Peace Airshed Zone Association

Ambient Air Monitoring Network Summary

Ambient Air Quality Monitoring Program
Monthly Report
December 2018

January 28th, 2019

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

RE: Peace Airshed Zone Association (PAZA) – December 2018 Ambient Air Report

Enclosed is the PAZA Ambient Monitoring Network Report for the month of December 2018.

The representative of the Person Responsible for this monitoring program is Mandeep Dhaliwal, Program Manager.

This report was prepared by Andersen Science Consulting and reviewed by Mandeep Dhaliwal.

PAZA has retained the services of WSP Canada Inc. to conduct continuous ambient monitoring and Andersen Science Consutling to provide data validation and reporting on its behalf.

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

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

Company	Facility	LSD	EPEA Approval Number
	Teepee Creek	SE-2-074-04-W6	00001635-02-00
	Sturgeon/Valleyview	02-02-069-22-W5	1633-02-00
Canfor Forest Products	Grande Prairie	SW-23-071-06-W6	152645-01-00
Conocophillips Canada Energy Partnership	Wembley	06-19-073-08-W6	00000212-01-00
Devon Canada	NW Belloy (Dunvegan)	16-36-079-03-W6	00009810-02-00
	Eaglesham (South)	02-14-077-25-W5	00047669-01-00
	North Normanville	03-36-079-23-W5	00047455-01-00
	West Culp	05-34-078-25-W6	00136284-00-00
	Cecil	08-15-084-08-W6	00010032-02-00
Encana Corporation	Sexsmith	04-08-075-07-W6	00010002-01-00
Enerplus Resources	Pouce Coupe	SW-06-069-21-W5	1464-02-03
Exshaw Oil Corporation	Spirit River	03-10-077-07-W6	344521-00-00
Grande Prairie Generation Inc.	Northern Prairie Power Project	04-19-073-08-W6	00238762-00-00
Long Run Exploration	Eaglesham	01-25-076-01-W6	00241532-00-00
	Kakut	14-12-075-03-W6	00248469-00-00
	Donnelly	06-01-077-21-W5	00000087-02-00
	Puskwaskau	03-26-074-01-W6	00017524-01-00
Longview Oil Corp.	Sunset House	06-22-070-20-W5	138884-01-00
Penn West Petroleum Ltd.	Tangent	13-29-080-23-W5	00001746-02-00
	Pouce Coupe	16-07-078-11-W6	00000614-01-00
Petrus Resources	Rycroft	08-25-077-06-W6	11351-02-00
	Spirit River	08-34-077-06-W6	11096-02-00

Company	Facility	LSD	EPEA Approval Number
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 passive monitoring and continuous monitoring programs, 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, Donnelly and Wembley-Portable.**

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

Beaverlodge Station:

- One (1) 1-hour exceedance of the AAAQG for $PM_{2.5}$ was recorded in December.

Station Name	Date	Start Time (MST)	End Time (MST)	$PM_{2.5}$ Concentration ($\mu g/m^3$)	Reference Number
Beaverlodge	22-Dec-19	13:00	14:00	99.9	347854

No attribution was identified.

- The RH sensor malfunctioned, returning an uptime of 8.6%. Faulty wiring is suspected and is under investigation. All other analyzers and meteorological sensors at the Beaverlodge station had operational uptimes greater than 90% for the month of December.

Evergreen Park Station:

- The measured ambient air quality was within the AAAQO for the Henry Pirker station.
- All analyzers and meteorological sensors at the Evergreen Park station had operational uptimes greater than 90% for the month of December.

Henry Pirker Station:

- Four (4) 1-hour and One (1) 24-hour exceedances of the AAAQG for $PM_{2.5}$ were recorded in December.

Station Name	Date	Start Time (MST)	End Time (MST)	$PM_{2.5}$ Concentration ($\mu g/m^3$)	Reference Number
Henry Pirker	29-Dec-19	04:00	05:00	123.9	347960
Henry Pirker	29-Dec-19	05:00	06:00	254.6	347960
Henry Pirker	29-Dec-19	06:00	07:00	333.2	347960
Henry Pirker	29-Dec-19	07:00	08:00	80.2	347960

Station Name	Date	24 hour $PM_{2.5}$ Concentration ($\mu g/m^3$)	Reference Number
Henry Pirker	29-Dec-19	43.1	347960

No attribution was identified.

- All analyzers and meteorological sensors at the Henry Pirker station had operational uptimes 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 meteorological sensors at the Smoky Heights station had operational uptimes greater than 90% for the month of December.

Valleyview Station:

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

Donnelly Station:

- The measured ambient air quality was within the AAAQO for the Donnelly station.
- All analyzers and meteorological sensors at the Donnelly station had operational uptimes greater than 90% for the month of December.

Wembley-Portable Station:

- One (1) 1-hour exceedance of the AAAQG for $PM_{2.5}$ was recorded in December.

Station Name	Date	Start Time (MST)	End Time (MST)	$PM_{2.5}$ Concentration ($\mu g/m^3$)	Reference Number
Portable-Wembley	29-Dec-19	08:00	09:00	80.0	347967

No attribution was identified.

- All analyzers and meteorological sensors at the Wembley-Portable station had operational uptimes greater than 90% for the month of December.

Air Incidents
None were reported to PAZA

Deviations from Authorized Monitoring Methods
None to report.

Passive Monitoring - 32 Stations throughout the PAZA zone:

There were seven duplicate sites sampled in the month of December: Spirit River, Eaglesham, Jean Cote (SO_2), Bay Tree (O_3), Bay Tree, Wanham, McLennan (NO_2), and Griouxville 3 (H_2S). The passive sample analyses were performed by MAXXAM Analytics Inc.

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

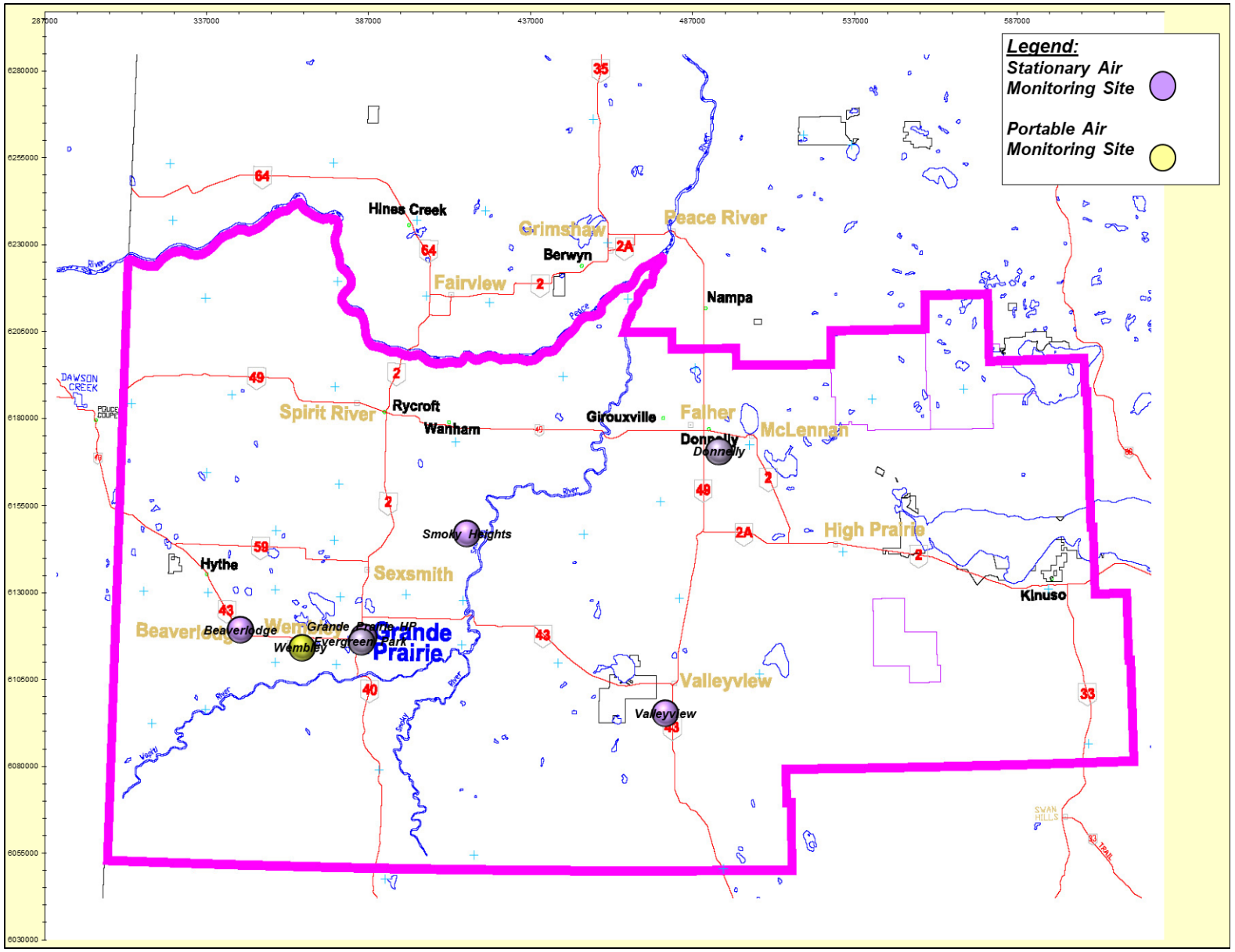
- Monthly average concentrations for SO_2 passives ranged from 0.1 ppb to 0.8 ppb, with a mean of 0.3 ppb.
- Monthly average concentrations for NO_2 passives ranged from 0.3 ppb to 14.1 ppb, with a mean of 3.1 ppb.
- Monthly average concentrations for O_3 passives ranged from 30.4 ppb to 40.2 ppb, with a mean of 35.3 ppb.
- Monthly average concentrations for H_2S passives ranged from 0.1 to 0.5 ppb, with a mean of 0.3 ppb.

I certify that I have reviewed and verified this report and that the information is complete, accurate and representative of the monitoring results, reporting timeframe and the specified analysis, summarization and reporting requirements.

X 

Mandeep Dhaliwal, B.Sc., P.Chem.
Program Manager

Location of PAZA Continuous Monitoring Stations



PAZA Monthly Continuous Data Summary

Dec-2018	Peace Airshed Zone Assocation								Maximum Recorded Values					
									1-hr		24-hr / 8-hr			
Parameter (units)	**Objectives**			**Station**	**Monthly Average**	**Exceedence**			Conc	Day	Conc	Day	**Operational Time (%)**	**Calibration Date**
	1-hr	24-hr	30-day			1-hr	24-hr	30-day						
SO_2 (ppb)	172	48	8	Beaverlodge	0.4	0	0	0	3.5	Dec-28 15:00	1.4	Dec-28	100.0	Dec-06
NO (ppb)				Beaverlodge	1.2	-	-	-	26.2	Dec-01 13:00	6.9	Dec-01	100.0	Dec-06
NO_2 (ppb)	159	106		Beaverlodge	6.9	0	0	-	29.8	Dec-18 18:00	16.8	Dec-18	100.0	Dec-06
NO_X (ppb)				Beaverlodge	8.1	-	-	-	43.3	Dec-18 18:00	21.1	Dec-18	100.0	Dec-06
O_3 (ppb)	82			Beaverlodge	24.4	0	-	-	42.8	Dec-07 18:00	36.3	Dec-12	100.0	Dec-06
O_3 (ppb) - 8-hr				Beaverlodge		0					39.8	Jan-01		-
$PM_{2.5}$ (µg/m3)	80	30		Beaverlodge	5.1	1	0	-	99.9	Dec-22 14:00	15.3	Dec-22	100.0	Nov-20
RH (%)				Beaverlodge	76.1	-	-	-	97.6	Dec-25 11:00	73.2	Dec-19	8.6	-
Temp (°C)				Beaverlodge	-6.5	-	-	-	4.0	Dec-19 15:00	0.7	Dec-19	100.0	-
WSPD s (km/hr)				Beaverlodge	8.8	-	-	-	48.6	Dec-12 13:00	29.6	Dec-12	100.0	01/06/2017
WSPD v (km/hr)				Beaverlodge	2.3	-	-	-	48.6	Dec-12 13:00	26.9	Dec-12	100.0	01/06/2017
WDIR				Beaverlodge	W	-	-	-	-	-	-	-	100.0	01/06/2017

Parameter	Analyzer		Notes
	Make	Model	
SO_2	TECO	43I	
NO/NO_2/NOx	TECO	42I	
O_3	TECO	49I	
$PM_{2.5}$	SHARP	5030	
ET/RH			RH probe failed to return valid data, faulty wiring is suspected
WS/WD	MetOne	50.5	

Dec-2018	Peace Airshed Zone Assocation								Maximum Recorded Values					
									1-hr		24-hr / 8-hr			
Parameter (units)	Objectives			Station	Monthly Average	Exceedence			Conc	Day	Conc	Day	Operational Time (%)	Calibration Date
	1-hr	24-hr	30-day			1-hr	24-hr	30-day						
SO_2 (ppb)	172	48	8	Evergreen Park	0.3	0	0	0	4.7	Dec-15 03:00	0.7	Dec-15	100.0	Dec-07
TRS (ppb)				Evergreen Park	0.6	-	-	-	2.9	Dec-01 14:00	1.1	Dec-07	100.0	Dec-07
$PM_{2.5}$ (µg/m3)	80	30		Evergreen Park	5.6	0	0	-	58.4	Dec-29 05:00	17.1	Dec-07	100.0	Dec-07
RH (%)				Evergreen Park	80.5	-	-	-	95.9	Dec-01 09:00	93.6	Dec-01	100.0	-
Temp (°C)				Evergreen Park	-8.6	-	-	-	4.1	Dec-19 16:00	0.6	Dec-12	100.0	-
WSPD s (km/hr)				Evergreen Park	6.8	-	-	-	48.5	Dec-12 13:00	28.7	Dec-12	100.0	-
WSPD v (km/hr)				Evergreen Park	3.2	-	-	-	48.5	Dec-12 13:00	27.3	Dec-12	100.0	-
WDIR				Evergreen Park	W	-	-	-	-	-	-	-	100.0	-

Parameter	Analyzer		Notes
	Make	Model	
SO_2	TECO	43I	
TRS	TECO	43I	
$PM_{2.5}$	SHARP	5030	
ET/RH			
WS/WD	Gil	MetPak	

Dec-2018	Peace Airshed Zone Assocation								Maximum Recorded Values					
									1-hr		24-hr / 8-hr			
Parameter (units)	Objectives 1-hr	Objectives 24-hr	Objectives 30-day	Station	Monthly Average	Exceedence 1-hr	Exceedence 24-hr	Exceedence 30-day	Conc	Day	Conc	Day	Operational Time (%)	Calibration Date
SO_2 (ppb)	172	48	8	Henry Pirker	0.6	0	0	0	6.7	Dec-13 21:00	1.8	Dec-13	100.0	Dec-10
TRS (ppb)				Henry Pirker	0.4	-	-	-	1.7	Dec-07 19:00	0.9	Dec-07	100.0	Dec-11
NO (ppb)				Henry Pirker	15.7	-	-	-	157.1	Dec-07 19:00	68.4	Dec-07	100.0	Dec-10
NO_2 (ppb)	159	106		Henry Pirker	17.5	0	0	-	44.2	Dec-15 20:00	34.7	Dec-07	100.0	Dec-10
NO_X (ppb)				Henry Pirker	33.5	-	-	-	201.8	Dec-07 19:00	103.5	Dec-07	100.0	Dec-10
O_3 (ppb)	82			Henry Pirker	13.0	0	-	-	39.5	Jan-01 00:00	32.5	Dec-21	100.0	Dec-10
O_3 (ppb) - 8-hr				Henry Pirker			0				36.0	Dec-12		-
CO (ppm)	13			Henry Pirker	0.31	0	0	-	1.4	Dec-29 06:00	0.6	Dec-08	99.7	Dec-04
CO (ppm) - 8-hr	5			Henry Pirker			0				1.0	Dec-09		-
THC (ppm)				Henry Pirker	2.3	-	-	-	4.3	Dec-18 16:00	3.0	Dec-18	100.0	Dec-11
CH_4 (ppm)				Henry Pirker	2.3	-	-	-	3.8	Dec-18 16:00	2.8	Dec-18	100.0	Dec-11
NMHC (ppm)				Henry Pirker	0.0	-	-	-	0.6	Dec-18 16:00	0.2	Dec-08	100.0	Dec-11
$PM_{2.5}$ (µg/m3)	80	30		Henry Pirker	10.1	4	1	-	333.2	Dec-29 06:00	43.1	Dec-29	100.0	Dec-11
RH (%)				Henry Pirker	71.5	-	-	-	85.6	Dec-01 01:00	83.3	Dec-01	100.0	-
SR (W/m^2)				Henry Pirker	22.2	-	-	-	247.1	Dec-03 13:00	52.5	Dec-03	100.0	-
Temp (°C)				Henry Pirker	-8.0	-	-	-	4.8	Dec-10 14:00	0.2	Dec-12	100.0	-
WSPD s (km/hr)				Henry Pirker	5.2	-	-	-	27.0	Dec-21 13:00	18.2	Dec-21	99.3	01/07/2017
WSPD v (km/hr)				Henry Pirker	2.2	-	-	-	27.4	Dec-21 13:00	18.1	Dec-21	99.3	01/07/2017
WDIR				Henry Pirker	W	-	-	-	-	-	-	-	99.3	01/07/2017

Parameter	Analyzer Make	Analyzer Model	Notes
SO_2	TECO	43I	
TRS	TECO	450I	
NO/NO_2/NOx	TECO	42I	
O_3	TECO	49I	
CO	TECO	48I-TLE	UPS overload caused irregular readings Dec 28.
THC/CH_4/NMHC	TECO	55I	Analyzer calibrated Dec 4. Recalibrated at hydrogen bottle swap Dec 11.
$PM_{2.5}$	SHARP	5030	
ET/RH			
WS/WD	MetOne	50.5	Wind system heater plugged into UPS caused power fluctuations, invalidating data on Dec 28.
			Irregular readings Dec 31.

Dec-2018	Peace Airshed Zone Assocation								Maximum Recorded Values					
									1-hr		24-hr / 8-hr			
Parameter (units)	Objectives 1-hr	Objectives 24-hr	Objectives 30-day	Station	Monthly Average	Exceedence 1-hr	Exceedence 24-hr	Exceedence 30-day	Conc	Day	Conc	Day	Operational Time (%)	Calibration Date
SO_2 (ppb)	172	48	8	Smoky Heights	0.6	0	0	0	5.0	Dec-17 20:00	1.7	Dec-17	100.0	Dec-14
TRS (ppb)				Smoky Heights	0.5	-	-	-	1.4	Dec-08 10:00	0.9	Dec-08	100.0	Dec-14
$PM_{2.5}$ (µg/m3)	80	30		Smoky Heights	6.6	0	0	-	68.3	Dec-31 05:00	22.1	Dec-08	100.0	Aug-29
Temp (°C)				Smoky Heights	-8.7	-	-	-	3.3	Dec-10 08:00	0.5	Dec-13	100.0	-
WSPD s (km/hr)				Smoky Heights	11.5	-	-	-	48.0	Dec-12 14:00	30.8	Dec-12	100.0	01/04/2017
WSPD v (km/hr)				Smoky Heights	5.3	-	-	-	47.8	Dec-12 14:00	29.3	Dec-12	100.0	01/04/2017
WDIR				Smoky Heights	WSW	-	-	-	-	-	-	-	100.0	01/04/2017

Parameter	Analyzer Make	Analyzer Model	Notes
SO_2	TECO	43I	
TRS	TECO	43I	
$PM_{2.5}$	SHARP	5030	
ET/RH			
WS/WD	MetOne	50.5	

Dec-2018	Peace Airshed Zone Assocation								Maximum Recorded Values					
									1-hr		24-hr / 8-hr			
Parameter (units)	Objectives 1-hr	Objectives 24-hr	Objectives 30-day	Station	Monthly Average	Exceedence 1-hr	Exceedence 24-hr	Exceedence 30-day	Conc	Day	Conc	Day	Operational Time (%)	Calibration Date
SO_2 (ppb)	172	48	8	Valleyview	0.3	0	0	0	4.9	Dec-12 16:00	1.0	Dec-21	100.0	Dec-06
H_2S (ppb)	10	3		Valleyview	0.3	0	0	-	4.3	Dec-05 19:00	0.8	Dec-05	100.0	Dec-06
RH (%)				Valleyview	85.8	-	-	-	100.0	Dec-01 01:00	99.6	Dec-01	100.0	-
Temp (°C)				Valleyview	-3.8	-	-	-	8.4	Dec-14 16:00	3.9	Dec-12	100.0	-
WSPD s (km/hr)				Valleyview	3.4	-	-	-	24.0	Dec-12 15:00	11.9	Dec-21	100.0	-
WSPD v (km/hr)				Valleyview	1.4	-	-	-	23.8	Dec-12 15:00	11.5	Dec-21	100.0	-
WDIR				Valleyview	W	-	-	-	-	-	-	-	100.0	-

Parameter	Analyzer Make	Analyzer Model	Notes
SO_2	TECO	43I	
H_2S	TECO	450I	
ET/RH			
WS/WD	Gil	MetPak	

Dec-2018	Peace Airshed Zone Assocation								Maximum Recorded Values					
									1-hr		24-hr / 8-hr			
Parameter (units)	Objectives 1-hr	Objectives 24-hr	Objectives 30-day	Station	Monthly Average	Exceedence 1-hr	Exceedence 24-hr	Exceedence 30-day	Conc	Day	Conc	Day	Operational Time (%)	Calibration Date
SO_2 (ppb)	172	48	8	Donnelly	0.3	0	0	0	1.9	Dec-30 05:00	0.9	Dec-07	100.0	Dec-18
H_2S (ppb)	10	3		Donnelly	0.1	0	0	-	0.5	Dec-18 15:00	0.3	Dec-20	100.0	Dec-18
Temp (°C)				Donnelly	-7.5	-	-	-	3.9	Dec-11 21:00	1.4	Dec-13	100.0	-
WSPD s (km/hr)				Donnelly	11.2	-	-	-	47.0	Dec-12 12:00	30.5	Dec-12	100.0	01/06/2017
WSPD v (km/hr)				Donnelly	11.0	-	-	-	46.6	Dec-12 12:00	30.4	Dec-12	100.0	01/06/2017
WDIR				Donnelly	SW	-	-	-	-	-	-	-	100.0	01/06/2017

Parameter	Analyzer Make	Analyzer Model	Notes
SO_2	TECO	43I	
H_2S	TECO	450I	
ET/RH			
WS/WD	RMYoung		

Dec-2018	Peace Airshed Zone Assocation								Maximum Recorded Values					
									1-hr		24-hr / 8-hr			
Parameter (units)	Objectives 1-hr	Objectives 24-hr	Objectives 30-day	Station	Monthly Average	Exceedence 1-hr	Exceedence 24-hr	Exceedence 30-day	Conc	Day	Conc	Day	Operational Time (%)	Calibration Date
SO_2 (ppb)	172	48	8	Wembley-Portable	0.3	0	0	0	4.9	Dec-11 19:00	0.9	Dec-11	99.5	Dec-10
TRS (ppb)				Wembley-Portable	0.2	-	-	-	0.7	Dec-29 06:00	0.3	Dec-18	99.5	Dec-13
NO (ppb)				Wembley-Portable	1.4	-	-	-	22.6	Dec-18 16:00	10.1	Dec-18	99.5	Dec-10
NO_2 (ppb)	159	106		Wembley-Portable	7.2	0	0	-	29.6	Dec-06 21:00	18.7	Dec-18	99.5	Dec-10
NO_X (ppb)				Wembley-Portable	8.7	-	-	-	46.0	Dec-17 22:00	29.0	Dec-18	99.5	Dec-10
O_3 (ppb)	82			Wembley-Portable	20.5	0	-	-	41.1	Dec-12 12:00	38.0	Dec-12	99.5	Dec-10
O_3 (ppb) - 8-hr				Wembley-Portable			0				40.3	Dec-12		-
THC (ppm)				Wembley-Portable	2.1	-	-	-	2.8	Dec-18 16:00	2.5	Dec-18	97.3	Dec-24
CH_4 (ppm)				Wembley-Portable	2.1	-	-	-	2.8	Dec-18 16:00	2.5	Dec-18	97.3	Dec-24
NMHC (ppm)				Wembley-Portable	0.0	-	-	-	0.3	Dec-13 20:00	0.0	Dec-08	97.3	Dec-24
$PM_{2.5}$ (µg/m3)	80	30		Wembley-Portable	3.9	1	0	-	80.0	Dec-29 08:00	10.1	Dec-02	99.5	Dec-13
Temp (°C)				Wembley-Portable	-8.0	-	-	-	4.3	Dec-11 16:00	0.6	Dec-13	99.5	-
WSPD s (km/hr)				Wembley-Portable	6.2	-	-	-	26.0	Dec-12 12:00	15.4	Dec-21	97.2	01/03/2017
WSPD v (km/hr)				Wembley-Portable	5.8	-	-	-	25.5	Dec-12 12:00	15.2	Dec-21	97.2	01/03/2017
WDIR				Wembley-Portable	W	-	-	-	-	-	-	-	97.2	01/03/2017

Parameter	Analyzer Make	Analyzer Model	Notes
			Power outage Dec 5
SO_2	TECO	43I	
TRS	TECO	43I	
NO/NO_2/NOx	TECO	42I	
O_3	TECO	49I	
THC/CH_4/NMHC	TECO	55I	Analyzer experienced unstable behaviour Dec 13. Actuator malfunctioned Dec 23, replaced Dec 24
			and analyzer calibrated
$PM_{2.5}$		TEOM	
ET/RH			
WS/WD	MetOne	50.5	Wind system returned invalid readings due to freezing Dec 2-3

PAZA
Beaverlodge Station
Monthly Summary Tables, Graphs and Roses

Peace Airshed Zone Association

Hourly Averages

Sulphur Dioxide (SO_2) - ppb

Beaverlodge - December 2018

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 3.5 ppb on Dec 28 15:00 Maximum Daily Average: 1.4 ppb on Dec 28

Minimum Value: 0 ppb on Dec 2 06:00 Minimum Daily Average: 0.0 ppb on Dec 2
Maximum Diurnal Average: 0.6 ppb at hour 14 Minimum Diurnal Average: 0.3 ppb at hour 8
Monthly Average: 0.37 ppb Percentiles: $P_1 = 0.0$ $P_{10} = 0.1$ $Q_1 = 0.1$ Median = 0.2 $Q_3 = 0.5$ $P_{90} = 0.8$ $P_{99} = 2.2$

Hours in Service:	744
Hours of Data:	710
Hours of Missing Data:	34
Hours of Calibration:	34
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																							Daily	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	Average	Maximum
1-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	0.2
2-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
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	0.1	0.3
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	0.1	0.2
5-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	0.1	0.6
6-Dec	0	0	0	0	A	0	0	0	0	0	0	0	0	C	C	C	0	0	0	0	0	0	0	0	0.1	0.4
7-Dec	0	0	0	0	A	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0.2	0.8
8-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
9-Dec	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0.2	0.7
10-Dec	1	1	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.6
11-Dec	0	0	0	0	A	1	1	2	2	2	2	2	2	3	2	1	1	1	1	0	0	0	0	0	1.1	2.5
12-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
13-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
14-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
15-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
16-Dec	0	0	0	0	A	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0.4	0.9
17-Dec	0	0	0	0	A	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0.3	0.7
18-Dec	0	0	0	2	A	2	1	1	1	1	2	2	2	2	1	1	1	1	1	1	1	1	0	0	1.0	2.3
19-Dec	0	1	1	1	A	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.5	0.9
20-Dec	0	0	0	0	A	1	1	1	1	0	2	1	1	0	1	1	1	1	1	0	0	0	0	0	0.5	1.7
21-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
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	0.1	0.3
23-Dec	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	0.3	1.5
24-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	0.4	0.7
25-Dec	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.3	0.7
26-Dec	2	2	2	2	A	1	1	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	2.5
27-Dec	1	0	0	0	A	0	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0.6	1.2
28-Dec	0	0	1	1	A	1	1	1	1	1	1	2	2	3	4	3	2	2	2	1	1	1	1	1	1.4	3.5
29-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	1.1
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	0.2	0.4
31-Dec	0	0	0	0	A	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	0.5	1.2
	0.3	0.3	0.3	0.4	--	0.3	0.3	0.3	0.3	0.3	0.4	0.5	0.5	0.6	0.6	0.5	0.4	0.3	0.3	0.4	0.3	0.3	0.3	0.3	Diurnal Average	
	2.1	2.5	2.2	2.2	--	1.9	1.5	1.6	2.1	2.2	2.1	2.3	2.2	3.4	3.5	3.0	2.4	2.0	1.7	1.5	1.4	1.1	1.1	1.2	Diurnal Maximum	

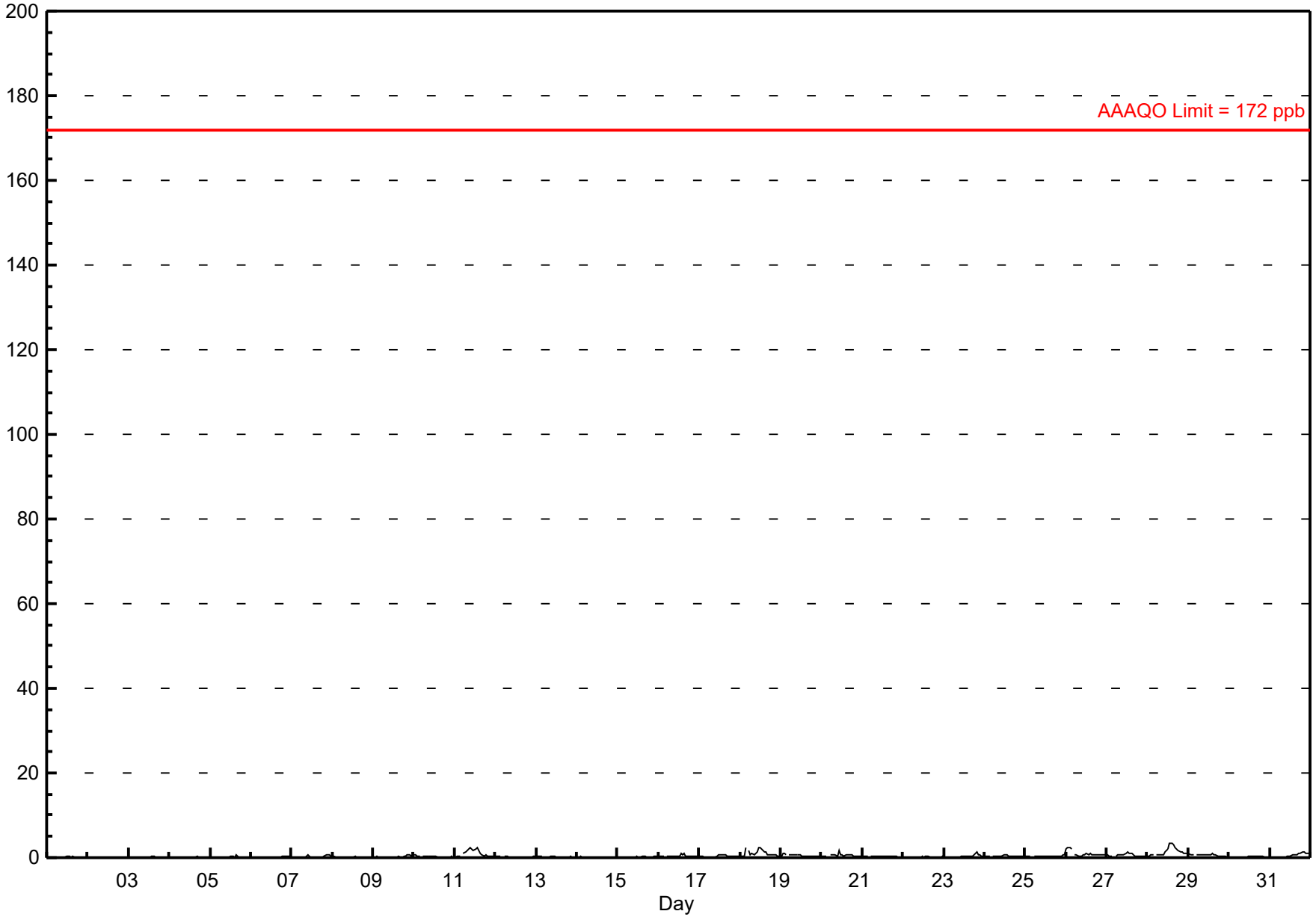
C - Calibration A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb 30-day 11 ppb

Peace Airshed Zone Association

Hourly Averages

Sulphur Dioxide (SO_2) - ppb

Beaverlodge - December 2018



Peace Airshed Zone Association

Hourly Maximums

Sulphur Dioxide (SO_2) - ppb

Beaverlodge - December 2018

Maximum Value: 6.3 ppb on Dec 20 11:00

Maximum Daily Average: 1.7 ppb on Dec 28

Minimum Value: 0 ppb on Dec 2 06:00

Minimum Daily Average: 0.1 ppb on Dec 2

Maximum Diurnal Average: 0.8 ppb at hour 14

Minimum Diurnal Average: 0.4 ppb at hour 8

Monthly Average: 0.53 ppb

Percentiles: $P_1 = 0.1$ $P_{10} = 0.2$ $Q_1 = 0.2$ Median = 0.3 $Q_3 = 0.6$ $P_{90} = 1.0$ $P_{99} = 3.0$

Hours in Service:	744
Hours of Data:	710
Hours of Missing Data:	34
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	0	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
2-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	0.2
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	0.3
5-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	0.2	0.9
6-Dec	0	0	0	0	A	0	0	0	0	0	0	0	0	C	C	C	0	0	0	0	0	1	0	0	0.3	0.5
7-Dec	0	0	0	0	A	0	0	0	0	2	1	0	0	0	0	0	0	0	0	1	1	1	1	0	0.4	2.3
8-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
9-Dec	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0.4	0.9
10-Dec	1	1	1	1	A	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.7
11-Dec	0	0	0	1	A	1	2	2	2	3	2	3	3	3	2	1	1	1	1	1	1	1	0	0	1.4	3.0
12-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
13-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
14-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
15-Dec	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.3	0.7
16-Dec	1	0	0	0	A	0	0	0	0	0	0	0	1	2	1	1	1	0	0	0	0	0	0	0	0.5	1.6
17-Dec	0	0	0	0	A	0	0	0	0	0	0	2	1	1	1	1	1	1	0	1	1	0	1	0	0.5	2.0
18-Dec	0	1	1	5	A	2	1	1	1	1	2	3	3	2	1	2	1	1	1	1	1	1	1	1	1.4	4.9
19-Dec	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0.6	1.2
20-Dec	0	0	0	0	A	1	1	1	1	1	6	1	1	1	1	1	1	1	1	1	0	0	0	0	0.9	6.3
21-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
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	0.5
23-Dec	0	0	0	0	A	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2	1	1	1	1	0.5	2.3
24-Dec	1	1	1	1	A	0	0	0	0	0	1	1	1	1	0	1	1	0	0	0	0	0	0	0	0.5	1.0
25-Dec	0	0	0	0	A	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1	1	0.4	1.0
26-Dec	3	4	3	3	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.2	4.3
27-Dec	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	0.8	1.4
28-Dec	1	1	1	1	A	1	1	1	1	1	2	2	3	4	4	3	3	2	2	2	2	1	1	1	1.7	3.9
29-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	0.7	1.4
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	0.3	0.5
31-Dec	0	0	0	0	A	0	0	0	0	0	0	0	1	1	1	1	1	1	1	2	1	1	1	1	0.7	1.5
	0.4	0.5	0.5	0.6	--	0.5	0.4	0.4	0.4	0.5	0.7	0.7	0.7	0.8	0.7	0.7	0.5	0.4	0.5	0.5	0.5	0.5	0.4	0.4	Diurnal Average	
	2.9	4.3	3.2	4.9	--	2.5	2.4	2.2	2.4	2.8	6.3	2.9	2.9	3.9	3.7	3.3	2.8	2.4	1.9	2.3	1.6	1.4	1.3	1.4	Diurnal Maximum	

C - Calibration

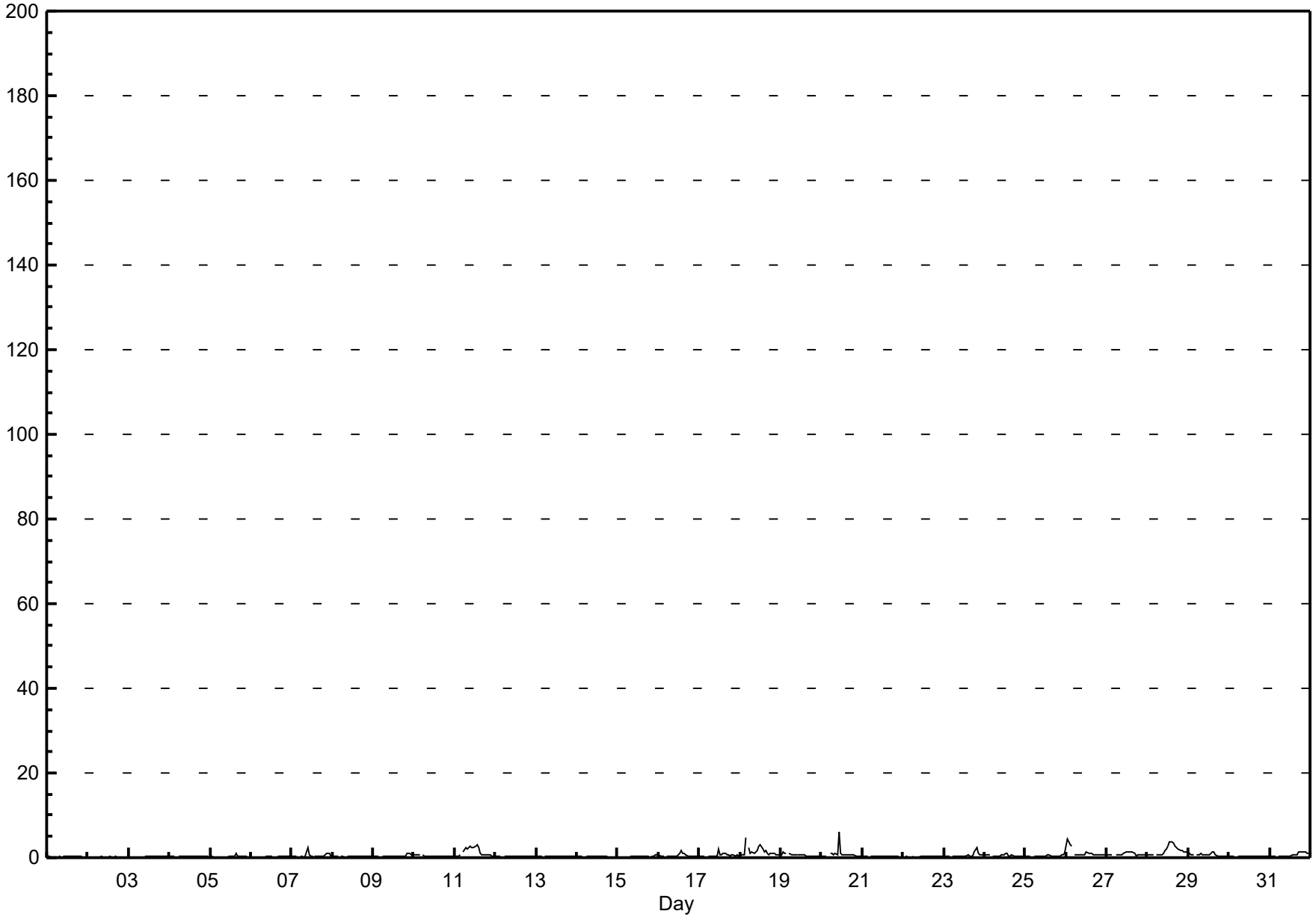
A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Sulphur Dioxide (SO_2) - ppb

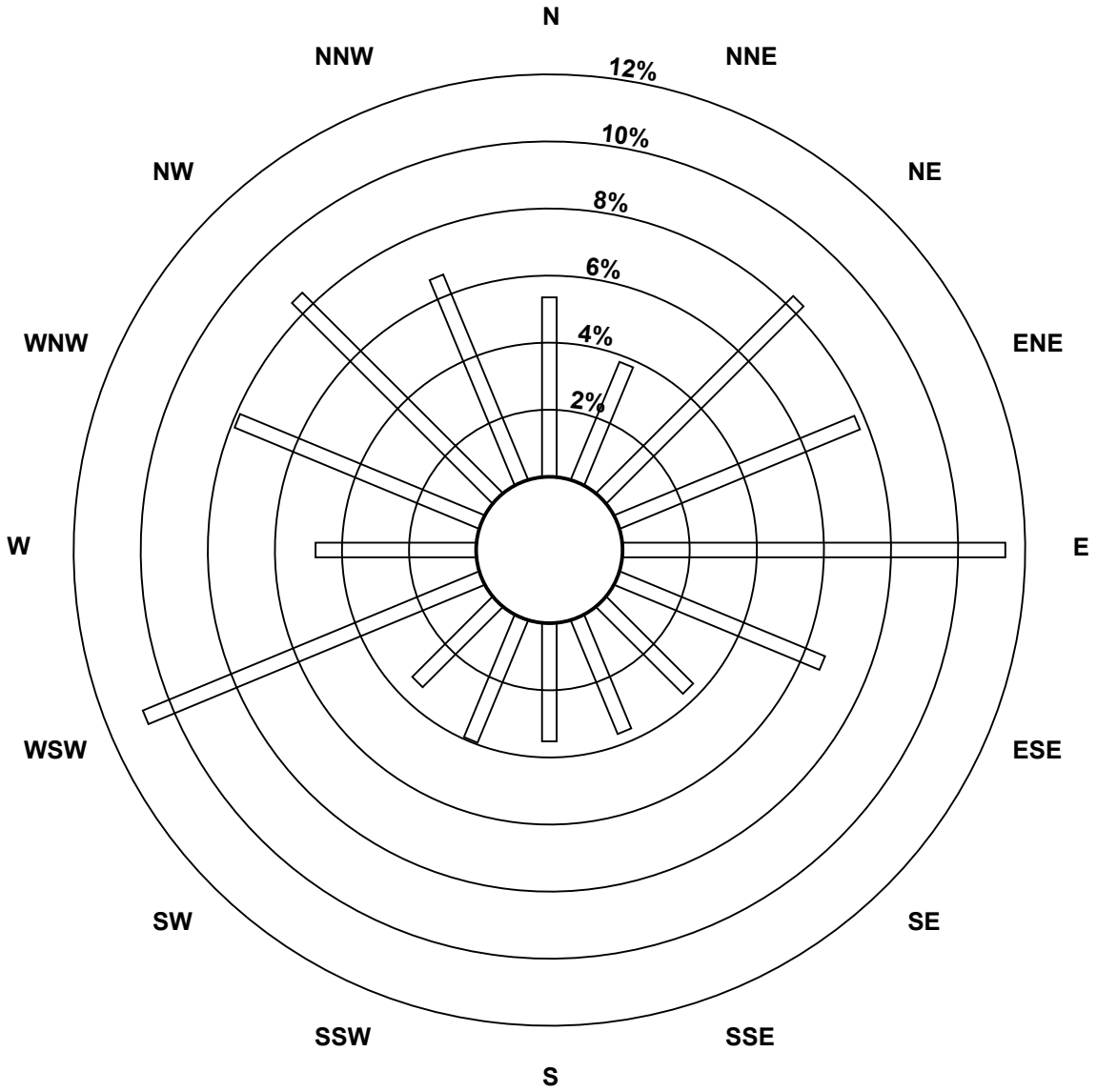
Beaverlodge - December 2018



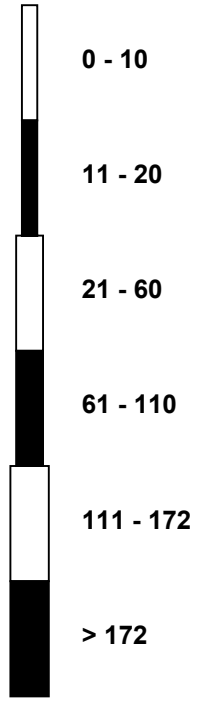
Pollutant Rose

Sulphur Dioxide (SO_2) - ppb

Beaverlodge - December 2018



Pollutant Classes (ppb)

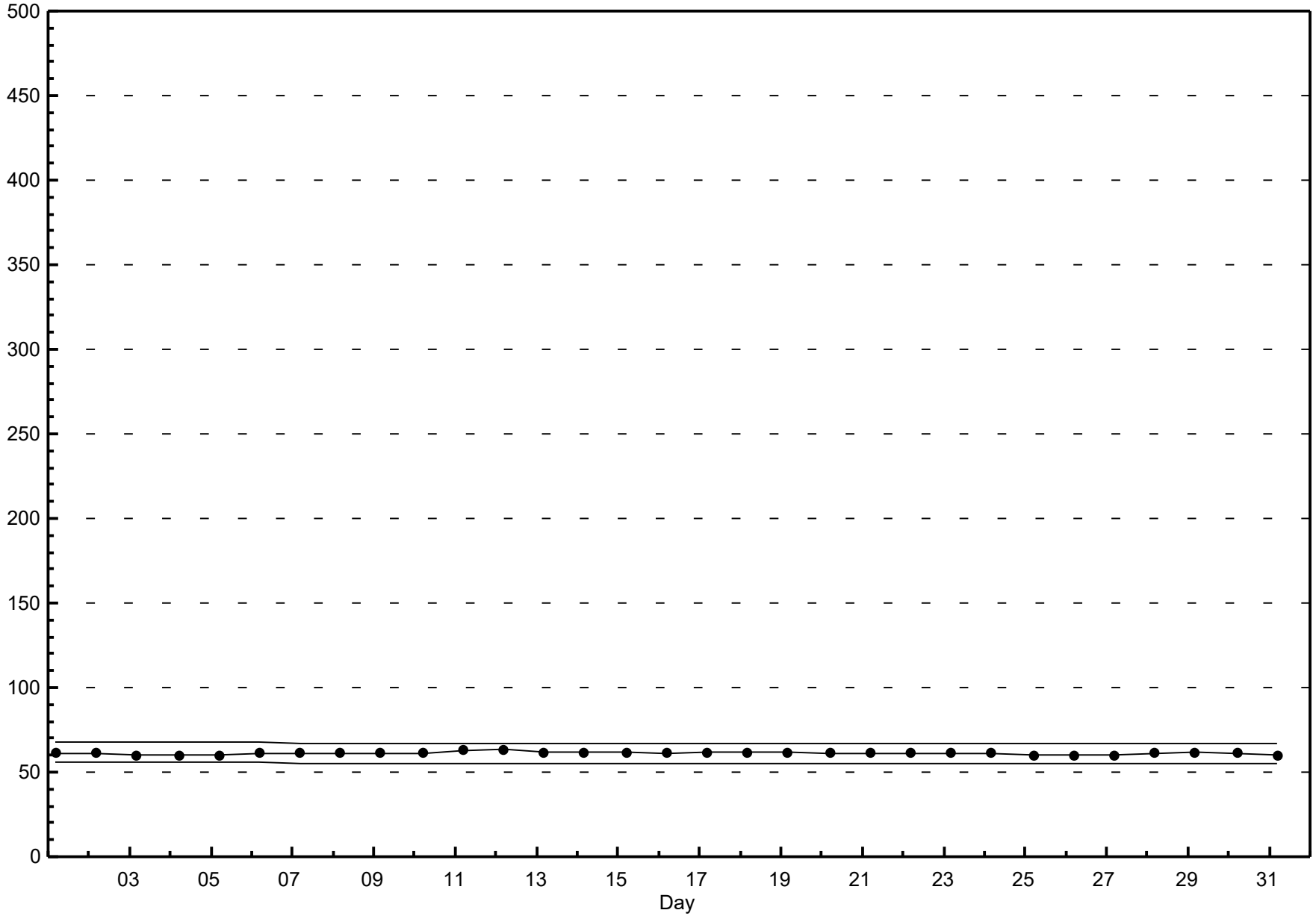


Peace Airshed Zone Association

Span Responses

Sulphur Dioxide (SO_2)

Beaverlodge - December 2018



Peace Airshed Zone Association

Hourly Averages

Nitrogen Dioxide (NO_2) - ppb

Beaverlodge - December 2018

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 29.8 ppb on Dec 18 18:00
Maximum Daily Average: 16.8 ppb on Dec 18

Minimum Value: 0 ppb on Dec 12 04:00
Minimum Daily Average: 2.1 ppb on Dec 12
Maximum Diurnal Average: 8.9 ppb at hour 18
Minimum Diurnal Average: 5.4 ppb at hour 13
Monthly Average: 6.93 ppb
Percentiles: P_1 = 0.7 P_{10} = 1.7 Q_1 = 3.0 Median = 5.6 Q_3 = 9.4 P_{90} = 14.4 P_{99} = 22.9

Hours in Service:	744
Hours of Data:	709
Hours of Missing Data:	35
Hours of Calibration:	35
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily	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	Average	Maximum
1-Dec	11	9	10	9	A	13	10	9	10	7	7	13	14	15	11	16	17	18	19	16	17	11	6	7	12.0	18.6
2-Dec	8	6	10	9	A	10	14	18	16	14	10	6	4	6	7	10	11	13	13	14	12	13	14	13	11.0	17.7
3-Dec	14	14	7	3	A	3	3	4	4	4	8	5	3	8	5	3	4	4	5	1	1	1	3	3	4.8	14.4
4-Dec	3	2	1	1	A	3	4	5	4	5	2	2	2	2	2	2	2	2	3	2	4	2	2	4	2.7	5.2
5-Dec	4	9	5	4	A	7	5	4	7	10	11	10	6	7	8	5	3	9	10	11	9	15	13	7	7.7	14.7
6-Dec	7	5	4	5	A	5	4	5	6	C	C	C	C	6	5	7	6	6	8	8	10	8	7	17	6.8	16.5
7-Dec	12	10	6	4	A	5	5	6	6	5	16	6	7	7	9	6	4	3	4	7	12	10	9	9	7.4	16.5
8-Dec	10	9	7	6	A	8	8	7	9	9	9	6	4	10	6	6	8	6	11	5	10	5	4	3	7.2	11.0
9-Dec	4	5	5	7	A	6	4	4	9	12	12	16	14	16	21	26	21	28	20	17	13	12	13	3	12.6	27.7
10-Dec	2	2	2	1	A	4	3	2	4	4	3	3	3	1	1	1	1	2	3	4	3	3	2	2	2.5	4.5
11-Dec	2	4	5	5	A	7	9	10	12	11	10	11	8	7	7	7	4	4	1	1	1	1	1	1	5.6	11.8
12-Dec	2	1	1	0	A	2	1	2	2	2	2	2	1	2	1	1	1	3	6	3	4	2	3	4	2.1	5.6
13-Dec	3	3	3	3	A	5	4	2	1	2	1	4	6	4	1	1	1	3	5	6	3	3	3	4	3.0	6.3
14-Dec	3	3	4	4	A	4	3	2	3	1	2	2	5	6	6	7	7	6	6	6	3	3	3	4	4.0	6.8
15-Dec	6	7	6	3	A	3	2	3	4	1	2	2	2	1	2	3	5	6	6	11	7	10	7	8	4.7	10.8
16-Dec	8	4	8	8	A	3	3	5	5	3	3	4	4	5	6	9	12	8	10	10	12	22	21	16	8.3	22.3
17-Dec	12	9	10	9	A	9	11	13	8	9	5	12	6	5	8	10	14	23	20	16	22	22	18	17	12.6	23.4
18-Dec	23	23	20	17	A	21	23	22	23	20	16	11	13	9	10	13	20	30	15	9	16	13	10	9	16.8	29.8
19-Dec	7	3	4	3	A	3	2	2	4	4	2	3	2	2	1	1	1	2	1	2	1	1	1	1	2.3	7.2
20-Dec	2	2	2	3	A	9	9	10	11	7	5	5	3	3	3	2	2	3	5	3	2	5	4	4	4.5	10.8
21-Dec	3	2	1	1	A	2	2	2	3	2	1	1	1	1	2	2	4	5	2	8	8	5	4	5	2.9	8.1
22-Dec	3	2	2	2	A	3	3	3	4	9	7	10	5	3	9	8	7	24	14	16	19	12	17	16	8.6	24.4
23-Dec	17	17	13	10	A	13	14	7	4	2	6	5	6	5	4	5	3	2	3	5	7	7	8	8	7.5	16.7
24-Dec	8	7	7	6	A	7	8	8	9	8	7	7	6	4	9	9	15	20	15	10	13	13	15	13	9.7	20.3
25-Dec	7	4	4	4	A	5	4	3	3	3	2	2	2	2	1	3	3	2	2	3	3	4	4	2	3.2	6.6
26-Dec	3	5	7	4	A	6	9	7	6	8	6	8	5	6	5	7	7	8	8	13	11	10	8	9	7.2	12.6
27-Dec	8	7	8	8	A	7	7	8	7	11	7	7	6	5	7	8	13	14	13	16	17	17	18	17	10.2	18.2
28-Dec	17	18	19	19	A	19	18	16	17	17	14	12	11	5	1	1	1	2	2	2	4	4	2	2	9.7	19.1
29-Dec	3	7	4	5	A	6	9	8	7	5	5	4	3	3	4	6	6	7	6	6	6	4	3	2	5.3	9.5
30-Dec	2	2	2	2	A	4	3	6	17	7	4	3	3	9	8	8	9	10	12	8	7	14	13	13	7.2	16.5
31-Dec	12	10	9	8	A	10	6	4	5	8	6	4	4	5	6	5	5	3	1	1	0	0	0	1	4.9	11.6
	7.2	6.8	6.2	5.5	--	6.8	6.8	6.8	7.4	7.1	6.4	6.1	5.4	5.5	5.7	6.4	7.0	8.9	8.0	7.7	8.4	8.1	7.7	7.2	Diurnal Average	
	23.2	22.9	19.8	18.5	--	20.6	23.3	22.4	22.8	20.3	16.5	15.7	14.2	16.2	20.7	25.8	21.3	29.8	20.3	17.0	22.0	22.5	20.8	17.2	Diurnal Maximum	

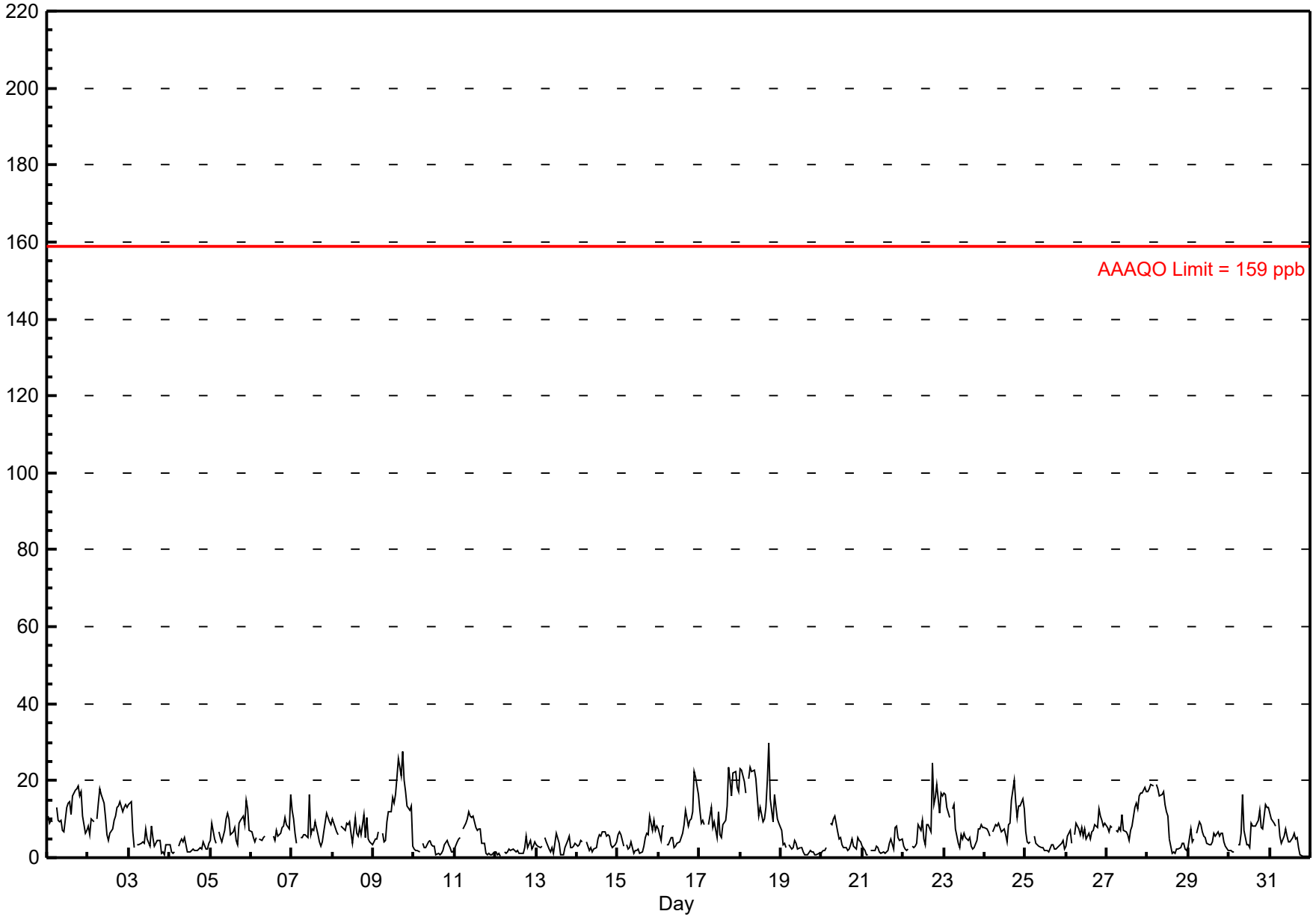
C - Calibration A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 159 ppb 24-hr 106 ppb

Peace Airshed Zone Association

Hourly Averages

Nitrogen Dioxide (NO_2) - ppb

Beaverlodge - December 2018



Peace Airshed Zone Association

Hourly Maximums

Nitrogen Dioxide (NO_2) - ppb

Beaverlodge - December 2018

Maximum Value: 252.0 ppb on Dec 17 12:00

Maximum Daily Average: 28.3 ppb on Dec 17

Minimum Value: 1 ppb on Dec 12 04:00

Minimum Daily Average: 4.3 ppb on Dec 25

Maximum Diurnal Average: 18.1 ppb at hour 12

Minimum Diurnal Average: 8.0 ppb at hour 4

Monthly Average: 11.20 ppb

Percentiles: P_1 = 1.6 P_{10} = 3.2 Q_1 = 5.1 Median = 8.6 Q_3 = 15.0 P_{90} = 22.5 P_{99} = 33.8

Hours in Service:	744
Hours of Data:	709
Hours of Missing Data:	35
Hours of Calibration:	35
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	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	16	14	14	16	A	20	10	10	13	10	14	17	17	19	19	17	18	20	20	21	22	18	14	14	16.2	22.4
2-Dec	14	7	14	15	A	14	18	19	20	21	15	9	5	8	9	11	11	15	15	16	14	15	15	16	13.7	21.2
3-Dec	16	16	11	5	A	5	7	6	8	5	14	8	4	15	12	8	11	7	8	2	4	3	6	4	8.1	16.3
4-Dec	5	4	3	4	A	8	7	8	9	10	4	3	3	3	4	4	3	4	4	4	6	4	5	7	5.1	9.9
5-Dec	10	13	7	5	A	12	11	6	20	14	18	16	9	13	15	7	5	12	18	15	10	31	30	9	13.2	30.7
6-Dec	14	7	6	7	A	8	7	7	9	C	C	C	C	13	6	22	8	9	11	9	12	10	16	31	11.0	31.2
7-Dec	14	14	7	9	A	7	7	8	7	11	35	9	18	22	24	18	7	7	19	10	14	14	11	18	13.5	35.2
8-Dec	12	11	9	7	A	9	10	8	11	12	14	10	7	30	20	31	23	15	17	12	24	9	5	4	13.5	31.3
9-Dec	8	6	7	10	A	9	5	5	27	26	24	24	19	24	23	29	31	30	28	27	31	27	24	5	19.4	30.7
10-Dec	5	2	3	3	A	6	5	5	6	10	6	5	9	3	3	5	5	6	6	8	6	5	2	3	5.1	10.0
11-Dec	3	5	6	8	A	9	16	14	18	15	14	17	11	16	12	22	7	9	3	2	3	2	1	7	9.4	22.3
12-Dec	4	2	2	1	A	4	4	3	3	3	3	3	3	3	4	4	3	8	10	6	7	5	7	8	4.3	9.7
13-Dec	5	6	6	5	A	11	7	7	3	10	5	21	21	15	3	4	3	10	9	8	4	5	11	23	8.8	23.4
14-Dec	5	5	6	6	A	6	6	4	8	4	4	6	9	9	8	9	7	7	9	7	4	3	4	5	6.2	9.4
15-Dec	10	14	17	6	A	5	3	5	10	2	3	2	3	2	3	6	8	15	17	20	9	19	14	11	8.8	19.5
16-Dec	12	7	15	13	A	5	6	7	7	5	4	6	5	7	14	12	19	11	14	13	26	34	31	23	12.9	33.9
17-Dec	26	15	14	11	A	18	14	15	10	13	7	252	12	7	14	14	26	29	26	31	28	26	23	20	28.3	252.0
18-Dec	25	25	23	21	A	23	26	26	29	24	23	13	19	20	25	34	39	36	29	12	24	15	12	10	23.2	39.1
19-Dec	8	4	6	4	A	7	5	7	12	7	3	6	6	8	3	3	3	9	4	5	4	3	3	1	5.2	11.6
20-Dec	7	3	4	3	A	11	11	16	16	11	6	6	5	3	3	3	3	6	10	4	3	9	9	5	7.0	15.7
21-Dec	4	2	2	1	A	4	3	3	5	5	3	2	2	2	3	4	6	7	4	19	12	11	6	8	5.2	19.4
22-Dec	5	3	2	3	A	4	5	5	14	24	29	26	6	4	25	23	25	36	33	27	35	32	32	31	18.6	36.4
23-Dec	28	24	26	18	A	21	18	11	6	4	12	7	9	7	5	6	7	3	3	8	11	9	11	9	11.5	27.6
24-Dec	11	8	9	8	A	9	11	10	10	8	7	8	8	9	16	16	25	26	26	14	23	17	20	19	13.9	26.1
25-Dec	8	5	4	5	A	8	4	4	4	3	4	3	3	3	2	5	4	4	4	4	6	5	6	3	4.3	8.3
26-Dec	4	9	9	6	A	9	14	11	7	16	7	18	9	9	6	8	10	10	15	16	12	11	10	15	10.4	17.5
27-Dec	11	8	14	12	A	8	9	10	8	14	12	8	8	6	8	11	15	16	15	19	18	18	19	18	12.4	18.9
28-Dec	19	18	22	21	A	21	20	18	19	18	16	20	14	10	2	3	3	4	4	5	8	7	3	3	12.1	21.5
29-Dec	10	14	7	6	A	7	13	13	12	6	6	5	7	4	6	9	9	8	8	7	7	6	4	3	7.7	13.6
30-Dec	2	2	2	2	A	6	4	12	21	14	6	6	4	18	12	10	19	16	16	19	11	19	18	16	11.1	21.1
31-Dec	15	11	9	9	A	13	12	5	9	10	7	5	6	6	14	6	8	7	4	1	2	2	1	1	7.1	15.5
	10.8	9.2	9.2	8.0	--	9.8	9.6	9.3	11.6	11.1	10.8	18.1	8.7	10.2	10.4	11.9	12.0	13.0	13.2	12.0	12.8	12.6	12.1	11.4	Diurnal Average	
	27.6	25.0	26.2	21.4	--	23.3	25.7	26.1	28.7	26.0	35.2	252.0	21.5	29.5	24.8	34.4	39.1	36.4	33.4	31.1	34.6	33.9	31.8	31.2	Diurnal Maximum	

C - Calibration

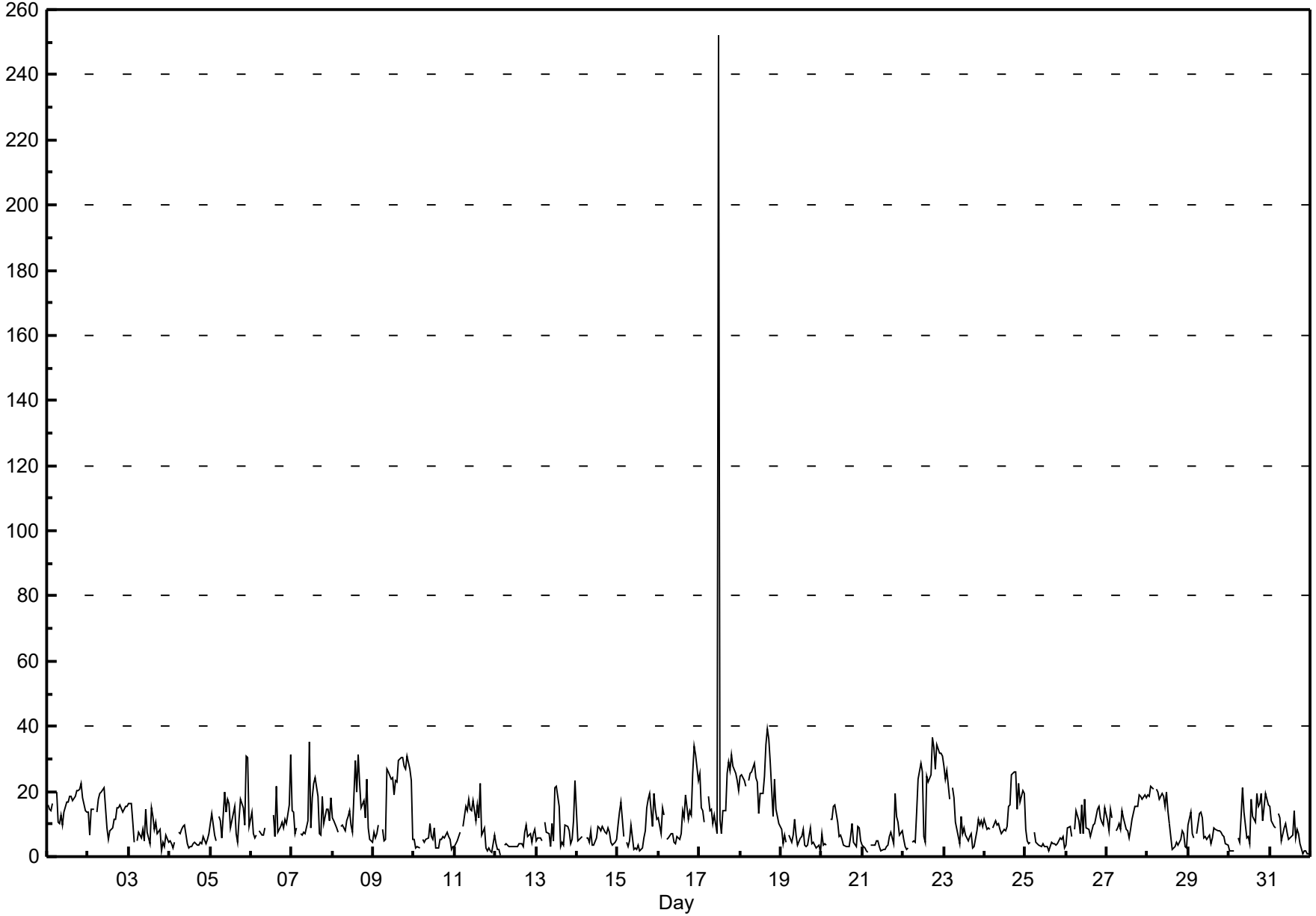
A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Nitrogen Dioxide (NO_2) - ppb

Beaverlodge - December 2018

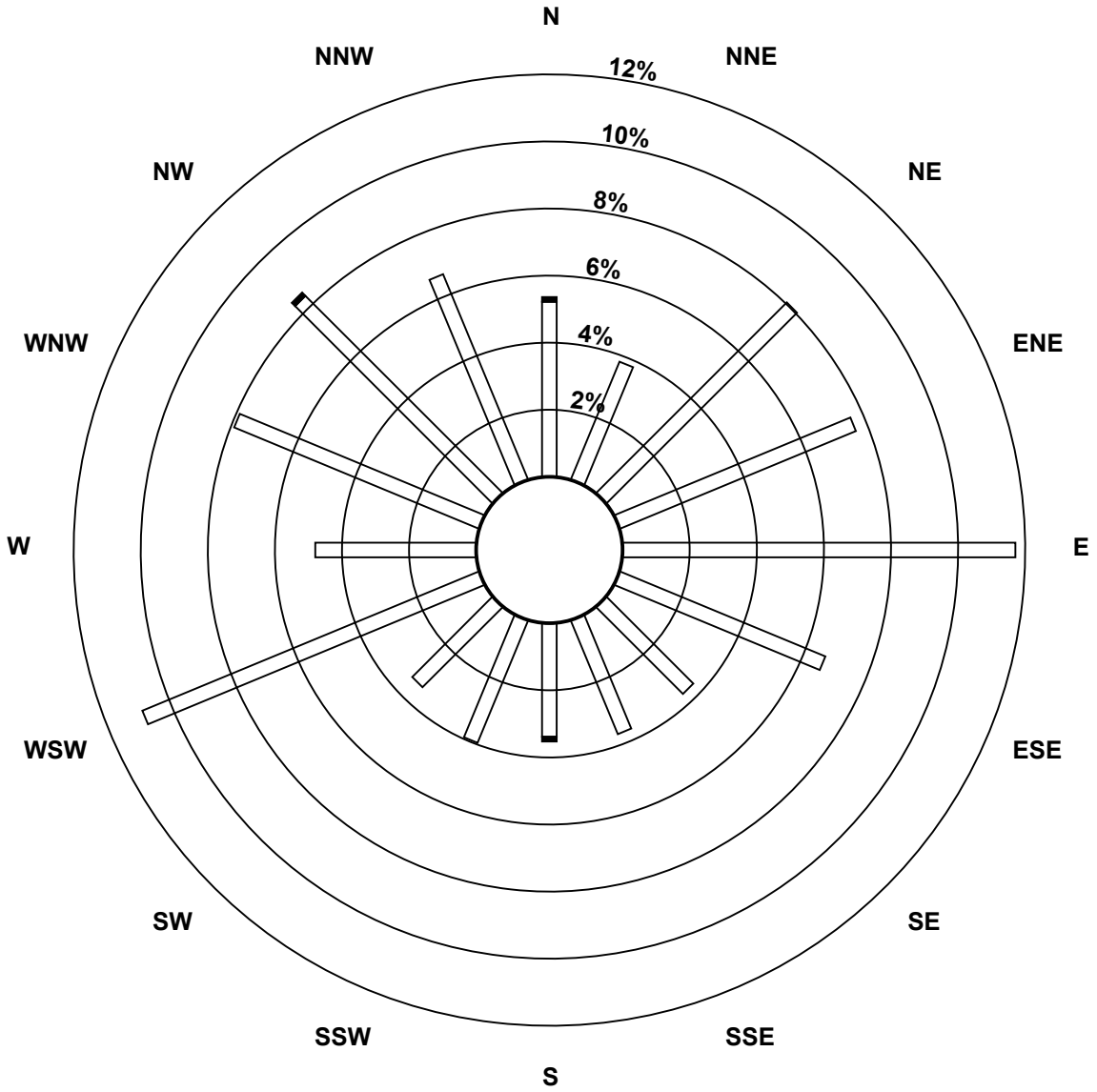


Peace Airshed Zone Association

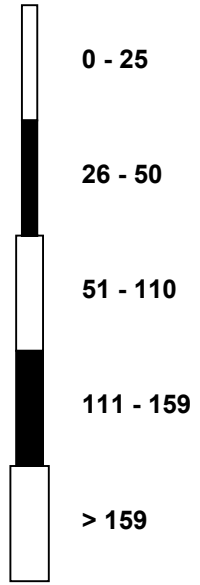
Pollutant Rose

Nitrogen Dioxide (NO_2) - ppb

Beaverlodge - December 2018



Pollutant Classes (ppb)

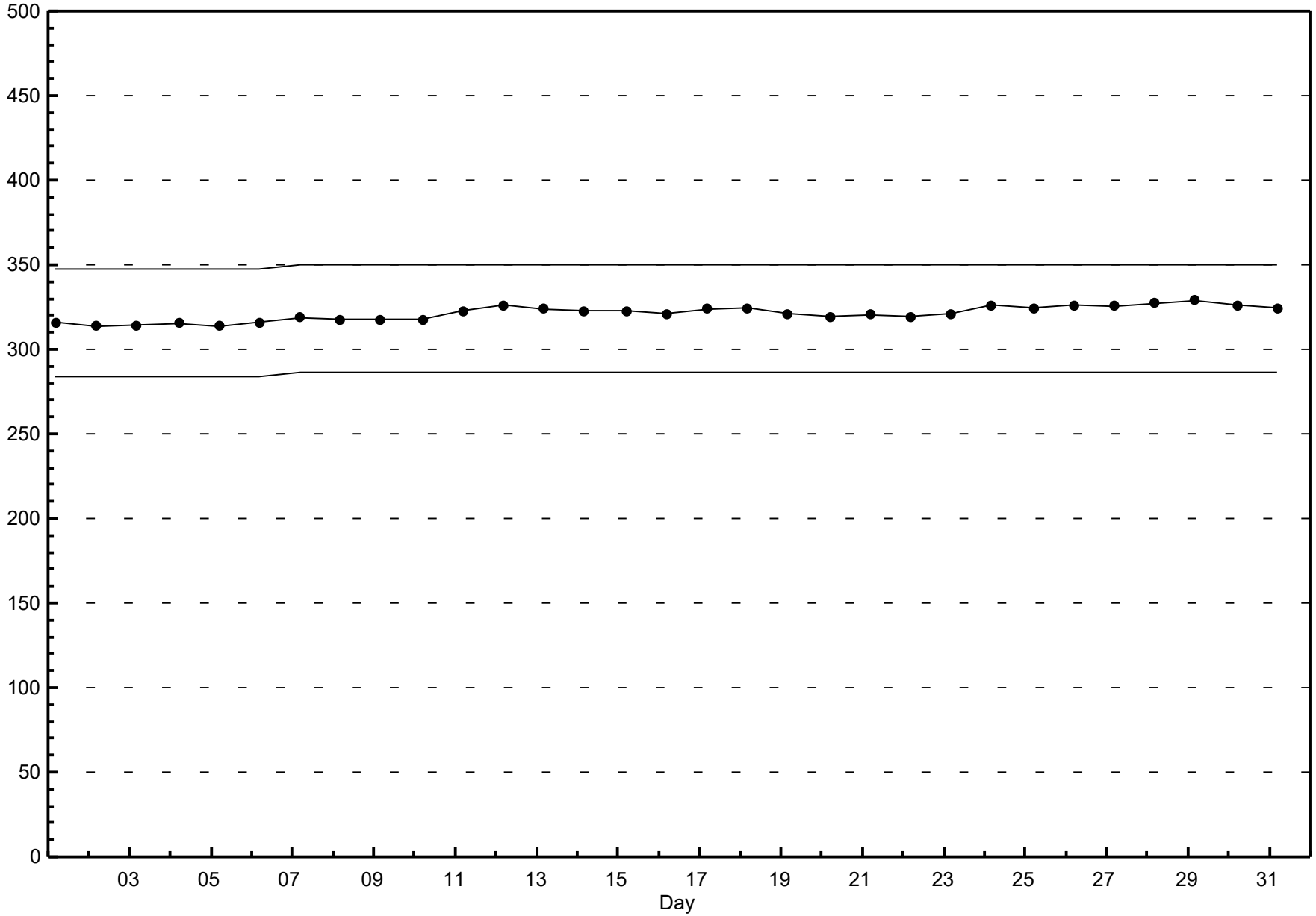


Peace Airshed Zone Association

Span Responses

Nitrogen Dioxide (NO_2)

Beaverlodge - December 2018



Peace Airshed Zone Association

Hourly Averages

Nitrogen Oxide (NO) - ppb

Beaverlodge - December 2018

Maximum Value: 26.2 ppb on Dec 1 13:00

Maximum Daily Average: 6.9 ppb on Dec 1

Minimum Value: 0 ppb on Dec 3 06:00

Minimum Daily Average: 0.0 ppb on Dec 12

Maximum Diurnal Average: 4.0 ppb at hour 12

Minimum Diurnal Average: 0.1 ppb at hour 24

Monthly Average: 1.20 ppb

Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 0.0 Median = 0.1 Q_3 = 0.8 P_{90} = 4.0 P_{99} = 13.8

Hours in Service:	744
Hours of Data:	709
Hours of Missing Data:	35
Hours of Calibration:	35
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily	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	Average	Maximum
1-Dec	0	0	0	0	A	0	0	0	0	1	3	24	26	22	12	21	10	5	14	7	13	1	0	0	6.9	26.2
2-Dec	0	0	0	0	A	0	1	2	4	5	9	5	3	6	6	6	2	0	0	0	0	0	0	1	2.2	8.6
3-Dec	2	3	0	0	A	0	0	0	0	0	3	2	1	5	2	0	0	0	0	0	0	0	0	0	0.8	4.7
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	0.1	0.3
5-Dec	0	0	0	0	A	0	0	0	0	1	3	4	3	4	3	1	0	0	0	0	0	2	0	0	0.9	4.3
6-Dec	0	0	0	0	A	0	0	0	0	C	C	C	C	1	1	1	0	0	0	0	0	0	0	0	0.2	1.3
7-Dec	0	0	0	0	A	0	0	0	0	0	6	2	3	3	4	1	0	0	0	0	0	0	0	0	0.8	6.4
8-Dec	0	0	0	0	A	0	0	0	0	1	2	2	1	6	2	1	0	0	0	0	0	0	0	0	0.7	6.1
9-Dec	0	0	0	0	A	0	0	0	0	1	5	14	12	11	12	14	2	2	0	0	0	0	0	0	3.3	14.2
10-Dec	0	0	0	0	A	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0.2	1.2
11-Dec	0	0	0	0	A	0	0	0	0	0	1	2	2	2	1	1	0	0	0	0	0	0	0	0	0.4	2.0
12-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
13-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
14-Dec	0	0	0	0	A	0	0	0	0	0	0	1	1	2	1	1	0	0	0	0	0	0	0	0	0.3	1.7
15-Dec	0	0	0	0	A	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0.1	0.5
16-Dec	0	0	0	0	A	0	0	0	0	0	0	1	1	1	2	2	1	0	0	0	0	5	4	0	0.8	5.5
17-Dec	0	0	0	0	A	0	0	0	0	1	2	18	8	5	7	4	4	16	3	4	5	0	0	0	3.4	17.8
18-Dec	2	4	1	0	A	3	6	2	3	5	8	8	13	6	6	8	9	14	0	0	0	0	0	0	4.3	13.7
19-Dec	0	0	0	0	A	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0.1	0.7
20-Dec	0	0	0	0	A	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.6
21-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
22-Dec	0	0	0	0	A	0	0	0	0	1	3	5	2	1	4	2	0	4	0	0	3	1	0	1	1.3	5.1
23-Dec	0	0	0	0	A	0	0	0	0	0	1	1	2	2	1	1	0	0	0	0	0	0	0	0	0.4	2.4
24-Dec	0	0	0	0	A	0	0	0	0	1	2	6	5	2	5	4	3	3	1	0	1	0	1	1	1.6	5.6
25-Dec	0	0	0	0	A	0	0	0	0	0	0	1	1	1	0	1	0	0	0	0	0	0	0	0	0.2	0.7
26-Dec	0	0	0	0	A	0	0	0	0	1	2	6	4	6	3	3	1	0	0	0	0	0	0	0	1.2	6.0
27-Dec	0	0	0	0	A	0	0	0	0	2	4	8	8	6	8	6	4	0	0	1	1	0	2	1	2.2	8.4
28-Dec	1	3	10	7	A	7	6	2	3	6	4	5	5	1	0	0	0	0	0	0	0	0	0	0	2.6	9.5
29-Dec	0	0	0	0	A	0	0	0	0	0	0	1	1	1	1	1	1	1	0	0	0	0	0	0	0.4	1.5
30-Dec	0	0	0	0	A	0	0	0	1	1	1	2	1	8	5	3	1	0	0	1	0	0	0	0	1.1	8.0
31-Dec	0	0	0	0	A	0	0	0	0	0	1	1	1	2	2	1	0	0	0	0	0	0	0	0	0.4	2.3
	0.2	0.4	0.4	0.3	--	0.4	0.5	0.2	0.4	0.9	2.2	4.0	3.7	3.4	3.0	2.7	1.3	1.5	0.7	0.4	0.8	0.3	0.3	0.1	Diurnal Average	
	2.3	4.4	9.5	7.3	--	7.2	6.4	2.5	3.6	5.8	8.6	23.9	26.2	21.9	12.4	21.4	10.0	15.8	13.5	6.7	12.8	5.5	4.0	1.0	Diurnal Maximum	

C - Calibration

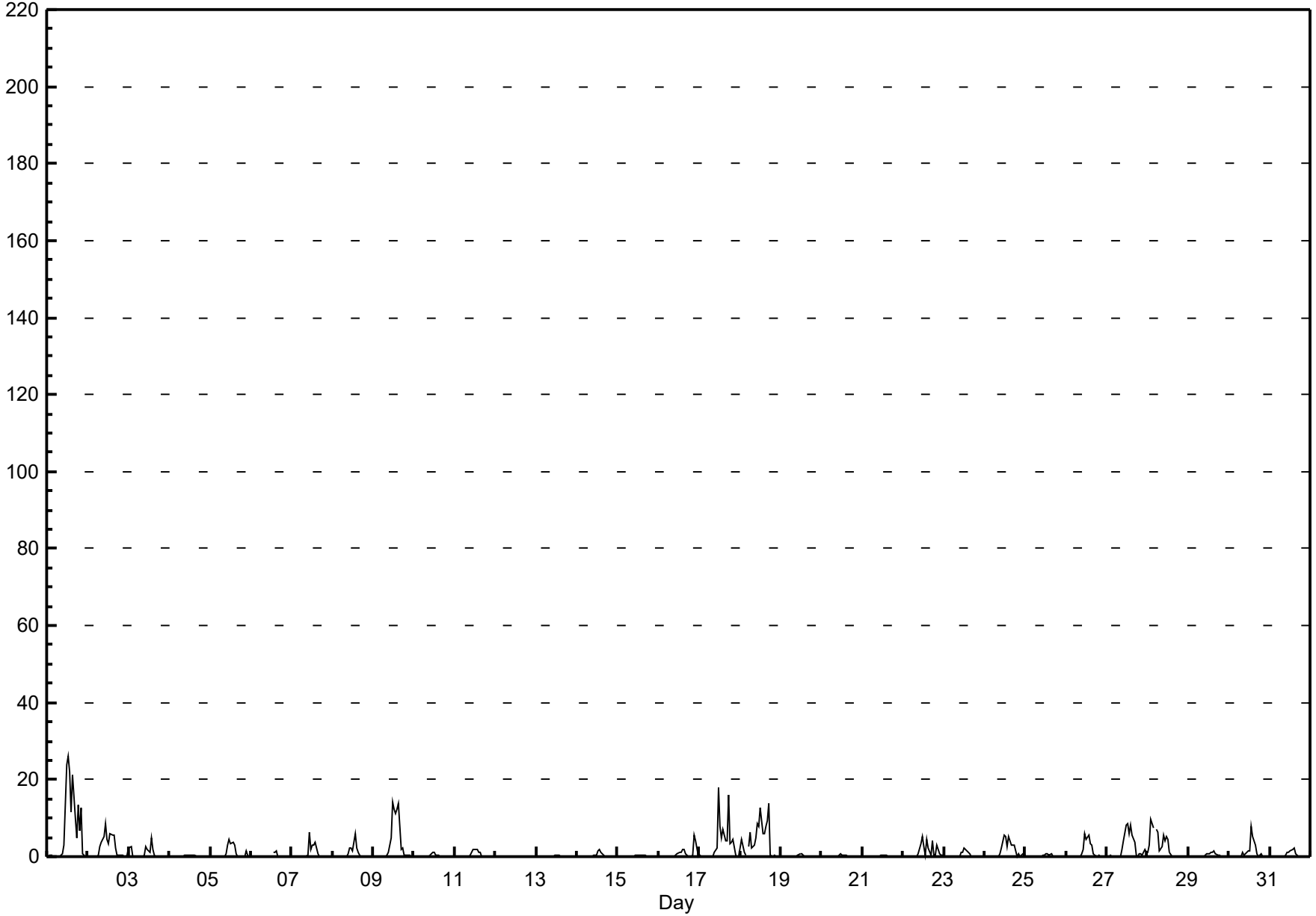
A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Averages

Nitrogen Oxide (NO) - ppb

Beaverlodge - December 2018



Peace Airshed Zone Association

Hourly Maximums

Nitrogen Oxide (NO) - ppb

Beaverlodge - December 2018

Maximum Value: 431.2 ppb on Dec 17 12:00

Maximum Daily Average: 28.8 ppb on Dec 17

Minimum Value: 0 ppb on Dec 20 04:00

Minimum Daily Average: 0.3 ppb on Dec 21

Maximum Diurnal Average: 21.9 ppb at hour 12

Minimum Diurnal Average: 0.9 ppb at hour 8

Monthly Average: 4.15 ppb

Percentiles: P_1 = 0.0 P_{10} = 0.1 Q_1 = 0.2 Median = 0.5 Q_3 = 2.7 P_{90} = 11.0 P_{99} = 37.9

Hours in Service:	744
Hours of Data:	709
Hours of Missing Data:	35
Hours of Calibration:	35
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	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	0	0	3	3	18	45	44	35	30	26	15	17	19	29	32	12	0	0	14.5	45.2
2-Dec	1	0	0	1	A	1	7	7	11	18	17	9	5	8	7	7	4	1	1	1	1	1	0	2	4.7	18.3
3-Dec	10	8	0	0	A	0	0	0	0	0	7	3	2	10	6	2	0	0	0	0	0	0	0	0	2.2	9.9
4-Dec	0	0	0	0	A	1	0	0	0	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0.3	1.2
5-Dec	0	0	0	0	A	0	0	0	1	1	7	7	5	10	9	2	0	0	0	0	0	14	5	0	2.7	14.3
6-Dec	0	0	0	0	A	0	0	0	0	C	C	C	C	2	2	8	0	0	0	0	0	0	1	6	1.1	7.6
7-Dec	0	0	0	0	A	0	0	0	0	1	22	3	10	15	19	4	0	0	1	0	0	0	0	0	3.4	22.0
8-Dec	0	0	0	0	A	0	0	0	0	2	4	4	3	39	10	12	5	0	0	0	1	0	0	0	3.6	39.2
9-Dec	0	0	0	0	A	0	0	0	4	3	26	30	24	24	17	28	10	9	3	2	4	1	0	0	8.1	29.6
10-Dec	0	0	0	0	A	0	0	0	0	1	1	2	5	1	1	1	1	0	0	0	0	0	0	0	0.6	5.0
11-Dec	0	0	0	0	A	0	1	0	1	1	2	4	3	7	3	6	0	1	1	0	1	0	0	0	1.4	7.1
12-Dec	0	1	0	0	A	1	0	0	0	0	0	0	0	0	2	1	1	0	0	1	0	0	0	1	0.4	1.6
13-Dec	0	0	0	0	A	0	1	0	1	0	0	1	1	1	1	1	1	1	0	0	0	0	0	5	0.7	5.2
14-Dec	0	0	0	0	A	0	0	0	1	0	1	2	3	3	2	1	0	0	0	0	0	0	0	1	0.7	3.4
15-Dec	0	0	0	0	A	0	0	0	0	0	0	1	1	0	1	1	1	0	1	0	0	0	0	0	0.4	0.9
16-Dec	2	1	1	0	A	1	0	0	0	2	1	2	1	2	5	4	2	1	0	1	4	27	27	1	3.6	27.5
17-Dec	3	0	0	0	A	2	1	0	1	3	3	431	19	7	18	14	23	58	13	33	30	1	1	0	28.8	431.2
18-Dec	7	12	9	7	A	8	12	9	17	29	19	10	22	19	32	49	38	38	4	0	3	1	0	0	15.1	49.3
19-Dec	0	0	0	0	A	0	0	0	0	0	1	2	2	4	2	1	1	1	0	0	1	0	0	0	0.6	3.8
20-Dec	0	0	0	0	A	0	0	1	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0.4	1.5
21-Dec	0	0	0	0	A	0	0	0	1	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0.3	0.7
22-Dec	0	0	0	0	A	0	0	0	0	3	33	30	4	1	25	12	4	18	5	5	16	11	5	5	7.7	32.9
23-Dec	2	1	1	0	A	0	0	0	0	0	4	2	4	3	1	1	1	0	0	0	0	0	0	0	1.0	4.1
24-Dec	0	0	0	0	A	1	0	0	0	1	3	8	7	7	11	12	10	9	22	0	7	1	5	4	4.7	21.9
25-Dec	1	0	0	0	A	0	0	0	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0.4	1.3
26-Dec	0	0	0	0	A	1	0	1	0	3	3	21	10	8	5	5	2	1	2	3	0	0	0	1	2.8	20.8
27-Dec	0	0	1	0	A	0	0	0	0	9	8	12	13	8	10	8	7	2	1	4	3	1	3	2	4.0	12.7
28-Dec	3	7	24	23	A	18	15	4	12	9	8	21	11	3	0	0	0	0	0	0	0	1	0	0	7.0	24.2
29-Dec	0	0	0	0	A	0	0	0	1	0	1	1	2	3	2	2	14	12	10	1	0	0	0	0	2.2	14.3
30-Dec	0	0	0	0	A	1	0	1	4	2	3	4	2	16	10	4	6	2	2	26	0	1	0	0	3.7	26.3
31-Dec	0	0	0	0	A	0	0	0	0	1	2	2	2	2	8	1	1	0	0	0	0	0	0	0	1.0	7.8
	1.0	1.0	1.3	1.1	--	1.2	1.3	0.9	2.0	3.2	6.6	21.9	6.9	7.8	7.7	7.0	4.8	5.6	2.8	3.5	3.4	2.4	1.7	1.0	Diurnal Average	
	9.9	11.6	24.2	23.1	--	18.1	15.1	9.2	17.3	29.1	32.9	431.2	44.1	39.2	32.0	49.3	38.2	58.5	21.9	33.0	31.6	26.8	27.5	5.7	Diurnal Maximum	

C - Calibration

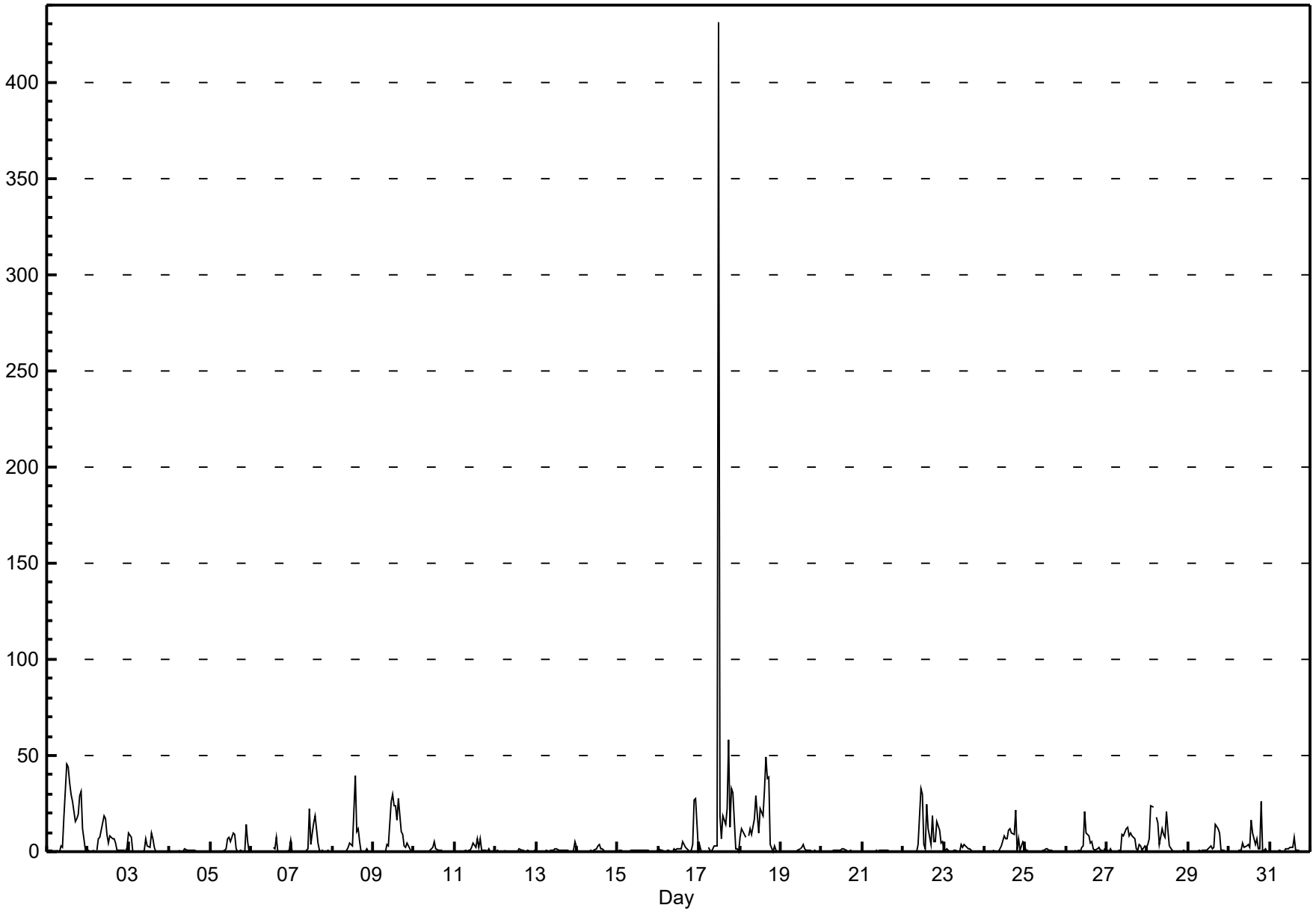
A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Nitrogen Oxide (NO) - ppb

Beaverlodge - December 2018



Peace Airshed Zone Association

Hourly Averages

Oxides of Nitrogen (NO_X) - ppb

Beaverlodge - December 2018

Maximum Value: 43.3 ppb on Dec 18 18:00

Maximum Daily Average: 21.1 ppb on Dec 18

Minimum Value: 0 ppb on Dec 12 04:00

Minimum Daily Average: 2.1 ppb on Dec 12

Maximum Diurnal Average: 10.4 ppb at hour 18

Minimum Diurnal Average: 5.8 ppb at hour 4

Monthly Average: 8.14 ppb

Percentiles: P_1 = 0.7 P_{10} = 1.8 Q_1 = 3.1 Median = 6.2 Q_3 = 10.5 P_{90} = 17.1 P_{99} = 33.2

Hours in Service:	744
Hours of Data:	709
Hours of Missing Data:	35
Hours of Calibration:	35
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	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	9	10	9	A	13	10	10	10	8	10	37	40	37	23	37	27	23	32	23	30	12	6	7	18.9	40.3
2-Dec	8	6	10	10	A	10	15	20	20	19	19	11	8	12	13	16	13	13	14	15	12	13	14	14	13.2	20.2
3-Dec	16	17	7	3	A	3	3	4	4	4	10	7	4	13	7	3	4	4	5	1	1	1	3	3	5.6	17.1
4-Dec	3	2	1	1	A	3	4	5	4	5	2	2	2	2	3	2	2	2	3	2	4	2	2	4	2.8	5.4
5-Dec	4	9	5	4	A	7	5	4	7	11	14	14	9	11	11	5	3	9	10	11	9	16	13	7	8.7	16.3
6-Dec	7	5	4	5	A	5	4	5	6	C	C	C	C	7	6	8	6	6	8	8	10	9	7	17	7.1	16.9
7-Dec	12	10	6	4	A	5	5	6	6	6	23	8	11	10	13	7	4	3	4	7	12	11	9	9	8.2	22.9
8-Dec	10	9	7	6	A	8	8	7	9	9	12	8	5	16	9	7	8	6	11	5	10	5	4	3	7.9	16.4
9-Dec	4	5	5	7	A	6	4	4	10	13	17	30	27	28	33	40	23	30	20	17	13	13	13	3	15.9	39.6
10-Dec	2	2	2	1	A	4	3	3	4	5	4	4	4	1	1	1	1	2	4	5	3	3	2	2	2.7	4.5
11-Dec	2	4	5	5	A	7	9	10	12	11	12	13	10	9	9	9	4	4	1	1	1	1	1	1	6.1	13.1
12-Dec	2	1	1	0	A	2	1	2	2	2	2	2	1	2	1	1	1	3	6	3	5	2	3	4	2.1	5.6
13-Dec	3	3	3	3	A	5	4	2	2	3	1	4	7	4	1	1	1	3	5	6	3	3	3	4	3.1	6.7
14-Dec	3	3	4	4	A	4	3	2	3	1	2	3	6	8	7	8	7	6	6	6	3	3	3	4	4.3	7.8
15-Dec	6	7	6	3	A	3	2	3	4	1	2	2	3	2	2	4	6	6	6	11	7	10	7	8	4.9	10.9
16-Dec	8	4	8	8	A	3	4	5	5	3	4	5	5	6	8	10	13	8	10	10	12	28	25	17	9.1	27.7
17-Dec	12	9	10	9	A	9	11	13	8	11	7	24	14	10	16	14	18	39	23	19	27	23	18	17	15.7	39.2
18-Dec	25	27	21	17	A	23	30	25	26	25	24	18	26	15	16	21	29	43	16	9	17	13	10	9	21.1	43.3
19-Dec	7	3	4	3	A	3	2	2	4	4	3	3	3	2	1	1	1	2	2	2	1	1	1	1	2.4	7.3
20-Dec	2	2	2	3	A	9	9	10	11	7	5	6	4	3	3	2	2	3	5	3	2	5	4	4	4.6	10.9
21-Dec	3	2	1	1	A	2	2	2	3	3	2	1	2	2	2	2	4	5	2	8	8	5	4	5	3.0	8.1
22-Dec	3	2	2	2	A	3	3	3	4	10	10	15	7	4	13	11	7	28	14	16	22	12	17	16	9.8	28.5
23-Dec	17	17	13	10	A	13	14	7	4	3	7	6	9	7	5	6	3	2	3	5	7	7	8	8	7.9	16.8
24-Dec	8	7	7	6	A	7	9	8	9	8	9	13	11	7	14	13	18	23	16	11	14	14	16	13	11.3	23.2
25-Dec	7	4	4	4	A	6	4	3	3	3	3	3	3	3	2	4	4	2	2	3	3	4	4	2	3.4	6.7
26-Dec	3	5	7	4	A	6	9	7	6	9	7	14	9	12	8	10	8	9	8	13	11	10	8	9	8.3	13.6
27-Dec	8	7	9	8	A	7	7	8	7	13	11	15	14	11	15	14	17	15	13	17	18	17	20	18	12.5	19.9
28-Dec	18	21	29	26	A	26	24	17	19	23	18	17	16	6	1	2	1	2	2	3	4	4	2	2	12.3	28.7
29-Dec	3	7	4	5	A	6	10	9	7	6	6	4	4	5	5	8	6	7	6	7	6	4	3	2	5.7	9.6
30-Dec	2	2	2	2	A	4	3	6	18	8	5	5	4	17	14	11	10	10	12	9	7	14	13	13	8.3	17.7
31-Dec	12	10	9	8	A	10	6	4	5	8	7	5	5	7	9	6	5	3	1	1	0	1	0	1	5.3	11.7
	7.5	7.2	6.6	5.8	--	7.2	7.3	7.1	7.8	8.0	8.6	10.0	9.1	8.9	8.7	9.1	8.3	10.4	8.7	8.1	9.2	8.5	8.0	7.3	Diurnal Average	
	25.4	27.3	28.7	25.8	--	26.1	29.8	24.6	25.6	25.2	24.0	37.2	40.3	36.5	33.2	39.6	29.2	43.3	32.2	22.8	30.0	27.7	24.8	18.2	Diurnal Maximum	

C - Calibration

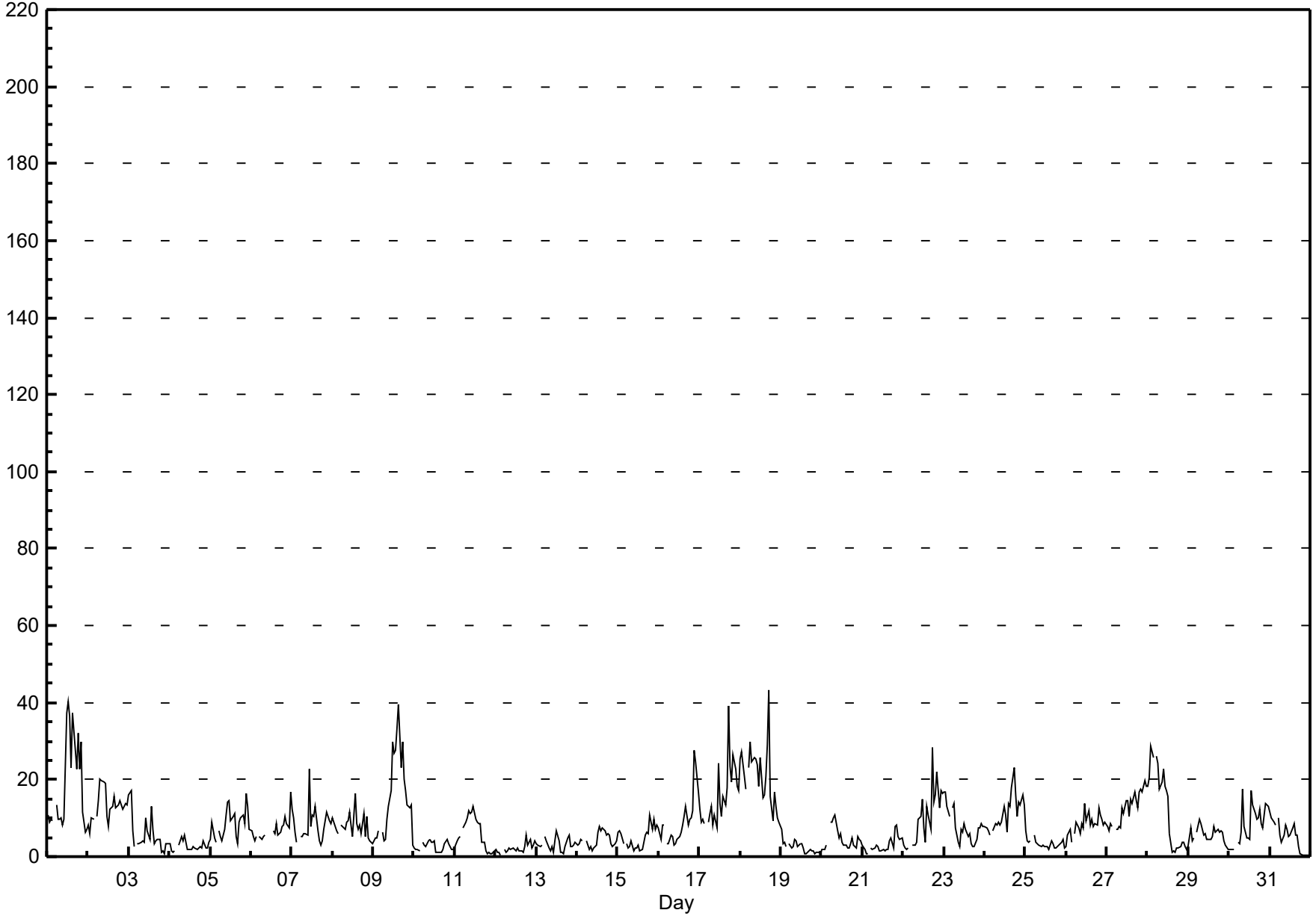
A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Averages

Oxides of Nitrogen (NO_X) - ppb

Beaverlodge - December 2018



Peace Airshed Zone Association

Hourly Maximums

Oxides of Nitrogen (NO_X) - ppb

Beaverlodge - December 2018

Maximum Value: 384.1 ppb on Dec 17 12:00

Maximum Daily Average: 43.5 ppb on Dec 17

Minimum Value: 1 ppb on Dec 12 04:00

Minimum Daily Average: 4.6 ppb on Dec 25

Maximum Diurnal Average: 29.8 ppb at hour 12

Minimum Diurnal Average: 9.0 ppb at hour 4

Monthly Average: 14.64 ppb

Percentiles: P_1 = 1.7 P_{10} = 3.6 Q_1 = 5.4 Median = 9.6 Q_3 = 17.1 P_{90} = 32.0 P_{99} = 61.2

Hours in Service:	744
Hours of Data:	709
Hours of Missing Data:	35
Hours of Calibration:	35
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	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	16	15	15	17	A	20	11	10	15	12	29	61	61	54	48	42	33	36	39	46	52	30	14	14	30.0	61.3
2-Dec	14	7	14	15	A	14	24	26	31	40	31	18	10	16	15	18	16	16	15	16	14	15	15	18	18.2	39.6
3-Dec	25	23	11	5	A	5	7	6	8	5	21	11	6	24	18	11	11	7	8	2	4	3	7	4	10.1	25.1
4-Dec	5	4	3	4	A	8	7	8	10	10	5	3	4	4	5	5	4	4	4	4	6	4	6	7	5.4	10.4
5-Dec	10	13	7	5	A	12	11	5	21	14	24	23	14	22	23	9	5	12	18	15	10	43	35	9	15.7	43.5
6-Dec	14	7	6	7	A	8	7	7	9	C	C	C	C	15	8	28	8	9	11	9	12	10	17	37	11.9	36.7
7-Dec	14	14	7	9	A	7	7	8	7	12	55	12	28	37	40	23	8	7	19	10	15	15	11	18	16.6	54.7
8-Dec	12	11	9	8	A	9	10	8	11	14	18	13	10	66	30	43	28	15	17	12	25	9	5	4	16.9	66.2
9-Dec	8	6	7	10	A	9	5	6	30	29	50	51	43	43	38	57	41	39	31	29	35	28	23	5	27.0	56.9
10-Dec	5	2	3	3	A	6	5	5	6	11	8	7	14	4	3	6	6	6	6	8	6	5	2	3	5.7	14.1
11-Dec	3	5	6	8	A	9	16	14	19	15	16	21	13	22	14	28	7	9	3	2	4	2	1	7	10.7	28.3
12-Dec	4	3	2	1	A	4	4	3	3	3	3	3	3	3	6	5	4	8	10	7	7	5	7	9	4.6	9.7
13-Dec	5	6	6	5	A	11	7	7	3	11	5	22	22	16	3	5	4	11	10	8	4	5	11	28	9.4	28.1
14-Dec	5	5	6	6	A	6	6	5	8	4	4	7	12	12	10	11	8	7	9	7	4	3	4	6	6.8	12.3
15-Dec	10	14	17	6	A	5	3	5	10	3	3	3	4	2	3	6	9	15	18	20	9	19	14	11	9.2	19.7
16-Dec	14	8	15	13	A	6	6	7	7	6	5	8	7	9	19	16	21	11	14	13	29	58	56	24	16.1	57.9
17-Dec	28	15	15	11	A	20	15	15	11	14	9	384	29	14	32	28	46	87	37	63	57	27	24	20	43.5	384.1
18-Dec	31	36	31	28	A	30	36	34	45	53	42	23	38	38	56	82	71	71	33	12	26	15	12	10	37.1	82.2
19-Dec	8	4	6	4	A	7	5	7	12	7	4	7	8	12	5	4	4	10	4	5	4	3	4	1	5.8	12.0
20-Dec	7	4	4	4	A	11	12	16	16	11	7	7	7	4	4	3	3	7	10	4	3	10	9	5	7.2	15.9
21-Dec	4	3	2	2	A	4	4	4	5	5	4	2	3	3	4	4	6	8	4	19	12	11	6	8	5.4	19.5
22-Dec	5	3	2	3	A	4	5	5	14	26	61	55	10	5	49	32	27	54	38	32	48	42	36	36	25.8	60.6
23-Dec	29	24	27	18	A	21	19	11	6	4	16	9	12	9	6	7	8	3	3	8	11	10	11	9	12.3	29.0
24-Dec	11	9	9	9	A	10	11	10	10	9	10	17	15	16	27	27	35	35	47	15	28	17	24	24	18.4	47.4
25-Dec	9	5	4	5	A	8	5	4	4	3	5	4	4	4	2	5	4	4	4	4	6	5	6	3	4.6	8.5
26-Dec	4	9	9	6	A	9	14	12	7	18	9	37	18	17	11	12	10	11	16	18	12	11	10	17	12.9	37.2
27-Dec	12	8	16	12	A	8	9	10	8	23	17	19	20	14	18	17	20	16	15	22	20	18	21	20	15.8	22.6
28-Dec	22	25	45	44	A	38	34	21	31	28	23	41	22	14	3	3	3	4	4	5	8	7	3	3	18.7	44.9
29-Dec	10	14	7	6	A	7	14	14	12	6	7	6	9	7	7	11	14	8	12	8	7	6	4	4	8.7	14.2
30-Dec	2	2	2	2	A	6	4	13	25	14	9	10	6	33	22	14	25	18	17	43	11	20	18	16	14.5	43.1
31-Dec	16	11	9	9	A	14	12	5	9	11	9	7	8	9	22	7	9	7	4	1	2	2	1	1	8.0	21.9
	11.7	10.1	10.4	9.0	--	10.9	10.7	10.0	13.4	14.0	16.9	29.8	15.4	17.7	17.9	18.4	16.0	17.9	15.5	15.1	15.9	14.8	13.6	12.3	Diurnal Average	
	31.3	35.6	44.9	43.8	--	38.0	36.0	33.7	44.5	52.9	60.6	384.1	60.6	66.2	56.2	82.2	71.1	86.8	47.4	62.8	56.8	57.9	56.4	36.7	Diurnal Maximum	

C - Calibration

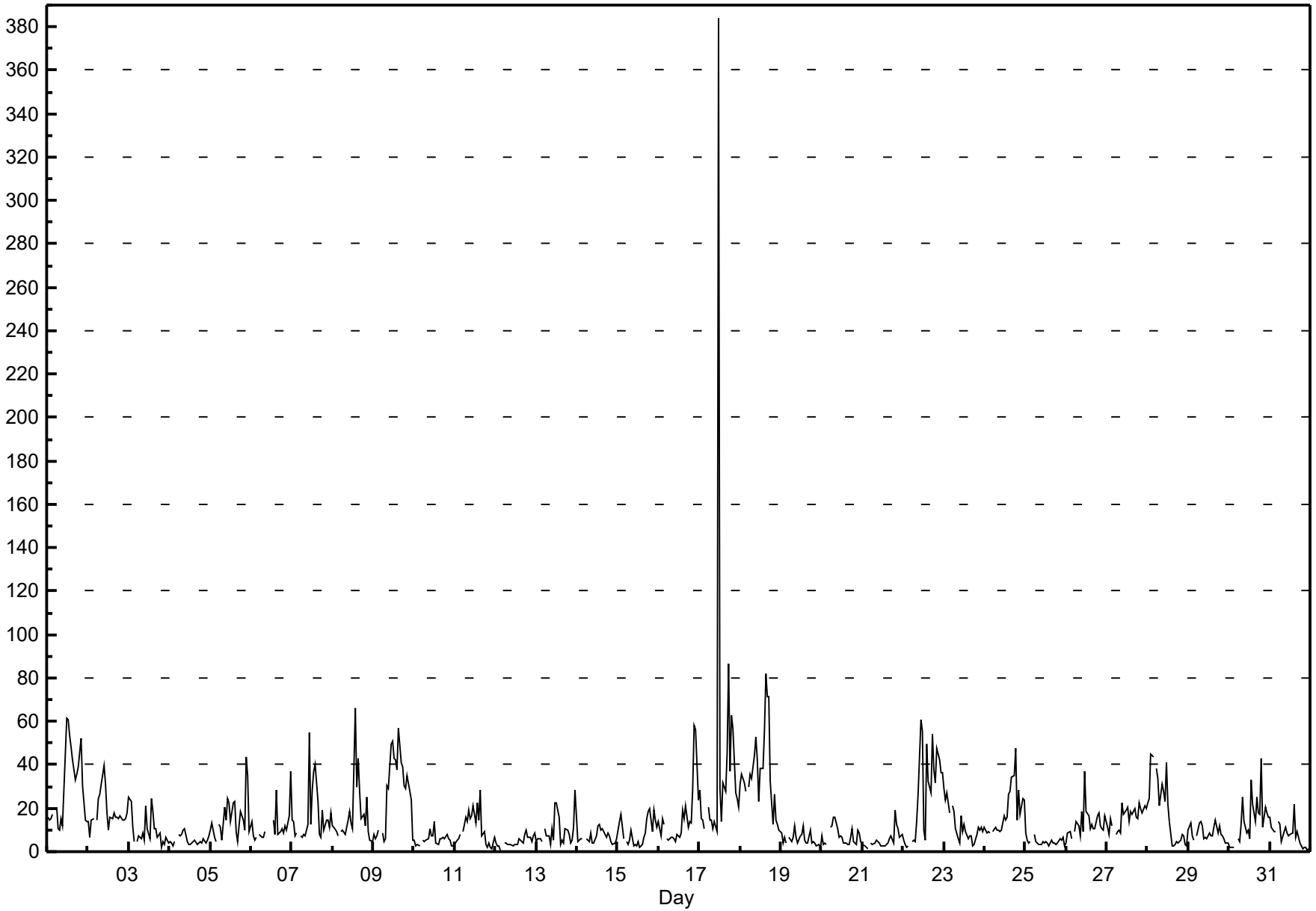
A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Oxides of Nitrogen (NO_X) - ppb

Beaverlodge - December 2018

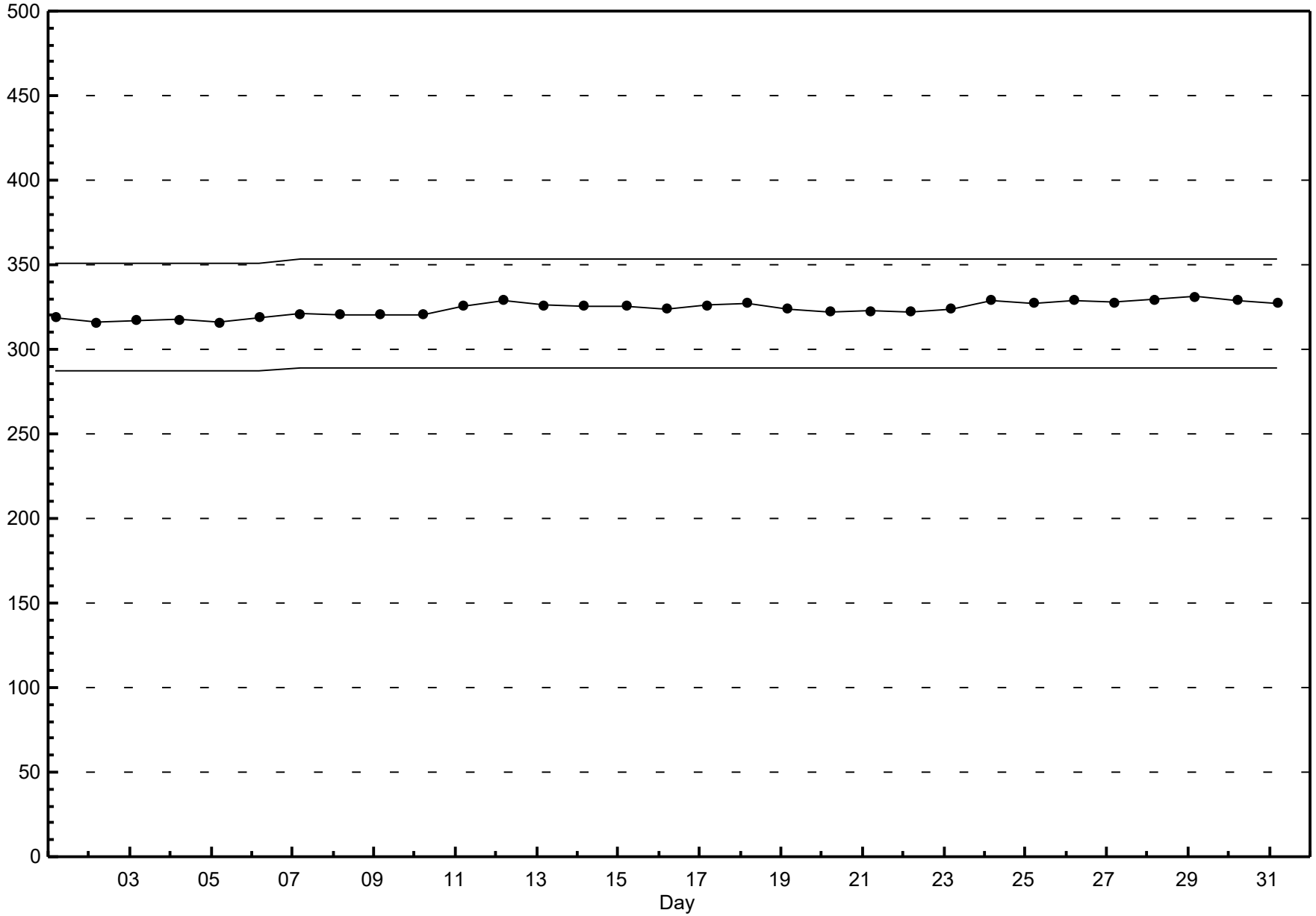


Peace Airshed Zone Association

Span Responses

Oxides of Nitrogen (NO_X)

Beaverlodge - December 2018



Peace Airshed Zone Association

Hourly Averages

Ozone (O_3) - ppb

Beaverlodge - December 2018

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 42.8 ppb on Dec 7 18:00 Maximum Daily Average: 36.3 ppb on Dec 12

Minimum Value: 0 ppb on Dec 1 19:00 Minimum Daily Average: 6.9 ppb on Dec 1
Maximum Diurnal Average: 27.3 ppb at hour 15 Minimum Diurnal Average: 22.4 ppb at hour 1
Monthly Average: 24.39 ppb Percentiles: P_1 = 1.1 P_{10} = 8.2 Q_1 = 15.4 Median = 26.8 Q_3 = 33.7 P_{90} = 36.8 P_{99} = 41.3

Hours in Service:	744
Hours of Data:	710
Hours of Missing Data:	34
Hours of Calibration:	34
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily	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	Average	Maximum
1-Dec	8	9	8	9	A	5	8	8	7	9	10	5	6	6	8	3	2	1	0	5	4	8	16	15	6.9	15.7
2-Dec	11	13	10	11	A	10	5	2	3	6	9	13	14	12	11	9	7	5	4	3	4	4	3	3	7.5	13.8
3-Dec	2	2	11	21	A	25	25	26	27	28	25	28	30	27	29	30	29	28	29	34	33	34	31	31	25.4	33.8
4-Dec	31	35	37	37	A	35	33	33	34	33	35	36	36	36	35	36	38	38	38	38	36	38	37	35	35.6	38.2
5-Dec	34	29	33	34	A	31	30	30	26	23	21	21	24	24	25	32	33	28	25	23	24	19	20	26	26.8	34.2
6-Dec	26	27	28	27	A	29	29	27	27	27	29	31	C	C	C	32	33	30	27	27	23	25	27	20	27.6	33.2
7-Dec	20	22	30	37	A	38	36	35	36	38	25	37	36	37	36	40	42	43	41	36	29	29	27	27	33.9	42.8
8-Dec	24	26	28	27	A	27	26	26	25	27	27	32	35	31	36	37	33	35	28	35	28	31	33	34	29.9	37.1
9-Dec	32	31	33	29	A	27	27	26	20	19	20	15	17	16	11	7	13	4	13	15	20	21	20	34	20.4	34.2
10-Dec	36	36	36	36	A	34	34	32	29	30	31	32	33	38	38	38	38	37	35	34	35	35	36	36	34.8	38.0
11-Dec	36	34	33	33	A	31	28	27	25	27	28	27	31	31	30	29	33	32	34	34	37	37	38	37	31.8	38.1
12-Dec	37	38	37	38	A	37	36	35	35	36	35	37	38	36	38	38	38	37	33	36	34	36	35	34	36.3	38.3
13-Dec	35	35	35	35	A	32	32	36	37	37	38	37	35	37	40	40	40	38	35	34	38	37	36	35	36.2	39.7
14-Dec	36	36	35	35	A	34	35	37	37	39	38	38	35	33	33	32	31	31	30	31	31	30	29	28	33.6	39.1
15-Dec	26	24	24	26	A	26	26	26	27	32	32	32	32	35	35	33	31	30	31	24	29	27	29	28	28.9	35.3
16-Dec	27	30	26	27	A	32	30	27	28	32	32	31	30	29	27	25	20	23	21	20	18	8	8	11	24.4	31.8
17-Dec	15	18	16	17	A	16	13	11	15	10	12	14	14	15	14	15	13	1	7	15	6	5	10	10	12.4	17.8
18-Dec	2	3	6	13	A	6	1	4	4	7	12	16	17	23	22	20	13	3	14	19	12	14	14	16	11.3	22.7
19-Dec	20	32	33	33	A	33	34	34	33	33	35	35	35	37	38	38	38	37	37	37	37	37	36	37	34.7	38.4
20-Dec	35	35	35	34	A	29	28	26	24	29	32	30	32	34	34	35	34	32	29	31	31	27	26	26	30.8	35.5
21-Dec	28	28	33	35	A	36	36	36	35	36	37	37	37	37	37	37	35	33	35	29	28	29	29	27	33.5	37.5
22-Dec	29	29	31	31	A	32	31	28	28	24	26	26	27	40	38	31	32	13	23	21	16	24	19	19	26.8	40.0
23-Dec	14	14	21	23	A	20	18	24	30	32	27	28	26	28	29	28	29	29	28	25	21	20	19	20	24.1	32.2
24-Dec	19	18	19	20	A	19	16	15	14	15	16	16	18	19	15	14	9	5	8	11	8	7	6	7	13.7	20.3
25-Dec	14	18	19	19	A	18	19	19	20	22	23	25	26	27	27	25	26	27	27	26	25	24	23	25	22.8	27.2
26-Dec	24	20	17	20	A	18	14	14	15	13	15	14	16	15	17	15	14	13	13	7	9	10	11	10	14.5	24.0
27-Dec	11	11	9	9	A	11	11	11	11	7	11	11	12	13	12	11	6	5	6	3	2	2	1	2	8.1	12.9
28-Dec	1	1	1	1	A	1	1	3	2	3	12	17	20	33	38	38	38	37	36	35	34	33	34	34	19.7	38.3
29-Dec	33	26	28	27	A	26	21	23	24	24	22	23	23	22	22	19	16	11	13	13	14	17	19	20	21.2	32.8
30-Dec	20	21	21	21	A	19	18	15	6	14	18	19	20	15	15	15	15	12	10	16	16	9	8	8	15.2	20.7
31-Dec	9	10	12	14	A	17	21	24	22	20	25	28	29	29	28	29	30	37	41	42	43	42	42	42	27.6	42.5
	22.4	23.0	24.1	24.9	--	24.4	23.3	23.2	22.8	23.6	24.4	25.5	26.1	27.1	27.3	26.8	26.1	23.7	24.3	24.5	23.4	23.2	23.3	23.8	Diurnal Average	
	36.7	37.8	37.3	37.9	--	37.8	36.4	36.5	37.0	39.1	38.2	37.8	38.2	40.0	39.6	39.9	42.5	42.8	41.3	42.2	42.5	42.2	42.0	41.6	Diurnal Maximum	

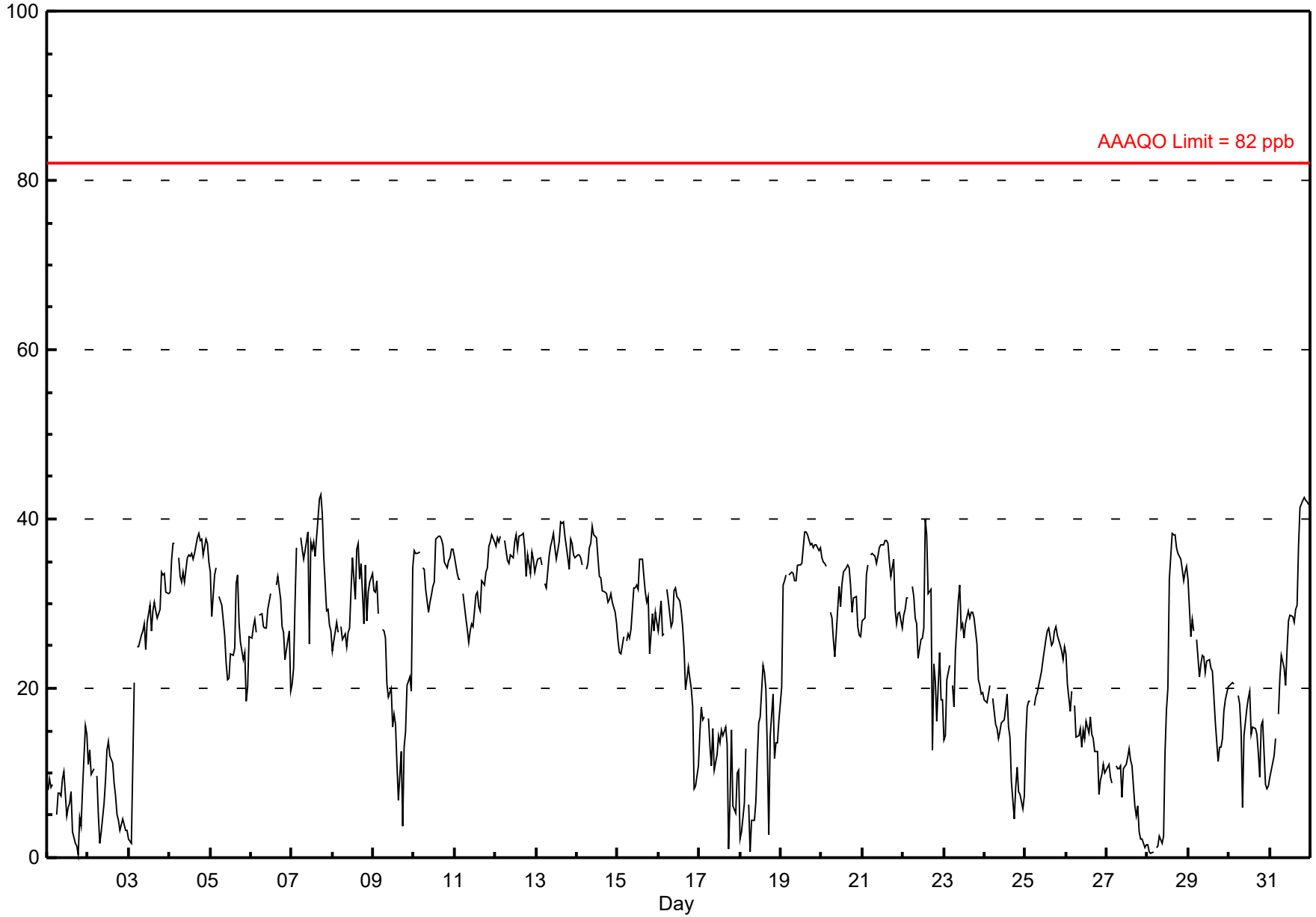
C - Calibration A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 82 ppb 24-hr na

Peace Airshed Zone Association

Hourly Averages

Ozone (O_3) - ppb

Beaverlodge - December 2018



Peace Airshed Zone Association

Hourly Maximums

Ozone (O_3) - ppb

Beaverlodge - December 2018

Maximum Value: 46.5 ppb on Dec 22 15:00

Maximum Daily Average: 38.2 ppb on Dec 13

Minimum Value: 1 ppb on Dec 28 03:00

Minimum Daily Average: 9.5 ppb on Dec 27

Maximum Diurnal Average: 30.2 ppb at hour 15

Minimum Diurnal Average: 25.2 ppb at hour 1

Monthly Average: 27.06 ppb

Percentiles: P_1 = 2.8 P_{10} = 11.7 Q_1 = 19.2 Median = 29.5 Q_3 = 35.7 P_{90} = 38.4 P_{99} = 42.7

Hours in Service:	744
Hours of Data:	710
Hours of Missing Data:	34
Hours of Calibration:	34
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily	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	Average	Maximum
1-Dec	14	14	12	14	A	8	8	8	8	11	13	7	9	9	14	5	3	7	1	12	11	10	19	19	10.4	19.3
2-Dec	13	13	13	14	A	14	7	8	11	8	13	15	14	14	12	10	8	7	5	5	6	5	6	5	9.9	14.6
3-Dec	4	5	18	24	A	27	27	28	29	28	28	30	31	31	31	31	31	30	34	35	35	34	33	32	27.6	34.7
4-Dec	33	37	38	38	A	37	35	36	37	36	36	37	36	37	36	37	40	40	39	39	38	38	38	38	37.1	39.8
5-Dec	36	32	35	36	A	35	35	31	29	28	26	23	26	27	30	35	36	32	27	27	27	29	26	29	30.2	36.4
6-Dec	29	29	30	29	A	31	31	29	29	30	31	33	C	C	C	37	36	32	29	28	25	26	30	32	30.3	36.7
7-Dec	24	30	33	41	A	40	37	37	38	41	38	39	39	41	42	46	44	43	42	41	34	31	31	29	37.5	46.2
8-Dec	28	29	30	28	A	28	27	28	27	28	31	36	38	40	42	42	38	40	38	40	34	33	34	35	33.6	42.1
9-Dec	34	32	35	34	A	28	28	27	25	21	26	23	22	19	20	15	17	12	16	22	31	33	30	37	25.4	36.8
10-Dec	37	37	37	37	A	36	35	35	33	34	35	35	36	39	39	39	38	38	38	37	36	37	37	37	36.6	38.9
11-Dec	36	35	34	35	A	33	32	30	28	29	31	32	34	34	33	34	35	35	35	37	38	38	39	39	34.1	38.7
12-Dec	38	39	38	38	A	38	37	37	38	39	39	41	41	40	39	40	39	39	36	37	35	38	38	36	38.2	40.9
13-Dec	35	36	37	37	A	35	37	38	39	40	39	39	38	40	40	40	41	40	38	37	38	39	38	39	38.2	40.6
14-Dec	38	37	37	37	A	35	36	37	39	40	39	39	38	35	34	33	32	32	32	33	32	31	30	29	35.1	40.1
15-Dec	27	26	28	28	A	26	27	27	31	33	33	33	34	36	36	34	34	34	33	32	31	31	33	29	31.2	36.5
16-Dec	29	31	31	32	A	32	32	28	31	32	33	32	31	30	29	28	24	24	25	23	23	17	20	18	27.6	32.6
17-Dec	20	21	19	18	A	18	15	14	17	14	14	16	17	16	21	24	25	2	20	22	15	8	19	14	17.0	24.7
18-Dec	8	9	15	17	A	13	1	9	9	9	15	18	24	27	29	28	24	17	20	23	23	19	14	20	17.1	29.0
19-Dec	30	34	34	36	A	36	35	35	36	34	36	36	36	39	39	39	39	38	38	38	38	38	37	37	36.4	39.1
20-Dec	37	36	36	35	A	33	31	32	26	31	34	31	35	35	35	35	35	33	32	32	32	31	28	27	32.7	37.4
21-Dec	28	31	34	36	A	36	37	37	36	37	38	38	38	38	38	38	37	35	36	35	32	32	32	29	34.9	38.1
22-Dec	32	30	31	31	A	33	33	29	30	30	29	32	35	46	47	38	36	25	27	26	26	32	35	35	32.4	46.5
23-Dec	21	25	35	34	A	28	23	28	33	33	32	29	28	30	30	30	30	30	29	28	23	23	21	21	28.0	34.6
24-Dec	22	19	21	23	A	20	18	16	15	16	17	17	19	21	21	19	14	12	14	13	12	9	8	11	16.4	22.7
25-Dec	17	19	19	19	A	19	20	21	21	23	24	25	28	27	28	27	27	28	28	27	26	26	25	25	23.8	27.8
26-Dec	25	24	18	20	A	19	19	17	16	17	17	17	18	16	18	16	15	15	16	11	10	11	12	12	16.5	25.0
27-Dec	12	12	12	10	A	11	11	11	12	10	12	12	13	14	13	12	8	7	7	6	3	3	3	3	9.5	13.8
28-Dec	3	1	1	2	A	2	3	4	4	6	16	21	24	39	39	39	39	38	37	37	36	34	35	36	21.6	39.0
29-Dec	35	31	31	29	A	27	24	26	27	25	23	24	24	23	23	23	19	14	14	14	15	21	21	21	23.2	35.0
30-Dec	21	21	21	21	A	21	20	18	11	17	19	20	21	20	17	17	19	14	14	20	20	13	11	11	17.7	21.2
31-Dec	11	11	14	15	A	20	24	25	24	22	27	29	29	30	31	31	33	41	43	43	43	43	43	42	29.2	42.9
	25.2	25.3	26.7	27.4	--	26.4	25.3	25.3	25.4	25.9	27.2	27.7	28.6	29.7	30.2	29.7	28.8	26.9	27.2	27.6	26.8	26.2	26.6	26.7	Diurnal Average	
	37.8	38.6	37.9	41.5	--	40.2	37.5	38.1	39.2	41.4	39.3	40.6	40.9	45.5	46.5	46.2	44.2	43.5	42.5	42.7	42.9	42.7	42.5	42.3	Diurnal Maximum	

C - Calibration

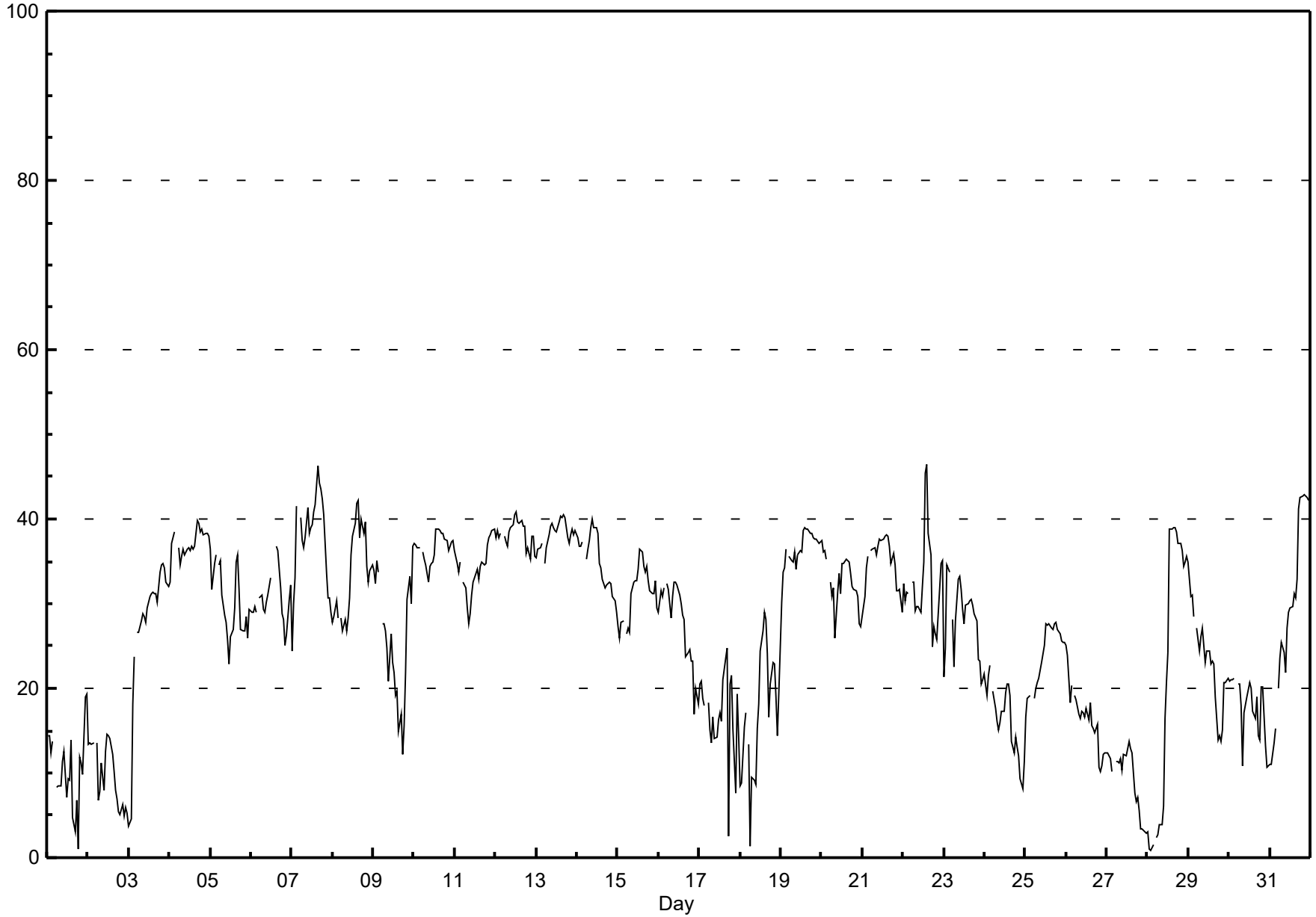
A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Ozone (O_3) - ppb

Beaverlodge - December 2018

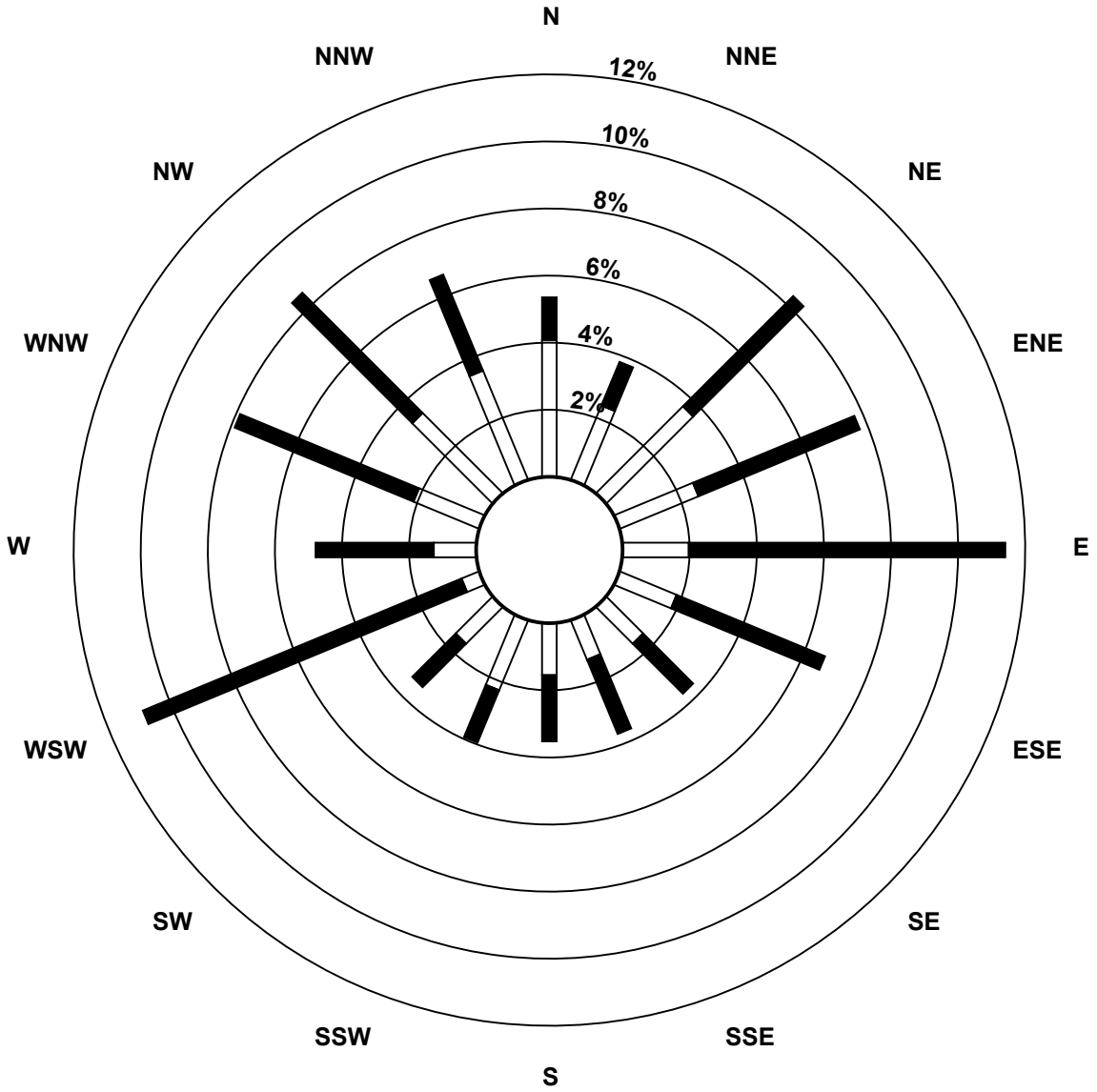


Peace Airshed Zone Association

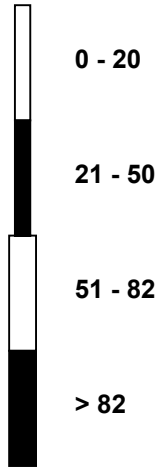
Pollutant Rose

Ozone (O_3) - ppb

Beaverlodge - December 2018



Pollutant Classes (ppb)



