



Peace Airshed Zone Association

Ambient Air Monitoring Network Summary

**Continuous Ambient Air Quality Monitoring Program
Monthly Report
December 2014**

February 2nd, 2015

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

RE: Peace Airshed Zone Association (PAZA) – December 2014 Ambient Air Report

Enclosed is the PAZA Ambient Monitoring Network Report for the month of **December 2014**.

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

Company	Facility	LSD	EPEA Approval Number
Advantage Oil & Gas Ltd.	Glacier	05-02-076-13-W6	262479-00-00
Alberta Power (2000) Ltd. (an ATCO company)	Sturgeon	SW-06-069-21-W5	10283-02-02
ATCO Power Canada	Poplar Hill	11-19-073-08-W6	67774-01-01
ATCO Power Canada	Valleyview	SW-06-069-21-W5	147709-01-01
AltaGas Ltd.	Pouce Coupe	03-03-081-13-W6	247673-00-00
	Ante Creek	02-26-068-25-W5	266694-00-00
	Gordondale	16-31-78-11-W6M	287474-00-00
Apache Canada Ltd.	House Mountain	01-08-070-10-W5	10137-02-02
Birchcliff Energy Ltd.	Pouce Coupe	03-22-078-12-W6	252529-00-00
Canadian Natural Resources Limited	Bonanza	11-25-081-11-W6	00000029-01-00
	Progress/Gordondale	01-01-077-10-W6	00010036-02-00
	Gold Creek	13-26-067-05-W6	00010446-02-00

Company	Facility	LSD	EPEA Approval Number
Canfor Forest Products	Teepee Creek	SE-2-074-04-W6	00001635-02-00
	Sturgeon/Valleyview	02-02-069-22-W5	1633-02-00
	Grande Prairie	SW-23-071-06-W6	152645-01-00
Conocophillips Canada Energy Partnership	Wembley	06-19-073-08-W6	00000212-01-00
Devon Canada	NW Belloy (Dunvegan)	16-36-079-03-W6	00009810-02-00
	Eaglesham (South)	02-14-077-25-W5	00047669-01-00
	North Normanville	03-36-079-23-W5	00047455-01-00
	West Culp	05-34-078-25-W6	00136284-00-00
	Cecil	08-15-084-08-W6	00010032-02-00
Encana Corporation	Sexsmith	04-08-075-07-W6	00010002-01-00
Enerplus Resources	Pouce Coupe	SW-06-069-21-W5	1464-02-03
Grande Prairie Generation Inc.	Northern Prairie Power Project	04-19-073-08-W6	00238762-00-00
Long Run Exploration	Eaglesham	01-25-076-01-W6	00241532-00-00
	Kakut	14-12-075-03-W6	00248469-00-00
	Donnelly	06-01-077-21-W5	00000087-02-00
	Puskwaskau	03-26-074-01-W6	00017524-01-00
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
	Pouce Coupe	16-07-078-11-W6	00000614-01-00

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

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

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

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

Henry Pirker Station:

- ◆ The measured ambient air quality was within the AAAQO for the Henry Pirker station with the exception of the PM_{2.5} analyzer, which recorded (1) 24-hour exceedence of the guideline of 30 µg/m³;
 - o December 18 24h 30.9 ppb Alberta Environment Reference # 293213
- ◆
- ◆ All analyzers and sensors at the Henry Pirker station had an operational uptime greater than 90% for the month of December with the exception of the wind head, which experienced icing.

Evergreen Park Station:

- ◆ The measured ambient air quality was within the AAAQO for the Evergreen Park station with the exception of the PM_{2.5} analyzer,, which recorded two (2) 1-hour exceedences of the guideline of 80 µg/m³;
 - o December 18 15:00 81.4 ppb Alberta Environment Reference # 293201
 - o December 18 16:00 91.5 ppb Alberta Environment Reference # 293201
- ◆ All analyzers and sensors at the Evergreen Park station had an operational uptime greater than 90% for the month of December.

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 December.

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 December with the exception of the wind head, which experienced icing.

Valleyview Station:

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

Falher Station:

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

Clairmont Station:

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

Passive Monitoring - 46 Stations throughout the PAZA zone:

There were five duplicate sites sampled in the month of December: Spirit River, Woking, Webber Creek, Clouston Creek, and Girouxville 4. The passive sample analyses were performed by MAXXAM Analytics Inc.

A summary of the passive data collected are reported as follows:

- Monthly average concentrations for SO₂ passives ranged from 0.1 ppb to 1.0 ppb, with a mean of 0.4 ppb.
- Monthly average concentrations for NO₂ passives ranged from 0.3 ppb to 22.6 ppb, with a mean of 4.4 ppb.
- Monthly average concentrations for O₃ passives ranged from 10.5 ppb to 36.5 ppb, with a mean of 24.5 ppb.
- Monthly average concentrations for H₂S ranged from 0.1 ppb to 0.4 ppb, with a mean of 0.3 ppb.



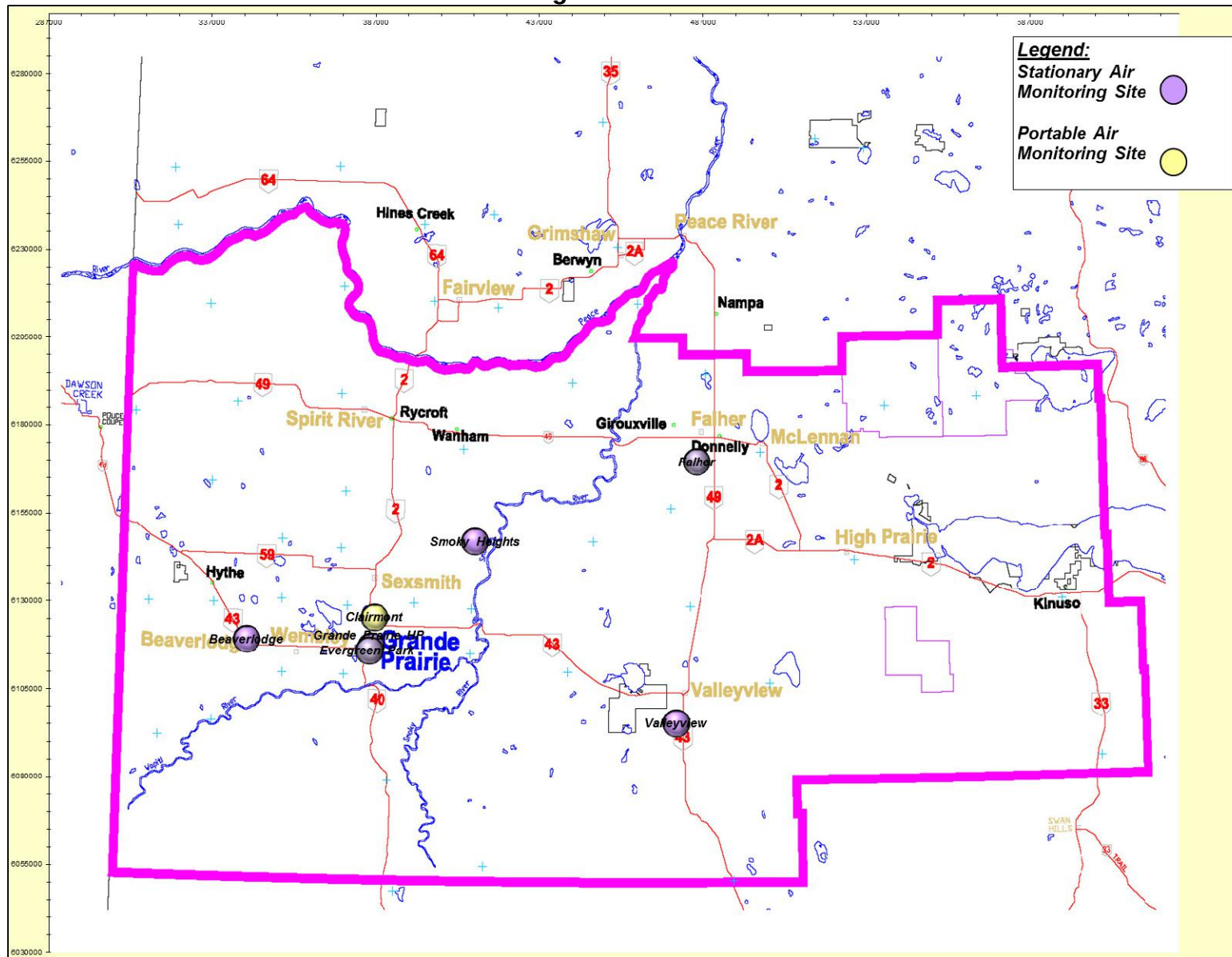
www.paza.ca

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

Dec-2014 Peace Airshed Zone Association							Maximum Recorded Values				
							1-hr		24-hr / 8-hr		
Pollutant (units)	Objectives		Station	Monthly Average	Exceedence		Conc	Day	Conc	Day	Operational Time (%)
	1-hr	24-hr			1-hr	24-hr					
SO ₂ (ppb)	172	48	Henry Pirker	0.5	0	0	2.1	Dec-09 12:00	1.1	Dec-16	98%
SO ₂ (ppb)	172	48	Evergreen Park	0.3	0	0	2.4	Dec-02 12:00	0.9	Dec-02	100%
SO ₂ (ppb)	172	48	Smoky Heights	0.8	0	0	6.3	Dec-16 13:00	2.0	Dec-31	100%
SO ₂ (ppb)	172	48	Beaverlodge	0.5	0	0	2.8	Dec-07 13:00	1.1	Dec-09	100%
SO ₂ (ppb)	172	48	Valleyview	0.3	0	0	7.5	Dec-13 16:00	1.6	Dec-31	99%
SO ₂ (ppb)	172	48	Falher	0.3	0	0	1.9	Dec-17 12:00	0.7	Dec-02	100%
SO ₂ (ppb)	172	48	Clairmont	0.6	0	0	5.2	Dec-28 23:00	1.2	Dec-06	100%
NO (ppb)			Henry Pirker	30.5	0	0	189.6	Dec-18 16:00	90.1	Dec-18	100%
NO ₂ (ppb)	159	106	Henry Pirker	27.3	0	0	68.3	Dec-18 16:00	41.4	Dec-18	100%
NO _x (ppb)			Henry Pirker	58.0	0	0	259.0	Dec-18 16:00	132.1	Dec-18	100%
NO (ppb)			Beaverlodge	5.0	0	0	63.7	Dec-16 14:00	23.6	Dec-16	100%
NO ₂ (ppb)	159	106	Beaverlodge	11.2	0	0	37.8	Dec-05 18:00	24.3	Dec-16	100%
NO _x (ppb)			Beaverlodge	16.4	0	0	91.3	Dec-16 14:00	48.2	Dec-16	100%
NO (ppb)			Clairmont	17.7	0	0	117.9	Dec-19 12:00	42.3	Dec-18	100%
NO ₂ (ppb)	159	106	Clairmont	20.4	0	0	102.1	Dec-09 14:00	36.6	Dec-01	100%
NO _x (ppb)			Clairmont	38.3	0	0	163.8	Dec-01 10:00	74.1	Dec-01	100%
O ₃ (ppb)	82		Henry Pirker	8.4	0	-	40.4	Dec-31 04:00	35.7	Dec-31	100%
O ₃ (ppb) - 8-hr			Henry Pirker		0				38.3	Dec-31	
O ₃ (ppb)	82		Beaverlodge	20.4	0	-	49.0	Dec-09 21:00	38.1	Dec-31	100%
O ₃ (ppb) - 8-hr			Beaverlodge		0				44.2	Dec-10	
O ₃ (ppb)	82		Clairmont	11.6	0	-	43.9	Dec-09 20:00	33.3	Dec-31	100%
O ₃ (ppb) - 8-hr			Clairmont		0				37.0	Dec-31	
CO (ppm)	13		Henry Pirker	0.35	0	-	1.5	Dec-02 09:00	0.6	Dec-18	100%
CO (ppm) - 8-hr	5		Henry Pirker		0				1.0	Dec-18	

PAZA Monthly Continuous Data Summary – continued

Dec-2014Peace Airshed Zone Association							Maximum Recorded Values				
							1-hr		24-hr / 8-hr		
THC (ppm)			Henry Pirker	2.4	-	-	4.8	Dec-01 22:00	3.0	Dec-18	100%
CH ₄ (ppm)			Henry Pirker	2.4	-	-	3.8	Dec-18 12:00	3.0	Dec-18	100%
NMHC (ppm)			Henry Pirker	0.0	-	-	1.9	Dec-01 22:00	0.1	Dec-01	100%
THC (ppm)			Clairmont	2.90	-	-	5.1	Dec-18 06:00	3.9	Dec-18	100%
TRS (ppb)			Henry Pirker	0.4	-	-	1.7	Dec-09 12:00	1.0	Dec-18	100%
TRS (ppb)			Evergreen Park	0.7	-	-	4.8	Dec-10 22:00	1.3	Dec-20	100%
TRS (ppb)			Smoky Heights	0.3	-	-	3.1	Dec-01 02:00	1.3	Dec-01	100%
TRS (ppb)			Clairmont	0.6	-	-	4.5	Dec-12 12:00	1.1	Dec-18	100%
H ₂ S (ppb)	10	3	Valleyview	0.3	0	0	1.8	Dec-18 16:00	0.7	Dec-07	99%
H ₂ S (ppb)	10	3	Falher	0.2	0	0	1.0	Dec-13 13:00	0.5	Dec-02	100%
PM _{2.5} (µg/m3)	80	30	Henry Pirker	12.8	0	1	43.7	Dec-18 16:00	30.9	Dec-18	100%
PM _{2.5} (µg/m3)	80	30	Evergreen Park	8.2	2	0	91.5	Dec-18 16:00	25.9	Dec-18	99%
PM _{2.5} (µg/m3)	80	30	Smoky Heights	7.1	0	0	63.8	Dec-07 01:00	21.2	Dec-17	100%
PM _{2.5} (µg/m3)	80	30	Beaverlodge	8.6	0	0	45.1	Dec-08 20:00	27.3	Dec-08	99%
PM _{2.5} (µg/m3)	80	30	Clairmont	7.3	0	0	27.6	Dec-16 19:00	16.0	Dec-19	100%
RH (%)			Henry Pirker	73.5	-	-	86.3	Dec-21 18:00	82.7	Dec-12	100%
RH (%)			Evergreen Park	80.8	-	-	94.7	Dec-21 21:00	91.6	Dec-12	100%
RH (%)			Beaverlodge	86.5	-	-	100.0	Dec-04 08:00	99.1	Dec-12	100%
RH (%)			Valleyview	81.3	-	-	98.1	Dec-21 21:00	95.7	Dec-12	99%
SR (W/m ²)			Henry Pirker	19.3	-	-	252.2	Dec-22 13:00	38.4	Dec-22	100%
Temp (°C)			Henry Pirker	-11.0	-	-	8.9	Dec-09 19:00	0.5	Dec-10	100%
Temp (°C)			Evergreen Park	-10.4	-	-	9.1	Dec-09 19:00	-0.7	Dec-10	100%
Temp (°C)			Smoky Heights	-11.2	-	-	9.4	Dec-09 20:00	0.9	Dec-09	100%
Temp (°C)			Beaverlodge	-7.9	-	-	5.5	Dec-10 00:00	3.4	Dec-10	99%
Temp (°C)			Valleyview	-8.4	-	-	9.2	Dec-09 21:00	3.7	Dec-10	99%
Temp (°C)			Falher	-11.7	-	-	6.4	Dec-09 21:00	0.9	Dec-10	100%
Temp (°C)			Clairmont	-11.5	-	-	8.7	Dec-09 19:00	1.1	Dec-10	100%

PAZA Monthly Continuous Data Summary – continued

Dec-2014Peace Airshed Zone Association							Maximum Recorded Values				
							1-hr		24-hr / 8-hr		
WSPD s (km/hr)			Henry Pirker	4.1	-	-	20.0	Dec-09 20:00	12.5	Dec-31	85%
WSPD s (km/hr)			Evergreen Park	4.8	-	-	28.0	Dec-03 05:00	18.1	Dec-31	100%
WSPD s (km/hr)			Smoky Heights	10.4	-	-	36.0	Dec-31 15:00	23.6	Dec-31	67%
WSPD s (km/hr)			Beaverlodge	6.1	-	-	36.0	Dec-09 20:00	13.2	Dec-28	100%
WSPD s (km/hr)			Valleyview	2.6	-	-	16.0	Dec-28 19:00	8.5	Dec-28	99%
WSPD s (km/hr)			Falher	10.5	-	-	36.0	Dec-09 21:00	23.7	Dec-09	100%
WSPD s (km/hr)			Clairmont	4.3	-	-	24.0	Dec-12 00:00	10.1	Dec-10	100%
WSPD v (km/hr)			Henry Pirker	1.9	-	-	19.0	Dec-31 18:00	12.0	Dec-31	85%
WSPD v (km/hr)			Evergreen Park	2.0	-	-	28.0	Dec-03 05:00	17.4	Dec-31	100%
WSPD v (km/hr)			Smoky Heights	3.9	-	-	36.0	Dec-31 15:00	22.7	Dec-31	67%
WSPD v (km/hr)			Beaverlodge	1.6	-	-	36.0	Dec-09 20:00	12.7	Dec-28	100%
WSPD v (km/hr)			Valleyview	0.6	-	-	16.0	Dec-28 19:00	8.3	Dec-28	99%
WSPD v (km/hr)			Falher	2.3	-	-	34.0	Dec-09 21:00	17.8	Dec-09	100%
WSPD v (km/hr)			Clairmont	0.8	-	-	24.0	Dec-12 00:00	8.1	Dec-10	100%
WDIR			Henry Pirker	NW	-	-	-	-	-	-	85%
WDIR			Evergreen Park	WNW	-	-	-	-	-	-	100%
WDIR			Smoky Heights	W	-	-	-	-	-	-	67%
WDIR			Beaverlodge	NW	-	-	-	-	-	-	100%
WDIR			Valleyview	WSW	-	-	-	-	-	-	99%
WDIR			Falher	ENE	-	-	-	-	-	-	100%
WDIR			Clairmont	NW	-	-	-	-	-	-	100%

Continuous Network Equipment Summary

PAZA – Henry Pirker Station

General Station Issues

Routine monthly calibrations were performed on December 3rd (SO₂, NO_x, O₃) and 4th (CO, THC, TRS).

Parameter	Make	Model	Notes
SO ₂	TEI	43C	Perm tube replaced December 2 nd , connections to logger bumped at that time; corrected December 3 rd .
NO _x /NO/NO ₂	TEI	42C/42i	Analyzer replaced with new unit on December 4 th , allowed to stabilize and calibrated December 5 th . Recalibrated December 24 th to check orifices and replace sample pump.
O ₃	TEI	49C	No operational issues observed.
CO	TEI	48C	No operational issues observed.
THC/CH ₄ /NMHC	TEI	55I	No operational issues observed.
TRS	TEI	45C/43C	No operational issues observed.
PM _{2.5}	Sharp	5030	Manifold cleaned during calibration. One (1) 24-hour exceedance recorded Reference #293213
RH	Met One	083D	No operational issues observed.
ET	Met One	083D	No operational issues observed.
SR	Met One	096-1	No operational issues observed.
WS / WD	Met One	010C/020C	No operational issues observed.

PAZA – Evergreen Park Station

General Station Issues

Routine monthly calibration performed on December 11th (SO₂, TRS).

Parameter	Make	Model	Notes
SO ₂	TEI	43i	No operational issues observed.
TRS	TEI	43C	No operational issues observed.
PM _{2.5}	R&P	1400AB	Noisy trace noted in daily check, filter replaced December 1 st . Manifold cleaned during calibration. Two (2) 1-hour exceedences were recorded on December 18 th . Reference #293201.
ET	Met One/Gill	083D	No operational issues observed.
RH	Met One/Gill		No operational issues observed.
WS / WD	Met One/ Gill		No operational issues observed.

PAZA – Smoky Heights Station

General Station Issues

Routine monthly calibration performed on December 8th (SO₂, TRS).

Parameter	Make	Model	Notes
SO ₂	TEI	43C	No operational issues observed.
TRS	TEI	43C	No operational issues observed.
PM _{2.5}	R&P	1400AB	Manifold cleaned during calibration period and again on December 15 th .
ET	Met One	083D	No operational issues observed.
WS / WD	Met One	010C/020C	Wind head returned invalid values in December due to freezing conditions. Replacement wind head installed in late December to mitigate.

PAZA – Beaverlodge Station

General Station Issues

Routine monthly calibrations performed on December 2nd (SO₂, NO_x, O₃).

Parameter	Make	Model	Notes
SO ₂	TEI	43CTL	No operational issues observed.
NOx/NO/NO ₂	TEI	42C	No operational issues observed.
O ₃	TEI	49C	No operational issues observed.
PM _{2.5}	R&P	1400AB	Manifold cleaned during calibration period.
ET	n/a	n/a	No operational issues observed.
RH	n/a	n/a	No operational issues observed.
WS / WD	Blue Sky	857	No operational issues observed.

PAZA – Valleyview Station

General Station Issues

Routine monthly calibrations were performed on December 17th (SO₂ & H₂S). Power outage caused loss of 6 hours of data.

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

PAZA – Falher Station

General Station Issues

Routine monthly calibrations were performed on December 17th (SO₂ & H₂S).

Parameter	Make	Model	Notes
SO ₂	TEI	43i	Analyzer was left in calibration mode on December 17 th causing December 18 th span to not perform. All data valid.
H ₂ S	Thermo	450i	Analyzer was left in calibration mode on December 17 th causing December 18 th span to not perform. All data valid.
ET	Gill	RM Young 5103	No operational issues observed.
WS / WD	Gill	RM Young 5103	Wind head freezing.

PAZA – Portable-Clairmont

General Station Issues

Routine monthly calibrations were performed on December 9th (SO₂, NO_x, O₃) and 10th (THC, TRS). Power outage December 18th invalidated one hour of data

Parameter	Make	Model	Notes
SO ₂	TEI	43i	No operational issues observed.
NO _x	TEI	42i	No operational issues observed.
O ₃	TEI	49C	No operational issues observed.
TRS	TEI	39C	No operational issues observed.
THC	TEI	51C	Analyzer was removed from service for maintenance of December 23 rd . Analyzer was returned to service the same day.
PM _{2.5}	R&P	1400AB	Manifold cleaned during calibration on December 9 th and 23 rd .
ET	Gill	Met Pak 3	No operational issues observed.
WS / WD	Gill	Met Pak 3	No operational issues observed.

PAZA
Henry Pirker Station
Monthly Summary Tables, Graphs and
Roses

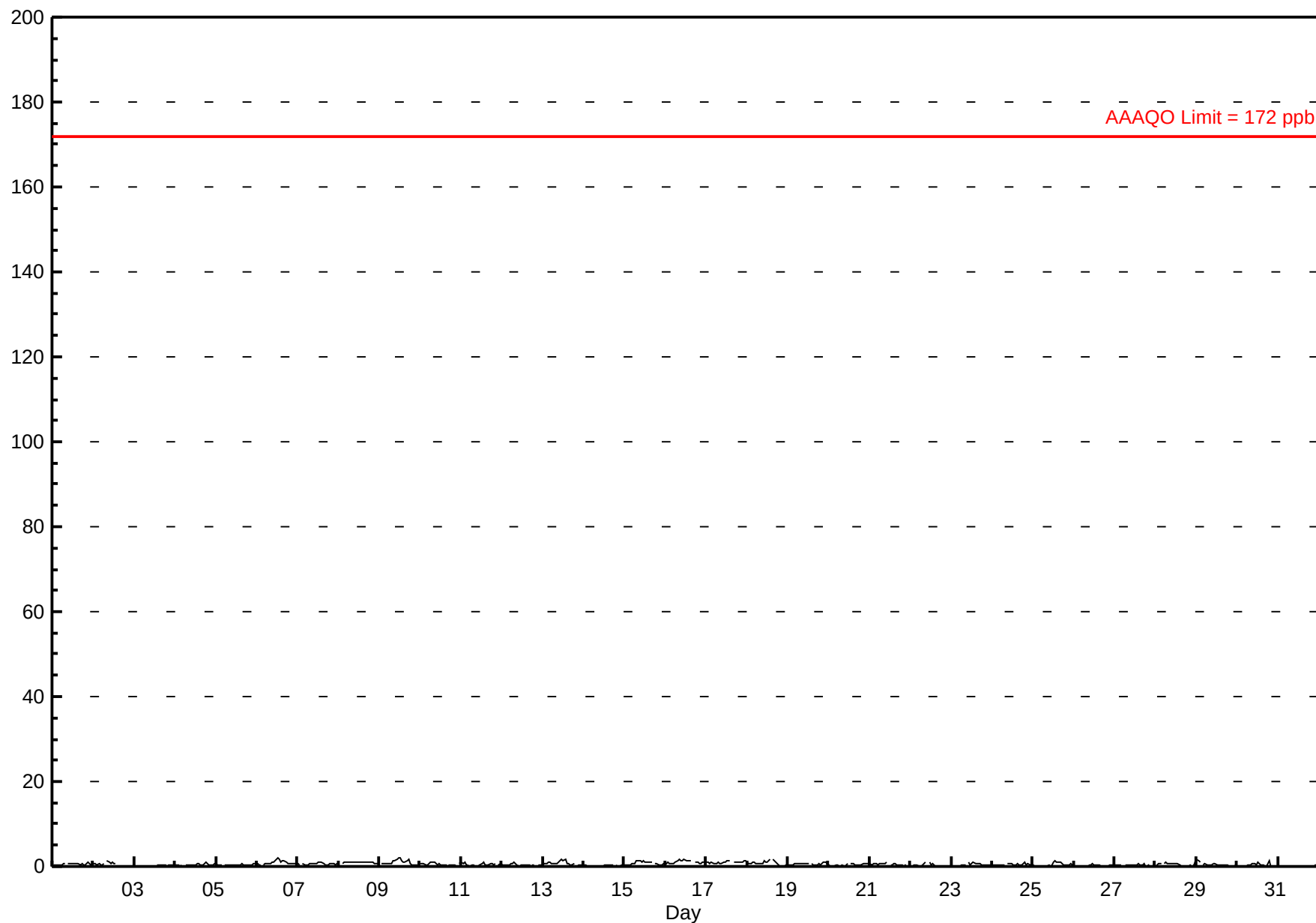
Hourly Averages

Sulphur Dioxide (SO₂) - ppb
Henry Pirker - December 2014

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 2.1 ppb on Dec 9 12:00 Maximum Daily Average: 1.1 ppb on Dec 16																			Hours in Service: 744 Hours of Data: 690 Hours of Missing Data: 54 Hours of Calibration: 35 Percent Operational Time: 97.5							
Minimum Value: 0 ppb on Dec 11 09:00 Maximum Diurnal Average: 0.8 ppb at hour 12 Monthly Average: 0.53 ppb																			Minimum Daily Average: 0.1 ppb on Dec 31 Minimum Diurnal Average: 0.4 ppb at hour 22 Percentiles: P ₁ = 0.0 P ₁₀ = 0.1 Q ₁ = 0.3 Median = 0.5 Q ₃ = 0.8 P ₉₀ = 1.1 P ₉₉ = 1.7							
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-Dec	0	0	0	0	0	0	1	1	A	1	1	1	1	1	1	1	0	1	0	0	1	1	0	1	0.6	0.9
2-Dec	1	1	0	1	0	0	1	A	1	1	1	1	1	1	N	N	N	N	N	N	N	N	N	N	--	1.5
3-Dec	N	N	N	N	N	N	A	N	N	N	C	C	C	0	0	0	0	0	0	0	0	0	0	0	--	0.5
4-Dec	0	0	0	0	0	A	0	0	0	0	1	0	0	1	1	0	0	1	1	1	0	0	0	1	0.5	0.9
5-Dec	1	0	0	0	A	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1	0.4	0.7
6-Dec	1	0	0	A	0	1	1	1	1	1	1	2	2	2	1	1	1	1	1	1	1	1	1	1	0.9	2.1
7-Dec	1	0	A	1	0	0	0	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	0	1	0.6	1.0
8-Dec	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.1
9-Dec	A	1	1	1	1	1	1	1	1	1	2	2	2	1	1	1	1	2	1	0	0	0	0	A	1.0	2.1
10-Dec	1	1	1	0	0	1	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	A	1	0.5	1.1
11-Dec	1	1	1	0	0	0	0	0	0	0	0	0	1	1	0	0	0	1	1	0	1	A	0	1	0.4	1.1
12-Dec	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.4	0.9
13-Dec	0	1	1	1	1	1	1	1	1	1	1	2	1	2	1	1	0	0	1	A	0	0	0	0	0.7	1.8
14-Dec	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
15-Dec	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	0	0	1	1	0.8	1.4
16-Dec	0	1	1	1	1	1	1	1	2	1	1	2	1	1	1	1	A	1	1	1	1	1	1	1	1.1	1.7
17-Dec	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1.0	1.5
18-Dec	1	1	1	1	1	1	1	1	1	1	1	1	1	2	A	2	1	1	1	0	0	0	0	0	0.8	1.8
19-Dec	0	0	0	0	1	1	1	1	1	1	1	1	1	A	1	1	0	0	1	1	1	1	1	0	0.6	1.0
20-Dec	0	0	0	0	0	0	0	0	0	0	0	1	A	1	1	0	0	0	0	0	1	1	1	1	0.3	0.7
21-Dec	1	0	1	1	1	0	1	1	1	1	1	A	0	0	1	1	0	0	0	0	0	0	0	0	0.5	0.8
22-Dec	0	0	0	0	0	0	0	0	1	1	A	1	1	1	0	0	0	0	0	0	0	0	0	0	0.3	1.1
23-Dec	0	0	0	0	0	0	0	0	0	A	1	0	1	1	1	1	1	1	1	0	0	0	0	0	0.4	1.1
24-Dec	0	0	0	0	0	0	0	0	A	1	1	1	0	0	0	1	0	0	1	1	0	1	0	0	0.4	1.2
25-Dec	0	0	0	0	0	0	0	A	0	0	0	0	1	1	1	1	1	1	0	0	0	0	1	0	0.4	1.2
26-Dec	0	0	0	0	0	0	A	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.5
27-Dec	0	0	0	0	0	A	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0	0	1	0.4	0.6
28-Dec	0	0	1	1	A	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	1	0.4	1.0
29-Dec	2	1	1	A	0	1	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.4	1.6
30-Dec	0	0	A	0	0	0	0	0	0	1	1	0	1	1	0	0	0	0	1	1	0	0	0	0	0.3	1.3
31-Dec	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
																									Diurnal Average	Diurnal Maximum
																									0.5	1.6
																									0.4	1.3
																									0.4	1.0
																									0.4	1.0
																									0.4	0.9
																									0.4	0.9
																									0.5	1.1
																									0.6	1.4
																									0.6	1.7
																									0.7	1.4
																									0.7	1.6
																									0.8	2.1
																									0.8	2.1
																									0.8	1.7
																									0.6	1.5
																									0.6	1.8
																									0.5	1.4
																									0.5	1.7
																									0.5	1.1
																									0.4	1.3
																									0.4	1.0
																									0.4	1.0
																									0.4	1.3
																									0.5	1.3
C - Calibration N - Not Valid A - Automated Daily Zero Span																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb 30-day 11 ppb																										

Hourly Averages

Sulphur Dioxide (SO₂) - ppb
Henry Pirker - December 2014



Hourly Maximums

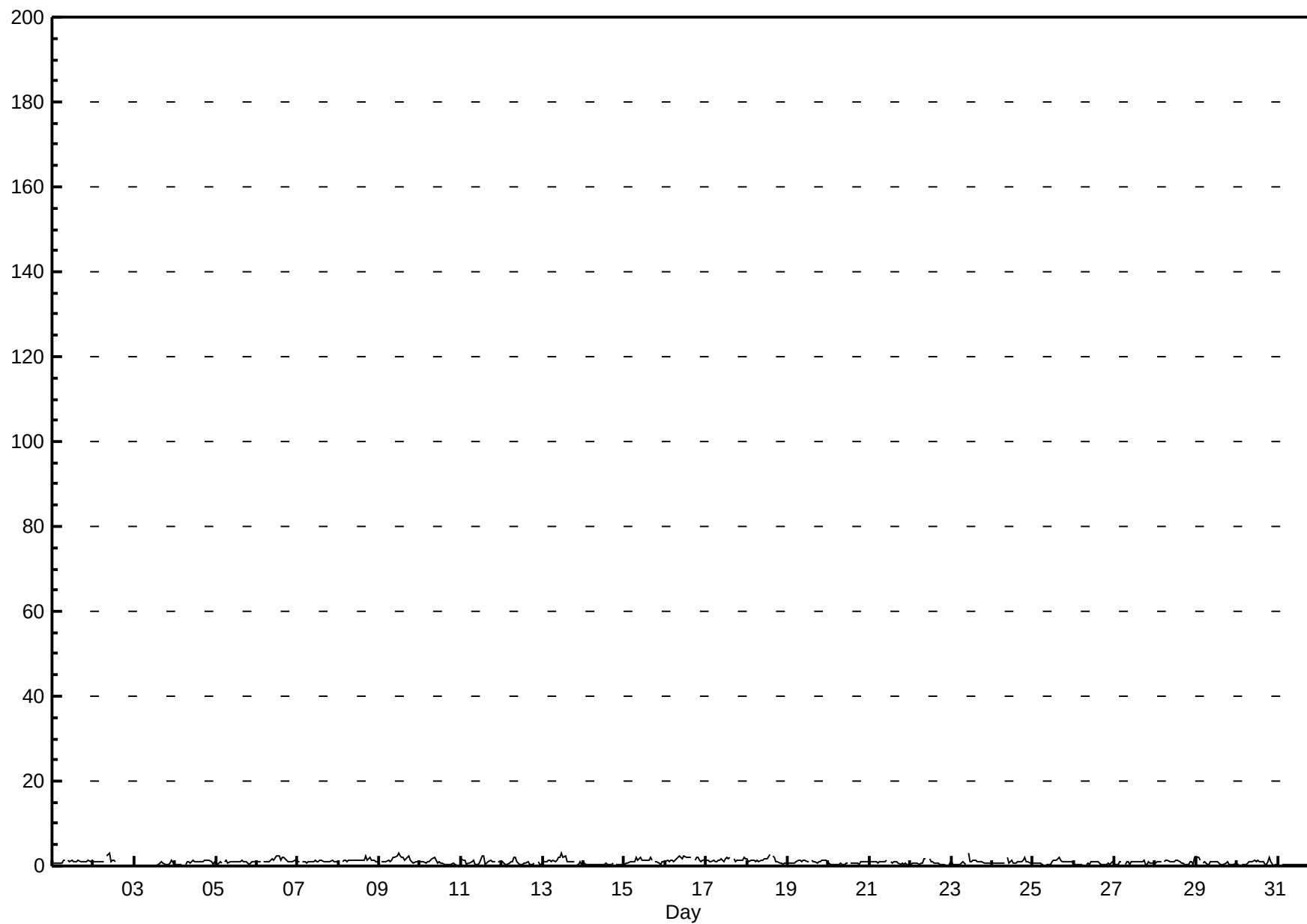
Sulphur Dioxide (SO₂) - ppb

Henry Pirker - December 2014

Maximum Value: 3.0 ppb on Dec 23 11:00																			Maximum Daily Average: 1.6 ppb on Dec 16																			Hours in Service: 744	
Minimum Value: 0 ppb on Dec 22 23:00																			Minimum Daily Average: 0.5 ppb on Dec 14																			Hours of Data: 690	
Maximum Diurnal Average: 1.3 ppb at hour 13																			Minimum Diurnal Average: 0.8 ppb at hour 22																			Hours of Missing Data: 54	
Monthly Average: 0.97 ppb																			Percentiles: P ₁ = 0.2 P ₁₀ = 0.4 Q ₁ = 0.5 Median = 0.9 Q ₃ = 1.3 P ₉₀ = 1.6 P ₉₉ = 2.4																			Hours of Calibration: 35	
																																						Percent Operational Time: 97.5	
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-Dec	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.4													
2-Dec	1	1	1	1	1	1	1	A	2	3	1	1	1	1	N	N	N	N	N	N	N	N	N	N	--	2.9													
3-Dec	N	N	N	N	N	N	A	N	N	N	C	C	C	0	0	1	1	1	0	0	0	1	1	0	--	1.4													
4-Dec	0	0	0	0	0	A	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0.8	1.4													
5-Dec	1	0	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	0.9	1.4													
6-Dec	1	1	1	A	1	1	1	1	1	2	1	2	2	2	1	2	2	1	1	1	1	1	1	1	1.4	2.4													
7-Dec	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.5													
8-Dec	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	2	1	1	1	1	1	1.4	2.4													
9-Dec	A	1	1	1	1	1	1	1	2	2	2	3	2	2	2	2	2	2	1	1	1	1	1	A	1.5	2.9													
10-Dec	1	1	1	1	1	1	1	2	2	1	1	1	1	1	0	0	0	0	0	1	0	0	A	2	0.9	2.0													
11-Dec	2	1	1	0	1	1	1	1	0	0	0	1	2	2	0	1	1	1	1	1	1	A	1	1	1.0	2.4													
12-Dec	1	1	0	0	1	1	1	2	2	1	0	0	0	1	1	1	0	0	0	1	A	1	0	0	0.7	2.1													
13-Dec	1	1	1	1	1	1	1	1	1	2	2	3	2	2	1	1	1	1	1	A	0	0	1	0	1.2	2.9													
14-Dec	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	A	0	0	0	0	0	0.5	0.6													
15-Dec	0	1	1	1	1	1	1	2	1	2	1	1	1	1	1	2	1	A	1	1	1	0	1	1	1.2	2.0													
16-Dec	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	A	1	2	2	1	1	1	1	1.6	2.4													
17-Dec	1	1	1	1	1	1	1	2	1	2	1	2	2	2	2	A	2	1	1	1	1	1	2	2	1.4	2.1													
18-Dec	2	1	1	1	1	1	1	1	1	1	2	2	2	3	A	2	2	1	1	1	1	0	1	1	1.3	2.6													
19-Dec	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1.0	1.4													
20-Dec	1	0	0	0	0	0	0	1	0	0	1	1	A	1	1	1	1	1	1	0	1	1	1	1	0.7	0.9													
21-Dec	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	0	1	0	1	0	0	0.8	1.3													
22-Dec	0	1	1	1	1	0	1	1	2	2	A	2	1	1	1	1	1	0	0	0	0	0	0	1	0.7	1.6													
23-Dec	1	0	0	0	0	0	1	1	0	A	3	1	1	2	1	1	1	1	1	1	1	1	1	1	0.9	3.0													
24-Dec	1	1	1	1	1	1	1	1	A	2	1	1	1	1	1	1	1	1	1	2	1	1	1	1	0.9	2.1													
25-Dec	1	1	1	1	1	0	0	A	0	0	0	1	1	1	2	2	1	1	1	1	1	1	1	1	0.9	1.9													
26-Dec	0	0	0	0	0	0	A	0	1	0	1	1	1	1	1	1	0	0	0	0	1	0	1	1	0.6	0.9													
27-Dec	0	0	0	1	1	A	0	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.5													
28-Dec	1	1	1	1	A	1	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1	1	2	1	1.0	2.0													
29-Dec	2	2	1	A	1	1	0	0	1	1	1	1	1	1	0	0	0	1	1	0	0	0	0	1	0.8	2.0													
30-Dec	0	0	A	0	0	0	1	1	1	1	1	1	1	1	1	1	0	0	1	2	1	0	0	0	0.8	1.9													
31-Dec	0	A	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	2	1	0.6	2.0													
0.9		0.8	0.8	0.8	0.8	0.8	0.9	1.1	1.2	1.2	1.2	1.2	1.3	1.2	1.0	1.1	1.0	0.9	0.9	0.9	0.8	0.8	0.9	0.9	Diurnal Average														
2.0		2.0	1.5	1.5	1.5	1.4	1.5	2.1	2.4	2.9	3.0	2.9	2.4	2.6	2.1	2.3	2.4	2.4	1.9	2.1	1.5	1.5	2.0	2.0	Diurnal Maximum														
C - Calibration		N - Not Valid						A - Automated Daily Zero Span																															

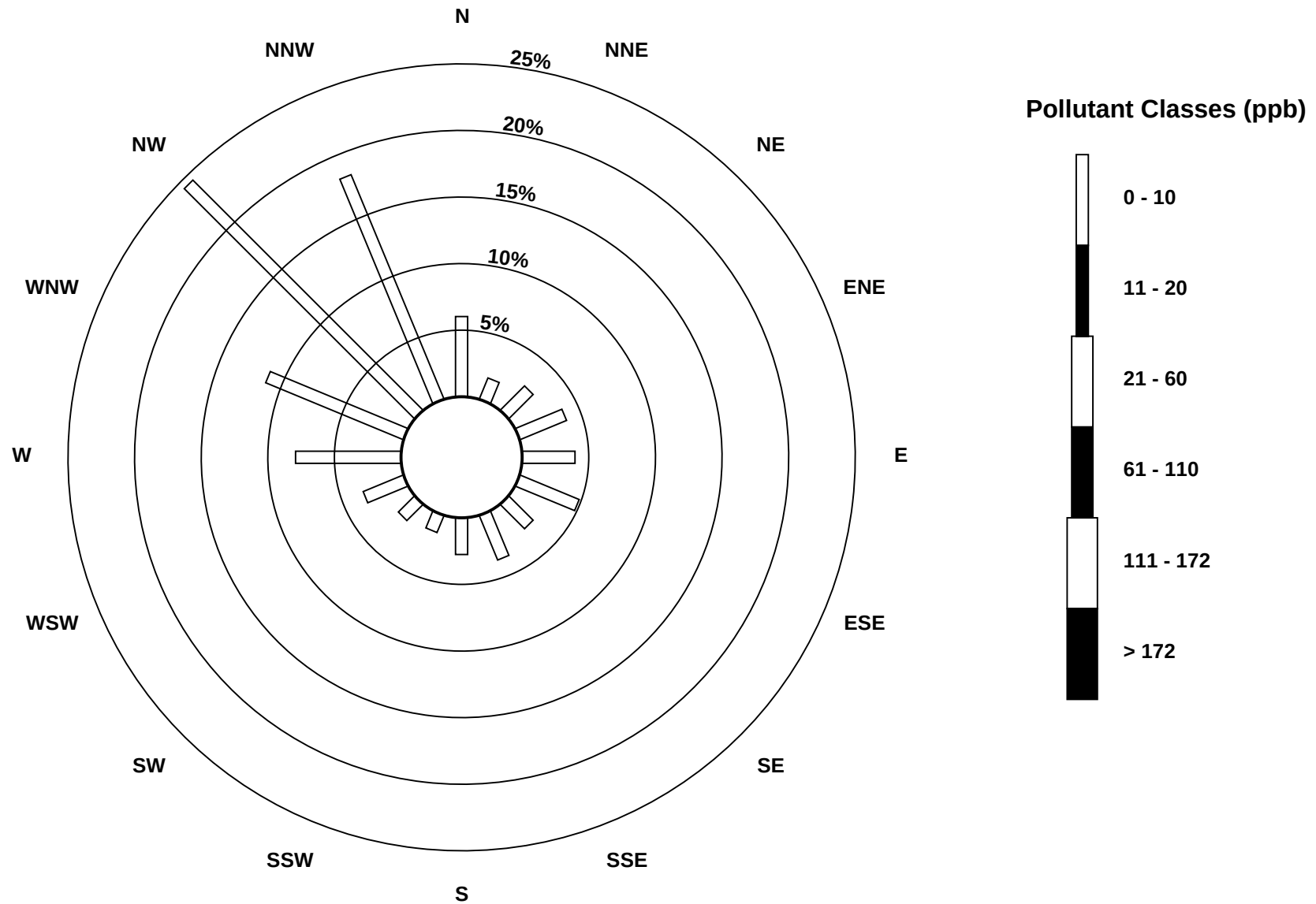
Hourly Maximums

Sulphur Dioxide (SO₂) - ppb
Henry Pirker - December 2014



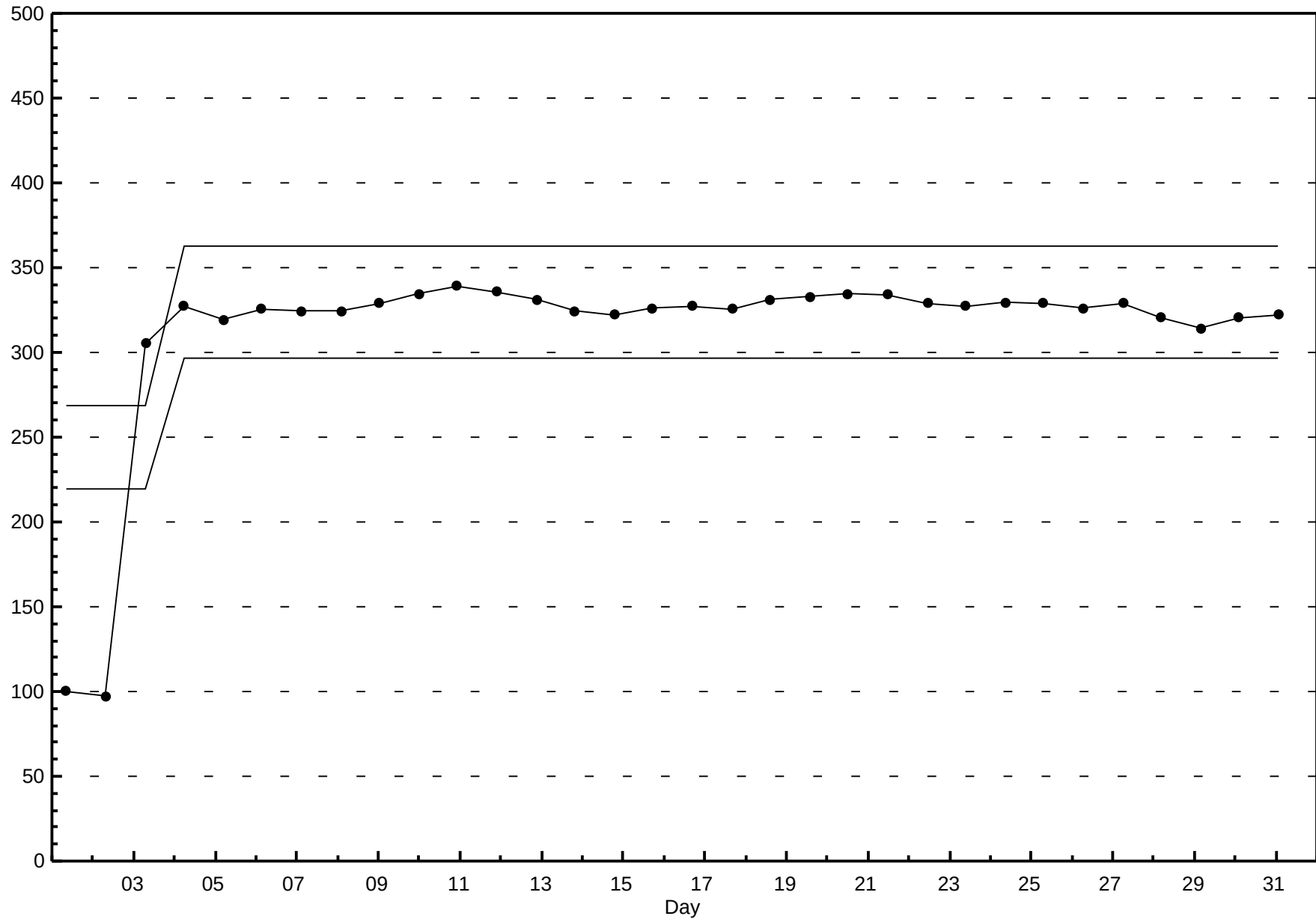
Pollutant Rose

Sulphur Dioxide (SO₂) - ppb
Henry Pirker - December 2014



Span Responses

Sulphur Dioxide (SO₂)
Henry Pirker - December 2014



Hourly Averages

Total Reduced Sulphur (TRS) - ppb

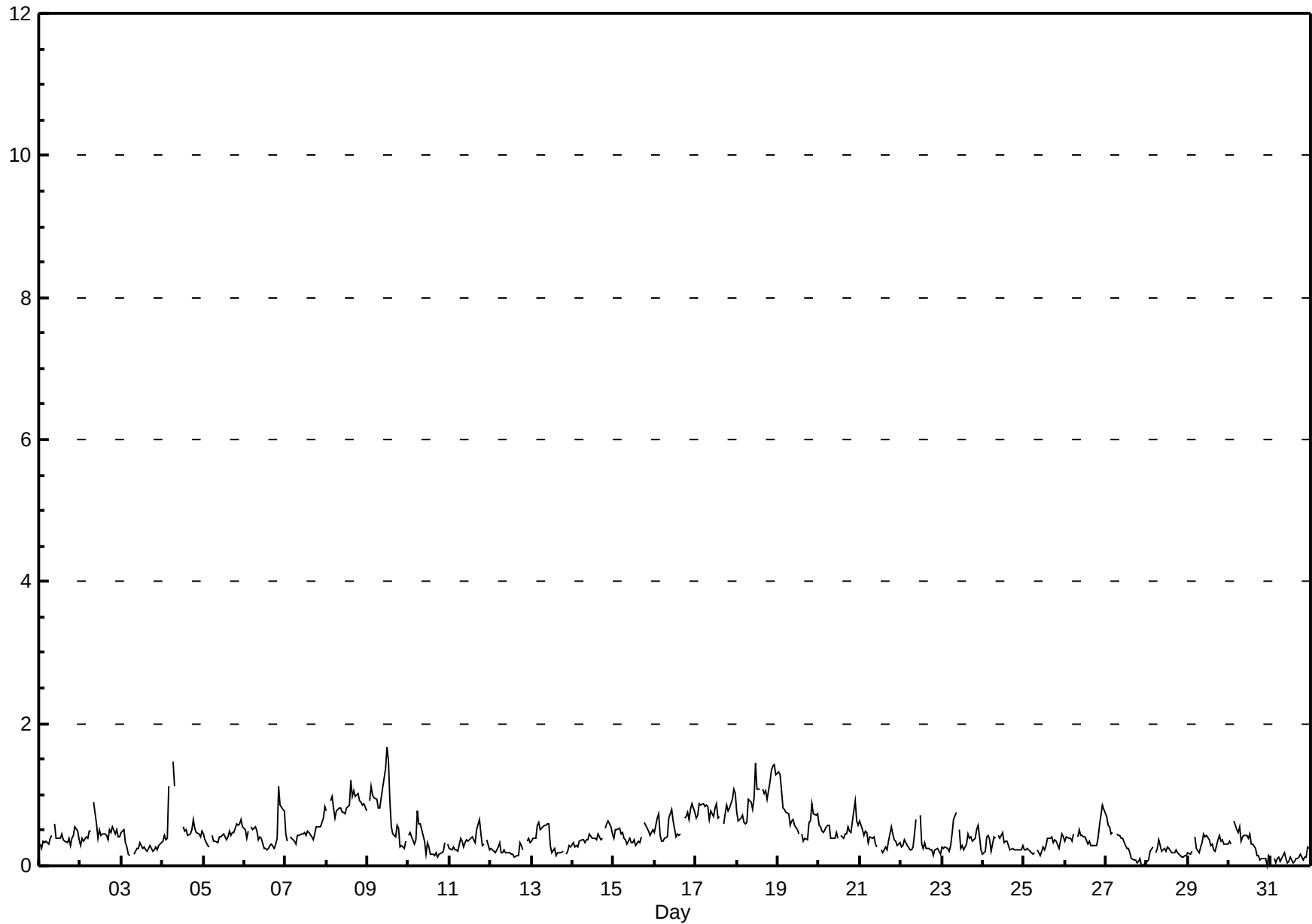
Henry Pirker - December 2014

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 1.7 ppb on Dec 9 12:00 Maximum Daily Average: 1.0 ppb on Dec 18																				Hours in Service: 744 Hours of Data: 708 Hours of Missing Data: 36 Hours of Calibration: 36 Percent Operational Time: 100.0						
Minimum Value: 0 ppb on Dec 27 22:00 Minimum Daily Average: 0.1 ppb on Dec 31 Maximum Diurnal Average: 0.5 ppb at hour 23 Minimum Diurnal Average: 0.4 ppb at hour 16 Monthly Average: 0.44 ppb Percentiles: P ₁ = 0.1 P ₁₀ = 0.2 Q ₁ = 0.3 Median = 0.4 Q ₃ = 0.5 P ₉₀ = 0.8 P ₉₉ = 1.3																										
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Dec	0	0	0	0	0	0	0	0	A	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0.4	0.6
2-Dec	0	0	0	0	0	0	0	A	1	1	0	1	0	0	0	0	0	1	0	1	0	1	0	0	0.5	0.9
3-Dec	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.5
4-Dec	0	0	0	0	1	A	1	1	C	C	C	C	1	0	1	0	0	1	1	1	0	0	0	0	0.6	1.5
5-Dec	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0.4	0.6
6-Dec	1	0	0	A	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0.5	1.1
7-Dec	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	0.5	0.8
8-Dec	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.2
9-Dec	A	1	1	1	1	1	1	1	1	1	1	2	1	1	1	0	0	1	1	0	0	0	0	A	0.8	1.7
10-Dec	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.3	0.8
11-Dec	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	A	0	0	0.3	0.6
12-Dec	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.2	0.4
13-Dec	0	0	0	1	1	0	1	1	1	1	1	0	0	0	0	0	0	0	0	A	0	0	0	0	0.4	0.6
14-Dec	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	1	1	1	0	0.4	0.6
15-Dec	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	1	0	0	0	1	0.4	0.6
16-Dec	0	1	1	0	0	0	0	0	1	1	1	1	0	0	0	0	A	1	1	1	1	1	1	1	0.6	0.9
17-Dec	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	0.8	1.1
18-Dec	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1.0	1.4
19-Dec	1	1	1	1	1	1	1	1	1	1	1	1	0	A	0	0	0	0	1	1	1	1	1	1	0.7	1.3
20-Dec	1	1	0	0	1	1	1	0	0	0	0	0	A	0	0	0	0	1	0	0	1	1	1	1	0.5	0.9
21-Dec	1	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	1	0	0	0	0	0	0.4	0.6
22-Dec	0	0	0	0	0	0	0	0	0	1	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.7
23-Dec	0	0	0	0	0	0	0	1	1	A	1	0	0	0	0	0	0	0	0	0	1	1	0	0	0.4	0.8
24-Dec	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.5
25-Dec	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.5
26-Dec	0	0	0	0	0	0	A	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0.4	0.8
27-Dec	1	1	1	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.7
28-Dec	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4
29-Dec	0	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
30-Dec	0	0	A	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.6
31-Dec	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
0.4 0.4 0.5 0.4 0.5 0.4 0.5 0.5 0.5 0.5 0.5 0.5 0.4 0.4 0.4 0.4 0.4 0.4 0.4 0.4 0.5 0.5 0.5 0.5																									Diurnal Average	
1.3 1.3 1.1 1.0 1.1 0.9 1.5 1.1 1.0 1.1 1.4 1.7 1.5 1.1 1.2 1.1 1.1 1.1 1.0 1.2 1.4 1.4 1.4 1.3																									Diurnal Maximum	
C - Calibration A - Automated Daily Zero Span																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb																										

Hourly Averages

Total Reduced Sulphur (TRS) - ppb

Henry Pirker - December 2014



Hourly Maximums

Total Reduced Sulphur (TRS) - ppb

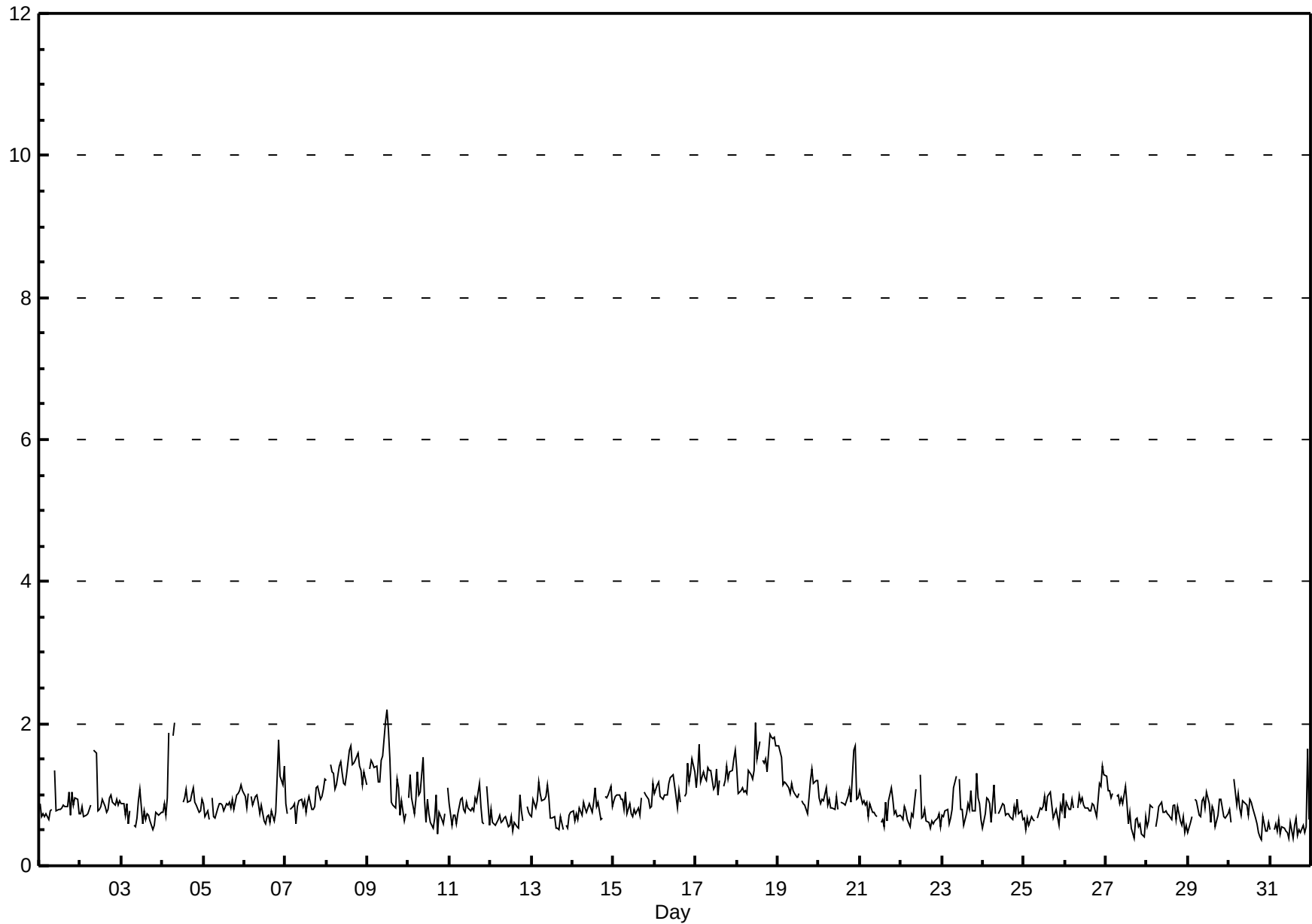
Henry Pirker - December 2014

Maximum Value: 2.2 ppb on Dec 9 12:00																			Maximum Daily Average: 1.4 ppb on Dec 18										Hours in Service: 744	
Minimum Value: 0 ppb on Dec 30 20:00																			Minimum Daily Average: 0.6 ppb on Dec 31										Hours of Data: 708	
Maximum Diurnal Average: 1.0 ppb at hour 9																			Minimum Diurnal Average: 0.8 ppb at hour 17										Hours of Missing Data: 36	
Monthly Average: 0.90 ppb																			Percentiles: P ₁ = 0.4 P ₁₀ = 0.6 Q ₁ = 0.7 Median = 0.8 Q ₃ = 1.0 P ₉₀ = 1.3 P ₉₉ = 1.8										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-Dec	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.3				
2-Dec	1	1	1	1	1	1	1	A	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.6				
3-Dec	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	1.1				
4-Dec	1	1	1	1	2	A	2	2	C	C	C	C	1	1	1	1	1	1	1	1	1	1	1	1	1.1	2.0				
5-Dec	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.1				
6-Dec	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	0.9	1.8				
7-Dec	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.2				
8-Dec	1	A	1	1	1	1	1	1	1	1	1	1	1	2	2	1	1	1	2	1	1	1	1	1	1.3	1.7				
9-Dec	A	1	1	1	1	1	1	1	1	2	2	2	2	2	1	1	1	1	1	1	1	1	1	A	1.3	2.2				
10-Dec	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	0	1	1	1	1	A	1	0.9	1.5				
11-Dec	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	0.8	1.2				
12-Dec	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	A	1	1	1	0.7	1.0				
13-Dec	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	0.8	1.2				
14-Dec	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	0.8	1.1				
15-Dec	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	0.9	1.2				
16-Dec	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	2	1	1.1	1.5				
17-Dec	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	2	2	1.3	1.7				
18-Dec	1	1	1	1	1	1	1	1	1	1	2	2	2	A	1	1	1	1	1	2	2	2	2	2	1.4	2.0				
19-Dec	2	2	2	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1.1	1.7				
20-Dec	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	2	2	1	1	1.0	1.7				
21-Dec	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.1				
22-Dec	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.3				
23-Dec	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	1.3				
24-Dec	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.1				
25-Dec	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.0				
26-Dec	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.4				
27-Dec	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	0	0	1	0.8	1.3				
28-Dec	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0.7	0.9				
29-Dec	0	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	1.0				
30-Dec	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	1	0	0	1	0.7	1.2				
31-Dec	1	A	1	1	0	1	0	1	1	0	0	0	1	0	1	1	0	1	0	1	0	1	2	1	0.6	1.7				
0.9		0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.0	1.0	0.9	1.0	0.9	0.8	0.8	0.8	0.8	0.9	0.9	0.9	1.0	0.9	1.0	0.9	Diurnal Average					
1.7		1.6	1.7	1.4	1.9	1.4	1.8	2.0	1.6	1.6	2.0	2.2	1.9	1.7	1.7	1.5	1.4	1.5	1.6	1.8	1.8	1.8	1.8	1.7	Diurnal Maximum					
C - Calibration		A - Automated Daily Zero Span																												

Hourly Maximums

Total Reduced Sulphur (TRS) - ppb

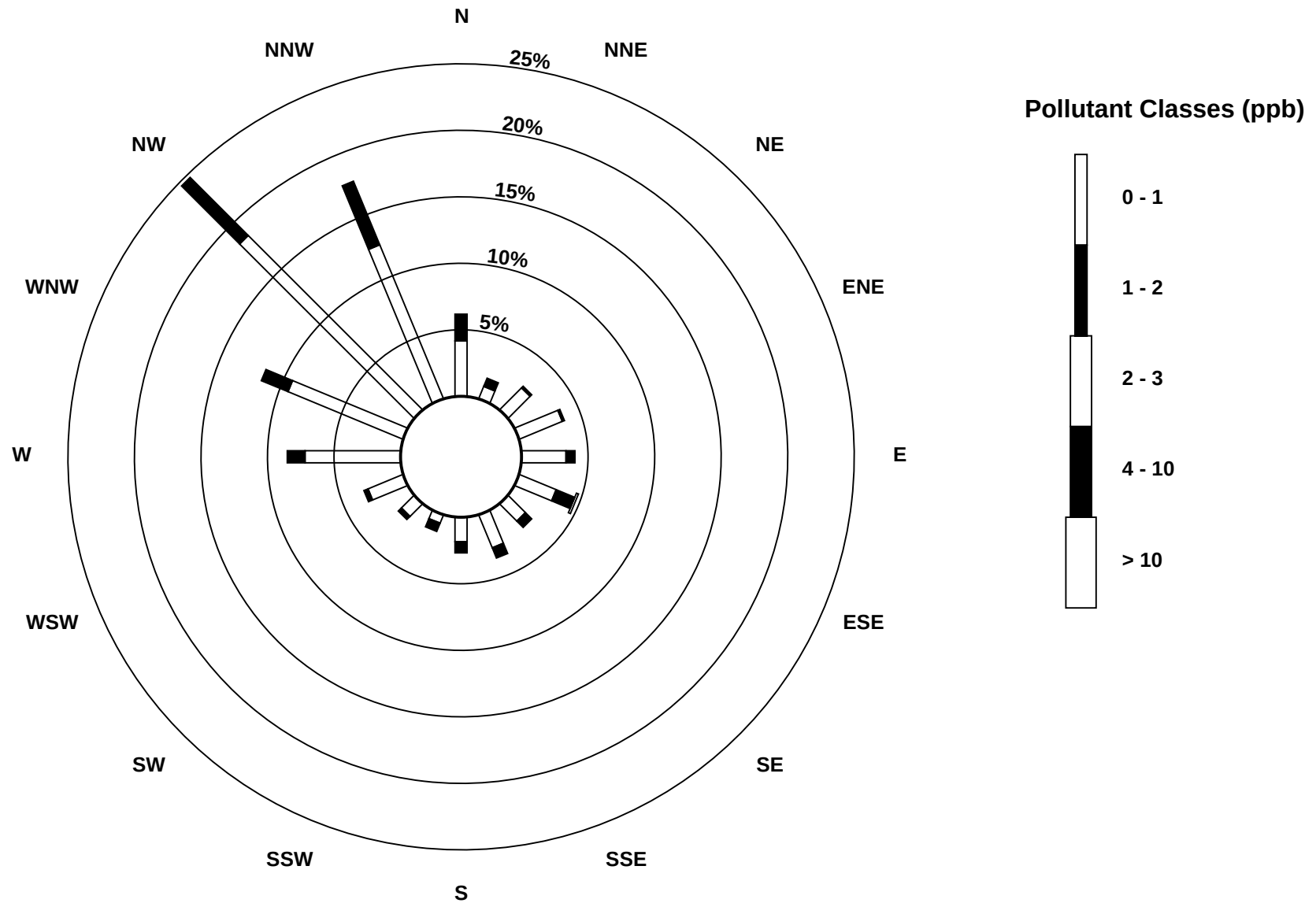
Henry Pirker - December 2014



Pollutant Rose

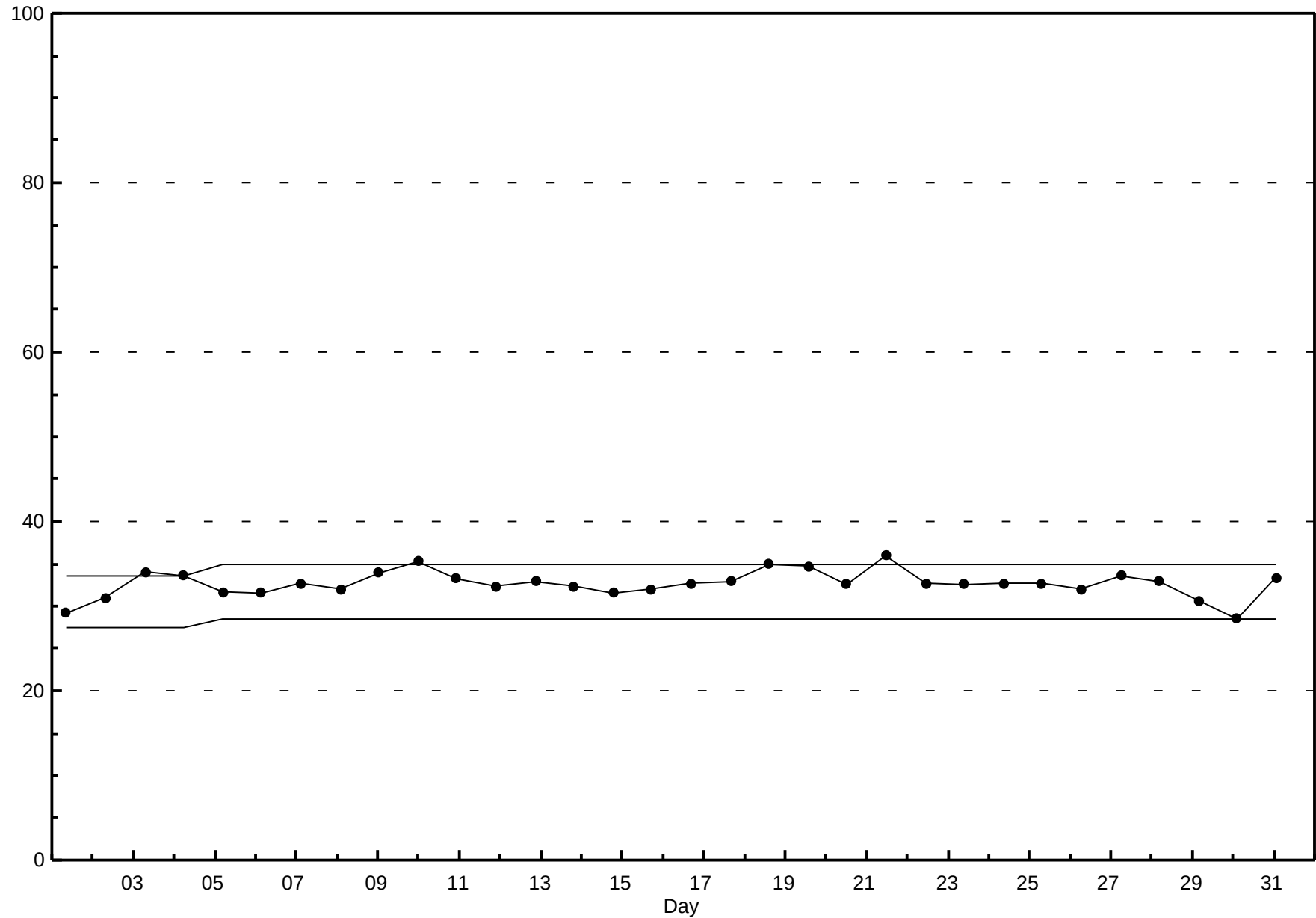
Total Reduced Sulphur (TRS) - ppb

Henry Pirker - December 2014



Span Responses

Total Reduced Sulphur (TRS)
Henry Pirker - December 2014



Hourly Averages

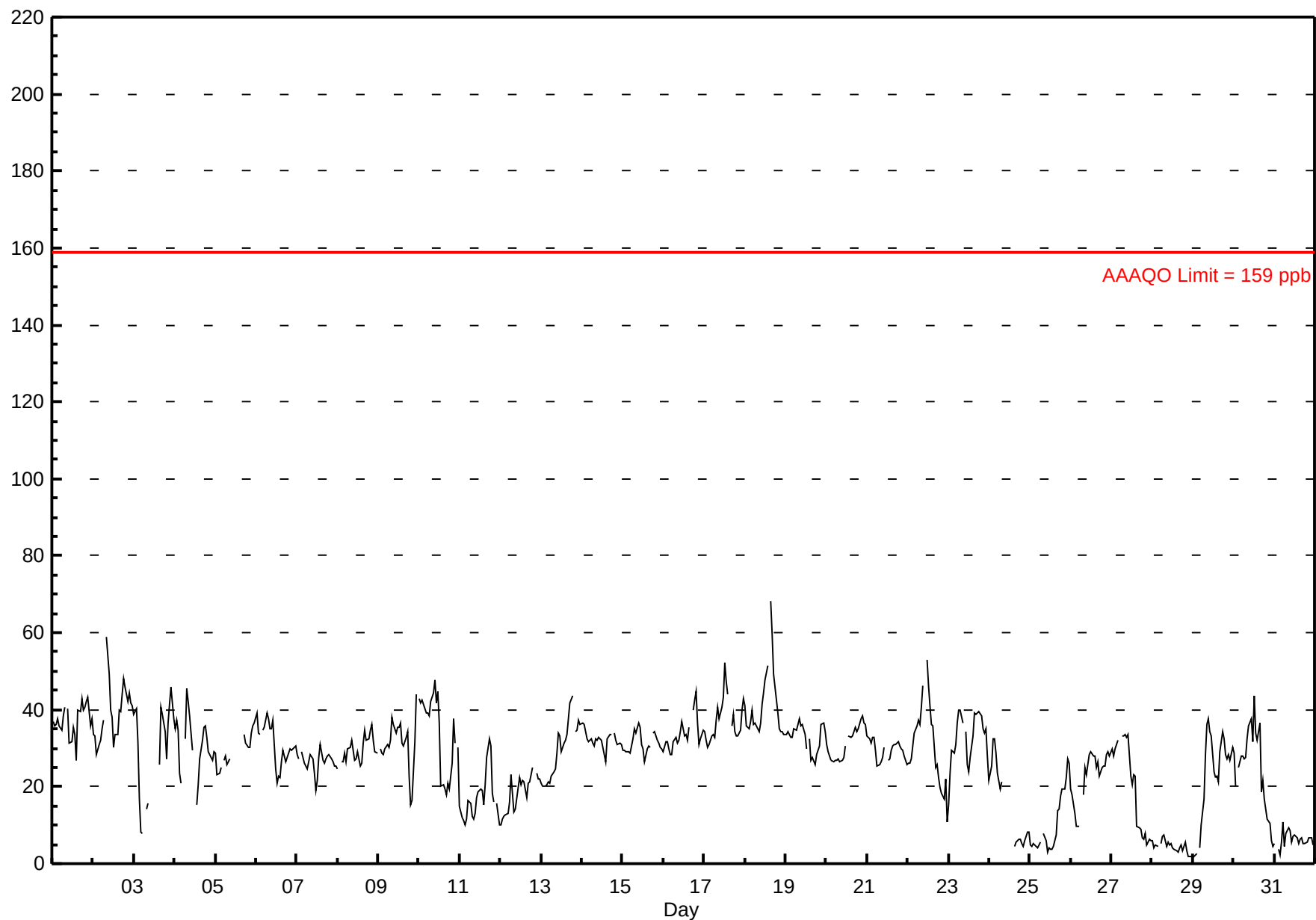
Nitrogen Dioxide (NO₂) - ppb

Henry Pirker - December 2014

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 68.3 ppb on Dec 18 16:00 Maximum Daily Average: 41.4 ppb on Dec 18																								Hours in Service: 744 Hours of Data: 690 Hours of Missing Data: 54 Hours of Calibration: 52 Percent Operational Time: 99.7		
Minimum Value: 1 ppb on Dec 29 01:00 Minimum Daily Average: 4.3 ppb on Dec 28 Maximum Diurnal Average: 30.4 ppb at hour 10 Minimum Diurnal Average: 24.9 ppb at hour 4 Monthly Average: 27.26 ppb Percentiles: P ₁ = 2.8 P ₁₀ = 7.0 Q ₁ = 21.3 Median = 29.5 Q ₃ = 34.6 P ₉₀ = 39.4 P ₉₉ = 48.5																										
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
1-Dec	37	36	36	37	36	35	38	40	A	40	31	32	35	34	27	40	39	43	40	40	42	43	36	38	37.2	43.2
2-Dec	34	33	28	31	32	35	37	A	59	49	40	38	30	33	33	40	40	44	48	46	42	44	42	41	39.1	59.0
3-Dec	39	40	31	17	8	8	A	14	16	C	C	C	C	C	C	26	41	39	34	27	36	42	46	38	--	45.8
4-Dec	35	37	35	23	21	A	32	46	42	39	30	M	M	15	21	27	32	35	36	33	29	28	27	29	31.0	45.6
5-Dec	29	23	24	25	A	27	28	26	27	C	C	C	C	C	C	C	C	33	31	30	30	34	36	37	--	36.7
6-Dec	39	34	34	A	35	35	39	38	35	35	37	25	21	23	22	26	30	26	28	29	30	29	30	30	30.9	39.0
7-Dec	28	27	A	29	26	25	25	26	28	27	24	19	22	28	31	27	26	27	28	29	27	26	25	25	26.4	30.9
8-Dec	25	A	26	27	29	27	30	30	32	29	27	27	29	25	26	31	35	32	32	35	36	32	29	29	29.6	36.1
9-Dec	A	30	29	28	30	31	30	32	38	36	34	35	35	36	31	30	33	34	23	15	16	32	44	A	31.1	44.0
10-Dec	43	42	42	40	39	39	38	42	45	48	42	45	36	20	20	19	18	21	20	26	38	31	A	30	34.2	47.9
11-Dec	15	12	11	10	12	16	15	12	11	13	17	18	19	19	15	20	28	33	31	18	16	A	16	10	16.9	32.5
12-Dec	10	11	12	13	13	16	23	18	13	14	20	23	21	22	21	17	21	21	23	25	A	23	22	22	18.5	25.1
13-Dec	21	20	20	21	21	21	23	24	25	29	34	33	29	31	32	34	38	42	44	A	34	35	37	36	29.6	43.7
14-Dec	37	36	34	32	32	33	31	31	32	32	33	32	30	28	26	32	34	34	A	34	32	31	31	31	32.2	36.6
15-Dec	30	30	29	29	29	30	32	35	34	36	35	31	30	27	30	31	30	A	34	34	32	31	30	30	31.3	36.4
16-Dec	29	32	32	30	28	28	32	33	31	32	34	37	33	34	32	35	A	40	43	45	37	31	33	35	33.7	44.9
17-Dec	34	32	30	31	33	34	33	37	41	38	41	43	52	47	44	A	36	39	34	33	33	35	40	43	37.5	52.2
18-Dec	41	36	35	37	40	36	36	36	34	36	41	44	48	51	A	68	60	49	46	39	35	34	34	34	41.4	68.3
19-Dec	33	34	33	33	33	35	35	36	38	36	36	33	30	A	32	27	27	26	28	29	31	36	37	34	32.8	37.5
20-Dec	31	29	28	27	26	27	27	27	26	27	28	30	A	33	33	33	34	36	34	35	37	38	37	36	31.3	38.4
21-Dec	33	32	31	33	33	29	25	26	27	28	30	A	27	27	29	31	31	31	32	31	30	29	28	26	29.5	33.1
22-Dec	26	26	27	31	34	36	37	36	41	46	A	53	46	41	36	36	25	26	22	20	18	17	22	11	31.0	52.8
23-Dec	15	23	30	29	31	36	40	40	37	A	34	26	24	28	33	39	39	39	40	38	35	34	35	28	32.7	39.9
24-Dec	22	25	32	32	29	23	20	21	A	C	C	C	C	C	C	4	6	6	6	5	5	6	8	8	--	32.5
25-Dec	5	4	5	5	4	5	6	A	8	6	3	4	4	4	5	7	14	14	17	19	19	22	27	26	10.2	27.2
26-Dec	19	18	13	10	10	10	A	18	25	23	26	28	29	28	28	25	27	23	25	25	25	28	29	28	22.6	29.3
27-Dec	30	28	30	31	32	A	33	33	33	33	34	23	20	23	23	10	9	9	7	6	8	5	6	6	20.5	33.6
28-Dec	6	4	5	4	A	5	7	7	5	6	5	5	4	4	3	3	4	5	3	5	3	2	2	2	4.3	7.3
29-Dec	1	2	2	A	4	10	17	28	36	37	34	33	24	22	23	21	29	34	32	29	27	28	27	30	23.2	37.5
30-Dec	29	20	A	25	28	28	27	28	32	36	38	32	43	34	32	36	19	22	17	14	12	10	6	5	24.9	43.5
31-Dec	5	A	4	2	6	11	4	8	9	9	6	7	7	7	5	6	7	5	5	6	7	7	7	5	6.2	10.7
26.0 26.2 25.2 24.9 25.3 25.2 27.7 28.6 29.7 30.4 29.4 29.1 28.1 26.8 25.7 27.0 27.9 28.9 28.1 26.7 26.8 27.5 27.6 26.1																								Diurnal Average		
42.9 41.8 42.5 40.5 40.0 39.1 39.9 45.6 59.0 49.2 41.9 52.8 52.2 51.3 44.0 68.3 59.7 49.3 48.1 45.8 42.3 44.5 45.8 42.9																								Diurnal Maximum		
C - Calibration M - Maintenance A - Automated Daily Zero Span																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 159 ppb 24-hr 106 ppb																										

Hourly Averages

Nitrogen Dioxide (NO₂) - ppb
Henry Pirker - December 2014



Hourly Maximums

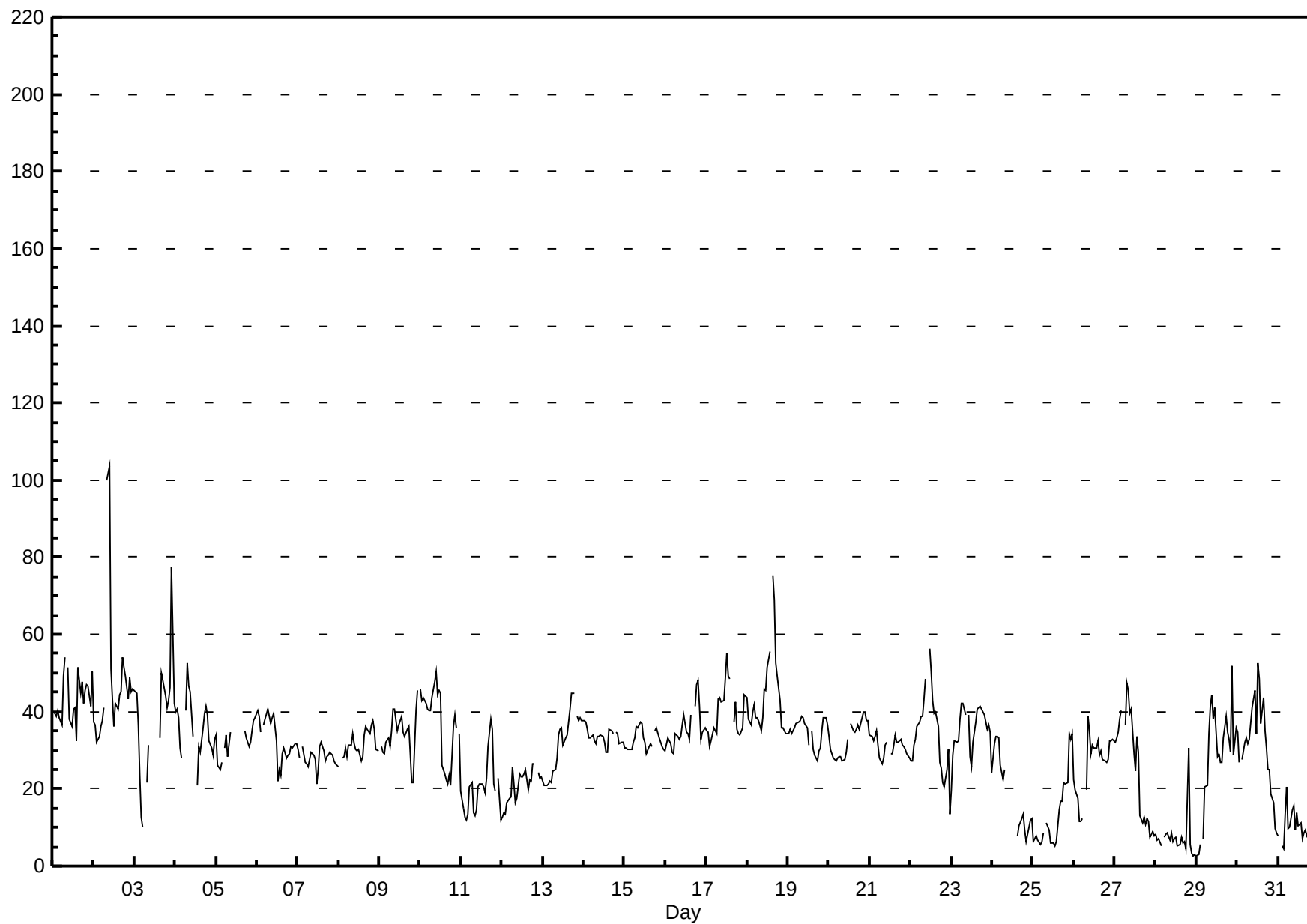
Nitrogen Dioxide (NO₂) - ppb

Henry Pirker - December 2014

Maximum Value: 103.7 ppb on Dec 2 10:00																					Maximum Daily Average: 47.8 ppb on Dec 2					Hours in Service: 744		
Minimum Value: 3 ppb on Dec 29 01:00																					Minimum Daily Average: 7.3 ppb on Dec 28					Hours of Data: 690		
Maximum Diurnal Average: 36.3 ppb at hour 10																					Minimum Diurnal Average: 27.2 ppb at hour 3					Hours of Missing Data: 54		
Monthly Average: 30.68 ppb																					Percentiles: P ₁ = 5.1 P ₁₀ = 11.5 Q ₁ = 25.1 Median = 32.3 Q ₃ = 37.6 P ₉₀ = 43.4 P ₉₉ = 55.5					Hours of Calibration: 52		
																					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-Dec	40	40	39	40	38	36	49	54	A	51	38	36	41	41	33	51	45	48	42	45	47	47	41	50	43.1	54.1		
2-Dec	37	37	32	34	36	38	41	A	100	104	51	43	36	42	41	44	45	54	51	49	43	49	45	46	47.8	103.7		
3-Dec	45	45	36	24	13	10	A	22	31	C	C	C	C	C	C	33	50	48	44	41	43	46	78	42	--	77.5		
4-Dec	40	40	39	31	28	A	40	53	47	45	33	M	M	21	31	29	36	40	41	39	32	31	29	33	36.1	52.6		
5-Dec	34	26	25	27	A	31	34	28	35	C	C	C	C	C	C	C	C	35	33	31	32	35	38	38	--	38.4		
6-Dec	40	39	35	A	37	38	41	39	37	38	39	32	22	25	24	29	31	28	29	29	31	31	32	32	32.9	40.5		
7-Dec	30	28	A	31	27	27	26	28	30	29	28	21	25	31	32	30	27	28	29	30	29	27	26	26	27.9	31.9		
8-Dec	26	A	28	28	30	28	31	31	34	32	30	30	30	27	28	34	36	35	34	36	38	35	30	30	31.5	37.7		
9-Dec	A	31	30	29	32	33	31	35	41	41	35	36	38	39	35	34	36	36	29	22	22	40	45	A	34.0	45.5		
10-Dec	46	43	43	42	41	40	40	44	48	50	44	46	45	26	24	22	21	23	21	36	39	36	A	34	37.2	50.2		
11-Dec	19	15	13	12	13	21	22	14	13	15	20	21	21	21	19	23	31	38	35	21	19	A	23	12	20.1	38.2		
12-Dec	13	14	14	16	17	18	26	21	16	18	24	23	23	24	25	20	22	22	26	26	A	24	23	23	20.8	26.4		
13-Dec	22	21	21	21	22	22	24	25	28	34	35	36	31	33	34	37	41	45	45	A	39	38	38	38	31.7	44.9		
14-Dec	38	37	35	33	33	34	32	32	33	33	34	34	32	29	29	36	35	34	A	35	34	32	32	32	33.4	37.5		
15-Dec	31	30	30	30	30	32	33	36	36	37	37	33	32	29	31	32	31	A	35	36	33	32	31	30	32.5	37.4		
16-Dec	30	33	33	32	29	29	34	34	33	34	37	39	35	34	33	39	A	41	47	48	42	33	35	36	35.6	47.9		
17-Dec	35	35	31	32	36	35	34	43	44	42	43	49	55	49	49	A	37	43	35	34	34	36	44	44	40.0	55.1		
18-Dec	43	38	37	40	42	39	38	38	35	38	46	46	51	56	A	75	69	53	49	43	36	36	35	34	44.2	75.3		
19-Dec	34	36	34	35	36	37	37	38	39	38	37	36	31	A	35	30	29	27	30	31	35	38	38	37	34.7	38.7		
20-Dec	33	30	29	28	27	28	28	28	27	28	29	33	A	37	35	35	35	36	35	37	40	40	38	38	32.9	39.9		
21-Dec	34	34	33	34	35	31	28	27	28	31	32	A	29	29	31	34	32	32	33	31	31	30	29	28	31.1	35.0		
22-Dec	27	27	31	33	36	37	39	39	43	48	A	56	50	43	40	40	36	27	25	22	21	25	30	14	34.4	56.2		
23-Dec	20	29	32	32	33	38	42	42	39	A	39	28	26	32	37	41	41	41	41	39	37	35	37	35	35.5	42.3		
24-Dec	24	32	33	34	33	26	22	25	A	C	C	C	C	C	C	8	10	12	14	9	6	8	12	12	--	33.6		
25-Dec	6	7	8	7	6	6	8	A	11	9	6	6	6	5	6	14	17	17	21	21	22	34	33	34	13.6	34.5		
26-Dec	23	20	17	11	11	12	A	20	39	35	29	31	31	31	32	29	30	28	27	27	28	32	32	33	26.4	38.8		
27-Dec	32	33	35	38	40	A	36	47	46	39	41	29	24	34	29	13	11	13	11	12	12	7	9	8	26.1	47.2		
28-Dec	8	7	7	5	A	8	8	9	7	9	6	7	7	5	6	7	6	7	4	31	5	3	3	3	7.3	30.6		
29-Dec	3	3	6	A	7	21	21	34	41	45	38	41	29	29	27	27	33	39	35	33	29	52	29	36	28.5	51.7		
30-Dec	35	27	A	27	32	33	32	33	37	41	45	34	53	48	37	44	35	31	25	25	19	17	10	9	31.7	52.6		
31-Dec	8	A	5	4	13	20	10	10	15	16	9	14	10	11	7	9	9	8	8	12	18	11	12	6	10.7	20.4		
28.6 28.8 27.2 27.2 28.1 27.9 30.7 32.0 34.9 36.3 32.9 32.3 31.3 30.8 29.2 31.0 31.7 32.3 31.2 31.0 29.9 31.4 31.2 29.1																									Diurnal Average			
45.8 44.7 43.5 42.3 41.9 40.2 49.2 54.1 100.1 103.7 51.1 56.2 55.1 55.7 48.6 75.3 68.9 54.1 51.4 49.4 46.9 51.7 77.5 50.2																									Diurnal Maximum			
C - Calibration																									M - Maintenance		A - Automated Daily Zero Span	

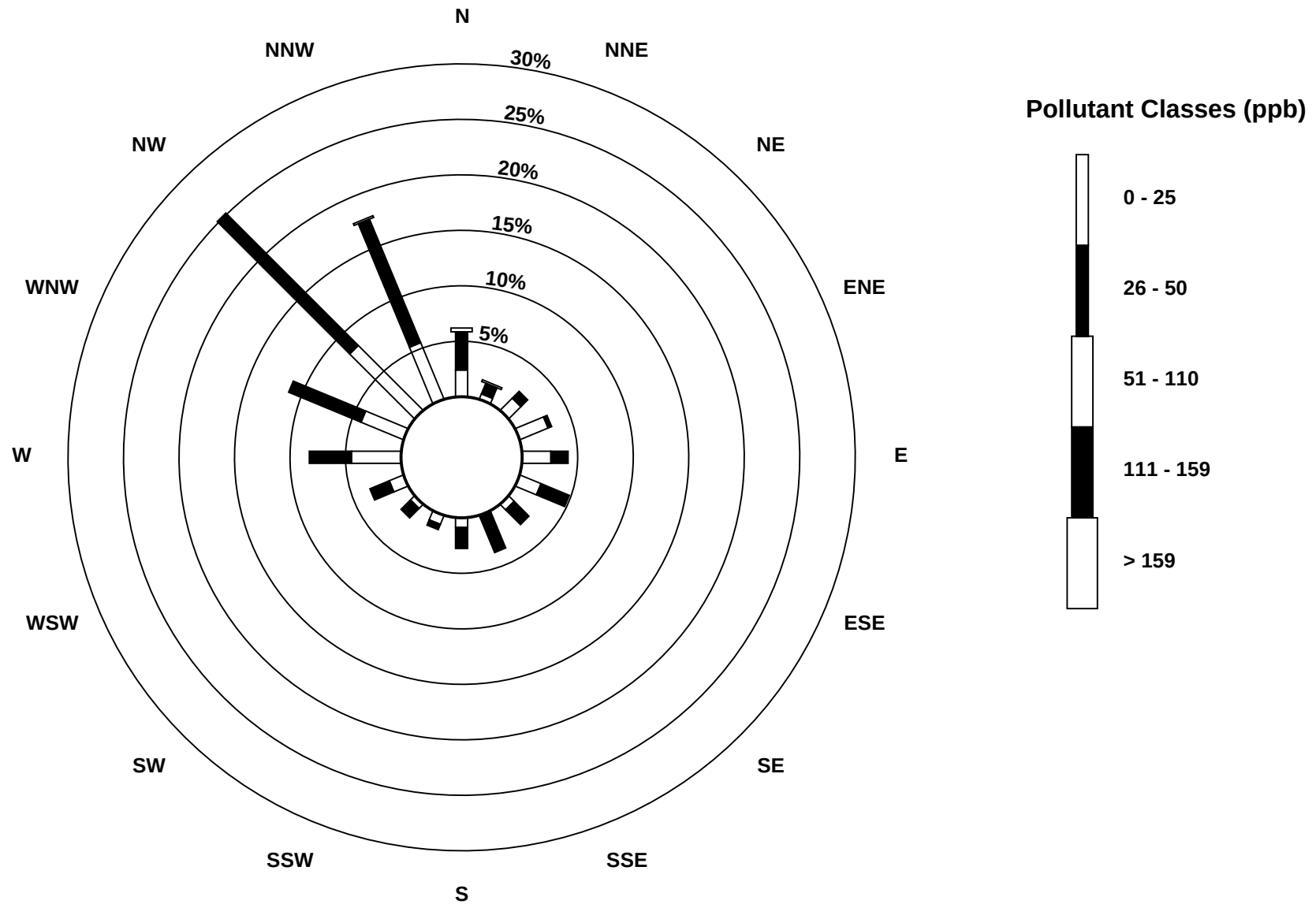
Hourly Maximums

Nitrogen Dioxide (NO₂) - ppb
Henry Pirker - December 2014



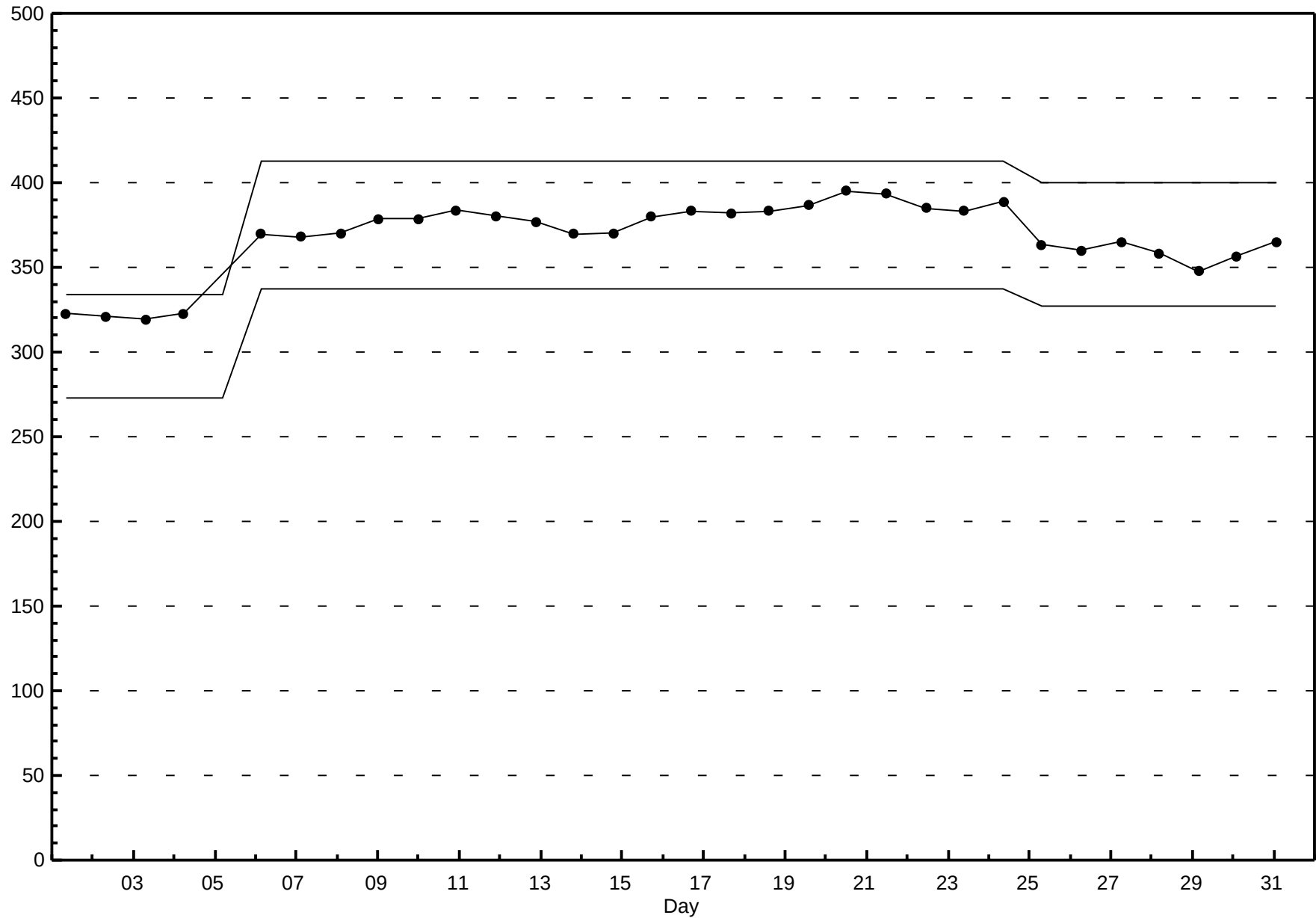
Pollutant Rose

Nitrogen Dioxide (NO₂) - ppb
Henry Pirker - December 2014



Span Responses

Nitrogen Dioxide (NO₂)
Henry Pirker - December 2014



Hourly Averages

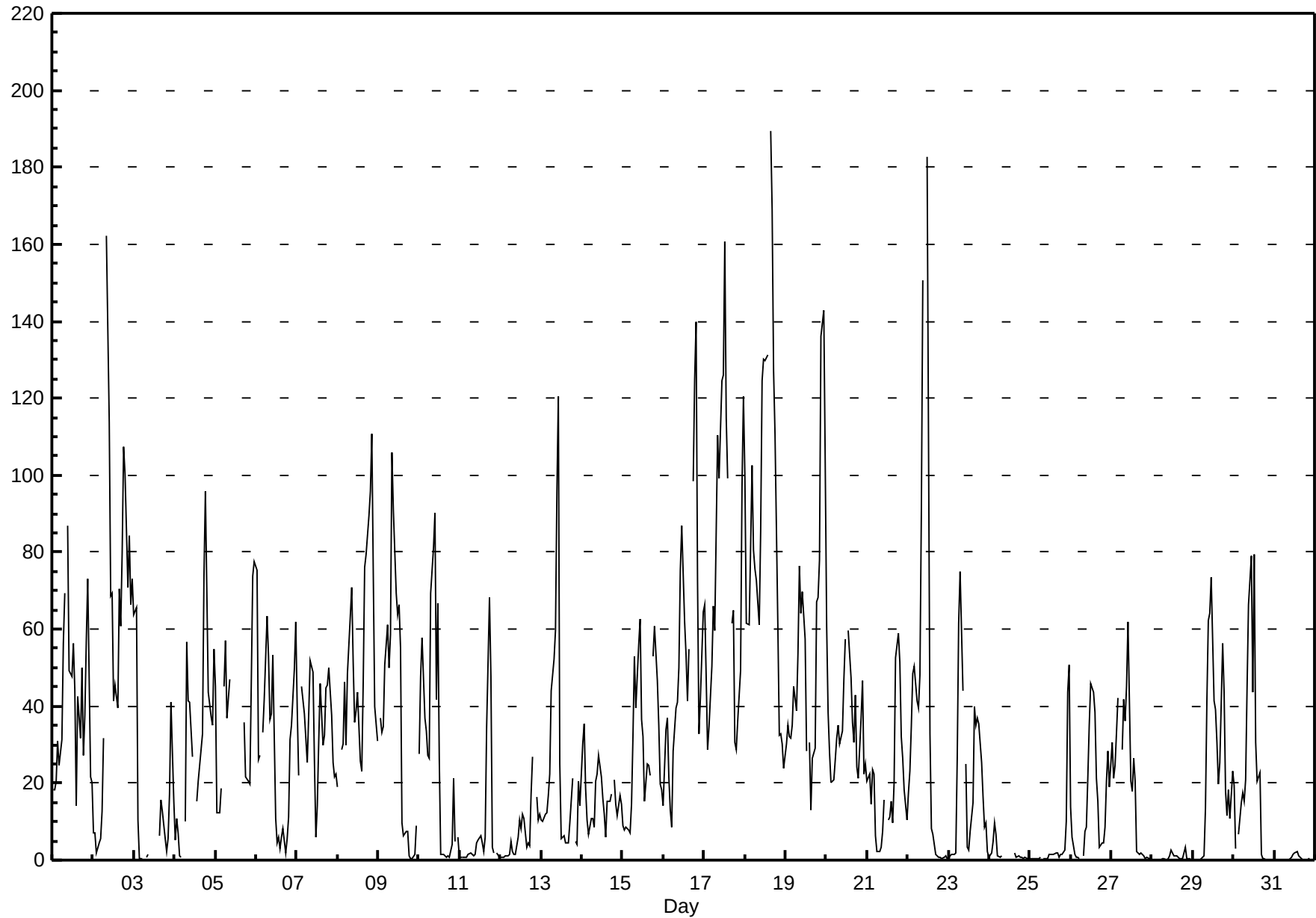
Nitrogen Oxide (NO) - ppb

Henry Pirker - December 2014

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 189.6 ppb on Dec 18 16:00 Maximum Daily Average: 90.1 ppb on Dec 18																				Hours in Service: 744 Hours of Data: 690 Hours of Missing Data: 54 Hours of Calibration: 52 Percent Operational Time: 99.7						
Minimum Value: 0 ppb on Dec 31 01:00 Maximum Diurnal Average: 52.3 ppb at hour 10 Monthly Average: 30.49 ppb																				Minimum Daily Average: 0.5 ppb on Dec 31 Minimum Diurnal Average: 17.6 ppb at hour 3 Percentiles: P ₁ = 0.0 P ₁₀ = 0.6 Q ₁ = 3.3 Median = 21.7 Q ₃ = 45.6 P ₉₀ = 72.4 P ₉₉ = 139.5						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
1-Dec	18	18	21	31	24	31	56	69	A	87	49	48	56	44	14	42	32	50	27	38	57	73	22	20	40.4	86.9
2-Dec	7	7	2	5	6	13	32	A	162	114	69	69	41	46	39	70	61	80	107	100	71	84	66	73	57.6	162.1
3-Dec	64	66	10	0	0	0	A	1	1	C	C	C	C	C	C	7	16	13	6	2	6	17	41	15	--	65.7
4-Dec	5	11	7	1	1	A	10	57	41	41	27	M	M	15	21	25	33	73	96	70	44	37	35	55	33.5	95.8
5-Dec	45	12	12	18	A	45	57	37	47	C	C	C	C	C	C	C	C	36	22	20	20	46	74	78	--	77.7
6-Dec	75	26	27	A	33	42	63	53	37	38	53	11	5	6	3	6	8	2	6	11	31	35	50	62	29.7	75.5
7-Dec	40	22	A	45	38	32	25	38	52	49	26	6	14	31	46	30	33	45	46	50	38	26	22	22	33.6	51.7
8-Dec	19	A	29	30	46	30	49	63	71	51	36	39	44	26	23	46	76	79	90	96	111	75	40	31	52.1	110.8
9-Dec	A	37	33	35	51	61	50	58	106	91	70	64	66	55	10	6	7	7	1	0	0	2	9	A	37.2	106.0
10-Dec	28	48	58	37	34	27	27	70	81	90	42	67	27	1	1	1	1	1	1	4	21	5	A	6	29.4	90.3
11-Dec	1	1	1	1	1	2	2	1	1	1	4	5	6	4	2	6	34	68	48	3	2	A	2	1	8.6	68.2
12-Dec	1	1	1	1	1	1	5	2	1	2	6	10	8	12	11	3	4	4	17	27	A	16	10	12	6.8	26.9
13-Dec	10	10	12	12	17	22	44	52	60	96	121	25	6	6	4	5	5	10	21	A	5	4	21	14	25.3	120.5
14-Dec	30	35	19	11	7	11	11	9	21	22	27	22	16	12	6	15	15	17	A	21	15	12	17	15	16.7	35.3
15-Dec	9	8	8	8	7	14	32	53	40	56	63	37	32	15	25	24	22	A	53	61	46	35	20	18	29.9	62.8
16-Dec	14	34	37	21	13	8	28	40	41	50	75	87	62	53	41	55	A	98	125	140	73	33	42	65	53.7	139.7
17-Dec	66	48	29	35	50	66	60	85	110	99	125	126	161	115	99	A	61	65	30	29	36	49	97	121	76.6	160.6
18-Dec	100	61	61	81	102	80	76	73	61	86	124	130	130	131	A	190	169	127	111	60	33	33	30	24	90.1	189.6
19-Dec	30	35	32	32	35	45	39	54	77	64	70	57	28	A	31	13	26	29	67	68	78	136	143	103	56.2	142.7
20-Dec	61	39	28	20	21	26	32	35	30	34	47	57	A	60	47	36	30	43	24	21	37	46	23	25	35.7	61.0
21-Dec	21	22	14	23	22	6	2	2	3	8	16	A	11	11	15	10	20	53	59	51	32	26	18	10	19.9	58.8
22-Dec	17	23	35	49	50	41	40	48	91	151	A	183	108	33	8	7	1	1	1	1	1	1	1	0	38.7	182.5
23-Dec	0	1	1	1	2	27	61	75	44	A	25	3	3	8	15	40	35	37	36	25	16	9	10	2	20.7	75.0
24-Dec	1	2	5	10	7	1	1	1	A	C	C	C	C	C	C	2	1	1	1	1	0	1	1	0	--	9.7
25-Dec	0	0	0	0	0	0	1	A	0	0	0	1	2	1	2	2	2	1	2	2	2	10	44	51	5.4	50.5
26-Dec	14	6	1	1	1	1	A	1	8	9	21	35	46	44	39	21	15	3	5	5	8	20	28	19	15.2	46.0
27-Dec	31	21	25	33	42	A	29	42	36	45	62	21	18	27	20	2	1	2	1	1	0	1	0	0	20.0	61.8
28-Dec	0	0	0	0	A	0	0	0	0	0	1	3	2	1	1	1	1	0	0	4	0	0	0	0	0.7	3.5
29-Dec	0	0	0	A	0	0	1	13	42	62	64	74	41	39	31	20	26	56	43	18	12	18	11	23	25.8	73.5
30-Dec	19	3	A	7	15	18	15	21	45	66	79	44	80	30	20	23	2	0	0	0	0	0	0	0	21.2	79.6
31-Dec	0	A	0	0	0	0	0	0	0	0	1	2	2	2	1	1	0	0	0	0	0	0	0	0	0.5	2.1
24.3 20.6 17.6 18.9 21.6 22.5 29.2 36.3 45.1 52.3 48.2 47.1 39.0 30.7 21.4 24.4 25.5 33.4 34.8 31.0 26.5 28.3 29.2 28.8																									Diurnal Average	
100.1 65.7 61.2 81.3 102.4 80.4 75.7 84.9 162.1 150.5 124.5 182.5 160.6 131.3 99.1 189.6 168.8 127.3 125.1 139.7 110.8 136.0 142.7 120.6																									Diurnal Maximum	
C - Calibration M - Maintenance A - Automated Daily Zero Span																										

Hourly Averages

Nitrogen Oxide (NO) - ppb
Henry Pirker - December 2014



Hourly Maximums

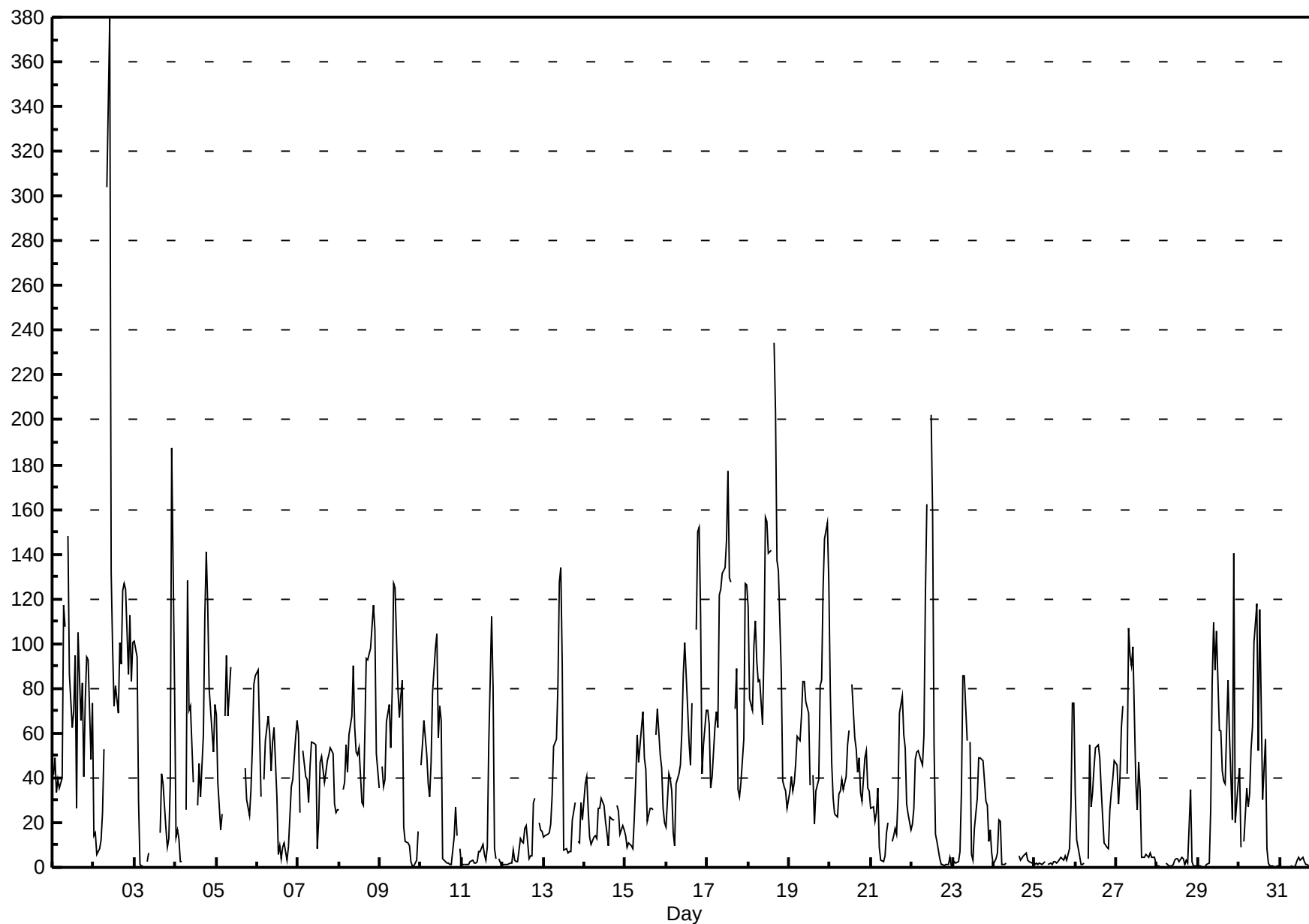
Nitrogen Oxide (NO) - ppb

Henry Pirker - December 2014

Maximum Value: 379.5 ppb on Dec 2 10:00																								Maximum Daily Average: 105.0 ppb on Dec 18																								Hours in Service: 744	
Minimum Value: 0 ppb on Dec 31 05:00																								Minimum Daily Average: 1.7 ppb on Dec 31																								Hours of Data: 690	
Maximum Diurnal Average: 79.4 ppb at hour 10																								Minimum Diurnal Average: 22.6 ppb at hour 3																								Hours of Missing Data: 54	
Monthly Average: 42.14 ppb																								Percentiles: P ₁ = 0.2 P ₁₀ = 1.5 Q ₁ = 6.8 Median = 32.8 Q ₃ = 61.0 P ₉₀ = 99.1 P ₉₉ = 173.3																								Hours of Calibration: 52	
																																																Percent Operational Time: 99.7	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																							
1-Dec	41	49	34	39	36	40	117	108	A	148	86	63	70	94	27	105	66	82	41	74	94	92	48	73	70.8	148.2																							
2-Dec	14	16	6	8	12	25	53	A	304	379	132	98	72	81	69	101	91	124	127	124	86	113	83	101	96.5	379.5																							
3-Dec	101	94	30	1	0	1	A	2	6	C	C	C	C	C	C	15	42	37	17	9	13	37	188	80	--	187.6																							
4-Dec	13	17	13	3	2	A	26	128	70	72	38	M	M	28	46	32	59	113	141	117	80	61	52	73	56.3	140.9																							
5-Dec	68	38	16	24	A	68	94	68	90	C	C	C	C	C	C	C	C	45	30	23	34	54	82	86	--	94.4																							
6-Dec	88	59	32	A	39	57	68	60	43	56	62	32	6	10	4	9	11	3	9	22	36	39	58	66	37.8	88.4																							
7-Dec	60	24	A	52	41	39	29	45	56	55	55	8	21	47	49	38	43	48	50	54	51	28	24	26	41.1	60.0																							
8-Dec	26	A	35	38	55	42	59	68	90	63	52	50	54	29	28	59	93	93	98	107	117	106	51	36	63.0	117.5																							
9-Dec	A	45	36	39	65	73	54	78	127	125	79	67	77	84	18	11	11	10	3	1	1	3	16	A	46.5	127.1																							
10-Dec	46	55	66	50	37	31	47	78	98	104	58	72	66	4	3	2	2	1	1	14	27	14	A	8	38.4	104.3																							
11-Dec	1	1	1	1	1	3	3	2	2	2	7	7	10	6	3	9	55	112	80	8	4	A	4	1	14.1	112.2																							
12-Dec	1	1	1	2	2	2	8	3	2	2	13	12	11	17	19	4	5	5	29	31	A	20	17	16	9.7	30.6																							
13-Dec	13	14	15	15	19	32	54	57	81	128	134	91	8	8	7	7	7	21	29	A	12	11	29	21	35.4	133.9																							
14-Dec	37	40	26	13	11	13	14	13	26	26	31	28	20	15	10	23	21	21	A	28	25	15	19	17	21.4	40.4																							
15-Dec	14	9	11	10	8	22	38	59	47	62	70	49	44	21	26	27	25	A	59	71	50	44	26	20	35.4	71.1																							
16-Dec	18	42	40	34	15	10	37	42	46	61	86	101	72	56	46	73	A	106	150	152	113	42	55	70	63.8	152.2																							
17-Dec	70	64	35	41	63	70	62	122	124	131	134	146	177	129	127	A	71	89	35	32	38	57	127	126	90.1	177.4																							
18-Dec	116	76	70	99	110	92	83	84	64	98	157	154	140	142	A	234	204	137	133	87	39	36	34	27	105.0	234.1																							
19-Dec	34	40	34	38	46	59	57	68	83	83	74	69	37	A	41	19	34	39	81	84	124	147	154	127	68.3	153.9																							
20-Dec	79	47	31	24	23	33	34	39	35	40	55	61	A	82	58	53	42	49	33	29	49	52	36	34	44.3	81.6																							
21-Dec	26	27	21	25	36	9	3	3	5	16	20	A	12	14	17	15	31	69	77	59	54	28	24	17	26.3	76.8																							
22-Dec	19	26	49	52	52	48	46	60	121	162	A	202	158	56	15	11	4	1	1	1	1	1	5	1	47.4	202.4																							
23-Dec	1	2	2	2	7	33	86	85	56	A	56	6	3	17	31	49	49	48	48	30	28	11	16	6	29.3	85.7																							
24-Dec	1	4	7	21	21	2	1	2	A	C	C	C	C	C	C	5	3	5	6	7	3	2	2	3	--	21.2																							
25-Dec	1	2	1	2	2	2	2	A	1	2	2	3	3	2	2	5	4	3	5	3	9	27	73	73	9.9	73.3																							
26-Dec	33	12	5	2	2	2	A	4	55	27	34	45	54	55	49	35	23	11	9	8	26	33	39	48	26.4	54.6																							
27-Dec	45	28	40	63	72	A	42	107	95	90	98	39	26	47	34	5	5	6	5	5	6	5	5	1	37.8	107.2																							
28-Dec	1	1	0	0	A	2	1	1	0	1	3	4	4	3	5	4	1	3	2	34	3	1	0	1	3.2	34.5																							
29-Dec	0	0	0	A	0	1	2	26	83	109	88	106	61	61	43	38	37	84	59	40	21	140	20	37	46.1	140.3																							
30-Dec	44	9	A	11	35	27	33	53	63	100	118	52	116	74	30	57	8	2	1	0	1	0	1	0	36.4	118.0																							
31-Dec	0	A	0	0	0	0	0	1	0	1	3	4	3	5	3	1	1	0	0	2	5	3	3	0	1.7	5.4																							
33.9 29.1 22.6 24.4 28.0 28.8 39.9 50.5 64.6 79.4 64.6 60.3 50.9 44.0 30.0 36.1 36.2 45.6 45.3 41.9 38.3 40.8 43.0 39.8																								Diurnal Average																									
116.3 93.7 70.4 99.5 110.0 91.8 117.2 127.9 303.8 379.5 156.6 202.4 177.4 141.8 127.4 234.1 203.6 137.1 150.4 152.2 124.2 146.8 187.6 126.7																								Diurnal Maximum																									
C - Calibration M - Maintenance A - Automated Daily Zero Span																																																	

Hourly Maximums

Nitrogen Oxide (NO) - ppb
Henry Pirker - December 2014



Hourly Averages

Oxides of Nitrogen (NO_x) - ppb

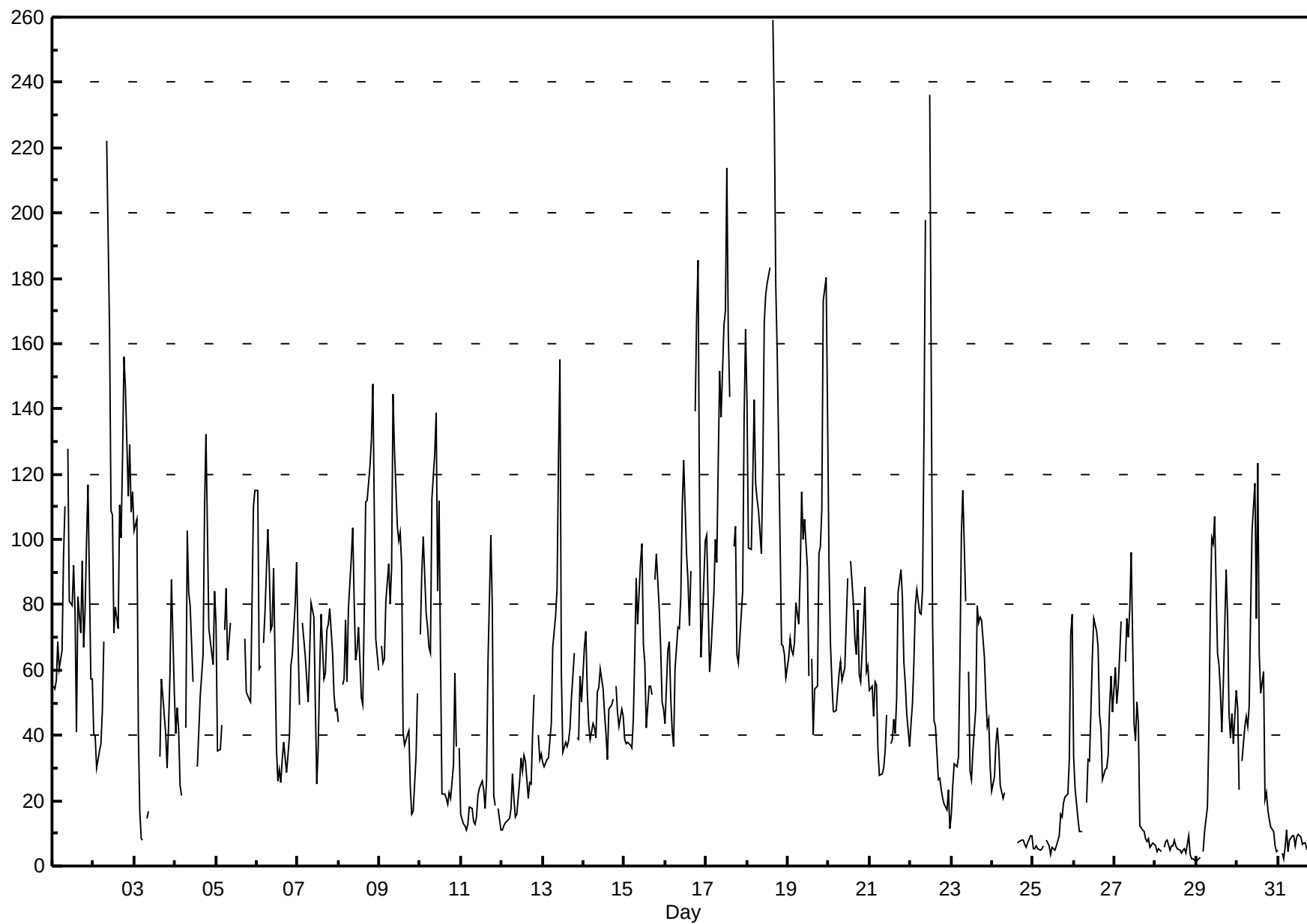
Henry Pirker - December 2014

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 259.0 ppb on Dec 18 16:00 Maximum Daily Average: 132.1 ppb on Dec 18																								Hours in Service: 744 Hours of Data: 690 Hours of Missing Data: 54 Hours of Calibration: 52 Percent Operational Time: 99.7		
Minimum Value: 2 ppb on Dec 29 01:00 Minimum Daily Average: 5.2 ppb on Dec 28 Maximum Diurnal Average: 83.1 ppb at hour 10 Minimum Diurnal Average: 43.0 ppb at hour 3 Monthly Average: 58.04 ppb Percentiles: P ₁ = 3.5 P ₁₀ = 8.1 Q ₁ = 26.7 Median = 53.3 Q ₃ = 78.6 P ₉₀ = 110.2 P ₉₉ = 180.6																										
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
1-Dec	55	54	57	69	60	66	95	110	A	128	81	80	92	78	41	82	71	93	67	78	100	117	57	57	77.8	127.8
2-Dec	40	40	30	35	38	47	69	A	222	164	109	108	72	79	73	111	100	124	156	147	113	129	108	114	96.9	222.2
3-Dec	103	106	41	17	8	8	A	15	17	C	C	C	C	C	C	33	57	52	41	30	43	59	87	53	--	106.1
4-Dec	41	48	42	25	21	A	42	103	84	80	56	M	M	30	41	52	65	109	132	103	73	65	62	84	64.7	132.1
5-Dec	74	35	36	43	A	72	85	63	74	C	C	C	C	C	C	C	C	70	54	51	50	81	110	115	--	115.0
6-Dec	115	60	61	A	68	77	103	91	72	74	91	36	26	29	26	33	38	29	34	40	61	65	80	93	61.0	115.1
7-Dec	68	49	A	75	65	57	50	64	81	76	50	25	36	59	77	57	59	72	74	79	65	52	48	48	60.3	80.5
8-Dec	44	A	56	57	76	57	79	94	103	81	63	66	73	51	49	78	112	112	122	131	148	108	69	60	82.2	147.7
9-Dec	A	67	62	64	81	93	80	91	145	127	104	100	102	92	41	37	40	42	24	16	17	34	53	A	68.7	144.6
10-Dec	71	90	101	78	73	67	65	112	126	139	84	112	63	22	22	21	19	22	21	31	59	36	A	36	63.9	138.8
11-Dec	16	13	12	11	13	18	17	14	13	15	22	24	26	23	18	26	62	101	79	22	18	A	18	11	25.7	101.2
12-Dec	11	12	13	14	14	18	28	21	15	16	26	33	29	34	32	21	26	25	40	52	A	40	33	34	25.5	52.3
13-Dec	32	30	33	33	38	43	67	77	85	125	155	58	35	38	36	38	42	52	65	A	39	39	58	50	55.2	155.1
14-Dec	67	72	53	43	39	43	42	39	53	55	60	54	47	41	32	48	49	51	A	55	47	43	48	46	49.1	71.7
15-Dec	39	38	38	37	36	45	65	88	74	93	99	68	62	42	55	55	53	A	88	95	79	67	50	48	61.4	98.7
16-Dec	43	66	69	52	42	37	60	73	73	82	110	124	96	87	74	90	A	139	168	186	110	64	75	100	87.8	185.5
17-Dec	101	81	59	66	84	100	93	123	152	138	166	170	214	163	144	A	98	104	65	62	70	84	137	164	114.7	213.8
18-Dec	142	98	97	119	143	117	113	109	96	122	167	175	178	183	A	259	230	177	157	100	68	67	65	58	132.1	259.0
19-Dec	64	70	66	65	68	81	74	90	115	100	106	91	58	A	63	40	54	55	96	98	109	173	180	138	89.3	180.2
20-Dec	93	68	56	47	48	53	59	62	57	61	75	88	A	93	80	69	65	79	59	56	75	85	59	61	67.4	93.4
21-Dec	54	55	46	57	56	36	28	28	30	35	46	A	37	39	45	41	51	84	91	82	62	56	47	36	49.6	90.9
22-Dec	44	50	62	80	85	78	77	85	132	198	A	236	155	74	44	43	27	27	23	21	19	17	23	11	70.0	236.4
23-Dec	16	25	31	30	33	63	102	115	81	A	59	29	27	35	49	80	74	76	76	64	51	43	45	30	53.7	115.2
24-Dec	23	27	37	42	35	25	21	22	A	C	C	C	C	C	C	7	7	8	8	7	6	7	9	9	--	42.3
25-Dec	5	5	6	5	5	5	6	A	8	6	4	6	5	5	6	9	16	15	19	21	22	33	71	77	15.7	77.1
26-Dec	34	24	15	11	11	10	A	19	33	32	47	64	76	72	67	46	42	26	30	30	34	49	58	47	38.1	75.7
27-Dec	61	50	55	65	75	A	62	76	70	79	96	44	39	50	43	12	11	11	8	7	8	6	7	6	40.9	95.9
28-Dec	6	4	5	5	A	6	8	8	5	6	6	8	6	5	5	4	5	5	4	9	4	2	2	2	5.2	9.1
29-Dec	2	2	3	A	4	11	18	42	78	100	99	107	65	62	54	41	55	91	76	47	39	47	38	54	49.2	107.3
30-Dec	48	23	A	32	43	46	43	49	78	103	117	76	124	65	53	60	20	22	17	14	12	11	6	5	46.3	123.6
31-Dec	5	A	4	2	6	11	4	8	9	9	6	9	9	9	7	7	7	5	6	6	7	7	7	5	6.8	10.9
50.5 47.0 43.0 44.0 47.1 47.9 57.1 65.2 75.1 83.1 78.0 76.6 67.4 57.8 47.3 51.7 53.6 62.7 63.3 58.0 53.6 56.2 57.1 55.2 141.8 106.1 100.7 118.6 143.0 117.1 112.5 122.9 222.2 197.8 166.7 236.4 213.8 183.5 143.8 259.0 229.5 177.4 168.4 185.5 147.7 173.2 180.2 164.2																								Diurnal Average		
																								Diurnal Maximum		
C - Calibration M - Maintenance A - Automated Daily Zero Span																										

Hourly Averages

Oxides of Nitrogen (NO_x) - ppb

Henry Pirker - December 2014



Hourly Maximums

Oxides of Nitrogen (NO_x) - ppb

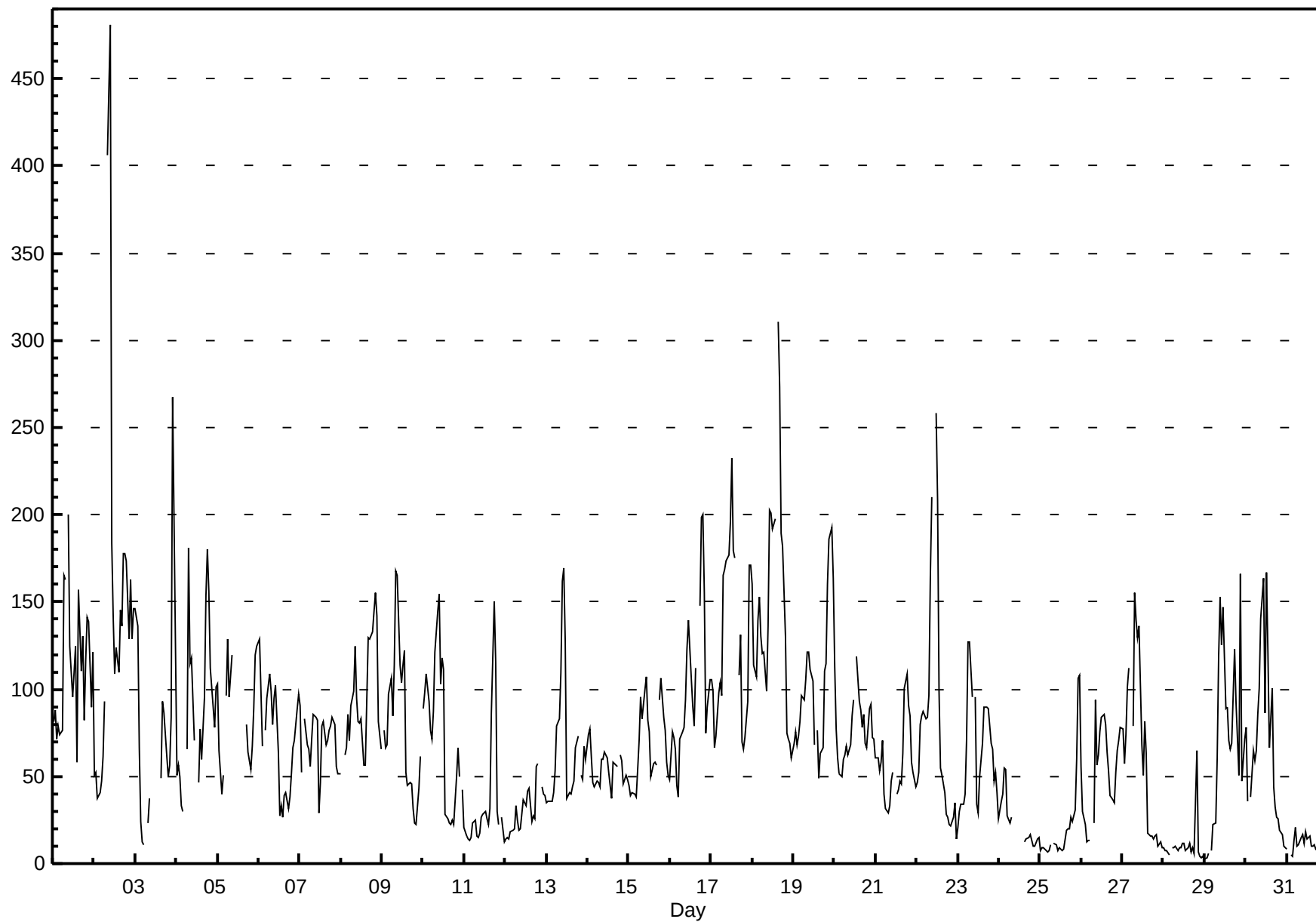
Henry Pirker - December 2014

Maximum Value: 480.9 ppb on Dec 2 10:00																								Hours in Service: 744		
Maximum Daily Average: 149.3 ppb on Dec 18																								Hours of Data: 690		
Minimum Value: 3 ppb on Dec 29 01:00																								Hours of Missing Data: 54		
Minimum Daily Average: 10.4 ppb on Dec 28																								Hours of Calibration: 52		
Maximum Diurnal Average: 115.4 ppb at hour 10																								Percent Operational Time: 99.7		
Minimum Diurnal Average: 49.7 ppb at hour 3																										
Percentiles: P ₁ = 4.9 P ₁₀ = 13.3 Q ₁ = 34.0 Median = 65.3 Q ₃ = 96.6 P ₉₀ = 140.5 P ₉₉ = 222.6																										
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
1-Dec	81	88	71	79	74	76	165	163	A	200	125	96	109	125	58	157	111	130	82	116	141	139	89	121	112.9	200.3
2-Dec	51	52	37	41	48	61	93	A	406	481	184	141	109	124	110	145	136	178	177	174	129	162	128	146	144.1	480.9
3-Dec	146	136	66	24	13	11	A	24	37	C	C	C	C	C	C	49	93	86	61	50	56	84	267	123	--	267.2
4-Dec	51	57	50	33	30	A	66	181	114	118	71	M	M	47	77	60	95	153	180	157	112	90	78	101	91.5	181.2
5-Dec	103	65	40	50	A	96	129	96	120	C	C	C	C	C	C	C	C	80	64	54	67	89	119	125	--	129.1
6-Dec	129	98	67	A	76	95	109	99	80	95	102	64	27	33	27	39	41	31	38	52	66	70	89	97	70.6	128.6
7-Dec	91	52	A	83	68	65	55	72	86	84	82	29	46	79	81	68	70	76	79	84	79	55	51	52	69.0	90.7
8-Dec	52	A	63	67	86	71	91	99	125	95	82	81	83	57	56	93	129	129	132	144	155	142	81	65	94.6	155.5
9-Dec	A	76	66	68	97	106	85	113	168	165	114	103	114	123	52	45	46	46	32	23	23	43	62	A	80.5	167.9
10-Dec	89	98	109	93	77	71	87	121	145	155	103	118	111	28	26	24	23	25	22	50	66	50	A	43	75.3	154.7
11-Dec	21	16	14	13	15	23	25	16	15	17	27	28	30	26	22	32	86	150	115	30	23	A	26	13	34.1	150.5
12-Dec	14	15	14	18	19	20	33	25	19	20	37	35	33	41	43	24	28	26	56	57	A	44	40	39	30.4	57.1
13-Dec	35	35	35	36	41	53	79	83	110	162	169	127	38	41	40	44	47	66	73	A	51	48	67	60	67.0	169.3
14-Dec	74	77	62	47	44	47	47	44	60	60	64	61	52	45	38	58	56	56	A	62	59	46	51	48	54.7	77.2
15-Dec	45	39	40	40	38	54	71	95	83	99	107	82	76	50	57	58	56	A	94	106	84	77	58	50	67.8	106.7
16-Dec	48	75	72	66	45	38	71	76	78	94	123	140	107	91	79	112	A	147	198	201	155	75	90	105	99.4	200.5
17-Dec	106	99	66	73	98	104	96	165	169	174	177	196	233	179	175	A	108	131	70	66	72	93	171	171	130.1	232.8
18-Dec	160	114	108	140	153	130	120	121	99	136	203	201	192	198	A	311	273	190	182	130	75	71	69	61	149.3	310.6
19-Dec	69	76	69	73	81	96	94	106	121	121	111	105	68	A	76	49	63	67	111	114	160	186	193	164	103.1	192.6
20-Dec	113	77	60	52	50	60	62	68	62	68	84	94	A	119	93	88	78	85	69	67	89	91	73	72	77.1	119.1
21-Dec	60	61	53	58	71	40	31	29	33	47	52	A	40	43	47	46	63	100	109	90	85	58	53	44	57.1	108.6
22-Dec	46	52	80	85	87	83	84	97	165	210	A	258	209	99	55	51	40	28	26	23	22	26	35	14	81.5	258.4
23-Dec	20	30	34	34	40	71	127	127	96	A	95	34	29	49	69	90	90	90	89	69	65	47	52	41	64.8	127.4
24-Dec	26	35	39	55	54	28	24	27	A	C	C	C	C	C	C	13	14	15	17	13	10	10	14	15	--	55.0
25-Dec	7	10	9	8	7	8	11	A	12	11	7	9	9	7	9	19	20	20	27	24	30	59	107	108	23.4	107.8
26-Dec	55	30	22	13	13	13	A	23	94	56	63	76	84	85	80	64	53	39	37	35	52	65	71	78	52.2	93.9
27-Dec	78	58	74	101	112	A	79	155	139	130	136	68	51	81	63	18	16	16	14	16	16	10	13	9	63.2	155.3
28-Dec	9	8	7	5	A	9	9	10	7	9	9	11	12	8	9	11	7	9	6	65	7	4	3	4	10.4	64.7
29-Dec	3	3	6	A	7	22	23	60	119	153	126	147	89	90	70	65	69	123	92	71	51	166	48	72	72.9	165.7
30-Dec	78	36	A	39	65	59	64	85	100	140	164	86	167	121	67	100	44	32	26	26	19	17	10	9	67.6	166.9
31-Dec	8	A	5	5	13	21	10	11	15	17	11	19	14	16	10	10	10	8	9	14	23	15	13	6	12.2	23.2
62.3 57.5 49.7 51.6 55.9 56.3 70.4 82.4 99.2 115.4 97.3 92.7 82.0 74.2 58.9 66.9 67.8 77.8 76.2 72.7 68.1 71.1 74.0 68.5																								Diurnal Average		
160.3 136.5 108.9 139.6 152.6 130.0 164.9 181.2 406.1 480.9 202.6 258.4 232.8 197.8 175.5 310.6 273.2 189.8 198.3 200.5 160.1 185.7 267.2 170.7																								Diurnal Maximum		
C - Calibration M - Maintenance A - Automated Daily Zero Span																										

Hourly Maximums

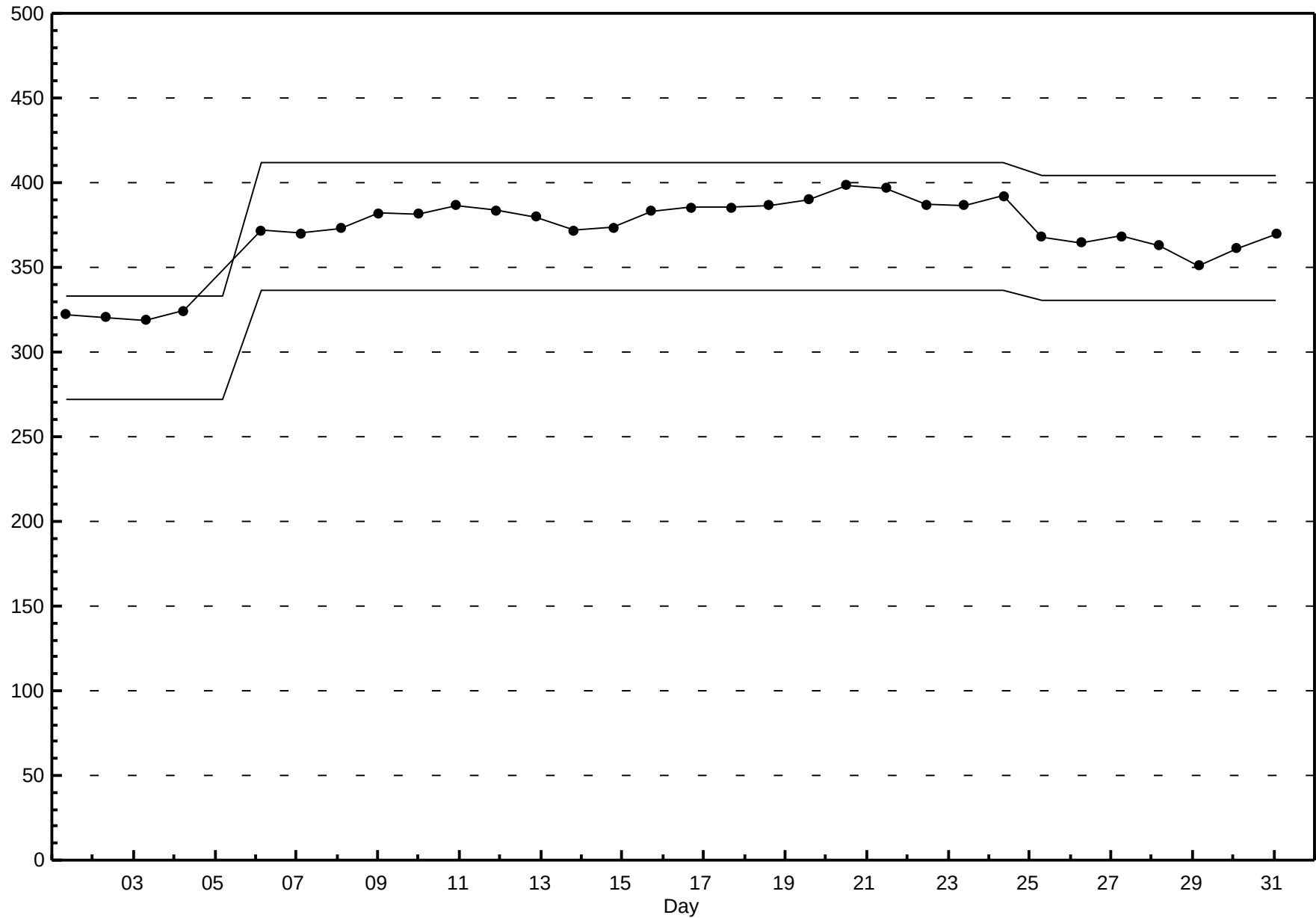
Oxides of Nitrogen (NO_x) - ppb

Henry Pirker - December 2014



Span Responses

Oxides of Nitrogen (NO_x)
Henry Pirker - December 2014



Hourly Averages

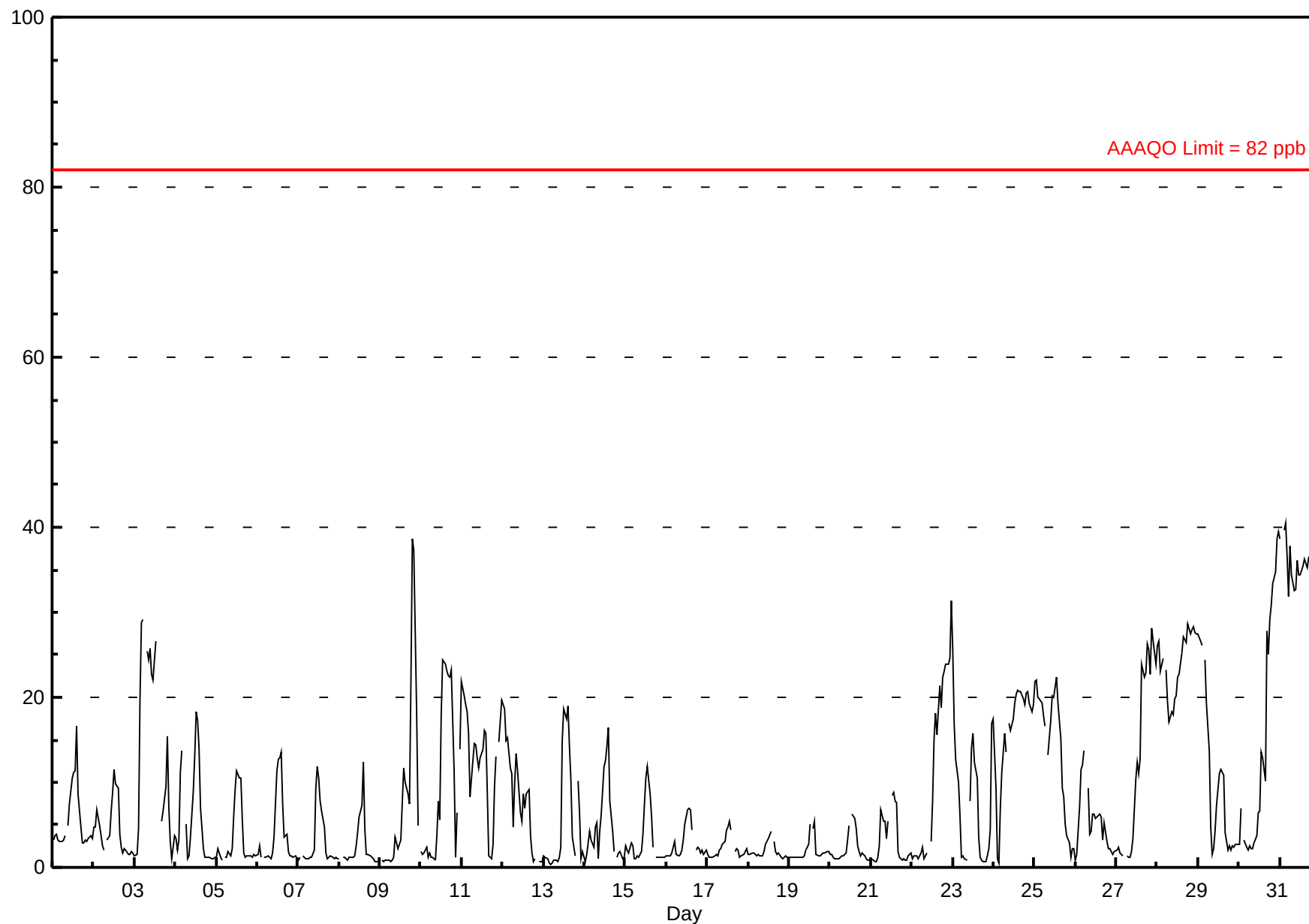
Ozone (O₃) - ppb

Henry Pirker - December 2014

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 40.4 ppb on Dec 31 04:00 Maximum Daily Average: 35.7 ppb on Dec 31																				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 Dec 13 05:00 Maximum Diurnal Average: 13.4 ppb at hour 15 Monthly Average: 8.37 ppb										Minimum Daily Average: 1.9 ppb on Dec 18 Minimum Diurnal Average: 5.3 ppb at hour 9 Percentiles: P ₁ = 0.6 P ₁₀ = 1.1 Q ₁ = 1.4 Median = 3.4 Q ₃ = 12.8 P ₉₀ = 23.2 P ₉₉ = 37.4																
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
1-Dec	3	4	4	3	3	3	3	4	A	5	7	10	11	11	17	9	5	3	3	3	3	3	4	3	5.4	16.6
2-Dec	5	5	7	5	4	2	2	A	3	4	7	9	11	10	9	4	2	2	2	2	2	2	2	2	4.4	11.5
3-Dec	1	1	4	20	29	29	A	25	24	26	23	22	27	C	C	C	5	7	9	15	7	3	1	4	14.2	29.2
4-Dec	3	2	3	11	14	A	5	1	1	4	9	13	18	17	14	7	2	1	1	1	1	1	1	1	5.8	18.4
5-Dec	1	2	1	1	A	1	1	2	1	2	6	9	11	10	10	6	2	1	1	1	1	1	2	1	3.4	11.4
6-Dec	1	3	1	A	1	1	1	1	1	2	4	11	13	13	13	7	4	4	2	1	1	1	1	1	3.9	13.5
7-Dec	1	1	A	1	1	1	1	1	1	2	9	12	11	8	7	5	2	1	1	1	1	1	1	1	3.1	11.9
8-Dec	1	A	1	1	1	1	1	1	1	1	3	4	6	7	12	5	2	2	1	1	1	1	1	1	2.4	12.3
9-Dec	A	1	1	1	1	1	1	1	1	4	2	3	3	8	12	10	9	7	22	39	37	18	5	A	8.4	38.6
10-Dec	2	1	2	2	1	2	1	1	1	4	8	6	18	24	24	23	23	22	23	11	1	6	A	14	9.6	24.4
11-Dec	22	20	19	18	16	8	13	15	14	13	12	13	14	16	16	9	1	1	3	9	13	A	15	20	13.0	21.9
12-Dec	19	19	15	15	12	11	5	10	13	11	6	5	9	7	9	9	4	2	1	1	A	1	1	1	8.0	19.1
13-Dec	1	1	1	0	0	0	1	1	1	1	2	15	19	17	19	14	10	4	1	A	10	6	1	2	5.6	19.0
14-Dec	1	2	3	4	3	2	5	5	1	4	6	12	13	14	16	8	4	2	A	1	2	2	1	1	4.9	16.4
15-Dec	3	2	2	3	2	1	1	1	1	2	4	7	10	12	9	6	2	A	1	1	1	1	1	1	3.3	11.8
16-Dec	1	1	1	2	2	3	2	1	2	2	3	5	7	7	7	4	A	2	2	2	2	2	2	2	2.8	6.9
17-Dec	2	1	1	1	1	2	1	2	2	3	3	4	5	6	4	A	2	2	2	1	1	2	2	2	2.3	5.5
18-Dec	2	2	2	2	2	1	2	1	1	2	3	3	3	4	A	3	2	1	2	1	1	1	1	1	1.9	4.2
19-Dec	1	1	1	1	1	1	1	1	1	1	2	3	5	A	5	5	2	1	1	2	2	2	2	2	2.0	5.4
20-Dec	2	1	1	1	1	1	1	1	1	2	3	5	A	6	6	5	3	2	1	2	1	1	1	1	2.1	6.2
21-Dec	1	1	1	1	1	2	7	5	5	3	5	A	9	9	8	8	2	1	1	1	1	1	1	2	3.3	8.7
22-Dec	1	1	1	1	1	2	2	1	1	2	A	3	8	15	18	16	21	19	22	23	24	24	25	31	11.4	31.3
23-Dec	25	17	13	10	6	1	1	1	1	A	8	14	16	12	11	4	1	1	1	1	1	2	4	17	7.3	25.4
24-Dec	17	9	1	0	7	11	16	14	A	17	16	18	19	20	21	21	21	20	19	20	21	19	18	19	15.9	20.9
25-Dec	22	22	20	20	19	18	17	A	13	17	20	20	21	22	19	15	9	8	5	4	3	1	2	2	13.9	22.3
26-Dec	1	1	7	12	12	14	A	9	4	4	6	6	6	6	6	6	3	5	3	2	2	2	2	2	5.3	13.7
27-Dec	2	2	2	1	1	A	1	1	1	2	3	10	12	11	13	24	22	23	26	26	23	28	25	24	12.4	28.1
28-Dec	26	27	23	25	A	23	20	17	18	18	20	20	22	23	25	27	27	26	29	28	28	28	28	27	24.1	28.6
29-Dec	27	27	26	A	24	19	14	5	1	2	4	7	11	12	11	11	4	2	3	2	3	2	3	3	9.7	27.5
30-Dec	3	7	A	3	2	2	3	2	2	3	4	6	7	14	13	10	28	25	29	31	33	35	39	40	14.8	39.5
31-Dec	39	A	40	40	37	32	38	34	33	33	36	34	34	35	36	36	35	36	36	36	35	35	35	36	35.7	40.4
7.9 6.4 7.0 7.2 7.1 6.8 5.7 5.7 5.3 6.5 8.2 10.4 12.6 13.0 13.4 10.8 8.6 7.8 8.5 9.0 8.8 7.8 7.5 8.8 38.7 26.6 39.7 40.4 36.6 31.9 37.8 34.3 32.5 32.8 36.1 34.4 34.4 35.4 36.2 35.7 35.2 36.4 36.3 38.6 37.3 34.9 38.7 39.5																								Diurnal Average	Diurnal Maximum	
C - Calibration A - Automated Daily Zero Span Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 82 ppb 24-hr na																										

Hourly Averages

Ozone (O₃) - ppb
Henry Pirker - December 2014



Hourly Maximums

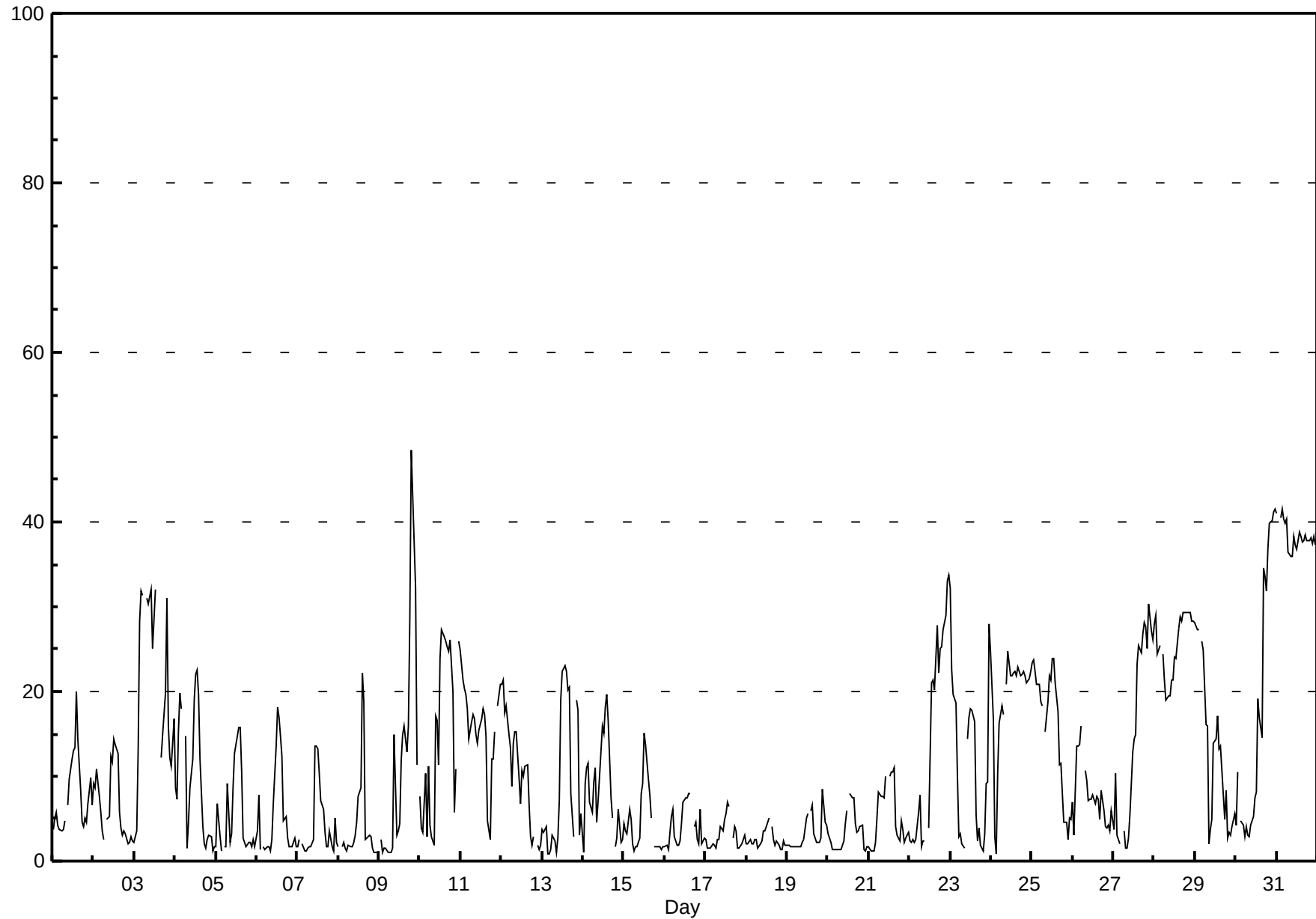
Ozone (O₃) - ppb

Henry Pirker - December 2014

Maximum Value: 48.4 ppb on Dec 9 20:00																				Maximum Daily Average: 38.3 ppb on Dec 31					Hours in Service: 744	
Minimum Value: 1 ppb on Dec 24 04:00																				Minimum Daily Average: 2.5 ppb on Dec 18					Hours of Data: 709	
Maximum Diurnal Average: 16.5 ppb at hour 15																				Minimum Diurnal Average: 6.8 ppb at hour 9					Hours of Missing Data: 35	
Monthly Average: 10.93 ppb																				Percentiles: P ₁ = 1.0 P ₁₀ = 1.6 Q ₁ = 2.6 Median = 6.7 Q ₃ = 17.3 P ₉₀ = 27.1 P ₉₉ = 40.2					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-Dec	4	5	6	4	4	4	4	5	A	7	10	12	13	13	20	14	8	5	4	5	5	7	10	7	7.5	20.0
2-Dec	9	9	11	8	6	4	3	A	5	5	12	12	14	14	13	6	4	3	4	3	2	2	3	2	6.6	14.4
3-Dec	2	4	13	28	32	31	A	31	30	31	32	25	32	C	C	C	12	15	20	31	16	12	11	17	21.3	32.1
4-Dec	9	7	15	20	18	A	15	2	5	9	12	19	22	23	20	12	4	2	2	3	3	3	1	2	9.8	22.6
5-Dec	2	7	3	1	A	2	2	9	2	3	9	13	14	16	16	11	3	2	2	2	2	2	3	2	5.4	15.7
6-Dec	4	8	1	A	2	1	2	2	1	2	7	14	18	17	15	12	5	5	3	2	2	2	3	2	5.5	18.1
7-Dec	2	3	A	2	1	1	2	2	2	3	14	14	13	10	7	6	3	2	2	4	2	1	5	2	4.4	13.6
8-Dec	2	A	2	2	2	1	2	2	2	2	3	5	8	9	22	19	3	3	3	3	2	1	1	1	4.2	22.2
9-Dec	A	3	1	2	2	1	1	1	1	15	3	3	4	12	15	16	13	16	29	48	43	32	11	A	12.4	48.4
10-Dec	8	4	3	10	3	11	4	3	2	17	17	11	24	27	26	26	25	25	26	20	6	11	A	26	14.6	27.3
11-Dec	25	21	20	20	18	14	16	17	17	15	14	15	17	18	17	15	5	3	12	12	15	A	18	21	15.9	24.9
12-Dec	21	21	18	18	15	13	9	14	15	15	10	7	11	10	11	11	7	3	2	3	A	2	1	2	10.4	21.3
13-Dec	4	3	4	1	1	1	3	2	1	3	7	19	22	23	22	20	21	8	3	A	19	18	3	6	9.3	23.0
14-Dec	1	9	11	11	7	6	9	11	5	7	10	16	15	18	20	17	8	5	A	2	3	6	2	3	8.7	19.6
15-Dec	4	4	3	6	5	2	1	2	2	3	8	9	15	14	10	8	5	A	2	2	2	2	1	2	4.8	15.2
16-Dec	2	2	1	3	5	6	3	2	2	2	4	7	7	7	8	8	A	4	5	3	2	6	2	3	4.1	8.0
17-Dec	3	2	2	2	2	2	2	3	3	4	4	5	6	7	7	A	3	4	4	2	2	2	3	3	3.0	7.0
18-Dec	2	2	3	2	2	3	3	2	2	2	4	4	4	5	A	4	2	2	2	2	1	1	2	2	2.5	5.0
19-Dec	2	2	2	2	2	2	2	2	2	2	3	5	6	A	6	7	3	2	2	2	3	9	5	4	3.2	8.6
20-Dec	3	3	2	1	1	1	1	1	1	2	4	6	A	8	7	7	4	3	4	4	4	1	1	2	3.3	8.0
21-Dec	2	1	1	1	2	5	8	8	8	8	10	A	10	11	11	11	4	3	2	5	4	2	3	3	5.3	11.1
22-Dec	2	2	3	2	3	6	8	2	2	2	A	4	12	21	21	20	28	22	25	25	27	29	33	34	14.5	33.7
23-Dec	32	22	20	19	10	3	3	2	2	A	14	17	18	18	16	5	2	4	2	1	3	9	9	28	11.3	32.2
24-Dec	25	17	3	1	10	16	18	17	A	21	25	22	22	22	22	22	23	22	22	22	22	21	22	22	19.1	24.8
25-Dec	23	24	22	21	21	19	18	A	15	19	22	21	24	24	21	18	11	11	8	5	5	3	5	5	15.8	23.9
26-Dec	7	3	14	14	14	16	A	11	10	7	7	7	8	7	8	7	5	8	6	4	4	4	4	6	7.8	16.0
27-Dec	4	10	3	3	2	A	4	1	1	3	5	13	14	15	23	25	25	27	28	28	25	30	27	26	14.9	30.3
28-Dec	28	29	24	25	A	24	21	19	20	20	21	21	24	24	27	29	28	29	29	29	29	29	28	28	25.6	29.4
29-Dec	28	27	27	A	26	25	16	16	2	4	5	14	14	17	13	14	11	5	8	3	3	3	4	6	12.7	28.2
30-Dec	4	11	A	5	4	3	4	3	3	4	5	7	8	19	17	14	35	34	32	37	40	40	41	41	17.9	41.5
31-Dec	41	A	41	42	40	40	40	36	36	36	38	37	37	39	38	38	38	38	38	38	38	37	38	37	38.3	41.6
10.1 9.1 9.6 9.5 8.9 9.1 7.7 7.8 6.8 9.1 11.3 12.8 15.2 16.1 16.5 14.6 11.6 10.5 10.9 11.6 11.1 10.9 10.0 11.4																								Diurnal Average		
41.0 29.0 40.5 41.6 40.4 39.9 40.3 36.4 35.9 35.9 38.4 37.3 36.8 38.8 38.2 37.6 37.8 38.4 37.8 48.4 43.0 40.2 41.2 41.5																								Diurnal Maximum		
C - Calibration A - Automated Daily Zero Span																										

Hourly Maximums

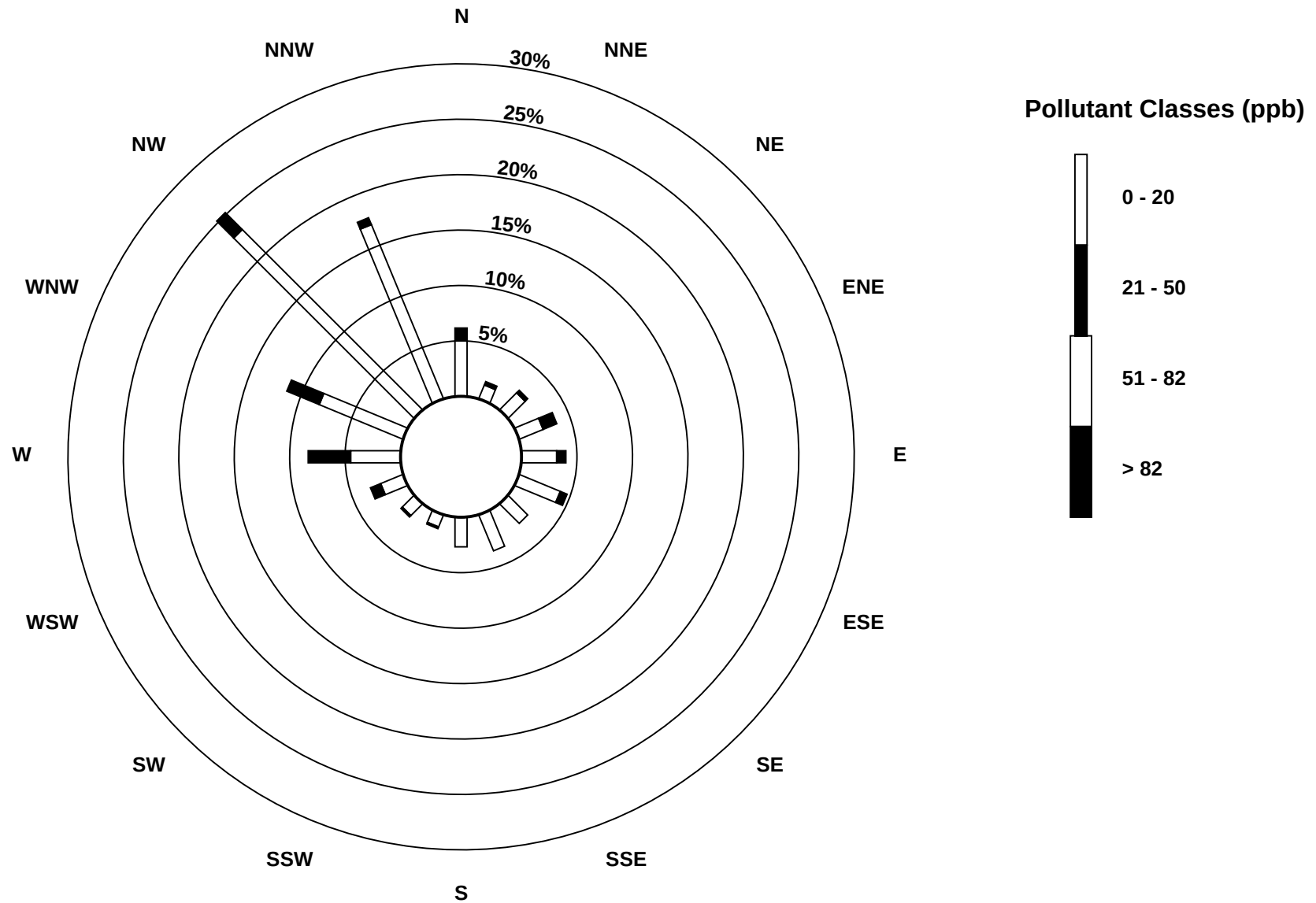
Ozone (O₃) - ppb
Henry Pirker - December 2014



Pollutant Rose

Ozone (O₃) - ppb

Henry Pirker - December 2014



Eight Hour Running Averages

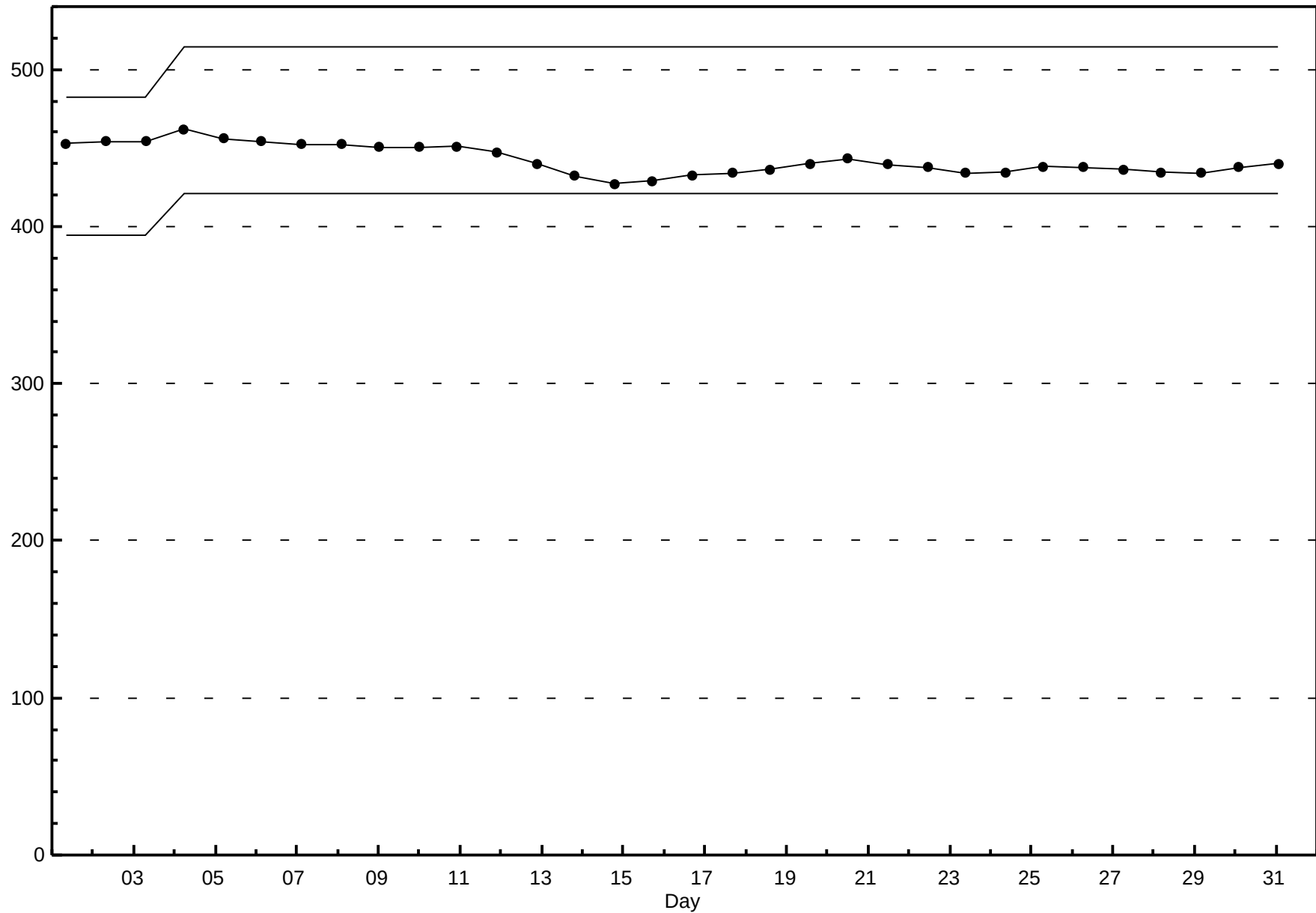
Ozone (O₃) - ppb

Henry Pirker - December 2014

Maximum Value: 38.3 ppb on Dec 31 05:00																				Hours in Service: 744					
Minimum Value: 0.7 ppb on Dec 13 09:00																				Hours of Data: 738					
Percentiles: P ₁ = 0.8 P ₁₀ = 1.3 Q ₁ = 1.9 Median = 4.7 Q ₃ = 10.6 P ₉₀ = 20.3 P ₉₉ = 35.9																				Hours of Missing Data: 6					
																				Hours of Calibration: 6					
																				Percent Operational Time: 100.0					
Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Dec	4	4	4	4	4	4	4	3	3	4	4	5	6	7	9	10	9	9	9	8	7	6	4	3	10.1
2-Dec	3	4	4	4	4	4	4	4	4	4	4	4	5	7	8	7	7	7	6	5	4	3	2	2	7.6
3-Dec	2	2	2	4	8	11	12	16	19	23	25	25	25	24	24	N	N	N	N	N	N	8	7	6	25.5
4-Dec	6	6	5	4	5	5	6	6	5	6	6	7	7	9	10	10	11	10	9	8	6	4	2	1	10.6
5-Dec	1	1	1	1	1	1	1	1	1	1	2	3	4	5	7	7	7	7	6	5	4	3	2	1	7.1
6-Dec	1	2	2	2	2	2	1	1	1	1	2	3	4	6	7	8	8	9	8	7	6	4	3	2	8.6
7-Dec	2	1	1	1	1	1	1	1	1	1	2	4	5	6	6	7	7	7	6	4	3	2	2	1	6.8
8-Dec	1	1	1	1	1	1	1	1	1	1	1	2	2	3	4	5	5	5	5	4	4	3	2	1	5.0
9-Dec	1	1	1	1	1	1	1	1	1	1	1	2	2	3	4	5	6	7	9	14	18	19	18	20	19.5
10-Dec	19	18	15	10	5	2	2	2	1	2	2	3	5	8	11	13	16	18	20	21	19	17	16	14	21.0
11-Dec	14	14	13	14	17	17	16	16	15	15	14	13	13	14	14	13	12	10	9	9	9	7	7	9	16.8
12-Dec	11	14	16	16	16	16	14	13	12	12	10	9	9	8	9	9	8	6	6	5	5	4	3	1	16.5
13-Dec	1	1	1	1	1	1	1	1	1	1	1	3	5	7	9	11	12	13	12	12	11	9	7	5	12.6
14-Dec	4	3	4	4	3	2	3	3	3	3	4	5	6	7	9	9	10	9	10	8	7	5	3	2	9.8
15-Dec	2	2	2	2	2	2	2	2	2	2	2	3	4	5	6	6	7	7	7	6	5	3	2	1	7.2
16-Dec	1	1	1	1	1	2	2	2	2	2	2	3	3	4	4	5	5	5	5	5	4	3	2	2	5.0
17-Dec	2	2	2	2	2	1	1	1	2	2	2	2	3	3	4	4	4	4	4	3	3	2	2	2	3.8
18-Dec	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	2	2	2	2	1	2.8
19-Dec	1	1	1	1	1	1	1	1	1	1	1	1	2	2	3	3	3	3	3	3	2	2	2	2	3.3
20-Dec	2	2	2	2	1	1	1	1	1	1	1	2	2	3	3	4	4	4	4	3	3	3	2	1	4.2
21-Dec	1	1	1	1	1	1	2	2	3	3	4	4	5	6	6	7	6	6	5	5	4	3	2	1	6.7
22-Dec	1	1	1	1	1	1	1	1	1	1	2	2	3	5	7	9	12	14	15	18	20	21	22	24	23.7
23-Dec	24	24	23	21	19	16	13	9	6	5	4	5	6	8	9	9	9	8	7	6	4	3	2	4	24.2
24-Dec	6	7	7	7	7	8	10	9	8	9	12	14	16	17	18	19	19	19	20	20	20	20	20	20	20.3
25-Dec	20	20	20	20	20	20	20	20	18	18	18	18	18	19	19	19	18	17	15	13	11	8	6	4	20.2
26-Dec	3	2	3	4	5	6	7	8	8	9	9	8	7	6	6	6	6	6	5	5	4	4	3	3	8.9
27-Dec	3	2	2	2	2	2	2	2	2	1	2	3	5	5	7	10	12	15	18	20	21	23	25	25	24.6
28-Dec	25	26	25	25	25	25	24	23	22	21	20	19	20	20	20	22	23	24	25	26	27	27	28	28	27.6
29-Dec	28	28	27	27	27	26	24	20	17	13	10	10	8	7	7	7	8	8	8	7	6	5	4	3	27.7
30-Dec	2	3	3	3	3	3	3	3	3	2	3	3	4	5	6	7	11	13	16	20	23	25	29	32	32.4
31-Dec	34	35	36	38	38	38	38	37	36	36	35	35	34	35	35	35	35	35	36	36	36	36	35	36	38.3
33.8 35.0 36.5 37.9 38.3 37.9 37.8 37.1 36.2 35.8 35.3 34.6 34.3 34.7 34.5 34.7 35.0 35.5 35.5 35.7 35.7 35.7 35.5 35.6																									Diurnal Maximums
N - Not Valid																									

Span Responses

Ozone (O₃)
Henry Pirker - December 2014



Hourly Averages

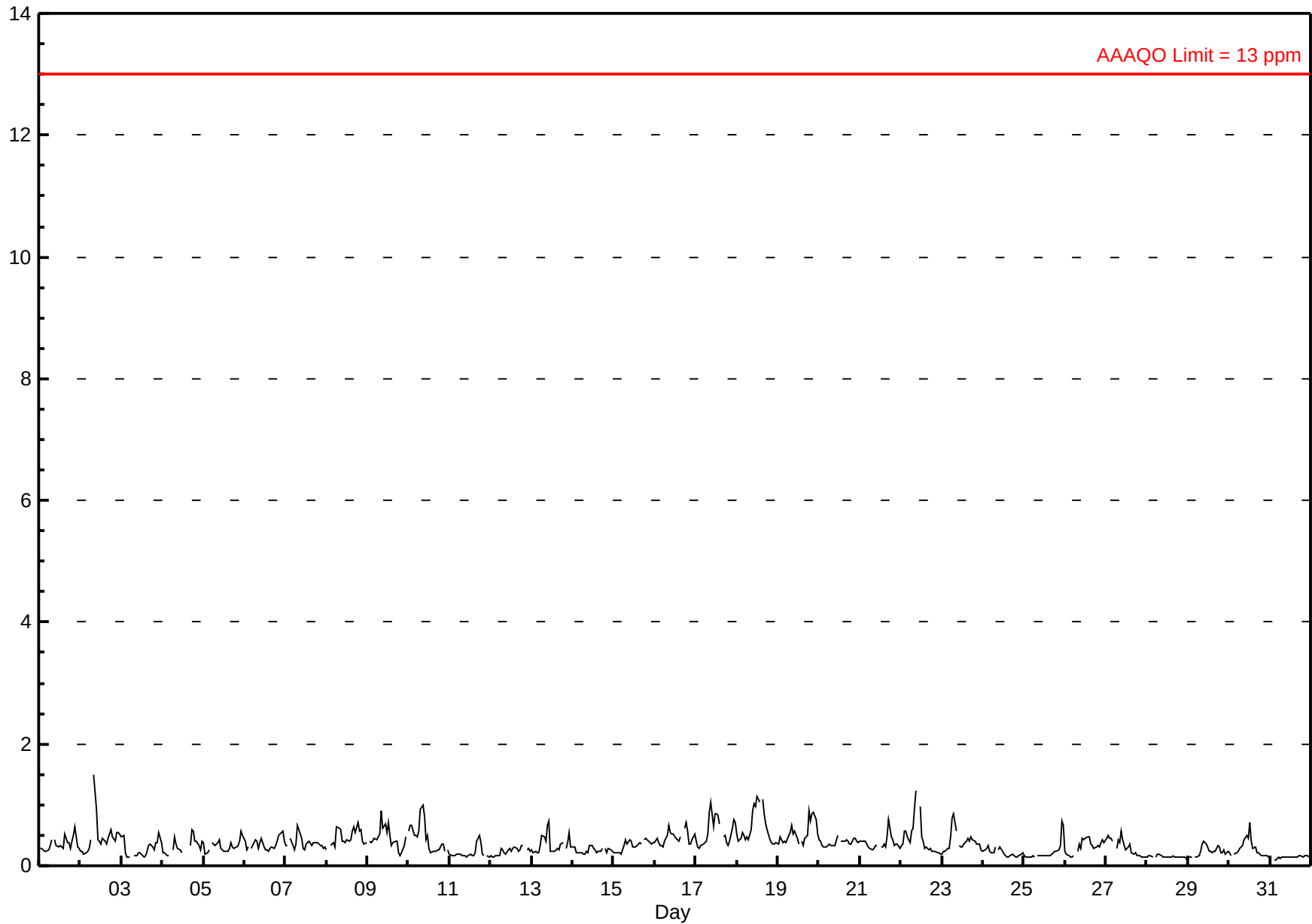
Carbon Monoxide (CO) - ppm

Henry Pirker - December 2014

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 1.50 ppm on Dec 2 09:00 Maximum Daily Average: 0.63 ppm on Dec 18																					Hours in Service: 744					
Minimum Value: 0.1 ppm on Dec 31 03:00 Minimum Daily Average: 0.14 ppm on Dec 31 Maximum Diurnal Average: 0.48 ppm at hour 9 Minimum Diurnal Average: 0.28 ppm at hour 5 Monthly Average: 0.352 ppm Percentiles: P ₁ = 0.14 P ₁₀ = 0.16 Q ₁ = 0.22 Median = 0.32 Q ₃ = 0.42 P ₉₀ = 0.57 P ₉₉ = 0.99																					Hours of Data: 708					
																					Hours of Missing Data: 36					
																					Hours of Calibration: 36					
																					Percent Operational Time: 100.0					
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Dec	0.3	0.3	0.3	0.2	0.2	0.3	0.3	0.4	A	0.4	0.3	0.3	0.3	0.3	0.3	0.5	0.4	0.4	0.3	0.4	0.5	0.6	0.3	0.3	0.35	0.63
2-Dec	0.2	0.2	0.2	0.2	0.2	0.3	0.4	A	1.5	0.9	0.4	0.4	0.4	0.5	0.4	0.4	0.4	0.5	0.6	0.5	0.4	0.6	0.5	0.5	0.47	1.50
3-Dec	0.5	0.5	0.2	0.1	0.1	0.1	A	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.3	0.3	0.3	0.3	0.4	0.4	0.5	0.4	0.27	0.55
4-Dec	0.2	0.2	0.2	0.2	0.2	A	0.3	0.5	0.3	0.3	0.3	0.2	C	C	C	C	0.3	0.6	0.6	0.4	0.4	0.3	0.3	0.4	0.32	0.60
5-Dec	0.4	0.2	0.2	0.3	A	0.4	0.3	0.3	0.4	0.4	0.3	0.3	0.2	0.2	0.2	0.3	0.4	0.3	0.3	0.3	0.3	0.4	0.6	0.5	0.33	0.58
6-Dec	0.4	0.3	0.3	A	0.3	0.3	0.4	0.4	0.3	0.4	0.4	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.4	0.5	0.5	0.6	0.4	0.36	0.58
7-Dec	0.3	0.3	A	0.4	0.3	0.3	0.4	0.7	0.6	0.4	0.3	0.3	0.4	0.4	0.4	0.3	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.37	0.66
8-Dec	0.3	A	0.3	0.4	0.4	0.3	0.6	0.6	0.6	0.4	0.4	0.4	0.4	0.4	0.4	0.6	0.6	0.6	0.7	0.6	0.6	0.4	0.4	0.4	0.47	0.70
9-Dec	A	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.9	0.6	0.7	0.5	0.7	0.5	0.3	0.4	0.4	0.4	0.2	0.2	0.2	0.3	0.5	A	0.45	0.90
10-Dec	0.6	0.7	0.7	0.5	0.5	0.5	0.6	0.9	1.0	0.8	0.4	0.5	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.2	A	0.3	0.46	1.00
11-Dec	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.4	0.5	0.4	0.2	0.2	A	0.2	0.2	0.21	0.51
12-Dec	0.2	0.1	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.3	0.3	0.2	0.3	0.3	0.3	0.2	0.3	0.3	0.3	A	0.3	0.3	0.2	0.24	0.33
13-Dec	0.2	0.2	0.2	0.2	0.2	0.3	0.5	0.5	0.4	0.7	0.7	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.4	A	0.3	0.4	0.5	0.3	0.35	0.73
14-Dec	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.3	A	0.3	0.2	0.3	0.3	0.2	0.25	0.33
15-Dec	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.4	0.3	0.4	0.4	0.3	0.3	0.3	0.4	0.4	0.4	A	0.4	0.4	0.4	0.4	0.4	0.4	0.33	0.44
16-Dec	0.4	0.4	0.4	0.3	0.3	0.3	0.4	0.5	0.7	0.5	0.5	0.5	0.5	0.4	0.4	0.5	A	0.6	0.7	0.6	0.4	0.4	0.4	0.5	0.46	0.72
17-Dec	0.4	0.3	0.3	0.3	0.3	0.4	0.4	0.5	0.9	1.0	0.6	0.8	0.9	0.8	0.7	A	0.5	0.5	0.4	0.3	0.4	0.6	0.7	0.7	0.56	1.05
18-Dec	0.5	0.4	0.5	0.5	0.5	0.4	0.5	0.4	0.6	0.9	1.0	1.0	1.1	1.1	A	1.1	0.9	0.7	0.6	0.4	0.4	0.4	0.3	0.4	0.63	1.13
19-Dec	0.4	0.5	0.4	0.4	0.4	0.4	0.5	0.5	0.7	0.5	0.6	0.5	0.4	A	0.4	0.3	0.4	0.5	0.9	0.7	0.9	0.9	0.7	0.5	0.54	0.90
20-Dec	0.4	0.4	0.3	0.3	0.3	0.3	0.4	0.3	0.3	0.3	0.4	0.5	A	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.4	0.4	0.39	0.50
21-Dec	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	A	0.3	0.3	0.3	0.3	0.5	0.8	0.5	0.4	0.3	0.3	0.4	0.3	0.37	0.77
22-Dec	0.3	0.4	0.6	0.6	0.5	0.4	0.6	0.6	0.9	1.2	A	1.0	0.5	0.4	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.45	1.24
23-Dec	0.2	0.2	0.2	0.3	0.3	0.5	0.8	0.9	0.6	A	0.3	0.3	0.3	0.4	0.4	0.5	0.4	0.5	0.4	0.4	0.3	0.4	0.4	0.3	0.40	0.85
24-Dec	0.2	0.3	0.3	0.3	0.2	0.2	0.2	0.3	A	0.3	0.3	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	0.21	0.33
25-Dec	0.2	0.2	0.2	0.1	0.1	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.7	0.7	0.23	0.72
26-Dec	0.2	0.2	0.2	0.2	0.1	0.2	A	0.2	0.4	0.3	0.4	0.4	0.4	0.5	0.5	0.4	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.32	0.48
27-Dec	0.5	0.5	0.5	0.4	0.4	A	0.3	0.4	0.4	0.6	0.4	0.3	0.3	0.3	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.31	0.56
28-Dec	0.1	0.2	0.2	0.1	A	0.2	0.2	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.15	0.20
29-Dec	0.1	0.1	0.1	A	0.1	0.1	0.2	0.2	0.4	0.4	0.4	0.4	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.3	0.2	0.2	0.24	0.41
30-Dec	0.2	0.2	A	0.2	0.2	0.2	0.3	0.3	0.3	0.4	0.5	0.5	0.7	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.28	0.71
31-Dec	0.1	A	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.14	0.17
0.30 0.30 0.29 0.29 0.28 0.28 0.36 0.41 0.48 0.46 0.40 0.38 0.37 0.34 0.31 0.34 0.35 0.38 0.37 0.33 0.33 0.36 0.38 0.34																									Diurnal Average	
0.57 0.67 0.66 0.58 0.51 0.47 0.77 0.93 1.50 1.24 1.01 0.97 1.13 1.05 0.69 1.10 0.86 0.77 0.90 0.74 0.86 0.87 0.75 0.71																									Diurnal Maximum	
C - Calibration A - Automated Daily Zero Span																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 13 ppm 24-hr na																										

