	0	1	0	1	0.6	0.8																							
29-Oct	A	1	1	0	0	0	0	2	1	2	1	0	1	0	1	1	0	0	0	0	1	0	0	A	0.7	2.0																							
30-Oct	0	0	0	0	0	0	1	1	1	1	0	0	0	1	1	0	0	0	0	1	1	0	A	1	0.5	1.0																							
31-Oct	1	0	1	1	0	1	0	0	0	0	1	0	0	0	0	0	1	1	0	0	0	A	1	1	0.5	0.7																							
																								0.5	0.6	0.6	0.5	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.6	0.7	0.6	0.6	0.7	0.7	0.7	0.6	0.5	0.5	0.5	0.5	0.5	0.5	Diurnal Average
																								1.0	1.9	1.2	1.0	1.2	1.7	0.9	1.7	1.1	2.7	3.5	1.7	2.6	0.8	1.0	4.2	2.2	4.3	2.6	0.8	0.9	1.1	1.2	1.3	Diurnal Maximum	
C - Calibration																								A - Automated Daily Zero Span																									

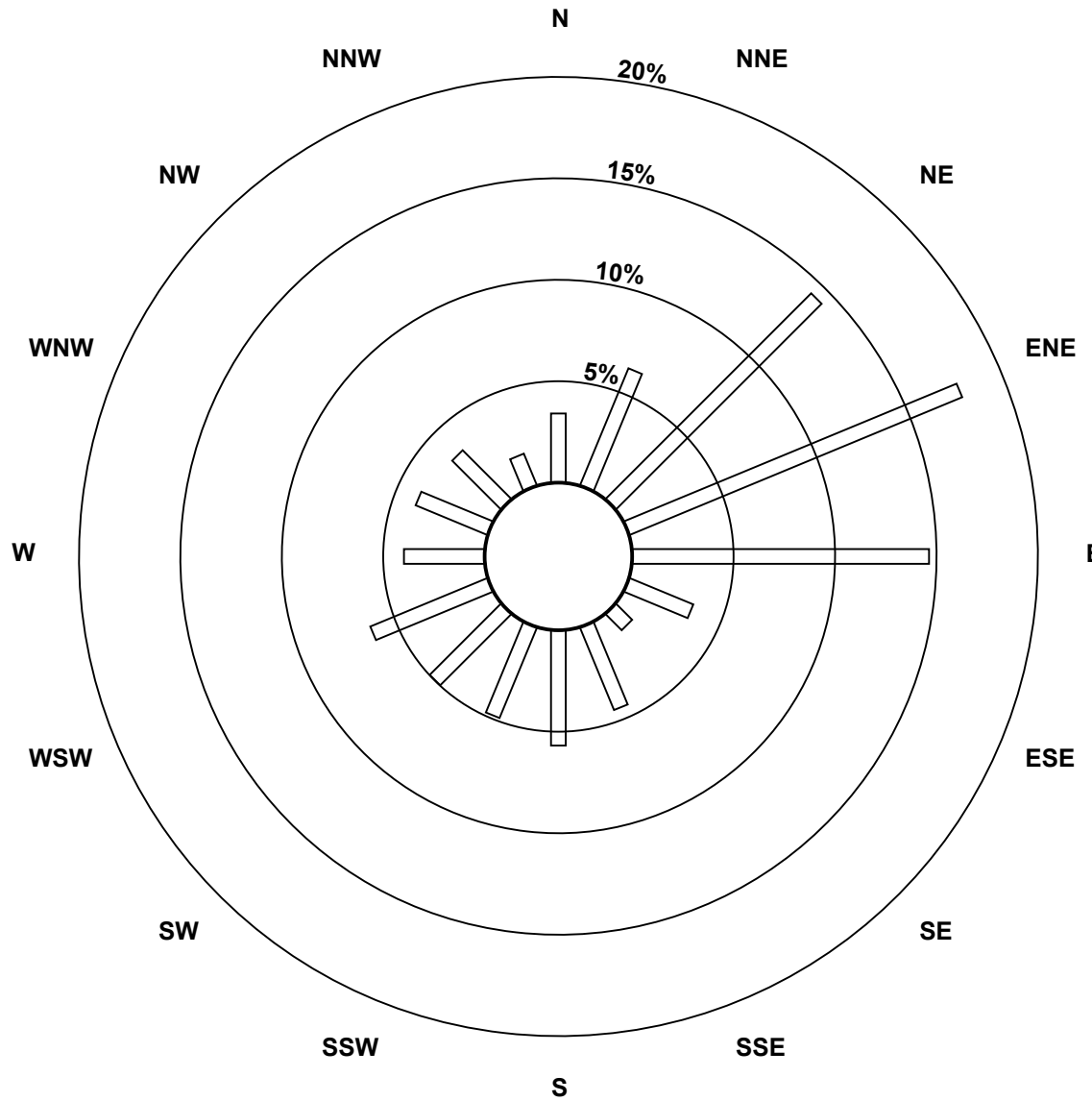
**Hourly Maximums**

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

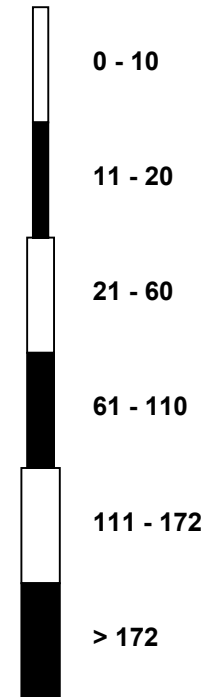


**Pollutant Rose**

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



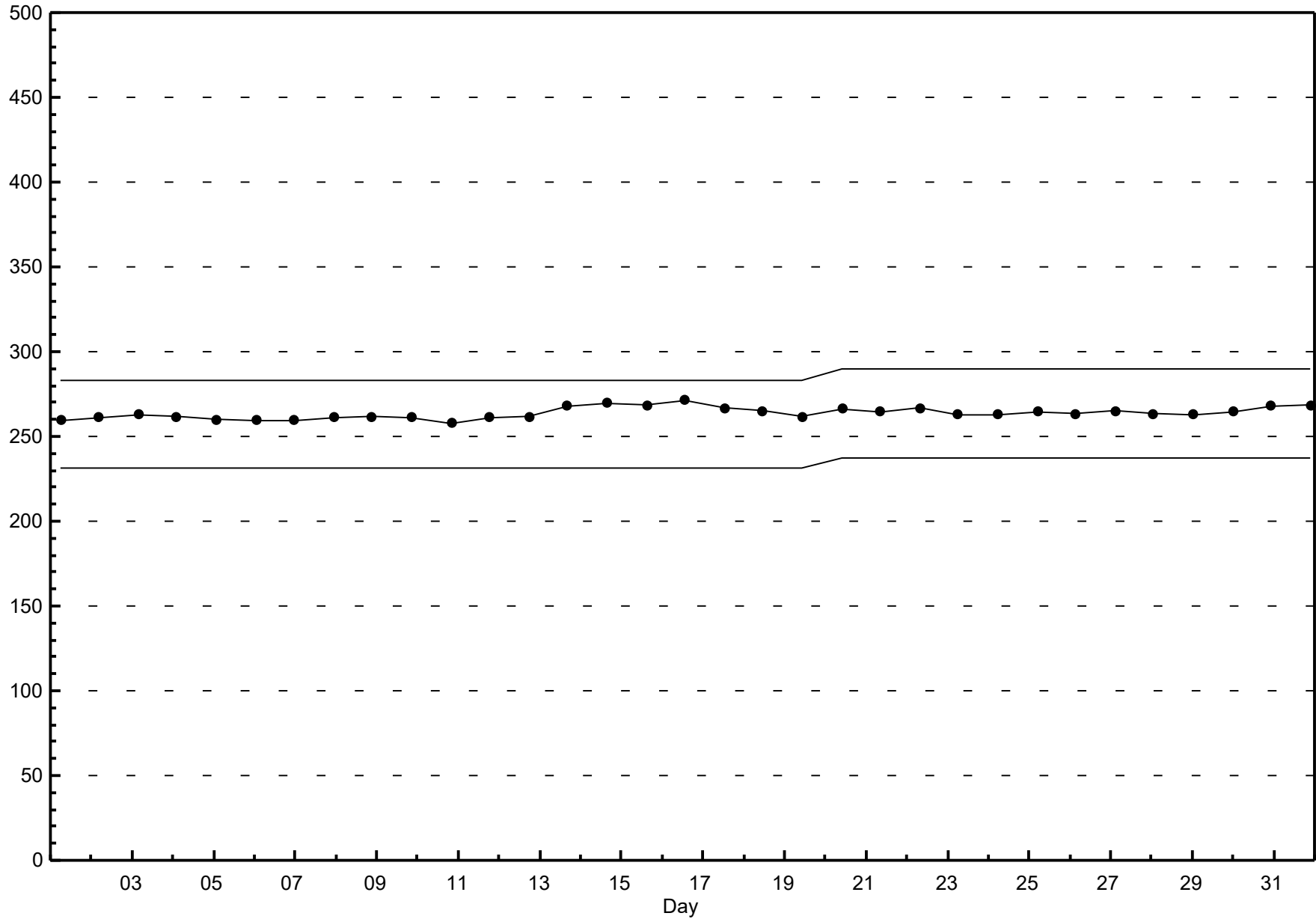
**Pollutant Classes (ppb)**





### Span Responses

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



## Hourly Averages

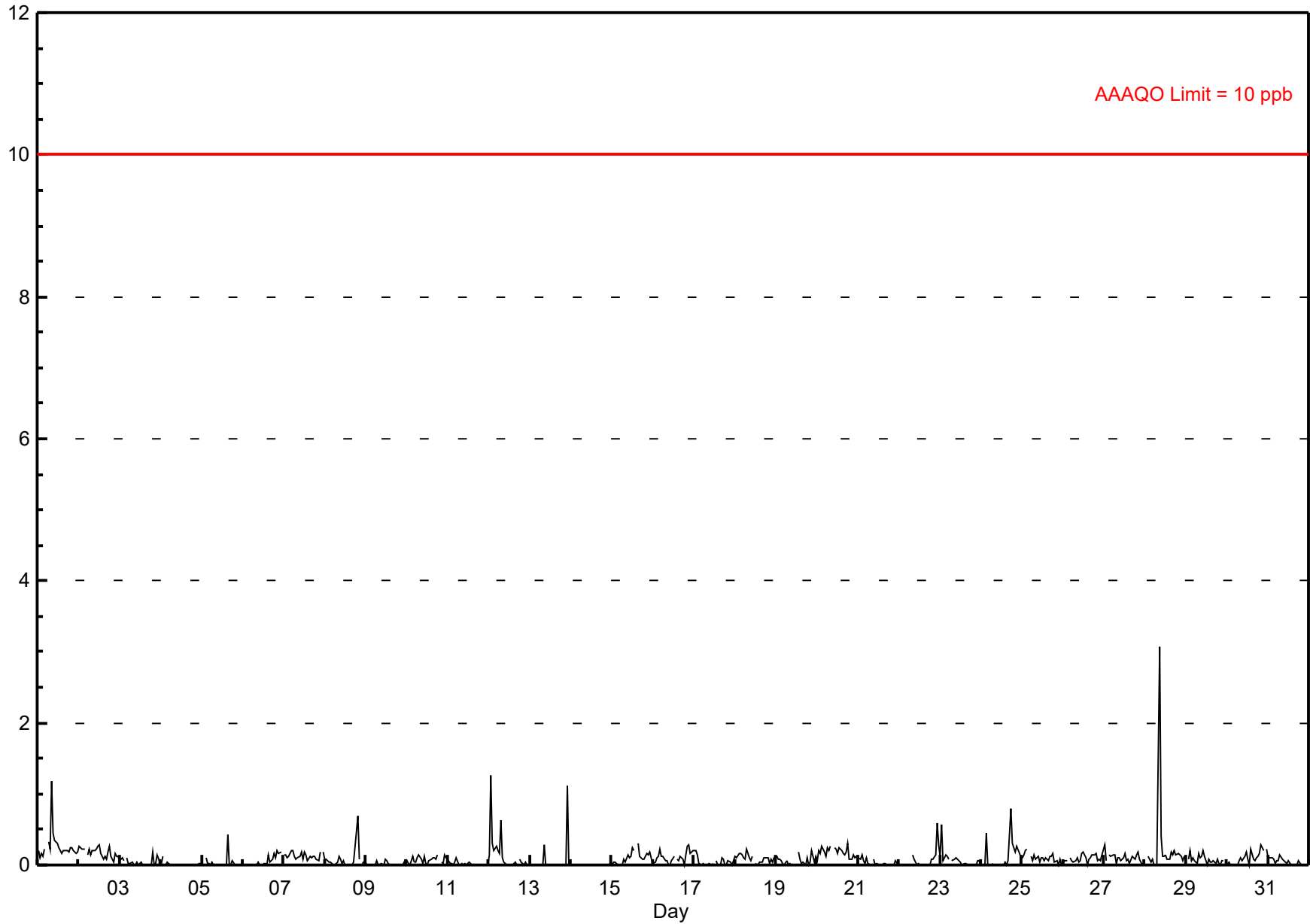
## Hydrogen Sulphide (H<sub>2</sub>S) - ppb

### Donnelly - October 2016

Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 3.1 ppb on Oct 28 09:00	Maximum Daily Average: 0.3 ppb on Oct 1		Hours of Data:	709
Minimum Value: 0 ppb on Oct 3 10:00	Minimum Daily Average: 0.0 ppb on Oct 14		Hours of Missing Data:	35
Maximum Diurnal Average: 0.2 ppb at hour 9	Minimum Diurnal Average: 0.0 ppb at hour 15		Hours of Calibration:	35
Monthly Average: 0.09 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> = 0.2 P <sub>99</sub> = 0.6		Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Oct	0	0	0	0	0	A	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.2
2-Oct	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3
3-Oct	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.2
4-Oct	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
5-Oct	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	0.4
6-Oct	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
7-Oct	0	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
8-Oct	0	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	0.7
9-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	A	A	0	0	0.0	0.1
10-Oct	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
11-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0.0	0.1
12-Oct	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0.2	1.3
13-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	1	0	0.1	1.1
14-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.0	0.0
15-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.1	0.3
16-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.1	0.3
17-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.0	0.2
18-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
19-Oct	0	0	0	0	0	0	0	0	0	0	C	A	C	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
20-Oct	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	0.3
21-Oct	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
22-Oct	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0.1	0.6
23-Oct	0	1	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.6
24-Oct	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0.1	0.8
25-Oct	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
26-Oct	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
27-Oct	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
28-Oct	0	A	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	3.1
29-Oct	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
30-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.1	0.3
31-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.0	0.1
	0.1	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	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	Diurnal Average	
	0.3	1.3	0.3	0.4	0.3	0.2	0.3	0.6	3.1	0.4	0.4	0.3	0.3	0.3	0.2	0.4	0.2	0.8	0.5	0.7	0.3	0.3	1.1	0.3	Diurnal Maximum	

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



## Hourly Maximums

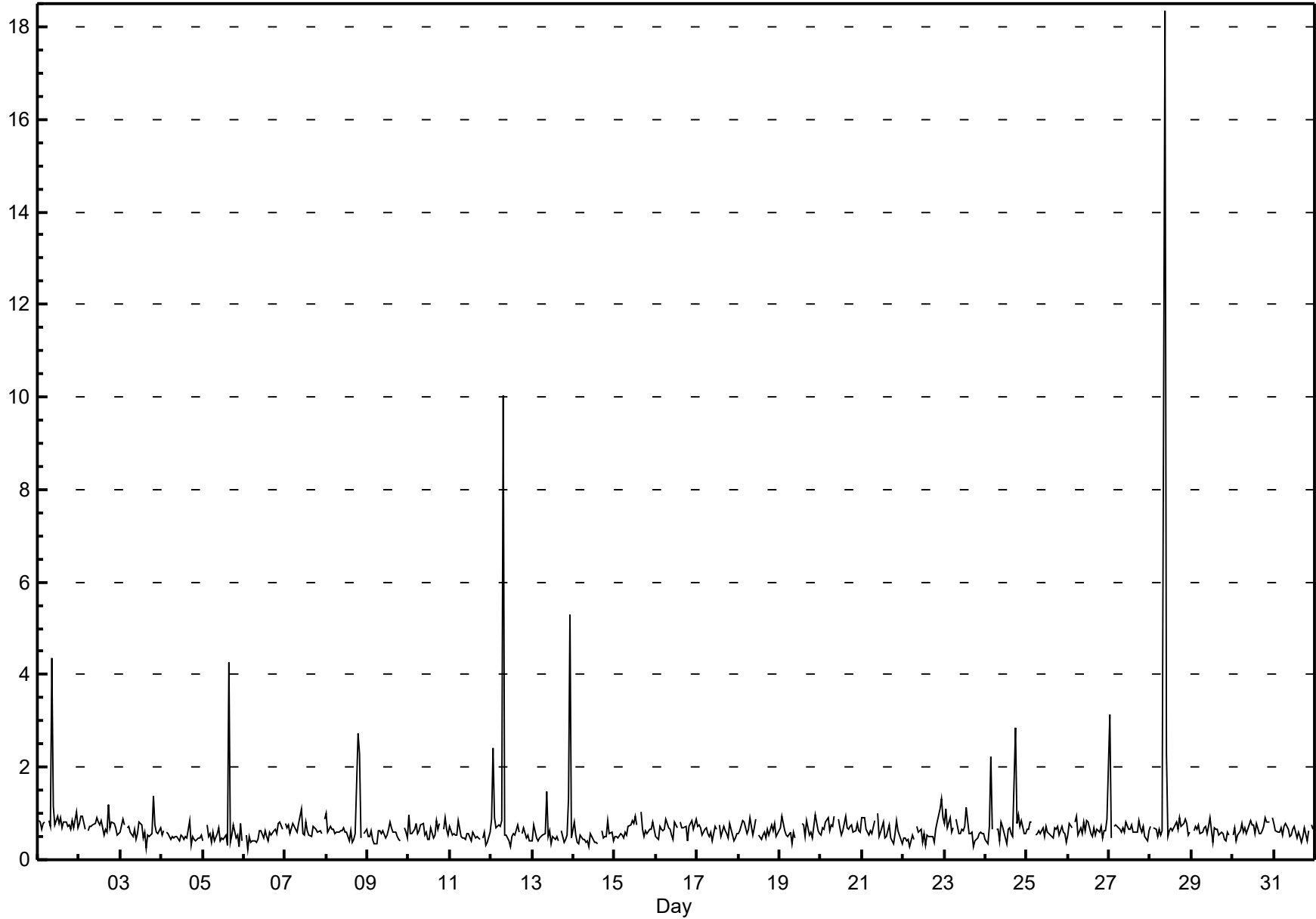
Hydrogen Sulphide (H<sub>2</sub>S) - ppb

Donnelly - October 2016

Maximum Value: 18.3 ppb on Oct 28 09:00		Maximum Daily Average: 1.5 ppb on Oct 28		Hours in Service: 744																							
Minimum Value: 0 ppb on Oct 6 03:00		Minimum Daily Average: 0.5 ppb on Oct 14		Hours of Data: 709																							
Maximum Diurnal Average: 1.4 ppb at hour 9		Minimum Diurnal Average: 0.6 ppb at hour 15		Hours of Missing Data: 35																							
Monthly Average: 0.70 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> = 2.7		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-Oct	1	1	1	1	1	A	1	1	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	4.4	
2-Oct	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	
3-Oct	1	1	1	A	1	1	1	1	1	0	1	1	1	0	1	0	1	0	1	1	1	1	1	1	0.6	1.4	
4-Oct	1	1	A	1	1	0	0	0	0	0	0	1	1	0	1	0	1	0	1	0	0	0	0	1	0.5	0.9	
5-Oct	0	A	1	0	1	0	1	0	1	1	0	0	0	1	0	4	0	1	1	0	1	0	1	0	0.7	4.3	
6-Oct	A	1	0	1	0	0	0	0	0	1	1	0	1	1	0	1	1	1	1	1	1	1	1	A	0.5	0.8	
7-Oct	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	0.7	1.1	
8-Oct	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	0	1	3	2	0	A	1	1	0.8	2.7	
9-Oct	0	0	1	0	0	0	1	1	1	1	0	1	1	1	1	1	1	0	0	0	A	1	1	0	0.5	0.8	
10-Oct	1	1	1	1	1	1	1	1	1	1	1	0	0	1	0	1	1	1	1	1	A	1	1	1	0.7	1.0	
11-Oct	1	1	1	1	1	1	1	0	0	0	1	1	0	1	1	0	1	0	A	0	1	0	0	1	0.5	0.9	
12-Oct	1	2	1	1	1	1	1	10	1	1	0	0	0	1	1	1	1	A	1	1	0	1	0	0	1.1	10.0	
13-Oct	0	1	0	0	0	0	1	1	1	0	1	0	0	0	1	0	A	1	0	0	1	1	5	0	0.8	5.3	
14-Oct	1	1	0	0	1	0	0	0	0	0	1	0	0	0	0	A	1	0	0	1	1	1	1	0	0.5	0.8	
15-Oct	1	1	0	1	1	0	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	0.7	1.0	
16-Oct	0	0	1	1	1	1	1	1	1	1	0	1	1	A	1	1	1	1	0	1	1	1	1	1	0.7	0.9	
17-Oct	1	1	1	1	1	1	1	0	1	0	1	1	A	1	1	1	1	1	0	1	1	0	0	1	0.6	0.8	
18-Oct	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	0	1	1	1	1	1	1	1	0.6	0.9	
19-Oct	1	1	1	1	1	0	1	0	1	0	C	C	C	1	1	1	1	1	1	0	1	1	1	1	0.6	1.0	
20-Oct	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	0.9	
21-Oct	1	1	1	1	1	1	1	1	A	1	0	1	1	0	1	1	1	0	0	1	1	1	1	0	0.6	1.0	
22-Oct	0	0	0	0	0	1	0	A	1	1	1	0	1	0	1	0	0	0	0	1	1	1	1	1	0.6	1.3	
23-Oct	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	0	0	0	1	1	1	1	0.7	1.1	
24-Oct	0	0	1	2	1	A	1	1	0	1	1	0	0	1	1	1	1	3	1	1	1	1	1	1	0.8	2.9	
25-Oct	1	1	1	1	A	1	1	1	1	1	0	1	1	1	1	0	1	1	1	1	1	1	1	0	0.6	0.8	
26-Oct	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	0.7	0.9	
27-Oct	3	0	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	0.8	3.1	
28-Oct	1	A	1	1	1	1	1	1	1	18	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1.5	18.3	
29-Oct	A	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	0	0	1	1	1	0.6	0.9	
30-Oct	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	0.9	
31-Oct	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	0	0	1	0	1	A	1	1	0.6	0.8	
		0.7	0.7	0.6	0.7	0.6	0.6	0.6	0.9	1.4	0.7	0.6	0.6	0.6	0.6	0.7	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	Diurnal Average	
		3.1	2.4	0.9	2.2	0.9	0.9	0.9	10.0	18.3	2.3	0.9	0.9	0.9	1.1	0.9	4.3	0.9	2.9	2.7	2.3	0.9	1.3	5.3	0.9	Diurnal Maximum	
C - Calibration		A - Automated Daily Zero Span																									

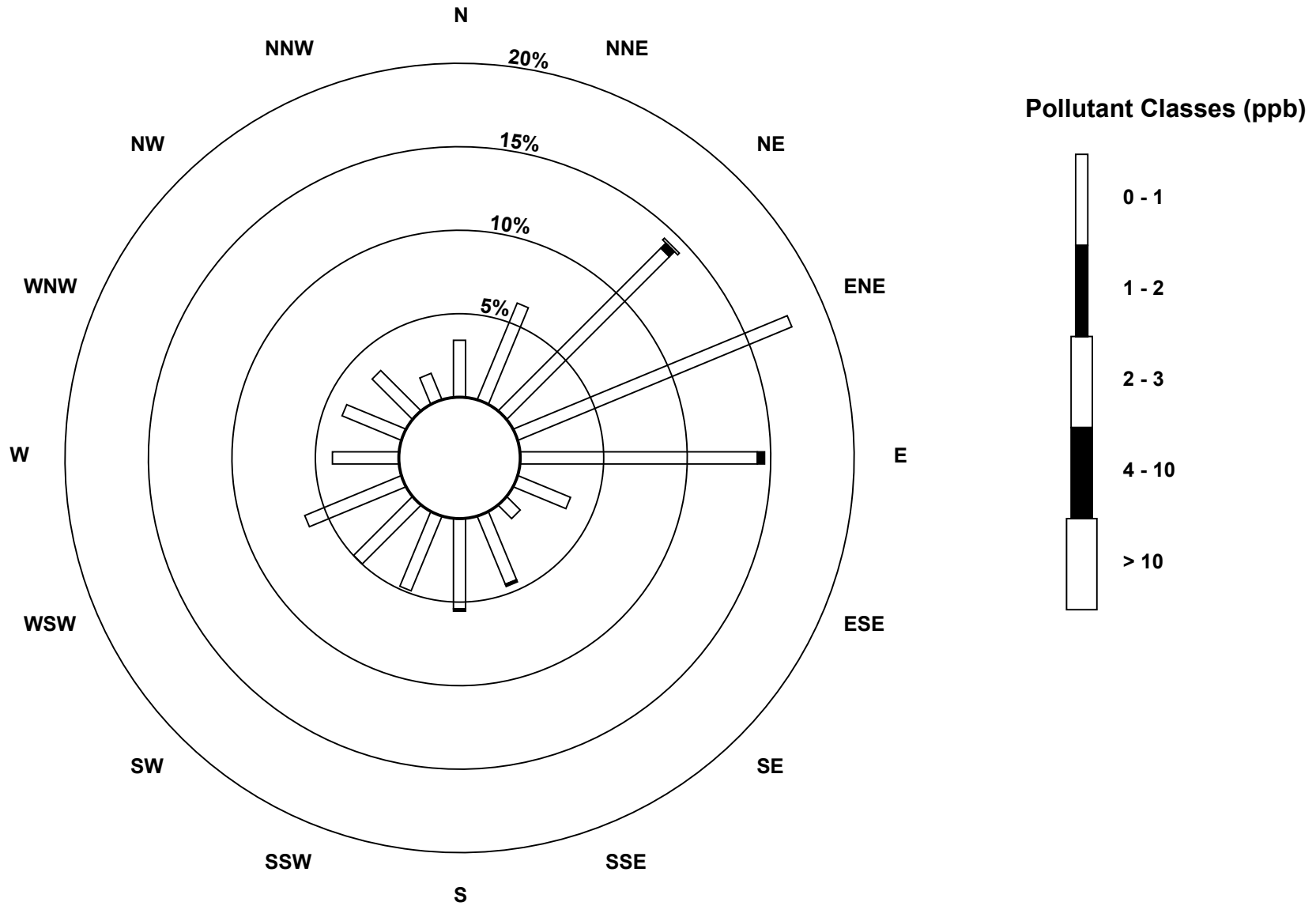
**Hourly Maximums**

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



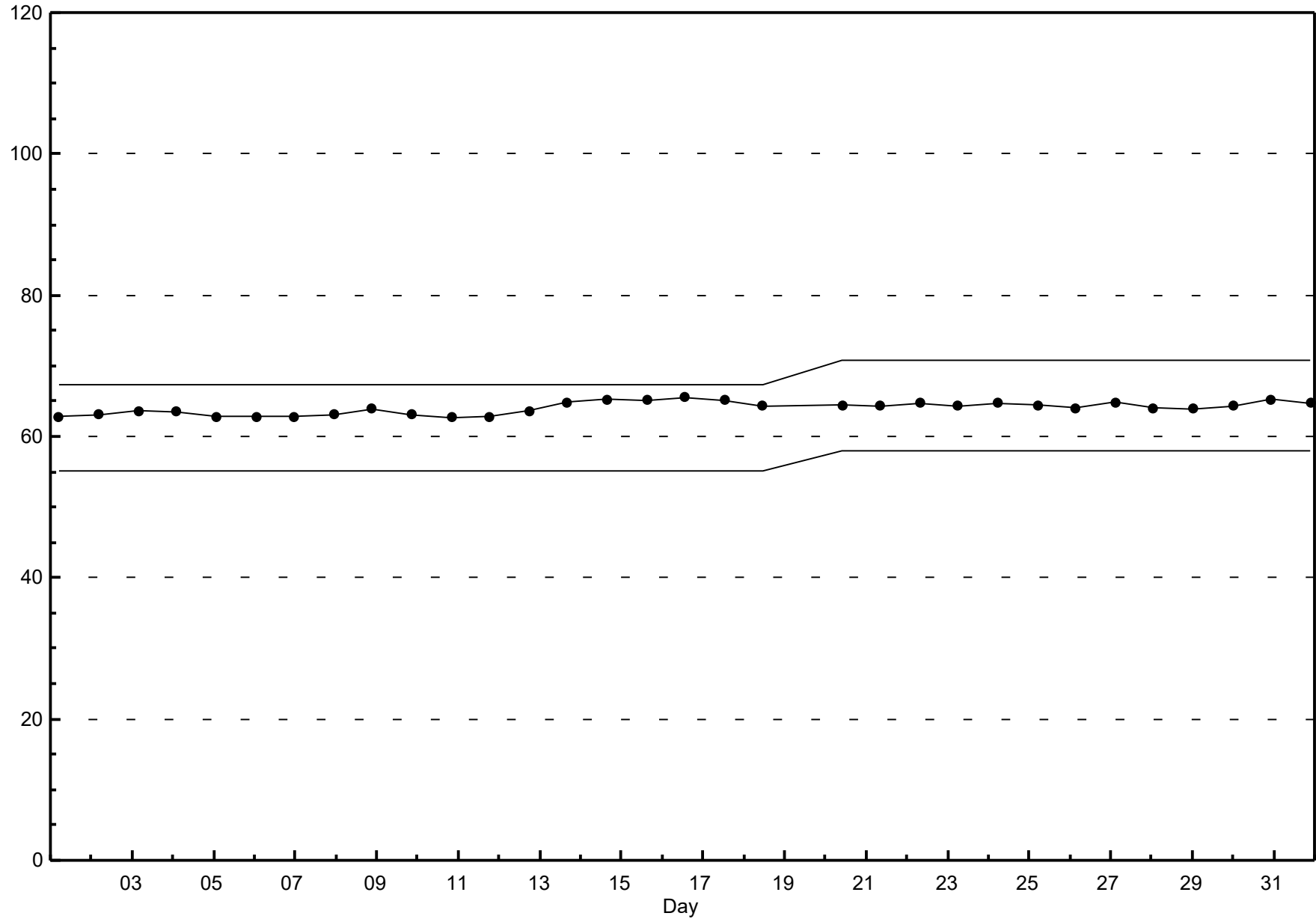
**Pollutant Rose**

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



### Span Responses

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



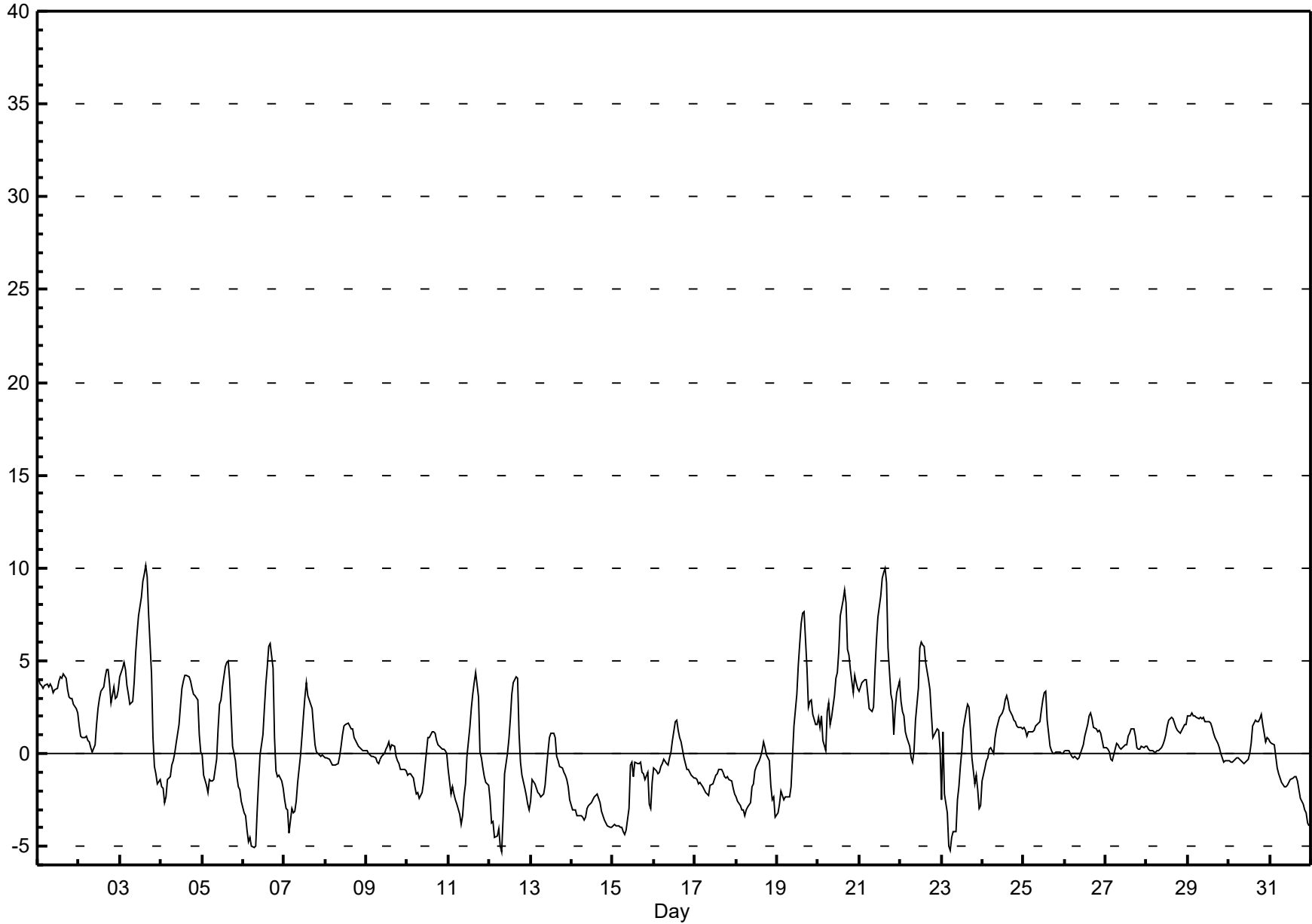
# Hourly Averages

External Temperature (ET) - °C

Donnelly - October 2016

Maximum Value: 10.1 °C on Oct 3 16:00 Minimum Value: -5 °C on Oct 12 08:00 Maximum Diurnal Average: 2.9 °C at hour 16 Monthly Average: 0.47 °C		Maximum Daily Average: 4.8 °C on Oct 21 Minimum Daily Average: -3.1 °C on Oct 14 Minimum Diurnal Average: -1.0 °C at hour 8 Percentiles: P <sub>1</sub> = -4.7 P <sub>10</sub> = -2.8 Q <sub>1</sub> = -1.4 Median = 0.2 Q <sub>3</sub> = 1.9 P <sub>90</sub> = 3.9 P <sub>99</sub> = 9.2		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-Oct	4	4	4	4	4	4	4	4	4	3	3	4	4	4	4	4	3	3	3	3	3	2	2	3.5	4.3	
2-Oct	1	1	1	1	1	1	1	0	0	0	2	2	3	3	4	4	5	5	4	3	4	3	3	2.2	4.6	
3-Oct	4	5	5	5	4	3	3	3	4	5	6	7	8	9	10	10	10	7	4	1	-1	-1	-2	-1	4.5	10.1
4-Oct	-2	-2	-3	-2	-1	-1	-1	0	0	1	2	3	3	4	4	4	4	4	4	3	3	3	1	0	1.2	4.2
5-Oct	0	-1	-2	-2	-1	-1	-1	-1	0	1	3	3	4	5	5	5	4	2	0	0	-1	-2	-2	-3	0.5	5.0
6-Oct	-3	-3	-4	-5	-5	-5	-5	-5	-3	-1	0	1	2	4	5	6	6	5	1	-1	-1	-1	-1	-2	-0.7	5.9
7-Oct	-3	-3	-3	-4	-3	-3	-3	-3	-2	0	1	2	3	4	3	3	2	1	0	0	0	0	0	0	-0.3	3.8
8-Oct	0	0	0	0	-1	-1	-1	-1	0	0	1	1	2	2	2	1	1	1	1	0	0	0	0	0	0.4	1.6
9-Oct	0	0	0	0	0	0	0	-1	0	0	0	0	0	1	0	0	0	0	0	-1	-1	-1	-1	-1	-0.2	0.6
10-Oct	-1	-1	-1	-1	-2	-2	-2	-2	-2	-2	-1	0	1	1	1	1	1	1	1	0	0	0	0	0	-0.4	1.2
11-Oct	-1	-2	-2	-2	-2	-3	-3	-4	-3	-2	-2	0	1	2	3	4	4	3	0	0	-1	-1	-2	-2	-0.6	4.4
12-Oct	-2	-4	-4	-5	-4	-4	-5	-5	-3	-1	0	1	2	3	4	4	4	1	0	-1	-2	-2	-3	-3	-1.3	4.2
13-Oct	-3	-1	-2	-2	-2	-2	-2	-2	-2	-1	0	1	1	1	1	0	0	-1	-1	-1	-1	-1	-2	-2	-1.0	1.1
14-Oct	-3	-3	-3	-3	-3	-3	-3	-4	-3	-3	-3	-3	-2	-2	-2	-2	-3	-3	-3	-4	-4	-4	-4	-4	-3.1	-2.2
15-Oct	-4	-4	-4	-4	-4	-4	-4	-4	-4	-3	-1	0	-1	0	-1	-1	0	-1	-1	-1	-1	-3	-3	-2	-2.3	-0.5
16-Oct	-1	-1	-1	-1	-1	-1	0	-1	-1	0	0	1	2	2	1	1	1	0	-1	-1	-1	-1	-1	-1	-0.2	1.8
17-Oct	-1	-1	-2	-2	-2	-2	-2	-2	-2	-2	-2	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-2	-2	-2	-1.5	-0.9
18-Oct	-2	-3	-3	-3	-3	-3	-3	-3	-3	-2	-2	-1	-1	0	0	0	1	0	0	-2	-3	-2	-3	-3	-1.7	0.6
19-Oct	-3	-3	-2	-2	-2	-2	-2	-2	-2	0	1	3	5	6	7	8	8	5	3	3	3	2	2	2	1.4	7.6
20-Oct	2	1	2	1	0	2	3	2	2	3	4	4	6	7	8	9	8	6	5	5	3	4	4	4	3.9	8.8
21-Oct	3	4	4	4	4	3	2	2	2	4	6	7	8	9	10	10	9	6	3	3	1	2	3	4	4.8	10.0
22-Oct	3	2	2	1	1	0	0	0	0	2	3	6	6	6	6	5	4	3	2	1	1	1	1	0	2.4	6.0
23-Oct	-3	1	-2	-3	-5	-5	-4	-4	-4	-2	-2	-1	0	1	2	3	3	1	0	-2	-1	-2	-3	-3	-1.5	2.7
24-Oct	-1	-1	0	0	0	0	0	1	1	2	2	2	2	3	3	3	2	2	2	2	1	1	1	1	1.3	3.1
25-Oct	1	1	1	1	1	1	1	1	2	2	2	3	3	3	2	0	0	0	0	0	0	0	0	0	1.2	3.3
26-Oct	0	0	0	0	0	0	0	0	0	0	0	1	1	2	2	2	2	1	1	1	1	1	1	0	0.7	2.2
27-Oct	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0.4	1.3
28-Oct	0	0	0	0	0	0	0	0	0	0	1	1	1	2	2	2	2	1	1	1	1	1	2	2	0.9	2.0
29-Oct	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	0	0	0	0	0	0	1.2	2.2
30-Oct	0	0	0	0	0	0	0	0	0	-1	0	0	0	1	2	2	2	2	2	2	2	1	1	1	0.4	2.1
31-Oct	1	1	0	0	-1	-1	-1	-2	-2	-2	-2	-2	-1	-1	-1	-1	-1	-2	-2	-3	-3	-3	-4	-4	-1.6	0.6
	-0.4	-0.4	-0.5	-0.8	-0.9	-0.9	-1.0	-1.0	-0.7	0.2	0.9	1.5	2.1	2.6	2.8	2.9	2.7	1.7	0.9	0.4	0.1	-0.1	-0.3	-0.5	Diurnal Average	
	4.2	4.6	4.9	4.5	3.9	3.8	3.6	3.8	3.8	5.4	6.5	7.4	8.5	9.4	9.8	10.1	9.5	7.5	5.3	4.5	3.6	4.2	3.8	3.9	Diurnal Maximum	





# Hourly Averages

Wind Speed (km/h)  
Wind Direction (deg)  
Donnelly - October 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	15	16	15	17	17	15	16	19	19	12	14	19	18	12	11	10	10	13	11	9	4	5	5	5	12.4	19.1
Dir	61	60	64	63	58	68	61	57	56	61	53	55	58	65	64	64	69	57	59	50	17	5	7	330	57	57
2 Spd	8	13	14	17	20	21	18	18	17	18	17	16	13	15	15	16	10	4	4	5	9	9	10	10	11.4	21.2
Dir	279	262	260	252	243	251	248	243	245	254	234	224	217	198	196	205	216	235	196	152	165	171	169	166	228	251
3 Spd	9	11	10	11	12	10	9	12	12	15	11	9	8	7	11	9	11	10	7	6	6	6	7	8	2.2	14.6
Dir	163	164	161	157	162	158	165	180	185	189	194	237	270	287	294	310	349	9	6	25	25	27	36	37	186	189
4 Spd	6	10	7	11	9	12	15	14	14	12	15	10	9	11	9	11	9	11	11	9	10	11	10	4	10.3	15.1
Dir	43	32	33	37	31	32	46	51	48	54	54	57	61	59	62	57	57	59	52	55	59	51	52	57	50	54
5 Spd	4	6	2	5	11	9	9	10	9	11	9	9	11	8	8	8	8	7	7	7	5	5	6	6	7.5	10.9
Dir	24	49	26	45	55	64	69	67	69	71	76	69	64	84	79	70	59	49	49	56	62	65	59	60	63	55
6 Spd	7	6	4	6	7	6	4	5	5	6	9	10	9	8	8	8	9	10	9	7	9	9	8	6	7.2	10.4
Dir	61	65	58	55	58	63	68	64	56	64	67	64	64	64	58	65	61	56	59	68	70	76	79	84	65	64
7 Spd	6	7	6	7	11	11	11	11	11	13	15	15	16	16	16	13	12	12	7	7	9	9	9	10	10.8	16.4
Dir	73	85	77	71	82	87	85	86	81	86	88	78	76	74	69	79	82	85	78	78	84	85	84	86	81	69
8 Spd	10	9	8	7	7	7	7	7	7	8	9	9	8	6	6	5	4	6	7	7	5	6	7	7	6.8	10.1
Dir	88	86	85	84	83	82	84	83	84	86	89	91	89	85	82	83	76	50	49	50	59	45	40	42	76	88
9 Spd	8	9	7	4	6	6	4	3	6	6	9	11	12	12	12	13	12	9	7	8	7	6	6	6	6.8	13.2
Dir	38	38	25	359	353	352	343	317	305	313	309	305	295	294	291	303	309	313	315	315	309	314	316	323	320	303
10 Spd	4	6	7	5	3	1	2	2	2	5	3	2	5	6	3	5	3	4	3	5	5	8	9	8	1.2	8.6
Dir	308	322	345	341	333	313	344	359	25	31	8	330	235	184	171	219	275	253	197	164	176	175	179	189	237	179
11 Spd	5	6	9	10	11	12	12	10	8	13	12	11	13	14	14	15	13	10	8	11	11	11	9	6	8.9	14.8
Dir	154	141	159	160	161	165	168	173	188	204	231	239	239	239	238	238	232	234	185	172	176	176	173	178	197	238
12 Spd	4	2	1	1	0	1	2	1	5	8	6	8	6	4	4	5	3	5	5	6	7	7	8	8	3.9	8.5
Dir	150	86	105	251	38	35	91	85	48	56	55	32	10	3	358	41	86	75	71	76	74	73	68	70	59	32
13 Spd	8	9	8	8	7	8	9	8	8	10	9	12	13	12	10	8	9	8	7	8	7	9	11	10	8.8	13.0
Dir	75	87	86	82	81	82	85	78	74	69	74	75	76	76	76	73	62	59	52	50	51	51	51	49	70	76
14 Spd	9	6	13	10	10	11	12	16	16	15	19	18	14	14	15	14	14	13	11	11	11	12	12	8	12.6	18.8
Dir	54	59	48	52	53	53	50	45	45	54	51	52	53	51	51	53	49	53	54	52	52	54	56	52	52	51
15 Spd	7	9	9	7	5	5	6	5	4	4	3	2	7	3	3	4	3	3	4	4	6	6	5	9	3.7	9.5
Dir	56	53	55	50	37	40	45	47	40	45	74	154	250	223	286	342	346	17	57	66	68	65	77	82	50	53
16 Spd	7	6	11	14	10	8	11	11	9	9	9	7	6	4	1	1	1	2	3	4	6	6	5	6	3.8	14.5
Dir	93	75	56	62	78	89	88	92	94	97	101	102	94	96	90	33	298	294	290	252	286	285	292	281	78	62
17 Spd	3	2	6	6	6	6	8	7	7	7	9	9	11	11	11	10	8	6	5	8	8	8	8	5	6.8	11.4
Dir	282	246	271	291	298	276	284	295	294	286	287	260	258	259	263	271	275	246	224	223	236	250	248	252	266	259
18 Spd	2	6	4	6	5	3	4	5	4	1	2	3	5	6	6	5	3	3	3	3	3	1	4	3	0.7	5.8
Dir	242	226	202	208	223	208	204	222	215	232	347	46	32	27	34	39	68	93	91	91	137	107	102	101	127	27
19 Spd	4	2	8	10	10	10	11	13	14	14	12	12	9	9	7	7	6	6	5	5	7	8	6	8	7.3	14.2
Dir	106	139	163	163	172	168	169	170	173	174	174	181	168	164	158	162	141	117	103	92	94	94	100	96	153	174
20 Spd	11	7	7	4	2	7	8	3	3	3	7	6	4	5	4	3	3	12	19	12	8	8	9	8	4.7	18.5
Dir	109	64	77	83	79	160	170	71	93	155	164	169	160	177	201	64	166	209	208	194	189	185	197	199	168	208
21 Spd	5	11	12	14	13	13	14	15	13	15	16	20	18	16	16	11	8	3	5	5	4	8	6	8	8.7	20.3
Dir	208	200	208	214	214	205	199	206	205	209	228	236	237	238	249	260	221	115	129	112	98	110	105	105	211	236
22 Spd	7	7	3	5	3	3	1	2	8	8	6	13	21	18	15	23	17	9	8	8	10	10	10	3	6.1	22.7
Dir	93	104	93	81	93	94	81	212	179	194	206	203	234	236	250	249	259	255	208	185	179	174	169	156	210	249

# Hourly Averages

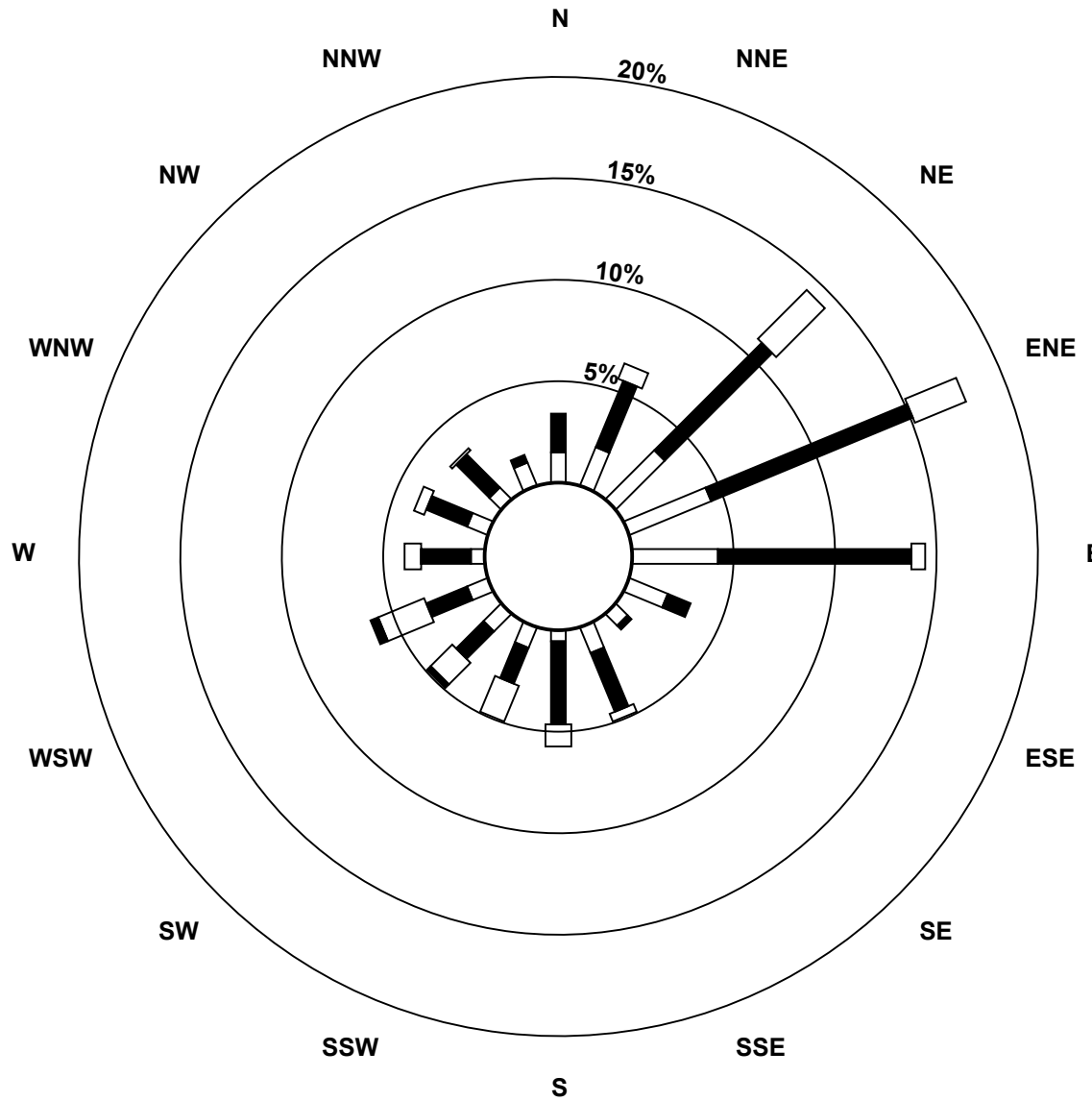
Wind Speed (km/h)  
Wind Direction (deg)  
Donnelly - October 2016

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	2	9	3	2	3	2	5	6	6	11	13	5	10	11	13	15	12	7	4	2	6	3	2	2	5.3	14.8	
Dir	144	163	77	129	59	45	52	44	35	24	24	29	23	21	22	25	28	15	13	27	57	280	27	45	33	25	
24 Spd	2	6	5	5	5	6	3	4	6	5	6	7	8	7	6	7	6	5	5	6	6	7	8	7	5.7	7.9	
Dir	43	79	76	75	73	69	61	79	88	91	91	96	104	92	84	74	86	83	76	83	86	85	87	90	84	87	
25 Spd	6	7	7	8	8	9	8	8	9	8	8	8	6	6	5	N	N	N	N	N	10	10	11	12	3.5	12.4	
Dir	88	72	72	77	77	77	77	75	79	80	77	79	88	97	123	N	N	N	N	N	246	260	260	251	85	251	
26 Spd	12	12	12	11	11	9	10	12	10	8	5	6	9	6	5	2	2	2	2	2	3	4	6	4	5	4.4	12.0
Dir	252	255	256	261	273	282	254	242	233	234	244	245	212	236	256	321	4	89	102	97	105	106	94	80	246	252	
27 Spd	6	6	6	8	14	9	10	14	11	11	8	6	6	8	12	8	6	7	6	6	4	9	7	2	7.4	14.2	
Dir	91	87	79	52	38	44	50	45	51	43	42	18	17	14	20	20	16	5	23	29	22	27	35	58	38	45	
28 Spd	4	2	6	8	6	4	3	3	3	5	5	4	4	3	3	3	3	2	2	3	4	4	2	2	3.4	8.0	
Dir	49	31	24	30	44	57	61	54	54	55	64	85	78	90	77	71	99	80	84	93	104	120	122	123	68	30	
29 Spd	5	6	5	8	8	7	8	10	11	12	13	10	10	7	6	3	3	3	2	3	3	4	3	6	3.5	12.8	
Dir	143	156	162	165	173	181	188	208	219	215	219	226	225	249	279	297	321	4	54	37	36	38	47	19	206	219	
30 Spd	5	6	6	6	2	4	5	5	4	8	9	7	6	8	7	7	6	3	1	8	8	6	7	13	3.6	13.1	
Dir	12	8	14	21	4	269	278	277	251	242	238	250	249	220	204	197	180	175	135	195	203	190	228	259	237	259	
31 Spd	14	12	9	9	11	10	9	7	7	7	7	6	4	5	5	7	7	8	8	9	7	9	8	5	6.5	13.7	
Dir	264	270	274	282	279	287	291	312	293	309	304	309	315	304	315	334	355	359	4	353	344	350	350	354	311	264	
Spd	2.6	2.5	2.3	2.3	2.2	2.0	2.2	2.2	2.1	1.9	1.9	1.2	0.5	0.5	0.8	1.4	1.8	2.6	2.5	2.8	2.2	2.6	2.4	2.0	Diurnal Average		
Dir	81	84	74	75	75	93	98	91	95	101	87	101	111	121	16	13	33	45	67	82	89	86	85	79	Diurnal Maximum		
Spd	15.5	16.1	14.8	17.5	20.0	21.2	17.7	19.1	18.7	17.9	18.8	20.3	20.6	18.3	16.4	22.7	16.7	12.7	18.5	11.8	11.1	12.2	11.5	13.1	Diurnal Maximum		
Dir	61	60	64	252	243	251	248	57	56	254	51	236	234	236	69	249	259	57	208	194	176	54	56	259	Diurnal Maximum		
Maximum Speed Value: 23 km/h on Oct 22 16:00		Minimum Speed Value: 0 km/h on Oct 12 05:00														Hours in Service: 744											
Maximum Daily Speed Average: 12.6 km/h on Oct 2		Minimum Daily Speed Average: 0.7 km/h on Oct 18														Hours of Data: 739											
Maximum Diurnal Speed Average: 2.8 km/h at hour 20		Minimum Diurnal Speed Average: 0.5 km/h at hour 13														Hours of Missing Data: 5											
Monthly Average Velocity: 1.85 km/h 79.2 deg		Speed Percentiles: P <sub>1</sub> = 1.1 P <sub>10</sub> = 3.2 Q <sub>1</sub> = 5.2 Median = 7.5 Q <sub>3</sub> = 10.3 P <sub>90</sub> = 13.4 P <sub>99</sub> = 18.7														Percent Operational Time: 99.3											
All monthly, daily, and diurnal averages have been calculated using vector methods																											
N - Not Valid																											
Frequency Distribution																											
		Speed Range (km/h)																									
Direction	0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total																				
North	20	27	3	0	0	0	50																				
NorthEast	38	113	49	1	0	0	201																				
East	50	123	18	0	0	0	191																				
SouthEast	15	8	0	0	0	0	23																				
South	11	55	19	0	0	0	85																				
SouthWest	15	28	31	3	0	0	77																				
West	13	36	20	2	0	0	71																				
NorthWest	13	24	4	0	0	0	41																				
Total	175	414	144	6	0	0	739																				

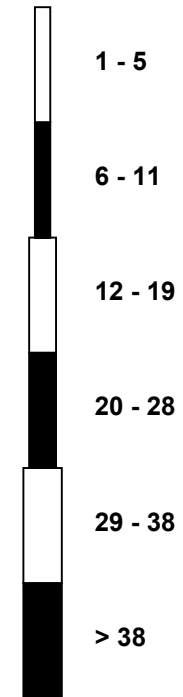
**Wind Rose**

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

**Donnelly - October 2016**



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



# Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Donnelly - October 2016

Maximum Speed: 23 km/h on Oct 22 16:00	Maximum Daily Speed Average: 13.4 km/h on Oct 2	Hours in Service: 744
Minimum Speed: 0 km/h on Oct 12 05:00	Minimum Daily Speed Average: 3.9 km/h on Oct 18	Hours of Data: 739
Maximum Diurnal Speed Average: 9.8 km/h at hour 13	Minimum Diurnal Speed Average: 6.3 km/h at hour 19	Hours of Missing Data: 5
Monthly Average Speed: 8.07 km/h	Percentiles: P <sub>1</sub> = 1.4 P <sub>10</sub> = 3.4 Q <sub>1</sub> = 5.3 Median = 7.6 Q <sub>3</sub> = 10.4 P <sub>90</sub> = 13.5 P <sub>99</sub> = 18.7	Percent Operational Time: 99.3

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Oct	16	16	15	17	17	15	16	19	19	13	14	19	18	12	11	10	10	13	11	9	5	5	5	5	12.9	19.2
2-Oct	8	14	14	18	20	21	18	18	17	18	17	16	14	15	15	16	10	5	4	5	9	10	10	10	13.4	21.4
3-Oct	9	11	10	11	12	10	9	12	12	15	11	10	8	8	11	10	11	10	8	6	6	7	7	8	9.5	14.7
4-Oct	6	10	7	11	10	12	15	14	14	12	15	10	9	11	9	11	10	11	11	9	10	11	10	4	10.5	15.2
5-Oct	4	6	2	5	11	9	9	10	9	11	10	10	11	9	8	9	9	7	7	7	5	5	6	6	7.8	11.0
6-Oct	7	6	4	6	7	6	4	5	5	6	9	11	10	8	9	8	9	10	9	7	9	9	8	6	7.4	10.6
7-Oct	6	7	6	7	11	11	11	11	11	13	15	15	16	16	17	14	13	12	8	7	9	9	9	10	11.0	16.5
8-Oct	10	9	8	7	7	7	7	7	8	8	9	9	8	6	6	5	4	6	7	7	5	6	7	7	7.2	10.2
9-Oct	8	9	7	5	6	6	4	4	6	7	9	11	12	13	12	13	12	9	7	8	7	6	6	6	8.0	13.3
10-Oct	4	6	7	5	3	1	2	2	2	6	3	3	5	6	3	5	3	5	3	5	5	9	9	8	4.6	8.7
11-Oct	6	6	9	10	11	12	12	10	8	13	12	11	13	14	14	15	13	10	8	11	11	11	9	6	10.7	15.0
12-Oct	4	2	1	2	0	1	3	1	5	8	6	9	6	5	5	6	4	5	5	6	7	7	8	8	4.8	8.8
13-Oct	8	10	8	8	8	8	9	9	9	10	9	12	13	12	10	8	9	8	7	8	7	9	11	10	9.0	13.1
14-Oct	9	7	13	10	10	11	12	16	16	15	19	18	14	14	15	14	14	13	11	11	11	12	12	8	12.6	18.8
15-Oct	7	9	9	7	5	5	6	5	4	4	4	5	7	4	4	5	3	3	4	4	6	6	5	9	5.4	9.5
16-Oct	8	6	11	15	10	8	11	11	9	9	9	8	6	4	1	1	1	2	3	4	6	6	5	6	6.7	14.5
17-Oct	3	2	7	6	6	6	8	7	8	7	9	9	11	11	11	10	8	6	5	8	8	8	9	5	7.4	11.5
18-Oct	2	6	4	6	5	3	4	5	4	1	3	3	5	6	6	5	3	3	3	1	4	3	3	3	3.9	5.9
19-Oct	4	2	8	10	10	10	11	13	14	14	12	12	9	9	7	7	7	6	5	5	7	8	7	8	8.5	14.2
20-Oct	12	8	8	4	3	7	8	3	3	3	7	7	4	6	4	3	4	12	19	12	8	8	9	8	7.1	18.6
21-Oct	6	11	12	14	13	13	14	15	13	15	16	20	18	17	16	11	8	3	6	5	4	8	6	8	11.3	20.4
22-Oct	7	7	4	5	3	3	2	3	8	8	6	13	21	18	15	23	17	9	8	9	10	10	10	3	9.4	22.9
23-Oct	3	9	4	3	3	2	5	6	6	11	14	5	10	11	14	15	12	7	4	3	6	3	2	2	6.7	14.9
24-Oct	3	6	5	5	5	6	4	4	6	5	6	7	8	7	7	7	6	5	5	7	8	7	8	7	5.9	8.0
25-Oct	6	7	7	8	8	9	8	9	9	8	8	8	7	6	5	N	N	N	N	N	10	10	11	12	8.2	12.5
26-Oct	12	12	12	12	12	9	10	12	10	8	5	6	9	6	5	3	3	3	2	4	4	6	5	5	7.2	12.2
27-Oct	6	6	6	8	14	9	10	14	11	11	8	7	6	8	12	8	6	7	6	6	4	9	7	2	8.0	14.2
28-Oct	4	2	6	8	6	4	3	3	3	5	5	4	4	3	3	4	4	2	2	3	4	4	2	3	3.9	8.1
29-Oct	5	6	5	8	8	7	8	10	11	13	13	11	10	7	6	3	3	3	3	4	4	4	3	7	6.8	13.3
30-Oct	5	6	6	6	2	4	5	6	5	8	9	7	7	8	8	8	7	3	2	8	8	6	8	13	6.5	13.2
31-Oct	14	12	9	9	11	10	9	7	7	7	7	6	5	5	5	7	7	9	8	9	7	9	8	5	8.0	13.9
	6.9	7.6	7.6	8.2	8.3	7.9	8.3	8.7	8.8	9.4	9.7	9.7	9.8	9.3	8.9	8.8	7.6	6.9	6.3	6.7	6.8	7.5	7.2	6.7	Diurnal Average	
	15.5	16.2	14.8	17.5	20.1	21.4	17.8	19.2	18.7	18.0	18.8	20.4	20.9	18.3	16.5	22.9	16.8	12.7	18.6	11.8	11.2	12.3	11.5	13.2	Diurnal Maximum	

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

# Hourly Standard Deviations

Wind Direction (WD) - deg

Donnelly - October 2016

Maximum Value: 73.7 deg on Oct 12 04:00																	Hours in Service: 744								
Minimum Value: 2.1 deg on Oct 21 08:00																	Hours of Data: 739								
Percentiles: P <sub>1</sub> = 2.9 P <sub>10</sub> = 4.4 Q <sub>1</sub> = 6.1 Median = 8.9 Q <sub>3</sub> = 13.9 P <sub>90</sub> = 26.8 P <sub>99</sub> = 59.2																	Hours of Missing Data: 5								
																	Hours of Calibration: 0								
																	Percent Operational Time: 99.3								
Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Oct	4	5	4	5	6	6	6	4	4	7	4	3	6	7	6	7	11	5	5	14	21	12	21	16	21.2
2-Oct	16	7	7	5	5	8	4	8	9	6	11	9	14	9	6	6	9	18	35	8	4	4	2	5	34.8
3-Oct	3	4	5	4	5	5	8	10	6	5	11	18	24	27	12	23	12	7	7	9	7	11	8	11	26.9
4-Oct	6	3	7	3	7	7	3	6	5	5	4	10	14	9	16	10	8	7	6	7	4	6	4	34	34.2
5-Oct	29	10	39	5	5	5	5	4	5	6	10	13	9	15	15	18	9	5	4	6	5	5	5	4	39.3
6-Oct	4	5	6	6	4	4	12	9	11	12	14	10	14	16	16	12	12	5	4	5	5	7	8	13	15.9
7-Oct	9	10	15	7	9	7	7	8	8	9	7	7	6	7	8	8	9	9	14	10	10	12	9	7	14.5
8-Oct	7	8	8	10	9	10	11	11	11	11	7	8	9	12	13	11	13	6	3	5	6	8	5	4	12.8
9-Oct	5	3	8	14	9	9	11	13	8	7	10	9	9	9	9	6	6	9	9	7	6	10	8	9	14.5
10-Oct	11	15	6	7	10	37	38	16	27	18	36	44	33	26	35	29	23	17	55	10	12	15	6	10	55.2
11-Oct	11	6	5	3	3	4	3	5	12	12	13	14	12	12	10	9	9	7	10	4	5	6	7	10	13.6
12-Oct	36	22	16	74	59	40	38	59	7	12	16	17	29	35	44	32	54	8	7	9	8	6	5	4	73.7
13-Oct	7	10	8	12	9	12	9	8	6	6	8	7	7	8	10	9	7	6	9	6	5	4	4	3	12.2
14-Oct	5	10	7	10	9	8	6	4	4	4	3	3	4	4	4	4	3	3	3	3	3	3	4	5	10.0
15-Oct	5	5	5	9	6	8	6	8	11	15	26	65	10	34	48	29	22	11	19	9	7	6	10	13	64.9
16-Oct	11	13	12	4	11	12	8	5	6	6	7	8	9	18	37	5	34	10	11	21	10	11	9	9	37.4
17-Oct	12	37	20	11	11	14	7	11	14	10	11	10	6	5	8	10	7	15	4	7	9	4	5	5	37.4
18-Oct	56	29	8	10	14	8	8	7	9	36	25	16	13	8	6	13	15	10	8	13	55	17	25	7	55.7
19-Oct	8	23	4	3	5	4	3	3	4	3	4	5	5	6	6	6	18	8	4	4	6	5	8	6	23.2
20-Oct	44	25	28	17	34	21	7	48	9	29	15	10	28	31	34	25	37	14	5	3	8	6	8	5	47.7
21-Oct	25	4	6	3	3	4	4	2	6	5	9	6	9	11	11	8	17	46	16	11	11	8	5	6	46.0
22-Oct	5	10	44	21	30	12	71	60	11	40	6	14	10	4	10	8	5	19	18	5	4	5	8	19	71.3
23-Oct	60	5	49	57	22	21	6	9	6	6	5	10	5	5	6	8	9	10	17	58	16	61	32	34	61.1
24-Oct	68	8	9	14	14	10	17	17	8	9	11	9	10	8	16	10	10	12	13	10	6	7	7	6	67.9
25-Oct	8	10	6	8	7	7	8	8	8	8	11	9	12	15	22	N	N	N	N	N	8	8	5	8	21.9
26-Oct	10	4	5	10	12	9	13	6	7	8	10	14	7	18	20	36	36	24	10	10	14	19	17	12	36.4
27-Oct	14	11	13	9	4	8	4	4	4	3	4	8	6	8	7	9	13	8	11	6	7	6	10	9	13.9
28-Oct	7	17	5	7	9	5	10	19	11	15	10	13	16	19	17	13	14	16	13	16	12	19	28	35	34.6
29-Oct	9	11	9	4	8	4	8	6	6	11	15	17	17	27	27	59	38	55	43	31	26	30	29	10	59.3
30-Oct	14	12	8	7	39	12	12	12	15	14	14	17	14	17	15	14	17	18	33	11	9	10	24	8	39.4
31-Oct	10	9	9	9	9	14	15	11	8	13	10	19	23	19	13	9	12	8	8	9	9	6	13	16	23.2
	67.9	37.4	49.4	73.7	59.2	40.0	71.3	59.6	27.1	39.9	36.2	64.9	33.0	35.5	48.1	59.3	53.7	54.8	55.2	58.0	55.4	61.1	31.6	34.6	
N - Not Valid																									

PAZA

Portable – Rycroft Station

Monthly Summary Tables, Graphs and  
Roses

## Hourly Averages

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

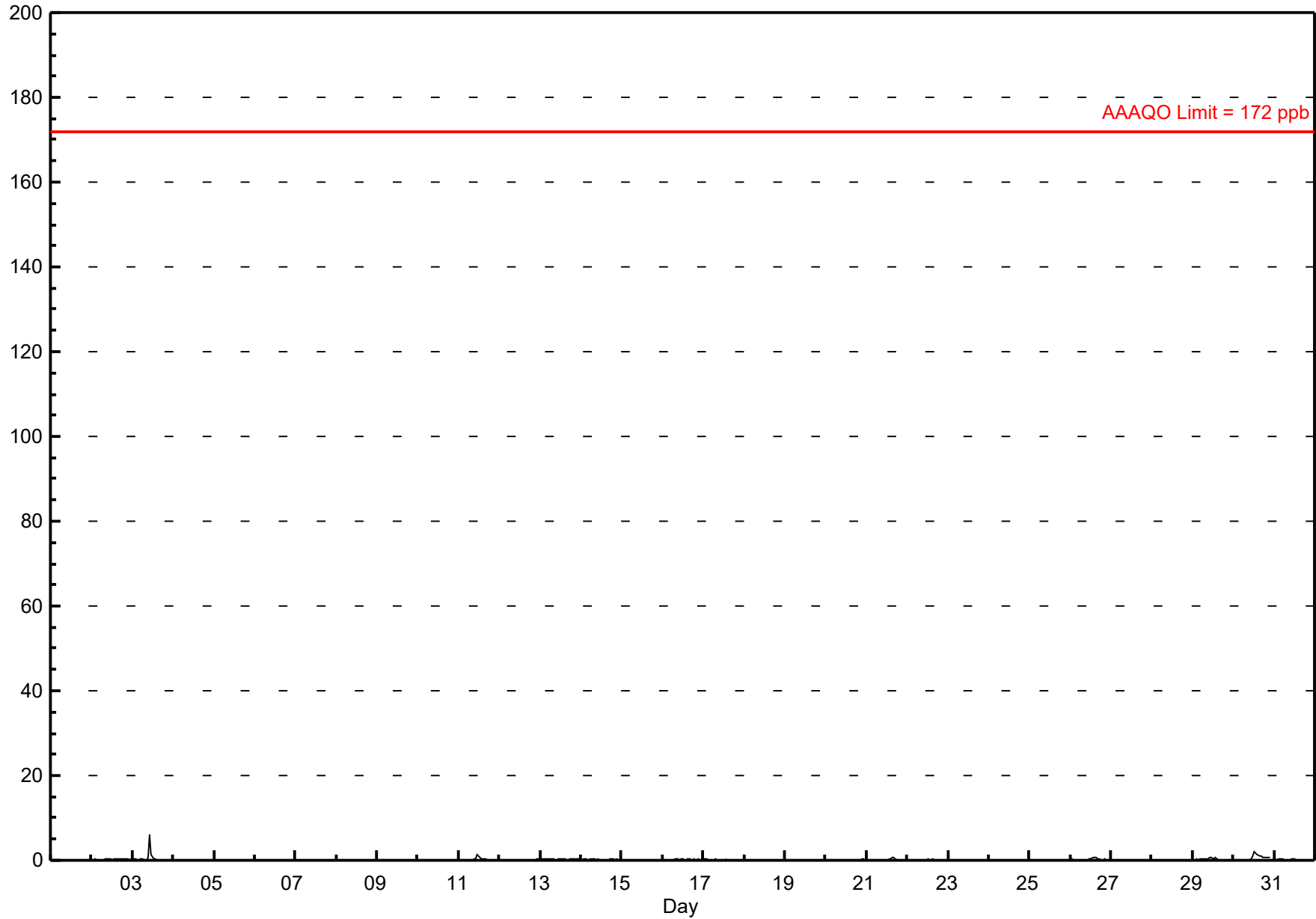
Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 6.1 ppb on Oct 3 11:00 Maximum Daily Average: 0.6 ppb on Oct 30		Hours in Service: 744 Hours of Data: 699 Hours of Missing Data: 45 Hours of Calibration: 40 Percent Operational Time: 99.3																								
Minimum Value: 0 ppb on Oct 1 01:00 Maximum Diurnal Average: 0.3 ppb at hour 11 Monthly Average: 0.11 ppb		Minimum Daily Average: 0.0 ppb on Oct 8 Minimum Diurnal Average: 0.1 ppb at hour 5 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																								
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Oct	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
2-Oct	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4
3-Oct	0	0	0	A	0	0	0	0	0	1	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0.5	6.1
4-Oct	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
5-Oct	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
6-Oct	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
7-Oct	0	0	0	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
8-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
9-Oct	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
10-Oct	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
11-Oct	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	A	0	0	0	0	0	0.2	1.2
12-Oct	0	0	0	0	0	0	0	0	0	C	C	C	C	C	C	C	C	D	D	D	D	0	0	0	--	0.3
13-Oct	0	0	0	0	0	0	0	0	0	D	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0.2	0.4
14-Oct	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
15-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.0	0.2
16-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.1	0.3
17-Oct	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.1	0.4
18-Oct	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
19-Oct	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	0.2
20-Oct	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.5
21-Oct	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	1	1	0	0	0	0	0	0	0	0.1	0.8
22-Oct	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.5
23-Oct	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
24-Oct	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
25-Oct	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
26-Oct	0	0	0	A	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0.2	0.7
27-Oct	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1
28-Oct	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
29-Oct	A	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0.2	0.8
30-Oct	0	0	0	0	0	0	0	0	0	0	0	1	2	2	1	1	1	1	1	1	1	1	1	1	0.6	1.9
31-Oct	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
																								Diurnal Average	Diurnal Maximum	
																								0.1	0.3	
																								0.1	0.5	
																								0.1	0.4	
																								0.1	0.3	
																								0.1	0.3	
																								0.1	0.4	
																								0.1	0.3	
																								0.1	0.3	
																								0.1	0.4	
																								0.1	0.7	
																								0.3	6.1	
																								0.2	1.3	
																								0.2	1.9	
																								0.2	1.8	
																								0.2	1.5	
																								0.2	1.2	
																								0.1	1.0	
																								0.1	0.7	
																								0.1	0.6	
																								0.1	0.8	
																								0.1	0.8	
																								0.1	0.6	
																								0.1	0.4	
																								0.1	0.3	