PAZA
Peace Airshed Zone Association

Eight Hour Running Averages

Ozone (O_3) - ppb

Beaverlodge - December 2018

Maximum Value: 39.8 ppb on Jan 1 00:00

Minimum Value: 1.0 ppb on Dec 28 06:00

Percentiles: P_1 = 1.8 P_{10} = 9.3 Q_1 = 15.3 Median = 27.1 Q_3 = 33.0 P_{90} = 36.1 P_{99} = 37.7

Hours in Service:	744
Hours of Data:	738
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	14	13	12	12	11	9	8	8	8	8	8	7	7	7	7	7	6	5	4	4	4	4	5	6	14.2
2-Dec	7	9	10	11	12	12	10	9	8	7	7	7	8	8	9	10	10	10	9	8	7	6	5	4	12.0
3-Dec	4	3	4	6	7	10	13	16	19	23	25	26	27	27	27	28	28	28	29	30	30	31	31	31	31.3
4-Dec	32	32	33	34	34	34	34	35	35	35	34	34	34	34	35	35	36	36	36	37	37	37	37	37	37.2
5-Dec	37	35	35	34	34	33	32	32	30	30	28	26	26	25	24	25	25	26	27	27	27	26	26	25	36.6
6-Dec	24	24	24	25	25	26	27	28	28	28	28	29	29	29	N	N	N	N	N	N	29	28	28	27	28.9
7-Dec	25	24	24	25	26	28	29	31	34	36	35	35	35	35	35	36	37	37	39	39	38	37	36	34	39.1
8-Dec	32	30	28	27	27	27	26	26	26	26	26	27	28	29	30	31	32	33	33	34	33	33	32	32	33.7
9-Dec	32	31	32	31	32	31	30	29	28	26	24	22	21	20	18	16	15	13	12	12	12	13	14	17	32.0
10-Dec	20	24	27	30	31	33	35	35	34	33	32	32	32	32	33	34	35	35	36	36	37	36	36	36	36.5
11-Dec	36	35	35	35	35	34	33	32	30	29	28	28	28	28	28	29	29	30	31	32	32	33	34	35	35.6
12-Dec	36	36	37	37	37	38	37	37	37	36	36	36	36	36	36	37	37	37	37	37	36	36	36	35	37.5
13-Dec	35	35	35	35	35	34	34	34	35	35	35	36	36	36	37	38	38	38	38	37	38	38	37	37	38.0
14-Dec	36	36	36	36	36	35	35	35	35	36	36	37	37	37	36	36	35	34	33	32	32	31	31	30	36.8
15-Dec	29	29	28	27	27	26	26	25	26	27	28	29	29	30	31	32	33	33	32	31	31	30	29	29	32.8
16-Dec	28	28	27	28	28	28	29	28	29	29	30	30	30	30	30	29	28	27	26	24	23	20	18	16	30.2
17-Dec	15	15	14	14	13	14	15	15	15	14	14	13	13	13	13	14	14	12	12	12	11	10	9	8	15.5
18-Dec	7	7	7	7	7	7	6	5	5	6	7	7	8	10	13	15	16	15	16	16	16	14	13	13	16.2
19-Dec	14	18	20	22	23	26	29	31	33	33	33	34	34	34	35	35	36	37	37	37	37	37	37	37	37.4
20-Dec	37	36	36	36	36	34	33	32	30	29	29	28	29	29	30	31	33	33	32	33	32	32	31	30	36.6
21-Dec	29	28	29	29	29	30	32	33	34	35	36	36	36	36	36	37	37	36	36	35	34	33	32	31	36.6
22-Dec	30	29	29	29	29	30	30	30	30	29	28	28	28	29	30	30	30	29	29	28	27	25	22	21	30.4
23-Dec	19	19	18	19	19	19	18	19	22	24	25	26	26	27	28	29	28	28	28	28	27	26	25	24	28.5
24-Dec	23	21	20	20	19	19	19	18	17	17	16	16	16	16	16	16	15	14	13	12	11	10	8	8	22.7
25-Dec	8	10	11	12	13	14	16	18	19	19	20	21	22	23	24	24	25	26	26	26	26	26	25	25	26.3
26-Dec	25	24	23	22	22	21	20	18	17	16	16	15	15	15	15	15	15	15	14	14	13	12	11	11	25.3
27-Dec	10	10	10	10	10	10	10	10	10	10	10	10	10	11	11	11	10	10	9	8	7	6	5	3	10.8
28-Dec	3	2	2	1	1	1	1	1	1	1	3	6	7	11	16	20	25	29	32	34	36	36	36	35	36.2
29-Dec	34	33	32	31	31	30	28	26	25	25	24	23	23	23	23	22	22	20	19	18	16	16	15	15	34.5
30-Dec	16	17	18	19	20	20	20	19	17	16	16	16	16	16	15	15	16	16	15	15	14	13	13	12	20.0
31-Dec	11	11	11	11	10	11	13	15	17	19	20	22	23	25	26	26	27	29	31	33	35	37	38	40	39.8
	36.6	36.5	37.0	37.4	37.5	37.5	37.2	36.9	36.6	36.3	36.3	36.8	36.6	36.5	37.1	37.6	38.0	38.0	39.1	38.8	37.9	37.6	38.3	39.8	
	Diurnal Maximums																								

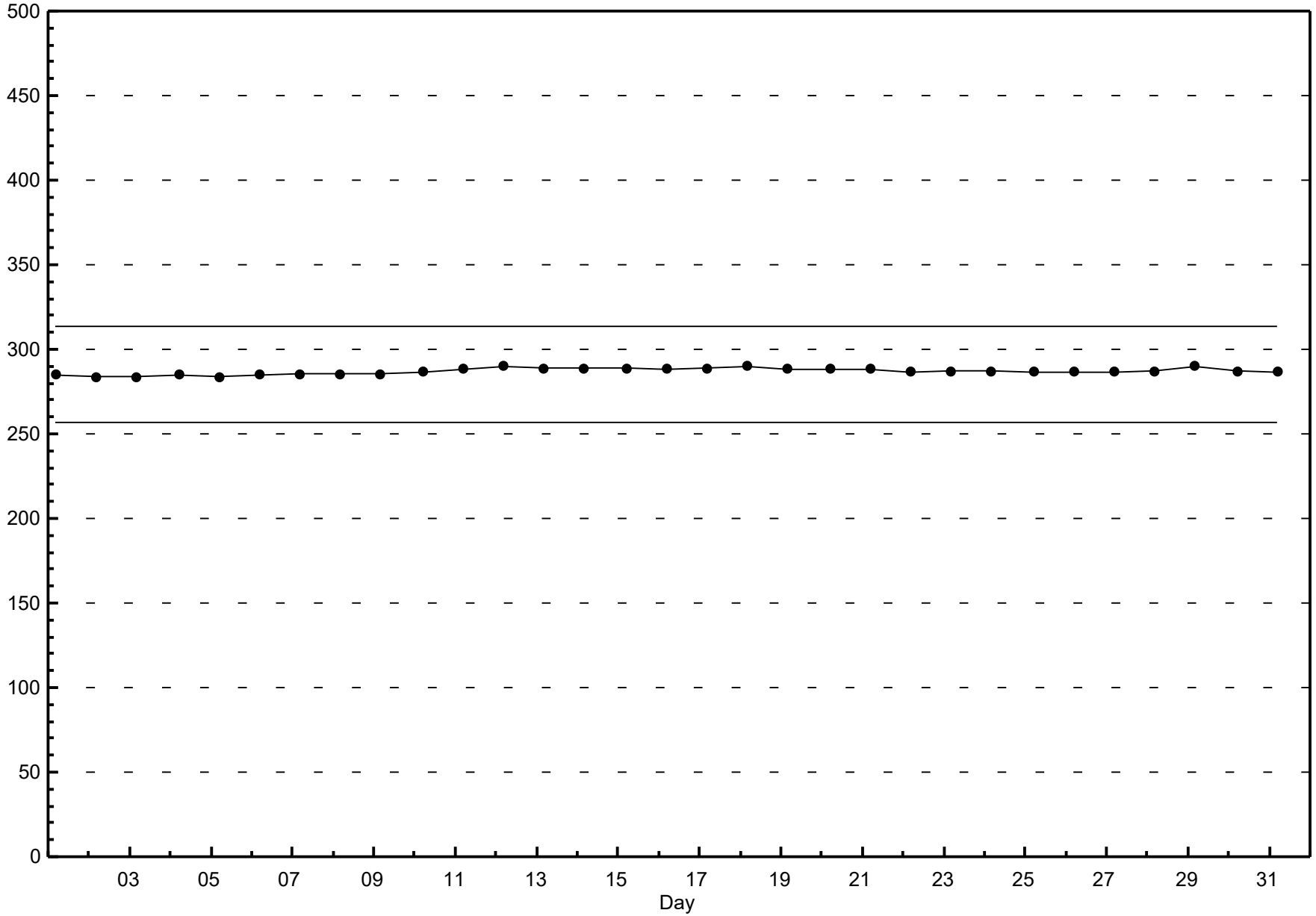
N - Not Valid

Peace Airshed Zone Association

Span Responses

Ozone (O_3)

Beaverlodge - December 2018



Peace Airshed Zone Association

Hourly Averages

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

Beaverlodge - December 2018

Number of Exceedences: 1-hr: 1 24-hr: 0
Maximum Value: 99.9 $\mu g/m^3$ on Dec 22 14:00
Maximum Daily Average: 15.3 $\mu g/m^3$ on Dec 22

Minimum Value: 0 $\mu g/m^3$ on Dec 5 00:00
Maximum Diurnal Average: 6.9 $\mu g/m^3$ at hour 21
Monthly Average: 5.13 $\mu g/m^3$
Minimum Daily Average: 0.1 $\mu g/m^3$ on Dec 13
Minimum Diurnal Average: 3.7 $\mu g/m^3$ at hour 13
Percentiles: $P_1 = 0.0$ $P_{10} = 0.0$ $Q_1 = 0.6$ Median = 2.9 $Q_3 = 7.6$ $P_{90} = 13.6$ $P_{99} = 25.6$

Hours in Service:	744
Hours of Data:	744
Hours of Missing Data:	0
Hours of Calibration:	0
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	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	6	5	6	8	13	12	10	10	16	7	6	14	15	14	9	13	14	13	14	11	13	7	6	6	10.3	15.7
2-Dec	8	10	8	6	3	2	2	5	5	5	9	5	3	7	6	5	6	5	5	7	9	8	8	7	5.9	9.9
3-Dec	12	8	8	3	2	2	2	1	0	1	2	2	1	1	1	1	1	1	0	0	0	0	0	0	2.0	12.4
4-Dec	0	1	1	2	1	2	3	3	3	3	2	2	2	2	2	2	1	0	1	0	0	0	0	0	1.5	3.5
5-Dec	0	1	1	1	1	1	2	1	2	2	2	2	2	2	3	2	2	12	20	15	19	18	14	9	5.7	20.1
6-Dec	10	9	7	8	12	8	4	3	3	4	4	3	3	1	1	4	5	4	3	3	4	4	4	9	4.9	11.9
7-Dec	14	15	9	5	3	3	3	3	3	3	8	4	4	3	3	2	3	5	6	9	26	21	20	14	7.8	26.5
8-Dec	18	18	14	6	3	2	1	2	2	3	2	1	1	4	6	4	13	9	9	5	5	3	2	2	5.6	18.3
9-Dec	2	3	5	10	16	19	13	13	16	13	17	15	15	17	17	18	17	16	19	18	14	9	11	1	13.0	19.3
10-Dec	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.8
11-Dec	0	0	0	1	1	1	2	3	2	1	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0.6	2.5
12-Dec	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0.1	1.6
13-Dec	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.6
14-Dec	0	0	1	1	1	0	0	0	0	1	0	1	1	6	18	12	9	10	8	9	4	3	5	4	3.9	18.3
15-Dec	11	15	11	8	1	1	1	1	1	0	0	0	0	0	0	1	1	2	4	6	5	3	2	19	4.0	19.4
16-Dec	5	2	2	1	1	1	2	2	1	1	1	1	2	2	2	3	4	4	6	7	16	19	17	13	4.7	19.2
17-Dec	10	9	9	8	6	6	6	7	6	6	5	6	5	4	3	2	3	8	7	6	9	9	9	9	6.6	10.1
18-Dec	12	13	12	10	10	12	14	13	15	19	18	14	10	5	3	5	8	16	7	3	6	6	5	4	9.9	18.8
19-Dec	3	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	2.8
20-Dec	0	0	0	0	0	3	1	2	3	1	0	1	0	0	1	1	1	1	3	5	2	2	2	10	1.7	10.1
21-Dec	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	2	0	1	1	0.5	2.6
22-Dec	1	1	1	2	2	3	2	1	1	2	2	28	17	100	76	16	5	17	8	15	11	24	22	10	15.3	99.9
23-Dec	7	6	4	3	3	3	3	3	1	1	2	5	2	3	3	4	3	3	4	5	6	7	10	13	4.3	13.2
24-Dec	10	12	6	6	6	11	11	12	11	9	9	9	7	6	9	10	17	27	30	31	24	20	17	11	13.3	31.2
25-Dec	6	4	4	4	4	4	3	3	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	2	2.3	5.6
26-Dec	2	4	4	3	3	4	4	5	6	7	8	10	8	7	6	6	6	8	7	12	10	9	14	14	7.0	14.5
27-Dec	11	8	9	18	18	17	11	7	4	6	6	5	5	4	5	5	6	8	9	11	12	12	9	4	8.8	18.2
28-Dec	3	6	11	16	14	15	16	15	15	14	9	6	5	1	0	0	0	0	0	0	0	0	0	0	6.0	15.8
29-Dec	0	1	0	0	0	3	4	19	32	13	9	5	4	5	7	9	9	12	13	14	12	4	3	3	7.5	32.1
30-Dec	3	4	4	3	3	3	3	3	5	5	4	3	2	5	3	3	3	4	5	4	4	6	6	7	4.0	7.3
31-Dec	8	6	5	4	3	1	1	1	1	1	0	0	0	0	1	1	1	0	0	0	0	0	0	0	1.4	7.8
	5.4	5.4	4.7	4.4	4.2	4.4	4.0	4.3	5.1	4.2	4.1	4.6	3.7	6.6	6.0	4.2	4.5	6.0	6.1	6.4	6.9	6.3	6.1	5.6	Diurnal Average	
	18.2	18.3	14.0	18.2	17.9	19.3	15.7	18.9	32.1	18.8	17.8	27.5	17.2	99.9	75.8	17.6	17.0	26.9	30.1	31.2	26.5	24.0	21.8	19.4	Diurnal Maximum	

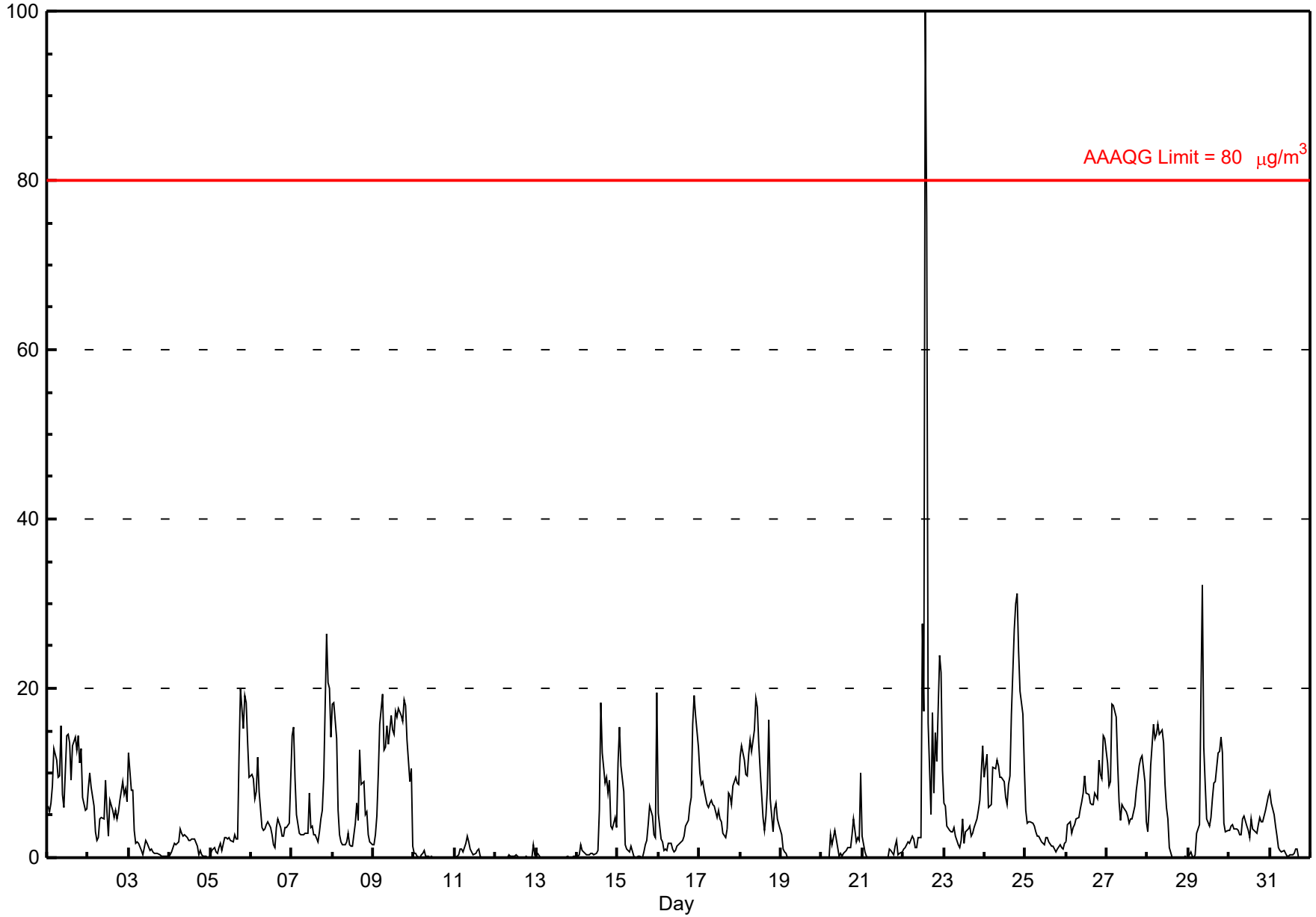
Alberta Ambient Air Quality Guideline (AAAQG): 1-hr 80 $\mu g/m^3$ Alberta Ambient Air Quality Objective (AAAQO): 24-hr 30 $\mu g/m^3$

Peace Airshed Zone Association

Hourly Averages

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

Beaverlodge - December 2018



Peace Airshed Zone Association

Hourly Maximums

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

Beaverlodge - December 2018

Maximum Value: 190.3 $\mu g/m^3$ on Dec 22 14:00

Maximum Daily Average: 32.8 $\mu g/m^3$ on Dec 22

Minimum Value: 0 $\mu g/m^3$ on Dec 10 16:00

Minimum Daily Average: 0.3 $\mu g/m^3$ on Dec 13

Maximum Diurnal Average: 11.5 $\mu g/m^3$ at hour 14

Minimum Diurnal Average: 5.0 $\mu g/m^3$ at hour 7

Monthly Average: 7.81 $\mu g/m^3$

Percentiles: P_1 = 0.0 P_{10} = 0.2 Q_1 = 1.2 Median = 4.1 Q_3 = 11.0 P_{90} = 18.3 P_{99} = 46.2

Hours in Service:	744
Hours of Data:	744
Hours of Missing Data:	0
Hours of Calibration:	0
Percent Operational Time:	100.0

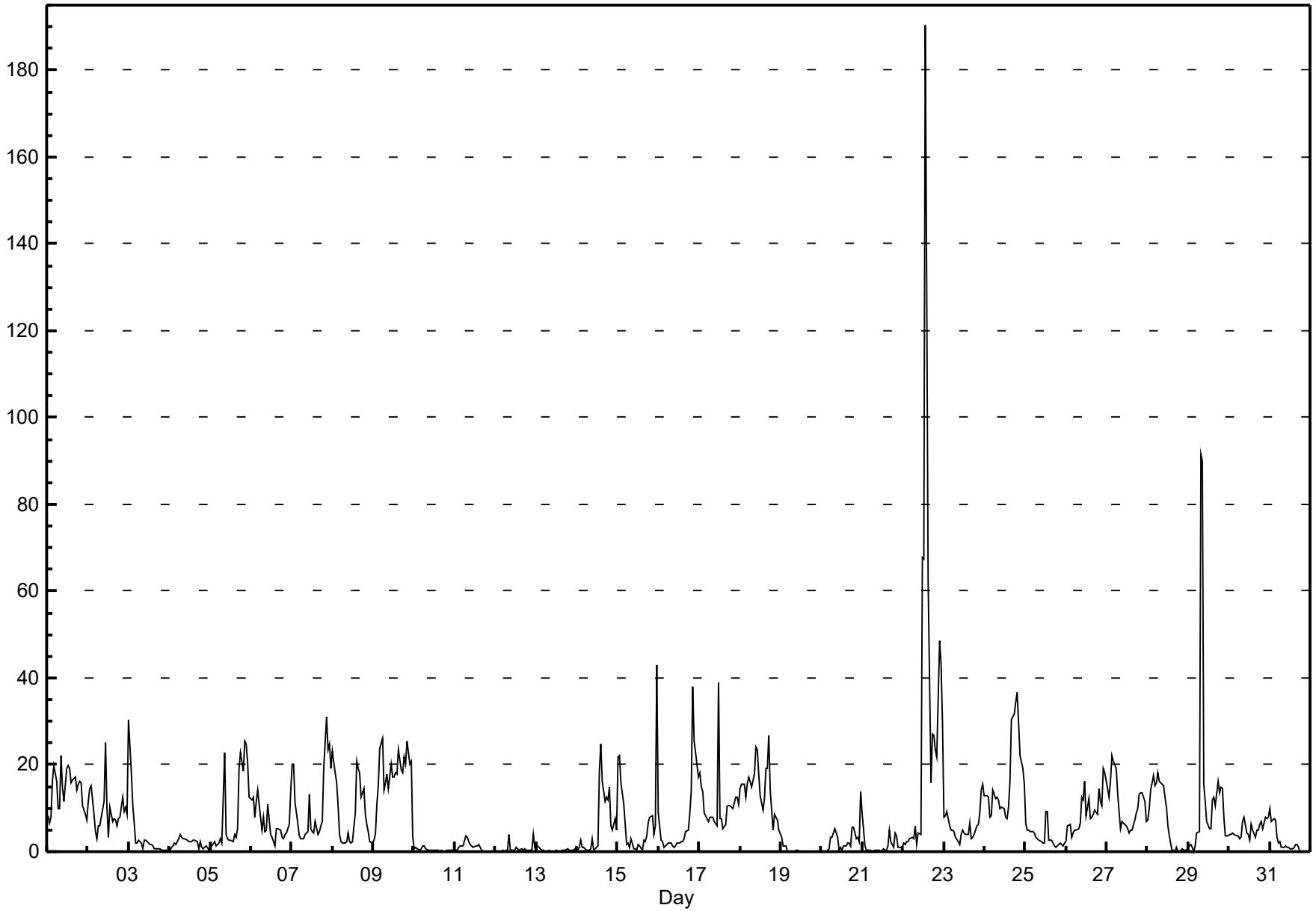
Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1-Dec	8	7	8	16	20	16	10	10	22	15	12	19	20	19	16	16	17	14	16	16	16	11	8	7	14.2	22.0
2-Dec	11	14	15	9	5	3	6	6	8	11	25	10	3	10	7	8	7	6	8	8	13	9	10	9	9.2	25.2
3-Dec	31	18	10	7	2	2	3	2	1	3	3	2	2	2	1	1	1	1	1	0	0	0	0	0	3.8	30.6
4-Dec	0	1	1	2	2	3	4	3	3	3	3	2	2	2	3	3	2	1	2	1	1	1	1	0	2.0	4.1
5-Dec	1	1	2	1	2	2	3	2	23	4	3	3	3	2	4	3	5	19	23	19	25	25	21	12	8.7	25.4
6-Dec	12	13	8	11	14	11	5	8	5	5	11	4	3	2	1	5	5	5	3	3	4	4	6	14	6.8	14.2
7-Dec	20	20	11	9	4	3	3	3	4	5	13	5	5	4	7	4	5	6	7	19	31	24	25	19	10.7	31.1
8-Dec	23	21	16	11	4	2	2	2	2	4	2	2	2	9	21	19	18	12	14	8	6	5	2	2	8.8	23.2
9-Dec	3	4	11	15	24	26	14	16	18	15	20	17	17	18	18	23	19	18	22	20	25	20	21	3	17.0	26.2
10-Dec	1	1	1	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	1.4
11-Dec	0	0	1	1	1	1	4	3	2	2	1	1	1	1	2	1	0	0	0	0	0	0	0	0	1.0	3.6
12-Dec	0	0	0	0	0	0	0	0	4	0	0	0	1	1	0	1	0	1	0	0	0	0	4	1	0.6	3.9
13-Dec	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0.3	1.4
14-Dec	0	1	3	1	1	0	0	0	1	3	0	1	1	19	25	16	12	12	12	15	6	5	8	5	6.2	24.7
15-Dec	22	22	16	11	6	2	2	1	3	1	1	0	2	1	0	3	2	4	7	8	8	4	6	43	7.3	42.8
16-Dec	9	3	2	1	1	2	2	2	1	1	1	2	2	2	2	3	5	5	9	14	38	25	23	17	7.3	38.1
17-Dec	18	15	14	9	8	7	8	8	8	7	6	39	8	8	5	6	11	10	11	10	10	12	13	11	10.8	38.9
18-Dec	15	15	16	13	16	17	16	15	18	24	24	18	13	9	12	19	19	27	14	5	8	8	7	5	14.7	26.9
19-Dec	3	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	3.4
20-Dec	0	0	0	0	1	3	3	4	5	3	0	1	0	1	1	2	2	1	6	6	3	3	2	14	2.7	13.9
21-Dec	9	1	0	0	0	0	0	0	0	0	0	0	1	0	0	1	5	2	1	4	4	1	1	1	1.4	9.0
22-Dec	2	2	2	2	3	3	3	6	2	4	4	68	68	190	130	62	16	27	27	24	22	48	43	30	32.8	190.3
23-Dec	8	8	9	6	5	5	5	3	2	2	4	5	4	4	4	7	3	3	4	6	6	9	14	15	5.9	15.4
24-Dec	13	13	12	8	8	14	12	12	12	10	10	10	8	8	10	16	31	32	34	37	30	22	19	16	16.5	36.7
25-Dec	7	5	5	5	5	4	3	3	3	2	2	2	9	9	3	3	2	1	1	1	2	2	1	2	3.4	9.3
26-Dec	2	6	6	3	4	5	5	5	7	12	12	16	8	12	8	8	9	9	9	14	11	11	19	18	9.2	19.1
27-Dec	14	12	16	22	21	19	13	9	5	7	7	6	5	4	5	5	7	9	10	13	13	13	12	7	10.7	22.0
28-Dec	7	10	14	18	15	16	18	16	16	15	12	10	6	4	0	0	0	1	0	0	1	0	0	0	7.5	18.1
29-Dec	1	2	1	0	1	4	5	92	90	16	11	7	5	5	12	13	10	16	14	15	15	8	4	4	14.6	91.5
30-Dec	4	4	4	4	4	4	3	3	7	8	4	4	3	6	5	3	5	5	6	7	5	8	8	8	5.1	8.0
31-Dec	10	7	8	7	3	2	2	1	1	1	1	1	1	1	1	2	2	1	0	0	0	0	0	0	2.2	10.0
	8.2	7.4	7.0	6.3	5.8	5.8	5.0	7.7	8.8	5.9	6.3	8.3	6.6	11.5	9.8	8.2	7.1	8.1	8.4	8.8	9.8	9.0	9.0	8.5	Diurnal Average	
	30.6	22.3	16.1	22.0	24.0	26.2	18.1	91.5	89.8	24.2	25.2	67.8	67.6	190.3	130.2	62.4	30.5	31.8	34.2	36.7	38.1	48.4	43.3	42.8	Diurnal Maximum	

Peace Airshed Zone Association

Hourly Maximums

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

Beaverlodge - December 2018

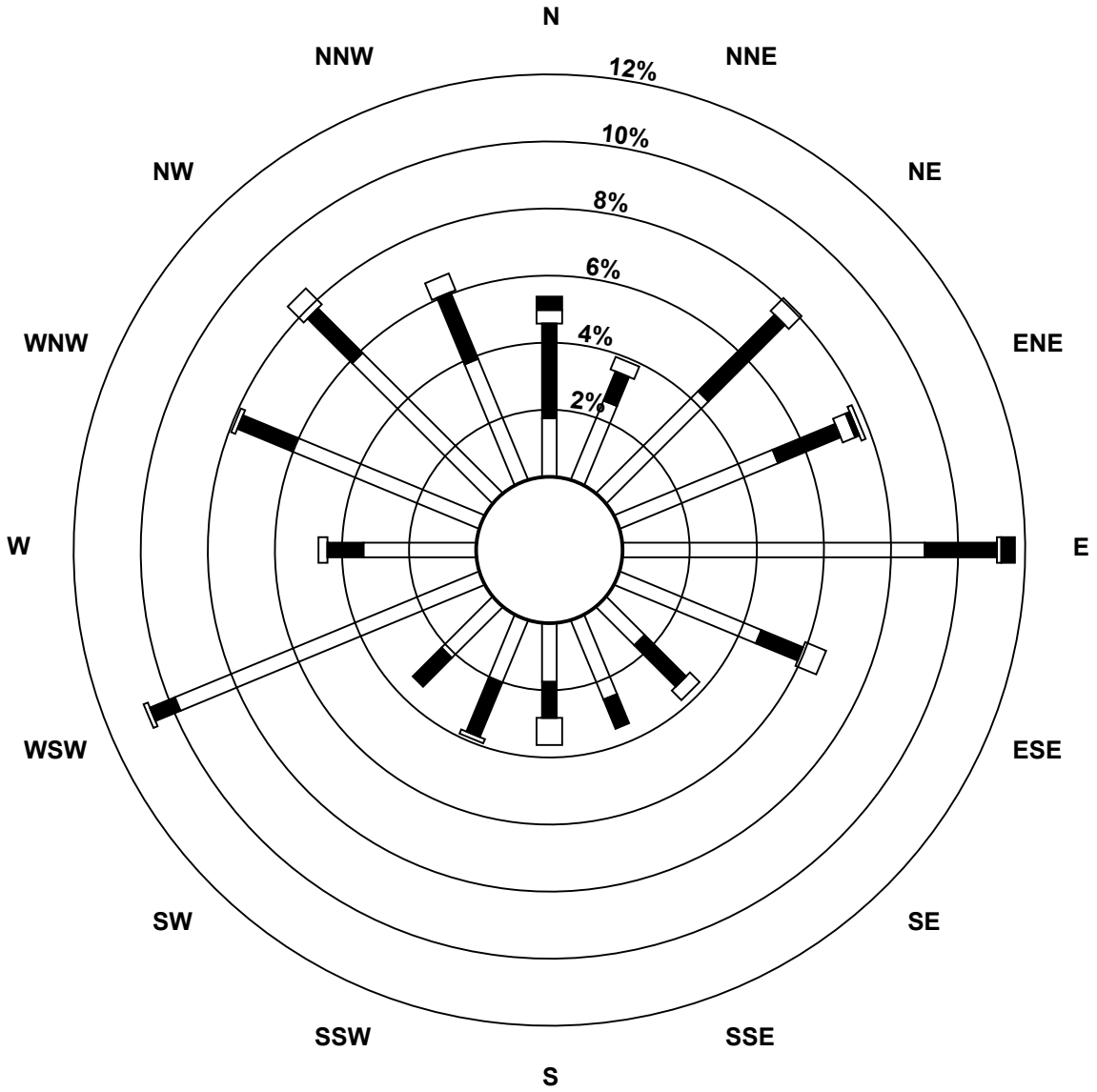


Peace Airshed Zone Association

Pollutant Rose

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

Beaverlodge - December 2018



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

- 0 - 5
- 6 - 15
- 16 - 25
- 26 - 80
- > 80.0

Peace Airshed Zone Association

Hourly Averages

External Temperature (ET) - °C

Beaverlodge - December 2018

Maximum Value: 4.0 °C on Dec 19 15:00

Maximum Daily Average: 0.7 °C on Dec 19

Minimum Value: -17 °C on Dec 30 09:00

Minimum Daily Average: -15.5 °C on Dec 30

Maximum Diurnal Average: -4.7 °C at hour 16

Minimum Diurnal Average: -7.5 °C at hour 9

Monthly Average: -6.54 °C

Percentiles: P_1 = -16.9 P_{10} = -14.0 Q_1 = -10.8 Median = -5.9 Q_3 = -2.4 P_{90} = -0.1 P_{99} = 2.6

Hours in Service:	744
Hours of Data:	744
Hours of Missing Data:	0
Hours of Calibration:	0
Percent Operational Time:	100.0

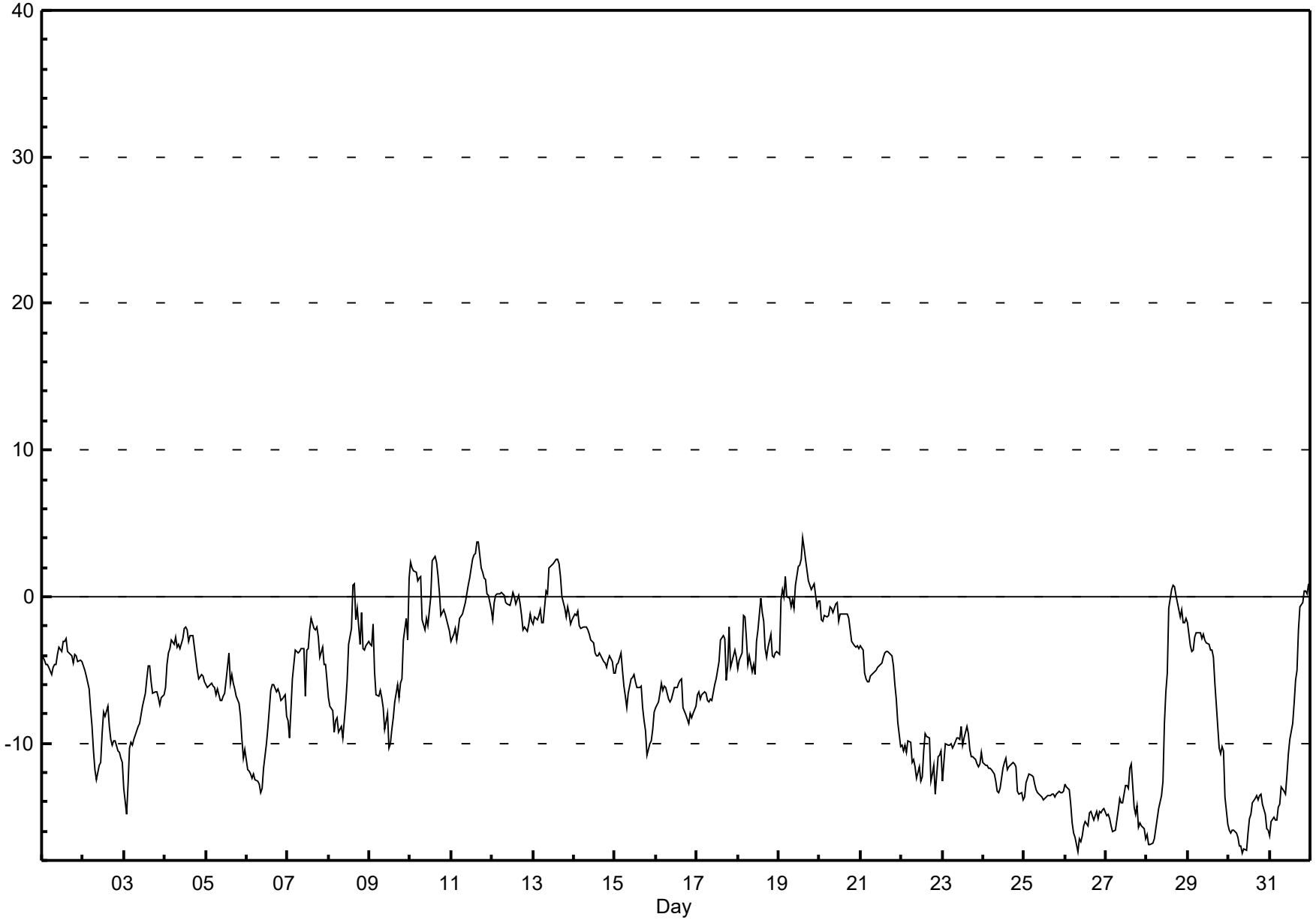
Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1-Dec	-4	-4	-5	-5	-5	-5	-5	-5	-5	-4	-3	-4	-3	-3	-3	-4	-4	-4	-5	-4	-4	-4	-4	-4	-4.2	-2.8
2-Dec	-5	-5	-5	-6	-8	-9	-11	-12	-12	-12	-11	-9	-8	-8	-7	-9	-10	-10	-10	-10	-11	-11	-11	-11	-9.2	-4.7
3-Dec	-13	-15	-13	-10	-10	-10	-10	-9	-9	-9	-8	-7	-7	-6	-5	-5	-6	-7	-7	-6	-7	-7	-7	-7	-8.2	-4.7
4-Dec	-6	-5	-4	-4	-3	-3	-3	-3	-3	-4	-3	-2	-2	-2	-3	-3	-3	-3	-4	-5	-6	-5	-5	-6	-3.8	-2.0
5-Dec	-6	-6	-6	-6	-6	-6	-7	-6	-7	-7	-7	-7	-6	-4	-6	-5	-6	-6	-7	-7	-8	-10	-11	-10	-6.8	-3.9
6-Dec	-12	-12	-12	-12	-12	-12	-13	-13	-13	-13	-12	-10	-9	-8	-6	-6	-6	-6	-6	-7	-7	-7	-7	-8	-9.6	-6.0
7-Dec	-8	-10	-8	-6	-4	-4	-4	-4	-4	-4	-7	-4	-4	-2	-1	-2	-2	-2	-3	-4	-3	-5	-5	-6	-4.3	-1.5
8-Dec	-7	-8	-8	-9	-8	-8	-9	-9	-10	-8	-7	-6	-3	-2	1	1	-2	-1	-3	-1	-4	-4	-3	-3	-5.1	0.9
9-Dec	-3	-3	-2	-5	-7	-7	-6	-7	-8	-9	-8	-10	-10	-9	-8	-7	-6	-7	-6	-6	-3	-2	-3	1	-5.8	1.3
10-Dec	2	2	2	2	1	1	1	-2	-2	-2	-2	-1	0	2	3	2	1	0	-1	-1	-1	-2	-2	-2	0.1	2.8
11-Dec	-3	-3	-2	-3	-2	-1	-1	-1	0	0	1	1	3	3	3	4	4	2	2	1	1	0	0	-1	0.3	3.7
12-Dec	-2	0	0	0	0	0	0	0	0	-1	-1	0	0	0	-1	0	-1	-1	-2	-2	-2	-2	-1	-2	-0.7	0.3
13-Dec	-2	-1	-2	-1	-1	-2	-2	0	0	2	2	2	2	3	3	2	1	0	-1	-1	-1	-1	-2	-2	0.0	2.5
14-Dec	-1	-1	-1	-2	-2	-2	-2	-2	-2	-3	-3	-3	-4	-4	-4	-4	-4	-4	-5	-5	-4	-4	-4	-5	-3.2	-1.0
15-Dec	-5	-5	-5	-4	-5	-6	-7	-8	-7	-6	-6	-5	-6	-6	-6	-6	-8	-8	-9	-11	-10	-10	-9	-8	-6.8	-3.9
16-Dec	-8	-7	-7	-6	-6	-6	-6	-7	-7	-7	-7	-6	-6	-6	-6	-6	-8	-8	-8	-9	-8	-8	-8	-8	-7.0	-5.6
17-Dec	-7	-6	-7	-7	-7	-7	-7	-7	-7	-7	-6	-6	-5	-4	-3	-3	-3	-6	-5	-2	-5	-4	-4	-4	-5.3	-2.1
18-Dec	-5	-4	-4	-1	-1	-3	-5	-4	-5	-5	-5	-3	-2	0	-1	-2	-4	-4	-3	-3	-4	-4	-4	-4	-3.3	-0.1
19-Dec	-4	0	1	0	1	0	0	-1	0	-1	1	2	2	3	4	3	3	1	1	0	1	1	-1	0	0.7	4.0
20-Dec	0	-2	-2	-1	-1	-1	-1	-1	-1	0	0	-2	-1	-1	-1	-1	-1	-1	-2	-3	-3	-3	-3	-4	-1.6	-0.3
21-Dec	-3	-4	-5	-6	-6	-6	-5	-5	-5	-5	-5	-5	-5	-4	-4	-4	-4	-4	-4	-5	-6	-7	-9	-10	-5.2	-3.4
22-Dec	-10	-11	-10	-11	-10	-10	-11	-11	-12	-12	-12	-13	-12	-10	-9	-10	-10	-13	-12	-12	-13	-11	-11	-11	-11.1	-9.3
23-Dec	-13	-11	-10	-10	-10	-10	-10	-10	-10	-10	-10	-9	-10	-10	-9	-9	-10	-11	-11	-11	-11	-12	-11	-11	-10.4	-8.9
24-Dec	-11	-12	-12	-12	-12	-12	-12	-13	-13	-13	-13	-12	-11	-11	-12	-12	-12	-11	-11	-12	-13	-13	-13	-14	-12.2	-11.1
25-Dec	-14	-13	-12	-12	-12	-12	-13	-13	-13	-14	-14	-14	-14	-14	-14	-14	-13	-14	-14	-13	-13	-13	-13	-13	-13.2	-12.1
26-Dec	-13	-13	-13	-14	-15	-16	-16	-17	-16	-17	-16	-16	-15	-16	-15	-15	-15	-15	-15	-15	-15	-15	-15	-14	-15.1	-12.8
27-Dec	-15	-15	-15	-16	-16	-16	-15	-15	-14	-14	-14	-13	-13	-13	-12	-11	-14	-15	-14	-16	-15	-16	-16	-16	-14.6	-11.4
28-Dec	-16	-17	-17	-17	-17	-16	-15	-14	-14	-13	-9	-6	-5	-1	0	1	1	0	0	-1	-1	-2	-2	-1	-7.6	0.8
29-Dec	-2	-3	-4	-4	-3	-3	-2	-2	-3	-3	-3	-3	-3	-4	-4	-4	-6	-9	-10	-11	-10	-11	-14	-16	-5.6	-1.8
30-Dec	-16	-16	-16	-16	-16	-16	-17	-17	-17	-17	-17	-16	-15	-15	-14	-14	-14	-14	-14	-13	-14	-15	-16	-16	-15.5	-13.4
31-Dec	-16	-15	-15	-15	-15	-14	-14	-13	-13	-13	-12	-11	-10	-9	-7	-6	-5	-2	-1	0	0	0	0	1	-8.6	0.8
	-7.3	-7.3	-7.0	-7.0	-7.0	-7.2	-7.4	-7.4	-7.5	-7.3	-7.0	-6.3	-5.9	-5.2	-4.7	-4.7	-5.3	-5.9	-6.2	-6.3	-6.5	-6.6	-6.9	-6.9	Diurnal Average	
	2.4	1.9	1.8	1.7	1.3	1.3	1.3	0.3	0.1	1.9	2.1	2.2	2.5	2.8	4.0	3.7	3.7	2.0	1.7	1.2	1.2	0.9	0.2	1.3	Diurnal Maximum	

Peace Airshed Zone Association

Hourly Averages

External Temperature (ET) - ^{o}C

Beaverlodge - December 2018



Peace Airshed Zone Association

Hourly Averages

Relative Humidity (RH) - %

Beaverlodge - December 2018

Maximum Value: 97.6 % on Dec 25 11:00

Maximum Daily Average: 73.2 % on Dec 19

Minimum Value: 57 % on Dec 19 15:00

Minimum Daily Average: 73.2 % on Dec 19

Maximum Diurnal Average: 80.1 % at hour 20

Minimum Diurnal Average: 67.3 % at hour 22

Monthly Average: 76.12 %

Percentiles: P_1 = 57.4 P_{10} = 64.9 Q_1 = 67.1 Median = 71.7 Q_3 = 85.7 P_{90} = 93.8 P_{99} = 96.9

Hours in Service:	744
Hours of Data:	64
Hours of Missing Data:	680
Hours of Calibration:	0
Percent Operational Time:	8.6

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
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	67	65	72	66	64	68	66	68	63	68	71	N	N	N	N	N	N	N	N	N	N	N	N	--	71.7
9-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	--	--
10-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	--	--
11-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-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	--	--
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	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	85	83	91	N	N	N	N	N	N	76	66	71	76	N	N	N	N	N	N	N	N	--	91.0
19-Dec	N	84	81	85	78	84	87	94	87	84	73	67	67	65	57	58	60	65	65	65	68	67	72	70	73.2	93.9
20-Dec	70	76	75	72	74	71	67	68	71	68	70	N	N	N	N	N	N	N	N	N	N	N	N	N	--	76.0
21-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	--	--
22-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-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	--	--
24-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	--	--
25-Dec	N	N	N	N	N	N	N	N	N	N	98	96	94	91	90	91	92	94	95	95	N	N	N	N	--	97.6
26-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	--	--
27-Dec	N	N	N	N	N	N	N	N	N	N	N	N	N	N	96	91	N	N	N	N	N	N	N	N	--	96.2
28-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	--	--
29-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	--	--
30-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	--	--
31-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	--	--
	70.2	75.7	73.5	78.3	75.2	77.5	73.9	76.1	75.6	71.3	77.1	78.1	79.0	73.9	78.7	78.8	75.8	79.5	80.0	80.1	68.0	67.3	71.9	70.2	Diurnal Average	
	70.2	84.4	80.6	85.3	83.1	91.0	86.9	93.9	87.4	83.7	97.6	96.5	94.0	91.3	96.2	90.9	91.9	93.6	95.3	94.9	68.0	67.3	71.9	70.2	Diurnal Maximum	

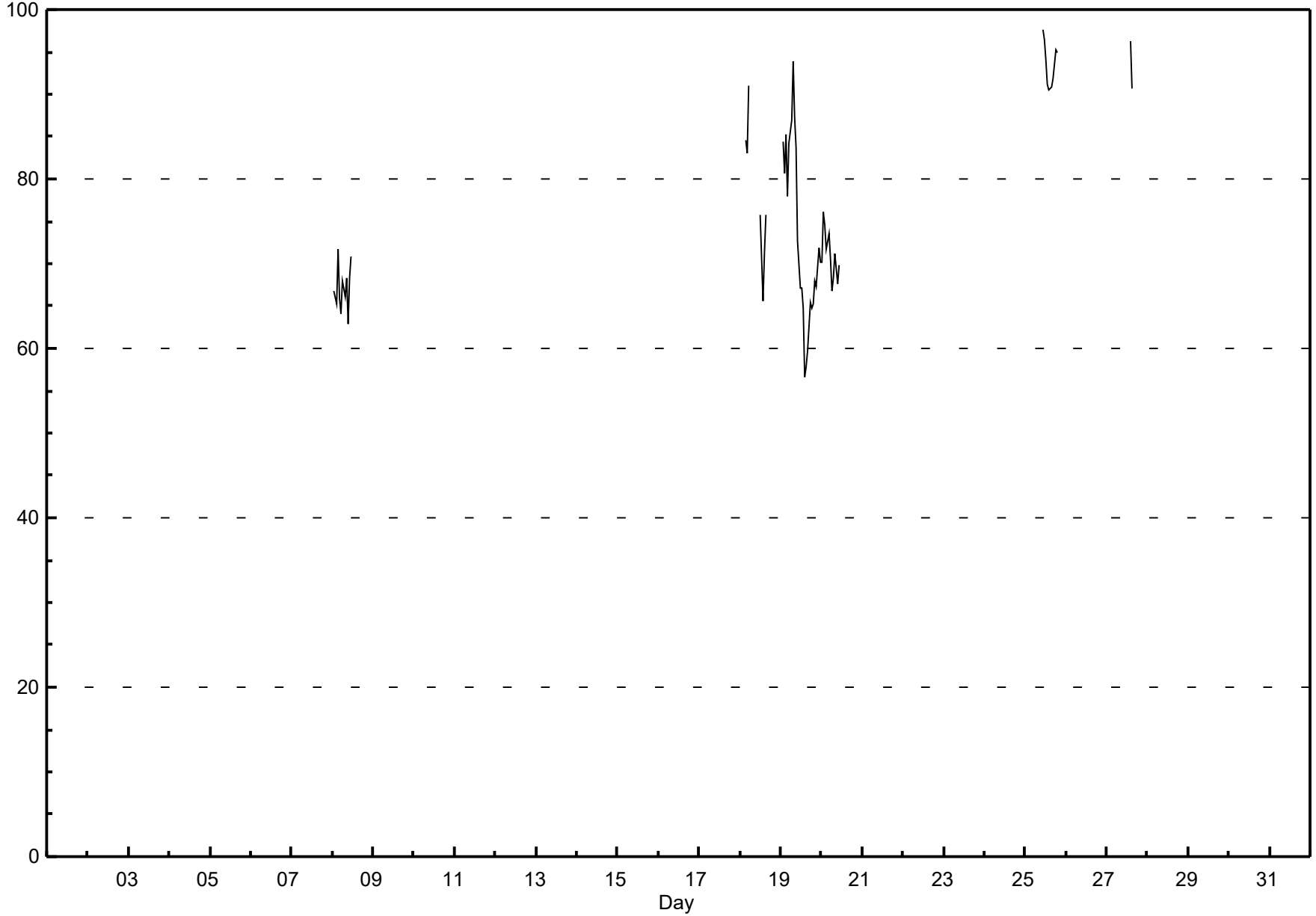
N - Not Valid

Peace Airshed Zone Association

Hourly Averages

Relative Humidity (RH) - %

Beaverlodge - December 2018



Peace Airshed Zone Association

Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Beaverlodge - December 2018

Day	Hourly Period Ending At (MST)																								Daily	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	Average	Maximum
1 Spd	5	3	7	4	1	3	3	2	3	2	1	1	2	3	3	1	2	1	0	2	4	4	5	3	1.9	6.8
Dir	339	351	29	15	189	80	70	108	31	356	332	196	297	266	309	247	37	35	290	356	349	1	3	355	2	29
2 Spd	7	3	4	5	4	4	4	2	4	2	5	5	3	2	0	3	2	1	0	1	2	2	1	2	2.3	7.2
Dir	338	357	355	352	354	345	350	52	49	12	39	33	44	301	179	307	43	81	76	225	269	48	48	331	6	338
3 Spd	0	3	3	8	6	5	5	9	9	5	6	10	7	11	7	4	3	2	6	12	10	11	11	7	4.8	12.2
Dir	303	45	337	316	323	298	288	309	312	312	286	301	301	290	311	14	53	211	233	239	229	234	233	220	280	239
4 Spd	6	11	9	17	27	17	15	13	15	17	16	22	25	25	17	23	22	17	13	12	12	14	9	6	14.7	27.0
Dir	217	257	253	268	269	267	286	276	273	280	279	283	282	293	294	279	313	316	319	317	309	315	338	339	288	269
5 Spd	5	4	5	5	1	1	0	2	1	2	2	4	4	4	5	5	5	4	2	3	3	2	3	3	1.0	5.5
Dir	329	302	310	310	286	192	187	197	8	100	68	82	83	152	87	91	85	71	44	275	308	270	85	53	39	329
6 Spd	0	4	1	1	1	4	4	3	4	6	5	2	4	4	3	4	2	3	2	3	2	5	2	2	2.6	6.1
Dir	86	49	119	100	81	53	59	67	64	52	54	72	71	80	83	66	121	100	108	134	117	50	66	230	73	52
7 Spd	5	4	3	2	4	1	2	2	4	3	0	1	3	2	0	4	4	4	3	2	3	2	4	3	1.6	4.7
Dir	203	166	72	269	220	163	53	14	43	53	80	40	71	51	293	55	60	71	79	111	90	102	67	90	80	203
8 Spd	1	5	3	3	5	1	1	1	5	5	2	4	4	2	5	9	8	8	2	8	2	2	2	3	0.3	9.2
Dir	138	60	135	86	65	97	142	100	57	60	100	48	43	50	317	298	261	248	201	251	172	153	156	120	45	298
9 Spd	1	6	3	2	3	3	1	1	2	5	2	1	2	2	3	2	6	12	11	6	6	5	0	6	2.2	11.5
Dir	183	46	27	128	143	129	116	123	250	39	326	2	29	306	339	357	21	318	318	285	316	293	306	316	337	318
10 Spd	10	12	12	12	12	13	6	9	7	6	7	11	13	24	24	25	24	15	2	7	6	4	2	1	9.4	25.4
Dir	290	302	291	294	284	279	272	182	209	240	226	222	245	251	246	245	246	242	196	202	188	174	160	150	249	245
11 Spd	6	7	5	9	12	10	12	9	8	15	14	7	7	6	5	4	9	15	27	30	35	28	26	16	7.0	34.7
Dir	86	93	101	109	117	120	122	117	127	119	125	124	149	168	238	226	248	241	248	243	240	240	243	238	203	240
12 Spd	19	28	36	35	36	37	40	43	48	46	47	46	49	47	40	35	22	12	2	3	3	7	11	13	26.9	48.6
Dir	224	237	242	247	252	253	254	253	250	251	251	254	262	256	251	249	247	245	147	171	117	155	130	121	247	262
13 Spd	8	6	13	7	3	4	17	33	26	41	39	41	43	39	29	27	28	19	12	3	2	4	2	3	17.4	42.6
Dir	141	172	232	257	247	203	240	247	245	248	244	249	246	251	260	250	247	245	242	122	85	247	129	146	244	246
14 Spd	3	4	6	5	5	8	9	13	10	14	18	15	12	5	6	2	2	4	9	9	8	6	9	6	5.3	18.1
Dir	108	92	63	71	72	57	62	61	64	75	88	90	101	187	207	171	42	353	346	339	353	6	8	5	59	88
15 Spd	8	3	4	13	18	17	19	12	13	17	14	9	10	13	9	5	3	6	6	2	6	7	8	12	6.8	18.9
Dir	306	307	250	307	322	317	321	314	296	311	300	331	335	319	318	316	340	30	32	258	84	81	102	102	325	321
16 Spd	13	18	16	30	29	28	29	29	26	27	16	13	12	9	6	5	4	2	4	2	2	1	3	2	12.3	29.9
Dir	114	96	93	95	100	101	94	89	88	86	94	92	95	95	99	148	214	279	326	35	15	346	333	308	94	95
17 Spd	6	6	6	8	5	3	3	3	5	4	2	4	4	0	2	2	2	3	6	2	1	2	2	1	0.6	8.1
Dir	332	345	251	227	209	156	142	111	64	154	118	89	148	159	25	50	100	205	61	90	212	346	8	159	133	227
18 Spd	2	1	2	0	1	3	3	5	0	1	3	5	2	1	1	1	2	1	4	0	2	3	2	4	0.9	5.5
Dir	203	294	54	135	28	313	8	27	208	185	81	56	73	74	57	204	178	181	56	133	67	73	194	198	67	56
19 Spd	0	9	10	5	9	10	9	2	6	5	6	5	9	19	26	23	31	18	8	6	20	9	2	2	9.9	31.3
Dir	76	254	264	260	244	243	246	185	200	189	250	262	263	246	255	255	248	243	239	209	245	269	243	46	247	248
20 Spd	7	4	4	5	7	9	13	15	12	21	23	22	25	26	24	15	10	8	7	9	8	8	11	13	8.6	25.6
Dir	227	78	92	83	94	90	94	100	97	91	96	85	79	89	86	67	55	31	328	346	352	312	311	303	74	89
21 Spd	17	22	26	27	29	27	27	26	25	26	25	23	24	23	20	14	9	8	8	6	6	6	2	3	17.5	28.9
Dir	295	296	301	299	293	289	291	293	292	289	295	298	301	301	302	298	306	313	316	293	283	265	245	76	296	293
22 Spd	1	3	4	4	3	2	3	3	3	1	2	2	3	4	2	3	4	2	7	6	5	3	3	2	2.5	7.3
Dir	82	50	60	57	51	91	76	65	55	86	99	82	63	64	70	55	54	334	36	279	24	35	38	14	49	36

Peace Airshed Zone Association

Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Beaverlodge - December 2018

Day	Hourly Period Ending At (MST)																								Daily	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	Average	Maximum
23 Spd	4	2	5	3	2	2	6	7	8	8	2	1	6	4	2	4	11	10	9	8	8	8	5	1	1.9	11.3
Dir	266	9	12	343	23	264	283	334	29	29	345	155	283	321	150	149	113	110	100	121	112	114	116	58	73	113
24 Spd	3	5	8	7	6	7	6	4	2	2	3	1	1	2	0	1	1	2	2	1	1	3	6	8	1.3	7.6
Dir	293	216	156	138	134	140	139	153	103	130	134	139	60	244	179	349	359	6	358	349	109	109	6	350	128	156
25 Spd	12	10	11	10	11	10	14	13	10	9	7	9	8	8	7	6	4	4	5	3	5	6	8	8	6.1	14.2
Dir	340	342	328	327	332	326	325	314	319	328	336	323	333	345	349	356	358	35	34	52	133	117	111	90	343	325
26 Spd	1	3	7	6	5	3	5	2	3	2	2	2	3	9	5	4	5	5	5	6	2	5	2	2	1.5	9.0
Dir	164	219	110	102	312	15	262	11	94	259	37	358	293	306	297	326	340	0	5	282	357	53	79	195	339	306
27 Spd	1	4	3	1	4	3	1	2	1	3	2	3	1	3	2	0	2	5	2	1	1	1	3	0	0.5	4.7
Dir	204	36	308	171	175	180	133	46	52	228	230	202	82	74	75	319	90	67	69	225	282	180	204	157	140	67
28 Spd	0	1	1	2	2	2	2	2	1	6	4	3	1	20	15	12	17	4	2	2	6	1	4	5	2.7	19.8
Dir	331	173	226	260	9	229	175	194	199	47	40	67	22	257	258	268	267	243	345	316	284	310	52	34	275	257
29 Spd	3	2	4	5	6	11	15	18	25	28	26	26	21	15	5	8	13	15	17	14	11	17	23	24	6.5	27.6
Dir	45	171	94	83	97	106	114	104	97	96	95	96	88	90	132	288	342	332	329	322	326	325	335	329	54	96
30 Spd	23	19	14	14	12	11	10	5	2	4	3	7	5	3	1	2	1	1	2	4	2	3	1	1	4.8	23.5
Dir	317	322	328	336	339	344	353	325	292	325	17	26	35	285	209	59	112	184	112	32	135	161	261	71	338	317
31 Spd	3	3	3	2	2	3	3	3	3	3	2	2	4	3	2	3	3	14	24	29	32	30	27	22	6.0	32.1
Dir	52	73	92	92	106	102	103	113	110	82	93	76	52	68	153	177	195	235	253	251	257	260	250	246	245	257
Spd	2.1	1.9	2.1	2.3	2.4	1.6	1.7	1.2	0.9	0.9	1.0	1.4	2.4	5.1	4.7	4.6	3.9	3.1	2.7	3.5	3.1	2.3	1.3	1.1	Diurnal Average	
Dir	292	307	291	300	289	280	292	279	287	296	250	284	288	270	269	269	274	278	306	270	268	273	295	313		
Spd	23.5	28.4	35.5	35.2	35.7	36.9	40.0	43.0	48.0	46.1	46.7	45.7	48.6	47.4	39.8	34.7	31.3	19.0	26.7	30.5	34.7	30.2	27.1	24.2	Diurnal Maximum	
Dir	317	237	242	247	252	253	254	253	250	251	251	254	262	256	251	249	248	245	248	243	240	260	250	329		

Maximum Speed Value: 49 km/h on Dec 12 13:00
Minimum Speed Value: 0 km/h on Dec 7 15:00
Maximum Daily Speed Average: 26.9 km/h on Dec 12
Minimum Daily Speed Average: 0.3 km/h on Dec 18
Maximum Diurnal Speed Average: 5.1 km/h at hour 14
Minimum Diurnal Speed Average: 0.9 km/h at hour 10

Monthly Average Velocity: 2.32 km/h 281.0 deg
Speed Percentiles: P_1 = 0.4 P_{10} = 1.4 Q_1 = 2.4 Median = 4.8 Q_3 = 10.4 P_{90} = 22.6 P_{99} = 42.1
All monthly, daily, and diurnal averages have been calculated using vector methods

Hours in Service: 744
Hours of Data: 744
Hours of Missing Data: 0
Percent Operational Time: 100.0

Frequency Distribution

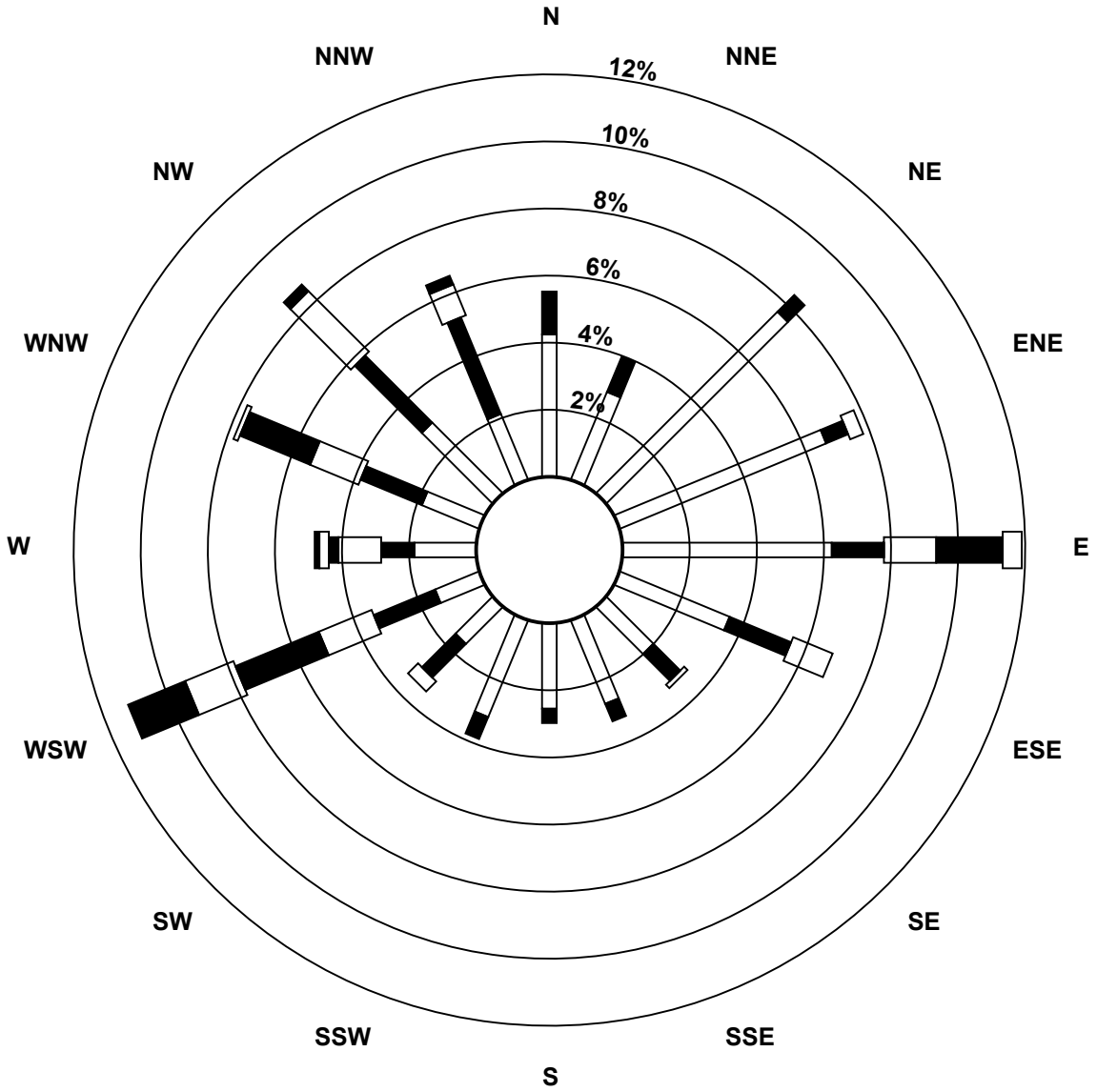
Direction	Speed Range (km/h) 0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total
North	47	25	3	0	0	0	75
NorthEast	81	26	2	0	0	0	109
East	84	23	15	13	5	0	140
SouthEast	43	18	8	0	0	0	69
South	41	8	0	0	0	0	49
SouthWest	29	19	15	10	7	2	82
West	20	27	15	16	8	12	98
NorthWest	37	38	32	14	1	0	122
Total	382	184	90	53	21	14	744

Peace Airshed Zone Association

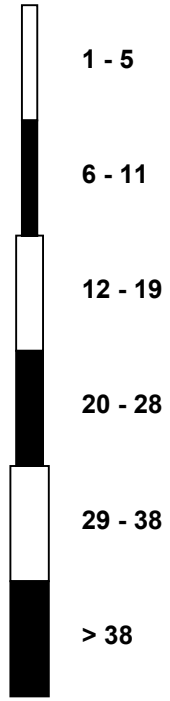
Wind Rose

Wind Speed (WS) (km/h)

Beaverlodge - December 2018



Wind Speed Classes (km/h)



Peace Airshed Zone Association

Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Beaverlodge - December 2018

Maximum Speed: 49 km/h on Dec 12 13:00

Maximum Daily Speed Average: 29.6 km/h on Dec 12

Minimum Speed: 1 km/h on Dec 2 19:00

Minimum Daily Speed Average: 2.7 km/h on Dec 27

Maximum Diurnal Speed Average: 11.3 km/h at hour 14

Minimum Diurnal Speed Average: 6.6 km/h at hour 24

Monthly Average Speed: 8.83 km/h

Percentiles: P_1 = 1.5 P_{10} = 2.3 Q_1 = 3.3 Median = 5.4 Q_3 = 10.5 P_{90} = 22.7 P_{99} = 42.2

Hours in Service:	744
Hours of Data:	744
Hours of Missing Data:	0
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Dec	6	4	7	6	2	3	3	2	3	2	2	2	3	3	4	3	3	4	2	3	4	4	5	3	3.4	7.0
2-Dec	7	3	5	6	4	4	5	3	4	4	5	5	4	3	1	3	3	2	1	1	2	2	2	2	3.4	7.2
3-Dec	2	3	4	8	6	5	5	9	9	5	6	10	7	11	7	4	3	5	7	12	10	12	11	7	7.0	12.2
4-Dec	6	11	9	18	27	17	15	13	15	17	16	22	25	25	17	23	23	17	13	12	12	14	10	6	16.0	27.0
5-Dec	6	4	5	5	2	1	2	2	3	2	2	4	4	4	5	5	5	4	3	4	4	4	3	3	3.6	5.7
6-Dec	2	4	2	1	2	4	4	3	4	6	5	2	4	4	3	4	3	3	3	3	2	5	3	3	3.3	6.1
7-Dec	5	6	4	4	5	2	3	4	4	3	2	3	4	2	2	4	4	4	3	3	3	3	4	3	3.5	6.0
8-Dec	2	5	4	5	5	2	2	2	6	5	3	5	4	3	6	10	9	8	4	8	5	3	3	5	4.7	10.2
9-Dec	2	7	5	3	4	3	3	2	3	6	4	6	6	5	5	4	8	12	12	7	8	7	4	7	5.5	12.2
10-Dec	10	12	12	12	12	14	7	9	8	10	9	12	13	24	24	25	24	15	4	8	6	5	2	4	11.7	25.4
11-Dec	6	7	6	9	13	10	12	10	9	15	15	8	7	6	6	5	9	16	27	31	35	28	26	17	13.7	34.8
12-Dec	19	28	36	35	36	37	40	43	48	46	47	46	49	48	40	35	22	12	4	4	4	8	11	13	29.6	48.8
13-Dec	8	7	13	8	5	5	17	33	26	42	39	41	43	40	29	27	28	19	12	3	2	6	3	4	19.2	42.7
14-Dec	4	4	7	6	5	9	9	13	11	14	18	15	12	6	6	3	4	4	9	10	8	7	9	7	8.2	18.2
15-Dec	8	6	5	13	18	17	19	12	13	17	14	9	10	13	9	6	4	6	6	3	6	7	9	13	10.1	18.9
16-Dec	13	18	16	30	29	28	29	29	26	27	17	14	12	9	6	5	5	3	5	3	3	3	5	4	14.1	30.0
17-Dec	6	7	7	8	7	4	4	4	5	4	3	4	4	2	2	3	4	3	6	4	3	4	3	2	4.4	8.1
18-Dec	3	3	2	3	5	4	6	7	2	2	4	6	3	2	2	2	2	3	5	2	4	4	3	4	3.4	6.5
19-Dec	2	10	10	7	10	10	10	5	6	6	7	6	9	19	27	23	31	18	8	8	20	10	6	3	11.3	31.5
20-Dec	8	4	4	5	7	9	13	15	13	21	24	23	25	26	24	15	10	8	8	9	8	8	11	13	12.9	25.7
21-Dec	17	22	26	27	29	27	27	26	25	26	25	23	24	23	20	15	9	8	8	7	6	7	3	3	18.0	29.0
22-Dec	2	4	4	4	3	2	4	3	3	2	3	3	3	4	2	4	4	5	7	6	6	5	4	5	3.9	7.4
23-Dec	6	4	6	6	4	4	7	7	9	8	4	2	6	4	2	4	11	10	10	8	8	8	5	2	6.0	11.5
24-Dec	4	6	8	7	6	8	6	5	2	3	3	2	2	2	2	2	3	3	4	3	3	3	7	8	4.2	7.9
25-Dec	12	10	12	10	11	10	14	13	10	9	7	9	9	9	7	6	4	4	5	4	5	7	8	8	8.5	14.3
26-Dec	3	4	7	7	5	4	6	4	4	4	2	4	5	9	5	4	5	7	6	6	3	5	2	2	4.8	9.2
27-Dec	2	4	4	2	5	3	2	2	2	4	2	3	2	3	2	1	2	5	3	2	3	2	3	1	2.7	5.4
28-Dec	2	1	2	3	3	2	2	2	2	6	4	3	3	20	15	13	17	5	3	3	6	3	4	5	5.5	19.8
29-Dec	4	2	5	5	6	11	15	18	26	28	26	26	21	15	9	9	14	16	17	15	11	17	23	24	15.0	27.7
30-Dec	24	19	14	14	12	11	10	5	2	4	4	7	5	4	2	2	3	1	3	4	2	3	2	3	6.6	23.6
31-Dec	3	3	3	3	3	3	4	4	3	3	3	2	4	3	2	3	4	14	24	29	32	30	27	22	9.7	32.2
	6.6	7.5	8.2	9.1	9.3	8.8	9.7	9.9	9.8	11.2	10.5	10.5	10.7	11.3	9.5	8.8	9.0	7.9	7.5	7.2	7.6	7.5	7.1	6.6	Diurnal Average	
	23.6	28.5	35.6	35.3	35.8	37.0	40.1	43.1	48.1	46.2	46.8	45.9	48.8	47.5	39.9	34.8	31.5	19.0	26.8	30.5	34.8	30.3	27.2	24.3	Diurnal Maximum	

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

Peace Airshed Zone Association

Hourly Standard Deviations

Wind Direction (WD) - deg

Beaverlodge - December 2018

Maximum Value: 96.3 deg on Dec 1 19:00

Minimum Value: 2.3 deg on Dec 13 18:00

Percentiles: P_1 = 2.9 P_{10} = 4.8 Q_1 = 8.5 Median = 19.9 Q_3 = 49.3 P_{90} = 71.2 P_{99} = 89.8

Hours in Service:	744
Hours of Data:	744
Hours of Missing Data:	0
Hours of Calibration:	0
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily
	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	34	46	13	64	79	27	10	16	20	21	68	59	43	45	38	73	34	81	96	89	24	22	16	15	96.3
2-Dec	8	45	33	48	30	23	46	64	27	59	17	9	17	51	73	17	44	38	84	86	36	16	81	52	86.3
3-Dec	84	67	54	7	8	14	7	3	8	14	6	6	7	6	23	31	21	77	28	6	10	6	5	10	83.8
4-Dec	10	14	11	16	3	10	5	9	12	4	6	5	4	11	11	6	9	6	6	7	6	9	9	10	16.1
5-Dec	15	6	9	5	42	32	83	16	67	31	47	22	13	25	10	6	7	10	42	40	65	81	37	17	83.1
6-Dec	90	14	58	55	49	14	12	16	10	5	7	72	7	6	10	13	33	23	39	54	45	14	41	48	90.4
7-Dec	19	56	58	87	52	63	48	65	36	44	82	84	33	46	88	16	12	11	15	26	16	32	14	27	88.0
8-Dec	44	12	30	55	15	67	74	72	17	30	35	41	24	69	44	26	22	13	75	29	67	34	66	47	74.7
9-Dec	71	53	62	53	27	26	71	66	66	28	74	84	87	76	48	69	52	24	25	31	54	57	86	24	87.1
10-Dec	12	7	11	5	7	13	30	25	45	87	53	27	11	4	3	4	3	16	56	24	11	20	48	57	87.1
11-Dec	18	6	15	7	9	8	13	7	12	5	6	17	10	19	35	59	11	5	5	4	5	5	4	12	58.8
12-Dec	6	6	3	3	5	4	4	4	4	3	4	5	5	4	3	5	5	16	61	47	46	15	18	9	60.9
13-Dec	19	51	11	46	76	43	16	4	4	4	3	4	4	4	6	5	4	2	41	30	64	53	77	48	76.8
14-Dec	38	22	23	11	12	13	10	4	10	8	4	5	7	18	11	76	62	28	14	12	11	12	11	50	76.1
15-Dec	18	80	43	34	6	5	6	15	10	6	6	10	13	6	7	19	56	22	11	71	12	10	18	8	80.0
16-Dec	19	4	4	3	3	3	4	3	4	4	9	8	6	8	13	27	20	47	45	48	41	76	54	71	76.3
17-Dec	29	42	20	6	34	44	38	34	36	12	37	27	25	93	57	55	62	32	17	59	68	69	66	57	93.4
18-Dec	54	80	82	91	84	54	52	32	93	88	42	22	37	82	84	74	57	79	57	85	59	55	51	13	92.6
19-Dec	86	13	28	91	14	20	20	73	20	31	67	47	17	5	6	5	6	7	15	40	6	21	87	82	91.0
20-Dec	42	20	10	10	8	8	5	4	5	4	11	7	6	6	7	6	8	11	14	11	11	7	4	6	41.6
21-Dec	4	4	3	4	4	4	4	4	4	4	4	4	5	4	4	6	5	7	10	18	9	31	60	19	59.6
22-Dec	72	62	17	9	40	41	12	23	47	63	31	32	21	10	61	45	16	81	11	32	32	78	65	88	87.9
23-Dec	63	66	48	65	69	74	28	9	14	10	69	83	12	51	47	25	10	5	6	10	6	11	15	81	82.6
24-Dec	54	17	9	10	16	13	6	16	41	50	32	82	51	31	80	81	70	51	70	83	70	37	29	35	82.6
25-Dec	12	10	6	6	7	8	5	6	8	10	15	10	10	15	14	12	14	13	6	25	15	9	8	8	24.6
26-Dec	60	55	10	50	31	38	27	66	44	71	74	63	60	14	18	18	16	39	36	17	63	9	62	23	73.8
27-Dec	80	8	30	60	45	23	66	49	56	12	16	29	28	17	33	84	22	7	53	64	77	52	24	96	95.9
28-Dec	78	65	62	65	76	43	43	35	89	19	40	39	93	5	13	16	9	54	79	68	9	64	12	12	93.1
29-Dec	57	43	23	22	11	10	6	5	10	5	3	3	7	16	63	16	12	15	6	7	7	10	7	6	62.9
30-Dec	5	6	8	6	8	9	7	19	40	24	31	5	8	53	48	42	58	76	57	21	60	25	74	82	81.6
31-Dec	66	15	44	23	37	28	35	41	31	17	44	37	22	28	34	32	48	7	8	6	5	4	6	7	66.5
	90.4	80.0	82.4	91.4	83.6	73.6	83.1	72.8	92.6	88.3	82.5	84.2	93.1	93.4	88.0	83.6	69.7	80.9	96.3	89.0	76.6	80.6	87.3	95.9	

PAZA
Evergreen Park Station
Monthly Summary Tables, Graphs and Roses

Peace Airshed Zone Association

Hourly Averages

Sulphur Dioxide (SO_2) - ppb

Evergreen Park - December 2018

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 4.7 ppb on Dec 15 03:00 Maximum Daily Average: 0.7 ppb on Dec 15

Minimum Value: 0 ppb on Dec 1 03:00 Minimum Daily Average: 0.1 ppb on Dec 23
Maximum Diurnal Average: 0.5 ppb at hour 15 Minimum Diurnal Average: 0.2 ppb at hour 6
Monthly Average: 0.34 ppb Percentiles: $P_1 = 0.0$ $P_{10} = 0.0$ $Q_1 = 0.1$ Median = 0.3 $Q_3 = 0.4$ $P_{90} = 0.7$ $P_{99} = 2.0$

Hours in Service:	744
Hours of Data:	710
Hours of Missing Data:	34
Hours of Calibration:	34
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-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	0.3
2-Dec	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	1	1	1	0.4	1.1
3-Dec	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0.2	0.7
4-Dec	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	1	1	0	1	1	0	0.3	0.9
5-Dec	1	2	2	1	0	0	0	0	0	0	0	0	0	0	1	A	1	0	0	0	0	0	0	0	0.6	1.8
6-Dec	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	0	0	0	0	1	1	0	0	0.3	0.6
7-Dec	0	0	0	0	0	0	0	0	0	0	0	C	C	C	1	0	0	0	0	1	1	1	0	0	0.4	0.9
8-Dec	1	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.3	0.5
9-Dec	0	0	0	0	0	0	0	0	0	0	1	A	1	1	0	1	0	0	0	0	0	0	0	0	0.3	0.6
10-Dec	0	0	0	0	0	0	0	0	0	0	A	0	0	0	3	2	1	1	1	1	1	0	0	0	0.5	2.7
11-Dec	0	0	0	0	0	0	0	0	0	A	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0.3	0.9
12-Dec	0	0	0	0	0	0	0	0	A	0	0	1	1	1	2	3	1	2	0	0	0	0	0	0	0.6	2.8
13-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	0.4
14-Dec	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0.2	1.2
15-Dec	1	1	5	3	1	A	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0.7	4.7
16-Dec	0	0	0	0	A	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0.3	0.8
17-Dec	0	0	0	A	1	1	0	1	0	0	0	1	1	0	1	1	1	1	1	1	1	1	1	1	0.6	1.1
18-Dec	1	1	A	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0.7	1.2
19-Dec	0	A	0	0	0	0	0	0	0	1	1	1	0	0	0	0	3	4	2	1	0	0	0	0	0.7	4.5
20-Dec	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	A	0.2	0.6
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	0.2	0.5
22-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	0.4
23-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
24-Dec	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	A	0	0	0	0	0.1	0.6
25-Dec	0	0	0	0	0	0	0	1	1	1	1	1	1	1	0	1	1	1	A	0	1	0	0	0	0.5	1.0
26-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
27-Dec	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	A	0	0	0	0	0	0	0	0.2	0.8
28-Dec	0	0	0	0	0	0	1	1	1	0	0	0	0	1	0	A	0	0	0	0	0	0	1	1	0.4	0.7
29-Dec	1	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	1	0	0	0	0	0.2	0.5
30-Dec	0	0	0	0	0	0	0	0	0	0	1	1	1	A	1	1	0	0	0	0	0	0	0	0	0.4	1.1
31-Dec	0	0	0	0	0	0	0	0	0	0	1	1	A	1	1	1	1	0	1	0	0	0	0	0	0.4	0.9
	0.3	0.3	0.4	0.3	0.2	0.2	0.2	0.3	0.2	0.2	0.3	0.3	0.4	0.4	0.5	0.5	0.4	0.5	0.3	0.4	0.4	0.4	0.3	0.3	Diurnal Average	
	1.5	1.7	4.7	2.8	0.6	0.8	0.6	0.9	1.0	0.8	0.9	1.2	1.1	1.2	2.7	2.8	3.0	4.5	1.5	1.1	1.2	1.2	1.2	1.1	Diurnal Maximum	

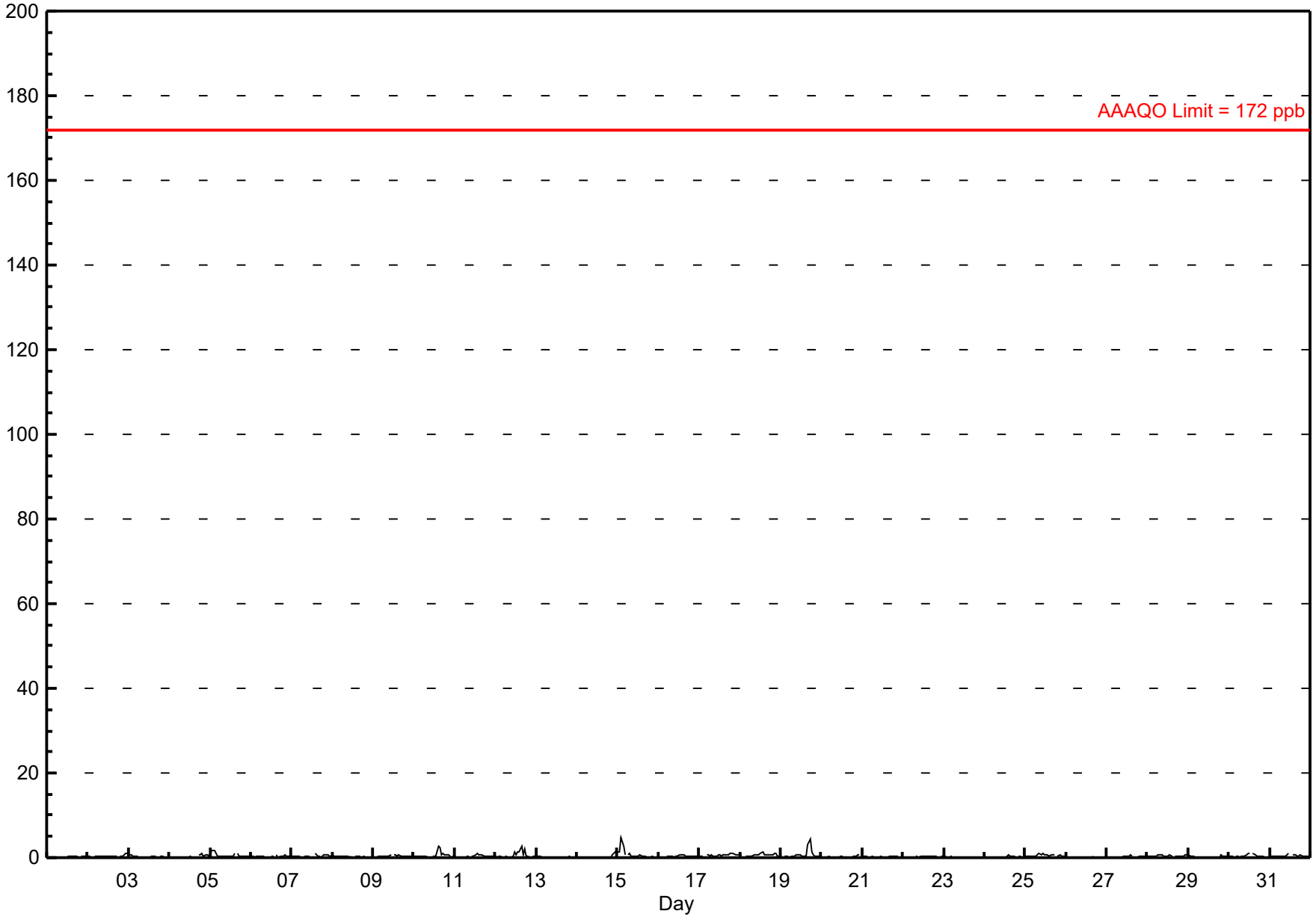
C - Calibration A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb 30-day 11 ppb

Peace Airshed Zone Association

Hourly Averages

Sulphur Dioxide (SO_2) - ppb

Evergreen Park - December 2018



Peace Airshed Zone Association

Hourly Maximums

Sulphur Dioxide (SO_2) - ppb

Evergreen Park - December 2018

Maximum Value: 23.0 ppb on Dec 18 10:00

Maximum Daily Average: 2.3 ppb on Dec 18

Minimum Value: 0 ppb on Dec 13 23:00

Minimum Daily Average: 0.6 ppb on Dec 23

Maximum Diurnal Average: 1.9 ppb at hour 17

Minimum Diurnal Average: 0.8 ppb at hour 6

Monthly Average: 1.06 ppb

Percentiles: $P_1 = 0.4$ $P_{10} = 0.6$ $Q_1 = 0.7$ Median = 0.8 $Q_3 = 1.0$ $P_{90} = 1.4$ $P_{99} = 7.8$

Hours in Service:	744
Hours of Data:	710
Hours of Missing Data:	34
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	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	0.7	0.9
2-Dec	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	2	1	1	2	2	1.0	2.2
3-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	0.8	1.4
4-Dec	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	2	2	1	2	1	0.9	1.9
5-Dec	2	2	2	2	1	1	1	1	1	1	1	1	1	1	4	A	3	1	1	1	1	1	1	1	1.3	3.7
6-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	0.8	1.4
7-Dec	1	1	1	1	1	1	1	1	1	1	1	C	C	C	1	1	1	1	1	1	1	1	1	1	0.9	1.5
8-Dec	2	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	0.9	1.7
9-Dec	1	0	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.3
10-Dec	1	1	1	1	1	1	1	1	1	1	A	1	1	1	9	9	1	1	1	1	2	1	1	1	1.6	9.2
11-Dec	1	1	1	1	1	1	1	1	1	A	1	1	1	1	2	1	1	1	1	1	1	1	1	1	0.9	1.5
12-Dec	1	1	1	1	1	1	1	1	A	1	1	4	2	3	4	5	4	8	1	1	1	1	1	1	1.8	7.6
13-Dec	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	0	0	2	0	1	0	1	0.7	1.5
14-Dec	1	1	1	0	0	0	A	0	0	0	1	1	1	1	0	1	1	0	0	1	1	1	2	2	0.7	2.0
15-Dec	2	2	10	8	1	A	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.7	9.8
16-Dec	1	1	1	1	A	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	0.9	1.7
17-Dec	1	1	1	A	1	1	1	1	1	1	1	1	2	1	1	1	1	1	2	2	2	1	1	1	1.2	2.0
18-Dec	1	1	A	1	1	1	1	1	1	23	1	1	2	2	1	1	1	1	1	1	3	2	1	1	2.3	23.0
19-Dec	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	7	12	6	2	1	1	1	1	2.0	12.5
20-Dec	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	A	0.8	1.4
21-Dec	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	8	2	1	1	1	1	A	1	1.1	8.3
22-Dec	1	1	0	1	0	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	0.8	1.0
23-Dec	1	1	1	1	1	1	1	1	0	1	1	1	1	1	0	1	1	1	0	1	A	1	1	1	0.6	0.8
24-Dec	1	1	0	1	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	0.7	1.2
25-Dec	1	1	1	1	1	1	1	1	2	1	2	1	1	1	1	1	13	1	A	1	1	1	1	1	1.6	13.2
26-Dec	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	0	0.7	0.9
27-Dec	0	1	1	0	1	0	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	0.7	1.3
28-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	1.4
29-Dec	1	1	1	1	1	1	1	1	1	0	1	1	1	1	A	0	1	1	1	1	1	1	1	1	0.7	1.3
30-Dec	1	1	1	1	1	1	1	1	1	1	1	2	2	A	1	1	1	1	1	1	1	1	1	1	0.9	1.7
31-Dec	1	1	1	1	1	1	1	1	1	1	1	2	A	1	1	1	1	1	1	1	1	1	1	1	1.0	1.5
	0.9	0.9	1.1	1.0	0.8	0.8	0.8	0.8	0.8	1.5	0.9	1.0	1.0	1.1	1.5	1.4	1.9	1.5	1.0	1.1	1.0	0.9	0.9	0.9	Diurnal Average	
	2.2	2.3	9.8	7.9	1.3	1.4	1.5	1.5	1.7	23.0	1.7	3.5	2.4	3.2	9.2	8.6	13.2	12.5	5.9	2.2	3.0	2.4	1.9	2.0	Diurnal Maximum	

C - Calibration

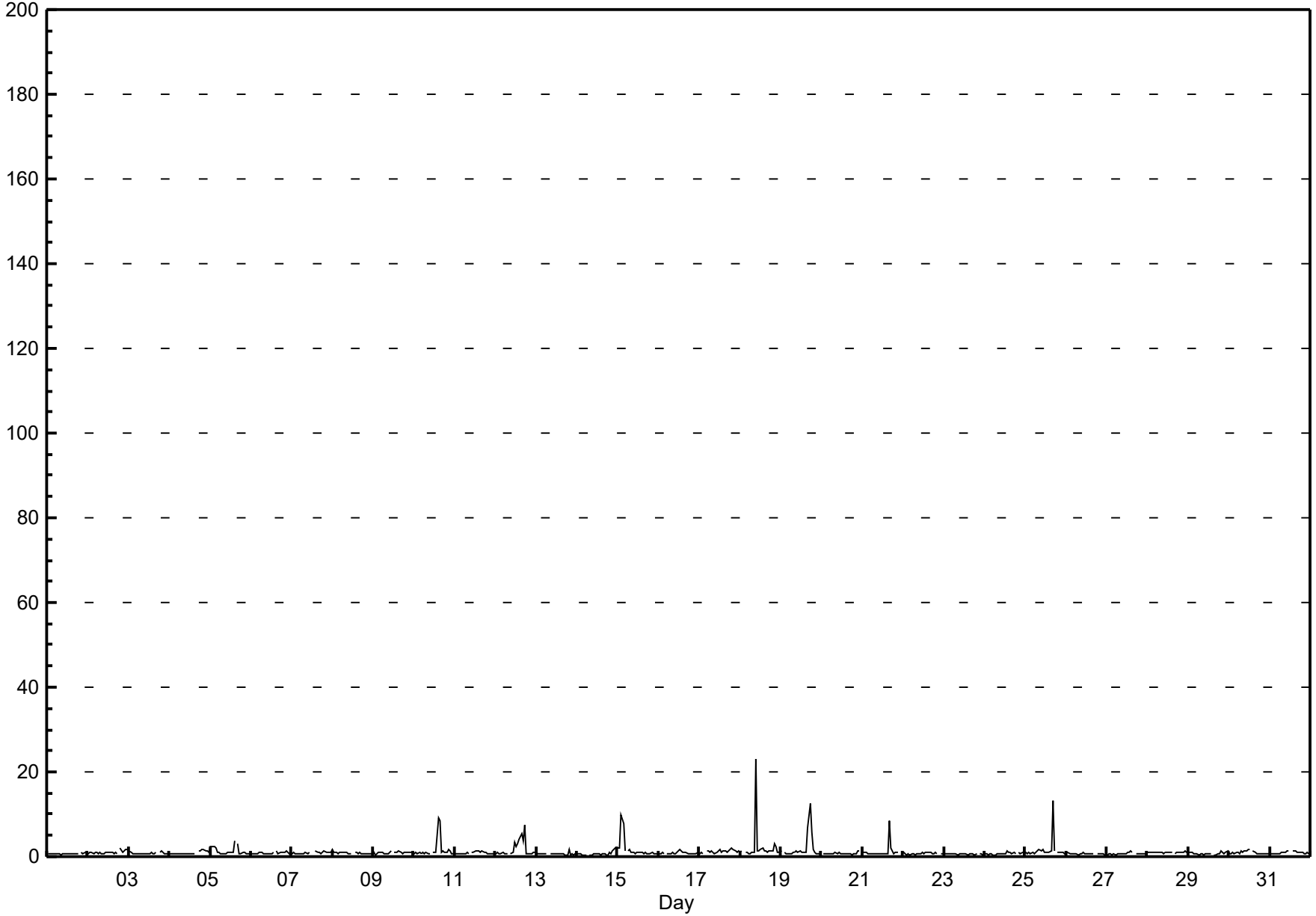
A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Sulphur Dioxide (SO_2) - ppb

Evergreen Park - December 2018

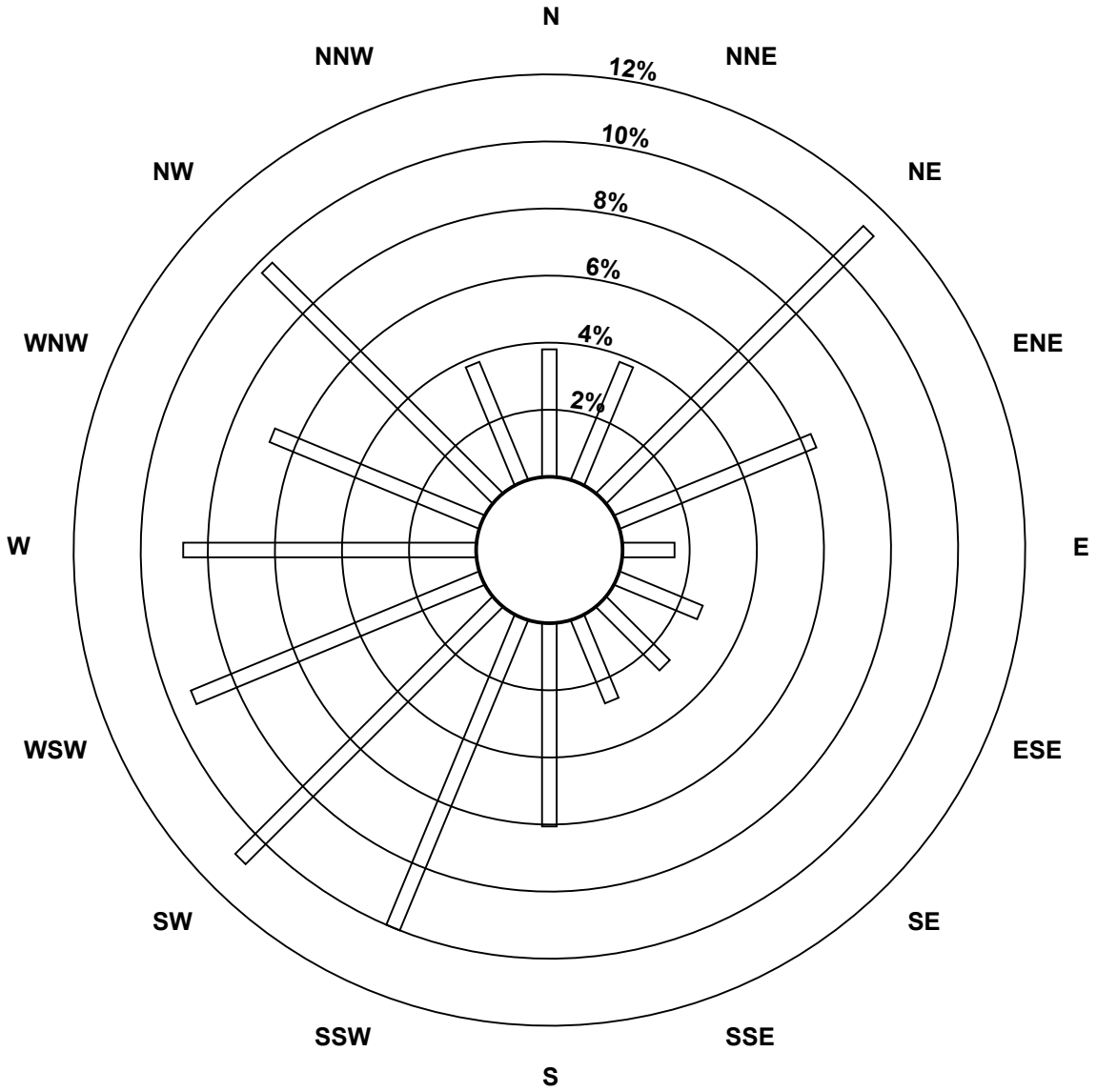


Peace Airshed Zone Association

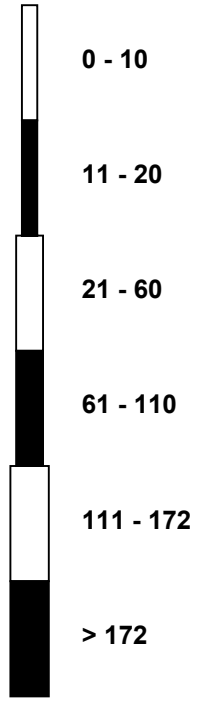
Pollutant Rose

Sulphur Dioxide (SO_2) - ppb

Evergreen Park - December 2018



Pollutant Classes (ppb)

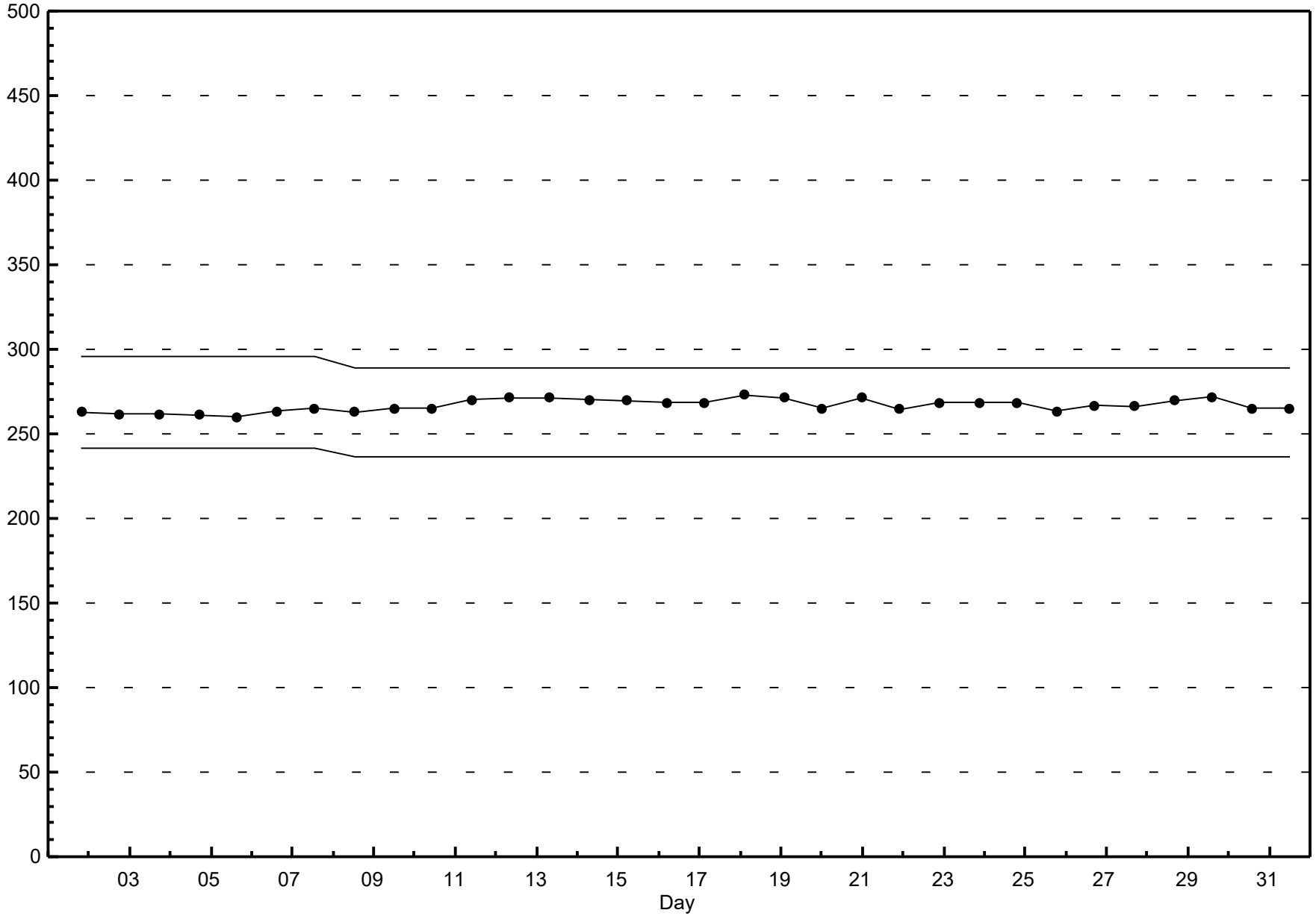


Peace Airshed Zone Association

Span Responses

Sulphur Dioxide (SO_2)

Evergreen Park - December 2018



Peace Airshed Zone Association

Hourly Averages

Total Reduced Sulphur (TRS) - ppb

Evergreen Park - December 2018

Maximum Value: 2.9 ppb on Dec 1 14:00

Maximum Daily Average: 1.1 ppb on Dec 7

Minimum Value: 0 ppb on Dec 1 04:00

Minimum Daily Average: 0.4 ppb on Dec 14

Maximum Diurnal Average: 0.7 ppb at hour 19

Minimum Diurnal Average: 0.5 ppb at hour 10

Monthly Average: 0.60 ppb

Percentiles: $P_1 = 0.2$ $P_{10} = 0.3$ $Q_1 = 0.4$ Median = 0.5 $Q_3 = 0.7$ $P_{90} = 1.0$ $P_{99} = 1.6$

Hours in Service:	744
Hours of Data:	709
Hours of Missing Data:	35
Hours of Calibration:	35
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Dec	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	1	1	1	3	A	1	1	1	1	0.6	2.9
2-Dec	1	1	1	0	0	0	0	0	1	1	0	0	0	0	1	1	1	1	A	1	0	1	1	1	0.5	0.9
3-Dec	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	1	A	1	1	1	0	0	0	0.5	0.8
4-Dec	0	0	0	1	1	0	1	1	1	1	0	0	0	0	0	0	A	1	1	1	1	0	1	1	0.5	0.7
5-Dec	1	1	0	1	1	1	1	0	1	0	1	1	0	1	0	A	1	1	1	1	1	1	1	1	0.6	1.0
6-Dec	1	1	1	1	1	1	1	1	1	0	0	0	0	0	A	0	1	1	1	1	1	1	1	1	0.8	1.3
7-Dec	1	1	1	1	1	1	1	1	1	C	C	C	1	A	1	1	1	1	1	1	1	2	2	2	1.1	1.9
8-Dec	2	2	2	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1.0	2.2
9-Dec	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	0	1	0	0	0.9	1.4
10-Dec	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	1	1	1	1	1	1	0	0	0.5	0.8
11-Dec	0	0	1	0	0	0	0	1	1	A	1	1	0	0	1	1	1	1	0	0	0	0	0	0	0.5	0.7
12-Dec	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	0.4	0.7
13-Dec	1	1	1	1	1	1	1	A	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	0.7
14-Dec	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	0.4	0.6
15-Dec	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	1	1	2	1	1	1	0	0	0.6	1.8
16-Dec	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0.4	0.7
17-Dec	0	0	0	A	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.5
18-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	1.4
19-Dec	1	A	1	1	1	0	1	1	1	1	1	1	1	0	1	0	0	0	0	1	1	1	1	1	0.6	1.0
20-Dec	A	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	A	0.5	0.8
21-Dec	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.4	0.5
22-Dec	0	1	1	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	0.7	1.0
23-Dec	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.4	0.7
24-Dec	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	A	1	1	1	1	0.6	1.1
25-Dec	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0.4	0.6
26-Dec	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	A	1	0	0	0	0	0	0.4	0.7
27-Dec	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	2	A	1	1	1	1	1	1	1	0.6	1.5
28-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
29-Dec	1	1	1	1	1	1	1	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.5	1.0
30-Dec	0	0	1	0	0	0	0	0	0	1	0	0	1	A	1	0	0	0	0	0	1	1	1	1	0.5	0.6
31-Dec	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	0	0	0.8	1.3
	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.6	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.6	0.6	Diurnal Average	
	2.2	1.6	1.6	1.2	1.4	1.4	1.3	1.2	1.4	1.1	1.4	1.3	1.4	2.9	1.2	1.5	1.4	1.3	2.7	1.4	1.3	1.9	1.7	1.6	Diurnal Maximum	

C - Calibration

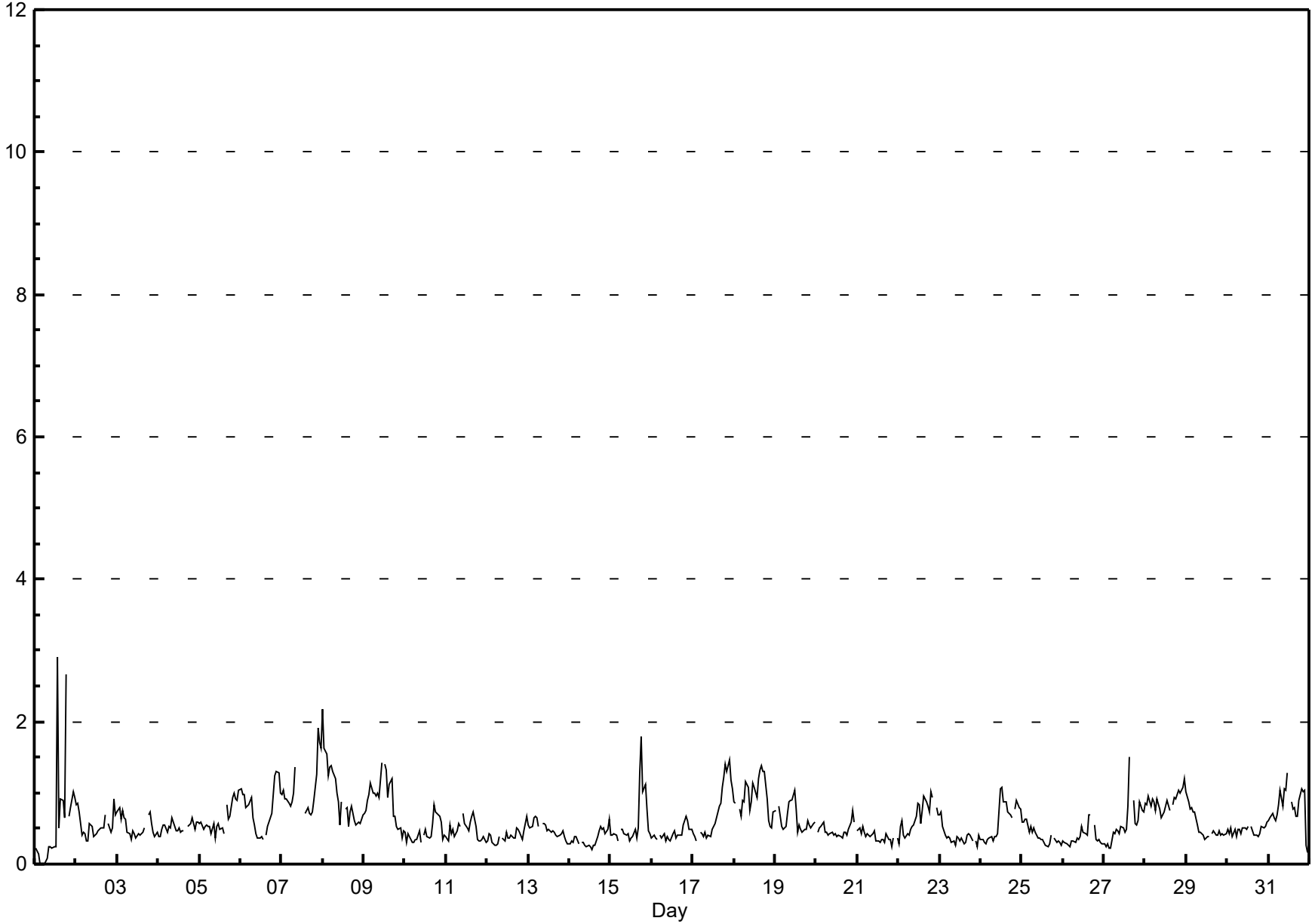
A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Averages

Total Reduced Sulphur (TRS) - ppb

Evergreen Park - December 2018



Peace Airshed Zone Association

Hourly Maximums

Total Reduced Sulphur (TRS) - ppb

Evergreen Park - December 2018

Maximum Value: 9.2 ppb on Dec 1 14:00

Maximum Daily Average: 1.8 ppb on Dec 1

Minimum Value: 0 ppb on Dec 1 06:00

Minimum Daily Average: 0.9 ppb on Dec 14

Maximum Diurnal Average: 1.5 ppb at hour 19

Minimum Diurnal Average: 1.1 ppb at hour 7

Monthly Average: 1.19 ppb

Percentiles: $P_1 = 0.7$ $P_{10} = 0.8$ $Q_1 = 0.9$ Median = 1.1 $Q_3 = 1.3$ $P_{90} = 1.7$ $P_{99} = 2.8$

Hours in Service:	744
Hours of Data:	709
Hours of Missing Data:	35
Hours of Calibration:	35
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	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	0	0	0	1	1	1	1	1	1	1	9	2	4	2	1	8	A	1	1	2	1	1.8	9.2
2-Dec	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	A	1	1	1	2	1	1.1	2.1
3-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	1.1	1.4
4-Dec	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1.1	1.4
5-Dec	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	2	2	1	2	2	1.2	1.7
6-Dec	2	2	2	1	1	2	1	1	1	1	1	1	1	1	A	1	1	1	1	2	2	2	2	1	1.4	2.0
7-Dec	2	1	1	1	1	1	1	2	2	C	C	C	2	A	1	2	1	1	1	2	2	3	2	2	1.6	2.6
8-Dec	3	3	3	2	2	2	2	2	2	2	1	3	A	2	2	1	1	1	1	1	1	1	1	1	1.7	3.1
9-Dec	1	1	1	1	2	2	1	1	2	1	2	A	2	2	2	2	2	1	1	1	1	1	1	1	1.5	2.2
10-Dec	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	2	1	1	1	1	1	1	1.0	1.5
11-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	1.1	1.3
12-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	1.3
13-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	1.0	1.3
14-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	1.3
15-Dec	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	3	3	2	2	1	1	1	1.3	3.1
16-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	1.3
17-Dec	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	1.3	2.1
18-Dec	2	1	A	1	1	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	2	1.6	2.1
19-Dec	2	A	2	1	1	1	1	1	1	1	1	1	4	1	1	1	1	1	1	2	1	1	1	1	1.3	3.6
20-Dec	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1.0	1.2
21-Dec	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	A	1	1.0	1.5
22-Dec	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	2	1	A	1	1	1.2	1.8
23-Dec	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	0.9	1.3
24-Dec	1	1	1	1	1	1	1	1	1	1	1	2	1	1	2	2	1	1	1	A	2	2	1	1	1.2	2.1
25-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
26-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	1.0	1.4
27-Dec	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	A	1	1	1	1	1	1	1	1.1	2.2
28-Dec	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	2	2	2	2	2	1.4	1.8
29-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
30-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	1.3
31-Dec	1	1	1	1	1	1	1	2	1	2	2	2	A	1	1	1	1	1	2	2	1	2	1	1	1.4	2.0
	1.2	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.2	1.4	1.2	1.3	1.2	1.3	1.5	1.3	1.2	1.3	1.2	1.2	Diurnal Average	
	3.1	2.6	2.6	1.7	1.9	1.9	1.9	1.8	2.1	1.7	2.1	2.8	3.6	9.2	2.3	3.8	2.0	3.0	8.0	2.1	2.1	2.6	2.3	2.2	Diurnal Maximum	

C - Calibration

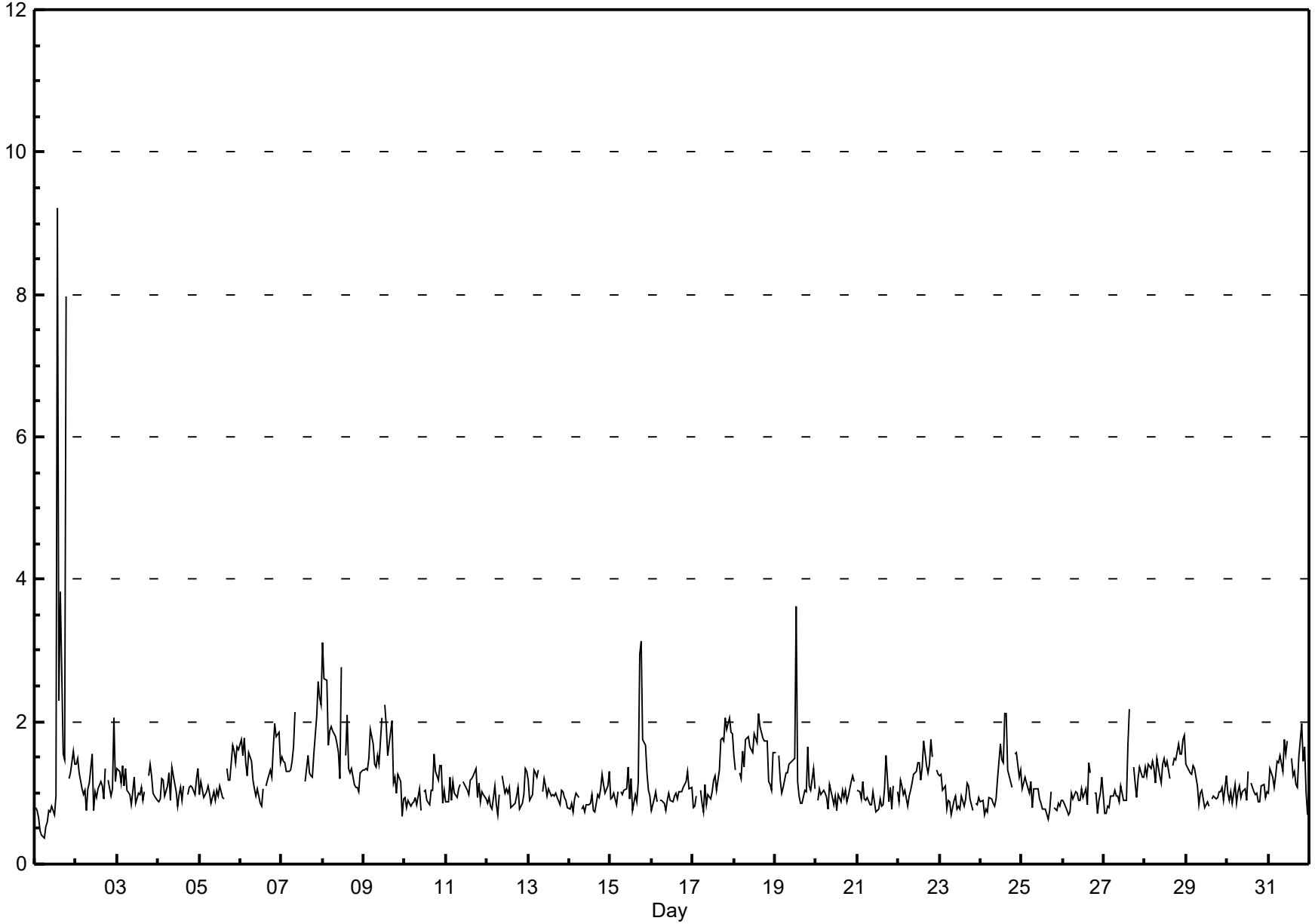
A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Total Reduced Sulphur (TRS) - ppb

Evergreen Park - December 2018

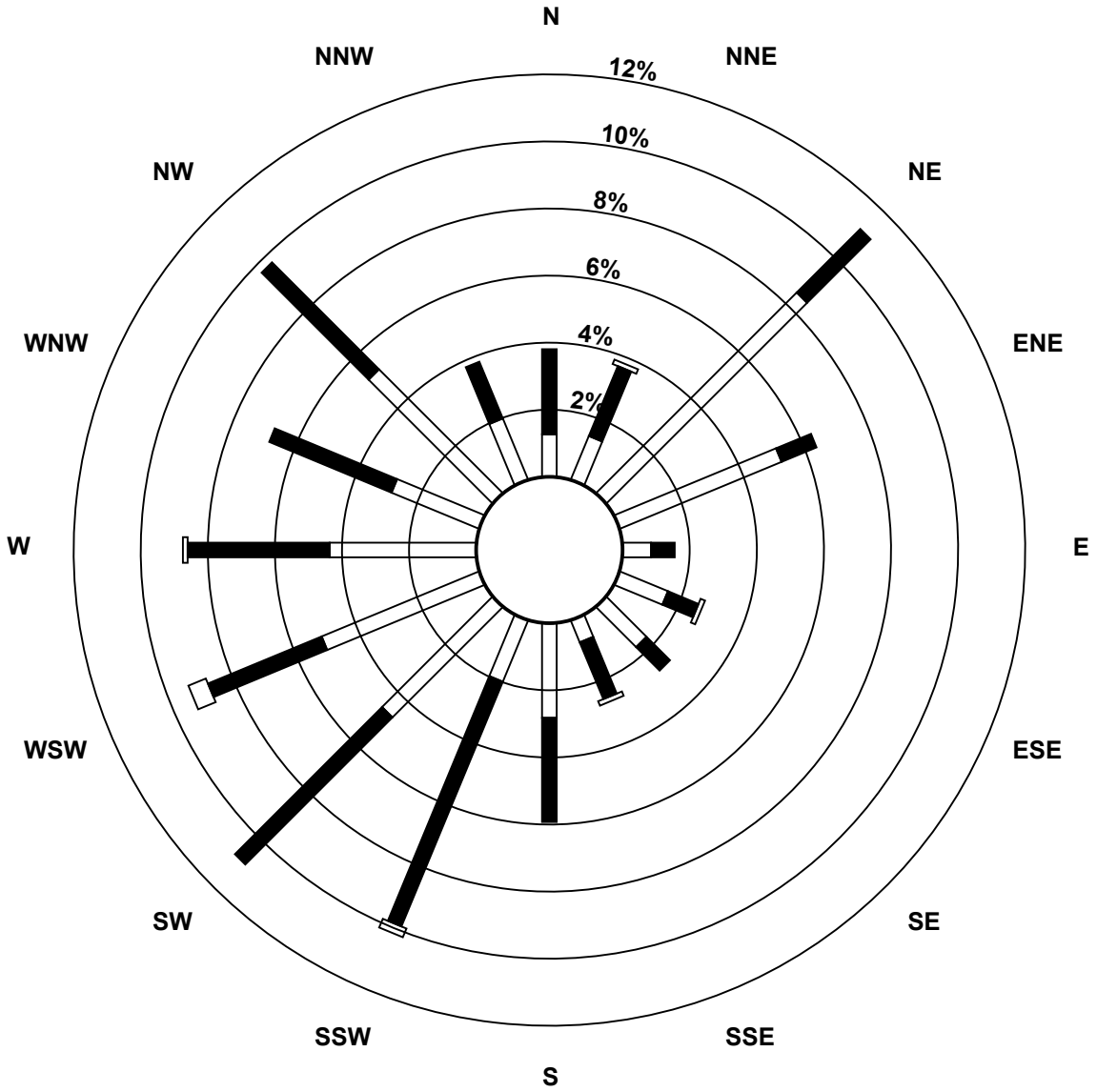


Peace Airshed Zone Association

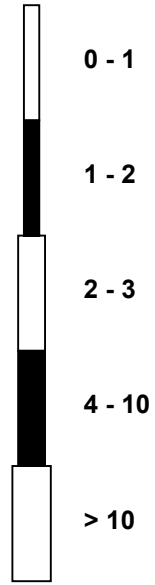
Pollutant Rose

Total Reduced Sulphur (TRS) - ppb

Evergreen Park - December 2018



Pollutant Classes (ppb)

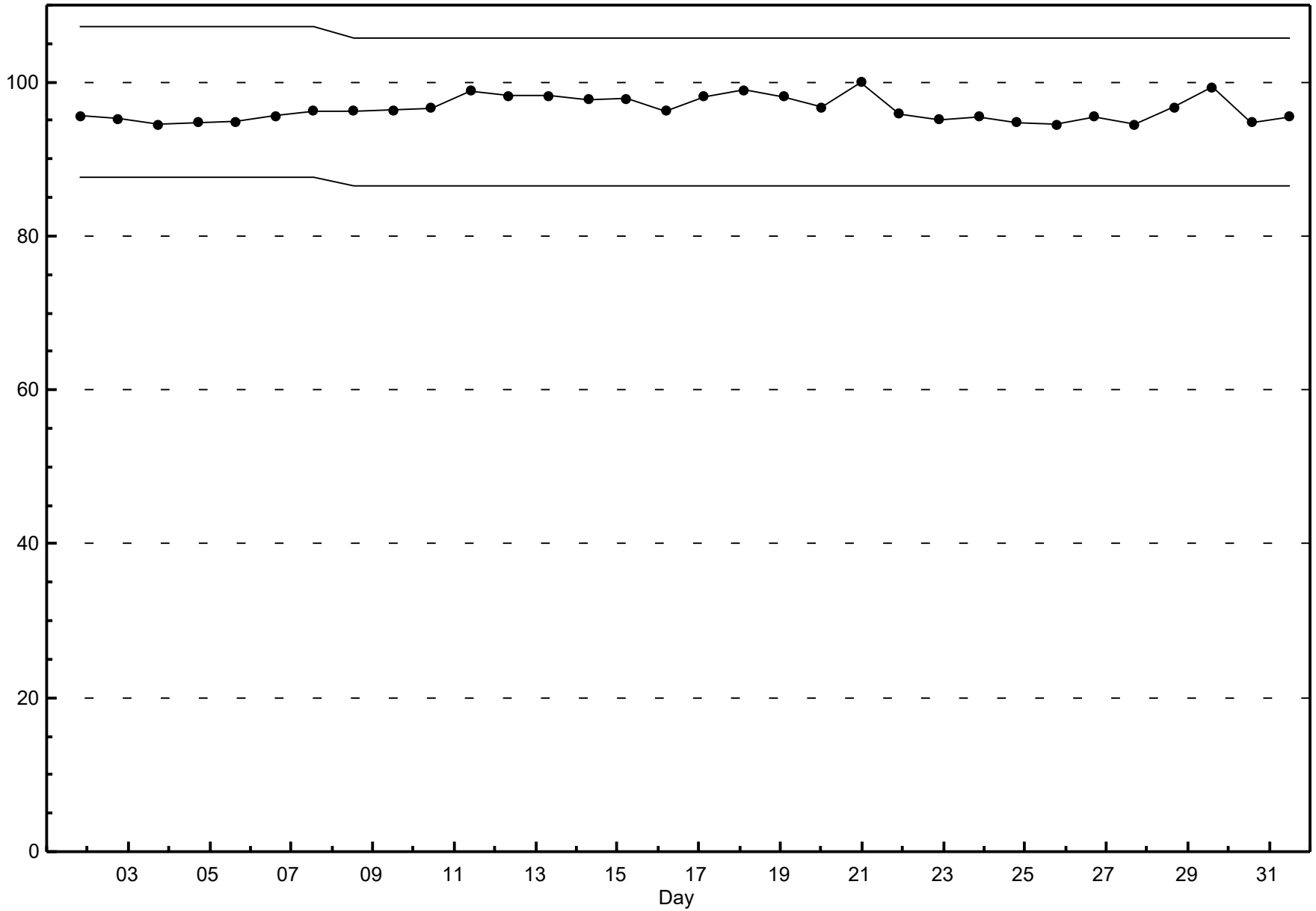


Peace Airshed Zone Association

Span Responses

Total Reduced Sulphur (TRS)

Evergreen Park - December 2018



Peace Airshed Zone Association

Hourly Averages

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

Evergreen Park - December 2018

Number of Exceedences: 1-hr: 0 24-hr: 0
Maximum Value: 58.4 $\mu g/m^3$ on Dec 29 05:00
Maximum Daily Average: 17.1 $\mu g/m^3$ on Dec 7

Minimum Value: 0 $\mu g/m^3$ on Dec 5 01:00
Maximum Diurnal Average: 7.5 $\mu g/m^3$ at hour 16
Monthly Average: 5.56 $\mu g/m^3$
Minimum Daily Average: 0.9 $\mu g/m^3$ on Dec 20
Minimum Diurnal Average: 4.2 $\mu g/m^3$ at hour 7
Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 1.5 Median = 4.0 Q_3 = 7.9 P_{90} = 12.5 P_{99} = 27.8

Hours in Service:	744
Hours of Data:	742
Hours of Missing Data:	2
Hours of Calibration:	2
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Dec	3	5	5	4	6	6	7	7	8	8	8	9	9	12	9	9	10	7	5	4	5	6	5	5	6.7	11.7
2-Dec	5	3	3	3	3	2	3	4	3	4	6	6	6	8	12	13	12	11	7	6	6	6	7	8	6.2	13.5
3-Dec	8	8	9	9	10	7	2	5	2	2	3	6	6	5	6	14	18	13	8	7	4	1	1	2	6.5	18.1
4-Dec	1	2	2	2	3	2	3	3	5	5	3	2	2	3	3	2	4	2	1	1	1	2	6	2	2.7	5.6
5-Dec	0	0	0	0	0	1	0	0	0	0	1	6	3	4	2	3	6	4	5	9	9	7	5	5	2.9	8.7
6-Dec	5	5	5	5	5	6	6	4	4	3	4	3	4	8	2	3	6	16	13	12	11	8	6	6	6.2	16.0
7-Dec	4	5	8	8	8	11	14	13	13	14	16	22	C	C	36	34	28	23	21	22	23	21	17	16	17.1	36.4
8-Dec	12	12	11	10	10	10	12	14	15	17	22	23	22	21	16	15	18	15	7	8	9	9	11	11	13.7	23.2
9-Dec	10	11	13	10	10	9	9	8	9	9	14	16	17	15	13	16	10	12	11	19	15	12	13	20	12.5	19.6
10-Dec	15	14	12	6	1	0	1	1	0	0	2	2	4	3	3	6	9	12	8	5	4	2	3	4	4.9	15.3
11-Dec	2	3	7	1	3	0	0	0	0	0	0	0	5	27	33	23	15	10	11	7	5	0	0	0	6.3	33.1
12-Dec	1	0	0	0	0	0	0	1	1	2	2	1	1	2	1	2	0	7	0	0	0	2	3	0	1.2	7.2
13-Dec	0	0	3	4	4	3	2	3	5	1	1	0	1	1	1	2	0	0	1	3	2	1	1	0	1.6	5.1
14-Dec	0	6	10	5	0	0	0	0	0	0	0	0	0	0	0	0	2	1	2	5	3	5	4	4	1.9	9.6
15-Dec	4	7	9	8	6	5	5	3	2	3	2	1	2	3	1	2	5	2	1	3	4	2	3	2	3.5	8.5
16-Dec	1	0	1	0	0	0	0	0	0	0	1	1	0	1	0	1	3	1	3	5	4	5	5	6	1.5	6.0
17-Dec	6	5	6	5	5	5	4	5	5	5	5	6	6	6	14	18	16	18	17	16	13	10	11	10	9.1	18.4
18-Dec	10	9	9	10	8	6	7	8	9	7	11	14	14	11	12	15	13	15	14	12	8	5	6	7	10.0	15.4
19-Dec	8	7	7	5	5	3	1	3	4	4	7	9	16	0	0	0	1	0	0	3	3	2	1	1	3.8	15.9
20-Dec	1	1	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	4	3	3	4	0.9	4.0
21-Dec	4	5	3	2	1	2	2	2	2	2	1	1	0	1	0	1	0	0	0	0	0	0	0	1	1.3	5.3
22-Dec	0	1	1	0	0	0	1	1	1	3	3	3	3	2	3	4	5	5	4	6	3	4	5	7	2.8	7.2
23-Dec	6	7	5	1	0	1	2	2	2	2	2	1	1	1	1	2	2	1	1	1	1	1	2	3	2.0	6.8
24-Dec	2	3	4	3	3	3	2	3	3	3	4	8	8	6	4	7	10	10	9	7	6	6	6	8	5.4	10.4
25-Dec	7	10	10	10	10	8	4	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.8	10.5
26-Dec	0	0	1	0	1	2	1	2	7	2	3	3	3	4	3	7	9	5	3	4	2	2	2	4	2.8	8.7
27-Dec	5	6	6	5	4	6	5	10	10	8	12	11	9	7	10	15	12	8	8	8	6	6	6	6	7.8	15.3
28-Dec	7	6	8	11	7	5	5	5	6	5	6	8	8	9	8	7	7	9	11	11	9	11	13	13	8.1	13.1
29-Dec	11	10	9	30	58	46	27	19	29	18	3	0	2	3	3	3	4	5	4	5	4	5	4	3	12.7	58.4
30-Dec	4	4	3	4	2	3	3	3	3	3	3	2	2	3	3	3	2	2	2	4	6	11	13	12	4.1	13.5
31-Dec	10	2	3	3	3	1	4	3	4	3	3	7	6	6	4	3	4	4	6	11	11	8	0	0	4.6	11.5
	5.0	5.1	5.6	5.4	5.7	4.9	4.2	4.3	5.0	4.4	4.8	5.5	5.3	5.7	6.6	7.5	7.4	7.0	5.9	6.5	5.7	5.2	5.2	5.4	Diurnal Average	
	15.3	14.2	12.5	29.6	58.4	46.0	26.5	19.4	29.1	17.8	22.1	23.2	21.7	27.3	36.4	33.9	28.1	22.7	20.6	21.7	22.8	21.0	16.8	19.6	Diurnal Maximum	

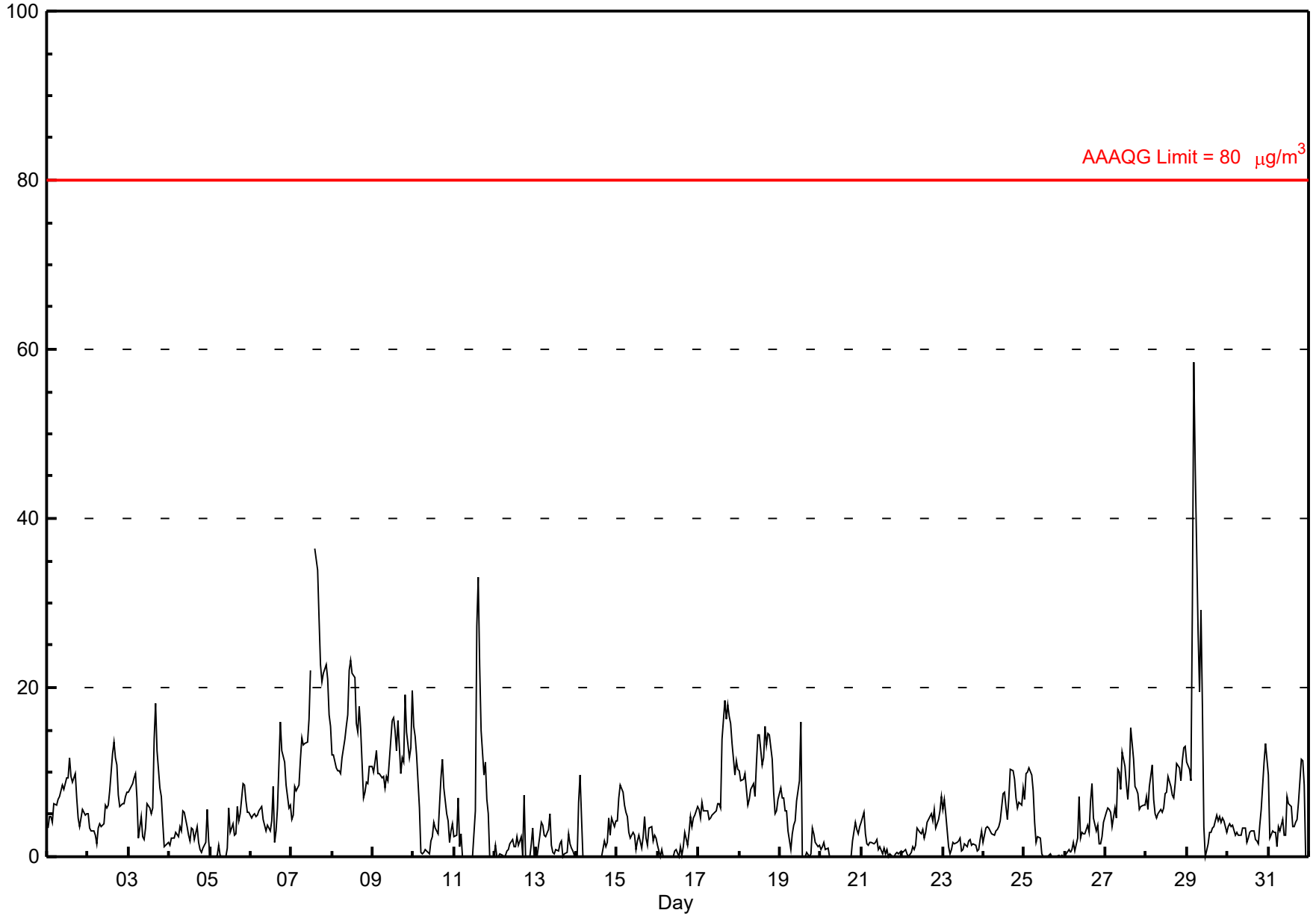
C - Calibration
Alberta Ambient Air Quality Guideline (AAAQG): 1-hr 80 $\mu g/m^3$ Alberta Ambient Air Quality Objective (AAAQO): 24-hr 30 $\mu g/m^3$

Peace Airshed Zone Association

Hourly Averages

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

Evergreen Park - December 2018



Peace Airshed Zone Association

Hourly Maximums

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

Evergreen Park - December 2018

Maximum Value: 69.9 $\mu g/m^3$ on Dec 29 05:00

Maximum Daily Average: 20.9 $\mu g/m^3$ on Dec 7

Minimum Value: 0 $\mu g/m^3$ on Dec 14 07:00

Minimum Daily Average: 2.1 $\mu g/m^3$ on Dec 20

Maximum Diurnal Average: 11.1 $\mu g/m^3$ at hour 17

Minimum Diurnal Average: 6.4 $\mu g/m^3$ at hour 8

Monthly Average: 8.49 $\mu g/m^3$

Percentiles: P_1 = 0.0 P_{10} = 2.0 Q_1 = 3.7 Median = 6.8 Q_3 = 11.6 P_{90} = 16.7 P_{99} = 34.7

Hours in Service:	744
Hours of Data:	742
Hours of Missing Data:	2
Hours of Calibration:	2
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Dec	6	7	8	7	7	8	9	9	10	10	10	11	12	13	12	11	12	12	7	5	7	8	7	7	8.9	13.0
2-Dec	7	6	5	5	5	4	6	6	7	6	9	9	9	10	16	16	15	13	11	10	9	9	11	10	8.9	16.4
3-Dec	11	13	12	13	13	12	4	7	5	4	8	11	9	9	13	24	23	16	13	13	6	3	3	4	10.3	23.6
4-Dec	4	4	6	6	6	5	6	5	10	8	6	5	4	6	5	4	6	4	3	2	2	5	9	7	5.3	9.9
5-Dec	1	1	3	1	3	3	2	1	2	2	3	12	6	6	5	4	9	6	8	12	12	9	8	8	5.4	12.2
6-Dec	7	8	7	7	8	9	9	7	6	6	7	7	7	13	9	5	19	21	16	14	13	12	8	9	9.7	20.8
7-Dec	7	7	12	10	11	17	19	16	16	16	22	26	C	C	46	40	31	28	23	24	26	24	21	18	20.9	46.0
8-Dec	16	15	13	12	12	12	14	17	19	20	26	26	25	27	22	19	20	20	14	12	13	12	18	12	17.4	27.1
9-Dec	12	15	16	14	13	13	16	11	12	12	22	20	19	18	17	21	15	15	14	23	25	16	19	22	16.7	24.9
10-Dec	18	17	15	11	3	2	3	3	3	2	4	5	9	6	6	8	32	14	12	9	7	4	5	6	8.5	32.5
11-Dec	5	10	11	4	12	1	1	1	0	1	1	1	17	41	38	29	17	16	22	18	17	1	1	1	11.0	40.8
12-Dec	4	2	2	3	3	1	2	4	3	4	4	3	3	8	4	5	2	16	2	0	3	5	6	3	3.8	15.6
13-Dec	0	1	6	7	7	6	5	8	10	5	2	2	2	3	4	5	2	3	3	6	5	3	3	2	4.1	9.6
14-Dec	3	14	13	11	3	1	0	0	0	0	0	0	2	1	4	2	4	3	3	7	5	8	6	8	4.1	14.3
15-Dec	6	13	14	9	9	8	6	4	4	5	3	3	4	6	2	6	6	6	3	7	5	4	5	4	6.0	14.0
16-Dec	4	2	4	3	1	3	1	3	0	0	3	3	4	6	3	3	6	4	6	7	6	7	13	12	4.3	12.5
17-Dec	8	8	10	8	9	8	7	6	6	7	7	8	8	9	22	22	19	20	20	19	17	12	14	13	11.9	21.5
18-Dec	12	12	11	12	10	8	9	10	12	10	13	19	17	13	14	18	16	18	16	15	10	7	7	8	12.3	19.1
19-Dec	12	8	10	7	7	5	3	5	7	7	11	13	35	3	1	0	3	1	3	14	13	3	3	3	7.4	35.4
20-Dec	3	3	3	3	4	0	0	0	0	0	0	0	0	0	3	2	2	1	2	3	7	6	4	6	2.1	6.9
21-Dec	9	9	4	4	3	4	4	2	3	3	2	3	1	2	2	2	1	3	1	1	2	2	2	2	3.0	9.1
22-Dec	2	2	2	2	2	2	4	2	4	5	5	6	6	3	5	5	7	8	6	7	5	8	8	12	5.0	11.5
23-Dec	9	9	7	3	3	3	4	3	4	4	5	3	4	4	2	4	4	3	4	4	2	3	4	5	4.2	9.3
24-Dec	4	6	6	6	5	4	4	4	5	5	9	10	10	8	6	9	14	12	11	11	9	9	8	10	7.7	13.8
25-Dec	10	12	13	13	13	11	8	4	5	6	4	2	2	3	2	3	3	2	2	2	3	2	4	2	5.4	13.3
26-Dec	2	2	3	4	3	4	3	6	14	6	5	5	6	9	6	11	12	8	5	6	4	4	4	6	5.8	14.5
27-Dec	7	8	8	9	7	9	8	15	12	14	14	13	12	8	15	17	15	10	10	10	8	11	8	9	10.7	17.5
28-Dec	10	8	13	14	9	8	8	8	8	7	9	9	10	12	10	10	9	14	16	15	12	15	17	16	11.1	17.4
29-Dec	15	14	17	48	70	55	32	22	34	28	10	0	4	4	5	6	7	9	7	7	6	6	6	7	17.5	69.9
30-Dec	6	6	6	6	5	5	4	5	5	7	5	4	5	5	6	6	4	5	3	7	7	19	18	14	6.7	19.0
31-Dec	13	8	4	5	6	5	7	6	7	6	6	9	9	9	6	6	6	8	9	23	19	13	3	0	8.1	22.6
	7.5	8.1	8.5	8.7	8.8	7.6	6.7	6.4	7.5	6.9	7.6	8.0	8.7	8.8	10.0	10.4	11.1	10.3	8.9	10.1	9.1	8.0	8.1	8.0	Diurnal Average	
	17.8	16.9	16.9	48.4	69.9	54.8	32.2	22.5	33.8	28.1	26.2	26.5	35.4	40.8	46.0	40.0	32.5	28.1	23.5	24.4	25.5	24.4	20.6	22.5	Diurnal Maximum	