Hourly Averages

Carbon Monoxide (CO) - ppm
Henry Pirker - December 2014



Hourly Maximums

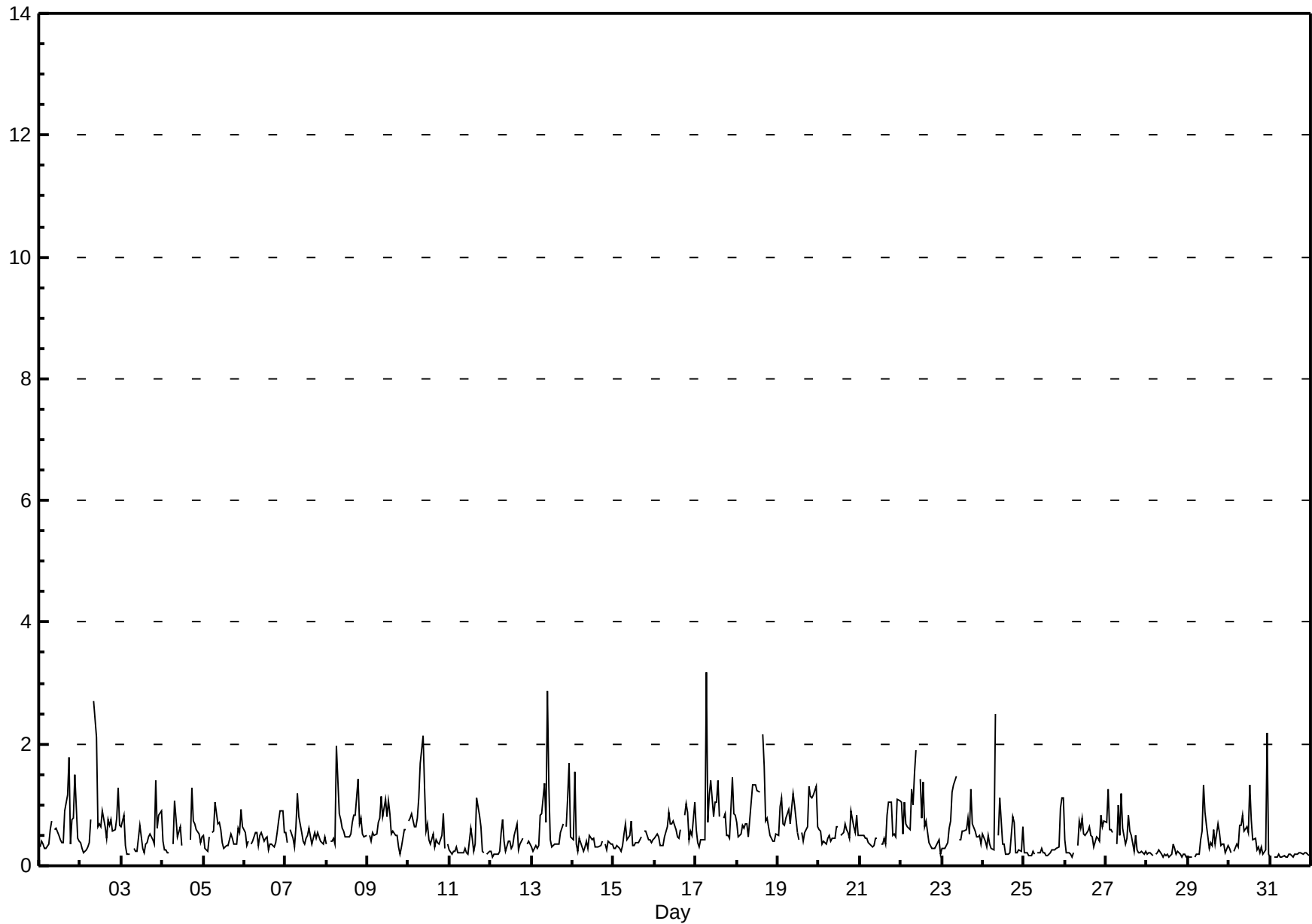
Carbon Monoxide (CO) - ppm

Henry Pirker - December 2014

Maximum Value: 3.18 ppm on Dec 17 07:00																								Maximum Daily Average: 0.89 ppm on Dec 17																								Hours in Service: 744	
Minimum Value: 0.1 ppm on Dec 31 03:00																								Minimum Daily Average: 0.18 ppm on Dec 31																								Hours of Data: 708	
Maximum Diurnal Average: 0.81 ppm at hour 10																								Minimum Diurnal Average: 0.38 ppm at hour 4																								Hours of Missing Data: 36	
Monthly Average: 0.549 ppm																								Percentiles: P ₁ = 0.15 P ₁₀ = 0.20 Q ₁ = 0.30 Median = 0.46 Q ₃ = 0.67 P ₉₀ = 1.05 P ₉₉ = 2.11																								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-Dec	0.3	0.4	0.3	0.3	0.3	0.3	0.6	0.7	A	0.6	0.6	0.5	0.4	0.4	0.4	0.9	1.2	1.8	0.4	0.8	0.8	1.5	0.5	0.4	0.62	1.77																							
2-Dec	0.4	0.3	0.2	0.3	0.3	0.4	0.8	A	2.7	2.1	0.6	0.7	0.6	0.9	0.6	0.4	0.8	0.7	0.8	0.6	0.6	0.8	1.3	0.7	0.76	2.70																							
3-Dec	0.6	0.8	0.3	0.2	0.2	0.2	A	0.3	0.2	0.2	0.5	0.7	0.3	0.2	0.3	0.4	0.5	0.5	0.4	0.4	1.4	0.6	0.8	0.9	0.48	1.40																							
4-Dec	0.4	0.3	0.3	0.2	0.2	A	0.4	1.1	0.8	0.5	0.6	0.3	C	C	C	C	0.4	1.3	0.7	0.7	0.6	0.5	0.4	0.5	0.53	1.27																							
5-Dec	0.5	0.3	0.2	0.5	A	0.5	0.6	1.0	0.7	0.7	0.6	0.4	0.3	0.3	0.3	0.4	0.5	0.5	0.4	0.4	0.6	0.6	0.9	0.6	0.51	1.05																							
6-Dec	0.5	0.3	0.4	A	0.4	0.4	0.5	0.5	0.3	0.5	0.5	0.4	0.5	0.5	0.3	0.3	0.4	0.3	0.4	0.5	0.7	0.9	0.9	0.5	0.48	0.89																							
7-Dec	0.5	0.4	A	0.6	0.5	0.3	0.6	1.2	0.8	0.5	0.4	0.4	0.5	0.5	0.6	0.4	0.4	0.5	0.5	0.5	0.4	0.4	0.3	0.5	0.51	1.19																							
8-Dec	0.3	A	0.4	0.4	0.5	0.4	2.0	0.9	0.8	0.6	0.6	0.5	0.5	0.5	0.5	0.7	0.8	0.8	1.4	0.7	0.8	0.5	0.5	0.5	0.67	1.96																							
9-Dec	A	0.5	0.4	0.5	0.5	0.5	0.7	0.8	1.1	0.8	1.1	0.8	1.1	0.9	0.5	0.6	0.5	0.5	0.3	0.2	0.3	0.6	0.6	A	0.63	1.13																							
10-Dec	0.7	0.8	0.8	0.6	0.6	0.8	1.1	1.7	2.1	1.3	0.6	0.7	0.4	0.3	0.5	0.3	0.4	0.4	0.4	0.5	0.9	0.3	A	0.3	0.73	2.13																							
11-Dec	0.3	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.6	0.5	0.2	0.3	1.1	0.8	0.6	0.2	0.2	A	0.2	0.2	0.35	1.10																							
12-Dec	0.2	0.2	0.2	0.2	0.2	0.2	0.6	0.8	0.4	0.2	0.4	0.4	0.3	0.3	0.5	0.7	0.3	0.3	0.4	0.4	A	0.4	0.4	0.3	0.36	0.76																							
13-Dec	0.3	0.2	0.3	0.3	0.3	0.8	0.8	1.4	0.7	2.9	1.3	0.4	0.3	0.3	0.3	0.4	0.4	0.5	0.7	A	0.6	1.1	1.7	0.5	0.73	2.88																							
14-Dec	0.4	1.5	0.4	0.2	0.5	0.3	0.2	0.3	0.4	0.3	0.5	0.4	0.4	0.3	0.3	0.3	0.3	0.4	A	0.3	0.2	0.4	0.3	0.3	0.40	1.53																							
15-Dec	0.3	0.3	0.3	0.3	0.2	0.3	0.5	0.7	0.4	0.5	0.7	0.3	0.3	0.4	0.4	0.4	0.5	A	0.6	0.6	0.4	0.4	0.4	0.4	0.43	0.73																							
16-Dec	0.5	0.5	0.5	0.3	0.3	0.3	0.5	0.6	0.9	0.7	0.7	0.7	0.6	0.5	0.4	0.6	A	0.8	1.0	0.9	0.4	0.6	0.5	1.0	0.61	1.05																							
17-Dec	0.6	0.4	0.3	0.4	0.4	0.4	3.2	0.7	1.2	1.4	0.8	1.0	1.1	1.4	0.8	A	0.8	0.9	0.5	0.5	0.5	1.4	0.9	0.8	0.89	3.18																							
18-Dec	0.7	0.5	0.5	0.7	0.6	0.7	0.7	0.5	1.1	1.3	1.3	1.3	1.2	1.2	A	2.2	1.6	0.7	0.8	0.5	0.4	0.4	0.4	0.5	0.87	2.16																							
19-Dec	0.5	1.0	1.1	0.7	0.7	0.8	0.9	0.7	0.9	1.2	1.0	0.5	0.4	A	0.5	0.4	0.5	0.6	1.3	1.1	1.1	1.2	1.3	0.6	0.84	1.31																							
20-Dec	0.6	0.6	0.4	0.4	0.4	0.4	0.5	0.4	0.5	0.4	0.6	0.6	A	0.5	0.5	0.7	0.6	0.5	0.4	0.9	0.6	0.5	0.8	0.5	0.55	0.91																							
21-Dec	0.5	0.5	0.5	0.5	0.5	0.4	0.3	0.3	0.3	0.4	0.4	A	0.3	0.3	0.4	0.4	0.8	1.1	1.0	0.5	0.5	0.5	1.1	1.1	0.55	1.10																							
22-Dec	1.0	0.5	1.1	0.7	0.6	0.6	1.3	1.0	1.5	1.9	A	1.4	0.8	1.4	0.6	0.7	0.4	0.3	0.3	0.3	0.3	0.4	0.4	0.2	0.77	1.89																							
23-Dec	0.3	0.3	0.3	0.4	0.6	0.7	1.2	1.3	1.5	A	0.4	0.4	0.6	0.6	0.6	0.8	0.5	1.3	0.7	0.6	0.5	0.5	0.5	0.4	0.64	1.48																							
24-Dec	0.5	0.4	0.3	0.5	0.4	0.3	0.3	2.5	A	0.5	1.1	0.4	0.3	0.2	0.2	0.2	0.2	0.8	0.7	0.2	0.2	0.3	0.2	0.7	0.49	2.48																							
25-Dec	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.9	1.1	1.1	0.33	1.12																							
26-Dec	0.4	0.2	0.2	0.2	0.2	0.2	A	0.3	0.7	0.6	0.8	0.5	0.5	0.6	0.6	0.5	0.5	0.3	0.5	0.4	0.4	0.8	0.6	0.7	0.48	0.84																							
27-Dec	0.7	1.3	0.6	0.6	0.5	A	0.3	1.0	0.5	1.2	0.6	0.3	0.4	0.8	0.6	0.5	0.2	0.5	0.3	0.2	0.2	0.2	0.2	0.2	0.53	1.25																							
28-Dec	0.2	0.2	0.2	0.2	A	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.1	0.2	0.2	0.1	0.20	0.34																							
29-Dec	0.1	0.1	0.1	A	0.1	0.2	0.2	0.4	0.6	1.3	0.9	0.7	0.3	0.4	0.3	0.6	0.4	0.7	0.6	0.3	0.4	0.4	0.2	0.3	0.42	1.34																							
30-Dec	0.3	0.2	A	0.2	0.3	0.3	0.7	0.7	0.8	0.6	0.6	0.5	1.3	0.8	0.4	0.4	0.3	0.3	0.3	0.2	0.3	0.2	2.2	0.2	0.53	2.18																							
31-Dec	0.2	A	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	0.2	0.2	0.2	0.18	0.20																							
0.44 0.46 0.39 0.38 0.38 0.40 0.70 0.77 0.79 0.81 0.64 0.54 0.52 0.53 0.44 0.53 0.53 0.63 0.56 0.47 0.50 0.59 0.67 0.52																										Diurnal Average																							
1.04 1.53 1.12 0.69 0.67 0.84 3.18 2.48 2.70 2.88 1.33 1.43 1.34 1.39 0.80 2.16 1.63 1.77 1.44 1.13 1.40 1.49 2.18 1.12																										Diurnal Maximum																							
C - Calibration																										A - Automated Daily Zero Span																							

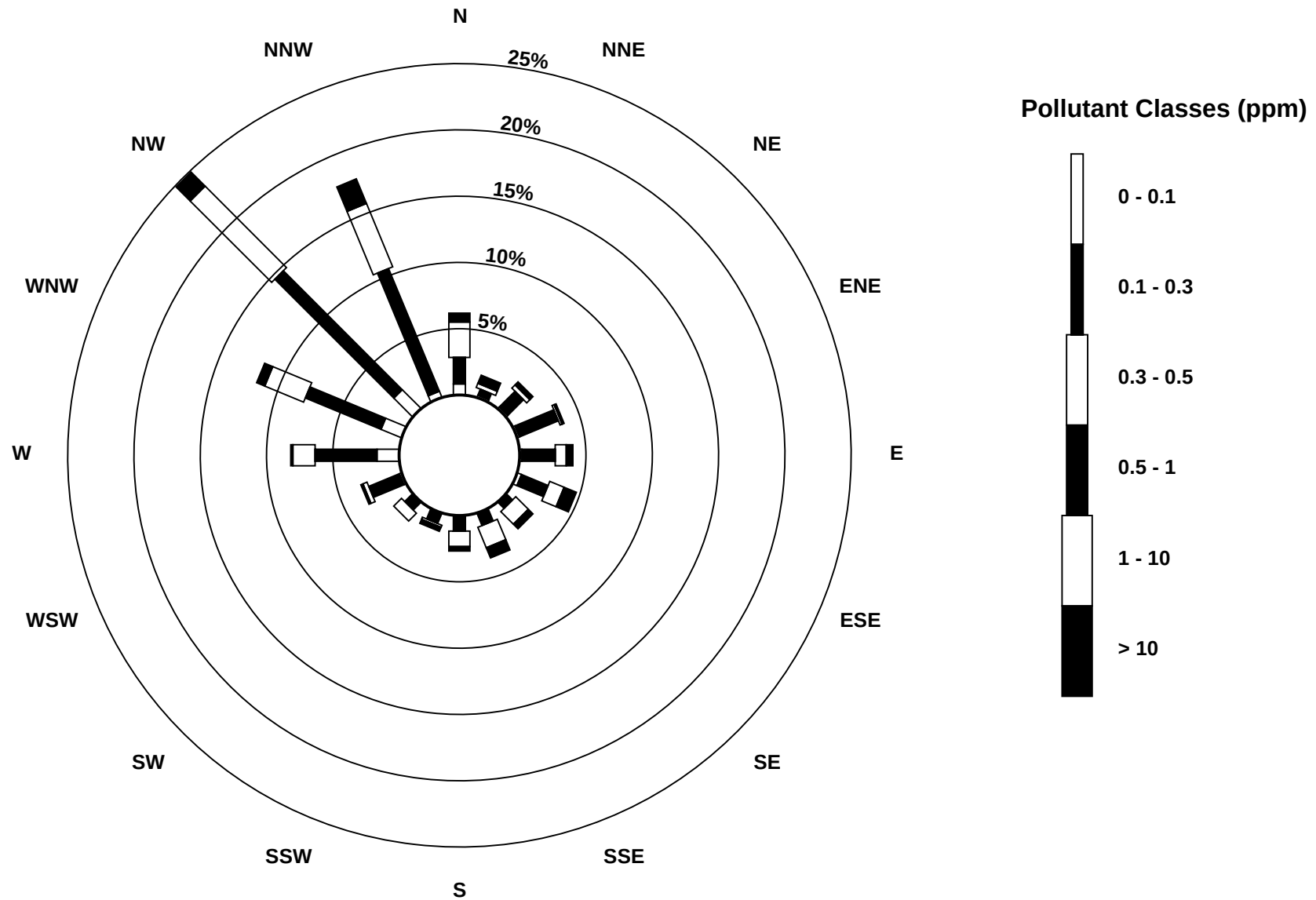
Hourly Maximums

Carbon Monoxide (CO) - ppm
Henry Pirker - December 2014



Pollutant Rose

Carbon Monoxide (CO) - ppm
Henry Pirker - December 2014



Eight Hour Running Averages

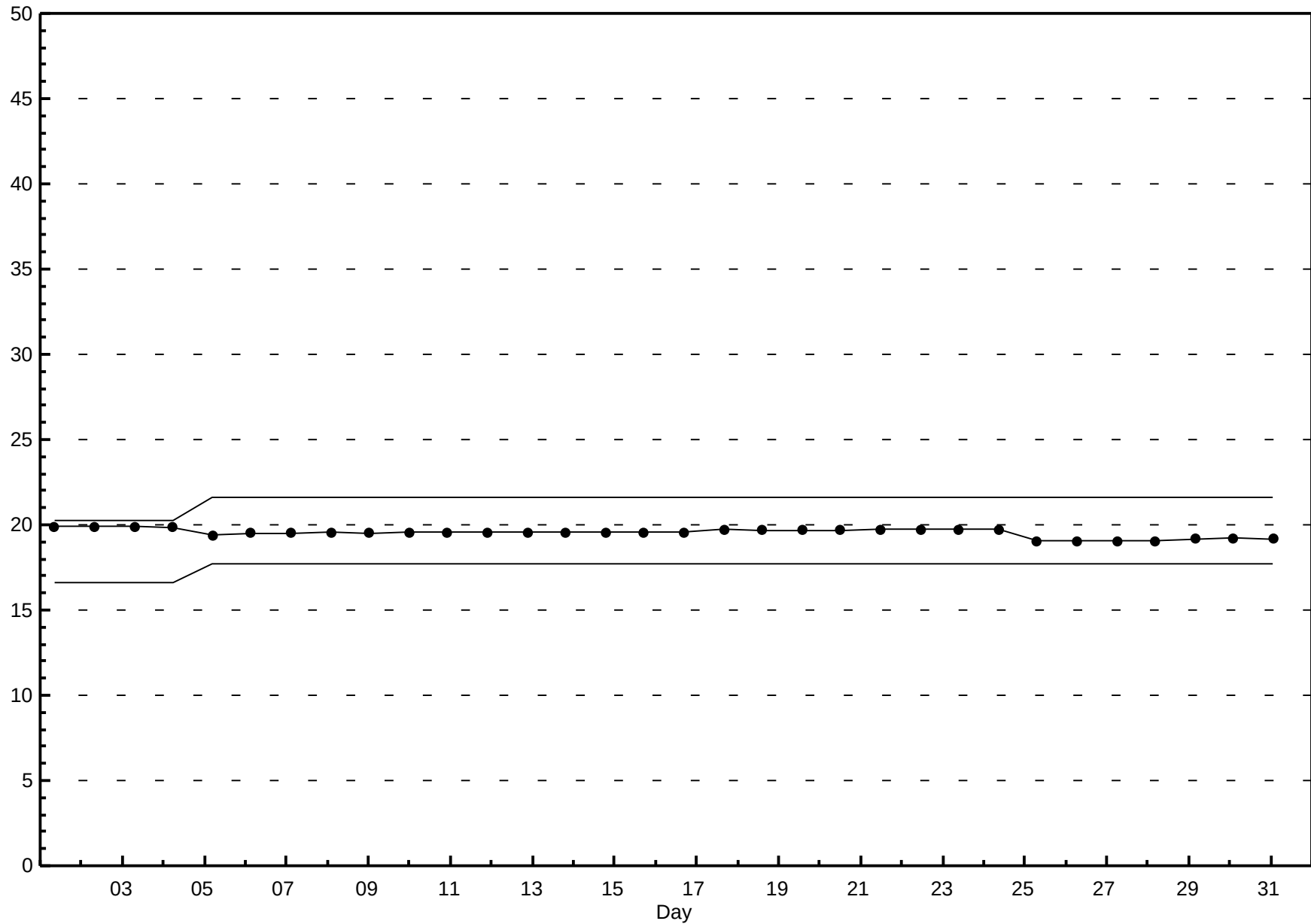
Carbon Monoxide (CO) - ppm

Henry Pirker - December 2014

Number of Exceedences (AAAQO): 8-hr: 0 Maximum Value: 1.00 ppm on Dec 18 17:00																					Hours in Service: 744 Hours of Data: 737 Hours of Missing Data: 7 Hours of Calibration: 7 Percent Operational Time: 100.0					
Minimum Value: 0.12 ppm on Dec 31 07:00																										
Percentiles: P ₁ = 0.14 P ₁₀ = 0.17 Q ₁ = 0.25 Median = 0.35 Q ₃ = 0.43 P ₉₀ = 0.52 P ₉₉ = 0.82																										
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-Dec	0.3	0.2	0.3	0.3	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	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.43
2-Dec	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.5	0.6	0.6	0.6	0.6	0.6	0.5	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.65
3-Dec	0.5	0.5	0.5	0.4	0.4	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.4	0.51	
4-Dec	0.4	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	N	N	N	N	N	N	N	0.4	0.4	0.4	0.4	0.44
5-Dec	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.42	
6-Dec	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.42	
7-Dec	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.4	0.4	0.4	0.4	0.3	0.45	
8-Dec	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	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	0.6	0.5	0.5	0.56	
9-Dec	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.4	0.4	0.3	0.3	0.3	0.3	0.62	
10-Dec	0.3	0.4	0.4	0.5	0.5	0.6	0.6	0.6	0.7	0.7	0.7	0.6	0.6	0.6	0.5	0.5	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.68	
11-Dec	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	0.3	0.3	0.3	0.3	0.3	0.3	0.29	
12-Dec	0.2	0.2	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	0.3	0.3	0.3	0.3	0.3	0.3	0.29	
13-Dec	0.3	0.3	0.3	0.2	0.2	0.2	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.45	
14-Dec	0.4	0.4	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.36	
15-Dec	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.39	
16-Dec	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.52	
17-Dec	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.6	0.6	0.7	0.8	0.8	0.8	0.8	0.7	0.7	0.6	0.5	0.5	0.5	0.5	0.83	
18-Dec	0.5	0.5	0.5	0.5	0.6	0.5	0.5	0.5	0.5	0.5	0.6	0.7	0.7	0.8	0.9	1.0	1.0	1.0	0.9	0.8	0.7	0.6	0.6	0.5	1.00	
19-Dec	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.5	0.5	0.6	0.6	0.7	0.7	0.70	
20-Dec	0.7	0.7	0.6	0.6	0.5	0.4	0.4	0.4	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.70	
21-Dec	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.44	
22-Dec	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.6	0.4	0.4	0.3	0.3	0.3	0.3	0.2	0.75	
23-Dec	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.52	
24-Dec	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.36	
25-Dec	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	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	0.36	
26-Dec	0.4	0.4	0.4	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.41	
27-Dec	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.44	
28-Dec	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.17	
29-Dec	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.30	
30-Dec	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.43	
31-Dec	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	0.2	0.2	0.2	0.2	0.2	0.2	0.17	
0.70 0.68 0.61 0.56 0.56 0.55 0.56 0.61 0.66 0.68 0.69 0.74 0.74 0.82 0.87 0.97 1.00 0.97 0.91 0.83 0.73 0.63 0.67 0.70																										
Diurnal Maximums																										
N - Not Valid																										
Alberta Ambient Air Quality Objectives (AAAQO): 8-hr 5 ppm																										

Span Responses

Carbon Monoxide (CO)
Henry Pirker - December 2014



Hourly Averages

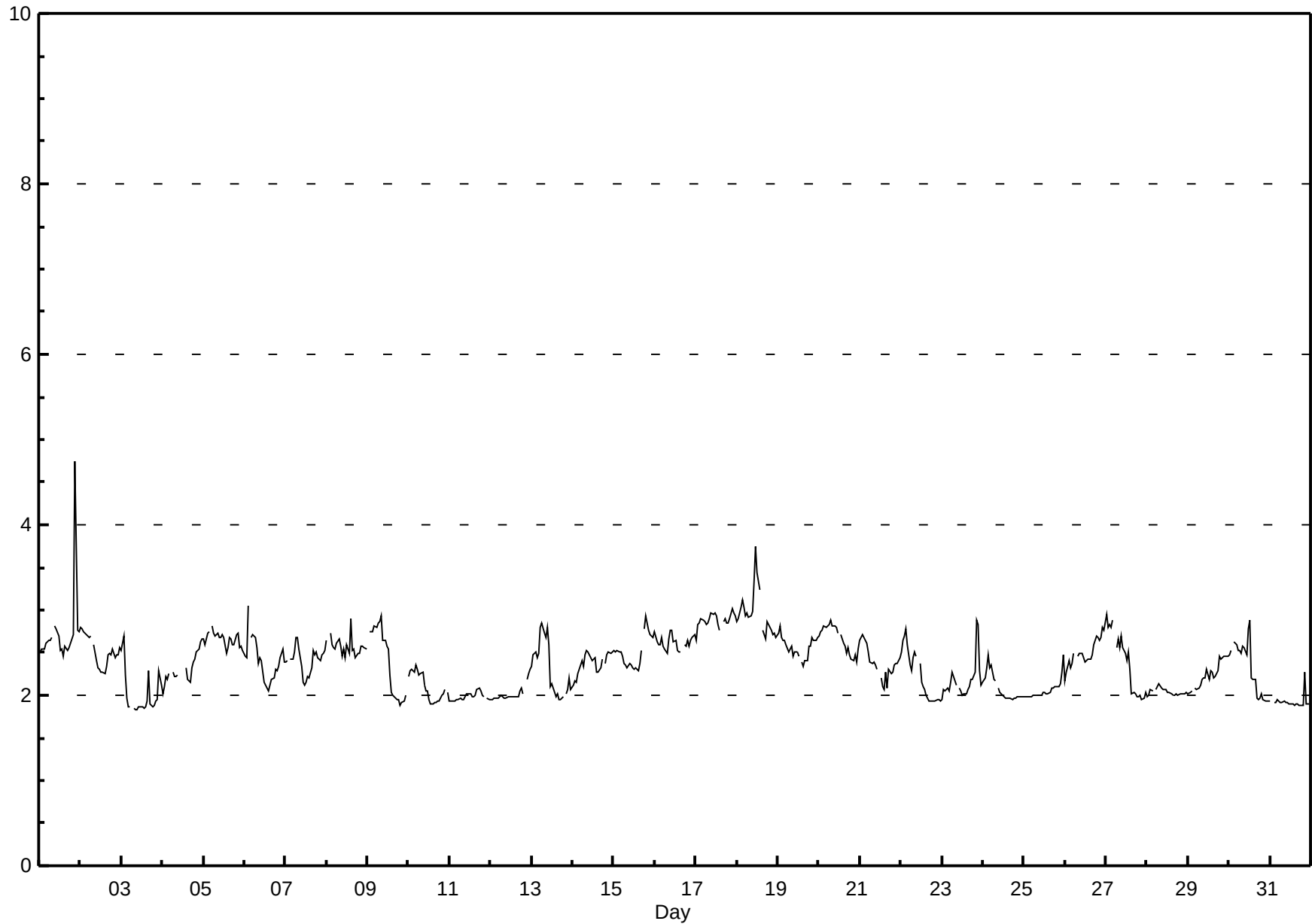
Total Hydrocarbons (THC) - ppm

Henry Pirker - December 2014

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 4.75 ppm on Dec 1 22:00 Maximum Daily Average: 2.96 ppm on Dec 18																				Hours in Service: 744 Hours of Data: 708 Hours of Missing Data: 36 Hours of Calibration: 36 Percent Operational Time: 100.0						
Minimum Value: 1.8 ppm on Dec 3 09:00 Minimum Daily Average: 1.92 ppm on Dec 31 Maximum Diurnal Average: 2.46 ppm at hour 3 Minimum Diurnal Average: 2.22 ppm at hour 16 Monthly Average: 2.364 ppm Percentiles: P ₁ = 1.86 P ₁₀ = 1.95 Q ₁ = 2.04 Median = 2.38 Q ₃ = 2.60 P ₉₀ = 2.78 P ₉₉ = 3.01																										
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Dec	2.5	2.5	2.5	2.5	2.6	2.6	2.7	2.7	A	2.8	2.8	2.7	2.5	2.5	2.5	2.6	2.5	2.6	2.6	2.7	2.7	4.8	2.8	2.7	2.71	4.75
2-Dec	2.8	2.8	2.7	2.7	2.7	2.7	2.7	A	2.6	2.4	2.3	2.3	2.3	2.3	2.2	2.3	2.5	2.5	2.5	2.5	2.4	2.5	2.5	2.6	2.51	2.79
3-Dec	2.5	2.7	2.2	2.0	1.9	1.9	A	1.9	1.8	1.8	1.9	1.9	1.9	1.8	1.9	1.9	2.3	1.9	1.9	1.9	1.9	2.0	2.3	2.1	2.01	2.70
4-Dec	2.0	2.1	2.2	2.2	2.3	A	2.3	2.2	2.2	2.2	C	C	C	C	2.3	2.2	2.2	2.3	2.4	2.4	2.5	2.5	2.6	2.7	2.31	2.67
5-Dec	2.7	2.6	2.7	2.7	A	2.8	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.5	2.6	2.7	2.7	2.6	2.6	2.7	2.7	2.6	2.6	2.5	2.66	2.82
6-Dec	2.5	2.4	3.0	A	2.7	2.7	2.7	2.6	2.4	2.4	2.4	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.3	2.3	2.3	2.4	2.5	2.4	2.39	3.05
7-Dec	2.4	2.4	A	2.4	2.4	2.5	2.7	2.7	2.5	2.3	2.1	2.1	2.2	2.2	2.2	2.3	2.5	2.5	2.5	2.4	2.4	2.5	2.5	2.5	2.41	2.68
8-Dec	2.6	A	2.7	2.6	2.6	2.5	2.6	2.7	2.6	2.5	2.5	2.4	2.6	2.5	2.9	2.5	2.5	2.4	2.5	2.5	2.6	2.6	2.6	2.5	2.47	2.90
9-Dec	A	2.7	2.7	2.7	2.8	2.8	2.9	2.9	2.9	2.6	2.6	2.6	2.5	2.2	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	2.0	A	2.50	2.94
10-Dec	2.2	2.3	2.3	2.3	2.4	2.3	2.2	2.3	2.3	2.1	2.0	2.1	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.1	A	2.0	2.10	2.35
11-Dec	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.0	2.0	A	2.0	1.9	1.98	2.09
12-Dec	2.0	2.0	2.0	2.0	2.0	2.0	2.0	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	2.2	2.3	2.3	2.02	2.30
13-Dec	2.3	2.5	2.5	2.4	2.5	2.8	2.9	2.7	2.7	2.8	2.6	2.1	2.1	2.0	2.0	2.0	1.9	2.0	2.0	A	2.0	2.1	2.2	2.1	2.32	2.85
14-Dec	2.1	2.2	2.1	2.3	2.3	2.4	2.3	2.5	2.5	2.5	2.5	2.4	2.4	2.4	2.3	2.3	2.3	2.4	A	2.4	2.5	2.5	2.5	2.5	2.38	2.52
15-Dec	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.4	2.3	2.4	2.4	2.3	2.3	2.3	2.3	2.4	2.5	A	2.8	2.9	2.8	2.7	2.7	2.7	2.50	2.94
16-Dec	2.7	2.6	2.6	2.6	2.7	2.6	2.5	2.5	2.7	2.8	2.8	2.6	2.6	2.5	2.5	2.5	A	2.6	2.6	2.6	2.6	2.7	2.7	2.7	2.62	2.77
17-Dec	2.6	2.8	2.9	2.9	2.9	2.9	2.8	2.9	2.9	3.0	2.9	3.0	2.9	2.8	2.8	A	2.9	2.9	2.8	2.8	2.9	3.0	3.0	2.9	2.88	3.01
18-Dec	2.9	2.9	3.0	3.1	3.0	2.9	3.0	2.9	2.9	3.0	3.3	3.7	3.4	3.2	A	2.8	2.7	2.7	2.9	2.8	2.8	2.7	2.7	2.7	2.96	3.75
19-Dec	2.7	2.8	2.7	2.7	2.6	2.6	2.5	2.5	2.6	2.5	2.5	2.5	2.5	A	2.4	2.3	2.4	2.4	2.6	2.6	2.7	2.6	2.6	2.7	2.57	2.82
20-Dec	2.7	2.7	2.8	2.8	2.8	2.8	2.8	2.9	2.8	2.8	2.8	2.7	A	2.7	2.6	2.6	2.5	2.6	2.5	2.4	2.4	2.5	2.4	2.5	2.66	2.88
21-Dec	2.6	2.7	2.7	2.7	2.6	2.5	2.4	2.4	2.4	2.4	2.3	A	2.2	2.1	2.1	2.3	2.1	2.3	2.3	2.3	2.4	2.4	2.4	2.4	2.38	2.72
22-Dec	2.5	2.6	2.7	2.8	2.6	2.4	2.3	2.4	2.5	2.5	A	2.4	2.2	2.1	2.1	2.0	1.9	1.9	1.9	1.9	1.9	2.0	2.0	1.9	2.24	2.77
23-Dec	2.0	2.1	2.1	2.1	2.1	2.1	2.3	2.2	2.1	A	2.1	2.0	2.0	2.0	2.0	2.1	2.1	2.2	2.2	2.3	2.9	2.8	2.3	2.1	2.18	2.88
24-Dec	2.1	2.2	2.3	2.5	2.3	2.3	2.2	2.2	A	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.09	2.47
25-Dec	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	2.1	2.1	2.1	2.1	2.1	2.1	2.3	2.5	2.06	2.47
26-Dec	2.2	2.3	2.4	2.3	2.4	2.5	A	2.5	2.5	2.5	2.5	2.4	2.4	2.4	2.4	2.4	2.5	2.6	2.7	2.7	2.7	2.7	2.8	2.8	2.50	2.79
27-Dec	2.9	2.8	2.8	2.8	2.9	A	2.6	2.7	2.6	2.7	2.6	2.5	2.4	2.5	2.3	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.39	2.95
28-Dec	2.0	2.0	2.1	2.0	A	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	2.0	2.0	2.04	2.13
29-Dec	2.0	2.0	2.1	A	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.3	2.2	2.3	2.3	2.2	2.2	2.3	2.5	2.4	2.4	2.4	2.5	2.5	2.24	2.46
30-Dec	2.5	2.5	A	2.6	2.6	2.5	2.5	2.5	2.6	2.6	2.5	2.8	2.9	2.2	2.2	2.2	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	2.32	2.89
31-Dec	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	2.3	1.9	1.9	1.9	1.92	2.27
2.38 2.44 2.46 2.45 2.45 2.44 2.45 2.44 2.42 2.41 2.39 2.37 2.32 2.26 2.22 2.22 2.24 2.26 2.29 2.32 2.36 2.43 2.38 2.38																									Diurnal Average	
2.95 2.90 3.05 3.12 3.03 2.94 2.96 2.92 2.94 2.99 3.35 3.75 3.44 3.23 2.90 2.77 2.86 2.91 2.86 2.94 2.90 4.75 2.97 2.93																									Diurnal Maximum	
C - Calibration A - Automated Daily Zero Span																										

Hourly Averages

Total Hydrocarbons (THC) - ppm
Henry Pirker - December 2014



Hourly Maximums

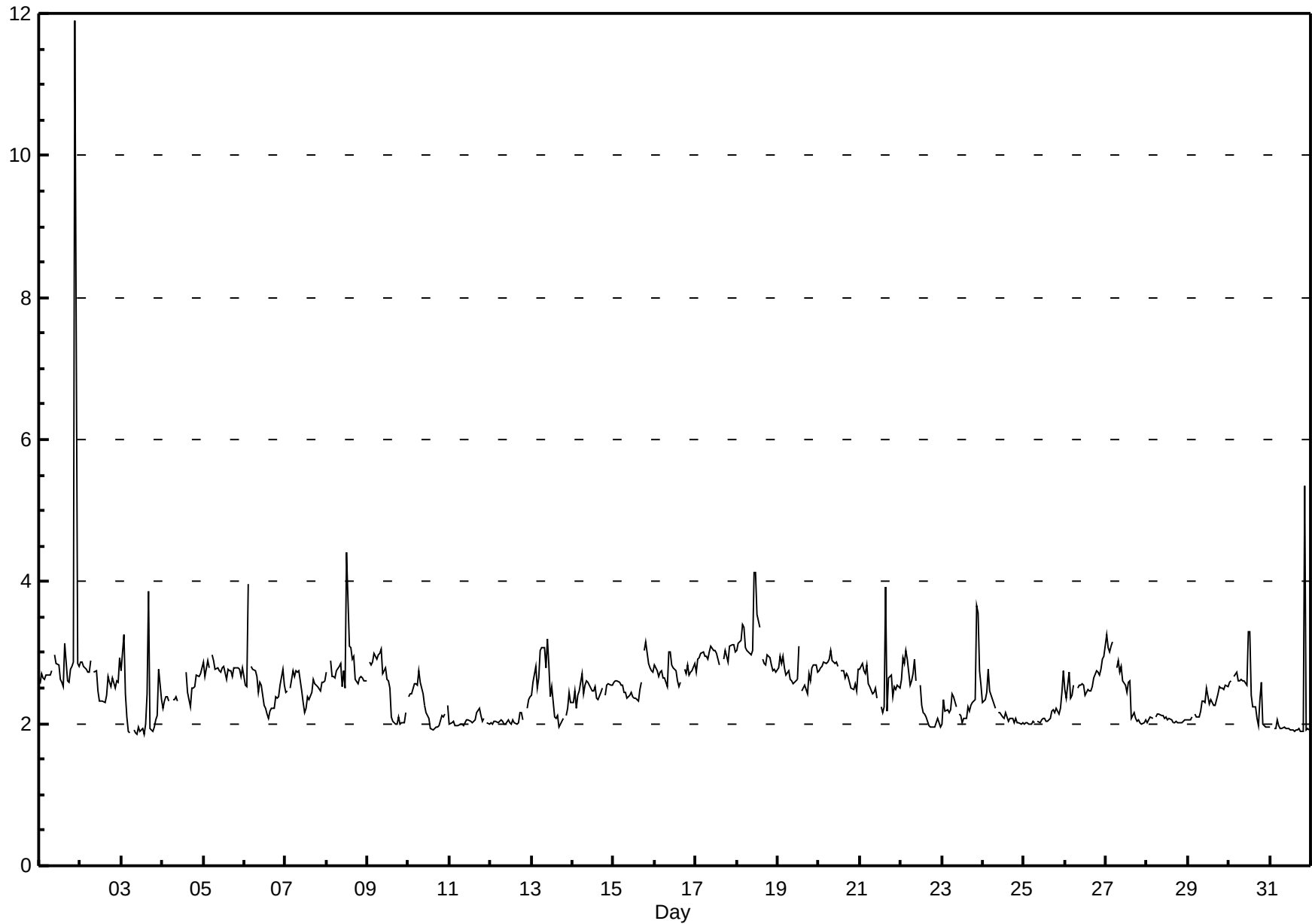
Total Hydrocarbons (THC) - ppm

Henry Pirker - December 2014

Maximum Value: 11.90 ppm on Dec 1 22:00																				Maximum Daily Average: 3.13 ppm on Dec 1					Hours in Service: 744	
Minimum Value: 1.9 ppm on Dec 3 10:00																				Minimum Daily Average: 2.04 ppm on Dec 11					Hours of Data: 708	
Maximum Diurnal Average: 2.77 ppm at hour 22																				Minimum Diurnal Average: 2.31 ppm at hour 15					Hours of Missing Data: 36	
Monthly Average: 2.495 ppm																				Percentiles: P ₁ = 1.90 P ₁₀ = 2.00 Q ₁ = 2.11 Median = 2.51 Q ₃ = 2.75 P ₉₀ = 2.93 P ₉₉ = 3.89					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-Dec	2.6	2.7	2.6	2.6	2.7	2.7	2.7	2.7	A	3.0	2.8	2.8	2.6	2.6	2.5	3.1	2.6	2.6	2.8	2.8	2.9	11.9	2.8	2.8	3.13	11.90
2-Dec	2.9	2.9	2.8	2.8	2.7	2.7	2.9	A	2.7	2.7	2.5	2.3	2.3	2.3	2.3	2.4	2.7	2.6	2.5	2.6	2.5	2.6	2.6	2.9	2.62	2.92
3-Dec	2.7	3.3	2.4	2.1	1.9	1.9	A	1.9	1.9	1.9	2.0	1.9	1.9	1.9	2.0	2.4	3.9	1.9	1.9	1.9	2.1	2.1	2.8	2.3	2.21	3.87
4-Dec	2.2	2.3	2.4	2.4	2.3	A	2.3	2.3	2.4	2.3	C	C	C	C	2.7	2.4	2.2	2.5	2.5	2.5	2.7	2.7	2.7	2.8	2.46	2.79
5-Dec	2.9	2.7	2.9	2.8	A	3.0	2.9	2.8	2.8	2.7	2.7	2.8	2.8	2.6	2.8	2.7	2.7	2.7	2.8	2.8	2.8	2.8	2.7	2.8	2.77	2.97
6-Dec	2.5	2.5	4.0	A	2.8	2.8	2.7	2.7	2.4	2.6	2.5	2.3	2.2	2.1	2.1	2.2	2.2	2.2	2.4	2.4	2.4	2.6	2.8	2.5	2.51	3.96
7-Dec	2.4	2.5	A	2.5	2.7	2.7	2.7	2.7	2.7	2.5	2.3	2.2	2.2	2.4	2.3	2.4	2.6	2.6	2.6	2.5	2.5	2.6	2.6	2.6	2.51	2.75
8-Dec	2.7	A	2.9	2.7	2.7	2.6	2.7	2.8	2.9	2.5	2.7	2.5	4.4	3.1	3.1	2.9	2.9	2.6	2.6	2.6	2.7	2.6	2.6	2.6	2.81	4.42
9-Dec	A	2.9	2.8	2.9	3.0	2.9	3.0	3.0	3.1	2.7	2.8	2.6	2.6	2.5	2.1	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.2	A	2.51	3.05
10-Dec	2.4	2.4	2.4	2.6	2.6	2.5	2.7	2.6	2.4	2.3	2.1	2.1	2.1	1.9	1.9	1.9	1.9	2.0	2.0	2.1	2.1	2.1	A	2.3	2.24	2.75
11-Dec	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.0	2.0	2.0	2.1	2.2	2.2	2.1	2.0	2.1	A	2.0	2.0	2.04	2.21
12-Dec	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	2.0	2.0	2.0	2.2	2.2	2.0	A	2.2	2.3	2.4	2.07	2.37
13-Dec	2.4	2.6	2.8	2.5	2.6	3.0	3.1	3.1	2.8	3.2	2.8	2.4	2.5	2.1	2.1	2.1	2.0	2.0	2.1	A	2.1	2.2	2.4	2.3	2.48	3.20
14-Dec	2.3	2.5	2.2	2.4	2.5	2.7	2.4	2.5	2.6	2.6	2.6	2.5	2.5	2.5	2.4	2.3	2.4	2.5	A	2.4	2.6	2.6	2.5	2.6	2.48	2.71
15-Dec	2.6	2.6	2.6	2.6	2.5	2.5	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.3	2.5	2.6	A	3.0	3.1	2.8	2.8	2.7	2.7	2.58	3.15
16-Dec	2.8	2.7	2.7	2.7	2.7	2.6	2.6	2.5	3.0	3.0	2.8	2.8	2.7	2.6	2.5	2.6	A	2.8	2.7	2.8	2.7	2.7	2.7	2.9	2.73	3.01
17-Dec	2.7	2.9	2.9	3.0	3.0	3.0	2.9	2.9	3.0	3.1	3.0	3.0	3.0	2.9	2.8	A	2.9	3.0	2.9	2.9	3.1	3.1	3.1	3.0	2.97	3.11
18-Dec	3.0	3.1	3.2	3.4	3.3	3.1	3.0	3.0	3.0	4.1	4.1	3.5	3.3	A	2.9	2.9	2.8	3.0	2.9	2.8	2.7	2.8	2.7	2.7	3.12	4.13
19-Dec	2.8	3.0	2.8	2.9	2.8	2.7	2.7	2.6	2.6	2.6	2.6	2.6	3.1	A	2.5	2.5	2.5	2.4	2.7	2.6	2.8	2.8	2.8	2.7	2.71	3.10
20-Dec	2.7	2.8	2.8	2.9	2.8	2.9	2.9	3.0	2.9	2.8	2.9	2.8	A	2.7	2.7	2.6	2.7	2.7	2.6	2.5	2.5	2.6	2.5	2.8	2.75	3.03
21-Dec	2.8	2.9	2.7	2.7	2.8	2.6	2.5	2.4	2.4	2.5	2.4	A	2.2	2.2	2.2	3.9	2.2	2.6	2.7	2.4	2.5	2.5	2.6	2.5	2.57	3.92
22-Dec	2.6	2.9	2.8	3.0	2.9	2.5	2.6	2.7	2.9	2.6	A	2.5	2.3	2.2	2.1	2.1	2.0	1.9	2.0	2.0	1.9	2.1	2.0	1.9	2.38	3.04
23-Dec	2.0	2.3	2.2	2.2	2.2	2.2	2.4	2.4	2.2	A	2.1	2.1	2.0	2.1	2.1	2.2	2.2	2.3	2.3	2.3	3.7	3.6	2.7	2.6	2.36	3.65
24-Dec	2.3	2.3	2.4	2.8	2.5	2.4	2.3	2.2	A	2.2	2.2	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	2.18	2.77
25-Dec	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	2.1	2.1	2.1	2.0	2.0	2.1	2.2	2.2	2.2	2.2	2.1	2.2	2.4	2.7	2.12	2.75
26-Dec	2.5	2.4	2.7	2.4	2.4	2.5	A	2.5	2.6	2.6	2.6	2.6	2.4	2.5	2.5	2.5	2.5	2.6	2.7	2.7	2.7	2.8	2.9	3.0	2.58	2.96
27-Dec	3.3	3.1	3.0	3.1	3.2	A	2.8	2.9	2.7	2.8	2.6	2.6	2.4	2.6	2.6	2.1	2.2	2.1	2.0	2.1	2.0	2.0	2.0	2.1	2.52	3.26
28-Dec	2.0	2.0	2.1	2.1	A	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	2.1	2.06	2.14
29-Dec	2.0	2.1	2.1	A	2.1	2.1	2.1	2.2	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.4	2.5	2.5	2.5	2.5	2.5	2.5	2.31	2.54
30-Dec	2.6	2.6	A	2.7	2.7	2.6	2.6	2.6	2.6	2.6	2.5	3.3	3.3	2.4	2.2	2.2	2.1	2.0	2.3	2.6	2.0	2.0	2.0	1.9	2.46	3.30
31-Dec	1.9	A	1.9	1.9	2.1	2.0	1.9	1.9	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	5.3	1.9	1.9	1.9	2.08	5.35
2.49 2.58 2.60 2.57 2.57 2.53 2.57 2.54 2.53 2.52 2.50 2.48 2.48 2.36 2.31 2.39 2.39 2.35 2.40 2.42 2.56 2.77 2.49 2.50																								Diurnal Average		
3.26 3.26 3.96 3.40 3.35 3.06 3.08 3.06 3.05 3.20 4.13 4.12 4.42 3.35 3.07 3.92 3.87 3.04 3.03 3.15 5.35 11.90 3.11 3.01																								Diurnal Maximum		
C - Calibration A - Automated Daily Zero Span																										

Hourly Maximums

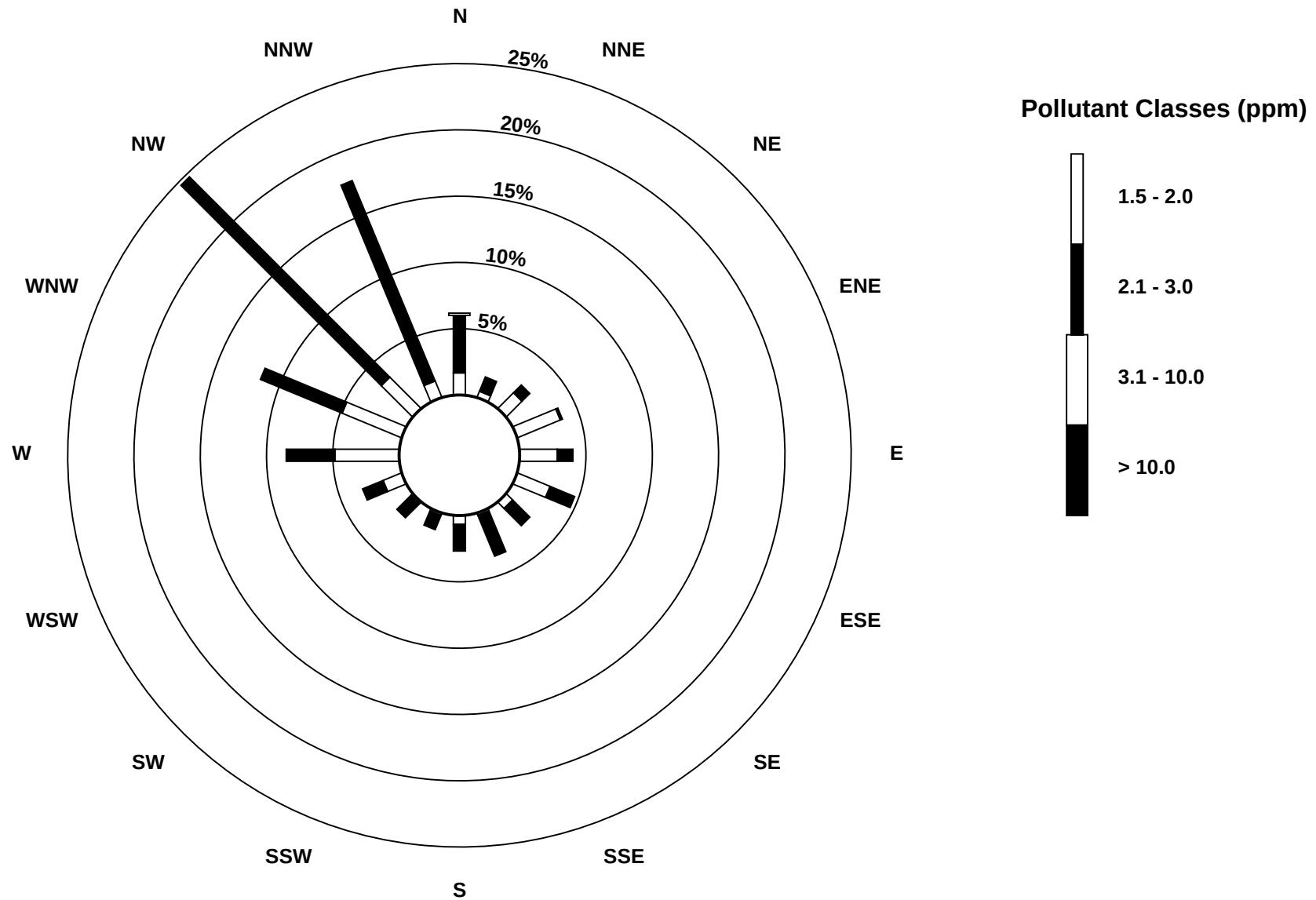
Total Hydrocarbons (THC) - ppm
Henry Pirker - December 2014



Pollutant Rose

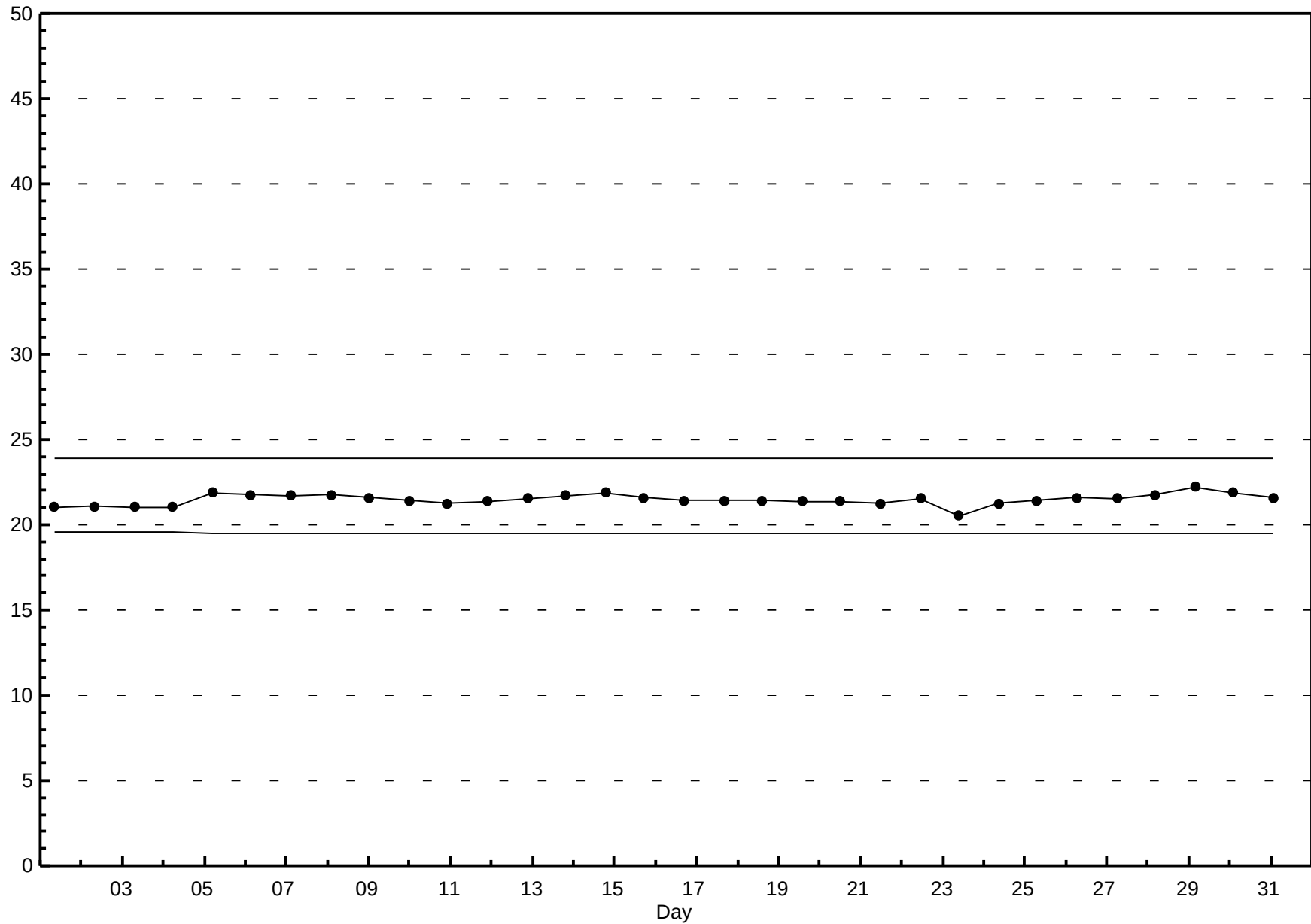
Total Hydrocarbons (THC) - ppm

Henry Pirker - December 2014



Span Responses

Total Hydrocarbons (THC)
Henry Pirker - December 2014



Hourly Averages

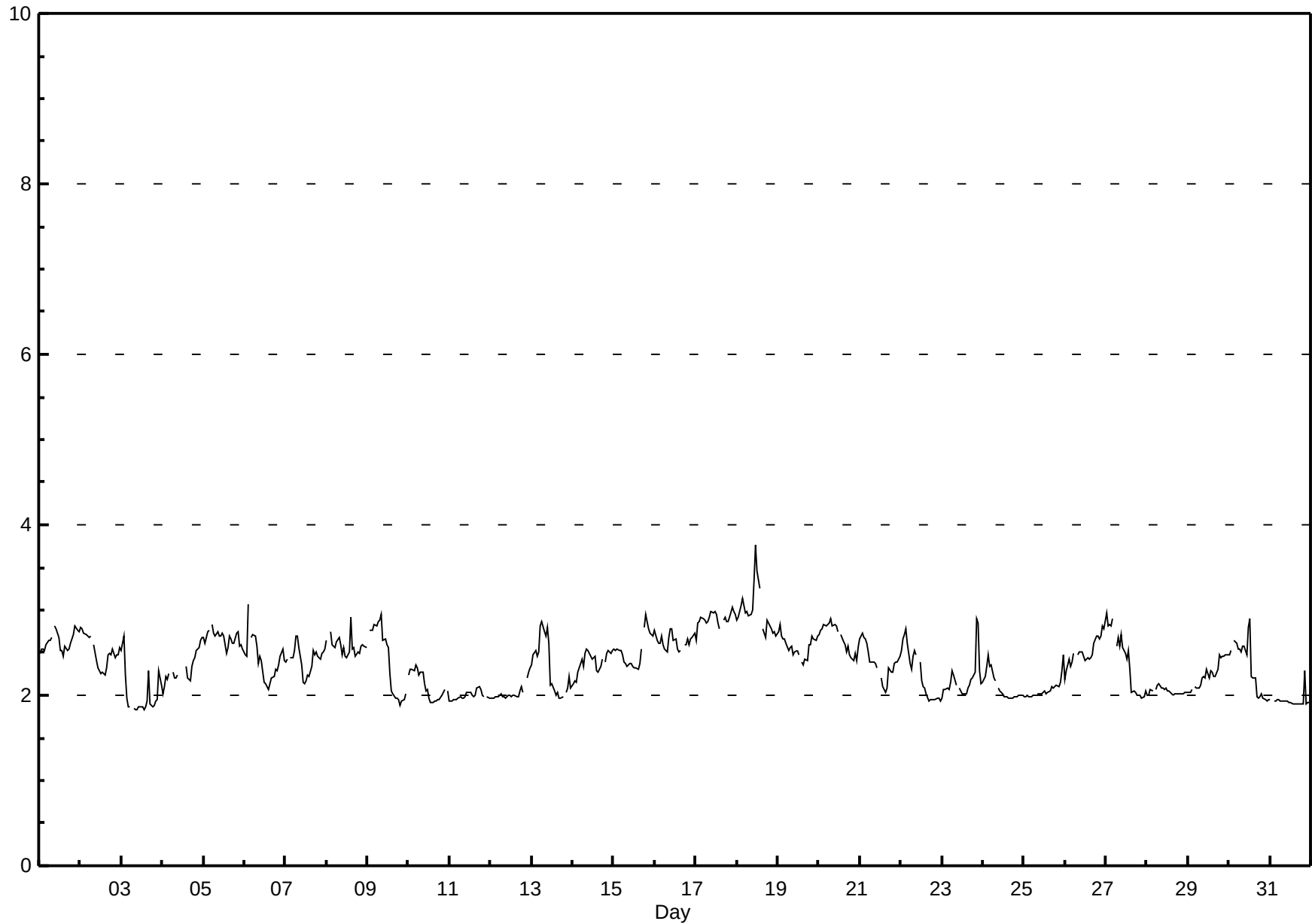
Methane (CH₄) - ppm

Henry Pirker - December 2014

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 3.77 ppm on Dec 18 12:00 Maximum Daily Average: 2.98 ppm on Dec 18																								Hours in Service: 744 Hours of Data: 708 Hours of Missing Data: 36 Hours of Calibration: 36 Percent Operational Time: 100.0		
Minimum Value: 1.8 ppm on Dec 3 09:00 Minimum Daily Average: 1.94 ppm on Dec 31 Maximum Diurnal Average: 2.47 ppm at hour 3 Minimum Diurnal Average: 2.22 ppm at hour 16 Monthly Average: 2.372 ppm Percentiles: P ₁ = 1.86 P ₁₀ = 1.96 Q ₁ = 2.05 Median = 2.40 Q ₃ = 2.62 P ₉₀ = 2.79 P ₉₉ = 3.04																										
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Dec	2.5	2.5	2.5	2.5	2.6	2.6	2.6	2.7	A	2.8	2.8	2.7	2.5	2.5	2.5	2.6	2.5	2.5	2.6	2.7	2.7	2.8	2.8	2.7	2.63	2.82
2-Dec	2.8	2.8	2.7	2.7	2.7	2.7	2.7	A	2.6	2.4	2.3	2.3	2.3	2.3	2.2	2.3	2.5	2.5	2.5	2.5	2.4	2.5	2.5	2.6	2.51	2.79
3-Dec	2.5	2.7	2.2	2.0	1.9	1.9	A	1.9	1.8	1.8	1.9	1.9	1.9	1.8	1.9	1.9	2.3	1.9	1.9	1.9	1.9	2.0	2.3	2.1	2.00	2.70
4-Dec	2.0	2.1	2.2	2.2	2.2	A	2.3	2.2	2.2	2.2	C	C	C	C	2.3	2.2	2.2	2.3	2.4	2.4	2.5	2.6	2.6	2.7	2.31	2.68
5-Dec	2.7	2.6	2.7	2.8	A	2.8	2.7	2.7	2.8	2.7	2.7	2.7	2.7	2.5	2.6	2.7	2.7	2.6	2.6	2.7	2.8	2.6	2.6	2.5	2.67	2.84
6-Dec	2.5	2.5	3.1	A	2.7	2.7	2.7	2.6	2.4	2.5	2.4	2.2	2.1	2.1	2.1	2.1	2.2	2.2	2.3	2.3	2.3	2.5	2.5	2.4	2.40	3.07
7-Dec	2.4	2.4	A	2.4	2.4	2.5	2.7	2.7	2.6	2.3	2.2	2.1	2.2	2.2	2.2	2.3	2.5	2.5	2.5	2.4	2.4	2.5	2.5	2.5	2.42	2.70
8-Dec	2.6	A	2.7	2.6	2.6	2.6	2.6	2.7	2.6	2.5	2.6	2.5	2.4	2.5	2.9	2.5	2.6	2.5	2.5	2.5	2.6	2.6	2.6	2.6	2.58	2.91
9-Dec	A	2.8	2.8	2.8	2.8	2.8	2.8	2.9	3.0	2.7	2.7	2.6	2.6	2.3	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	2.0	A	2.41	2.96
10-Dec	2.2	2.3	2.3	2.3	2.4	2.3	2.2	2.3	2.3	2.1	2.1	2.1	2.0	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.1	A	2.0	2.11	2.36
11-Dec	1.9	1.9	2.0	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	2.1	2.1	2.1	2.0	2.0	A	2.0	2.0	1.99	2.10
12-Dec	2.0	2.0	2.0	2.0	2.0	2.0	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	2.0	A	2.2	2.3	2.3	2.03	2.32
13-Dec	2.3	2.5	2.5	2.5	2.5	2.8	2.9	2.8	2.7	2.8	2.6	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.1	2.2	2.1	2.33	2.87
14-Dec	2.1	2.2	2.2	2.3	2.3	2.4	2.3	2.5	2.5	2.5	2.5	2.4	2.4	2.5	2.3	2.3	2.3	2.4	A	2.4	2.5	2.5	2.5	2.5	2.39	2.54
15-Dec	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.4	2.3	2.4	2.4	2.3	2.3	2.3	2.3	2.4	2.5	A	2.8	3.0	2.8	2.7	2.7	2.7	2.51	2.96
16-Dec	2.8	2.6	2.6	2.6	2.7	2.6	2.5	2.5	2.7	2.8	2.8	2.6	2.7	2.5	2.5	2.5	A	2.6	2.6	2.7	2.6	2.7	2.7	2.7	2.64	2.79
17-Dec	2.7	2.9	2.9	2.9	2.9	2.9	2.8	2.9	2.9	3.0	3.0	3.0	2.9	2.8	2.8	A	2.9	2.9	2.9	2.9	2.9	3.0	3.0	2.9	2.89	3.03
18-Dec	2.9	2.9	3.0	3.1	3.0	3.0	3.0	2.9	3.0	3.0	3.4	3.8	3.5	3.2	A	2.8	2.7	2.7	2.9	2.8	2.8	2.7	2.7	2.7	2.98	3.77
19-Dec	2.7	2.8	2.7	2.7	2.7	2.6	2.5	2.6	2.6	2.5	2.5	2.5	2.5	A	2.4	2.4	2.4	2.4	2.6	2.6	2.7	2.7	2.7	2.7	2.58	2.84
20-Dec	2.7	2.8	2.8	2.8	2.8	2.8	2.8	2.9	2.8	2.8	2.8	2.7	A	2.7	2.6	2.6	2.5	2.6	2.5	2.4	2.4	2.5	2.4	2.6	2.67	2.89
21-Dec	2.7	2.7	2.7	2.7	2.6	2.5	2.4	2.4	2.4	2.4	2.3	A	2.2	2.1	2.1	2.0	2.1	2.3	2.3	2.3	2.4	2.4	2.4	2.5	2.38	2.73
22-Dec	2.5	2.7	2.7	2.8	2.6	2.4	2.3	2.5	2.5	2.5	A	2.4	2.2	2.1	2.1	2.0	1.9	1.9	1.9	1.9	1.9	2.0	2.0	1.9	2.25	2.79
23-Dec	2.0	2.1	2.1	2.1	2.1	2.2	2.3	2.2	2.1	A	2.1	2.1	2.0	2.0	2.0	2.1	2.1	2.2	2.2	2.3	2.9	2.8	2.3	2.1	2.19	2.90
24-Dec	2.2	2.2	2.3	2.5	2.3	2.4	2.2	2.2	A	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.10	2.48
25-Dec	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	2.1	2.1	2.1	2.1	2.1	2.2	2.3	2.5	2.07	2.48
26-Dec	2.2	2.3	2.4	2.3	2.4	2.5	A	2.5	2.5	2.5	2.5	2.5	2.4	2.4	2.4	2.4	2.5	2.6	2.7	2.7	2.7	2.7	2.8	2.8	2.51	2.81
27-Dec	3.0	2.8	2.8	2.8	2.9	A	2.6	2.7	2.6	2.7	2.6	2.5	2.4	2.5	2.3	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.40	2.97
28-Dec	2.0	2.0	2.1	2.1	A	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	2.0	2.0	2.05	2.14
29-Dec	2.0	2.0	2.1	A	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.3	2.2	2.3	2.3	2.2	2.2	2.3	2.5	2.4	2.5	2.5	2.5	2.5	2.25	2.47
30-Dec	2.5	2.5	A	2.6	2.6	2.5	2.5	2.5	2.6	2.6	2.5	2.8	2.9	2.2	2.2	2.2	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	2.33	2.90
31-Dec	1.9	A	1.9	1.9	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.3	1.9	1.9	1.9	1.94	2.29
2.39 2.45 2.47 2.46 2.46 2.45 2.46 2.45 2.43 2.43 2.40 2.38 2.32 2.28 2.23 2.22 2.25 2.27 2.30 2.33 2.37 2.38 2.39 2.39																								Diurnal Average		
2.97 2.92 3.07 3.14 3.05 2.96 2.98 2.93 2.96 3.01 3.36 3.77 3.46 3.25 2.91 2.79 2.88 2.92 2.88 2.96 2.92 3.03 2.99 2.95																								Diurnal Maximum		
C - Calibration A - Automated Daily Zero Span																										

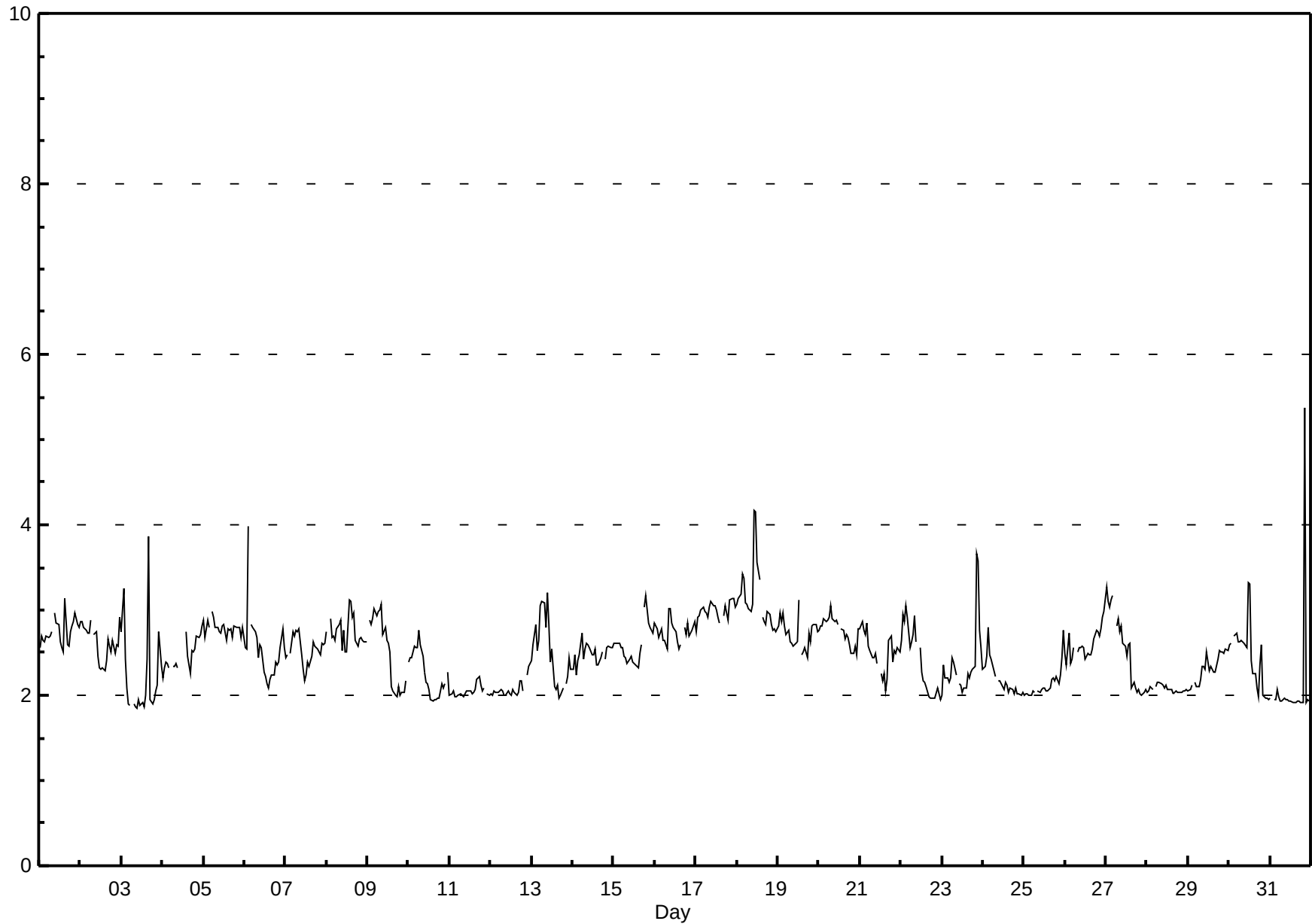
Hourly Averages

Methane (CH₄) - ppm
Henry Pirker - December 2014



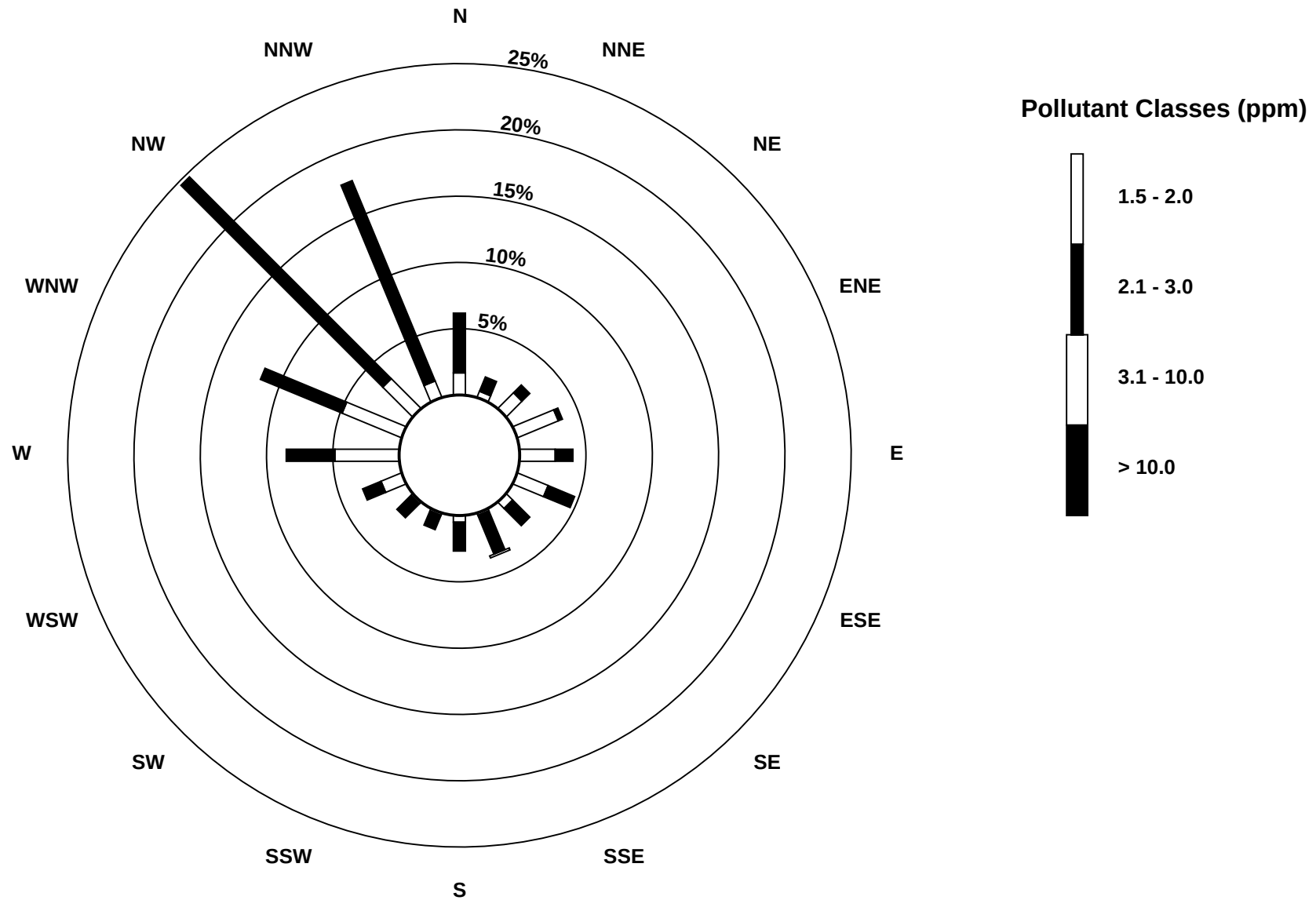
Hourly Maximums

Methane (CH₄) - ppm
Henry Pirker - December 2014



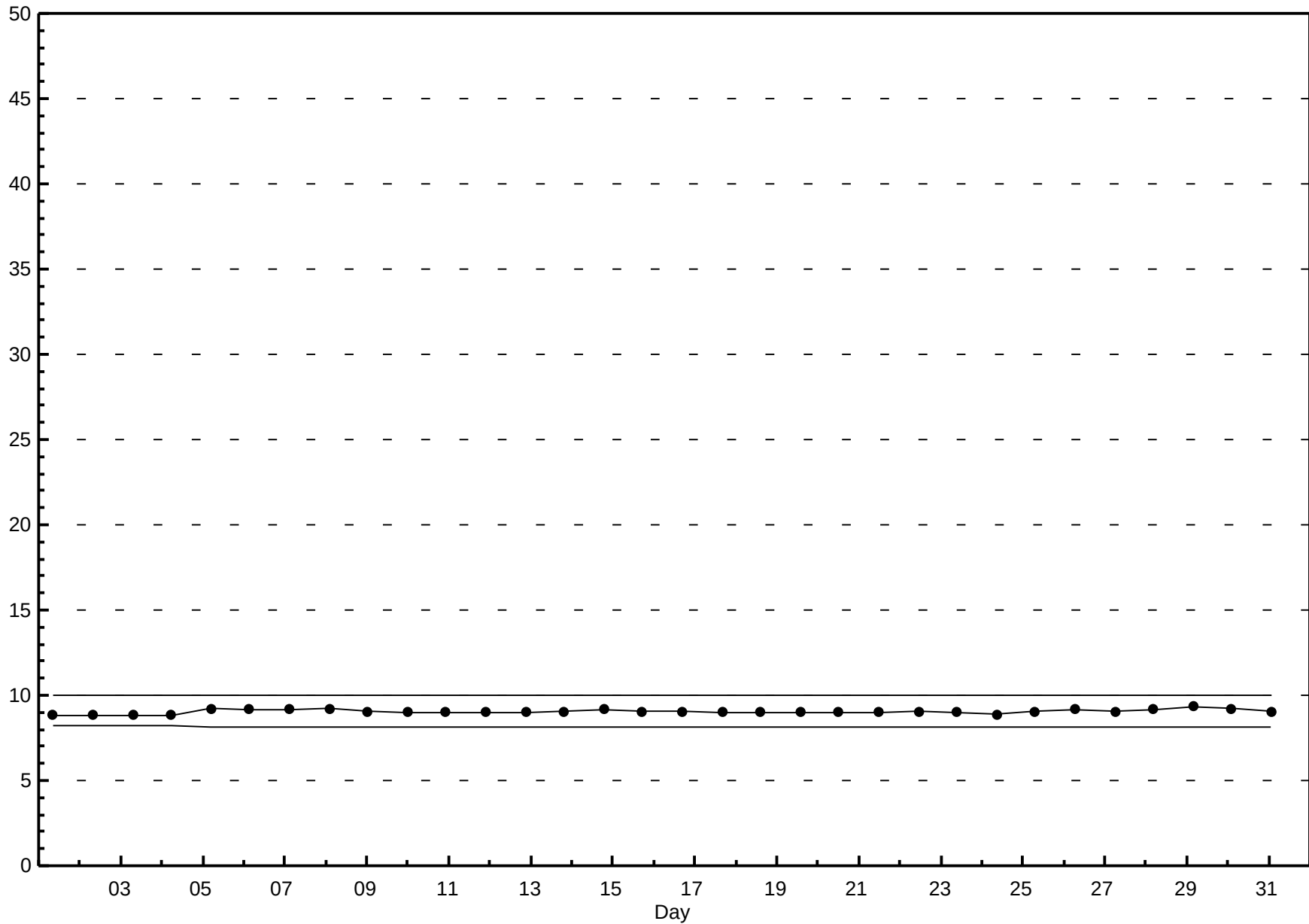
Pollutant Rose

Methane (CH₄) - ppm
Henry Pirker - December 2014



Span Responses

Methane (CH₄)
Henry Pirker - December 2014

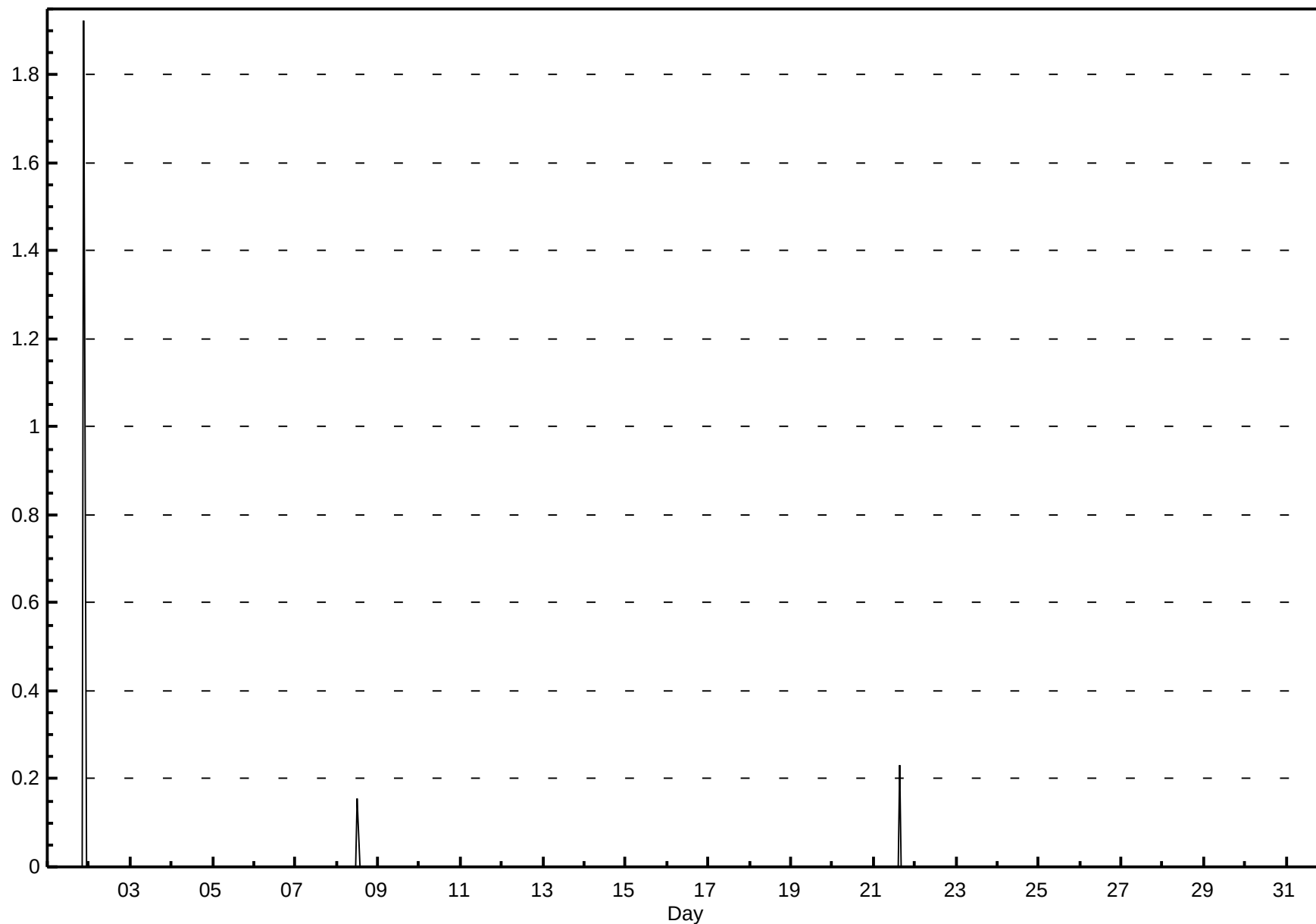


Hourly Averages

Non Methane Hydrocarbon (NMHC) - ppm

Henry Pirker - December 2014

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 1.92 ppm on Dec 1 22:00 Maximum Daily Average: 0.08 ppm on Dec 1																								Hours in Service: 744 Hours of Data: 708 Hours of Missing Data: 36 Hours of Calibration: 36 Percent Operational Time: 100.0		
Minimum Value: 0.0 ppm on Dec 1 01:00 Minimum Daily Average: 0.00 ppm on Dec 6 Maximum Diurnal Average: 0.06 ppm at hour 22 Minimum Diurnal Average: 0.00 ppm at hour 5 Monthly Average: 0.003 ppm Percentiles: P ₁ = 0.00 P ₁₀ = 0.00 Q ₁ = 0.00 Median = 0.00 Q ₃ = 0.00 P ₉₀ = 0.00 P ₉₉ = 0.00																										
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Dec	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	1.9	0.0	0.0	0.08	1.92
2-Dec	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
3-Dec	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
4-Dec	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	C	C	C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
5-Dec	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
6-Dec	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
7-Dec	0.0	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
8-Dec	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.16
9-Dec	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.00	0.00
10-Dec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
11-Dec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
12-Dec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.00	0.00
13-Dec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
14-Dec	0.0	0.0	0.0	0.0	0.0	0.0	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
15-Dec	0.0	0.0	0.0	0.0	0.0	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
16-Dec	0.0	0.0	0.0	0.0	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
17-Dec	0.0	0.0	0.0	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
18-Dec	0.0	0.0	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
19-Dec	0.0	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
20-Dec	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
21-Dec	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	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.23
22-Dec	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
23-Dec	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
24-Dec	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
25-Dec	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
26-Dec	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
27-Dec	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
28-Dec	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
29-Dec	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
30-Dec	0.0	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
31-Dec	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
0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.01 0.00 0.00 0.01 0.00 0.00 0.00 0.00 0.00 0.00 0.06 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 0.16 0.00 0.00 0.23 0.00 0.00 0.00 0.00 0.00 0.00 1.92 0.00 0.00																								Diurnal Maximum		
C - Calibration A - Automated Daily Zero Span																										

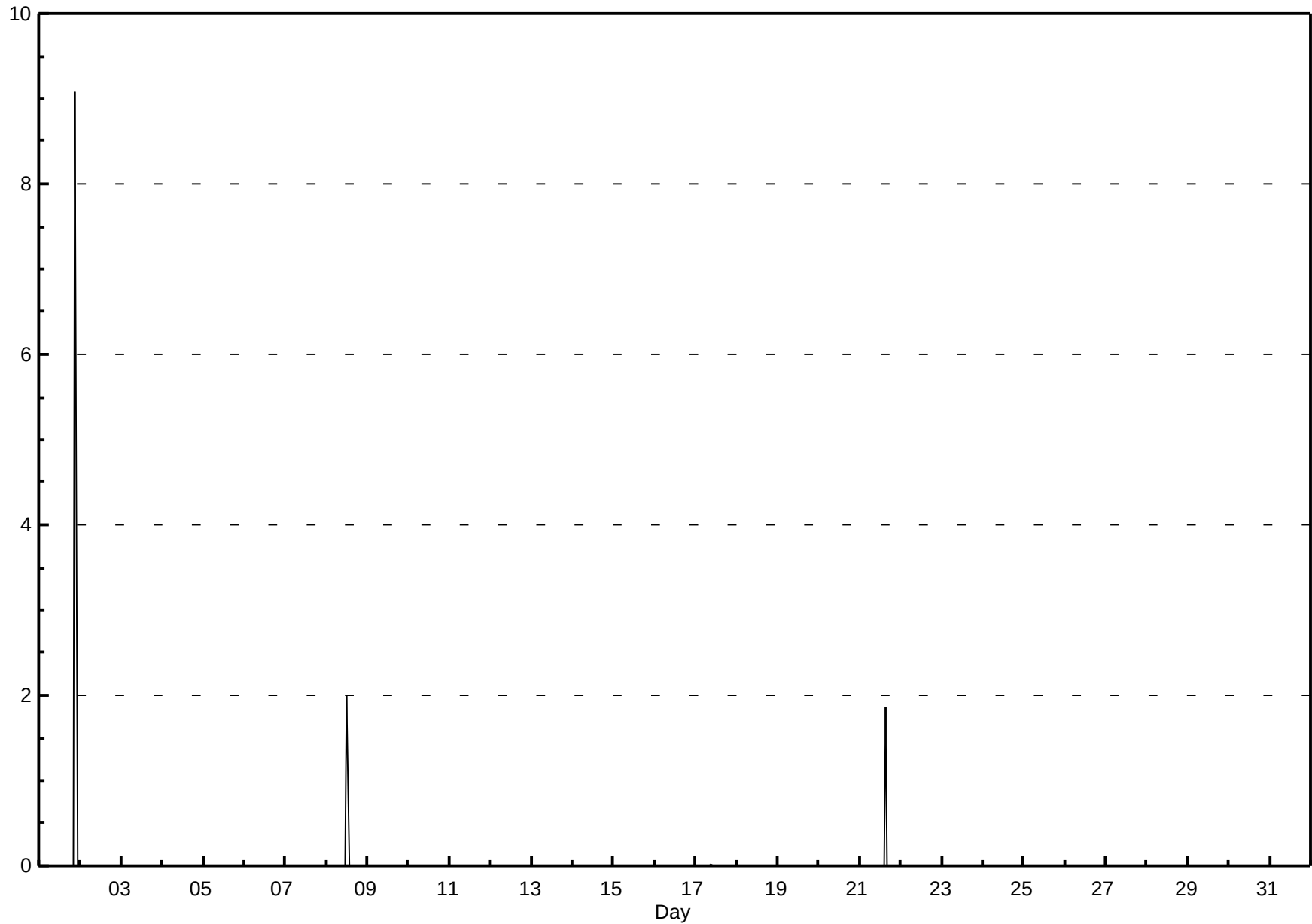


Hourly Maximums

Non Methane Hydrocarbon (NMHC) - ppm

Henry Pirker - December 2014

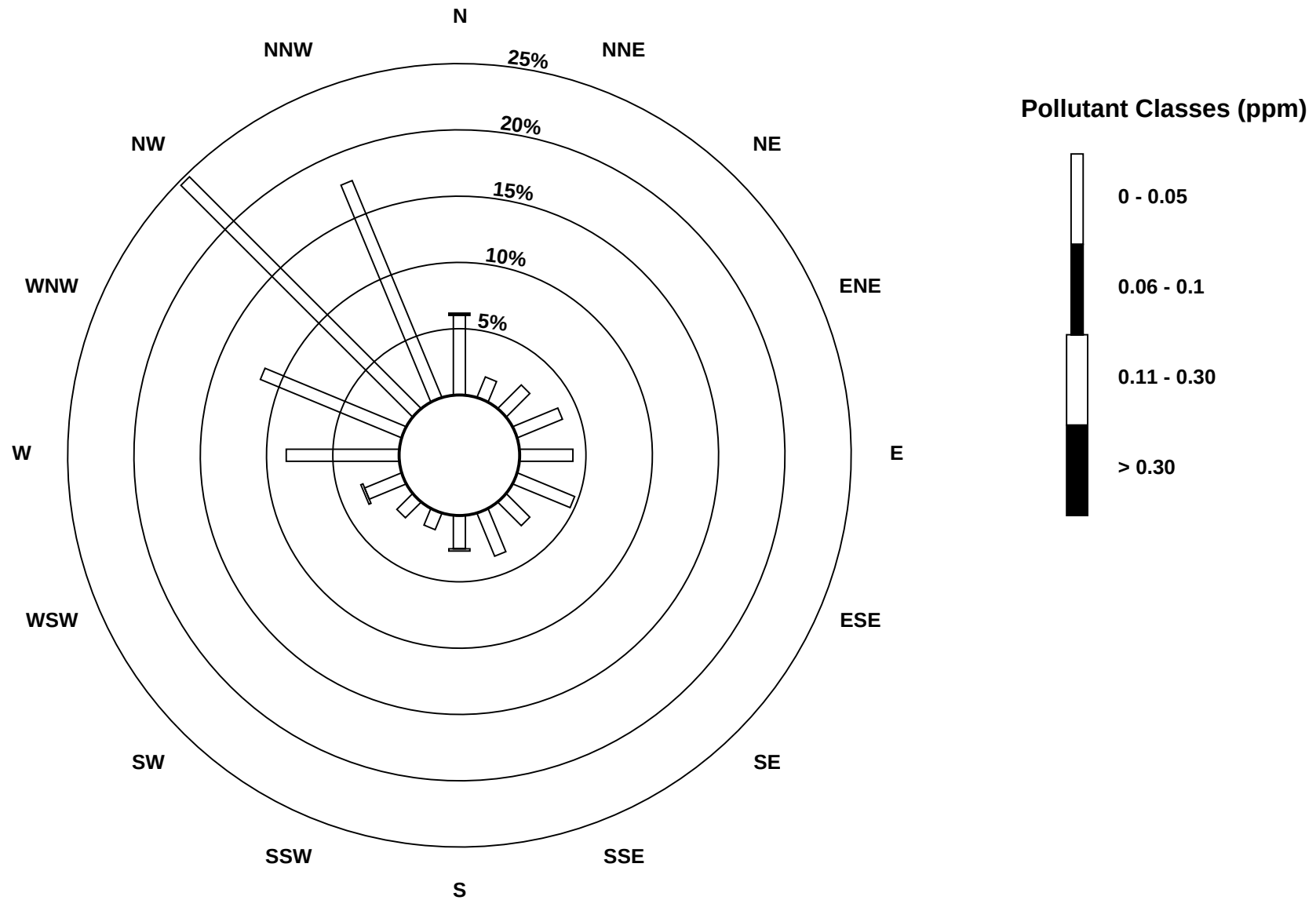
Maximum Value: 9.08 ppm on Dec 1 22:00																								Maximum Daily Average: 0.39 ppm on Dec 1										Hours in Service: 744	
Minimum Value: 0.0 ppm on Dec 4 15:00																								Minimum Daily Average: 0.00 ppm on Dec 19										Hours of Data: 708	
Maximum Diurnal Average: 0.30 ppm at hour 22																								Minimum Diurnal Average: 0.00 ppm at hour 17										Hours of Missing Data: 36	
Monthly Average: 0.019 ppm																								Percentiles: P ₁ = 0.00 P ₁₀ = 0.00 Q ₁ = 0.00 Median = 0.00 Q ₃ = 0.00 P ₉₀ = 0.00 P ₉₉ = 0.00										Hours of Calibration: 36	
																								Percent Operational Time: 100.0											
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum									
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24											
1-Dec	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	9.1	0.0	0.0	0.39	9.08									
2-Dec	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									
3-Dec	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									
4-Dec	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	C	C	C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00									
5-Dec	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									
6-Dec	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									
7-Dec	0.0	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									
8-Dec	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.09	2.00									
9-Dec	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.00	0.00									
10-Dec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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									
11-Dec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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									
12-Dec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.00	0.00									
13-Dec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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									
14-Dec	0.0	0.0	0.0	0.0	0.0	0.0	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									
15-Dec	0.0	0.0	0.0	0.0	0.0	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									
16-Dec	0.0	0.0	0.0	0.0	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									
17-Dec	0.0	0.0	0.0	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	0.02									
18-Dec	0.0	0.0	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									
19-Dec	0.0	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									
20-Dec	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									
21-Dec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.08	1.87									
22-Dec	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									
23-Dec	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									
24-Dec	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									
25-Dec	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									
26-Dec	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									
27-Dec	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									
28-Dec	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									
29-Dec	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									
30-Dec	0.0	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									
31-Dec	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									
0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.07 0.00 0.00 0.06 0.00 0.00 0.00 0.00 0.00 0.30 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 0.02 0.00 0.00 2.00 0.00 0.00 1.87 0.00 0.00 0.00 0.00 0.00 9.08 0.00 0.00																									Diurnal Maximum										
C - Calibration A - Automated Daily Zero Span																																			

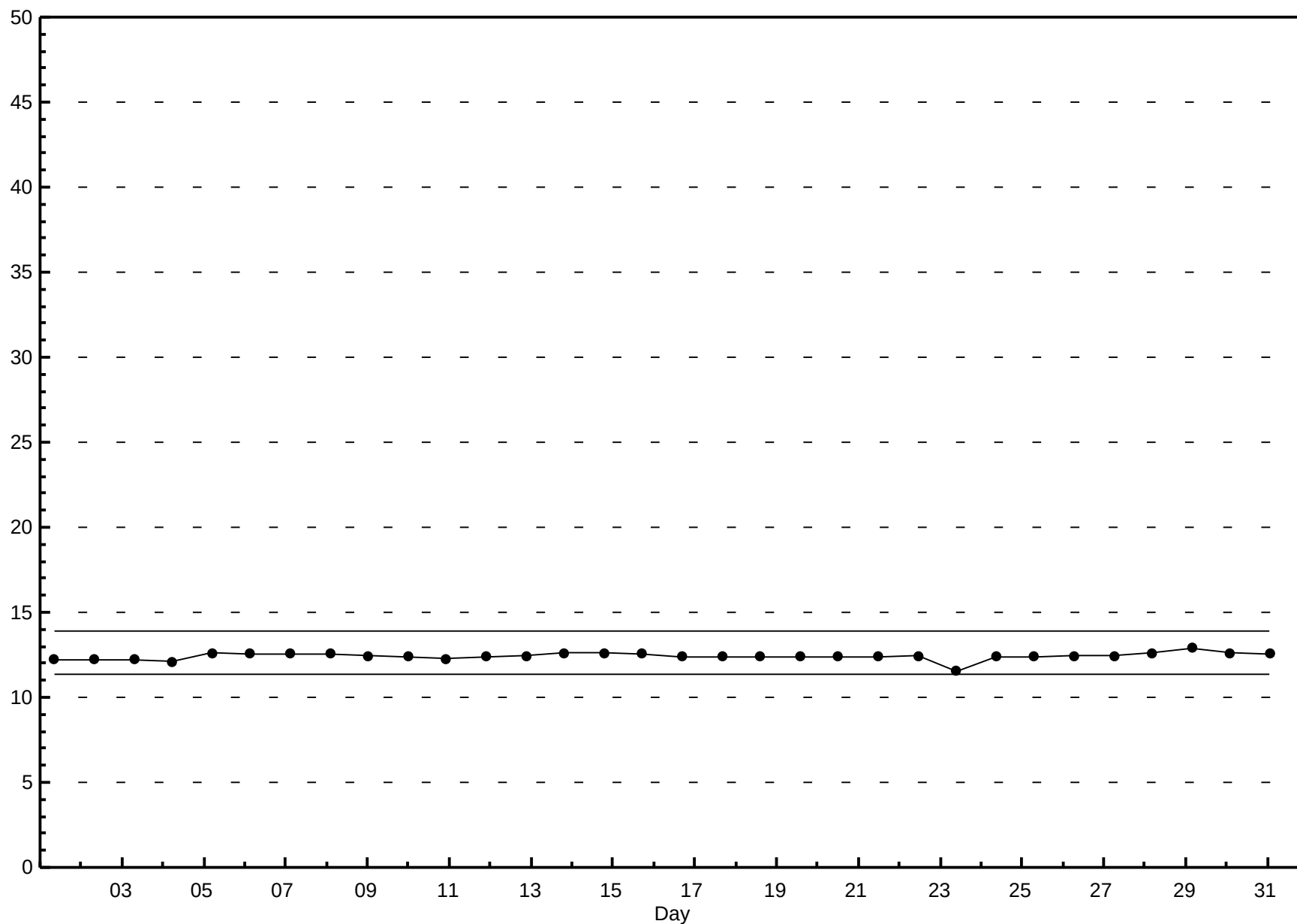


Pollutant Rose

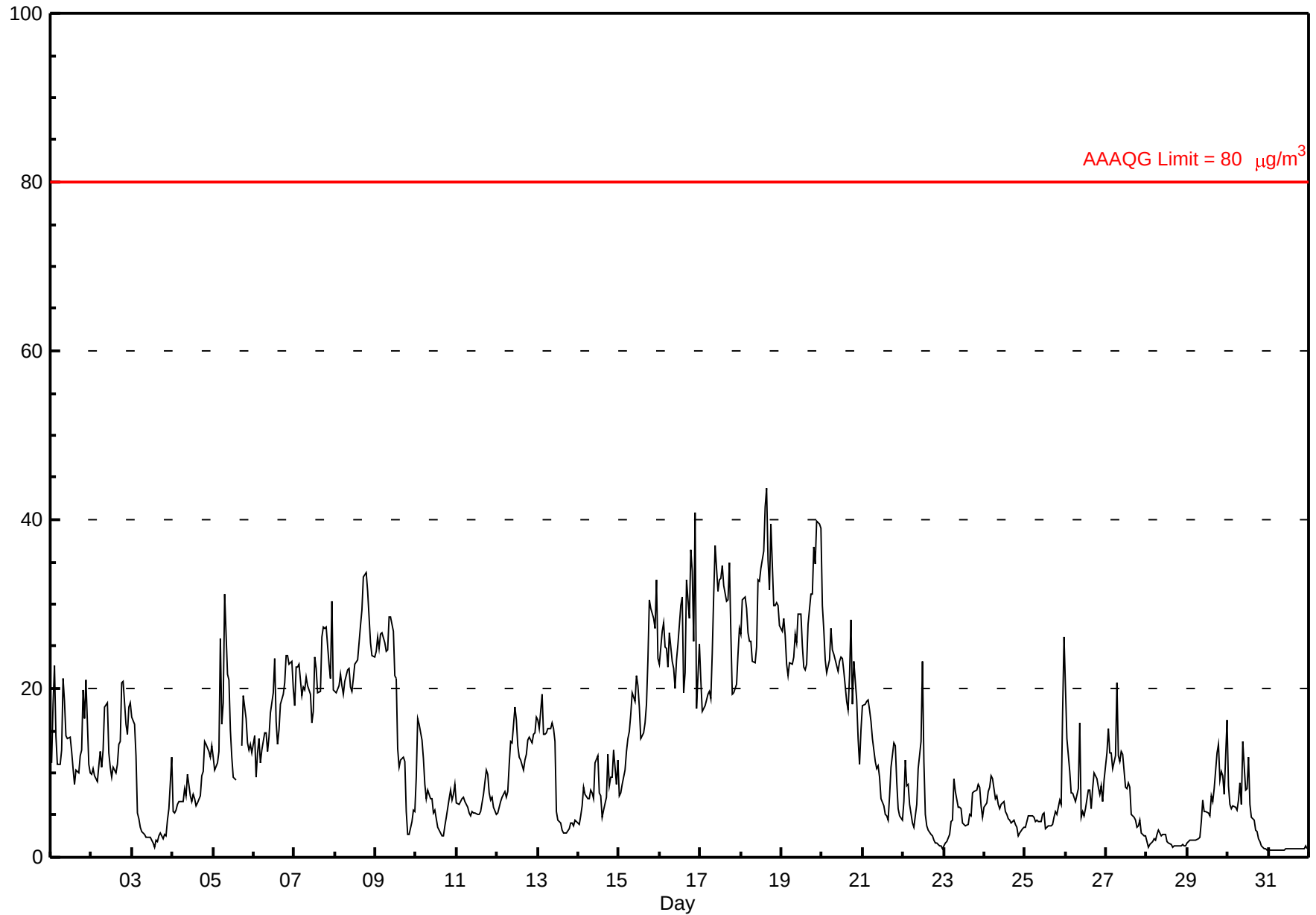
Non Methane Hydrocarbon (NMHC) - ppm

Henry Pirker - December 2014





Number of Exceedences: 1-hr: 0 24-hr: 1 Maximum Value: 43.7 µg/m³ on Dec 18 16:00 Maximum Daily Average: 30.9 µg/m³ on Dec 18																							Hours in Service: 744 Hours of Data: 741 Hours of Missing Data: 3 Hours of Calibration: 0 Percent Operational Time: 99.6			
Minimum Value: 1 µg/m³ on Dec 31 07:00 Maximum Diurnal Average: 14.1 µg/m³ at hour 19 Monthly Average: 12.79 µg/m³ Minimum Daily Average: 1.0 µg/m³ on Dec 31 Minimum Diurnal Average: 10.8 µg/m³ at hour 15 Percentiles: P ₁ = 0.9 P ₁₀ = 2.5 Q ₁ = 5.1 Median = 10.4 Q ₃ = 19.7 P ₉₀ = 26.6 P ₉₉ = 38.6																										
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-Dec	11	18	23	14	11	11	13	21	18	14	14	14	13	10	9	10	10	12	13	20	16	21	11	10	14.1	22.8
2-Dec	10	11	10	9	11	13	11	13	18	18	12	11	9	11	10	11	13	14	21	21	16	15	18	18	13.4	20.8
3-Dec	17	16	12	5	5	4	3	3	2	2	2	2	2	1	2	2	2	3	2	3	3	4	6	12	4.8	16.6
4-Dec	5	5	6	6	7	7	7	8	7	10	7	7	7	7	6	6	7	10	10	14	13	13	12	13	8.4	13.7
5-Dec	12	10	11	13	26	16	18	31	22	21	15	12	9	9	M	M	M	13	19	17	13	13	13	12	15.5	31.3
6-Dec	14	10	12	14	11	13	15	15	13	14	17	19	23	16	13	15	18	19	21	24	24	23	23	20	17.0	23.9
7-Dec	18	22	23	23	19	20	20	21	20	19	16	17	24	22	20	20	26	27	27	27	23	21	30	20	21.9	30.4
8-Dec	20	19	20	22	20	19	21	22	22	20	20	21	23	23	25	28	29	33	34	32	28	25	24	24	24.0	33.7
9-Dec	24	26	25	27	27	25	24	25	28	28	27	22	21	13	11	11	12	11	5	3	3	4	6	5	17.2	28.5
10-Dec	9	16	16	14	12	9	7	8	7	7	5	6	5	4	3	3	3	4	5	7	8	7	7	9	7.4	16.4
11-Dec	6	6	7	7	7	7	6	5	5	5	5	5	5	5	5	6	7	10	10	8	7	7	6	5	6.4	10.3
12-Dec	5	6	7	7	8	7	8	11	14	13	18	16	13	12	12	10	11	12	14	14	14	15	15	17	11.6	17.8
13-Dec	16	15	19	15	15	15	15	15	16	15	14	5	4	4	3	3	3	3	3	4	4	4	4	4	9.2	19.3
14-Dec	4	5	6	8	7	7	7	8	8	7	11	12	8	7	5	6	7	12	8	9	9	13	9	12	8.1	12.8
15-Dec	7	8	9	10	13	14	15	17	19	18	21	20	18	14	15	16	18	23	30	29	28	27	33	24	18.7	32.9
16-Dec	23	27	28	25	25	23	27	23	22	20	23	25	30	31	19	22	33	28	36	34	26	41	18	25	26.4	40.9
17-Dec	21	17	18	18	19	20	19	24	31	37	32	33	33	35	32	30	31	35	27	19	19	21	24	27	25.9	36.9
18-Dec	26	31	31	29	27	26	26	23	23	25	33	33	34	36	41	44	35	32	39	30	30	30	30	27	30.9	43.7
19-Dec	27	28	26	23	22	23	23	24	26	25	29	29	25	23	22	23	28	31	31	37	35	40	40	39	28.2	39.9
20-Dec	30	27	23	22	23	27	25	24	23	22	23	24	24	22	18	17	21	28	18	23	19	14	11	15	21.9	29.8
21-Dec	18	18	18	19	17	16	14	11	11	11	10	7	6	5	5	4	7	11	14	13	9	6	5	4	10.8	18.6
22-Dec	7	11	8	9	6	4	4	5	6	10	14	23	11	5	4	3	3	2	2	2	2	1	1	1	6.1	23.3
23-Dec	1	2	2	3	4	4	9	8	6	6	6	4	4	4	4	5	5	8	8	8	9	8	6	5	5.3	9.4
24-Dec	6	6	8	8	10	9	7	7	6	6	6	7	5	5	5	4	4	4	4	3	3	3	3	4	5.6	9.7
25-Dec	3	4	5	5	5	5	4	4	4	4	5	5	3	4	4	4	4	5	6	5	7	6	17	26	6.0	26.1
26-Dec	20	14	10	8	8	7	7	8	16	5	5	5	6	8	8	6	8	10	9	8	7	8	7	9	8.7	20.2
27-Dec	12	15	12	12	11	12	21	12	11	13	12	8	8	9	8	5	5	4	4	4	4	3	3	3	8.8	20.6
28-Dec	2	1	2	2	2	2	3	3	3	3	3	3	2	2	1	1	1	1	1	1	1	2	1	1	1.9	3.2
29-Dec	2	2	2	2	2	2	2	2	4	7	5	5	5	5	7	7	8	12	13	9	10	10	7	16	6.2	16.3
30-Dec	8	6	6	6	6	6	7	9	6	14	8	8	12	6	5	4	3	3	2	2	1	1	1	1	5.5	13.8
31-Dec	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.4
																							Diurnal Average			
																							Diurnal Maximum			
M - Maintenance																										
Alberta Ambient Air Quality Guideline (AAAQG): 1-hr 80 µg/m³ Alberta Ambient Air Quality Objective (AAAQO): 24-hr 30 µg/m³																										

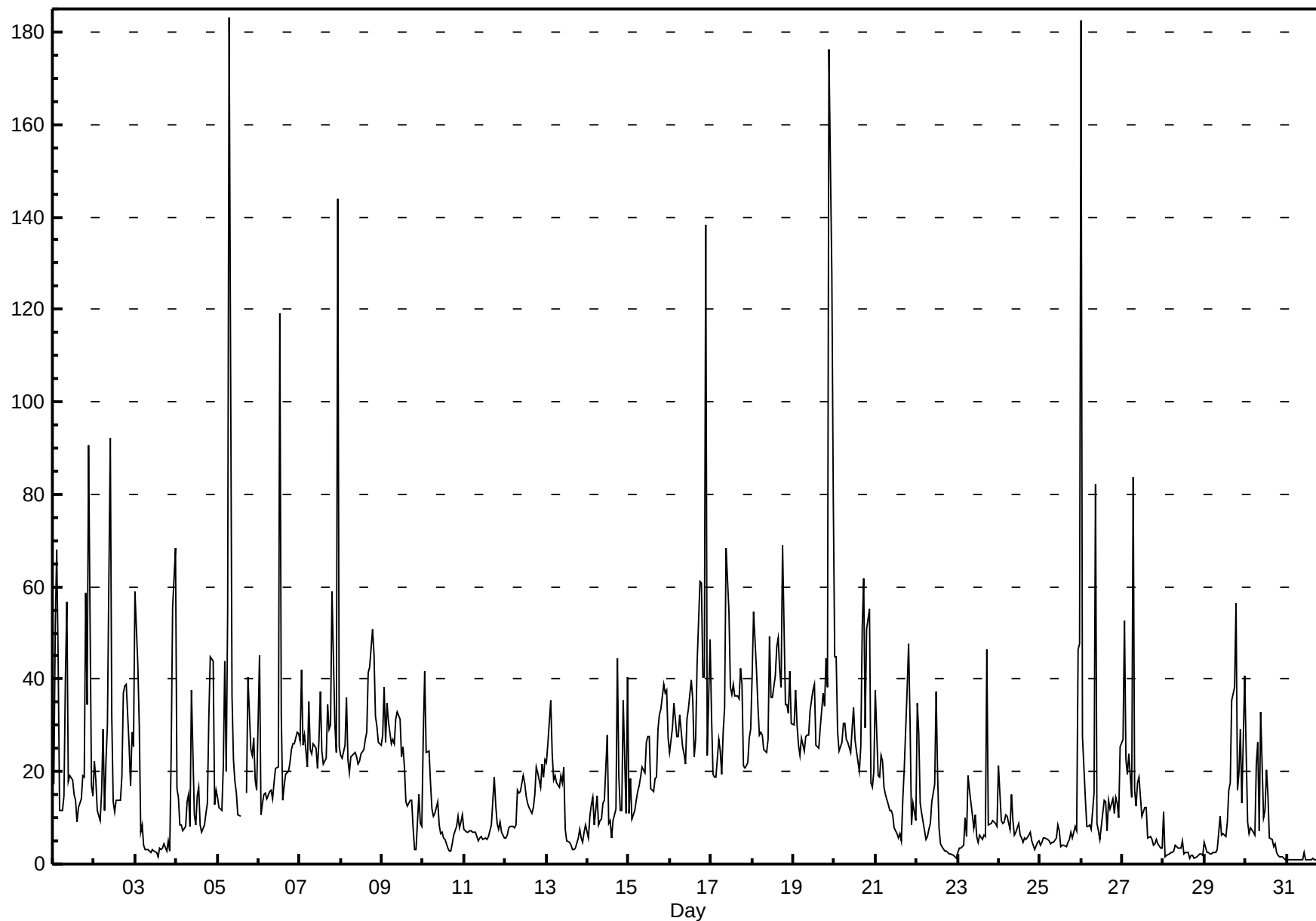


Hourly Maximums

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

Henry Pirker - December 2014

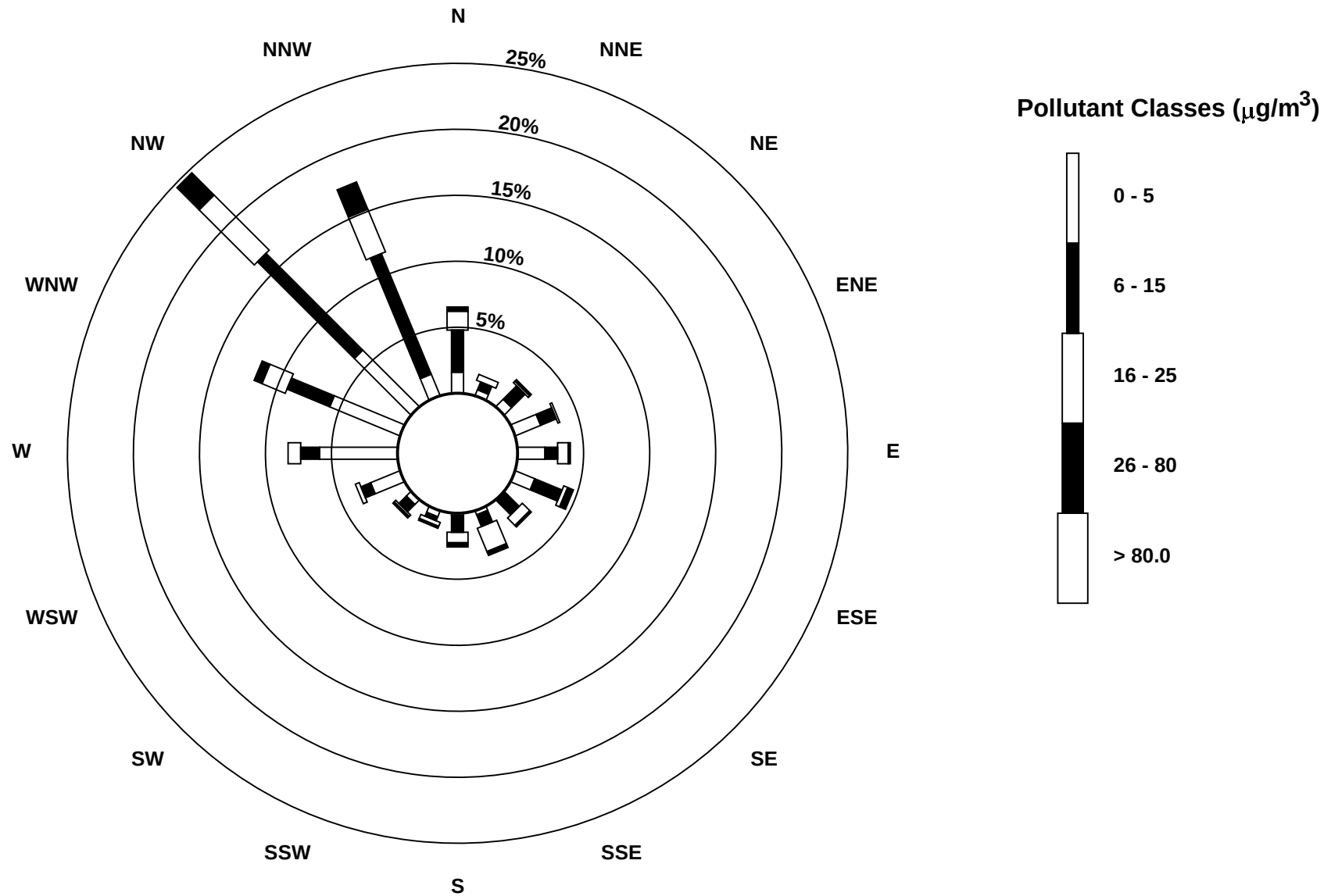
Maximum Value: 183.2 µg/m³ on Dec 5 08:00																								Maximum Daily Average: 43.1 µg/m³ on Dec 19								Hours in Service: 744	
Minimum Value: 1 µg/m³ on Dec 31 03:00																								Minimum Daily Average: 1.4 µg/m³ on Dec 31								Hours of Data: 741	
Maximum Diurnal Average: 28.4 µg/m³ at hour 22																								Minimum Diurnal Average: 12.9 µg/m³ at hour 15								Hours of Missing Data: 3	
Monthly Average: 19.66 µg/m³																								Percentiles: P ₁ = 1.0 P ₁₀ = 3.1 Q ₁ = 6.7 Median = 14.8 Q ₃ = 27.0 P ₉₀ = 38.8 P ₉₉ = 111.2								Hours of Calibration: 0	
																								Percent Operational Time: 99.6									
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24									
1-Dec	17	51	68	44	12	12	15	40	57	18	19	18	15	14	9	12	14	19	19	58	35	91	17	15	28.7	90.5							
2-Dec	22	18	12	9	16	29	12	22	30	92	32	14	11	14	14	14	19	37	39	39	25	17	29	25	24.6	92.2							
3-Dec	59	43	30	7	8	4	3	3	3	2	3	3	2	2	3	3	4	5	3	5	3	24	56	68	14.4	68.2							
4-Dec	16	14	8	8	7	8	13	15	8	38	11	8	15	17	9	7	8	11	13	32	45	44	13	16	16.0	45.0							
5-Dec	14	12	12	21	44	20	55	183	36	22	18	16	11	10	M	M	M	15	40	25	24	27	18	16	30.5	183.2							
6-Dec	45	11	13	15	15	14	16	16	14	18	21	21	119	32	14	17	19	20	22	25	26	26	29	28	24.8	119.2							
7-Dec	27	42	26	28	21	35	25	24	26	25	21	27	37	24	21	23	35	29	30	59	30	24	144	25	33.7	143.9							
8-Dec	24	23	26	36	23	20	23	24	24	23	22	22	24	25	27	29	41	43	51	46	32	30	26	26	28.6	50.9							
9-Dec	28	38	26	35	31	26	27	26	31	33	31	23	25	21	13	13	14	14	8	3	3	15	9	8	20.9	38.3							
10-Dec	27	42	24	25	18	12	10	11	13	8	7	7	6	5	3	3	3	4	6	8	10	8	9	11	11.7	41.8							
11-Dec	7	7	7	7	7	7	7	6	5	6	6	5	6	5	6	7	8	19	13	9	7	9	7	6	7.5	18.7							
12-Dec	6	6	8	8	8	8	9	16	15	16	19	18	15	13	12	11	12	15	21	20	17	21	19	23	14.0	22.7							
13-Dec	22	26	35	24	18	19	17	16	19	18	21	8	5	5	4	3	3	3	6	8	6	5	7	9	12.8	35.5							
14-Dec	6	10	13	14	9	15	9	10	10	13	14	28	9	9	6	9	12	45	19	12	11	35	11	41	15.3	44.6							
15-Dec	11	18	10	11	14	16	17	19	21	20	26	27	27	16	16	18	19	29	32	34	39	37	38	27	22.6	38.8							
16-Dec	24	30	35	31	27	27	32	25	24	22	31	34	40	36	23	27	43	61	61	41	40	138	24	49	38.6	138.4							
17-Dec	32	20	19	19	27	24	19	29	34	68	54	38	37	39	36	36	36	42	39	21	21	22	27	29	32.0	68.2							
18-Dec	41	55	42	34	28	29	28	25	24	27	49	36	36	41	47	49	42	38	69	35	35	33	42	30	38.1	69.1							
19-Dec	30	38	30	26	24	27	24	28	28	28	33	38	39	26	25	25	30	37	34	44	38	176	128	80	43.1	176.2							
20-Dec	45	45	29	25	26	30	30	27	26	24	29	34	27	25	20	25	51	62	29	51	55	17	17	20	32.0	61.8							
21-Dec	38	19	19	24	22	16	15	13	12	12	11	8	6	6	7	5	14	21	38	48	31	8	13	9	17.2	47.8							
22-Dec	35	28	13	11	9	5	6	8	9	13	17	37	20	8	4	4	3	3	2	2	2	2	2	1	10.2	37.4							
23-Dec	2	3	3	4	10	6	19	16	11	8	11	6	5	6	5	6	6	46	8	9	9	9	9	8	9.5	46.5							
24-Dec	21	10	9	9	11	10	8	15	10	6	7	9	6	6	5	6	5	6	7	5	4	3	5	5	7.8	21.2							
25-Dec	4	5	6	6	5	5	4	5	5	6	8	7	4	4	4	4	5	5	7	6	8	7	47	48	8.9	47.5							
26-Dec	183	28	14	8	8	8	7	16	82	9	7	5	8	14	14	7	14	12	14	11	14	13	10	25	22.2	182.6							
27-Dec	27	53	22	19	24	14	84	16	13	17	19	10	11	12	12	6	6	5	4	4	5	4	3	4	16.5	83.7							
28-Dec	11	2	2	2	2	3	3	4	4	3	4	5	2	3	2	1	2	2	1	2	2	2	2	2	2.8	11.4							
29-Dec	5	2	2	2	2	2	2	3	7	10	6	7	6	9	16	18	35	38	56	16	20	29	13	41	14.5	56.4							
30-Dec	24	9	7	8	7	6	22	26	7	33	10	12	20	15	6	5	4	5	2	2	2	2	1	1	9.8	32.8							
31-Dec	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	2	2	7	1	1.4	6.9							
27.6 22.8 18.4 16.9 15.6 14.9 18.2 22.1 19.6 20.6 18.4 17.1 19.2 14.9 12.9 13.2 17.0 22.4 22.5 21.9 19.4 28.4 25.1 22.5																								Diurnal Average									
182.6 54.6 68.1 44.4 43.8 35.2 83.7 183.2 82.2 92.2 54.5 38.2 119.2 40.7 47.1 48.9 51.1 61.8 69.1 58.9 55.1 176.2 143.9 79.7																								Diurnal Maximum									
M - Maintenance																																	



Pollutant Rose

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

Henry Pirker - December 2014



Hourly Averages

External Temperature (ET) - °C

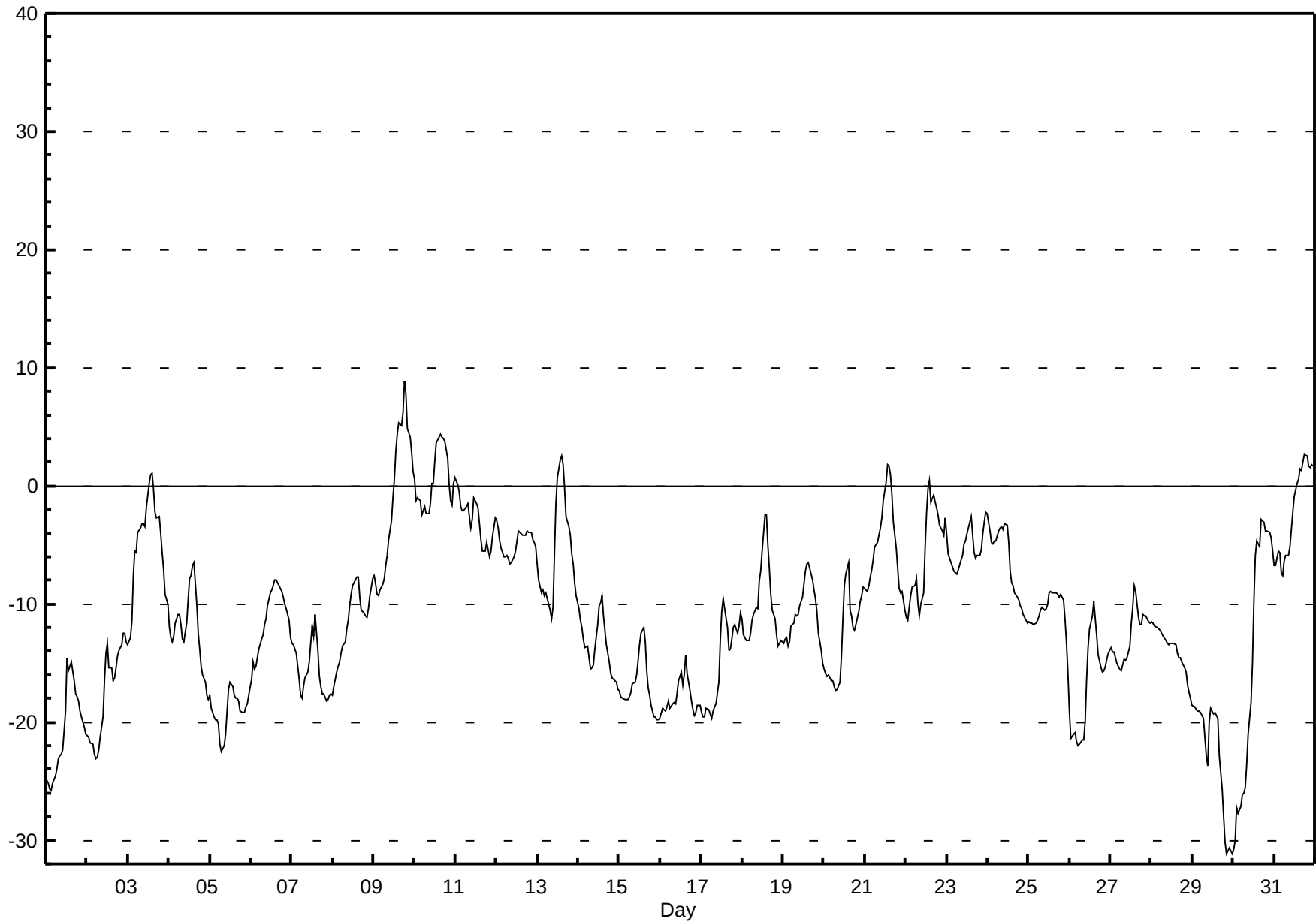
Henry Pirker - December 2014

Number of Exceedences (AAQO): 1-hr: 0 24-hr: 0 Maximum Value: 8.9 °C on Dec 9 19:00 Maximum Daily Average: 0.5 °C on Dec 10																					Hours in Service: 744 Hours of Data: 744 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0						
Minimum Value: -31 °C on Dec 30 00:00 Maximum Diurnal Average: -6.9 °C at hour 15 Monthly Average: -10.96 °C										Minimum Daily Average: -22.8 °C on Dec 29 Minimum Diurnal Average: -13.3 °C at hour 5 Percentiles: P ₁ = -28.0 P ₁₀ = -19.4 Q ₁ = -16.0 Median = -11.2 Q ₃ = -5.7 P ₉₀ = -1.8 P ₉₉ = 4.0																	
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-Dec	-25	-25	-26	-26	-25	-25	-24	-23	-23	-23	-22	-19	-15	-16	-15	-15	-17	-18	-18	-18	-19	-20	-20	-21	-20.7	-14.6	
2-Dec	-21	-21	-22	-22	-23	-23	-23	-22	-21	-20	-16	-14	-13	-15	-15	-16	-16	-15	-14	-14	-13	-13	-12	-13	-17.5	-12.5	
3-Dec	-13	-13	-11	-8	-6	-6	-4	-4	-3	-3	-3	-2	0	1	1	0	-2	-3	-3	-4	-6	-7	-9	-10	-4.9	1.0	
4-Dec	-12	-13	-13	-13	-12	-11	-11	-12	-13	-13	-12	-10	-8	-8	-7	-6	-10	-12	-14	-15	-16	-17	-18	-18	-12.2	-6.4	
5-Dec	-18	-19	-20	-20	-20	-20	-22	-22	-22	-21	-19	-17	-17	-17	-18	-18	-18	-18	-19	-19	-19	-19	-18	-18	-19.1	-16.6	
6-Dec	-16	-15	-16	-15	-15	-14	-13	-13	-12	-11	-10	-9	-9	-8	-8	-8	-8	-9	-9	-9	-10	-10	-11	-13	-11.3	-7.9	
7-Dec	-13	-13	-14	-14	-16	-18	-18	-17	-16	-16	-15	-13	-12	-13	-11	-14	-16	-17	-18	-18	-18	-18	-18	-18	-15.6	-10.9	
8-Dec	-18	-17	-16	-15	-15	-14	-14	-13	-12	-11	-10	-9	-8	-8	-8	-8	-9	-10	-11	-11	-11	-10	-9	-8	-11.5	-7.7	
9-Dec	-8	-8	-9	-9	-9	-8	-8	-7	-6	-5	-3	-1	1	3	4	5	5	6	9	8	5	4	3	1	-1.1	8.9	
10-Dec	1	-1	-1	-1	-2	-2	-2	-2	-2	-1	0	0	2	4	4	4	4	4	4	2	0	-1	-2	0	0.5	4.4	
11-Dec	1	0	-1	-2	-2	-2	-2	-2	-3	-4	-3	-1	-2	-2	-3	-4	-6	-5	-5	-5	-6	-5	-4	-3	-2.9	0.7	
12-Dec	-3	-4	-5	-5	-6	-6	-6	-6	-7	-7	-6	-5	-5	-4	-4	-4	-4	-4	-4	-4	-4	-5	-5	-5	-4.9	-3.0	
13-Dec	-7	-8	-9	-9	-9	-9	-10	-11	-11	-10	-6	-1	1	2	3	2	0	-3	-3	-4	-6	-7	-8	-9	-5.5	2.6	
14-Dec	-10	-11	-12	-13	-14	-14	-15	-16	-15	-15	-14	-12	-10	-10	-9	-11	-13	-14	-15	-16	-16	-16	-17	-17	-13.6	-9.2	
15-Dec	-17	-18	-18	-18	-18	-18	-18	-17	-17	-17	-16	-15	-13	-12	-12	-13	-16	-17	-18	-19	-20	-20	-20	-20	-16.9	-11.9	
16-Dec	-20	-19	-19	-19	-19	-18	-19	-18	-18	-18	-18	-17	-16	-17	-16	-14	-16	-17	-18	-19	-19	-19	-19	-19	-18.0	-14.3	
17-Dec	-19	-19	-19	-19	-19	-19	-20	-19	-19	-18	-17	-13	-11	-10	-10	-12	-14	-14	-13	-12	-12	-12	-12	-11	-15.1	-9.5	
18-Dec	-11	-13	-13	-13	-13	-13	-11	-11	-10	-10	-8	-7	-5	-2	-3	-5	-7	-9	-10	-11	-13	-14	-13	-13	-10.0	-2.4	
19-Dec	-13	-13	-13	-14	-13	-12	-12	-11	-11	-11	-10	-9	-8	-7	-7	-6	-7	-8	-9	-10	-11	-12	-14	-15	-10.6	-6.5	
20-Dec	-15	-16	-16	-16	-17	-17	-17	-17	-17	-17	-14	-11	-8	-7	-7	-11	-11	-12	-12	-12	-11	-10	-9	-9	-12.9	-6.5	
21-Dec	-9	-9	-8	-8	-7	-6	-5	-5	-4	-4	-3	-1	0	2	2	1	-1	-3	-5	-7	-9	-9	-9	-11	-4.9	1.7	
22-Dec	-11	-11	-10	-9	-9	-8	-8	-10	-11	-10	-9	-5	-2	0	1	-1	-1	-1	-2	-3	-3	-4	-4	-3	-5.7	0.5	
23-Dec	-4	-6	-6	-7	-7	-7	-7	-7	-6	-6	-5	-5	-4	-4	-3	-4	-6	-6	-6	-6	-5	-4	-3	-2	-5.3	-2.3	
24-Dec	-2	-4	-5	-5	-5	-5	-4	-4	-3	-4	-3	-3	-5	-7	-8	-8	-9	-9	-10	-10	-10	-11	-11	-12	-6.6	-2.3	
25-Dec	-11	-12	-12	-12	-12	-11	-11	-11	-10	-11	-10	-10	-9	-9	-9	-9	-9	-9	-9	-9	-10	-11	-13	-16	-10.6	-9.0	
26-Dec	-19	-21	-21	-21	-22	-22	-22	-21	-21	-20	-16	-14	-12	-11	-10	-11	-13	-14	-15	-16	-16	-15	-15	-14	-16.8	-9.8	
27-Dec	-14	-14	-14	-15	-15	-16	-16	-15	-15	-15	-15	-14	-12	-10	-9	-9	-11	-12	-12	-11	-11	-11	-12	-12	-12.7	-8.5	
28-Dec	-12	-12	-12	-12	-12	-12	-12	-13	-13	-13	-13	-13	-13	-13	-13	-14	-15	-15	-15	-15	-16	-17	-17	-18	-13.8	-11.5	
29-Dec	-19	-19	-19	-19	-19	-19	-20	-21	-23	-24	-20	-19	-19	-19	-19	-20	-23	-26	-28	-30	-31	-31	-31	-31	-22.8	-18.6	
30-Dec	-31	-30	-27	-28	-27	-26	-26	-26	-24	-21	-18	-15	-10	-6	-5	-5	-3	-3	-3	-4	-4	-4	-4	-6	-14.8	-2.9	
31-Dec	-7	-7	-5	-6	-7	-8	-6	-6	-6	-5	-4	-2	-1	0	1	1	1	2	3	3	2	2	2	2	-2.2	2.6	
		-12.8	-13.2	-13.3	-13.3	-13.3	-13.2	-13.0	-12.9	-12.8	-12.4	-10.9	-9.3	-7.9	-7.2	-6.9	-7.6	-8.7	-9.4	-9.7	-10.3	-10.9	-11.2	-11.4	-11.6	Diurnal Average	
		0.7	0.0	-0.5	-1.3	-2.1	-2.1	-1.7	-1.5	-2.4	-1.5	0.2	0.3	2.1	3.6	4.3	5.3	5.2	6.2	8.9	7.8	4.8	4.2	2.8	1.7	Diurnal Maximum	

Hourly Averages

External Temperature (ET) - °C

Henry Pirker - December 2014



Hourly Averages

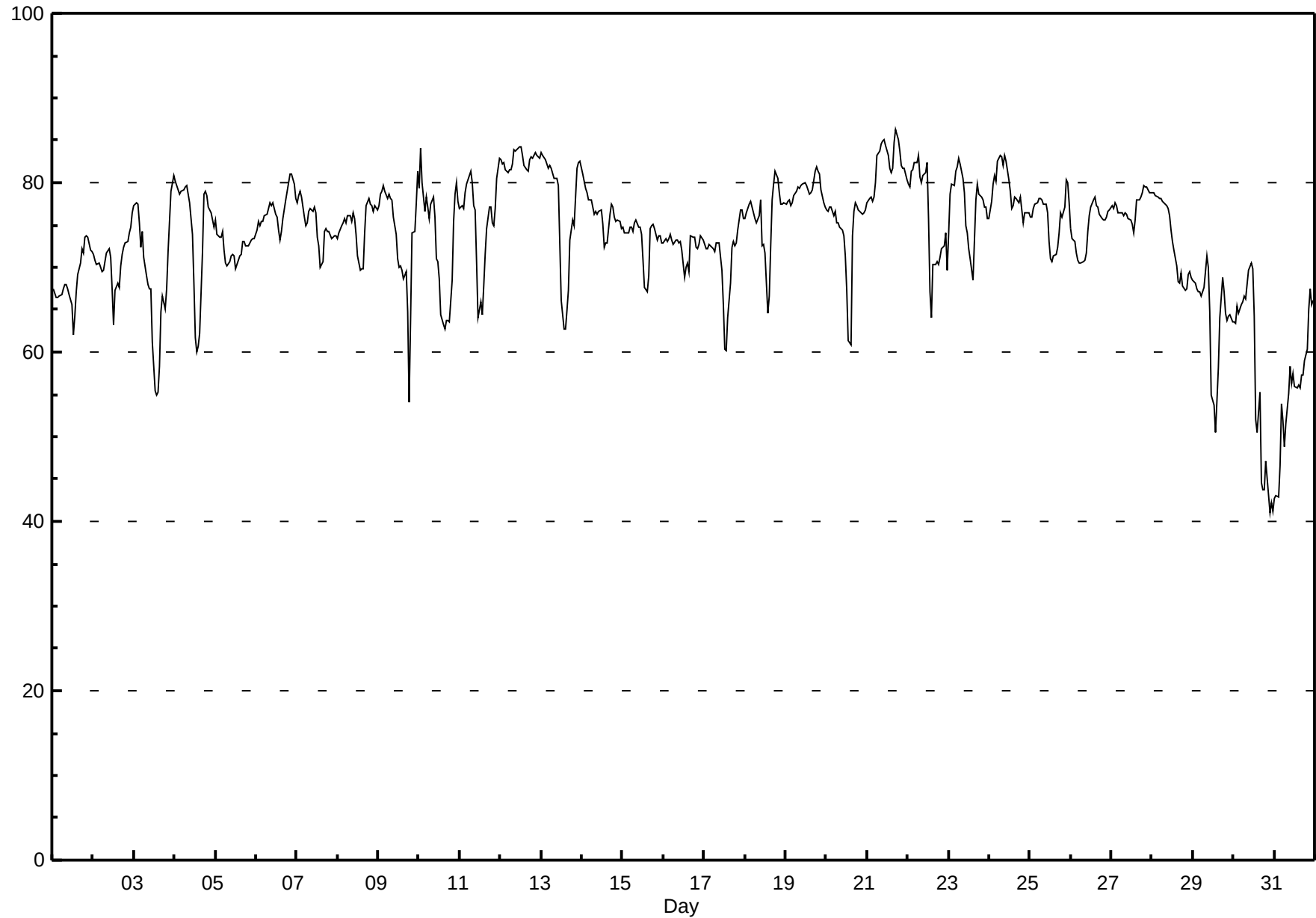
Relative Humidity (RH) - %

Henry Pirker - December 2014

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 86.3 % on Dec 21 18:00 Maximum Daily Average: 82.7 % on Dec 12																								Hours in Service: 744 Hours of Data: 744 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0		
Minimum Value: 41 % on Dec 30 22:00 Maximum Diurnal Average: 75.4 % at hour 9 Monthly Average: 73.50 %												Minimum Daily Average: 55.4 % on Dec 31 Minimum Diurnal Average: 67.9 % at hour 14 Percentiles: P ₁ = 43.7 P ₁₀ = 64.5 Q ₁ = 70.6 Median = 75.2 Q ₃ = 78.1 P ₉₀ = 81.1 P ₉₉ = 84.3														
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-Dec	68	67	66	66	67	67	67	68	68	68	67	66	62	64	67	69	70	72	72	74	74	74	72	72	68.6	73.8
2-Dec	71	71	70	71	70	70	70	71	72	72	71	68	63	67	68	68	70	72	72	73	73	74	75	76	70.7	76.4
3-Dec	77	78	77	75	72	74	71	69	68	67	67	61	55	55	55	58	65	67	65	67	72	75	79	81	68.9	80.8
4-Dec	80	80	79	79	79	79	79	80	79	78	74	68	62	60	61	62	72	79	79	78	77	76	76	75	74.6	80.2
5-Dec	76	74	74	73	74	72	71	70	71	71	72	71	70	71	71	72	73	73	73	72	73	73	73	73	72.3	75.6
6-Dec	74	76	75	75	75	76	76	77	78	77	78	76	76	74	73	74	76	78	79	80	81	81	80	78	76.8	80.9
7-Dec	78	78	79	78	76	75	75	77	77	77	77	76	74	73	70	71	74	75	74	74	73	73	74	74	75.0	79.0
8-Dec	73	74	75	75	76	75	76	76	75	76	76	74	71	70	70	70	74	77	78	77	77	77	77	77	74.9	78.1
9-Dec	77	79	79	80	79	78	79	78	78	76	74	71	70	70	70	69	70	65	54	64	74	74	78	81	73.5	81.4
10-Dec	79	84	80	77	78	77	76	78	78	76	71	71	69	64	63	63	64	64	64	69	75	79	80	78	73.1	84.1
11-Dec	77	77	77	79	80	80	81	80	77	77	71	64	66	64	68	71	75	77	77	75	75	77	81	83	75.4	82.9
12-Dec	83	82	82	82	81	82	82	82	84	84	84	84	84	83	82	82	81	83	83	83	83	83	83	83	82.7	84.3
13-Dec	84	83	83	82	82	82	82	81	80	81	80	73	66	63	63	65	67	73	76	75	78	82	82	82	76.8	83.5
14-Dec	81	80	79	79	78	78	77	76	77	76	77	77	75	72	73	73	76	77	77	76	75	76	75	75	76.5	81.0
15-Dec	75	74	74	74	75	75	74	75	76	75	75	74	71	68	67	69	75	75	75	75	73	74	74	73	73.4	75.6
16-Dec	73	73	73	73	74	73	73	73	73	73	73	72	69	70	71	69	74	74	74	72	72	73	74	73	72.5	73.9
17-Dec	73	72	72	73	72	72	72	73	73	73	70	66	60	60	64	68	72	73	73	73	74	77	77	76	71.1	76.7
18-Dec	76	76	78	78	77	76	76	75	76	78	73	73	72	65	67	73	78	80	81	80	79	78	77	78	75.8	81.4
19-Dec	77	78	78	77	78	79	79	79	79	80	80	80	80	79	79	79	79	81	82	81	81	79	78	77	79.1	81.8
20-Dec	77	77	77	77	76	77	75	75	75	74	74	71	67	61	61	74	77	78	77	77	76	76	76	77	74.3	77.7
21-Dec	78	78	78	78	78	80	83	84	85	85	85	84	83	82	81	82	85	86	85	84	82	82	82	80	82.1	86.3
22-Dec	80	80	81	81	82	82	83	81	80	81	81	82	76	67	64	70	70	71	70	71	72	73	74	70	76.0	83.2
23-Dec	74	79	80	80	81	82	83	82	81	79	75	74	72	71	68	73	78	80	79	78	78	77	77	76	77.3	82.8
24-Dec	76	78	80	81	80	83	83	83	82	83	82	80	79	77	77	78	78	78	78	77	75	76	76	76	79.1	83.2
25-Dec	76	76	77	78	78	78	78	78	77	77	76	73	71	71	71	72	72	74	76	76	77	80	80	78	75.9	80.4
26-Dec	75	73	73	72	71	70	70	71	71	72	74	76	77	78	78	77	77	76	76	76	76	76	77	77	74.5	78.3
27-Dec	77	77	78	77	76	76	76	76	77	76	76	76	75	74	76	78	78	78	79	80	79	79	79	79	77.2	79.7
28-Dec	79	79	78	78	78	78	78	78	77	77	76	74	73	72	70	68	68	69	68	67	67	69	69	69	73.4	78.9
29-Dec	69	68	67	67	67	67	68	69	71	70	65	55	54	50	54	58	64	69	67	65	64	64	64	64	64.2	71.4
30-Dec	64	63	65	65	66	66	67	66	68	70	70	70	64	52	51	55	45	44	44	47	45	41	42	41	57.1	70.4
31-Dec	43	43	43	47	54	52	49	52	55	58	56	58	56	56	56	56	57	57	59	60	65	67	66	66	55.4	67.4
74.7 75.1 75.1 75.0 75.2 75.2 75.1 75.2 75.4 75.4 74.1 72.2 69.7 67.9 68.0 69.8 72.1 73.3 73.1 73.4 74.2 74.7 75.1 74.7																								Diurnal Average		
83.5 84.1 82.7 82.2 82.4 82.5 83.3 83.8 84.5 84.9 85.1 84.4 84.3 83.3 82.1 81.7 84.8 86.3 85.1 83.6 83.5 83.1 83.0 82.9																								Diurnal Maximum		

Hourly Averages

Relative Humidity (RH) - %
Henry Pirker - December 2014



Hourly Averages

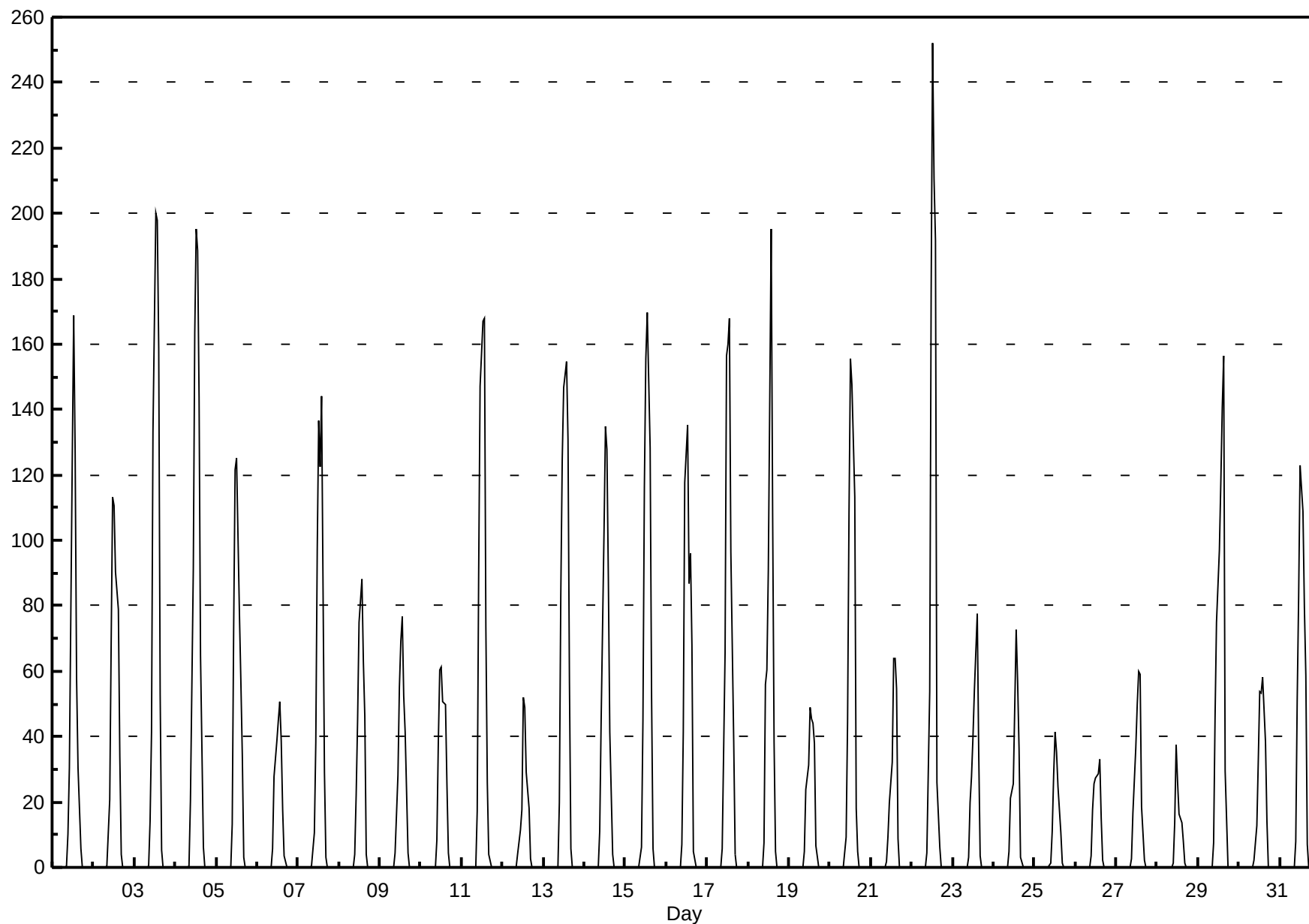
Solar Radiation (SR) - W/m²

Henry Pirker - December 2014

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 252.2 W/m ² on Dec 22 13:00 Maximum Daily Average: 38.4 W/m ² on Dec 22																								Hours in Service: 744 Hours of Data: 744 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0			
Minimum Value: 0 W/m ² on Dec 1 01:00 Maximum Diurnal Average: 104.0 W/m ² at hour 13 Monthly Average: 19.31 W/m ²												Minimum Daily Average: 4.9 W/m ² on Dec 28 Minimum Diurnal Average: 0.0 W/m ² at hour 1 Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 13.3 P ₉₀ = 72.6 P ₉₉ = 188.5															
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-Dec	0	0	0	0	0	0	0	0	0	10	31	125	169	127	58	30	6	0	0	0	0	0	0	0	0	23.1	168.9
2-Dec	0	0	0	0	0	0	0	0	0	21	69	113	111	90	79	34	4	0	0	0	0	0	0	0	0	21.7	113.4
3-Dec	0	0	0	0	0	0	0	0	1	14	41	133	200	198	159	53	5	0	0	0	0	0	0	0	0	33.5	200.2
4-Dec	0	0	0	0	0	0	0	0	0	20	91	163	195	189	144	65	6	0	0	0	0	0	0	0	0	36.4	195.1
5-Dec	0	0	0	0	0	0	0	0	0	13	73	121	125	77	57	34	3	0	0	0	0	0	0	0	0	21.0	125.1
6-Dec	0	0	0	0	0	0	0	0	0	6	28	39	45	51	39	17	4	0	0	0	0	0	0	0	0	9.5	50.6
7-Dec	0	0	0	0	0	0	0	0	0	11	38	98	137	122	144	29	3	0	0	0	0	0	0	0	0	24.2	144.1
8-Dec	0	0	0	0	0	0	0	0	0	4	22	45	75	88	63	46	4	0	0	0	0	0	0	0	0	14.5	87.9
9-Dec	0	0	0	0	0	0	0	0	0	5	28	55	69	77	52	41	4	0	0	0	0	0	0	0	0	13.8	76.7
10-Dec	0	0	0	0	0	0	0	0	0	8	38	61	61	51	50	25	4	0	0	0	0	0	0	0	0	12.4	61.3
11-Dec	0	0	0	0	0	0	0	0	0	17	89	147	167	168	74	26	4	0	0	0	0	0	0	0	0	28.8	167.9
12-Dec	0	0	0	0	0	0	0	0	0	4	12	18	52	49	29	18	3	0	0	0	0	0	0	0	0	7.7	52.1
13-Dec	0	0	0	0	0	0	0	0	0	20	83	125	147	155	131	57	6	0	0	0	0	0	0	0	0	30.1	154.6
14-Dec	0	0	0	0	0	0	0	0	0	11	45	103	135	128	89	42	4	0	0	0	0	0	0	0	0	23.2	135.0
15-Dec	0	0	0	0	0	0	0	0	0	6	45	116	155	170	128	52	6	0	0	0	0	0	0	0	0	28.3	169.8
16-Dec	0	0	0	0	0	0	0	0	0	7	42	118	135	87	96	68	5	0	0	0	0	0	0	0	0	23.2	135.4
17-Dec	0	0	0	0	0	0	0	0	0	6	66	157	160	168	96	38	4	0	0	0	0	0	0	0	0	28.9	168.0
18-Dec	0	0	0	0	0	0	0	0	0	7	56	61	91	195	108	39	5	0	0	0	0	0	0	0	0	23.4	195.1
19-Dec	0	0	0	0	0	0	0	0	0	5	24	31	49	45	44	38	7	0	0	0	0	0	0	0	0	10.1	48.8
20-Dec	0	0	0	0	0	0	0	0	0	9	44	109	155	148	113	18	5	0	0	0	0	0	0	0	0	25.1	155.4
21-Dec	0	0	0	0	0	0	0	0	0	2	9	20	32	64	64	55	9	0	0	0	0	0	0	0	0	10.6	63.9
22-Dec	0	0	0	0	0	0	0	0	0	5	54	176	252	211	192	26	6	0	0	0	0	0	0	0	0	38.4	252.2
23-Dec	0	0	0	0	0	0	0	0	0	3	20	28	40	54	78	35	4	0	0	0	0	0	0	0	0	10.9	77.6
24-Dec	0	0	0	0	0	0	0	0	0	5	21	26	49	73	57	36	3	0	0	0	0	0	0	0	0	11.2	72.6
25-Dec	0	0	0	0	0	0	0	0	0	1	11	28	41	35	25	11	2	0	0	0	0	0	0	0	0	6.4	41.5
26-Dec	0	0	0	0	0	0	0	0	0	3	18	26	27	29	33	15	2	0	0	0	0	0	0	0	0	6.4	32.9
27-Dec	0	0	0	0	0	0	0	0	0	3	17	37	50	60	59	19	2	0	0	0	0	0	0	0	0	10.2	60.0
28-Dec	0	0	0	0	0	0	0	0	0	2	13	38	26	16	14	8	1	0	0	0	0	0	0	0	0	4.9	37.6
29-Dec	0	0	0	0	0	0	0	0	0	8	46	75	97	118	141	156	29	0	0	0	0	0	0	0	0	27.9	156.5
30-Dec	0	0	0	0	0	0	0	0	0	2	13	33	54	54	58	38	14	0	0	0	0	0	0	0	0	11.1	58.1
31-Dec	0	0	0	0	0	0	0	0	0	8	51	82	123	109	79	59	7	0	0	0	0	0	0	0	0	21.6	122.9
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.1 7.9 39.9 80.7 104.0 103.3 82.3 39.6 5.5 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0																								Diurnal Average			
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.7 20.6 91.1 175.9 252.2 210.9 191.7 156.5 29.4 0.1 0.0 0.0 0.0 0.0 0.0 0.0 0.0																								Diurnal Maximum			

Hourly Averages

Solar Radiation (SR) - W/m²
Henry Pirker - December 2014



Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Henry Pirker - December 2014

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1 Spd	0	1	2	2	3	2	2	2	3	3	3	3	2	3	2	2	3	4	2	2	3	3	3	3	2.5	4.1	
Dir	256	313	327	315	332	335	283	311	323	312	319	316	300	311	327	303	318	325	322	337	341	350	318	337	321.3	324.8	
2 Spd	3	3	3	4	3	2	2	1	3	2	3	2	2	3	3	3	3	2	2	2	2	1	1	1	2.2	3.6	
Dir	334	338	315	342	342	336	322	1	22	313	306	323	324	334	314	306	318	305	315	310	296	349	91	313	325.9	341.7	
3 Spd	2	4	6	7	7	6	12	8	10	12	9	8	9	10	6	6	5	8	8	8	4	3	2	4	6.4	11.8	
Dir	353	309	292	266	289	313	290	298	262	269	273	277	286	288	302	276	274	262	278	283	304	308	336	326	285.5	289.6	
4 Spd	3	4	4	4	3	4	2	3	3	4	4	4	4	4	3	2	3	2	3	3	3	3	3	1	2.9	4.1	
Dir	318	337	331	326	331	309	290	293	305	316	322	299	313	307	262	259	291	291	331	315	328	323	322	338	312.4	307.0	
5 Spd	2	3	2	1	1	1	2	2	2	1	2	1	2	2	2	1	1	2	1	1	1	0	0	0	1.2	2.7	
Dir	341	328	331	54	154	359	313	324	335	360	319	303	317	327	305	322	330	310	330	335	315	273	33	274	326.1	327.6	
6 Spd	1	0	2	1	1	1	0	1	1	1	2	1	3	2	1	1	2	3	3	2	2	1	2	2	0.2	3.3	
Dir	359	7	155	11	311	352	133	354	279	175	346	47	335	8	331	303	193	162	173	154	87	85	348	311	12.9	173.0	
7 Spd	3	2	2	2	2	3	1	1	3	4	4	1	2	3	2	2	2	2	2	3	2	2	2	2	0.8	4.3	
Dir	336	21	120	129	323	317	90	151	136	133	124	155	352	352	318	298	328	328	333	325	322	323	319	327	346.2	124.1	
8 Spd	2	1	1	1	1	1	1	1	1	2	1	2	3	3	1	1	3	1	3	1	2	3	3	1	1.0	3.0	
Dir	322	296	321	21	263	290	158	170	260	319	234	237	174	192	280	307	315	342	342	295	316	316	328	291	293.3	192.0	
9 Spd	1	2	1	0	2	1	2	1	2	3	3	3	2	5	6	6	8	11	13	19	9	3	3	1	2.1	19.1	
Dir	255	292	329	104	298	323	339	188	145	117	113	124	66	121	122	124	126	152	204	246	230	56	104	257	172.5	246.2	
10 Spd	1	3	2	2	3	3	2	2	2	3	2	2	5	8	9	9	10	11	8	1	3	3	1	3	3.3	10.6	
Dir	52	150	158	116	112	124	118	83	23	93	83	154	100	103	98	99	110	102	102	42	305	327	342	85	99.5	102.3	
11 Spd	5	4	5	4	1	4	12	12	11	8	5	4	5	7	4	3	3	4	6	6	6	3	6	9	3.1	11.9	
Dir	78	73	80	60	57	298	292	300	310	314	312	323	355	343	333	311	329	21	128	67	55	358	55	56	355.6	292.4	
12 Spd	6	5	3	3	3	3	3	4	3	2	2	3	2	1	3	2	2	2	1	1	0	2	2	3	1.3	6.0	
Dir	94	85	142	45	7	3	77	98	78	181	96	134	170	136	115	121	173	176	331	103	45	320	317	315	91.9	94.4	
13 Spd	3	3	2	3	0	2	2	2	0	1	2	8	7	5	5	5	8	6	5	5	3	N	N	N	3.0	7.7	
Dir	315	334	323	327	270	353	341	320	267	323	205	235	260	296	244	238	274	291	285	297	327	N	N	N	282.1	234.9	
14 Spd	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--	
Dir	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--	
15 Spd	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--	
Dir	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--	
16 Spd	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--	
Dir	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--	
17 Spd	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--	
Dir	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--	
18 Spd	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	3	4	4	4	4	3	2	2	2	--	4.0
Dir	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	346	4	328	342	325	324	310	320	312	--	3.8
19 Spd	2	2	2	2	2	1	0	2	1	1	1	3	3	0	2	3	3	2	1	2	1	1	3	3	0.4	3.1	
Dir	283	5	315	285	326	320	291	160	208	165	178	216	289	290	167	165	169	171	42	95	336	337	330	330	262.4	164.6	
20 Spd	3	3	3	3	2	2	2	2	1	1	1	1	1	2	3	3	3	4	3	4	2	2	2	2	2.1	4.0	
Dir	329	322	334	325	301	344	328	321	326	328	326	324	314	314	298	325	314	320	316	318	294	327	313	242	318.1	319.5	
21 Spd	1	3	1	1	3	5	6	4	5	3	3	4	5	4	3	3	1	1	3	3	3	3	2	1	2.1	5.8	
Dir	358	176	336	265	263	338	331	294	285	265	219	249	257	274	241	246	261	292	309	343	338	357	320	287	287.4	330.8	
22 Spd	1	0	2	0	2	2	2	1	1	2	1	2	3	3	3	3	10	10	10	8	5	2	3	10	3.0	10.3	
Dir	332	297	135	18	288	302	306	331	255	310	350	355	340	351	315	286	262	248	245	250	272	281	283	274	274.8	245.0	

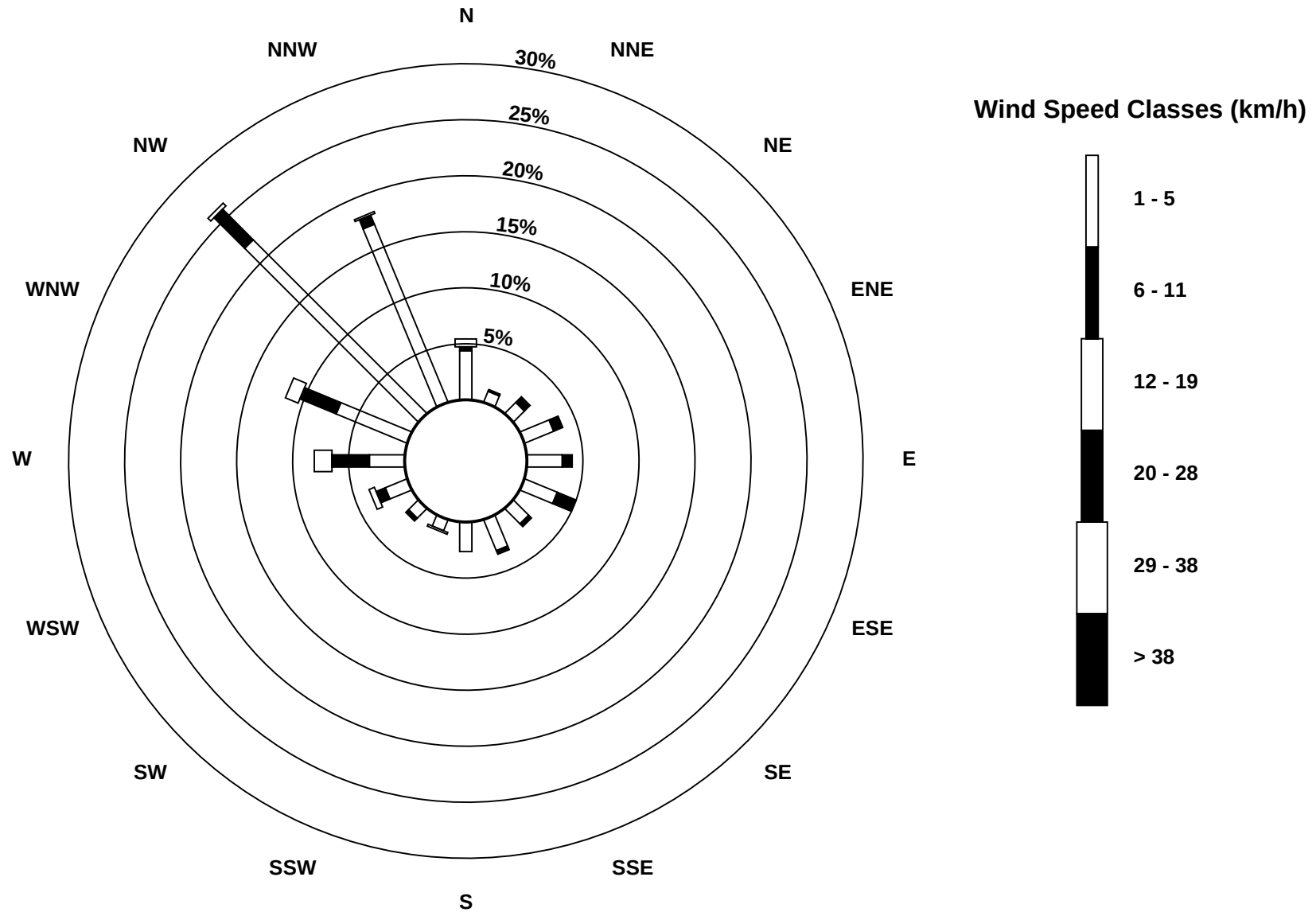
Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Henry Pirker - December 2014

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum					
	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	2	3	2	4	2	2	3	3	4	7	6	5	2	2	1	2	2	2	3	6	4	4	4	1.6	6.6					
Dir	273	226	243	188	167	159	110	121	122	136	118	114	110	72	37	316	301	270	216	188	158	178	229	272	164.3	118.5					
24 Spd	4	3	1	2	4	5	6	3	4	5	2	6	8	10	8	6	4	3	3	4	6	6	5	3	3.2	10.4					
Dir	324	318	346	337	332	326	336	354	347	340	57	34	69	75	73	67	56	58	73	77	86	98	104	91	44.8	75.0					
25 Spd	5	5	5	6	7	4	3	3	1	6	8	10	12	9	11	4	4	4	2	2	2	1	1	1	0.9	11.7					
Dir	93	92	109	114	117	89	84	87	26	331	308	307	305	297	290	263	238	196	207	200	185	220	147	307	300.9	305.3					
26 Spd	2	3	4	3	3	2	2	2	2	1	1	1	1	1	1	1	2	2	1	1	2	2	2	1	1.7	3.5					
Dir	321	321	335	329	330	326	324	338	340	346	5	320	315	331	327	314	325	315	331	333	320	351	328	357	329.8	335.3					
27 Spd	1	1	1	1	1	1	1	1	0	0	1	1	1	0	1	4	5	5	5	5	4	5	6	5	1.8	5.6					
Dir	344	357	125	235	4	341	305	5	129	292	318	330	333	321	46	76	73	72	64	58	27	34	17	347	36.4	17.3					
28 Spd	4	5	7	8	8	7	7	7	9	9	8	8	11	11	14	16	10	9	14	12	9	12	12	11	9.0	15.6					
Dir	355	338	310	309	317	322	324	321	317	316	316	317	322	317	352	358	358	352	351	1	348	325	338	323	333.6	358.0					
29 Spd	10	8	7	7	5	5	6	6	2	3	2	3	4	3	2	3	1	3	3	3	3	3	3	3	3.8	9.9					
Dir	318	320	310	309	309	272	246	281	274	303	298	317	313	297	320	330	325	312	334	324	320	331	309	329	307.7	318.0					
30 Spd	4	3	2	2	2	3	4	2	2	1	2	3	2	4	3	9	11	11	11	6	10	10	9	11	4.5	11.4					
Dir	324	296	338	338	356	311	346	287	326	314	161	155	333	326	313	288	259	260	265	283	283	266	294	283	284.9	259.5					
31 Spd	8	8	13	12	5	9	12	12	8	9	15	13	17	18	19	17	17	19	16	12	8	9	9	10	12.0	19.2					
Dir	282	272	271	298	274	270	286	283	292	290	287	280	266	281	276	272	265	255	253	265	295	288	261	252	274.2	255.3					
Spd	1.9	1.5	1.5	1.6	1.6	2.2	2.5	1.9	1.9	2.0	1.6	1.9	2.4	2.5	1.9	1.8	1.8	1.8	1.9	2.2	1.9	2.1	2.0	2.4	Diurnal Average						
Dir	333.4	329.4	308.6	319.7	314.0	316.9	308.4	305.4	307.4	305.7	299.1	290.4	305.1	316.9	312.4	306.2	286.6	273.2	281.3	296.5	314.6	323.7	324.9	310.1	Diurnal Maximum						
Spd	9.9	8.5	12.8	12.5	8.3	8.7	11.9	12.0	11.2	11.6	14.6	12.5	17.2	18.0	18.7	17.1	16.7	19.2	15.5	19.1	10.4	12.0	12.1	11.4	Diurnal Maximum						
Dir	318.0	271.8	270.6	297.9	316.6	270.2	292.4	283.3	310.4	268.6	287.2	280.4	266.4	281.2	276.3	271.6	264.7	255.3	252.9	246.2	282.5	325.4	337.8	282.9							
Maximum Speed Value: 19 km/h on Dec 31 18:00																		Minimum Speed Value: 0 km/h on Dec 22 04:00													
Maximum Daily Speed Average: 12.0 km/h on Dec 31																		Minimum Daily Speed Average: 0.2 km/h on Dec 5													
Maximum Diurnal Speed Average: 2.5 km/h at hour 7																		Minimum Diurnal Speed Average: 1.5 km/h at hour 3													
Monthly Average Velocity: 1.90 km/h 307.93 deg																		Speed Percentiles: P ₁ = 0.2 P ₁₀ = 1.1 Q ₁ = 1.7 Median = 2.8 Q ₃ = 4.8 P ₉₀ = 8.8 P ₉₉ = 17.0													
All monthly, daily, and diurnal averages have been calculated using vector methods																		Percent Operational Time: 84.7													
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	70		8		5		0		0		0		83																		
NorthEast	21		8		0		0		0		0		29																		
East	35		15		0		0		0		0		50																		
SouthEast	33		9		1		0		0		0		43																		
South	31		1		0		0		0		0		32																		
SouthWest	19		4		1		1		0		0		25																		
West	47		40		17		1		0		0		105																		
NorthWest	225		32		6		0		0		0		263																		
Total	481		117		30		2		0		0		630																		

Wind Rose

Wind Speed (WS) (km/h)
Henry Pirker - December 2014



Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Henry Pirker - December 2014

Maximum Speed: 20 km/h on Dec 9 20:00																		Maximum Daily Speed Average: 12.5 km/h on Dec 31																		Hours in Service: 744	
Minimum Speed: 0 km/h on Dec 27 10:00																		Minimum Daily Speed Average: 1.4 km/h on Dec 5																		Hours of Data: 666	
Maximum Diurnal Speed Average: 5.3 km/h at hour 19																		Minimum Diurnal Speed Average: 3.3 km/h at hour 6																		Hours of Missing Data: 78	
Monthly Average Speed: 4.09 km/h																		Percentiles: P ₁ = 0.5 P ₁₀ = 1.4 Q ₁ = 2.1 Median = 3.0 Q ₃ = 5.0 P ₉₀ = 8.8 P ₉₉ = 16.8																		Percent Operational Time: 89.5	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum											
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24													
1-Dec	1	2	2	3	3	2	2	2	3	4	4	3	3	4	2	2	3	4	3	2	3	4	3	3	2.8	4.2											
2-Dec	3	3	4	4	3	2	3	2	3	4	4	2	2	4	3	3	3	3	3	2	2	2	2	2	2.8	3.8											
3-Dec	2	4	6	7	7	7	12	9	10	12	9	8	9	10	6	6	5	8	8	8	5	3	3	4	7.0	12.0											
4-Dec	3	4	4	4	3	4	3	4	3	4	4	4	4	4	3	2	3	3	3	3	3	3	3	2	3.3	4.3											
5-Dec	2	3	2	1	2	1	2	2	2	1	2	1	2	2	2	1	1	2	2	1	2	1	0	0	1.4	2.7											
6-Dec	1	1	2	1	1	1	1	2	1	1	2	1	3	3	1	1	2	3	3	3	2	2	2	2	1.8	3.4											
7-Dec	3	3	2	2	2	3	2	1	3	4	4	2	2	3	2	2	2	2	2	3	3	2	2	3	2.4	4.4											
8-Dec	3	2	2	2	2	2	1	2	2	2	2	2	3	3	2	2	3	2	3	2	2	3	3	2	2.3	3.5											
9-Dec	3	3	2	2	3	2	2	2	3	4	4	4	3	5	6	6	8	12	15	20	9	5	3	3	5.4	20.4											
10-Dec	3	3	3	3	4	4	3	3	3	3	3	3	5	9	9	9	10	11	8	4	4	4	3	4	4.9	10.7											
11-Dec	5	5	5	5	3	4	12	12	11	8	5	4	6	7	5	4	4	5	6	7	7	4	7	10	6.3	12.1											
12-Dec	6	5	3	3	3	3	3	5	3	3	2	4	3	2	3	3	2	2	2	2	1	3	3	3	3.0	6.4											
13-Dec	3	3	2	3	1	2	2	2	1	2	3	8	7	5	5	5	8	6	5	5	3	3	2	3	3.7	7.9											
14-Dec	3	4	2	3	1	2	3	1	1	1	1	1	1	2	2	3	3	4	3	3	2	2	3	2	2.1	3.6											
15-Dec	2	3	2	3	2	2	1	2	1	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	3.0											
16-Dec	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--											
17-Dec	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--											
18-Dec	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	4.3											
19-Dec	3	3	2	2	2	2	2	2	2	2	2	3	4	2	2	3	3	2	2	3	2	2	3	3	2.5	3.7											
20-Dec	3	3	3	3	2	2	2	2	1	1	1	2	1	2	3	4	3	4	4	4	2	3	3	3	2.6	4.1											
21-Dec	2	3	2	2	4	6	6	4	5	3	3	5	5	4	3	3	2	1	3	3	3	3	3	1	3.3	5.9											
22-Dec	2	0	2	1	4	2	3	2	2	2	1	2	3	3	4	4	10	10	10	9	5	5	4	10	4.2	10.4											
23-Dec	4	3	4	3	4	2	2	4	3	4	7	6	5	3	3	2	3	3	3	4	6	5	4	5	3.8	6.7											
24-Dec	4	3	1	2	4	5	6	4	4	6	3	6	8	11	8	6	4	3	4	4	7	6	5	3	4.9	10.5											
25-Dec	5	5	5	6	7	4	3	3	2	6	8	10	12	9	11	5	4	4	2	2	2	1	1	1	5.0	11.8											
26-Dec	3	3	4	3	3	2	2	2	2	1	1	1	1	1	1	1	2	2	1	2	2	2	2	1	1.8	3.6											
27-Dec	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	4	5	5	5	5	4	6	6	5	2.5	5.7											
28-Dec	5	5	8	8	8	7	7	7	9	9	8	8	11	11	14	16	10	9	14	12	10	12	12	11	9.6	15.7											
29-Dec	10	8	7	7	5	5	6	6	2	3	2	3	4	3	2	4	1	3	4	3	3	3	3	3	4.2	9.9											
30-Dec	4	3	3	2	2	4	4	3	2	1	2	3	3	4	3	9	12	11	11	7	10	10	9	12	5.5	11.6											
31-Dec	8	9	13	13	6	9	12	12	9	10	15	13	17	18	19	17	17	19	16	13	8	9	9	10	12.5	19.3											
Diurnal Average																																					
Diurnal Maximum																																					
N - Not Valid																																					
All monthly, daily, and diurnal averages have been calculated using scalar methods																																					

Hourly Standard Deviations

Wind Direction (WD) - deg
Henry Pirker - December 2014

Maximum Value: 98.7 deg on Dec 19 09:00																			Hours in Service: 744						
Minimum Value: 5.5 deg on Dec 30 16:00																			Hours of Data: 630						
Percentiles: P ₁ = 6.0 P ₁₀ = 9.1 Q ₁ = 13.5 Median = 22.4 Q ₃ = 41.4 P ₉₀ = 61.9 P ₉₉ = 88.9																			Hours of Missing Data: 114						
																			Hours of Calibration: 0						
																			Percent Operational Time: 84.7						
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-Dec	72	47	22	22	16	21	27	21	35	27	27	21	31	23	36	33	19	15	40	60	21	15	28	16	71.7
2-Dec	17	13	21	7	10	23	29	81	46	51	29	17	37	35	30	17	24	19	44	42	17	86	58	57	86.1
3-Dec	40	26	17	10	19	15	12	19	15	10	17	10	12	13	23	13	10	18	9	8	18	13	38	17	39.8
4-Dec	23	17	17	9	19	18	41	34	18	23	18	15	13	18	29	33	12	31	16	18	41	11	24	43	42.9
5-Dec	23	12	27	30	38	34	29	18	13	10	16	17	19	16	15	17	16	18	14	15	29	66	49	85	85.0
6-Dec	12	89	16	47	38	58	70	71	38	71	36	32	15	30	59	56	34	10	9	38	29	40	21	28	89.4
7-Dec	25	55	39	27	33	26	52	45	20	17	13	70	17	10	19	16	21	16	23	17	18	20	18	27	69.8
8-Dec	28	65	46	68	63	62	71	71	59	35	42	26	22	32	72	75	46	66	39	77	72	22	19	54	77.1
9-Dec	72	64	87	89	73	68	49	75	50	43	45	66	48	17	11	11	14	13	30	19	10	64	18	74	89.0
10-Dec	60	30	48	49	51	40	60	36	61	28	70	52	18	12	7	9	7	7	12	75	56	33	77	46	77.1
11-Dec	25	30	29	31	84	35	9	12	8	8	13	35	17	12	59	59	36	52	20	34	38	57	20	19	84.0
12-Dec	20	41	30	33	24	31	33	29	37	68	57	50	51	58	14	60	34	56	51	73	89	30	47	19	89.2
13-Dec	10	17	26	9	70	34	19	45	93	49	66	12	13	25	24	23	11	13	18	22	18	N	N	N	92.5
14-Dec	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--
15-Dec	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--
16-Dec	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--
17-Dec	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--
18-Dec	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--
19-Dec	53	22	51	39	47	74	86	27	99	55	74	40	37	90	36	21	18	26	60	72	67	47	38	26	98.7
20-Dec	29	39	28	36	52	28	16	19	31	28	44	48	34	10	15	27	25	12	39	20	37	46	61	72	72.0
21-Dec	73	30	56	58	42	11	12	9	8	29	14	13	14	14	15	14	43	64	29	15	15	26	40	56	72.6
22-Dec	52	74	45	84	67	20	32	57	70	26	32	18	12	15	42	26	11	8	7	14	18	78	72	11	84.4
23-Dec	33	28	37	49	22	18	16	19	17	11	11	9	20	49	57	71	38	53	53	49	12	20	15	31	71.0
24-Dec	7	39	39	37	15	9	9	60	16	10	47	16	12	10	13	15	16	19	21	14	10	9	20	30	60.2
25-Dec	10	10	14	13	10	13	13	31	61	9	7	6	7	9	6	24	19	24	36	25	24	41	36	82	81.8
26-Dec	22	20	9	6	7	14	15	21	39	58	37	37	43	38	38	26	16	8	12	16	14	13	7	40	57.6
27-Dec	18	22	58	52	41	50	44	44	71	57	16	9	21	61	60	11	13	13	13	16	15	17	12	15	71.2
28-Dec	23	13	7	6	7	6	6	6	6	6	7	8	7	6	13	8	9	10	8	10	19	8	7	7	23.3
29-Dec	6	7	7	9	8	15	13	11	36	19	39	12	19	18	13	11	75	20	19	9	12	9	23	36	74.5
30-Dec	19	20	55	39	62	24	32	32	47	53	46	17	68	15	16	6	11	7	11	22	6	12	14	9	68.3
31-Dec	10	13	16	11	32	13	11	15	40	20	16	13	9	10	6	8	8	6	8	8	21	9	7	6	40.3
72.6 89.4 87.3 89.0 84.0 74.2 85.6 80.5 98.7 70.8 74.2 69.8 68.3 90.2 72.5 75.3 74.5 66.1 60.3 77.1 89.2 86.1 77.1 85.0																									
N - Not Valid																									

PAZA

Evergreen Park Station

Monthly Summary Tables, Graphs and
Roses

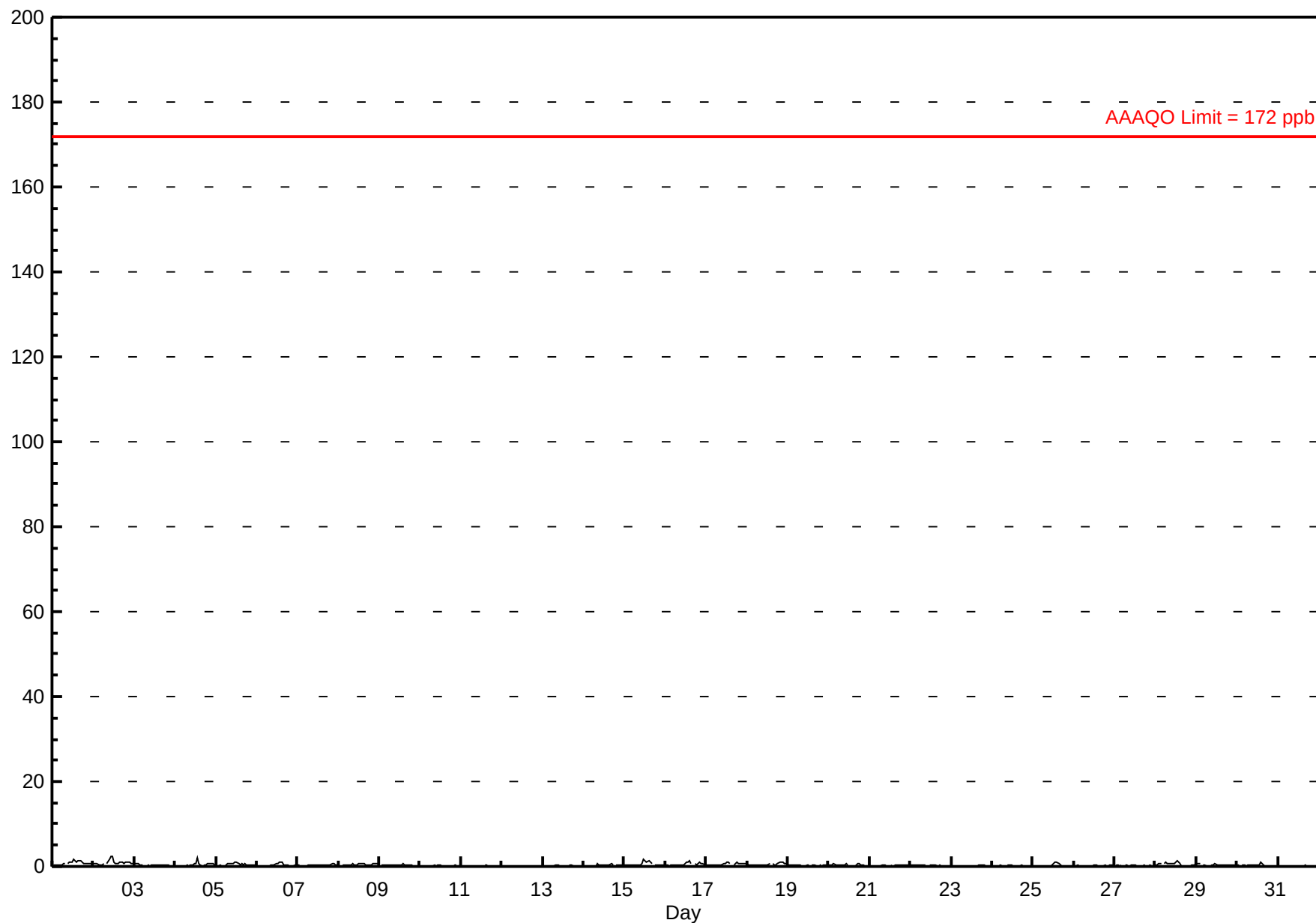
Hourly Averages

Sulphur Dioxide (SO₂) - ppb Evergreen Park - December 2014

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 2.4 ppb on Dec 2 12:00 Maximum Daily Average: 0.9 ppb on Dec 2																				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 Dec 4 04:00 Maximum Diurnal Average: 0.5 ppb at hour 14 Monthly Average: 0.32 ppb										Minimum Daily Average: 0.0 ppb on Dec 12 Minimum Diurnal Average: 0.2 ppb at hour 5 Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 0.2 Q ₃ = 0.4 P ₉₀ = 0.7 P ₉₉ = 1.2																
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Dec	0	0	0	0	0	0	1	1	A	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	0.8	1.8
2-Dec	1	1	1	0	0	0	1	A	1	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	0.9	2.4
3-Dec	1	1	1	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.8
4-Dec	0	0	0	0	0	A	0	0	0	0	0	1	1	2	1	0	0	0	0	1	1	1	1	0	0.4	2.0
5-Dec	0	0	0	0	A	0	0	1	1	1	1	1	1	1	0	1	0	1	0	0	0	0	0	0	0.4	1.1
6-Dec	0	0	0	A	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0.4	1.2
7-Dec	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0.3	0.6
8-Dec	1	A	0	0	0	0	0	0	1	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1	0.5	0.7
9-Dec	A	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	A	0.3	0.5
10-Dec	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.1	0.4
11-Dec	0	0	0	0	0	0	0	0	0	0	0	C	C	C	0	0	0	0	0	0	0	A	0	0	0.1	0.4
12-Dec	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
13-Dec	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.1	0.4
14-Dec	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1	0	A	0	0	0	0	0	0.3	0.6
15-Dec	0	0	0	0	0	0	0	0	0	0	1	2	1	1	1	1	1	A	0	0	1	1	0	0	0.6	1.6
16-Dec	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	A	1	0	1	1	1	1	0	0.5	1.2
17-Dec	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	A	0	1	1	1	1	1	1	1	0.6	1.0
18-Dec	1	0	0	0	0	0	0	0	0	0	0	0	0	1	A	1	0	0	1	1	1	1	1	1	0.5	1.0
19-Dec	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	0.5
20-Dec	0	0	0	1	0	0	0	0	0	0	1	0	A	0	0	0	0	1	1	0	0	0	0	0	0.4	0.7
21-Dec	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4
22-Dec	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.5
23-Dec	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	0.4
24-Dec	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
25-Dec	0	0	0	0	0	0	0	A	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0.2	1.1
26-Dec	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
27-Dec	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4
28-Dec	0	0	1	1	A	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0.5	1.3
29-Dec	1	1	1	A	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0.4	0.7
30-Dec	0	0	A	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0.2	1.0
31-Dec	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
0.3 0.2 0.2 0.2 0.2 0.2 0.2 0.3 0.3 0.3 0.4 0.5 0.5 0.5 0.5 0.4 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3																								Diurnal Average		
0.8 0.7 0.6 0.8 0.5 0.6 0.9 0.8 0.8 1.6 2.2 2.4 1.8 2.0 1.2 1.4 1.2 0.9 1.0 1.0 1.0 0.9 0.7 0.7																								Diurnal Maximum		
C - Calibration A - Automated Daily Zero Span																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb 30-day 11 ppb																										