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  
Portable Rycroft - October 2016



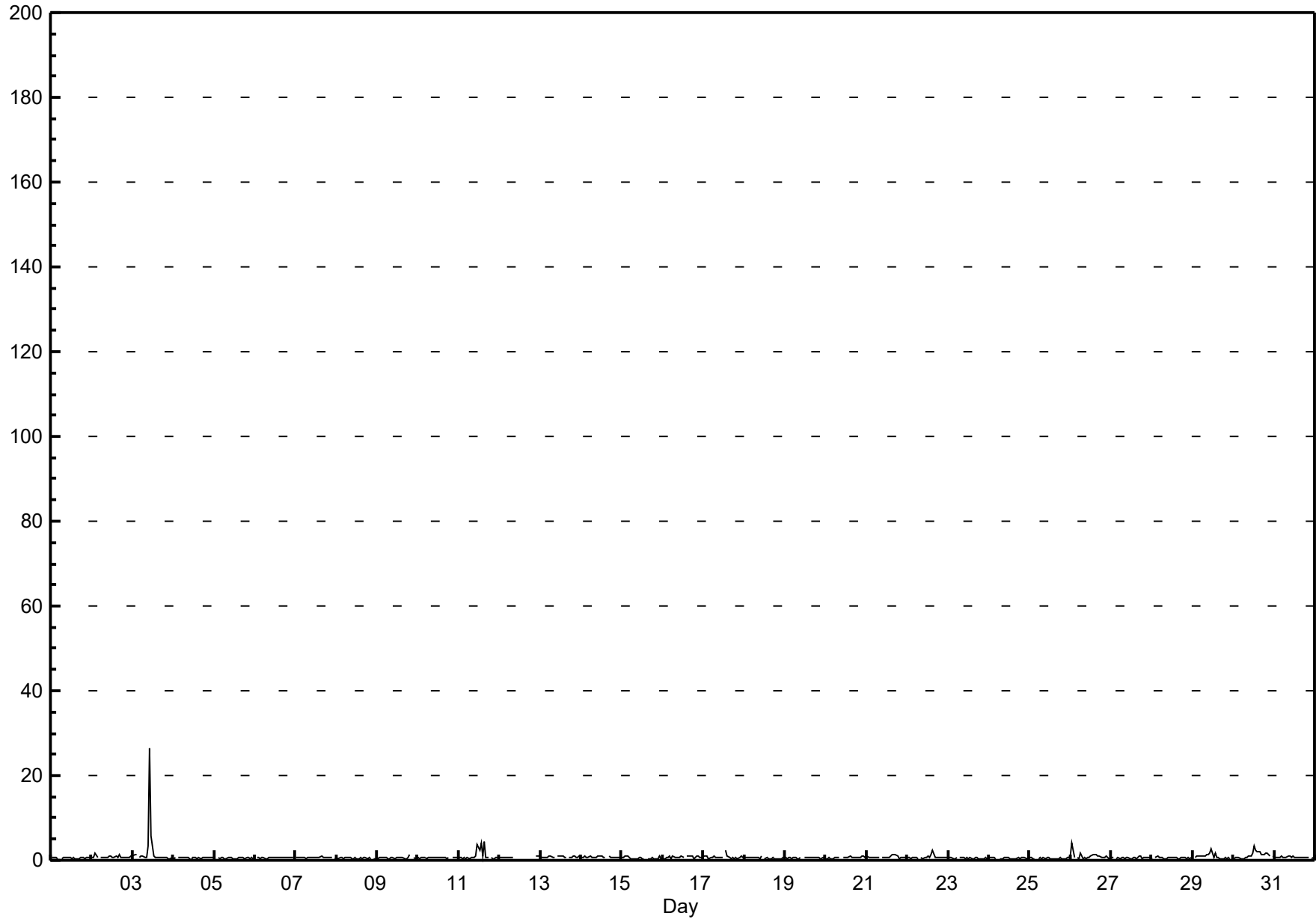
## Hourly Maximums

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

Maximum Value: 26.5 ppb on Oct 3 11:00		Maximum Daily Average: 2.2 ppb on Oct 3		Hours in Service:	744																					
Minimum Value: 0 ppb on Oct 4 11:00		Minimum Daily Average: 0.5 ppb on Oct 25		Hours of Data:	699																					
Maximum Diurnal Average: 1.6 ppb at hour 11		Minimum Diurnal Average: 0.6 ppb at hour 8		Hours of Missing Data:	45																					
Monthly Average: 0.75 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> = 0.8 P <sub>90</sub> = 0.9 P <sub>99</sub> = 3.4		Hours of Calibration:	40																					
				Percent Operational Time:	99.3																					
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Oct	1	1	1	1	0	A	1	1	1	1	1	0	1	1	1	0	1	1	1	1	0	1	1	0.6	0.7	
2-Oct	1	1	2	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.7	
3-Oct	1	1	1	A	1	1	1	1	1	3	27	6	1	1	1	1	1	1	1	1	1	0	0	2.2	26.5	
4-Oct	0	1	A	1	1	1	1	1	1	1	0	1	1	1	0	1	0	1	1	1	1	1	1	0.6	0.7	
5-Oct	1	A	1	0	1	1	0	0	1	1	1	0	0	0	1	1	1	1	0	1	1	0	1	0.6	0.7	
6-Oct	A	1	1	1	1	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.6	0.8	
7-Oct	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	0	0.7	0.9
8-Oct	1	0	1	1	0	1	1	1	1	0	0	1	0	0	1	0	1	1	0	1	0	1	A	0	0.5	0.7
9-Oct	0	1	1	1	1	1	0	0	1	1	0	1	1	1	1	1	0	1	0	1	1	A	1	0	0.6	1.4
10-Oct	1	0	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	0	1	A	1	1	1	1	0.6	0.7
11-Oct	1	1	0	1	0	1	0	1	1	1	1	4	2	4	1	4	1	1	A	1	0	0	1	1	1.1	4.4
12-Oct	1	1	1	1	1	1	1	1	1	C	C	C	C	C	C	C	C	D	D	D	D	1	1	1	--	0.9
13-Oct	1	1	1	1	1	1	1	1	1	D	1	1	1	1	1	1	A	1	1	1	1	1	1	1	0.8	1.0
14-Oct	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	0.7	1.0
15-Oct	1	1	1	1	1	0	1	0	0	0	1	1	0	0	A	0	0	0	1	0	0	0	1	0	0.6	1.0
16-Oct	0	0	1	1	1	0	1	1	1	1	1	1	1	A	1	1	1	1	0	1	1	1	1	1	0.7	1.0
17-Oct	1	1	1	0	1	1	1	1	1	1	1	1	A	2	1	1	0	1	0	1	0	1	1	1	0.8	2.3
18-Oct	1	1	1	1	1	1	1	1	1	0	1	0	1	0	0	0	1	0	1	0	0	0	0	1	0.6	0.9
19-Oct	1	0	1	1	0	1	1	0	1	0	A	1	1	1	1	1	1	1	1	1	1	0	1	0	0.6	0.8
20-Oct	0	0	1	0	0	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.6	1.2
21-Oct	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	0.8	1.4
22-Oct	1	1	0	1	1	1	0	A	1	0	1	1	1	1	1	2	1	1	1	1	1	1	1	1	0.8	2.3
23-Oct	1	1	1	0	0	1	A	1	1	1	0	1	0	1	0	1	1	1	0	0	0	0	1	0	0.5	0.8
24-Oct	1	1	1	1	0	A	0	0	1	1	1	1	0	0	0	0	0	1	0	1	1	1	0	1	0.5	0.7
25-Oct	1	1	0	0	A	0	1	0	1	0	1	0	0	0	0	0	0	0	1	0	0	0	1	1	0.5	0.8
26-Oct	1	4	1	A	1	0	2	0	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1.0	4.2
27-Oct	1	1	A	0	1	0	1	1	0	1	1	0	0	1	1	0	1	1	0	1	1	1	1	1	0.6	0.9
28-Oct	0	A	1	1	1	1	1	0	0	1	1	1	1	1	1	0	0	1	1	1	0	1	0	1	0.6	0.9
29-Oct	A	1	1	1	1	1	1	0	1	1	2	3	1	2	1	1	0	0	1	0	1	0	1	0	0.9	2.8
30-Oct	0	1	1	1	0	0	0	1	1	1	1	2	3	2	2	2	1	2	1	2	2	1	A	1	1.2	3.4
31-Oct	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	0.7	1.0
		0.6	0.7	0.7	0.6	0.6	0.6	0.6	0.6	0.7	0.8	1.6	1.1	0.8	0.9	0.8	0.9	0.7	0.7	0.6	0.7	0.7	0.7	0.6	0.6	Diurnal Average
		1.1	4.2	1.7	1.0	1.0	0.9	1.7	0.9	1.3	3.3	26.5	5.7	3.4	3.9	2.0	4.4	1.5	1.5	1.3	1.5	1.5	1.2	1.2	1.2	Diurnal Maximum
C - Calibration		D - DAS Failure						A - Automated Daily Zero Span																		

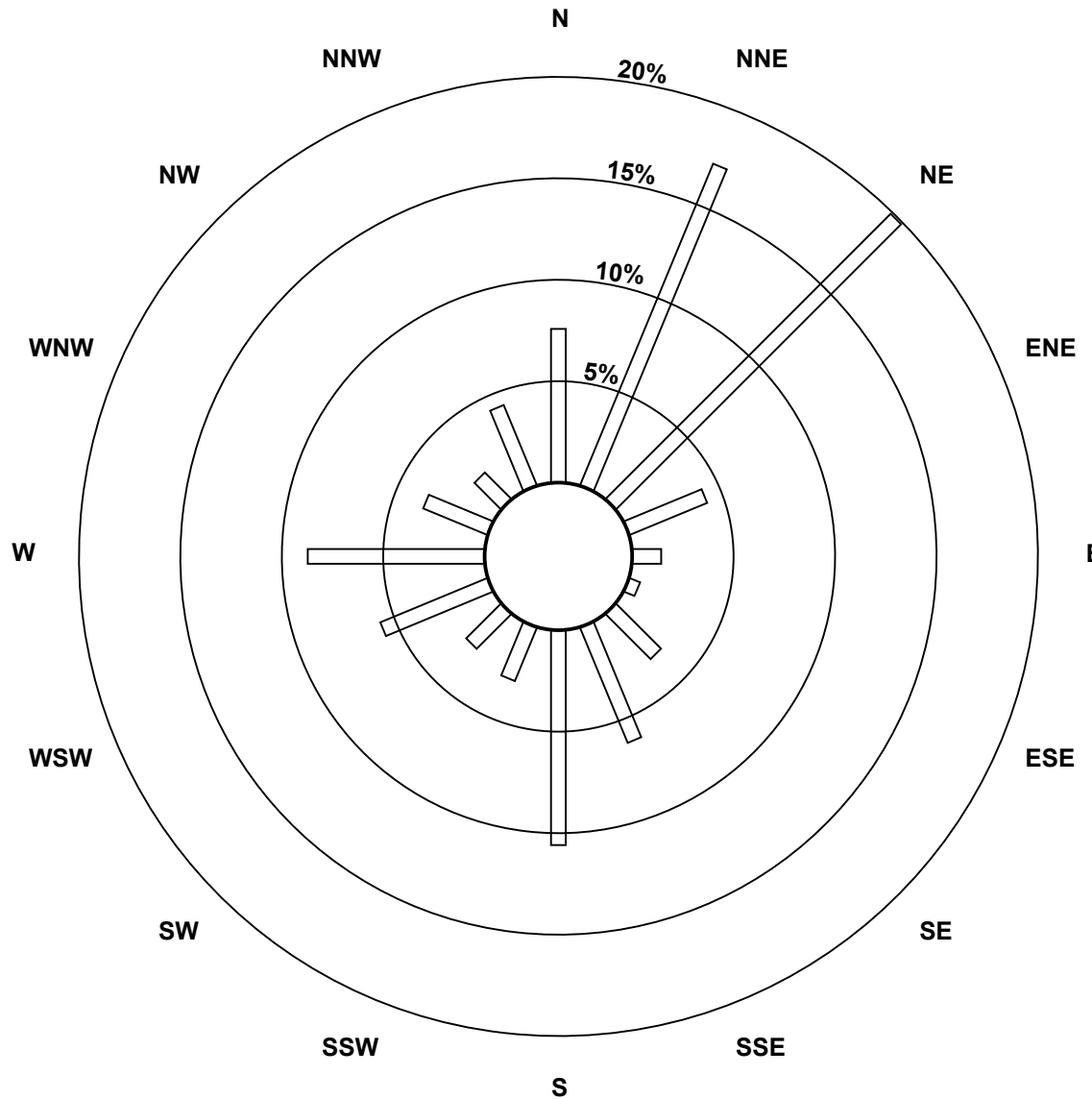
**Hourly Maximums**

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

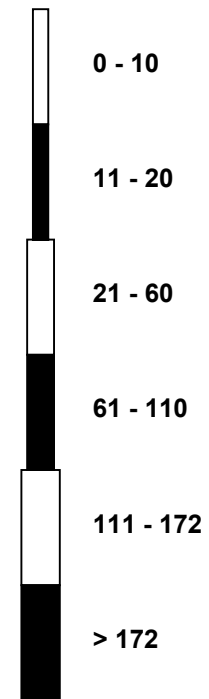


**Pollutant Rose**

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

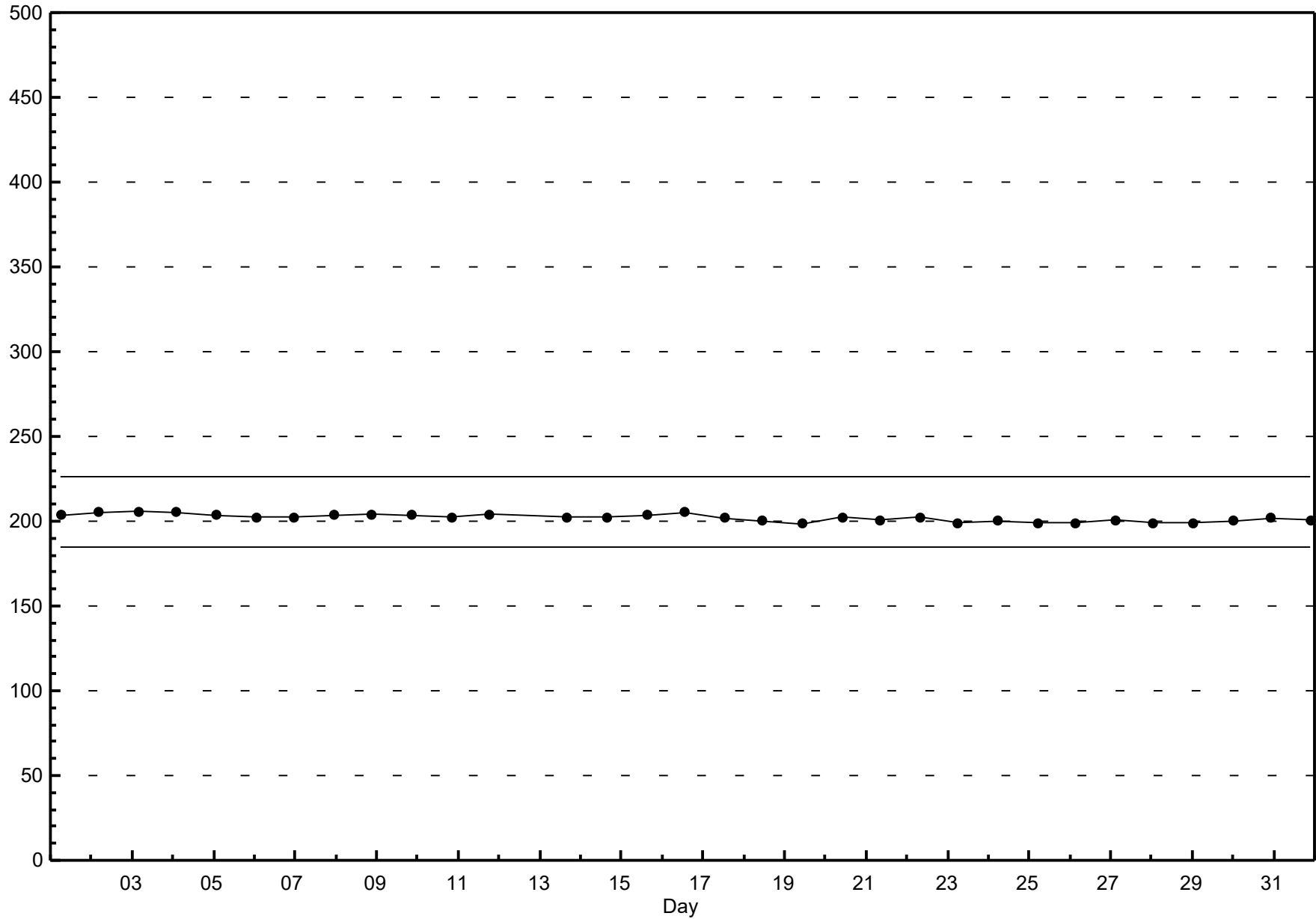


**Pollutant Classes (ppb)**



### Span Responses

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

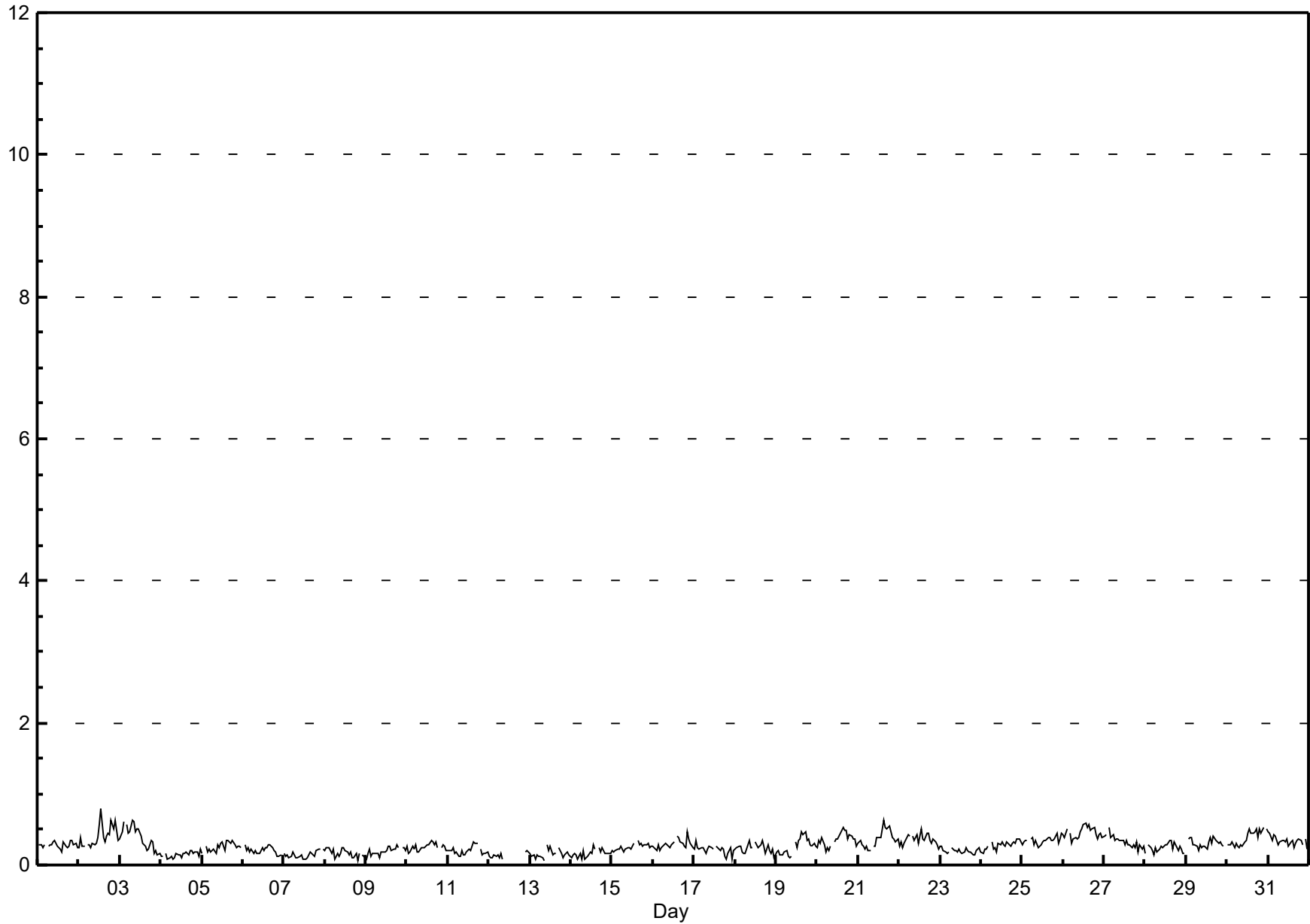


## Hourly Averages

Total Reduced Sulphur (TRS) - ppb

Portable Rycroft - October 2016

Maximum Value: 0.8 ppb on Oct 2 14:00		Maximum Daily Average: 0.5 ppb on Oct 26		Hours in Service: 744																							
Minimum Value: 0 ppb on Oct 8 20:00		Minimum Daily Average: 0.1 ppb on Oct 7		Hours of Data: 699																							
Maximum Diurnal Average: 0.3 ppb at hour 16		Minimum Diurnal Average: 0.2 ppb at hour 8		Hours of Missing Data: 45																							
Monthly Average: 0.27 ppb		Percentiles: P <sub>1</sub> = 0.1 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> = 0.6		Hours of Calibration: 40																							
				Percent Operational Time: 99.3																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Oct	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.3	
2-Oct	0	0	0	0	A	A	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1	1	0	0	0.4	0.8
3-Oct	0	0	1	A	1	0	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.6	
4-Oct	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2	
5-Oct	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.3	
6-Oct	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	0.3	
7-Oct	0	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	
8-Oct	0	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	
9-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	A	0	0.2	0.3	
10-Oct	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	0.3	
11-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0.2	0.3	
12-Oct	0	0	0	0	0	0	0	0	0	C	C	C	C	C	C	C	C	D	D	D	D	0	0	0	--	0.2	
13-Oct	0	0	0	0	0	0	0	0	0	D	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0.2	0.3	
14-Oct	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	
15-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.3	0.3	
16-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.3	0.5	
17-Oct	0	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	
18-Oct	0	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	
19-Oct	0	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	
20-Oct	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0.4	0.5	
21-Oct	0	0	0	0	0	0	0	0	A	0	0	0	0	1	1	1	1	1	1	0	0	0	0	0	0.4	0.6	
22-Oct	0	0	0	0	0	0	0	A	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0.4	0.5	
23-Oct	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3	
24-Oct	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.4	
25-Oct	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.4	
26-Oct	0	0	1	A	0	0	0	0	0	0	0	1	1	1	1	1	0	1	1	0	0	0	0	0	0.5	0.6	
27-Oct	0	0	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.5	
28-Oct	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3	
29-Oct	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.4	
30-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1	0	1	0	1	0.4	0.5	
31-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.3	0.5	
		0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	Diurnal Average		
		0.5	0.5	0.6	0.5	0.6	0.4	0.5	0.6	0.6	0.5	0.5	0.5	0.6	0.8	0.5	0.6	0.5	0.5	0.6	0.6	0.5	0.6	0.5	Diurnal Maximum		
C - Calibration		D - DAS Failure					A - Automated Daily Zero Span																				



## Hourly Maximums

Total Reduced Sulphur (TRS) - ppb

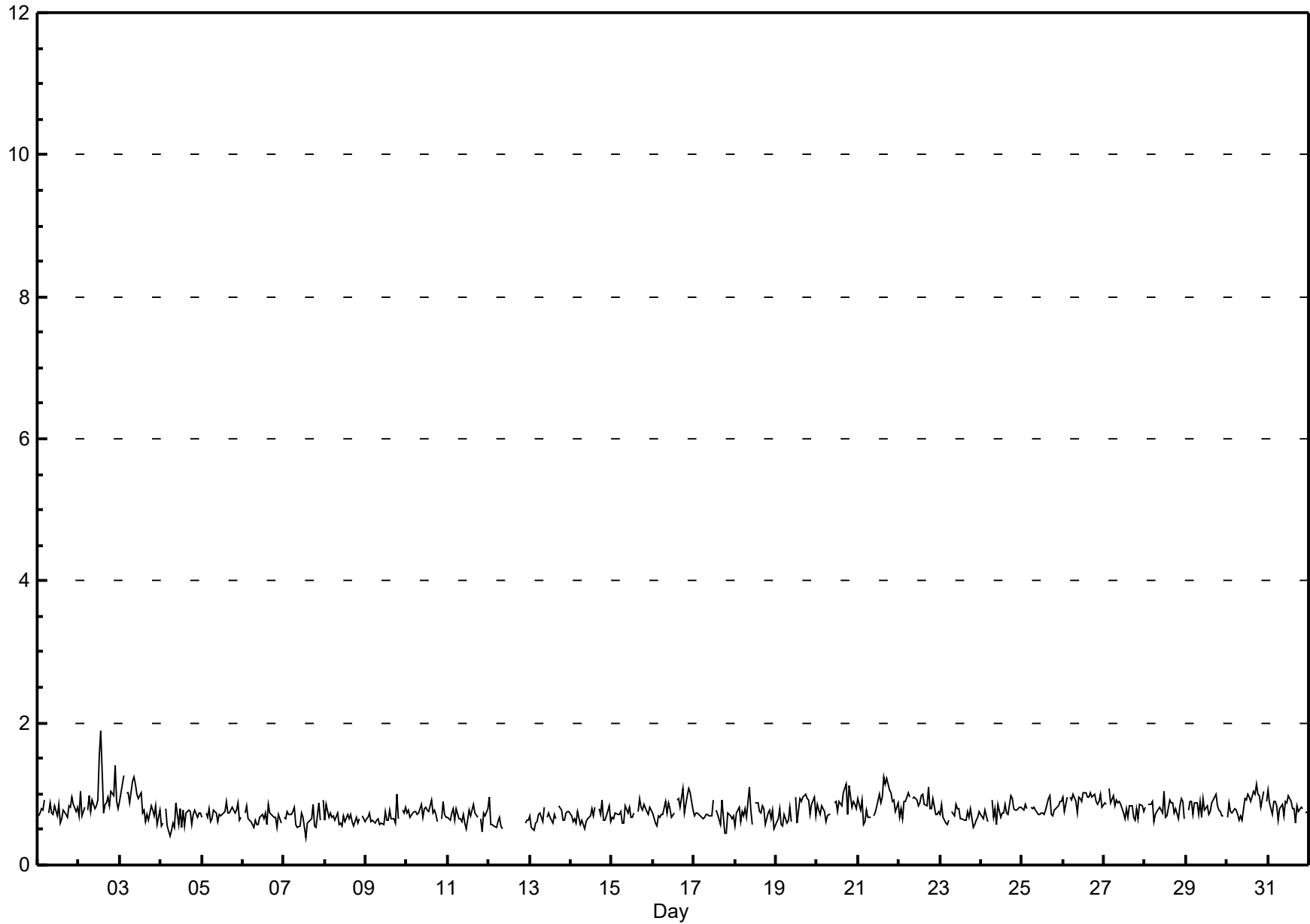
Portable Rycroft - October 2016

Maximum Value: 1.9 ppb on Oct 2 14:00		Maximum Daily Average: 1.0 ppb on Oct 2		Hours in Service: 744																							
Minimum Value: 0 ppb on Oct 7 14:00		Minimum Daily Average: 0.7 ppb on Oct 4		Hours of Data: 699																							
Maximum Diurnal Average: 0.8 ppb at hour 18		Minimum Diurnal Average: 0.7 ppb at hour 8		Hours of Missing Data: 45																							
Monthly Average: 0.77 ppb		Percentiles: P <sub>1</sub> = 0.5 P <sub>10</sub> = 0.6 Q <sub>1</sub> = 0.7 Median = 0.7 Q <sub>3</sub> = 0.9 P <sub>90</sub> = 1.0 P <sub>99</sub> = 1.2		Hours of Calibration: 40																							
				Percent Operational Time: 99.3																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Oct	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	1.0	
2-Oct	1	1	1	1	A	1	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1.0	1.9
3-Oct	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.3	
4-Oct	1	1	A	1	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	0.9	
5-Oct	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	0.9	
6-Oct	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	0.9	
7-Oct	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	0.7	0.9	
8-Oct	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	0.9	
9-Oct	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	0.7	1.0	
10-Oct	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	0.7	0.9	
11-Oct	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	0	1	1	0.7	0.9	
12-Oct	1	1	1	1	1	1	1	1	0	C	C	C	C	C	C	C	C	C	D	D	D	D	1	1	--	0.9	
13-Oct	1	1	0	1	1	1	1	1	1	D	1	1	1	1	1	1	A	1	1	1	1	1	1	1	0.7	0.8	
14-Oct	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	
15-Oct	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	0.7	0.9	
16-Oct	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	
17-Oct	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	0	0	1	1	0.7	0.9	
18-Oct	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	
19-Oct	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	1.0	
20-Oct	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.1	
21-Oct	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	
22-Oct	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.1	
23-Oct	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	0.9	
24-Oct	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.0	
25-Oct	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	1.0	
26-Oct	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.0	
27-Oct	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.1	
28-Oct	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.0	
29-Oct	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.0	
30-Oct	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	1.1	
31-Oct	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	0.8	1.1	
		0.7	0.7	0.8	0.7	0.7	0.7	0.7	0.7	0.8	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.7	Diurnal Average	
		1.1	1.1	1.3	1.1	1.0	1.0	1.0	1.2	1.2	1.1	1.0	1.0	1.5	1.9	1.0	1.2	1.1	1.2	1.1	1.1	1.0	1.4	1.0	0.9	Diurnal Maximum	
C - Calibration		D - DAS Failure						A - Automated Daily Zero Span																			



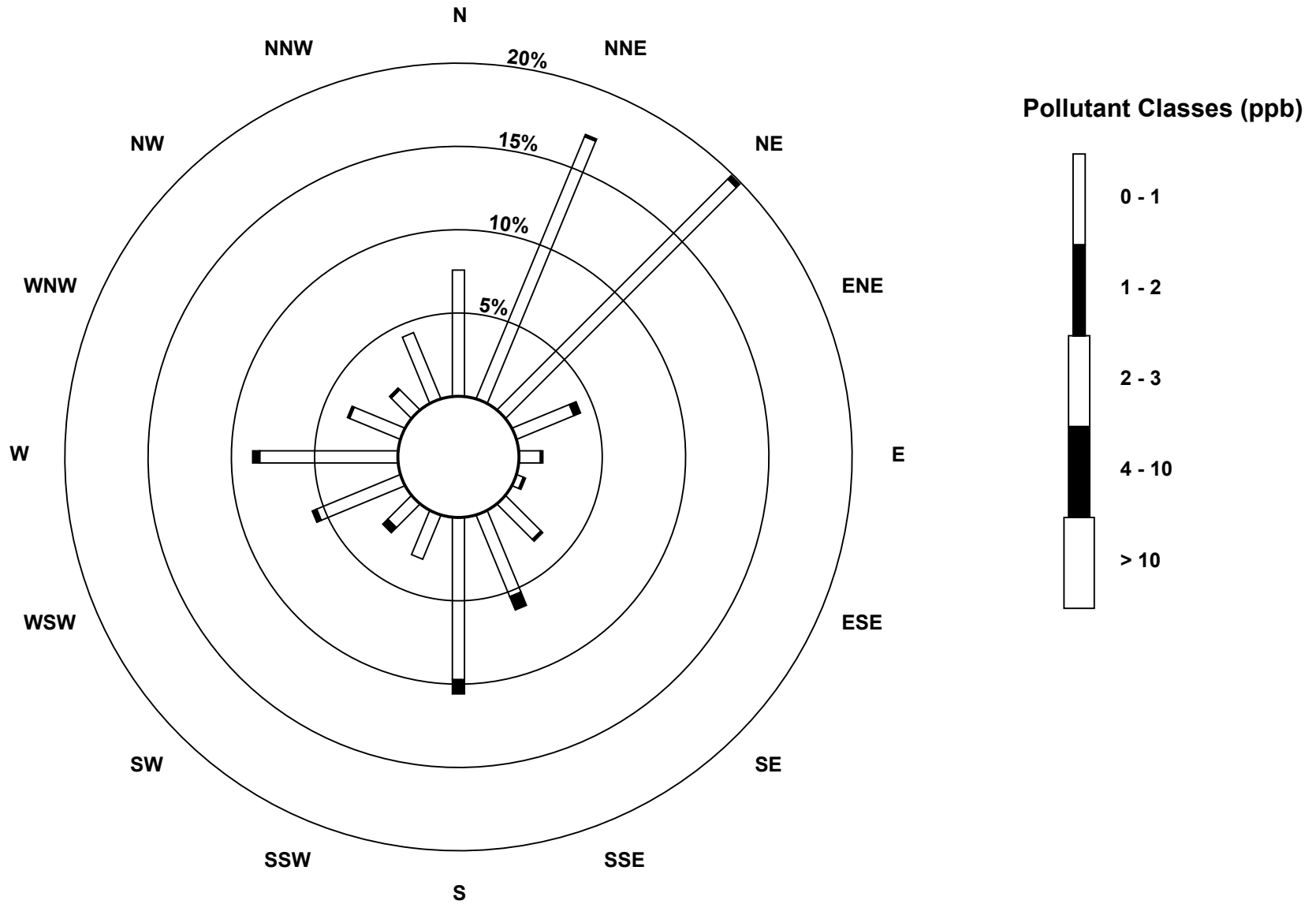
**Hourly Maximums**

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



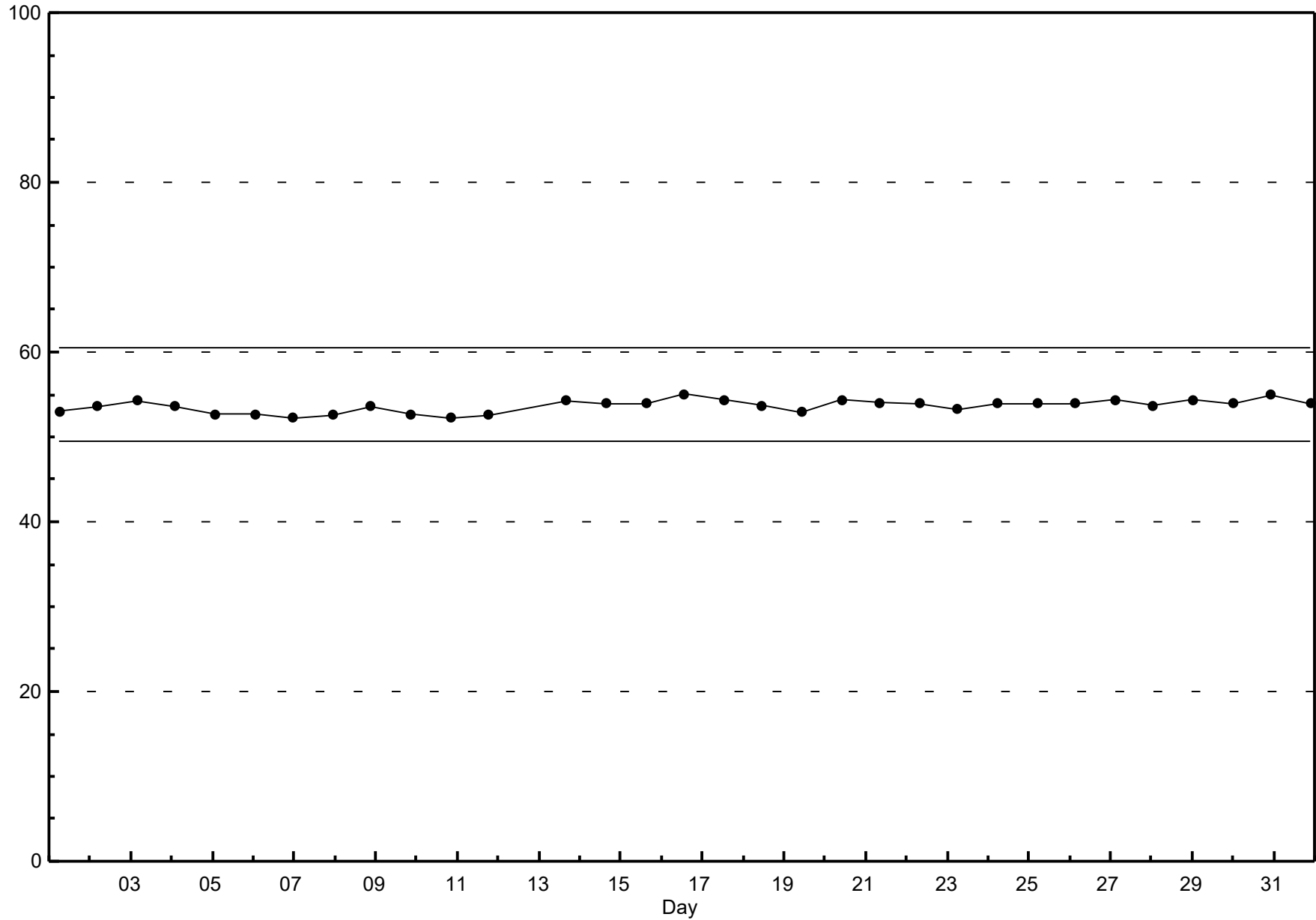
**Pollutant Rose**

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



**Span Responses**

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



## Hourly Averages

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

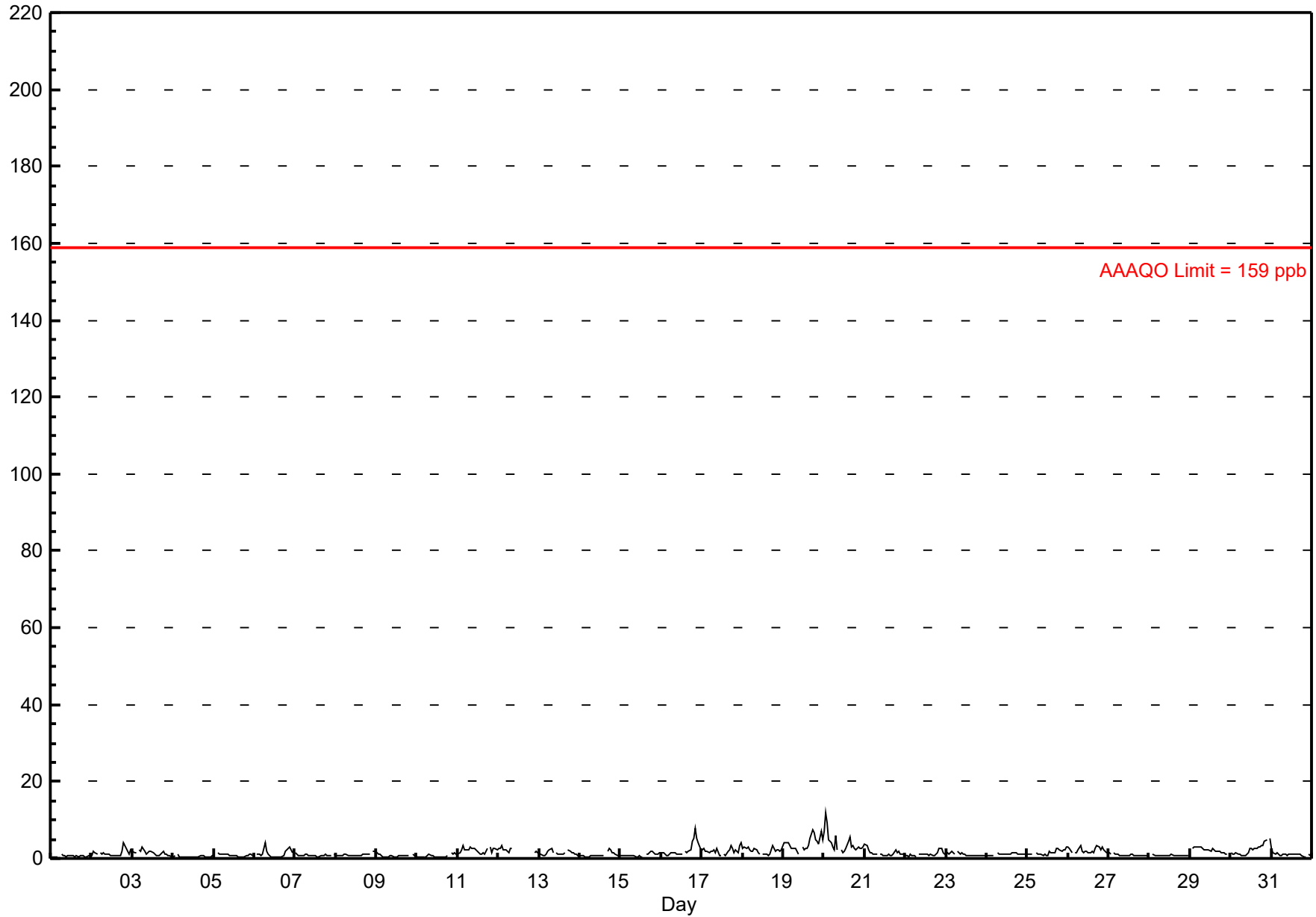
Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 12.1 ppb on Oct 20 02:00	Maximum Daily Average: 3.9 ppb on Oct 20		Hours of Data:	699
Minimum Value: 0 ppb on Oct 1 03:00	Minimum Daily Average: 0.5 ppb on Oct 4		Hours of Missing Data:	45
Maximum Diurnal Average: 1.9 ppb at hour 21	Minimum Diurnal Average: 1.1 ppb at hour 13		Hours of Calibration:	40
Monthly Average: 1.48 ppb	Percentiles: P <sub>1</sub> = 0.3 P <sub>10</sub> = 0.6 Q <sub>1</sub> = 0.7 Median = 1.1 Q <sub>3</sub> = 1.9 P <sub>90</sub> = 2.7 P <sub>99</sub> = 6.6		Percent Operational Time:	99.3

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Oct	0	0	0	0	0	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.6	1.2
2-Oct	1	2	2	1	A	2	1	1	1	1	1	1	1	1	1	1	1	1	2	4	3	2	1	2	1.4	4.1
3-Oct	2	1	1	A	2	2	3	2	1	1	2	2	1	1	1	1	1	2	1	1	1	1	1	0	1.4	2.8
4-Oct	0	1	A	1	1	0	0	0	0	1	0	1	0	0	0	0	1	1	1	1	1	0	1	1	0.5	1.0
5-Oct	1	A	2	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	0.8	1.6
6-Oct	A	1	1	1	1	1	4	2	1	1	1	1	0	0	0	0	0	1	2	2	3	3	2	A	1.3	4.0
7-Oct	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	0.8	1.5
8-Oct	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	2	2	1.0	1.9
9-Oct	1	1	1	1	1	1	0	0	1	1	0	0	1	1	1	1	1	1	1	1	A	1	1	1	0.7	1.5
10-Oct	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	1	A	1	1	1	1	0.6	1.5
11-Oct	1	1	2	3	2	2	2	3	2	2	3	2	2	1	1	1	1	3	A	3	1	3	3	2	2.1	3.4
12-Oct	3	3	3	2	2	2	2	3	3	C	C	C	C	C	C	C	C	D	D	D	D	2	2	1	--	3.4
13-Oct	1	1	1	1	1	2	2	3	2	D	1	1	1	1	1	2	A	2	2	1	1	1	1	1	1.4	2.8
14-Oct	1	1	1	1	0	0	1	1	1	1	1	1	1	1	1	A	2	3	2	2	2	1	1	1	1.0	2.6
15-Oct	1	1	1	1	1	1	1	1	1	0	1	1	0	0	A	1	1	1	2	2	2	1	1	1	0.9	1.9
16-Oct	1	1	1	1	1	1	1	2	2	1	1	1	1	A	2	2	2	2	5	5	8	5	4	2	2.3	7.9
17-Oct	2	3	2	2	2	2	2	2	1	3	1	1	A	1	1	2	2	3	2	2	2	2	3	4	2.0	3.9
18-Oct	3	3	3	3	2	2	2	2	2	2	1	A	1	1	1	1	2	3	2	2	2	2	2	2	2.0	3.5
19-Oct	4	4	4	4	3	3	3	3	2	2	1	A	3	2	3	3	3	5	7	7	5	4	4	7	3.9	7.4
20-Oct	7	12	9	5	4	3	2	6	2	A	2	2	2	3	4	6	3	3	2	2	3	3	3	3	3.9	12.1
21-Oct	4	3	2	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	2	1	2	1	1	1	1.4	3.7
22-Oct	1	1	1	1	1	1	0	A	1	1	1	1	1	1	1	1	1	1	1	1	2	2	1	1	1.1	2.5
23-Oct	1	1	1	2	1	1	A	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.8
24-Oct	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1.1	1.5
25-Oct	1	1	1	1	A	1	1	1	1	1	1	1	1	2	2	2	1	3	3	2	2	2	2	3	1.5	3.0
26-Oct	3	3	2	A	1	1	2	3	2	1	2	2	2	1	2	2	2	3	3	2	3	2	2	1	2.1	3.3
27-Oct	1	1	A	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.6
28-Oct	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.2
29-Oct	A	3	3	3	3	3	3	3	2	2	2	2	2	3	2	2	2	2	2	2	1	1	1	1	2.2	3.2
30-Oct	2	1	1	1	1	1	1	1	1	1	1	3	3	2	3	3	3	3	3	3	3	4	5	A	2.3	5.2
31-Oct	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	A	1	1.1	2.8

C - Calibration	D - DAS 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**  
**Portable Rycroft - October 2016**



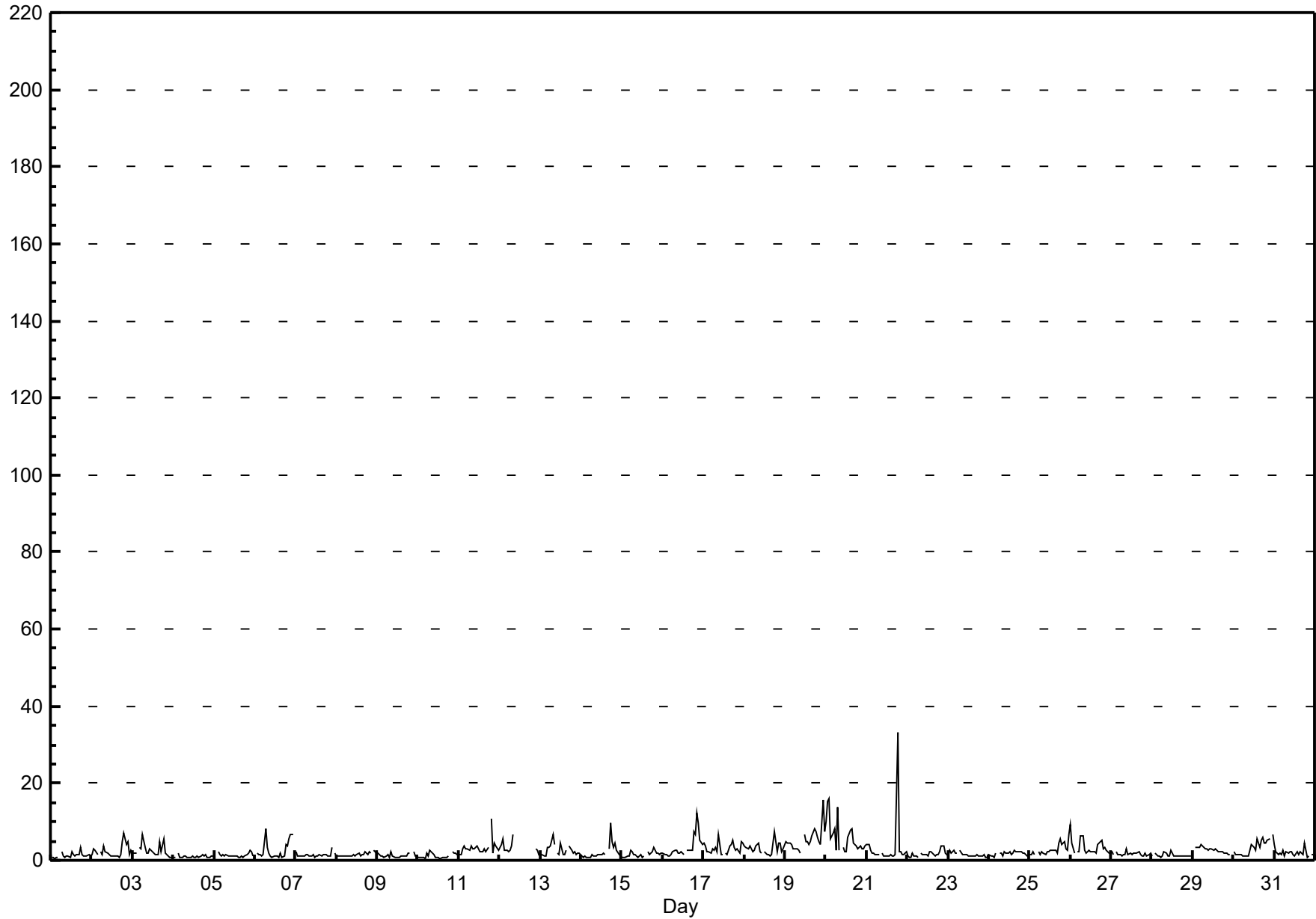
## Hourly Maximums

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

Maximum Value: 33.1 ppb on Oct 21 19:00		Maximum Daily Average: 6.1 ppb on Oct 20		Hours in Service: 744																						
Minimum Value: 0 ppb on Oct 10 14:00		Minimum Daily Average: 1.0 ppb on Oct 4		Hours of Data: 699																						
Maximum Diurnal Average: 4.3 ppb at hour 19		Minimum Diurnal Average: 1.8 ppb at hour 11		Hours of Missing Data: 45																						
Monthly Average: 2.40 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> = 2.7 P <sub>90</sub> = 4.6 P <sub>99</sub> = 10.0		Hours of Calibration: 40																						
				Percent Operational Time: 99.3																						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Oct	1	1	1	1	1	A	2	1	1	1	1	2	1	1	2	1	3	2	1	1	1	1	1	1	1.2	3.2
2-Oct	1	3	3	1	A	2	2	4	2	2	1	1	1	1	1	1	1	1	5	7	4	5	2	3	2.4	7.1
3-Oct	2	2	2	A	3	3	7	3	2	2	3	3	2	1	1	1	5	2	5	2	1	1	1	1	2.4	6.9
4-Oct	1	1	A	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	2	1	1	1	1	1.0	1.8
5-Oct	1	A	2	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	2	2	3	2	1	1.3	2.5
6-Oct	A	2	2	1	1	1	8	3	2	1	1	1	1	1	2	1	1	1	4	4	6	7	7	A	2.6	8.1
7-Oct	2	1	1	1	1	1	1	2	1	1	2	1	1	1	1	1	2	2	1	1	1	3	A	2	1.4	3.2
8-Oct	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	2	2	2	2	2	A	3	2	1.4	2.7
9-Oct	2	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	2	2	A	2	1	1	1.3	2.1
10-Oct	1	1	1	1	1	2	1	3	2	1	1	1	1	0	1	1	1	1	1	A	2	2	2	2	1.1	2.6
11-Oct	2	2	3	4	3	3	3	4	3	3	3	4	2	2	2	3	2	3	A	11	2	4	4	2	3.2	10.7
12-Oct	3	4	6	3	3	2	2	4	7	C	C	C	C	C	C	C	C	D	D	D	D	3	2	2	--	6.6
13-Oct	2	2	1	1	3	3	4	7	4	D	2	2	4	1	2	3	A	4	3	2	2	2	2	2	2.6	6.6
14-Oct	1	1	1	1	1	1	1	1	1	1	1	1	2	2	1	A	3	10	5	3	4	2	2	1	2.1	9.9
15-Oct	1	1	1	1	1	3	2	2	2	1	1	2	1	1	A	2	1	2	2	3	2	2	2	2	1.6	3.4
16-Oct	2	2	1	1	1	1	2	2	3	2	2	2	1	A	3	2	2	3	7	7	12	10	5	4	3.4	12.2
17-Oct	5	4	2	2	2	3	3	3	2	7	2	1	A	2	2	4	4	5	3	3	3	2	5	5	3.1	6.6
18-Oct	4	3	3	4	3	2	3	4	5	2	2	A	2	2	1	1	1	5	8	2	4	5	2	3	3.1	7.6
19-Oct	5	5	5	4	4	3	3	3	2	2	A	7	5	5	4	5	6	8	8	6	5	4	16	7	5.3	15.5
20-Oct	10	15	16	6	7	8	3	14	2	A	3	2	2	6	8	8	5	4	4	3	4	3	3	4	6.1	16.1
21-Oct	4	4	3	2	2	1	1	1	A	2	1	1	1	1	2	1	1	1	33	2	2	2	1	2	3.2	33.1
22-Oct	1	1	1	2	1	1	1	A	2	1	1	2	1	2	2	2	1	1	2	2	4	4	2	2	1.7	3.6
23-Oct	1	2	2	3	2	2	A	3	1	2	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1.5	2.7
24-Oct	1	1	1	1	2	A	2	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1.8	2.5
25-Oct	1	1	2	1	A	2	1	2	2	2	2	2	2	3	3	3	2	4	5	4	5	3	2	7	2.7	6.5
26-Oct	9	4	2	A	2	2	6	6	3	2	2	2	2	2	2	2	4	5	5	3	3	3	2	2	3.4	9.3
27-Oct	2	1	A	2	2	1	1	1	1	3	1	2	1	2	2	2	2	1	1	1	2	1	1	2	1.7	3.2
28-Oct	1	A	2	1	1	1	1	2	2	1	1	3	2	1	1	1	1	1	1	1	1	1	1	1	1.3	2.5
29-Oct	A	3	4	4	3	4	3	3	3	3	3	3	3	3	3	2	2	2	2	2	2	1	1	A	2.7	3.9
30-Oct	2	2	1	2	1	1	1	1	1	1	4	4	3	2	5	3	5	6	4	5	5	6	A	7	3.2	6.6
31-Oct	4	2	1	2	2	3	1	2	2	2	2	1	1	2	1	2	2	1	4	1	1	A	1	1	1.9	4.3
		2.5	2.5	2.5	1.9	1.9	2.2	2.4	2.9	2.1	1.8	1.8	1.9	1.8	1.8	2.0	2.1	2.2	2.9	4.3	3.0	3.0	2.9	2.7	2.4	Diurnal Average
		10.0	15.5	16.1	5.7	7.1	8.3	8.1	13.6	6.6	6.6	4.2	6.7	5.0	6.0	7.9	8.2	6.2	9.9	33.1	10.7	12.2	9.5	15.5	7.3	Diurnal Maximum
C - Calibration		D - DAS Failure						A - Automated Daily Zero Span																		

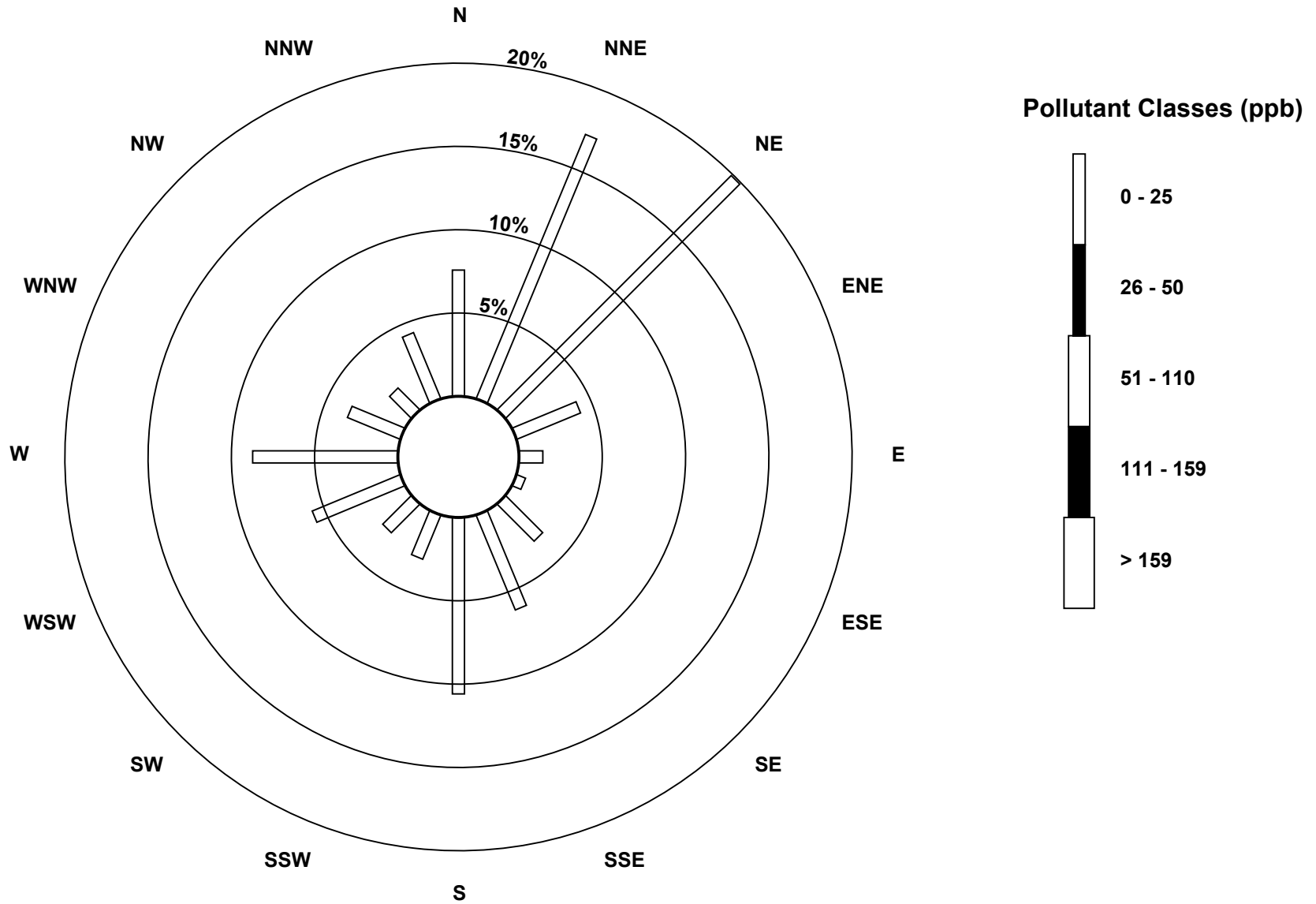
**Hourly Maximums**

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



**Pollutant Rose**

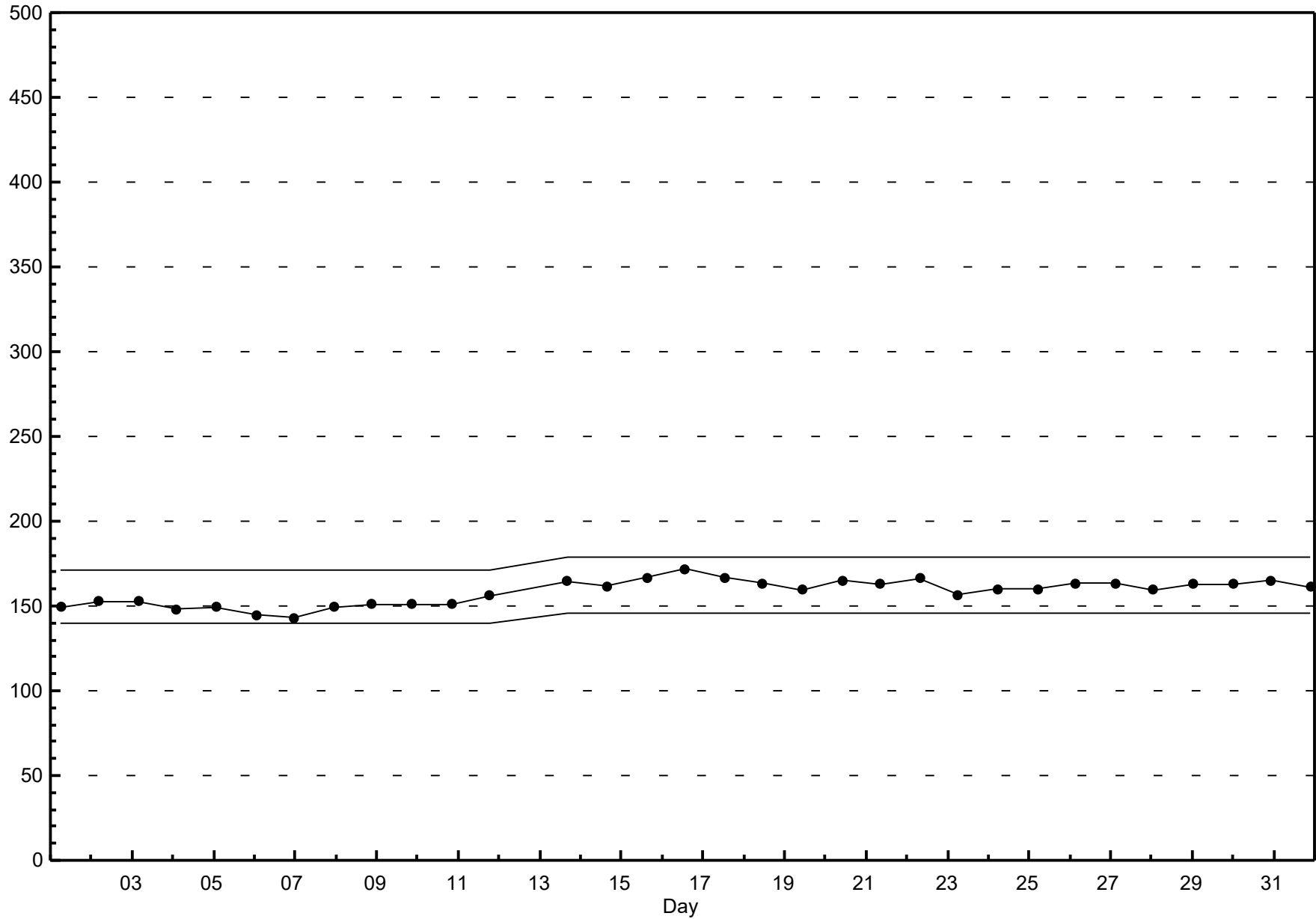
**Nitrogen Dioxide (NO<sub>2</sub>) - ppb**  
**Portable Rycroft - October 2016**





### Span Responses

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



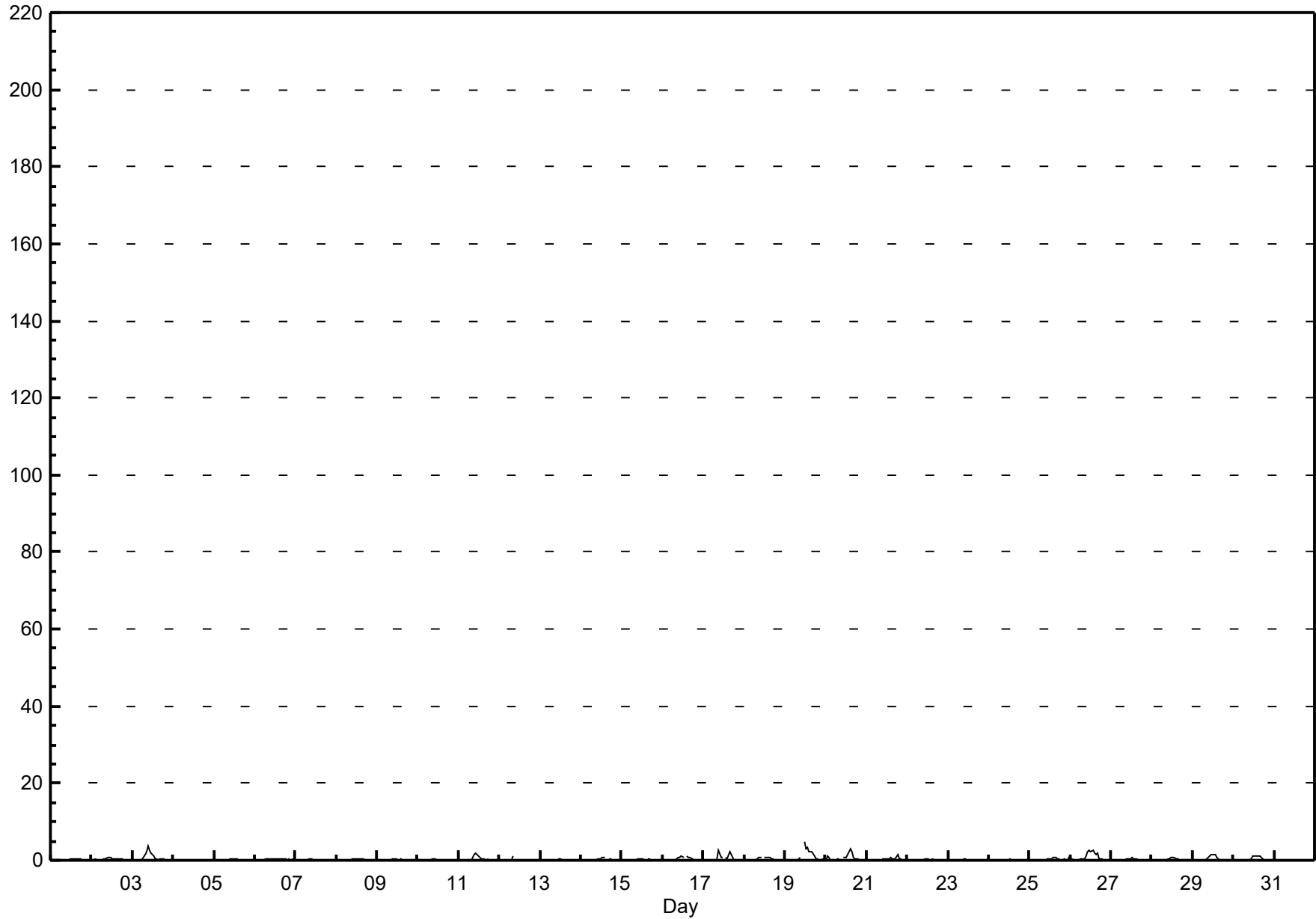
## Hourly Averages

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

Maximum Value: 5.0 ppb on Oct 19 12:00		Maximum Daily Average: 1.0 ppb on Oct 19		Hours in Service: 744																							
Minimum Value: 0 ppb on Oct 4 05:00		Minimum Daily Average: 0.1 ppb on Oct 24		Hours of Data: 699																							
Maximum Diurnal Average: 0.7 ppb at hour 12		Minimum Diurnal Average: 0.0 ppb at hour 6		Hours of Missing Data: 45																							
Monthly Average: 0.25 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> = 0.7 P <sub>99</sub> = 2.5		Hours of Calibration: 40																							
				Percent Operational Time: 99.3																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Oct	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.4	
2-Oct	0	0	0	0	A	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.7	
3-Oct	0	0	0	A	0	0	0	1	2	4	3	2	1	0	0	0	0	0	0	0	0	0	0	0	0.7	3.7	
4-Oct	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2	
5-Oct	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	
6-Oct	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	0.5	
7-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0.1	0.2	
8-Oct	0	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	
9-Oct	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	
10-Oct	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	
11-Oct	0	0	0	0	0	0	0	0	1	1	2	1	1	0	0	0	0	0	A	0	0	0	0	0	0.3	1.7	
12-Oct	0	0	0	0	0	0	0	0	1	C	C	C	C	C	C	C	C	D	D	D	D	0	0	0	--	1.0	
13-Oct	0	0	0	0	0	0	0	0	0	D	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0.1	0.2	
14-Oct	0	0	0	0	0	0	0	0	0	0	0	1	1	1	A	0	0	0	0	0	0	0	0	0	0.1	0.6	
15-Oct	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	
16-Oct	0	0	0	0	0	0	0	0	0	1	1	1	1	A	1	1	1	0	0	0	0	0	0	0	0.3	1.0	
17-Oct	0	0	0	0	0	0	0	0	0	2	1	1	A	1	1	2	1	1	0	0	0	0	0	0	0.4	2.5	
18-Oct	0	0	0	0	0	0	0	0	1	1	1	A	1	1	1	1	0	0	0	0	0	0	0	0	0.3	0.9	
19-Oct	0	0	0	0	0	0	0	0	0	1	A	5	3	3	2	2	1	0	0	0	0	0	0	0	1.0	5.0	
20-Oct	0	1	1	0	0	0	0	1	0	A	1	1	1	2	3	2	1	0	0	0	0	0	0	0	0.6	2.9	
21-Oct	0	0	0	0	0	0	0	0	A	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0.3	1.4	
22-Oct	0	0	0	0	0	0	0	A	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0.1	0.5	
23-Oct	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2	
24-Oct	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	
25-Oct	0	0	0	0	A	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	0.2	0.9	
26-Oct	0	0	0	A	0	0	0	0	0	1	2	3	2	3	2	1	2	1	0	0	0	0	0	0	0.8	2.6	
27-Oct	0	0	A	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0.1	0.7	
28-Oct	0	A	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0.2	0.7	
29-Oct	A	0	0	0	0	0	0	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0.4	1.4	
30-Oct	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	0	0	0	0	0	0	A	0.3	1.2	
31-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.1	0.2	
		0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.3	0.6	0.6	0.7	0.6	0.6	0.5	0.4	0.2	0.2	0.1	0.1	0.1	0.1	0.1	Diurnal Average		
		0.4	1.1	0.6	0.1	0.1	0.1	0.5	1.4	2.3	3.7	2.8	5.0	3.1	3.4	2.9	2.4	2.1	1.0	1.4	0.3	0.2	0.1	0.4	0.8	Diurnal Maximum	
C - Calibration		D - DAS Failure					A - Automated Daily Zero Span																				