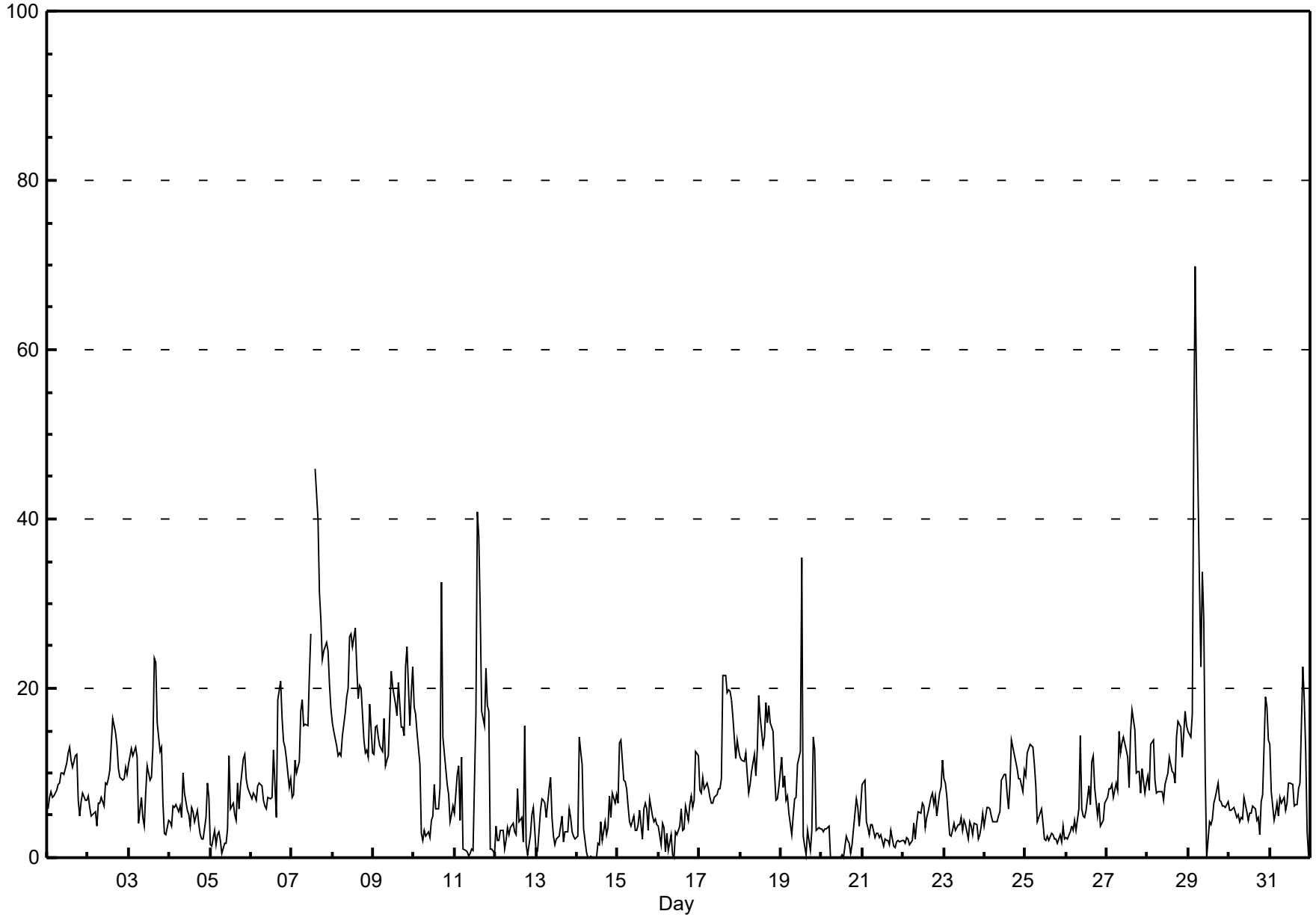
C - Calibration

Peace Airshed Zone Association

Hourly Maximums

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

Evergreen Park - December 2018

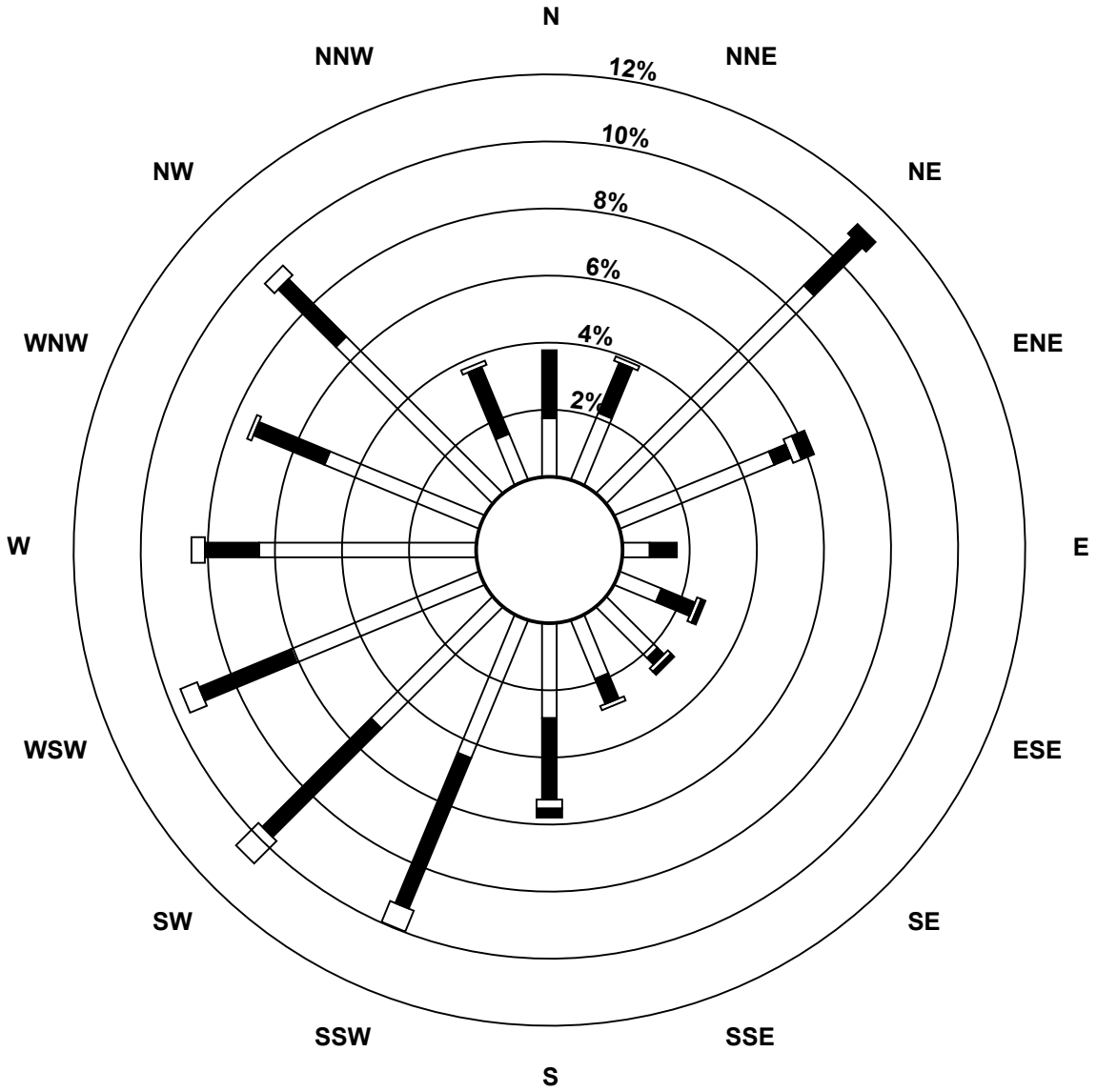


Peace Airshed Zone Association

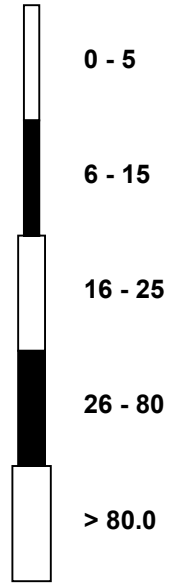
Pollutant Rose

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

Evergreen Park - December 2018



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



Hourly Averages

External Temperature (ET) - °C

Evergreen Park - December 2018

Maximum Value: 4.1 °C on Dec 19 16:00

Maximum Daily Average: 0.6 °C on Dec 12

Minimum Value: -23 °C on Dec 31 04:00

Minimum Daily Average: -15.6 °C on Dec 30

Maximum Diurnal Average: -4.7 °C at hour 15

Minimum Diurnal Average: -10.1 °C at hour 2

Monthly Average: -8.57 °C

Percentiles: P_1 = -21.0 P_{10} = -15.8 Q_1 = -13.2 Median = -8.4 Q_3 = -4.3 P_{90} = -1.9 P_{99} = 3.5

Hours in Service:	744
Hours of Data:	744
Hours of Missing Data:	0
Hours of Calibration:	0
Percent Operational Time:	100.0

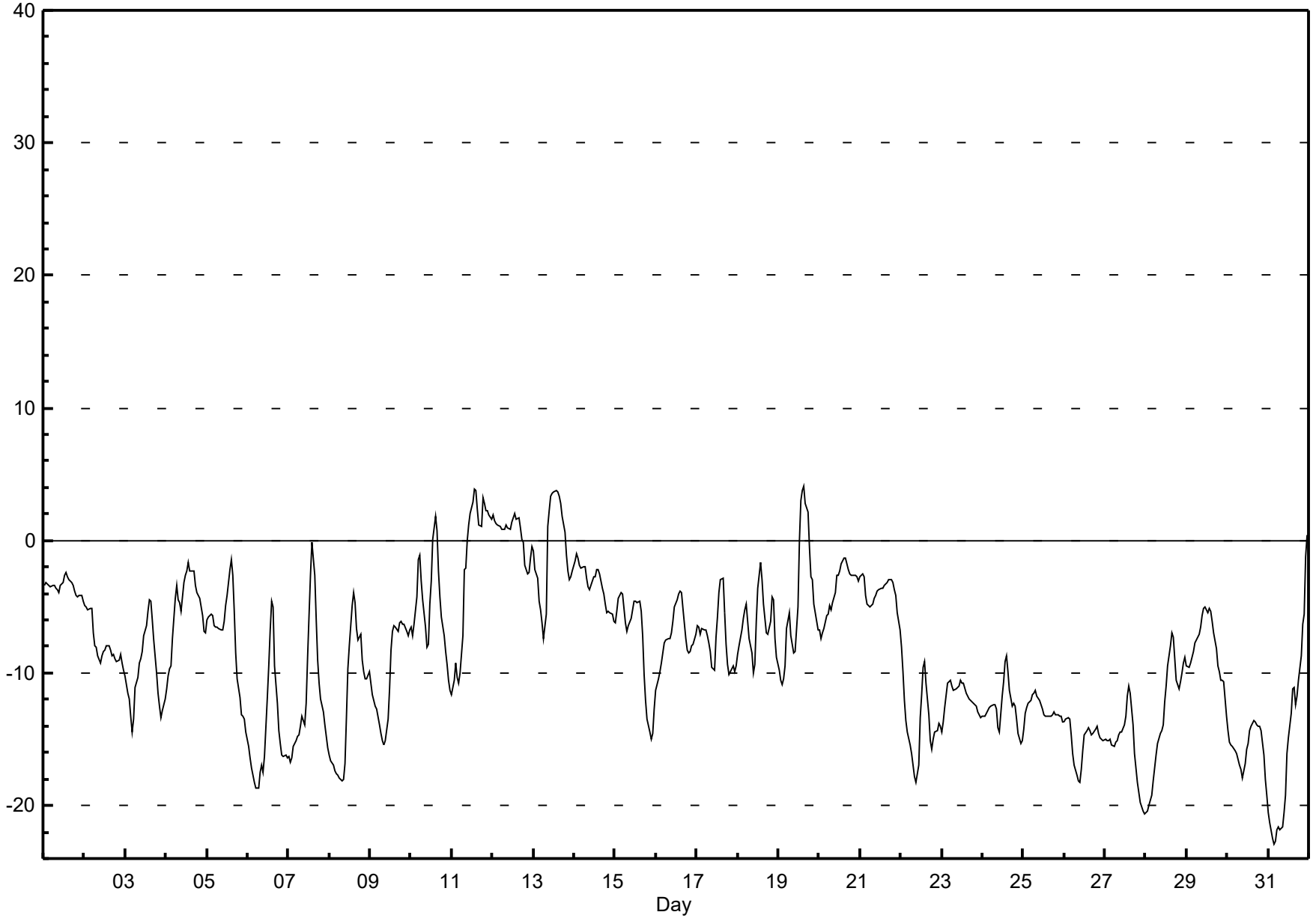
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Dec	-3	-3	-3	-3	-3	-3	-3	-4	-4	-4	-3	-3	-3	-2	-3	-3	-3	-3	-4	-4	-4	-4	-4	-5	-3.5	-2.4
2-Dec	-5	-5	-5	-5	-5	-7	-8	-8	-9	-9	-9	-8	-8	-8	-8	-8	-9	-9	-9	-9	-9	-9	-9	-10	-7.8	-4.9
3-Dec	-10	-12	-12	-13	-14	-14	-11	-10	-9	-9	-8	-7	-6	-5	-4	-5	-6	-8	-10	-11	-13	-13	-13	-12	-9.9	-4.4
4-Dec	-11	-10	-10	-10	-7	-4	-3	-4	-5	-5	-3	-3	-2	-2	-2	-2	-2	-3	-4	-4	-4	-6	-7	-7	-5.1	-1.7
5-Dec	-6	-6	-6	-6	-6	-7	-7	-7	-7	-7	-6	-5	-4	-2	-1	-3	-5	-8	-10	-12	-13	-13	-13	-14	-7.3	-1.4
6-Dec	-16	-16	-17	-18	-18	-19	-19	-18	-17	-17	-16	-12	-9	-7	-5	-5	-9	-12	-14	-15	-16	-16	-16	-16	-14.4	-4.6
7-Dec	-16	-17	-16	-16	-15	-15	-15	-14	-13	-14	-12	-9	-6	-3	0	-3	-6	-9	-11	-12	-13	-14	-15	-16	-11.6	-0.1
8-Dec	-16	-17	-17	-17	-18	-18	-18	-18	-18	-17	-13	-10	-8	-5	-4	-5	-7	-8	-7	-9	-10	-10	-10	-10	-12.0	-4.0
9-Dec	-11	-12	-12	-13	-13	-14	-15	-15	-15	-15	-14	-11	-8	-7	-6	-7	-7	-6	-6	-6	-6	-7	-7	-7	-10.0	-6.1
10-Dec	-7	-7	-6	-4	-1	-1	-3	-4	-7	-8	-8	-5	-3	0	2	1	-2	-4	-6	-7	-8	-9	-11	-11	-5.1	1.9
11-Dec	-12	-11	-9	-10	-11	-10	-7	-2	-2	0	1	2	3	4	4	2	1	1	3	3	2	2	2	2	-1.7	3.8
12-Dec	2	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	1	0	0	-2	-3	-2	-1	0	0.6	2.0
13-Dec	-1	-2	-3	-5	-5	-6	-7	-6	1	2	3	4	4	4	4	3	3	2	1	-1	-2	-3	-3	-2	-0.7	3.8
14-Dec	-2	-1	-1	-2	-2	-2	-2	-3	-4	-4	-3	-3	-3	-2	-2	-2	-4	-4	-5	-5	-5	-5	-6	-6	-3.3	-1.1
15-Dec	-6	-5	-4	-4	-4	-5	-6	-7	-6	-6	-5	-5	-5	-5	-5	-5	-7	-10	-12	-13	-14	-15	-15	-13	-7.6	-3.9
16-Dec	-11	-10	-10	-9	-8	-8	-7	-7	-7	-7	-6	-5	-4	-4	-4	-4	-5	-7	-8	-8	-8	-8	-8	-7	-7.3	-3.9
17-Dec	-6	-7	-7	-7	-7	-7	-7	-8	-8	-10	-10	-7	-6	-4	-3	-3	-5	-8	-9	-10	-10	-10	-10	-9	-7.4	-2.8
18-Dec	-9	-8	-7	-6	-5	-5	-6	-7	-8	-10	-9	-6	-4	-2	-3	-5	-6	-7	-7	-6	-4	-4	-7	-9	-6.3	-1.6
19-Dec	-10	-11	-11	-10	-9	-7	-5	-7	-8	-9	-8	-5	0	3	4	4	3	2	-1	-3	-3	-5	-6	-7	-4.5	4.1
20-Dec	-7	-7	-7	-7	-6	-6	-5	-5	-5	-4	-3	-3	-2	-2	-1	-1	-2	-2	-3	-3	-3	-3	-3	-3	-3.7	-1.3
21-Dec	-3	-2	-3	-4	-5	-5	-5	-5	-4	-4	-4	-4	-4	-4	-3	-3	-3	-3	-3	-3	-4	-4	-5	-7	-3.9	-2.5
22-Dec	-8	-10	-12	-14	-14	-15	-16	-17	-18	-18	-17	-13	-12	-10	-9	-11	-13	-15	-16	-15	-14	-14	-14	-14	-13.7	-8.1
23-Dec	-14	-14	-13	-11	-11	-11	-11	-11	-11	-11	-11	-11	-11	-11	-11	-12	-12	-12	-12	-12	-13	-13	-13	-13	-11.8	-10.5
24-Dec	-13	-13	-13	-13	-13	-13	-12	-12	-13	-14	-14	-12	-11	-9	-9	-10	-11	-13	-12	-12	-14	-15	-15	-15	-12.5	-8.7
25-Dec	-14	-13	-13	-12	-12	-12	-11	-11	-12	-12	-12	-13	-13	-13	-13	-13	-13	-13	-13	-13	-13	-13	-13	-14	-12.8	-11.3
26-Dec	-14	-14	-13	-13	-15	-16	-17	-18	-18	-18	-17	-16	-15	-14	-14	-14	-15	-15	-14	-14	-15	-15	-15	-15	-15.2	-13.4
27-Dec	-15	-15	-15	-15	-15	-16	-15	-15	-15	-14	-14	-14	-13	-12	-11	-12	-14	-16	-17	-18	-19	-20	-20	-21	-15.5	-11.0
28-Dec	-20	-20	-20	-19	-18	-17	-16	-15	-15	-14	-14	-12	-11	-9	-8	-7	-7	-9	-11	-11	-11	-10	-9	-9	-13.1	-6.9
29-Dec	-10	-10	-9	-9	-8	-8	-7	-7	-6	-6	-5	-5	-5	-5	-5	-6	-7	-8	-9	-10	-11	-11	-11	-13	-8.0	-5.0
30-Dec	-14	-15	-15	-16	-16	-16	-17	-17	-17	-18	-17	-16	-15	-14	-14	-14	-14	-14	-14	-14	-14	-16	-18	-19	-15.6	-13.6
31-Dec	-21	-21	-22	-23	-23	-22	-22	-22	-22	-21	-19	-16	-15	-13	-11	-11	-12	-12	-11	-9	-6	-6	-1	0	-14.9	0.4
	-10.0	-10.1	-10.0	-10.0	-9.9	-9.8	-9.8	-9.8	-9.7	-9.7	-9.0	-7.4	-6.4	-5.2	-4.7	-5.2	-6.4	-7.5	-8.2	-8.8	-9.1	-9.4	-9.6	-9.8	Diurnal Average	
	1.9	1.5	1.3	1.2	1.1	0.9	0.9	0.9	1.2	2.3	3.3	3.6	3.7	3.8	3.8	4.1	2.8	2.2	3.2	2.8	2.2	2.2	1.9	1.6	Diurnal Maximum	

Peace Airshed Zone Association

Hourly Averages

External Temperature (ET) - ^{o}C

Evergreen Park - December 2018



Peace Airshed Zone Association

Hourly Averages

Relative Humidity (RH) - %

Evergreen Park - December 2018

Maximum Value: 95.9 % on Dec 1 09:00

Maximum Daily Average: 93.6 % on Dec 1

Minimum Value: 41 % on Dec 12 14:00

Minimum Daily Average: 54.4 % on Dec 12

Maximum Diurnal Average: 84.3 % at hour 4

Minimum Diurnal Average: 69.6 % at hour 15

Monthly Average: 80.52 %

Percentiles: P_1 = 45.4 P_{10} = 64.3 Q_1 = 76.8 Median = 83.4 Q_3 = 87.6 P_{90} = 91.4 P_{99} = 95.3

Hours in Service:	744
Hours of Data:	744
Hours of Missing Data:	0
Hours of Calibration:	0
Percent Operational Time:	100.0

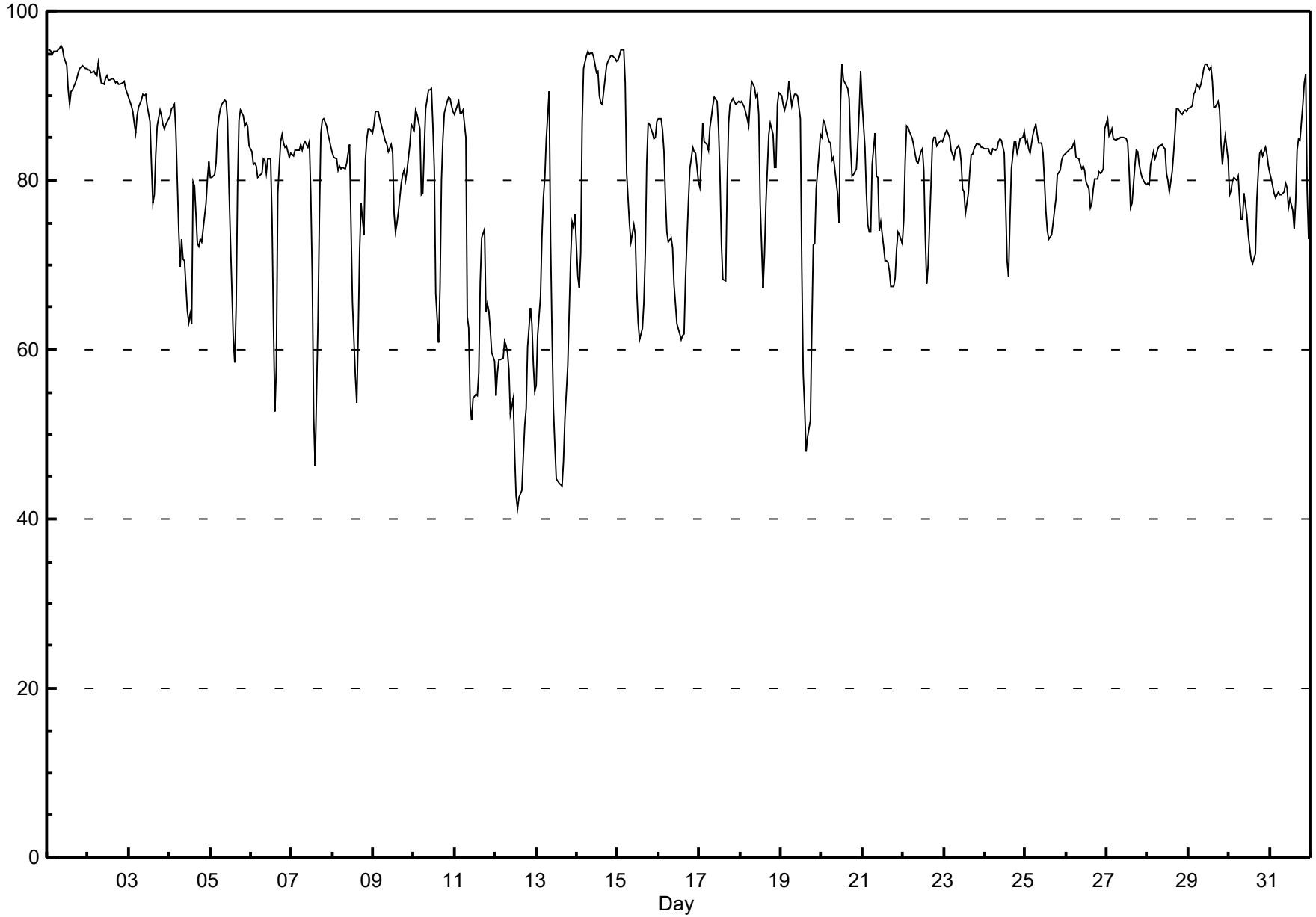
Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1-Dec	95	95	95	95	95	95	95	96	96	96	95	94	91	89	90	91	92	92	93	93	93	94	93	93	93.6	95.9
2-Dec	93	93	93	93	93	92	94	93	92	91	92	92	92	92	92	92	92	92	91	91	92	92	91	90	92.0	93.8
3-Dec	90	89	88	87	86	88	89	89	90	90	90	89	87	82	77	78	83	87	88	88	87	86	87	87	86.7	90.1
4-Dec	88	88	89	89	86	74	70	73	71	70	65	63	64	63	80	79	73	72	73	73	74	77	80	82	75.7	89.0
5-Dec	80	80	81	82	86	88	88	89	89	89	87	79	73	61	59	65	79	87	88	88	86	87	87	84	81.8	89.5
6-Dec	83	82	82	82	80	80	81	83	82	81	83	83	75	63	53	58	78	85	85	84	84	84	83	83	79.0	85.4
7-Dec	83	83	83	84	84	84	84	84	85	84	85	78	69	52	46	63	76	86	87	87	86	85	85	84	79.4	87.4
8-Dec	83	83	83	81	82	81	81	81	82	83	84	75	66	57	54	62	72	77	74	82	85	86	86	86	77.7	86.1
9-Dec	87	88	88	88	87	86	85	85	84	83	84	83	76	74	75	76	80	81	81	80	81	84	87	86	82.9	88.2
10-Dec	86	88	88	86	78	78	84	88	91	91	91	87	81	67	61	67	80	85	88	89	90	90	89	88	83.8	90.8
11-Dec	88	89	89	88	88	88	85	64	63	53	52	54	55	55	57	68	73	74	64	65	65	62	60	59	69.1	89.3
12-Dec	55	57	59	59	59	61	61	60	58	52	54	48	43	41	43	43	47	51	53	60	65	63	58	55	54.4	64.9
13-Dec	56	62	66	73	78	80	85	91	73	62	53	49	45	44	44	44	47	52	58	65	71	75	74	76	63.4	90.5
14-Dec	69	67	71	87	93	95	95	95	95	95	95	93	93	90	89	89	92	94	94	94	95	95	94	94	90.1	95.2
15-Dec	94	95	96	95	92	81	78	75	73	75	74	67	63	61	62	66	72	82	87	87	86	85	85	87	79.8	95.5
16-Dec	87	87	86	83	78	74	73	73	72	68	65	63	62	61	62	62	69	77	81	83	84	83	83	80	74.9	87.3
17-Dec	79	83	87	85	84	84	86	87	89	90	89	86	81	73	68	68	80	87	89	89	90	89	89	89	84.2	89.8
18-Dec	89	89	89	88	87	86	89	92	91	90	90	88	77	67	71	77	81	85	87	85	82	82	89	90	85.1	91.7
19-Dec	90	89	88	89	90	92	89	90	90	90	90	87	70	57	53	48	50	52	63	72	72	79	83	85	77.4	91.6
20-Dec	85	87	87	86	85	84	82	83	81	78	75	89	94	92	91	91	90	84	80	81	81	84	88	93	85.5	93.7
21-Dec	89	84	78	75	74	74	82	86	80	80	74	75	72	71	70	70	69	67	67	68	72	74	74	73	75.0	89.1
22-Dec	75	82	86	86	86	85	84	83	82	82	83	84	81	73	68	70	80	84	85	85	84	85	85	85	81.8	86.5
23-Dec	85	86	86	85	83	83	83	84	84	84	82	79	79	76	79	81	83	83	84	84	84	84	84	84	82.9	85.9
24-Dec	84	84	84	83	83	84	84	84	85	85	85	83	77	71	69	75	81	85	85	83	84	85	85	86	82.1	85.7
25-Dec	84	85	84	83	85	86	87	85	84	84	83	80	76	74	73	74	75	76	78	81	81	82	83	83	81.2	86.6
26-Dec	83	83	84	84	84	85	83	83	82	81	82	81	80	79	77	77	79	80	80	81	81	81	81	86	81.5	86.2
27-Dec	87	85	86	86	85	85	85	85	85	85	85	85	84	81	77	77	82	84	83	82	81	80	80	79	83.1	87.2
28-Dec	80	80	82	83	83	83	84	84	84	84	84	81	80	79	81	83	86	88	89	88	88	88	88	88	84.0	88.5
29-Dec	88	89	89	90	91	91	91	91	92	93	94	94	93	93	92	89	89	89	88	84	82	84	85	82	89.3	93.7
30-Dec	78	79	80	80	80	81	78	75	75	79	76	73	72	71	70	71	78	81	83	84	83	84	83	82	78.1	83.9
31-Dec	81	80	78	78	78	79	78	78	79	80	79	77	78	76	74	77	84	85	85	89	91	93	79	73	80.4	92.6
	83.1	83.6	84.0	84.3	83.9	83.5	83.6	83.5	82.5	81.6	80.6	78.7	75.1	70.5	69.6	72.0	77.0	80.1	81.1	82.2	82.6	83.3	83.1	83.0	Diurnal Average	
	95.3	95.4	95.5	95.5	95.2	95.3	95.4	95.6	95.9	95.7	94.6	93.7	93.7	93.4	92.0	91.9	92.0	93.5	94.0	94.4	94.8	94.7	94.5	94.0	Diurnal Maximum	

Peace Airshed Zone Association

Hourly Averages

Relative Humidity (RH) - %

Evergreen Park - December 2018



Peace Airshed Zone Association

Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Evergreen Park - December 2018

Day	Hourly Period Ending At (MST)																								Daily	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	Average	Maximum
1 Spd	1	0	0	1	0	1	0	0	2	0	1	1	1	1	3	1	0	1	1	2	1	1	1	1	0.6	3.1
Dir	338	17	29	57	65	39	16	355	12	51	312	329	239	246	326	271	262	301	272	291	272	279	278	218	310.0	325.6
2 Spd	1	1	1	1	3	7	6	3	3	4	3	5	3	4	4	3	3	3	3	5	3	2	3	2	3.1	6.8
Dir	288	284	304	310	310	315	319	305	273	322	338	325	330	329	329	335	319	323	331	319	326	316	318	293	318.6	315.3
3 Spd	3	1	2	1	1	3	6	7	7	7	8	11	12	13	13	10	7	3	1	1	1	3	4	3	4.7	13.5
Dir	312	315	282	283	281	248	249	253	247	248	249	245	250	255	256	266	251	228	213	191	196	191	188	55	251.3	254.9
4 Spd	2	1	1	1	6	18	17	11	9	11	17	20	14	22	24	29	27	24	22	19	21	23	15	15	14.1	29.4
Dir	63	89	119	261	293	284	274	289	274	258	286	281	279	268	270	255	282	310	303	293	306	323	323	318	288.2	254.9
5 Spd	14	9	7	3	5	5	1	2	1	1	4	6	5	2	2	3	3	2	0	1	2	2	1	0	1.8	14.3
Dir	312	309	307	205	189	202	197	183	192	173	207	248	233	246	202	130	91	37	275	230	229	245	263	279	253.4	311.9
6 Spd	0	1	2	1	0	0	2	4	3	1	2	6	6	5	3	2	2	0	1	0	1	2	2	2	1.6	6.1
Dir	216	43	206	168	354	176	218	203	199	190	190	188	190	190	200	198	357	308	301	332	246	251	205	196	200.8	190.1
7 Spd	2	2	1	1	0	2	1	0	1	1	1	2	3	5	0	2	0	0	0	1	1	1	0	1	0.6	4.9
Dir	202	39	178	113	62	192	53	244	208	42	183	210	212	198	133	34	115	196	138	227	230	238	159	251	195.0	197.5
8 Spd	1	0	2	0	0	1	2	2	1	6	5	3	4	5	6	4	0	5	3	2	1	1	2	1	1.7	6.3
Dir	200	237	200	11	71	203	203	203	237	203	215	266	227	308	226	196	175	206	201	104	147	114	11	185	215.3	226.3
9 Spd	1	1	1	3	2	1	2	1	1	0	1	0	1	2	2	4	5	7	6	7	5	0	1	2	1.3	7.0
Dir	32	233	201	215	171	18	180	39	193	359	187	289	276	348	352	255	279	274	231	229	190	121	190	117	236.5	228.9
10 Spd	3	1	5	6	10	7	2	2	1	0	2	3	4	1	1	2	1	1	1	1	3	1	1	0	1.4	10.4
Dir	206	143	205	259	252	279	302	306	122	58	28	354	296	40	354	348	204	233	189	170	195	127	137	238	260.7	251.6
11 Spd	0	3	2	2	2	3	5	8	7	8	9	8	8	6	5	5	5	9	18	25	26	30	31	30	8.8	31.2
Dir	137	163	148	137	128	143	136	149	144	148	153	152	168	173	180	193	191	232	226	223	229	229	230	227	206.1	230.2
12 Spd	36	33	36	32	29	30	35	36	38	38	37	45	49	42	37	39	26	22	19	5	2	4	5	7	27.3	48.5
Dir	220	226	231	231	238	233	231	232	239	238	239	240	247	247	241	242	239	224	218	185	128	161	137	147	233.7	246.9
13 Spd	7	5	3	4	1	1	2	11	25	38	42	45	40	33	25	19	23	15	5	2	3	2	1	2	14.0	44.6
Dir	163	178	186	190	16	76	185	213	217	223	225	228	227	227	236	226	226	226	255	231	195	74	182	168	222.4	227.7
14 Spd	4	2	2	2	4	6	9	6	8	7	7	7	8	4	1	2	3	1	2	6	8	7	2	5	2.8	8.6
Dir	176	157	52	46	53	53	50	44	49	48	50	53	48	71	316	312	352	347	340	315	311	323	240	269	26.4	50.4
15 Spd	8	15	10	17	14	21	21	21	15	16	14	11	15	13	10	6	4	0	2	1	1	2	2	4	8.8	21.5
Dir	266	251	239	255	269	286	302	286	272	243	245	260	293	282	265	246	252	50	32	194	44	39	36	54	271.2	285.5
16 Spd	5	6	7	9	11	11	11	11	12	10	10	8	9	7	6	4	3	2	1	1	1	1	0	2	5.8	12.1
Dir	61	54	57	56	62	61	70	70	68	76	73	69	73	74	68	61	18	26	7	258	341	274	310	332	63.0	67.5
17 Spd	3	1	3	4	5	6	6	6	2	2	1	1	2	3	3	2	1	1	1	2	1	1	0	0	1.2	6.1
Dir	2	318	208	237	246	231	222	207	186	202	137	210	220	345	22	339	319	216	14	204	328	8	275	49	240.1	231.4
18 Spd	0	2	2	1	1	1	1	3	3	1	0	1	2	3	4	2	3	3	2	4	8	3	2	2	1.6	8.2
Dir	234	14	20	312	316	228	317	239	207	154	233	240	264	239	301	236	253	213	215	232	222	243	36	199	244.3	222.3
19 Spd	2	1	2	1	3	7	5	2	3	3	3	4	8	13	5	8	17	12	5	2	4	2	1	3	3.8	17.3
Dir	235	164	91	195	203	234	211	211	195	194	356	228	263	243	281	247	241	269	322	293	284	227	140	153	244.4	240.9
20 Spd	1	0	0	1	2	4	3	4	5	6	8	10	13	13	10	7	6	7	3	4	7	9	8	12	3.1	13.2
Dir	99	74	32	76	32	50	61	50	49	55	62	55	62	67	60	42	44	12	5	294	279	289	262	256	33.1	67.3
21 Spd	18	23	27	28	30	24	27	30	32	30	28	29	31	28	29	22	19	16	15	10	8	7	10	8	21.8	32.3
Dir	265	266	262	260	263	277	266	270	273	273	281	280	289	291	294	292	285	281	283	279	268	267	253	258	275.2	273.0
22 Spd	6	3	1	1	0	0	0	1	1	3	1	0	3	3	4	6	2	1	1	2	1	1	1	1	1.2	5.5
Dir	285	306	259	112	342	35	10	200	192	194	204	195	234	279	307	312	306	355	357	284	7	310	344	212	284.6	285.1

Peace Airshed Zone Association

Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Evergreen Park - December 2018

Day	Hourly Period Ending At (MST)																								Daily	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	Average	Maximum
23 Spd	2	2	2	10	8	3	9	5	3	2	4	6	9	7	9	7	5	5	5	4	4	6	3	5	5.0	10.2
Dir	355	358	53	56	51	63	52	43	29	121	117	44	42	41	48	48	42	48	53	57	52	41	40	31	48.7	56.1
24 Spd	4	3	3	2	1	2	3	1	1	1	0	1	2	3	2	2	3	1	2	4	3	1	2	3	0.4	4.0
Dir	52	68	85	104	45	63	98	80	53	74	235	336	215	226	240	302	354	359	295	294	229	197	334	307	6.9	52.3
25 Spd	2	2	6	5	4	4	4	9	13	15	12	11	13	13	14	11	5	1	1	2	1	3	4	7	4.5	14.8
Dir	324	300	209	196	195	220	238	291	309	317	316	320	319	319	321	316	312	283	112	124	79	61	51	45	311.5	317.0
26 Spd	5	4	4	5	2	2	2	2	1	0	1	3	3	4	3	5	5	5	1	3	4	2	3	3	1.2	5.2
Dir	51	48	50	56	41	341	44	220	191	229	231	270	335	2	273	273	285	267	302	88	44	49	60	106	10.3	272.8
27 Spd	2	1	2	1	2	1	2	1	0	3	3	2	2	2	4	3	2	3	0	0	0	1	0	0	0.8	4.0
Dir	116	55	97	133	144	209	190	196	59	180	200	203	232	109	113	102	43	39	20	13	353	216	26	326	130.6	112.5
28 Spd	1	1	2	1	2	1	1	0	2	4	1	1	1	3	4	0	2	0	0	2	1	0	1	0	0.5	3.6
Dir	217	213	285	283	296	287	238	191	231	198	199	253	220	229	19	253	46	192	86	204	45	111	9	151	242.7	198.2
29 Spd	0	2	1	2	3	4	3	6	7	9	10	10	10	7	5	7	8	12	8	18	16	9	19	31	6.1	30.9
Dir	95	51	53	45	46	59	71	67	58	59	56	54	47	52	2	345	2	13	336	304	316	310	319	319	357.3	319.2
30 Spd	31	26	19	16	20	15	13	8	6	3	6	10	6	3	4	2	2	1	2	4	1	1	2	0	7.3	30.7
Dir	313	311	298	295	303	305	305	279	272	267	322	325	305	297	238	208	181	125	48	38	138	186	224	305	302.9	313.0
31 Spd	1	0	1	0	0	0	1	1	1	1	0	1	1	1	0	0	1	1	1	8	5	5	29	32	3.1	31.8
Dir	236	257	231	166	250	148	22	62	349	208	71	304	284	356	292	251	20	27	84	189	186	183	232	234	225.1	234.0
Spd	2.6	2.5	2.7	2.5	2.8	3.3	2.8	3.3	3.4	3.9	3.7	4.6	4.9	4.7	4.5	4.4	3.7	2.9	2.4	2.7	2.5	2.0	2.6	2.9	Diurnal Average	
Dir	271.2	270.9	249.4	251.0	268.7	273.3	267.0	256.7	252.7	240.5	250.6	259.3	265.1	264.7	273.3	263.9	269.7	275.5	276.1	262.8	266.8	274.7	262.0	262.5		
Spd	36.0	32.5	36.2	32.4	30.5	30.0	34.8	36.4	37.9	38.4	42.1	45.3	48.5	41.7	36.6	39.1	27.1	23.6	21.9	24.9	25.6	30.0	31.2	31.8	Diurnal Maximum	
Dir	220.4	225.7	231.1	230.9	263.3	233.1	230.6	232.0	238.6	238.4	225.4	240.0	246.9	246.8	241.4	242.0	282.3	310.0	303.2	222.9	228.6	229.0	230.2	234.0		

Maximum Speed Value: 49 km/h on Dec 12 13:00
Minimum Speed Value: 0 km/h on Dec 7 23:00
Maximum Daily Speed Average: 27.3 km/h on Dec 12
Minimum Daily Speed Average: 0.4 km/h on Dec 1
Maximum Diurnal Speed Average: 4.9 km/h at hour 13
Minimum Diurnal Speed Average: 2.0 km/h at hour 22

Monthly Average Velocity: 3.21 km/h 263.25 deg
Speed Percentiles: P_1 = 0.1 P_{10} = 0.6 Q_1 = 1.2 Median = 3.0 Q_3 = 7.0 P_{90} = 17.2 P_{99} = 38.2
All monthly, daily, and diurnal averages have been calculated using vector methods

Hours in Service:	744
Hours of Data:	744
Hours of Missing Data:	0
Percent Operational Time:	100.0

Frequency Distribution

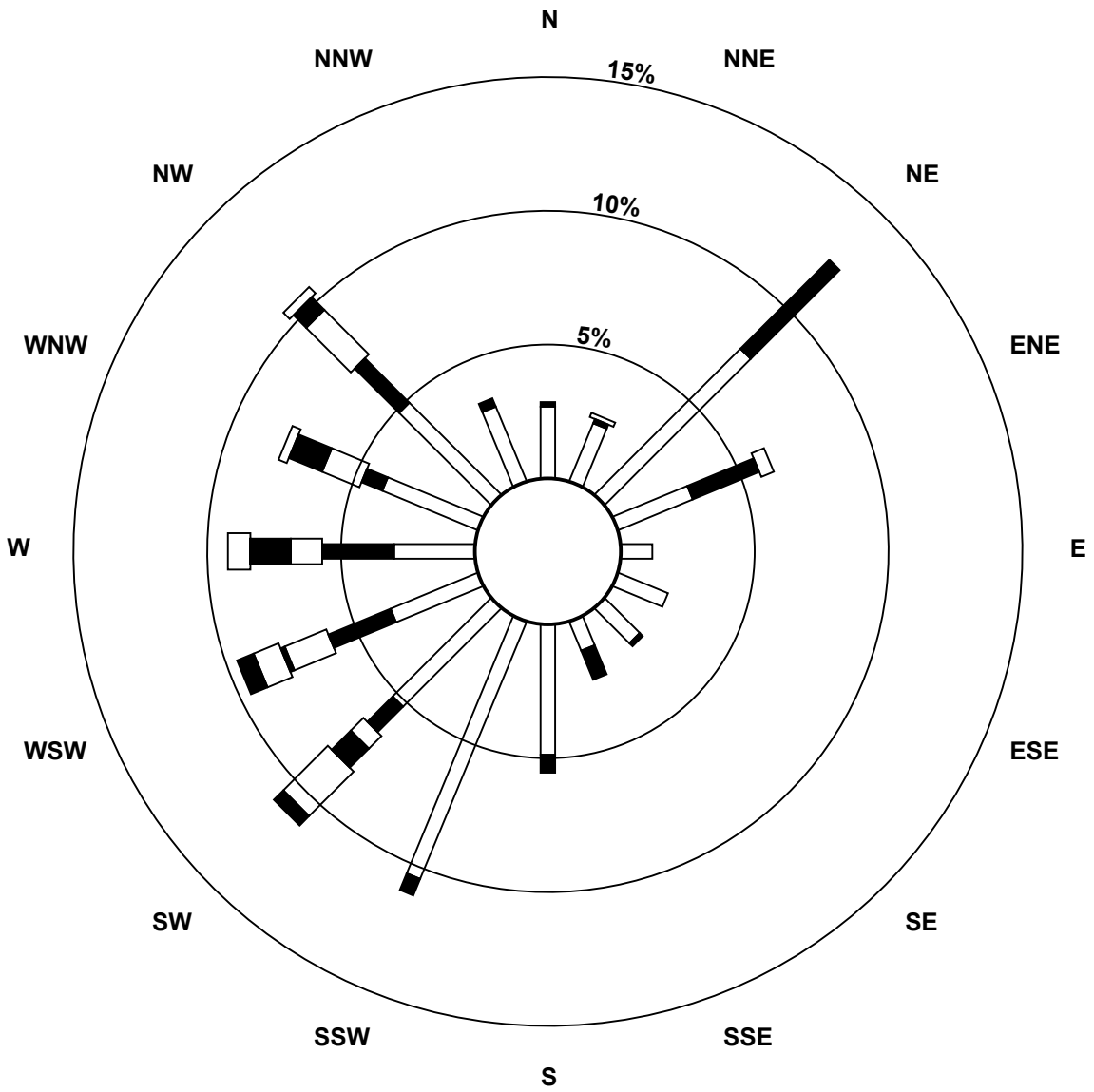
Direction	Speed Range (km/h) 0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total
North	55	4	1	0	0	0	60
NorthEast	78	39	3	0	0	0	120
East	31	7	2	0	0	0	40
SouthEast	36	8	0	0	0	0	44
South	80	13	0	0	0	0	93
SouthWest	94	18	8	8	18	8	154
West	53	31	19	12	9	0	124
NorthWest	63	17	19	7	3	0	109
Total	490	137	52	27	30	8	744

Peace Airshed Zone Association

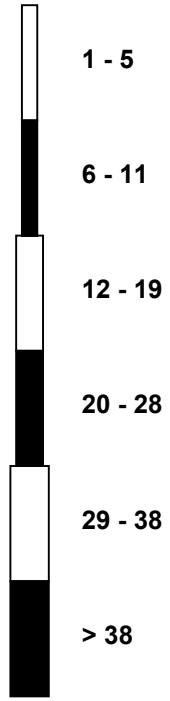
Wind Rose

Wind Speed (WS) (km/h)

Evergreen Park - December 2018



Wind Speed Classes (km/h)



Peace Airshed Zone Association

Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Evergreen Park - December 2018

Maximum Speed: 49 km/h on Dec 12 13:00

Maximum Daily Speed Average: 28.7 km/h on Dec 12

Minimum Speed: 0 km/h on Dec 6 05:00

Minimum Daily Speed Average: 1.1 km/h on Dec 1

Maximum Diurnal Speed Average: 9.9 km/h at hour 13

Minimum Diurnal Speed Average: 5.0 km/h at hour 22

Monthly Average Speed: 6.81 km/h

Percentiles: P_1 = 0.4 P_{10} = 1.1 Q_1 = 2.0 Median = 3.5 Q_3 = 7.4 P_{90} = 17.7 P_{99} = 38.5

Hours in Service: 744

Hours of Data: 744

Hours of Missing Data: 0

Percent Operational Time: 100.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Dec	1	0	1	1	1	1	1	0	2	1	1	1	1	1	3	2	0	1	1	2	1	2	1	1	1.1	3.2
2-Dec	1	1	2	2	4	7	6	3	3	4	3	5	3	4	4	3	3	3	4	5	3	2	3	2	3.4	7.0
3-Dec	3	2	3	1	1	3	6	7	7	7	8	11	12	14	13	11	7	3	2	1	1	3	4	4	5.5	13.8
4-Dec	3	2	2	4	7	18	17	11	9	12	18	21	15	22	26	30	30	24	22	19	21	23	15	15	16.1	30.4
5-Dec	15	9	7	3	5	5	1	2	1	1	4	6	5	2	3	3	3	2	1	1	2	3	2	1	3.7	14.7
6-Dec	1	1	2	2	0	0	2	4	3	2	2	6	6	5	3	3	2	1	1	1	2	2	2	3	2.4	6.1
7-Dec	3	3	3	2	1	2	1	1	1	1	1	2	3	5	2	3	1	1	0	1	1	1	1	1	1.7	5.0
8-Dec	1	1	2	1	0	2	2	2	3	6	5	4	4	5	7	6	4	6	4	6	2	2	3	2	3.4	6.5
9-Dec	2	2	2	5	3	2	3	2	2	1	4	2	2	3	3	4	5	7	6	8	6	3	3	6	3.6	7.5
10-Dec	3	2	5	7	11	9	4	3	2	1	3	3	6	4	4	3	1	2	1	1	3	2	2	1	3.4	10.7
11-Dec	1	4	3	2	3	4	5	8	7	9	9	8	8	6	5	5	5	10	18	25	26	30	31	30	11.0	31.4
12-Dec	36	33	36	33	29	30	35	37	38	39	37	46	49	42	37	39	26	22	20	6	3	4	5	7	28.7	48.9
13-Dec	7	6	4	4	3	3	2	12	25	38	42	45	41	33	25	20	23	15	6	4	6	2	2	2	15.4	44.9
14-Dec	4	4	2	2	4	6	9	6	8	7	7	7	9	5	3	3	4	2	3	7	8	8	2	6	5.3	9.0
15-Dec	9	16	10	17	15	22	22	22	16	16	15	11	16	14	11	7	4	1	2	2	1	3	3	5	10.8	22.3
16-Dec	5	6	8	10	12	11	12	11	12	10	10	9	10	7	6	4	4	2	2	1	1	1	2	3	6.6	12.5
17-Dec	4	2	3	4	6	7	6	6	2	3	2	2	2	4	4	3	2	2	4	3	2	1	1	1	3.1	6.9
18-Dec	1	5	4	2	3	1	2	4	4	3	2	2	3	4	5	3	4	3	4	5	9	3	2	2	3.3	8.6
19-Dec	4	1	3	2	4	7	5	4	4	3	3	5	10	14	7	9	18	14	6	2	5	3	2	4	5.8	17.5
20-Dec	1	2	0	5	2	4	3	4	5	6	9	10	14	14	11	8	6	8	4	5	7	10	9	12	6.6	13.7
21-Dec	19	24	28	29	31	25	28	30	33	30	29	30	32	29	30	23	19	16	16	11	8	8	10	8	22.7	33.0
22-Dec	6	4	2	1	0	1	1	1	1	3	3	1	3	3	5	6	2	2	1	3	1	2	1	2	2.3	5.7
23-Dec	3	2	2	11	9	4	9	6	3	2	5	7	9	8	10	7	6	5	5	4	5	6	4	5	5.7	10.5
24-Dec	4	4	3	2	2	2	3	2	1	1	0	1	2	3	2	2	3	1	2	4	3	3	2	3	2.4	4.4
25-Dec	2	3	6	5	4	4	5	9	13	15	12	11	13	13	14	12	5	2	1	3	2	3	4	7	7.0	15.0
26-Dec	6	5	5	5	3	3	2	2	1	1	1	4	4	4	4	6	5	5	2	3	4	3	3	3	3.5	5.8
27-Dec	2	1	2	1	2	1	2	1	1	3	3	2	2	3	4	4	2	3	1	0	0	1	0	1	1.9	4.4
28-Dec	1	1	2	1	2	2	1	1	2	4	2	2	2	4	5	2	2	3	3	3	1	2	1	1	2.1	4.7
29-Dec	2	2	2	2	3	4	3	6	7	10	10	10	11	7	6	7	9	12	10	20	17	9	19	31	9.2	31.3
30-Dec	31	27	20	17	21	16	13	9	7	4	7	10	8	4	4	2	2	2	2	5	3	3	3	0	9.1	31.2
31-Dec	2	1	1	1	1	1	1	2	1	2	0	1	2	1	1	0	1	1	1	9	6	6	29	32	4.3	32.2
	5.9	5.6	5.6	5.9	6.2	6.7	6.9	7.1	7.4	7.9	8.3	9.1	9.9	9.2	8.6	7.7	6.8	5.8	5.0	5.5	5.2	5.0	5.6	6.6	Diurnal Average	
	36.2	32.7	36.4	32.6	30.9	30.2	35.1	36.7	38.2	38.7	42.4	45.7	48.9	42.1	37.0	39.3	30.4	24.0	22.4	25.1	25.8	30.3	31.4	32.2	Diurnal Maximum	

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

Peace Airshed Zone Association

Hourly Standard Deviations

Wind Direction (WD) - deg

Evergreen Park - December 2018

Maximum Value: 99.5 deg on Dec 18 11:00

Minimum Value: 5.6 deg on Dec 13 09:00

Percentiles: P_1 = 6.4 P_{10} = 11.8 Q_1 = 17.5 Median = 37.5 Q_3 = 64.4 P_{90} = 82.3 P_{99} = 97.2

Hours in Service:	744
Hours of Data:	744
Hours of Missing Data:	0
Hours of Calibration:	0
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily
	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	40	83	41	45	63	55	53	26	20	70	75	70	33	35	16	48	45	35	32	32	38	41	65	55	83.2
2-Dec	47	43	56	51	44	13	14	33	32	16	26	18	18	13	17	20	11	16	24	11	15	42	18	39	56.1
3-Dec	21	47	39	37	43	24	18	20	15	14	15	9	9	12	13	14	15	17	90	83	62	36	33	62	90.3
4-Dec	44	71	46	81	36	12	13	16	16	20	20	18	18	16	19	9	27	10	13	14	14	9	8	9	80.5
5-Dec	14	13	28	42	14	10	35	40	51	71	18	10	14	53	68	38	22	27	75	50	37	37	58	83	82.8
6-Dec	88	67	56	83	72	73	46	14	23	57	75	29	11	15	20	79	51	76	72	67	73	48	67	37	87.7
7-Dec	60	59	74	62	88	83	89	98	86	89	68	38	22	11	88	74	81	93	93	49	56	85	78	72	97.7
8-Dec	55	73	72	93	98	35	45	35	73	12	16	46	39	35	15	68	93	63	66	72	97	64	92	88	97.7
9-Dec	97	90	92	61	81	76	76	63	62	78	88	85	67	56	47	42	27	25	25	25	19	87	89	75	97.2
10-Dec	45	86	53	33	16	30	79	63	59	73	53	44	50	86	75	49	43	48	90	68	45	69	81	86	89.9
11-Dec	90	34	40	50	66	35	27	14	17	15	16	14	17	17	15	43	12	23	8	7	8	7	6	6	90.2
12-Dec	6	6	6	7	8	7	8	7	7	7	8	7	7	7	8	6	9	7	13	42	44	21	22	23	44.3
13-Dec	19	22	70	46	94	55	76	11	6	8	7	7	6	6	8	10	7	8	45	72	79	41	86	20	94.4
14-Dec	16	73	71	24	17	18	18	16	17	15	16	23	31	42	76	50	57	75	51	27	20	62	59	38	76.3
15-Dec	27	20	15	11	28	14	14	17	19	9	9	14	18	22	26	17	41	97	75	80	81	71	16	18	97.2
16-Dec	16	13	18	17	15	17	15	14	14	23	16	21	24	26	30	29	32	51	48	78	85	87	79	53	86.8
17-Dec	34	80	37	47	21	31	30	44	90	72	62	61	56	39	36	56	84	81	91	80	86	83	85	98	98.4
18-Dec	90	74	73	70	78	73	69	41	68	89	100	98	64	21	17	52	47	45	63	51	28	73	67	64	99.5
19-Dec	71	69	54	86	24	15	51	84	65	60	54	49	37	15	45	23	9	29	40	42	57	73	62	60	86.0
20-Dec	62	88	61	76	64	16	20	9	10	36	20	16	20	18	19	25	24	23	34	41	25	16	16	10	87.9
21-Dec	13	12	10	9	10	14	10	11	12	14	15	14	14	13	14	14	15	14	16	17	20	17	9	9	19.6
22-Dec	16	29	60	47	72	99	81	64	47	47	81	96	26	38	30	18	32	72	87	46	80	59	45	90	99.1
23-Dec	65	50	62	15	21	59	26	23	49	36	38	41	22	21	22	22	21	25	23	32	34	20	37	21	65.3
24-Dec	27	36	50	46	43	47	39	45	47	69	79	48	34	23	37	75	33	56	53	27	35	95	73	30	94.8
25-Dec	39	45	16	26	23	15	14	18	17	10	14	14	11	12	12	15	38	77	40	48	67	33	26	25	77.2
26-Dec	29	21	26	20	42	40	56	61	92	87	48	30	29	29	54	29	25	21	75	35	26	28	22	29	91.6
27-Dec	25	39	32	65	56	64	47	79	74	47	24	30	33	69	34	28	18	11	63	52	72	63	75	76	79.3
28-Dec	71	51	34	54	42	80	46	86	50	21	70	73	92	59	61	87	60	90	81	74	80	70	62	80	91.5
29-Dec	85	53	57	21	10	20	28	20	14	15	15	21	16	17	34	25	25	18	38	21	11	14	14	9	85.1
30-Dec	11	14	16	17	14	17	14	26	23	36	18	12	38	46	19	52	40	50	16	26	69	92	70	92	92.3
31-Dec	26	87	75	90	83	87	53	83	86	57	97	56	56	45	64	98	75	74	80	41	46	38	12	9	97.8
	97.2	90.4	91.9	93.2	97.7	99.1	89.3	97.7	91.6	89.0	99.5	98.4	91.5	85.5	88.1	97.8	93.0	97.2	93.1	83.4	96.5	94.8	91.9	98.4	

PAZA
Henry Pirker Station
Monthly Summary Tables, Graphs and Roses

Peace Airshed Zone Association

Hourly Averages

Sulphur Dioxide (SO_2) - ppb

Henry Pirker - December 2018

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 6.7 ppb on Dec 13 21:00 Maximum Daily Average: 1.8 ppb on Dec 13

Minimum Value: 0 ppb on Dec 14 18:00 Minimum Daily Average: 0.2 ppb on Dec 24
Maximum Diurnal Average: 0.8 ppb at hour 19 Minimum Diurnal Average: 0.4 ppb at hour 6
Monthly Average: 0.57 ppb Percentiles: P_1 = 0.1 P_{10} = 0.2 Q_1 = 0.3 Median = 0.4 Q_3 = 0.7 P_{90} = 1.0 P_{99} = 2.6

Hours in Service:	744
Hours of Data:	709
Hours of Missing Data:	35
Hours of Calibration:	35
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-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	0.2	0.5
2-Dec	0	0	0	0	0	1	1	0	0	0	0	0	1	1	1	1	1	1	A	1	1	1	2	2	0.7	2.0
3-Dec	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0.4	1.0
4-Dec	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	1	1	0	0	0	0.3	1.5
5-Dec	1	1	2	3	3	1	0	0	0	0	0	0	0	0	0	A	1	1	1	1	0	0	0	0	0.7	2.7
6-Dec	0	0	0	0	0	0	0	0	1	1	1	1	1	1	A	1	0	1	1	1	1	0	0	0	0.5	0.8
7-Dec	0	0	0	0	0	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	0	0	0	0.6	1.2
8-Dec	0	0	0	0	0	0	0	0	0	1	1	0	A	0	1	1	1	0	1	1	1	1	1	1	0.5	0.9
9-Dec	1	1	0	0	0	0	0	0	0	0	0	A	1	1	0	0	0	0	1	1	1	1	2	1	0.6	1.5
10-Dec	2	1	1	1	1	1	0	1	1	1	C	C	C	C	0	0	1	0	1	2	1	0	0	1	0.8	2.0
11-Dec	1	1	1	1	0	0	0	0	0	A	0	0	1	1	1	1	1	1	0	1	0	0	0	0	0.5	1.2
12-Dec	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	5	2	0	0	1	1	0.5	4.8
13-Dec	0	1	0	1	0	1	1	A	3	7	1	2	2	3	2	0	0	0	4	1	7	3	1	2	1.8	6.7
14-Dec	1	1	1	1	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0.4	1.2
15-Dec	1	2	1	1	1	A	2	2	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1.0	2.2
16-Dec	1	0	0	0	A	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	0	1	1	1	0.6	1.5
17-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	0.7	1.3
18-Dec	1	1	A	0	0	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0.7	1.4
19-Dec	0	A	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.4	1.1
20-Dec	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	A	0.4	1.5
21-Dec	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	A	0	0.3	0.7
22-Dec	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	A	0	0	0.3	0.6
23-Dec	0	0	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	A	0	0	0	0.4	1.1
24-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	0.2	0.4
25-Dec	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	1	A	1	1	1	1	0	0.9	1.8
26-Dec	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0.3	0.5
27-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	0.3	0.4
28-Dec	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	0.7	1.0
29-Dec	1	1	0	0	0	0	0	0	0	0	0	0	0	0	A	1	0	0	1	1	1	1	0	0	0.5	1.5
30-Dec	1	1	1	0	0	0	1	1	1	0	0	0	1	A	2	2	1	1	1	1	1	1	0	0	0.7	1.8
31-Dec	0	0	0	0	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	0.7	1.2
	0.5	0.5	0.5	0.5	0.4	0.4	0.5	0.5	0.5	0.7	0.5	0.6	0.6	0.7	0.6	0.6	0.5	0.5	0.8	0.7	0.8	0.6	0.6	0.5	Diurnal Average	
	2.0	1.8	1.5	2.7	2.5	1.1	1.8	2.2	2.9	6.6	1.0	2.1	1.7	3.2	1.7	1.8	1.8	1.0	4.8	1.9	6.7	2.6	2.0	1.6	Diurnal Maximum	

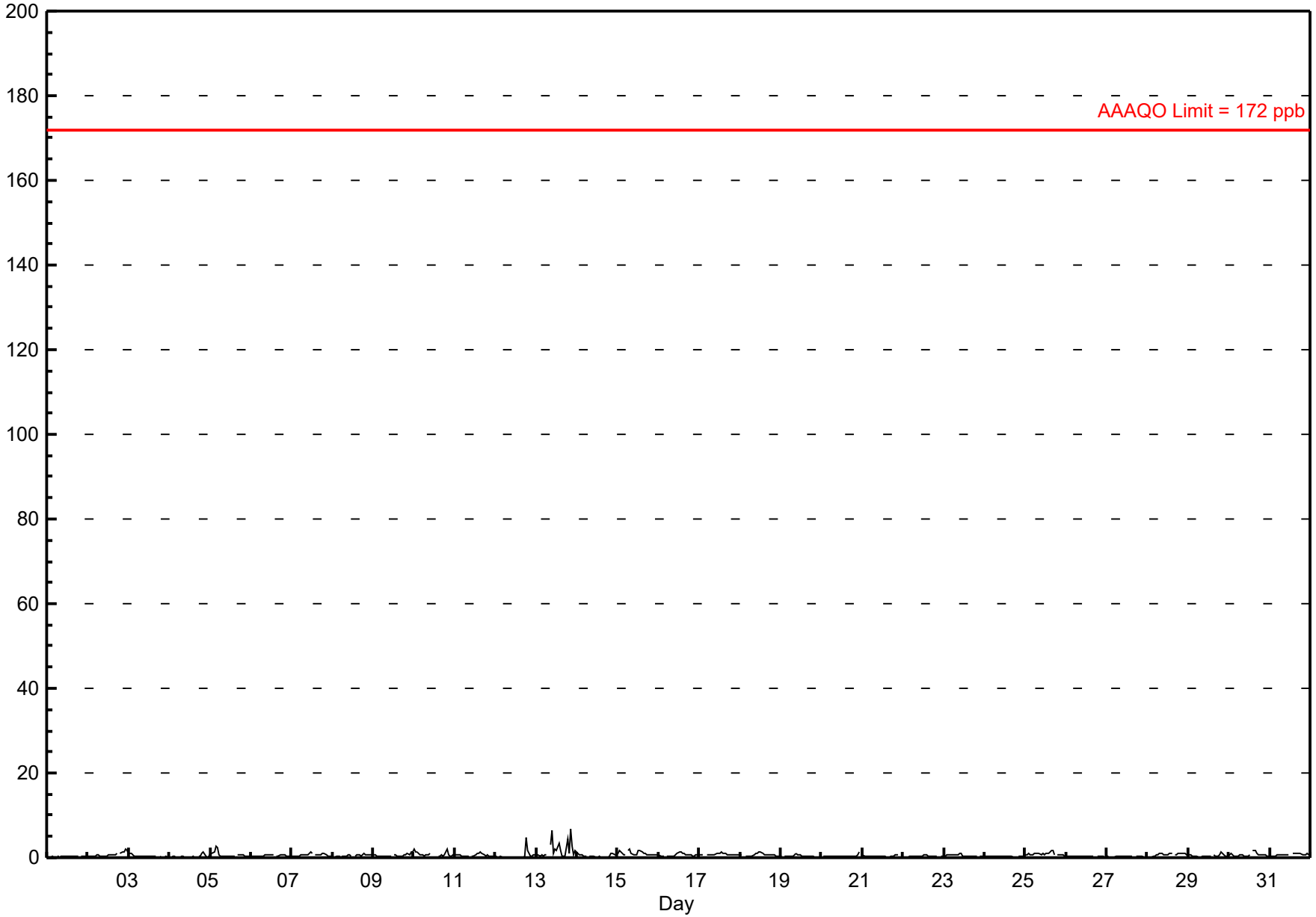
C - Calibration A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb 30-day 11 ppb

Peace Airshed Zone Association

Hourly Averages

Sulphur Dioxide (SO_2) - ppb

Henry Pirker - December 2018



Peace Airshed Zone Association

Hourly Maximums

Sulphur Dioxide (SO_2) - ppb

Henry Pirker - December 2018

Maximum Value: 11.4 ppb on Dec 13 21:00

Maximum Daily Average: 3.8 ppb on Dec 13

Minimum Value: 0 ppb on Dec 14 18:00

Minimum Daily Average: 0.3 ppb on Dec 24

Maximum Diurnal Average: 1.4 ppb at hour 19

Minimum Diurnal Average: 0.6 ppb at hour 6

Monthly Average: 0.87 ppb

Percentiles: $P_1 = 0.2$ $P_{10} = 0.3$ $Q_1 = 0.4$ Median = 0.6 $Q_3 = 1.0$ $P_{90} = 1.6$ $P_{99} = 6.1$

Hours in Service:	744
Hours of Data:	709
Hours of Missing Data:	35
Hours of Calibration:	35
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	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	1	1	0	0	0	0	0	0	0	A	0	1	1	1	0.4	0.8
2-Dec	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	2	2	3	2	0.9	2.7
3-Dec	1	1	1	1	0	0	0	1	1	0	1	1	1	1	1	0	1	A	0	0	0	0	0	0	0.6	1.3
4-Dec	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	1	2	2	2	0	0	0.5	2.5
5-Dec	2	1	3	3	4	1	1	0	0	0	0	0	1	1	1	A	1	1	1	1	1	0	0	0	1.0	3.6
6-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	0.7	1.1
7-Dec	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	0	0	0	0.8	1.4
8-Dec	0	0	0	0	0	0	0	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	0.7	1.1
9-Dec	1	1	0	0	0	1	1	1	1	1	1	A	1	1	1	1	0	1	1	1	1	1	2	2	0.8	2.2
10-Dec	2	2	2	1	1	1	1	1	1	3	C	C	C	C	2	1	1	1	1	4	2	1	1	1	1.3	3.5
11-Dec	1	1	1	1	0	0	0	0	1	A	1	1	1	1	1	2	1	1	1	1	0	0	0	0	0.7	1.7
12-Dec	0	0	0	1	0	0	0	0	A	0	0	0	0	0	0	0	0	1	11	6	1	1	1	1	1.1	10.9
13-Dec	1	1	1	1	1	1	1	A	8	11	4	6	6	6	6	0	1	1	8	2	11	6	1	2	3.8	11.4
14-Dec	2	1	1	1	1	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	1	1	0.6	1.6
15-Dec	2	3	2	1	2	A	4	5	2	1	1	1	4	3	2	1	1	1	1	1	1	1	1	1	1.8	5.3
16-Dec	1	1	1	1	A	1	1	0	0	0	1	1	2	1	1	1	1	1	1	1	1	1	1	1	0.8	1.6
17-Dec	1	1	1	A	1	1	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1	0.9	1.7
18-Dec	1	1	A	1	1	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1	0	0	0.9	1.7
19-Dec	0	A	0	0	1	0	0	1	2	2	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0.5	1.7
20-Dec	A	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	1	2	A	0.5	1.9
21-Dec	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	A	0	0.5	1.1
22-Dec	0	0	0	0	0	0	0	0	1	0	0	1	1	1	1	1	0	0	0	0	0	A	0	0	0.4	0.8
23-Dec	0	1	1	1	1	1	1	1	1	2	2	1	1	1	0	0	0	0	0	1	A	0	0	0	0.6	1.6
24-Dec	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	A	0	0	0	1	0.3	0.5
25-Dec	1	1	2	2	1	1	1	1	2	2	1	1	1	1	1	2	3	1	A	1	1	1	1	1	1.3	2.6
26-Dec	1	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	A	1	0	0	0	0	0	0.4	0.7
27-Dec	0	0	0	0	0	0	0	0	1	1	0	0	1	1	1	1	A	0	1	1	0	0	0	0	0.4	0.6
28-Dec	0	0	0	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
29-Dec	1	1	1	0	0	0	0	0	0	0	0	0	0	0	A	1	1	0	2	3	2	1	1	1	0.8	2.7
30-Dec	2	2	1	1	1	0	2	1	1	0	1	1	1	A	2	2	2	1	1	1	1	1	1	1	1.1	2.3
31-Dec	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	4	1	1.1	3.8
	0.8	0.7	0.7	0.7	0.7	0.6	0.7	0.7	1.0	1.1	0.8	0.9	1.0	1.0	1.0	0.8	0.7	0.7	1.4	1.2	1.2	0.9	0.8	0.7	Diurnal Average	
	2.4	2.6	2.6	3.4	3.6	1.4	4.4	5.3	8.0	10.9	3.8	6.1	6.1	5.9	6.2	2.5	2.6	1.3	10.9	6.1	11.4	6.0	3.8	2.3	Diurnal Maximum	

C - Calibration

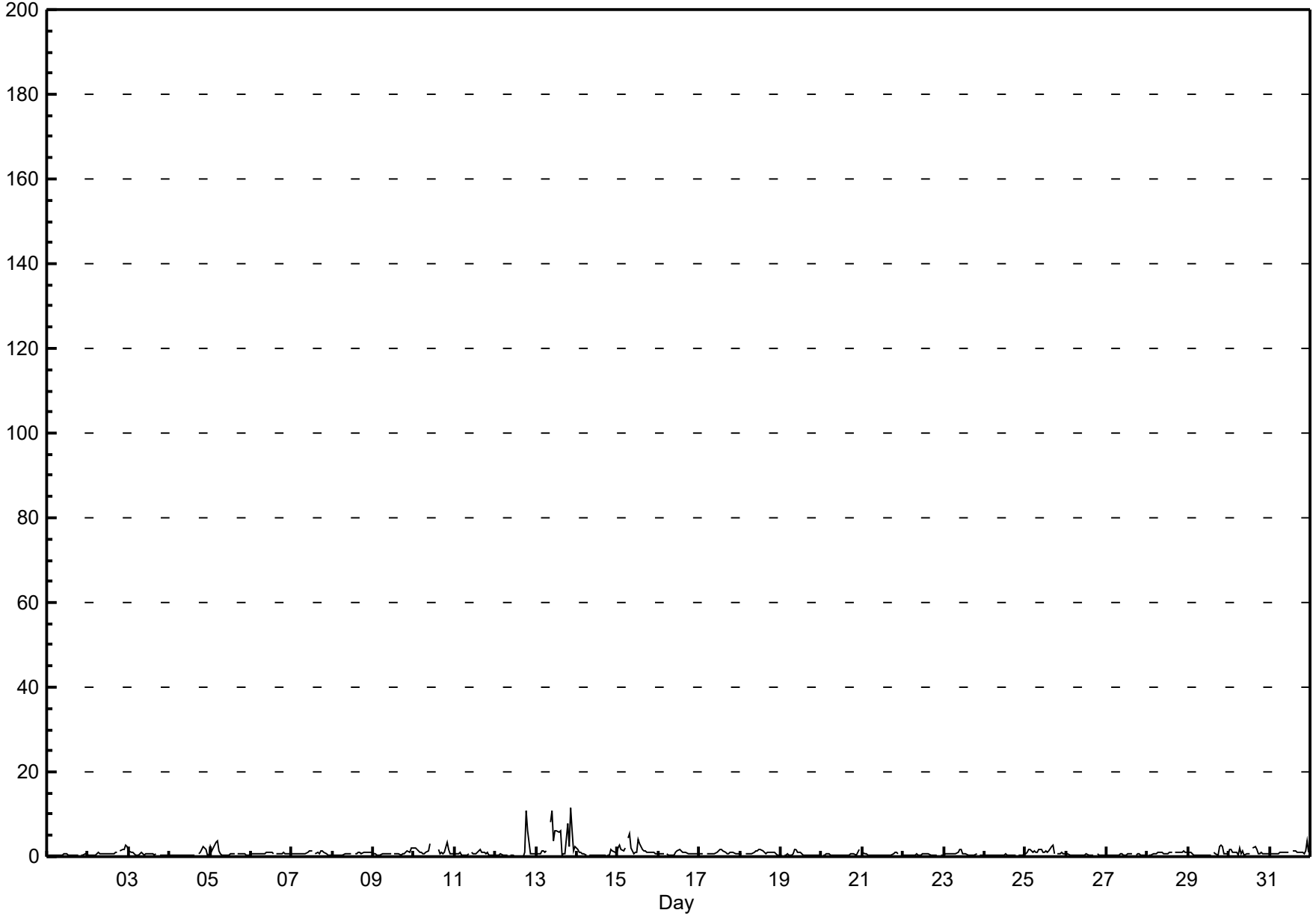
A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Sulphur Dioxide (SO_2) - ppb

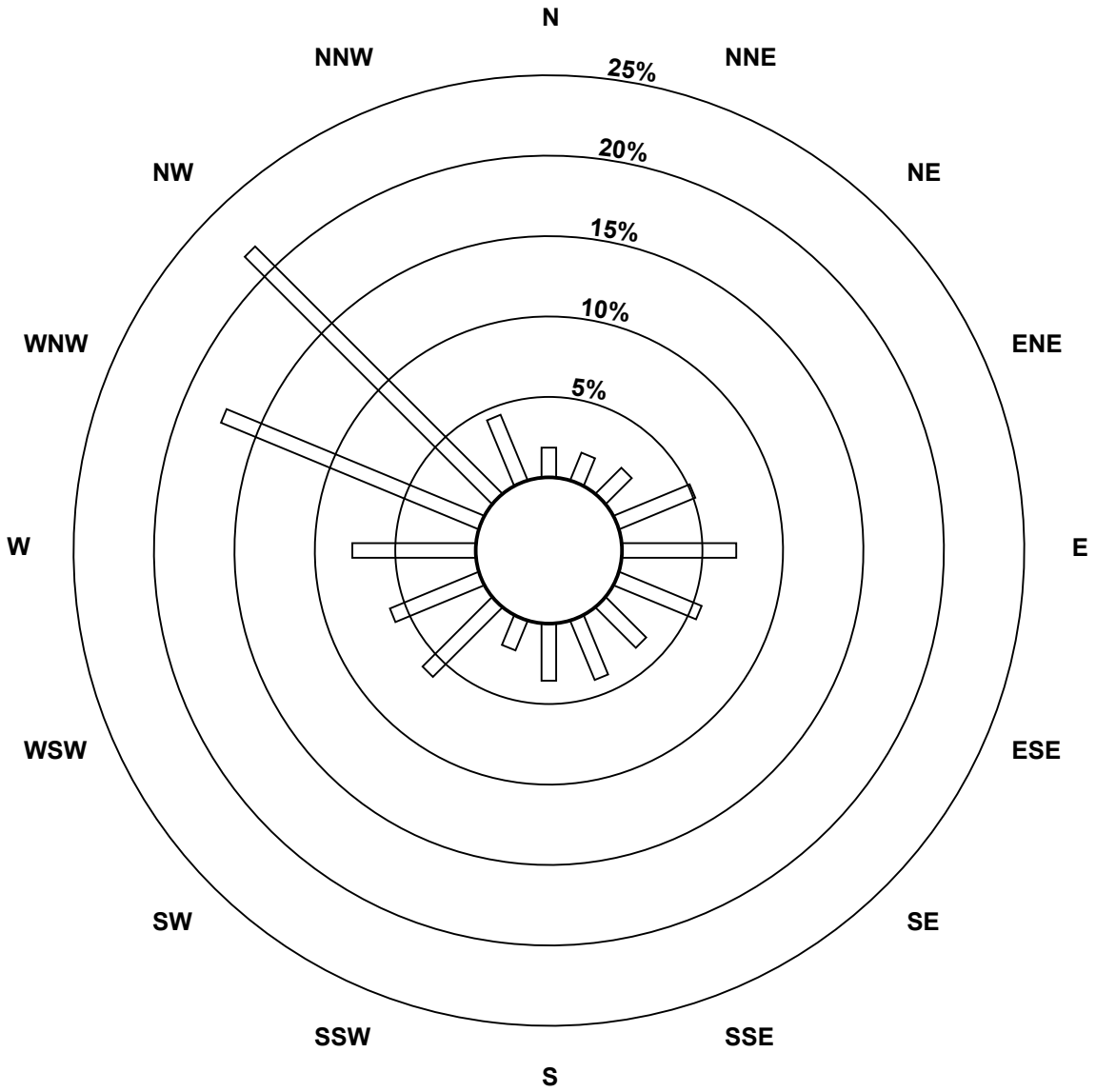
Henry Pirker - December 2018



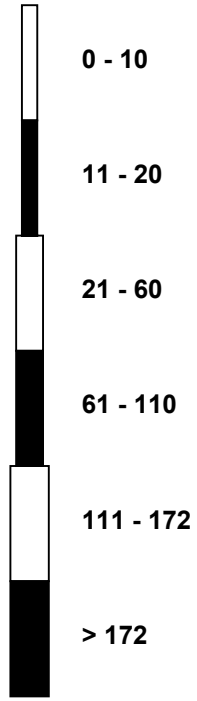
Pollutant Rose

Sulphur Dioxide (SO_2) - ppb

Henry Pirker - December 2018



Pollutant Classes (ppb)

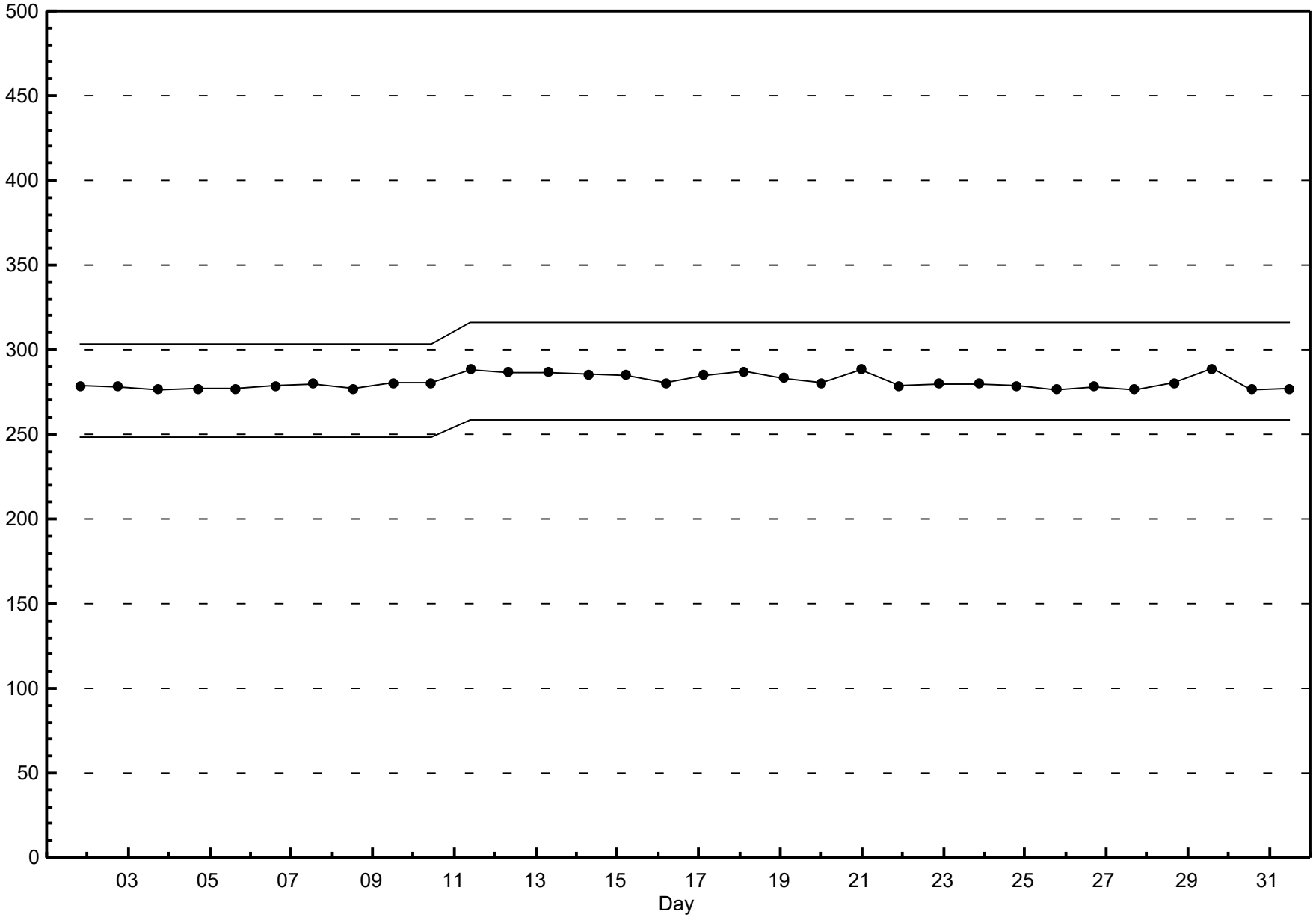


Peace Airshed Zone Association

Span Responses

Sulphur Dioxide (SO_2)

Henry Pirker - December 2018



Peace Airshed Zone Association

Hourly Averages

Total Reduced Sulphur (TRS) - ppb

Henry Pirker - December 2018

Maximum Value: 1.7 ppb on Dec 7 19:00

Maximum Daily Average: 0.9 ppb on Dec 7

Minimum Value: 0 ppb on Dec 4 05:00

Minimum Daily Average: 0.1 ppb on Dec 4

Maximum Diurnal Average: 0.5 ppb at hour 19

Minimum Diurnal Average: 0.3 ppb at hour 3

Monthly Average: 0.38 ppb

Percentiles: P_1 = 0.0 P_{10} = 0.1 Q_1 = 0.2 Median = 0.3 Q_3 = 0.5 P_{90} = 0.9 P_{99} = 1.3

Hours in Service:	744
Hours of Data:	708
Hours of Missing Data:	36
Hours of Calibration:	36
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Dec	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	A	1	1	1	1	0.4	0.7
2-Dec	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0.2	0.7
3-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
4-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	0.3
5-Dec	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	1	1	1	1	0	1	1	0.4	1.1
6-Dec	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	0	1	0.8	1.4
7-Dec	1	1	0	0	1	1	1	1	1	1	1	1	1	A	1	1	1	1	2	2	1	1	1	1	0.9	1.7
8-Dec	0	0	0	1	1	0	1	1	1	1	1	0	A	1	1	1	1	0	0	1	1	1	1	1	0.7	1.1
9-Dec	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	0	1	1	1	0	0	0	0	1	0.7	1.1
10-Dec	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	1	0	0	0	1	1	1	1	0.4	0.8
11-Dec	1	1	1	1	0	0	0	0	0	A	R	C	C	C	1	1	1	1	0	0	0	0	0	0	0.4	1.3
12-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
13-Dec	0	0	0	0	0	0	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.6
14-Dec	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0.2	0.5
15-Dec	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0.3	1.0
16-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
17-Dec	0	0	0	A	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0.6	1.1
18-Dec	0	1	A	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0.7	1.3
19-Dec	0	A	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.7
20-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	0.3
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	0.1	0.2
22-Dec	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	0	0	1	A	0	0	0.3	0.6
23-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
24-Dec	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	1	0	0	0.4	0.5
25-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
26-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	0.3
27-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	0.6
28-Dec	0	0	0	0	1	1	0	1	1	1	1	1	0	1	1	A	1	1	1	1	1	1	1	1	0.7	1.3
29-Dec	1	1	1	1	1	1	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.3	1.0
30-Dec	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	1	1	0	0.3	0.6
31-Dec	0	0	0	0	0	0	1	1	1	1	1	1	A	1	1	1	1	1	1	1	0	0	0	0	0.6	1.2
	0.4	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	0.5	0.5	0.5	0.4	0.4	0.4	Diurnal Average	
	1.1	1.1	0.6	0.7	0.7	0.8	0.9	0.9	1.0	1.4	1.5	1.5	1.3	1.1	1.3	1.1	1.2	1.4	1.7	1.6	1.2	1.3	1.0	1.0	Diurnal Maximum	

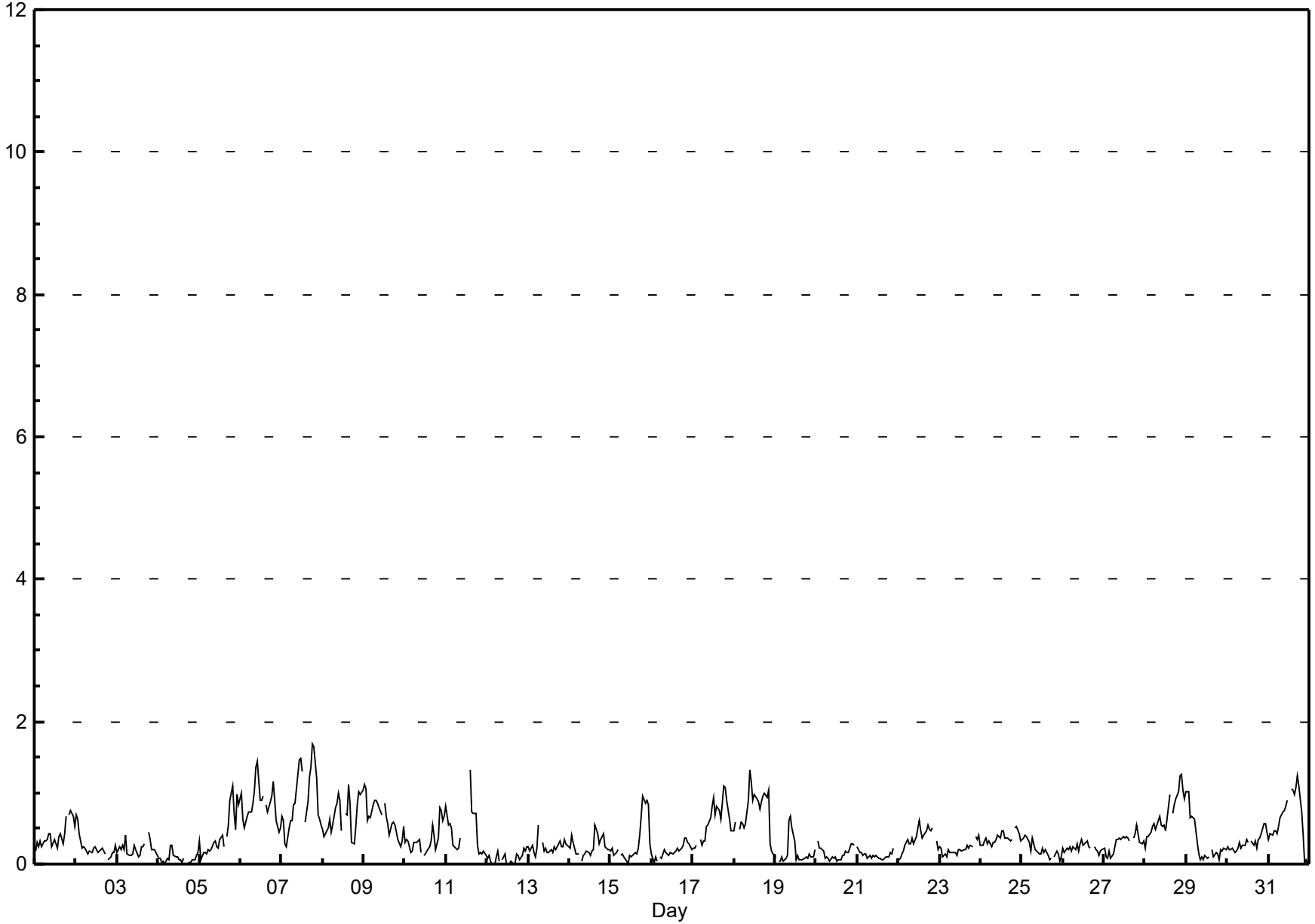
C - Calibration R - Recovery A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Averages

Total Reduced Sulphur (TRS) - ppb

Henry Pirker - December 2018



Peace Airshed Zone Association

Hourly Maximums

Total Reduced Sulphur (TRS) - ppb

Henry Pirker - December 2018

Maximum Value: 2.2 ppb on Dec 7 20:00

Maximum Daily Average: 1.5 ppb on Dec 7

Minimum Value: 0 ppb on Dec 12 16:00

Minimum Daily Average: 0.6 ppb on Dec 21

Maximum Diurnal Average: 1.0 ppb at hour 19

Minimum Diurnal Average: 0.7 ppb at hour 5

Monthly Average: 0.87 ppb

Percentiles: $P_1 = 0.4$ $P_{10} = 0.5$ $Q_1 = 0.6$ Median = 0.8 $Q_3 = 1.0$ $P_{90} = 1.4$ $P_{99} = 2.0$

Hours in Service:	744
Hours of Data:	708
Hours of Missing Data:	36
Hours of Calibration:	36
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-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	0.9	1.3
2-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	0.7	1.2
3-Dec	1	1	1	1	1	1	1	1	0	1	1	1	1	0	1	1	1	A	1	1	1	1	1	1	0.7	0.9
4-Dec	1	1	1	0	0	1	0	1	1	1	1	1	1	1	1	1	A	0	1	0	0	0	1	1	0.6	1.0
5-Dec	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	2	1	1	2	1	0.9	1.7
6-Dec	2	1	1	1	1	1	1	1	2	2	2	2	2	1	A	1	1	1	2	2	2	1	1	1	1.4	2.1
7-Dec	1	1	1	1	1	1	1	1	2	2	2	2	2	A	1	2	2	2	2	2	2	1	1	1	1.5	2.2
8-Dec	1	1	1	1	1	1	1	1	1	2	1	1	A	1	1	2	1	1	1	1	1	2	1	2	1.2	2.0
9-Dec	2	2	1	1	1	1	2	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1.2	1.7
10-Dec	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	2	2	1	1	0.9	1.6
11-Dec	1	1	1	1	1	1	1	1	1	A	R	C	C	C	2	1	1	1	1	1	1	1	1	1	0.9	2.1
12-Dec	1	1	1	0	0	1	1	0	A	1	1	0	0	1	1	0	0	1	1	1	1	1	1	1	0.6	0.9
13-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	0.7	1.1
14-Dec	1	1	1	1	1	1	A	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	0.9
15-Dec	1	1	0	1	1	A	1	1	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.4
16-Dec	1	1	0	0	A	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.6	1.0
17-Dec	1	1	1	A	1	1	1	1	1	1	1	2	1	1	1	1	1	1	2	2	1	1	1	1	1.1	2.0
18-Dec	1	1	A	1	1	1	1	1	1	2	2	1	1	1	1	1	2	1	2	2	2	1	1	1	1.3	1.8
19-Dec	1	A	1	0	0	0	1	1	2	1	1	1	1	1	1	1	0	1	1	0	1	1	1	1	0.7	1.7
20-Dec	A	1	1	1	1	0	1	1	1	0	1	0	1	0	1	1	1	1	1	1	1	1	1	A	0.6	1.0
21-Dec	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	0	0	1	1	1	0	1	A	0.6	0.7
22-Dec	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	0.8	1.1
23-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	0.9
24-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
25-Dec	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	0	A	1	1	1	0	1	0.6	1.0
26-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
27-Dec	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	0.8	1.1
28-Dec	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	A	1	2	1	1	2	2	2	1	1.2	1.8
29-Dec	2	2	1	1	1	1	1	1	1	1	0	1	1	1	A	1	1	1	1	1	1	1	1	1	0.8	1.8
30-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
31-Dec	1	1	1	1	1	1	1	1	1	1	2	1	A	1	2	1	2	2	2	1	1	1	2	0	1.2	1.9
	0.9	0.8	0.7	0.8	0.7	0.8	0.8	0.8	0.9	0.9	0.9	0.9	0.8	0.8	0.9	0.9	0.9	0.9	1.0	1.0	1.0	0.9	0.9	0.8	Diurnal Average	
	1.8	1.6	1.3	1.2	1.3	1.4	1.5	1.5	1.7	2.0	2.1	1.9	1.9	1.5	2.1	2.0	1.6	1.9	2.1	2.2	1.8	1.7	1.9	1.7	Diurnal Maximum	

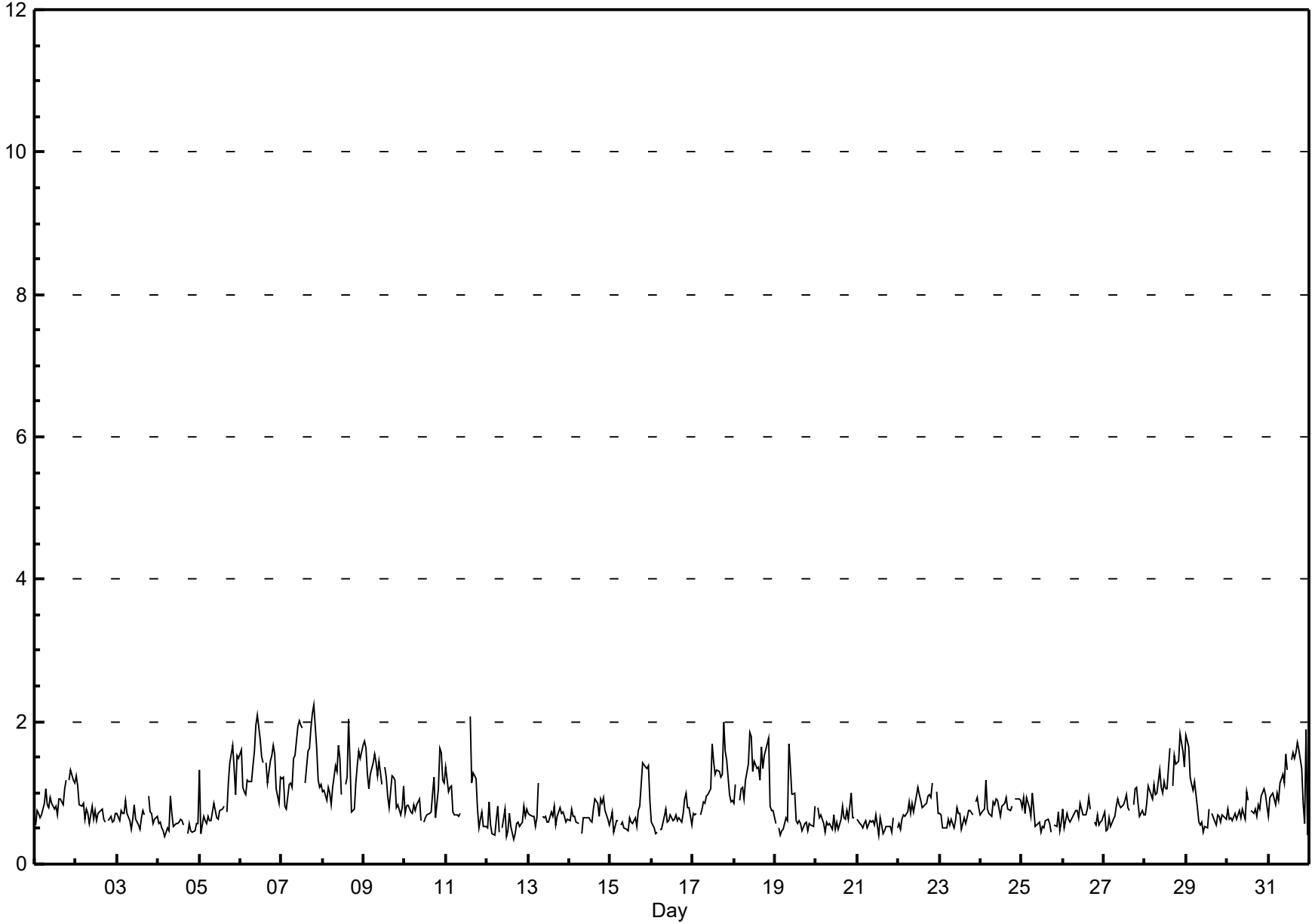
C - Calibration R - Recovery A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Total Reduced Sulphur (TRS) - ppb

Henry Pirker - December 2018

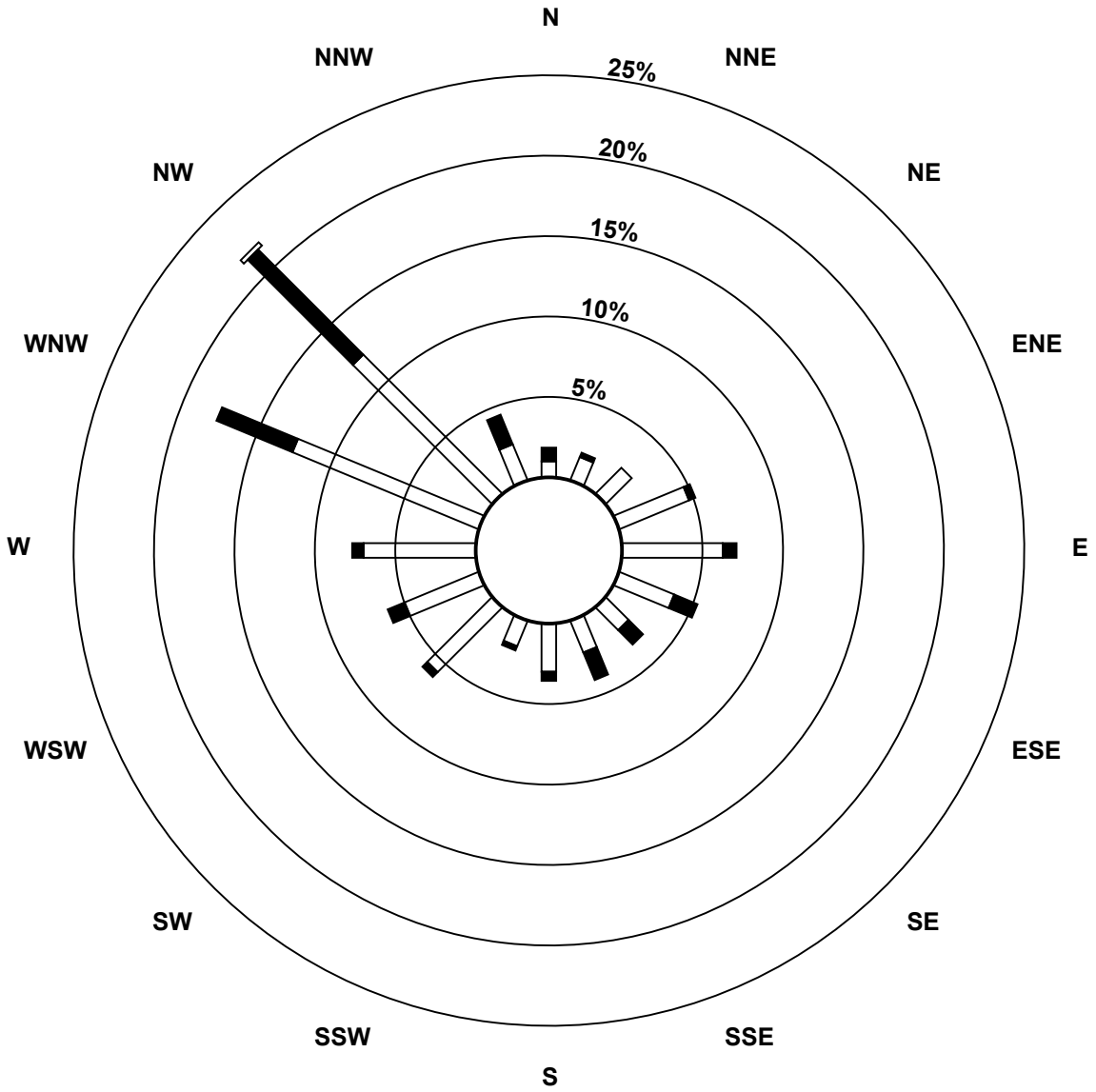


Peace Airshed Zone Association

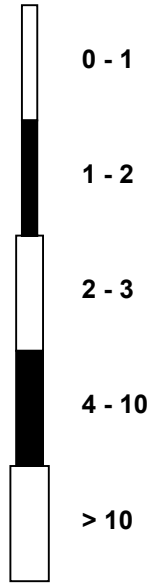
Pollutant Rose

Total Reduced Sulphur (TRS) - ppb

Henry Pirker - December 2018



Pollutant Classes (ppb)

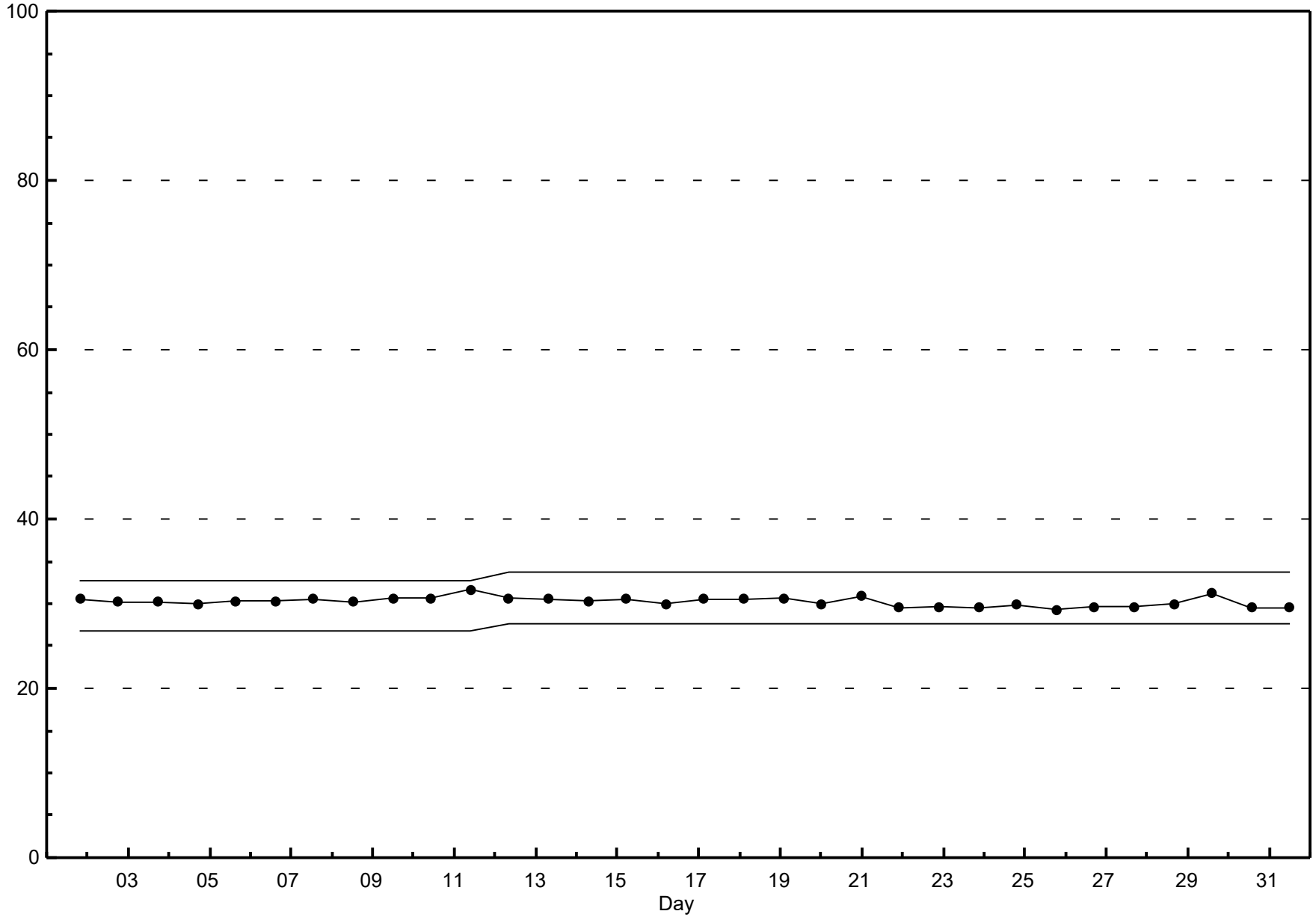


Peace Airshed Zone Association

Span Responses

Total Reduced Sulphur (TRS)

Henry Pirker - December 2018



Peace Airshed Zone Association

Hourly Averages

Nitrogen Dioxide (NO_2) - ppb

Henry Pirker - December 2018

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 44.2 ppb on Dec 15 20:00
Maximum Daily Average: 34.7 ppb on Dec 7

Minimum Value: 1 ppb on Dec 21 05:00
Minimum Daily Average: 3.0 ppb on Dec 21
Maximum Diurnal Average: 22.5 ppb at hour 19
Minimum Diurnal Average: 13.7 ppb at hour 14
Monthly Average: 17.52 ppb
Percentiles: P_1 = 1.6 P_{10} = 4.2 Q_1 = 7.9 Median = 15.8 Q_3 = 26.3 P_{90} = 32.5 P_{99} = 42.1

Hours in Service:	744
Hours of Data:	708
Hours of Missing Data:	36
Hours of Calibration:	36
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Dec	12	15	13	14	13	13	14	14	15	12	9	9	8	8	8	9	11	15	15	A	15	15	15	15	12.6	15.4
2-Dec	15	16	16	14	8	7	8	9	10	8	10	7	8	7	9	10	12	11	A	11	12	12	13	14	10.8	15.9
3-Dec	15	14	14	14	14	15	14	22	20	20	17	13	14	10	19	20	31	A	35	30	24	24	25	14	19.1	35.0
4-Dec	10	7	8	8	4	4	12	33	27	15	6	7	6	3	3	8	A	4	4	3	3	3	4	4	8.1	32.9
5-Dec	4	3	3	4	9	19	18	27	37	33	21	18	18	19	10	A	26	31	34	36	31	26	26	26	20.8	36.8
6-Dec	25	24	22	26	29	32	30	29	32	39	42	34	34	36	A	33	31	32	33	34	31	29	26	27	30.9	42.3
7-Dec	29	29	26	25	29	32	30	32	33	38	40	41	42	A	36	38	38	41	44	42	37	34	32	31	34.7	44.0
8-Dec	31	27	29	31	32	26	26	30	30	35	32	25	A	23	23	38	38	24	26	39	41	42	40	42	31.7	41.8
9-Dec	41	39	32	31	30	34	35	33	31	30	27	A	30	29	27	27	25	23	30	30	27	25	27	29	30.1	40.9
10-Dec	27	29	29	26	30	33	31	36	32	29	C	C	C	C	C	28	42	29	20	35	39	35	38	40	32.0	42.2
11-Dec	39	32	21	23	15	14	19	18	22	A	31	27	26	25	20	37	41	42	28	10	5	3	4	3	22.0	42.3
12-Dec	2	2	2	3	4	5	6	5	A	5	4	3	3	4	4	4	6	20	16	17	22	28	20	14	8.7	28.1
13-Dec	16	15	10	17	12	23	39	A	17	8	4	4	5	5	8	14	15	19	19	21	16	27	24	15	15.4	39.3
14-Dec	13	16	19	13	7	5	A	8	8	8	8	7	8	12	16	32	33	32	25	10	12	8	9	8	13.8	33.3
15-Dec	9	9	9	7	5	A	3	3	6	11	3	4	6	4	4	9	22	38	40	44	40	41	38	16	16.2	44.2
16-Dec	7	7	5	4	A	4	4	4	4	5	6	7	7	8	9	17	16	19	27	30	29	19	14	12	11.5	30.0
17-Dec	10	9	12	A	14	14	20	25	27	26	28	26	29	30	32	29	26	27	30	29	27	25	23	23	23.6	32.4
18-Dec	24	24	A	22	23	23	24	25	27	34	33	29	32	28	25	25	29	31	30	29	35	25	26	21	27.0	34.5
19-Dec	22	A	15	13	15	17	21	23	43	41	36	21	7	12	8	6	8	8	4	9	13	10	11	28	17.1	43.2
20-Dec	A	32	31	31	20	10	11	13	13	9	7	6	4	4	7	8	7	9	8	10	6	5	4	A	11.8	32.5
21-Dec	4	3	2	1	1	1	2	2	2	2	2	2	1	2	2	2	2	2	3	6	6	11	A	9	3.0	10.7
22-Dec	9	10	19	27	30	29	22	22	20	16	16	18	17	12	15	17	24	28	27	27	27	A	24	17	20.5	29.9
23-Dec	16	15	5	4	5	6	6	7	7	7	7	8	6	6	7	6	8	7	7	8	A	8	8	9	7.5	16.4
24-Dec	8	7	7	12	10	11	10	10	16	20	17	16	18	17	17	20	24	25	22	A	18	24	21	17	15.8	24.6
25-Dec	18	16	15	17	14	11	7	6	3	3	2	2	2	2	3	3	3	2	A	11	9	9	6	6	7.4	17.9
26-Dec	6	5	6	5	6	12	9	13	22	16	17	15	13	12	12	11	12	A	13	10	9	11	15	11	11.4	21.6
27-Dec	14	12	12	11	7	7	12	18	20	20	17	14	12	13	12	11	A	22	24	22	19	19	19	18	15.5	24.1
28-Dec	16	16	16	17	18	18	18	21	23	21	20	19	17	18	23	A	25	25	25	27	28	29	27	23	21.2	29.2
29-Dec	26	32	25	23	20	17	16	12	11	8	6	6	8	7	A	8	10	11	8	5	6	7	6	3	12.3	32.0
30-Dec	2	3	2	2	1	2	3	5	13	10	6	7	4	A	7	7	16	14	20	20	21	24	24	22	10.2	24.4
31-Dec	16	15	17	18	18	19	20	21	21	22	22	22	A	29	31	37	35	35	35	32	34	15	4	3	22.7	36.6
	16.2	16.1	14.8	15.5	14.7	15.5	16.3	17.5	19.7	18.3	16.5	14.4	13.8	13.7	14.2	17.8	21.3	21.6	22.5	22.0	21.5	19.8	19.1	17.3	Diurnal Average	
	40.9	39.4	32.3	31.3	31.7	34.2	39.3	35.6	43.2	41.3	42.3	41.2	42.1	35.8	35.7	38.3	42.2	42.3	44.0	44.2	41.2	41.6	40.2	41.8	Diurnal Maximum	

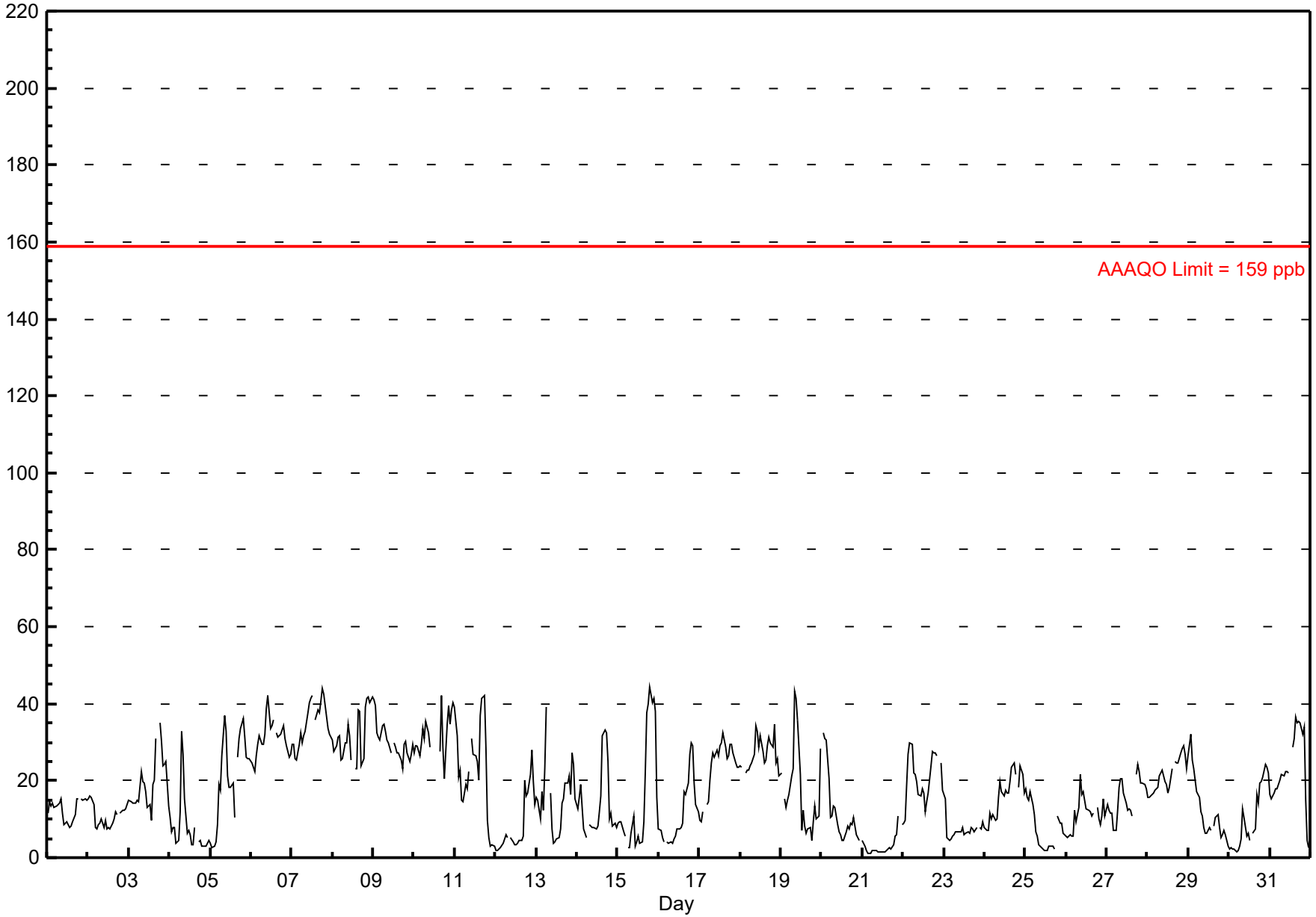
C - Calibration A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 159 ppb 24-hr 106 ppb

Peace Airshed Zone Association

Hourly Averages

Nitrogen Dioxide (NO_2) - ppb

Henry Pirker - December 2018



Peace Airshed Zone Association

Hourly Maximums

Nitrogen Dioxide (NO_2) - ppb

Henry Pirker - December 2018

Maximum Value: 71.6 ppb on Dec 30 09:00

Maximum Daily Average: 39.6 ppb on Dec 7

Minimum Value: 2 ppb on Dec 21 13:00

Minimum Daily Average: 5.2 ppb on Dec 21

Maximum Diurnal Average: 27.2 ppb at hour 18

Minimum Diurnal Average: 17.1 ppb at hour 13

Monthly Average: 21.90 ppb

Percentiles: P_1 = 2.5 P_{10} = 6.7 Q_1 = 11.7 Median = 19.9 Q_3 = 31.6 P_{90} = 38.6 P_{99} = 49.0

Hours in Service:	744
Hours of Data:	708
Hours of Missing Data:	36
Hours of Calibration:	36
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Dec	15	16	15	16	14	14	16	15	16	15	10	12	15	15	10	13	14	20	17	A	17	16	16	16	14.9	19.6
2-Dec	16	17	17	15	11	9	12	12	12	9	19	9	10	9	11	12	15	14	A	13	15	13	14	15	13.1	19.5
3-Dec	15	16	15	14	15	17	18	27	23	26	24	16	18	17	26	28	35	A	36	34	36	32	31	24	23.7	36.4
4-Dec	14	9	12	14	15	7	16	42	39	31	10	17	10	7	6	13	A	5	9	5	5	4	7	7	13.2	42.2
5-Dec	7	5	5	6	15	23	21	33	40	35	33	21	24	25	16	A	34	35	37	38	35	29	27	27	24.8	39.6
6-Dec	26	26	26	29	34	34	33	37	39	47	49	46	43	39	A	37	34	35	36	39	33	31	30	29	35.3	49.0
7-Dec	32	32	30	28	32	37	32	36	37	44	44	47	48	A	37	44	41	69	49	48	39	36	33	33	39.6	69.3
8-Dec	33	30	33	34	35	30	29	34	34	41	36	29	A	32	34	44	45	30	37	43	45	43	43	45	36.3	45.0
9-Dec	42	44	35	35	34	43	40	39	36	43	31	A	34	32	30	29	30	28	35	32	29	26	31	32	34.3	43.8
10-Dec	28	32	33	30	39	41	36	42	36	36	C	C	C	C	C	37	48	48	31	41	42	40	45	42	38.3	48.1
11-Dec	42	39	24	29	16	17	23	22	27	A	38	32	29	34	26	42	46	47	40	17	8	4	6	5	26.7	47.3
12-Dec	3	3	4	5	5	7	9	9	A	7	7	6	5	5	6	6	13	26	26	29	36	36	24	17	12.8	36.4
13-Dec	19	22	12	29	28	51	44	A	25	11	6	6	7	9	14	23	20	29	23	32	20	38	35	18	22.7	50.7
14-Dec	18	28	26	25	10	8	A	16	10	11	11	10	14	20	25	39	38	40	36	13	15	12	14	12	19.6	40.4
15-Dec	14	13	12	10	11	A	4	14	11	18	6	7	8	7	7	14	33	41	43	52	45	44	45	40	21.7	52.4
16-Dec	9	10	7	5	A	6	7	13	5	11	7	12	9	10	16	31	26	25	31	32	32	26	22	16	16.0	32.3
17-Dec	15	13	14	A	17	20	23	26	29	30	32	34	31	34	35	33	28	33	32	35	31	28	24	25	27.1	35.4
18-Dec	26	26	A	24	24	25	26	26	45	45	39	35	36	30	26	35	38	36	34	30	58	30	27	26	32.5	57.6
19-Dec	25	A	20	16	17	25	28	35	64	50	48	40	13	17	13	11	12	12	8	18	20	14	16	38	24.3	63.8
20-Dec	A	37	34	33	30	14	15	20	17	13	9	10	7	6	15	12	11	11	12	19	11	8	5	A	15.8	36.9
21-Dec	7	6	3	2	2	3	4	3	3	3	5	2	2	2	4	3	5	3	7	9	10	19	A	12	5.2	18.5
22-Dec	16	14	29	30	34	32	32	28	25	19	19	20	21	15	20	21	29	31	29	29	28	A	28	25	24.9	33.6
23-Dec	21	24	8	6	7	10	9	10	12	10	10	12	8	9	11	11	14	12	10	11	A	11	10	11	11.1	24.0
24-Dec	10	10	9	17	12	14	13	13	19	28	23	18	19	18	19	24	27	27	24	A	23	27	24	21	19.1	28.3
25-Dec	20	18	22	20	15	16	8	7	5	3	3	3	3	3	4	4	4	4	A	15	17	17	9	7	9.7	21.8
26-Dec	7	7	8	8	9	17	12	20	23	22	24	20	17	17	16	13	17	A	18	12	13	16	22	13	15.3	24.2
27-Dec	20	16	13	15	13	12	19	20	21	22	18	17	13	16	18	15	A	24	27	26	21	21	20	19	18.5	26.8
28-Dec	16	17	18	19	19	19	20	23	24	23	21	21	18	21	27	A	32	29	27	33	33	35	30	26	23.9	34.8
29-Dec	36	36	28	24	22	20	17	14	15	10	9	10	10	9	A	18	14	24	13	7	8	9	11	4	16.0	36.4
30-Dec	4	4	4	4	2	3	6	8	72	32	8	26	8	A	9	15	19	17	24	23	22	27	25	24	16.7	71.6
31-Dec	20	18	19	20	20	21	25	28	24	26	35	45	A	32	36	40	37	37	37	34	39	35	21	4	28.4	45.0
	19.3	19.5	17.7	18.7	18.6	19.7	19.9	22.4	26.2	24.1	21.1	20.1	17.1	17.5	18.5	23.0	26.2	27.2	27.1	26.6	26.1	24.3	23.2	21.1	Diurnal Average	
	42.5	43.8	34.7	34.6	38.8	50.7	44.3	42.5	71.6	49.6	49.0	46.8	47.5	38.5	37.5	44.2	47.6	69.3	48.9	52.4	57.6	44.1	45.3	44.6	Diurnal Maximum	

C - Calibration

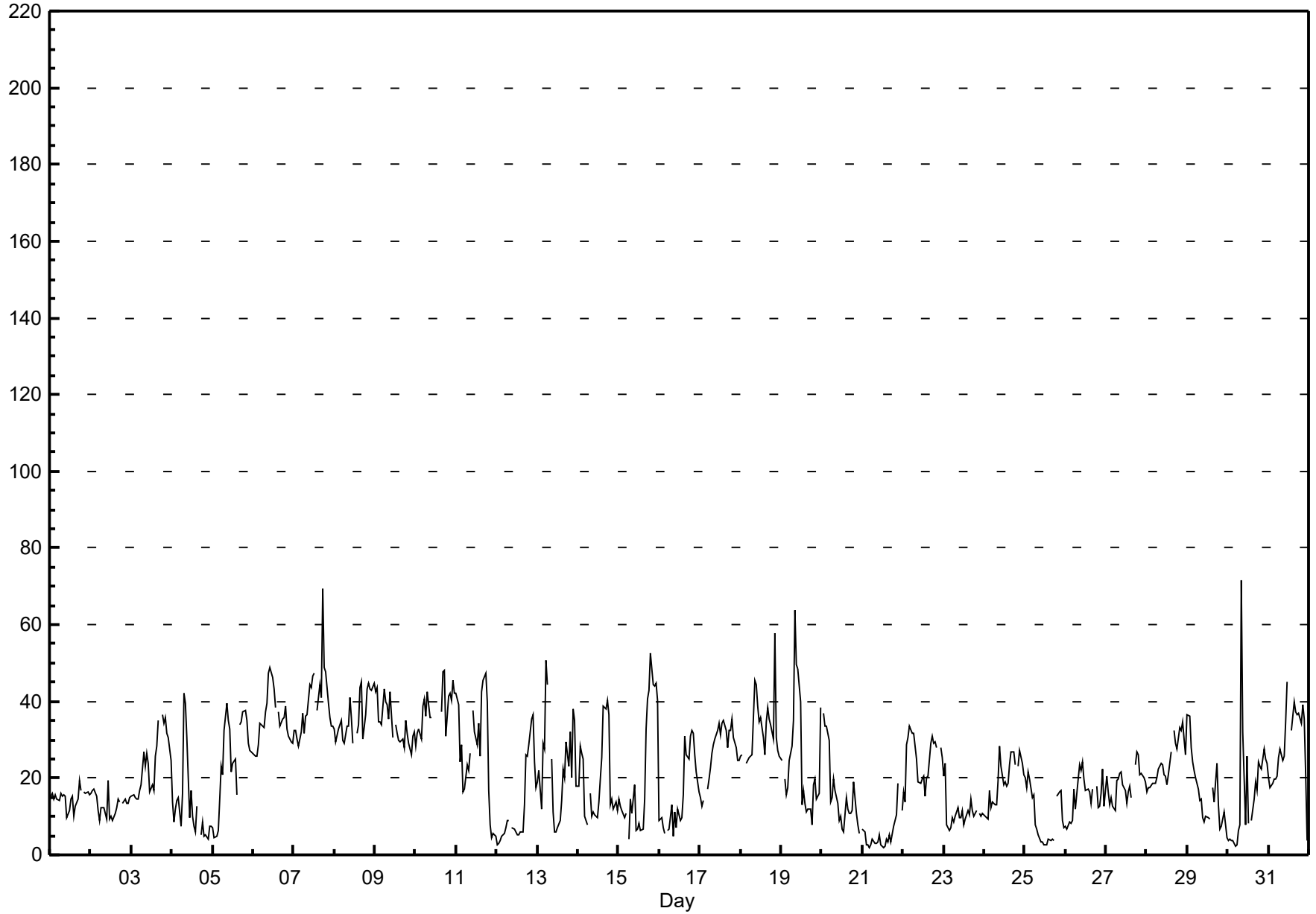
A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Nitrogen Dioxide (NO_2) - ppb

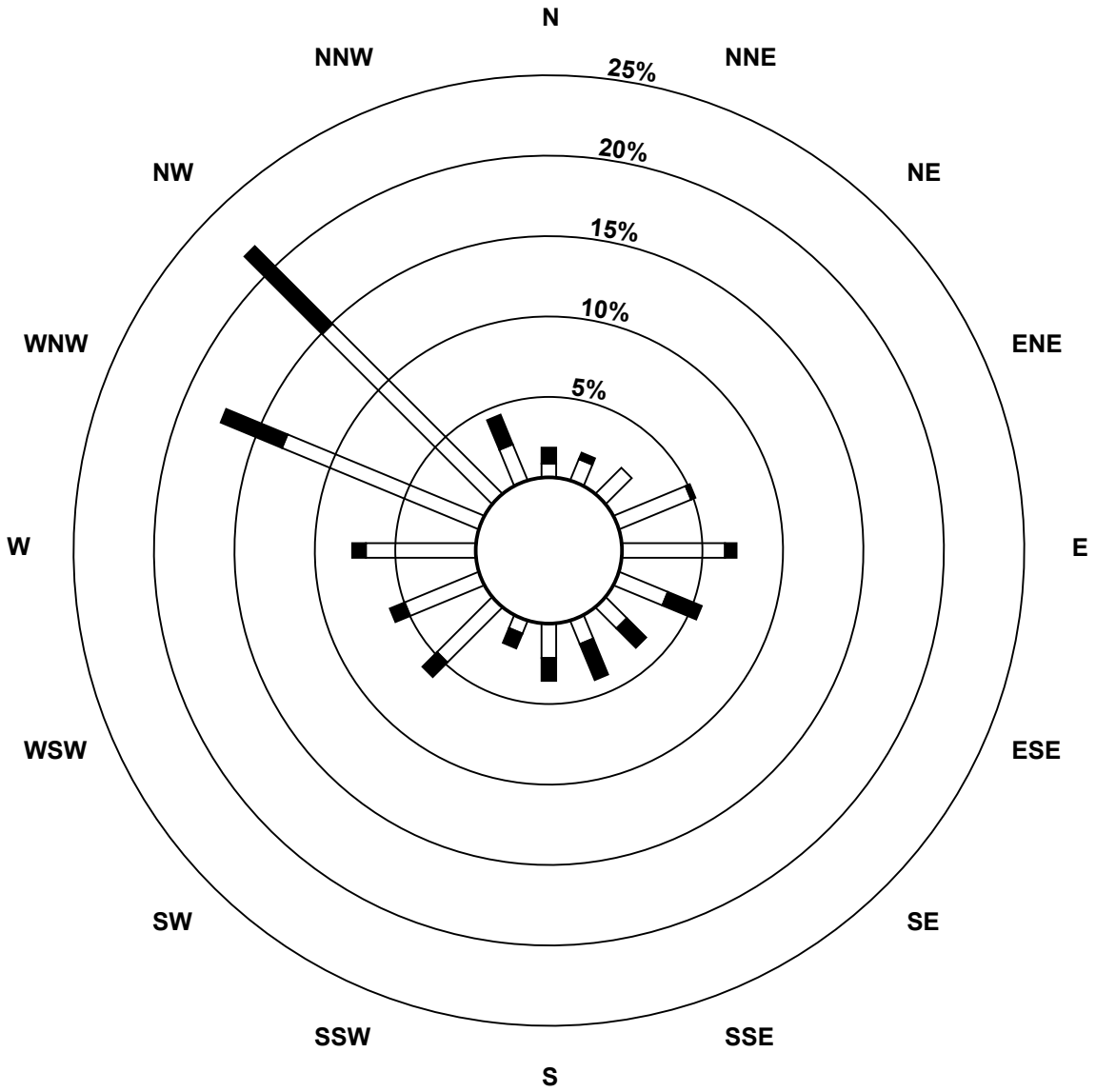
Henry Pirker - December 2018



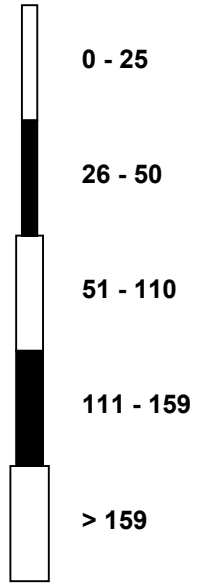
Pollutant Rose

Nitrogen Dioxide (NO_2) - ppb

Henry Pirker - December 2018



Pollutant Classes (ppb)

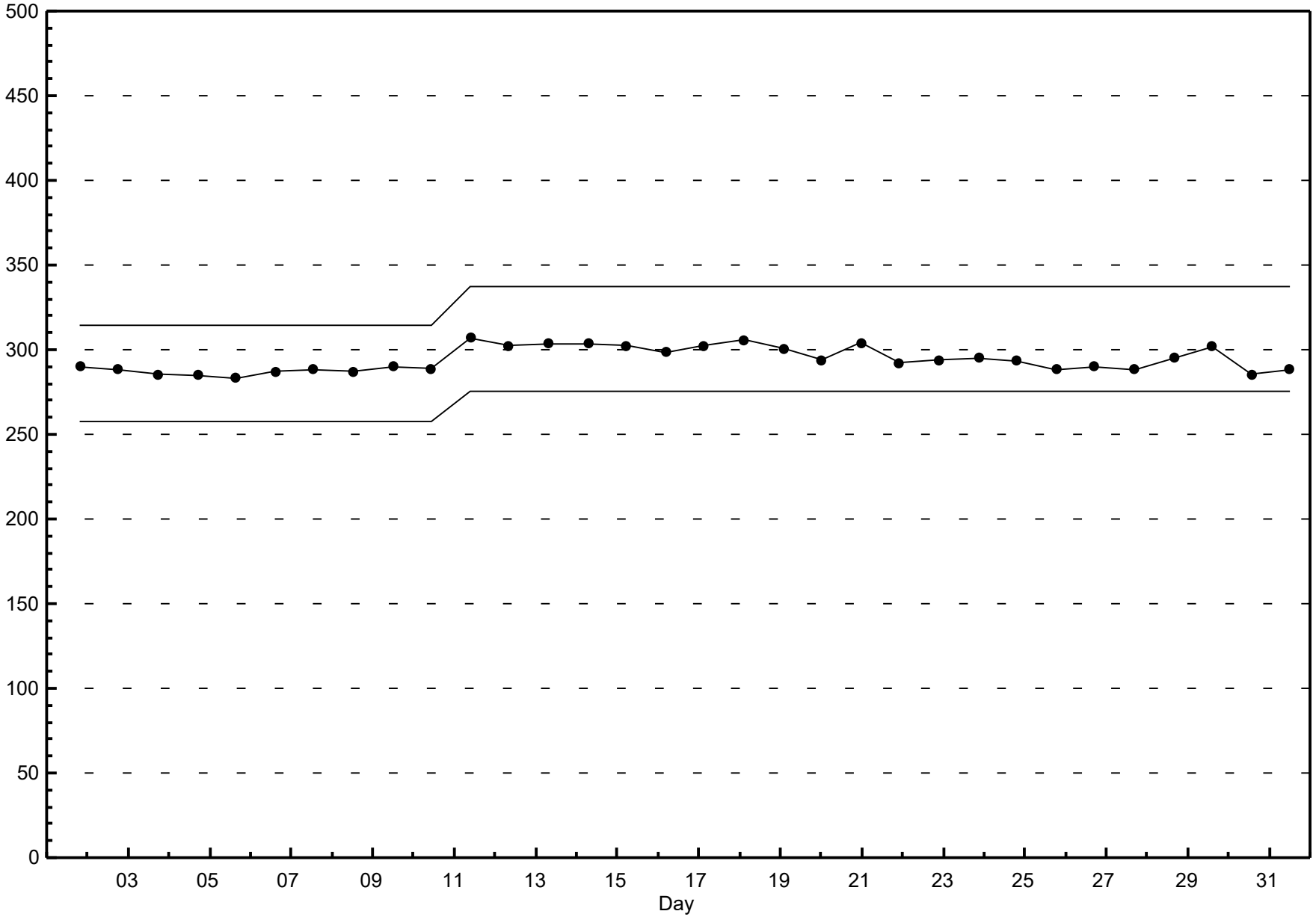


Peace Airshed Zone Association

Span Responses

Nitrogen Dioxide (NO_2)

Henry Pirker - December 2018



Peace Airshed Zone Association

Hourly Averages

Nitrogen Oxide (NO) - ppb

Henry Pirker - December 2018

Maximum Value: 157.1 ppb on Dec 7 19:00

Maximum Daily Average: 68.4 ppb on Dec 7

Minimum Value: 0 ppb on Dec 14 01:00

Minimum Daily Average: 0.1 ppb on Dec 21

Maximum Diurnal Average: 27.4 ppb at hour 20

Minimum Diurnal Average: 3.9 ppb at hour 4

Monthly Average: 15.72 ppb

Percentiles: P_1 = 0.0 P_{10} = 0.1 Q_1 = 0.7 Median = 3.3 Q_3 = 17.9 P_{90} = 56.3 P_{99} = 113.8

Hours in Service:	744
Hours of Data:	708
Hours of Missing Data:	36
Hours of Calibration:	36
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Dec	1	10	9	14	10	11	18	15	22	11	9	13	13	10	8	6	4	17	27	A	23	25	27	13	13.7	27.5
2-Dec	7	5	4	1	0	0	1	0	1	2	7	7	9	7	8	6	3	1	A	1	1	1	0	1	3.2	8.8
3-Dec	1	1	1	2	5	10	4	4	3	5	9	8	10	5	12	8	13	A	22	7	5	3	1	0	6.0	21.8
4-Dec	0	0	0	0	0	0	0	14	7	2	1	2	1	1	1	1	A	0	0	0	0	0	0	0	1.4	14.3
5-Dec	0	0	0	0	0	0	0	1	8	10	7	8	14	14	4	A	7	16	66	93	37	9	5	4	13.3	93.2
6-Dec	4	3	2	11	28	40	38	52	77	114	130	73	68	71	A	55	43	68	63	91	64	35	12	8	50.1	130.0
7-Dec	22	24	7	5	25	45	39	66	67	113	142	131	125	A	47	61	90	123	157	139	80	28	23	16	68.4	157.1
8-Dec	9	6	9	21	37	12	15	32	42	70	59	24	A	30	19	56	44	2	3	29	60	76	77	85	35.4	84.8
9-Dec	86	86	29	20	15	46	59	58	55	51	29	A	54	41	27	18	7	1	9	10	4	2	10	24	32.3	86.5
10-Dec	11	23	27	6	8	19	4	19	13	11	C	C	C	C	C	10	36	20	1	7	25	4	16	49	16.3	49.5
11-Dec	64	18	1	2	1	1	2	2	3	A	8	8	10	9	4	23	26	45	6	0	0	0	0	0	10.0	63.6
12-Dec	0	0	0	0	0	0	0	0	A	0	1	1	1	1	1	1	0	1	0	0	1	2	1	0	0.5	2.2
13-Dec	0	0	0	1	0	3	27	A	1	1	1	1	1	1	1	1	1	1	0	0	0	3	1	0	2.0	26.6
14-Dec	0	0	0	0	0	0	A	1	1	1	1	2	2	3	4	11	6	4	3	0	0	0	0	0	1.8	11.5
15-Dec	0	0	0	0	0	A	0	0	0	1	1	1	2	1	1	1	2	17	55	92	80	86	69	13	18.4	92.3
16-Dec	1	1	1	0	A	0	1	1	0	1	1	2	2	2	2	6	3	2	4	9	13	1	1	0	2.4	13.0
17-Dec	0	0	0	A	0	1	4	15	29	34	50	54	59	58	59	43	27	43	80	77	58	26	15	19	32.6	80.2
18-Dec	23	24	A	8	11	10	22	37	56	114	101	73	85	73	40	35	57	70	55	38	63	7	7	4	44.1	113.7
19-Dec	3	A	0	0	0	1	1	2	61	63	43	21	2	4	2	1	0	0	0	0	0	0	0	5	9.1	63.1
20-Dec	A	4	2	2	1	1	1	2	1	1	1	1	1	1	2	2	1	1	1	0	0	0	0	A	1.1	3.7
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	0.1	0.4
22-Dec	0	0	1	2	10	20	6	3	3	4	10	18	19	10	11	8	9	11	12	18	16	A	3	1	8.4	20.4
23-Dec	1	1	1	0	1	1	1	1	1	1	1	2	2	2	2	2	1	1	1	1	A	1	1	1	1.0	2.2
24-Dec	1	1	0	0	0	1	1	1	2	7	13	18	26	22	16	15	14	13	6	A	2	14	9	2	8.0	25.9
25-Dec	2	1	2	1	0	0	0	0	0	0	0	1	1	1	1	0	0	0	A	0	0	1	1	1	0.6	2.3
26-Dec	1	1	1	1	1	1	2	2	5	5	18	19	11	13	10	5	2	A	1	1	0	1	1	0	4.4	18.5
27-Dec	2	1	0	0	0	0	1	2	5	10	11	18	18	19	15	7	A	17	41	49	20	17	15	11	12.2	49.2
28-Dec	4	3	3	5	7	8	9	24	32	26	30	34	26	34	45	A	42	58	70	83	99	104	79	43	37.8	104.0
29-Dec	67	82	17	10	10	6	3	2	2	1	1	2	4	4	A	3	2	3	1	0	1	1	0	0	9.6	81.5
30-Dec	0	0	0	0	0	0	0	0	2	3	2	5	4	A	3	2	3	0	4	6	6	29	35	22	5.6	34.7
31-Dec	4	2	3	5	6	7	17	33	39	48	57	57	A	79	79	80	83	99	91	42	19	2	1	0	37.0	98.9
	10.4	9.8	4.0	3.9	5.9	8.2	9.1	13.0	18.0	23.7	24.8	20.8	20.3	18.5	15.2	16.1	18.1	21.8	26.8	27.4	22.6	16.0	13.7	10.8	Diurnal Average	
	86.5	85.7	29.3	20.7	36.6	45.5	58.5	66.2	77.0	113.8	141.7	130.6	124.7	79.2	78.9	79.5	89.5	122.7	157.1	138.5	98.9	104.0	78.6	84.8	Diurnal Maximum	

C - Calibration

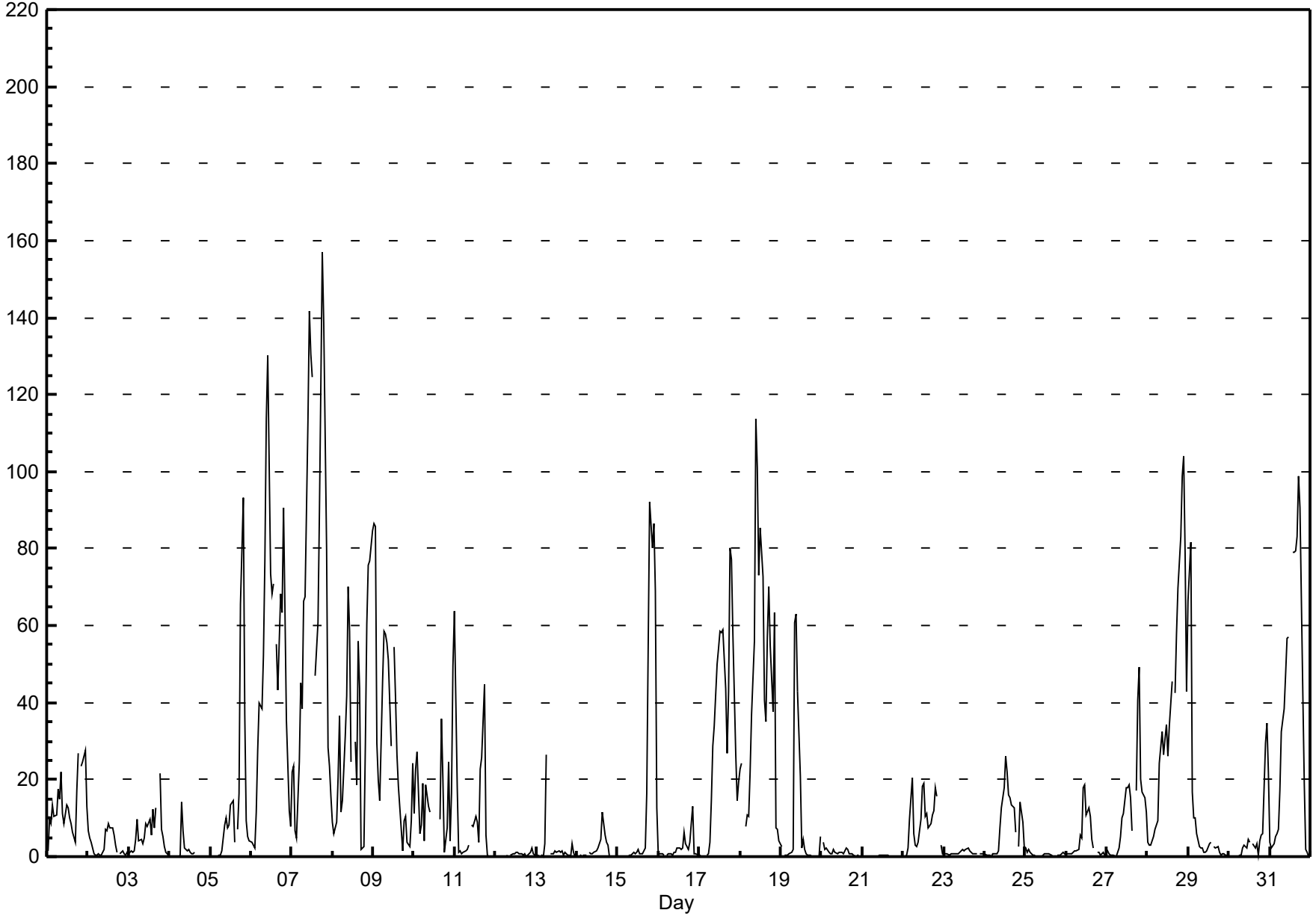
A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Averages