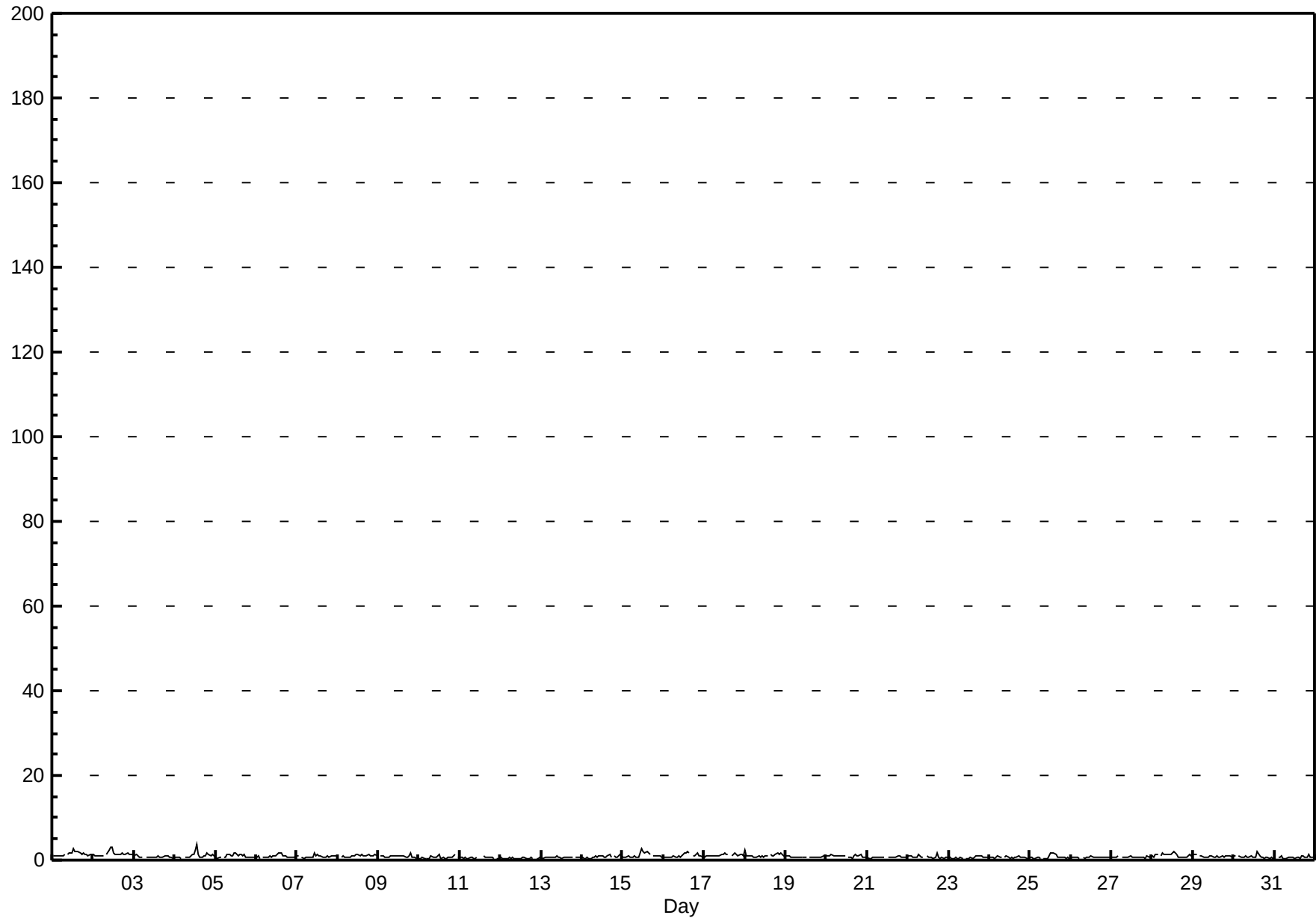
Hourly Averages

Sulphur Dioxide (SO₂) - ppb
Evergreen Park - December 2014



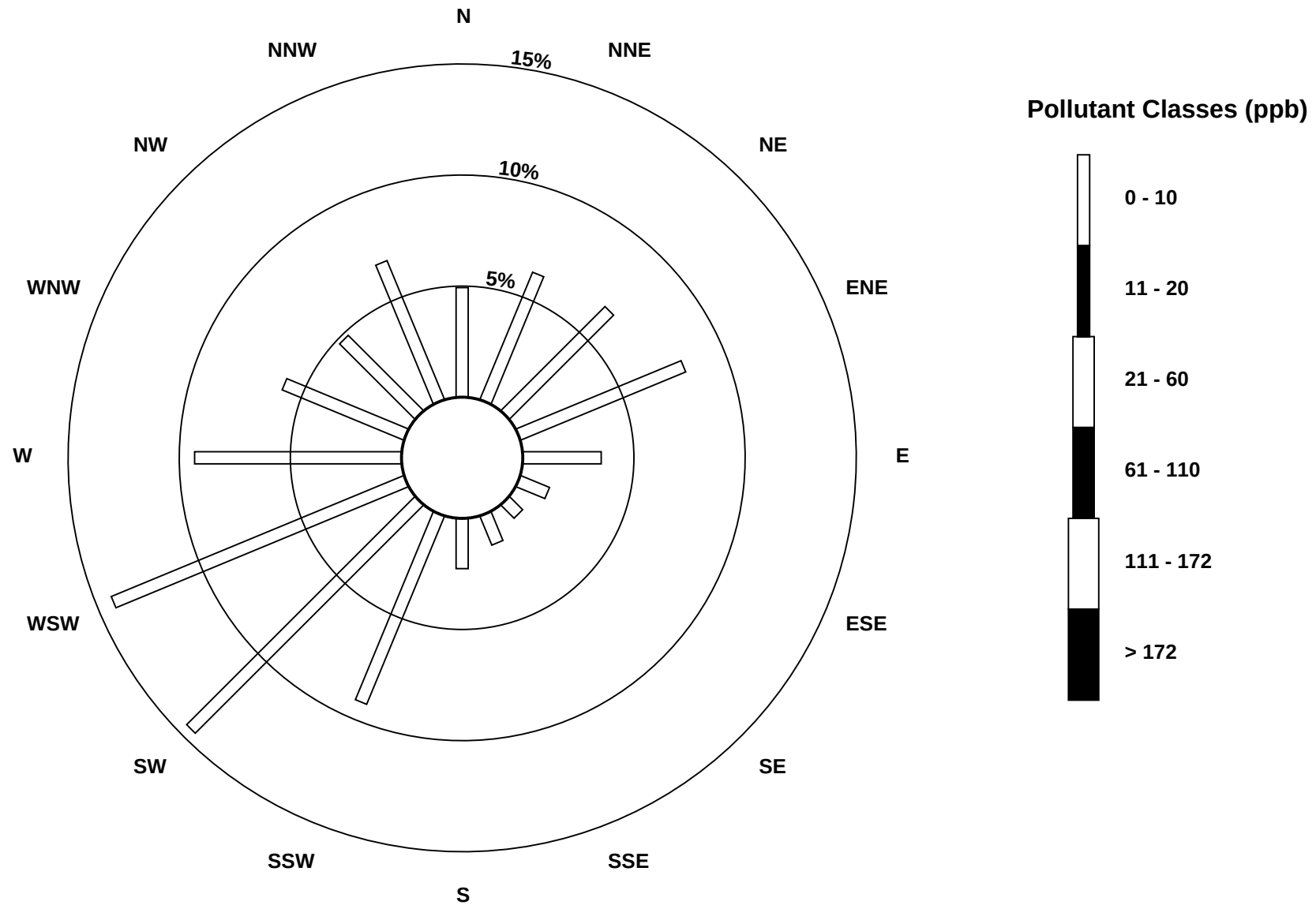
Hourly Maximums

Sulphur Dioxide (SO₂) - ppb
Evergreen Park - December 2014



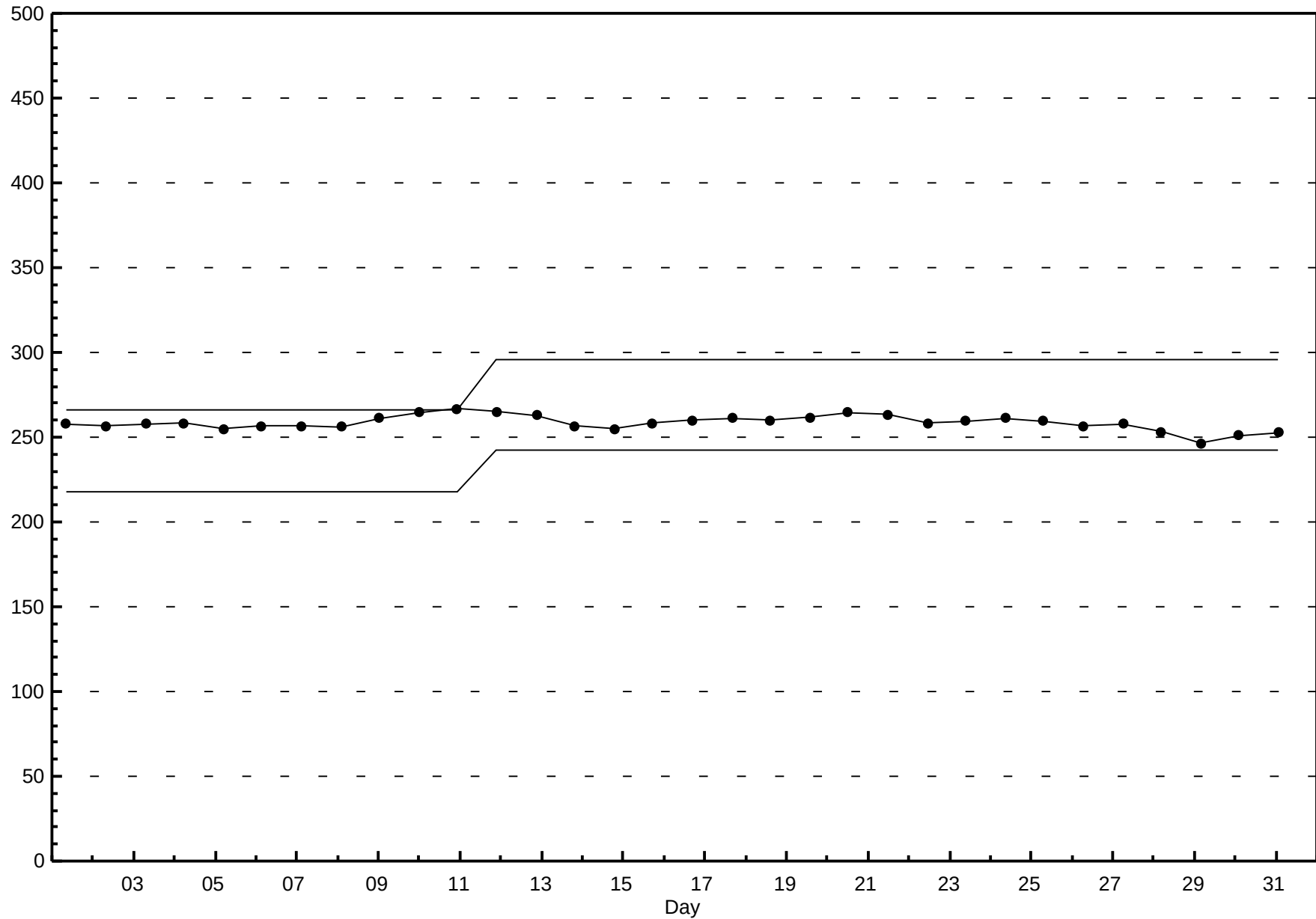
Pollutant Rose

Sulphur Dioxide (SO₂) - ppb
Evergreen Park - December 2014



Span Responses

Sulphur Dioxide (SO₂)
Evergreen Park - December 2014



Hourly Averages

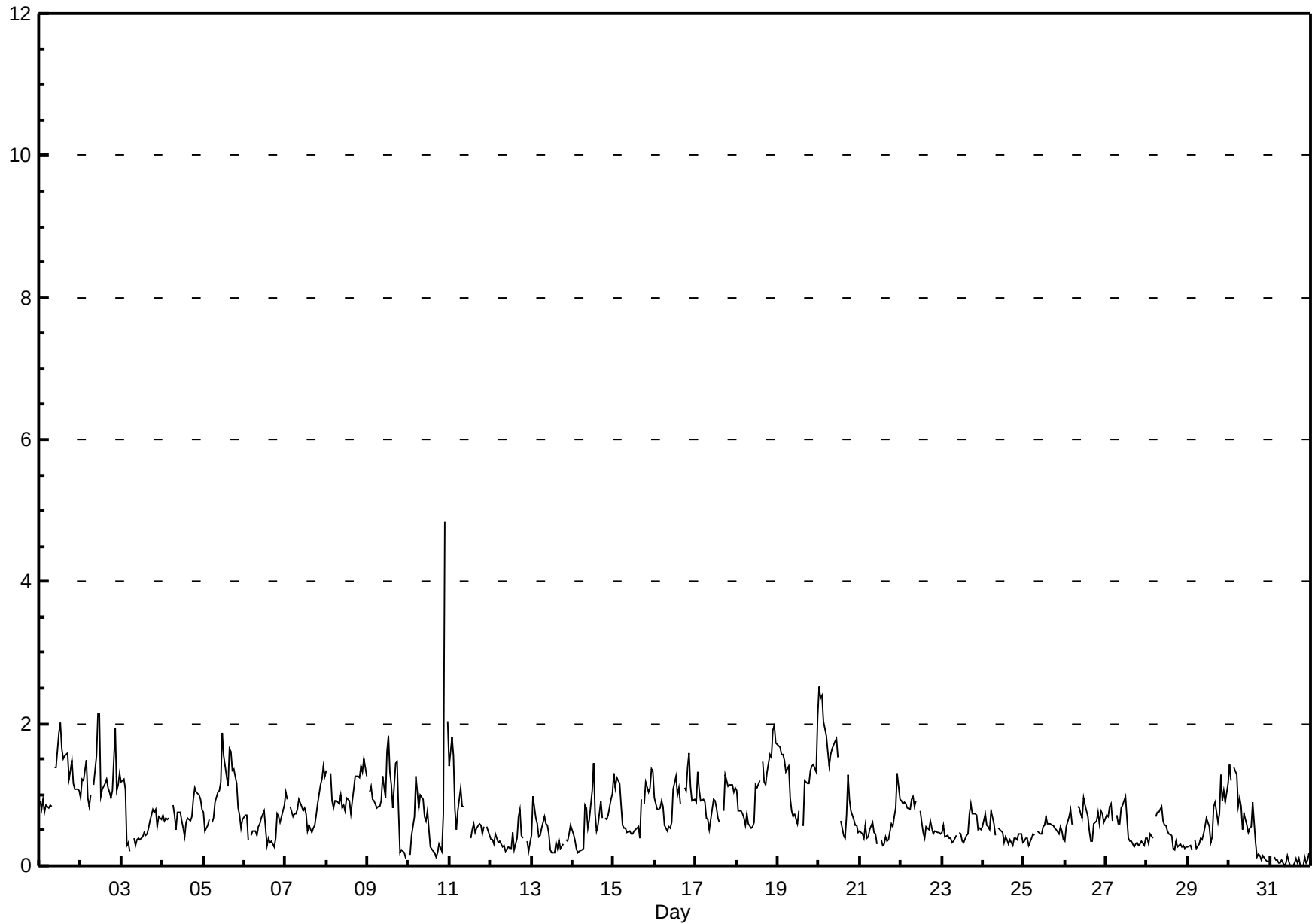
Total Reduced Sulphur (TRS) - ppb

Evergreen Park - December 2014

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 4.8 ppb on Dec 10 22:00 Maximum Daily Average: 1.3 ppb on Dec 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 Dec 31 09:00 Maximum Diurnal Average: 0.9 ppb at hour 22 Monthly Average: 0.74 ppb																				Minimum Daily Average: 0.1 ppb on Dec 31 Minimum Diurnal Average: 0.6 ppb at hour 15 Percentiles: P ₁ = 0.0 P ₁₀ = 0.3 Q ₁ = 0.4 Median = 0.7 Q ₃ = 0.9 P ₉₀ = 1.3 P ₉₉ = 2.1						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Dec	1	1	1	1	1	1	1	1	A	1	1	2	2	2	2	2	2	1	1	1	1	1	1	1	1.2	2.0
2-Dec	1	1	1	1	1	1	1	A	1	2	2	2	1	1	1	1	1	1	1	1	2	1	1	1	1.2	2.1
3-Dec	1	1	1	0	0	0	A	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	0.6	1.2
4-Dec	1	1	1	1	1	A	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	0.7	1.1
5-Dec	1	0	1	1	A	1	1	1	1	1	1	2	2	1	1	2	2	1	1	1	1	1	1	1	1.0	1.9
6-Dec	1	1	0	A	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	1	1	1	1	1	0.5	0.8
7-Dec	1	1	A	1	1	1	1	1	1	1	1	1	1	0	1	0	1	1	1	1	1	1	1	1	0.8	1.4
8-Dec	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1.1	1.5
9-Dec	A	1	1	1	1	1	1	1	1	1	1	2	2	1	1	1	1	1	1	0	0	0	0	A	0.9	1.8
10-Dec	0	0	0	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	1	5	A	2	0.8	4.8
11-Dec	1	2	2	1	1	1	1	1	1	C	C	C	0	1	1	0	1	1	1	0	1	A	1	0	0.8	1.8
12-Dec	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	A	0	0	0	0.4	0.8
13-Dec	0	1	1	1	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	A	0	0	0	1	0.4	1.0
14-Dec	0	0	0	0	0	0	0	1	1	1	1	1	1	1	0	1	1	1	A	1	1	1	1	1	0.6	1.4
15-Dec	1	1	1	1	1	1	1	1	0	0	0	0	0	1	1	0	1	A	1	1	1	1	1	1	0.8	1.4
16-Dec	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	A	1	1	1	2	1	1	1	0.9	1.6
17-Dec	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	0.9	1.3
18-Dec	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	2	2	2	2	2	1.1	2.0
19-Dec	2	2	2	2	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	2	1.2	2.1
20-Dec	3	2	2	2	2	2	1	2	2	2	2	A	1	0	0	1	1	1	1	1	1	1	1	0	1.3	2.5
21-Dec	0	0	0	1	0	0	1	1	0	0	0	A	0	0	0	0	0	0	1	1	1	1	1	1	0.5	1.3
22-Dec	1	1	1	1	1	1	1	1	1	1	A	1	1	0	0	1	1	1	1	0	0	0	0	0	0.7	1.0
23-Dec	0	1	0	0	0	0	0	0	0	A	0	0	0	0	0	0	1	1	1	1	1	1	0	0.5	0.9	
24-Dec	1	1	1	1	1	1	1	0	A	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	0.8
25-Dec	0	0	0	0	0	0	0	A	0	0	0	1	1	1	1	1	1	1	1	1	0	1	0	0	0.5	0.7
26-Dec	0	1	1	1	1	1	A	1	1	1	1	1	1	0	0	0	0	1	1	1	1	1	1	1	0.7	1.0
27-Dec	1	1	1	1	1	A	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0.5	1.0
28-Dec	0	0	0	0	A	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.8
29-Dec	0	0	0	A	0	0	0	0	0	0	1	1	1	0	0	1	1	1	1	1	1	1	1	1	0.6	1.3
30-Dec	1	1	A	1	1	1	1	1	1	1	1	0	1	1	1	0	0	0	0	0	0	0	0	0	0.6	1.4
31-Dec	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
0.8 0.9 0.8 0.8 0.7 0.7 0.7 0.7 0.7 0.7 0.9 0.7 0.6 0.6 0.6 0.6 0.7 0.7 0.7 0.8 0.8 0.9 0.8 0.8																									Diurnal Average	
2.5 2.4 2.4 2.0 1.8 1.6 1.4 1.6 1.6 1.7 2.1 2.1 2.0 1.6 1.5 1.6 1.6 1.5 1.4 1.6 1.9 4.8 2.0 2.1																									Diurnal Maximum	
C - Calibration A - Automated Daily Zero Span																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb																										

Hourly Averages

Total Reduced Sulphur (TRS) - ppb
Evergreen Park - December 2014



Hourly Maximums

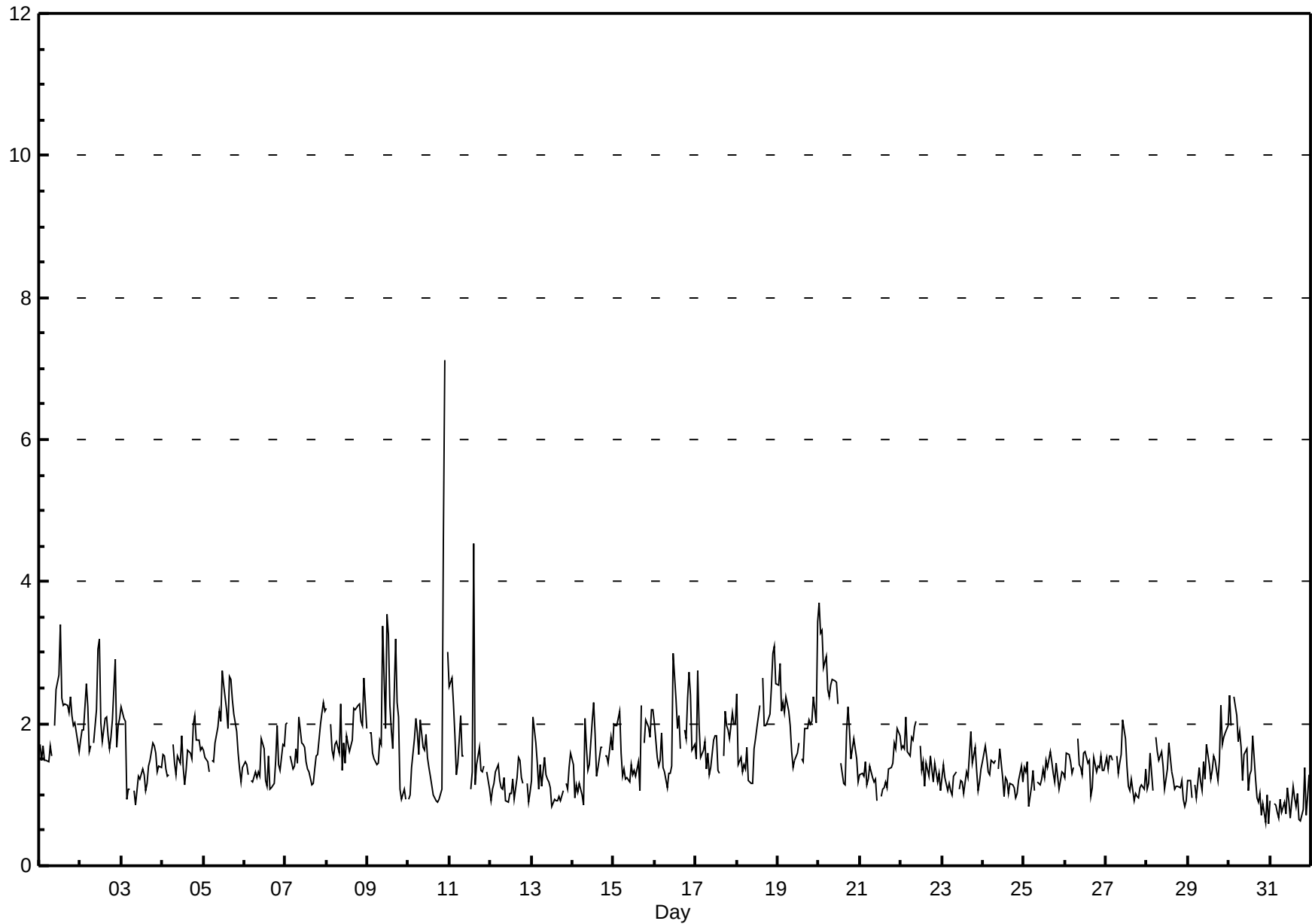
Total Reduced Sulphur (TRS) - ppb

Evergreen Park - December 2014

Maximum Value: 7.1 ppb on Dec 10 22:00																				Maximum Daily Average: 2.2 ppb on Dec 20										Hours in Service: 744	
Minimum Value: 1 ppb on Dec 31 00:00																				Minimum Daily Average: 0.9 ppb on Dec 31										Hours of Data: 709	
Maximum Diurnal Average: 1.8 ppb at hour 12																				Minimum Diurnal Average: 1.4 ppb at hour 16										Hours of Missing Data: 35	
Monthly Average: 1.58 ppb																				Percentiles: P ₁ = 0.7 P ₁₀ = 1.0 Q ₁ = 1.2 Median = 1.5 Q ₃ = 1.8 P ₉₀ = 2.2 P ₉₉ = 3.4										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-Dec	2	1	2	1	1	1	2	2	A	2	2	3	3	2	2	2	2	2	2	2	2	2	2	2	2.0	3.4					
2-Dec	2	2	2	3	2	2	2	A	2	2	3	3	2	2	2	2	2	2	2	2	3	2	2	2	2.1	3.2					
3-Dec	2	2	2	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	2	2	2	1	1	1	1.4	2.2					
4-Dec	2	2	1	1	1	A	2	1	1	2	1	2	1	1	1	2	2	2	2	2	2	2	2	2	1.6	2.1					
5-Dec	2	2	1	1	A	1	1	2	2	2	2	3	3	2	2	3	3	2	2	2	2	1	1	1	1.9	2.8					
6-Dec	1	1	1	A	1	1	1	1	1	1	2	2	1	1	2	1	1	1	1	2	1	1	2	2	1.4	2.0					
7-Dec	2	2	A	2	1	1	2	1	2	2	2	2	1	1	1	1	1	1	2	2	2	2	2	2	1.7	2.3					
8-Dec	2	A	2	2	2	2	2	2	2	1	2	1	2	2	2	2	2	2	2	2	2	2	3	2	1.9	2.6					
9-Dec	A	2	2	2	2	1	1	2	2	3	2	4	3	2	2	2	3	2	2	1	1	1	1	A	1.9	3.5					
10-Dec	1	1	1	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	5	7	A	3	1.8	7.1					
11-Dec	3	3	2	2	1	1	2	2	2	C	C	C	1	1	5	1	1	2	1	1	1	A	1	1	1.7	4.5					
12-Dec	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	A	1	1	1	1.1	1.5					
13-Dec	1	2	2	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	2	1.2	2.1					
14-Dec	1	1	1	1	1	1	1	2	2	1	1	2	2	2	1	1	2	2	A	2	2	1	2	2	1.5	2.3					
15-Dec	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	2	A	2	2	2	2	2	2	1.7	2.3					
16-Dec	2	2	1	1	2	1	1	1	1	1	1	3	2	2	2	2	A	2	2	2	3	2	2	2	1.8	3.0					
17-Dec	2	3	2	2	2	2	1	2	1	1	2	2	2	1	1	A	2	2	2	2	2	2	2	2	1.8	2.7					
18-Dec	2	1	2	1	1	1	2	1	1	1	2	2	2	2	A	3	2	2	2	2	3	3	3	3	1.9	3.1					
19-Dec	3	3	2	2	2	2	2	2	2	1	1	2	2	A	2	1	2	2	2	2	2	2	2	3	2.0	3.4					
20-Dec	4	3	3	3	3	2	2	3	3	3	3	2	A	1	1	1	2	2	2	2	2	2	2	1	2.2	3.7					
21-Dec	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	2	2	2	2	1.3	1.9					
22-Dec	2	2	2	2	2	2	2	2	2	2	A	2	1	1	1	1	1	2	1	1	1	1	1	1	1.5	2.1					
23-Dec	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	2	2	1	2	1	1	1	1	1.3	1.9					
24-Dec	1	2	2	1	1	1	1	1	A	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1.3	1.7					
25-Dec	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1.3	1.6					
26-Dec	1	2	2	1	1	1	A	2	1	1	1	2	2	1	1	1	1	2	1	1	1	2	1	1	1.4	1.8					
27-Dec	2	1	2	2	1	A	2	1	1	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1.3	2.1					
28-Dec	1	1	2	1	A	2	2	1	2	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1.3	1.8					
29-Dec	1	1	1	A	1	1	1	1	1	1	1	2	1	1	1	2	1	1	1	2	2	2	2	2	1.4	2.3					
30-Dec	2	2	A	2	2	2	2	2	1	2	2	1	1	1	2	1	1	1	1	1	1	1	1	1	1.4	2.4					
31-Dec	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.4					
1.7 1.7 1.6 1.6 1.5 1.5 1.5 1.5 1.5 1.5 1.6 1.8 1.6 1.5 1.5 1.4 1.6 1.6 1.5 1.6 1.7 1.7 1.6 1.7																									Diurnal Average						
3.7 3.3 3.3 2.8 3.0 2.5 2.4 2.6 2.6 3.4 3.1 3.5 3.4 2.4 4.5 2.7 3.2 2.3 2.4 2.4 4.5 7.1 3.1 3.4																									Diurnal Maximum						
C - Calibration																									A - Automated Daily Zero Span						

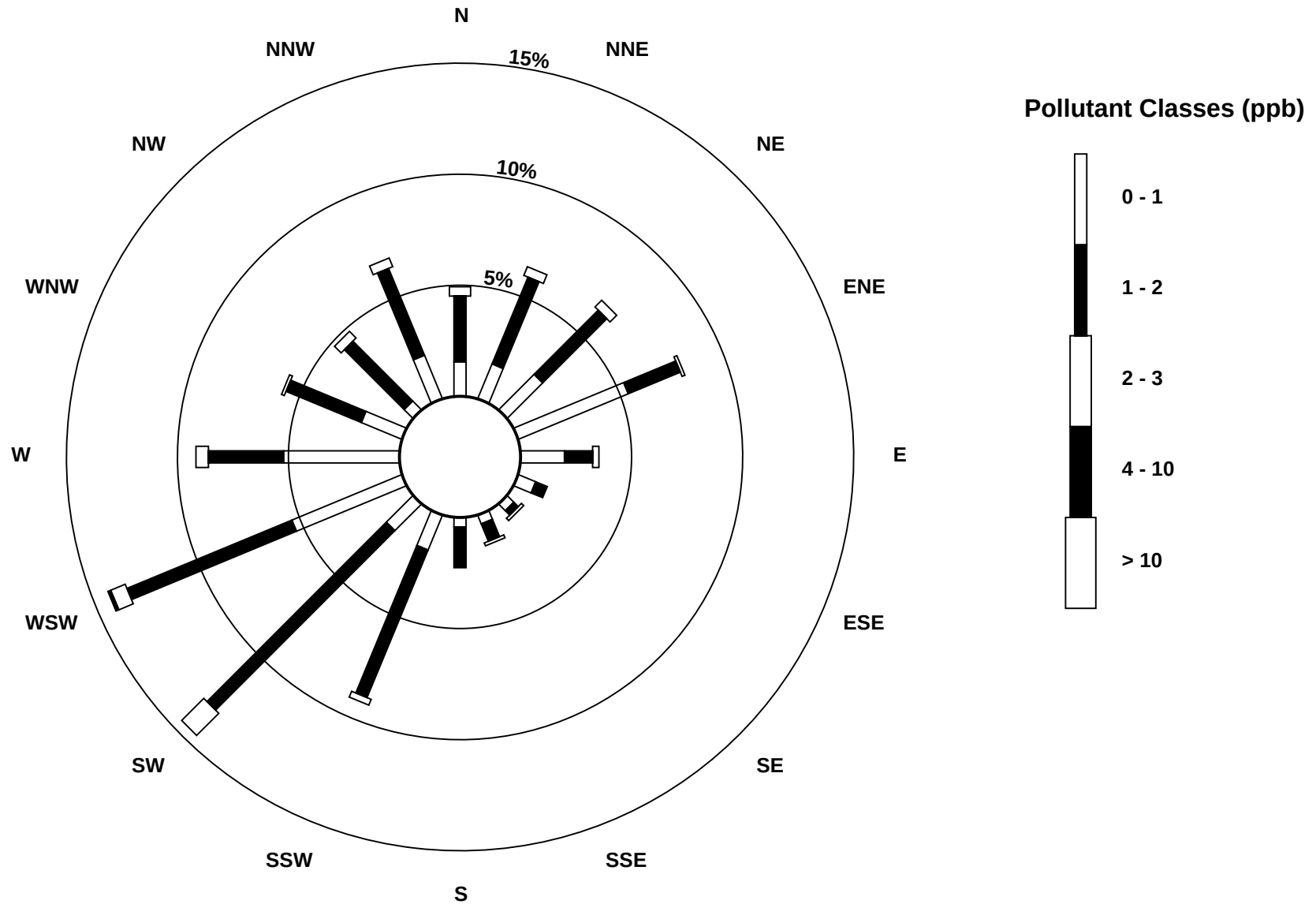
Hourly Maximums

Total Reduced Sulphur (TRS) - ppb
Evergreen Park - December 2014



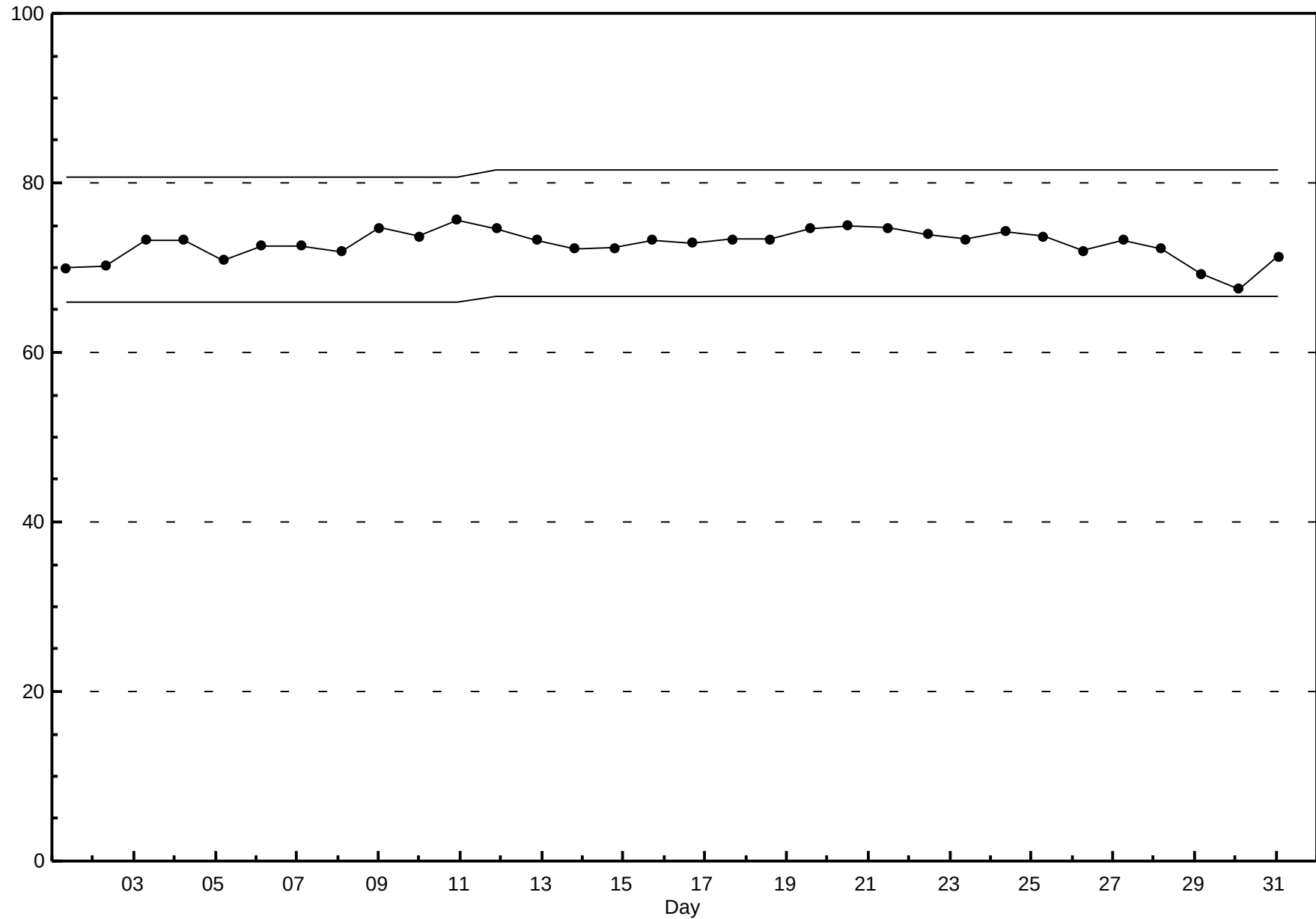
Pollutant Rose

Total Reduced Sulphur (TRS) - ppb
Evergreen Park - December 2014



Span Responses

Total Reduced Sulphur (TRS)
Evergreen Park - December 2014



Hourly Averages

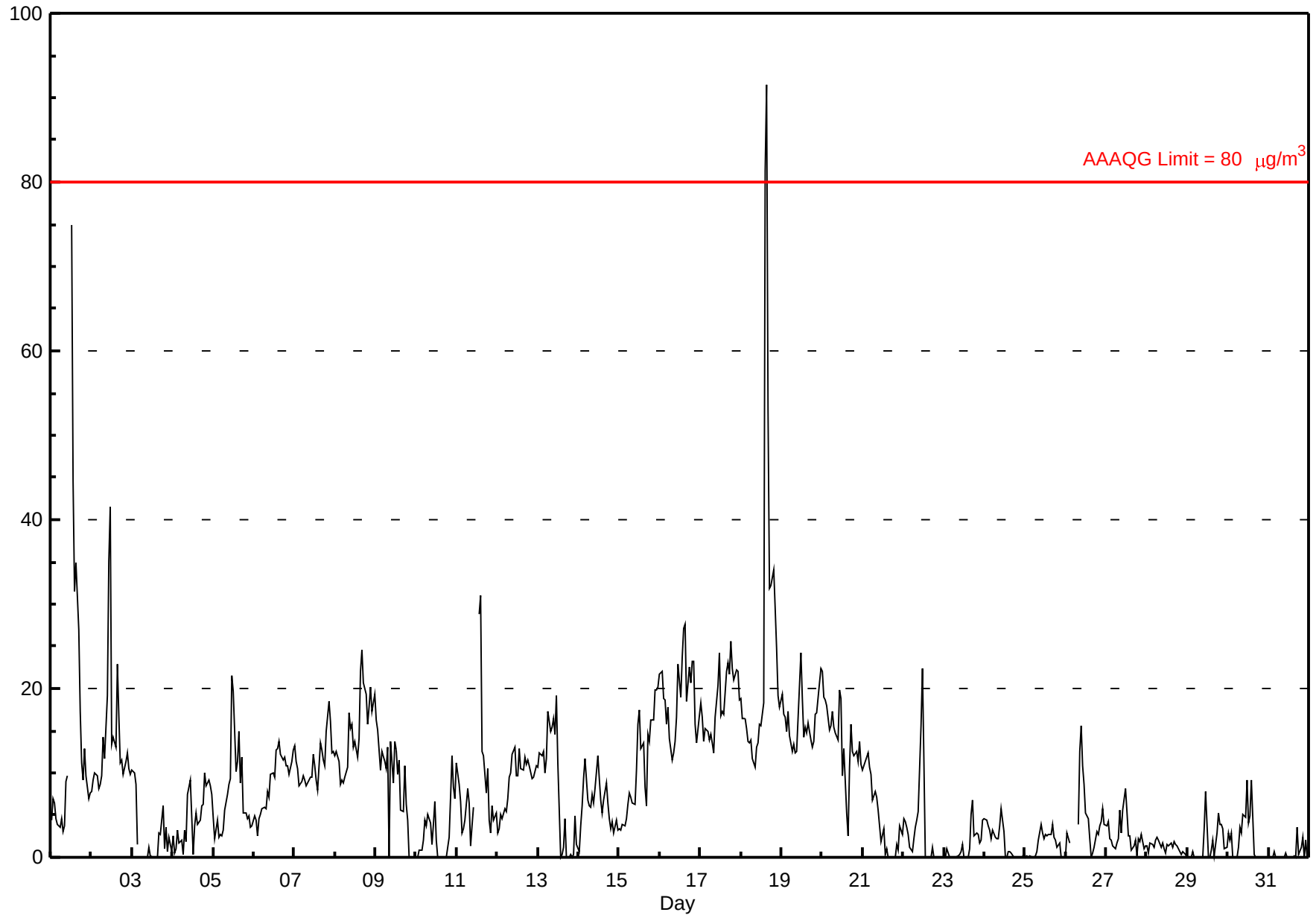
Particulate Matter 2.5 (PM_{2.5}) - µg/m³

Evergreen Park - December 2014

Number of Exceedences: 1-hr: 2 24-hr: 0 Maximum Value: 91.5 µg/m³ on Dec 18 16:00 Minimum Value: 0 µg/m³ on Dec 3 06:00 Maximum Diurnal Average: 12.1 µg/m³ at hour 12 Monthly Average: 8.18 µg/m³																								Maximum Daily Average: 25.9 µg/m³ on Dec 18 Minimum Daily Average: 0.4 µg/m³ on Dec 31 Minimum Diurnal Average: 6.1 µg/m³ at hour 6 Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 1.6 Median = 5.8 Q ₃ = 12.5 P ₉₀ = 17.7 P ₉₉ = 29.7																								Hours in Service: 744 Hours of Data: 734 Hours of Missing Data: 10 Hours of Calibration: 0 Percent Operational Time: 98.7	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																							
1-Dec	4	7	6	5	4	4	5	3	4	9	10	M	75	45	32	35	27	17	11	9	13	10	7	8	15.1	74.9																							
2-Dec	8	9	10	10	8	9	10	14	12	19	35	42	13	14	13	23	17	11	12	10	11	12	11	10	14.2	41.6																							
3-Dec	10	10	9	2	N	0	0	0	0	0	1	0	0	0	0	0	3	3	6	1	4	1	2	1	2.3	10.3																							
4-Dec	3	0	1	3	2	2	0	3	2	8	9	5	0	4	5	4	4	6	6	10	9	9	9	7	4.6	10.0																							
5-Dec	5	2	4	2	3	2	3	6	7	9	9	22	20	10	11	15	9	12	5	5	5	5	4	4	7.5	21.6																							
6-Dec	5	4	3	5	5	6	6	6	8	7	10	10	10	13	13	14	12	12	12	11	11	10	11	13	8.9	13.7																							
7-Dec	13	11	11	8	9	10	9	8	9	9	9	12	11	9	8	14	13	12	11	15	19	16	12	13	11.3	18.5																							
8-Dec	12	12	11	9	9	9	9	11	17	15	16	13	14	12	14	22	25	21	19	16	18	20	17	19	15.0	24.6																							
9-Dec	16	15	13	10	12	11	11	13	0	14	9	14	13	10	11	6	5	11	6	4	0	0	0	0	8.5	16.3																							
10-Dec	0	0	1	1	2	4	4	5	4	2	4	7	2	0	0	0	N	N	0	2	7	12	8	7	3.3	12.0																							
11-Dec	11	9	7	3	3	4	8	7	1	4	6	M	M	29	31	12	12	8	10	4	3	6	4	5	8.6	31.0																							
12-Dec	3	3	5	5	6	5	7	10	10	12	13	10	10	13	11	10	12	11	11	11	9	9	10	11	9.0	13.1																							
13-Dec	11	12	12	12	10	12	17	15	15	16	15	19	11	0	0	1	5	0	0	0	0	0	5	2	8.0	19.1																							
14-Dec	1	4	6	9	12	7	6	6	7	6	8	12	9	7	5	7	9	6	5	3	4	3	4	3	6.3	12.1																							
15-Dec	3	3	4	4	5	6	8	7	6	6	10	16	18	13	14	8	6	15	14	16	16	20	20	20	10.7	20.2																							
16-Dec	22	22	19	19	16	18	14	11	12	14	17	23	19	24	27	28	18	23	21	23	23	16	14	17	19.1	27.6																							
17-Dec	18	17	14	15	15	14	15	14	12	17	20	24	17	17	17	22	23	22	26	22	21	22	22	19	18.5	25.5																							
18-Dec	19	16	16	15	14	14	14	12	11	13	14	16	16	18	81	92	53	32	32	34	29	25	19	18	25.9	91.5																							
19-Dec	19	17	17	15	17	14	13	13	12	13	16	24	19	14	15	15	16	14	13	14	17	17	21	22	16.2	24.3																							
20-Dec	22	19	19	18	15	16	17	15	15	14	20	19	10	13	5	3	11	16	12	12	13	11	14	11	14.1	22.0																							
21-Dec	10	11	12	12	11	10	7	8	7	6	4	2	3	0	1	0	0	0	0	0	1	1	4	3	4.7	12.4																							
22-Dec	5	4	3	3	1	1	2	4	4	5	16	22	12	0	0	0	0	1	0	0	0	0	0	0	3.5	22.3																							
23-Dec	0	0	1	0	0	0	0	0	0	0	1	1	0	0	0	1	5	7	3	3	3	2	2	4	1.4	6.8																							
24-Dec	5	4	4	3	2	3	2	2	2	4	6	3	0	0	1	1	1	0	0	0	0	0	0	1	1.8	5.7																							
25-Dec	0	0	0	0	0	0	0	1	2	4	3	2	3	3	3	3	4	2	2	1	2	0	0	0	1.4	3.9																							
26-Dec	0	3	2	N	N	N	N	4	13	16	11	9	5	5	2	0	1	1	3	3	4	4	6	4	4.7	15.6																							
27-Dec	4	4	2	2	1	1	2	2	6	3	6	8	5	2	3	1	1	2	0	2	2	3	1	1	2.7	8.2																							
28-Dec	1	1	2	2	1	2	2	2	1	2	1	1	2	1	2	1	2	2	1	1	0	1	0	0	1.3	2.3																							
29-Dec	0	0	0	1	0	0	0	0	0	0	3	8	0	0	1	2	0	3	5	4	4	3	1	1	1.5	7.8																							
30-Dec	3	2	3	0	0	0	1	4	3	5	5	9	4	5	9	0	0	0	0	0	0	0	0	0	2.2	9.1																							
31-Dec	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	3	0	1	2	0	2	0	0.4	3.5																							
7.5 7.2 6.9 6.4 6.3 6.1 6.4 6.6 6.6 8.1 9.9 12.1 10.6 9.1 10.8 10.9 9.8 9.0 8.0 7.7 8.0 7.7 7.4 7.2																								Diurnal Average																									
22.0 22.0 18.8 18.6 17.3 17.7 17.4 15.3 17.2 19.1 35.1 41.6 74.9 44.6 81.4 91.5 53.0 31.9 32.2 34.0 29.5 24.8 22.0 22.4																								Diurnal Maximum																									
M - Maintenance N - Not Valid Alberta Ambient Air Quality Guideline (AAAQG): 1-hr 80 µg/m³ Alberta Ambient Air Quality Objective (AAAQO): 24-hr 30 µg/m³																																																	

Hourly Averages

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Evergreen Park - December 2014



Hourly Maximums

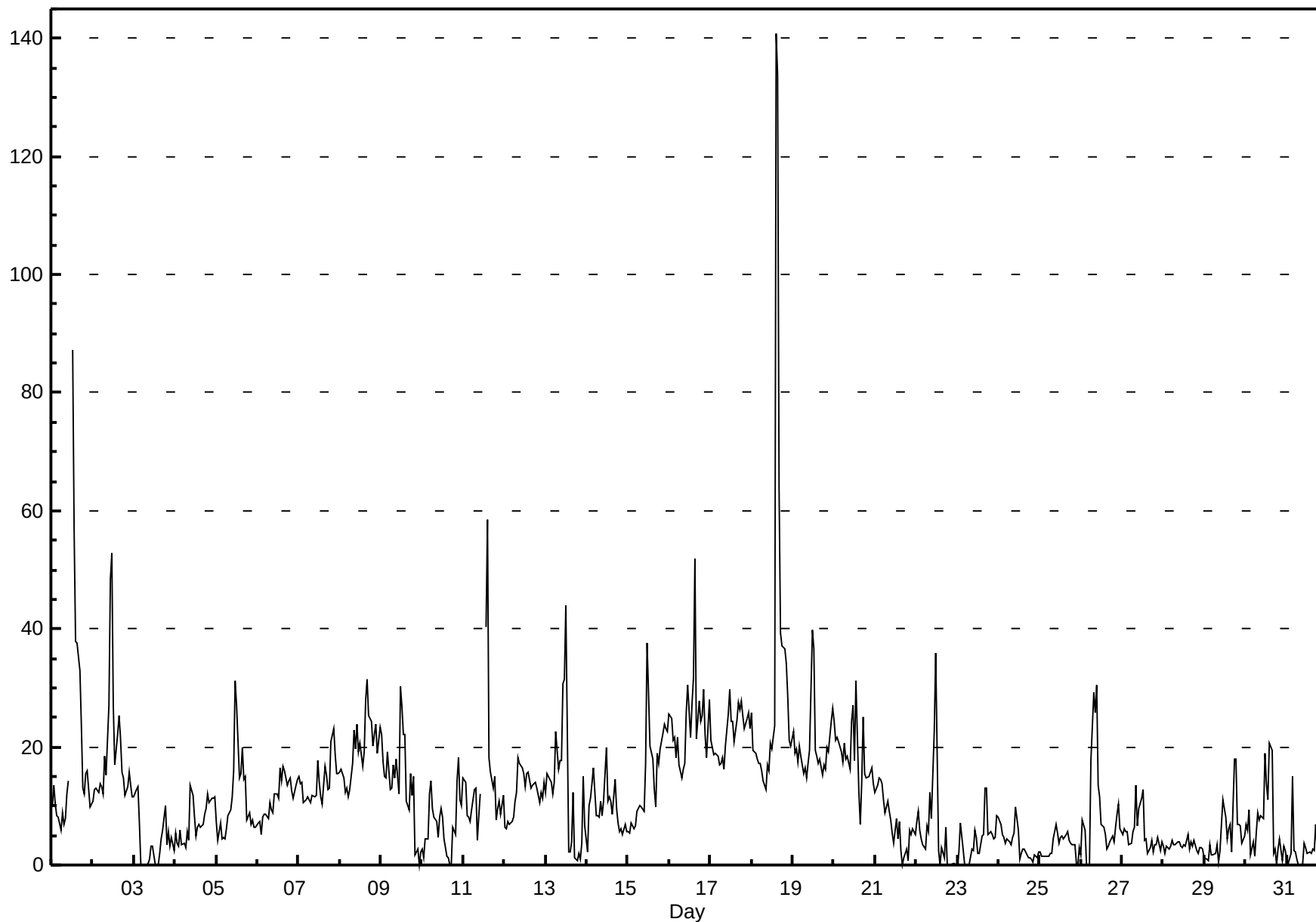
Particulate Matter 2.5 (PM_{2.5}) - µg/m³

Evergreen Park - December 2014

Maximum Value: 140.7 μg/m ³ on Dec 18 15:00																					Maximum Daily Average: 33.8 μg/m ³ on Dec 18					Hours in Service: 744	
Minimum Value: 0 μg/m ³ on Dec 3 05:00																					Minimum Daily Average: 2.8 μg/m ³ on Dec 31					Hours of Data: 741	
Maximum Diurnal Average: 18.9 μg/m ³ at hour 12																					Minimum Diurnal Average: 8.4 μg/m ³ at hour 6					Hours of Missing Data: 3	
Monthly Average: 11.93 μg/m ³																					Percentiles: P ₁ = 0.0 P ₁₀ = 1.9 Q ₁ = 4.1 Median = 9.9 Q ₃ = 16.7 P ₉₀ = 23.4 P ₉₉ = 49.3					Hours of Calibration: 0	
																										Percent Operational Time: 99.6	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Dec	10	14	10	8	8	6	9	7	8	12	14	M	87	57	38	37	33	24	13	12	16	16	10	10	19.9	87.2	
2-Dec	11	13	13	12	14	13	12	18	15	27	48	53	27	17	22	25	21	16	15	12	13	16	14	12	19.2	52.9	
3-Dec	12	13	13	7	0	0	0	0	0	1	3	3	0	0	0	2	4	6	10	3	6	3	5	2	3.9	13.3	
4-Dec	5	4	3	6	3	4	3	6	4	14	12	8	5	6	7	6	7	9	10	12	11	11	11	12	7.4	13.5	
5-Dec	7	4	7	4	5	4	6	8	9	12	16	31	27	15	15	20	15	15	8	9	7	8	6	6	11.1	31.1	
6-Dec	7	7	5	8	9	9	8	11	9	9	12	12	11	16	14	17	16	14	14	15	13	11	14	15	11.5	16.7	
7-Dec	15	14	14	11	11	12	11	11	12	12	12	18	14	12	10	17	15	13	13	21	23	19	16	16	14.1	23.1	
8-Dec	16	16	15	12	13	12	13	17	23	20	24	19	21	17	19	28	31	25	24	20	22	24	19	23	19.7	31.4	
9-Dec	22	17	15	15	19	13	13	17	15	18	12	30	27	22	22	11	9	16	12	15	2	3	0	2	14.5	30.3	
10-Dec	3	1	5	5	12	14	10	8	7	5	8	10	8	4	1	1	0	0	6	5	14	18	11	10	7.0	18.2	
11-Dec	15	14	8	8	7	9	13	13	4	8	12	M	M	40	58	18	16	13	15	8	10	11	9	12	14.7	58.5	
12-Dec	6	6	7	7	7	8	11	12	18	17	16	16	13	16	16	13	14	14	14	13	11	12	11	14	12.3	18.2	
13-Dec	12	16	15	14	12	14	23	16	18	18	31	31	44	2	2	4	12	1	1	2	1	4	15	7	13.1	44.1	
14-Dec	2	10	11	14	16	8	8	8	11	8	11	20	11	12	11	9	15	10	7	6	6	5	7	6	9.7	19.9	
15-Dec	6	5	7	6	7	9	10	10	10	9	17	38	29	20	18	13	10	19	17	20	22	24	23	23	15.5	37.5	
16-Dec	26	25	21	22	18	22	17	15	16	17	26	30	22	27	32	52	21	28	24	25	30	22	18	28	24.3	51.9	
17-Dec	21	20	19	19	18	17	17	18	16	20	26	30	24	24	21	25	27	26	28	25	23	25	26	23	22.4	29.8	
18-Dec	26	19	19	18	17	17	16	14	13	17	16	21	20	24	141	134	64	39	37	37	34	28	21	20	33.8	140.7	
19-Dec	23	19	20	17	20	18	15	16	15	17	19	40	37	19	18	17	18	15	17	16	20	19	24	26	20.4	39.9	
20-Dec	24	21	22	21	19	17	21	18	18	16	24	27	18	31	13	7	14	25	16	15	15	16	16	14	18.7	31.1	
21-Dec	12	14	15	15	14	11	9	11	9	8	6	4	8	4	7	2	0	1	3	1	6	5	6	5	7.3	14.8	
22-Dec	7	9	6	4	3	3	7	6	12	8	23	36	19	2	0	3	1	6	0	0	0	0	0	0	6.5	36.0	
23-Dec	0	2	7	3	0	0	0	0	3	2	6	5	2	2	5	5	13	13	5	6	5	4	5	8	4.2	13.1	
24-Dec	8	7	5	5	4	4	4	4	5	6	10	6	1	2	3	3	2	1	1	1	1	2	1	2	3.6	9.9	
25-Dec	2	1	1	1	1	1	2	2	4	7	5	4	5	5	4	5	6	4	4	3	3	0	0	3	3.1	7.0	
26-Dec	2	8	6	0	0	0	18	29	26	30	14	12	7	6	5	3	3	4	5	4	6	8	10	6	8.8	30.4	
27-Dec	5	6	6	6	4	4	6	6	14	7	10	11	13	4	4	2	3	4	2	4	3	5	2	4	5.5	13.5	
28-Dec	3	2	3	3	3	4	3	3	4	4	3	3	3	3	5	3	4	3	4	2	2	3	3	3	3.2	5.3	
29-Dec	1	1	1	3	2	2	2	4	0	2	7	11	8	4	6	7	2	18	18	7	7	7	4	5	5.3	18.0	
30-Dec	7	6	9	2	4	1	6	9	8	8	8	19	14	11	21	19	2	3	0	3	4	1	3	3	7.1	20.6	
31-Dec	1	0	2	15	2	2	1	0	0	0	4	3	2	2	2	3	2	7	2	3	6	1	4	2	2.8	15.0	
10.3 10.1 10.0 9.4 8.8 8.4 9.4 10.3 10.5 11.6 14.7 18.9 17.5 13.8 17.5 16.5 12.9 12.6 11.1 10.4 11.0 10.7 10.2 10.4																									Diurnal Average		
25.8 24.8 21.6 21.6 20.2 21.6 22.6 29.2 25.8 30.4 48.5 52.9 87.2 56.8 140.7 133.9 64.1 39.4 37.2 36.5 34.1 28.5 25.8 28.0																									Diurnal Maximum		
M - Maintenance																											

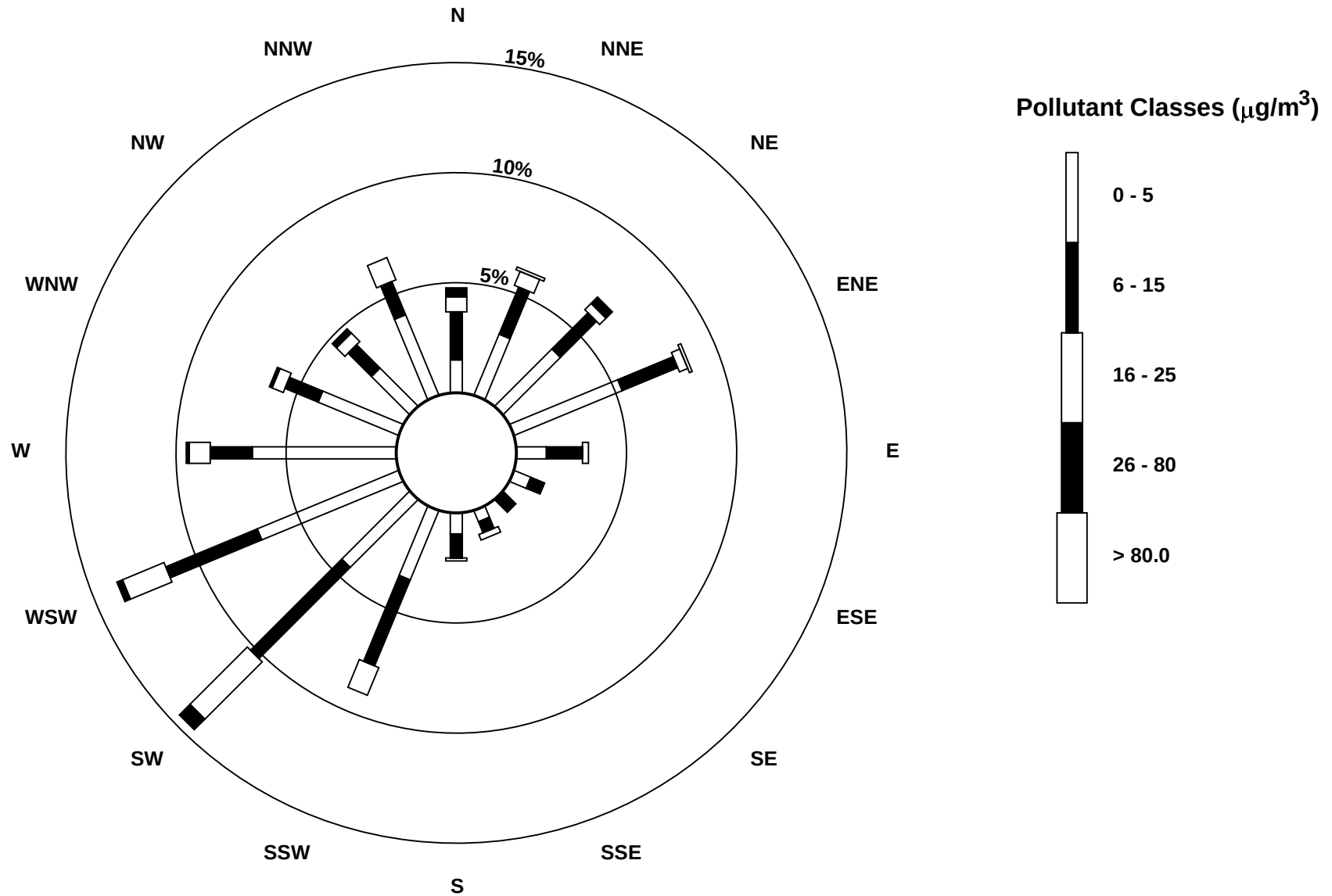
Hourly Maximums

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Evergreen Park - December 2014



Pollutant Rose

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Evergreen Park - December 2014



Hourly Averages

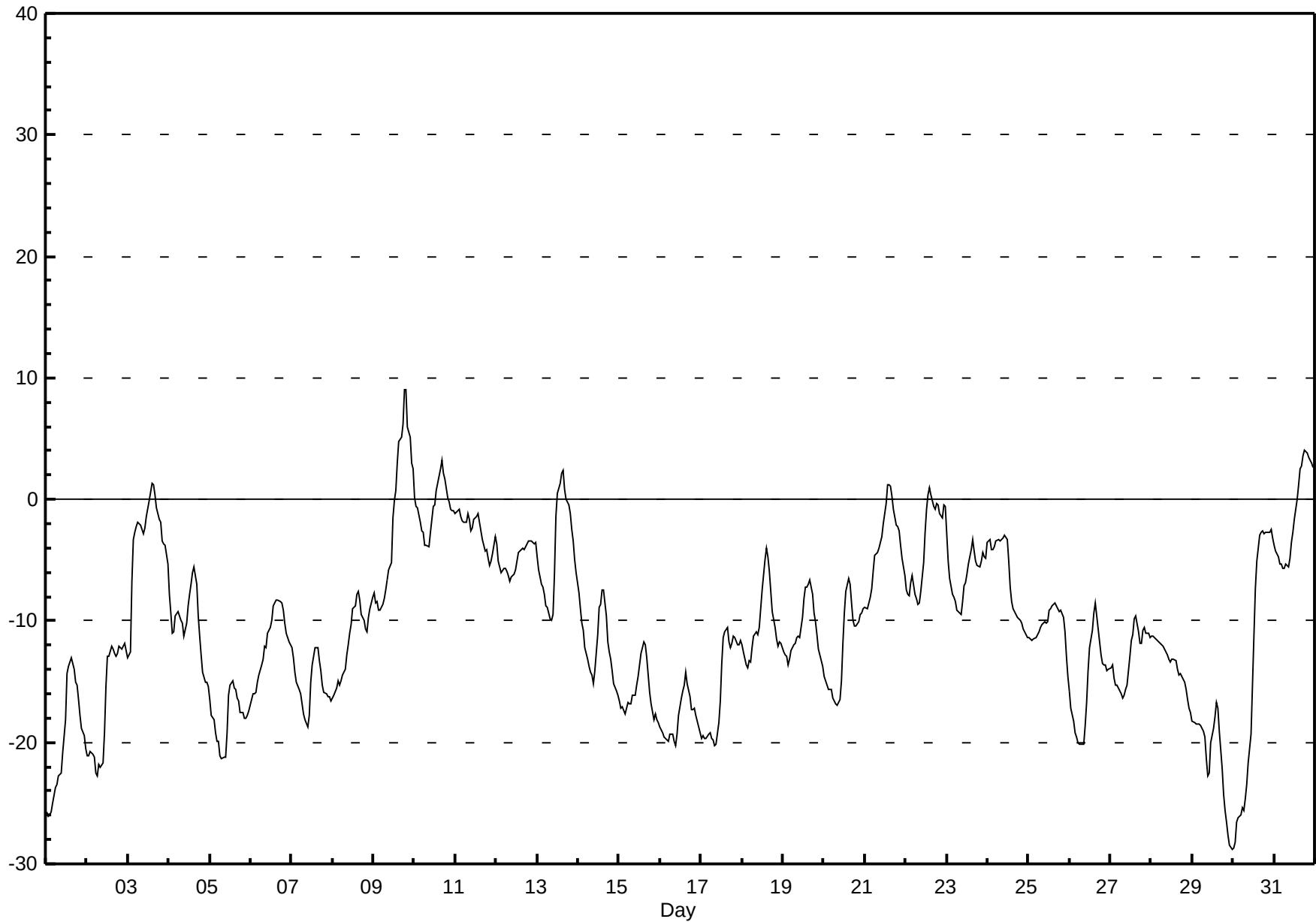
External Temperature (ET) - °C

Evergreen Park - December 2014

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																				Hours in Service: 744																													
Maximum Value: 9.1 °C on Dec 9 19:00																				Maximum Daily Average: -0.7 °C on Dec 10		Hours of Data: 744																											
Minimum Value: -29 °C on Dec 30 00:00																				Minimum Daily Average: -21.2 °C on Dec 29		Hours of Missing Data: 0																											
Maximum Diurnal Average: -6.5 °C at hour 16																				Minimum Diurnal Average: -12.8 °C at hour 7		Hours of Calibration: 0																											
Monthly Average: -10.41 °C																				Percentiles: P ₁ = -26.2 P ₁₀ = -19.3 Q ₁ = -15.3 Median = -10.9 Q ₃ = -5.1 P ₉₀ = -1.2 P ₉₉ = 4.5		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-Dec	-26	-26	-26	-26	-25	-24	-23	-23	-23	-23	-21	-18	-14	-14	-13	-13	-14	-15	-15	-16	-18	-19	-19	-20	-19.8	-13.1																							
2-Dec	-21	-21	-21	-21	-21	-22	-23	-22	-22	-22	-19	-15	-13	-13	-12	-12	-13	-13	-13	-12	-12	-12	-12	-12	-16.7	-11.8																							
3-Dec	-13	-13	-7	-3	-3	-2	-2	-2	-2	-3	-2	-1	0	1	1	1	0	-1	-2	-2	-3	-4	-4	-5	-3.0	1.3																							
4-Dec	-8	-9	-11	-11	-10	-9	-10	-10	-10	-11	-10	-9	-8	-7	-6	-6	-7	-10	-11	-13	-14	-15	-15	-15	-10.2	-5.5																							
5-Dec	-16	-18	-18	-19	-20	-20	-21	-21	-21	-21	-19	-16	-15	-15	-16	-16	-16	-17	-17	-18	-18	-18	-18	-17	-18.0	-15.0																							
6-Dec	-16	-16	-16	-16	-15	-14	-14	-13	-12	-12	-11	-10	-10	-9	-9	-8	-8	-8	-9	-9	-10	-11	-12	-12	-11.7	-8.2																							
7-Dec	-12	-13	-14	-15	-16	-16	-17	-18	-18	-19	-18	-15	-14	-13	-12	-12	-13	-14	-15	-16	-16	-16	-16	-17	-15.2	-12.2																							
8-Dec	-16	-16	-16	-15	-15	-15	-14	-14	-13	-12	-11	-10	-9	-9	-8	-8	-8	-9	-10	-11	-11	-10	-9	-8	-11.5	-7.6																							
9-Dec	-8	-8	-8	-9	-9	-9	-8	-8	-7	-6	-5	-1	0	1	3	5	5	6	9	9	6	5	3	2	-1.3	9.1																							
10-Dec	0	-1	-1	-2	-3	-3	-4	-4	-4	-3	-2	-1	0	1	2	3	3	2	2	0	0	-1	-1	-1	-0.7	3.3																							
11-Dec	-1	-1	-1	-1	-2	-2	-2	-1	-2	-3	-2	-2	-1	-1	-2	-3	-3	-4	-4	-5	-5	-5	-4	-3	-2.6	-0.9																							
12-Dec	-4	-5	-6	-6	-6	-6	-6	-6	-7	-6	-6	-6	-5	-4	-4	-4	-4	-4	-4	-3	-3	-4	-4	-4	-4.8	-3.4																							
13-Dec	-5	-6	-7	-7	-8	-9	-9	-10	-10	-9	-6	-1	0	1	2	2	1	0	-1	-1	-2	-3	-5	-6	-4.1	2.4																							
14-Dec	-8	-9	-10	-11	-12	-13	-14	-14	-14	-15	-14	-11	-9	-9	-7	-7	-10	-12	-13	-13	-14	-15	-16	-16	-11.9	-7.4																							
15-Dec	-17	-17	-17	-18	-17	-17	-17	-17	-16	-16	-15	-15	-14	-13	-12	-12	-13	-14	-16	-17	-18	-18	-18	-18	-15.9	-11.7																							
16-Dec	-19	-19	-20	-20	-20	-20	-19	-19	-20	-20	-19	-18	-16	-16	-15	-14	-15	-16	-17	-17	-17	-18	-18	-19	-18.0	-14.2																							
17-Dec	-20	-19	-20	-20	-19	-19	-20	-20	-20	-20	-18	-17	-13	-11	-11	-10	-12	-12	-12	-11	-11	-12	-12	-12	-15.5	-10.5																							
18-Dec	-12	-13	-14	-14	-13	-13	-12	-11	-11	-11	-10	-9	-7	-5	-4	-5	-6	-8	-9	-11	-11	-12	-12	-12	-10.2	-4.1																							
19-Dec	-13	-13	-13	-14	-13	-12	-12	-12	-11	-11	-11	-10	-8	-7	-7	-7	-7	-8	-9	-10	-11	-12	-13	-14	-10.8	-6.7																							
20-Dec	-15	-15	-15	-16	-16	-16	-17	-17	-17	-16	-15	-12	-9	-8	-7	-7	-9	-10	-10	-10	-10	-9	-9	-9	-12.2	-6.6																							
21-Dec	-9	-9	-8	-8	-7	-6	-5	-4	-4	-4	-3	-2	0	1	1	1	0	-1	-2	-2	-3	-4	-5	-6	-3.7	1.2																							
22-Dec	-8	-8	-8	-7	-6	-8	-8	-9	-9	-8	-5	-3	-1	0	1	0	-1	-1	0	0	-1	-1	0	-1	-3.8	1.0																							
23-Dec	-3	-5	-7	-8	-8	-8	-9	-9	-9	-8	-7	-7	-6	-5	-4	-3	-4	-5	-5	-6	-5	-4	-5	-5	-6.1	-2.8																							
24-Dec	-4	-3	-4	-4	-4	-3	-3	-3	-3	-3	-3	-3	-5	-7	-8	-9	-9	-10	-10	-10	-10	-11	-11	-11	-6.4	-3.0																							
25-Dec	-11	-11	-12	-11	-11	-11	-11	-11	-10	-10	-10	-10	-9	-9	-9	-9	-9	-9	-9	-9	-10	-11	-13	-15	-10.4	-8.5																							
26-Dec	-16	-17	-18	-19	-20	-20	-20	-20	-20	-19	-17	-14	-12	-11	-9	-9	-10	-11	-13	-14	-14	-14	-14	-14	-15.1	-8.5																							
27-Dec	-14	-14	-15	-15	-15	-16	-16	-16	-16	-16	-15	-13	-12	-11	-10	-10	-11	-12	-12	-11	-11	-11	-11	-11	-13.0	-9.6																							
28-Dec	-11	-11	-11	-12	-12	-12	-12	-12	-13	-13	-13	-13	-13	-13	-13	-14	-14	-14	-15	-15	-16	-16	-17	-18	-13.5	-11.2																							
29-Dec	-18	-18	-18	-18	-19	-19	-19	-20	-21	-23	-23	-20	-19	-18	-17	-17	-19	-22	-24	-26	-27	-28	-28	-29	-21.2	-16.7																							
30-Dec	-29	-28	-27	-26	-26	-25	-26	-25	-23	-22	-19	-15	-11	-7	-5	-3	-3	-3	-3	-3	-3	-3	-2	-3	-14.2	-2.5																							
31-Dec	-4	-4	-5	-5	-5	-6	-6	-5	-6	-5	-4	-3	-2	0	1	3	3	4	4	4	4	3	3	3	-1.2	4.0																							
																									-12.1	-12.5	-12.6	-12.8	-12.8	-12.8	-12.8	-12.8	-12.7	-12.6	-11.5	-9.7	-8.3	-7.4	-6.7	-6.5	-7.3	-8.1	-8.6	-9.0	-9.6	-9.9	-10.3	-10.6	Diurnal Average
																									0.1	-0.6	-0.6	-1.4	-1.8	-1.8	-1.9	-1.2	-1.7	-2.6	-1.7	-0.6	0.5	1.3	3.0	4.8	5.1	6.2	9.1	9.0	5.9	5.2	3.0	2.7	Diurnal Maximum

Hourly Averages

External Temperature (ET) - °C
Evergreen Park - December 2014



Hourly Averages

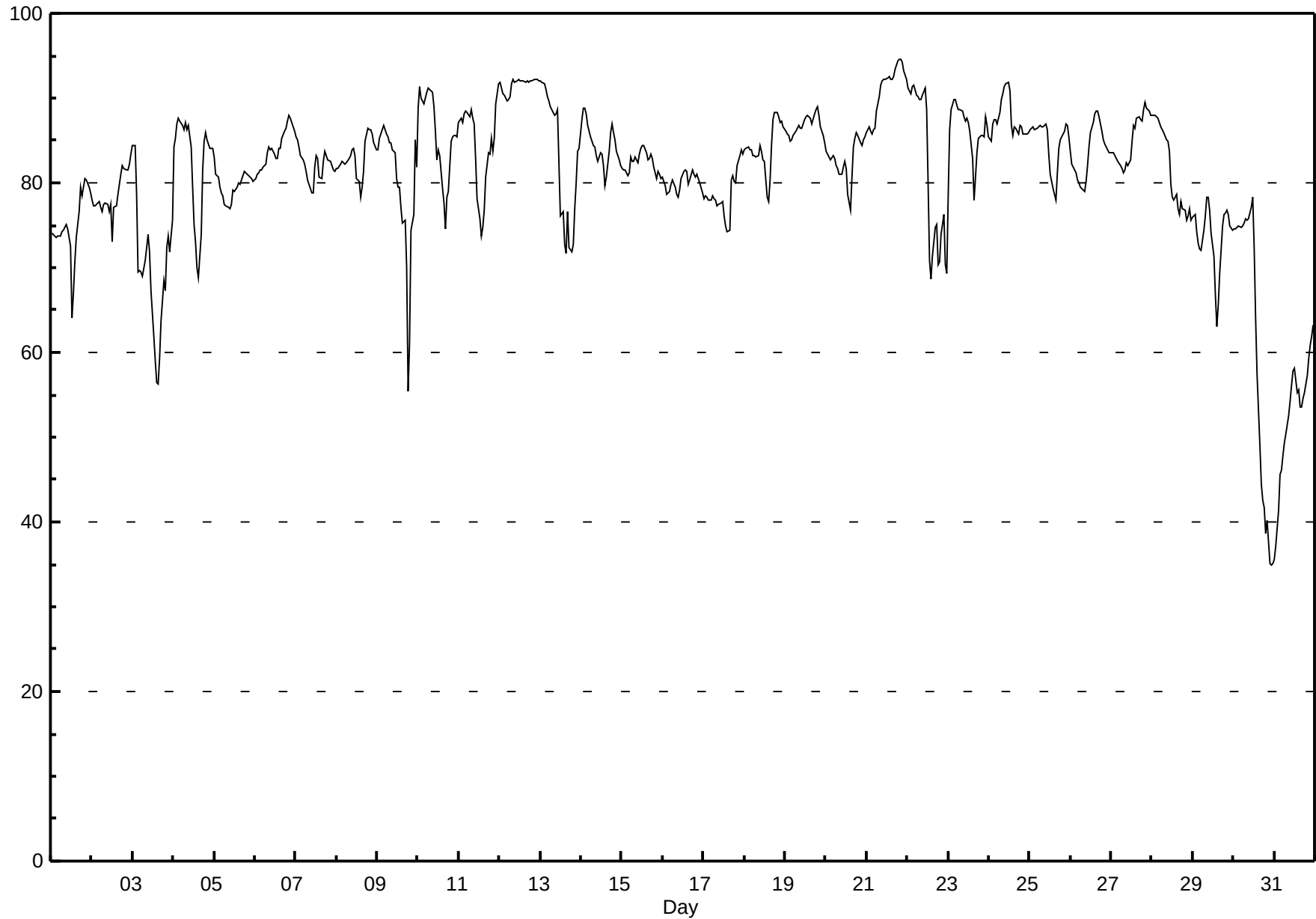
Relative Humidity (RH) - %

Evergreen Park - December 2014

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 94.7 % on Dec 21 21:00 Maximum Daily Average: 91.6 % on Dec 12																								Hours in Service: 744 Hours of Data: 744 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0		
Minimum Value: 35 % on Dec 30 23:00 Maximum Diurnal Average: 82.4 % at hour 2 Monthly Average: 80.82 %												Minimum Daily Average: 52.6 % on Dec 31 Minimum Diurnal Average: 77.0 % at hour 16 Percentiles: P ₁ = 41.3 P ₁₀ = 72.2 Q ₁ = 78.0 Median = 82.8 Q ₃ = 86.4 P ₉₀ = 89.7 P ₉₉ = 91.8														
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-Dec	74	74	74	74	74	74	74	74	75	75	75	73	64	67	71	73	77	79	79	79	80	80	80	79	74.9	80.4
2-Dec	78	77	77	78	78	77	77	77	78	77	77	77	73	77	77	79	80	81	82	82	81	81	82	83	78.6	83.5
3-Dec	84	84	79	69	70	69	69	71	72	74	72	67	62	59	56	56	59	64	68	67	72	74	72	76	69.5	84.4
4-Dec	84	85	87	88	87	87	86	87	86	87	84	80	75	73	70	69	74	81	85	86	85	84	84	84	82.5	87.5
5-Dec	83	81	81	80	79	79	77	77	77	77	78	79	79	79	80	80	80	81	81	81	81	81	80	80	79.6	83.0
6-Dec	80	81	81	82	82	82	82	83	84	84	84	83	83	83	84	84	85	86	86	87	88	88	87	86	84.0	87.9
7-Dec	85	85	84	83	83	82	81	80	80	79	79	82	83	83	81	81	83	84	83	83	82	82	81	81	82.1	85.5
8-Dec	82	82	82	82	82	82	82	83	83	84	84	83	81	80	78	79	81	85	86	86	86	86	85	84	82.9	86.4
9-Dec	84	85	86	86	87	86	85	85	85	84	83	81	79	79	77	75	76	70	55	61	74	76	85	82	79.5	86.7
10-Dec	89	91	90	89	90	91	91	91	91	89	86	83	84	83	79	78	75	78	79	85	85	86	86	85	85.6	91.3
11-Dec	87	88	87	88	89	88	88	89	88	87	83	78	76	74	75	77	81	84	83	85	84	85	89	92	84.3	91.7
12-Dec	92	91	91	90	90	90	90	92	92	92	92	92	92	92	92	92	92	92	92	92	92	92	92	92	91.6	92.2
13-Dec	92	92	92	91	90	90	89	88	88	88	89	82	76	77	73	72	77	72	72	73	77	80	84	84	82.8	92.1
14-Dec	88	89	89	88	87	85	85	84	84	83	82	84	83	82	80	81	84	86	87	86	85	84	83	82	84.6	88.9
15-Dec	82	81	81	81	81	83	82	83	83	82	83	84	84	84	84	83	83	83	83	82	80	81	81	80	82.4	84.5
16-Dec	81	80	79	79	79	80	80	79	79	78	79	81	81	82	81	80	80	82	81	81	81	81	80	79	80.1	81.6
17-Dec	78	79	78	78	78	78	78	78	77	77	78	78	76	75	74	74	80	81	80	80	82	83	84	83	78.7	84.0
18-Dec	84	84	84	84	84	83	83	83	83	84	84	83	83	78	78	80	84	87	88	88	88	87	87	87	84.2	88.4
19-Dec	86	86	86	85	85	86	86	86	87	86	87	87	88	88	88	88	87	88	89	89	88	87	86	85	86.7	89.0
20-Dec	84	83	83	83	83	83	82	82	81	81	82	83	82	79	77	81	84	85	86	86	85	84	85	85	82.8	85.9
21-Dec	86	87	86	86	86	86	89	90	91	92	92	92	92	93	92	92	92	93	94	95	95	94	93	92	90.9	94.7
22-Dec	91	91	91	91	92	90	90	90	90	90	91	89	80	71	69	71	75	75	70	71	74	76	70	69	81.5	91.6
23-Dec	78	86	89	90	90	89	89	89	88	88	87	88	87	86	83	78	81	84	85	86	86	85	88	87	86.1	89.9
24-Dec	85	85	87	87	87	87	88	90	91	91	92	92	91	87	86	87	86	86	87	87	86	86	86	86	87.6	91.9
25-Dec	86	87	87	86	86	87	87	87	87	87	86	83	81	80	79	78	81	84	85	85	86	87	87	86	84.8	86.9
26-Dec	84	82	81	81	80	80	79	79	79	80	82	84	86	87	88	88	88	88	86	85	85	84	84	84	83.6	88.4
27-Dec	83	84	83	83	83	82	82	81	82	82	82	83	85	87	87	88	88	87	87	89	89	89	89	88	85.0	89.4
28-Dec	88	88	88	88	87	87	86	86	85	85	84	80	78	78	79	77	76	78	77	77	76	76	77	76	81.4	88.0
29-Dec	76	76	74	73	72	72	74	76	78	78	77	74	71	67	63	66	69	75	76	76	77	76	75	74	73.7	78.4
30-Dec	74	74	75	75	75	75	75	76	76	76	77	78	72	64	57	49	44	43	42	39	40	35	35	35	60.9	78.3
31-Dec	36	37	41	46	46	48	49	50	53	54	56	58	58	55	56	53	54	55	55	57	59	61	62	63	52.6	63.3
82.1 82.4 82.3 82.0 82.0 81.9 81.9 82.2 82.3 82.4 82.1 81.3 79.6 78.3 77.2 77.0 78.6 79.9 79.7 80.2 81.0 81.0 81.2 81.0																								Diurnal Average		
92.1 91.8 91.7 91.3 91.6 90.6 91.3 91.6 92.2 92.0 92.2 92.2 92.3 92.5 92.1 92.2 92.5 93.4 94.3 94.6 94.7 94.2 93.2 92.2																								Diurnal Maximum		

Hourly Averages

Relative Humidity (RH) - %
Evergreen Park - December 2014



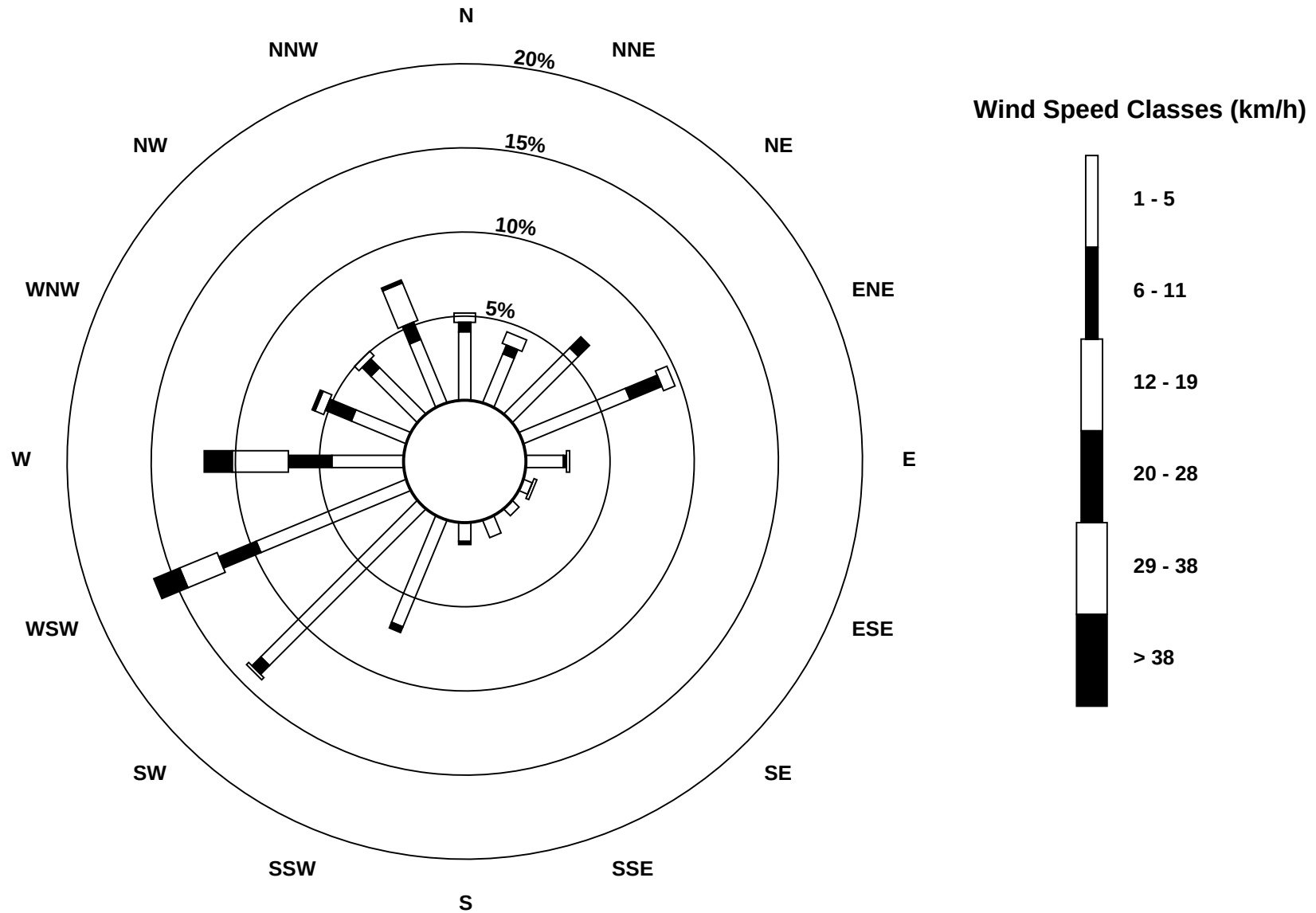
Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Evergreen Park - December 2014

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1 Spd	1	1	0	1	0	1	1	0	1	1	1	1	1	2	2	1	2	3	2	2	1	2	1	1	0.5	2.5
Dir	55	206	12	224	39	215	214	22	19	237	30	248	296	320	350	359	326	321	306	243	259	217	207	197	287.9	320.8
2 Spd	1	0	0	1	0	0	1	1	0	2	2	2	2	2	2	1	1	1	2	1	1	3	2	0	0.4	3.5
Dir	225	21	226	235	229	17	222	258	313	225	235	234	238	11	18	10	353	32	35	324	261	227	49	205	278.6	226.5
3 Spd	1	2	9	22	28	23	15	10	13	12	14	18	21	19	25	20	11	5	4	7	3	2	7	3	11.9	27.8
Dir	218	24	257	253	253	257	277	278	256	262	268	260	262	263	257	262	268	282	255	288	290	309	274	262.6	253.3	
4 Spd	5	1	0	2	2	3	2	7	4	6	7	12	12	10	7	6	2	1	1	2	0	2	3	3	3.8	12.1
Dir	250	256	288	248	270	294	296	245	281	230	239	255	266	277	266	282	335	240	216	241	46	220	233	215	258.4	255.2
5 Spd	3	0	3	1	4	1	0	1	0	0	0	1	3	4	4	2	2	4	3	3	5	4	3	0	1.4	4.6
Dir	215	255	217	207	220	226	206	253	30	50	293	238	327	344	331	262	319	289	315	243	228	237	217	186	264.2	228.5
6 Spd	1	3	1	2	1	0	1	3	2	3	2	5	7	5	5	4	4	3	1	1	1	1	1	0	0.9	6.9
Dir	334	190	225	66	121	73	81	39	239	212	328	256	265	300	285	255	196	146	163	71	55	61	3	200	253.5	264.9
7 Spd	1	1	1	1	1	1	1	0	1	1	1	2	4	6	5	3	2	1	1	1	2	1	0	0	1.1	5.8
Dir	247	75	80	40	6	216	45	96	118	78	60	21	3	1	4	9	32	354	2	1	246	256	340	310	7.4	1.4
8 Spd	1	5	4	2	4	2	3	3	2	4	7	3	3	4	1	2	2	1	1	1	1	1	2	1	1.9	6.5
Dir	273	252	258	249	220	218	195	221	267	315	228	233	214	204	341	348	219	210	209	222	221	243	329	227	241.6	228.0
9 Spd	3	4	1	1	1	1	1	0	2	1	4	3	3	1	1	2	6	6	14	25	9	4	2	2	2.4	25.2
Dir	206	247	308	93	208	232	12	201	149	116	61	147	43	16	46	178	181	197	226	256	230	172	86	264	223.7	256.3
10 Spd	3	1	3	3	1	1	2	0	2	2	1	1	4	4	5	5	4	3	3	2	2	2	2	3	1.3	5.5
Dir	54	199	194	76	96	81	46	168	55	33	37	196	57	60	64	70	82	90	70	357	249	246	233	215	73.0	64.2
11 Spd	1	1	1	2	2	3	9	11	6	6	3	3	5	5	4	2	1	2	3	8	6	6	9	8	1.9	10.9
Dir	303	67	139	110	306	272	254	275	325	303	270	1	26	42	37	40	19	50	121	48	59	61	59	77	17.3	275.1
12 Spd	12	12	7	5	1	3	7	7	3	1	3	3	3	1	4	3	3	1	1	2	1	1	1	1	2.7	12.0
Dir	102	85	69	76	318	31	75	87	61	142	64	138	165	83	93	179	202	80	67	81	42	64	18	242	88.5	85.1
13 Spd	2	0	3	1	1	0	0	1	1	2	4	15	13	5	6	5	7	11	8	6	1	3	3	1	3.8	15.3
Dir	252	282	242	209	210	63	203	251	192	201	223	245	254	306	270	249	261	263	257	263	238	298	314	309	257.0	245.2
14 Spd	1	1	1	2	1	0	1	1	1	1	1	2	4	6	1	2	1	5	2	0	2	1	0	1	0.8	5.9
Dir	218	212	214	233	208	238	201	220	216	220	45	356	349	342	9	2	311	343	337	22	213	54	242	55	320.6	342.2
15 Spd	0	0	0	2	1	3	3	5	2	0	4	4	4	4	3	5	3	3	0	0	0	2	4	2	1.8	5.0
Dir	241	233	204	219	261	235	225	238	265	221	259	256	281	326	296	335	324	299	323	255	19	288	320	231	278.3	334.6
16 Spd	3	0	0	2	0	6	4	1	1	1	1	2	5	3	3	2	2	1	1	2	2	3	1	2	0.9	5.6
Dir	217	265	232	219	176	216	212	122	235	177	65	337	349	332	269	216	64	219	49	322	275	235	16	215	253.7	215.8
17 Spd	1	1	1	1	1	2	2	1	0	1	0	3	2	1	3	0	1	3	2	0	1	2	1	1	1.0	3.4
Dir	217	247	189	218	349	208	218	169	49	225	203	217	245	356	216	288	242	305	256	215	200	227	212	89	230.0	216.3
18 Spd	3	1	3	2	1	0	0	0	0	1	0	2	1	2	3	3	2	2	1	2	1	2	0	0	0.1	3.4
Dir	223	157	225	207	211	136	207	55	181	178	202	35	343	19	63	19	47	3	239	224	235	247	0	84	243.4	63.2
19 Spd	3	2	2	3	3	1	1	4	3	1	4	4	4	3	4	4	1	1	1	3	1	1	0	0	1.3	4.4
Dir	217	19	225	209	218	282	141	204	216	83	206	236	264	218	196	163	166	60	92	70	34	1	289	337	210.8	264.1
20 Spd	0	1	0	1	1	0	0	0	0	1	1	3	3	3	4	2	2	2	3	3	4	2	4	2	0.5	4.2
Dir	232	245	274	253	218	204	289	23	81	56	21	40	57	3	60	8	270	244	242	259	262	251	216	292	287.1	60.2
21 Spd	1	3	1	3	4	6	1	3	5	5	5	1	7	1	7	6	3	1	3	2	3	1	0	1	2.5	6.8
Dir	227	211	347	210	261	336	293	277	251	240	225	224	254	256	240	242	212	196	206	239	285	359	88	218	248.3	239.6
22 Spd	2	1	1	3	1	0	0	0	1	1	3	5	7	15	13	11	12	11	13	15	11	12	20	16	6.9	19.5
Dir	40	207	190	202	198	15	228	289	265	16	254	268	272	255	256	252	254	254	254	254	252	252	250	254	253.7	250.3

Wind Rose

Wind Speed (WS) (km/h)
Evergreen Park - December 2014



Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Evergreen Park - December 2014

Maximum Speed: 28 km/h on Dec 3 05:00																				Maximum Daily Speed Average: 18.1 km/h on Dec 31										Hours in Service: 744	
Minimum Speed: 0 km/h on Dec 27 00:00																				Minimum Daily Speed Average: 1.7 km/h on Dec 2										Hours of Data: 744	
Maximum Diurnal Speed Average: 6.8 km/h at hour 13																				Minimum Diurnal Speed Average: 3.5 km/h at hour 10										Hours of Missing Data: 0	
Monthly Average Speed: 4.79 km/h																				Percentiles: P ₁ = 0.4 P ₁₀ = 1.0 Q ₁ = 1.7 Median = 2.9 Q ₃ = 5.3 P ₉₀ = 12.5 P ₉₉ = 21.6										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-Dec	1	2	1	1	1	1	2	1	2	3	1	1	1	3	3	1	2	3	3	5	1	2	1	2	1.8	5.1					
2-Dec	2	1	1	2	1	1	1	2	1	3	2	2	2	3	2	1	2	2	3	1	2	4	3	1	1.7	4.2					
3-Dec	2	3	9	22	28	23	15	11	13	13	14	18	21	20	25	20	11	5	5	7	4	2	8	4	12.7	27.9					
4-Dec	5	1	0	2	2	3	3	7	5	6	8	12	12	10	7	7	3	2	1	2	1	2	3	3	4.6	12.3					
5-Dec	3	1	3	2	4	1	1	1	0	1	1	1	4	5	4	2	3	5	4	3	5	4	3	2	2.5	4.8					
6-Dec	1	4	3	3	3	1	2	5	3	3	3	5	7	5	6	4	4	3	2	2	2	1	1	1	3.1	7.2					
7-Dec	2	2	2	1	1	1	1	1	1	1	1	2	4	6	5	3	2	2	2	2	2	1	3	2.1	6.2						
8-Dec	3	6	5	3	4	4	4	7	4	5	7	4	4	5	2	3	3	2	2	2	3	1	3	2	3.7	6.8					
9-Dec	4	6	3	2	2	1	2	3	4	2	4	5	3	2	5	4	7	7	15	27	10	8	3	4	5.5	26.7					
10-Dec	3	2	5	5	3	2	3	3	3	2	2	2	5	4	6	6	5	3	4	3	4	2	2	3	3.4	5.7					
11-Dec	3	3	2	3	3	5	9	11	7	7	4	3	6	5	5	4	2	6	4	9	8	7	10	9	5.7	11.4					
12-Dec	12	13	8	5	2	4	7	8	5	2	4	4	4	2	4	4	4	2	2	3	1	2	2	1	4.3	12.7					
13-Dec	2	1	3	1	1	3	0	1	1	3	4	15	13	6	7	5	7	11	8	6	2	6	4	2	4.7	15.3					
14-Dec	1	1	2	2	1	1	3	3	1	1	2	2	4	6	2	2	2	5	3	0	3	1	1	1	2.1	6.1					
15-Dec	1	3	2	2	1	3	3	5	3	1	4	4	5	4	4	5	3	3	2	1	1	3	4	3	2.9	5.2					
16-Dec	3	1	1	2	3	6	4	2	1	1	1	2	5	3	4	3	2	2	2	2	3	3	2	2	2.5	5.8					
17-Dec	1	3	2	1	1	2	2	1	1	3	1	3	2	1	4	1	2	3	3	1	3	2	2	2	2.0	3.9					
18-Dec	4	3	3	5	1	0	0	0	1	2	2	3	3	4	4	3	3	2	2	3	2	2	1	1	2.2	4.6					
19-Dec	4	2	3	4	3	4	3	4	3	1	4	5	5	5	5	4	1	1	2	4	3	1	3	1	3.1	5.2					
20-Dec	2	2	1	2	2	1	1	1	1	1	2	3	3	3	4	2	2	2	3	3	4	3	4	4	2.4	4.4					
21-Dec	4	3	2	5	6	6	1	4	6	5	5	2	7	2	7	6	4	1	3	2	4	3	1	2	3.8	7.3					
22-Dec	2	2	2	3	1	0	2	1	2	1	3	5	8	15	13	11	12	11	13	15	11	12	20	16	7.6	19.6					
23-Dec	6	4	2	4	1	0	3	2	3	0	5	5	6	6	2	2	4	6	4	3	8	2	4	3	3.5	7.6					
24-Dec	3	3	2	1	1	2	2	3	2	2	1	5	13	17	13	11	10	10	5	5	5	4	4	3	5.3	16.9					
25-Dec	4	4	5	3	4	2	2	1	2	7	12	12	15	15	13	5	5	3	3	1	2	1	2	2	5.1	15.4					
26-Dec	1	1	2	4	4	3	3	3	1	1	2	1	1	1	1	2	3	2	3	2	2	1	1	0	1.8	4.0					
27-Dec	2	1	2	1	1	1	1	2	2	1	1	0	5	6	6	9	7	8	11	12	10	13	9	9	5.1	12.5					
28-Dec	7	8	13	13	13	11	13	11	15	11	18	15	16	15	19	20	13	9	14	13	13	21	18	14	13.9	20.8					
29-Dec	16	9	8	6	6	7	6	3	5	2	1	2	5	4	4	4	1	0	1	2	2	1	2	2	4.1	15.8					
30-Dec	2	4	3	2	2	3	5	6	4	2	4	1	2	1	3	11	14	14	16	12	9	18	19	20	7.4	19.9					
31-Dec	21	21	20	12	16	12	14	21	20	18	17	16	19	28	22	25	25	21	21	15	10	12	15	14	18.1	27.5					
4.1 3.8 3.8 4.0 4.0 3.7 3.8 4.3 3.9 3.5 4.5 5.3 6.8 6.8 6.8 6.2 5.4 5.0 5.3 5.4 4.5 4.7 5.0 4.4																									Diurnal Average						
21.3 20.7 19.6 22.4 27.9 23.1 15.3 21.0 20.4 18.1 17.7 18.5 21.5 27.5 25.2 24.9 24.7 20.8 21.0 26.7 12.5 20.8 19.6 19.9																									Diurnal Maximum						
All monthly, daily, and diurnal averages have been calculated using scalar methods																															

Hourly Standard Deviations

Wind Direction (WD) - deg

Evergreen Park - December 2014

Maximum Value: 98.9 deg on Dec 20 08:00																		Hours in Service: 744							
Minimum Value: 4.2 deg on Dec 22 17:00																		Hours of Data: 744							
																		Hours of Missing Data: 0							
Percentiles: P ₁ = 5.8 P ₁₀ = 12.9 Q ₁ = 24.8 Median = 52.7 Q ₃ = 75.9 P ₉₀ = 87.1 P ₉₉ = 96.2																		Hours of Calibration: 0							
																		Percent Operational Time: 100.0							
Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Dec	83	76	94	62	92	79	89	82	65	89	87	69	38	35	56	64	49	32	69	73	86	66	96	95	95.6
2-Dec	69	89	79	69	90	89	65	81	88	72	59	49	70	23	34	24	54	92	73	66	40	54	41	89	92.3
3-Dec	76	25	38	6	6	6	17	22	6	9	8	9	7	8	6	6	16	10	41	20	59	91	19	52	91.2
4-Dec	29	83	92	57	79	41	49	16	30	17	9	10	18	15	23	29	63	72	64	57	89	76	54	52	91.7
5-Dec	66	95	40	65	15	73	96	70	75	85	75	61	47	10	31	29	54	31	34	48	18	35	42	91	96.3
6-Dec	81	52	87	72	67	94	71	79	45	60	67	25	15	33	32	27	26	21	48	47	67	67	55	91	93.9
7-Dec	91	96	68	77	69	87	82	78	61	63	61	46	23	23	27	25	18	71	55	64	51	63	72	75	95.6
8-Dec	72	63	53	83	53	94	41	77	80	33	34	56	63	41	91	85	75	93	82	96	84	88	51	79	96.2
9-Dec	78	50	66	85	68	61	69	96	75	81	26	62	65	57	78	85	37	35	22	19	17	67	68	74	96.5
10-Dec	51	72	73	64	79	78	57	93	84	60	62	94	34	29	12	26	35	49	46	60	81	78	72	66	94.0
11-Dec	81	91	74	76	74	53	17	19	26	34	59	50	32	21	40	66	87	80	41	13	42	46	27	36	91.0
12-Dec	18	21	22	27	47	55	28	34	74	79	58	40	62	80	26	57	36	66	52	58	64	46	56	51	79.6
13-Dec	64	88	32	72	92	89	70	81	48	25	28	6	14	38	43	15	13	7	10	16	67	71	56	67	91.7
14-Dec	65	61	69	57	95	97	94	93	66	68	37	22	20	19	47	25	58	15	33	65	67	69	72	68	96.8
15-Dec	87	87	88	35	74	17	45	26	65	85	14	15	37	28	29	10	30	48	74	93	83	36	34	80	93.4
16-Dec	23	89	60	63	85	15	32	72	61	84	84	56	26	29	27	61	43	90	63	26	29	23	70	62	89.8
17-Dec	67	72	63	65	79	59	31	64	91	80	96	18	48	77	35	95	53	30	44	93	84	53	82	81	95.5
18-Dec	77	83	64	80	59	78	65	85	86	94	86	43	84	54	23	36	49	51	84	78	90	69	71	86	94.4
19-Dec	82	46	88	62	66	77	92	33	45	74	35	50	39	83	64	33	72	57	82	60	85	85	96	90	96.1
20-Dec	97	85	90	84	79	97	89	99	85	88	65	44	32	25	21	29	47	54	76	23	44	68	44	71	98.9
21-Dec	91	69	67	83	48	36	77	16	8	16	12	72	58	86	6	7	85	68	31	23	39	78	90	86	91.2
22-Dec	80	86	86	40	84	82	94	94	96	86	21	31	43	6	6	7	4	5	5	4	7	8	6	5	96.4
23-Dec	80	35	89	79	82	80	55	53	15	89	24	11	16	54	92	53	54	25	51	68	42	52	87	87	92.5
24-Dec	57	37	78	81	60	30	77	76	87	54	93	21	17	13	14	15	18	16	24	29	25	31	25	36	92.7
25-Dec	21	28	26	43	33	22	26	45	31	15	14	14	21	19	21	27	23	41	45	68	52	87	83	90	89.7
26-Dec	54	72	35	18	29	23	33	74	73	62	52	91	82	85	83	45	46	51	22	22	22	62	33	77	90.8
27-Dec	41	64	73	59	51	86	79	73	35	39	42	65	18	25	29	19	26	18	11	12	18	15	21	24	86.2
28-Dec	27	22	15	12	13	9	9	11	11	16	10	11	12	12	26	18	20	21	25	18	20	10	11	14	26.5
29-Dec	11	15	18	19	19	15	14	55	14	74	78	63	28	19	35	23	63	60	48	26	46	87	74	77	86.9
30-Dec	76	40	77	72	56	69	56	40	60	76	51	75	90	92	28	14	9	11	10	17	17	11	12	14	92.1
31-Dec	12	12	6	33	19	21	23	7	6	8	17	13	12	8	8	9	9	8	7	9	12	10	7	6	32.7
96.6 95.6 93.7 85.2 94.8 96.8 96.3 98.9 96.4 94.4 95.5 94.0 90.1 92.1 92.5 95.4 86.8 92.6 84.0 96.2 89.6 91.2 96.1 94.6																									

PAZA
Smoky Heights Station
Monthly Summary Tables, Graphs and
Roses

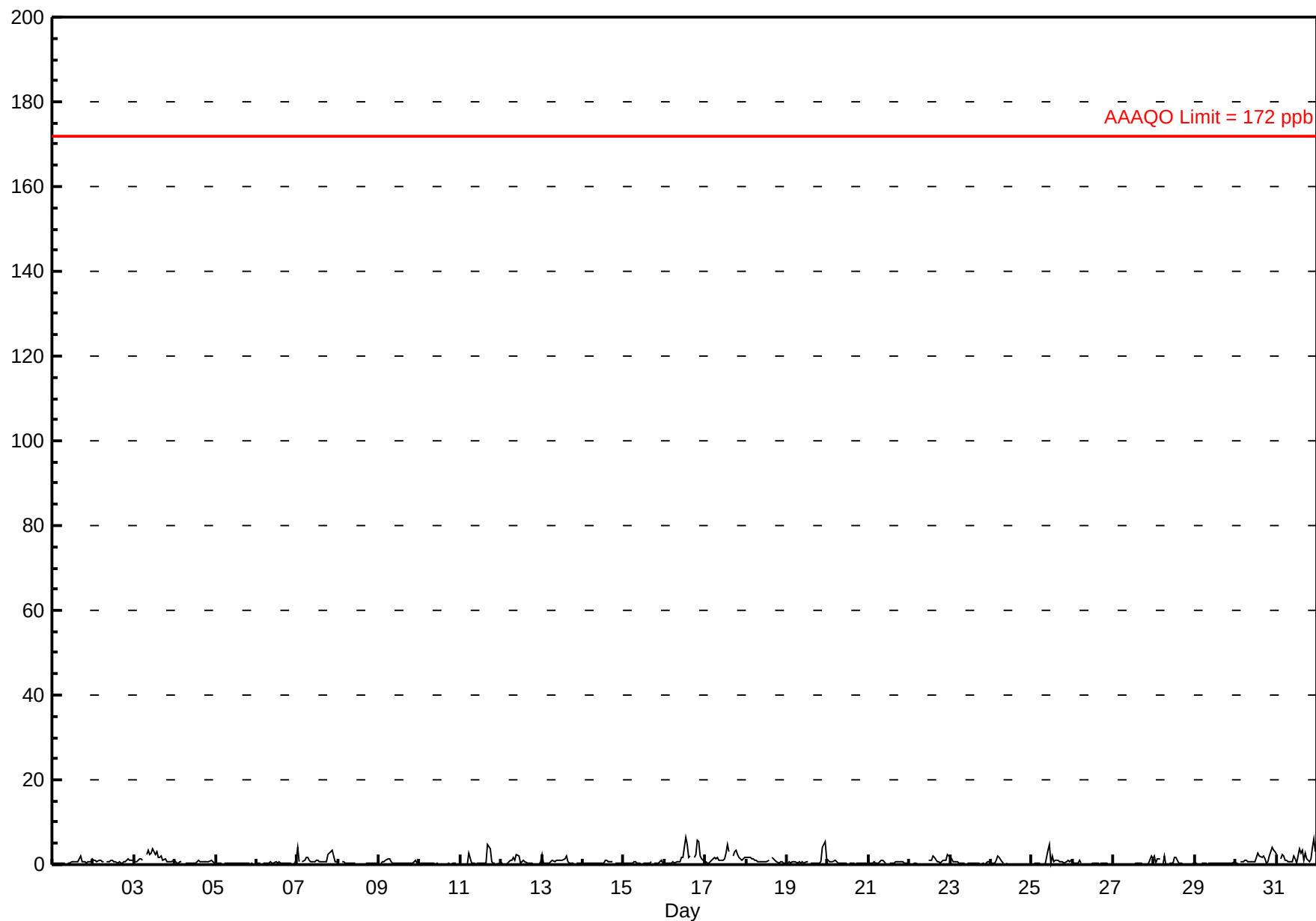
Hourly Averages

Sulphur Dioxide (SO₂) - ppb Smoky Heights - December 2014

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 6.3 ppb on Dec 16 13:00 Maximum Daily Average: 2.0 ppb on Dec 31																				Hours in Service: 744 Hours of Data: 709						
Minimum Value: 0 ppb on Dec 28 21:00 Minimum Daily Average: 0.2 ppb on Dec 10 Maximum Diurnal Average: 1.1 ppb at hour 14 Minimum Diurnal Average: 0.5 ppb at hour 2 Monthly Average: 0.75 ppb Percentiles: P ₁ = 0.0 P ₁₀ = 0.1 Q ₁ = 0.2 Median = 0.5 Q ₃ = 0.8 P ₉₀ = 1.7 P ₉₉ = 4.8																				Hours of Missing Data: 35 Hours of Calibration: 35 Percent Operational Time: 100.0						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Dec	0	0	0	0	0	0	0	0	A	0	0	1	1	1	1	1	2	1	1	1	0	1	1	1	0.6	2.1
2-Dec	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	1	0.8	1.2
3-Dec	1	1	1	1	1	1	A	2	3	2	3	4	3	3	2	2	2	1	1	1	1	1	1	1	1.6	3.9
4-Dec	1	0	0	1	1	A	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	0	0.5	1.1
5-Dec	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.5
6-Dec	0	0	0	A	0	0	0	0	1	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1	0.4	1.5
7-Dec	4	1	A	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	2	3	3	2	1	1	1.3	4.2
8-Dec	1	A	1	1	0	0	0	0	0	0	0	C	C	C	0	0	0	0	0	0	0	0	0	0	0.4	0.6
9-Dec	A	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	A	0.5	1.3
10-Dec	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
11-Dec	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	5	4	1	0	0	A	0	0	0.7	4.8
12-Dec	0	0	0	0	1	1	1	2	1	2	2	0	1	1	1	0	0	0	0	0	A	0	0	1	0.7	2.3
13-Dec	2	0	0	0	1	1	1	1	1	1	1	1	1	1	2	1	0	0	0	A	0	0	0	0	0.8	2.3
14-Dec	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	A	0	0	0	0	0	0.4	1.0
15-Dec	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1	A	1	0	0	1	1	0	0.4	0.8
16-Dec	0	0	0	0	0	1	0	1	1	1	2	2	6	5	2	2	A	2	2	6	5	2	1	1	1.8	6.3
17-Dec	1	0	0	1	1	2	1	2	1	1	1	1	3	5	3	A	2	3	3	2	2	1	1	2	1.7	4.9
18-Dec	2	2	2	1	1	1	1	1	1	1	1	1	1	1	A	2	1	1	1	0	1	1	0	0	1.0	1.7
19-Dec	0	1	0	1	1	1	1	1	0	1	0	1	1	A	0	0	0	0	0	0	1	4	6	1	0.9	5.5
20-Dec	1	1	1	1	1	1	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.4	0.9
21-Dec	0	0	0	1	0	0	0	1	1	1	0	A	0	0	0	0	1	1	1	1	1	0	0	0	0.5	1.1
22-Dec	0	0	0	0	0	0	0	0	0	0	A	1	1	1	2	2	1	1	0	1	1	1	2	2	0.7	2.2
23-Dec	2	1	1	1	1	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.5	1.9
24-Dec	0	0	0	1	2	2	1	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	2.1
25-Dec	0	0	0	0	0	0	0	A	0	3	5	0	2	1	1	1	1	1	1	1	1	1	1	1	0.9	4.8
26-Dec	1	0	0	0	1	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.1
27-Dec	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0.3	2.0
28-Dec	2	0	2	1	A	0	2	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0.6	2.1
29-Dec	1	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0.3	0.7
30-Dec	0	0	A	1	1	1	1	1	1	1	1	1	2	3	2	2	2	1	0	1	2	4	3	3	1.4	4.0
31-Dec	2	A	1	2	2	1	1	1	1	1	2	1	0	4	3	3	1	3	1	1	1	4	6	3	2.0	6.2
0.8 0.5 0.5 0.6 0.7 0.8 0.6 0.6 0.6 0.6 0.8 0.6 0.9 1.1 0.8 0.7 0.8 0.8 0.6 0.7 0.8 0.9 1.0 0.9																								Diurnal Average		
4.2 1.7 1.6 2.4 2.1 2.8 2.1 2.3 3.2 3.4 4.8 3.9 6.3 4.9 3.2 3.4 4.8 3.6 3.3 5.9 5.3 4.1 6.2 3.2																								Diurnal Maximum		
C - Calibration A - Automated Daily Zero Span																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb 30-day 11 ppb																										

Hourly Averages

Sulphur Dioxide (SO₂) - ppb
Smoky Heights - December 2014



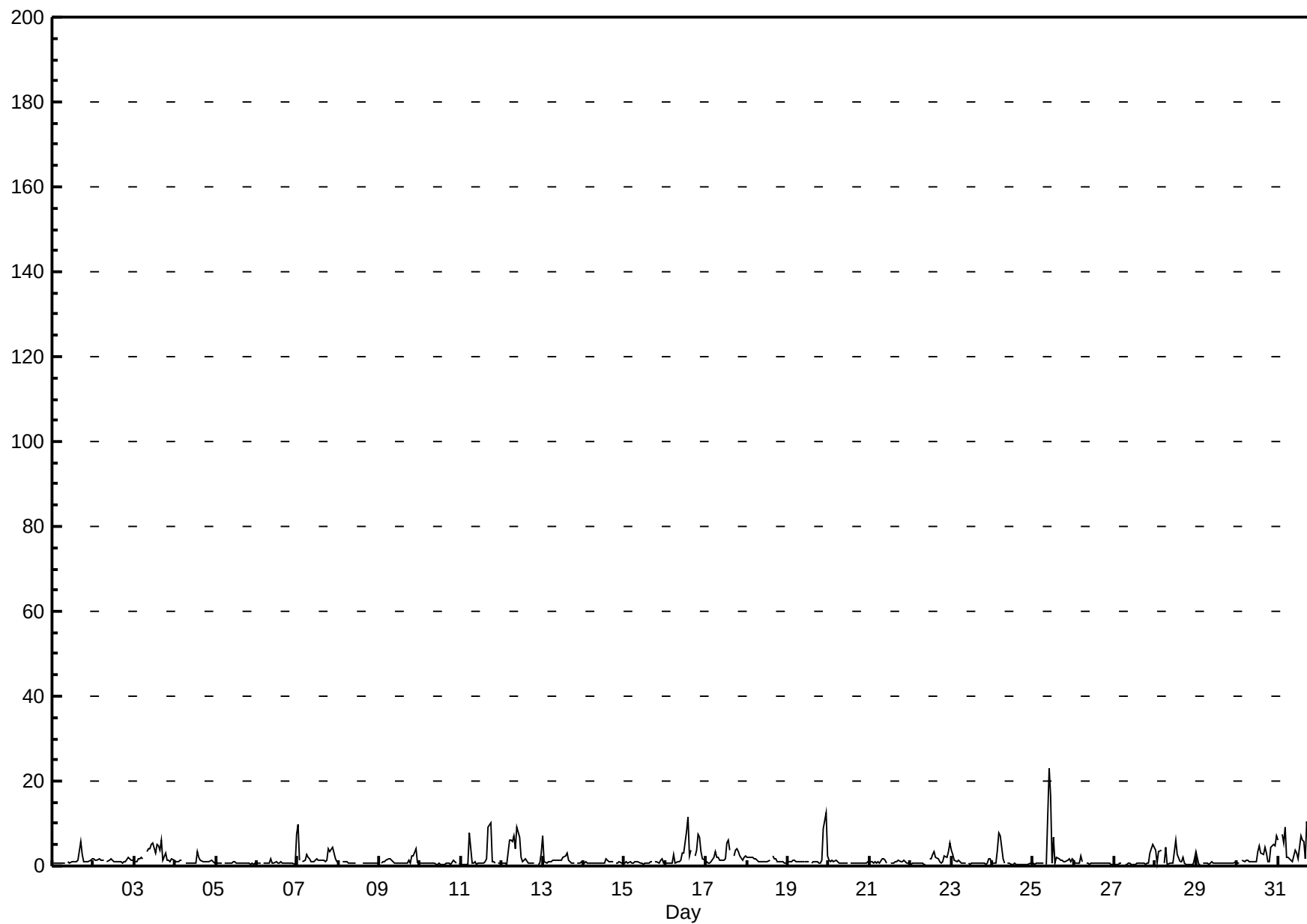
Hourly Maximums

Sulphur Dioxide (SO₂) - ppb Smoky Heights - December 2014

Maximum Value: 23.1 ppb on Dec 25 10:00																				Maximum Daily Average: 5.3 ppb on Dec 31					Hours in Service: 744	
Minimum Value: 0 ppb on Dec 24 13:00																				Minimum Daily Average: 0.6 ppb on Dec 10					Hours of Data: 709	
Maximum Diurnal Average: 2.2 ppb at hour 23																				Minimum Diurnal Average: 0.9 ppb at hour 2					Hours of Missing Data: 35	
Monthly Average: 1.61 ppb																				Percentiles: P ₁ = 0.4 P ₁₀ = 0.5 Q ₁ = 0.7 Median = 0.9 Q ₃ = 1.5 P ₉₀ = 3.6 P ₉₉ = 10.0					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-Dec	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	6	3	1	1	1	1	1	2	1.2	5.9
2-Dec	2	1	1	2	2	1	1	A	1	1	2	1	1	1	1	1	1	1	1	1	2	2	1	1	1.3	1.9
3-Dec	1	1	2	2	2	2	A	3	4	4	5	6	3	5	5	4	6	1	3	1	1	1	2	2	2.9	6.1
4-Dec	1	1	1	1	1	A	1	1	1	1	1	1	1	3	2	1	1	1	1	1	1	1	1	1	1.1	3.3
5-Dec	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0.7	1.0
6-Dec	1	1	1	A	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	0	8	1.0	7.5
7-Dec	10	1	A	1	1	3	2	2	1	1	1	2	1	1	1	1	1	1	4	4	4	3	2	1	2.2	9.7
8-Dec	1	A	1	1	1	1	1	1	1	1	1	C	C	C	1	1	1	1	1	1	1	1	1	1	0.8	1.2
9-Dec	A	1	1	1	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	2	2	4	1	A	1.2	4.1
10-Dec	1	1	1	1	1	1	1	1	1	0	0	1	0	1	0	1	1	1	1	1	1	1	A	1	0.6	1.3
11-Dec	0	0	0	0	0	8	1	1	1	1	1	1	1	1	1	2	9	10	1	1	1	A	1	1	1.8	10.3
12-Dec	1	1	1	0	6	6	6	7	4	9	7	2	1	1	2	1	1	1	1	1	A	0	1	3	2.6	9.2
13-Dec	7	1	1	1	1	1	1	1	2	1	1	1	2	3	3	1	1	1	1	A	1	1	1	1	1.5	7.0
14-Dec	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	A	1	1	1	1	1	0.8	1.6
15-Dec	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	A	1	1	1	1	2	1	0.8	1.6
16-Dec	1	1	1	1	1	3	1	1	1	1	3	3	8	12	2	4	A	2	4	7	7	3	2	1	3.0	11.6
17-Dec	1	1	1	1	2	3	2	2	1	1	1	2	5	6	4	A	2	4	4	3	2	1	2	2	2.4	6.0
18-Dec	2	2	2	2	2	2	1	1	1	1	1	1	1	1	A	2	2	2	1	1	1	1	1	1	1.4	2.4
19-Dec	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	9	13	2	1.9	12.6
20-Dec	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	1.4
21-Dec	1	1	1	1	1	1	1	2	2	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.8
22-Dec	0	1	1	1	1	1	1	1	0	1	A	2	2	3	3	2	2	1	1	1	2	2	3	6	1.5	5.6
23-Dec	4	3	1	1	1	1	1	1	1	A	1	0	1	1	1	1	1	1	1	1	0	1	2	2	1.0	3.9
24-Dec	1	1	1	4	8	7	2	1	A	1	1	0	0	1	0	0	0	0	0	0	0	0	1	0	1.3	7.8
25-Dec	1	0	1	1	1	1	1	A	0	23	17	1	7	1	2	2	1	1	1	1	1	2	1	2	2.9	23.1
26-Dec	1	1	1	1	2	1	A	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0.7	2.4
27-Dec	0	0	0	1	1	A	0	0	1	1	0	0	0	1	1	1	1	1	0	1	1	3	5	5	1.0	5.2
28-Dec	4	1	3	4	A	1	4	0	1	1	1	4	6	3	1	1	2	1	0	0	0	0	0	2	1.7	6.0
29-Dec	3	0	0	A	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	3.3
30-Dec	1	1	A	1	1	1	1	1	1	1	1	1	3	5	3	3	4	3	1	1	4	5	5	7	2.4	7.1
31-Dec	6	A	7	5	9	2	2	2	1	3	4	3	2	7	6	6	2	11	5	1	3	14	15	6	5.3	15.5
1.8 0.9 1.2 1.3 1.8 1.8 1.3 1.2 1.1 2.0 1.9 1.4 1.9 2.2 1.6 1.4 1.7 1.8 1.3 1.3 1.5 2.1 2.2 2.0																									Diurnal Average	
9.7 2.7 7.4 5.4 9.1 7.9 5.6 7.2 4.2 23.1 16.7 5.6 8.2 11.6 6.1 5.9 9.2 10.6 5.0 7.3 6.8 14.0 15.5 7.5																									Diurnal Maximum	
C - Calibration A - Automated Daily Zero Span																										

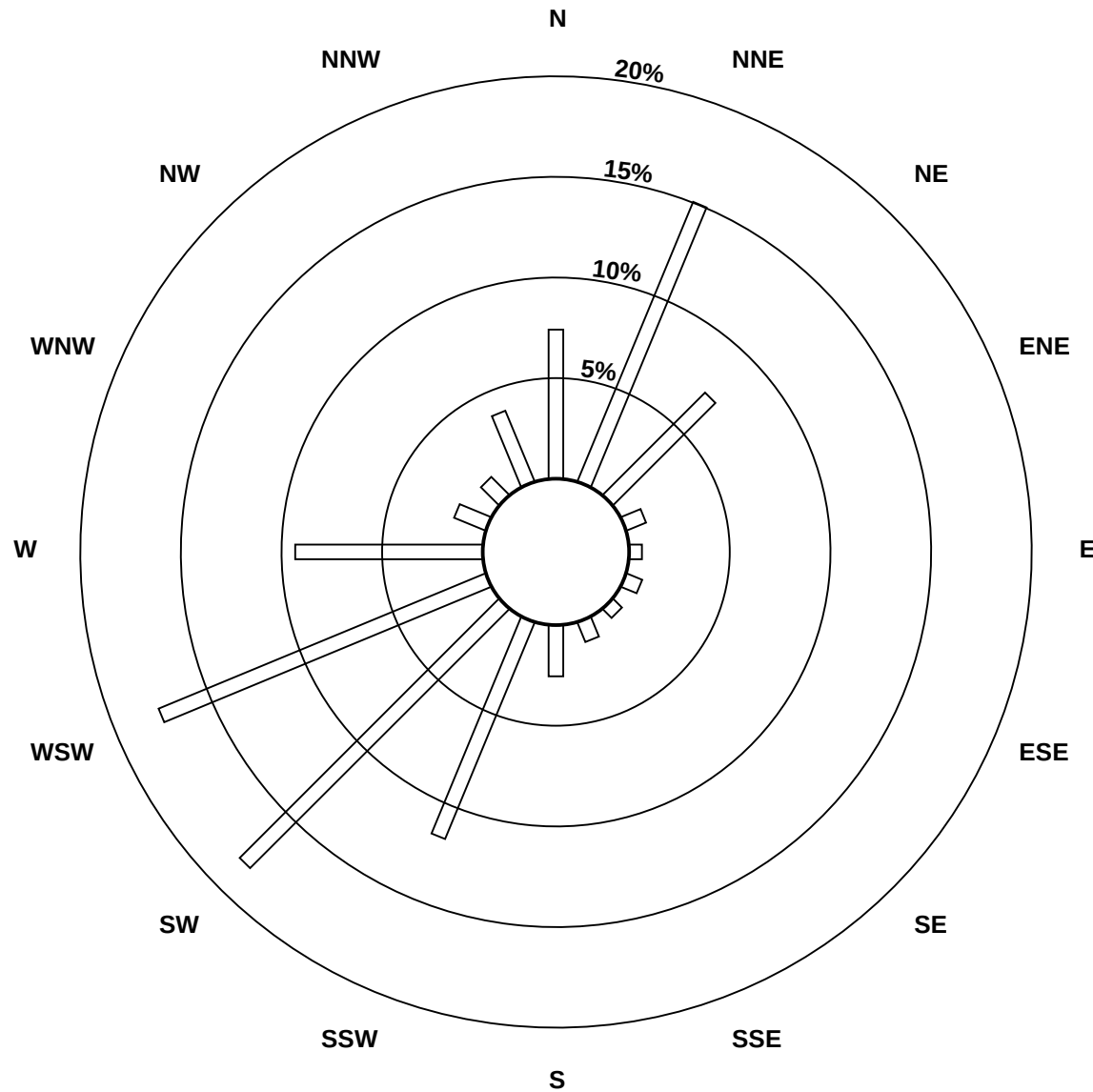
Hourly Maximums

Sulphur Dioxide (SO₂) - ppb
Smoky Heights - December 2014

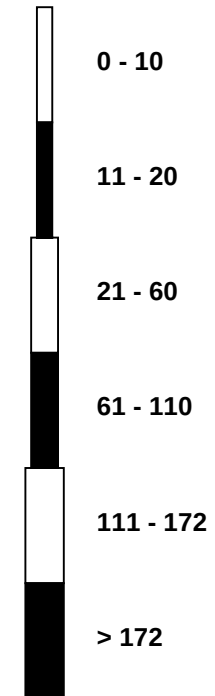


Pollutant Rose

Sulphur Dioxide (SO₂) - ppb
Smoky Heights - December 2014

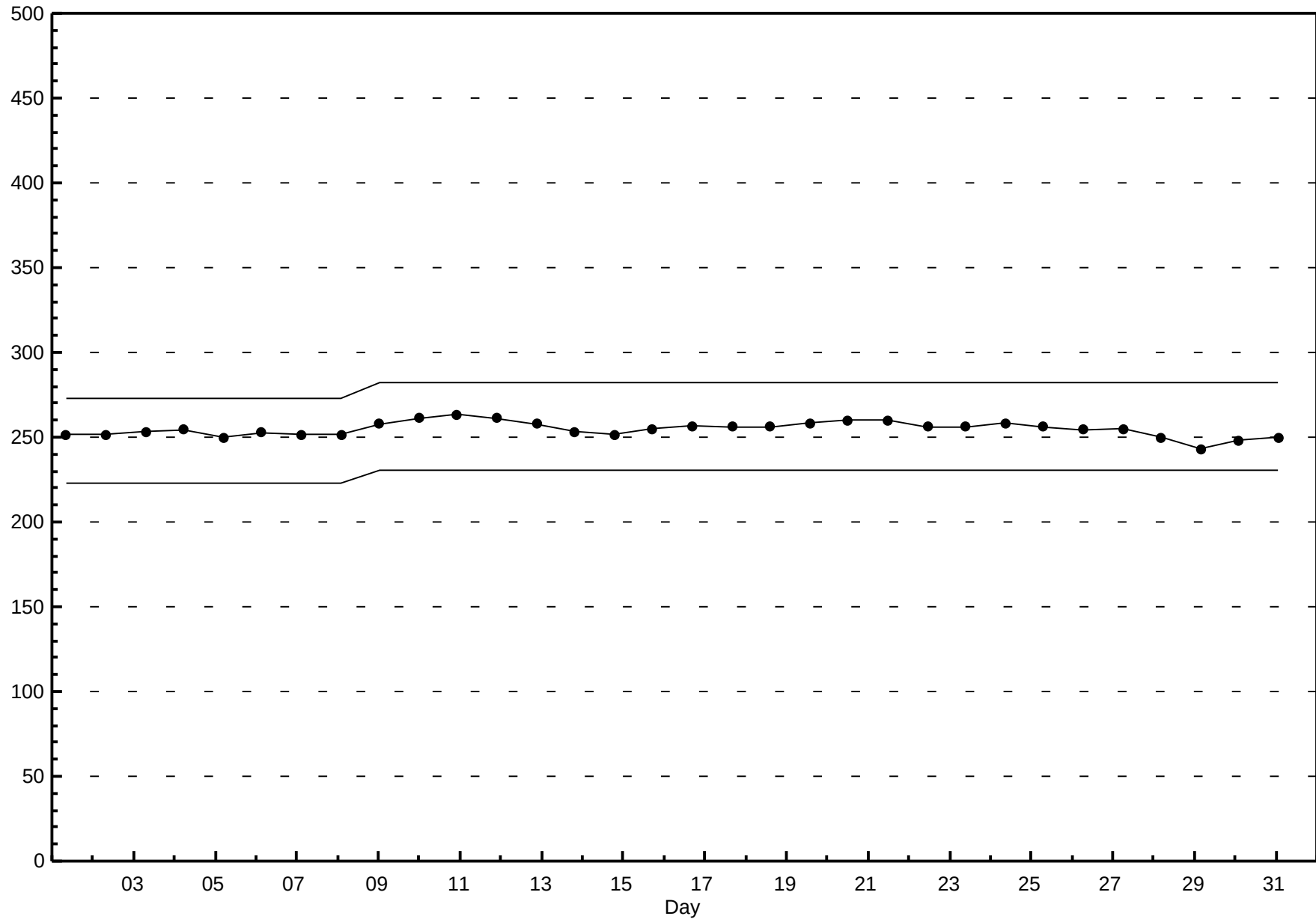


Pollutant Classes (ppb)



Span Responses

Sulphur Dioxide (SO₂)
Smoky Heights - December 2014



Hourly Averages

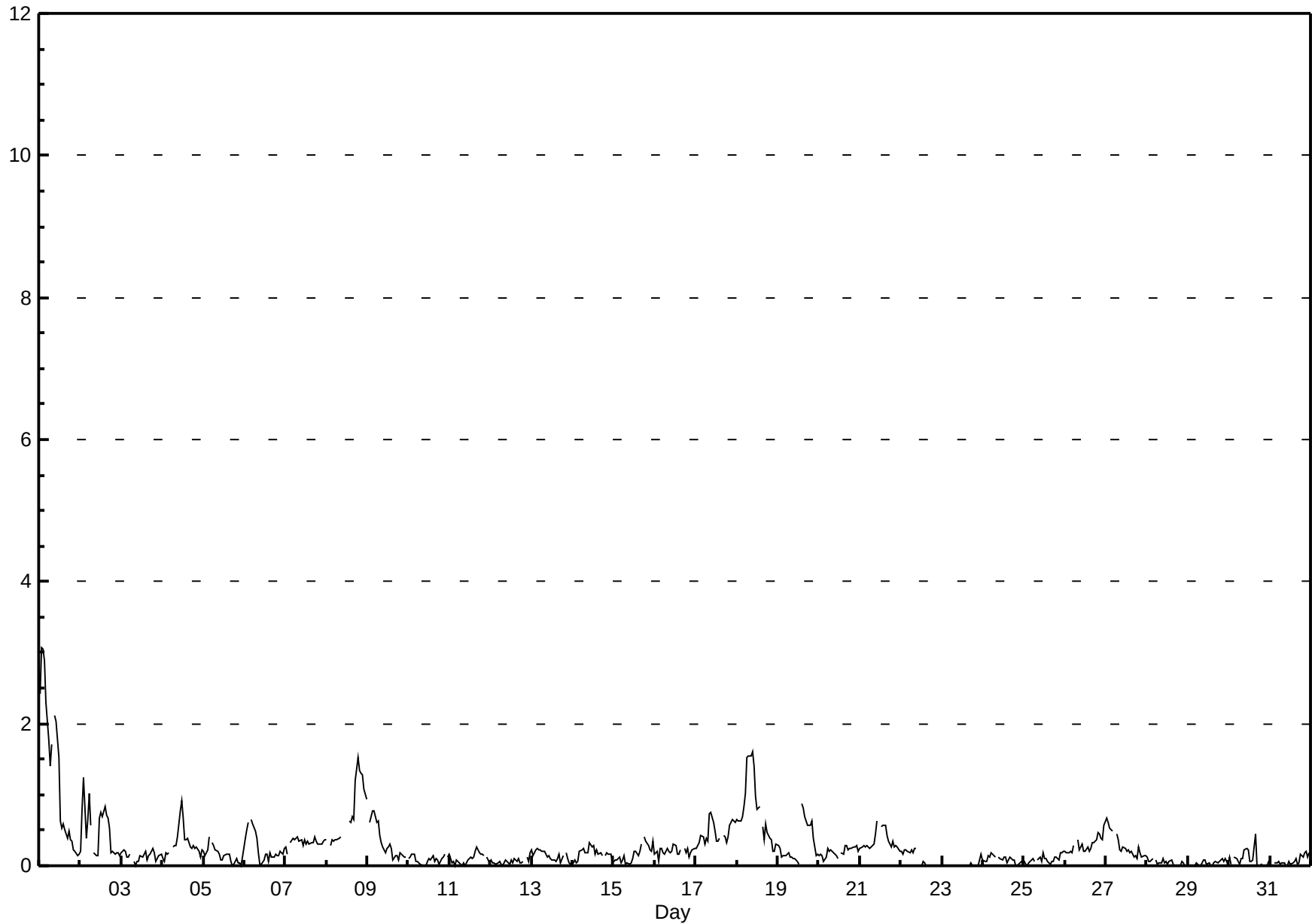
Total Reduced Sulphur (TRS) - ppb

Smoky Heights - December 2014

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 3.1 ppb on Dec 1 02:00 Maximum Daily Average: 1.3 ppb on Dec 1																			Hours in Service: 744 Hours of Data: 708 Hours of Missing Data: 36 Hours of Calibration: 36 Percent Operational Time: 100.0							
Minimum Value: 0 ppb on Dec 5 23:00 Minimum Daily Average: 0.0 ppb on Dec 23 Maximum Diurnal Average: 0.3 ppb at hour 3 Minimum Diurnal Average: 0.2 ppb at hour 23 Monthly Average: 0.26 ppb Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 0.2 Q ₃ = 0.3 P ₉₀ = 0.6 P ₉₉ = 2.0																										
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Dec	2	3	3	3	2	2	1	2	A	2	2	2	1	1	1	1	0	0	0	0	0	0	0	0	1.3	3.1
2-Dec	0	1	1	0	1	1	1	A	0	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0.5	1.2
3-Dec	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
4-Dec	0	0	0	0	0	A	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0.3	0.9
5-Dec	0	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
6-Dec	0	0	1	A	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.7
7-Dec	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
8-Dec	0	A	0	0	0	0	0	0	0	C	C	C	C	1	1	1	1	1	2	1	1	1	1	1	0.7	1.5
9-Dec	A	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0.3	0.8
10-Dec	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
11-Dec	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
12-Dec	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
13-Dec	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
14-Dec	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
15-Dec	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0.2	0.4
16-Dec	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
17-Dec	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	A	0	0	0	0	0	1	1	1	0.4	0.7
18-Dec	1	1	1	1	1	1	2	2	2	2	1	1	1	1	A	1	0	1	0	0	0	0	0	0	0.8	1.6
19-Dec	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	1	1	1	1	1	1	0	0	0	0.3	0.9
20-Dec	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
21-Dec	0	0	0	0	0	0	0	0	0	0	1	A	1	1	1	1	0	0	0	0	0	0	0	0	0.4	0.6
22-Dec	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
23-Dec	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	0.2
24-Dec	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
25-Dec	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
26-Dec	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	0.6
27-Dec	1	1	1	1	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.7
28-Dec	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
29-Dec	0	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-Dec	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	0.5
31-Dec	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
																									Diurnal Average	
																									Diurnal Maximum	
C - Calibration A - Automated Daily Zero Span																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb																										

Hourly Averages

Total Reduced Sulphur (TRS) - ppb
Smoky Heights - December 2014



Hourly Maximums

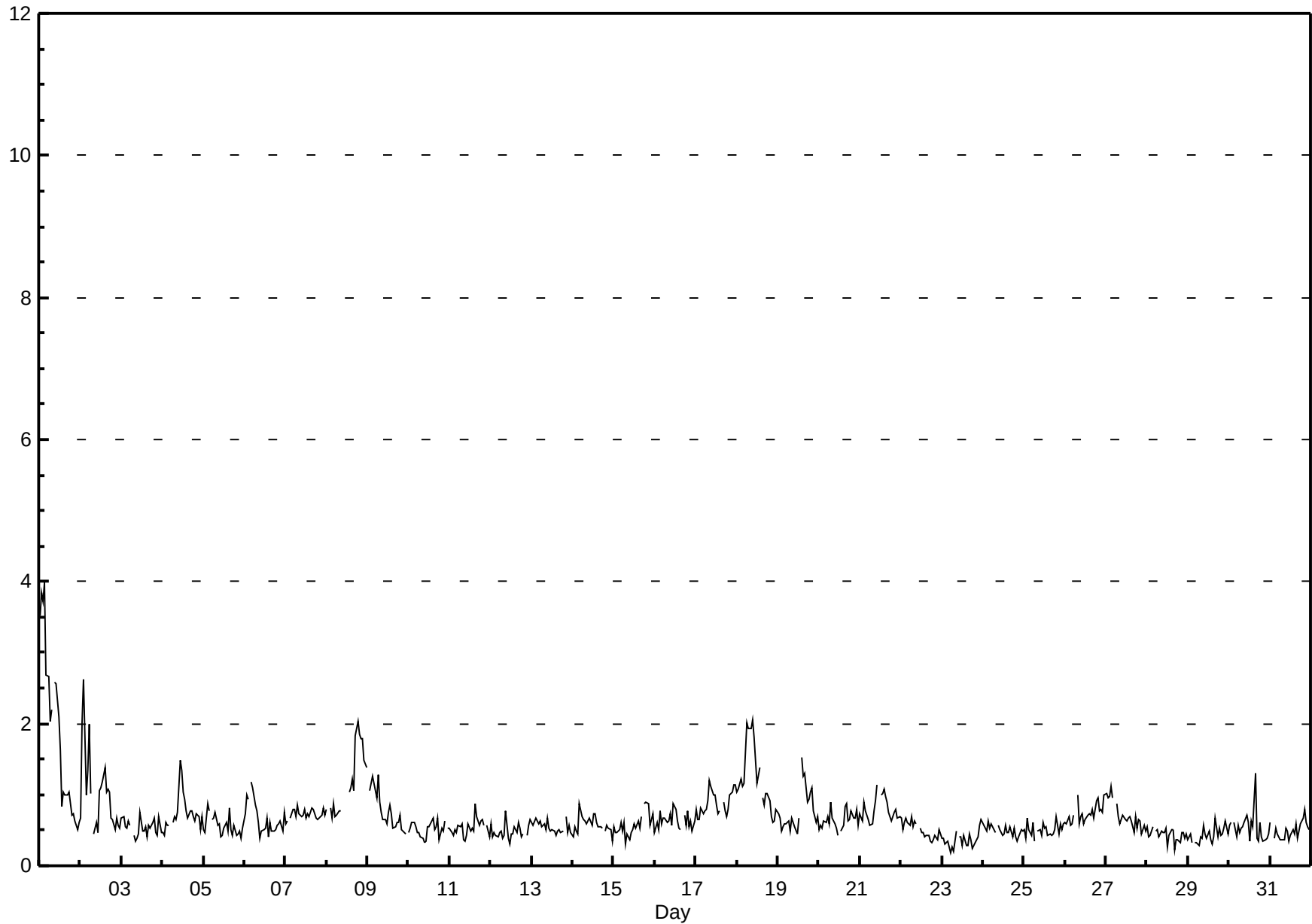
Total Reduced Sulphur (TRS) - ppb

Smoky Heights - December 2014

Maximum Value: 4.0 ppb on Dec 1 04:00																				Maximum Daily Average: 1.8 ppb on Dec 1				Hours in Service: 744		
Minimum Value: 0 ppb on Dec 23 06:00																				Minimum Daily Average: 0.4 ppb on Dec 23				Hours of Data: 708		
Maximum Diurnal Average: 0.8 ppb at hour 3																				Minimum Diurnal Average: 0.6 ppb at hour 23				Hours of Missing Data: 36		
Monthly Average: 0.69 ppb																				Percentiles: P ₁ = 0.3 P ₁₀ = 0.4 Q ₁ = 0.5 Median = 0.6 Q ₃ = 0.7 P ₉₀ = 1.0 P ₉₉ = 2.6				Hours of Calibration: 36		
																				Percent Operational Time: 100.0						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Dec	4	4	4	4	3	3	2	2	A	3	3	2	2	1	1	1	1	1	1	1	1	1	1	1	1.8	4.0
2-Dec	1	2	3	1	1	2	1	A	0	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	2.6
3-Dec	1	1	1	1	1	1	A	0	0	0	0	1	0	0	1	0	1	1	1	1	0	0	1	0	0.5	0.8
4-Dec	0	0	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.5
5-Dec	1	0	1	1	A	1	1	1	1	1	0	0	1	1	0	1	1	0	1	0	0	0	0	1	0.6	0.9
6-Dec	1	1	1	A	1	1	1	1	1	0	0	1	1	1	0	1	0	0	1	1	1	1	0	1	0.7	1.2
7-Dec	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	0.9
8-Dec	1	A	1	1	1	1	1	1	1	C	C	C	C	1	1	1	1	2	2	2	2	2	1	1	1.2	2.0
9-Dec	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	A	0.8	1.3
10-Dec	0	1	1	1	1	0	0	0	0	0	0	1	1	1	1	1	1	1	0	1	0	1	A	1	0.5	0.7
11-Dec	1	0	0	1	0	1	1	1	0	0	0	1	0	1	0	1	1	1	1	1	1	A	1	0	0.5	0.9
12-Dec	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1	1	0	0	A	0	1	1	0.5	0.8
13-Dec	1	1	1	1	1	1	1	1	1	1	1	0	1	0	0	0	1	0	0	A	1	0	1	0	0.5	0.7
14-Dec	0	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	0	1	1	1	0	0.6	0.9
15-Dec	1	0	0	0	1	0	1	0	0	0	0	1	1	1	1	1	1	A	1	1	1	1	1	1	0.6	0.9
16-Dec	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	0	1	0.6	0.9
17-Dec	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	0.9	1.2
18-Dec	1	1	1	1	1	2	2	2	2	2	2	1	1	1	A	1	1	1	1	1	1	1	1	1	1.2	2.1
19-Dec	1	1	0	1	1	1	1	0	1	1	1	0	1	A	2	1	1	1	1	1	1	1	1	1	0.8	1.5
20-Dec	1	1	1	1	1	1	1	1	1	1	1	0	A	0	1	1	1	1	1	1	1	1	1	1	0.6	0.9
21-Dec	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.1
22-Dec	1	1	1	1	1	1	1	1	1	1	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0.5	0.7
23-Dec	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.4	0.7
24-Dec	1	1	0	1	1	1	0	0	A	1	1	0	0	1	0	0	1	0	1	0	0	0	0	0	0.5	0.6
25-Dec	1	0	1	1	0	1	0	A	0	1	0	1	1	1	0	0	0	0	1	1	0	1	1	1	0.5	0.7
26-Dec	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	1.0
27-Dec	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	0	1	0	0.7	1.1
28-Dec	1	0	0	1	A	0	1	0	0	0	0	1	0	0	1	1	0	0	0	0	0	0	0	0	0.4	0.5
29-Dec	0	0	0	A	0	0	0	0	0	1	0	0	0	0	0	0	1	0	1	0	0	1	1	0	0.4	0.7
30-Dec	1	1	A	1	0	1	0	1	1	1	1	1	0	1	1	1	0	0	1	0	0	0	0	0	0.5	1.3
31-Dec	1	A	0	1	0	0	0	0	0	1	0	0	0	1	0	1	0	0	1	1	1	1	1	1	0.5	0.8
0.7 0.8 0.8 0.8 0.7 0.8 0.7 0.7 0.6 0.7 0.7 0.7 0.7 0.7 0.7 0.7 0.7 0.7 0.7 0.7 0.6 0.6 0.6 0.6																									Diurnal Average	
3.5 3.8 3.7 4.0 2.7 2.7 2.0 2.2 1.9 2.6 2.6 2.1 1.6 1.4 1.5 1.3 1.3 1.8 2.0 1.9 1.8 1.8 1.5 1.4																									Diurnal Maximum	
C - Calibration A - Automated Daily Zero Span																										

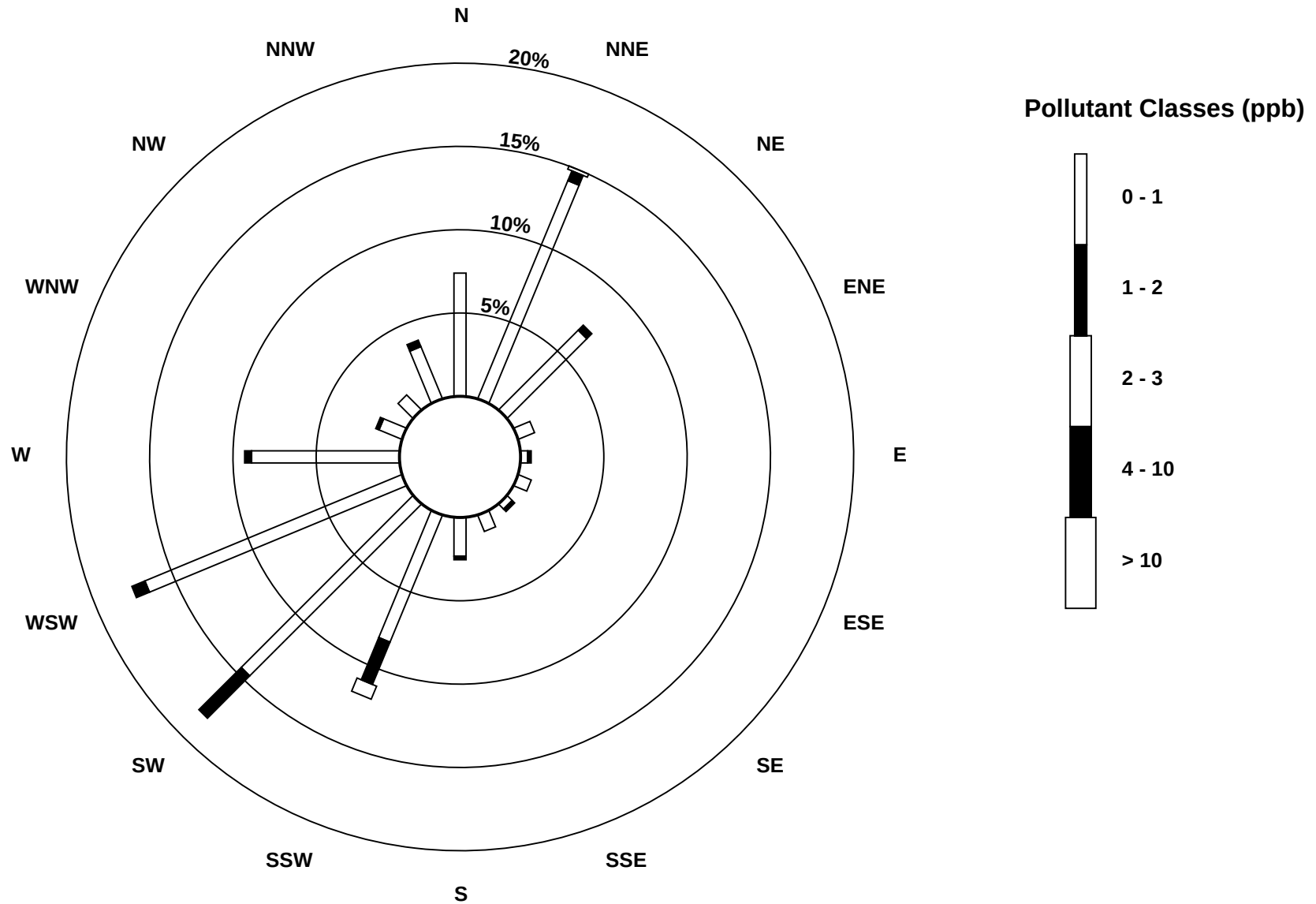
Hourly Maximums

Total Reduced Sulphur (TRS) - ppb
Smoky Heights - December 2014



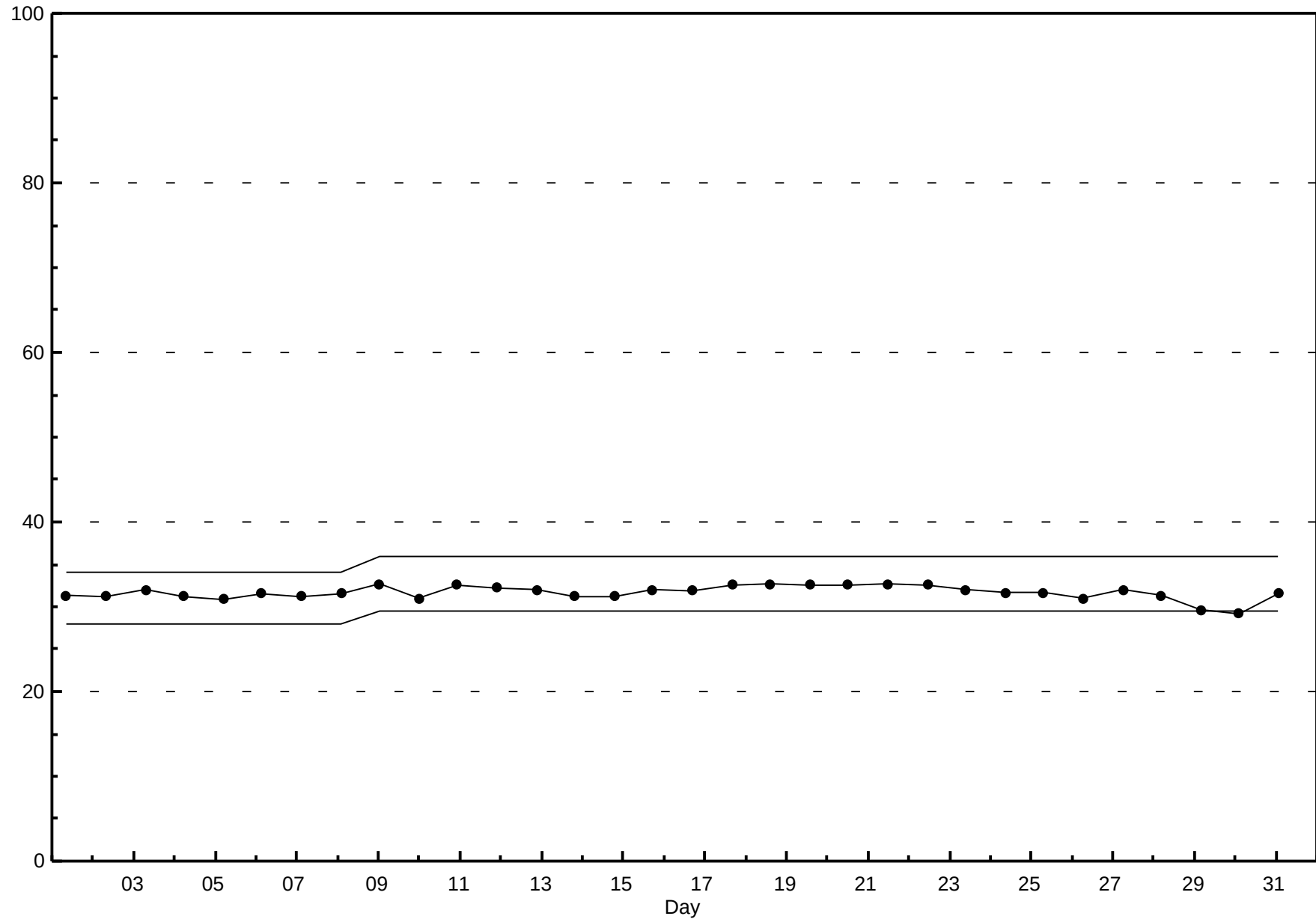
Pollutant Rose

Total Reduced Sulphur (TRS) - ppb
Smoky Heights - December 2014



Span Responses

Total Reduced Sulphur (TRS)
Smoky Heights - December 2014



Hourly Averages

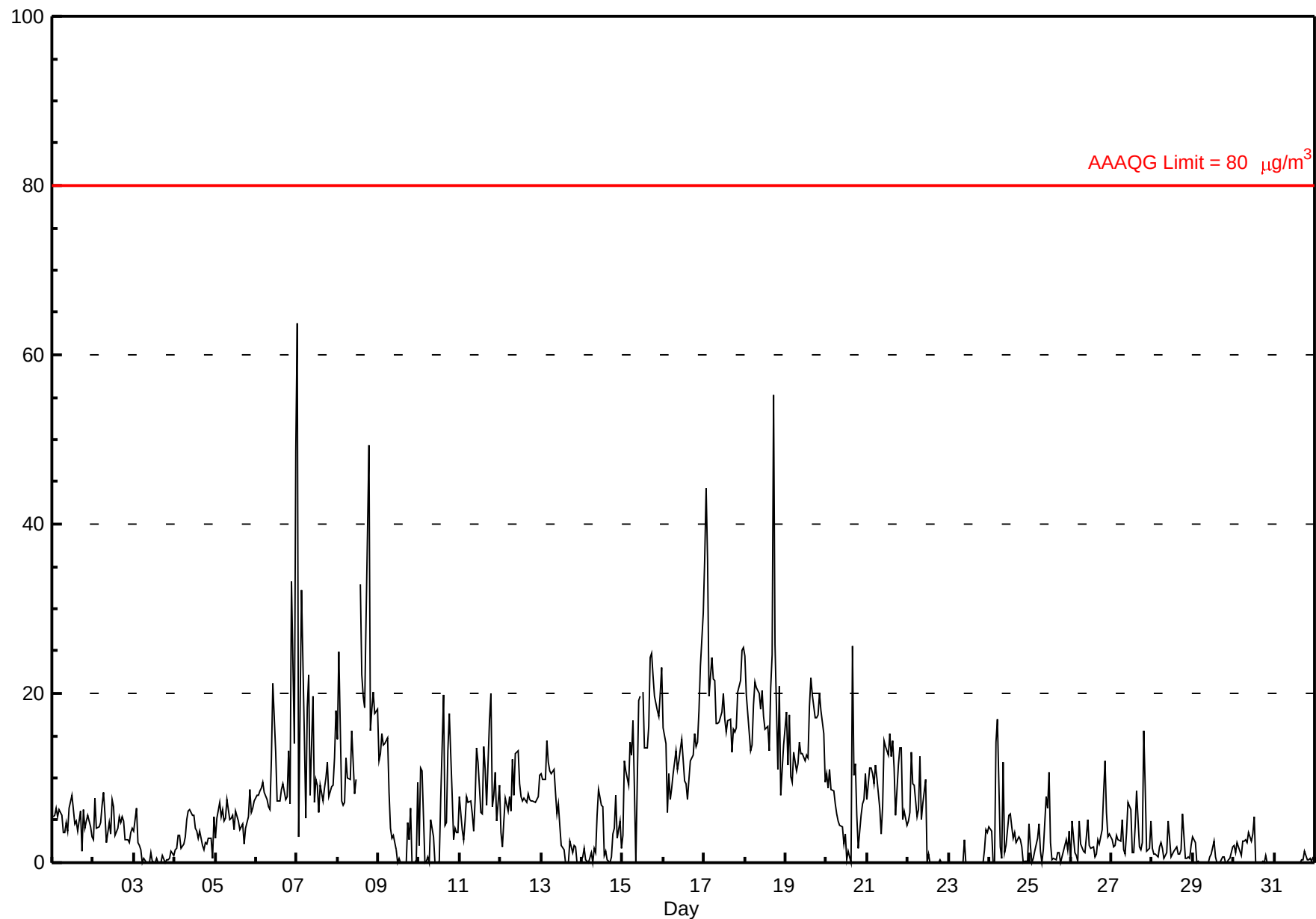
Particulate Matter 2.5 (PM_{2.5}) - µg/m³

Smoky Heights - December 2014

Number of Exceedences: 1-hr: 0 24-hr: 0 Maximum Value: 63.8 µg/m³ on Dec 7 01:00 Maximum Daily Average: 21.2 µg/m³ on Dec 17																								Hours in Service: 744 Hours of Data: 742 Hours of Missing Data: 2 Hours of Calibration: 0 Percent Operational Time: 99.7		
Minimum Value: 0 µg/m³ on Dec 3 06:00 Maximum Diurnal Average: 9.1 µg/m³ at hour 24 Monthly Average: 7.05 µg/m³ Minimum Daily Average: 0.2 µg/m³ on Dec 31 Minimum Diurnal Average: 5.5 µg/m³ at hour 9 Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 1.3 Median = 5.0 Q ₃ = 10.6 P ₉₀ = 17.1 P ₉₉ = 35.7																										
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-Dec	5	6	7	5	6	6	4	3	5	4	6	8	6	5	5	4	6	1	6	4	5	6	4	3	5.0	7.9
2-Dec	3	8	4	4	5	7	8	6	2	5	3	7	7	3	4	5	5	5	5	3	3	2	4	4	4.7	8.4
3-Dec	4	6	2	2	1	0	1	0	0	0	1	0	0	1	0	0	0	1	0	0	0	0	1	1	0.9	6.4
4-Dec	2	2	3	3	2	2	3	5	6	6	6	6	4	4	3	4	2	2	2	2	3	3	1	6	3.3	6.3
5-Dec	3	5	7	5	6	5	5	7	5	5	6	4	6	5	4	4	5	2	4	5	9	6	6	7	5.3	8.7
6-Dec	8	8	9	9	10	8	7	7	6	12	21	13	7	7	7	9	9	8	8	13	7	33	14	49	12.0	48.7
7-Dec	64	3	18	32	15	5	18	22	8	20	7	10	9	6	9	7	9	10	12	8	9	9	12	18	14.2	63.8
8-Dec	15	25	7	7	7	12	10	10	16	12	8	10	M	33	22	20	18	29	49	16	18	20	18	18	17.4	49.3
9-Dec	12	13	15	14	14	15	8	4	3	3	2	0	1	0	0	0	0	5	3	6	0	0	0	10	5.3	15.3
10-Dec	2	11	11	0	0	1	0	5	3	0	0	0	0	7	20	4	5	13	18	8	3	4	3	4	5.1	19.8
11-Dec	8	4	3	5	8	7	7	6	4	7	14	12	6	6	14	11	7	17	20	7	8	11	5	9	8.5	20.0
12-Dec	4	2	5	8	6	8	6	12	8	13	13	9	8	7	8	7	8	7	7	7	7	7	8	10	7.8	13.3
13-Dec	11	10	10	14	12	11	11	11	8	6	7	4	2	1	0	0	0	3	1	2	2	0	0	0	5.2	14.3
14-Dec	1	2	0	0	0	1	0	2	1	6	9	7	7	1	1	0	0	1	3	4	8	3	5	2	2.6	8.6
15-Dec	3	12	11	9	14	13	17	9	0	19	20	M	20	13	14	16	24	25	22	20	18	17	20	23	15.6	24.7
16-Dec	16	14	6	11	8	9	11	13	11	12	13	15	10	9	8	10	12	13	15	14	14	18	23	30	13.0	29.5
17-Dec	36	44	36	20	24	22	22	17	16	17	18	20	17	15	17	17	13	16	16	16	20	21	25	25	21.2	44.2
18-Dec	24	20	16	13	14	19	21	21	20	18	20	17	16	16	13	21	25	55	26	11	21	8	11	14	19.1	55.3
19-Dec	18	12	17	10	9	13	11	12	14	13	13	12	13	12	18	22	20	17	17	18	20	18	15	9	14.7	21.8
20-Dec	11	9	11	9	8	7	6	5	4	4	2	3	0	1	0	26	10	12	6	2	6	7	7	10	6.9	25.6
21-Dec	8	11	11	10	9	12	10	7	3	7	14	14	13	15	13	14	11	6	12	14	14	5	6	4	10.1	15.2
22-Dec	5	6	13	9	9	5	6	13	5	7	10	0	1	0	0	0	0	0	0	0	0	0	0	0	3.7	13.1
23-Dec	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	1	4	4	0.5	4.0
24-Dec	4	4	0	0	14	17	2	1	12	1	2	6	6	4	3	4	2	3	3	2	0	0	0	5	3.9	17.0
25-Dec	2	0	1	1	3	5	1	0	1	8	6	11	2	0	1	0	1	1	0	1	2	3	2	4	2.3	10.6
26-Dec	0	5	1	1	0	5	2	1	1	3	5	2	2	2	1	1	3	2	4	8	12	6	3	3	3.1	12.1
27-Dec	3	2	2	3	3	3	5	2	1	4	7	6	1	1	4	8	2	2	2	16	9	1	2	5	3.9	15.7
28-Dec	2	1	1	1	2	2	2	0	1	5	3	1	1	1	2	1	1	2	6	1	0	1	1	2	1.6	5.8
29-Dec	3	2	0	0	0	0	0	0	0	0	1	1	3	1	0	0	0	1	1	0	0	0	1	2	0.6	3.1
30-Dec	2	1	2	2	1	2	3	3	2	4	3	3	5	0	0	0	0	0	0	1	0	0	0	0	1.4	5.4
31-Dec	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0.2	1.4
8.9 8.0 7.4 6.7 6.8 7.1 6.7 6.5 5.5 7.2 7.7 6.7 5.7 5.8 6.1 7.0 6.4 8.3 8.7 6.7 7.0 6.9 6.5 9.1 63.8 44.2 35.8 32.2 24.3 21.7 21.6 22.2 20.0 19.7 21.1 20.0 20.2 33.0 22.2 25.6 24.5 55.3 49.3 19.6 20.8 33.2 25.0 48.7																								Diurnal Average	Diurnal Maximum	
M - Maintenance Alberta Ambient Air Quality Guideline (AAAQG): 1-hr 80 µg/m³ Alberta Ambient Air Quality Objective (AAAQO): 24-hr 30 µg/m³																										

Hourly Averages

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Smoky Heights - December 2014



Hourly Maximums

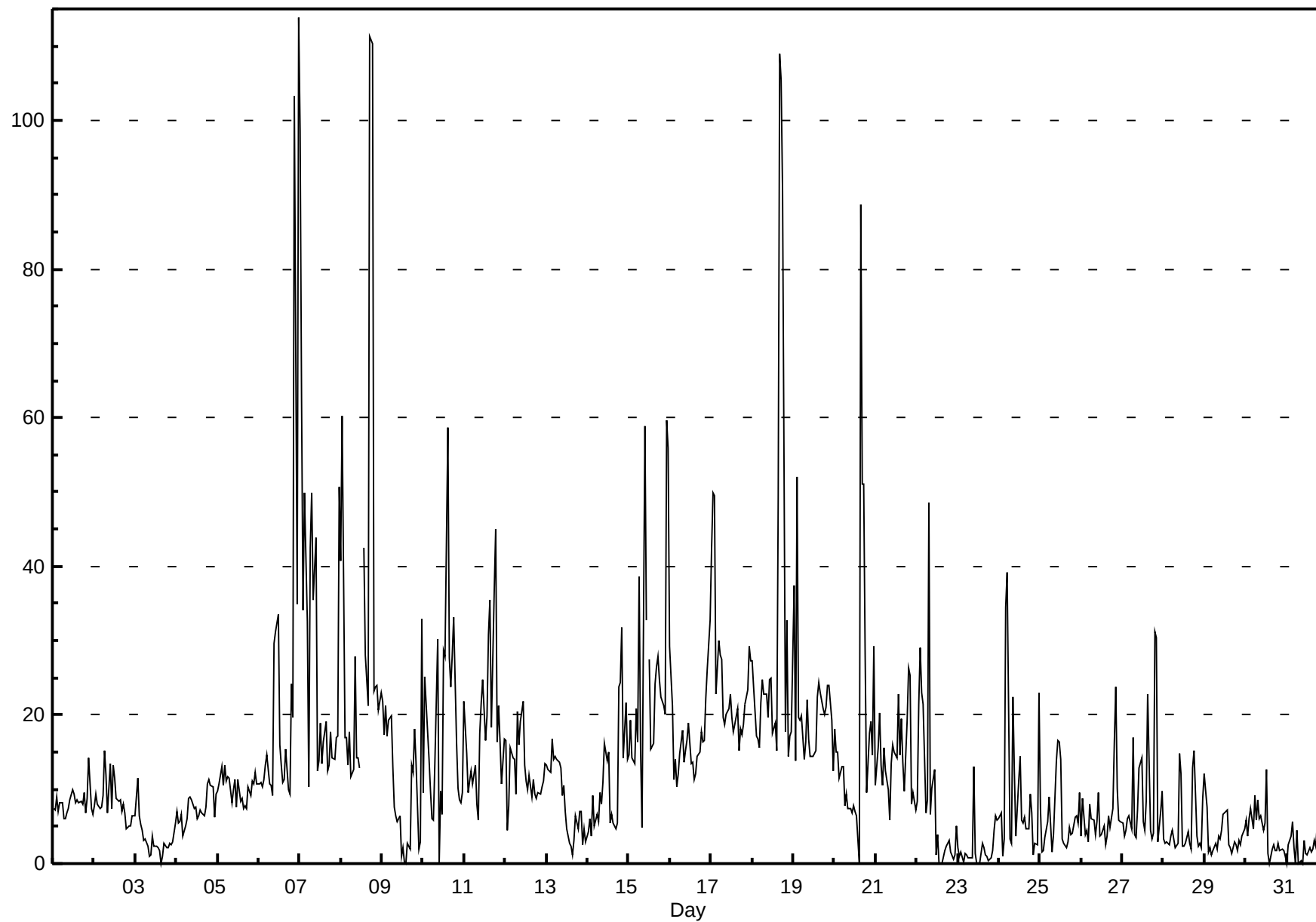
Particulate Matter 2.5 (PM_{2.5}) - µg/m³

Smoky Heights - December 2014

Maximum Value: 113.9 µg/m ³ on Dec 7 00:00																								Maximum Daily Average: 32.0 µg/m ³ on Dec 18						Hours in Service: 744	
Minimum Value: 0 µg/m ³ on Dec 3 16:00																								Minimum Daily Average: 2.1 µg/m ³ on Dec 23						Hours of Data: 742	
Maximum Diurnal Average: 18.6 µg/m ³ at hour 19																								Minimum Diurnal Average: 10.0 µg/m ³ at hour 14						Hours of Missing Data: 2	
Monthly Average: 13.34 µg/m ³																								Percentiles: P ₁ = 0.0 P ₁₀ = 2.2 Q ₁ = 4.7 Median = 9.6 Q ₃ = 16.8 P ₉₀ = 26.3 P ₉₉ = 94.4						Hours of Calibration: 0	
																								Percent Operational Time: 99.7							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum					
1-Dec	7	7	9	7	8	8	6	6	7	7	9	10	9	8	9	8	8	8	10	7	9	14	7	7	8.2	14.3					
2-Dec	8	9	8	7	8	9	15	12	7	13	7	13	12	9	8	9	7	8	7	5	5	5	6	6	8.5	15.2					
3-Dec	6	12	6	5	4	3	3	2	1	1	4	2	2	2	0	1	3	2	2	3	3	3	5	3.3	11.5						
4-Dec	7	5	6	7	4	5	6	9	9	9	7	8	6	6	7	7	6	8	11	11	11	10	6	9	7.5	11.3					
5-Dec	10	11	13	11	13	11	12	12	8	10	11	8	11	8	9	7	8	7	10	9	11	11	12	11	10.2	13.3					
6-Dec	11	11	10	11	13	15	11	11	9	30	31	33	16	13	11	11	15	10	9	24	20	103	35	114	24.1	113.9					
7-Dec	99	63	34	50	32	10	43	50	35	44	13	14	19	13	16	19	13	13	18	14	14	17	17	51	29.6	98.7					
8-Dec	41	60	17	17	13	18	12	13	28	14	14	13	M	43	28	25	21	111	110	23	24	24	21	23	31.0	111.2					
9-Dec	22	17	21	17	19	20	13	8	6	6	6	1	2	0	0	3	2	13	12	18	14	2	3	33	10.8	33.0					
10-Dec	10	25	21	14	10	6	6	14	30	0	10	7	29	28	59	28	24	28	33	16	10	9	8	10	18.0	58.6					
11-Dec	22	15	10	11	13	11	13	8	6	18	22	25	17	20	31	35	18	37	45	16	21	16	11	17	19.0	45.0					
12-Dec	17	4	8	16	14	14	9	20	16	19	22	13	11	10	12	9	11	9	9	10	9	10	11	13	12.4	21.8					
13-Dec	13	13	12	17	14	15	14	14	13	9	11	7	5	3	2	1	3	6	5	7	7	2	5	3	8.3	16.7					
14-Dec	4	6	4	9	5	7	6	10	8	11	16	14	15	5	7	5	5	5	24	24	32	14	22	14	11.3	31.8					
15-Dec	15	19	14	14	21	16	39	15	5	59	33	M	27	15	16	24	27	28	25	22	21	20	60	56	25.7	59.6					
16-Dec	29	21	11	14	10	12	15	18	14	15	17	19	13	14	11	12	14	15	18	16	17	22	26	33	17.0	32.7					
17-Dec	42	50	50	23	30	28	27	20	19	20	21	23	20	18	19	21	15	18	17	19	21	23	29	27	25.0	49.8					
18-Dec	27	24	17	17	16	22	25	23	23	20	25	25	17	19	15	49	109	106	90	18	33	14	17	18	32.0	109.0					
19-Dec	37	14	52	20	19	20	14	16	22	17	14	14	15	15	22	24	23	21	20	21	24	24	19	13	20.9	52.1					
20-Dec	18	15	15	11	13	13	8	9	7	7	7	8	7	6	0	89	51	51	28	10	18	19	15	29	19.0	88.7					
21-Dec	11	16	20	13	11	16	13	10	6	13	16	15	14	23	15	20	14	10	19	26	25	8	10	7	14.5	26.4					
22-Dec	8	21	29	23	21	7	9	49	7	10	13	1	4	0	0	0	2	2	3	3	2	1	1	5	9.2	48.6					
23-Dec	2	1	1	0	1	1	1	1	1	13	1	0	0	0	3	2	1	1	0	1	2	4	6	6	2.1	13.0					
24-Dec	6	7	1	3	34	39	3	3	22	12	4	11	14	6	5	6	5	5	9	7	1	3	2	23	9.7	39.1					
25-Dec	7	2	2	3	6	9	5	1	4	14	17	16	14	3	3	2	3	5	4	4	6	6	5	10	6.3	16.6					
26-Dec	4	9	4	4	3	8	6	6	4	6	10	4	4	5	3	4	6	5	7	16	24	10	6	6	6.8	23.7					
27-Dec	5	4	4	6	6	5	17	4	3	7	13	14	6	4	8	23	5	3	4	31	30	3	7	10	9.3	31.3					
28-Dec	3	3	3	3	4	4	3	2	3	15	12	2	2	3	4	3	2	13	15	4	2	3	2	9	5.0	15.2					
29-Dec	12	8	2	2	1	2	3	2	4	3	4	7	7	7	2	2	1	3	2	2	3	2	4	5	3.8	12.1					
30-Dec	6	4	6	7	5	9	6	9	6	6	5	5	13	1	0	2	3	2	2	3	2	2	2	1	4.4	12.7					
31-Dec	0	2	4	6	2	0	4	0	0	0	3	1	1	2	1	2	3	2	5	3	2	2	2	3	2.2	5.7					
16.4 15.4 13.4 11.9 12.1 11.7 11.8 12.1 10.7 13.8 12.8 11.1 11.1 10.0 10.6 14.6 13.8 18.0 18.6 12.7 13.6 13.2 12.3 18.5																									Diurnal Average						
98.7 62.6 52.1 49.9 34.4 39.1 42.5 49.9 35.5 58.9 32.8 33.5 28.6 42.5 58.6 88.7 109.0 111.2 110.4 31.3 32.8 103.4 59.6 113.9																									Diurnal Maximum						
M - Maintenance																															

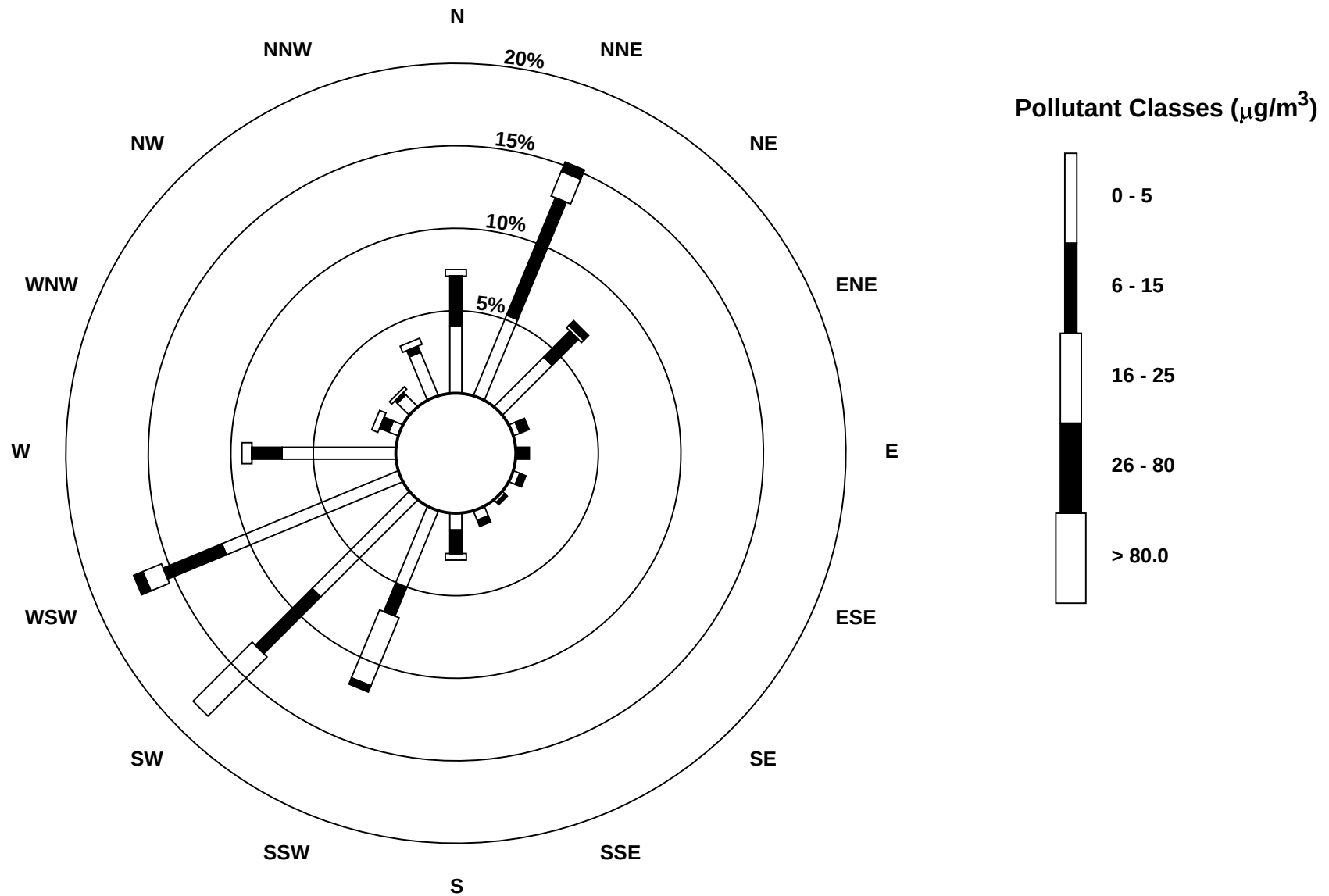
Hourly Maximums

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Smoky Heights - December 2014



Pollutant Rose

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Smoky Heights - December 2014



Hourly Averages

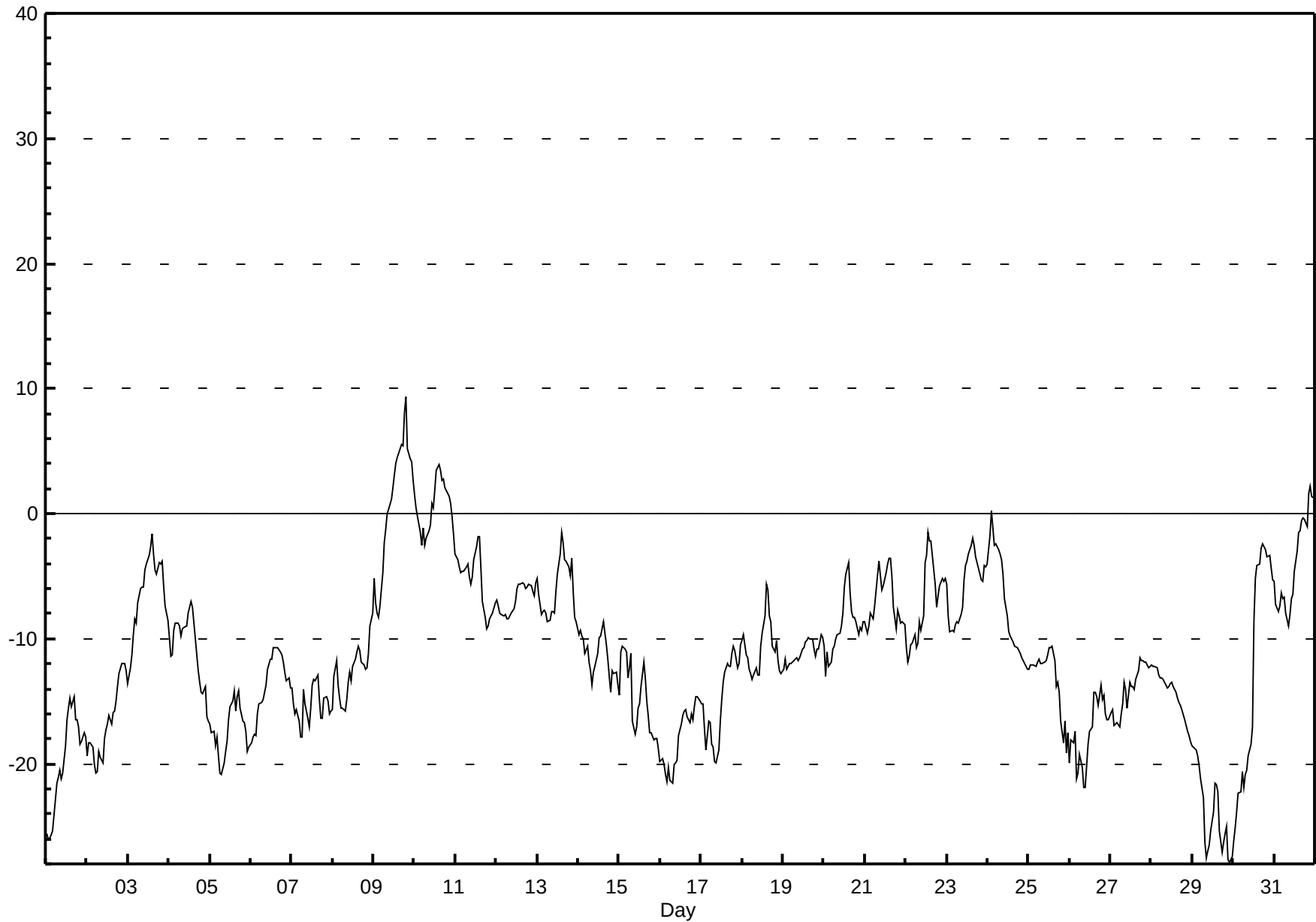
External Temperature (ET) - °C

Smoky Heights - December 2014

Number of Exceedences (AAAQO): Maximum Value: 9.4 °C on Dec 9 20:00																					1-hr: 0 24-hr: 0 Maximum Daily Average: 0.9 °C on Dec 9				Hours in Service: 744 Hours of Data: 744 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0			
Minimum Value: -28 °C on Dec 29 23:00 Maximum Diurnal Average: -8.3 °C at hour 15 Monthly Average: -11.16 °C																					Minimum Daily Average: -23.9 °C on Dec 29 Minimum Diurnal Average: -12.8 °C at hour 5 Percentiles: P ₁ = -26.3 P ₁₀ = -19.1 Q ₁ = -15.6 Median = -11.5 Q ₃ = -7.0 P ₉₀ = -2.9 P ₉₉ = 4.2							
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-Dec	-26	-26	-26	-26	-25	-23	-21	-21	-21	-21	-21	-19	-16	-16	-15	-15	-15	-16	-16	-17	-18	-18	-18	-18	-19.7	-14.6		
2-Dec	-19	-18	-18	-19	-20	-21	-21	-19	-19	-20	-18	-17	-17	-16	-17	-16	-16	-15	-14	-13	-12	-12	-12	-13	-16.7	-12.0		
3-Dec	-14	-12	-11	-10	-8	-9	-7	-6	-6	-6	-4	-4	-3	-3	-2	-3	-5	-5	-4	-4	-4	-6	-7	-8	-6.3	-1.6		
4-Dec	-10	-11	-11	-9	-9	-9	-9	-10	-9	-9	-9	-8	-7	-7	-8	-9	-11	-13	-14	-14	-14	-14	-16	-17	-10.7	-7.0		
5-Dec	-17	-17	-17	-19	-18	-19	-21	-21	-20	-19	-18	-17	-15	-15	-14	-16	-15	-14	-16	-17	-17	-17	-19	-19	-17.3	-14.2		
6-Dec	-18	-18	-18	-18	-16	-15	-15	-15	-14	-14	-12	-12	-12	-11	-11	-11	-11	-11	-11	-12	-13	-13	-13	-14	-13.6	-10.7		
7-Dec	-14	-15	-16	-16	-17	-18	-18	-14	-15	-16	-17	-16	-14	-13	-13	-13	-15	-16	-16	-15	-15	-15	-16	-16	-15.3	-12.9		
8-Dec	-16	-13	-12	-14	-15	-16	-16	-16	-15	-14	-13	-13	-12	-12	-11	-11	-11	-12	-12	-12	-12	-11	-9	-8	-12.7	-8.0		
9-Dec	-5	-7	-8	-8	-7	-5	-2	-1	0	0	1	2	3	4	5	5	6	5	8	9	5	4	4	3	0.9	9.4		
10-Dec	1	0	0	-1	-3	-1	-3	-2	-1	-1	1	0	2	3	4	3	3	3	2	2	1	1	0	-2	0.5	3.9		
11-Dec	-3	-4	-4	-5	-5	-5	-4	-4	-5	-6	-5	-4	-3	-2	-2	-4	-7	-8	-9	-9	-8	-8	-8	-7	-5.4	-1.8		
12-Dec	-7	-7	-8	-8	-8	-8	-8	-8	-8	-8	-8	-7	-6	-6	-6	-5	-6	-6	-6	-6	-6	-6	-7	-5	-6.8	-5.5		
13-Dec	-5	-6	-8	-8	-8	-8	-9	-8	-8	-8	-8	-6	-5	-3	-1	-2	-4	-4	-4	-5	-4	-6	-8	-9	-6.1	-1.5		
14-Dec	-10	-9	-10	-10	-11	-11	-12	-13	-14	-13	-12	-11	-10	-10	-9	-9	-10	-12	-13	-14	-13	-13	-13	-14	-11.4	-8.6		
15-Dec	-14	-11	-11	-11	-11	-13	-12	-11	-17	-18	-17	-16	-15	-14	-12	-13	-15	-16	-17	-18	-18	-18	-18	-19	-14.8	-10.6		
16-Dec	-20	-20	-20	-21	-21	-20	-21	-22	-20	-20	-20	-18	-17	-16	-16	-16	-16	-17	-16	-17	-15	-15	-15	-15	-18.0	-14.7		
17-Dec	-15	-15	-17	-19	-17	-17	-18	-19	-20	-20	-19	-17	-15	-13	-13	-12	-12	-12	-11	-11	-11	-12	-12	-10	-14.9	-10.4		
18-Dec	-10	-10	-11	-12	-12	-13	-13	-13	-12	-13	-13	-11	-10	-8	-6	-6	-8	-9	-11	-11	-10	-12	-13	-13	-10.8	-5.7		
19-Dec	-12	-12	-12	-12	-12	-12	-12	-12	-12	-12	-11	-11	-11	-10	-10	-10	-10	-10	-11	-11	-11	-11	-10	-10	-11.1	-9.7		
20-Dec	-11	-13	-11	-12	-12	-11	-11	-10	-10	-10	-9	-8	-6	-5	-4	-6	-8	-8	-8	-9	-10	-9	-9	-9	-9.1	-3.9		
21-Dec	-9	-10	-9	-8	-8	-8	-7	-5	-4	-5	-6	-6	-5	-4	-4	-4	-5	-8	-9	-8	-8	-9	-9	-9	-6.9	-3.6		
22-Dec	-11	-12	-11	-10	-10	-10	-11	-10	-9	-9	-8	-4	-3	-1	-2	-2	-4	-6	-7	-7	-6	-5	-5	-5	-7.1	-1.5		
23-Dec	-6	-8	-9	-9	-9	-9	-9	-9	-8	-7	-5	-4	-4	-3	-3	-2	-3	-3	-4	-5	-5	-5	-4	-4	-5.8	-1.9		
24-Dec	-4	-2	0	-1	-3	-2	-3	-3	-4	-5	-7	-8	-9	-10	-10	-10	-11	-11	-11	-11	-11	-12	-12	-12	-7.2	0.3		
25-Dec	-12	-12	-12	-12	-12	-12	-12	-12	-12	-12	-12	-11	-11	-11	-11	-12	-14	-13	-14	-17	-18	-17	-19	-17	-13.2	-10.6		
26-Dec	-20	-18	-18	-17	-21	-21	-19	-20	-22	-22	-20	-18	-17	-17	-14	-14	-15	-15	-14	-15	-15	-16	-17	-16	-17.6	-13.7		
27-Dec	-16	-16	-17	-17	-17	-17	-16	-15	-14	-14	-16	-14	-14	-14	-14	-13	-13	-12	-12	-12	-12	-12	-12	-12	-14.1	-11.6		
28-Dec	-12	-12	-12	-12	-13	-13	-13	-13	-14	-14	-14	-14	-14	-13	-14	-14	-15	-15	-15	-16	-16	-17	-17	-18	-14.4	-12.1		
29-Dec	-19	-19	-19	-19	-20	-21	-23	-26	-28	-27	-27	-25	-24	-22	-22	-22	-25	-27	-26	-26	-25	-28	-28	-27	-23.9	-18.5		
30-Dec	-26	-25	-24	-22	-22	-21	-22	-21	-21	-19	-18	-17	-9	-5	-4	-4	-3	-2	-3	-3	-3	-3	-4	-5	-12.8	-2.4		
31-Dec	-5	-7	-8	-7	-6	-7	-7	-8	-9	-8	-7	-6	-5	-3	-2	-1	-1	0	0	-1	2	2	1	1	-3.8	2.2		
																									Diurnal Average			
																									Diurnal Maximum			

Hourly Averages

External Temperature (ET) - °C
Smoky Heights - December 2014



Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Smoky Heights - December 2014

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	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	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
Dir	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
2 Spd	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
Dir	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
3 Spd	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
Dir	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
4 Spd	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
Dir	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
5 Spd	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
Dir	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
6 Spd	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
Dir	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
7 Spd	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
Dir	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
8 Spd	N	N	N	N	N	N	N	N	N	N	N	2	6	8	22	21	10	11	17	5	2	4	4	6	--	22.3
Dir	N	N	N	N	N	N	N	N	N	N	N	171	186	202	218	235	217	47	17	332	286	235	195	230	--	218.4
9 Spd	16	16	20	23	18	26	24	24	28	28	28	28	35	34	25	10	13	13	23	32	25	20	11	8	19.6	35.0
Dir	227	216	223	229	252	273	240	240	218	231	217	216	207	189	192	190	181	176	193	239	258	235	218	27	221.9	206.7
10 Spd	9	12	12	9	12	22	5	19	7	2	7	14	13	18	23	26	27	25	26	27	31	33	24	20	12.5	32.8
Dir	115	111	60	146	193	281	23	37	350	274	307	328	149	28	32	39	38	34	30	25	26	21	22	32	30.8	21.2
11 Spd	23	19	21	14	12	5	4	6	6	3	4	1	8	8	13	15	8	14	12	12	16	16	20	23	10.3	23.4
Dir	28	35	42	35	30	1	2	273	221	89	40	31	108	357	15	14	10	23	31	29	28	29	32	25	27.3	25.3
12 Spd	22	20	15	13	12	11	12	9	7	6	5	1	N	N	N	N	N	N	N	N	N	N	N	N	--	21.7
Dir	36	39	34	25	30	6	20	18	6	18	30	313	N	N	N	N	N	N	N	N	N	N	N	N	--	35.8
13 Spd	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	11	14	--	13.7
Dir	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	254	259	--	259.4
14 Spd	14	6	5	6	5	5	6	5	5	6	6	6	7	10	9	2	4	5	1	0	1	1	1	1	4.1	14.2
Dir	268	241	216	233	220	226	209	207	199	208	209	205	232	223	206	222	279	287	355	150	12	27	28	313	229.3	267.6
15 Spd	3	3	5	3	5	2	3	4	0	0	0	1	1	2	0	3	8	3	3	2	5	5	2	2	2.2	8.0
Dir	331	229	234	240	267	235	220	231	137	304	179	124	204	211	360	247	217	216	199	223	235	269	298	34	238.2	216.7
16 Spd	1	2	4	3	4	5	3	4	4	2	2	2	3	2	0	6	9	6	9	9	7	8	7	9	4.3	9.2
Dir	234	280	240	197	216	219	169	233	240	199	221	229	249	237	253	261	264	275	260	261	235	228	241	245	242.0	260.2
17 Spd	9	8	5	2	11	9	8	6	10	7	7	9	12	11	10	10	12	12	11	11	9	9	11	10	8.7	12.1
Dir	239	252	192	219	252	206	232	237	188	208	223	211	230	232	203	209	228	221	219	201	201	209	227	208	219.1	229.6
18 Spd	7	9	9	9	10	10	9	8	7	8	6	7	6	4	6	2	3	6	2	3	6	3	2	4	3.4	10.3
Dir	193	217	227	221	210	197	193	207	194	198	223	229	252	263	251	332	4	25	36	3	27	333	59	29	220.8	209.9
19 Spd	6	6	4	8	9	8	5	7	4	0	2	2	5	6	10	11	12	11	12	10	10	12	10	10	2.3	11.9
Dir	28	29	23	32	32	32	37	35	34	71	160	190	189	178	197	191	201	215	213	232	243	263	251	251	227.0	213.1
20 Spd	6	5	5	7	8	10	11	11	10	11	10	10	9	8	2	5	6	8	6	8	7	5	6	6	3.3	11.3
Dir	252	216	217	213	232	244	242	247	244	256	253	260	270	276	6	24	12	27	24	33	33	42	34	27	275.3	241.7
21 Spd	8	4	0	5	3	6	6	8	5	7	6	3	1	2	3	1	1	2	3	3	5	4	4	2	1.2	8.2
Dir	45	26	347	244	82	173	207	245	223	163	131	81	92	31	47	26	11	294	289	235	228	218	240	207	201.8	44.8
22 Spd	4	1	1	4	2	1	1	1	1	2	6	16	18	18	17	17	15	17	15	21	21	21	19	19	9.7	21.0
Dir	185	254	49	29	354	105	6	289	221	179	231	244	243	249	239	245	256	255	274	270	267	264	266	270	256.6	266.9

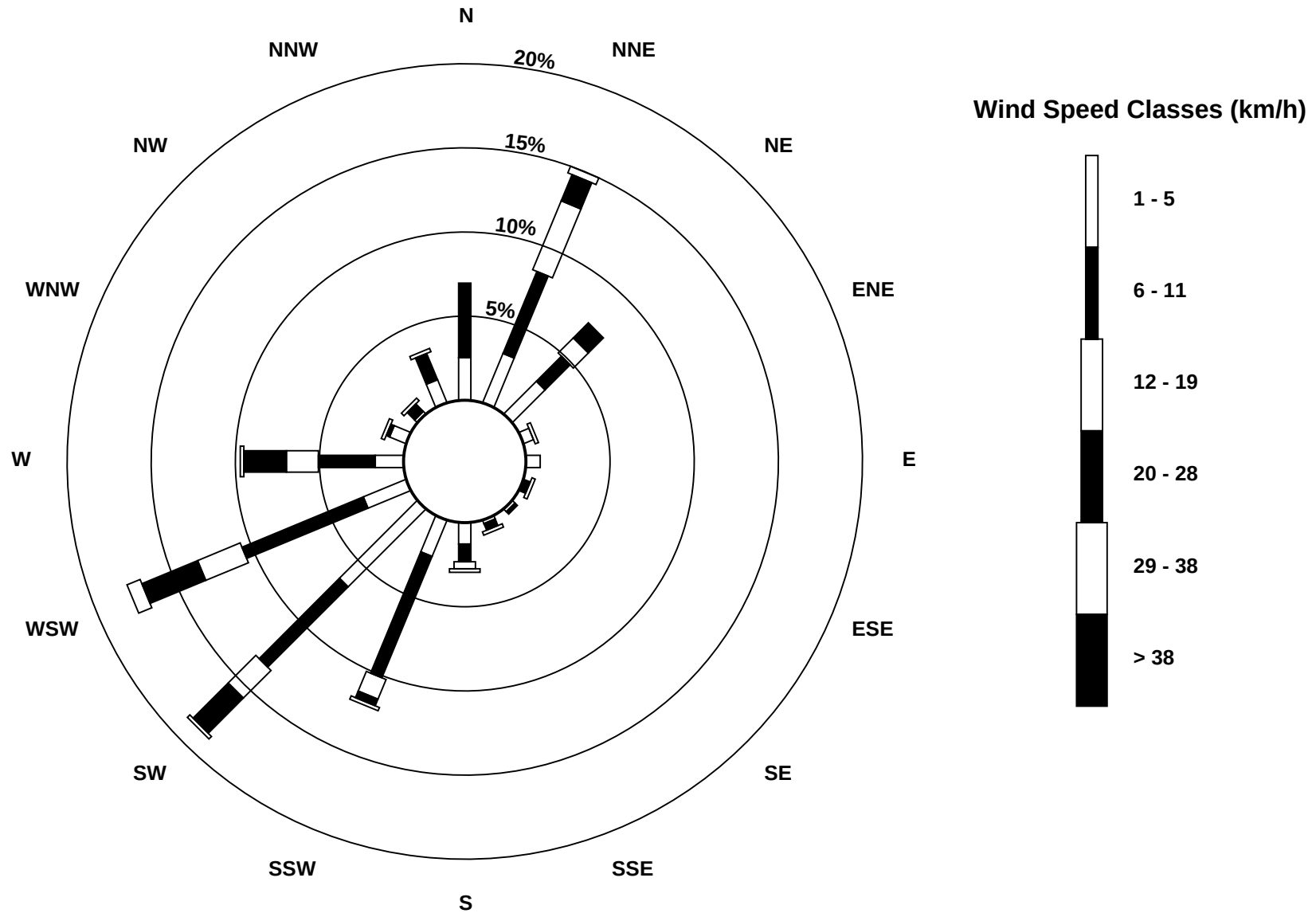
Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Smoky Heights - December 2014

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24					
23 Spd	16	14	10	11	6	8	9	8	8	7	7	4	6	3	6	5	4	7	9	8	6	8	9	6	7.1	16.1			
Dir	259	260	255	258	249	222	228	258	245	194	240	234	258	268	251	218	250	218	216	212	196	243	229	208	238.5	259.3			
24 Spd	5	8	13	4	5	7	8	9	7	13	14	15	14	15	15	13	9	9	6	10	10	7	4	4	7.7	15.2			
Dir	199	261	299	3	46	8	1	357	19	43	41	25	18	21	23	29	12	20	27	34	43	38	48	36	19.5	23.2			
25 Spd	5	6	6	4	2	1	4	7	7	9	8	8	8	14	5	3	1	3	8	7	6	6	5	4	2.7	14.3			
Dir	44	47	43	62	31	14	34	36	18	10	8	17	336	317	345	70	207	231	262	252	212	239	248	243	346.0	317.0			
26 Spd	5	4	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	5.2			
Dir	215	241	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	214.8			
27 Spd	N	N	N	N	N	N	N	N	N	N	N	N	N	N	11	13	17	16	11	9	8	8	8	4	--	16.5			
Dir	N	N	N	N	N	N	N	N	N	N	N	N	N	N	23	19	25	32	33	16	357	347	345	18	--	25.5			
28 Spd	4	5	5	6	6	3	4	3	1	0	1	5	6	8	8	9	10	8	9	10	9	7	6	7	5.8	10.3			
Dir	19	350	351	354	3	360	349	20	31	0	341	341	345	349	340	343	347	357	0	359	356	356	351	349	353.2	347.2			
29 Spd	5	6	6	6	7	7	8	6	10	9	9	7	9	5	6	9	6	10	13	12	12	12	15	15	7.6	15.5			
Dir	337	327	314	304	296	259	280	273	260	261	257	248	228	214	198	258	251	246	254	248	247	232	220	213	252.0	219.7			
30 Spd	13	13	12	10	12	9	12	8	8	7	10	8	22	25	24	25	21	26	24	23	27	31	24	26	16.3	30.8			
Dir	211	212	220	204	220	235	245	233	206	206	193	196	261	255	248	249	255	267	267	254	255	262	262	258	246.1	262.1			
31 Spd	27	24	15	18	20	25	24	24	23	24	27	25	29	33	36	30	25	13	5	14	23	26	25	24	22.7	35.9			
Dir	257	242	232	243	246	242	233	225	215	226	244	232	229	239	250	248	250	232	280	261	262	261	259	264	243.8	249.6			
Spd	2.6	2.4	2.1	2.6	3.4	5.4	4.2	3.9	4.6	4.1	4.2	4.4	6.8	5.9	4.6	4.1	3.7	2.8	3.3	5.0	5.1	6.0	5.0	4.3	Diurnal Average				
Dir	270.2	257.9	269.3	249.7	256.2	258.7	248.9	259.0	228.5	224.8	236.1	242.9	232.0	249.7	248.1	267.9	272.4	300.1	290.6	278.7	282.5	276.5	271.9	281.6	Diurnal Maximum				
Spd	26.5	24.2	20.7	22.5	19.8	26.2	24.0	24.4	28.2	28.5	28.3	28.0	35.0	34.5	35.9	30.4	26.8	25.8	26.2	32.4	30.7	32.8	24.8	25.9	Diurnal Maximum				
Dir	257.3	241.8	41.6	229.0	245.9	272.6	239.8	240.1	218.0	231.4	217.2	216.4	206.7	189.1	249.6	248.5	38.4	267.0	30.4	239.3	26.0	21.2	258.7	258.0					
Maximum Speed Value: 36 km/h on Dec 31 15:00																		Minimum Speed Value: 0 km/h on Dec 28 10:00										Hours in Service: 744	
Maximum Daily Speed Average: 22.7 km/h on Dec 31																		Minimum Daily Speed Average: 1.2 km/h on Dec 15										Hours of Data: 495	
Maximum Diurnal Speed Average: 6.8 km/h at hour 13																		Minimum Diurnal Speed Average: 2.1 km/h at hour 3										Hours of Missing Data: 249	
Monthly Average Velocity: 3.94 km/h 259.64 deg																		Speed Percentiles: P ₁ = 0.4 P ₁₀ = 2.3 Q ₁ = 4.8 Median = 7.9 Q ₃ = 12.5 P ₉₀ = 23.1 P ₉₉ = 32.7										Percent Operational Time: 66.5	
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		24	36	8	1	1	0	70																					
NorthEast		25	29	21	14	1	0	90																					
East		7	1	1	0	0	0	9																					
SouthEast		3	3	1	0	0	0	7																					
South		11	24	5	2	1	0	43																					
SouthWest		41	71	26	16	8	0	162																					
West		15	37	16	24	3	0	95																					
NorthWest		10	6	3	0	0	0	19																					
Total		136	207	81	57	14	0	495																					