**Hourly Averages**

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



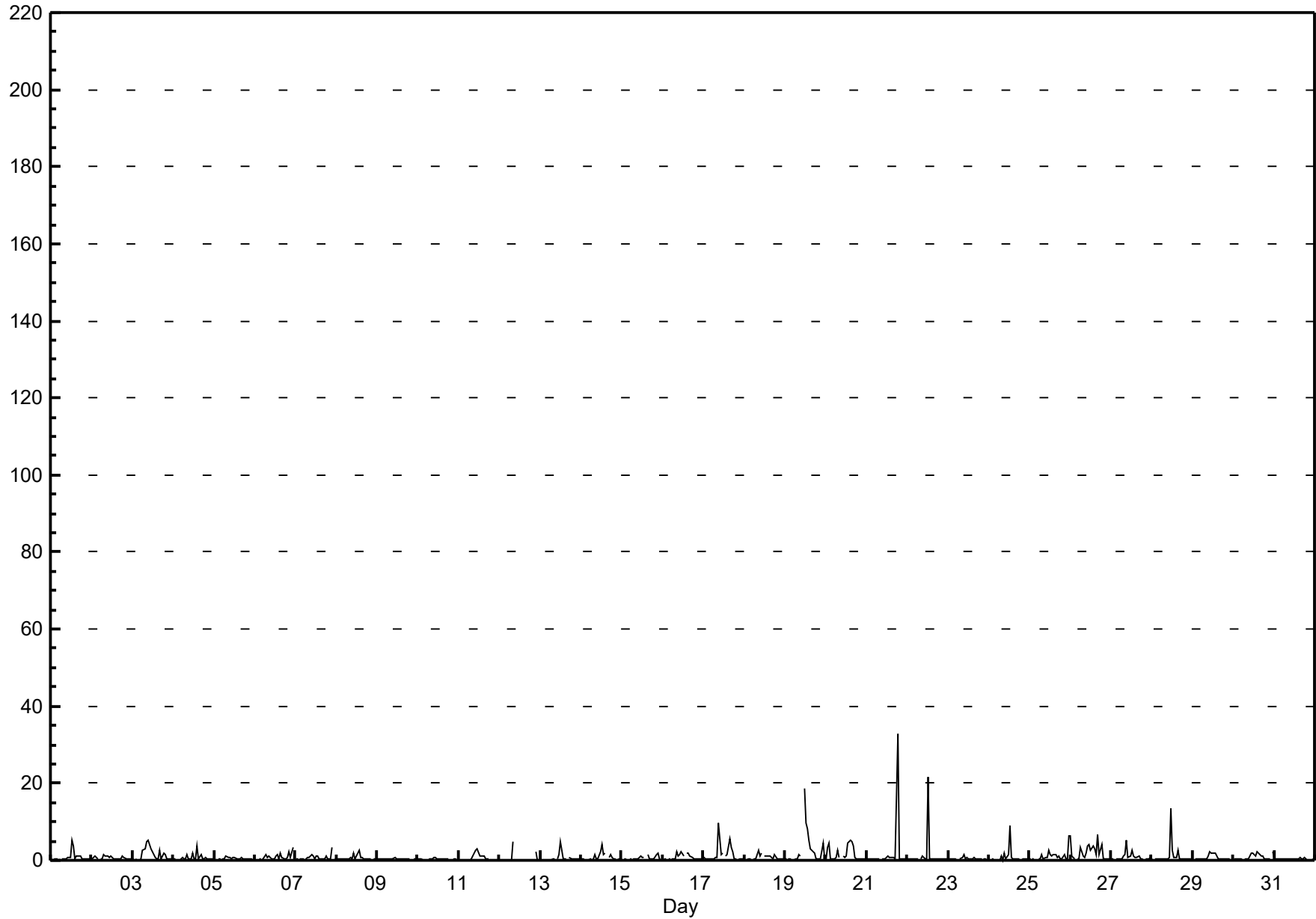
## Hourly Maximums

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

Maximum Value: 32.9 ppb on Oct 21 19:00		Maximum Daily Average: 2.6 ppb on Oct 19		Hours in Service: 744																						
Minimum Value: 0 ppb on Oct 12 04:00		Minimum Daily Average: 0.3 ppb on Oct 10		Hours of Data: 699																						
Maximum Diurnal Average: 2.8 ppb at hour 13		Minimum Diurnal Average: 0.2 ppb at hour 5		Hours of Missing Data: 45																						
Monthly Average: 0.90 ppb		Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.2 Q <sub>1</sub> = 0.2 Median = 0.3 Q <sub>3</sub> = 0.9 P <sub>90</sub> = 1.9 P <sub>99</sub> = 8.5		Hours of Calibration: 40																						
				Percent Operational Time: 99.3																						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Oct	0	0	0	0	0	A	0	0	0	0	1	1	5	4	0	1	1	1	0	0	0	0	0	0	0.8	5.3
2-Oct	0	1	1	0	A	0	0	1	1	1	1	1	1	0	1	0	0	0	1	1	0	0	0	0	0.6	1.4
3-Oct	0	0	0	A	0	0	3	3	5	5	4	3	1	1	1	0	2	0	2	1	0	0	0	0	1.5	5.3
4-Oct	0	0	A	0	0	1	0	0	2	0	0	2	0	0	4	0	1	0	0	1	0	0	0	0	0.6	3.7
5-Oct	0	A	0	0	0	0	0	1	1	1	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0.4	1.0
6-Oct	A	0	0	0	0	0	2	1	1	1	1	1	2	1	2	1	0	0	1	2	1	3	A	0.9	3.3	
7-Oct	0	0	0	0	0	0	0	1	1	1	1	0	1	1	0	0	1	0	1	0	0	3	A	0	0.6	3.2
8-Oct	0	0	0	0	0	0	0	0	1	0	2	1	1	3	1	1	1	0	0	0	0	A	0	0	0.6	2.5
9-Oct	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	A	0	0	0	0.3	0.6
10-Oct	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	A	0	0	0	0	0.3	0.8
11-Oct	0	0	0	0	0	0	0	1	1	2	3	3	1	1	1	0	0	A	0	0	0	0	0	0	0.7	2.9
12-Oct	0	0	0	0	0	0	0	0	5	C	C	C	C	C	C	C	C	D	D	D	D	2	0	0	--	4.8
13-Oct	0	0	0	0	0	0	0	0	1	D	0	1	5	0	0	0	A	1	0	0	1	0	0	0	0.6	4.9
14-Oct	0	0	0	0	0	0	0	0	1	0	1	2	4	2	2	A	1	2	1	0	0	0	0	0	0.8	4.3
15-Oct	0	0	0	0	0	0	0	1	0	0	1	1	1	1	A	1	0	0	0	0	2	2	0	0	0.5	1.9
16-Oct	0	0	0	0	0	0	0	0	2	1	2	2	1	A	2	2	1	1	1	0	0	0	0	0	0.7	2.1
17-Oct	1	0	0	0	0	0	0	1	1	10	2	2	A	1	2	5	3	2	0	0	0	0	0	0	1.4	9.6
18-Oct	0	0	0	0	0	0	0	0	2	1	2	A	1	1	1	1	1	1	2	0	0	0	0	0	0.7	2.5
19-Oct	0	0	0	0	0	0	0	0	1	1	A	19	10	8	5	3	3	2	1	0	0	0	4	0	2.6	18.8
20-Oct	0	3	5	0	0	0	1	2	1	A	1	1	1	5	5	5	4	1	0	0	0	0	0	0	1.6	5.0
21-Oct	0	0	0	0	0	0	0	0	A	1	1	1	1	1	1	1	1	1	33	1	0	0	0	0	1.9	32.9
22-Oct	0	0	0	0	0	0	0	A	0	1	0	0	21	0	0	0	0	0	0	0	0	0	0	0	1.3	21.5
23-Oct	0	0	0	0	0	0	A	0	1	2	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0.4	1.5
24-Oct	0	0	0	0	0	A	0	1	0	2	0	1	9	1	0	0	0	0	0	0	0	0	0	0	0.8	8.8
25-Oct	0	0	0	0	A	0	0	1	0	1	1	3	2	1	2	1	1	1	0	0	1	0	0	6	1.0	6.3
26-Oct	6	1	0	A	0	0	4	1	1	2	4	4	3	4	3	2	7	1	4	0	0	0	0	0	2.1	6.6
27-Oct	0	0	A	0	0	0	0	1	2	5	1	1	3	1	1	1	1	0	0	0	0	0	1	0.9	5.3	
28-Oct	0	A	0	0	0	0	0	1	0	0	1	13	2	1	1	3	0	0	0	0	0	0	0	0	1.1	13.3
29-Oct	A	0	0	0	0	0	0	0	0	1	2	2	2	2	1	0	0	0	0	0	0	0	0	0	0.7	2.2
30-Oct	0	0	0	0	0	0	0	0	0	0	2	2	2	1	2	1	1	1	1	0	0	0	A	2	0.8	2.4
31-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	A	0	0	0.3	0.9
		0.4	0.4	0.4	0.2	0.2	0.2	0.5	0.7	1.1	1.5	1.2	2.4	2.8	1.5	1.3	1.2	1.2	0.6	1.8	0.3	0.4	0.5	0.5	0.5	Diurnal Average
		6.3	3.5	4.6	0.4	0.3	0.8	3.5	2.9	5.0	9.6	4.2	18.8	21.5	8.3	5.4	5.5	6.6	2.2	32.9	1.3	2.3	3.2	4.4	6.3	Diurnal Maximum
C - Calibration		D - DAS Failure					A - Automated Daily Zero Span																			

### Hourly Maximums

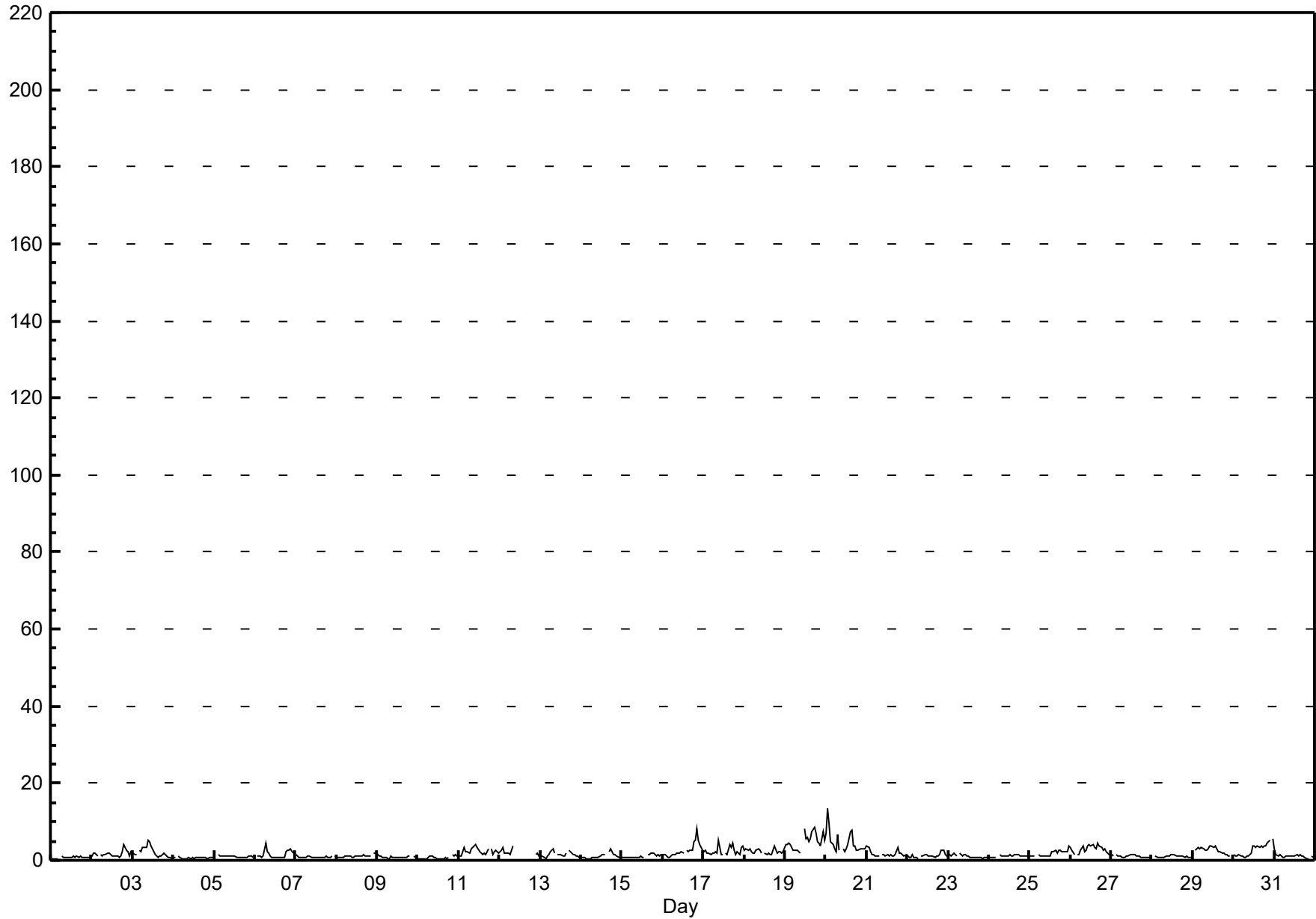
Nitrogen Oxide (NO) - ppb  
Portable Rycroft - October 2016



## Hourly Averages

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

Maximum Value: 13.4 ppb on Oct 20 02:00		Maximum Daily Average: 4.8 ppb on Oct 19		Hours in Service: 744																						
Minimum Value: 0 ppb on Oct 10 05:00		Minimum Daily Average: 0.6 ppb on Oct 4		Hours of Data: 699																						
Maximum Diurnal Average: 2.1 ppb at hour 19		Minimum Diurnal Average: 1.4 ppb at hour 6		Hours of Missing Data: 45																						
Monthly Average: 1.74 ppb		Percentiles: P <sub>1</sub> = 0.4 P <sub>10</sub> = 0.7 Q <sub>1</sub> = 0.9 Median = 1.2 Q <sub>3</sub> = 2.2 P <sub>90</sub> = 3.5 P <sub>99</sub> = 7.3		Hours of Calibration: 40																						
				Percent Operational Time: 99.3																						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Oct	0	0	0	0	0	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.2	
2-Oct	1	2	2	1	A	2	1	2	1	2	2	1	1	1	1	1	1	1	2	4	3	2	1	2	1.6	4.3
3-Oct	2	1	1	A	2	2	3	3	3	5	5	4	2	1	1	1	1	2	1	1	1	1	1	2.0	5.1	
4-Oct	1	1	A	1	1	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.6	1.0	
5-Oct	1	A	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.6	
6-Oct	A	1	1	1	1	1	5	2	2	1	1	1	1	1	1	1	1	2	3	3	3	2	A	1.5	4.5	
7-Oct	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	0.9	1.6	
8-Oct	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	2	1.1	2.0	
9-Oct	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	0.8	1.5	
10-Oct	1	0	0	0	0	1	1	1	1	1	1	0	0	0	0	1	1	0	1	A	1	1	1	0.7	1.5	
11-Oct	1	1	2	3	2	2	2	3	3	4	4	3	2	2	2	2	1	3	A	3	1	2	3	2.4	4.2	
12-Oct	2	3	3	2	2	2	1	2	4	C	C	C	C	C	C	C	C	D	D	D	D	2	2	--	3.6	
13-Oct	1	1	1	1	1	2	2	3	2	D	1	1	1	1	1	2	A	3	2	1	1	1	1	1.4	2.8	
14-Oct	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	2	3	2	2	2	1	1	1.1	2.9	
15-Oct	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	2	1	2	2	2	2	1	1	1.0	1.9	
16-Oct	1	1	1	1	1	1	1	2	2	2	2	2	2	A	3	2	3	3	5	5	8	5	4	2.5	8.0	
17-Oct	2	3	2	2	2	2	2	2	2	5	2	1	A	2	1	4	3	4	2	2	2	2	3	2.4	5.1	
18-Oct	3	3	3	3	2	2	2	3	3	2	2	2	A	2	2	1	1	2	4	2	2	2	2	2.3	3.6	
19-Oct	4	4	4	4	3	3	3	3	2	2	A	8	5	6	5	6	7	9	7	5	5	4	7	4.8	8.5	
20-Oct	7	13	10	5	4	3	2	7	2	A	3	2	3	4	7	8	4	4	3	2	3	3	3	4.6	13.4	
21-Oct	4	3	2	2	1	1	1	1	A	2	1	1	1	1	2	1	1	1	4	2	2	1	1	1.7	3.8	
22-Oct	1	1	1	1	1	1	0	A	1	1	1	1	1	1	1	1	1	1	1	1	3	3	1	1.2	2.6	
23-Oct	1	1	1	2	1	1	A	2	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.9	
24-Oct	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1.1	1.7	
25-Oct	1	1	1	1	A	1	1	1	1	1	1	1	1	2	2	2	2	3	3	2	2	2	4	1.8	3.8	
26-Oct	3	3	2	A	2	1	2	4	2	3	4	4	4	4	4	3	4	4	3	2	3	2	2	2.9	4.5	
27-Oct	1	1	A	2	1	1	1	1	1	1	1	1	2	2	2	1	1	1	1	1	1	1	1	1.1	1.7	
28-Oct	1	A	1	1	1	1	1	1	1	1	1	2	1	2	1	1	1	1	1	1	1	1	1	1.0	1.6	
29-Oct	A	3	3	3	3	3	3	3	3	3	4	4	3	4	3	2	2	2	2	2	1	1	1	2.6	3.9	
30-Oct	2	1	1	1	1	1	1	1	1	1	2	4	4	3	4	3	4	4	4	4	4	5	5	2.6	5.6	
31-Oct	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	A	1	1.2	2.9	
		1.7	1.9	1.7	1.5	1.4	1.4	1.5	1.8	1.6	1.7	1.6	1.9	1.7	1.7	1.8	1.9	1.8	2.0	2.1	1.9	2.0	1.8	1.7	1.7	Diurnal Average
		7.1	13.4	9.8	4.8	4.0	3.2	4.5	6.7	3.6	5.1	4.8	8.1	5.4	6.1	7.3	7.8	7.5	8.5	7.1	5.1	8.0	5.3	7.4	5.6	Diurnal Maximum
C - Calibration		D - DAS Failure					A - Automated Daily Zero Span																			



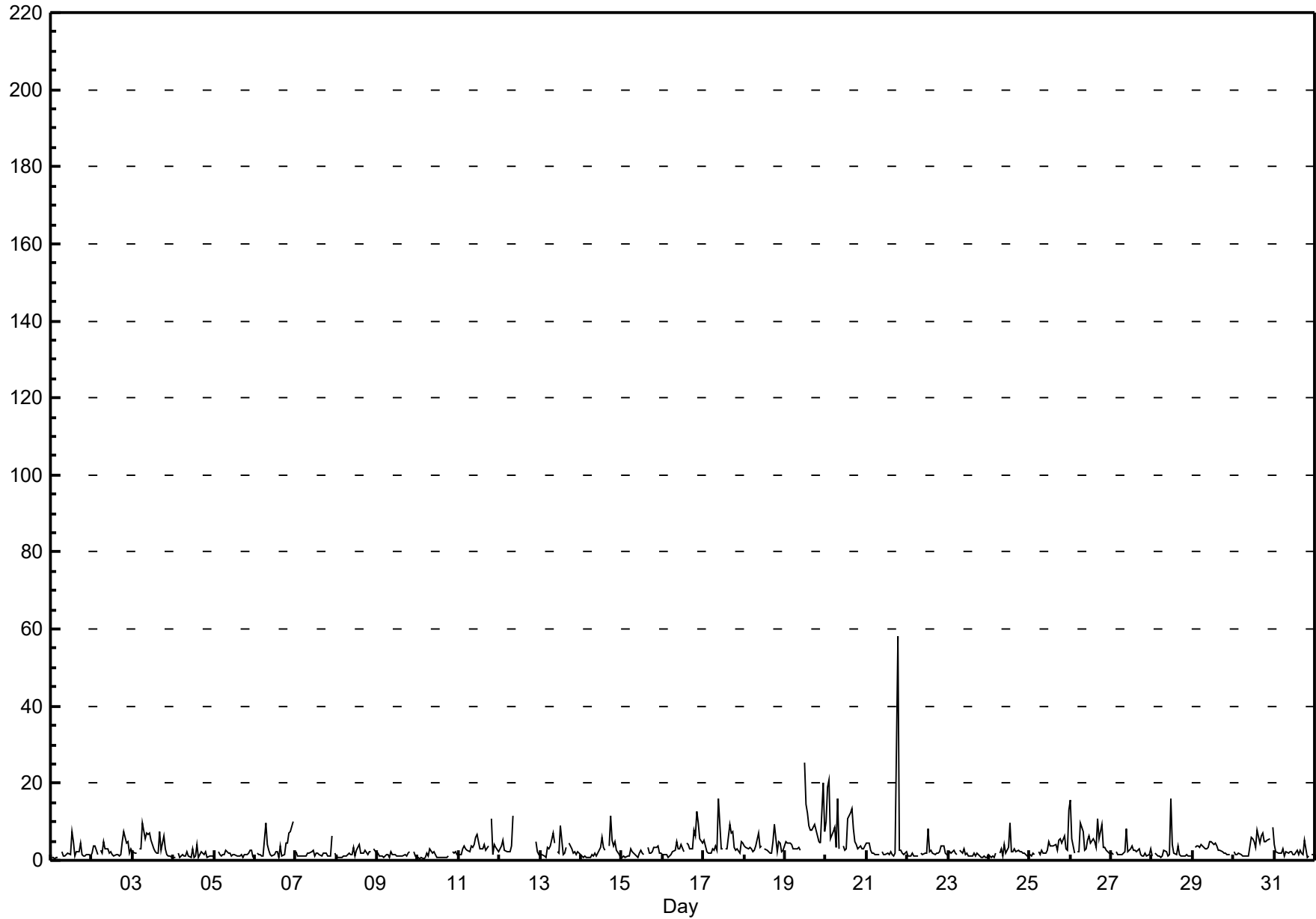
## Hourly Maximums

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

Portable Rycroft - October 2016

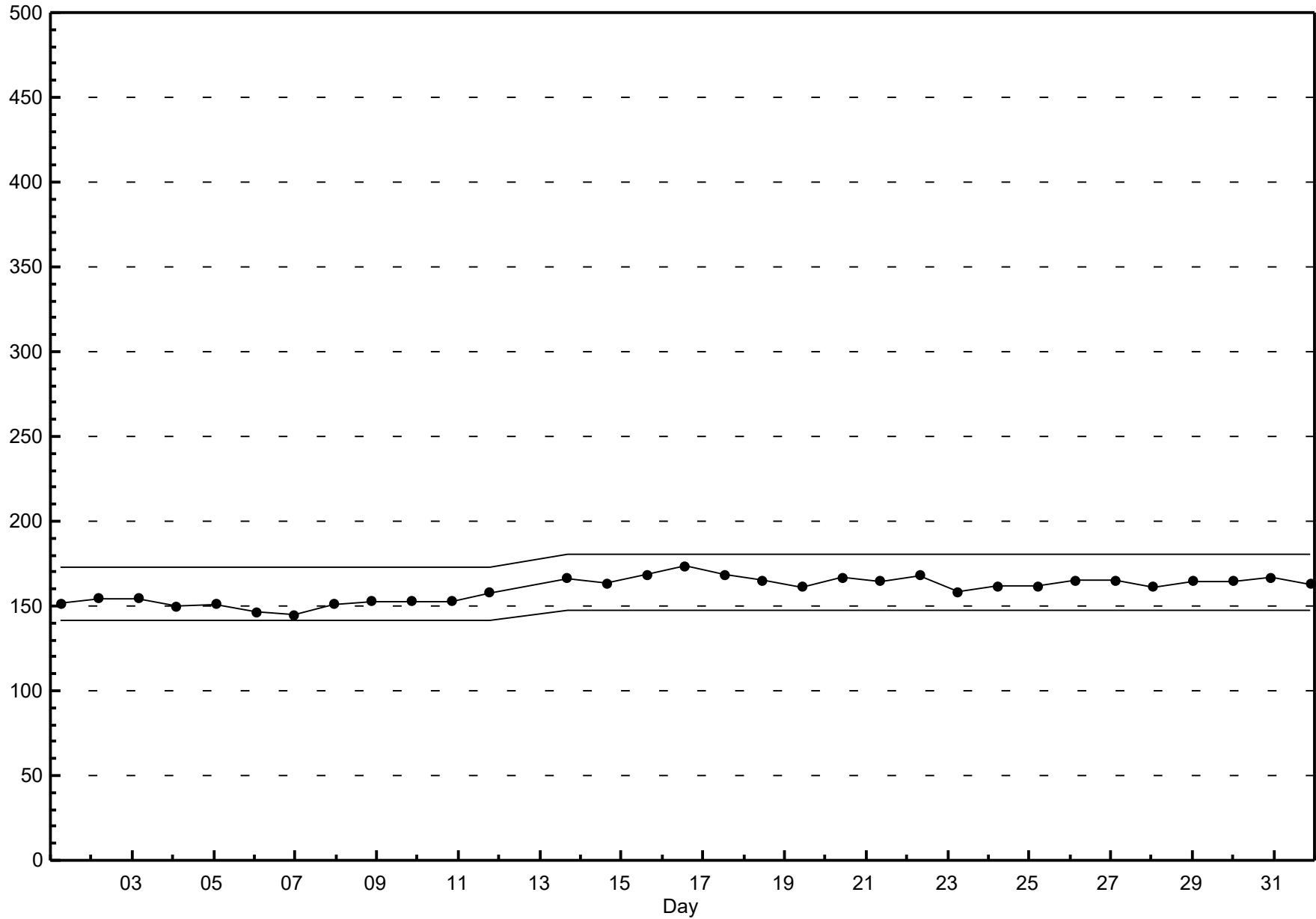
Maximum Value: 58.1 ppb on Oct 21 19:00		Maximum Daily Average: 7.6 ppb on Oct 19		Hours in Service: 744																							
Minimum Value: 0 ppb on Oct 10 02:00		Minimum Daily Average: 1.2 ppb on Oct 10		Hours of Data: 699																							
Maximum Diurnal Average: 5.6 ppb at hour 19		Minimum Diurnal Average: 1.9 ppb at hour 4		Hours of Missing Data: 45																							
Monthly Average: 3.08 ppb		Percentiles: P <sub>1</sub> = 0.6 P <sub>10</sub> = 1.0 Q <sub>1</sub> = 1.4 Median = 2.1 Q <sub>3</sub> = 3.5 P <sub>90</sub> = 5.8 P <sub>99</sub> = 16.0		Hours of Calibration: 40																							
				Percent Operational Time: 99.3																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Oct	1	1	1	1	1	A	2	1	1	2	2	7	5	1	2	2	4	2	1	1	1	2	1	1.9	7.5		
2-Oct	2	4	4	1	A	2	2	5	3	3	2	2	1	1	1	1	2	5	7	4	5	2	3	2.8	7.5		
3-Oct	2	2	2	A	3	3	10	5	7	7	7	5	3	2	2	2	7	2	6	3	1	1	1	3.7	9.6		
4-Oct	1	1	A	2	1	1	1	1	2	1	1	3	1	1	4	1	2	2	1	2	1	1	1	1.5	3.9		
5-Oct	1	A	2	1	1	1	1	3	2	2	1	2	2	1	1	1	2	1	1	2	2	3	3	1.6	2.7		
6-Oct	A	2	2	1	1	1	10	4	3	2	1	1	2	2	1	4	1	1	4	4	7	7	10	A	3.3	10.1	
7-Oct	2	1	1	1	1	1	1	2	2	2	3	1	2	2	2	1	2	2	2	1	1	6	A	2	1.8	6.5	
8-Oct	1	1	1	1	1	1	1	2	2	1	3	1	3	4	2	2	3	2	2	2	2	A	3	2	1.8	4.1	
9-Oct	2	1	1	1	1	1	2	1	2	1	1	1	1	1	1	2	2	1	2	2	A	2	1	1	1.4	2.4	
10-Oct	1	0	1	1	1	2	1	3	2	2	1	1	1	1	1	1	1	1	1	A	2	2	2	1	1.2	2.8	
11-Oct	1	1	3	4	3	3	2	4	3	4	6	7	3	3	3	4	3	4	A	11	2	4	3	2	3.6	10.9	
12-Oct	3	4	5	3	2	2	2	4	11	C	C	C	C	C	C	C	C	D	D	D	D	5	2	2	--	11.5	
13-Oct	2	1	1	1	4	3	4	7	5	D	2	2	9	2	2	3	A	4	3	2	2	2	2	2	2.9	8.8	
14-Oct	1	1	1	1	1	1	2	1	2	1	2	4	6	3	3	A	4	12	5	4	5	3	2	1	2.7	11.5	
15-Oct	1	1	1	1	1	3	2	2	2	1	2	3	2	2	A	4	2	2	2	3	3	4	2	2	2.0	3.8	
16-Oct	2	1	1	1	1	1	2	3	5	3	3	4	2	A	5	4	3	3	8	7	13	10	6	4	4.0	12.7	
17-Oct	5	4	2	2	2	3	3	4	3	16	3	3	A	3	3	9	7	7	3	3	3	2	5	5	4.3	16.1	
18-Oct	4	3	3	3	3	2	3	4	7	3	4	A	3	3	2	2	5	9	2	5	5	2	3	3	3.5	9.4	
19-Oct	5	5	5	4	4	3	3	3	3	3	A	25	15	12	9	8	8	9	8	6	5	4	20	8	7.6	25.5	
20-Oct	10	19	21	6	8	9	3	16	3	A	4	3	3	11	12	13	8	5	4	3	4	3	3	4	7.6	20.9	
21-Oct	4	4	3	2	2	1	1	1	A	2	2	1	2	2	2	1	1	2	58	3	2	2	2	2	4.5	58.1	
22-Oct	1	1	1	2	1	1	1	A	2	2	2	2	8	2	3	2	1	2	2	2	4	4	2	1	2.1	8.3	
23-Oct	1	2	2	3	2	2	A	3	2	3	2	2	1	1	1	2	1	2	1	1	1	1	1	1	1.6	2.9	
24-Oct	1	1	1	1	2	A	2	3	1	4	2	3	10	2	2	3	2	2	2	2	2	2	1	1	2.4	9.6	
25-Oct	1	1	2	1	A	2	1	3	2	2	3	5	4	4	4	4	3	5	6	4	6	3	2	13	3.6	12.9	
26-Oct	16	6	2	A	2	2	10	8	3	3	5	6	4	6	5	3	11	6	9	3	3	3	2	2	5.2	15.8	
27-Oct	2	1	A	2	2	1	1	2	2	8	2	3	4	3	3	2	3	2	1	1	2	1	2	3	2.3	8.2	
28-Oct	1	A	2	1	1	1	1	3	2	1	2	16	4	2	1	4	1	1	1	1	1	1	1	1	2.2	15.9	
29-Oct	A	3	4	4	3	4	3	3	3	4	5	5	4	4	4	3	3	2	2	2	2	2	1	A	3.1	4.9	
30-Oct	2	2	1	2	1	1	1	1	1	1	6	5	5	3	8	5	6	7	5	5	5	6	A	9	3.9	8.7	
31-Oct	4	2	2	2	2	3	1	2	2	2	2	2	1	3	2	3	2	2	5	1	1	A	1	1	2.1	5.3	
		2.8	2.7	2.6	1.9	1.9	2.2	2.7	3.4	3.0	3.1	2.8	4.1	3.9	3.1	3.1	3.3	3.2	3.4	5.6	3.1	3.2	3.2	3.0	2.7	Diurnal Average	
		15.8	18.9	20.9	5.7	7.5	8.7	9.8	16.2	11.5	16.1	7.1	25.5	14.6	12.2	12.4	13.3	10.9	11.5	58.1	10.9	12.7	9.6	20.3	12.9	Diurnal Maximum	
C - Calibration		D - DAS Failure						A - Automated Daily Zero Span																			





### Span Responses

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



## Hourly Averages

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

Portable Rycroft - October 2016

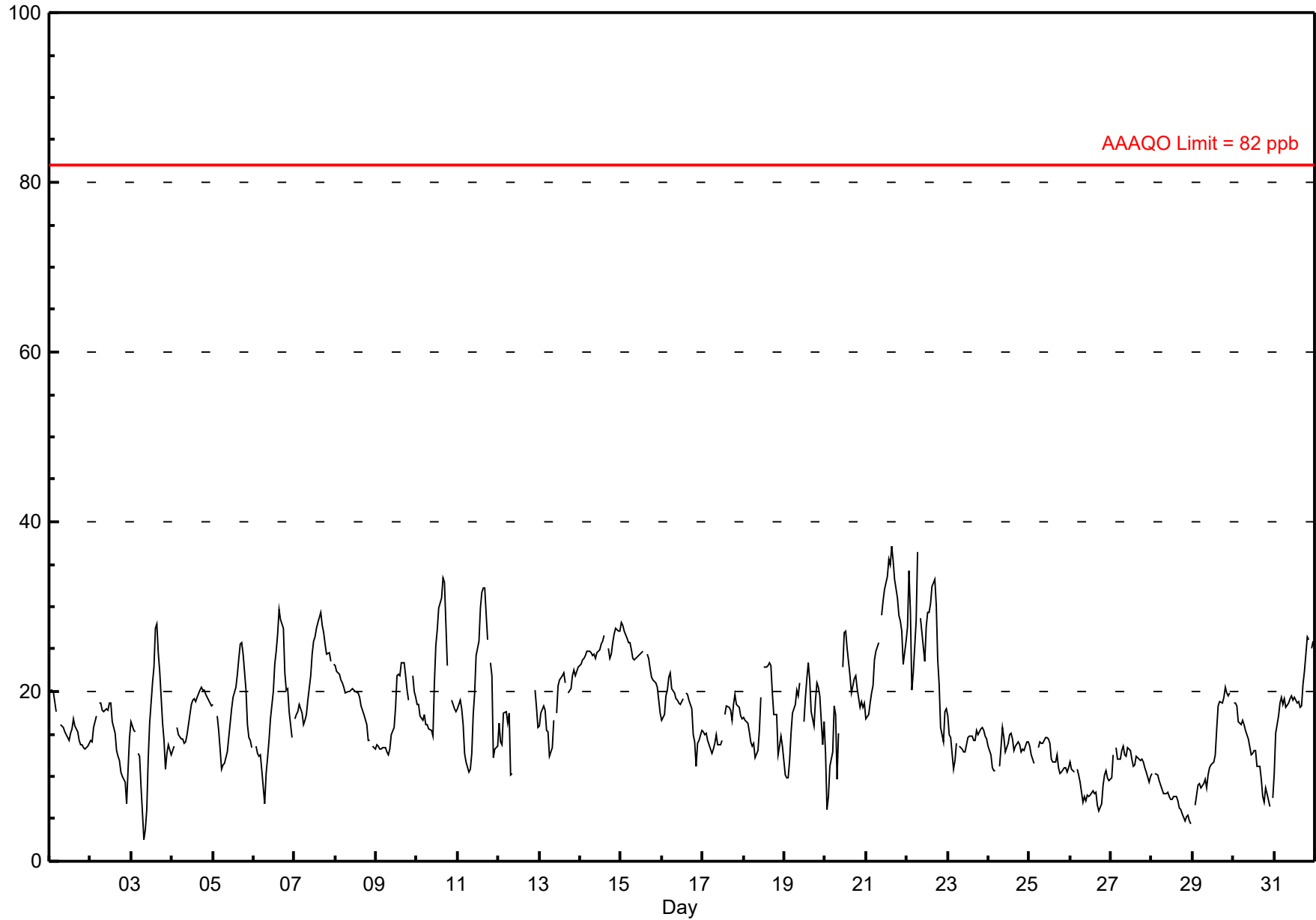
Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 37.1 ppb on Oct 21 16:00	Maximum Daily Average: 27.5 ppb on Oct 21		Hours of Data:	699
Minimum Value: 3 ppb on Oct 3 08:00	Minimum Daily Average: 7.4 ppb on Oct 28		Hours of Missing Data:	45
Maximum Diurnal Average: 20.6 ppb at hour 16	Minimum Diurnal Average: 14.5 ppb at hour 8		Hours of Calibration:	40
Monthly Average: 17.30 ppb	Percentiles: P <sub>1</sub> = 5.6 P <sub>10</sub> = 10.2 Q <sub>1</sub> = 13.1 Median = 16.7 Q <sub>3</sub> = 20.7 P <sub>90</sub> = 25.8 P <sub>99</sub> = 33.1		Percent Operational Time:	99.3

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																								
1-Oct	20	20	20	19	18	A	16	16	16	15	15	14	15	16	17	16	15	14	14	14	13	13	14	14	15.8	20.2																						
2-Oct	14	14	16	17	A	19	19	18	18	18	18	19	19	16	15	13	12	12	11	10	9	7	11	14	14.7	18.7																						
3-Oct	16	16	15	A	13	12	9	3	4	6	12	16	21	23	27	28	25	22	16	14	11	13	14	13	15.1	28.0																						
4-Oct	13	14	A	16	15	14	14	14	14	15	17	18	19	19	19	19	20	20	20	20	20	19	19	18	17.3	20.5																						
5-Oct	18	A	17	15	13	11	11	12	13	15	16	18	19	21	22	24	26	26	24	20	16	15	14	13	17.4	25.8																						
6-Oct	A	14	13	12	13	11	7	10	12	14	17	20	23	25	27	30	28	27	22	20	20	18	15	A	18.1	29.6																						
7-Oct	17	17	18	18	18	16	17	17	19	22	24	26	26	27	28	29	28	27	26	24	25	23	A	23	22.5	29.3																						
8-Oct	23	22	22	21	21	21	20	20	20	20	20	20	20	19	18	18	17	16	14	14	A	14	13	18.9	23.1																							
9-Oct	14	14	13	13	13	13	13	13	13	15	16	18	22	22	22	23	23	22	20	19	A	22	20	19	17.5	23.5																						
10-Oct	18	19	17	17	17	16	16	16	15	15	21	25	27	30	31	33	33	28	23	A	19	19	18	18	21.3	33.4																						
11-Oct	18	19	18	16	13	12	10	11	13	17	20	24	26	30	32	32	32	26	A	23	22	12	13	13	19.7	32.2																						
12-Oct	16	14	14	18	18	16	17	10	10	C	C	C	C	C	C	C	C	D	D	D	D	20	18	16	--	20.1																						
13-Oct	16	17	18	18	15	15	12	13	17	D	17	21	21	22	22	21	A	20	20	22	23	22	22	23	19.0	22.9																						
14-Oct	23	24	24	24	25	25	24	24	24	24	25	25	26	26	27	A	25	24	24	26	27	27	27	27	25.1	27.5																						
15-Oct	28	28	27	26	26	26	25	24	24	24	24	24	25	25	A	24	24	23	22	21	21	20	19	18	23.8	28.1																						
16-Oct	17	17	19	20	22	22	20	20	19	19	19	18	19	A	20	20	19	18	15	14	11	14	14	15	17.9	22.1																						
17-Oct	15	15	15	14	13	13	13	14	15	14	14	14	A	17	18	18	18	17	18	20	18	18	17	17	15.9	19.6																						
18-Oct	17	17	16	15	14	13	14	12	13	15	19	A	23	23	23	23	23	20	17	17	13	14	15	14	17.0	23.4																						
19-Oct	10	10	10	12	15	17	18	20	20	21	A	16	19	21	23	21	18	16	19	21	20	19	14	16	17.3	23.4																						
20-Oct	13	6	8	11	13	18	17	10	15	A	23	27	27	25	22	20	21	21	22	20	18	19	18	19	17.9	27.1																						
21-Oct	17	17	19	20	21	24	25	26	A	29	31	32	33	36	35	37	35	33	31	29	28	27	23	26	27.5	37.1																						
22-Oct	28	34	29	20	22	28	36	A	29	27	24	28	29	29	30	32	33	30	24	21	16	14	18	18	26.1	36.4																						
23-Oct	17	15	15	11	12	14	A	14	13	13	13	14	15	15	15	14	14	15	15	16	16	15	15	14	14.3	17.1																						
24-Oct	14	12	11	11	11	A	11	13	16	15	13	14	15	15	14	13	14	14	14	13	13	13	14	14	13.3	15.8																						
25-Oct	14	12	12	11	A	13	14	14	14	15	15	14	14	12	12	12	12	11	10	11	11	11	11	11	12.4	14.7																						
26-Oct	12	11	10	A	11	10	9	7	8	7	8	8	8	8	8	8	7	6	7	9	10	11	10	9	8.7	11.7																						
27-Oct	10	13	A	13	12	12	13	14	12	12	13	13	12	11	11	12	12	12	12	12	11	11	9	10	11.9	13.6																						
28-Oct	10	A	10	10	10	9	9	8	8	8	8	7	7	8	8	7	6	6	6	5	5	5	5	4	7.4	10.4																						
29-Oct	A	7	8	9	9	9	9	10	9	10	11	11	12	12	16	18	19	19	19	21	20	20	20	A	13.4	20.6																						
30-Oct	19	19	18	16	16	17	16	15	15	14	13	13	13	13	11	11	10	8	7	9	8	6	A	7	12.8	18.7																						
31-Oct	10	15	17	19	19	18	19	18	19	19	19	19	19	19	19	18	18	21	22	26	26	A	25	26	19.7	26.4																						
																								16.5	16.2	16.2	16.0	15.7	16.0	15.9	14.5	15.2	16.4	17.4	18.6	19.8	20.2	20.4	20.6	20.3	19.2	17.8	17.6	16.7	16.1	16.0	16.0	Diurnal Average
																								28.1	34.3	29.4	26.3	25.7	28.3	36.4	25.8	28.7	29.0	30.7	32.0	33.5	35.6	34.9	37.1	35.5	33.2	31.0	28.9	28.3	27.5	27.1	27.2	Diurnal Maximum

C - Calibration      D - DAS 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**  
**Portable Rycroft - October 2016**



# Hourly Maximums

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

Portable Rycroft - October 2016

Maximum Value: 41.8 ppb on Oct 22 07:00	Maximum Daily Average: 29.9 ppb on Oct 22	Hours in Service: 744
Minimum Value: 3 ppb on Oct 3 08:00	Minimum Daily Average: 8.0 ppb on Oct 28	Hours of Data: 699
Maximum Diurnal Average: 21.9 ppb at hour 16	Minimum Diurnal Average: 15.8 ppb at hour 8	Hours of Missing Data: 45
Monthly Average: 18.76 ppb	Percentiles: P <sub>1</sub> = 6.1 P <sub>10</sub> = 11.4 Q <sub>1</sub> = 14.4 Median = 18.4 Q <sub>3</sub> = 22.5 P <sub>90</sub> = 27.1 P <sub>99</sub> = 36.7	Hours of Calibration: 40
		Percent Operational Time: 99.3

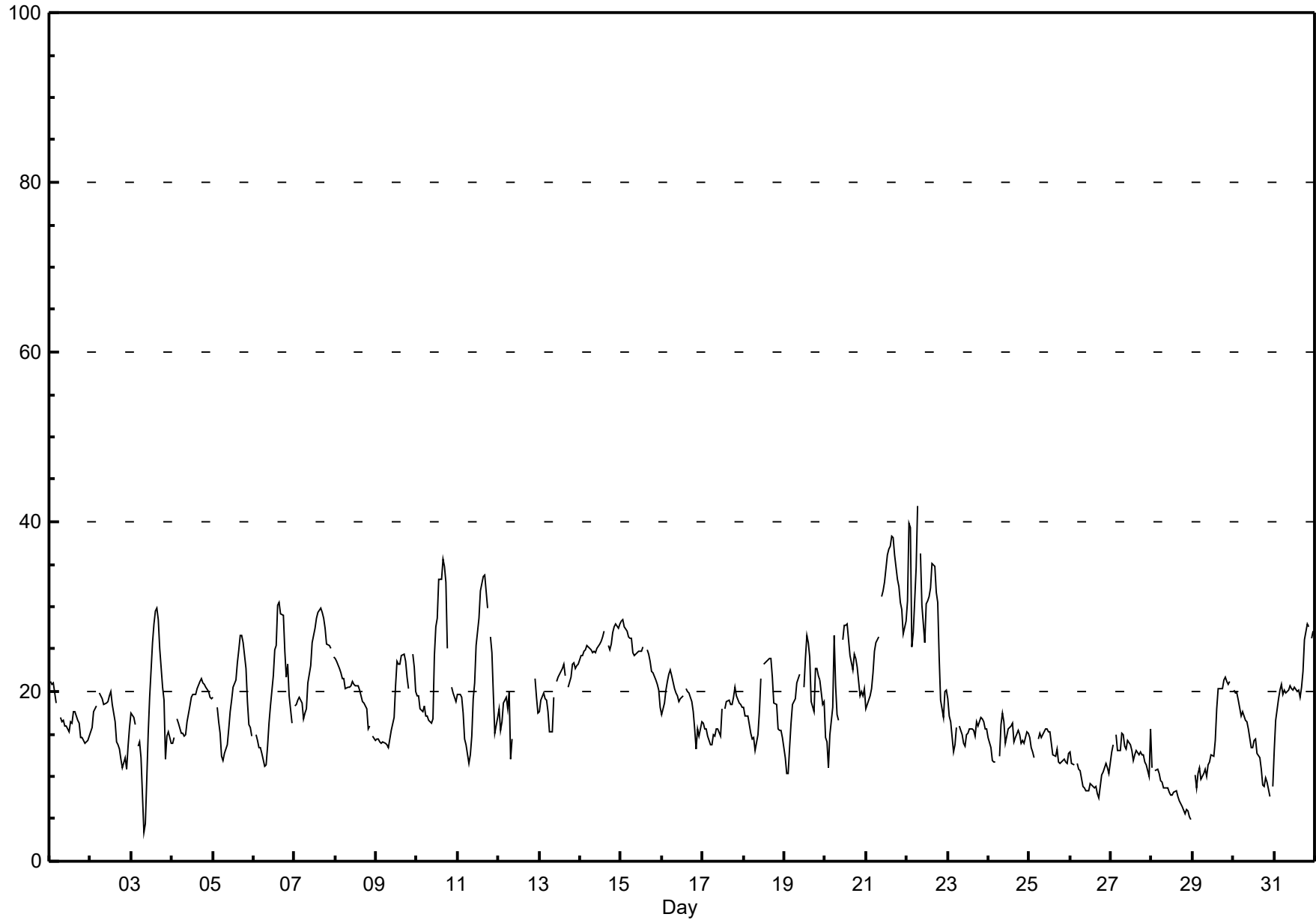
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Oct	21	21	21	20	19	A	17	16	17	16	16	15	16	16	18	18	17	16	15	15	14	14	14	15	16.8	21.1
2-Oct	15	16	18	18	A	20	20	19	19	19	19	19	20	18	16	14	14	13	12	11	12	11	14	16	16.2	19.9
3-Oct	18	17	16	A	14	14	12	3	4	10	15	19	26	28	29	30	28	25	21	19	12	15	15	14	17.6	29.8
4-Oct	14	15	A	17	16	15	15	15	15	17	18	19	20	20	20	20	21	21	21	21	21	20	19	19	18.2	21.5
5-Oct	19	A	18	16	15	12	12	13	14	16	18	19	20	21	23	25	27	27	26	23	19	16	16	15	18.7	26.6
6-Oct	A	15	14	13	13	13	11	11	13	16	18	22	25	25	30	31	29	29	25	22	23	19	16	A	19.8	30.6
7-Oct	18	18	19	19	19	17	17	18	21	23	26	27	28	29	29	30	29	29	27	26	25	25	A	24	23.6	29.9
8-Oct	24	24	23	22	21	22	20	21	20	21	21	21	21	21	20	20	19	19	18	16	A	15	14	19.8	23.9	
9-Oct	14	14	14	14	14	14	14	13	14	15	17	21	24	23	23	24	24	24	22	20	A	24	23	20	18.7	24.5
10-Oct	20	19	18	18	18	17	17	17	16	17	24	28	29	33	33	36	35	33	25	A	21	20	19	19	23.1	35.6
11-Oct	20	20	19	17	14	14	12	13	15	19	21	25	29	32	33	34	34	30	A	26	25	20	15	17	21.8	33.8
12-Oct	18	15	16	19	19	18	20	12	14	C	C	C	C	C	C	C	C	D	D	D	D	21	19	17	--	21.5
13-Oct	18	19	20	19	19	18	15	15	19	D	21	22	22	23	23	22	A	21	D	22	23	23	23	23	20.6	23.4
14-Oct	24	24	25	25	25	25	25	25	25	25	25	26	26	26	27	A	25	25	26	27	28	28	28	28	25.7	28.0
15-Oct	28	28	28	27	26	26	26	25	24	25	25	25	25	25	A	25	24	24	22	22	21	21	20	18	24.4	28.5
16-Oct	17	19	20	21	22	23	22	20	20	19	19	19	19	A	20	20	20	19	18	16	13	16	15	16	18.8	22.6
17-Oct	16	16	16	15	14	14	15	15	16	16	15	18	A	18	19	19	19	19	19	20	20	19	18	18	17.0	20.5
18-Oct	18	17	17	16	15	14	15	13	15	18	22	A	23	23	24	24	24	22	19	18	16	15	15	15	18.2	23.9
19-Oct	12	10	10	13	16	18	19	21	22	22	A	21	24	27	26	24	19	18	23	23	22	21	18	19	19.5	26.6
20-Oct	15	14	11	15	18	27	21	17	17	A	26	28	28	28	24	23	23	24	24	23	20	20	19	20	21.0	27.9
21-Oct	18	19	20	20	22	25	26	26	A	31	32	33	36	37	37	38	38	36	33	32	31	30	27	28	29.3	38.3
22-Oct	31	40	39	25	27	35	42	A	36	30	26	30	31	31	32	35	35	32	30	24	19	17	20	20	29.9	41.8
23-Oct	19	17	16	13	14	16	A	16	15	14	14	15	15	16	16	15	15	16	16	17	17	16	16	16	15.6	19.1
24-Oct	15	13	12	12	12	A	12	16	18	16	14	16	16	16	16	14	15	15	15	14	14	14	15	15	14.5	17.5
25-Oct	15	13	13	12	A	14	15	15	15	16	16	15	15	14	12	12	13	12	12	12	12	12	11	13	13.4	15.6
26-Oct	13	12	11	A	12	11	11	9	9	8	8	8	9	9	9	9	8	8	10	10	11	12	11	10	9.9	12.8
27-Oct	13	14	A	15	13	13	15	15	14	13	14	14	13	12	13	13	13	13	12	12	11	10	16	13.1	15.5	
28-Oct	11	A	11	11	10	10	9	9	9	8	8	8	8	8	8	7	7	7	6	6	6	6	5	5	8.0	11.1
29-Oct	A	10	9	10	11	10	10	11	10	11	12	13	12	14	18	20	20	20	21	22	21	21	21	A	14.9	21.8
30-Oct	20	20	20	19	17	18	17	17	16	16	13	13	14	14	13	12	11	9	9	10	9	8	A	9	14.1	20.2
31-Oct	13	17	19	20	21	20	20	20	20	21	20	20	20	20	20	19	20	22	26	28	28	A	26	27	21.3	27.9

17.8	17.8	17.7	17.3	17.2	17.6	17.4	15.8	16.7	17.7	18.7	19.9	21.2	21.7	21.8	21.9	21.6	20.8	19.8	19.2	18.2	17.7	17.4	17.4	Diurnal Average	
30.8	39.8	39.3	27.0	27.0	34.5	41.8	26.4	36.3	31.2	31.8	32.8	36.1	36.8	37.1	38.3	38.1	36.0	33.3	32.4	30.5	29.7	27.5	28.3	Diurnal Maximum	

C - Calibration      D - DAS Failure      A - Automated Daily Zero Span

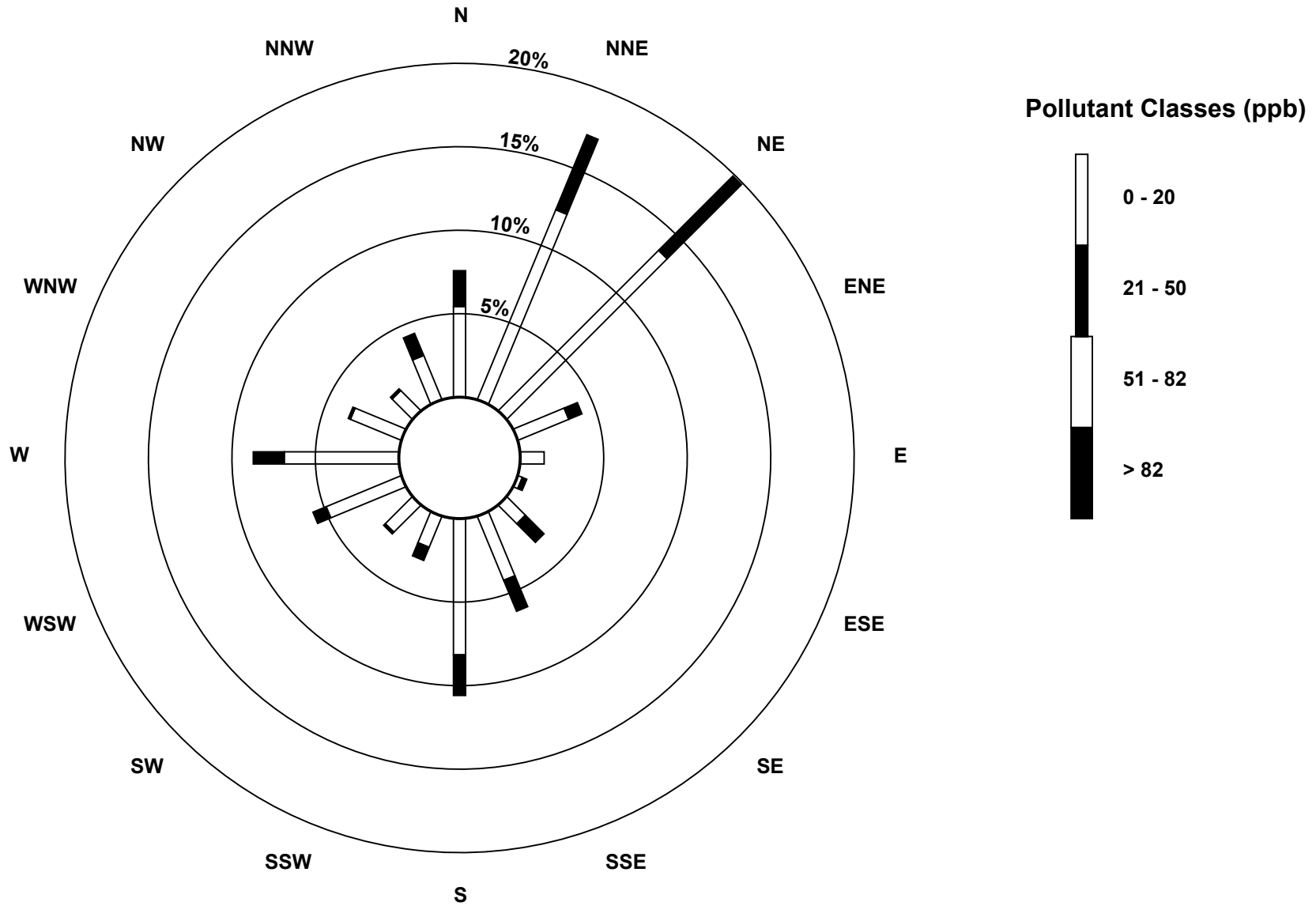
**Hourly Maximums**

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



**Pollutant Rose**

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



# Eight Hour Running Averages

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

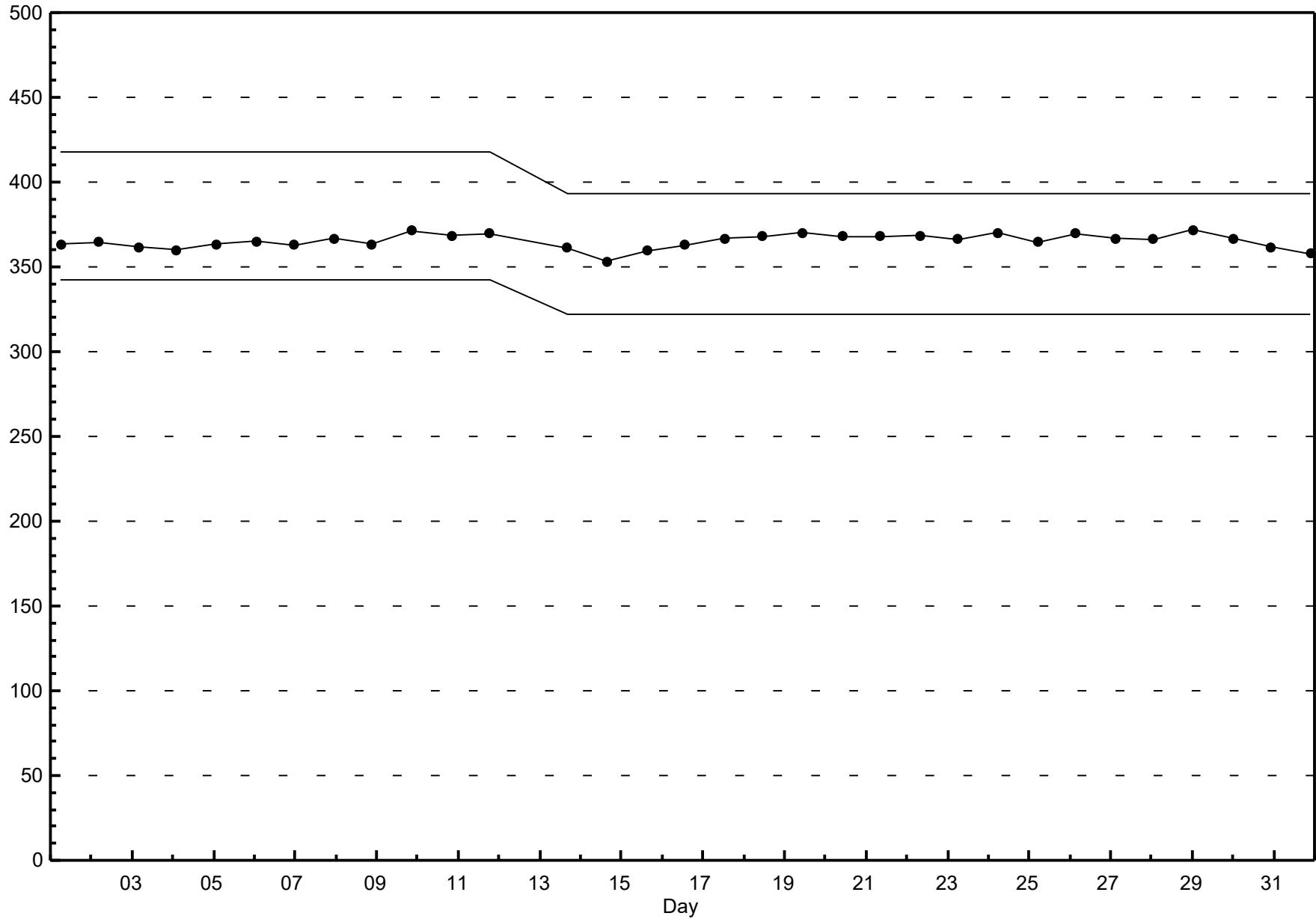
Portable Rycroft - October 2016

Maximum Value: 34.1 ppb on Oct 21 19:00																					Hours in Service:	744			
Minimum Value: 5.2 ppb on Oct 29 01:00																					Hours of Data:	729			
Percentiles: P <sub>1</sub> = 6.3 P <sub>10</sub> = 10.7 Q <sub>1</sub> = 13.5 Median = 16.9 Q <sub>3</sub> = 20.6 P <sub>90</sub> = 25.2 P <sub>99</sub> = 31.2																					Hours of Missing Data:	15			
																					Hours of Calibration:	13			
																					Percent Operational Time:	99.7			
Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Oct	22	21	21	20	20	20	19	18	18	17	16	16	15	15	15	15	15	15	15	15	15	15	14	14	21.7
2-Oct	14	14	14	14	15	15	16	17	17	18	18	18	18	18	18	17	16	16	15	14	12	11	11	11	18.2
3-Oct	11	12	12	13	13	14	14	12	10	9	8	9	10	12	14	17	20	22	22	22	21	20	18	16	22.4
4-Oct	14	13	13	13	14	14	14	14	14	15	15	15	16	16	17	18	18	19	19	20	20	20	20	20	19.7
5-Oct	19	19	19	18	17	16	15	14	13	13	13	14	14	16	17	18	20	21	22	23	22	22	21	19	22.7
6-Oct	18	17	15	14	13	13	12	11	11	11	12	13	14	16	19	21	23	25	25	25	25	24	23	22	25.3
7-Oct	20	18	18	18	17	17	17	17	17	18	19	20	21	22	24	25	26	27	27	27	27	26	26	25	27.2
8-Oct	25	24	23	23	22	22	22	21	21	20	20	20	20	20	20	19	19	19	18	17	17	16	15	24.5	
9-Oct	15	14	14	14	13	13	13	13	13	13	14	14	15	16	18	19	20	21	22	22	22	21	21	21	21.7
10-Oct	20	20	19	19	19	18	17	17	17	16	17	18	19	21	23	25	27	29	29	29	28	27	25	22	29.4
11-Oct	20	19	18	18	17	16	15	15	14	14	14	15	17	19	22	24	27	28	29	29	28	26	23	20	28.9
12-Oct	18	16	16	15	15	15	16	15	15	15	15	N	N	N	N	N	N	N	N	N	N	N	N	N	18.0
13-Oct	N	N	18	18	17	17	16	16	16	16	15	16	17	18	19	20	21	21	21	21	21	21	21	22	21.7
14-Oct	22	22	23	23	23	24	24	24	24	24	24	24	25	25	25	25	25	25	25	25	25	26	26	26	25.9
15-Oct	26	27	27	27	27	27	27	26	26	25	25	25	24	24	24	24	24	24	24	23	23	22	22	21	27.2
16-Oct	20	19	19	19	19	19	19	20	20	20	20	20	20	19	19	19	19	19	18	18	17	16	16	15	20.2
17-Oct	15	14	14	14	15	14	14	14	14	14	14	14	14	14	15	16	16	17	17	18	18	18	18	18	18.2
18-Oct	18	18	17	17	16	16	15	15	14	14	15	14	16	17	18	20	21	22	22	21	20	19	18	17	22.1
19-Oct	15	14	13	12	12	13	13	14	15	17	18	18	19	19	20	20	20	19	19	20	20	19	18	18	20.3
20-Oct	17	16	15	13	12	12	13	12	12	13	15	18	20	21	21	23	23	23	23	23	22	21	20	20	23.5
21-Oct	19	19	18	18	19	19	20	21	22	23	25	27	28	30	32	33	34	34	34	34	33	32	31	29	34.1
22-Oct	28	28	28	27	26	26	28	28	28	27	27	28	29	29	28	29	29	29	29	29	27	25	23	22	29.5
23-Oct	20	18	17	15	15	15	14	14	13	13	13	13	14	14	14	14	14	14	15	15	15	15	15	15	19.7
24-Oct	15	15	14	14	13	13	12	12	12	12	13	13	14	14	14	14	14	14	14	14	14	13	14	14	15.0
25-Oct	14	13	13	13	13	13	13	13	13	13	14	14	14	14	14	13	13	13	12	12	11	11	11	11	14.1
26-Oct	11	11	11	11	11	11	11	10	9	9	9	8	8	8	8	8	8	8	7	8	8	8	9	10.9	
27-Oct	9	10	10	11	11	11	12	12	13	13	13	13	13	13	12	12	12	12	12	12	12	11	11	11	12.8
28-Oct	11	11	10	10	10	10	10	9	9	9	8	8	8	8	8	7	7	7	7	6	6	6	5	10.8	
29-Oct	5	5	6	6	7	7	8	9	9	9	10	10	11	11	12	14	15	16	17	18	19	19	20	19.5	
30-Oct	19	19	19	19	18	18	17	17	17	16	15	15	14	14	13	13	12	11	11	10	10	9	8	8	19.5
31-Oct	8	9	10	12	14	15	16	17	18	19	19	19	19	19	19	19	19	19	20	21	22	22	24	23.6	
28.2 28.3 28.1 27.2 27.1 26.9 28.0 28.3 28.5 27.4 26.6 27.7 28.7 30.2 31.6 33.2 33.5 34.0 34.1 33.7 33.1 32.0 30.5 29.1																									
Diurnal Maximums																									
N - Not Valid																									



### Span Responses

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



## Hourly Averages

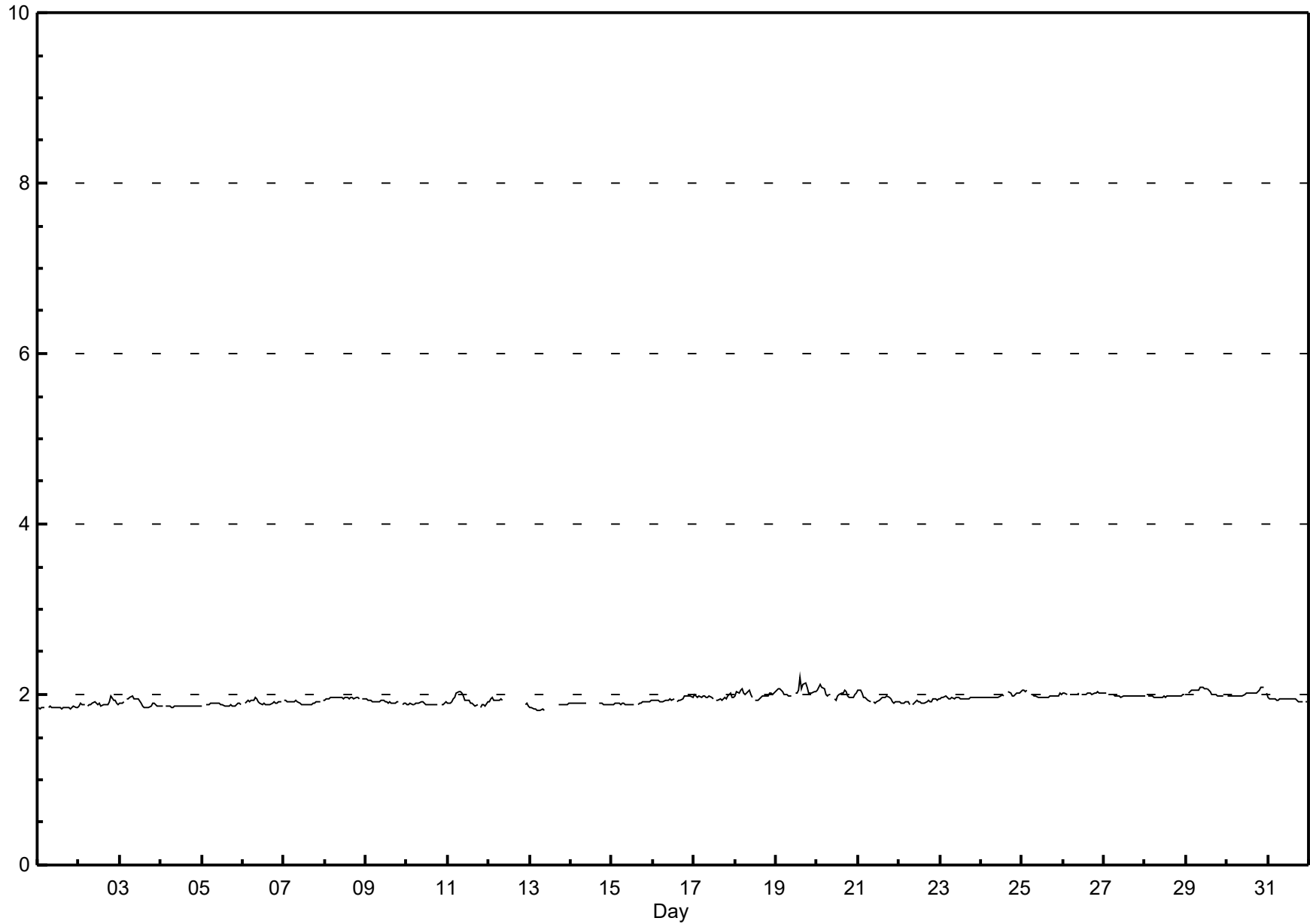
Total Hydrocarbons (THC) - ppm

Portable Rycroft - October 2016

Maximum Value: 2.21 ppm on Oct 19 15:00		Maximum Daily Average: 2.05 ppm on Oct 19		Hours in Service: 744																						
Minimum Value: 1.8 ppm on Oct 13 09:00		Minimum Daily Average: 1.85 ppm on Oct 1		Hours of Data: 688																						
Maximum Diurnal Average: 1.95 ppm at hour 2		Minimum Diurnal Average: 1.93 ppm at hour 16		Hours of Missing Data: 56																						
Monthly Average: 1.943 ppm		Percentiles: P <sub>1</sub> = 1.83 P <sub>10</sub> = 1.87 Q <sub>1</sub> = 1.89 Median = 1.94 Q <sub>3</sub> = 1.98 P <sub>90</sub> = 2.02 P <sub>99</sub> = 2.09		Hours of Calibration: 40																						
				Percent Operational Time: 97.9																						
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-Oct	1.8	1.8	1.8	1.8	1.9	A	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	1.9	1.8	1.9	1.85	1.86	
2-Oct	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	1.9	1.9	1.9	1.90	1.99	
3-Oct	1.9	1.9	1.9	A	1.9	1.9	2.0	2.0	2.0	1.9	2.0	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.9	1.9	1.9	1.9	1.9	1.90	1.98	
4-Oct	1.9	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.86	1.87	
5-Oct	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.88	1.91	
6-Oct	A	1.9	1.9	1.9	1.9	1.9	1.9	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.91	1.96	
7-Oct	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.91	1.93	
8-Oct	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	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	1.96	1.97	
9-Oct	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	1.92	1.94	
10-Oct	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	1.89	1.91	
11-Oct	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.8	1.9	1.9	1.9	1.9	1.93	2.03	
12-Oct	1.9	1.9	2.0	1.9	1.9	1.9	1.9	1.9	1.9	D	D	D	D	D	D	D	D	D	D	D	D	1.9	1.9	--	1.96	
13-Oct	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	D	C	C	C	C	C	C	A	1.9	1.9	1.9	1.9	1.9	1.9	--	1.89	
14-Oct	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	C	C	C	C	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.89	1.90	
15-Oct	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.90	1.93	
16-Oct	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	A	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	1.94	1.99	
17-Oct	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	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	1.97	2.01	
18-Oct	2.0	2.0	2.0	2.1	2.1	2.0	2.0	2.0	2.0	2.1	2.0	A	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.00	2.07	
19-Oct	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	2.1	2.2	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.05	2.21	
20-Oct	2.0	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	A	1.9	1.9	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.01	2.12	
21-Oct	2.1	2.0	2.0	2.0	2.0	1.9	1.9	1.9	A	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.95	2.05	
22-Oct	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.91	1.95	
23-Oct	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.96	1.98	
24-Oct	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	M	M	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.99	2.03	
25-Oct	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	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.99	2.05	
26-Oct	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	M	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.01	2.03	
27-Oct	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.99	2.03	
28-Oct	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.98	2.00	
29-Oct	A	2.0	2.0	2.1	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.03	2.09	
30-Oct	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	A	2.01	2.09	
31-Oct	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.94	1.97	
		1.95	1.95	1.95	1.95	1.95	1.94	1.95	1.95	1.94	1.94	1.94	1.94	1.94	1.94	1.93	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	Diurnal Average	
		2.06	2.09	2.12	2.09	2.07	2.05	2.06	2.06	2.09	2.09	2.08	2.07	2.07	2.06	2.21	2.07	2.13	2.14	2.08	2.06	2.08	2.09	2.03	2.03	Diurnal Maximum
C - Calibration		D - DAS Failure				M - Maintenance				A - Automated Daily Zero Span																