Nitrogen Oxide (NO) - ppb

Henry Pirker - December 2018



Peace Airshed Zone Association

Hourly Maximums

Nitrogen Oxide (NO) - ppb

Henry Pirker - December 2018

Maximum Value: 235.9 ppb on Dec 19 09:00

Maximum Daily Average: 94.4 ppb on Dec 7

Minimum Value: 0 ppb on Dec 13 03:00

Minimum Daily Average: 0.8 ppb on Dec 21

Maximum Diurnal Average: 40.4 ppb at hour 19

Minimum Diurnal Average: 7.5 ppb at hour 3

Monthly Average: 25.32 ppb

Percentiles: P_1 = 0.1 P_{10} = 0.7 Q_1 = 2.1 Median = 8.9 Q_3 = 32.6 P_{90} = 83.1 P_{99} = 152.3

Hours in Service:	744
Hours of Data:	708
Hours of Missing Data:	36
Hours of Calibration:	36
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Dec	12	14	17	22	15	14	29	25	26	20	12	19	28	15	12	11	9	33	36	A	29	31	35	28	21.3	36.2
2-Dec	13	7	7	2	1	1	6	5	1	5	20	8	13	10	12	9	6	5	A	2	3	2	1	3	6.1	19.8
3-Dec	3	2	3	3	8	16	17	9	6	11	15	14	15	13	19	13	26	A	35	18	18	12	3	4	12.3	34.9
4-Dec	0	0	0	0	1	1	1	40	25	11	3	15	3	2	2	2	A	1	0	1	1	0	1	0	4.7	39.6
5-Dec	0	0	0	0	0	1	1	4	14	13	19	12	23	26	7	A	26	38	95	105	71	20	10	7	21.5	105.0
6-Dec	6	5	8	24	47	50	56	108	115	133	171	146	114	81	A	68	59	86	82	126	72	65	25	14	72.2	171.3
7-Dec	36	38	21	15	44	57	58	86	91	149	166	170	153	A	64	117	107	201	181	172	115	65	33	33	94.4	201.2
8-Dec	20	13	18	32	46	38	40	75	58	85	79	35	A	66	40	90	74	4	10	42	82	88	84	92	52.7	92.4
9-Dec	95	105	44	40	37	83	74	78	84	89	45	A	79	53	40	29	20	4	33	15	7	4	22	47	49.0	104.7
10-Dec	15	34	36	18	61	41	10	52	30	23	C	C	C	C	C	18	74	71	3	37	40	17	47	74	36.9	74.3
11-Dec	79	48	2	4	1	4	4	3	34	A	15	12	13	25	5	32	84	84	27	1	0	0	0	0	20.8	84.0
12-Dec	0	0	0	0	0	0	1	1	A	1	1	9	2	2	1	1	1	2	1	2	5	5	2	1	1.7	8.8
13-Dec	1	1	0	4	1	47	58	A	2	1	2	32	2	2	2	3	3	4	1	2	1	25	4	0	8.6	57.5
14-Dec	0	1	3	0	1	1	A	7	4	3	4	6	7	8	10	21	11	13	43	1	1	2	1	2	6.5	43.0
15-Dec	0	1	0	1	0	A	1	3	1	3	7	10	3	2	7	3	9	35	83	118	114	101	109	65	29.5	118.3
16-Dec	1	2	2	1	A	1	4	4	1	10	2	5	4	3	6	17	13	6	12	16	27	2	3	4	6.4	27.2
17-Dec	1	1	0	A	1	4	7	25	36	45	62	98	67	72	70	59	40	89	100	114	93	43	23	25	46.7	114.1
18-Dec	35	35	A	14	20	23	42	61	87	149	138	104	104	86	56	61	107	88	80	53	134	27	11	10	66.3	148.5
19-Dec	6	A	1	1	1	2	8	9	236	107	114	61	6	7	4	2	1	1	0	1	1	1	1	14	25.4	235.9
20-Dec	A	8	4	5	6	2	2	9	3	1	3	4	2	1	8	6	4	3	3	5	1	1	0	A	3.8	9.2
21-Dec	0	1	1	0	0	0	1	0	0	1	2	1	1	1	3	1	1	0	0	1	0	1	A	1	0.8	3.5
22-Dec	2	1	2	7	15	30	31	15	7	18	17	24	29	18	21	11	20	25	21	28	24	A	8	6	16.4	31.0
23-Dec	4	2	3	2	2	3	4	4	4	4	4	3	3	4	10	6	5	2	2	2	A	2	2	2	3.6	10.0
24-Dec	2	3	2	1	1	2	6	2	4	25	20	21	32	26	22	23	24	22	13	A	8	28	19	7	13.6	31.8
25-Dec	9	2	7	3	1	1	1	0	0	0	1	1	1	1	1	1	1	0	A	1	1	4	4	1	1.9	9.3
26-Dec	2	3	2	3	3	3	5	5	8	13	40	33	19	24	21	7	10	A	3	3	2	5	5	2	9.6	39.8
27-Dec	6	8	1	3	1	1	4	4	9	12	17	21	20	26	29	13	A	24	79	78	27	19	21	15	18.9	78.5
28-Dec	6	5	6	9	11	14	17	32	40	40	45	39	39	45	63	A	58	88	97	104	126	126	95	62	50.8	126.3
29-Dec	111	110	29	13	13	11	4	3	5	2	2	5	6	8	A	13	14	16	4	1	3	4	2	1	16.6	110.7
30-Dec	1	1	0	1	1	1	1	2	22	37	4	26	8	A	7	5	8	1	19	16	12	46	47	32	12.9	47.0
31-Dec	10	4	7	9	11	14	36	52	64	70	112	97	A	96	102	88	105	107	107	72	38	14	24	0	53.9	112.3
	15.9	15.2	7.5	7.9	11.7	15.5	17.5	24.1	33.9	36.1	38.1	35.5	28.4	25.9	23.0	25.3	31.8	36.3	40.4	39.2	35.1	25.4	21.4	18.5	Diurnal Average	
	110.7	110.3	44.0	40.2	61.3	83.1	73.9	107.6	235.9	149.3	171.3	170.2	152.6	96.4	101.7	117.5	107.3	201.2	180.7	172.4	134.0	126.3	109.4	92.4	Diurnal Maximum	

C - Calibration

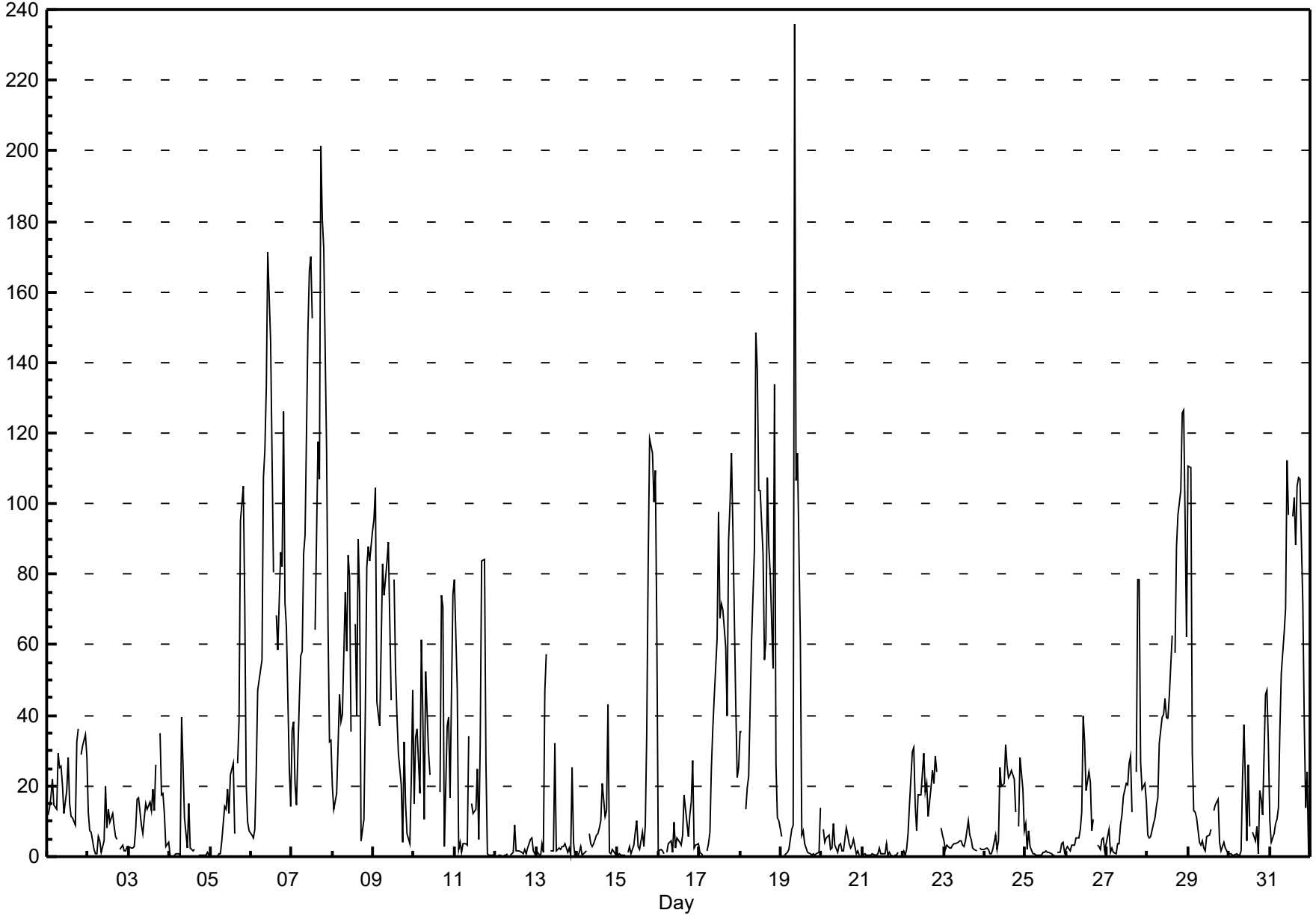
A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Nitrogen Oxide (NO) - ppb

Henry Pirker - December 2018



Peace Airshed Zone Association

Hourly Averages

Oxides of Nitrogen (NO_X) - ppb

Henry Pirker - December 2018

Maximum Value: 201.8 ppb on Dec 7 19:00

Maximum Daily Average: 103.5 ppb on Dec 7

Minimum Value: 1 ppb on Dec 21 05:00

Minimum Daily Average: 3.2 ppb on Dec 21

Maximum Diurnal Average: 49.7 ppb at hour 20

Minimum Diurnal Average: 19.0 ppb at hour 3

Monthly Average: 33.46 ppb

Percentiles: P_1 = 1.8 P_{10} = 4.6 Q_1 = 9.1 Median = 21.0 Q_3 = 42.6 P_{90} = 87.0 P_{99} = 153.1

Hours in Service:	744
Hours of Data:	708
Hours of Missing Data:	36
Hours of Calibration:	36
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Dec	13	24	22	28	24	24	31	29	38	23	18	23	21	18	17	16	15	33	42	A	39	40	43	28	26.5	42.8
2-Dec	22	21	19	15	8	8	10	9	11	10	17	14	17	15	17	16	15	13	A	13	14	13	14	15	14.2	22.3
3-Dec	16	16	16	16	19	25	19	27	23	25	26	21	24	15	32	28	44	A	57	37	29	27	27	14	25.3	57.1
4-Dec	11	7	8	8	4	4	12	47	34	18	8	9	7	4	4	9	A	4	5	3	3	3	4	5	9.6	47.5
5-Dec	4	3	3	4	9	20	18	28	45	43	29	27	32	34	14	A	34	48	100	130	68	36	31	30	34.3	129.7
6-Dec	28	27	25	38	57	72	68	82	110	153	173	108	103	107	A	88	75	101	97	125	95	65	38	35	81.3	172.8
7-Dec	52	53	33	30	54	78	69	98	100	151	182	172	167	A	83	99	128	164	202	182	117	62	56	47	103.5	201.8
8-Dec	40	34	38	52	69	37	41	61	72	105	91	50	A	53	42	95	82	26	28	68	102	118	118	127	67.3	126.8
9-Dec	128	125	62	51	45	80	93	91	86	81	56	A	85	71	54	46	33	25	39	41	31	28	37	54	62.7	127.6
10-Dec	39	52	57	33	38	53	35	54	46	40	C	C	C	C	C	38	78	49	22	42	64	39	55	90	48.6	90.0
11-Dec	103	50	22	25	16	16	21	20	26	A	39	35	37	34	24	60	67	87	34	10	5	3	4	3	32.3	103.3
12-Dec	2	2	2	3	4	5	6	6	A	6	5	4	4	5	5	5	6	21	16	17	23	30	21	14	9.3	30.5
13-Dec	16	16	10	18	12	27	66	A	18	8	4	5	6	7	9	16	16	21	20	22	17	31	26	16	17.7	66.2
14-Dec	13	16	20	13	8	6	A	10	9	9	9	9	11	15	21	44	39	37	28	10	12	9	9	8	15.8	43.6
15-Dec	9	10	9	7	6	A	3	3	7	12	4	5	7	5	5	11	25	55	95	137	121	128	107	29	34.7	136.9
16-Dec	8	8	6	5	A	5	5	5	4	6	7	10	10	10	11	24	20	22	31	39	42	20	15	13	14.1	42.5
17-Dec	10	10	12	A	14	15	24	39	56	61	79	81	88	88	92	73	53	70	110	107	85	51	38	43	56.5	110.2
18-Dec	47	48	A	30	34	33	46	62	83	148	134	102	118	101	65	61	87	102	85	67	98	32	33	26	71.4	148.5
19-Dec	25	A	16	14	16	18	23	25	105	105	79	43	9	17	10	7	8	8	5	10	14	10	11	34	26.5	104.8
20-Dec	A	36	33	33	22	11	12	15	15	10	8	7	5	5	9	11	8	10	9	11	6	5	5	A	13.1	36.4
21-Dec	4	3	2	1	1	1	2	2	2	2	2	2	2	2	2	3	3	2	3	6	6	11	A	9	3.2	11.0
22-Dec	9	10	20	29	40	50	28	25	23	20	26	36	36	22	26	25	33	38	39	45	42	A	28	19	29.1	50.0
23-Dec	17	16	6	5	5	6	7	8	8	8	8	9	7	8	9	8	9	8	8	9	A	9	8	10	8.6	17.4
24-Dec	9	8	8	12	10	12	11	11	18	27	30	34	44	39	33	35	37	38	28	A	21	38	31	20	24.0	43.8
25-Dec	20	17	17	18	14	12	7	6	4	3	3	3	3	3	4	3	3	2	A	11	10	10	7	7	8.2	20.5
26-Dec	7	6	7	6	7	14	11	15	27	22	35	34	24	25	22	16	14	A	14	11	9	12	17	11	15.9	35.2
27-Dec	16	13	12	12	7	7	13	21	26	31	28	32	30	31	28	17	A	39	65	72	40	36	34	29	27.9	72.0
28-Dec	20	19	19	22	25	26	28	46	55	48	51	54	43	53	69	A	68	83	94	111	128	134	106	67	59.4	133.7
29-Dec	93	114	43	33	30	23	18	14	13	9	8	8	12	11	A	11	13	14	9	6	7	8	6	3	22.0	113.9
30-Dec	2	3	2	2	2	2	3	5	15	14	8	11	8	A	10	10	20	15	24	26	27	54	59	44	15.9	58.6
31-Dec	20	18	20	23	24	26	38	54	60	70	80	79	A	108	110	116	119	135	126	74	53	17	5	3	60.0	134.6
	26.8	26.1	19.0	19.6	20.8	23.9	25.6	30.7	37.9	42.2	41.5	35.5	34.3	32.4	29.6	34.1	39.7	43.7	49.6	49.7	44.3	36.0	33.0	28.4	Diurnal Average	
	127.6	125.4	61.9	52.1	68.7	80.0	93.5	98.4	109.6	153.2	182.4	172.4	167.4	108.1	110.2	116.5	127.6	163.7	201.8	181.6	127.7	133.7	117.5	126.8	Diurnal Maximum	

C - Calibration

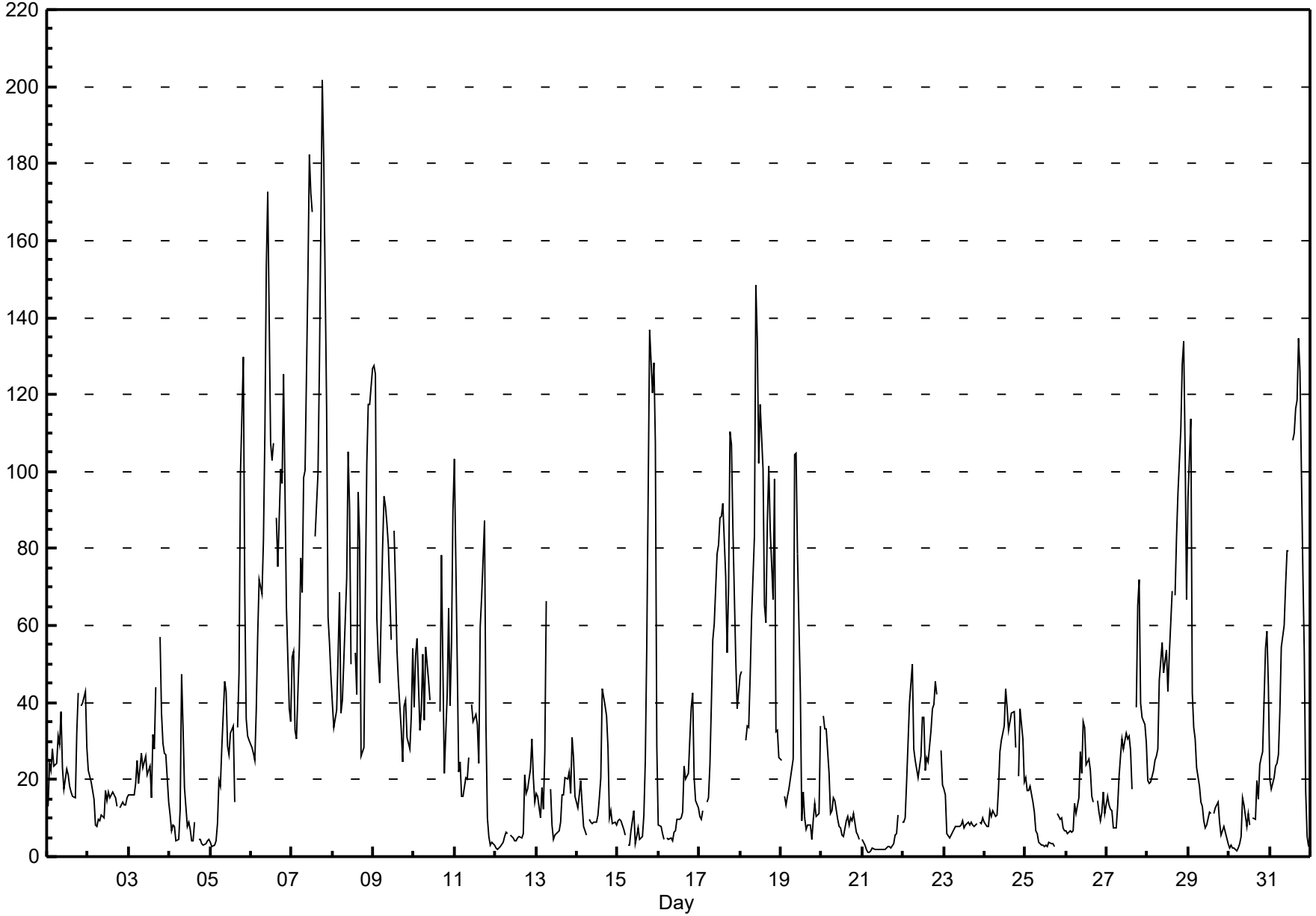
A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Averages

Oxides of Nitrogen (NO_X) - ppb

Henry Pirker - December 2018



Peace Airshed Zone Association

Hourly Maximums

Oxides of Nitrogen (NO_X) - ppb

Henry Pirker - December 2018

Maximum Value: 300.4 ppb on Dec 19 09:00

Maximum Daily Average: 132.8 ppb on Dec 7

Minimum Value: 2 ppb on Dec 21 05:00

Minimum Daily Average: 5.9 ppb on Dec 21

Maximum Diurnal Average: 66.7 ppb at hour 19

Minimum Diurnal Average: 25.1 ppb at hour 3

Monthly Average: 46.66 ppb

Percentiles: P_1 = 3.1 P_{10} = 7.8 Q_1 = 14.5 Median = 30.5 Q_3 = 61.9 P_{90} = 118.4 P_{99} = 199.3

Hours in Service:	744
Hours of Data:	708
Hours of Missing Data:	36
Hours of Calibration:	36
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Dec	27	29	32	38	29	28	44	40	41	35	22	30	43	27	22	22	24	52	52	A	45	47	51	44	35.8	52.3
2-Dec	27	24	24	17	12	10	18	17	14	13	40	17	24	19	23	20	18	19	A	15	18	15	15	18	18.9	39.5
3-Dec	18	18	18	17	22	32	35	36	29	36	39	29	34	30	45	42	60	A	69	51	53	44	34	28	35.6	68.8
4-Dec	14	9	12	14	16	8	16	81	65	42	12	20	13	9	7	15	A	6	9	5	6	4	9	8	17.4	80.9
5-Dec	7	5	5	6	15	24	22	37	54	48	52	34	48	52	22	A	61	69	132	142	106	50	37	35	46.1	142.3
6-Dec	31	31	33	53	81	82	86	143	155	181	219	189	155	117	A	101	93	120	117	164	104	96	54	43	106.5	219.5
7-Dec	68	70	51	43	76	94	89	122	128	191	207	214	200	A	101	159	148	265	228	219	154	99	64	66	132.8	264.8
8-Dec	52	42	51	64	79	69	66	106	91	126	115	64	A	98	74	133	118	35	46	83	122	131	126	135	88.1	135.0
9-Dec	137	148	78	75	71	126	113	117	119	132	73	A	112	84	70	58	51	32	68	47	36	30	53	79	83.0	148.2
10-Dec	44	65	67	48	98	81	46	93	63	59	C	C	C	C	C	56	122	118	34	78	82	57	92	115	74.7	122.2
11-Dec	118	84	26	32	18	20	27	26	59	A	51	45	42	60	31	73	125	131	66	18	8	4	6	5	46.7	130.7
12-Dec	3	3	4	5	5	7	10	10	A	7	7	14	7	7	8	7	14	28	27	31	41	42	26	18	14.4	41.8
13-Dec	20	23	12	33	29	95	102	A	27	12	7	23	9	11	16	26	22	32	25	34	20	63	39	18	30.3	101.5
14-Dec	18	30	29	25	11	9	A	23	13	13	13	16	20	28	33	60	50	53	70	14	16	12	15	13	25.4	70.2
15-Dec	15	13	12	10	11	A	5	16	11	22	12	13	11	8	12	17	41	75	126	169	157	143	150	98	49.9	168.7
16-Dec	10	12	9	6	A	7	11	18	5	20	9	17	13	13	22	46	40	31	42	48	58	29	25	18	22.0	57.6
17-Dec	16	13	15	A	19	22	29	51	65	75	94	132	99	106	105	92	68	115	132	144	122	71	47	50	73.0	143.8
18-Dec	61	62	A	37	44	46	68	87	133	189	177	138	136	115	82	94	144	118	114	83	190	57	38	36	97.7	190.2
19-Dec	30	A	20	17	19	27	36	44	300	153	157	100	19	24	17	14	13	13	8	19	20	15	16	52	49.3	300.4
20-Dec	A	45	38	39	35	16	17	29	19	14	12	14	8	7	23	17	14	13	14	23	11	8	5	A	19.2	45.0
21-Dec	7	7	3	3	2	3	4	3	3	4	8	3	3	3	7	4	6	3	8	9	11	19	A	13	5.9	19.1
22-Dec	17	14	31	37	48	61	62	43	32	28	33	43	50	33	41	30	48	55	50	57	52	A	36	32	40.6	62.5
23-Dec	22	26	10	8	9	13	12	13	16	14	14	15	11	14	21	17	19	14	12	13	A	13	12	12	14.4	26.0
24-Dec	12	12	11	18	13	15	15	15	23	54	42	38	51	43	40	47	51	49	35	A	32	56	42	29	32.2	55.9
25-Dec	27	20	29	23	15	17	8	7	5	4	4	3	4	4	6	4	5	4	A	16	17	21	11	9	11.5	29.2
26-Dec	10	9	10	11	11	21	17	23	31	32	64	52	34	41	37	18	26	A	20	15	14	21	28	14	24.4	64.3
27-Dec	27	18	14	18	14	12	23	23	30	32	34	37	34	43	46	26	A	47	105	105	47	40	40	34	36.9	104.7
28-Dec	23	22	23	28	30	33	37	55	63	63	66	60	54	66	89	A	85	115	124	135	158	160	124	88	74.0	160.4
29-Dec	148	146	57	36	34	31	21	17	20	12	11	16	16	17	A	31	24	41	16	8	10	11	13	5	32.1	147.7
30-Dec	4	4	4	4	3	3	7	10	94	68	12	52	16	A	16	19	27	18	43	40	34	71	71	56	29.4	94.4
31-Dec	30	22	25	30	31	34	62	79	88	95	146	142	A	129	136	129	140	143	144	106	77	49	42	4	81.9	145.5
	34.8	34.2	25.1	26.5	30.0	34.9	36.9	46.1	59.9	59.2	58.4	54.2	45.1	43.1	41.2	47.5	57.0	62.6	66.7	65.2	60.7	49.3	44.0	39.1	Diurnal Average	
	147.7	148.2	78.0	75.2	97.9	126.2	113.3	143.3	300.4	191.2	219.5	213.9	199.9	128.9	135.8	158.9	147.6	264.8	227.8	219.0	190.2	160.4	150.1	135.0	Diurnal Maximum	

C - Calibration

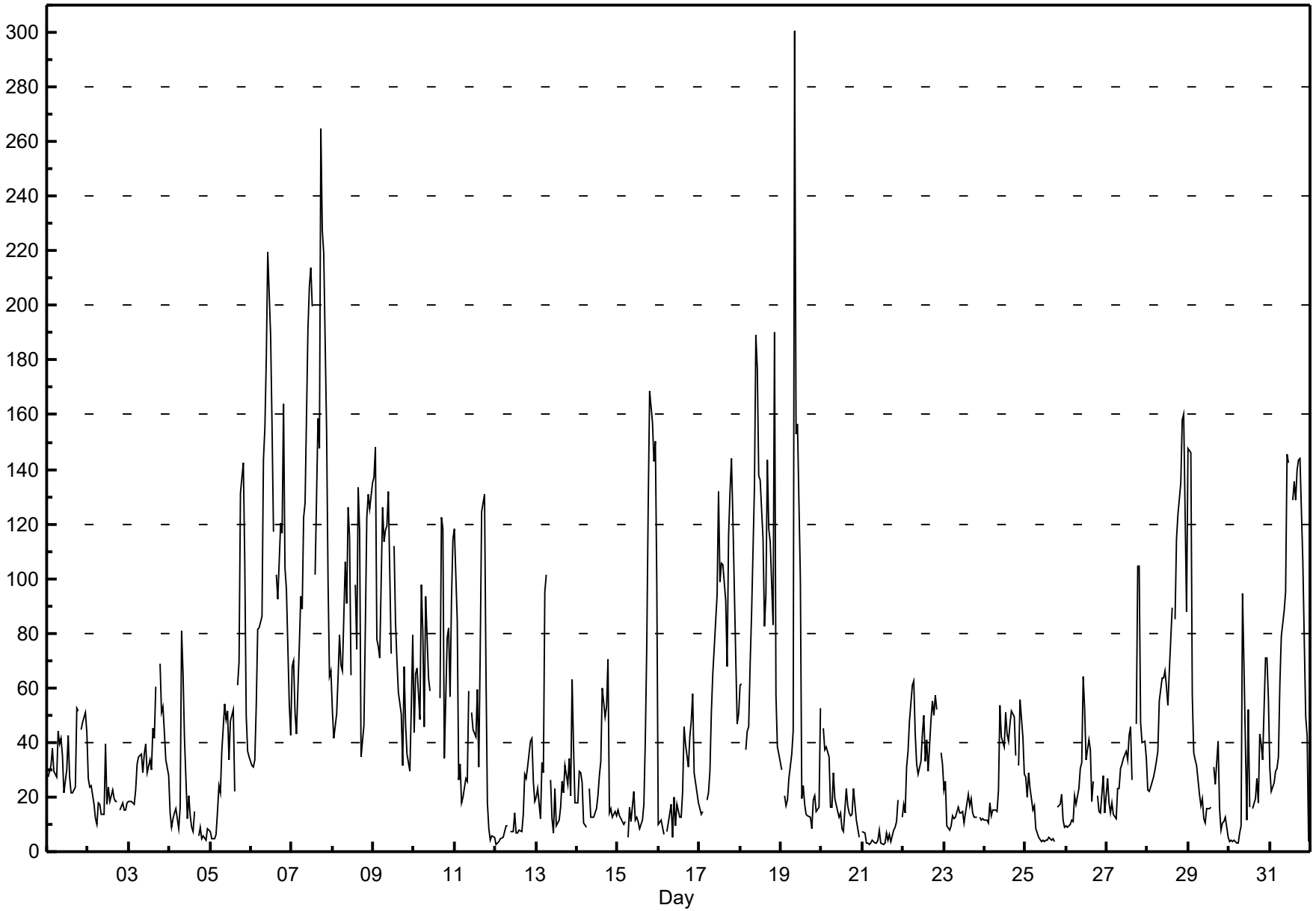
A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Oxides of Nitrogen (NO_X) - ppb

Henry Pirker - December 2018

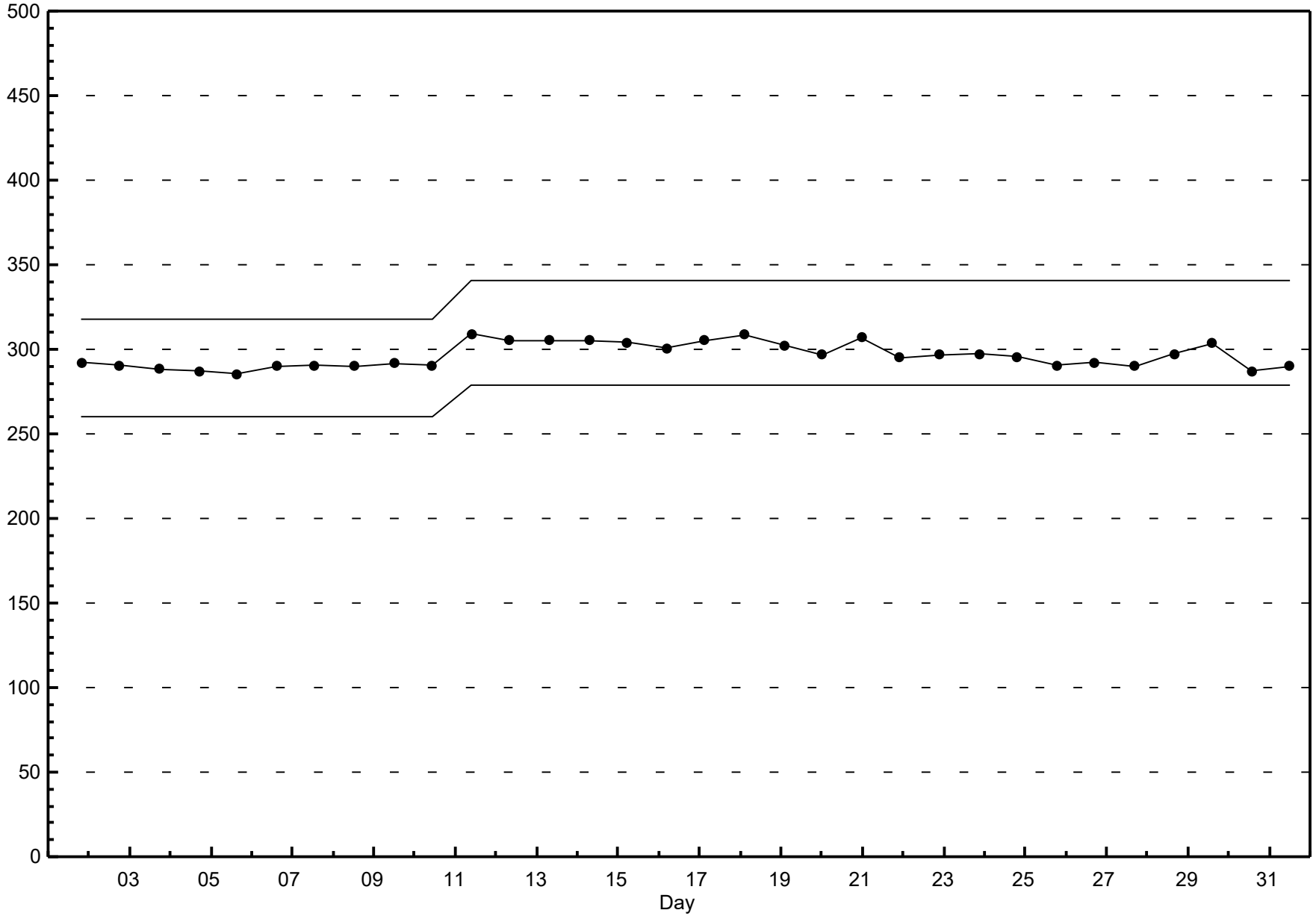


Peace Airshed Zone Association

Span Responses

Oxides of Nitrogen (NO_X)

Henry Pirker - December 2018



Peace Airshed Zone Association

Hourly Averages

Ozone (O_3) - ppb

Henry Pirker - December 2018

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 39.5 ppb on Jan 1 00:00 Maximum Daily Average: 32.5 ppb on Dec 21

Minimum Value: 0 ppb on Dec 2 00:00
Maximum Diurnal Average: 18.8 ppb at hour 14
Monthly Average: 12.97 ppb
Minimum Daily Average: 1.5 ppb on Dec 28
Minimum Diurnal Average: 10.0 ppb at hour 9
Percentiles: P_1 = 0.2 P_{10} = 0.9 Q_1 = 2.5 Median = 9.9 Q_3 = 22.5 P_{90} = 31.3 P_{99} = 35.9

Hours in Service:	744
Hours of Data:	709
Hours of Missing Data:	35
Hours of Calibration:	35
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Dec	3	0	0	0	0	0	0	0	0	2	5	5	6	6	6	5	3	1	0	A	0	0	2	0	2.0	6.4
2-Dec	0	1	2	4	11	12	10	9	8	9	8	10	10	11	9	7	6	6	A	7	6	5	4	3	6.9	11.6
3-Dec	2	1	1	1	0	0	11	7	10	12	15	20	21	27	18	15	5	A	2	5	10	9	8	19	9.5	26.8
4-Dec	21	24	26	28	33	32	24	6	11	22	30	30	31	34	34	30	A	35	35	36	36	35	34	33	28.7	35.8
5-Dec	34	35	34	33	28	17	18	10	2	4	14	16	16	17	25	A	8	2	1	1	1	2	2	2	14.1	35.0
6-Dec	2	3	3	1	1	1	1	1	1	3	4	8	8	7	A	4	2	1	1	2	2	2	3	2	2.8	7.8
7-Dec	2	3	6	4	2	2	2	2	2	3	3	5	5	A	8	5	2	2	3	4	2	2	3	2	3.2	7.9
8-Dec	3	4	3	2	2	2	3	3	3	4	6	13	A	13	13	5	5	16	15	4	4	3	4	4	5.8	16.4
9-Dec	3	3	2	2	2	2	2	2	2	2	6	A	7	7	6	5	5	9	4	2	3	3	2	1	3.6	9.0
10-Dec	1	1	1	5	4	3	4	2	3	5	A	19	29	26	C	C	C	11	16	5	1	4	1	1	7.1	28.8
11-Dec	1	4	12	10	16	17	15	16	13	A	10	13	14	18	21	8	2	1	8	24	31	34	35	35	15.5	35.3
12-Dec	36	36	35	34	34	32	31	32	A	35	36	37	37	37	35	35	34	20	23	21	17	11	18	23	30.0	37.2
13-Dec	21	22	26	19	24	13	1	A	22	32	36	35	35	34	32	26	25	21	21	20	23	11	13	22	23.2	35.8
14-Dec	25	22	19	25	30	33	A	32	32	32	32	32	31	28	23	10	7	6	12	26	24	27	25	25	24.3	33.4
15-Dec	23	21	22	25	24	A	24	25	23	20	29	28	27	31	32	27	14	2	1	2	1	1	1	18	18.3	32.0
16-Dec	26	24	27	28	A	29	28	28	30	30	29	27	26	25	24	18	17	13	5	2	2	10	15	17	20.9	29.9
17-Dec	19	19	16	A	11	11	5	1	0	1	3	5	5	6	5	3	1	1	2	1	1	1	1	0	5.1	18.9
18-Dec	0	1	A	0	0	0	0	0	1	1	2	4	4	4	4	3	1	1	2	0	1	3	1	5	1.7	4.8
19-Dec	4	A	13	16	15	16	14	13	1	2	5	18	30	26	31	33	32	31	34	29	24	26	25	8	19.4	34.0
20-Dec	A	4	4	3	12	24	22	20	20	24	26	27	30	32	31	27	27	26	27	24	27	27	28	A	22.4	32.0
21-Dec	25	28	29	32	34	34	34	35	35	35	36	36	36	36	35	35	35	35	34	31	30	24	A	24	32.5	35.9
22-Dec	23	22	12	3	1	0	5	5	7	10	11	11	13	16	14	12	4	2	3	1	1	A	5	11	8.2	22.9
23-Dec	13	17	30	31	29	26	25	24	24	25	24	23	25	24	23	22	21	21	22	21	A	20	19	18	22.8	30.9
24-Dec	19	19	18	14	15	13	14	13	8	6	8	9	10	10	10	7	4	1	2	A	4	1	1	4	9.1	18.9
25-Dec	4	6	6	3	6	10	16	16	19	20	22	23	24	25	25	25	25	25	A	17	18	18	19	19	16.9	25.4
26-Dec	19	17	16	16	15	9	13	9	2	6	7	8	14	12	10	11	10	A	9	12	14	13	8	12	11.4	18.8
27-Dec	9	10	11	11	15	14	8	2	1	1	5	7	9	9	9	9	A	1	1	1	1	1	0	1	5.9	14.7
28-Dec	1	1	1	0	1	0	1	0	1	1	3	4	5	4	3	A	1	1	1	1	1	1	1	1	1.5	4.8
29-Dec	1	1	1	3	8	12	4	8	11	16	20	20	15	15	A	14	12	9	11	14	13	12	13	18	10.9	19.8
30-Dec	19	19	19	19	20	19	18	16	9	11	15	14	16	A	15	15	7	7	3	3	2	1	1	1	11.7	19.7
31-Dec	3	4	2	1	1	1	0	1	1	1	3	4	A	4	4	3	1	1	1	1	2	25	38	39	6.1	39.5
	12.1	12.4	13.3	12.5	13.1	12.9	11.8	11.3	10.0	12.5	15.0	17.0	18.5	18.8	18.1	15.0	11.2	10.6	10.3	10.9	10.0	11.1	11.0	12.3	Diurnal Average	
	36.2	36.2	35.1	34.4	33.7	34.0	34.1	34.7	34.8	35.4	35.8	37.2	37.2	36.5	35.5	35.3	35.1	35.4	35.1	35.8	35.8	35.2	37.8	39.5	Diurnal Maximum	

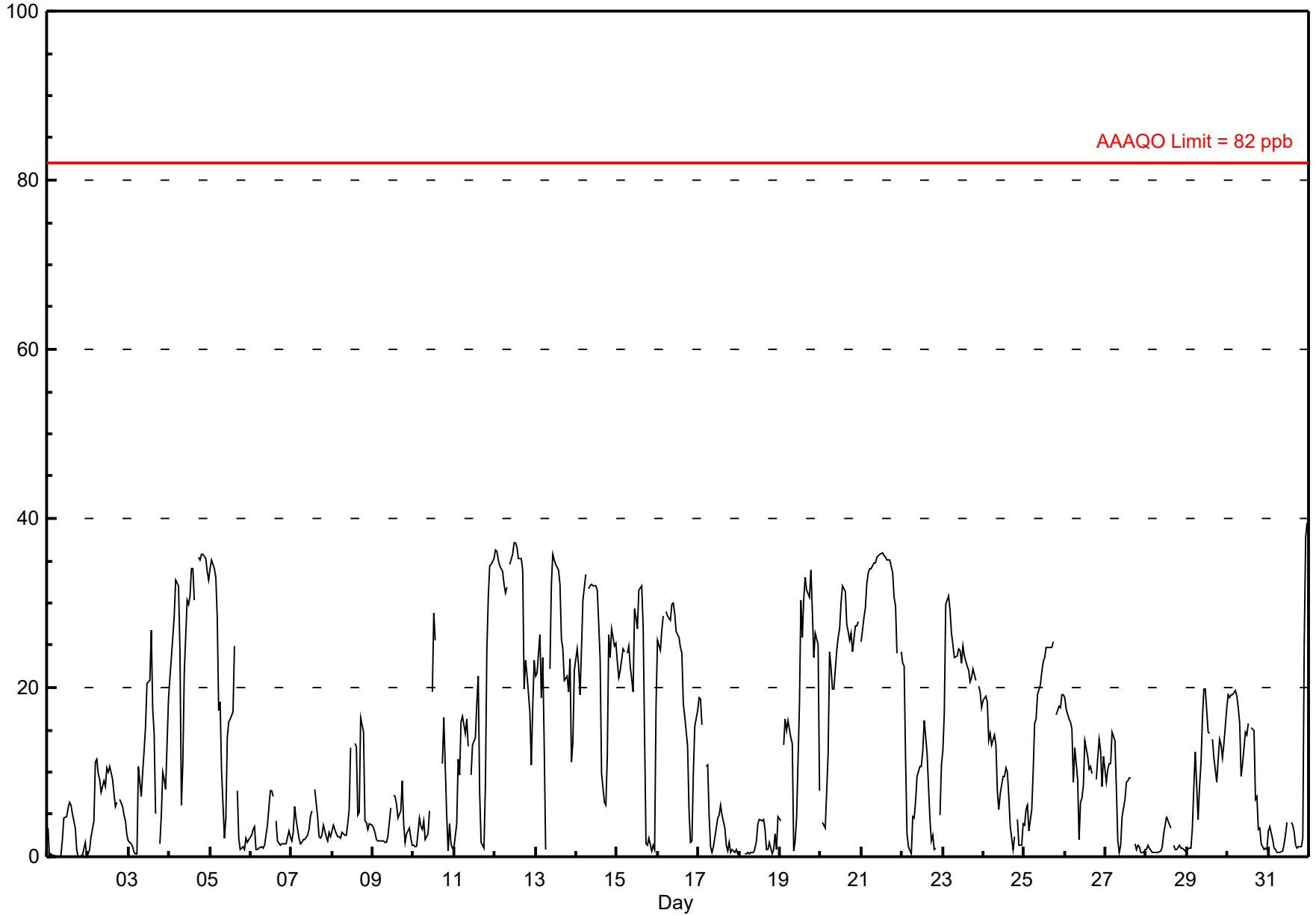
C - Calibration A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 82 ppb 24-hr na

Peace Airshed Zone Association

Hourly Averages

Ozone (O_3) - ppb

Henry Pirker - December 2018



Peace Airshed Zone Association

Hourly Maximums

Ozone (O_3) - ppb

Henry Pirker - December 2018

Maximum Value: 40.1 ppb on Jan 1 00:00

Maximum Daily Average: 33.8 ppb on Dec 21

Minimum Value: 0 ppb on Dec 1 02:00

Minimum Daily Average: 2.3 ppb on Dec 28

Maximum Diurnal Average: 21.2 ppb at hour 14

Minimum Diurnal Average: 12.4 ppb at hour 9

Monthly Average: 15.63 ppb

Percentiles: $P_1 = 0.6$ $P_{10} = 1.8$ $Q_1 = 4.7$ Median = 13.6 $Q_3 = 26.1$ $P_{90} = 33.7$ $P_{99} = 37.1$

Hours in Service:	744
Hours of Data:	709
Hours of Missing Data:	35
Hours of Calibration:	35
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	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	0	2	0	1	0	0	0	1	5	7	6	7	9	8	6	6	5	1	A	1	1	8	1	3.5	8.7
2-Dec	1	1	6	6	14	13	12	11	10	10	10	11	11	12	11	9	8	8	A	8	8	6	5	3	8.5	13.7
3-Dec	3	2	2	1	1	1	17	10	14	20	18	23	23	32	29	18	13	A	6	10	20	16	12	24	13.7	31.6
4-Dec	26	25	28	33	35	35	29	20	19	29	32	32	33	36	36	35	A	36	37	37	37	36	36	35	32.1	37.2
5-Dec	36	36	35	34	34	24	22	18	7	7	18	18	23	23	30	A	13	10	2	3	2	4	3	4	17.5	36.2
6-Dec	5	5	6	1	1	1	2	2	2	3	5	13	11	8	A	6	3	2	2	2	3	3	7	4	4.2	13.1
7-Dec	2	4	11	7	3	2	2	2	2	3	4	6	7	A	10	8	4	3	4	9	5	3	7	5	5.1	11.1
8-Dec	6	7	6	3	4	4	5	3	4	6	9	17	A	20	20	8	17	21	21	11	6	4	8	5	9.2	20.7
9-Dec	5	4	2	2	2	3	2	2	2	4	8	A	8	8	7	6	10	12	7	3	5	5	4	2	4.9	11.7
10-Dec	2	2	2	9	9	10	8	6	9	10	A	23	32	30	C	C	C	22	23	11	2	7	4	2	11.2	32.3
11-Dec	2	13	14	18	18	18	18	20	15	A	13	18	17	28	24	18	3	5	16	31	35	35	36	37	19.6	36.6
12-Dec	37	37	36	35	35	33	33	33	A	36	37	38	38	37	37	36	36	28	30	28	23	16	21	27	32.6	38.4
13-Dec	25	28	28	25	31	17	4	A	30	35	37	36	36	36	35	29	28	31	27	25	27	19	23	24	27.7	37.0
14-Dec	27	27	32	29	33	35	A	34	33	34	34	34	34	30	31	17	12	14	24	29	26	31	30	28	28.7	35.3
15-Dec	28	25	25	27	28	A	25	26	26	29	30	30	29	34	34	31	29	5	2	7	2	8	4	26	22.1	34.3
16-Dec	27	26	28	29	A	30	30	29	31	32	30	28	27	26	26	24	20	16	10	6	10	16	18	22	23.6	31.9
17-Dec	21	20	20	A	14	15	9	4	1	2	6	6	6	8	6	5	3	2	8	1	2	2	6	2	7.4	20.9
18-Dec	1	2	A	1	1	1	1	1	1	2	3	5	5	5	6	5	2	3	10	2	2	4	2	8	3.2	10.2
19-Dec	7	A	22	22	20	20	19	20	4	8	8	30	33	33	35	35	34	34	36	34	30	30	28	23	24.6	35.9
20-Dec	A	11	10	7	23	27	26	22	22	28	28	28	32	33	34	30	28	28	29	28	29	29	29	A	25.6	34.0
21-Dec	27	30	31	33	35	35	35	35	36	36	36	36	36	36	36	36	36	36	35	34	32	26	A	27	33.8	36.5
22-Dec	26	24	19	8	7	1	10	7	11	15	16	12	15	17	17	16	9	7	11	2	2	A	7	15	12.0	26.1
23-Dec	16	30	32	31	31	29	26	25	26	26	26	27	26	25	24	24	22	24	24	23	A	22	22	19	25.2	31.6
24-Dec	20	21	20	17	16	15	17	15	11	7	9	11	11	11	12	11	12	2	5	A	8	2	3	6	11.4	20.6
25-Dec	6	8	9	4	7	16	17	17	20	21	23	23	24	26	26	26	26	26	A	20	20	19	20	20	18.5	26.2
26-Dec	20	19	17	17	17	12	15	14	4	11	11	15	16	14	12	13	12	A	13	13	16	15	12	14	14.1	20.2
27-Dec	14	13	13	14	17	17	13	4	1	3	6	8	10	10	12	12	A	3	1	2	2	1	1	1	7.9	17.3
28-Dec	1	3	2	1	1	1	1	1	1	2	4	5	6	5	5	A	2	2	2	2	2	2	1	1	2.3	5.7
29-Dec	1	1	1	10	11	16	6	10	14	19	21	21	18	16	A	16	14	11	14	15	15	13	18	18	13.1	21.1
30-Dec	20	20	20	20	20	19	19	18	14	14	16	17	17	A	18	18	11	8	6	5	3	1	2	1	13.4	20.4
31-Dec	5	5	3	2	2	1	1	1	1	2	4	5	A	5	4	4	2	1	2	4	5	37	40	40	7.7	40.1
	14.1	15.0	16.1	15.0	15.8	15.1	14.1	13.7	12.4	15.3	17.0	19.5	20.5	21.2	20.9	17.9	14.9	13.9	14.0	14.0	12.6	13.8	13.9	14.9	Diurnal Average	
	37.1	36.9	36.1	35.2	35.1	35.3	35.4	35.2	35.6	36.3	37.1	38.4	38.3	37.4	36.9	36.4	36.4	36.4	37.1	36.9	37.2	37.0	39.8	40.1	Diurnal Maximum	

C - Calibration

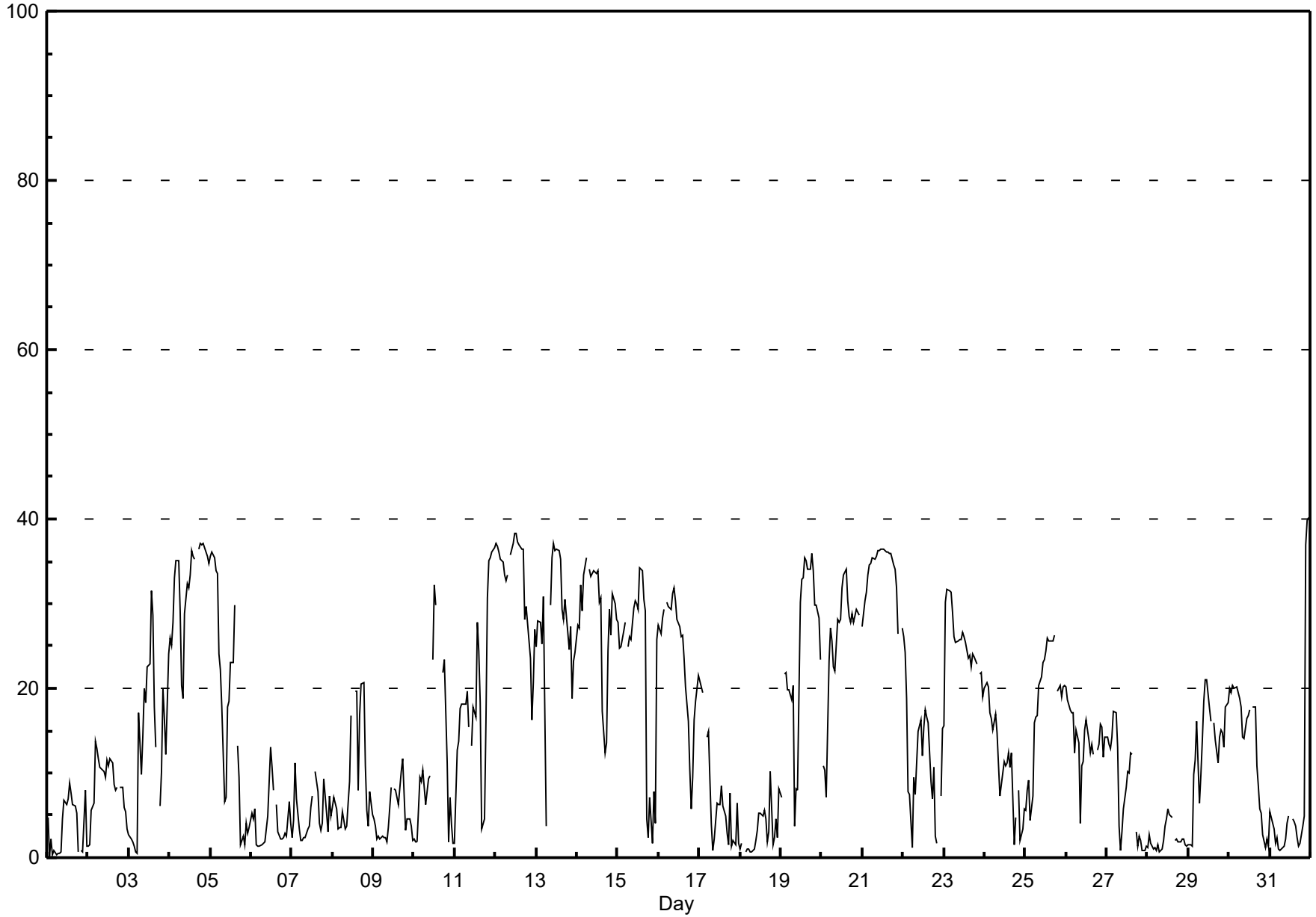
A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Ozone (O_3) - ppb

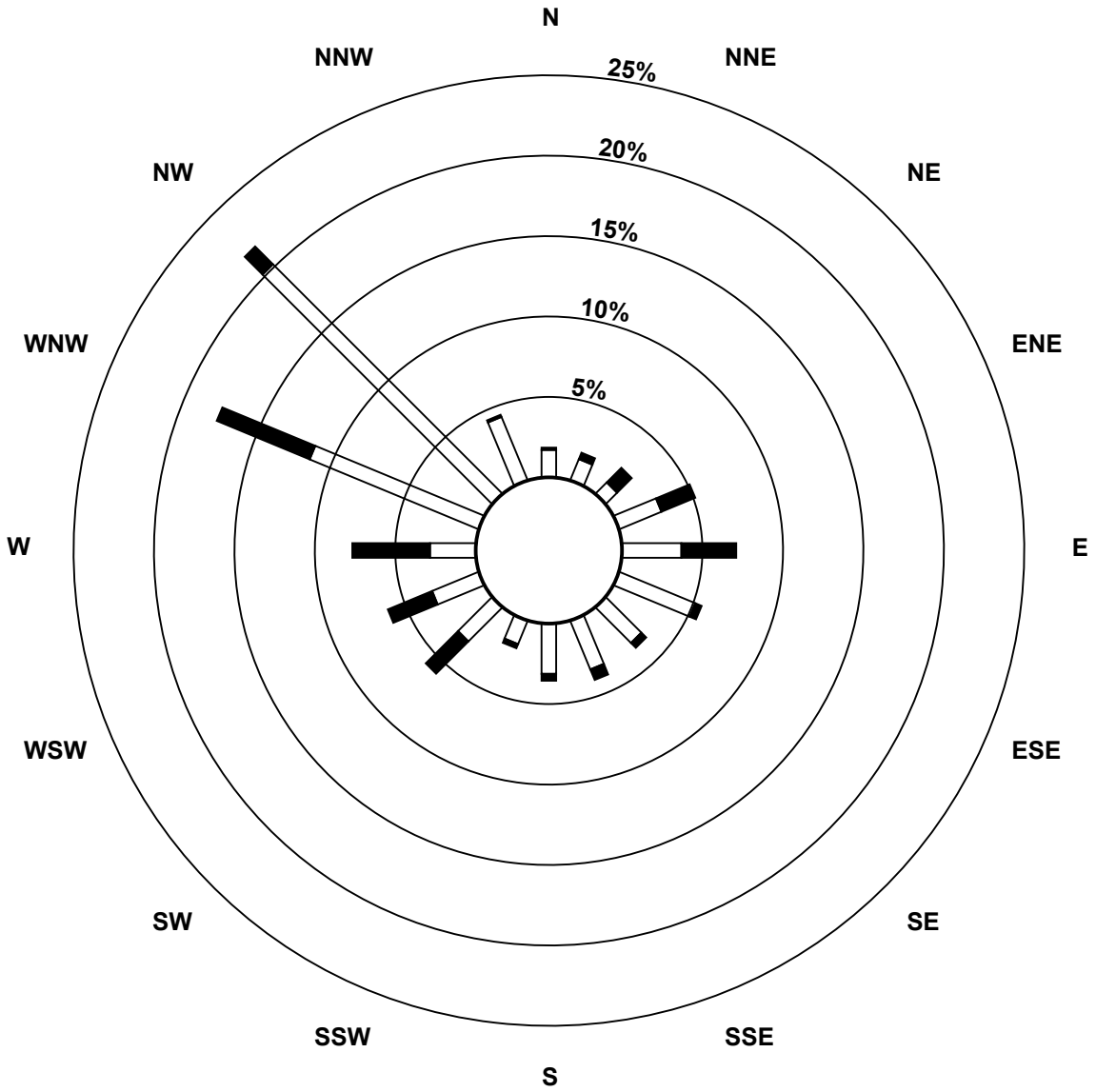
Henry Pirker - December 2018



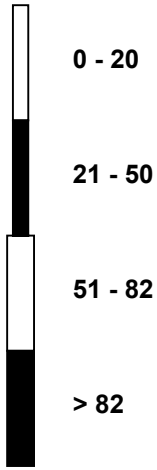
Pollutant Rose

Ozone (O_3) - ppb

Henry Pirker - December 2018



Pollutant Classes (ppb)



Peace Airshed Zone Association

Eight Hour Running Averages

Ozone (O_3) - ppb

Henry Pirker - December 2018

Maximum Value: 36.0 ppb on Dec 12 16:00

Minimum Value: 0.1 ppb on Dec 1 09:00

Percentiles: P_1 = 0.5 P_{10} = 1.9 Q_1 = 3.4 Median = 10.6 Q_3 = 20.9 P_{90} = 28.4 P_{99} = 35.2

Hours in Service:	744
Hours of Data:	737
Hours of Missing Data:	7
Hours of Calibration:	7
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	5	3	2	2	2	2	1	1	0	0	1	1	2	3	4	4	5	5	4	4	3	2	2	1	4.8
2-Dec	0	0	1	1	3	4	5	6	7	8	9	10	9	9	9	9	9	9	9	8	7	7	6	5	9.6
3-Dec	5	4	4	3	2	2	2	3	4	5	7	10	12	15	16	17	17	17	15	13	12	9	8	8	17.3
4-Dec	10	12	15	18	21	24	26	24	23	23	23	23	23	23	25	28	30	32	33	34	34	35	35	35	34.8
5-Dec	35	35	35	34	33	31	29	26	22	18	16	14	12	12	13	14	14	14	12	10	8	6	2	2	34.7
6-Dec	2	2	2	2	2	2	2	2	2	2	2	2	3	4	4	5	5	5	5	4	3	2	2	2	5.0
7-Dec	2	2	3	3	3	3	3	3	3	3	2	2	3	3	4	4	4	4	4	4	4	3	3	3	4.4
8-Dec	3	3	3	3	3	3	3	3	3	3	3	4	5	6	8	8	8	10	12	10	9	8	7	7	11.5
9-Dec	7	5	3	3	3	3	2	2	2	2	2	2	3	4	5	5	6	7	6	6	5	5	4	4	6.7
10-Dec	3	2	2	2	2	2	3	3	3	3	4	6	9	13	14	N	N	N	N	N	N	N	6	6	14.0
11-Dec	5	4	4	4	6	8	9	11	13	14	14	14	14	14	15	14	12	11	11	12	14	16	18	21	21.3
12-Dec	26	30	33	35	35	35	34	34	34	33	33	34	34	35	35	36	36	34	32	30	28	25	22	21	36.0
13-Dec	19	20	20	20	20	21	19	18	18	20	21	23	25	28	32	31	32	30	29	27	25	22	20	20	32.3
14-Dec	20	20	19	20	21	24	25	27	28	29	31	32	32	31	30	28	24	21	19	18	17	17	17	19	32.2
15-Dec	21	23	24	24	24	24	23	23	23	23	24	25	25	26	27	27	26	24	20	17	14	10	6	5	27.2
16-Dec	6	9	12	16	18	22	26	27	28	29	29	29	28	28	27	26	24	22	19	16	13	11	10	10	28.9
17-Dec	10	11	12	14	15	15	14	12	9	6	5	5	4	3	3	4	4	4	3	3	2	2	1	1	15.3
18-Dec	1	1	1	1	0	0	0	0	0	1	1	1	2	2	3	3	3	3	3	3	2	2	1	2	3.0
19-Dec	2	2	4	6	8	10	12	13	13	11	10	10	12	14	16	18	22	26	29	31	30	30	29	26	30.7
20-Dec	25	21	17	13	12	12	11	13	14	16	19	22	24	25	26	27	28	28	28	28	28	27	27	26	28.3
21-Dec	26	27	27	28	29	30	31	32	33	34	34	35	35	35	35	35	35	35	35	35	34	32	32	30	35.5
22-Dec	29	27	24	20	16	12	11	9	7	5	5	6	7	9	11	12	11	10	9	8	7	5	4	4	28.6
23-Dec	5	7	11	15	19	20	23	24	26	27	26	25	24	24	24	24	23	23	23	22	22	21	21	20	26.6
24-Dec	20	20	19	18	18	17	16	16	14	13	11	11	10	10	9	8	8	7	7	6	6	4	3	3	20.0
25-Dec	3	3	4	4	4	5	7	8	10	12	14	17	19	21	22	23	23	24	24	24	23	22	21	20	24.4
26-Dec	19	18	18	18	17	16	16	14	12	11	10	9	9	9	9	9	10	10	11	11	11	11	11	11	19.3
27-Dec	11	11	11	11	11	11	11	10	9	8	7	6	6	5	5	6	7	7	7	6	5	3	2	1	11.2
28-Dec	1	1	1	1	1	1	1	1	1	1	1	1	2	2	3	3	3	3	3	2	2	1	1	1	3.0
29-Dec	1	1	1	1	2	4	4	5	6	8	10	13	13	14	15	16	16	15	14	13	12	12	12	13	15.8
30-Dec	14	15	16	17	17	18	19	19	17	16	16	15	15	14	14	14	13	13	11	9	7	7	5	3	18.8
31-Dec	3	2	2	2	2	2	2	2	1	1	1	1	2	2	2	3	3	3	3	2	2	5	9	14	13.7
	34.7	34.7	34.6	34.6	35.0	34.7	34.3	33.9	33.5	33.6	34.3	34.7	35.0	35.2	35.5	36.0	35.7	35.4	35.2	34.6	34.4	34.5	34.5	34.8	
	Diurnal Maximums																								

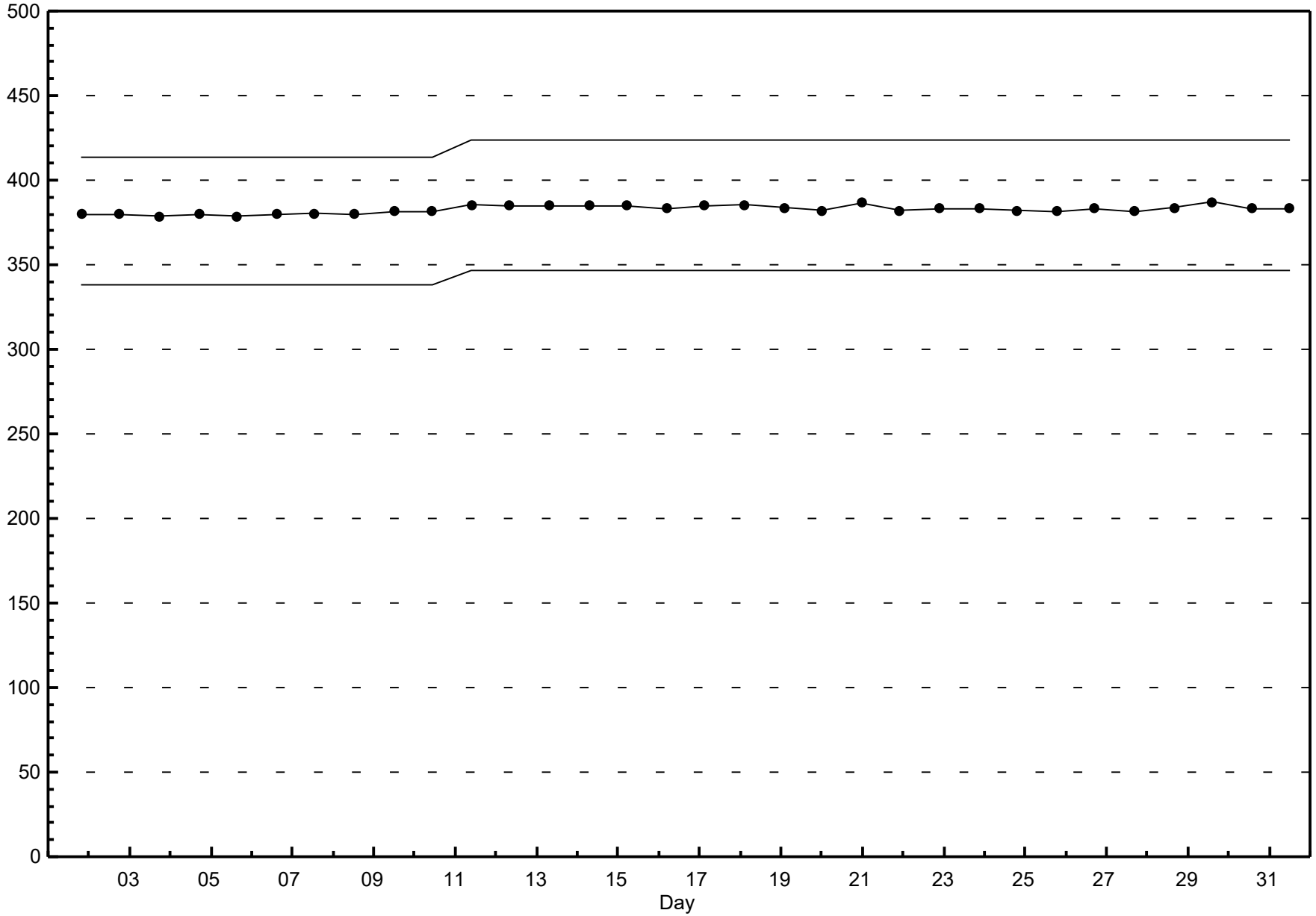
N - Not Valid

Peace Airshed Zone Association

Span Responses

Ozone (O_3)

Henry Pirker - December 2018



Peace Airshed Zone Association

Hourly Averages

Carbon Monoxide (CO) - ppm

Henry Pirker - December 2018

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 1.36 ppm on Dec 29 06:00 Maximum Daily Average: 0.55 ppm on Dec 8

Minimum Value: 0.1 ppm on Jan 1 00:00 Minimum Daily Average: 0.15 ppm on Dec 21
Maximum Diurnal Average: 0.37 ppm at hour 19 Minimum Diurnal Average: 0.25 ppm at hour 3
Monthly Average: 0.309 ppm Percentiles: P_1 = 0.14 P_{10} = 0.16 Q_1 = 0.19 Median = 0.25 Q_3 = 0.37 P_{90} = 0.53 P_{99} = 1.05

Hours in Service:	744
Hours of Data:	704
Hours of Missing Data:	40
Hours of Calibration:	38
Percent Operational Time:	99.7

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Dec	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	A	0.3	0.3	0.3	0.3	0.24	0.33
2-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	A	0.2	0.2	0.2	0.2	0.2	0.21	0.25
3-Dec	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.3	0.2	0.3	A	0.4	0.3	0.3	0.3	0.4	0.4	0.27	0.44
4-Dec	0.3	0.3	0.4	0.3	0.4	0.4	0.4	0.6	0.6	0.5	C	C	C	C	C	C	A	0.2	0.2	0.1	0.2	0.2	0.2	0.2	--	0.62
5-Dec	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.2	0.3	0.2	A	0.4	0.5	0.6	0.5	0.3	0.3	0.2	0.3	0.28	0.63
6-Dec	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.5	0.6	1.0	1.0	0.6	0.5	0.5	A	0.5	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.44	1.04
7-Dec	0.3	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.7	0.8	0.8	0.7	A	0.5	0.6	0.5	0.8	0.7	0.7	0.6	0.4	0.4	0.3	0.55	0.79
8-Dec	0.3	0.3	0.3	0.4	0.5	0.3	0.3	0.4	0.5	0.8	0.6	0.5	A	0.4	0.4	0.6	0.6	0.3	0.4	0.7	1.0	1.1	1.2	1.2	0.55	1.17
9-Dec	1.2	1.1	0.5	0.4	0.4	0.5	0.6	0.6	0.4	0.4	0.4	A	0.5	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.5	0.47	1.19
10-Dec	0.4	0.5	0.4	0.3	0.4	0.4	0.3	0.4	0.3	0.4	A	0.2	0.2	0.2	0.2	0.3	0.5	0.4	0.2	0.3	0.4	0.3	0.5	0.7	0.35	0.70
11-Dec	0.8	0.4	0.4	0.3	0.2	0.2	0.3	0.3	0.3	A	0.3	0.3	0.4	0.5	0.4	0.6	0.6	0.8	0.4	0.2	0.2	0.2	0.2	0.2	0.36	0.80
12-Dec	0.2	0.1	0.2	0.1	0.2	0.2	0.2	0.2	A	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.3	0.4	0.3	0.2	0.19	0.36
13-Dec	0.2	0.2	0.2	0.2	0.2	0.3	0.5	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.4	0.3	0.2	0.23	0.46
14-Dec	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.23	0.36
15-Dec	0.2	0.2	0.2	0.2	0.2	A	0.2	0.1	0.2	0.2	0.1	0.2	0.2	0.1	0.1	0.2	0.2	0.5	0.9	1.3	0.8	0.7	0.6	0.3	0.34	1.27
16-Dec	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.23	0.34
17-Dec	0.2	0.2	0.2	A	0.2	0.2	0.2	0.3	0.4	0.4	0.5	0.5	0.6	0.6	0.5	0.4	0.4	0.4	0.6	0.5	0.4	0.3	0.3	0.3	0.37	0.57
18-Dec	0.3	0.3	A	0.3	0.3	0.4	0.4	0.4	0.5	0.8	0.8	0.6	0.6	0.4	0.3	0.4	0.6	0.7	0.5	0.5	0.6	0.3	0.3	0.3	0.45	0.84
19-Dec	0.3	A	0.2	0.2	0.2	0.2	0.2	0.2	0.5	0.6	0.6	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.25	0.62
20-Dec	A	0.3	0.3	0.3	0.3	0.2	0.2	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	A	0.23	0.34
21-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	0.1	0.2	0.2	0.2	A	0.2	0.15	0.20
22-Dec	0.2	0.2	0.2	0.3	0.4	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	A	0.2	0.2	0.26	0.35
23-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	A	0.3	0.3	0.3	0.20	0.33
24-Dec	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.4	0.3	0.3	0.4	0.3	0.3	0.3	0.5	0.3	0.3	A	0.2	0.4	0.3	0.3	0.29	0.46
25-Dec	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	A	0.2	0.2	0.2	0.2	0.2	0.18	0.31
26-Dec	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.2	0.3	0.4	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.21	0.40
27-Dec	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	A	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.26	0.42
28-Dec	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.5	0.5	0.5	M	M	0.3	0.4	0.5	A	0.5	0.6	0.5	0.6	0.6	0.7	0.6	0.5	0.46	0.68
29-Dec	0.6	0.6	0.4	0.6	1.1	1.4	0.5	0.4	0.4	0.3	0.2	0.2	0.2	0.3	A	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.40	1.36
30-Dec	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	A	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.5	0.5	0.3	0.21	0.53
31-Dec	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.4	0.4	0.4	A	0.5	0.6	0.7	0.7	0.7	0.7	0.5	0.5	0.2	0.1	0.1	0.39	0.73
	0.30	0.29	0.25	0.25	0.28	0.30	0.28	0.29	0.31	0.35	0.34	0.29	0.28	0.28	0.28	0.30	0.34	0.36	0.37	0.36	0.34	0.33	0.33	0.30	Diurnal Average	
	1.19	1.10	0.51	0.61	1.08	1.36	0.63	0.62	0.58	1.02	1.04	0.78	0.74	0.57	0.59	0.71	0.72	0.79	0.91	1.27	0.99	1.05	1.17	1.16	Diurnal Maximum	

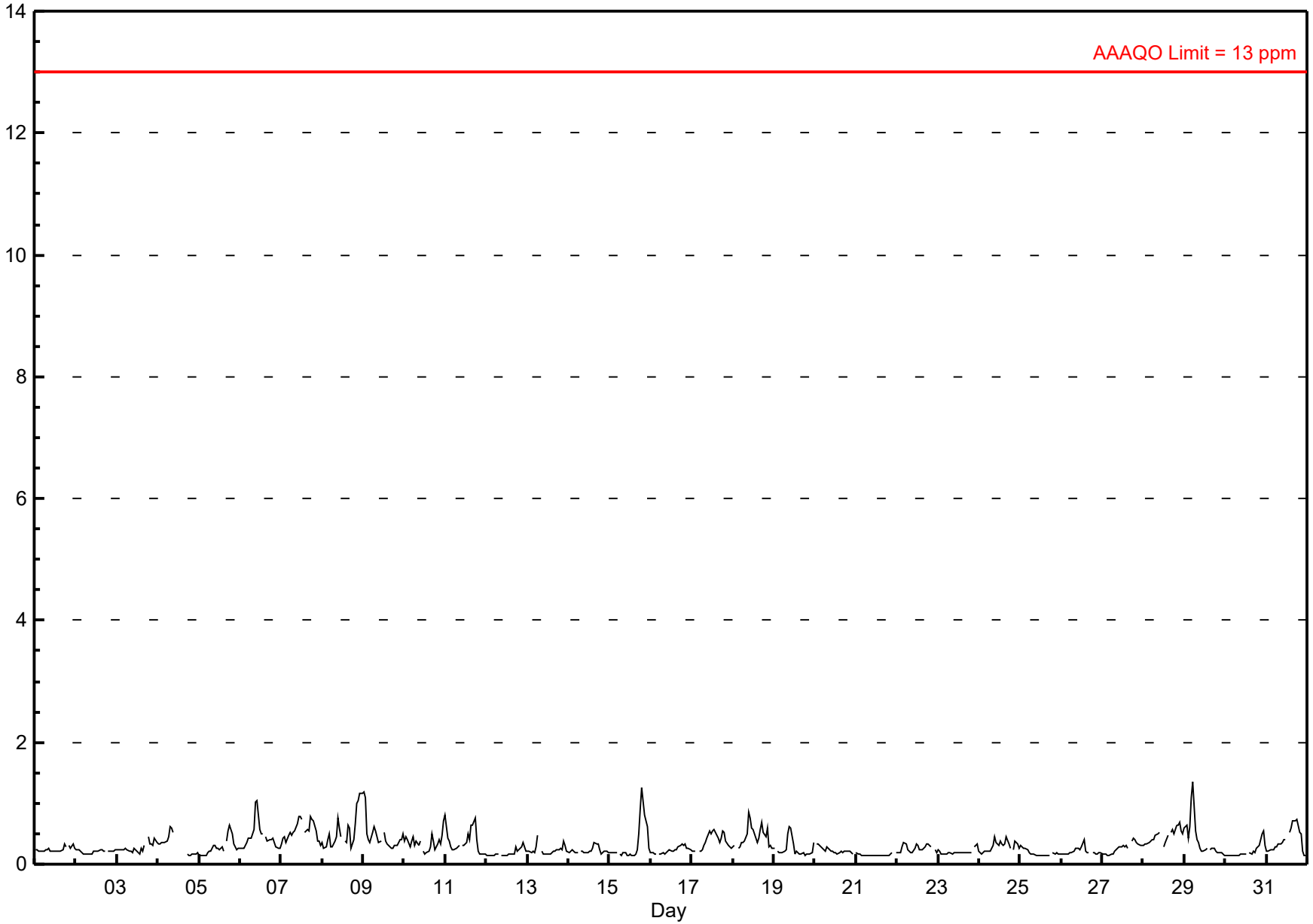
C - Calibration M - Maintenance A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 13 ppm 24-hr na

Peace Airshed Zone Association

Hourly Averages

Carbon Monoxide (CO) - ppm

Henry Pirker - December 2018



Peace Airshed Zone Association

Hourly Maximums

Carbon Monoxide (CO) - ppm

Henry Pirker - December 2018

Maximum Value: 3.03 ppm on Dec 26 14:00

Maximum Daily Average: 0.79 ppm on Dec 7

Minimum Value: 0.1 ppm on Dec 30 05:00

Minimum Daily Average: 0.18 ppm on Dec 21

Maximum Diurnal Average: 0.53 ppm at hour 10

Minimum Diurnal Average: 0.30 ppm at hour 3

Monthly Average: 0.421 ppm

Percentiles: P_1 = 0.15 P_{10} = 0.18 Q_1 = 0.23 Median = 0.33 Q_3 = 0.51 P_{90} = 0.81 P_{99} = 1.40

Hours in Service:	744
Hours of Data:	704
Hours of Missing Data:	40
Hours of Calibration:	38
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	0.3	0.3	0.2	0.2	0.2	0.3	0.4	0.3	0.3	0.3	0.2	0.2	0.3	0.2	0.3	0.3	0.3	0.5	0.4	A	0.5	0.4	0.5	0.3	0.32	0.53
2-Dec	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.4	0.2	0.3	0.2	0.3	0.3	0.3	0.2	A	0.3	0.2	0.3	0.2	0.2	0.26	0.43
3-Dec	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.3	0.3	0.2	0.2	0.3	0.3	0.4	A	0.9	0.4	0.5	0.4	0.6	0.5	0.35	0.86
4-Dec	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.7	0.7	0.6	C	C	C	C	C	C	A	0.2	0.2	0.2	0.2	0.2	0.2	0.3	--	0.74
5-Dec	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.4	0.4	0.3	0.3	0.4	0.3	A	0.5	0.8	0.7	0.6	0.4	0.4	0.3	0.3	0.35	0.76
6-Dec	0.3	0.3	0.4	0.5	0.4	0.8	0.6	1.5	0.9	1.2	1.2	0.9	0.6	0.5	A	0.7	0.5	0.5	0.6	0.6	0.4	0.4	0.3	0.3	0.63	1.50
7-Dec	0.4	0.5	0.5	0.4	0.9	0.7	0.5	0.9	1.0	1.4	1.1	1.1	0.9	A	0.6	0.8	1.0	1.1	0.9	1.1	0.9	0.5	0.8	0.4	0.79	1.39
8-Dec	0.5	0.3	0.4	0.4	0.6	0.5	0.3	0.7	0.6	1.0	1.0	0.6	A	0.5	0.6	0.9	0.9	0.4	0.6	0.8	1.3	1.2	1.4	1.3	0.73	1.40
9-Dec	1.3	1.4	0.7	0.6	0.5	0.7	0.9	1.1	0.7	0.5	0.5	A	0.9	0.5	0.6	0.4	0.3	0.3	0.4	0.4	0.4	0.4	0.5	0.6	0.64	1.40
10-Dec	0.4	0.6	0.5	0.4	0.7	1.0	0.6	0.6	0.4	0.7	A	0.3	0.2	0.2	0.2	0.4	0.7	0.7	0.3	0.4	0.4	0.4	0.8	0.9	0.51	0.99
11-Dec	0.9	0.7	0.4	0.3	0.3	0.3	0.4	0.4	0.4	A	0.4	0.4	0.4	0.6	0.6	0.7	1.5	1.3	0.6	0.3	0.2	0.2	0.2	0.2	0.51	1.55
12-Dec	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.4	0.4	0.4	0.4	0.3	0.23	0.42
13-Dec	0.3	0.2	0.2	0.3	0.2	0.5	0.6	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.4	0.3	0.3	0.4	0.3	0.6	0.4	0.2	0.30	0.62
14-Dec	0.2	0.3	0.3	0.3	0.3	0.4	A	0.3	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.5	0.4	0.5	0.4	0.2	0.2	0.3	0.3	0.2	0.33	0.51
15-Dec	0.3	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.9	1.2	1.5	1.2	0.9	1.1	0.5	0.46	1.48
16-Dec	0.2	0.2	0.2	0.2	A	0.2	0.2	0.3	0.2	0.3	0.3	0.4	0.3	0.2	0.3	0.3	0.3	0.4	0.4	0.4	0.5	0.3	0.3	0.3	0.31	0.55
17-Dec	0.2	0.2	0.2	A	0.2	0.2	0.3	0.7	0.5	0.5	0.9	0.6	0.6	0.7	0.6	0.5	0.5	0.7	0.9	0.9	0.5	0.4	0.5	0.3	0.51	0.89
18-Dec	0.4	0.5	A	0.3	0.4	0.7	0.5	0.4	0.9	1.4	1.0	0.8	0.7	0.5	0.4	0.7	0.9	0.9	0.8	0.7	0.8	0.4	0.7	0.3	0.66	1.40
19-Dec	0.3	A	0.3	0.3	0.2	0.2	0.3	0.4	0.7	0.8	0.9	0.6	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.5	0.34	0.91
20-Dec	A	0.4	0.4	0.3	0.3	0.6	0.3	0.5	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.3	0.3	0.2	0.2	A	0.31	0.58
21-Dec	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.3	0.18	0.30
22-Dec	0.2	0.2	0.2	0.8	0.7	0.6	0.3	0.3	0.2	0.3	0.4	0.5	0.4	0.3	0.3	0.3	0.5	0.5	0.6	0.4	0.4	A	0.3	0.2	0.38	0.78
23-Dec	0.5	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.3	0.3	0.2	0.3	0.2	0.2	0.2	0.3	0.2	0.3	0.2	A	0.3	0.4	0.4	0.26	0.49
24-Dec	0.3	0.2	0.2	0.3	0.3	0.3	0.3	0.4	0.3	1.5	0.5	0.3	0.4	0.4	0.3	0.6	1.2	0.5	0.3	A	0.3	0.5	0.5	0.3	0.44	1.50
25-Dec	0.7	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.23	0.70
26-Dec	0.2	0.2	0.2	0.2	0.2	0.3	0.4	0.4	0.3	0.4	0.4	0.4	0.8	3.0	0.3	0.2	0.3	A	0.3	0.2	0.2	0.2	0.2	0.2	0.41	3.03
27-Dec	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	0.4	0.3	A	0.5	0.6	0.5	0.4	0.4	0.4	0.4	0.31	0.58
28-Dec	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.6	0.5	1.0	M	M	0.4	0.5	0.7	A	0.7	1.0	0.8	0.9	0.8	0.9	0.8	0.7	0.61	1.00
29-Dec	0.8	0.7	0.5	1.1	1.3	1.6	1.2	0.5	0.5	0.3	0.3	0.3	0.3	0.3	A	0.3	0.3	0.5	0.3	0.2	0.2	0.2	0.2	0.2	0.52	1.57
30-Dec	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.3	0.2	0.2	A	0.2	0.2	0.3	0.2	0.4	0.4	0.4	0.9	0.9	0.4	0.29	0.87
31-Dec	0.3	0.3	0.3	0.3	0.3	0.4	0.5	0.5	0.4	0.5	0.8	0.7	A	0.6	0.7	0.8	0.9	0.8	0.9	0.6	0.7	0.5	0.2	0.1	0.52	0.86
	0.37	0.35	0.30	0.33	0.37	0.43	0.38	0.46	0.43	0.53	0.48	0.39	0.37	0.43	0.35	0.40	0.51	0.51	0.51	0.48	0.46	0.43	0.46	0.38	Diurnal Average	
	1.29	1.40	0.66	1.06	1.34	1.57	1.15	1.50	0.99	1.50	1.24	1.09	0.90	3.03	0.71	0.91	1.55	1.26	1.24	1.48	1.28	1.16	1.40	1.28	Diurnal Maximum	

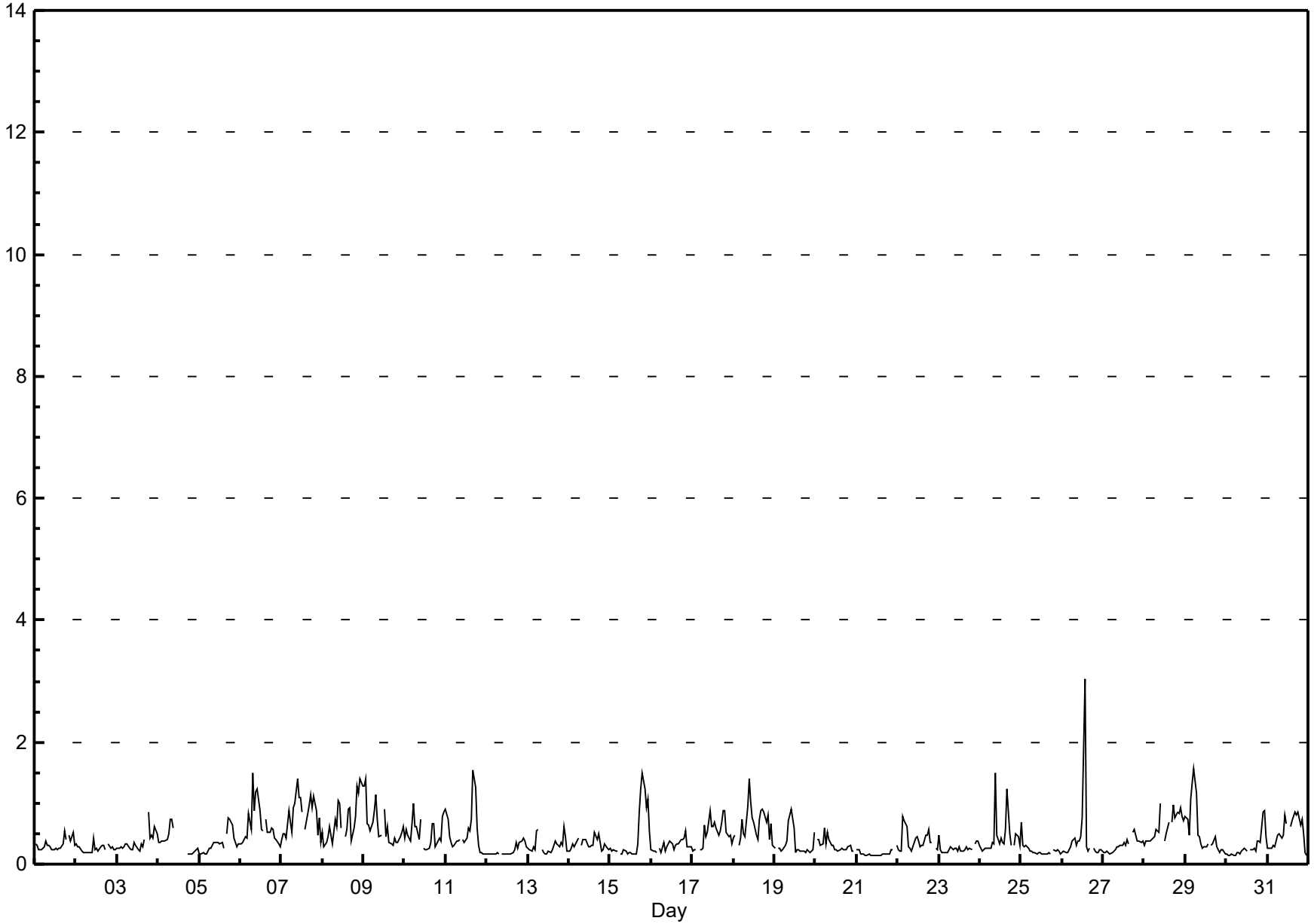
C - Calibration M - Maintenance A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Carbon Monoxide (CO) - ppm

Henry Pirker - December 2018

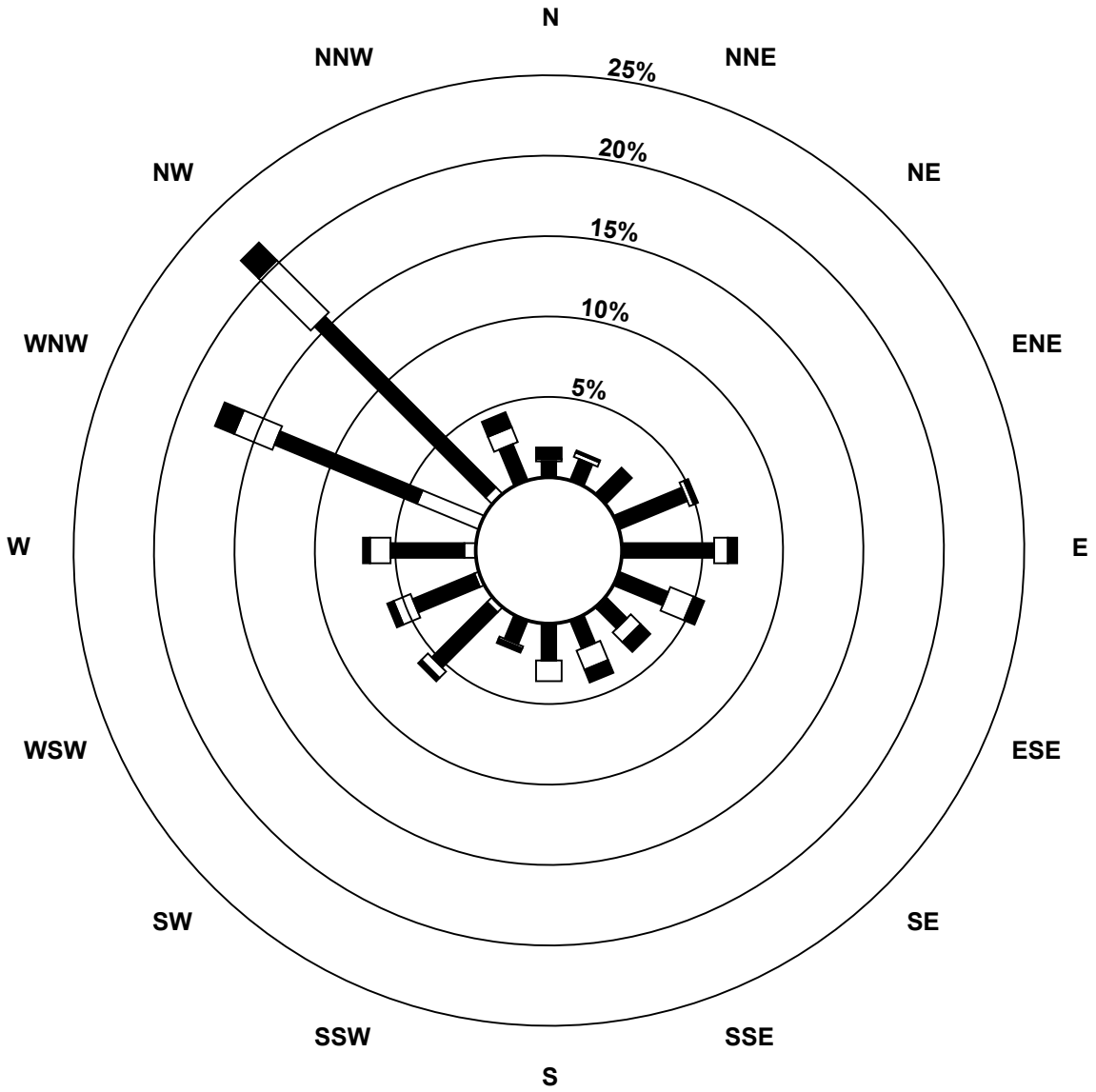


Peace Airshed Zone Association

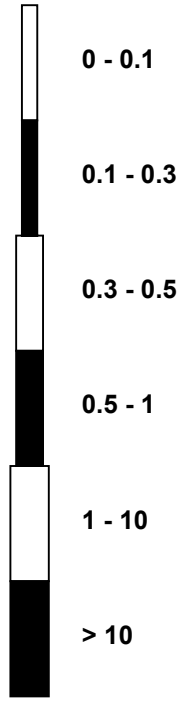
Pollutant Rose

Carbon Monoxide (CO) - ppm

Henry Pirker - December 2018



Pollutant Classes (ppm)



Peace Airshed Zone Association

Eight Hour Running Averages

Carbon Monoxide (CO) - ppm

Henry Pirker - December 2018

Number of Exceedences (AAAQO): 8-hr: 0
Maximum Value: 0.98 ppm on Dec 9 03:00

Minimum Value: 0.14 ppm on Dec 21 13:00

Percentiles: P_1 = 0.14 P_{10} = 0.17 Q_1 = 0.20 Median = 0.26 Q_3 = 0.37 P_{90} = 0.52 P_{99} = 0.73

Hours in Service:	744
Hours of Data:	731
Hours of Missing Data:	13
Hours of Calibration:	10
Percent Operational Time:	99.6

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	0.5	0.5	0.4	0.4	0.4	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	0.3	0.3	0.3	0.3	0.52
2-Dec	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.29
3-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	0.3	0.3	0.3	0.3	0.3	0.4	0.35
4-Dec	0.4	0.4	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	N	N	N	N	N	N	N	N	N	N	0.2	0.2	0.48
5-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	0.4	0.4	0.4	0.4	0.4	0.4	0.41
6-Dec	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	0.7	0.7	0.6	0.5	0.5	0.4	0.4	0.4	0.4	0.3	0.67
7-Dec	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.6	0.6	0.6	0.5	0.67
8-Dec	0.5	0.5	0.4	0.4	0.4	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	0.4	0.5	0.5	0.6	0.7	0.8	0.79
9-Dec	0.9	1.0	1.0	0.9	0.9	0.8	0.7	0.7	0.6	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.98
10-Dec	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	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.42
11-Dec	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.4	0.4	0.3	0.50
12-Dec	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.27
13-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	0.2	0.2	0.2	0.3	0.3	0.3	0.27
14-Dec	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.27
15-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	0.3	0.4	0.5	0.6	0.6	0.7	0.66
16-Dec	0.7	0.6	0.5	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.65
17-Dec	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.49
18-Dec	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.56
19-Dec	0.4	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.42
20-Dec	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.29
21-Dec	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.19
22-Dec	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	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.29
23-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	0.2	0.2	0.2	0.2	0.2	0.2	0.27
24-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	0.3	0.3	0.3	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.36
25-Dec	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	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.31
26-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	0.2	0.2	0.2	0.2	0.2	0.2	0.26
27-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	0.4	0.36
28-Dec	0.4	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	N	N	N	0.5	0.5	0.5	0.6	0.6	0.6	0.59
29-Dec	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.6	0.6	0.6	0.5	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.72
30-Dec	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.33
31-Dec	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	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.64
	0.86	0.97	0.98	0.95	0.87	0.80	0.73	0.71	0.68	0.63	0.61	0.61	0.63	0.64	0.67	0.66	0.65	0.67	0.67	0.66	0.63	0.62	0.72	0.79	
	Diurnal Maximums																								

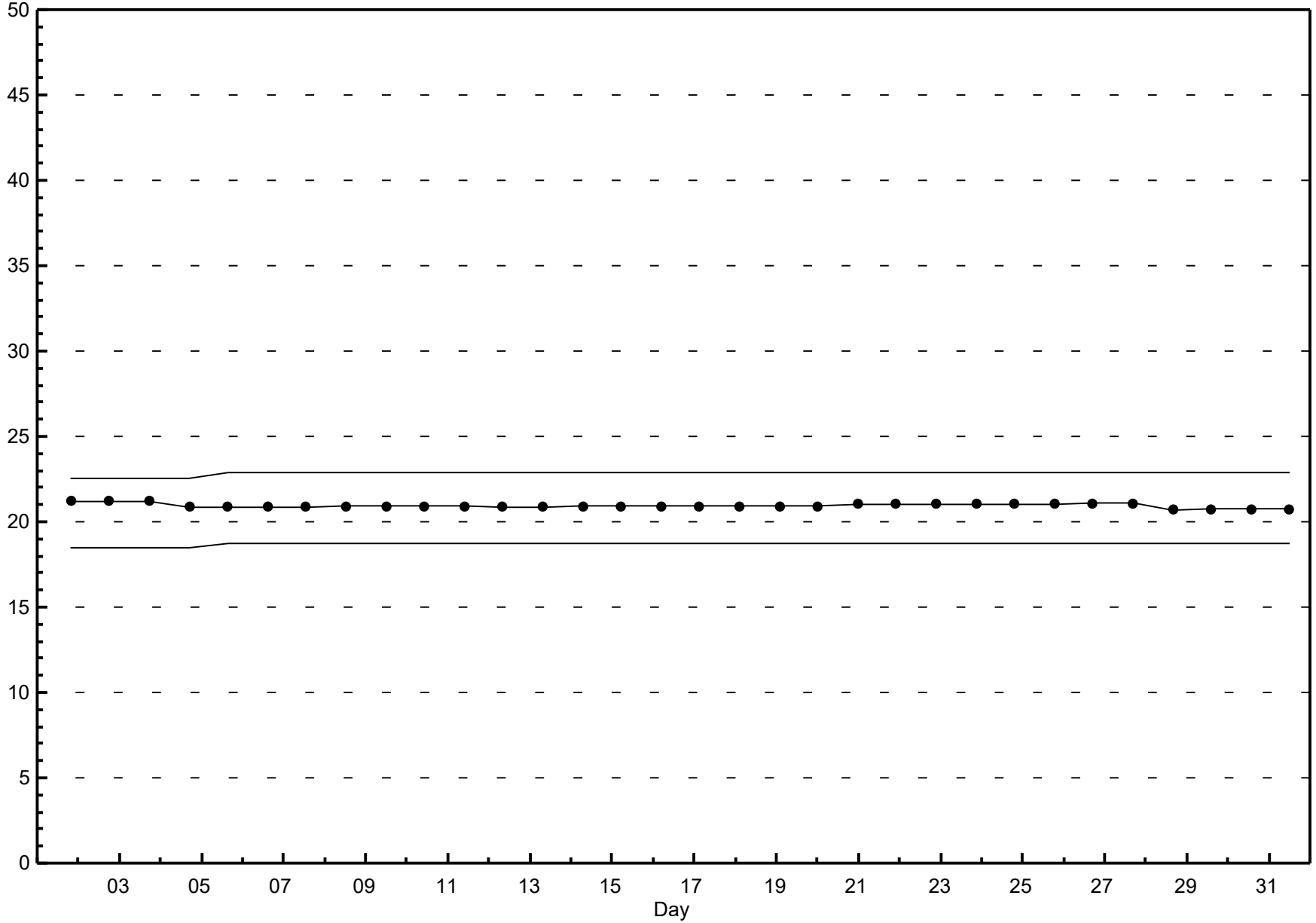
N - Not Valid
Alberta Ambient Air Quality Objectives (AAAQO): 8-hr 5 ppm

Peace Airshed Zone Association

Span Responses

Carbon Monoxide (CO)

Henry Pirker - December 2018



Peace Airshed Zone Association

Hourly Averages

Total Hydrocarbons (THC) - ppm

Henry Pirker - December 2018

Maximum Value: 4.33 ppm on Dec 18 16:00

Maximum Daily Average: 3.03 ppm on Dec 18

Minimum Value: 2.0 ppm on Dec 11 22:00

Minimum Daily Average: 2.03 ppm on Dec 12

Maximum Diurnal Average: 2.42 ppm at hour 1

Minimum Diurnal Average: 2.26 ppm at hour 13

Monthly Average: 2.341 ppm

Percentiles: P_1 = 1.99 P_{10} = 2.03 Q_1 = 2.09 Median = 2.19 Q_3 = 2.54 P_{90} = 2.90 P_{99} = 3.36

Hours in Service:	744
Hours of Data:	704
Hours of Missing Data:	40
Hours of Calibration:	40
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	2.2	2.1	2.1	2.2	2.2	2.2	2.2	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.3	A	2.5	2.5	2.6	2.7	2.25	2.66
2-Dec	2.6	2.5	2.5	2.6	2.3	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	A	2.2	2.3	2.4	2.4	2.4	2.33	2.64
3-Dec	2.4	2.4	2.4	2.5	2.6	2.6	2.2	2.3	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.1	2.1	A	2.2	2.1	2.1	2.1	2.1	2.1	2.20	2.59
4-Dec	2.1	2.1	2.1	2.0	2.0	2.0	2.1	2.1	2.1	2.0	2.0	2.0	2.0	C	C	C	C	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.03	2.08
5-Dec	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.3	2.1	2.1	2.1	2.1	2.1	2.1	A	2.2	2.3	2.3	2.3	2.5	2.3	2.4	2.5	2.19	2.53
6-Dec	2.6	2.6	2.6	2.7	2.7	2.6	2.6	2.6	2.6	2.7	2.6	2.5	2.4	2.3	A	2.5	2.6	2.6	2.5	2.5	2.5	2.5	2.9	3.0	2.60	2.96
7-Dec	3.0	2.7	2.4	2.4	2.6	2.8	2.8	2.9	2.8	3.0	3.0	3.1	2.9	A	2.5	2.5	2.9	2.9	2.9	3.0	3.1	3.0	3.1	2.9	2.84	3.11
8-Dec	3.1	3.1	3.2	3.3	3.4	3.1	3.5	3.5	3.4	3.3	2.9	2.4	A	2.8	2.9	2.9	2.6	2.2	2.2	2.4	2.6	2.8	3.1	2.9	2.95	3.54
9-Dec	2.9	2.8	2.5	2.6	2.6	2.7	2.7	2.7	2.7	2.6	2.7	A	2.7	2.6	2.7	2.7	2.7	2.5	2.5	2.7	2.6	2.5	2.5	2.6	2.64	2.93
10-Dec	2.5	2.7	2.6	2.4	2.6	2.8	2.2	2.2	2.1	2.1	A	2.1	2.0	2.0	2.3	2.0	2.1	2.1	2.0	2.1	2.6	3.0	3.0	2.7	2.36	3.05
11-Dec	2.9	2.6	2.2	2.2	2.2	2.1	2.1	2.0	2.1	A	2.0	C	C	C	C	C	2.4	2.4	2.1	2.0	2.0	2.0	2.0	2.0	2.18	2.88
12-Dec	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.03	2.12
13-Dec	2.1	2.1	2.3	2.3	2.1	2.2	2.3	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.2	2.2	2.10	2.34
14-Dec	2.3	2.3	2.2	2.1	2.1	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.09	2.35
15-Dec	2.1	2.1	2.1	2.1	2.1	A	2.1	2.1	2.1	2.1	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.3	2.4	2.3	2.3	2.3	2.1	2.14	2.41
16-Dec	2.1	2.1	2.1	2.1	A	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.1	2.1	2.10	2.19
17-Dec	2.1	2.1	2.2	A	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.7	2.8	2.5	2.3	2.4	2.5	2.6	2.7	2.7	2.7	2.7	2.7	2.6	2.44	2.76
18-Dec	2.6	2.8	A	2.9	2.9	2.9	2.9	2.9	2.8	3.0	3.0	3.0	2.9	3.0	3.3	4.3	3.9	3.4	3.3	3.3	3.2	2.4	2.5	2.5	3.03	4.33
19-Dec	2.4	A	2.3	2.2	2.2	2.2	2.1	2.1	2.2	2.2	2.2	2.1	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.2	2.14	2.44
20-Dec	A	2.3	2.3	2.3	2.3	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	A	2.09	2.32
21-Dec	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	2.0	2.0	2.0	2.1	2.1	2.1	2.1	A	2.1	2.05	2.13
22-Dec	2.1	2.1	2.2	2.2	2.3	2.3	2.3	2.5	2.4	2.6	2.9	3.0	2.9	2.9	3.0	2.9	2.9	3.0	3.2	3.1	2.9	A	2.8	2.5	2.64	3.18
23-Dec	2.8	2.5	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	A	2.1	2.1	2.1	2.15	2.76
24-Dec	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.3	A	2.5	2.5	2.5	2.8	2.24	2.76
25-Dec	2.9	2.7	2.5	2.5	2.4	2.3	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	A	2.2	2.1	2.1	2.2	2.1	2.25	2.88
26-Dec	2.1	2.2	2.1	2.2	2.1	2.2	2.1	2.2	2.2	2.2	2.2	2.2	2.3	2.2	2.3	2.3	2.2	A	2.2	2.2	2.1	2.1	2.2	2.2	2.19	2.32
27-Dec	2.1	2.2	2.2	2.2	2.1	2.2	2.2	2.2	2.2	2.2	2.3	2.4	2.3	2.4	2.3	2.2	A	2.3	2.3	2.4	2.4	2.4	2.4	2.5	2.28	2.48
28-Dec	2.7	2.7	2.9	3.0	3.0	3.0	2.8	2.8	2.7	2.6	2.5	2.4	2.4	2.6	2.7	A	2.6	2.7	2.7	2.7	2.8	2.8	2.8	3.0	2.73	3.02
29-Dec	3.1	2.8	2.5	2.5	2.5	2.5	2.3	2.2	2.1	2.1	2.1	2.1	2.1	2.1	A	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.27	3.07
30-Dec	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.2	A	2.2	2.2	2.2	2.4	2.2	2.3	2.2	2.3	2.3	2.3	2.19	2.36
31-Dec	2.4	2.6	2.6	2.7	2.9	3.0	2.9	3.0	3.0	3.0	3.4	3.1	A	3.0	2.9	2.9	3.0	3.0	2.9	2.7	2.6	2.1	2.0	2.0	2.77	3.39
	2.42	2.39	2.32	2.35	2.36	2.35	2.32	2.32	2.31	2.32	2.33	2.29	2.26	2.28	2.32	2.34	2.36	2.34	2.34	2.34	2.38	2.34	2.39	2.39	Diurnal Average	
	3.10	3.11	3.20	3.26	3.40	3.15	3.53	3.54	3.39	3.33	3.39	3.14	2.92	2.97	3.30	4.33	3.92	3.36	3.32	3.32	3.23	3.05	3.10	3.02	Diurnal Maximum	

C - Calibration

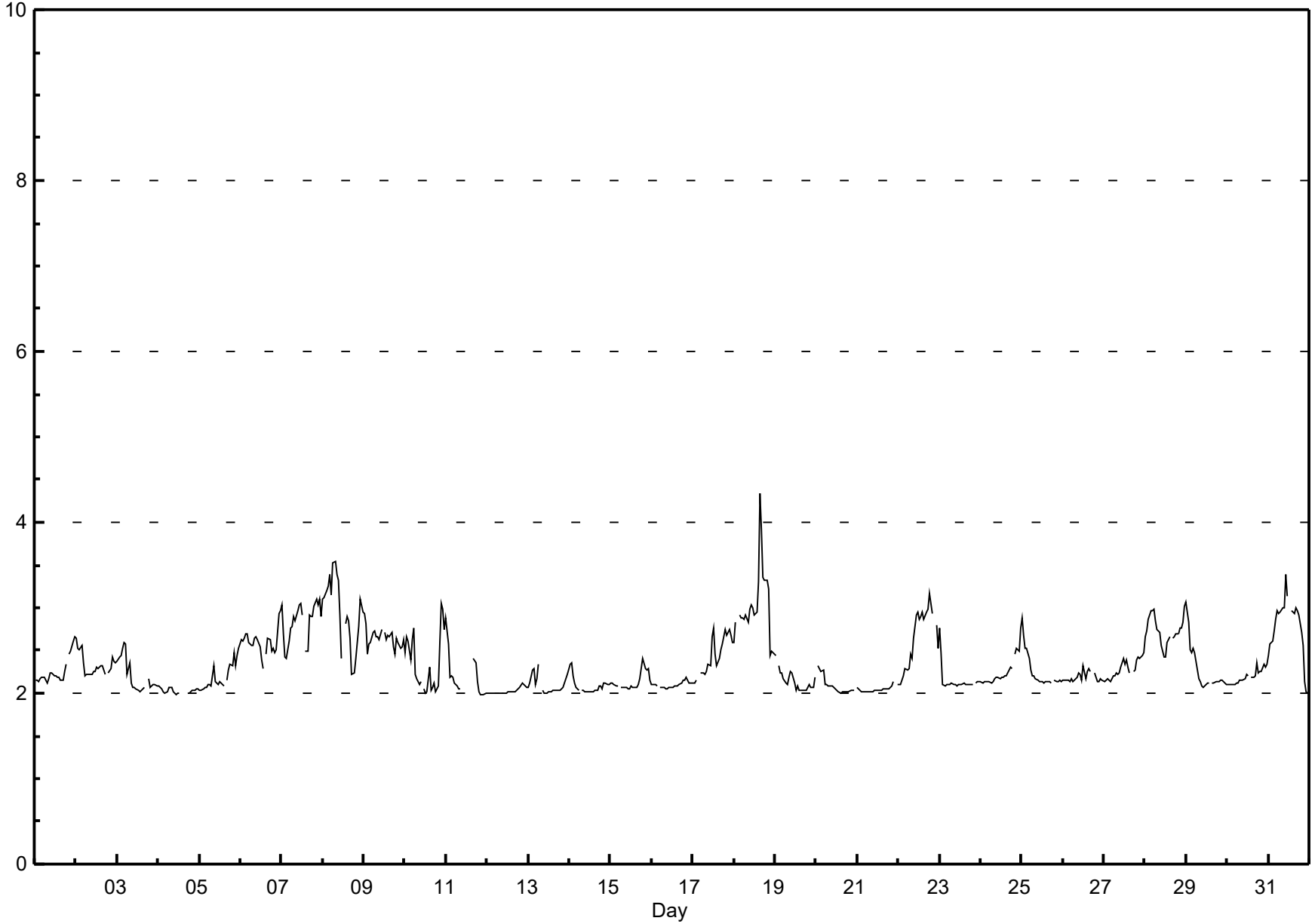
A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Averages

Total Hydrocarbons (THC) - ppm

Henry Pirker - December 2018



Peace Airshed Zone Association

Hourly Maximums

Total Hydrocarbons (THC) - ppm

Henry Pirker - December 2018

Maximum Value: 4.78 ppm on Dec 18 16:00

Maximum Daily Average: 3.32 ppm on Dec 18

Minimum Value: 2.0 ppm on Dec 11 23:00

Minimum Daily Average: 2.08 ppm on Dec 21

Maximum Diurnal Average: 2.62 ppm at hour 1

Minimum Diurnal Average: 2.41 ppm at hour 13

Monthly Average: 2.524 ppm

Percentiles: P_1 = 2.01 P_{10} = 2.07 Q_1 = 2.16 Median = 2.35 Q_3 = 2.86 P_{90} = 3.17 P_{99} = 3.82

Hours in Service:	744
Hours of Data:	704
Hours of Missing Data:	40
Hours of Calibration:	40
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	2.3	2.3	2.2	2.4	2.4	2.4	2.2	2.2	2.3	2.5	2.5	2.4	2.4	2.3	2.3	2.4	2.3	2.4	2.5	A	2.7	2.8	2.9	3.0	2.44	2.99
2-Dec	2.9	2.8	2.8	2.9	2.7	2.4	2.5	2.5	2.4	2.4	2.4	2.5	2.5	2.5	2.7	2.6	2.5	2.5	A	2.5	2.6	2.7	2.6	2.6	2.58	2.92
3-Dec	2.6	2.6	2.6	2.8	2.9	2.9	2.7	3.0	2.2	2.2	2.3	2.2	2.1	2.2	2.1	2.2	2.2	A	2.3	2.1	2.4	2.2	2.2	2.8	2.43	3.03
4-Dec	2.2	2.3	2.2	2.1	2.0	2.1	2.2	2.1	2.4	2.1	2.0	2.1	2.1	C	C	C	C	2.1	2.0	2.1	2.1	2.1	2.2	2.2	2.14	2.37
5-Dec	2.2	2.1	2.2	2.2	2.1	2.2	2.2	2.1	3.3	2.3	2.5	2.3	2.3	2.3	2.2	A	2.3	2.4	2.6	2.5	2.7	2.5	2.7	2.7	2.39	3.31
6-Dec	3.0	2.9	2.9	3.0	3.1	2.9	2.8	2.8	3.1	2.9	2.9	3.1	2.6	2.5	A	2.7	2.9	2.9	2.7	2.9	2.7	2.8	3.1	3.2	2.88	3.17
7-Dec	3.2	3.1	2.8	2.7	2.9	3.1	3.0	3.2	3.1	3.3	3.3	3.3	3.2	A	2.9	2.9	3.6	3.1	3.1	3.3	3.3	3.3	3.3	3.3	3.15	3.64
8-Dec	3.4	3.3	3.4	3.6	3.8	3.4	3.8	3.9	3.7	3.6	3.5	2.7	A	3.2	3.1	3.1	3.1	2.4	2.4	2.7	2.9	3.4	3.5	3.3	3.26	3.89
9-Dec	3.2	3.3	2.7	2.8	3.0	3.0	3.0	2.9	3.0	2.9	3.0	A	2.9	2.9	2.9	2.9	2.9	3.0	2.8	2.9	2.8	2.9	2.9	2.9	2.94	3.25
10-Dec	2.7	3.2	2.8	2.7	3.3	3.6	2.4	2.4	2.2	2.2	A	2.2	2.0	2.1	4.4	2.2	2.2	2.7	2.1	2.2	3.1	3.5	3.4	2.9	2.72	4.38
11-Dec	3.7	3.6	2.3	2.3	2.3	2.3	2.2	2.2	2.2	A	2.2	C	C	C	C	C	2.6	2.4	2.4	2.1	2.0	2.0	2.0	2.0	2.38	3.66
12-Dec	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.1	2.4	2.2	2.3	2.3	2.1	2.1	2.08	2.35
13-Dec	2.1	2.3	2.6	2.7	2.3	2.3	3.3	A	2.1	2.0	2.0	2.0	2.0	2.1	2.3	2.2	2.1	2.1	2.1	2.1	2.4	2.4	2.4	2.3	2.27	3.28
14-Dec	2.8	2.7	2.5	2.5	2.3	2.0	A	2.2	2.3	2.1	2.0	2.1	2.1	2.1	2.1	2.2	2.1	2.2	2.3	2.1	2.2	2.2	2.1	2.2	2.23	2.82
15-Dec	2.2	2.2	2.1	2.1	2.1	A	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.3	2.5	2.8	2.6	2.5	2.6	2.3	2.24	2.77
16-Dec	2.1	2.1	2.1	2.1	A	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.1	2.3	2.3	2.2	2.4	2.3	2.3	2.2	2.2	2.18	2.44
17-Dec	2.2	2.2	2.2	A	2.3	2.4	2.3	2.3	2.4	2.8	2.7	3.1	3.0	2.7	2.5	2.6	2.8	2.8	3.0	3.0	2.9	3.1	3.0	2.9	2.67	3.15
18-Dec	2.9	3.1	A	3.1	3.1	3.1	3.1	3.2	3.1	3.2	3.2	3.2	3.2	3.2	3.8	4.8	4.5	3.8	3.6	3.7	3.4	2.6	2.7	2.9	3.32	4.78
19-Dec	2.7	A	2.5	2.3	2.4	2.2	2.2	2.3	2.7	2.4	2.6	2.3	2.1	2.6	2.2	2.0	2.0	2.1	2.1	2.2	2.2	2.1	2.2	2.4	2.29	2.71
20-Dec	A	2.5	2.5	2.3	2.8	2.2	2.1	2.1	2.1	2.2	2.1	2.1	2.0	2.0	2.1	2.1	2.0	2.1	2.0	2.1	2.1	2.1	2.1	A	2.17	2.81
21-Dec	2.1	2.1	2.0	2.0	2.1	2.0	2.1	2.1	2.0	2.0	2.1	2.1	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	A	2.1	2.08	2.21
22-Dec	2.1	2.2	2.2	2.6	2.5	2.4	2.4	2.6	2.6	2.9	3.1	3.2	3.1	3.1	3.2	3.2	3.2	3.3	3.4	3.4	3.1	A	3.0	2.9	2.86	3.40
23-Dec	3.0	2.9	2.2	2.3	2.2	2.2	2.1	2.3	2.2	2.1	2.1	2.1	2.1	2.1	2.3	2.1	2.1	2.1	2.1	2.3	A	2.1	2.4	2.2	2.26	3.04
24-Dec	2.2	2.2	2.2	2.2	2.3	2.2	2.1	2.2	2.3	2.2	2.3	2.3	2.2	2.4	2.3	2.3	2.3	2.6	2.5	A	2.7	2.8	2.7	3.1	2.37	3.12
25-Dec	3.2	3.0	2.8	2.7	2.6	2.4	2.3	2.3	2.3	2.2	2.2	2.1	2.2	2.3	2.2	2.1	2.1	2.1	A	2.2	2.2	2.2	2.2	2.2	2.35	3.17
26-Dec	2.2	2.2	2.4	2.2	2.2	2.2	2.3	2.5	2.3	2.8	2.5	2.3	3.2	2.5	2.4	2.3	2.3	A	2.3	2.4	2.2	2.2	2.4	2.2	2.38	3.24
27-Dec	2.2	2.3	2.2	2.2	2.2	2.3	2.3	2.3	2.3	2.3	2.4	2.6	2.4	2.5	2.4	2.3	A	2.5	2.3	2.5	2.7	2.6	2.7	2.8	2.41	2.80
28-Dec	2.9	3.0	3.1	3.3	3.2	3.2	3.2	3.0	2.9	2.7	2.7	2.6	2.7	2.9	2.9	A	2.9	2.9	3.0	2.9	3.0	3.1	3.1	3.3	2.98	3.27
29-Dec	3.4	3.1	2.8	2.8	2.7	2.6	2.5	2.3	2.2	2.1	2.1	2.1	2.2	2.4	A	2.2	2.2	2.2	2.5	2.1	2.3	2.2	2.2	2.3	2.41	3.37
30-Dec	2.2	2.1	2.1	2.2	2.1	2.1	2.1	2.3	2.2	2.2	2.3	2.3	2.3	A	2.2	2.2	2.2	2.5	2.3	2.4	2.3	2.6	2.5	2.6	2.28	2.61
31-Dec	2.7	2.8	2.9	3.1	3.1	3.2	3.1	3.2	3.2	3.2	3.9	3.7	A	3.2	3.2	3.1	3.3	3.2	3.2	2.9	2.9	2.7	2.1	2.0	3.04	3.85
	2.62	2.62	2.49	2.54	2.56	2.52	2.50	2.49	2.51	2.48	2.50	2.45	2.41	2.47	2.56	2.49	2.54	2.52	2.51	2.51	2.57	2.54	2.59	2.60	Diurnal Average	
	3.66	3.64	3.44	3.58	3.84	3.58	3.83	3.89	3.66	3.57	3.85	3.68	3.24	3.21	4.38	4.78	4.47	3.76	3.64	3.71	3.43	3.49	3.55	3.31	Diurnal Maximum	

C - Calibration

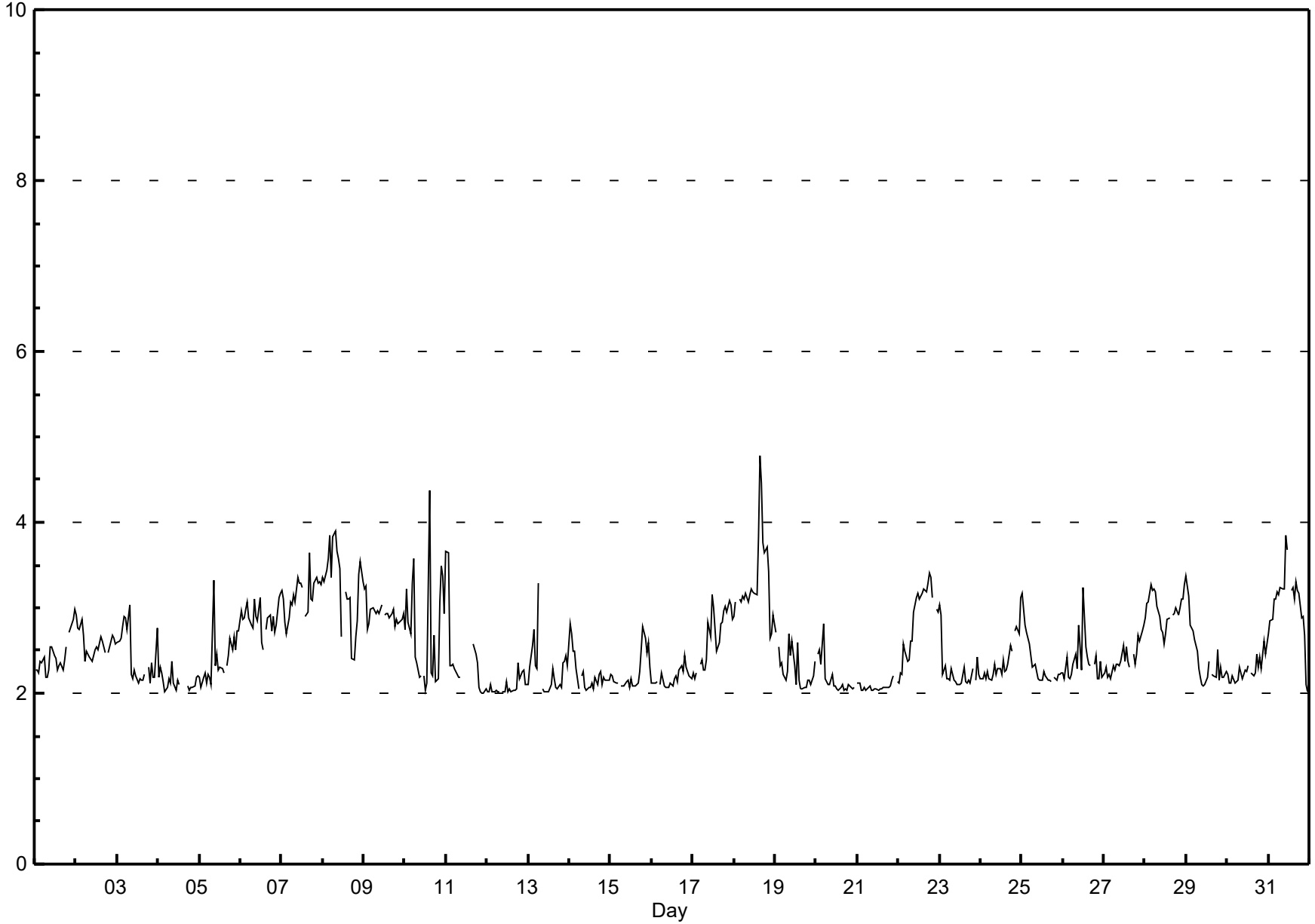
A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Total Hydrocarbons (THC) - ppm

Henry Pirker - December 2018

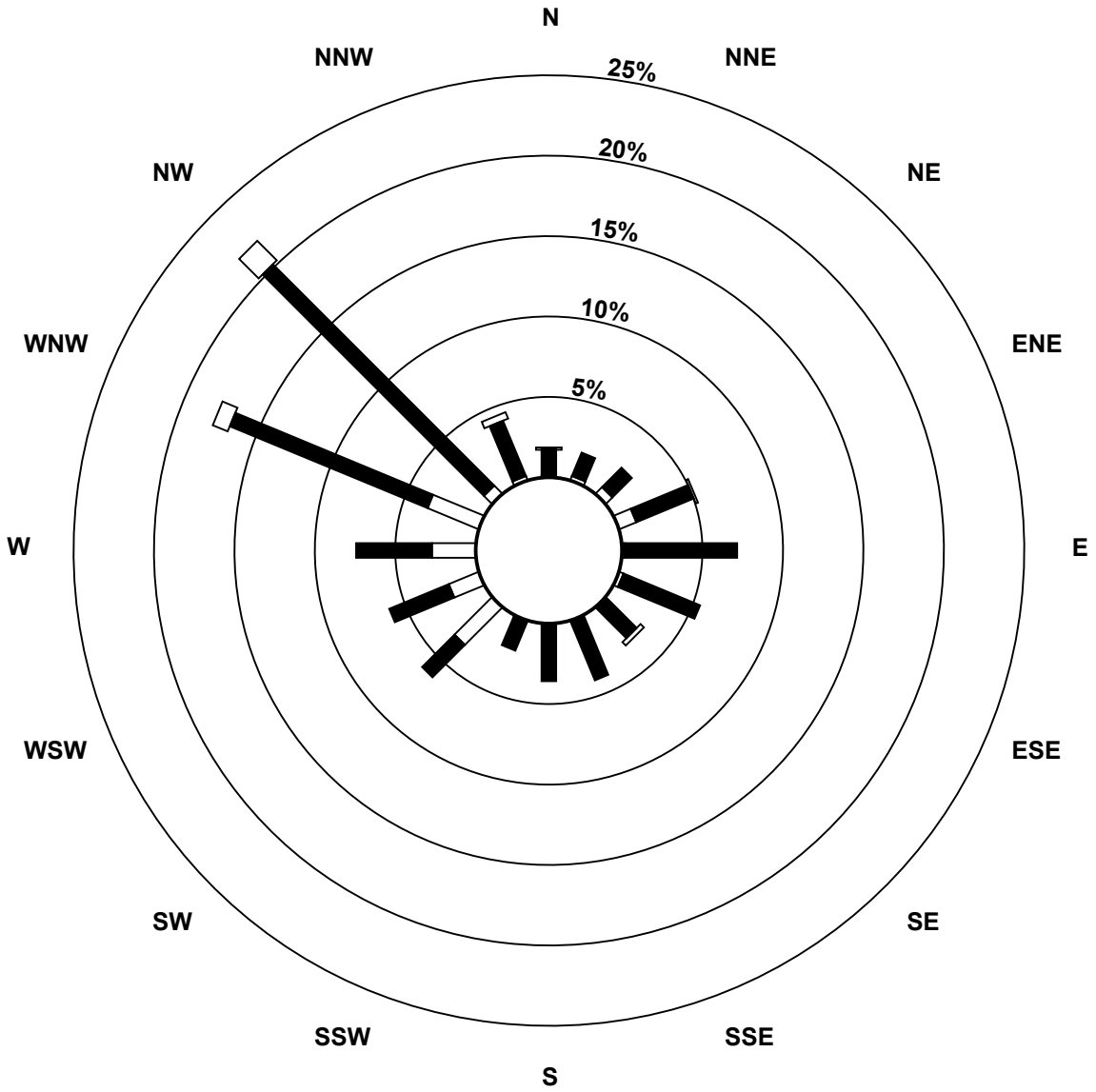


Peace Airshed Zone Association

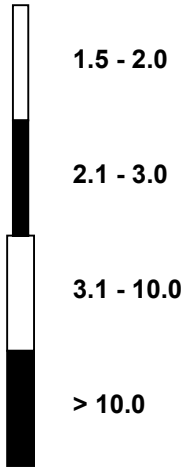
Pollutant Rose

Total Hydrocarbons (THC) - ppm

Henry Pirker - December 2018



Pollutant Classes (ppm)

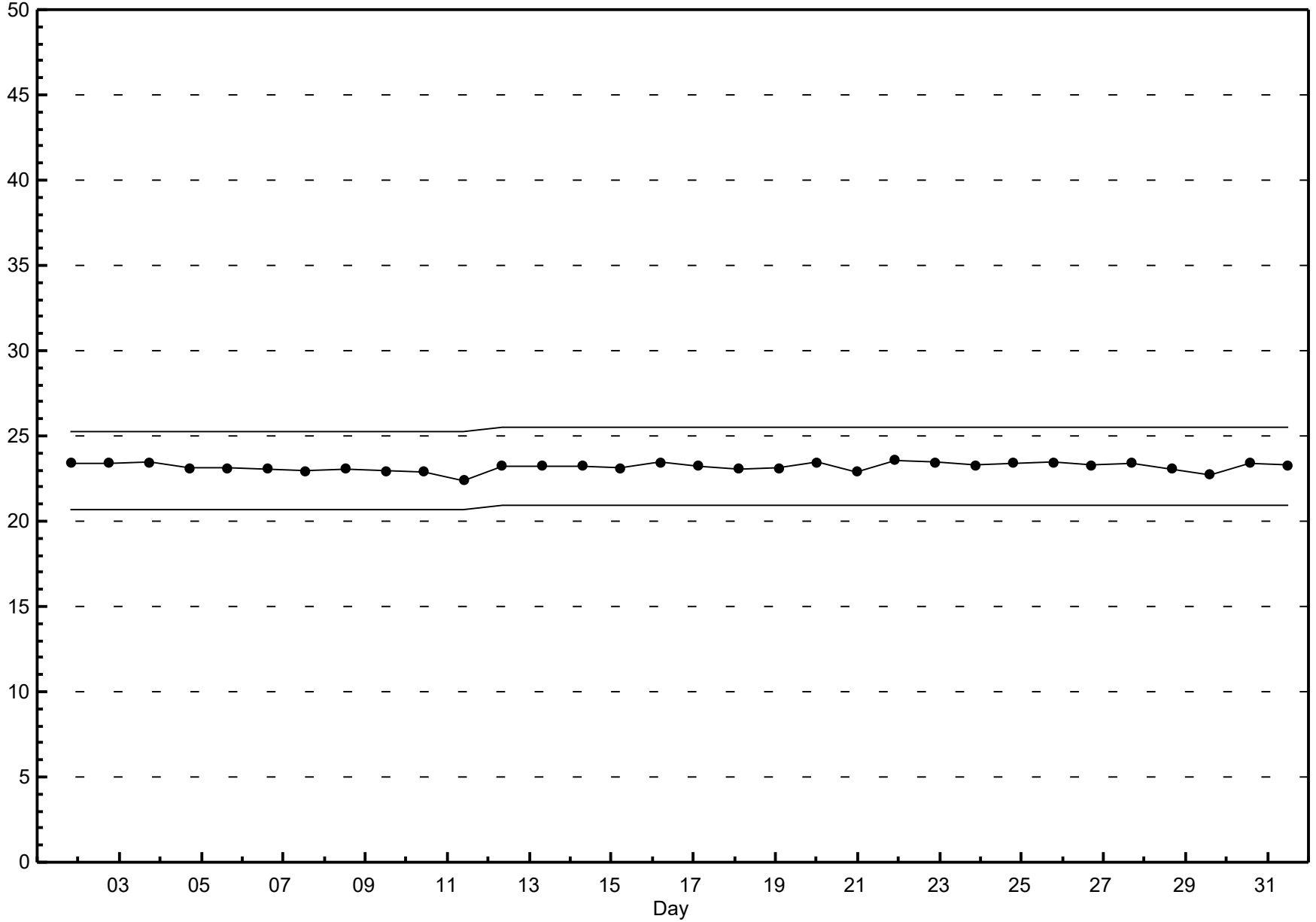


Peace Airshed Zone Association

Span Responses

Total Hydrocarbons (THC)

Henry Pirker - December 2018



Peace Airshed Zone Association

Hourly Averages

Methane (CH_4) - ppm

Henry Pirker - December 2018

Maximum Value: 3.77 ppm on Dec 18 16:00

Maximum Daily Average: 2.81 ppm on Dec 18

Minimum Value: 2.0 ppm on Dec 11 22:00

Minimum Daily Average: 2.02 ppm on Dec 12

Maximum Diurnal Average: 2.35 ppm at hour 1

Minimum Diurnal Average: 2.23 ppm at hour 13

Monthly Average: 2.292 ppm

Percentiles: P_1 = 1.99 P_{10} = 2.03 Q_1 = 2.09 Median = 2.18 Q_3 = 2.48 P_{90} = 2.71 P_{99} = 3.02

Hours in Service:	744
Hours of Data:	704
Hours of Missing Data:	40
Hours of Calibration:	40
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	2.2	2.1	2.1	2.2	2.2	2.2	2.2	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3	A	2.4	2.4	2.5	2.6	2.24	2.56
2-Dec	2.6	2.5	2.4	2.4	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.3	2.2	2.2	A	2.2	2.3	2.4	2.3	2.3	2.29	2.56
3-Dec	2.3	2.4	2.4	2.4	2.5	2.5	2.2	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.1	A	2.2	2.1	2.1	2.1	2.1	2.1	2.17	2.51
4-Dec	2.1	2.1	2.1	2.0	2.0	2.0	2.1	2.1	2.1	2.0	2.0	2.0	2.0	C	C	C	C	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.03	2.08
5-Dec	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	A	2.2	2.3	2.3	2.3	2.4	2.3	2.4	2.5	2.17	2.50
6-Dec	2.6	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.3	A	2.4	2.5	2.5	2.4	2.4	2.4	2.4	2.5	2.6	2.47	2.60
7-Dec	2.7	2.5	2.4	2.4	2.6	2.7	2.7	2.8	2.7	2.8	2.9	2.8	2.7	A	2.4	2.4	2.7	2.7	2.7	2.8	2.9	2.7	2.7	2.6	2.67	2.91
8-Dec	2.7	2.7	2.8	2.9	3.0	2.8	3.1	3.1	3.0	3.0	2.8	2.4	A	2.6	2.7	2.7	2.5	2.2	2.2	2.3	2.5	2.7	2.9	2.8	2.72	3.15
9-Dec	2.8	2.7	2.4	2.5	2.6	2.6	2.7	2.6	2.6	2.6	2.7	A	2.6	2.5	2.6	2.5	2.6	2.5	2.4	2.6	2.5	2.5	2.5	2.6	2.57	2.81
10-Dec	2.4	2.6	2.6	2.4	2.6	2.7	2.2	2.2	2.1	2.1	A	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.1	2.6	3.0	2.9	2.7	2.32	3.04
11-Dec	2.8	2.5	2.2	2.2	2.2	2.1	2.1	2.0	2.0	A	2.0	C	C	C	C	C	2.4	2.4	2.1	2.0	2.0	2.0	2.0	2.0	2.17	2.78
12-Dec	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.02	2.12
13-Dec	2.1	2.1	2.3	2.3	2.1	2.2	2.3	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.2	2.2	2.09	2.33
14-Dec	2.3	2.3	2.2	2.1	2.1	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.09	2.35
15-Dec	2.1	2.1	2.1	2.1	2.1	A	2.1	2.1	2.1	2.1	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.2	2.3	2.4	2.3	2.3	2.3	2.1	2.13	2.37
16-Dec	2.1	2.1	2.1	2.1	A	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.1	2.1	2.10	2.19
17-Dec	2.1	2.1	2.2	A	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.7	2.8	2.4	2.3	2.4	2.5	2.5	2.6	2.6	2.6	2.6	2.6	2.5	2.40	2.76
18-Dec	2.5	2.6	A	2.7	2.7	2.7	2.7	2.7	2.7	2.8	2.8	2.8	2.8	2.8	3.0	3.8	3.5	3.0	3.0	3.0	2.9	2.4	2.5	2.4	2.81	3.77
19-Dec	2.4	A	2.3	2.2	2.2	2.2	2.1	2.1	2.2	2.2	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.2	2.13	2.42
20-Dec	A	2.3	2.3	2.3	2.3	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	A	2.09	2.31
21-Dec	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	2.0	2.0	2.0	2.1	2.1	2.1	2.1	A	2.1	2.04	2.12
22-Dec	2.1	2.1	2.2	2.2	2.3	2.3	2.3	2.4	2.4	2.5	2.7	2.8	2.7	2.7	2.7	2.6	2.7	2.7	2.8	2.7	2.7	A	2.6	2.4	2.50	2.79
23-Dec	2.6	2.4	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	A	2.1	2.1	2.1	2.13	2.57
24-Dec	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.3	A	2.4	2.5	2.5	2.6	2.23	2.64
25-Dec	2.7	2.6	2.5	2.5	2.4	2.3	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	A	2.1	2.1	2.1	2.1	2.1	2.23	2.69
26-Dec	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.2	2.2	2.2	2.2	2.1	2.2	2.2	2.2	2.3	2.2	A	2.2	2.2	2.1	2.1	2.2	2.2	2.18	2.28
27-Dec	2.1	2.2	2.2	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.3	2.4	2.3	2.4	2.3	2.2	A	2.2	2.3	2.4	2.4	2.4	2.4	2.4	2.28	2.44
28-Dec	2.6	2.6	2.7	2.8	2.8	2.8	2.7	2.7	2.6	2.5	2.5	2.4	2.4	2.5	2.6	A	2.6	2.6	2.6	2.6	2.6	2.7	2.7	2.9	2.63	2.88
29-Dec	2.9	2.7	2.5	2.4	2.5	2.4	2.3	2.2	2.1	2.1	2.1	2.1	2.1	2.1	A	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.24	2.91
30-Dec	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.2	2.2	2.2	A	2.2	2.2	2.2	2.4	2.2	2.3	2.2	2.3	2.3	2.3	2.19	2.35
31-Dec	2.4	2.5	2.6	2.6	2.7	2.8	2.8	2.8	2.8	2.8	3.0	2.9	A	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.5	2.1	2.0	2.0	2.64	2.99
	2.35	2.33	2.28	2.30	2.31	2.30	2.28	2.27	2.26	2.27	2.28	2.25	2.23	2.24	2.26	2.28	2.30	2.29	2.29	2.29	2.33	2.30	2.33	2.33	Diurnal Average	
	2.91	2.73	2.80	2.88	3.02	2.82	3.07	3.15	3.05	3.00	2.99	2.89	2.77	2.80	2.97	3.77	3.48	3.04	2.98	2.98	2.91	3.04	2.95	2.88	Diurnal Maximum	

C - Calibration

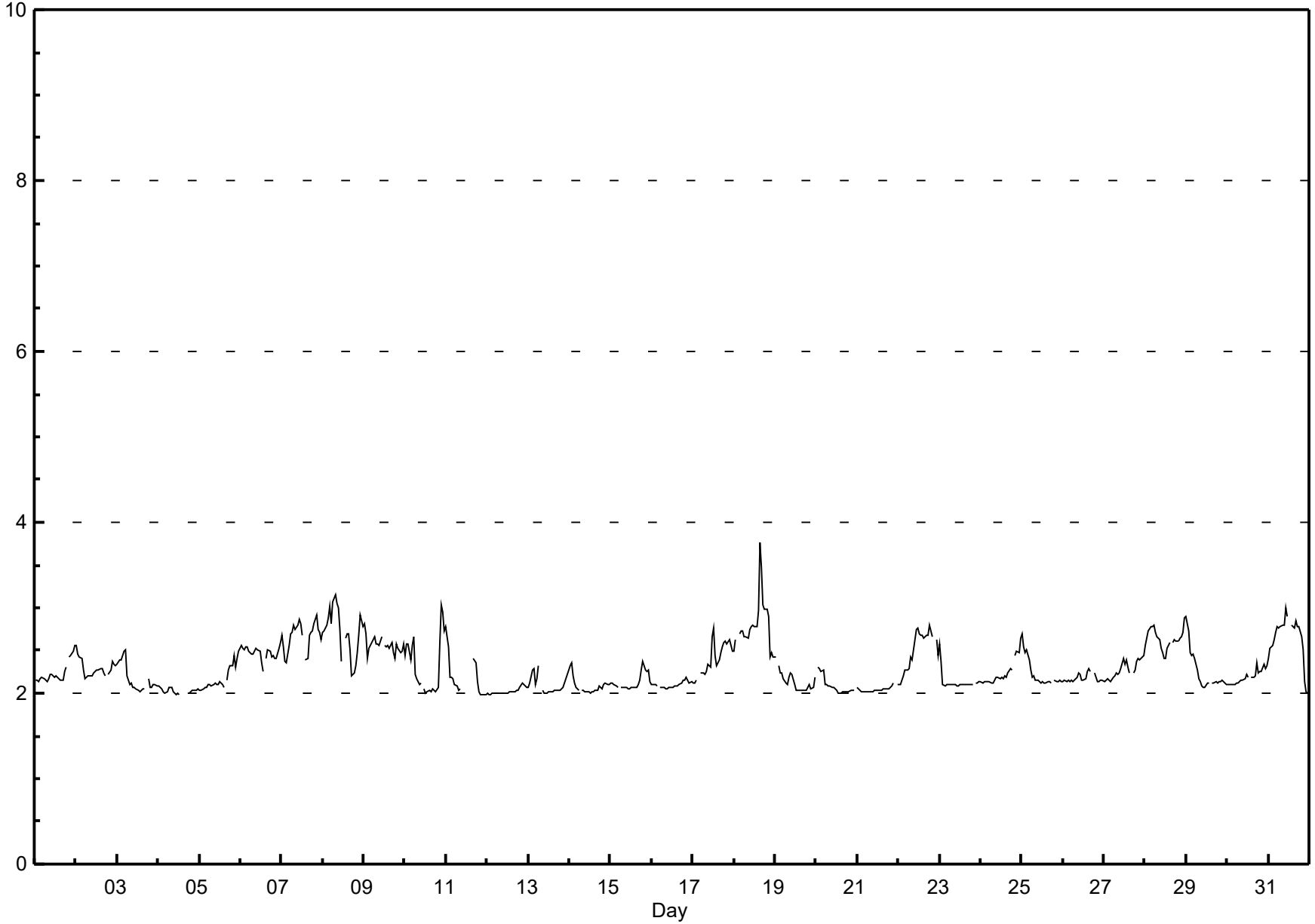
A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Averages