Wind Rose

Wind Speed (WS) (km/h)
Smoky Heights - December 2014



Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Smoky Heights - December 2014

Maximum Speed: 36 km/h on Dec 31 15:00																			Maximum Daily Speed Average: 23.6 km/h on Dec 31																			Hours in Service: 744	
Minimum Speed: 0 km/h on Dec 28 10:00																			Minimum Daily Speed Average: 3.2 km/h on Dec 15																			Hours of Data: 495	
Maximum Diurnal Speed Average: 12.7 km/h at hour 15																			Minimum Diurnal Speed Average: 8.0 km/h at hour 10																			Hours of Missing Data: 249	
Monthly Average Speed: 10.36 km/h																			Percentiles: P ₁ = 0.4 P ₁₀ = 2.8 Q ₁ = 5.2 Median = 8.2 Q ₃ = 13.4 P ₉₀ = 23.5 P ₉₉ = 32.6																			Percent Operational Time: 66.5	
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-Dec	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--													
2-Dec	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--													
3-Dec	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--													
4-Dec	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--													
5-Dec	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--													
6-Dec	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--													
7-Dec	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--													
8-Dec	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	23.8													
9-Dec	17	18	20	23	20	26	25	25	29	29	29	30	35	35	25	24	13	13	19	10	5	5	5	6	22.8	35.3													
10-Dec	14	14	19	19	20	23	21	20	10	3	12	20	21	20	24	26	27	25	26	28	31	33	24	21	20.8	33.0													
11-Dec	23	19	21	15	12	6	7	7	7	4	4	2	17	17	16	15	8	14	12	12	16	16	21	24	13.0	23.5													
12-Dec	22	21	15	13	12	11	12	9	7	7	6	4	N	N	N	N	N	N	N	N	N	N	N	N	--	21.8													
13-Dec	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	12	14	--	13.8													
14-Dec	14	7	6	6	5	5	6	5	5	6	6	6	8	10	9	3	4	5	1	1	1	1	1	1	5.0	14.3													
15-Dec	7	4	5	3	5	2	3	4	0	0	0	1	1	2	1	5	8	4	3	3	5	5	4	2	3.2	8.0													
16-Dec	2	2	4	3	5	6	4	4	4	2	2	2	3	3	0	6	9	6	9	9	8	8	7	9	4.8	9.2													
17-Dec	9	9	6	3	11	9	8	7	10	8	7	9	12	11	10	10	12	12	12	11	9	9	11	10	9.4	12.4													
18-Dec	7	9	9	9	10	10	9	8	8	8	6	7	6	4	6	3	3	6	5	4	6	3	2	4	6.4	10.4													
19-Dec	6	6	4	8	9	8	5	7	4	1	3	2	6	7	10	11	12	11	12	11	10	12	10	10	7.7	12.2													
20-Dec	6	5	5	8	8	10	11	11	10	11	10	10	9	8	5	5	6	8	7	8	8	5	6	6	7.8	11.4													
21-Dec	8	5	3	5	4	8	6	8	6	8	6	3	1	2	3	1	1	3	3	3	5	5	5	3	4.4	8.3													
22-Dec	5	1	1	4	2	1	1	1	1	3	6	16	18	18	17	17	15	17	15	21	21	21	19	20	10.8	21.0													
23-Dec	16	14	10	11	6	8	9	9	8	8	7	4	6	4	8	7	5	7	9	9	6	8	9	7	8.1	16.2													
24-Dec	6	9	13	6	6	7	8	9	7	13	14	15	14	15	15	13	9	10	6	10	10	7	4	4	9.7	15.2													
25-Dec	5	6	6	4	2	1	4	7	7	9	8	8	10	14	9	3	2	4	9	8	7	6	5	4	6.2	14.5													
26-Dec	5	4	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	5.4													
27-Dec	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	13	17	16	N	9	8	8	8	4	--	16.6													
28-Dec	4	5	5	6	6	3	4	3	1	0	1	5	6	8	8	10	10	9	9	10	9	8	7	7	6.0	10.5													
29-Dec	5	6	6	6	7	8	8	7	10	9	9	7	10	5	6	10	6	10	13	12	12	12	15	15	8.9	15.5													
30-Dec	13	13	13	11	13	10	12	8	8	7	10	8	22	25	24	25	21	26	24	23	27	31	24	26	17.7	30.8													
31-Dec	27	24	15	19	20	25	24	24	24	25	27	25	29	33	36	30	26	14	7	14	23	26	25	24	23.6	36.0													
																									Diurnal Average														
																									Diurnal Maximum														
N - Not Valid																																							
All monthly, daily, and diurnal averages have been calculated using scalar methods																																							

Hourly Standard Deviations

Wind Direction (WD) - deg

Smoky Heights - December 2014

Maximum Value: 93.5 deg on Dec 10 07:00																								Hours in Service: 744	
Minimum Value: 0.0 deg on Dec 28 10:00																								Hours of Data: 500	
																								Hours of Missing Data: 244	
Percentiles: P ₁ = 2.5 P ₁₀ = 4.9 Q ₁ = 7.1 Median = 11.4 Q ₃ = 22.7 P ₉₀ = 46.3 P ₉₉ = 85.2																								Hours of Calibration: 0	
																								Percent Operational Time: 67.2	
Day	Hourly Period Ending At (MST)																								Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Maximum
1-Dec	11	5	8	9	17	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	17.3
2-Dec	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--
3-Dec	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--
4-Dec	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--
5-Dec	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--
6-Dec	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--
7-Dec	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--
8-Dec	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	70.8
9-Dec	16	24	11	13	29	8	15	13	9	10	11	24	7	6	5	8	11	5	9	16	10	14	31	25	30.9
10-Dec	58	34	63	72	65	20	94	18	47	67	55	51	57	28	11	8	7	7	6	7	5	7	7	5	93.5
11-Dec	6	6	10	11	12	42	71	23	19	41	35	69	72	69	38	16	17	6	8	11	8	6	13	6	71.7
12-Dec	6	4	6	8	7	10	8	13	13	22	15	72	N	N	N	N	N	N	N	N	N	N	N	N	72.2
13-Dec	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	12.3
14-Dec	3	54	32	8	9	9	9	12	11	7	7	8	16	7	12	37	8	15	40	63	23	13	12	26	62.6
15-Dec	62	22	13	24	8	44	44	15	65	84	46	42	41	34	89	64	5	39	28	33	9	10	63	19	89.0
16-Dec	87	40	21	18	12	36	30	21	9	7	16	16	8	35	53	35	8	13	4	7	13	8	7	10	87.4
17-Dec	6	11	27	53	10	13	12	23	7	8	14	7	14	7	10	15	7	8	9	10	17	10	18	12	53.4
18-Dec	10	10	6	10	8	12	6	6	9	16	11	4	14	20	15	43	36	5	86	46	9	23	30	9	85.8
19-Dec	9	53	18	7	4	6	21	7	20	67	52	74	18	36	17	7	7	4	12	17	15	9	10	6	73.7
20-Dec	24	32	13	12	16	6	6	10	5	3	6	15	7	6	64	10	13	6	8	11	12	15	7	6	64.2
21-Dec	7	39	81	32	48	50	32	19	35	25	18	23	48	17	20	16	22	34	17	24	10	18	28	82	81.8
22-Dec	21	55	44	14	52	66	39	50	52	38	23	2	4	8	2	4	4	7	5	3	3	2	3	5	65.6
23-Dec	6	5	9	15	18	12	6	11	6	30	11	11	19	35	46	42	27	12	14	27	25	24	8	33	46.4
24-Dec	31	36	10	60	35	11	9	11	12	7	6	9	5	4	5	6	7	9	6	8	6	8	8	14	59.8
25-Dec	8	6	8	10	20	15	9	4	9	8	9	9	41	10	69	39	87	44	14	32	13	10	13	17	87.0
26-Dec	16	10	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	15.7
27-Dec	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	5	6	6	5	7	8	13	9	10	13.9
28-Dec	15	10	9	9	9	11	9	12	17	0	9	8	8	10	9	7	10	10	9	9	9	10	10	12	16.8
29-Dec	13	10	5	10	9	11	7	21	13	9	7	12	7	14	18	15	12	6	3	3	6	6	3	3	21.3
30-Dec	6	5	5	14	19	23	8	15	14	9	6	13	4	3	4	4	12	4	3	6	3	4	5	4	22.6
31-Dec	4	3	7	16	3	4	13	9	5	16	5	4	6	3	4	3	6	32	44	9	2	4	3	3	44.5
87.4 55.4 80.6 71.9 65.3 65.6 93.5 49.8 65.1 84.5 54.5 73.7 71.7 68.5 89.0 64.5 87.0 43.9 85.8 70.8 66.2 43.3 63.4 81.8																									
N - Not Valid																									

PAZA
Beaverlodge Station
Monthly Summary Tables, Graphs and
Roses

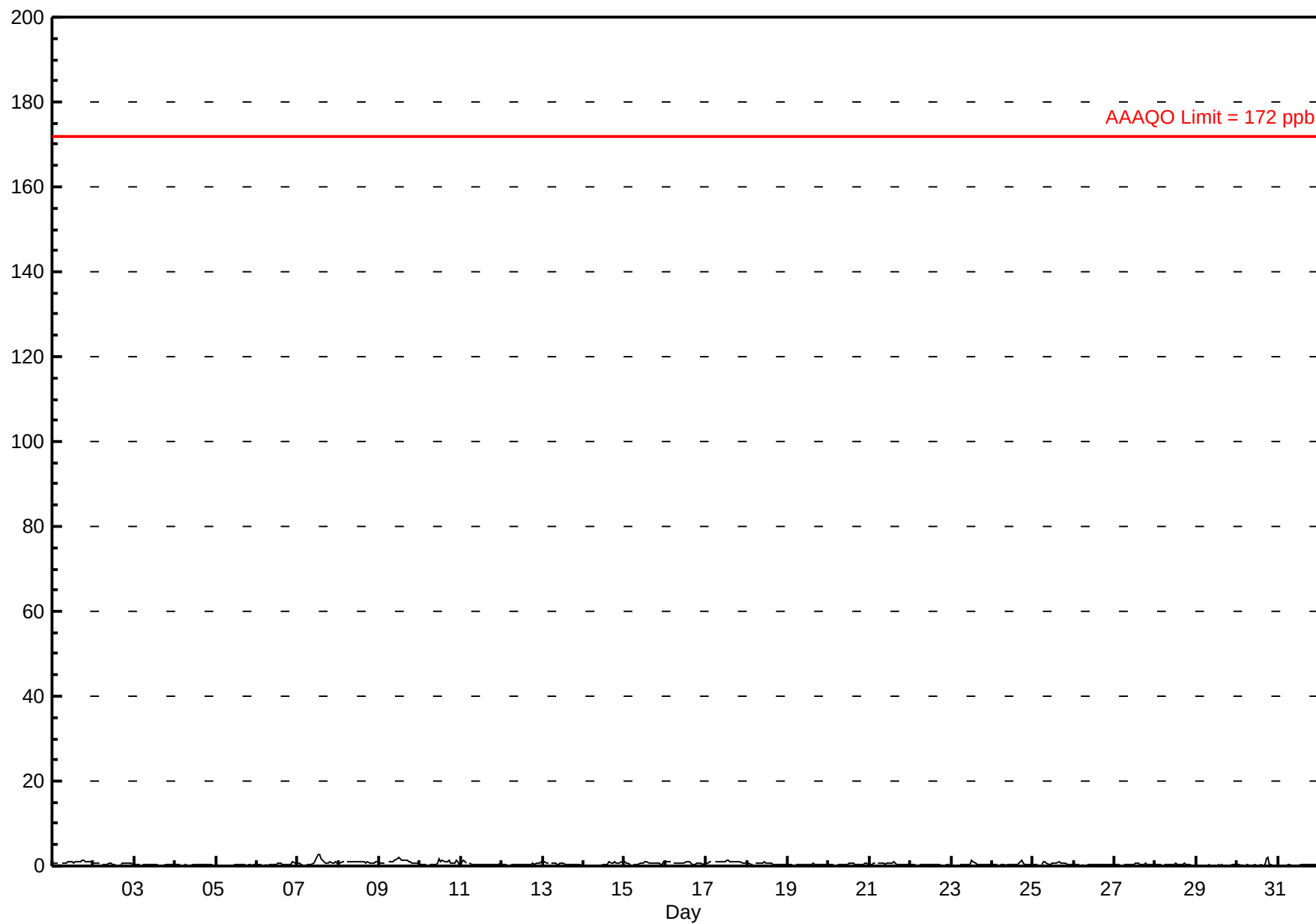
Hourly Averages

Sulphur Dioxide (SO₂) - ppb Beaverlodge - December 2014

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																			Hours in Service: 744							
Maximum Value: 2.8 ppb on Dec 7 13:00																			Maximum Daily Average: 1.1 ppb on Dec 9		Hours of Data: 711					
Minimum Value: 0 ppb on Dec 5 04:00																			Minimum Daily Average: 0.2 ppb on Dec 29		Hours of Missing Data: 33					
Maximum Diurnal Average: 0.7 ppb at hour 14																			Minimum Diurnal Average: 0.4 ppb at hour 9		Hours of Calibration: 33					
Monthly Average: 0.48 ppb																			Percentiles: P ₁ = 0.1 P ₁₀ = 0.2 Q ₁ = 0.2 Median = 0.4 Q ₃ = 0.7 P ₉₀ = 0.9 P ₉₉ = 1.7		Percent Operational Time: 100.0					
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Dec	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.3
2-Dec	1	1	1	1	A	0	0	0	0	1	1	0	0	0	C	C	0	1	1	1	1	1	1	0	0.5	0.8
3-Dec	0	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
4-Dec	0	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
5-Dec	0	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
6-Dec	0	0	0	0	A	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	1	1	1	0.4	0.9
7-Dec	1	1	0	0	A	0	0	0	0	1	1	2	3	3	2	1	1	1	1	1	1	1	1	1	1.0	2.8
8-Dec	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.2
9-Dec	1	1	1	1	A	1	1	1	1	1	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1.1	1.9
10-Dec	0	0	0	0	A	0	0	0	0	0	1	2	1	1	1	1	1	1	1	1	1	1	1	0	0.7	1.7
11-Dec	1	1	1	1	A	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	1	0.5	1.3
12-Dec	1	1	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	0.4	0.9
13-Dec	1	1	1	1	A	1	1	1	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0.5	0.9
14-Dec	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	0.4	1.0
15-Dec	1	1	1	0	A	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	0.6	0.9
16-Dec	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	0	1	0.7	1.0
17-Dec	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.3
18-Dec	1	1	0	0	A	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0.5	0.9
19-Dec	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0.3	0.5
20-Dec	0	0	0	0	A	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	1	1	0	0.4	0.7
21-Dec	0	0	1	1	A	1	1	1	1	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0.5	0.9
22-Dec	0	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-Dec	0	0	0	0	A	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0.4	1.2
24-Dec	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0.4	1.2
25-Dec	0	0	0	0	A	0	1	1	1	0	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0.6	1.0
26-Dec	0	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
27-Dec	0	0	0	0	A	0	0	0	0	0	0	0	1	1	1	0	0	0	1	0	0	0	0	0	0.3	0.6
28-Dec	0	0	0	1	A	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0.3	0.8
29-Dec	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4
30-Dec	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0.3	2.1
31-Dec	0	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
																								Diurnal Average		
																								Diurnal Maximum		
C - Calibration A - Automated Daily Zero Span																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb 30-day 11 ppb																										

Hourly Averages

Sulphur Dioxide (SO₂) - ppb
Beaverlodge - December 2014



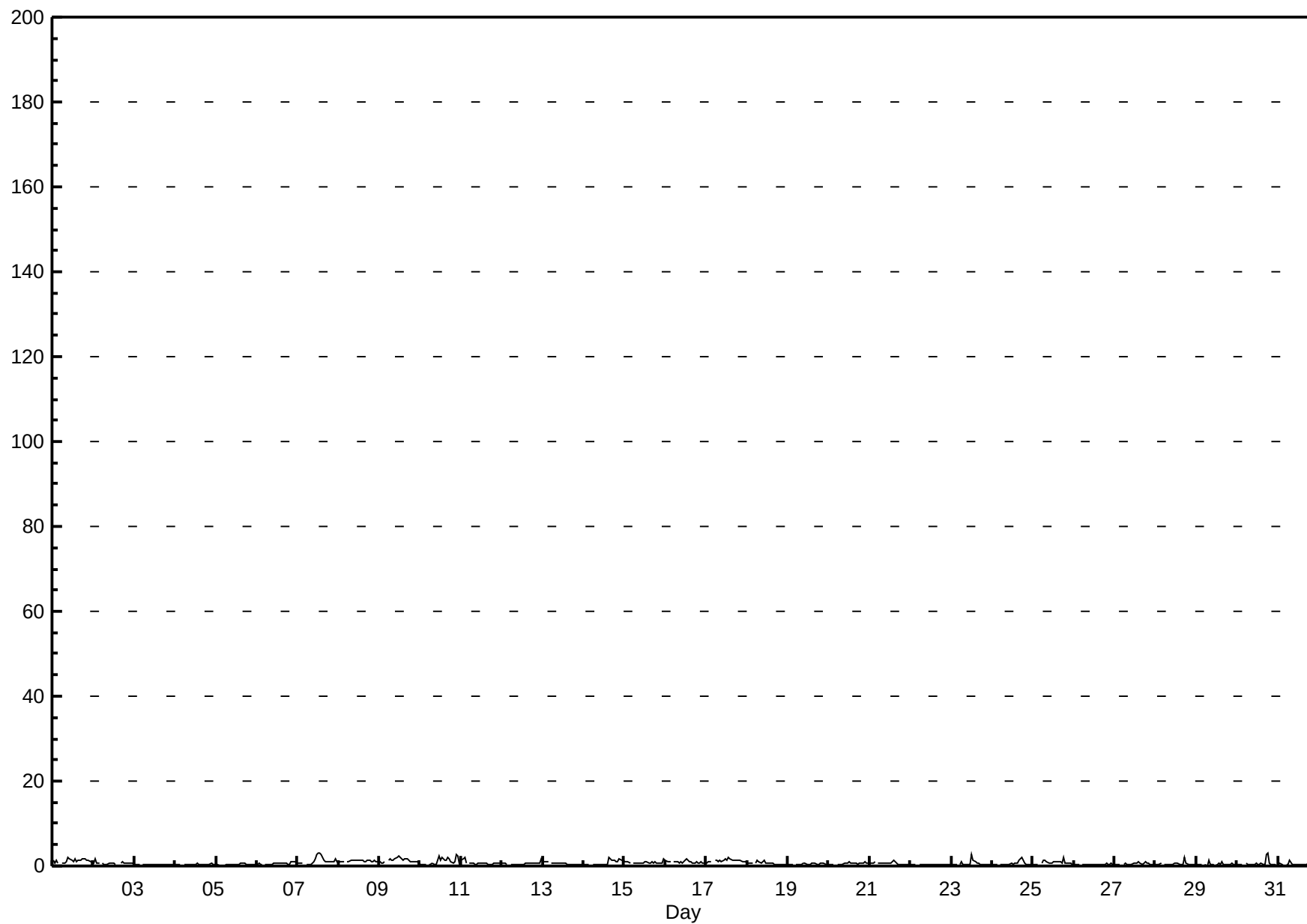
Hourly Maximums

Sulphur Dioxide (SO₂) - ppb Beaverlodge - December 2014

Maximum Value: 3.2 ppb on Dec 30 19:00																				Maximum Daily Average: 1.4 ppb on Dec 9										Hours in Service: 744	
Minimum Value: 0 ppb on Dec 29 07:00																				Minimum Daily Average: 0.3 ppb on Dec 29										Hours of Data: 711	
Maximum Diurnal Average: 0.9 ppb at hour 14																				Minimum Diurnal Average: 0.5 ppb at hour 9										Hours of Missing Data: 33	
Monthly Average: 0.69 ppb																				Percentiles: P ₁ = 0.2 P ₁₀ = 0.3 Q ₁ = 0.4 Median = 0.6 Q ₃ = 0.9 P ₉₀ = 1.3 P ₉₉ = 2.6										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-Dec	1	1	1	1	A	1	1	1	1	2	2	2	1	2	1	1	1	2	2	2	1	1	1	1	1.2	1.9					
2-Dec	1	2	1	1	A	1	0	0	0	1	1	1	1	0	C	C	1	1	1	1	1	1	1	1	0.7	1.6					
3-Dec	1	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.5					
4-Dec	0	0	0	0	A	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0.4	0.6					
5-Dec	0	0	0	0	A	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0.3	0.7					
6-Dec	0	1	0	0	A	0	0	0	0	0	1	1	1	1	1	1	1	1	0	0	1	1	1	1	0.5	1.2					
7-Dec	1	1	1	1	A	1	0	0	0	1	2	3	3	3	3	1	1	1	1	1	1	1	2	1	1.2	3.1					
8-Dec	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.2	1.4					
9-Dec	1	1	1	1	A	1	2	1	1	2	2	2	2	2	1	2	2	1	1	1	1	1	1	1	1.4	2.3					
10-Dec	1	0	0	0	A	0	0	1	0	0	1	2	1	2	1	1	2	2	1	1	1	3	2	1	1.1	2.7					
11-Dec	1	2	2	1	A	1	1	1	0	0	1	1	1	1	1	1	0	0	0	1	1	1	1	1	0.7	1.9					
12-Dec	1	1	1	0	A	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	2	1	0.6	1.6					
13-Dec	1	1	1	1	A	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0.6	1.1					
14-Dec	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	2	1	1	1	1	1	2	1	1	0.7	1.9					
15-Dec	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	0.8	1.8					
16-Dec	1	1	1	1	A	1	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1.0	1.6					
17-Dec	1	1	1	1	A	1	1	1	1	1	1	2	1	2	2	1	1	1	1	1	1	1	1	1	1.2	1.9					
18-Dec	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0.7	1.3					
19-Dec	0	0	0	0	A	0	0	0	0	1	1	0	0	1	1	1	1	0	0	1	1	1	0	0	0.4	0.7					
20-Dec	0	0	0	0	A	0	0	0	0	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	0.6	0.9					
21-Dec	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0.6	1.2					
22-Dec	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.5					
23-Dec	0	0	0	0	A	0	1	0	0	0	0	0	3	1	1	1	1	0	0	0	0	0	0	0	0.6	2.7					
24-Dec	0	0	0	0	A	0	0	0	0	0	0	1	0	1	1	1	1	2	2	1	0	0	0	0	0.6	2.1					
25-Dec	0	0	0	0	A	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	0	0.8	2.0					
26-Dec	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	0.4	0.6					
27-Dec	0	0	0	0	A	0	1	0	0	0	0	1	1	1	1	1	0	1	1	1	1	0	0	0	0.5	1.1					
28-Dec	0	0	0	1	A	0	0	0	0	0	0	1	1	1	0	0	0	2	1	0	0	0	0	0	0.5	1.9					
29-Dec	0	0	0	0	A	0	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	0	0.3	1.4					
30-Dec	0	0	0	0	A	1	0	0	0	0	0	1	0	0	1	0	0	3	3	1	0	0	0	0	0.6	3.2					
31-Dec	0	1	0	0	A	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0.4	1.4					
0.6 0.6 0.6 0.5 -- 0.5 0.6 0.6 0.5 0.6 0.7 0.8 0.9 0.9 0.8 0.8 0.7 0.9 0.8 0.7 0.6 0.7 0.7 0.6																									Diurnal Average						
1.5 1.7 1.9 1.1 -- 1.5 1.6 1.5 1.4 1.9 1.9 2.7 3.1 2.9 2.6 1.9 1.9 2.6 3.2 1.7 1.2 2.7 2.3 1.8																									Diurnal Maximum						
C - Calibration																									A - Automated Daily Zero Span						

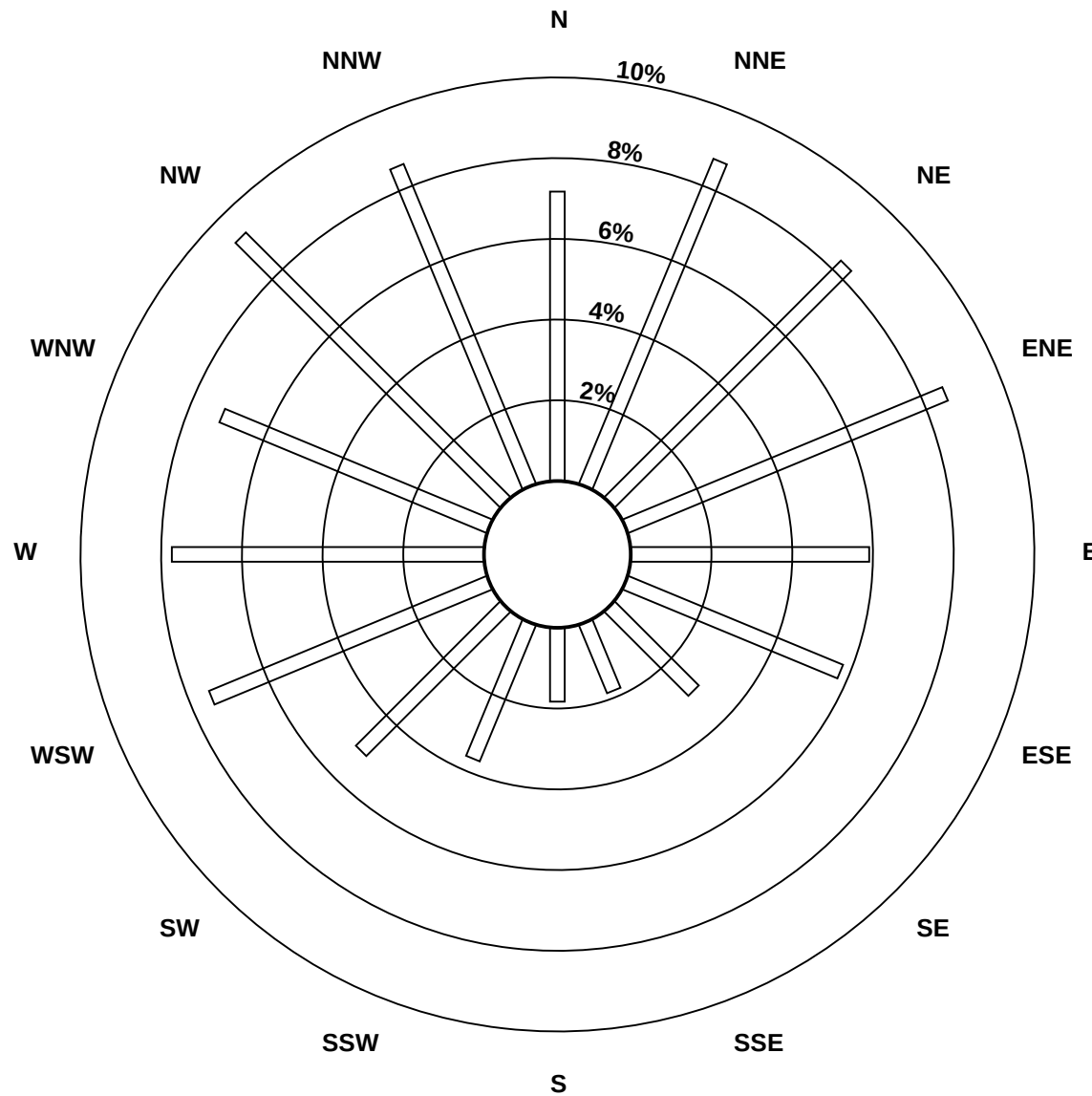
Hourly Maximums

Sulphur Dioxide (SO₂) - ppb
Beaverlodge - December 2014

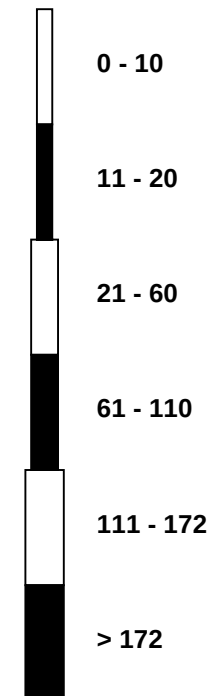


Pollutant Rose

Sulphur Dioxide (SO₂) - ppb
Beaverlodge - December 2014

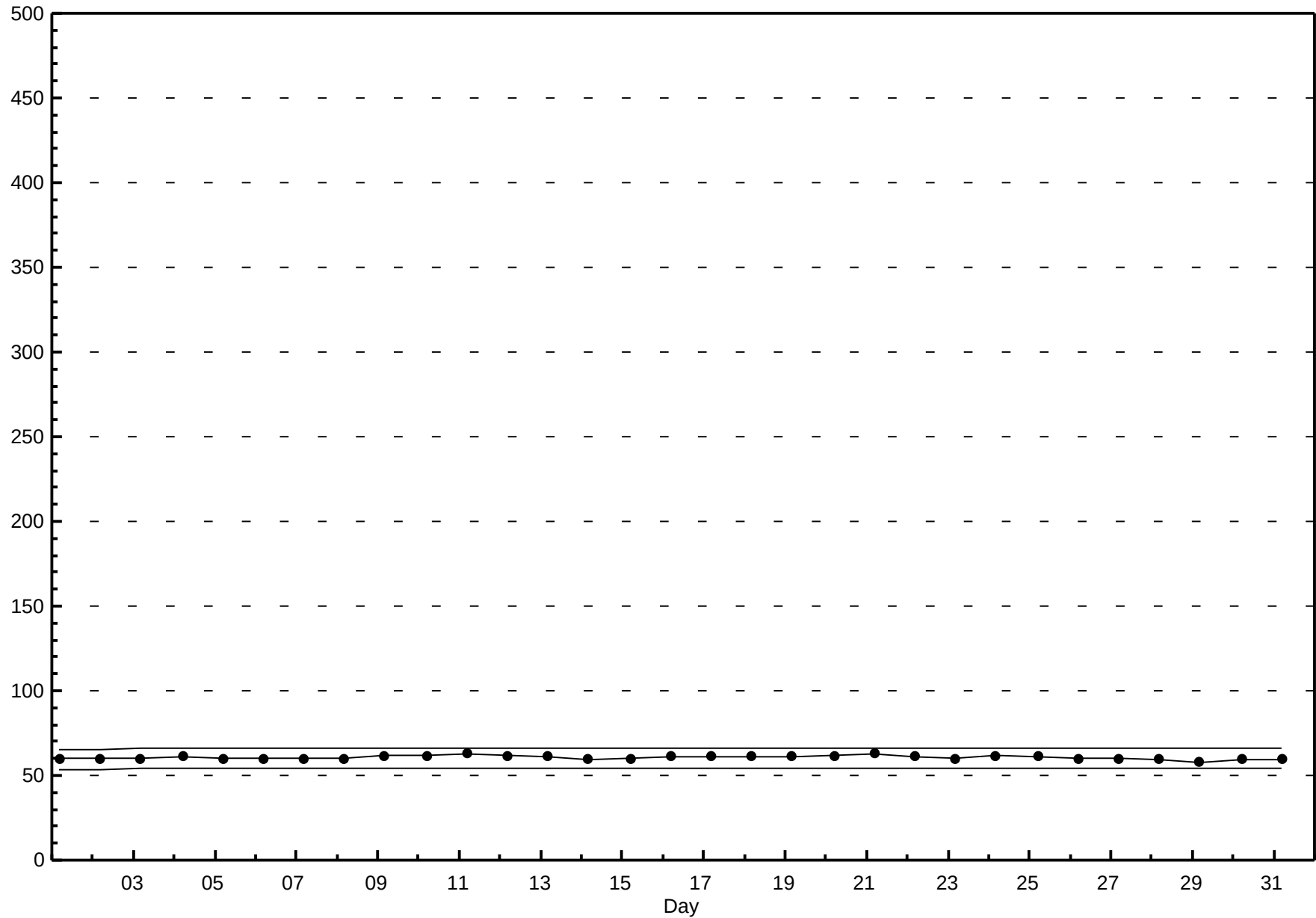


Pollutant Classes (ppb)



Span Responses

Sulphur Dioxide (SO₂)
Beaverlodge - December 2014



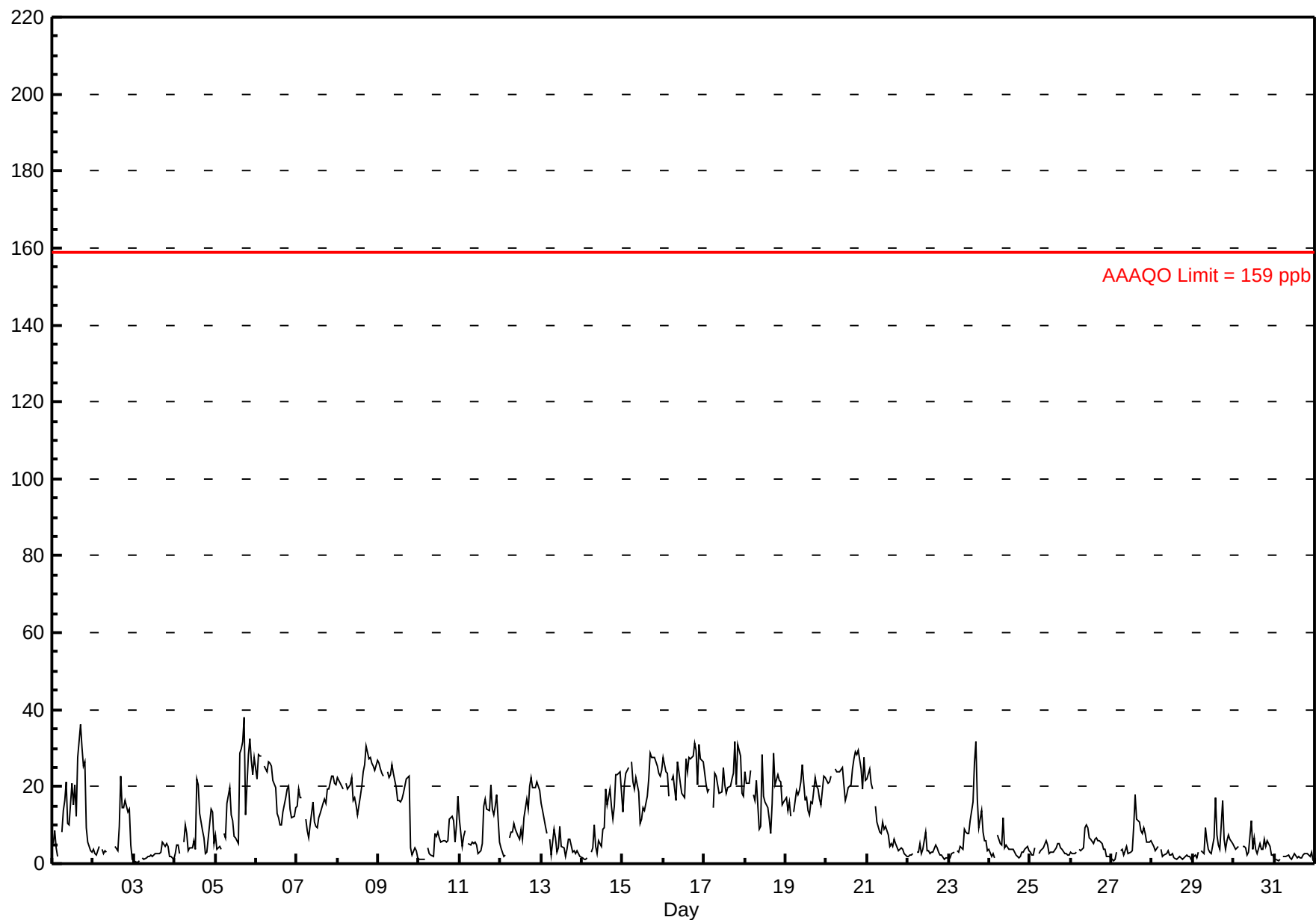
Hourly Averages

Nitrogen Dioxide (NO₂) - ppb Beaverlodge - December 2014

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 37.8 ppb on Dec 5 18:00 Maximum Daily Average: 24.3 ppb on Dec 16																								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 Dec 3 03:00 Minimum Daily Average: 1.7 ppb on Dec 31 Maximum Diurnal Average: 15.2 ppb at hour 18 Minimum Diurnal Average: 9.0 ppb at hour 13 Monthly Average: 11.20 ppb Percentiles: P ₁ = 0.9 P ₁₀ = 2.0 Q ₁ = 3.4 Median = 8.0 Q ₃ = 19.4 P ₉₀ = 23.9 P ₉₉ = 31.2																										
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-Dec	5	8	4	2	A	8	14	16	21	10	10	21	15	20	12	28	36	30	25	27	9	6	3	3	14.6	36.0
2-Dec	4	2	2	5	A	4	3	3	3	C	C	C	C	4	3	10	23	14	15	16	14	14	5	1	7.6	22.7
3-Dec	1	1	0	1	A	2	1	2	2	2	2	2	3	2	3	3	3	6	5	5	4	2	2	1	2.3	5.8
4-Dec	3	5	5	3	A	6	10	8	4	4	4	6	4	22	20	13	9	7	3	3	7	14	13	5	7.7	22.2
5-Dec	8	4	5	4	A	8	7	16	20	13	11	7	7	5	29	30	32	38	13	29	33	27	23	28	17.0	37.8
6-Dec	22	28	28	28	A	25	24	27	26	25	22	20	13	12	10	10	13	17	19	20	14	12	12	15	19.3	28.2
7-Dec	15	19	17	17	A	12	9	7	10	16	11	10	9	12	13	16	17	16	19	19	23	23	21	20	15.2	22.8
8-Dec	23	22	20	19	A	21	19	20	22	16	17	15	13	17	20	24	26	30	27	28	26	25	24	27	21.9	30.4
9-Dec	26	25	23	23	A	24	22	23	26	24	20	16	16	16	17	18	22	23	23	4	2	4	3	1	17.4	26.0
10-Dec	1	1	1	1	A	4	2	2	2	8	7	8	7	6	6	6	6	6	12	12	11	5	10	18	6.2	17.6
11-Dec	12	4	7	9	A	5	5	5	5	6	5	3	3	5	15	17	14	14	20	14	13	15	18	6	9.6	20.4
12-Dec	4	3	2	2	A	7	8	8	11	9	7	6	9	6	12	17	14	20	23	20	20	21	20	19	11.7	22.5
13-Dec	15	14	10	8	A	6	2	9	7	3	4	10	4	4	2	4	6	6	3	3	3	3	2	2	5.7	15.5
14-Dec	2	1	1	1	A	3	4	10	5	3	6	4	9	9	19	15	20	15	11	15	23	23	24	19	10.5	23.7
15-Dec	14	21	24	25	A	27	21	19	22	19	10	12	15	14	18	22	29	28	27	28	26	23	23	24	21.2	28.8
16-Dec	28	24	23	18	A	22	23	16	26	24	21	18	17	27	24	28	27	28	31	29	21	31	27	26	24.3	31.3
17-Dec	24	21	19	20	A	15	23	23	20	18	18	25	20	18	20	20	22	24	32	20	31	28	18	17	21.6	31.8
18-Dec	24	21	21	24	A	18	16	22	9	10	28	17	16	14	12	8	16	29	21	23	21	21	15	16	18.4	28.8
19-Dec	17	14	16	12	A	14	19	18	19	21	26	17	17	14	13	16	16	22	20	19	17	15	23	22	17.7	25.6
20-Dec	22	21	21	23	A	25	24	24	24	25	20	16	18	20	20	25	27	29	28	29	25	19	28	21	23.3	29.5
21-Dec	22	25	21	20	A	15	11	8	8	11	9	10	7	4	5	4	6	5	3	4	4	4	2	2	9.2	24.7
22-Dec	2	2	2	3	A	3	3	5	3	4	8	3	3	3	3	3	5	4	3	2	2	1	2	1	3.1	8.1
23-Dec	2	1	3	3	A	3	3	4	4	9	8	8	8	11	16	26	32	17	9	14	8	6	6	3	8.9	31.6
24-Dec	4	2	3	2	A	8	5	5	12	4	5	4	4	4	4	3	2	2	2	3	3	4	4	3	3.9	12.0
25-Dec	3	2	2	4	A	3	3	4	4	6	5	3	3	3	3	4	5	5	4	4	3	3	2	2	3.5	6.0
26-Dec	3	3	3	3	A	4	3	4	9	10	9	7	6	5	6	7	6	6	5	4	4	2	2	2	4.9	10.1
27-Dec	1	1	1	3	A	4	4	2	3	5	3	3	4	10	18	12	11	8	9	8	5	6	6	6	5.8	17.9
28-Dec	5	5	3	4	A	4	2	2	3	3	2	2	3	2	1	2	2	1	1	2	2	2	2	1	2.4	5.4
29-Dec	1	2	1	3	A	3	3	9	6	4	3	3	7	17	7	5	4	16	6	4	6	8	6	5	5.6	17.1
30-Dec	5	4	4	4	A	5	4	4	2	3	11	4	7	4	2	5	4	4	6	5	6	4	2	2	4.4	11.0
31-Dec	1	1	1	1	A	2	2	2	2	1	1	2	3	2	2	2	1	2	3	3	2	2	3	1	1.7	3.0
10.2 9.8 9.5 9.5 -- 9.8 9.7 10.6 10.9 10.5 10.5 9.4 9.0 10.1 11.5 12.9 14.6 15.2 13.8 13.5 12.5 12.1 11.4 10.4																									Diurnal Average	
27.7 28.2 28.0 28.0 -- 26.6 23.8 26.6 26.3 25.2 28.4 25.2 20.4 27.1 28.9 29.9 36.0 37.8 31.8 29.5 32.6 31.0 27.6 27.7																									Diurnal Maximum	
C - Calibration A - Automated Daily Zero Span																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 159 ppb 24-hr 106 ppb																										

Hourly Averages

Nitrogen Dioxide (NO₂) - ppb
Beaverlodge - December 2014



Hourly Maximums

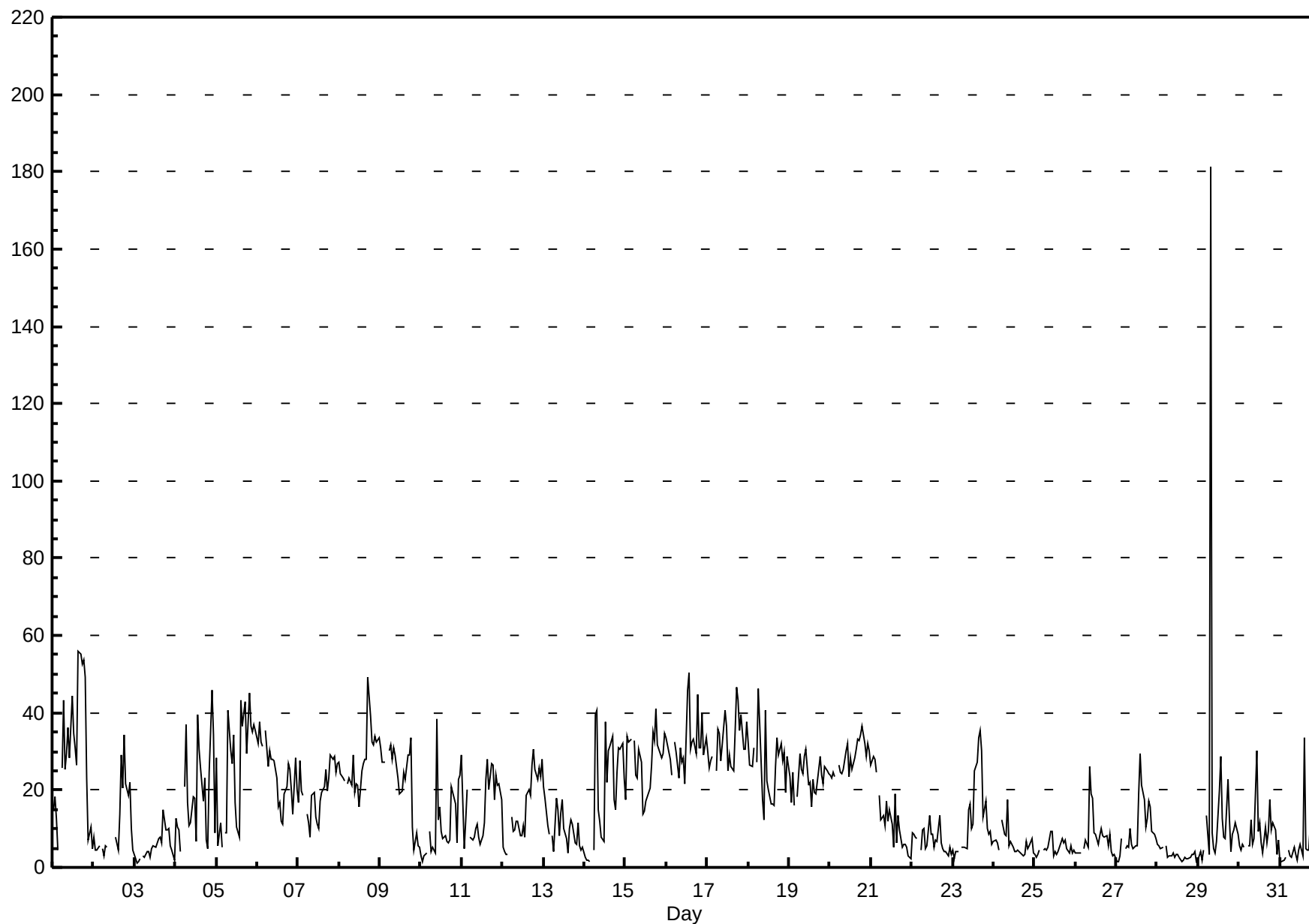
Nitrogen Dioxide (NO₂) - ppb

Beaverlodge - December 2014

Maximum Value: 181.1 ppb on Dec 29 08:00																								Maximum Daily Average: 32.5 ppb on Dec 17										Hours in Service: 744	
Minimum Value: 1 ppb on Dec 3 02:00																								Minimum Daily Average: 3.4 ppb on Dec 28										Hours of Data: 709	
Maximum Diurnal Average: 22.0 ppb at hour 8																								Minimum Diurnal Average: 12.5 ppb at hour 4										Hours of Missing Data: 35	
Monthly Average: 17.04 ppb																								Percentiles: P ₁ = 1.6 P ₁₀ = 3.7 Q ₁ = 5.7 Median = 13.7 Q ₃ = 26.7 P ₉₀ = 32.7 P ₉₉ = 48.8										Hours of Calibration: 35	
																								Percent Operational Time: 100.0											
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum									
1-Dec	15	18	13	5	A	26	43	25	29	36	28	45	35	31	26	56	55	53	54	49	23	7	10	5	29.9	56.0									
2-Dec	8	4	5	6	A	5	3	6	5	C	C	C	C	8	4	14	29	20	34	22	19	22	10	4	12.0	34.3									
3-Dec	3	1	2	2	A	3	3	4	4	3	5	6	5	6	7	8	6	15	10	10	10	5	5	2	5.4	14.9									
4-Dec	13	11	10	4	A	21	37	17	11	12	18	18	7	39	31	26	17	23	7	5	25	46	34	9	19.1	46.0									
5-Dec	28	6	12	5	A	9	9	41	30	27	34	17	10	8	43	37	40	43	30	45	36	35	37	35	26.8	45.1									
6-Dec	32	38	32	31	A	35	26	30	28	28	28	23	16	17	12	11	19	21	27	25	20	14	28	20	24.4	37.8									
7-Dec	17	27	20	19	A	14	12	8	19	20	13	11	10	17	19	21	25	20	23	29	28	29	25	27	19.6	28.9									
8-Dec	27	24	23	22	A	22	23	21	29	20	22	21	16	25	27	28	28	49	39	32	32	34	33	34	27.4	49.3									
9-Dec	31	27	27	27	A	30	32	28	31	29	23	19	19	20	25	23	29	29	33	11	4	9	5	5	22.5	33.4									
10-Dec	3	2	3	4	A	9	4	5	4	38	12	16	9	8	8	7	6	7	21	18	17	6	23	24	11.0	38.3									
11-Dec	29	5	12	20	A	8	7	8	10	11	8	6	8	11	23	28	20	27	27	17	24	21	22	18	16.1	29.2									
12-Dec	5	4	3	3	A	13	9	10	12	12	8	8	11	8	19	20	19	26	30	25	23	26	24	28	15.1	30.5									
13-Dec	21	18	11	9	A	8	4	18	15	8	14	17	10	8	4	10	12	11	6	6	11	6	5	5	10.3	20.9									
14-Dec	3	2	2	2	A	4	40	41	15	12	8	7	38	22	30	31	34	17	15	25	31	31	32	23	20.2	40.6									
15-Dec	17	34	32	33	A	33	24	23	31	27	14	14	17	18	21	27	35	33	41	32	29	28	30	35	27.3	40.9									
16-Dec	34	30	28	24	A	32	30	23	31	27	28	22	46	50	30	32	33	30	45	31	31	40	29	34	32.2	50.3									
17-Dec	30	26	27	29	A	25	36	35	28	32	41	36	25	29	26	25	36	47	43	35	39	31	31	38	32.5	46.8									
18-Dec	32	27	26	31	A	27	46	37	18	12	41	22	20	16	16	16	26	33	29	32	28	30	20	29	26.8	46.2									
19-Dec	23	17	25	16	A	18	30	25	24	29	31	21	22	16	23	20	19	25	29	24	22	26	25	24	23.2	30.7									
20-Dec	24	23	25	24	A	26	24	24	25	30	32	24	28	26	28	31	33	33	34	37	32	29	32	30	28.5	36.7									
21-Dec	27	29	28	25	A	19	12	13	11	17	12	15	11	5	19	6	14	10	5	6	6	5	3	2	13.0	28.7									
22-Dec	9	9	8	7	A	4	10	10	5	6	14	9	9	5	7	7	13	6	5	4	4	3	5	3	7.0	13.6									
23-Dec	4	2	4	4	A	5	5	5	5	15	16	10	11	25	27	34	35	30	13	17	10	9	9	6	13.2	35.4									
24-Dec	7	7	6	5	A	12	8	8	18	5	7	5	4	4	4	4	4	3	3	7	5	6	8	4	6.2	17.7									
25-Dec	3	3	3	5	A	5	5	4	5	9	9	3	4	3	4	6	7	6	7	5	4	6	4	4	5.0	9.3									
26-Dec	4	4	4	4	A	5	7	5	26	19	18	9	8	6	8	10	8	8	8	6	9	4	3	3	8.1	26.1									
27-Dec	2	1	3	8	A	5	6	5	10	6	5	5	6	19	30	21	18	10	13	17	16	9	9	8	10.0	29.5									
28-Dec	6	6	5	5	A	6	3	3	3	4	3	3	3	3	2	2	3	2	3	3	3	4	2	2	3.4	6.0									
29-Dec	2	4	2	4	A	13	4	181	9	5	4	7	20	29	13	8	7	23	12	4	8	10	11	9	16.9	181.1									
30-Dec	6	4	6	5	A	6	6	12	6	7	30	9	12	6	4	10	7	9	18	10	11	10	4	7	8.9	30.3									
31-Dec	1	2	2	2	A	5	3	3	5	3	2	5	6	3	33	5	4	5	10	5	5	4	7	2	5.3	33.4									
15.0 13.3 13.1 12.5 -- 14.6 16.4 22.0 16.2 17.0 17.6 14.5 14.9 15.9 18.5 18.8 20.7 21.8 21.7 19.1 18.2 17.5 16.9 15.4																								Diurnal Average											
33.7 37.8 32.5 33.1 -- 35.3 46.2 181.1 31.1 38.3 40.7 44.6 45.9 50.3 43.2 56.0 55.2 52.6 53.5 49.1 39.4 46.0 37.0 37.5																								Diurnal Maximum											
C - Calibration																								A - Automated Daily Zero Span											

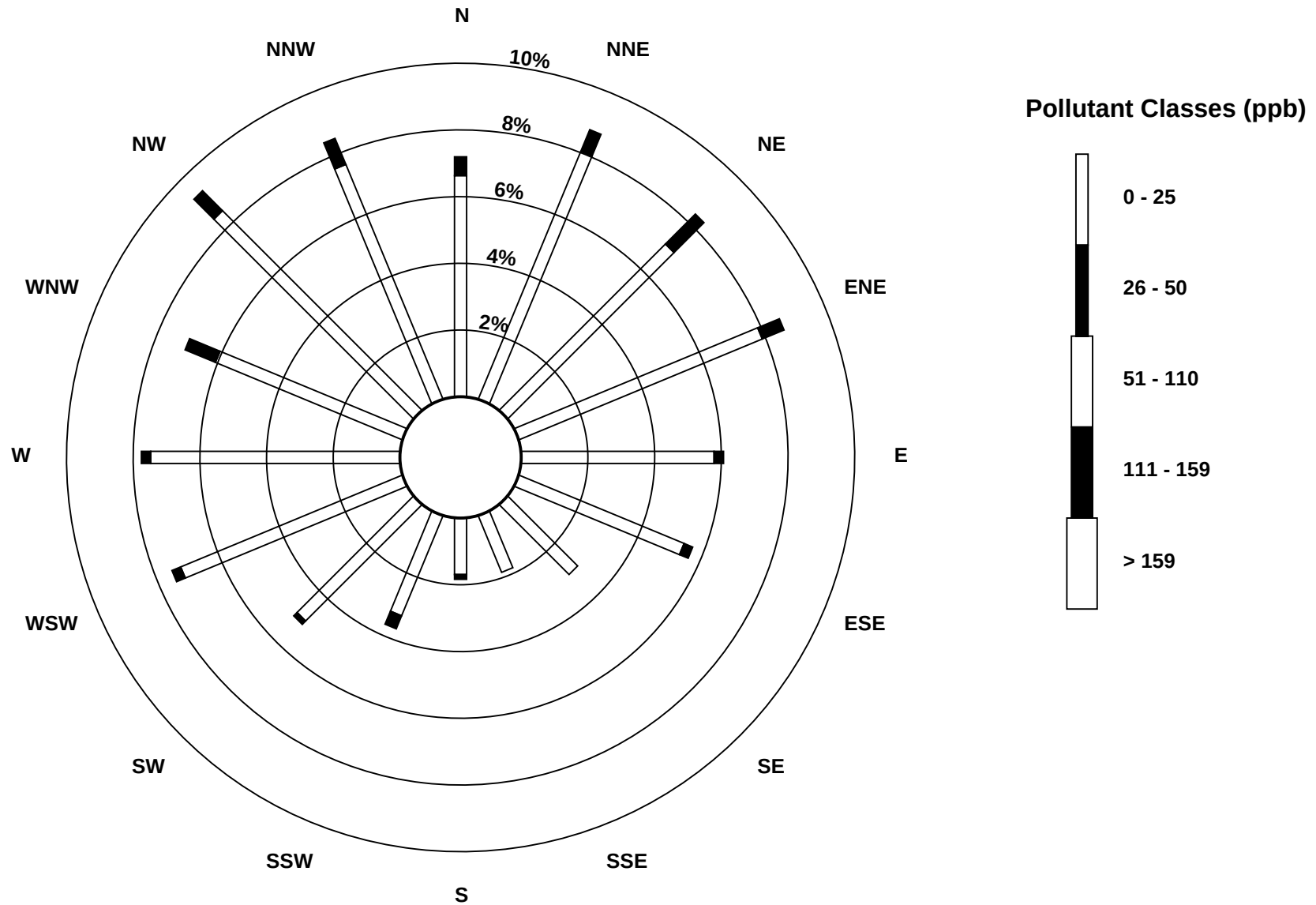
Hourly Maximums

Nitrogen Dioxide (NO₂) - ppb
Beaverlodge - December 2014



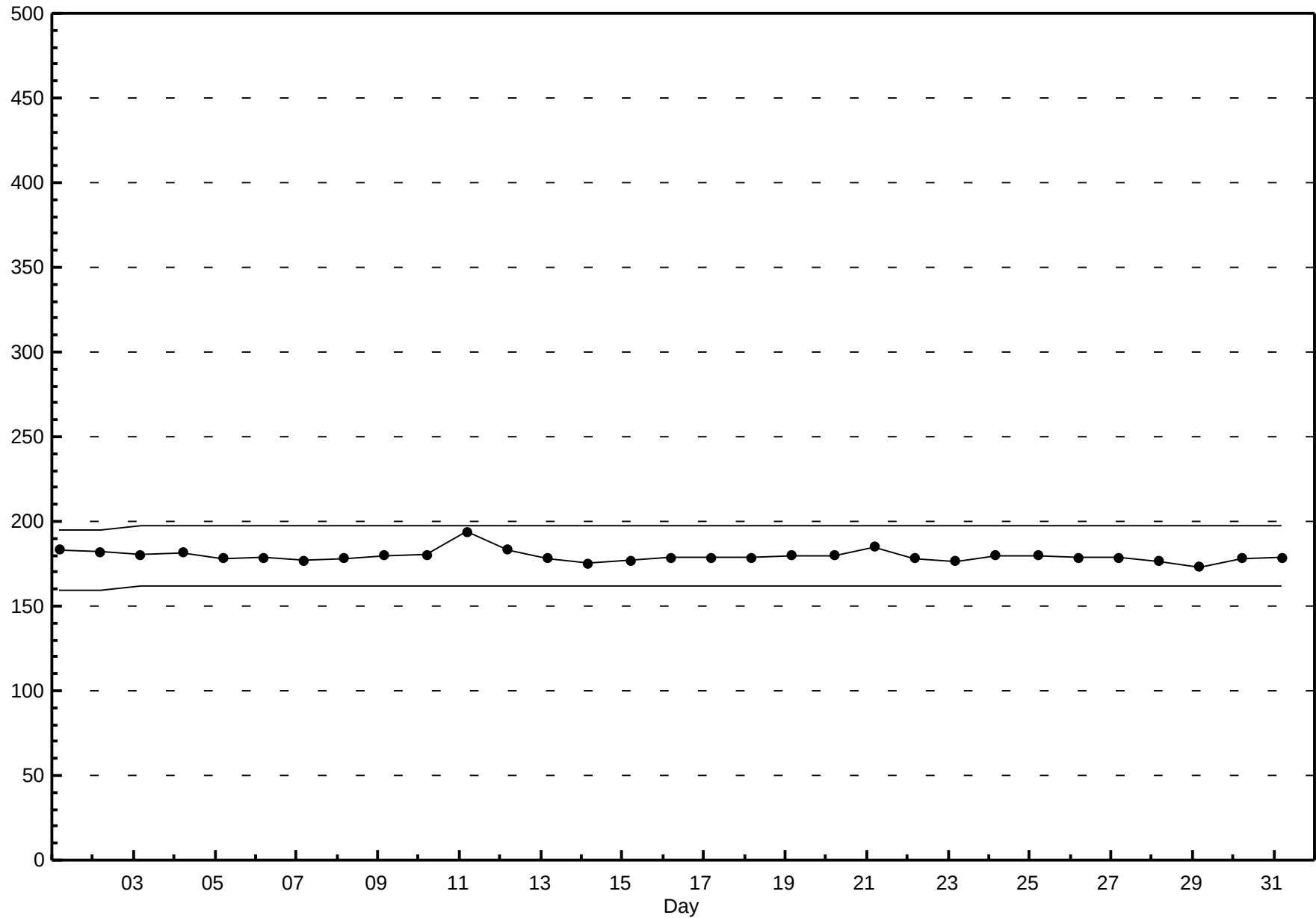
Pollutant Rose

Nitrogen Dioxide (NO₂) - ppb
Beaverlodge - December 2014



Span Responses

Nitrogen Dioxide (NO₂)
Beaverlodge - December 2014



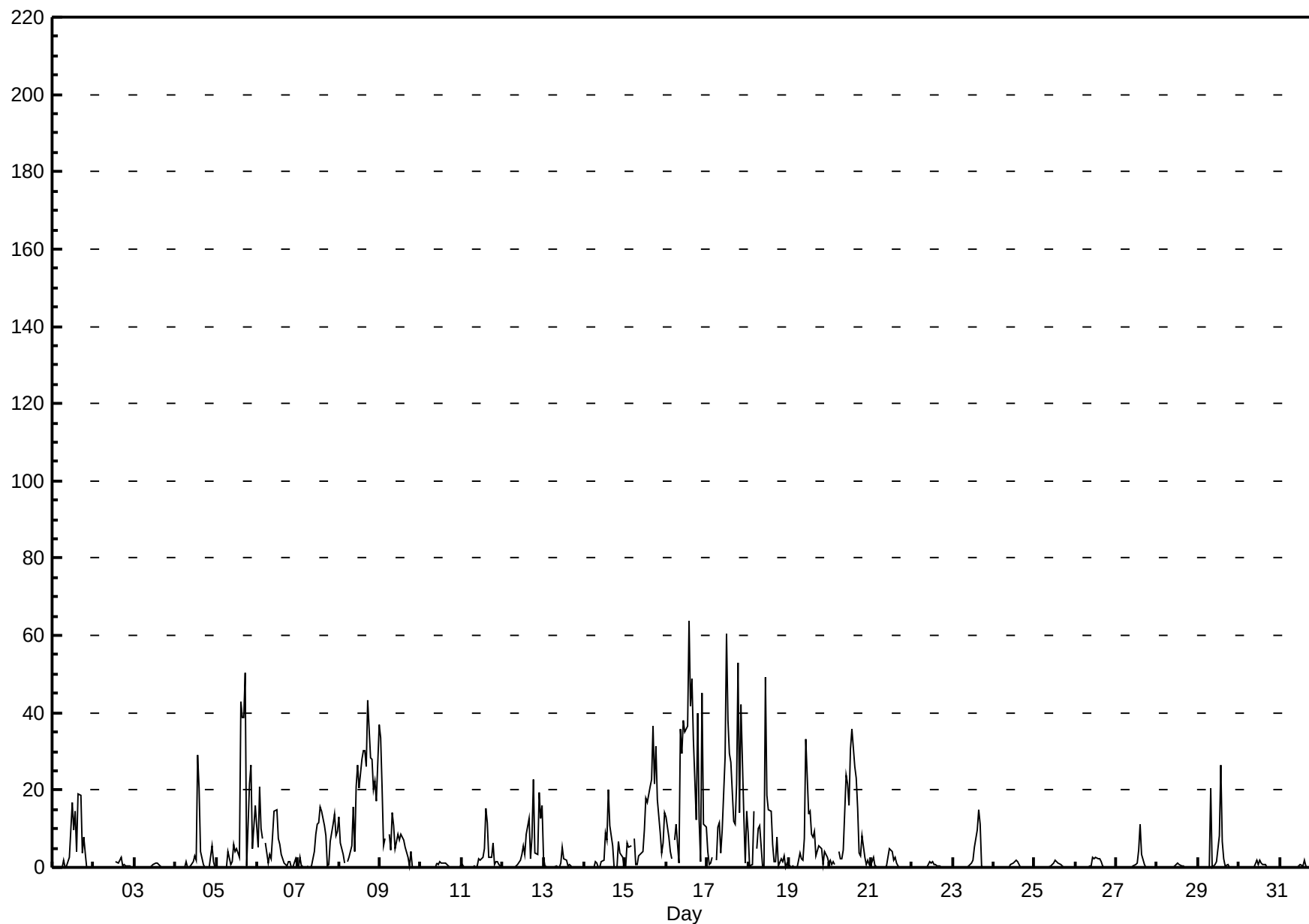
Hourly Averages

Nitrogen Oxide (NO) - ppb Beaverlodge - December 2014

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 63.7 ppb on Dec 16 14:00 Maximum Daily Average: 23.6 ppb on Dec 16																					Hours in Service: 744 Hours of Data: 709						
Minimum Value: 0 ppb on Dec 1 04:00 Maximum Diurnal Average: 11.0 ppb at hour 14 Monthly Average: 5.03 ppb																					Minimum Daily Average: 0.2 ppb on Dec 31 Minimum Diurnal Average: 1.1 ppb at hour 3 Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 0.6 Q ₃ = 5.1 P ₉₀ = 16.1 P ₉₉ = 42.9		Hours of Missing Data: 35 Hours of Calibration: 35 Percent Operational Time: 100.0				
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Dec	0	0	0	0	A	0	2	0	0	0	1	3	17	10	15	4	19	19	4	8	4	0	0	0	0	4.6	19.0
2-Dec	0	0	0	0	A	0	0	0	0	C	C	C	C	2	1	2	2	0	1	0	0	0	0	0	0	0.5	2.4
3-Dec	0	0	0	0	A	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0.3	1.2
4-Dec	0	0	0	0	A	0	1	0	0	0	1	3	2	29	21	4	1	0	0	0	0	6	1	0	3.1	29.1	
5-Dec	0	0	0	0	A	0	0	4	1	1	6	4	5	3	43	39	39	50	0	22	27	5	10	16	11.9	50.2	
6-Dec	5	21	10	7	A	6	1	3	2	8	15	15	8	6	3	2	1	0	1	1	0	0	2	1	5.3	21.0	
7-Dec	0	3	0	0	A	0	0	0	0	4	8	11	11	15	14	11	8	0	1	7	11	14	8	9	6.0	15.5	
8-Dec	13	6	3	1	A	2	3	6	16	4	21	27	21	28	30	30	26	43	28	28	20	22	17	37	18.8	43.1	
9-Dec	34	20	6	8	A	9	5	14	11	5	9	7	9	8	7	5	3	1	4	0	0	0	0	0	7.0	33.6	
10-Dec	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	1.6	
11-Dec	1	0	0	0	A	0	0	0	0	0	2	2	3	5	15	12	2	3	6	1	1	2	1	0	2.5	15.3	
12-Dec	0	0	0	0	A	0	0	0	0	1	2	3	6	3	9	13	2	8	23	4	3	19	13	16	5.5	22.9	
13-Dec	3	0	0	0	A	0	0	0	0	0	1	5	2	2	1	1	0	0	0	0	0	0	0	0	0.7	5.1	
14-Dec	0	0	0	0	A	0	2	1	0	0	1	2	9	7	20	11	6	0	0	0	7	4	3	0	3.1	20.2	
15-Dec	0	7	5	6	A	8	1	1	3	4	4	10	18	17	21	23	37	22	31	18	9	4	6	14	11.6	36.5	
16-Dec	13	8	4	2	A	7	11	1	36	29	38	35	36	64	42	49	33	12	40	12	1	45	11	10	23.6	63.7	
17-Dec	4	1	1	3	A	2	11	12	4	10	28	61	38	30	27	12	11	22	53	14	42	13	1	14	17.9	60.6	
18-Dec	9	0	1	14	A	5	10	11	0	0	49	18	15	15	6	1	1	8	1	2	1	3	0	1	7.6	49.1	
19-Dec	0	0	0	0	A	0	4	2	2	7	33	14	14	9	8	9	3	6	5	5	1	4	3	1	5.7	33.1	
20-Dec	2	1	2	1	A	4	2	2	4	24	22	16	30	36	26	23	15	4	3	8	2	1	2	1	10.0	35.8	
21-Dec	0	3	1	0	A	0	0	0	0	0	3	5	4	2	3	1	0	0	0	0	0	0	0	0	1.0	5.0	
22-Dec	0	0	0	0	A	0	0	0	0	0	2	1	2	1	1	0	0	0	0	0	0	0	0	0	0.3	1.6	
23-Dec	0	0	0	0	A	0	0	0	0	0	1	1	2	5	10	15	11	1	0	0	0	0	0	0	2.0	14.7	
24-Dec	0	0	0	0	A	0	0	0	0	0	1	1	2	2	2	1	0	0	0	0	0	0	0	0	0.4	2.0	
25-Dec	0	0	0	0	A	0	0	0	0	0	1	1	2	1	1	1	0	0	0	0	0	0	0	0	0.3	1.8	
26-Dec	0	0	0	0	A	0	0	0	0	0	3	2	3	2	2	2	0	0	0	0	0	0	0	0	0.6	2.6	
27-Dec	0	0	0	0	A	0	0	0	0	0	0	1	1	5	11	3	1	0	0	0	0	0	0	0	1.0	11.1	
28-Dec	0	0	0	0	A	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0.2	1.3	
29-Dec	0	0	0	0	A	0	0	20	0	0	1	2	8	26	7	2	0	1	0	0	0	0	0	0	2.9	26.4	
30-Dec	0	0	0	0	A	0	0	0	0	0	2	1	2	1	1	1	0	0	0	0	0	0	0	0	0.3	1.9	
31-Dec	0	0	0	0	A	0	0	0	0	0	0	0	1	0	2	0	0	0	0	0	0	0	0	0	0.2	1.9	
2.7 2.3 1.1 1.4 -- 1.4 1.7 2.5 2.6 3.5 8.6 8.9 8.8 11.0 11.0 9.5 7.2 5.9 6.7 4.1 4.1 4.6 2.6 3.9																								Diurnal Average			
33.6 21.0 10.1 14.5 -- 8.5 11.4 20.3 35.9 29.4 49.1 60.6 38.2 63.7 42.9 48.9 38.9 50.2 52.8 27.9 42.0 45.1 17.1 36.9																								Diurnal Maximum			
C - Calibration A - Automated Daily Zero Span																											

Hourly Averages

Nitrogen Oxide (NO) - ppb
Beaverlodge - December 2014



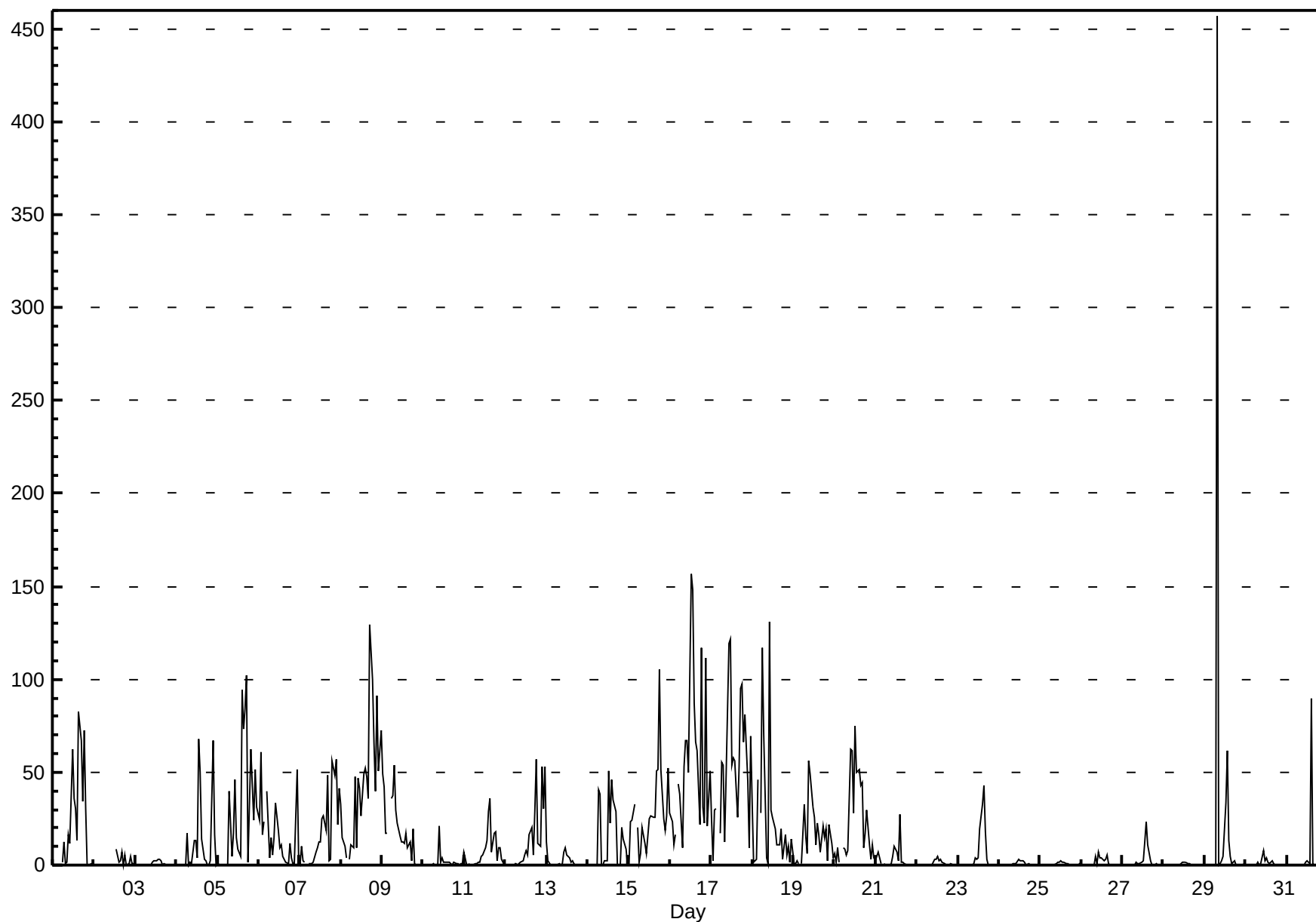
Hourly Maximums

Nitrogen Oxide (NO) - ppb Beaverlodge - December 2014

Maximum Value: 457.0 ppb on Dec 29 08:00																					Maximum Daily Average: 56.7 ppb on Dec 16										Hours in Service: 744	
Minimum Value: 0 ppb on Dec 9 21:00																					Minimum Daily Average: 0.4 ppb on Dec 28										Hours of Data: 709	
Maximum Diurnal Average: 26.1 ppb at hour 15																					Minimum Diurnal Average: 4.3 ppb at hour 3										Hours of Missing Data: 35	
Monthly Average: 14.58 ppb																					Percentiles: P ₁ = 0.0 P ₁₀ = 0.1 Q ₁ = 0.2 Median = 2.0 Q ₃ = 17.3 P ₉₀ = 49.5 P ₉₉ = 117.5										Hours of Calibration: 35	
																					Percent Operational Time: 100.0											
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24								
1-Dec	0	0	0	0	A	1	13	0	2	16	12	62	35	31	13	83	67	35	73	31	0	0	1	0	20.6	82.7						
2-Dec	0	0	0	0	A	0	0	0	0	C	C	C	C	9	1	3	7	0	6	0	1	4	1	0	1.7	8.9						
3-Dec	0	0	0	0	A	0	0	0	0	0	1	3	3	3	3	2	0	1	0	0	0	0	0	0	0.8	3.3						
4-Dec	0	0	0	0	A	0	17	0	2	1	13	13	4	68	50	14	3	2	0	0	2	67	16	0	11.9	67.9						
5-Dec	1	0	0	0	A	0	0	39	4	18	46	15	9	5	95	73	84	102	2	62	43	24	52	32	30.7	101.9						
6-Dec	24	61	16	23	A	40	4	15	5	15	33	19	9	11	5	3	2	1	11	4	1	1	52	3	15.6	61.0						
7-Dec	1	10	3	1	A	1	0	1	1	7	10	13	12	25	26	19	49	2	3	56	49	57	22	42	17.8	57.2						
8-Dec	32	15	10	4	A	3	11	9	48	9	47	41	27	49	52	47	36	130	100	66	40	91	51	72	43.1	129.6						
9-Dec	49	42	17	17	A	36	38	53	29	22	16	12	12	11	18	9	13	2	19	1	0	0	0	0	18.2	53.5						
10-Dec	0	0	0	0	A	0	0	0	0	21	1	4	2	2	2	1	0	0	2	1	1	0	1	0	1.7	21.3						
11-Dec	7	0	0	1	A	0	1	1	2	2	5	5	9	13	29	36	7	17	18	2	10	10	3	0	7.7	35.9						
12-Dec	0	0	0	0	A	0	0	0	1	1	3	6	8	5	17	21	5	29	57	12	10	53	31	53	13.6	57.2						
13-Dec	12	2	0	0	A	0	0	1	0	1	7	10	5	4	1	2	1	0	0	0	0	0	0	0	2.1	12.3						
14-Dec	0	0	0	0	A	0	40	38	0	0	2	2	50	23	46	35	29	0	0	0	20	14	8	0	13.5	50.4						
15-Dec	0	23	24	33	A	20	2	6	20	12	6	15	25	26	26	26	50	51	105	52	25	18	27	52	28.1	104.9						
16-Dec	28	23	11	17	A	43	38	9	53	67	67	50	157	148	88	67	61	21	117	31	23	112	21	51	56.7	156.9						
17-Dec	24	3	30	30	A	17	55	54	13	47	119	122	54	58	56	26	53	95	97	66	81	45	9	69	53.2	121.6						
18-Dec	34	2	3	46	A	28	117	70	4	1	131	30	26	20	11	11	11	20	3	17	6	10	1	14	26.7	130.6						
19-Dec	1	1	3	1	A	0	33	15	7	56	49	31	26	11	22	16	7	21	15	20	2	22	11	4	16.3	56.2						
20-Dec	6	2	10	2	A	9	9	5	8	62	61	28	75	50	52	43	44	10	17	30	11	3	11	4	24.0	74.8						
21-Dec	2	7	4	1	A	1	0	0	0	1	5	10	7	2	27	2	2	1	0	0	0	0	0	0	3.1	27.3						
22-Dec	0	0	0	0	A	0	0	0	0	0	3	3	4	2	3	1	1	0	0	0	1	0	0	0	0.9	4.4						
23-Dec	0	0	0	0	A	0	0	0	0	1	4	3	4	19	32	43	18	3	0	0	0	0	0	0	5.6	43.3						
24-Dec	0	0	0	0	A	0	0	0	0	0	1	3	2	2	2	1	0	0	0	0	0	0	0	0	0.7	2.8						
25-Dec	0	0	0	0	A	0	0	0	0	1	1	2	2	2	1	1	1	0	0	0	0	0	0	1	0.6	2.2						
26-Dec	0	0	0	0	A	0	0	0	5	1	7	4	4	3	3	6	1	0	0	0	0	0	0	0	1.5	7.3						
27-Dec	0	0	0	0	A	0	0	0	1	0	0	1	2	12	23	11	3	0	0	0	1	0	0	0	2.5	23.5						
28-Dec	0	0	0	0	A	0	0	0	0	0	1	1	2	1	0	0	0	0	0	0	0	0	0	0	0.4	1.6						
29-Dec	0	0	0	0	A	0	0	457	0	1	2	5	33	62	13	5	1	2	0	0	0	0	0	1	25.3	457.0						
30-Dec	0	0	0	0	A	0	0	2	0	0	8	2	4	2	1	2	0	0	0	0	0	0	0	0	1.0	7.5						
31-Dec	0	0	0	0	A	0	0	0	0	0	0	1	2	1	90	1	0	0	1	0	0	0	0	0	4.3	89.6						
7.3 6.2 4.3 5.7 -- 6.5 12.3 25.2 6.6 12.2 22.0 17.2 20.5 22.0 26.1 19.7 18.0 17.6 20.9 14.6 10.5 17.2 10.3 12.9																									Diurnal Average							
49.5 61.0 29.7 45.6 -- 43.5 117.1 457.0 53.2 67.1 130.6 121.6 156.9 148.4 94.5 82.7 84.5 129.6 116.8 66.2 81.2 111.8 51.8 72.2																									Diurnal Maximum							
C - Calibration					A - Automated Daily Zero Span																											

Hourly Maximums

Nitrogen Oxide (NO) - ppb
Beaverlodge - December 2014



Hourly Averages

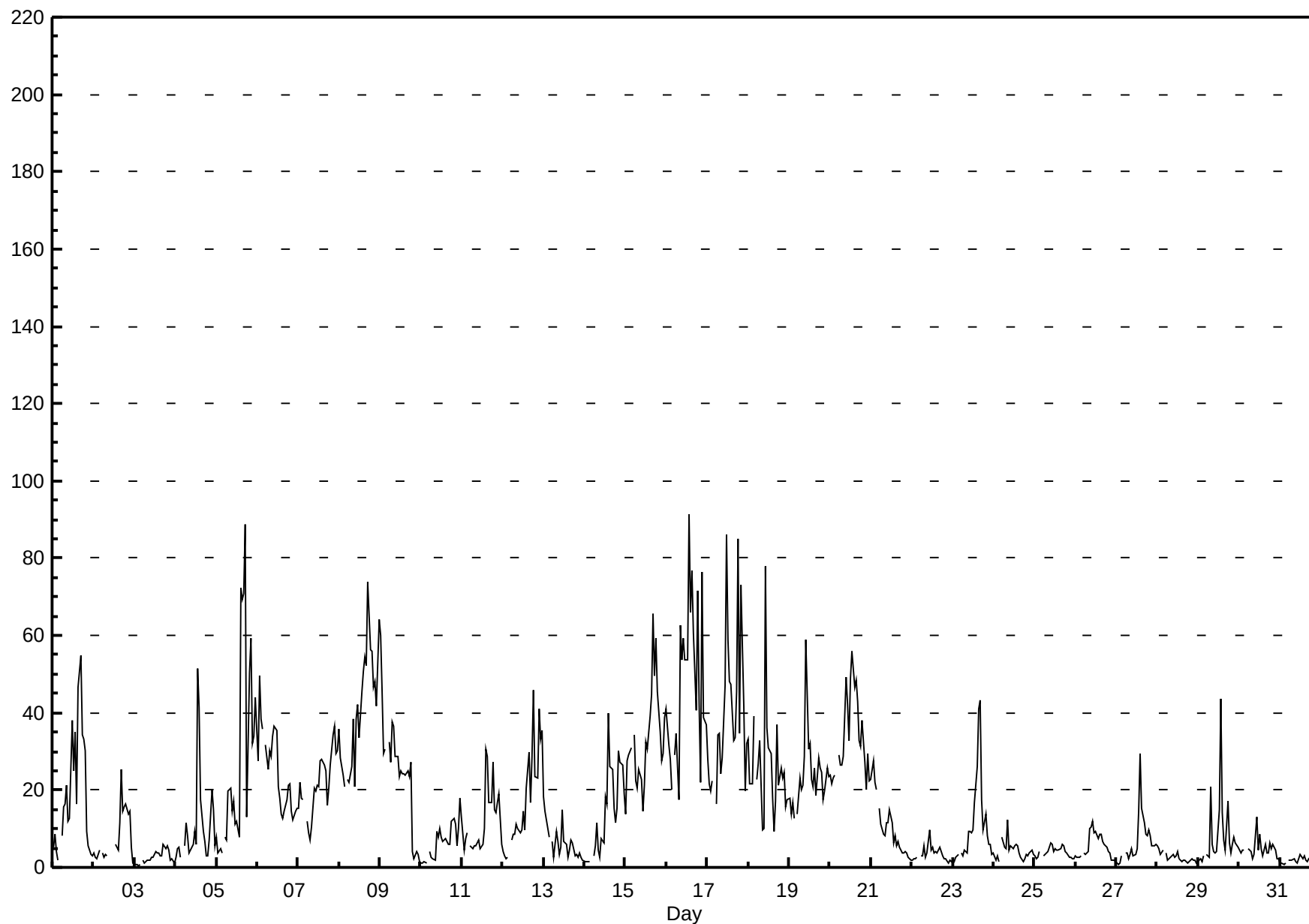
Oxides of Nitrogen (NO_x) - ppb

Beaverlodge - December 2014

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 91.3 ppb on Dec 16 14:00 Maximum Daily Average: 48.2 ppb on Dec 16																								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 Dec 3 03:00 Maximum Diurnal Average: 22.6 ppb at hour 15 Monthly Average: 16.36 ppb												Minimum Daily Average: 1.9 ppb on Dec 31 Minimum Diurnal Average: 10.7 ppb at hour 3 Percentiles: P ₁ = 0.9 P ₁₀ = 2.1 Q ₁ = 3.7 Median = 9.2 Q ₃ = 25.2 P ₉₀ = 39.0 P ₉₉ = 76.4														
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
1-Dec	5	9	4	2	A	8	16	16	21	12	13	38	25	35	17	47	55	34	33	30	9	6	3	3	19.2	55.0
2-Dec	4	2	2	5	A	4	3	4	3	C	C	C	C	6	4	12	25	15	16	17	14	15	5	1	8.1	25.3
3-Dec	1	1	0	1	A	2	1	2	2	2	3	3	4	4	4	3	3	6	5	6	4	2	2	1	2.6	5.9
4-Dec	3	5	5	3	A	6	12	8	4	5	6	9	6	52	41	18	9	7	3	3	7	20	15	5	10.9	51.6
5-Dec	8	4	5	4	A	8	7	20	20	15	17	11	12	8	72	69	71	89	13	51	59	32	34	44	29.2	88.6
6-Dec	27	50	38	36	A	32	25	30	29	34	37	35	21	18	14	13	15	18	21	22	15	12	15	15	24.8	49.5
7-Dec	15	22	18	18	A	12	9	7	11	21	20	21	21	28	28	27	25	16	20	26	34	37	30	30	21.5	36.7
8-Dec	36	28	24	21	A	23	22	26	38	21	38	42	33	46	51	54	52	74	56	56	47	48	42	64	41.0	74.0
9-Dec	60	45	29	30	A	33	27	38	37	29	29	24	25	24	24	24	25	23	27	4	2	4	3	1	24.7	60.0
10-Dec	1	1	1	1	A	4	3	2	2	9	8	10	8	7	7	7	6	6	12	13	11	6	10	18	6.7	18.0
11-Dec	13	4	7	9	A	6	5	6	5	6	7	5	6	10	31	29	17	17	27	15	14	17	19	6	12.2	30.5
12-Dec	4	3	2	2	A	7	8	8	11	10	9	10	15	10	20	30	17	28	46	24	23	41	33	35	17.3	45.7
13-Dec	18	14	10	8	A	7	2	9	7	3	5	15	7	6	3	4	7	6	3	3	3	4	3	2	6.5	18.4
14-Dec	2	1	1	1	A	3	6	11	5	3	7	6	18	17	40	26	25	15	12	15	30	27	27	19	13.8	39.9
15-Dec	14	27	29	31	A	34	22	20	25	23	14	21	33	31	39	45	66	50	59	45	35	27	30	39	33.1	65.6
16-Dec	41	32	28	20	A	29	34	18	63	54	59	54	54	91	66	77	61	41	72	42	22	77	39	37	48.2	91.3
17-Dec	28	21	20	22	A	17	34	35	24	28	47	86	59	48	47	33	34	45	85	35	73	42	20	32	39.8	86.2
18-Dec	33	22	22	39	A	23	27	33	10	10	78	36	31	29	18	9	17	37	21	26	23	25	16	17	26.2	77.9
19-Dec	18	14	17	13	A	14	23	20	21	29	59	31	32	23	21	26	19	28	26	25	18	20	26	24	23.6	59.1
20-Dec	24	22	23	24	A	29	26	27	29	49	42	33	49	56	47	48	43	33	31	38	27	20	30	22	33.6	55.8
21-Dec	23	28	22	20	A	15	11	8	8	12	12	15	11	6	8	6	7	5	4	4	4	4	3	2	10.3	27.6
22-Dec	2	2	2	3	A	3	3	5	3	4	10	5	5	4	4	4	5	4	3	2	2	1	2	1	3.4	9.9
23-Dec	2	2	3	3	A	4	3	4	4	9	9	9	10	17	26	41	43	18	10	14	8	6	6	3	11.0	43.2
24-Dec	4	2	3	2	A	8	5	5	12	4	5	5	5	6	6	4	3	2	2	3	3	4	4	3	4.3	12.2
25-Dec	3	2	2	4	A	3	3	4	4	6	6	4	5	5	4	5	6	5	4	4	3	3	2	2	3.9	6.4
26-Dec	3	3	3	3	A	4	3	4	10	10	12	9	9	8	9	8	7	6	5	4	4	2	2	2	5.6	11.9
27-Dec	1	1	1	3	A	4	4	2	3	5	3	4	5	15	29	15	12	9	8	10	8	6	6	6	6.8	29.3
28-Dec	5	5	4	5	A	4	2	2	3	3	3	3	4	2	2	2	2	1	1	2	2	2	2	1	2.7	5.4
29-Dec	1	2	1	3	A	3	3	21	6	4	4	4	15	44	14	7	4	17	6	4	6	8	6	5	8.2	43.7
30-Dec	5	4	4	5	A	5	5	4	2	3	13	5	9	5	3	6	4	4	7	5	6	4	2	2	4.8	13.0
31-Dec	1	1	1	1	A	2	2	2	2	1	1	2	3	2	3	2	2	2	3	3	2	2	3	1	1.9	3.4
13.0 12.2 10.7 11.0 -- 11.4 11.5 13.0 13.7 14.1 19.2 18.5 18.0 21.3 22.6 22.5 22.1 21.3 20.7 17.7 16.8 16.8 14.1 14.4																								Diurnal Average		
60.0 49.5 38.3 39.0 -- 34.5 34.5 37.5 62.6 53.6 77.9 86.2 59.0 91.3 72.2 76.9 71.0 88.6 85.0 55.9 73.2 76.6 41.6 64.3																								Diurnal Maximum		
C - Calibration A - Automated Daily Zero Span																										

Hourly Averages

Oxides of Nitrogen (NO_x) - ppb
Beaverlodge - December 2014



Hourly Maximums

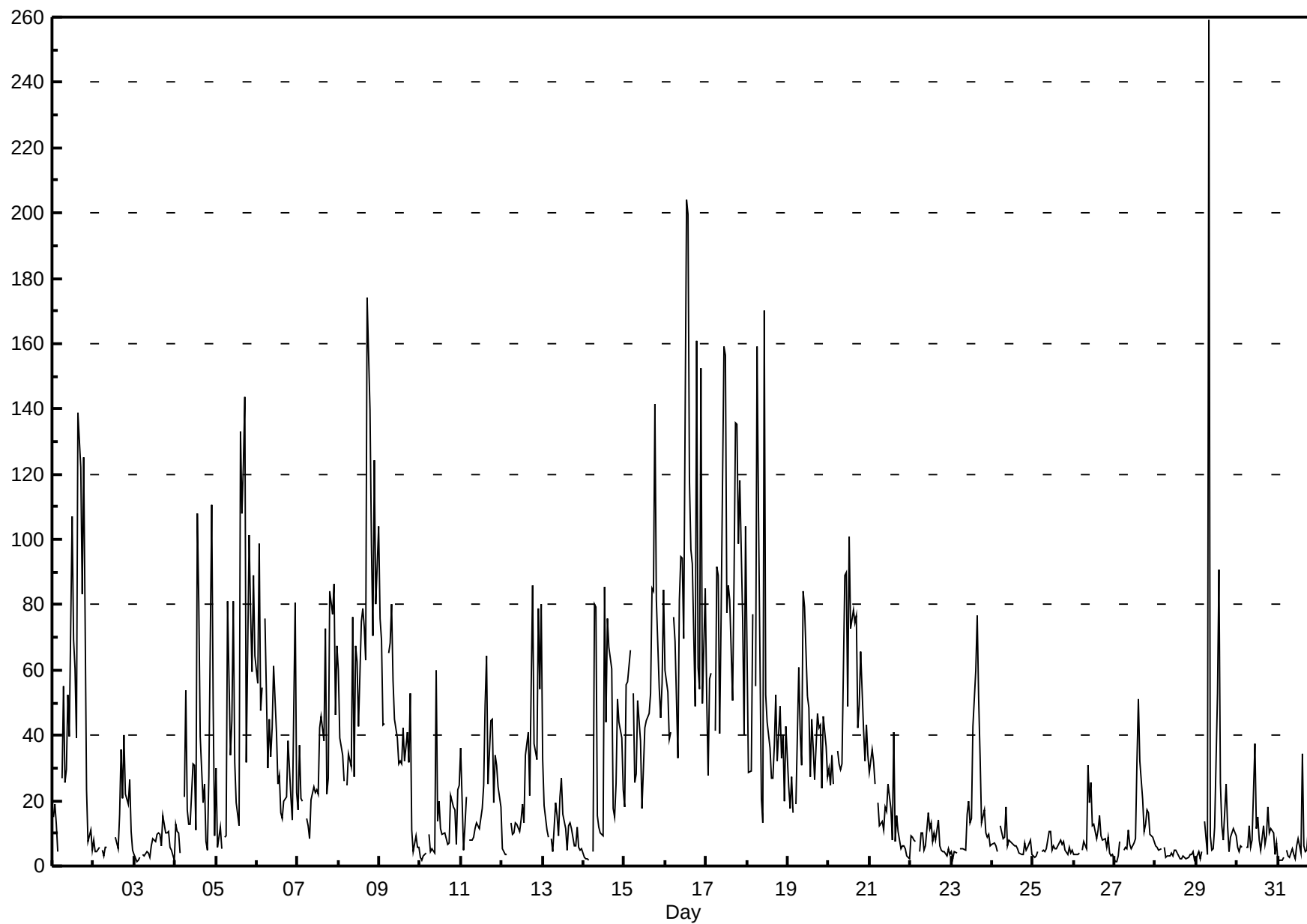
Oxides of Nitrogen (NO_x) - ppb

Beaverlodge - December 2014

Maximum Value: 259.1 ppb on Dec 29 08:00																					Maximum Daily Average: 88.5 ppb on Dec 16										Hours in Service: 744	
Minimum Value: 1 ppb on Dec 3 02:00																					Minimum Daily Average: 3.7 ppb on Dec 28										Hours of Data: 709	
Maximum Diurnal Average: 42.2 ppb at hour 19																					Minimum Diurnal Average: 17.3 ppb at hour 3										Hours of Missing Data: 35	
Monthly Average: 30.65 ppb																					Percentiles: P ₁ = 1.6 P ₁₀ = 4.0 Q ₁ = 6.2 Median = 16.4 Q ₃ = 43.0 P ₉₀ = 78.8 P ₉₉ = 157.8										Hours of Calibration: 35	
																					Percent Operational Time: 100.0											
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24								
1-Dec	15	19	13	4	A	27	55	25	30	52	40	107	69	61	39	139	122	83	125	76	23	7	11	5	49.9	138.6						
2-Dec	8	4	5	6	A	5	3	6	6	C	C	C	C	9	5	16	36	21	40	22	19	26	11	5	13.3	40.3						
3-Dec	4	1	2	3	A	3	3	4	4	3	6	8	8	10	10	10	6	15	10	10	10	6	5	2	6.2	15.3						
4-Dec	13	11	10	4	A	21	54	17	13	13	31	31	11	108	80	40	19	25	8	5	27	111	50	9	30.9	110.8						
5-Dec	30	6	12	5	A	9	9	81	34	45	81	32	19	12	133	108	123	144	32	101	77	59	89	64	56.8	143.9						
6-Dec	56	99	48	54	A	76	30	45	34	42	61	41	25	28	16	14	20	21	39	30	21	14	80	22	39.9	98.6						
7-Dec	17	37	21	20	A	15	12	8	20	24	22	23	22	43	46	38	73	22	27	84	77	86	46	68	37.1	86.5						
8-Dec	60	39	34	26	A	25	34	30	76	28	67	63	43	75	79	73	63	174	140	98	71	124	80	104	69.8	174.1						
9-Dec	76	69	43	44	A	65	68	80	57	45	39	31	32	31	43	32	41	32	53	11	4	9	6	6	39.9	80.2						
10-Dec	3	2	3	4	A	10	4	5	4	60	14	20	11	9	10	8	7	7	22	18	17	7	23	25	12.7	60.0						
11-Dec	36	5	12	21	A	8	8	9	12	13	13	11	18	25	50	64	25	45	45	20	34	31	24	18	23.7	64.3						
12-Dec	5	4	3	4	A	13	10	10	13	13	10	14	19	13	34	41	22	55	86	38	33	79	54	80	28.4	86.1						
13-Dec	33	19	11	9	A	9	4	19	15	9	21	27	16	12	5	12	13	11	6	6	12	6	5	5	12.4	32.8						
14-Dec	3	2	2	2	A	4	80	79	15	12	10	9	85	44	76	67	61	18	15	25	51	44	39	23	33.4	85.5						
15-Dec	18	56	57	66	A	53	26	28	51	38	18	30	42	44	47	53	85	84	141	81	54	45	56	85	54.7	141.5						
16-Dec	60	53	39	41	A	76	69	33	82	95	94	70	204	200	118	97	93	49	161	61	54	153	50	85	88.5	204.1						
17-Dec	51	28	57	59	A	41	92	89	40	76	159	157	78	86	82	51	88	136	135	99	118	75	40	104	84.4	158.9						
18-Dec	66	29	29	77	A	55	159	108	21	13	170	53	44	36	27	27	37	53	32	49	33	40	20	43	53.1	170.2						
19-Dec	24	17	27	16	A	19	61	40	31	84	79	52	48	27	45	36	27	47	42	43	24	46	37	27	39.2	84.0						
20-Dec	30	25	34	25	A	35	31	29	31	89	90	49	101	73	78	74	77	42	49	66	42	32	43	34	51.3	101.0						
21-Dec	29	36	32	25	A	20	12	14	11	18	17	25	18	8	41	8	15	11	5	6	6	5	3	2	16.0	41.0						
22-Dec	9	9	8	8	A	5	10	10	5	6	16	12	13	8	10	8	14	6	5	4	5	3	5	3	7.9	16.3						
23-Dec	5	2	4	4	A	5	5	5	5	16	20	13	15	43	60	77	51	34	13	17	10	9	10	6	18.6	76.5						
24-Dec	7	7	6	5	A	12	8	9	18	6	8	7	6	6	6	5	4	3	3	7	5	6	8	4	6.9	18.2						
25-Dec	3	3	3	5	A	5	5	5	5	11	11	5	6	5	5	7	8	7	7	5	4	6	4	5	5.6	10.7						
26-Dec	4	4	4	4	A	5	7	5	31	19	25	12	13	8	11	15	9	8	9	6	9	4	3	3	9.5	30.9						
27-Dec	1	1	3	8	A	5	6	5	11	7	5	7	8	32	51	32	20	11	13	17	16	9	9	8	12.4	51.0						
28-Dec	6	6	5	5	A	6	3	3	3	4	3	5	5	4	2	2	3	2	2	3	3	4	4	2	3.7	6.3						
29-Dec	2	4	2	4	A	14	4	259	9	5	5	12	53	91	25	12	8	25	12	4	9	10	12	9	25.7	259.1						
30-Dec	6	4	6	6	A	6	6	12	6	8	38	12	15	8	5	12	7	9	18	10	12	10	4	7	9.8	37.6						
31-Dec	1	2	2	2	A	5	3	3	5	4	2	6	9	4	34	6	5	5	11	5	5	4	7	2	5.7	34.2						
22.0 19.4 17.3 18.3 -- 21.2 28.5 34.8 22.5 28.6 39.3 31.4 35.2 37.5 41.1 38.2 38.1 38.8 42.2 33.1 28.5 34.6 27.0 27.9																									Diurnal Average							
76.0 98.6 57.4 77.1 -- 76.3 159.0 259.1 81.6 94.8 170.2 156.6 204.1 199.8 132.9 138.6 123.1 174.1 161.0 101.2 117.9 152.6 89.1 104.2																									Diurnal Maximum							
C - Calibration					A - Automated Daily Zero Span																											

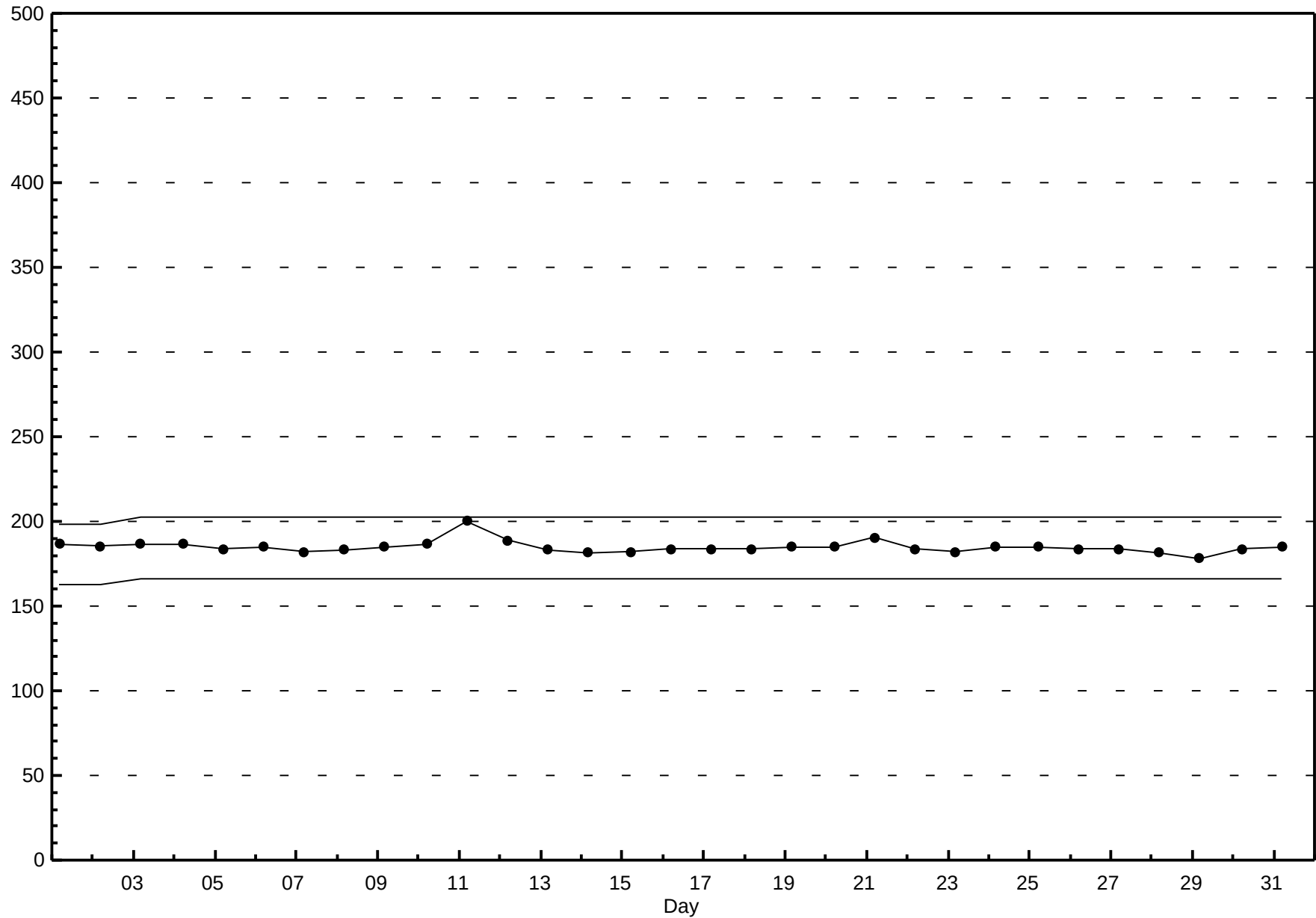
Hourly Maximums

Oxides of Nitrogen (NO_x) - ppb
Beaverlodge - December 2014



Span Responses

Oxides of Nitrogen (NO_x)
Beaverlodge - December 2014



Hourly Averages

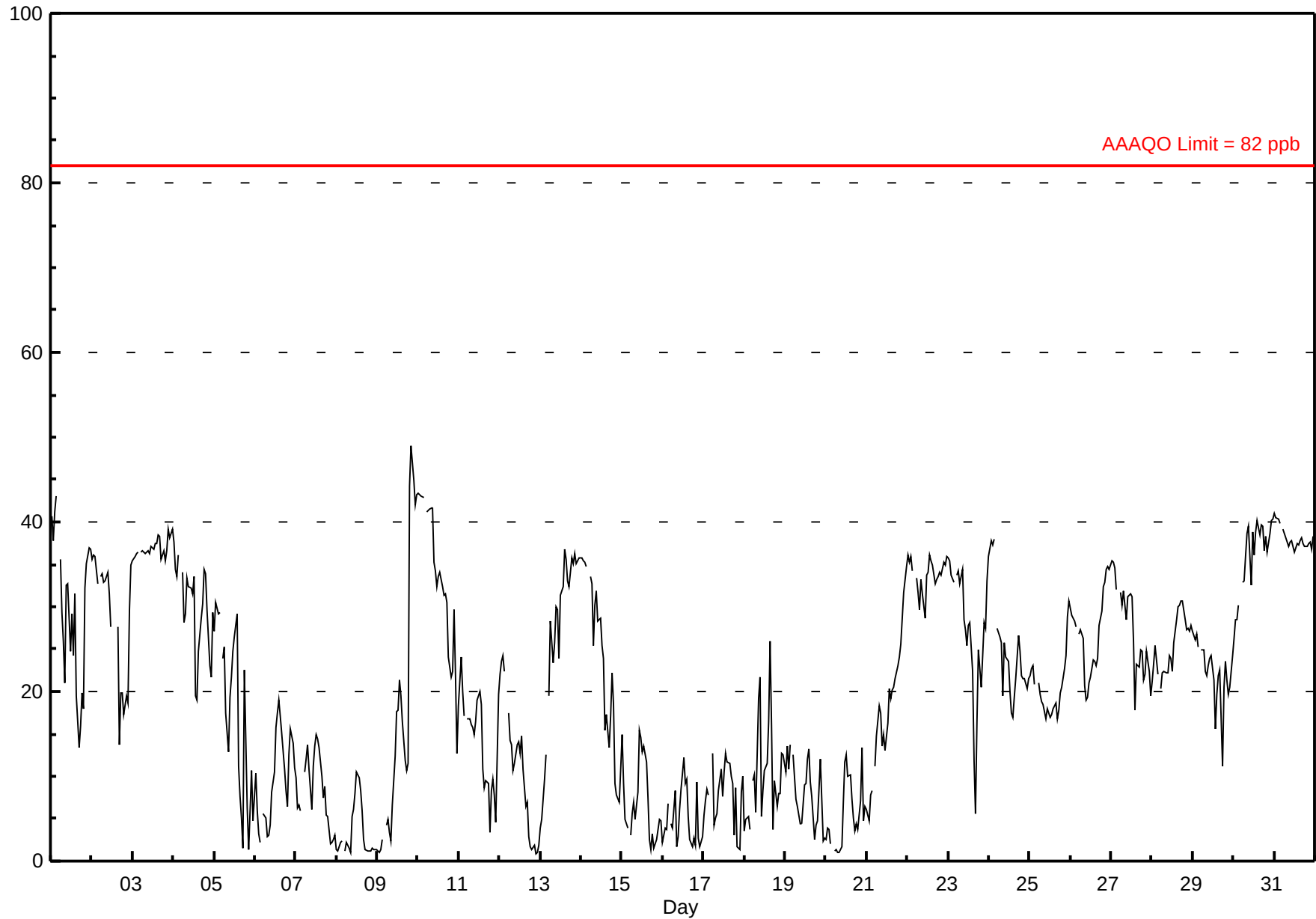
Ozone (O₃) - ppb

Beaverlodge - December 2014

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 49.0 ppb on Dec 9 21:00 Maximum Daily Average: 38.1 ppb on Dec 31																				Hours in Service: 744 Hours of Data: 710 Hours of Missing Data: 34 Hours of Calibration: 34 Percent Operational Time: 100.0						
Minimum Value: 1 ppb on Dec 12 22:00 Maximum Diurnal Average: 22.0 ppb at hour 13 Monthly Average: 20.43 ppb										Minimum Daily Average: 3.4 ppb on Dec 8 Minimum Diurnal Average: 17.3 ppb at hour 18 Percentiles: P ₁ = 1.1 P ₁₀ = 3.6 Q ₁ = 9.1 Median = 20.8 Q ₃ = 31.7 P ₉₀ = 36.6 P ₉₉ = 42.9																
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-Dec	41	38	41	43	A	36	29	26	21	33	33	25	29	24	32	19	13	16	20	18	32	35	37	37	29.4	43.0
2-Dec	36	36	36	33	A	33	34	33	33	34	31	28	C	C	C	28	14	20	20	17	20	19	29	35	28.4	36.2
3-Dec	35	36	36	36	A	36	37	36	36	37	36	37	37	37	38	38	38	36	37	35	37	39	38	39	36.9	39.1
4-Dec	38	34	34	36	A	34	28	29	33	32	32	32	34	19	19	25	29	30	34	34	30	23	22	29	30.0	37.7
5-Dec	27	30	29	29	A	24	25	17	13	19	22	25	27	29	11	8	5	2	23	6	1	6	11	5	17.1	30.4
6-Dec	10	6	3	2	A	6	5	3	3	4	8	10	16	17	19	17	15	11	8	6	13	16	14	11	9.7	19.0
7-Dec	10	6	7	6	A	11	12	14	11	6	11	13	15	14	13	10	7	9	5	5	2	2	3	3	8.5	14.8
8-Dec	1	1	2	2	A	1	2	2	1	5	6	8	11	10	8	6	2	1	1	1	1	2	1	1	3.4	10.5
9-Dec	1	1	1	3	A	4	5	3	2	7	12	18	18	21	19	16	12	11	11	44	49	45	42	43	17.0	49.0
10-Dec	43	43	43	43	A	41	41	41	42	35	34	32	34	34	32	31	32	31	24	22	22	30	22	13	33.3	43.5
11-Dec	18	24	20	17	A	17	17	16	16	15	16	19	20	18	11	9	10	9	3	8	10	8	5	20	14.2	24.0
12-Dec	22	23	24	22	A	17	14	14	11	12	14	14	13	15	11	6	7	3	2	1	2	1	1	2	10.9	24.2
13-Dec	4	5	10	13	A	19	28	23	26	30	30	24	31	32	37	36	33	32	36	35	36	35	35	36	27.2	36.8
14-Dec	36	35	35	35	A	34	33	25	30	32	28	29	25	24	16	17	13	17	22	19	9	8	7	11	23.5	35.8
15-Dec	15	9	5	4	A	3	6	7	5	8	15	15	13	14	12	8	3	1	3	1	3	4	5	5	7.0	15.4
16-Dec	2	4	4	7	A	4	4	8	2	3	6	9	12	9	10	5	3	2	3	2	9	3	2	3	5.0	12.2
17-Dec	5	7	9	8	A	13	4	5	6	8	11	8	11	13	12	11	10	9	3	9	2	1	8	10	7.9	12.7
18-Dec	3	5	5	4	A	10	10	6	19	22	5	8	11	12	16	26	16	4	9	6	8	8	13	13	10.4	25.9
19-Dec	11	14	11	14	A	13	7	6	5	4	4	9	9	12	13	9	8	3	4	5	8	12	2	3	8.1	13.7
20-Dec	3	4	4	2	A	1	1	1	1	2	7	12	13	10	10	7	5	4	4	4	7	13	5	6	5.5	13.3
21-Dec	6	5	8	8	A	11	15	18	17	13	15	13	16	20	19	20	20	22	23	24	26	29	32	35	18.1	34.8
22-Dec	36	35	36	34	A	33	32	30	33	31	29	34	34	36	35	35	33	33	33	34	34	35	35	36	33.8	36.1
23-Dec	36	35	34	33	A	34	34	33	34	29	27	25	28	28	22	12	6	16	25	20	24	28	27	33	27.2	35.8
24-Dec	36	38	37	38	A	27	26	26	19	26	24	24	20	17	17	19	21	27	25	22	22	22	20	22	25.0	37.9
25-Dec	22	23	23	21	A	21	20	19	18	17	18	18	17	17	18	19	17	18	20	21	23	24	29	31	20.5	30.7
26-Dec	30	29	28	28	A	27	27	26	21	19	19	21	22	24	23	23	24	28	30	32	33	34	35	34	26.8	34.7
27-Dec	35	35	35	32	A	32	30	32	30	28	31	32	31	26	18	23	23	25	25	21	22	25	22	20	27.5	35.4
28-Dec	21	23	25	22	A	20	22	22	22	22	24	24	22	26	29	30	30	31	31	28	27	27	27	28	25.5	30.7
29-Dec	27	26	27	25	A	25	25	22	22	23	24	24	21	16	20	22	23	11	20	24	21	20	21	24	22.3	27.2
30-Dec	26	28	28	30	A	33	33	36	39	39	32	39	36	39	40	39	40	40	37	38	36	39	40	40	36.0	40.3
31-Dec	41	40	40	40	A	39	39	38	37	38	38	37	37	38	37	38	38	37	37	37	37	38	37	38	38.1	41.0
21.9 22.0 22.0 21.6 -- 21.3 20.9 20.0 19.7 20.4 20.8 21.4 22.0 21.7 20.6 19.8 17.7 17.3 18.7 18.8 19.5 20.3 20.2 21.4																									Diurnal Average	
43.5 43.3 43.0 43.0 -- 41.1 41.4 41.5 41.6 39.5 37.9 38.8 36.7 38.8 40.2 38.5 39.7 39.5 37.1 44.3 49.0 44.9 42.1 43.3																									Diurnal Maximum	
C - Calibration A - Automated Daily Zero Span																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 82 ppb 24-hr na																										

Hourly Averages

Ozone (O₃) - ppb
Beaverlodge - December 2014



Hourly Maximums

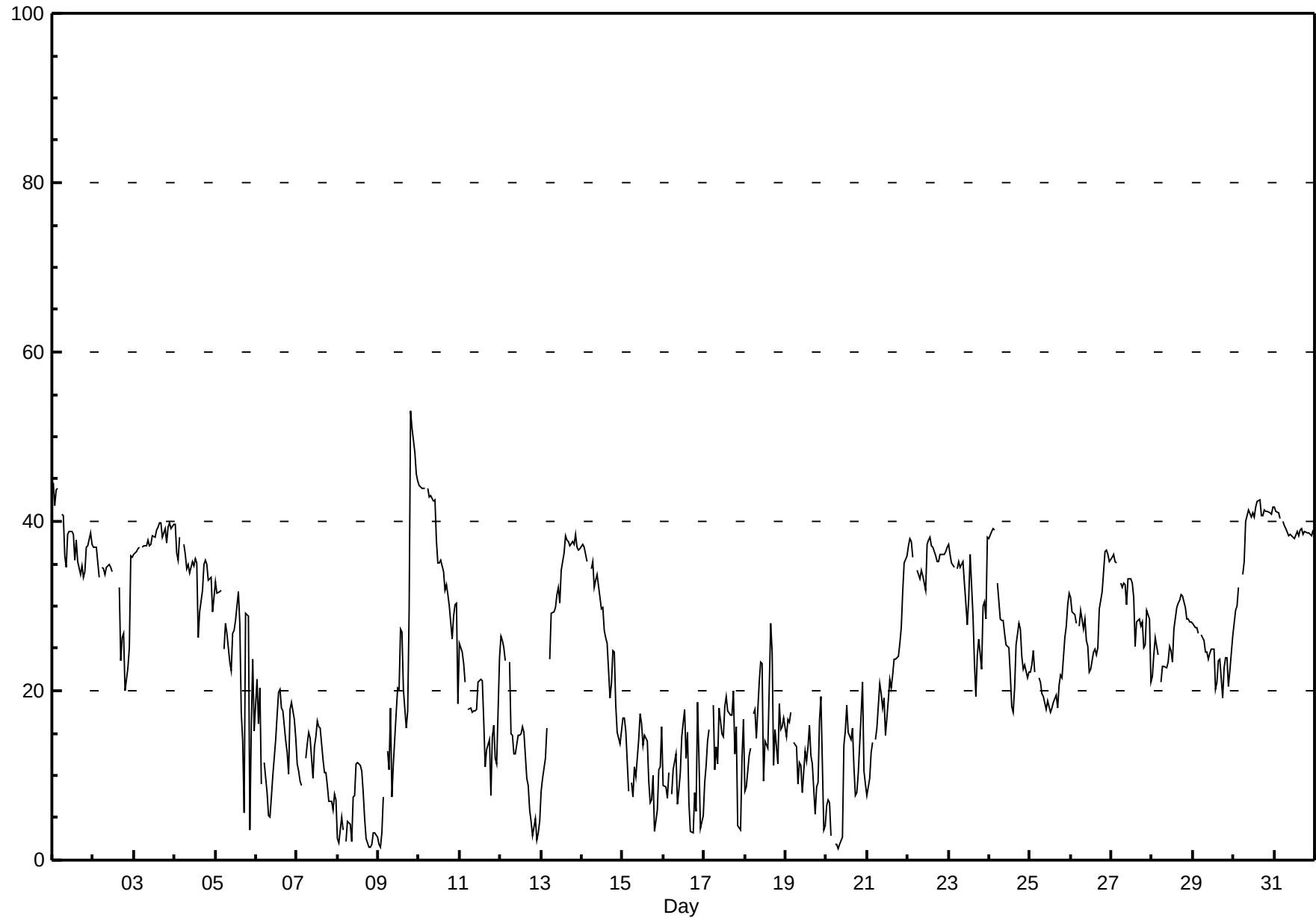
Ozone (O₃) - ppb

Beaverlodge - December 2014

Maximum Value: 53.0 ppb on Dec 9 20:00																								Maximum Daily Average: 39.1 ppb on Dec 31										Hours in Service: 744	
Minimum Value: 1 ppb on Dec 20 08:00																								Minimum Daily Average: 5.0 ppb on Dec 8										Hours of Data: 710	
Maximum Diurnal Average: 25.1 ppb at hour 14																								Minimum Diurnal Average: 21.5 ppb at hour 18										Hours of Missing Data: 34	
Monthly Average: 23.83 ppb																								Percentiles: P ₁ = 1.9 P ₁₀ = 7.9 Q ₁ = 14.4 Median = 24.2 Q ₃ = 34.6 P ₉₀ = 38.4 P ₉₉ = 44.0										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-Dec	45	42	44	44	A	41	41	36	35	38	39	39	38	C	C	C	35	34	35	33	34	37	37	39	37	38.0	44.5								
2-Dec	37	37	37	33	A	35	34	34	35	35	35	34	C	C	C	32	24	26	27	20	23	25	36	36	31.7	36.9									
3-Dec	36	36	37	37	A	37	37	37	38	37	37	38	38	39	39	40	40	38	39	37	39	40	39	40	38.1	39.8									
4-Dec	40	36	35	38	A	37	36	34	35	34	35	35	36	35	26	29	32	35	35	35	33	33	29	31	34.2	39.7									
5-Dec	33	31	32	32	A	25	28	27	23	22	27	27	28	32	28	17	14	6	29	29	3	16	24	15	23.9	32.9									
6-Dec	21	16	20	9	A	12	8	5	5	8	10	14	17	20	20	18	18	14	13	10	18	19	17	14	14.2	21.4									
7-Dec	11	10	9	9	A	12	14	15	14	10	13	15	16	16	16	12	10	10	9	7	7	6	8	7	11.2	16.4									
8-Dec	2	2	5	4	A	2	5	4	2	7	8	11	11	11	11	8	5	3	2	2	2	3	3	3	5.0	11.5									
9-Dec	2	1	3	7	A	13	11	18	7	11	17	20	20	27	27	20	16	18	29	53	51	48	46	45	22.3	53.0									
10-Dec	44	44	44	44	A	44	43	43	42	43	38	35	35	35	34	32	33	31	30	26	29	30	30	18	36.0	44.2									
11-Dec	26	25	23	21	A	18	18	18	18	18	18	21	21	21	16	11	13	14	8	15	16	12	11	24	17.6	25.6									
12-Dec	26	26	25	23	A	23	15	15	13	12	15	15	15	16	15	10	9	6	5	3	5	2	3	5	13.1	26.4									
13-Dec	8	10	12	16	A	24	29	29	30	31	32	30	34	36	38	38	38	37	38	37	38	37	37	37	30.3	38.4									
14-Dec	37	37	36	35	A	34	35	32	33	34	32	30	30	27	26	26	19	21	25	25	18	15	14	15	27.7	37.4									
15-Dec	17	17	15	8	A	9	7	11	10	14	17	16	14	15	14	9	7	7	10	3	6	11	11	16	11.5	17.3									
16-Dec	9	9	7	10	A	8	11	13	7	8	10	15	18	12	15	7	3	3	8	6	19	12	4	5	9.5	18.6									
17-Dec	9	11	14	15	A	18	11	13	11	18	15	15	18	19	18	17	17	20	13	16	4	3	12	17	14.1	20.0									
18-Dec	8	9	12	13	A	17	18	14	21	23	23	9	14	13	21	28	25	11	15	11	18	15	16	17	16.2	27.9									
19-Dec	15	17	16	18	A	14	13	9	12	11	8	13	12	13	16	12	11	5	9	9	16	19	4	4	12.0	19.3									
20-Dec	7	7	7	3	A	2	2	1	2	3	14	15	18	15	14	16	11	8	8	10	17	21	11	9	9.5	21.0									
21-Dec	8	10	13	14	A	14	16	21	20	18	19	15	19	21	20	22	24	24	24	26	27	32	35	36	20.7	35.9									
22-Dec	37	38	38	36	A	34	34	33	34	34	32	37	38	38	37	37	36	35	35	36	36	36	36	37	35.9	38.2									
23-Dec	37	36	35	34	A	34	35	35	35	33	30	28	31	36	29	23	19	24	26	22	30	31	28	38	31.0	38.2									
24-Dec	38	39	39	39	A	33	29	28	28	27	25	25	22	18	17	20	25	28	27	24	23	23	21	22	27.0	39.1									
25-Dec	22	23	25	22	A	22	21	20	19	18	19	18	17	18	19	19	18	21	22	22	26	28	30	31	21.7	31.4									
26-Dec	31	29	29	28	A	28	29	27	29	26	25	22	23	25	25	24	25	30	32	34	36	37	36	35	28.9	36.5									
27-Dec	36	36	35	35	A	33	32	33	33	30	33	33	33	31	25	28	29	28	28	25	25	30	28	21	30.4	36.2									
28-Dec	22	24	26	24	A	21	23	23	23	23	25	25	23	27	30	30	31	31	31	30	29	29	28	28	26.4	31.4									
29-Dec	28	28	27	27	A	27	26	25	25	24	24	25	25	20	21	24	24	19	23	24	24	21	22	26	24.2	27.9									
30-Dec	28	29	30	32	A	34	35	40	41	41	40	41	40	42	42	42	41	41	41	41	41	41	41	42	38.6	42.5									
31-Dec	42	41	41	40	A	40	39	39	38	38	38	38	38	39	38	39	39	39	39	39	39	38	38	39	39.1	41.7									
24.6 24.4 24.9 24.3 -- 24.0 23.7 23.6 23.1 23.6 24.4 24.3 24.8 25.1 24.5 23.4 22.2 21.5 23.0 22.9 23.8 24.2 23.8 24.2																									Diurnal Average										
44.5 44.1 43.9 43.9 -- 43.8 42.9 43.0 42.3 42.5 40.4 40.9 40.5 41.6 42.4 42.5 40.7 40.6 41.4 53.0 50.9 48.1 45.6 44.7																									Diurnal Maximum										
C - Calibration A - Automated Daily Zero Span																																			

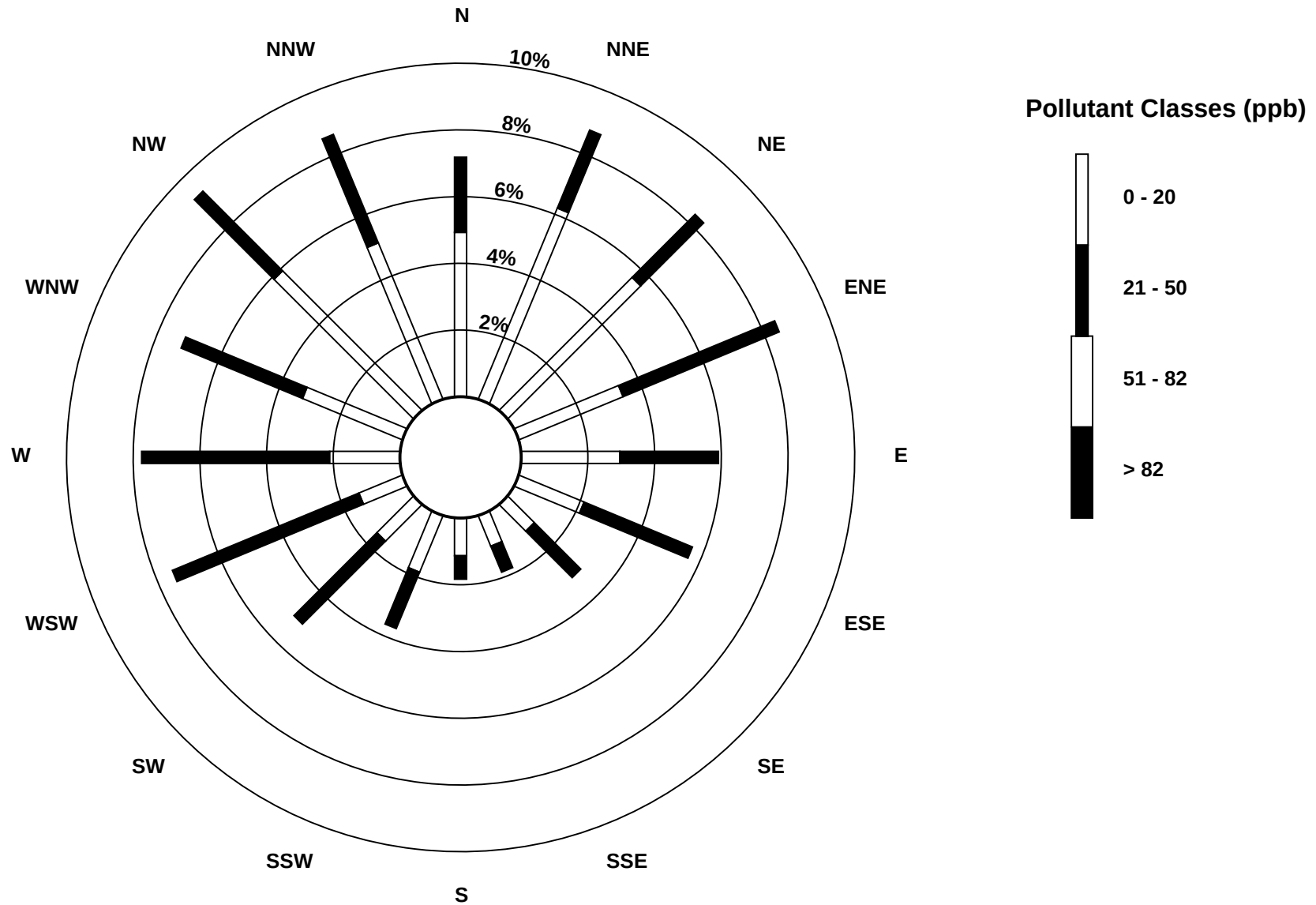
Hourly Maximums

Ozone (O₃) - ppb
Beaverlodge - December 2014



Pollutant Rose

Ozone (O₃) - ppb
Beaverlodge - December 2014



Eight Hour Running Averages

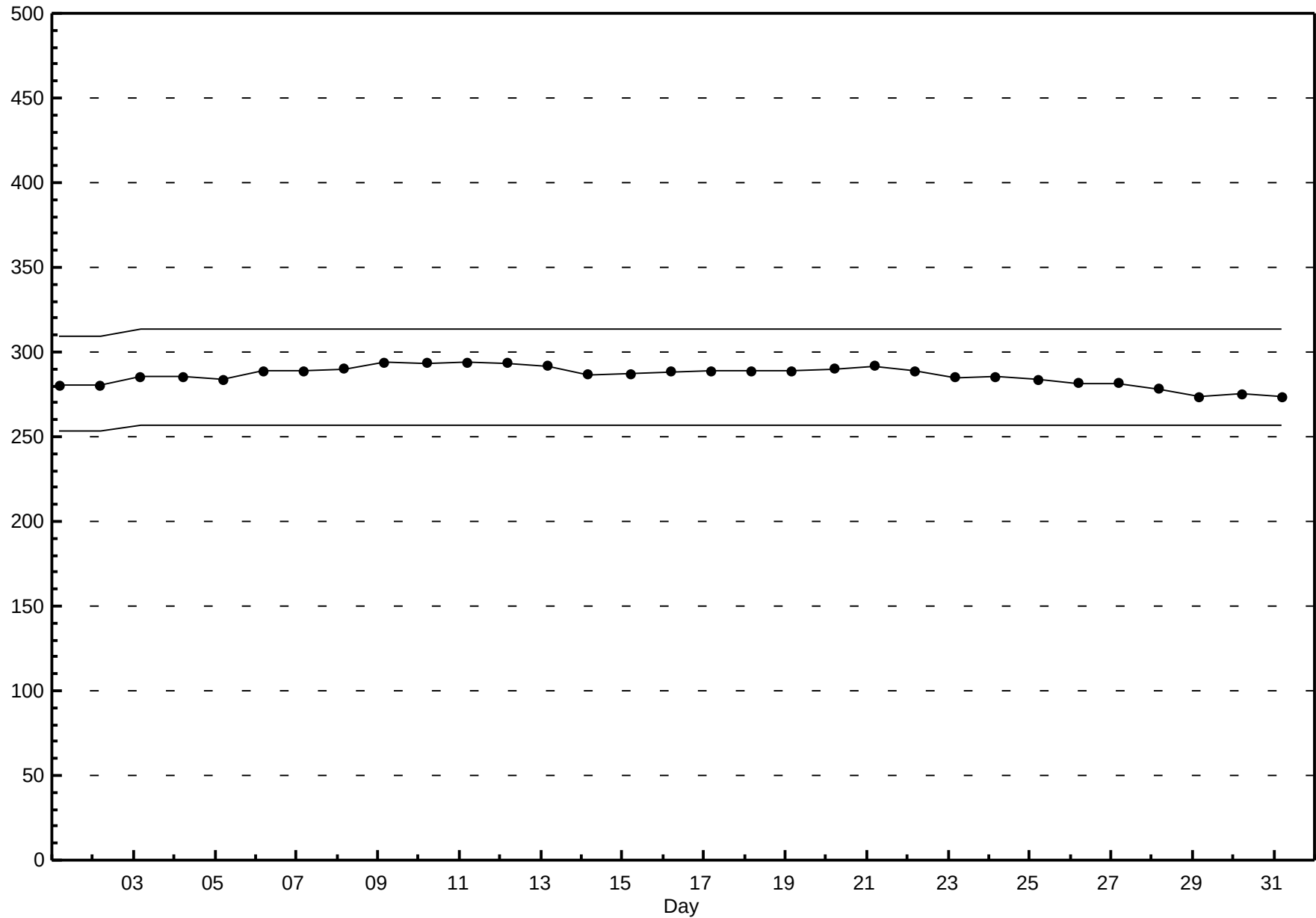
Ozone (O₃) - ppb

Beaverlodge - December 2014

Maximum Value: 44.2 ppb on Dec 10 03:00																				Hours in Service: 744						
Minimum Value: 1.3 ppb on Dec 9 02:00																				Hours of Data: 738						
Percentiles: P ₁ = 1.7 P ₁₀ = 5.1 Q ₁ = 8.9 Median = 21.4 Q ₃ = 31.0 P ₉₀ = 36.4 P ₉₉ = 41.9																				Hours of Missing Data: 6						
																				Hours of Calibration: 6						
																				Percent Operational Time: 100.0						
Day	Hourly Period Ending At (MST)																							Daily Maximum		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23		24	
1-Dec	36	37	39	40	41	40	39	36	33	33	31	29	29	27	28	27	26	24	22	21	22	23	24	26	40.6	
2-Dec	29	31	33	35	36	35	35	34	34	34	33	32	32	32	N	N	N	N	N	N	20	20	21	22	35.6	
3-Dec	24	26	28	31	32	35	36	36	36	36	36	37	37	37	37	37	37	37	37	37	37	37	37	37	37.4	
4-Dec	37	37	37	37	37	36	35	33	33	32	32	32	32	30	29	28	28	27	28	28	28	28	28	29	37.3	
5-Dec	29	29	28	27	27	27	28	26	24	22	21	21	21	22	20	19	18	16	16	14	11	8	8	7	28.7	
6-Dec	8	8	6	6	6	6	5	5	4	4	4	6	7	8	10	12	13	14	14	14	13	13	12	12	14.2	
7-Dec	11	10	10	10	10	9	9	9	9	9	10	11	12	12	12	12	11	12	11	10	8	7	5	5	12.3	
8-Dec	4	3	2	2	2	2	2	2	2	2	3	4	4	6	6	7	7	7	6	5	4	3	2	1	7.0	
9-Dec	1	1	1	1	2	2	2	3	3	4	5	7	9	11	13	14	15	16	16	19	23	26	29	32	32.2	
10-Dec	36	40	44	44	43	43	43	42	42	41	40	38	38	37	36	34	33	32	31	30	28	28	27	24	44.2	
11-Dec	23	22	21	21	21	19	18	18	18	17	16	17	17	17	16	16	15	14	12	11	10	8	8	9	22.7	
12-Dec	11	12	15	17	18	19	21	20	18	16	15	14	14	13	13	12	11	10	9	7	6	4	3	2	20.5	
13-Dec	2	2	3	5	5	8	11	15	18	21	24	26	26	28	29	31	32	32	33	34	35	35	35	35	35.0	
14-Dec	35	36	36	35	35	35	35	33	32	32	31	30	30	28	26	25	23	21	20	19	17	15	14	13	35.6	
15-Dec	13	12	10	8	8	8	7	7	6	5	7	8	9	10	11	11	11	10	8	7	5	4	3	3	13.4	
16-Dec	3	3	3	4	4	4	4	5	5	5	5	5	6	7	7	7	7	7	6	6	5	4	3	3	7.3	
17-Dec	4	4	5	6	5	7	7	7	7	7	8	8	8	8	9	10	10	11	10	10	9	7	7	7	10.5	
18-Dec	6	5	5	5	5	6	7	6	8	11	11	11	11	12	12	15	14	12	13	13	12	12	11	10	14.8	
19-Dec	9	10	10	11	12	12	12	11	10	9	8	7	7	7	8	8	9	8	8	8	8	8	6	6	6	12.4
20-Dec	5	5	5	5	4	3	2	2	2	2	2	4	5	6	7	8	8	8	8	7	6	7	6	6	8.4	
21-Dec	6	6	7	7	7	7	8	10	12	13	14	15	15	16	17	17	17	18	19	21	22	23	24	26	26.3	
22-Dec	28	30	32	33	34	35	34	34	33	33	32	32	32	32	33	33	33	34	34	34	34	34	34	34	34	34.5
23-Dec	35	35	35	35	35	35	35	34	34	33	32	31	31	30	28	26	22	21	20	20	19	19	20	23	34.9	
24-Dec	26	29	31	33	34	34	34	33	30	29	27	25	24	23	22	21	21	21	21	21	21	22	22	22	34.0	
25-Dec	23	22	22	22	22	22	22	21	21	20	19	19	18	18	18	18	17	18	18	18	19	20	21	23	22.7	
26-Dec	24	26	27	28	28	29	29	28	27	25	24	23	23	22	22	21	22	23	24	26	27	28	30	31	31.3	
27-Dec	33	34	34	34	34	34	33	33	32	31	31	31	31	30	29	27	27	26	25	24	23	23	23	23	34.4	
28-Dec	23	22	22	23	23	22	22	22	23	22	22	23	23	23	24	25	26	27	28	28	29	29	29	29	29.2	
29-Dec	28	28	27	27	27	26	26	25	25	24	24	24	23	22	22	21	22	20	20	20	20	20	20	20	28.4	
30-Dec	21	23	24	25	25	27	29	31	33	34	35	36	36	37	38	38	38	38	39	38	39	38	38	39	38.7	
31-Dec	39	39	39	40	40	40	40	40	39	39	38	38	38	38	37	37	37	37	37	37	37	37	37	37	40.2	
38.9 40.2 44.2 44.0 43.3 42.7 42.6 42.4 42.1 41.0 39.7 38.2 37.8 37.6 37.6 37.9 38.0 38.0 38.5 38.5 38.5 38.5 38.5 38.7																								Diurnal Maximums		
N - Not Valid																										

Span Responses

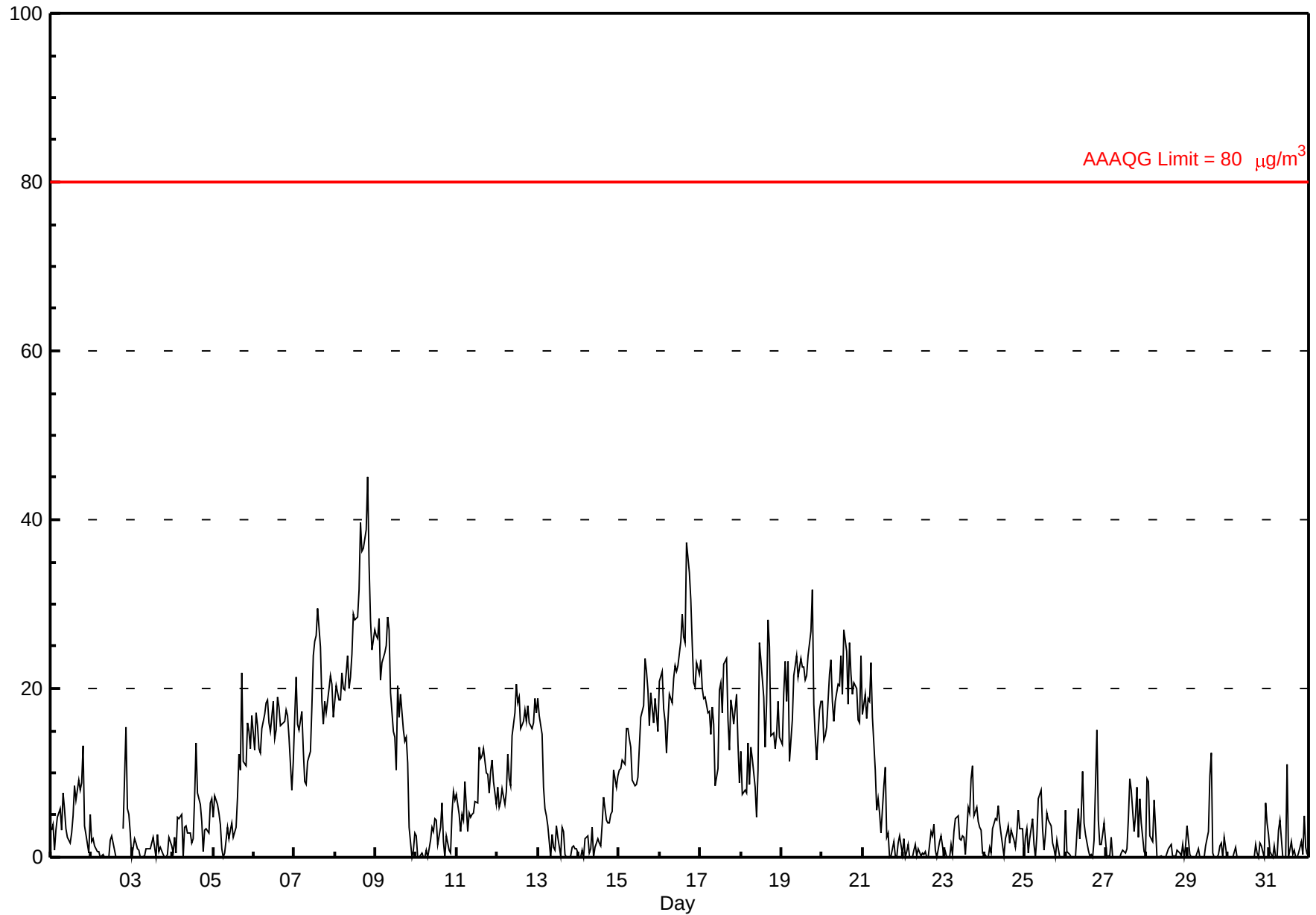
Ozone (O₃)
Beaverlodge - December 2014



Number of Exceedences: 1-hr: 0 24-hr: 0 Maximum Value: 45.1 µg/m³ on Dec 8 20:00 Maximum Daily Average: 27.3 µg/m³ on Dec 8																				Hours in Service: 744 Hours of Data: 739 Hours of Missing Data: 5 Hours of Calibration: 0 Percent Operational Time: 99.3						
Minimum Value: 0 µg/m³ on Dec 2 06:00 Maximum Diurnal Average: 11.0 µg/m³ at hour 16 Monthly Average: 8.63 µg/m³ Minimum Daily Average: 0.8 µg/m³ on Dec 30 Minimum Diurnal Average: 7.1 µg/m³ at hour 7 Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 1.0 Median = 4.9 Q ₃ = 15.8 P ₉₀ = 21.5 P ₉₉ = 33.5																										
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
1-Dec	3	4	1	3	5	6	3	8	6	3	2	2	3	5	8	7	9	8	9	13	4	3	1	5	5.0	13.2
2-Dec	2	2	1	1	1	0	0	0	0	0	0	2	3	2	0	M	0	0	N	3	15	6	5	3	2.1	15.4
3-Dec	0	2	2	1	1	0	0	0	1	1	1	1	2	1	0	3	1	1	0	0	0	0	2	1	0.9	2.7
4-Dec	0	2	0	5	5	5	0	4	4	3	3	2	2	7	14	8	6	4	1	3	3	3	6	7	4.0	13.6
5-Dec	5	7	6	5	4	1	0	1	4	2	3	4	2	4	7	12	10	22	11	11	16	15	13	17	7.6	21.8
6-Dec	13	17	16	13	12	15	17	18	19	16	15	18	14	15	19	18	16	16	16	17	17	14	8	11	15.4	19.0
7-Dec	17	21	16	15	17	13	9	9	11	13	18	24	26	26	30	25	18	16	18	17	20	22	20	17	18.2	29.5
8-Dec	19	20	19	19	22	20	20	24	20	21	24	29	28	32	40	36	37	39	45	35	28	25	27	27.3	45.1	
9-Dec	26	26	28	21	23	24	25	28	27	19	15	14	10	20	17	19	15	14	14	11	4	0	1	3	16.9	28.5
10-Dec	2	0	0	1	0	0	1	0	2	4	3	5	4	2	4	6	2	0	3	1	0	5	8	7	2.5	7.9
11-Dec	7	5	3	5	4	9	3	5	5	5	5	7	6	13	12	12	13	10	10	8	10	12	9	6	7.7	13.0
12-Dec	8	6	7	8	6	8	12	9	8	14	17	20	18	19	15	16	17	16	18	16	15	16	19	17	13.7	20.5
13-Dec	19	17	15	8	6	5	4	0	3	1	1	4	2	0	4	3	0	0	0	0	1	1	1	1	4.0	18.9
14-Dec	0	0	1	0	2	3	1	1	3	0	1	2	2	1	4	7	4	4	4	5	5	10	8	10	3.3	10.4
15-Dec	10	11	11	11	15	15	14	13	9	8	9	10	13	17	18	24	22	20	16	19	16	19	17	15	14.6	23.6
16-Dec	21	22	18	16	12	16	19	18	21	23	22	23	26	29	26	26	37	34	31	25	21	20	23	22	22.9	37.4
17-Dec	23	20	19	19	17	17	15	18	16	8	11	20	21	17	23	23	16	13	19	17	16	19	13	9	17.0	23.5
18-Dec	13	8	8	8	14	9	13	12	8	5	10	25	23	19	13	18	28	25	14	15	13	15	18	14	14.5	28.2
19-Dec	13	19	23	18	23	11	16	21	23	24	21	24	23	23	21	22	24	27	32	18	14	12	18	18	20.3	31.7
20-Dec	18	14	14	15	22	23	18	16	18	20	20	24	19	27	24	18	25	22	19	21	20	16	16	24	19.9	27.0
21-Dec	17	19	16	19	18	23	17	10	6	7	5	3	9	11	2	3	0	0	2	0	0	2	2	0	8.0	23.0
22-Dec	2	0	1	2	0	0	1	2	0	1	0	0	0	1	0	0	3	3	4	1	0	2	3	1	1.1	4.0
23-Dec	0	1	0	0	2	0	3	5	5	2	2	2	2	0	6	5	9	11	5	6	4	4	3	0	3.3	10.8
24-Dec	1	0	0	1	0	3	5	4	6	4	3	0	2	3	4	2	3	2	1	3	6	3	3	0	2.5	6.2
25-Dec	2	3	0	2	5	2	0	2	7	8	3	1	3	5	4	4	2	1	0	2	0	0	0	0	2.4	7.9
26-Dec	6	1	0	0	0	0	0	6	2	5	10	4	3	1	0	0	0	2	15	4	2	2	3	4	2.9	15.0
27-Dec	0	0	0	2	0	0	0	0	0	0	1	1	1	5	9	8	3	5	8	2	7	4	1	0	2.4	9.3
28-Dec	9	9	3	2	7	4	0	0	0	0	0	0	1	1	2	0	0	0	1	0	0	1	0	1	1.7	9.2
29-Dec	4	0	0	0	N	0	1	0	0	0	0	1	3	10	12	1	0	0	0	1	2	0	2	0	1.6	12.4
30-Dec	0	0	0	0	1	0	0	N	0	0	0	0	N	0	0	0	1	0	0	2	1	0	6	4	0.8	6.4
31-Dec	3	1	0	1	0	0	3	4	0	0	0	11	0	2	0	1	0	0	1	2	0	5	1	0	1.5	10.9
																								Diurnal Average		
																								Diurnal Maximum		
M - Maintenance N - Not Valid																										
Alberta Ambient Air Quality Guideline (AAAQG): 1-hr 80 µg/m³																								Alberta Ambient Air Quality Objective (AAAQO): 24-hr 30 µg/m³		

Hourly Averages

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Beaverlodge - December 2014



Hourly Maximums

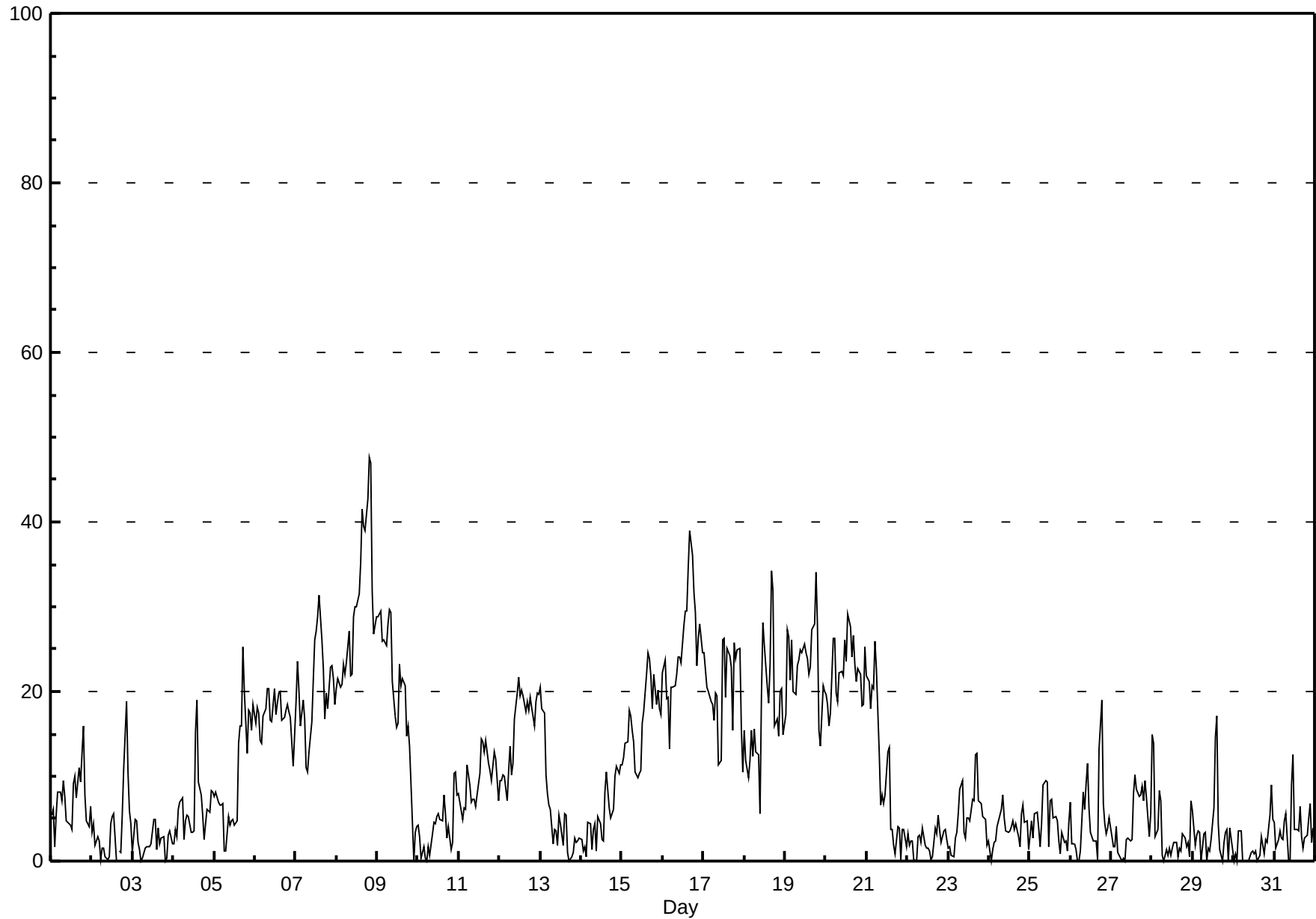
Particulate Matter 2.5 (PM_{2.5}) - µg/m³

Beaverlodge - December 2014

Maximum Value: 47.6 μg/m³ on Dec 8 20:00																								Maximum Daily Average: 30.1 μg/m³ on Dec 8						Hours in Service: 744	
Minimum Value: 0 μg/m³ on Dec 2 15:00																								Minimum Daily Average: 1.8 μg/m³ on Dec 30						Hours of Data: 743	
Maximum Diurnal Average: 13.2 μg/m³ at hour 16																								Minimum Diurnal Average: 8.6 μg/m³ at hour 10						Hours of Missing Data: 1	
Monthly Average: 10.72 μg/m³																								Percentiles: P ₁ = 0.0 P ₁₀ = 1.2 Q ₁ = 3.0 Median = 7.1 Q ₃ = 18.2 P ₉₀ = 24.0 P ₉₉ = 38.9						Hours of Calibration: 0	
																								Percent Operational Time: 99.9							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum					
1-Dec	5	6	2	5	8	8	7	10	8	5	5	4	4	9	10	8	11	9	13	16	8	5	4	6	7.3	15.9					
2-Dec	3	4	2	3	2	0	2	1	0	0	0	4	5	6	0	M	1	1	5	11	19	10	6	4	4.0	18.8					
3-Dec	1	5	5	2	1	0	0	1	2	2	2	2	5	5	1	4	2	3	3	0	0	3	4	2	2.3	5.0					
4-Dec	2	4	3	6	7	8	3	5	5	5	3	3	4	15	19	9	8	5	3	4	6	6	8	8	6.2	19.0					
5-Dec	8	8	7	7	7	7	1	1	5	4	5	5	4	5	14	16	16	25	20	13	18	18	15	19	10.3	25.2					
6-Dec	16	18	17	14	14	17	18	20	20	17	16	20	17	19	20	20	17	17	18	19	18	17	11	15	17.3	20.3					
7-Dec	19	24	20	16	19	17	11	11	13	16	21	26	27	29	31	26	23	17	20	18	23	23	21	18	20.4	31.4					
8-Dec	20	21	20	21	23	22	23	27	22	22	29	30	30	31	35	42	40	39	43	48	47	32	27	29	30.1	47.6					
9-Dec	29	29	30	26	26	25	28	30	29	21	17	16	16	23	21	21	21	15	16	14	9	0	3	4	19.5	29.7					
10-Dec	4	3	0	2	0	0	2	1	3	5	4	5	6	5	5	8	6	3	4	1	2	10	11	8	4.1	10.5					
11-Dec	8	6	5	6	6	11	9	7	7	7	6	8	10	14	14	13	14	12	11	9	11	13	12	7	9.5	14.4					
12-Dec	10	9	10	10	7	11	14	10	11	17	20	22	20	20	20	18	19	18	19	18	16	19	20	20	15.6	21.7					
13-Dec	20	18	18	10	8	7	6	2	4	3	2	5	4	2	6	5	1	0	1	1	3	2	2	3	5.6	20.4					
14-Dec	2	1	2	1	5	4	1	4	4	1	5	4	3	2	8	11	6	5	6	6	10	11	10	11	5.2	11.4					
15-Dec	11	12	14	14	18	17	15	14	10	10	10	11	16	18	22	25	24	22	18	22	18	20	18	17	16.6	24.5					
16-Dec	22	24	19	19	13	20	20	21	22	24	24	23	28	30	29	35	39	36	32	29	23	26	28	25	25.5	39.0					
17-Dec	25	23	20	20	19	18	17	20	19	11	12	26	26	19	25	24	23	15	26	24	25	25	16	11	20.4	26.3					
18-Dec	15	12	10	12	15	12	16	13	13	6	20	28	25	21	19	23	34	32	16	17	15	20	20	15	17.8	34.3					
19-Dec	17	27	26	21	26	20	20	23	24	25	25	26	25	24	22	23	27	28	34	28	15	13	21	20	23.3	34.0					
20-Dec	20	18	16	18	26	26	20	19	22	22	22	26	24	29	28	24	27	23	21	23	22	18	18	25	22.4	29.2					
21-Dec	22	21	18	21	20	26	23	13	7	8	7	8	13	13	4	4	2	1	4	4	0	4	4	2	10.3	26.0					
22-Dec	3	2	2	2	0	0	3	3	2	4	2	1	1	1	0	1	4	3	5	4	2	4	4	3	2.4	5.3					
23-Dec	1	2	1	1	3	3	6	9	9	3	3	5	5	5	7	7	13	13	7	7	5	5	5	2	5.2	12.8					
24-Dec	2	0	1	2	2	4	5	6	8	5	4	3	4	4	5	4	4	3	2	6	7	5	5	1	3.8	7.8					
25-Dec	3	5	3	6	6	4	2	4	9	9	9	2	7	7	5	5	5	2	1	3	2	2	1	5	4.5	9.4					
26-Dec	7	2	2	1	0	0	1	8	6	9	12	6	3	2	2	2	0	13	19	7	4	3	4	5	5.0	19.0					
27-Dec	3	2	2	4	1	0	0	0	0	3	3	2	2	8	10	9	8	8	9	7	10	8	3	6	4.4	10.1					
28-Dec	15	14	3	4	8	7	1	0	1	1	1	1	1	2	2	1	1	1	3	3	2	2	1	7	3.4	14.9					
29-Dec	6	2	3	4	3	0	3	3	0	1	1	3	6	15	17	4	1	0	2	3	4	0	4	1	3.7	17.1					
30-Dec	0	1	0	4	4	0	0	0	0	0	1	1	1	1	0	1	3	2	1	2	2	5	9	5	1.8	8.9					
31-Dec	5	1	3	4	3	3	5	6	0	0	9	13	4	4	4	6	3	1	3	3	5	7	2	4	4.0	12.6					
10.5 10.5 9.1 9.2 9.7 9.6 9.1 9.4 9.3 8.6 9.7 11.0 11.2 12.5 13.1 13.2 12.9 12.0 12.3 11.9 11.3 10.9 10.2 9.9																									Diurnal Average						
28.7 29.1 29.5 25.9 26.2 26.3 28.0 29.7 29.3 24.9 28.9 30.0 30.0 31.5 35.2 41.6 39.5 39.0 42.7 47.6 47.0 31.8 28.0 28.8																									Diurnal Maximum						
M - Maintenance																															

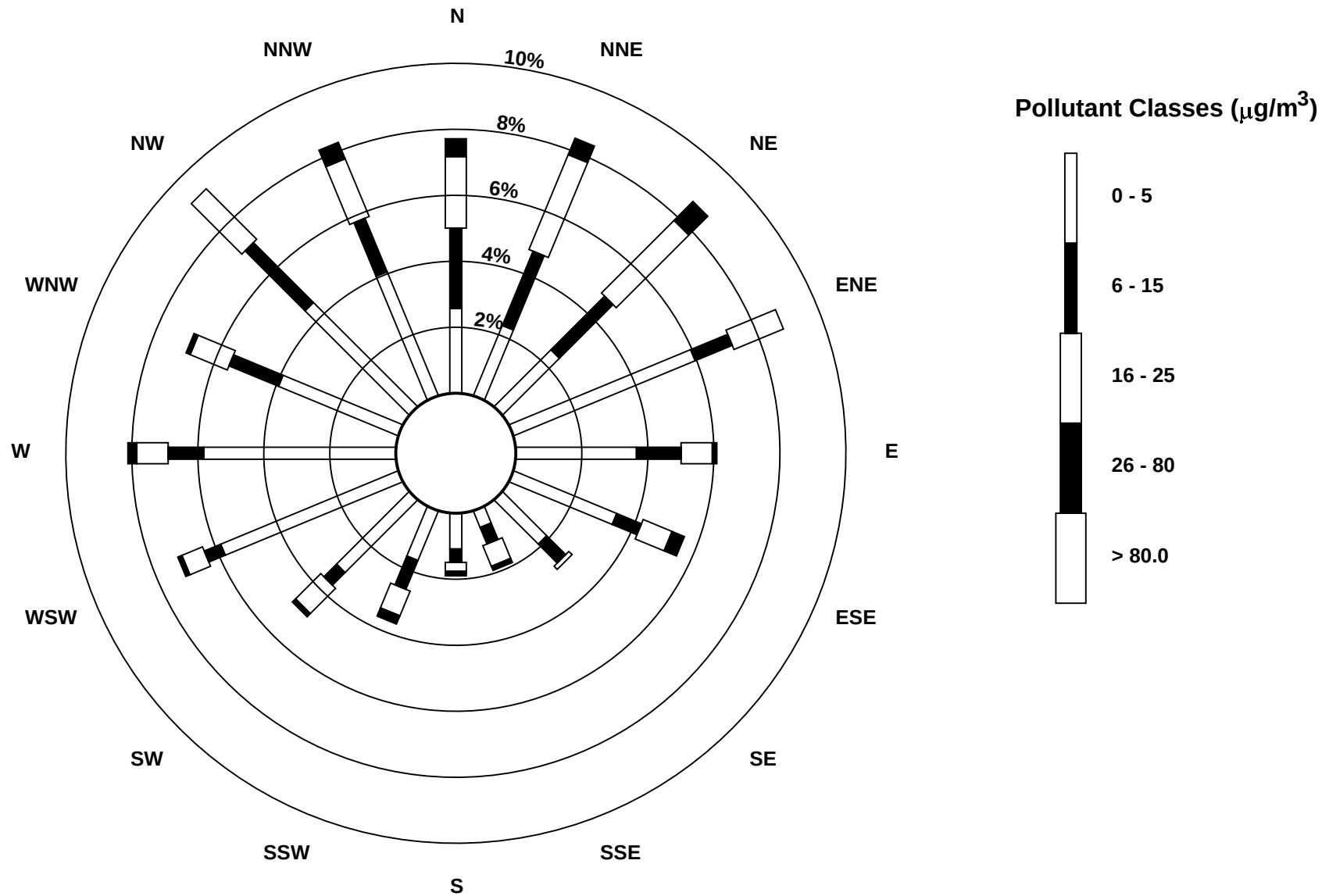
Hourly Maximums

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Beaverlodge - December 2014



Pollutant Rose

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Beaverlodge - December 2014



Hourly Averages

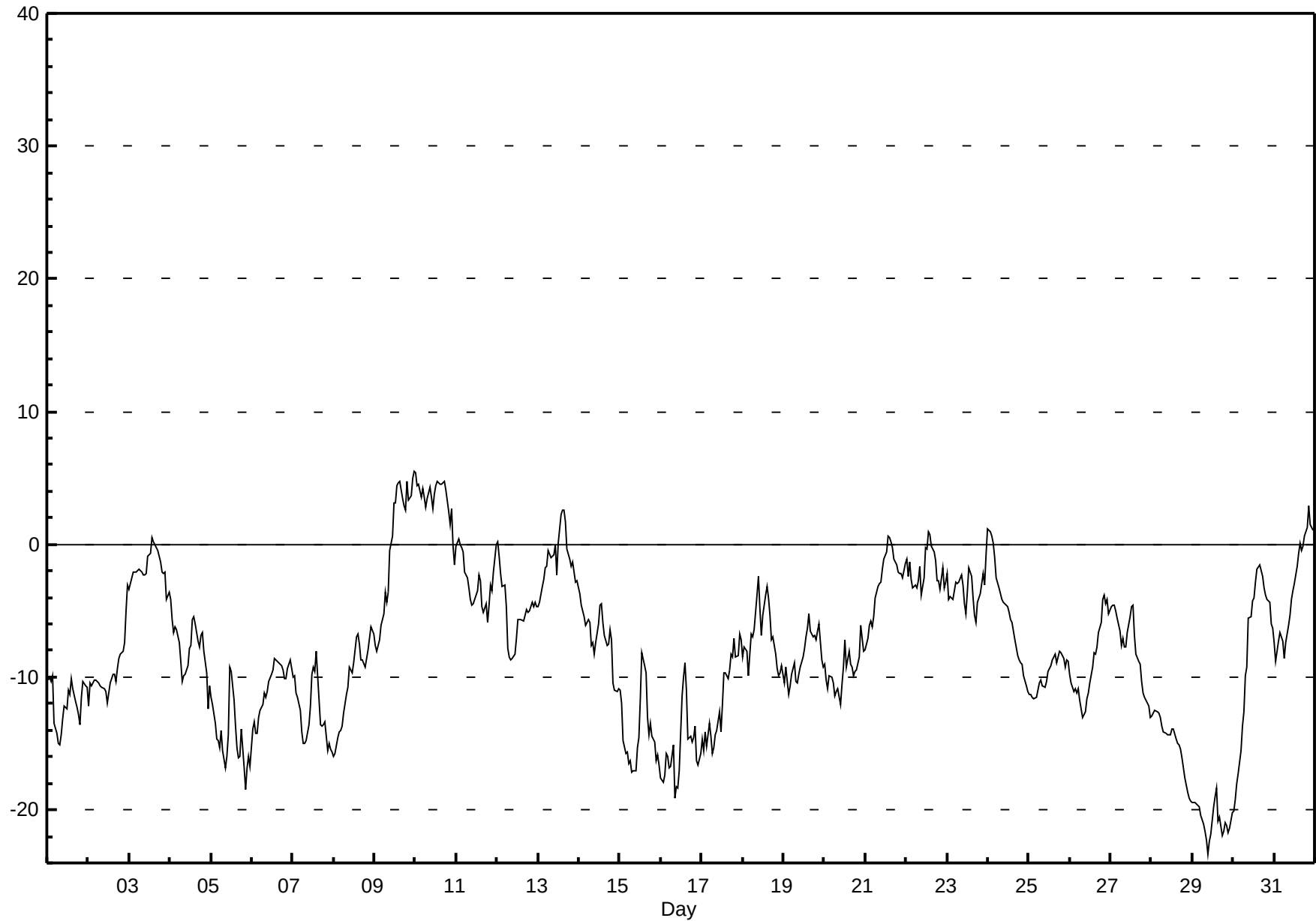
External Temperature (ET) - °C

Beaverlodge - December 2014

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 5.5 °C on Dec 10 00:00 Maximum Daily Average: 3.4 °C on Dec 10																								Hours in Service: 744 Hours of Data: 744 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0		
Minimum Value: -23 °C on Dec 29 10:00 Maximum Diurnal Average: -5.7 °C at hour 15 Monthly Average: -7.89 °C												Minimum Daily Average: -20.8 °C on Dec 29 Minimum Diurnal Average: -9.2 °C at hour 8 Percentiles: P ₁ = -21.6 P ₁₀ = -15.5 Q ₁ = -11.5 Median = -8.2 Q ₃ = -3.6 P ₉₀ = -0.3 P ₉₉ = 4.6														
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-Dec	-10	-10	-10	-10	-13	-14	-15	-15	-14	-13	-12	-12	-11	-11	-10	-11	-12	-12	-13	-14	-12	-10	-11	-11	-12.0	-9.9
2-Dec	-12	-10	-11	-10	-10	-10	-10	-11	-11	-11	-12	-12	-11	-10	-10	-10	-10	-9	-9	-8	-8	-7	-5	-3	-9.6	-3.1
3-Dec	-3	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-1	-1	1	0	0	0	-1	-1	-2	-2	-2	-4	-4	-1.8	0.5
4-Dec	-4	-6	-7	-6	-6	-7	-9	-10	-10	-10	-9	-8	-8	-6	-5	-6	-7	-8	-7	-7	-8	-10	-12	-11	-7.8	-4.2
5-Dec	-12	-12	-13	-15	-15	-15	-14	-16	-17	-16	-14	-9	-10	-12	-14	-15	-16	-16	-14	-17	-19	-17	-16	-17	-14.6	-9.3
6-Dec	-14	-13	-14	-14	-13	-13	-12	-11	-11	-11	-10	-10	-9	-9	-9	-9	-9	-9	-10	-10	-10	-9	-9	-9	-10.8	-8.6
7-Dec	-10	-10	-11	-12	-13	-14	-15	-15	-15	-14	-12	-10	-9	-10	-8	-12	-14	-14	-14	-13	-15	-15	-15	-16	-12.7	-8.1
8-Dec	-16	-16	-15	-14	-14	-14	-13	-11	-11	-9	-10	-10	-9	-7	-7	-7	-9	-9	-9	-9	-8	-7	-6	-7	-10.2	-6.3
9-Dec	-8	-8	-8	-7	-6	-5	-4	-4	-4	0	1	3	3	4	5	5	3	3	3	5	3	4	5	6	-0.1	5.5
10-Dec	5	4	5	4	4	4	3	3	4	4	3	4	4	5	5	4	5	5	4	2	1	3	0	-2	3.4	5.4
11-Dec	0	0	0	0	-1	-2	-3	-3	-4	-5	-4	-4	-4	-2	-3	-5	-5	-5	-6	-5	-3	-3	-2	0	-2.8	0.4
12-Dec	0	-1	-2	-3	-3	-5	-8	-9	-9	-9	-8	-7	-6	-6	-6	-6	-5	-5	-5	-5	-4	-5	-4	-5	-5.2	0.2
13-Dec	-5	-4	-3	-3	-2	-2	-1	-1	-1	-1	0	-2	0	2	3	3	2	0	-1	-2	-1	-2	-3	-3	-1.1	2.6
14-Dec	-4	-5	-5	-5	-6	-6	-6	-8	-7	-8	-7	-6	-5	-5	-6	-7	-8	-7	-6	-7	-10	-11	-11	-11	-7.0	-3.7
15-Dec	-11	-12	-15	-16	-16	-17	-16	-17	-17	-17	-15	-15	-12	-8	-9	-10	-13	-14	-13	-14	-15	-16	-16	-17	-14.2	-8.2
16-Dec	-18	-18	-17	-16	-16	-17	-17	-15	-19	-18	-18	-17	-11	-10	-9	-11	-15	-14	-15	-15	-14	-16	-17	-16	-15.4	-8.9
17-Dec	-15	-16	-14	-15	-13	-14	-16	-15	-14	-14	-13	-14	-12	-10	-10	-10	-9	-8	-9	-7	-9	-8	-7	-7	-11.6	-6.8
18-Dec	-9	-8	-8	-10	-8	-7	-7	-6	-4	-2	-5	-7	-5	-4	-3	-4	-5	-7	-7	-8	-9	-10	-10	-9	-6.8	-2.4
19-Dec	-10	-9	-10	-11	-11	-10	-9	-10	-10	-10	-9	-9	-8	-7	-6	-5	-7	-7	-7	-7	-6	-6	-9	-9	-8.5	-5.2
20-Dec	-9	-10	-11	-10	-10	-10	-11	-11	-11	-12	-11	-9	-7	-9	-8	-9	-9	-10	-10	-9	-8	-6	-7	-8	-9.5	-6.1
21-Dec	-8	-7	-6	-6	-6	-5	-4	-3	-3	-3	-2	-1	-1	1	1	0	0	-1	-2	-2	-2	-2	-3	-1	-2.8	0.6
22-Dec	-1	-2	-1	-3	-3	-3	-3	-3	-2	-4	-2	0	0	1	1	0	-1	-1	-3	-3	-3	-2	-3	-3	-1.9	0.9
23-Dec	-2	-4	-4	-4	-3	-3	-3	-3	-2	-3	-4	-5	-4	-2	-2	-4	-5	-6	-4	-4	-3	-2	-3	-1	-3.4	-0.8
24-Dec	1	1	1	0	-1	-3	-3	-4	-4	-4	-4	-5	-5	-6	-6	-6	-7	-8	-9	-9	-9	-10	-11	-11	-5.1	1.1
25-Dec	-11	-11	-11	-12	-11	-11	-10	-10	-11	-11	-10	-10	-9	-9	-9	-8	-9	-9	-8	-8	-9	-9	-9	-9	-9.8	-8.1
26-Dec	-10	-10	-11	-11	-11	-11	-12	-13	-13	-13	-12	-11	-10	-9	-8	-8	-8	-7	-6	-4	-4	-4	-4	-5	-9.0	-3.8
27-Dec	-5	-5	-5	-5	-6	-6	-8	-7	-8	-8	-7	-5	-5	-5	-7	-8	-9	-9	-10	-11	-12	-12	-12	-13	-7.7	-4.6
28-Dec	-13	-13	-13	-13	-13	-13	-14	-14	-14	-14	-14	-14	-14	-14	-15	-15	-15	-15	-16	-18	-18	-19	-19	-19	-14.9	-12.5
29-Dec	-19	-19	-20	-20	-20	-20	-21	-22	-22	-23	-22	-22	-20	-19	-18	-21	-21	-22	-22	-21	-21	-22	-21	-20	-20.8	-18.4
30-Dec	-20	-19	-18	-17	-16	-14	-13	-10	-9	-6	-5	-4	-4	-3	-2	-2	-2	-2	-3	-4	-4	-4	-6	-6	-8.1	-1.5
31-Dec	-7	-9	-7	-7	-7	-7	-9	-7	-6	-5	-4	-3	-3	-2	-1	0	0	0	1	1	3	2	1	1	-3.2	2.9
																									Diurnal Average	
																									Diurnal Maximum	

Hourly Averages

External Temperature (ET) - °C
Beaverlodge - December 2014



Hourly Averages

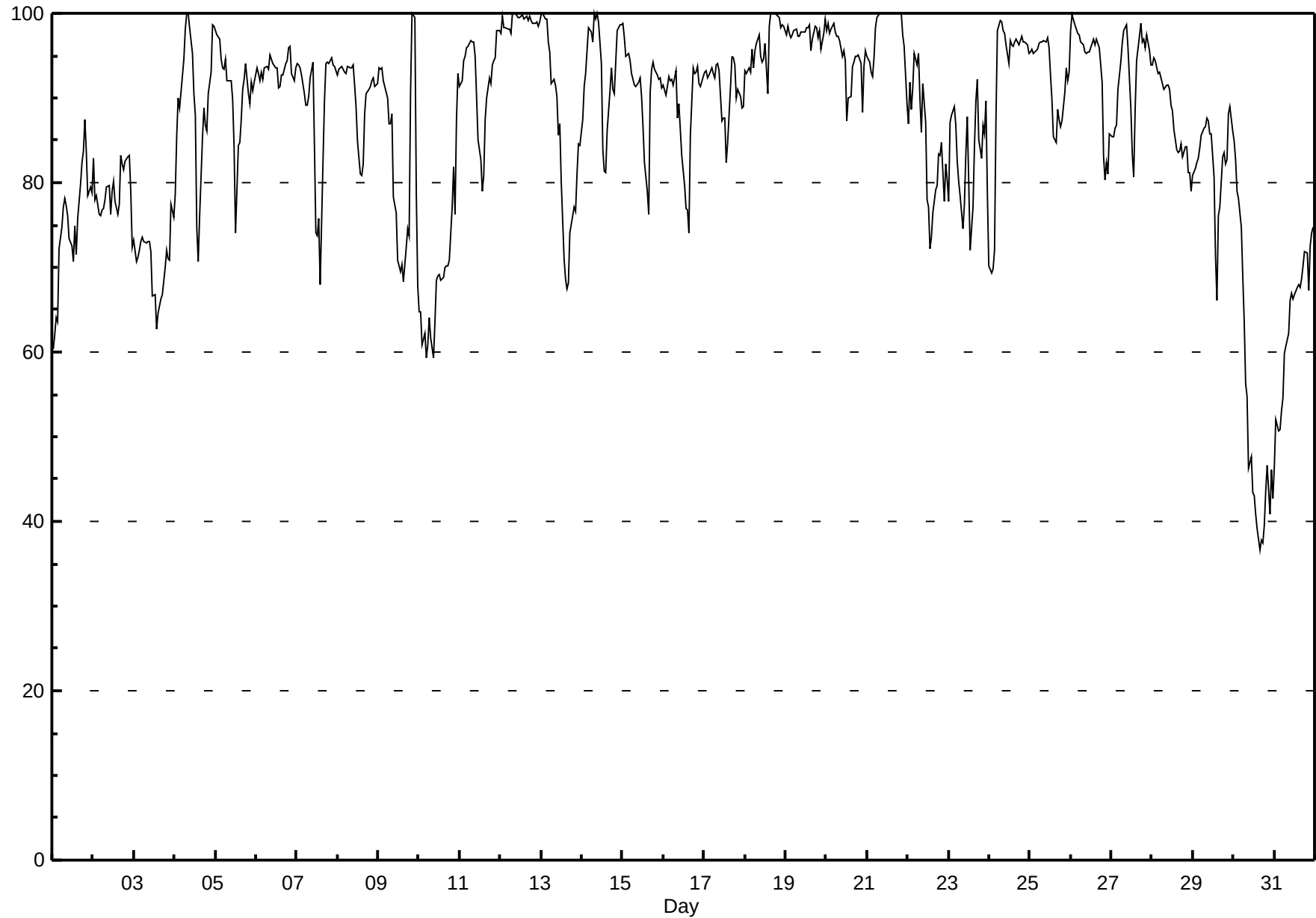
Relative Humidity (RH) - %

Beaverlodge - December 2014

Number of Exceedences (AAQO): 1-hr: 0 24-hr: 0 Maximum Value: 100.0 % on Dec 4 08:00 Maximum Daily Average: 99.1 % on Dec 12																								Hours in Service: 744 Hours of Data: 744 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0		
Minimum Value: 37 % on Dec 30 16:00 Maximum Diurnal Average: 89.1 % at hour 7 Monthly Average: 86.52 %												Minimum Daily Average: 53.1 % on Dec 30 Minimum Diurnal Average: 80.0 % at hour 15 Percentiles: P ₁ = 42.7 P ₁₀ = 70.1 Q ₁ = 79.8 Median = 91.0 Q ₃ = 95.4 P ₉₀ = 98.3 P ₉₉ = 100.0														
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Dec	60	62	64	64	72	75	77	78	77	76	73	73	71	75	72	76	80	82	84	87	84	78	79	79	74.9	87.5
2-Dec	83	78	78	76	76	77	77	78	79	80	76	79	80	78	76	77	83	82	81	82	83	83	79	72	79.0	83.2
3-Dec	73	71	71	72	73	73	73	73	73	73	72	67	67	63	65	65	66	67	70	72	71	71	77	76	70.6	77.4
4-Dec	79	85	90	89	91	95	98	100	100	98	95	90	88	75	71	76	85	89	87	86	91	93	99	98	89.5	100.0
5-Dec	98	97	97	95	94	93	95	92	92	92	90	84	74	84	85	88	91	92	94	91	89	92	91	92	90.9	98.0
6-Dec	94	93	92	93	92	94	94	93	95	95	94	94	94	91	91	93	93	94	94	96	96	93	92	94	93.4	96.1
7-Dec	94	94	94	93	90	89	89	90	92	94	84	74	74	76	68	83	90	94	94	94	95	94	94	93	88.6	94.7
8-Dec	93	93	94	93	93	93	94	93	93	94	92	89	85	81	81	82	88	91	91	91	92	92	91	92	90.5	93.9
9-Dec	93	93	94	92	91	90	87	87	88	78	77	71	70	69	70	68	72	75	74	91	100	99	79	68	82.4	100.0
10-Dec	65	65	61	62	59	61	64	62	59	63	68	69	69	69	69	70	70	70	71	77	82	76	88	93	69.2	92.8
11-Dec	91	92	94	95	96	96	97	97	97	95	90	85	83	79	81	87	90	92	92	94	94	95	98	98	92.0	98.0
12-Dec	98	100	98	98	98	98	98	100	100	100	100	100	100	100	99	100	99	100	99	99	99	99	98	99	99.1	100.0
13-Dec	100	100	99	99	97	96	92	92	92	90	86	87	80	71	69	67	68	74	76	77	77	81	85	84	84.9	100.0
14-Dec	87	91	93	96	98	98	97	100	99	100	99	94	84	81	81	86	91	94	91	91	94	98	99	99	93.4	100.0
15-Dec	99	97	95	95	94	93	92	91	91	92	92	90	87	82	79	76	91	93	94	93	93	92	92	91	91.1	98.7
16-Dec	91	90	91	92	92	92	92	93	88	89	86	83	80	77	77	74	86	94	93	93	94	92	91	93	88.5	93.7
17-Dec	93	93	92	93	94	93	92	94	94	93	87	88	88	82	85	91	95	95	94	90	91	90	89	89	91.1	95.0
18-Dec	93	93	94	93	96	94	96	96	97	95	94	95	96	91	98	100	100	100	100	100	99	98	99	99	96.5	100.0
19-Dec	97	99	98	97	97	98	98	97	97	98	98	98	98	98	99	96	97	98	98	97	98	96	98	99	97.7	99.3
20-Dec	98	99	98	98	99	98	97	97	97	95	96	94	87	90	90	94	94	95	95	95	94	88	94	96	94.9	98.9
21-Dec	95	94	93	92	95	98	100	100	100	100	100	100	100	100	100	100	100	100	100	100	97	96	89	97.9	100.0	
22-Dec	87	92	89	91	95	94	95	90	86	92	87	78	77	72	74	76	79	80	83	83	85	78	82	80	84.4	95.3
23-Dec	78	87	88	89	87	82	80	78	75	77	83	88	80	72	77	84	90	92	85	83	87	86	90	79	83.2	92.2
24-Dec	70	69	70	72	88	98	99	99	98	98	96	94	97	96	96	97	97	96	97	97	97	97	96	95	92.0	99.2
25-Dec	95	96	95	95	96	96	97	97	97	97	97	96	93	90	85	85	89	87	87	87	91	94	92	93	92.7	97.1
26-Dec	98	100	99	98	98	98	97	96	95	95	95	95	96	97	96	97	96	96	92	83	80	82	81	86	93.6	99.9
27-Dec	85	85	86	87	91	94	97	98	98	99	96	89	83	81	89	94	97	99	97	97	96	97	96	94	92.7	98.9
28-Dec	94	95	94	93	93	92	92	91	91	91	91	89	88	86	84	84	84	84	83	84	84	81	81	79	87.9	94.7
29-Dec	81	82	82	83	84	86	86	87	88	87	86	86	81	71	66	76	77	83	84	82	83	88	89	86	82.6	89.1
30-Dec	85	83	79	78	75	69	64	56	55	46	48	43	43	41	39	37	38	38	40	44	47	41	46	43	53.1	85.0
31-Dec	46	52	51	51	53	55	60	61	62	66	67	66	67	68	68	68	69	70	72	72	67	72	74	75	63.8	74.7
86.9 87.8 87.5 87.6 88.6 88.9 89.1 89.0 88.6 88.4 87.0 84.8 82.5 80.2 80.0 82.2 85.3 87.0 86.8 87.4 88.1 87.6 88.2 87.2																								Diurnal Average		
99.9 100.0 99.2 99.3 98.9 98.3 99.5 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 99.4 98.7 99.3																								Diurnal Maximum		

Hourly Averages

Relative Humidity (RH) - %
Beaverlodge - December 2014



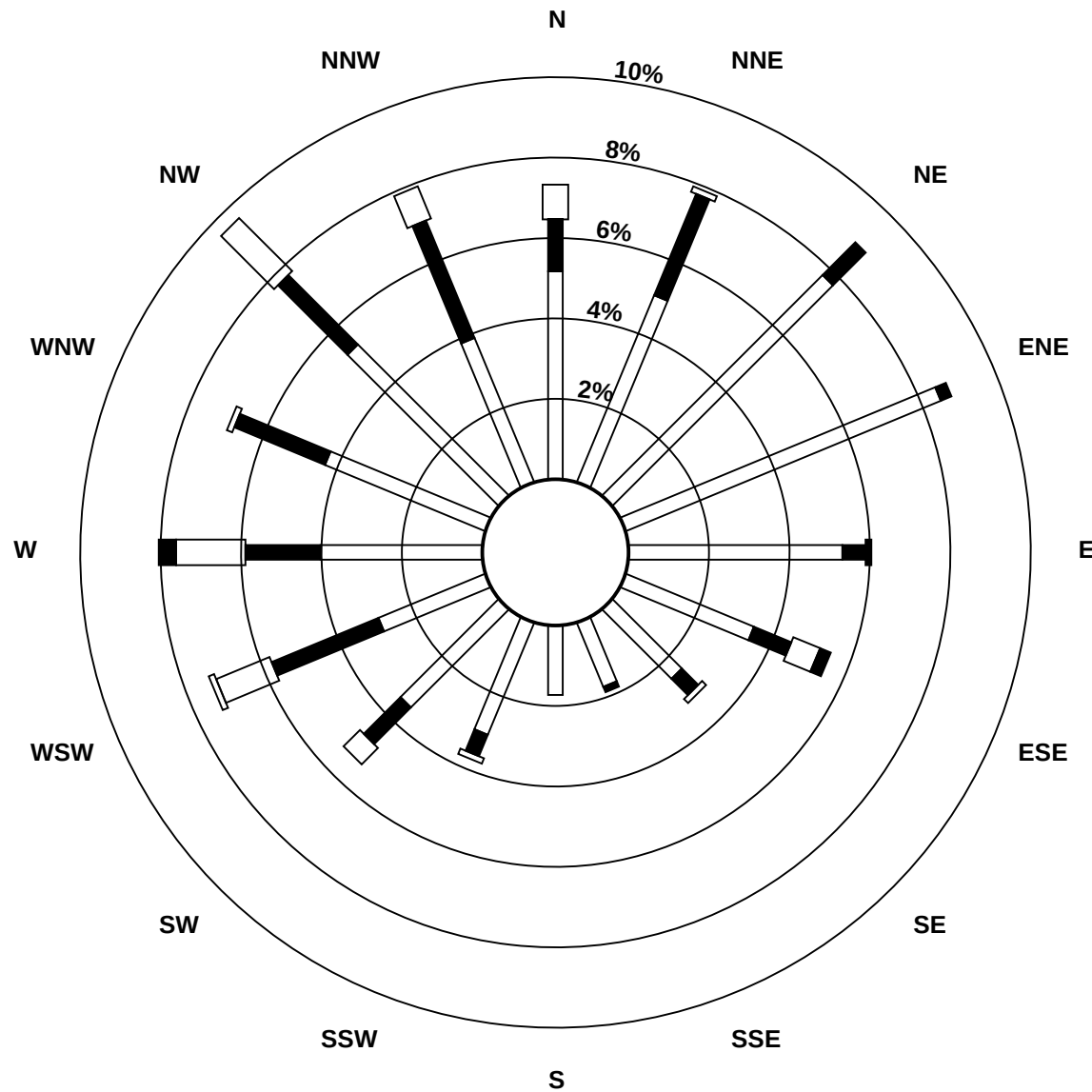
Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Beaverlodge - December 2014

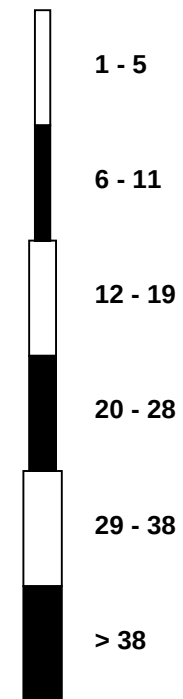
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1 Spd	9	10	6	6	2	1	1	2	2	1	1	1	1	2	2	1	1	0	1	1	4	5	3	5	1.6	10.2
Dir	293	287	291	304	217	142	142	126	102	347	269	102	144	72	87	72	336	313	81	298	332	322	293	286	299	287
2 Spd	1	4	3	7	10	6	7	5	4	3	3	2	3	3	3	2	5	4	3	2	4	2	5	14	1.6	14.4
Dir	357	330	350	292	296	327	335	336	329	340	293	143	107	76	90	127	99	99	119	84	51	85	272	255	325	255
3 Spd	14	19	25	22	20	17	14	10	9	6	4	12	11	9	11	17	15	14	11	8	8	8	3	7	11.4	24.8
Dir	255	262	269	262	267	273	273	264	263	249	246	262	244	239	234	266	274	266	255	254	291	296	2	6	265	269
4 Spd	4	0	3	2	2	1	2	3	3	2	3	5	6	2	3	0	1	4	3	5	2	2	4	3	1.6	5.8
Dir	0	294	311	17	281	342	228	55	22	7	351	294	25	302	184	68	282	32	28	27	310	220	53	51	3	25
5 Spd	2	3	2	2	4	5	3	2	1	2	2	2	3	2	2	2	3	5	7	9	4	6	0	3	2.1	8.6
Dir	38	63	60	65	63	58	18	236	79	90	94	115	83	18	194	84	321	29	29	295	39	31	13	28	37	295
6 Spd	4	3	3	2	1	2	2	2	2	2	3	5	5	3	4	4	5	4	5	4	5	3	4	4	0.6	5.4
Dir	29	287	28	307	74	287	312	217	280	194	295	287	302	249	214	215	165	109	159	117	84	9	337	355	285	159
7 Spd	5	3	5	2	5	7	6	2	2	3	3	3	1	1	1	3	4	1	1	1	1	4	5	5	1.3	6.8
Dir	37	22	38	360	351	4	22	23	125	133	123	160	118	49	208	198	210	83	324	22	331	295	344	318	13	4
8 Spd	4	8	7	3	5	6	5	2	5	5	3	2	3	0	0	3	3	3	1	1	1	4	1	2	2.3	7.8
Dir	350	343	331	16	274	28	279	48	319	339	326	264	47	29	19	247	41	346	347	52	330	37	63	278	342	343
9 Spd	2	2	4	3	3	3	2	1	3	4	8	5	2	5	5	3	2	5	10	36	1	2	11	15	2.2	35.5
Dir	110	216	30	356	40	331	61	9	114	91	115	124	173	120	104	184	226	314	199	238	268	95	214	242	209	238
10 Spd	12	2	13	2	1	6	8	5	8	5	7	9	14	19	22	21	21	15	3	9	9	12	5	5	5.1	22.1
Dir	238	242	233	252	83	230	50	98	55	64	108	121	102	103	103	100	108	107	268	322	18	15	53	36	93	103
11 Spd	9	11	4	6	11	18	16	8	10	10	7	7	5	2	1	3	3	4	4	5	4	4	2	11	4.8	18.1
Dir	20	20	327	325	318	317	304	312	25	3	338	12	17	22	279	153	94	347	201	121	6	273	16	31	347	317
12 Spd	3	7	16	8	5	11	17	10	11	11	7	1	2	3	1	2	2	1	1	2	0	3	1	2	2.0	16.8
Dir	200	195	133	157	6	341	324	330	326	323	337	304	326	3	308	324	59	307	343	72	148	81	116	242	334	324
13 Spd	2	1	1	2	2	4	9	10	9	10	6	8	8	5	16	12	14	7	2	1	2	7	2	6	5.5	16.0
Dir	247	4	281	80	272	284	302	272	275	267	260	231	243	241	269	268	281	250	263	264	204	228	244	252	264	269
14 Spd	2	2	3	4	4	4	4	2	1	4	5	4	3	4	3	2	3	3	8	1	3	3	1	4	1.6	8.3
Dir	244	81	74	62	43	61	57	211	253	62	61	58	73	82	273	311	67	64	57	185	264	269	8	302	49	57
15 Spd	4	1	2	5	3	3	4	2	5	4	2	2	2	1	1	2	2	5	4	2	4	2	1	3	2.1	5.2
Dir	14	320	354	357	7	358	330	357	321	357	325	10	335	296	197	47	319	42	283	359	41	41	251	48	358	42
16 Spd	1	3	6	0	5	8	3	2	3	5	1	2	1	2	2	1	2	4	3	3	2	0	3	4	2.1	7.6
Dir	245	336	48	356	3	13	1	27	44	51	308	16	352	9	12	208	188	54	285	39	35	331	73	54	26	13
17 Spd	2	4	1	2	2	1	4	1	1	3	2	7	2	1	2	4	3	1	4	4	2	1	4	1	1.6	7.0
Dir	272	39	327	62	35	67	357	5	22	42	280	4	306	230	57	44	79	53	60	64	203	95	83	338	35	4
18 Spd	3	2	4	3	6	1	4	3	5	5	3	3	1	2	1	6	1	2	2	2	6	5	5	5	1.8	6.5
Dir	47	245	20	227	53	69	32	22	46	50	245	115	135	217	283	31	345	64	339	287	31	316	30	299	21	31
19 Spd	3	5	4	4	2	5	2	3	3	3	3	2	2	2	3	2	2	3	5	1	5	1	2	2	1.2	5.5
Dir	343	19	231	288	355	22	289	230	25	359	302	353	32	55	49	157	98	150	80	350	41	190	196	46	20	41
20 Spd	2	4	1	2	3	1	1	1	2	2	2	1	4	4	3	4	6	2	2	4	7	2	3	1	1.7	7.3
Dir	319	45	41	60	46	54	71	262	262	219	245	21	267	6	306	354	16	325	4	330	23	20	316	191	353	23
21 Spd	3	2	3	2	2	6	1	5	3	3	2	2	4	2	2	2	2	1	2	1	4	1	0	9	1.1	8.7
Dir	346	338	21	292	147	27	15	309	306	56	181	53	50	75	59	57	311	92	78	107	60	107	11	256	17	256
22 Spd	10	6	6	4	1	4	6	8	7	4	10	15	12	13	12	13	10	7	6	4	3	9	0	8	7.1	15.4
Dir	269	253	279	224	187	252	258	281	291	292	265	269	253	260	259	251	255	250	268	261	276	259	101	244	261	269