**Hourly Averages**

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



## Hourly Maximums

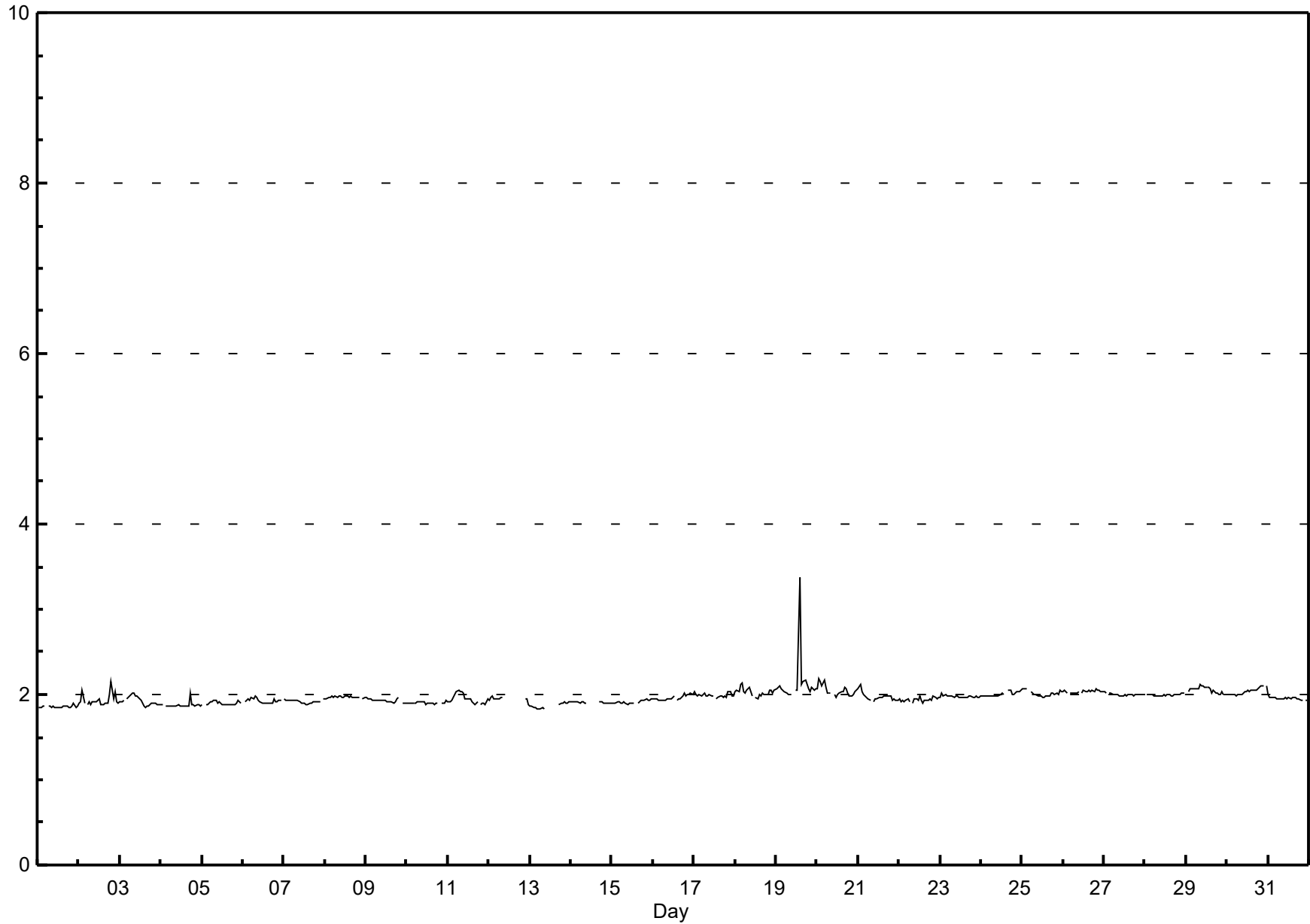
Total Hydrocarbons (THC) - ppm

Portable Rycroft - October 2016

Maximum Value: 3.37 ppm on Oct 19 15:00		Maximum Daily Average: 2.15 ppm on Oct 19		Hours in Service:	744																																											
Minimum Value: 1.8 ppm on Oct 13 09:00		Minimum Daily Average: 1.86 ppm on Oct 1		Hours of Data:	688																																											
Maximum Diurnal Average: 2.00 ppm at hour 15		Minimum Diurnal Average: 1.95 ppm at hour 16		Hours of Missing Data:	56																																											
Monthly Average: 1.965 ppm		Percentiles: P <sub>1</sub> = 1.85 P <sub>10</sub> = 1.88 Q <sub>1</sub> = 1.91 Median = 1.96 Q <sub>3</sub> = 2.00 P <sub>90</sub> = 2.05 P <sub>99</sub> = 2.16		Hours of Calibration:	40																																											
				Percent Operational Time:	97.9																																											
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-Oct	1.9	1.8	1.9	1.9	1.9	A	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	1.9	1.9	1.9	1.9	1.86	1.90																						
2-Oct	1.9	1.9	2.1	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.2	2.0	2.0	1.9	1.9	1.93	2.16																						
3-Oct	1.9	1.9	1.9	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.92	2.02																						
4-Oct	1.9	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.88	2.02																						
5-Oct	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.90	1.93																						
6-Oct	A	1.9	1.9	2.0	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	1.9	2.0	1.9	1.9	1.9	1.9	A	1.93	1.98																						
7-Oct	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.92	1.95																						
8-Oct	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	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	1.97	1.99																						
9-Oct	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	A	1.9	1.9	1.9	1.93	1.97																						
10-Oct	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	1.9	1.90	1.93																						
11-Oct	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	2.0	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	1.9	1.9	1.95	2.05																						
12-Oct	1.9	2.0	2.0	2.0	1.9	2.0	1.9	2.0	2.0	D	D	D	D	D	D	D	D	D	D	D	D	1.9	1.9	1.9	--	1.98																						
13-Oct	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	D	C	C	C	C	C	C	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	--	1.91																						
14-Oct	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	C	C	C	C	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.91	1.92																						
15-Oct	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.91	1.94																						
16-Oct	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	A	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.96	2.01																						
17-Oct	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.99	2.04																						
18-Oct	2.0	2.1	2.0	2.1	2.1	2.0	2.0	2.0	2.1	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.03	2.13																						
19-Oct	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	A	2.1	2.0	2.7	3.4	2.1	2.2	2.2	2.1	2.1	2.0	2.1	2.0	2.1	2.15	3.37																						
20-Oct	2.1	2.2	2.1	2.1	2.2	2.1	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.1	2.05	2.19																						
21-Oct	2.1	2.1	2.0	2.0	2.0	2.0	2.0	1.9	A	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.98	2.12																						
22-Oct	2.0	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	2.0	1.9	1.9	2.0	1.9	1.9	1.9	1.9	1.9	2.0	1.9	2.0	2.0	2.0	2.0	1.94	1.98																						
23-Oct	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.98	2.01																						
24-Oct	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	M	M	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.00	2.05																						
25-Oct	2.1	2.1	2.1	2.1	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.01	2.06																						
26-Oct	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	M	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.03	2.06																						
27-Oct	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.00	2.04																						
28-Oct	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.99	2.02																						
29-Oct	A	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.06	2.11																						
30-Oct	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.1	2.1	2.1	2.1	A	2.1	2.03	2.11																						
31-Oct	2.0	2.0	2.0	2.0	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	1.9	1.9	A	1.9	1.9	1.95	2.00																						
																								1.96	1.97	1.97	1.97	1.97	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.98	2.00	1.95	1.96	1.96	1.97	1.97	1.96	1.97	1.96	1.96	Diurnal Average
																								2.08	2.19	2.15	2.12	2.17	2.08	2.07	2.07	2.11	2.11	2.10	2.09	2.08	2.73	3.37	2.12	2.16	2.17	2.12	2.16	2.10	2.11	2.05	2.11	Diurnal Maximum
C - Calibration																								D - DAS Failure				M - Maintenance				A - Automated Daily Zero Span																

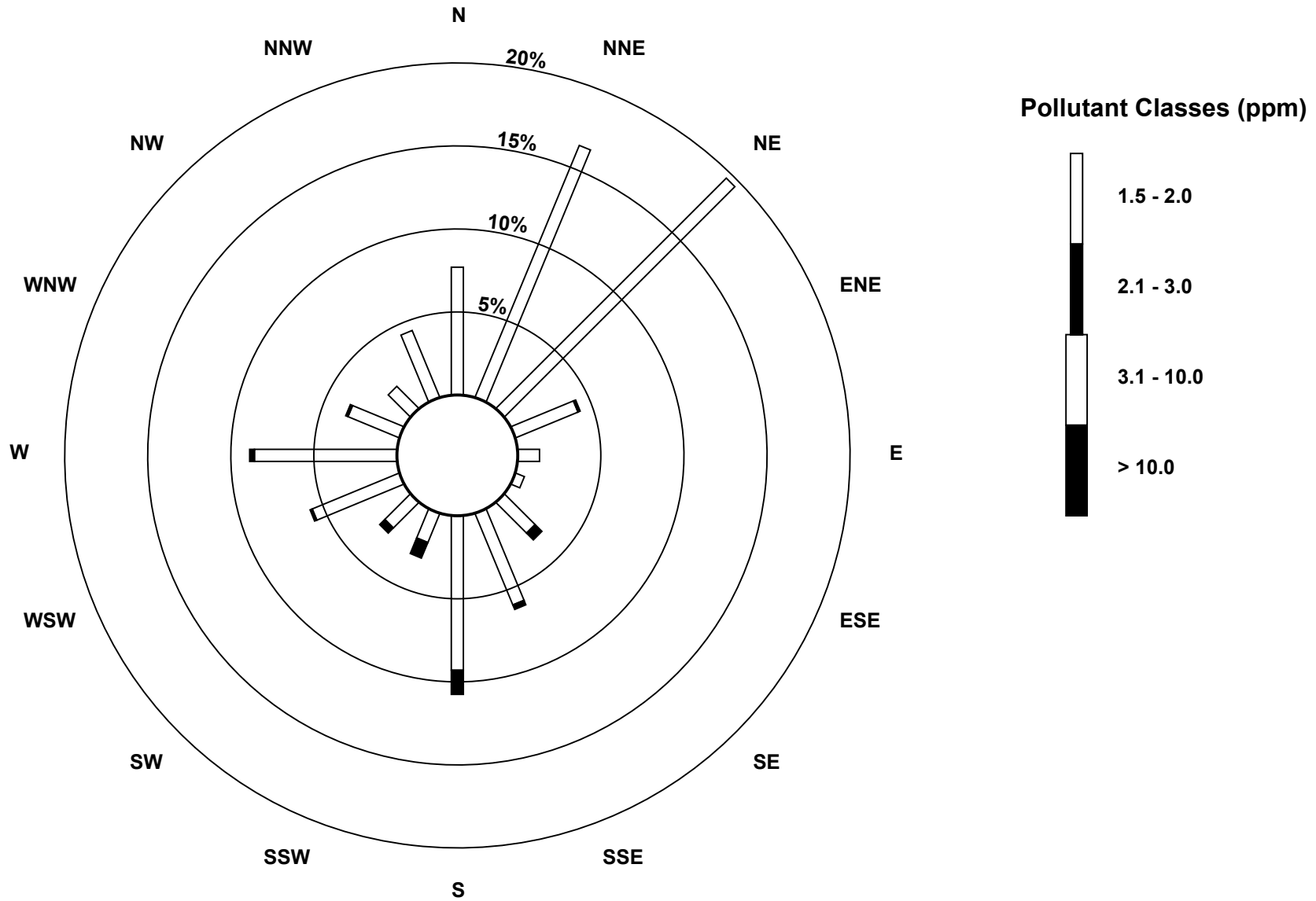
**Hourly Maximums**

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



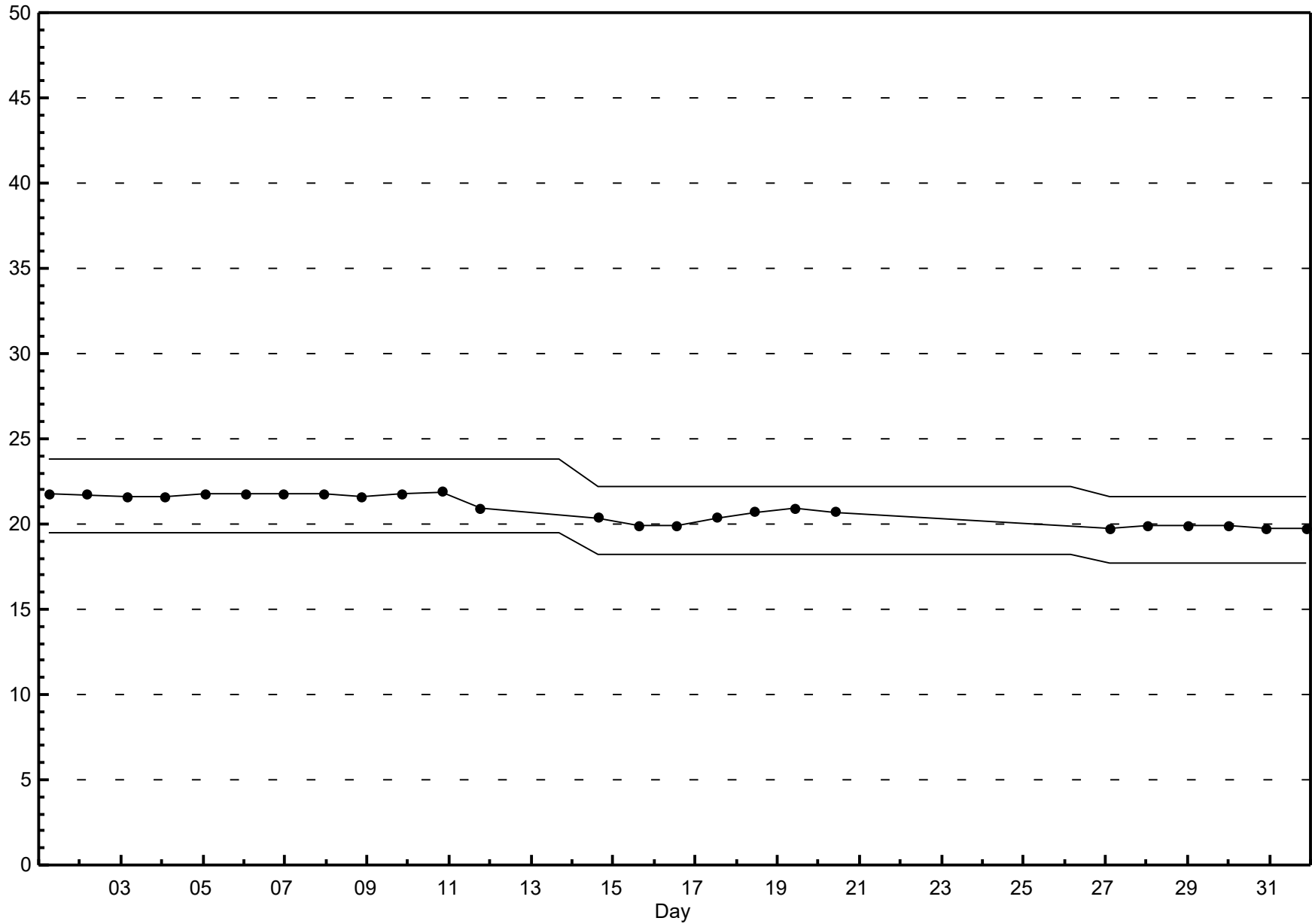
**Pollutant Rose**

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



**Span Responses**

**Total Hydrocarbons (THC)  
Portable Rycroft - October 2016**



# Hourly Averages

Methane (CH<sub>4</sub>) - ppm

Portable Rycroft - October 2016

Maximum Value: 2.20 ppm on Oct 19 15:00	Maximum Daily Average: 2.04 ppm on Oct 19	Hours in Service: 442
Minimum Value: 1.9 ppm on Oct 13 18:00	Minimum Daily Average: 1.89 ppm on Oct 14	Hours of Data: 415
Maximum Diurnal Average: 1.98 ppm at hour 2	Minimum Diurnal Average: 1.96 ppm at hour 11	Hours of Missing Data: 27
Monthly Average: 1.966 ppm	Percentiles: P <sub>1</sub> = 1.87 P <sub>10</sub> = 1.89 Q <sub>1</sub> = 1.93 Median = 1.97 Q <sub>3</sub> = 2.00 P <sub>90</sub> = 2.03 P <sub>99</sub> = 2.11	Hours of Calibration: 24
		Percent Operational Time: 99.3

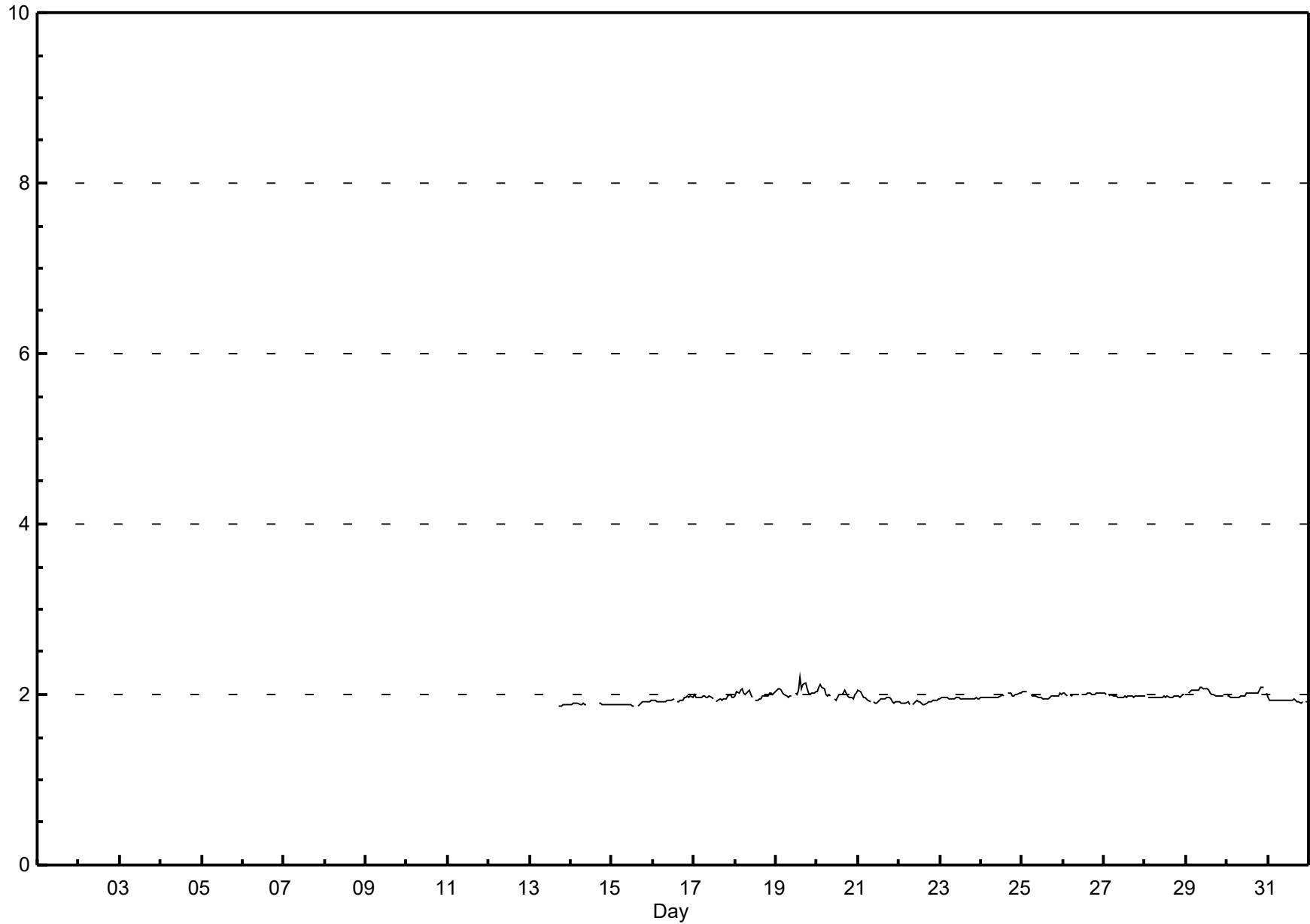
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Oct	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
2-Oct	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
3-Oct	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-Oct	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-Oct	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-Oct	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-Oct	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-Oct	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-Oct	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-Oct	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-Oct	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-Oct	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-Oct	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	C	C	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	--	1.89
14-Oct	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	C	C	C	C	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.89	1.90
15-Oct	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.89	1.92
16-Oct	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	1.94	1.98
17-Oct	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	A	1.9	1.9	1.9	1.9	1.9	2.0	1.9	2.0	2.0	2.0	2.0	1.96	2.00
18-Oct	2.0	2.0	2.0	2.1	2.1	2.0	2.0	2.0	2.0	2.1	2.0	A	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.00	2.06
19-Oct	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	2.0	2.2	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.04	2.20
20-Oct	2.0	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	A	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	2.01	2.11
21-Oct	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	A	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.95	2.05
22-Oct	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.91	1.94
23-Oct	2.0	2.0	2.0	2.0	2.0	1.9	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	2.0	2.0	2.0	2.0	2.0	1.96	1.97
24-Oct	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	M	M	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.98	2.02
25-Oct	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	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.99	2.04
26-Oct	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	M	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.00	2.02
27-Oct	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.98	2.02
28-Oct	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.97	2.00
29-Oct	A	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.03	2.09
30-Oct	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	A	2.0	2.00	2.08
31-Oct	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	1.93	1.96
	1.98	1.98	1.98	1.98	1.97	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.97	1.96	1.97	1.97	1.96	1.96	1.96	1.97	1.96	1.97	Diurnal Average	
	2.05	2.08	2.11	2.08	2.07	2.04	2.05	2.05	2.09	2.08	2.07	2.07	2.07	2.05	2.20	2.07	2.12	2.14	2.07	2.05	2.08	2.08	2.02	2.03	Diurnal Maximum	

C - Calibration      M - Maintenance      NS - Not in service      A - Automated Daily Zero Span



**Hourly Averages**

**Methane (CH<sub>4</sub>) - ppm**  
**Portable Rycroft - October 2016**



# Hourly Maximums

Methane (CH<sub>4</sub>) - ppm

Portable Rycroft - October 2016

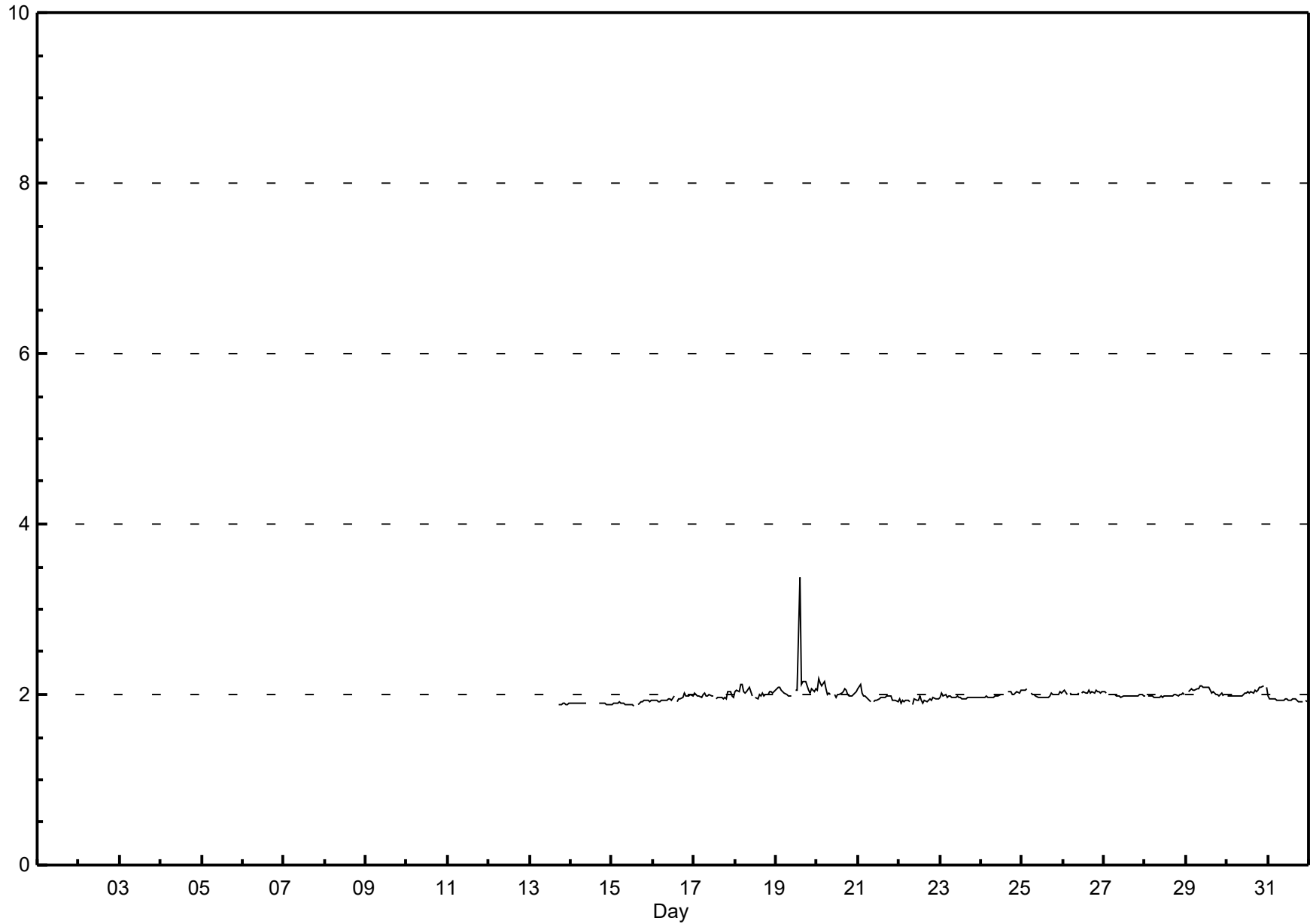
Maximum Value: 3.37 ppm on Oct 19 15:00	Maximum Daily Average: 2.14 ppm on Oct 19	Hours in Service: 442
Minimum Value: 1.9 ppm on Oct 15 14:00	Minimum Daily Average: 1.90 ppm on Oct 14	Hours of Data: 415
Maximum Diurnal Average: 2.06 ppm at hour 15	Minimum Diurnal Average: 1.97 ppm at hour 10	Hours of Missing Data: 27
Monthly Average: 1.988 ppm	Percentiles: P <sub>1</sub> = 1.88 P <sub>10</sub> = 1.90 Q <sub>1</sub> = 1.95 Median = 1.98 Q <sub>3</sub> = 2.02 P <sub>90</sub> = 2.05 P <sub>99</sub> = 2.13	Hours of Calibration: 24
		Percent Operational Time: 99.3

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Oct	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-Oct	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-Oct	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-Oct	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-Oct	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-Oct	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-Oct	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-Oct	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-Oct	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-Oct	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-Oct	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-Oct	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-Oct	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	C	C	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	--	1.90
14-Oct	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	C	C	C	C	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.90	1.90
15-Oct	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.90	1.93
16-Oct	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	A	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.95	2.01
17-Oct	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.98	2.03
18-Oct	2.0	2.1	2.0	2.1	2.1	2.0	2.0	2.0	2.0	2.1	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.02	2.12
19-Oct	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	2.7	3.4	2.1	2.1	2.2	2.1	2.0	2.0	2.1	2.0	2.1	2.14	3.37
20-Oct	2.1	2.2	2.1	2.1	2.2	2.1	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.04	2.18
21-Oct	2.1	2.1	2.0	2.0	2.0	2.0	1.9	1.9	A	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.97	2.11
22-Oct	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	1.9	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	1.9	2.0	1.93	1.98
23-Oct	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.97	2.01
24-Oct	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	M	M	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.99	2.05
25-Oct	2.1	2.1	2.0	2.1	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.00	2.07
26-Oct	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	M	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.02	2.05
27-Oct	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.99	2.03
28-Oct	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.98	2.02
29-Oct	A	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.05	2.10
30-Oct	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	A	2.1	2.02	2.09
31-Oct	2.0	2.0	1.9	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	1.94	1.98
	1.99	2.01	1.99	1.99	1.99	1.98	1.97	1.97	1.97	1.97	1.97	1.98	1.99	2.02	2.06	1.98	1.99	1.98	1.98	1.98	1.98	1.99	1.98	1.99	Diurnal Average	
	2.06	2.18	2.13	2.11	2.15	2.07	2.06	2.07	2.10	2.09	2.09	2.08	2.08	2.71	3.37	2.11	2.15	2.15	2.11	2.08	2.09	2.09	2.04	2.09	Diurnal Maximum	

C - Calibration      M - Maintenance      NS - Not in service      A - Automated Daily Zero Span

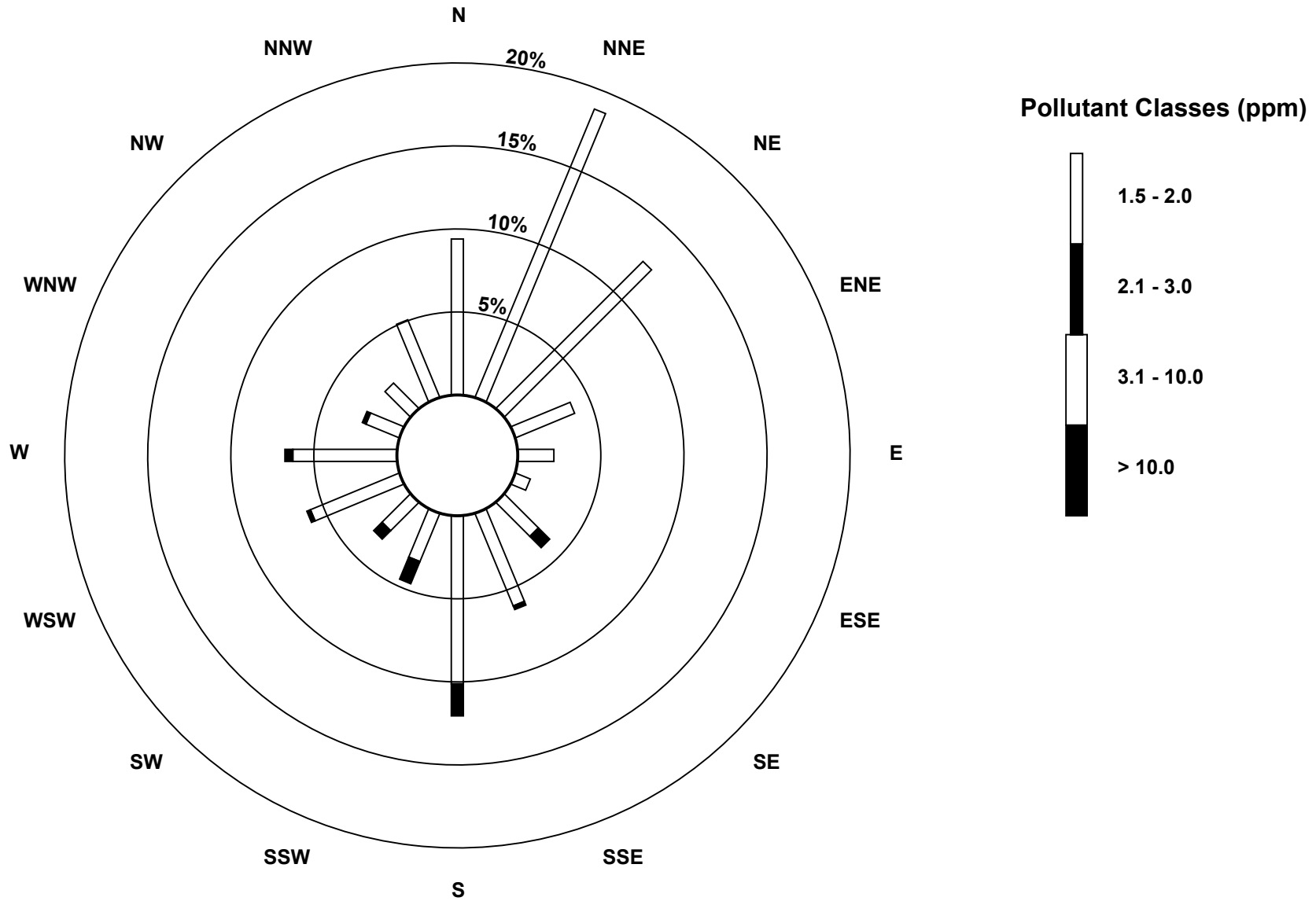
### Hourly Maximums

Methane (CH<sub>4</sub>) - ppm  
Portable Rycroft - October 2016



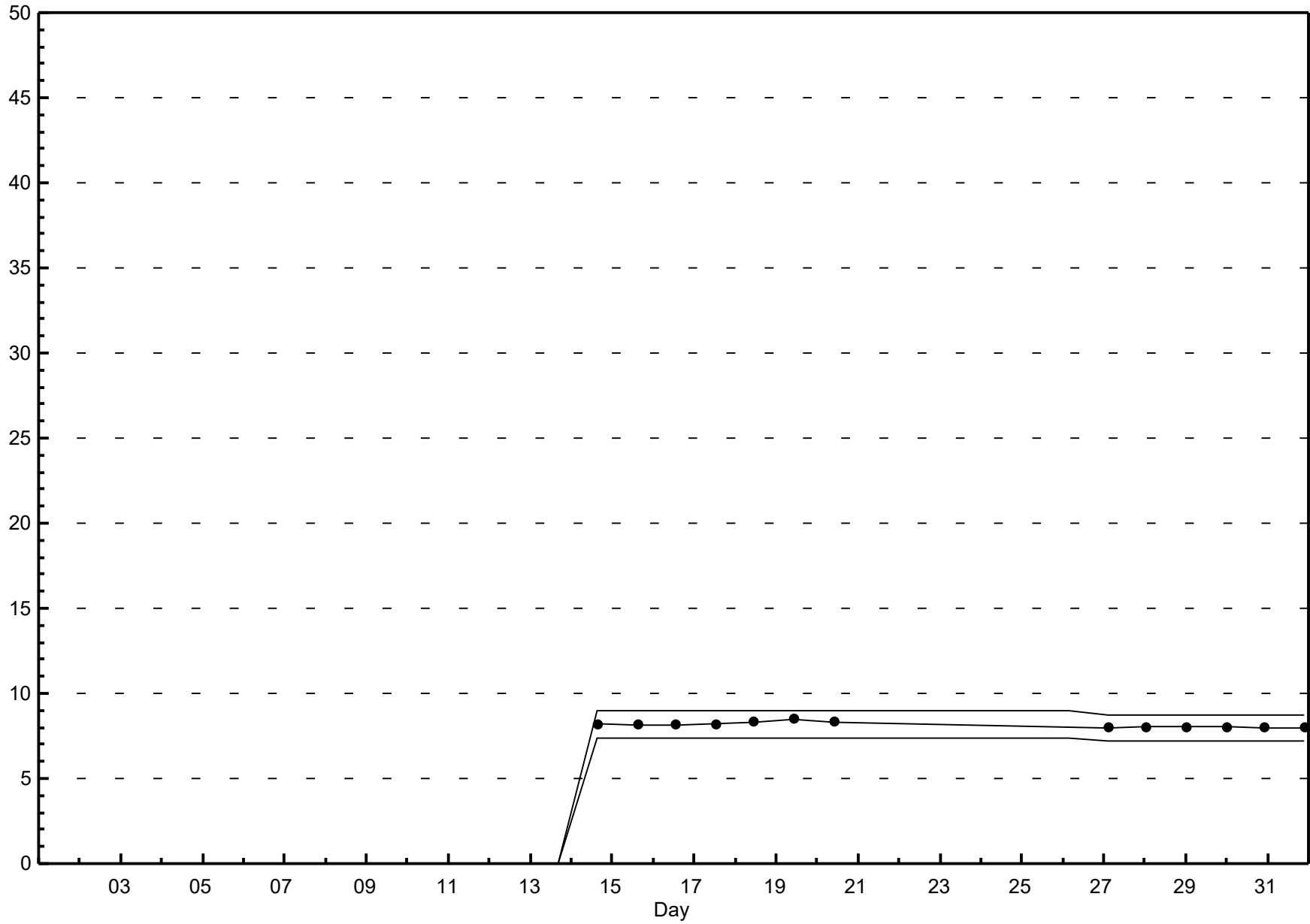
**Pollutant Rose**

**Methane (CH<sub>4</sub>) - ppm**  
**Portable Rycroft - October 2016**



### Span Responses

Methane (CH<sub>4</sub>)  
Portable Rycroft - October 2016

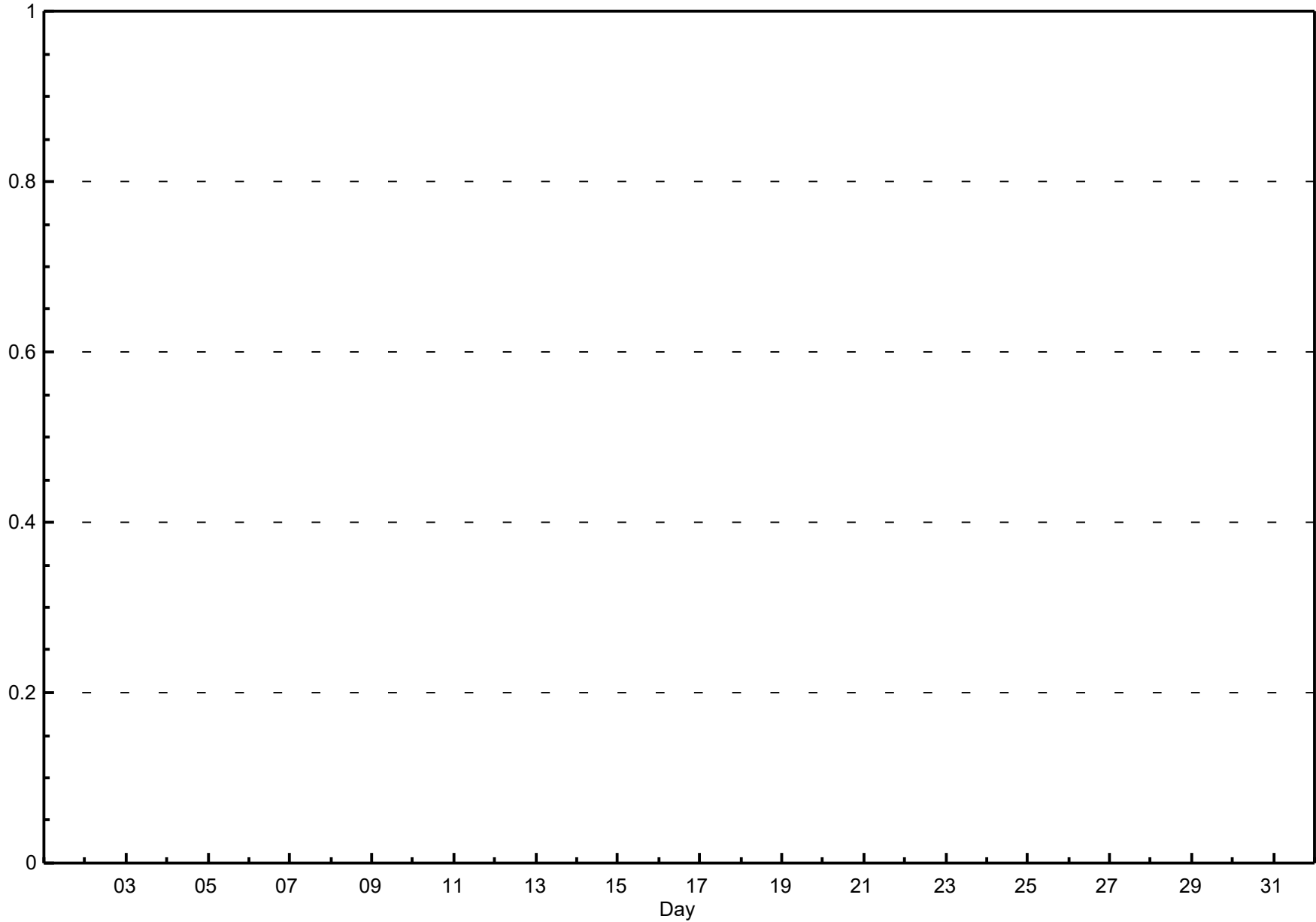


## Hourly Averages

## Non Methane Hydrocarbon (NMHC) - ppm

### Portable Rycroft - October 2016

Maximum Value: 0.00 ppm on Oct 21 17:00		Maximum Daily Average: 0.00 ppm on Oct 21		Hours in Service:	442																																												
Minimum Value: 0.0 ppm on Oct 13 18:00		Minimum Daily Average: 0.00 ppm on Oct 14		Hours of Data:	415																																												
Maximum Diurnal Average: 0.00 ppm at hour 17		Minimum Diurnal Average: 0.00 ppm at hour 5		Hours of Missing Data:	27																																												
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		Hours of Calibration:	24																																												
				Percent Operational Time:	99.3																																												
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Oct	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-Oct	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-Oct	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-Oct	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-Oct	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-Oct	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-Oct	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-Oct	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-Oct	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-Oct	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-Oct	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-Oct	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-Oct	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	C	C	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--	0.00																							
14-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	C	C	C	C	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00																							
15-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00																							
16-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00																							
17-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00																							
18-Oct	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																							
19-Oct	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																							
20-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00																							
21-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00																							
22-Oct	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																							
23-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00																							
24-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	M	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00																							
25-Oct	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00																							
26-Oct	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00																							
27-Oct	0.0	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																							
28-Oct	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00																							
29-Oct	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																							
30-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.00	0.00																						
31-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.00	0.00																						
																								0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	Diurnal Maximum	
C - Calibration																								M - Maintenance				NS - Not in service				A - Automated Daily Zero Span																	



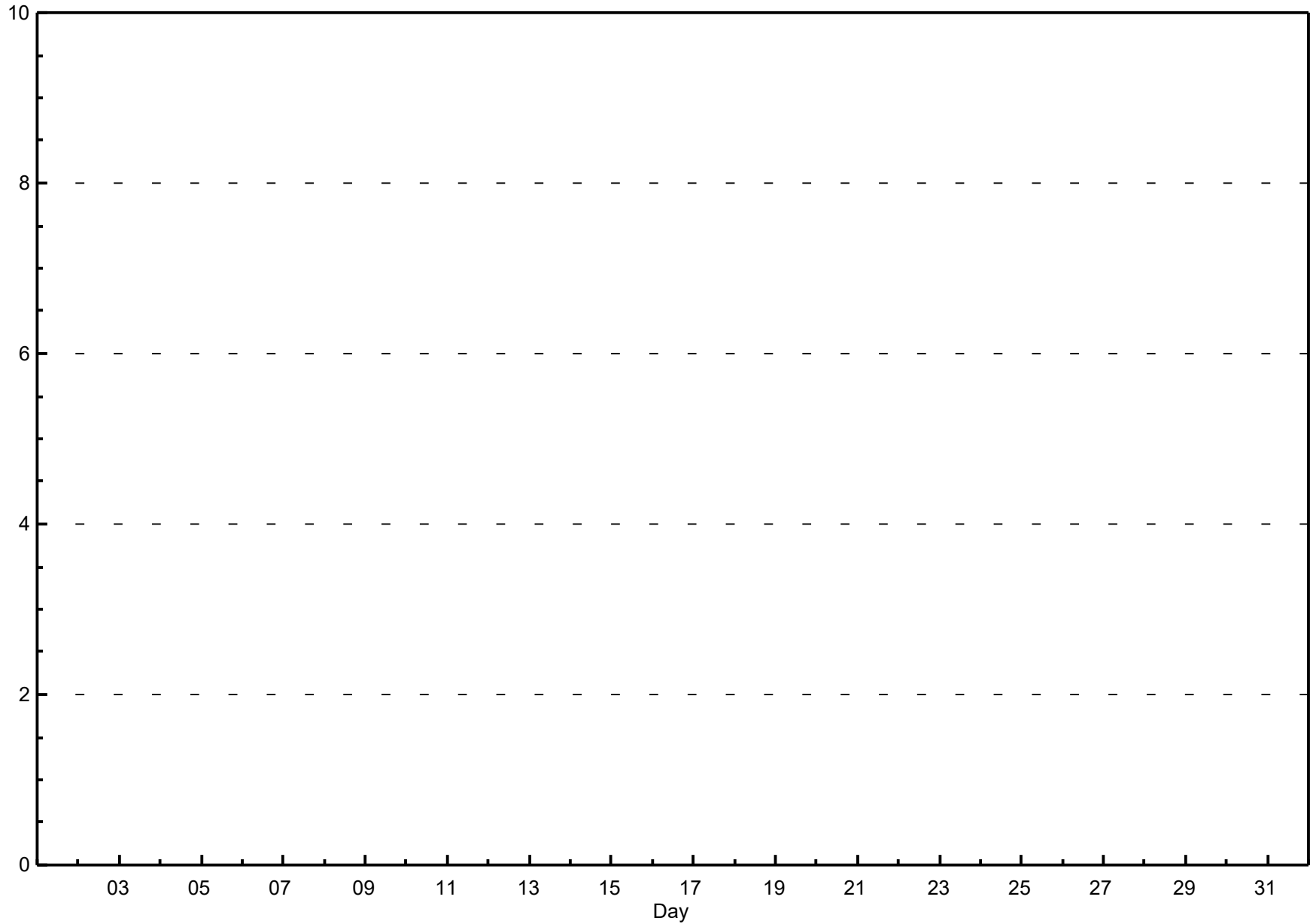
## Hourly Maximums

## Non Methane Hydrocarbon (NMHC) - ppm

### Portable Rycroft - October 2016

Maximum Value: 0.00 ppm on Oct 19 17:00		Maximum Daily Average: 0.00 ppm on Oct 28		Hours in Service: 442																																													
Minimum Value: 0.0 ppm on Oct 13 18:00		Minimum Daily Average: 0.00 ppm on Oct 14		Hours of Data: 415																																													
Maximum Diurnal Average: 0.00 ppm at hour 16		Minimum Diurnal Average: 0.00 ppm at hour 6		Hours of Missing Data: 27																																													
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		Hours of Calibration: 24																																													
				Percent Operational Time: 99.3																																													
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Oct	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-Oct	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-Oct	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-Oct	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-Oct	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-Oct	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-Oct	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-Oct	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-Oct	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-Oct	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-Oct	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-Oct	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-Oct	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	C	C	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--	0.00																							
14-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	C	C	C	C	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00																							
15-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00																							
16-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00																							
17-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00																							
18-Oct	0.0	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																							
19-Oct	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																							
20-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00																							
21-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00																							
22-Oct	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																							
23-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00																							
24-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	M	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00																							
25-Oct	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00																							
26-Oct	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00																							
27-Oct	0.0	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																							
28-Oct	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00																							
29-Oct	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																							
30-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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																							
31-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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																							
																								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	Diurnal Maximum	
C - Calibration																								M - Maintenance				NS - Not in service				A - Automated Daily Zero Span																	

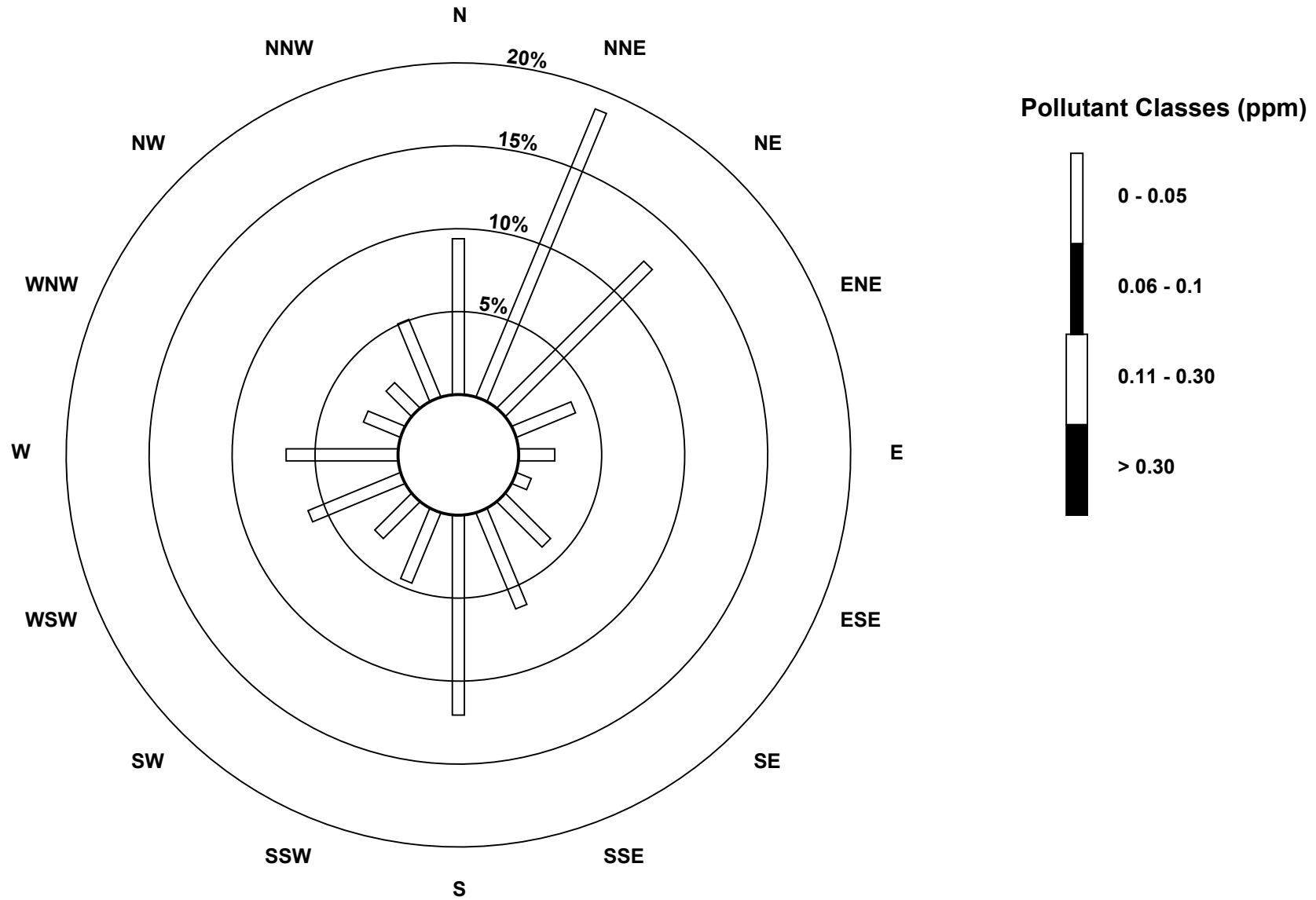


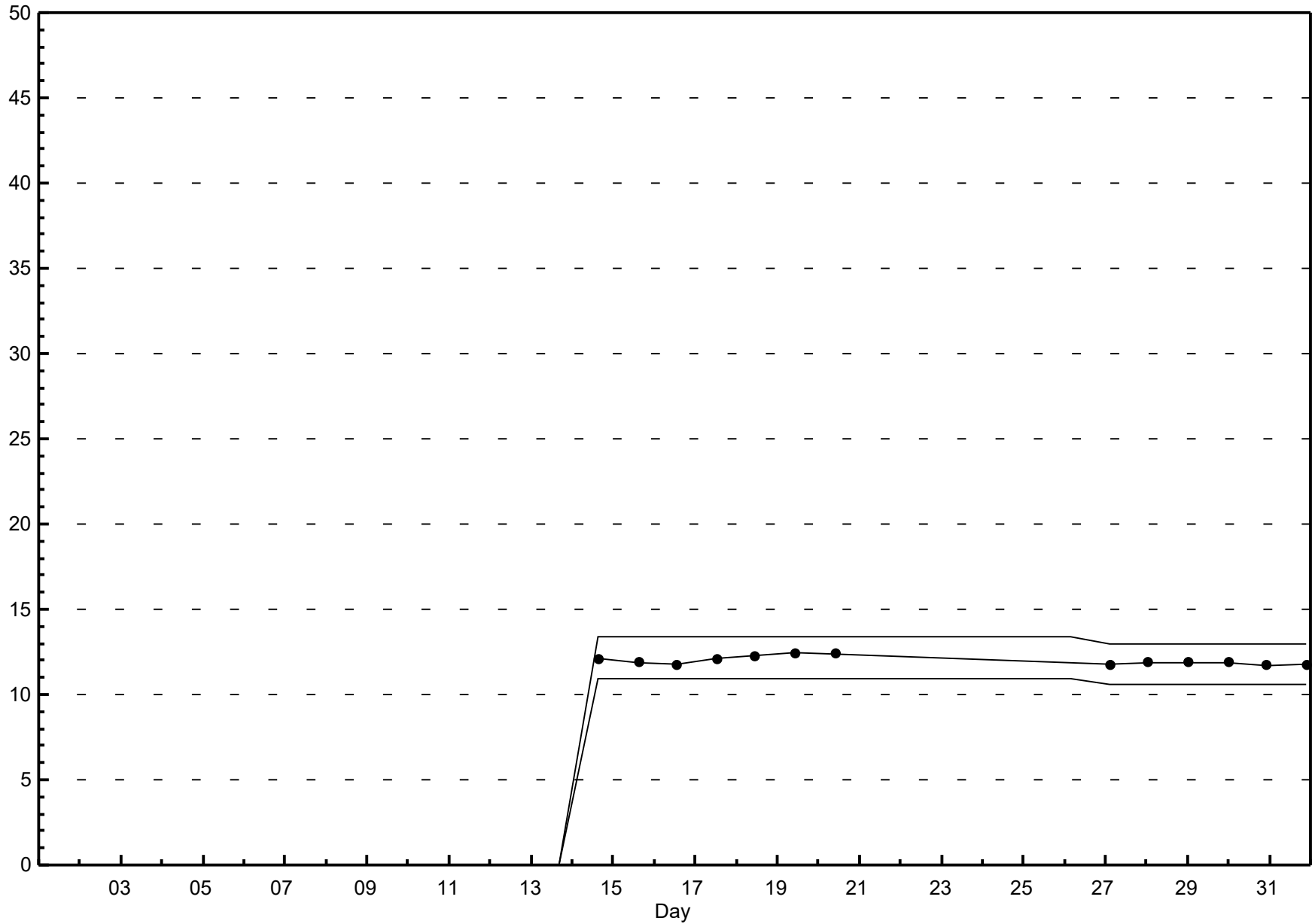


**Pollutant Rose**

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

**Portable Rycroft - October 2016**





## Hourly Averages

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

Portable Rycroft - October 2016

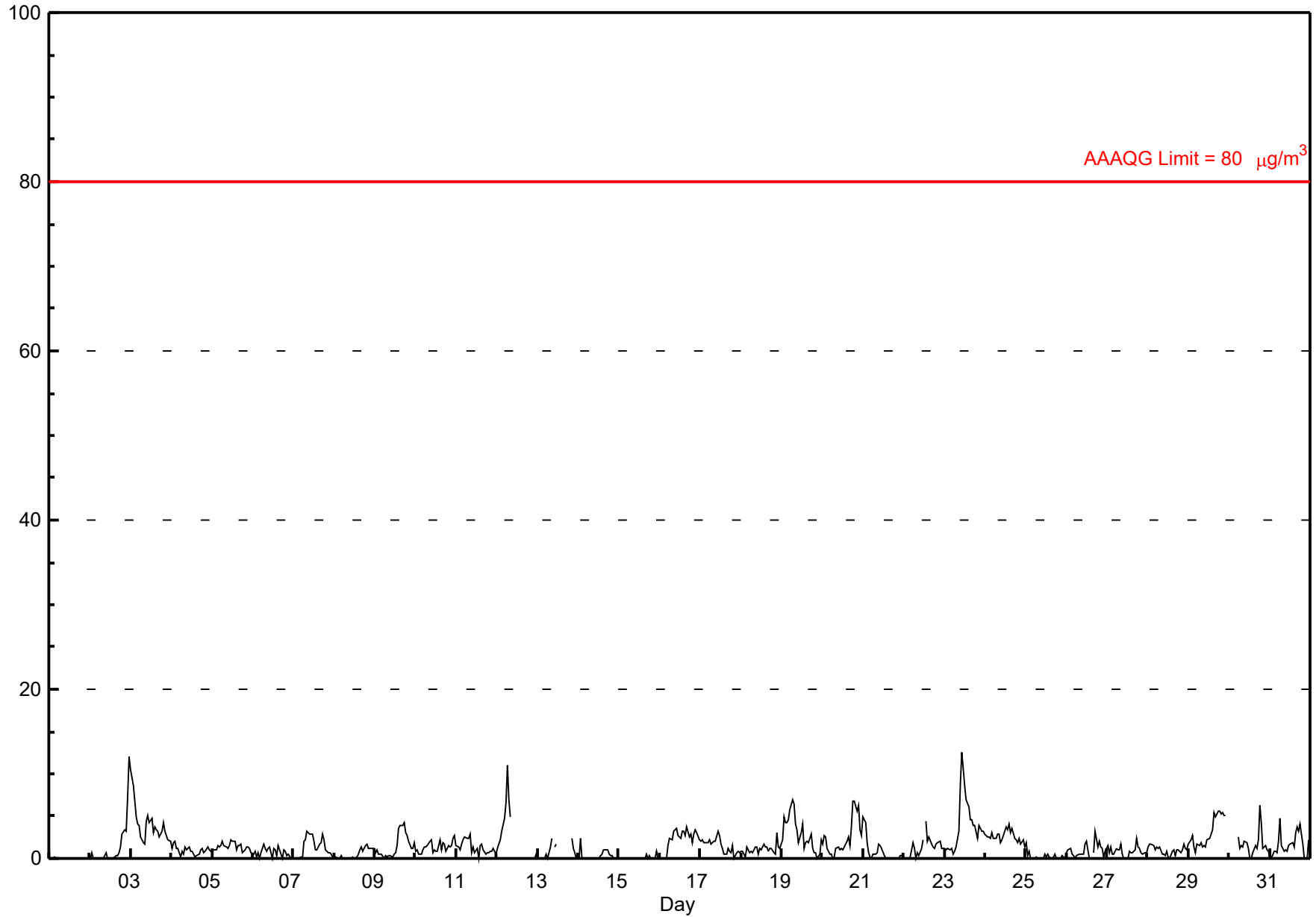
Number of Exceedences: 1-hr: 0 24-hr: 0	Hours in Service: 744
Maximum Value: 12.5 µg/m <sup>3</sup> on Oct 23 11:00	Maximum Daily Average: 4.1 µg/m <sup>3</sup> on Oct 23
Minimum Value: 0 µg/m <sup>3</sup> on Oct 1 01:00	Hours of Data: 714
Maximum Diurnal Average: 1.9 µg/m <sup>3</sup> at hour 19	Hours of Missing Data: 30
Monthly Average: 1.51 µg/m <sup>3</sup>	Hours of Calibration: 0
Minimum Daily Average: 0.0 µg/m <sup>3</sup> on Oct 1	Percent Operational Time: 96.0
Minimum Diurnal Average: 1.1 µg/m <sup>3</sup> at hour 5	
Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.0 Q <sub>1</sub> = 0.3 Median = 1.1 Q <sub>3</sub> = 2.1 P <sub>90</sub> = 3.4 P <sub>99</sub> = 8.6	

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-Oct	0	0	0	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
2-Oct	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1	3	3	3	7	12	1.4	12.1
3-Oct	10	9	7	5	4	4	3	2	2	4	5	4	5	3	4	3	3	2	3	4	3	3	2	2	4.0	10.5
4-Oct	1	2	2	1	1	0	1	1	1	1	1	1	1	0	0	0	1	1	1	1	1	1	1	1	1.0	2.1
5-Oct	1	1	1	2	1	1	2	2	1	1	2	2	2	2	1	1	1	2	1	1	1	1	1	1	1.4	2.1
6-Oct	0	1	0	1	0	1	2	1	1	1	1	0	1	1	0	2	1	0	1	1	0	0	0	0	0.7	1.7
7-Oct	0	0	0	0	0	0	2	2	3	3	3	3	2	1	1	2	2	3	2	1	1	1	1	0	1.3	3.3
8-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	2	2	1	1	1	1	0.5	1.6
9-Oct	1	1	1	1	1	0	0	0	0	0	0	0	1	2	3	4	4	4	3	3	2	1	1	2	1.5	4.3
10-Oct	1	1	1	1	1	1	1	2	2	2	2	1	1	1	2	1	2	2	1	2	1	1	2	3	1.4	2.7
11-Oct	1	1	1	2	2	2	2	2	3	1	1	1	1	0	1	2	1	0	1	1	1	1	1	0	1.3	3.0
12-Oct	1	2	2	3	5	7	11	7	5	D	D	D	D	D	D	D	D	D	D	D	D	D	0	0	--	11.1
13-Oct	0	0	0	0	0	0	0	1	2	D	1	2	M	M	M	M	M	N	N	N	2	1	1	0	--	2.4
14-Oct	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0.3	2.3
15-Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0.1	0.9
16-Oct	0	0	0	0	0	2	2	2	3	3	4	3	2	3	3	3	4	3	3	2	3	3	3	2	2.2	3.7
17-Oct	2	2	2	2	2	2	2	2	2	2	3	3	2	1	1	1	1	1	1	1	0	1	1	1	1.5	3.2
18-Oct	1	1	0	1	1	1	1	1	1	1	0	1	1	2	1	1	1	1	1	1	1	3	1	1	1.1	3.0
19-Oct	2	5	4	4	5	6	7	6	4	3	2	3	4	1	2	2	2	3	1	1	1	0	1	2	2.9	6.9
20-Oct	2	3	3	1	0	1	0	0	1	1	1	1	1	1	2	3	2	4	7	7	6	6	3	3	2.4	6.8
21-Oct	5	4	2	1	0	0	1	0	1	2	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0.8	5.0
22-Oct	0	0	0	0	0	2	1	0	1	0	1	2	N	4	2	2	2	1	1	2	2	2	1	1	1.2	4.4
23-Oct	1	1	1	1	1	0	1	1	3	9	13	11	9	7	6	5	5	4	4	2	4	4	3	3	4.1	12.5
24-Oct	3	2	3	2	3	2	2	3	3	2	2	3	4	3	4	3	3	2	2	2	2	2	2	1	2.6	4.0
25-Oct	2	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.9
26-Oct	1	1	1	0	0	0	0	1	0	0	1	2	2	0	N	N	1	3	1	2	1	1	0	1	0.9	3.2
27-Oct	2	1	1	0	1	1	1	1	2	1	0	0	0	1	1	1	1	2	1	1	1	0	1	1	0.9	2.3
28-Oct	1	2	2	2	1	1	1	1	1	1	0	1	0	0	1	1	0	1	1	1	1	2	1	1	1.0	1.7
29-Oct	2	2	3	1	1	2	2	2	1	1	1	2	2	3	3	6	5	6	6	5	5	5	5	N	3.1	5.7
30-Oct	N	N	N	N	N	3	1	1	1	2	2	1	0	0	1	2	1	2	6	4	1	1	1	1	1.7	6.3
31-Oct	0	0	1	1	1	2	5	2	1	1	1	2	2	2	1	3	4	3	4	2	0	0	0	2	1.6	4.8
	1.4	1.5	1.2	1.1	1.1	1.3	1.6	1.4	1.5	1.5	1.6	1.7	1.5	1.4	1.5	1.7	1.7	1.8	1.9	1.7	1.5	1.5	1.4	1.4	Diurnal Average	
	10.5	8.7	6.9	4.8	4.7	6.7	11.1	6.9	4.9	8.7	12.5	10.6	8.6	6.9	6.1	5.5	5.0	5.7	6.8	6.8	5.6	6.3	7.3	12.1	Diurnal Maximum	

D - DAS Failure    M - Maintenance    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 Averages

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



## Hourly Maximums

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

Portable Rycroft - October 2016

Maximum Value: 15.8 µg/m <sup>3</sup> on Oct 12 07:00	Maximum Daily Average: 5.9 µg/m <sup>3</sup> on Oct 3	Hours in Service: 744
Minimum Value: 0 µg/m <sup>3</sup> on Oct 1 12:00	Minimum Daily Average: 1.1 µg/m <sup>3</sup> on Oct 1	Hours of Data: 714
Maximum Diurnal Average: 3.6 µg/m <sup>3</sup> at hour 18	Minimum Diurnal Average: 2.5 µg/m <sup>3</sup> at hour 3	Hours of Missing Data: 30
Monthly Average: 3.02 µg/m <sup>3</sup>	Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 1.0 Q <sub>1</sub> = 1.7 Median = 2.6 Q <sub>3</sub> = 3.7 P <sub>90</sub> = 5.4 P <sub>99</sub> = 12.3	Hours of Calibration: 0
		Percent Operational Time: 96.0

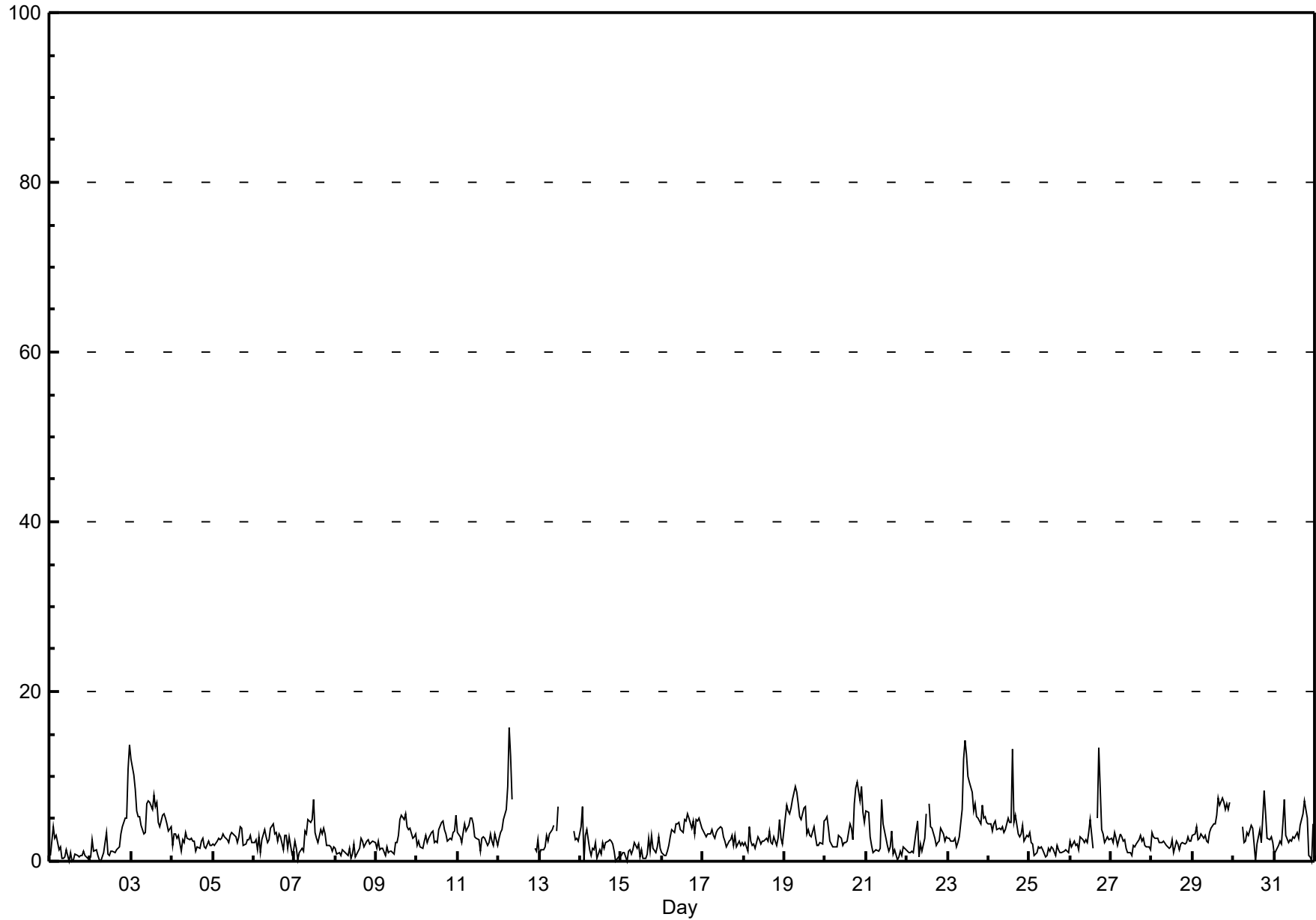
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Oct	1	2	4	3	3	1	2	0	0	0	1	0	1	0	0	1	1	1	1	1	1	1	0	1	1.1	4.1	
2-Oct	1	3	1	1	1	0	0	0	1	3	1	1	1	1	1	1	2	2	3	4	5	5	11	14	2.6	13.8	
3-Oct	12	10	9	6	5	5	4	3	3	7	7	7	6	8	6	7	5	4	5	6	5	4	4	4	5.9	12.0	
4-Oct	2	3	3	3	3	1	3	2	3	3	2	3	2	2	1	2	1	2	3	2	1	2	2	2	2.3	3.4	
5-Oct	2	2	2	3	2	3	3	3	2	2	3	3	3	3	2	3	4	4	2	2	3	3	3	2	2.7	4.1	
6-Oct	2	2	1	3	1	2	4	3	2	3	4	4	3	3	2	3	3	1	3	3	1	3	1	1	2.6	4.4	
7-Oct	2	1	0	1	1	1	4	3	5	5	5	7	3	3	2	4	3	4	3	2	2	2	1	2	2.8	7.3	
8-Oct	1	1	1	1	1	1	1	1	1	0	1	2	0	1	1	3	2	2	2	3	2	2	2	2	1.5	2.6	
9-Oct	2	2	1	1	2	1	2	1	1	1	1	2	2	3	5	5	5	6	4	4	4	3	3	3	2.6	5.6	
10-Oct	2	2	2	2	2	3	2	3	3	3	2	2	2	4	5	5	4	3	2	3	3	3	4	5	3.0	5.4	
11-Oct	3	3	2	3	4	4	4	5	5	4	3	3	3	1	3	3	3	2	2	3	2	2	3	2	3.0	5.1	
12-Oct	3	3	4	5	6	9	16	12	7	D	D	D	D	D	D	D	D	D	D	D	D	D	1	1	3	--	15.8
13-Oct	1	1	1	2	3	2	3	4	4	D	4	6	M	M	M	M	M	N	N	N	4	2	3	2	--	6.4	
14-Oct	4	6	0	3	4	1	1	2	1	2	0	1	1	2	1	2	2	3	2	2	1	0	1	1	1.8	6.4	
15-Oct	1	1	1	0	1	1	1	1	2	2	2	0	1	0	0	1	3	1	3	1	1	2	3	2	1.3	3.0	
16-Oct	1	1	1	1	2	3	4	3	4	4	5	4	3	5	5	6	5	4	5	3	5	5	5	4	3.6	5.6	
17-Oct	3	3	3	3	3	4	3	3	3	4	4	4	3	2	2	2	3	3	2	3	2	2	2	2	2.8	4.1	
18-Oct	2	2	1	4	2	2	2	1	3	3	2	2	2	3	2	4	2	2	3	2	3	5	3	2	2.5	4.9	
19-Oct	5	7	6	6	6	7	9	8	7	5	5	6	6	3	4	3	3	4	3	2	2	2	2	5	4.8	8.8	
20-Oct	5	5	4	2	2	2	2	2	3	3	2	2	2	2	4	4	3	7	9	9	7	9	6	5	4.1	9.3	
21-Oct	6	6	3	2	1	1	1	1	1	7	4	4	2	1	2	4	1	1	0	0	1	1	2	1	2.2	7.2	
22-Oct	1	1	1	1	1	4	5	1	2	1	3	6	N	7	4	4	3	2	2	2	4	3	2	3	2.7	6.8	
23-Oct	3	3	2	2	3	2	2	3	6	12	14	13	10	9	8	6	7	5	5	4	7	5	5	5	5.9	14.2	
24-Oct	4	4	4	4	5	4	4	4	4	3	4	5	5	5	13	5	5	3	3	3	4	2	3	3	4.3	13.2	
25-Oct	3	2	2	1	1	2	2	2	1	0	1	2	1	2	1	1	2	1	1	1	1	1	1	1	1.4	3.4	
26-Oct	2	2	2	2	2	1	3	2	2	3	2	3	5	1	N	N	5	13	4	3	2	2	3	3	3.2	13.5	
27-Oct	3	2	3	3	2	3	3	2	3	2	1	1	1	2	2	2	2	3	2	3	2	2	2	1	2.1	3.3	
28-Oct	3	3	3	3	2	2	2	2	2	2	1	2	3	1	2	2	1	2	2	2	2	3	2	2	2.2	3.4	
29-Oct	3	3	4	3	3	3	3	3	2	2	3	4	4	4	5	8	7	7	7	6	7	6	7	N	4.6	7.5	
30-Oct	N	N	N	N	N	4	2	2	3	3	4	4	2	0	2	4	2	5	8	6	3	2	3	2	3.3	8.3	
31-Oct	1	1	2	2	2	4	7	3	2	2	2	3	3	3	3	4	5	6	7	5	1	0	0	4	3.1	7.3	

2.8	3.0	2.5	2.5	2.6	2.7	3.3	2.8	3.0	3.2	3.1	3.6	2.9	2.9	3.2	3.4	3.2	3.6	3.4	3.1	2.9	2.8	2.9	2.9	Diurnal Average
12.0	10.1	8.5	5.9	6.3	8.8	15.8	12.4	7.3	12.0	14.2	12.5	10.0	9.3	13.2	7.5	6.7	13.5	8.6	9.3	7.1	8.8	10.8	13.8	Diurnal Maximum