Methane (CH_4) - ppm

Henry Pirker - December 2018



Peace Airshed Zone Association

Hourly Maximums

Methane (CH_4) - ppm

Henry Pirker - December 2018

Maximum Value: 4.03 ppm on Dec 18 16:00

Maximum Daily Average: 2.97 ppm on Dec 18

Minimum Value: 2.0 ppm on Dec 11 23:00

Minimum Daily Average: 2.06 ppm on Dec 12

Maximum Diurnal Average: 2.48 ppm at hour 2

Minimum Diurnal Average: 2.28 ppm at hour 13

Monthly Average: 2.383 ppm

Percentiles: P_1 = 2.01 P_{10} = 2.06 Q_1 = 2.12 Median = 2.27 Q_3 = 2.60 P_{90} = 2.83 P_{99} = 3.33

Hours in Service:	744
Hours of Data:	704
Hours of Missing Data:	40
Hours of Calibration:	40
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	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.3	2.3	A	2.5	2.5	2.6	2.7	2.30	2.70
2-Dec	2.8	2.5	2.5	2.5	2.4	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	A	2.3	2.3	2.4	2.4	2.3	2.34	2.77
3-Dec	2.4	2.4	2.4	2.5	2.5	2.5	2.5	2.1	2.2	2.1	2.1	2.1	2.1	2.0	2.1	2.1	2.1	A	2.2	2.1	2.2	2.2	2.2	2.8	2.26	2.77
4-Dec	2.2	2.3	2.2	2.1	2.0	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	C	C	C	C	2.0	2.0	2.0	2.1	2.0	2.1	2.1	2.08	2.30
5-Dec	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.1	2.3	2.2	2.2	A	2.2	2.4	2.5	2.4	2.5	2.3	2.5	2.5	2.24	2.54
6-Dec	2.6	2.6	2.6	2.6	2.6	2.6	2.5	2.5	2.6	2.6	2.6	2.7	2.6	2.3	A	2.5	2.6	2.5	2.5	2.6	2.5	2.5	2.6	2.6	2.57	2.68
7-Dec	2.7	2.8	2.6	2.4	2.7	2.7	3.0	3.0	2.8	3.0	3.0	2.9	2.8	A	2.6	3.1	2.8	2.8	3.0	3.0	2.9	2.8	2.8	2.82	3.15
8-Dec	2.8	3.0	2.9	2.9	3.3	2.9	3.3	3.3	3.2	3.1	3.0	2.5	A	2.7	2.8	2.9	2.8	2.3	2.4	2.4	2.6	3.1	3.2	2.9	2.89	3.34
9-Dec	2.9	3.1	2.5	2.7	2.7	2.7	2.7	2.7	2.8	2.7	2.7	A	2.6	2.6	2.6	2.6	2.7	2.7	2.5	2.7	2.6	2.6	2.7	2.7	2.70	3.12
10-Dec	2.5	3.0	2.7	2.7	3.1	3.2	2.4	2.4	2.2	2.2	A	2.1	2.0	2.1	2.1	2.1	2.1	2.2	2.1	2.2	3.0	3.4	3.2	2.9	2.52	3.44
11-Dec	3.4	3.4	2.3	2.3	2.2	2.1	2.1	2.1	2.1	A	2.1	C	C	C	C	C	2.6	2.4	2.4	2.1	2.0	2.0	2.0	2.0	2.31	3.43
12-Dec	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.2	2.3	2.3	2.1	2.1	2.06	2.28
13-Dec	2.1	2.3	2.6	2.7	2.3	2.3	3.0	A	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.0	2.1	2.1	2.3	2.4	2.4	2.3	2.23	2.97
14-Dec	2.8	2.7	2.5	2.5	2.3	2.1	A	2.2	2.2	2.0	2.0	2.1	2.1	2.0	2.1	2.2	2.1	2.2	2.2	2.1	2.1	2.2	2.2	2.2	2.21	2.82
15-Dec	2.2	2.2	2.1	2.1	2.1	A	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.3	2.4	2.6	2.6	2.4	2.5	2.3	2.20	2.58
16-Dec	2.1	2.1	2.1	2.1	A	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.3	2.2	2.4	2.3	2.3	2.2	2.2	2.16	2.44
17-Dec	2.2	2.2	2.3	A	2.3	2.3	2.3	2.3	2.3	2.8	2.4	3.2	3.0	2.5	2.4	2.4	2.6	2.6	2.7	2.8	2.8	2.7	2.8	2.7	2.54	3.16
18-Dec	2.6	2.7	A	2.8	2.8	2.9	2.8	2.7	2.8	2.8	2.9	2.9	2.9	2.9	3.3	4.0	3.8	3.3	3.3	3.3	3.0	2.6	2.7	2.7	2.97	4.03
19-Dec	2.5	A	2.5	2.3	2.3	2.2	2.1	2.3	2.7	2.3	2.4	2.3	2.1	2.0	2.1	2.0	2.0	2.1	2.1	2.2	2.2	2.1	2.2	2.3	2.23	2.69
20-Dec	A	2.4	2.5	2.3	2.8	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.1	2.1	2.0	2.0	2.0	2.1	2.1	2.1	2.1	A	2.16	2.82
21-Dec	2.1	2.1	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	A	2.1	2.07	2.14
22-Dec	2.1	2.2	2.2	2.6	2.3	2.4	2.4	2.6	2.5	2.6	2.8	2.8	2.8	2.7	2.8	2.7	2.7	2.8	2.9	2.9	2.8	A	2.7	2.6	2.60	2.91
23-Dec	2.7	2.6	2.2	2.3	2.2	2.2	2.1	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.1	A	2.1	2.4	2.2	2.20	2.65
24-Dec	2.2	2.1	2.2	2.2	2.2	2.2	2.1	2.1	2.2	2.2	2.3	2.2	2.2	2.2	2.3	2.3	2.3	2.4	2.3	A	2.5	2.5	2.5	2.7	2.28	2.71
25-Dec	2.8	2.6	2.6	2.6	2.5	2.3	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	A	2.2	2.2	2.2	2.2	2.2	2.28	2.83
26-Dec	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.5	2.3	2.8	2.5	2.2	2.2	2.2	2.3	2.3	2.3	A	2.3	2.3	2.2	2.2	2.2	2.2	2.28	2.80
27-Dec	2.2	2.2	2.2	2.2	2.2	2.3	2.2	2.3	2.2	2.3	2.4	2.6	2.4	2.5	2.3	2.3	A	2.3	2.3	2.4	2.5	2.5	2.5	2.5	2.33	2.56
28-Dec	2.6	2.7	2.8	2.9	2.8	2.8	2.8	2.7	2.7	2.6	2.5	2.4	2.5	2.6	2.6	A	2.7	2.7	2.7	2.8	2.8	2.8	2.8	2.9	2.72	2.92
29-Dec	3.1	2.9	2.6	2.6	2.6	2.5	2.4	2.2	2.2	2.1	2.1	2.1	2.2	2.2	A	2.2	2.2	2.2	2.1	2.1	2.2	2.2	2.2	2.1	2.31	3.10
30-Dec	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.2	A	2.2	2.2	2.2	2.5	2.3	2.3	2.3	2.6	2.4	2.4	2.24	2.60
31-Dec	2.5	2.6	2.6	2.8	2.8	2.8	2.9	2.9	2.8	2.8	3.2	3.1	A	2.9	2.8	2.8	3.0	2.8	2.9	2.8	2.7	2.5	2.0	2.0	2.75	3.23
	2.45	2.48	2.38	2.41	2.43	2.37	2.38	2.34	2.34	2.36	2.35	2.33	2.28	2.29	2.33	2.35	2.40	2.37	2.37	2.40	2.43	2.42	2.44	2.43	Diurnal Average	
	3.38	3.43	2.88	2.95	3.33	3.23	3.34	3.30	3.18	3.15	3.23	3.16	3.00	2.87	3.32	4.03	3.81	3.33	3.32	3.29	3.03	3.44	3.23	2.93	Diurnal Maximum	

C - Calibration

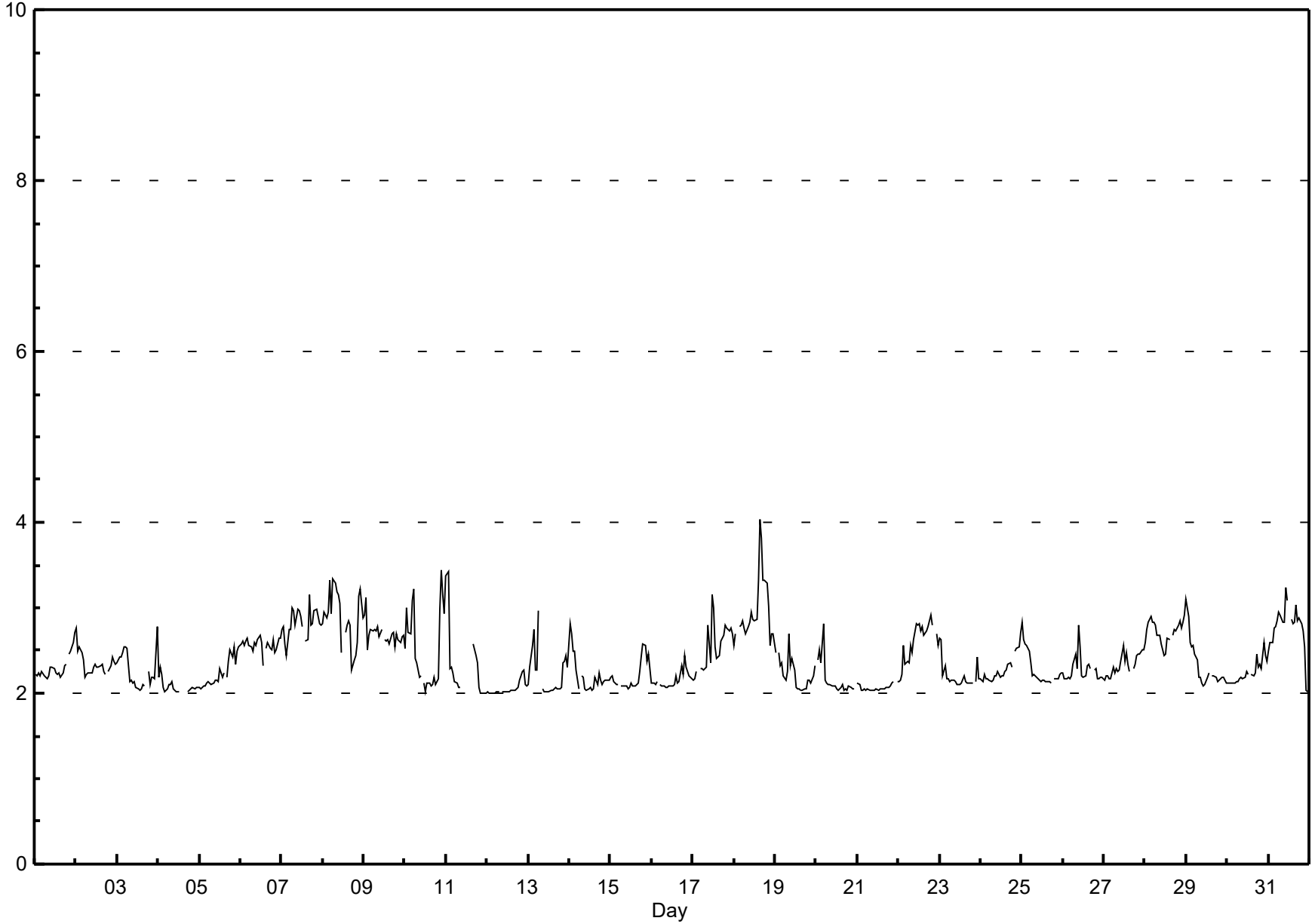
A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Methane (CH_4) - ppm

Henry Pirker - December 2018

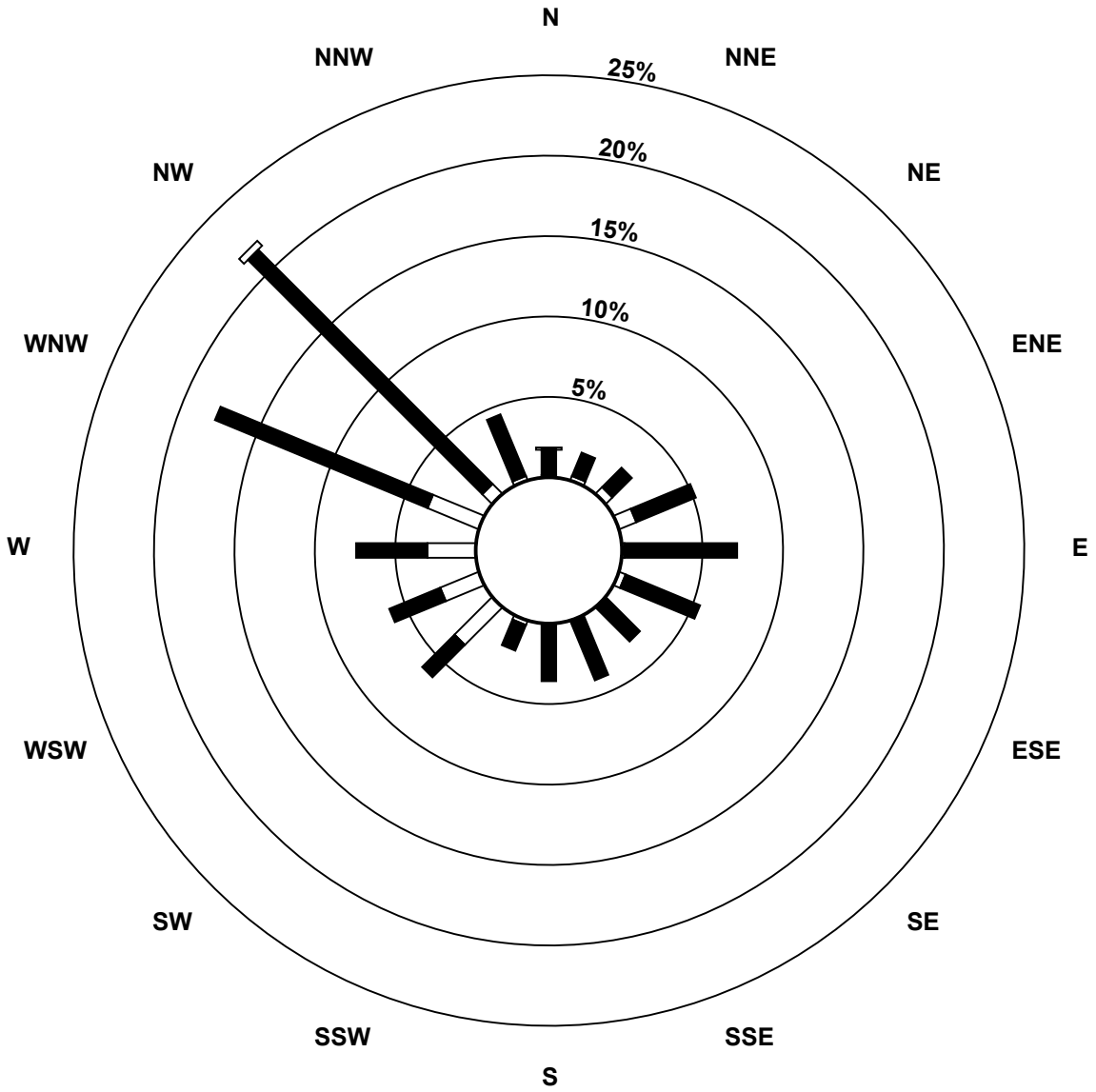


Peace Airshed Zone Association

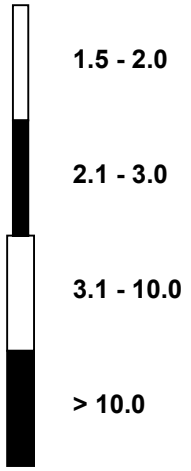
Pollutant Rose

Methane (CH_4) - ppm

Henry Pirker - December 2018



Pollutant Classes (ppm)

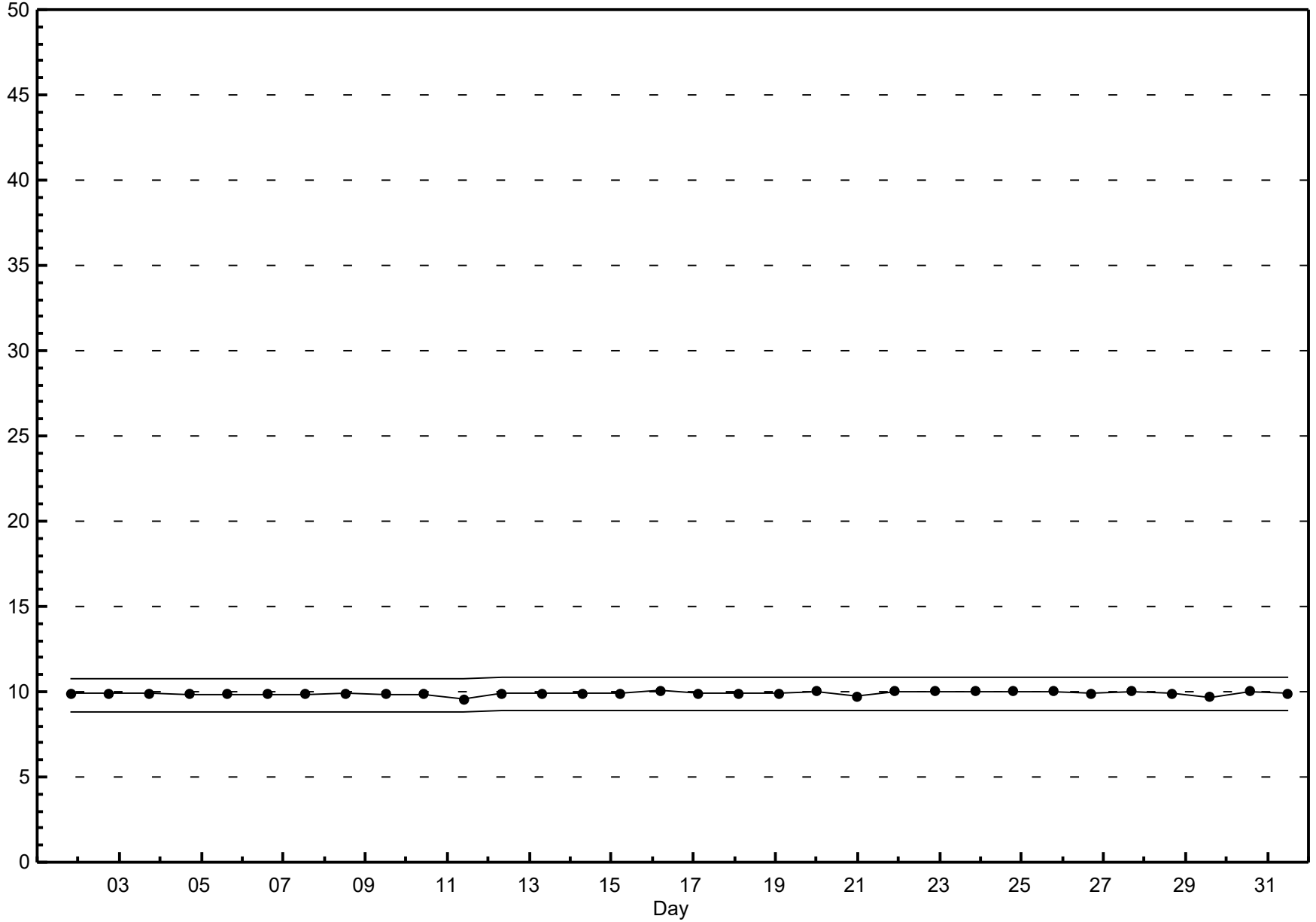


Peace Airshed Zone Association

Span Responses

Methane (CH_4)

Henry Pirker - December 2018



Peace Airshed Zone Association

Hourly Averages

Non Methane Hydrocarbon (NMHC) - ppm

Henry Pirker - December 2018

Maximum Value: 0.55 ppm on Dec 18 16:00

Maximum Daily Average: 0.23 ppm on Dec 8

Minimum Value: 0.0 ppm on Dec 1 01:00

Minimum Daily Average: 0.00 ppm on Dec 21

Maximum Diurnal Average: 0.07 ppm at hour 1

Minimum Diurnal Average: 0.03 ppm at hour 22

Monthly Average: 0.047 ppm

Percentiles: P_1 = 0.00 P_{10} = 0.00 Q_1 = 0.00 Median = 0.00 Q_3 = 0.06 P_{90} = 0.17 P_{99} = 0.38

Hours in Service:	744
Hours of Data:	704
Hours of Missing Data:	40
Hours of Calibration:	40
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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.1	0.1	0.1	0.02	0.11
2-Dec	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.1	0.0	0.0	0.04	0.14
3-Dec	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.2	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	0.03	0.23
4-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	C	C	C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.01
5-Dec	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	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.02	0.22
6-Dec	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.2	0.1	0.1	0.0	0.0	0.0	A	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.4	0.4	0.12	0.40
7-Dec	0.3	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	A	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.3	0.4	0.3	0.17	0.38
8-Dec	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.4	0.3	0.3	0.2	0.0	A	0.2	0.2	0.2	0.1	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.23	0.45
9-Dec	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	A	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.0	0.0	0.08	0.14
10-Dec	0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.3	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.03	0.27
11-Dec	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	C	C	C	C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.10
12-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	0.01
13-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	0.01
14-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
15-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	0.03
16-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
17-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	0.1	0.1	0.1	0.1	0.1	0.1	0.03	0.13
18-Dec	0.1	0.2	A	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.3	0.2	0.1	0.2	0.3	0.6	0.4	0.3	0.3	0.3	0.3	0.0	0.0	0.1	0.22	0.55
19-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	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.06
20-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
21-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
22-Dec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.2	0.3	0.2	0.3	0.3	0.4	0.3	0.3	A	0.2	0.1	0.14	0.38
23-Dec	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.01	0.18
24-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	0.1	0.01	0.12
25-Dec	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.02	0.19
26-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	0.2	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.16
27-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	0.01	0.04
28-Dec	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	A	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.09	0.19
29-Dec	0.2	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.02	0.17
30-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	0.01
31-Dec	0.0	0.1	0.0	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.4	0.2	A	0.2	0.2	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.13	0.39
	0.07	0.05	0.04	0.05	0.05	0.05	0.04	0.05	0.05	0.05	0.05	0.04	0.03	0.04	0.06	0.05	0.06	0.05	0.05	0.05	0.05	0.03	0.06	0.05	Diurnal Average	
	0.38	0.38	0.40	0.38	0.37	0.33	0.45	0.39	0.34	0.32	0.39	0.25	0.22	0.22	0.32	0.55	0.44	0.32	0.38	0.33	0.32	0.29	0.40	0.36	Diurnal Maximum	

C - Calibration

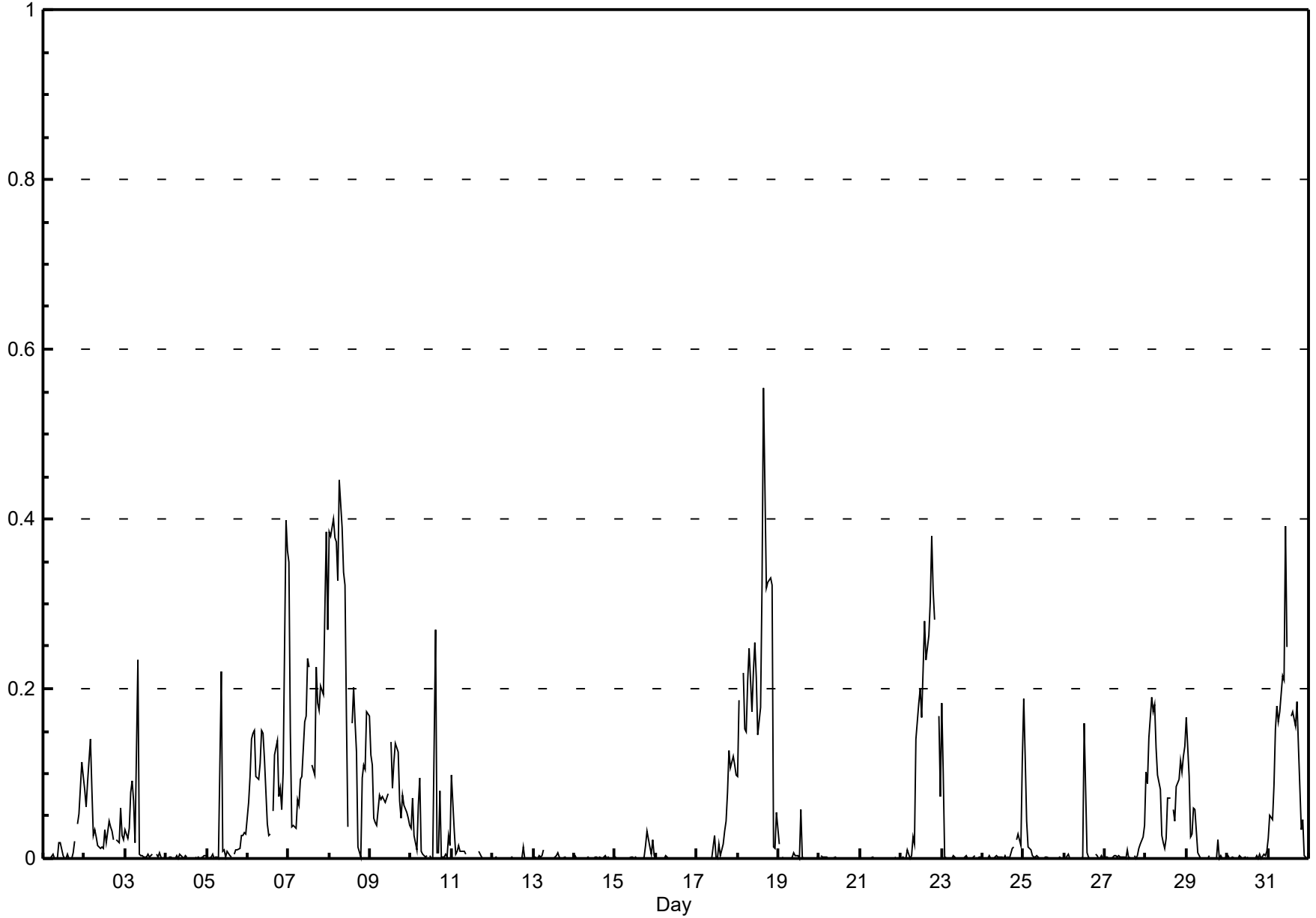
A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Averages

Non Methane Hydrocarbon (NMHC) - ppm

Henry Pirker - December 2018



Peace Airshed Zone Association

Hourly Maximums

Non Methane Hydrocarbon (NMHC) - ppm

Henry Pirker - December 2018

Maximum Value: 2.25 ppm on Dec 10 15:00

Maximum Daily Average: 0.45 ppm on Dec 8

Minimum Value: 0.0 ppm on Dec 14 11:00

Minimum Daily Average: 0.01 ppm on Dec 21

Maximum Diurnal Average: 0.26 ppm at hour 15

Minimum Diurnal Average: 0.15 ppm at hour 12

Monthly Average: 0.182 ppm

Percentiles: P_1 = 0.00 P_{10} = 0.00 Q_1 = 0.01 Median = 0.13 Q_3 = 0.31 P_{90} = 0.41 P_{99} = 0.66

Hours in Service:	744
Hours of Data:	704
Hours of Missing Data:	40
Hours of Calibration:	40
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	0.1	0.0	0.2	0.1	0.2	0.0	0.1	0.1	0.3	0.3	0.2	0.2	0.1	0.2	0.2	0.1	0.2	0.2	A	0.3	0.3	0.3	0.3	0.18	0.35
2-Dec	0.3	0.3	0.3	0.4	0.4	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.3	0.2	0.3	0.3	0.3	0.2	A	0.3	0.4	0.3	0.3	0.2	0.28	0.41
3-Dec	0.3	0.2	0.2	0.3	0.4	0.4	0.3	0.9	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.2	A	0.1	0.0	0.2	0.1	0.0	0.1	0.20	0.91
4-Dec	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.0	0.2	0.1	0.1	0.1	0.1	C	C	C	C	0.1	0.0	0.1	0.0	0.1	0.2	0.2	0.08	0.24
5-Dec	0.2	0.0	0.1	0.2	0.0	0.1	0.1	0.0	1.2	0.2	0.3	0.1	0.2	0.2	0.1	A	0.2	0.2	0.1	0.2	0.2	0.2	0.3	0.2	0.20	1.23
6-Dec	0.4	0.3	0.4	0.4	0.5	0.4	0.3	0.3	0.6	0.4	0.3	0.4	0.3	0.2	A	0.3	0.3	0.5	0.3	0.4	0.3	0.4	0.6	0.6	0.38	0.57
7-Dec	0.5	0.4	0.4	0.2	0.3	0.4	0.3	0.3	0.3	0.4	0.4	0.5	0.5	A	0.3	0.4	0.6	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.40	0.58
8-Dec	0.6	0.5	0.6	0.7	0.7	0.5	0.7	0.6	0.6	0.6	0.4	0.3	A	0.5	0.4	0.4	0.4	0.2	0.1	0.3	0.3	0.4	0.4	0.4	0.45	0.66
9-Dec	0.4	0.4	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.4	0.4	A	0.4	0.4	0.4	0.4	0.4	0.3	0.2	0.2	0.3	0.3	0.3	0.3	0.33	0.44
10-Dec	0.3	0.3	0.3	0.2	0.3	0.4	0.3	0.1	0.1	0.1	A	0.2	0.0	0.0	2.2	0.2	0.2	0.7	0.0	0.1	0.1	0.2	0.3	0.2	0.28	2.25
11-Dec	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.1	0.1	A	0.2	C	C	C	C	C	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.12	0.31
12-Dec	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.03	0.31
13-Dec	0.0	0.1	0.0	0.2	0.1	0.1	0.3	A	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.06	0.31
14-Dec	0.2	0.0	0.0	0.0	0.0	0.0	A	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.04	0.16
15-Dec	0.1	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.2	0.3	0.2	0.2	0.2	0.1	0.08	0.30
16-Dec	0.0	0.0	0.0	0.0	A	0.0	0.2	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.05	0.16
17-Dec	0.1	0.0	0.0	A	0.1	0.2	0.0	0.0	0.2	0.0	0.4	0.1	0.1	0.3	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.3	0.19	0.36
18-Dec	0.4	0.4	A	0.4	0.3	0.4	0.5	0.5	0.3	0.3	0.4	0.4	0.3	0.4	0.6	0.7	0.7	0.5	0.5	0.6	0.5	0.2	0.2	0.4	0.43	0.74
19-Dec	0.3	A	0.2	0.1	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.1	0.1	0.5	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.09	0.54
20-Dec	A	0.1	0.0	0.1	0.1	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	0.0	A	0.02	0.15
21-Dec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	A	0.0	0.01	0.09
22-Dec	0.0	0.2	0.0	0.1	0.2	0.1	0.1	0.2	0.2	0.4	0.3	0.4	0.4	0.4	0.5	0.6	0.5	0.6	0.6	0.5	0.4	A	0.4	0.4	0.33	0.61
23-Dec	0.5	0.3	0.1	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.1	0.0	0.2	A	0.0	0.1	0.1	0.07	0.45
24-Dec	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.2	0.0	0.1	0.1	0.0	0.2	0.0	0.1	0.0	0.2	0.2	A	0.2	0.3	0.2	0.4	0.11	0.42
25-Dec	0.4	0.4	0.3	0.2	0.2	0.1	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	A	0.0	0.0	0.1	0.0	0.0	0.10	0.42
26-Dec	0.0	0.0	0.3	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	1.1	0.3	0.1	0.1	0.1	A	0.1	0.2	0.0	0.0	0.2	0.0	0.12	1.06
27-Dec	0.1	0.1	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.2	0.1	0.0	A	0.2	0.0	0.1	0.2	0.2	0.3	0.3	0.11	0.32
28-Dec	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.3	0.2	0.2	0.2	0.3	0.3	0.3	A	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.31	0.41
29-Dec	0.4	0.4	0.2	0.2	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.2	A	0.0	0.0	0.0	0.4	0.0	0.2	0.0	0.0	0.2	0.12	0.40
30-Dec	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.2	0.1	0.0	0.1	0.0	0.1	A	0.1	0.0	0.0	0.2	0.0	0.2	0.0	0.1	0.1	0.2	0.07	0.21
31-Dec	0.2	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.6	0.6	A	0.3	0.4	0.3	0.4	0.4	0.3	0.2	0.4	0.1	0.1	0.0	0.34	0.61
	0.22	0.19	0.16	0.18	0.17	0.18	0.16	0.19	0.20	0.15	0.18	0.15	0.16	0.20	0.26	0.17	0.18	0.20	0.17	0.17	0.18	0.16	0.19	0.20	Diurnal Average	
	0.60	0.53	0.60	0.65	0.66	0.50	0.66	0.91	1.23	0.55	0.61	0.58	1.06	0.54	2.25	0.74	0.67	0.68	0.59	0.62	0.52	0.55	0.56	0.55	Diurnal Maximum	

C - Calibration

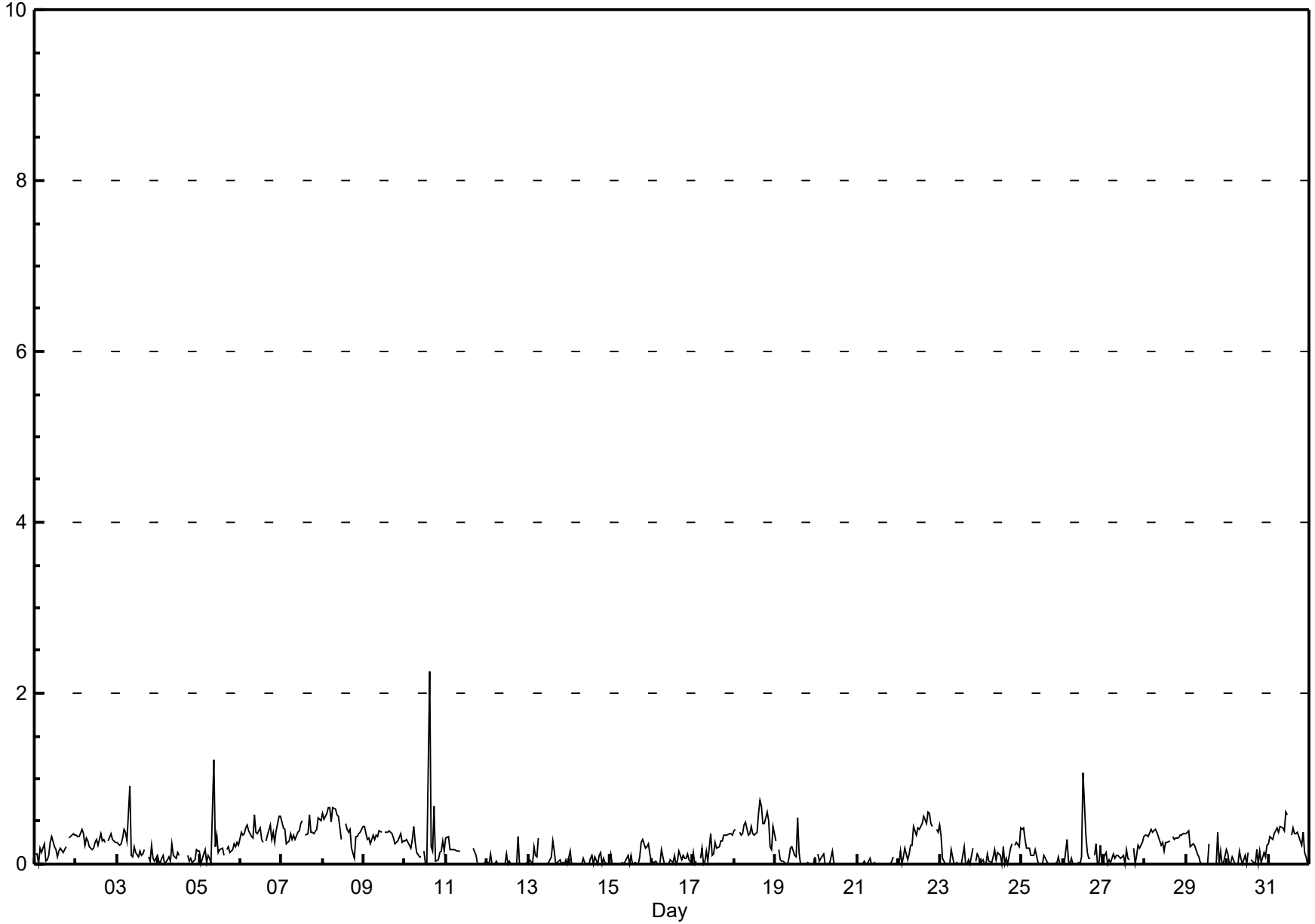
A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Non Methane Hydrocarbon (NMHC) - ppm

Henry Pirker - December 2018

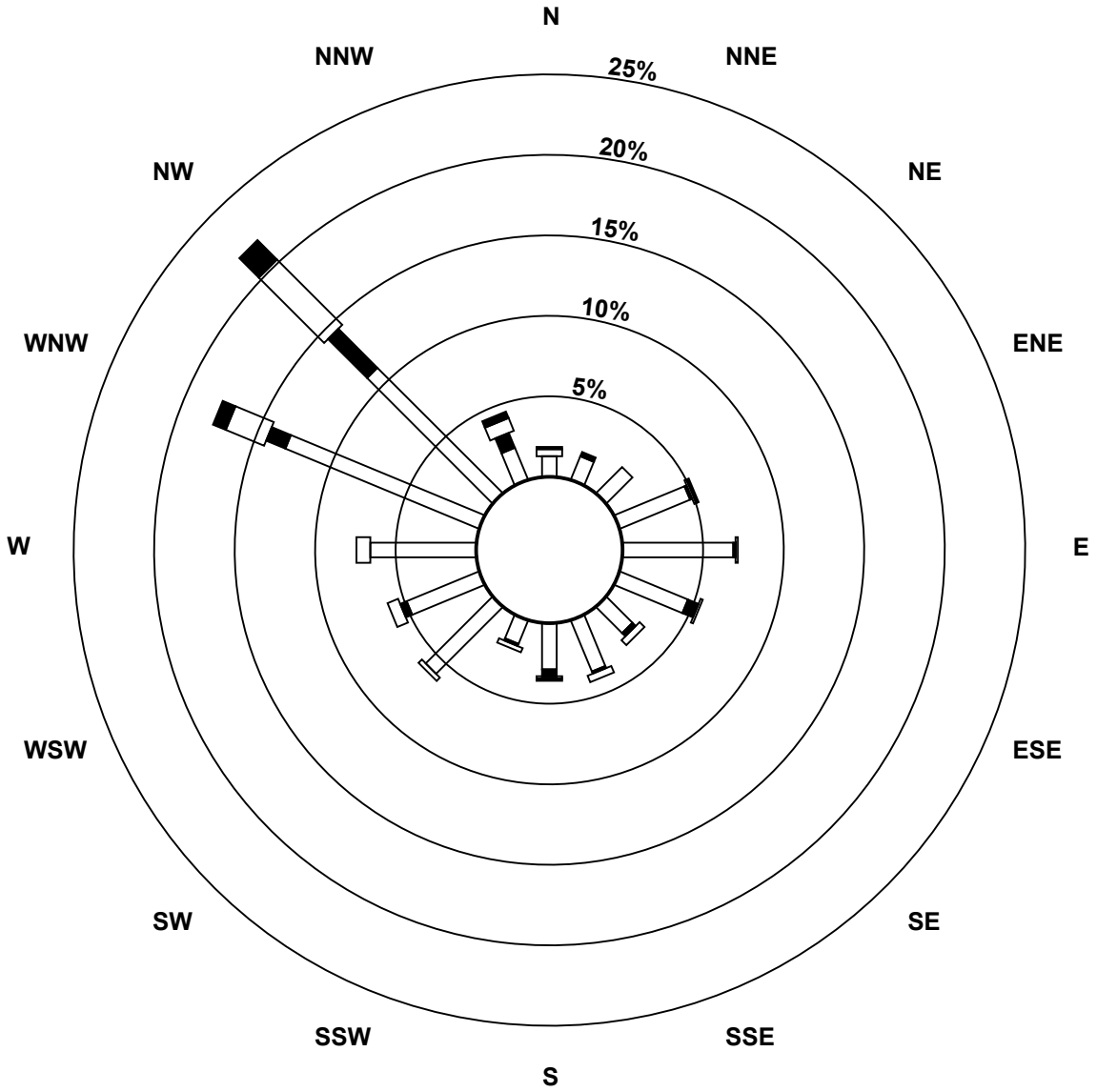


Peace Airshed Zone Association

Pollutant Rose

Non Methane Hydrocarbon (NMHC) - ppm

Henry Pirker - December 2018



Pollutant Classes (ppm)

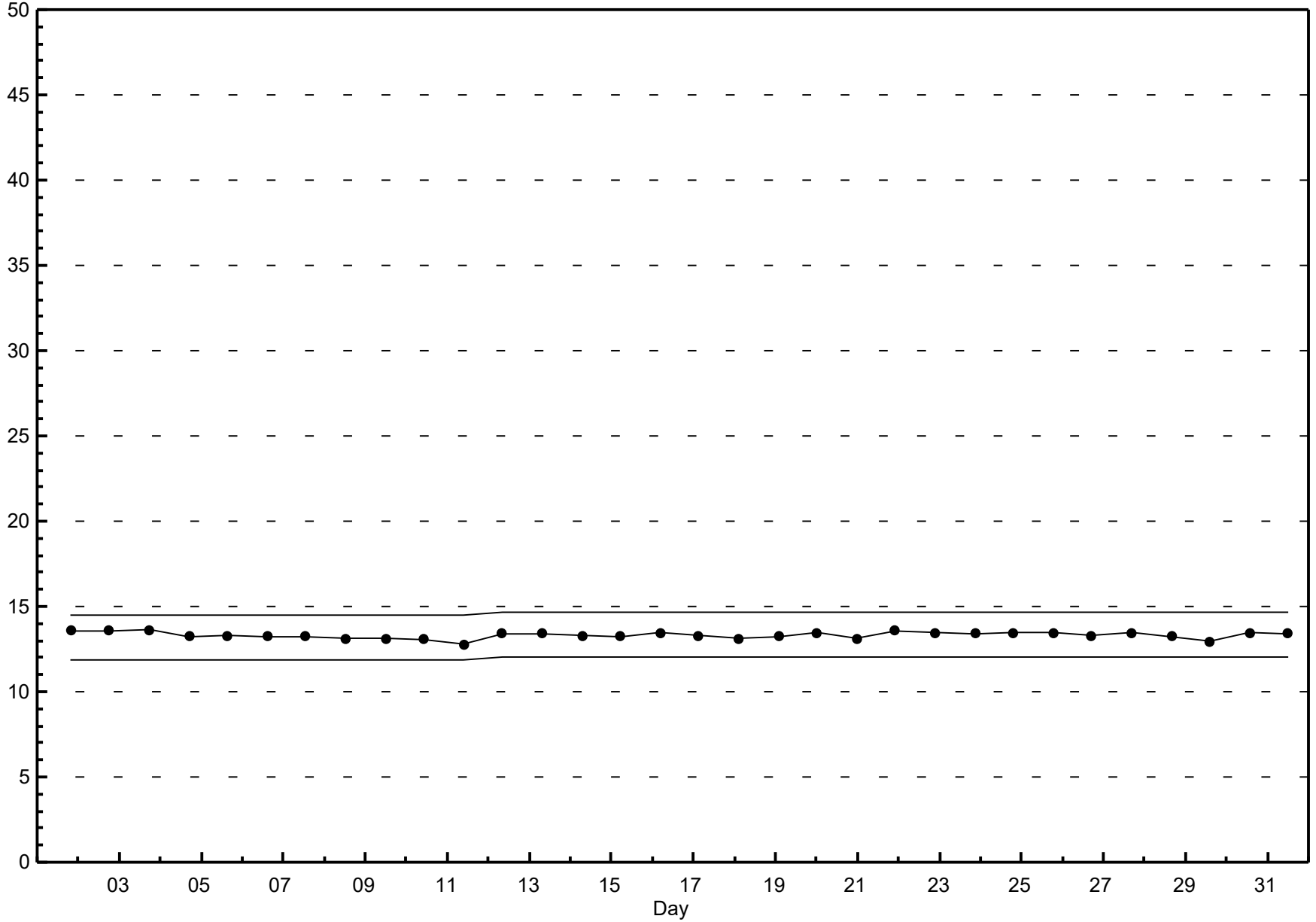
- 0 - 0.05
- 0.06 - 0.1
- 0.11 - 0.30
- > 0.30

Peace Airshed Zone Association

Span Responses

Non Methane Hydrocarbon (NMHC)

Henry Pirker - December 2018



Peace Airshed Zone Association

Hourly Averages

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

Henry Pirker - December 2018

Number of Exceedences: 1-hr: 3 24-hr: 1

Maximum Value: 333.2 $\mu g/m^3$ on Dec 29 06:00

Maximum Daily Average: 43.1 $\mu g/m^3$ on Dec 29

Minimum Value: 0 $\mu g/m^3$ on Dec 12 06:00

Minimum Daily Average: 0.8 $\mu g/m^3$ on Dec 21

Maximum Diurnal Average: 17.0 $\mu g/m^3$ at hour 6

Minimum Diurnal Average: 7.4 $\mu g/m^3$ at hour 8

Monthly Average: 10.09 $\mu g/m^3$

Percentiles: P_1 = 0.0 P_{10} = 0.8 Q_1 = 2.5 Median = 6.1 Q_3 = 13.8 P_{90} = 20.5 P_{99} = 45.7

Hours in Service:	744
Hours of Data:	738
Hours of Missing Data:	6
Hours of Calibration:	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	8	6	6	8	10	9	9	10	15	18	20	20	18	12	9	6	5	16	9	11	9	9	35	10	11.9	35.1
2-Dec	7	6	7	7	5	4	4	3	3	4	6	6	6	6	7	6	5	4	5	5	7	8	8	8	5.7	8.2
3-Dec	12	11	12	11	12	11	6	3	3	2	2	2	1	1	1	2	3	3	16	5	4	3	6	6	5.8	16.0
4-Dec	4	3	4	4	4	4	4	6	7	5	4	4	4	4	3	4	3	2	2	2	2	3	8	11	4.1	10.9
5-Dec	2	2	2	3	2	3	4	4	4	5	5	6	4	6	4	7	9	11	16	20	16	18	16	28	8.2	27.9
6-Dec	16	12	9	11	13	13	15	18	20	23	31	19	17	18	25	21	18	15	15	20	22	14	11	12	16.9	30.6
7-Dec	15	26	26	21	23	21	26	23	21	21	25	30	28	24	19	19	28	28	36	58	31	16	33	14	25.5	57.8
8-Dec	16	14	14	15	19	15	19	20	19	22	13	14	21	20	15	25	23	7	13	24	36	34	50	43	21.3	49.6
9-Dec	45	41	22	17	16	20	20	17	17	16	17	13	26	30	17	14	12	14	15	16	19	25	22	26	20.7	45.0
10-Dec	31	31	25	14	17	7	5	4	3	6	5	2	1	1	2	2	4	3	2	4	5	4	7	12	8.3	31.4
11-Dec	21	15	26	9	4	3	4	2	2	2	C	C	C	C	C	C	18	16	9	2	1	0	0	0	7.5	25.6
12-Dec	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	2	4	9	9	5	1.5	9.2
13-Dec	1	3	6	6	1	4	5	1	1	0	0	0	1	1	1	2	2	3	5	5	8	10	9	6	3.4	9.9
14-Dec	4	4	14	5	3	2	1	2	1	1	3	2	2	5	6	17	12	13	14	8	8	12	6	4	6.2	16.8
15-Dec	8	6	4	5	4	1	1	1	1	1	0	0	0	0	0	0	1	7	20	37	15	23	9	3	6.1	37.1
16-Dec	2	2	1	1	1	1	0	0	0	1	1	1	1	2	3	3	5	6	7	10	25	7	7	7	4.1	25.1
17-Dec	7	8	9	9	13	12	11	10	11	13	16	18	18	21	22	22	19	20	43	18	18	16	26	12	16.3	42.8
18-Dec	11	14	14	12	11	11	11	15	16	19	18	19	18	16	15	15	14	21	46	13	13	6	7	4	14.9	46.1
19-Dec	4	4	3	2	1	1	1	1	7	8	5	2	0	0	0	0	0	1	0	0	0	0	0	2	1.9	7.5
20-Dec	5	5	5	5	2	1	1	1	0	0	1	2	1	1	1	2	1	2	2	2	3	3	2	1	2.0	5.4
21-Dec	6	4	1	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	2	1	3	0.8	5.6
22-Dec	3	2	2	3	6	5	8	7	7	10	23	8	11	4	6	4	4	5	28	9	8	6	5	5	7.4	28.0
23-Dec	4	3	2	2	1	2	2	3	4	5	4	5	4	4	4	3	4	4	4	6	8	6	9	12	4.3	12.0
24-Dec	7	6	6	8	7	8	8	9	11	11	12	9	11	12	13	27	27	10	12	11	9	12	17	9	11.3	27.1
25-Dec	14	13	10	12	10	5	3	3	2	2	2	4	5	3	1	1	1	4	5	3	2	3	3	3	4.7	13.8
26-Dec	3	4	4	4	5	4	3	4	5	6	7	4	9	6	4	5	6	6	6	4	3	3	5	11	5.0	11.0
27-Dec	15	17	17	13	12	8	7	11	11	9	13	14	13	12	12	11	10	13	15	25	20	14	14	15	13.3	24.7
28-Dec	12	18	15	14	13	13	11	11	14	14	14	17	16	17	20	20	18	18	20	33	32	24	20	16	17.4	32.8
29-Dec	19	25	67	124	255	333	80	35	30	11	4	4	8	7	4	4	3	4	4	3	4	3	2	1	43.1	333.2
30-Dec	1	1	1	2	2	2	2	2	2	3	2	2	2	2	2	2	2	3	4	5	9	16	17	14	4.1	16.6
31-Dec	9	6	9	7	4	3	4	4	7	10	5	6	9	8	9	13	14	14	18	16	11	2	11	0	8.3	18.0
	10.0	10.1	11.1	11.3	15.3	17.0	8.9	7.4	7.9	8.1	8.6	7.7	8.5	8.1	7.5	8.6	8.8	8.9	12.6	12.2	11.3	10.1	12.0	9.8	Diurnal Average	
	45.0	40.9	67.0	123.9	254.6	333.2	80.2	34.6	30.4	22.5	30.6	29.5	27.6	30.1	24.6	27.1	27.7	28.2	46.1	57.8	35.8	34.1	49.6	42.7	Diurnal Maximum	

C - Calibration

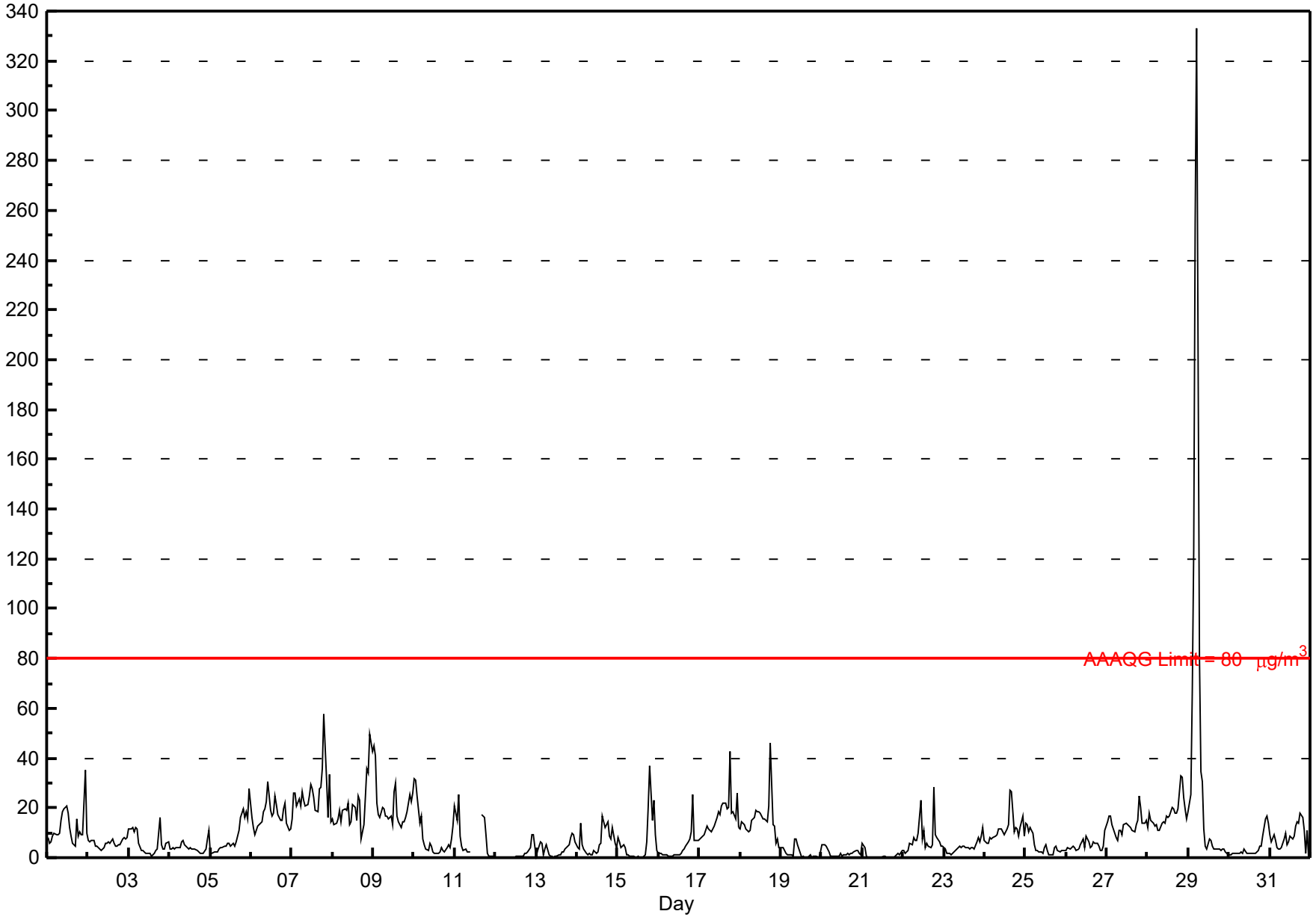
Alberta Ambient Air Quality Guideline (AAAQG): 1-hr 80 $\mu g/m^3$ Alberta Ambient Air Quality Objective (AAAQO): 24-hr 30 $\mu g/m^3$

Peace Airshed Zone Association

Hourly Averages

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

Henry Pirker - December 2018



PAZA
Peace Airshed Zone Association

Hourly Maximums

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

Henry Pirker - December 2018

Maximum Value: 412.6 $\mu g/m^3$ on Dec 29 06:00

Maximum Daily Average: 65.1 $\mu g/m^3$ on Dec 29

Minimum Value: 0 $\mu g/m^3$ on Jan 1 00:00

Minimum Daily Average: 2.4 $\mu g/m^3$ on Dec 12

Maximum Diurnal Average: 38.4 $\mu g/m^3$ at hour 23

Minimum Diurnal Average: 9.3 $\mu g/m^3$ at hour 8

Monthly Average: 17.60 $\mu g/m^3$

Percentiles: P_1 = 0.3 P_{10} = 1.6 Q_1 = 3.8 Median = 9.8 Q_3 = 19.0 P_{90} = 33.5 P_{99} = 194.4

Hours in Service:	744
Hours of Data:	738
Hours of Missing Data:	6
Hours of Calibration:	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	9	8	8	11	10	10	10	13	17	21	22	23	24	15	11	10	6	67	15	25	14	10	182	19	23.3	182.1
2-Dec	9	7	7	7	6	5	5	4	3	5	7	9	7	7	9	9	6	5	7	6	10	11	11	12	7.2	12.5
3-Dec	22	16	14	12	13	12	11	5	3	9	3	3	2	1	2	3	4	5	78	10	8	7	8	29	11.5	77.8
4-Dec	4	4	4	4	4	4	5	7	8	7	6	5	4	4	3	4	4	3	2	2	2	6	15	19	5.5	19.1
5-Dec	3	2	3	3	2	4	5	5	5	6	7	6	6	9	9	11	12	13	25	35	22	28	20	54	12.3	54.5
6-Dec	26	19	10	13	14	14	17	20	26	28	48	26	19	20	55	27	20	17	33	42	36	18	19	15	24.1	54.6
7-Dec	22	35	29	26	24	22	29	27	22	25	35	39	29	29	25	26	42	37	46	196	76	21	192	29	45.1	195.9
8-Dec	30	14	20	22	30	19	28	30	30	43	15	18	25	27	18	37	37	11	19	41	47	42	112	54	32.0	112.3
9-Dec	56	54	26	20	18	26	22	19	18	18	25	21	33	40	35	17	14	20	19	23	22	29	25	29	26.2	56.5
10-Dec	43	40	31	20	53	13	9	5	4	11	11	4	2	2	3	4	5	6	3	8	6	7	12	19	13.3	53.3
11-Dec	28	29	38	16	5	4	7	3	3	3	C	C	C	C	C	C	24	23	13	3	1	1	1	1	11.2	38.0
12-Dec	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	2	2	5	7	11	11	10	2.4	11.5
13-Dec	1	8	10	15	3	5	9	4	1	1	0	1	2	2	2	3	3	5	6	7	14	16	19	14	6.4	18.9
14-Dec	5	6	48	9	5	2	2	2	2	2	10	3	4	11	14	23	17	17	24	18	11	50	10	7	12.5	50.5
15-Dec	13	10	6	6	5	2	1	1	1	1	0	0	1	0	0	1	2	34	32	94	33	166	17	7	18.1	165.7
16-Dec	3	3	2	2	2	2	1	1	1	2	2	2	2	2	3	5	7	8	15	26	100	10	10	18	9.4	99.8
17-Dec	11	14	10	10	15	15	14	11	12	14	46	36	19	23	24	26	46	25	205	23	28	26	188	36	36.5	204.6
18-Dec	14	20	19	13	11	11	12	16	17	23	22	44	22	17	16	18	16	78	197	21	15	8	9	7	26.9	196.6
19-Dec	5	5	4	2	2	2	1	2	14	14	24	6	0	1	1	0	1	6	0	4	2	4	0	4	4.3	23.7
20-Dec	6	20	8	8	5	2	1	1	1	1	2	4	1	3	2	3	2	3	4	4	8	8	3	1	4.2	19.9
21-Dec	15	15	2	0	1	0	0	0	0	0	0	0	2	1	1	0	0	0	0	1	2	12	1	7	2.7	14.9
22-Dec	6	3	3	5	7	6	11	9	11	14	169	34	15	9	12	19	6	11	211	21	10	9	6	6	25.5	210.8
23-Dec	6	10	2	3	2	2	3	3	5	8	5	6	7	5	5	5	5	5	6	14	14	7	10	15	6.4	14.7
24-Dec	12	7	8	8	8	9	10	11	15	14	14	10	11	16	16	188	162	15	21	18	16	19	53	11	28.1	187.9
25-Dec	17	16	11	13	13	7	3	3	3	2	3	9	13	6	2	2	3	10	7	4	3	6	4	4	6.9	17.1
26-Dec	4	5	5	5	6	6	4	5	7	11	12	5	21	16	5	8	14	10	9	5	3	4	9	13	8.0	20.8
27-Dec	17	20	20	14	14	11	9	12	14	13	14	15	14	13	14	13	13	19	18	35	29	16	20	22	16.7	34.8
28-Dec	13	53	29	15	14	15	13	12	15	15	17	17	17	25	38	30	25	23	37	42	78	38	35	19	26.3	77.6
29-Dec	29	37	75	256	318	413	250	49	48	17	8	6	9	8	5	4	4	4	5	3	4	5	4	2	65.1	412.6
30-Dec	2	1	2	2	2	2	2	4	2	10	2	2	2	3	2	4	3	3	8	8	16	18	36	21	6.5	35.7
31-Dec	21	15	39	19	10	4	5	6	13	14	7	11	12	10	11	14	21	16	21	22	15	10	151	0	19.5	151.2
	14.6	16.0	15.8	18.1	20.1	20.9	16.0	9.3	10.3	11.3	17.9	12.2	10.8	10.8	11.5	17.2	17.0	16.1	35.1	24.7	21.1	20.1	38.4	16.3	Diurnal Average	
	56.5	54.2	74.8	255.8	318.3	412.6	249.8	49.1	47.9	43.0	168.8	44.0	33.4	39.9	54.6	187.9	162.2	77.6	210.8	195.9	99.8	165.7	191.8	54.5	Diurnal Maximum	

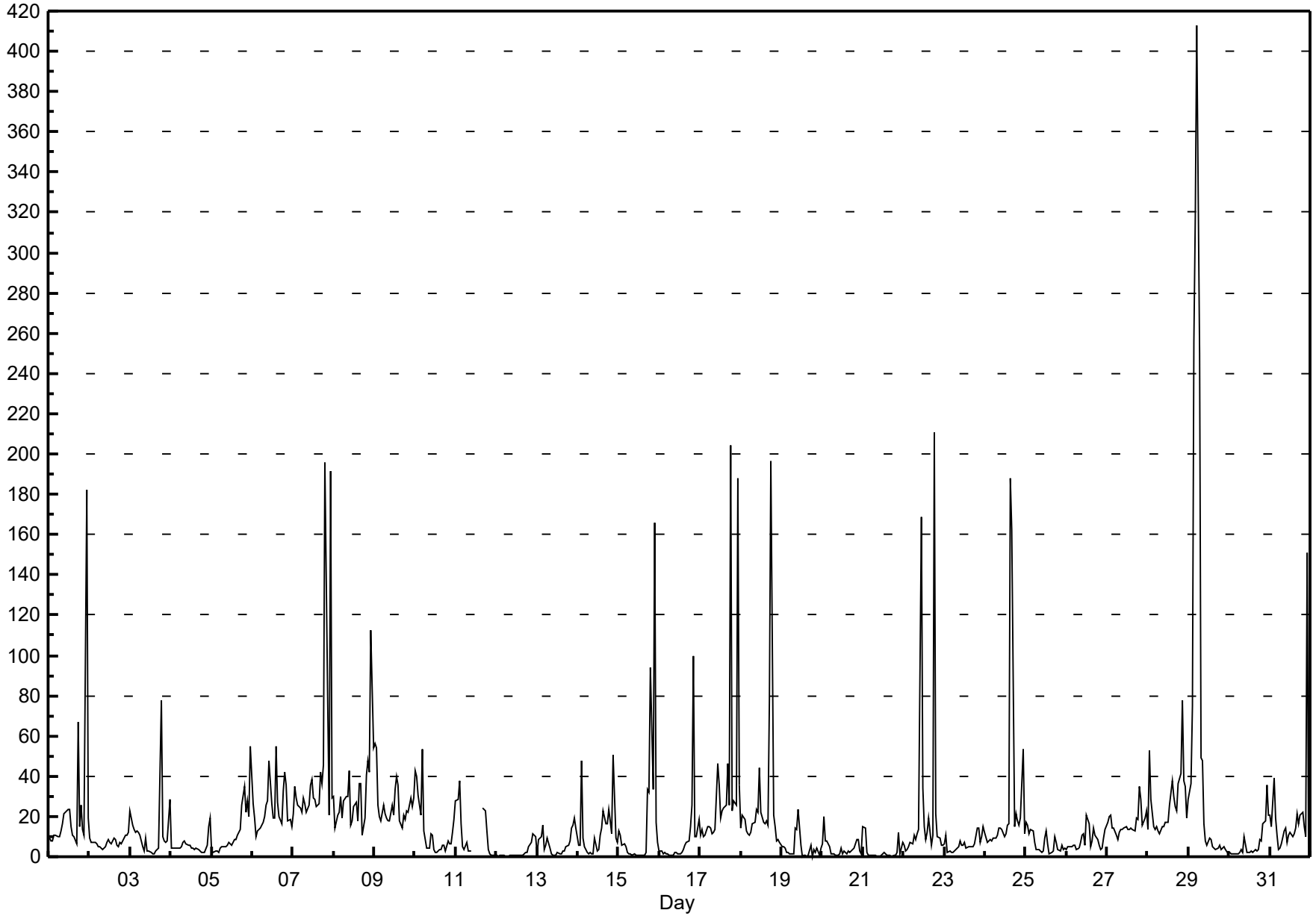
C - Calibration

Peace Airshed Zone Association

Hourly Maximums

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

Henry Pirker - December 2018

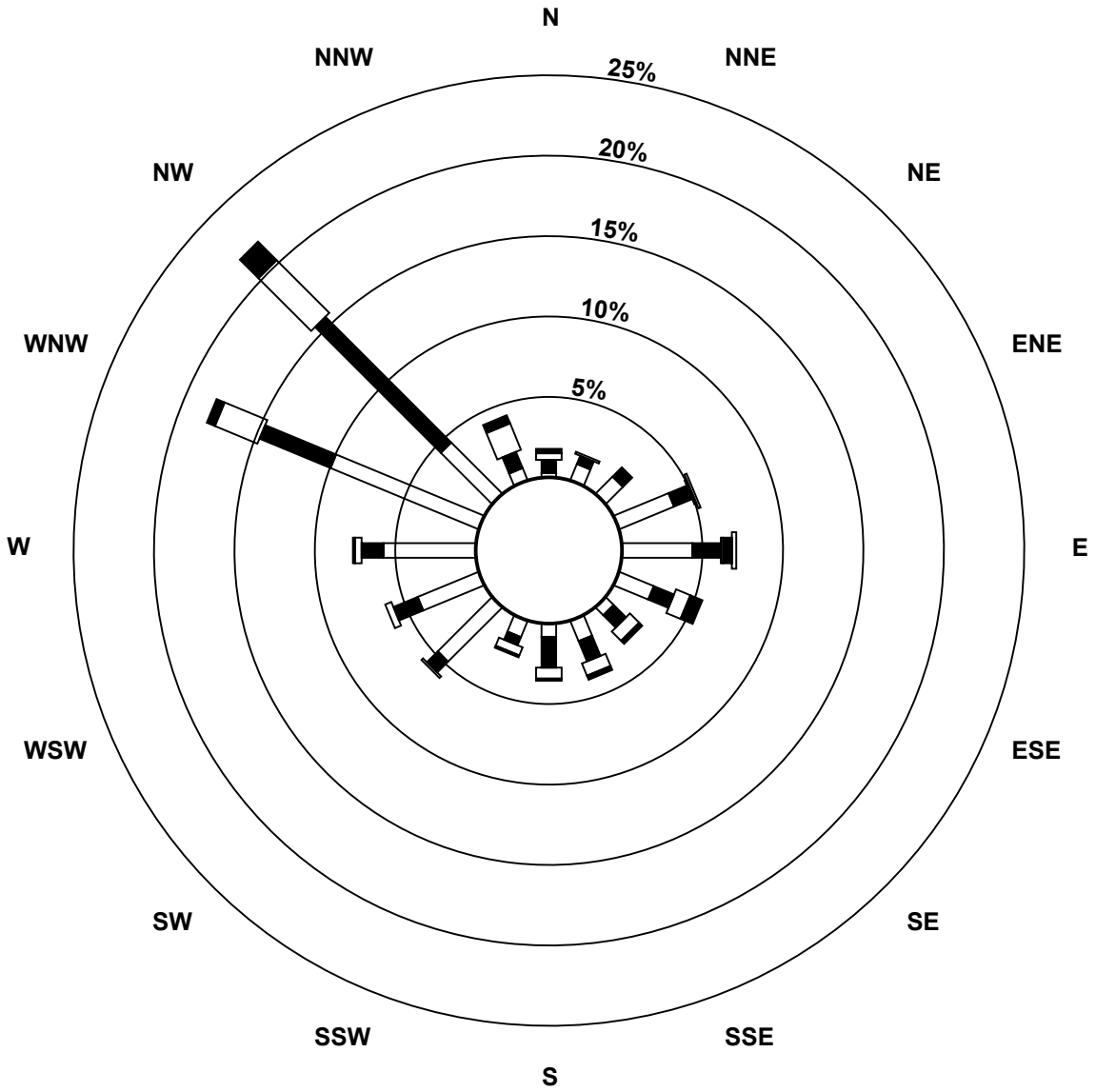


Peace Airshed Zone Association

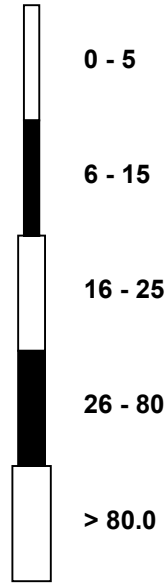
Pollutant Rose

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

Henry Pirker - December 2018



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



Peace Airshed Zone Association

Hourly Averages

External Temperature (ET) - °C

Henry Pirker - December 2018

Maximum Value: 4.8 °C on Dec 10 14:00

Maximum Daily Average: 0.2 °C on Dec 12

Minimum Value: -23 °C on Dec 31 04:00

Minimum Daily Average: -15.7 °C on Dec 30

Maximum Diurnal Average: -4.5 °C at hour 14

Minimum Diurnal Average: -9.5 °C at hour 1

Monthly Average: -8.02 °C

Percentiles: P_1 = -21.6 P_{10} = -15.7 Q_1 = -12.8 Median = -7.2 Q_3 = -3.9 P_{90} = -0.6 P_{99} = 3.7

Hours in Service:	744
Hours of Data:	744
Hours of Missing Data:	0
Hours of Calibration:	0
Percent Operational Time:	100.0

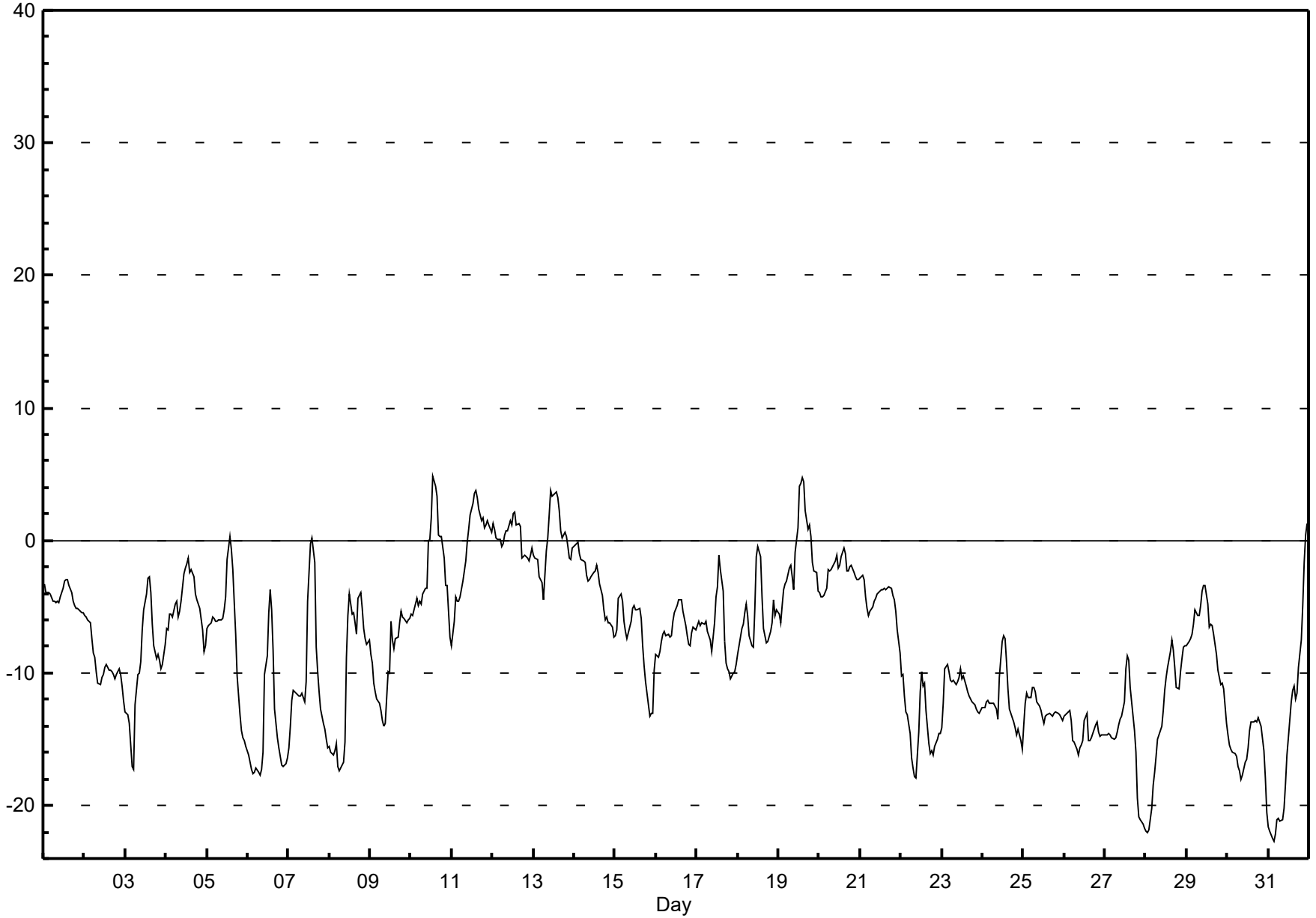
Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1-Dec	-3	-4	-4	-4	-4	-5	-5	-5	-5	-5	-4	-4	-3	-3	-3	-3	-4	-5	-5	-5	-5	-5	-5	-5	-4.3	-2.9
2-Dec	-6	-6	-6	-6	-7	-9	-9	-10	-11	-11	-10	-10	-10	-9	-10	-10	-10	-10	-10	-10	-10	-10	-11	-12	-9.3	-5.6
3-Dec	-13	-13	-14	-15	-17	-17	-12	-10	-10	-9	-7	-5	-4	-3	-3	-4	-6	-8	-9	-9	-9	-10	-9	-8	-9.4	-2.8
4-Dec	-7	-7	-6	-6	-6	-5	-5	-6	-5	-5	-3	-2	-2	-1	-2	-2	-3	-4	-4	-5	-5	-7	-8	-8	-4.7	-1.4
5-Dec	-7	-6	-6	-6	-6	-6	-6	-6	-6	-6	-5	-4	-1	0	-1	-2	-5	-7	-10	-13	-14	-15	-15	-16	-7.1	0.3
6-Dec	-16	-17	-17	-18	-17	-17	-17	-18	-17	-16	-10	-9	-5	-4	-5	-8	-13	-15	-16	-16	-17	-17	-17	-16	-14.1	-3.8
7-Dec	-16	-14	-12	-11	-12	-12	-12	-12	-12	-12	-11	-5	-2	0	0	-2	-8	-10	-11	-13	-14	-14	-15	-16	-10.1	0.2
8-Dec	-16	-16	-16	-16	-15	-17	-17	-17	-17	-15	-9	-6	-4	-6	-5	-6	-7	-4	-4	-5	-7	-7	-8	-8	-10.3	-3.9
9-Dec	-9	-9	-11	-11	-12	-12	-13	-14	-14	-14	-10	-10	-6	-8	-8	-7	-7	-6	-5	-6	-6	-6	-6	-6	-9.0	-5.4
10-Dec	-6	-6	-5	-4	-5	-5	-5	-4	-4	-4	0	0	2	5	4	3	0	0	0	-1	-3	-3	-5	-7	-2.2	4.8
11-Dec	-8	-6	-4	-5	-5	-4	-3	-2	-2	0	1	2	3	4	4	3	2	1	2	1	1	1	1	1	-0.5	3.8
12-Dec	1	1	0	0	0	0	0	0	1	1	1	1	2	2	1	1	1	-1	-1	-1	-1	-2	-1	-1	0.2	2.1
13-Dec	-1	-1	-1	-3	-3	-3	-5	-1	0	2	4	3	3	4	3	2	1	0	1	0	-1	-1	-1	-1	0.1	3.8
14-Dec	0	0	0	-1	-1	-2	-2	-3	-3	-3	-3	-2	-2	-2	-2	-3	-4	-5	-6	-6	-6	-6	-7	-7	-3.2	-0.1
15-Dec	-7	-7	-4	-4	-5	-6	-7	-7	-7	-6	-5	-5	-5	-5	-5	-6	-8	-9	-11	-12	-13	-13	-13	-10	-7.5	-4.1
16-Dec	-9	-9	-8	-8	-7	-7	-7	-7	-7	-7	-6	-5	-5	-4	-4	-5	-5	-6	-7	-8	-8	-7	-7	-7	-6.7	-4.5
17-Dec	-6	-6	-6	-6	-6	-6	-7	-7	-8	-8	-6	-4	-3	-1	-2	-4	-8	-9	-10	-10	-10	-10	-10	-9	-6.8	-1.1
18-Dec	-9	-8	-7	-6	-5	-5	-6	-7	-8	-8	-5	-1	0	-1	-4	-7	-7	-8	-8	-7	-6	-5	-6	-5	-5.8	-0.4
19-Dec	-6	-6	-5	-4	-3	-3	-2	-2	-3	-4	-1	1	4	4	5	4	2	1	1	0	-2	-2	-2	-4	-1.0	4.8
20-Dec	-4	-4	-4	-4	-4	-2	-2	-2	-2	-2	-1	-2	-2	-1	-1	-1	-2	-2	-2	-2	-2	-3	-3	-3	-2.4	-0.6
21-Dec	-3	-3	-3	-4	-5	-6	-5	-5	-5	-4	-4	-4	-4	-4	-4	-4	-4	-3	-4	-4	-4	-5	-7	-8	-4.4	-2.6
22-Dec	-10	-10	-12	-13	-13	-15	-16	-17	-18	-18	-14	-11	-10	-11	-11	-13	-15	-16	-16	-16	-16	-15	-15	-15	-14.0	-9.9
23-Dec	-14	-12	-10	-9	-10	-11	-11	-11	-11	-11	-10	-10	-10	-10	-11	-11	-12	-12	-12	-12	-13	-13	-13	-13	-11.3	-9.4
24-Dec	-13	-13	-12	-12	-12	-12	-12	-12	-13	-13	-10	-8	-7	-7	-9	-11	-13	-13	-14	-14	-15	-14	-15	-16	-12.1	-7.2
25-Dec	-14	-12	-12	-12	-12	-11	-11	-11	-12	-12	-13	-13	-14	-13	-13	-13	-13	-13	-13	-13	-13	-13	-13	-14	-12.7	-11.1
26-Dec	-13	-13	-13	-13	-14	-15	-15	-16	-16	-16	-15	-15	-14	-13	-15	-15	-15	-15	-14	-14	-14	-15	-15	-15	-14.4	-12.8
27-Dec	-15	-15	-15	-15	-15	-15	-15	-14	-14	-14	-13	-12	-10	-9	-9	-11	-13	-14	-16	-19	-21	-21	-21	-22	-14.9	-8.7
28-Dec	-22	-22	-22	-20	-18	-17	-16	-15	-14	-14	-13	-11	-10	-10	-8	-7	-8	-10	-11	-11	-10	-9	-8	-8	-13.2	-7.5
29-Dec	-8	-8	-7	-7	-6	-5	-6	-6	-5	-4	-3	-3	-5	-7	-6	-6	-7	-9	-10	-10	-11	-11	-11	-14	-7.3	-3.4
30-Dec	-15	-15	-16	-16	-16	-16	-17	-17	-18	-18	-17	-16	-16	-14	-14	-14	-14	-14	-13	-14	-14	-16	-18	-21	-15.7	-13.4
31-Dec	-22	-22	-23	-23	-22	-21	-21	-21	-21	-20	-18	-16	-15	-12	-11	-11	-12	-12	-10	-8	-5	-2	0	1	-14.4	1.2
	-9.5	-9.3	-9.1	-9.1	-9.2	-9.3	-9.3	-9.2	-9.2	-8.9	-7.2	-6.1	-5.0	-4.5	-4.9	-5.6	-7.0	-7.7	-8.0	-8.5	-8.8	-8.9	-9.2	-9.4	Diurnal Average	
	1.3	0.8	0.2	0.0	0.1	-0.4	-0.3	0.4	0.7	1.9	3.8	3.3	4.1	4.8	4.8	4.4	2.4	1.5	1.7	0.9	1.2	1.5	1.1	1.2	Diurnal Maximum	

Peace Airshed Zone Association

Hourly Averages

External Temperature (ET) - ^{o}C

Henry Pirker - December 2018



Peace Airshed Zone Association

Hourly Averages

Relative Humidity (RH) - %

Henry Pirker - December 2018

Maximum Value: 85.6 % on Dec 1 01:00

Maximum Daily Average: 83.3 % on Dec 1

Minimum Value: 41 % on Dec 7 15:00

Minimum Daily Average: 55.7 % on Dec 12

Maximum Diurnal Average: 74.8 % at hour 5

Minimum Diurnal Average: 62.1 % at hour 14

Monthly Average: 71.46 %

Percentiles: P_1 = 47.1 P_{10} = 57.9 Q_1 = 67.6 Median = 73.6 Q_3 = 76.9 P_{90} = 80.9 P_{99} = 85.0

Hours in Service:	744
Hours of Data:	744
Hours of Missing Data:	0
Hours of Calibration:	0
Percent Operational Time:	100.0

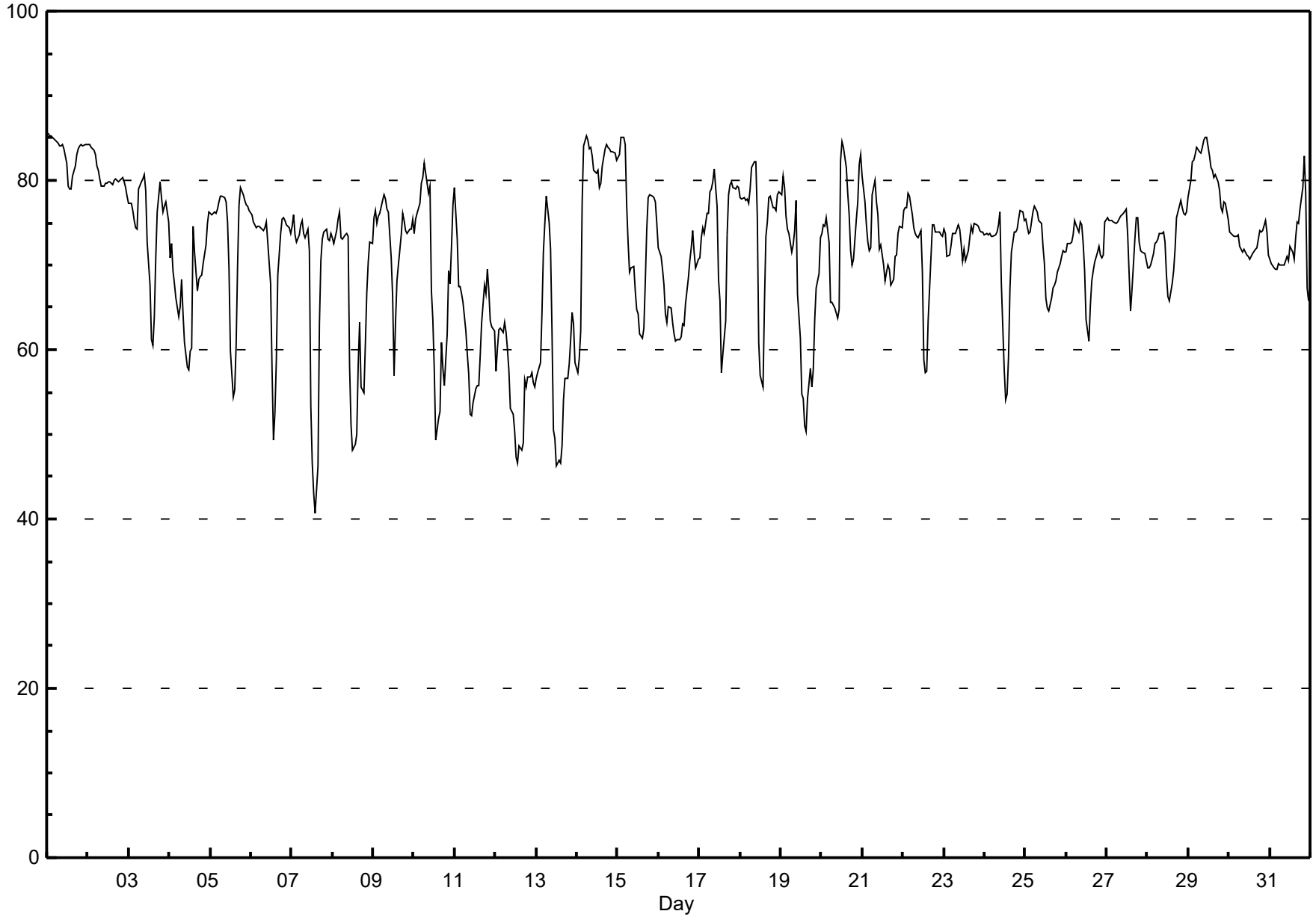
Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1-Dec	86	85	85	85	85	85	84	84	84	84	84	82	79	79	79	80	82	83	84	84	84	84	84	84	83.3	85.6
2-Dec	84	84	84	84	83	82	81	80	79	79	80	80	80	80	79	80	80	80	80	80	80	80	79	78	80.7	84.3
3-Dec	77	77	77	75	74	74	79	80	80	81	79	73	68	61	61	64	71	76	80	78	76	77	77	75	74.6	80.7
4-Dec	71	73	69	68	66	64	65	68	64	61	58	58	60	60	75	72	67	68	69	69	70	72	75	76	67.4	76.3
5-Dec	76	76	76	76	77	77	78	78	78	78	75	70	60	54	55	61	70	77	79	78	78	77	77	76	73.2	79.1
6-Dec	76	75	75	74	75	75	74	74	74	75	73	68	58	49	53	59	69	74	75	76	75	75	74	74	70.7	75.9
7-Dec	75	76	73	73	74	75	75	74	73	74	72	53	47	43	41	46	63	70	73	74	74	73	73	74	67.4	75.9
8-Dec	73	72	74	76	76	73	73	74	74	73	58	51	48	49	50	58	63	56	55	61	67	70	73	72	65.4	76.2
9-Dec	76	77	75	76	76	78	78	78	77	76	71	66	57	63	68	70	74	76	75	74	74	74	74	75	73.2	78.2
10-Dec	74	75	76	77	80	80	82	81	79	79	67	63	58	49	52	53	61	58	56	62	69	68	72	77	68.7	82.1
11-Dec	79	73	67	67	67	66	62	59	57	52	52	54	55	56	56	59	63	68	67	70	67	63	63	62	62.7	79.1
12-Dec	57	60	62	62	62	63	62	60	57	53	52	50	47	47	49	48	49	56	56	57	57	57	56	56	55.7	63.2
13-Dec	57	57	58	64	72	75	78	75	72	62	50	49	46	47	47	49	54	57	57	58	61	64	63	59	59.6	78.2
14-Dec	57	59	62	77	84	85	85	84	84	83	81	81	81	79	80	82	84	84	84	84	83	83	83	82	79.7	85.2
15-Dec	83	83	85	85	84	77	73	69	70	70	67	65	64	62	61	63	68	74	78	78	78	78	77	75	73.7	85.1
16-Dec	72	71	70	68	64	63	65	65	63	62	61	61	61	61	63	63	65	68	71	72	74	72	70	71	66.5	74.1
17-Dec	71	73	74	74	76	76	79	79	80	81	77	68	66	57	59	63	73	78	79	80	79	79	79	79	74.3	81.4
18-Dec	78	78	78	78	78	77	79	81	82	82	76	61	57	56	66	73	75	78	78	77	77	76	78	79	74.9	82.2
19-Dec	78	81	79	76	74	74	72	72	74	78	67	61	55	54	51	50	54	58	56	58	64	67	69	73	66.4	80.5
20-Dec	74	75	75	76	73	66	66	65	65	64	65	82	85	84	82	78	76	72	70	71	75	78	82	83	74.1	84.6
21-Dec	81	77	75	73	72	72	78	80	78	76	72	72	70	68	69	70	70	68	68	71	71	74	75	74	73.0	80.5
22-Dec	76	77	77	78	78	76	74	74	73	73	74	69	59	57	57	63	71	75	75	74	74	74	73	73	71.9	78.5
23-Dec	74	74	71	71	72	74	74	74	75	74	73	71	72	71	72	73	75	74	75	75	75	74	74	74	73.2	74.9
24-Dec	73	74	74	74	73	73	74	74	75	76	68	58	54	55	59	67	71	74	74	74	75	76	76	75	70.7	76.4
25-Dec	75	75	74	74	76	77	77	76	75	75	72	70	66	65	65	66	67	68	68	69	70	71	72	72	71.4	76.9
26-Dec	72	73	73	73	74	75	75	74	75	75	72	69	63	61	65	68	69	70	72	72	71	71	71	75	71.2	75.3
27-Dec	76	75	75	75	75	75	75	75	76	76	76	77	74	69	65	67	73	76	76	73	72	72	71	71	73.4	76.6
28-Dec	70	70	70	71	73	73	73	74	74	74	73	69	66	66	68	69	72	76	76	78	77	76	76	76	72.4	77.6
29-Dec	78	80	82	82	83	84	83	83	84	85	85	85	83	81	81	80	81	80	79	77	76	77	77	75	81.0	85.1
30-Dec	74	74	74	73	73	73	72	72	71	72	71	71	71	71	71	72	72	73	74	74	74	75	74	71	72.6	75.3
31-Dec	71	70	70	69	70	70	70	70	70	71	71	71	72	71	71	73	75	75	77	79	83	79	67	66	72.1	82.8
	74.0	74.1	73.8	74.4	74.8	74.4	74.7	74.4	73.9	73.4	70.0	67.0	63.9	62.1	63.5	65.9	69.6	71.6	72.0	72.7	73.6	73.8	73.7	73.7	Diurnal Average	
	85.6	85.3	85.2	85.1	84.9	85.2	84.7	84.1	84.1	84.8	85.1	85.0	84.6	83.9	81.6	81.8	83.7	84.3	83.8	84.1	84.2	84.1	84.2	84.2	Diurnal Maximum	

Peace Airshed Zone Association

Hourly Averages

Relative Humidity (RH) - %

Henry Pirker - December 2018



Hourly Averages

Solar Radiation (SR) - W/m^2

Henry Pirker - December 2018

Maximum Value: 247.1 W/m^2 on Dec 3 13:00

Maximum Daily Average: 52.5 W/m^2 on Dec 3

Minimum Value: 0 W/m^2 on Dec 1 01:00

Minimum Daily Average: 8.0 W/m^2 on Dec 20

Maximum Diurnal Average: 119.8 W/m^2 at hour 14

Minimum Diurnal Average: 0.0 W/m^2 at hour 2

Monthly Average: 22.21 W/m^2

Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 0.0 Median = 0.0 Q_3 = 18.3 P_{90} = 80.1 P_{99} = 203.0

Hours in Service:	744
Hours of Data:	744
Hours of Missing Data:	0
Hours of Calibration:	0
Percent Operational Time:	100.0

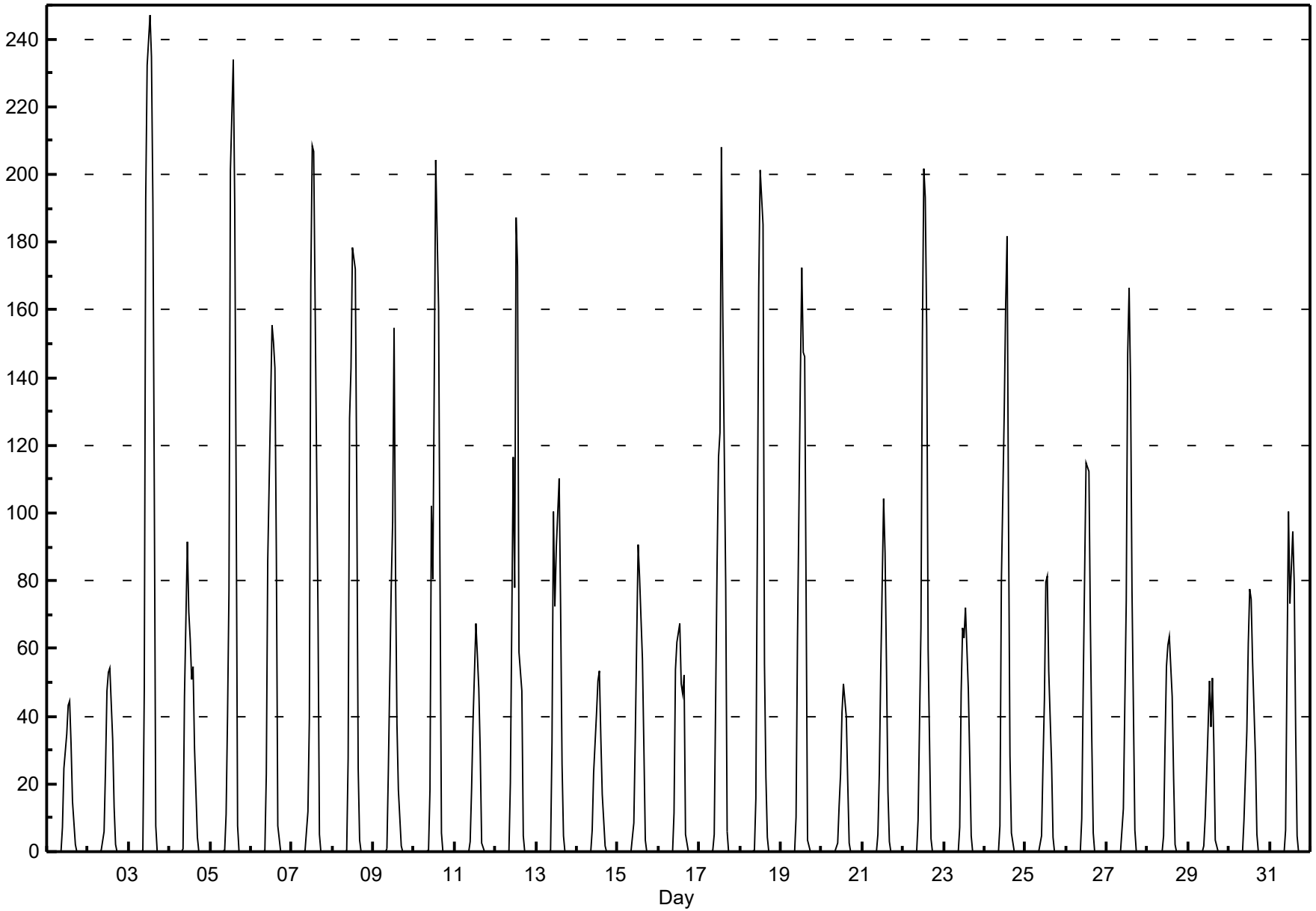
Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1-Dec	0	0	0	0	0	0	0	0	0	7	25	35	43	44	32	15	2	0	0	0	0	0	0	0	8.5	44.4
2-Dec	0	0	0	0	0	0	0	0	0	6	24	47	53	54	33	13	2	0	0	0	0	0	0	0	9.7	54.0
3-Dec	0	0	0	0	0	0	0	0	0	48	193	232	247	235	191	105	8	0	0	0	0	0	0	0	52.5	247.1
4-Dec	0	0	0	0	0	0	0	0	1	46	92	71	63	51	54	30	4	0	0	0	0	0	0	0	17.1	91.6
5-Dec	0	0	0	0	0	0	0	0	0	11	40	77	201	234	191	107	8	0	0	0	0	0	0	0	36.2	233.8
6-Dec	0	0	0	0	0	0	0	0	1	23	86	133	155	151	143	88	7	0	0	0	0	0	0	0	32.8	155.4
7-Dec	0	0	0	0	0	0	0	0	0	12	40	168	209	207	162	71	5	0	0	0	0	0	0	0	36.4	208.6
8-Dec	0	0	0	0	0	0	0	0	1	28	128	143	178	172	108	25	3	0	0	0	0	0	0	0	32.7	178.2
9-Dec	0	0	0	0	0	0	0	0	1	24	78	97	155	84	38	18	2	0	0	0	0	0	0	0	20.7	154.5
10-Dec	0	0	0	0	0	0	0	0	0	18	102	81	140	204	161	80	6	0	0	0	0	0	0	0	33.0	204.0
11-Dec	0	0	0	0	0	0	0	0	0	3	18	39	67	58	48	30	3	0	0	0	0	0	0	0	11.1	67.2
12-Dec	0	0	0	0	0	0	0	0	0	20	116	78	187	173	59	48	5	0	0	0	0	0	0	0	28.6	187.1
13-Dec	0	0	0	0	0	0	0	0	0	32	100	73	90	110	72	26	4	0	0	0	0	0	0	0	21.1	110.0
14-Dec	0	0	0	0	0	0	0	0	0	6	23	41	50	53	34	17	2	0	0	0	0	0	0	0	9.4	53.3
15-Dec	0	0	0	0	0	0	0	0	0	9	33	63	91	81	57	31	3	0	0	0	0	0	0	0	15.3	90.7
16-Dec	0	0	0	0	0	0	0	0	0	12	54	62	67	50	46	52	5	0	0	0	0	0	0	0	14.5	67.3
17-Dec	0	0	0	0	0	0	0	0	0	5	85	117	124	208	158	79	6	0	0	0	0	0	0	0	32.6	208.2
18-Dec	0	0	0	0	0	0	0	0	0	16	90	166	201	185	56	22	4	0	0	0	0	0	0	0	30.9	201.2
19-Dec	0	0	0	0	0	0	0	0	0	10	63	140	172	148	146	76	3	0	0	0	0	0	0	0	31.6	172.4
20-Dec	0	0	0	0	0	0	0	0	0	3	13	23	41	50	40	20	2	0	0	0	0	0	0	0	8.0	49.7
21-Dec	0	0	0	0	0	0	0	0	0	5	23	54	104	88	54	18	3	0	0	0	0	0	0	0	14.6	104.1
22-Dec	0	0	0	0	0	0	0	0	0	9	66	152	202	193	154	60	4	0	0	0	0	0	0	0	35.0	201.6
23-Dec	0	0	0	0	0	0	0	0	0	7	47	66	63	72	48	27	5	0	0	0	0	0	0	0	14.0	72.1
24-Dec	0	0	0	0	0	0	0	0	0	8	79	130	161	182	98	28	6	0	0	0	0	0	0	0	28.8	181.7
25-Dec	0	0	0	0	0	0	0	0	0	5	26	45	80	81	54	26	4	0	0	0	0	0	0	0	13.4	81.4
26-Dec	0	0	0	0	0	0	0	0	0	10	48	82	115	112	68	33	5	0	0	0	0	0	0	0	19.7	114.9
27-Dec	0	0	0	0	0	0	0	0	0	6	13	74	147	166	138	77	7	0	0	0	0	0	0	0	26.2	166.4
28-Dec	0	0	0	0	0	0	0	0	0	5	32	55	61	63	46	22	2	0	0	0	0	0	0	0	11.9	63.4
29-Dec	0	0	0	0	0	0	0	0	0	2	10	23	50	37	51	32	4	0	0	0	0	0	0	0	8.7	51.3
30-Dec	0	0	0	0	0	0	0	0	0	9	36	62	78	75	56	28	5	0	0	0	0	0	0	0	14.5	77.6
31-Dec	0	0	0	0	0	0	0	0	0	6	56	101	73	94	79	36	5	0	0	0	0	0	0	0	18.8	100.6
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	13.2	59.4	87.9	118.4	119.8	86.3	43.2	4.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Diurnal Average	
	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	1.0	47.9	192.8	232.0	247.1	234.6	191.3	106.9	7.6	0.1	0.1	0.1	0.1	0.2	0.1	0.1	Diurnal Maximum	

Peace Airshed Zone Association

Hourly Averages

Solar Radiation (SR) - W/m^2

Henry Pirker - December 2018



Peace Airshed Zone Association

Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Henry Pirker - December 2018

Day	Hourly Period Ending At (MST)																								Daily	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	Average	Maximum
1 Spd	0	1	0	0	0	1	1	2	2	5	2	2	2	2	3	1	1	1	2	1	1	1	1	1	1.4	4.7
Dir	332	310	41	347	317	305	321	289	315	327	292	305	277	286	306	308	311	313	305	320	317	285	319	316	308.0	327.1
2 Spd	2	2	2	2	5	4	4	4	4	3	4	5	3	3	3	4	4	5	5	5	4	4	6	5	3.9	5.8
Dir	311	313	316	308	311	318	320	295	286	297	332	324	318	309	332	327	318	326	323	322	318	317	308	312	315.7	308.3
3 Spd	4	3	4	4	3	2	10	6	6	4	4	8	8	9	7	5	4	3	3	3	3	2	1	2	4.1	9.6
Dir	306	310	312	302	301	311	245	236	251	272	257	256	275	278	269	261	274	298	281	292	256	178	185	248	269.6	244.6
4 Spd	3	2	6	6	10	11	6	3	8	11	12	8	8	20	21	17	19	13	16	16	15	13	8	8	10.1	21.3
Dir	188	150	242	271	274	275	269	226	260	263	268	266	265	280	276	254	292	295	288	290	299	308	306	307	278.5	276.1
5 Spd	8	5	3	5	2	2	3	2	1	2	3	4	2	1	2	3	4	2	2	2	3	4	4	3	1.7	7.6
Dir	291	302	295	296	236	209	214	233	232	195	235	265	283	194	176	123	97	82	292	301	303	302	312	316	274.7	291.2
6 Spd	3	2	2	2	1	2	2	2	2	0	0	2	1	1	2	2	3	2	2	3	2	3	3	3	1.7	2.8
Dir	306	322	304	315	312	302	309	288	327	70	7	167	190	281	291	313	306	310	304	320	309	304	306	294	304.3	304.3
7 Spd	1	2	3	2	2	1	0	1	1	2	1	0	1	1	1	1	2	1	2	3	2	3	3	2	0.7	2.9
Dir	174	188	195	170	116	137	154	308	306	352	324	303	262	213	249	249	318	295	306	310	322	305	303	304	278.4	305.3
8 Spd	2	3	0	1	1	2	2	1	1	1	1	2	2	4	1	1	3	5	3	1	1	1	1	1	0.7	5.5
Dir	328	293	312	72	309	307	360	322	344	338	253	245	276	307	255	340	209	227	174	127	121	111	125	80	273.4	226.8
9 Spd	0	1	2	2	1	0	0	1	3	3	2	2	2	3	2	3	5	4	3	2	3	3	1	2	1.0	4.6
Dir	167	304	320	315	149	346	108	324	307	327	323	297	293	310	310	290	306	306	254	195	169	147	115	118	292.2	306.1
10 Spd	1	2	1	1	1	1	2	5	4	5	2	4	8	1	4	3	4	8	6	3	4	3	1	0	2.3	8.4
Dir	126	107	160	286	176	174	185	220	213	183	256	257	286	292	207	225	223	240	231	200	164	164	115	352	218.4	239.6
11 Spd	2	5	5	5	6	7	7	7	6	8	7	6	5	5	4	3	1	3	5	10	13	14	14	14	3.9	14.3
Dir	120	124	116	112	108	109	105	102	107	119	116	125	116	133	143	128	137	222	223	224	226	224	230	220	164.7	220.4
12 Spd	16	17	16	13	10	11	13	18	20	19	21	27	26	25	23	25	22	6	5	3	4	4	6	7	13.4	26.9
Dir	215	220	228	230	245	227	236	240	243	247	240	248	250	250	246	244	248	231	255	165	140	121	122	125	236.5	247.7
13 Spd	6	6	4	0	2	2	2	10	9	16	22	22	19	18	13	6	4	6	6	6	4	3	5	4	7.0	22.5
Dir	119	134	156	57	258	157	151	211	212	228	231	231	231	225	233	243	291	251	226	234	195	139	169	178	219.2	231.3
14 Spd	3	4	1	2	3	6	5	4	4	5	5	4	4	3	1	1	1	2	4	5	4	5	1	4	1.7	5.7
Dir	156	148	47	92	78	71	58	46	47	61	65	70	66	74	352	343	322	325	317	308	310	322	282	281	36.0	71.4
15 Spd	5	5	6	12	11	17	18	16	9	8	14	8	6	10	8	6	3	1	1	1	1	3	1	6	6.3	18.2
Dir	288	277	253	269	286	294	307	293	266	264	284	279	280	280	280	279	281	19	95	9	162	355	27	80	286.2	307.0
16 Spd	8	10	10	11	13	13	13	13	11	10	10	9	10	7	5	5	3	2	1	1	1	0	1	2	6.7	13.4
Dir	86	83	84	80	83	81	81	79	75	77	80	79	82	86	71	71	65	61	9	319	346	85	46	349	77.9	80.6
17 Spd	2	0	3	2	4	3	3	3	1	2	1	2	0	4	3	3	2	1	3	2	3	3	2	1	1.2	3.8
Dir	6	22	175	209	244	238	228	230	250	165	171	142	205	319	317	302	314	282	337	293	309	321	317	304	277.7	243.6
18 Spd	2	1	2	3	2	1	2	2	1	1	2	1	2	3	2	2	2	2	1	1	1	3	2	5	1.5	5.3
Dir	310	320	317	314	306	316	318	304	263	319	161	244	293	290	287	312	319	315	319	305	303	249	165	230	289.0	230.2
19 Spd	2	4	4	6	6	7	5	7	4	3	2	9	14	9	8	14	12	12	12	8	4	5	2	3	5.6	13.7
Dir	227	191	203	223	222	236	263	240	220	147	292	261	261	258	260	259	278	317	280	270	285	277	284	124	258.6	261.4
20 Spd	2	2	1	1	2	5	6	5	7	9	11	12	14	14	9	6	6	8	6	4	7	8	9	12	3.9	13.8
Dir	111	111	149	98	96	73	84	82	79	83	81	77	73	79	74	55	36	28	31	328	303	314	290	286	53.5	73.1
21 Spd	13	18	22	23	23	23	19	25	27	27	27	27	27	24	21	18	14	16	12	8	6	4	6	4	18.1	27.4
Dir	279	278	279	279	280	283	279	283	283	282	286	287	286	287	290	294	292	289	288	287	297	299	270	290	284.5	286.5
22 Spd	4	5	2	0	1	2	3	2	3	3	2	2	3	4	4	2	2	2	3	2	3	4	3	3	2.5	4.6
Dir	285	277	343	30	147	328	319	319	296	308	321	320	299	317	285	309	318	315	316	301	315	311	310	289	305.5	276.8

Peace Airshed Zone Association

Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Henry Pirker - December 2018

Day	Hourly Period Ending At (MST)																								Daily	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	Average	Maximum
23 Spd	3	3	5	5	4	4	3	3	3	4	4	3	4	3	4	6	5	5	6	5	5	6	5	1	3.6	6.1
Dir	313	18	50	60	54	54	57	44	32	48	88	123	85	100	80	88	101	87	82	93	94	79	85	65	73.8	81.7
24 Spd	2	2	2	2	1	3	3	2	2	2	1	1	4	3	2	3	2	2	3	2	2	1	3	5	0.6	5.0
Dir	37	72	80	134	137	112	109	100	75	87	143	253	279	283	286	319	331	311	312	301	295	301	305	320	335.9	319.6
25 Spd	4	5	2	4	2	3	6	9	10	9	8	7	8	9	8	6	4	3	1	2	3	3	4	5	3.5	10.1
Dir	334	324	281	161	177	278	285	293	294	301	298	301	305	295	298	294	305	302	319	121	114	90	72	72	302.0	294.1
26 Spd	5	4	3	5	4	3	2	1	1	2	2	3	3	2	4	3	3	3	1	3	3	2	3	3	1.1	4.7
Dir	74	73	67	72	72	330	44	20	27	89	293	298	357	307	286	299	305	294	16	106	120	124	112	128	41.8	71.8
27 Spd	3	1	2	2	3	3	2	1	1	1	2	3	2	1	1	2	2	2	1	3	2	2	2	3	0.5	3.1
Dir	112	107	123	129	134	171	172	173	314	206	165	168	176	169	89	78	69	68	9	304	313	304	309	314	134.1	133.5
28 Spd	3	N	N	N	N	1	1	0	2	2	1	1	1	2	1	1	1	1	1	1	1	1	1	0	1.0	2.8
Dir	304	N	N	N	N	238	279	304	296	324	318	288	282	302	29	317	336	321	287	333	332	329	294	281	306.3	303.7
29 Spd	2	2	3	2	2	2	5	8	9	12	12	11	5	5	4	3	5	7	6	13	9	6	11	20	2.9	19.5
Dir	142	116	101	91	69	83	101	88	86	82	81	80	50	49	49	17	354	355	310	299	307	307	305	307	22.6	306.6
30 Spd	19	16	17	15	16	12	10	6	7	5	5	4	5	2	3	1	2	3	1	2	2	1	3	2	5.8	19.3
Dir	301	295	292	298	303	306	304	288	279	288	306	310	294	305	286	294	171	157	107	70	146	339	309	315	297.4	301.5
31 Spd	4	2	N	1	1	1	1	2	3	2	2	3	1	0	1	2	0	1	2	4	2	5	9	13	1.6	13.2
Dir	305	317	N	332	340	319	343	292	303	262	305	299	294	278	270	157	301	283	142	147	122	237	235	247	256.2	246.6
Spd	1.6	1.2	1.5	1.7	1.7	1.8	1.7	2.1	2.4	1.8	2.4	2.9	3.4	3.6	3.5	2.9	2.9	2.6	2.5	2.2	1.7	1.6	1.7	2.1	Diurnal Average	
Dir	283.7	267.5	260.3	273.7	281.2	285.8	285.9	269.5	273.5	271.1	270.6	265.8	276.0	276.3	275.1	275.1	291.5	298.9	288.4	282.5	279.2	287.1	281.5	280.1		
Spd	19.3	17.9	21.9	23.4	22.9	22.9	19.5	24.5	27.2	26.8	27.1	27.1	27.4	25.1	22.6	24.6	21.6	16.5	16.1	16.1	15.0	14.1	14.0	19.5	Diurnal Maximum	
Dir	301.5	278.2	279.5	279.0	279.9	282.7	278.8	283.2	282.6	282.2	286.5	286.9	286.5	250.0	246.3	243.5	248.1	288.6	287.9	290.0	298.9	224.3	229.8	306.6		

Maximum Speed Value: 27 km/h on Dec 21 13:00
Minimum Speed Value: 0 km/h on Dec 11 00:00
Maximum Daily Speed Average: 18.1 km/h on Dec 21
Minimum Daily Speed Average: 0.5 km/h on Dec 28
Maximum Diurnal Speed Average: 3.6 km/h at hour 14
Minimum Diurnal Speed Average: 1.2 km/h at hour 2

Monthly Average Velocity: 2.20 km/h 278.52 deg
Speed Percentiles: P_1 = 0.2 P_{10} = 0.9 Q_1 = 1.8 Median = 3.0 Q_3 = 5.7 P_{90} = 12.3 P_{99} = 24.9
All monthly, daily, and diurnal averages have been calculated using vector methods

Hours in Service:	744
Hours of Data:	739
Hours of Missing Data:	5
Percent Operational Time:	99.3

N - Not Valid

Frequency Distribution

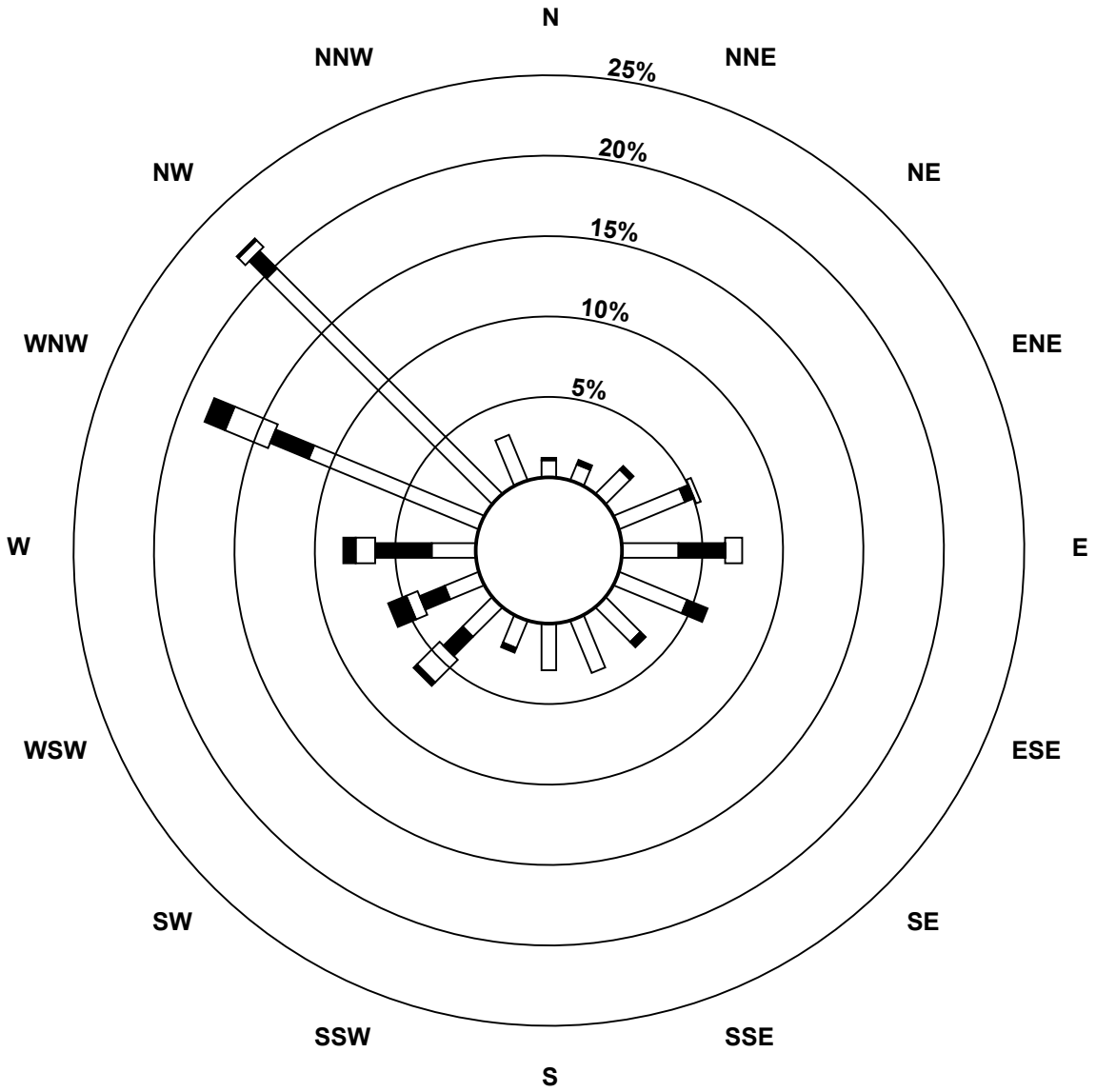
Direction	Speed Range (km/h) 0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total
North	30	1	0	0	0	0	31
NorthEast	28	7	0	0	0	0	35
East	55	34	10	0	0	0	99
SouthEast	54	8	0	0	0	0	62
South	45	0	0	0	0	0	45
SouthWest	28	22	16	7	0	0	73
West	72	36	19	20	0	0	147
NorthWest	203	29	13	2	0	0	247
Total	515	137	58	29	0	0	739

Peace Airshed Zone Association

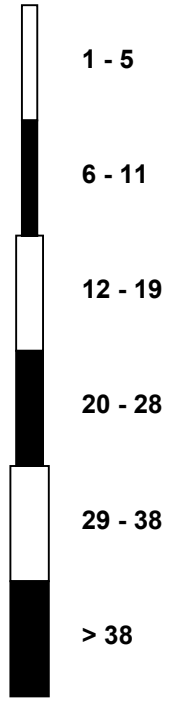
Wind Rose

Wind Speed (WS) (km/h)

Henry Pirker - December 2018



Wind Speed Classes (km/h)



Peace Airshed Zone Association

Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Henry Pirker - December 2018

Maximum Speed: 27 km/h on Dec 21 13:00

Maximum Daily Speed Average: 18.2 km/h on Dec 21

Minimum Speed: 0 km/h on Dec 6 10:00

Minimum Daily Speed Average: 1.4 km/h on Dec 28

Maximum Diurnal Speed Average: 6.7 km/h at hour 13

Minimum Diurnal Speed Average: 4.0 km/h at hour 22

Monthly Average Speed: 5.21 km/h

Percentiles: P_1 = 0.3 P_{10} = 1.3 Q_1 = 2.1 Median = 3.3 Q_3 = 5.9 P_{90} = 12.3 P_{99} = 25.0

Hours in Service:	744
Hours of Data:	739
Hours of Missing Data:	5
Percent Operational Time:	99.3

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Dec	1	1	0	0	0	1	1	2	2	5	2	3	2	2	3	1	1	1	2	1	1	2	1	1	1.5	4.7
2-Dec	2	2	2	2	5	5	5	4	4	4	4	5	4	3	3	5	4	5	5	5	4	4	6	5	4.0	5.9
3-Dec	4	3	4	4	3	2	10	6	6	4	5	8	9	9	7	5	5	3	3	3	3	3	1	3	4.7	9.7
4-Dec	4	3	6	7	10	11	6	3	9	11	12	8	8	21	22	17	20	14	16	16	15	13	8	8	11.0	21.6
5-Dec	8	5	3	5	2	2	3	2	1	2	4	4	2	1	2	3	4	2	2	2	3	4	4	3	3.0	7.7
6-Dec	3	2	2	2	1	2	2	2	2	0	0	2	1	1	2	2	3	2	3	3	2	3	3	3	2.0	3.1
7-Dec	1	3	3	3	2	2	1	1	1	2	1	0	2	1	1	2	2	2	2	3	3	3	3	2	1.8	3.0
8-Dec	3	3	0	1	1	2	6	2	1	2	2	2	3	4	2	2	3	6	4	3	2	2	2	2	2.5	6.3
9-Dec	0	1	2	3	1	2	0	1	4	3	2	2	3	3	2	3	5	4	3	3	3	3	2	3	2.5	4.7
10-Dec	2	3	2	2	1	2	3	5	5	5	3	4	8	3	4	3	4	8	6	3	4	3	1	0	3.5	8.5
11-Dec	2	5	5	5	6	7	7	7	6	8	7	6	5	5	4	3	1	3	5	10	13	14	14	14	6.8	14.3
12-Dec	16	17	16	13	11	11	14	19	20	19	21	27	26	25	23	25	22	7	5	4	4	4	6	7	15.0	27.0
13-Dec	6	6	4	3	3	3	3	10	9	16	23	22	20	19	13	6	5	7	6	6	4	3	5	4	8.7	22.6
14-Dec	3	4	1	2	3	6	5	4	4	6	5	4	4	3	2	2	2	2	4	5	4	5	1	4	3.6	5.7
15-Dec	6	6	6	12	12	17	18	16	9	8	14	8	6	10	8	6	3	1	1	1	2	3	1	6	7.5	18.3
16-Dec	8	10	10	11	13	13	13	13	11	10	10	9	10	7	6	5	3	2	1	2	1	1	2	3	7.1	13.4
17-Dec	2	1	3	2	4	5	4	3	2	2	1	2	0	4	4	3	2	1	3	2	3	3	3	1	2.5	4.6
18-Dec	2	2	2	3	3	1	2	2	2	2	2	2	3	3	3	3	2	2	2	2	2	4	2	5	2.4	5.3
19-Dec	2	4	5	6	6	7	6	7	4	3	2	10	14	9	9	14	13	12	12	8	4	5	3	3	7.0	13.8
20-Dec	2	2	1	1	2	5	6	6	7	9	11	12	14	14	10	6	6	8	6	5	7	8	9	12	7.0	13.9
21-Dec	14	18	22	23	23	23	20	25	27	27	27	27	27	24	21	18	14	17	12	8	6	5	6	4	18.2	27.5
22-Dec	4	5	2	1	1	2	3	2	4	3	2	2	3	4	5	3	3	3	3	3	3	4	3	3	2.9	5.0
23-Dec	3	3	5	5	4	4	3	3	3	4	4	4	4	3	4	6	5	5	6	5	5	6	5	1	4.2	6.1
24-Dec	2	2	2	2	2	3	3	2	2	2	1	1	4	4	2	3	2	2	3	2	2	1	3	5	2.4	5.2
25-Dec	4	5	3	4	2	3	7	9	10	9	8	7	8	9	8	6	4	3	2	2	3	3	4	5	5.4	10.1
26-Dec	5	5	3	5	4	3	3	2	1	2	2	4	3	3	5	4	3	3	1	4	3	2	3	3	3.1	4.8
27-Dec	3	1	2	2	3	3	2	1	1	2	2	3	2	2	2	3	2	2	1	3	2	2	2	3	2.1	3.3
28-Dec	3	N	N	N	N	4	1	0	2	2	1	1	1	2	1	1	1	2	2	1	1	1	1	0	1.4	4.5
29-Dec	2	2	3	2	2	2	5	8	10	12	12	11	5	5	4	4	5	8	7	13	9	6	11	20	6.9	19.6
30-Dec	19	16	17	15	16	12	10	6	7	5	5	5	5	2	3	1	2	3	2	2	3	1	3	2	6.8	19.4
31-Dec	4	2	N	1	4	1	2	3	3	4	2	3	1	0	1	2	1	1	3	4	2	5	9	14	3.1	13.6
	4.5	4.7	4.7	4.9	5.0	5.3	5.6	5.6	5.8	6.1	6.4	6.6	6.7	6.6	6.0	5.2	4.9	4.6	4.3	4.3	4.1	4.0	4.1	4.8	Diurnal Average	
	19.4	17.9	21.9	23.5	23.0	23.0	19.5	24.6	27.3	26.9	27.2	27.1	27.5	25.2	22.8	24.7	21.8	16.5	16.2	16.2	15.0	14.2	14.1	19.6	Diurnal Maximum	

N - Not Valid

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

Peace Airshed Zone Association

Hourly Standard Deviations

Wind Direction (WD) - deg

Henry Pirker - December 2018

Maximum Value: 93.0 deg on Dec 10 05:00

Minimum Value: 3.2 deg on Dec 21 13:00

Percentiles: P_1 = 3.7 P_{10} = 6.3 Q_1 = 10.1 Median = 18.2 Q_3 = 35.3 P_{90} = 61.4 P_{99} = 87.3

Hours in Service:	744
Hours of Data:	744
Hours of Missing Data:	0
Hours of Calibration:	0
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily
	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	81	33	81	67	70	29	24	16	9	10	29	24	23	23	18	47	20	33	25	41	24	24	29	40	80.9
2-Dec	28	20	18	22	11	11	11	16	15	14	11	8	13	19	20	10	9	8	9	9	12	10	9	9	27.6
3-Dec	16	31	17	10	12	27	9	12	17	16	21	14	6	4	8	9	16	13	15	42	36	42	50	36	49.8
4-Dec	20	20	7	18	6	5	9	23	14	5	5	11	13	15	9	8	17	5	4	6	6	5	7	7	23.3
5-Dec	10	6	14	9	29	12	12	15	17	17	19	11	23	29	20	23	7	29	65	13	10	9	8	21	64.7
6-Dec	19	28	32	21	25	19	16	12	24	72	75	34	49	12	11	14	6	13	54	32	16	11	18	28	74.6
7-Dec	67	60	31	30	36	59	50	69	30	40	48	47	26	43	31	60	24	37	17	14	18	15	23	13	69.1
8-Dec	31	49	89	43	89	27	54	61	84	75	75	33	48	20	58	91	43	28	52	73	65	81	75	65	90.8
9-Dec	56	79	38	68	81	85	86	53	37	20	60	44	29	25	23	15	15	15	44	42	34	20	66	39	85.9
10-Dec	75	37	77	65	93	86	33	17	22	10	61	40	22	81	23	16	8	10	13	21	8	22	47	84	93.0
11-Dec	32	6	10	15	7	7	7	7	10	7	6	8	9	13	9	17	57	26	7	7	6	6	6	6	57.5
12-Dec	6	6	6	6	8	7	9	7	6	5	6	6	5	6	8	5	8	11	18	49	14	10	8	7	49.1
13-Dec	7	14	22	85	51	35	47	8	6	7	7	6	7	6	8	18	29	40	6	13	21	13	10	11	85.2
14-Dec	16	36	59	21	26	7	10	13	10	9	11	16	16	20	56	37	52	21	18	11	13	22	81	36	80.8
15-Dec	41	60	21	6	21	6	6	7	13	14	6	11	12	8	8	6	18	56	35	78	74	21	32	17	77.8
16-Dec	8	6	5	7	5	6	5	6	6	6	6	7	7	12	11	13	21	37	44	42	61	82	60	38	81.5
17-Dec	39	91	25	33	17	51	23	35	64	25	66	23	77	57	15	28	58	63	39	57	22	17	26	59	90.7
18-Dec	35	70	69	35	43	67	47	30	73	79	57	68	67	15	19	26	42	33	71	73	64	31	55	9	79.4
19-Dec	35	18	29	9	9	8	30	19	30	31	69	20	7	8	19	11	11	7	10	17	14	20	61	28	68.9
20-Dec	38	30	22	38	59	10	10	9	6	11	8	7	7	7	11	12	13	10	12	37	12	6	8	5	59.2
21-Dec	4	5	5	4	4	5	4	4	3	4	4	3	3	4	5	4	6	5	7	7	8	19	10	16	19.1
22-Dec	10	13	18	72	68	13	10	14	14	12	16	14	11	11	25	14	30	40	10	20	16	19	14	26	72.2
23-Dec	22	36	16	18	28	22	20	23	20	19	21	19	21	22	17	11	12	14	9	15	13	9	18	30	36.2
24-Dec	29	25	37	18	26	14	19	17	26	22	42	60	17	41	16	28	23	26	12	32	48	81	19	15	80.7
25-Dec	11	12	43	25	32	51	8	8	5	7	7	7	6	7	7	10	11	14	36	32	19	15	13	9	51.2
26-Dec	14	14	15	13	21	35	17	46	34	28	30	29	15	32	18	15	16	16	46	29	12	13	20	17	46.4
27-Dec	12	42	19	20	20	35	33	72	52	69	27	17	25	66	56	25	17	17	50	9	15	11	14	26	72.2
28-Dec	29	16	88	81	76	53	33	55	20	21	35	31	39	26	89	44	70	52	61	45	35	72	23	84	89.4
29-Dec	34	24	17	24	14	26	14	7	6	6	6	11	13	24	40	24	16	11	23	11	8	8	10	4	40.2
30-Dec	5	5	5	5	4	5	9	10	6	10	8	13	12	12	18	49	41	15	48	27	32	86	23	16	85.6
31-Dec	7	12	90	25	79	53	28	49	31	79	20	12	29	44	66	15	78	70	22	14	45	18	15	16	90.5
	80.9	90.7	90.5	85.2	93.0	86.1	85.9	72.2	84.0	79.4	75.1	68.3	77.5	80.7	89.4	90.8	78.0	70.5	70.9	77.8	74.2	85.6	80.8	83.8	

PAZA
Smoky Heights Station
Monthly Summary Tables, Graphs and Roses

Peace Airshed Zone Association

Hourly Averages

Sulphur Dioxide (SO_2) - ppb

Smoky Heights - December 2018

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 5.0 ppb on Dec 17 20:00 Maximum Daily Average: 1.7 ppb on Dec 17

Minimum Value: 0 ppb on Dec 1 05:00 Minimum Daily Average: 0.1 ppb on Dec 1
Maximum Diurnal Average: 0.7 ppb at hour 17 Minimum Diurnal Average: 0.4 ppb at hour 7
Monthly Average: 0.56 ppb Percentiles: P_1 = 0.0 P_{10} = 0.1 Q_1 = 0.2 Median = 0.3 Q_3 = 0.7 P_{90} = 1.2 P_{99} = 3.1

Hours in Service:	744
Hours of Data:	709
Hours of Missing Data:	35
Hours of Calibration:	35
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	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	0	0	0	A	0	0	0	0	0.1	0.5
2-Dec	0	0	0	1	0	0	0	0	1	1	1	1	1	1	1	1	2	2	A	1	1	1	2	2	0.8	2.4
3-Dec	2	1	1	1	1	1	0	0	0	0	1	1	0	0	0	0	0	A	0	0	0	0	0	0	0.5	2.1
4-Dec	0	0	0	2	2	1	1	2	1	1	1	1	1	1	0	0	A	0	0	0	0	0	0	0	0.7	2.3
5-Dec	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	A	0	0	0	0	0	0	0	0	0.3	0.7
6-Dec	0	0	1	1	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	1	1	1	1	1	0.5	1.4
7-Dec	1	1	1	1	1	1	1	0	0	0	0	0	1	A	1	1	1	0	0	1	0	0	1	1	0.6	1.2
8-Dec	1	0	0	0	0	0	0	0	0	0	0	0	A	1	1	1	1	1	1	1	0	1	1	1	0.6	1.2
9-Dec	1	1	1	0	0	0	0	0	0	1	1	A	0	0	0	0	0	0	0	1	1	0	0	0	0.5	1.2
10-Dec	1	3	2	4	3	2	1	1	1	2	A	1	1	0	0	0	0	0	0	0	0	1	0	0	1.1	4.0
11-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	0.2	0.3
12-Dec	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0.3	2.0
13-Dec	0	0	0	0	1	0	1	A	0	1	0	0	0	0	0	0	0	0	0	0	1	2	1	0	0.4	2.2
14-Dec	1	1	1	0	0	0	A	0	0	0	0	C	C	C	0	1	1	1	1	2	1	1	0	0	0.7	1.9
15-Dec	0	0	1	3	1	A	1	0	0	0	0	0	0	0	0	1	1	0	0	1	1	1	1	1	0.7	3.1
16-Dec	0	0	0	0	A	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0.4	2.3
17-Dec	4	5	1	A	1	1	1	1	1	1	1	1	1	2	3	4	2	1	1	5	1	1	1	0	1.7	5.0
18-Dec	0	0	A	0	0	0	0	0	0	0	1	1	1	1	2	3	2	2	2	1	1	1	1	1	1.0	3.0
19-Dec	1	A	0	1	0	0	0	0	0	0	0	0	0	2	1	2	3	2	3	0	1	1	0	0	0.8	3.2
20-Dec	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	A	0.3	0.8
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	1	0.3	1.1
22-Dec	0	0	0	0	1	1	1	1	1	2	1	1	1	1	1	1	1	0	1	1	1	A	0	1	0.8	2.1
23-Dec	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.4	1.1
24-Dec	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	A	1	1	1	3	0.4	2.9
25-Dec	1	3	2	1	2	2	1	1	1	2	1	1	1	1	0	0	0	0	A	0	0	0	0	0	0.9	2.5
26-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
27-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	0.4
28-Dec	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.3	0.5
29-Dec	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	1	1	1	1	0	0	0	0	0.3	0.9
30-Dec	0	0	1	1	0	0	0	0	0	2	2	2	2	A	1	1	1	1	1	1	1	1	1	1	1.0	2.2
31-Dec	1	1	1	1	1	1	1	1	1	1	1	1	A	1	0	1	1	1	1	0	0	0	0	0	0.8	1.3
	0.6	0.7	0.5	0.6	0.6	0.4	0.4	0.4	0.4	0.6	0.5	0.5	0.5	0.6	0.6	0.7	0.7	0.6	0.5	0.7	0.6	0.6	0.5	0.6	Diurnal Average	
	4.4	4.7	2.3	4.0	2.9	1.9	1.0	1.5	1.4	2.1	1.9	2.2	2.2	2.0	2.6	3.7	3.2	2.0	2.6	5.0	2.0	2.2	1.6	2.9	Diurnal Maximum	

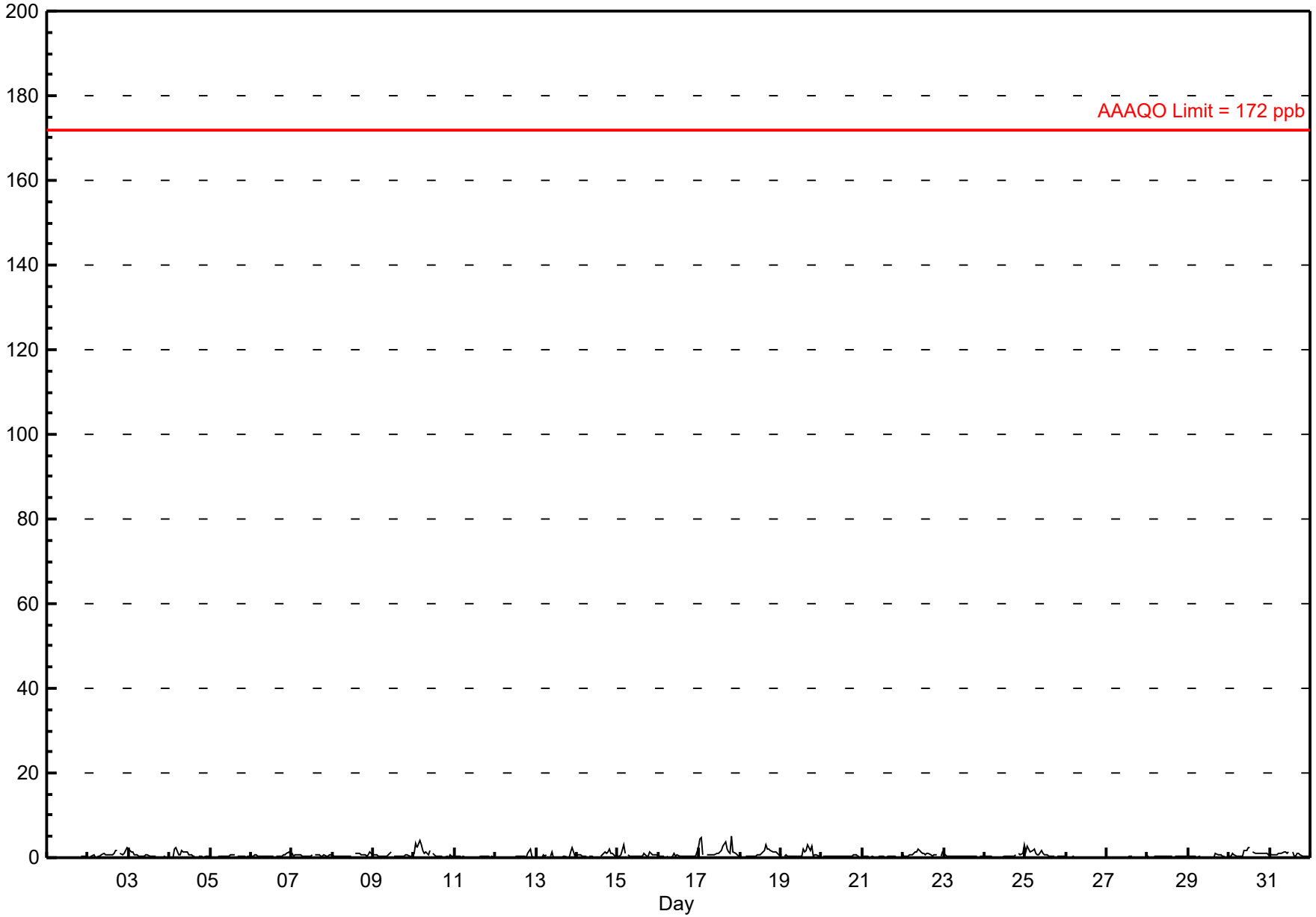
C - Calibration A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb 30-day 11 ppb

Peace Airshed Zone Association

Hourly Averages

Sulphur Dioxide (SO_2) - ppb

Smoky Heights - December 2018



Peace Airshed Zone Association

Hourly Maximums

Sulphur Dioxide (SO_2) - ppb

Smoky Heights - December 2018

Maximum Value: 11.6 ppb on Dec 14 15:00

Maximum Daily Average: 3.3 ppb on Dec 17

Minimum Value: 0 ppb on Dec 1 12:00

Minimum Daily Average: 0.6 ppb on Dec 27

Maximum Diurnal Average: 1.6 ppb at hour 15

Minimum Diurnal Average: 0.9 ppb at hour 6

Monthly Average: 1.23 ppb

Percentiles: $P_1 = 0.4$ $P_{10} = 0.5$ $Q_1 = 0.7$ Median = 0.8 $Q_3 = 1.3$ $P_{90} = 2.2$ $P_{99} = 7.8$

Hours in Service:	744
Hours of Data:	709
Hours of Missing Data:	35
Hours of Calibration:	35
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	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	1	0	0	0	0	0	0	0	1	0	1	1	1	1	A	2	1	1	1	0.6	1.5
2-Dec	1	1	1	1	1	1	1	1	1	2	2	1	1	1	1	2	2	3	A	2	1	2	3	3	1.4	3.1
3-Dec	3	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	0	0	1	1	0	0	1.0	2.9
4-Dec	0	1	1	8	8	1	1	2	2	3	3	1	1	1	1	1	A	1	1	1	1	1	1	1	1.7	8.5
5-Dec	1	0	1	1	0	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	0.8	1.3
6-Dec	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	2	2	1	1.0	2.1
7-Dec	2	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1.1	1.8
8-Dec	1	1	1	1	1	1	1	1	1	1	1	1	A	2	1	1	2	1	1	1	1	1	2	1	1.1	1.7
9-Dec	1	1	1	1	1	1	1	1	1	2	2	A	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.7
10-Dec	2	4	3	5	5	2	2	5	1	6	A	2	1	1	2	1	1	1	1	1	1	1	1	1	2.1	5.9
11-Dec	1	1	1	1	0	1	1	0	0	A	1	0	1	0	0	1	1	1	1	1	1	1	1	1	0.6	1.0
12-Dec	1	1	1	1	1	1	0	1	A	1	0	1	1	1	2	1	1	1	1	3	3	1	1	1	0.9	3.1
13-Dec	0	0	0	0	1	1	2	A	1	4	1	1	0	1	0	1	1	1	1	1	4	4	2	1	1.2	3.9
14-Dec	1	1	1	1	1	1	A	1	1	1	1	C	C	C	12	2	3	2	4	3	2	3	2	1	2.1	11.6
15-Dec	1	1	3	5	2	A	2	1	1	1	1	1	1	1	1	2	1	1	1	2	1	1	1	1	1.4	5.0
16-Dec	1	1	1	1	A	1	1	0	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	4	1.0	4.1
17-Dec	11	12	1	A	1	1	1	1	1	1	2	2	2	3	4	8	4	2	3	8	3	2	1	1	3.3	11.5
18-Dec	1	1	A	1	1	1	1	1	1	1	1	1	1	2	3	4	3	3	3	2	2	2	1	1	1.6	4.1
19-Dec	1	A	1	1	1	1	1	1	1	1	1	1	1	3	4	4	9	3	4	1	1	1	1	1	1.9	8.7
20-Dec	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	A	0.8	1.9
21-Dec	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	2	0.7	1.6
22-Dec	1	1	1	1	1	1	2	2	2	3	2	1	1	1	1	1	1	1	1	1	2	A	1	3	1.4	3.5
23-Dec	2	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	A	1	1	1	0.9	2.1
24-Dec	1	1	1	1	1	1	1	0	1	0	1	1	1	1	1	1	1	1	2	A	2	2	4	10	1.4	9.7
25-Dec	4	4	4	2	3	3	2	1	1	3	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1.6	3.6
26-Dec	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	A	1	0	1	0	1	0	0.6	0.8
27-Dec	1	0	0	1	0	0	1	0	0	0	1	1	1	1	1	1	A	1	1	1	0	0	1	1	0.6	0.9
28-Dec	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	0.8	1.2
29-Dec	1	1	1	1	1	1	1	1	1	1	1	1	1	0	A	1	3	2	2	2	1	1	1	1	0.9	3.2
30-Dec	1	1	2	1	1	1	1	1	1	2	2	3	3	A	2	1	2	1	2	2	2	2	1	1	1.5	3.1
31-Dec	1	2	1	1	1	1	1	2	2	2	2	2	A	2	1	1	2	1	1	1	1	1	1	1	1.3	2.1
	1.5	1.4	1.1	1.4	1.3	0.9	1.0	1.0	0.9	1.4	1.1	1.1	1.0	1.1	1.6	1.4	1.6	1.2	1.3	1.4	1.3	1.2	1.2	1.4	Diurnal Average	
	11.4	11.5	3.5	8.5	7.5	2.9	2.4	4.9	2.0	5.9	2.8	3.1	2.9	3.1	11.6	8.3	8.7	3.1	4.4	7.8	3.9	3.9	3.7	9.7	Diurnal Maximum	