Wind Rose

Wind Speed (WS) (km/h)
Beaverlodge - December 2014



Wind Speed Classes (km/h)



Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Beaverlodge - December 2014

Maximum Speed: 36 km/h on Dec 9 20:00																				Maximum Daily Speed Average: 13.2 km/h on Dec 28										Hours in Service: 744	
Minimum Speed: 1 km/h on Dec 27 02:00																				Minimum Daily Speed Average: 3.8 km/h on Dec 21										Hours of Data: 744	
Maximum Diurnal Speed Average: 6.9 km/h at hour 3																				Minimum Diurnal Speed Average: 5.3 km/h at hour 21										Hours of Missing Data: 0	
Monthly Average Speed: 6.05 km/h																				Percentiles: P ₁ = 1.8 P ₁₀ = 2.6 Q ₁ = 3.4 Median = 4.8 Q ₃ = 7.5 P ₉₀ = 11.4 P ₉₉ = 19.3										Percent Operational Time: 100.0	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24							
1-Dec	9	10	7	6	5	3	2	3	3	3	3	3	3	3	2	2	2	2	3	3	5	5	3	5	3.9	10.3					
2-Dec	2	4	4	7	11	6	7	5	4	5	5	3	4	3	3	2	5	4	3	2	4	3	10	14	5.1	14.4					
3-Dec	14	19	25	22	20	17	14	10	9	6	4	12	11	9	11	17	15	14	11	8	8	8	5	7	12.3	24.8					
4-Dec	5	2	7	4	3	2	2	3	4	4	4	6	7	3	3	2	2	5	4	5	4	4	5	4	3.9	6.6					
5-Dec	3	3	3	3	4	6	4	2	2	3	2	2	3	3	3	3	6	6	7	10	4	7	5	5	4.0	9.8					
6-Dec	4	5	4	6	2	6	5	3	4	3	4	5	5	3	5	4	5	4	6	4	5	4	5	5	4.4	5.9					
7-Dec	5	5	6	3	5	7	7	3	2	3	4	3	2	2	2	3	5	3	3	3	5	5	8	10	4.4	9.9					
8-Dec	7	11	10	7	6	6	6	4	6	6	4	4	5	2	3	4	4	5	4	4	4	4	2	4	5.1	11.4					
9-Dec	3	4	4	6	4	8	3	4	5	5	8	6	3	6	5	4	5	8	10	36	5	4	11	15	7.2	36.4					
10-Dec	13	5	13	6	3	8	9	6	8	7	7	10	14	19	22	21	21	16	7	9	10	12	6	6	10.7	22.1					
11-Dec	9	11	6	7	11	18	18	9	10	10	8	8	6	5	3	4	4	9	5	6	6	5	3	11	8.0	18.4					
12-Dec	7	8	16	9	5	13	17	10	12	11	8	3	3	5	2	3	3	2	2	2	2	4	2	4	6.4	16.8					
13-Dec	3	3	2	2	3	4	9	11	9	10	7	8	8	6	16	12	14	8	3	5	4	7	4	6	6.8	16.1					
14-Dec	4	4	4	4	4	4	4	2	2	4	5	4	4	4	4	3	3	3	8	4	5	5	3	5	4.0	8.4					
15-Dec	5	5	5	6	5	5	4	3	6	6	3	3	3	2	2	3	2	5	5	5	5	3	3	5	4.2	6.2					
16-Dec	3	5	7	3	7	10	5	4	4	5	5	4	2	3	4	3	3	5	4	4	3	6	4	5	4.5	10.2					
17-Dec	3	5	3	2	3	3	7	4	3	4	4	10	6	4	4	4	4	3	4	4	4	3	4	4	4.2	10.4					
18-Dec	5	3	5	5	6	5	5	4	5	5	4	5	5	2	3	7	3	3	4	3	8	8	5	6	4.7	8.0					
19-Dec	5	6	5	8	4	7	5	4	5	5	3	4	4	3	5	3	3	4	6	5	6	4	2	3	4.6	7.9					
20-Dec	4	5	3	2	3	2	2	2	3	2	3	3	4	6	5	7	8	5	5	6	8	5	8	4	4.3	8.2					
21-Dec	7	5	5	4	6	6	2	5	3	3	3	3	4	2	2	3	3	2	2	2	4	2	3	9	3.8	9.0					
22-Dec	10	7	7	5	2	5	6	8	7	5	10	15	13	13	12	13	10	7	7	6	6	9	4	8	8.1	15.4					
23-Dec	8	3	3	4	5	5	5	6	7	3	5	5	7	5	4	5	5	4	5	4	3	4	3	8	4.8	8.2					
24-Dec	11	7	11	9	9	9	8	11	11	9	8	8	10	12	11	8	3	8	3	5	4	9	9	11	8.5	11.9					
25-Dec	9	8	10	13	12	8	5	3	7	7	16	18	14	10	6	5	6	3	3	2	2	7	4	4	7.5	17.5					
26-Dec	4	3	4	4	3	4	3	3	3	3	3	3	3	5	4	6	5	2	6	7	8	5	4	3	4.1	8.1					
27-Dec	2	1	5	5	2	3	5	4	3	2	8	5	3	2	6	4	5	6	7	6	4	7	12	12	5.0	12.2					
28-Dec	9	10	9	9	11	12	14	13	11	13	13	17	15	17	19	17	14	15	17	16	12	12	11	11	13.2	18.8					
29-Dec	8	8	9	6	6	5	6	5	3	3	3	5	3	3	4	5	5	5	6	7	5	6	5	4	5.2	8.9					
30-Dec	5	4	4	4	3	2	4	4	6	6	5	3	6	5	2	8	12	13	8	9	4	7	5	3	5.5	12.9					
31-Dec	3	2	8	5	3	6	3	8	13	11	16	11	11	9	15	16	13	12	13	9	9	6	9	4	9.0	15.8					
6.1 5.8 6.9 5.9 5.7 6.6 6.4 5.4 5.9 5.6 5.9 6.4 6.2 5.7 6.2 6.4 6.3 6.2 5.8 6.5 5.3 5.8 5.5 6.6																									Diurnal Average						
13.8 18.9 24.8 21.9 19.9 18.4 17.8 12.6 12.5 13.0 15.9 17.5 14.8 19.1 22.1 20.6 20.9 15.6 16.6 36.4 11.9 12.5 11.6 15.2																									Diurnal Maximum						

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

Hourly Standard Deviations

Wind Direction (WD) - deg
Beaverlodge - December 2014

Maximum Value: 95.8 deg on Dec 5 23:00																			Hours in Service: 744						
Minimum Value: 2.6 deg on Dec 3 03:00																			Hours of Data: 744						
																			Hours of Missing Data: 0						
Percentiles: P ₁ = 4.0 P ₁₀ = 7.4 Q ₁ = 15.0 Median = 40.9 Q ₃ = 64.5 P ₉₀ = 79.7 P ₉₉ = 92.9																			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-Dec	19	7	25	14	58	63	53	48	60	83	83	76	73	68	44	71	79	86	80	85	32	12	49	17	86.4
2-Dec	90	13	36	8	8	13	10	10	18	49	70	50	17	23	18	28	11	30	38	43	11	47	75	3	90.2
3-Dec	5	5	3	3	3	4	5	9	17	37	30	6	8	10	6	7	5	12	7	16	9	7	47	11	46.8
4-Dec	30	85	74	63	51	81	28	74	48	67	50	43	32	90	31	78	67	39	20	25	65	88	50	37	90.0
5-Dec	46	24	67	24	27	19	56	63	72	50	39	38	21	31	57	46	60	31	6	44	31	42	96	58	95.8
6-Dec	50	54	67	72	50	73	85	75	75	47	50	38	18	32	14	18	24	26	12	32	15	52	43	36	84.6
7-Dec	25	69	18	55	20	14	26	49	24	25	32	22	75	78	55	60	19	76	79	87	77	81	50	59	87.3
8-Dec	53	47	48	71	46	7	46	80	47	49	63	81	58	82	94	44	53	62	86	85	81	24	85	74	93.6
9-Dec	68	77	42	59	57	84	73	86	70	41	17	47	49	37	24	34	66	65	25	13	91	80	17	6	90.9
10-Dec	12	84	11	89	83	57	18	32	9	50	27	18	12	5	4	4	4	17	67	17	28	5	41	46	89.3
11-Dec	44	6	48	21	16	10	30	19	17	15	46	16	30	86	77	62	67	80	54	25	52	36	78	12	86.0
12-Dec	79	28	24	43	28	31	4	15	29	11	37	86	84	53	73	52	57	59	75	40	93	54	63	75	93.2
13-Dec	74	75	79	60	48	14	9	8	8	12	19	39	9	27	7	8	8	18	55	88	60	12	72	12	88.3
14-Dec	76	73	35	16	67	7	55	56	72	6	6	7	29	13	43	48	47	40	9	74	71	63	80	52	80.2
15-Dec	33	76	70	47	59	46	47	73	53	46	52	51	56	74	64	41	51	26	63	81	53	79	89	78	88.8
16-Dec	94	55	11	91	49	39	54	75	52	49	85	58	74	57	56	75	62	37	76	53	65	93	43	41	94.1
17-Dec	70	56	90	36	66	82	68	93	82	45	75	47	80	82	81	55	44	88	13	23	72	59	19	86	92.7
18-Dec	66	75	65	72	10	87	56	59	6	11	66	53	82	48	87	20	86	78	66	86	44	61	11	36	87.2
19-Dec	61	36	68	69	58	45	75	49	69	49	38	55	66	53	64	54	51	40	47	88	36	76	52	66	88.2
20-Dec	54	40	80	64	38	80	69	85	62	37	59	96	35	46	65	55	43	64	68	54	19	75	80	95	95.6
21-Dec	62	74	52	73	69	6	79	24	41	16	60	44	10	16	13	70	69	72	40	50	12	58	93	15	93.0
22-Dec	14	20	20	31	56	52	26	20	6	38	18	5	26	5	8	4	5	9	57	92	95	22	85	33	94.9
23-Dec	34	68	38	26	13	13	26	18	13	32	33	65	13	36	87	35	70	42	41	31	53	57	34	44	86.9
24-Dec	4	8	8	29	11	11	12	6	14	26	10	6	6	10	11	67	79	15	41	16	10	7	8	5	78.5
25-Dec	6	8	8	6	5	11	28	33	40	14	7	7	11	9	20	46	61	52	56	23	83	11	10	10	83.4
26-Dec	11	26	8	15	22	17	78	63	79	38	38	19	20	11	31	8	11	62	46	6	20	89	71	24	88.8
27-Dec	64	70	11	61	92	66	73	20	65	68	8	15	23	84	73	22	56	45	57	31	34	38	11	5	92.1
28-Dec	8	8	9	6	6	5	5	6	5	5	4	5	7	11	6	4	6	6	10	7	7	8	8	7	11.5
29-Dec	10	8	6	8	18	9	15	57	74	34	23	14	92	44	38	16	15	16	7	11	17	7	19	47	91.7
30-Dec	23	44	53	36	26	63	86	44	31	48	63	57	15	31	88	10	7	9	23	9	80	15	18	73	87.6
31-Dec	40	61	27	47	73	61	74	25	6	9	6	9	10	10	6	6	8	7	3	21	21	40	21	31	73.6
94.1 85.4 90.2 91.1 92.1 86.5 86.2 92.7 81.8 83.3 84.6 95.6 91.7 90.0 93.6 77.6 86.3 88.1 85.6 91.9 94.9 92.7 95.8 94.8																									

PAZA
Valleyview Station
Monthly Summary Tables, Graphs and
Roses

Hourly Averages

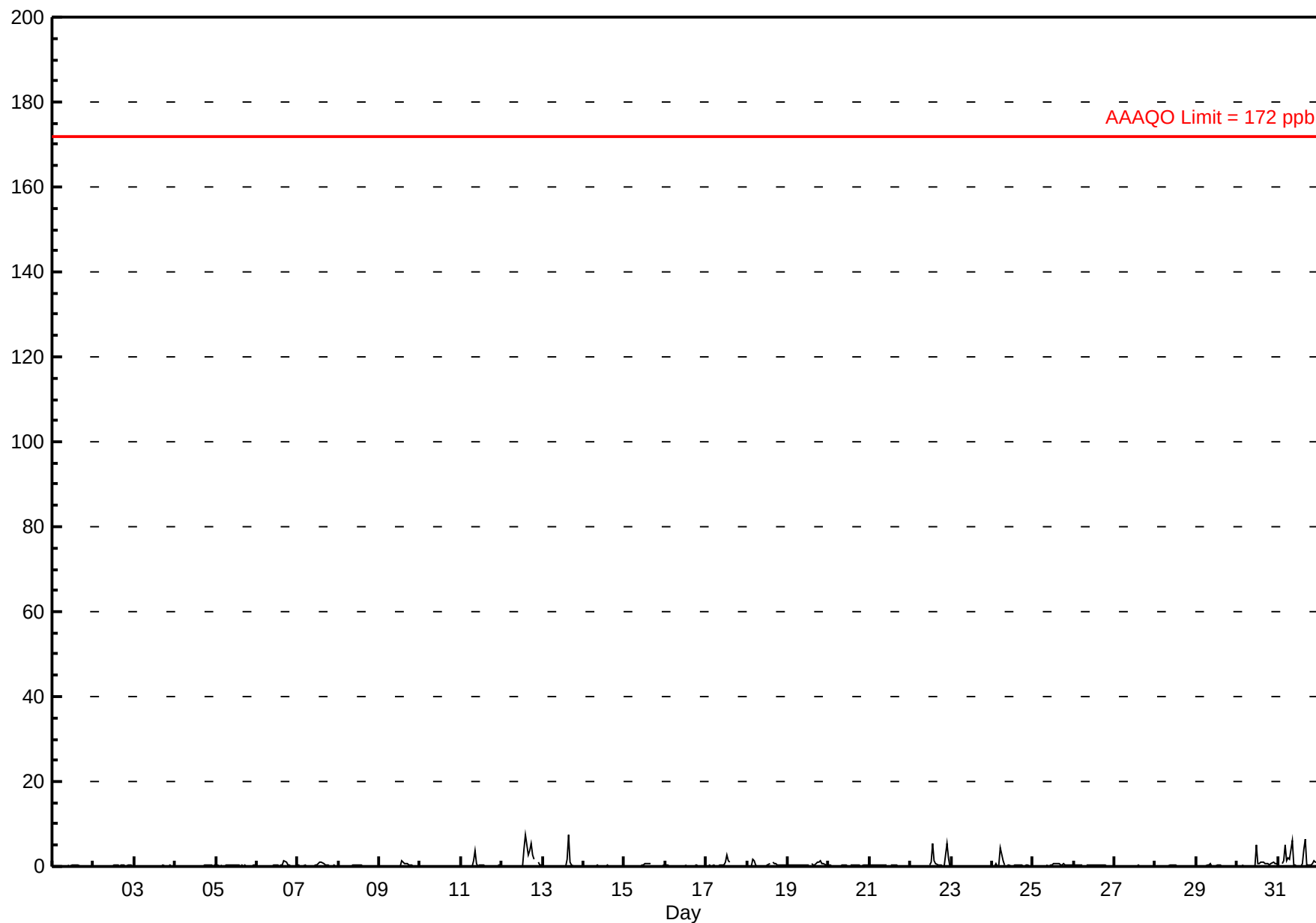
Sulphur Dioxide (SO₂) - ppb

Valleyview - December 2014

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 7.5 ppb on Dec 13 16:00 Maximum Daily Average: 1.6 ppb on Dec 31																				Hours in Service: 744 Hours of Data: 704 Hours of Missing Data: 40 Hours of Calibration: 34 Percent Operational Time: 99.2						
Minimum Value: 0 ppb on Dec 4 01:00 Maximum Diurnal Average: 0.8 ppb at hour 16 Monthly Average: 0.33 ppb										Minimum Daily Average: 0.0 ppb on Dec 10 Minimum Diurnal Average: 0.1 ppb at hour 2 Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 0.1 Q ₃ = 0.3 P ₉₀ = 0.6 P ₉₉ = 5.3																
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-Dec	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
2-Dec	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.5
3-Dec	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
4-Dec	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
5-Dec	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3
6-Dec	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0.2	1.5
7-Dec	0	0	A	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0.3	1.0
8-Dec	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
9-Dec	A	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	A	0.2	1.4
10-Dec	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
11-Dec	0	0	0	0	0	0	0	1	4	1	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.3	3.6
12-Dec	0	0	0	0	0	0	0	0	0	0	0	0	0	4	7	3	4	5	3	2	A	1	0	0	1.3	7.5
13-Dec	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	7	1	0	0	A	0	0	0	0	0.5	7.5
14-Dec	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0.1	0.3
15-Dec	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	P	P	P	P	P	P	0	0	0.2	0.6
16-Dec	0	0	0	0	0	0	0	0	0	0	0	0	0	C	C	C	A	0	0	0	0	0	0	0	0.1	0.3
17-Dec	0	0	0	0	0	0	0	0	0	0	0	1	3	1	1	A	0	0	0	0	0	0	0	0	0.3	2.7
18-Dec	0	0	0	2	1	0	0	0	0	0	0	0	0	1	A	1	1	1	0	0	0	0	0	0	0.4	1.6
19-Dec	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	0	0	1	1	1	1	1	0	0	0.5	1.3
20-Dec	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4
21-Dec	0	0	0	0	0	0	0	0	0	0	0	A	0	0	1	0	0	0	0	0	0	0	0	0	0.2	0.5
22-Dec	0	0	0	0	0	0	0	0	0	0	A	0	1	5	2	1	0	0	0	0	0	5	2	0	0.8	5.4
23-Dec	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
24-Dec	0	0	1	0	0	4	1	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	4.4
25-Dec	0	0	0	0	0	0	0	A	0	0	0	0	1	1	1	1	0	0	1	0	0	0	0	0	0.3	0.8
26-Dec	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
27-Dec	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
28-Dec	0	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
29-Dec	0	0	0	A	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.6
30-Dec	0	0	A	0	0	0	0	0	0	0	5	1	1	1	1	1	1	1	1	0	1	1	1	1	0.6	5.2
31-Dec	0	A	1	1	5	1	2	2	6	0	0	0	0	0	1	4	7	0	1	0	1	1	1	1	1.6	6.6
0.1 0.1 0.1 0.2 0.3 0.3 0.2 0.2 0.5 0.2 0.2 0.4 0.4 0.7 0.7 0.8 0.6 0.4 0.3 0.2 0.2 0.4 0.2 0.2																									Diurnal Average	
0.5 0.3 0.8 1.6 5.2 4.4 1.9 1.8 6.2 0.6 0.4 5.2 2.7 5.3 7.5 7.5 6.6 5.3 2.8 1.7 0.8 5.4 1.9 0.9																									Diurnal Maximum	
C - Calibration P - Power Failure A - Automated Daily Zero Span																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb 30-day 11 ppb																										

Hourly Averages

Sulphur Dioxide (SO₂) - ppb
Valleyview - December 2014



Hourly Maximums

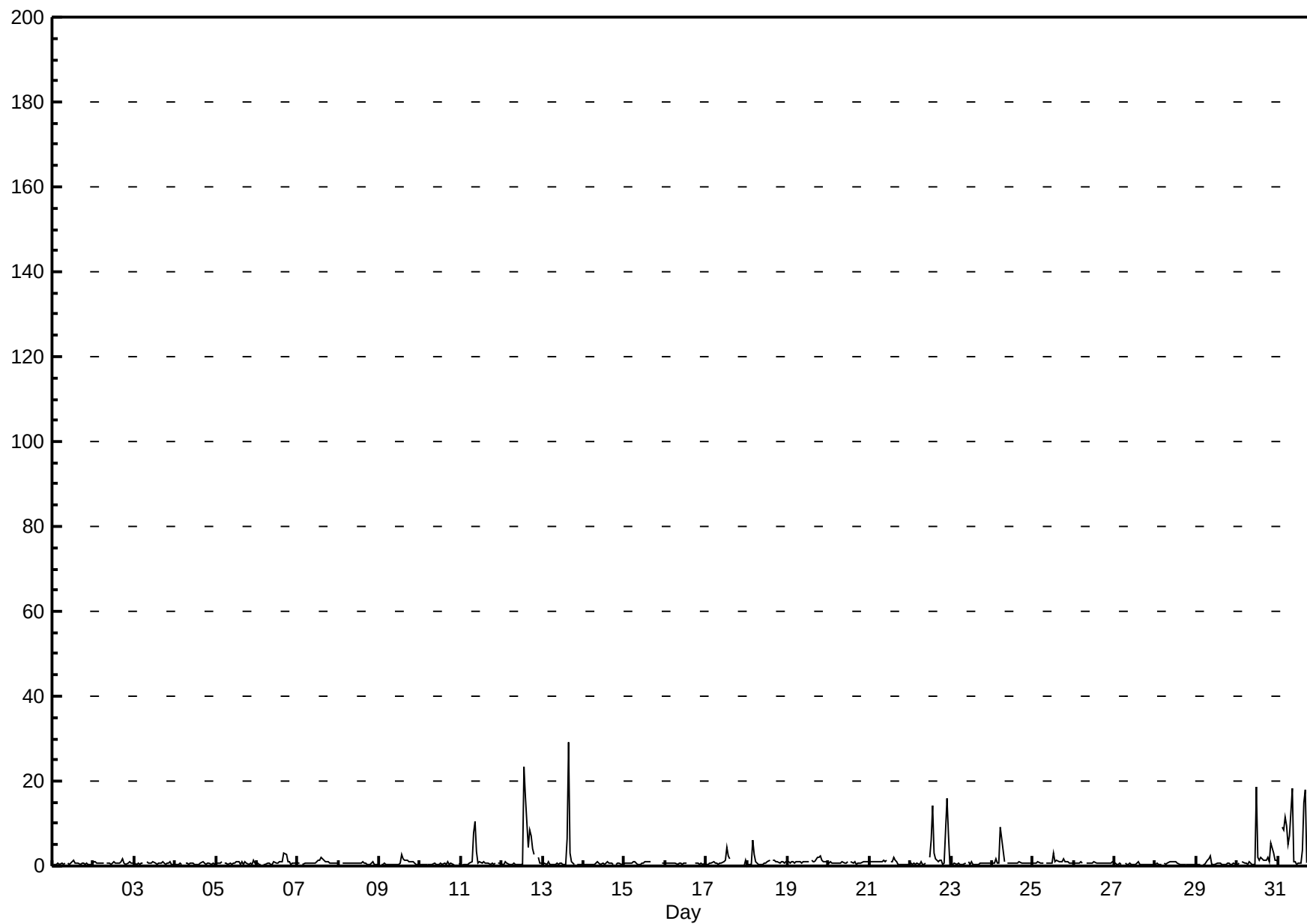
Sulphur Dioxide (SO₂) - ppb

Valleyview - December 2014

Maximum Value: 29.0 ppb on Dec 13 16:00																				Maximum Daily Average: 5.4 ppb on Dec 31					Hours in Service: 744	
Minimum Value: 0 ppb on Dec 17 17:00																				Minimum Daily Average: 0.4 ppb on Dec 10					Hours of Data: 704	
Maximum Diurnal Average: 2.4 ppb at hour 16																				Minimum Diurnal Average: 0.5 ppb at hour 2					Hours of Missing Data: 40	
Monthly Average: 1.15 ppb																				Percentiles: P ₁ = 0.0 P ₁₀ = 0.4 Q ₁ = 0.5 Median = 0.6 Q ₃ = 0.9 P ₉₀ = 1.4 P ₉₉ = 15.5					Hours of Calibration: 34	
																				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-Dec	0	0	0	1	0	1	0	1	A	1	0	1	1	1	1	1	0	1	1	0	1	0	0	0	0.6	1.4
2-Dec	1	1	1	1	1	1	1	A	1	1	0	1	1	1	1	1	1	2	1	0	1	1	1	1	0.7	1.5
3-Dec	1	0	1	0	1	1	A	1	1	1	1	1	1	0	1	1	1	1	0	1	1	1	0	0	0.6	1.0
4-Dec	0	0	0	1	0	A	1	1	0	1	1	0	0	0	0	1	1	1	0	1	1	0	1	1	0.6	0.9
5-Dec	1	1	1	1	A	1	1	1	1	0	1	1	1	1	0	1	0	1	1	0	1	0	1	1	0.7	1.3
6-Dec	1	0	0	A	0	0	1	1	0	0	1	1	1	1	1	1	3	3	1	1	0	1	1	1	0.8	2.9
7-Dec	1	1	A	0	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	0.8	1.9
8-Dec	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	0	0	0	0.7	0.9
9-Dec	A	0	0	1	0	0	0	0	0	0	0	0	1	3	2	1	1	1	1	1	1	0	0	A	0.7	2.9
10-Dec	1	0	0	0	0	0	0	0	1	0	0	0	1	0	1	0	1	0	1	0	0	0	A	1	0.4	1.2
11-Dec	0	0	0	0	0	1	1	8	10	3	1	1	1	1	1	1	1	0	1	0	1	A	1	1	1.4	10.4
12-Dec	0	0	1	1	0	0	0	1	0	1	1	1	1	23	16	5	8	7	4	3	A	2	1	1	3.4	23.4
13-Dec	1	1	0	1	0	0	0	0	1	0	1	1	0	0	6	29	3	1	0	A	0	0	0	0	2.1	29.0
14-Dec	0	0	0	0	0	0	0	1	1	1	0	1	0	1	1	1	1	0	A	0	1	1	0	0	0.5	1.1
15-Dec	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	P	P	P	P	P	P	1	1	0.7	1.2
16-Dec	1	1	1	1	1	1	1	0	1	1	0	1	1	C	C	C	A	1	1	1	0	1	0	1	0.7	0.8
17-Dec	0	0	1	1	1	1	1	0	1	1	1	2	5	3	2	A	0	0	0	0	0	0	0	1	0.8	4.5
18-Dec	0	0	0	6	3	1	1	0	0	0	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1.1	6.0
19-Dec	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	2	2	2	1	1	1	1.1	2.3
20-Dec	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	0	1	1	1	1	1	1	1	0.8	1.1
21-Dec	1	1	1	1	1	1	1	1	1	1	1	A	1	1	2	1	1	0	0	0	0	0	0	0	0.9	1.9
22-Dec	1	0	1	0	1	0	1	0	0	1	A	2	6	14	3	2	1	1	1	0	1	16	7	0	2.7	15.8
23-Dec	0	0	1	0	1	0	0	0	1	A	1	0	1	0	0	0	1	1	1	1	1	1	1	1	0.5	1.0
24-Dec	1	1	2	1	1	9	4	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.2	9.0
25-Dec	1	1	1	1	1	1	1	A	1	1	1	1	3	1	2	1	1	1	2	1	1	1	1	1	0.9	3.1
26-Dec	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	1.1
27-Dec	1	1	0	1	0	A	1	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0.5	1.1
28-Dec	0	1	0	0	A	1	0	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0.6	0.9
29-Dec	0	0	0	A	0	0	1	2	2	0	0	0	1	1	1	0	0	0	1	1	0	0	1	0	0.7	2.4
30-Dec	0	1	A	1	1	1	1	1	1	1	1	19	2	1	2	1	1	1	1	2	1	5	3	1	2.1	18.6
31-Dec	1	A	9	9	12	10	5	7	18	1	1	0	1	1	4	15	18	1	1	1	1	3	2	2	5.4	18.4
0.6 0.5 0.9 1.1 1.0 1.2 0.9 1.1 1.6 0.7 0.7 1.3 1.2 2.2 1.9 2.4 1.8 1.0 0.9 0.7 0.8 1.3 0.9 0.7																									Diurnal Average	
1.0 0.9 9.3 8.6 11.6 9.6 5.0 7.7 18.4 3.3 1.3 18.6 6.0 23.4 16.4 29.0 17.9 7.0 4.0 2.8 5.3 15.8 7.4 2.3																									Diurnal Maximum	
C - Calibration P - Power Failure A - Automated Daily Zero Span																										

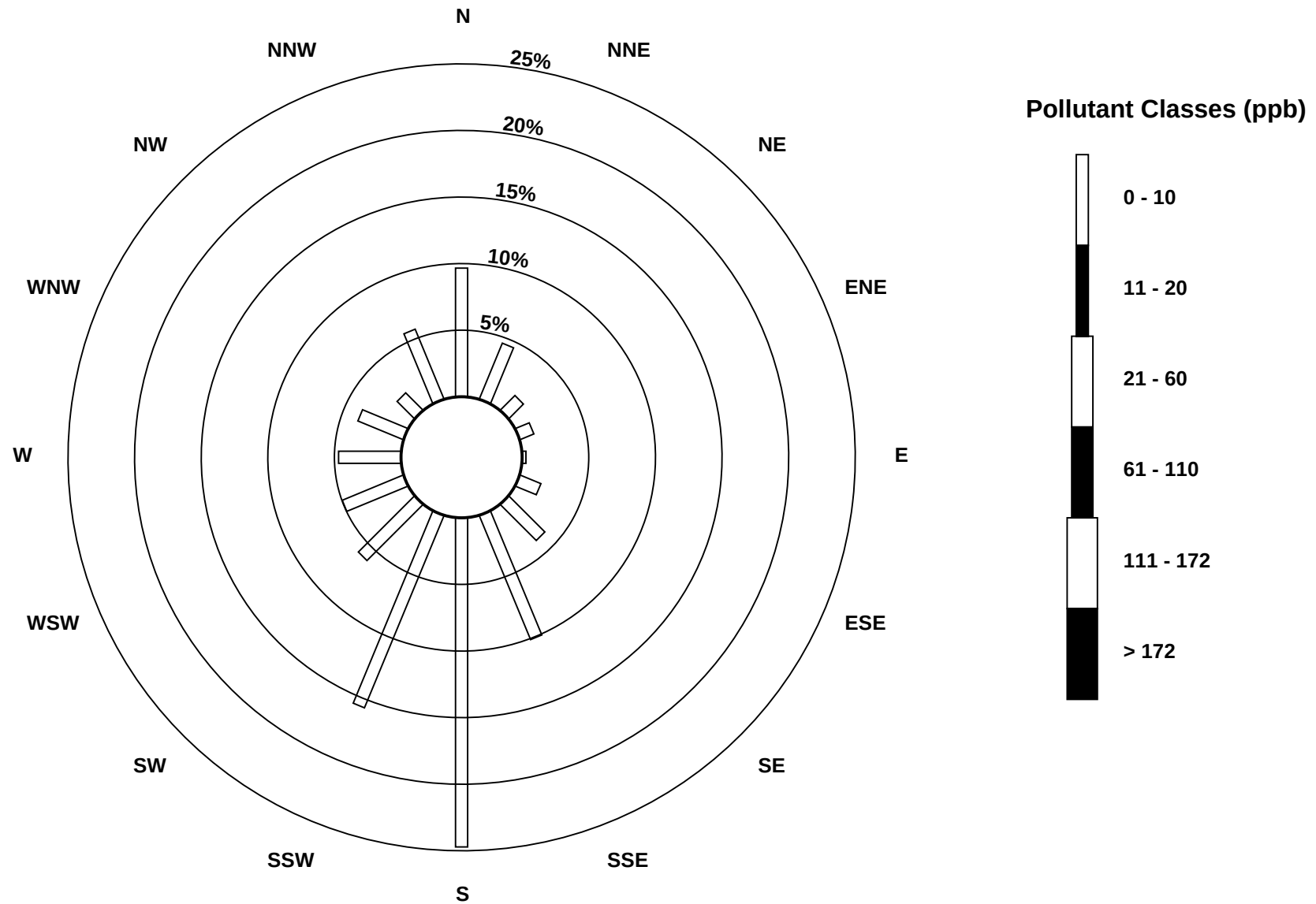
Hourly Maximums

Sulphur Dioxide (SO₂) - ppb
Valleyview - December 2014



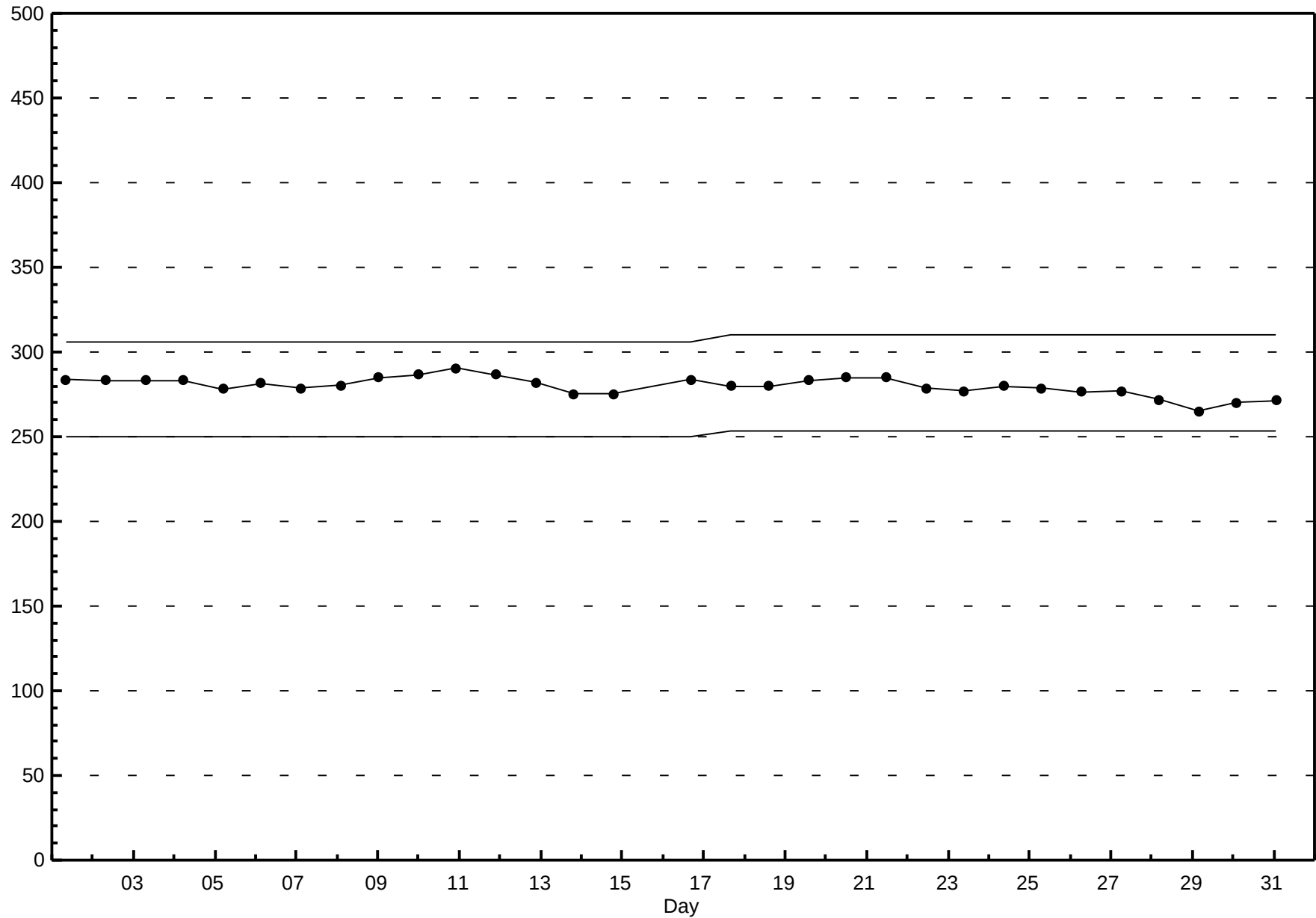
Pollutant Rose

Sulphur Dioxide (SO₂) - ppb
Valleyview - December 2014



Span Responses

Sulphur Dioxide (SO₂)
Valleyview - December 2014



Hourly Averages

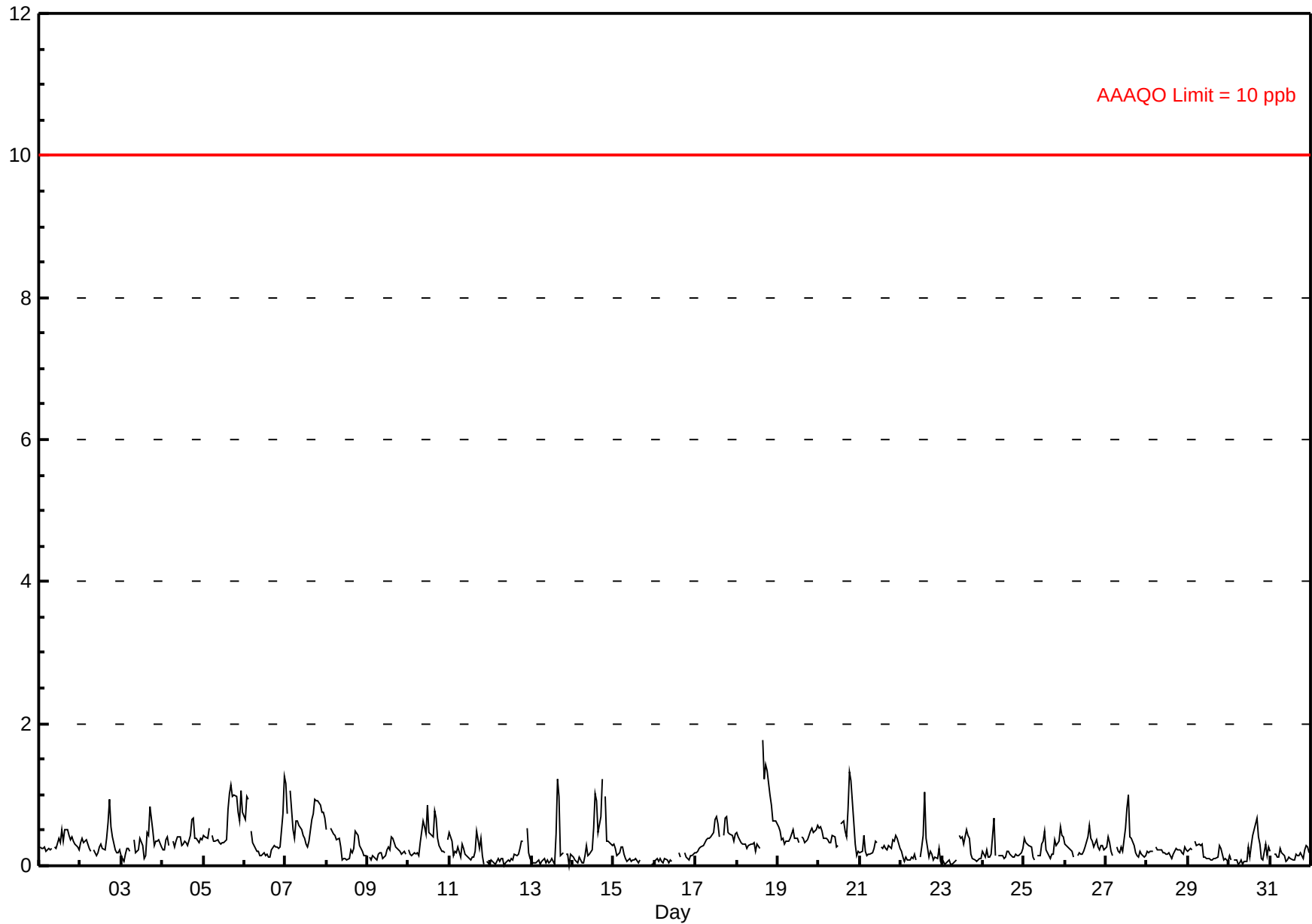
Hydrogen Sulphide (H₂S) - ppb

Valleyview - December 2014

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																			Hours in Service: 744							
Maximum Value: 1.8 ppb on Dec 18 16:00																			Maximum Daily Average: 0.7 ppb on Dec 7		Hours of Data: 704					
Minimum Value: 0 ppb on Dec 13 23:00																			Minimum Daily Average: 0.1 ppb on Dec 16		Hours of Missing Data: 40					
Maximum Diurnal Average: 0.5 ppb at hour 18																			Minimum Diurnal Average: 0.2 ppb at hour 6		Hours of Calibration: 34					
Monthly Average: 0.30 ppb																			Percentiles: P ₁ = 0.0 P ₁₀ = 0.1 Q ₁ = 0.1 Median = 0.2 Q ₃ = 0.4 P ₉₀ = 0.6 P ₉₉ = 1.2		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-Dec	0	0	0	0	0	0	0	0	A	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0.3	0.5
2-Dec	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0.3	0.9
3-Dec	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0.3	0.8
4-Dec	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0.4	0.7
5-Dec	0	0	0	1	A	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	0.6	1.1
6-Dec	1	1	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.4	1.3
7-Dec	1	1	A	1	1	0	1	1	1	1	0	0	0	0	0	1	1	1	1	1	1	1	1	1	0.7	1.2
8-Dec	1	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.5
9-Dec	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0.2	0.4
10-Dec	0	0	0	0	0	0	0	0	1	1	0	1	0	0	0	1	1	0	0	0	0	0	A	0	0.4	0.9
11-Dec	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.2	0.5
12-Dec	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	0	0	0.1	0.5
13-Dec	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	A	0	0	0	0	0.2	1.2
14-Dec	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	1	1	A	1	0	0	0	0	0.4	1.2
15-Dec	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	P	P	P	P	P	P	0	0	0.1	0.3
16-Dec	0	0	0	0	0	0	0	0	0	0	0	C	C	C	0	0	A	0	0	0	0	0	0	0	0.1	0.2
17-Dec	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	A	0	1	1	1	0	0	0	0	0.4	0.7
18-Dec	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	2	1	1	1	1	1	1	1	1	0.6	1.8
19-Dec	1	0	0	0	0	0	0	0	0	1	0	0	0	A	0	0	0	0	0	0	1	0	1	1	0.4	0.6
20-Dec	1	1	0	0	0	0	0	0	0	0	0	0	A	1	1	0	0	1	1	1	1	0	0	0	0.5	1.3
21-Dec	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.4
22-Dec	0	0	0	0	0	0	0	0	0	0	A	0	0	0	1	0	0	0	0	0	0	0	0	0	0.2	1.0
23-Dec	0	0	0	0	0	0	0	0	0	A	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0.2	0.5
24-Dec	0	0	0	0	0	0	1	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.7
25-Dec	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0.3	0.5
26-Dec	0	0	0	0	0	0	A	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0.3	0.6
27-Dec	0	0	0	0	0	A	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0.3	1.0
28-Dec	0	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
29-Dec	0	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
30-Dec	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0.2	0.7
31-Dec	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
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 0.4 0.4 0.4 0.5 0.4 0.4 0.3 0.3 0.3 0.3																									Diurnal Average	
1.2 1.0 0.9 1.1 0.5 0.4 0.7 0.6 0.6 0.6 0.5 0.9 0.8 1.0 1.0 1.8 1.2 1.4 1.3 1.2 0.9 0.8 1.1 1.3																									Diurnal Maximum	
C - Calibration P - Power Failure A - Automated Daily Zero Span																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb																										

Hourly Averages

Hydrogen Sulphide (H₂S) - ppb
Valleyview - December 2014



Hourly Maximums

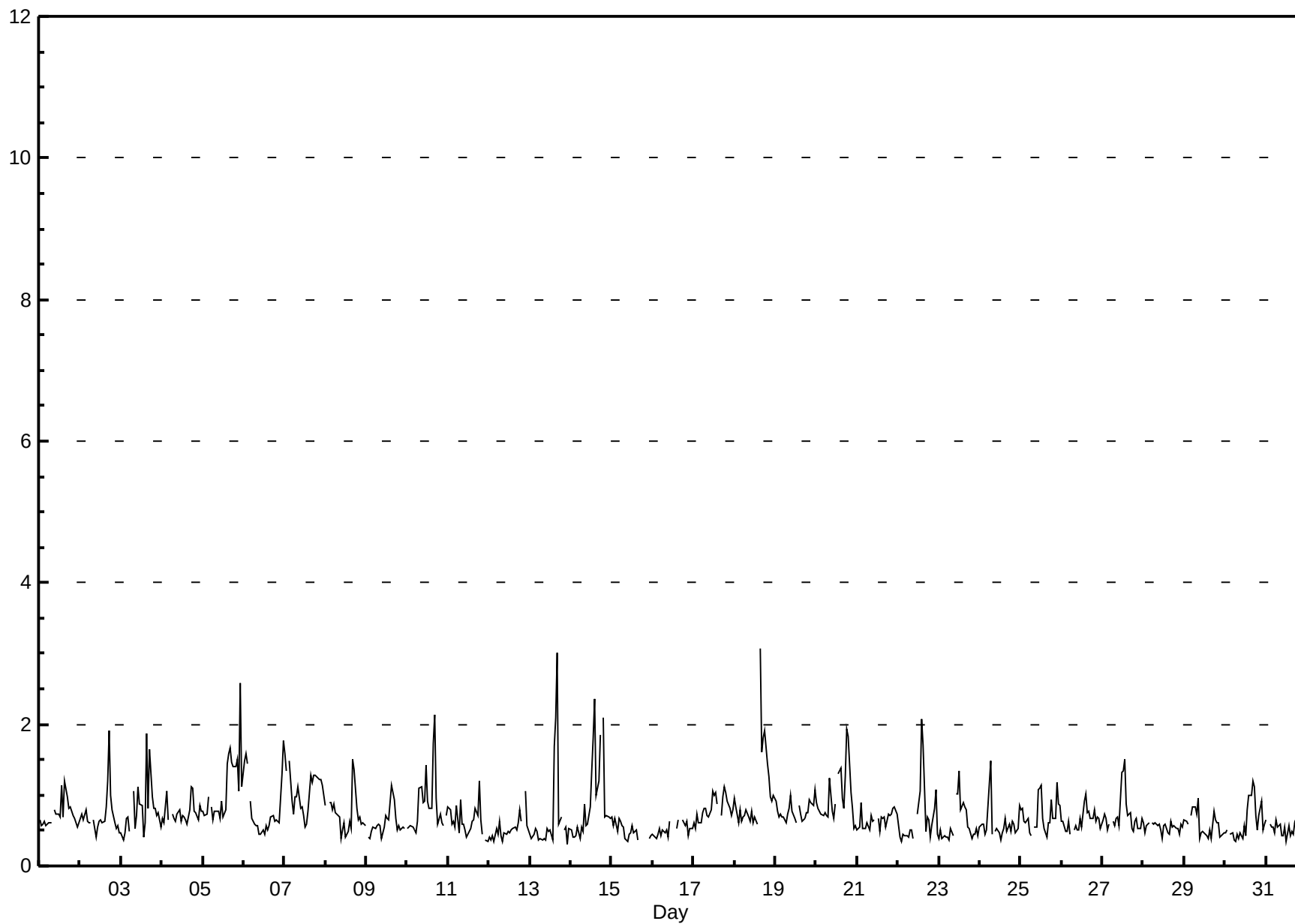
Hydrogen Sulphide (H₂S) - ppb

Valleyview - December 2014

Maximum Value: 3.1 ppb on Dec 18 16:00																				Maximum Daily Average: 1.1 ppb on Dec 5				Hours in Service: 744			
Minimum Value: 0 ppb on Dec 13 23:00																				Minimum Daily Average: 0.5 ppb on Dec 15				Hours of Data: 704			
Maximum Diurnal Average: 1.0 ppb at hour 16																				Minimum Diurnal Average: 0.6 ppb at hour 10				Hours of Missing Data: 40			
Monthly Average: 0.73 ppb																				Percentiles: P ₁ = 0.4 P ₁₀ = 0.4 Q ₁ = 0.5 Median = 0.6 Q ₃ = 0.8 P ₉₀ = 1.1 P ₉₉ = 2.1				Hours of Calibration: 34			
																				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-Dec	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.2	
2-Dec	1	1	1	1	1	1	1	1	A	1	0	1	1	1	1	1	1	2	1	1	1	1	1	1	0	0.7	1.9
3-Dec	0	0	0	1	1	0	A	1	1	1	1	1	1	0	1	2	1	2	1	1	1	1	1	1	0.8	1.9	
4-Dec	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.1	
5-Dec	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	2	2	1	1	1	1	1	3	1	1.1	2.6	
6-Dec	1	2	1	A	1	1	1	1	1	0	0	1	0	1	1	1	1	1	1	1	1	1	1	2	0.8	1.8	
7-Dec	2	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.1	1.6	
8-Dec	1	A	1	1	1	1	1	1	1	0	1	1	0	0	1	1	2	1	1	1	1	1	1	1	0.7	1.5	
9-Dec	A	0	0	0	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	A	0.6	1.1	
10-Dec	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	2	2	1	1	1	1	1	A	1	0.9	2.1	
11-Dec	1	1	1	1	1	1	0	1	1	1	1	0	0	1	1	1	1	1	1	1	0	A	0	0	0.6	1.2	
12-Dec	0	0	0	0	1	0	1	0	0	0	0	0	0	1	1	1	1	1	1	1	A	1	1	1	0.5	1.1	
13-Dec	0	0	0	1	0	0	0	0	0	0	1	0	1	0	2	2	3	1	1	A	1	1	0	1	0.7	3.0	
14-Dec	1	0	0	0	1	0	1	0	1	1	1	1	1	2	2	1	1	2	A	2	1	1	1	1	0.9	2.4	
15-Dec	1	1	1	0	1	1	1	1	0	0	0	0	1	0	1	0	P	P	P	P	P	P	0	0	0.5	0.7	
16-Dec	0	0	0	0	1	0	1	0	1	0	1	C	C	C	1	1	A	1	1	1	1	0	1	1	0.5	0.6	
17-Dec	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	0.8	1.1	
18-Dec	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	3	2	2	2	1	1	1	1	1	1.0	3.1	
19-Dec	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	
20-Dec	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	2	2	1	1	1	1	1.0	1.9	
21-Dec	1	1	1	1	1	1	1	1	1	1	1	A	1	0	1	1	1	1	1	1	1	1	1	1	0.7	0.9	
22-Dec	1	0	0	0	0	0	0	1	1	0	A	1	1	1	2	2	0	1	1	0	1	1	1	0	0.7	2.1	
23-Dec	0	1	0	0	0	0	0	1	0	A	1	1	1	1	1	1	1	1	1	0	0	0	1	0	0.6	1.3	
24-Dec	1	1	1	0	1	1	1	0	A	0	1	0	0	0	1	1	0	1	0	1	1	0	1	1	0.6	1.5	
25-Dec	1	1	1	1	1	0	0	A	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	0.7	1.2	
26-Dec	1	1	0	0	1	0	A	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.6	1.0	
27-Dec	1	1	1	1	1	A	1	1	1	1	1	1	1	2	1	1	1	1	0	1	1	1	1	1	0.7	1.5	
28-Dec	1	0	1	1	A	1	1	1	1	1	1	0	1	1	0	0	1	1	1	1	1	0	1	1	0.5	0.6	
29-Dec	1	1	1	A	1	1	1	1	1	0	0	0	0	0	0	1	0	1	1	1	1	0	0	0	0.6	1.0	
30-Dec	0	1	A	0	0	0	0	0	0	0	0	1	0	1	1	1	1	1	1	1	1	1	1	1	0.6	1.2	
31-Dec	1	A	1	1	1	0	1	1	1	0	0	1	0	1	0	0	0	0	1	1	0	1	1	1	0.5	0.7	
0.7 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.7 0.6 0.6 0.7 0.7 0.7 0.9 1.0 1.0 0.9 0.9 0.8 0.7 0.7 0.7 0.7																									Diurnal Average		
1.6 1.6 1.4 1.5 0.9 0.9 1.5 1.1 1.2 1.0 1.1 1.4 1.3 1.8 2.4 3.1 3.0 1.9 1.9 2.1 1.5 1.2 2.6 1.8																									Diurnal Maximum		
C - Calibration P - Power Failure A - Automated Daily Zero Span																											

Hourly Maximums

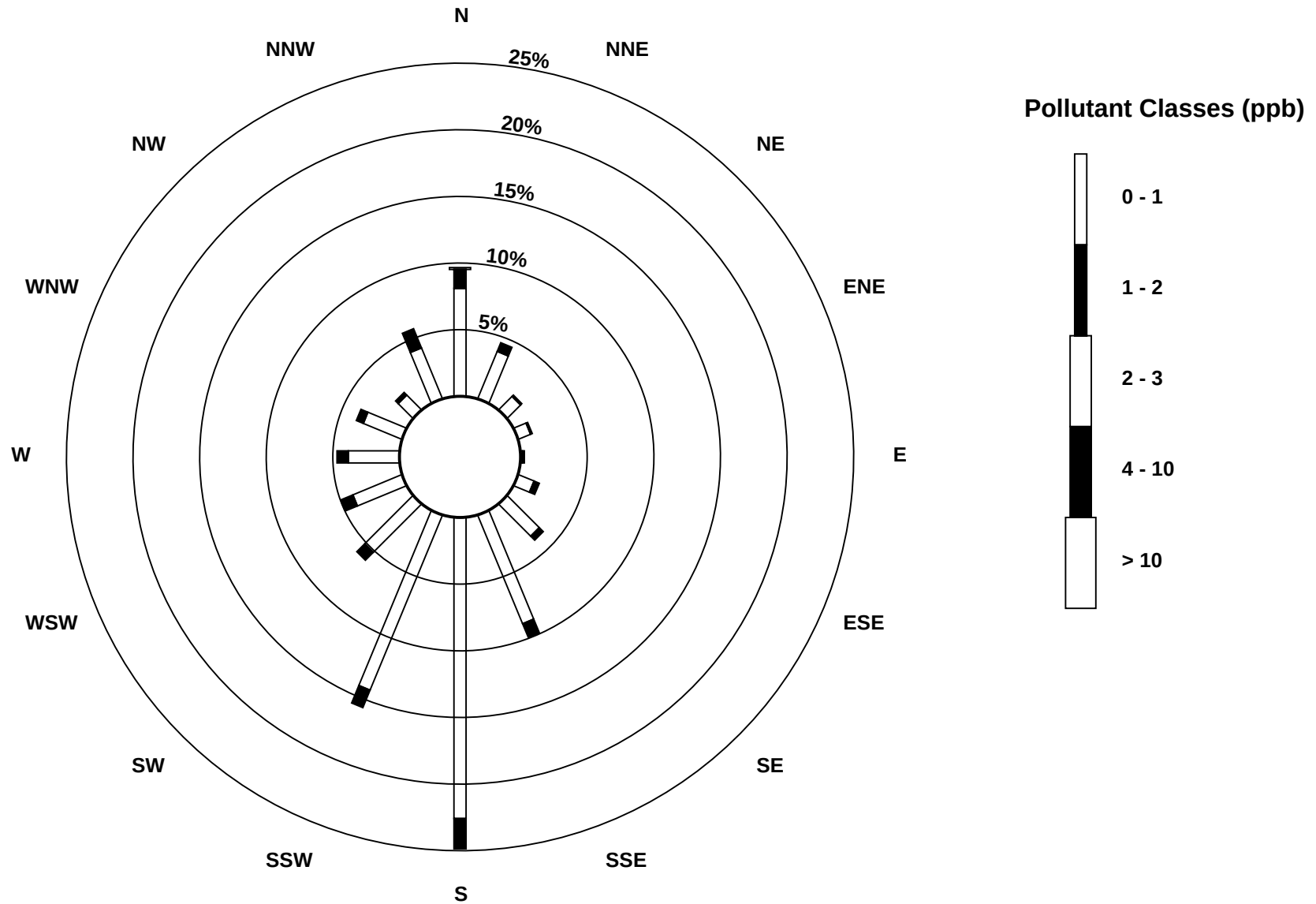
Hydrogen Sulphide (H₂S) - ppb
Valleyview - December 2014



Pollutant Rose

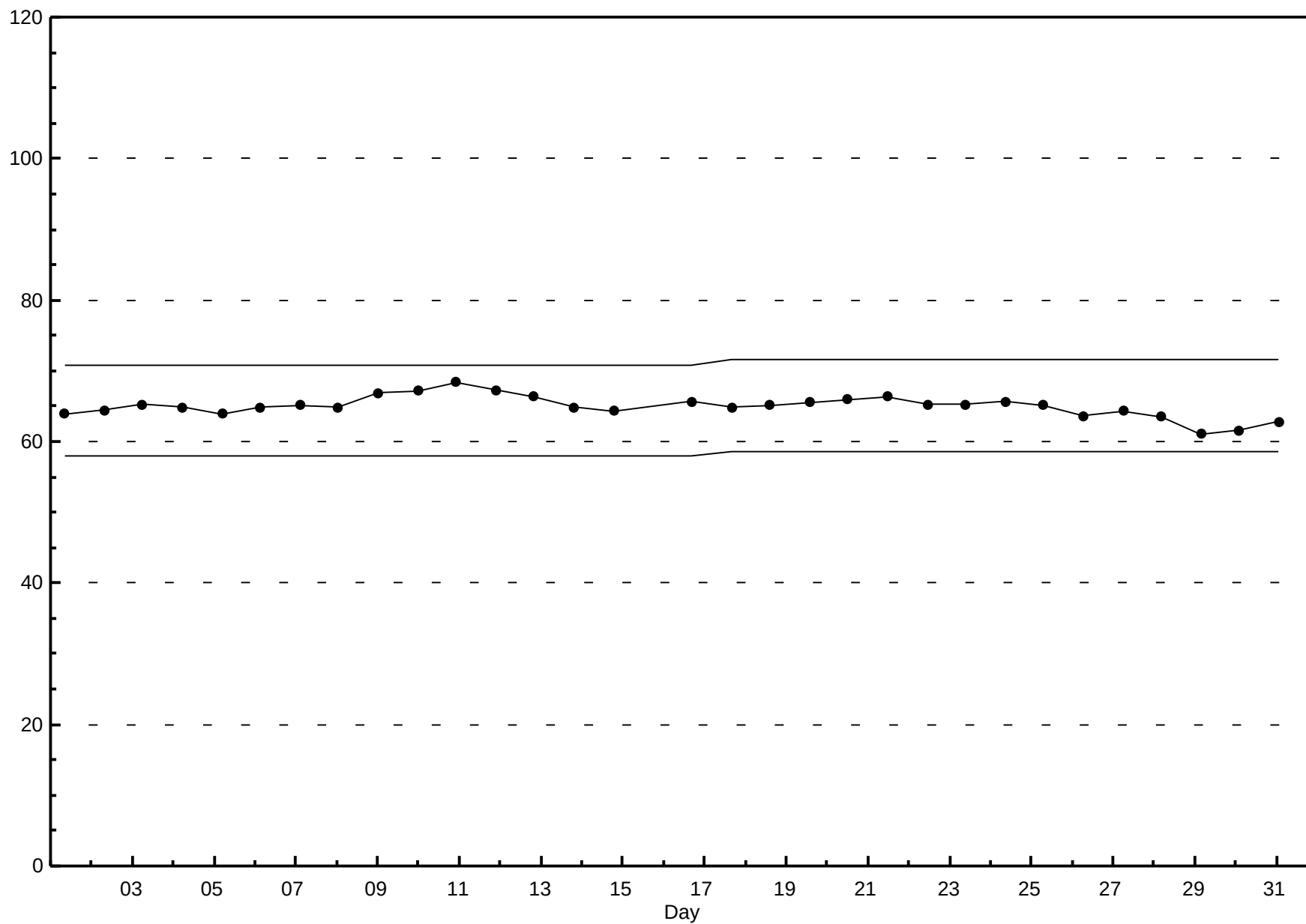
Hydrogen Sulphide (H₂S) - ppb

Valleyview - December 2014



Span Responses

Hydrogen Sulphide (H_2S)
Valleyview - December 2014



Hourly Averages

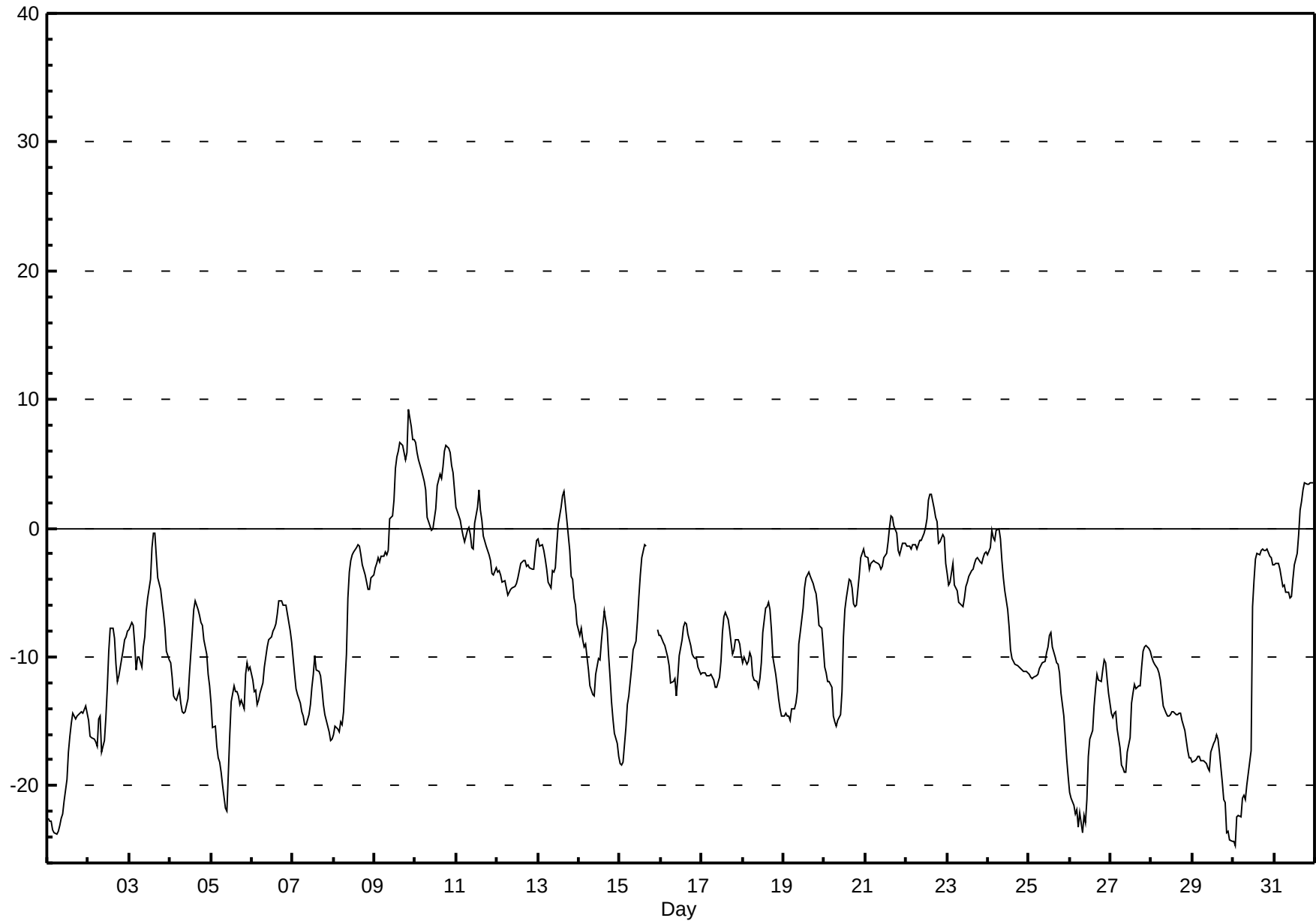
External Temperature (ET) - °C

Valleyview - December 2014

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 9.2 °C on Dec 9 21:00 Maximum Daily Average: 3.7 °C on Dec 10																					Hours in Service: 744 Hours of Data: 738 Hours of Missing Data: 6 Hours of Calibration: 0 Percent Operational Time: 99.2						
Minimum Value: -25 °C on Dec 30 02:00 Maximum Diurnal Average: -5.2 °C at hour 16 Monthly Average: -8.42 °C										Minimum Daily Average: -19.1 °C on Dec 29 Minimum Diurnal Average: -10.9 °C at hour 8 Percentiles: P ₁ = -23.6 P ₁₀ = -17.4 Q ₁ = -13.4 Median = -9.1 Q ₃ = -2.8 P ₉₀ = 0.0 P ₉₉ = 6.4																	
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-Dec	-22	-23	-23	-23	-24	-24	-24	-23	-23	-22	-21	-19	-17	-16	-15	-14	-15	-15	-14	-14	-14	-14	-14	-14	-18.7	-13.8	
2-Dec	-15	-16	-16	-16	-17	-17	-15	-15	-17	-16	-15	-12	-10	-8	-8	-9	-11	-12	-12	-11	-9	-9	-8	-8	-12.5	-7.8	
3-Dec	-8	-7	-7	-9	-11	-10	-10	-11	-9	-8	-6	-5	-4	-1	0	0	-2	-4	-5	-6	-7	-8	-10	-10	-6.7	-0.4	
4-Dec	-11	-12	-13	-13	-13	-13	-14	-14	-14	-14	-13	-11	-10	-8	-6	-6	-6	-7	-7	-8	-9	-10	-11	-12	-10.6	-5.7	
5-Dec	-14	-15	-15	-17	-18	-18	-19	-20	-22	-22	-19	-16	-13	-12	-13	-13	-13	-14	-13	-14	-11	-10	-11	-11	-15.2	-10.4	
6-Dec	-12	-13	-13	-14	-13	-13	-12	-11	-10	-9	-9	-8	-8	-8	-7	-7	-6	-6	-6	-6	-6	-7	-8	-9	-9.1	-5.6	
7-Dec	-10	-11	-12	-13	-14	-14	-15	-15	-15	-14	-14	-12	-11	-10	-11	-11	-11	-12	-14	-15	-15	-16	-17	-16	-13.3	-9.9	
8-Dec	-16	-15	-16	-16	-15	-15	-14	-10	-5	-3	-2	-2	-2	-1	-1	-1	-2	-3	-4	-4	-5	-5	-4	-4	-6.9	-1.3	
9-Dec	-3	-3	-2	-3	-2	-2	-2	-2	-2	1	1	2	5	5	6	7	6	6	5	6	9	8	7	7	2.5	9.2	
10-Dec	7	6	5	5	4	4	3	1	0	0	0	1	2	3	4	4	5	6	6	6	6	5	4	3	3.7	6.6	
11-Dec	2	1	1	0	-1	-1	0	0	-1	-1	-2	0	2	3	1	1	-1	-1	-2	-2	-3	-3	-4	-3	-0.6	2.9	
12-Dec	-3	-3	-4	-4	-4	-5	-5	-5	-5	-5	-5	-4	-4	-3	-3	-2	-3	-3	-3	-3	-3	-3	-2	-1	-3.5	-0.9	
13-Dec	-1	-1	-1	-2	-2	-3	-4	-5	-3	-3	-3	-1	0	2	3	3	2	1	-2	-4	-4	-5	-6	-7	-2.1	2.9	
14-Dec	-8	-8	-9	-9	-9	-11	-12	-13	-13	-13	-11	-10	-10	-9	-8	-6	-8	-10	-12	-14	-15	-16	-17	-18	-11.1	-6.4	
15-Dec	-18	-18	-18	-15	-14	-13	-12	-11	-9	-9	-7	-5	-4	-2	-1	-1	P	P	P	P	P	P	P	-8	-8	-9.7	-1.3
16-Dec	-8	-9	-9	-10	-10	-11	-12	-12	-12	-13	-12	-10	-9	-8	-7	-7	-8	-9	-10	-10	-10	-10	-11	-11	-9.9	-7.3	
17-Dec	-11	-11	-11	-11	-11	-11	-12	-12	-12	-12	-12	-10	-8	-7	-6	-7	-8	-9	-10	-9	-9	-9	-9	-10	-10.0	-6.5	
18-Dec	-10	-10	-11	-10	-10	-10	-11	-12	-12	-12	-12	-10	-8	-6	-6	-6	-6	-8	-10	-11	-12	-13	-14	-15	-10.3	-5.8	
19-Dec	-15	-14	-15	-15	-15	-14	-14	-14	-13	-9	-8	-6	-5	-4	-4	-3	-4	-4	-5	-5	-6	-8	-8	-9	-9.0	-3.5	
20-Dec	-11	-11	-12	-12	-12	-15	-15	-15	-15	-14	-13	-8	-6	-5	-4	-4	-5	-6	-6	-6	-4	-2	-2	-2	-8.6	-1.6	
21-Dec	-2	-2	-3	-3	-3	-3	-3	-3	-3	-3	-3	-2	-2	-1	0	1	1	0	0	-2	-2	-2	-1	-1	-1.7	0.9	
22-Dec	-1	-1	-1	-2	-1	-1	-2	-1	-1	-1	0	0	1	2	3	3	2	1	1	-1	-1	0	-1	-3	-0.4	2.6	
23-Dec	-4	-4	-4	-3	-4	-5	-5	-6	-6	-6	-5	-5	-4	-4	-3	-3	-3	-2	-2	-3	-3	-2	-2	-2	-3.7	-1.9	
24-Dec	-2	-1	0	-1	-1	0	0	-1	-3	-4	-5	-6	-8	-9	-10	-10	-11	-11	-11	-11	-11	-11	-11	-11	-6.2	0.0	
25-Dec	-11	-12	-12	-12	-11	-11	-11	-11	-10	-10	-10	-9	-8	-8	-9	-10	-10	-11	-11	-13	-15	-16	-18	-19	-11.6	-8.1	
26-Dec	-20	-21	-22	-22	-22	-23	-22	-24	-22	-23	-21	-18	-16	-16	-14	-13	-11	-12	-12	-11	-10	-10	-12	-13	-17.1	-10.3	
27-Dec	-14	-15	-14	-14	-16	-17	-18	-19	-19	-19	-17	-16	-14	-13	-12	-12	-12	-12	-11	-10	-9	-9	-9	-10	-13.8	-9.1	
28-Dec	-10	-10	-11	-11	-11	-12	-13	-14	-14	-15	-15	-14	-14	-14	-14	-14	-14	-14	-15	-16	-16	-17	-18	-18	-14.0	-10.0	
29-Dec	-18	-18	-18	-18	-18	-18	-18	-18	-18	-19	-19	-17	-17	-17	-16	-16	-17	-20	-21	-21	-24	-24	-24	-24	-19.1	-16.0	
30-Dec	-24	-25	-22	-22	-22	-21	-21	-21	-20	-19	-17	-6	-4	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-3	-11.2	-1.6	
31-Dec	-3	-3	-3	-3	-4	-5	-4	-5	-5	-5	-5	-4	-3	-2	-1	1	2	3	4	3	3	4	4	4	-1.1	3.6	
																									Diurnal Average		
																									Diurnal Maximum		
P - Power Failure																											

Hourly Averages

External Temperature (ET) - °C
Valleyview - December 2014



Hourly Averages

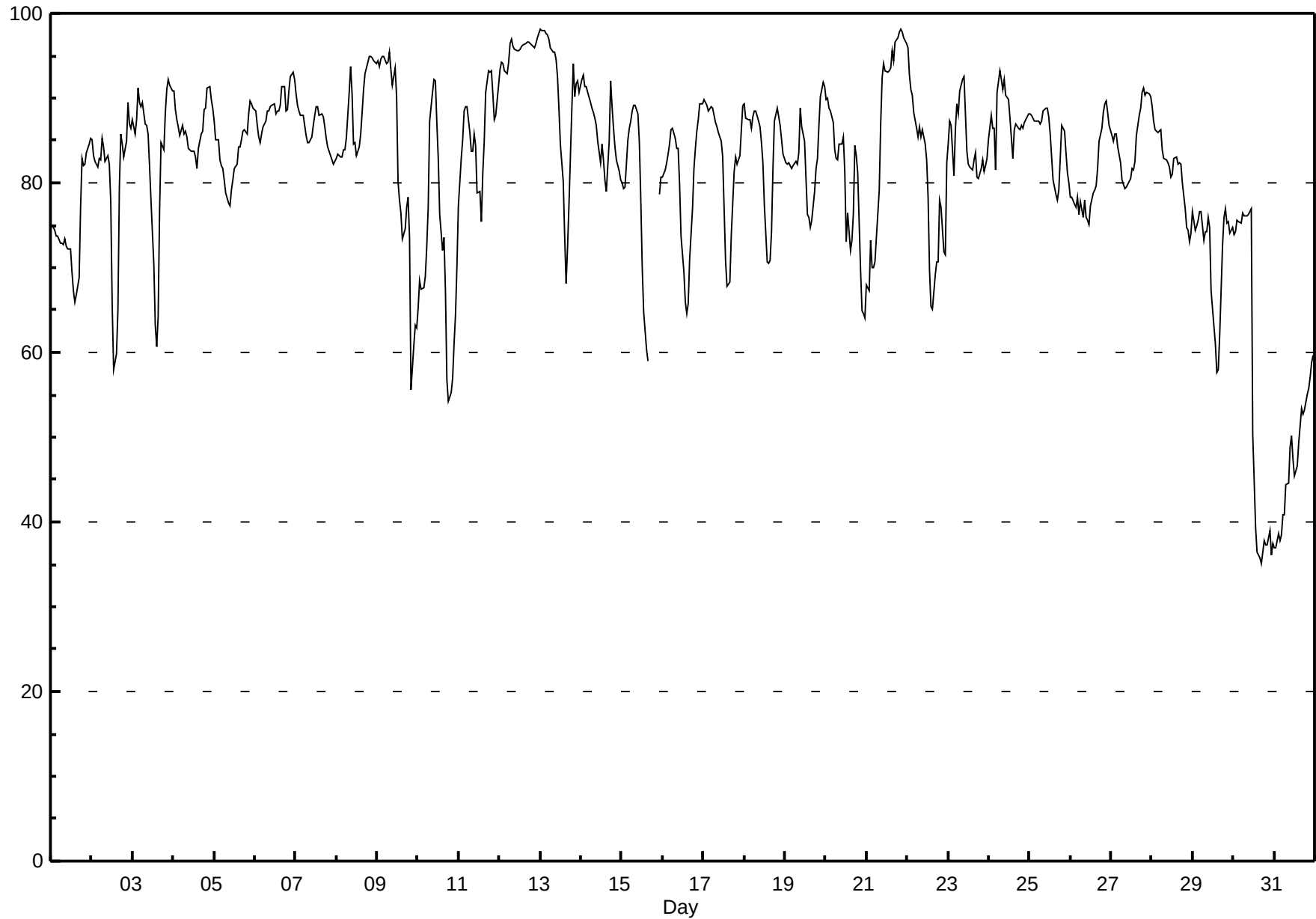
Relative Humidity (RH) - %

Valleyview - December 2014

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 98.1 % on Dec 21 21:00 Maximum Daily Average: 95.7 % on Dec 12																								Hours in Service: 744 Hours of Data: 738 Hours of Missing Data: 6 Hours of Calibration: 0 Percent Operational Time: 99.2		
Minimum Value: 35 % on Dec 30 17:00 Maximum Diurnal Average: 84.6 % at hour 10 Monthly Average: 81.31 %												Minimum Daily Average: 47.7 % on Dec 31 Minimum Diurnal Average: 74.1 % at hour 15 Percentiles: P ₁ = 37.3 P ₁₀ = 67.2 Q ₁ = 77.0 Median = 84.2 Q ₃ = 88.5 P ₉₀ = 92.7 P ₉₉ = 97.5														
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-Dec	75	75	74	74	74	73	73	73	73	73	72	72	69	67	66	67	69	77	83	82	82	84	85	85	74.8	85.3
2-Dec	85	83	82	82	83	83	85	84	82	83	82	78	66	58	60	65	79	86	85	83	85	89	87	86	80.1	89.5
3-Dec	87	86	87	91	89	89	89	87	87	86	82	78	70	63	61	64	77	85	84	88	91	92	92	91	83.2	92.2
4-Dec	91	89	87	87	86	87	86	86	85	84	84	84	84	83	82	84	86	86	89	89	91	91	90	89	86.6	91.3
5-Dec	87	85	85	83	82	82	80	79	78	77	79	80	82	82	84	84	85	86	86	86	88	90	89	89	83.7	89.7
6-Dec	89	87	85	85	86	87	87	88	88	89	89	89	88	88	88	89	91	91	89	89	91	92	93	92	88.8	93.0
7-Dec	91	89	89	88	88	87	86	85	85	85	87	88	89	89	88	88	88	87	85	84	83	83	82	83	86.4	90.5
8-Dec	83	83	83	83	84	84	85	91	94	90	85	85	83	84	86	88	91	93	94	95	95	95	94	94	88.4	95.0
9-Dec	94	94	95	95	95	94	94	95	93	92	94	90	80	78	76	73	75	77	78	74	56	61	63	63	82.5	95.4
10-Dec	65	68	67	68	69	72	77	87	91	92	92	87	83	76	72	74	67	57	54	55	57	61	64	70	72.0	92.3
11-Dec	77	83	85	89	89	89	86	84	84	86	84	79	79	75	81	85	91	93	93	93	91	87	88	92	85.9	93.2
12-Dec	93	94	94	93	93	94	96	97	96	96	96	96	96	96	96	96	97	97	96	96	96	96	97	98	95.7	97.6
13-Dec	98	98	98	98	98	97	96	95	95	95	92	89	85	80	74	68	72	77	89	94	90	92	92	91	89.7	98.1
14-Dec	92	93	91	91	91	90	89	88	88	87	85	82	85	83	80	79	85	92	89	87	84	83	81	80	86.4	92.7
15-Dec	80	79	79	85	86	87	89	89	89	88	85	78	70	65	60	59	P	P	P	P	P	P	79	81	79.4	89.2
16-Dec	81	81	82	83	85	86	86	85	84	84	80	74	70	66	65	66	71	77	82	84	86	87	89	89	80.2	89.4
17-Dec	90	89	89	88	89	89	88	87	87	86	85	83	77	71	68	68	74	78	81	83	82	83	86	89	83.0	89.8
18-Dec	89	88	87	87	86	88	88	88	87	87	85	82	77	71	71	71	74	82	87	89	88	87	85	83	83.7	89.3
19-Dec	82	82	82	82	82	82	83	82	83	89	87	85	80	76	76	75	76	79	82	83	87	90	92	91	82.8	91.9
20-Dec	90	90	89	88	87	84	83	83	85	84	85	81	73	76	72	73	76	84	83	81	70	65	65	64	79.7	90.0
21-Dec	68	67	73	70	70	71	73	79	87	92	94	93	93	93	94	96	94	97	97	98	98	98	97	96	87.0	98.1
22-Dec	96	93	91	90	88	86	85	87	85	86	85	83	78	70	65	65	69	71	71	78	77	72	72	82	80.2	96.0
23-Dec	85	87	87	81	86	89	88	91	92	92	88	84	82	82	82	83	84	81	80	82	83	81	82	83	84.8	92.5
24-Dec	85	88	86	87	82	91	93	92	91	92	90	90	88	85	83	86	87	86	86	87	86	87	88	88	87.7	93.3
25-Dec	88	88	88	87	87	87	87	87	89	89	89	88	86	83	80	79	78	79	83	87	86	84	81	80	85.0	88.8
26-Dec	78	78	77	77	78	76	78	76	78	76	76	75	77	79	79	80	82	85	86	88	89	90	88	87	80.6	89.6
27-Dec	86	85	86	86	84	82	80	80	79	79	80	81	82	82	83	86	88	89	91	91	90	91	91	90	85.0	91.1
28-Dec	89	87	86	86	86	86	84	83	83	82	82	81	81	83	83	82	82	82	80	77	75	74	73	74	81.8	89.0
29-Dec	77	74	75	76	77	77	73	74	74	76	75	67	63	61	58	58	62	73	76	77	75	75	74	75	71.7	77.0
30-Dec	74	74	76	75	75	76	76	76	76	76	77	50	45	39	36	36	35	36	38	37	37	39	36	37	55.6	76.9
31-Dec	37	37	39	38	39	41	41	44	45	49	50	47	45	47	49	51	53	53	53	55	56	57	59	60	47.7	59.7
83.3 83.1 83.1 83.0 83.0 83.4 83.4 84.0 84.3 84.6 83.7 80.6 77.6 75.2 74.1 74.8 78.0 80.5 81.7 82.4 81.5 81.9 81.8 82.4																								Diurnal Average		
98.1 98.0 97.9 97.6 97.5 97.0 96.4 96.9 96.1 95.8 95.6 95.6 95.8 96.1 96.3 96.5 96.6 96.6 96.6 97.2 97.8 98.1 97.8 97.2 97.6																								Diurnal Maximum		
P - Power Failure																										

Hourly Averages

Relative Humidity (RH) - %
Valleyview - December 2014



Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Valleyview - December 2014

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1 Spd	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	0	1	1	0	0	1	0	1	0.5	1.3
Dir	199	199	200	215	204	208	199	180	189	78	277	230	196	296	262	294	154	154	333	144	163	187	187	195	213	262
2 Spd	0	0	0	0	1	1	1	1	2	2	1	2	2	2	2	1	0	0	1	2	4	4	5	5	1.6	5.2
Dir	185	197	163	125	187	178	195	204	151	156	137	155	184	181	184	175	177	202	201	175	174	173	171	170	172	171
3 Spd	3	2	1	1	1	2	2	2	3	4	2	1	3	3	2	1	0	1	1	1	2	2	2	2	1.7	4.4
Dir	178	169	173	176	182	106	165	132	149	143	152	150	143	139	137	153	188	197	192	195	206	211	187	154	161	143
4 Spd	2	2	2	1	1	1	1	2	0	0	1	1	2	3	2	1	1	0	1	1	1	1	1	1	1.1	2.8
Dir	142	156	176	194	177	204	191	175	202	258	181	171	177	177	170	171	203	113	198	198	169	179	195	214	178	177
5 Spd	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	1	0	1	1	0	0.2	1.3
Dir	211	195	206	188	190	209	344	194	170	168	220	145	292	301	7	186	27	339	164	143	179	245	200	182	209	339
6 Spd	1	0	0	1	2	2	1	2	1	1	1	4	3	4	5	3	1	3	3	0	0	1	2	2	1.2	5.3
Dir	345	7	36	343	342	348	357	359	8	33	331	33	357	5	351	49	169	248	241	218	105	349	330	329	348	351
7 Spd	1	1	2	2	3	1	0	0	0	1	1	1	1	0	1	1	0	0	0	0	0	0	0	0	0.3	2.5
Dir	233	1	341	354	353	339	326	177	130	167	159	177	161	345	328	332	98	245	335	246	265	13	179	146	340	353
8 Spd	0	0	0	0	0	0	0	1	4	7	7	6	6	3	1	0	1	1	0	0	1	1	1	0	1.6	7.3
Dir	179	312	183	145	301	210	177	164	179	178	178	172	171	183	191	288	325	269	180	197	237	196	185	237	182	178
9 Spd	1	1	1	1	1	1	0	1	2	2	1	2	5	4	3	2	3	3	3	3	6	4	6	7	2.4	7.4
Dir	204	185	205	195	311	212	332	293	194	200	190	191	184	187	188	201	206	205	237	218	224	184	171	172	196	172
10 Spd	7	7	6	6	6	6	2	1	1	1	0	1	1	1	1	1	0	3	5	6	4	4	1	0	2.5	7.1
Dir	171	172	175	175	176	180	189	341	1	3	271	225	242	249	336	325	156	180	178	175	184	186	262	321	182	171
11 Spd	1	2	5	5	4	4	2	9	3	3	1	2	3	1	5	2	1	3	2	4	5	5	8	5	2.4	9.0
Dir	31	38	16	28	18	312	289	284	281	63	144	145	156	127	349	317	359	12	334	16	19	349	9	25	359	284
12 Spd	8	6	5	4	1	2	3	5	1	1	1	1	1	1	1	0	1	1	0	0	1	2	4	2	1.3	7.5
Dir	17	9	7	3	341	347	1	359	13	31	356	50	70	118	78	77	348	351	344	28	227	195	173	168	12	17
13 Spd	2	2	1	0	0	1	0	1	2	2	2	2	2	2	4	4	3	2	1	2	1	2	3	1	1.4	3.7
Dir	184	176	178	186	150	204	203	183	185	189	190	183	182	177	256	268	252	238	160	184	219	179	157	171	201	268
14 Spd	1	2	1	2	1	1	1	1	1	1	1	1	2	1	1	0	0	1	0	1	0	0	0	0	0.4	2.0
Dir	210	216	194	178	210	222	198	197	197	209	186	3	340	349	330	113	33	334	178	175	159	164	167	166	220	340
15 Spd	0	0	0	0	0	0	2	3	3	3	5	8	11	10	8	10	P	P	P	P	P	P	4	7	4.1	10.8
Dir	157	179	153	152	217	172	174	177	177	181	179	170	170	170	171	167	P	P	P	P	P	P	181	178	173	170
16 Spd	7	6	6	7	6	4	2	5	5	3	3	8	7	7	8	6	5	5	5	6	4	5	2	2	5.1	7.8
Dir	178	182	181	175	175	181	201	182	175	218	178	174	169	171	172	171	174	171	177	176	182	182	201	212	178	174
17 Spd	2	2	2	1	1	2	2	2	3	2	2	2	2	2	2	2	0	1	1	1	1	1	0	1	1.4	2.5
Dir	191	198	190	199	203	210	200	205	192	195	196	184	190	180	239	250	177	246	150	200	286	258	150	224	203	192
18 Spd	0	1	1	2	1	1	1	2	1	1	1	0	1	1	2	2	0	0	0	0	0	0	0	0	0.4	2.2
Dir	236	240	160	240	213	170	169	213	188	201	184	211	215	56	334	350	350	226	177	138	258	193	168	176	214	334
19 Spd	0	1	0	0	0	0	0	1	0	1	2	2	3	3	2	2	2	2	2	2	1	1	1	1	1.1	2.9
Dir	122	166	133	182	159	34	33	359	200	213	204	202	191	186	212	181	179	186	181	178	222	198	234	229	192	191
20 Spd	0	0	1	0	0	0	0	0	1	0	0	0	0	1	1	2	0	0	0	0	2	3	4	2	0.5	4.3
Dir	179	279	197	184	180	130	129	139	164	235	225	217	209	284	357	341	155	325	243	206	194	190	183	190	201	183
21 Spd	1	2	0	3	2	1	1	0	0	1	1	1	1	1	1	1	0	0	0	0	0	0	1	1	0.5	3.3
Dir	250	162	119	183	184	161	52	192	275	247	219	139	134	154	259	330	3	68	359	176	154	179	187	184	183	183
22 Spd	1	1	2	2	2	2	2	1	0	1	1	2	4	5	4	3	3	5	5	1	2	7	4	2	2.3	6.6
Dir	202	213	207	218	205	230	234	166	194	196	210	209	242	259	267	245	236	250	246	169	159	255	237	162	233	255

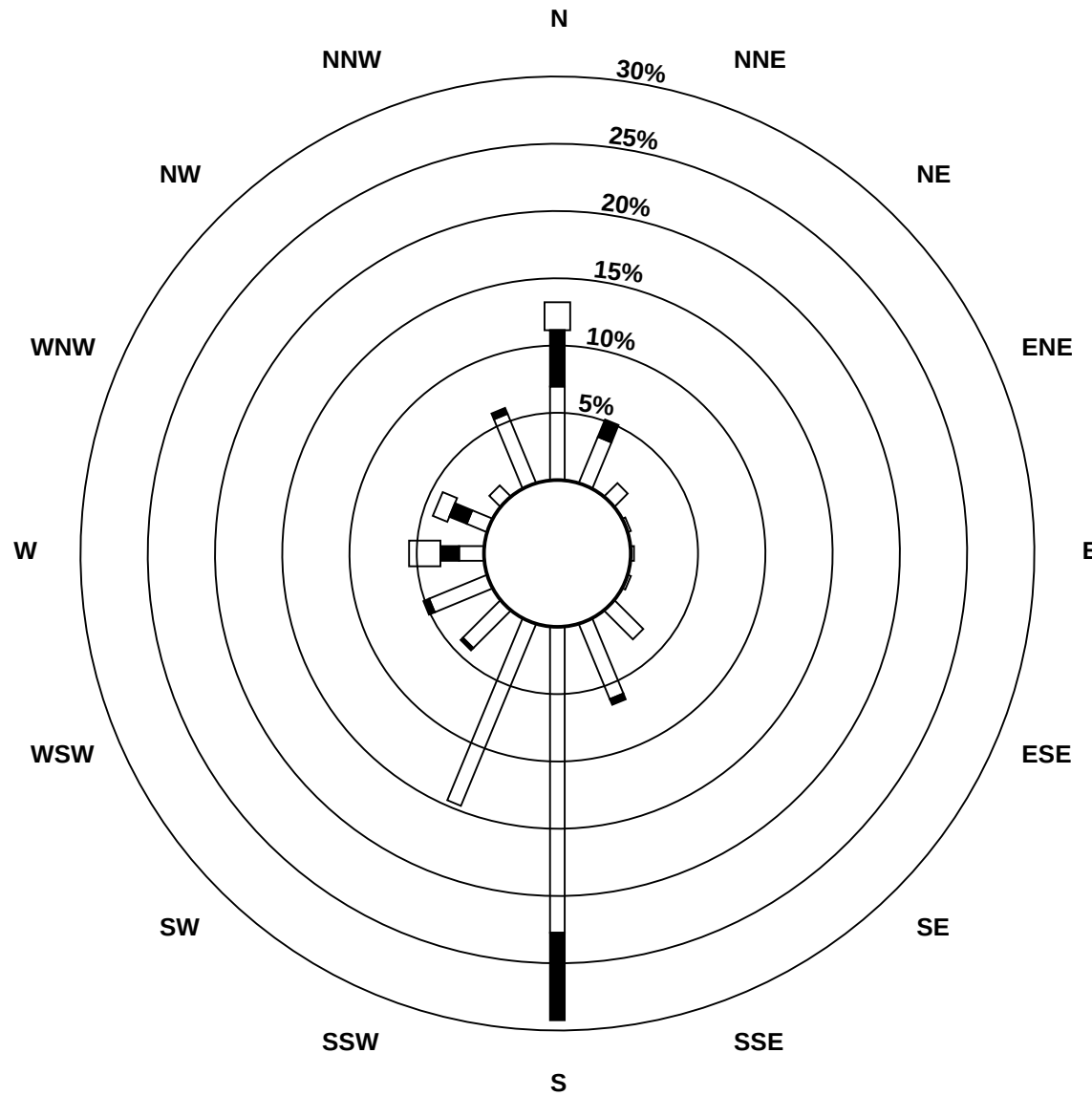
Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Valleyview - December 2014

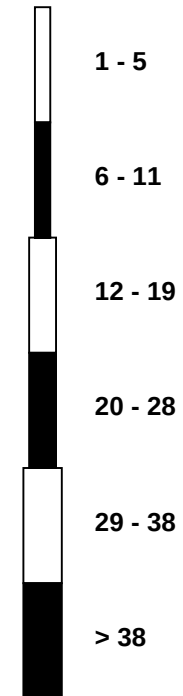
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
23 Spd	2	1	2	2	2	2	1	0	0	0	0	0	1	0	1	1	2	3	3	3	3	2	1	0	1.1	3.4
Dir	157	102	191	194	177	186	179	168	319	183	139	148	280	154	344	314	196	181	176	181	177	168	164	341	179	176
24 Spd	1	1	1	2	4	7	3	5	8	9	9	9	11	13	12	9	10	9	5	4	6	4	2	1	5.0	12.9
Dir	16	247	213	220	233	258	292	351	13	5	12	16	16	4	7	3	4	8	11	359	358	12	350	294	360	4
25 Spd	0	0	0	0	1	1	0	1	1	2	2	2	3	8	12	9	5	1	1	0	0	0	0	0	1.7	11.9
Dir	118	37	205	235	157	168	157	359	22	10	329	317	289	292	291	302	315	279	229	147	238	149	206	167	301	291
26 Spd	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1	1	1	0	0.2	1.1
Dir	160	201	224	203	170	166	188	177	195	171	162	180	338	325	18	103	104	198	200	186	194	218	221	52	199	186
27 Spd	1	1	1	1	1	0	0	0	0	1	0	0	0	1	3	3	2	7	5	3	0	1	6	6	1.5	6.9
Dir	309	194	196	176	3	322	174	161	132	339	55	60	121	18	6	354	354	5	18	12	278	346	3	355	2	5
28 Spd	7	7	7	5	4	4	6	4	4	2	3	6	10	12	13	11	9	10	16	15	14	13	12	8	8.3	15.6
Dir	0	7	340	344	357	11	15	33	34	35	28	7	355	359	6	8	3	3	2	1	5	3	4	352	3	2
29 Spd	6	4	1	1	1	2	3	3	2	0	2	3	3	2	2	2	1	1	1	1	2	1	0	2	0.7	5.9
Dir	345	9	331	344	351	338	286	276	262	207	189	181	212	229	173	167	162	174	190	209	186	205	204	197	245	345
30 Spd	0	2	1	2	1	2	0	2	2	3	4	13	11	11	13	12	12	12	15	12	11	11	14	11	6.7	14.8
Dir	220	214	206	227	212	213	345	216	194	187	178	278	293	283	281	277	280	282	279	288	280	279	284	279	275	279
31 Spd	12	12	3	1	2	2	4	2	1	2	2	1	1	2	2	1	7	8	7	8	15	15	14	12	4.8	15.0
Dir	282	276	234	226	247	173	264	224	246	205	140	155	139	136	97	282	276	280	279	290	277	278	278	278	272	278
Spd	0.4	0.5	0.5	0.5	0.6	0.7	0.4	0.5	0.5	0.6	0.8	0.7	0.8	0.7	1.2	1.0	1.0	1.1	1.0	0.7	1.0	1.2	0.9	0.8	Diurnal Average	
Dir	238	227	210	202	208	223	255	257	181	176	174	193	208	254	305	297	295	295	275	270	265	258	264	245	Diurnal Maximum	
Spd	11.6	12.2	6.9	7.1	6.3	6.8	5.6	9.0	8.3	8.7	9.3	13.4	11.1	12.9	12.6	11.8	12.1	11.7	15.6	15.2	14.6	15.0	13.9	11.5	Diurnal Maximum	
Dir	282	276	340	175	175	258	15	284	13	5	12	278	16	4	6	277	280	282	2	1	277	278	284	278		
Maximum Speed Value: 16 km/h on Dec 28 19:00																								Hours in Service: 744		
Maximum Daily Speed Average: 8.3 km/h on Dec 28																								Hours of Data: 738		
Maximum Diurnal Speed Average: 1.2 km/h at hour 22																								Hours of Missing Data: 6		
Minimum Speed Value: 0 km/h on Dec 27 11:00																								Percent Operational Time: 99.2		
Minimum Daily Speed Average: 0.2 km/h on Dec 26																										
Minimum Diurnal Speed Average: 0.4 km/h at hour 7																										
Monthly Average Velocity: 0.58 km/h 249.7 deg																										
Speed Percentiles: P ₁ = 0.0 P ₁₀ = 0.2 Q ₁ = 0.6 Median = 1.3 Q ₃ = 2.9 P ₉₀ = 6.6 P ₉₉ = 13.6																										
All monthly, daily, and diurnal averages have been calculated using vector methods																										
P - Power Failure																										
Frequency Distribution																										
Speed Range (km/h)																										
Direction	0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total																			
North	76	32	11	0	0	0	119																			
NorthEast	24	2	0	0	0	0	26																			
East	12	0	0	0	0	0	12																			
SouthEast	67	0	0	0	0	0	67																			
South	252	38	0	0	0	0	290																			
SouthWest	118	1	0	0	0	0	119																			
West	38	10	17	0	0	0	65																			
NorthWest	37	3	0	0	0	0	40																			
Total	624	86	28	0	0	0	738																			

Wind Rose

Wind Speed (WS) (km/h)
Valleyview - December 2014



Wind Speed Classes (km/h)



Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Valleyview - December 2014

Maximum Speed: 16 km/h on Dec 28 19:00																				Maximum Daily Speed Average: 8.5 km/h on Dec 28					Hours in Service: 744	
Minimum Speed: 0 km/h on Dec 25 23:00																				Minimum Daily Speed Average: 0.5 km/h on Dec 26					Hours of Data: 738	
Maximum Diurnal Speed Average: 3.9 km/h at hour 15																				Minimum Diurnal Speed Average: 1.6 km/h at hour 7					Hours of Missing Data: 6	
Monthly Average Speed: 2.63 km/h																				Percentiles: P ₁ = 0.1 P ₁₀ = 0.3 Q ₁ = 0.7 Median = 1.5 Q ₃ = 3.2 P ₉₀ = 6.6 P ₉₉ = 13.7					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-Dec	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	0	1	1	0	0	1	0	1	0.9	1.5
2-Dec	0	0	0	1	1	1	1	1	3	2	1	2	2	2	2	1	0	0	1	2	4	4	5	5	1.7	5.3
3-Dec	3	2	1	1	1	2	2	2	3	4	2	1	3	3	2	2	0	1	1	2	2	2	2	2	2.0	4.5
4-Dec	2	2	2	1	1	1	1	2	0	0	1	1	2	3	2	1	1	1	1	1	1	1	1	1	1.2	2.8
5-Dec	1	1	1	0	0	0	0	0	0	0	0	0	1	1	1	0	0	1	1	1	1	1	1	0	0.5	1.4
6-Dec	1	0	0	1	2	2	2	2	1	1	1	4	3	4	6	3	1	3	4	1	0	1	2	2	1.9	5.6
7-Dec	1	1	2	2	3	1	0	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0.8	2.6
8-Dec	0	0	0	0	1	1	0	1	4	7	7	6	6	3	1	2	2	2	1	1	1	1	1	1	2.0	7.4
9-Dec	1	1	1	1	1	1	1	1	2	4	2	2	5	4	3	2	4	3	3	4	6	4	6	7	3.0	7.4
10-Dec	7	7	6	6	6	6	3	2	1	1	1	1	1	2	2	2	1	3	5	6	4	4	1	1	3.3	7.2
11-Dec	2	2	5	5	5	4	2	10	3	3	2	2	3	2	5	2	2	4	3	4	5	6	9	6	4.0	9.5
12-Dec	8	6	5	4	1	2	3	5	2	2	2	1	1	1	1	0	1	2	1	1	1	2	4	2	2.4	7.8
13-Dec	2	2	1	0	0	1	0	1	2	2	2	2	2	2	4	4	3	2	1	2	1	2	3	1	1.8	4.0
14-Dec	1	2	1	2	1	1	1	1	1	1	1	1	2	1	1	0	0	1	0	1	0	1	0	1	0.9	2.1
15-Dec	1	0	0	0	0	0	2	3	3	3	5	8	11	10	8	10	P	P	P	P	P	P	4	7	4.2	10.9
16-Dec	7	6	6	7	6	4	2	5	5	3	3	8	7	7	8	6	6	5	5	6	4	5	2	2	5.2	7.9
17-Dec	2	2	2	1	1	2	2	2	3	2	2	2	2	2	3	2	1	1	1	1	2	1	1	1	1.7	2.5
18-Dec	1	1	1	2	2	1	1	2	1	1	1	1	1	1	2	2	0	0	0	0	0	0	0	0	1.0	2.4
19-Dec	0	1	0	0	1	0	1	1	1	1	2	2	3	3	3	2	3	2	2	2	1	1	1	1	1.4	2.9
20-Dec	0	1	1	0	0	1	0	0	1	1	0	0	0	1	1	2	1	1	0	1	2	3	4	2	1.1	4.4
21-Dec	1	2	1	3	2	1	1	1	0	1	1	1	1	1	1	2	1	1	0	0	1	1	1	1	1.1	3.3
22-Dec	1	1	2	2	2	3	2	1	1	1	1	2	4	5	4	3	3	5	5	2	2	7	5	2	2.7	6.7
23-Dec	2	1	2	2	2	2	1	0	0	1	0	1	1	1	1	2	2	3	4	3	3	3	2	2	1.6	3.6
24-Dec	1	2	2	2	4	7	3	6	8	9	9	9	11	13	12	9	10	9	5	4	6	4	2	1	6.2	12.9
25-Dec	0	1	1	1	1	1	0	1	1	2	2	2	3	9	12	9	5	1	1	0	0	0	0	0	2.3	12.2
26-Dec	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	1	1	1	1	0	0.5	1.5
27-Dec	1	1	1	1	1	0	0	0	0	1	0	0	0	1	3	3	3	7	5	3	0	2	6	6	2.0	6.9
28-Dec	7	7	7	5	4	5	6	4	4	2	3	7	10	12	13	11	9	10	16	15	14	13	12	8	8.5	15.8
29-Dec	6	4	2	1	1	2	3	3	3	0	2	3	3	3	2	2	1	1	1	1	2	1	0	2	2.0	6.0
30-Dec	0	2	1	2	2	2	1	2	2	4	4	14	11	11	13	12	12	12	15	13	12	11	14	11	7.6	14.9
31-Dec	12	13	3	2	3	2	5	4	2	2	2	1	1	2	3	3	8	8	7	9	15	15	14	12	6.1	15.1
2.4 2.3 1.9 1.9 1.8 1.9 1.6 2.1 2.0 2.0 2.0 2.8 3.4 3.6 3.9 3.3 2.7 3.0 3.1 2.8 3.1 3.2 3.3 2.8																								Diurnal Average		
11.8 12.6 7.1 7.2 6.4 6.9 5.9 9.5 8.5 8.8 9.4 13.6 11.3 12.9 12.8 11.9 12.2 11.8 15.8 15.4 14.8 15.1 14.1 11.6																								Diurnal Maximum		
P - Power Failure																										
All monthly, daily, and diurnal averages have been calculated using scalar methods																										

Hourly Standard Deviations

Wind Direction (WD) - deg
Valleyview - December 2014

Maximum Value: 97.6 deg on Dec 19 07:00																			Hours in Service: 744						
Minimum Value: 4.7 deg on Dec 17 01:00																			Hours of Data: 738						
																			Hours of Missing Data: 6						
Percentiles: P ₁ = 5.9 P ₁₀ = 8.0 Q ₁ = 12.4 Median = 25.6 Q ₃ = 52.4 P ₉₀ = 75.1 P ₉₉ = 93.8																			Hours of Calibration: 0						
																			Percent Operational Time: 99.2						
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-Dec	19	21	34	30	20	24	25	24	29	90	61	53	39	31	45	74	47	51	88	76	45	11	24	23	89.9
2-Dec	49	48	42	88	22	22	14	26	8	16	30	19	8	8	11	11	19	6	9	18	11	11	15	11	88.1
3-Dec	14	10	12	24	15	35	44	29	16	13	21	33	10	9	20	17	24	15	15	11	7	9	17	20	43.9
4-Dec	25	21	16	22	16	16	21	17	58	83	25	15	11	10	17	19	16	76	27	13	22	33	16	15	82.7
5-Dec	19	14	13	16	22	30	93	24	22	84	31	27	90	63	50	72	86	63	37	64	64	28	14	47	93.3
6-Dec	26	72	67	55	20	21	31	21	62	64	38	17	30	17	21	26	35	38	16	54	67	25	10	64	72.1
7-Dec	74	82	28	35	42	26	78	39	60	20	14	41	34	88	23	59	79	76	85	78	95	81	44	66	94.8
8-Dec	51	88	75	69	95	74	48	55	9	6	9	10	10	12	30	79	80	72	51	58	44	24	46	50	94.6
9-Dec	40	32	22	20	77	34	90	92	36	48	31	14	7	9	8	22	41	25	38	35	20	14	5	5	91.8
10-Dec	6	6	8	7	7	9	43	70	73	55	76	51	37	77	52	94	89	10	8	6	11	13	51	74	93.6
11-Dec	93	50	30	17	37	31	39	20	46	39	38	35	29	67	23	30	80	28	56	25	13	44	18	34	92.7
12-Dec	16	13	14	21	73	62	46	16	78	61	89	50	54	80	42	80	78	35	97	77	33	29	8	13	96.5
13-Dec	7	8	24	32	62	12	29	62	8	5	8	8	10	14	32	14	16	9	46	19	18	14	8	15	62.5
14-Dec	15	9	50	17	21	44	31	15	8	8	43	80	19	12	26	82	78	54	39	28	47	82	59	59	82.2
15-Dec	59	46	72	50	76	60	13	10	7	7	8	6	6	6	7	7	P	P	P	P	P	P	7	7	76.3
16-Dec	8	7	6	7	7	9	9	13	8	18	33	8	10	8	8	7	7	7	7	7	5	7	10	17	32.8
17-Dec	5	7	6	12	18	7	8	8	8	8	19	11	16	25	36	30	62	53	33	29	86	74	80	49	86.3
18-Dec	54	62	36	39	51	41	16	30	15	10	28	76	58	63	12	12	72	86	20	27	57	31	29	37	86.3
19-Dec	78	43	93	86	80	78	98	74	70	32	15	11	12	17	48	21	18	6	11	12	45	27	26	41	97.6
20-Dec	64	55	29	52	41	57	72	43	43	43	54	64	74	33	57	41	85	81	62	88	23	8	10	31	88.5
21-Dec	60	37	69	9	10	57	52	64	57	52	33	31	16	16	57	42	72	76	74	63	75	59	15	17	75.5
22-Dec	10	9	10	19	11	32	29	28	40	36	25	36	13	17	14	16	9	8	10	27	24	18	39	18	40.4
23-Dec	17	55	12	7	15	9	75	74	97	59	36	83	61	77	58	82	27	34	24	9	11	52	39	87	97.0
24-Dec	64	61	32	10	12	11	14	36	10	9	8	13	11	7	8	8	7	8	15	9	8	10	29	68	68.4
25-Dec	72	94	62	85	30	16	44	46	16	16	15	12	24	20	12	12	13	64	74	51	66	49	60	23	94.0
26-Dec	55	53	66	50	35	29	57	24	27	33	66	57	42	47	87	46	64	71	72	59	14	15	26	78	87.3
27-Dec	82	16	15	34	67	55	18	20	63	53	85	37	94	19	12	12	12	7	12	37	71	57	8	10	93.9
28-Dec	8	8	12	16	11	13	16	11	14	16	15	14	11	10	9	12	8	7	8	8	8	7	8	11	16.3
29-Dec	10	12	45	37	49	36	12	16	30	16	7	12	30	38	21	24	12	17	13	6	10	9	14	13	48.8
30-Dec	14	22	15	22	39	20	79	19	38	17	13	13	10	10	8	7	8	9	7	10	16	11	8	11	78.7
31-Dec	8	24	34	55	32	43	51	58	76	35	44	38	66	38	41	94	37	24	21	20	8	6	7	8	93.5
92.7 94.0 93.5 88.1 94.6 77.7 97.6 91.8 97.0 89.9 89.4 83.2 93.9 87.7 87.3 93.6 89.0 86.3 96.5 88.5 94.8 82.2 80.0 87.2																									
P - Power Failure																									

PAZA

Falher Station

Monthly Summary Tables, Graphs and Roses

Hourly Averages

Sulphur Dioxide (SO₂) - ppb

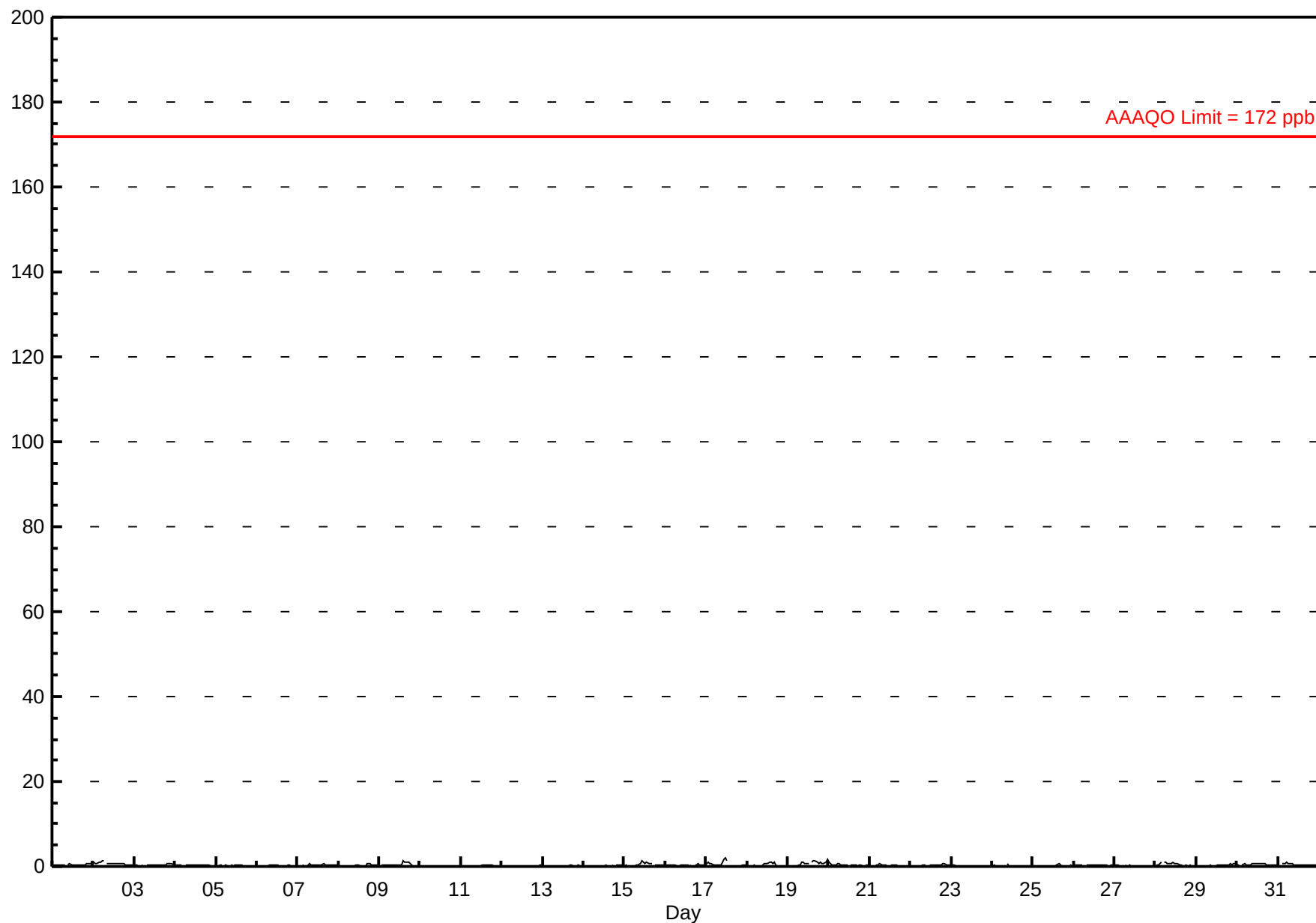
Falher - December 2014

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 1.9 ppb on Dec 17 12:00 Maximum Daily Average: 0.7 ppb on Dec 2																				Hours in Service: 744 Hours of Data: 711						
Minimum Value: 0 ppb on Dec 10 13:00 Minimum Daily Average: 0.0 ppb on Dec 12 Maximum Diurnal Average: 0.4 ppb at hour 11 Minimum Diurnal Average: 0.2 ppb at hour 2 Monthly Average: 0.28 ppb Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 0.2 Q ₃ = 0.4 P ₉₀ = 0.7 P ₉₉ = 1.2																				Hours of Missing Data: 33 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-Dec	0	0	0	0	0	0	0	0	A	0	1	0	0	1	0	0	0	0	0	0	1	1	1	1	0.4	1.0
2-Dec	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0.7	1.3
3-Dec	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0.4	0.7
4-Dec	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
5-Dec	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3
6-Dec	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0.2	0.5
7-Dec	0	0	A	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0.3	0.6
8-Dec	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0.2	0.5
9-Dec	A	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	A	0.4	1.3
10-Dec	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
11-Dec	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
12-Dec	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.0	0.2
13-Dec	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
14-Dec	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
15-Dec	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	A	0	0	0	1	0	0	0.5	1.2
16-Dec	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	1	0	0	0	0	0.3	0.7
17-Dec	1	1	1	1	1	0	0	0	0	0	2	2	1	C	C	C	0	0	0	0	0	0	0	0	0.5	1.9
18-Dec	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0.3	1.2
19-Dec	0	0	0	0	0	0	0	0	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	2	0.7	1.6
20-Dec	1	1	0	0	0	1	1	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.4	0.9
21-Dec	0	0	0	0	0	0	1	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.5
22-Dec	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	1	1	0	1	0	0.3	0.6
23-Dec	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
24-Dec	0	0	0	0	0	0	0	0	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.5
25-Dec	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0.1	0.7
26-Dec	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.3
27-Dec	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
28-Dec	0	0	1	1	A	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0.5	1.1
29-Dec	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0.2	0.6
30-Dec	0	0	A	0	1	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0.5	0.7
31-Dec	0	A	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.9
0.2 0.2 0.2 0.3 0.2 0.3 0.3 0.2 0.3 0.3 0.4 0.4 0.3 0.3 0.4 0.3 0.3 0.3 0.3 0.3 0.3 0.2 0.2 0.3 0.3																									Diurnal Average	
1.0 0.9 0.8 1.0 1.1 1.3 1.2 0.7 1.1 1.0 1.8 1.9 1.5 1.2 1.3 1.3 1.2 1.1 0.8 0.9 0.7 0.7 1.2 1.6																									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 (SO₂) - ppb

Falher - December 2014



Hourly Maximums

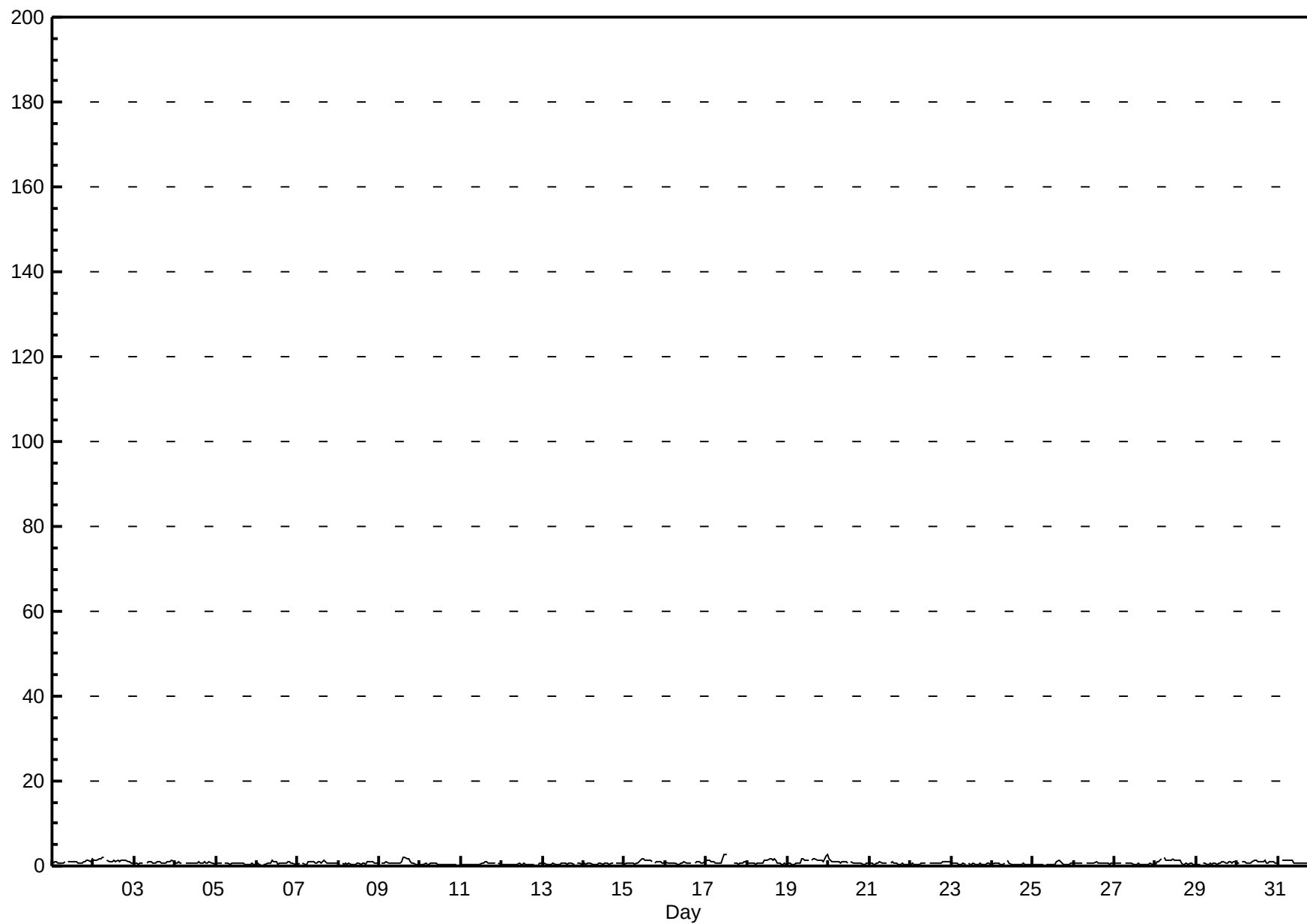
Sulphur Dioxide (SO₂) - ppb

Falher - December 2014

Maximum Value: 2.7 ppb on Dec 17 13:00																			Maximum Daily Average: 1.3 ppb on Dec 19										Hours in Service: 744	
Minimum Value: 0 ppb on Dec 24 17:00																			Minimum Daily Average: 0.4 ppb on Dec 10										Hours of Data: 711	
Maximum Diurnal Average: 0.9 ppb at hour 11																			Minimum Diurnal Average: 0.6 ppb at hour 1										Hours of Missing Data: 33	
Monthly Average: 0.74 ppb																			Percentiles: P ₁ = 0.3 P ₁₀ = 0.4 Q ₁ = 0.5 Median = 0.7 Q ₃ = 0.9 P ₉₀ = 1.3 P ₉₉ = 1.9										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-Dec	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	0.9	1.7				
2-Dec	2	1	1	2	2	2	2	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.3	1.9				
3-Dec	1	1	0	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.3				
4-Dec	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0.8	0.9				
5-Dec	1	1	1	1	A	1	1	1	0	1	1	1	1	1	1	1	1	0	0	0	0	1	0	0	0.6	0.8				
6-Dec	1	0	0	A	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0.7	1.3				
7-Dec	0	1	A	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.3				
8-Dec	1	A	1	0	1	1	1	0	0	0	1	1	1	0	1	1	0	1	1	1	1	1	1	1	0.6	1.0				
9-Dec	A	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	1	1	1	0	0	A	0.9	2.0				
10-Dec	0	0	0	1	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.4	0.8				
11-Dec	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	A	1	0	0.5	0.9				
12-Dec	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0	0	0	0	0	0	A	0	1	1	0.4	0.7				
13-Dec	1	1	1	0	0	0	1	0	0	0	0	1	1	1	0	1	1	1	0	A	1	1	1	0	0.5	0.7				
14-Dec	1	0	1	1	1	0	0	0	0	1	1	0	1	1	1	0	1	1	A	1	1	1	1	1	0.6	0.8				
15-Dec	0	1	1	1	1	1	0	1	1	1	2	2	1	1	1	1	1	A	1	1	1	1	1	1	0.9	1.8				
16-Dec	1	1	1	1	1	1	1	0	0	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	0.7	1.0				
17-Dec	1	1	1	1	1	1	1	1	1	1	3	3	3	C	C	C	1	1	1	1	1	1	1	1	1.1	2.7				
18-Dec	1	1	1	1	1	0	1	1	1	1	1	1	1	2	2	1	2	1	1	1	0	0	1	0	0.9	1.7				
19-Dec	1	1	0	0	0	1	1	1	2	2	1	1	1	A	1	2	2	1	1	1	1	1	2	3	1.3	2.7				
20-Dec	2	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	0	0	1	1	0.8	1.6				
21-Dec	1	1	0	0	1	1	1	1	1	1	1	A	1	1	1	1	1	0	0	1	0	0	0	0	0.6	1.2				
22-Dec	0	1	0	0	0	0	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.1				
23-Dec	1	1	1	1	0	0	0	1	0	A	1	0	0	1	0	0	0	1	0	0	0	1	1	0	0.5	0.8				
24-Dec	0	1	1	1	1	0	0	1	A	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0.5	1.3				
25-Dec	0	0	0	0	0	0	0	A	1	0	0	0	0	0	1	1	1	1	0	0	0	0	1	1	0.5	1.2				
26-Dec	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				
27-Dec	1	1	1	1	1	A	1	1	1	1	1	0	1	0	1	0	0	0	0	1	0	1	0	1	0.5	0.7				
28-Dec	0	1	1	2	A	2	2	1	1	1	2	1	1	1	1	1	0	0	1	0	1	1	0	0	1.0	1.9				
29-Dec	0	0	0	A	1	1	0	0	1	0	1	1	0	1	1	1	1	1	1	1	1	1	1	1	0.7	1.0				
30-Dec	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.3				
31-Dec	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.4				
0.6		0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.9	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.8	Diurnal Average					
1.6		1.4	1.4	1.7	1.6	1.9	1.9	1.3	1.7	1.8	2.7	2.6	2.7	1.7	2.0	1.9	1.8	1.7	1.4	1.5	1.3	1.3	2.5	2.7	Diurnal Maximum					
C - Calibration		A - Automated Daily Zero Span																												

Hourly Maximums

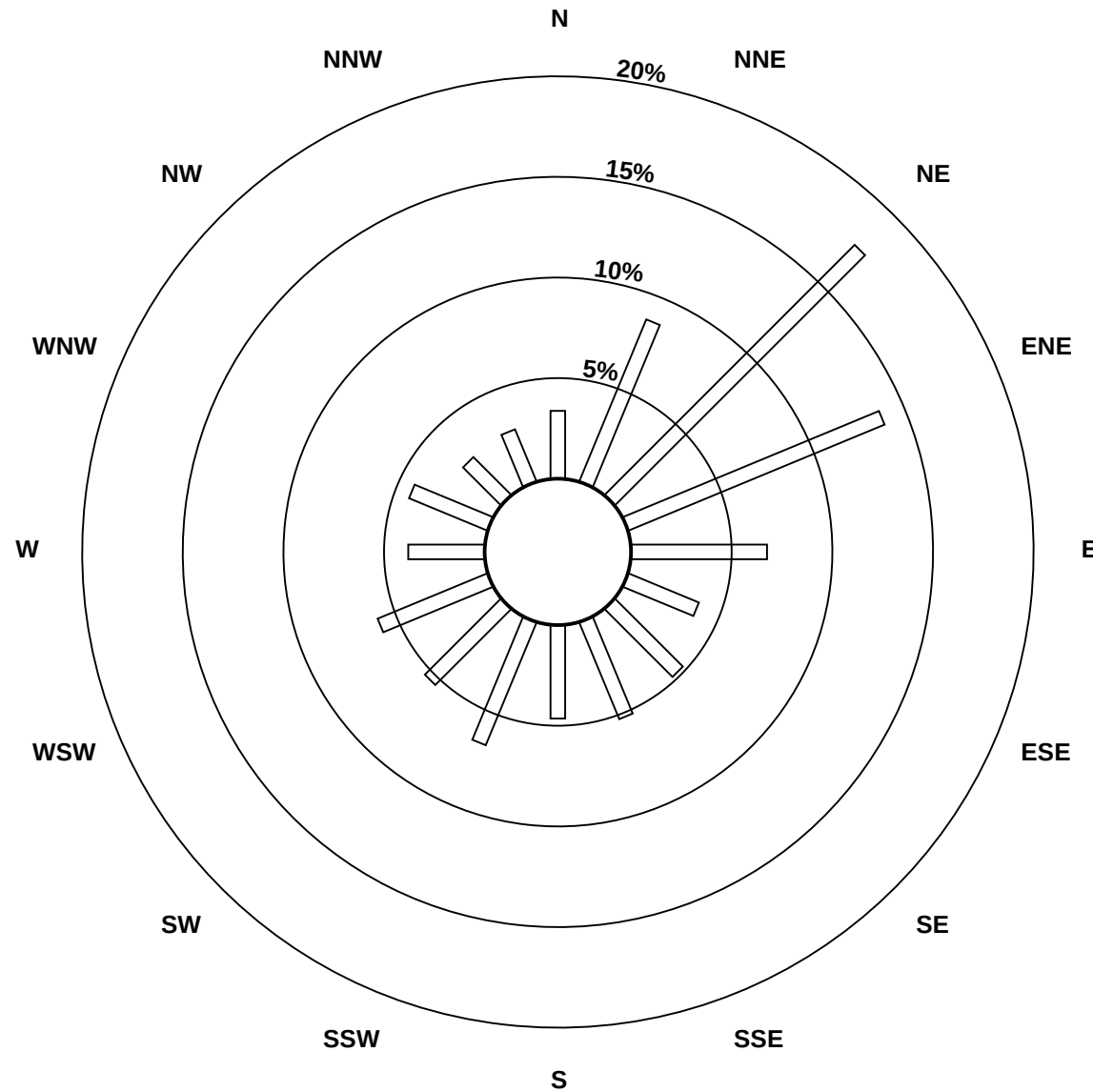
Sulphur Dioxide (SO₂) - ppb
Falher - December 2014



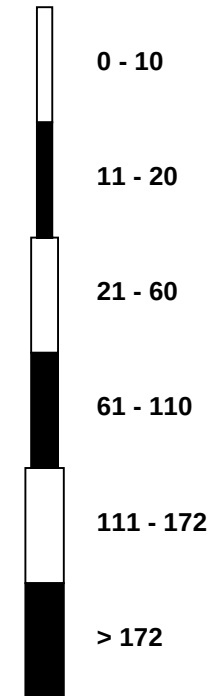
Pollutant Rose

Sulphur Dioxide (SO₂) - ppb

Falher - December 2014

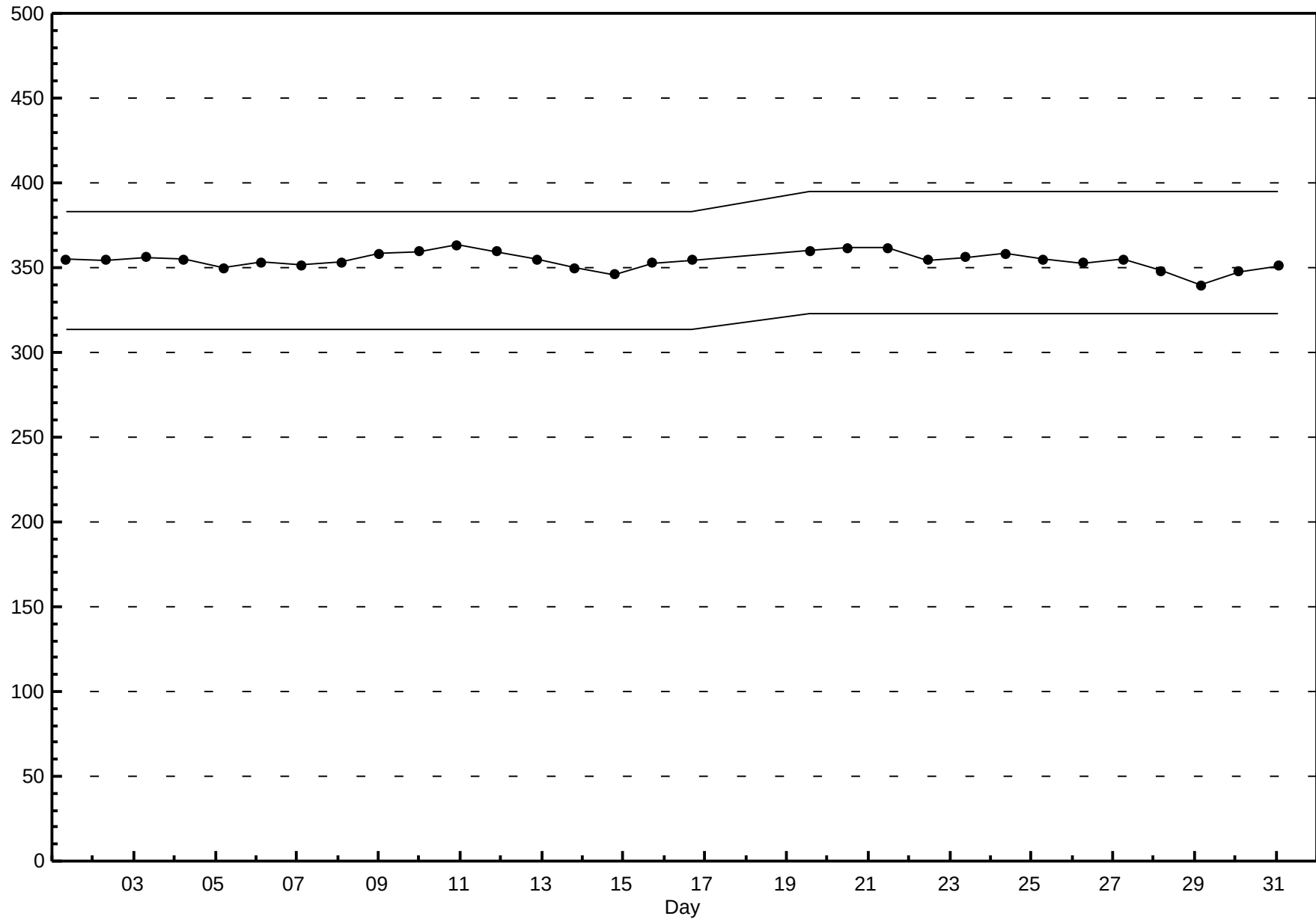


Pollutant Classes (ppb)



Span Responses

Sulphur Dioxide (SO₂)
Falher - December 2014



Hourly Averages

Hydrogen Sulphide (H₂S) - ppb

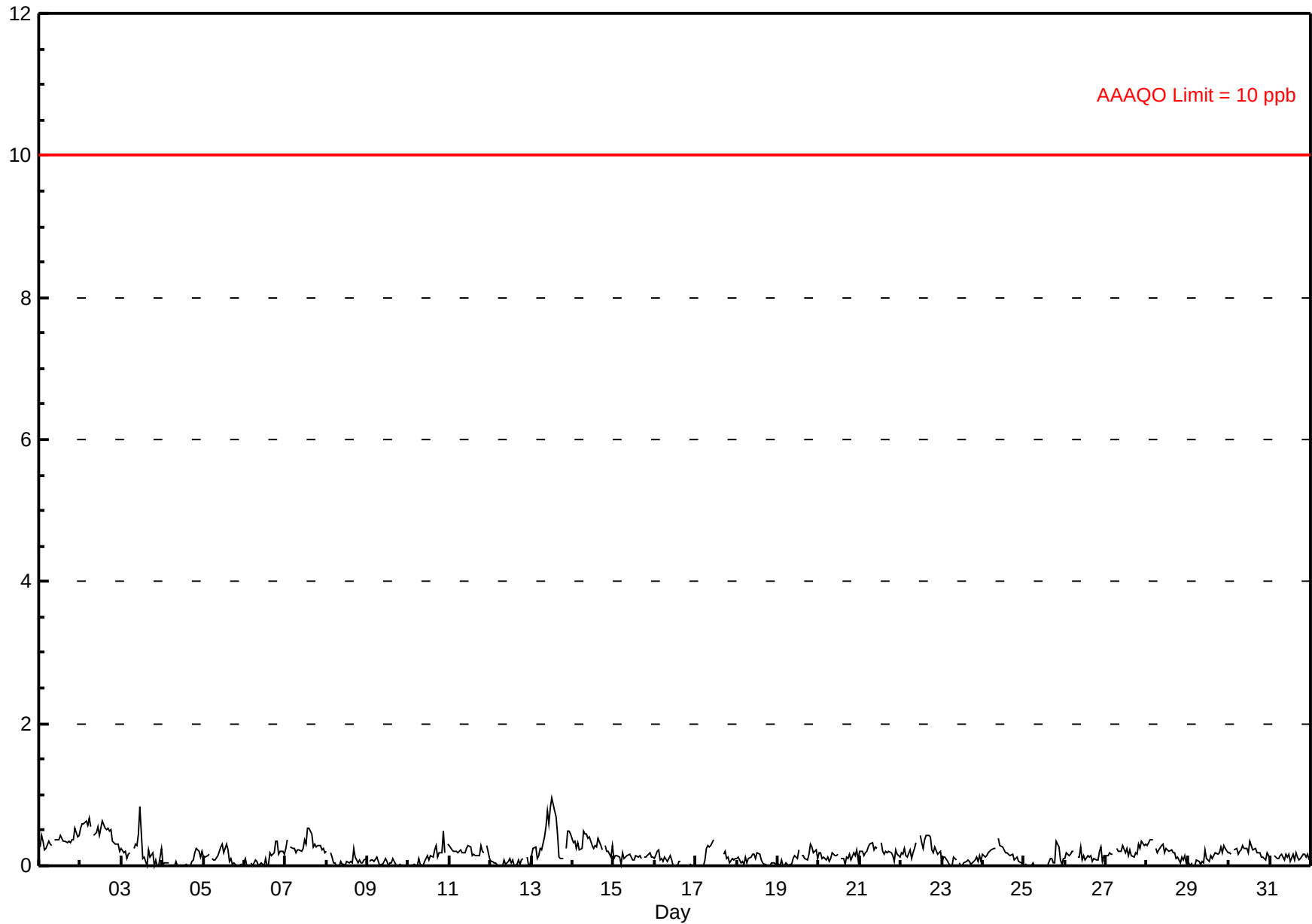
Falher - December 2014

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																			Hours in Service: 744							
Maximum Value: 1.0 ppb on Dec 13 13:00																			Maximum Daily Average: 0.5 ppb on Dec 2		Hours of Data: 709					
Minimum Value: 0 ppb on Dec 3 20:00																			Minimum Daily Average: 0.0 ppb on Dec 9		Hours of Missing Data: 35					
Maximum Diurnal Average: 0.2 ppb at hour 12																			Minimum Diurnal Average: 0.1 ppb at hour 5		Hours of Calibration: 35					
Monthly Average: 0.17 ppb																			Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 0.1 Q ₃ = 0.2 P ₉₀ = 0.3 P ₉₉ = 0.7		Percent Operational Time: 100.0					
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Dec	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0.4	0.5
2-Dec	1	1	1	1	1	1	1	A	0	0	1	0	1	1	1	1	1	0	1	0	0	0	0	0	0.5	0.7
3-Dec	0	0	0	0	0	0	A	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.8
4-Dec	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
5-Dec	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
6-Dec	0	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
7-Dec	0	0	A	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0.3	0.5
8-Dec	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
9-Dec	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
10-Dec	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	A	0	0.1	0.5
11-Dec	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
12-Dec	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.0	0.1
13-Dec	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	0	0	0	0	A	0	0	0	0	0.4	1.0
14-Dec	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	0.5
15-Dec	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0.1	0.2
16-Dec	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
17-Dec	0	0	0	0	0	0	0	0	0	0	0	C	C	C	C	A	0	0	0	0	0	0	0	0	0.1	0.4
18-Dec	0	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-Dec	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
20-Dec	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
21-Dec	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3
22-Dec	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4
23-Dec	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	0.1
24-Dec	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
25-Dec	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
26-Dec	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
27-Dec	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
28-Dec	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4
29-Dec	0	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
30-Dec	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
31-Dec	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
																									Diurnal Average	
																									Diurnal Maximum	
C - Calibration A - Automated Daily Zero Span																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb																										

Hourly Averages

Hydrogen Sulphide (H₂S) - ppb

Falher - December 2014



Hourly Maximums

Hydrogen Sulphide (H₂S) - ppb

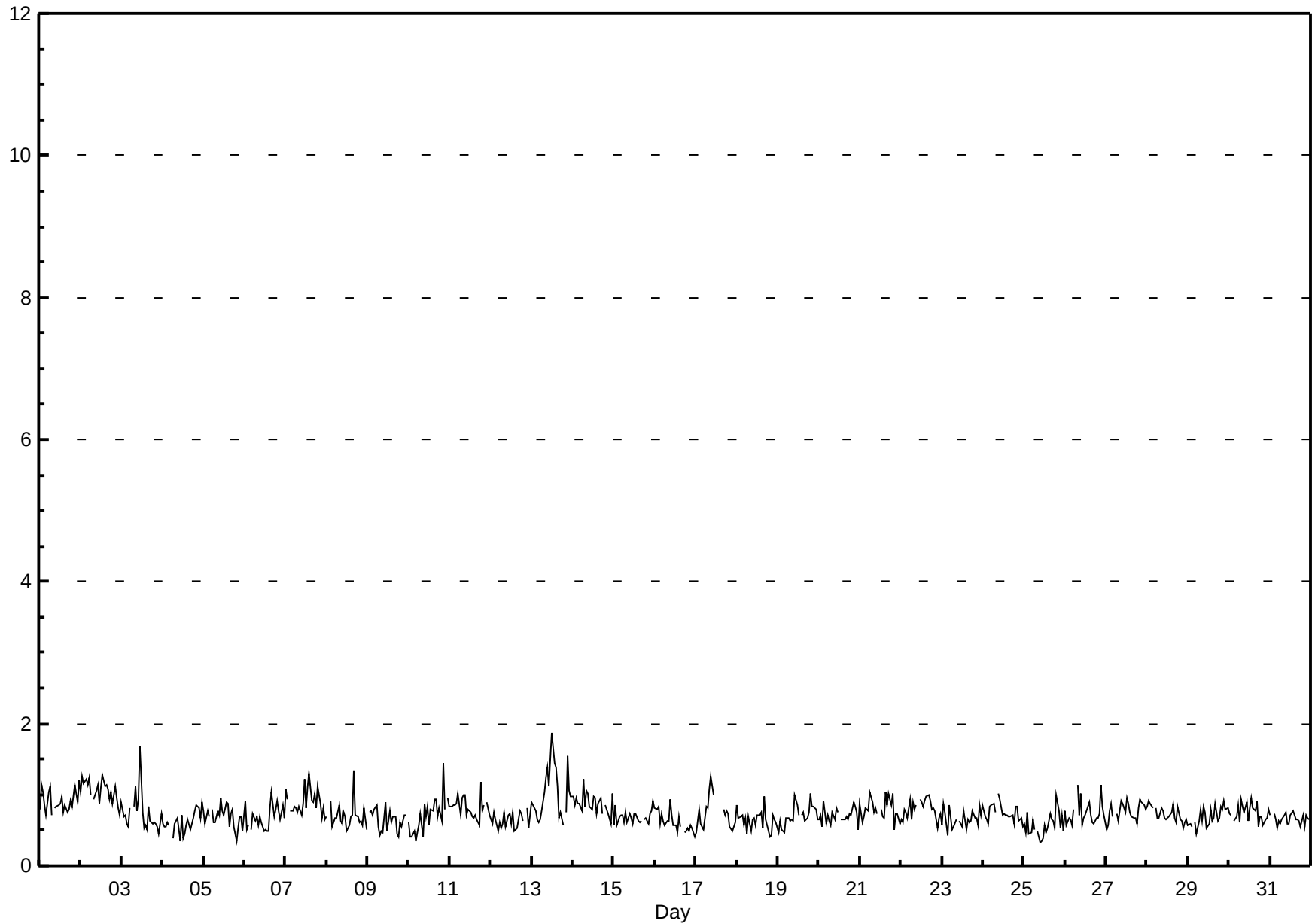
Falher - December 2014

Maximum Value: 1.9 ppb on Dec 13 13:00																				Maximum Daily Average: 1.1 ppb on Dec 2					Hours in Service: 744	
Minimum Value: 0 ppb on Dec 25 10:00																				Minimum Daily Average: 0.6 ppb on Dec 25					Hours of Data: 709	
Maximum Diurnal Average: 0.8 ppb at hour 10																				Minimum Diurnal Average: 0.7 ppb at hour 5					Hours of Missing Data: 35	
Monthly Average: 0.74 ppb																				Percentiles: P ₁ = 0.4 P ₁₀ = 0.5 Q ₁ = 0.6 Median = 0.7 Q ₃ = 0.8 P ₉₀ = 1.0 P ₉₉ = 1.4					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-Dec	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.2
2-Dec	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.1	1.3
3-Dec	1	1	1	1	1	1	A	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	0	1	0.7	1.7
4-Dec	1	1	1	1	1	A	0	1	1	1	0	1	0	0	1	1	1	1	1	1	1	1	1	1	0.6	0.9
5-Dec	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	0	0.7	0.9
6-Dec	1	1	1	A	1	1	1	1	1	1	1	0	1	0	0	1	1	1	1	1	1	1	1	1	0.7	1.0
7-Dec	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.3
8-Dec	1	A	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	0.7	1.4
9-Dec	A	1	1	1	1	1	1	0	0	0	1	0	1	1	1	1	0	0	1	1	1	1	1	A	0.6	0.9
10-Dec	1	0	0	0	0	0	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	0.7	1.5
11-Dec	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	0.8	1.2
12-Dec	1	1	1	1	0	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	A	1	1	1	0.6	0.8
13-Dec	1	1	1	1	1	1	1	1	1	1	1	2	2	1	1	1	1	1	1	A	1	2	1	1	1.0	1.9
14-Dec	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	0.9	1.2
15-Dec	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	0.7	0.9
16-Dec	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	A	1	0	0	1	0	1	1	0.6	0.9
17-Dec	0	1	1	1	1	1	1	1	1	1	1	C	C	C	C	A	1	1	1	1	1	0	1	1	0.7	1.3
18-Dec	1	1	1	1	1	1	0	1	0	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	0.6	1.0
19-Dec	0	1	1	0	0	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	0.7	1.0
20-Dec	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	0.7	0.9
21-Dec	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.0
22-Dec	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.0
23-Dec	1	1	1	0	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	0.9
24-Dec	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.0
25-Dec	1	0	1	0	0	1	1	A	0	0	0	0	1	0	1	1	1	1	1	1	1	1	1	0	0.6	1.0
26-Dec	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	1.1
27-Dec	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	0.9
28-Dec	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	0.9
29-Dec	1	1	1	A	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	0.9
30-Dec	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
31-Dec	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	0.8
0.7 0.7 0.7 0.7 0.7 0.8 0.7 0.7 0.7 0.8 0.8 0.8 0.7 0.8 0.7 0.8 0.8 0.7 0.7 0.7 0.7 0.8 0.7 0.7																									Diurnal Average	
1.1 1.3 1.2 1.2 1.1 1.2 1.2 1.1 1.2 1.4 1.1 1.7 1.9 1.5 1.4 1.1 1.4 1.0 1.2 1.1 1.5 1.5 1.0 1.2																									Diurnal Maximum	
C - Calibration A - Automated Daily Zero Span																										

Hourly Maximums

Hydrogen Sulphide (H₂S) - ppb

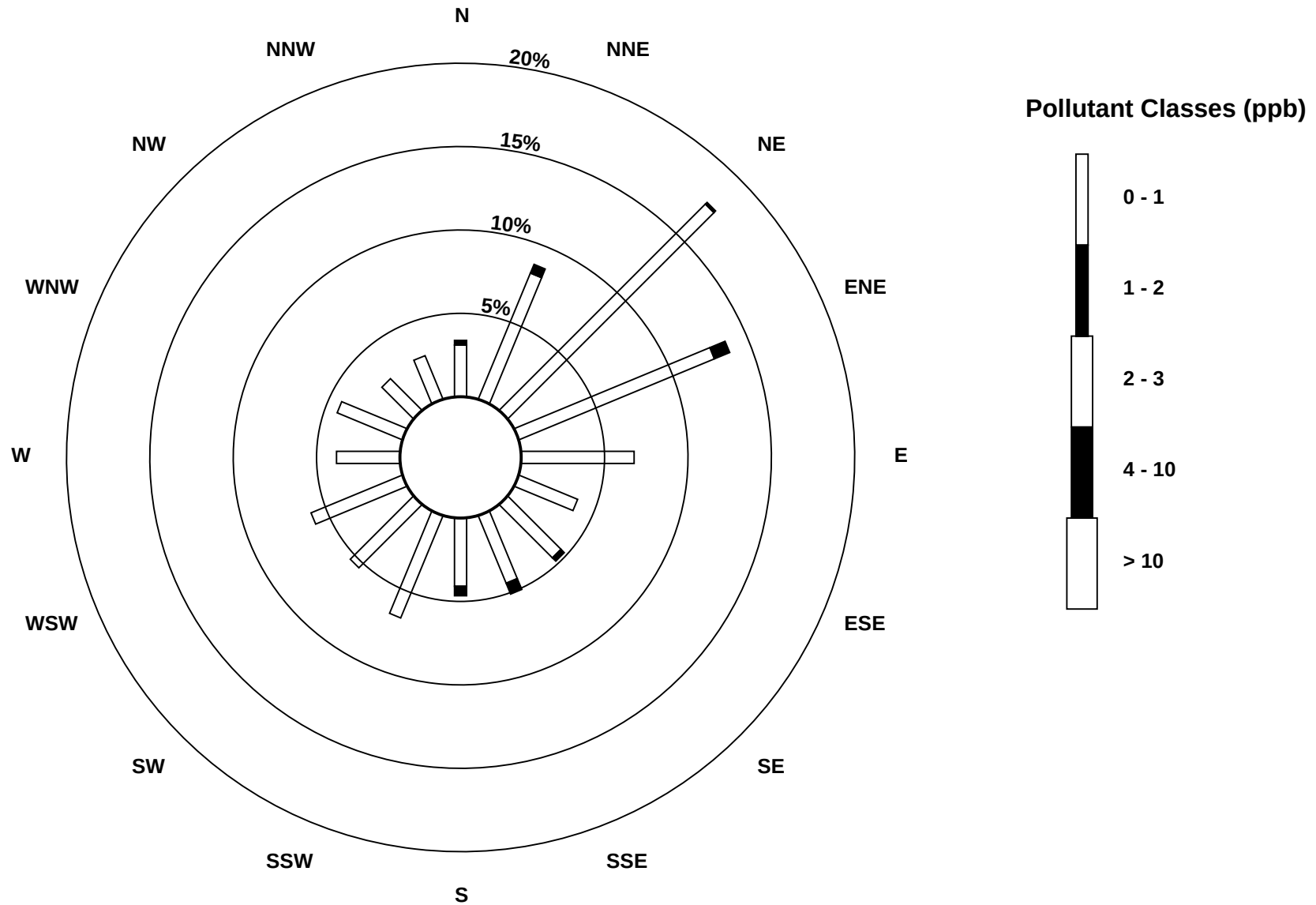
Falher - December 2014



Pollutant Rose

Hydrogen Sulphide (H₂S) - ppb

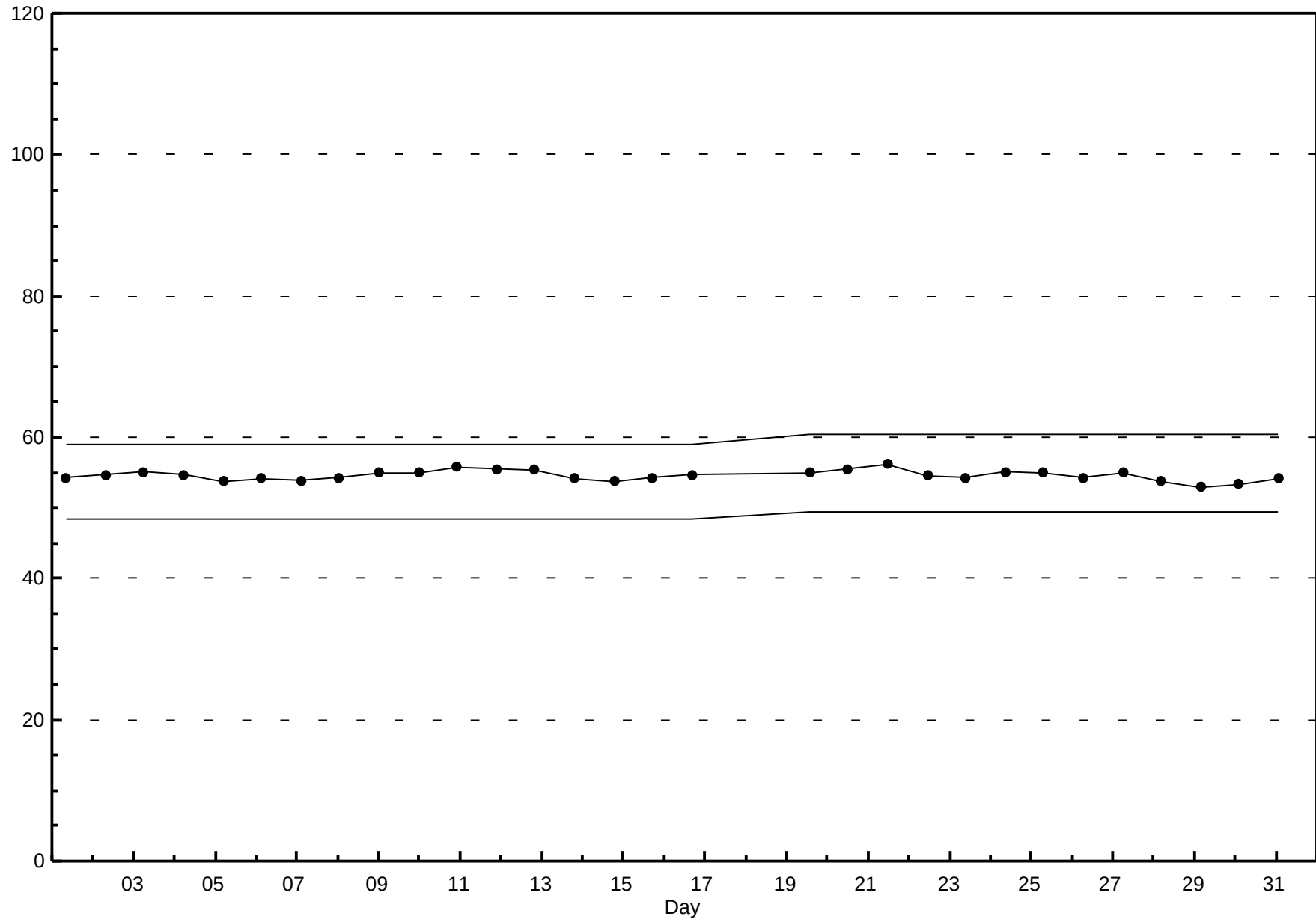
Falher - December 2014



Span Responses

Hydrogen Sulphide (H_2S)

Falher - December 2014



Hourly Averages

External Temperature (ET) - °C

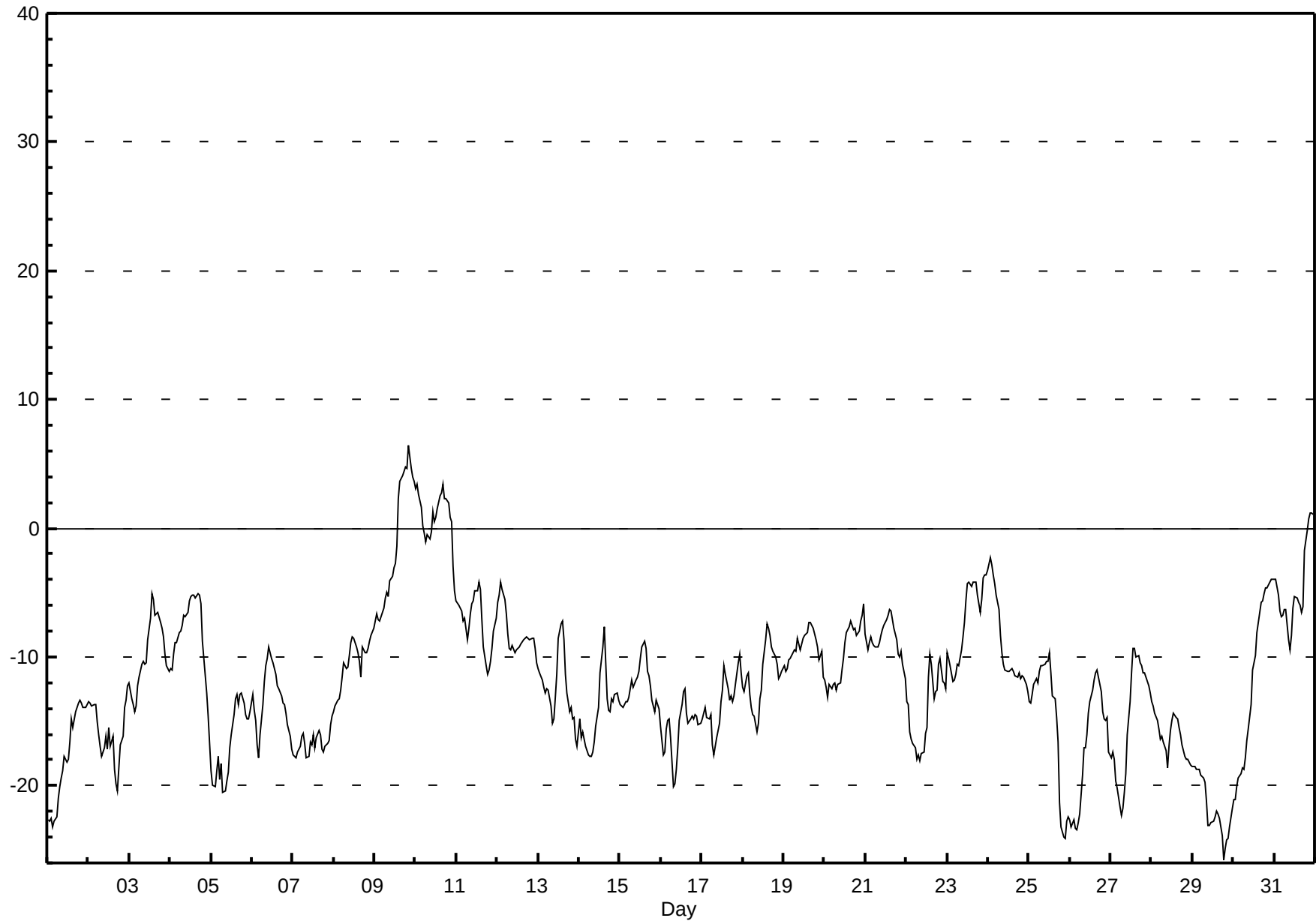
Falher - December 2014

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 6.4 °C on Dec 9 21:00 Maximum Daily Average: 0.9 °C on Dec 10																					Hours in Service: 744 Hours of Data: 744 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0						
Minimum Value: -26 °C on Dec 29 19:00 Maximum Diurnal Average: -9.3 °C at hour 15 Monthly Average: -11.72 °C Minimum Daily Average: -21.7 °C on Dec 29 Minimum Diurnal Average: -13.3 °C at hour 8 Percentiles: P ₁ = -23.4 P ₁₀ = -18.7 Q ₁ = -15.4 Median = -11.8 Q ₃ = -8.4 P ₉₀ = -5.1 P ₉₉ = 3.8																											
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-Dec	-23	-23	-23	-23	-23	-22	-21	-20	-19	-19	-18	-18	-17	-16	-15	-15	-14	-14	-14	-13	-14	-14	-14	-14	-17.8	-13.4	
2-Dec	-14	-14	-14	-14	-14	-15	-16	-17	-18	-17	-16	-17	-16	-17	-16	-19	-20	-20	-19	-17	-16	-14	-13	-12	-16.0	-12.3	
3-Dec	-12	-13	-14	-14	-14	-12	-12	-11	-10	-11	-10	-9	-7	-5	-5	-7	-7	-7	-7	-8	-8	-10	-11	-11	-9.8	-5.0	
4-Dec	-11	-11	-10	-9	-9	-8	-8	-8	-7	-7	-7	-6	-5	-5	-5	-5	-5	-5	-6	-9	-10	-13	-15	-17	-8.3	-5.1	
5-Dec	-19	-20	-20	-19	-18	-20	-18	-21	-20	-20	-19	-17	-16	-14	-13	-13	-14	-13	-13	-14	-14	-15	-15	-14	-16.6	-12.8	
6-Dec	-13	-14	-15	-17	-18	-16	-14	-12	-11	-10	-9	-10	-10	-11	-11	-12	-13	-13	-14	-14	-14	-15	-16	-17	-13.3	-9.2	
7-Dec	-18	-18	-18	-17	-17	-16	-16	-17	-18	-18	-17	-17	-16	-17	-16	-16	-16	-17	-17	-17	-17	-16	-15	-15	-16.7	-14.6	
8-Dec	-14	-14	-13	-13	-13	-12	-11	-11	-11	-10	-9	-8	-9	-9	-10	-10	-12	-9	-10	-10	-9	-9	-8	-8	-10.4	-7.8	
9-Dec	-7	-7	-7	-7	-7	-6	-5	-5	-5	-4	-4	-3	-3	-1	2	4	4	4	5	5	6	5	4	4	-1.2	6.4	
10-Dec	3	3	3	2	0	0	-1	-1	-1	0	1	1	1	2	3	3	3	2	2	2	1	1	-3	-5	0.9	3.4	
11-Dec	-6	-6	-6	-6	-7	-7	-9	-8	-7	-6	-6	-5	-5	-4	-5	-7	-9	-11	-11	-11	-10	-9	-8	-7	-7.3	-4.2	
12-Dec	-6	-5	-4	-5	-6	-7	-8	-9	-9	-9	-10	-9	-9	-9	-9	-9	-9	-8	-8	-9	-9	-9	-9	-10	-8.1	-4.2	
13-Dec	-11	-11	-12	-12	-13	-12	-13	-14	-15	-15	-13	-11	-9	-7	-7	-9	-11	-13	-14	-14	-15	-15	-16	-17	-12.5	-7.2	
14-Dec	-15	-16	-16	-16	-17	-18	-18	-18	-17	-17	-15	-14	-11	-10	-9	-8	-13	-14	-14	-13	-13	-13	-13	-13	-14.3	-7.7	
15-Dec	-14	-14	-14	-13	-13	-13	-12	-12	-12	-12	-12	-11	-10	-9	-9	-9	-11	-12	-12	-13	-14	-13	-14	-14	-12.2	-8.8	
16-Dec	-15	-18	-17	-16	-15	-15	-16	-20	-20	-19	-17	-15	-14	-13	-13	-14	-15	-15	-15	-15	-15	-15	-15	-15	-15.6	-12.5	
17-Dec	-15	-14	-14	-15	-15	-15	-17	-18	-17	-16	-15	-13	-13	-11	-11	-12	-13	-13	-13	-13	-12	-10	-10	-11	-13.6	-9.8	
18-Dec	-12	-13	-12	-11	-13	-14	-14	-15	-16	-15	-13	-13	-11	-9	-7	-8	-8	-9	-10	-10	-11	-12	-11	-11	-11.5	-7.5	
19-Dec	-11	-11	-11	-10	-10	-10	-9	-10	-8	-9	-9	-9	-8	-8	-8	-7	-7	-8	-8	-9	-9	-10	-10	-12	-9.2	-7.3	
20-Dec	-12	-12	-13	-12	-12	-12	-12	-13	-12	-12	-11	-10	-9	-8	-8	-7	-8	-8	-8	-8	-8	-7	-7	-6	-9.8	-5.9	
21-Dec	-8	-9	-9	-8	-9	-9	-9	-9	-9	-8	-8	-8	-7	-7	-6	-6	-7	-8	-9	-10	-10	-10	-11	-12	-8.6	-6.3	
22-Dec	-14	-14	-16	-16	-17	-17	-18	-18	-18	-18	-17	-16	-15	-12	-10	-11	-13	-13	-13	-13	-11	-10	-12	-12	-12	-14.2	-9.8
23-Dec	-10	-10	-11	-12	-12	-11	-11	-11	-9	-8	-7	-6	-4	-4	-5	-4	-4	-4	-5	-7	-5	-4	-4	-4	-7.1	-3.6	
24-Dec	-3	-2	-3	-4	-4	-5	-6	-8	-10	-11	-11	-11	-11	-11	-11	-11	-11	-12	-11	-12	-11	-12	-12	-13	-9.0	-2.3	
25-Dec	-13	-14	-13	-12	-12	-12	-11	-11	-11	-11	-10	-10	-10	-11	-13	-13	-15	-17	-21	-23	-24	-24	-23	-22	-14.8	-9.6	
26-Dec	-23	-23	-23	-23	-23	-23	-22	-19	-17	-17	-16	-14	-14	-13	-12	-11	-11	-12	-13	-14	-15	-15	-15	-17	-16.9	-11.0	
27-Dec	-18	-17	-18	-20	-20	-22	-22	-22	-21	-19	-16	-13	-11	-9	-9	-10	-10	-10	-11	-11	-11	-12	-12	-13	-14.9	-9.3	
28-Dec	-14	-14	-14	-15	-16	-16	-16	-17	-17	-19	-17	-16	-15	-14	-15	-15	-15	-16	-17	-18	-18	-18	-18	-18	-16.1	-13.5	
29-Dec	-18	-19	-19	-19	-19	-19	-19	-20	-21	-23	-23	-23	-23	-22	-22	-22	-23	-24	-26	-25	-24	-24	-23	-22	-21.7	-18.5	
30-Dec	-21	-21	-20	-19	-19	-19	-19	-18	-17	-16	-14	-11	-10	-10	-8	-6	-6	-6	-5	-5	-5	-4	-4	-4	-11.9	-3.9	
31-Dec	-4	-4	-5	-6	-7	-7	-6	-6	-9	-9	-8	-6	-5	-5	-6	-6	-7	-6	-2	0	1	1	1	1	-4.6	1.1	
																									Diurnal Average		
																									Diurnal Maximum		

Hourly Averages

External Temperature (ET) - °C

Falher - December 2014



Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Falher - December 2014

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1 Spd	5	4	9	12	12	8	7	4	5	3	5	7	7	9	8	4	7	4	9	8	9	8	8	8	5.9	12.1
Dir	57	102	99	95	94	96	91	75	34	34	82	76	72	53	96	77	129	137	137	143	146	148	133	169	103	94
2 Spd	9	8	11	10	10	13	16	16	12	9	3	1	2	6	8	9	9	9	10	11	12	13	12	12	2.9	16.4
Dir	162	165	159	158	171	184	182	165	170	190	178	84	145	60	61	25	9	3	5	11	19	28	36	53	108	182
3 Spd	11	10	11	8	1	0	1	2	4	1	5	5	5	5	4	12	12	9	7	7	9	10	2	5	3.7	12.4
Dir	50	70	87	97	56	73	117	126	338	28	70	133	159	196	203	178	173	182	165	161	188	193	199	165	147	178
4 Spd	4	3	0	1	2	6	5	6	8	6	5	5	4	8	11	9	7	11	13	12	10	7	3	6	5.4	12.7
Dir	168	176	144	258	206	169	167	130	152	143	140	148	195	210	223	220	215	196	198	184	164	166	148	129	180	198
5 Spd	5	3	2	2	7	2	4	6	6	2	2	3	3	3	4	11	13	15	17	17	12	9	13	14	6.5	17.2
Dir	105	100	97	116	95	63	90	61	53	20	18	32	30	28	54	39	37	34	37	38	29	22	3	15	39	38
6 Spd	13	6	8	4	1	4	3	7	8	8	7	11	10	12	12	12	10	14	10	6	7	7	8	5	3.7	13.9
Dir	29	47	59	103	242	308	304	314	327	331	3	289	293	283	258	228	229	207	212	208	208	209	232	230	266	207
7 Spd	3	4	4	3	3	3	6	6	6	3	1	3	3	7	7	9	9	8	8	8	10	12	18	21	3.3	20.6
Dir	201	175	168	127	130	173	200	188	187	179	251	93	105	71	21	26	24	20	7	349	21	15	18	20	34	20
8 Spd	23	23	24	24	24	24	28	25	20	21	19	17	5	3	2	2	4	14	14	16	20	20	15	14	15.3	27.8
Dir	20	22	21	28	34	40	45	55	54	53	58	69	194	223	153	59	4	58	57	55	57	57	60	62	46	45
9 Spd	18	21	20	25	24	25	23	26	22	24	24	26	26	27	27	26	20	26	28	30	34	16	13	13	16.4	33.6
Dir	70	66	62	58	59	64	62	71	65	69	66	77	84	95	114	109	130	133	148	158	207	217	189	173	98	207
10 Spd	19	20	22	23	12	19	19	24	16	19	19	15	16	17	16	15	19	21	18	12	9	11	18	17	10.7	23.7
Dir	165	167	151	154	133	144	156	149	131	124	125	82	83	75	74	69	75	83	77	63	14	8	323	314	110	149
11 Spd	17	18	17	18	17	13	24	18	6	1	4	15	11	10	9	8	2	4	5	7	7	6	9	13	7.6	24.2
Dir	303	299	297	295	309	251	230	239	226	152	123	196	210	244	262	289	253	266	31	68	289	289	302	317	271	230
12 Spd	15	12	9	11	15	17	13	12	11	11	13	13	13	12	4	1	0	3	3	3	4	3	5	4	6.3	16.7
Dir	316	334	344	291	295	287	267	280	272	245	234	252	249	256	288	53	66	108	31	17	38	5	11	17	287	287
13 Spd	7	6	8	7	5	5	4	5	4	2	2	1	2	1	0	2	6	7	4	3	4	3	0	1	3.0	8.0
Dir	39	36	49	54	37	40	51	61	38	31	64	30	76	77	72	112	110	127	68	50	333	29	39	134	57	49
14 Spd	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	16	12	1.3	15.7
Dir	173	275	347	321	271	242	212	208	349	359	18	31	40	9	38	23	10	35	36	37	41	47	41	39	43	41
15 Spd	12	13	13	15	16	15	16	17	17	19	17	16	16	18	19	18	10	4	3	13	18	21	18	15	14.6	20.6
Dir	37	35	28	33	33	41	46	46	48	46	55	66	60	60	58	60	60	119	74	49	37	40	36	34	47	40
16 Spd	9	4	5	16	19	18	7	5	4	5	13	17	12	12	3	3	16	18	18	15	7	12	17	17	9.5	18.6
Dir	51	210	10	31	32	32	45	218	293	342	40	46	73	87	218	19	38	38	37	42	89	61	31	34	41	32
17 Spd	16	17	17	14	14	14	7	2	4	6	7	8	3	2	2	6	10	11	9	5	4	7	2	2	6.6	17.2
Dir	32	34	36	35	32	49	199	326	355	30	52	75	163	182	46	54	38	51	58	51	55	41	52	159	44	34
18 Spd	3	4	5	5	6	10	5	6	2	6	9	9	6	4	9	9	12	13	17	15	15	15	14	18	8.9	18.1
Dir	37	29	54	40	42	46	32	43	317	350	46	46	37	43	63	63	52	49	41	36	40	46	57	44	44	44
19 Spd	20	17	17	19	16	16	16	11	13	6	9	3	6	6	7	11	7	5	4	7	10	7	12	11	8.7	19.9
Dir	38	38	46	51	61	51	58	59	57	130	89	75	197	178	122	109	138	144	104	85	71	66	65	52	68	38
20 Spd	7	14	14	14	15	17	19	15	17	19	22	22	23	23	20	25	22	21	22	18	17	16	20	18	17.8	24.6
Dir	35	39	39	35	35	35	38	32	35	33	40	46	52	61	57	54	55	67	65	66	60	67	66	69	50	54
21 Spd	6	6	2	8	6	7	6	7	10	5	6	5	5	4	3	3	4	6	5	6	6	2	2	3	3.2	9.6
Dir	226	270	317	216	245	225	201	195	221	206	212	199	203	214	273	341	319	346	342	320	326	334	313	321	249	221
22 Spd	3	1	1	1	1	1	1	0	4	2	2	1	0	0	4	4	3	5	4	9	12	13	12	8	2.6	12.8
Dir	321	102	236	172	239	217	93	48	32	50	77	73	89	19	85	78	84	148	160	175	170	135	115	125	131	135

Hourly Averages

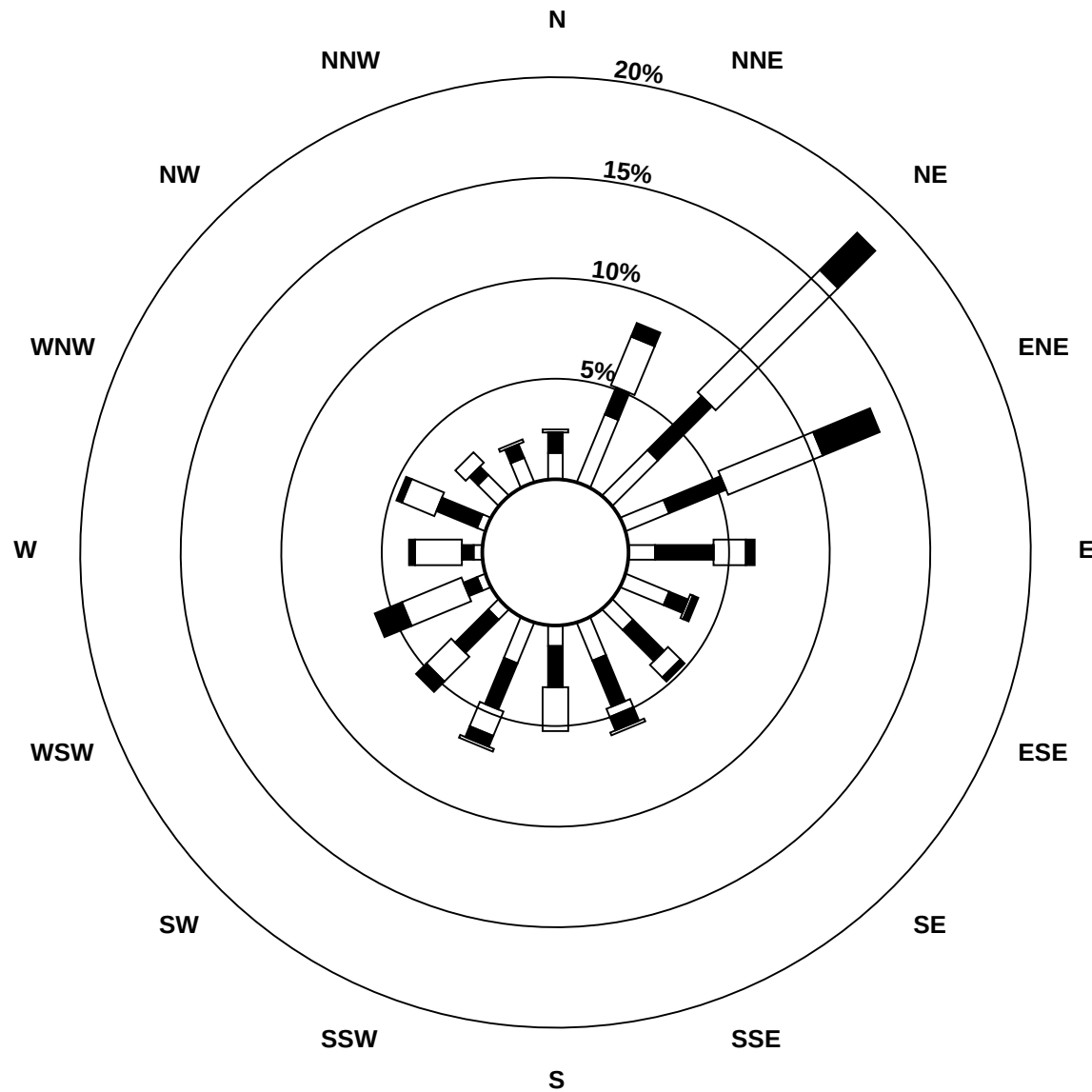
Wind Speed (km/h)
Wind Direction (deg)
Falher - December 2014

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
23 Spd	4	8	8	7	7	5	9	10	10	10	11	12	16	13	18	18	11	11	10	10	9	3	4	6	8.6	18.3
Dir	119	89	102	122	115	83	77	80	76	93	74	88	98	67	68	68	81	93	78	90	129	115	191	234	89	68
24 Spd	10	16	17	14	13	15	17	22	21	24	22	18	18	18	16	16	16	14	14	13	13	10	11	9	15.2	23.8
Dir	219	239	242	257	275	277	278	286	281	277	281	278	277	274	271	272	269	278	280	282	286	296	284	289	274	277
25 Spd	8	7	4	3	8	3	9	13	17	20	16	11	4	13	17	12	6	5	2	5	5	5	4	3	2.7	20.4
Dir	284	293	311	25	79	108	49	45	42	40	39	53	279	238	217	212	173	146	76	43	38	26	22	19	37	40
26 Spd	2	2	2	1	1	1	0	0	0	1	1	1	0	0	0	0	0	6	2	2	4	1	2	5	0.7	5.8
Dir	18	18	8	344	339	353	66	80	74	54	79	100	116	97	95	111	106	115	202	107	66	337	202	125	84	115
27 Spd	2	1	0	2	3	2	3	1	3	1	2	0	1	1	4	10	11	10	11	14	13	15	17	17	5.1	17.4
Dir	112	46	83	11	6	12	339	10	341	7	29	330	350	10	294	301	304	294	282	284	291	282	275	270	294	270
28 Spd	16	16	17	17	18	8	15	13	11	10	9	9	12	10	13	18	24	23	24	23	17	13	14	11	14.6	24.3
Dir	260	254	253	250	248	263	252	242	225	190	204	229	246	251	236	247	247	241	249	258	247	233	240	241	244	249
29 Spd	6	9	10	10	11	9	10	9	11	9	12	11	13	14	14	14	15	17	14	19	19	18	23	24	8.5	23.8
Dir	221	218	203	190	174	146	150	144	129	100	95	97	92	79	68	69	50	54	44	46	45	39	45	44	79	44
30 Spd	23	21	21	22	23	17	15	10	9	13	19	23	21	23	19	24	18	17	19	15	22	23	23	18	7.3	24.2
Dir	44	54	66	65	76	78	95	99	159	183	188	206	204	207	227	237	241	228	240	226	232	230	233	225	196	237
31 Spd	17	16	16	15	18	17	13	20	13	10	14	15	14	11	7	2	9	10	26	25	26	26	28	28	14.5	27.8
Dir	229	219	208	195	195	190	200	208	194	162	177	186	187	180	167	343	189	207	227	243	247	247	255	256	216	256
Spd	3.0	2.4	3.1	3.3	3.6	3.2	2.1	2.3	2.3	2.8	4.1	3.3	2.3	1.7	1.8	2.3	2.1	2.9	1.9	2.1	0.7	1.9	3.1	3.0	Diurnal Average	
Dir	29	35	56	61	54	65	97	96	70	74	77	90	123	116	108	72	72	95	74	63	28	28	12	19	Diurnal Maximum	
Spd	22.9	23.1	24.3	25.0	24.2	24.7	27.8	26.4	22.2	23.8	23.8	26.2	26.2	26.8	26.9	25.9	24.1	26.3	28.1	30.0	33.6	25.8	27.6	27.8	Diurnal Maximum	
Dir	20	22	21	58	34	64	45	71	65	69	66	77	84	95	114	109	247	133	148	158	207	247	255	256		
Maximum Speed Value: 34 km/h on Dec 9 21:00																									Hours in Service: 744	
Maximum Daily Speed Average: 17.8 km/h on Dec 9																									Hours of Data: 744	
Maximum Diurnal Speed Average: 4.1 km/h at hour 11																									Hours of Missing Data: 0	
Minimum Speed Value: 0 km/h on Dec 14 05:00																									Percent Operational Time: 100.0	
Minimum Daily Speed Average: 0.7 km/h on Dec 26																										
Minimum Diurnal Speed Average: 0.7 km/h at hour 21																										
Monthly Average Velocity: 2.25 km/h 66.3 deg																										
Speed Percentiles: P ₁ = 0.0 P ₁₀ = 1.6 Q ₁ = 4.2 Median = 9.5 Q ₃ = 15.8 P ₉₀ = 20.0 P ₉₉ = 26.4																										
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	39	15	6	4	0	0	64																			
NorthEast	51	45	94	38	0	0	228																			
East	42	34	27	9	0	0	112																			
SouthEast	22	25	8	6	1	0	62																			
South	21	35	24	3	1	0	84																			
SouthWest	15	29	28	16	1	0	89																			
West	9	11	37	8	0	0	65																			
NorthWest	17	11	12	0	0	0	40																			
Total	216	205	236	84	3	0	744																			

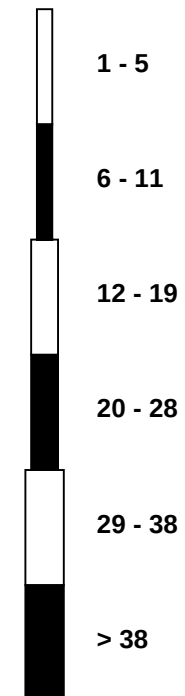
Wind Rose

Wind Speed (WS) (km/h)

Falher - December 2014



Wind Speed Classes (km/h)



Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Falher - December 2014

Maximum Speed: 36 km/h on Dec 9 21:00																				Maximum Daily Speed Average: 23.7 km/h on Dec 9										Hours in Service: 744	
Minimum Speed: 0 km/h on Dec 14 08:00																				Minimum Daily Speed Average: 1.4 km/h on Dec 14										Hours of Data: 744	
Maximum Diurnal Speed Average: 11.9 km/h at hour 23																				Minimum Diurnal Speed Average: 9.2 km/h at hour 10										Hours of Missing Data: 0	
Monthly Average Speed: 10.54 km/h																				Percentiles: P ₁ = 0.0 P ₁₀ = 2.0 Q ₁ = 4.6 Median = 9.8 Q ₃ = 15.9 P ₉₀ = 20.2 P ₉₉ = 26.7										Percent Operational Time: 100.0	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24							
1-Dec	5	4	9	12	12	8	7	4	6	3	6	7	7	10	8	4	7	4	9	8	9	8	8	8	7.2	12.1					
2-Dec	9	8	11	10	10	13	16	16	12	9	4	2	3	6	8	10	9	9	10	11	12	13	12	12	9.8	16.4					
3-Dec	11	10	11	8	2	2	1	2	4	2	5	6	5	5	5	12	12	9	7	7	10	10	3	5	6.5	12.4					
4-Dec	4	3	1	1	2	7	5	6	9	6	5	5	5	8	11	9	7	11	13	12	10	7	3	6	6.5	12.8					
5-Dec	5	3	2	2	7	2	4	6	6	3	2	3	3	3	4	11	13	15	17	17	12	9	14	14	7.3	17.3					
6-Dec	13	7	9	5	2	4	3	7	8	8	7	11	10	12	12	12	10	14	11	6	7	7	9	5	8.2	14.0					
7-Dec	3	4	5	3	4	4	7	6	6	3	2	3	4	7	7	9	9	9	8	10	12	18	21	7.2	20.6						
8-Dec	23	23	24	24	24	24	28	25	20	21	19	17	8	3	3	3	6	14	14	16	20	20	15	14	17.0	28.0					
9-Dec	18	21	20	25	24	25	23	26	22	24	24	26	26	27	27	26	20	26	29	30	36	16	14	13	23.7	36.3					
10-Dec	19	20	22	23	12	19	19	24	17	19	19	16	17	17	17	16	19	21	18	13	9	12	18	17	17.5	23.7					
11-Dec	17	18	18	18	17	14	24	18	7	2	6	15	12	10	9	9	4	5	6	7	8	6	10	13	11.4	24.2					
12-Dec	15	13	10	12	15	17	13	13	12	11	13	13	14	12	5	3	1	3	4	3	4	3	5	4	9.1	16.9					
13-Dec	7	6	8	7	5	5	4	5	4	2	2	1	2	1	0	2	6	7	4	4	4	3	0	1	3.8	8.1					
14-Dec	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	16	12	1.4	15.9					
15-Dec	12	13	13	15	16	15	16	17	17	19	17	16	16	18	19	18	11	5	3	14	18	21	18	15	15.1	20.6					
16-Dec	14	4	5	16	19	18	13	5	4	5	13	17	12	13	4	4	16	18	18	15	8	14	17	17	12.0	18.6					
17-Dec	16	17	17	14	14	15	8	3	4	6	7	9	3	2	2	6	10	11	9	6	4	7	3	2	8.1	17.2					
18-Dec	3	4	6	6	6	10	5	6	3	6	10	9	6	5	9	9	12	13	17	15	15	14	18	18	9.4	18.2					
19-Dec	20	17	17	19	16	16	16	11	13	9	9	8	7	6	8	12	7	5	4	7	10	7	12	12	11.2	19.9					
20-Dec	8	14	14	14	15	17	19	15	17	19	22	22	23	23	20	25	22	21	22	18	17	16	20	18	18.3	24.6					
21-Dec	8	6	4	9	6	7	7	8	10	5	6	5	5	5	3	3	4	6	5	6	6	2	2	3	5.5	9.7					
22-Dec	3	3	2	2	1	1	1	0	4	2	2	1	0	0	4	4	4	5	4	10	12	13	12	8	4.1	13.1					
23-Dec	6	8	8	7	7	6	9	10	10	10	11	12	16	13	18	18	11	11	11	10	10	4	4	6	9.9	18.4					
24-Dec	10	16	17	14	13	15	17	22	21	24	22	18	18	18	16	16	16	15	14	13	13	10	11	10	15.8	23.9					
25-Dec	8	7	4	3	8	4	9	13	17	20	16	11	4	13	17	12	6	5	3	5	5	5	4	3	8.5	20.4					
26-Dec	2	2	2	1	1	1	0	0	0	1	1	1	0	0	0	0	0	6	2	2	4	3	3	5	1.6	5.8					
27-Dec	2	1	0	2	3	2	3	1	3	2	2	0	1	1	4	10	11	10	11	14	13	15	17	17	6.1	17.4					
28-Dec	16	16	17	17	18	9	15	13	11	10	9	9	12	10	14	18	24	23	24	23	17	13	15	11	15.1	24.5					
29-Dec	6	9	10	11	11	9	10	9	11	9	12	11	13	14	14	14	15	17	14	19	19	18	23	24	13.4	23.9					
30-Dec	23	22	22	22	23	17	15	11	10	13	19	23	21	23	19	24	18	17	19	15	22	23	23	18	19.2	24.3					
31-Dec	17	17	16	15	18	17	14	21	13	10	14	15	14	11	7	6	9	10	26	25	26	26	28	28	16.8	27.9					
																									Diurnal Average						
																									Diurnal Maximum						

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

Hourly Standard Deviations

Wind Direction (WD) - deg

Falher - December 2014

Maximum Value: 94.2 deg on Dec 11 10:00																			Hours in Service: 744						
Minimum Value: 0.9 deg on Dec 17 03:00																			Hours of Data: 744						
																			Hours of Missing Data: 0						
Percentiles: P ₁ = 1.8 P ₁₀ = 3.2 Q ₁ = 4.9 Median = 8.4 Q ₃ = 17.7 P ₉₀ = 33.5 P ₉₉ = 69.2																			Hours of Calibration: 0						
																			Percent Operational Time: 100.0						
Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Dec	31	11	8	2	5	11	6	15	18	19	22	11	18	20	6	18	9	32	4	5	5	3	5	11	31.7
2-Dec	6	8	6	8	8	3	3	9	3	17	83	71	27	13	5	19	6	5	4	3	5	4	7	7	83.1
3-Dec	4	8	7	11	66	90	50	47	24	74	24	25	7	9	39	3	4	5	20	12	11	3	64	17	90.4
4-Dec	27	33	76	45	33	11	30	16	12	11	16	36	24	7	5	10	9	9	4	4	7	12	34	14	75.9
5-Dec	10	11	6	6	21	22	13	11	6	25	14	5	6	8	12	5	2	3	3	5	5	14	13	13	24.8
6-Dec	20	21	30	18	47	14	22	11	8	10	9	19	11	5	12	8	6	6	8	7	8	6	19	11	47.1
7-Dec	17	11	19	12	34	38	27	10	15	15	44	22	19	9	14	10	8	12	14	20	7	4	3	4	44.0
8-Dec	2	2	2	3	2	2	7	5	3	4	4	10	48	30	45	63	48	5	5	3	3	5	10	10	63.4
9-Dec	5	2	4	3	4	4	4	3	2	3	6	4	3	6	7	6	7	5	10	3	24	8	18	10	23.6
10-Dec	4	8	6	6	19	5	6	2	4	8	11	14	8	5	9	12	5	5	3	13	10	23	8	5	22.6
11-Dec	4	7	8	12	7	24	4	10	27	94	57	13	15	7	16	18	59	44	45	16	29	23	17	7	94.2
12-Dec	6	20	16	20	10	8	7	8	17	9	10	9	9	7	42	64	58	20	42	24	18	24	11	9	64.1
13-Dec	8	7	8	6	8	6	10	13	31	19	16	26	9	33	46	10	8	3	23	50	13	39	85	33	84.8
14-Dec	7	57	40	39	17	16	11	19	11	11	19	18	18	22	16	66	25	8	3	4	3	7	9	8	65.8
15-Dec	9	3	2	4	2	5	6	3	7	3	7	4	2	2	4	5	38	25	38	9	2	2	2	5	38.1
16-Dec	70	32	44	2	3	3	71	13	28	19	10	4	9	32	22	45	3	4	2	3	27	30	3	2	71.1
17-Dec	3	2	1	4	3	30	16	53	6	16	9	24	15	11	74	12	9	6	6	9	14	8	60	27	73.8
18-Dec	53	15	11	6	9	4	19	6	55	8	18	7	11	44	9	29	8	5	3	5	6	5	6	4	54.9
19-Dec	3	5	6	8	4	5	7	10	11	45	15	76	16	13	32	32	16	21	10	10	14	27	13	8	75.6
20-Dec	19	5	3	2	3	4	4	4	4	5	3	2	5	2	6	2	2	11	5	4	3	4	3	5	18.6
21-Dec	39	27	57	29	11	13	26	12	11	13	8	8	9	21	21	29	15	8	8	5	7	4	9	8	56.8
22-Dec	13	68	34	68	36	40	24	51	18	19	6	13	37	19	19	18	27	15	14	9	9	12	10	14	68.4
23-Dec	40	18	20	12	6	27	9	7	8	4	6	9	3	17	4	4	22	5	11	10	30	29	13	20	39.6
24-Dec	6	7	4	10	5	3	7	6	4	4	3	4	3	4	5	4	4	5	5	6	5	13	5	6	13.1
25-Dec	6	11	17	39	19	58	17	4	3	2	3	6	40	10	5	4	8	10	41	7	9	7	9	6	57.6
26-Dec	6	7	7	9	10	9	58	31	28	12	23	74	24	14	13	8	5	14	35	28	14	84	50	14	83.6
27-Dec	69	28	21	21	8	7	10	12	8	60	16	21	13	11	28	4	6	7	5	4	3	5	7	5	68.8
28-Dec	6	4	4	5	3	13	6	6	7	6	12	5	7	5	4	7	3	3	6	3	4	5	4	4	12.9
29-Dec	8	4	9	11	8	6	5	8	7	14	6	7	7	5	3	3	8	5	8	4	4	2	2	1	14.4
30-Dec	2	4	4	4	3	6	5	10	21	7	5	6	3	4	6	5	6	4	5	8	4	3	2	5	21.5
31-Dec	5	11	7	18	6	3	7	6	11	11	15	7	4	7	13	86	7	15	8	5	3	3	3	5	85.5
69.7 68.3 75.9 68.4 66.1 90.4 71.1 53.5 54.9 94.2 83.1 75.6 47.7 44.1 73.8 85.5 59.1 43.8 44.6 49.7 29.7 83.6 84.8 33.3																									