D - DAS Failure      M - Maintenance      N - Not Valid

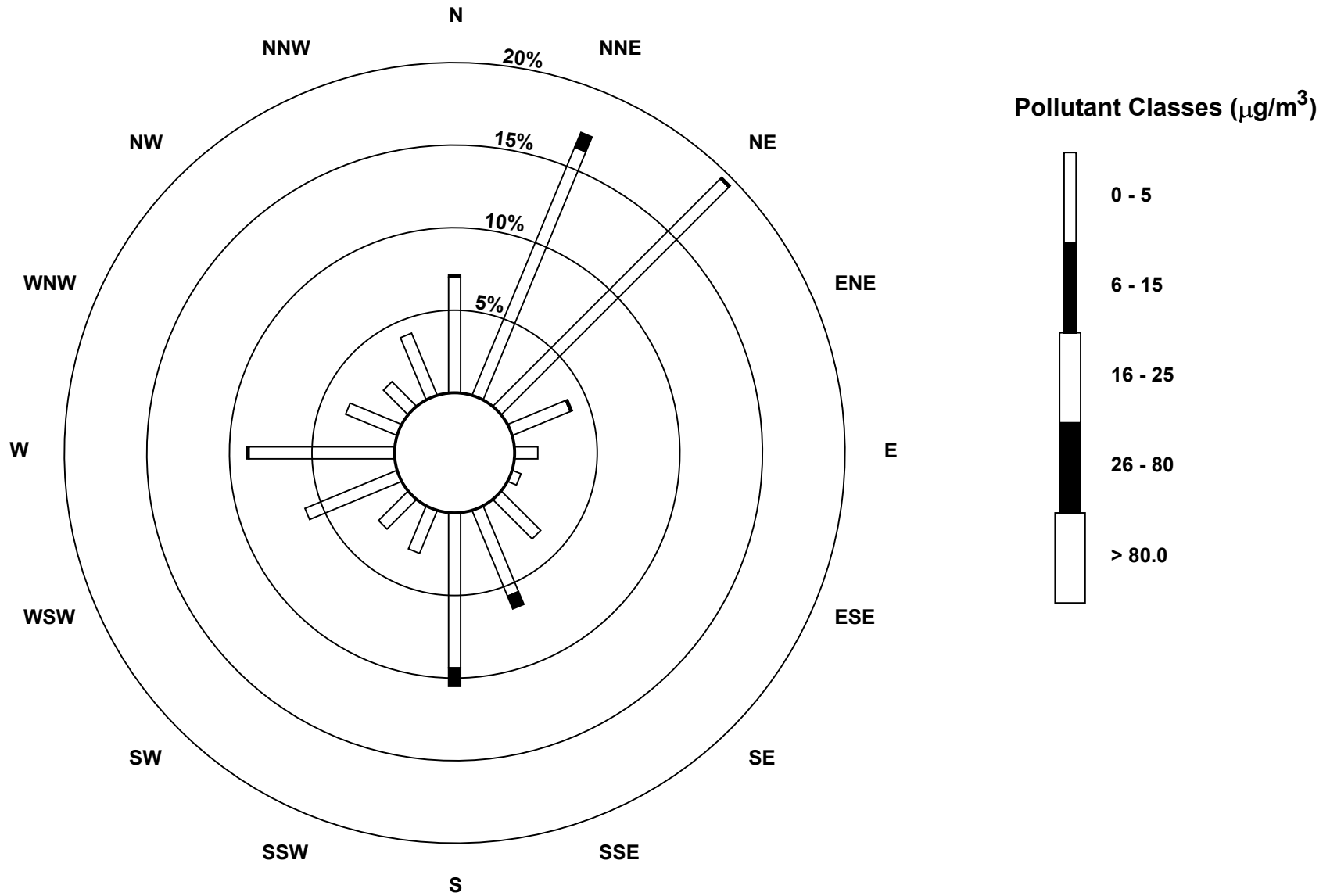
### Hourly Maximums

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



**Pollutant Rose**

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



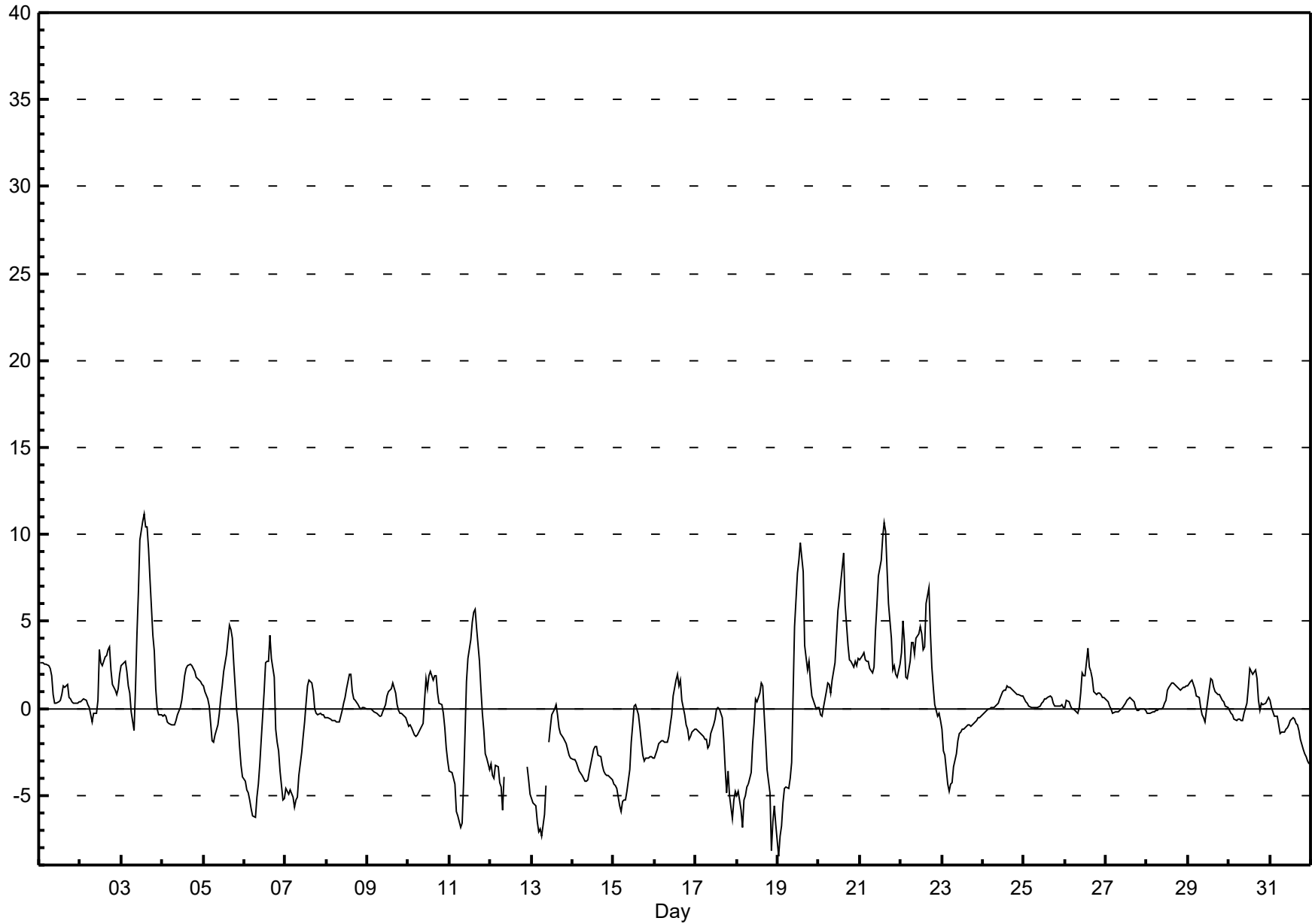


## Hourly Averages

External Temperature (ET) - °C

Portable Rycroft - October 2016

Maximum Value: 11.2 °C on Oct 3 14:00		Maximum Daily Average: 4.6 °C on Oct 21		Hours in Service: 744																																												
Minimum Value: -8 °C on Oct 19 01:00		Minimum Daily Average: -3.4 °C on Oct 14		Hours of Data: 731																																												
Maximum Diurnal Average: 2.5 °C at hour 15		Minimum Diurnal Average: -1.8 °C at hour 8		Hours of Missing Data: 13																																												
Monthly Average: -0.13 °C		Percentiles: P <sub>1</sub> = -6.8 P <sub>10</sub> = -4.3 Q <sub>1</sub> = -1.6 Median = 0.0 Q <sub>3</sub> = 1.3 P <sub>90</sub> = 2.8 P <sub>99</sub> = 9.6		Hours of Calibration: 0																																												
				Percent Operational Time: 98.3																																												
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-Oct	3	3	3	3	3	2	2	2	1	0	0	0	1	1	1	1	1	1	1	0	0	0	0	0	1.2	2.7																						
2-Oct	0	0	1	0	0	0	0	-1	0	0	0	3	3	2	3	3	3	4	2	1	1	1	1	2	1.3	3.5																						
3-Oct	2	3	3	2	1	1	0	-1	1	4	7	10	11	11	10	10	9	7	4	3	1	0	0	0	4.2	11.2																						
4-Oct	0	0	0	-1	-1	-1	-1	-1	-1	0	0	0	1	2	2	2	3	2	2	2	2	2	2	1	0.7	2.5																						
5-Oct	1	1	1	0	-1	-2	-2	-2	-1	0	1	1	2	3	4	5	5	4	3	0	-1	-2	-3	-4	0.5	4.8																						
6-Oct	-4	-5	-5	-5	-6	-6	-6	-5	-4	-3	-2	1	3	3	3	4	3	2	-1	-2	-2	-4	-5	-5	-2.2	4.2																						
7-Oct	-5	-5	-5	-5	-5	-6	-5	-5	-4	-3	-2	-1	0	1	2	1	1	0	0	0	0	0	0	0	-1.9	1.6																						
8-Oct	-1	-1	-1	-1	-1	-1	-1	-1	0	0	0	1	1	2	2	1	1	0	0	0	0	0	0	0	0.1	2.0																						
9-Oct	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	0	0	0	0	0	-1	-1	0.1	1.4																						
10-Oct	-1	-1	-1	-2	-2	-1	-1	-1	-1	0	2	1	2	2	2	2	2	1	0	0	0	-1	-2	-3	-0.2	2.1																						
11-Oct	-4	-4	-4	-4	-6	-6	-7	-7	-4	-1	2	3	4	5	6	6	5	3	1	0	-1	-3	-3	-3	-1.0	5.7																						
12-Oct	-3	-4	-4	-3	-3	-4	-5	-6	-4	D	D	D	D	D	D	D	D	D	D	D	D	-3	-4	-5	--	-3.2																						
13-Oct	-5	-5	-6	-7	-7	-7	-7	-6	-4	D	-2	-1	0	0	0	0	-1	-1	-2	-2	-2	-2	-3	-3	-3.2	0.2																						
14-Oct	-3	-3	-3	-3	-4	-4	-4	-4	-4	-4	-4	-3	-2	-2	-2	-3	-3	-3	-4	-4	-4	-4	-4	-4	-3.4	-2.2																						
15-Oct	-4	-4	-5	-6	-6	-5	-5	-5	-5	-4	-2	-1	0	0	0	-1	-2	-3	-3	-3	-3	-3	-3	-3	-3.1	0.2																						
16-Oct	-3	-2	-2	-2	-2	-2	-2	-2	-2	-1	0	1	2	2	1	2	0	0	-1	-1	-2	-2	-1	-1	-0.9	2.0																						
17-Oct	-1	-1	-1	-1	-2	-2	-2	-2	-2	-1	-1	-1	0	0	0	0	-2	-3	-5	-4	-5	-6	-5	-5	-2.2	0.0																						
18-Oct	-5	-5	-6	-7	-5	-5	-5	-4	-4	-2	-1	1	0	1	1	1	0	-2	-4	-5	-8	-7	-6	-7	-3.4	1.5																						
19-Oct	-8	-7	-7	-5	-5	-4	-5	-4	-3	1	5	8	8	10	9	8	4	2	3	2	1	0	0	0	0.4	9.5																						
20-Oct	0	0	0	0	1	2	1	1	2	3	4	6	6	7	9	6	5	4	3	3	2	3	2	3	3.0	9.0																						
21-Oct	3	3	3	3	3	3	2	2	2	4	6	8	9	10	11	10	8	6	4	2	2	2	2	3	4.6	10.6																						
22-Oct	3	5	4	2	2	3	4	4	3	4	4	5	4	3	4	6	7	4	2	1	0	0	0	-1	3.0	6.9																						
23-Oct	-1	-2	-3	-4	-5	-4	-4	-3	-3	-2	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0	0	-1.9	-0.4																						
24-Oct	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.5	1.3																						
25-Oct	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0.3	0.8																						
26-Oct	0	0	0	0	0	0	0	0	0	1	2	2	2	3	2	2	2	1	1	1	1	1	1	1	0.9	3.5																						
27-Oct	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0.1	0.6																						
28-Oct	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0.6	1.5																						
29-Oct	1	2	2	1	1	1	1	0	0	-1	-1	0	1	2	2	1	1	1	1	1	0	0	0	0	0.7	1.7																						
30-Oct	0	0	0	-1	-1	-1	-1	-1	-1	0	0	1	2	2	2	2	2	0	0	0	0	0	0	1	0.4	2.3																						
31-Oct	0	0	0	0	0	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-2	-2	-3	-3	-3	-3	-1.2	0.5																						
																								-1.1	-1.1	-1.2	-1.5	-1.6	-1.7	-1.8	-1.8	-1.3	-0.2	0.6	1.5	2.1	2.5	2.5	2.5	1.8	1.0	0.2	-0.2	-0.6	-1.0	-1.1	-1.2	Diurnal Average
																								3.2	5.0	3.9	2.8	2.7	2.7	3.8	3.8	3.1	4.5	6.7	9.6	10.7	11.2	10.6	10.4	9.2	7.5	4.2	3.3	2.4	2.7	2.5	2.8	Diurnal Maximum
D - DAS Failure																																																





Peace Airshed Zone Association

# Hourly Averages

Wind Speed (km/h)  
Wind Direction (deg)  
Portable Rycroft - October 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	23	22	24	22	19	21	18	20	15	17	16	12	8	9	6	6	6	5	6	16	13	10	11	11	9.3	23.7
Dir	41	44	44	43	45	42	37	33	36	27	33	37	60	38	16	349	344	309	289	273	273	260	265	266	22.2	44.0
2 Spd	11	12	15	19	17	19	19	12	8	11	6	5	3	4	6	7	6	4	3	1	1	1	4	7	6.8	19.3
Dir	247	252	246	244	243	246	251	246	238	242	231	184	178	154	147	146	163	179	216	233	129	62	154	170	228.3	250.8
3 Spd	9	10	9	11	9	6	3	5	3	2	3	4	4	6	9	10	11	9	7	13	12	11	13	12	1.5	13.4
Dir	162	169	163	168	173	185	257	263	236	231	255	289	291	327	331	333	340	345	353	57	55	47	35	41	19.2	34.7
4 Spd	13	13	14	17	14	18	19	16	17	15	16	16	17	14	17	16	16	17	15	15	13	11	12	13	15.2	19.0
Dir	32	29	21	26	32	26	33	28	24	27	23	26	27	32	32	33	29	26	28	32	39	44	44	40	30.0	32.6
5 Spd	14	11	15	12	12	10	13	12	13	14	14	14	15	14	15	15	17	17	13	8	6	6	6	6	11.7	17.0
Dir	38	34	45	48	46	40	50	52	57	56	58	53	47	41	37	30	39	42	40	28	14	7	359	351	40.9	41.9
6 Spd	5	6	4	4	3	1	3	3	6	10	9	11	14	14	14	15	15	11	7	7	7	7	6	4	7.3	15.1
Dir	19	34	39	16	31	40	330	12	42	45	56	40	46	50	41	47	40	37	4	7	6	357	358	38	33.4	47.1
7 Spd	7	8	10	14	13	12	12	14	18	20	22	26	26	26	23	21	23	17	15	15	15	14	14	16	16.6	26.3
Dir	57	63	56	53	55	55	53	52	46	53	46	42	38	37	41	46	40	42	43	47	53	54	52	50	46.9	37.2
8 Spd	14	13	12	12	12	11	11	12	11	10	8	5	6	6	5	7	6	5	4	5	6	6	6	7	6.8	14.1
Dir	50	51	52	49	51	52	50	48	53	57	58	53	26	18	12	22	14	8	357	314	317	314	308	301	33.3	49.5
9 Spd	8	7	7	8	9	10	11	11	12	13	13	14	14	17	16	18	19	17	15	16	19	15	9	8	12.5	19.0
Dir	301	295	297	299	294	288	275	268	274	274	281	279	275	271	273	273	268	264	259	262	269	274	284	278	275.3	268.3
10 Spd	6	6	5	7	4	6	5	6	6	3	3	0	3	4	2	2	4	3	6	5	5	7	6	6	1.6	6.8
Dir	278	286	292	279	279	274	260	267	281	294	45	55	179	149	203	176	143	138	125	140	147	143	154	148	222.2	154.4
11 Spd	7	8	8	6	5	6	6	6	5	5	4	10	12	17	13	11	13	7	5	5	5	6	6	6	5.5	17.2
Dir	157	154	151	164	189	180	182	179	172	184	237	257	259	260	260	243	259	253	249	162	173	175	177	163	213.8	259.8
12 Spd	7	5	5	5	4	4	4	3	6	D	D	D	D	D	D	D	D	D	D	D	D	9	9	6	--	9.4
Dir	173	187	175	173	181	176	151	78	34	D	D	D	D	D	D	D	D	D	D	D	D	53	53	47	--	53.0
13 Spd	7	6	5	2	3	3	4	4	10	D	16	17	16	15	18	19	17	14	14	13	10	9	11	12	9.9	19.2
Dir	48	56	64	44	327	334	352	9	31	D	35	34	34	23	19	21	18	18	8	7	8	340	333	345	17.4	21.3
14 Spd	12	9	14	16	17	16	16	17	21	21	17	19	18	19	20	17	11	12	11	11	11	14	14	15.5	21.3	
Dir	351	15	14	21	29	28	19	15	20	24	26	25	26	27	24	23	21	16	11	12	13	18	26	27	20.7	19.6
15 Spd	13	13	10	6	5	6	7	6	5	6	4	5	6	5	5	8	6	6	6	8	10	10	10	12	7.0	12.9
Dir	24	24	21	11	353	351	356	12	33	15	348	0	360	352	360	28	63	55	58	37	43	37	47	41	24.7	24.2
16 Spd	9	14	21	16	16	16	13	11	9	12	9	7	6	5	6	4	7	7	4	4	6	7	8	9	5.3	20.6
Dir	42	37	36	50	49	44	29	24	26	27	26	16	349	311	331	292	261	267	273	239	243	245	246	259	12.7	36.2
17 Spd	10	10	10	8	6	3	11	17	12	9	17	14	13	16	13	12	10	10	13	16	8	6	3	4	9.9	16.8
Dir	258	259	277	286	272	278	262	263	270	251	266	273	258	256	266	251	242	238	238	242	217	191	198	217	255.1	265.7
18 Spd	3	3	3	4	5	4	4	3	3	2	4	5	5	5	5	9	9	6	4	2	3	6	7	6	2.1	9.1
Dir	200	201	215	192	174	166	179	166	176	153	47	17	62	68	52	44	63	72	82	148	220	179	156	179	122.7	43.7
19 Spd	4	7	8	8	7	8	8	7	8	8	3	2	2	3	5	4	3	4	7	5	5	2	4	4	4.2	8.2
Dir	196	175	176	169	165	169	164	164	146	144	152	1	132	57	139	150	133	131	137	166	186	188	319	276	160.8	168.8
20 Spd	2	5	4	3	5	2	3	2	6	7	7	8	7	2	1	2	8	8	6	8	7	8	9	8	4.4	9.2
Dir	270	244	172	198	226	148	70	83	163	146	143	149	145	215	308	176	157	172	183	176	180	169	172	183	170.0	171.6
21 Spd	7	11	11	10	9	12	13	12	11	10	12	6	8	6	6	5	4	7	6	6	6	5	4	6	7.6	12.5
Dir	194	187	185	190	191	188	187	186	184	192	186	197	188	187	185	183	156	150	163	176	164	144	148	122	180.5	186.6
22 Spd	5	5	2	1	4	5	11	4	5	7	5	16	22	17	9	2	2	3	2	3	5	7	7	7	4.7	22.2
Dir	156	145	151	56	129	187	199	262	159	184	203	240	243	254	264	270	42	141	122	189	188	174	169	171	208.0	243.5



Peace Airshed Zone Association

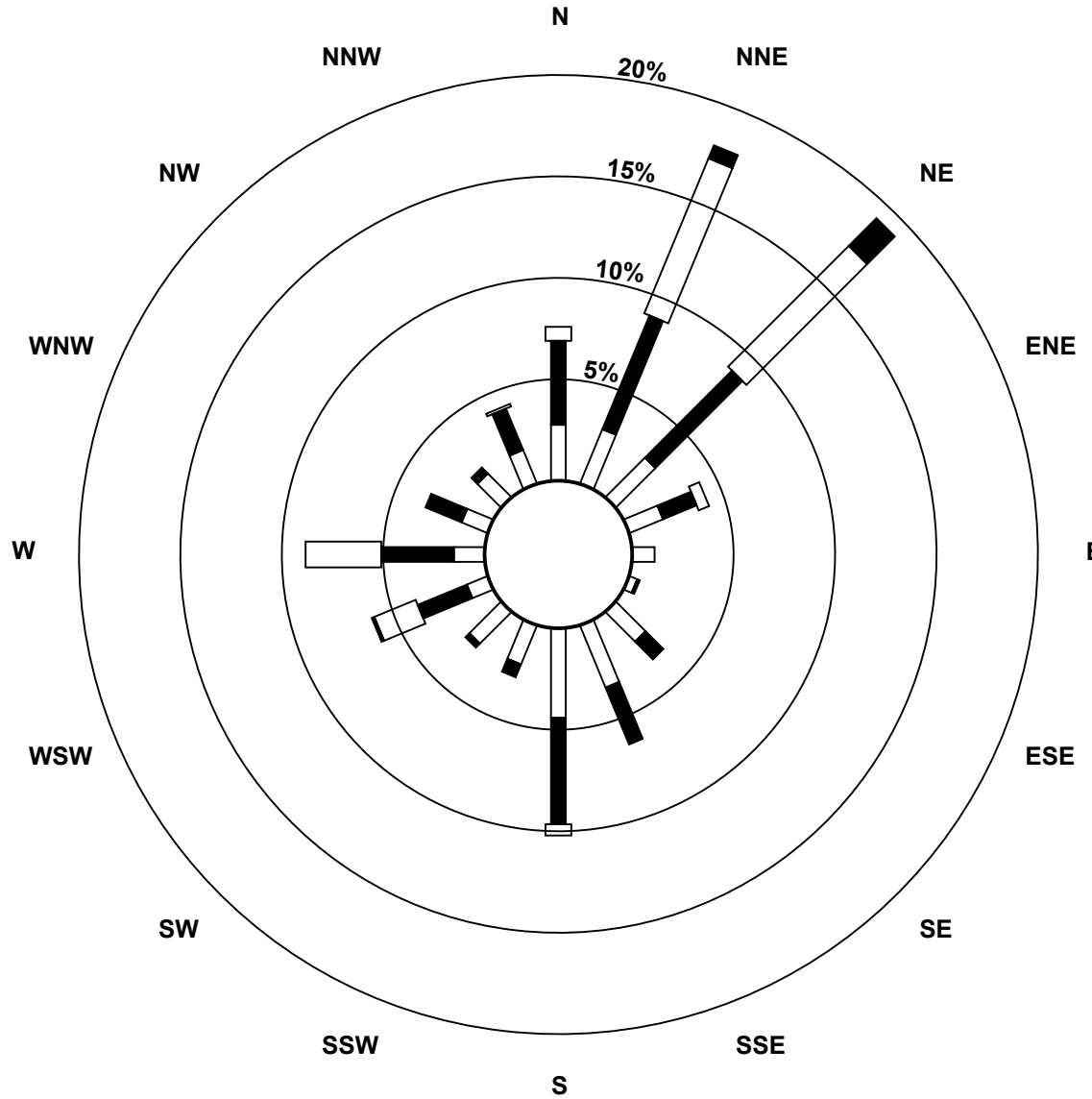
# Hourly Averages

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

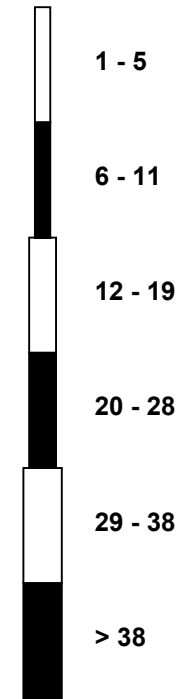
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
23 Spd	7	2	5	3	2	3	1	6	11	13	14	13	12	12	12	12	11	11	9	10	8	8	7	6	6.9	14.5
Dir	182	234	168	296	340	350	221	7	30	24	25	28	27	25	15	9	10	6	21	17	19	6	356	344	15.5	25.4
24 Spd	5	4	4	3	4	4	4	8	8	6	5	9	10	7	8	9	9	9	7	7	9	9	10	11	6.7	10.9
Dir	334	360	21	348	4	17	7	24	47	46	34	36	57	66	33	34	23	22	26	27	39	41	45	43	32.0	43.1
25 Spd	10	10	9	10	13	12	10	9	11	10	12	10	7	3	5	6	5	5	8	9	6	3	4	11	4.3	12.7
Dir	44	37	43	34	32	40	43	35	33	36	24	28	30	331	288	283	314	274	260	248	255	193	223	252	10.8	31.8
26 Spd	11	17	17	12	8	5	3	2	2	1	0	2	3	3	2	3	5	4	3	3	4	4	4	6	1.6	16.9
Dir	254	256	265	276	268	263	245	220	182	161	101	183	166	15	65	71	43	55	107	86	99	77	52	37	266.5	255.6
27 Spd	8	12	12	15	14	13	15	16	12	10	13	11	12	9	9	10	11	11	12	8	3	4	4	9	10.0	15.7
Dir	35	47	66	44	40	34	39	33	30	31	26	22	27	23	5	9	13	26	28	37	7	322	304	348	28.1	33.2
28 Spd	8	7	8	8	6	3	2	5	4	3	4	4	5	5	2	2	3	2	1	2	3	4	4	7	2.9	8.5
Dir	353	354	345	358	11	24	31	21	26	50	34	42	23	56	99	63	66	98	95	87	105	132	126	145	37.4	352.9
29 Spd	5	4	5	4	4	4	5	5	7	4	3	2	2	4	3	3	1	3	4	4	4	3	3	4	0.9	6.8
Dir	160	177	201	209	248	202	185	186	180	202	201	187	232	282	353	12	54	52	1	342	40	21	51	30	195.2	180.3
30 Spd	5	7	5	6	6	3	1	2	4	3	3	5	3	1	2	1	1	4	6	6	6	4	8	12	1.8	12.4
Dir	36	31	2	341	357	27	45	195	170	154	183	234	291	98	320	31	11	310	265	275	263	232	239	251	285.1	250.6
31 Spd	11	9	9	10	7	9	3	5	4	4	3	5	4	3	4	7	8	10	12	10	10	7	8	9	5.3	11.8
Dir	271	290	281	259	288	350	306	282	331	354	326	331	351	336	324	337	348	1	16	34	30	31	3	354	335.5	16.0
Spd	2.3	2.2	2.6	2.6	2.6	2.7	2.1	3.0	3.7	3.7	4.5	4.4	4.1	4.0	4.6	4.8	4.7	3.7	3.1	2.2	1.8	1.7	1.9	1.9	Diurnal Average	
Dir	19.4	23.6	29.4	16.9	25.2	27.8	20.6	15.2	36.2	38.4	27.9	17.0	17.3	7.2	4.6	13.1	14.3	17.0	8.6	3.1	11.9	31.0	22.2	6.8	Diurnal Maximum	
Spd	23.0	22.2	23.7	22.1	19.0	20.7	19.3	19.7	21.3	20.8	22.4	26.0	26.0	26.3	23.2	21.0	22.5	17.2	15.3	16.3	18.5	14.7	14.3	15.9	Diurnal Maximum	
Dir	41.2	44.4	44.0	43.1	44.7	41.6	250.8	32.6	19.6	24.1	46.0	41.8	37.6	37.2	40.9	45.6	39.8	264.0	27.7	241.9	269.3	273.7	52.2	50.1	Diurnal Maximum	
Maximum Speed Value: 26 km/h on Oct 7 14:00		Minimum Speed Value: 0 km/h on Oct 26 11:00														Hours in Service: 744										
Maximum Daily Speed Average: 16.6 km/h on Oct 7		Minimum Daily Speed Average: 0.9 km/h on Oct 29														Hours of Data: 731										
Maximum Diurnal Speed Average: 4.8 km/h at hour 16		Minimum Diurnal Speed Average: 1.7 km/h at hour 22														Hours of Missing Data: 13										
Monthly Average Velocity: 3.08 km/h 18.70 deg		Speed Percentiles: P <sub>1</sub> = 1.0 P <sub>10</sub> = 2.9 Q <sub>1</sub> = 4.5 Median = 7.4 Q <sub>3</sub> = 11.8 P <sub>90</sub> = 15.9 P <sub>99</sub> = 22.2														Percent Operational Time: 98.3										
All monthly, daily, and diurnal averages have been calculated using vector methods																										
D - DAS 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	28	61	24	2	0	0	115																			
NorthEast	36	77	118	20	0	0	251																			
East	16	2	0	0	0	0	18																			
SouthEast	28	23	0	0	0	0	51																			
South	45	61	7	0	0	0	113																			
SouthWest	23	11	8	2	0	0	44																			
West	19	41	40	1	0	0	101																			
NorthWest	19	18	1	0	0	0	38																			
Total	214	294	198	25	0	0	731																			

**Wind Rose**

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



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



# Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Portable Rycroft - October 2016

Maximum Speed: 26 km/h on Oct 7 14:00	Maximum Daily Speed Average: 16.8 km/h on Oct 7	Hours in Service: 744
Minimum Speed: 1 km/h on Oct 26 11:00	Minimum Daily Speed Average: 4.3 km/h on Oct 29	Hours of Data: 731
Maximum Diurnal Speed Average: 9.8 km/h at hour 13	Minimum Diurnal Speed Average: 7.2 km/h at hour 22	Hours of Missing Data: 13
Monthly Average Speed: 8.71 km/h	Percentiles: P <sub>1</sub> = 1.7 P <sub>10</sub> = 3.3 Q <sub>1</sub> = 4.7 Median = 7.4 Q <sub>3</sub> = 11.9 P <sub>90</sub> = 15.9 P <sub>99</sub> = 22.3	Percent Operational Time: 98.3

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-Oct	23	22	24	22	19	21	18	20	15	17	16	12	11	9	7	6	6	5	6	16	13	10	11	11	14.2	23.8
2-Oct	11	12	15	19	17	19	19	12	8	11	7	5	3	4	6	7	6	4	4	2	2	2	4	7	8.6	19.4
3-Oct	9	10	9	11	9	7	4	5	4	3	3	5	5	6	9	10	12	9	9	13	12	12	14	12	8.5	13.6
4-Oct	13	13	14	17	14	18	19	16	17	16	16	16	17	15	17	16	16	17	15	15	13	11	12	13	15.3	19.1
5-Oct	14	11	15	12	12	10	13	12	13	14	14	14	15	14	15	15	17	17	13	8	6	6	6	6	12.2	17.1
6-Oct	5	6	4	5	3	1	3	3	6	11	9	11	15	14	15	16	15	12	7	7	7	7	6	5	8.0	15.7
7-Oct	8	8	10	14	13	12	12	15	18	20	23	26	26	26	23	21	23	17	15	15	15	14	14	16	16.8	26.4
8-Oct	14	13	12	12	12	11	11	12	11	10	8	5	6	6	5	7	6	5	4	5	6	6	6	7	8.3	14.2
9-Oct	8	7	7	8	9	10	11	11	12	13	13	14	15	17	16	18	19	17	15	16	19	15	9	8	12.8	19.0
10-Oct	7	6	5	7	4	6	5	6	6	3	3	3	2	4	4	3	3	4	3	6	5	5	7	6	4.8	6.9
11-Oct	7	8	8	6	5	6	6	6	5	5	4	11	12	17	14	11	13	7	5	5	5	6	6	6	7.7	17.3
12-Oct	7	5	5	5	5	4	5	4	6	D	D	D	D	D	D	D	D	D	D	D	D	9	9	7	--	9.5
13-Oct	7	6	6	2	3	3	4	4	10	D	16	17	17	15	18	19	17	14	14	13	10	9	12	12	10.8	19.2
14-Oct	12	9	14	16	17	16	16	17	21	21	21	17	19	18	19	20	17	11	12	11	11	11	14	14	15.7	21.4
15-Oct	13	13	10	6	5	7	7	6	5	7	4	5	6	5	5	8	7	6	7	8	10	10	10	12	7.6	13.0
16-Oct	9	14	21	16	16	16	13	11	9	12	9	7	6	5	6	4	7	7	4	4	6	7	8	9	9.4	20.6
17-Oct	10	10	10	8	6	3	11	17	12	9	17	14	14	16	13	12	10	10	13	16	9	6	3	4	10.6	16.9
18-Oct	3	3	3	4	5	4	4	4	3	2	4	6	6	6	5	10	9	6	4	3	3	6	7	6	4.8	9.5
19-Oct	4	7	8	8	7	8	8	7	8	8	4	4	4	4	5	4	3	4	7	5	5	2	5	5	5.6	8.3
20-Oct	2	5	4	4	5	4	3	4	6	7	7	8	7	5	2	3	8	8	6	8	7	8	9	9	5.8	9.2
21-Oct	7	11	11	10	9	12	13	12	11	10	12	6	8	6	6	5	4	7	6	6	6	6	4	6	8.0	12.6
22-Oct	6	5	3	3	4	5	12	4	5	7	5	16	22	17	9	2	2	3	3	3	5	7	7	7	6.8	22.3
23-Oct	7	3	5	5	2	3	2	7	11	13	15	13	12	12	12	12	11	11	9	10	8	8	8	6	8.6	14.7
24-Oct	5	4	4	3	4	4	4	8	9	6	5	9	10	7	8	9	9	9	8	7	9	9	10	11	7.1	10.9
25-Oct	10	10	9	10	13	12	10	9	11	10	12	10	7	3	5	6	5	5	8	9	7	3	4	12	8.3	12.7
26-Oct	11	17	17	12	8	5	3	2	2	2	1	3	3	3	2	3	5	5	3	3	4	4	4	6	5.3	16.9
27-Oct	8	12	13	15	14	13	15	16	12	10	13	11	12	9	10	10	11	11	12	8	3	4	4	9	10.7	15.8
28-Oct	9	7	8	8	6	3	2	5	5	3	4	4	5	5	3	2	3	2	1	2	3	4	4	7	4.4	8.5
29-Oct	5	4	5	5	5	4	5	6	7	5	4	3	3	4	4	4	4	3	5	4	4	4	4	4	4.3	7.0
30-Oct	5	7	6	6	6	3	1	2	5	3	4	5	3	2	3	2	2	4	6	6	6	4	8	13	4.6	12.6
31-Oct	12	9	9	10	8	9	5	5	4	4	3	5	4	3	4	7	8	11	12	10	10	7	8	9	7.3	12.2
	8.7	8.9	9.5	9.2	8.6	8.4	8.6	8.7	8.9	9.0	9.2	9.6	9.8	9.2	9.0	9.0	9.2	8.4	7.9	8.2	7.6	7.2	7.7	8.5	Diurnal Average	
	23.1	22.2	23.8	22.2	19.1	20.7	19.4	19.7	21.4	20.9	22.6	26.1	26.1	26.4	23.4	21.2	22.6	17.4	15.4	16.3	18.6	14.7	14.3	15.9	Diurnal Maximum	

D - DAS Failure  
 All monthly, daily, and diurnal averages have been calculated using scalar methods

## Hourly Standard Deviations

Wind Direction (WD) - deg

Portable Rycroft - October 2016

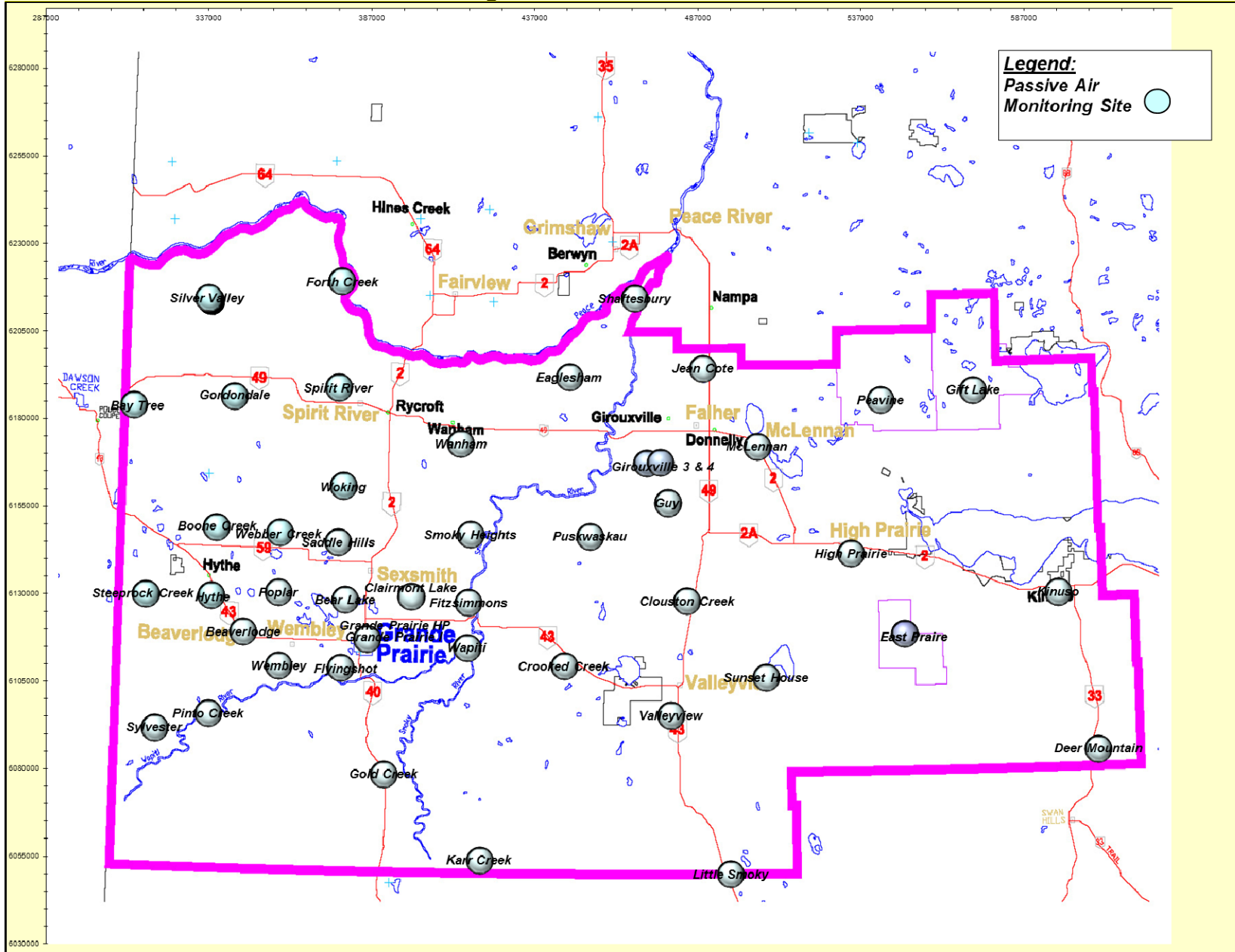
Maximum Value: 91.3 deg on Oct 10 13:00																	Hours in Service: 744																																																																																																																		
Minimum Value: 2.3 deg on Oct 17 16:00																	Hours of Data: 731																																																																																																																		
Percentiles: P <sub>1</sub> = 2.8 P <sub>10</sub> = 4.3 Q <sub>1</sub> = 5.7 Median = 8.6 Q <sub>3</sub> = 16.1 P <sub>90</sub> = 32.0 P <sub>99</sub> = 75.2																	Hours of Missing Data: 13																																																																																																																		
																	Hours of Calibration: 0																																																																																																																		
																	Percent Operational Time: 98.3																																																																																																																		
Day	Hourly Period Ending At (MST)																								Daily Maximum																																																																																																										
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																																																																																																											
1-Oct	5	5	5	5	6	4	6	4	12	3	4	23	47	6	12	17	9	18	5	5	8	10	3	3	46.8																																																																																																										
2-Oct	5	5	7	5	5	5	7	10	14	8	23	17	24	10	10	8	10	11	32	48	73	65	18	8	72.6																																																																																																										
3-Oct	6	4	5	6	14	43	42	29	34	37	30	24	25	24	15	14	12	7	36	6	9	15	11	11	43.1																																																																																																										
4-Oct	10	9	7	9	6	5	5	7	6	7	7	6	5	8	7	6	6	4	4	5	5	5	5	4	10.4																																																																																																										
5-Oct	5	7	5	7	5	4	5	7	8	8	11	12	11	11	9	11	8	5	2	15	10	6	9	7	15.2																																																																																																										
6-Oct	11	10	9	21	22	75	24	14	13	13	14	16	20	17	19	15	9	10	5	12	16	6	8	22	75.3																																																																																																										
7-Oct	9	6	5	4	5	5	5	6	5	7	7	6	4	5	7	8	5	11	4	5	5	5	5	4	11.0																																																																																																										
8-Oct	4	5	4	4	6	5	5	5	6	7	8	13	14	7	7	8	8	8	18	7	5	5	8	6	17.6																																																																																																										
9-Oct	6	6	7	7	6	6	5	3	3	4	5	7	6	6	8	7	4	4	3	3	7	6	8	4	8.0																																																																																																										
10-Oct	5	8	5	10	21	6	5	5	10	24	38	27	91	39	22	77	72	11	15	8	6	9	5	5	91.3																																																																																																										
11-Oct	4	7	5	21	18	6	8	7	4	10	25	9	7	7	10	12	5	8	14	23	10	8	6	13	24.6																																																																																																										
12-Oct	6	6	12	9	8	9	36	32	11	D	D	D	D	D	D	D	D	D	D	D	D	6	5	8	36.0																																																																																																										
13-Oct	6	10	12	70	15	19	14	13	11	D	6	5	7	7	4	4	4	4	4	7	7	3	5	3	70.1																																																																																																										
14-Oct	8	6	6	8	7	7	5	5	4	4	5	5	4	4	3	3	4	5	3	2	3	4	4	3	8.5																																																																																																										
15-Oct	3	3	4	8	15	9	12	13	11	16	16	14	9	11	13	8	18	9	18	12	7	11	10	8	17.8																																																																																																										
16-Oct	17	6	4	7	5	7	4	3	3	3	6	4	15	7	12	13	9	9	18	7	6	9	10	4	18.0																																																																																																										
17-Oct	3	5	7	6	12	40	7	3	5	7	6	9	9	5	7	2	7	8	4	3	26	3	10	19	40.2																																																																																																										
18-Oct	14	15	13	17	4	8	11	16	7	28	22	21	21	21	25	17	9	8	12	47	23	8	7	16	46.7																																																																																																										
19-Oct	16	7	6	4	9	6	8	9	6	8	86	80	60	44	29	15	14	7	6	9	7	50	27	37	85.7																																																																																																										
20-Oct	50	12	31	30	27	69	32	59	13	6	11	7	10	60	56	66	12	13	12	6	5	9	4	8	68.5																																																																																																										
21-Oct	5	3	4	4	3	3	4	4	7	4	7	9	9	9	10	5	27	11	10	13	7	34	57	14	56.5																																																																																																										
22-Oct	36	51	52	91	18	19	30	32	9	11	13	6	5	7	8	47	36	11	45	31	13	13	9	11	91.2																																																																																																										
23-Oct	20	62	26	49	60	36	85	35	7	8	9	7	6	9	7	8	7	7	7	8	9	7	11	10	85.5																																																																																																										
24-Oct	15	17	10	15	17	8	8	6	7	8	8	8	9	8	13	4	8	5	8	6	5	5	5	5	17.4																																																																																																										
25-Oct	5	5	8	7	3	5	5	8	5	5	3	4	5	30	14	8	9	19	5	8	18	8	14	6	29.9																																																																																																										
26-Oct	3	3	7	5	8	7	23	23	22	55	87	38	30	21	33	21	17	13	35	28	18	25	22	12	87.2																																																																																																										
27-Oct	11	7	9	5	7	7	7	7	8	6	4	4	4	9	14	9	5	6	7	6	25	9	12	6	25.5																																																																																																										
28-Oct	8	7	5	8	9	32	18	7	13	20	11	18	12	13	28	27	18	17	23	12	20	15	9	8	32.2																																																																																																										
29-Oct	12	13	13	9	17	22	12	17	16	22	31	48	69	26	65	50	67	35	28	32	31	41	42	34	69.2																																																																																																										
30-Oct	21	18	18	5	10	16	50	68	19	14	32	33	30	57	52	62	71	19	13	11	14	16	12	9	70.6																																																																																																										
31-Oct	7	13	12	11	27	11	45	16	28	14	19	10	19	28	19	10	13	7	15	12	6	6	10	9	45.3																																																																																																										
50.4																	62.4					52.3					91.2					60.1					75.3					85.5					68.0					33.5					55.1					87.2					79.6					91.3					59.7					65.4					77.2					72.1					35.2					44.9					47.9					72.6					65.4					56.5					37.4				
D - DAS Failure																																																																																																																																			

# PAZA

## Monthly Passive Data Summary



# Location of PAZA Passive Monitoring Stations



## PAZA Passive Results for October 2016

Station Number	Station Name	SO2 ppb	O3 ppb	NO2 ppb	H2S ppb	Site Legal
<b>Duplicates</b>						
4a	Gordondale	0.2	31.3	0.9		
4b	Gordondale	0.2	29.0	1.1		
23a	Bear Lake	0.1	24.6	1.1		
23b	Bear Lake	0.1	21.6	1.1		
24a	Wembley	0.2	26.7	1.2		
24b	Wembley	0.2	29.4	1.4		
65a	Deer Mountain 2	0.1	21.5	0.5		
65b	Deer Mountain 2	0.0	24.0	0.4		
63a	Girouxville 3				0.3	
63b	Girouxville 3				0.3	
1	Silver Valley	0.2	22.5	0.9		08-27-081-11 W6M
2	Bay Tree	0.1	21.5	1.2		13-16-078-13 W6M
3	Fourth Creek	0.1	24.1	0.5		04-13-082-07 W6M
4	Gordondale	0.2	30.1	1.0		04-34-078-10 W6M
5	Boone Creek	0.1	28.1	1.2		16-36-074-11 W6M
7	Steeprock Creek	0.1	23.1	1.1		09-35-072-13 W6M
9	Spirit River	0.1	28.6	0.7		08-12-079-07 W6M
10	Woking	0.3	27.6	0.7		01-13-076-07 W6M
11	Webber Creek	0.2	19.4	1.6		09-36-074-09 W6M
12	Hythe	0.3	24.4	1.4		14-36-072-11 W6M
14	Sylvester	0.1	25.9	1.1		08-06-069-12 W6M
16	Beaverlodge	0.3	26.3	1.9		15-36-071-10 W6M
17	Poplar	0.3	24.3	1.4		13-06-073-08 W6M
18	Saddle Hills	0.1	22.0	0.7		04-25-074-07 W6M
19	Wanham	0.1	26.6	0.8		16-22-077-03 W6M
20	Shaftesbury	0.1	21.7	0.7		04-03-082-23 W5M
21	Eaglesham	0.1	21.1	0.6		16-21-079-25 W5M
23	Bear Lake	0.1	23.1	1.1		15-31-072-06 W6M
24	Wembley	0.2	28.1	1.3		12-31-070-08 W6M
25	Pinto Creek	0.1	24.8	1.2		04-24-069-11 W6M
26	Flyingshot	0.2	16.6	2.2		15-36-070-07 W6M
27	Grande Prairie I	0.2	14.8	8.1		08-15-071-06 W6M

## PAZA Passive Results for October 2016 (Continued)

28	Clairmont Lake	0.1	24.8	1.3		09-06-073-04 W6M
29	Smoky Heights	0.2	20.9	0.8		04-06-075-02 W6M
30	Fitzsimmons	0.1	17.7	0.9		15-36-072-03 W6M
32	Gold Creek	0.2	16.5	1.7		06-33-067-05 W6M
33	Wapiti	0.1	22.5	1.1		02-25-071-03 W6M
34	Puskwaskau	0.1	16.3	0.4		15-35-074-25 W5M
35	Jean Cote	0.1	20.3	0.8		12-35-079-21 W5M
36	Guy	0.1	24.3	0.7		03-04-076-22 W5M
37	Crooked Creek	0.1	21.0	1.4		16-01-071-26 W5M
38	Karr Creek	0.0	14.5	1.1		10-16-065-02 W6M
39	Clouston Creek	0.1	23.5	0.6		12-01-073-22 W5M
40	McLennan	0.1	24.2	0.8		03-29-077-19 W5M
41	Valleyview	0.2	23.6	0.7		09-30-069-22 W5M
42	Sunset House	0.2	25.2	1.0		05-32-070-19 W5M
43	High Prairie	0.0	24.5	0.9		16-13-074-17 W5M
44	Peavine	0.1	19.7	0.4		03-05-079-15 W5M
45	Gift Lake	0.0	18.1	0.6	0.0	10-07-079-12 W5M
46	Little Smoky	0.1	13.8	3.0		12-01-065-21 W5M
47	Kinuso	0.1	23.9	0.6		12-10-073-10 W5M
65	Deer Mountain 2	0.0	22.7	0.5		15-22-068-09 W5M
49	Grande Prairie HP	0.2	17.3	5.3		17-26-071-06 W6M
50	East Prairie	0.1	16.8	0.5		13-02-072-15 W5M
63	Girouxville 3				0.3	14-02-077-23 W5M
64	Girouxville 4				0.2	4-08-077-22 W5M

\*BDL = Below Detection Level

\*N/S - No sample

## Passive Summary for October 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 October 2016 (PAZA Zone)				
<b>Mean</b>	<b>0.1</b>	<b>22.2</b>	<b>1.3</b>	<b>0.2</b>
<b>Standard Deviation</b>	<b>0.1</b>	<b>4.1</b>	<b>1.3</b>	<b>0.1</b>
<b>Minimum</b>	<b>0.0</b>	<b>13.8</b>	<b>0.4</b>	<b>0.0</b>
<b>Minimum At</b>	<b>Gift Lake (#45)</b>	<b>Little Smoky (#46)</b>	<b>Peavine (#44)</b>	<b>Gift Lake (#45)</b>
<b>Maximum</b>	<b>0.3</b>	<b>30.1</b>	<b>8.1</b>	<b>0.3</b>
<b>Maximum At</b>	<b>Poplar (#17)</b>	<b>Gordondale (#4)</b>	<b>Grande Prairie I (#27)</b>	<b>Girouxville 3 (#63a)</b>

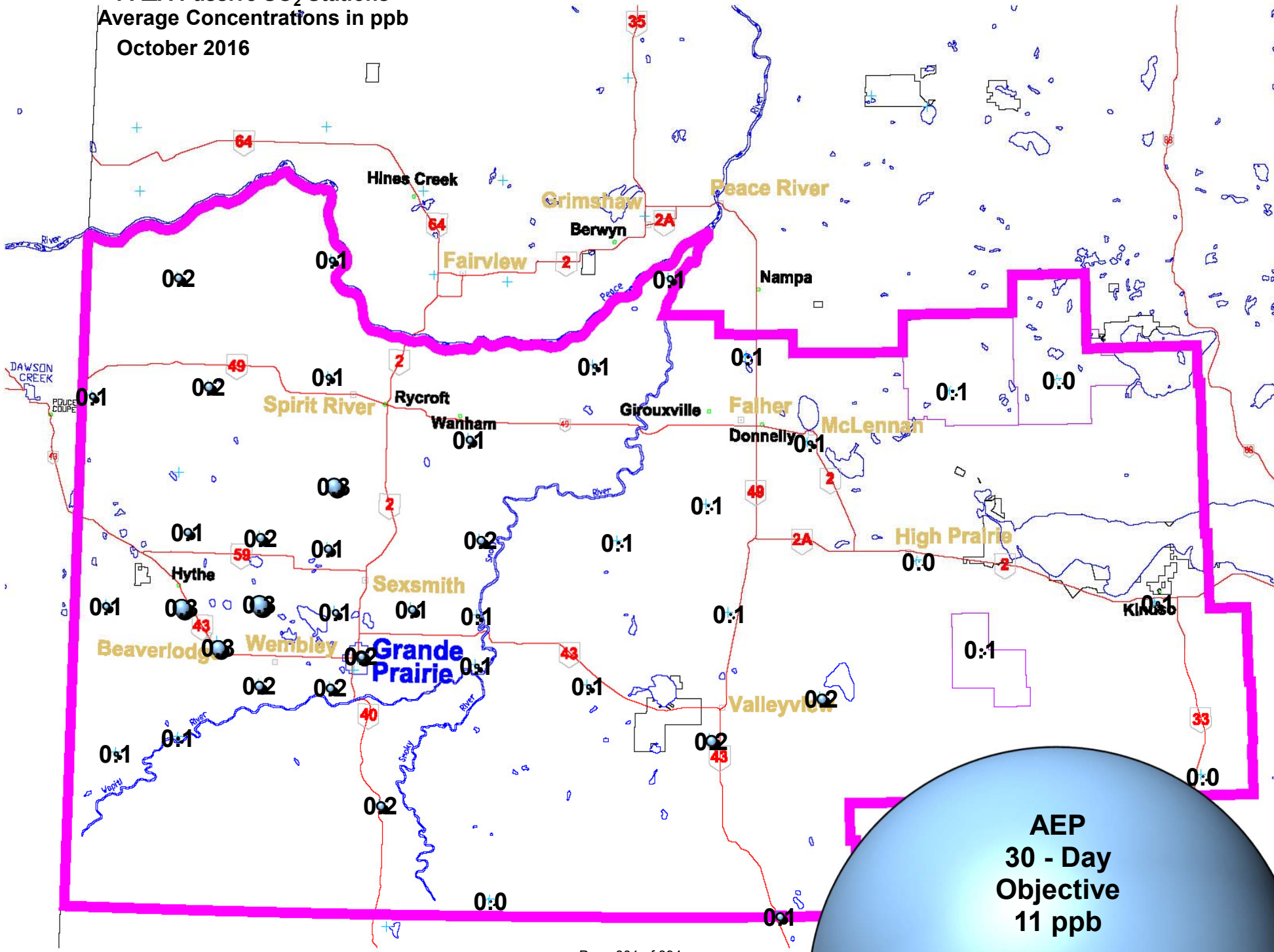
### Comparison between Continuous and Passive monitoring at Beaverlodge (passive #16 Beaverlodge)

	SO <sub>2</sub>	O <sub>3</sub>	NO <sub>2</sub>
<b>PAZA Beaverlodge station</b>	<b>0.1</b>	<b>16.2</b>	<b>3.1</b>
<b>PAZA Beaverlodge passive</b>	<b>0.3</b>	<b>26.3</b>	<b>1.9</b>

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

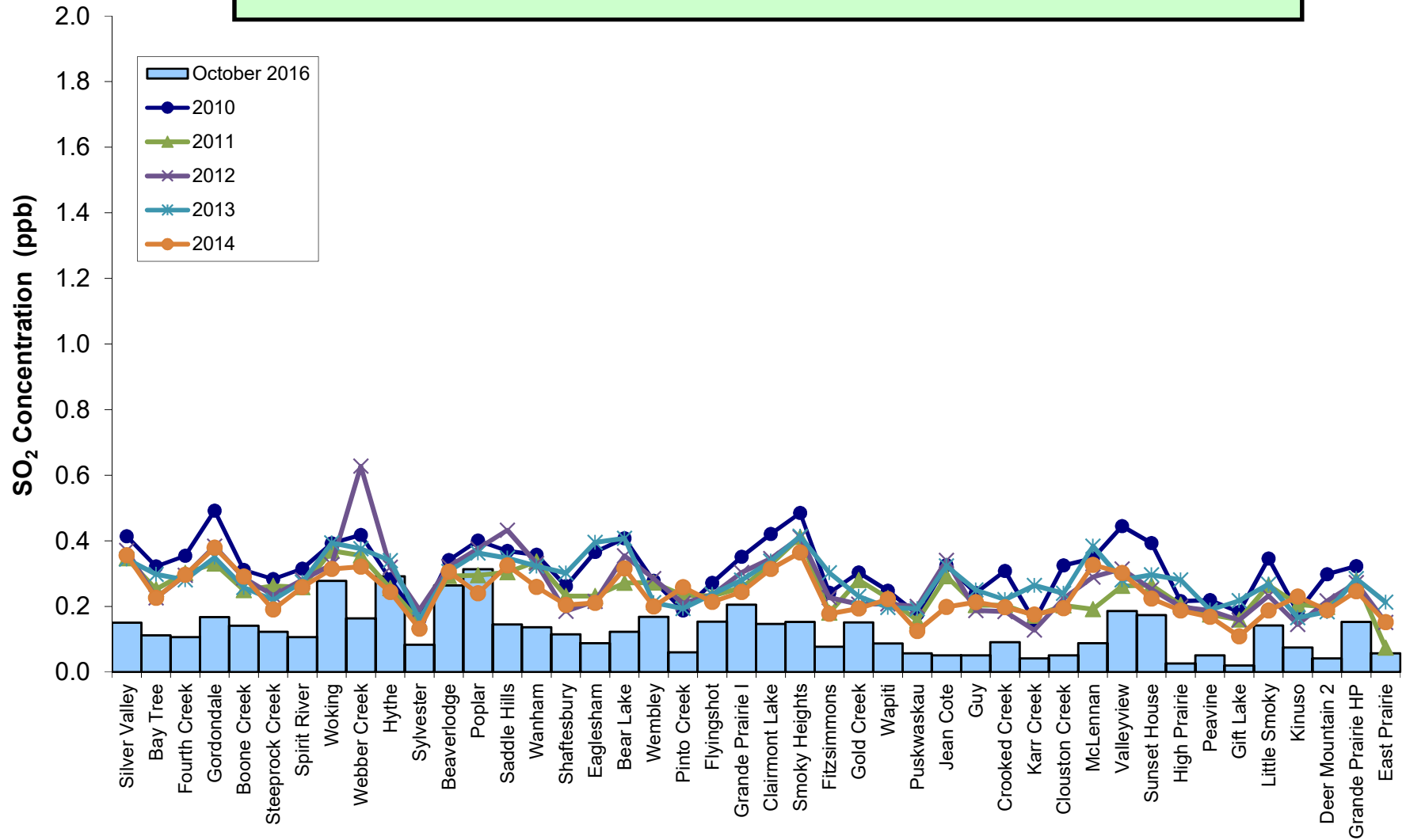
	SO <sub>2</sub>	O <sub>3</sub>	NO <sub>2</sub>
<b>PAZA Henry Pirker station</b>	<b>0.1</b>	<b>12.7</b>	<b>6.3</b>
<b>PAZA Grande Prairie passive</b>	<b>0.2</b>	<b>17.3</b>	<b>5.3</b>

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



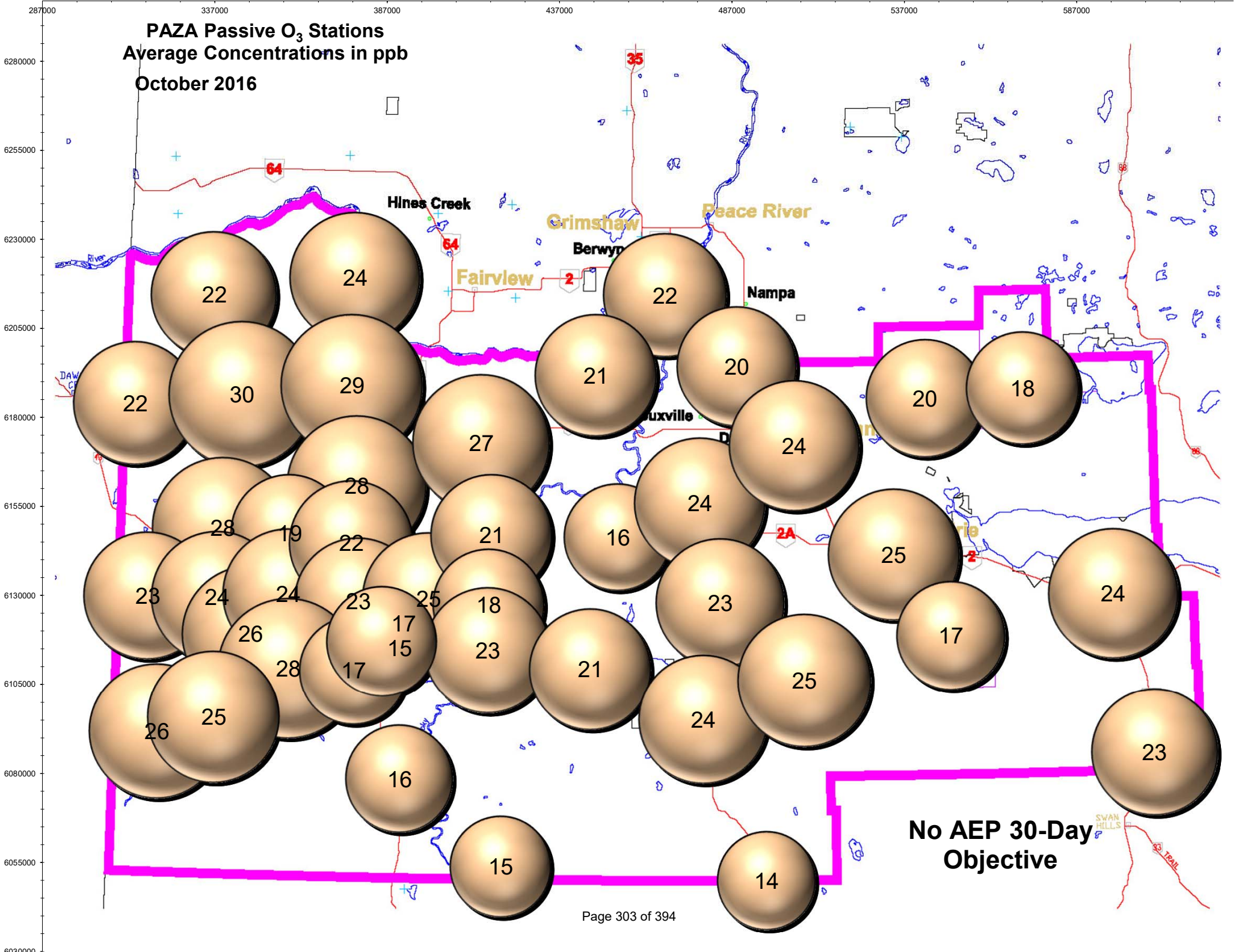
AEP  
30 - Day  
Objective  
11 ppb

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

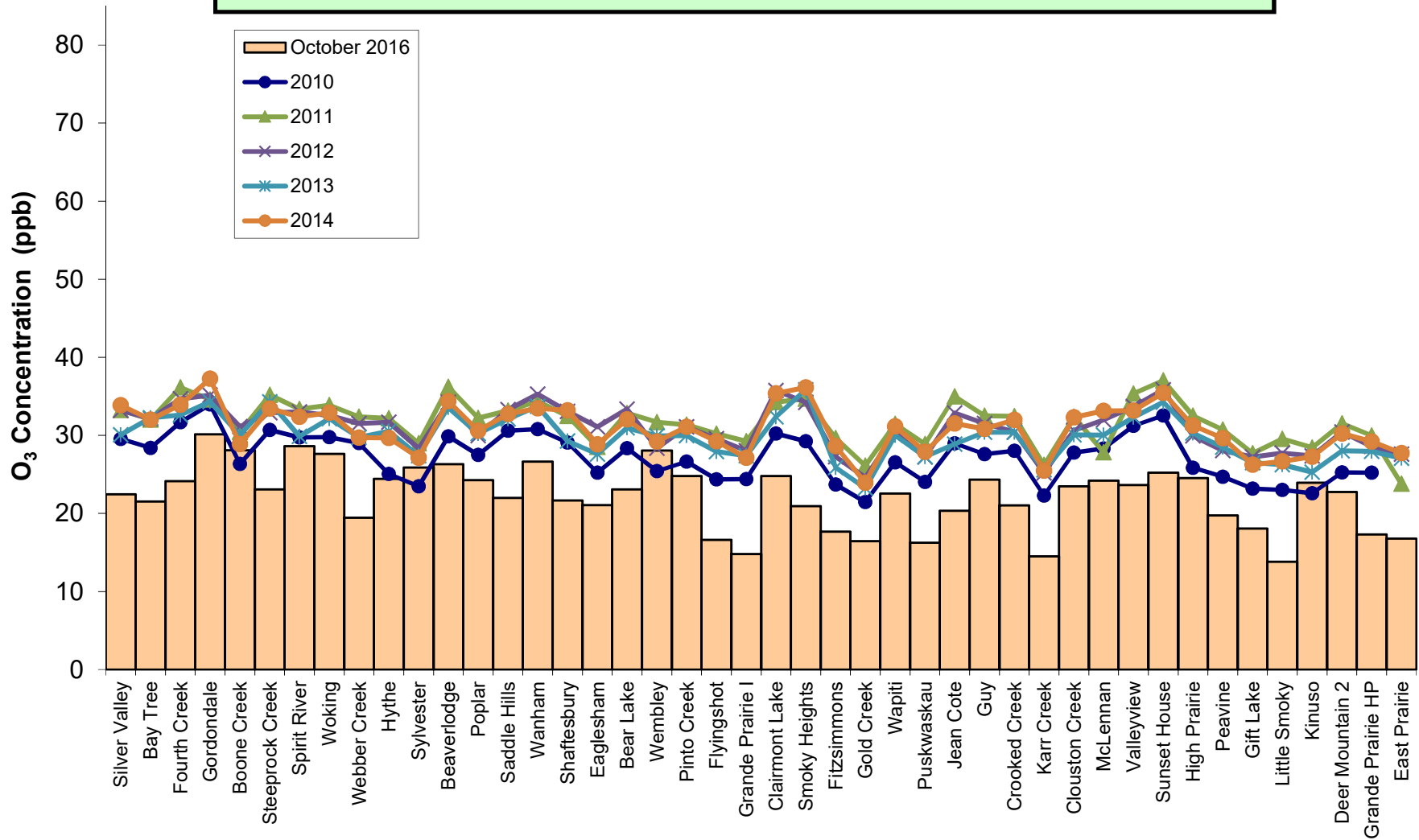




**PAZA Passive O<sub>3</sub> Stations**  
**Average Concentrations in ppb**  
**October 2016**



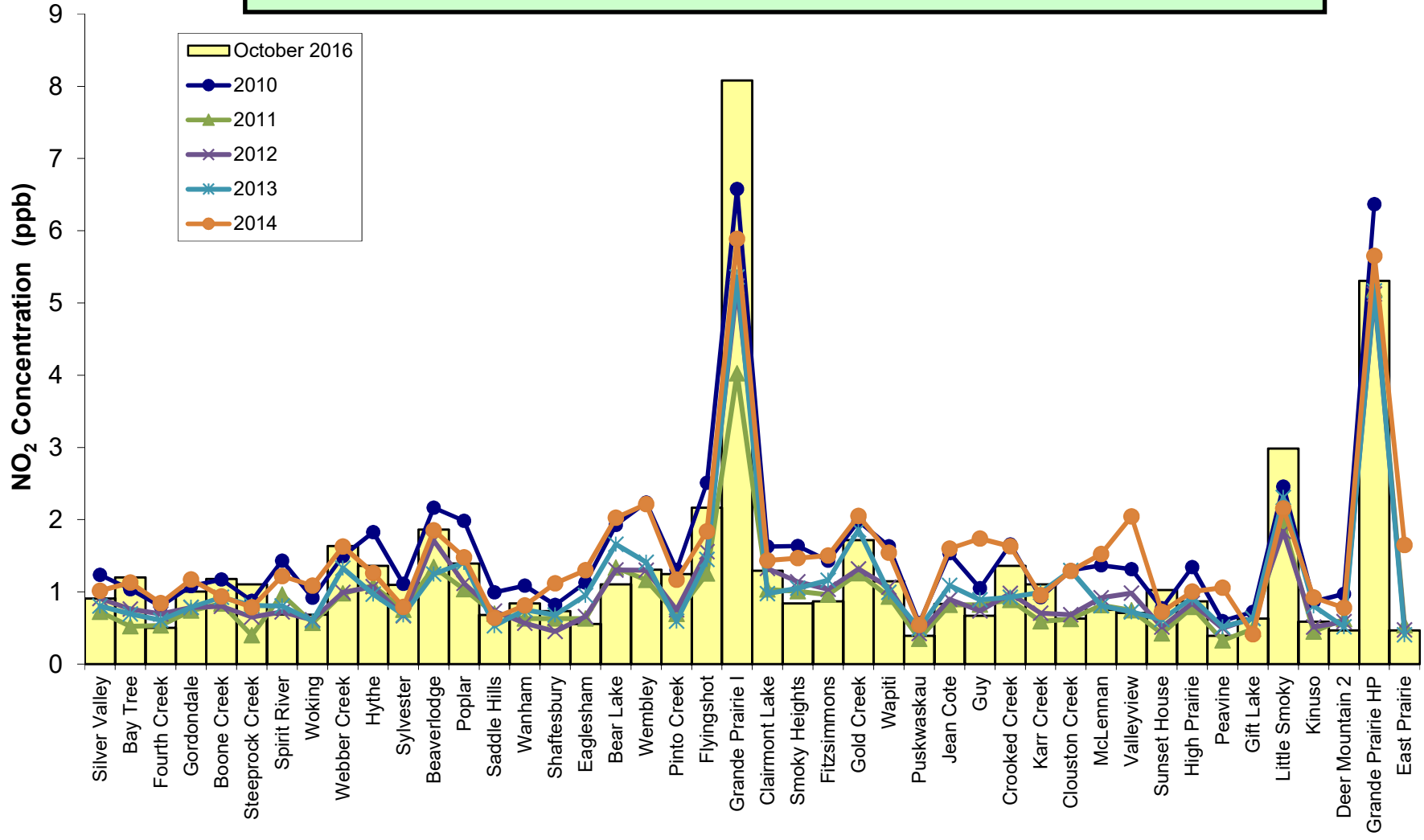
## Alberta Ambient Air Quality Objective - No Annual O<sub>3</sub> Objective