C - Calibration

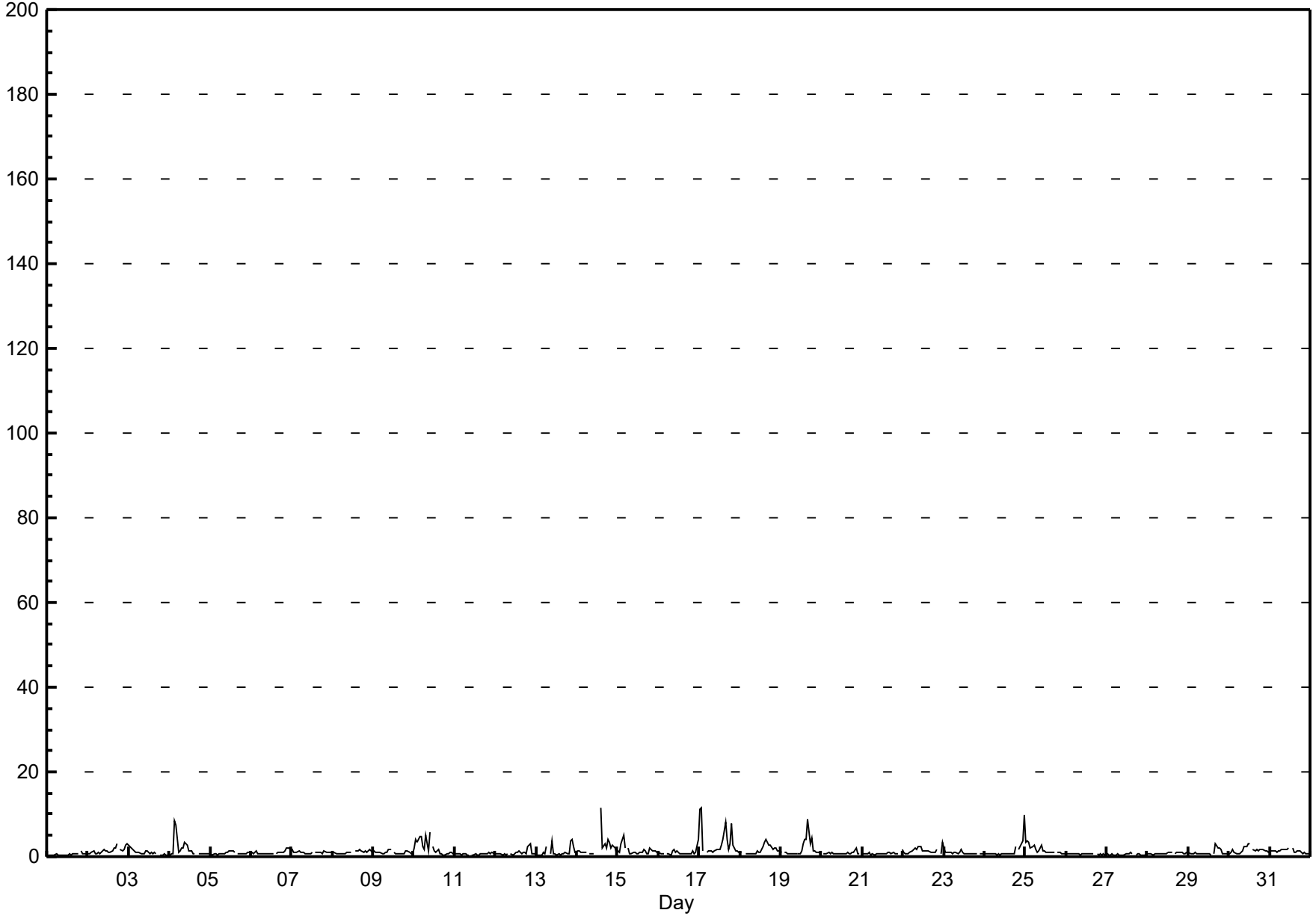
A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Sulphur Dioxide (SO_2) - ppb

Smoky Heights - December 2018

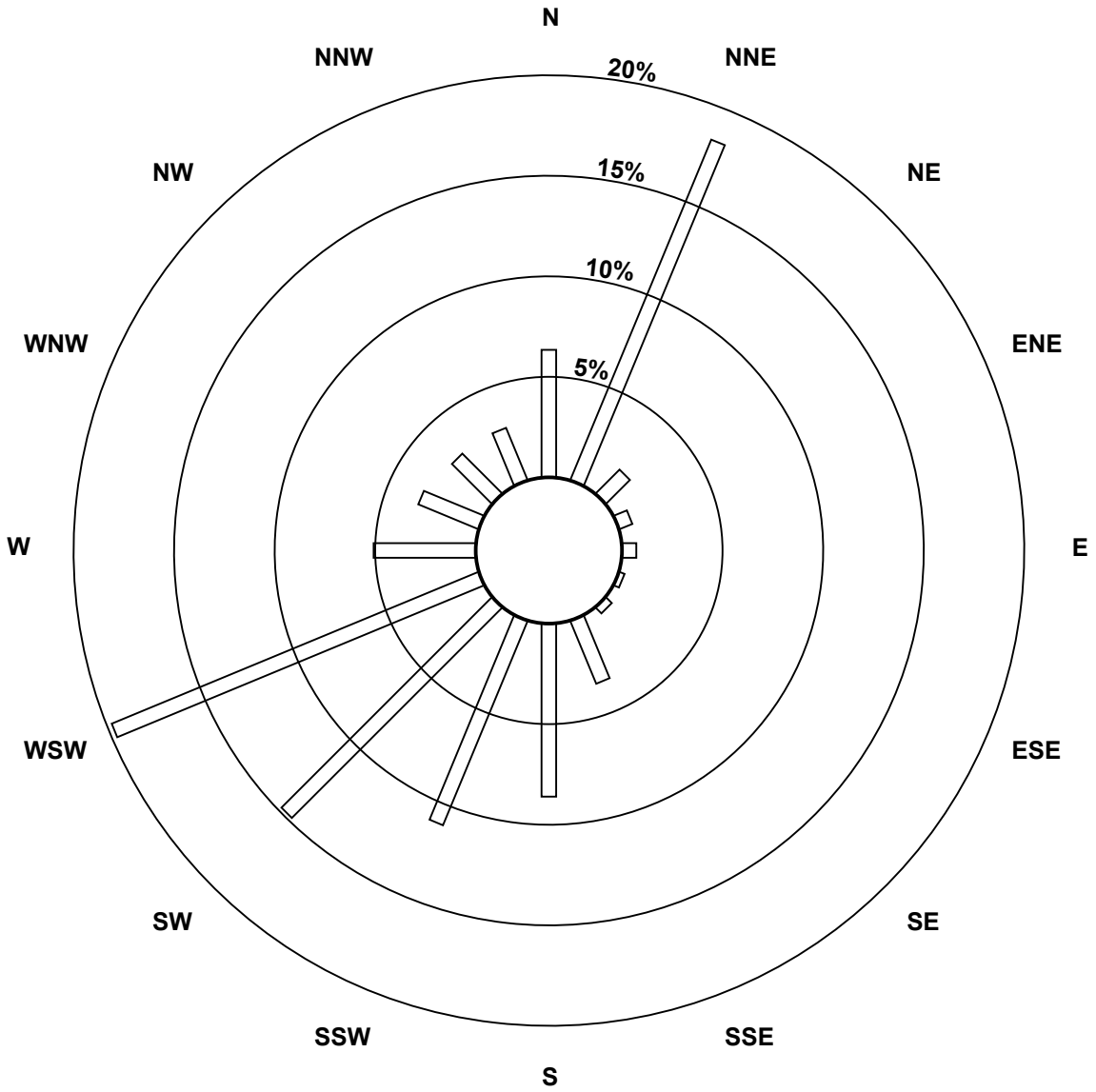


Peace Airshed Zone Association

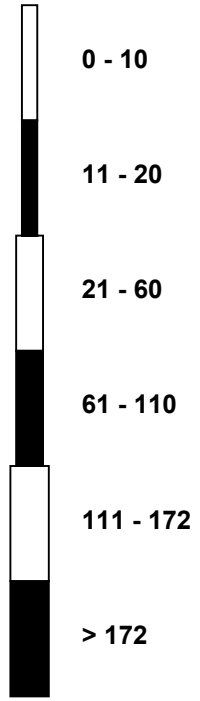
Pollutant Rose

Sulphur Dioxide (SO_2) - ppb

Smoky Heights - December 2018



Pollutant Classes (ppb)

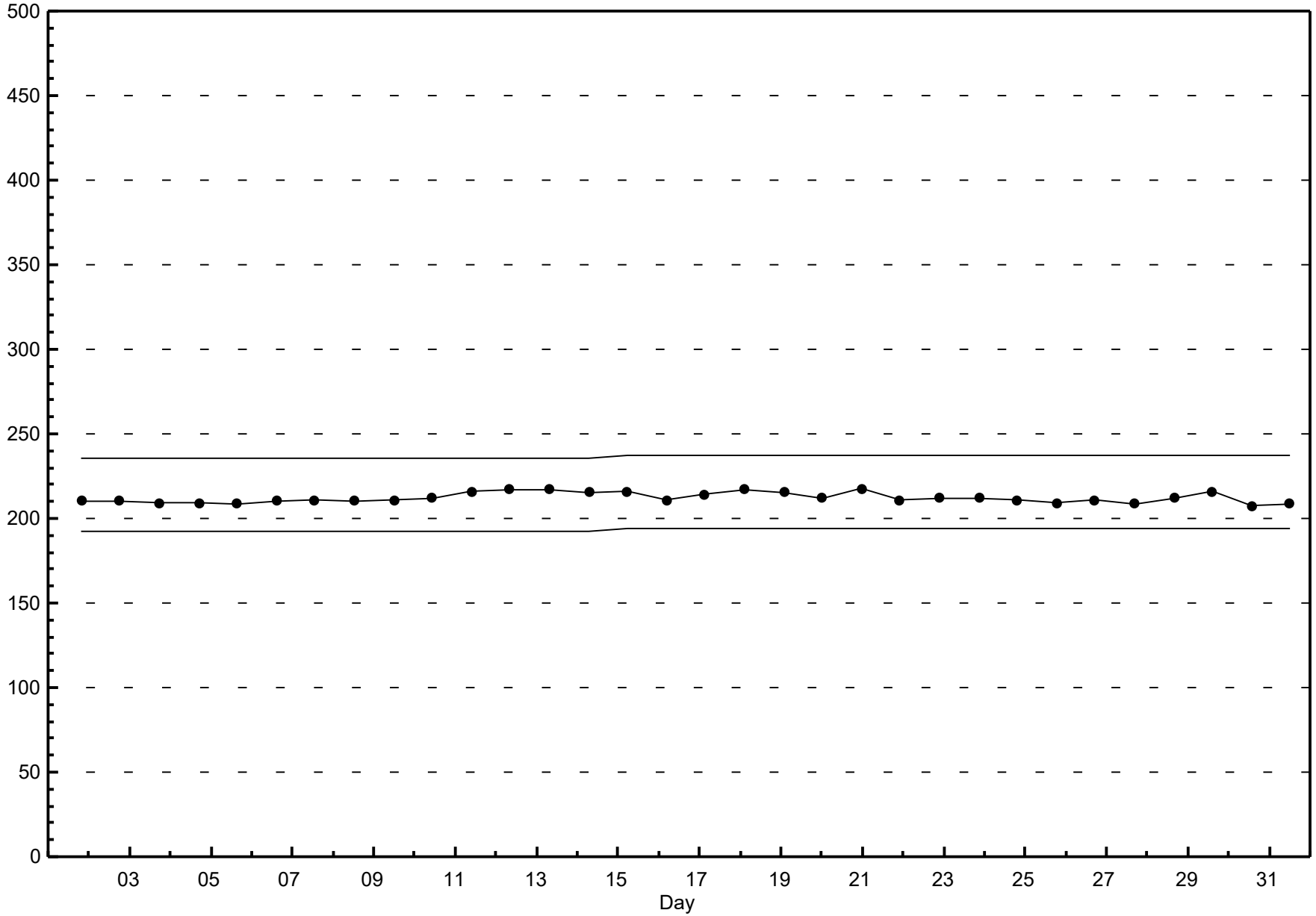


Peace Airshed Zone Association

Span Responses

Sulphur Dioxide (SO_2)

Smoky Heights - December 2018



Peace Airshed Zone Association

Hourly Averages

Total Reduced Sulphur (TRS) - ppb

Smoky Heights - December 2018

Maximum Value: 1.4 ppb on Dec 8 10:00

Maximum Daily Average: 0.9 ppb on Dec 8

Minimum Value: 0 ppb on Dec 15 09:00

Minimum Daily Average: 0.3 ppb on Dec 26

Maximum Diurnal Average: 0.5 ppb at hour 19

Minimum Diurnal Average: 0.5 ppb at hour 14

Monthly Average: 0.50 ppb

Percentiles: P_1 = 0.3 P_{10} = 0.4 Q_1 = 0.4 Median = 0.5 Q_3 = 0.6 P_{90} = 0.7 P_{99} = 1.0

Hours in Service:	744
Hours of Data:	709
Hours of Missing Data:	35
Hours of Calibration:	35
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	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	1	1	1	0	0	A	0	1	0	1	0.5	0.5
2-Dec	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	A	1	0	0	0	0	0.5	0.7
3-Dec	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0.6	1.1
4-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	0.4	0.4
5-Dec	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	A	1	0	0	1	1	1	1	1	0.5	0.9
6-Dec	1	1	0	0	0	0	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	0.6	0.7
7-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	0.7	1.1
8-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	0.9	1.4
9-Dec	1	1	1	1	1	1	1	1	1	1	1	A	0	0	0	0	0	0	1	1	0	1	1	1	0.6	0.9
10-Dec	1	1	1	1	1	1	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	0.9
11-Dec	1	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.4	0.7
12-Dec	1	1	0	0	0	1	1	0	A	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0.5	0.6
13-Dec	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.5	0.5
14-Dec	0	0	0	0	0	0	A	0	0	0	C	C	C	0	0	0	0	0	0	0	0	0	0	0	0.4	0.5
15-Dec	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	0.5	1.2
16-Dec	0	0	0	0	A	0	1	1	1	1	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0.5	0.6
17-Dec	0	0	0	A	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	0.5	0.7
18-Dec	0	0	A	0	0	0	0	0	0	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	0.6	1.0
19-Dec	1	A	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.6
20-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	0.4	0.4
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	0.4	0.4
22-Dec	0	0	0	0	1	0	0	0	0	0	0	0	1	0	1	0	0	1	1	0	1	A	0	0	0.5	0.6
23-Dec	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	A	0	1	1	0.5	0.5
24-Dec	0	0	1	0	0	0	0	0	0	1	0	0	0	0	1	1	1	1	1	A	1	1	1	0	0.5	0.8
25-Dec	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0.4	0.5
26-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	0.3	0.4
27-Dec	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	0	0	1	0	0	0	0.4	0.5
28-Dec	0	0	1	1	0	1	1	1	1	1	1	0	0	0	1	A	1	1	1	1	1	1	1	1	0.6	1.0
29-Dec	1	1	0	1	0	0	1	1	1	1	1	0	0	1	A	0	0	1	1	1	1	0	1	1	0.5	0.6
30-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	0.6	0.7
31-Dec	1	1	1	1	1	1	1	1	0	1	1	1	A	1	1	1	1	1	1	0	0	0	0	0	0.5	0.7
	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	Diurnal Average	
	0.9	1.1	0.8	1.0	1.1	1.0	1.0	1.3	1.3	1.4	1.1	1.0	0.8	0.8	0.7	0.7	0.7	0.8	1.0	0.8	0.9	1.2	0.8	0.9	Diurnal Maximum	

C - Calibration

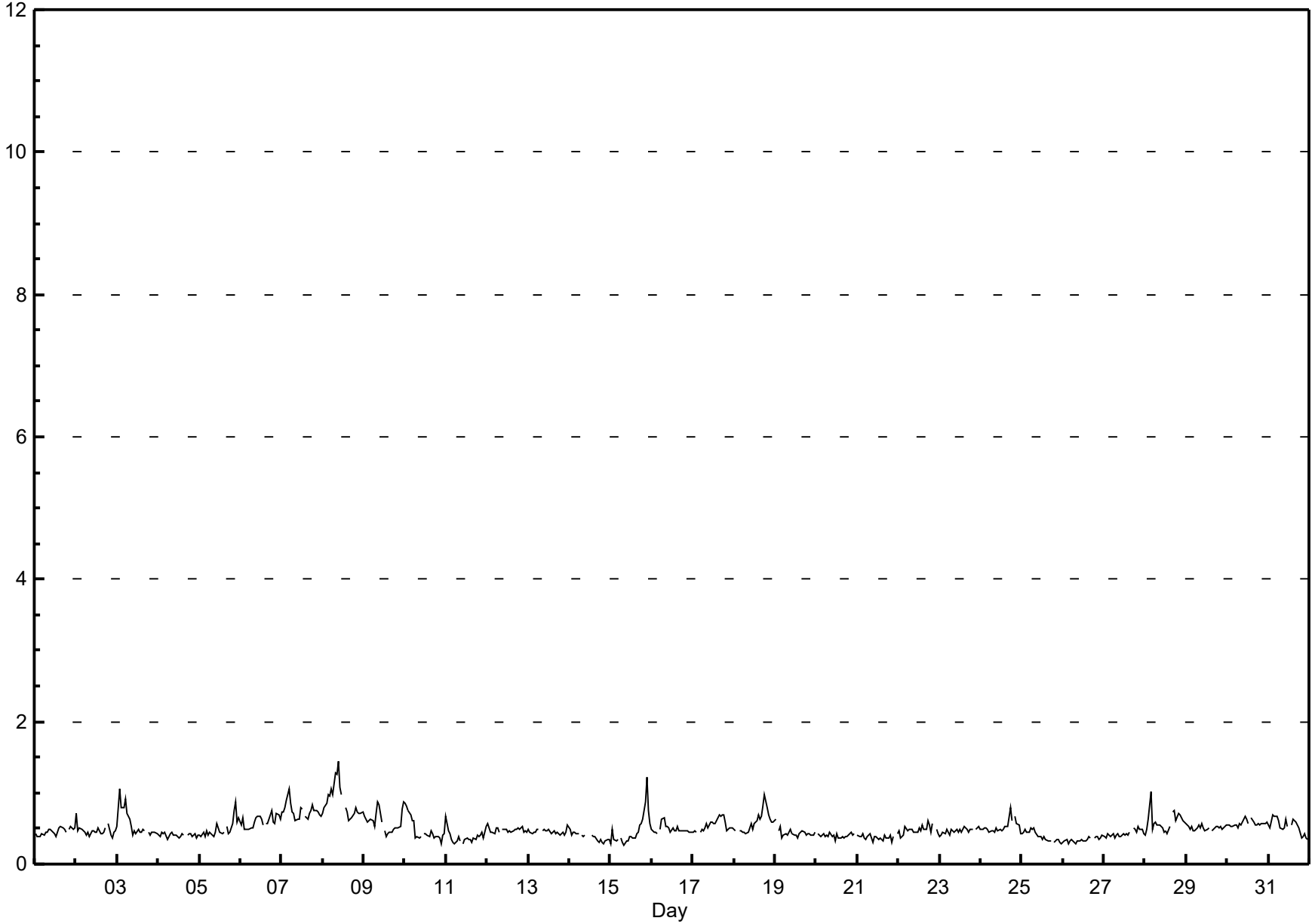
A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Averages

Total Reduced Sulphur (TRS) - ppb

Smoky Heights - December 2018



Peace Airshed Zone Association

Hourly Maximums

Total Reduced Sulphur (TRS) - ppb

Smoky Heights - December 2018

Maximum Value: 6.5 ppb on Dec 2 01:00

Maximum Daily Average: 1.3 ppb on Dec 8

Minimum Value: 1 ppb on Dec 26 11:00

Minimum Daily Average: 0.8 ppb on Dec 26

Maximum Diurnal Average: 1.2 ppb at hour 1

Minimum Diurnal Average: 0.9 ppb at hour 13

Monthly Average: 0.97 ppb

Percentiles: $P_1 = 0.7$ $P_{10} = 0.8$ $Q_1 = 0.8$ Median = 0.9 $Q_3 = 1.0$ $P_{90} = 1.2$ $P_{99} = 1.8$

Hours in Service:	744
Hours of Data:	709
Hours of Missing Data:	35
Hours of Calibration:	35
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	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	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	0.9	1.1
2-Dec	6	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1.1	6.5
3-Dec	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1.0	1.8
4-Dec	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	0.8	1.1
5-Dec	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	2	1	1	1.0	1.8
6-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	1.2
7-Dec	1	1	1	1	2	2	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1.2	1.6
8-Dec	1	1	1	1	1	1	2	2	2	2	2	1	A	1	1	1	1	1	1	1	1	1	1	1	1.3	1.9
9-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	1.1	1.4
10-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	0.9	1.3
11-Dec	2	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	2.5
12-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	1.1
13-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	1.0
14-Dec	1	1	1	1	1	1	A	1	1	1	C	C	C	1	1	1	1	1	1	1	1	1	1	1	0.9	1.5
15-Dec	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	1	1	1.0	2.8
16-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
17-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	1.4
18-Dec	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1.1	1.6
19-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
20-Dec	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	0.8	0.9
21-Dec	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	0.8	0.9
22-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	0.9	1.1
23-Dec	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	0.9	1.1
24-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	1.0	1.2
25-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	1.1
26-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	0.8	0.9
27-Dec	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	0.9	1.1
28-Dec	1	1	2	3	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1.2	3.5
29-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	1.1
30-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	1.3
31-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	1.0	1.1
	1.2	0.9	1.0	1.0	1.0	1.0	0.9	1.0	1.0	1.0	1.0	0.9	0.9	0.9	0.9	0.9	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	Diurnal Average	
	6.5	1.8	1.8	3.5	1.6	1.5	1.6	1.8	1.8	1.9	1.7	1.3	1.2	1.2	1.2	1.1	1.2	1.3	1.6	1.3	2.0	2.8	1.3	1.4	Diurnal Maximum	

C - Calibration

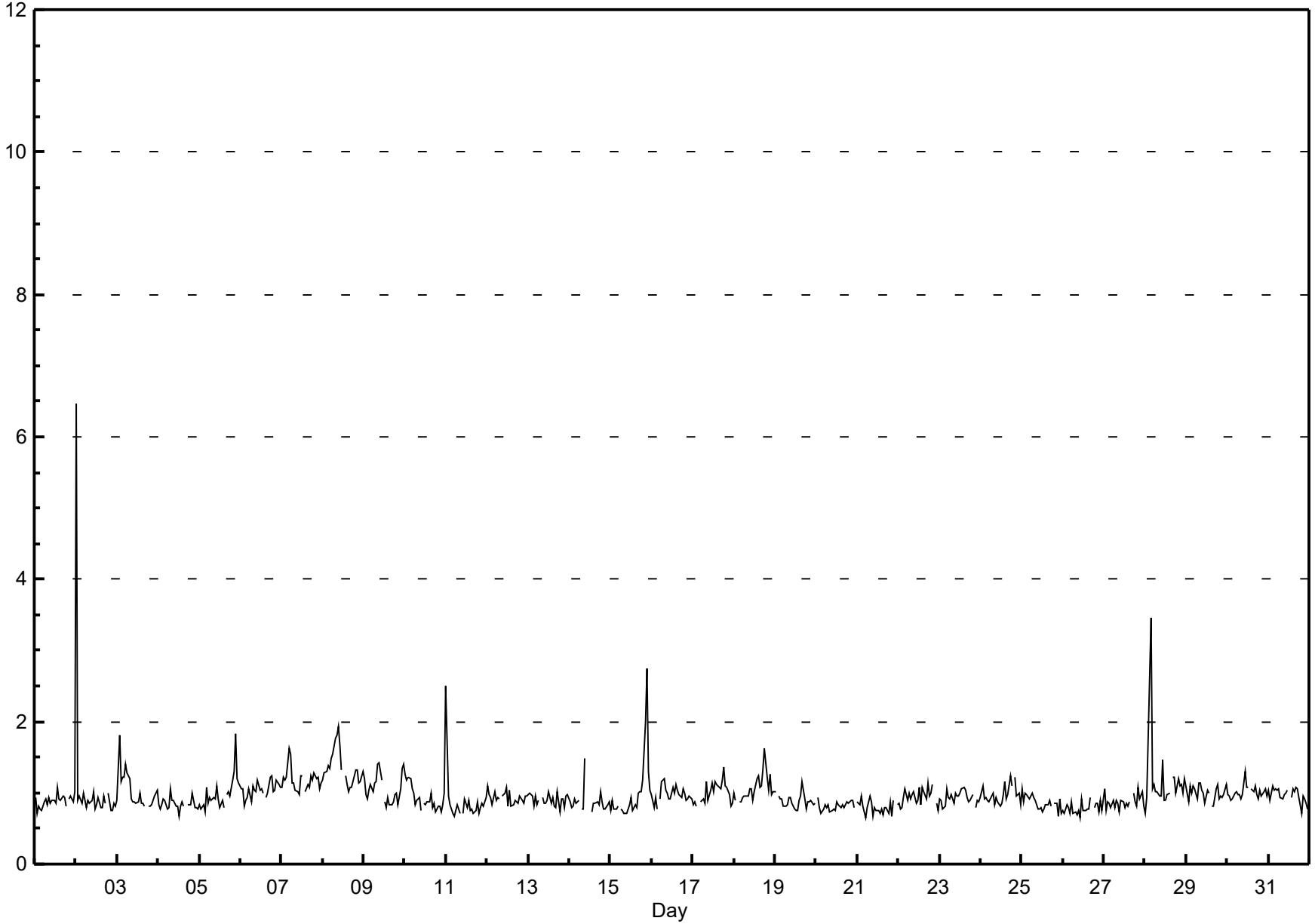
A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Total Reduced Sulphur (TRS) - ppb

Smoky Heights - December 2018

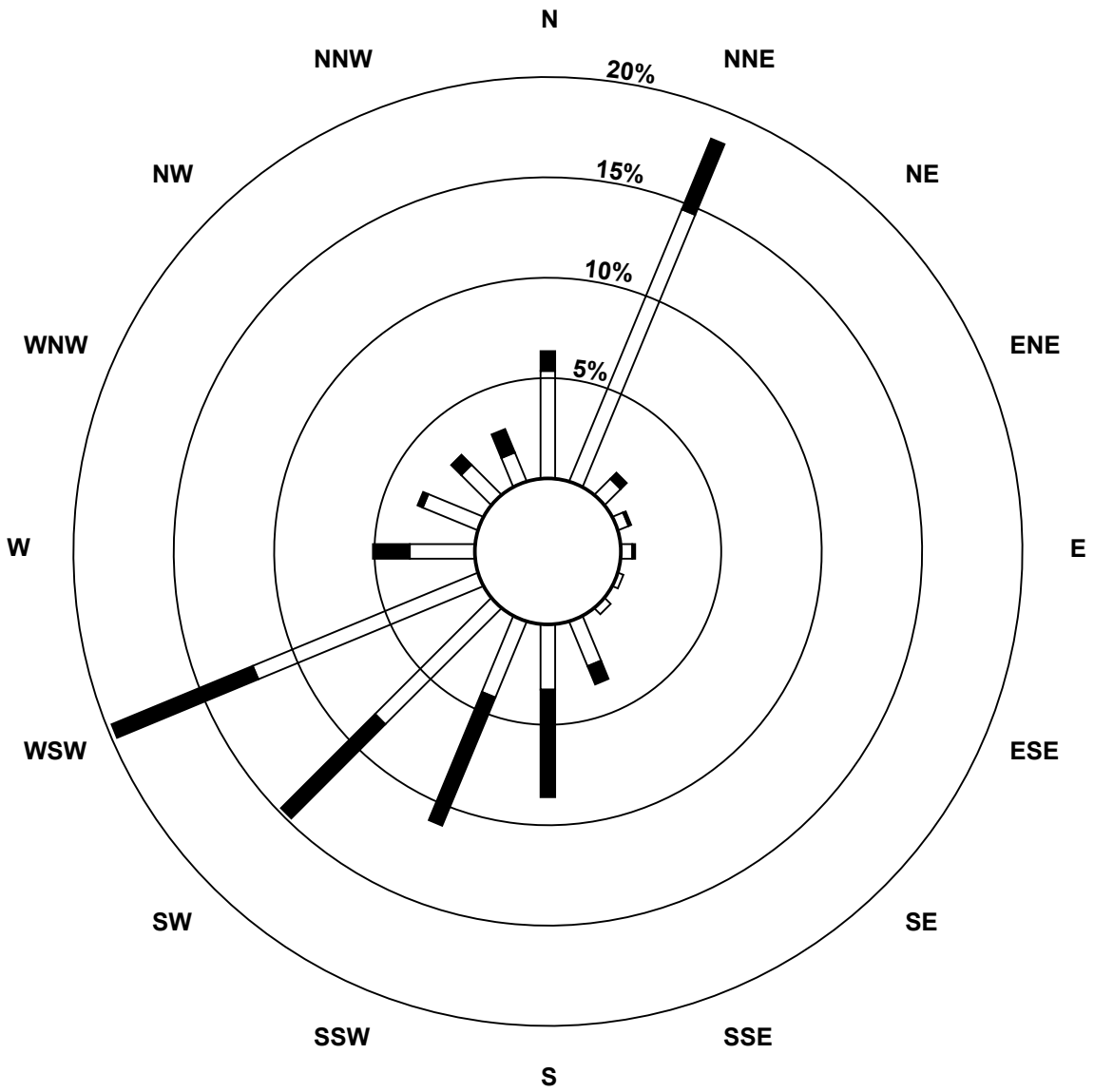


Peace Airshed Zone Association

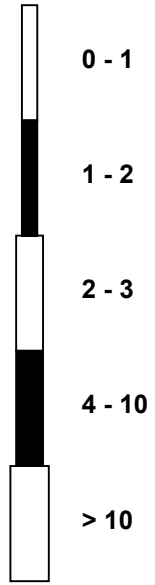
Pollutant Rose

Total Reduced Sulphur (TRS) - ppb

Smoky Heights - December 2018



Pollutant Classes (ppb)

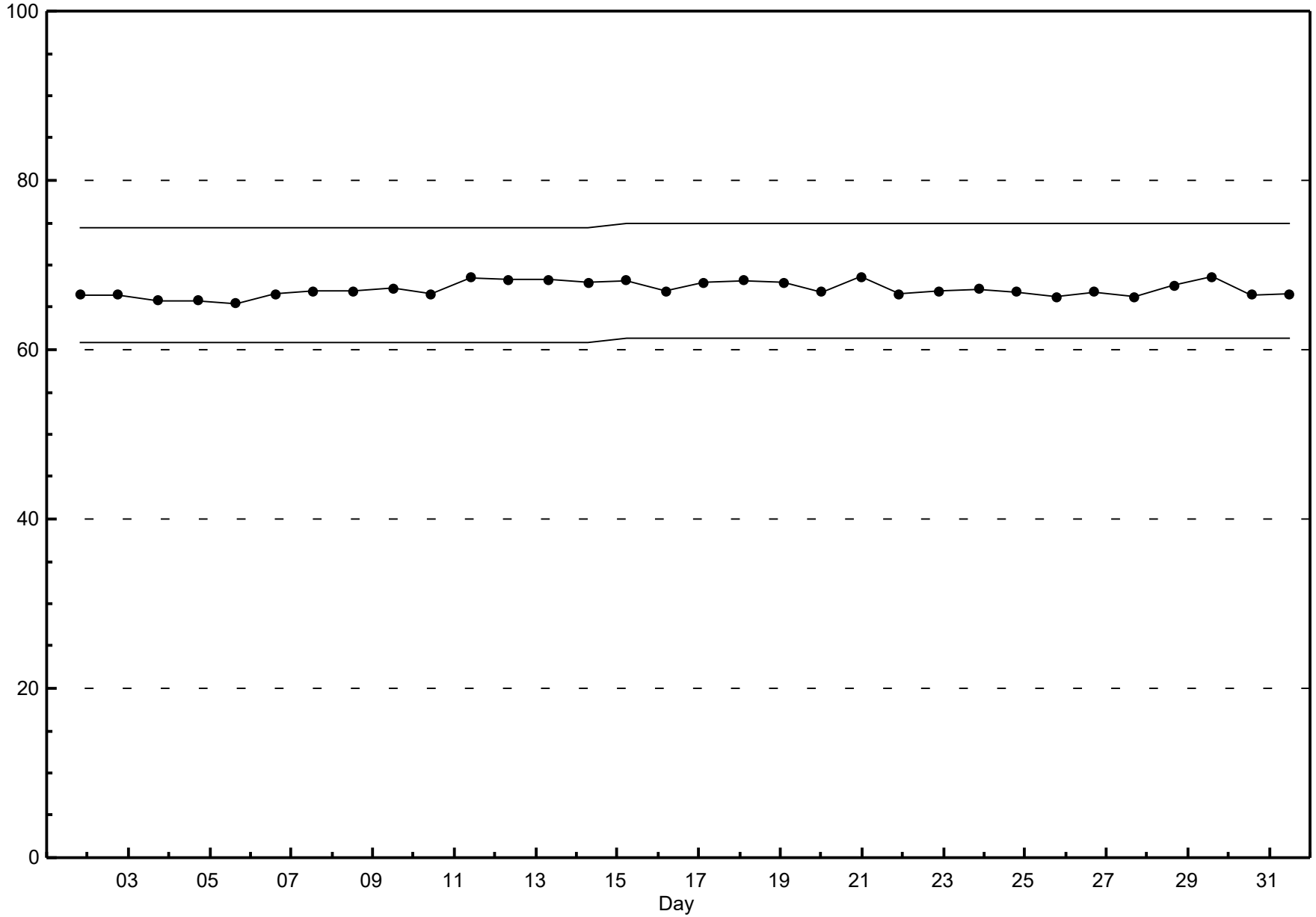


Peace Airshed Zone Association

Span Responses

Total Reduced Sulphur (TRS)

Smoky Heights - December 2018



Peace Airshed Zone Association

Hourly Averages

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

Smoky Heights - December 2018

Number of Exceedences: 1-hr: 0 24-hr: 0

Maximum Value: 68.3 $\mu g/m^3$ on Dec 31 05:00

Maximum Daily Average: 22.1 $\mu g/m^3$ on Dec 8

Minimum Value: 0 $\mu g/m^3$ on Dec 20 13:00

Minimum Daily Average: 2.0 $\mu g/m^3$ on Dec 12

Maximum Diurnal Average: 9.2 $\mu g/m^3$ at hour 5

Minimum Diurnal Average: 5.4 $\mu g/m^3$ at hour 17

Monthly Average: 6.62 $\mu g/m^3$

Percentiles: $P_1 = 0.9$ $P_{10} = 1.4$ $Q_1 = 2.3$ Median = 4.3 $Q_3 = 8.3$ $P_{90} = 14.5$ $P_{99} = 29.5$

Hours in Service:	744
Hours of Data:	744
Hours of Missing Data:	0
Hours of Calibration:	0
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily	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	Average	Maximum
1-Dec	10	7	5	9	14	6	5	5	6	9	8	6	7	8	8	7	7	7	7	28	16	9	9	10	8.8	27.9
2-Dec	7	8	7	19	9	5	3	3	4	3	4	5	4	4	2	2	3	4	5	5	9	5	5	5	5.4	18.9
3-Dec	5	6	7	7	6	6	5	4	3	3	2	2	2	2	1	1	2	3	4	4	3	4	4	3	3.6	7.3
4-Dec	4	6	5	5	5	6	6	6	8	9	9	7	5	5	4	4	2	1	1	1	1	1	1	1	4.4	9.2
5-Dec	1	1	2	2	2	2	4	4	3	2	3	3	3	3	3	3	4	5	5	9	13	21	11	10	4.9	20.6
6-Dec	8	8	9	7	7	7	6	7	9	8	8	9	9	8	11	12	13	23	20	14	12	16	17	19	11.1	22.7
7-Dec	19	19	21	23	21	19	17	19	13	12	10	12	13	14	13	12	11	12	13	13	12	12	11	13	14.7	22.8
8-Dec	20	24	23	23	23	24	22	24	27	25	26	27	27	30	33	33	27	19	20	10	9	9	11	14	22.1	33.4
9-Dec	12	12	14	14	14	17	17	23	26	20	11	6	3	3	3	3	4	5	4	4	5	8	15	18	10.9	26.4
10-Dec	22	29	23	21	15	11	3	2	1	1	1	1	1	1	1	1	1	2	2	1	1	2	5	10	6.6	28.8
11-Dec	15	6	1	1	1	1	2	2	3	3	2	2	2	2	2	1	2	3	3	2	2	2	1	1	2.5	14.6
12-Dec	1	1	1	1	1	1	1	1	2	3	3	3	2	2	2	2	3	3	3	3	3	3	2	2	2.0	3.5
13-Dec	1	1	1	1	2	2	1	2	2	2	1	1	1	1	1	2	2	3	3	2	5	4	5	5	2.2	5.1
14-Dec	7	5	4	4	6	3	2	3	3	4	4	4	3	3	6	4	3	5	5	5	4	4	5	6	4.2	7.4
15-Dec	10	8	5	7	8	2	3	3	2	1	2	1	1	1	1	1	1	3	2	1	1	2	1	2	2.9	10.2
16-Dec	10	5	3	5	2	3	7	8	6	5	7	4	12	7	9	7	6	3	3	3	3	4	4	4	5.4	12.1
17-Dec	5	5	5	5	5	6	7	8	14	17	16	14	13	12	15	13	12	16	15	11	9	9	11	9	10.5	17.3
18-Dec	4	3	3	3	3	5	4	4	3	3	4	4	5	7	8	10	15	20	20	19	16	13	8	6	8.0	20.5
19-Dec	11	6	6	8	4	3	3	3	5	5	4	2	2	1	1	1	1	1	1	1	1	1	1	3	3.1	10.9
20-Dec	2	2	2	3	2	2	2	1	7	9	3	1	0	1	1	1	1	2	2	4	3	2	2	2	2.4	8.7
21-Dec	6	8	5	5	6	4	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2.3	8.1
22-Dec	1	2	2	2	2	3	2	2	2	2	2	3	4	4	5	4	4	9	6	5	5	5	6	4	3.6	9.2
23-Dec	3	4	5	4	5	4	3	4	4	3	3	3	3	3	3	3	3	3	3	3	3	3	4	5	3.4	4.9
24-Dec	7	8	7	7	7	6	6	6	7	7	7	7	7	7	11	7	8	9	11	15	14	15	9	6	8.4	15.4
25-Dec	5	4	4	4	4	3	4	4	4	4	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2.9	5.0
26-Dec	2	1	2	2	2	2	2	2	2	2	2	2	2	2	1	1	2	2	3	4	4	3	3	6	2.2	6.1
27-Dec	7	8	8	7	7	7	7	8	6	6	7	8	7	7	8	8	7	6	6	6	5	5	4	4	6.6	8.4
28-Dec	4	5	4	5	5	5	8	8	10	11	10	10	10	9	10	11	11	10	10	10	10	9	9	9	8.4	11.0
29-Dec	8	14	29	34	27	23	22	23	12	12	17	13	8	5	4	4	4	3	4	3	2	3	4	4	11.8	34.1
30-Dec	5	3	4	4	4	3	3	3	3	3	3	3	3	3	3	3	3	4	4	5	4	5	5	5	3.6	5.1
31-Dec	5	5	6	41	68	22	10	5	3	4	7	8	7	13	46	36	4	4	13	14	20	16	12	6	15.7	68.3
	7.3	7.2	7.2	9.1	9.2	6.9	6.1	6.3	6.5	6.4	6.2	5.6	5.5	5.6	7.1	6.5	5.4	6.2	6.4	6.8	6.4	6.4	6.1	6.3	Diurnal Average	
	21.7	28.8	28.7	41.1	68.3	23.6	22.5	24.0	27.3	25.2	25.7	27.0	27.5	30.1	46.3	35.7	27.4	22.7	20.5	27.9	20.4	20.6	16.9	18.8	Diurnal Maximum	

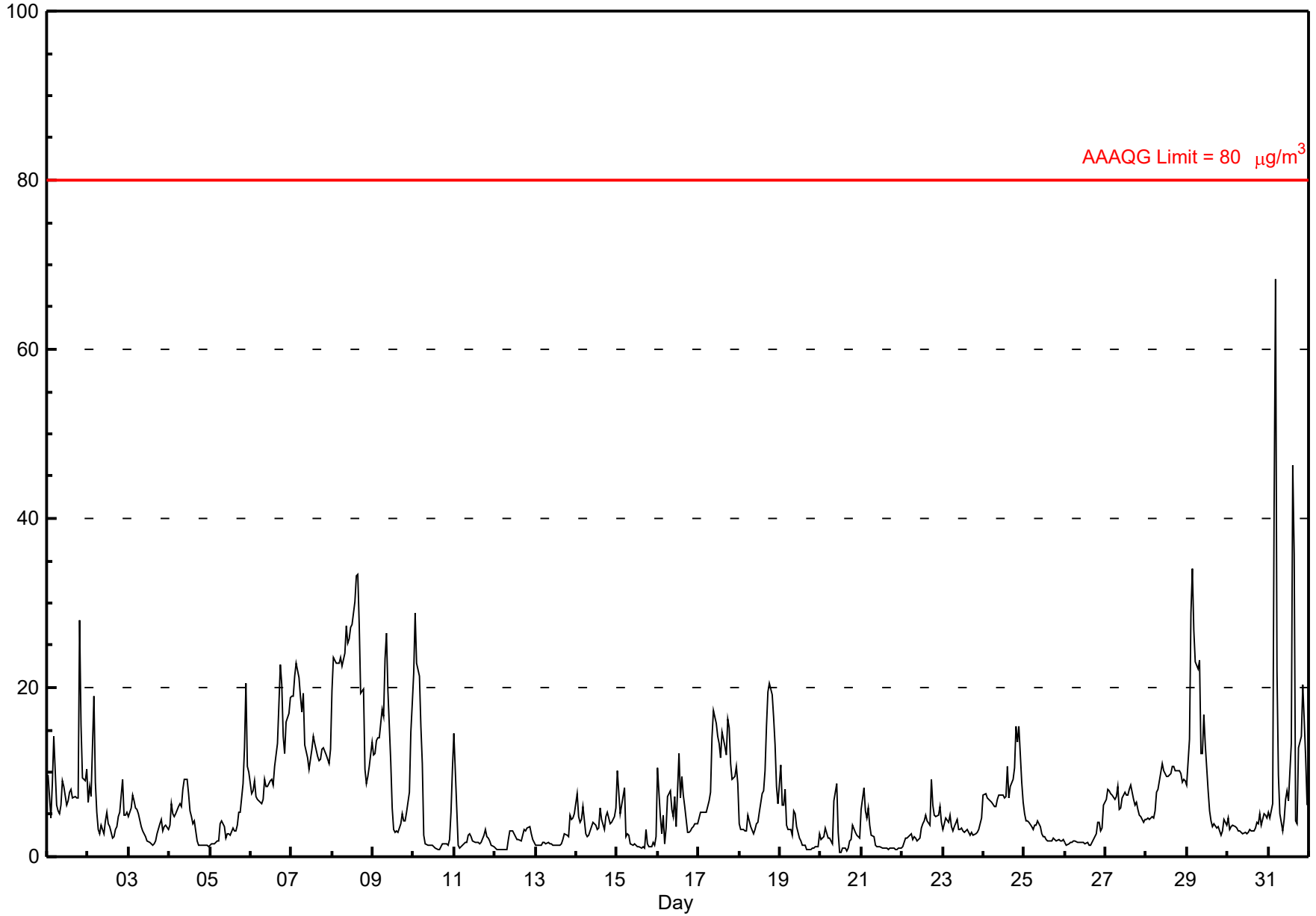
Alberta Ambient Air Quality Guideline (AAAQG): 1-hr 80 $\mu g/m^3$ Alberta Ambient Air Quality Objective (AAAQO): 24-hr 30 $\mu g/m^3$

Peace Airshed Zone Association

Hourly Averages

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

Smoky Heights - December 2018



Peace Airshed Zone Association

Hourly Maximums

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

Smoky Heights - December 2018

Maximum Value: 192.4 $\mu g/m^3$ on Dec 1 20:00

Maximum Daily Average: 26.4 $\mu g/m^3$ on Dec 8

Minimum Value: 1 $\mu g/m^3$ on Dec 20 16:00

Minimum Daily Average: 2.5 $\mu g/m^3$ on Dec 12

Maximum Diurnal Average: 15.4 $\mu g/m^3$ at hour 4

Minimum Diurnal Average: 6.5 $\mu g/m^3$ at hour 12

Monthly Average: 9.86 $\mu g/m^3$

Percentiles: P_1 = 1.0 P_{10} = 1.7 Q_1 = 2.9 Median = 5.6 Q_3 = 11.2 P_{90} = 22.8 P_{99} = 54.4

Hours in Service:	744
Hours of Data:	744
Hours of Missing Data:	0
Hours of Calibration:	0
Percent Operational Time:	100.0

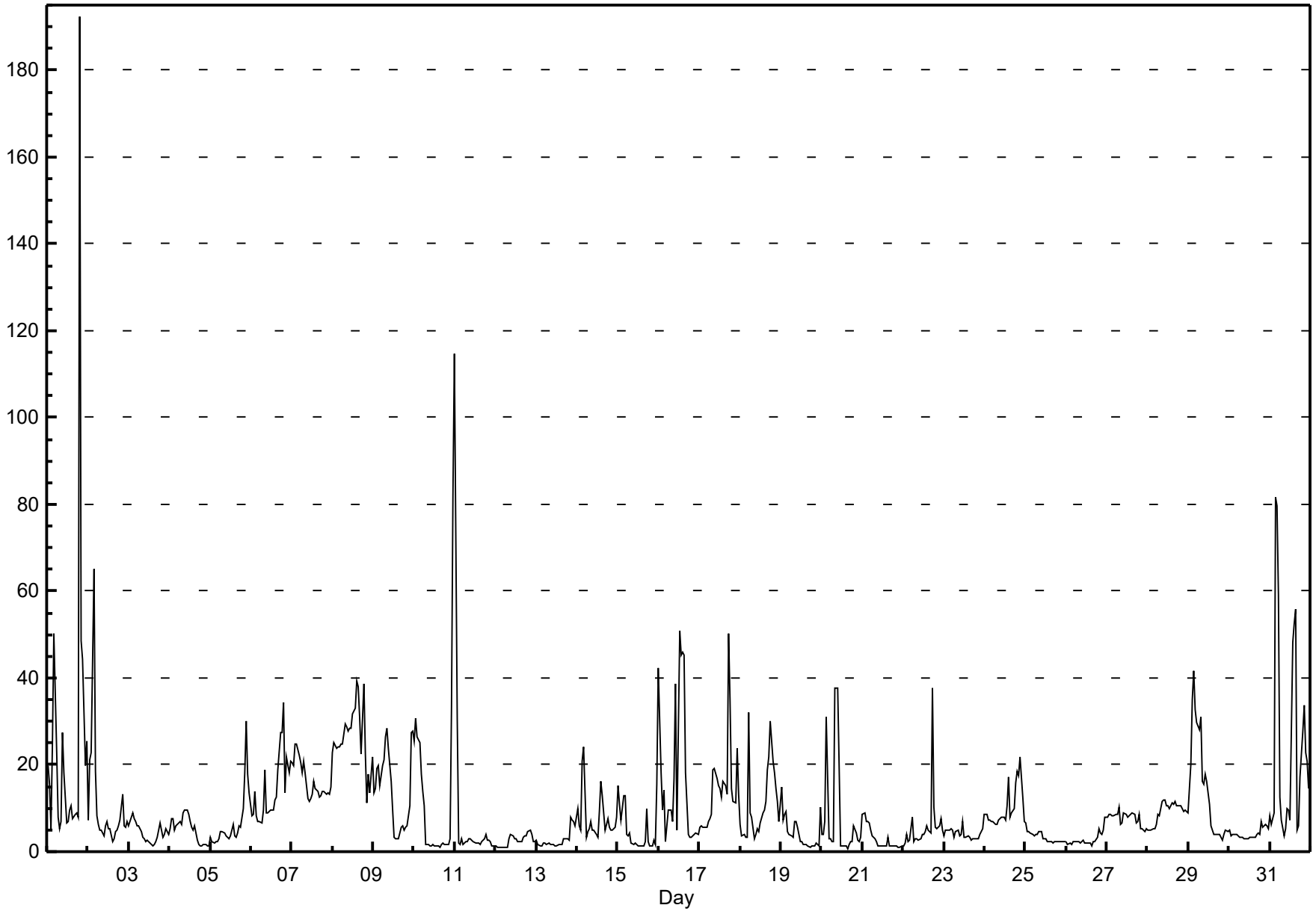
Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1-Dec	20	16	5	24	50	23	8	5	7	27	18	7	7	9	10	8	9	9	8	192	49	44	20	25	25.0	192.4
2-Dec	7	21	23	65	19	8	6	5	5	4	6	7	5	5	2	3	5	5	6	7	13	6	6	7	10.3	65.2
3-Dec	6	8	9	8	7	6	6	5	3	3	2	3	2	2	1	2	2	3	7	5	3	4	5	4	4.4	9.0
4-Dec	5	8	8	5	6	7	7	6	9	9	10	9	7	6	5	6	3	2	1	1	2	2	1	1	5.2	9.7
5-Dec	3	2	2	2	2	3	5	5	4	4	3	3	4	6	4	3	4	6	6	10	18	30	18	14	6.7	30.2
6-Dec	8	9	14	8	7	7	7	9	19	9	9	9	10	9	12	12	19	28	28	34	14	22	18	21	14.2	34.4
7-Dec	20	20	25	25	22	20	18	21	18	12	12	12	13	16	15	14	13	13	14	14	13	14	13	15	16.3	24.6
8-Dec	23	25	24	24	24	25	25	30	29	28	28	28	32	33	39	38	31	22	39	22	11	18	14	22	26.4	39.3
9-Dec	14	15	19	20	15	20	21	27	29	24	16	9	3	3	3	3	6	6	5	6	6	11	27	28	13.9	28.5
10-Dec	25	31	26	25	18	14	10	2	2	1	1	2	1	1	1	1	2	2	2	2	2	3	33	82	12.0	82.0
11-Dec	115	31	2	2	3	2	2	2	3	3	3	2	2	2	2	2	2	3	4	3	3	2	1	1	8.2	114.7
12-Dec	1	1	1	1	1	1	1	1	3	4	4	3	3	2	2	2	3	4	4	5	5	4	2	2	2.5	4.9
13-Dec	3	2	1	1	2	2	2	2	2	2	2	1	1	2	2	2	3	3	3	3	8	7	7	6	2.8	7.8
14-Dec	10	6	5	21	24	3	5	5	7	5	5	4	3	9	16	13	5	6	8	6	5	5	6	8	7.9	24.1
15-Dec	15	11	7	13	13	4	4	4	2	2	2	2	1	1	1	1	2	10	2	1	1	3	2	16	5.0	15.6
16-Dec	42	18	9	14	2	6	10	9	7	17	39	5	51	45	46	45	18	4	3	3	4	4	4	4	17.1	50.8
17-Dec	6	6	6	6	6	7	8	9	19	19	17	15	15	13	16	15	13	50	35	15	11	11	24	13	14.7	50.3
18-Dec	6	4	4	3	3	32	9	8	3	4	5	5	7	9	10	12	19	22	30	21	18	14	11	7	11.1	31.9
19-Dec	15	7	9	9	5	4	4	3	7	7	6	2	2	2	2	2	1	1	1	1	1	2	1	10	4.3	14.9
20-Dec	4	4	7	31	3	3	2	2	38	38	20	1	1	1	1	1	2	2	2	6	4	3	2	3	7.6	37.6
21-Dec	9	9	7	7	7	5	4	3	2	1	1	1	1	1	1	3	1	1	1	1	1	1	1	1	3.0	9.0
22-Dec	1	2	4	2	3	8	2	3	3	3	3	4	4	5	6	5	4	38	10	6	5	6	8	5	5.8	37.6
23-Dec	4	5	5	5	5	5	3	5	5	4	4	7	3	3	4	3	3	3	3	3	3	4	5	5	4.1	7.1
24-Dec	9	9	7	7	7	7	6	6	7	8	8	8	7	10	17	8	9	10	16	19	18	22	12	7	10.1	22.0
25-Dec	7	5	5	4	4	4	4	4	5	5	3	3	3	2	2	2	2	2	2	2	2	2	2	2	3.3	6.6
26-Dec	2	2	2	2	2	2	2	2	2	2	3	2	2	2	2	1	2	2	3	5	4	4	5	8	2.8	7.8
27-Dec	8	9	8	8	8	9	9	10	6	7	9	9	8	8	8	9	8	7	7	9	5	5	5	5	7.7	10.2
28-Dec	5	5	5	5	5	6	9	8	12	12	12	11	11	10	11	11	12	10	11	11	10	9	10	9	9.1	11.9
29-Dec	9	20	35	42	33	30	28	31	16	16	18	16	11	6	5	4	4	4	4	3	3	4	5	5	14.6	41.7
30-Dec	5	4	4	4	4	4	3	3	3	3	3	3	3	3	3	3	4	4	4	7	6	6	6	5	4.1	6.8
31-Dec	8	6	9	82	80	59	13	7	4	5	10	10	7	48	52	56	5	6	17	28	34	23	21	15	25.2	81.8
	13.4	10.2	9.6	15.4	12.6	10.7	7.8	7.9	9.0	9.2	9.1	6.5	7.5	9.0	9.8	9.4	7.0	9.3	9.2	14.5	9.1	9.5	9.5	11.5	Diurnal Average	
	114.7	30.7	34.9	81.8	79.6	59.1	28.0	31.0	37.6	37.6	38.5	28.3	50.8	48.3	52.5	55.9	31.2	50.3	38.5	192.4	48.6	44.2	33.4	82.0	Diurnal Maximum	

Peace Airshed Zone Association

Hourly Maximums

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

Smoky Heights - December 2018

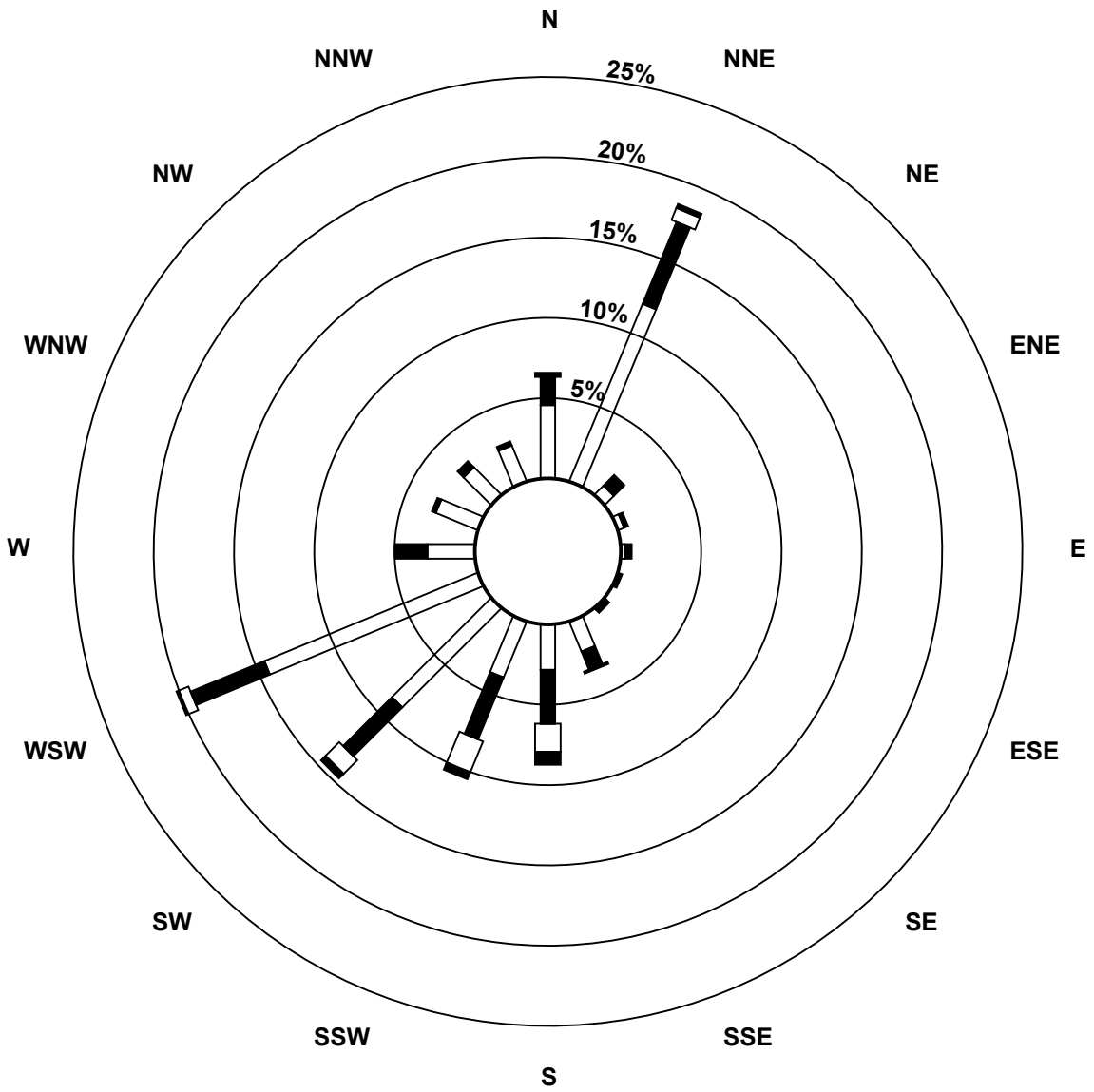


Peace Airshed Zone Association

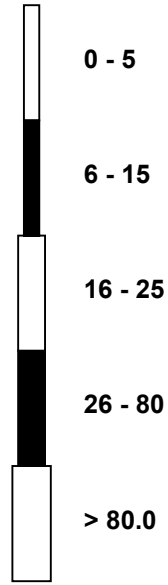
Pollutant Rose

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

Smoky Heights - December 2018



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



Peace Airshed Zone Association

Hourly Averages

External Temperature (ET) - °C

Smoky Heights - December 2018

Maximum Value: 3.3 °C on Dec 10 08:00

Maximum Daily Average: 0.5 °C on Dec 13

Minimum Value: -22 °C on Dec 28 04:00

Minimum Daily Average: -16.5 °C on Dec 26

Maximum Diurnal Average: -6.5 °C at hour 15

Minimum Diurnal Average: -9.8 °C at hour 2

Monthly Average: -8.66 °C

Percentiles: P_1 = -19.9 P_{10} = -15.6 Q_1 = -13.5 Median = -8.7 Q_3 = -4.1 P_{90} = -0.8 P_{99} = 1.8

Hours in Service:	744
Hours of Data:	744
Hours of Missing Data:	0
Hours of Calibration:	0
Percent Operational Time:	100.0

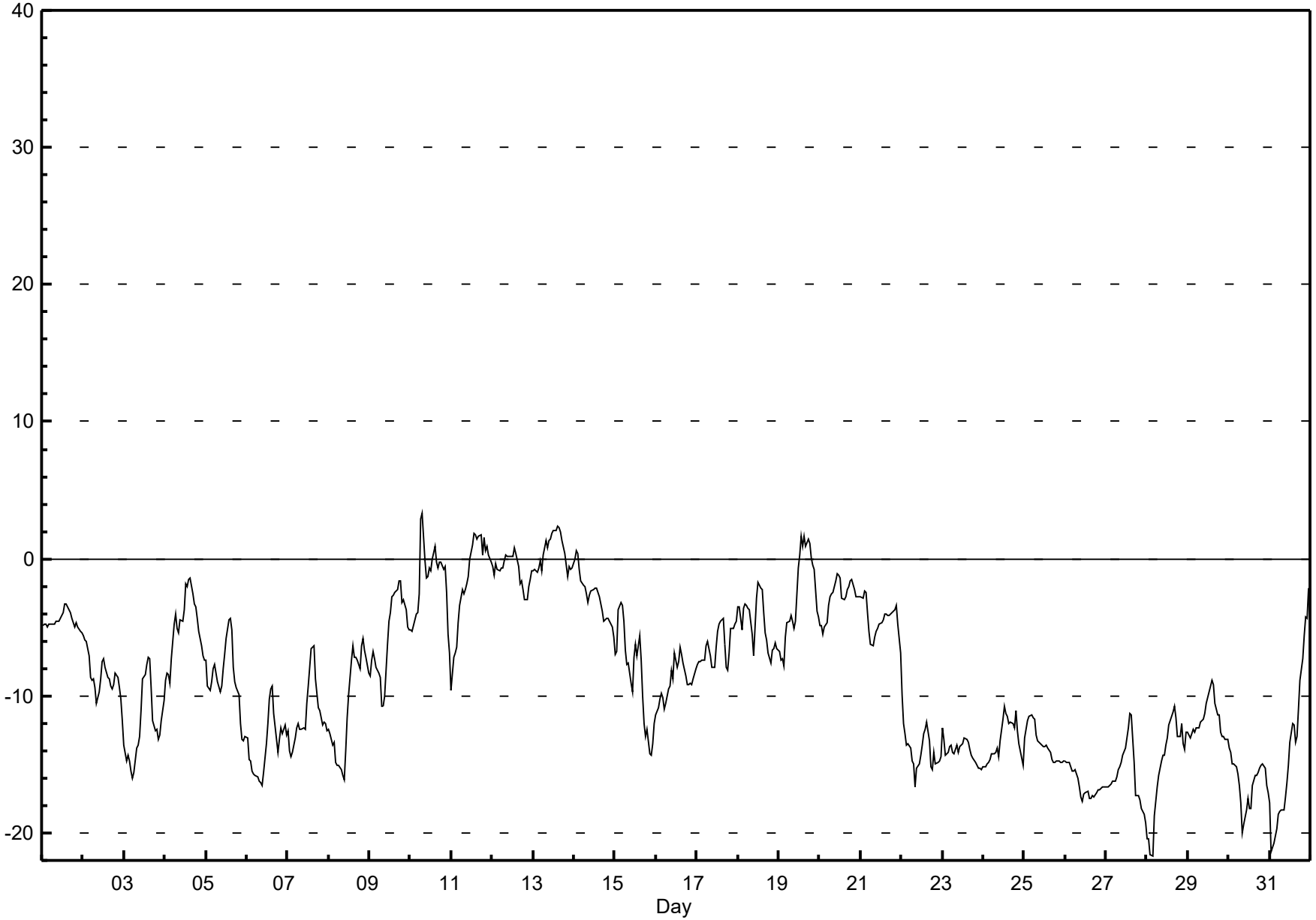
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Dec	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-4	-4	-3	-3	-4	-4	-4	-5	-5	-5	-5	-5	-5	-4.5	-3.3
2-Dec	-6	-6	-6	-7	-9	-9	-9	-9	-11	-10	-9	-8	-7	-8	-9	-9	-9	-9	-9	-8	-9	-9	-10	-12	-8.6	-5.6
3-Dec	-14	-15	-14	-15	-15	-16	-16	-14	-14	-13	-11	-9	-8	-8	-7	-7	-9	-12	-13	-12	-13	-13	-12	-10	-12.1	-7.1
4-Dec	-9	-8	-8	-9	-7	-5	-4	-5	-5	-5	-5	-4	-2	-2	-1	-1	-3	-3	-4	-4	-5	-6	-7	-7	-5.0	-1.4
5-Dec	-7	-9	-10	-9	-8	-8	-8	-9	-10	-9	-8	-7	-6	-4	-4	-5	-8	-9	-9	-10	-12	-13	-13	-13	-8.7	-4.4
6-Dec	-13	-15	-15	-15	-16	-16	-16	-16	-16	-17	-16	-14	-12	-10	-9	-9	-11	-13	-14	-13	-12	-13	-12	-13	-13.6	-9.3
7-Dec	-12	-14	-14	-14	-13	-12	-12	-12	-12	-12	-12	-11	-9	-8	-7	-6	-9	-10	-11	-11	-12	-12	-12	-13	-11.3	-6.4
8-Dec	-12	-13	-14	-13	-15	-15	-15	-15	-16	-16	-14	-12	-10	-7	-6	-7	-7	-7	-8	-6	-6	-7	-7	-8	-10.7	-5.8
9-Dec	-9	-7	-7	-7	-8	-8	-9	-11	-11	-10	-6	-5	-4	-3	-3	-2	-2	-2	-2	-3	-3	-4	-5	-5	-5.6	-1.6
10-Dec	-5	-5	-5	-4	-4	-3	3	3	0	-1	-1	-1	-1	0	1	0	-1	0	0	-1	-1	-2	-6	-7	-1.7	3.3
11-Dec	-10	-7	-7	-6	-5	-3	-2	-3	-2	-2	-1	0	1	2	2	1	2	2	0	2	1	1	0	0	-1.5	1.9
12-Dec	-1	-1	0	-1	-1	-1	-1	0	0	0	0	0	0	1	0	-1	-2	-2	-2	-3	-3	-2	-1	-1	-0.8	0.8
13-Dec	-1	-1	-1	-1	0	-1	0	1	1	1	1	2	2	2	2	2	2	1	0	0	-1	-1	-1	-1	0.5	2.4
14-Dec	0	1	0	-1	-2	-2	-2	-3	-3	-3	-2	-2	-2	-2	-2	-3	-4	-5	-4	-4	-4	-5	-5	-6	-2.7	0.6
15-Dec	-7	-7	-4	-3	-3	-5	-7	-8	-8	-9	-10	-7	-6	-7	-6	-7	-10	-12	-13	-12	-14	-14	-13	-12	-8.5	-3.2
16-Dec	-11	-11	-10	-10	-10	-11	-11	-10	-9	-8	-9	-7	-8	-8	-6	-7	-8	-9	-9	-9	-9	-9	-9	-8	-9.0	-6.4
17-Dec	-8	-7	-7	-7	-7	-6	-6	-7	-7	-8	-8	-6	-5	-5	-5	-4	-6	-8	-8	-7	-5	-5	-5	-5	-6.4	-4.3
18-Dec	-4	-3	-5	-4	-3	-3	-4	-4	-5	-7	-5	-3	-2	-2	-2	-4	-5	-6	-7	-8	-7	-7	-6	-7	-4.7	-1.7
19-Dec	-7	-7	-7	-8	-6	-5	-5	-4	-5	-5	-5	-1	0	2	1	2	1	1	1	0	0	-1	-4	-4	-2.7	1.6
20-Dec	-5	-5	-6	-5	-5	-3	-3	-3	-2	-2	-1	-1	-1	-3	-3	-3	-2	-2	-2	-2	-2	-3	-3	-3	-2.8	-1.1
21-Dec	-3	-3	-2	-2	-4	-5	-6	-6	-6	-5	-5	-5	-5	-4	-4	-4	-4	-4	-4	-4	-4	-3	-5	-7	-4.4	-2.4
22-Dec	-10	-12	-13	-14	-14	-14	-15	-15	-17	-15	-15	-14	-14	-13	-12	-12	-13	-15	-15	-14	-15	-15	-15	-14	-13.9	-9.9
23-Dec	-12	-13	-14	-14	-14	-14	-14	-14	-14	-14	-14	-14	-13	-13	-13	-13	-14	-14	-15	-15	-15	-15	-15	-15	-14.0	-12.4
24-Dec	-15	-15	-15	-15	-15	-14	-14	-14	-14	-14	-13	-12	-11	-11	-11	-12	-12	-12	-12	-11	-13	-13	-15	-15	-13.3	-10.8
25-Dec	-13	-12	-12	-11	-11	-12	-12	-13	-13	-13	-14	-14	-14	-14	-14	-14	-15	-15	-15	-15	-15	-15	-15	-15	-13.5	-11.4
26-Dec	-15	-15	-15	-15	-15	-15	-15	-16	-17	-17	-18	-17	-17	-17	-17	-18	-17	-17	-17	-17	-17	-17	-17	-17	-16.5	-14.8
27-Dec	-17	-17	-17	-16	-16	-16	-16	-15	-15	-15	-14	-14	-13	-12	-11	-11	-15	-17	-17	-17	-18	-18	-19	-19	-15.7	-11.3
28-Dec	-20	-20	-22	-22	-19	-18	-17	-16	-15	-14	-14	-14	-13	-12	-11	-11	-11	-12	-13	-13	-12	-14	-14	-13	-14.9	-10.8
29-Dec	-13	-13	-13	-12	-13	-12	-12	-12	-12	-12	-11	-11	-10	-9	-9	-9	-11	-11	-11	-13	-13	-13	-13	-13	-11.7	-8.9
30-Dec	-14	-14	-15	-15	-15	-16	-16	-18	-20	-19	-18	-18	-18	-18	-16	-16	-16	-16	-15	-15	-15	-15	-16	-17	-16.4	-13.8
31-Dec	-18	-21	-21	-20	-20	-19	-18	-18	-18	-17	-16	-15	-13	-12	-12	-13	-13	-11	-9	-7	-6	-4	-4	-2	-13.7	-2.1
	-9.5	-9.8	-9.8	-9.7	-9.6	-9.4	-9.2	-9.3	-9.7	-9.6	-9.0	-7.8	-7.3	-6.8	-6.5	-6.8	-7.6	-8.2	-8.4	-8.4	-8.5	-8.8	-9.1	-9.2	Diurnal Average	
	0.0	0.6	0.4	-0.7	-0.1	-0.6	2.9	3.3	0.8	1.4	1.5	1.8	2.1	2.1	2.4	2.3	1.9	1.7	1.1	1.6	0.5	0.9	0.3	-0.3	Diurnal Maximum	

Peace Airshed Zone Association

Hourly Averages

External Temperature (ET) - ^{o}C

Smoky Heights - December 2018



Peace Airshed Zone Association

Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Smoky Heights - December 2018

Day	Hourly Period Ending At (MST)																								Daily	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	Average	Maximum
1 Spd	5	4	4	3	5	5	3	1	1	4	3	1	3	3	2	1	2	3	3	3	4	2	2	2	2.0	4.7
Dir	9	13	29	22	13	23	29	321	313	327	104	129	260	278	259	309	321	322	335	353	18	14	61	34	1.1	22.8
2 Spd	1	2	4	5	5	4	3	2	6	3	4	7	9	10	9	8	11	11	11	14	14	14	14	13	5.8	14.3
Dir	95	13	24	17	15	18	20	302	287	214	215	222	232	255	247	234	256	259	249	243	238	232	236	236	249.1	232.3
3 Spd	8	7	10	12	10	13	9	9	7	11	7	9	11	4	5	2	4	7	8	6	8	7	6	11	7.6	12.7
Dir	239	241	238	244	240	255	249	238	232	236	250	246	254	249	282	331	231	247	250	212	219	229	224	207	240.5	254.5
4 Spd	14	13	13	12	23	26	21	14	16	22	19	22	21	23	23	31	34	27	21	22	18	17	18	21	17.0	34.3
Dir	219	219	228	223	241	262	259	246	240	254	239	226	265	262	275	288	309	310	310	314	324	322	310	306	273.3	308.8
5 Spd	12	5	5	6	6	4	5	5	3	5	6	8	5	3	3	5	5	4	8	6	6	7	12	13	4.6	13.1
Dir	309	175	197	183	189	160	176	178	207	221	245	252	242	209	135	158	163	243	251	257	253	224	252	257	226.6	257.5
6 Spd	13	12	10	10	11	10	8	7	7	7	6	7	7	10	11	10	9	12	13	14	8	9	12	14	8.7	13.6
Dir	257	249	248	235	247	244	226	202	175	178	195	192	201	183	175	186	213	235	249	261	235	224	227	200	222.5	200.1
7 Spd	9	9	7	6	8	7	8	9	6	6	8	7	7	6	7	5	7	9	9	12	11	10	10	9	7.6	11.9
Dir	196	181	191	189	185	203	209	195	164	164	177	174	188	230	213	245	233	213	179	203	208	218	191	193	197.3	202.7
8 Spd	10	10	11	9	8	8	7	9	8	12	10	12	9	9	15	16	8	6	5	10	11	6	4	8	8.4	16.2
Dir	195	216	212	198	198	184	195	199	191	209	194	185	175	165	177	196	170	170	195	263	248	267	217	189	198.9	195.7
9 Spd	7	10	8	10	8	6	11	7	6	13	12	7	6	5	5	7	9	10	5	7	9	9	9	8	7.5	12.7
Dir	209	198	190	226	213	243	200	183	223	246	252	222	224	212	235	246	249	257	231	218	224	203	186	182	220.2	246.1
10 Spd	8	7	7	10	7	14	22	29	20	19	19	23	26	21	15	16	13	16	16	9	13	9	3	3	13.0	28.7
Dir	176	200	209	189	166	169	244	246	243	251	236	236	237	240	255	247	236	222	228	249	222	194	255	356	231.5	245.6
11 Spd	1	3	9	9	14	17	17	15	13	10	10	9	13	16	17	19	16	11	5	19	25	36	31	28	12.6	35.5
Dir	279	205	218	202	167	166	162	165	168	181	157	173	169	168	180	177	176	165	201	225	240	241	240	240	198.4	241.2
12 Spd	25	22	33	34	32	36	34	38	43	44	48	47	45	48	42	33	21	25	17	9	16	15	16	14	29.3	47.8
Dir	239	237	230	231	234	235	237	239	239	239	239	240	239	241	239	237	238	240	242	179	190	186	178	155	232.9	241.3
13 Spd	19	17	18	16	18	20	26	33	35	34	30	28	30	32	33	34	30	30	21	13	14	18	16	13	22.8	35.4
Dir	167	168	180	202	219	226	221	219	225	225	234	236	239	241	242	240	237	226	225	228	211	213	211	206	223.0	224.8
14 Spd	14	11	7	2	4	5	8	11	12	15	14	14	12	9	6	6	7	8	8	9	7	7	5	5	5.9	14.6
Dir	202	259	247	298	11	51	29	21	23	26	39	39	31	23	9	359	1	11	7	359	353	360	19	28	13.6	26.4
15 Spd	3	12	19	21	23	26	27	27	22	11	9	11	12	13	10	11	9	7	9	7	1	6	5	5	11.6	27.3
Dir	287	245	241	235	244	243	271	270	271	246	211	220	237	248	270	202	243	260	260	294	41	233	272	20	251.0	269.6
16 Spd	9	6	9	10	15	14	10	9	10	10	7	10	8	7	5	8	7	10	9	10	9	9	9	7	8.6	14.6
Dir	19	19	20	19	27	20	16	32	51	73	37	80	23	17	29	23	8	11	7	5	12	17	1	14	24.1	27.0
17 Spd	7	11	8	2	5	14	15	13	11	9	12	12	9	12	11	7	10	11	10	7	9	5	4	9	6.3	15.1
Dir	11	25	17	349	205	236	220	200	186	189	191	195	205	227	236	206	219	254	252	260	248	239	259	252	226.3	219.6
18 Spd	8	6	6	8	6	2	3	4	2	4	6	6	6	8	8	7	8	7	6	9	7	12	13	9	6.0	13.0
Dir	238	249	255	241	229	317	20	16	286	239	233	230	225	213	221	219	241	216	241	215	224	220	228	227	231.8	228.1
19 Spd	5	10	13	9	9	12	11	14	7	10	12	22	20	25	27	28	26	34	35	15	4	3	8	1	13.9	34.7
Dir	211	241	210	196	223	242	229	207	176	207	210	227	234	241	237	245	256	257	253	258	154	170	193	211	234.4	253.0
20 Spd	4	4	2	2	4	4	2	3	6	6	11	7	11	21	19	20	18	16	12	12	12	11	10	11	7.5	21.0
Dir	248	279	312	343	248	268	287	58	25	39	25	70	37	25	26	24	24	22	10	349	343	328	323	307	7.2	25.5
21 Spd	15	14	19	22	25	27	28	27	25	27	28	27	28	29	27	24	22	21	16	14	16	17	11	10	21.3	29.3
Dir	300	279	271	266	268	273	270	282	283	280	274	274	283	291	296	288	282	285	285	285	285	293	243	241	279.5	291.3
22 Spd	13	11	13	14	11	11	9	12	8	13	9	8	8	9	8	8	8	9	6	5	5	2	11	10	7.2	13.6
Dir	236	244	256	255	240	258	237	249	213	196	226	224	232	242	236	238	236	243	217	242	247	18	15	18	242.5	254.6

Peace Airshed Zone Association

Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Smoky Heights - December 2018

Day	Hourly Period Ending At (MST)																								Daily	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	Average	Maximum
23 Spd	11	13	13	15	15	16	18	12	10	11	11	10	13	17	14	13	10	10	12	11	11	10	11	10	12.3	18.2
Dir	10	24	24	23	14	19	27	18	22	18	26	30	26	18	14	25	30	28	27	28	26	24	26	20	22.6	26.9
24 Spd	12	12	12	13	11	9	7	4	1	1	4	7	8	9	8	10	8	8	12	10	8	6	9	10	3.0	12.8
Dir	26	27	24	24	22	29	27	9	10	203	212	216	231	241	253	256	254	252	260	264	244	18	24	21	327.4	24.2
25 Spd	12	13	12	11	16	9	6	5	6	10	10	11	10	9	8	8	7	6	5	5	4	5	7	7	8.0	16.1
Dir	18	10	358	346	320	328	333	359	353	347	19	21	22	18	22	16	5	8	9	24	35	21	20	25	4.5	319.9
26 Spd	8	10	11	12	13	10	12	16	18	13	15	18	14	15	14	11	13	14	14	14	14	10	7	6	12.6	17.6
Dir	22	19	23	25	24	13	14	22	23	21	16	24	15	22	24	11	11	19	17	23	21	23	16	18	19.8	23.7
27 Spd	5	4	4	3	4	4	5	4	4	3	4	3	4	3	3	3	4	5	5	6	6	6	6	5	1.6	6.3
Dir	42	41	45	100	109	184	230	229	168	153	159	154	137	93	72	18	351	17	11	1	10	11	358	354	41.6	9.9
28 Spd	3	3	1	2	1	4	4	7	8	6	5	7	10	8	7	6	1	4	4	6	3	4	2	2	1.7	10.1
Dir	357	2	355	272	98	209	172	199	206	184	186	185	183	184	171	179	159	357	357	19	17	18	12	3	187.3	183.3
29 Spd	6	6	4	4	6	9	10	10	12	16	17	20	21	18	20	19	18	19	16	17	10	12	10	13	12.6	21.1
Dir	26	23	8	22	17	22	18	21	19	14	16	16	12	15	14	0	340	341	340	340	343	342	347	344	2.9	12.3
30 Spd	10	10	8	8	13	10	10	3	7	9	8	4	8	7	4	4	7	7	8	8	10	12	11	8	4.9	13.1
Dir	355	343	335	323	319	322	297	240	234	253	255	223	251	253	248	180	183	193	198	185	202	237	232	249	259.7	319.3
31 Spd	9	9	11	12	11	11	8	10	12	12	11	14	13	10	9	10	11	11	10	18	19	19	15	14	10.9	18.8
Dir	265	235	236	236	235	235	226	230	234	215	208	223	220	208	181	214	249	221	226	179	175	195	174	195	213.8	194.8
Spd	3.0	3.2	4.4	4.7	5.1	5.9	6.1	6.2	5.5	6.1	5.7	6.3	6.7	6.6	6.0	6.2	6.3	6.5	6.1	5.0	4.5	4.6	4.0	3.5	Diurnal Average	
Dir	261.8	256.8	249.8	245.8	251.0	252.3	250.7	242.8	242.6	241.4	238.9	232.3	246.4	253.3	252.8	252.9	264.7	267.3	268.6	270.2	253.6	252.9	250.8	255.4		
Spd	25.3	21.9	33.2	33.9	32.1	35.5	33.7	37.6	42.9	44.4	47.6	47.1	44.9	47.8	42.4	33.7	34.3	34.2	34.7	22.1	25.3	35.5	31.3	28.0	Diurnal Maximum	
Dir	239.5	237.0	230.0	231.0	234.2	235.4	236.6	238.9	238.8	238.6	238.6	240.1	239.3	241.3	238.5	239.7	308.8	257.0	253.0	313.9	240.2	241.2	239.7	240.5		

Maximum Speed Value: 48 km/h on Dec 12 14:00
Minimum Speed Value: 1 km/h on Dec 2 01:00
Maximum Daily Speed Average: 29.3 km/h on Dec 12
Minimum Daily Speed Average: 1.6 km/h on Dec 1
Maximum Diurnal Speed Average: 6.7 km/h at hour 13
Minimum Diurnal Speed Average: 3.0 km/h at hour 1

Monthly Average Velocity: 5.28 km/h 251.96 deg
Speed Percentiles: P_1 = 1.2 P_{10} = 3.8 Q_1 = 6.4 Median = 9.6 Q_3 = 13.6 P_{90} = 21.2 P_{99} = 36.7
All monthly, daily, and diurnal averages have been calculated using vector methods

Hours in Service:	744
Hours of Data:	744
Hours of Missing Data:	0
Percent Operational Time:	100.0

Frequency Distribution

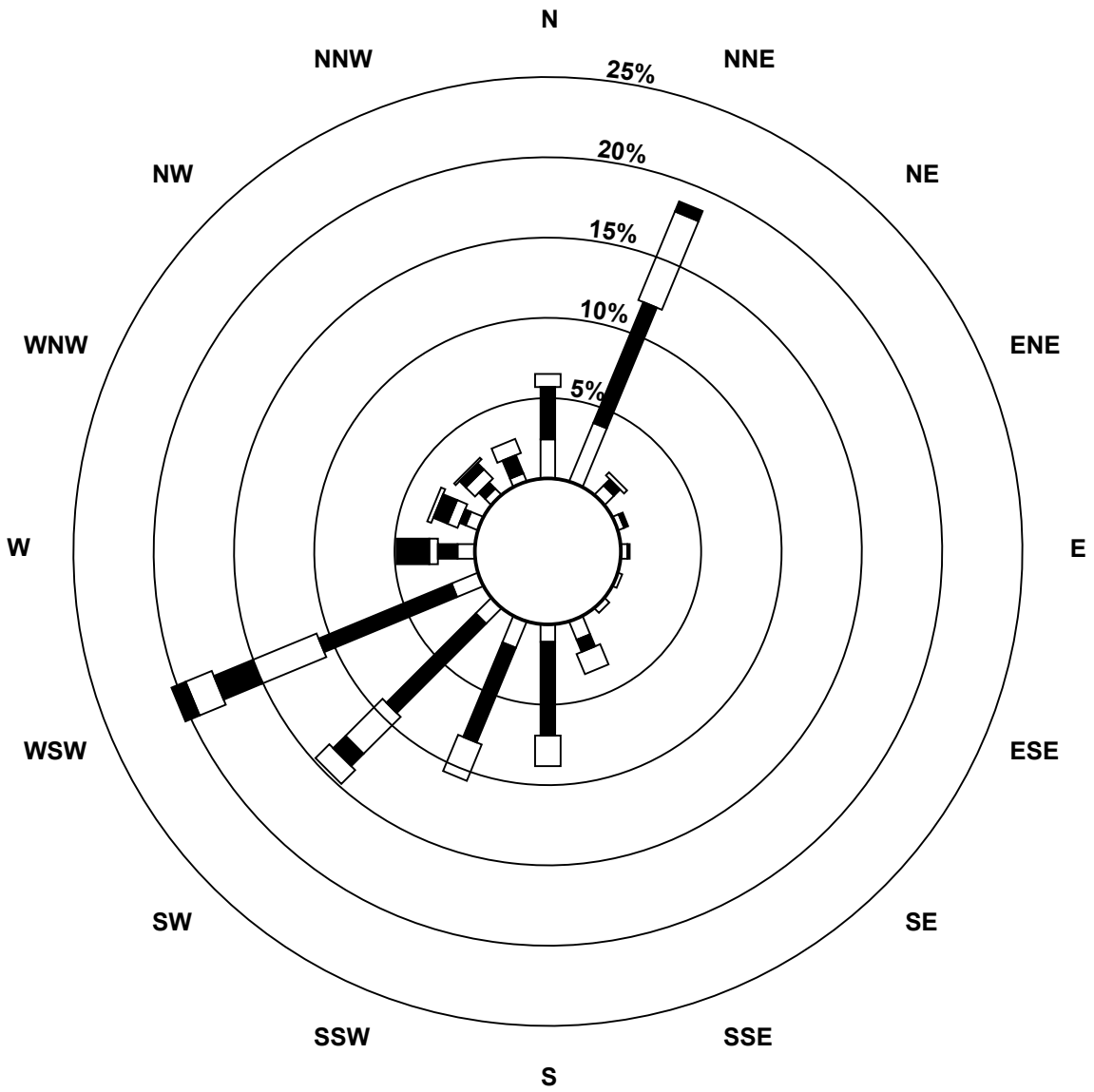
Direction	Speed Range (km/h) 0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total
North	37	66	37	4	0	0	144
NorthEast	12	29	27	3	0	0	71
East	7	3	0	0	0	0	10
SouthEast	6	1	1	0	0	0	8
South	13	75	33	1	0	0	122
SouthWest	21	114	54	25	22	7	243
West	17	41	23	23	6	0	110
NorthWest	12	9	9	5	1	0	36
Total	125	338	184	61	29	7	744

Peace Airshed Zone Association

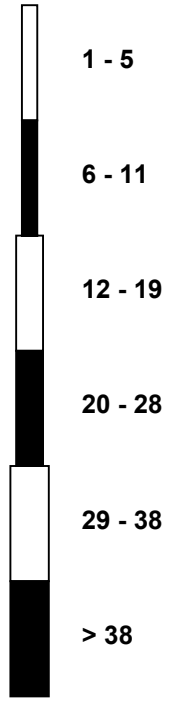
Wind Rose

Wind Speed (WS) (km/h)

Smoky Heights - December 2018



Wind Speed Classes (km/h)



Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Smoky Heights - December 2018

Maximum Speed: 48 km/h on Dec 12 14:00

Maximum Daily Speed Average: 30.8 km/h on Dec 12

Minimum Speed: 1 km/h on Dec 1 16:00

Minimum Daily Speed Average: 3.1 km/h on Dec 1

Maximum Diurnal Speed Average: 13.6 km/h at hour 14

Minimum Diurnal Speed Average: 9.5 km/h at hour 2

Monthly Average Speed: 11.54 km/h

Percentiles: P_1 = 1.9 P_{10} = 4.2 Q_1 = 6.7 Median = 9.8 Q_3 = 13.7 P_{90} = 21.3 P_{99} = 36.8

Hours in Service: 744

Hours of Data: 744

Hours of Missing Data: 0

Percent Operational Time: 100.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Dec	5	4	4	3	5	5	3	1	1	4	5	3	4	3	2	1	2	3	4	3	4	3	2	2	3.1	4.7
2-Dec	2	2	4	5	5	4	3	4	7	4	4	8	9	10	9	8	11	11	11	14	14	14	14	13	7.9	14.4
3-Dec	8	7	10	12	10	13	9	9	7	11	8	9	11	5	6	4	5	7	8	7	8	8	6	11	8.2	12.8
4-Dec	14	13	13	12	24	26	21	14	16	22	19	22	21	23	23	32	35	27	21	22	18	17	18	21	20.7	34.5
5-Dec	12	5	6	7	6	4	5	5	3	5	6	8	5	3	4	5	5	5	8	6	6	7	12	13	6.3	13.1
6-Dec	14	12	10	10	11	11	9	7	7	7	6	7	7	10	11	10	9	12	13	14	9	10	12	14	10.0	13.7
7-Dec	9	9	8	6	8	8	9	10	6	6	8	7	7	7	8	5	7	9	9	12	11	10	10	10	8.2	11.9
8-Dec	10	11	11	9	9	8	7	10	8	12	10	12	9	9	16	16	9	6	8	11	11	7	5	8	9.6	16.3
9-Dec	8	10	9	11	9	6	11	7	6	13	12	8	7	5	5	8	9	10	7	8	10	10	9	9	8.5	12.7
10-Dec	8	7	7	10	7	15	22	29	20	20	19	23	26	21	16	16	13	16	16	10	13	10	4	4	14.7	28.9
11-Dec	2	4	9	10	14	17	17	15	13	10	10	9	13	16	17	19	16	11	7	19	25	36	31	28	15.3	35.6
12-Dec	25	22	33	34	32	36	34	38	43	44	48	47	45	48	42	33	21	25	17	10	16	15	16	15	30.8	47.9
13-Dec	19	18	18	16	18	20	26	33	35	34	30	28	30	32	33	34	30	30	21	14	15	18	16	13	24.2	35.4
14-Dec	14	11	8	3	4	5	8	11	12	15	14	14	12	9	6	6	7	8	8	9	7	8	7	6	8.8	14.6
15-Dec	7	12	20	21	23	26	27	27	23	11	9	12	12	13	12	11	10	7	9	8	2	6	5	5	13.3	27.5
16-Dec	9	6	9	10	15	14	11	10	10	11	8	11	8	7	5	8	7	10	10	10	9	9	9	7	9.4	14.6
17-Dec	7	11	8	2	7	15	15	13	11	9	12	12	9	12	11	8	10	11	10	7	9	5	5	9	9.5	15.2
18-Dec	8	6	7	8	7	3	3	4	4	5	6	7	6	8	9	8	8	8	7	9	8	12	13	10	7.3	13.2
19-Dec	6	11	13	10	9	13	12	14	7	11	12	22	21	25	27	29	26	34	35	16	8	5	8	5	15.7	34.7
20-Dec	5	6	3	2	4	4	3	3	7	7	11	10	11	21	19	20	18	16	12	12	12	11	10	12	9.9	21.0
21-Dec	15	14	19	23	25	27	28	27	26	28	28	27	28	29	27	25	22	21	16	14	16	17	11	10	21.8	29.3
22-Dec	13	11	13	14	11	12	10	12	8	13	9	8	8	9	8	8	8	9	6	5	6	4	11	10	9.3	13.6
23-Dec	11	13	13	15	15	16	18	13	11	11	11	10	14	17	14	13	10	10	12	11	11	10	11	10	12.4	18.2
24-Dec	12	12	12	13	11	9	7	4	2	1	4	7	9	9	8	10	8	8	12	10	8	7	9	10	8.4	12.8
25-Dec	12	13	13	12	16	9	6	6	7	11	10	11	10	9	8	8	8	6	5	5	4	5	7	7	8.7	16.2
26-Dec	8	10	11	12	13	11	13	16	18	13	15	18	14	15	14	11	13	14	14	14	14	10	8	6	12.7	17.6
27-Dec	5	5	4	3	4	5	5	5	4	3	4	3	4	3	3	3	4	5	5	6	6	6	6	5	4.4	6.3
28-Dec	4	3	2	3	2	4	4	7	8	7	5	7	10	8	7	6	3	5	4	6	3	4	3	3	4.9	10.1
29-Dec	7	6	4	5	6	10	10	10	12	16	17	20	21	19	20	19	19	19	16	17	11	12	10	13	13.3	21.1
30-Dec	10	10	9	8	13	10	11	5	7	9	8	5	8	7	4	4	7	7	8	8	10	12	11	9	8.2	13.2
31-Dec	9	9	11	12	11	11	9	10	12	12	11	14	13	11	9	11	11	11	11	18	19	19	15	15	12.2	18.9
	9.7	9.5	10.3	10.3	11.4	12.1	12.1	12.2	11.6	12.3	12.2	13.1	13.3	13.6	13.0	12.9	12.0	12.4	11.2	10.7	10.4	10.5	10.1	10.0	Diurnal Average	
	25.4	22.0	33.3	34.0	32.2	35.6	33.8	37.6	42.9	44.4	47.6	47.2	45.0	47.9	42.5	33.8	34.5	34.3	34.7	22.3	25.3	35.6	31.4	28.0	Diurnal Maximum	

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

Peace Airshed Zone Association

Hourly Standard Deviations

Wind Direction (WD) - deg

Smoky Heights - December 2018

Maximum Value: 90.0 deg on Dec 11 01:00

Minimum Value: 2.3 deg on Dec 12 11:00

Percentiles: P_1 = 2.7 P_{10} = 4.3 Q_1 = 6.0 Median = 9.6 Q_3 = 16.1 P_{90} = 30.9 P_{99} = 73.2

Hours in Service:	744
Hours of Data:	744
Hours of Missing Data:	0
Hours of Calibration:	0
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily
	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	13	10	9	16	9	9	22	56	71	23	55	87	29	34	15	29	20	11	15	31	14	51	31	25	87.5
2-Dec	70	54	33	37	18	24	28	78	13	44	11	14	13	14	5	22	8	5	6	5	5	5	9	6	77.9
3-Dec	15	12	7	4	8	6	9	14	13	7	11	11	9	47	23	75	29	11	13	17	7	15	17	13	74.5
4-Dec	6	10	6	13	10	3	4	4	7	3	6	8	9	11	7	16	6	6	7	8	7	7	6	3	15.8
5-Dec	51	39	31	12	6	31	7	12	18	10	11	6	22	25	33	28	9	31	9	11	7	8	7	4	51.0
6-Dec	6	9	6	7	5	7	9	16	10	9	7	9	10	6	3	9	8	8	13	6	22	18	20	9	22.0
7-Dec	22	16	24	18	11	18	14	18	4	9	9	8	9	14	18	20	34	13	13	5	8	10	9	9	33.7
8-Dec	6	11	10	10	12	6	11	14	13	11	6	4	7	11	12	8	31	24	79	31	17	41	31	16	78.8
9-Dec	25	10	13	21	22	20	17	16	20	5	8	16	11	15	17	11	7	10	35	24	15	16	10	14	34.6
10-Dec	12	15	27	13	10	26	11	7	10	7	6	5	3	7	8	12	8	5	13	18	21	39	59	26	59.1
11-Dec	90	40	7	22	6	4	4	4	4	16	7	9	6	3	3	3	5	7	68	8	5	4	3	3	90.0
12-Dec	4	5	4	3	3	3	4	3	2	2	2	3	3	3	3	3	4	5	7	21	6	8	6	9	20.8
13-Dec	4	6	6	8	8	7	3	4	3	4	3	4	4	5	3	3	3	5	5	7	8	8	7	4	8.3
14-Dec	13	13	19	56	22	10	11	5	6	4	7	6	6	6	15	12	12	7	11	12	16	23	45	31	55.7
15-Dec	69	24	10	6	10	7	14	6	11	30	12	26	9	15	38	8	11	16	15	21	79	24	16	11	79.4
16-Dec	6	8	5	7	6	5	6	15	16	34	32	31	14	9	19	6	14	12	11	10	12	13	12	12	34.2
17-Dec	11	5	9	70	48	11	6	12	10	5	5	8	10	12	11	20	19	5	5	9	11	8	16	10	70.3
18-Dec	18	16	15	25	39	71	36	21	59	44	30	15	12	15	19	34	22	25	20	16	20	9	9	23	71.5
19-Dec	41	12	14	10	16	19	22	11	19	24	14	4	6	6	6	5	5	5	4	60	65	61	18	89	88.6
20-Dec	36	46	48	36	27	23	55	25	10	19	10	42	13	3	4	3	3	5	6	12	6	9	7	6	54.8
21-Dec	11	5	5	6	6	5	4	5	5	4	6	6	5	4	5	4	3	4	6	5	5	6	12	8	11.7
22-Dec	4	5	5	5	8	15	15	9	7	8	8	10	6	12	8	9	9	10	16	19	16	66	4	5	66.5
23-Dec	8	6	6	6	5	5	4	7	12	10	11	8	6	7	6	5	5	5	5	4	5	6	4	9	11.6
24-Dec	6	5	4	4	8	7	11	16	52	48	6	5	12	7	4	4	6	6	6	11	16	38	9	5	52.4
25-Dec	8	7	11	18	7	8	10	20	21	10	7	5	5	5	5	6	10	8	10	10	13	11	8	10	21.1
26-Dec	9	7	5	4	3	10	10	4	3	7	5	4	4	4	4	6	5	5	6	5	5	11	15	12	14.6
27-Dec	8	9	14	21	20	30	14	38	13	23	18	24	28	33	28	11	10	8	7	12	6	7	9	11	38.2
28-Dec	25	20	68	36	63	11	22	10	7	11	8	7	4	8	9	9	76	51	33	9	28	19	35	51	76.2
29-Dec	10	6	24	20	11	5	5	5	5	4	4	5	5	19	4	8	15	8	9	8	10	10	12	10	24.2
30-Dec	10	10	10	7	5	8	15	65	15	8	4	16	8	9	22	23	5	9	11	10	12	8	12	18	65.3
31-Dec	13	10	8	3	7	7	8	8	10	10	14	4	6	12	10	26	5	10	10	9	11	5	9	20	26.1
	90.0	54.5	68.4	70.3	63.3	71.5	54.8	77.9	71.5	48.5	55.2	87.5	29.1	47.2	37.9	74.5	76.2	51.5	78.8	60.2	79.4	66.5	59.1	88.6	

PAZA
Valleyview Station
Monthly Summary Tables, Graphs and Roses

Peace Airshed Zone Association

Hourly Averages

Sulphur Dioxide (SO_2) - ppb

Valleyview - December 2018

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 4.9 ppb on Dec 12 16:00 Maximum Daily Average: 1.0 ppb on Dec 21

Minimum Value: 0 ppb on Dec 5 02:00 Minimum Daily Average: 0.0 ppb on Dec 10
Maximum Diurnal Average: 0.7 ppb at hour 16 Minimum Diurnal Average: 0.2 ppb at hour 24
Monthly Average: 0.31 ppb Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 0.1 Median = 0.1 Q_3 = 0.3 P_{90} = 0.7 P_{99} = 3.0

Hours in Service:	744
Hours of Data:	709
Hours of Missing Data:	35
Hours of Calibration:	35
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	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	0	0	0	A	0	0	0	0	0.1	0.2
2-Dec	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	1	1	1	1	0.4	1.4
3-Dec	1	1	2	1	1	2	2	1	2	1	2	2	0	0	1	0	0	A	0	0	0	0	0	0	0.9	2.4
4-Dec	0	0	0	0	0	0	0	0	0	2	1	0	1	0	2	2	A	0	0	0	0	0	0	0	0.5	2.3
5-Dec	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.2	0.4
6-Dec	0	0	0	0	0	0	0	0	0	0	0	C	C	C	A	0	0	0	0	0	0	0	0	0	0.1	0.4
7-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
8-Dec	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	1	0	0	0	0	0	0	0.2	0.5
9-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	0.4
10-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	0.1
11-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	0.2	0.4
12-Dec	0	0	0	0	0	0	0	1	A	2	0	0	3	3	5	5	2	0	0	0	0	0	0	0	1.0	4.9
13-Dec	0	0	0	0	0	0	0	A	0	0	0	0	0	0	1	4	1	2	1	0	0	0	0	0	0.5	3.7
14-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
15-Dec	0	0	0	0	1	A	1	0	0	0	3	5	2	2	1	1	0	0	0	0	0	0	0	0	0.7	4.7
16-Dec	0	0	0	0	A	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.3
17-Dec	1	1	1	A	1	1	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0.4	1.1
18-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
19-Dec	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0.2	0.6
20-Dec	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	A	0.2	0.7
21-Dec	3	3	1	1	2	4	2	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0	A	0	1.0	3.8
22-Dec	2	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.2	2.4
23-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
24-Dec	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	A	0	0	0	0	0.2	0.6
25-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
26-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	0.4
27-Dec	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	A	0	0	0	0	0	0	0	0.2	1.2
28-Dec	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.1	0.3
29-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	0.2	0.4
30-Dec	0	0	0	0	0	0	1	0	0	0	0	0	1	A	2	2	1	0	0	0	0	0	0	0	0.5	2.1
31-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	0.1	0.3
	0.4	0.3	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.3	0.4	0.4	0.5	0.5	0.6	0.7	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	Diurnal Average	
	3.5	3.1	1.6	1.1	2.3	3.8	2.5	1.1	1.9	2.2	2.8	4.7	2.6	3.0	4.7	4.9	1.9	2.5	1.1	1.1	0.8	0.8	1.3	1.4	Diurnal Maximum	

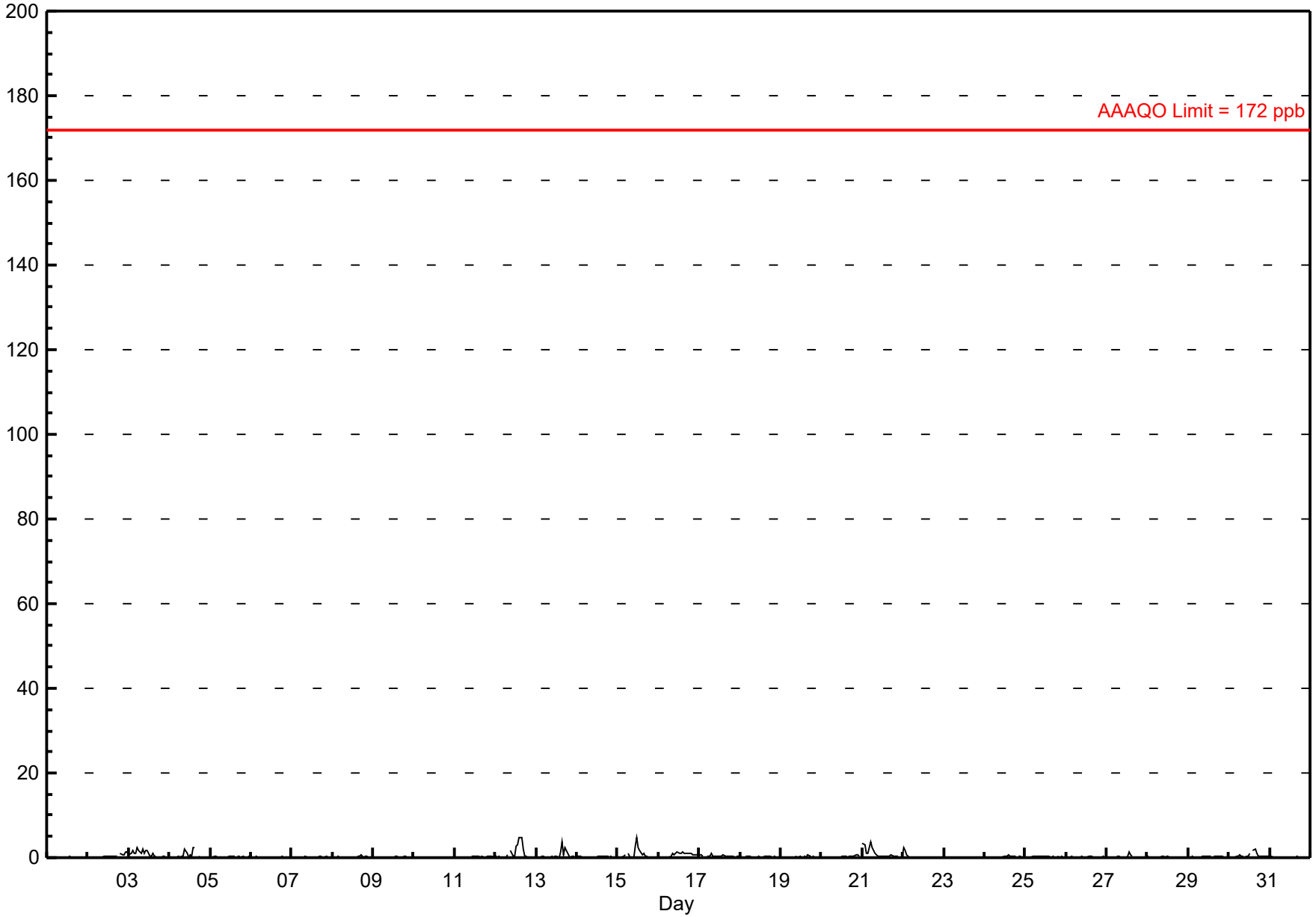
C - Calibration A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb 30-day 11 ppb

Peace Airshed Zone Association

Hourly Averages

Sulphur Dioxide (SO_2) - ppb

Valleyview - December 2018



Peace Airshed Zone Association

Hourly Maximums

Sulphur Dioxide (SO_2) - ppb

Valleyview - December 2018

Maximum Value: 10.9 ppb on Dec 6 04:00

Maximum Daily Average: 2.8 ppb on Dec 12

Minimum Value: 0 ppb on Dec 16 00:00

Minimum Daily Average: 0.5 ppb on Dec 10

Maximum Diurnal Average: 2.4 ppb at hour 15

Minimum Diurnal Average: 0.6 ppb at hour 22

Monthly Average: 1.30 ppb

Percentiles: $P_1 = 0.3$ $P_{10} = 0.4$ $Q_1 = 0.5$ Median = 0.6 $Q_3 = 0.8$ $P_{90} = 2.5$ $P_{99} = 10.3$

Hours in Service:	744
Hours of Data:	709
Hours of Missing Data:	35
Hours of Calibration:	35
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	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	0	1	1	0	0	0	1	1	1	1	1	1	11	0	1	0	0	1	A	0	0	0	1	1.0	10.8
2-Dec	0	1	0	0	1	1	1	0	0	2	2	1	1	1	1	1	1	1	A	4	2	2	3	6	1.3	5.7
3-Dec	2	4	3	4	2	5	3	2	6	3	4	3	1	1	11	1	1	A	1	0	1	1	0	1	2.6	10.9
4-Dec	1	1	0	1	1	1	0	2	1	4	3	0	3	2	5	3	A	1	1	1	0	0	0	0	1.3	5.3
5-Dec	1	0	1	1	1	1	1	0	1	0	1	1	1	1	1	A	1	1	0	10	0	1	1	1	1.1	10.2
6-Dec	1	0	1	11	1	0	0	0	0	0	1	C	C	C	A	0	0	1	1	0	1	1	1	0	1.0	10.9
7-Dec	1	1	0	1	0	0	1	0	10	0	1	1	1	A	1	1	1	1	0	1	10	1	1	1	1.4	10.1
8-Dec	0	1	0	10	1	0	1	1	1	1	0	1	A	1	1	1	1	2	1	1	1	1	0	0	1.1	10.0
9-Dec	1	1	0	0	0	1	1	0	0	1	1	A	1	1	10	0	1	1	2	1	1	1	1	1	1.0	10.0
10-Dec	0	0	0	0	0	1	0	1	1	1	A	0	0	0	0	1	1	0	1	1	1	0	0	0	0.5	0.7
11-Dec	1	0	1	1	0	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0.6	1.4
12-Dec	1	1	1	1	0	1	1	6	A	7	1	3	8	6	10	8	8	1	1	1	0	0	0	1	2.8	9.9
13-Dec	1	1	1	1	2	1	1	A	1	1	1	1	1	0	7	11	6	7	3	1	0	1	1	1	2.1	10.8
14-Dec	2	1	1	1	1	1	A	1	1	1	1	0	1	1	1	1	1	1	2	1	1	0	0	0	0.7	2.1
15-Dec	0	1	1	1	2	A	3	2	1	1	7	10	4	3	2	10	1	1	1	0	0	0	0	0	2.3	10.4
16-Dec	0	0	0	0	A	0	0	1	2	1	2	2	2	2	2	2	1	2	2	2	1	1	1	1	1.2	2.2
17-Dec	1	1	1	A	1	2	2	3	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1.0	3.4
18-Dec	1	1	A	1	1	1	1	1	1	1	1	0	0	1	1	0	1	1	1	1	1	1	1	1	0.6	0.9
19-Dec	1	A	1	1	0	0	1	1	0	1	1	1	0	1	1	1	10	1	0	1	1	0	0	0	1.0	10.4
20-Dec	A	0	0	0	1	0	0	0	1	1	1	0	1	1	1	0	1	1	1	1	1	1	1	A	0.6	1.3
21-Dec	8	5	2	2	5	10	6	4	4	1	1	1	1	1	1	1	1	2	1	1	1	1	A	1	2.5	10.2
22-Dec	7	5	3	1	0	0	0	0	0	10	0	0	0	0	1	1	0	0	0	10	0	A	1	0	1.9	10.2
23-Dec	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	0	0	0	9	0	A	0	0	0	0.8	8.9
24-Dec	0	0	1	0	0	0	1	1	0	0	0	1	1	1	1	1	1	1	1	A	1	1	1	1	0.6	1.1
25-Dec	0	0	0	0	0	1	1	1	1	1	1	0	0	1	1	1	1	1	A	1	1	1	1	1	0.6	1.0
26-Dec	1	0	1	1	1	0	1	0	1	10	1	1	1	1	1	10	1	A	1	0	0	0	10	0	1.8	10.1
27-Dec	0	0	0	0	0	0	1	1	1	1	1	1	10	2	2	1	A	1	1	0	0	0	0	0	1.1	10.3
28-Dec	10	10	0	0	0	0	0	0	9	1	1	1	10	0	1	A	0	0	0	1	1	0	0	1	2.1	10.0
29-Dec	0	0	10	0	0	1	0	1	1	1	1	1	1	1	A	1	1	1	1	10	10	1	1	1	1.9	10.4
30-Dec	0	1	0	1	1	1	1	1	1	1	1	1	3	A	5	4	1	1	1	1	1	1	1	1	1.1	4.9
31-Dec	1	1	1	1	0	1	0	0	0	0	0	0	A	0	1	0	1	0	0	0	0	0	1	1	0.5	0.7
	1.4	1.2	1.1	1.3	0.8	1.0	0.9	1.1	1.5	1.7	1.2	1.1	1.9	1.5	2.4	2.2	1.5	1.0	1.1	1.8	1.3	0.6	0.9	0.7	Diurnal Average	
	9.9	9.6	10.4	10.9	4.8	10.2	5.8	5.5	10.1	10.1	7.5	10.2	10.3	10.8	10.9	10.8	10.4	7.3	8.9	10.3	10.1	1.9	9.8	5.7	Diurnal Maximum	

C - Calibration

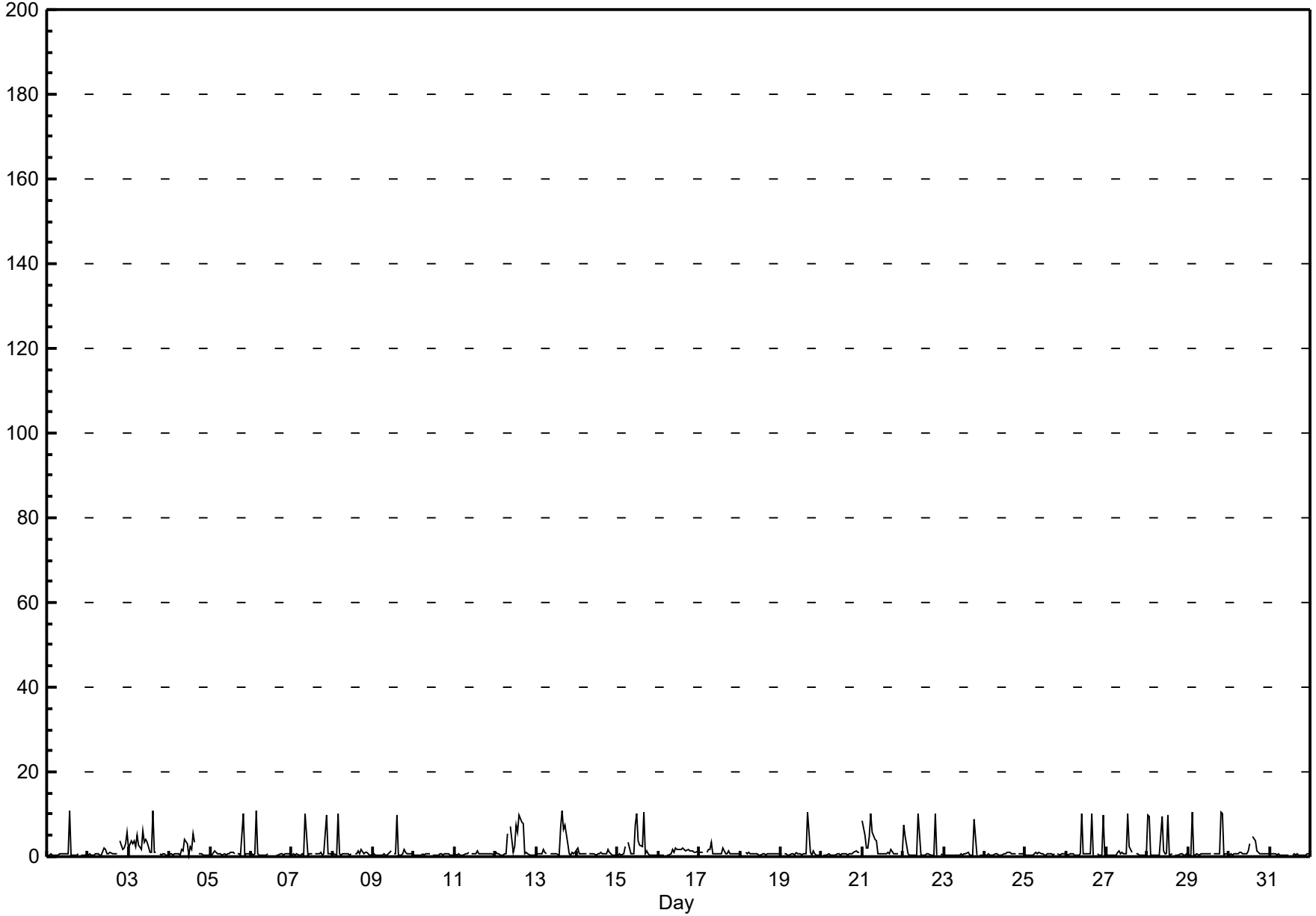
A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Sulphur Dioxide (SO_2) - ppb

Valleyview - December 2018

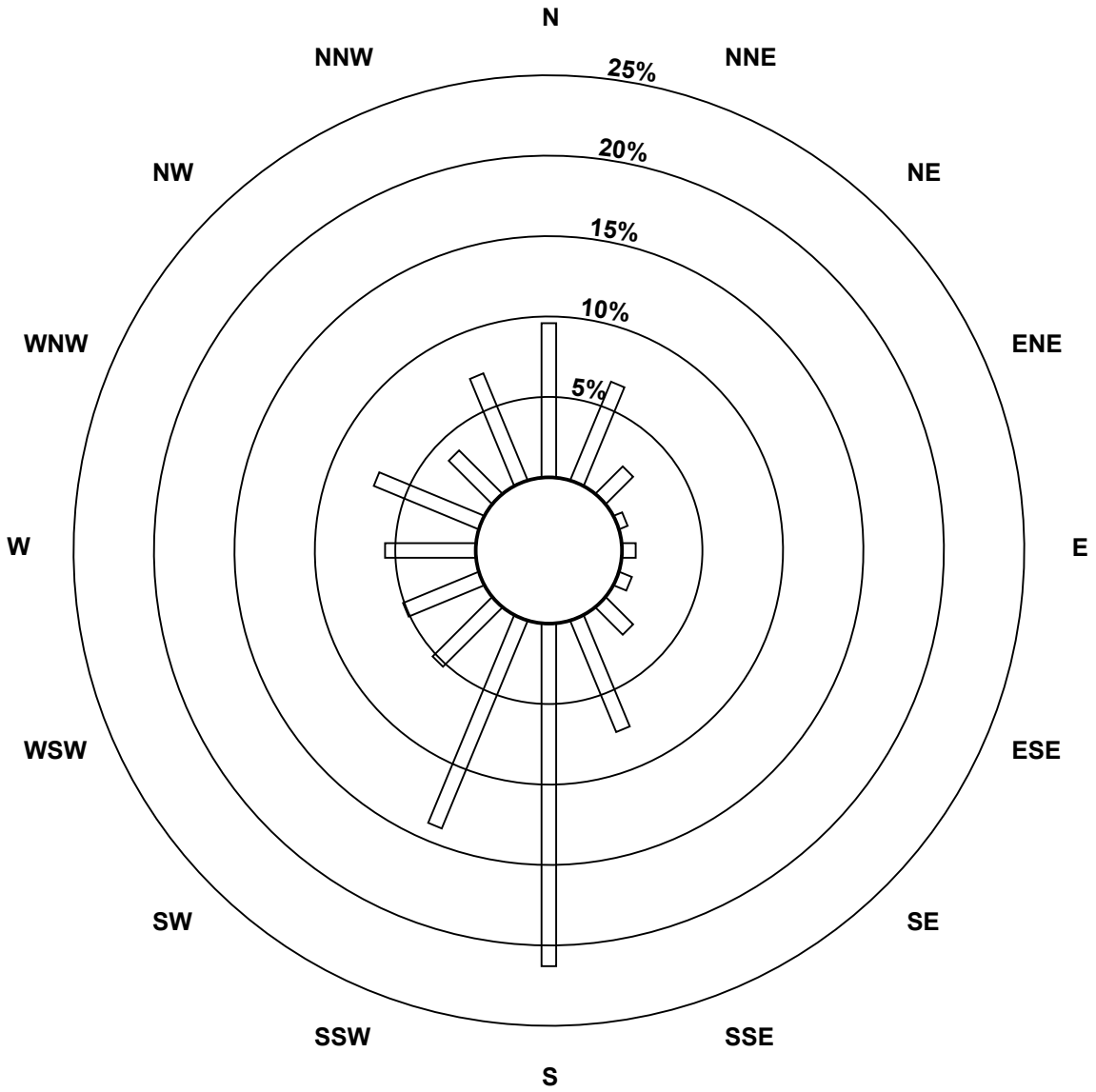


Peace Airshed Zone Association

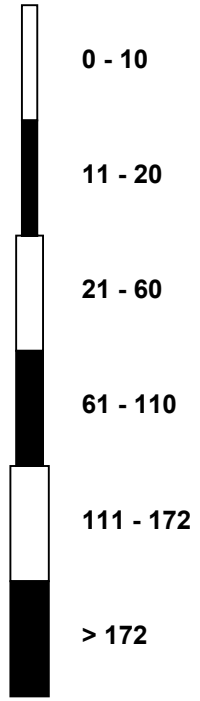
Pollutant Rose

Sulphur Dioxide (SO_2) - ppb

Valleyview - December 2018



Pollutant Classes (ppb)

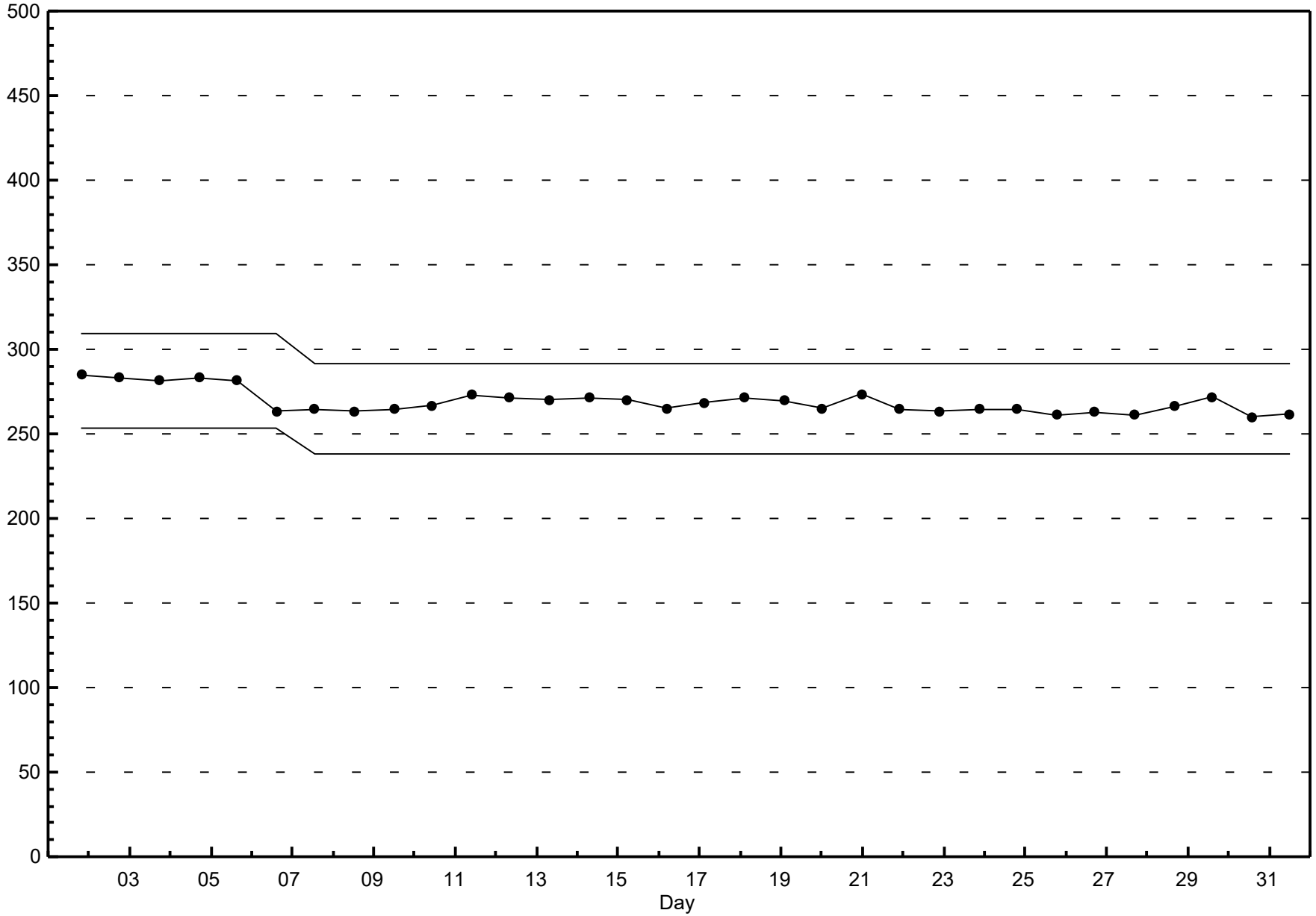


Peace Airshed Zone Association

Span Responses

Sulphur Dioxide (SO_2)

Valleyview - December 2018



Peace Airshed Zone Association

Hourly Averages

Hydrogen Sulphide (H_2S) - ppb

Valleyview - December 2018

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 4.3 ppb on Dec 5 19:00 Maximum Daily Average: 0.8 ppb on Dec 5

Minimum Value: 0 ppb on Dec 2 09:00 Minimum Daily Average: 0.0 ppb on Dec 12
Maximum Diurnal Average: 0.5 ppb at hour 18 Minimum Diurnal Average: 0.1 ppb at hour 8
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} = 1.7

Hours in Service:	744
Hours of Data:	707
Hours of Missing Data:	37
Hours of Calibration:	37
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-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	0.2	0.3
2-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	0.2
3-Dec	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	A	0	0	0	0	0	0	0.2	0.6
4-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	0.4
5-Dec	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	A	0	3	4	4	1	1	0	0	0.8	4.3
6-Dec	0	0	0	0	0	0	0	0	0	C	C	C	C	C	A	1	1	1	0	0	0	0	0	0	0.3	1.2
7-Dec	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	1	1	1	1	0	0	0	0	0	0.3	1.2
8-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	0.1	0.4
9-Dec	0	0	0	0	0	0	0	0	0	1	1	A	1	2	1	1	1	0	0	0	0	0	0	0	0.4	1.7
10-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	0.3
11-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
12-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	0.2
13-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
14-Dec	0	0	0	0	0	0	A	0	0	0	0	1	0	0	0	0	0	1	1	0	1	1	1	1	0.4	1.4
15-Dec	1	3	1	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0.4	2.5
16-Dec	1	1	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.8
17-Dec	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	0.5	0.9
18-Dec	1	1	A	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	1	1	1	1	1	1	0.7	1.8
19-Dec	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	0.3	1.8
20-Dec	A	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	1	0	0	0	0	0	0	A	0.6	1.5
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	0.2	0.3
22-Dec	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	2	1	A	1	1	0.5	2.0
23-Dec	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.2	0.9
24-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
25-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	0.5
26-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	0.0	0.1
27-Dec	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	0	0	0	0	0	0	0.2	1.0
28-Dec	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.2	0.5
29-Dec	0	0	1	0	1	1	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.3	0.9
30-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	0.2
31-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	0.2
	0.3	0.4	0.3	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.5	0.5	0.4	0.3	0.3	0.3	0.3	Diurnal Average	
	1.1	2.5	1.2	0.9	0.8	1.0	1.0	0.9	0.9	0.7	0.7	0.6	1.1	1.7	1.2	1.4	1.2	3.2	4.3	3.8	1.4	0.9	1.2	1.8	Diurnal Maximum	

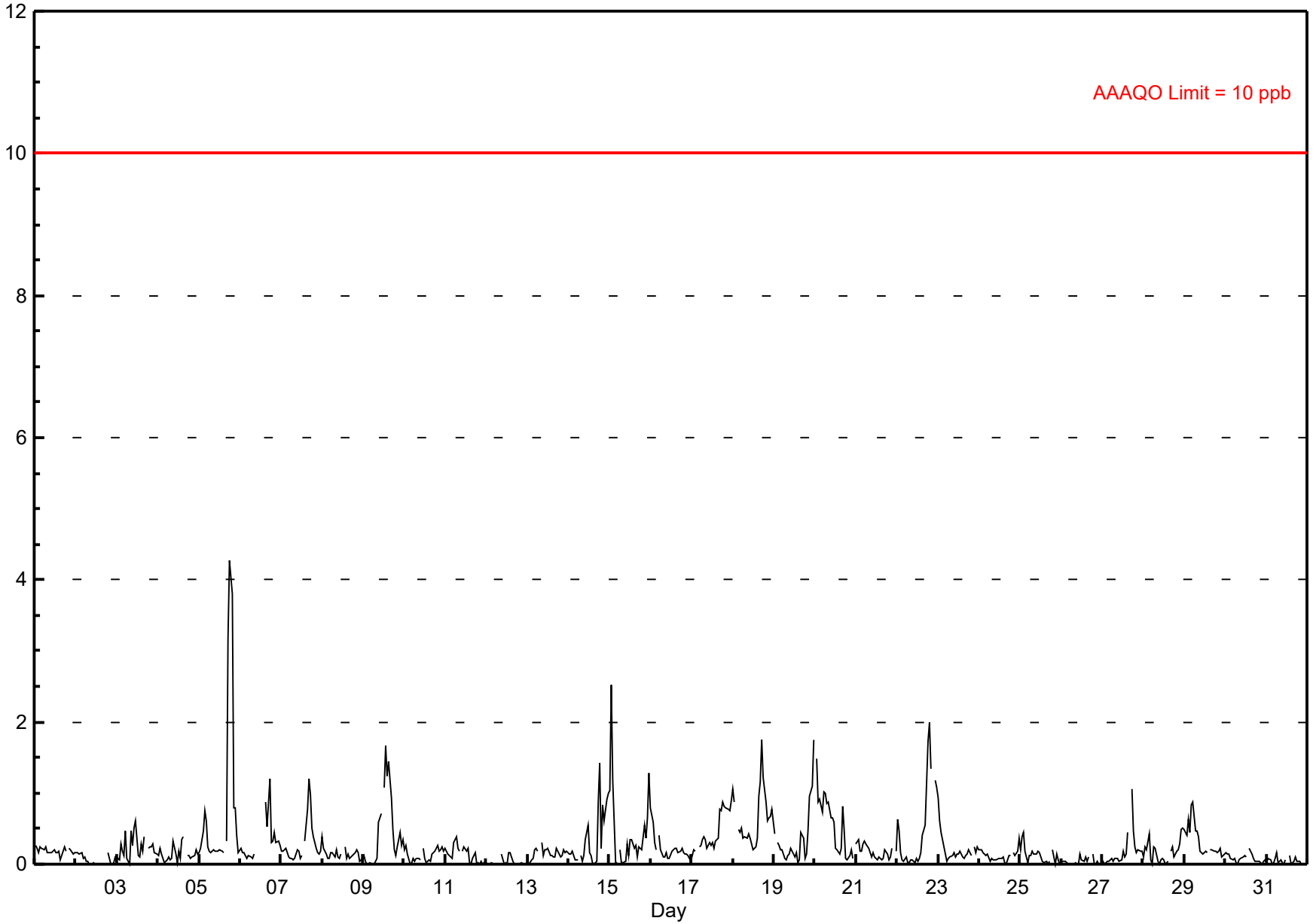
C - Calibration A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb

Peace Airshed Zone Association

Hourly Averages

Hydrogen Sulphide (H_2S) - ppb

Valleyview - December 2018



Peace Airshed Zone Association

Hourly Maximums

Hydrogen Sulphide (H_2S) - ppb

Valleyview - December 2018

Maximum Value: 8.7 ppb on Dec 5 20:00

Maximum Daily Average: 1.8 ppb on Dec 5

Minimum Value: 0 ppb on Jan 1 00:00

Minimum Daily Average: 0.4 ppb on Dec 31

Maximum Diurnal Average: 1.3 ppb at hour 18

Minimum Diurnal Average: 0.6 ppb at hour 8

Monthly Average: 0.80 ppb

Percentiles: P_1 = 0.3 P_{10} = 0.4 Q_1 = 0.5 Median = 0.6 Q_3 = 0.8 P_{90} = 1.4 P_{99} = 4.3

Hours in Service:	744
Hours of Data:	707
Hours of Missing Data:	37
Hours of Calibration:	37
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Dec	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	0	1	1	1	A	1	1	1	1	0.6	0.8
2-Dec	1	1	1	1	1	0	1	0	0	0	1	0	0	0	0	0	1	0	A	1	0	1	0	1	0.5	0.8
3-Dec	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	0.9	1.4
4-Dec	1	1	1	1	0	1	0	0	1	1	1	0	1	1	1	1	A	1	1	1	1	1	1	1	0.6	1.2
5-Dec	0	1	1	2	2	1	1	1	1	1	1	1	1	1	1	A	1	4	9	9	2	2	1	1	1.8	8.7
6-Dec	1	1	1	0	1	1	0	0	0	C	C	C	C	C	A	2	1	3	1	1	1	1	1	1	0.9	2.7
7-Dec	1	1	1	1	1	0	0	0	1	1	1	1	1	A	1	2	3	2	1	1	1	1	1	1	0.9	3.2
8-Dec	1	1	1	1	1	1	1	1	1	1	0	1	A	1	0	1	1	1	0	1	1	0	0	1	0.6	1.1
9-Dec	1	0	0	0	0	0	0	1	0	3	2	A	2	2	2	3	1	1	1	1	1	1	1	1	1.2	3.1
10-Dec	1	1	1	1	0	0	1	0	1	0	A	1	1	1	1	0	1	1	1	1	1	1	1	1	0.6	0.8
11-Dec	1	1	1	0	1	1	1	1	1	A	1	1	1	1	0	0	0	1	0	0	0	0	1	0	0.6	1.0
12-Dec	0	1	0	0	1	1	0	1	A	1	0	1	0	1	1	0	0	1	1	0	1	0	0	0	0.5	1.1
13-Dec	0	0	1	0	1	1	1	A	1	0	1	1	1	1	1	1	0	1	1	0	1	1	1	1	0.6	0.9
14-Dec	1	1	1	1	0	0	A	1	0	1	1	1	1	1	0	0	0	2	3	1	2	1	2	2	0.9	2.6
15-Dec	2	7	3	1	1	A	1	0	0	1	1	0	1	1	1	1	1	1	1	1	1	1	2	2	1.2	6.6
16-Dec	1	1	1	1	A	1	1	1	1	1	0	0	1	1	1	1	1	1	1	1	0	1	1	0	0.7	1.4
17-Dec	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	1	1	1	1	2	1.0	1.7
18-Dec	2	2	A	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	2	1	1	1	1	1	1.3	3.0
19-Dec	1	A	1	1	1	1	0	0	1	0	1	1	0	1	0	0	1	1	0	1	1	1	2	2	0.9	2.5
20-Dec	A	2	1	2	1	2	1	1	1	1	1	1	1	1	1	1	2	1	1	0	1	1	1	A	1.1	2.4
21-Dec	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	1	1	1	1	0	1	1	A	1	0.6	0.8
22-Dec	2	1	1	1	0	1	0	0	0	0	0	0	1	0	1	1	1	4	3	4	2	A	2	2	1.3	4.4
23-Dec	1	1	1	1	1	0	0	1	1	1	1	1	1	1	1	1	0	0	1	1	A	1	1	1	0.7	1.4
24-Dec	1	1	1	0	1	0	0	1	1	0	1	0	0	0	1	1	1	0	1	A	1	1	1	1	0.6	1.1
25-Dec	1	1	1	1	0	1	1	1	1	1	1	1	0	0	0	1	0	1	A	1	0	1	0	0	0.6	0.9
26-Dec	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1	1	0	A	1	1	0	0	0	0	0.5	0.8
27-Dec	0	0	1	0	0	0	0	0	0	1	1	0	1	0	1	2	A	6	5	1	1	1	1	1	1.0	6.1
28-Dec	1	1	1	2	1	0	1	1	0	0	0	0	1	0	0	A	1	1	1	1	1	1	1	1	0.6	1.5
29-Dec	1	1	1	1	2	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	0	0.8	1.5
30-Dec	1	1	0	0	0	1	0	1	1	0	1	1	1	A	1	1	1	1	0	0	0	0	0	1	0.5	1.2
31-Dec	1	0	0	0	0	0	1	1	1	0	0	0	A	1	0	0	0	0	0	0	0	0	0	0	0.4	0.8
	0.8	1.0	0.8	0.7	0.7	0.7	0.6	0.6	0.7	0.7	0.7	0.6	0.7	0.7	0.7	0.9	0.9	1.3	1.3	1.1	0.8	0.8	0.8	0.8	Diurnal Average	
	2.3	6.6	2.7	2.0	1.7	1.7	1.4	1.3	1.4	2.7	2.4	1.4	2.5	2.3	2.4	3.1	3.2	6.1	8.6	8.7	2.3	2.5	2.2	2.5	Diurnal Maximum	

C - Calibration

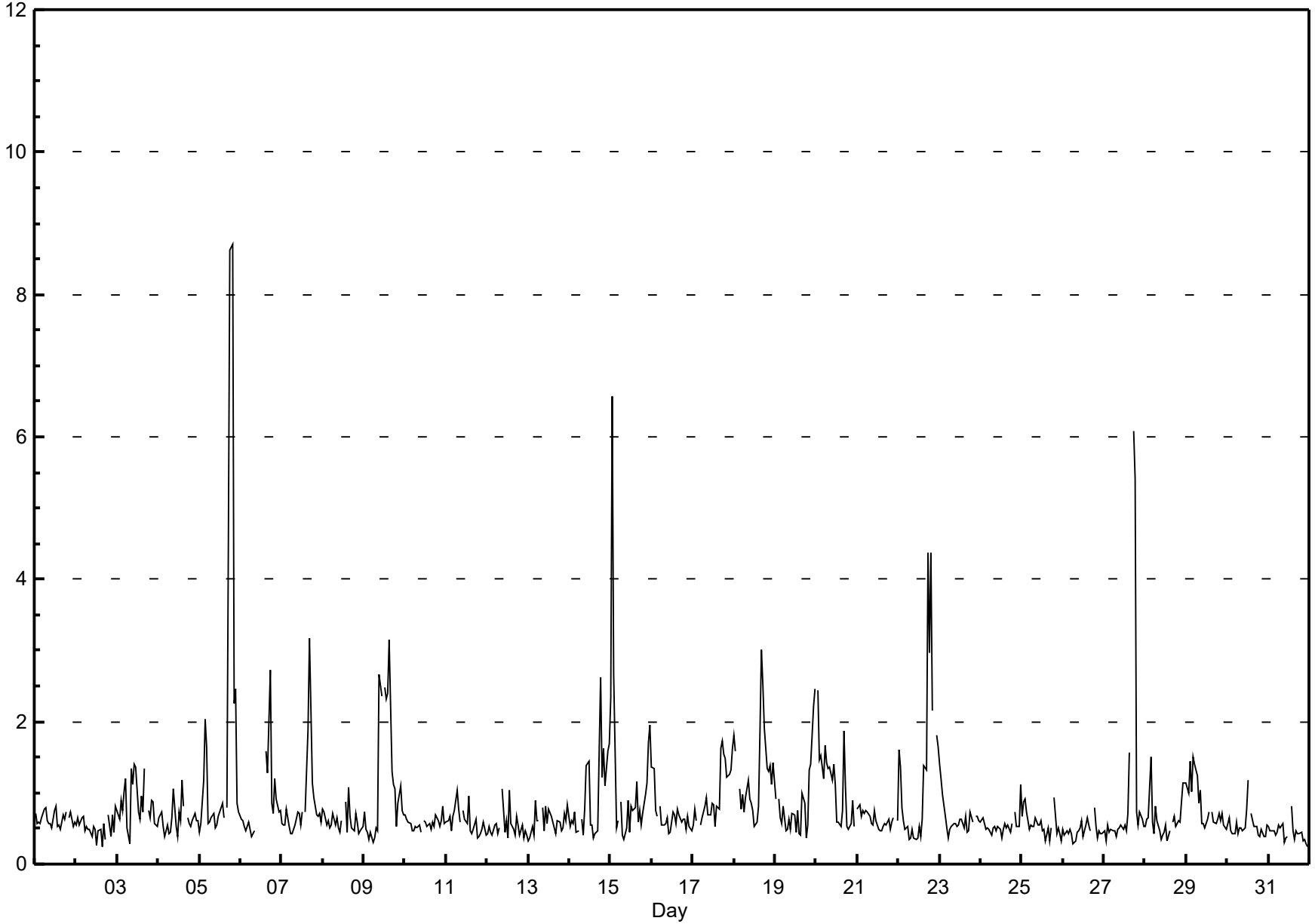
A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Hydrogen Sulphide (H_2S) - ppb