PAZA

Portable – Clairmont Station
Monthly Summary Tables, Graphs and
Roses

Hourly Averages

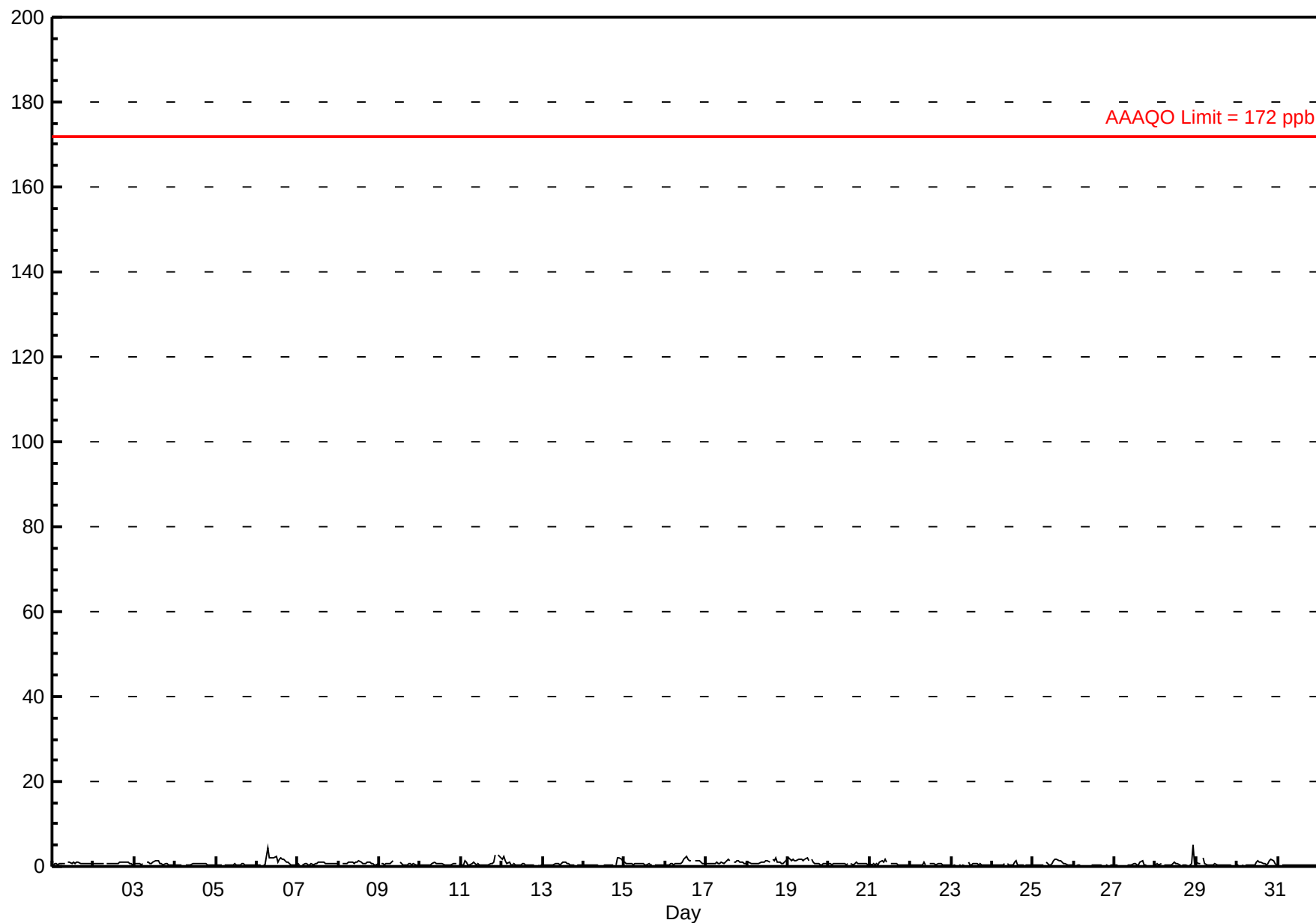
Sulphur Dioxide (SO₂) - ppb

Portable Clairmont - December 2014

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																			Hours in Service: 744							
Maximum Value: 5.2 ppb on Dec 28 23:00 Maximum Daily Average: 1.2 ppb on Dec 6																			Hours of Data: 709							
Minimum Value: 0 ppb on Dec 27 04:00 Minimum Daily Average: 0.2 ppb on Dec 26																			Hours of Missing Data: 35							
Maximum Diurnal Average: 0.9 ppb at hour 13 Minimum Diurnal Average: 0.5 ppb at hour 4																			Hours of Calibration: 35							
Monthly Average: 0.64 ppb Percentiles: P ₁ = 0.1 P ₁₀ = 0.2 Q ₁ = 0.3 Median = 0.5 Q ₃ = 0.8 P ₉₀ = 1.2 P ₉₉ = 2.2																			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-Dec	0	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.1
2-Dec	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0.7	1.0
3-Dec	1	1	1	1	0	1	A	1	1	1	1	1	1	1	1	1	1	0	1	1	0	0	0	0	0.7	1.3
4-Dec	0	0	0	0	0	A	0	0	0	0	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0.5	0.8
5-Dec	0	0	0	0	A	0	0	0	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0.3	0.6
6-Dec	0	0	0	A	0	0	4	2	2	2	2	2	1	2	2	2	2	1	1	1	0	0	0	0	1.2	4.4
7-Dec	1	0	A	0	1	1	0	0	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.1
8-Dec	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	0	0	1	0.8	1.2
9-Dec	A	1	1	0	1	1	1	1	1	1	C	C	C	1	1	0	0	1	1	0	1	0	0	A	0.6	1.4
10-Dec	0	0	0	0	0	0	0	1	1	1	1	1	1	1	0	0	0	0	0	1	1	1	A	1	0.5	1.1
11-Dec	0	0	1	1	0	0	1	1	1	0	1	0	0	0	0	0	0	1	1	1	3	A	3	2	0.8	2.8
12-Dec	2	2	1	1	1	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0	A	0	0	0	0.6	2.2
13-Dec	0	0	0	0	0	0	0	1	1	1	0	1	1	1	1	1	0	0	0	A	1	0	0	0	0.5	1.1
14-Dec	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	2	2	2	1	0.5	2.2
15-Dec	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	0	0	A	0	0	0	0	0	0	0.5	1.0
16-Dec	0	0	0	1	1	0	1	1	1	1	1	2	2	2	1	1	A	1	1	1	1	1	1	1	1.0	2.4
17-Dec	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	A	1	1	1	1	1	1	1	1	1.0	1.6
18-Dec	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	2	1	2	1	1	1	1	1	1	1.0	2.0
19-Dec	2	2	1	2	1	1	2	2	2	1	2	2	2	A	2	1	1	1	1	0	0	1	1	1	1.2	1.9
20-Dec	1	1	0	1	1	1	1	1	1	1	0	1	A	1	0	1	1	1	1	1	1	1	1	0	0.6	1.0
21-Dec	1	0	1	0	1	0	1	1	1	2	1	A	1	1	1	1	1	0	0	0	0	0	0	0	0.6	1.7
22-Dec	0	0	0	0	0	0	0	0	1	0	A	1	1	1	1	1	1	1	1	0	0	0	0	0	0.4	0.9
23-Dec	0	0	0	0	0	0	0	0	0	A	1	0	0	1	1	1	0	1	0	0	1	0	0	0	0.4	1.1
24-Dec	0	0	0	0	0	0	0	1	A	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0.4	1.4
25-Dec	0	0	0	0	0	0	0	A	1	0	0	1	2	2	2	1	1	1	1	1	0	0	0	0	0.7	1.6
26-Dec	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	0.4
27-Dec	0	0	0	0	0	A	0	0	0	0	0	1	1	0	0	1	1	0	0	0	0	0	0	0	0.3	1.2
28-Dec	0	1	0	1	A	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	1	5	1	0.6	5.2
29-Dec	1	1	1	A	2	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0.5	1.9
30-Dec	0	0	A	0	0	0	0	0	0	0	0	1	1	1	1	1	1	0	1	1	2	1	1	0	0.6	1.8
31-Dec	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	0.5
Diurnal Average																									Diurnal Maximum	
C - Calibration A - Automated Daily Zero Span																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb 30-day 11 ppb																										

Hourly Averages

Sulphur Dioxide (SO₂) - ppb
Portable Clairmont - December 2014



Hourly Maximums

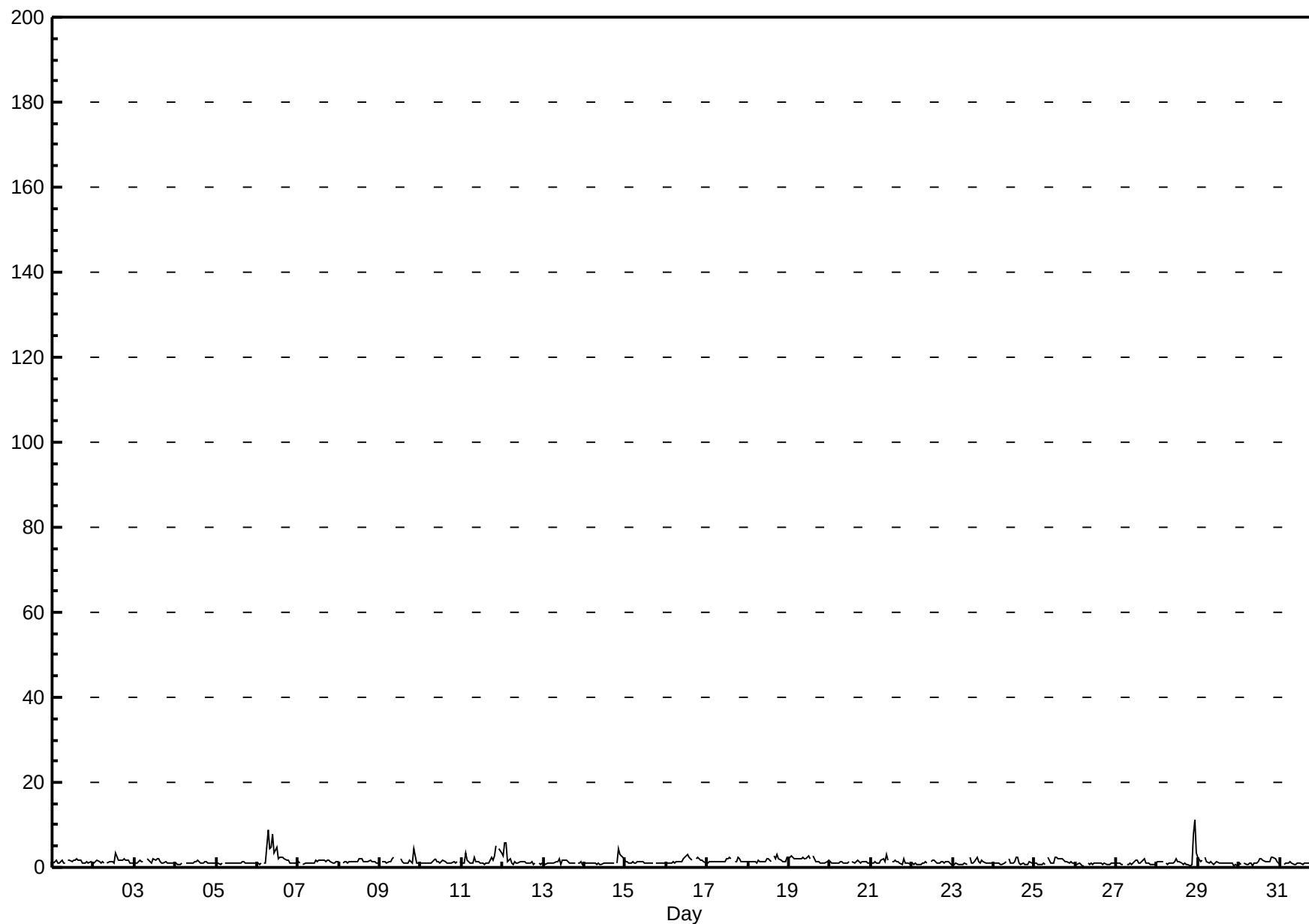
Sulphur Dioxide (SO₂) - ppb

Portable Clairmont - December 2014

Maximum Value: 11.1 ppb on Dec 28 23:00																				Maximum Daily Average: 2.5 ppb on Dec 6					Hours in Service: 744	
Minimum Value: 0 ppb on Dec 29 22:00																				Minimum Daily Average: 0.8 ppb on Dec 26					Hours of Data: 709	
Maximum Diurnal Average: 1.6 ppb at hour 14																				Minimum Diurnal Average: 1.1 ppb at hour 6					Hours of Missing Data: 35	
Monthly Average: 1.37 ppb																				Percentiles: P ₁ = 0.5 P ₁₀ = 0.8 Q ₁ = 0.9 Median = 1.1 Q ₃ = 1.5 P ₉₀ = 2.1 P ₉₉ = 4.6					Hours of Calibration: 35	
																				Percent Operational Time: 100.0						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Dec	1	1	2	1	1	2	1	1	A	2	2	1	2	2	2	2	2	1	1	1	1	1	1	1	1.4	2.1
2-Dec	1	1	2	1	1	1	1	A	1	1	1	1	1	3	2	2	2	2	2	2	2	1	1	1	1.5	3.4
3-Dec	1	1	1	2	1	1	A	2	2	1	1	2	2	2	2	2	1	1	1	1	1	1	1	1	1.4	2.0
4-Dec	1	1	1	1	1	A	1	1	1	1	1	1	1	2	1	1	1	2	2	1	1	1	1	1	1.1	1.5
5-Dec	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.2
6-Dec	1	1	1	A	1	1	9	4	5	8	3	5	2	2	3	2	2	2	2	1	1	1	1	1	2.5	8.7
7-Dec	1	1	A	1	1	1	1	1	1	1	2	1	2	2	2	2	1	2	2	1	1	1	1	1	1.3	1.6
8-Dec	1	A	1	1	2	1	1	1	1	1	1	2	2	2	1	1	1	1	2	1	1	1	1	1	1.4	2.0
9-Dec	A	1	1	1	1	1	1	2	2	C	C	C	2	1	1	1	1	2	1	1	4	1	1	A	1.5	4.5
10-Dec	1	1	1	1	1	1	1	1	2	1	1	1	2	2	1	1	1	1	1	1	1	1	A	1	1.2	2.0
11-Dec	1	1	3	2	1	1	1	2	1	1	1	1	1	1	1	1	1	2	2	3	5	A	4	3	1.8	5.1
12-Dec	3	6	6	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1.6	5.9
13-Dec	1	1	1	1	1	1	1	1	2	2	1	2	2	2	2	1	1	1	1	A	1	1	1	1	1.2	2.0
14-Dec	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	4	3	2	2	1.2	4.3
15-Dec	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1.1	1.5
16-Dec	1	1	1	1	1	1	1	1	2	1	2	3	3	3	2	2	A	2	2	2	2	2	2	1	1.7	3.1
17-Dec	1	1	1	2	1	1	1	1	1	1	1	2	2	2	2	A	2	2	2	2	2	1	1	1	1.6	2.5
18-Dec	1	1	1	1	1	1	2	2	1	2	2	2	2	2	A	3	2	3	2	2	1	1	2	2	1.7	3.2
19-Dec	2	3	3	2	2	2	2	2	2	2	3	2	A	3	2	1	1	1	1	1	1	1	2	2	1.9	2.6
20-Dec	2	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	2	1	1	1	1	1	1	1	1.2	1.6
21-Dec	1	1	1	1	1	1	2	2	1	3	2	A	1	1	2	1	1	1	1	2	1	1	1	1	1.3	3.0
22-Dec	1	1	1	1	1	1	1	1	2	1	A	1	2	2	1	1	1	2	1	1	1	1	1	1	1.1	1.6
23-Dec	1	1	1	1	1	1	1	1	1	A	2	1	1	1	2	1	1	2	1	1	1	1	1	1	1.1	2.3
24-Dec	1	1	1	1	1	1	1	1	A	2	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1.1	2.3
25-Dec	1	1	1	1	1	1	1	A	2	1	1	1	2	2	2	2	2	2	2	1	1	1	1	1	1.3	2.5
26-Dec	1	1	1	1	0	0	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.0
27-Dec	1	1	1	1	1	A	1	1	1	1	1	1	2	1	1	2	2	1	1	1	1	1	1	1	1.0	1.9
28-Dec	1	1	1	1	A	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	8	11	3	1.9	11.1
29-Dec	2	1	2	A	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	1.1	2.5
30-Dec	1	1	A	1	1	1	1	1	1	1	1	1	2	2	2	1	1	1	1	2	2	2	1	1	1.3	2.5
31-Dec	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.4
1.2 1.2 1.4 1.1 1.1 1.1 1.4 1.4 1.4 1.5 1.4 1.6 1.6 1.6 1.5 1.4 1.2 1.4 1.3 1.3 1.5 1.4 1.6 1.2																									Diurnal Average	
2.9 5.9 5.9 2.1 2.5 2.1 8.7 4.3 4.6 7.9 3.2 4.6 3.1 3.4 2.6 2.8 2.1 3.2 2.4 2.9 5.1 7.8 11.1 3.4																									Diurnal Maximum	
C - Calibration A - Automated Daily Zero Span																										

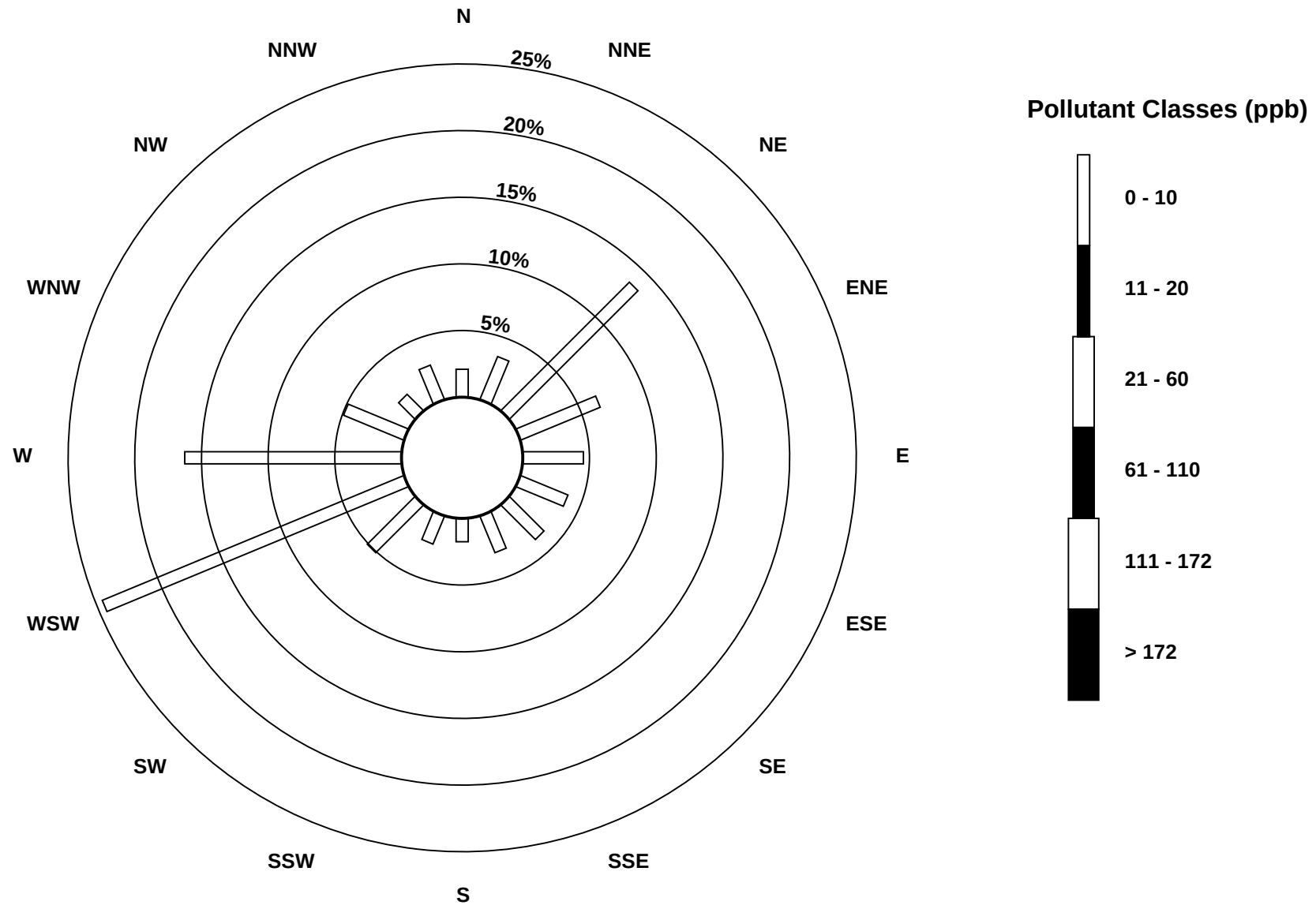
Hourly Maximums

Sulphur Dioxide (SO₂) - ppb
Portable Clairmont - December 2014



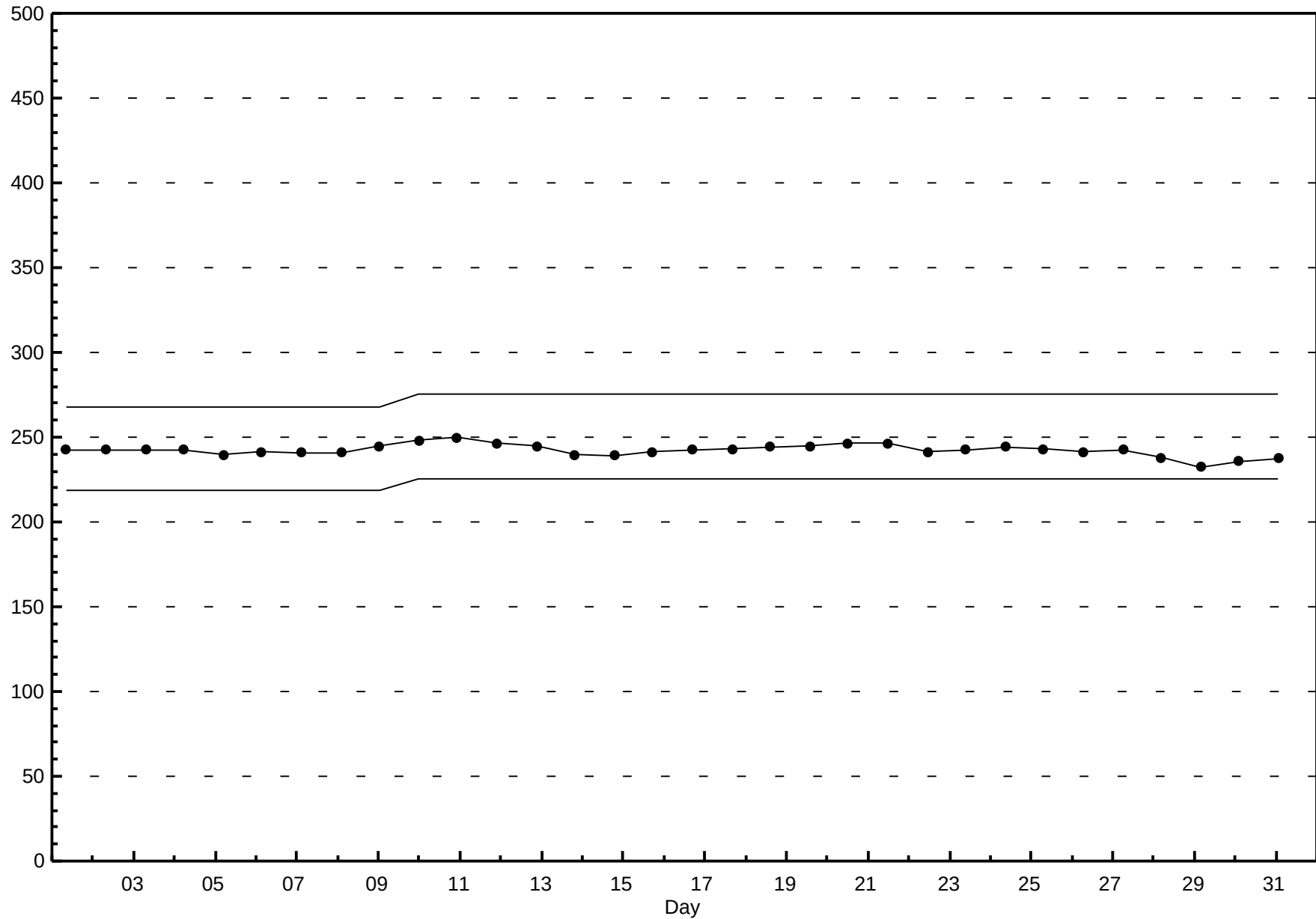
Pollutant Rose

Sulphur Dioxide (SO₂) - ppb
Portable Clairmont - December 2014



Span Responses

Sulphur Dioxide (SO₂)
Portable Clairmont - December 2014



Hourly Averages

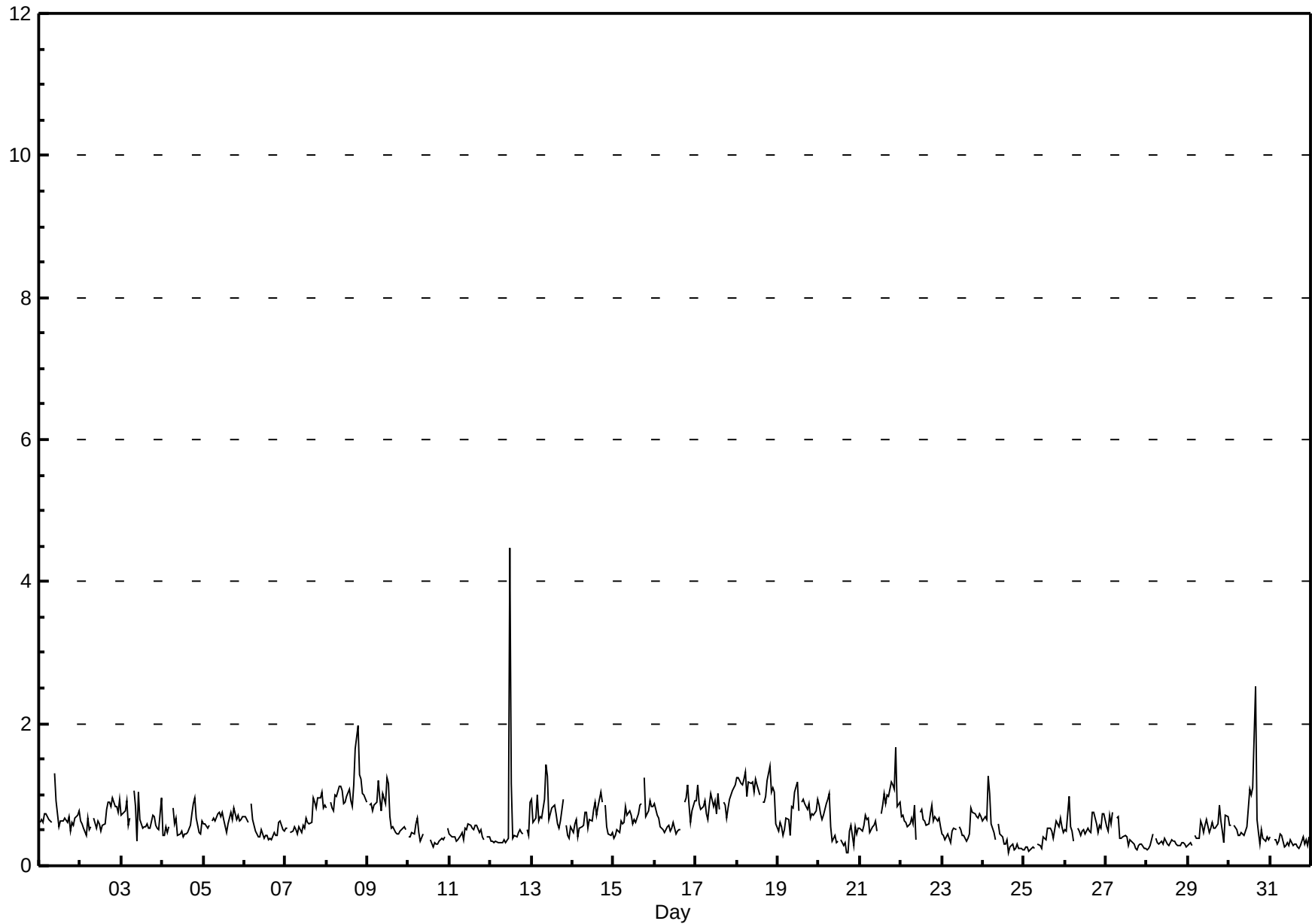
Total Reduced Sulphur (TRS) - ppb

Portable Clairmont - December 2014

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 4.5 ppb on Dec 12 12:00 Maximum Daily Average: 1.1 ppb on Dec 18																				Hours in Service: 744 Hours of Data: 708						
Minimum Value: 0 ppb on Dec 20 18:00 Minimum Daily Average: 0.3 ppb on Dec 28 Maximum Diurnal Average: 0.8 ppb at hour 12 Minimum Diurnal Average: 0.6 ppb at hour 15 Monthly Average: 0.63 ppb Percentiles: P ₁ = 0.2 P ₁₀ = 0.3 Q ₁ = 0.4 Median = 0.6 Q ₃ = 0.8 P ₉₀ = 1.0 P ₉₉ = 1.4																				Hours of Missing Data: 36 Hours of Calibration: 36 Percent Operational Time: 100.0						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Dec	1	1	1	1	1	1	1	A	A	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	0.7	1.3
2-Dec	1	1	1	0	1	1	1	A	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	0.7	1.0
3-Dec	1	1	1	1	1	1	A	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.1
4-Dec	0	0	1	0	1	A	1	1	1	0	0	0	0	0	0	0	1	1	1	1	1	0	0	1	0.6	1.0
5-Dec	1	1	1	1	A	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	0.7	0.8
6-Dec	1	1	1	A	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1	1	0	0.5	0.9
7-Dec	1	1	A	0	0	1	1	0	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.0
8-Dec	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	1	1	1	1	1	1.1	2.0
9-Dec	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	1	1	1	A	0.8	1.2
10-Dec	0	0	0	0	1	1	0	0	0	C	C	C	C	0	0	0	0	0	0	0	0	0	A	1	0.4	0.7
11-Dec	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	0	1	0	0	A	0	0	0.5	0.6
12-Dec	0	0	0	0	0	0	0	0	0	0	0	4	1	0	0	0	0	1	0	0	A	1	0	1	0.6	4.5
13-Dec	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	0	0	1	0.8	1.4
14-Dec	0	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	0	0	0	0.7	1.0
15-Dec	0	0	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	0.7	1.2
16-Dec	1	1	1	1	1	1	0	1	1	0	1	1	0	0	1	1	A	1	1	1	1	1	1	1	0.7	1.1
17-Dec	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	0.9	1.1
18-Dec	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1.1	1.4
19-Dec	0	1	1	0	1	1	1	0	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	0.7	1.2
20-Dec	1	1	1	1	1	1	1	1	0	0	0	0	A	0	0	0	0	0	0	1	0	1	0	1	0.5	1.0
21-Dec	1	0	1	1	1	1	0	1	1	1	0	A	1	1	1	1	1	1	1	1	1	2	1	1	0.8	1.7
22-Dec	1	1	1	1	1	1	1	1	1	0	A	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	0.9
23-Dec	0	0	0	0	0	0	0	1	1	A	1	1	0	0	0	0	0	1	1	1	1	1	1	1	0.5	0.8
24-Dec	1	1	1	1	1	1	0	0	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	1.3
25-Dec	0	0	0	0	0	0	0	A	0	0	0	0	0	0	1	1	0	0	1	1	1	1	1	0	0.4	0.7
26-Dec	1	0	1	1	0	0	A	1	0	0	0	1	0	1	0	0	1	1	1	0	1	1	1	1	0.6	1.0
27-Dec	1	0	1	1	1	A	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.8
28-Dec	0	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
29-Dec	0	0	0	A	0	0	0	1	1	0	1	1	0	1	1	1	1	1	1	1	0	0	1	1	0.5	0.9
30-Dec	1	1	A	1	0	0	0	0	0	0	1	1	1	1	1	3	1	0	0	1	0	0	0	0	0.7	2.5
31-Dec	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.4
0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.8 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.7 0.7 0.6 0.6 0.6 0.6																									Diurnal Average	
1.2 1.2 1.2 1.3 1.2 1.3 1.2 1.2 1.4 1.3 1.0 4.5 1.2 1.1 1.1 2.5 1.1 1.6 2.0 1.4 1.2 1.7 1.1 1.1																									Diurnal Maximum	
C - Calibration A - Automated Daily Zero Span																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb																										

Hourly Averages

Total Reduced Sulphur (TRS) - ppb
Portable Clairmont - December 2014



Hourly Maximums

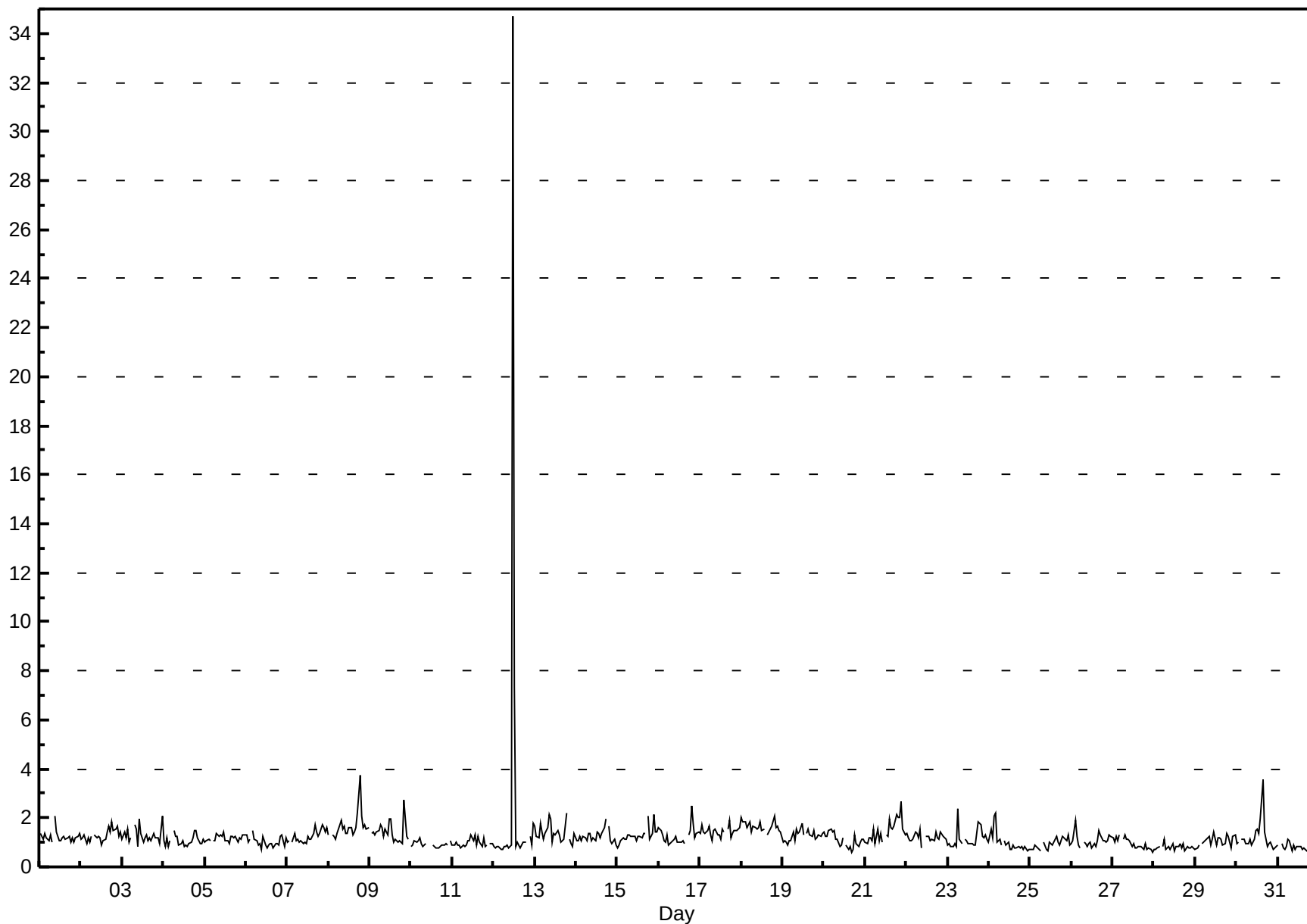
Total Reduced Sulphur (TRS) - ppb

Portable Clairmont - December 2014

Maximum Value: 34.7 ppb on Dec 12 12:00																				Maximum Daily Average: 2.7 ppb on Dec 12					Hours in Service: 744				
Minimum Value: 1 ppb on Dec 28 00:00																				Minimum Daily Average: 0.8 ppb on Dec 28					Hours of Data: 708				
Maximum Diurnal Average: 2.4 ppb at hour 12																				Minimum Diurnal Average: 1.1 ppb at hour 15					Hours of Missing Data: 36				
Monthly Average: 1.24 ppb																				Percentiles: P ₁ = 0.7 P ₁₀ = 0.8 Q ₁ = 0.9 Median = 1.1 Q ₃ = 1.4 P ₉₀ = 1.6 P ₉₉ = 2.4					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-Dec	1	1	1	1	1	1	1	1	A	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.2	2.1			
2-Dec	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	2	1	2	1	2	2	1	1	1.3	1.8			
3-Dec	1	1	1	2	1	1	A	2	2	1	2	1	1	1	1	1	1	1	1	1	1	1	1	2	1.3	2.1			
4-Dec	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.1	1.5			
5-Dec	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.2	1.4			
6-Dec	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.5			
7-Dec	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	2	2	1	2	1.2	1.7			
8-Dec	1	A	1	1	1	1	2	2	2	2	1	1	2	2	1	1	2	2	4	2	2	2	2	2	1.6	3.8			
9-Dec	A	1	1	1	1	1	2	2	2	1	2	2	2	1	1	1	1	1	1	1	3	1	1	A	1.4	2.7			
10-Dec	1	1	1	1	1	1	1	1	1	C	C	C	C	1	1	1	1	1	1	1	1	A	1	1	0.9	1.2			
11-Dec	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1.0	1.3			
12-Dec	1	1	1	1	1	1	1	1	1	1	1	35	7	1	1	1	1	1	1	1	A	1	1	2	2.7	34.7			
13-Dec	2	1	1	2	1	1	1	2	2	2	1	1	1	1	1	1	1	1	2	A	1	1	1	1	1.4	2.2			
14-Dec	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	A	2	1	1	1	1	1.2	2.0			
15-Dec	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	2	1	1	2	1	1	1.3	2.1			
16-Dec	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	2	2	1	1	1	1.3	2.5			
17-Dec	1	2	1	1	1	2	1	1	1	2	1	1	2	1	2	1	A	2	2	1	1	2	1	2	1.4	1.9			
18-Dec	2	2	2	2	2	2	1	2	2	2	2	2	2	1	A	1	1	2	2	2	2	2	1	1	1.6	2.1			
19-Dec	1	1	1	1	1	1	1	1	2	1	1	2	1	A	1	2	1	1	1	1	1	1	1	1	1.3	1.8			
20-Dec	1	1	1	1	2	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1.1	1.5			
21-Dec	1	1	1	1	1	2	1	2	1	1	1	A	1	1	2	2	2	2	2	2	2	3	2	1	1.5	2.7			
22-Dec	1	1	1	1	1	1	1	1	2	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1.2	1.5			
23-Dec	1	1	1	1	1	1	2	1	1	A	1	1	1	1	1	1	1	1	2	2	1	1	1	1	1.2	2.4			
24-Dec	1	2	1	2	2	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	2.2			
25-Dec	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.3			
26-Dec	1	1	2	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.1	1.9			
27-Dec	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.3			
28-Dec	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.1			
29-Dec	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.1	1.4			
30-Dec	1	1	A	1	1	1	1	1	1	1	1	1	2	1	2	4	1	1	1	1	1	1	1	1	1.2	3.6			
31-Dec	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	1.1			
1.1 1.1 1.2 1.2 1.2 1.1 1.2 1.2 1.2 1.1 1.1 2.4 1.3 1.1 1.1 1.2 1.1 1.2 1.4 1.3 1.3 1.2 1.1 1.2																								Diurnal Average					
2.0 1.8 1.9 2.1 2.2 1.8 2.4 1.9 2.1 2.1 2.0 34.7 7.3 1.6 2.0 3.6 1.7 2.2 3.8 2.5 2.7 2.7 1.6 2.1																								Diurnal Maximum					
C - Calibration A - Automated Daily Zero Span																													

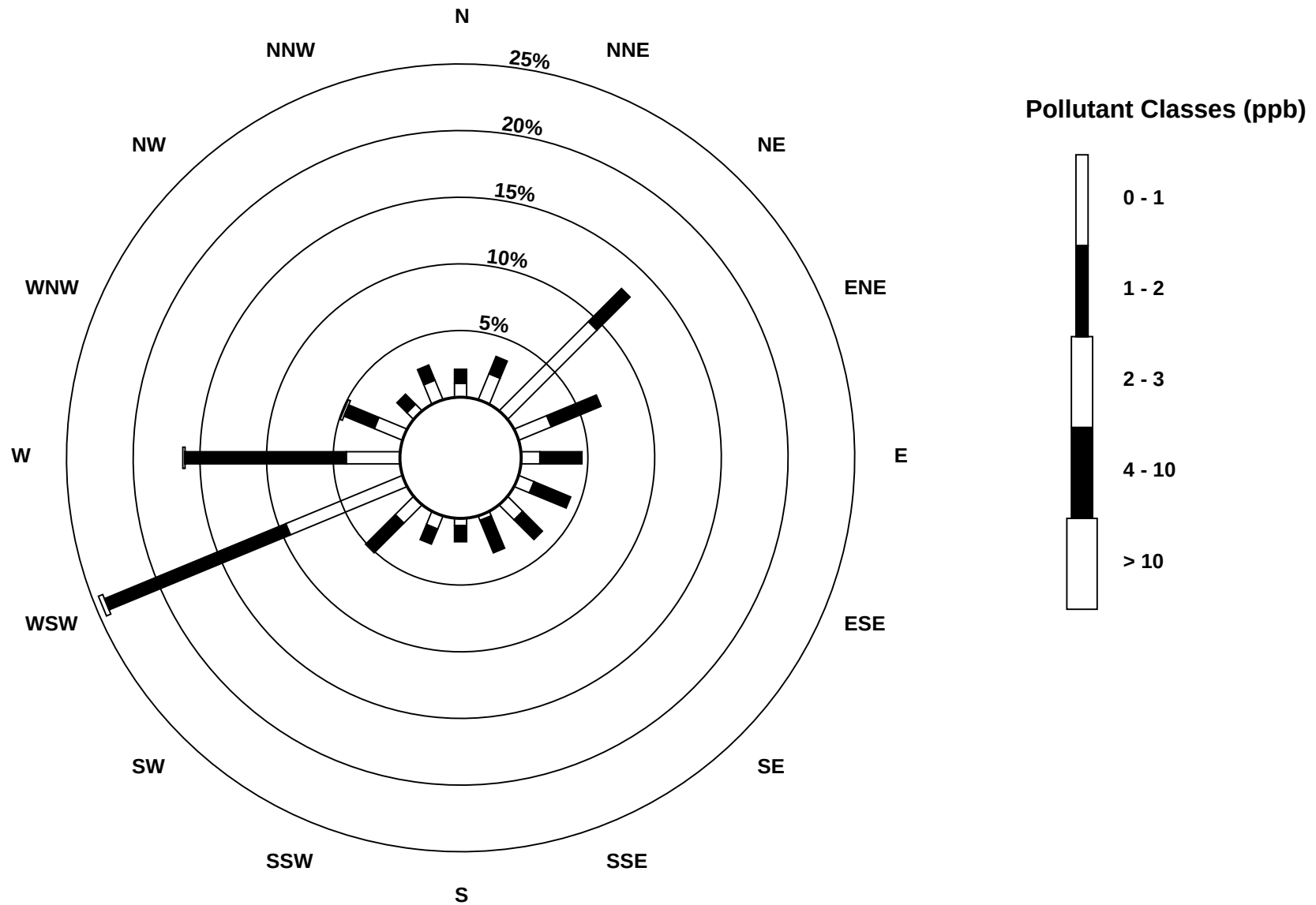
Hourly Maximums

Total Reduced Sulphur (TRS) - ppb
Portable Clairmont - December 2014



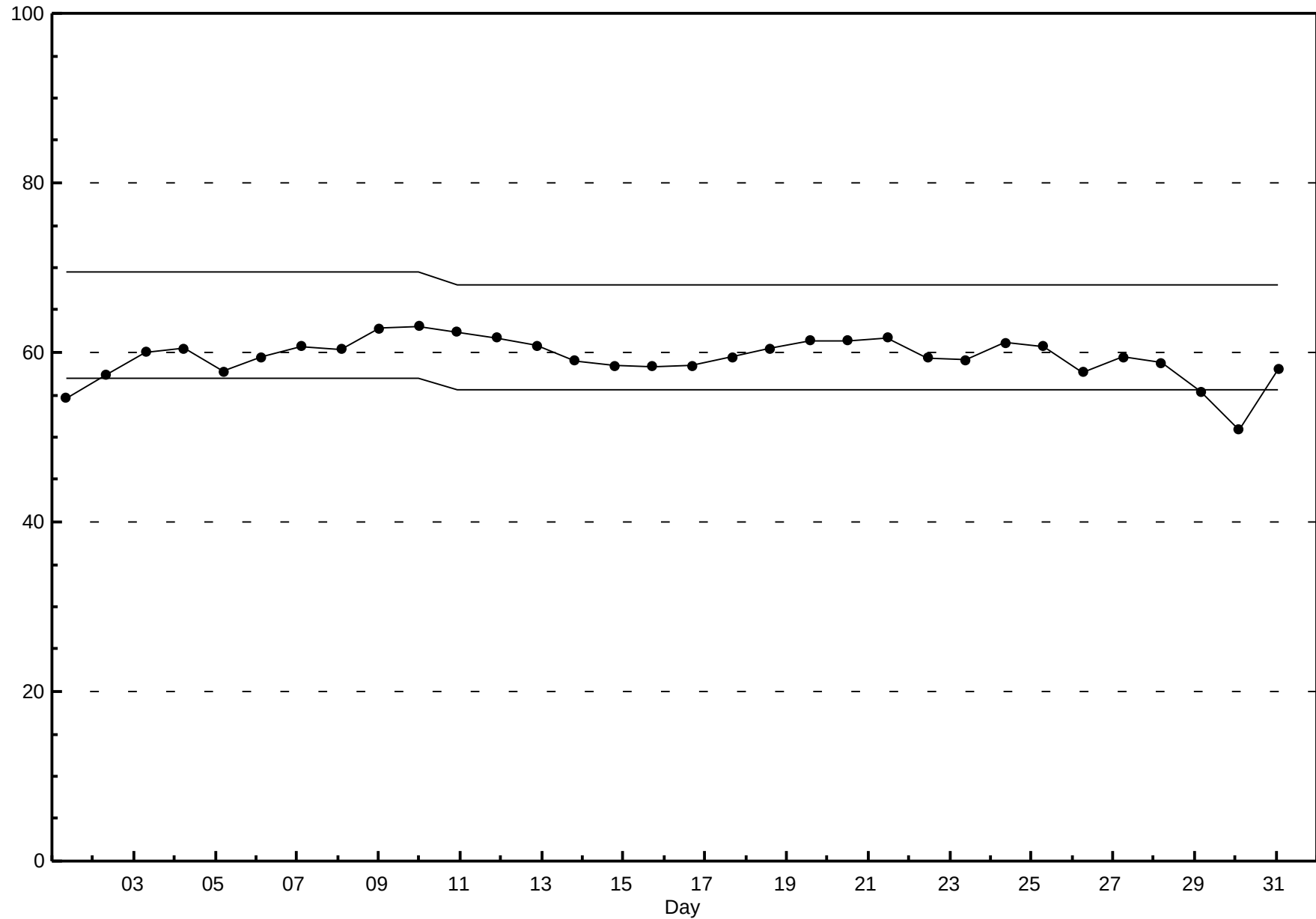
Pollutant Rose

Total Reduced Sulphur (TRS) - ppb
Portable Clairmont - December 2014



Span Responses

Total Reduced Sulphur (TRS)
Portable Clairmont - December 2014



Hourly Averages

Nitrogen Dioxide (NO₂) - ppb

Portable Clairmont - December 2014

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 102.1 ppb on Dec 9 14:00 Maximum Daily Average: 36.6 ppb on Dec 1																								Hours in Service: 744 Hours of Data: 708 Hours of Missing Data: 36 Hours of Calibration: 36 Percent Operational Time: 100.0		
Minimum Value: 0 ppb on Dec 24 20:00 Maximum Diurnal Average: 24.0 ppb at hour 18 Monthly Average: 20.35 ppb												Minimum Daily Average: 4.0 ppb on Dec 28 Minimum Diurnal Average: 17.1 ppb at hour 15 Percentiles: P ₁ = 1.0 P ₁₀ = 4.4 Q ₁ = 11.1 Median = 21.1 Q ₃ = 28.3 P ₉₀ = 33.8 P ₉₉ = 46.0														
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-Dec	41	41	43	42	40	42	37	39	A	46	39	24	29	25	32	39	36	37	35	31	36	35	38	37	36.6	46.1
2-Dec	32	28	27	20	19	23	28	A	26	31	30	22	18	28	32	46	46	47	46	43	41	35	35	29	31.9	46.8
3-Dec	30	29	30	37	29	38	A	48	45	29	25	30	23	21	22	26	27	31	43	39	37	28	23	18	30.8	48.3
4-Dec	13	12	15	13	16	A	18	22	32	19	15	13	12	13	16	21	34	39	38	34	29	27	23	31	22.0	38.8
5-Dec	27	26	23	27	A	28	32	31	30	25	29	31	19	20	22	29	33	30	31	30	30	29	26	30	27.8	33.3
6-Dec	25	27	30	A	33	27	18	16	16	21	13	8	7	7	8	9	18	25	26	24	24	20	12	14	18.7	33.0
7-Dec	23	23	A	11	16	19	20	20	23	18	19	12	16	16	15	18	26	27	28	28	27	25	22	22	20.5	27.9
8-Dec	22	A	21	19	22	21	23	27	30	22	21	21	26	32	24	25	32	36	35	31	32	27	26	28	26.3	36.3
9-Dec	A	27	25	24	26	28	28	28	25	C	C	C	C	102	11	14	12	16	16	5	10	20	25	A	24.5	102.1
10-Dec	14	7	19	25	31	16	8	5	6	4	5	5	6	5	5	6	5	5	5	5	5	4	A	4	8.8	31.4
11-Dec	3	2	2	2	4	10	5	7	8	8	7	7	6	7	12	18	17	8	6	4	3	A	3	2	6.5	17.6
12-Dec	2	2	2	2	7	8	6	5	6	11	14	14	24	13	15	14	21	22	12	13	A	10	13	19	11.1	24.1
13-Dec	19	16	17	16	18	18	21	29	26	24	17	21	27	30	27	28	29	34	28	A	18	17	16	12	22.0	34.2
14-Dec	12	10	11	11	9	17	26	26	19	16	19	20	20	18	24	32	35	27	A	26	13	8	7	10	18.1	35.4
15-Dec	8	9	13	14	19	20	22	35	29	31	27	18	15	14	15	19	28	A	28	27	29	30	26	26	21.9	35.3
16-Dec	28	26	25	24	22	27	26	30	30	26	24	30	18	17	18	23	A	39	40	39	31	29	28	26	27.2	39.8
17-Dec	27	27	26	27	28	26	28	27	31	38	25	30	28	41	32	A	31	29	27	27	28	32	29	30	29.4	40.8
18-Dec	29	29	29	31	28	28	30	29	33	35	31	42	41	32	A	24	28	33	37	36	34	31	31	21	31.4	42.3
19-Dec	16	23	21	18	21	23	25	13	34	32	36	42	25	A	28	30	28	29	25	24	25	27	28	29	26.2	41.9
20-Dec	27	27	24	24	26	27	29	22	16	17	10	13	A	8	7	9	8	11	34	32	22	18	20	20	19.6	33.8
21-Dec	32	32	31	29	29	25	16	13	14	14	12	A	20	21	24	22	30	29	24	27	23	23	23	21	23.2	32.2
22-Dec	21	20	21	21	24	24	30	24	39	28	A	31	34	26	28	28	35	44	40	36	32	35	31	28	29.6	44.0
23-Dec	26	19	21	24	14	19	21	30	22	A	14	9	7	5	5	7	24	42	34	35	38	34	33	33	22.4	42.0
24-Dec	34	31	24	22	17	12	13	21	A	18	7	2	2	1	1	1	2	1	1	0	1	1	1	1	9.2	33.6
25-Dec	2	3	1	1	2	2	2	A	3	5	4	4	4	4	4	5	10	9	11	15	18	20	17	16	7.0	20.2
26-Dec	17	19	19	12	9	9	A	11	12	14	11	18	18	14	16	21	21	20	19	22	19	19	18	19	16.4	21.9
27-Dec	16	17	20	22	21	A	17	20	10	7	10	20	7	5	5	4	4	3	2	2	3	2	2	2	9.6	22.2
28-Dec	3	3	4	7	A	6	5	7	7	7	6	5	5	4	3	2	3	4	3	2	2	2	2	2	4.0	7.3
29-Dec	2	2	4	A	5	8	17	25	25	18	18	23	18	17	19	24	27	31	35	31	27	20	25	26	19.5	34.8
30-Dec	27	24	A	26	19	20	22	28	18	23	19	40	48	47	32	18	19	11	6	9	8	6	8	6	21.1	48.0
31-Dec	12	A	2	4	8	13	24	17	7	11	8	12	5	6	11	4	3	4	3	5	19	10	5	5	8.6	24.3
19.7 19.3 19.0 19.1 19.4 20.2 20.6 22.6 21.4 20.6 17.8 19.5 18.3 19.9 17.1 18.9 22.4 24.0 23.9 22.8 22.1 20.8 19.9 18.9																									Diurnal Average	
40.6 40.9 43.4 41.6 39.8 41.5 37.2 48.3 45.1 46.1 38.6 42.3 48.0 102.1 32.4 45.8 45.6 46.8 46.1 43.2 41.1 35.0 37.7 37.4																									Diurnal Maximum	
C - Calibration A - Automated Daily Zero Span Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 159 ppb 24-hr 106 ppb																										

Hourly Averages

Nitrogen Dioxide (NO₂) - ppb
Portable Clairmont - December 2014



Hourly Maximums

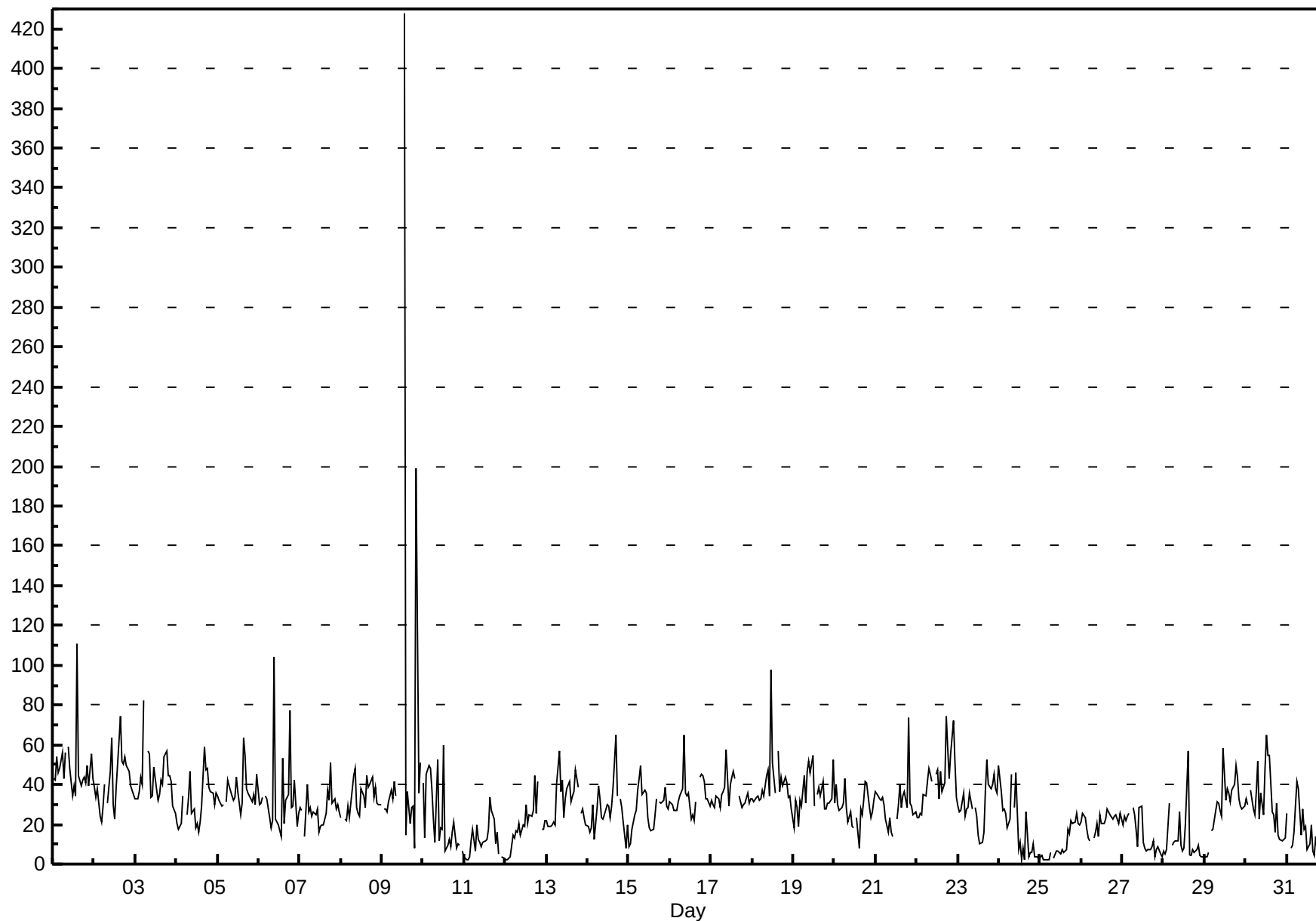
Nitrogen Dioxide (NO₂) - ppb

Portable Clairmont - December 2014

Maximum Value: 427.6 ppb on Dec 9 14:00																				Maximum Daily Average: 61.7 ppb on Dec 9					Hours in Service: 744	
Minimum Value: 2 ppb on Dec 25 00:00																				Minimum Daily Average: 10.1 ppb on Dec 25					Hours of Data: 708	
Maximum Diurnal Average: 37.5 ppb at hour 14																				Minimum Diurnal Average: 23.5 ppb at hour 2					Hours of Missing Data: 36	
Monthly Average: 29.64 ppb																				Percentiles: P ₁ = 2.3 P ₁₀ = 8.1 Q ₁ = 19.3 Median = 28.8 Q ₃ = 37.3 P ₉₀ = 47.0 P ₉₉ = 74.3					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-Dec	43	42	54	46	48	56	43	56	A	59	48	34	40	34	111	44	39	43	44	41	49	39	56	43	48.3	111.0
2-Dec	39	33	38	24	21	29	40	A	31	47	64	30	23	38	62	74	52	50	54	49	47	39	37	35	41.6	74.0
3-Dec	33	33	36	44	40	83	A	57	55	33	34	48	37	32	35	43	40	54	57	44	45	41	29	25	42.5	82.6
4-Dec	21	18	19	20	34	A	25	34	46	26	28	18	20	16	21	29	59	47	48	38	37	36	30	36	30.7	58.8
5-Dec	34	32	29	30	A	31	42	39	35	32	34	43	36	25	31	63	55	38	36	32	32	35	30	45	36.5	63.1
6-Dec	30	31	34	A	34	33	23	18	22	104	23	19	17	14	53	20	32	35	77	28	29	42	19	25	33.2	104.5
7-Dec	29	27	A	14	40	26	29	24	26	25	28	16	19	19	20	26	37	32	51	31	33	27	30	26	27.6	51.3
8-Dec	23	A	23	22	29	24	30	44	48	29	25	24	38	34	28	44	38	40	44	33	38	30	30	30	32.6	48.4
9-Dec	A	28	28	27	31	37	33	42	35	C	C	C	C	428	15	36	20	29	29	8	199	35	51	A	61.7	427.6
10-Dec	41	13	45	49	48	37	22	11	52	12	18	17	60	7	10	12	9	16	21	8	10	10	A	6	23.3	60.1
11-Dec	4	2	2	4	12	17	7	20	12	11	9	11	12	13	17	34	27	23	10	16	5	A	4	3	11.9	33.9
12-Dec	2	3	3	3	14	13	16	16	21	15	20	19	30	20	25	24	27	44	26	41	A	17	17	22	19.1	44.5
13-Dec	22	19	19	19	21	20	40	57	37	43	24	33	38	42	32	35	36	48	39	A	25	28	23	20	31.2	56.7
14-Dec	19	16	18	30	12	28	39	33	23	23	25	30	29	23	29	39	65	34	A	32	29	21	8	20	27.2	65.1
15-Dec	9	10	17	25	27	37	43	49	35	37	35	23	18	16	18	25	32	A	31	30	32	39	29	28	28.2	49.4
16-Dec	31	30	27	27	27	32	34	38	65	35	35	36	23	25	22	31	A	44	45	45	41	33	33	29	34.3	65.0
17-Dec	32	30	29	35	33	28	35	36	39	58	29	40	44	47	43	A	34	31	28	30	31	36	31	33	35.2	57.8
18-Dec	33	31	34	35	32	33	37	35	44	47	35	98	51	36	A	57	37	43	39	44	41	34	34	27	40.7	97.7
19-Dec	18	32	29	19	32	29	45	31	47	52	46	55	29	A	35	38	34	41	28	28	31	31	33	52	35.4	54.6
20-Dec	30	40	30	27	29	31	43	29	21	26	19	18	A	23	8	27	25	32	41	41	28	23	27	32	28.2	42.9
21-Dec	37	34	33	32	34	30	23	16	23	16	14	A	22	30	40	28	34	37	29	74	31	29	25	26	30.3	73.9
22-Dec	23	23	26	25	35	34	41	48	45	42	A	45	48	33	47	36	41	74	58	43	56	72	51	33	42.6	74.2
23-Dec	29	26	27	35	24	28	28	36	28	A	28	24	14	10	11	16	37	53	40	38	40	45	38	36	30.1	52.6
24-Dec	50	36	27	28	26	18	22	45	A	29	46	7	11	2	8	2	26	4	5	6	11	3	4	2	18.2	49.7
25-Dec	3	5	2	2	2	2	6	A	3	7	6	6	5	7	6	7	17	15	22	20	21	26	21	19	10.1	25.5
26-Dec	21	25	23	18	13	12	A	13	16	20	14	25	20	21	23	27	26	25	23	24	25	23	21	26	21.0	27.4
27-Dec	20	24	22	24	25	A	28	25	17	9	29	29	11	8	6	7	8	9	12	4	7	8	5	3	14.8	28.9
28-Dec	7	5	7	31	A	9	11	12	12	26	9	6	8	19	57	4	5	7	6	7	9	4	4	4	11.7	56.5
29-Dec	4	4	6	A	17	18	27	31	30	27	24	59	32	38	36	31	37	40	49	44	32	29	28	29	29.1	58.7
30-Dec	33	30	A	37	28	25	37	51	22	36	25	48	65	55	55	26	25	16	30	15	12	12	12	13	30.7	64.6
31-Dec	26	A	8	9	16	29	41	38	15	28	17	19	8	10	20	7	4	14	6	12	43	16	7	9	17.5	42.7
24.8 23.5 23.9 25.5 27.1 28.7 30.7 34.0 31.3 32.8 27.2 30.3 27.8 37.5 30.7 29.8 32.0 34.0 34.3 30.2 35.6 28.9 25.5 24.6																									Diurnal Average	
49.7 42.0 53.9 49.4 48.1 82.6 44.6 56.7 65.0 104.5 63.8 97.7 64.6 427.6 111.0 74.0 65.1 74.2 77.3 73.9 199.3 72.4 55.7 52.3																									Diurnal Maximum	
C - Calibration A - Automated Daily Zero Span																										

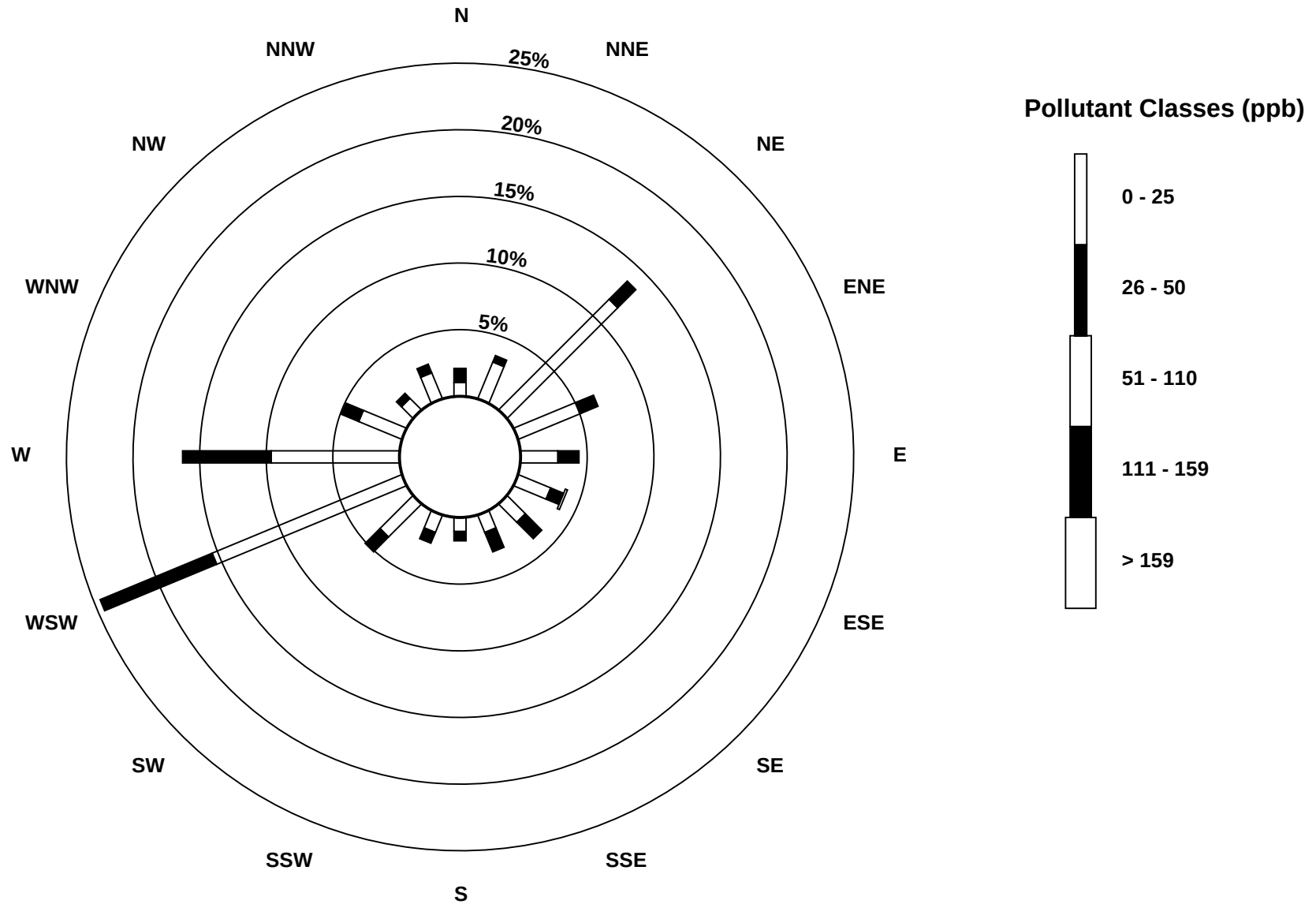
Hourly Maximums

Nitrogen Dioxide (NO₂) - ppb
Portable Clairmont - December 2014



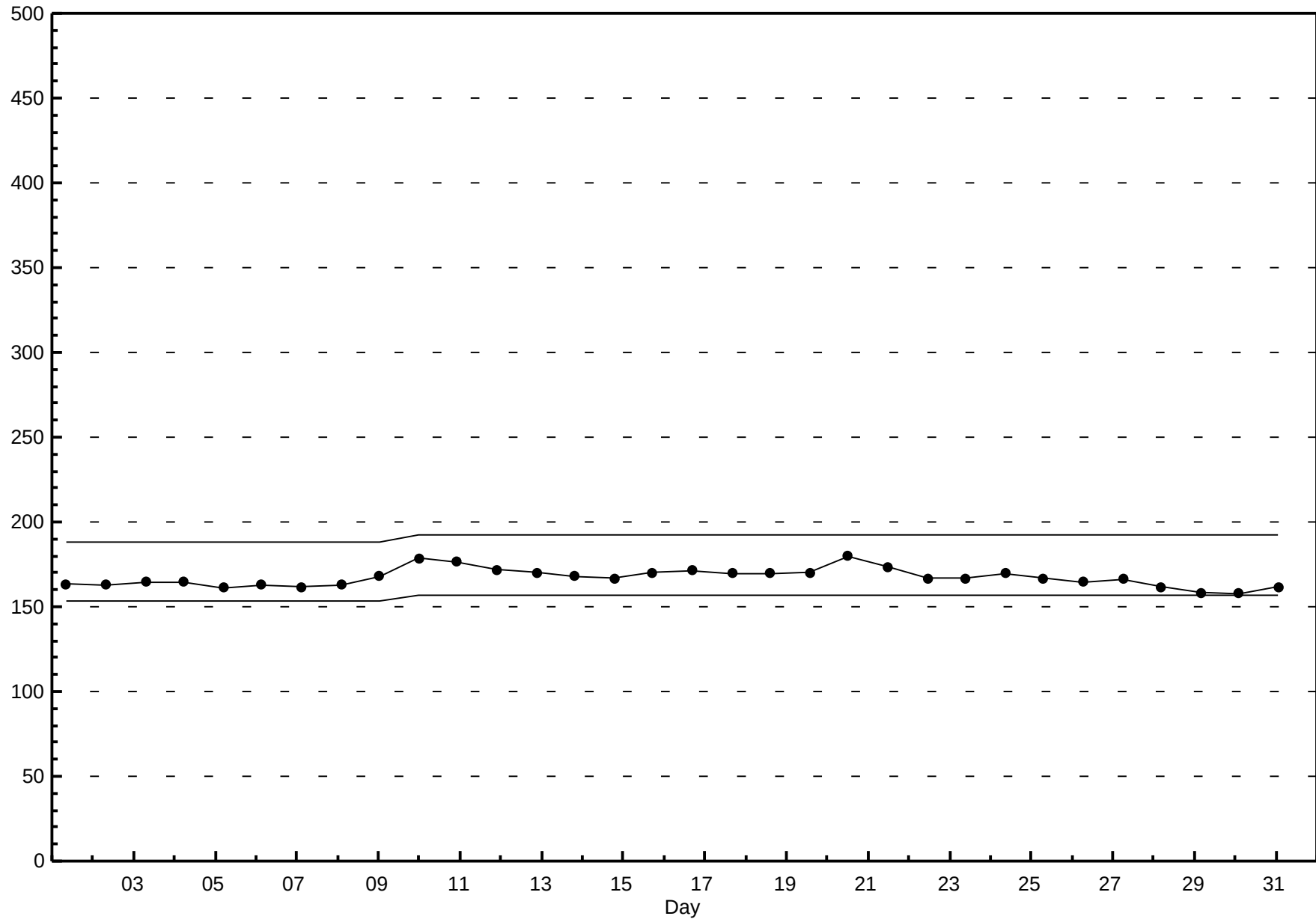
Pollutant Rose

Nitrogen Dioxide (NO₂) - ppb
Portable Clairmont - December 2014



Span Responses

Nitrogen Dioxide (NO₂)
Portable Clairmont - December 2014



Hourly Averages

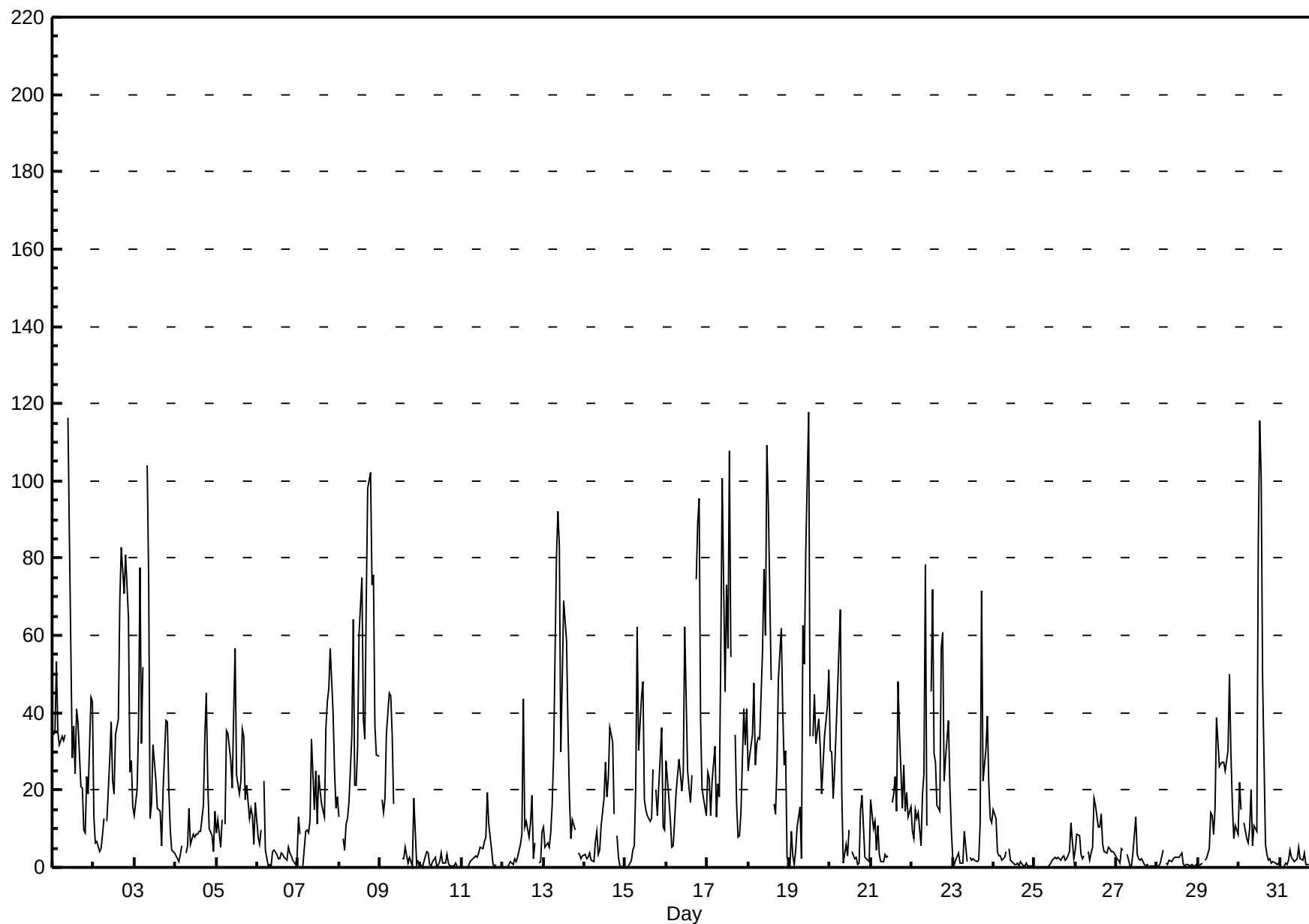
Nitrogen Oxide (NO) - ppb

Portable Clairmont - December 2014

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 117.9 ppb on Dec 19 12:00 Maximum Daily Average: 42.3 ppb on Dec 18																								Hours in Service: 744 Hours of Data: 708 Hours of Missing Data: 36 Hours of Calibration: 36 Percent Operational Time: 100.0		
Minimum Value: 0 ppb on Dec 12 02:00 Minimum Daily Average: 1.3 ppb on Dec 10 Maximum Diurnal Average: 30.2 ppb at hour 12 Minimum Diurnal Average: 9.3 ppb at hour 3 Monthly Average: 17.70 ppb Percentiles: P ₁ = 0.0 P ₁₀ = 0.6 Q ₁ = 2.3 Median = 9.4 Q ₃ = 25.0 P ₉₀ = 45.2 P ₉₉ = 101.0																										
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-Dec	34	35	53	35	32	34	33	34	A	116	86	28	37	24	41	37	21	21	10	9	23	19	44	43	36.9	116.5
2-Dec	13	6	7	4	5	9	13	A	12	28	38	22	19	34	38	69	83	77	71	81	64	25	28	16	33.1	82.8
3-Dec	13	20	36	78	32	52	A	104	75	13	17	32	23	15	15	14	5	20	38	38	20	10	5	4	29.5	104.0
4-Dec	3	2	1	3	6	A	4	6	15	6	9	8	9	9	9	9	16	33	45	22	10	8	4	14	11.0	45.0
5-Dec	9	12	5	12	A	11	35	35	28	21	40	57	24	19	22	36	34	18	21	13	15	13	6	17	21.8	56.7
6-Dec	8	6	10	A	22	5	1	1	0	4	4	3	2	2	4	3	3	2	5	4	3	2	1	2	4.2	22.2
7-Dec	13	9	A	0	9	10	9	12	33	15	25	11	24	20	17	13	36	43	46	57	40	25	15	18	21.8	56.7
8-Dec	13	A	7	4	11	13	17	34	64	21	21	31	60	75	38	33	68	98	102	73	76	37	29	29	41.6	102.1
9-Dec	A	18	14	18	35	45	44	34	17	C	C	C	C	2	2	5	1	2	2	0	18	1	2	A	14.4	45.2
10-Dec	1	0	2	4	4	1	0	1	3	0	1	1	4	1	1	3	1	1	0	0	1	0	A	0	1.3	4.0
11-Dec	0	0	0	0	1	2	2	3	3	3	4	5	5	7	8	19	11	4	1	0	1	A	0	0	3.4	19.3
12-Dec	0	0	0	0	1	1	1	2	2	3	6	9	44	10	12	8	12	18	2	6	A	1	2	9	6.5	43.6
13-Dec	11	5	6	5	9	16	29	80	92	83	30	48	69	58	36	18	8	12	10	A	4	3	2	3	27.7	92.1
14-Dec	3	2	3	4	2	2	7	9	4	5	11	18	27	18	23	36	32	14	A	8	3	0	0	1	10.0	36.1
15-Dec	0	0	0	2	4	6	21	62	30	44	48	17	15	13	12	13	25	A	20	13	29	36	10	10	18.8	62.4
16-Dec	28	18	12	5	6	12	19	28	24	20	24	62	25	21	17	24	A	75	89	95	38	21	18	13	30.2	95.3
17-Dec	25	23	13	23	31	13	22	18	55	101	46	73	57	108	55	A	34	17	8	8	14	41	32	41	37.2	107.7
18-Dec	25	29	34	48	27	32	34	33	56	77	60	109	94	49	A	17	14	26	49	62	41	26	30	3	42.3	109.3
19-Dec	0	9	3	1	5	10	16	2	63	52	82	118	34	A	34	45	32	39	31	19	27	34	42	51	32.6	117.9
20-Dec	30	30	18	25	45	56	67	19	1	6	3	10	A	4	2	3	1	1	15	19	3	2	2	2	15.8	66.7
21-Dec	17	10	12	5	11	3	1	2	3	2	3	A	17	19	24	14	48	35	15	26	15	20	13	16	14.4	48.2
22-Dec	9	7	15	13	14	6	19	24	78	11	A	45	72	30	27	16	14	57	61	22	28	38	21	10	27.7	78.5
23-Dec	2	1	2	4	1	1	1	9	2	A	3	2	2	2	2	2	11	72	22	31	39	22	13	12	11.1	71.6
24-Dec	15	13	4	3	3	2	3	4	A	5	2	1	1	1	1	0	2	0	0	1	0	0	0	0	2.6	14.8
25-Dec	0	0	0	0	0	0	0	A	0	1	2	2	2	2	3	2	3	3	2	2	4	11	7	2	2.1	11.4
26-Dec	4	8	8	3	2	3	A	4	2	4	5	18	16	10	10	14	6	4	4	5	5	4	4	4	6.4	17.7
27-Dec	2	2	1	5	4	A	3	2	0	0	4	13	3	2	2	2	1	0	1	0	1	0	0	0	2.1	13.2
28-Dec	0	0	1	5	A	1	1	2	1	2	3	3	2	2	4	1	0	1	1	0	1	0	0	1	1.4	4.6
29-Dec	1	1	1	A	2	2	5	14	14	8	15	39	26	27	27	27	25	30	50	29	17	7	11	9	16.9	50.1
30-Dec	22	15	A	12	8	6	10	20	6	11	9	84	115	101	49	6	3	2	2	1	1	1	1	1	21.2	115.4
31-Dec	1	A	0	1	1	2	4	3	2	2	2	5	2	2	4	1	1	1	1	1	3	1	1	1	1.7	5.2
10.1 9.7 9.3 11.0 11.4 12.3 14.4 20.8 23.6 22.8 20.7 30.2 28.6 22.9 17.9 16.4 18.4 24.1 24.1 21.6 18.1 13.7 11.4 11.0																								Diurnal Average		
34.5 35.0 53.2 77.6 45.0 56.5 66.7 104.0 92.1 116.5 85.9 117.9 115.4 107.7 54.6 69.0 82.8 98.0 102.1 95.3 75.6 40.9 44.1 51.2																								Diurnal Maximum		
C - Calibration A - Automated Daily Zero Span																										

Hourly Averages

Nitrogen Oxide (NO) - ppb
Portable Clairmont - December 2014



Hourly Maximums

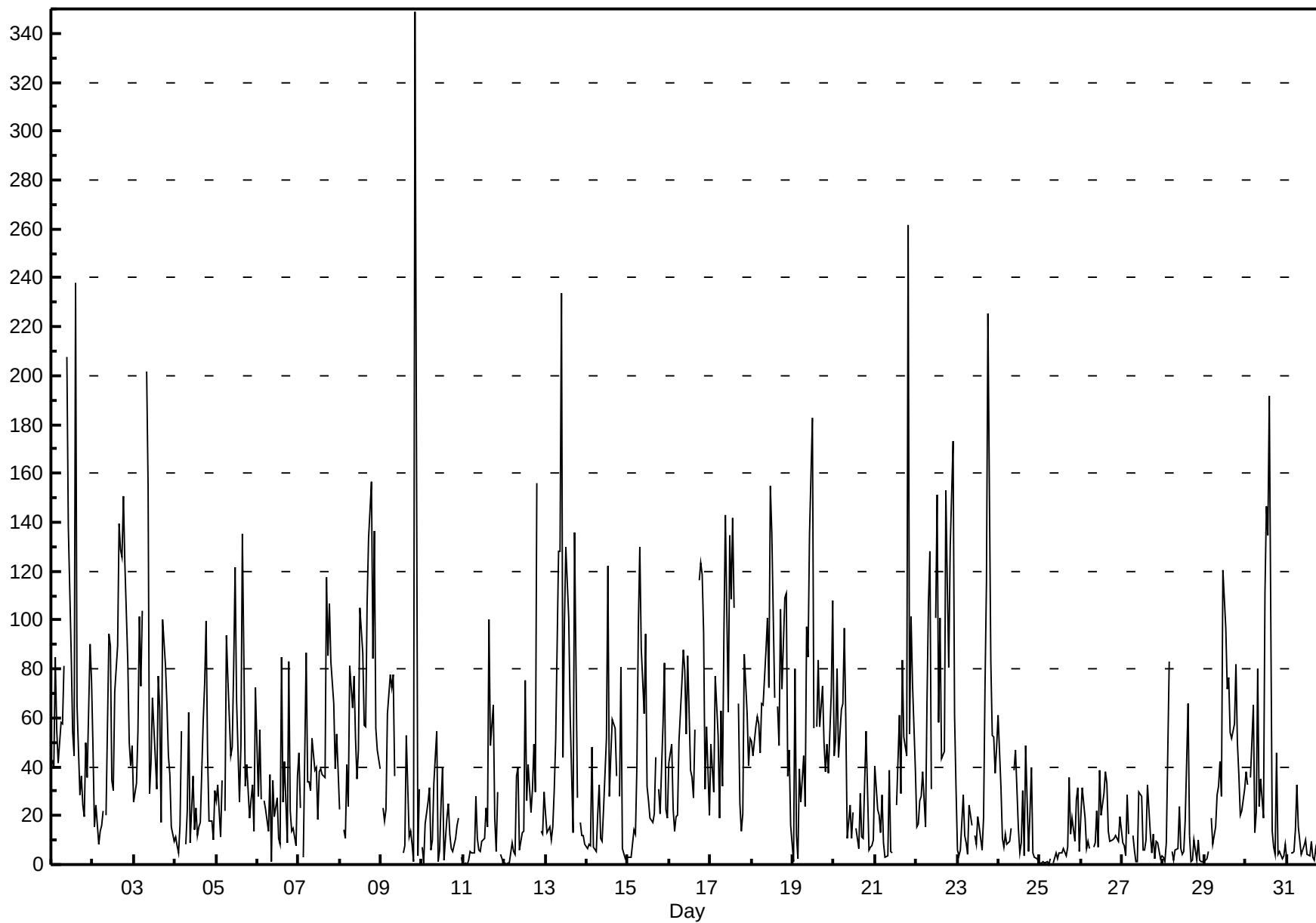
Nitrogen Oxide (NO) - ppb

Portable Clairmont - December 2014

Maximum Value: 349.1 ppb on Dec 9 21:00																				Maximum Daily Average: 74.6 ppb on Dec 22				Hours in Service: 744		
Minimum Value: 0 ppb on Dec 12 02:00																				Minimum Daily Average: 8.1 ppb on Dec 25				Hours of Data: 708		
Maximum Diurnal Average: 57.9 ppb at hour 19																				Minimum Diurnal Average: 20.2 ppb at hour 3				Hours of Missing Data: 36		
Monthly Average: 41.04 ppb																				Percentiles: P ₁ = 0.5 P ₁₀ = 4.0 Q ₁ = 9.9 Median = 28.3 Q ₃ = 56.3 P ₉₀ = 97.8 P ₉₉ = 198.3				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-Dec	43	39	85	55	42	58	57	82	A	208	138	86	54	45	238	65	28	36	25	19	50	36	90	75	71.9	237.7
2-Dec	48	15	24	8	14	16	22	A	20	94	90	34	30	71	90	140	129	126	151	123	83	50	40	49	63.8	150.8
3-Dec	26	33	54	101	73	104	A	202	155	29	42	68	43	31	77	63	17	100	81	65	45	37	16	9	64.0	201.7
4-Dec	11	8	5	16	55	A	9	22	62	9	36	14	23	12	16	17	58	74	100	46	18	18	10	31	29.1	99.9
5-Dec	26	33	11	34	A	22	93	76	45	48	80	121	67	25	49	135	85	32	41	19	27	33	14	72	51.7	135.4
6-Dec	28	55	27	A	26	22	14	37	1	34	19	27	11	8	85	25	42	9	83	22	14	15	8	36	28.1	84.8
7-Dec	46	23	A	3	87	34	34	30	51	39	40	19	38	39	37	36	117	86	107	83	66	39	54	39	49.8	117.2
8-Dec	22	A	14	10	41	24	81	64	77	52	35	47	105	86	57	57	107	134	157	84	136	56	47	39	66.6	156.6
9-Dec	A	23	18	23	62	78	73	78	36	C	C	C	C	5	7	53	11	14	8	1	349	4	31	A	48.4	349.1
10-Dec	7	0	16	26	31	6	10	33	54	1	6	25	39	2	19	25	12	7	5	11	16	19	A	3	16.4	54.4
11-Dec	0	0	0	2	5	4	4	28	11	6	5	10	10	23	15	100	49	65	19	5	30	A	4	1	17.3	100.4
12-Dec	1	0	0	1	9	5	4	36	40	6	13	14	76	26	41	21	31	49	29	156	A	14	12	30	26.7	156.1
13-Dec	21	13	15	10	16	30	51	128	128	233	44	98	130	101	61	37	13	136	27	A	17	12	12	8	58.3	233.5
14-Dec	6	8	8	48	7	5	21	33	11	10	22	52	122	28	44	59	56	36	A	28	81	7	3	3	30.3	122.1
15-Dec	3	3	3	14	12	40	98	130	89	61	94	32	26	19	17	21	44	A	31	21	58	82	22	19	40.8	129.6
16-Dec	41	49	22	13	20	20	50	74	88	79	53	85	39	35	27	55	A	116	123	119	95	31	56	20	57.1	123.3
17-Dec	49	39	30	77	53	19	63	32	95	143	62	135	109	142	105	A	66	25	14	21	86	62	40	51	65.9	142.8
18-Dec	51	45	56	61	58	46	66	65	88	101	73	155	136	68	A	65	49	105	72	109	111	36	47	16	72.9	155.1
19-Dec	1	80	12	2	39	25	44	24	98	85	135	183	56	A	56	83	57	73	50	38	49	38	70	108	61.1	182.7
20-Dec	44	51	80	44	63	66	96	60	11	24	10	21	A	15	6	29	11	11	33	55	6	7	8	10	33.2	96.5
21-Dec	40	22	20	13	28	9	3	3	38	6	5	A	25	43	61	29	84	52	45	262	53	101	74	38	45.9	261.6
22-Dec	16	17	26	28	38	15	67	107	128	31	A	101	151	58	101	43	46	153	115	81	130	173	61	31	74.6	173.5
23-Dec	6	4	6	28	12	9	4	24	16	A	12	8	20	15	6	19	73	116	225	83	53	52	37	48	38.1	225.4
24-Dec	61	31	11	7	13	8	9	15	A	39	47	15	4	9	30	4	48	5	21	40	5	3	2	1	18.6	60.9
25-Dec	1	1	1	0	1	0	2	A	1	5	3	5	4	5	7	4	7	36	12	19	10	27	31	5	8.1	35.9
26-Dec	19	32	19	6	10	7	A	7	9	22	7	39	20	29	38	33	14	9	10	11	12	11	10	19	17.0	38.7
27-Dec	9	8	4	28	13	A	12	6	1	1	29	28	6	6	10	33	12	4	13	2	9	9	2	4	10.9	32.9
28-Dec	3	1	9	83	A	5	2	6	6	24	6	4	6	18	66	12	1	2	10	2	10	2	1	1	12.1	82.8
29-Dec	1	2	6	A	19	8	15	29	32	42	28	121	97	72	76	54	52	57	82	50	37	20	22	31	41.4	120.6
30-Dec	38	33	A	36	65	13	22	80	23	35	19	111	146	134	191	14	7	4	46	4	5	3	4	8	45.3	191.4
31-Dec	2	A	5	5	5	14	32	15	4	6	8	10	4	3	10	3	2	7	3	4	42	3	4	3	8.4	41.6
22.4 23.1 20.2 27.0 31.5 24.6 36.5 52.6 48.9 50.8 40.1 57.5 55.1 39.1 54.8 44.5 44.3 55.9 57.9 52.7 56.7 33.2 27.8 27.0																								Diurnal Average		
60.9 80.2 84.8 101.2 86.7 104.0 97.8 201.7 154.8 233.5 138.2 182.7 151.0 141.7 237.7 139.6 128.5 153.1 225.4 261.6 349.1 173.5 90.4 107.7																								Diurnal Maximum		
C - Calibration A - Automated Daily Zero Span																										

Hourly Maximums

Nitrogen Oxide (NO) - ppb
Portable Clairmont - December 2014



Hourly Averages

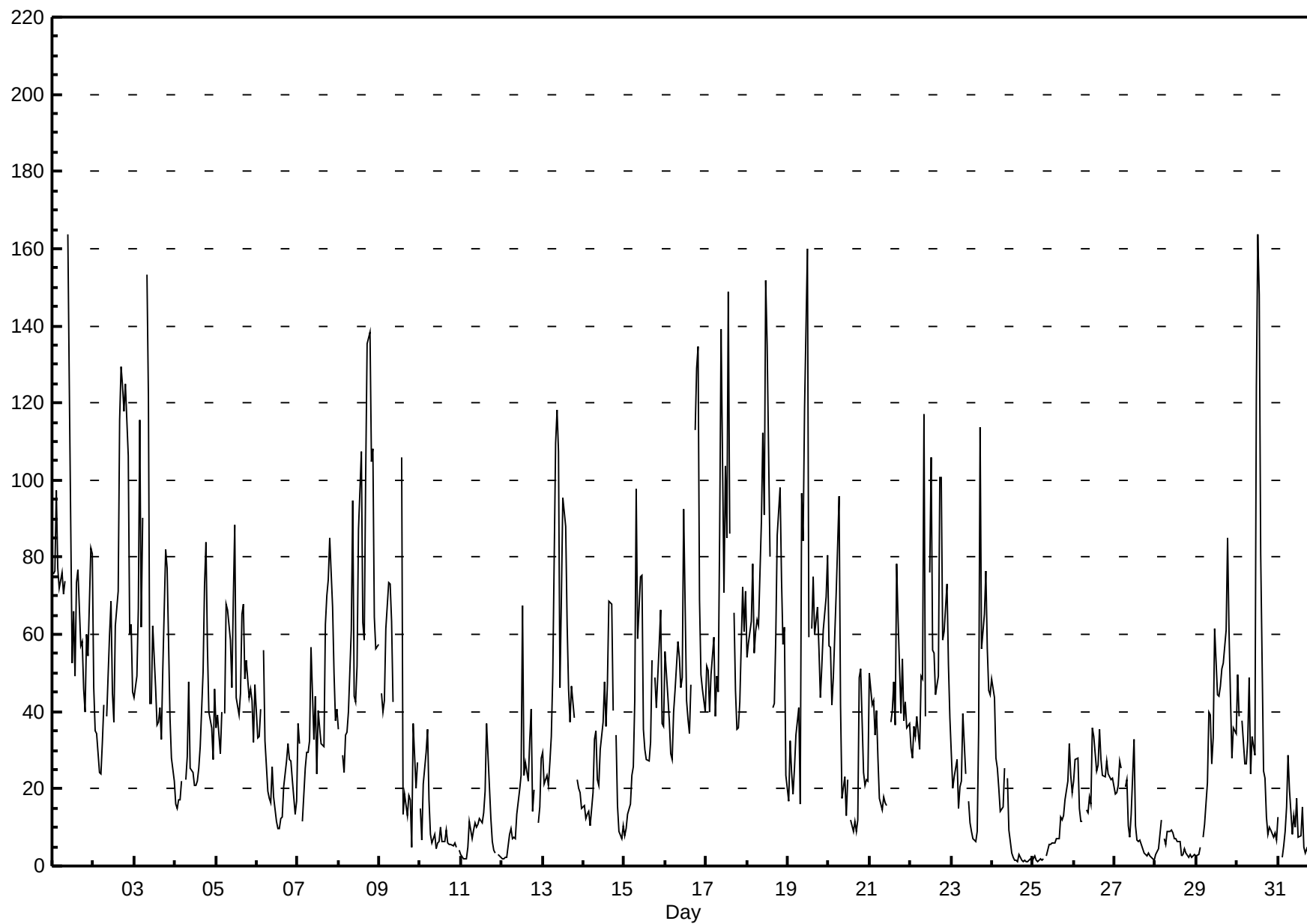
Oxides of Nitrogen (NO_x) - ppb

Portable Clairmont - December 2014

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 163.8 ppb on Dec 1 10:00 Maximum Daily Average: 74.1 ppb on Dec 1																								Hours in Service: 744 Hours of Data: 708 Hours of Missing Data: 36 Hours of Calibration: 36 Percent Operational Time: 100.0		
Minimum Value: 1 ppb on Dec 24 16:00 Minimum Daily Average: 5.4 ppb on Dec 28 Maximum Diurnal Average: 49.9 ppb at hour 12 Minimum Diurnal Average: 28.6 ppb at hour 3 Monthly Average: 38.25 ppb Percentiles: P ₁ = 1.4 P ₁₀ = 5.7 Q ₁ = 13.4 Median = 32.6 Q ₃ = 53.7 P ₉₀ = 78.0 P ₉₉ = 147.4																										
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
1-Dec	76	76	97	77	72	76	70	74	A	164	125	53	66	49	74	77	57	58	46	40	60	54	82	81	74.1	163.8
2-Dec	46	35	34	24	24	32	42	A	39	60	69	45	37	62	71	116	129	125	118	125	106	60	63	45	65.6	129.2
3-Dec	44	49	67	116	62	90	A	153	121	42	42	62	46	36	37	41	33	51	82	77	58	38	28	22	60.9	153.4
4-Dec	16	15	17	17	22	A	22	28	48	25	24	21	21	22	25	31	50	73	84	57	40	36	28	46	33.4	83.8
5-Dec	36	39	29	40	A	39	68	66	58	46	69	88	44	39	45	65	68	49	53	43	46	43	32	47	50.1	88.3
6-Dec	33	33	41	A	56	33	19	18	16	26	18	12	10	10	12	13	21	27	32	28	27	22	13	17	23.3	55.8
7-Dec	37	32	A	12	25	29	29	32	57	33	44	24	40	36	32	31	63	70	74	85	67	50	38	41	42.6	85.0
8-Dec	35	A	29	24	34	35	40	61	95	44	42	52	87	107	63	59	101	135	138	105	108	64	56	57	68.4	138.4
9-Dec	A	45	40	43	62	74	73	63	42	C	C	C	C	106	13	19	13	18	17	5	37	20	27	A	39.8	105.9
10-Dec	15	7	21	29	35	17	8	6	8	5	6	6	10	6	6	9	6	6	5	5	6	5	A	4	10.1	35.3
11-Dec	3	2	2	2	5	11	7	9	11	10	11	12	11	14	19	37	29	12	6	4	3	A	3	2	9.9	36.8
12-Dec	2	2	2	2	8	10	7	8	7	14	20	23	68	23	27	22	33	41	14	20	A	11	15	28	17.7	67.6
13-Dec	29	21	24	21	27	34	49	110	118	107	46	69	96	88	63	46	37	47	38	A	22	20	19	15	49.8	118.0
14-Dec	15	12	13	14	11	19	33	35	22	21	30	37	48	36	47	69	68	40	A	34	16	9	7	10	28.2	68.6
15-Dec	8	10	13	16	24	26	43	98	59	75	75	36	30	27	27	32	53	A	49	41	57	66	37	36	40.8	97.8
16-Dec	55	44	38	29	28	40	46	58	54	46	49	92	43	38	34	47	A	113	129	135	69	49	46	40	57.5	134.6
17-Dec	52	51	40	50	59	39	49	45	86	139	71	103	85	149	86	A	66	46	35	36	42	72	61	71	66.7	148.8
18-Dec	54	58	63	78	55	61	64	62	89	112	91	152	135	80	A	41	42	59	86	98	74	58	62	23	73.8	151.9
19-Dec	17	33	24	19	25	34	41	16	97	84	119	160	59	A	62	75	60	67	56	43	52	61	70	81	58.9	160.1
20-Dec	57	57	42	49	71	83	96	42	18	23	13	22	A	12	9	11	9	12	49	51	24	21	22	22	35.4	95.6
21-Dec	50	42	43	34	40	28	18	15	18	16	16	A	37	40	48	37	78	64	40	54	38	42	36	37	37.8	78.1
22-Dec	31	28	36	34	39	30	49	48	117	39	A	76	106	56	55	44	49	101	101	58	61	73	52	38	57.5	117.2
23-Dec	29	20	23	28	15	20	22	40	24	A	17	11	9	7	6	9	35	114	56	65	77	56	45	44	33.6	113.7
24-Dec	48	44	28	25	20	14	15	25	A	23	9	3	2	1	2	1	3	1	1	1	1	1	2	1	11.9	48.5
25-Dec	2	3	1	1	2	2	2	A	3	6	6	6	6	6	7	7	13	12	13	17	22	32	24	19	9.1	31.7
26-Dec	22	28	28	15	11	11	A	15	14	18	16	36	34	25	26	35	27	24	23	27	24	23	22	23	22.9	35.8
27-Dec	18	19	21	27	26	A	21	22	11	8	13	33	10	7	6	7	4	3	3	2	3	3	2	2	11.8	32.9
28-Dec	3	4	5	12	A	7	6	9	9	9	9	7	7	6	6	3	3	4	3	2	3	2	2	3	5.4	11.8
29-Dec	3	3	5	A	7	11	22	40	39	27	33	62	44	44	46	51	52	61	85	61	44	28	36	34	36.4	84.9
30-Dec	49	39	A	37	27	26	33	49	24	33	29	124	164	148	81	25	23	13	8	10	9	8	9	7	42.3	163.7
31-Dec	13	A	2	5	9	15	29	20	8	13	10	17	7	8	15	5	3	4	3	6	22	10	6	6	10.4	28.9
30.0 29.3 28.6 30.3 31.0 32.7 35.2 43.7 45.2 43.7 38.6 49.9 47.0 43.0 35.1 35.5 41.0 48.3 48.3 44.6 40.7 34.7 31.5 30.1 75.6 76.4 97.3 115.6 72.0 90.2 95.6 153.4 121.4 163.8 125.3 160.1 163.7 148.8 86.2 115.7 129.2 135.3 138.4 134.6 108.2 73.2 82.4 80.9																								Diurnal Average	Diurnal Maximum	
C - Calibration A - Automated Daily Zero Span																										

Hourly Averages

Oxides of Nitrogen (NO_x) - ppb
Portable Clairmont - December 2014



Hourly Maximums

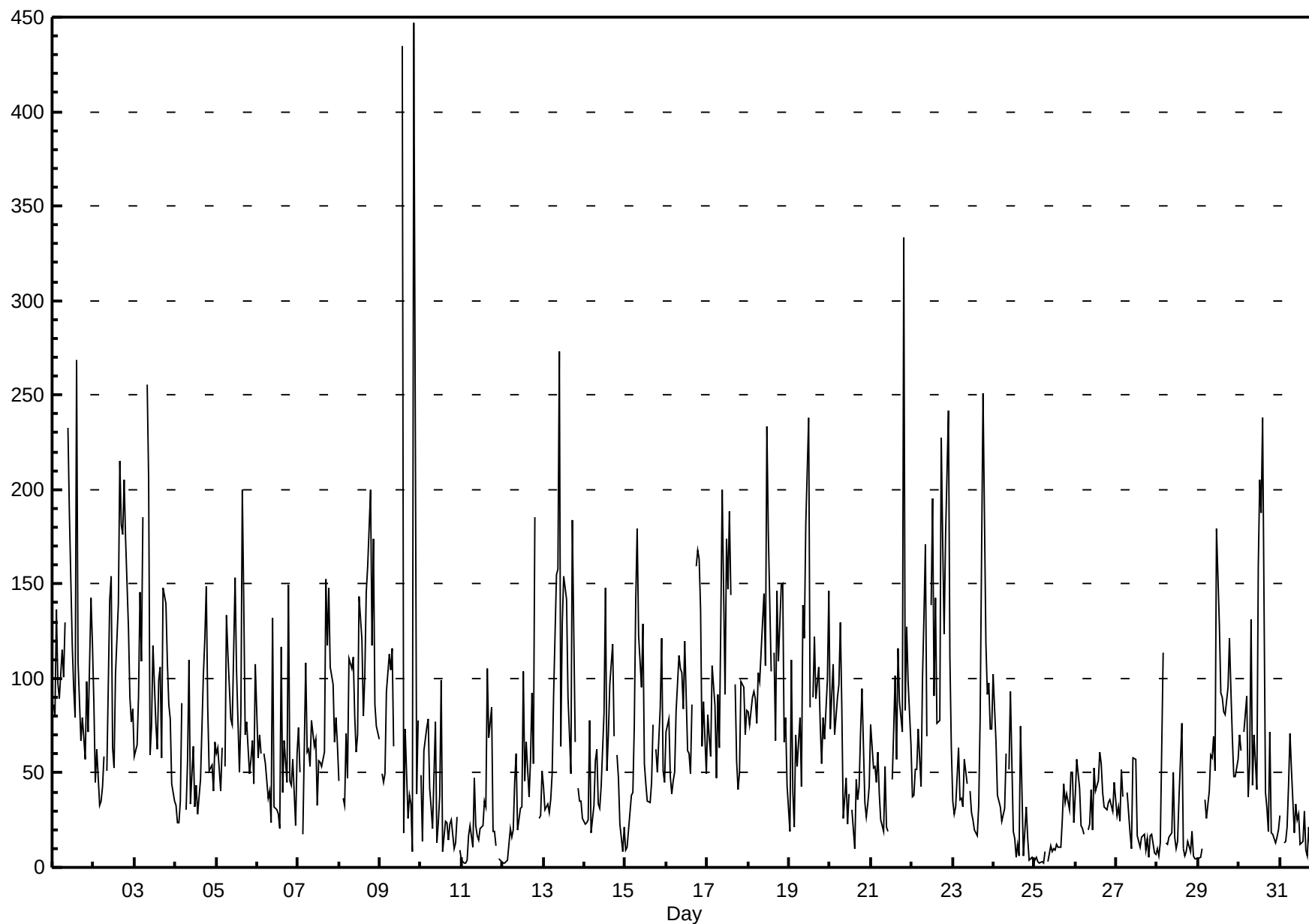
Oxides of Nitrogen (NO_x) - ppb

Portable Clairmont - December 2014

Maximum Value: 447.0 ppb on Dec 9 21:00																								Hours in Service:		744
Maximum Daily Average: 114.2 ppb on Dec 1																								Hours of Data:		708
Minimum Value: 2 ppb on Dec 25 06:00																								Hours of Missing Data:		36
Maximum Diurnal Average: 89.1 ppb at hour 19																								Hours of Calibration:		36
Monthly Average: 67.78 ppb																								Percent Operational Time:		100.0
Minimum Daily Average: 17.4 ppb on Dec 25																										
Minimum Diurnal Average: 43.6 ppb at hour 3																										
Percentiles: P ₁ = 2.6 P ₁₀ = 12.9 Q ₁ = 29.8 Median = 56.0 Q ₃ = 91.4 P ₉₀ = 141.1 P ₉₉ = 248.4																										
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
1-Dec	86	81	136	98	89	115	101	129	A	233	188	117	94	79	269	109	67	79	69	57	98	72	142	118	114.2	268.7
2-Dec	87	45	63	33	35	43	59	A	51	142	154	63	52	102	140	215	182	177	205	174	127	90	77	84	104.3	215.0
3-Dec	59	65	91	146	109	185	A	255	205	60	75	117	76	62	99	106	58	148	139	109	86	78	44	35	104.7	255.3
4-Dec	32	23	24	35	87	A	30	56	110	34	64	32	44	28	37	46	102	121	149	84	51	54	41	66	58.7	148.8
5-Dec	61	64	40	64	A	53	133	113	78	76	114	153	104	51	80	200	140	70	77	50	57	67	44	108	86.8	199.8
6-Dec	58	71	60	A	60	55	37	40	24	132	32	30	28	21	117	40	67	45	149	46	43	58	22	60	56.3	149.4
7-Dec	74	50	A	18	109	61	63	54	78	64	68	33	56	56	53	61	153	117	148	106	97	66	79	65	75.1	152.5
8-Dec	46	A	36	33	71	48	110	105	111	80	61	70	144	121	80	102	146	160	200	117	174	87	75	68	97.5	200.2
9-Dec	A	50	45	50	93	113	105	116	64	C	C	C	C	435	19	73	26	38	34	8	447	39	78	A	101.7	447.0
10-Dec	48	13	62	74	79	42	32	21	77	13	24	38	99	8	24	24	14	23	25	10	13	27	A	9	34.8	99.4
11-Dec	4	3	2	4	17	22	10	48	22	17	15	21	22	35	32	105	69	85	19	19	11	A	4	3	25.5	105.1
12-Dec	2	2	3	4	20	16	20	45	61	20	31	32	103	46	66	38	57	93	55	186	A	26	28	51	43.7	185.7
13-Dec	43	31	34	29	36	50	91	155	158	273	64	129	154	142	90	71	50	184	66	A	42	35	35	26	86.4	273.2
14-Dec	23	24	25	78	18	32	56	62	33	31	42	81	148	51	70	97	119	69	A	59	47	23	8	22	53.1	147.8
15-Dec	9	11	20	38	40	75	141	179	123	95	129	55	44	35	35	45	76	A	62	50	85	121	51	45	68.0	179.3
16-Dec	72	79	48	39	46	50	82	112	106	103	84	120	62	60	49	86	A	160	168	163	137	64	88	49	88.1	167.6
17-Dec	81	69	59	107	85	47	92	63	127	200	92	174	147	189	144	A	97	57	41	50	98	96	70	83	98.5	200.0
18-Dec	82	75	90	93	89	76	103	98	129	145	106	233	177	104	A	114	67	147	109	149	151	66	79	43	109.9	233.1
19-Dec	19	110	41	21	70	53	79	43	139	121	182	238	85	A	90	122	89	106	76	55	80	68	99	147	92.7	238.1
20-Dec	73	91	107	70	90	97	130	85	26	47	23	39	A	31	10	47	36	43	71	95	34	27	33	42	58.5	129.5
21-Dec	76	53	53	45	61	39	25	19	54	22	19	A	46	73	101	57	116	88	72	333	83	127	99	65	75.0	333.4
22-Dec	38	38	52	52	73	43	101	133	171	69	A	139	195	91	143	77	78	227	173	124	175	241	112	63	113.3	241.5
23-Dec	35	29	32	64	36	37	32	57	44	A	41	29	25	19	17	33	79	166	251	119	92	98	73	74	64.4	251.0
24-Dec	102	66	38	35	32	25	31	60	A	52	93	19	15	6	12	6	75	6	19	32	15	4	6	2	32.7	102.3
25-Dec	4	5	3	2	3	2	8	A	3	12	9	10	9	12	11	10	25	44	34	39	30	51	50	24	17.4	50.7
26-Dec	38	57	42	22	20	17	A	20	23	41	20	53	40	46	61	55	40	32	31	34	36	33	30	45	36.3	60.7
27-Dec	28	32	25	52	38	A	40	29	18	10	58	57	16	14	10	16	18	9	15	5	17	17	7	7	23.4	58.2
28-Dec	10	6	13	114	A	13	12	16	18	50	16	10	13	37	76	10	6	8	14	8	19	6	5	5	21.1	114.0
29-Dec	5	5	10	A	36	26	40	60	58	70	51	179	128	92	90	82	81	96	121	94	69	48	48	57	67.2	179.4
30-Dec	70	62	A	72	91	37	55	131	44	70	41	159	205	187	238	39	31	19	71	18	18	13	16	20	74.3	237.6
31-Dec	28	A	13	14	22	43	71	52	18	34	25	28	12	13	30	9	6	21	9	16	60	17	11	12	24.5	71.1
46.4 45.1 43.6 51.9 57.0 52.3 65.2 81.3 74.9 79.8 66.2 84.8 80.9 74.9 76.4 69.8 72.3 87.9 89.1 80.3 83.1 60.6 51.8 50.0																								Diurnal Average		
102.3 109.9 136.3 145.8 109.1 185.3 141.3 255.3 205.0 273.2 187.6 238.1 205.1 434.5 268.7 215.0 181.8 227.5 251.0 333.4 447.0 241.5 142.4 146.8																								Diurnal Maximum		
C - Calibration																								A - Automated Daily Zero Span		

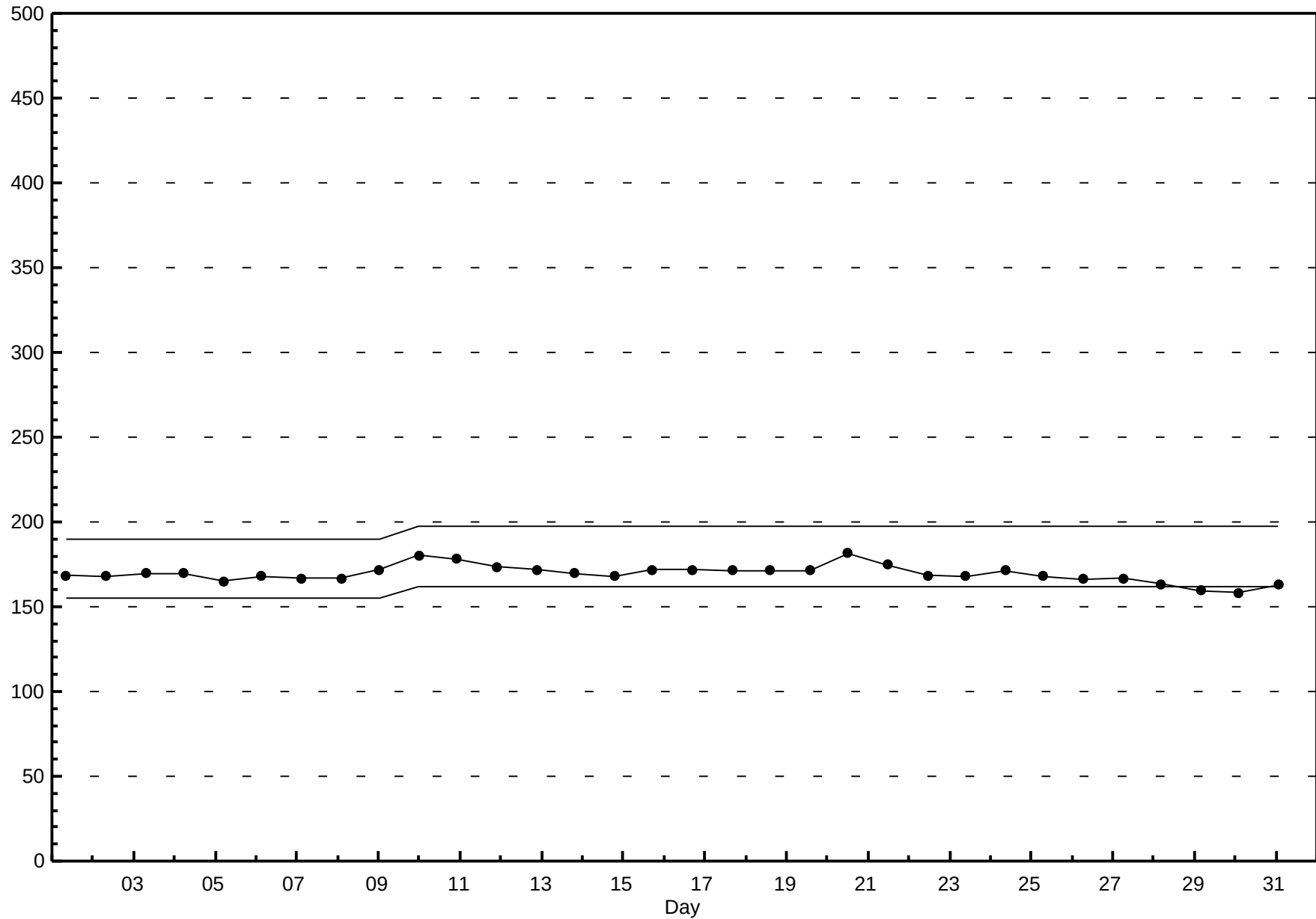
Hourly Maximums

Oxides of Nitrogen (NO_x) - ppb
Portable Clairmont - December 2014



Span Responses

Oxides of Nitrogen (NO_x)
Portable Clairmont - December 2014



Hourly Averages

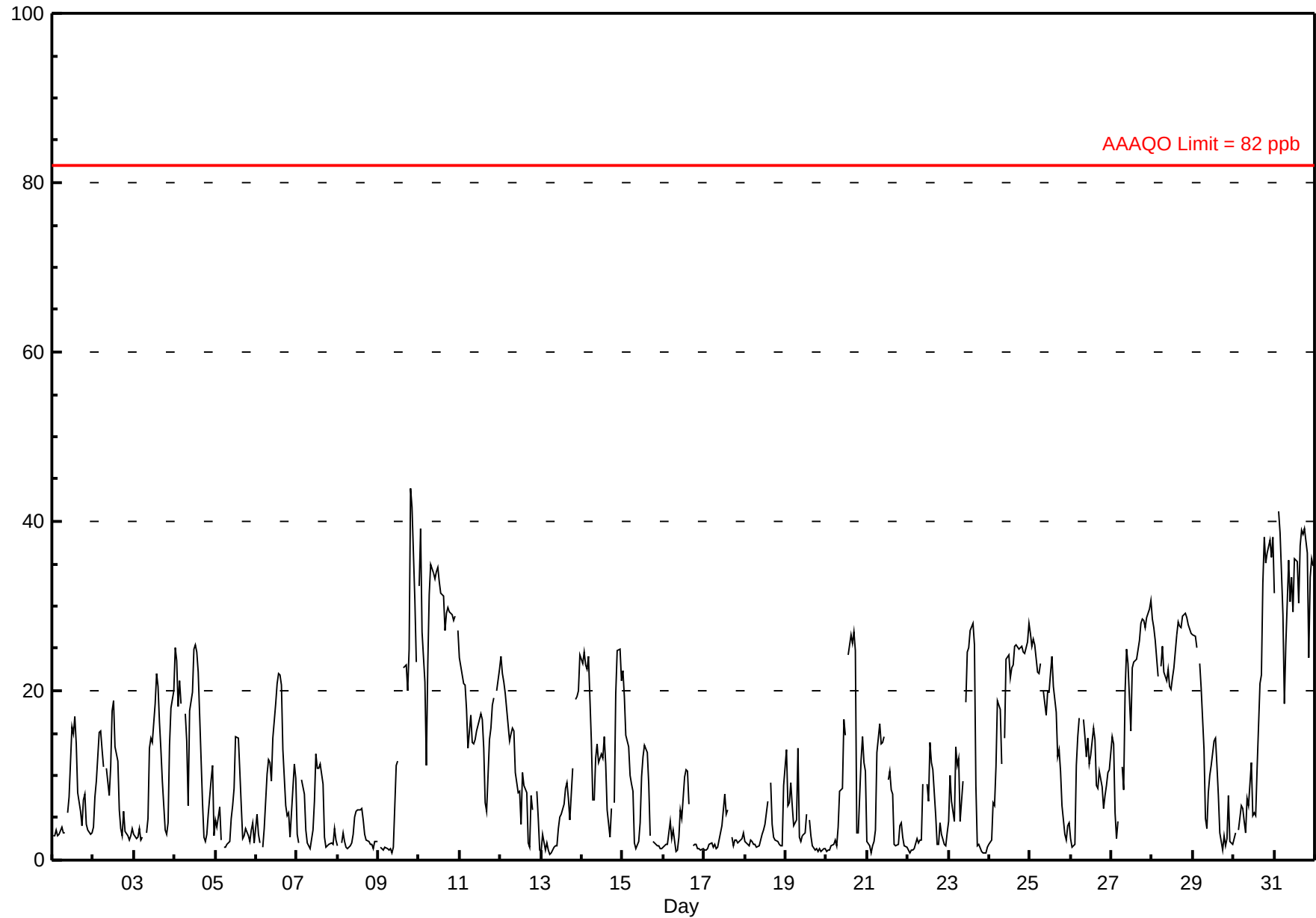
Ozone (O₃) - ppb

Portable Clairmont - December 2014

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 43.9 ppb on Dec 9 20:00 Maximum Daily Average: 33.3 ppb on Dec 31																					Hours in Service: 744 Hours of Data: 709					
Minimum Value: 1 ppb on Dec 13 06:00 Minimum Daily Average: 2.8 ppb on Dec 17 Maximum Diurnal Average: 16.7 ppb at hour 14 Minimum Diurnal Average: 8.6 ppb at hour 8 Monthly Average: 11.63 ppb Percentiles: P ₁ = 0.9 P ₁₀ = 1.6 Q ₁ = 2.8 Median = 8.3 Q ₃ = 19.7 P ₉₀ = 26.9 P ₉₉ = 38.4																					Hours of Missing Data: 35 Hours of Calibration: 35 Percent Operational Time: 100.0					
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Dec	3	3	3	3	3	4	3	3	A	6	7	16	15	17	14	8	6	4	7	8	4	4	3	3	6.4	17.0
2-Dec	4	7	9	15	15	13	11	A	11	8	11	18	19	13	12	6	4	3	6	3	3	2	3	4	8.7	18.8
3-Dec	3	3	3	4	2	3	A	3	5	13	14	14	18	22	20	16	13	9	4	3	4	14	18	20	10.0	22.1
4-Dec	25	24	18	21	18	A	17	14	6	18	20	25	25	25	22	17	7	3	2	3	5	10	11	3	14.8	25.5
5-Dec	5	4	6	2	A	1	2	2	2	5	6	8	15	14	11	6	3	3	4	3	2	4	4	2	5.0	14.5
6-Dec	5	3	2	A	2	4	10	12	12	9	14	19	21	22	22	21	13	7	5	6	3	6	11	10	10.3	22.0
7-Dec	3	2	A	10	8	4	2	2	1	4	7	13	11	11	11	9	3	2	2	2	2	2	4	2	5.0	12.5
8-Dec	2	A	2	3	2	1	1	2	2	3	5	6	6	6	6	5	3	2	2	2	2	1	2	2	3.0	6.1
9-Dec	A	1	1	1	2	1	1	1	1	2	11	12	C	C	C	23	23	20	25	44	42	31	23	A	14.0	43.9
10-Dec	32	39	27	21	11	23	31	35	34	33	34	35	33	32	31	27	29	30	29	29	28	29	A	27	29.6	39.1
11-Dec	24	22	21	21	18	13	17	14	14	14	15	16	17	17	13	7	6	14	16	18	19	A	20	23	16.4	23.8
12-Dec	24	22	21	20	16	14	15	16	15	10	8	8	4	10	9	8	2	1	8	6	A	8	5	1	11.0	24.1
13-Dec	1	3	1	2	1	1	1	2	2	2	4	5	5	7	9	9	7	5	11	A	19	19	20	24	6.9	24.2
14-Dec	23	25	23	23	24	14	7	7	12	14	12	13	12	15	11	6	3	6	A	7	20	25	25	21	15.1	25.0
15-Dec	22	19	15	13	10	9	8	2	1	2	4	10	12	14	13	9	3	A	2	2	2	2	1	1	7.7	22.3
16-Dec	2	2	2	3	5	3	4	1	1	3	6	5	10	11	10	7	A	2	2	2	1	1	1	1	3.6	10.7
17-Dec	1	1	1	2	2	1	2	1	2	2	4	6	8	5	6	A	3	2	2	2	2	2	3	3	2.8	7.7
18-Dec	2	2	2	2	2	2	2	2	2	2	3	4	4	7	A	9	4	3	2	2	2	2	2	9	3.1	9.1
19-Dec	13	7	7	9	6	4	5	13	3	2	3	3	5	A	5	3	2	1	1	1	1	1	1	1	4.3	13.2
20-Dec	1	1	1	2	2	2	2	4	8	8	17	15	A	24	27	26	27	25	3	3	12	15	11	10	10.7	26.9
21-Dec	2	2	1	2	2	4	13	16	14	14	15	A	9	11	8	8	2	2	2	4	4	3	2	2	6.0	16.1
22-Dec	1	1	1	1	1	2	2	2	2	9	A	9	7	14	12	11	5	2	2	4	3	2	2	3	4.3	13.8
23-Dec	5	10	7	5	13	11	12	5	9	A	19	25	25	27	28	25	9	2	2	1	1	1	1	1	10.5	27.9
24-Dec	2	2	7	6	11	19	18	11	A	14	24	24	21	23	23	25	25	25	25	25	25	24	26	28	18.9	28.0
25-Dec	27	25	26	25	22	22	23	A	20	17	20	20	22	24	21	18	12	13	11	6	3	2	4	4	16.9	26.8
26-Dec	3	2	2	11	15	17	A	17	15	12	14	11	12	16	14	9	8	10	9	6	8	9	10	11	10.4	16.8
27-Dec	15	14	6	3	5	A	11	8	20	25	23	15	23	23	24	24	26	28	28	28	27	29	30	31	20.2	30.6
28-Dec	29	27	26	22	A	23	25	22	21	23	21	20	22	23	27	28	28	28	29	29	29	28	27	27	25.3	29.2
29-Dec	27	26	25	A	23	20	13	5	4	8	10	11	14	14	11	8	3	1	3	2	2	8	2	2	10.6	26.6
30-Dec	3	3	A	4	6	6	5	3	7	6	12	5	6	5	11	21	22	33	38	35	36	38	36	38	16.5	38.2
31-Dec	31	A	41	39	34	29	19	25	35	30	33	29	36	35	30	37	39	38	39	36	24	33	36	35	33.3	41.2
11.3 10.4 10.6 10.1 9.7 9.3 9.7 8.6 9.7 10.6 13.2 13.9 15.1 16.7 15.8 14.5 11.3 10.7 10.7 10.8 11.2 11.8 11.5 11.7																								Diurnal Average		
32.4 39.1 41.2 38.6 33.9 29.0 31.4 34.9 35.5 33.2 34.0 34.6 35.6 35.3 31.1 37.2 39.0 38.4 39.2 43.9 41.6 37.8 35.8 38.2																								Diurnal Maximum		
C - Calibration A - Automated Daily Zero Span Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 82 ppb 24-hr na																										

Hourly Averages

Ozone (O₃) - ppb
Portable Clairmont - December 2014



Hourly Maximums

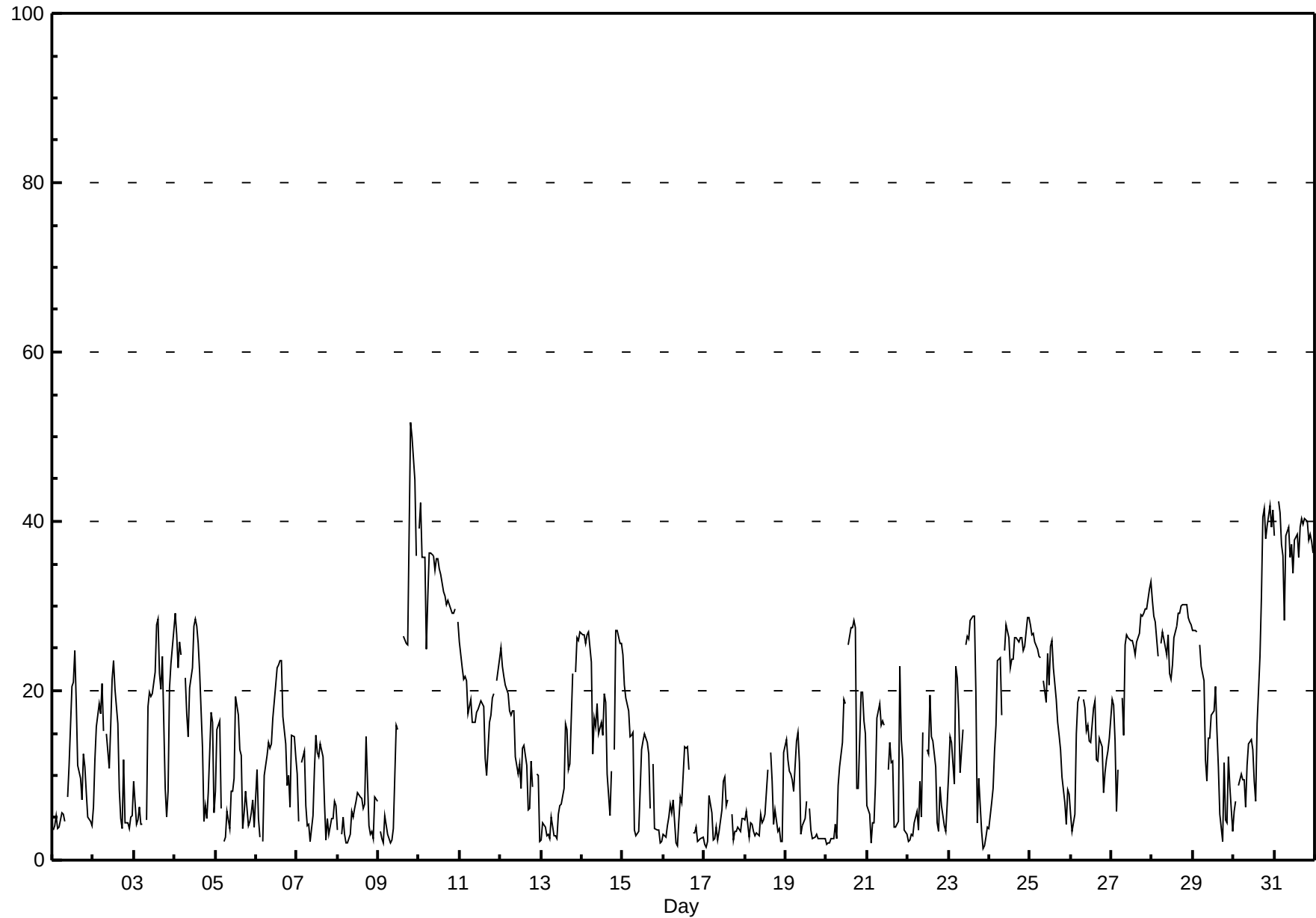
Ozone (O₃) - ppb

Portable Clairmont - December 2014

Maximum Value: 51.7 ppb on Dec 9 20:00																				Maximum Daily Average: 37.8 ppb on Dec 31										Hours in Service: 744									
Minimum Value: 1 ppb on Dec 23 21:00																				Minimum Daily Average: 4.5 ppb on Dec 17										Hours of Data: 709									
Maximum Diurnal Average: 19.7 ppb at hour 14																				Minimum Diurnal Average: 12.2 ppb at hour 8										Hours of Missing Data: 35									
Monthly Average: 14.87 ppb																				Percentiles: P ₁ = 2.0 P ₁₀ = 3.0 Q ₁ = 5.3 Median = 13.1 Q ₃ = 22.8 P ₉₀ = 28.8 P ₉₉ = 41.2										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-Dec	4	4	5	4	4	6	5	5	A	7	11	21	21	25	19	11	10	7	13	11	8	5	5	4	9.3	24.7													
2-Dec	6	12	16	18	17	21	15	A	15	11	16	21	24	20	16	8	5	4	12	4	4	4	5	5	12.2	23.6													
3-Dec	9	4	5	6	4	4	A	5	18	20	19	20	22	28	29	22	20	24	9	5	8	20	23	27	15.3	28.5													
4-Dec	29	27	23	26	24	A	22	17	15	20	23	28	29	28	26	22	13	5	7	5	8	17	16	6	18.8	29.1													
5-Dec	8	15	16	6	A	2	3	6	4	8	8	10	19	17	13	12	4	6	8	4	5	6	7	4	8.3	19.3													
6-Dec	11	5	3	A	2	10	12	14	13	14	17	21	23	23	24	23	17	14	9	10	6	15	15	12	13.5	23.6													
7-Dec	10	5	A	12	13	6	4	4	2	5	11	15	13	12	14	12	7	2	5	3	5	5	7	6	7.8	14.7													
8-Dec	4	A	3	5	3	2	2	3	6	5	6	7	8	7	7	6	7	15	4	3	3	3	8	7	5.4	14.5													
9-Dec	A	3	3	2	5	3	2	2	2	4	16	15	C	C	C	26	26	25	39	52	50	45	36	A	18.8	51.7													
10-Dec	39	42	36	36	25	31	36	36	36	34	36	36	34	34	32	31	30	31	30	29	29	30	A	28	33.1	42.2													
11-Dec	26	23	21	22	21	17	19	16	16	16	17	18	19	19	18	12	10	16	17	19	20	A	21	24	18.6	25.7													
12-Dec	25	23	22	21	20	18	17	18	18	12	10	11	8	13	14	11	6	6	12	9	A	10	10	2	13.7	25.2													
13-Dec	2	4	4	3	3	2	5	3	3	2	6	7	7	8	16	15	11	11	22	A	22	26	26	27	10.3	27.0													
14-Dec	27	27	26	27	27	23	13	17	16	18	15	16	15	20	19	10	5	11	A	13	27	27	26	26	19.5	27.2													
15-Dec	24	21	19	18	15	15	15	4	3	3	8	13	14	15	14	13	6	A	11	4	4	4	2	2	10.7	24.2													
16-Dec	3	3	4	5	7	6	7	2	2	5	7	7	13	13	13	11	A	3	3	4	2	2	3	3	5.6	13.4													
17-Dec	2	2	2	8	6	2	3	4	2	3	6	9	10	6	7	A	5	2	3	3	4	3	5	5	4.5	9.8													
18-Dec	5	6	3	4	4	3	3	3	3	5	4	5	5	11	A	13	9	4	6	3	4	2	2	13	5.3	12.7													
19-Dec	14	12	11	10	10	8	14	15	12	3	4	5	7	A	6	4	3	3	3	3	3	3	3	3	6.7	15.1													
20-Dec	2	2	2	2	3	4	2	9	11	14	19	18	A	25	27	27	28	27	8	8	20	20	16	15	13.6	28.4													
21-Dec	6	5	2	4	4	9	17	18	16	16	16	A	11	14	12	12	4	4	5	23	14	12	4	3	10.0	22.9													
22-Dec	2	2	3	3	4	6	4	9	5	15	A	13	13	19	15	14	11	4	3	9	6	4	3	7	7.6	19.4													
23-Dec	10	15	14	9	23	21	18	10	15	A	25	26	26	28	29	29	20	4	10	3	1	2	3	4	15.1	28.9													
24-Dec	4	7	8	13	16	24	24	17	A	25	28	26	23	24	24	26	26	26	26	26	25	25	29	29	21.7	28.7													
25-Dec	28	27	27	26	25	24	24	A	21	19	24	21	25	26	23	19	16	15	13	10	7	4	8	8	19.1	27.9													
26-Dec	5	3	5	15	19	19	A	19	18	15	16	14	14	18	19	12	12	14	13	8	10	12	13	14	13.4	19.4													
27-Dec	19	18	14	6	11	A	19	15	25	27	26	26	26	25	24	26	27	29	29	29	30	30	32	33	23.7	33.0													
28-Dec	31	29	28	24	A	26	27	26	24	27	22	21	23	26	28	29	29	30	30	30	30	29	28	28	27.2	30.6													
29-Dec	27	27	27	A	25	23	21	12	9	14	14	17	18	20	15	11	5	2	12	5	4	12	9	3	14.6	27.2													
30-Dec	6	7	A	9	10	9	9	6	11	14	14	13	9	7	16	24	31	40	41	38	39	42	39	41	20.8	41.9													
31-Dec	38	A	42	41	37	36	28	38	39	36	37	34	38	38	36	39	40	40	40	40	38	39	38	36	37.8	42.3													
14.2 13.1 13.6 13.2 13.3 13.2 13.5 12.2 13.1 14.0 16.1 17.1 17.8 19.7 19.0 17.7 14.8 14.2 14.8 13.8 14.6 15.2 14.7 14.2																									Diurnal Average														
39.2 42.2 42.3 41.1 37.4 35.9 36.2 38.3 39.3 35.8 37.3 35.6 37.8 38.5 35.7 39.3 40.3 40.5 41.5 51.7 50.0 44.9 39.3 41.4																									Diurnal Maximum														
C - Calibration A - Automated Daily Zero Span																																							

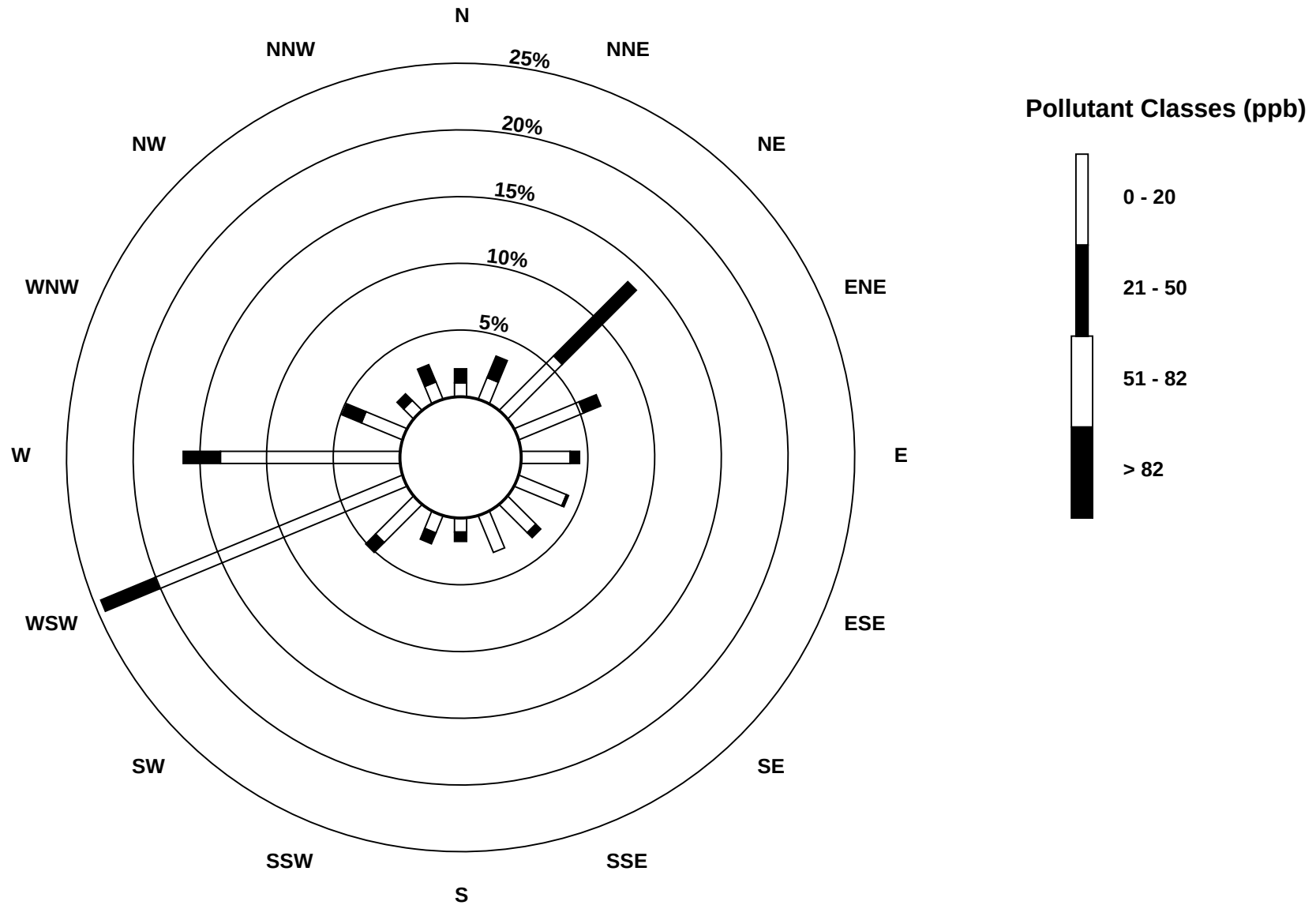
Hourly Maximums

Ozone (O₃) - ppb
Portable Clairmont - December 2014



Pollutant Rose

Ozone (O₃) - ppb
Portable Clairmont - December 2014



Eight Hour Running Averages

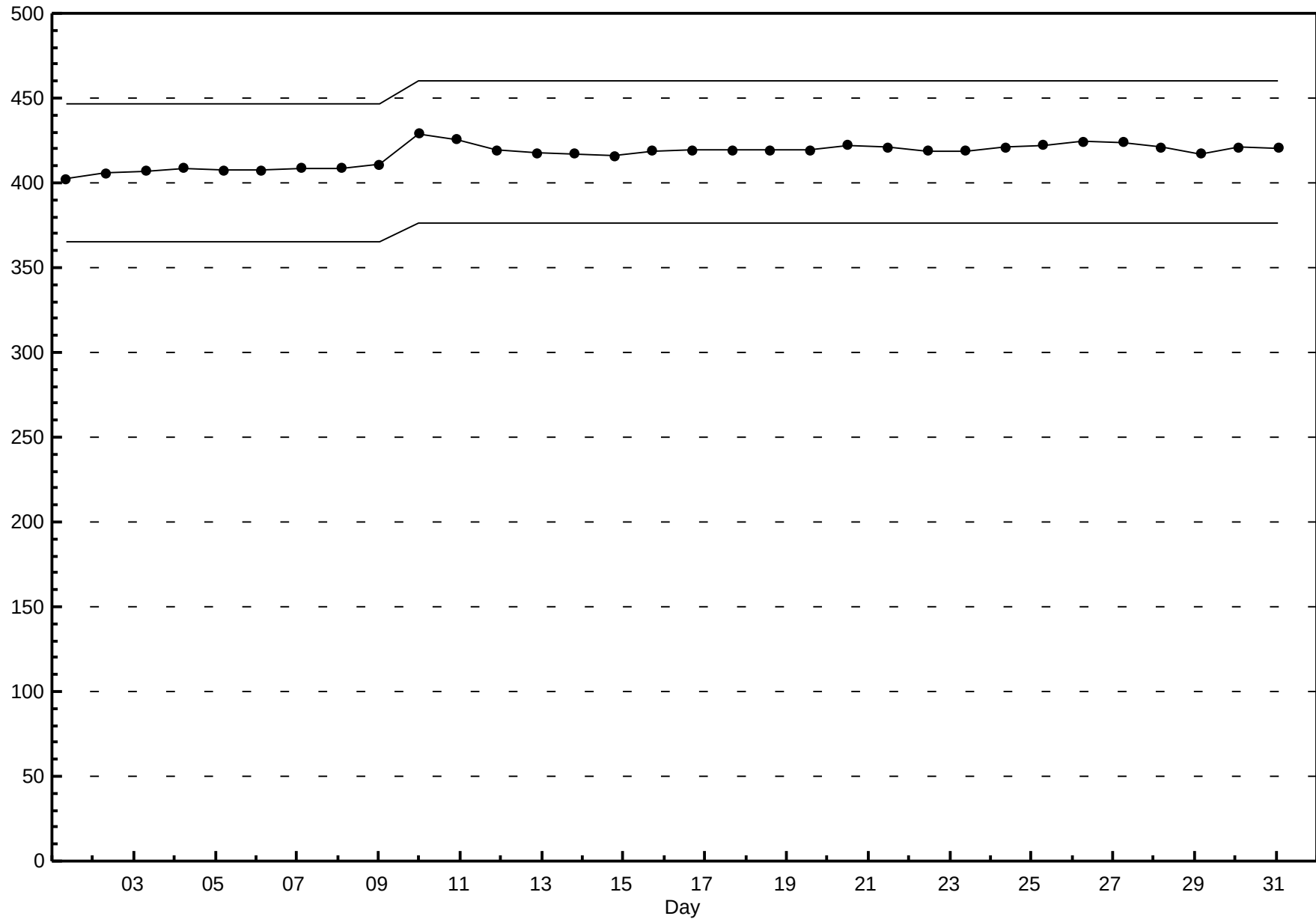
Ozone (O₃) - ppb

Portable Clairmont - December 2014

Maximum Value: 37.0 ppb on Dec 31 04:00																								Hours in Service: 744	
Minimum Value: 1.2 ppb on Dec 20 03:00																								Hours of Data: 738	
Percentiles: P ₁ = 1.3 P ₁₀ = 2.3 Q ₁ = 4.0 Median = 8.5 Q ₃ = 17.4 P ₉₀ = 26.4 P ₉₉ = 35.4																								Hours of Missing Data: 6	
																								Hours of Calibration: 6	
																								Percent Operational Time: 100.0	
Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Dec	3	3	3	3	3	3	3	3	3	4	4	6	8	10	11	12	11	11	11	10	8	7	5	5	11.8
2-Dec	5	5	5	6	8	9	10	11	12	12	12	13	13	13	12	11	11	10	8	6	5	4	3	3	13.0
3-Dec	3	3	3	3	3	3	3	3	3	5	6	8	10	13	14	15	16	16	15	13	12	10	10	11	16.5
4-Dec	12	14	16	18	20	21	21	20	17	16	16	17	18	19	19	20	20	18	16	13	11	9	7	5	20.6
5-Dec	5	5	6	6	6	5	3	3	3	3	3	4	5	7	8	8	9	8	8	7	6	4	4	3	8.5
6-Dec	3	3	3	3	3	3	4	5	6	7	9	10	13	15	16	17	18	17	16	14	12	10	9	7	17.6
7-Dec	6	6	6	6	7	7	5	4	4	4	5	5	5	6	7	8	8	8	8	6	5	4	3	2	8.5
8-Dec	2	2	2	2	2	2	2	2	2	2	3	3	3	4	4	5	5	5	5	4	4	3	2	2	4.9
9-Dec	2	2	2	2	2	2	2	1	1	1	3	4	4	5	N	N	N	N	N	N	29	30	29	30	29.6
10-Dec	31	34	34	31	26	25	26	27	28	27	28	30	32	33	33	32	32	31	31	30	29	29	29	29	34.0
11-Dec	28	27	26	24	23	21	20	19	17	16	16	15	15	16	15	14	13	13	13	13	14	13	14	17	28.0
12-Dec	19	20	21	21	21	20	19	18	17	16	14	13	11	11	10	9	7	6	6	6	6	6	5	4	21.2
13-Dec	4	5	4	3	3	2	1	1	2	1	2	2	3	3	4	5	6	6	7	8	9	11	13	15	15.1
14-Dec	17	20	22	22	23	22	20	18	17	15	14	13	11	11	12	12	11	10	9	9	10	11	13	15	22.6
15-Dec	18	20	19	20	19	17	15	12	10	8	6	6	6	7	7	8	8	9	9	8	6	5	3	2	20.0
16-Dec	2	2	2	2	2	2	3	3	2	3	3	3	4	5	6	7	7	7	7	6	5	4	2	2	7.3
17-Dec	1	1	1	1	1	1	2	2	2	2	2	3	3	4	4	5	5	5	5	4	3	3	2	2	4.9
18-Dec	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	4	5	5	5	5	4	3	3	3	4.9
19-Dec	4	5	5	6	7	7	7	8	7	6	6	5	5	5	5	3	3	3	3	3	2	2	1	1	8.0
20-Dec	1	1	1	1	1	2	2	2	3	4	6	7	8	11	15	18	20	23	21	19	18	17	15	13	22.8
21-Dec	10	7	7	7	6	4	4	5	7	8	10	11	12	13	12	11	9	8	6	6	5	4	3	3	13.0
22-Dec	2	2	2	2	1	1	1	2	2	3	3	4	5	7	8	9	9	8	8	7	7	5	4	3	9.5
23-Dec	3	4	4	4	6	7	8	8	9	9	11	13	15	17	20	23	22	20	18	15	12	9	5	2	22.6
24-Dec	1	1	2	3	4	6	8	10	11	12	15	17	19	19	20	22	23	24	24	24	25	25	25	25	25.4
25-Dec	26	26	26	26	25	25	25	24	23	22	21	21	21	21	20	20	19	19	17	16	13	11	9	7	25.8
26-Dec	6	4	3	4	5	7	8	9	11	13	14	14	14	14	14	13	12	12	11	11	10	9	9	9	14.4
27-Dec	10	10	10	9	9	9	9	9	9	11	14	15	18	19	20	22	23	23	24	25	26	27	28	28	28.4
28-Dec	29	29	28	28	28	27	26	25	24	23	22	22	22	22	22	23	24	24	25	26	27	28	28	28	28.7
29-Dec	28	28	27	27	26	25	23	20	17	14	12	12	11	10	10	10	10	9	8	7	6	5	4	3	27.8
30-Dec	3	3	3	3	4	4	4	4	5	5	6	6	6	6	7	9	11	14	18	21	25	29	32	34	34.5
31-Dec	36	36	37	37	37	35	33	31	32	32	31	29	30	30	32	33	34	35	36	36	35	35	35	35	37.0
35.7 36.1 36.5 37.0 36.7 35.4 33.0 31.2 31.7 31.6 30.6 29.5 32.2 33.3 33.3 33.4 33.8 34.8 35.5 36.4 34.9 34.7 35.4 35.0																									
Diurnal Maximums																									
N - Not Valid																									

Span Responses

Ozone (O₃)
Portable Clairmont - December 2014



Hourly Averages

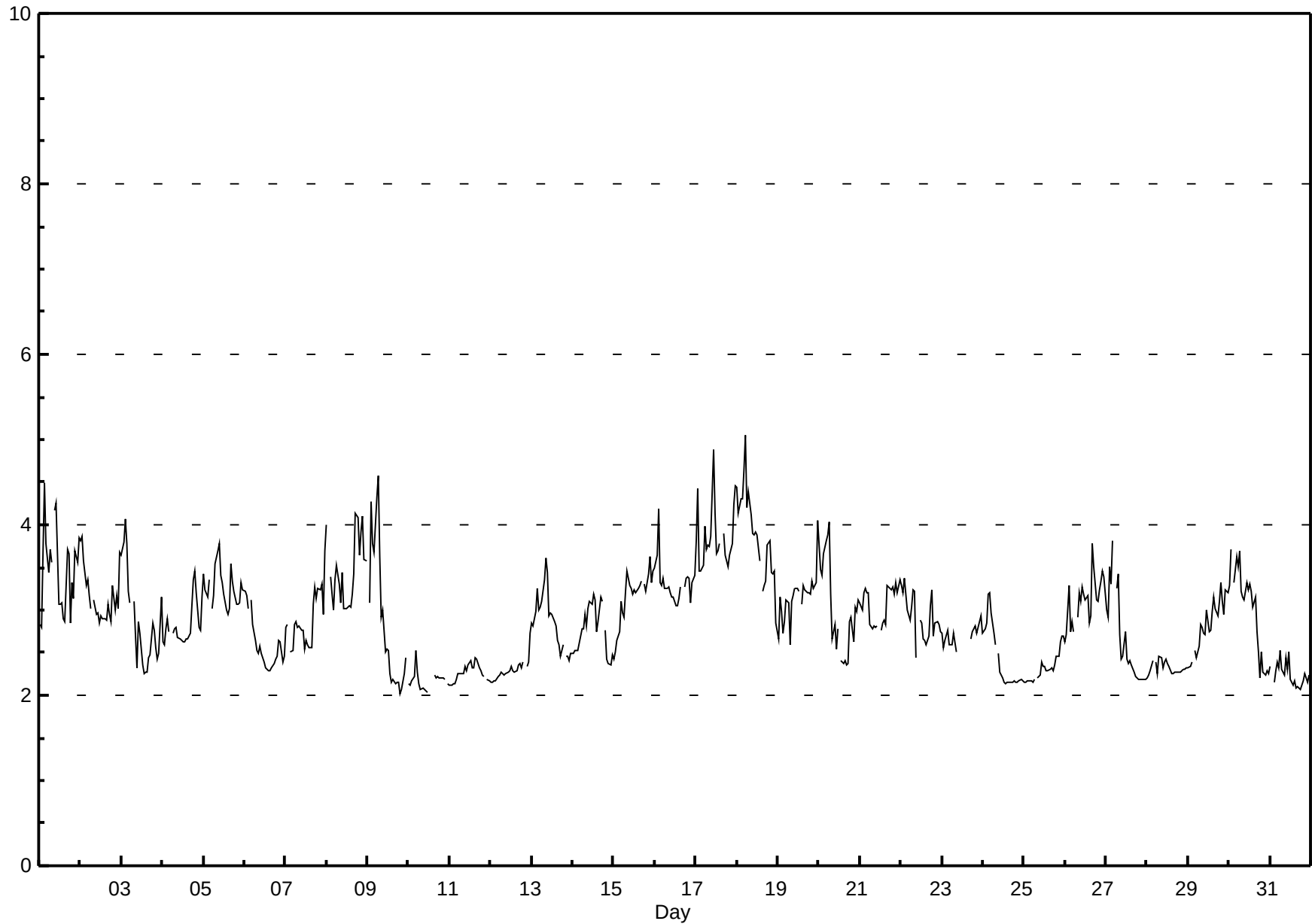
Total Hydrocarbons (THC) - ppm

Portable Clairmont - December 2014

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 5.05 ppm on Dec 18 06:00 Maximum Daily Average: 3.88 ppm on Dec 18																								Hours in Service: 744 Hours of Data: 702 Hours of Missing Data: 42 Hours of Calibration: 42 Percent Operational Time: 100.0		
Minimum Value: 2.0 ppm on Dec 9 20:00 Maximum Diurnal Average: 3.06 ppm at hour 3 Monthly Average: 2.897 ppm												Minimum Daily Average: 2.17 ppm on Dec 10 Minimum Diurnal Average: 2.68 ppm at hour 16 Percentiles: P ₁ = 2.08 P ₁₀ = 2.20 Q ₁ = 2.40 Median = 2.85 Q ₃ = 3.25 P ₉₀ = 3.65 P ₉₉ = 4.42														
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
1-Dec	2.8	2.8	3.7	4.5	3.8	3.4	3.7	3.6	A	4.2	4.3	3.1	3.1	2.9	2.9	3.7	3.7	2.8	3.3	3.1	3.7	3.6	3.8	3.46	4.49	
2-Dec	3.8	3.9	3.6	3.3	3.4	3.2	3.0	A	3.1	3.0	3.0	2.9	2.9	2.9	2.9	3.1	2.9	2.9	3.3	3.0	3.2	3.0	3.7	3.16	3.87	
3-Dec	3.7	3.8	4.1	3.8	3.2	3.1	A	3.1	2.7	2.3	2.9	2.7	2.4	2.3	2.3	2.4	2.5	2.9	2.8	2.6	2.4	2.5	3.2	2.85	4.07	
4-Dec	2.6	2.6	2.8	2.9	2.8	A	2.7	2.8	2.8	2.7	2.7	2.6	2.6	2.6	2.7	2.7	2.7	3.1	3.4	3.5	3.2	2.8	2.8	3.2	2.83	3.46
5-Dec	3.4	3.2	3.2	3.3	A	3.0	3.2	3.5	3.7	3.8	3.4	3.3	3.2	3.0	3.0	3.0	3.5	3.3	3.2	3.1	3.1	3.1	3.3	3.2	3.27	3.78
6-Dec	3.2	3.2	3.0	A	3.1	2.8	2.6	2.5	2.5	2.6	2.5	2.4	2.3	2.3	2.3	2.3	2.4	2.4	2.5	2.6	2.6	2.4	2.5	2.58	3.21	
7-Dec	2.8	2.8	A	2.5	2.5	2.8	2.9	2.8	2.8	2.8	2.8	2.5	2.6	2.6	2.6	3.1	3.3	3.1	3.3	3.2	3.3	2.9	3.7	2.88	3.70	
8-Dec	4.0	A	3.4	3.2	3.0	3.4	3.5	3.3	3.1	3.4	3.0	3.0	3.0	3.1	3.0	3.2	3.4	4.1	4.1	3.6	3.9	4.1	3.6	3.44	4.14	
9-Dec	A	3.1	4.3	3.8	3.7	4.3	4.6	3.6	2.9	3.0	2.5	2.5	2.5	2.3	2.2	2.2	2.1	2.2	2.2	2.0	2.1	2.3	2.4	A	2.85	4.57
10-Dec	2.1	2.1	2.2	2.2	2.5	2.3	2.1	2.1	2.1	2.1	2.1	2.0	C	C	C	2.2	2.2	2.2	2.2	2.2	2.2	A	2.1	2.17	2.53	
11-Dec	2.1	2.1	2.1	2.1	2.2	2.3	2.3	2.2	2.3	2.3	2.3	2.4	2.4	2.3	2.3	2.4	2.4	2.3	2.3	2.2	2.2	A	2.2	2.2	2.26	2.44
12-Dec	2.1	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.2	2.3	2.3	2.3	2.3	2.3	2.3	2.4	2.4	2.3	2.4	A	2.3	2.4	2.7	2.29	2.73	
13-Dec	2.9	2.8	3.0	3.3	3.0	3.0	3.1	3.4	3.6	3.4	2.9	3.0	2.9	2.9	2.8	2.6	2.6	2.5	2.6	A	2.5	2.5	2.4	2.5	2.87	3.60
14-Dec	2.5	2.5	2.5	2.5	2.6	2.8	2.8	2.9	2.8	3.0	3.1	3.1	3.2	3.1	2.7	2.9	3.2	3.1	A	2.8	2.4	2.4	2.4	2.5	2.77	3.18
15-Dec	2.4	2.5	2.7	2.7	3.1	3.0	2.9	3.2	3.5	3.3	3.3	3.2	3.2	3.2	3.3	3.3	3.3	A	3.3	3.2	3.4	3.6	3.3	3.5	3.15	3.62
16-Dec	3.5	3.6	4.2	3.3	3.3	3.4	3.3	3.3	3.3	3.2	3.1	3.2	3.0	3.1	3.1	3.3	A	3.3	3.4	3.4	3.4	3.1	3.3	3.4	3.32	4.18
17-Dec	3.8	4.4	3.5	3.5	3.5	4.0	3.7	3.8	3.7	3.9	4.9	4.1	3.7	3.7	3.8	A	3.9	3.6	3.6	3.5	3.6	3.8	4.2	4.5	3.85	4.88
18-Dec	4.4	4.1	4.3	4.3	4.6	5.0	4.2	4.4	4.1	3.9	3.9	3.9	3.9	3.6	A	3.2	3.3	3.3	3.8	3.8	3.4	3.4	3.5	2.8	3.88	5.05
19-Dec	2.7	3.1	3.0	2.7	2.9	3.1	3.1	2.6	3.1	3.2	3.2	3.3	3.2	A	3.1	3.3	3.2	3.2	3.2	3.2	3.3	3.2	3.3	4.0	3.14	4.05
20-Dec	3.8	3.5	3.4	3.7	3.8	3.9	4.0	3.2	2.7	2.8	2.5	2.8	A	2.4	2.4	2.4	2.4	2.4	2.9	2.9	2.6	3.0	3.0	3.1	3.02	4.03
21-Dec	3.1	3.0	3.2	3.3	3.2	3.2	2.8	2.8	2.8	2.8	2.8	A	2.8	2.8	2.9	2.8	3.3	3.3	3.2	3.3	3.2	3.3	3.2	3.4	3.06	3.36
22-Dec	3.3	3.2	3.4	3.2	3.0	2.9	3.0	3.2	3.2	2.4	A	2.9	2.9	2.7	2.6	2.6	2.7	3.1	3.2	2.7	2.9	2.9	2.8	2.7	2.93	3.38
23-Dec	2.7	2.6	2.6	2.8	2.6	2.6	2.6	2.7	2.5	A	C	C	C	C	C	C	C	2.7	2.7	2.8	2.7	2.8	2.9	2.9	--	2.93
24-Dec	2.7	2.8	2.8	3.2	3.2	3.0	2.7	2.6	A	2.5	2.3	2.2	2.2	2.1	2.1	2.1	2.2	2.2	2.2	2.1	2.2	2.2	2.2	2.2	2.43	3.21
25-Dec	2.2	2.2	2.2	2.2	2.2	2.2	2.2	A	2.2	2.2	2.4	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.5	2.5	2.6	2.7	2.7	2.32	2.70
26-Dec	2.6	2.7	3.3	2.8	2.9	2.7	A	2.9	3.2	3.1	3.3	3.2	3.1	3.2	2.8	2.9	3.8	3.5	3.1	3.1	3.2	3.3	3.4	3.4	3.12	3.78
27-Dec	3.0	2.9	3.5	3.3	3.8	A	3.3	3.4	2.7	2.4	2.5	2.7	2.4	2.4	2.4	2.4	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.64	3.82
28-Dec	2.2	2.2	2.3	2.4	A	2.4	2.2	2.5	2.4	2.3	2.4	2.4	2.4	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.32	2.45
29-Dec	2.3	2.3	2.4	A	2.5	2.4	2.6	2.8	2.8	2.7	2.7	3.0	2.8	2.8	3.0	3.1	3.0	2.9	3.1	3.3	3.1	3.0	3.2	3.2	2.83	3.32
30-Dec	3.3	3.7	A	3.3	3.6	3.5	3.7	3.2	3.2	3.1	3.3	3.2	3.3	3.2	3.0	3.1	2.8	2.5	2.2	2.5	2.3	2.2	2.3	2.3	3.00	3.71
31-Dec	2.3	A	2.2	2.3	2.4	2.3	2.5	2.3	2.2	2.4	2.3	2.5	2.2	2.1	2.2	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.24	2.53
																								Diurnal Average		
																								Diurnal Maximum		
C - Calibration A - Automated Daily Zero Span																										

Hourly Averages

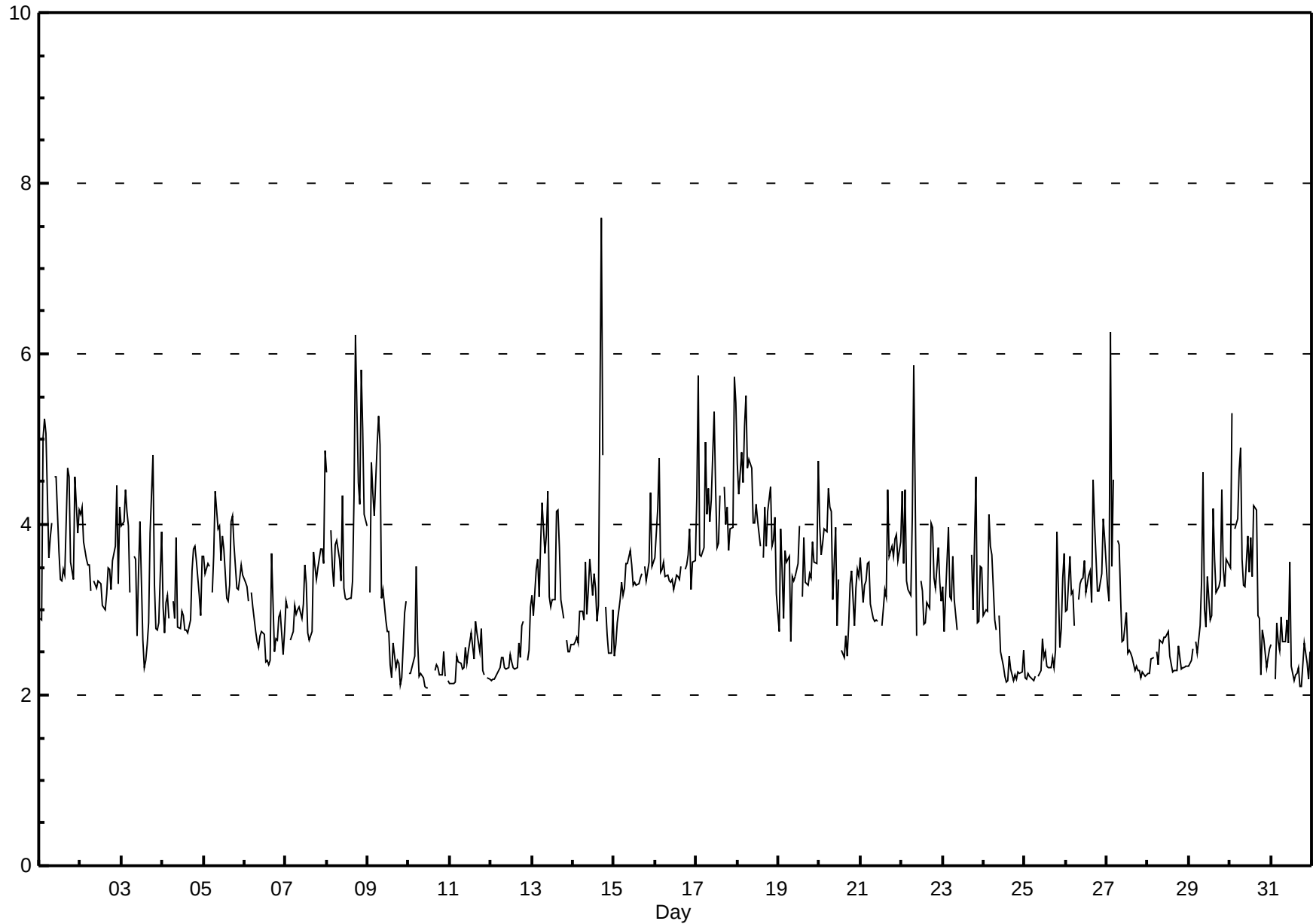
Total Hydrocarbons (THC) - ppm
Portable Clairmont - December 2014



Maximum Value: 7.59 ppm on Dec 14 17:00																					Maximum Daily Average: 4.34 ppm on Dec 17				Hours in Service: 744		
Minimum Value: 2.1 ppm on Dec 10 11:00																					Minimum Daily Average: 2.34 ppm on Dec 10				Hours of Data: 702		
Maximum Diurnal Average: 3.48 ppm at hour 3																					Minimum Diurnal Average: 2.87 ppm at hour 14				Hours of Missing Data: 42		
Monthly Average: 3.243 ppm																					Percentiles: P ₁ = 2.13 P ₁₀ = 2.31 Q ₁ = 2.62 Median = 3.20 Q ₃ = 3.65 P ₉₀ = 4.22 P ₉₉ = 5.71				Hours of Calibration: 42		
																					Percent Operational Time: 100.0						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Dec	2.9	2.9	5.0	5.2	5.1	3.6	3.8	4.0	A	4.6	4.6	3.7	3.4	3.3	3.5	3.4	4.7	4.6	3.6	3.5	3.4	4.6	3.9	4.2	3.96	5.23	
2-Dec	4.1	4.2	3.8	3.6	3.5	3.5	3.2	A	3.3	3.3	3.3	3.3	3.0	3.0	3.2	3.2	3.5	3.5	3.2	3.6	3.8	4.5	3.3	4.2	3.53	4.46	
3-Dec	4.0	4.0	4.4	4.2	4.0	3.2	A	3.6	3.6	2.7	3.4	4.0	2.7	2.3	2.4	2.6	2.8	3.9	4.8	3.3	2.8	2.8	2.9	3.9	3.40	4.81	
4-Dec	3.0	2.7	3.1	3.2	2.9	A	3.1	2.9	3.8	2.8	2.8	3.0	2.9	2.8	2.8	2.7	2.9	3.5	3.7	3.7	3.6	3.2	2.9	3.6	3.11	3.85	
5-Dec	3.6	3.4	3.5	3.5	A	3.2	3.6	4.4	4.0	4.0	3.6	3.9	3.7	3.1	3.1	3.3	4.0	4.1	3.8	3.3	3.2	3.4	3.5	3.4	3.59	4.39	
6-Dec	3.3	3.3	3.1	A	3.2	3.0	2.7	2.6	2.6	2.7	2.7	2.7	2.4	2.4	2.4	2.4	3.7	2.5	2.7	2.6	2.9	3.0	2.5	2.8	2.79	3.66	
7-Dec	3.1	3.0	A	2.6	2.7	3.0	3.0	3.0	3.0	2.9	3.1	3.5	3.3	2.7	2.6	2.7	3.7	3.5	3.3	3.5	3.7	3.7	3.5	4.9	3.23	4.86	
8-Dec	4.6	A	3.9	3.5	3.3	3.8	3.8	3.6	3.3	4.3	3.3	3.1	3.1	3.1	3.1	3.3	4.3	6.2	4.5	4.2	5.8	5.1	4.1	4.0	3.98	6.22	
9-Dec	A	3.2	4.7	4.4	4.1	4.9	5.3	4.9	3.1	3.2	2.9	2.8	2.7	2.4	2.2	2.6	2.3	2.4	2.4	2.1	2.2	3.0	3.1	A	3.23	5.28	
10-Dec	2.3	2.2	2.3	2.5	3.5	2.6	2.2	2.3	2.2	2.1	2.1	2.1	C	C	C	2.3	2.3	2.3	2.2	2.2	2.5	2.2	A	2.2	2.34	3.52	
11-Dec	2.1	2.1	2.1	2.2	2.5	2.4	2.4	2.3	2.3	2.6	2.4	2.5	2.7	2.6	2.4	2.9	2.7	2.5	2.8	2.3	2.2	A	2.2	2.2	2.41	2.86	
12-Dec	2.2	2.2	2.2	2.2	2.3	2.3	2.4	2.4	2.3	2.3	2.3	2.5	2.4	2.3	2.3	2.3	2.6	2.4	2.8	2.9	A	2.4	2.5	3.0	2.42	3.04	
13-Dec	3.2	2.9	3.5	3.6	3.1	3.8	4.2	3.7	3.9	4.4	3.1	3.0	3.1	3.1	4.1	4.2	3.7	3.1	2.9	A	2.6	2.5	2.5	2.6	3.35	4.39	
14-Dec	2.6	2.6	2.7	2.6	3.0	3.0	2.9	3.6	2.9	3.2	3.6	3.2	3.4	3.3	2.9	3.0	7.6	4.8	A	3.0	2.7	2.5	2.5	3.0	3.24	7.59	
15-Dec	2.5	2.6	2.8	3.1	3.3	3.2	3.3	3.5	3.5	3.7	3.5	3.3	3.3	3.3	3.3	3.4	3.4	A	3.5	3.3	3.6	4.4	3.5	3.6	3.34	4.37	
16-Dec	3.6	4.2	4.8	3.4	3.5	3.6	3.4	3.4	3.3	3.3	3.4	3.2	3.4	3.4	3.4	3.5	A	3.5	3.5	3.7	3.9	3.2	3.6	3.6	3.55	4.78	
17-Dec	4.3	5.7	3.6	3.6	3.7	5.0	4.1	4.4	4.0	4.3	5.3	4.4	3.7	3.8	4.3	A	4.4	4.0	4.2	3.7	3.9	4.0	5.7	5.4	4.34	5.75	
18-Dec	4.7	4.3	4.8	4.5	5.2	5.5	4.7	4.8	4.7	4.0	4.0	4.2	4.1	3.8	A	3.6	4.2	3.8	4.1	4.4	3.7	3.8	4.1	3.2	4.27	5.50	
19-Dec	2.8	4.0	3.5	2.9	3.7	3.6	3.6	2.6	3.4	3.3	3.4	3.5	4.0	A	3.2	3.8	3.3	3.3	3.4	3.4	3.8	3.6	3.5	4.8	3.49	4.75	
20-Dec	4.0	3.6	3.8	3.9	3.9	4.4	4.2	4.2	3.1	4.0	2.8	3.4	A	2.5	2.4	2.7	2.5	2.8	3.3	3.5	2.8	3.3	3.5	3.4	3.39	4.42	
21-Dec	3.6	3.1	3.3	3.3	3.5	3.6	3.1	2.9	2.9	2.9	2.9	A	2.8	3.0	3.2	3.1	4.4	3.6	3.7	3.6	3.8	3.9	3.6	3.8	3.38	4.40	
22-Dec	4.4	3.5	4.4	3.3	3.2	3.2	4.1	5.9	4.3	2.7	A	3.3	3.2	2.8	2.9	3.1	3.0	4.0	4.0	3.4	3.3	3.7	3.3	3.1	3.57	5.86	
23-Dec	3.3	2.8	3.2	4.0	3.2	3.1	3.6	3.1	2.8	A	C	C	C	C	C	C	C	C	3.6	3.0	4.6	2.8	2.9	3.5	3.5	--	4.55
24-Dec	2.9	3.0	3.0	4.1	3.8	3.6	2.9	2.8	A	2.9	2.5	2.3	2.2	2.2	2.2	2.4	2.3	2.2	2.2	2.2	2.3	2.3	2.3	2.5	2.66	4.12	
25-Dec	2.2	2.2	2.3	2.2	2.2	2.2	2.2	A	2.2	2.3	2.7	2.4	2.5	2.3	2.3	2.3	2.4	2.3	2.5	3.9	2.6	2.8	3.4	3.7	2.53	3.91	
26-Dec	3.0	3.0	3.6	3.2	3.2	2.8	A	3.1	3.3	3.3	3.4	3.6	3.2	3.4	3.5	3.1	4.5	4.0	3.2	3.2	3.3	3.4	4.1	3.8	3.41	4.53	
27-Dec	3.3	3.1	6.2	3.5	4.5	A	3.8	3.8	3.2	2.6	2.7	3.0	2.5	2.5	2.5	2.4	2.3	2.3	2.3	2.3	2.2	2.3	2.2	2.2	2.94	6.25	
28-Dec	2.2	2.3	2.4	2.4	A	2.5	2.4	2.6	2.6	2.7	2.7	2.7	2.7	2.5	2.3	2.3	2.3	2.3	2.6	2.3	2.3	2.3	2.3	2.3	2.44	2.75	
29-Dec	2.3	2.4	2.5	A	2.6	2.5	2.8	3.3	4.6	3.0	2.8	3.4	2.9	2.9	4.2	3.6	3.2	3.3	3.4	4.4	3.5	3.3	3.6	3.5	3.22	4.61	
30-Dec	3.5	5.3	A	3.9	4.1	4.6	4.9	3.6	3.3	3.3	3.9	3.4	3.8	3.4	4.2	4.2	2.9	2.9	2.2	2.8	2.7	2.3	2.4	2.5	3.49	5.31	
31-Dec	2.6	A	2.2	2.8	2.6	2.5	2.9	2.6	2.6	2.9	2.6	3.6	2.3	2.2	2.2	2.2	2.3	2.1	2.1	2.6	2.5	2.4	2.2	2.5	2.51	3.55	
																									Diurnal Average		
																									Diurnal Maximum		
C - Calibration																									A - Automated Daily Zero Span		

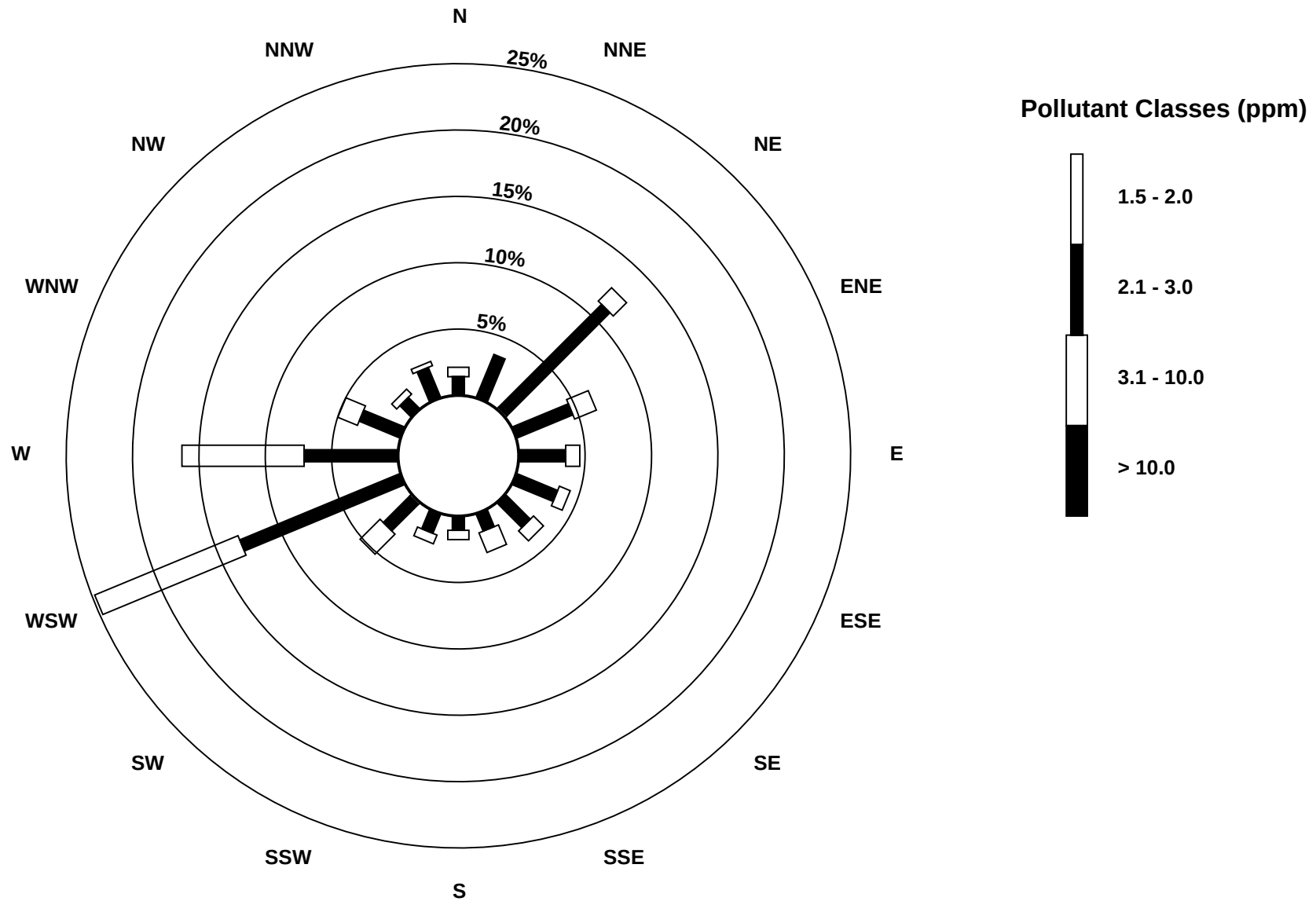
Hourly Maximums

Total Hydrocarbons (THC) - ppm
Portable Clairmont - December 2014



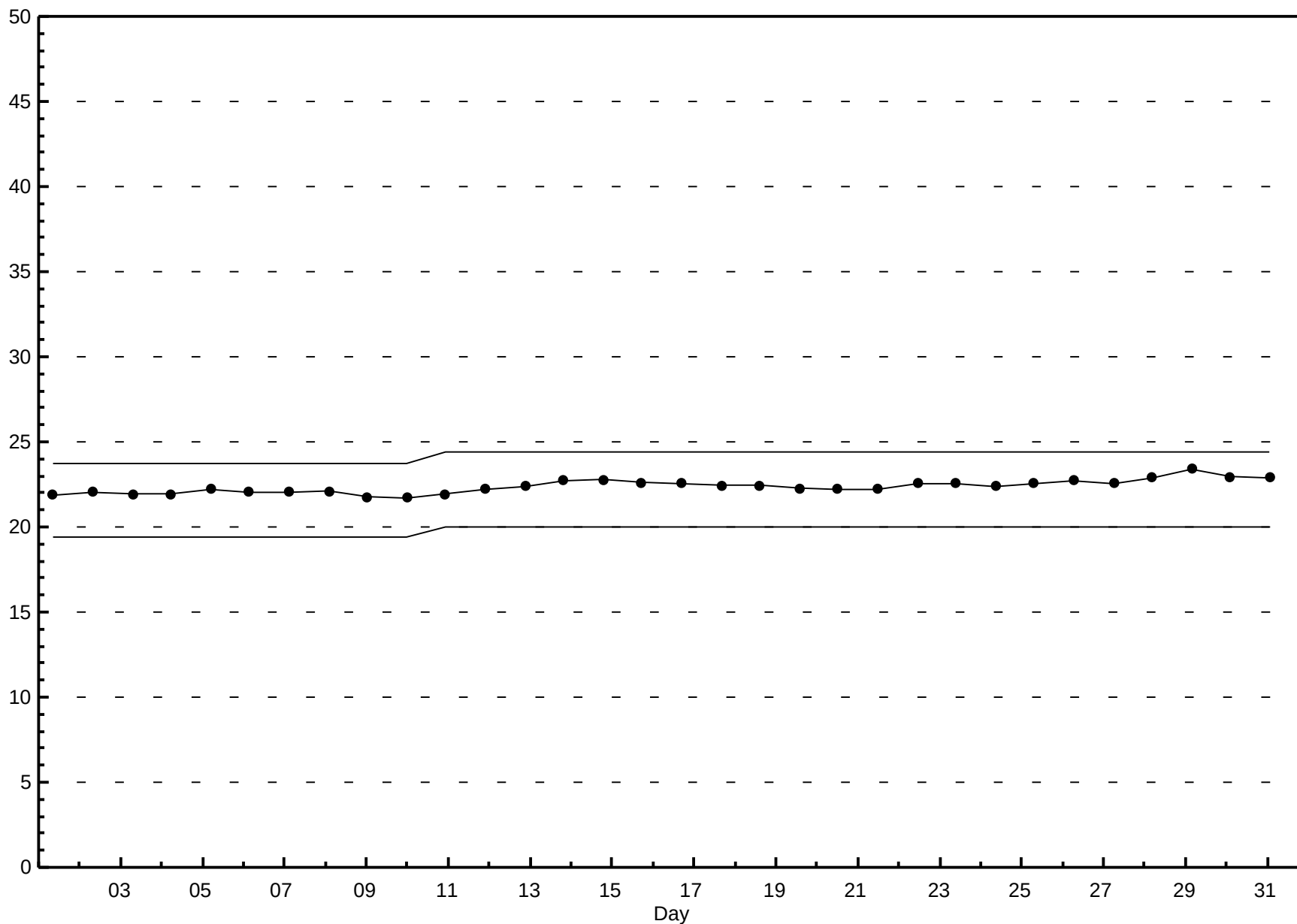
Pollutant Rose

Total Hydrocarbons (THC) - ppm
Portable Clairmont - December 2014



Span Responses

Total Hydrocarbons (THC)
Portable Clairmont - December 2014



Hourly Averages

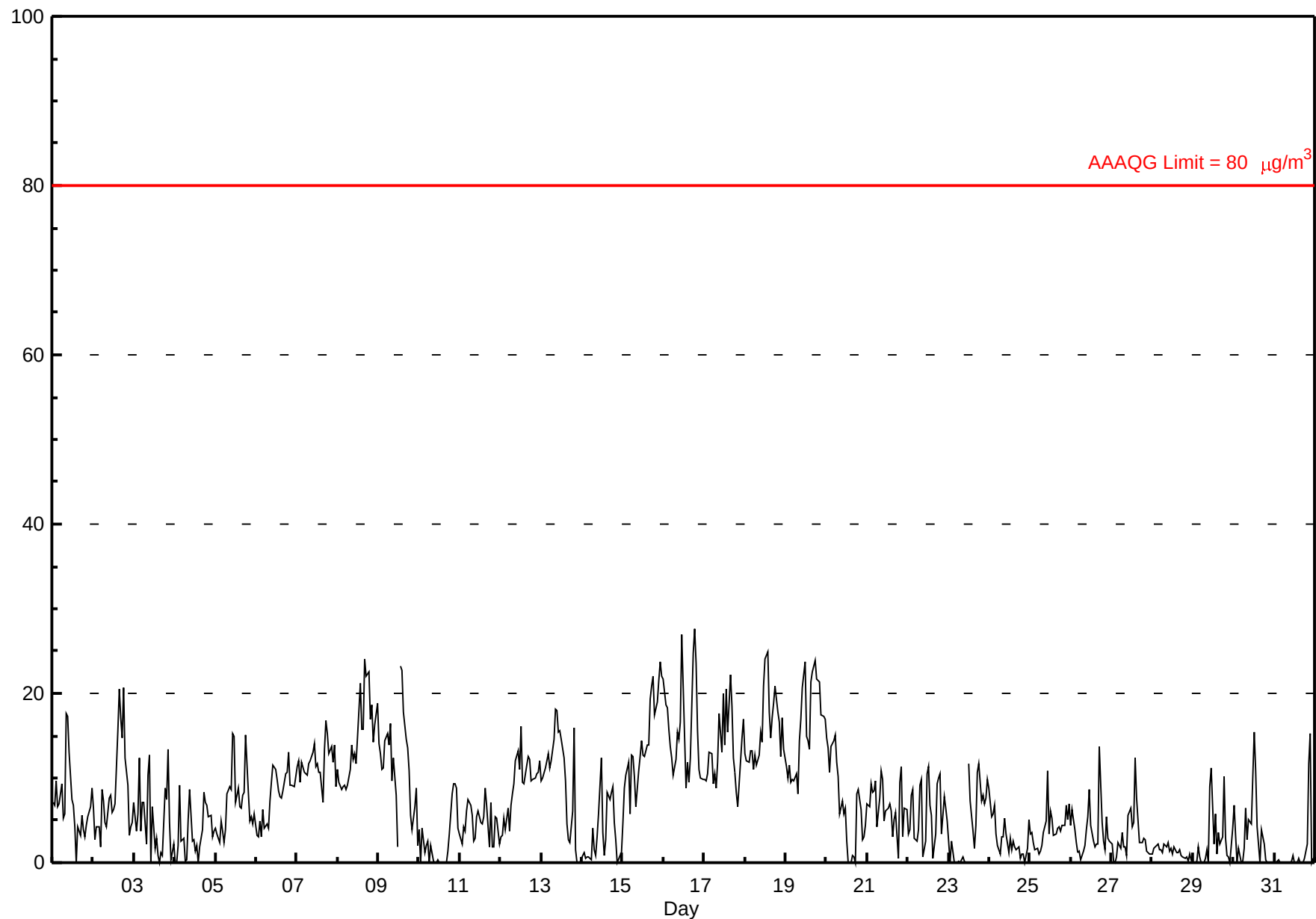
PM2.5 (PM_{2.5}) - µg/m³

Portable Clairmont - December 2014

Number of Exceedences: 1-hr: 0 24-hr: 0 Maximum Value: 27.6 µg/m³ on Dec 16 19:00																								Maximum Daily Average: 16.0 µg/m³ on Dec 19				Hours in Service: 744 Hours of Data: 742	
Minimum Value: 0 µg/m³ on Dec 1 15:00 Maximum Diurnal Average: 9.9 µg/m³ at hour 19 Monthly Average: 7.34 µg/m³												Minimum Daily Average: 1.3 µg/m³ on Dec 28 Minimum Diurnal Average: 5.6 µg/m³ at hour 2 Percentiles: P ₁ = 0.0 P ₁₀ = 0.4 Q ₁ = 2.3 Median = 6.4 Q ₃ = 11.3 P ₉₀ = 15.4 P ₉₉ = 23.9												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-Dec	7	7	10	7	7	9	5	6	18	17	13	8	7	4	0	4	3	6	4	3	4	5	7	9	7.1	17.6			
2-Dec	6	3	4	4	2	9	7	5	4	8	8	6	6	7	16	21	17	15	21	12	9	3	4	5	8.4	20.6			
3-Dec	7	4	6	12	4	7	7	2	10	13	0	7	2	3	1	0	1	1	9	7	13	5	0	2	5.1	13.4			
4-Dec	0	0	2	9	3	3	0	0	5	9	3	3	1	2	0	2	4	8	7	7	5	6	3	4	3.6	9.2			
5-Dec	4	3	2	5	4	2	4	8	9	9	15	15	7	9	7	7	8	8	15	8	5	5	5	6	7.1	15.2			
6-Dec	3	3	5	3	6	4	5	4	7	9	11	11	10	8	8	8	8	11	11	13	9	9	9	10	7.8	13.0			
7-Dec	11	12	10	12	11	11	10	12	12	13	14	11	12	11	11	7	13	17	15	13	14	12	14	9	11.9	16.8			
8-Dec	11	10	9	9	9	9	9	11	14	12	13	12	15	21	16	16	24	22	23	17	19	14	16	19	14.5	24.1			
9-Dec	14	13	11	11	14	15	14	16	10	12	8	2	M	23	23	18	15	14	11	6	4	7	9	2	11.8	23.3			
10-Dec	4	0	4	1	2	3	0	2	0	0	0	0	0	0	0	0	0	1	3	8	9	9	9	4	2.5	9.3			
11-Dec	3	2	4	4	6	7	7	6	3	3	5	6	5	5	5	9	7	2	7	2	2	5	5	2	4.7	8.8			
12-Dec	3	3	5	4	6	4	7	8	9	12	13	11	16	9	9	12	13	12	10	10	10	11	11	12	9.2	16.1			
13-Dec	10	10	11	12	13	11	12	15	18	18	15	16	15	12	10	5	3	2	6	16	2	0	0	0	9.6	18.1			
14-Dec	1	1	0	1	1	0	4	2	1	3	6	12	4	1	3	8	7	8	9	5	3	0	1	1	3.4	12.3			
15-Dec	5	9	10	12	6	13	13	10	7	11	13	14	13	13	14	14	19	21	22	18	19	21	24	22	14.2	23.7			
16-Dec	22	19	18	16	14	12	10	12	15	15	17	27	15	9	12	9	12	25	28	24	16	11	10	10	15.7	27.6			
17-Dec	10	10	10	13	13	9	11	9	12	18	13	20	14	20	15	22	19	12	11	8	7	12	15	17	13.3	22.2			
18-Dec	13	12	12	13	13	11	13	12	13	15	14	21	24	25	18	15	17	19	21	18	17	13	17	13	15.7	24.8			
19-Dec	11	10	12	10	10	10	11	8	14	17	21	24	15	14	13	21	23	24	22	21	21	17	17	17	16.0	24.0			
20-Dec	15	14	11	14	14	15	12	10	6	7	6	6	3	0	0	1	1	0	8	9	6	3	3	4	7.0	15.1			
21-Dec	7	7	9	8	8	10	4	8	11	10	5	6	6	7	6	3	5	6	1	9	11	3	6	6	6.8	11.4			
22-Dec	3	4	8	9	3	2	4	9	10	1	3	11	11	7	6	1	3	9	10	10	3	8	6	5	6.1	11.3			
23-Dec	3	0	3	0	0	0	0	0	1	0	0	M	12	7	4	2	4	11	12	7	8	7	8	10	4.2	11.7			
24-Dec	9	5	6	7	3	2	1	3	3	5	3	1	3	2	2	2	2	2	0	1	1	0	2	5	2.9	8.8			
25-Dec	3	3	2	2	2	1	1	2	4	5	11	3	6	5	3	3	4	4	4	4	4	7	5	7	4.1	10.8			
26-Dec	4	6	4	2	1	1	0	1	2	4	5	9	4	3	2	2	2	14	5	3	2	5	3	3	3.7	13.7			
27-Dec	2	0	0	1	2	2	4	2	2	1	6	6	4	5	12	8	2	2	2	3	3	1	1	1	3.0	12.4			
28-Dec	1	2	2	2	2	2	1	2	2	2	1	2	1	2	1	1	2	1	1	1	1	0	1	0	1.3	2.4			
29-Dec	0	0	0	2	1	0	0	0	2	0	9	11	2	6	1	4	2	3	10	3	1	1	0	4	2.6	11.1			
30-Dec	7	3	0	2	0	0	2	6	3	5	5	10	15	11	4	0	4	3	2	0	0	0	0	0	3.4	15.4			
31-Dec	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	2	12	15	0	0	1.3	15.3			
6.5 5.6 6.1 6.6 5.8 6.0 5.7 6.2 7.3 8.2 8.3 9.7 8.2 8.1 7.1 7.2 7.9 9.1 9.9 8.6 7.7 7.0 6.8 6.8																								Diurnal Average	Diurnal Maximum				
21.7 18.7 18.2 15.8 14.5 15.3 13.9 16.4 18.1 17.9 20.7 26.9 24.1 24.8 22.7 22.2 24.1 24.8 27.6 23.5 21.3 21.5 23.7 22.1																													
M - Maintenance																													
Alberta Ambient Air Quality Guideline (AAAQG): 1-hr 80 µg/m³ Alberta Ambient Air Quality Objective (AAAQO): 24-hr 30 µg/m³																													