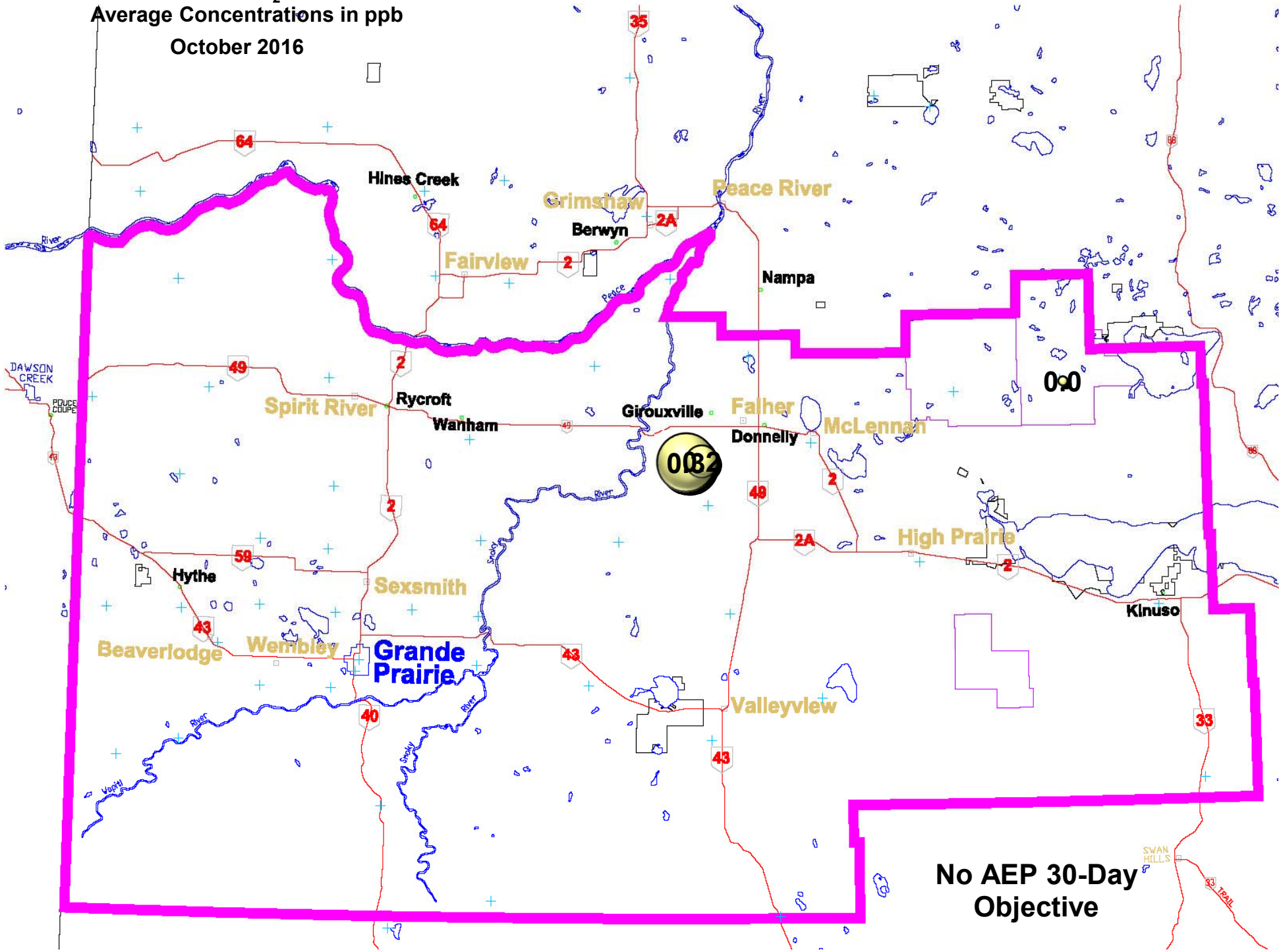


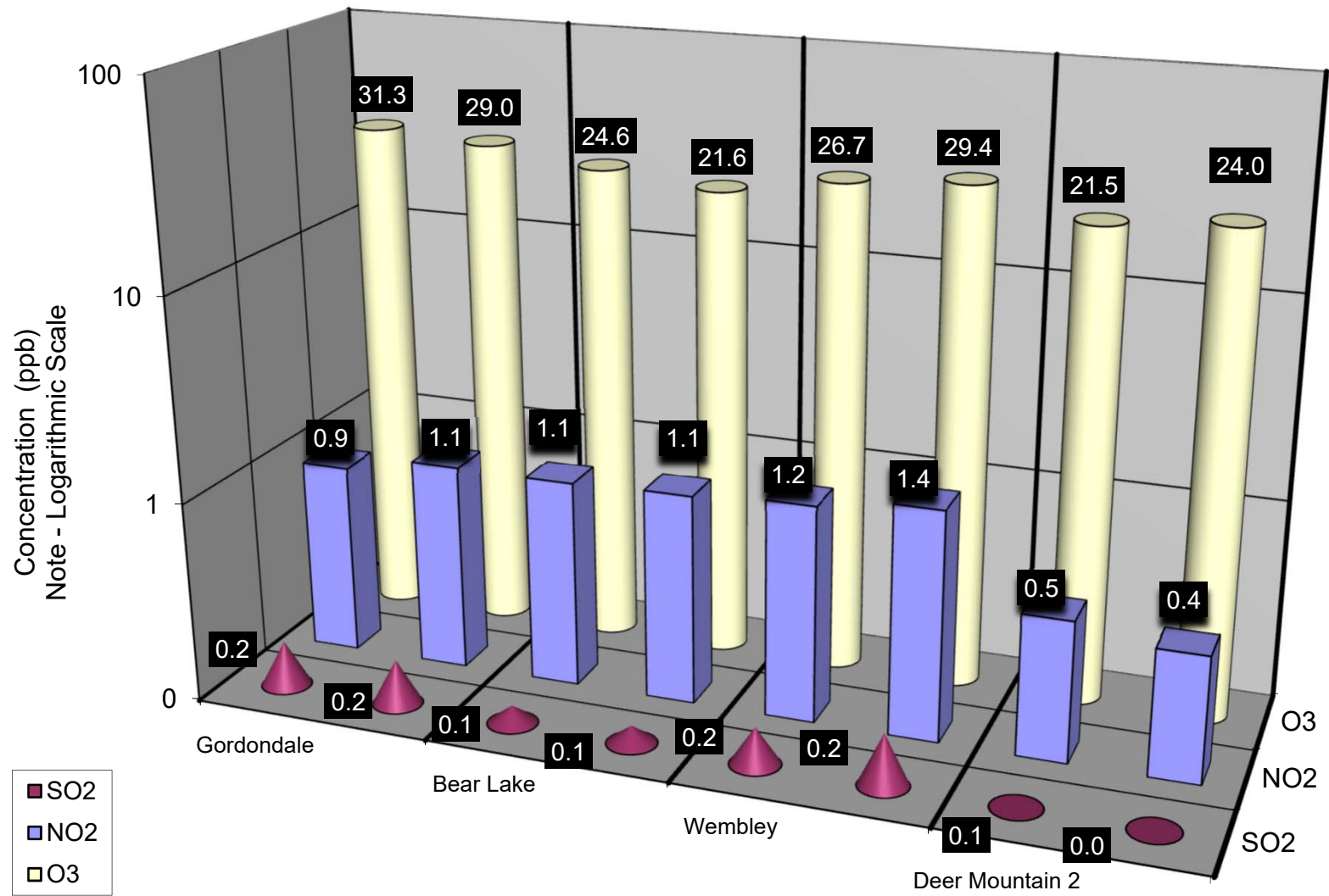


**Alberta Ambient Air Quality Objective - Annual NO<sub>2</sub> Objective is 24 ppb**



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





Duplicate Summary Chart

# October 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	October 4, 2016	Previous Calibration	September 4, 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)	8:20	End Time (MST)	10:45
Barometric Pressure	721.000 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	0.993479	Calculated slope	0.979845
Calculated intercept	1.060338	Calculated intercept	1.328736
Analyzer make	TEI 43I-TLE	Analyzer serial #	1507864682 (AMU 2006)

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
Background	1.45		1.45	
Coefficient	0.934		0.934	
Pressure	672.5	mm Hg	673.1	mm Hg
Flow	0.442	lpm	0.444	lpm
Lamp intensity	82	Hz	82	Hz

## Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
4996	0.00	0.0	0.1	N/A
4998	39.94	394.0	401.7	0.9808
4997	19.99	198.0	199.3	0.9937
4999	9.89	98.1	97.8	1.0035
4996	0.00	0.0	0.1	As Found Zero
4996	39.93	394.1	401.7	As Found Span
Average Correction Factor				0.9926

Calculated value of As Found Response: 400.0 ppb      Percent Change of As Found: -1.5%

	before calibration		after calibration	
Auto zero	0.1	ppb	0.1	ppb
Auto span	285.2	ppb	288.1	ppb

Notes: No adjustment made

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Calibration Performed By: Dmytro Dolotii

# Calibration Summary



Parameter SO2  
 Air Monitoring Network PAZA

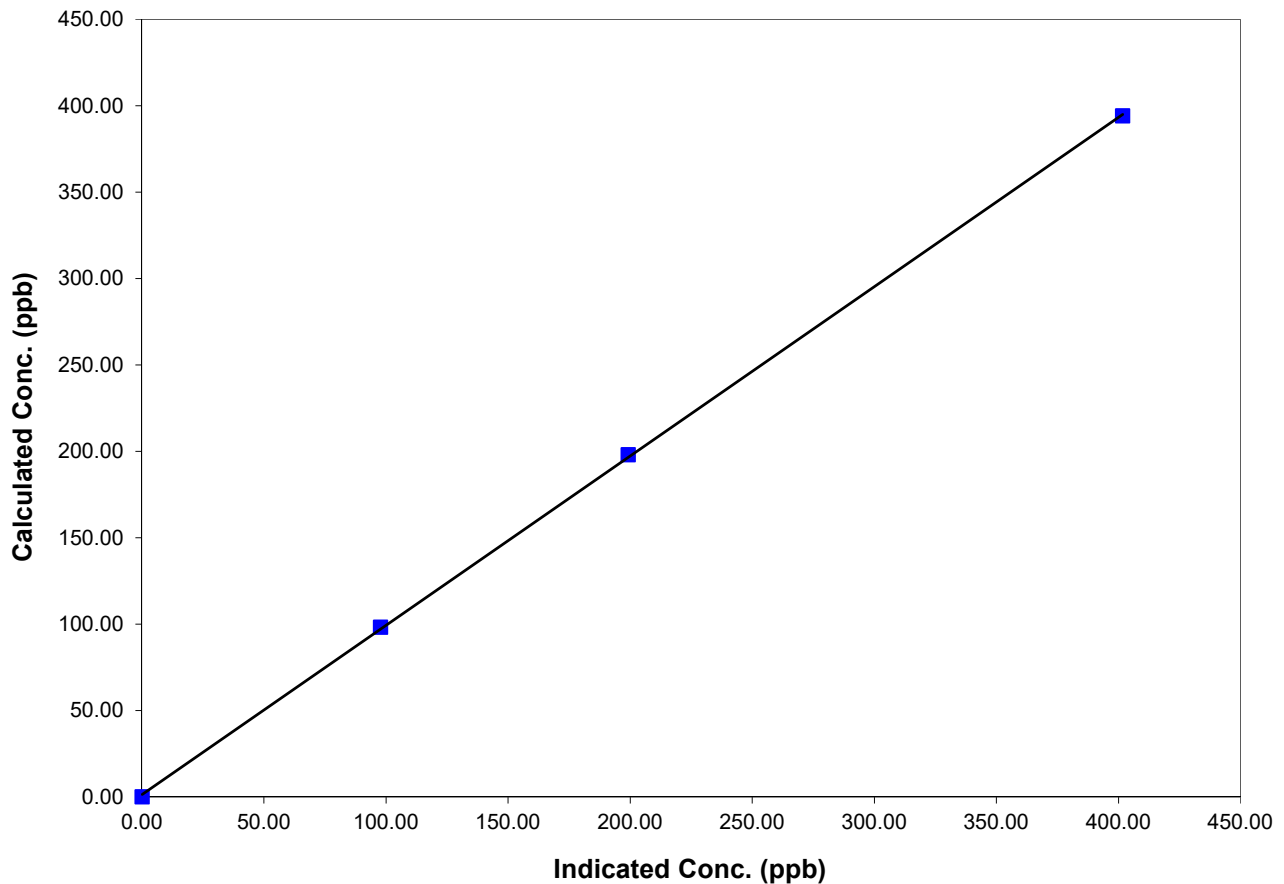
### Station Information

Calibration Date	October 4, 2016	Previous Calibration	September 4, 2016
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	8:20	End Time (MST)	10:45
Analyzer make/model	TEI 43I-TLE	Analyzer serial #	1507864682 (AMU 2006)

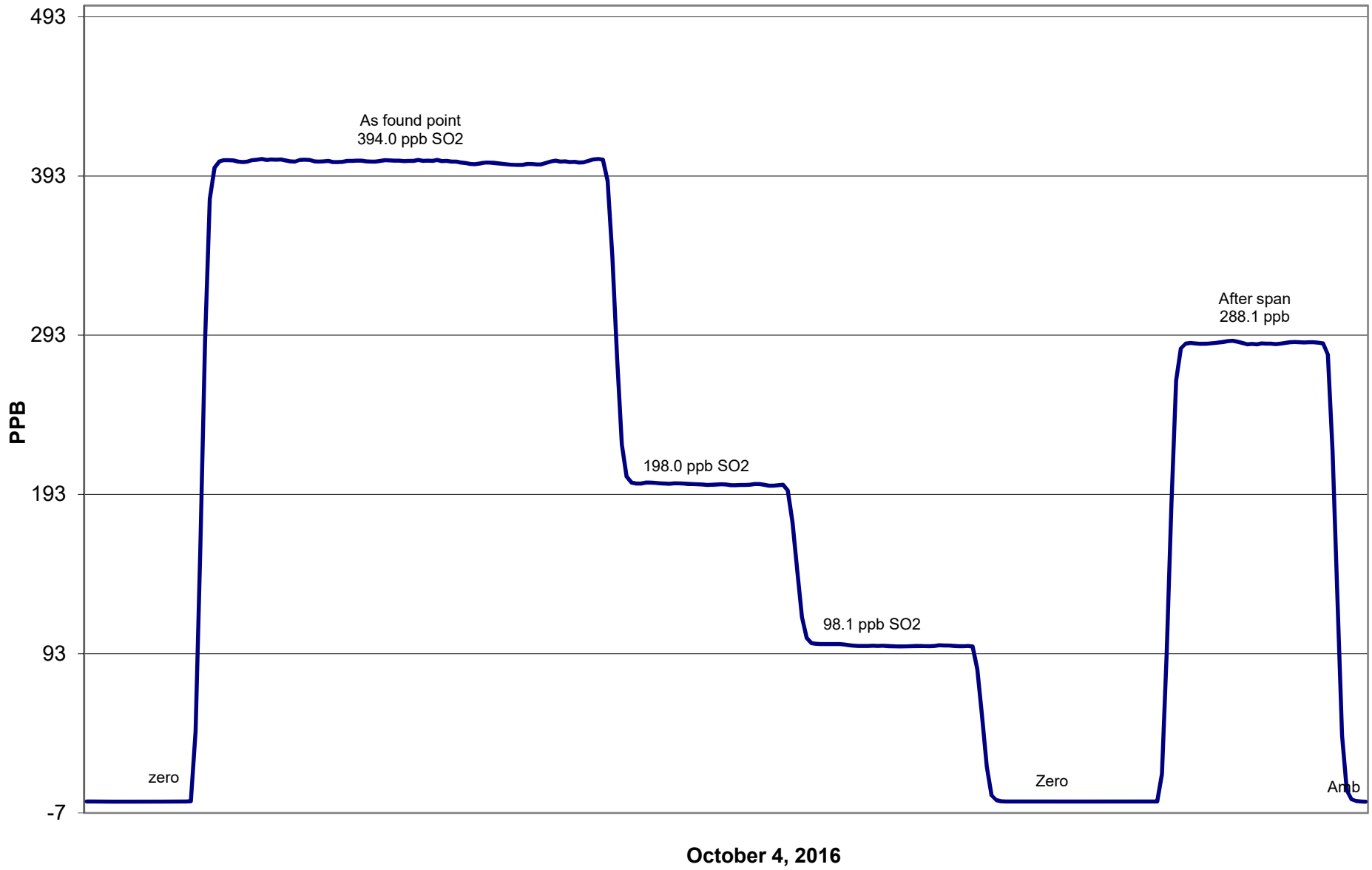
### Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.1	N/A	Correlation Coefficient	0.999929
394.0	401.7	0.9808		
198.0	199.3	0.9937	Slope	0.979845
98.1	97.8	1.0035		
			Intercept	1.328736

## 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	October 4, 2016	Previous Calibration	September 1, 2016
Station Number	1	Station Location	Henry Pirker
Reason:	<b>Routine</b>	Installation	Removal
Start Time (MST)	8:15	End Time (MST)	11:55
Barometric Pressure	721.000 mm	Station Temperature	21.0 Deg C
Calibrator	EnviroNics	Serial Number	906535067(AMU 197)
NO Cal Gas Conc	50.9 ppm	Cal Gas Expiry Date	October 5, 2018
NO <sub>x</sub> 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	NO <sub>x</sub>	NO
Before	Data Slope	1.002232	1.007451	1.000628
	Data Offset	0.207419	0.806394	0.623269
After	Data Slope	1.001426	1.007813	1.001394
	Data Offset	-0.311605	0.796556	0.648272
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	5.9	mV	6.0	mV
NO <sub>x</sub> bkgnd	6.4	mV	6.5	mV
NO coefficient	0.934		0.952	
NO <sub>x</sub> coefficient	1.000		1.000	
NO2 conv temp	322.6	Deg C	322.1	Deg C
Cooler Temp	-2.9	Deg C	-2.9	Deg C
PMT Volt	-844.3	mV	-844.3	mV
R Cell Press	166.1	in Hg	166.4	in Hg
Sample Flow	0.603	LPM	0.604	LPM

Notes: Span adjustment made.  
Flow slightly dropped since the last calibration.

# Calibration Report



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

## Station Information

Calibration Date: **October 4, 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	0.3	0.7	0.0	N/A	N/A
1	4997	39.96	406.2	403.8	2.4	402.8	403.3	0.0	1.0084	1.0012
2	4998	19.95	203.6	202.4	1.2	200.6	200.5	0.0	1.0147	1.0094
3	4997	9.94	101.6	101.0	0.6	99.1	99.2	0.1	1.0262	1.0190
AFZ	4996	0.00	0.0	0.0	0.0	0.3	0.7	0.0	0.0000	0.0000
AFS	4996	39.92	405.9	403.5	0.8	395.9	396.5	-0.1	1.0252	1.0176
Average Correction Factor									1.0164	1.0098

As Found Concentrations: **NO<sub>x</sub>= 399.4** **NO= 396.7** As Found Percent Change **NO<sub>x</sub>= -1.6%** **NO= -1.7%**

## 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	0.3	0.7	0.0	N/A	N/A	N/A	N/A
NO point	403.0	403.0	0.0	403.1	403.0	0.1	0.9997	1.0000	N/A	N/A
300	403.0	66.0	337.0	402.8	66.0	336.5	1.0004	1.0000	1.0014	99.9%
200	403.0	175.5	227.5	404.2	175.5	227.9	0.9971	1.0000	0.9986	100.1%
100	403.0	292.7	110.3	404.4	292.7	110.7	0.9965	1.0000	0.9964	100.4%
Average Correction Factor							0.9980	1.0000	0.9988	100.1%

## AIC Data

Parameter	Previous calibration				Current calibration			
	NOx	NO2	NO		NOx	NO2	NO	
Auto zero	0.3	0.0	0.6	ppb	0.3	0.0	0.7	ppb
Auto span	282.7	279.2	3.3	ppb	326.1	322.6	3.2	ppb

Calibration Performed By: Dmytro Dolotii

# Calibration Summary



Parameter NO<sub>2</sub>

Air Monitoring Network PAZA

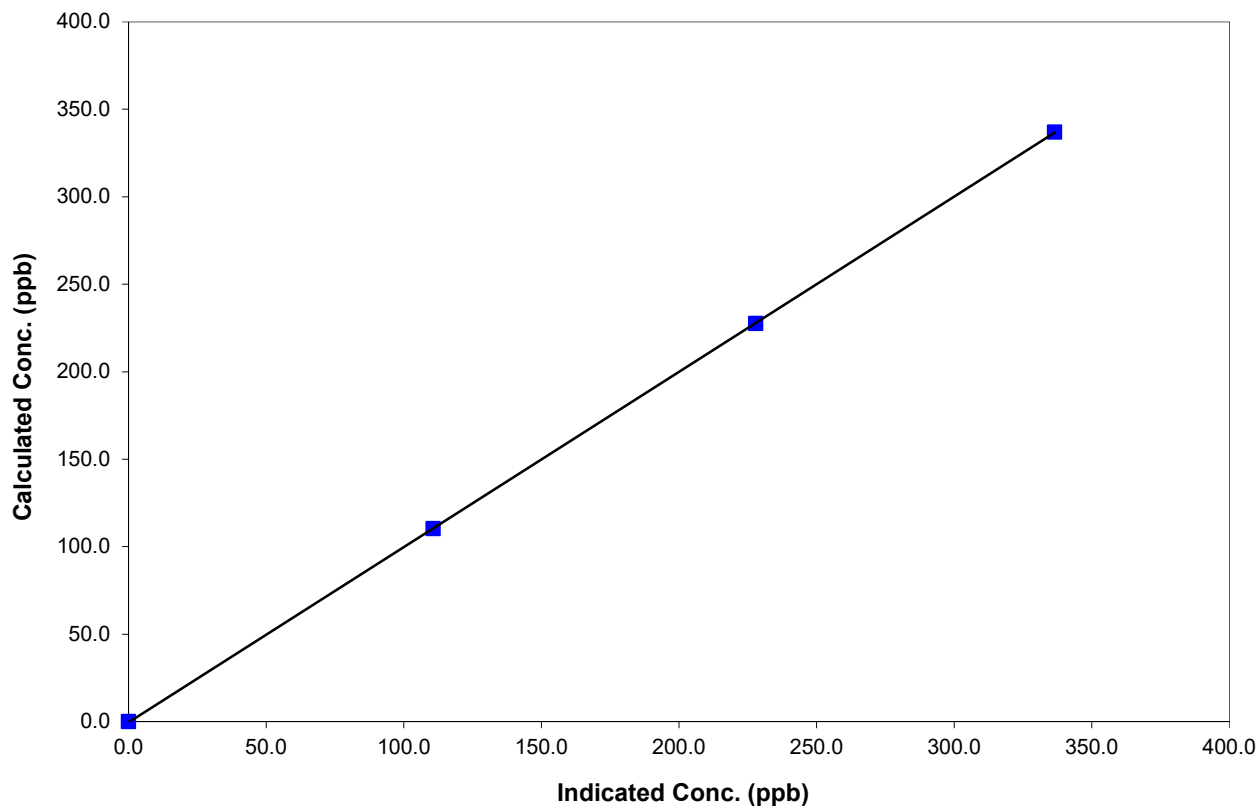
## Station Information

Calibration Date	October 4, 2016	Previous Calibration	September 1, 2016
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	8:15	End Time (MST)	11:55
Analyzer make	42i	Analyzer serial #	906535087

## Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.0	N/A	Correlation Coefficient	0.999995
337.0	336.5	1.0014		
227.5	227.9	0.9986	Slope	1.001426
110.3	110.7	0.9964		

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



# Calibration Summary



Parameter NO<sub>x</sub>

Air Monitoring Network PAZA

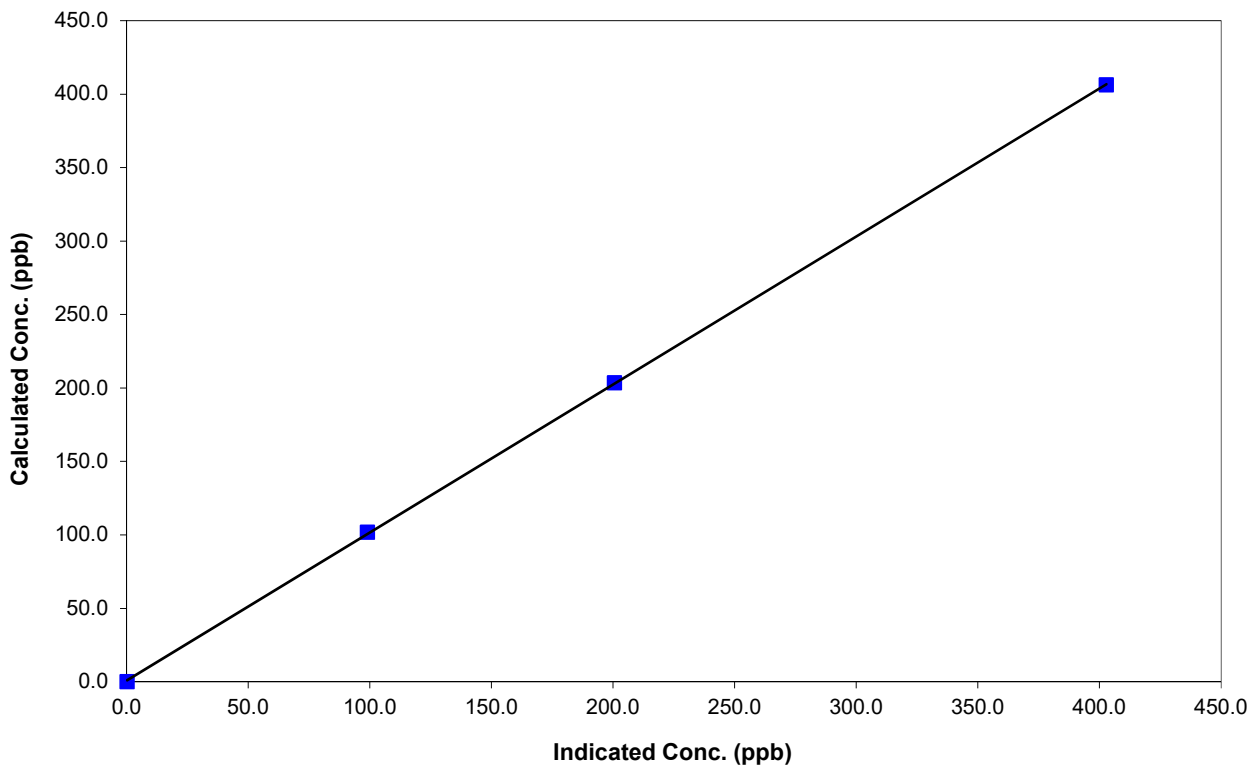
### Station Information

Calibration Date	October 4, 2016	Previous Calibration	September 1, 2016
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	8:15	End Time (MST)	11:55
Analyzer make	42i	Analyzer serial #	906535087

### Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.3	N/A	Correlation Coefficient	0.999969
406.2	402.8	1.0084		
203.6	200.6	1.0147	Slope	1.007813
101.6	99.1	1.0262		
			Intercept	0.796556

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



# Calibration Summary



Parameter NO  
 Air Monitoring Network PAZA

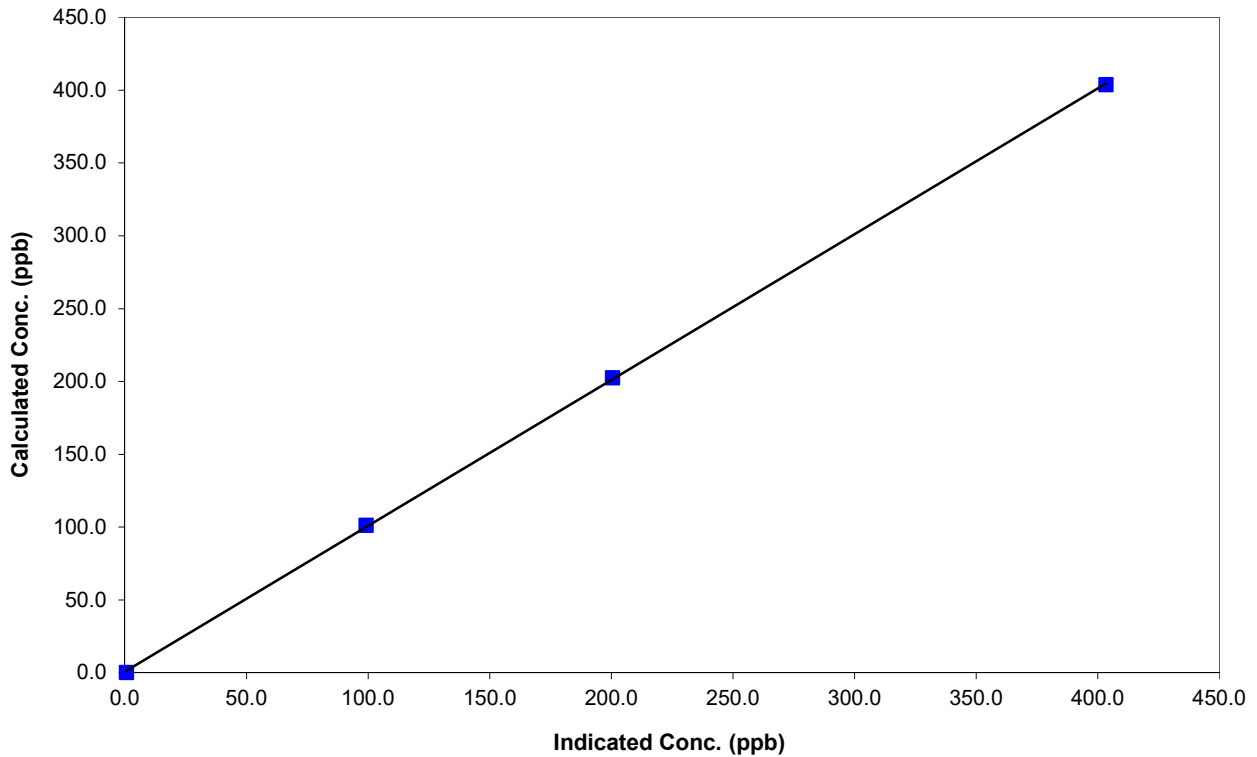
## Station Information

Calibration Date	October 4, 2016	Previous Calibration	September 1, 2016
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	8:15	End Time (MST)	11:55
Analyzer make	42i	Analyzer serial #	906535087

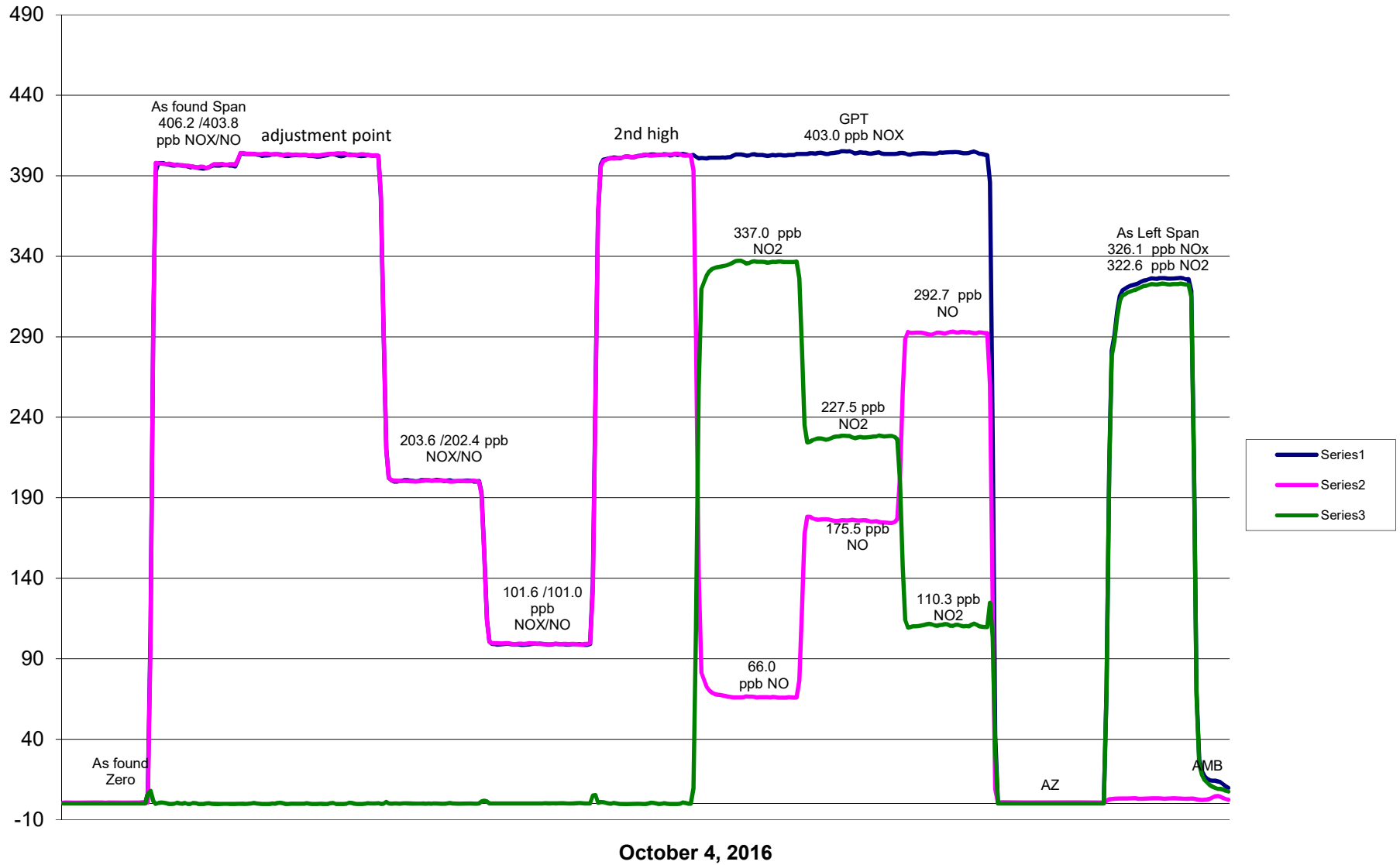
## Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.7	N/A	Correlation Coefficient	0.999951
403.8	403.3	1.0012		
202.4	200.5	1.0094	Slope	1.001394
101.0	99.2	1.0190		

## NO Calibration Curve



# NO<sub>x</sub> Calibration



# Calibration Report



Parameter 03

Air Monitoring Network PAZA

AIR QUALITY MONITORING

## Station Information

Calibration Date	October 4, 2016	Previous Calibration	September 1, 2016
Station Number	1	Station Location	Henry Pirker
Reason:	<b>Routine</b>	Install	Removal
Start Time (MST)	11:10	End Time (MST)	13:15:00 PM
Barometric Pressure	721.000 mm	Station Temperature	21.0 Deg C
Calibrator	Environics	Serial Number	6586
Cal Gas Concentration	NA	Cal Gas Expiry Date	NA
DACS make	CR3000	DACS serial No.	5237
DACS voltage range	0 - 5 volt	DACS channel #	9
	Before		After
Calculated slope	0.990277	Calculated slope	0.996408
Calculated intercept	0.655842	Calculated intercept	0.168761
Analyzer make	Teco 49I	Analyzer serial #	1507964699 (AMU:2015)

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
offset	-1.10	ppb	-1.10	ppb
slope	1.017		1.017	
Lamp temp	53.5	mV	53.6	mV
Lamp Intensity A/B	73841/80784	mV	73693/80544	mV
Pressure	694.9	mm Hg	695.2	mm Hg
Flow A	0.733	ccm	0.734	ccm
Flow B	0.734	ccm	0.734	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	0.1	N/A
4999	0.3	337.0	338.8	0.9946
4999	0.2	227.5	226.8	1.0030
4998	0.1	110.3	110.9	0.9950
4997	0.0	0.0	0.1	As found zero
4997	0.3	337.0	338.8	As found span
Average Correction Factor				0.9975

Calculated value of As Found Response: 336.1 ppm      Percent Change of As Found: -0.3%

	before calibration		after calibration	
Auto zero	-0.3	ppb	0.2	ppb
Auto span	361.0	ppb	366.5	ppb

Notes: No adjustment made

Calibration Performed By: Dmytro Dolotii

# Calibration Summary

Parameter                 O3                

Air Monitoring Network   PAZA  

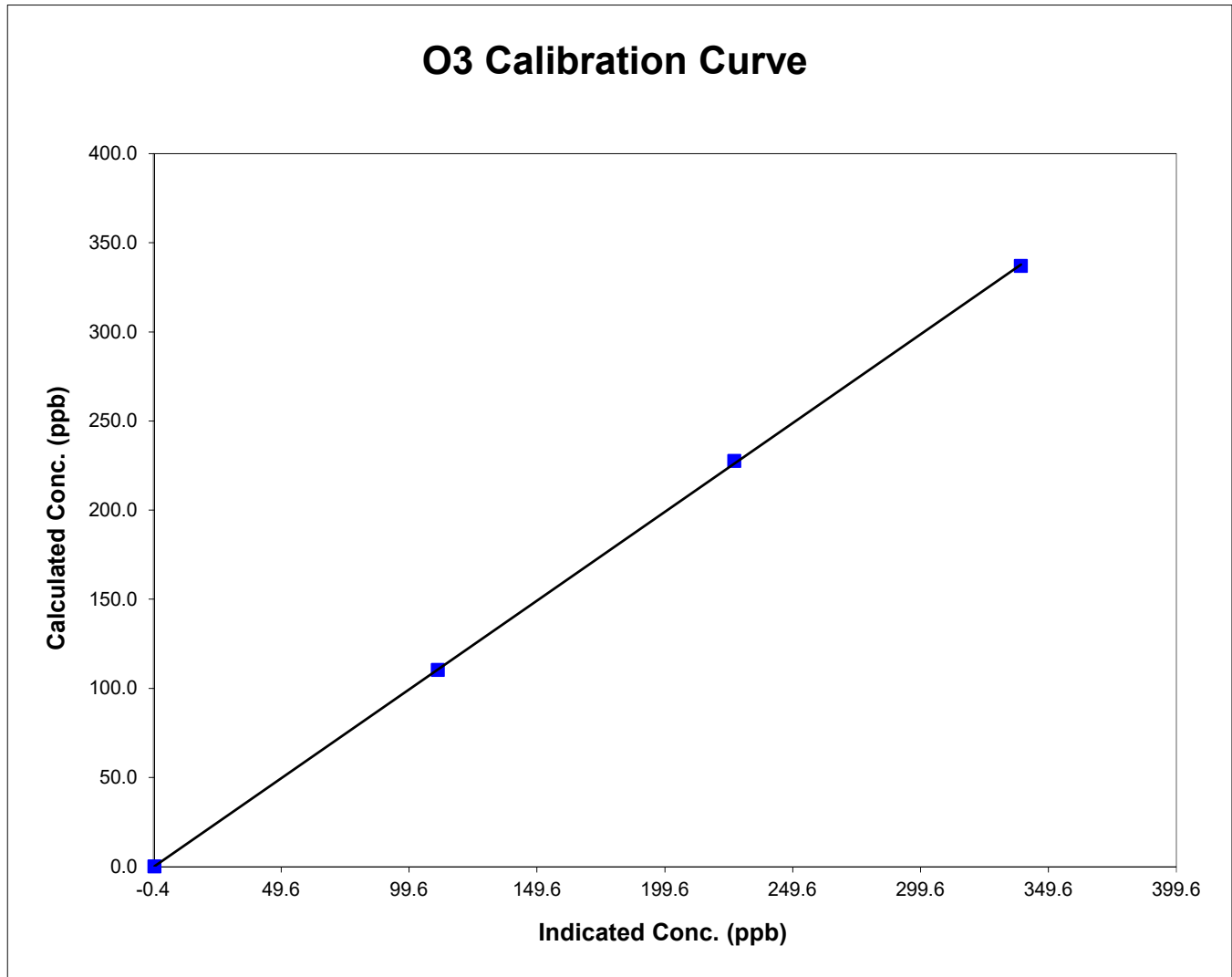


**Station Information**

Calibration Date	<u>                October 4, 2016                </u>	Previous Calibration	<u>                September 1, 2016                </u>
Station Number	<u>                                1                                </u>	Station Location	<u>                Henry Pirker                </u>
Start Time (MST)	<u>                                11:10                                </u>	End Time (MST)	<u>                13:15:00 PM                </u>
Analyzer make/model	<u>                Teco 49I                </u>	Analyzer serial #	<u>                1507964699 (AMU:2015)                </u>

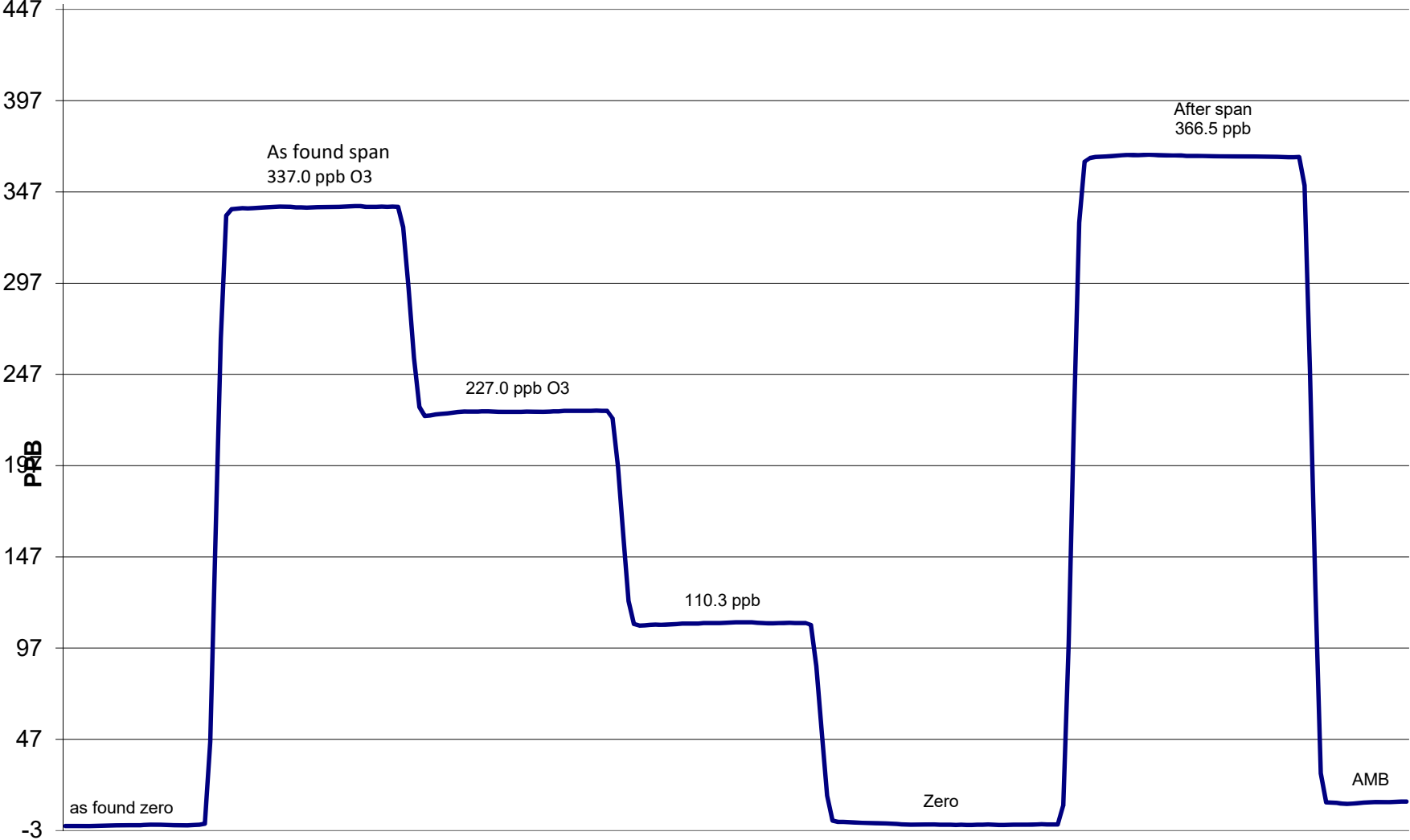
**Calibration Data**

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.1	NA	Correlation Coefficient	0.999960
337.0	338.8	0.9946		
227.5	226.8	1.0030	Slope	0.996408
110.3	110.9	0.9950		
			Intercept	0.168761





# O3 Calibration



October 4, 2016

# Calibration Report



AIR QUALITY MONITORING

Parameter CO

Air Monitoring Network PAZA

## Station Information

Calibration Date	October 4, 2016	Previous Calibration	September 2, 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)	13:45:00 PM	End Time (MST)	16:30:00 PM
Barometric Pressure	724.0 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	1.001023
Calculated intercept	-0.178105	Calculated intercept	-0.244924
Analyzer make	Model 48I-TLE	Analyzer serial #	1408761378

	before		after	
Concentration range	0 - 50	ppm	0 - 50	ppm
CO zero setting	5.874		6.113	
CO span setting	1.047		1.058	
Sample pressure	695.9	mm Hg	699.5	mm Hg
Sample Flow	0.449	LPM	0.450	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
4997	69.91	40.10	40.15	0.9986
4998	34.96	20.19	20.60	0.9801
4996	17.93	10.39	10.83	0.9600
4995	0.00	0.00	0.20	As Found Zero
4995	69.91	40.11	40.23	As Found Span
Average Correction Factor				0.9796

Calculated value of As Found Response: 40.178 ppm      Percent Change of As Found: -0.2%

	before calibration		after calibration	
Auto zero	0.01	ppm	0.00	ppm
Auto span	20.32	ppm	20.53	ppm

Notes: Zero & span adjustment made

Calibration Performed By: Dmytro Dolotii

# Calibration Summary



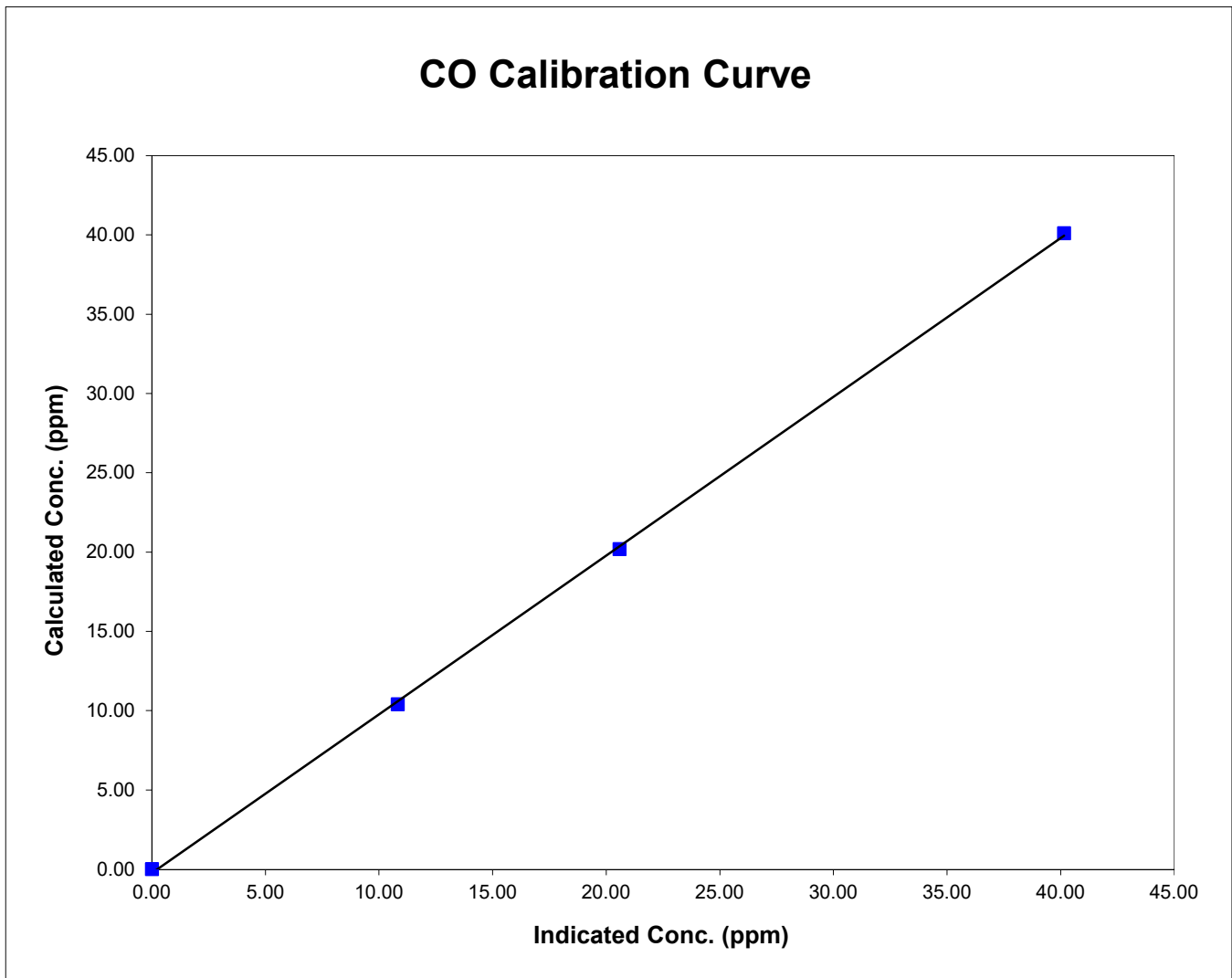
Parameter CO  
 Air Monitoring Network PAZA

### Station Information

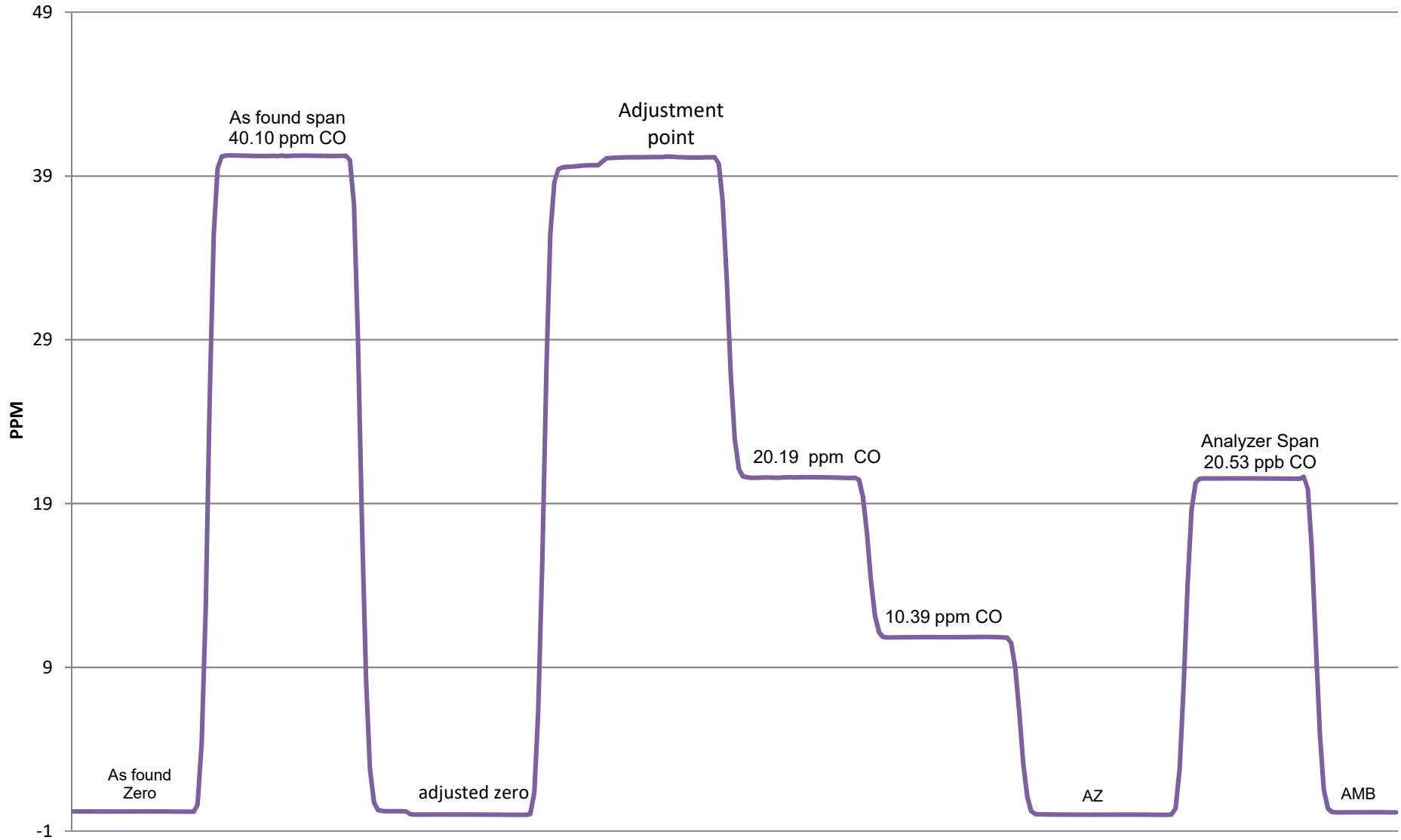
Calibration Date	October 4, 2016	Previous Calibration	September 2, 2016
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	13:45:00 PM	End Time (MST)	16:30:00 PM
Analyzer make/model	Model 48I-TLE	Analyzer serial #	1408761378

### Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.009	N/A	Correlation Coefficient	0.999826
40.095	40.150	0.9986		
20.186	20.595	0.9801	Slope	1.001023
10.392	10.825	0.9600		
			Intercept	-0.244924



# CO Calibration



October 4, 2016

# Calibration Report



Parameter CH4 / NMHC / THC

Air Monitoring Network PAZA

## Station Information

Calibration Date	October 11, 2016	Previous Calibration	September 2, 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)	9:55	End Time (MST)	12:05
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	6.23		6.23	E <sup>-4</sup>
NMHC cal factor	2.74		2.74	E <sup>-4</sup>
Rt	12.31	Sec	12.31	Sec
Pk Index	23.43		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	0.9977
1998	40.99	7.76	7.76	1.0001
1999	15.97	3.06	3.07	0.9970
1995	0.00	0.00	0.02	As Found Zero
1995	68.93	12.89	12.91	As Found Span
Average Correction Factor				0.9983

Calculated value of As Found Response: 12.856 ppm Percent Change of As Found: 0.3%

	Before	After
Calculated slope	0.996565	0.999347
Calculated intercept	0.006076	-0.010519

## Final Zero/Span Data

	before calibration		after calibration	
Auto zero	0.03	ppm	0.03	ppm
Auto span	8.70	ppm	9.32	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	19.56	0.9715
1998	40.99	11.44	12.23	0.9361
1999	15.97	4.51	5.07	0.8898
1995	0.00	0.00	0.02	As Found Zero
1995	68.93	19.01	19.56	As Found Span
Average Correction Factor				0.9325

Calculated value of As Found Response: 19.502 ppm      Percent Change of As Found: -2.6%

	Before		After
Calculated slope	1.007104	Calculated slope	0.974230
Calculated intercept	-0.175099	Calculated intercept	-0.241450

#### Final Zero/Span Data

	before calibration		after calibration	
Auto zero	0.02	ppm	0.02	ppm
Auto span	12.24	ppm	13.47	ppm

### THC Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
1995	0.00	0.00	0.03	N/A
1997	68.96	31.89	32.45	0.9826
1998	40.99	19.20	19.97	0.9618
1999	15.97	7.57	8.12	0.9325
1995	0.00	0.00	0.03	As Found Zero
1995	68.93	31.90	32.45	As Found Span
Average Correction Factor				0.9589

Calculated value of As Found Response: 32.370 ppm      Percent Change of As Found: -1.5%

	Before		After
Calculated slope	1.003524	Calculated slope	0.984843
Calculated intercept	-0.161303	Calculated intercept	-0.247704

#### Final Zero/Span Data

	before calibration		after calibration	
Auto zero	0.02	ppm	0.02	ppm
Auto span	20.92	ppm	22.78	ppm

Notes: No adjustment made

Calibration Performed By: Dmytro Dolotii, Grover Christiansen

# Calibration Summary



Parameter CH4  
 Air Monitoring Network PAZA

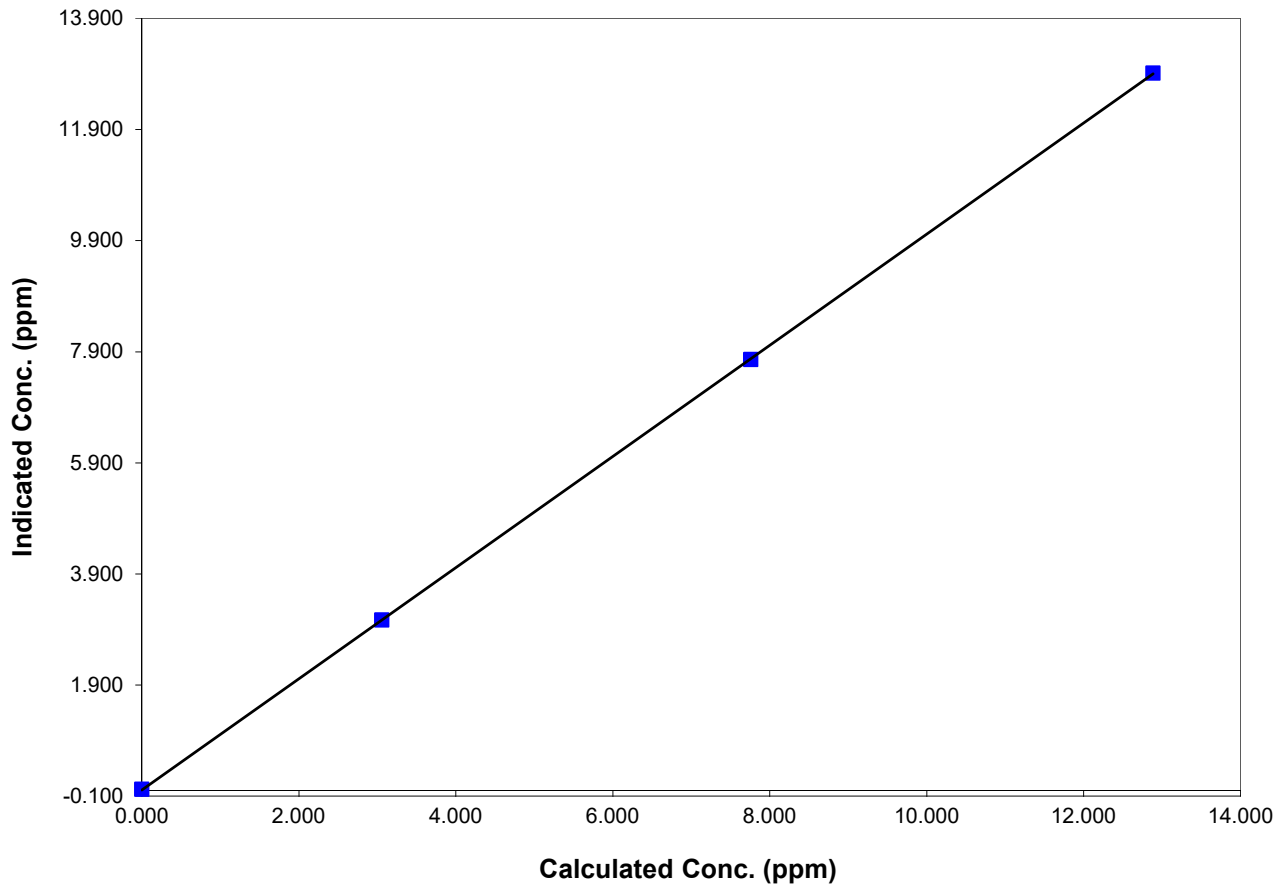
### Station Information

Calibration Date	October 11, 2016	Previous Calibration	September 2, 2016
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	9:55	End Time (MST)	12:05
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	0.020	N/A	Correlation Coefficient	0.999995
12.884	12.914	0.9977		
7.760	7.759	1.0001	Slope	0.999347
3.059	3.068	0.9970		
			Intercept	-0.010519

## CH4 Calibration Data







# Calibration Summary



Parameter THC  
 Air Monitoring Network PAZA

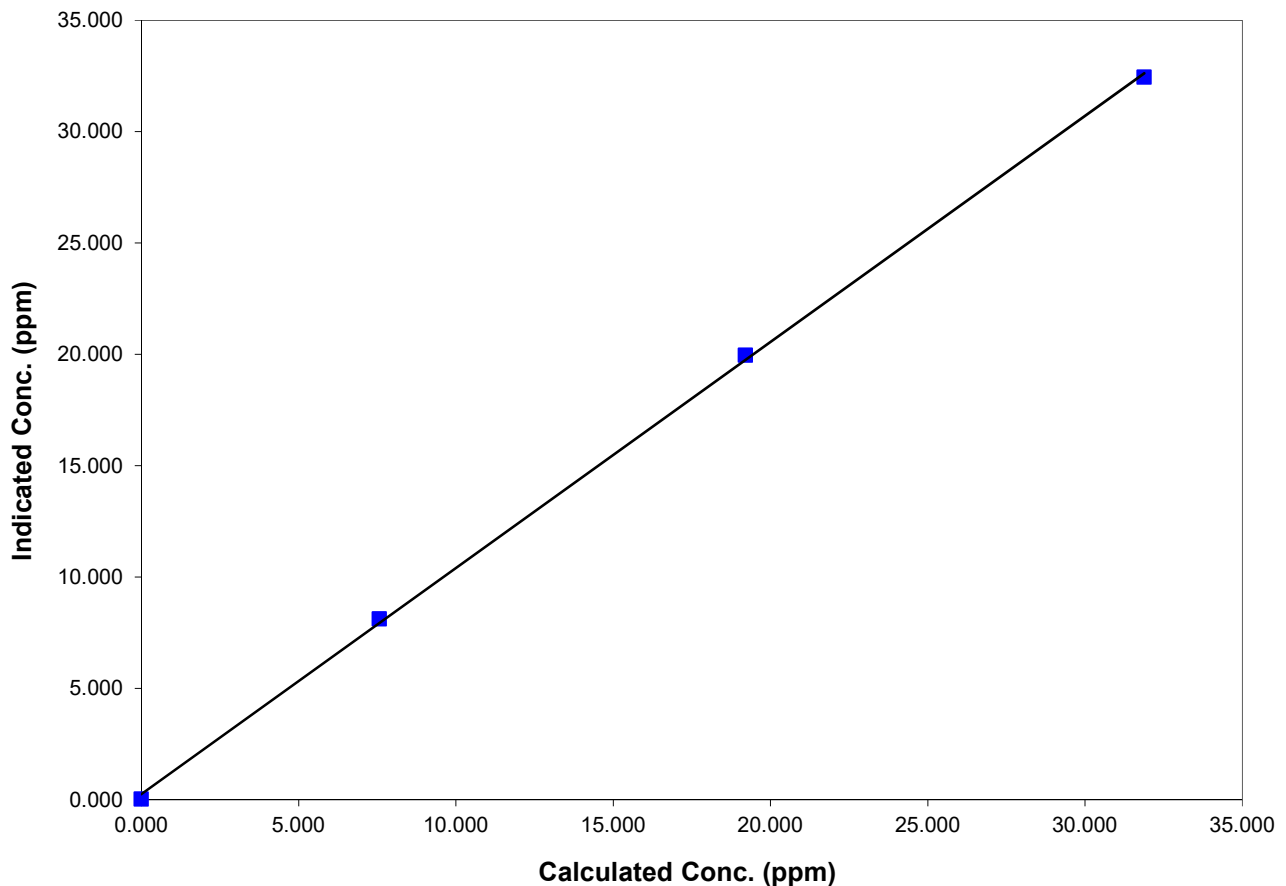
### Station Information

Calibration Date	October 11, 2016	Previous Calibration	September 2, 2016
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	9:55	End Time (MST)	12:05
Analyzer make/model	TEI 55I	Analyzer serial #	1134650658

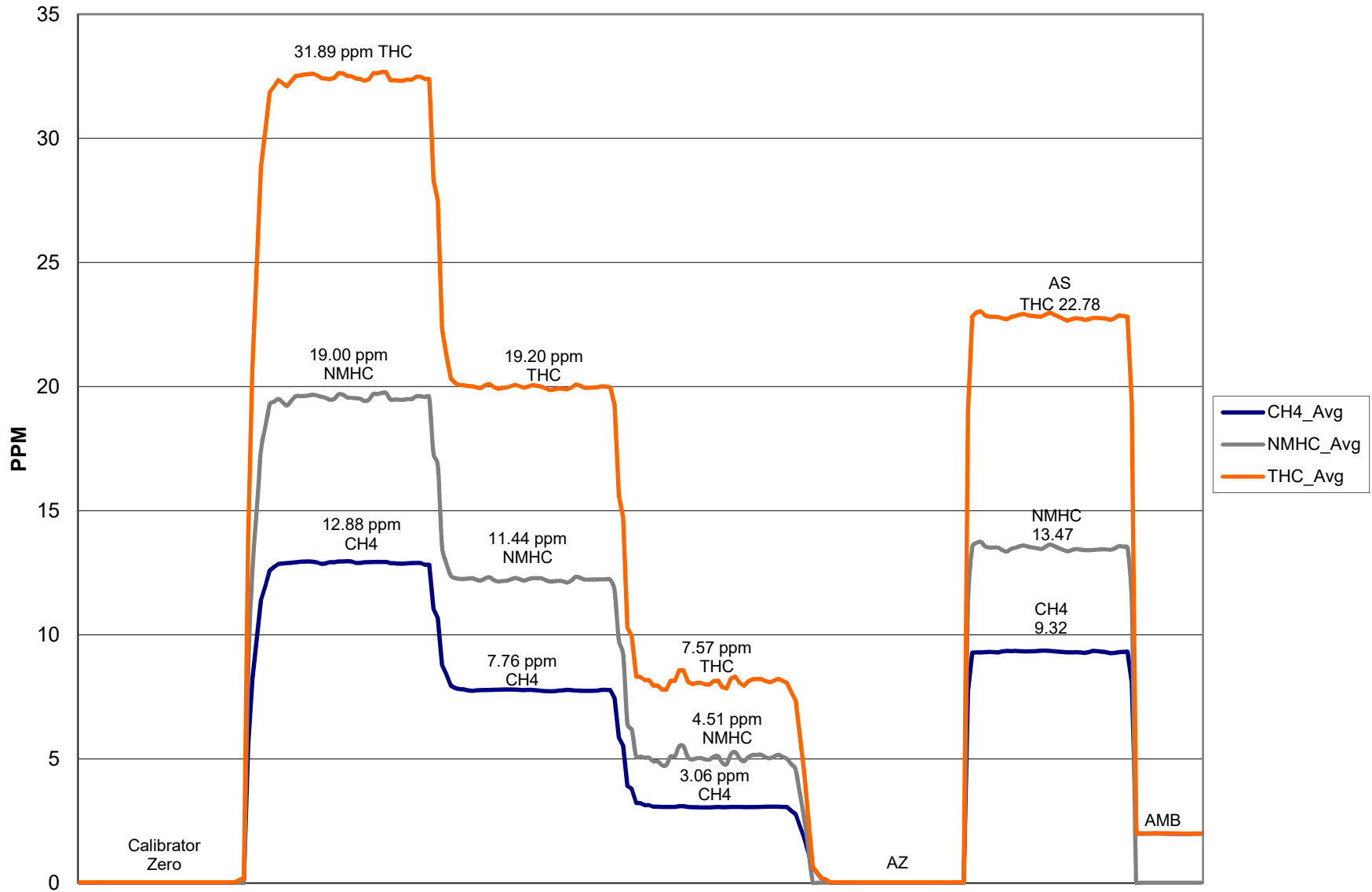
### Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.033	N/A	Correlation Coefficient	0.999735
31.885	32.449	0.9826		
19.203	19.967	0.9618	Slope	0.984843
7.571	8.119	0.9325		
			Intercept	-0.247704

## THC Calibration Data



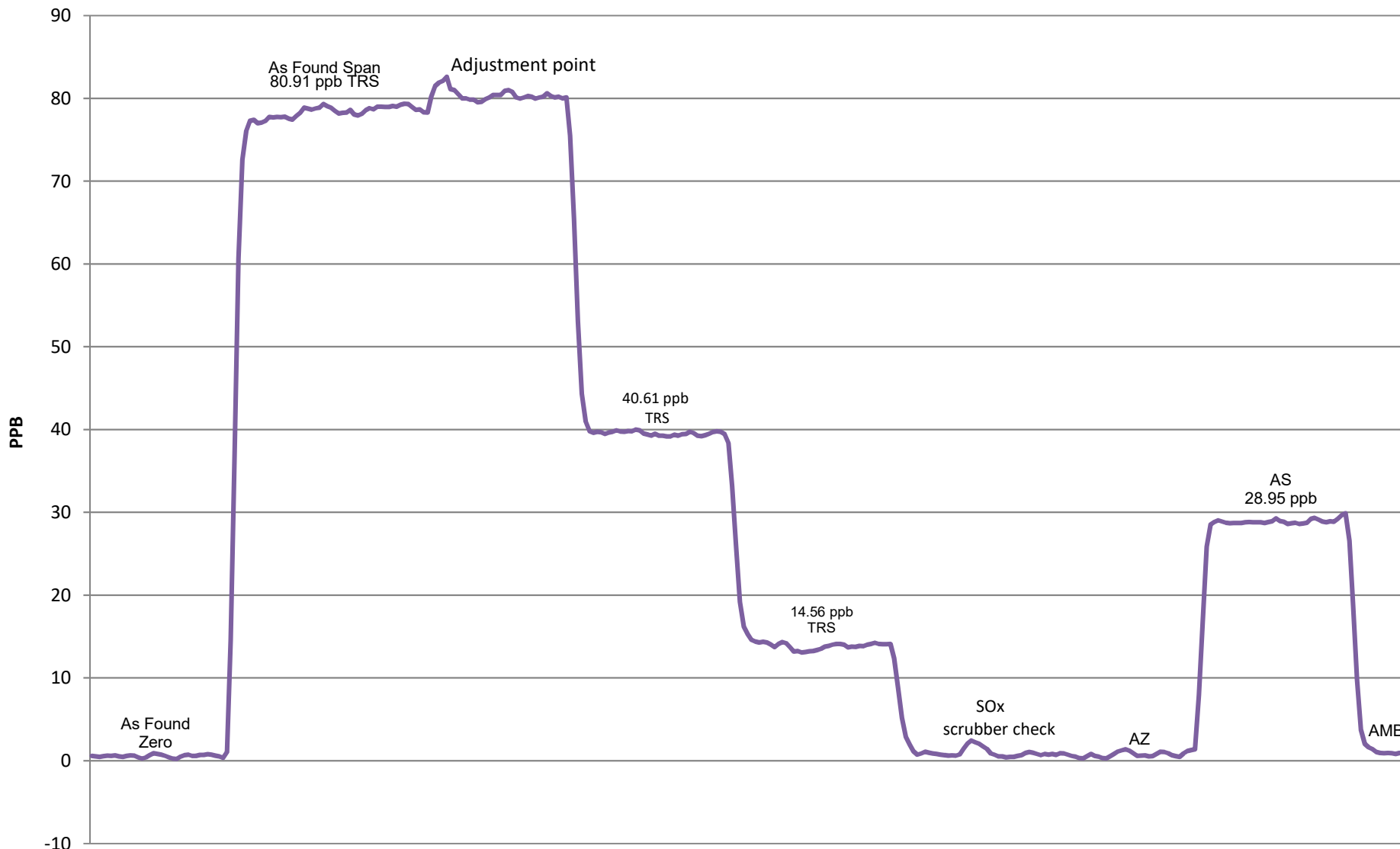
### THC/CH<sub>4</sub>/NMHC Calibration







# TRS Calibration



October 4, 2016

# Calibration Report



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

### Station Information

Calibration Date	October 6 2016	Previous Calibration	September 6 2016
Station Number	2	Station Location	Evergreen Park
Reason:	<b>Routine</b>	Install	Removal
			Other:
Start Time (MST)	11:35	End Time (MST)	13:35:00 PM
Barometric Pressure	0.926 ATM	Station Temperature	19.0 Deg C
Calibrator	EnviroNics	Serial Number	6586
Cal Gas Concentration	49.7 ppm	Cal Gas Expiry Date	10/5/2018
Correction factor	0.031585	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	0.996725	Calculated slope	1.004458
Calculated intercept	0.668278	Calculated intercept	0.678651
Analyzer make	Teco 43i	Analyzer serial #	701120008

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
Background	11.6		11.6	
coefficient	1.224		1.224	
Lamp Voltage	830	volts	829	volts
Chamber Temp	45	Deg C	45	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	668.8	mm Hg	667.4	mm Hg
Sample Flow	0.445	ccm	0.448	ccm
Lamp Intensity	89	%	89	%

Dilution air flow rate (cc/min)	Corrected gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4996	0.0	0.00	0.7	N/A
4998	39.95	394.1	392.5	1.0041
4998	19.96	197.7	195.1	1.0134
4997	9.99	99.2	96.9	1.0235
4996	0.0	0.0	0.7	As Found Zero
4996	39.93	394.1	392.5	As Found Span
Average Correction Factor				1.0137

Calculated value of As Found Response: 391.150 ppm      Percent Change of As Found: 0.7%

	before calibration		after calibration	
Auto zero	0.6	ppm	0.6	ppm
Auto span	259.0	ppm	259.2	ppm