Valleyview - December 2018

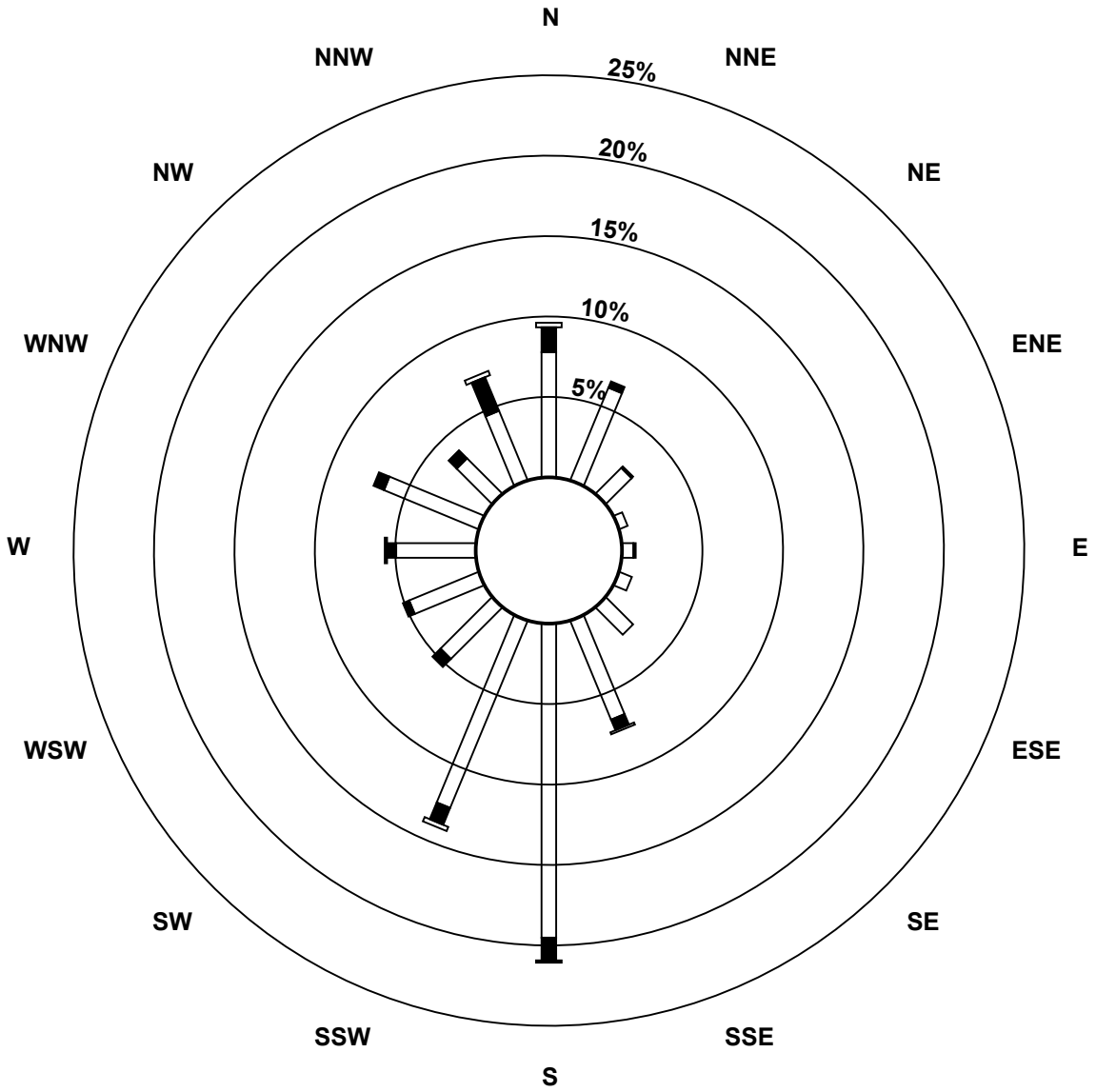


Peace Airshed Zone Association

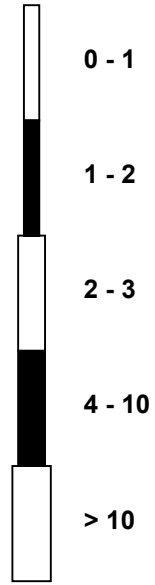
Pollutant Rose

Hydrogen Sulphide (H_2S) - ppb

Valleyview - December 2018



Pollutant Classes (ppb)

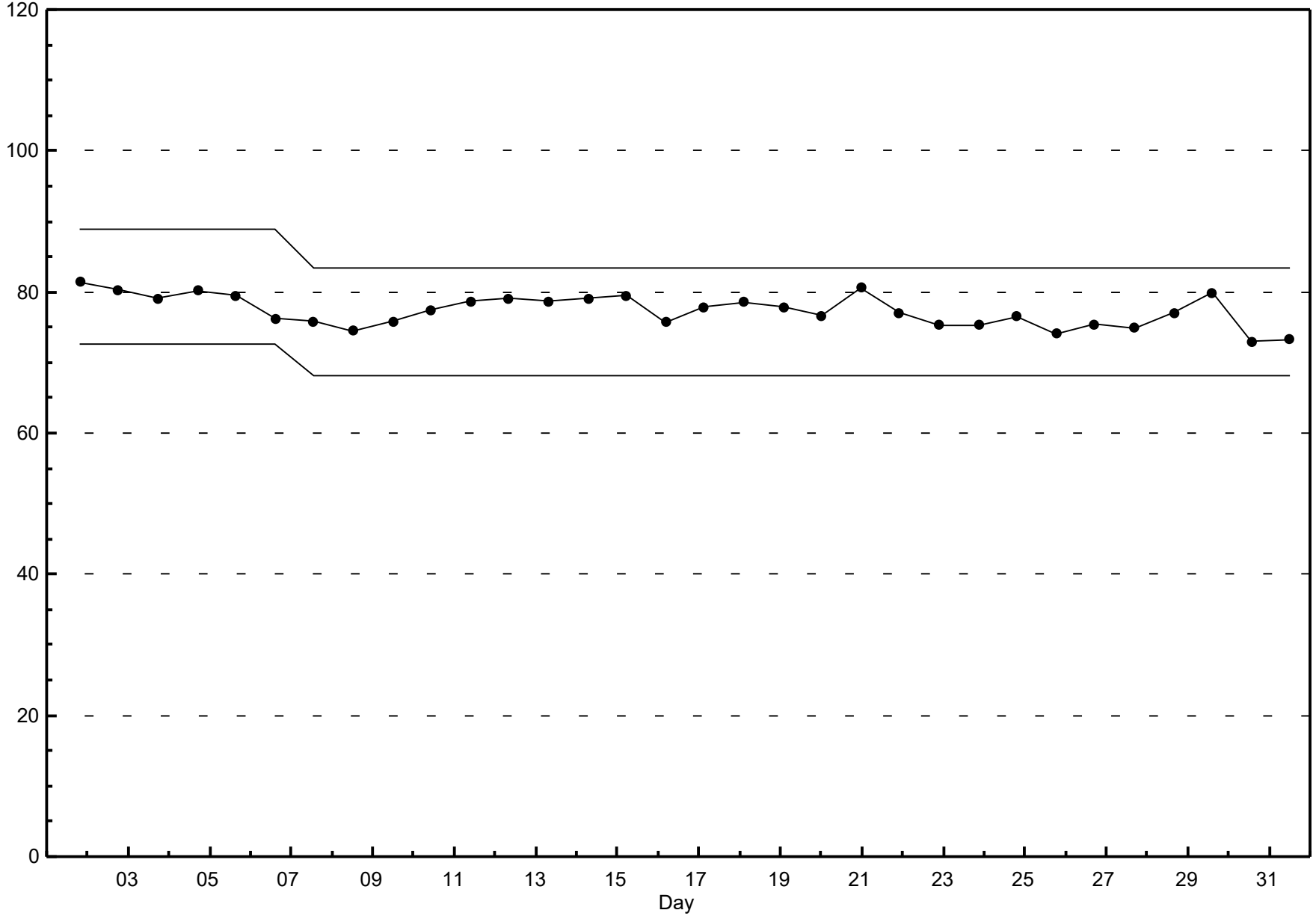


Peace Airshed Zone Association

Span Responses

Hydrogen Sulphide (H_2S)

Valleyview - December 2018



Peace Airshed Zone Association

Hourly Averages

External Temperature (ET) - °C

Valleyview - December 2018

Maximum Value: 8.4 °C on Dec 14 16:00

Maximum Daily Average: 3.9 °C on Dec 12

Minimum Value: -15 °C on Dec 6 09:00

Minimum Daily Average: -10.5 °C on Dec 6

Maximum Diurnal Average: -0.3 °C at hour 15

Minimum Diurnal Average: -5.4 °C at hour 8

Monthly Average: -3.78 °C

Percentiles: P_1 = -13.7 P_{10} = -10.1 Q_1 = -7.7 Median = -3.5 Q_3 = -0.2 P_{90} = 2.3 P_{99} = 6.4

Hours in Service:	744
Hours of Data:	744
Hours of Missing Data:	0
Hours of Calibration:	0
Percent Operational Time:	100.0

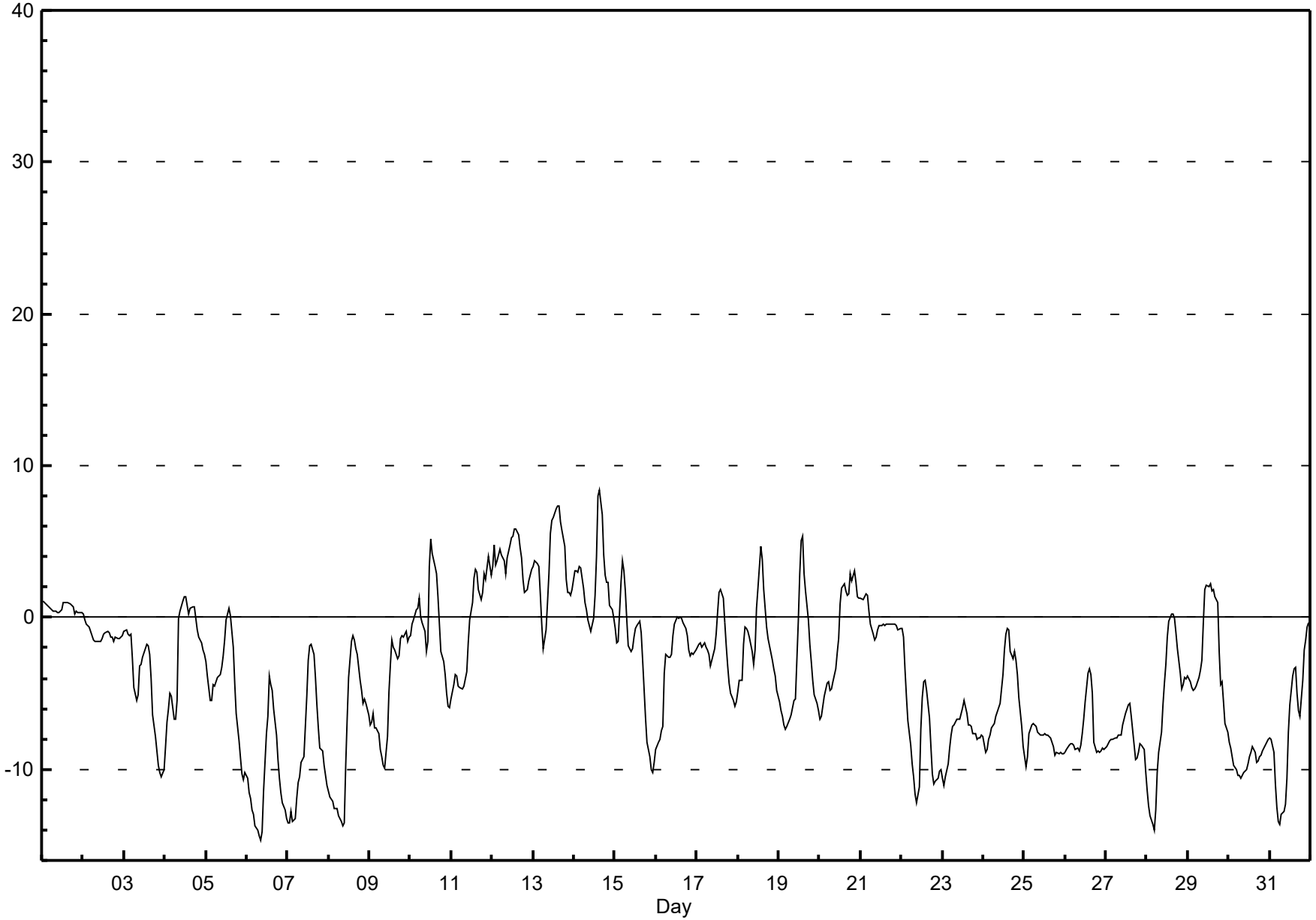
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Dec	1	1	1	1	1	1	0	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0	0.6	1.1
2-Dec	0	0	0	-1	-1	-1	-2	-2	-2	-2	-2	-1	-1	-1	-1	-1	-1	-1	-2	-1	-1	-1	-1	-1	-1.1	0.2
3-Dec	-1	-1	-1	-1	-1	-3	-5	-5	-5	-3	-3	-3	-2	-2	-2	-2	-4	-6	-8	-9	-10	-10	-11	-10	-4.5	-0.8
4-Dec	-8	-7	-6	-5	-5	-7	-7	-5	0	0	1	1	1	1	0	1	1	1	0	-1	-1	-2	-2	-2	-2.1	1.4
5-Dec	-3	-4	-5	-5	-4	-4	-4	-4	-4	-3	-2	-2	0	1	0	-1	-2	-4	-6	-8	-9	-10	-11	-10	-4.5	0.6
6-Dec	-11	-12	-12	-13	-13	-14	-14	-14	-15	-14	-11	-8	-7	-4	-4	-5	-6	-8	-9	-11	-12	-12	-13	-13	-10.5	-3.9
7-Dec	-13	-13	-13	-13	-13	-12	-11	-11	-10	-9	-7	-5	-3	-2	-2	-2	-4	-6	-7	-9	-9	-10	-10	-11	-8.5	-1.8
8-Dec	-11	-12	-12	-13	-13	-13	-13	-13	-14	-14	-10	-7	-4	-2	-1	-1	-2	-2	-4	-5	-6	-5	-6	-6	-7.8	-1.2
9-Dec	-7	-7	-6	-7	-7	-8	-9	-9	-10	-10	-8	-5	-3	-2	-2	-2	-3	-3	-1	-1	-1	-1	-2	-1	-4.8	-0.9
10-Dec	-1	0	0	0	1	1	0	0	-1	-2	-2	3	5	4	3	3	1	0	-2	-3	-4	-5	-6	-6	-0.4	5.2
11-Dec	-5	-4	-4	-4	-4	-5	-5	-4	-4	-4	-2	0	1	3	3	3	2	1	2	3	2	3	4	3	-0.6	4.1
12-Dec	3	5	3	4	5	4	4	4	3	4	5	5	5	6	6	5	5	4	3	2	2	2	3	3	3.9	5.8
13-Dec	3	4	4	3	2	0	-2	-1	1	3	6	6	7	7	7	7	6	6	5	2	2	2	1	2	3.4	7.3
14-Dec	3	3	3	3	3	2	1	0	0	-1	-1	0	1	4	8	8	7	4	3	2	2	1	0	0	2.5	8.4
15-Dec	-1	-2	-2	2	4	3	2	0	-2	-2	-2	-1	-1	0	0	-1	-3	-5	-7	-8	-9	-10	-10	-10	-2.7	3.8
16-Dec	-9	-8	-8	-7	-7	-4	-2	-3	-3	-2	-1	0	0	0	0	0	0	-1	-1	-2	-3	-2	-2	-2	-2.9	0.0
17-Dec	-2	-2	-2	-2	-2	-2	-2	-2	-3	-3	-2	-1	0	2	2	1	0	-2	-3	-4	-5	-6	-6	-6	-2.1	1.8
18-Dec	-5	-4	-4	-2	-1	-1	-1	-1	-2	-3	-2	1	2	5	4	2	1	-1	-1	-2	-3	-3	-4	-5	-1.3	4.7
19-Dec	-6	-6	-7	-7	-7	-7	-7	-6	-6	-6	-5	0	3	5	5	3	2	0	-2	-3	-4	-5	-6	-6	-3.2	5.4
20-Dec	-7	-7	-6	-5	-4	-4	-5	-5	-4	-3	-2	-1	1	2	2	2	1	2	3	2	3	2	1	1	-1.3	3.1
21-Dec	1	1	1	2	1	0	0	-1	-1	-1	-1	-1	0	0	-1	0	0	0	0	0	0	-1	-1	-1	-0.2	1.6
22-Dec	-1	-1	-3	-5	-7	-8	-10	-11	-12	-12	-11	-7	-5	-4	-4	-5	-7	-9	-10	-11	-11	-11	-10	-10	-7.7	-0.7
23-Dec	-11	-11	-10	-10	-9	-8	-7	-7	-7	-7	-7	-6	-6	-5	-6	-7	-7	-7	-8	-8	-8	-8	-8	-8	-7.7	-5.5
24-Dec	-8	-9	-9	-8	-8	-7	-7	-6	-6	-6	-6	-4	-2	-1	-1	-1	-2	-3	-2	-3	-4	-5	-7	-8	-5.1	-0.7
25-Dec	-9	-10	-9	-8	-7	-7	-7	-7	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	-9	-9	-9	-9	-9	-9	-8.2	-7.0
26-Dec	-9	-9	-8	-8	-8	-8	-9	-9	-9	-8	-8	-7	-6	-4	-3	-4	-5	-8	-9	-9	-9	-9	-9	-9	-7.6	-3.3
27-Dec	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	-7	-6	-6	-6	-6	-6	-8	-9	-9	-9	-8	-8	-9	-10	-7.9	-5.6
28-Dec	-11	-12	-13	-14	-14	-13	-10	-9	-8	-6	-4	-3	-1	0	0	0	0	-1	-2	-4	-5	-4	-4	-4	-5.9	0.2
29-Dec	-4	-4	-5	-5	-5	-5	-4	-3	-3	0	2	2	2	2	2	2	1	1	-2	-4	-4	-6	-7	-8	-2.2	2.2
30-Dec	-8	-9	-9	-10	-10	-10	-10	-11	-10	-10	-10	-10	-9	-9	-9	-9	-10	-9	-9	-9	-9	-8	-8	-8	-9.3	-8.1
31-Dec	-8	-8	-9	-11	-13	-13	-14	-13	-13	-12	-11	-8	-6	-4	-3	-3	-5	-6	-6	-4	-2	-1	-1	0	-7.3	-0.3
	-5.0	-5.0	-5.1	-5.0	-5.0	-5.2	-5.4	-5.4	-5.2	-4.9	-3.9	-2.4	-1.3	-0.4	-0.3	-0.7	-1.6	-2.6	-3.5	-4.0	-4.3	-4.6	-4.8	-5.0	Diurnal Average	
	3.4	4.8	3.5	3.8	4.5	4.1	3.9	3.8	2.8	3.9	5.5	6.4	6.6	7.1	8.0	8.4	6.8	5.7	4.7	2.9	3.1	3.3	4.1	3.2	Diurnal Maximum	

Peace Airshed Zone Association

Hourly Averages

External Temperature (ET) - ^{o}C

Valleyview - December 2018



Peace Airshed Zone Association

Hourly Averages

Relative Humidity (RH) - %

Valleyview - December 2018

Maximum Value: 100.0 % on Dec 1 01:00

Maximum Daily Average: 99.6 % on Dec 1

Minimum Value: 42 % on Dec 12 15:00

Minimum Daily Average: 56.9 % on Dec 12

Maximum Diurnal Average: 88.6 % at hour 23

Minimum Diurnal Average: 77.7 % at hour 14

Monthly Average: 85.81 %

Percentiles: P_1 = 49.5 P_{10} = 71.7 Q_1 = 82.7 Median = 88.1 Q_3 = 92.7 P_{90} = 95.9 P_{99} = 100.0

Hours in Service:	744
Hours of Data:	744
Hours of Missing Data:	0
Hours of Calibration:	0
Percent Operational Time:	100.0

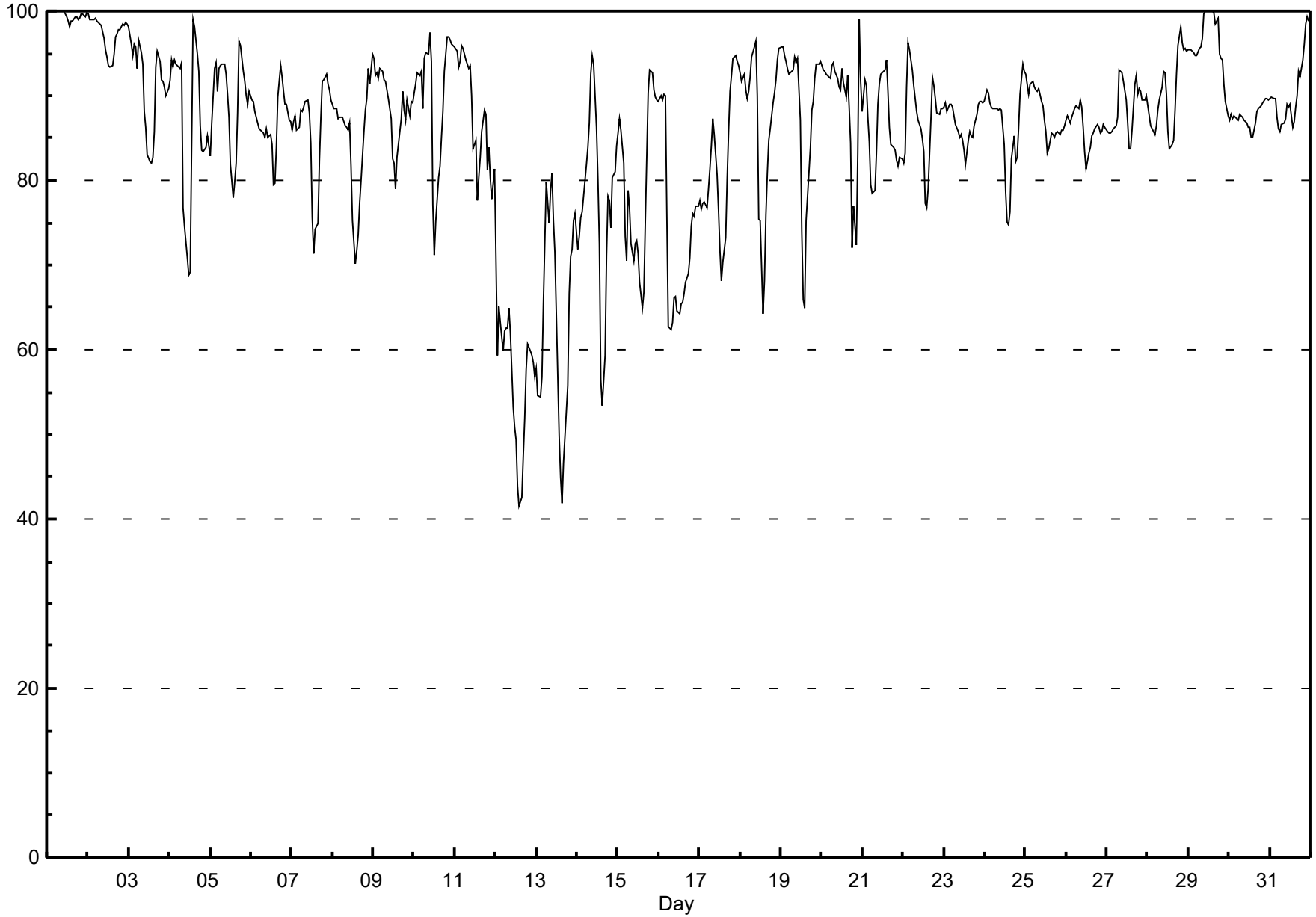
Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1-Dec	100	100	100	100	100	100	100	100	100	100	100	99	99	98	99	99	99	99	99	99	100	100	99	100	99.6	100.0
2-Dec	100	99	99	99	99	99	99	99	98	97	95	95	94	93	94	95	97	97	98	98	98	98	99	99	97.4	99.6
3-Dec	98	96	95	96	96	93	97	95	94	88	86	83	82	82	83	86	93	95	94	92	92	91	90	91	91.1	98.1
4-Dec	92	94	93	94	94	93	93	94	77	75	71	69	69	84	99	98	95	93	86	84	83	84	85	84	86.9	99.1
5-Dec	83	87	93	94	91	93	94	94	94	92	90	87	82	78	80	82	88	96	96	93	92	90	89	90	89.5	96.4
6-Dec	89	89	88	87	87	86	86	86	85	86	85	85	84	79	80	84	90	94	92	91	89	89	87	87	86.9	93.5
7-Dec	86	87	88	86	86	88	88	89	89	89	88	84	76	71	74	75	82	88	92	92	92	91	91	89	85.9	92.5
8-Dec	89	88	88	87	87	88	88	86	86	86	87	82	75	70	72	74	77	80	86	88	90	93	91	95	84.7	95.0
9-Dec	94	92	93	92	93	93	92	92	91	90	87	83	82	79	83	84	87	91	88	87	89	88	89	89	88.7	94.5
10-Dec	90	91	93	92	93	88	94	95	95	97	94	77	71	75	80	82	85	88	93	97	97	97	96	96	89.9	97.5
11-Dec	96	95	93	94	96	96	94	94	93	94	90	84	85	78	80	83	86	88	88	81	84	80	78	81	87.9	96.0
12-Dec	70	59	65	63	60	62	62	63	65	62	53	51	49	44	42	43	47	52	58	61	60	59	59	57	56.9	70.5
13-Dec	58	55	54	57	65	73	80	75	79	81	75	71	64	50	45	42	47	50	56	67	71	72	75	76	64.0	80.8
14-Dec	72	73	76	76	78	82	84	87	93	95	94	86	80	73	57	53	59	71	78	78	74	80	81	84	77.6	94.7
15-Dec	86	87	86	82	73	70	79	77	73	71	73	73	71	68	65	67	75	83	90	93	93	91	90	90	79.3	93.0
16-Dec	89	90	89	90	90	76	63	62	63	66	66	65	64	65	66	67	68	69	71	75	76	76	77	77	73.3	90.1
17-Dec	78	77	77	77	77	79	81	84	87	85	81	76	72	68	70	73	80	86	91	92	94	95	94	94	82.0	94.7
18-Dec	93	92	93	91	90	91	92	95	96	96	90	76	75	64	68	76	81	85	86	89	90	92	94	96	87.0	96.4
19-Dec	96	96	95	94	93	93	93	93	95	94	94	87	74	66	65	75	78	84	88	89	92	94	94	94	88.1	95.8
20-Dec	94	93	93	93	92	92	93	94	93	92	91	91	93	91	90	92	89	84	72	77	72	83	99	92	89.4	98.9
21-Dec	88	92	91	87	85	79	78	79	83	89	91	93	93	93	94	90	86	84	84	84	82	82	83	83	86.4	94.2
22-Dec	82	83	91	96	95	93	91	90	88	87	86	85	83	77	77	79	88	92	91	90	88	88	89	88	87.4	96.3
23-Dec	89	89	88	89	89	89	88	87	86	85	85	85	83	82	85	86	85	85	86	88	89	89	89	89	86.9	89.4
24-Dec	89	91	90	89	89	88	89	88	88	88	88	84	79	75	75	76	83	85	82	83	86	90	94	93	86.0	93.7
25-Dec	93	91	90	91	92	91	91	91	91	89	89	87	86	83	84	86	85	85	86	86	85	86	86	86	87.9	92.5
26-Dec	87	88	87	87	88	88	89	88	89	89	86	83	81	83	84	85	86	86	87	86	86	86	87	86	86.3	89.4
27-Dec	86	86	86	86	86	86	87	93	93	93	92	90	87	84	84	86	91	92	90	91	90	89	89	90	88.6	93.0
28-Dec	89	88	86	86	85	86	88	89	91	93	93	90	86	84	84	85	88	93	96	98	96	95	96	95	90.0	98.1
29-Dec	95	95	95	95	95	95	96	96	97	100	100	100	100	100	100	100	99	99	95	94	94	91	89	88	96.2	100.0
30-Dec	87	88	87	88	87	87	88	88	88	87	87	86	86	85	85	87	88	89	89	89	89	90	90	90	87.6	89.7
31-Dec	90	90	90	90	88	86	86	87	87	87	89	89	89	86	87	89	90	93	92	94	96	98	99	99	90.4	99.3
	88.0	87.8	88.2	88.1	87.7	87.2	87.8	87.9	87.9	87.8	86.4	83.1	80.5	77.7	78.3	79.9	83.0	85.7	86.4	87.2	87.5	88.0	88.6	88.6	Diurnal Average	
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.9	99.4	99.3	99.0	99.2	99.7	99.7	99.3	99.8	Diurnal Maximum	

Peace Airshed Zone Association

Hourly Averages

Relative Humidity (RH) - %

Valleyview - December 2018



Peace Airshed Zone Association

Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Valleyview - December 2018

Day	Hourly Period Ending At (MST)																								Daily	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	Average	Maximum
1 Spd	2	2	3	1	2	2	2	1	1	2	2	2	1	2	3	3	2	3	3	2	3	4	3	1	2.1	3.5
Dir	27	336	351	15	352	4	358	13	11	5	350	346	4	340	348	2	348	1	352	341	330	339	335	343	351	339
2 Spd	0	0	0	0	0	1	1	0	0	1	2	0	0	1	1	0	1	0	0	2	1	3	3	2	0.5	2.6
Dir	9	17	10	21	21	21	328	49	38	279	293	8	9	34	38	69	113	114	254	276	276	267	276	281	299	276
3 Spd	2	3	5	5	4	3	2	2	4	9	9	8	5	8	5	2	1	0	1	1	1	1	1	1	3.0	8.9
Dir	279	289	281	279	290	268	242	244	272	292	286	287	294	296	295	310	234	173	175	185	209	198	204	206	282	286
4 Spd	2	1	2	2	1	1	2	2	11	8	11	8	11	15	13	13	14	16	20	19	15	10	10	11	7.4	20.3
Dir	191	185	186	180	208	198	167	191	286	280	283	309	289	287	277	275	285	314	324	327	341	356	350	330	304	324
5 Spd	8	4	1	3	1	1	1	1	2	1	2	2	2	2	2	1	0	0	0	0	0	0	0	1	0.6	8.1
Dir	319	308	239	273	234	169	191	144	162	177	172	160	163	176	177	178	148	354	280	191	156	241	203	208	222	319
6 Spd	1	1	1	1	0	1	0	1	1	1	2	2	2	2	1	1	0	0	0	0	1	1	0	0	0.8	2.3
Dir	212	202	177	173	191	184	191	205	193	184	186	179	173	164	166	353	270	218	200	181	178	216	163	186	185	173
7 Spd	1	1	1	0	1	2	1	1	1	2	2	2	2	1	1	2	1	0	1	2	2	0	0	0	1.0	2.3
Dir	169	198	188	153	193	192	192	195	193	181	182	183	183	180	170	319	236	177	194	195	205	176	186	164	191	182
8 Spd	0	0	0	0	0	0	0	1	1	2	2	3	3	2	2	3	3	1	1	2	2	2	0	0	1.2	3.1
Dir	209	205	210	153	238	185	288	175	214	178	192	183	181	177	184	194	192	204	89	184	207	194	131	160	188	192
9 Spd	1	1	0	3	2	1	0	0	0	0	0	0	1	0	0	0	1	2	2	2	1	1	0	0	0.6	2.6
Dir	225	230	202	195	179	177	148	359	42	210	186	269	339	352	339	153	185	204	207	200	229	276	126	208	203	195
10 Spd	0	0	1	2	2	1	2	0	1	2	3	3	3	2	2	1	0	1	1	2	1	1	1	2	1.4	3.5
Dir	144	236	190	194	188	192	190	204	231	173	179	183	177	151	157	178	217	194	203	238	175	173	210	199	186	183
11 Spd	2	3	2	3	1	1	1	0	1	1	1	0	1	2	1	1	0	1	3	2	2	4	3	2	1.4	3.6
Dir	193	193	204	197	209	260	249	191	206	186	204	246	199	261	182	199	284	197	191	197	196	214	209	188	205	214
12 Spd	8	13	7	11	14	12	13	8	6	10	15	16	19	22	24	20	12	12	4	3	4	5	6	5	10.2	23.8
Dir	243	251	229	242	256	254	248	254	260	259	251	253	262	269	269	266	258	245	231	205	165	165	168	160	251	269
13 Spd	4	8	5	4	2	2	3	4	5	5	9	8	9	11	15	13	6	6	3	2	3	1	1	2	4.6	14.6
Dir	172	169	174	182	223	196	180	195	220	215	226	231	238	248	255	260	255	259	244	169	170	190	174	227	226	255
14 Spd	2	1	2	2	3	3	3	3	1	1	1	3	1	3	7	6	4	2	1	2	0	1	0	0	0.6	6.6
Dir	221	47	40	104	100	51	45	28	61	37	177	184	236	194	174	177	179	333	206	253	261	339	309	286	147	174
15 Spd	0	1	7	18	18	15	11	15	11	13	10	12	13	14	12	5	0	0	1	0	0	0	0	1	7.3	18.2
Dir	245	335	295	286	283	289	285	291	295	287	274	268	281	282	285	297	357	261	190	108	214	163	342	339	285	283
16 Spd	1	1	1	3	2	6	7	7	7	8	11	9	8	10	10	11	9	9	8	4	4	5	3	4	5.4	11.0
Dir	10	337	27	347	353	142	133	131	145	158	160	159	160	165	167	165	167	166	165	163	167	166	162	165	158	160
17 Spd	2	2	1	2	3	2	1	1	2	3	3	1	2	2	2	1	0	0	0	0	0	0	1	1	1.2	3.0
Dir	156	178	204	184	177	197	199	214	169	174	179	172	175	183	197	190	335	187	201	245	157	172	349	200	182	174
18 Spd	1	0	1	1	1	1	1	1	1	0	0	1	2	1	0	2	0	0	1	0	1	2	1	1	0.4	1.9
Dir	318	228	192	225	341	185	92	190	206	220	198	166	186	183	233	340	166	164	173	88	189	349	184	209	202	186
19 Spd	1	1	1	1	1	2	1	1	1	0	3	3	3	3	1	1	0	1	1	0	1	1	0	1	1.0	3.2
Dir	209	186	177	179	178	191	198	202	192	323	204	201	176	157	175	125	229	199	158	180	70	353	201	206	185	176
20 Spd	0	1	0	0	1	0	0	0	1	1	1	1	4	4	0	0	1	3	2	3	3	2	1	7	0.6	6.5
Dir	177	350	221	189	335	355	335	350	13	322	353	20	7	345	303	306	288	180	183	172	331	201	203	275	301	275
21 Spd	7	8	11	15	15	19	19	18	18	15	15	15	16	15	14	12	11	11	8	6	4	3	3	2	11.5	18.9
Dir	266	271	283	283	279	274	281	287	289	292	296	304	300	298	301	300	295	290	295	303	304	314	328	302	291	274
22 Spd	3	3	1	1	1	1	0	0	0	0	0	1	2	1	1	1	0	0	0	1	0	0	2	1	0.5	2.7
Dir	274	272	190	182	171	180	200	201	175	174	173	187	169	223	246	290	343	307	200	331	165	55	338	355	241	272

PAZA
Peace Airshed Zone Association

Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Valleyview - December 2018

Day	Hourly Period Ending At (MST)																								Daily	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	Average	Maximum
23 Spd	1	2	0	0	2	2	5	3	6	3	5	5	5	6	8	8	5	5	4	4	3	2	2	3	3.5	8.3
Dir	9	344	45	28	18	20	18	11	355	38	21	0	352	3	338	344	7	2	350	5	10	342	20	30	2	338
24 Spd	2	2	3	4	1	1	2	1	0	0	1	3	5	4	4	5	3	3	3	3	3	1	0	0	1.0	5.2
Dir	18	22	22	1	12	8	10	56	332	306	269	172	172	169	172	174	181	181	175	177	180	205	182	239	166	172
25 Spd	1	2	1	3	3	4	4	3	2	3	5	3	5	6	5	2	1	2	2	1	1	1	2	2	2.6	6.2
Dir	229	356	24	10	15	29	15	17	20	20	21	31	17	1	355	19	85	47	24	6	23	26	25	27	17	1
26 Spd	2	2	2	2	2	4	2	2	3	3	1	2	2	8	5	4	3	3	5	5	4	4	5	5	2.0	7.9
Dir	22	30	354	8	20	28	356	42	18	3	6	341	349	161	131	125	119	8	2	352	356	354	359	353	21	161
27 Spd	2	1	1	2	1	1	1	2	1	2	1	1	1	1	1	2	1	1	1	1	3	2	1	1	0.6	2.6
Dir	29	41	49	26	55	121	176	230	244	249	175	165	253	351	234	318	337	346	352	341	357	9	6	324	343	357
28 Spd	0	0	0	0	0	0	1	1	1	0	0	0	1	2	2	2	1	1	1	1	0	0	0	0	0.5	2.3
Dir	322	188	191	164	186	169	11	175	194	255	283	171	182	178	179	180	189	174	184	217	324	278	340	90	187	179
29 Spd	0	0	0	0	1	0	1	0	1	5	6	7	7	4	4	7	6	3	12	8	6	9	12	11	0.5	11.9
Dir	212	163	37	152	334	29	333	195	26	130	127	128	134	143	166	172	173	175	356	348	331	302	321	325	348	321
30 Spd	12	13	13	8	9	6	7	4	4	5	5	4	3	2	1	0	1	2	1	1	2	3	3	5	3.0	12.8
Dir	323	326	328	338	336	360	340	328	297	296	310	307	293	246	245	125	167	171	173	176	176	169	171	173	317	326
31 Spd	3	3	2	0	0	0	1	1	1	1	2	2	3	2	2	4	2	1	1	3	5	5	5	4	2.2	5.2
Dir	173	174	176	162	242	268	184	214	219	210	201	185	182	181	179	176	189	217	200	186	171	167	172	176	180	167
Spd	1.0	1.1	1.1	1.6	1.7	1.3	1.2	1.2	1.6	1.7	2.1	1.9	2.1	2.5	2.5	2.0	1.4	1.2	1.0	1.0	0.5	0.6	0.6	0.8	Diurnal Average	
Dir	274	276	279	276	284	277	283	275	278	269	253	250	254	259	257	253	245	265	302	297	296	283	314	289		
Spd	11.8	13.2	12.5	18.0	18.2	18.9	18.8	17.7	18.3	14.8	15.2	15.7	18.8	21.8	23.8	19.9	14.2	16.1	20.3	19.4	14.6	9.5	11.9	11.4	Diurnal Maximum	
Dir	323	251	328	286	283	274	281	287	289	292	251	253	262	269	269	266	285	314	324	327	341	356	321	325		

Maximum Speed Value: 24 km/h on Dec 12 15:00
Minimum Speed Value: 0 km/h on Dec 5 19:00
Maximum Daily Speed Average: 11.5 km/h on Dec 21
Minimum Daily Speed Average: 0.4 km/h on Dec 28
Maximum Diurnal Speed Average: 2.5 km/h at hour 15
Minimum Diurnal Speed Average: 0.5 km/h at hour 21

Monthly Average Velocity: 1.35 km/h 269.2 deg
Speed Percentiles: P_1 = 0.1 P_{10} = 0.3 Q_1 = 0.7 Median = 1.7 Q_3 = 3.7 P_{90} = 8.8 P_{99} = 18.6
All monthly, daily, and diurnal averages have been calculated using vector methods

Hours in Service: 744
Hours of Data: 744
Hours of Missing Data: 0

Percent Operational Time: 100.0

Frequency Distribution

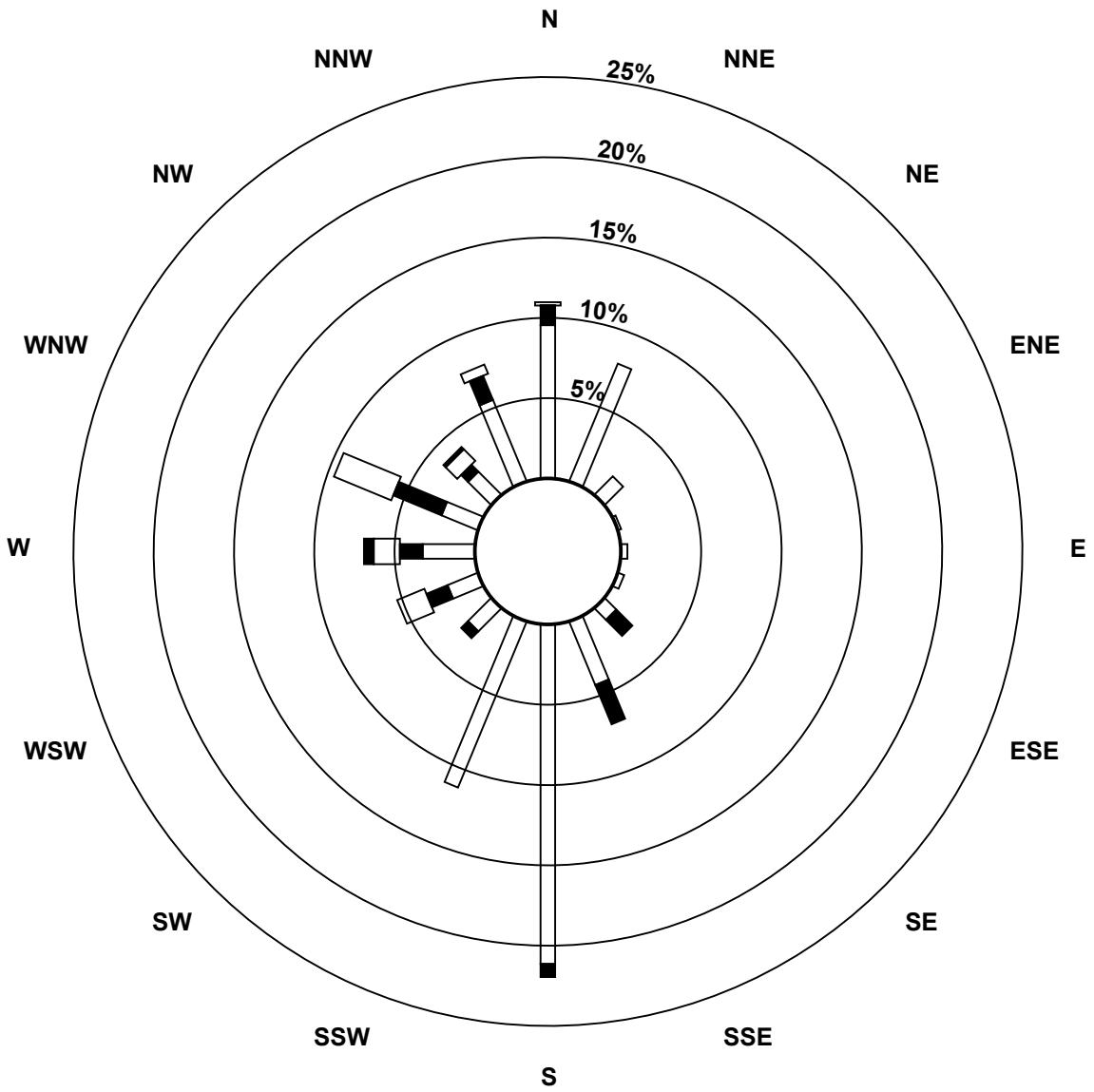
Direction	Speed Range (km/h) 0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total
North	111	18	2	0	0	0	131
NorthEast	40	0	0	0	0	0	40
East	10	0	0	0	0	0	10
SouthEast	25	8	0	0	0	0	33
South	249	21	0	0	0	0	270
SouthWest	88	7	2	0	0	0	97
West	38	18	33	3	0	0	92
NorthWest	42	12	15	2	0	0	71
Total	603	84	52	5	0	0	744

Peace Airshed Zone Association

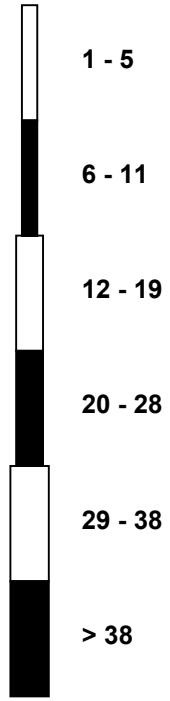
Wind Rose

Wind Speed (WS) (km/h)

Valleyview - December 2018



Wind Speed Classes (km/h)



Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Valleyview - December 2018

Maximum Speed: 24 km/h on Dec 12 15:00

Maximum Daily Speed Average: 11.9 km/h on Dec 21

Minimum Speed: 0 km/h on Dec 5 19:00

Minimum Daily Speed Average: 0.8 km/h on Dec 28

Maximum Diurnal Speed Average: 5.3 km/h at hour 14

Minimum Diurnal Speed Average: 2.4 km/h at hour 1

Monthly Average Speed: 3.41 km/h

Percentiles: P_1 = 0.2 P_{10} = 0.5 Q_1 = 1.0 Median = 1.9 Q_3 = 3.8 P_{90} = 8.9 P_{99} = 18.8

Hours in Service: 744

Hours of Data: 744

Hours of Missing Data: 0

Percent Operational Time: 100.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Dec	2	2	3	1	2	2	2	1	1	2	2	2	1	2	3	3	2	3	3	2	3	4	3	1	2.2	3.6
2-Dec	0	0	0	0	1	1	1	0	0	1	2	0	0	1	1	0	1	0	0	2	1	3	3	2	0.9	2.7
3-Dec	2	3	5	5	4	3	2	2	4	9	9	8	5	8	5	2	1	1	1	1	1	1	1	1	3.4	9.0
4-Dec	2	1	2	2	1	1	2	3	11	8	11	8	11	16	13	13	15	16	20	19	15	10	10	11	9.3	20.5
5-Dec	8	4	1	3	2	1	1	1	2	1	2	2	2	2	2	1	0	0	0	0	0	0	1	2	1.7	8.2
6-Dec	1	1	1	1	0	1	0	1	1	1	2	2	2	2	1	1	0	0	0	0	1	1	1	0	1.0	2.4
7-Dec	1	2	1	1	1	2	1	1	2	2	2	2	2	1	1	2	1	0	1	2	2	0	0	1	1.3	2.4
8-Dec	0	0	0	0	1	0	1	1	1	2	2	3	3	2	2	3	3	1	1	2	2	2	1	1	1.4	3.1
9-Dec	1	1	1	3	2	1	1	1	0	0	0	1	1	0	0	0	1	2	2	2	1	2	2	1	1.1	2.7
10-Dec	0	1	2	2	2	2	2	1	1	2	4	4	3	2	2	1	1	1	1	2	1	1	1	2	1.6	3.5
11-Dec	2	3	3	3	1	1	1	1	1	1	1	1	3	3	1	1	0	1	3	2	2	4	3	2	1.8	3.8
12-Dec	9	13	7	11	14	12	13	8	6	10	15	16	19	22	24	20	13	12	4	3	4	5	7	5	11.4	24.1
13-Dec	5	8	5	4	2	2	3	4	5	5	9	9	10	11	15	13	6	6	3	2	3	2	1	3	5.6	14.8
14-Dec	2	2	2	2	3	4	3	3	2	1	1	3	1	3	7	6	4	3	2	3	1	2	1	1	2.5	6.6
15-Dec	1	3	8	18	18	16	11	15	11	14	10	12	14	14	12	5	1	2	1	0	1	0	1	1	7.9	18.4
16-Dec	1	2	1	3	3	6	7	7	7	8	11	9	8	10	10	11	9	9	8	4	4	5	3	4	6.3	11.1
17-Dec	2	2	1	2	3	3	2	2	2	3	3	2	2	2	2	1	0	0	0	0	1	1	1	1	1.6	3.1
18-Dec	1	1	1	2	2	2	2	1	2	1	0	1	2	1	0	2	0	0	1	0	1	3	1	1	1.3	2.7
19-Dec	1	1	1	1	1	2	1	1	2	1	3	3	3	3	1	2	2	1	1	1	1	1	1	1	1.5	3.3
20-Dec	1	2	0	0	1	1	0	1	1	2	2	1	5	4	1	0	2	3	3	4	3	2	1	7	2.0	6.6
21-Dec	8	8	12	15	15	19	19	18	19	15	15	16	17	16	15	12	12	11	8	6	4	3	3	2	11.9	19.2
22-Dec	3	3	1	1	1	1	0	0	0	0	0	1	2	1	1	1	1	1	0	1	0	1	2	1	1.1	3.0
23-Dec	1	2	1	1	2	2	5	3	6	4	5	6	5	6	8	8	5	5	4	4	3	3	2	3	3.9	8.3
24-Dec	2	2	3	4	2	2	2	1	1	1	1	3	5	4	4	5	3	3	3	3	3	1	1	1	2.5	5.2
25-Dec	1	3	1	3	3	4	5	3	2	3	5	3	5	6	5	2	2	2	2	2	2	1	2	2	2.9	6.3
26-Dec	3	3	2	3	2	4	2	2	3	3	1	2	2	8	5	4	4	4	5	6	4	4	5	5	3.6	8.1
27-Dec	2	2	1	2	1	1	1	2	1	2	1	1	2	2	1	2	1	1	1	1	3	2	2	1	1.4	2.6
28-Dec	0	0	0	0	0	0	1	1	1	1	1	0	1	2	2	2	1	1	1	1	1	0	1	0	0.8	2.4
29-Dec	0	1	1	0	1	1	2	0	2	5	6	8	8	4	4	7	6	3	12	8	7	9	12	11	4.9	12.0
30-Dec	12	13	13	8	9	6	7	4	4	5	6	4	3	2	1	0	1	2	1	1	2	3	3	5	4.7	12.8
31-Dec	3	3	2	0	0	0	1	1	1	1	2	2	3	2	2	4	2	1	1	4	5	5	5	4	2.3	5.3
	2.4	2.9	2.7	3.3	3.3	3.3	3.2	2.9	3.3	3.7	4.3	4.3	4.9	5.3	5.0	4.4	3.1	3.1	3.0	2.9	2.6	2.6	2.5	2.7	Diurnal Average	
	11.9	13.3	12.6	18.3	18.4	19.2	19.1	18.0	18.5	14.9	15.3	15.9	19.0	22.2	24.1	20.1	14.5	16.3	20.5	19.5	14.8	9.6	12.0	11.5	Diurnal Maximum	

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

Peace Airshed Zone Association

Hourly Standard Deviations

Wind Direction (WD) - deg

Valleyview - December 2018

Maximum Value: 99.0 deg on Dec 9 22:00

Minimum Value: 5.8 deg on Dec 4 20:00

Percentiles: P_1 = 6.3 P_{10} = 9.2 Q_1 = 12.2 Median = 22.7 Q_3 = 44.9 P_{90} = 72.5 P_{99} = 90.4

Hours in Service:	744
Hours of Data:	744
Hours of Missing Data:	0
Hours of Calibration:	0
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily
	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	24	8	56	73	13	20	14	14	17	18	29	14	38	12	11	12	11	9	9	13	9	9	13	18	72.8
2-Dec	11	18	10	15	16	37	30	30	40	50	33	11	18	22	26	50	42	41	69	23	29	28	20	24	68.6
3-Dec	28	19	15	26	25	26	32	27	30	11	9	10	13	12	14	13	33	18	11	43	16	16	20	27	43.0
4-Dec	12	24	11	27	46	32	31	42	10	14	29	24	11	10	10	10	12	9	6	6	8	9	11	7	45.9
5-Dec	9	16	38	50	65	24	31	14	18	14	12	13	22	13	21	16	30	33	85	30	45	61	55	39	84.6
6-Dec	35	19	50	23	22	24	24	27	21	13	9	6	9	12	89	19	39	23	25	34	35	36	69	41	88.6
7-Dec	45	20	16	64	34	11	47	23	20	11	19	32	16	39	56	63	34	35	14	10	9	70	50	32	69.5
8-Dec	54	35	29	25	47	27	74	27	31	21	13	6	9	14	24	16	7	22	64	21	15	22	71	76	76.0
9-Dec	28	60	62	13	9	53	75	89	76	50	60	87	56	81	83	86	41	19	23	13	52	99	75	97	99.0
10-Dec	83	66	38	13	15	76	12	40	36	13	11	8	9	12	12	13	54	25	14	28	23	29	12	9	83.2
11-Dec	11	8	16	10	78	39	33	71	62	54	23	76	60	72	23	45	76	40	11	15	12	16	15	33	77.5
12-Dec	28	7	20	13	8	8	6	12	15	9	8	10	10	10	8	8	10	10	17	9	15	9	6	26	27.6
13-Dec	40	7	7	19	18	21	10	10	13	12	19	12	12	8	10	8	12	20	25	34	8	30	42	57	57.3
14-Dec	31	63	30	17	23	30	21	11	56	65	44	6	56	17	9	10	13	77	35	56	69	68	85	92	91.7
15-Dec	83	91	77	9	10	11	15	13	11	10	14	9	10	9	10	22	72	79	49	64	73	44	78	37	91.0
16-Dec	67	39	24	21	60	9	11	9	11	10	10	11	11	7	8	8	7	8	10	11	9	10	20	19	67.2
17-Dec	27	31	43	19	26	29	41	44	23	11	8	27	22	12	27	64	77	59	73	85	76	80	82	64	85.0
18-Dec	80	59	40	84	89	73	75	22	23	92	69	14	25	61	56	56	52	65	42	69	40	76	47	28	91.9
19-Dec	12	52	14	21	20	16	15	25	20	76	14	15	12	37	23	52	84	76	42	80	62	69	80	54	83.8
20-Dec	55	70	67	32	65	80	74	93	82	69	90	74	20	21	78	82	66	14	42	64	29	38	28	9	93.1
21-Dec	11	16	11	9	10	10	10	10	10	9	10	10	9	9	11	10	12	12	11	11	12	17	24	24	24.4
22-Dec	33	37	30	20	20	19	13	31	41	30	46	25	12	35	29	27	54	83	87	58	37	70	33	57	86.7
23-Dec	79	35	75	79	25	36	11	51	16	19	14	15	19	16	7	6	14	13	10	17	20	17	14	27	79.1
24-Dec	68	19	20	31	41	58	34	48	80	83	52	24	8	9	9	7	6	6	7	9	8	47	72	81	82.5
25-Dec	52	48	57	22	17	17	20	16	13	17	12	20	17	12	14	39	27	36	22	19	21	33	27	26	56.5
26-Dec	23	35	37	25	20	17	20	21	25	11	20	16	45	17	11	8	29	39	17	8	11	8	9	14	44.8
27-Dec	22	19	30	40	46	29	30	43	54	24	34	52	67	55	55	28	70	24	66	13	10	14	26	31	70.3
28-Dec	72	64	70	81	47	67	68	73	47	84	61	31	21	11	14	7	14	28	34	73	96	85	56	69	95.8
29-Dec	36	78	93	68	42	82	24	83	54	18	8	13	11	13	13	11	11	40	12	12	24	11	8	7	92.6
30-Dec	6	6	6	13	8	8	16	12	15	15	13	15	21	30	75	43	23	16	32	24	17	10	13	8	75.0
31-Dec	13	11	8	70	65	89	27	30	32	37	23	14	11	10	10	9	14	23	19	10	7	10	11	17	88.5
	83.4	91.0	92.6	83.5	88.7	88.5	74.6	93.1	81.5	91.9	89.6	87.1	67.1	81.4	88.6	85.6	83.8	82.5	86.7	85.0	95.8	99.0	84.9	96.6	

PAZA
Donnelly Station
Monthly Summary Tables, Graphs and Roses

Peace Airshed Zone Association

Hourly Averages

Sulphur Dioxide (SO_2) - ppb

Donnelly - December 2018

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 1.9 ppb on Dec 30 05:00 Maximum Daily Average: 0.9 ppb on Dec 7

Minimum Value: 0 ppb on Dec 1 01:00 Minimum Daily Average: 0.0 ppb on Dec 14
Maximum Diurnal Average: 0.3 ppb at hour 17 Minimum Diurnal Average: 0.2 ppb at hour 11
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} = 0.6 P_{99} = 1.6

Hours in Service:	744
Hours of Data:	709
Hours of Missing Data:	35
Hours of Calibration:	35
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-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	0.0	0.1
2-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	0.4
3-Dec	0	0	1	1	1	1	0	0	0	0	0	0	0	0	1	1	1	A	0	0	0	0	0	0	0.4	1.0
4-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
5-Dec	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.1	0.4
6-Dec	0	0	0	0	0	1	1	1	1	0	1	1	1	1	A	0	0	0	1	1	1	1	1	0	0.6	1.2
7-Dec	0	0	0	0	1	1	1	1	1	1	1	1	0	A	1	2	2	2	2	1	1	1	1	1	0.9	1.9
8-Dec	1	1	1	0	0	0	1	1	1	1	1	2	A	1	1	1	0	1	1	1	1	1	1	1	0.8	1.5
9-Dec	1	1	1	0	0	1	1	1	0	0	0	A	0	0	0	0	0	0	0	0	1	1	0	0	0.4	0.8
10-Dec	0	0	0	0	0	1	1	1	1	1	A	1	2	2	1	0	0	0	1	1	0	0	0	0	0.6	1.6
11-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
12-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	0.4
13-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	0.4
14-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
15-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	0.3
16-Dec	0	0	0	0	A	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0.3	1.0
17-Dec	0	1	1	A	0	0	0	0	0	0	0	0	2	2	1	0	0	0	0	0	0	0	0	0	0.5	1.9
18-Dec	0	0	A	0	0	0	0	0	0	0	0	0	C	C	C	0	0	0	0	0	0	0	1	1	0.2	0.8
19-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	0.2	1.2
20-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	0.5
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	0.1	0.1
22-Dec	0	0	0	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	A	0	0	0.4	0.7
23-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	0.3
24-Dec	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	A	1	0	0	0	0.3	0.7
25-Dec	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0.2	0.5
26-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
27-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
28-Dec	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	1	0	0	0	0	0	0	0.2	1.4
29-Dec	1	1	1	1	1	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.3	0.6
30-Dec	0	1	1	1	2	1	1	1	1	1	0	0	0	A	0	0	0	0	0	0	1	1	1	0	0.6	1.9
31-Dec	1	1	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.2	0.6
	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	Diurnal Average	
	1.2	1.0	1.0	1.3	1.9	1.3	1.2	1.1	0.9	0.9	1.1	1.5	1.9	1.9	1.1	1.7	1.9	1.8	1.9	1.2	1.0	1.2	1.3	1.4	Diurnal Maximum	

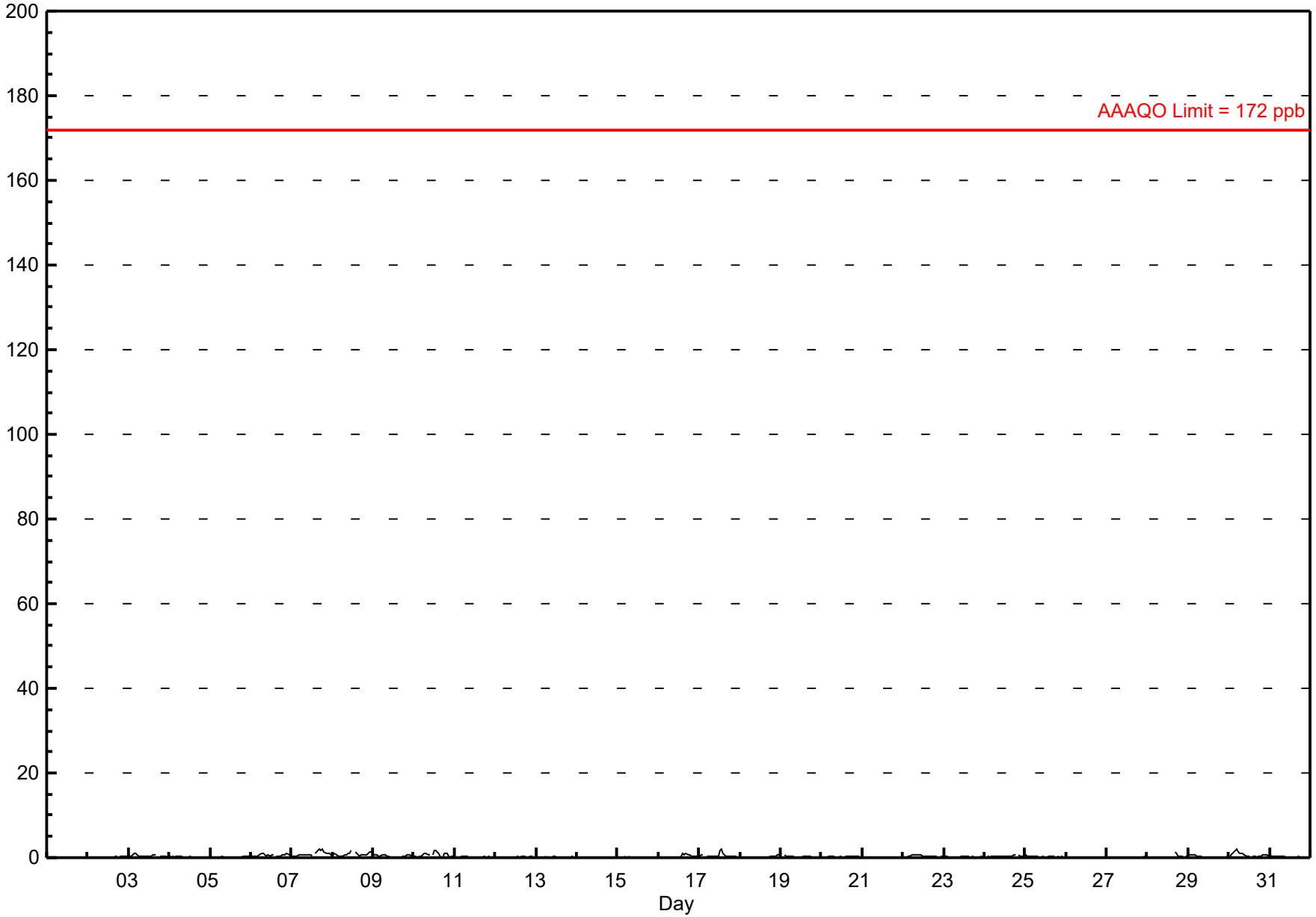
C - Calibration A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb 30-day 11 ppb

Peace Airshed Zone Association

Hourly Averages

Sulphur Dioxide (SO_2) - ppb

Donnelly - December 2018



Peace Airshed Zone Association

Hourly Maximums

Sulphur Dioxide (SO_2) - ppb

Donnelly - December 2018

Maximum Value: 2.5 ppb on Dec 17 13:00

Maximum Daily Average: 1.4 ppb on Dec 7

Minimum Value: 0 ppb on Dec 14 06:00

Minimum Daily Average: 0.4 ppb on Dec 14

Maximum Diurnal Average: 0.8 ppb at hour 7

Minimum Diurnal Average: 0.6 ppb at hour 11

Monthly Average: 0.72 ppb

Percentiles: $P_1 = 0.3$ $P_{10} = 0.4$ $Q_1 = 0.5$ Median = 0.6 $Q_3 = 0.8$ $P_{90} = 1.2$ $P_{99} = 2.2$

Hours in Service:	744
Hours of Data:	709
Hours of Missing Data:	35
Hours of Calibration:	35
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	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	1	0	0	0	0	0	1	0	0	0	0	0	A	0	0	0	0	0.4	0.5
2-Dec	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	A	1	1	1	1	1	0.5	1.0
3-Dec	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	0	0.9	1.8
4-Dec	1	1	1	0	1	1	1	1	1	1	1	0	1	1	0	0	A	0	0	1	0	0	0	0	0.5	0.8
5-Dec	0	0	0	1	0	1	0	1	1	1	1	1	0	0	1	A	1	1	1	1	1	1	1	1	0.6	0.8
6-Dec	1	1	1	1	1	2	2	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1.0	1.6
7-Dec	1	1	1	1	1	1	1	1	1	1	1	1	1	A	2	2	2	2	2	2	2	1	1	1	1.4	2.5
8-Dec	1	2	1	1	1	1	1	1	1	2	2	2	A	2	1	1	1	1	1	1	1	2	2	2	1.3	2.0
9-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	0.9	1.5
10-Dec	1	0	0	1	1	1	2	1	1	1	A	2	2	2	2	1	1	1	2	2	1	1	1	1	1.2	2.2
11-Dec	1	1	0	1	1	0	1	1	1	A	1	1	1	1	0	1	0	1	1	0	1	0	0	0	0.5	0.8
12-Dec	0	0	0	0	0	1	0	0	A	0	1	0	1	1	1	1	1	1	0	0	1	1	0	0	0.5	1.2
13-Dec	1	0	0	0	0	0	2	A	1	1	1	1	1	0	0	0	0	0	0	0	1	1	0	1	0.6	1.8
14-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	0.4	0.5
15-Dec	0	1	1	0	1	A	1	1	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	0	0.5	1.2
16-Dec	0	0	0	0	A	0	0	1	0	0	0	0	0	1	1	1	2	1	1	1	1	1	1	1	0.7	1.6
17-Dec	1	1	1	A	1	1	1	1	1	1	1	1	3	3	2	2	1	1	1	1	0	1	0	1	1.0	2.5
18-Dec	0	0	A	0	1	0	0	1	1	0	1	0	C	C	C	0	1	1	0	1	1	1	1	1	0.6	1.3
19-Dec	2	A	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	0	0	0	0	1	0.7	1.7
20-Dec	A	0	1	0	0	1	1	1	1	1	1	1	0	0	1	1	1	1	1	1	1	1	1	A	0.6	1.0
21-Dec	1	1	0	0	0	1	0	1	1	0	1	0	0	0	1	1	0	0	1	1	0	0	A	0	0.5	0.8
22-Dec	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	0.8	1.3
23-Dec	0	1	1	1	1	0	0	0	1	1	0	1	1	1	0	1	0	1	1	0	A	0	1	1	0.5	0.7
24-Dec	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	0.7	1.3
25-Dec	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	0.7	1.1
26-Dec	1	0	1	0	1	0	1	1	1	0	1	1	0	0	0	0	0	A	0	0	0	1	0	0	0.5	0.6
27-Dec	1	1	0	1	1	0	0	1	0	0	0	1	0	0	0	0	A	0	0	1	1	1	1	1	0.5	0.8
28-Dec	1	1	0	1	0	0	0	1	0	1	0	0	1	0	0	A	2	2	1	1	1	0	1	1	0.7	1.8
29-Dec	1	1	1	1	1	1	1	0	1	1	1	0	1	0	A	0	0	1	0	0	1	1	0	1	0.7	1.2
30-Dec	1	2	1	2	2	2	2	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1.2	2.5
31-Dec	1	1	1	1	1	1	1	1	1	1	0	0	A	0	0	1	1	1	1	1	0	0	0	0	0.6	1.2
	0.7	0.7	0.7	0.7	0.8	0.7	0.8	0.7	0.7	0.7	0.6	0.7	0.7	0.7	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	Diurnal Average	
	1.7	1.7	1.4	1.9	2.5	1.7	1.8	1.5	1.4	1.5	1.5	2.0	2.5	2.5	2.4	2.2	2.3	2.2	2.5	2.1	1.7	1.5	1.9	1.9	Diurnal Maximum	

C - Calibration

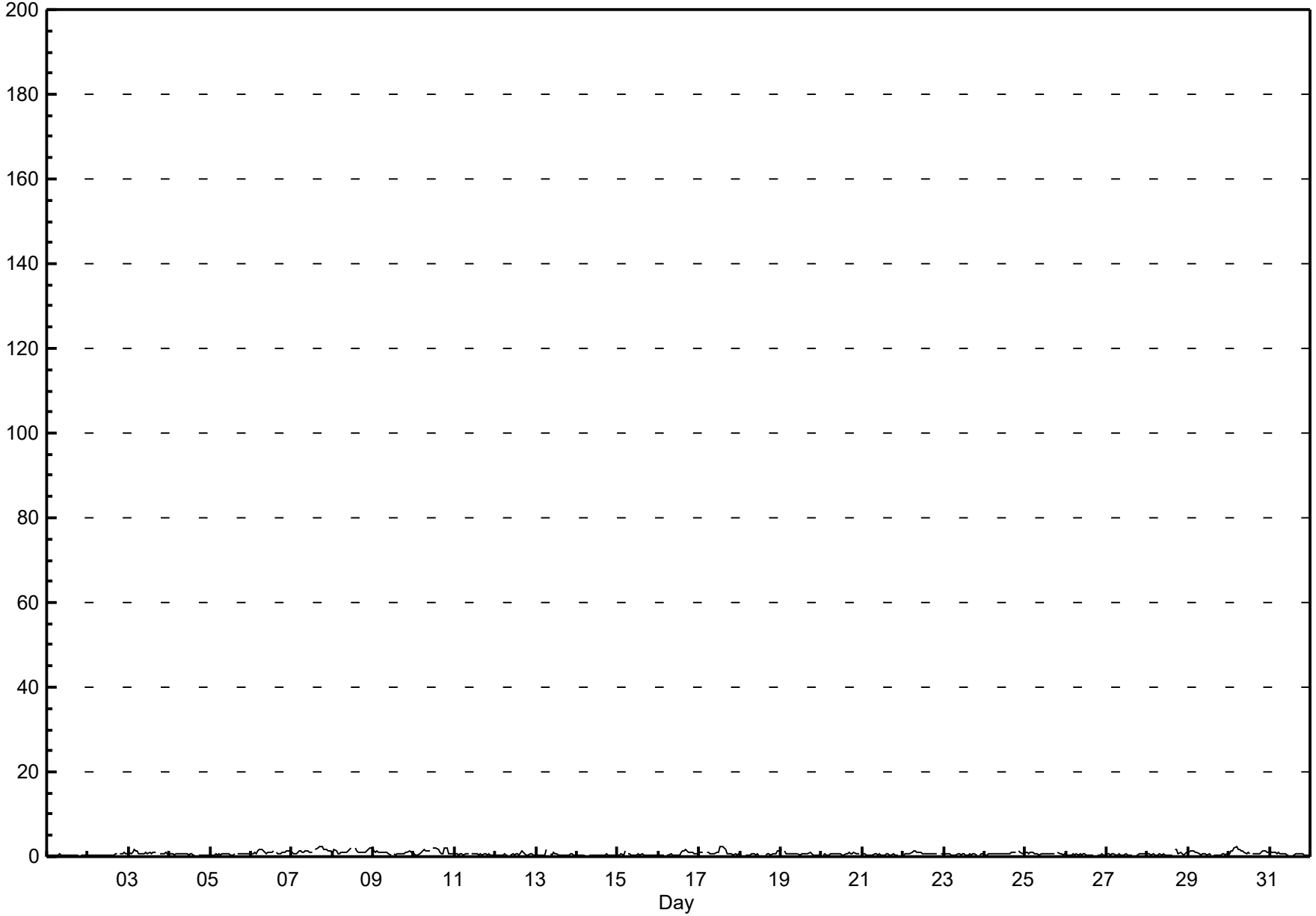
A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Sulphur Dioxide (SO_2) - ppb

Donnelly - December 2018

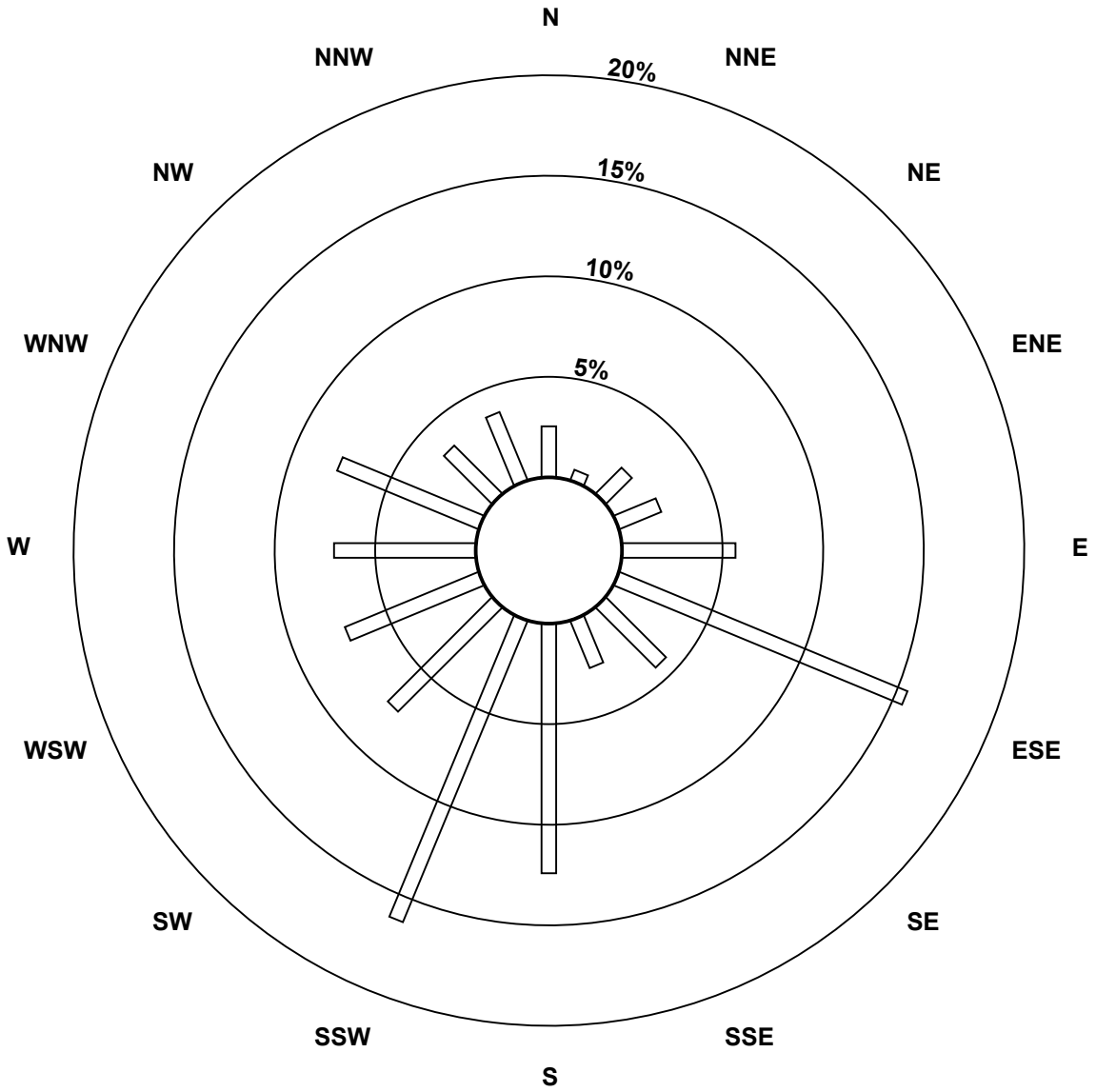


Peace Airshed Zone Association

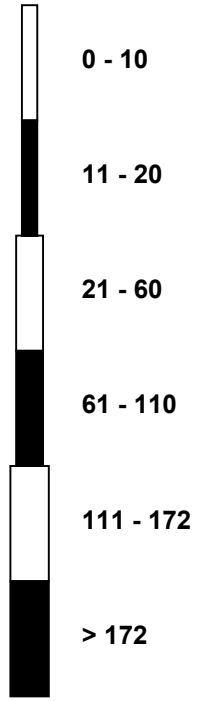
Pollutant Rose

Sulphur Dioxide (SO_2) - ppb

Donnelly - December 2018



Pollutant Classes (ppb)

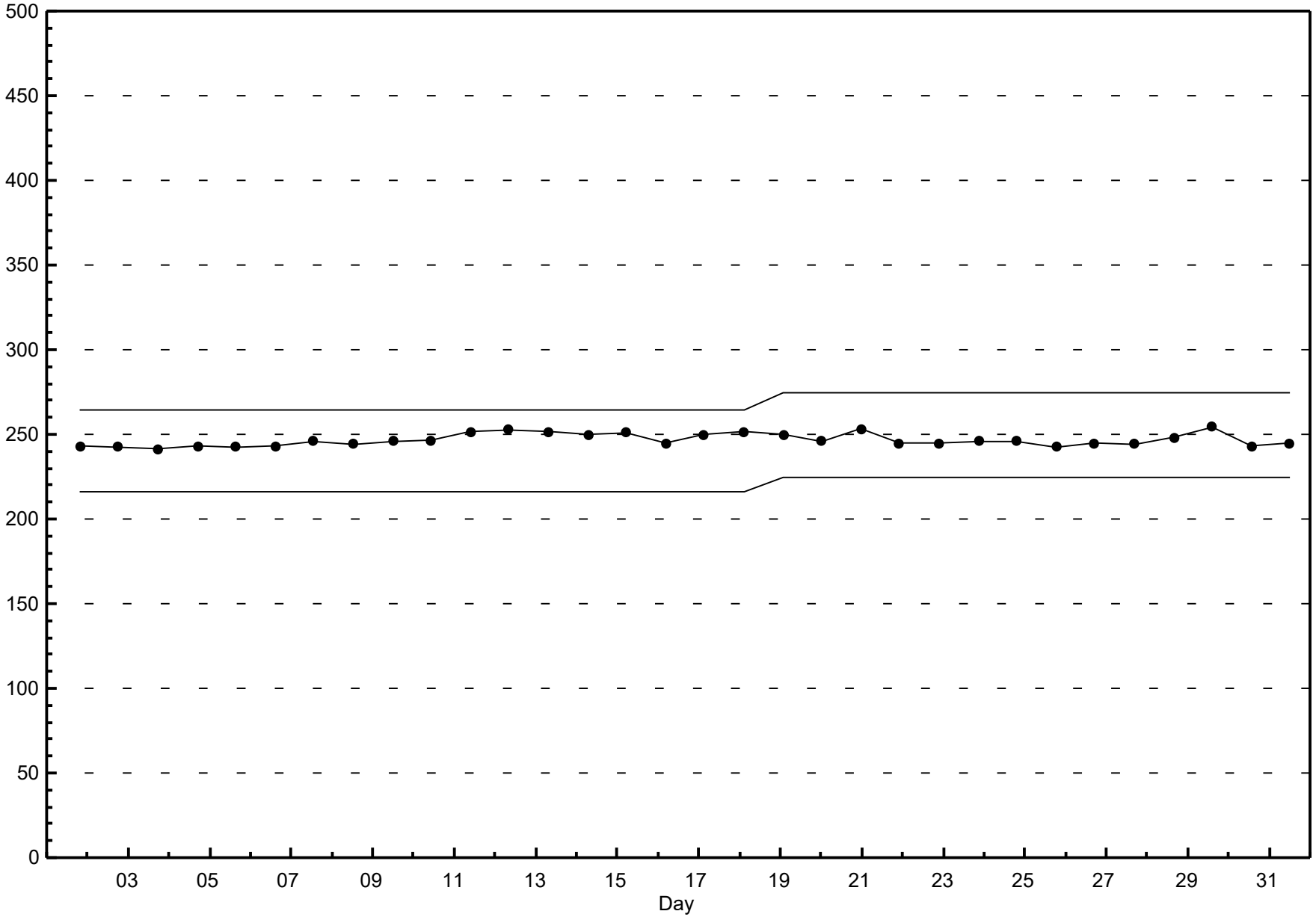


Peace Airshed Zone Association

Span Responses

Sulphur Dioxide (SO_2)

Donnelly - December 2018



Peace Airshed Zone Association

Hourly Averages

Hydrogen Sulphide (H_2S) - ppb

Donnelly - December 2018

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 0.5 ppb on Dec 18 15:00 Maximum Daily Average: 0.3 ppb on Dec 20

Minimum Value: 0 ppb on Dec 7 22:00 Minimum Daily Average: 0.0 ppb on Dec 9
Maximum Diurnal Average: 0.2 ppb at hour 18 Minimum Diurnal Average: 0.1 ppb at hour 6
Monthly Average: 0.14 ppb Percentiles: $P_1 = 0.0$ $P_{10} = 0.0$ $Q_1 = 0.1$ Median = 0.1 $Q_3 = 0.2$ $P_{90} = 0.3$ $P_{99} = 0.5$

Hours in Service:	744
Hours of Data:	708
Hours of Missing Data:	36
Hours of Calibration:	36
Percent Operational Time:	100.0

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

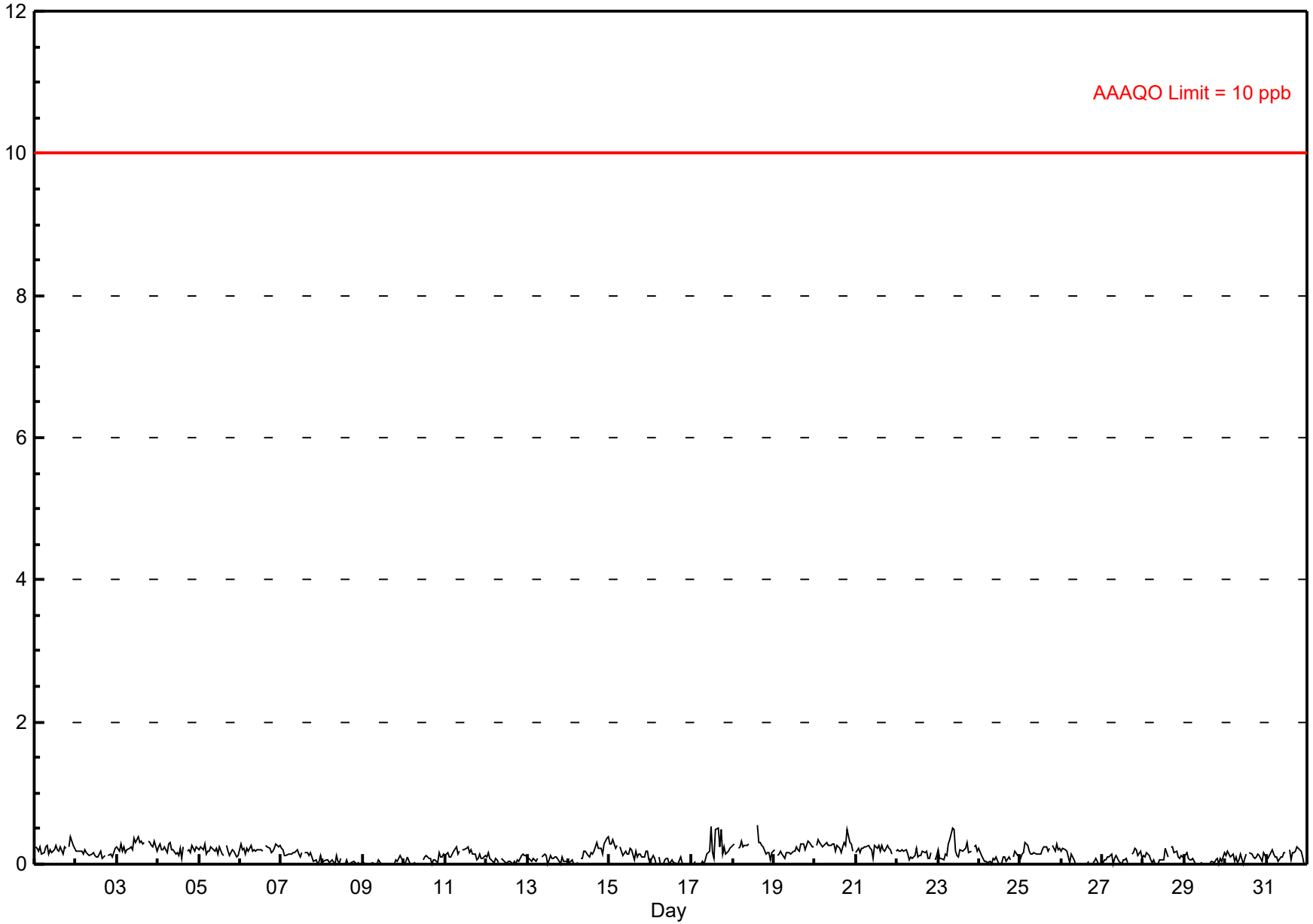
C - Calibration A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb

Peace Airshed Zone Association

Hourly Averages

Hydrogen Sulphide (H_2S) - ppb

Donnelly - December 2018



Peace Airshed Zone Association

Hourly Maximums

Hydrogen Sulphide (H_2S) - ppb

Donnelly - December 2018

Maximum Value: 7.7 ppb on Dec 18 15:00

Maximum Daily Average: 1.3 ppb on Dec 18

Minimum Value: 0 ppb on Dec 16 20:00

Minimum Daily Average: 0.6 ppb on Dec 9

Maximum Diurnal Average: 1.0 ppb at hour 15

Minimum Diurnal Average: 0.7 ppb at hour 13

Monthly Average: 0.75 ppb

Percentiles: $P_1 = 0.4$ $P_{10} = 0.5$ $Q_1 = 0.6$ Median = 0.7 $Q_3 = 0.8$ $P_{90} = 0.9$ $P_{99} = 1.6$

Hours in Service:	744
Hours of Data:	708
Hours of Missing Data:	36
Hours of Calibration:	36
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-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	1.1
2-Dec	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	A	1	1	1	1	1	0.7	0.9
3-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	0.8	1.0
4-Dec	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	0.8	1.3
5-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
6-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	0.8	1.1
7-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	0.7	0.9
8-Dec	1	1	1	1	1	1	1	0	1	1	1	1	A	1	1	1	1	1	1	1	1	1	0	0	0.6	1.0
9-Dec	1	1	1	1	1	1	1	1	0	1	1	A	0	0	1	1	1	1	1	1	1	1	1	1	0.6	0.7
10-Dec	1	1	1	1	1	0	1	1	1	0	A	1	1	1	1	1	1	1	1	1	1	1	1	1	0.6	1.0
11-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	0.7	1.0
12-Dec	1	1	1	1	1	1	1	1	A	1	0	1	0	1	1	0	1	1	1	1	1	1	1	1	0.6	0.9
13-Dec	1	1	1	1	1	0	1	A	1	0	1	1	1	1	1	1	1	1	1	1	1	0	1	1	0.6	0.8
14-Dec	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	0.8	1.6
15-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	0.7	1.1
16-Dec	1	1	1	1	A	1	0	0	1	1	1	0	1	1	1	1	1	1	1	0	0	1	1	1	0.6	1.0
17-Dec	0	1	1	A	1	1	1	1	1	1	1	6	1	1	2	3	1	3	1	1	1	1	1	1	1.2	5.7
18-Dec	1	1	A	1	1	1	1	1	1	1	C	C	C	C	8	2	1	1	1	1	1	1	1	1	1.3	7.7
19-Dec	1	A	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.1
20-Dec	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	1	1	1	A	1.0	3.6
21-Dec	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	0.8	1.4
22-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	0.7	1.1
23-Dec	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	0.8	1.2
24-Dec	1	1	1	1	1	1	1	1	1	1	1	0	1	0	1	1	1	1	1	A	1	1	1	1	0.6	0.9
25-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	1.0
26-Dec	1	1	1	1	1	1	1	1	1	0	1	1	0	1	1	0	1	A	1	1	1	1	1	1	0.6	0.8
27-Dec	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	0.7	0.9
28-Dec	0	1	1	1	1	0	1	0	0	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	0.7	0.9
29-Dec	1	1	1	1	1	1	1	1	1	1	1	0	0	1	A	1	1	1	1	1	1	1	1	1	0.6	0.9
30-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	0.7	1.0
31-Dec	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	0	1	0.7	0.9
	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.9	0.7	0.7	1.0	0.8	0.8	0.8	0.7	0.8	0.7	0.8	0.7	0.7	Diurnal Average	
	0.9	1.3	1.1	1.1	1.0	1.0	1.1	1.0	1.2	1.2	1.4	5.7	0.9	1.0	7.7	3.3	1.6	3.0	1.0	3.6	1.2	1.5	1.0	1.0	Diurnal Maximum	

C - Calibration

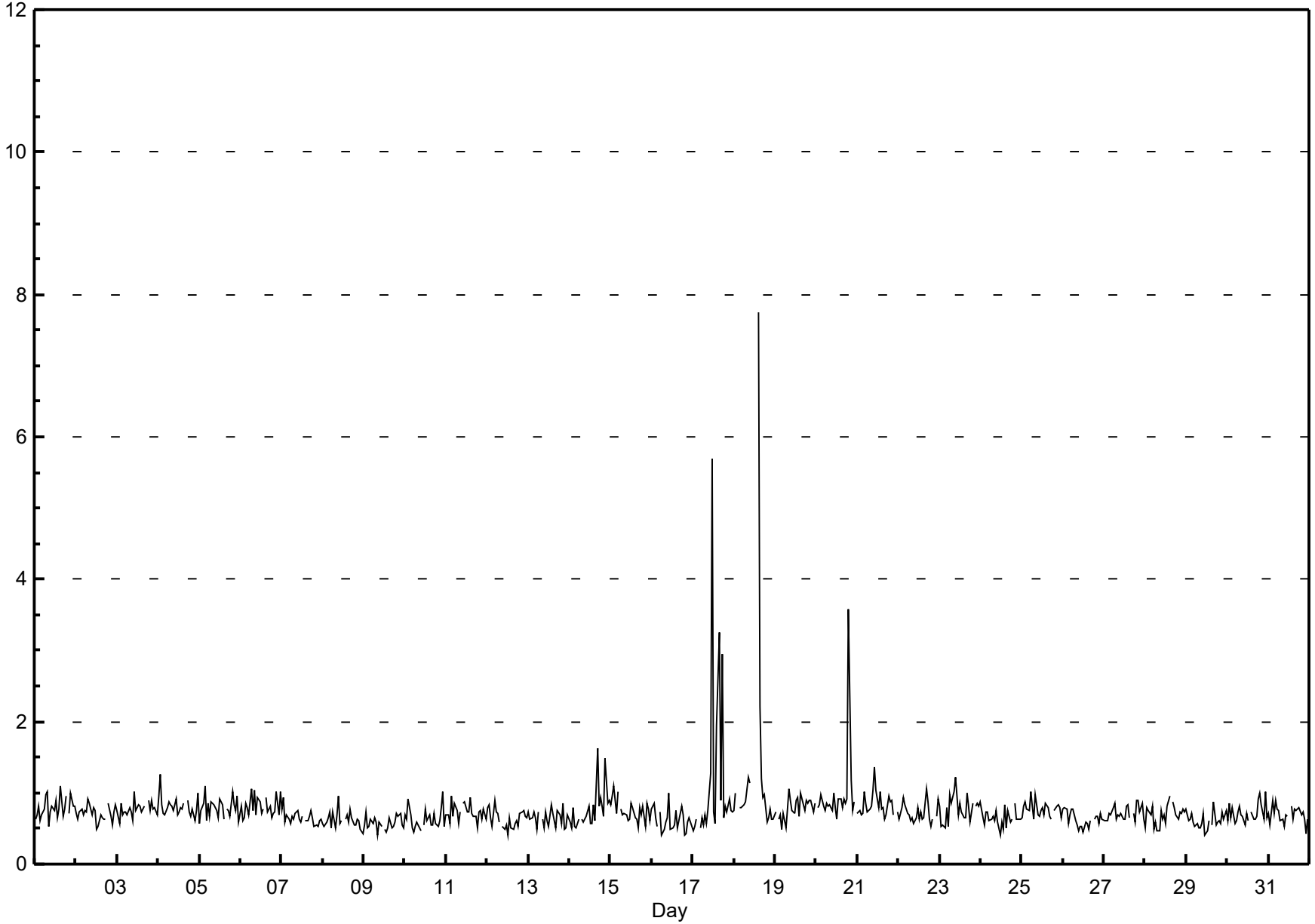
A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Hydrogen Sulphide (H_2S) - ppb

Donnelly - December 2018

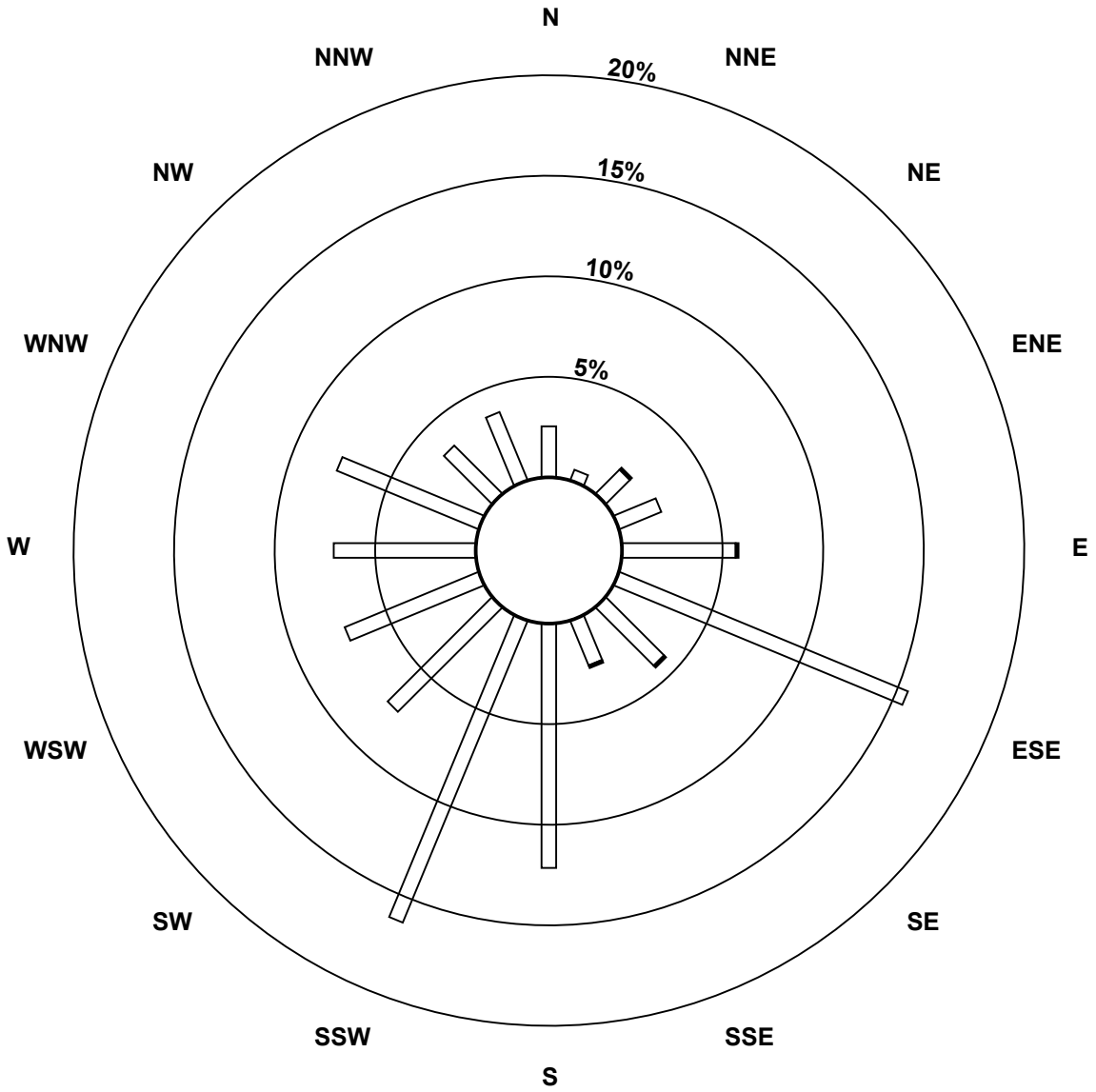


Peace Airshed Zone Association

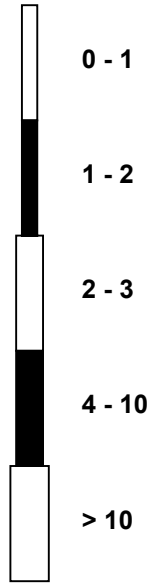
Pollutant Rose

Hydrogen Sulphide (H_2S) - ppb

Donnelly - December 2018



Pollutant Classes (ppb)

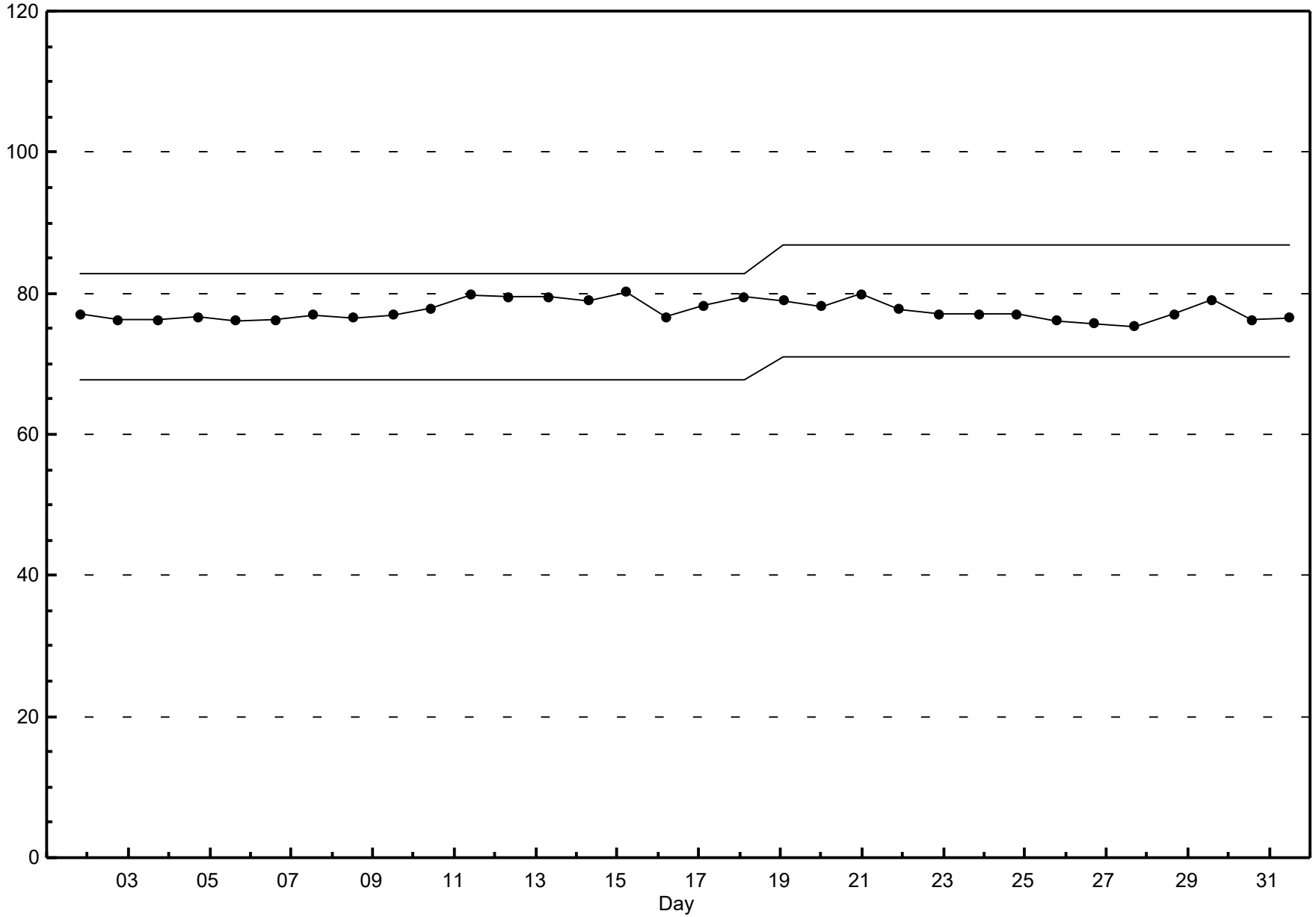


Peace Airshed Zone Association

Span Responses

Hydrogen Sulphide (H_2S)

Donnelly - December 2018



Peace Airshed Zone Association

Hourly Averages

External Temperature (ET) - °C

Donnelly - December 2018

Maximum Value: 3.9 °C on Dec 11 21:00

Maximum Daily Average: 1.4 °C on Dec 13

Minimum Value: -22 °C on Dec 25 22:00

Minimum Daily Average: -19.1 °C on Dec 26

Maximum Diurnal Average: -5.6 °C at hour 15

Minimum Diurnal Average: -8.4 °C at hour 3

Monthly Average: -7.51 °C

Percentiles: P_1 = -20.7 P_{10} = -16.3 Q_1 = -12.2 Median = -7.0 Q_3 = -2.1 P_{90} = 0.5 P_{99} = 2.8

Hours in Service:	744
Hours of Data:	744
Hours of Missing Data:	0
Hours of Calibration:	0
Percent Operational Time:	100.0

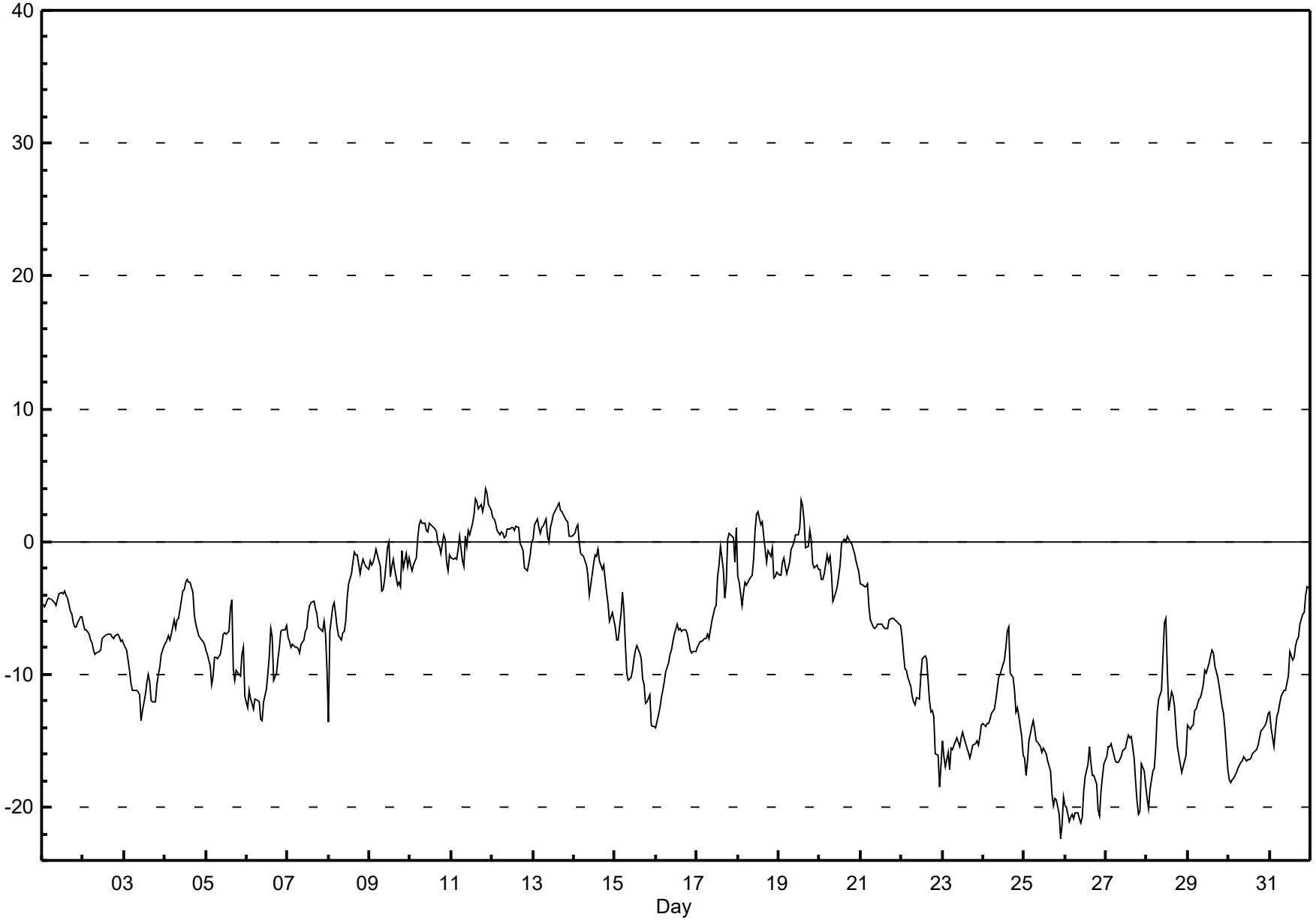
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Dec	-5	-5	-5	-4	-4	-4	-5	-5	-5	-4	-4	-4	-4	-4	-4	-4	-5	-5	-6	-6	-6	-6	-6	-6	-4.9	-3.7
2-Dec	-6	-7	-7	-7	-7	-8	-8	-8	-8	-8	-8	-7	-7	-7	-7	-7	-7	-7	-7	-7	-7	-7	-7	-7	-7.3	-6.2
3-Dec	-8	-8	-9	-10	-11	-11	-11	-11	-11	-11	-14	-13	-12	-11	-10	-11	-12	-12	-12	-11	-10	-9	-9	-8	-10.5	-7.7
4-Dec	-8	-7	-7	-7	-7	-6	-7	-6	-6	-5	-4	-4	-3	-3	-3	-3	-4	-6	-6	-7	-7	-7	-8	-8	-5.7	-2.9
5-Dec	-8	-9	-9	-11	-10	-9	-9	-9	-8	-8	-7	-7	-7	-7	-5	-4	-10	-10	-10	-10	-10	-9	-8	-12	-8.5	-4.4
6-Dec	-12	-11	-12	-12	-13	-12	-12	-12	-13	-13	-12	-11	-10	-9	-7	-7	-10	-10	-9	-8	-7	-7	-7	-6	-10.1	-6.4
7-Dec	-7	-7	-8	-8	-8	-8	-8	-8	-8	-7	-7	-7	-5	-5	-5	-5	-5	-5	-6	-7	-7	-6	-7	-10	-6.8	-4.5
8-Dec	-14	-7	-5	-5	-5	-6	-7	-7	-7	-7	-6	-4	-3	-2	-2	-1	-1	-1	-2	-2	-1	-2	-2	-2	-4.2	-0.8
9-Dec	-1	-2	-2	-1	-1	-1	-2	-4	-4	-3	0	0	-3	-2	-1	-2	-3	-3	-3	-1	-2	-1	-2	-1	-1.9	0.0
10-Dec	-2	-2	-2	-1	0	1	2	1	1	1	1	1	1	1	1	1	0	0	-1	1	0	-2	-2	-1	0.0	1.6
11-Dec	-1	-1	-1	-1	-1	0	-1	-2	0	0	1	1	1	2	3	3	2	3	2	3	4	4	3	2	1.1	3.9
12-Dec	2	2	1	1	1	1	1	0	0	1	1	1	1	1	1	1	0	0	-1	-2	-2	-2	-1	0	0.3	1.8
13-Dec	0	1	2	1	1	1	1	2	0	0	1	2	2	2	3	3	2	2	2	2	1	0	0	0	1.4	2.9
14-Dec	1	1	1	0	-1	-1	-1	-2	-3	-4	-3	-2	-1	-1	-1	-1	-2	-2	-3	-4	-5	-6	-5	-6	-2.1	1.3
15-Dec	-6	-7	-7	-5	-4	-5	-8	-10	-10	-10	-10	-9	-8	-8	-8	-9	-10	-11	-12	-12	-12	-14	-14	-14	-9.4	-3.8
16-Dec	-14	-13	-13	-12	-11	-11	-10	-9	-8	-8	-8	-7	-6	-7	-7	-7	-7	-7	-7	-8	-8	-8	-8	-8	-8.8	-6.2
17-Dec	-8	-8	-8	-7	-7	-7	-7	-7	-7	-6	-5	-5	-3	-2	0	-2	-4	-3	0	1	1	0	-2	1	-4.0	1.1
18-Dec	-3	-3	-5	-4	-3	-3	-3	-3	-2	-1	1	2	2	1	1	0	-1	-2	-1	-1	0	-3	-3	-2	-1.4	2.2
19-Dec	-3	-3	-1	-1	-2	-2	-2	-1	0	0	1	1	1	3	3	2	0	0	1	0	-2	-2	-2	-2	-0.5	3.1
20-Dec	-2	-3	-3	-2	-1	-2	-1	-2	-4	-4	-3	-3	-2	0	0	0	0	0	0	0	-1	-1	-2	-2	-1.6	0.4
21-Dec	-3	-3	-3	-3	-3	-5	-6	-6	-7	-6	-6	-6	-6	-6	-6	-7	-7	-6	-6	-6	-6	-6	-6	-6	-5.5	-3.1
22-Dec	-7	-8	-10	-10	-10	-11	-12	-12	-12	-12	-12	-10	-9	-9	-9	-9	-12	-13	-13	-13	-16	-16	-18	-17	-11.6	-7.2
23-Dec	-15	-16	-17	-16	-17	-16	-16	-15	-15	-15	-15	-15	-14	-15	-16	-16	-16	-16	-15	-15	-15	-15	-15	-14	-15.4	-13.8
24-Dec	-14	-14	-14	-14	-13	-13	-13	-12	-11	-10	-10	-9	-9	-8	-7	-6	-10	-10	-11	-13	-12	-13	-15	-16	-11.5	-6.4
25-Dec	-16	-18	-17	-15	-14	-13	-14	-15	-15	-15	-16	-16	-16	-16	-17	-17	-19	-20	-19	-19	-21	-22	-21	-19	-17.1	-13.4
26-Dec	-20	-20	-21	-21	-21	-21	-20	-20	-21	-21	-21	-19	-18	-17	-15	-17	-18	-18	-18	-20	-21	-19	-18	-17	-19.1	-15.4
27-Dec	-16	-15	-15	-15	-16	-17	-17	-17	-16	-16	-16	-16	-15	-15	-15	-15	-16	-18	-20	-21	-20	-17	-17	-18	-16.6	-14.6
28-Dec	-19	-20	-19	-17	-17	-15	-13	-12	-11	-9	-6	-6	-10	-13	-11	-12	-12	-14	-15	-17	-17	-17	-17	-16	-14.0	-5.8
29-Dec	-14	-14	-14	-14	-13	-13	-12	-12	-11	-11	-10	-10	-9	-9	-8	-8	-9	-10	-11	-12	-12	-13	-14	-17	-11.6	-8.2
30-Dec	-18	-18	-18	-18	-17	-17	-17	-17	-17	-16	-16	-16	-16	-16	-16	-16	-16	-15	-15	-14	-14	-14	-13	-13	-16.0	-12.9
31-Dec	-13	-14	-15	-14	-13	-13	-12	-12	-11	-11	-11	-10	-8	-9	-9	-8	-7	-7	-6	-5	-5	-4	-3	-4	-9.4	-3.3
	-8.4	-8.4	-8.4	-8.2	-8.0	-7.9	-8.0	-8.1	-8.1	-7.8	-7.2	-6.7	-6.3	-6.0	-5.6	-5.9	-7.1	-7.3	-7.5	-7.5	-7.8	-7.8	-8.0	-8.0	Diurnal Average	
	1.8	1.7	1.7	1.1	0.6	1.3	1.6	1.7	1.4	0.9	1.0	2.0	2.2	3.1	3.2	3.0	2.5	2.8	2.3	2.8	3.9	3.7	2.8	2.3	Diurnal Maximum	

Peace Airshed Zone Association

Hourly Averages

External Temperature (ET) - ^{o}C

Donnelly - December 2018



PAZA
Peace Airshed Zone Association

Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Donnelly - December 2018

Day	Hourly Period Ending At (MST)																								Daily	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	Average	Maximum
1 Spd	5	4	3	2	4	4	2	3	5	5	2	2	3	2	2	0	0	1	1	0	2	1	2	8	0.8	7.6
Dir	78	82	85	106	118	115	103	115	131	138	308	322	322	338	288	316	319	138	341	225	354	356	332	315	66	315
2 Spd	7	5	5	5	3	3	3	1	2	2	3	1	2	2	2	2	3	3	3	4	6	7	6	7	2.4	7.0
Dir	318	338	1	2	6	324	315	320	347	56	68	49	286	297	267	279	232	221	246	246	279	288	283	275	303	318
3 Spd	7	7	6	8	8	10	10	9	8	6	5	5	5	4	4	4	4	5	7	10	13	13	15	17	5.9	17.3
Dir	279	289	300	305	305	287	289	281	283	266	228	262	266	261	268	269	239	226	209	204	199	190	196	199	246	199
4 Spd	18	20	18	17	18	18	14	15	15	13	20	21	26	27	28	29	25	20	19	17	16	11	10	9	13.0	29.3
Dir	202	204	208	214	232	253	248	262	245	267	278	280	285	286	278	287	323	344	351	348	340	338	344	331	280	287
5 Spd	8	7	8	8	6	6	8	5	7	8	6	7	6	3	2	3	3	4	9	9	6	11	13	3	3.5	12.9
Dir	310	293	269	262	240	249	243	208	214	205	241	291	312	290	63	114	123	127	135	141	149	187	188	272	222	188
6 Spd	5	9	10	11	12	14	15	14	11	13	14	16	13	10	4	5	5	8	13	13	18	20	16	17	11.5	20.0
Dir	189	223	217	223	219	213	211	217	217	210	204	201	203	203	179	151	152	178	193	191	192	192	187	190	201	192
7 Spd	16	16	12	12	18	17	11	9	12	16	16	17	14	11	13	9	8	13	16	15	15	14	12	4	13.0	18.1
Dir	191	192	189	197	200	201	210	211	218	204	205	203	201	213	219	228	222	219	203	208	201	205	199	184	205	200
8 Spd	1	8	13	13	6	8	13	10	6	15	18	20	20	18	20	21	16	12	11	14	15	18	17	18	13.5	20.8
Dir	80	190	192	185	181	195	196	190	174	194	197	201	206	206	200	204	205	219	214	194	196	203	202	193	199	204
9 Spd	17	16	17	19	14	11	7	5	8	10	7	7	8	8	8	7	8	7	6	10	8	10	3	6	7.5	19.1
Dir	191	194	194	191	187	194	174	159	161	148	151	159	97	129	121	104	112	98	118	207	226	210	233	228	173	191
10 Spd	6	4	2	1	6	10	15	19	23	22	18	17	14	16	14	20	19	21	23	26	22	14	16	14	14.1	26.2
Dir	232	90	173	40	184	197	190	203	204	205	203	229	230	219	204	212	224	228	228	243	242	229	203	188	216	243
11 Spd	14	15	16	19	20	20	15	14	23	16	20	19	18	18	17	18	19	21	18	20	26	33	35	31	16.7	35.1
Dir	184	185	180	184	175	162	140	144	156	164	182	184	183	182	178	186	188	190	200	207	237	253	259	254	196	259
12 Spd	31	34	32	28	29	35	36	36	34	38	41	47	42	31	32	30	30	31	28	17	16	14	14	23	28.7	46.6
Dir	261	261	257	251	252	253	248	245	249	255	260	262	260	258	264	260	247	250	248	238	215	185	173	190	250	262
13 Spd	18	14	24	24	27	27	21	23	18	16	23	25	27	32	34	37	31	25	19	19	19	15	13	10	20.2	36.5
Dir	184	171	190	199	200	215	221	233	217	240	244	247	254	256	258	256	262	258	248	251	245	224	203	218	233	256
14 Spd	13	21	22	18	10	6	4	7	9	9	7	6	7	7	8	5	5	6	1	2	3	0	6	6	4.0	22.2
Dir	193	216	229	218	199	183	65	66	78	85	100	109	110	111	115	94	99	118	149	162	210	186	237	227	169	229
15 Spd	8	8	12	16	20	34	41	31	27	20	15	17	18	14	17	9	6	4	7	7	6	5	6	5	12.9	41.1
Dir	243	278	289	270	276	287	284	288	284	280	275	282	291	287	286	246	278	263	224	226	198	170	140	124	276	284
16 Spd	7	5	8	11	13	13	16	19	16	16	16	12	13	10	9	12	11	13	12	12	9	10	10	9	11.7	18.5
Dir	117	121	122	120	116	112	117	117	113	113	117	123	117	119	118	117	117	117	117	120	118	119	112	114	117	117
17 Spd	10	8	3	6	10	6	9	9	4	6	8	5	7	9	1	5	8	4	13	16	11	17	4	13	6.9	16.9
Dir	116	127	118	116	132	123	235	202	184	191	175	159	186	187	110	138	134	154	182	182	179	185	144	176	167	185
18 Spd	6	5	9	5	6	6	6	4	6	6	11	8	6	2	2	5	7	5	11	14	13	5	7	10	5.3	13.9
Dir	107	131	86	101	101	104	115	128	134	181	174	172	186	58	101	176	181	179	190	194	191	189	212	207	163	194
19 Spd	12	9	18	16	15	16	19	18	18	19	18	18	18	21	17	10	5	14	20	18	15	19	16	15	15.2	21.3
Dir	206	219	208	208	208	202	203	205	205	207	209	202	216	245	244	255	213	238	245	246	224	217	215	200	218	245
20 Spd	14	15	15	14	13	13	10	6	9	12	11	9	10	11	13	13	10	10	9	9	7	9	5	7	6.6	15.4
Dir	199	196	198	198	190	191	178	135	119	119	114	110	114	108	95	97	103	87	88	86	89	54	33	320	134	196
21 Spd	9	12	22	23	23	35	34	33	30	29	24	27	26	26	24	20	18	18	17	19	18	14	13	12	21.6	35.2
Dir	336	303	288	285	285	282	274	279	286	290	299	296	297	298	298	298	296	295	290	285	293	293	299	291	291	282
22 Spd	9	5	7	10	10	12	11	9	5	6	8	12	12	12	7	1	3	3	3	3	3	1	7	5	5.2	12.2
Dir	280	256	232	243	228	228	211	213	204	198	208	203	204	204	205	164	172	127	169	134	89	137	93	113	208	203

Peace Airshed Zone Association

Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Donnelly - December 2018

Day	Hourly Period Ending At (MST)																								Daily	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	Average	Maximum
23 Spd	4	2	4	5	6	2	5	3	4	5	8	4	4	6	4	4	4	3	2	3	1	1	2	3	1.8	8.4
Dir	110	97	80	75	75	102	49	70	50	334	54	25	341	341	293	314	256	305	272	302	266	38	77	101	30	54
24 Spd	5	4	5	6	5	3	4	5	5	8	9	9	8	8	6	4	5	4	6	6	3	3	5	1	5.2	8.8
Dir	100	106	108	121	93	103	111	121	125	123	121	119	118	118	115	109	118	116	118	108	119	127	130	158	116	119
25 Spd	3	4	5	4	7	9	11	9	9	8	6	7	6	5	5	2	1	2	2	4	3	3	4	5	2.9	10.7
Dir	224	266	234	308	336	349	340	347	3	345	353	349	351	341	324	331	122	119	113	196	73	108	107	114	346	340
26 Spd	6	6	6	9	13	14	14	13	10	5	5	4	12	4	4	4	5	4	2	4	6	5	5	1	6.4	13.6
Dir	116	115	114	116	115	116	116	116	114	105	91	109	110	74	106	82	88	86	53	44	67	82	80	76	104	116
27 Spd	3	2	4	4	5	5	4	5	2	2	1	1	1	0	3	3	1	2	2	1	2	2	1	2	1.0	5.3
Dir	65	61	21	4	287	267	275	284	276	271	289	327	290	337	299	314	357	263	110	65	90	102	97	86	318	267
28 Spd	1	2	3	5	3	3	3	4	5	5	5	6	6	5	1	2	3	3	3	1	0	3	4	3	1.1	6.0
Dir	90	92	107	129	132	125	120	117	118	163	195	206	280	314	307	329	251	291	253	270	81	79	113	106	154	280
29 Spd	4	3	2	4	4	8	7	13	14	13	11	11	12	13	14	14	14	9	11	14	11	12	14	15	8.0	15.1
Dir	133	104	132	110	120	109	113	116	116	114	107	108	106	101	99	94	95	81	39	47	36	24	11	355	84	355
30 Spd	16	18	15	14	15	14	11	10	8	9	13	12	9	7	6	4	3	3	7	11	11	7	7	7	4.6	17.6
Dir	0	0	1	349	344	326	338	327	315	307	282	282	278	277	272	226	182	158	176	191	187	187	178	182	307	0
31 Spd	12	7	6	10	12	12	11	15	19	19	19	10	8	16	16	17	18	18	21	23	21	24	23	23	15.7	24.0
Dir	200	184	154	181	187	183	177	183	186	187	185	180	178	197	189	186	188	186	190	197	195	193	194	195	189	193
Spd	4.5	4.8	5.6	6.1	6.0	6.6	6.3	5.7	5.6	6.1	6.4	6.6	5.9	5.9	5.1	4.7	4.2	4.3	5.6	6.3	6.0	6.1	5.3	5.6	Diurnal Average	
Dir	205	213	214	213	210	224	225	220	208	212	214	226	232	236	235	227	215	216	212	212	213	207	203	209		
Spd	30.7	34.5	31.8	28.3	28.9	35.2	41.1	35.9	33.9	37.7	40.5	46.6	42.2	31.7	33.9	36.5	31.2	30.7	27.7	26.2	26.1	33.4	35.1	31.3	Diurnal Maximum	
Dir	261	261	257	251	252	282	284	245	249	255	260	262	260	256	258	256	262	250	248	243	237	253	259	254		

Maximum Speed Value: 47 km/h on Dec 12 12:00
Minimum Speed Value: 0 km/h on Dec 1 16:00
Maximum Daily Speed Average: 28.7 km/h on Dec 12
Minimum Daily Speed Average: 0.8 km/h on Dec 27
Maximum Diurnal Speed Average: 6.6 km/h at hour 12
Minimum Diurnal Speed Average: 4.2 km/h at hour 17

Monthly Average Velocity: 5.57 km/h 216.8 deg
Speed Percentiles: P_1 = 0.6 P_{10} = 2.6 Q_1 = 4.9 Median = 9.2 Q_3 = 15.6 P_{90} = 20.9 P_{99} = 35.6
All monthly, daily, and diurnal averages have been calculated using vector methods

Hours in Service:	744
Hours of Data:	744
Hours of Missing Data:	0
Percent Operational Time:	100.0

Frequency Distribution

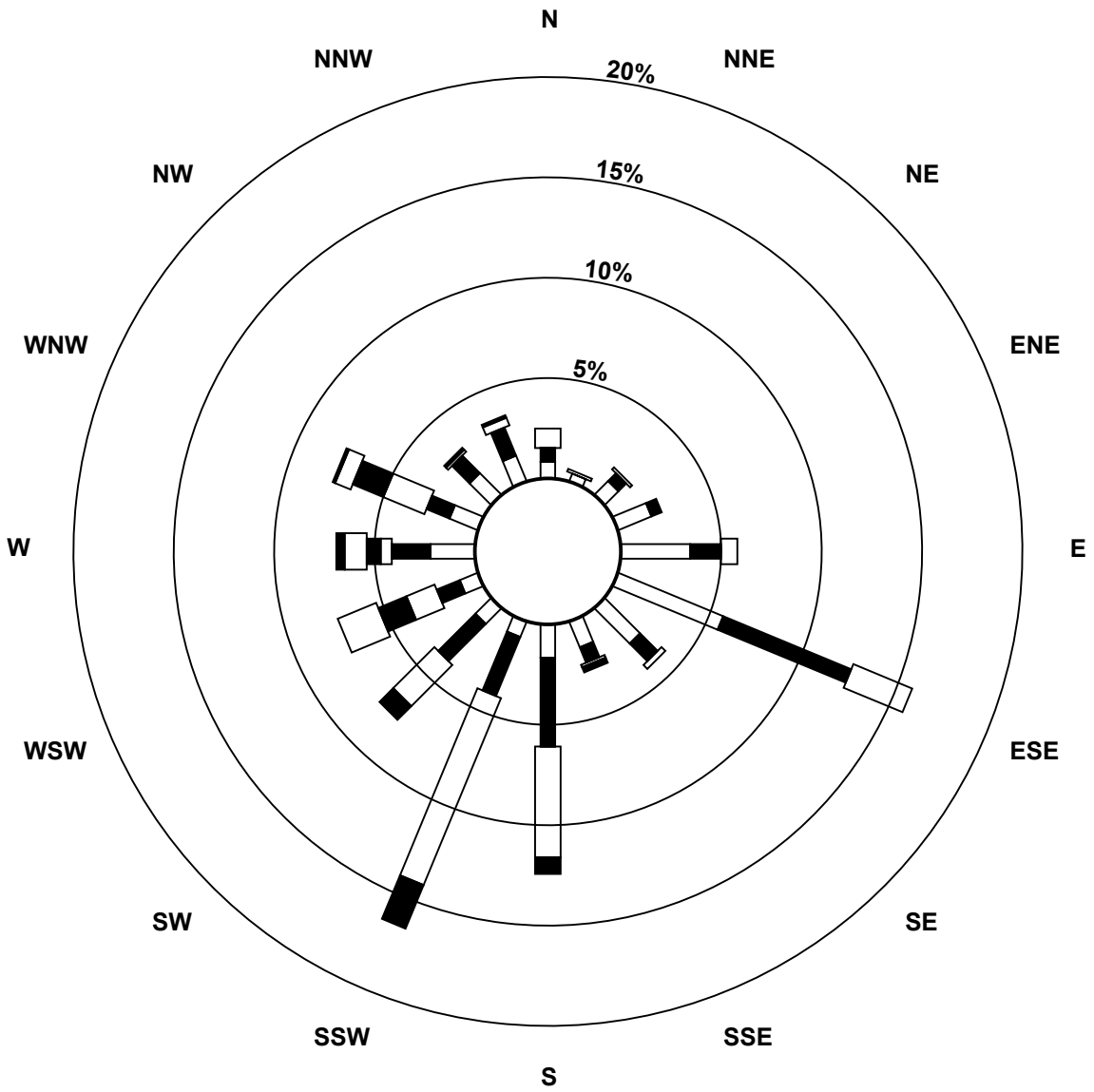
Direction	Speed Range (km/h) 0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total
North	12	13	11	1	0	0	37
NorthEast	14	7	3	0	0	0	24
East	52	31	11	0	0	0	94
SouthEast	37	55	23	1	0	0	116
South	16	40	82	22	0	0	160
SouthWest	12	42	62	24	2	0	142
West	27	26	16	16	28	4	117
NorthWest	24	16	7	7	0	0	54
Total	194	230	215	71	30	4	744

Peace Airshed Zone Association

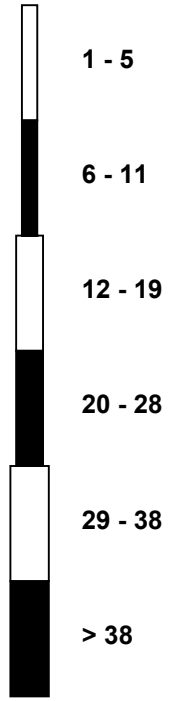
Wind Rose

Wind Speed (WS) (km/h)

Donnelly - December 2018



Wind Speed Classes (km/h)



Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Donnelly - December 2018

Maximum Speed: 47 km/h on Dec 12 12:00

Maximum Daily Speed Average: 30.5 km/h on Dec 12

Minimum Speed: 0 km/h on Dec 1 16:00

Minimum Daily Speed Average: 2.6 km/h on Dec 27

Maximum Diurnal Speed Average: 12.8 km/h at hour 6

Minimum Diurnal Speed Average: 9.7 km/h at hour 1

Monthly Average Speed: 11.24 km/h

Percentiles: P_1 = 1.1 P_{10} = 3.0 Q_1 = 5.1 Median = 9.2 Q_3 = 15.7 P_{90} = 21.0 P_{99} = 35.7

Hours in Service: 744

Hours of Data: 744

Hours of Missing Data: 0

Percent Operational Time: 100.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Dec	5	4	3	2	4	4	2	3	5	5	2	2	3	2	2	0	0	1	1	1	2	1	2	8	2.8	7.7
2-Dec	7	6	5	5	3	3	3	1	2	2	3	1	2	2	2	2	3	4	3	5	6	7	6	7	3.8	7.1
3-Dec	7	7	6	8	8	10	10	9	8	6	5	5	5	4	4	4	4	5	7	10	13	13	15	17	7.9	17.3
4-Dec	18	20	18	17	19	18	14	15	15	14	20	21	26	27	28	30	25	20	19	17	16	11	10	9	18.6	29.8
5-Dec	8	7	8	8	6	6	8	5	7	8	7	7	6	4	3	3	3	4	9	9	6	11	13	5	6.8	13.0
6-Dec	5	9	10	11	12	14	15	14	11	13	14	16	13	10	4	5	5	8	13	13	18	20	16	17	12.0	20.0
7-Dec	16	16	12	12	18	17	11	9	12	16	16	17	14	11	13	9	8	13	16	15	15	14	12	4	13.2	18.1
8-Dec	1	8	13	13	7	9	13	10	6	15	18	20	20	18	20	21	16	12	11	14	15	18	17	18	13.8	20.8
9-Dec	17	16	17	19	14	11	7	5	9	10	8	8	8	8	8	7	8	8	7	13	8	10	4	6	9.8	19.1
10-Dec	6	4	2	3	7	10	15	20	23	22	18	18	15	17	15	20	19	21	23	26	22	14	16	14	15.4	26.2
11-Dec	14	15	16	20	20	20	15	14	23	16	20	19	18	18	17	18	19	21	18	20	26	34	35	31	20.4	35.2
12-Dec	31	34	32	28	29	35	36	36	34	38	41	47	42	31	32	30	30	31	28	17	17	15	15	23	30.5	46.7
13-Dec	19	14	24	24	27	27	22	23	18	16	23	25	27	32	34	37	31	25	19	19	20	15	13	10	22.6	36.6
14-Dec	13	21	22	18	10	6	4	7	9	9	7	6	7	7	8	6	5	6	3	3	4	2	7	7	8.2	22.3
15-Dec	8	8	12	16	20	34	41	31	27	20	16	17	18	15	17	9	6	5	7	7	6	5	6	6	14.8	41.2
16-Dec	7	5	8	11	13	13	16	19	16	16	16	12	13	10	9	12	11	13	12	12	9	10	10	9	11.7	18.6
17-Dec	10	9	4	7	11	6	9	9	4	6	8	5	7	9	3	5	8	5	13	16	11	17	5	13	8.3	16.9
18-Dec	8	7	9	5	7	6	6	5	6	7	12	8	8	3	3	6	7	5	11	14	13	6	7	10	7.5	13.9
19-Dec	12	9	18	16	15	16	19	18	18	19	18	18	19	21	17	11	5	14	20	18	15	19	16	15	16.1	21.3
20-Dec	14	15	15	14	13	13	10	6	9	12	11	9	10	11	13	13	10	10	9	9	7	9	6	7	10.7	15.4
21-Dec	9	12	22	23	23	35	34	33	30	29	24	27	26	26	24	20	18	18	17	19	18	14	13	12	21.9	35.3
22-Dec	9	5	7	10	10	12	11	9	5	6	8	12	12	12	7	1	4	3	3	3	3	1	7	5	7.0	12.2
23-Dec	4	3	4	5	6	3	5	3	4	5	9	4	4	6	4	4	4	4	3	3	1	2	2	3	4.0	8.5
24-Dec	5	4	5	6	5	4	4	5	5	8	9	9	8	8	6	4	5	4	6	6	3	3	5	3	5.5	8.9
25-Dec	4	4	5	6	7	9	11	9	9	8	6	7	7	5	5	2	1	3	2	4	3	4	4	5	5.4	10.7
26-Dec	6	6	6	9	13	14	14	13	11	6	6	5	12	5	5	5	5	4	2	4	6	5	5	1	6.9	13.7
27-Dec	3	2	4	4	6	5	5	5	2	2	1	1	1	0	3	3	1	2	2	1	2	2	1	2	2.6	6.0
28-Dec	1	2	3	5	3	3	3	4	5	7	9	6	8	5	1	2	3	3	3	1	1	3	4	3	3.7	8.9
29-Dec	4	4	3	5	5	8	7	13	14	13	11	11	12	13	14	14	14	10	11	14	11	13	14	15	10.6	15.2
30-Dec	16	18	15	14	15	14	11	10	8	10	13	12	9	7	6	4	3	3	7	12	12	8	7	7	10.0	17.7
31-Dec	12	7	6	10	12	12	11	15	19	19	19	10	9	16	16	17	18	18	21	23	21	24	23	23	15.9	24.1
	9.7	9.8	10.8	11.5	11.9	12.8	12.7	12.2	12.1	12.3	12.7	12.4	12.6	11.8	11.1	10.4	9.8	9.8	10.5	11.3	10.7	10.7	10.2	10.1	Diurnal Average	
	30.8	34.5	31.9	28.3	29.0	35.3	41.2	35.9	33.9	37.8	40.6	46.7	42.2	31.7	33.9	36.6	31.2	30.8	27.8	26.2	26.2	33.7	35.2	31.3	Diurnal Maximum	

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

Peace Airshed Zone Association

Hourly Standard Deviations

Wind Direction (WD) - deg

Donnelly - December 2018

Maximum Value: 95.1 deg on Dec 1 20:00

Minimum Value: 1.4 deg on Dec 20 02:00

Percentiles: P_1 = 2.1 P_{10} = 3.0 Q_1 = 4.3 Median = 8.2 Q_3 = 17.3 P_{90} = 33.9 P_{99} = 72.5

Hours in Service:	744
Hours of Data:	744
Hours of Missing Data:	0
Hours of Calibration:	0
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily
	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	6	8	9	20	9	19	20	11	9	11	38	13	31	17	38	26	17	72	30	95	25	18	17	11	95.1
2-Dec	8	16	13	16	24	31	31	75	31	18	9	55	25	15	41	36	32	17	21	22	17	12	12	13	74.7
3-Dec	15	9	6	6	6	9	6	7	6	12	6	7	3	6	8	5	10	6	6	4	5	6	4	2	15.1
4-Dec	2	3	2	4	9	5	6	4	10	7	3	4	4	4	3	11	10	6	7	11	4	7	11	13	12.9
5-Dec	6	13	9	4	15	28	17	25	13	10	24	8	11	19	63	10	6	7	3	2	15	21	6	59	62.9
6-Dec	12	7	5	2	5	4	5	5	5	4	4	2	3	5	51	9	8	14	5	3	2	2	3	4	51.1
7-Dec	3	4	6	4	3	2	7	11	5	3	3	3	3	8	3	6	6	7	3	4	4	4	7	58	57.7
8-Dec	53	8	4	5	30	24	5	15	19	3	2	4	3	3	2	3	5	13	9	4	4	4	5	4	53.3
9-Dec	3	3	2	3	5	4	7	15	14	14	34	39	17	9	6	14	8	16	19	49	18	8	33	13	48.6
10-Dec	10	39	63	88	35	5	3	9	6	3	4	20	8	9	5	7	3	5	6	3	4	7	9	5	88.1
11-Dec	3	3	5	5	5	8	9	13	2	16	7	6	6	6	7	4	4	3	3	8	5	8	5	3	15.5
12-Dec	3	3	4	4	3	3	4	3	3	3	4	3	3	3	3	8	3	3	3	8	12	14	10	4	13.5
13-Dec	17	9	4	7	3	12	8	6	11	8	4	4	2	3	3	3	3	4	4	7	5	18	7	13	18.5
14-Dec	3	12	5	6	7	20	26	6	3	3	8	5	6	7	6	29	29	14	77	62	46	95	24	34	94.8
15-Dec	19	11	9	10	12	4	3	4	3	12	8	8	6	13	4	14	25	36	29	12	8	19	14	19	35.8
16-Dec	9	31	9	7	5	5	3	4	4	5	5	6	5	8	8	4	5	4	4	5	5	5	7	6	31.4
17-Dec	6	16	35	17	9	8	39	7	20	10	12	31	16	11	57	22	5	47	5	4	12	3	38	5	56.5
18-Dec	35	43	11	36	31	15	12	61	25	29	8	10	61	63	45	15	23	13	6	3	2	45	8	5	62.7
19-Dec	8	8	4	3	5	3	3	4	4	4	2	4	13	4	11	13	22	13	3	3	12	7	5	3	22.2
20-Dec	4	1	3	3	4	4	11	20	5	4	5	5	8	8	5	4	6	5	5	5	5	18	28	12	27.7
21-Dec	7	11	2	2	2	3	2	3	2	3	4	3	3	3	3	3	3	4	6	2	4	4	4	7	11.3
22-Dec	9	26	13	7	13	4	5	4	12	11	6	3	3	3	28	71	27	21	27	32	21	73	14	12	73.1
23-Dec	18	71	10	18	15	44	8	16	32	22	13	36	18	11	25	19	17	24	52	32	67	33	62	17	71.2
24-Dec	10	12	15	46	14	41	21	14	28	7	6	5	6	6	8	11	7	7	5	18	20	12	11	91	90.6
25-Dec	45	36	18	40	10	8	7	6	8	11	10	9	10	19	9	18	68	29	19	44	53	20	12	9	68.4
26-Dec	7	7	7	4	3	4	4	3	39	39	23	34	17	57	18	15	9	30	50	12	10	11	14	64	63.7
27-Dec	30	60	21	11	50	9	15	9	23	10	28	24	23	11	19	21	24	42	23	24	12	17	36	20	59.7
28-Dec	49	15	18	19	9	25	12	9	11	53	71	17	40	15	46	25	19	37	16	51	77	10	14	34	77.3
29-Dec	10	49	33	18	37	13	13	6	4	5	7	6	5	4	3	3	5	21	8	5	8	11	13	7	49.0
30-Dec	4	5	6	7	6	6	8	7	4	11	5	3	4	4	13	25	23	14	10	9	11	23	11	16	25.1
31-Dec	7	9	8	14	8	5	7	7	3	5	4	9	20	3	4	3	3	3	2	3	2	4	2	3	19.6
	53.3	71.2	63.1	88.1	50.5	44.3	38.8	74.7	38.9	52.9	70.7	55.0	61.0	62.7	62.9	70.6	68.4	71.5	77.2	95.1	77.3	94.8	61.9	90.6	

PAZA
Portable – Wembley Station
Monthly Summary Tables, Graphs and Roses

Peace Airshed Zone Association

Hourly Averages

Sulphur Dioxide (SO_2) - ppb

Wembley - December 2018

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 4.9 ppb on Dec 11 19:00 Maximum Daily Average: 0.9 ppb on Dec 11

Minimum Value: 0 ppb on Dec 1 06:00 Minimum Daily Average: 0.0 ppb on Dec 7
Maximum Diurnal Average: 0.5 ppb at hour 16 Minimum Diurnal Average: 0.1 ppb at hour 10
Monthly Average: 0.28 ppb Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 0.1 Median = 0.2 Q_3 = 0.3 P_{90} = 0.6 P_{99} = 1.9

Hours in Service:	744
Hours of Data:	705
Hours of Missing Data:	39
Hours of Calibration:	35
Percent Operational Time:	99.5

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-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	0.3
2-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	0.5
3-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
4-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
5-Dec	0	0	0	0	0	0	0	0	0	0	P	P	P	P	0	A	0	0	0	0	0	0	0	0	0.1	0.3
6-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	0.1	0.4
7-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	0.0	0.1
8-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	0.3
9-Dec	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	1	0	0	1	1	1	0	0	0.3	1.1
10-Dec	0	0	0	0	0	0	0	0	0	0	C	C	C	C	0	4	1	0	2	2	0	0	1	1	0.7	3.9
11-Dec	0	0	0	1	2	1	1	2	1	A	1	1	1	1	1	0	0	1	5	0	0	0	0	0	0.9	4.9
12-Dec	0	0	1	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0.3	2.2
13-Dec	2	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	1.7
14-Dec	0	0	1	0	0	0	A	0	0	0	0	0	0	0	4	1	1	0	0	0	1	2	2	1	0.6	3.9
15-Dec	1	2	1	0	0	A	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	2.1
16-Dec	0	0	0	0	A	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0.3	0.7
17-Dec	0	0	0	A	0	0	0	0	0	0	0	0	1	1	2	2	1	0	0	0	1	1	0	0	0.5	2.1
18-Dec	0	1	A	1	0	0	0	1	0	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0.5	0.8
19-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
20-Dec	A	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	A	0.4	1.1
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	0.2	0.4
22-Dec	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	A	0	0	0.2	0.6
23-Dec	0	0	0	1	1	1	1	1	1	1	1	0	1	0	0	0	0	0	0	0	A	0	0	0	0.4	1.0
24-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	0.2	0.4
25-Dec	0	0	0	1	1	1	1	0	0	0	0	0	0	1	1	1	0	1	A	0	1	1	1	1	0.6	1.0
26-Dec	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	A	0	0	0	1	1	1	0.4	0.9
27-Dec	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0.2	0.5
28-Dec	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.1	0.3
29-Dec	0	0	0	0	0	1	1	0	0	0	0	0	0	0	A	1	0	1	1	0	1	1	0	0	0.4	1.5
30-Dec	0	0	0	0	0	0	0	0	0	0	0	0	1	A	1	1	1	0	0	0	0	0	0	0	0.3	0.9
31-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	0.3	0.4
	0.3	0.3	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.3	0.3	0.5	0.5	0.3	0.3	0.4	0.3	0.3	0.3	0.3	0.3	Diurnal Average	
	1.7	2.1	0.9	0.9	1.5	1.5	1.1	1.5	1.2	0.5	1.0	1.5	1.4	0.8	3.9	3.9	1.4	1.5	4.9	1.5	1.1	1.9	1.7	2.2	Diurnal Maximum	