Hourly Averages

PM_{2.5} (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Portable Clairmont - December 2014



Hourly Maximums

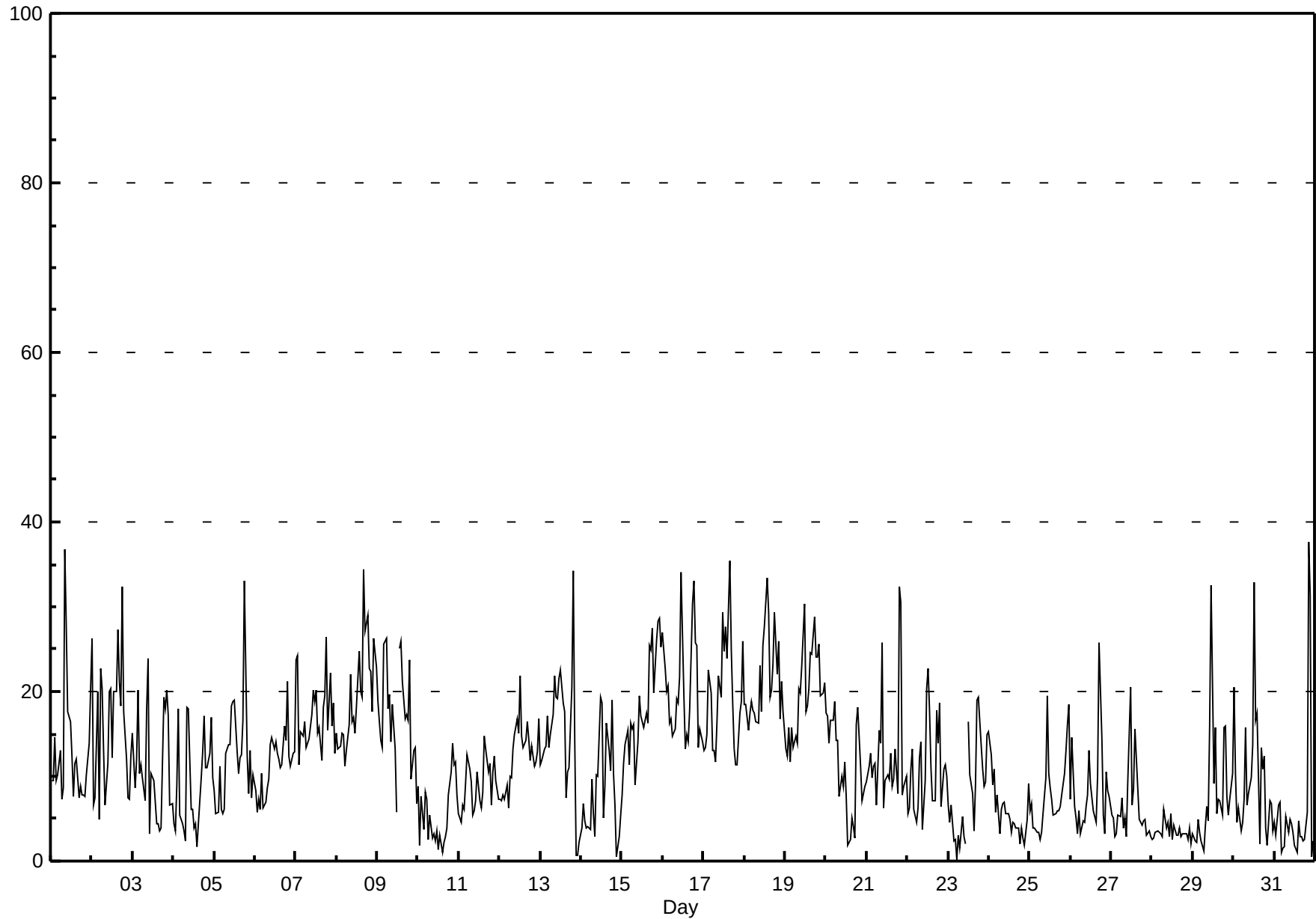
PM2.5 (PM_{2.5}) - µg/m³

Portable Clairmont - December 2014

Maximum Value: 37.7 µg/m³ on Dec 31 21:00																								Maximum Daily Average: 21.2 µg/m³ on Dec 18								Hours in Service: 744	
Minimum Value: 0 µg/m³ on Dec 23 06:00																								Minimum Daily Average: 3.4 µg/m³ on Dec 28								Hours of Data: 742	
Maximum Diurnal Average: 16.5 µg/m³ at hour 19																								Minimum Diurnal Average: 9.1 µg/m³ at hour 7								Hours of Missing Data: 2	
Monthly Average: 12.05 µg/m³																								Percentiles: P ₁ = 1.1 P ₁₀ = 3.3 Q ₁ = 5.9 Median = 11.1 Q ₃ = 16.8 P ₉₀ = 22.1 P ₉₉ = 32.8								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-Dec	9	9	15	9	10	13	7	9	37	28	18	16	12	8	11	12	7	9	8	8	8	10	14	21	12.9	36.8							
2-Dec	26	7	7	20	5	23	20	13	7	12	20	20	12	20	20	27	21	18	32	18	12	7	7	12	16.2	32.4							
3-Dec	15	9	12	20	10	11	10	7	18	24	3	10	9	7	4	4	4	4	19	18	20	17	7	7	11.3	23.9							
4-Dec	4	4	9	18	5	4	4	2	18	18	6	6	4	4	2	4	10	13	17	11	11	13	17	10	8.9	18.2							
5-Dec	8	6	6	11	6	6	6	13	14	14	18	19	19	13	10	12	13	17	33	12	8	13	7	10	12.2	33.0							
6-Dec	8	6	7	6	10	6	7	9	10	14	15	13	14	13	12	11	11	16	14	21	12	11	13	13	11.4	21.2							
7-Dec	24	24	11	15	15	16	13	14	14	17	20	19	20	15	16	12	18	20	26	15	22	16	19	13	17.3	26.4							
8-Dec	15	13	14	15	15	11	13	16	22	16	17	15	18	25	20	19	34	27	29	23	22	18	26	23	19.5	34.5							
9-Dec	19	16	14	13	26	26	18	20	14	18	13	6	M	25	26	21	17	17	17	24	10	13	13	7	17.1	26.2							
10-Dec	9	2	8	4	8	7	2	5	3	3	2	4	1	3	1	2	3	4	8	10	14	11	12	8	5.6	13.9							
11-Dec	6	5	7	6	9	12	11	9	5	6	7	11	7	6	8	15	13	10	12	7	10	12	9	7	8.8	14.7							
12-Dec	7	7	8	7	9	6	10	10	13	15	17	15	22	15	13	14	16	14	12	14	11	12	13	17	12.4	21.9							
13-Dec	11	12	13	13	17	13	15	17	22	19	19	21	23	19	18	7	10	11	21	34	14	1	1	2	14.8	34.2							
14-Dec	4	7	5	4	4	4	10	6	3	10	10	19	19	5	9	16	13	11	19	10	7	0	3	5	8.4	19.2							
15-Dec	8	11	14	15	11	16	16	16	9	14	20	17	16	16	17	16	25	25	28	20	26	28	29	25	18.3	28.6							
16-Dec	27	23	20	21	16	17	15	16	19	19	22	34	19	13	15	14	18	30	33	26	25	13	16	14	20.2	34.1							
17-Dec	13	13	15	23	20	13	13	12	16	22	19	29	25	28	24	35	25	19	13	11	11	17	19	26	19.2	35.4							
18-Dec	18	18	15	17	19	18	18	16	16	23	18	25	28	33	29	19	20	23	29	22	26	17	21	18	21.2	33.4							
19-Dec	13	12	16	12	16	13	15	14	20	20	23	30	18	18	20	25	24	29	24	24	26	20	20	21	19.7	30.4							
20-Dec	18	17	14	17	17	19	14	14	8	10	9	12	8	2	3	5	4	3	16	18	11	7	8	9	10.8	18.9							
21-Dec	9	11	13	10	11	11	7	15	14	26	6	9	10	10	13	9	10	13	8	32	30	8	9	10	12.7	32.3							
22-Dec	6	6	11	13	6	5	6	12	14	4	9	20	23	18	11	7	7	18	14	19	6	11	11	10	11.2	22.8							
23-Dec	7	5	7	2	2	0	3	2	5	3	2	M	16	10	8	4	9	19	19	14	11	9	9	15	7.8	19.3							
24-Dec	15	13	9	11	6	8	3	6	7	7	6	6	5	3	5	4	4	4	2	4	3	2	5	9	6.0	15.2							
25-Dec	6	7	4	4	3	3	3	3	6	10	19	10	9	7	5	6	6	6	6	8	10	13	16	18	7.9	19.5							
26-Dec	7	15	6	5	3	6	3	5	5	7	8	13	9	6	5	5	10	26	14	5	3	10	8	8	8.0	25.7							
27-Dec	5	5	3	3	5	5	7	4	5	3	9	21	7	8	16	12	5	5	4	5	5	3	4	3	6.3	20.5							
28-Dec	3	3	3	4	3	3	3	6	4	5	3	6	3	4	3	3	4	3	3	3	3	3	4	2	3.4	6.1							
29-Dec	3	2	2	5	3	2	1	4	6	5	16	33	9	16	6	7	7	5	16	16	8	5	7	10	8.2	32.6							
30-Dec	20	10	5	6	4	5	7	16	7	8	10	14	33	17	18	2	13	11	12	4	2	7	7	4	10.0	33.0							
31-Dec	5	3	7	7	1	1	2	5	3	5	4	3	2	1	5	3	3	2	3	6	38	31	1	2	5.9	37.7							
11.3 9.7 9.6 10.9 9.6 9.9 9.1 10.2 11.7 13.0 12.5 15.9 14.0 12.5 12.0 11.4 12.5 13.9 16.5 14.9 13.8 11.6 11.4 11.6																									Diurnal Average								
27.0 24.3 20.1 22.5 25.7 26.2 20.4 19.7 36.8 28.0 22.9 34.1 33.0 33.4 29.3 35.4 34.5 30.3 33.1 34.2 37.7 31.3 28.6 25.9																									Diurnal Maximum								
M - Maintenance																																	

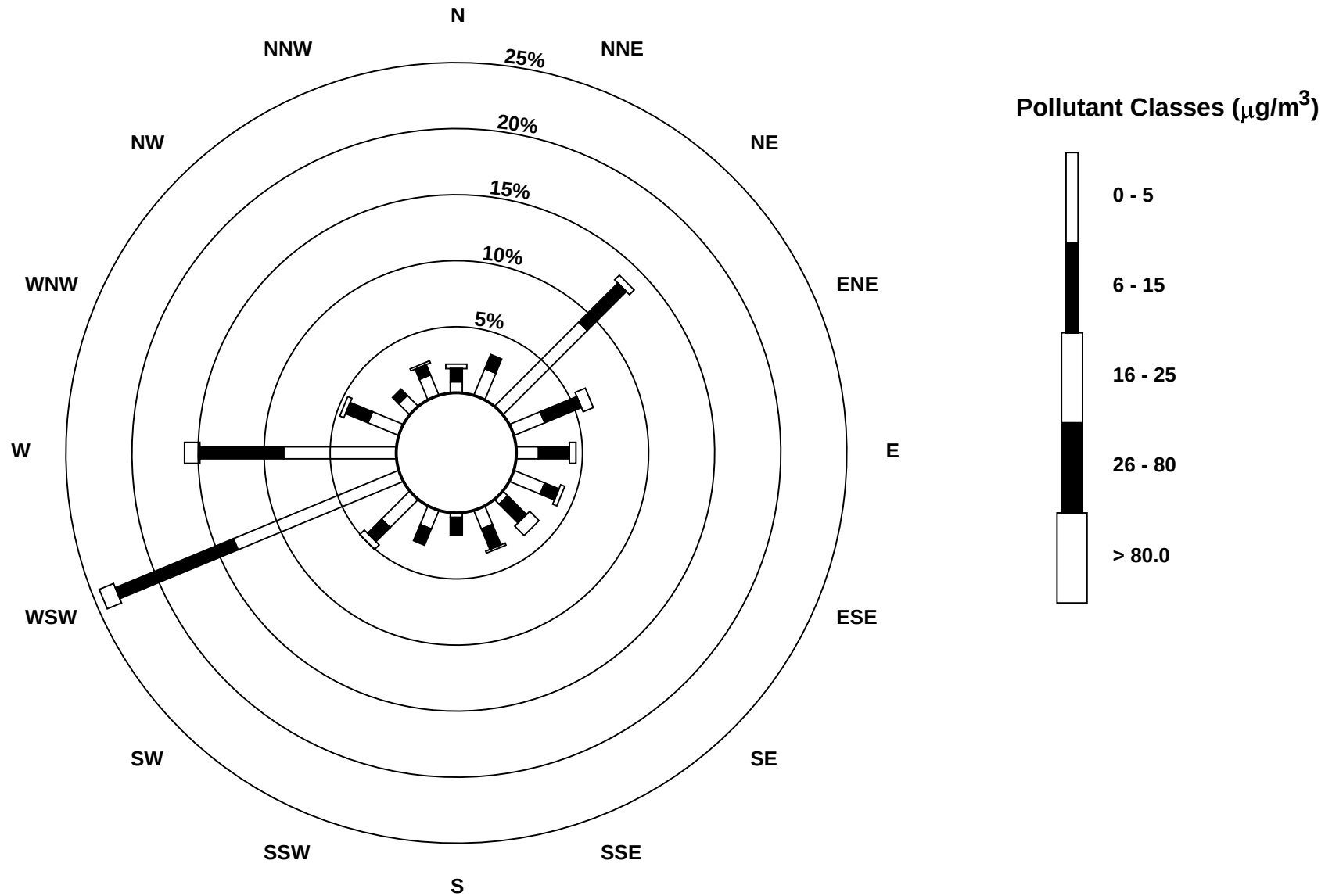
Hourly Maximums

PM2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Portable Clairmont - December 2014



Pollutant Rose

PM_{2.5} (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Portable Clairmont - December 2014



Hourly Averages

External Temperature (ET) - °C

Portable Clairmont - December 2014

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 8.7 °C on Dec 9 19:00 Maximum Daily Average: 1.1 °C on Dec 10																					Hours in Service: 744 Hours of Data: 744 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0					
Minimum Value: -30 °C on Dec 30 00:00 Maximum Diurnal Average: -8.3 °C at hour 15 Monthly Average: -11.46 °C Minimum Daily Average: -23.9 °C on Dec 29 Minimum Diurnal Average: -13.6 °C at hour 6 Percentiles: P ₁ = -27.2 P ₁₀ = -19.5 Q ₁ = -15.7 Median = -11.5 Q ₃ = -7.4 P ₉₀ = -3.4 P ₉₉ = 3.8																										
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-Dec	-25	-24	-24	-24	-24	-23	-22	-22	-21	-21	-20	-18	-16	-16	-15	-15	-16	-17	-16	-18	-19	-20	-21	-21	-19.8	-14.6
2-Dec	-21	-21	-20	-21	-22	-21	-20	-21	-21	-20	-18	-18	-17	-16	-16	-15	-15	-14	-13	-12	-11	-11	-11	-13	-17.0	-11.3
3-Dec	-13	-13	-14	-15	-16	-15	-13	-13	-11	-10	-9	-7	-4	-3	-3	-6	-8	-9	-9	-11	-11	-9	-9	-11	-10.1	-2.6
4-Dec	-11	-13	-14	-13	-12	-11	-10	-11	-13	-13	-12	-11	-10	-10	-9	-10	-11	-14	-15	-16	-16	-16	-16	-18	-12.7	-9.4
5-Dec	-19	-19	-20	-20	-20	-22	-21	-21	-21	-21	-19	-17	-16	-16	-16	-17	-17	-17	-18	-18	-18	-18	-19	-17	-18.6	-15.6
6-Dec	-17	-16	-15	-16	-15	-14	-13	-13	-12	-11	-10	-10	-9	-9	-8	-8	-8	-9	-9	-10	-11	-12	-12	-12	-11.6	-7.9
7-Dec	-13	-14	-15	-15	-15	-17	-18	-17	-17	-17	-15	-15	-14	-14	-12	-13	-15	-16	-17	-17	-17	-17	-15	-16	-15.4	-12.0
8-Dec	-16	-15	-15	-14	-13	-14	-13	-12	-12	-11	-9	-9	-7	-7	-9	-9	-10	-10	-11	-11	-10	-10	-9	-7	-10.9	-6.9
9-Dec	-7	-8	-8	-9	-8	-8	-7	-5	-4	-4	-1	1	2	3	3	4	3	4	9	7	4	3	3	5	-0.7	8.7
10-Dec	4	5	3	2	-1	-2	-2	-1	-1	-1	0	0	1	2	2	3	3	2	2	2	2	1	1	0	1.1	4.8
11-Dec	0	-1	-1	-2	-2	-2	-2	-2	-3	-4	-4	-4	-3	-3	-3	-4	-6	-6	-6	-7	-7	-6	-5	-3	-3.6	-0.1
12-Dec	-3	-5	-5	-6	-6	-7	-8	-7	-7	-7	-6	-6	-4	-4	-4	-4	-4	-4	-5	-5	-5	-5	-5	-5	-5.3	-3.1
13-Dec	-6	-8	-9	-9	-9	-9	-10	-10	-10	-11	-9	-7	-3	-2	-1	-2	-4	-6	-6	-6	-6	-7	-8	-8	-6.9	-1.3
14-Dec	-8	-9	-10	-11	-11	-13	-13	-13	-14	-14	-14	-13	-12	-11	-10	-10	-12	-14	-14	-13	-11	-11	-11	-11	-11.8	-8.2
15-Dec	-11	-11	-12	-13	-16	-15	-14	-16	-17	-17	-17	-17	-16	-16	-15	-15	-16	-17	-17	-18	-18	-18	-20	-19	-15.9	-10.8
16-Dec	-19	-19	-19	-20	-19	-19	-19	-19	-19	-19	-18	-16	-16	-16	-17	-16	-17	-17	-17	-17	-18	-18	-18	-19	-18.1	-16.0
17-Dec	-19	-19	-19	-18	-18	-18	-18	-18	-18	-18	-17	-14	-12	-11	-11	-13	-13	-13	-12	-11	-12	-12	-12	-11	-15.0	-11.1
18-Dec	-11	-12	-13	-13	-13	-13	-12	-12	-11	-10	-9	-8	-8	-6	-5	-6	-8	-9	-10	-11	-12	-13	-12	-10	-10.2	-4.8
19-Dec	-9	-10	-11	-10	-10	-11	-10	-9	-9	-10	-9	-8	-9	-7	-7	-7	-8	-9	-10	-11	-12	-12	-12	-13	-9.7	-6.8
20-Dec	-14	-14	-15	-15	-15	-15	-16	-14	-12	-12	-10	-9	-9	-8	-7	-7	-7	-7	-10	-10	-9	-9	-8	-8	-10.8	-6.8
21-Dec	-7	-7	-8	-7	-6	-6	-5	-4	-4	-3	-2	-2	-1	0	0	-2	-4	-6	-7	-9	-10	-11	-12	-12	-5.6	0.4
22-Dec	-13	-13	-13	-13	-12	-13	-13	-14	-11	-9	-9	-8	-7	-5	-4	-7	-8	-10	-12	-10	-13	-13	-14	-13	-10.7	-4.2
23-Dec	-14	-14	-15	-14	-13	-12	-11	-10	-9	-8	-6	-6	-6	-5	-4	-4	-5	-6	-6	-6	-6	-7	-6	-5	-8.3	-3.8
24-Dec	-4	-5	-6	-6	-5	-5	-4	-4	-4	-4	-4	-5	-7	-8	-9	-9	-10	-10	-10	-10	-11	-11	-12	-13	-7.3	-3.8
25-Dec	-12	-12	-12	-12	-12	-12	-12	-11	-11	-10	-10	-10	-10	-9	-9	-9	-9	-9	-10	-11	-12	-15	-18	-19	-11.5	-9.2
26-Dec	-21	-21	-21	-21	-21	-22	-22	-22	-22	-22	-22	-19	-16	-14	-11	-12	-13	-14	-15	-15	-15	-15	-13	-13	-17.5	-11.4
27-Dec	-12	-13	-15	-16	-17	-17	-17	-17	-15	-14	-13	-12	-12	-13	-13	-13	-12	-12	-12	-11	-11	-12	-12	-12	-13.5	-11.2
28-Dec	-12	-12	-12	-12	-12	-12	-12	-13	-13	-13	-14	-14	-14	-14	-14	-15	-15	-15	-15	-16	-16	-17	-17	-18	-14.0	-11.6
29-Dec	-18	-19	-19	-19	-19	-20	-21	-23	-26	-27	-26	-24	-21	-21	-23	-23	-25	-26	-27	-28	-29	-29	-30	-30	-23.9	-18.2
30-Dec	-29	-28	-27	-26	-27	-26	-26	-24	-23	-20	-18	-14	-11	-8	-7	-7	-6	-5	-4	-5	-5	-5	-6	-7	-15.2	-4.1
31-Dec	-10	-10	-7	-8	-10	-10	-11	-10	-7	-9	-8	-8	-5	-3	-3	-1	0	0	1	0	-1	0	0	0	-4.9	1.3
																									Diurnal Average	
																									Diurnal Maximum	

Hourly Averages

External Temperature (ET) - °C
Portable Clairmont - December 2014



Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)

Portable Clairmont - December 2014

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1 Spd	1	0	2	3	1	1	0	1	1	1	2	2	2	3	1	1	4	6	3	5	2	1	1	1	1.6	5.9	
Dir	50	8	261	250	266	246	76	122	351	260	253	263	258	260	250	316	266	259	260	262	256	223	306	243	261.5	258.7	
2 Spd	1	2	3	5	7	6	6	6	6	2	2	3	4	1	0	0	1	1	0	0	0	1	1	2	2.4	7.5	
Dir	265	269	254	258	257	261	260	250	262	267	245	266	260	184	36	51	303	317	334	237	269	253	120	263	259.1	257.3	
3 Spd	1	0	1	2	1	1	3	2	5	7	7	4	2	4	1	3	1	2	2	2	2	6	7	7	2.1	7.3	
Dir	260	356	340	221	40	300	277	253	273	257	259	295	249	278	216	64	83	19	19	19	352	253	254	260	274.0	260.1	
4 Spd	7	5	3	5	4	3	5	4	3	5	6	8	10	9	8	6	4	2	3	3	4	4	3	1	4.6	9.6	
Dir	256	251	256	267	252	260	250	259	280	252	258	257	251	251	248	247	245	10	272	276	263	256	257	280	256.4	250.5	
5 Spd	2	1	1	1	1	1	0	1	1	2	0	1	3	1	1	1	2	3	3	3	1	1	1	1	0.6	3.1	
Dir	234	267	192	256	164	58	51	39	265	260	60	57	51	51	51	333	273	254	265	257	282	246	254	154	263.7	265.4	
6 Spd	1	1	1	2	2	2	3	4	6	7	7	7	2	3	2	2	4	3	4	2	3	2	3	1	2.2	7.0	
Dir	312	129	157	51	50	50	53	50	58	103	27	48	7	357	90	130	129	124	137	119	53	70	23	116	69.6	27.2	
7 Spd	2	2	2	3	1	5	1	3	2	1	2	1	1	2	1	0	1	1	1	0	2	1	2	1	0.1	4.7	
Dir	247	77	86	55	253	252	63	137	128	90	152	60	293	303	333	45	283	255	252	151	264	247	62	325	166.7	252.1	
8 Spd	0	1	2	1	2	1	1	0	2	3	2	1	2	3	1	2	1	1	2	2	2	2	2	2	0.8	3.2	
Dir	61	202	274	257	214	280	105	257	263	264	218	221	141	138	76	110	271	291	275	131	262	259	266	249	232.4	138.4	
9 Spd	1	2	2	1	1	1	1	3	4	3	8	7	4	8	7	8	9	10	19	23	6	2	6	8	3.7	23.1	
Dir	241	256	241	98	241	300	254	78	100	105	69	107	91	123	125	131	131	143	184	217	237	199	189	211	163.1	216.8	
10 Spd	9	10	7	3	5	4	7	9	10	11	11	9	10	13	13	12	13	11	13	13	8	9	11	13	7.2	13.1	
Dir	193	206	190	190	168	106	48	46	36	43	49	56	44	45	45	43	45	43	43	47	43	33	40	42	50.8	44.8	
11 Spd	14	12	8	8	1	5	13	11	10	10	10	6	6	6	1	0	2	7	8	17	18	15	17	24	4.3	24.0	
Dir	36	33	34	24	162	239	259	256	243	270	263	254	272	288	302	90	25	38	85	42	36	44	41	29	9.1	28.7	
12 Spd	22	21	10	11	3	3	3	3	2	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	22.2	
Dir	40	39	63	47	299	330	58	35	19	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	40.1	
13 Spd	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--	
Dir	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--	
14 Spd	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--	
Dir	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--	
15 Spd	N	N	N	N	N	N	N	N	N	N	N	3	2	2	1	0	0	1	0	N	N	N	N	N	--	2.6	
Dir	N	N	N	N	N	N	N	N	N	N	N	251	242	255	231	239	233	240	229	N	N	N	N	N	--	251.2	
16 Spd	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--	
Dir	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--	
17 Spd	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--	
Dir	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--	
18 Spd	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	2	0	3	0	2	0	2	5	--	4.6
Dir	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	57	275	252	230	257	239	81	60	--	59.6
19 Spd	4	0	3	3	1	1	2	3	2	0	1	1	3	1	1	3	2	0	1	1	1	2	0	1	0.7	4.0	
Dir	81	279	58	90	225	279	40	71	172	357	148	249	258	162	243	131	144	92	36	67	85	74	272	252	97.2	80.6	
20 Spd	1	2	3	0	0	0	0	2	3	3	4	3	6	7	10	6	7	4	1	2	3	4	2	1	1.6	9.5	
Dir	245	251	251	282	213	152	235	64	59	67	52	52	49	38	44	49	58	53	248	257	257	259	279	161	40.4	43.9	
21 Spd	1	1	1	0	5	6	7	7	8	8	4	1	0	0	2	1	1	1	2	2	4	1	0	0	2.3	7.7	
Dir	2	157	253	331	205	272	293	271	253	249	236	212	308	135	238	234	228	234	276	241	252	248	169	158	253.6	253.4	
22 Spd	0	0	1	0	1	0	0	0	3	3	3	1	1	0	0	0	0	1	2	3	2	2	0	1	0.6	3.4	
Dir	162	115	163	77	117	111	161	170	262	244	251	237	206	254	154	91	110	272	271	260	253	144	84	107	234.7	260.2	

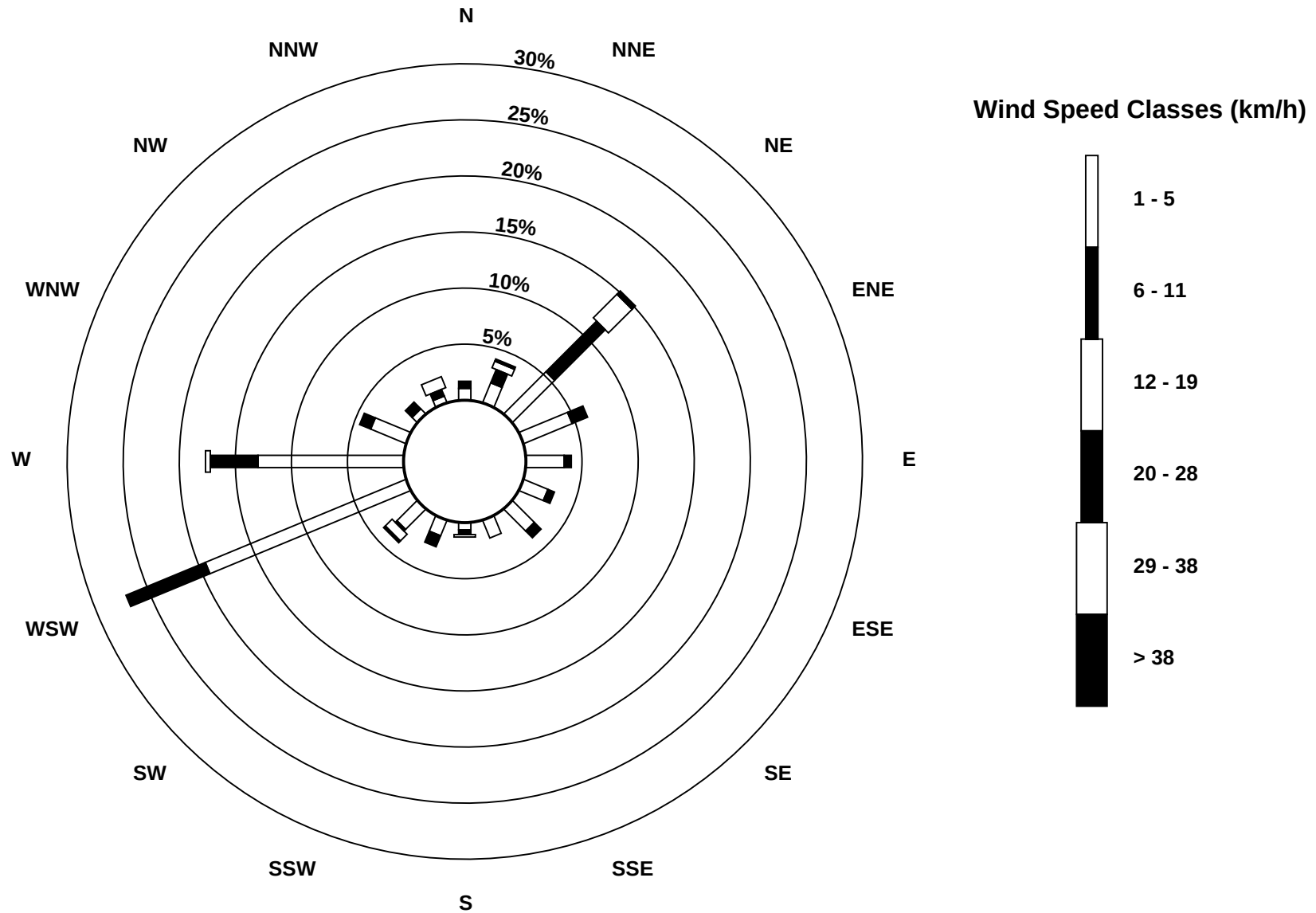
Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Portable Clairmont - December 2014

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum			
	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	1	1	0	1	1	2	1	2	4	7	6	6	6	3	1	1	1	1	3	2	1	1	1.8	6.8			
Dir	136	145	107	120	106	77	50	82	58	85	63	51	49	43	36	62	259	204	245	98	85	95	51	53	63.5	51.4			
24 Spd	3	4	4	2	3	4	4	4	3	2	5	10	12	14	11	10	5	3	5	6	8	6	6	6	3.2	14.1			
Dir	171	261	256	255	264	251	265	267	238	115	29	31	50	38	34	29	41	44	39	51	64	78	89	49	37.5	38.0			
25 Spd	8	8	7	5	6	5	6	7	5	3	6	8	10	13	9	6	6	4	2	1	1	0	0	1	1.0	12.9			
Dir	52	51	57	70	87	54	39	36	23	298	274	258	268	274	260	238	195	207	151	21	12	345	84	122	328.0	273.7			
26 Spd	1	1	2	2	2	3	2	3	2	1	1	0	1	1	1	0	1	2	2	2	3	3	3	3	1.5	3.5			
Dir	96	246	252	253	253	253	235	255	248	226	88	303	262	255	220	227	260	258	252	243	260	250	258	267	252.5	249.7			
27 Spd	3	2	0	0	1	0	0	0	2	2	1	0	4	4	4	7	12	16	10	5	5	8	7	7	3.4	15.9			
Dir	232	244	225	152	260	157	270	97	70	73	96	34	41	42	48	43	29	32	41	38	359	2	357	0	26.1	31.5			
28 Spd	6	4	4	5	4	3	4	3	3	3	3	5	6	8	16	13	11	11	13	13	10	12	9	8	6.9	15.8			
Dir	337	295	281	277	317	281	303	268	282	290	280	286	294	297	332	335	335	321	332	338	333	332	323	309	318.2	332.2			
29 Spd	8	7	6	5	4	4	4	3	3	1	0	2	2	1	2	2	1	0	2	2	3	3	1	0	2.3	7.8			
Dir	314	296	280	270	255	247	256	268	242	250	56	266	254	283	326	272	119	116	258	257	259	257	115	43	272.7	313.7			
30 Spd	1	1	3	1	2	3	1	3	3	2	3	1	1	1	6	11	10	10	10	6	7	7	6	7	4.3	11.0			
Dir	251	267	257	192	250	245	271	241	257	243	244	124	295	185	256	255	254	262	258	260	256	253	238	246	252.8	254.5			
31 Spd	5	7	13	7	5	4	4	8	11	8	11	9	9	10	5	11	18	16	18	4	4	6	7	7	8.1	17.8			
Dir	213	205	221	260	247	237	232	247	254	270	274	266	246	238	246	221	225	230	223	283	195	238	252	253	239.3	223.4			
Spd	0.9	0.6	0.8	0.6	1.3	1.6	1.4	1.0	1.4	1.2	1.2	0.9	1.1	1.2	1.4	0.6	0.3	0.7	0.8	0.9	1.3	1.1	1.0	1.3	Diurnal Average				
Dir	11.7	328.5	251.8	309.7	240.6	262.2	286.7	284.8	274.9	270.2	298.4	313.7	314.2	327.6	353.8	5.1	340.1	324.2	255.4	319.9	330.5	324.5	347.3	346.0	Diurnal Maximum				
Spd	22.2	21.5	13.1	11.4	7.5	6.1	13.0	11.5	11.3	11.4	10.9	9.6	11.6	14.1	15.8	13.3	17.8	16.3	18.7	23.1	18.2	14.5	16.8	24.0	Diurnal Maximum				
Dir	40.1	39.3	220.7	47.3	257.3	272.0	259.3	255.7	253.8	43.5	48.9	30.7	50.1	38.0	332.2	334.9	225.4	229.9	184.2	216.8	36.4	43.7	40.8	28.7					
Maximum Speed Value: 24 km/h on Dec 12 00:00																		Minimum Speed Value: 0 km/h on Dec 21 14:00										Hours in Service: 744	
Maximum Daily Speed Average: 8.1 km/h on Dec 10																		Minimum Daily Speed Average: 0.1 km/h on Dec 22										Hours of Data: 601	
Maximum Diurnal Speed Average: 1.6 km/h at hour 6																		Minimum Diurnal Speed Average: 0.3 km/h at hour 17										Hours of Missing Data: 143	
Monthly Average Velocity: 0.83 km/h 307.76 deg																		Speed Percentiles: P ₁ = 0.1 P ₁₀ = 0.5 Q ₁ = 1.1 Median = 2.6 Q ₃ = 5.9 P ₉₀ = 9.6 P ₉₉ = 18.0										Percent Operational Time: 80.8	
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	18		3		1		0		0		0		22																
NorthEast	59		38		21		3		0		0		121																
East	46		7		0		0		0		0		53																
SouthEast	40		5		0		0		0		0		45																
South	21		4		1		0		0		0		26																
SouthWest	66		15		4		1		0		0		86																
West	152		51		4		0		0		0		207																
NorthWest	26		10		5		0		0		0		41																
Total	428		133		36		4		0		0		601																

Wind Rose

Wind Speed (WS) (km/h)
Portable Clairmont - December 2014



Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Portable Clairmont - December 2014

Maximum Speed: 24 km/h on Dec 12 00:00																				Maximum Daily Speed Average: 10.1 km/h on Dec 10										Hours in Service: 744	
Minimum Speed: 0 km/h on Dec 22 01:00																				Minimum Daily Speed Average: 1.3 km/h on Dec 22										Hours of Data: 601	
Maximum Diurnal Speed Average: 5.2 km/h at hour 19																				Minimum Diurnal Speed Average: 2.9 km/h at hour 5										Hours of Missing Data: 143	
Monthly Average Speed: 4.32 km/h																				Percentiles: P ₁ = 0.2 P ₁₀ = 0.9 Q ₁ = 1.6 Median = 3.0 Q ₃ = 6.1 P ₉₀ = 9.7 P ₉₉ = 17.6										Percent Operational Time: 80.8	
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-Dec	1	1	2	3	2	1	1	1	2	1	3	3	2	3	2	1	4	6	3	5	3	2	2	2	2.3	6.0					
2-Dec	2	3	3	5	8	6	7	6	6	3	3	3	4	1	1	0	1	1	0	0	1	1	1	2	2.8	7.6					
3-Dec	1	1	1	2	2	2	3	3	5	7	7	4	3	4	2	3	3	2	2	2	3	6	7	7	3.4	7.4					
4-Dec	7	5	3	5	4	4	6	4	3	5	6	8	10	9	9	6	4	2	3	3	4	4	3	2	4.9	9.7					
5-Dec	2	2	1	1	1	1	0	1	1	2	0	1	3	1	1	1	2	3	3	3	1	2	1	1	1.5	3.1					
6-Dec	2	1	1	2	2	2	3	4	7	7	7	7	3	3	2	3	4	3	4	2	3	2	3	1	3.3	7.4					
7-Dec	3	3	2	4	2	5	2	4	2	1	2	1	1	2	1	1	1	2	1	1	2	1	2	2	2.0	4.8					
8-Dec	1	1	3	4	3	1	2	2	2	3	2	2	2	3	2	3	2	2	2	3	3	2	2	2	2.4	3.8					
9-Dec	3	3	3	2	2	2	2	4	5	4	8	8	5	8	7	8	9	10	20	24	9	3	7	8	6.8	24.1					
10-Dec	9	10	7	4	6	6	7	10	10	12	11	10	10	13	13	12	13	11	13	13	8	9	11	13	10.1	13.2					
11-Dec	15	12	8	8	2	6	13	12	10	10	10	6	6	6	3	3	3	7	9	17	18	15	17	24	10.0	24.3					
12-Dec	22	22	10	12	3	4	4	4	3	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	22.3					
13-Dec	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--					
14-Dec	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--					
15-Dec	N	N	N	N	N	N	N	N	N	N	N	3	2	2	1	0	0	1	0	N	N	N	N	N	--	2.7					
16-Dec	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--					
17-Dec	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--					
18-Dec	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	2	0	3	1	2	0	2	5	--	4.7				
19-Dec	4	0	3	3	1	2	3	4	3	1	1	1	3	2	1	4	2	0	1	2	1	2	2	1	2.0	4.4					
20-Dec	1	2	3	0	0	0	0	3	3	3	4	3	6	7	10	6	7	4	2	2	4	4	3	3	3.3	9.5					
21-Dec	2	4	2	0	5	6	7	7	8	8	4	1	0	0	2	1	1	2	3	2	4	1	0	0	3.0	7.8					
22-Dec	0	0	1	1	1	1	0	0	3	3	3	1	1	1	0	0	0	1	2	3	2	2	1	1	1.3	3.5					
23-Dec	1	1	1	1	0	1	1	2	1	2	4	7	6	6	6	3	2	3	2	2	4	3	1	1	2.5	6.8					
24-Dec	3	4	4	3	4	4	5	4	3	2	5	10	12	14	11	10	6	4	5	6	8	6	6	6	6.0	14.2					
25-Dec	8	8	8	5	6	5	6	7	5	4	7	8	11	13	9	6	6	4	2	2	1	1	1	1	5.5	12.9					
26-Dec	2	2	2	2	2	3	2	3	2	1	1	1	1	1	1	0	1	2	2	2	3	4	3	3	1.9	3.5					
27-Dec	3	2	0	1	1	0	1	0	2	2	1	1	4	4	4	7	12	16	10	5	5	8	8	7	4.3	16.0					
28-Dec	6	4	4	5	4	3	4	3	3	3	4	5	6	9	16	13	11	11	13	13	10	12	9	8	7.5	15.9					
29-Dec	8	7	6	5	4	5	4	3	3	3	1	2	2	2	2	2	1	1	2	2	3	3	1	1	3.0	8.0					
30-Dec	2	1	3	1	2	3	3	4	3	3	4	2	2	1	6	11	10	10	10	6	7	7	6	8	4.9	11.0					
31-Dec	6	7	13	8	5	4	4	8	11	8	11	9	9	10	5	11	18	16	18	8	5	6	7	7	8.9	17.9					
		4.5	4.2	3.9	3.5	2.9	3.1	3.6	4.1	4.3	4.0	4.5	4.2	4.5	5.1	4.7	4.6	4.8	4.8	5.2	5.1	4.6	4.3	4.2	4.7	Diurnal Average					
		22.3	21.8	13.4	11.5	7.6	6.4	13.2	11.7	11.5	11.6	11.0	9.8	11.7	14.2	15.9	13.3	17.9	16.5	19.8	24.1	18.3	14.7	16.9	24.3	Diurnal Maximum					
N - Not Valid																															
All monthly, daily, and diurnal averages have been calculated using scalar methods																															

Hourly Standard Deviations

Wind Direction (WD) - deg

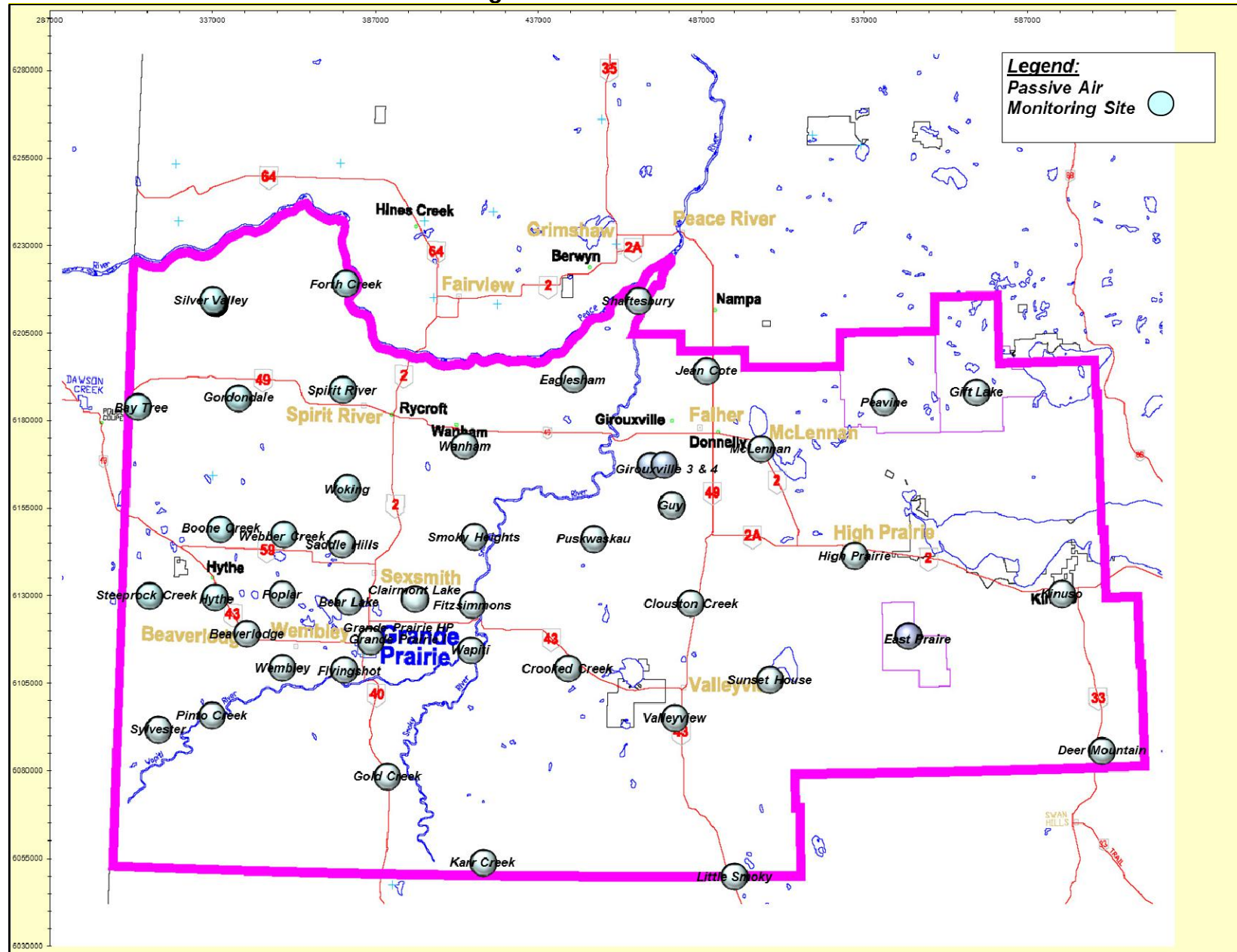
Portable Clairmont - December 2014

Maximum Value: 96.9 deg on Dec 9 07:00																			Hours in Service: 744							
Minimum Value: 0.0 deg on Dec 5 07:00																			Hours of Data: 601							
																			Hours of Missing Data: 143							
Percentiles: P ₁ = 0.1 P ₁₀ = 7.5 Q ₁ = 11.5 Median = 24.3 Q ₃ = 49.0 P ₉₀ = 69.9 P ₉₉ = 91.5																			Hours of Calibration: 0							
																			Percent Operational Time: 80.8							
Day	Hourly Period Ending At (MST)																								Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Dec	34	71	23	18	45	58	69	21	83	39	32	38	35	15	73	52	16	13	36	21	44	75	59	63	83.4	
2-Dec	57	32	30	10	8	12	16	24	9	60	71	24	19	55	69	83	49	37	37	11	40	37	44	19	82.6	
3-Dec	28	61	13	48	75	60	12	20	8	7	8	28	41	14	63	20	68	0	0	0	43	7	11	13	74.8	
4-Dec	20	12	22	10	18	24	12	20	37	9	14	12	8	8	10	14	14	41	35	25	31	11	21	59	59.3	
5-Dec	17	74	58	49	25	15	0	62	32	29	63	34	0	0	0	65	23	19	11	8	49	38	59	37	73.6	
6-Dec	46	56	55	11	0	0	10	24	23	15	22	25	59	38	41	20	11	16	7	27	23	41	42	38	58.6	
7-Dec	49	49	27	32	84	17	69	17	16	33	13	60	36	27	60	67	43	34	40	84	34	65	17	62	84.4	
8-Dec	92	80	25	82	74	37	58	90	47	30	29	28	42	26	66	67	69	88	61	60	61	33	36	59	92.0	
9-Dec	64	52	70	75	76	80	97	40	19	70	17	13	41	19	11	17	10	13	19	16	47	52	17	15	96.9	
10-Dec	7	12	28	60	45	41	21	8	6	10	8	8	7	7	4	6	8	6	6	6	10	7	6	8	59.9	
11-Dec	9	15	17	9	74	29	12	13	14	10	10	19	13	11	67	94	65	26	22	10	7	10	8	10	93.6	
12-Dec	5	12	20	9	37	38	55	21	65	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	64.9	
13-Dec	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--
14-Dec	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--
15-Dec	N	N	N	N	N	N	N	N	N	N	N	11	12	14	11	9	0	8	35	N	N	N	N	N	N	34.8
16-Dec	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--
17-Dec	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--
18-Dec	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	92.2
19-Dec	30	84	43	24	90	50	76	28	38	91	25	61	26	69	64	26	18	75	54	41	34	25	88	36	90.8	
20-Dec	44	53	22	96	97	76	44	28	15	18	11	30	7	7	5	13	8	61	65	26	19	19	44	70	96.7	
21-Dec	90	68	69	83	28	17	6	13	6	7	14	66	57	95	30	47	46	61	45	46	20	32	64	78	94.6	
22-Dec	58	58	72	47	27	51	54	56	13	11	12	35	56	92	50	28	24	42	17	13	12	28	68	39	91.7	
23-Dec	30	38	46	28	50	30	25	22	23	10	16	7	8	14	19	40	59	71	50	57	35	30	32	45	71.2	
24-Dec	37	11	12	39	25	10	38	13	53	22	27	11	8	5	5	6	14	13	10	10	12	10	10	7	53.4	
25-Dec	6	8	10	13	9	17	8	7	23	17	9	10	12	6	7	10	13	46	54	88	57	84	53	34	88.2	
26-Dec	57	64	9	15	14	14	28	14	25	83	41	84	43	33	47	82	32	16	16	16	8	10	8	10	83.9	
27-Dec	9	9	26	75	50	37	88	77	28	26	50	76	7	9	12	15	6	4	9	22	13	8	9	8	87.8	
28-Dec	22	9	12	7	24	8	12	8	15	18	26	15	7	23	6	5	5	5	5	6	10	12	9	7	26.5	
29-Dec	13	8	6	10	14	12	12	30	19	88	67	28	25	75	38	35	11	89	33	31	19	26	72	84	89.3	
30-Dec	58	53	32	82	51	40	85	67	27	36	43	55	75	88	15	7	8	6	9	12	12	14	15	19	88.4	
31-Dec	28	16	11	16	19	34	28	22	12	15	8	9	9	18	15	9	6	8	6	70	24	15	9	7	69.7	
92.0 84.0 72.2 96.1 96.7 79.8 96.9 89.6 83.4 90.8 70.8 83.9 74.8 94.6 72.7 93.6 68.9 92.2 65.1 88.2 61.2 83.6 87.7 84.4																										
N - Not Valid																										

PAZA

Monthly Passive Data Summary

Location of PAZA Passive Monitoring Stations



PAZA Passive Results for December 2014

Station Number	Station Name	SO2 ppb	O3 ppb	NO2 ppb	H2S ppb	Site Legal
Duplicates						
9a	Spirit River	0.6	26.0	3.5		
9b	Spirit River	0.5	24.1	3.1		
10a	Woking	0.8	29.3	2.1		
10b	Woking	0.9	32.2	2.2		
11a	Webber Creek	0.5	24.2	5.1		
11b	Webber Creek	0.4	22.1	4.8		
39a	Clouston Creek	0.4	28.6	2.6		
39b	Clouston Creek	0.5	27.7	3.3		
64a	Girouxville 4				0.3	
64b	Girouxville 4				0.4	
1	Silver Valley	0.6	25.1	2.8		08-27-081-11 W6M
2	Bay Tree	0.2	23.7	4.8		13-16-078-13 W6M
3	Fourth Creek	0.6	31.9	1.8		04-13-082-07 W6M
4	Gordondale	1.0	32.5	3.5		04-34-078-10 W6M
5	Boone Creek	0.4	24.7	1.8		16-36-074-11 W6M
7	Steeprock Creek	0.2	33.3	2.4		09-35-072-13 W6M
9	Spirit River	0.5	25.0	3.3		08-12-079-07 W6M
10	Woking	0.8	30.7	2.2		01-13-076-07 W6M
11	Webber Creek	0.5	23.1	4.9		09-36-074-09 W6M
12	Hythe	0.3	21.4	4.3		14-36-072-11 W6M
14	Sylvester	0.1	23.3	1.7		08-06-069-12 W6M
16	Beaverlodge	0.4	24.7	6.2		15-36-071-10 W6M
17	Poplar	0.3	25.6	5.0		13-06-073-08 W6M
18	Saddle Hills	0.4	31.3	1.3		04-25-074-07 W6M
19	Wanham	0.5	29.3	2.5		16-22-077-03 W6M
20	Shaftesbury	0.3	26.7	3.4		04-03-082-23 W5M
21	Eaglesham	0.2	23.0	2.4		16-21-079-25 W5M
23	Bear Lake	0.5	23.4	7.6		15-31-072-06 W6M
24	Wembley	0.3	21.8	6.0		12-31-070-08 W6M
25	Pinto Creek	0.1	26.3	3.0		04-24-069-11 W6M
26	Flyingshot	0.3	21.0	6.8		15-36-070-07 W6M
27	Grande Prairie I	0.6	14.2	22.6		08-15-071-06 W6M

PAZA Passive Results for December 2014 (Continued)

28	Clairmont Lake	0.9	27.5	4.1	09-06-073-04 W6M
29	Smoky Heights	0.6	24.5	6.1	04-06-075-02 W6M
30	Fitzsimmons	0.3	17.0	7.2	15-36-072-03 W6M
32	Gold Creek	0.1	10.5	8.0	06-33-067-05 W6M
33	Wapiti	0.3	17.3	6.9	02-25-071-03 W6M
34	Puskwaskau	0.1	21.8	1.0	15-35-074-25 W5M
35	Jean Cote	0.3	35.1	1.8	12-35-079-21 W5M
36	Guy	0.3	26.3	2.5	03-04-076-22 W5M
37	Crooked Creek	0.3	20.4	4.6	16-01-071-26 W5M
38	Karr Creek	0.1	17.2	2.0	10-16-065-02 W6M
39	Clouston Creek	0.5	28.1	2.9	12-01-073-22 W5M
40	McLennan	0.4	28.3	2.8	03-29-077-19 W5M
41	Valleyview	0.6	36.5	2.6	09-30-069-22 W5M
42	Sunset House	0.5	35.5	1.6	05-32-070-19 W5M
43	High Prairie	0.3	26.5	2.9	16-13-074-17 W5M
44	Peavine	0.1	23.9	1.2	03-05-079-15 W5M
45	Gift Lake	0.1	15.5	0.3	0.1 10-07-079-12 W5M
46	Little Smoky	0.1	18.7	6.1	12-01-065-21 W5M
47	Kinuso	0.2	21.0	2.7	12-10-073-10 W5M
48	Deer Mountain	0.2	29.0	1.7	15-22-068-09 W5M
49	Grande Prairie HP	0.3	12.8	21.5	17-26-071-06 W6M
50	East Prairie	0.1	21.6	1.4	13-02-072-15 W5M
63	Girouxville 3			0.4	14-02-077-23 W5M
64	Girouxville 4			0.4	4-08-077-22 W5M

*BDL = Below Detection Level

*NS - No sample

Passive Summary for December 2014

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

Passive Summary for December 2014 (PAZA Zone)				
Mean	0.4	24.5	4.4	0.3
Standard Deviation	0.2	6.0	4.4	0.2
Minimum	0.1	10.5	0.3	0.1
Minimum At	Gift Lake (#45)	Gold Creek (#32)	Gift Lake (#45)	Gift Lake (#45)
Maximum	1.0	36.5	22.6	0.4
Maximum At	Gordondale (#4)	Valleyview (#41)	Grande Prairie I (#27)	Girouxville 3 (#63)

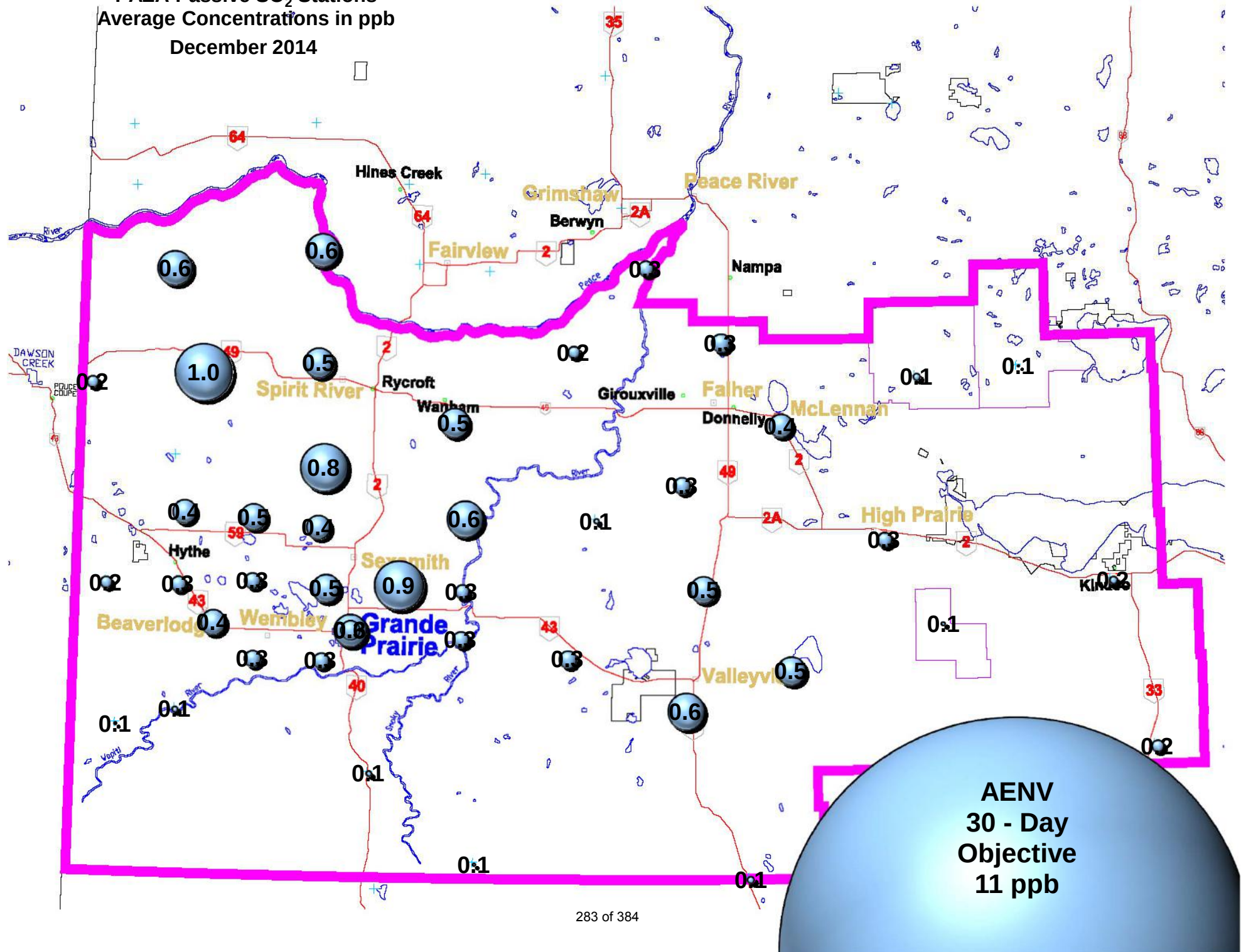
Comparison between Continuous and Passive monitoring at Beaverlodge (passive #16 Beaverlodge)

	SO ₂	O ₃	NO ₂
PAZA Beaverlodge station	0.5	20.4	11.2
PAZA Beaverlodge passive	0.4	24.7	6.2

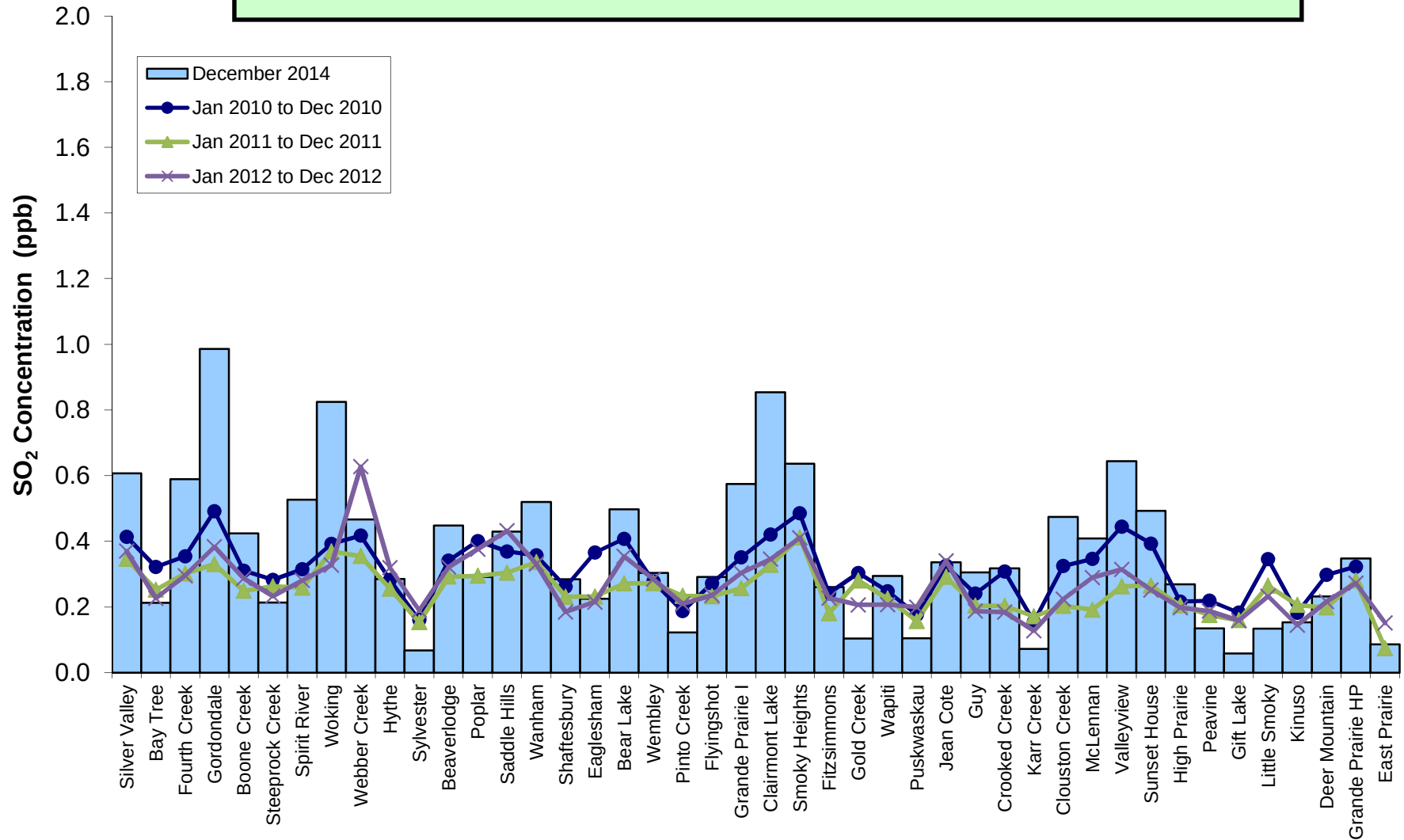
Comparison between Continuous and Passive monitoring at Henry Pirker (passive #49 Grande Prairie HP)

	SO ₂	O ₃	NO ₂
PAZA Henry Pirker station	0.5	8.4	27.3
PAZA Grande Prairie passive	0.3	12.8	21.5

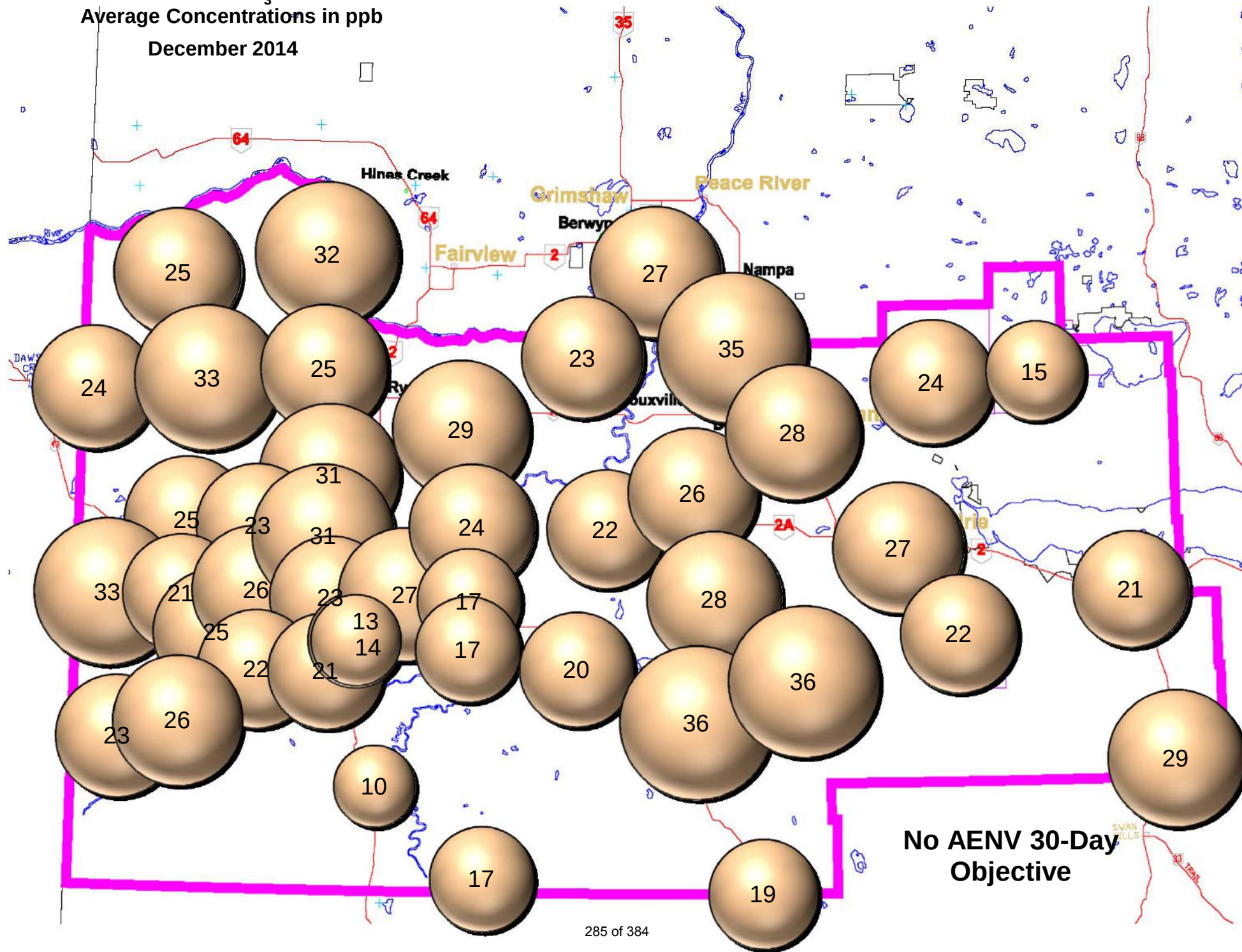
PAZA Passive SO₂ Stations
Average Concentrations in ppb
December 2014



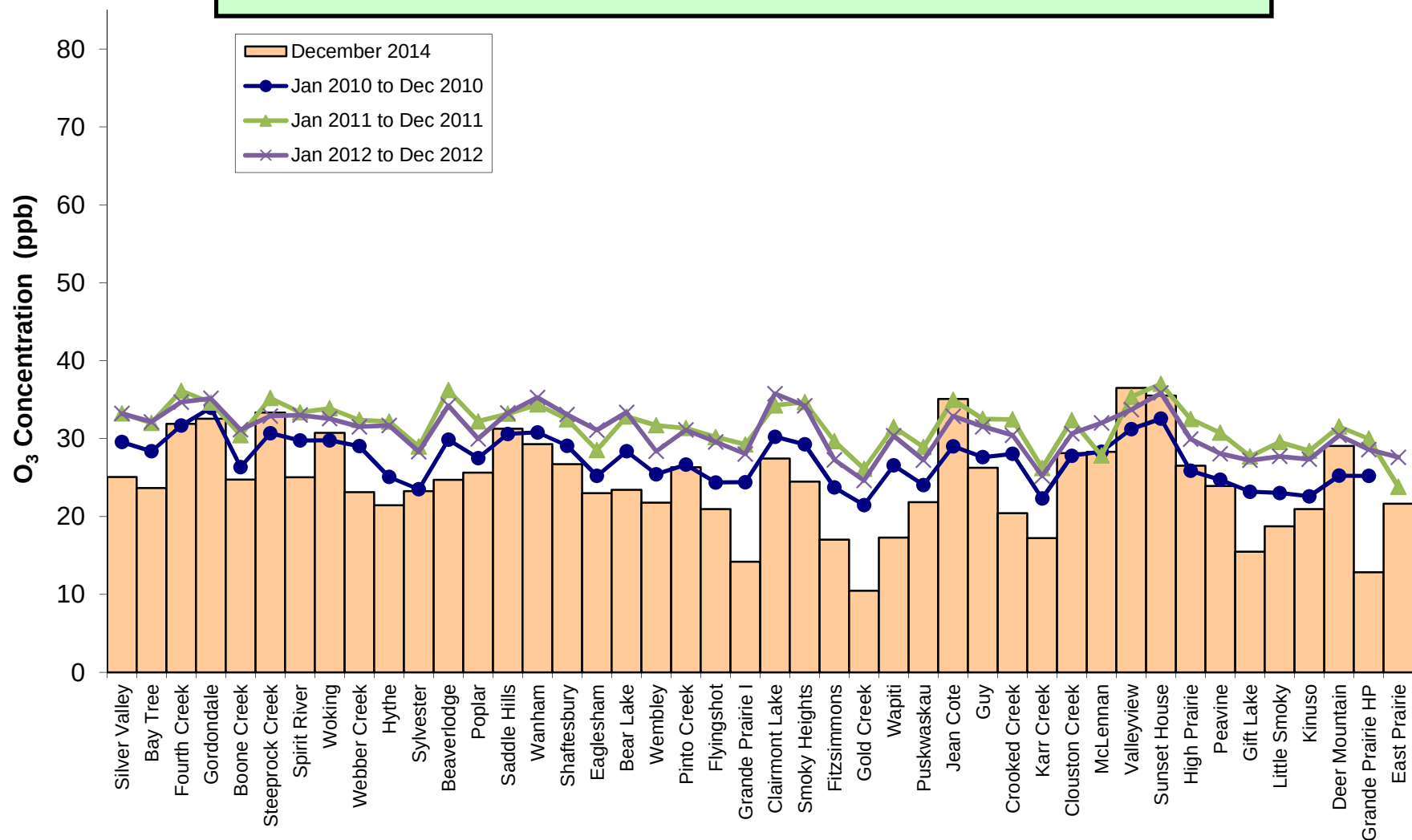
Alberta Ambient Air Quality Objective - 30-day Objective is 11 ppb



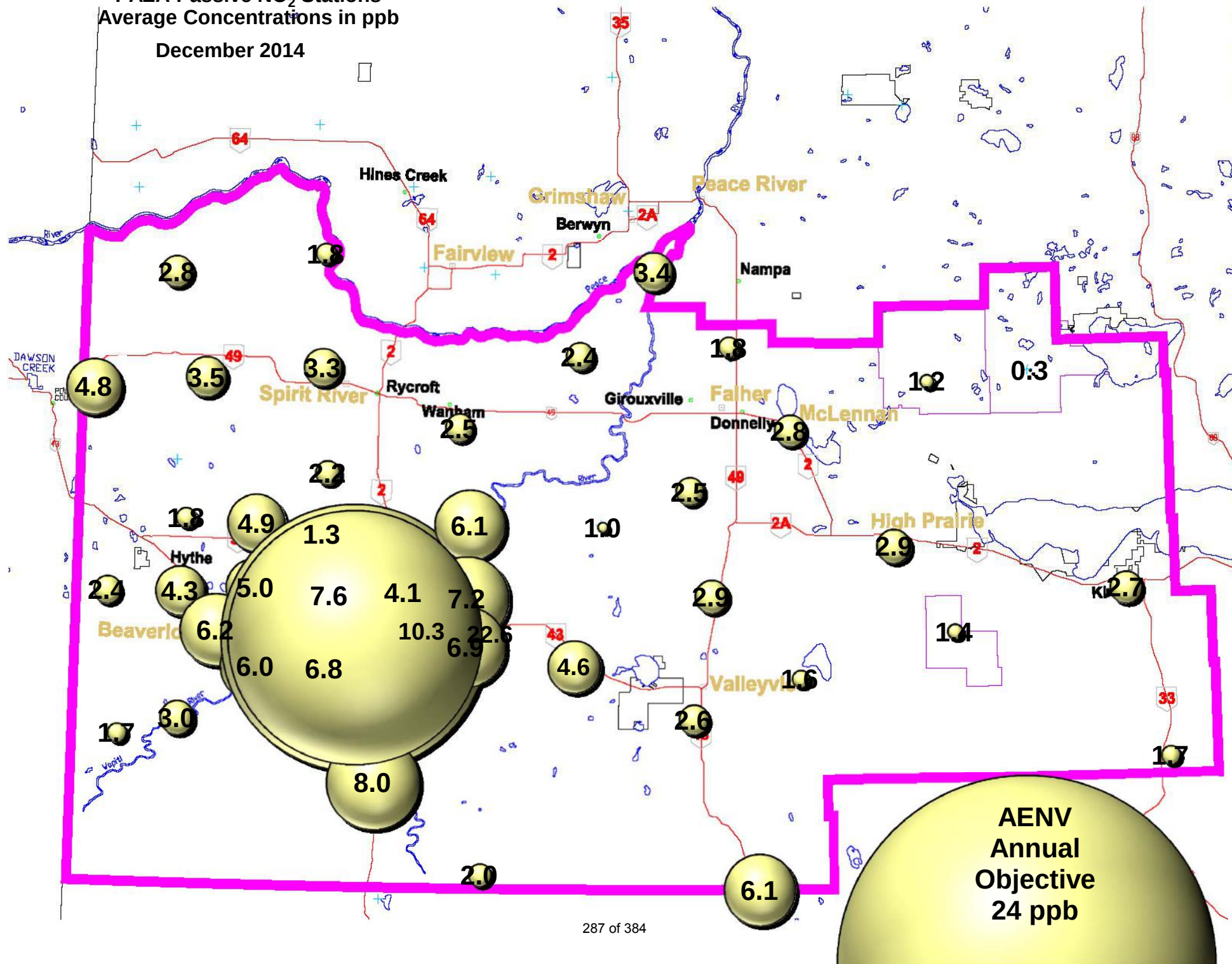
PAZA Passive O₃ Stations
Average Concentrations in ppb
December 2014



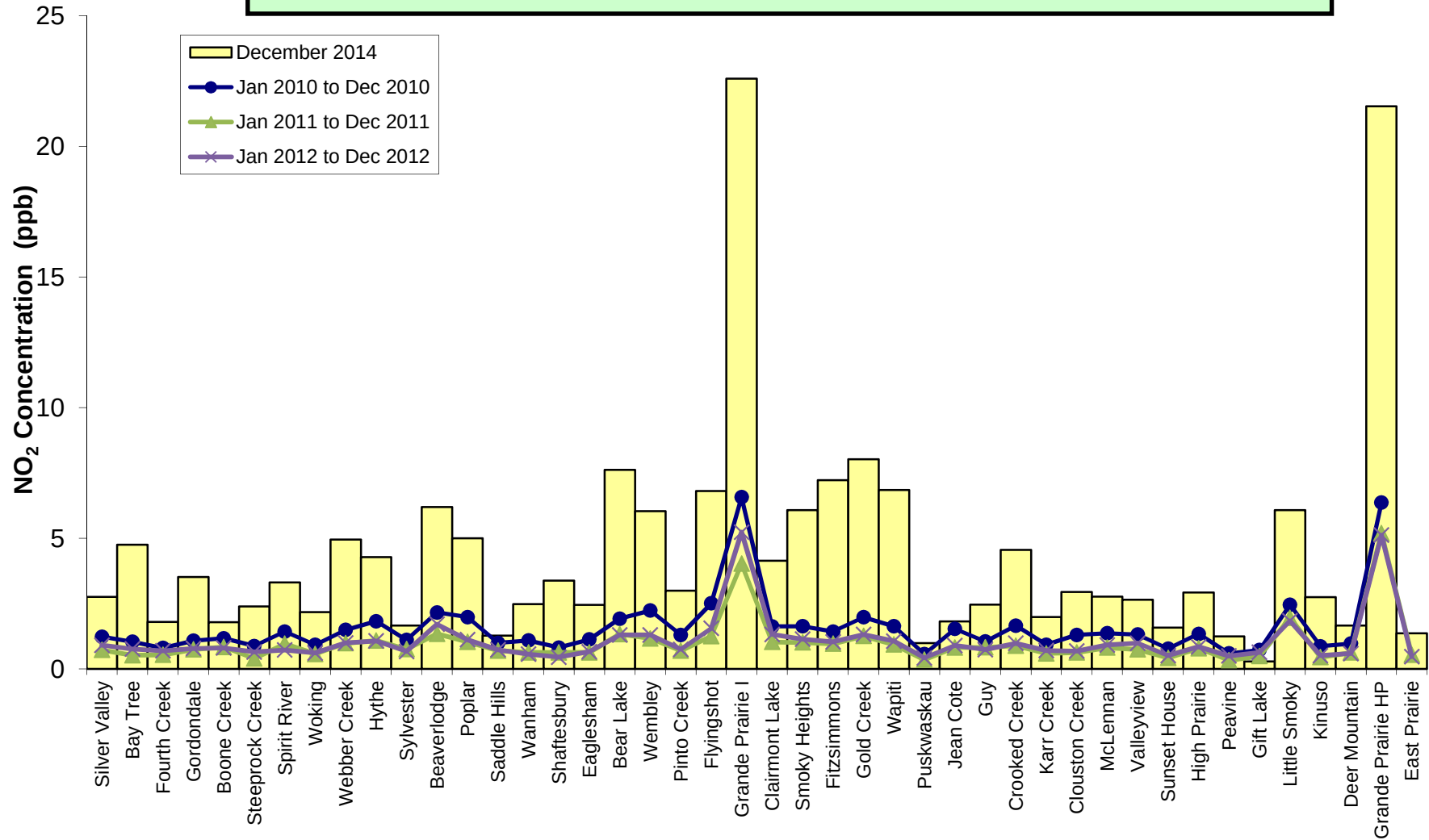
Alberta Ambient Air Quality Objective - No Annual O₃ Objective



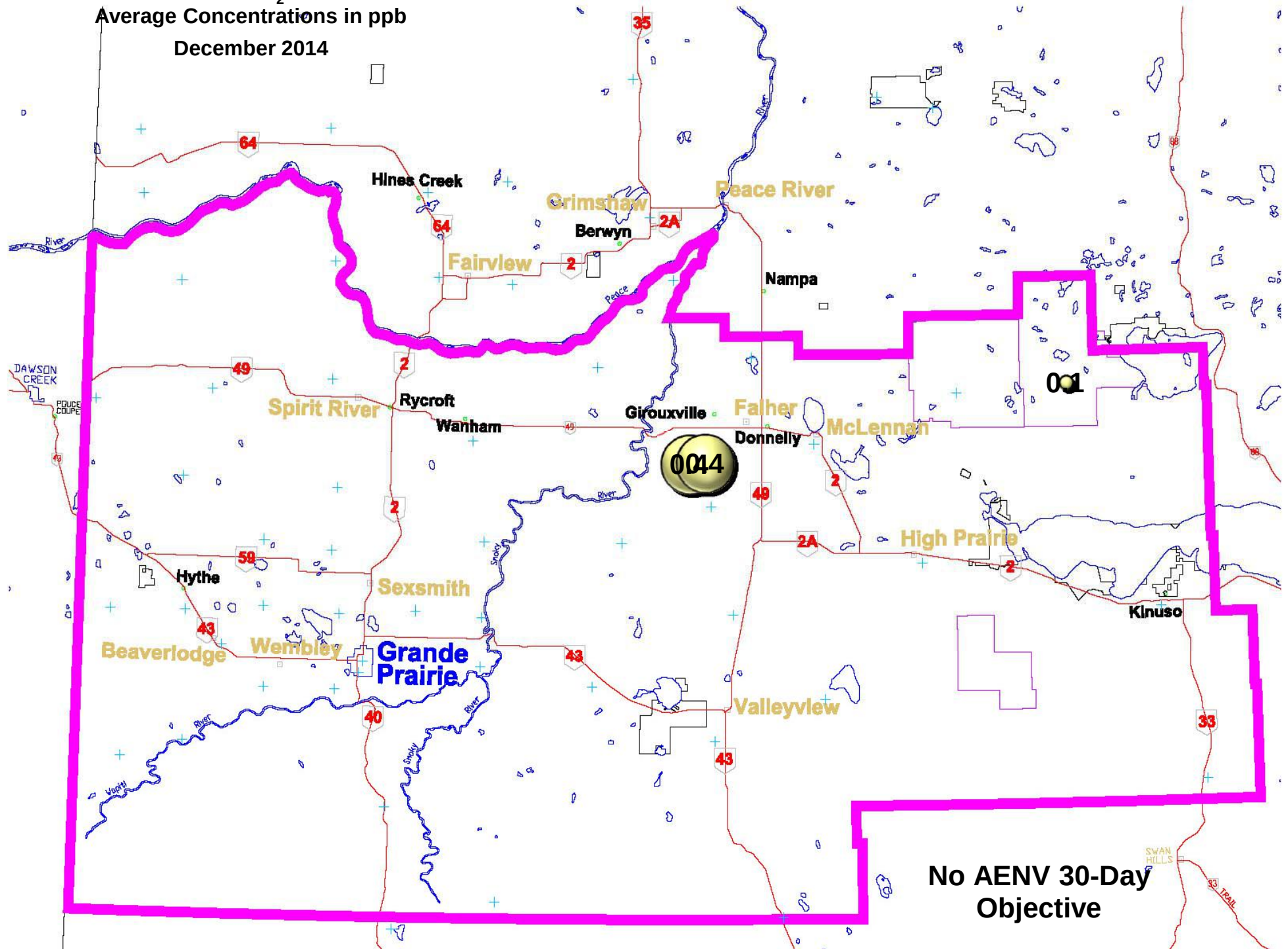
PAZA Passive NO₂ Stations
Average Concentrations in ppb
December 2014



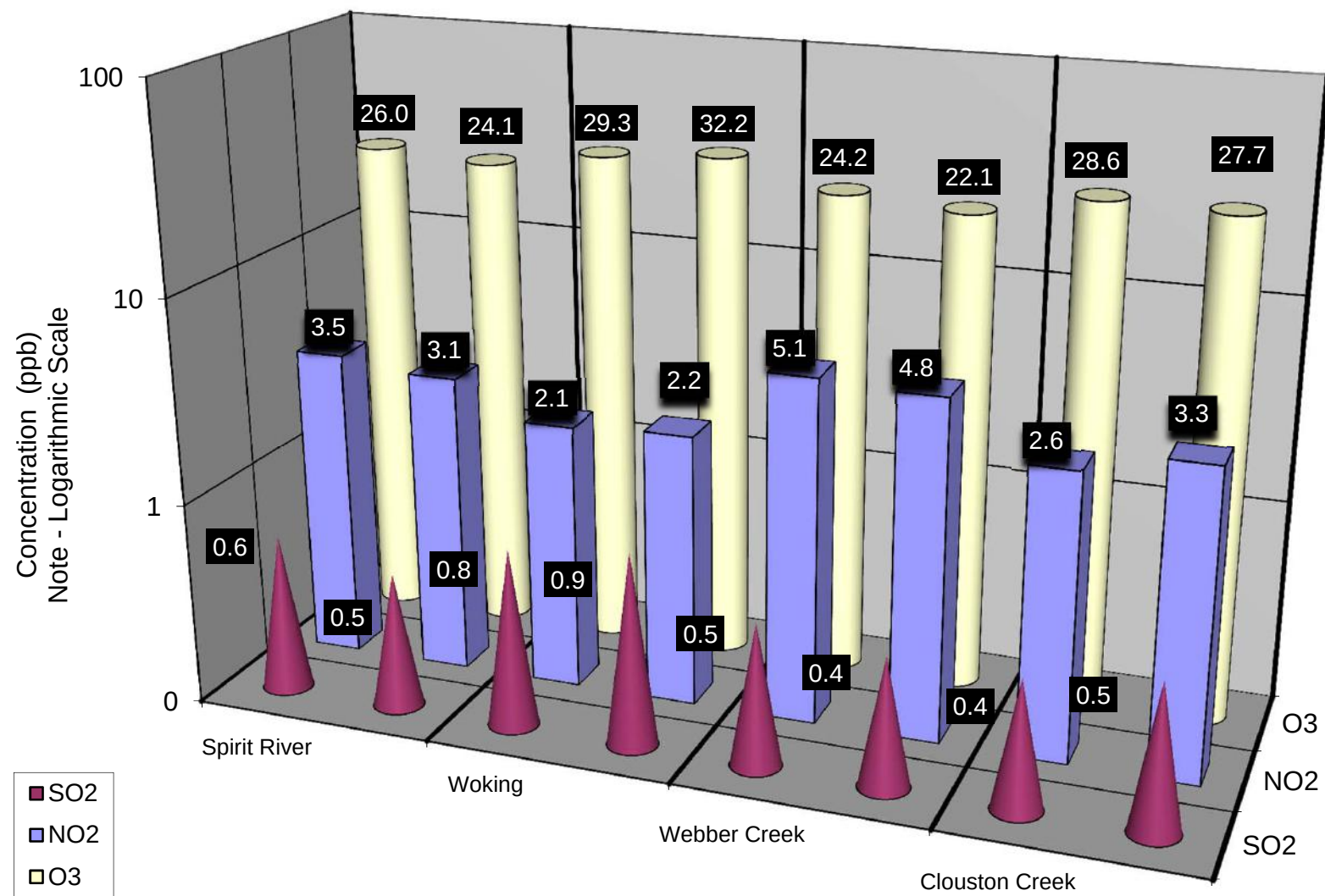
Alberta Ambient Air Quality Objective - Annual NO₂ Objective is 24 ppb



PAZA Passive H₂S Stations
Average Concentrations in ppb
December 2014



No AENV 30-Day
Objective



Duplicate Summary Chart

PAZA

ALBERTA ENVIRONMENT AND SUSTAINABLE RESOURCES INCIDENT REPORT

December 2014

Air Monitoring Directive Exceedence Report

Alberta Environmental Monitoring, Evaluation and Reporting Agency Energy & Environmental Response

111 Twin Atria Building
4999 – 98th Avenue
Edmonton, Alberta T6B 2X3
erc.environment@gov.ab.ca
Phone: (780) 422-4505
Fax: (780) 427-1044

Reference Number:	293201	Reported To (AESRD Contact):	Aona
Date & Time Incident Reported to AESRD:	Dec 18, 2014 17:00	Reported By:	Dmytro Dolotii
Reported on Behalf of:	PAZA	Approval Number (if applicable):	N/A
Location(s) of Incident:	Evergreen Park		
Start Date & Time of Incident:	Dec 18, 2014 14:00MST	End Date & Time of Incident:	Dec 18, 2014 16:00
Reason or Nature of Incident:			
On Dec 18, 2014 the PM2.5 analyzer exceeded 1-hour AAAQ Objective of 80 µg/m ³ , details as follows:			
<u>14:00-15:00 Hr</u> Average	PM2.5 =81.4 µg/m ³	WS=3.4 km/hr	WD=63.2 degrees
<u>15:00-16:00 Hr</u> Average	PM2.5 =91.5 µg/m ³	WS=2.6 km/hr	WD=18.8 degrees
Reviewed and confirmed the data as valid, called it in to AESRD.			
Investigation Details:			
N/A			
Actions Taken to Prevent Reoccurrence (if any):			
N/A			
Additional Actions Required (if any):			
N/A			
Report Completed By:	Dmytro Dolotii	Date Report Submitted:	Dec 19, 2014
7-Day Letter Due Date:	Dec 25, 2014		

Air Monitoring Directive Exceedence Report

**Alberta Environmental Monitoring, Evaluation and Reporting Agency
Energy & Environmental Response**

111 Twin Atria Building
4999 – 98th Avenue
Edmonton, Alberta T6B 2X3
erc.environment@gov.ab.ca
Phone: (780) 422-4505
Fax: (780) 427-1044

Reference Number:	293213	Reported To (AESRD Contact):	Vincent
Date & Time Incident Reported to AESRD:	Aug 19, 2014 00:30	Reported By:	Dmytro Dolotii
Reported on Behalf of:	Paza	Approval Number (if applicable):	N/A
Location(s) of Incident:	Henry Pirker		
Start Date & Time of Incident:	Dec 18, 2014 01:00MST	End Date & Time of Incident:	Dec 19, 2014 00:00
Reason or Nature of Incident:			
On Dec 18, 2014 the PM2.5 analyzer exceeded 24-hour AAAQ Objective of 30 µg/m ³ , details as follows:			
<u>24 HR Average</u>	PM2.5 =30.9 µg/m ³	WS=1.2 km/hr	WD=229.4 degrees
Reviewed and confirmed the data as valid, called it in to AESRD.			
Investigation Details:			
N/A			
Actions Taken to Prevent Reoccurrence (if any):			
N/A			
Additional Actions Required (if any):			
N/A			
Report Completed By:	Dmytro Dolotii	Date Report Submitted:	Dec 19, 2014
7-Day Letter Due Date:	Dec 26, 2014		

December 2014 Calibration Reports

PAZA - Henry Pirker Station with the following calibrations:

SO₂, NO, NO₂, NO_x, O₃, CO, THC, TRS

PAZA – Evergreen Park Station with the following calibrations:

SO₂, TRS

PAZA – Smoky Heights Station with the following calibrations:

SO₂, TRS

PAZA – Beaverlodge Station with the following calibrations:

SO₂, NO, NO₂, NO_x, O₃

PAZA – Valleyview Station with the following calibrations:

SO₂ & H₂S

PAZA – Falher Station with the following calibrations:

SO₂ & H₂S

PAZA – Clairmont Station with the following calibrations:

SO₂, NO, NO₂, NO_x, O₃, THC, TRS

Calibration Report

Parameter SO2

Air Monitoring Network PAZA



Station Information

Calibration Date	December 3, 2014	Previous Calibration	November 10, 2014
Station Number	1	Station Location	Henry Pirker
Reason:	☒ Routine	☐ Install	☐ Removal
		☐ Other:	
Start Time (MST)	9:41	End Time (MST)	12:55
Barometric Pressure	705.000 mm	Station Temperature	20.5 Deg C
Calibrator	EnviroNics	Serial Number	3016
Cal Gas Conc	50.2 ppm	Cal Gas Cert Date	March 10, 2017
		Cal Gas Cylinder #	LL119493
DACS make	CR3000	DACS serial No.	5408
DACS voltage range	0 - 1 volt	DACS channel #	10
	Before		After
Calculated slope	1.001396	Calculated slope	0.993185
Calculated intercept	1.736594	Calculated intercept	1.653782
Analyzer make	TEI 43C	Analyzer serial #	610816292

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
Background	9.8		10.0	
Coefficient	0.754		0.764	
Pressure	642.0	mm Hg	639.9	mm Hg
Flow	0.481	lpm	0.479	lpm
Lamp intensity	44419	Hz	44052	Hz

Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
4995	0.00	0.0	0.1	N/A
4995	39.93	398.1	400.3	0.9945
4995	19.97	199.9	198.0	1.0096
4995	9.97	100.0	97.7	1.0235
4995	0.00	0.0	-1.2	As Found Zero
4995	39.93	398.1	394.0	As Found Span
Average Correction Factor				1.0092

Calculated value of As Found Response: 397.5 ppb Percent Change of As Found: 0.2%

	before calibration		after calibration	
Auto zero	0.1	ppb	0.2	ppb
Auto span	161.3	ppb	326.5	ppb

Notes: Span adjustment made

Calibration Performed By: Dmytro Dolotii

Calibration Summary

Parameter SO2

Air Monitoring Network PAZA



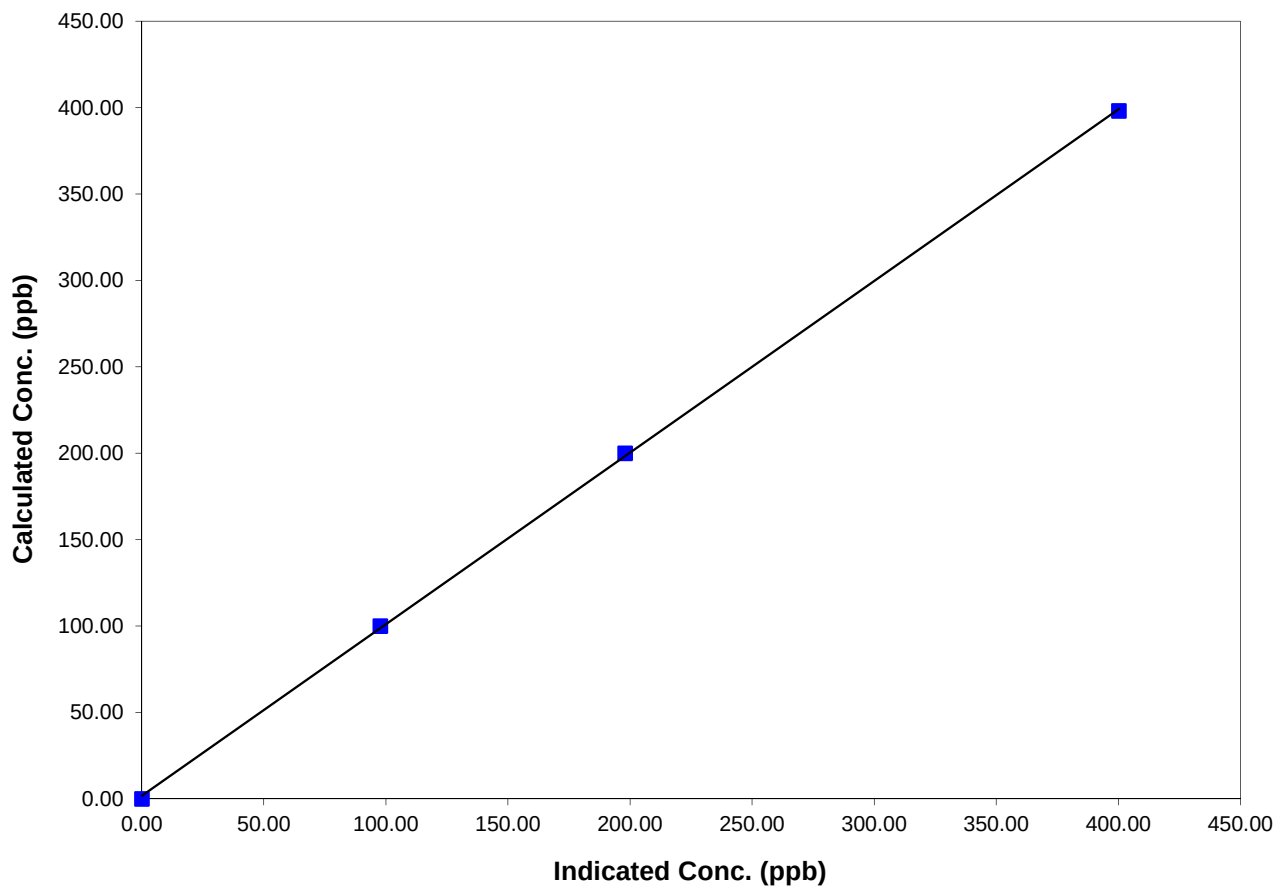
Station Information

Calibration Date	December 3, 2014	Previous Calibration	November 10, 2014
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	9:41	End Time (MST)	12:55
Analyzer make/model	TEI 43C	Analyzer serial #	610816292

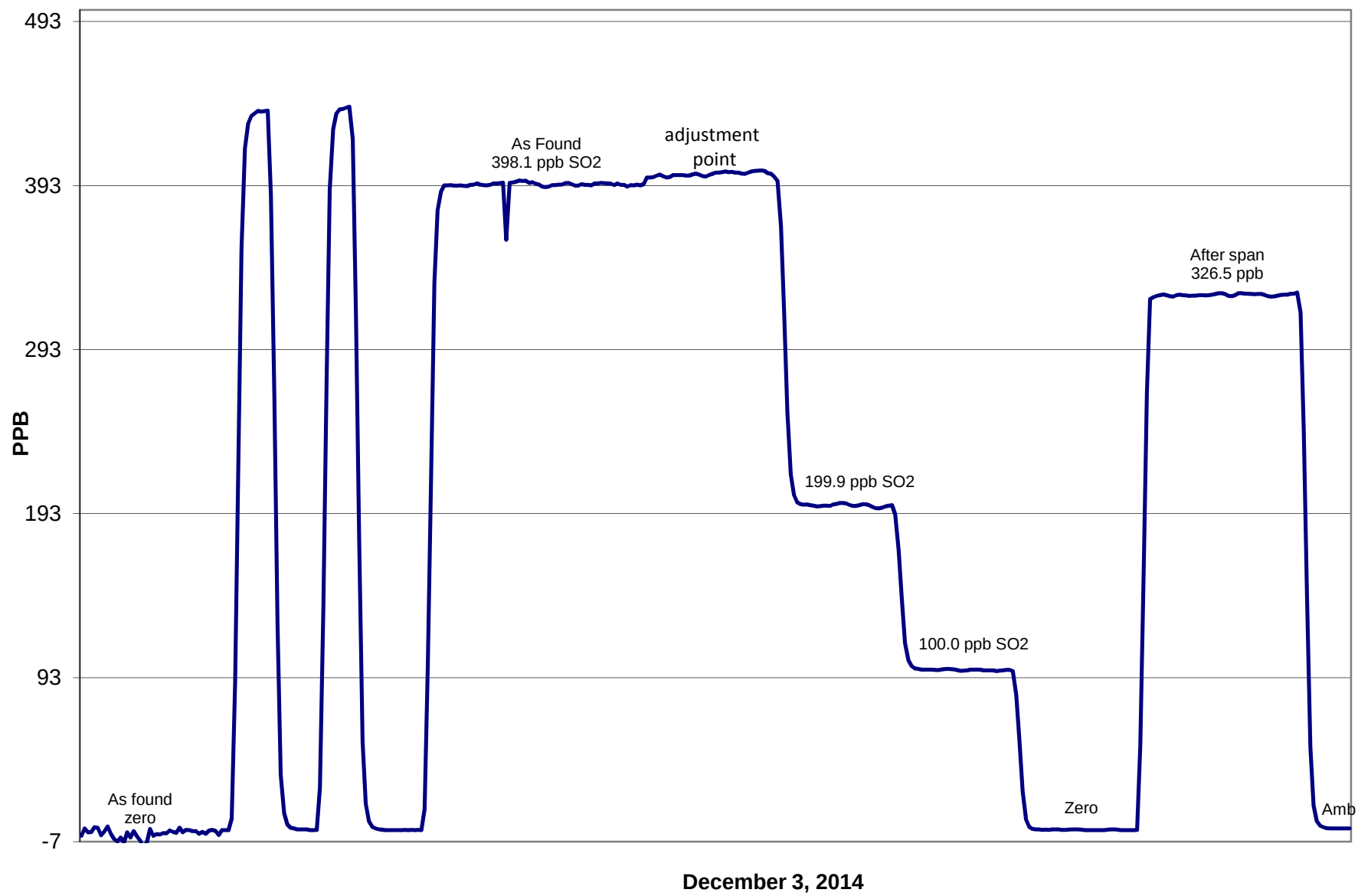
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.1	N/A	Correlation Coefficient	0.999899
398.1	400.3	0.9945		
199.9	198.0	1.0096		
100.0	97.7	1.0235	Slope	0.993185
			Intercept	1.653782

SO2 Calibration Curve



SO2 Calibration



Calibration Report

Parameter **NO_x-NO-NO₂**

Air Monitoring Network



Station Information

Calibration Date	December 3, 2014	Previous Calibration	November 10, 2014
Station Number	1	Station Location	Henry Pirker
Reason:	Routine	Installation	Removal
Start Time (MST)	9:41	End Time (MST)	14:05:00 PM
Barometric Pressure	705.000 mm	Station Temperature	20.5 Deg C
Calibrator	EnviroNics	Serial Number	3016
NO Cal Gas Conc	50.9 ppm	Cal Gas Expiry Date	March 10, 2017
NOx Cal Gas Conc	51.2 ppm	Cal Gas Serial #	LL119493

DACS Information

DACS make	CR3000	DACS serial No.	5237
Parameter	NO2	NOx	NO
Before	Data Slope	1.000884	1.004294
	Data Offset	1.295775	2.081881
After	Data Slope	1.003770	1.000095
	Data Offset	0.823181	1.668368
Channel #	8	6	7
Voltage Range	0 - 5 VDC	0 - 5 VDC	0 - 5 VDC

Analyzer Information

Analyzer make/model	CR3000	Analyzer serial #	5408
Test Point	before	after	
Concentration range	0 - 500	ppb	0 - 500
NO offset	15.5	mV	15.9
NOx bkgnd	16.2	mV	15.6
NO coefficient	1.092		1.116
NOx coefficient	0.995		0.995
NO2 conv temp	318.0	Deg C	319.0
Cooler Temp	-2.5	Deg C	-2.5
PMT Volt	-788.0	mV	-788.0
R Cell Press	241.9	in Hg	226.9
Sample Flow	0.655	LPM	0.656

Notes: Span adjustment made

Calibration Report

Parameter **NOX-NO-NO2**
Air Monitoring Network **0**



Station Information

Calibration Date: December 3, 2014 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	4995	0.00	0.0	0.0	0.0	-0.3	-0.3	-0.1	N/A	N/A
1	4995	39.92	405.9	403.6	2.4	405.1	406.3	-1.3	1.0021	0.9933
2	4995	19.96	203.8	202.6	1.2	200.8	201.6	-0.8	1.0147	1.0051
3	4995	9.93	101.6	101.0	0.6	99.0	99.5	-0.6	1.0264	1.0150
AFZ	4995	0.00	0.0	0.0	0.0	-0.3	-0.3	-0.1	0.0000	0.0000
AFS	4995	39.92	405.9	403.6	0.8	395.9	397.2	-1.5	1.0254	1.0159
Average Correction Factor									1.0144	1.0045

As Found Concentrations: NO_x= 400.0 NO= 397.5 As Found Percent Change NO_x= -1.5% NO= -1.5%

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	-0.3	-0.3	0.0	-0.3	-0.3	-0.1	N/A	N/A	N/A	N/A
NO point	405.8	405.8	0.0	404.0	405.8	-1.9	1.0043	1.0000	N/A	N/A
300	405.8	97.5	308.3	404.4	97.5	307.2	1.0033	1.0000	1.0037	99.6%
200	405.8	197.8	208.0	403.2	197.8	205.6	1.0064	1.0000	1.0120	98.8%
100	405.8	296.4	109.4	403.8	296.4	107.4	1.0050	1.0000	1.0181	98.2%
Average Correction Factor							1.0049	1.0000	1.0113	98.9%

AIC Data

	Previous calibration				Current calibration			
Parameter	NOx	NO2	NO		NOx	NO2	NO	
Auto zero	-0.4	-0.5	-0.1	ppb	-0.8	-0.5	-0.4	ppb
Auto span	287.4	285.7	1.9	ppb	321.5	320.3	1.4	ppb

Calibration Performed By: Dmytro Dolotii

Calibration Summary

Parameter NO₂

Air Monitoring Network 0



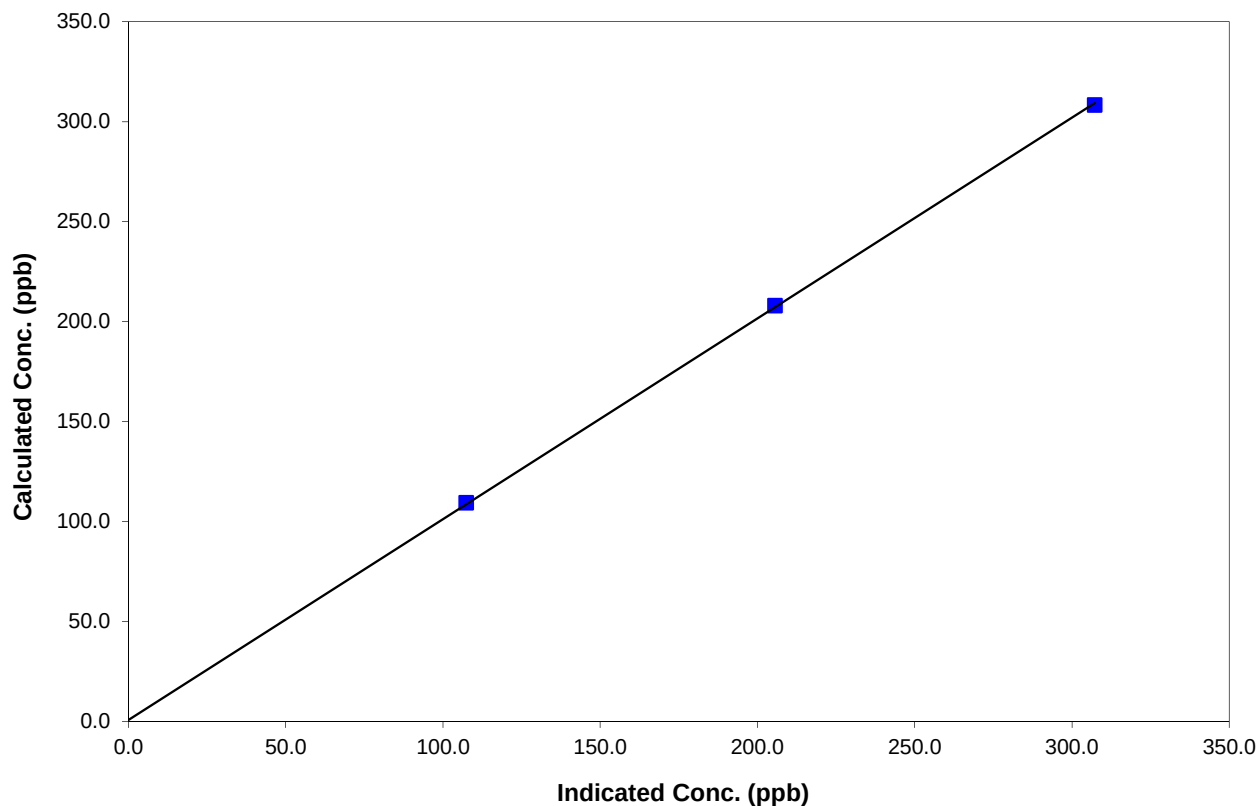
Station Information

Calibration Date	December 3, 2014	Previous Calibration	November 10, 2014
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	9:41	End Time (MST)	14:05:00 PM
Analyzer make	CR3000	Analyzer serial #	5408

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.1	N/A	Correlation Coefficient	0.999952
308.3	307.2	1.0037		
208.0	205.6	1.0120		
109.4	107.4	1.0181	Slope	1.003770
			Intercept	0.823181

NO₂ Calibration Curve



Calibration Summary

Parameter NO_x

Air Monitoring Network 0



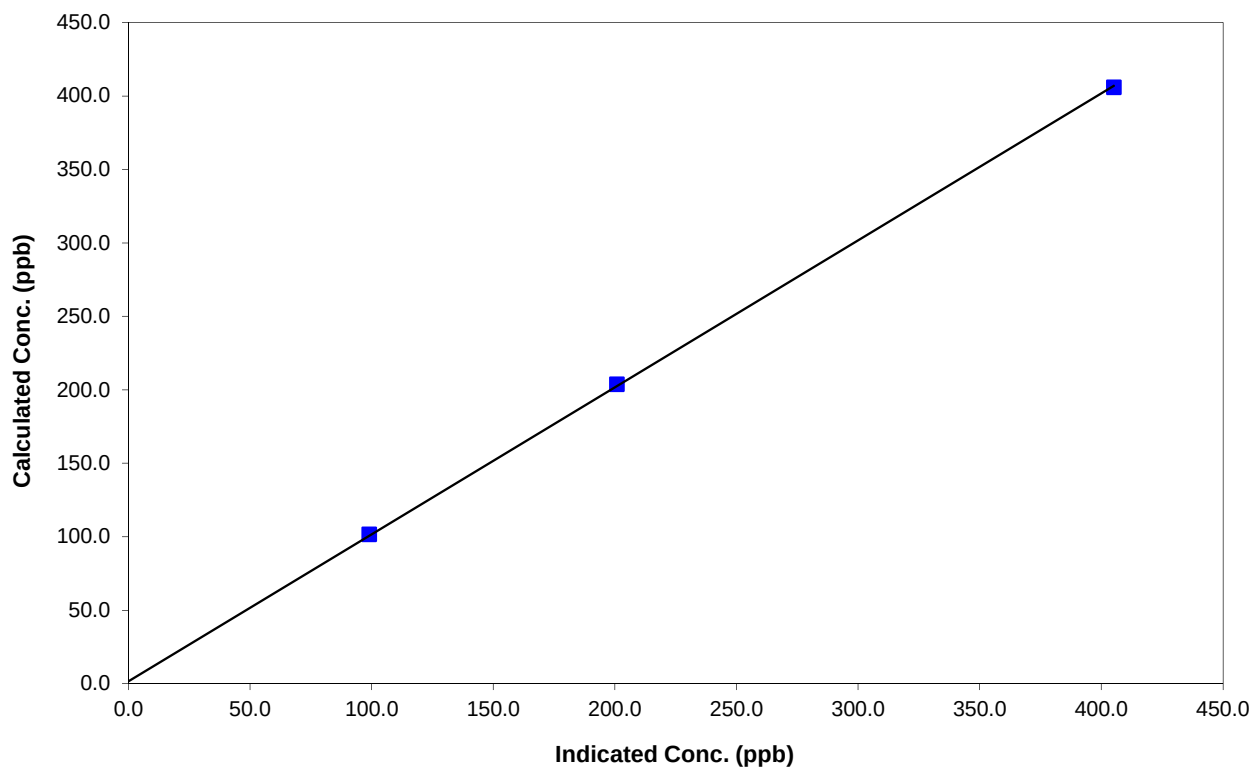
Station Information

Calibration Date	December 3, 2014	Previous Calibration	November 10, 2014
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	9:41	End Time (MST)	14:05:00 PM
Analyzer make	CR3000	Analyzer serial #	5408

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.3	N/A	Correlation Coefficient	0.999944
405.9	405.1	1.0021		
203.8	200.8	1.0147		
101.6	99.0	1.0264	Slope	1.000095
			Intercept	1.668368

NO_x Calibration Curve



Calibration Summary

Parameter NO

Air Monitoring Network 0



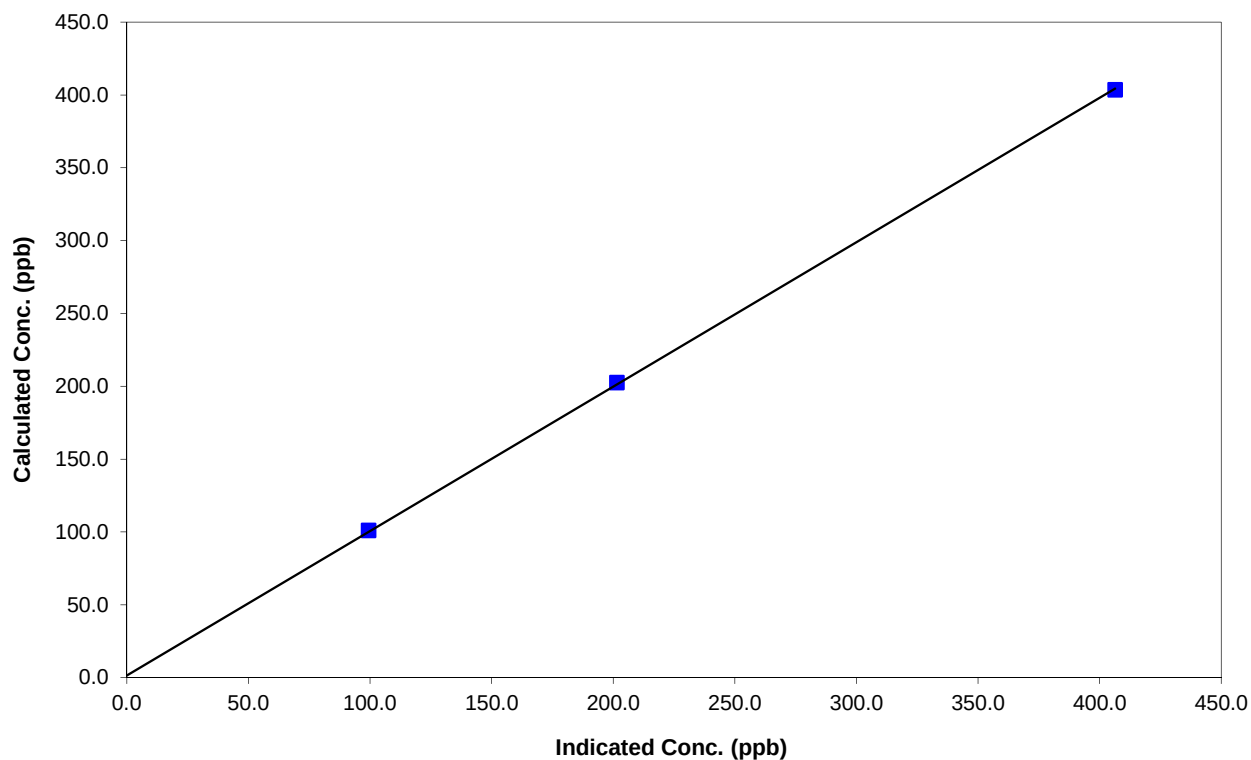
Station Information

Calibration Date	December 3, 2014	Previous Calibration	November 10, 2014
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	9:41	End Time (MST)	14:05:00 PM
Analyzer make	CR3000	Analyzer serial #	5408

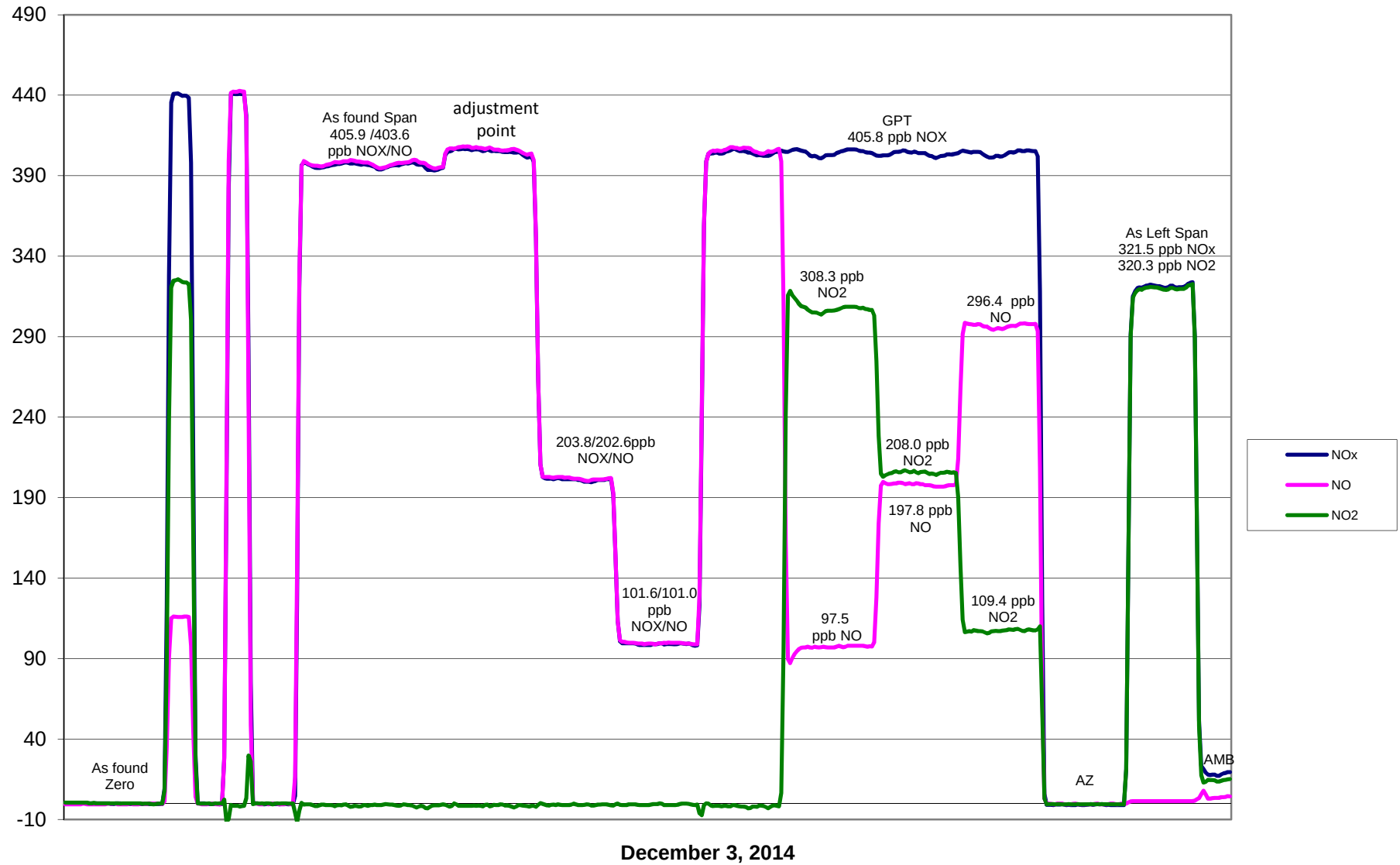
Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.3	N/A	Correlation Coefficient	0.999952
403.6	406.3	0.9933		
202.6	201.6	1.0051		
101.0	99.5	1.0150	Slope	0.991502
			Intercept	1.521648

NO Calibration Curve



NO_x Calibration



Calibration Report

Parameter **NO_x-NO-NO₂**

Air Monitoring Network



Station Information

Calibration Date	December 5, 2014	Previous Calibration	
Station Number	1	Station Location	Henry Pirker
Reason:	Routine	Installation	Removal Other: Maintenance
Start Time (MST)	9:46	End Time (MST)	16:45:00 PM
Barometric Pressure	705.000 mm	Station Temperature	20.5 Deg C
Calibrator	EnviroNics	Serial Number	3016
NO Cal Gas Conc	50.9 ppm	Cal Gas Expiry Date	March 10, 2017
NOx Cal Gas Conc	51.2 ppm	Cal Gas Serial #	LL119493

DACS Information

DACS make	CR3000	DACS serial No.	9408	
	Parameter	NO2	NOx	NO
Before	Data Slope	n/a	n/a	n/a
	Data Offset	n/a	n/a	n/a
After	Data Slope	1.002171	0.999267	0.996341
	Data Offset	-0.182437	0.821605	0.862492
	Channel #	8	6	7
	Voltage Range	0 - 5 VDC	0 - 5 VDC	0 - 5 VDC

Analyzer Information

Analyzer make/model	42i	Analyzer serial #	906535067	
Test Point	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
NO offset		mV	6.1	mV
NOx bkgnd		mV	6.3	mV
NO coefficient			1.004	
NOx coefficient			1.000	
NO2 conv temp		Deg C	328.0	Deg C
Cooler Temp		Deg C	-2.5	Deg C
PMT Volt		mV	-906.0	mV
R Cell Press		in Hg	240.9	in Hg
Sample Flow		LPM	0.480	LPM

Notes: Install alberta Environment 42i analyzer.
PMT,zero,span adjustments were made(See the service report)

Calibration Report

Parameter **NOX-NO-NO2**
Air Monitoring Network **0**



Station Information

Calibration Date: December 5, 2014 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	4995	0.00	0.0	0.0	0.0	-0.1	0.2	0.0	N/A	N/A
1	4995	39.92	405.9	403.6	2.4	405.8	404.8	0.7	1.0005	0.9969
2	4995	19.96	203.8	202.6	1.2	202.8	201.6	0.6	1.0048	1.0048
3	4995	9.93	101.6	101.0	0.6	100.1	99.7	0.4	1.0152	1.0132
AFZ	4995	0.00	0.0	0.0	0.0	-0.1	0.1	0.0	0.0000	0.0000
AFS	4995	39.92	405.9	403.6	0.8	303.2	303.0	0.0	1.3388	1.3319
Average Correction Factor									1.0068	1.0050

As Found Concentrations: NO_x= ##### NO= ##### As Found Percent Change NO_x= NA NO= NA

GPT Calibration Data

Dilution Flow 4995 ccm Source Gas Flow 39.93 ccm

O3 Setpoint (ppb)	Indicated NO high point (ppb)	Indicated NO drop conc (ppb)	Calculated NO2 conc (ppb)	Indicated NOx conc (ppb)	Indicated NO conc (ppb)	Indicated NO2 conc (ppb)	NOx Correction factor	NO Correction factor	NO2 Correction factor	Converter Efficiency
0	0.1	0.1	0.0	-0.1	0.2	0.0	N/A	N/A	N/A	N/A
NO point	403.9	403.9	0.0	404.3	403.9	0.1	0.9992	1.0000	N/A	N/A
300	403.9	99.1	304.8	403.9	99.1	304.3	1.0000	1.0000	1.0018	99.8%
200	403.9	198.5	205.5	404.4	198.5	205.1	0.9987	1.0000	1.0019	99.8%
100	403.9	296.4	107.6	405.3	296.4	107.9	0.9965	1.0000	0.9966	100.3%
Average Correction Factor							0.9984	1.0000	1.0001	100.0%

AIC Data

	Previous calibration				Current calibration			
Parameter	NOx	NO2	NO		NOx	NO2	NO	
Auto zero	n/a	n/a	n/a	ppb	-0.1	0.0	0.1	ppb
Auto span	n/a	n/a	n/a	ppb	368.5	365.5	2.5	ppb

Calibration Performed By: Dmytro Dolotii

Calibration Summary

Parameter NO₂

Air Monitoring Network 0



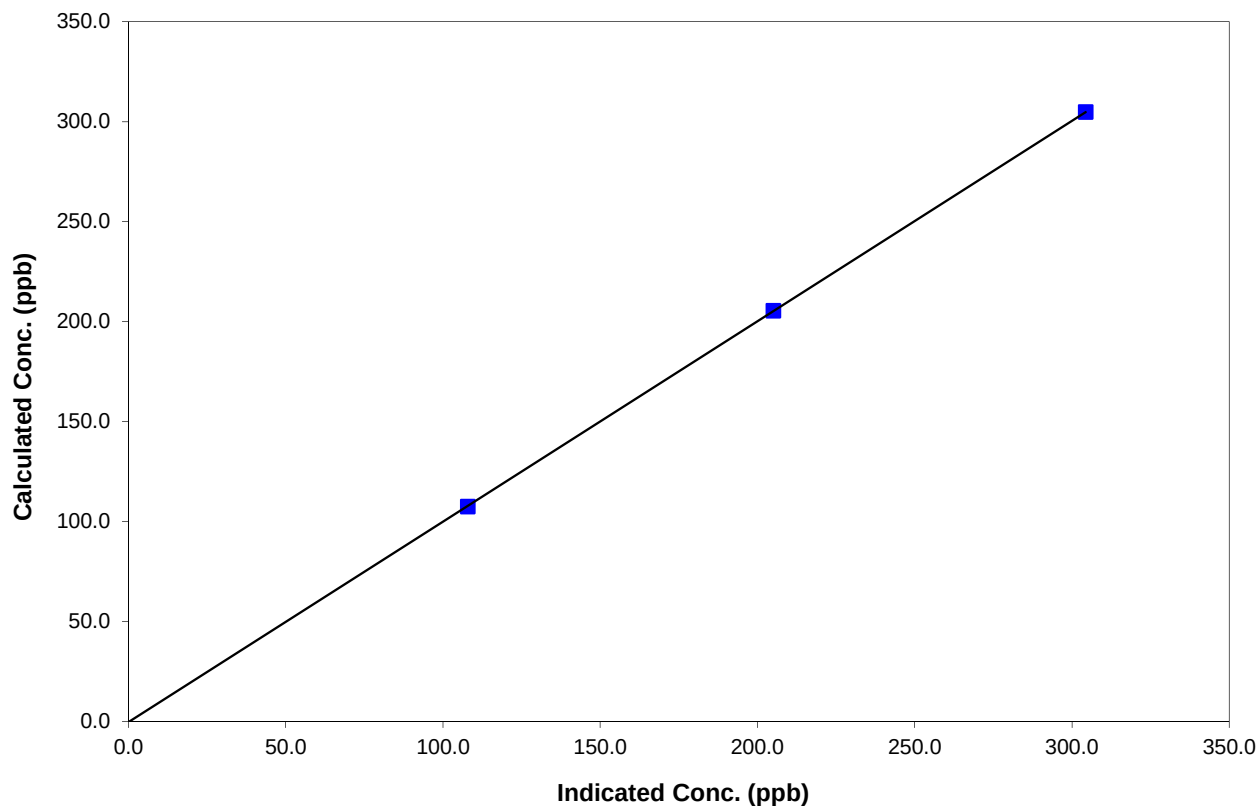
Station Information

Calibration Date	December 5, 2014	Previous Calibration	January 0, 1900
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	9:46	End Time (MST)	16:45:00 PM
Analyzer make	42i	Analyzer serial #	906535067

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
304.8	304.3	1.0018		
205.5	205.1	1.0019		
107.6	107.9	0.9966	Slope	1.002171
			Intercept	-0.182437

NO₂ Calibration Curve



Calibration Summary

Parameter NO_x

Air Monitoring Network 0



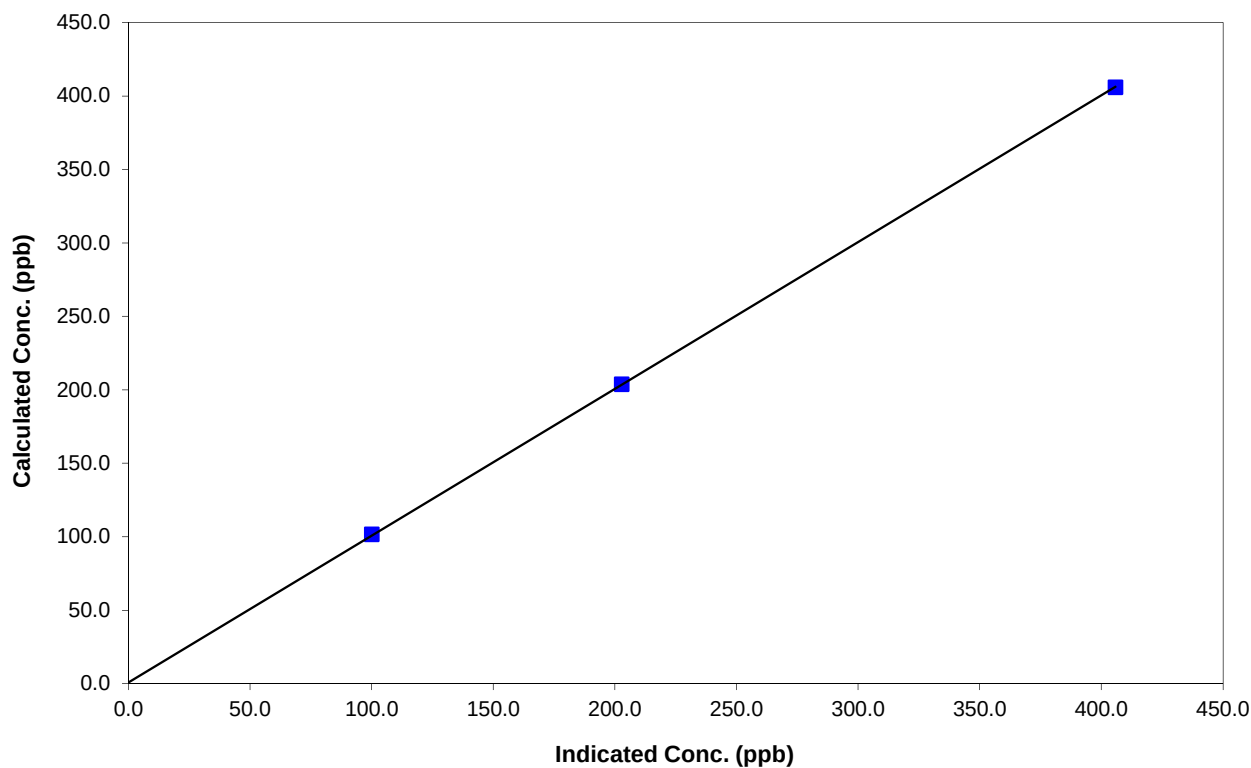
Station Information

Calibration Date	December 5, 2014	Previous Calibration	January 0, 1900
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	9:46	End Time (MST)	16:45:00 PM
Analyzer make	42i	Analyzer serial #	906535067

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.1	N/A	Correlation Coefficient	0.999985
405.9	405.8	1.0005		
203.8	202.8	1.0048		
101.6	100.1	1.0152	Slope	0.999267
			Intercept	0.821605

NO_x Calibration Curve



Calibration Summary

Parameter NO

Air Monitoring Network 0



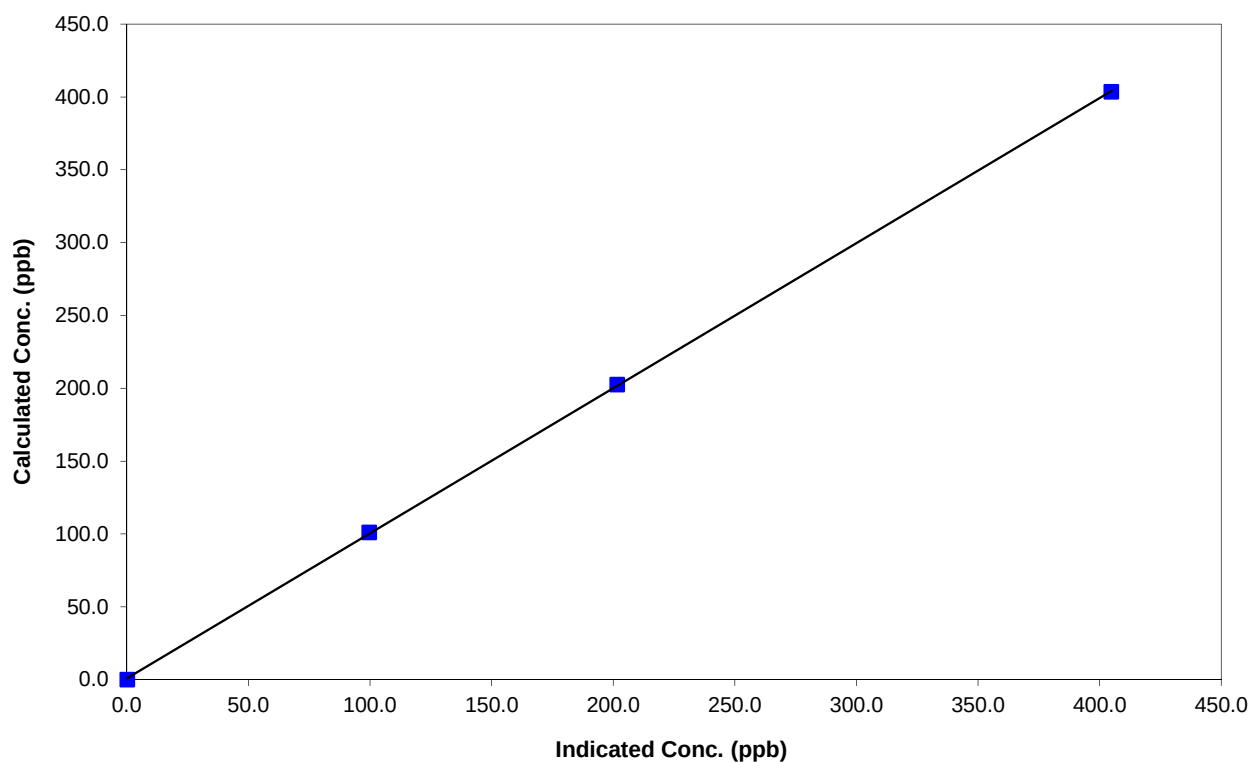
Station Information

Calibration Date	December 5, 2014	Previous Calibration	January 0, 1900
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	9:46	End Time (MST)	16:45:00 PM
Analyzer make	42i	Analyzer serial #	906535067

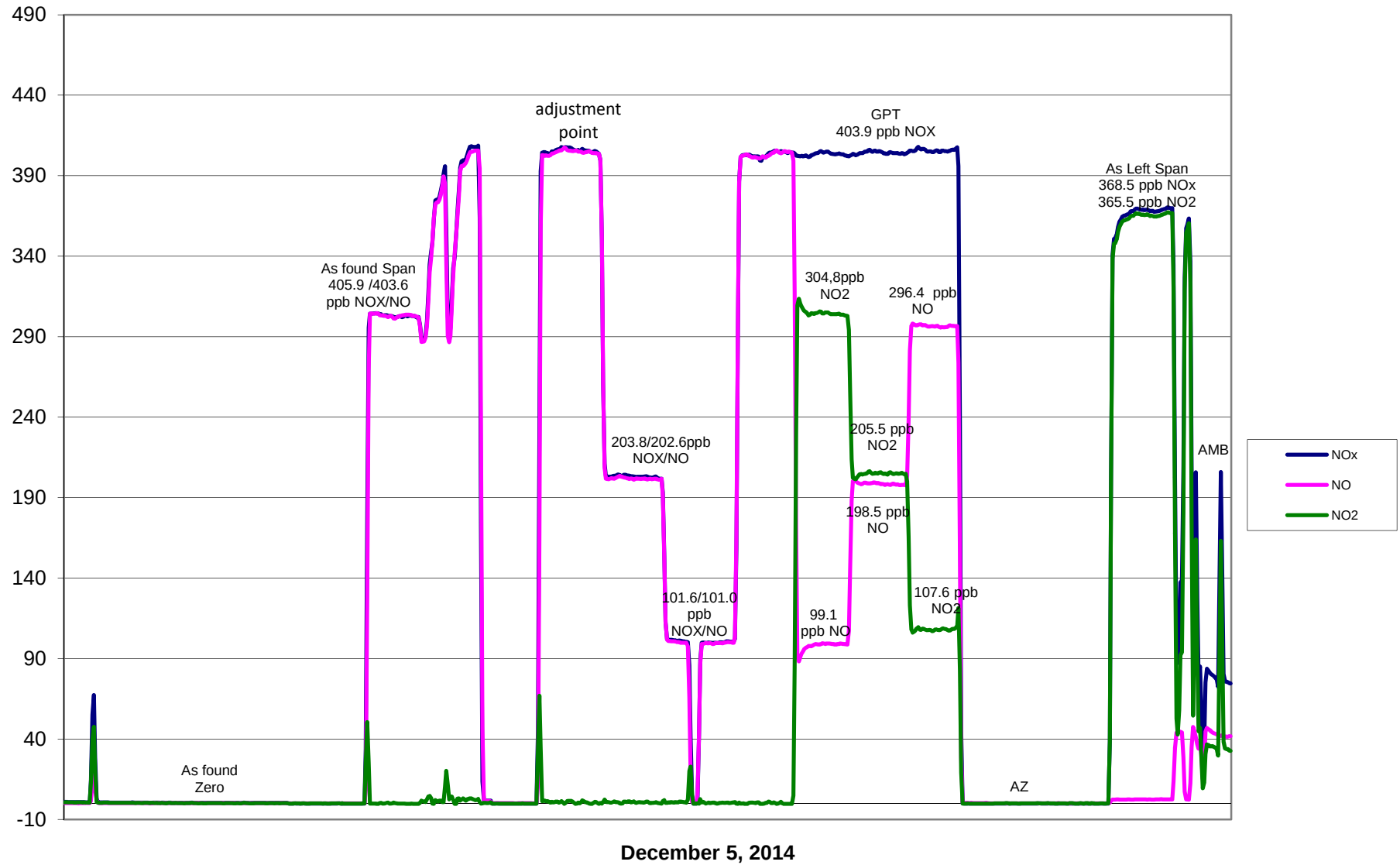
Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.2	N/A	Correlation Coefficient	0.999968
403.6	404.8	0.9969		
202.6	201.6	1.0048		
101.0	99.7	1.0132	Slope	0.996341
			Intercept	0.862492

NO Calibration Curve



NO_x Calibration



Parameter

Air Monitoring Network



Station Information

Calibration Date	December 24, 2014			Previous Calibration	December 5, 2014	
Station Number	1			Station Location	Henry Pirker	
Reason:	Routine	Installation	Removal	Other:	Maintenance	
Start Time (MST)	9:15			End Time (MST)	15:15:00 PM	
Barometric Pressure	705.000 mm			Station Temperature	20.5 Deg C	
Calibrator	EnviroNics			Serial Number	3016	
NO Cal Gas Conc	50.9 ppm			Cal Gas Expiry Date	March 10, 2017	
NOx Cal Gas Conc	51.2 ppm			Cal Gas Serial #	LL119493	

DACS Information

DACS make	CR3000	DACS serial No.	5408	
	Parameter	NO2	NOx	NO
Before	Data Slope	1.002171	0.999267	0.996341
	Data Offset	-0.182437	0.821605	0.862492
After	Data Slope	1.002968	1.000606	0.998206
	Data Offset	-1.181205	0.909480	0.688390
Channel #		8	6	7
Voltage Range		0 - 5 VDC	0 - 5 VDC	0 - 5 VDC

Analyzer Information

Analyzer make/model	42i	Analyzer serial #	906535067	
Test Point	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
NO offset	6.1	mV	5.0	mV
NOx bkgnd	6.3	mV	5.3	mV
NO coefficient	1.004		1.004	
NOx coefficient	1.000		1.000	
NO2 conv temp	327.1	Deg C	327.0	Deg C
Cooler Temp	-2.8	Deg C	-2.8	Deg C
PMT Volt	-906.9	mV	-865.8	mV
R Cell Press	237.5	in Hg	187.7	in Hg
Sample Flow	0.460	LPM	0.629	LPM

Notes: PMT,zero,span adjustments were made(See the service report)

Calibration Report

Parameter **NOX-NO-NO2**
Air Monitoring Network **0**



Station Information

Calibration Date: December 24, 2014 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	4995	0.00	0.0	0.0	0.0	-0.1	0.6	0.0	N/A	N/A
1	4995	39.92	405.9	403.6	2.4	405.2	404.3	0.6	1.0019	0.9981
2	4995	19.96	203.8	202.6	1.2	202.4	201.4	0.5	1.0068	1.0060
3	4995	9.93	101.6	101.0	0.6	99.7	99.3	0.4	1.0188	1.0168
AFZ	4995	0.00	0.0	0.0	0.0	0.7	0.4	0.4	0.0000	0.0000
AFS	4995	39.92	405.9	403.6	0.8	423.6	422.4	0.8	0.9583	0.9554
Average Correction Factor									1.0092	1.0070

As Found Concentrations: NO_x= 423.4 NO= 421.3 As Found Percent Change NO_x= 4.3% NO= 4.4%

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	0.4	0.4	0.0	-0.1	0.6	0.0	N/A	N/A	N/A	N/A
NO point	404.0	404.0	0.0	404.7	404.0	0.4	0.9984	1.0000	N/A	N/A
300	404.0	129.0	275.1	404.7	129.0	275.2	0.9983	1.0000	0.9995	100.0%
200	404.0	222.3	181.7	404.8	222.3	181.6	0.9981	1.0000	1.0009	99.9%
100	404.0	311.3	92.7	408.2	311.3	95.8	0.9898	1.0000	0.9678	103.3%
Average Correction Factor							0.9954	1.0000	0.9894	101.1%

AIC Data

	Previous calibration				Current calibration			
Parameter	NOx	NO2	NO		NOx	NO2	NO	
Auto zero	-0.1	0.0	0.1	ppb	-0.1	0.0	0.1	ppb
Auto span	368.5	365.5	2.5	ppb	367.3	364.7	2.4	ppb

Calibration Performed By: Grover Christiansen, Dmytro Dolotii

Calibration Summary

Parameter NO₂

Air Monitoring Network 0



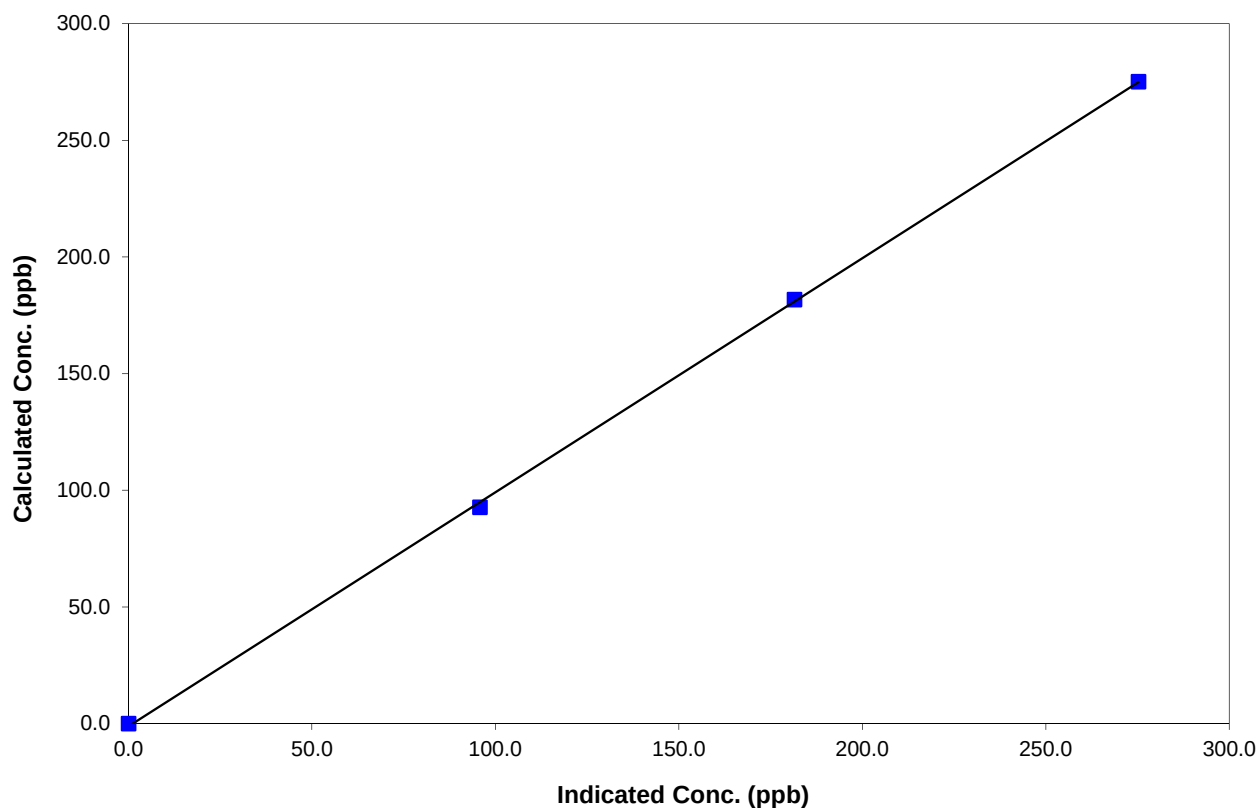
Station Information

Calibration Date	December 24, 2014	Previous Calibration	December 5, 2014
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	9:15	End Time (MST)	15:15:00 PM
Analyzer make	42i	Analyzer serial #	906535067

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.0	N/A	Correlation Coefficient	0.999836
275.1	275.2	0.9995		
181.7	181.6	1.0009	Slope	1.002968
92.7	95.8	0.9678		
			Intercept	-1.181205

NO₂ Calibration Curve



Calibration Summary

Parameter NO_x

Air Monitoring Network 0



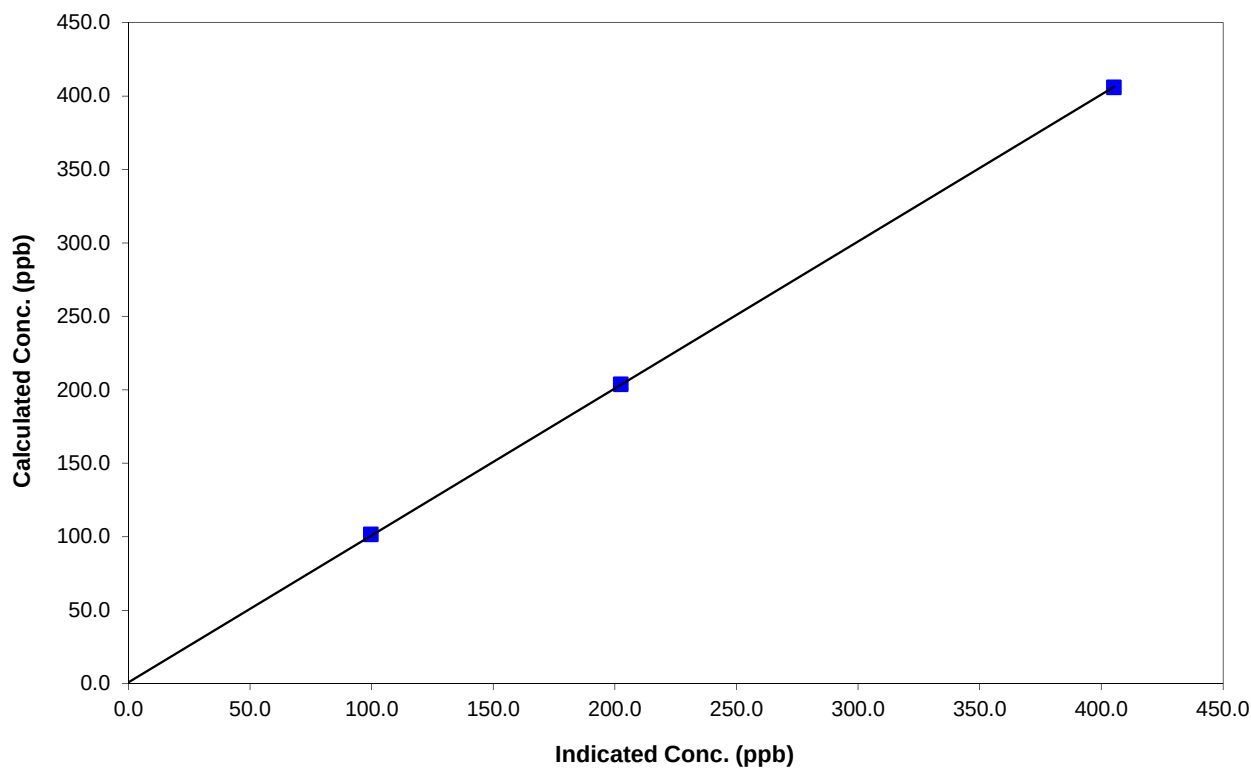
Station Information

Calibration Date	December 24, 2014	Previous Calibration	December 5, 2014
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	9:15	End Time (MST)	15:15:00 PM
Analyzer make	42i	Analyzer serial #	906535067

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.1	N/A	Correlation Coefficient	0.999980
405.9	405.2	1.0019		
203.8	202.4	1.0068		
101.6	99.7	1.0188	Slope	1.000606
			Intercept	0.909480

NO_x Calibration Curve



Calibration Summary

Parameter NO

Air Monitoring Network 0



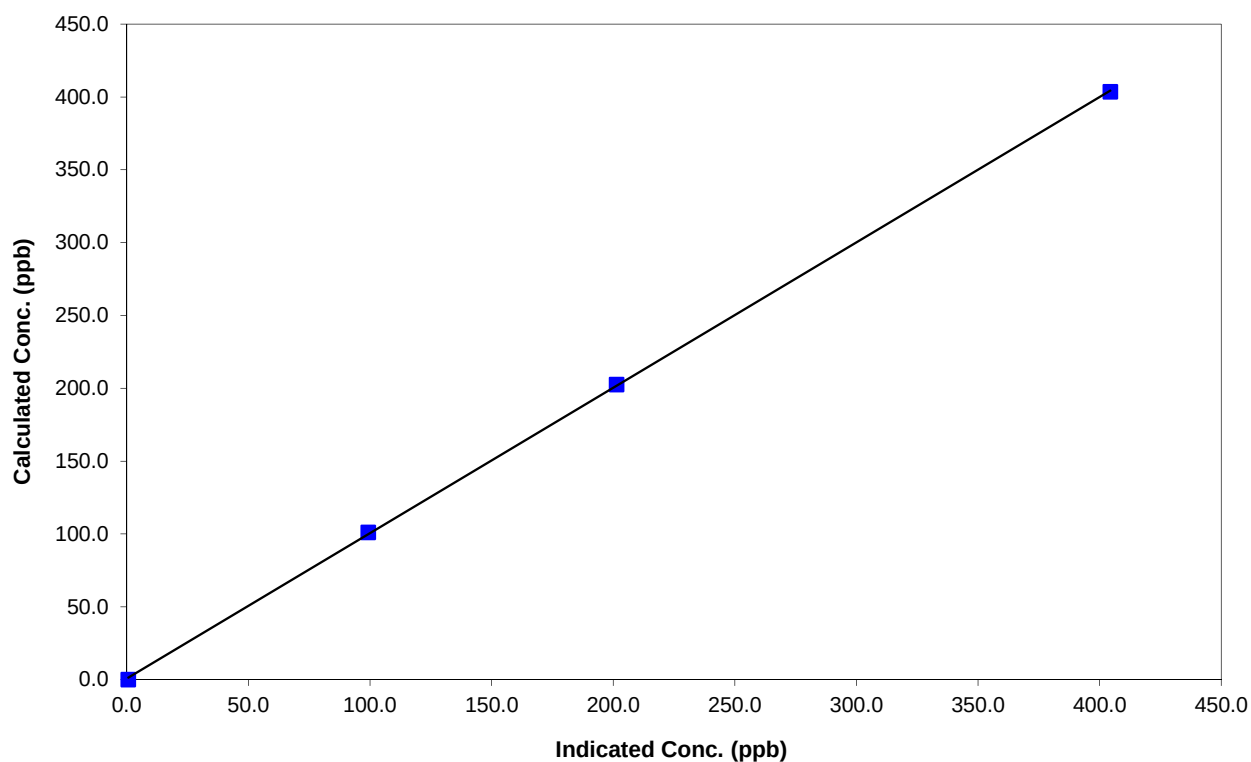
Station Information

Calibration Date	December 24, 2014	Previous Calibration	December 5, 2014
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	9:15	End Time (MST)	15:15:00 PM
Analyzer make	42i	Analyzer serial #	906535067

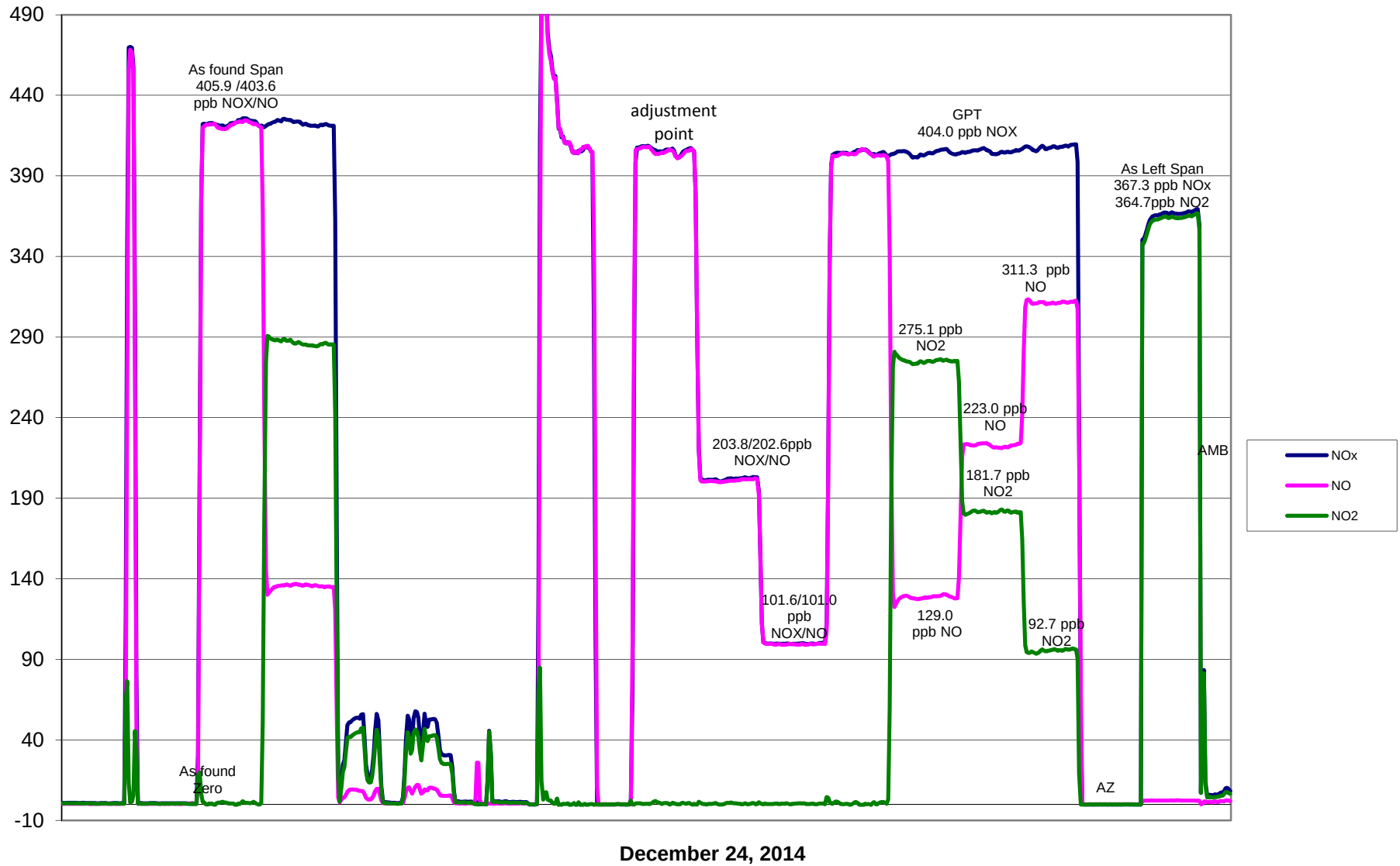
Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.6	N/A	Correlation Coefficient	0.999951
403.6	404.3	0.9981		
202.6	201.4	1.0060		
101.0	99.3	1.0168	Slope	0.998206
			Intercept	0.688390

NO Calibration Curve



NO_x Calibration



Calibration Report



Parameter 03

Air Monitoring Network PAZA

Station Information

Calibration Date	December 3, 2014	Previous Calibration	November 10, 2014
Station Number	1	Station Location	Henry Pirker
Reason:	Routine	Install	Removal
		Other:	

Start Time (MST)	13:15:00 PM	End Time (MST)	15:45:00 PM
Barometric Pressure	705.000 mm	Station Temperature	20.5 Deg C
Calibrator	EnviroNics	Serial Number	3016
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	0.997786	Calculated slope	1.001005
Calculated intercept	0.473004	Calculated intercept	0.318984

Analyzer make	Teco 49C	Analyzer serial #	607415761
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	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
offset	-0.20	ppb	-0.30	ppb
slope	0.991		1.008	
Lamp temp	57	mV	57	mV
Lamp Intensity A/B	103085/96670	mV	114618/107756	mV
Pressure	692.6	mm Hg	675.5	mm Hg
Flow A	0.734	ccm	0.723	ccm
Flow B	0.733	ccm	0.724	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)
5035	0.0	0.0	0.1	N/A
5035	0.3	308.3	308.3	1.0001
5035	0.2	208.0	206.8	1.0060
5035	0.1	109.4	108.6	1.0073
5035	0.0	0.0	0.1	As found zero
5035	0.3	308.3	302.3	As found span
Average Correction Factor				1.0044

Calculated value of As Found Response: 302.0 ppm Percent Change of As Found: -2.1%

	before calibration		after calibration	
Auto zero	0.5	ppb	0.4	ppb
Auto span	432.3	ppb	461.3	ppb

Notes: Span adjustment made

Calibration Performed By: Dmytro Dolotii

Calibration Summary

Parameter 03

Air Monitoring Network PAZA



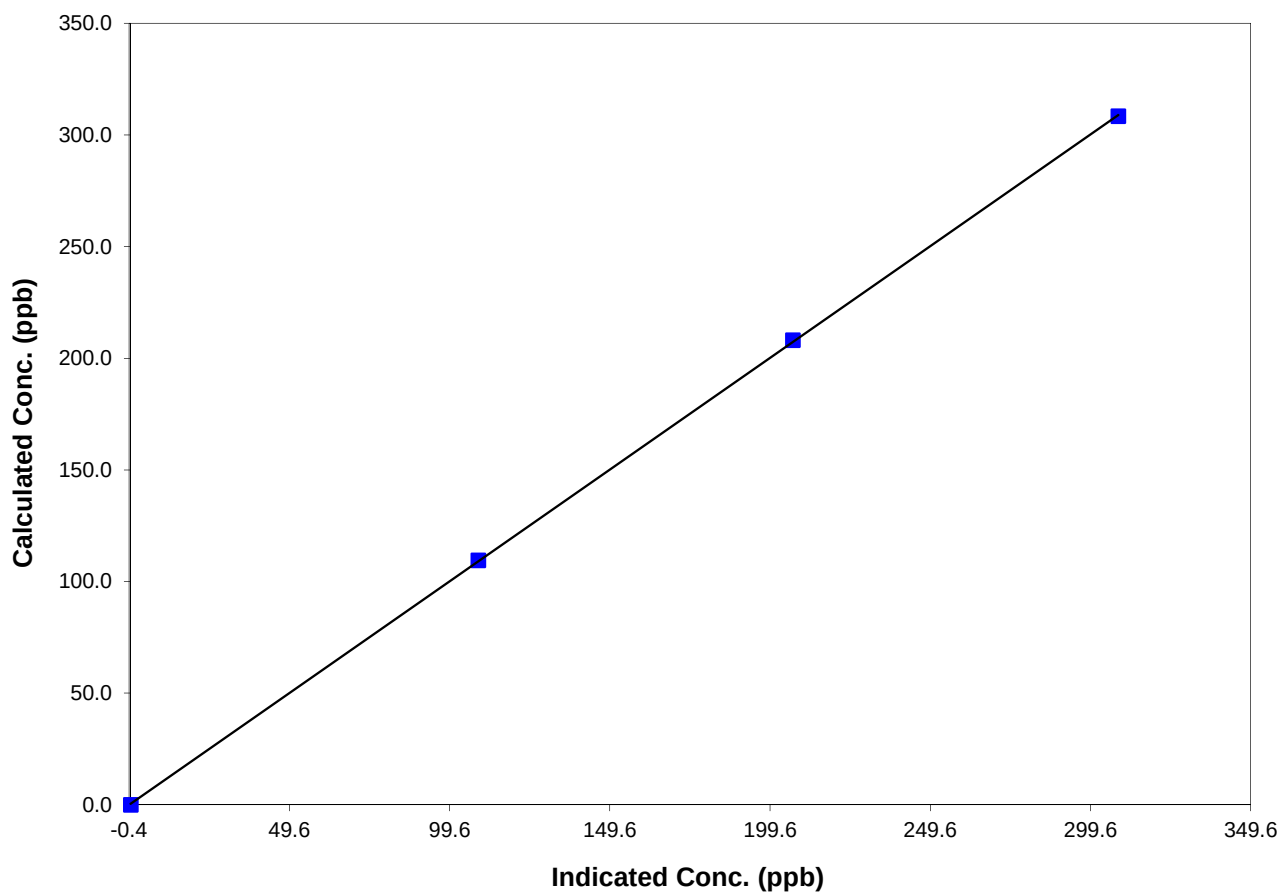
Station Information

Calibration Date	December 3, 2014	Previous Calibration	November 10, 2014
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	13:15:00 PM	End Time (MST)	15:45:00 PM
Analyzer make/model	Teco 49C	Analyzer serial #	607415761

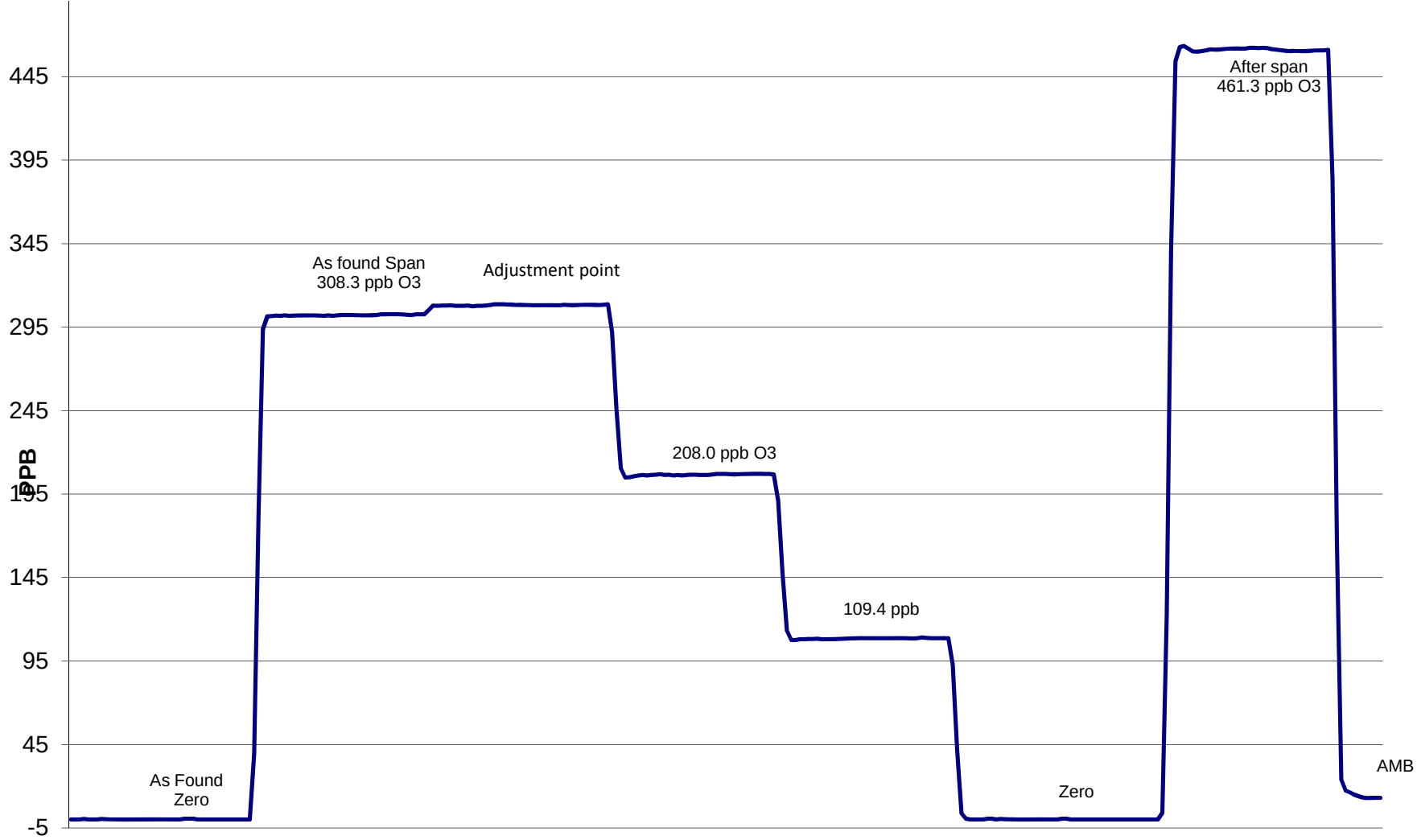
Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.1	NA	Correlation Coefficient	0.999977
308.3	308.3	1.0001		
208.0	206.8	1.0060		
109.4	108.6	1.0073	Slope	1.001005
			Intercept	0.318984

O3 Calibration Curve



O3 Calibration



December 3, 2014

Calibration Report

Parameter CO

Air Monitoring Network PAZA



Station Information

Calibration Date	December 4, 2014	Previous Calibration	November 12, 2014
Station Number	1	Station Location	Henry Pirker
Reason:	Routine	Install	Removal
Start Time (MST)	0:18	End Time (MST)	15:25:00 PM
Barometric Pressure	708.0 mm/hg	Station Temperature	21.0 Deg C
Calibrator	EnviroNics 6100	Serial Number	3016
Cal Gas Conc	2898 ppm	Cal Gas Expiry Date	04/02/2013
DACS make	CR3000	Cal Gas Cylinder #	LL83909
DACS voltage range	0 - 1 volt	DACS serial No.	5408
	Before	DACS channel #	9
Calculated slope	1.004732		After
Calculated intercept	0.127025	Calculated slope	0.990047
		Calculated intercept	0.110316
Analyzer make	TEI Model 48C	Analyzer serial #	508011062

	before		after	
Concentration range	0 - 50	ppm	0 - 50	ppm
CO zero setting	1.559		1.635	
CO span setting	1.016		1.016	
Sample pressure	693.9	mm Hg	684.5	mm Hg
Sample Flow	1.133	LPM	1.125	LPM

Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4995	0.00	0.00	0.01	N/A
4995	69.94	40.02	40.39	0.9907
4995	34.96	20.14	20.10	1.0021
4995	17.96	10.38	10.30	1.0082
4995	0.00	0.00	0.06	As Found Zero
4995	69.94	40.02	40.39	As Found Span
Average Correction Factor				1.0003

Calculated value of As Found Response: 40.649 ppm Percent Change of As Found: -1.6%

	before calibration		after calibration	
Auto zero	0.03	ppm	0.03	ppm
Auto span	18.66	ppm	19.42	ppm

Notes: Zero adjustment made

Calibration Performed By: Dmytro Dolotii

Calibration Summary

Parameter CO

Air Monitoring Network PAZA



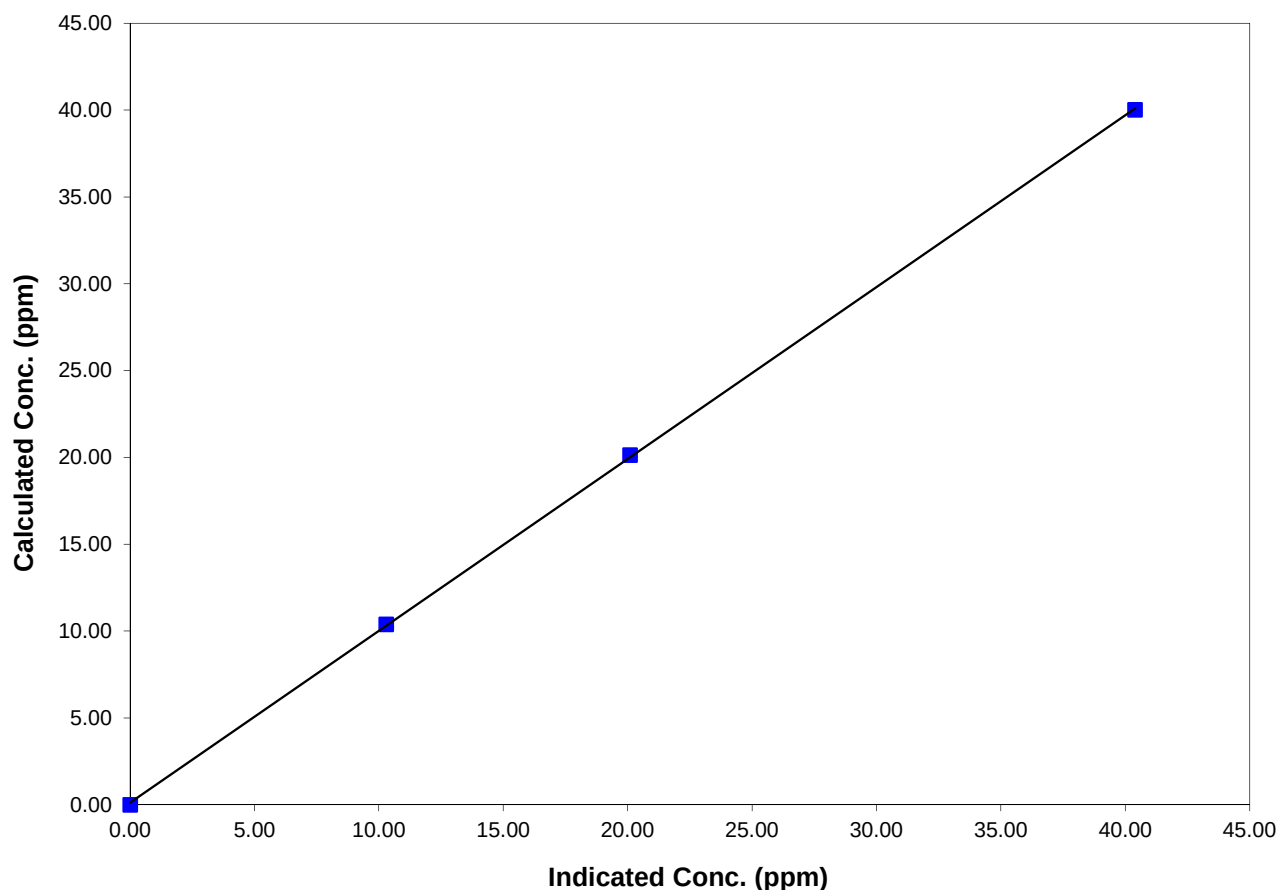
Station Information

Calibration Date	December 4, 2014	Previous Calibration	November 12, 2014
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	0:18	End Time (MST)	15:25:00 PM
Analyzer make/model	TEI Model 48C	Analyzer serial #	508011062

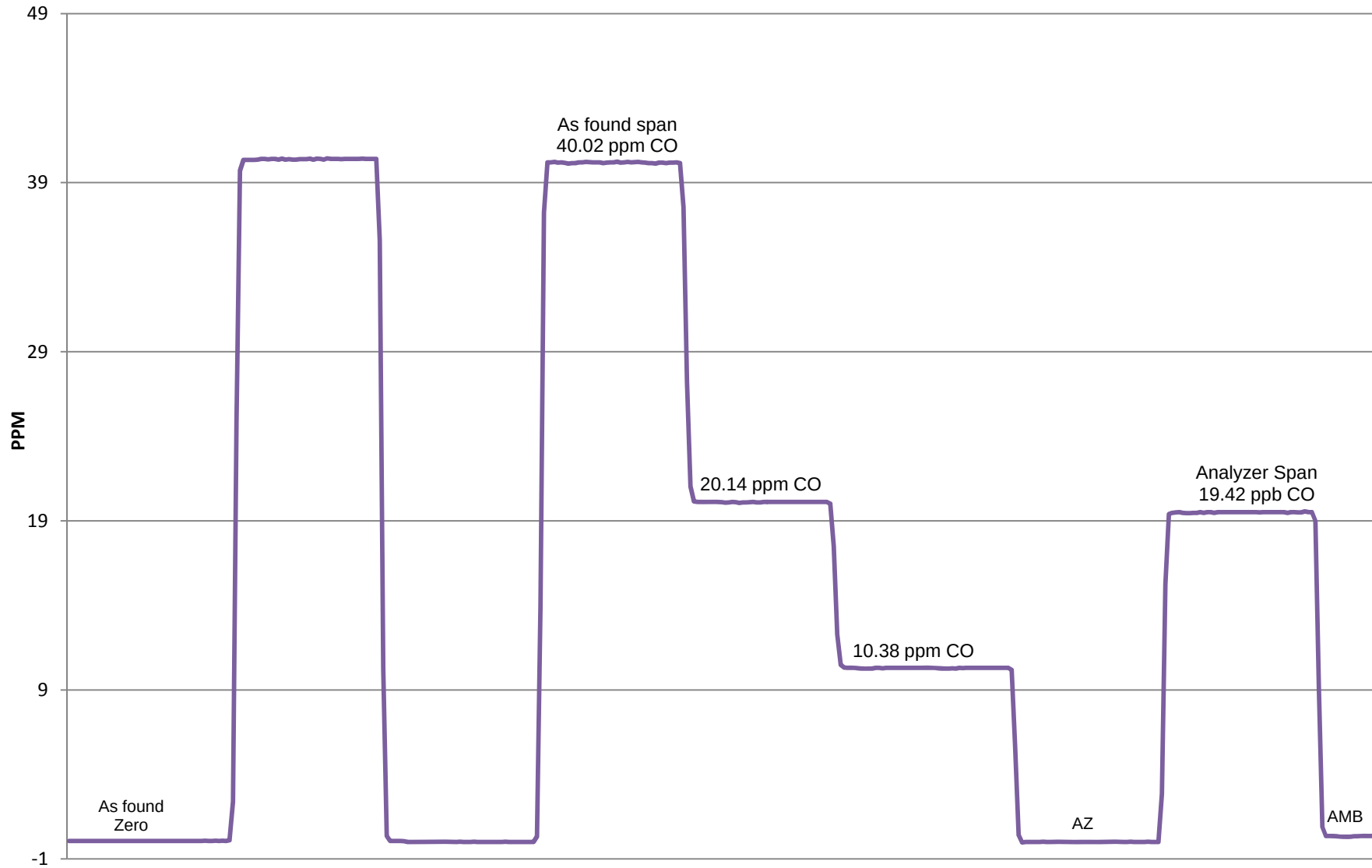
Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.013	N/A	Correlation Coefficient	0.999948
40.017	40.394	0.9907		
20.142	20.100	1.0021		
10.383	10.299	1.0082	Slope	0.990047
			Intercept	0.110316

CO Calibration Curve



CO Calibration



December 4, 2014

Calibration Report

Parameter CH4 / NMHC / THC

Air Monitoring Network PAZA



Station Information

Calibration Date	December 4, 2014	Previous Calibration	November 12, 2014
Station Number	1	Station Location	Henry Pirker
Reason:	☐ Routine	☐ Install	☐ Removal
			☐ Other:

Start Time (MST)	10:40	End Time (MST)	13:20:00 AM
Barometric Pressure	705.00 mm/hg	Station Temperature	20.0 Deg C
Calibrator	EnviroNics	Serial Number	3016
Cal Gas CH4 Conc	386 ppm CH4	Cal Gas Expiry Date	28/03/2014
Cal Gas C3H8 Conc	207 569.25 ppm CH4	Cal Gas Cylinder #	LL34318
DACS make	CR3000	DACS serial No.	5408
DACS voltage range	0 - 5 volt	DACS channel #	SE 11,12,13

Analyzer make	TEI 55I	Analyzer serial #	1134650658
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	before		after	
Concentration range	0-20 (CH4, NMHC); 0-40 (THC)	ppm	0-20 (CH4, NMHC); 0-40 (THC)	ppm
Air pressure	27.9	PSI	27.9	PSI
Fuel pressure	42.1	PSI	42.1	PSI
Carrier pressure	30.3	PSI	30.3	PSI
CH4 cal factor	5.82		5.82	E ⁻⁴
NMHC cal factor	1.91		1.99	E ⁻⁴
Rt	12.60	Sec	12.74	Sec
Pk Index	23.00		23.22	

CH4 Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
1996	0.00	0.00	0.02	N/A
1996	68.96	12.89	12.87	1.0017
1996	40.96	7.76	7.69	1.0090
1996	15.99	3.07	3.01	1.0198
1996	0.00	0.00	0.02	As Found Zero
1996	68.93	12.89	12.55	As Found Span
Average Correction Factor				1.0102

Calculated value of As Found Response: 12.411 ppm Percent Change of As Found: 3.7%

	Before		After
Calculated slope	0.990466	Calculated slope	1.002187
Calculated intercept	0.000712	Calculated intercept	0.020122

Final Zero/Span Data

	before calibration		after calibration	
Auto zero	0.03	ppm	0.06	ppm
Auto span	8.36	ppm	9.05	ppm

NMHC Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
1996	0.00	0.00	0.02	N/A
1996	68.96	19.01	19.21	0.9898
1996	40.96	11.45	11.66	0.9821
1996	15.99	4.52	4.65	0.9723
1996	0.00	0.00	0.02	As Found Zero
1996	68.93	19.00	18.39	As Found Span
Average Correction Factor				0.9814

Calculated value of As Found Response: 18.180 ppm Percent Change of As Found: 4.3%

	Before		After
Calculated slope	0.992026	Calculated slope	0.990993
Calculated intercept	-0.047019	Calculated intercept	-0.058340

Final Zero/Span Data

	before calibration		after calibration	
Auto zero	0.02	ppm	0.02	ppm
Auto span	11.57	ppm	12.70	ppm

THC Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
1996	0.00	0.00	0.03	N/A
1996	68.96	31.90	32.05	0.9952
1996	40.96	19.21	19.33	0.9936
1996	15.99	7.59	7.65	0.9925
1996	0.00	0.00	0.03	As Found Zero
1996	68.93	31.89	30.92	As Found Span
Average Correction Factor				0.9938

Calculated value of As Found Response: 30.591 ppm Percent Change of As Found: 4.1%

	Before		After
Calculated slope	0.991698	Calculated slope	0.995994
Calculated intercept	-0.038478	Calculated intercept	-0.032126

Final Zero/Span Data

	before calibration		after calibration	
Auto zero	0.02	ppm	0.05	ppm
Auto span	19.91	ppm	21.74	ppm

Notes: Span adjustments made

Calibration Performed By: Dmytro Dolotii

Calibration Summary

Parameter CH4

Air Monitoring Network PAZA



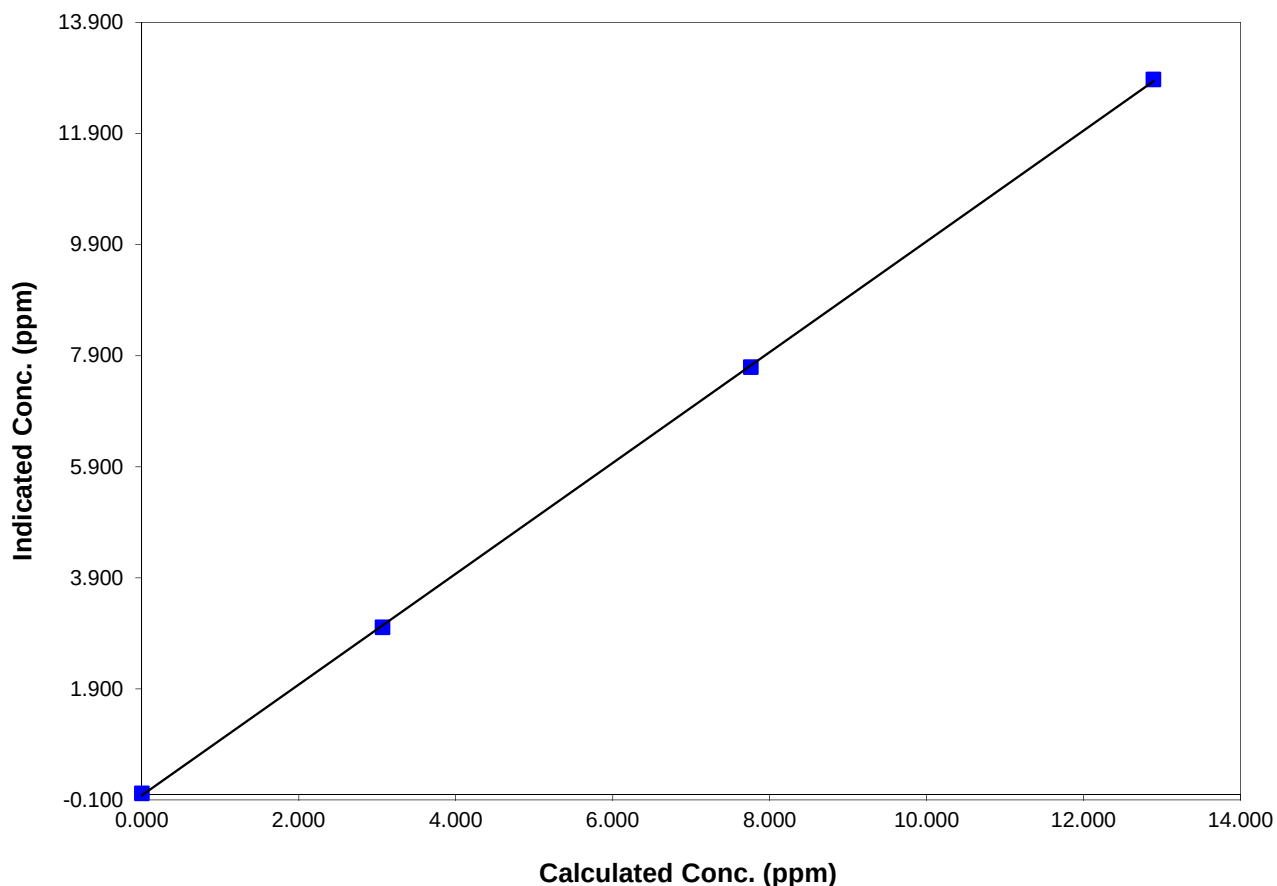
Station Information

Calibration Date	December 4, 2014	Previous Calibration	November 12, 2014
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	10:40	End Time (MST)	13:20:00 AM
Analyzer make/model	TEI 55I	Analyzer serial #	1134650658

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.018	N/A	Correlation Coefficient	0.999955
12.891	12.869	1.0017		
7.762	7.693	1.0090		
3.068	3.008	1.0198	Slope	1.002187
			Intercept	0.020122

CH4 Calibration Data



Calibration Summary

Parameter NMHC

Air Monitoring Network PAZA



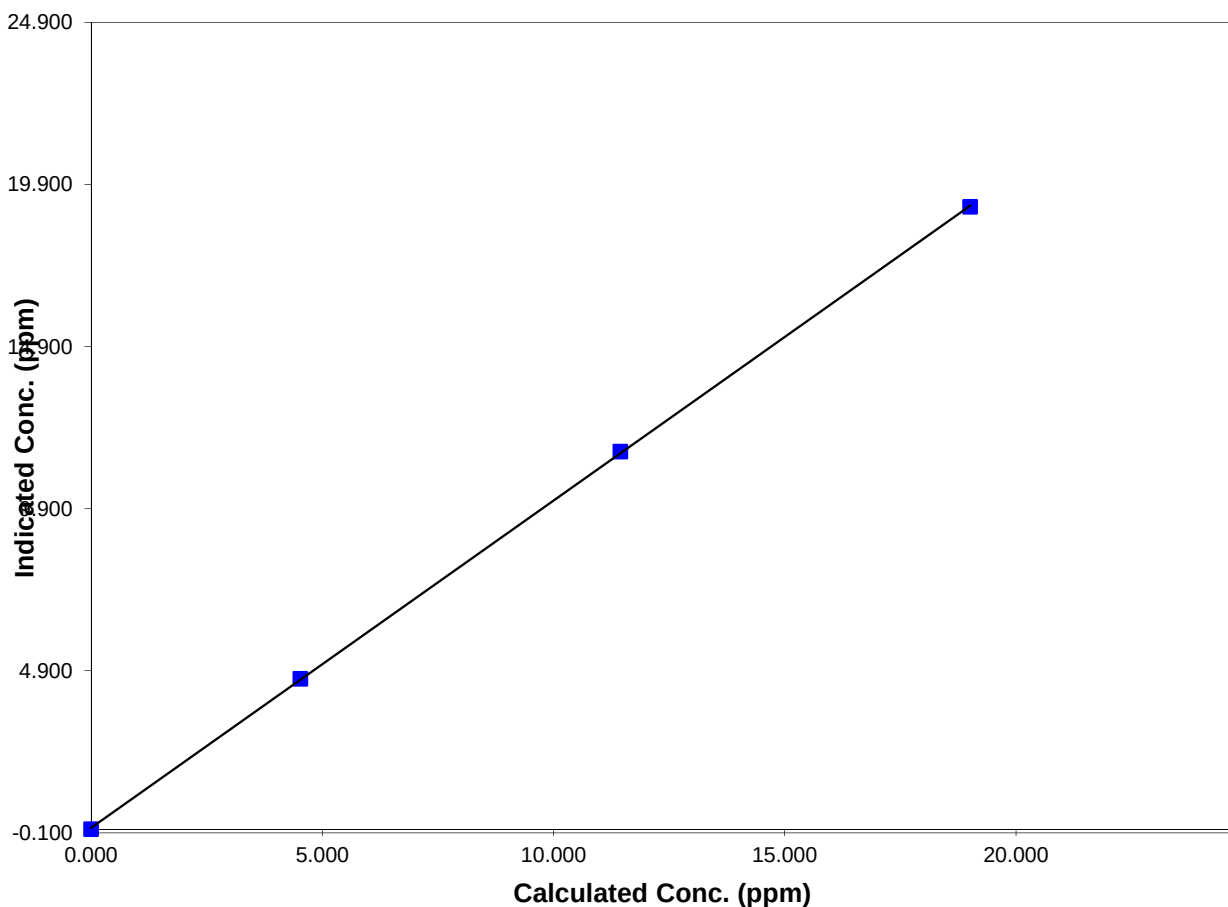
Station Information

Calibration Date	December 4, 2014	Previous Calibration	November 12, 2014
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	10:40	End Time (MST)	13:20:00 AM
Analyzer make/model	TEI 55I	Analyzer serial #	1134650658

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.019	N/A		
19.010	19.207	0.9898	Correlation Coefficient	0.999972
11.447	11.656	0.9821		
4.524	4.653	0.9723	Slope	0.990993
			Intercept	-0.058340

NMHC Calibration Data



Calibration Summary

Parameter THC

Air Monitoring Network PAZA



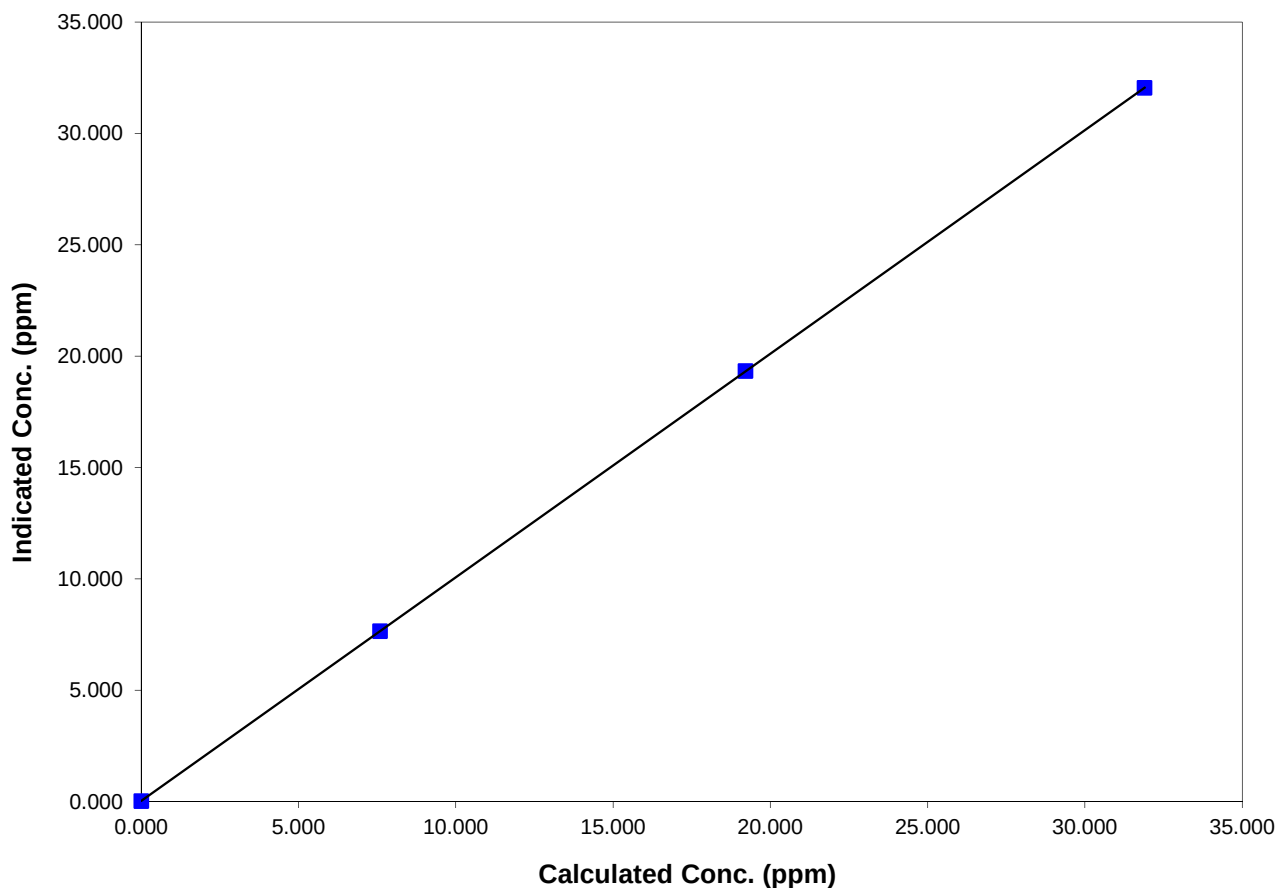
Station Information

Calibration Date	December 4, 2014	Previous Calibration	November 12, 2014
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	10:40	End Time (MST)	13:20:00 AM
Analyzer make/model	TEI 55I	Analyzer serial #	1134650658

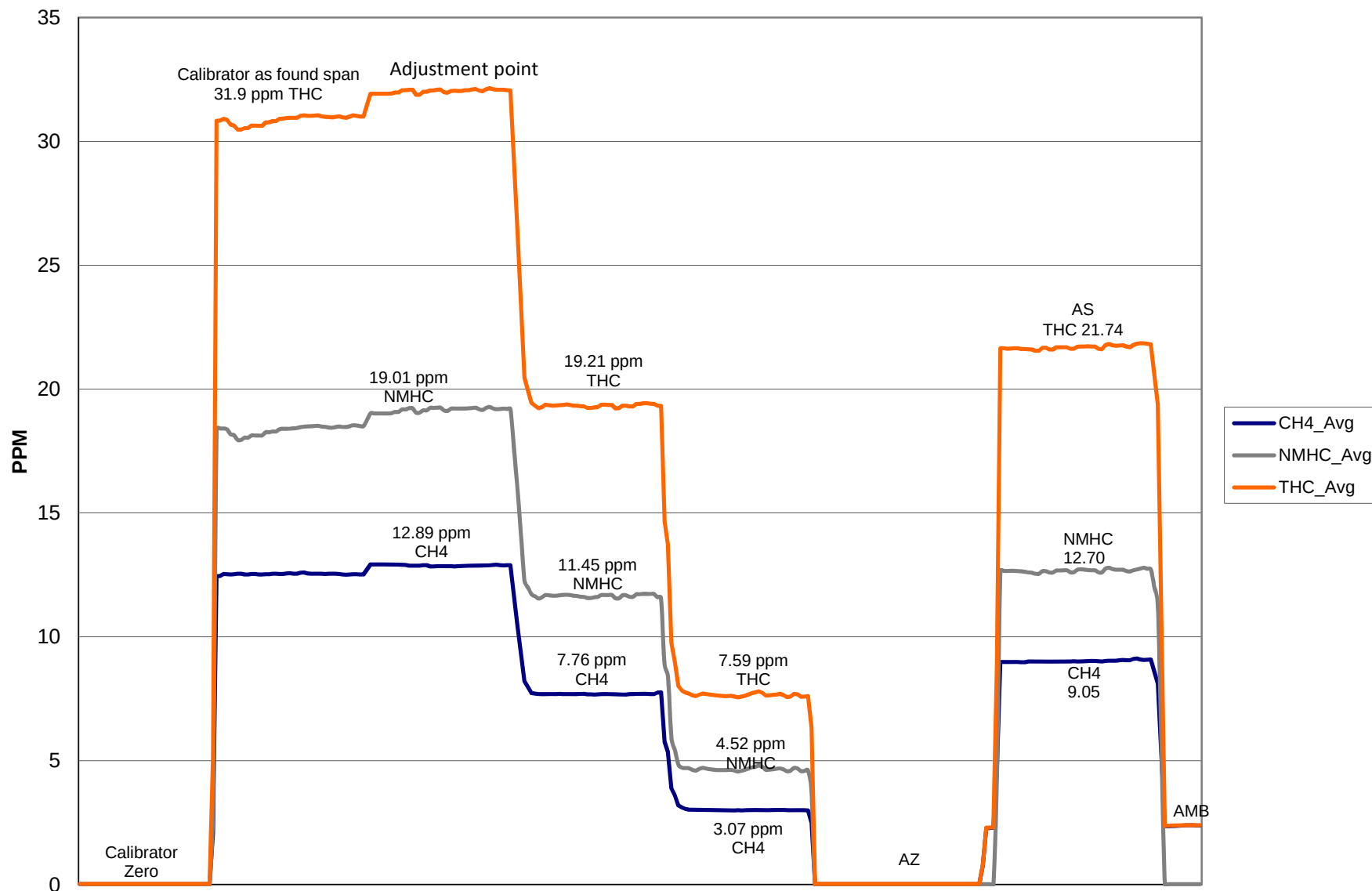
Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.031	N/A	Correlation Coefficient	1.000000
31.901	32.055	0.9952		
19.209	19.332	0.9936		
7.592	7.649	0.9925	Slope	0.995994
			Intercept	-0.032126

THC Calibration Data



THC/CH₄/NMHC Calibration



Calibration Report

Parameter TR5

Air Monitoring Network PAZA



Station Information

Calibration Date	December 4, 2014	Previous Calibration	November 12, 2014
Station Number	1	Station Location	Henry Pirker
Reason:	☒ Routine	☐ Install	☐ Removal
		☐ Other:	
Start Time (MST)	8:45	End Time (MST)	11:44
Barometric Pressure	705.00 mm/Hg	Station Temperature	20.0 Deg C
Calibrator	EnviroNics 6100	Serial Number	3016
Cal Gas Conc	10.32 ppb	Cal Gas Expiry Date	08/07/2016
		Cal Gas Cylinder #	LL110781
DACS make	CR3000	DACS serial No.	5408
DACS voltage range	0 - 1 volt	DACS channel #	9
	Before		After
Calculated slope	1.003120	Calculated slope	0.997717
Calculated intercept	-0.158107	Calculated intercept	0.017794
Analyzer make	TEI 45C	Analyzer serial #	630718528

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Coefficient	0.946		0.950	
Background	16.7		17.0	
Pressure	669.5	mm Hg	657.0	mm Hg
Flow	0.455	ccm	0.451	ccm
Lamp Voltage	885	V	886	V

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4995	0.00	0.00	0.21	N/A
4995	39.93	81.84	82.17	0.9960
4995	19.95	41.05	40.85	1.0049
6995	9.95	14.66	14.57	1.0064
4995	0.00	0.00	0.21	As Found Zero
4995	39.93	81.84	80.12	As Found Span
Average Correction Factor				1.0025

Calculated value of As Found Response: 80.0 ppb Percent Change of As Found: 2.3%

	before calibration		after calibration	
Auto zero	0.16	ppb	0.34	ppb
Auto span	33.79	ppb	35.73	ppb

Notes: Span adjustment made.