Notes: No adjustments made

Calibration Performed By: Dmytro Dolotii

# Calibration Summary

Parameter SO2  
 Air Monitoring Network PAZA



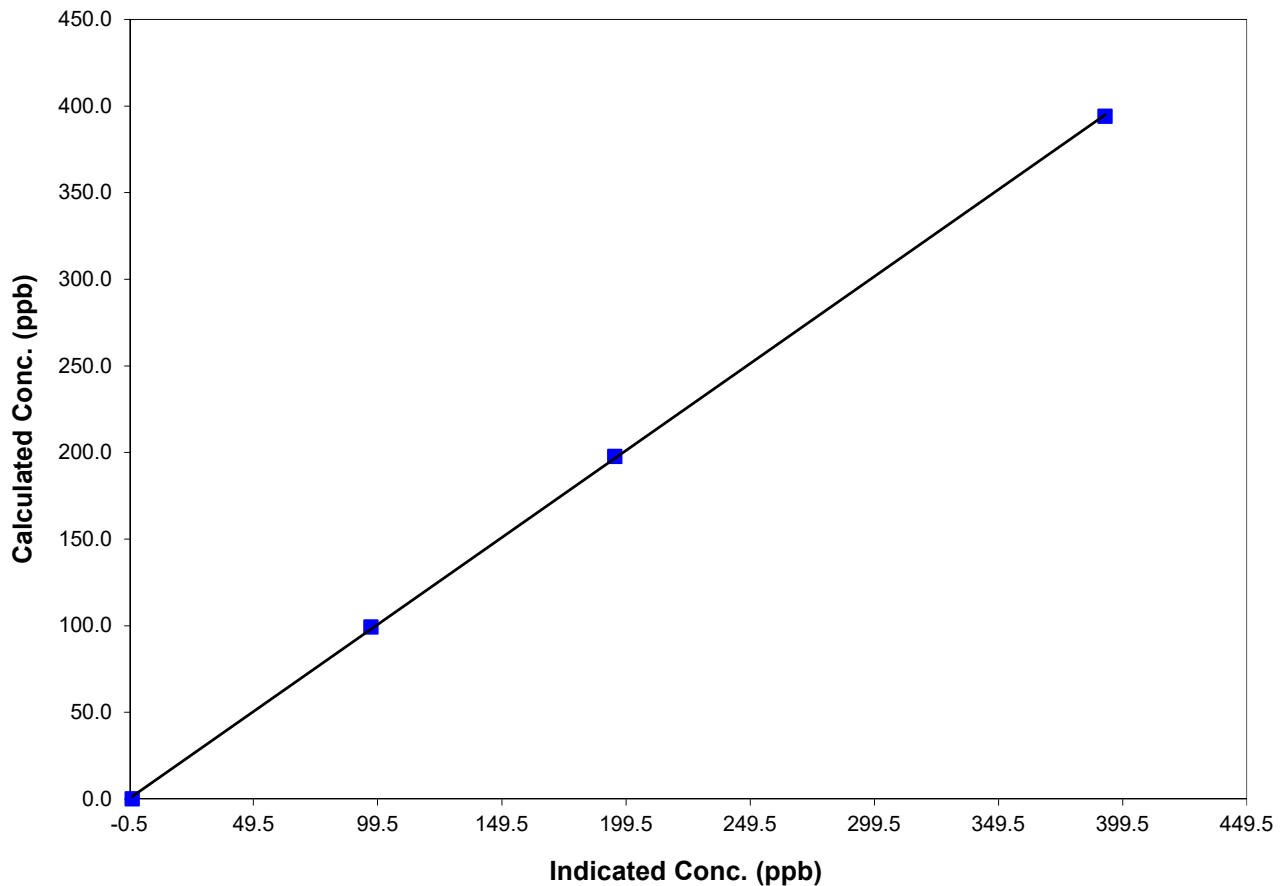
### Station Information

Calibration Date	October 6 2016	Previous Calibration	September 6 2016
Station Number	2	Station Location	Evergreen Park
Start Time (MST)	11:35	End Time (MST)	13:35:00 PM
Analyzer make/model	Teco 43i	Analyzer serial #	701120008

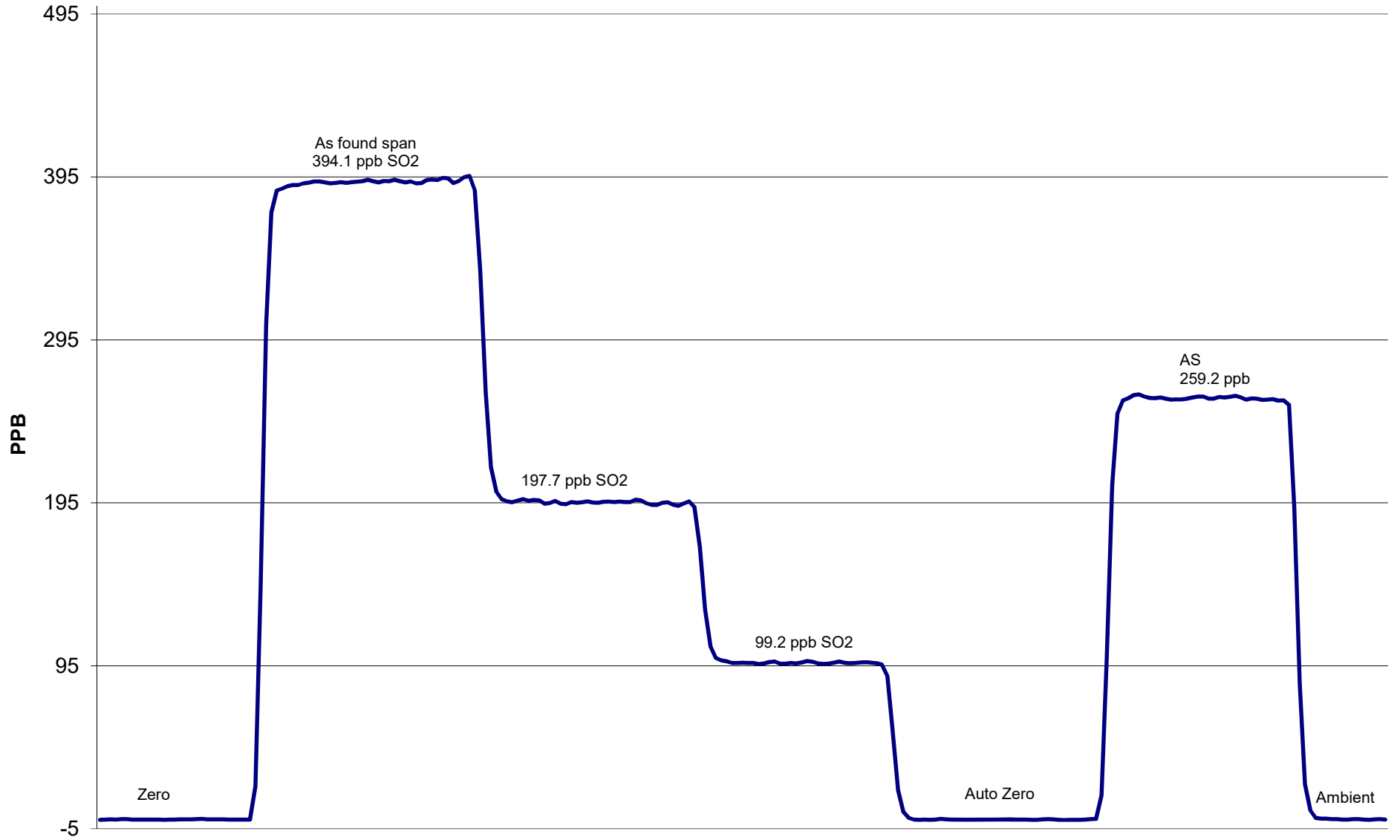
### Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.7	N/A	Correlation Coefficient	0.999940
394.1	392.5	1.0041		
197.7	195.1	1.0134	Slope	1.004458
99.2	96.9	1.0235		
			Intercept	0.678651

## SO2 Calibration Curve



# SO2 Calibration



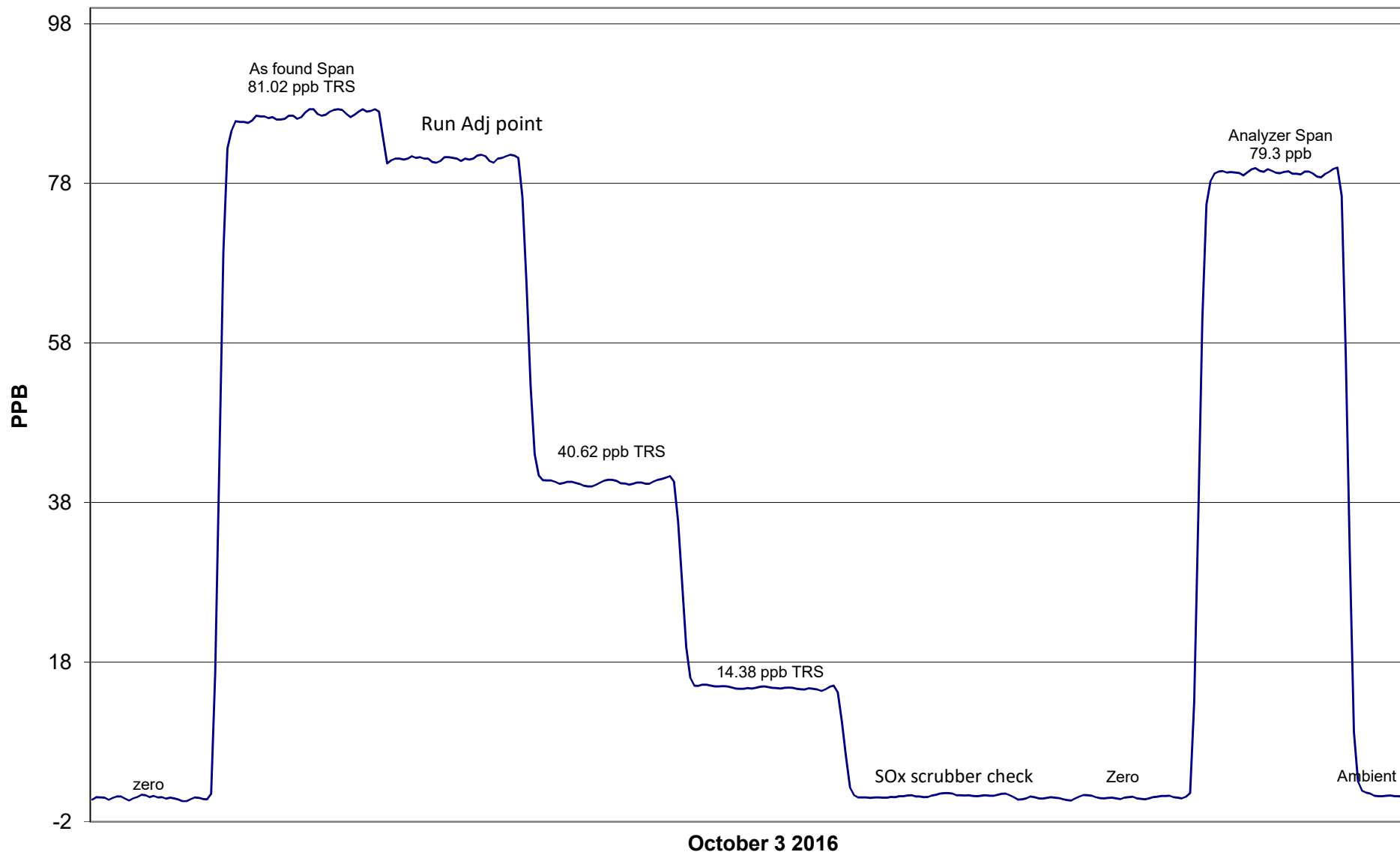
October 6 2016







# TRS Calibration



# Calibration Report



Parameter SO<sub>2</sub>

Air Monitoring Network PAZA

## Station Information

Calibration Date	October 18, 2016	Previous Calibration	September 9, 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)	11:50	End Time (MST)	14:05:00 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	0.998456	Calculated slope	0.984889
Calculated intercept	0.284654	Calculated intercept	-0.107874
Analyzer make	Teco 43i	Analyzer serial #	701120009

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
Background	12.9		12.9	
coefficient	0.939		0.939	
Lamp Voltage	946	volts	942	volts
Chamber Temp	44.9	Deg C	45	Deg C
Perm Gas Temp	45.01	Deg C	45.01	Deg C
Pressure	668.1	mm Hg	667.8	mm Hg
Sample Flow	0.442	lpm	0.445	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	0.9	N/A
4998	39.92	393.82	400.4	0.9836
4996	19.95	197.67	200.4	0.9866
4991	9.98	99.18	100.1	0.9912
4996	0.0	0.00	0.9	As Found Zero
4998	39.92	393.82	400.4	As Found Span
Average Correction Factor				0.9871

Calculated value of As Found Response: 399.150 ppm      Percent Change of As Found: -1.4%

	before calibration		after calibration	
Auto zero	0.7	ppb	0.9	ppb
Auto span	211.9	ppb	210.3	ppb

Notes: No adjustment made

Calibration Performed By: Dmytro Dolotii

# Calibration Summary

Parameter SO2  
 Air Monitoring Network PAZA

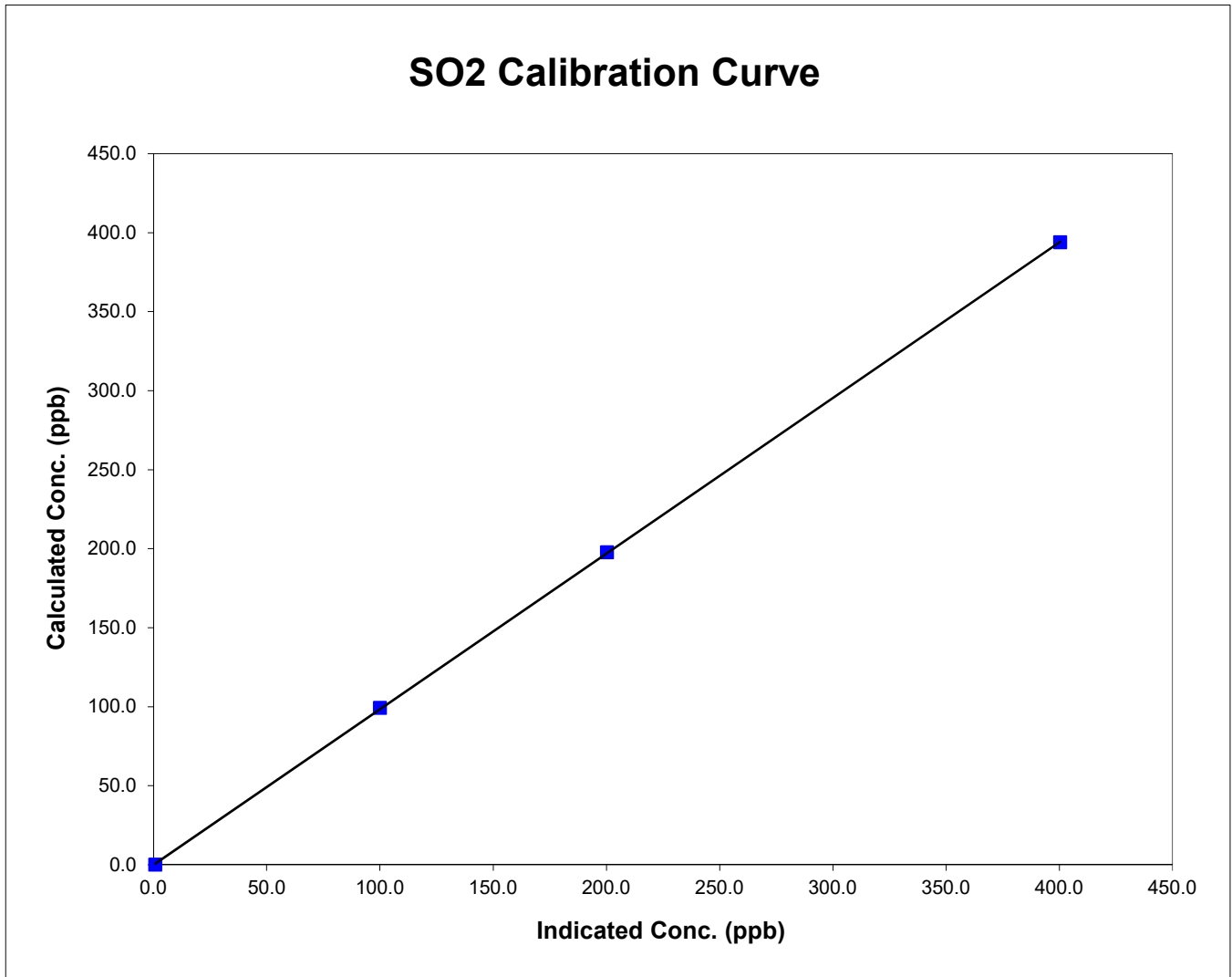


### Station Information

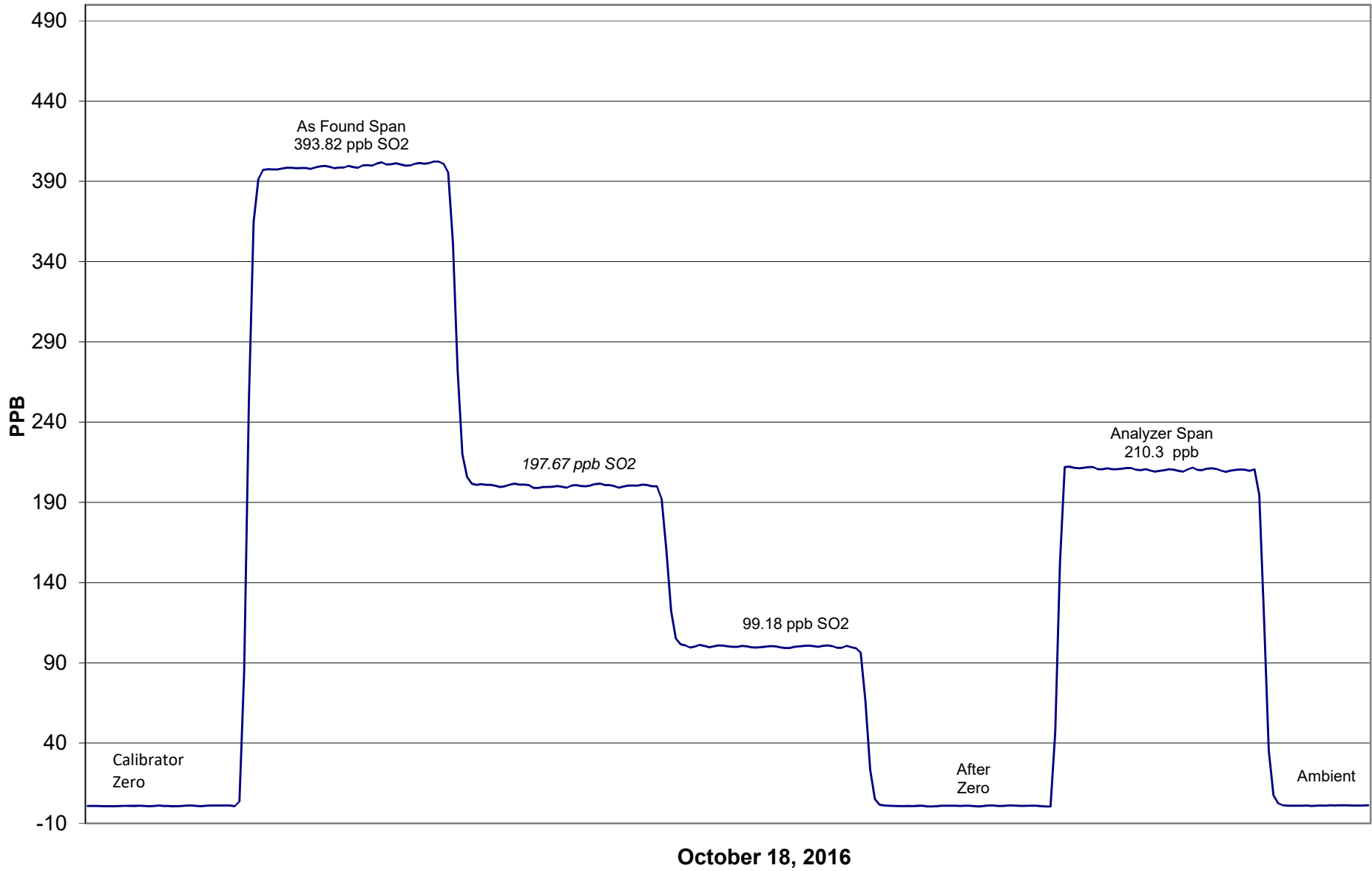
Calibration Date	October 18, 2016	Previous Calibration	September 9, 2016
Station Number	3	Station Location	Smokey Heights
Start Time (MST)	11:50	End Time (MST)	14:05:00 PM
Analyzer make/model	Teco 43i	Analyzer serial #	701120009

### Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.9	N/A	Correlation Coefficient	0.999982
393.8	400.4	0.9836		
197.7	200.4	0.9866		
99.2	100.1	0.9912	Slope	0.984889
			Intercept	-0.107874



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

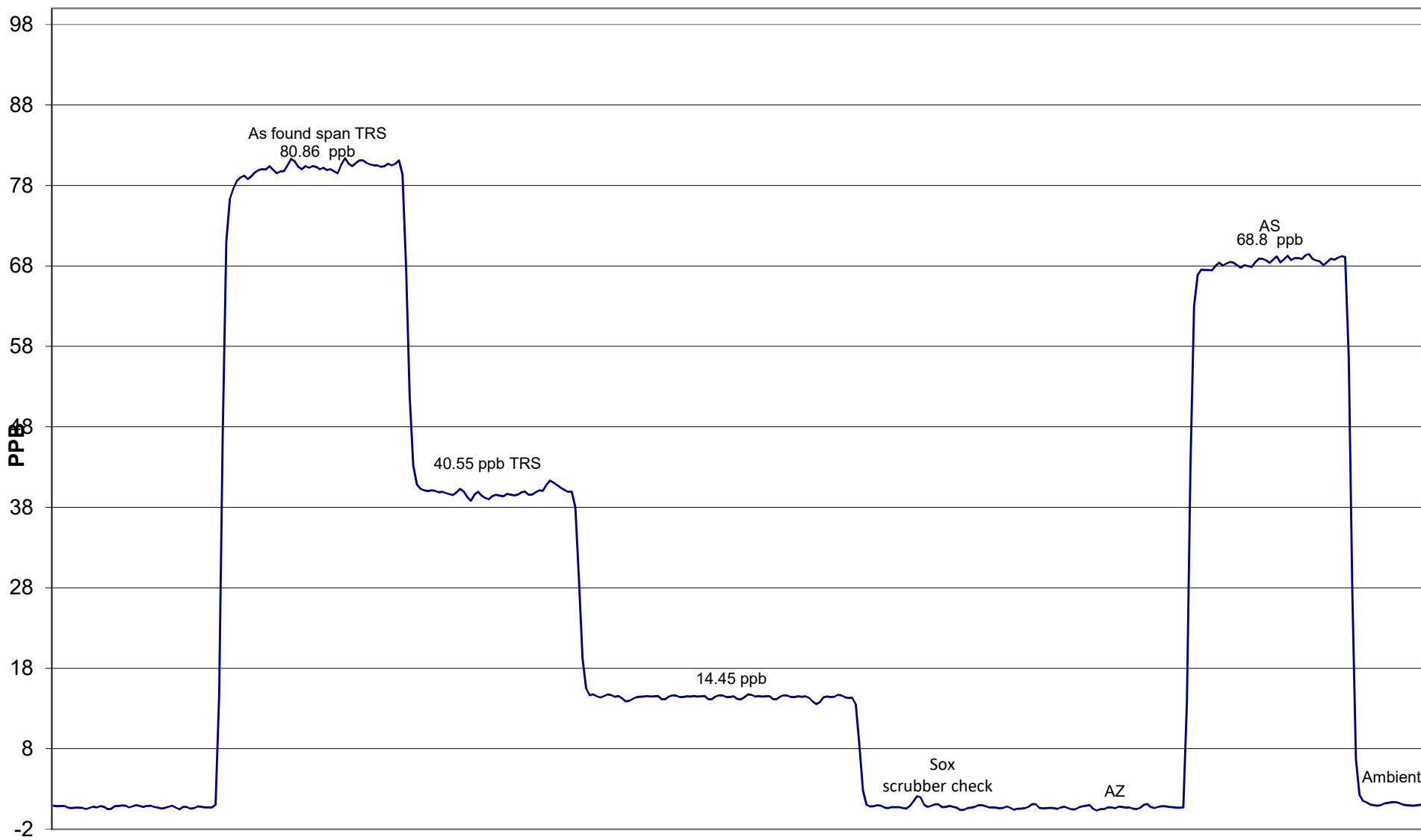








# Smokey Heights TRS Calibration



October 18, 2016

# Calibration Report



Parameter SO2

Air Monitoring Network PAZA

## Station Information

Calibration Date	October 17, 2016	Previous Calibration	September 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)	13:20:00 PM	End Time (MST)	15:30:00 PM
Barometric Pressure	0.928 atm	Station Temperature	20.0 Deg C
Calibrator	EnviroNics	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	0.989972	Calculated slope	0.994845
Calculated intercept	-0.076703	Calculated intercept	-0.262038
Analyzer make	TEI Model 43i-TLE	Analyzer serial #	713021137

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Background	2.56		2.52	
Coefficient	0.969		0.969	
PMT	-767.8	V	-768.1	V
UV Lamp Voltage	1111	V	1109	V
Chamber Temp	45	Deg C	45	Deg C
Pressure	655.6	mm Hg	657.1	mm Hg
Sample Flow	0.448	LPM	0.449	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	83.8	0.9924
4989	19.92	41.8	42.4	0.9855
4989	9.91	20.8	21.1	0.9844
4989	0.00	0.0	0.2	As found zero
4989	39.84	83.2	83.8	As found span
Average Correction Factor				0.9874

Calculated value of As Found Response: 82.678 ppm      Percent Change of As Found: 0.6%

	before calibration		after calibration	
Auto zero	0.1	ppb	0.0	ppb
Auto span	58.7	ppb	59.8	ppb

Notes: No adjustment made

# Calibration Summary

Parameter SO2  
 Air Monitoring Network PAZA

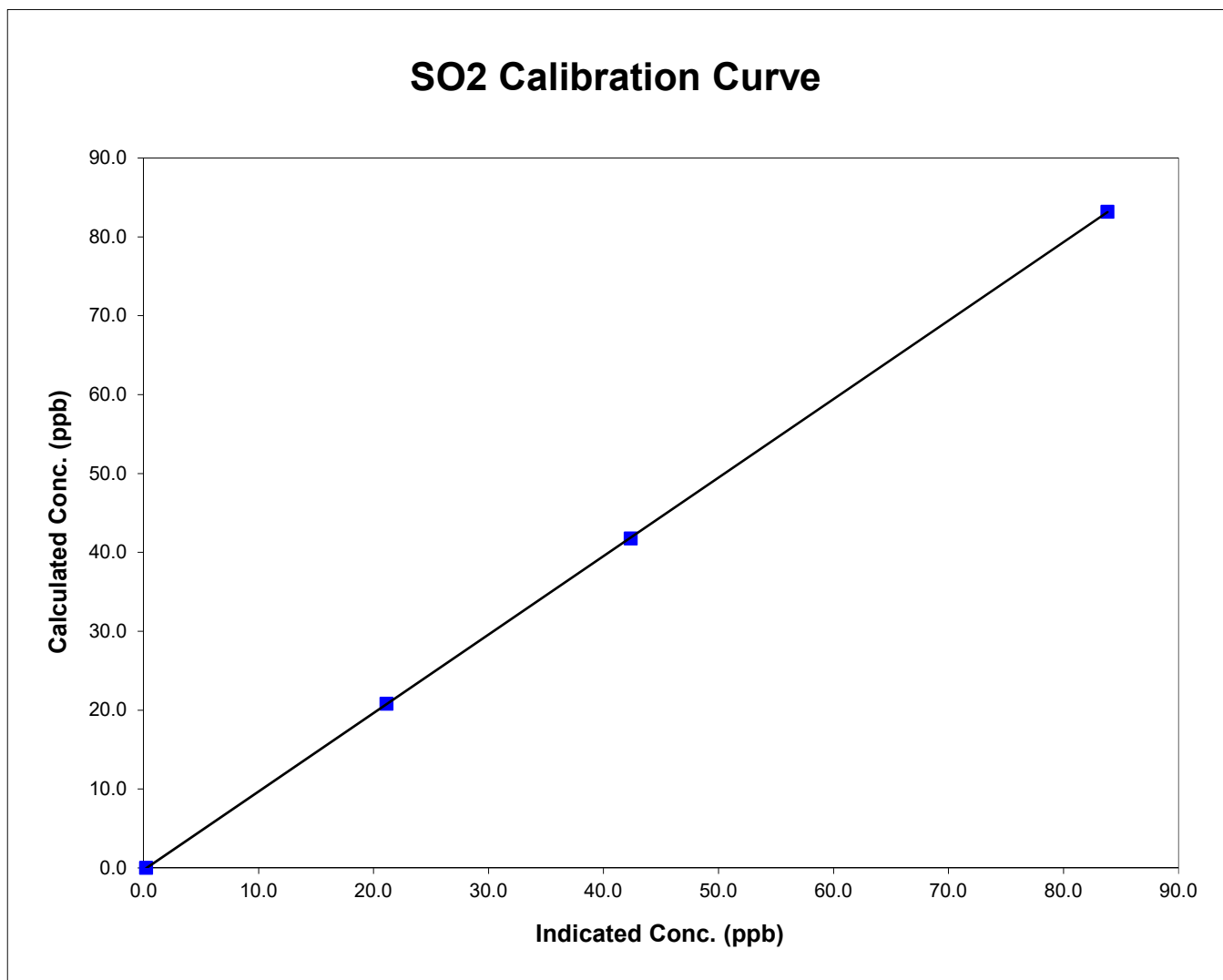


### Station Information

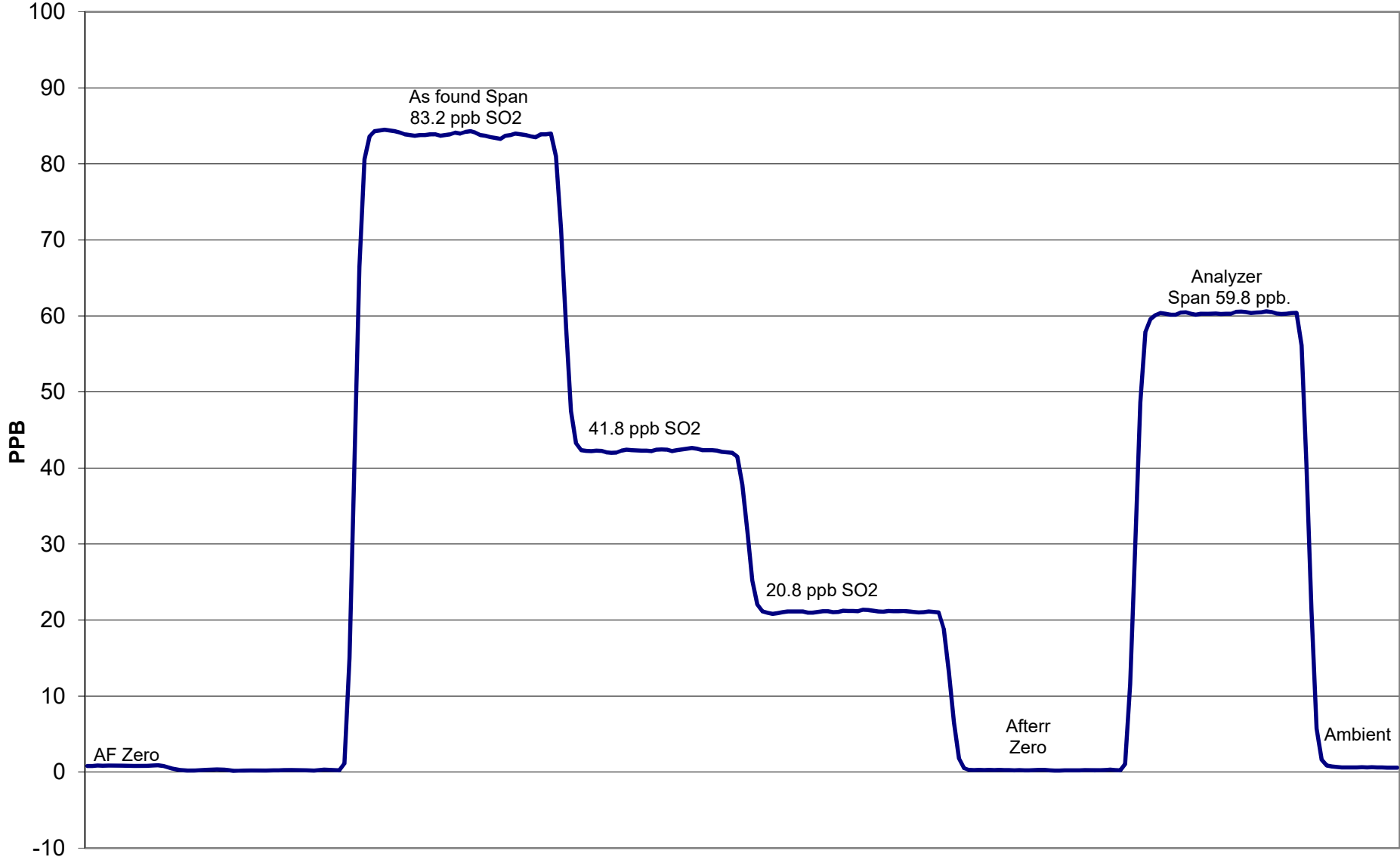
Calibration Date	October 17, 2016	Previous Calibration	September 13, 2016
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	13:20:00 PM	End Time (MST)	15:30:00 PM
Analyzer make/model	TEI Model 43i-TLE	Analyzer serial #	713021137

### Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.2	N/A		
83.2	83.8	0.9924	Correlation Coefficient	0.999994
41.8	42.4	0.9855		
20.8	21.1	0.9844	Slope	0.994845
			Intercept	-0.262038



# SO2 Calibration



October 17, 2016



# Calibration Report



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

## Station Information

Calibration Date: **October 17, 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	0.2	0.0	0.1	N/A	N/A
1	4990	39.87	405.8	403.5	2.4	401.9	402.0	-0.8	1.0097	1.0037
2	4990	19.92	203.6	202.4	1.2	201.2	200.9	-0.6	1.0118	1.0075
3	4990	9.92	101.6	101.0	0.6	99.7	99.9	-0.4	1.0190	1.0112
AFZ	4990	0.00	0.0	0.0	0.0	0.2	0.0	0.1	0.0000	0.0000
AFS	4990	39.92	406.3	404.0	0.8	411.8	411.4	-0.4	0.9867	0.9818
Average Correction Factor									1.0135	1.0075

As Found Concentrations: **NO<sub>x</sub>= 415.2** **NO= 413.1** As Found Percent Change **NO<sub>x</sub>= 2.2%** **NO= 2.3%**

## 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	0.0	0.0	0.0	0.2	0.0	0.1	N/A	N/A	N/A	N/A
NO point	402.5	402.5	0.0	401.8	402.5	-1.5	1.0018	1.0000	N/A	N/A
300	402.5	66.9	335.5	402.4	66.9	334.6	1.0002	1.0000	1.0029	99.7%
200	402.5	176.2	226.3	402.8	176.2	225.8	0.9991	1.0000	1.0020	99.8%
100	402.5	292.8	109.7	402.9	292.8	109.4	0.9990	1.0000	1.0027	99.7%
Average Correction Factor							0.9994	1.0000	1.0025	99.7%

## AIC Data

Parameter	Previous calibration				Current calibration			
	NOx	NO2	NO		NOx	NO2	NO	
Auto zero	0.2	0.2	-0.1	ppb	-0.1	-0.1	-0.1	ppb
Auto span	293.9	290.5	2.5	ppb	306.3	303.2	2.3	ppb

Calibration Performed By: Dmytro Dolotii

# Calibration Summary



Parameter NO<sub>2</sub>

Air Monitoring Network PAZA

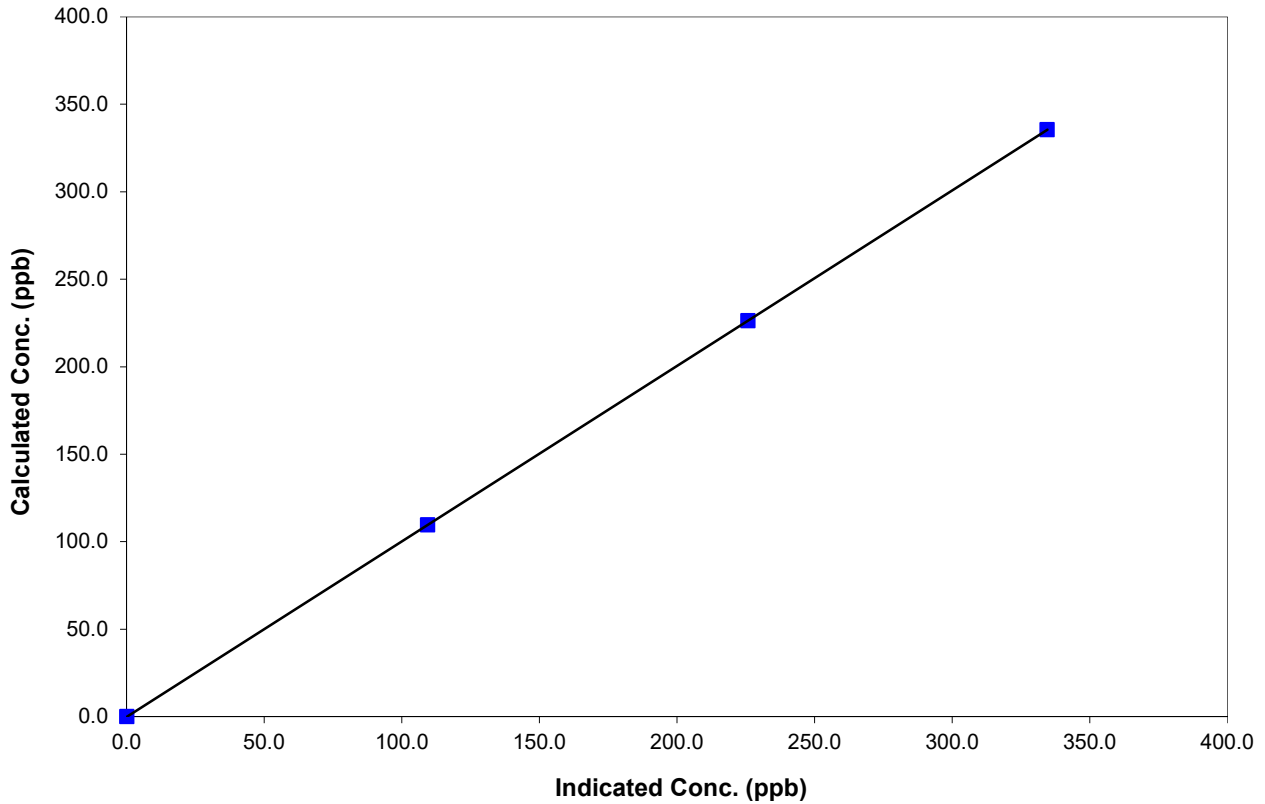
## Station Information

Calibration Date	October 17, 2016	Previous Calibration	September 13, 2016
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	9:30	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	1.000000
335.5	334.6	1.0029		
226.3	225.8	1.0020	Slope	1.003138
109.7	109.4	1.0027		

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



# Calibration Summary



Parameter NO<sub>x</sub>

Air Monitoring Network PAZA

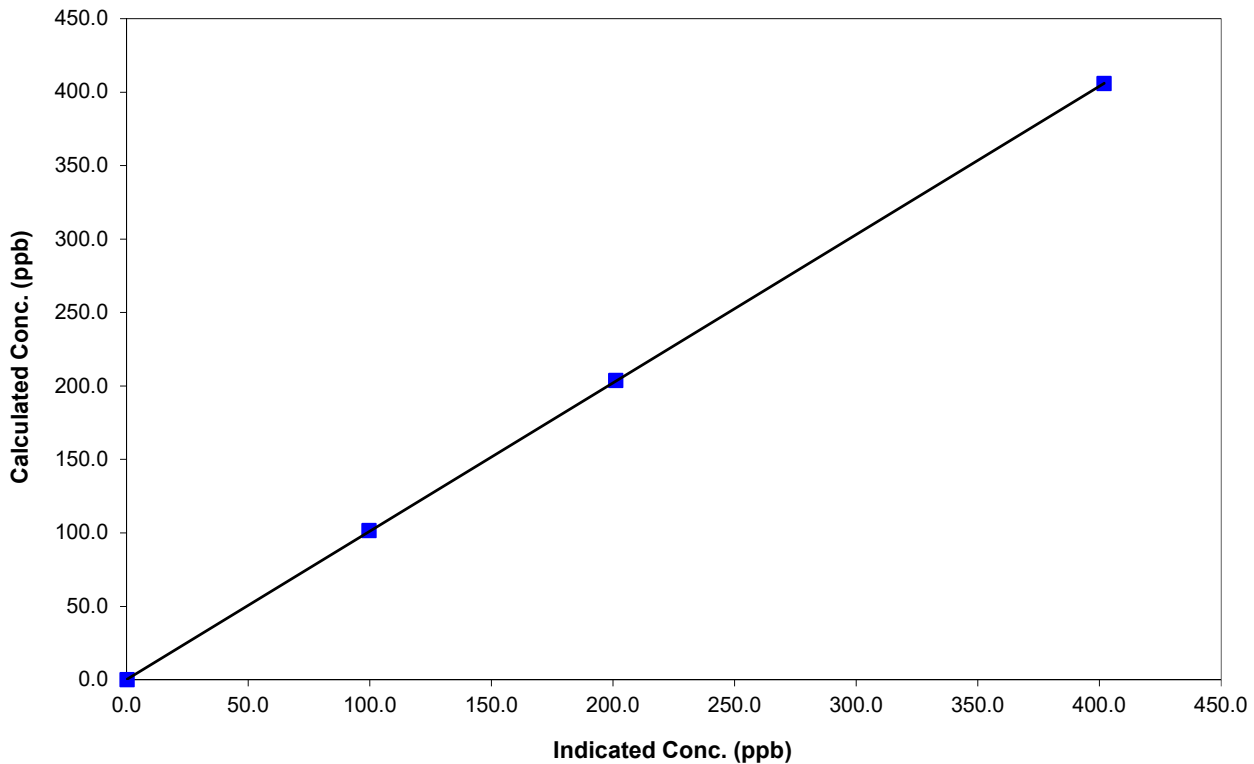
## Station Information

Calibration Date	October 17, 2016	Previous Calibration	September 13, 2016
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	9:30	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	0.2	N/A	Correlation Coefficient	0.999991
405.8	401.9	1.0097		
203.6	201.2	1.0118	Slope	1.009564
101.6	99.7	1.0190		
			Intercept	0.303075

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





# Calibration Summary



Parameter NO  
 Air Monitoring Network PAZA

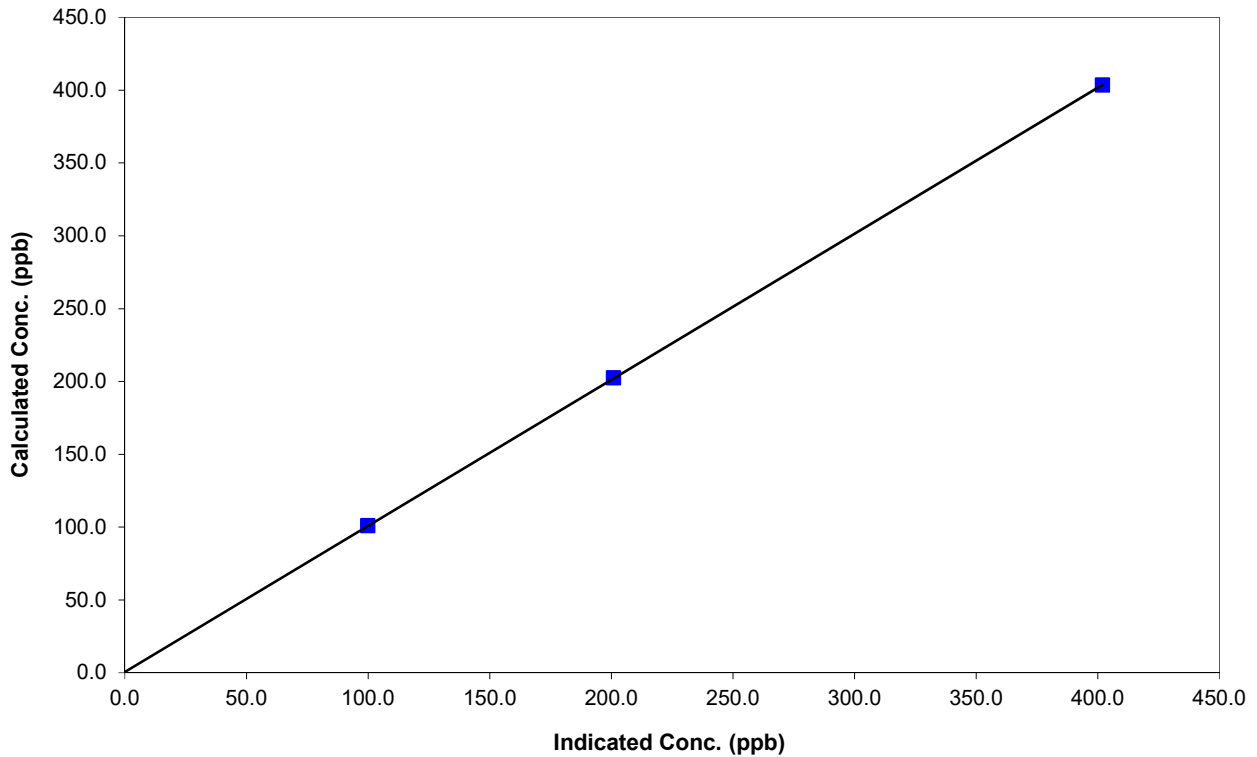
### Station Information

Calibration Date	October 17, 2016	Previous Calibration	September 13, 2016
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	9:30	End Time (MST)	13:15:00 PM
Analyzer make	TEI 42i	Analyzer serial #	906535068

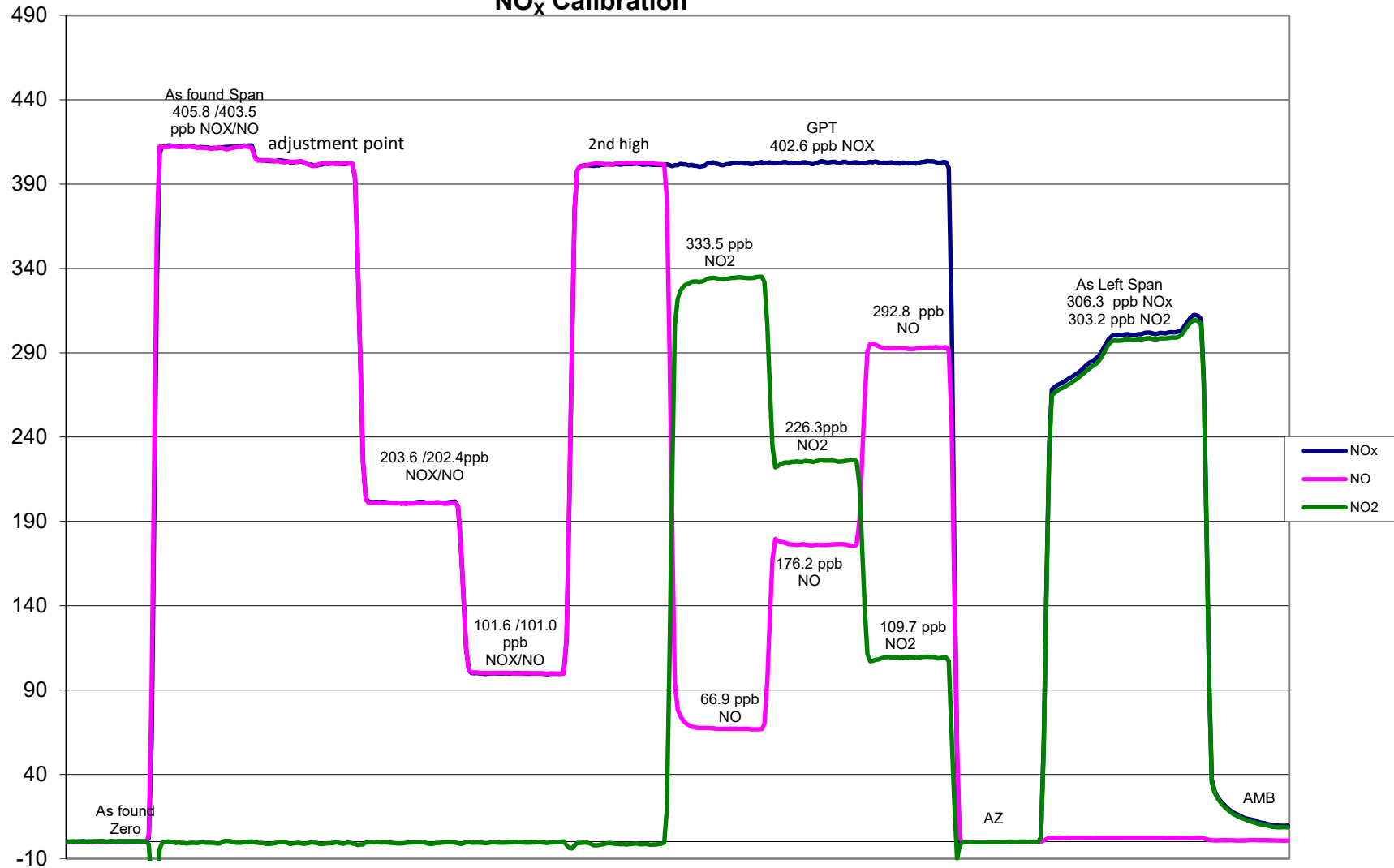
### Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.0	N/A	Correlation Coefficient	0.999994
403.5	402.0	1.0037		
202.4	200.9	1.0075		
101.0	99.9	1.0112		
			Slope	1.003266
			Intercept	0.461171

### NO Calibration Curve



# NO<sub>x</sub> Calibration



October 17, 2016

# Calibration Report



Parameter 03  
Air Monitoring Network PAZA

## Station Information

Calibration Date	October 17, 2016	Previous Calibration	September 13, 2016
Station Number	4	Station Location	Beaverlodge
Reason:	<b>Routine</b>	Install	Removal
		Other:	
Start Time (MST)	12:10	End Time (MST)	14:20:00 PM
Barometric Pressure	0.928 atm	Station Temperature	20.0 Deg C
Calibrator	Envionics	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	0.991062	Calculated slope	0.999377
Calculated intercept	0.019338	Calculated intercept	0.804452
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	1.016		1.016	
Lamp temp	53.8	mV	53.8	mV
Lamp Intensity A/B	45652/51346	mV	45609/51299	mV
Pressure	672.1	mm Hg	674.2	mm Hg
Flow A	0.774	LPM	0.779	LPM
Flow B	0.735	LPM	0.738	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	0.3	N/A
5028	0.30	333.5	334.7	0.9963
5028	0.20	226.3	223.0	1.0146
5028	0.10	109.7	108.6	1.0099
5028	0.00	0.0	0.3	As found zero
5028	0.30	333.5	334.7	As found span
Average Correction Factor				1.0069

Calculated value of As Found Response: 331.5 ppm      Percent Change of As Found: -0.6%

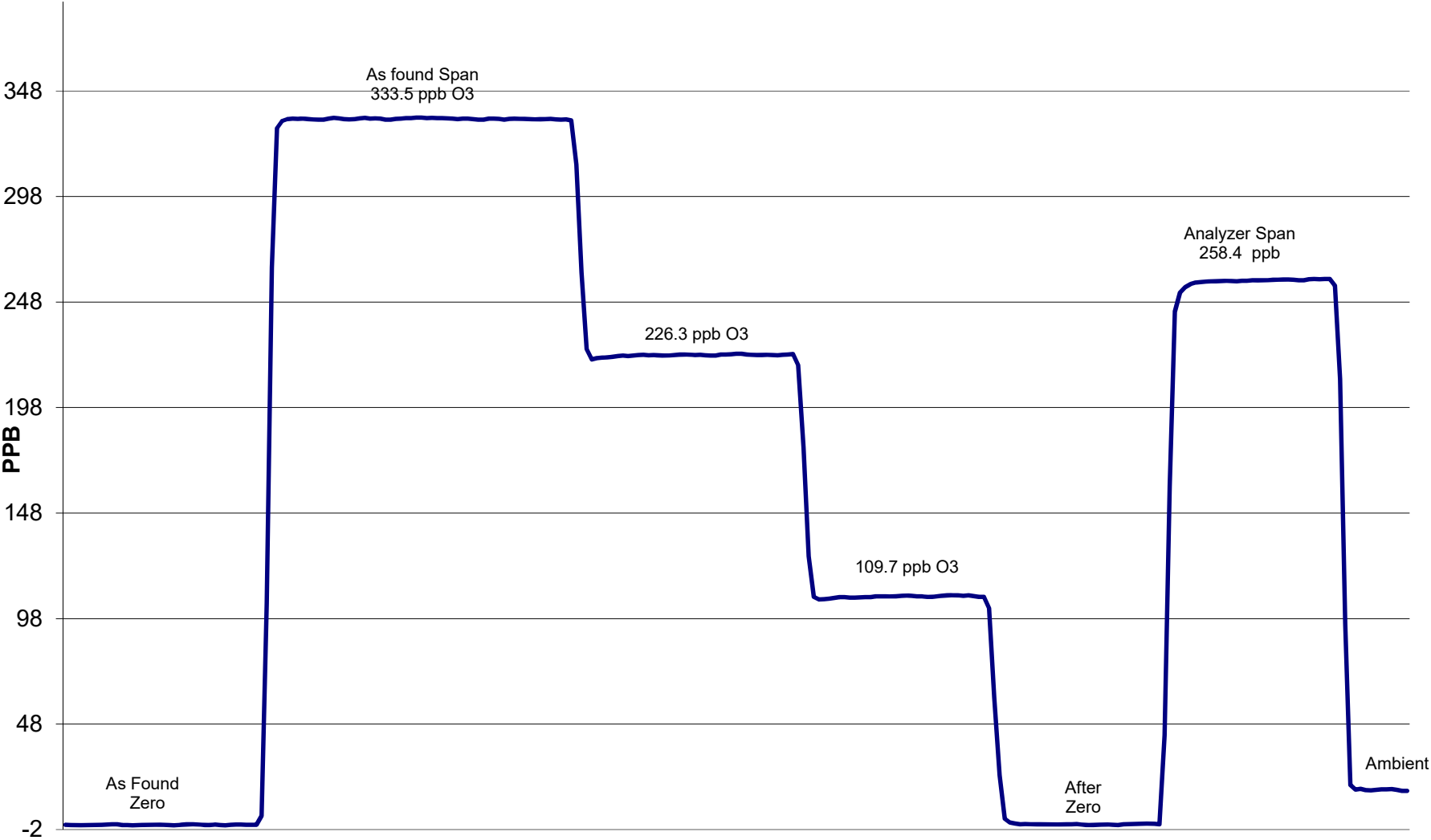
	before calibration		after calibration	
Auto zero	0.2	ppb	0.4	ppb
Auto span	262.1	ppb	258.4	ppb

Notes: No adjustment made

Calibration Performed By: Dmytro Dolotii



# O3 Calibration



October 17, 2016

# Calibration Report



AIR QUALITY MONITORING

Parameter SO2

Air Monitoring Network PAZA

## Station Information

Calibration Date	October 20 2016	Previous Calibration	September 10 2016
Station Number	6	Station Location	Valleyview
Reason:	<b>Routine</b>	Install	Removal
			Other:
Start Time (MST)	11:40	End Time (MST)	14:25:00 PM
Barometric Pressure	0.926 atm	Station Temperature	21.5 Deg C
Calibrator	EnviroNics	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	0.987876	Calculated slope	0.997109
Calculated intercept	0.133094	Calculated intercept	0.509081
Analyzer make	TEI 43C	Analyzer serial #	609716239

	before		after	
Concentration range	0-500	ppb	0-500	ppb
Background	15.9		16.5	
Coefficient	1.031		1.031	
UV Lamp Voltage	736	LPM	736	LPM
Chamber Temp	43	V	43	V
Perm Gas Temp	45	C	45	C
Pressure	667.3	in Hg	667.7	in Hg
Sample Flow	0.484	LPM	0.485	LPM
Lamp Intensity	47530	Hz	47123	Hz

## Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4995	0.00	0.0	0.1	N/A
4997	39.93	394.0	395.0	0.9975
4999	19.99	197.9	197.5	1.0022
4995	9.95	98.8	98.1	1.0074
4995	0.00	0.0	1.0	As found zero
4995	39.93	394.2	403.7	As found span
Average Correction Factor				1.0023

Calculated value of As Found Response: 398.0 ppm      Percent Change of As Found: -1.0%

	before calibration		after calibration	
Auto zero	1.1	ppm	0.0	ppm
Auto span	285.5	ppm	282.2	ppm

Notes: Zero/Span adjustments made

# Calibration Summary

Parameter SO2  
 Air Monitoring Network PAZA



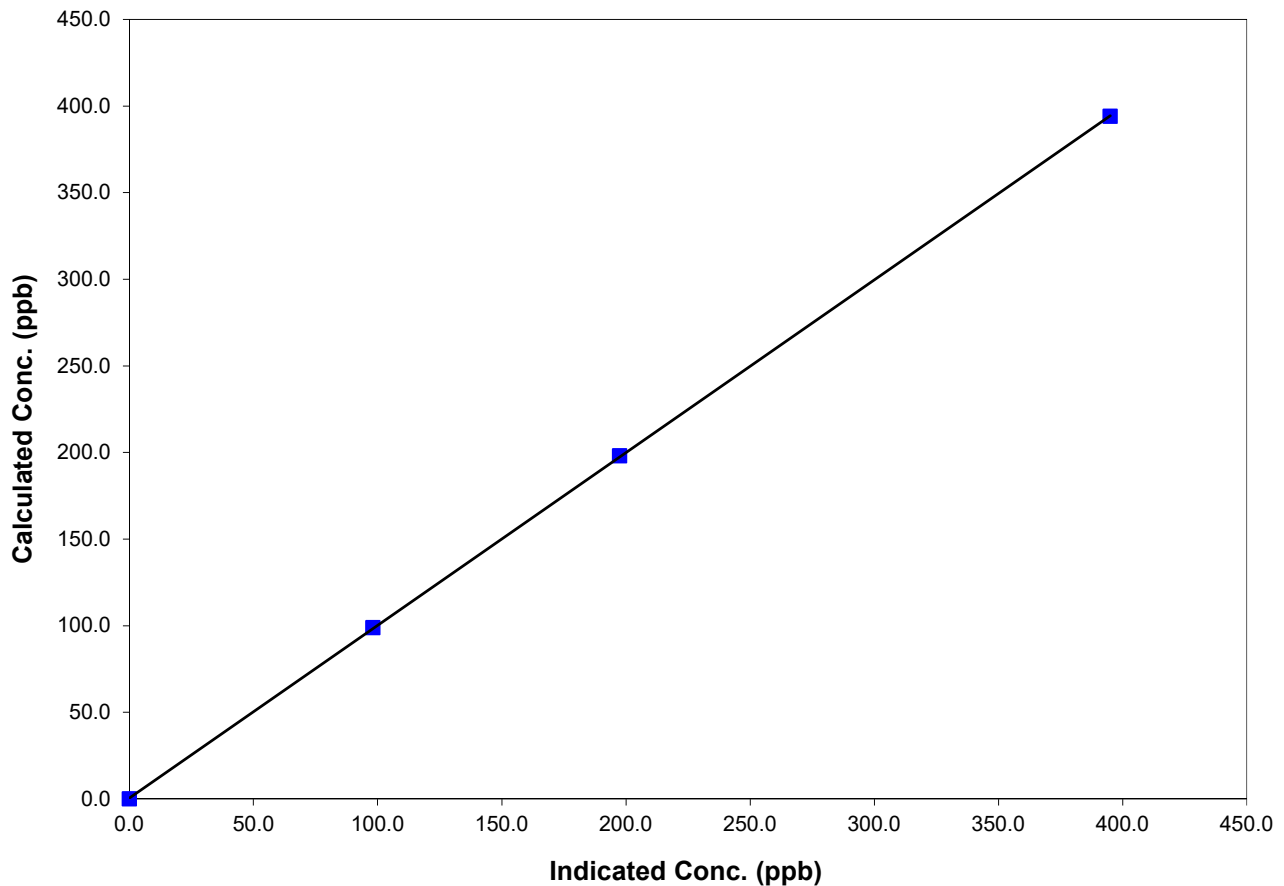
### Station Information

Calibration Date	October 20 2016	Previous Calibration	September 10 2016
Station Number	6	Station Location	Valleyview
Start Time (MST)	11:40	End Time (MST)	14:25:00 PM
Analyzer make/model	TEI 43C	Analyzer serial #	609716239

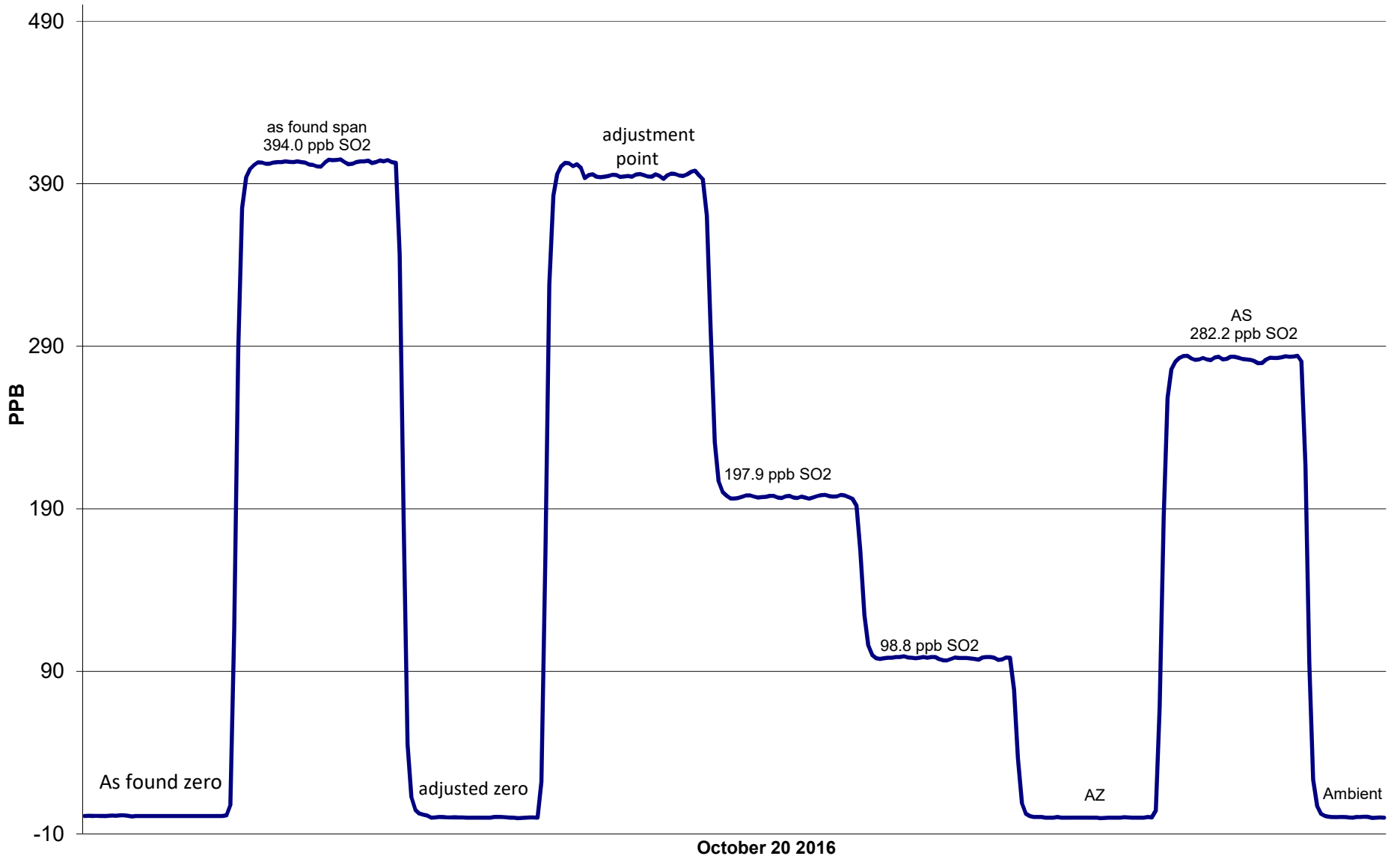
### Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.1	N/A	Correlation Coefficient	0.999988
394.0	395.0	0.9975		
197.9	197.5	1.0022	Slope	0.997109
98.8	98.1	1.0074		
			Intercept	0.509081

## SO2 Calibration Curve



### SO2 Calibration





# Calibration Report



AIR QUALITY MONITORING

Parameter H2S

Air Monitoring Network PAZA

### Station Information

Calibration Date	October 20 2016	Previous Calibration	September 12 2016
Station Number	6	Station Location	Valleyview
Reason:	<input checked="" type="checkbox"/> Routine	<input type="checkbox"/> Install	<input type="checkbox"/> Removal
		<input type="checkbox"/> Other:	
Start Time (MST)	10:00	End Time (MST)	12:45
Barometric Pressure	0.926 atm	Station Temperature	21.5 Deg C
Calibrator	EnviroNics	Serial Number	6586
Cal Gas Concentration	10.2 ppm	Cal Gas Expiry Date	July 03 2016
Gas Cert Reference	LL110781		
DACS make	CR3000	DACS serial No.	5409
DACS voltage range	0 - 5 volt	DACS channel #	9
	<u>Before</u>		<u>After</u>
DACS Scale High	100	DACS slope	100
DACS Scale Low	0	DACS intercept	0
Calculated slope	1.000573	Calculated slope	1.002622
Calculated intercept	-0.194931	Calculated intercept	-0.323563
Analyzer make	TEI Model 43i - APSCB	Analyzer serial #	701120010

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Back Ground	7.9	ppb	7.7	ppb
Coefficient	0.839		0.839	
Lamp Voltage	792	V	792	V
Chamber Temp	45	c	45	c
Perm Oven Temp	45	c	45	c
Pressure	529.30	mm Hg	529.00	mm Hg
Sample Flow	0.362	ccm	0.362	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	0.6	N/A
4998	39.98	80.9	81.1	0.9977
4998	19.96	40.6	40.7	0.9964
6999	10.09	14.7	14.7	0.9967
4997	9.97		2.8	Sox Test
4997	0.00	0.0	0.6	As found zero
4997	39.93	80.9	81.1	As found span
Average Correction Factor				0.9969

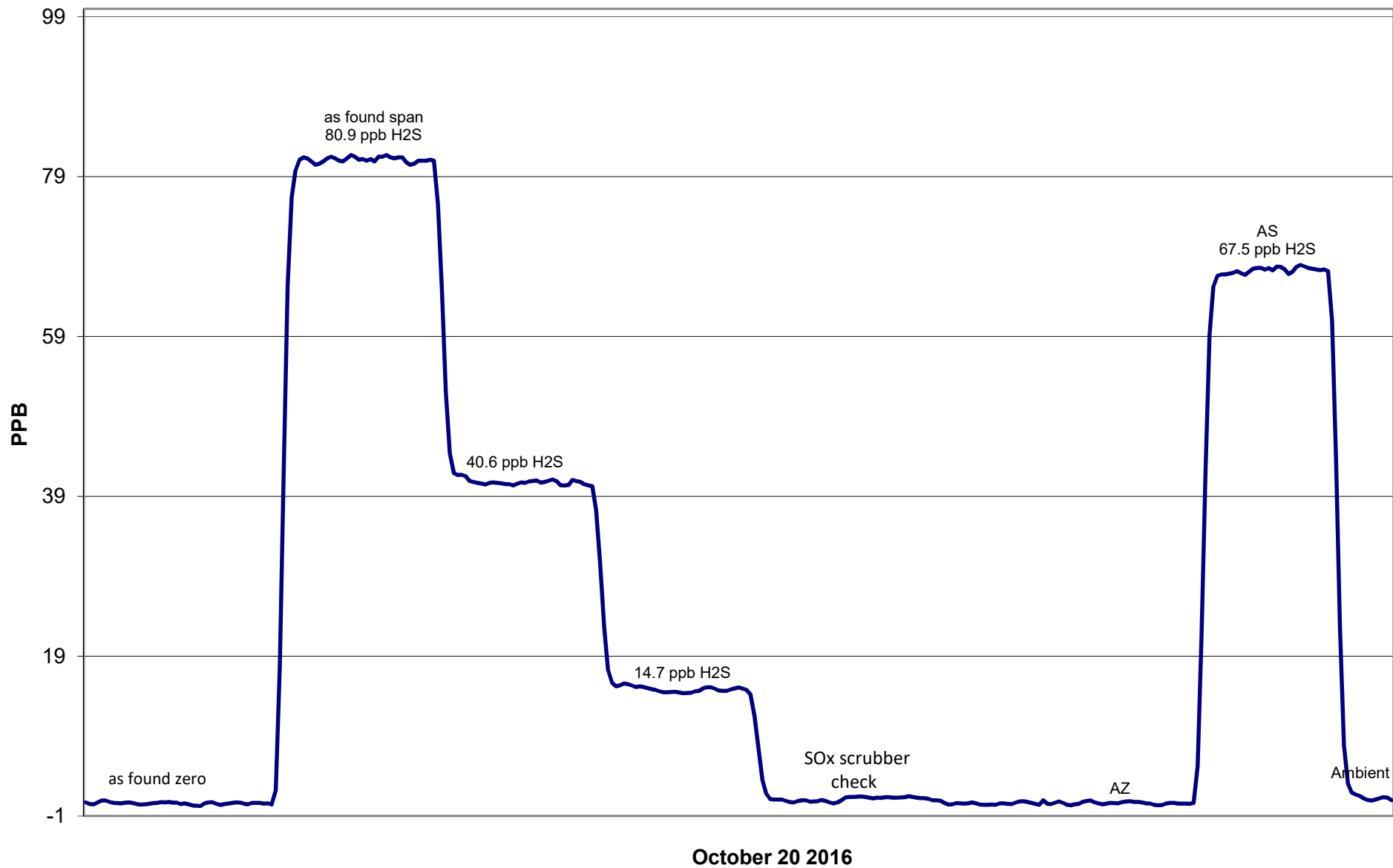
Calculated value of As Found Response: 80.43 ppm      Percent Change of As Found: 0.5%

	before calibration		after calibration	
Auto zero	0.6	ppm	0.6	ppm
Auto span	65.4	ppm	67.5	ppm

Notes: NO adjustment made  
Sox scrubber check is done



# H2S Calibration



# Calibration Report



Parameter SO<sub>2</sub>

Air Monitoring Network PAZA

## Station Information

Calibration Date	October 19, 2016	Previous Calibration	September 8, 2016
Station Number	1	Station Location	Donnelly
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)	14:06:00 PM
Barometric Pressure	0.925 mm	Station Temperature	20.5 Deg C
Calibrator	Envionics	Serial Number	6586
Cal Gas Concentration	49.7 ppm	Cal Gas Expiry Date	11/5/2018
Correction factor	0.031390	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	0.999584	Calculated slope	0.985001
Calculated intercept	0.763148	Calculated intercept	-0.018021
Analyzer make	Teco 43i	Analyzer serial #	1207452008

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
Background	6.5		6.5	
coefficient	0.929		0.929	
Lamp Voltage	850	volts	850	volts
Chamber Temp	45	Deg C	45.2	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	685.5	mm Hg	683.5	mm Hg
Sample Flow	0.401	ccm	0.402	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	0.9	N/A
4995	39.93	394.2	400.7	0.9836
4995	19.96	197.8	200.1	0.9887
4995	9.97	99.0	99.8	0.9917
4995	0.0	0.0	0.9	As Found Zero
4995	39.93	394.2	400.7	As Found Span
Average Correction Factor				0.9880

Calculated value of As Found Response: 400.394 ppm      Percent Change of As Found: **-1.6%**

	before calibration		after calibration	
Auto zero	0.4	ppm	1.0	ppm
Auto span	242.0	ppm	261.3	ppm

Notes: No adjustment made

Calibration Performed By: Dmytro Dolotii

# Calibration Summary

Parameter SO2  
 Air Monitoring Network PAZA

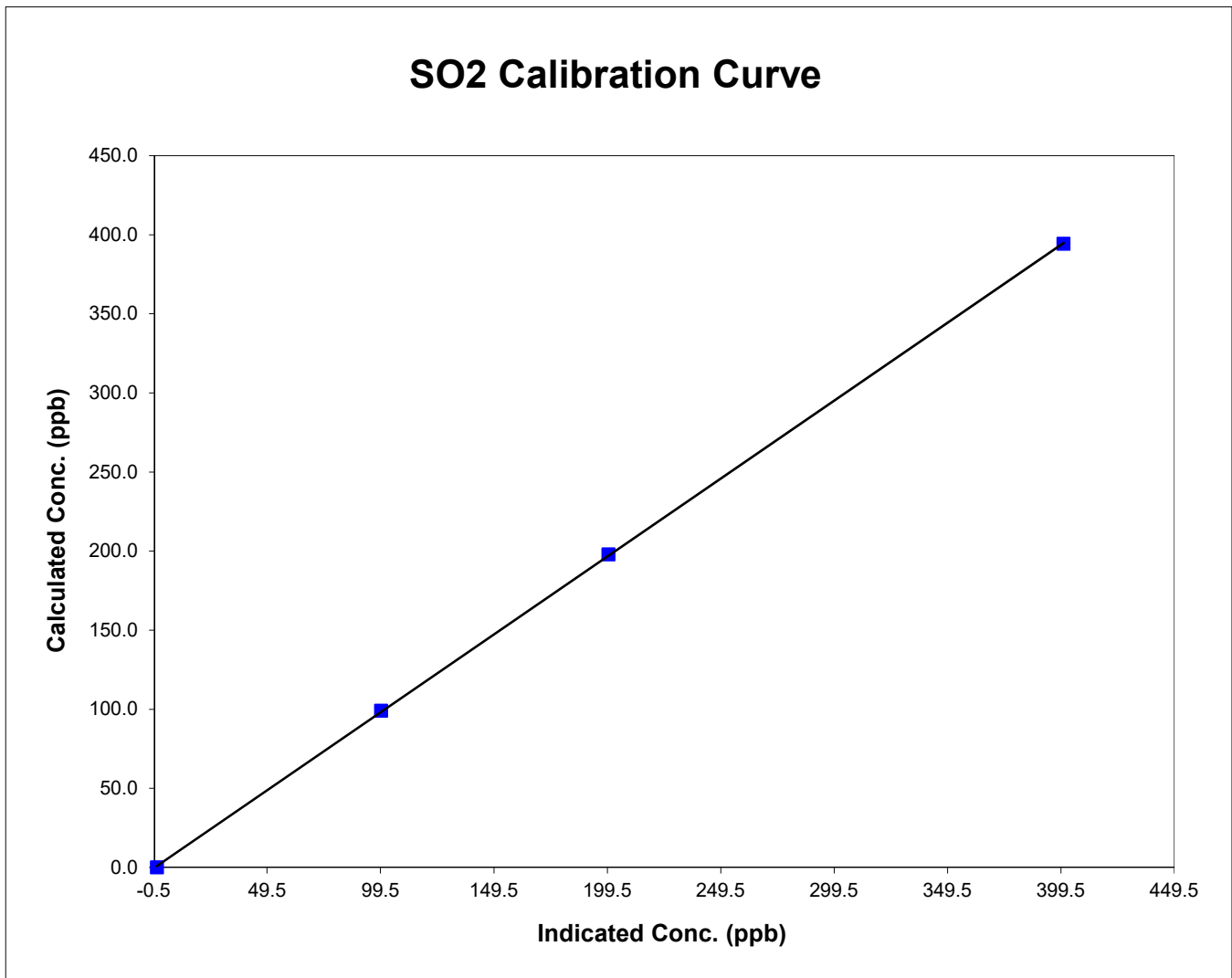


### Station Information

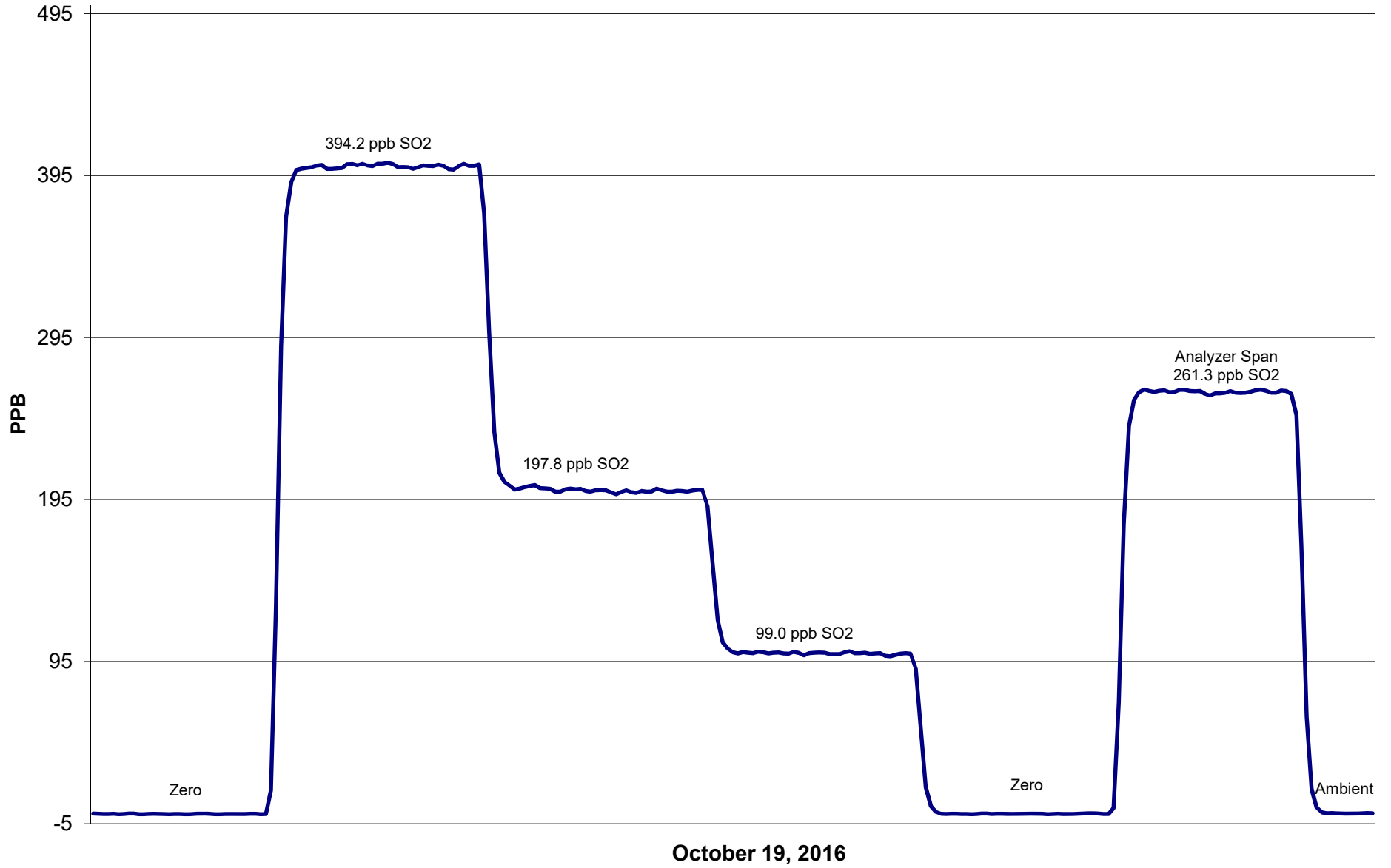
Calibration Date	October 19, 2016	Previous Calibration	September 8, 2016
Station Number	1	Station Location	Donnelly
Start Time (MST)	12:00	End Time (MST)	14:06:00 PM
Analyzer make/model	Teco 43i	Analyzer serial #	1207452008

### Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.9	N/A	Correlation Coefficient	0.999974
394.2	400.7	0.9836		
197.8	200.1	0.9887	Slope	0.985001
99.0	99.8	0.9917		
			Intercept	-0.018021



# SO2 Calibration

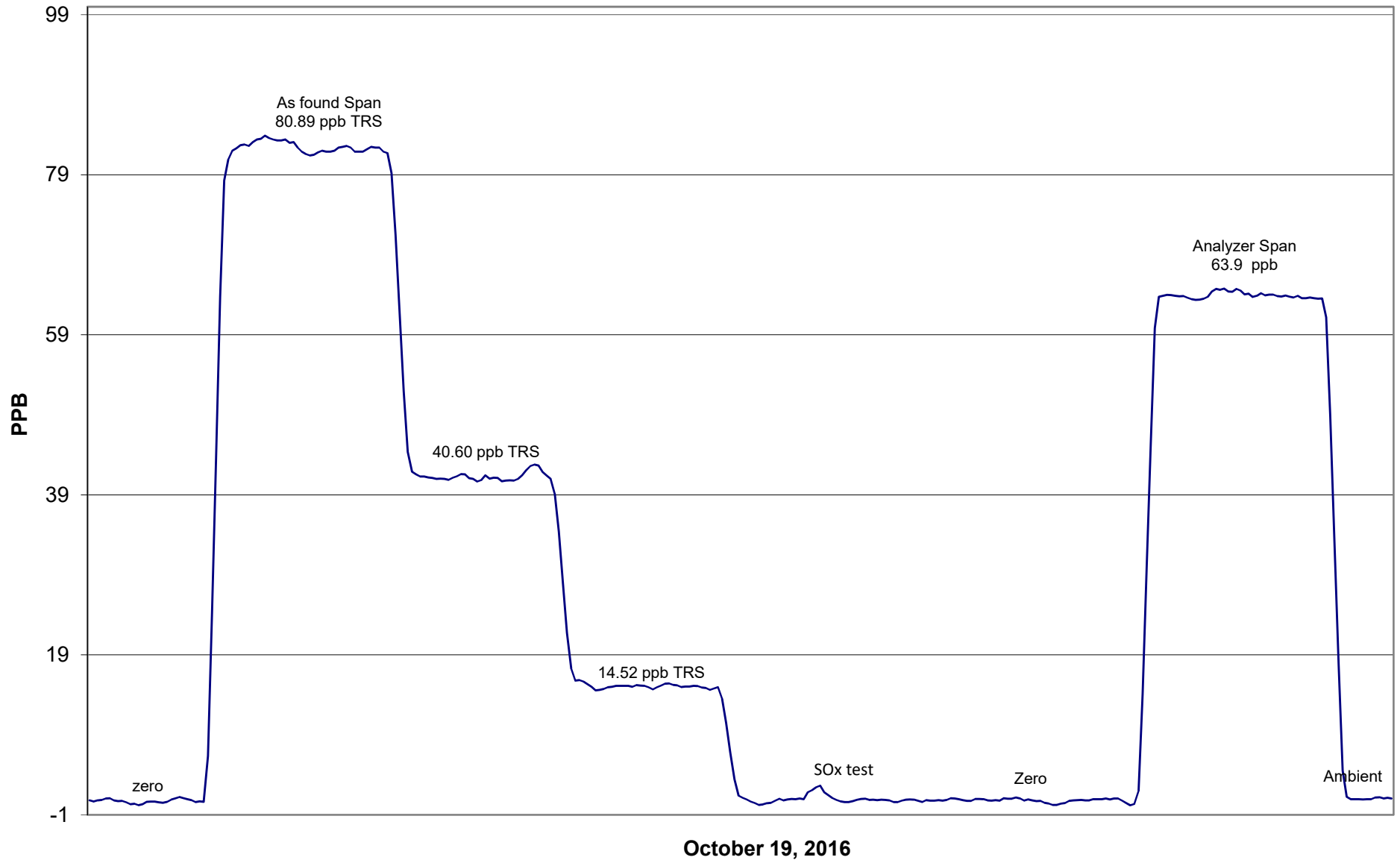








# H2S Calibration



# Calibration Report



AIR QUALITY MONITORING

Parameter SO2  
Air Monitoring Network

PAZA

## Station Information

Calibration Date	October 12, 2016	Previous Calibration	September 14, 2016
Station Number	10	Station Location	Portable Rycroft
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)	12:05
Barometric Pressure	0.929 Atm	Station Temperature	17.0 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	0.985621	Calculated slope	0.985621
Calculated intercept	0.985696	Calculated intercept	0.985696
Analyzer make	TEI 43C	Analyzer serial #	436610005

	before		after	
Concentration range	0-500	ppb	0-500	ppb
Background	23.4		23	
Coefficient	1.058		1.041	
UV Lamp Voltage	891	V	891	V
Chamber Temp	43.9	C	44.4	C
Perm Gas Temp	45.01	C	45	C
Pressure	678.5	mm Hg	677.7	mm Hg
Sample Flow	0.468	LPM	0.468	LPM
Lamp Intesity	30435	Hz	30333	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	0.5	N/A
4996	39.95	395.1	400.7	0.9859
4997	19.98	198.3	199.0	0.9964
4999	9.94	98.8	98.1	1.0075
4998	0.00	0.0	0.5	As found zero
4999	39.93	394.6	400.7	As found span
Average Correction Factor				0.9966

Calculated value of As Found Response: 395.446 ppm      Percent Change of As Found: -0.2%

	before calibration		after calibration	
Auto zero	0.3	ppm	0.3	ppm
Auto span	206.2	ppm	206.2	ppm

Notes: Span adjustment made  
Due to the data logger failure numbers for the calibration sheet aren't available for October 12 2016

# Calibration Summary

Parameter SO2  
 Air Monitoring Network PAZA



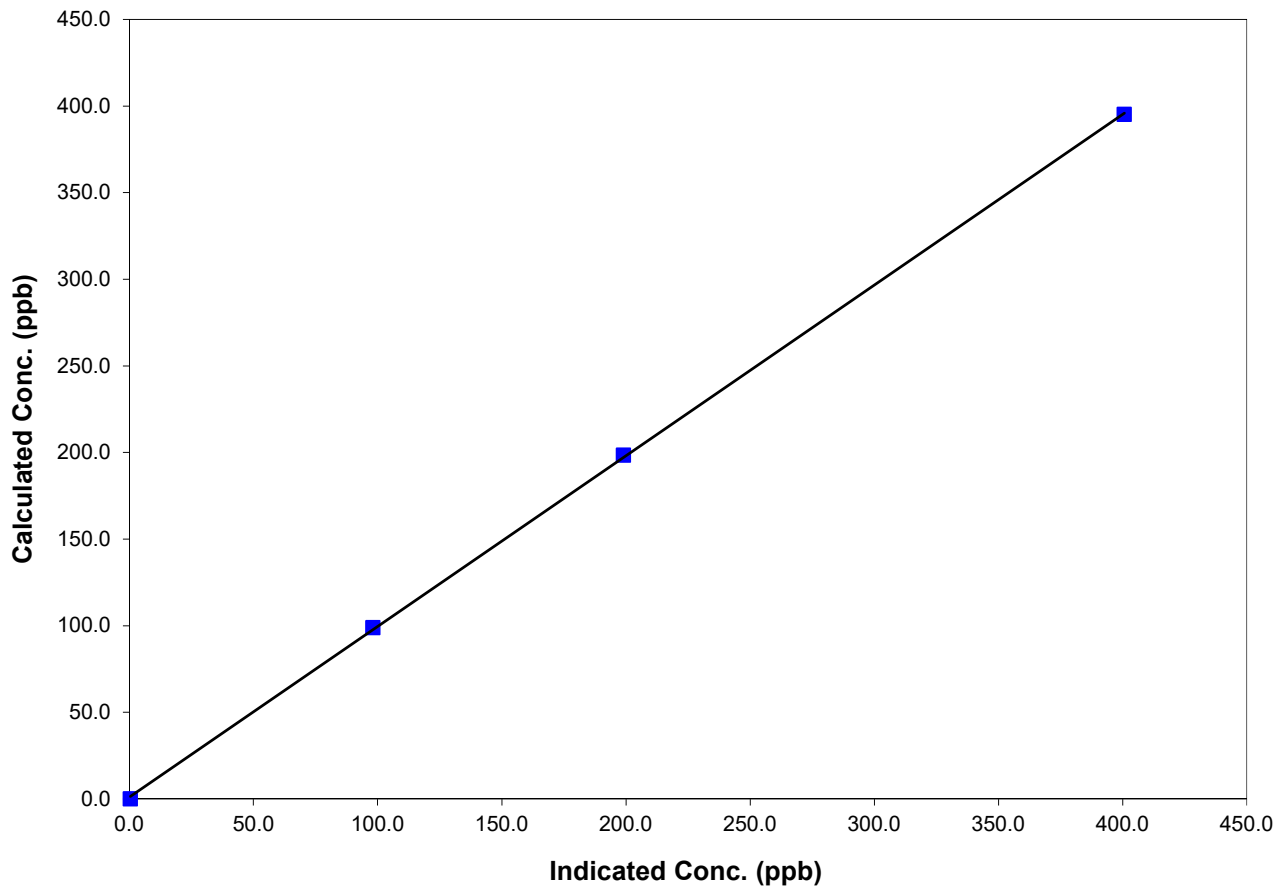
### Station Information

Calibration Date	October 12, 2016	Previous Calibration	September 14, 2016
Station Number	10	Station Location	Portable Rycroft
Start Time (MST)	9:40	End Time (MST)	12:05
Analyzer make/model	TEI 43C	Analyzer serial #	436610005

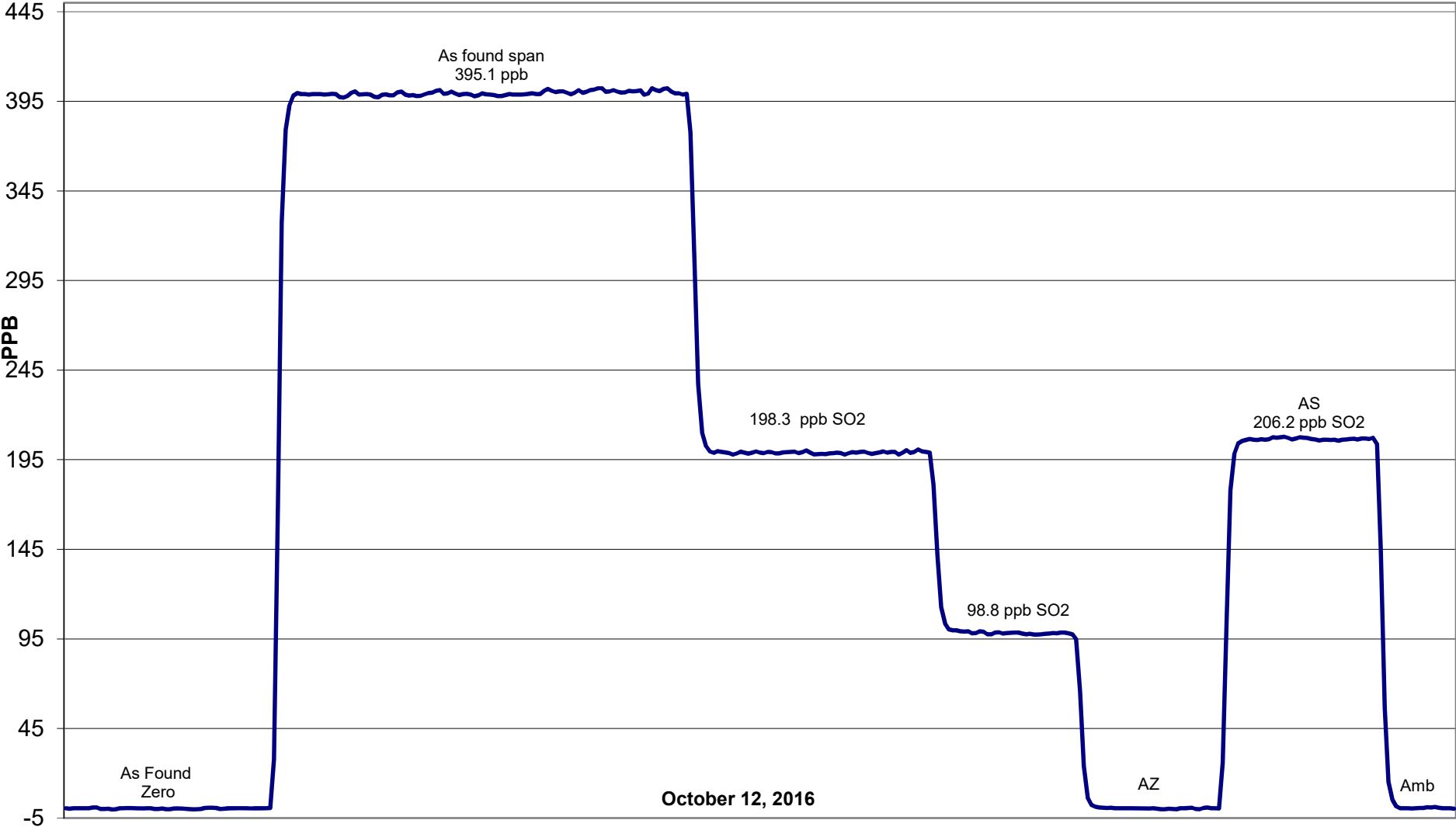
### Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.5	N/A	Correlation Coefficient	0.999935
395.1	400.7	0.9859		
198.3	199.0	0.9964	Slope	0.985621
98.8	98.1	1.0075		
			Intercept	0.985696

## SO2 Calibration Curve



# SO2 Calibration





# Calibration Report



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

## Station Information

Calibration Date: **October 12, 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	-0.4	-0.1	0.0	N/A	N/A
1	4995	39.92	405.9	403.6	2.4	405.7	404.9	-0.9	1.0006	0.9967
2	4994	19.96	203.8	202.6	1.2	202.0	201.4	-0.3	1.0091	1.0062
3	4998	9.98	102.0	101.4	0.6	100.3	100.5	-0.2	1.0176	1.0092
AFZ	4994	0.00	0.0	0.0	0.0	-0.6	-0.4	-0.2	0.0000	0.0000
AFS	4999	39.92	405.6	403.2	0.8	403.8	403.0	-0.9	1.0045	1.0006
Average Correction Factor									1.0091	1.0040

As Found Concentrations: **NO<sub>x</sub> = 405.2** **NO = 402.7** As Found Percent Change **NO<sub>x</sub> = -0.1%** **NO = -0.1%**

## GPT Calibration Data

Dilution Flow 4995 ccm Source Gas Flow 39.93 ccm

O3 Setpoint (ppb)	Indicated NOx high point (ppb)	Indicated NO drop conc (ppb)	Calculated NO2 conc (ppb)	Indicated NOx conc (ppb)	Indicated NO conc (ppb)	Indicated NO2 conc (ppb)	NOx Correction factor	NO Correction factor	NO2 Correction factor	Converter Efficiency
0	-0.4	-0.4	0.0	-0.4	-0.1	0.0	N/A	N/A	N/A	N/A
NO point	403.6	403.6	0.0	405.0	403.6	-0.7	0.9966	1.0000	N/A	N/A
300	403.6	66.9	336.7	407.7	66.9	339.2	0.9899	1.0000	0.9926	100.7%
200	403.6	176.7	226.9	407.3	176.7	228.5	0.9910	1.0000	0.9930	100.7%
100	403.6	293.3	110.3	406.9	293.3	111.6	0.9918	1.0000	0.9885	101.2%
Average Correction Factor							0.9909	1.0000	0.9913	100.9%

## AIC Data

Parameter	Previous calibration				Current calibration			
	NOx	NO2	NO		NOx	NO2	NO	
Auto zero	-0.2	0.1	-0.4	ppb	-0.1	-0.1	0.0	ppb
Auto span	153.7	151.8	1.0	ppb	157.4	155.4	1.3	ppb

Calibration Performed By: Dmytro Dolotii

# Calibration Summary



Parameter NO<sub>2</sub>

Air Monitoring Network PAZA

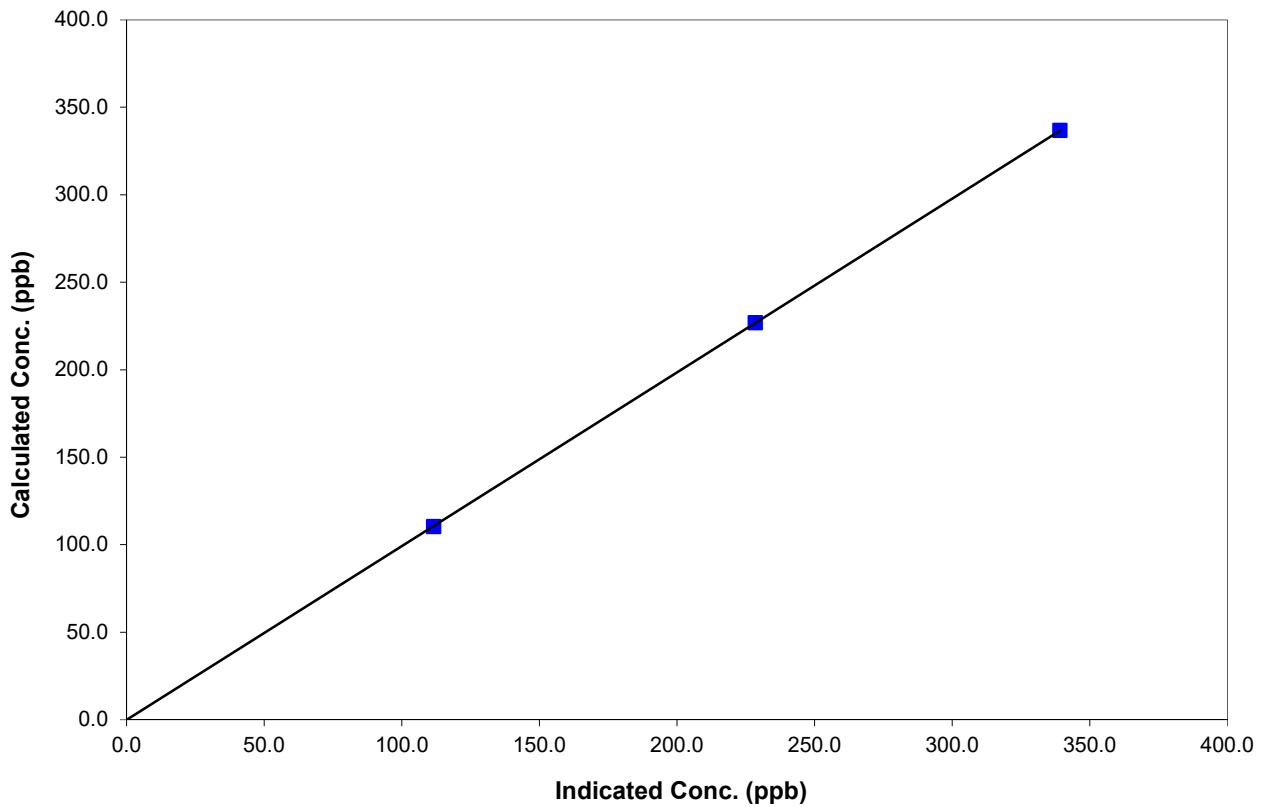
## Station Information

Calibration Date	October 12, 2016	Previous Calibration	September 14, 2016
Station Number	10	Station Location	Rycroft
Start Time (MST)	9:25	End Time (MST)	13:15:00 PM
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		
336.7	339.2	0.9926	Correlation Coefficient	0.999997
226.9	228.5	0.9930		
110.3	111.6	0.9885	Slope	0.992954
			Intercept	-0.147093

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



# Calibration Summary



Parameter NO<sub>x</sub>

Air Monitoring Network PAZA

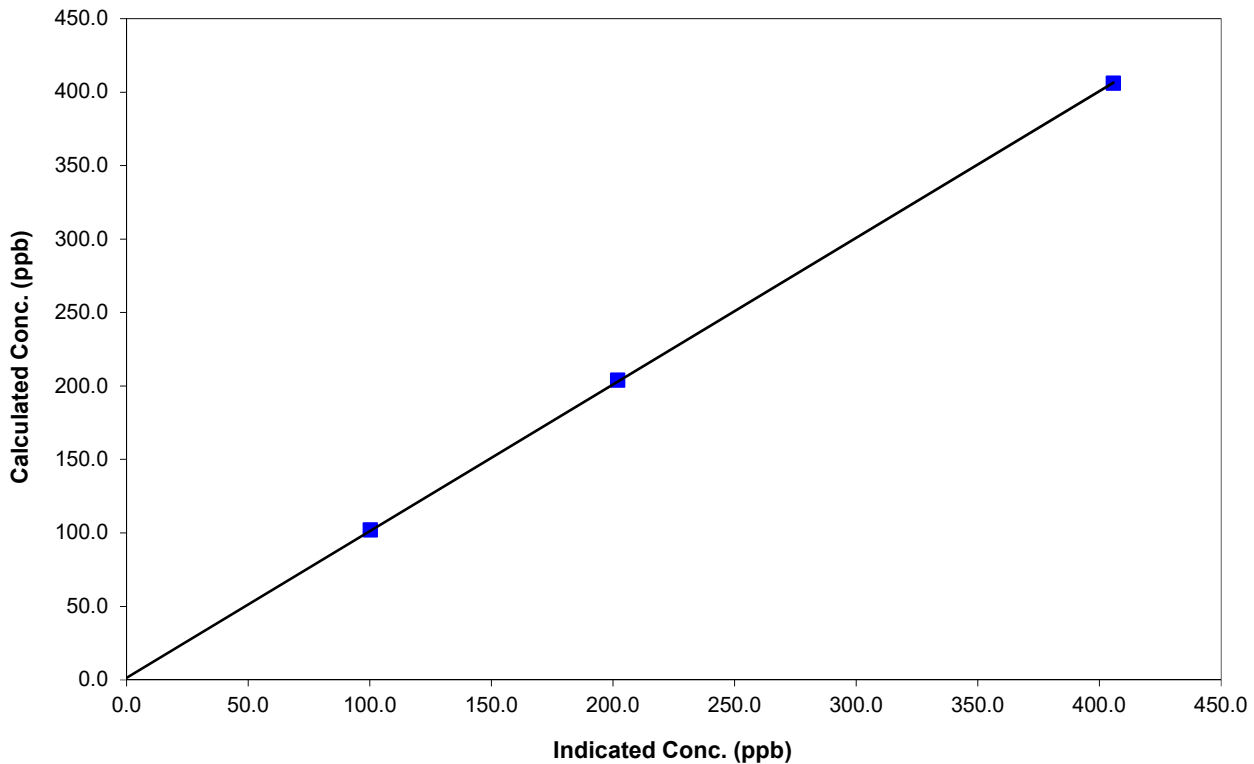
## Station Information

Calibration Date	October 12, 2016	Previous Calibration	September 14, 2016
Station Number	10	Station Location	Rycroft
Start Time (MST)	9:25	End Time (MST)	13:15:00 PM
Analyzer make	TEI 42i	Analyzer serial #	0701120011

## Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.4	N/A	Correlation Coefficient	0.999977
405.9	405.7	1.0006		
203.8	202.0	1.0091	Slope	0.998741
102.0	100.3	1.0176		
			Intercept	1.286163

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





# Calibration Summary



Parameter NO  
 Air Monitoring Network PAZA

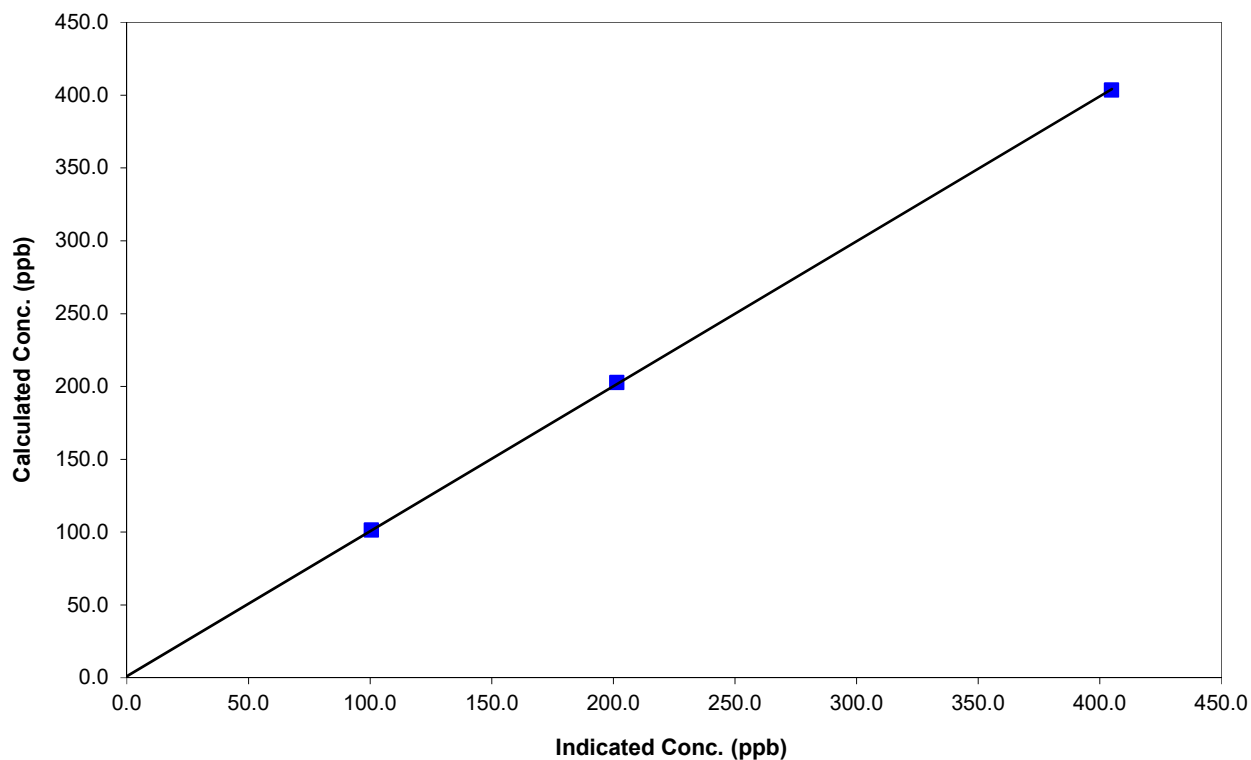
## Station Information

Calibration Date	October 12, 2016	Previous Calibration	September 14, 2016
Station Number	10	Station Location	Rycroft
Start Time (MST)	9:25	End Time (MST)	13:15:00 PM
Analyzer make	TEI 42i	Analyzer serial #	0701120011

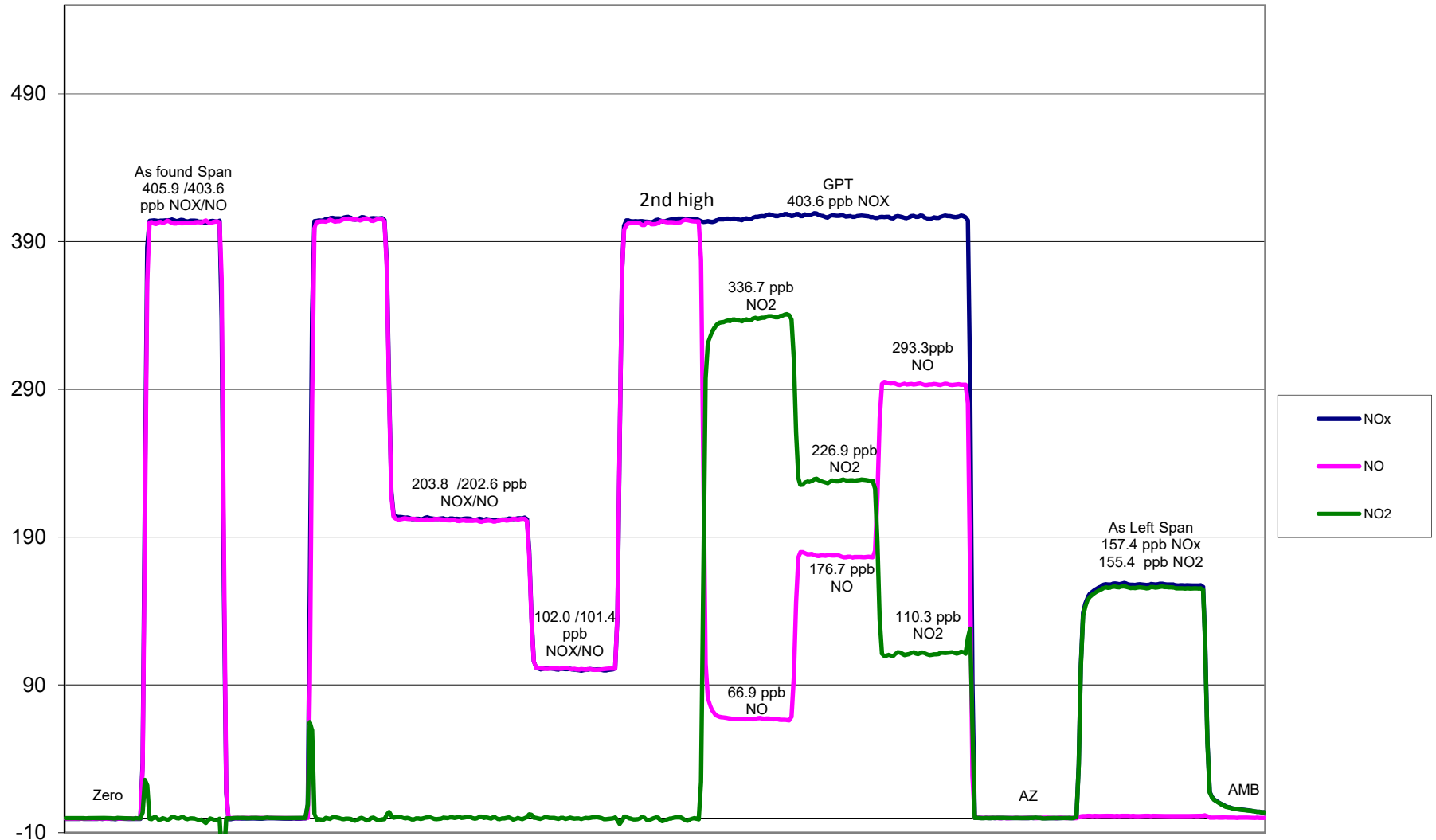
## Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.1	N/A	Correlation Coefficient	0.999971
403.6	404.9	0.9967		
202.6	201.4	1.0062		
101.4	100.5	1.0092	Slope	0.995989
			Intercept	0.935799

## NO Calibration Curve



# NO<sub>x</sub> Calibration



October 12, 2016

# Calibration Report



AIR QUALITY MONITORING

Parameter 03

Air Monitoring Network PAZA

## Station Information

Calibration Date	October 12 2016	Previous Calibration	September 14 2016
Station Number	10	Station Location	Rycroft
Reason:	<b>Routine</b>	Install	Removal
		Other:	
Start Time (MST)	12:15	End Time (MST)	14:20:00 PM
Barometric Pressure	0.929 atm	Station Temperature	17.0 Deg C
Calibrator	EnviroNics 6103	Serial Number	6586
DACS make	CR3000	DACS serial No.	5407
DACS voltage range	0 - 5 Volts	DACS channel #	6
	Before		After
Calculated slope	0.992367	Calculated slope	1.001072
Calculated intercept	-0.647864	Calculated intercept	-1.306325
Analyzer make	Model 49-I	Analyzer serial #	1153630156

	before		after	
Concentration range	0-500	ppb	0-500	ppb
Offset	-0.5	ppb	-0.6	ppb
Span	1.012		1.012	
Cell A intensity	90318	Hz	90301	Hz
Cell B intensity	115905	Hz	115100	Hz
Pressure	698.30	in Hg	698.70	in Hg
CellA Flow	0.693	ccm	0.695	ccm
Cell B Flow	0.693	cmm	0.694	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	0.7	N/A
5020	0.30	340.0	340.5	0.9987
5025	0.20	226.9	228.3	0.9938
5020	0.10	110.3	112.2	0.9827
5015	0.00	0.0	0.7	As found zero
5020	0.30	336.7	333.7	As found span
Average Correction Factor				0.9917

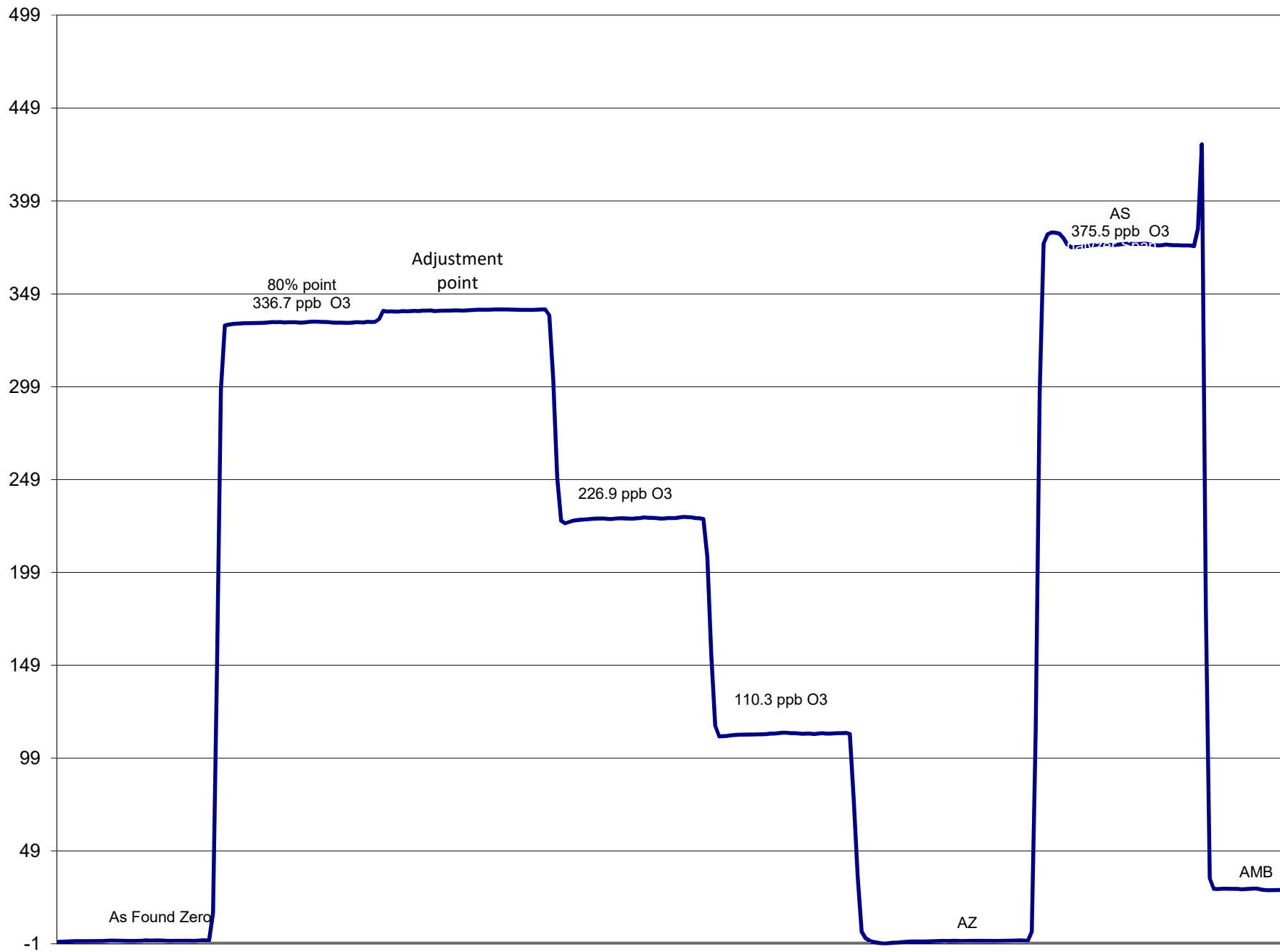
Calculated value of As Found Response: 329.8 ppm      Percent Change of As Found: -2.0%

	before calibration		after calibration	
Auto zero	0.6	ppb	0.6	ppb
Auto span	375.5	ppb	375.5	ppb

Notes: No adjustment made  
Due to the data logger failure numbers for the calibration sheet aren't available for October 12 2016.

Calibration Performed By: Dmytro Dolotii





October 12 2016

# Calibration Report



Parameter THC  
 Air Monitoring Network PAZA

### Station Information

Calibration Date	October 13, 2016	Previous Calibration	September 15, 2016
Station Number	10	Station Location	Rycroft Rover
Reason:	<input type="checkbox"/> Routine	<input type="checkbox"/> Install	<input checked="" type="checkbox"/> Removal
Other:	<input type="text"/>		
Start Time (MST)	9:55	End Time (MST)	11:50
Barometric Pressure	0.929 ATM	Station Temperature	18.0 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	1.000924	Calculated slope	1.010274
Calculated intercept	0.074524	Calculated intercept	0.075124
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	2256	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	0.03	N/A
2998	69.96	21.82	21.57	1.0113
2997	29.98	9.48	9.20	1.0304
2998	9.99	3.18	3.03	1.0494
2996	0.00	0.00	0.03	As Found Zero
2996	69.93	21.82	21.57	As Found Span
Average Correction Factor				1.0304

Calculated value of As Found Response: 21.643 ppm      Percent Change of As Found: 0.8%

	before calibration		after calibration	
Auto zero	0.02	ppm	0.02	ppm
Auto span	21.62	ppm	13.83	ppm

Notes: After span point was dropping because span tank was almost empty  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

# Calibration Summary

Parameter THC  
 Air Monitoring Network PAZA



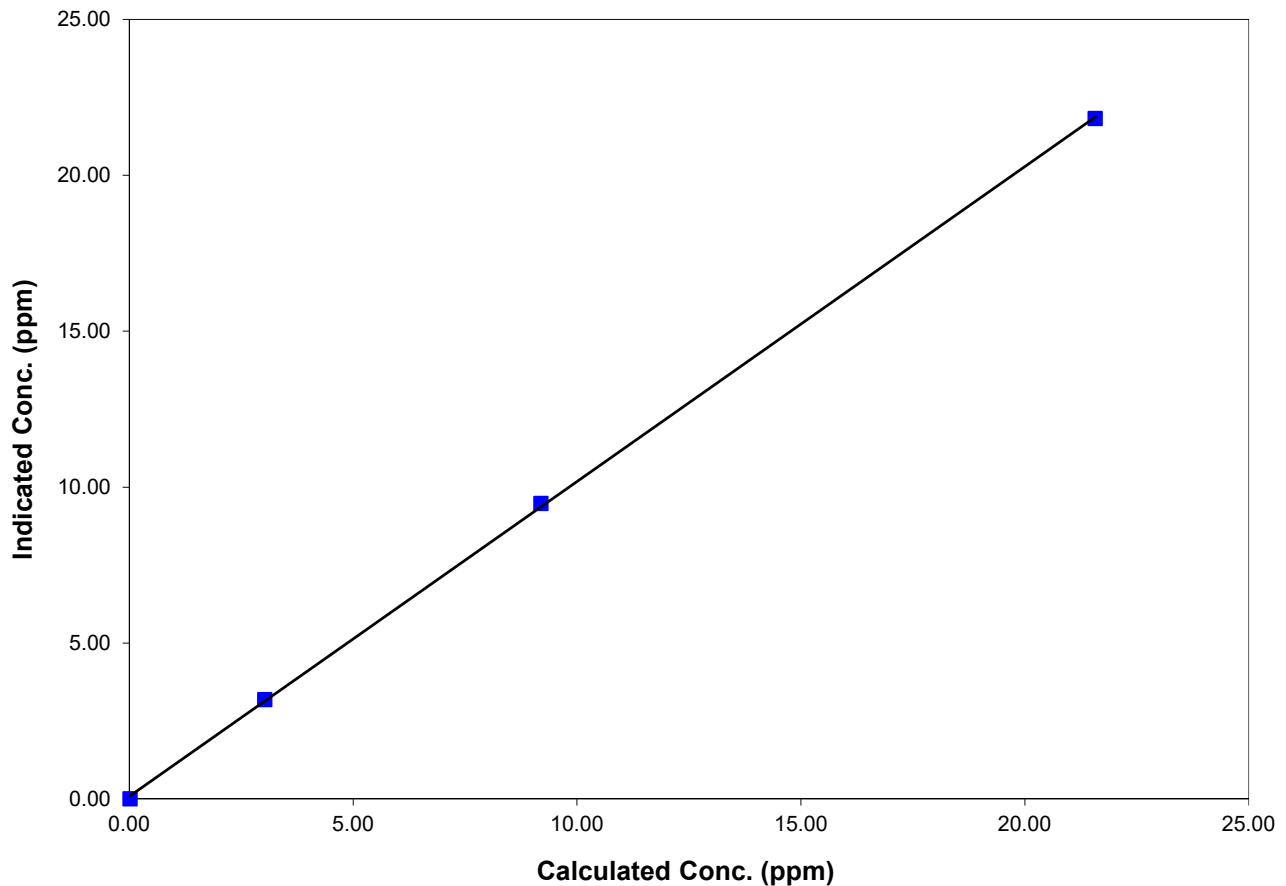
### Station Information

Calibration Date	October 13, 2016	Previous Calibration	September 15, 2016
Station Number	10	Station Location	Rycroft Rover
Start Time (MST)	9:55	End Time (MST)	11:50
Analyzer make/model	TEI Model 51C-LT	Analyzer serial #	51CLT-79009-390

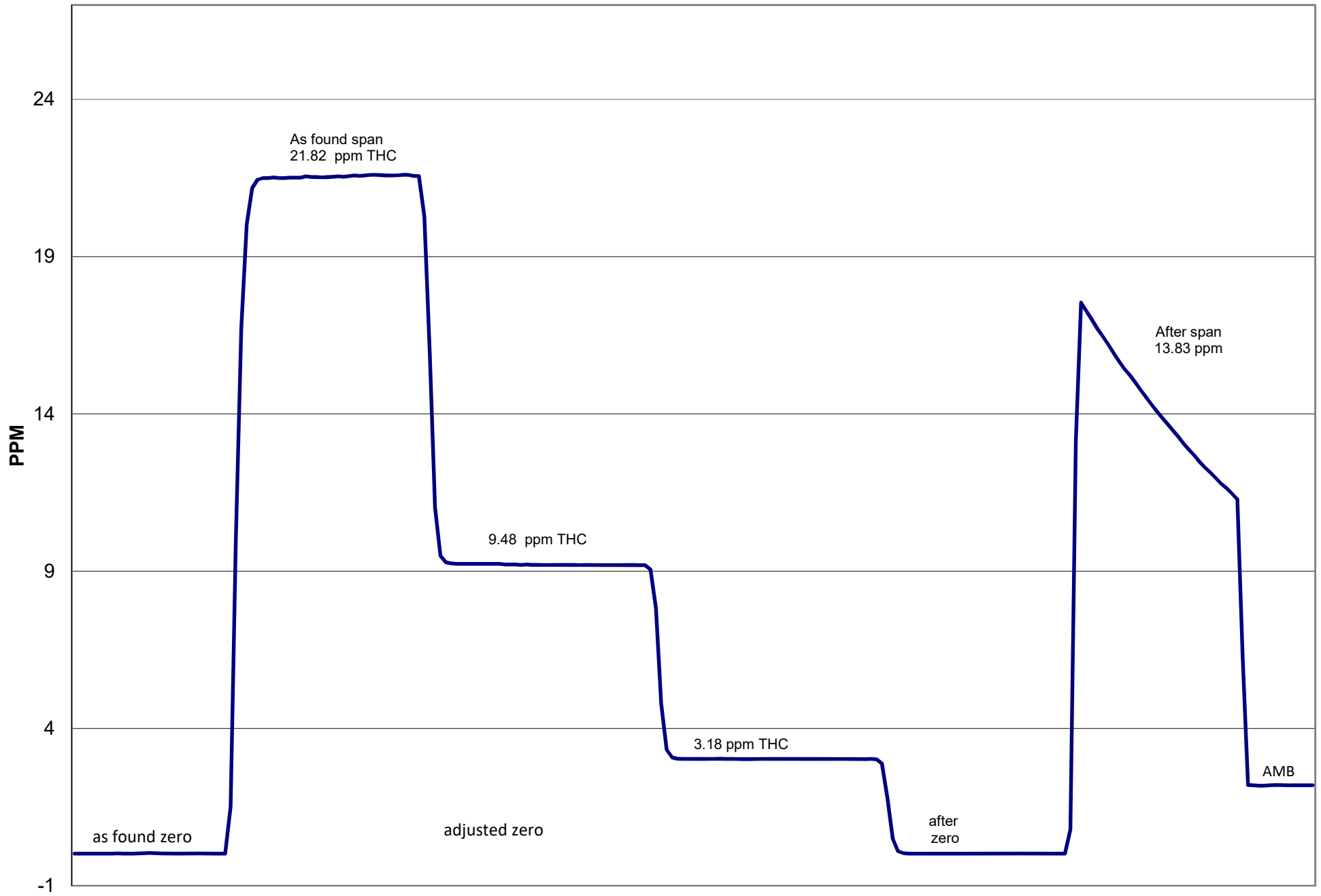
### Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.025	N/A		
21.82	21.57	1.0113	Correlation Coefficient	0.999903
9.48	9.20	1.0304		
3.18	3.03	1.0494	Slope	1.010274
			Intercept	0.075124

## THC Calibration Curve



# THC Calibration





# Calibration Report



Parameter CH4 / NMHC / THC

Air Monitoring Network PAZA

## Station Information

Calibration Date	October 14, 2016	Previous Calibration	
Station Number	10	Station Location	Rycroft
Reason:	<input checked="" type="checkbox"/> Routine	<input type="checkbox"/> Install	<input type="checkbox"/> Removal
			<input type="checkbox"/> Other:
Start Time (MST)	10:35	End Time (MST)	13:00:00 PM
Barometric Pressure	729.00 mm/hg	Station Temperature	18.0 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 12,13,14

Analyzer make TEI 55I-A3PHAA Analyzer serial # 1151980005

	before		after	
Concentration range	0-20 (CH4, NMHC); 0-40 (THC)	ppm	0-20 (CH4, NMHC); 0-40 (THC)	ppm
Air pressure		PSI	34.6	PSI
Fuel pressure		PSI	49.5	PSI
Carrier pressure		PSI	40.2	PSI
CH4 cal factor				E <sup>-4</sup>
NMHC cal factor				E <sup>-4</sup>
Rt		Sec		Sec
Pk Index				

## 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	0.00	N/A
1997	68.96	12.88	13.14	0.9808
1998	40.99	7.76	7.88	0.9845
1999	15.97	3.06	3.08	0.9919
1995	0.00	0.00	0.00	As Found Zero
1995	68.93	12.89	13.14	As Found Span
Average Correction Factor				0.9857

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

	Before	After
Calculated slope		0.980386
Calculated intercept		0.017677

## Final Zero/Span Data

	before calibration		after calibration	
Auto zero		ppm	0.00	ppm
Auto span		ppm	7.92	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	0.00	N/A
1997	68.96	19.00	19.86	0.9568
1998	40.99	11.44	11.86	0.9650
1999	15.97	4.51	4.48	1.0079
1995	0.00	0.00	0.00	As Found Zero
1995	68.93	19.01	19.86	As Found Span
Average Correction Factor				0.9766

Calculated value of As Found Response: NA

Percent Change of As Found: NA

	<u>Before</u>		<u>After</u>
Calculated slope		Calculated slope	0.953473
Calculated intercept		Calculated intercept	0.111671

**Final Zero/Span Data**

	before calibration		after calibration	
Auto zero		ppm	0.00	ppm
Auto span		ppm	11.53	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	0.00	N/A
1997	68.96	31.89	33.04	0.9651
1998	40.99	19.20	19.74	0.9730
1999	15.97	7.57	7.59	0.9979
1995	0.00	0.00	0.00	As Found Zero
1995	68.93	31.90	33.04	As Found Span
Average Correction Factor				0.9787

Calculated value of As Found Response: NA

Percent Change of As Found: NA

	<u>Before</u>		<u>After</u>
Calculated slope		Calculated slope	0.963369
Calculated intercept		Calculated intercept	0.127099

**Final Zero/Span Data**

	before calibration		after calibration	
Auto zero		ppm	0.00	ppm
Auto span		ppm	19.45	ppm

Notes: Slight span adjustment made

Calibration Performed By: Dmytro Dolotii, Grover Christiansen

# Calibration Summary



Parameter CH4  
 Air Monitoring Network PAZA

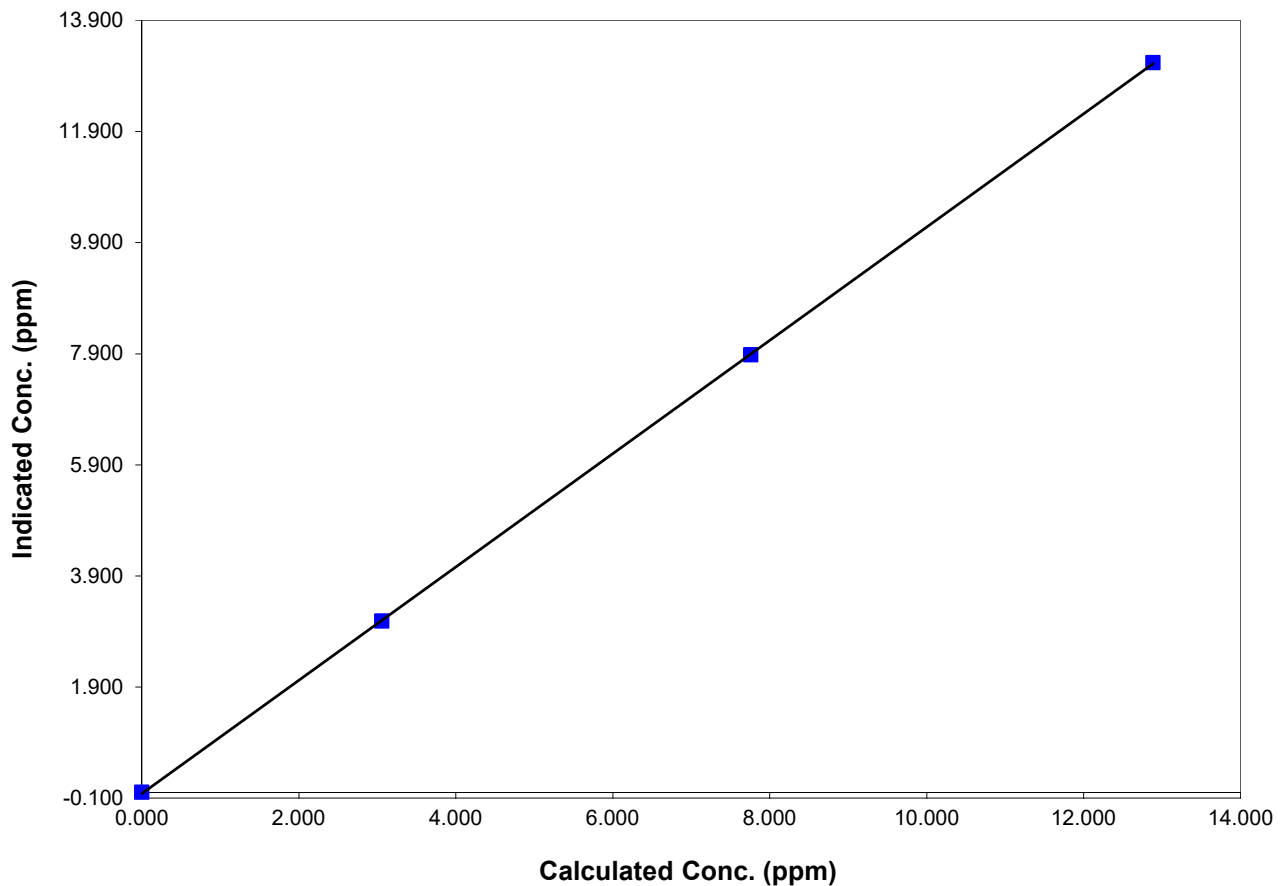
### Station Information

Calibration Date	October 14, 2016	Previous Calibration	January 0, 1900
Station Number	10	Station Location	Rycroft
Start Time (MST)	10:35	End Time (MST)	13:00:00 PM
Analyzer make/model	TEI 55I-A3PHAA	Analyzer serial #	1151980005

### Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.002	N/A	Correlation Coefficient	0.999989
12.884	13.137	0.9808		
7.760	7.882	0.9845	Slope	0.980386
3.059	3.084	0.9919		
			Intercept	0.017677

## CH4 Calibration Data





# Calibration Summary

Parameter THC  
 Air Monitoring Network PAZA



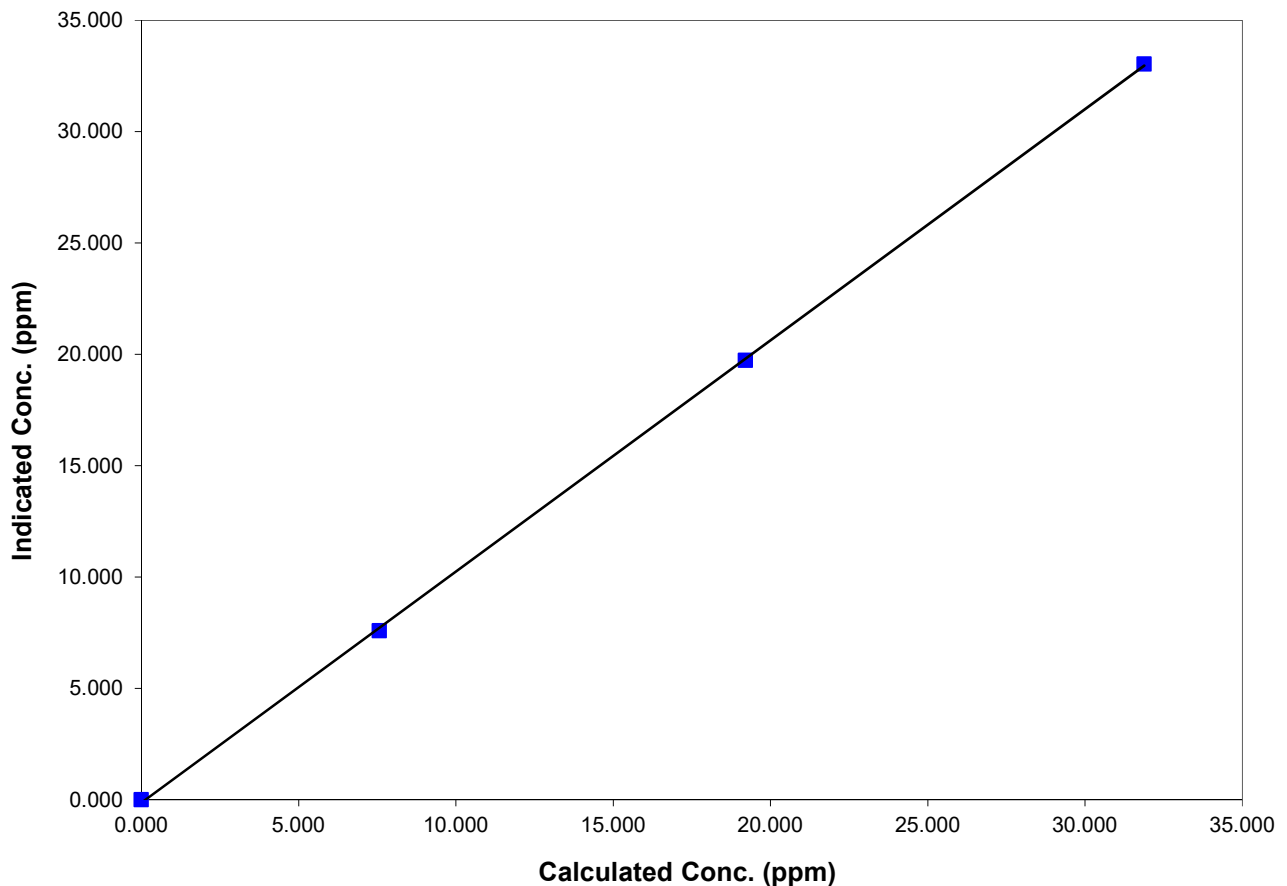
### Station Information

Calibration Date	October 14, 2016	Previous Calibration	January 0, 1900
Station Number	10	Station Location	Rycroft
Start Time (MST)	10:35	End Time (MST)	13:00:00 PM
Analyzer make/model	TEI 55I-A3PHAA	Analyzer serial #	1151980005

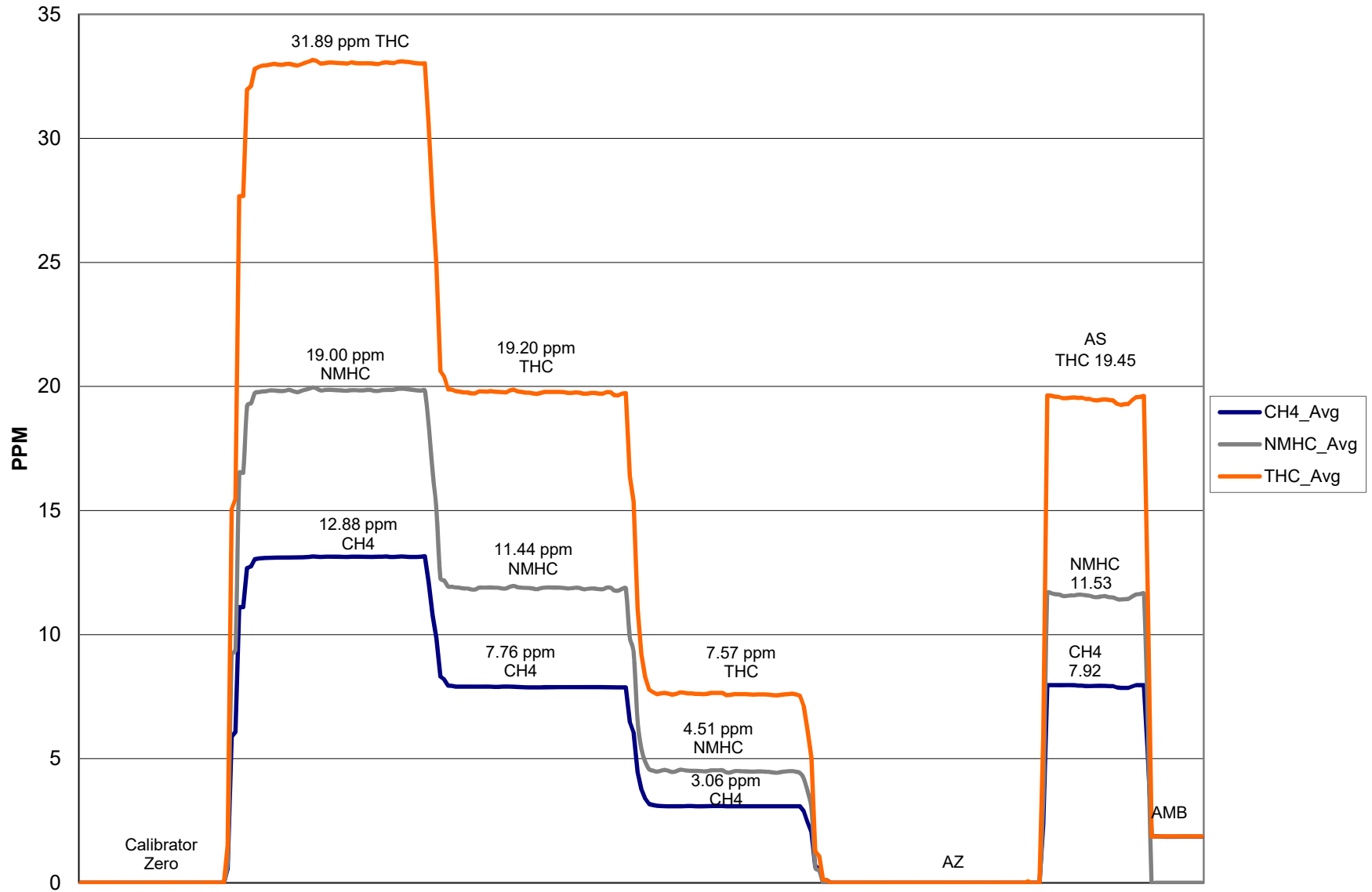
### Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.002	N/A	Correlation Coefficient	0.999925
31.885	33.037	0.9651		
19.203	19.736	0.9730	Slope	0.963369
7.571	7.587	0.9979		
			Intercept	0.127099

## THC Calibration Data



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

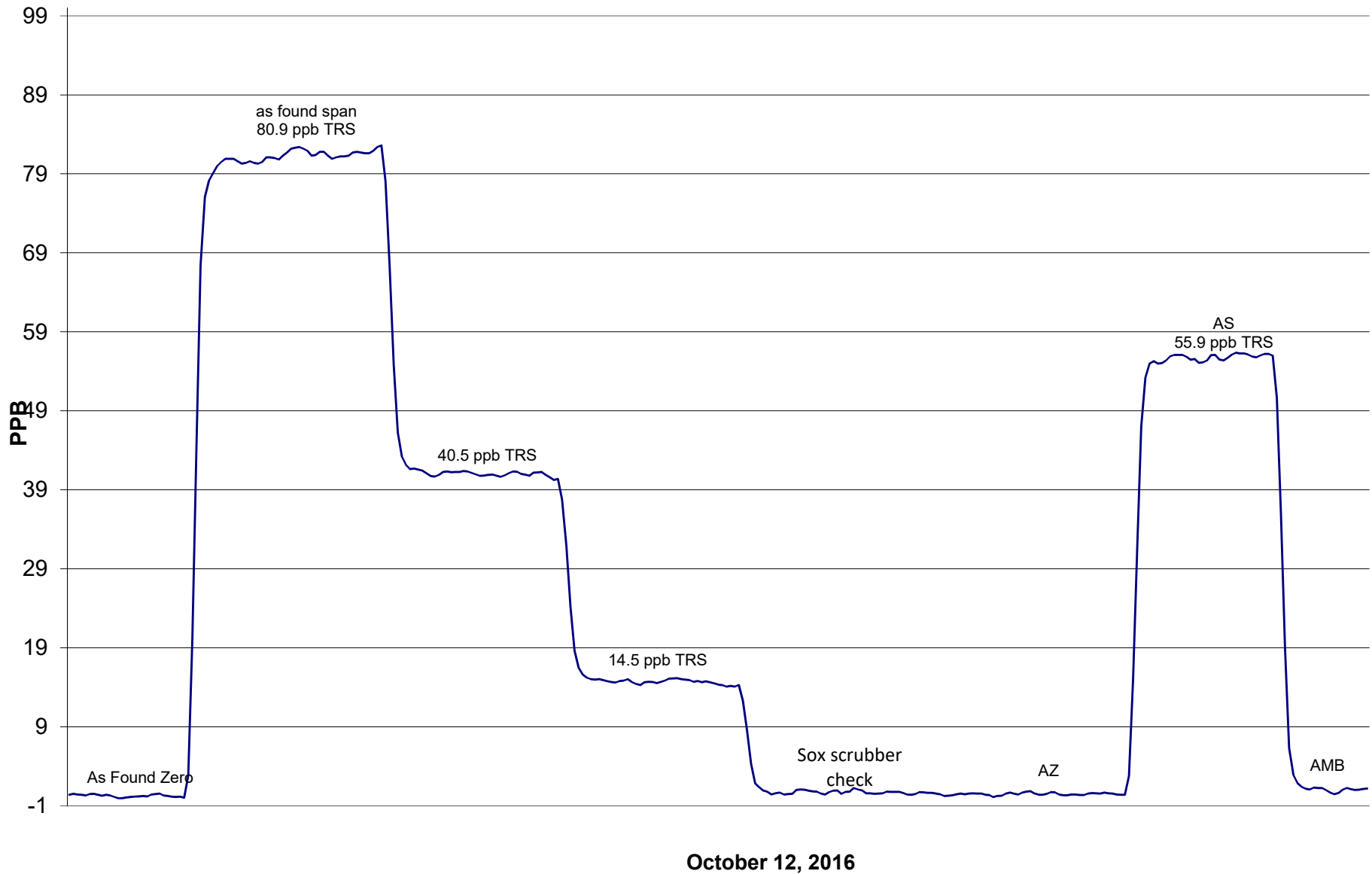








# TRS Calibration



## Air Monitoring Directive Exceedance Report

**Alberta Environment and Parks**  
 Environmental Service Response Centre  
 111 Twin Atria Building  
 4999 – 98<sup>th</sup> Avenue  
 Edmonton, Alberta T6B 2X3  
 Phone: (780) 422-4505  
 Fax: (780) 427-1044  
[erc.environment@gov.ab.ca](mailto:erc.environment@gov.ab.ca)

Reference Number:	317399	Reported To (AESRD Contact):	Steven
Date & Time Incident Reported to AESRD:	October 19, 2016 10:40	Reported By:	Dmytro Dolotii
Reported on Behalf of:	PAZA	Approval Number (if applicable):	N/A
Location(s) of Incident:	Valleyview		
Start Date & Time of Incident:	October 19, 2016 21:00 MST	End Date & Time of Incident:	October 19, 2016 22:00 MST
<b>Reason or Nature of Incident:</b>			
<p>The H2S analyzer 43C within the Valleyview station, currently located approximately 1.5 Km east of the CNRL Sturgeon Lake South plant (03-01-69-22 W5M ), twice exceeded the AAAQO for 1-hour H2S (10 ppb) as detailed below:</p> <p>21:00 MST H2S 14.6 ppb WS: 1.9 km/hr WD: 162.6 degrees, Ambient Temp: 3.9                  22:00 MST H2S 10.2 ppb WS: 2.8 km/hr WD: 167.2 degrees, Ambient Temp: 3.0</p>			
<b>Immediate Actions Taken:</b>			
Reviewed and confirmed the data as valid, called it in to AEP.			
<b>Investigation Details:</b>			
Phoned to control room to CNRL plant, reported the readings.			
<b>Actions Taken to Prevent Reoccurrence (if any):</b>			
N/A			
<b>Additional Actions Required (if any):</b>			
N/A			
Report Completed By:	Dmytro Dolotii	Date Report Submitted:	October 20, 2016
7-Day Letter Due Date:	October 27 2016		