Calibration Performed By: Dmytro Dolotii

Calibration Summary

Parameter TRS

Air Monitoring Network PAZA



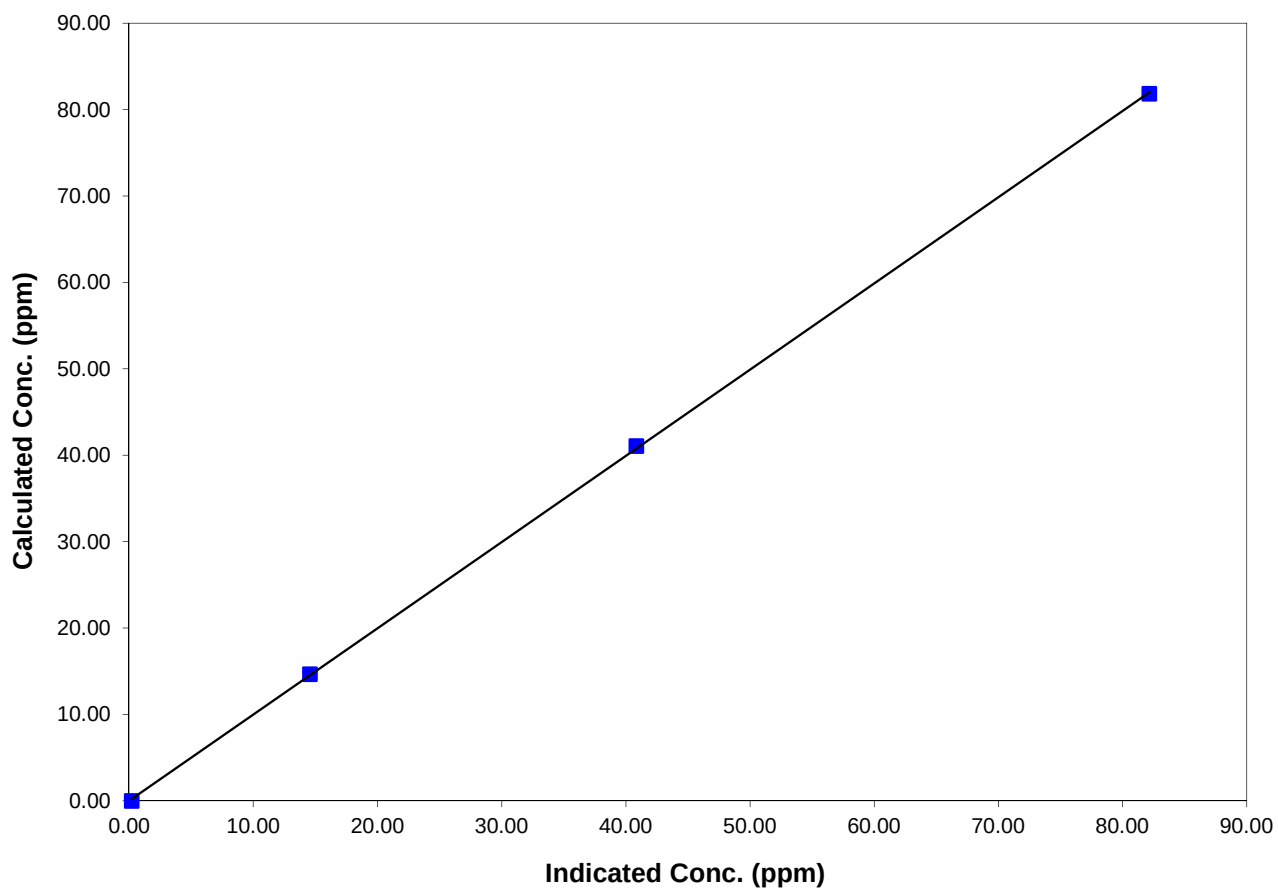
Station Information

Calibration Date	December 4, 2014	Previous Calibration	November 12, 2014
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	8:45	End Time (MST)	11:44
Analyzer make/model	TEI 45C	Analyzer serial #	630718528

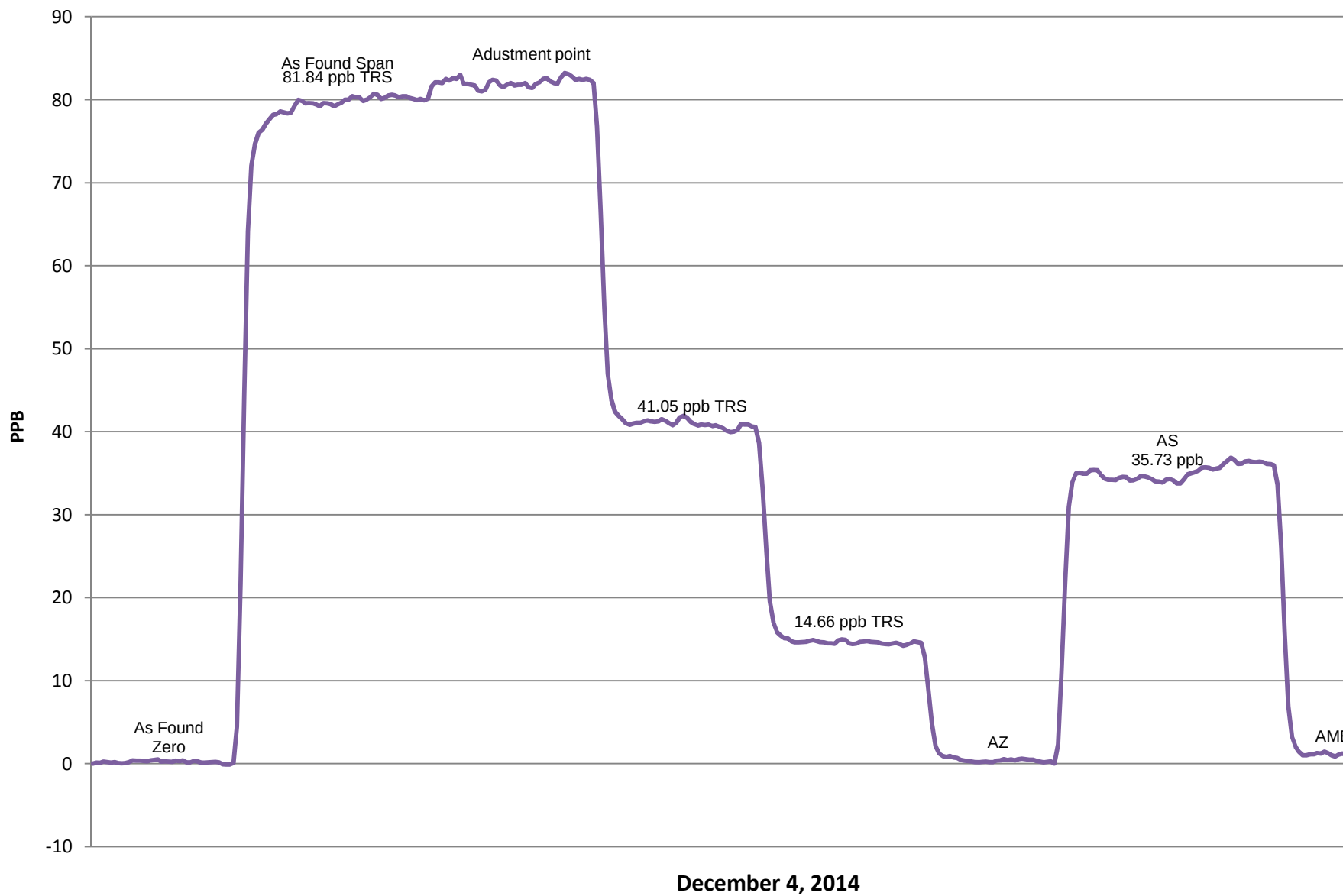
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.212	N/A	Correlation Coefficient	0.999958
81.844	82.169	0.9960		
41.054	40.854	1.0049		
14.659	14.565	1.0064	Slope	0.997717
			Intercept	0.017794

TRS Calibration Curve



TRS Calibration



Calibration Report



Parameter SO₂

Air Monitoring Network PAZA

Station Information

Calibration Date	December 11 2014	Previous Calibration	November 21 2014
Station Number	2	Station Location	Evergreen Park
Reason:	Routine	Install	Removal
		Other:	
Start Time (MST)	11:05	End Time (MST)	13:55:00 PM
Barometric Pressure	0.906 ATM	Station Temperature	20.0 Deg C
Calibrator	EnviroNics	Serial Number	3016
Cal Gas Concentration	49.8 ppm	Cal Gas Expiry Date	25/02/2025
Correction factor	0.030797	Cal Gas Cylinder #	LL105159
DACS make	CR3000	DACS serial No.	5236
DACS voltage range	0 - 5 volt	DACS channel #	6
	<u>Before</u>		<u>After</u>
Calculated slope	0.989773	Calculated slope	0.989773
Calculated intercept	2.428104	Calculated intercept	1.333129
Analyzer make	Teco 43i	Analyzer serial #	701120008

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
Background	11.7		11.7	
coefficient	1.219		1.24	
Lamp Voltage	831	volts	832	volts
Chamber Temp	45.1	Deg C	45	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	657.7	mm Hg	659.8	mm Hg
Sample Flow	0.446	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)
4995	0.0	0.00	0.4	N/A
4995	39.93	394.9	398.4	0.9913
4995	19.97	198.3	198.4	0.9993
4995	9.97	99.2	97.0	1.0228
4995	0.0	0.0	0.4	As Found Zero
4995	39.93	394.9	390.9	As Found Span
Average Correction Factor				1.0045

Calculated value of As Found Response: 388.955 ppm Percent Change of As Found: 1.5%

	before calibration		after calibration	
Auto zero	0.3	ppm	0.4	ppm
Auto span	202.2	ppm	266.4	ppm

Notes: Span adjustments made.

Calibration Performed By: Dmytro Dolotii

Calibration Summary

Parameter SO2

Air Monitoring Network PAZA



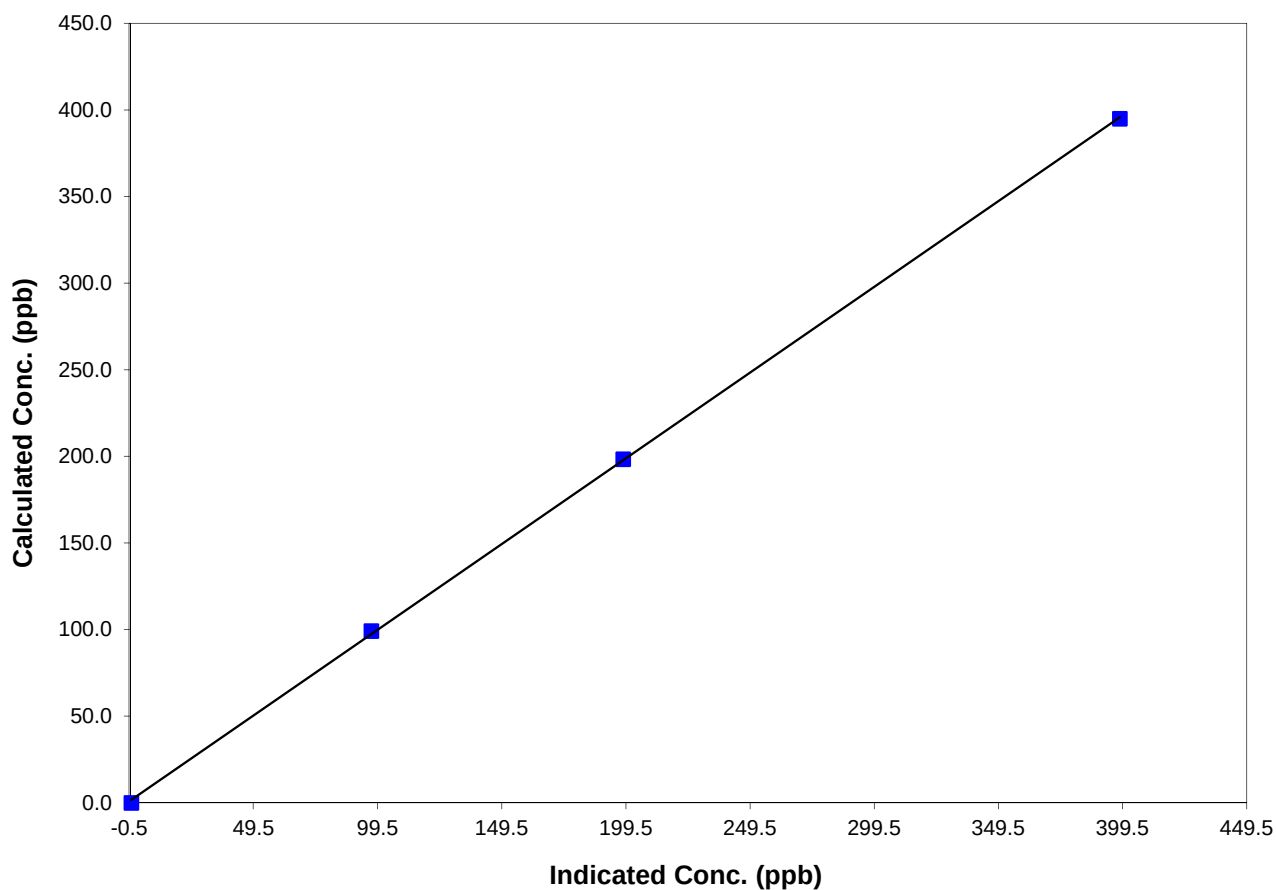
Station Information

Calibration Date	December 11 2014	Previous Calibration	November 21 2014
Station Number	2	Station Location	Evergreen Park
Start Time (MST)	11:05	End Time (MST)	13:55:00 PM
Analyzer make/model	Teco 43i	Analyzer serial #	701120008

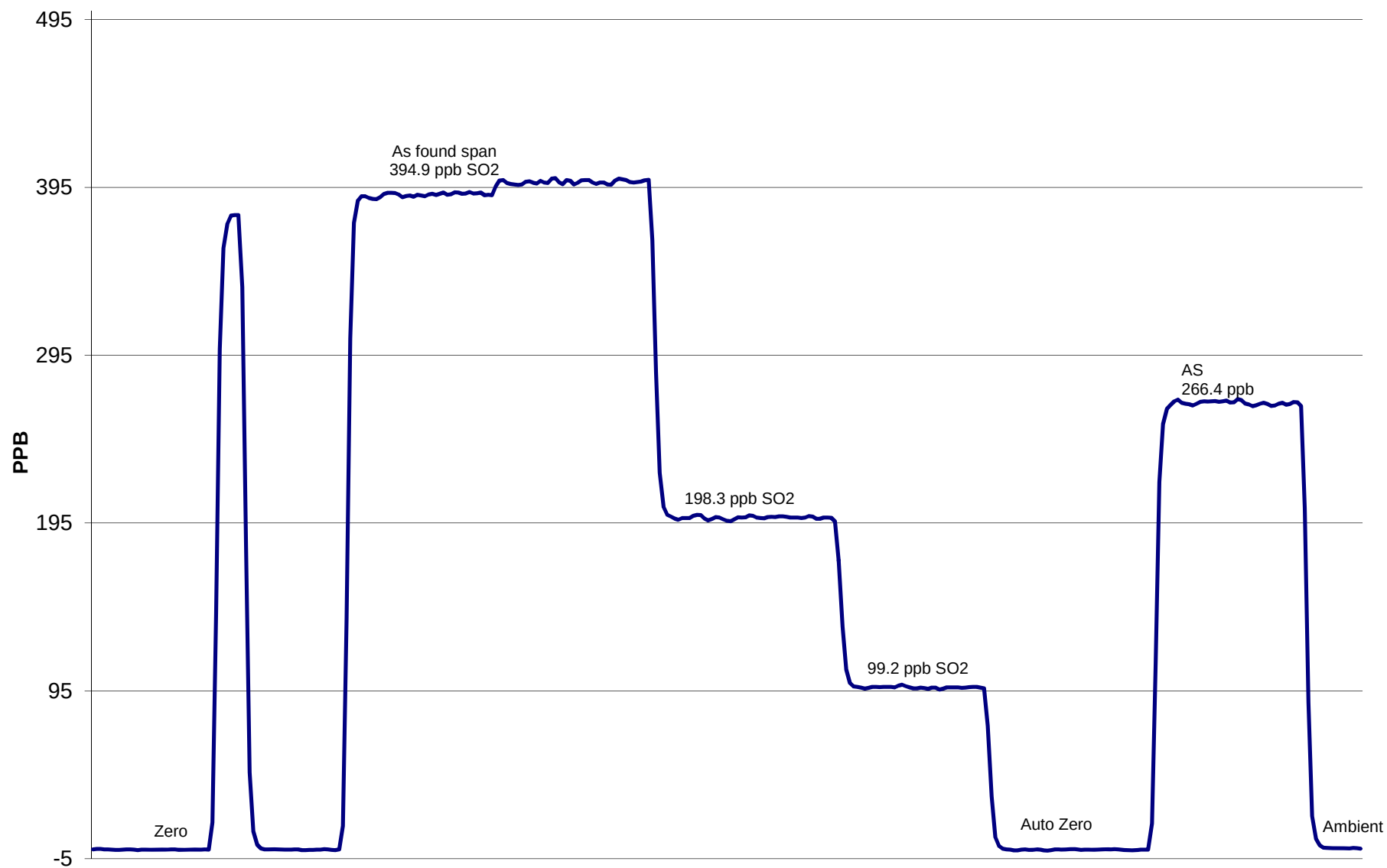
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.4	N/A	Correlation Coefficient	0.999915
394.9	398.4	0.9913		
198.3	198.4	0.9993		
99.2	97.0	1.0228	Slope	0.989773
			Intercept	1.333129

SO2 Calibration Curve



SO2 Calibration



December 11 2014

Calibration Report



Parameter TRS

Air Monitoring Network PAZA

Station Information

Calibration Date	December 11 2014	Previous Calibration	November 21 2014
Station Number	2	Station Location	Evergreen Park
Reason:	Routine	Install	Removal
			Other:
Start Time (MST)	9:22	End Time (MST)	11:55
Barometric Pressure	0.906 ATM	Station Temperature	22.0 Deg C
Calibrator	Envionics	Serial Number	3016
Cal Gas Conc	10.4 ppm	Cal Gas Expiry Date	08/07/2016
Correction factor	0.030589	Cal Gas Cylinder #	LL110781
DACS make	CR3000	DACS serial No.	5236
DACS voltage range	0 - 5 volt	DACS channel #	5
	Before		After
Calculated slope	0.980955	Calculated slope	0.992944
Calculated intercept	0.137579	Calculated intercept	-0.471631

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

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Background	41.4	ppb	41.4	ppb
coefficient	1.010		1.010	
Lamp Voltage	1051	volts	1051	volts
Chamber Temp	44.7	Deg C	44.8	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	624.5	mm Hg	624.4	mm Hg
Sample Flow	0.632	ccm	0.636	ccm
Lamp Intensity	31,152	mv	31,167	mv

Calibration Data

Dilution air flow rate (cc/min)	Corrected gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4995	0.00	0.00	0.5	N/A
4995	39.93	82.48	83.6	0.9870
4995	19.97	41.41	42.2	0.9823
6995	9.97	14.80	15.3	0.9657
4995	9.97		1.3	Sox Test
4995	0.00	0.00	0.5	As Found Zero
4995	39.93	82.48	83.6	As Found Span
Average Correction Factor				0.9783

Calculated value of As Found Response: 81.59 ppm Percent Change of As Found: **1.1%**

	before calibration		after calibration	
Auto zero	0.4	ppm	0.2	ppm
Auto span	75.9	ppm	76.1	ppm

Notes: NO adjustments made.

Calibration Performed By: Dmytro Dolotii

Calibration Summary

Parameter TRS

Air Monitoring Network PAZA



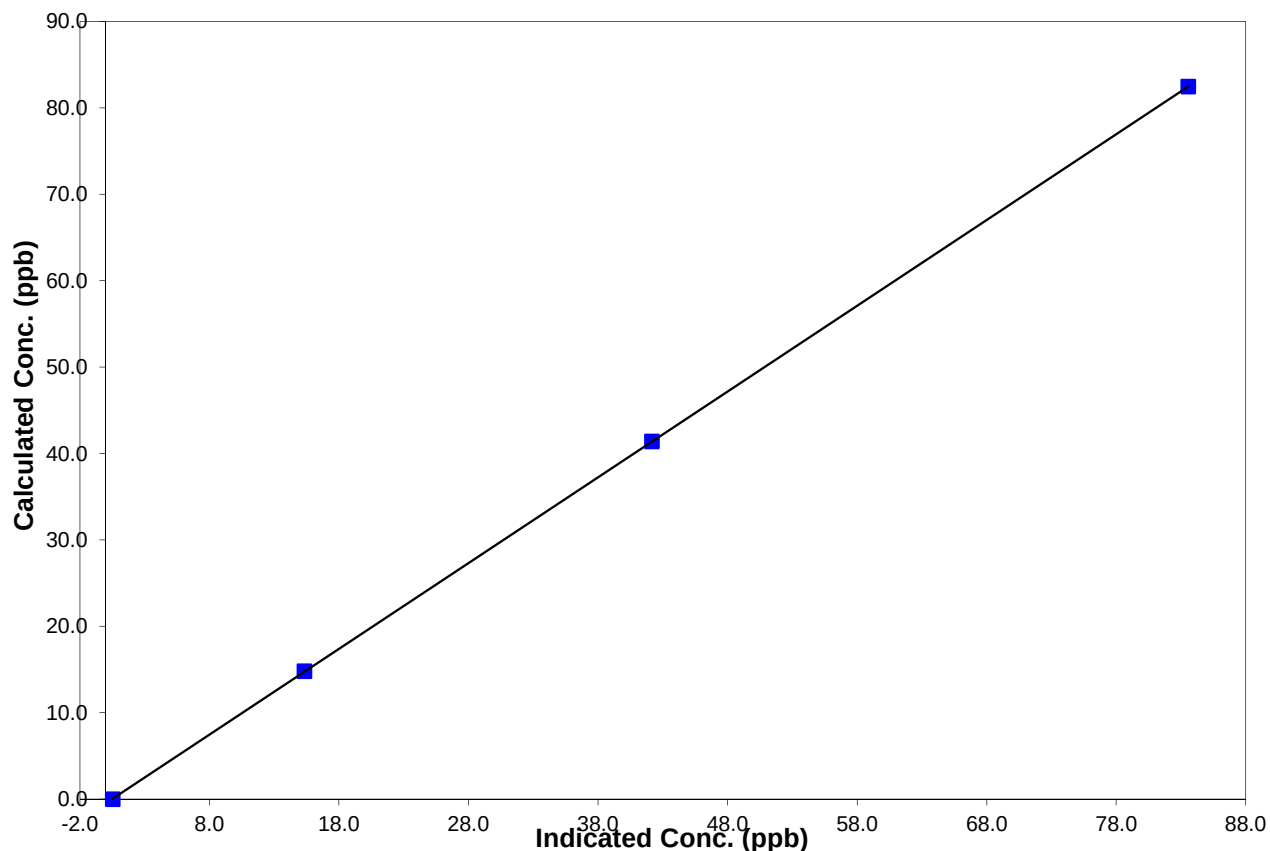
Station Information

Calibration Date	December 11 2014	Previous Calibration	November 21 2014
Station Number	2	Station Location	Evergreen Park
Start Time (MST)	9:22	End Time (MST)	11:55
Analyzer make/model	TEI Model 43C	Analyzer serial #	31990000000491

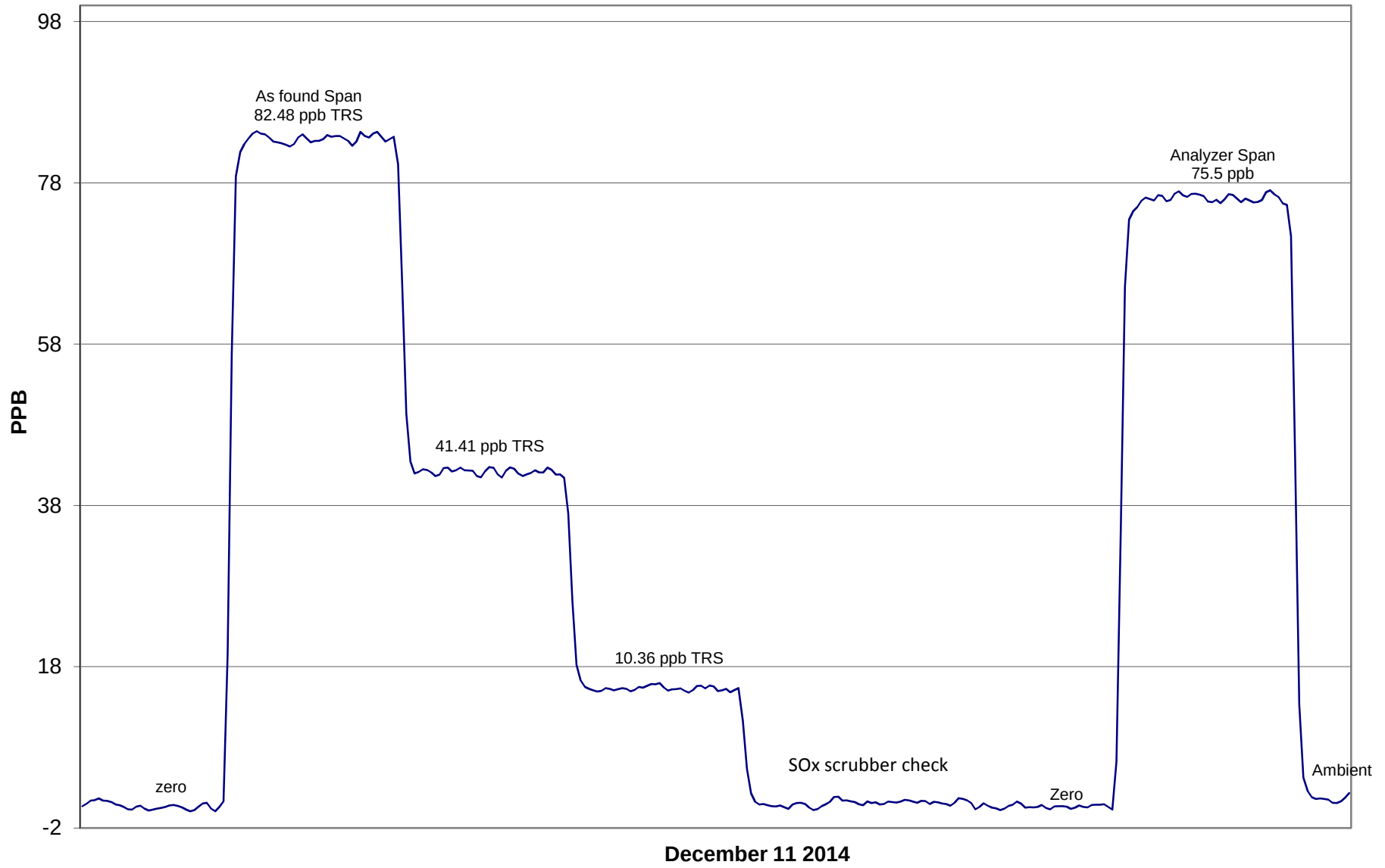
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.5	N/A	Correlation Coefficient	0.999998
82.5	83.6	0.9870		
41.4	42.2	0.9823		
14.8	15.3	0.9657	Slope	0.992944
			Intercept	-0.471631

TRS Calibration Curve



TRS Calibration



Calibration Report



Parameter SO₂

Air Monitoring Network PAZA

Station Information

Calibration Date	December 8, 2014	Previous Calibration	November 24, 2014
Station Number	3	Station Location	Smokey Heights
Reason:	☒ Routine	☐ Install	☐ Removal
		☐ Other:	
Start Time (MST)	11:35	End Time (MST)	13:55:00 AM
Barometric Pressure	0.929 ATM	Station Temperature	20.0 Deg C
Calibrator	EnviroNics	Serial Number	3016
Cal Gas Concentration	49.8 ppm	Cal Gas Cert Date	20/01/2016
Correction factor	0.031579	Cal Gas Cylinder #	LL1105159
DACS make	CR3000	DACS serial No.	5238
DACS voltage range	0 - 5 volt	DACS channel #	6
	Before		After
Calculated slope	0.997187	Calculated slope	1.003202
Calculated intercept	1.073633	Calculated intercept	0.504230
Analyzer make	Teco 43i	Analyzer serial #	701120009

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
Background	12.2		12.2	
coefficient	0.952		0.952	
Lamp Voltage	934	volts	940	volts
Chamber Temp	45.2	Deg C	44.8	Deg C
Perm Gas Temp	44.9	Deg C	45	Deg C
Pressure	664.2	mm Hg	664.5	mm Hg
Sample Flow	0.444	lpm	0.446	lpm
Lamp Intensity	88	%	88	%

Calibration Data

Dilution air flow rate (cc/min)	Corrected gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4995	0.0	0.00	0.4	N/A
4995	39.93	394.94	393.6	1.0035
4995	19.97	198.31	196.9	1.0072
4995	9.97	99.20	97.4	1.0189
4995	0.0	0.00	0.4	As Found Zero
4995	39.93	394.94	393.6	As Found Span
Average Correction Factor				1.0099

Calculated value of As Found Response: 393.134 ppm Percent Change of As Found: 0.5%

	before calibration		after calibration	
Auto zero	0.3	ppb	0.5	ppb
Auto span	253.8	ppb	254.3	ppb

Notes: No adjustments made

Calibration Performed By: Dmytro Dolotii

Calibration Summary

Parameter SO2

Air Monitoring Network PAZA



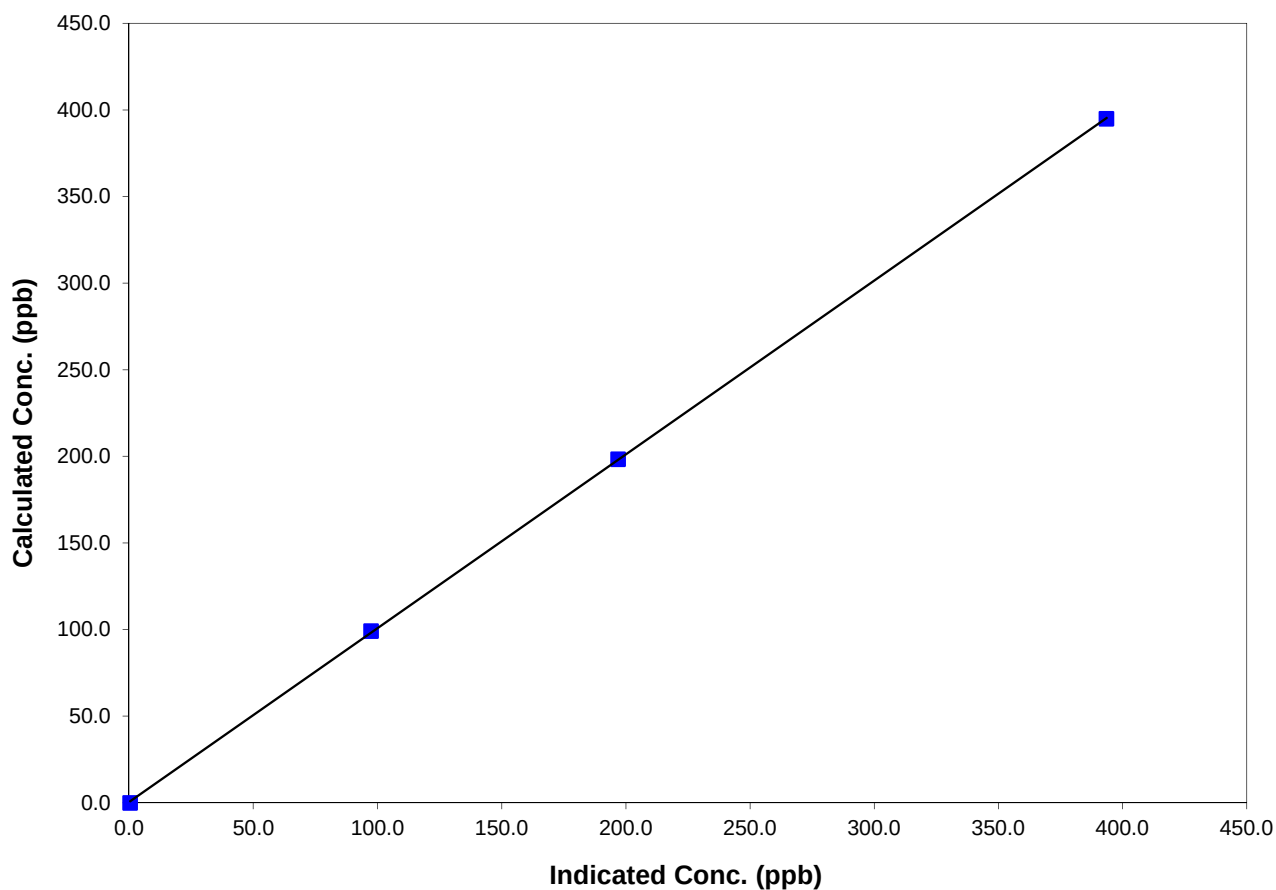
Station Information

Calibration Date	December 8, 2014	Previous Calibration	November 24, 2014
Station Number	3	Station Location	Smokey Heights
Start Time (MST)	11:35	End Time (MST)	13:55:00 AM
Analyzer make/model	Teco 43i	Analyzer serial #	701120009

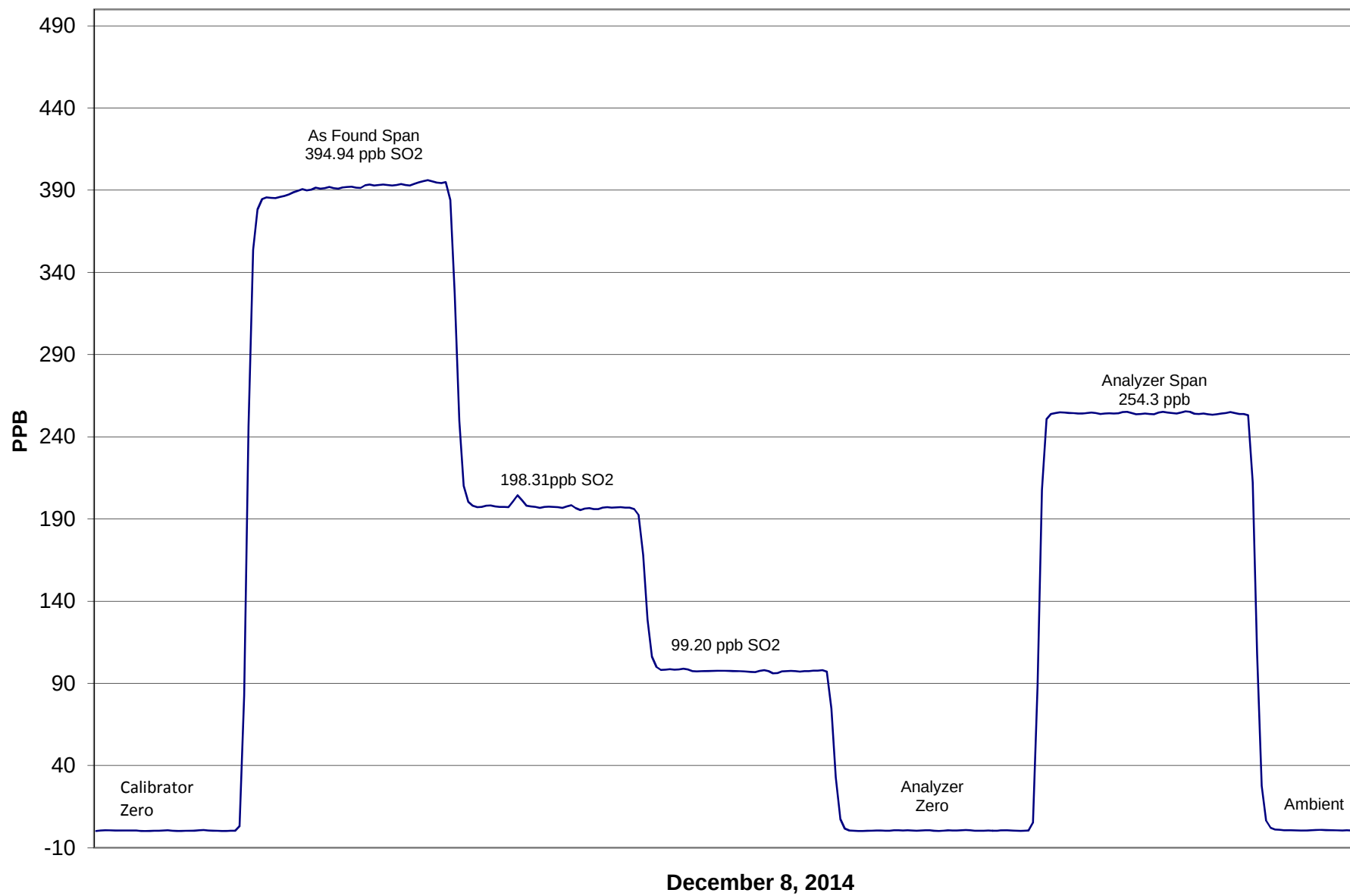
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.4	N/A		
394.9	393.6	1.0035	Correlation Coefficient	0.999975
198.3	196.9	1.0072		
99.2	97.4	1.0189	Slope	1.003202
			Intercept	0.504230

SO2 Calibration Curve



Smokey Heights SO₂ Calibration



Calibration Report



Parameter TRS

Air Monitoring Network PAZA

Station Information

Calibration Date	December 8, 2014	Previous Calibration	November 24, 2014
Station Number	3	Station Location	Smokey Heights
Reason:	Routine	Install	Removal
		Other:	

Start Time (MST)	9:40	End Time (MST)	12:30
Barometric Pressure	0.929 ATM	Station Temperature	20.0 Deg C
Calibrator	EnviroNics	Serial Number	2844
Cal Gas Conc	10.32 ppm	Cal Gas Expiry Date	08/07/2016
Correction factor	0.031579	Cal Gas Cylinder #	BLM00586
DACS make	CR3000	DACS serial No.	5238
DACS voltage range	0 - 5 volt	DACS channel #	5
	<u>Before</u>		<u>After</u>
Calculated slope	0.990937	Calculated slope	1.000436
Calculated intercept	0.299738	Calculated intercept	0.124050

Analyzer make	TEI Model 43C	Analyzer serial #	0436610005
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	before		after	
Concentration range	100	ppb	100	ppb
Background	19	ppb	19	ppb
coefficient	0.983		0.983	
Lamp Voltage	846	volts	844	volts
Chamber Temp	43.8	Deg C	43.9	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	604.2	mm Hg	603.9	mm Hg
Sample Flow	0.628	lpm	0.628	lpm
Lamp Intensity	34,196	mv	34,846	mv

Dilution air flow rate (cc/min)	Corrected gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4995	0.0	0.00	0.4	N/A
4995	39.93	81.84	82.0	0.9978
4995	19.97	41.10	40.3	1.0190
6995	9.97	14.69	14.3	1.0240
4995	9.97		0.9	Sox test
4995	0.0	0.00	0.4	As Found Zero
4995	39.93	81.84	82.0	As Found Span
Average Correction Factor				1.0136

Calculated value of As Found Response: 81.21 ppm Percent Change of As Found: 0.8%

	before calibration		after calibration	
Auto zero	0.8	ppm	0.7	ppm
Auto span	32.5	ppm	32.5	ppm

Notes: No adjustments made

Calibration Performed By: Dmytro Dolotii

Calibration Summary

Parameter TRS

Air Monitoring Network PAZA



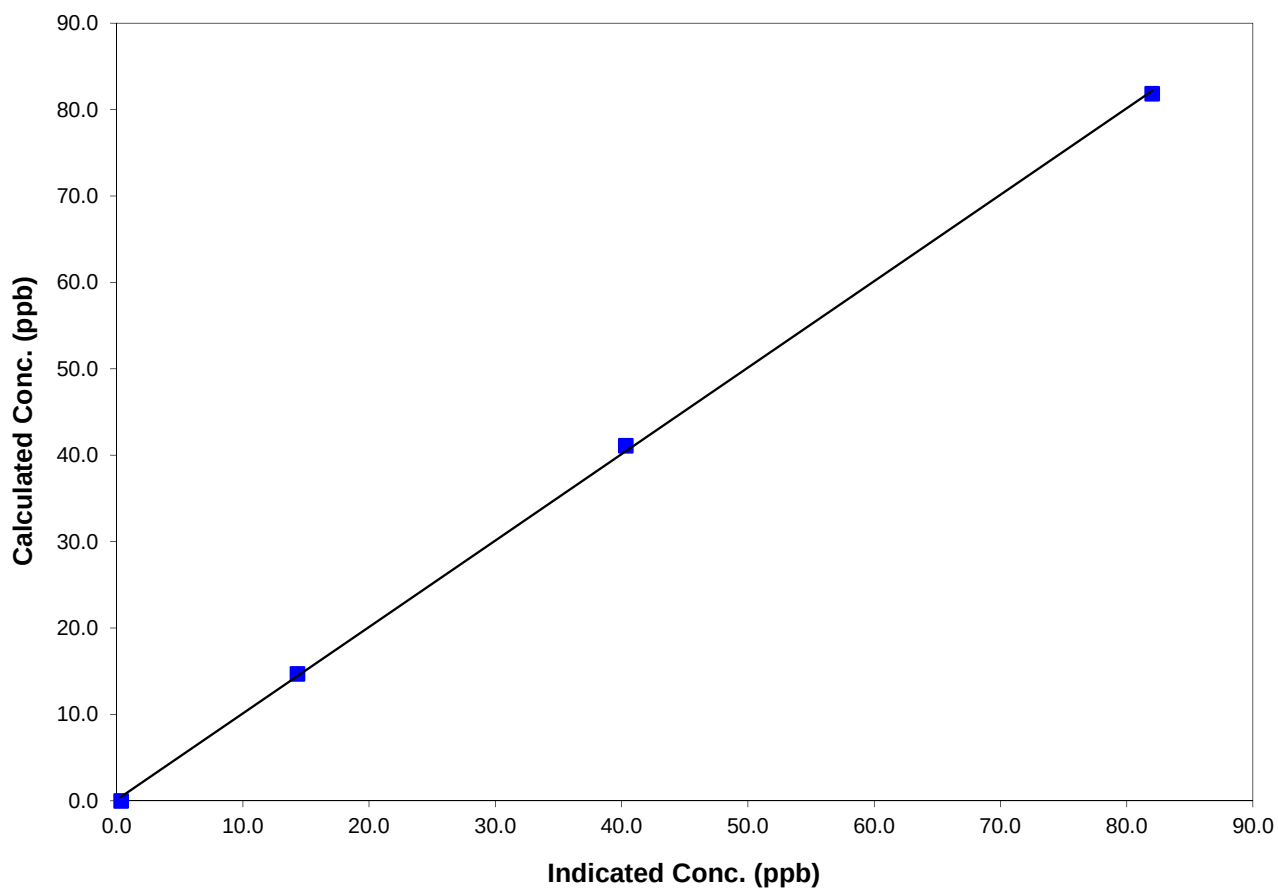
Station Information

Calibration Date	December 8, 2014	Previous Calibration	November 24, 2014
Station Number	3	Station Location	Smokey Heights
Start Time (MST)	9:40	End Time (MST)	12:30
Analyzer make/model	TEI Model 43C	Analyzer serial #	0436610005

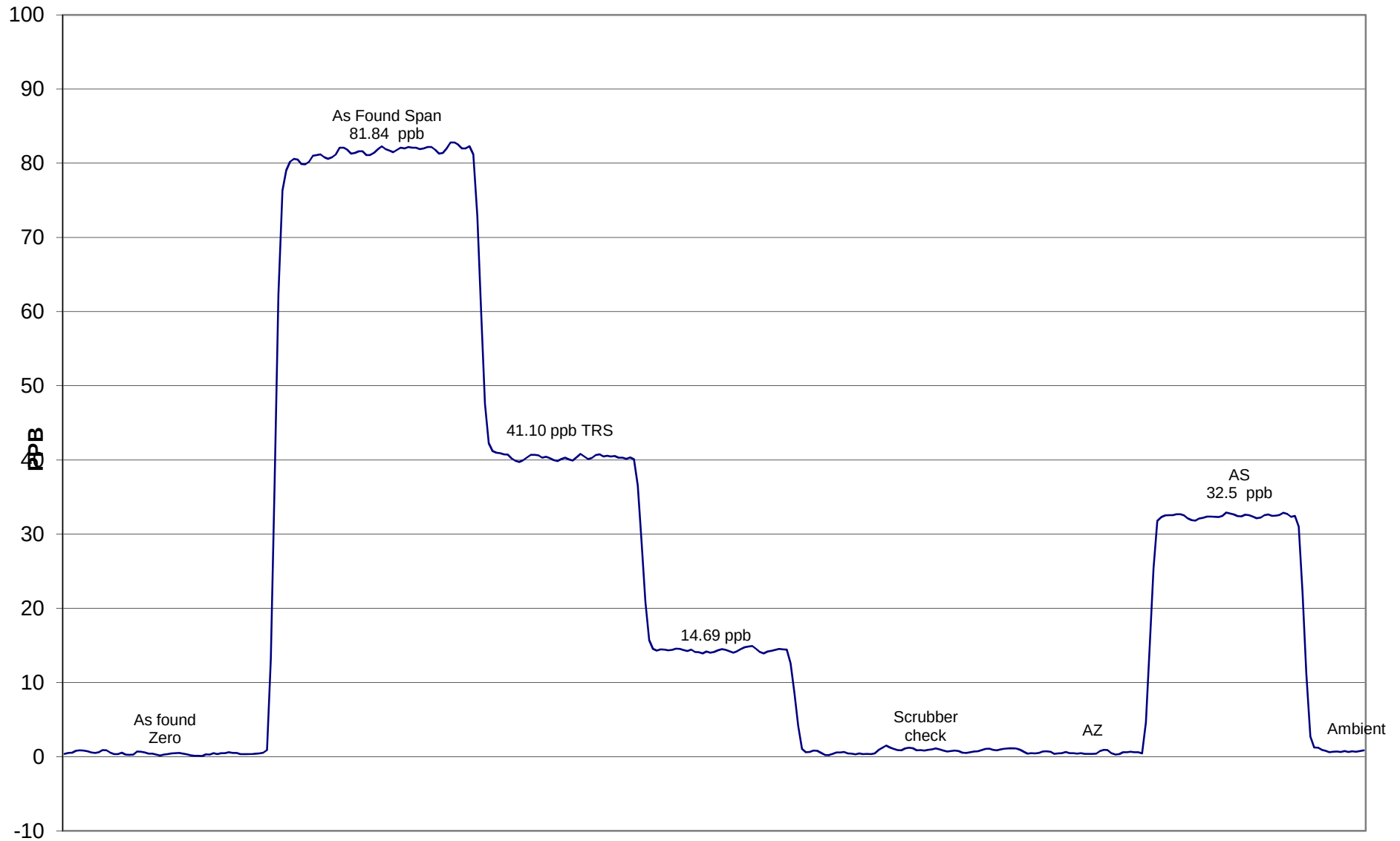
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.4	N/A	Correlation Coefficient	0.999793
81.8	82.0	0.9978		
41.1	40.3	1.0190		
14.7	14.3	1.0240	Slope	1.000436
			Intercept	0.124050

TRS Calibration Curve



Smokey Heights TRS Calibration



December 8, 2014

Calibration Report

Parameter SO2
Air Monitoring Network PAZA



Station Information

Calibration Date	December 2, 2014	Previous Calibration	November 17, 2014
Station Number	4	Station Location	Beaverlodge
Reason:	Routine	Install	Removal
Start Time (MST)	14:10:00 PM	End Time (MST)	16:16
Barometric Pressure	0.908 atm	Station Temperature	20.0 Deg C
Calibrator	EnviroNics	Serial Number	3016
Cal Gas Concentration	10.8 ppm	Cal Gas Expiry Date	28/09/2012
Gas Cert Reference	FF14871		
DACS make	CR3000	DACS serial No.	5237
DACS voltage range	0 - 5 volt	DACS channel #	5
	Before		After
DACS Scale High	100	DACS slope	100
DACS Scale Low	0	DACS intercept	0
Calculated slope	1.003175	Calculated slope	1.005336
Calculated intercept	-0.079573	Calculated intercept	-0.047081
Analyzer make	TEI Model 43i-TLE	Analyzer serial #	713021137

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Background	2.77		2.74	
Coefficient	1.035		1.035	
PMT	-767.8	V	-767.5	V
UV Lamp Voltage	1088	V	1082	V
Chamber Temp	44.9	Deg C	45	Deg C
Pressure	657.1	mm Hg	661.1	mm Hg
Sample Flow	0.522	LPM	0.524	LPM
Lamp Intensity	95	%	96	%

Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4994	0.00	0.0	0.2	N/A
4994	39.92	85.6	85.3	1.0040
4994	19.96	43.0	42.7	1.0063
4994	9.96	21.5	21.3	1.0074
4994	0.00	0.0	0.2	As found zero
4994	39.92	85.6	85.3	As found span
Average Correction Factor				1.0059

Calculated value of As Found Response: 85.337 ppm Percent Change of As Found: 0.4%

	before calibration		after calibration	
Auto zero	0.0	ppb	0.1	ppb
Auto span	59.8	ppb	60.2	ppb

Notes: No adjustments made

Calibration Performed By: Dmytro Dolotii

Calibration Summary

Parameter SO2

Air Monitoring Network PAZA



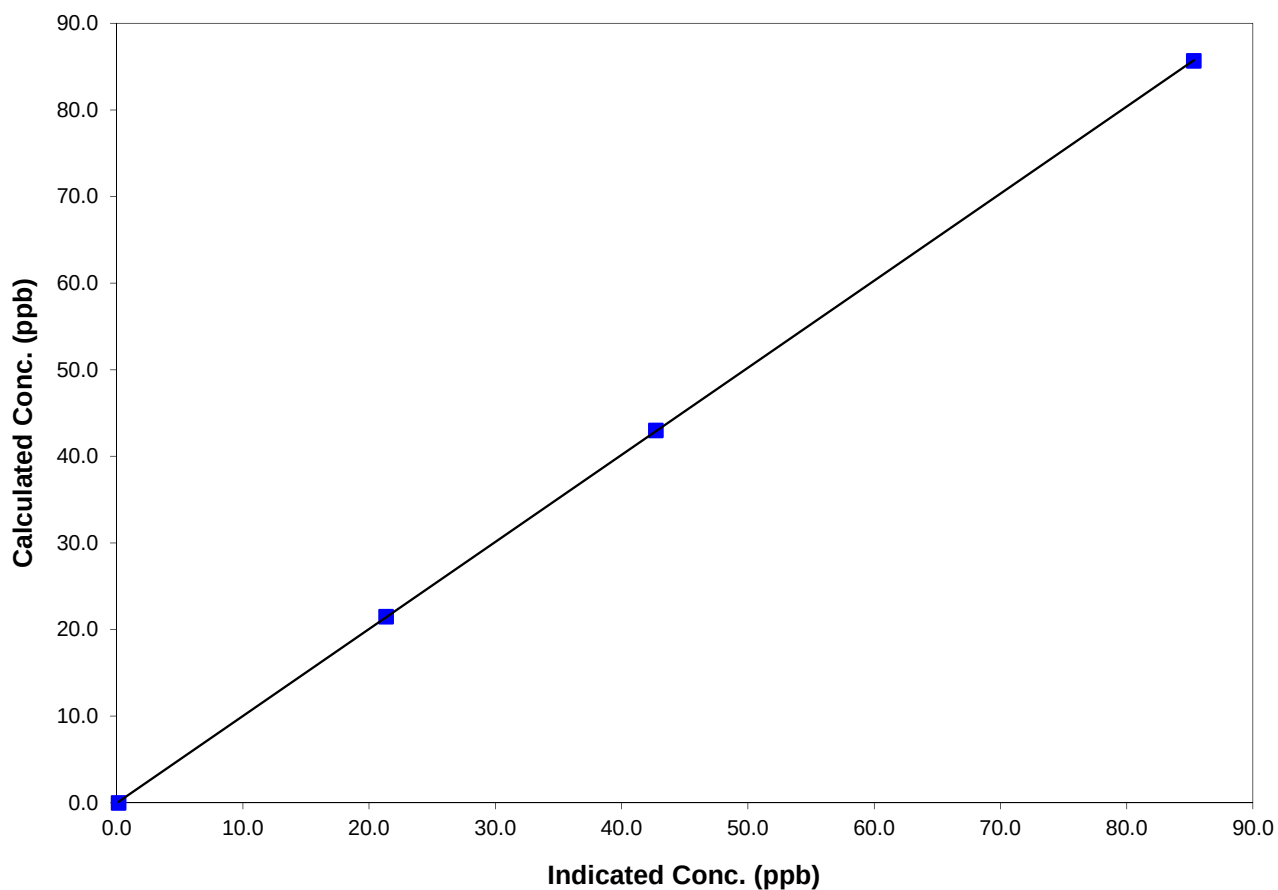
Station Information

Calibration Date	December 2, 2014	Previous Calibration	November 17, 2014
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	14:10:00 PM	End Time (MST)	16:16
Analyzer make/model	TEI Model 43i-TLE	Analyzer serial #	713021137

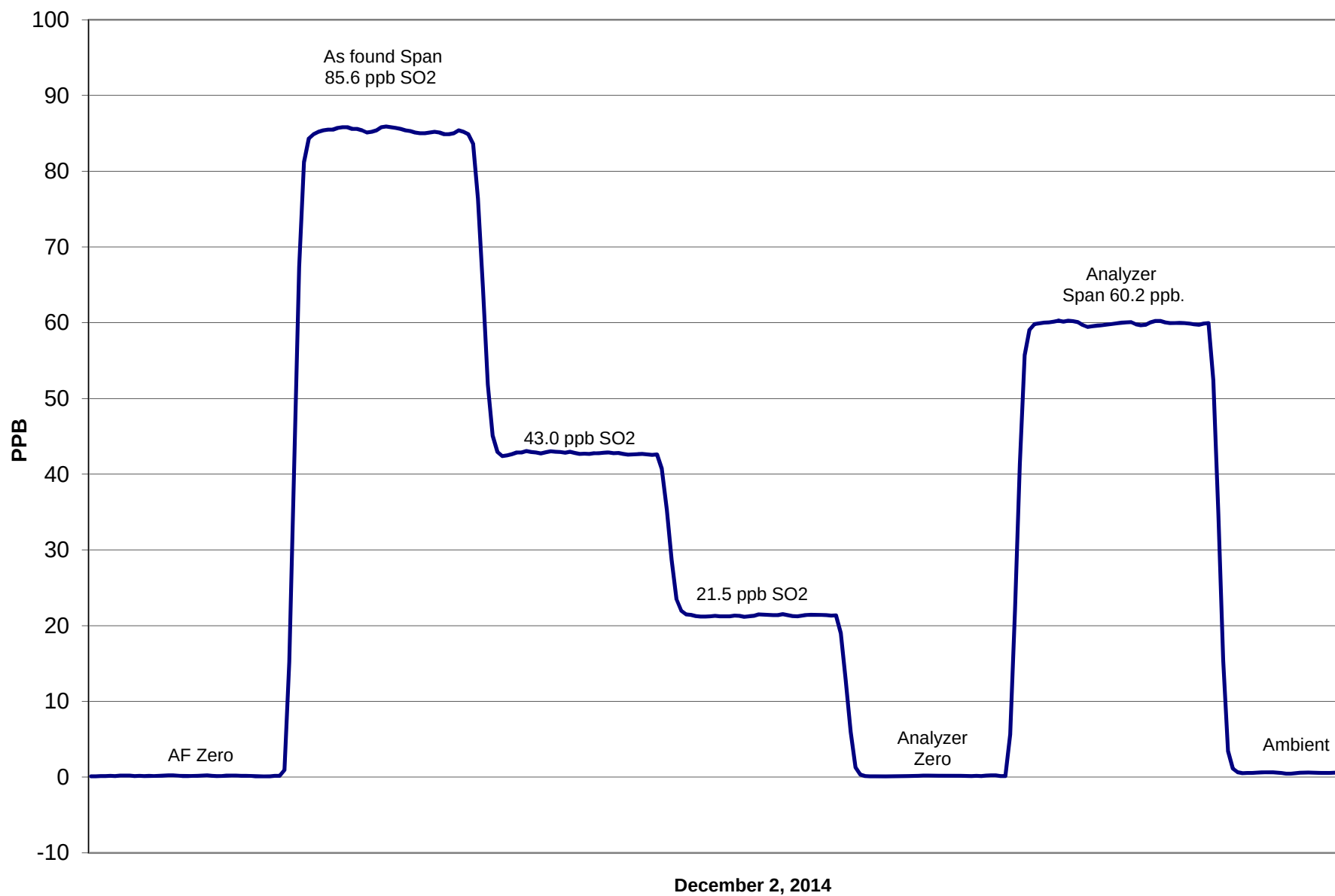
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.2	N/A	Correlation Coefficient	0.999992
85.6	85.3	1.0040		
43.0	42.7	1.0063		
21.5	21.3	1.0074	Slope	1.005336
			Intercept	-0.047081

SO2 Calibration Curve



SO2 Calibration



Calibration Report

Parameter

NO_x-NO-NO₂

Air Monitoring Network

PAZA



Station Information

Calibration Date	December 2, 2014	Previous Calibration	November 17, 2014		
Station Number	4	Station Location	Beaverlodge		
Reason:	Routine	Installation	Removal		
Other:					
Start Time (MST)	9:35	End Time (MST)	13:00:00 PM		
Barometric Pressure	0.907	Atm	Station Temperature	20.0	Deg C
Calibrator	Envionics	Serial Number	3016		
NO Cal Gas Conc	50.9	ppm	Cal Gas Expiry Date	March 10, 2017	
NOx Cal Gas Conc	51.2	ppm	Cal Gas Serial #	LL119493	

DACS Information

DACS make	CR3000	DACS serial No.	5237	
Parameter		NO2	NOx	NO
Before	Data Slope	0.991881	0.997077	0.995209
	Data Offset	-0.944431	0.562457	0.743745
After	Data Slope	0.992761	1.007044	1.005589
	Data Offset	-0.768026	0.823399	1.021817
Channel #		8	6	7
Voltage Range		0 - 5 VDC	0 - 5 VDC	0 - 5 VDC

Analyzer Information

Analyzer make/model	TEI 42i	Analyzer serial #	906535068	
Test Point	before		after	
Concentration range	0-500	ppb	0-500	ppb
NO offset	3.1	mV	3.1	mV
NOx bkgnd	3.4	mV	3.4	mV
NO coefficient	1.058		1.058	
NOx coefficient	1.004		1.004	
NO2 conv temp	322.4	Deg C	322.4	Deg C
PMT Temp	-3.0	Deg C	-2.9	Deg C
PMT Volt	-747.4	mV	-747.8	mV
R Cell Press	231.3	in Hg	231.9	in Hg
Sample Flow	0.564	LPM	0.579	LPM

Notes: No adjustments made.

Calibration Report

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



Station Information

Calibration Date: December 2, 2014 Station Location: Beaverlodge

Calibration Data

	Dilution flow rate (ccm)	Source gas flow rate (ccm)	Calculated NOx conc (ppb)	Calculated NO conc (ppb)	Calculated NO2 conc (ppb)	Indicated NOx conc (ppb)	Indicated NO conc (ppb)	Indicated NO2 conc (ppb)	NOx Correction factor	NO Correction factor
zero	4995	0.00	0.0	0.0	0.0	-0.1	-0.2	-0.1	N/A	N/A
1	4995	39.92	405.9	403.6	2.4	402.5	400.7	1.1	1.0085	1.0071
2	4995	19.96	203.8	202.6	1.2	201.5	200.0	0.6	1.0113	1.0127
3	4995	9.93	101.6	101.0	0.6	99.2	98.6	0.5	1.0245	1.0245
AFZ	4995	0.00	0.0	0.0	0.0	-0.1	-0.2	-0.1	0.0000	0.0000
AFS	4995	39.92	405.9	403.6	0.8	402.5	400.7	1.1	1.0085	1.0071
Average Correction Factor									1.0148	1.0148

As Found Concentrations: NO_x= 402.0 NO= 399.7 As Found Percent Change NO_x= -1.0% NO= -1.0%

GPT Calibration Data

Dilution Flow 4995 ccm Source Gas Flow 39.93 ccm

O3 Setpoint (ppb)	Indicated NOx high point (ppb)	Indicated NO drop conc (ppb)	Calculated NO2 conc (ppb)	Indicated NOx conc (ppb)	Indicated NO conc (ppb)	Indicated NO2 conc (ppb)	NOx Correction factor	NO Correction factor	NO2 Correction factor	Converter Efficiency
0	-0.2	-0.2	0.0	-0.1	-0.2	-0.1	N/A	N/A	N/A	N/A
NO point	399.7	399.7	0.0	402.1	399.7	1.7	0.9940	1.0000	N/A	N/A
300	399.7	96.6	303.1	402.7	96.6	305.6	0.9924	1.0000	0.9918	100.8%
200	399.7	195.6	204.0	402.7	195.6	206.3	0.9924	1.0000	0.9890	101.1%
100	399.7	293.3	106.4	403.1	293.3	109.2	0.9914	1.0000	0.9737	102.7%
Average Correction Factor							0.9921	1.0000	0.9849	101.5%

AIC Data

	Previous calibration				Current calibration			
Parameter	NOx	NO2	NO		NOx	NO2	NO	
Auto zero	0.0	0.0	-0.1	ppb	-0.1	-0.2	-0.1	ppb
Auto span	180.2	178.9	1.0	ppb	182.6	181.2	0.9	ppb

Calibration Performed By: Dmytro Dolotii

Calibration Summary

Parameter NO₂

Air Monitoring Network PAZA



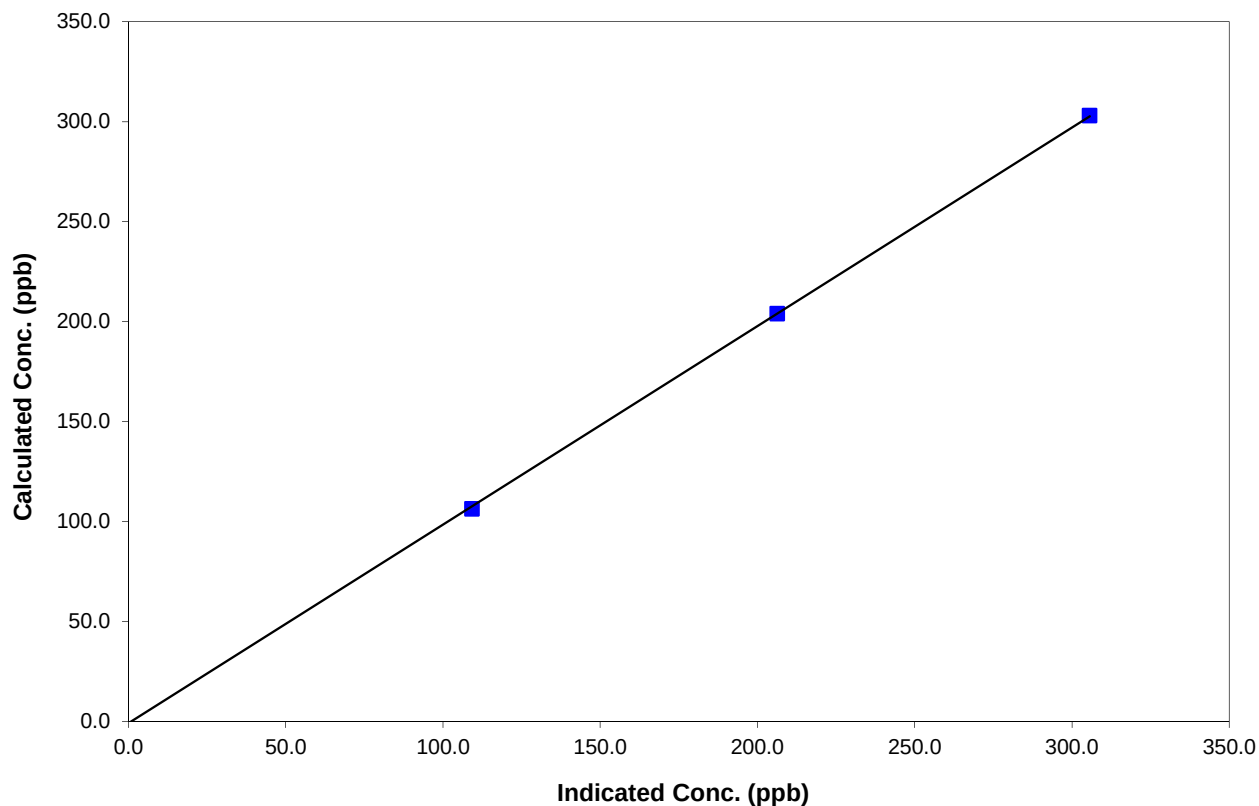
Station Information

Calibration Date	December 2, 2014	Previous Calibration	November 17, 2014
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	9:35	End Time (MST)	13:00:00 PM
Analyzer make	TEI 42i	Analyzer serial #	906535068

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.1	N/A	Correlation Coefficient	0.999948
303.1	305.6	0.9918		
204.0	206.3	0.9890		
106.4	109.2	0.9737	Slope	0.992761
			Intercept	-0.768026

NO₂ Calibration Curve



Calibration Summary

Parameter NO_x

Air Monitoring Network PAZA



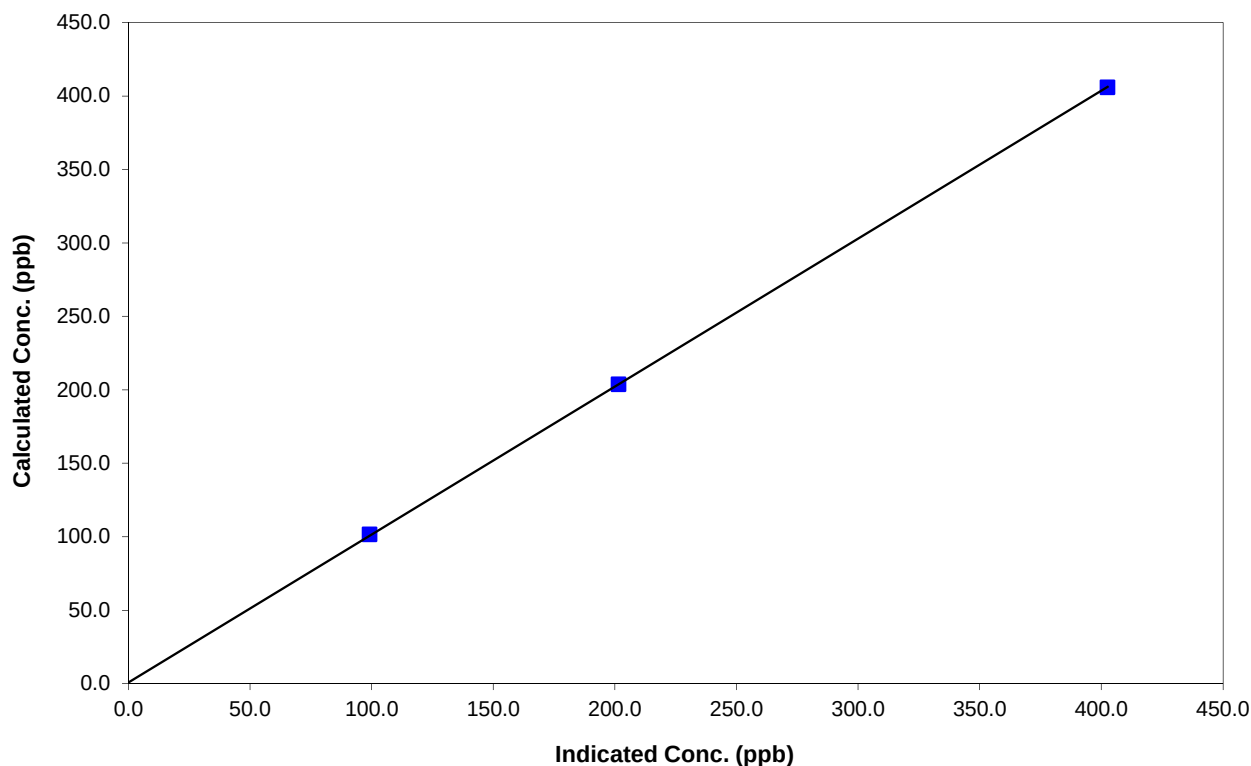
Station Information

Calibration Date	December 2, 2014	Previous Calibration	November 17, 2014
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	9:35	End Time (MST)	13:00:00 PM
Analyzer make	TEI 42i	Analyzer serial #	906535068

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.1	N/A	Correlation Coefficient	0.999985
405.9	402.5	1.0085		
203.8	201.5	1.0113		
101.6	99.2	1.0245	Slope	1.007044
			Intercept	0.823399

NO_x Calibration Curve



Calibration Summary

Parameter NO

Air Monitoring Network PAZA



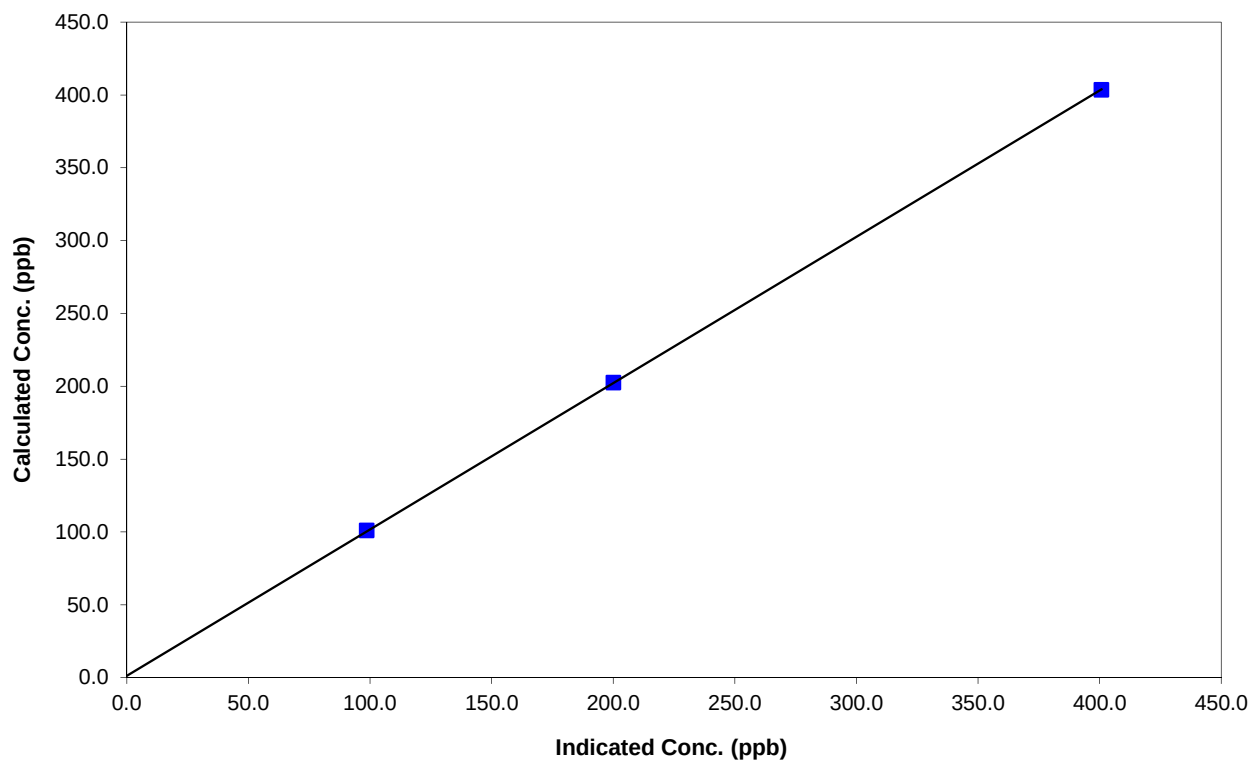
Station Information

Calibration Date	December 2, 2014	Previous Calibration	November 17, 2014
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	9:35	End Time (MST)	13:00:00 PM
Analyzer make	TEI 42i	Analyzer serial #	906535068

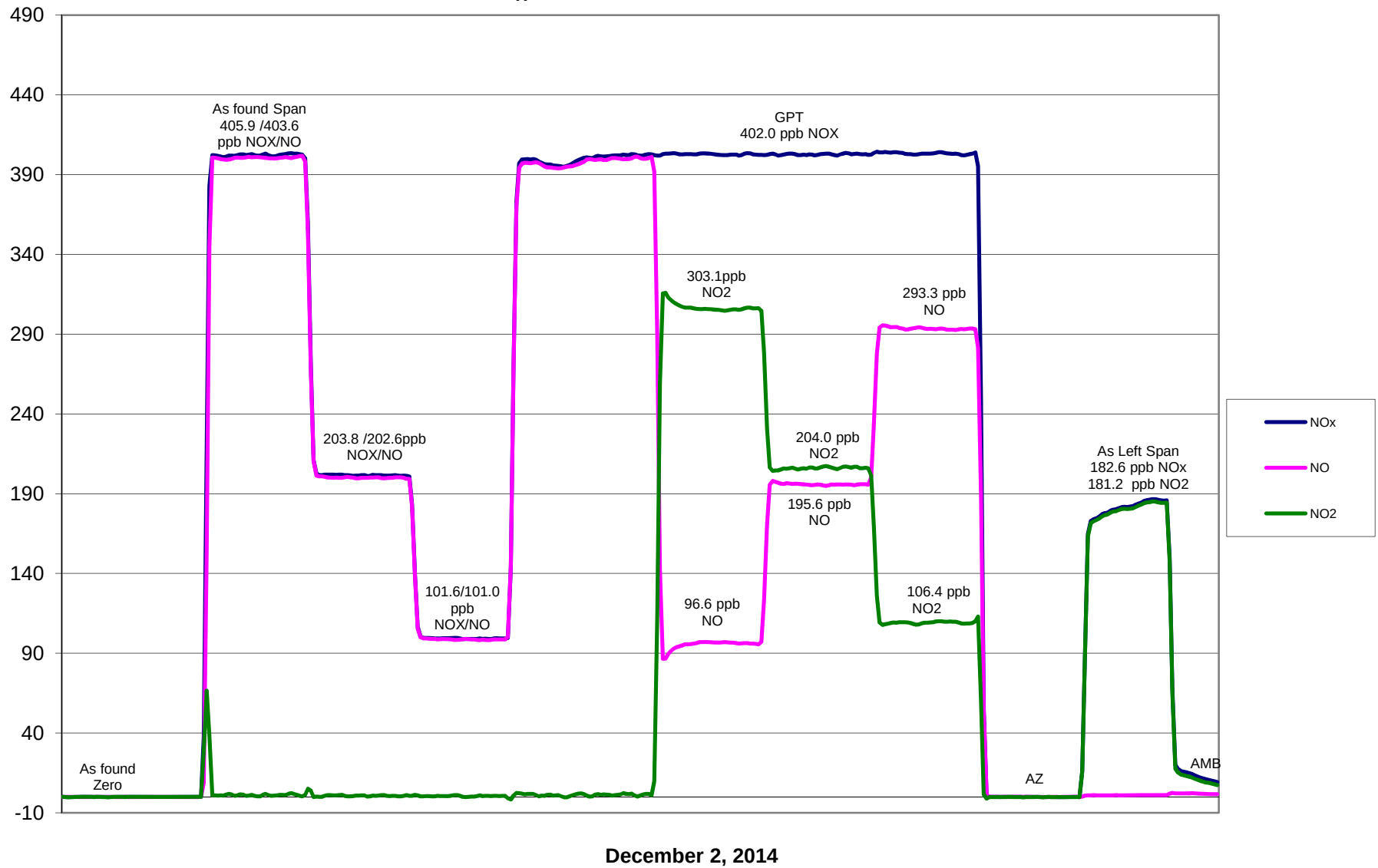
Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.2	N/A	Correlation Coefficient	0.999981
403.6	400.7	1.0071		
202.6	200.0	1.0127		
101.0	98.6	1.0245	Slope	1.005589
			Intercept	1.021817

NO Calibration Curve



NO_x Calibration



Calibration Report



Parameter 03

Air Monitoring Network PAZA

Station Information

Calibration Date	December 2, 2014	Previous Calibration	November 17, 2014
Station Number	4	Station Location	Beaverlodge
Reason:	Routine	Install	Removal
		Other:	

Start Time (MST)	12:24	End Time (MST)	15:05:00 PM
Barometric Pressure	0.907 atm	Station Temperature	20.0 Deg C
Calibrator	EnviroNics	Serial Number	3016
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	0.990637	Calculated slope	0.994421
Calculated intercept	-0.599568	Calculated intercept	-0.707005

Analyzer make	Teco 49i	Analyzer serial #	1136451236,AMU 1879
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	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
offset	-0.60	ppb	-0.60	ppb
slope	1.042		1.053	
Lamp temp	53.8	mV	53.8	mV
Lamp Intensity A/B	70263/73370	mV	70210/73346	mV
Pressure	682	mm Hg	681.7	mm Hg
Flow A	0.75	LPM	0.764	LPM
Flow B	0.737	LPM	0.739	LPM

Calibration Data

Dilution air flow rate (cc/min)	Calibrator Setting	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
5035	0.00	0.0	0.5	N/A
5035	0.30	303.1	305.6	0.9918
5035	0.20	204.0	205.4	0.9932
5035	0.10	106.4	108.3	0.9825
5035	0.00	0.0	0.5	As found zero
5035	0.30	303.1	303.7	As found span
Average Correction Factor				0.9891

Calculated value of As Found Response: 299.8 ppm Percent Change of As Found: -1.1%

	before calibration		after calibration	
Auto zero	-0.1	ppb	0.1	ppb
Auto span	280.5	ppb	284.3	ppb

Notes: Span adjustments made

Calibration Performed By: Dmytro Dolotii

Calibration Summary

Parameter 03

Air Monitoring Network PAZA



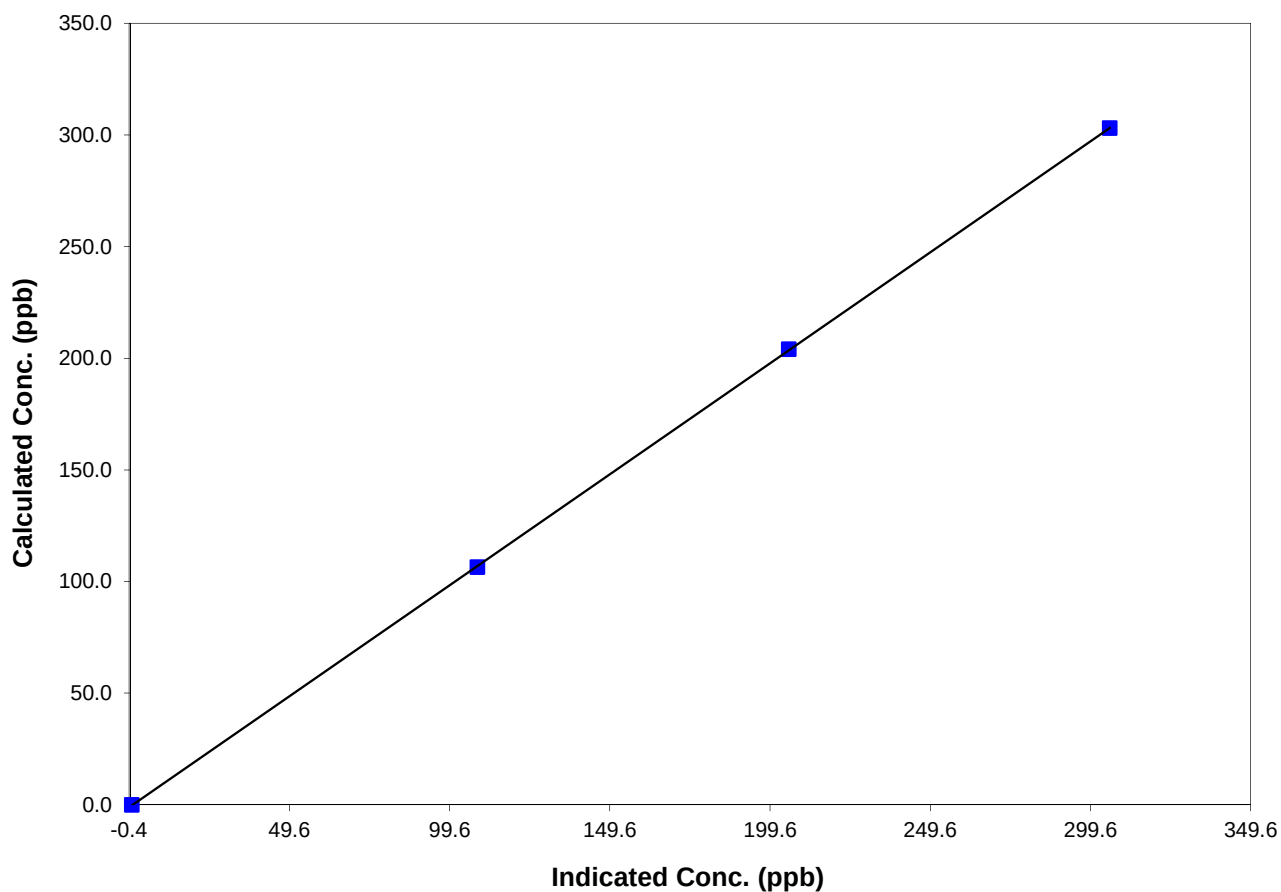
Station Information

Calibration Date	December 2, 2014	Previous Calibration	November 17, 2014
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	12:24	End Time (MST)	15:05:00 PM
Analyzer make/model	Teco 49i	Analyzer serial #	1136451236,AMU 1879

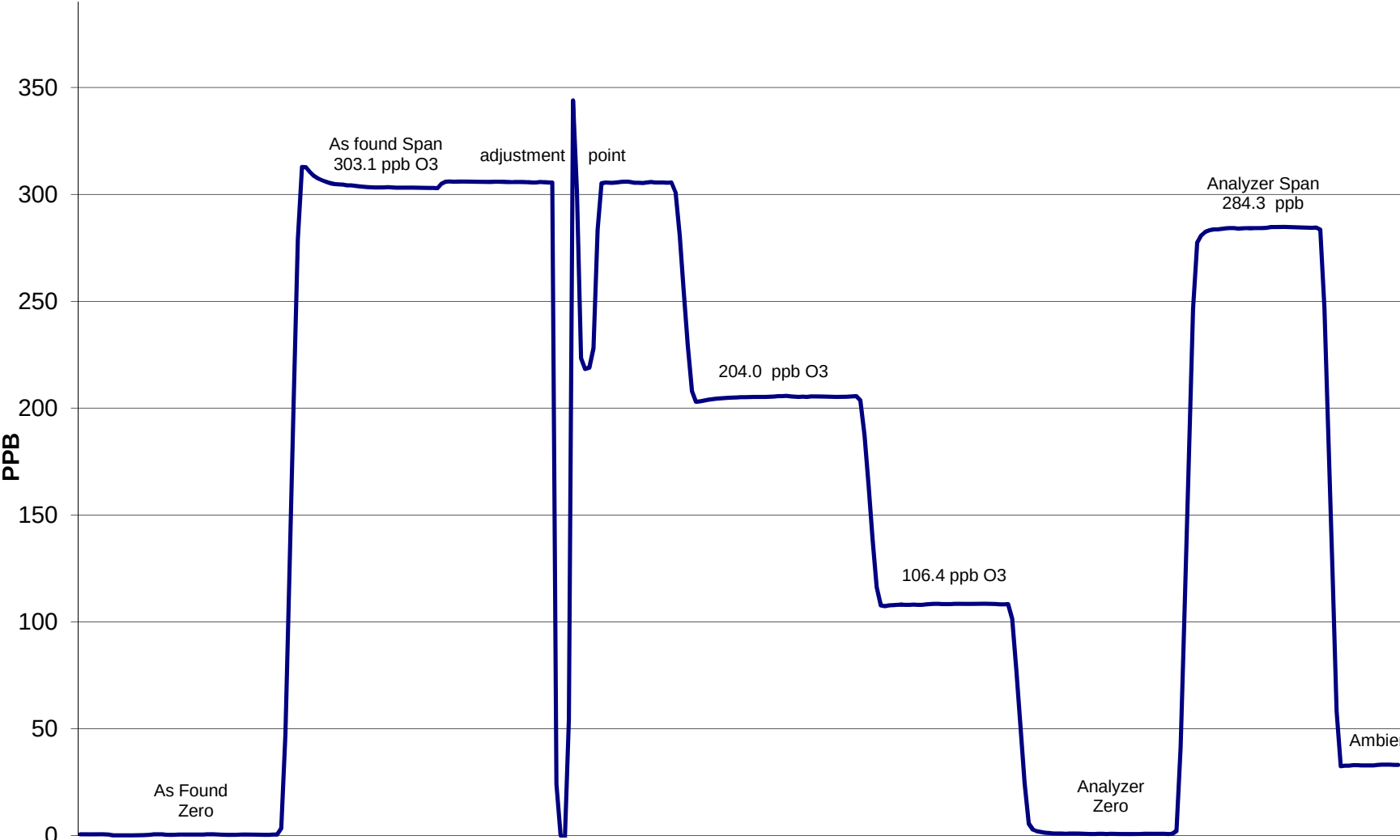
Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.5	NA	Correlation Coefficient	0.999988
303.1	305.6	0.9918		
204.0	205.4	0.9932		
106.4	108.3	0.9825	Slope	0.994421
			Intercept	-0.707005

O3 Calibration Curve



O3 Calibration



December 2, 2014

Calibration Report

Parameter SO2
Air Monitoring Network PAZA



Station Information

Calibration Date	December 17 2014	Previous Calibration	November 6 2014
Station Number	6	Station Location	Valleyview
Reason:	Routine	Install	Removal
Start Time (MST)	13:05:00 PM	End Time (MST)	15:30:00 PM
Barometric Pressure	706.00 mmHg	Station Temperature	23.0 Deg C
Calibrator	EnviroNics	Serial Number	3016
Cal Gas Concentration	50.2 ppm	Cal Gas Exp Date	March 10, 2017
Gas Cylinder Num.	LL119493		
DACS make	CR3000	DACS serial No.	5409
DACS voltage range	0 - 5 volt	DACS channel #	4
	Before		After
DACS Scale High	500	DACS slope	500
DACS Scale Low	0	DACS intercept	0
Calculated slope	0.998366	Calculated slope	0.997966
Calculated intercept	2.064764	Calculated intercept	-0.049838
Analyzer make	TEI 43C	Analyzer serial #	609716239

	before		after	
Concentration range	0-500	ppb	0-500	ppb
Background	15.3		15.3	
Coefficient	0.998		0.998	
UV Lamp Voltage	742	LPM	742	LPM
Chamber Temp	43.2	V	43	V
Perm Gas Temp	45	C	45	C
Pressure	670.7	in Hg	671.7	in Hg
Sample Flow	0.485	LPM	0.486	LPM
Lamp Intensity	47530	Hz	47586	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	0.8	N/A
4995	39.93	398.1	399.4	0.9969
4995	19.97	199.9	199.9	0.9999
4995	9.95	99.8	99.4	1.0042
4995	0.00	0.0	0.8	As found zero
4995	39.91	397.9	399.4	As found span
Average Correction Factor				1.0003

Calculated value of As Found Response: 400.0 ppm Percent Change of As Found: -0.5%

	before calibration		after calibration	
Auto zero	0.0	ppm	0.0	ppm
Auto span	285.5	ppm	357.0	ppm

Notes: No adjustments made.

Calibration Performed By: Dmytro Dolotii

Calibration Summary

Parameter SO2

Air Monitoring Network PAZA



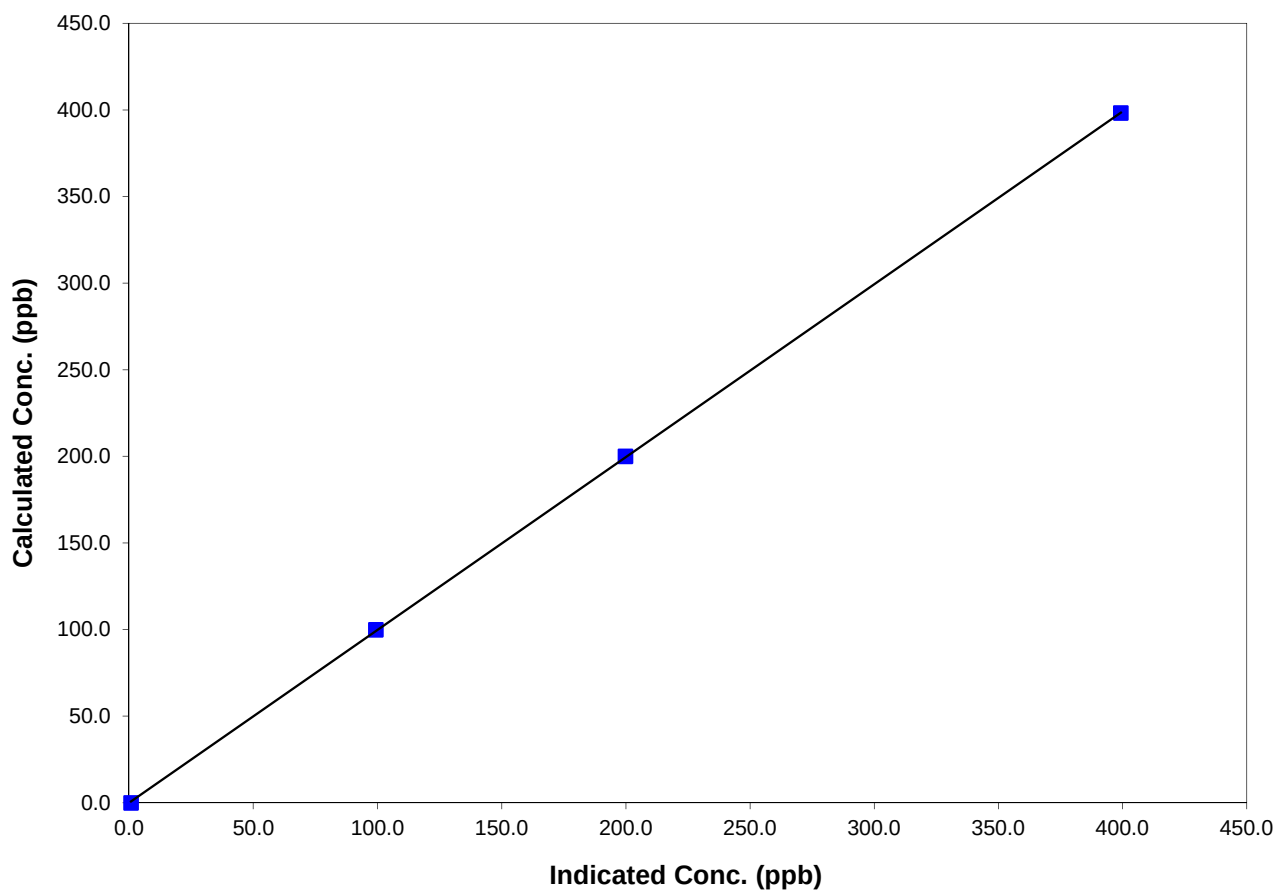
Station Information

Calibration Date	December 17 2014	Previous Calibration	November 6 2014
Station Number	6	Station Location	Valleyview
Start Time (MST)	13:05:00 PM	End Time (MST)	15:30:00 PM
Analyzer make/model	TEI 43C	Analyzer serial #	609716239

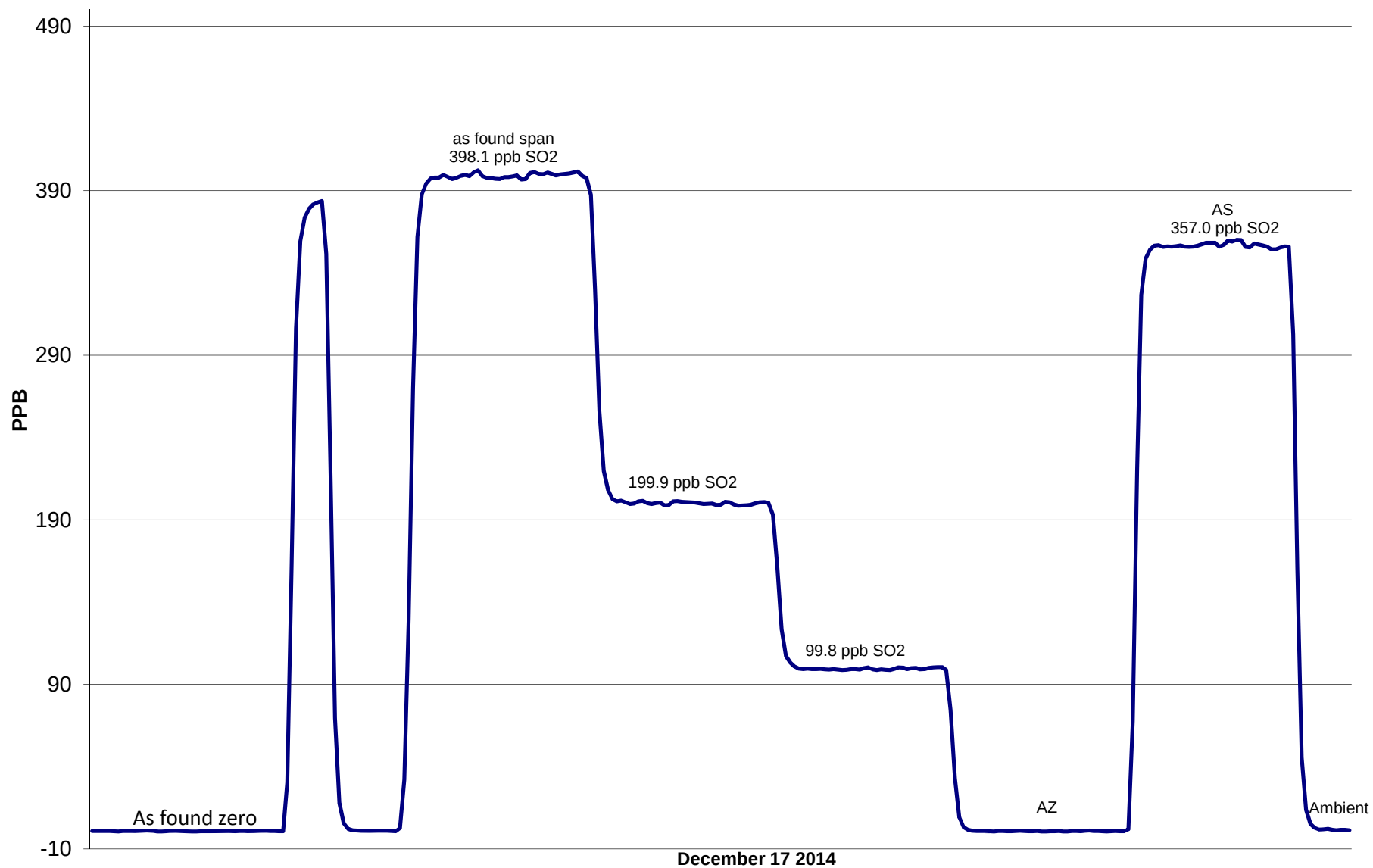
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.8	N/A	Correlation Coefficient	0.999985
398.1	399.4	0.9969		
199.9	199.9	0.9999		
99.8	99.4	1.0042	Slope	0.997966
			Intercept	-0.049838

SO2 Calibration Curve



SO2 Calibration



Calibration Report

Parameter H2S
Air Monitoring Network PAZA



Station Information

Calibration Date	December 17 2014	Previous Calibration	November 6 2014
Station Number	6	Station Location	Valleyview
Reason:	Routine	Install	Removal
Start Time (MST)	11:20	End Time (MST)	14:10:00 PM
Barometric Pressure	706.00 mm	Station Temperature	23.0 Deg C
Calibrator	EnviroNics	Serial Number	3016
Cal Gas Concentration	10.32 ppm	Cal Gas Expiry Date	July 03 2016
Gas Cert Reference	LL110781		
DACS make	CR3000	DACS serial No.	5409
DACS voltage range	0 - 5 volt	DACS channel #	9
	<u>Before</u>		<u>After</u>
DACS Scale High	100	DACS slope	100
DACS Scale Low	0	DACS intercept	0
Calculated slope	0.995202	Calculated slope	0.989263
Calculated intercept	0.288509	Calculated intercept	-0.088523
Analyzer make	TEI Model 43i - APSCB	Analyzer serial #	701120010

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Back Ground	7.5	ppb	7.5	ppb
Coefficient	0.888		0.888	
Lamp Voltage	790	v	790	v
Chamber Temp	45	c	45	c
Perm Oven Temp	44.9	c	45	c
Pressure	567.70	mm Hg	567.10	mm Hg
Sample Flow	0.388	ccm	0.388	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)
4995	0.00	0.0	0.2	N/A
4997	39.91	81.8	82.8	0.9873
4997	19.94	41.0	41.4	0.9903
6995	9.97	14.7	14.9	0.9850
4997	9.97		2.8	Sox Test
4997	0.00	0.0	0.2	As found zero
4997	39.93	81.8	82.8	As found span
Average Correction Factor				0.9876

Calculated value of As Found Response: 82.53 ppm Percent Change of As Found: -0.9%

	before calibration		after calibration	
Auto zero	0.4	ppm	0.2	ppm
Auto span	67.3	ppm	55.1	ppm

Notes: NO adjustments made

Calibration Performed By: Dmytro Dolotii

Calibration Summary

Parameter H2S

Air Monitoring Network PAZA



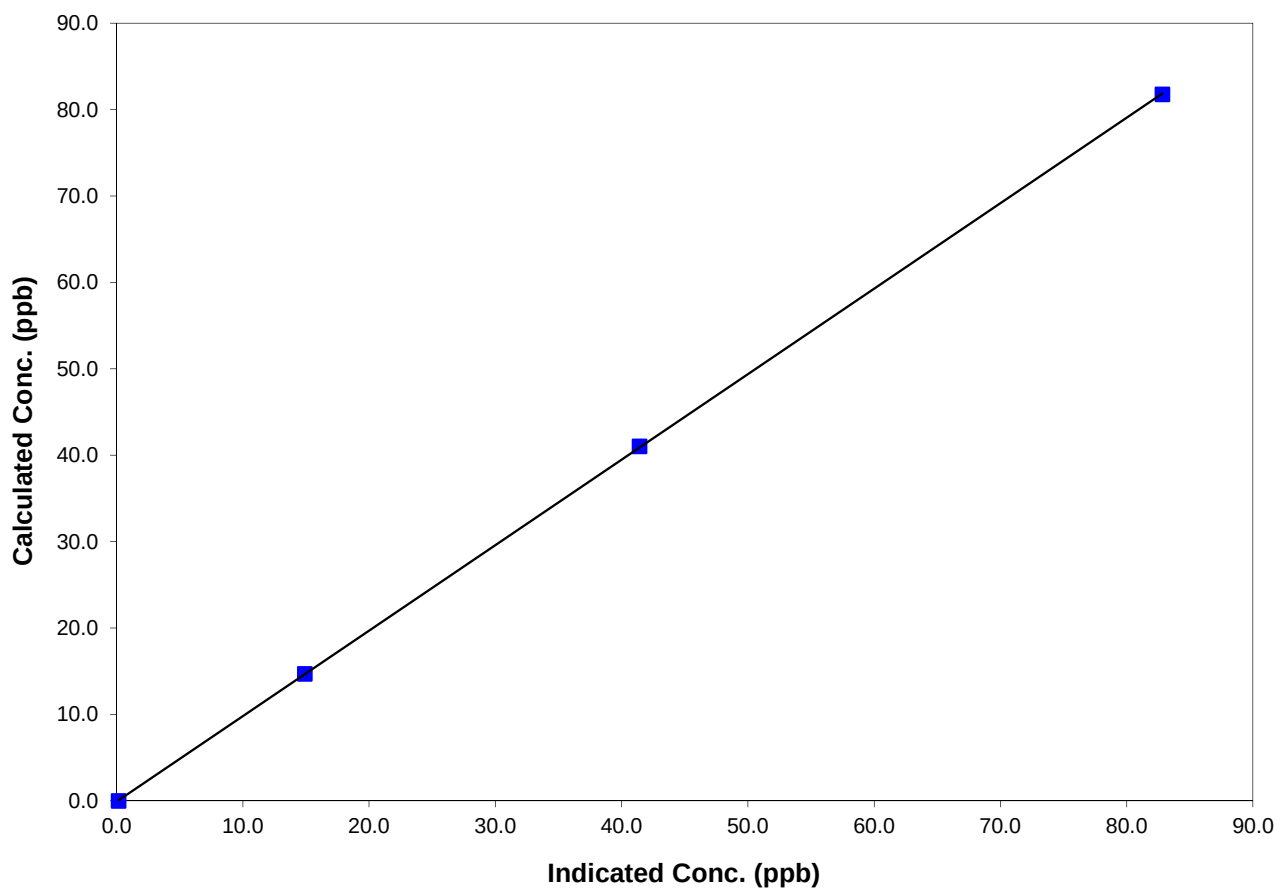
Station Information

Calibration Date	December 17 2014	Previous Calibration	November 6 2014
Station Number	6	Station Location	Valleyview
Start Time (MST)	11:20	End Time (MST)	14:10:00 PM
Analyzer make/model	TEI Model 43i - APSCB	Analyzer serial #	701120010

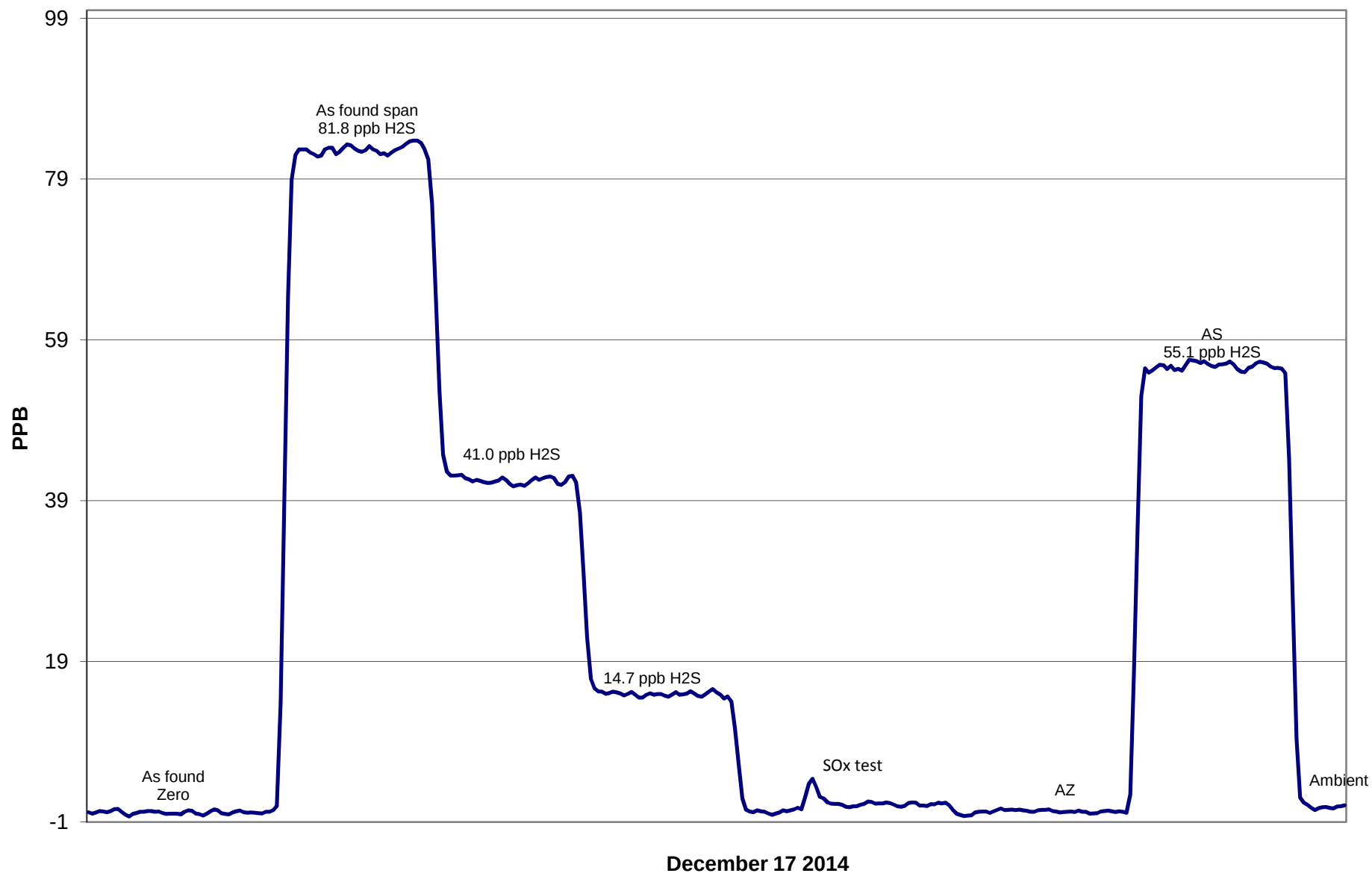
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.2	N/A	Correlation Coefficient	0.999992
81.8	82.8	0.9873		
41.0	41.4	0.9903		
14.7	14.9	0.9850	Slope	0.989263
			Intercept	-0.088523

H2S Calibration Curve



H2S Calibration



Calibration Report



Parameter SO₂

Air Monitoring Network PAZA

Station Information

Calibration Date	December 17, 2014	Previous Calibration	November 29, 2014
Station Number	1	Station Location	Falher
Reason:	☒ Routine	☐ Install	☐ Removal
		☐ Other:	
Start Time (MST)	13:00:00 PM	End Time (MST)	15:30:00 PM
Barometric Pressure	0.908 mm	Station Temperature	20.0 Deg C
Calibrator	EnviroNics	Serial Number	3474
Cal Gas Concentration	50.2 ppm	Cal Gas Expiry Date	10/03/2017
Correction factor	0.030865	Cal Gas Cylinder #	LL119493
DACS make	CR1000	DACS serial No.	3980
DACS voltage range	0 - 5 volt	DACS channel #	6
	Before		After
Calculated slope	0.994296	Calculated slope	0.997951
Calculated intercept	0.176680	Calculated intercept	0.014473
Analyzer make	Teco 43i	Analyzer serial #	1207452008

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
Background	6.6		6.6	
coefficient	0.902		0.902	
Lamp Voltage	863	volts	861	volts
Chamber Temp	45	Deg C	45	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	674.9	mm Hg	676.2	mm Hg
Sample Flow	0.408	ccm	0.408	ccm
Lamp Intensity	96	%	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	0.8	N/A
4995	39.93	398.1	399.3	0.9971
4995	19.96	199.8	199.9	0.9996
4995	9.97	100.0	99.4	1.0065
4995	0.0	0.0	0.8	As Found Zero
4995	39.93	398.1	399.3	As Found Span
Average Correction Factor				1.0011

Calculated value of As Found Response: 396.417 ppm Percent Change of As Found: 0.4%

	before calibration		after calibration	
Auto zero	0.7	ppm	0.8	ppm
Auto span	353.8	ppm	357.0	ppm

Notes: No adjustments made

Calibration Performed By: Dmytro Dolotii

Calibration Summary

Parameter SO2

Air Monitoring Network PAZA



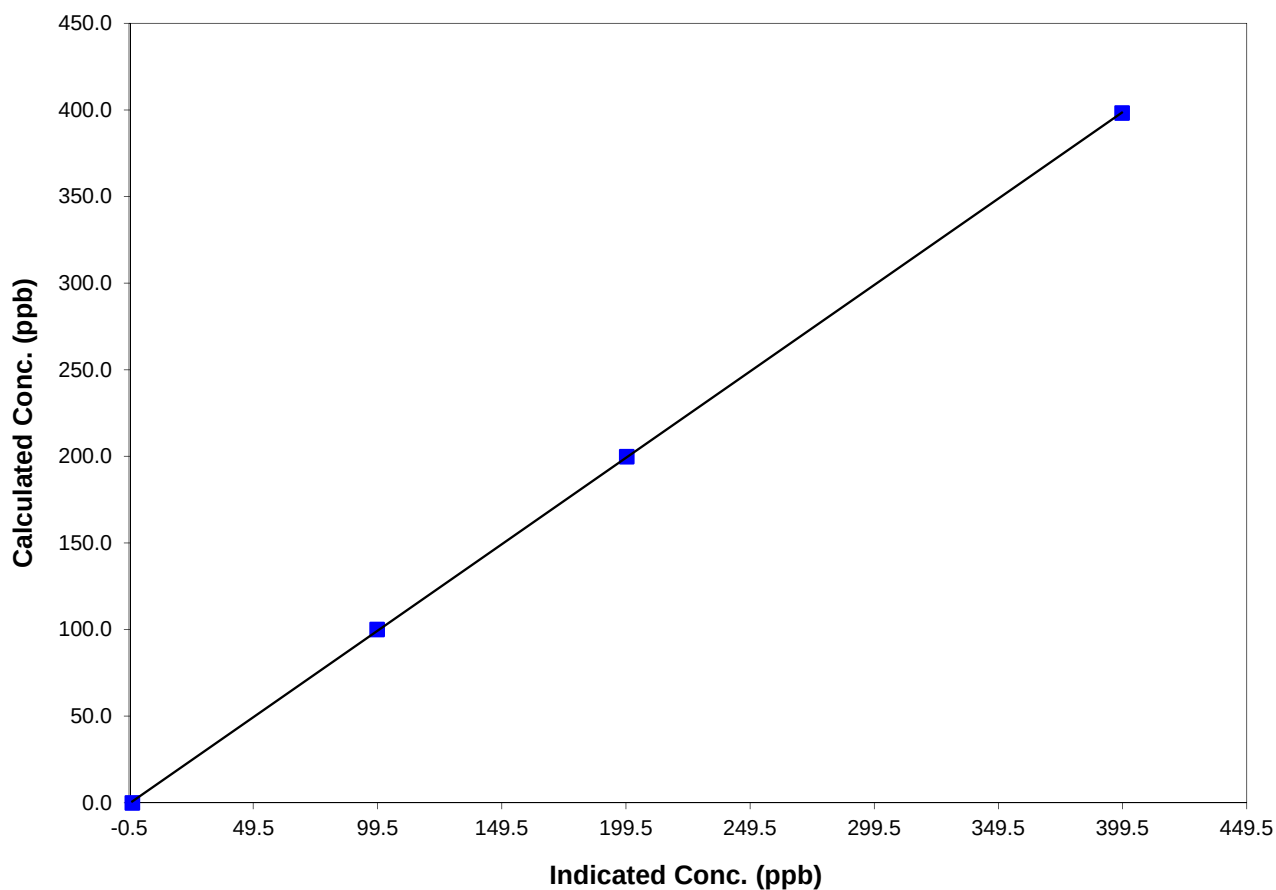
Station Information

Calibration Date	December 17, 2014	Previous Calibration	November 29, 2014
Station Number	1	Station Location	Falher
Start Time (MST)	13:00:00 PM	End Time (MST)	15:30:00 PM
Analyzer make/model	Teco 43i	Analyzer serial #	1207452008

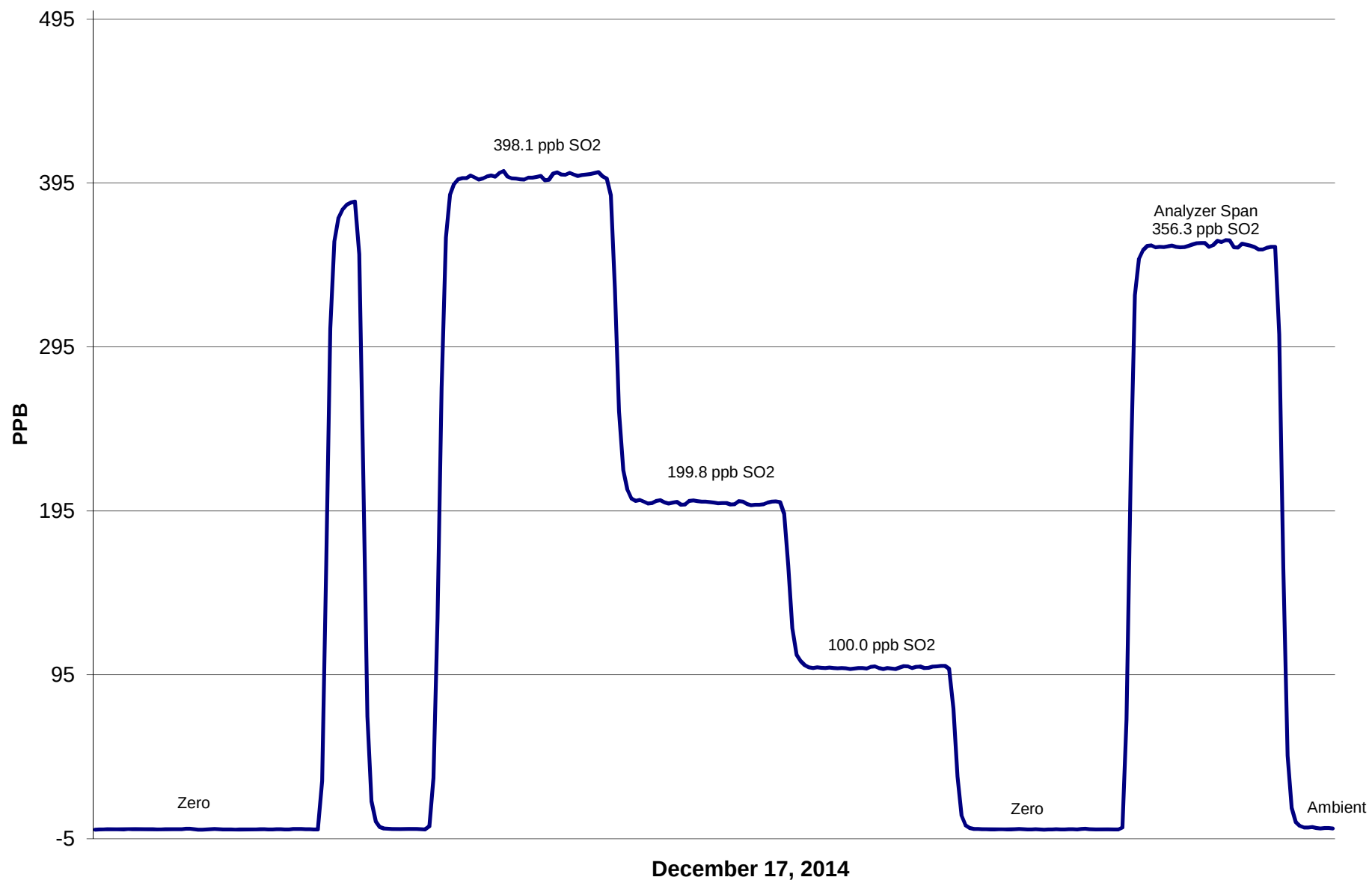
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.8	N/A	Correlation Coefficient	0.999982
398.1	399.3	0.9971		
199.8	199.9	0.9996		
100.0	99.4	1.0065	Slope	0.997951
			Intercept	0.014473

SO2 Calibration Curve



SO2 Calibration



Calibration Report



Parameter H2S

Air Monitoring Network PAZA

Station Information

Calibration Date	December 17, 2014	Previous Calibration	November 29, 2014
Station Number	1	Station Location	Falher
Reason:	☒ Routine	☐ Install	☐ Removal
		☐ Other:	
Start Time (MST)	11:20	End Time (MST)	14:10:00 AM
Barometric Pressure	0.908 mm	Station Temperature	20.0 Deg C
Calibrator	EnviroNics	Serial Number	3016
Cal Gas Conc	10.32 ppm	Cal Gas Expiry Date	08/07/2016
Correction factor	0.030865	Cal Gas Cylinder #	LL110781
DACS make	CR1000	DACS serial No.	3980
DACS voltage range	0 - 5 volt	DACS channel #	5
	<u>Before</u>		<u>After</u>
Calculated slope	0.988472	Calculated slope	0.989882
Calculated intercept	-0.048331	Calculated intercept	-0.086857
Analyzer make	Thermo 450i	Analyzer serial #	1207452006

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Background	14.2	ppb	14.2	ppb
coefficient	1.117		1.117	
Lamp Voltage	805	volts	805	volts
Chamber Temp	45	Deg C	45.2	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	554.3	mm Hg	555	mm Hg
Sample Flow	0.863	lpm	0.865	lpm
Lamp Intensity	90	mv	90	mv

Calibration Data

Dilution air flow rate (cc/min)	Corrected gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4995	0.00	0.00	0.2	N/A
4995	39.93	81.84	82.8	0.9879
4995	19.96	41.07	41.4	0.9911
6994	9.97	14.69	14.9	0.9877
4995	0.00	0.00	0.2	As Found Zero
4995	39.93	81.84	82.8	As Found Span
Average Correction Factor				0.9889

Calculated value of As Found Response: 81.64 ppm Percent Change of As Found: 0.2%

	before calibration		after calibration	
Auto zero	0.3	ppm	0.2	ppm
Auto span	55.4	ppm	55.8	ppm

Notes: No adjustments made

Calibration Performed By: Dmytro Dolotii

Calibration Summary

Parameter H2S

Air Monitoring Network PAZA



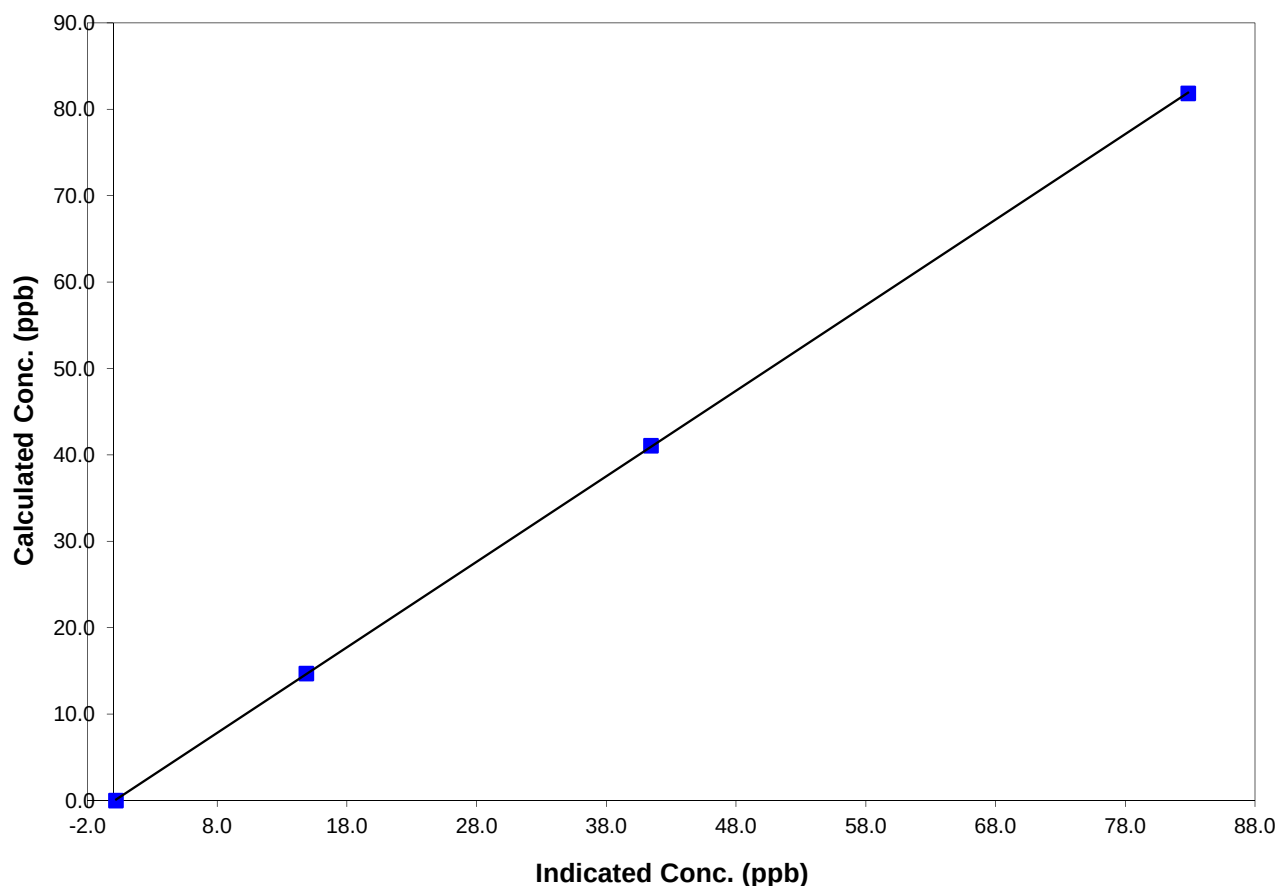
Station Information

Calibration Date	December 17, 2014	Previous Calibration	November 29, 2014
Station Number	1	Station Location	Falher
Start Time (MST)	11:20	End Time (MST)	14:10:00 AM
Analyzer make/model	Thermo 450i	Analyzer serial #	1207452006

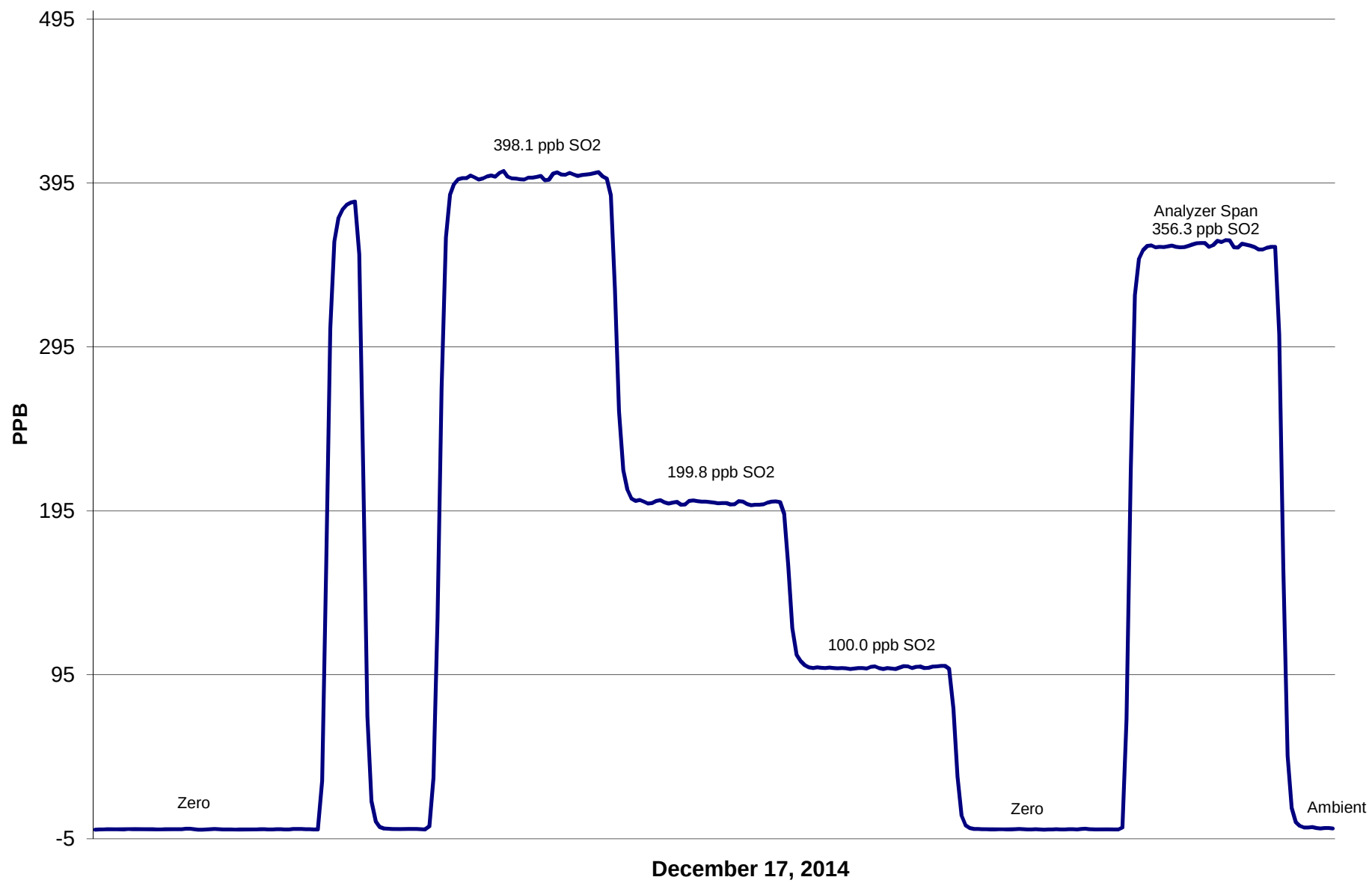
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.2	N/A	Correlation Coefficient	0.999989
81.8	82.8	0.9879		
41.1	41.4	0.9911		
14.7	14.9	0.9877	Slope	0.989882
			Intercept	-0.086857

TRS Calibration Curve



SO2 Calibration



Calibration Report

Parameter SO2

Air Monitoring Network PAZA



Station Information

Calibration Date	December 9, 2014	Previous Calibration	November 18, 2014
Station Number	10	Station Location	Clairmont
Reason:	Routine	Install	Removal
		Other:	
Start Time (MST)	9:35	End Time (MST)	11:55
Barometric Pressure	0.926 Atm	Station Temperature	20.0 Deg C
Calibrator	EnviroNics 6100	Serial Number	3016
Cal Gas Concentration	50.2 ppm	Cal Gas Expiry Date	10/03/2017
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	0.998790	Calculated slope	1.002909
Calculated intercept	1.778045	Calculated intercept	1.463899
Analyzer make	TEI 43C	Analyzer serial #	436610005

	before		after	
Concentration range	0-500	ppb	0-500	ppb
Background	21.5		21.5	
Coefficient	1.042		1.042	
UV Lamp Voltage	882	V	882	V
Chamber Temp	44.4	C	44.6	C
Perm Gas Temp	45	C	44.98	C
Pressure	658.3	mm Hg	656.9	mm Hg
Sample Flow	0.461	LPM	0.461	LPM
Lamp Intesity	30515	Hz	30573	Hz

Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4995	0.00	0.0	0.1	N/A
4995	39.93	398.1	396.2	1.0049
4995	19.97	199.9	197.3	1.0130
4995	9.97	100.0	96.6	1.0355
4995	0.00	0.0	0.1	As found zero
4995	39.93	398.1	396.2	As found span
Average Correction Factor				1.0178

Calculated value of As Found Response: 397.396 ppm Percent Change of As Found: 0.2%

	before calibration		after calibration	
Auto zero	0.3	ppm	0.3	ppm
Auto span	239.0	ppm	248.2	ppm

Notes: NO adjustments made

Calibration Performed By: Dmytro Dolotii.

Calibration Summary

Parameter SO2

Air Monitoring Network PAZA



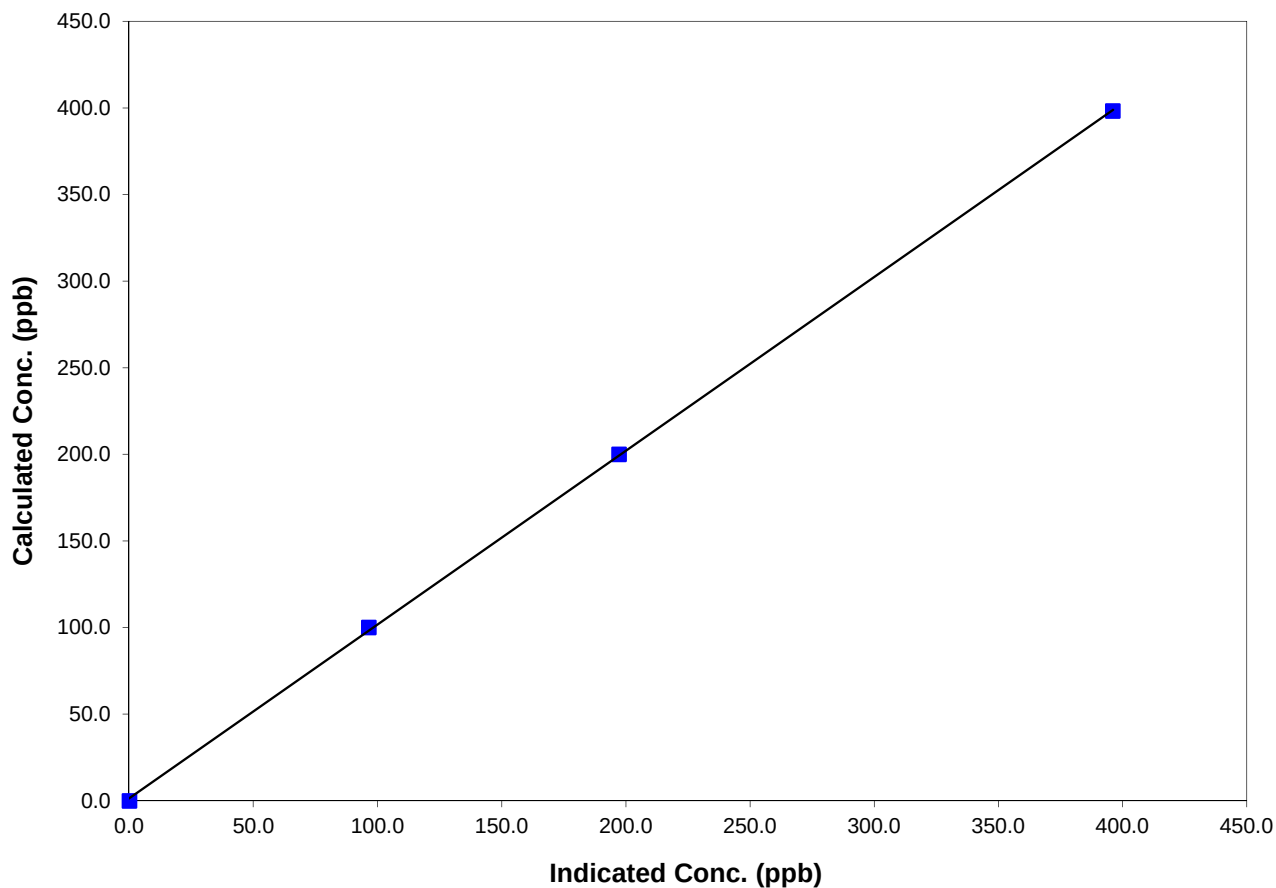
Station Information

Calibration Date	December 9, 2014	Previous Calibration	November 18, 2014
Station Number	10	Station Location	Clairmont
Start Time (MST)	9:35	End Time (MST)	11:55
Analyzer make/model	TEI 43C	Analyzer serial #	436610005

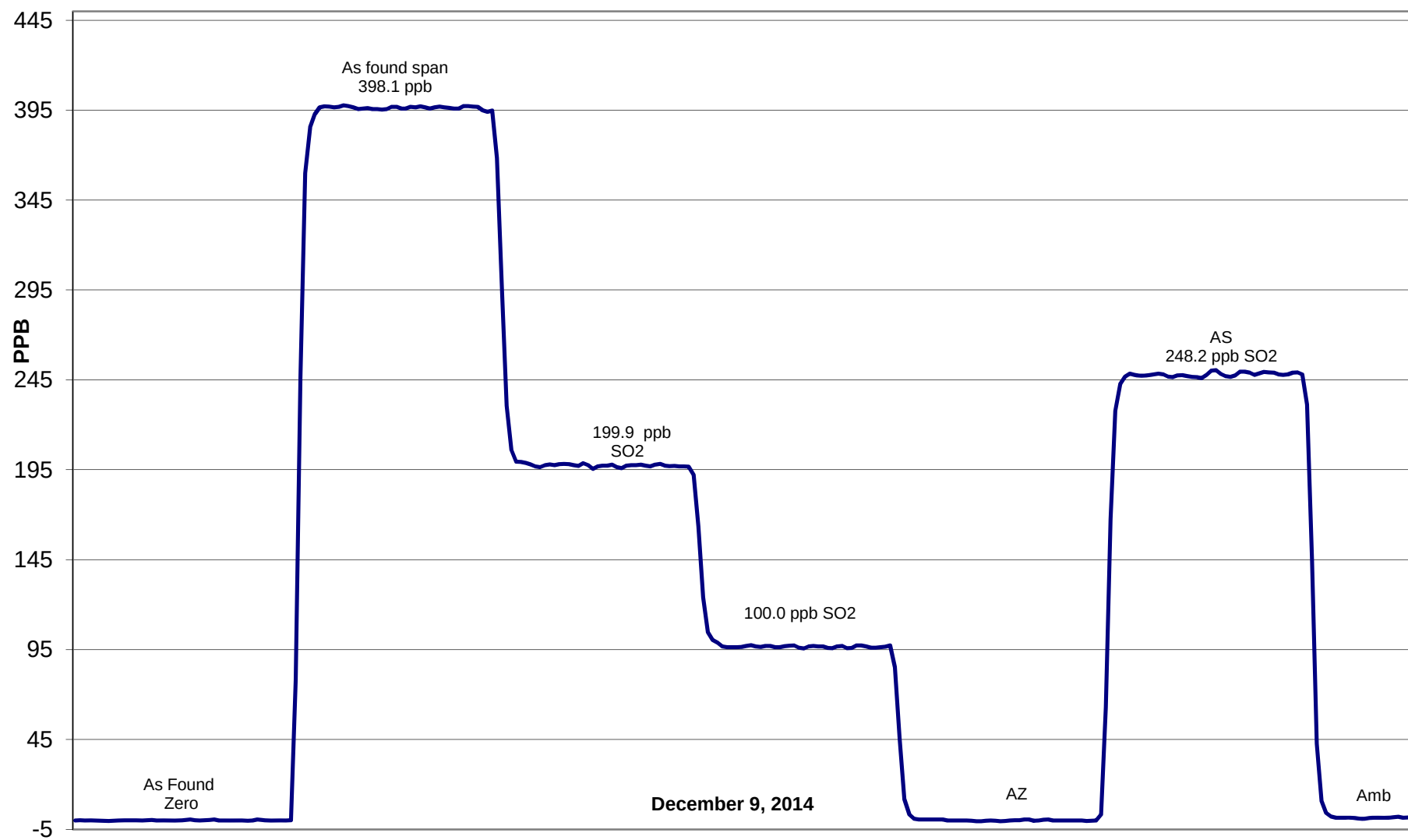
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.1	N/A	Correlation Coefficient	0.999931
398.1	396.2	1.0049		
199.9	197.3	1.0130		
100.0	96.6	1.0355	Slope	1.002909
			Intercept	1.463899

SO2 Calibration Curve



SO2 Calibration



Calibration Report

Parameter **NO_x-NO-NO₂**

Air Monitoring Network



Station Information

Calibration Date	December 9, 2014	Previous Calibration	November 18, 2014		
Station Number	10	Station Location	Clairmont		
Reason:	Routine	Installation	Removal		
Other:					
Start Time (MST)	9:34	End Time (MST)	13:40:00 PM		
Barometric Pressure	0.925	Atm	Station Temperature	20.0	Deg C
Calibrator	Envionics		Serial Number	3016	
NO Cal Gas Conc	50.9	ppm	Cal Gas Expiry Date	March 10, 2017	
NOx Cal Gas Conc	51.2	ppm	Cal Gas Serial #	LL119493	

DACS Information

DACS make	CR3000	DACS serial No.	5407	
Parameter		NO2	NOx	NO
Before	Data Slope	0.992648	0.998659	0.997183
	Data Offset	-1.257008	0.883600	0.607306
After	Data Slope	0.998303	0.991014	0.991596
	Data Offset	-0.607186	0.160183	0.339122
Channel #		8	6	7
Voltage Range		0 - 5 VDC	0 - 5 VDC	0 - 5 VDC

Analyzer Information

Analyzer make/model	TEI 42i	Analyzer serial #	0701120011	
Test Point	before		after	
Concentration range	0-500	ppb	0-500	ppb
NO offset	7.1	mV	7.1	mV
NOx bkgnd	7.3	mV	7.3	mV
NO coefficient	1.228		1.228	
NOx coefficient	0.999		0.999	
NO2 conv temp	325.3	Deg C	325.6	Deg C
PMT Temp	-2.8	Deg C	-2.8	Deg C
PMT Volt	-845.5	mV	-845.5	mV
R Cell Press	211.0	in Hg	207.4	in Hg
Sample Flow	0.652	LPM	0.660	LPM

Notes: NO adjustments made

Calibration Report

Parameter **NOX-NO-NO2**
Air Monitoring Network **0**



Station Information

Calibration Date: December 9, 2014 Station Location: Clairmont

Calibration Data

	Dilution flow rate (ccm)	Source gas flow rate (ccm)	Calculated NOx conc (ppb)	Calculated NO conc (ppb)	Calculated NO2 conc (ppb)	Indicated NOx conc (ppb)	Indicated NO conc (ppb)	Indicated NO2 conc (ppb)	NOx Correction factor	NO Correction factor
zero	4995	0.00	0.0	0.0	0.0	0.4	0.1	0.4	N/A	N/A
1	4995	39.92	405.9	403.6	2.4	409.6	406.8	1.2	0.9910	0.9921
2	4995	19.96	203.8	202.6	1.2	205.5	204.0	0.7	0.9916	0.9931
3	4995	9.93	101.6	101.0	0.6	101.5	100.8	0.8	1.0005	1.0015
AFZ	4995	0.00	0.0	0.0	0.0	0.4	0.1	0.4	0.0000	0.0000
AFS	4995	39.92	405.9	403.6	0.8	409.6	406.8	1.2	0.9910	0.9921
Average Correction Factor									0.9943	0.9956

As Found Concentrations: NO_x= 409.6 NO= 406.1 As Found Percent Change NO_x= 0.9% NO= 0.6%

GPT Calibration Data

Dilution Flow 4995 ccm Source Gas Flow 39.93 ccm

O3 Setpoint (ppb)	Indicated NOx high point (ppb)	Indicated NO drop conc (ppb)	Calculated NO2 conc (ppb)	Indicated NOx conc (ppb)	Indicated NO conc (ppb)	Indicated NO2 conc (ppb)	NOx Correction factor	NO Correction factor	NO2 Correction factor	Converter Efficiency
0	0.1	0.1	0.0	0.4	0.1	0.4	N/A	N/A	N/A	N/A
NO point	409.2	409.2	0.0	411.1	409.2	-0.2	0.9956	1.0000	N/A	N/A
300	409.2	101.4	307.8	411.7	101.4	308.9	0.9939	1.0000	0.9966	100.3%
200	409.2	201.8	207.4	412.3	201.8	208.3	0.9926	1.0000	0.9956	100.4%
100	409.2	301.6	107.7	412.4	301.6	108.8	0.9924	1.0000	0.9896	101.0%
Average Correction Factor							0.9930	1.0000	0.9940	100.6%

AIC Data

	Previous calibration				Current calibration			
Parameter	NOx	NO2	NO		NOx	NO2	NO	
Auto zero	0.4	0.2	0.4	ppb	0.4	0.2	0.3	ppb
Auto span	172.8	170.7	1.4	ppb	197.4	195.0	1.4	ppb

Calibration Performed By: Dmytro Dolotii

Calibration Summary

Parameter NO₂

Air Monitoring Network 0



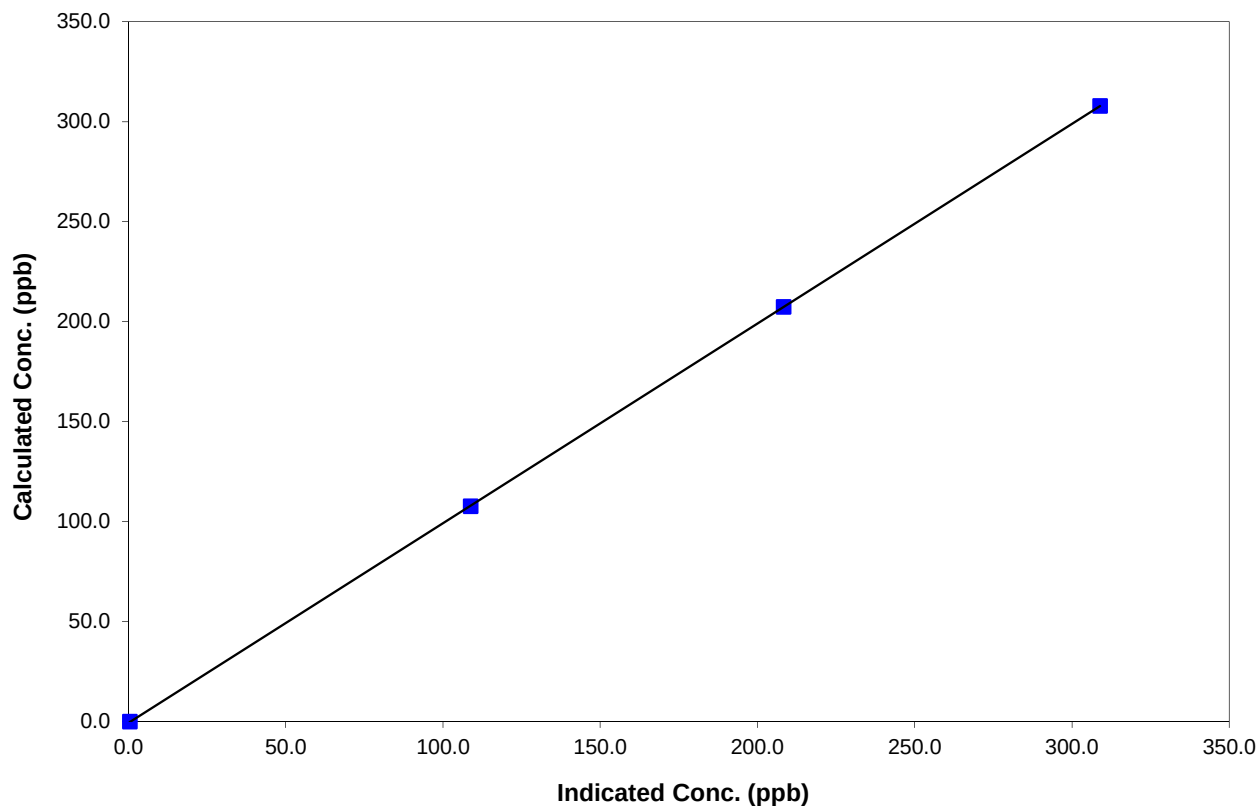
Station Information

Calibration Date	December 9, 2014	Previous Calibration	November 18, 2014
Station Number	10	Station Location	Clairmont
Start Time (MST)	9:34	End Time (MST)	13:40:00 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	0.999997
307.8	308.9	0.9966		
207.4	208.3	0.9956		
107.7	108.8	0.9896	Slope	0.998303
			Intercept	-0.607186

NO₂ Calibration Curve



Calibration Summary

Parameter NO_x

Air Monitoring Network 0



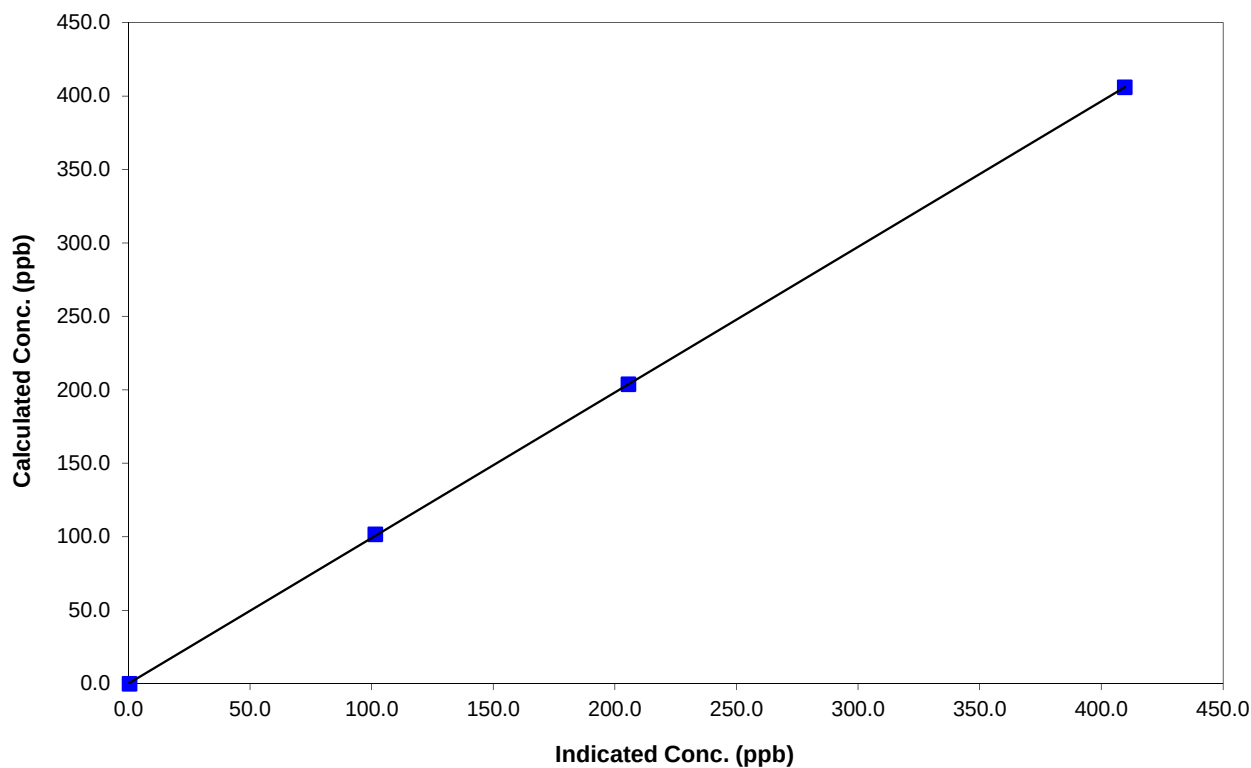
Station Information

Calibration Date	December 9, 2014	Previous Calibration	November 18, 2014
Station Number	10	Station Location	Clairmont
Start Time (MST)	9:34	End Time (MST)	13:40:00 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	0.999989
405.9	409.6	0.9910		
203.8	205.5	0.9916		
101.6	101.5	1.0005	Slope	0.991014
			Intercept	0.160183

NO_x Calibration Curve



Calibration Summary

Parameter NO

Air Monitoring Network 0



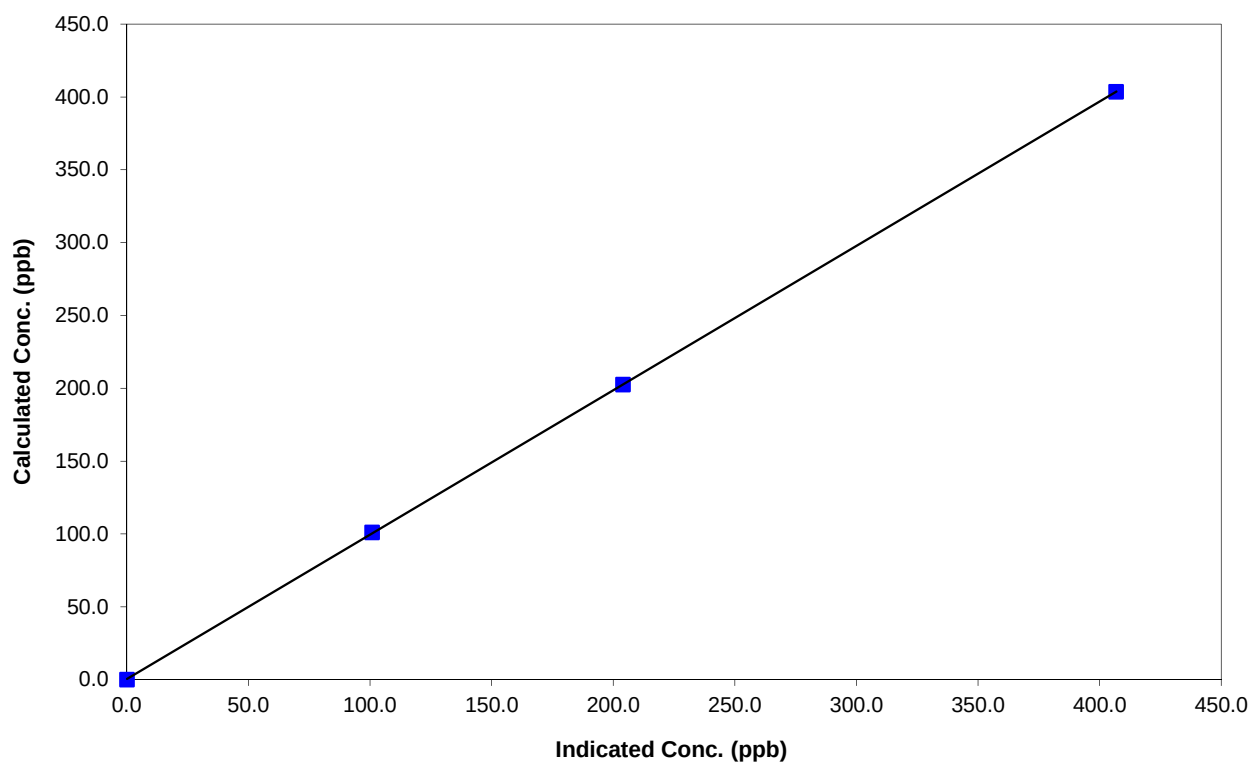
Station Information

Calibration Date	December 9, 2014	Previous Calibration	November 18, 2014
Station Number	10	Station Location	Clairmont
Start Time (MST)	9:34	End Time (MST)	13:40:00 PM
Analyzer make	TEI 42i	Analyzer serial #	0701120011

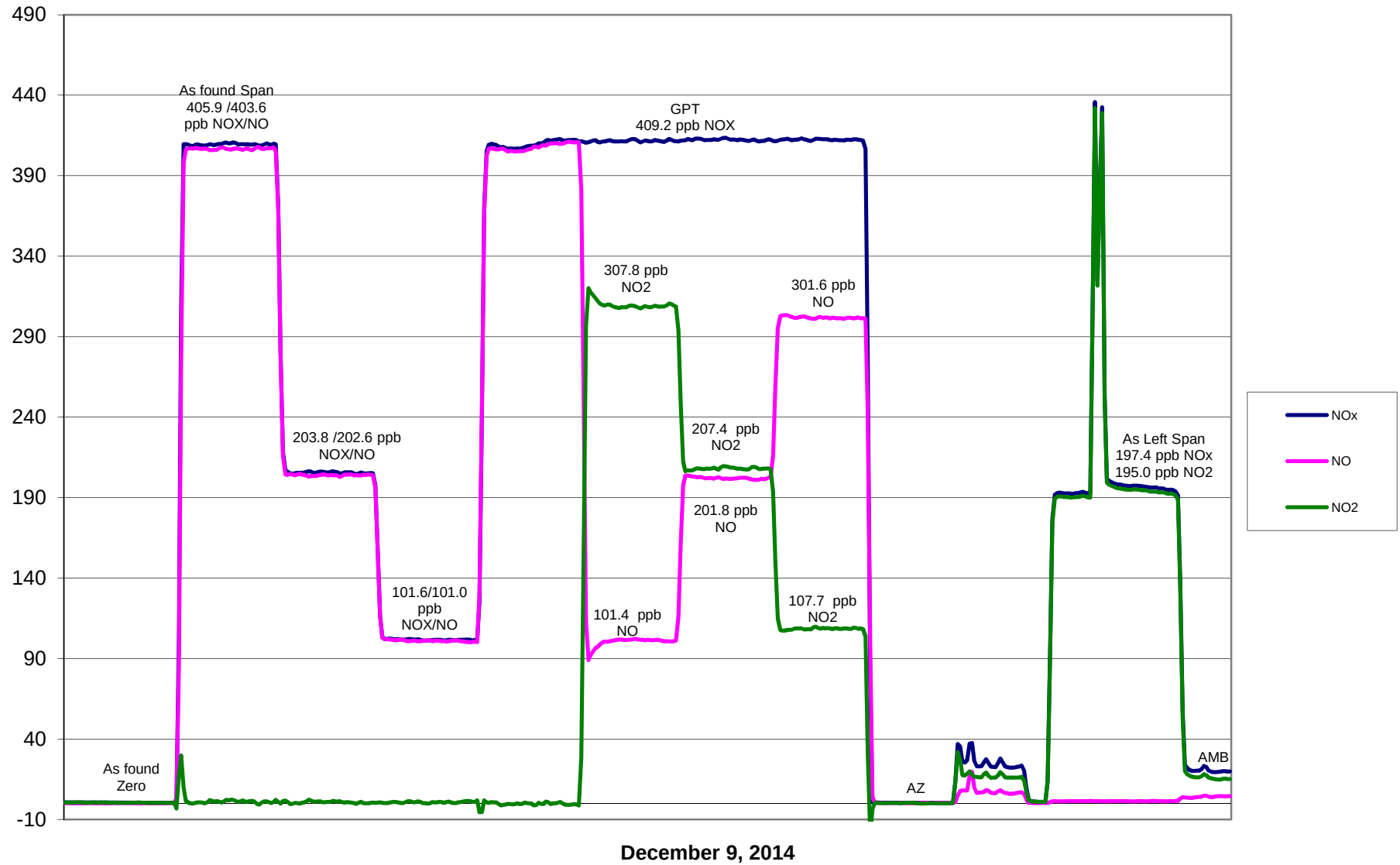
Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.1	N/A	Correlation Coefficient	0.999992
403.6	406.8	0.9921		
202.6	204.0	0.9931		
101.0	100.8	1.0015	Slope	0.991596
			Intercept	0.339122

NO Calibration Curve



NO_x Calibration



Calibration Report



Parameter 03

Air Monitoring Network PAZA

Station Information

Calibration Date	December 9 2014	Previous Calibration	November 18 2014
Station Number	10	Station Location	Clairmont
Reason:	Routine	☐ Install	☐ Removal remove ☐ Other:
Start Time (MST)	12:06	End Time (MST)	14:19:00 PM
Barometric Pressure	0.925 atm	Station Temperature	20.0 Deg C
Calibrator	Envionics 6100	Serial Number	3016
DACS make	CR3000	DACS serial No.	5407
DACS voltage range	0 - 5 Volts	DACS channel #	6
	Before		After
Calculated slope	0.983114	Calculated slope	0.997898
Calculated intercept	-1.032281	Calculated intercept	0.201093
Analyzer make	TEI Model 49C	Analyzer serial #	49C-0609716240

	before		after	
Concentration range	0-500	ppb	0-500	ppb
Offset	0	ppb	0	ppb
Span	1.007		1.007	
Cell A intensity	86781	Hz	86670	Hz
Cell B intensity	84199	Hz	84421	Hz
Pressure	673.00	in Hg	673.40	in Hg
CellA Flow	0.675	ccm	0.675	ccm
Cell B Flow	0.675	cmm	0.675	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)
5035	0.00	0.0	0.0	N/A
5035	0.30	307.8	308.7	0.9969
5035	0.20	207.4	206.8	1.0027
5035	0.10	107.7	107.8	0.9989
5035	0.00	0.0	0.0	As found zero
5035	0.30	307.8	308.7	As found span
Average Correction Factor				0.9995

Calculated value of As Found Response: 302.5 ppm Percent Change of As Found: -1.7%

	before calibration		after calibration	
Auto zero	-1.1	ppb	0.2	ppb
Auto span	417.3	ppb	438.9	ppb

Notes: No adjustments made

Calibration Performed By: Dmytro Dolotii.

Calibration Summary

Parameter 03

Air Monitoring Network PAZA



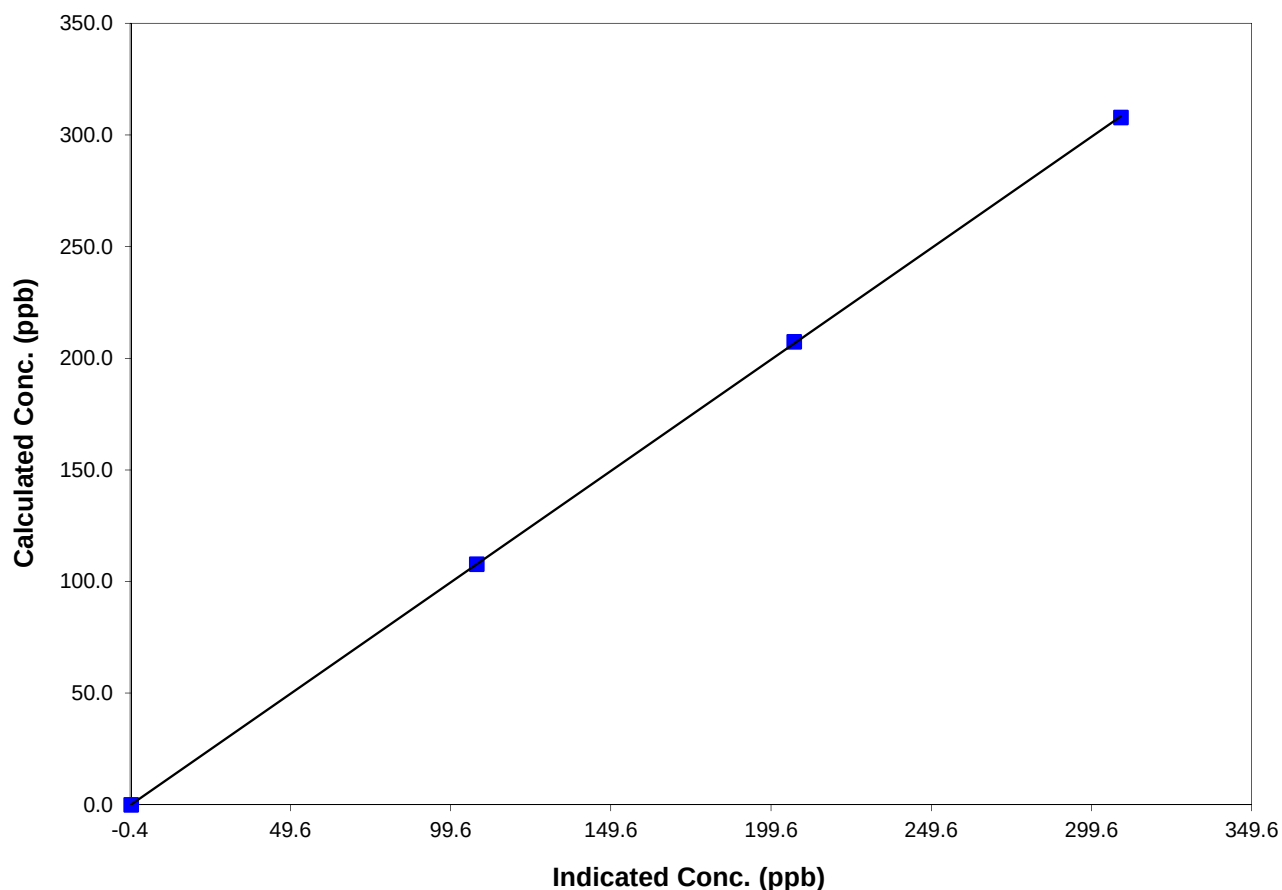
Station Information

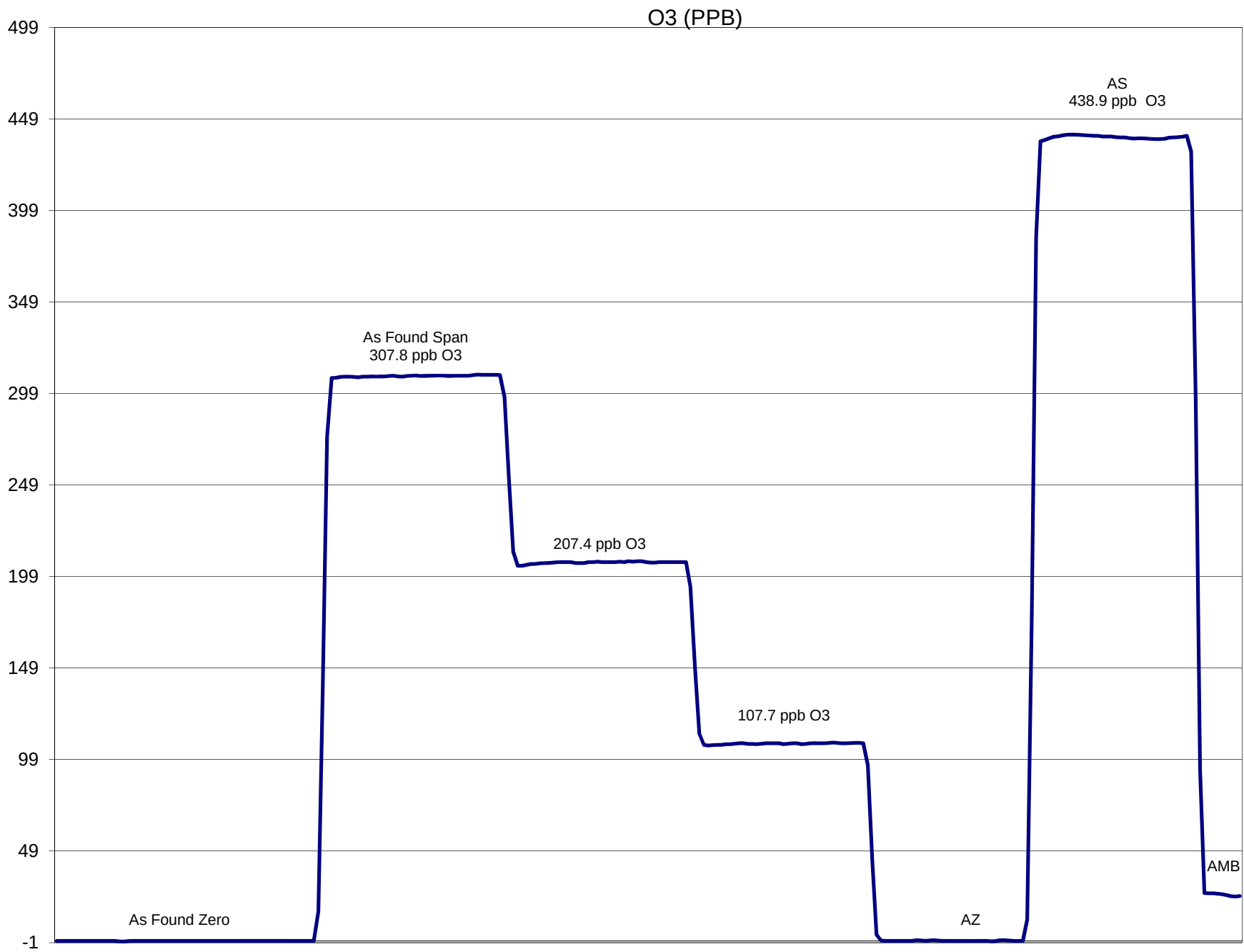
Calibration Date	December 9 2014	Previous Calibration	November 18 2014
Station Number	10	Station Location	Clairmont
Start Time (MST)	12:06	End Time (MST)	14:19:00 PM
Analyzer make/model	TEI Model 49C	Analyzer serial #	49C-0609716240

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.0	NA		
307.8	308.7	0.9969	Correlation Coefficient	0.999982
207.4	206.8	1.0027		
107.7	107.8	0.9989	Slope	0.997898
			Intercept	0.201093

O3 Calibration Curve





December 9 2014

Calibration Report

Parameter THC

Air Monitoring Network PASZA



Station Information

Calibration Date	December 10, 2014	Previous Calibration	November 19, 2014
Station Number	10	Station Location	Clairmont
Reason:	☒ Routine	☐ Install	☐ Removal
		☐ Other:	
Start Time (MST)	12:00	End Time (MST)	15:10:00 PM
Barometric Pressure	0.926 ATM	Station Temperature	20.0 Deg C
Calibrator	EnviroNics 6100	Serial Number	3016
Cal Gas Concentration	404 ppm CH4/ 201 ppm C3H8	Cal Gas Expiry Date	28/03/2014
Cal Gas CH4 equiv	956.75 ppm	Cal Gas Cylinder #	LL34989
DACS make	CR3000	DACS serial No.	5407
DACS voltage range	0 - 1 volt	DACS channel #	12
	<u>Before</u>		<u>After</u>
Calculated slope	0.989054	Calculated slope	0.999611
Calculated intercept	0.089933	Calculated intercept	0.084666
Analyzer make	TEI Model 51C-LT	Analyzer serial #	51CLT-79009-390

	before		after	
Concentration range	0 - 25	ppm	0 - 25	ppm
THC sample pressure	6.48	psi	6.50	psi
THC zero counts	1510	capture	1510	capture
THC span counts	11040	capture	11040	capture
THC zero offset	2320	capture	2309	capture
THC span offset	2328	capture	2343	capture

Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
2996	0.00	0.00	0.01	N/A
2996	69.89	21.81	21.77	1.0016
2996	29.96	9.47	9.32	1.0166
2996	9.97	3.17	3.03	1.0488
2996	0.00	0.00	-0.12	As Found Zero
2996	69.93	21.82	21.49	As Found Span
Average Correction Factor				1.0223

Calculated value of As Found Response: 21.460 ppm Percent Change of As Found: 1.7%

	before calibration		after calibration	
Auto zero	0.10	ppm	0.08	ppm
Auto span	22.18	ppm	21.97	ppm

Notes: Zero/span adjustment made

Calibration Performed By: Dmytro Dolotii

Calibration Summary

Parameter THC

Air Monitoring Network PASZA



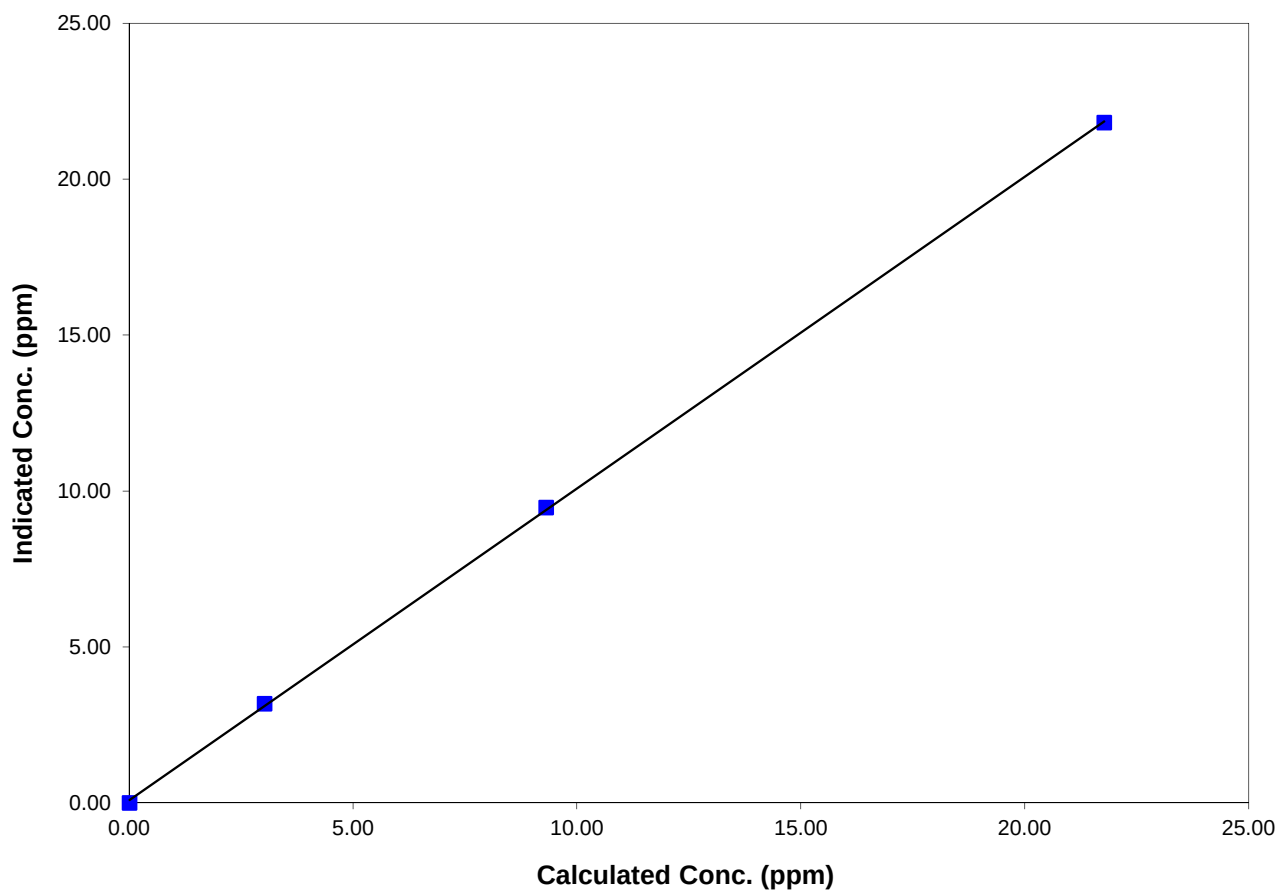
Station Information

Calibration Date	December 10, 2014	Previous Calibration	November 19, 2014
Station Number	10	Station Location	Clairmont
Start Time (MST)	12:00	End Time (MST)	15:10:00 PM
Analyzer make/model	TEI Model 51C-LT	Analyzer serial #	51CLT-79009-390

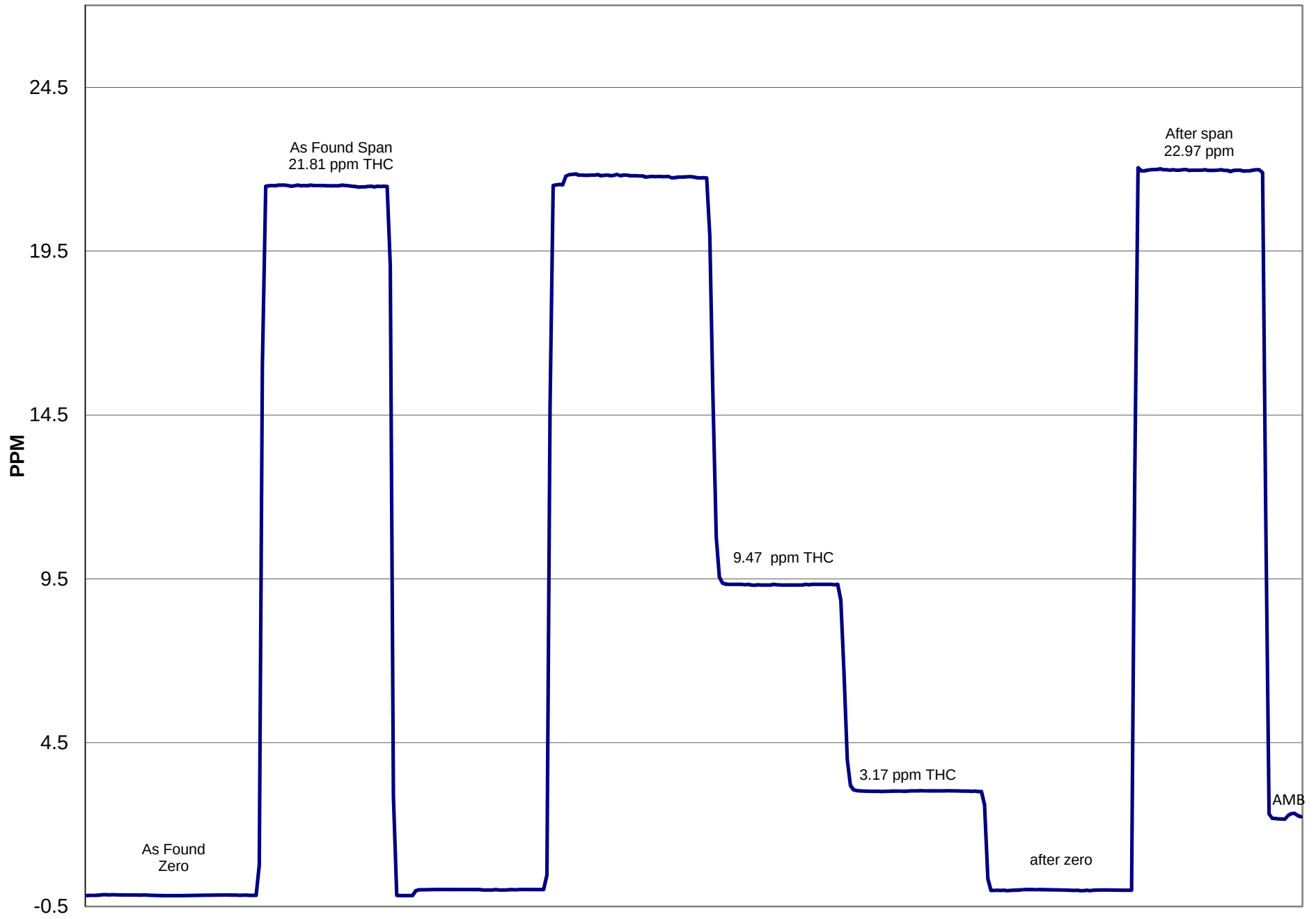
Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.013	N/A	Correlation Coefficient	0.999926
21.81	21.77	1.0016		
9.47	9.32	1.0166		
3.17	3.03	1.0488	Slope	0.999611
			Intercept	0.084666

THC Calibration Curve



THC Calibration



Calibration Report

Parameter TR5

Air Monitoring Network PAZA



Station Information

Calibration Date	December 10, 2014	Previous Calibration	November 19, 2014
Station Name	PAZA Rover	Station Location	Clairmont
Reason:	Routine	Install	Removal
		Other:	
Start Time (MST)	9:20 AM	End Time (MST)	12:50
Barometric Pressure	0.917 Atm	Station Temperature	20.0 Deg C
Calibrator	EnviroNics	Serial Number	3016
Cal Gas Concentration	10.32 ppm	Cal Gas Expiry Date	July/08/2016
Gas Cert Reference	LL110781		
DACS make	CR3000	DACS serial No.	5407
DACS voltage range	0 - 5 Volt	DACS channel #	1
	Before		After
DACS Scale High	100	DACS slope	100
DACS Scale Low	0	DACS intercept	0
Calculated slope	0.992070	Calculated slope	1.004779
Calculated intercept	-0.188539	Calculated intercept	-0.317979
Analyzer make	TEI 43C	Analyzer serial #	609716238

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Background	25.7	ppb	25.7	ppb
Coefficient	0.992		0.957	
Lamp Voltage	797	V	796	V
Chamber Temp	43.7	C	43.9	C
Perm gas Temp	45	C	45	C
Pressure	648.5	mmHg	646.9	mmHg
Sample Flow	0.428	lpm	0.427	lpm
Lamp Intensity	43734	Hz	43510	Hz

Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4995	0.0	0.0	0.5	N/A
4995	39.93	81.8	81.8	1.0001
4995	19.97	41.1	41.1	0.9987
6995	9.97	14.7	14.8	0.9951
4995	9.97		0.5	Sox Test
4995	0.00	0.0	0.5	As found zero
4995	39.93	81.8	84.4	As found span
Average Correction Factor				0.9979

Calculated value of As Found Response: 83.00 ppm Percent Change of As Found: -1.4%

	before calibration		after calibration	
Auto zero	0.2	ppm	0.1	ppm
Auto span	62.7	ppm	63.9	ppm

Notes: Span adjustments made

Calibration Performed By: Dmytro Dolotii

Calibration Summary

Parameter TRS

Air Monitoring Network PAZA



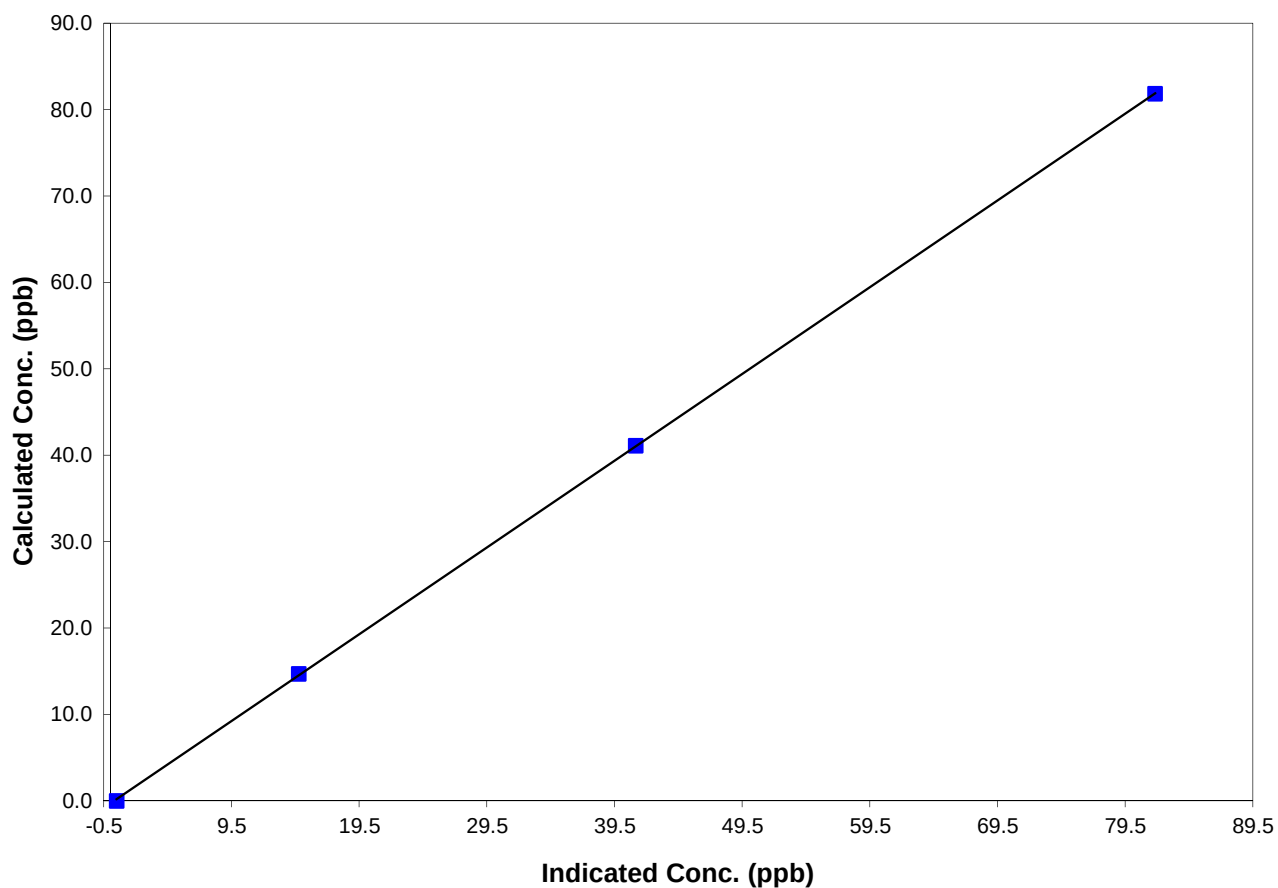
Station Information

Calibration Date	December 10, 2014	Previous Calibration	November 19, 2014
Station Number	PAZA Rover	Station Location	Clairmont
Start Time (MST)	9:20	End Time (MST)	12:50
Analyzer make/model	TEI 43C	Analyzer serial #	609716238

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.5	N/A	Correlation Coefficient	0.999982
81.8	81.8	1.0001		
41.1	41.1	0.9987		
14.7	14.8	0.9951	Slope	1.004779
			Intercept	-0.317979

TRS Calibration Curve



TRS Calibration