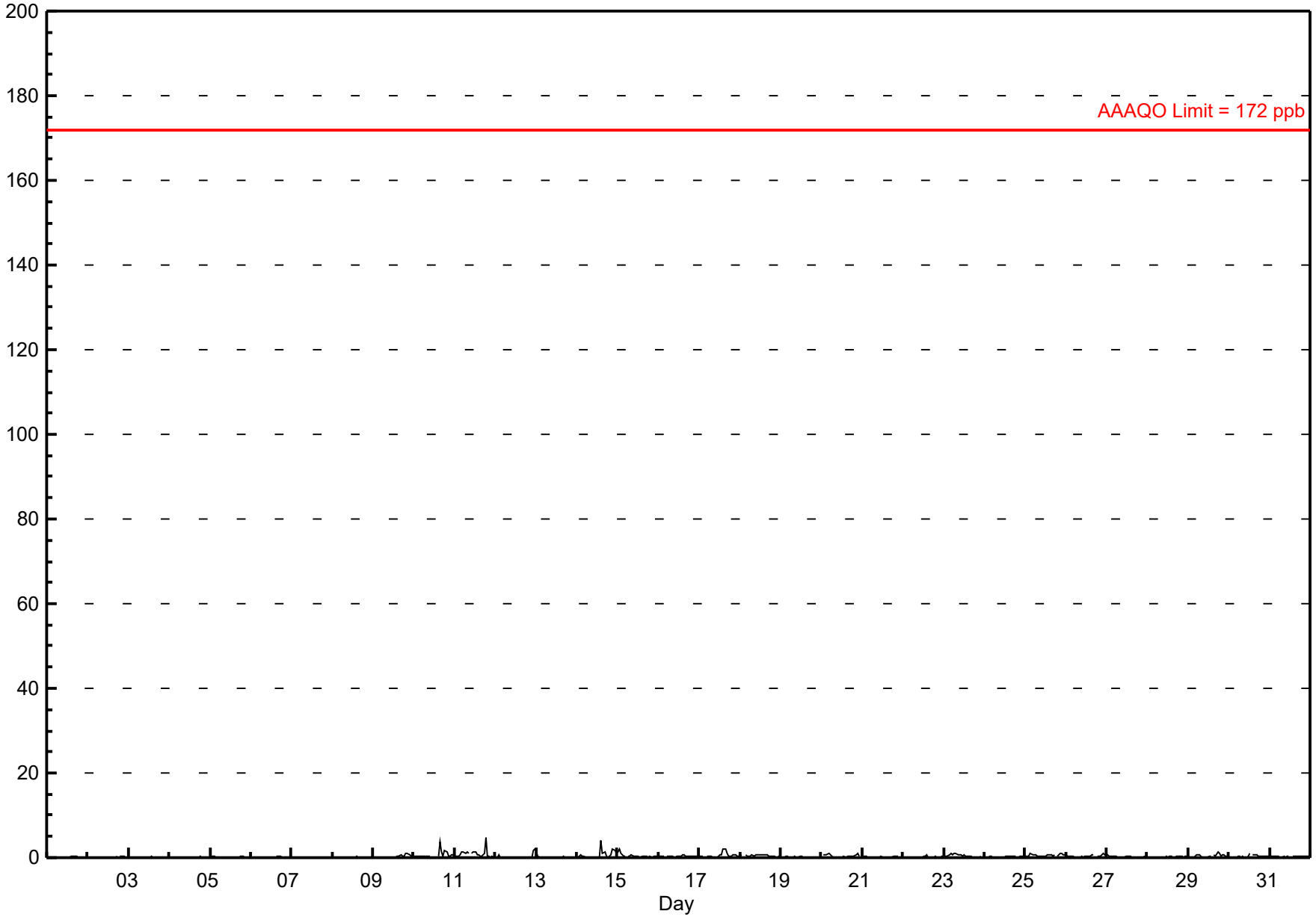
C - Calibration P - Power Failure A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb 30-day 11 ppb

Peace Airshed Zone Association

Hourly Averages

Sulphur Dioxide (SO_2) - ppb

Wembley - December 2018



Peace Airshed Zone Association

Hourly Maximums

Sulphur Dioxide (SO_2) - ppb

Wembley - December 2018

Maximum Value: 18.4 ppb on Dec 14 15:00

Maximum Daily Average: 2.3 ppb on Dec 10

Minimum Value: 0 ppb on Dec 7 12:00

Minimum Daily Average: 0.5 ppb on Dec 7

Maximum Diurnal Average: 1.7 ppb at hour 15

Minimum Diurnal Average: 0.7 ppb at hour 11

Monthly Average: 1.03 ppb

Percentiles: P_1 = 0.4 P_{10} = 0.5 Q_1 = 0.6 Median = 0.8 Q_3 = 1.0 P_{90} = 1.4 P_{99} = 6.4

Hours in Service:	744
Hours of Data:	705
Hours of Missing Data:	39
Hours of Calibration:	35
Percent Operational Time:	99.5

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Dec	1	1	1	1	1	1	0	1	1	0	0	1	1	1	1	1	1	1	1	A	1	1	1	1	0.7	1.2
2-Dec	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	0.7	1.4
3-Dec	1	1	0	1	1	1	1	1	1	0	1	1	1	1	1	0	1	A	1	1	1	1	1	0	0.6	0.9
4-Dec	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	A	1	1	1	1	1	1	1	0.7	1.0
5-Dec	1	1	1	1	1	1	1	1	1	1	P	P	P	P	1	A	1	1	1	1	1	0	0	0	0.7	1.2
6-Dec	0	1	1	1	0	0	0	1	0	0	1	1	0	1	A	1	1	1	1	1	1	0	1	1	0.6	1.2
7-Dec	1	1	0	0	1	1	0	1	0	0	0	0	1	A	0	1	1	1	1	1	1	0	1	1	0.5	0.9
8-Dec	0	0	0	0	1	1	1	1	1	1	0	1	A	1	1	1	1	1	1	1	1	1	1	1	0.7	1.1
9-Dec	1	1	1	1	1	1	1	1	0	1	1	A	1	1	1	1	2	1	1	2	2	2	1	1	0.9	2.2
10-Dec	1	1	1	1	1	1	1	1	2	1	C	C	C	C	2	11	7	1	4	4	1	1	3	2	2.3	10.9
11-Dec	1	1	1	2	3	3	2	4	2	A	1	2	2	1	1	1	1	8	10	1	1	1	1	1	2.3	9.8
12-Dec	1	1	2	1	1	1	1	1	A	1	1	0	1	1	1	1	1	1	1	1	1	1	9	6	1.4	9.4
13-Dec	5	2	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	5.1
14-Dec	1	1	1	1	1	1	A	1	1	1	1	1	1	1	18	3	3	1	1	1	2	3	3	1	2.0	18.4
15-Dec	2	3	2	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.1	3.3
16-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	1.5
17-Dec	1	1	1	A	1	1	1	1	1	1	1	1	1	1	3	3	2	1	1	1	1	1	1	1	1.2	3.1
18-Dec	1	2	A	1	1	1	1	1	1	18	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.9	18.0
19-Dec	1	A	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.2
20-Dec	A	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	1	A	1.1	1.9
21-Dec	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	0.8	1.1
22-Dec	1	1	1	1	1	1	1	0	1	1	1	1	2	1	2	1	1	1	1	1	1	A	1	1	0.9	2.2
23-Dec	1	1	1	1	1	1	2	2	2	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1.1	1.6
24-Dec	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	0.8	1.2
25-Dec	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	2	A	1	2	2	1	1	1.3	1.7
26-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	1.0	1.4
27-Dec	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	0.8	1.1
28-Dec	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	0.7	1.1
29-Dec	1	1	1	1	1	1	2	1	1	1	1	1	1	1	A	1	1	3	2	1	1	1	1	1	1.1	3.2
30-Dec	1	1	1	1	1	1	1	1	1	1	1	1	2	A	1	1	1	1	1	1	1	1	1	1	0.9	1.7
31-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	0.9	1.1
	1.0	1.0	0.9	0.9	0.9	0.9	0.9	0.8	0.8	1.3	0.7	0.8	1.0	0.9	1.7	1.4	1.3	1.2	1.3	1.0	0.9	0.9	1.2	1.1	Diurnal Average	
	5.1	3.3	2.4	2.3	2.7	2.7	2.0	3.9	2.1	18.0	1.5	2.5	2.2	1.4	18.4	10.9	6.8	8.4	9.8	4.2	2.0	2.7	9.4	6.4	Diurnal Maximum	

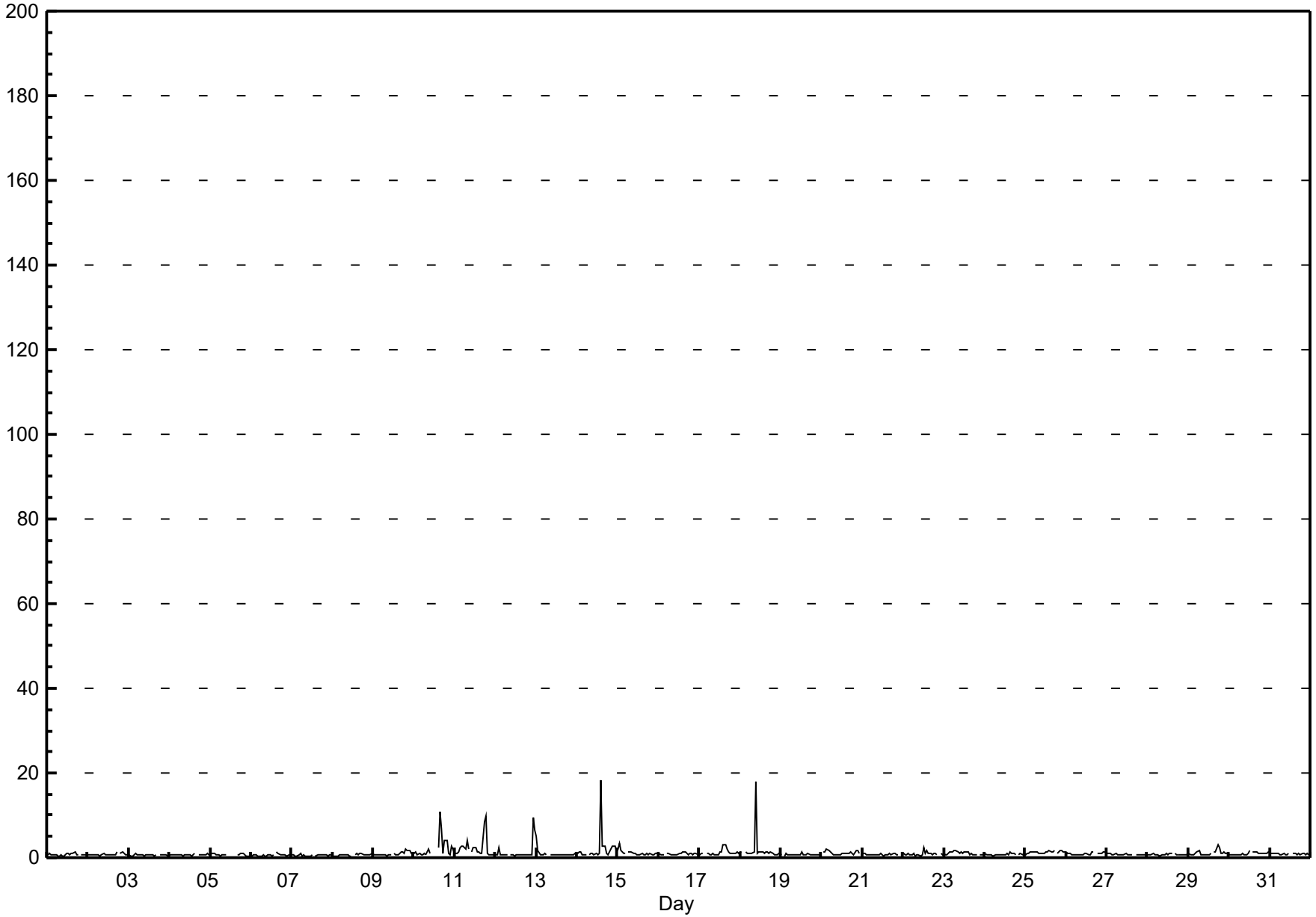
C - Calibration P - Power Failure A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Sulphur Dioxide (SO_2) - ppb

Wembley - December 2018

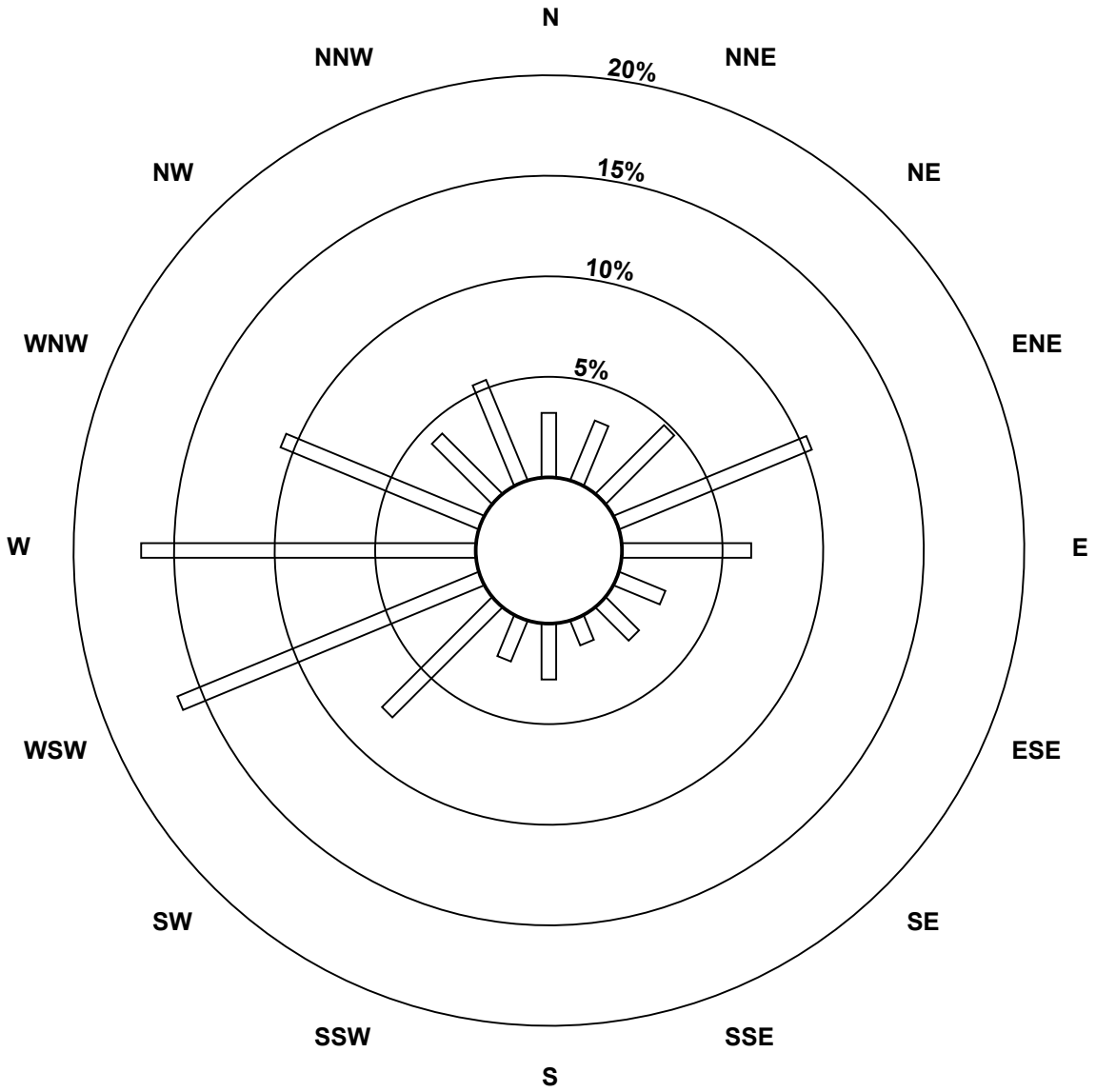


Peace Airshed Zone Association

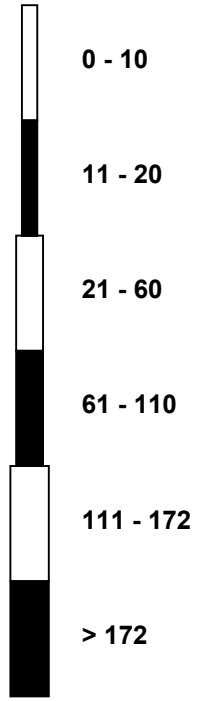
Pollutant Rose

Sulphur Dioxide (SO_2) - ppb

Wembley - December 2018



Pollutant Classes (ppb)

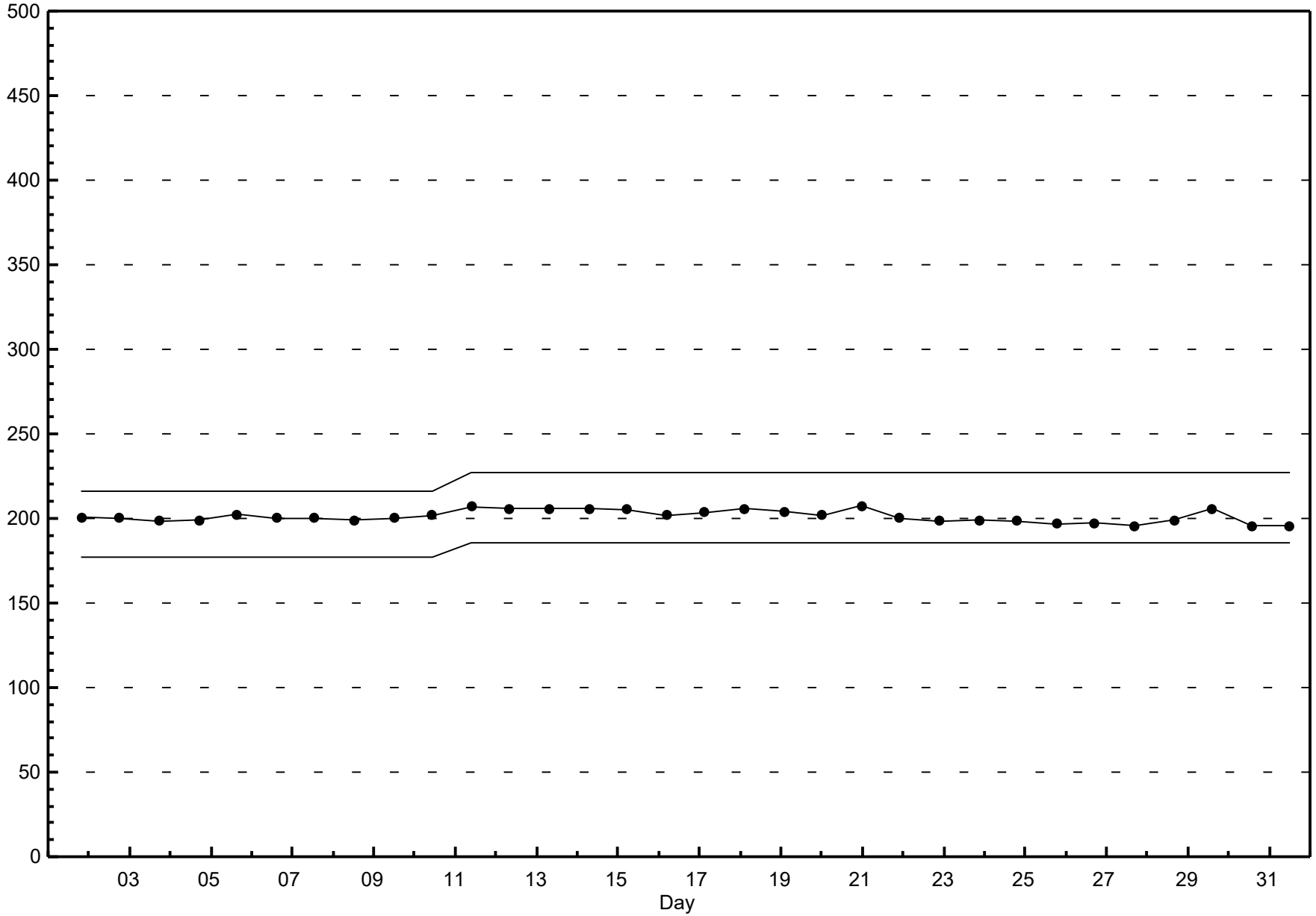


Peace Airshed Zone Association

Span Responses

Sulphur Dioxide (SO_2)

Wembley - December 2018



Peace Airshed Zone Association

Hourly Averages

Total Reduced Sulphur (TRS) - ppb

Wembley - December 2018

Maximum Value: 0.7 ppb on Dec 29 06:00

Maximum Daily Average: 0.3 ppb on Dec 18

Minimum Value: 0 ppb on Dec 15 08:00

Minimum Daily Average: 0.1 ppb on Dec 14

Maximum Diurnal Average: 0.2 ppb at hour 23

Minimum Diurnal Average: 0.1 ppb at hour 4

Monthly Average: 0.16 ppb

Percentiles: P_1 = 0.0 P_{10} = 0.1 Q_1 = 0.1 Median = 0.1 Q_3 = 0.2 P_{90} = 0.3 P_{99} = 0.5

Hours in Service:	744
Hours of Data:	705
Hours of Missing Data:	39
Hours of Calibration:	35
Percent Operational Time:	99.5

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

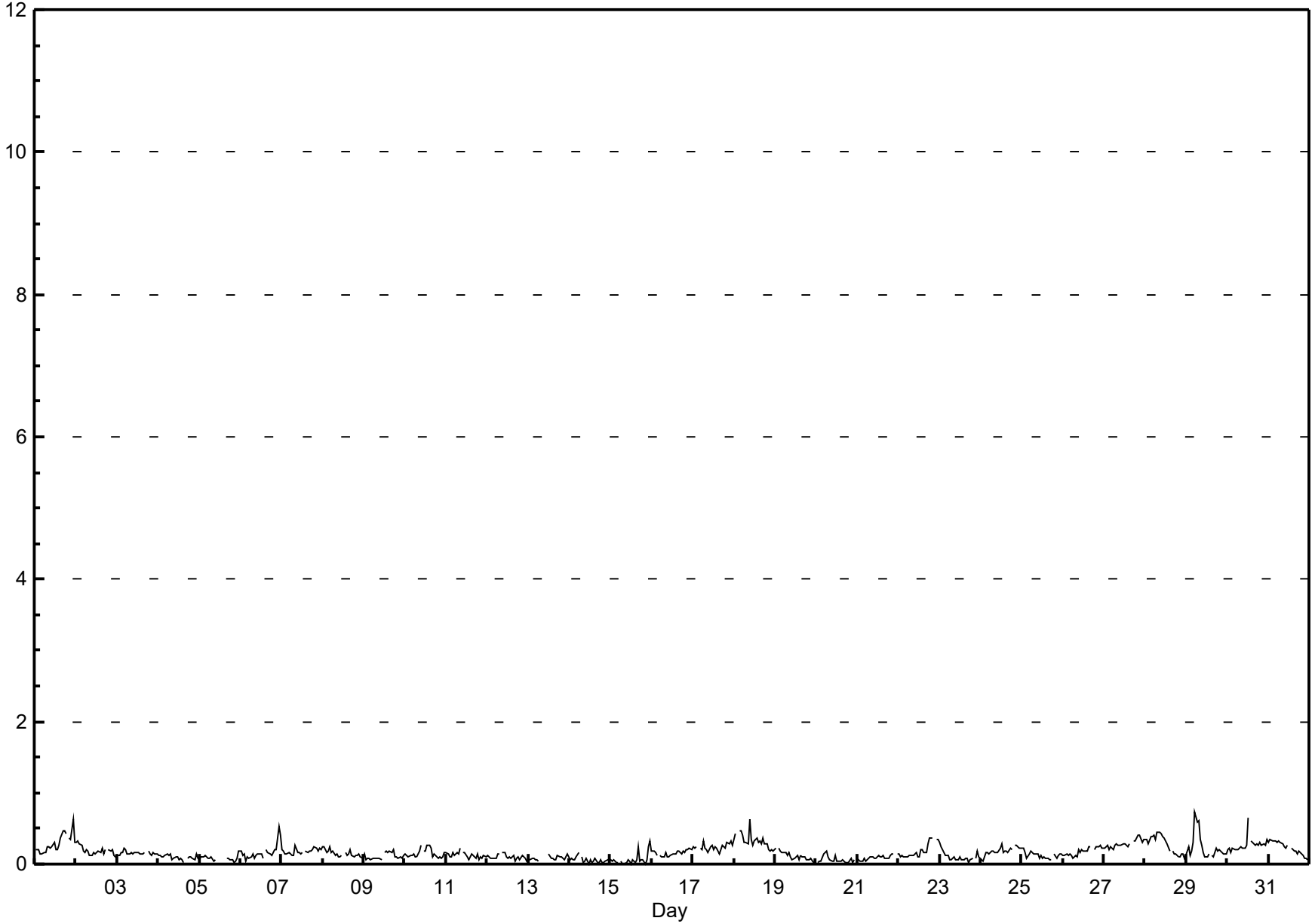
C - Calibration P - Power Failure A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Averages

Total Reduced Sulphur (TRS) - ppb

Wembley - December 2018



Peace Airshed Zone Association

Hourly Maximums

Total Reduced Sulphur (TRS) - ppb

Wembley - December 2018

Maximum Value: 31.2 ppb on Dec 18 10:00

Maximum Daily Average: 2.1 ppb on Dec 18

Minimum Value: 0 ppb on Dec 15 21:00

Minimum Daily Average: 0.5 ppb on Dec 4

Maximum Diurnal Average: 1.6 ppb at hour 10

Minimum Diurnal Average: 0.6 ppb at hour 4

Monthly Average: 0.69 ppb

Percentiles: $P_1 = 0.4$ $P_{10} = 0.4$ $Q_1 = 0.5$ Median = 0.6 $Q_3 = 0.7$ $P_{90} = 0.8$ $P_{99} = 2.0$

Hours in Service:	744
Hours of Data:	705
Hours of Missing Data:	39
Hours of Calibration:	35
Percent Operational Time:	99.5

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Dec	1	1	1	0	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	2	1	0.8	2.2
2-Dec	1	1	1	1	1	1	1	1	1	0	0	0	1	1	1	1	1	1	A	1	1	1	0	0	0.6	0.9
3-Dec	1	1	1	1	1	1	0	1	1	0	1	0	1	1	0	1	1	A	1	0	1	1	1	1	0.6	0.7
4-Dec	0	1	1	0	1	1	1	1	1	1	0	1	0	0	1	1	A	0	1	1	0	0	0	0	0.5	0.6
5-Dec	0	1	0	1	1	0	1	1	0	0	P	P	P	P	1	A	0	0	0	1	1	0	0	1	0.5	1.0
6-Dec	1	1	1	0	1	0	0	0	0	0	1	1	0	0	A	1	1	1	1	1	1	1	11	5	1.2	11.1
7-Dec	1	1	1	0	1	1	1	1	1	1	1	1	0	A	1	1	1	1	1	1	1	1	1	1	0.6	1.0
8-Dec	1	1	1	1	1	1	1	1	1	0	1	1	A	0	1	1	1	1	0	0	0	1	1	1	0.6	1.0
9-Dec	1	0	1	0	0	1	1	1	1	1	1	A	1	1	1	1	1	1	0	1	0	1	0	0	0.6	0.9
10-Dec	1	1	1	1	1	0	1	1	1	1	A	0	1	1	1	1	1	0	1	0	1	1	0	0	0.6	1.0
11-Dec	1	1	0	0	1	1	1	1	2	A	1	0	0	0	1	1	1	0	1	0	0	1	1	0	0.6	1.6
12-Dec	1	1	1	0	0	1	1	1	A	1	0	1	1	1	0	1	1	0	0	0	1	0	1	0	0.6	1.0
13-Dec	0	0	0	1	0	0	0	A	0	C	C	C	1	1	0	1	1	1	0	1	1	1	1	1	0.5	0.9
14-Dec	1	1	1	1	0	1	A	1	0	1	1	0	0	1	1	1	0	0	0	0	0	0	0	1	0.5	0.8
15-Dec	0	0	0	0	0	A	1	0	0	0	0	0	0	0	0	0	4	0	0	0	0	1	1	1	0.6	4.3
16-Dec	1	1	1	1	A	0	0	1	1	1	1	0	1	1	1	1	1	1	1	0	1	1	1	1	0.6	0.8
17-Dec	1	1	1	A	1	1	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	4.1
18-Dec	1	1	A	1	1	1	1	1	1	31	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2.1	31.2
19-Dec	1	A	1	1	1	1	1	0	1	0	1	1	0	0	1	1	1	1	0	1	0	0	0	1	0.5	0.8
20-Dec	A	0	0	1	1	1	1	0	1	1	0	1	0	1	1	1	1	0	0	0	1	0	1	A	0.6	1.0
21-Dec	0	0	0	0	1	1	1	1	1	0	0	0	1	0	1	0	1	1	1	1	1	1	A	1	0.5	0.9
22-Dec	1	1	0	1	1	1	0	1	1	0	1	1	0	1	1	1	1	1	1	1	1	A	1	1	0.6	0.9
23-Dec	1	1	1	1	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	A	1	2	0	0.6	2.1
24-Dec	0	0	0	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	A	1	1	1	1	0.6	0.9
25-Dec	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	A	1	0	1	1	0	0.6	1.0
26-Dec	1	0	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	0.6	0.8
27-Dec	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	0.7	0.9
28-Dec	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	0	1	1	1	0	0.7	1.0
29-Dec	1	2	0	1	1	1	1	1	1	1	1	0	1	1	A	1	1	1	1	1	1	0	0	1	0.7	1.7
30-Dec	1	1	1	1	1	1	1	1	1	1	1	1	7	A	1	1	1	1	1	1	1	1	1	1	1.0	7.3
31-Dec	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	0	1	0	0	0.6	0.9
	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.6	0.7	1.6	0.6	0.6	0.8	0.6	0.6	0.6	0.9	0.6	0.6	0.6	0.6	0.6	1.0	0.8	Diurnal Average	
	1.0	1.7	0.9	0.9	0.9	1.4	4.1	1.1	1.6	31.2	0.9	0.8	7.3	0.9	0.9	0.8	4.3	1.2	0.9	0.8	0.9	1.1	11.1	5.5	Diurnal Maximum	

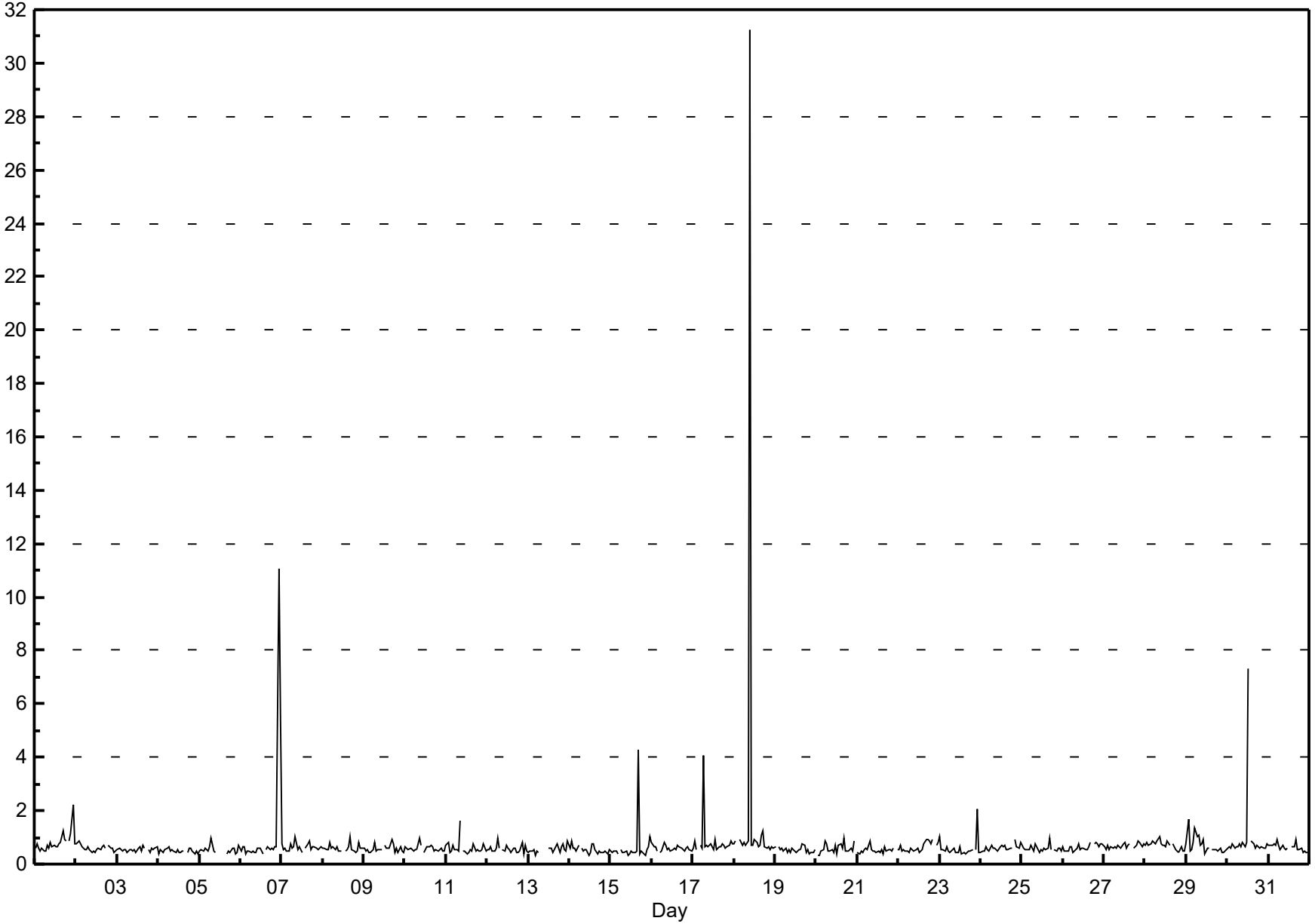
C - Calibration P - Power Failure A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Total Reduced Sulphur (TRS) - ppb

Wembley - December 2018

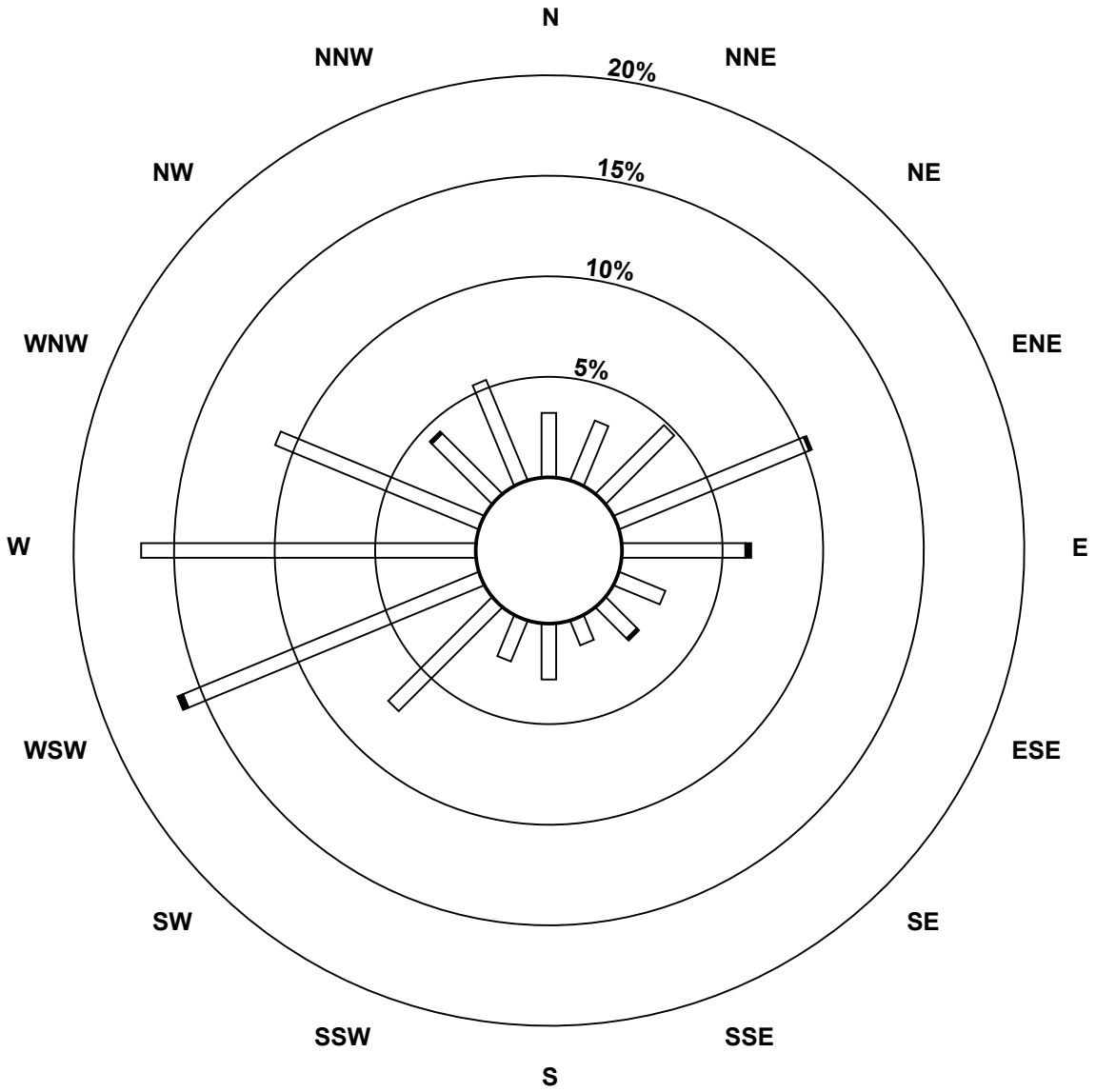


Peace Airshed Zone Association

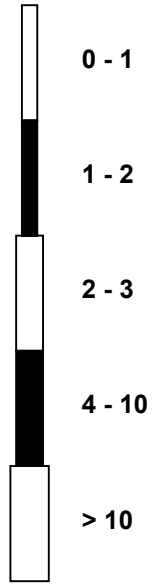
Pollutant Rose

Total Reduced Sulphur (TRS) - ppb

Wembley - December 2018



Pollutant Classes (ppb)

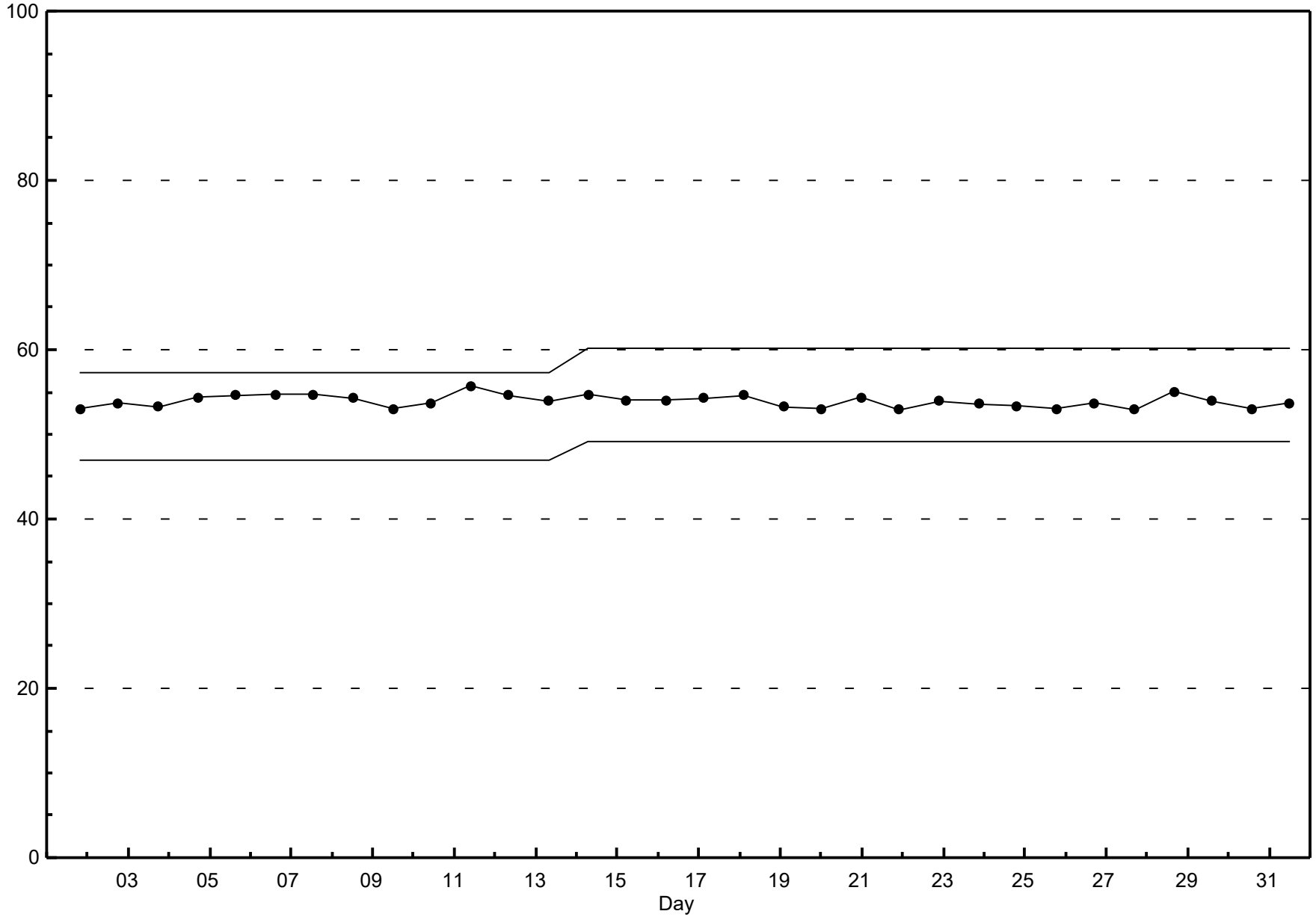


Peace Airshed Zone Association

Span Responses

Total Reduced Sulphur (TRS)

Wembley - December 2018



Peace Airshed Zone Association

Hourly Averages

Nitrogen Dioxide (NO_2) - ppb

Wembley - December 2018

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 29.6 ppb on Dec 6 21:00 Maximum Daily Average: 18.7 ppb on Dec 18

Minimum Value: 0 ppb on Dec 10 20:00 Minimum Daily Average: 1.1 ppb on Dec 21
Maximum Diurnal Average: 9.9 ppb at hour 1 Minimum Diurnal Average: 4.7 ppb at hour 13
Monthly Average: 7.15 ppb Percentiles: P_1 = 0.4 P_{10} = 1.2 Q_1 = 2.9 Median = 5.2 Q_3 = 9.1 P_{90} = 17.2 P_{99} = 23.8

Hours in Service:	744
Hours of Data:	704
Hours of Missing Data:	40
Hours of Calibration:	36
Percent Operational Time:	99.5

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Dec	8	9	8	8	7	6	8	7	9	8	7	11	7	7	8	10	13	15	13	A	14	13	13	14	9.6	14.7
2-Dec	13	15	14	12	9	6	6	7	6	6	4	4	6	6	8	9	9	10	A	12	13	10	10	11	9.0	14.8
3-Dec	15	13	14	11	11	8	6	4	2	2	2	3	3	2	2	2	5	A	3	4	3	3	5	4	5.6	15.3
4-Dec	3	1	1	1	1	1	1	1	1	0	0	0	0	1	1	1	A	2	2	2	1	2	2	4	1.2	4.0
5-Dec	3	3	3	3	2	2	2	2	2	3	P	P	P	P	4	A	4	9	16	17	13	9	9	13	6.2	17.1
6-Dec	9	9	9	7	8	8	6	5	3	4	4	6	4	6	A	7	8	9	16	23	30	20	22	22	10.6	29.6
7-Dec	21	11	9	8	7	6	5	7	9	8	5	8	7	A	8	7	11	13	15	19	22	22	27	24	12.1	26.6
8-Dec	22	18	16	15	17	9	13	9	8	6	5	6	A	4	5	8	14	9	8	6	7	6	6	5	9.7	22.4
9-Dec	4	5	10	7	5	5	8	7	11	8	12	A	10	14	17	19	24	23	16	14	12	11	11	8	11.4	23.7
10-Dec	6	6	4	4	4	6	4	4	3	4	C	C	C	C	C	1	1	0	1	0	2	4	5	7	3.4	7.4
11-Dec	9	5	4	5	4	5	7	7	7	A	7	8	4	4	5	3	8	6	1	1	0	0	1	1	4.4	9.2
12-Dec	0	1	1	1	1	1	1	1	A	2	1	1	0	0	1	0	2	1	1	1	2	2	3	3	1.2	3.3
13-Dec	3	3	1	1	2	1	3	A	2	1	1	2	1	1	3	2	5	6	2	2	1	2	2	4	2.2	5.8
14-Dec	4	6	2	3	3	5	A	6	7	7	7	9	11	6	5	6	8	9	7	8	5	4	5	5	6.0	11.2
15-Dec	4	4	4	3	1	A	2	1	1	1	1	1	1	2	2	3	3	4	5	5	6	15	23	29	5.2	28.8
16-Dec	26	13	6	4	A	3	3	3	3	3	3	4	3	4	5	7	6	5	6	7	7	8	8	8	6.3	26.4
17-Dec	9	10	8	A	8	7	7	8	7	6	6	7	5	8	10	14	18	19	23	23	24	26	23	22	12.8	25.6
18-Dec	21	21	A	23	24	20	20	21	20	17	14	13	12	12	16	21	22	24	23	21	19	17	15	14	18.7	24.0
19-Dec	11	A	9	7	6	4	2	3	5	10	4	3	3	2	1	1	1	2	1	1	1	1	2	1	3.6	11.3
20-Dec	A	3	2	3	6	8	15	12	11	13	8	5	4	3	2	3	5	5	4	3	4	4	3	A	5.8	15.4
21-Dec	3	2	1	1	1	1	1	0	1	1	1	1	0	1	0	1	1	1	1	1	2	3	A	2	1.1	3.2
22-Dec	3	3	3	2	2	3	2	3	4	4	4	4	6	7	7	9	16	15	18	21	22	A	16	15	8.3	21.9
23-Dec	16	17	16	4	3	3	3	3	4	3	3	3	4	3	4	8	6	5	5	6	A	5	6	8	6.1	17.2
24-Dec	11	10	9	7	6	5	4	4	5	5	3	3	3	3	4	6	7	11	13	A	13	12	11	11	7.2	13.1
25-Dec	14	12	8	5	5	6	5	4	3	3	2	2	2	3	4	3	3	3	A	3	3	3	4	8	4.7	14.1
26-Dec	7	5	4	5	5	4	3	3	3	3	4	4	5	4	4	4	5	A	5	5	5	6	7	6	4.6	7.3
27-Dec	6	6	6	6	5	5	5	5	5	5	4	3	3	3	4	5	A	12	20	21	22	21	20	21	9.3	21.6
28-Dec	20	20	18	19	19	19	18	18	18	16	13	11	11	11	4	A	4	2	2	2	5	4	2	2	11.1	20.2
29-Dec	3	3	5	7	15	23	21	18	13	8	5	4	4	6	A	4	5	7	8	6	7	6	2	2	7.8	23.2
30-Dec	2	2	2	2	2	2	2	2	4	4	5	7	6	A	4	4	4	5	4	4	6	7	12	15	4.6	15.0
31-Dec	18	19	19	18	16	15	17	18	18	13	8	7	A	8	8	7	10	10	8	2	1	1	1	1	10.7	19.3
	9.9	8.5	7.2	6.7	6.9	6.5	6.7	6.4	6.4	5.8	5.0	4.9	4.7	4.8	5.2	6.1	7.9	8.3	8.5	8.3	9.0	8.2	9.2	9.6	Diurnal Average	
	26.4	21.3	19.0	22.9	24.0	23.2	21.5	20.9	20.3	17.2	14.3	12.8	11.7	14.3	17.1	20.7	23.7	23.8	22.7	22.9	29.6	25.6	26.6	28.8	Diurnal Maximum	

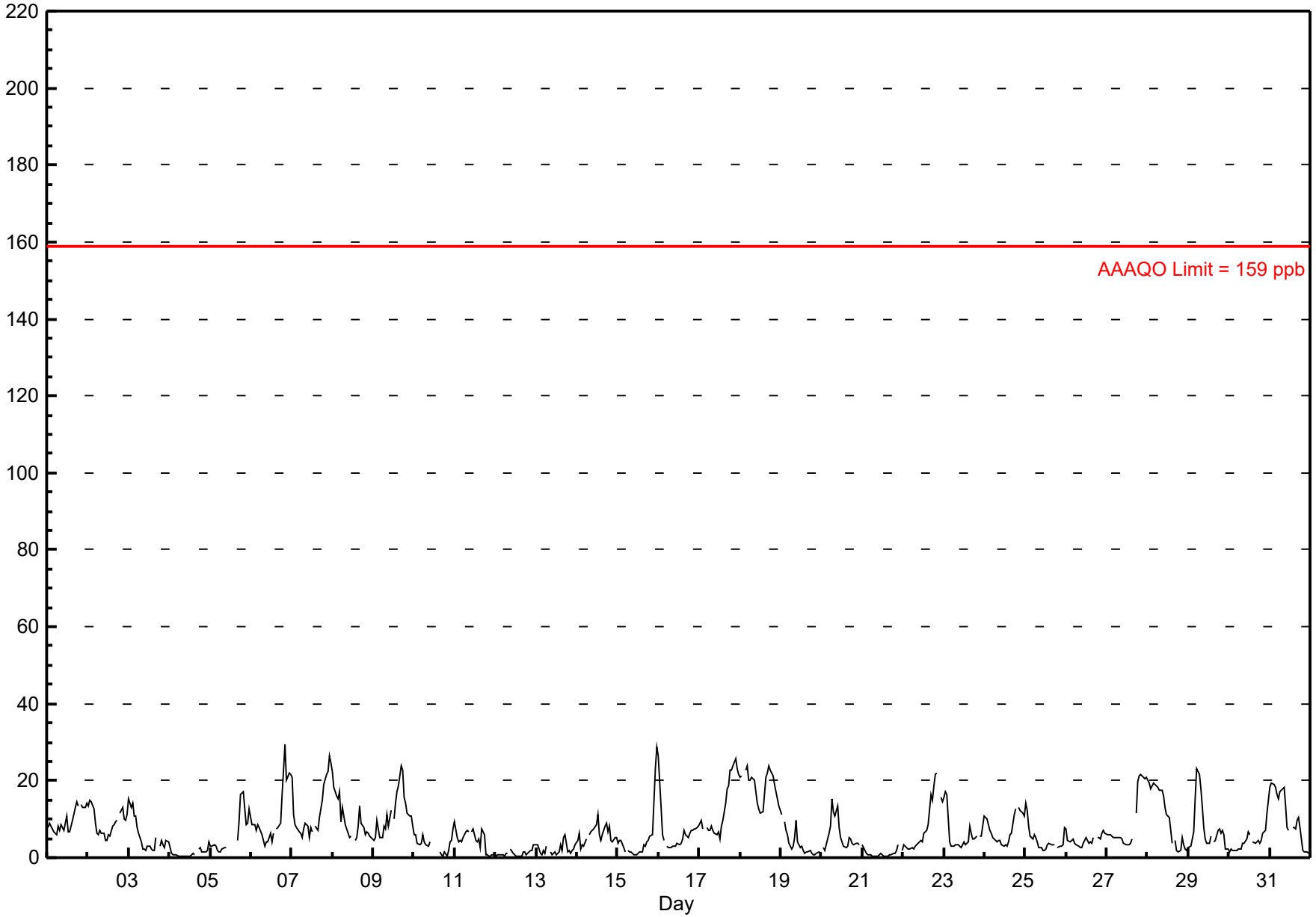
C - Calibration P - Power Failure A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 159 ppb 24-hr 106 ppb

Peace Airshed Zone Association

Hourly Averages

Nitrogen Dioxide (NO_2) - ppb

Wembley - December 2018



Peace Airshed Zone Association

Hourly Maximums

Nitrogen Dioxide (NO_2) - ppb

Wembley - December 2018

Maximum Value: 131.6 ppb on Dec 1 12:00

Maximum Daily Average: 21.3 ppb on Dec 18

Minimum Value: 1 ppb on Dec 12 13:00

Minimum Daily Average: 1.8 ppb on Dec 21

Maximum Diurnal Average: 13.6 ppb at hour 12

Minimum Diurnal Average: 6.4 ppb at hour 14

Monthly Average: 9.78 ppb

Percentiles: P_1 = 0.7 P_{10} = 2.2 Q_1 = 4.1 Median = 7.7 Q_3 = 12.4 P_{90} = 20.8 P_{99} = 32.1

Hours in Service:	744
Hours of Data:	704
Hours of Missing Data:	40
Hours of Calibration:	36
Percent Operational Time:	99.5

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Dec	9	10	9	11	8	6	10	9	10	9	8	132	7	7	9	12	17	17	15	A	15	14	14	15	16.1	131.6
2-Dec	15	16	15	14	12	9	7	8	9	8	5	7	10	6	14	13	12	11	A	13	15	12	11	14	11.1	16.3
3-Dec	18	14	15	13	12	10	7	7	3	3	4	4	4	3	2	5	9	A	4	5	5	4	14	8	7.5	17.5
4-Dec	4	2	2	1	2	1	1	1	1	1	1	1	1	2	2	1	A	4	4	2	2	2	3	6	2.0	6.4
5-Dec	5	5	5	6	3	4	4	7	4	6	P	P	P	P	6	A	6	12	20	22	18	11	11	20	9.1	21.8
6-Dec	10	11	10	9	11	9	7	6	4	5	5	19	5	12	A	9	9	12	33	32	34	29	28	23	14.4	34.3
7-Dec	25	14	10	9	8	13	7	12	12	10	7	10	9	A	9	9	13	16	18	23	25	30	31	27	15.2	30.8
8-Dec	25	24	19	20	21	12	20	13	9	8	7	8	A	6	9	10	21	10	14	7	8	7	8	8	12.9	25.5
9-Dec	12	9	21	11	7	7	10	11	18	13	71	A	11	18	31	23	36	25	19	16	15	15	18	10	18.5	71.2
10-Dec	8	8	5	4	5	31	6	5	5	8	C	C	C	C	C	3	2	6	5	1	7	12	6	16	7.5	30.7
11-Dec	16	7	5	5	5	6	8	8	14	A	8	10	7	8	12	6	22	12	1	2	1	1	2	2	7.4	22.3
12-Dec	1	1	2	3	2	2	3	2	A	3	2	1	1	1	1	1	3	3	2	3	3	7	7	6	2.7	7.3
13-Dec	10	8	3	3	4	2	7	A	7	1	3	3	2	3	7	5	10	11	4	5	2	8	3	4	4.9	10.8
14-Dec	8	20	3	4	4	7	A	7	8	10	8	10	12	12	6	8	11	11	8	10	8	5	9	6	8.5	20.3
15-Dec	6	7	10	9	2	A	3	2	5	2	2	2	2	2	2	8	5	6	8	11	12	23	26	32	8.1	32.1
16-Dec	29	21	8	5	A	3	3	3	3	3	3	4	4	4	11	11	9	11	11	9	9	10	10	10	8.5	29.3
17-Dec	11	11	10	A	9	8	8	12	9	8	10	11	7	11	12	17	21	21	24	24	25	28	27	23	15.1	28.1
18-Dec	22	22	A	24	25	24	21	22	24	37	18	15	13	13	19	22	24	25	24	23	21	19	17	14	21.3	36.8
19-Dec	13	A	12	9	9	7	3	6	16	12	12	5	5	2	2	3	2	4	5	1	2	2	5	2	6.0	15.9
20-Dec	A	4	2	5	8	14	19	16	13	15	12	7	4	3	4	4	7	6	7	4	5	5	5	A	7.6	18.7
21-Dec	4	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	3	3	7	A	3	1.8	6.5
22-Dec	5	4	4	3	3	8	4	4	6	4	11	7	10	8	8	12	24	19	24	28	24	A	23	16	11.2	28.4
23-Dec	18	19	19	12	3	5	3	4	4	3	3	5	5	4	8	10	10	6	6	6	A	6	7	12	7.7	19.0
24-Dec	12	11	9	9	7	6	7	5	5	10	4	3	11	4	6	7	8	14	15	A	14	15	12	12	8.9	14.8
25-Dec	19	15	12	7	6	7	6	5	3	3	3	2	3	4	4	4	4	4	A	3	4	3	5	10	5.9	19.3
26-Dec	9	6	5	6	8	5	5	4	4	4	8	67	8	4	6	5	6	A	6	8	6	7	8	7	8.9	67.5
27-Dec	6	7	7	9	6	7	6	7	6	7	6	5	7	4	4	6	A	17	21	23	22	22	21	22	10.7	22.5
28-Dec	22	20	20	20	19	20	19	19	20	18	14	13	11	12	8	A	8	4	2	4	8	7	3	3	12.8	22.2
29-Dec	7	5	6	10	22	24	23	19	16	10	5	4	5	9	A	6	8	10	19	8	11	7	4	3	10.5	24.2
30-Dec	2	3	3	2	2	3	3	3	5	5	9	14	10	A	7	4	8	6	5	6	8	8	32	23	7.4	31.9
31-Dec	21	21	21	20	19	17	21	19	20	17	11	8	A	10	9	9	12	12	12	3	3	3	3	2	12.6	20.9
	12.4	10.9	9.0	8.8	8.5	9.2	8.4	8.2	8.7	8.1	9.0	13.6	6.4	6.4	7.9	8.0	11.4	10.9	11.6	10.5	11.0	10.9	12.4	12.0	Diurnal Average	
	29.3	23.6	21.1	23.7	25.3	30.7	23.2	21.8	24.0	36.8	71.2	131.6	12.9	17.6	30.9	22.5	36.4	25.4	32.8	31.5	34.3	30.5	31.9	32.1	Diurnal Maximum	

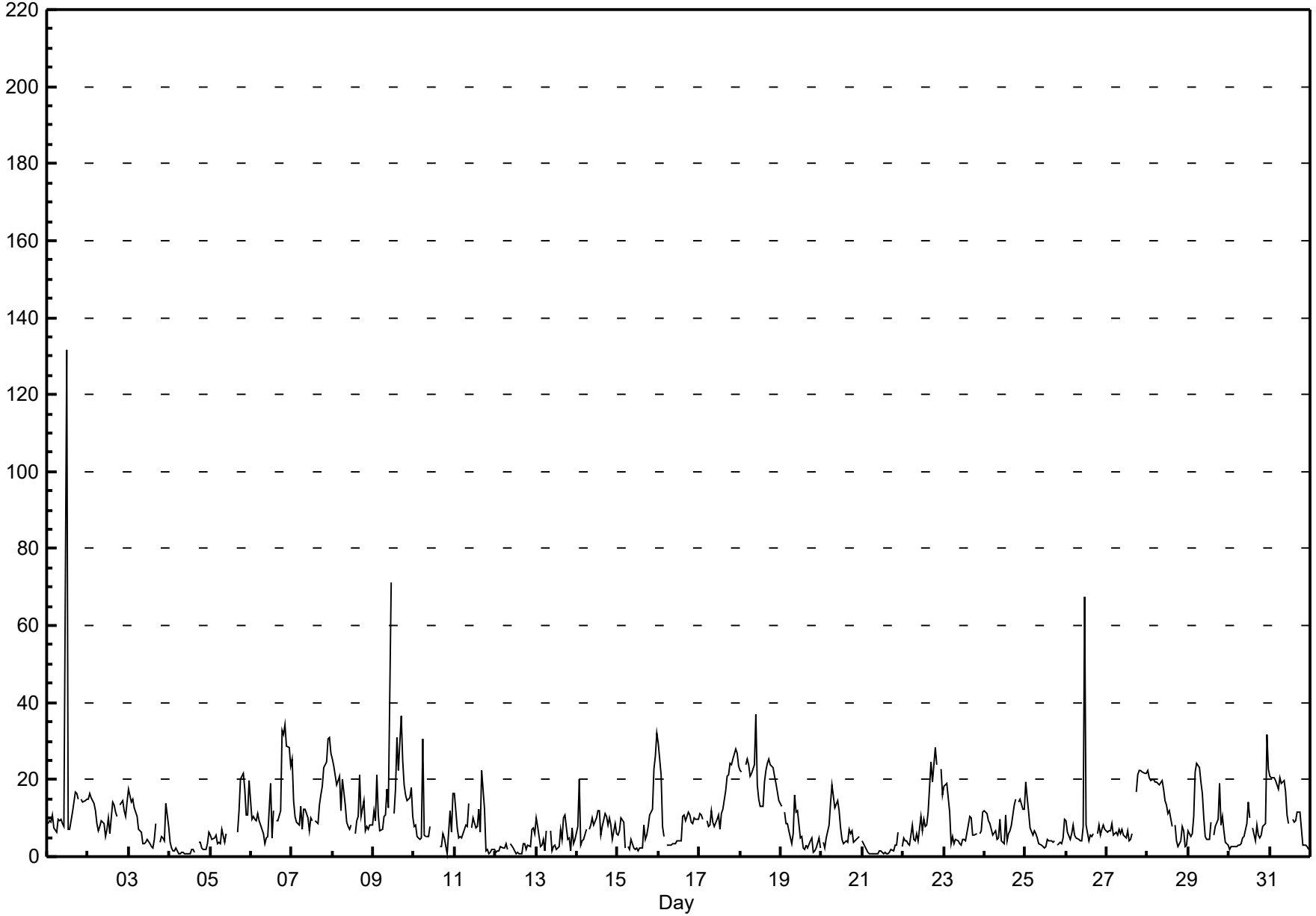
C - Calibration P - Power Failure A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Nitrogen Dioxide (NO_2) - ppb

Wembley - December 2018

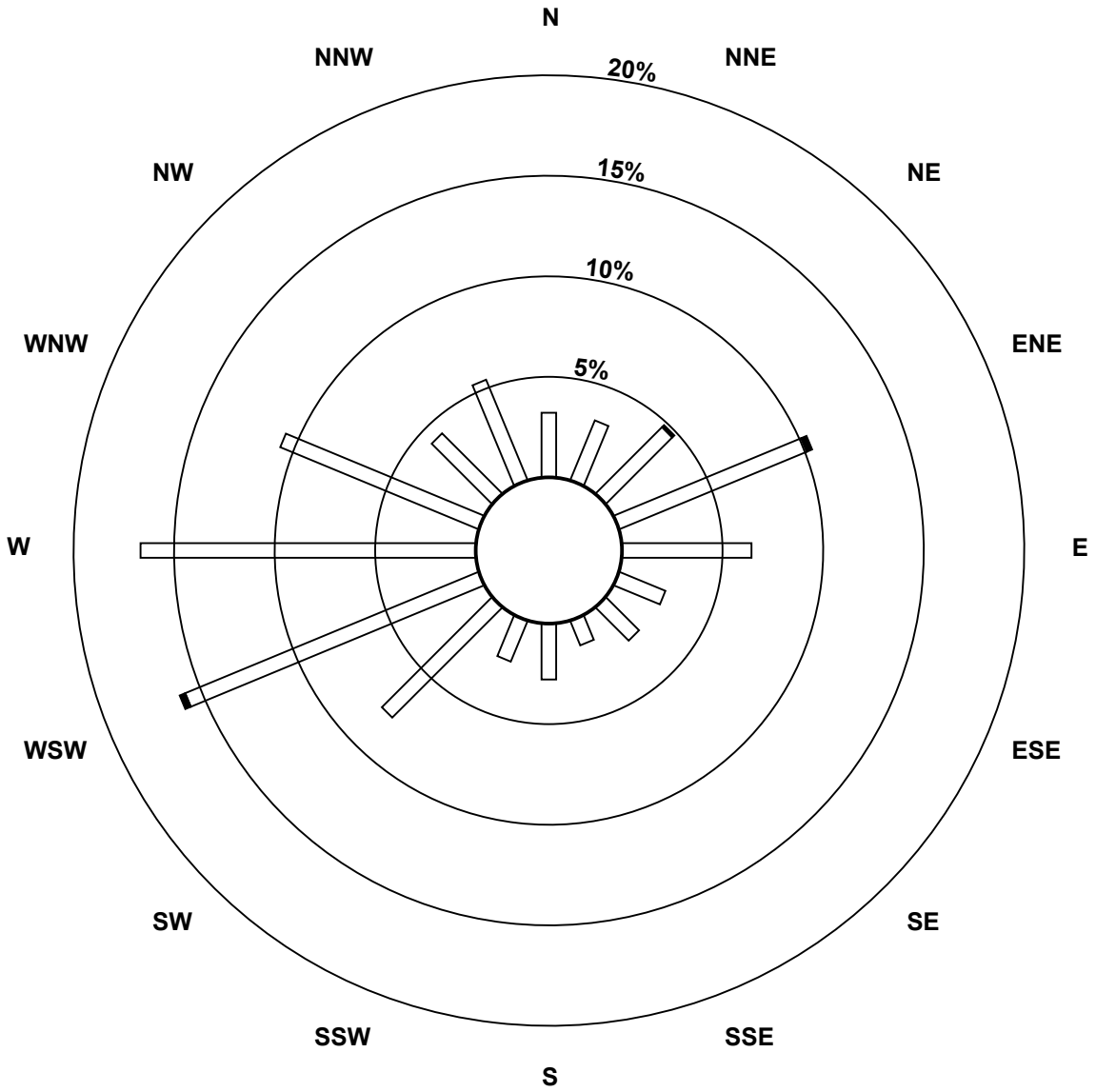


Peace Airshed Zone Association

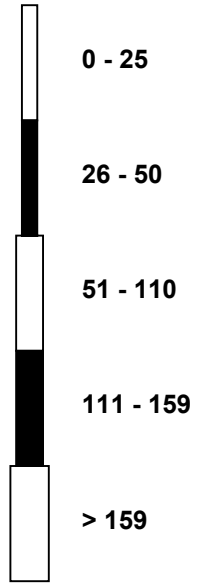
Pollutant Rose

Nitrogen Dioxide (NO_2) - ppb

Wembley - December 2018



Pollutant Classes (ppb)

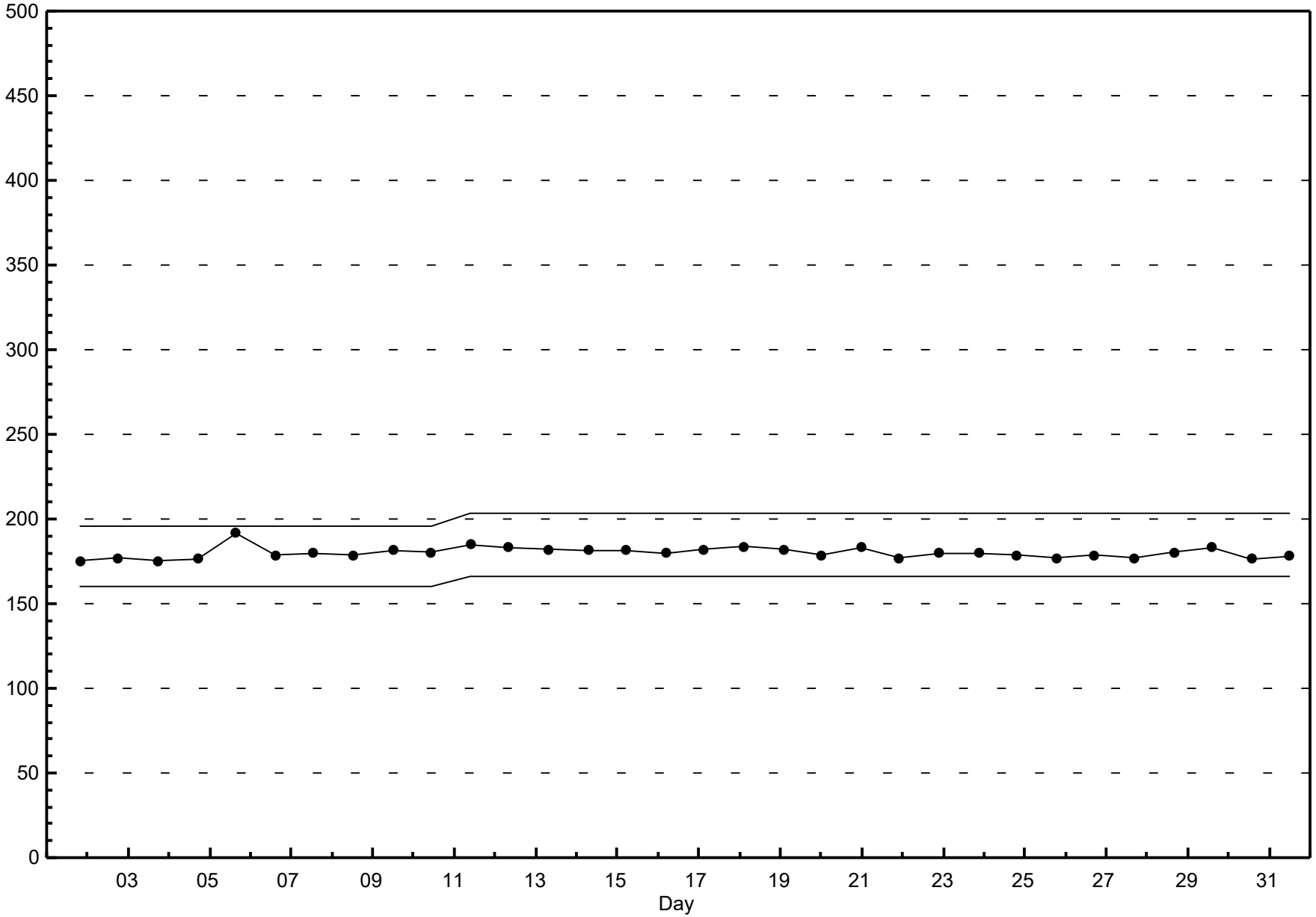


Peace Airshed Zone Association

Span Responses

Nitrogen Dioxide (NO_2)

Wembley - December 2018



Peace Airshed Zone Association

Hourly Averages

Nitrogen Oxide (NO) - ppb

Wembley - December 2018

Maximum Value: 22.6 ppb on Dec 18 16:00

Maximum Daily Average: 10.1 ppb on Dec 18

Minimum Value: 0 ppb on Dec 3 22:00

Minimum Daily Average: 0.1 ppb on Dec 4

Maximum Diurnal Average: 3.4 ppb at hour 13

Minimum Diurnal Average: 0.4 ppb at hour 3

Monthly Average: 1.44 ppb

Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 0.1 Median = 0.2 Q_3 = 0.9 P_{90} = 4.9 P_{99} = 16.5

Hours in Service:	744
Hours of Data:	704
Hours of Missing Data:	40
Hours of Calibration:	36
Percent Operational Time:	99.5

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Dec	0	0	0	0	0	0	0	0	0	2	5	10	7	6	8	6	5	3	2	A	5	6	6	5	3.3	10.4
2-Dec	6	6	4	5	0	0	0	0	0	1	2	3	6	5	8	5	1	0	A	0	0	0	0	0	2.4	8.3
3-Dec	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0	A	0	0	0	0	0	0	0.4	1.4
4-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	0.1
5-Dec	0	0	0	0	0	0	0	0	0	0	P	P	P	P	1	A	0	0	0	0	0	0	0	0	0.2	1.3
6-Dec	0	0	0	0	0	0	0	0	0	0	1	3	2	4	A	1	0	0	1	1	1	0	1	0	0.8	4.0
7-Dec	0	0	0	0	0	1	0	0	0	1	3	6	5	A	4	1	1	0	0	0	0	0	0	0	1.0	5.9
8-Dec	0	0	0	0	0	0	0	0	0	1	2	2	A	1	2	2	1	0	1	0	0	0	0	0	0.6	2.5
9-Dec	1	0	0	0	0	0	0	0	0	1	10	A	8	9	11	4	3	1	0	0	0	0	1	0	2.3	11.4
10-Dec	0	0	0	0	0	1	0	0	0	0	C	C	C	C	C	0	0	1	0	0	1	0	0	0	0.3	1.2
11-Dec	0	0	0	0	0	0	0	0	0	A	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0.3	0.9
12-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	0.5
13-Dec	0	1	0	0	0	0	0	A	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0.3	0.8
14-Dec	0	0	0	0	0	0	A	0	0	0	1	2	4	1	1	1	0	0	0	0	0	0	0	0	0.5	3.7
15-Dec	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0.2	0.7
16-Dec	0	0	0	0	A	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0.3	1.3
17-Dec	0	0	0	A	0	0	0	0	0	1	4	6	5	10	8	8	5	1	10	10	15	20	19	17	6.1	20.1
18-Dec	14	7	A	8	7	10	11	6	8	11	15	17	18	17	20	23	14	13	6	4	1	0	0	0	10.1	22.6
19-Dec	0	A	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0.3	1.1
20-Dec	A	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	A	0.2	0.6
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	0.1	0.3
22-Dec	0	0	0	0	0	0	0	0	0	0	2	2	5	5	4	3	3	0	1	2	0	A	1	0	1.2	5.4
23-Dec	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	A	0	0	0	0.3	1.4
24-Dec	0	0	0	0	0	0	0	0	0	1	1	2	3	2	2	2	1	0	0	A	0	0	0	0	0.7	2.6
25-Dec	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	A	0	0	0	0	0	0.3	1.1
26-Dec	0	0	0	0	0	0	0	0	0	0	1	6	4	3	2	1	0	A	0	0	0	0	0	0	0.8	6.1
27-Dec	0	0	0	1	0	0	0	0	0	1	2	3	4	4	3	2	A	1	7	14	11	9	8	6	3.3	14.1
28-Dec	5	5	4	4	4	4	3	3	4	7	9	11	10	7	1	A	0	0	0	0	0	0	0	0	3.5	11.2
29-Dec	0	0	0	0	0	13	12	3	0	0	0	1	1	2	A	1	0	0	1	0	0	0	0	0	1.6	13.3
30-Dec	0	0	0	0	0	0	0	0	0	0	2	4	5	A	2	1	1	0	0	0	0	0	3	2	0.9	4.9
31-Dec	1	1	2	1	1	0	1	1	3	2	6	8	A	8	6	3	1	0	0	0	0	0	0	0	2.0	8.2
	1.1	0.8	0.4	0.7	0.5	1.1	1.0	0.5	0.6	1.1	2.4	3.4	3.4	3.4	3.2	2.5	1.4	0.8	1.0	1.2	1.2	1.3	1.4	1.1	Diurnal Average	
	14.4	6.9	4.3	8.1	7.3	13.3	12.1	6.1	7.6	10.8	15.3	17.5	17.7	17.1	20.3	22.6	14.4	13.2	9.6	14.1	15.0	20.1	18.5	16.5	Diurnal Maximum	

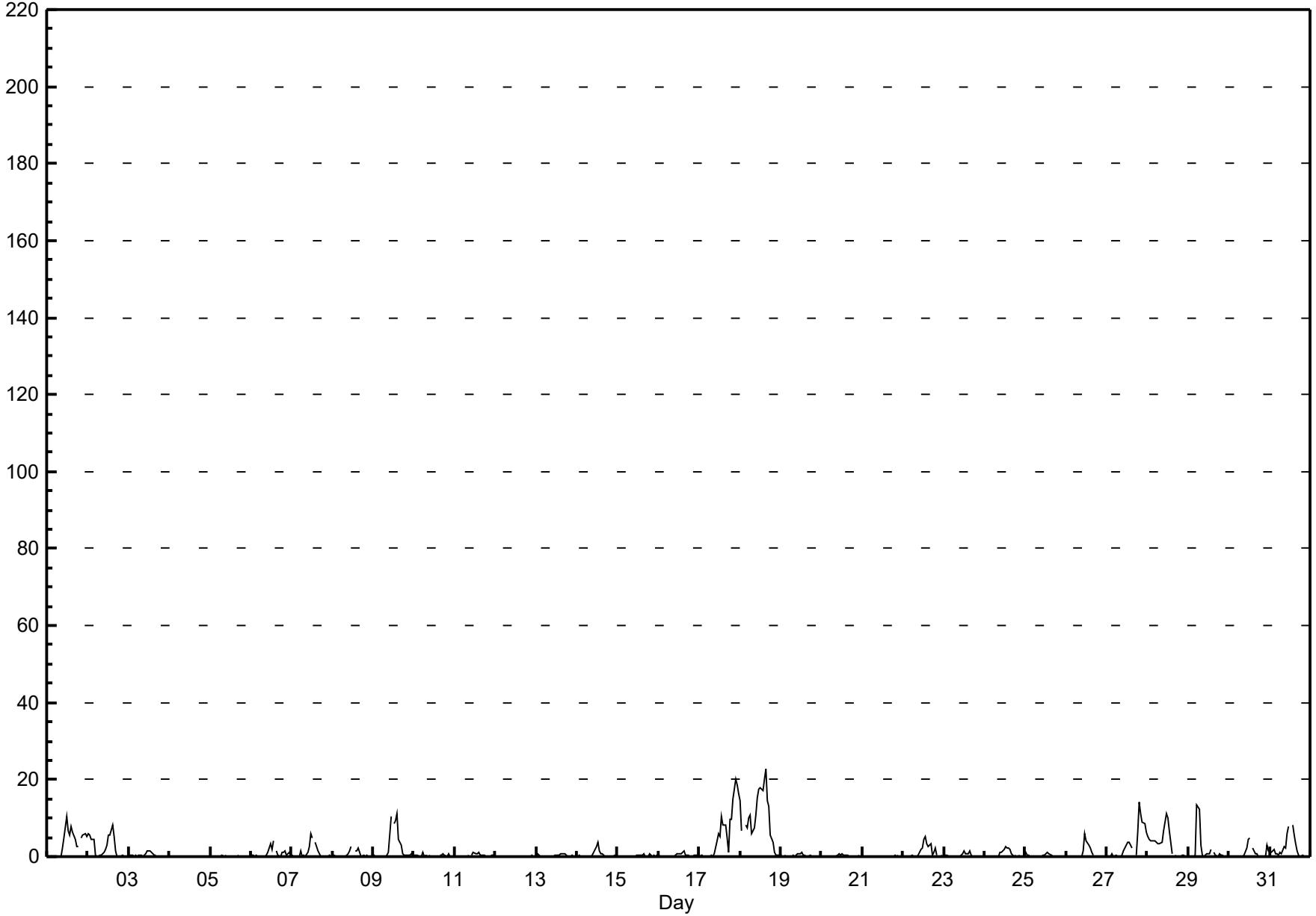
C - Calibration P - Power Failure A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Averages

Nitrogen Oxide (NO) - ppb

Wembley - December 2018



Peace Airshed Zone Association

Hourly Maximums

Nitrogen Oxide (NO) - ppb

Wembley - December 2018

Maximum Value: 150.6 ppb on Dec 26 12:00

Maximum Daily Average: 14.9 ppb on Dec 18

Minimum Value: 0 ppb on Dec 22 05:00

Minimum Daily Average: 0.4 ppb on Dec 21

Maximum Diurnal Average: 15.2 ppb at hour 12

Minimum Diurnal Average: 1.4 ppb at hour 5

Monthly Average: 4.04 ppb

Percentiles: P_1 = 0.1 P_{10} = 0.2 Q_1 = 0.3 Median = 1.4 Q_3 = 4.5 P_{90} = 9.8 P_{99} = 28.9

Hours in Service:	744
Hours of Data:	704
Hours of Missing Data:	40
Hours of Calibration:	36
Percent Operational Time:	99.5

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Dec	3	0	0	0	1	0	0	0	1	7	6	114	7	6	13	8	7	6	4	A	6	9	7	6	9.2	114.1
2-Dec	8	7	6	6	3	2	1	5	6	7	3	6	12	6	18	16	3	0	A	1	1	2	0	1	5.3	18.5
3-Dec	2	1	1	1	2	1	5	7	1	2	3	3	2	1	1	1	2	A	0	0	2	0	2	0	1.7	7.1
4-Dec	3	1	1	1	0	0	0	1	0	0	0	0	0	0	0	1	A	0	0	0	0	0	0	0	0.4	3.1
5-Dec	0	0	2	2	2	1	0	6	1	1	P	P	P	P	2	A	0	0	1	0	0	0	1	0	1.1	5.9
6-Dec	1	4	2	3	0	1	0	1	0	1	2	23	2	9	A	2	1	1	5	6	8	6	7	4	3.9	23.0
7-Dec	3	2	2	1	2	17	1	5	1	2	4	7	8	A	5	3	6	0	2	0	1	1	7	1	3.6	17.2
8-Dec	3	3	0	1	0	1	2	1	9	3	4	4	A	3	4	5	3	0	20	1	5	0	0	1	3.1	19.8
9-Dec	15	0	0	0	0	2	0	2	5	2	114	A	11	12	34	18	14	6	3	5	3	8	6	2	11.4	114.2
10-Dec	4	4	3	0	1	14	1	3	3	5	C	C	C	C	C	2	2	11	4	1	5	0	0	0	3.3	13.8
11-Dec	0	0	0	0	0	0	0	0	2	A	1	2	2	2	3	4	2	2	0	1	0	1	1	1	1.2	4.5
12-Dec	1	1	1	1	1	2	1	1	A	1	1	1	1	1	1	0	2	1	1	1	0	6	0	0	1.1	6.1
13-Dec	3	5	1	2	2	0	2	A	1	1	1	1	1	1	3	2	3	3	1	1	0	5	0	0	1.7	5.4
14-Dec	0	4	0	0	0	0	A	1	0	1	2	3	4	4	1	2	0	0	0	0	2	0	5	0	1.4	4.9
15-Dec	1	2	2	1	0	A	0	0	2	2	1	1	1	1	1	3	1	1	0	10	0	12	0	1	1.9	12.0
16-Dec	1	0	0	0	A	0	0	0	0	0	1	1	1	1	5	4	3	5	0	4	1	6	2	2	1.7	6.1
17-Dec	2	2	4	A	1	3	1	9	2	2	9	12	9	16	10	11	14	3	17	15	21	25	23	21	10.1	25.2
18-Dec	18	10	A	9	8	15	15	9	11	35	29	25	22	18	24	28	21	19	11	9	3	4	2	1	14.9	34.6
19-Dec	3	A	2	0	4	1	1	4	1	3	2	2	5	1	1	0	1	5	1	0	1	0	3	1	1.9	5.0
20-Dec	A	0	0	0	0	0	0	0	0	1	2	1	1	1	2	1	1	2	0	0	1	2	3	A	0.9	3.0
21-Dec	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	2	A	0	0.4	2.3
22-Dec	0	0	1	0	0	4	5	0	3	1	7	4	6	6	5	5	36	5	7	14	1	A	10	2	5.4	35.8
23-Dec	0	7	5	0	0	0	0	0	0	0	1	1	2	1	2	2	1	0	0	0	A	0	0	0	1.0	6.6
24-Dec	0	0	0	0	0	0	5	0	0	8	1	2	16	5	3	3	6	0	5	A	1	3	0	1	2.7	16.4
25-Dec	6	3	4	2	1	0	0	1	0	0	1	1	1	1	1	1	0	1	A	0	0	0	0	0	1.1	6.0
26-Dec	0	0	0	0	0	0	0	0	0	1	5	151	12	3	4	5	3	A	0	3	2	0	0	0	8.2	150.6
27-Dec	4	0	1	6	5	2	0	2	0	7	10	7	7	4	4	3	A	2	10	21	15	12	10	8	6.0	20.8
28-Dec	11	6	6	5	5	7	6	8	12	11	10	21	11	10	3	A	2	2	1	2	3	3	0	0	6.2	20.5
29-Dec	6	0	0	0	1	21	15	8	1	1	1	1	1	4	A	2	1	2	11	3	5	1	0	0	3.7	21.1
30-Dec	0	0	0	0	0	0	0	1	0	3	5	18	13	A	8	1	7	0	0	0	0	0	58	6	5.4	58.1
31-Dec	5	2	4	2	2	1	5	2	20	4	7	12	A	10	7	8	3	1	1	2	2	1	1	1	4.4	20.3
	3.5	2.2	1.6	1.6	1.4	3.3	2.3	2.6	2.8	3.6	8.0	15.2	5.8	4.8	5.9	4.8	4.9	2.7	3.7	3.6	3.0	3.7	5.1	2.1	Diurnal Average	
	17.9	10.0	6.3	9.4	8.2	21.1	15.3	8.8	20.3	34.6	114.2	150.6	21.7	18.0	34.3	27.8	35.8	18.6	19.8	20.8	20.9	25.2	58.1	20.7	Diurnal Maximum	

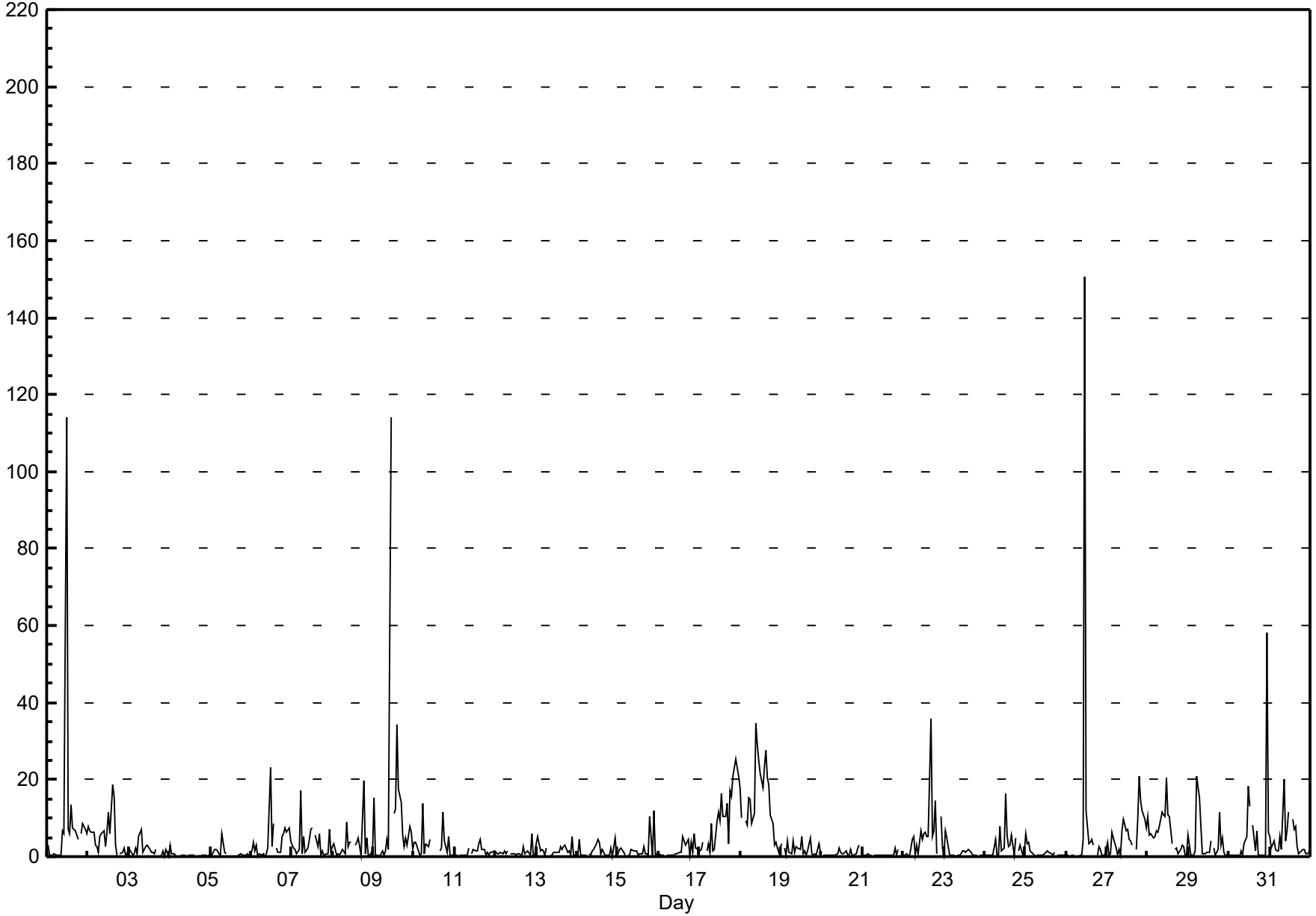
C - Calibration P - Power Failure A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Nitrogen Oxide (NO) - ppb

Wembley - December 2018



PAZA
Peace Airshed Zone Association

Hourly Averages

Oxides of Nitrogen (NO_X) - ppb

Wembley - December 2018

Maximum Value: 46.0 ppb on Dec 17 22:00

Maximum Daily Average: 29.0 ppb on Dec 18

Minimum Value: 0 ppb on Dec 4 10:00

Minimum Daily Average: 1.2 ppb on Dec 21

Maximum Diurnal Average: 11.1 ppb at hour 1

Minimum Diurnal Average: 6.9 ppb at hour 10

Monthly Average: 8.66 ppb

Percentiles: P_1 = 0.5 P_{10} = 1.2 Q_1 = 3.0 Median = 6.0 Q_3 = 11.2 P_{90} = 21.2 P_{99} = 36.8

Hours in Service:	744
Hours of Data:	704
Hours of Missing Data:	40
Hours of Calibration:	36
Percent Operational Time:	99.5

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Dec	8	9	8	8	7	6	8	7	9	10	12	21	13	12	16	16	18	17	16	A	19	19	19	20	13.0	21.3
2-Dec	20	21	19	17	9	6	6	7	7	8	6	7	12	11	17	14	11	10	A	12	13	10	10	11	11.5	20.6
3-Dec	16	14	15	11	11	8	7	4	2	2	3	4	4	3	3	2	6	A	3	4	3	3	5	4	6.0	16.1
4-Dec	3	1	1	1	1	1	1	1	1	0	0	0	0	1	1	1	A	2	3	2	1	2	2	4	1.2	4.0
5-Dec	3	3	3	3	2	2	2	2	3	3	P	P	P	P	5	A	5	9	17	18	13	9	9	13	6.5	17.5
6-Dec	9	9	9	7	9	8	6	5	3	4	5	9	6	10	A	9	8	9	18	25	31	21	24	22	11.5	31.4
7-Dec	21	12	9	8	7	8	5	8	9	9	8	14	12	A	12	9	11	13	15	19	22	23	27	25	13.3	27.5
8-Dec	23	19	17	15	17	10	14	9	8	7	7	8	A	6	7	10	15	9	8	6	7	7	6	5	10.4	23.0
9-Dec	5	5	10	7	5	5	8	8	12	9	23	A	19	24	29	23	27	24	16	15	12	11	12	8	13.8	28.7
10-Dec	6	6	4	4	4	7	4	4	3	5	C	C	C	C	C	2	1	1	2	0	2	4	5	8	3.8	7.6
11-Dec	9	5	4	5	4	5	7	7	7	A	7	9	5	5	6	3	8	6	1	1	0	1	1	1	4.7	9.5
12-Dec	1	1	1	1	1	1	1	1	A	2	1	1	0	1	1	0	2	1	1	1	2	2	3	3	1.3	3.3
13-Dec	4	4	1	1	2	1	3	A	2	1	1	2	1	2	4	3	6	7	2	2	1	2	2	4	2.5	6.5
14-Dec	4	7	2	3	3	5	A	6	7	8	9	11	15	8	5	7	9	9	7	8	5	4	6	5	6.6	14.9
15-Dec	4	4	5	3	1	A	2	1	2	1	1	1	1	2	2	4	3	4	5	6	6	15	24	30	5.5	29.5
16-Dec	27	13	6	4	A	3	3	3	3	3	3	4	4	5	6	9	7	5	6	7	7	8	8	8	6.7	27.1
17-Dec	9	10	8	A	8	7	7	9	7	7	10	13	10	19	18	23	23	20	33	33	39	46	42	38	19.1	46.0
18-Dec	36	29	A	31	32	31	31	27	28	28	30	30	29	29	37	43	37	37	29	25	21	18	16	14	29.0	43.5
19-Dec	12	A	10	7	6	4	2	4	5	10	5	3	4	2	2	2	2	2	1	1	1	1	2	1	3.9	11.6
20-Dec	A	3	2	3	7	8	16	12	11	14	9	6	5	3	3	3	5	5	4	3	4	4	3	A	6.0	15.8
21-Dec	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	3	A	2	1.2	3.4
22-Dec	3	3	3	2	2	3	2	3	4	4	6	6	11	12	11	11	20	15	20	24	22	A	17	15	9.6	24.1
23-Dec	16	18	17	4	3	3	3	3	4	3	3	4	6	4	5	10	7	5	5	6	A	5	6	8	6.4	17.9
24-Dec	11	10	9	7	6	5	4	4	5	6	4	5	6	5	7	8	7	11	13	A	13	12	12	11	7.9	13.5
25-Dec	15	13	9	6	5	6	5	4	3	3	2	2	3	5	5	4	3	3	A	3	3	3	4	8	5.0	15.3
26-Dec	7	5	4	5	5	4	3	3	3	3	5	10	9	7	6	5	6	A	5	5	5	6	7	6	5.4	9.7
27-Dec	6	6	6	7	5	5	5	5	5	6	5	6	7	7	7	7	A	12	27	36	33	31	29	28	12.7	35.7
28-Dec	26	24	23	24	23	22	22	21	22	23	22	22	21	17	5	A	5	2	2	2	6	4	2	2	14.8	25.6
29-Dec	3	3	5	7	16	37	34	21	14	8	5	4	5	7	A	5	5	7	8	7	7	6	2	2	9.5	36.8
30-Dec	2	2	2	2	2	2	2	2	4	4	7	11	11	A	6	5	5	5	4	5	7	7	15	17	5.5	16.7
31-Dec	19	21	21	19	17	16	19	19	21	16	14	15	A	16	14	11	11	11	8	2	1	2	2	1	12.9	21.4
	11.1	9.4	7.7	7.5	7.4	7.7	7.8	7.0	7.1	6.9	7.4	8.3	8.1	8.3	8.5	8.6	9.4	9.1	9.6	9.6	10.4	9.6	10.7	10.8	Diurnal Average	
	35.7	28.5	22.5	31.5	31.7	36.8	33.9	27.4	28.2	27.9	29.7	30.3	29.5	28.9	36.7	43.5	36.8	37.3	32.5	35.7	39.0	46.0	42.0	38.5	Diurnal Maximum	

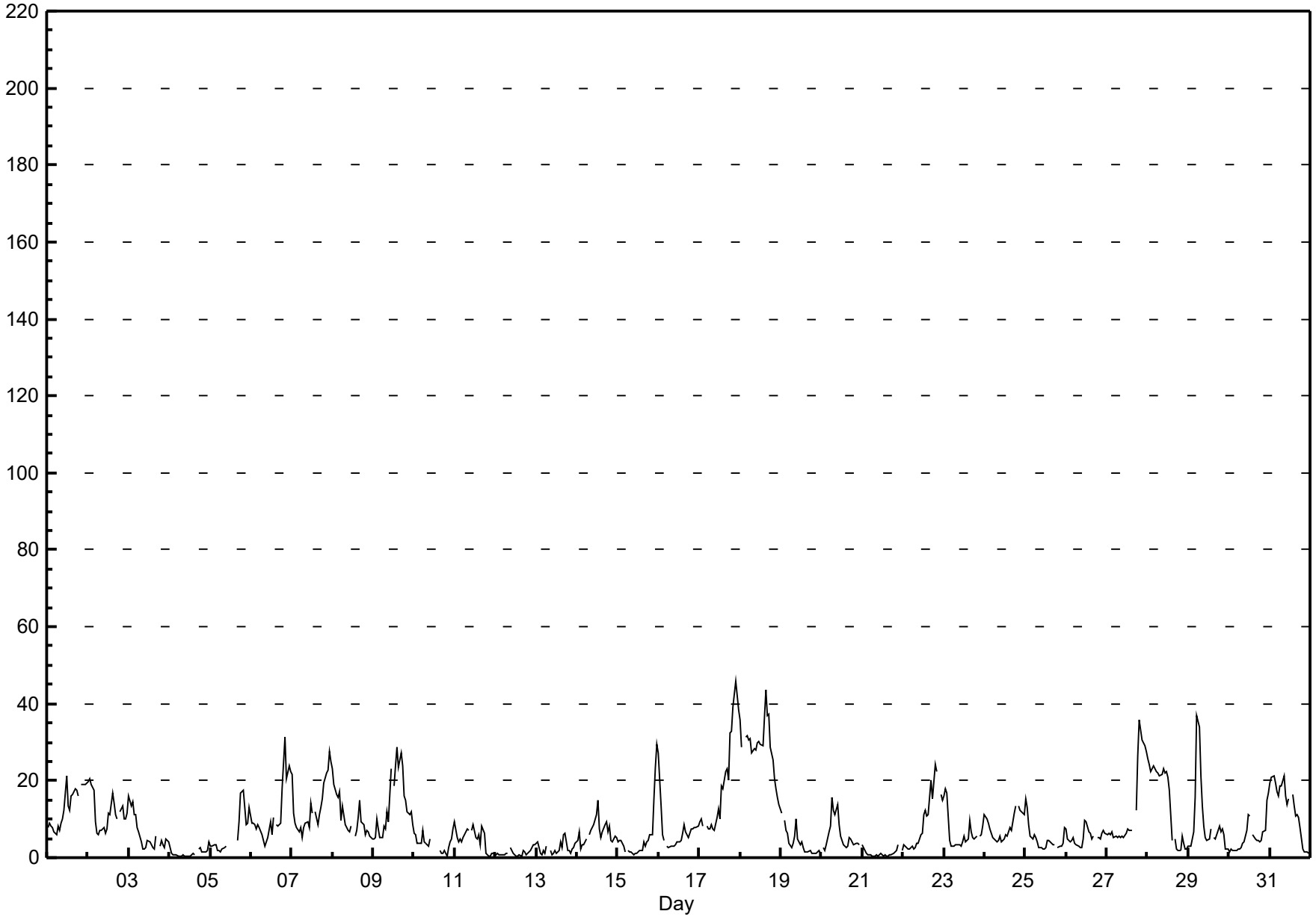
C - Calibration P - Power Failure A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Averages

Oxides of Nitrogen (NO_X) - ppb

Wembley - December 2018



Peace Airshed Zone Association

Hourly Maximums

Oxides of Nitrogen (NO_X) - ppb

Wembley - December 2018

Maximum Value: 224.5 ppb on Dec 1 12:00

Maximum Daily Average: 34.2 ppb on Dec 18

Minimum Value: 1 ppb on Dec 4 10:00

Minimum Daily Average: 2.0 ppb on Dec 21

Maximum Diurnal Average: 23.5 ppb at hour 12

Minimum Diurnal Average: 9.5 ppb at hour 5

Monthly Average: 13.16 ppb

Percentiles: P_1 = 0.8 P_{10} = 2.8 Q_1 = 4.7 Median = 9.5 Q_3 = 16.3 P_{90} = 27.4 P_{99} = 50.2

Hours in Service:	744
Hours of Data:	704
Hours of Missing Data:	40
Hours of Calibration:	36
Percent Operational Time:	99.5

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Dec	12	9	9	11	7	7	10	9	10	15	13	225	14	13	20	18	24	22	18	A	20	22	22	20	23.9	224.5
2-Dec	23	22	21	20	13	10	7	12	15	13	7	14	22	12	32	29	13	11	A	14	15	14	11	15	15.8	32.4
3-Dec	20	15	16	13	14	10	11	9	3	5	6	7	5	4	3	5	9	A	4	5	5	4	16	8	8.6	19.8
4-Dec	6	3	2	2	2	1	1	1	1	1	1	1	1	2	2	2	A	4	4	2	2	2	3	7	2.2	6.5
5-Dec	6	5	7	8	5	4	4	13	5	7	P	P	P	P	7	A	6	12	21	22	18	11	11	20	10.0	22.3
6-Dec	11	13	11	12	11	9	7	6	3	5	7	42	7	21	A	11	10	12	38	38	42	31	33	27	17.8	42.3
7-Dec	26	15	13	10	8	30	8	18	14	11	11	17	17	A	14	11	19	16	20	24	25	31	37	28	18.4	36.6
8-Dec	27	24	19	20	21	12	21	13	14	10	10	12	A	8	12	14	24	11	34	7	12	7	8	10	15.2	34.0
9-Dec	27	9	22	11	7	9	10	12	19	13	186	A	22	29	56	35	46	30	20	21	17	22	24	12	28.6	185.8
10-Dec	12	12	8	4	5	36	6	7	8	12	C	C	C	C	C	3	4	16	8	1	12	12	7	17	10.1	36.2
11-Dec	17	8	5	5	5	6	9	8	16	A	8	12	9	10	15	11	24	14	1	3	1	2	3	3	8.3	23.8
12-Dec	2	2	2	4	2	3	4	2	A	4	3	2	1	2	1	1	4	4	2	4	2	12	7	6	3.4	12.4
13-Dec	14	13	4	5	4	2	8	A	7	2	4	4	3	3	10	6	12	14	5	6	2	11	3	5	6.3	13.9
14-Dec	8	24	3	4	5	7	A	8	8	12	10	13	16	15	6	10	11	11	8	10	8	5	12	6	9.6	24.2
15-Dec	6	9	12	9	2	A	3	2	6	4	3	3	2	3	3	11	5	6	8	21	12	31	27	33	9.6	33.1
16-Dec	30	22	8	5	A	3	3	3	3	3	4	5	5	5	16	15	12	16	11	12	9	15	11	12	10.0	30.3
17-Dec	13	12	13	A	11	11	9	19	10	10	19	22	16	28	22	26	35	25	41	39	46	53	50	43	24.8	53.1
18-Dec	39	32	A	33	33	34	36	30	33	41	47	38	34	31	42	50	44	44	35	32	24	23	19	15	34.2	49.7
19-Dec	15	A	12	9	12	7	4	9	16	13	13	6	8	3	3	3	3	9	6	1	2	3	8	3	7.3	16.3
20-Dec	A	4	2	5	8	14	19	16	13	16	13	8	5	4	6	4	7	8	7	4	5	7	8	A	8.3	19.1
21-Dec	4	3	2	2	1	1	1	1	1	1	1	2	1	1	1	1	1	2	2	4	3	8	A	3	2.0	8.4
22-Dec	5	4	5	3	3	13	9	4	9	4	18	11	16	14	13	16	59	25	31	42	24	A	27	18	16.2	59.3
23-Dec	19	26	24	12	3	5	3	5	4	4	3	6	6	5	10	12	11	6	6	6	A	6	7	12	8.7	25.6
24-Dec	12	11	10	9	7	6	11	5	5	16	5	5	27	10	9	9	12	14	19	A	16	18	13	13	11.3	27.0
25-Dec	25	18	13	8	6	7	6	5	3	3	3	3	3	6	5	5	4	5	A	3	4	3	5	10	6.6	25.1
26-Dec	10	6	5	6	9	6	5	4	4	4	13	103	20	7	9	10	9	A	6	11	7	7	8	7	12.0	103.2
27-Dec	9	7	8	13	10	9	6	9	6	14	11	11	14	8	8	8	A	19	31	44	37	34	30	29	16.2	43.6
28-Dec	31	26	26	25	24	26	25	25	28	26	24	31	22	21	11	A	10	6	3	6	10	9	3	3	18.3	31.1
29-Dec	11	5	6	10	24	45	39	27	17	10	6	5	6	13	A	8	8	10	31	11	16	7	4	3	14.0	45.4
30-Dec	2	3	3	2	2	3	3	4	5	8	14	32	23	A	14	5	13	6	5	6	8	9	90	29	12.5	90.0
31-Dec	26	23	25	22	20	18	26	21	36	18	17	20	A	19	16	15	14	12	12	4	5	4	3	3	16.5	36.3
	15.5	12.7	10.4	10.1	9.5	11.8	10.4	10.3	10.7	10.2	16.5	23.5	12.0	10.9	13.1	12.2	15.7	13.3	15.0	13.9	13.7	14.1	16.9	14.0	Diurnal Average	
	39.5	31.7	25.8	33.3	32.6	45.4	38.5	30.1	36.3	41.4	185.8	224.5	34.0	30.5	55.9	49.7	59.3	43.8	41.0	43.6	46.4	53.1	90.0	42.7	Diurnal Maximum	

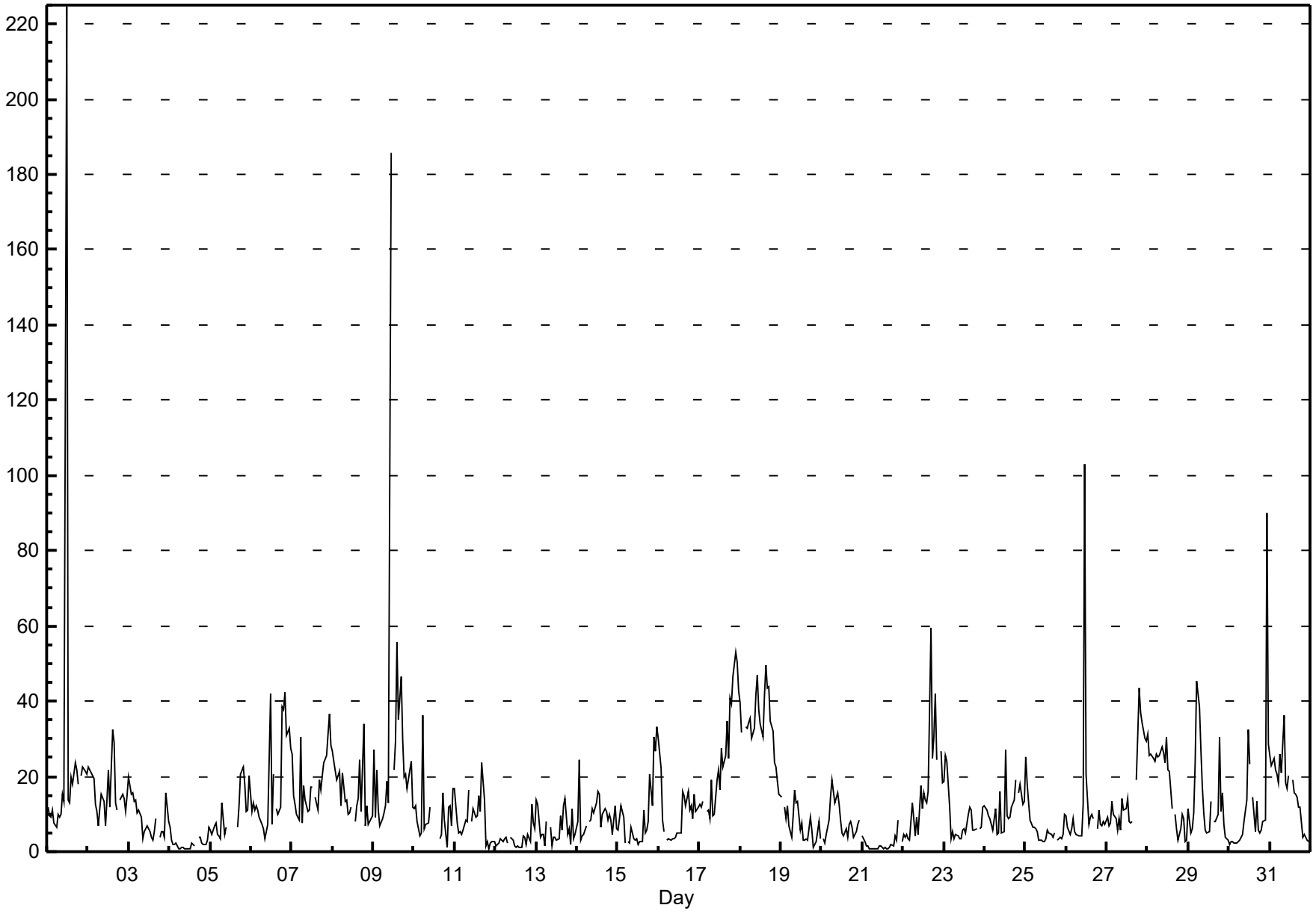
C - Calibration P - Power Failure A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Oxides of Nitrogen (NO_X) - ppb

Wembley - December 2018

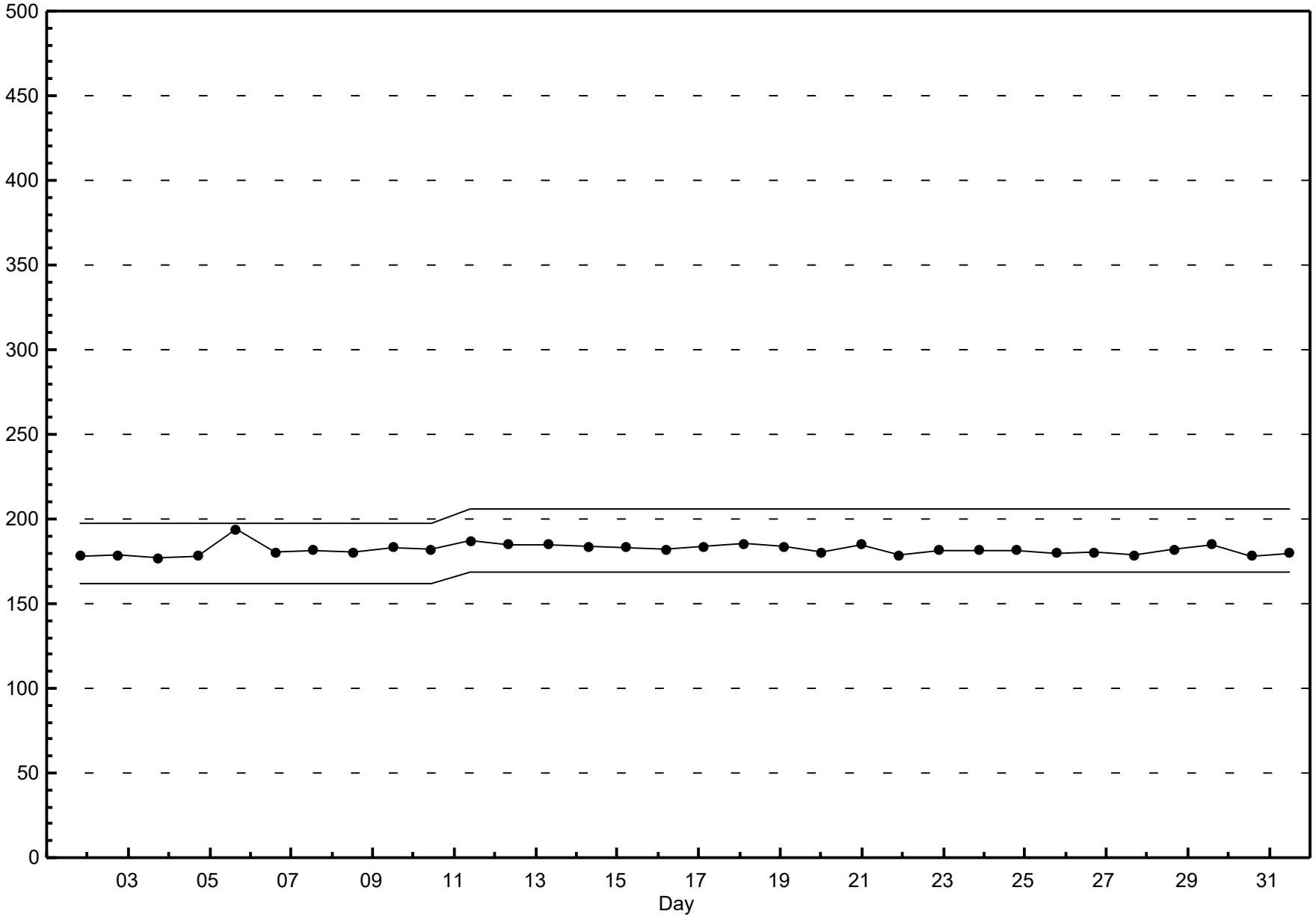


Peace Airshed Zone Association

Span Responses

Oxides of Nitrogen (NO_X)

Wembley - December 2018



Peace Airshed Zone Association

Hourly Averages

Ozone (O_3) - ppb

Wembley - December 2018

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 41.1 ppb on Dec 12 12:00
Maximum Daily Average: 38.0 ppb on Dec 12

Minimum Value: 0 ppb on Dec 17 19:00
Minimum Daily Average: 2.5 ppb on Dec 18
Maximum Diurnal Average: 24.3 ppb at hour 15
Minimum Diurnal Average: 16.6 ppb at hour 1
Monthly Average: 20.45 ppb
Percentiles: P_1 = 0.0 P_{10} = 4.1 Q_1 = 11.2 Median = 20.0 Q_3 = 30.2 P_{90} = 36.7 P_{99} = 39.8

Hours in Service:	744
Hours of Data:	706
Hours of Missing Data:	38
Hours of Calibration:	34
Percent Operational Time:	99.5

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Dec	10	9	8	6	6	7	7	6	4	5	7	8	9	9	7	6	3	1	0	A	0	0	1	1	5.2	9.5
2-Dec	1	1	1	1	9	13	14	12	13	13	14	14	12	12	10	10	9	8	A	7	6	6	6	4	8.5	14.0
3-Dec	2	2	2	5	4	7	11	17	24	27	27	28	29	30	31	30	27	A	31	29	29	28	22	25	20.2	30.7
4-Dec	25	33	36	37	36	37	36	36	36	36	36	36	36	36	37	37	A	39	38	38	38	38	37	35	36.1	38.6
5-Dec	35	35	33	32	33	34	31	29	27	25	P	P	P	P	26	A	27	19	14	12	18	22	21	18	25.8	35.4
6-Dec	21	19	20	21	20	20	21	23	26	26	26	25	29	23	A	26	25	23	15	9	3	7	4	5	18.9	28.5
7-Dec	4	15	17	17	18	19	18	15	10	11	13	16	20	A	23	29	21	21	17	15	11	8	5	6	15.2	28.5
8-Dec	6	11	10	9	9	16	9	14	15	18	21	23	A	29	28	16	15	23	24	24	23	23	25	27	18.2	29.4
9-Dec	25	22	16	20	19	20	16	14	12	12	13	A	13	13	10	8	6	6	9	12	14	13	11	17	13.9	24.9
10-Dec	22	24	28	29	29	28	28	27	28	27	A	28	30	31	C	C	37	37	36	37	36	33	31	24	30.0	37.3
11-Dec	22	25	23	22	25	25	26	24	24	A	29	30	33	33	32	34	29	30	35	36	38	39	39	39	30.1	39.2
12-Dec	39	38	38	38	38	38	37	37	A	39	40	41	41	41	40	40	39	38	39	37	36	36	33	33	38.0	41.1
13-Dec	33	34	38	38	36	35	34	A	39	40	39	38	39	38	37	39	36	36	40	39	39	38	38	36	37.4	39.7
14-Dec	34	31	35	32	32	32	A	34	32	32	32	29	28	33	33	32	30	30	31	27	32	32	29	28	31.3	34.9
15-Dec	29	28	26	31	30	A	27	28	28	31	32	33	33	33	34	33	33	31	28	26	24	14	9	5	27.2	34.2
16-Dec	7	17	24	26	A	29	29	28	28	29	30	30	30	29	27	24	22	20	18	19	17	17	16	16	23.1	30.3
17-Dec	15	15	16	A	15	15	13	11	11	11	10	10	14	12	13	9	4	2	0	0	0	0	0	0	8.5	15.7
18-Dec	0	0	A	0	0	0	0	0	0	1	5	8	9	9	6	4	1	0	0	1	2	3	3	7	2.5	8.7
19-Dec	9	A	12	24	27	29	31	29	27	24	32	33	33	34	36	38	37	37	37	37	37	36	35	36	30.9	37.6
20-Dec	A	30	27	26	24	22	15	18	18	18	24	27	29	31	33	34	30	29	29	29	28	27	29	A	26.2	33.6
21-Dec	28	28	32	34	35	36	37	37	37	37	37	37	38	38	38	38	38	37	36	35	33	31	A	32	35.1	38.1
22-Dec	29	30	29	27	25	25	24	23	23	20	19	22	21	19	22	19	11	10	6	5	3	A	11	9	18.7	29.6
23-Dec	9	9	10	30	31	31	29	27	27	27	28	27	27	27	26	22	22	22	22	21	A	21	20	18	23.2	31.1
24-Dec	14	15	16	17	17	17	17	16	15	14	16	17	17	17	15	14	13	9	8	A	7	7	8	8	13.7	17.2
25-Dec	5	7	12	16	16	16	16	17	19	20	22	23	24	23	24	25	25	25	A	25	24	23	22	17	19.4	24.8
26-Dec	17	19	18	16	16	16	16	15	15	15	15	15	15	17	17	17	15	A	14	14	14	13	12	12	15.3	18.6
27-Dec	12	11	11	11	10	10	10	10	10	10	10	11	12	12	13	12	A	5	0	0	0	0	0	0	7.8	13.3
28-Dec	0	0	0	0	0	0	0	0	0	0	4	6	7	11	32	A	33	35	35	34	30	30	28	25	13.6	34.9
29-Dec	22	20	16	12	6	0	1	5	5	13	18	20	20	17	A	18	18	13	11	12	12	13	19	19	13.5	22.3
30-Dec	20	19	19	20	19	19	19	18	17	16	15	14	15	A	17	17	18	16	15	15	13	12	8	5	15.9	19.8
31-Dec	2	1	0	1	3	3	1	1	0	4	8	8	A	10	12	11	9	6	16	37	39	39	40	40	12.6	40.1
	16.6	18.3	19.1	19.8	19.6	19.9	19.1	19.1	19.0	20.0	21.5	22.7	23.6	23.8	24.3	23.0	21.8	20.9	20.7	21.7	20.1	20.2	18.8	18.2	Diurnal Average	
	39.0	38.3	37.8	38.0	37.7	37.6	37.1	37.1	38.6	39.6	40.0	41.1	41.0	40.7	40.0	40.0	38.5	38.6	39.7	38.9	39.0	39.3	39.8	40.1	Diurnal Maximum	

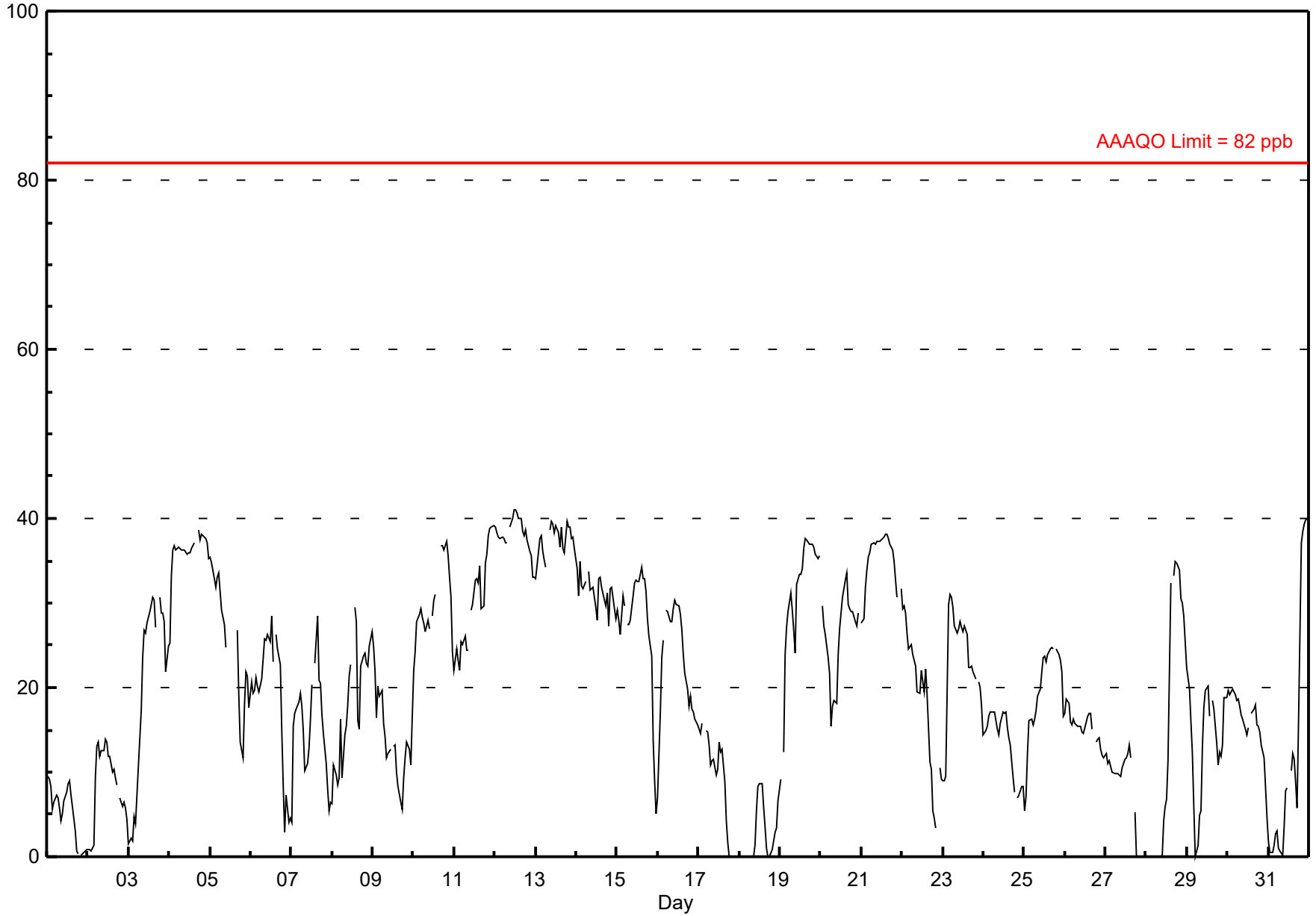
C - Calibration P - Power Failure A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 82 ppb 24-hr na

Peace Airshed Zone Association

Hourly Averages

Ozone (O_3) - ppb

Wembley - December 2018



PAZA
Peace Airshed Zone Association

Hourly Maximums

Ozone (O_3) - ppb

Wembley - December 2018

Maximum Value: 41.6 ppb on Dec 12 12:00

Maximum Daily Average: 38.9 ppb on Dec 13

Minimum Value: 0 ppb on Dec 18 02:00

Minimum Daily Average: 4.6 ppb on Dec 18

Maximum Diurnal Average: 26.4 ppb at hour 14

Minimum Diurnal Average: 18.6 ppb at hour 1

Monthly Average: 22.31 ppb

Percentiles: P_1 = 0.0 P_{10} = 6.8 Q_1 = 13.2 Median = 22.9 Q_3 = 32.0 P_{90} = 37.5 P_{99} = 40.7

Hours in Service:	744
Hours of Data:	706
Hours of Missing Data:	38
Hours of Calibration:	34
Percent Operational Time:	99.5

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Dec	11	10	10	8	9	9	9	7	5	6	7	8	9	10	9	7	8	2	1	A	1	1	1	1	6.4	11.0
2-Dec	1	2	1	6	11	14	14	13	13	14	14	15	14	12	12	11	11	9	A	8	7	7	6	6	9.7	14.8
3-Dec	3	3	3	6	6	9	14	20	26	27	27	28	30	30	31	31	29	A	32	30	30	29	30	27	21.9	32.0
4-Dec	30	36	37	37	37	37	37	37	37	36	36	36	36	38	38	38	A	40	38	39	38	38	38	38	37.0	39.5
5-Dec	37	35	34	33	34	34	35	32	30	28	P	P	P	P	29	A	29	25	18	16	20	24	24	23	28.5	36.6
6-Dec	24	23	21	22	22	20	22	25	26	27	28	29	32	27	A	29	29	25	23	19	9	11	8	8	22.1	31.7
7-Dec	12	18	19	19	22	23	22	19	13	14	15	19	25	A	27	31	28	24	19	18	12	12	8	10	18.6	31.0
8-Dec	11	15	14	14	18	21	15	17	17	19	23	26	A	31	32	23	22	24	27	26	28	24	27	29	21.9	31.8
9-Dec	28	27	22	24	24	23	19	19	17	14	17	A	15	19	11	10	8	8	11	14	14	14	13	22	17.2	28.3
10-Dec	25	27	30	31	30	29	29	29	30	29	A	31	33	32	C	C	37	37	38	38	37	36	32	31	32.0	38.2
11-Dec	26	27	27	25	28	27	27	26	28	A	30	31	34	34	35	35	35	34	36	37	39	39	39	40	32.2	39.5
12-Dec	39	39	39	38	38	38	38	38	A	40	41	42	41	41	41	40	40	39	39	38	37	37	35	34	38.8	41.6
13-Dec	34	37	38	39	38	37	36	A	40	40	41	40	40	39	39	40	40	40	41	41	40	39	40	37	38.9	40.8
14-Dec	36	37	37	34	33	36	A	37	33	33	33	31	29	35	35	33	32	32	32	30	33	33	31	30	33.2	37.1
15-Dec	30	29	27	35	35	A	28	28	30	32	33	33	33	34	35	34	35	34	32	31	27	20	11	7	29.3	35.1
16-Dec	10	22	25	27	A	30	30	29	28	30	31	30	30	29	28	25	23	22	20	20	19	18	17	16	24.3	30.6
17-Dec	16	16	17	A	16	15	14	13	13	12	13	13	15	17	14	12	6	5	0	0	0	0	0	0	9.9	16.7
18-Dec	0	0	A	0	0	0	0	0	0	25	8	10	10	10	8	5	3	0	1	4	3	5	7	8	4.6	25.4
19-Dec	11	A	20	27	30	31	34	30	30	26	36	34	34	36	38	39	38	38	38	37	37	36	36	36	32.7	38.8
20-Dec	A	31	31	27	26	23	18	19	20	20	26	29	30	32	34	35	33	30	31	30	29	28	30	A	27.8	34.6
21-Dec	29	29	34	35	36	37	37	37	37	38	38	38	38	38	38	38	38	38	37	36	34	33	A	33	35.9	38.5
22-Dec	31	30	30	29	27	27	27	26	26	23	20	23	23	22	24	23	18	13	8	12	7	A	13	12	21.5	30.9
23-Dec	10	11	16	31	32	32	31	28	27	28	28	28	27	28	28	24	24	23	22	22	A	21	21	20	24.5	31.9
24-Dec	16	16	17	17	18	17	18	17	16	15	17	18	18	32	16	15	14	12	8	A	7	8	9	9	15.3	31.9
25-Dec	8	9	14	17	17	16	17	18	20	21	23	24	24	24	25	25	26	25	A	25	25	24	23	20	20.4	25.6
26-Dec	18	19	19	17	17	18	17	17	16	16	16	18	16	18	18	18	16	A	15	15	15	13	13	13	16.5	19.3
27-Dec	13	13	12	12	11	10	10	10	10	10	11	12	12	13	15	13	A	8	2	0	0	0	0	0	8.6	15.1
28-Dec	0	0	0	0	0	0	1	0	0	2	6	7	8	24	35	A	35	35	35	36	33	32	31	30	15.2	35.6
29-Dec	26	23	18	14	10	1	6	10	9	17	19	21	21	19	A	19	19	18	13	13	12	17	20	19	15.8	26.1
30-Dec	20	20	20	20	20	19	19	18	17	17	17	16	16	A	18	18	19	18	16	16	15	13	11	9	17.0	20.3
31-Dec	3	2	4	3	5	5	3	1	2	7	9	9	A	18	16	15	15	12	34	38	39	41	40	41	15.9	41.1
	18.6	20.2	21.2	21.6	21.6	21.3	20.9	20.8	20.6	22.3	22.9	24.1	24.8	26.4	26.1	24.6	24.5	23.1	23.0	23.8	21.7	21.8	20.4	20.4	Diurnal Average	
	39.4	38.8	38.6	38.7	38.4	38.1	38.2	37.9	39.7	40.1	41.0	41.6	41.5	41.2	40.6	40.5	39.7	40.1	40.8	40.6	40.3	40.9	40.3	41.1	Diurnal Maximum	

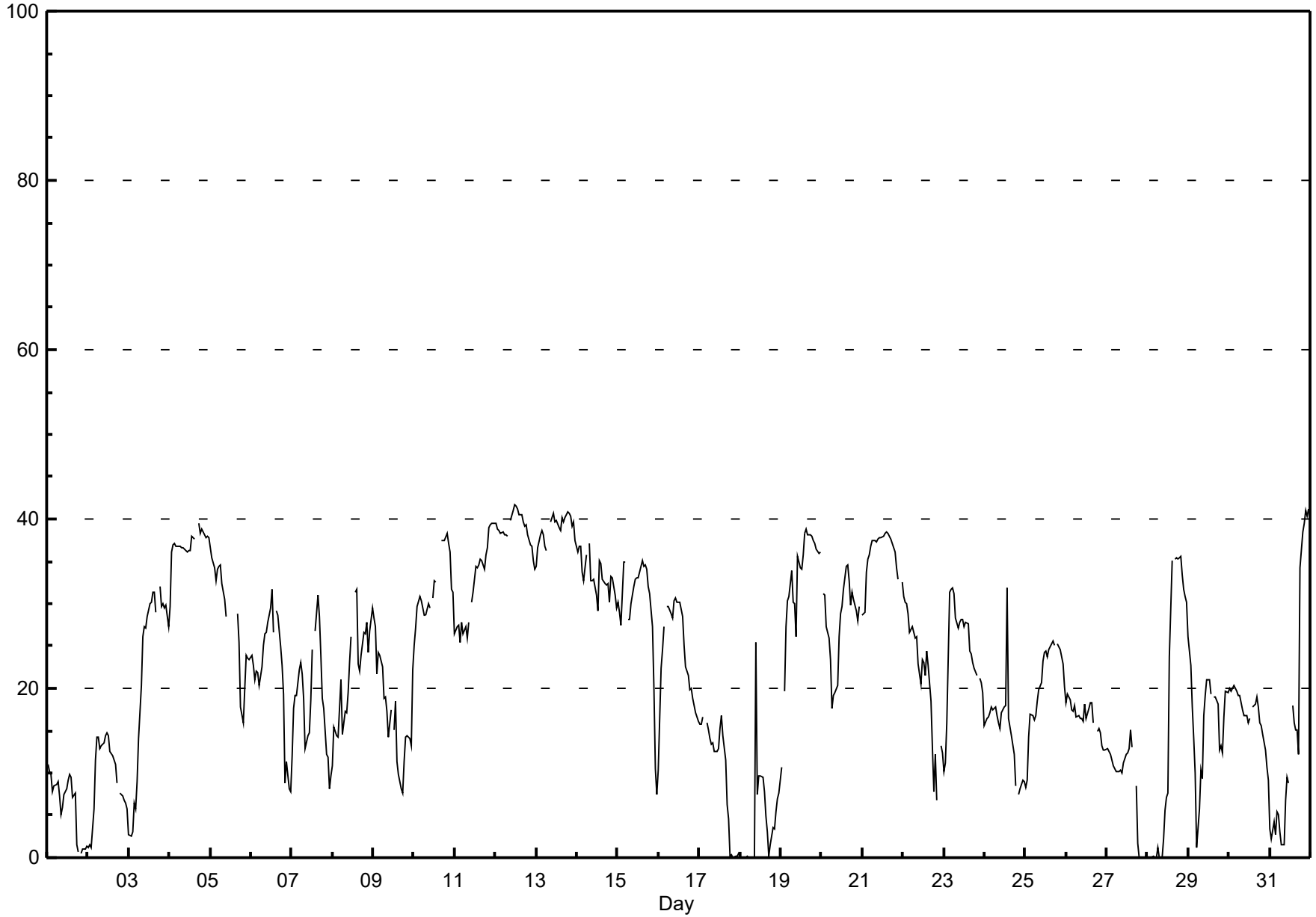
C - Calibration P - Power Failure A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Ozone (O_3) - ppb

Wembley - December 2018

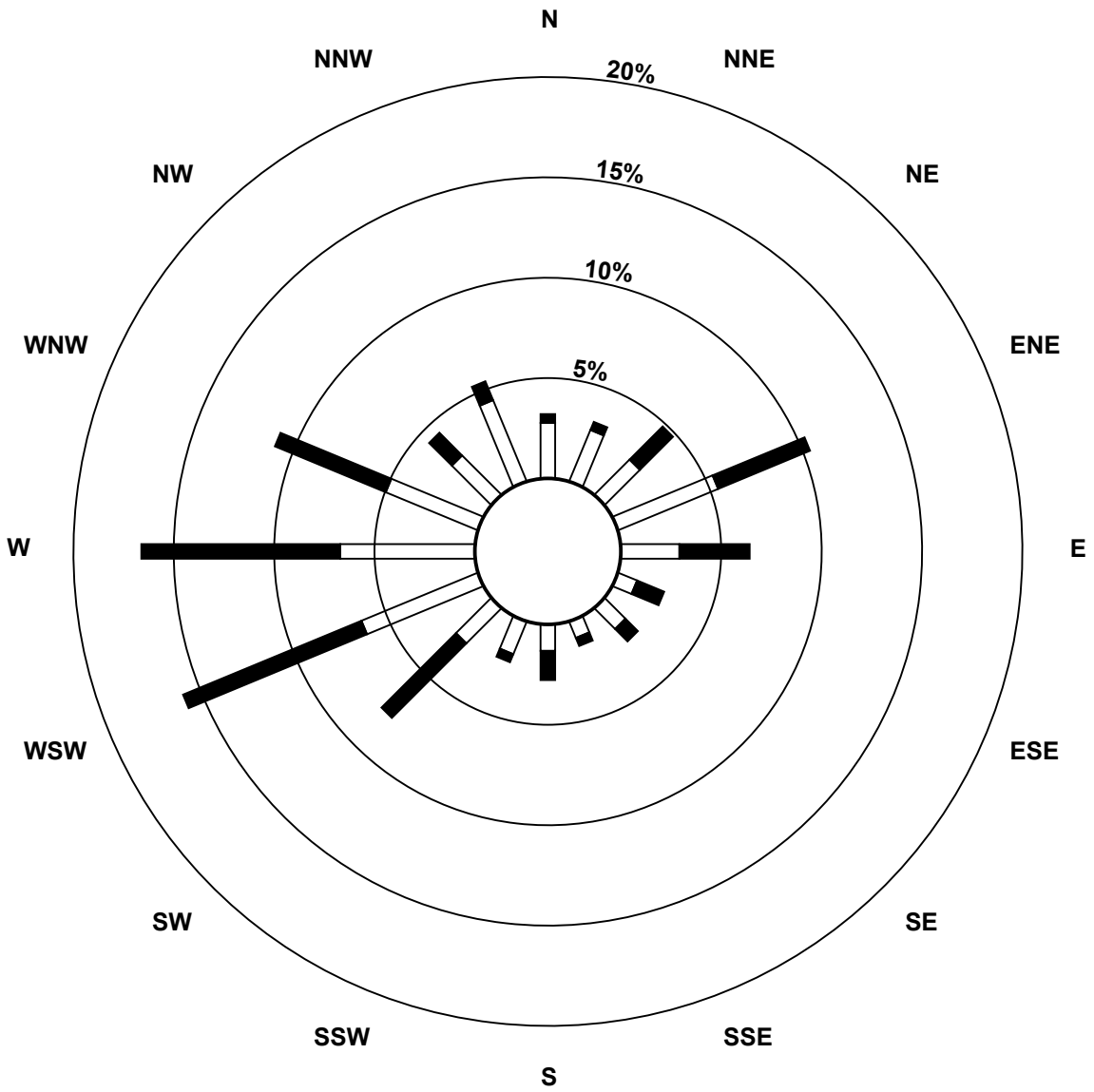


Peace Airshed Zone Association

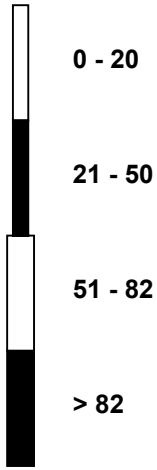
Pollutant Rose

Ozone (O_3) - ppb

Wembley - December 2018



Pollutant Classes (ppb)



Peace Airshed Zone Association

Eight Hour Running Averages

Ozone (O_3) - ppb

Wembley - December 2018

Maximum Value: 40.3 ppb on Dec 12 16:00

Minimum Value: 0.0 ppb on Dec 18 01:00

Percentiles: P_1 = 0.0 P_{10} = 5.2 Q_1 = 11.5 Median = 19.7 Q_3 = 29.5 P_{90} = 36.2 P_{99} = 38.9

Hours in Service:	744
Hours of Data:	733
Hours of Missing Data:	11
Hours of Calibration:	3
Percent Operational Time:	98.9

Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Dec	14	13	11	10	9	8	8	7	7	6	6	6	7	7	7	7	7	6	5	5	4	3	2	1	14.2
2-Dec	1	1	1	1	2	3	5	6	8	9	11	13	13	13	12	12	12	11	11	10	9	8	8	7	12.9
3-Dec	6	5	4	4	4	4	5	6	9	12	15	18	21	24	26	28	28	29	29	29	29	29	28	27	29.5
4-Dec	27	28	28	29	30	31	33	35	36	36	36	36	36	36	36	36	36	37	37	37	38	38	38	37	37.7
5-Dec	37	37	36	35	35	34	34	33	32	30	30	30	N	N	N	N	N	N	N	N	19	20	19	19	37.2
6-Dec	18	18	19	20	20	20	20	21	21	22	23	23	24	25	25	26	26	25	24	21	18	15	14	11	25.8
7-Dec	9	8	8	9	11	13	14	16	16	16	15	15	15	15	15	17	19	20	21	21	19	18	16	13	20.9
8-Dec	11	10	9	8	8	9	10	11	12	13	14	16	17	19	21	22	21	22	22	23	23	22	21	23	22.8
9-Dec	24	24	23	23	22	22	21	19	17	16	16	15	14	13	12	12	11	10	9	10	10	10	10	11	24.0
10-Dec	13	15	17	20	22	23	26	27	28	28	28	28	28	28	29	N	N	N	33	35	36	36	35	34	36.0
11-Dec	32	30	29	27	26	25	24	24	24	24	25	26	27	29	29	31	32	31	32	33	33	34	35	36	35.5
12-Dec	37	38	38	38	38	38	38	38	38	38	38	39	39	39	40	40	40	40	40	39	39	38	37	36	40.3
13-Dec	36	35	35	35	35	35	35	35	36	37	37	37	38	38	39	39	38	38	38	38	38	38	38	38	38.6
14-Dec	37	37	36	35	34	34	33	33	32	33	32	32	31	31	32	31	31	31	31	31	31	31	30	30	37.5
15-Dec	30	30	29	29	29	29	28	28	28	29	30	30	30	31	31	32	33	33	32	31	30	28	25	21	32.7
16-Dec	18	16	16	16	14	17	20	23	26	27	28	29	29	29	29	28	28	26	25	23	22	20	19	18	29.1
17-Dec	17	17	16	16	16	15	15	14	14	13	12	12	12	12	12	11	10	9	8	7	5	3	2	1	17.3
18-Dec	0	0	0	0	0	0	0	0	0	0	1	2	3	4	5	5	5	5	4	4	3	2	2	2	5.4
19-Dec	3	3	5	9	12	16	20	23	26	25	28	29	30	31	31	32	34	35	36	36	37	37	37	36	36.8
20-Dec	36	35	34	32	30	28	26	23	23	21	21	21	21	23	25	27	28	29	30	30	30	30	29	29	36.3
21-Dec	28	28	29	29	30	32	33	33	35	36	36	37	37	37	37	38	38	38	37	37	37	36	35	34	37.6
22-Dec	33	32	31	30	29	28	27	26	26	24	23	23	22	21	21	21	19	18	16	14	12	11	9	8	33.2
23-Dec	7	7	8	11	15	17	20	22	24	26	29	28	28	27	27	26	26	25	25	24	23	22	22	21	28.7
24-Dec	20	19	18	17	17	17	16	16	16	16	16	16	16	16	16	16	15	15	14	13	12	11	10	9	19.8
25-Dec	8	7	8	9	10	11	12	13	15	17	18	19	20	21	22	22	23	24	24	24	24	24	24	23	24.2
26-Dec	22	21	20	19	18	18	17	17	16	16	16	15	15	15	16	16	16	16	16	15	15	15	14	13	21.7
27-Dec	13	13	12	12	11	11	11	11	10	10	10	10	10	11	11	11	11	11	9	8	6	4	2	0	12.9
28-Dec	0	0	0	0	0	0	0	0	0	0	0	1	2	3	7	9	13	18	23	27	30	33	32	31	32.8
29-Dec	30	28	26	23	20	16	13	10	8	7	8	8	10	12	14	16	18	18	17	16	14	14	15	15	30.0
30-Dec	15	16	17	18	19	19	19	19	19	18	18	17	17	16	16	16	16	16	16	16	16	15	14	13	19.2
31-Dec	11	9	7	5	4	3	2	1	1	2	3	3	3	4	6	8	9	9	10	14	17	21	25	28	28.1
	37.5	37.8	38.2	38.5	38.4	38.3	38.0	37.8	37.6	37.7	38.0	38.5	39.0	39.4	39.8	40.3	40.1	39.9	39.8	39.3	38.7	38.0	38.1	37.7	
	Diurnal Maximums																								

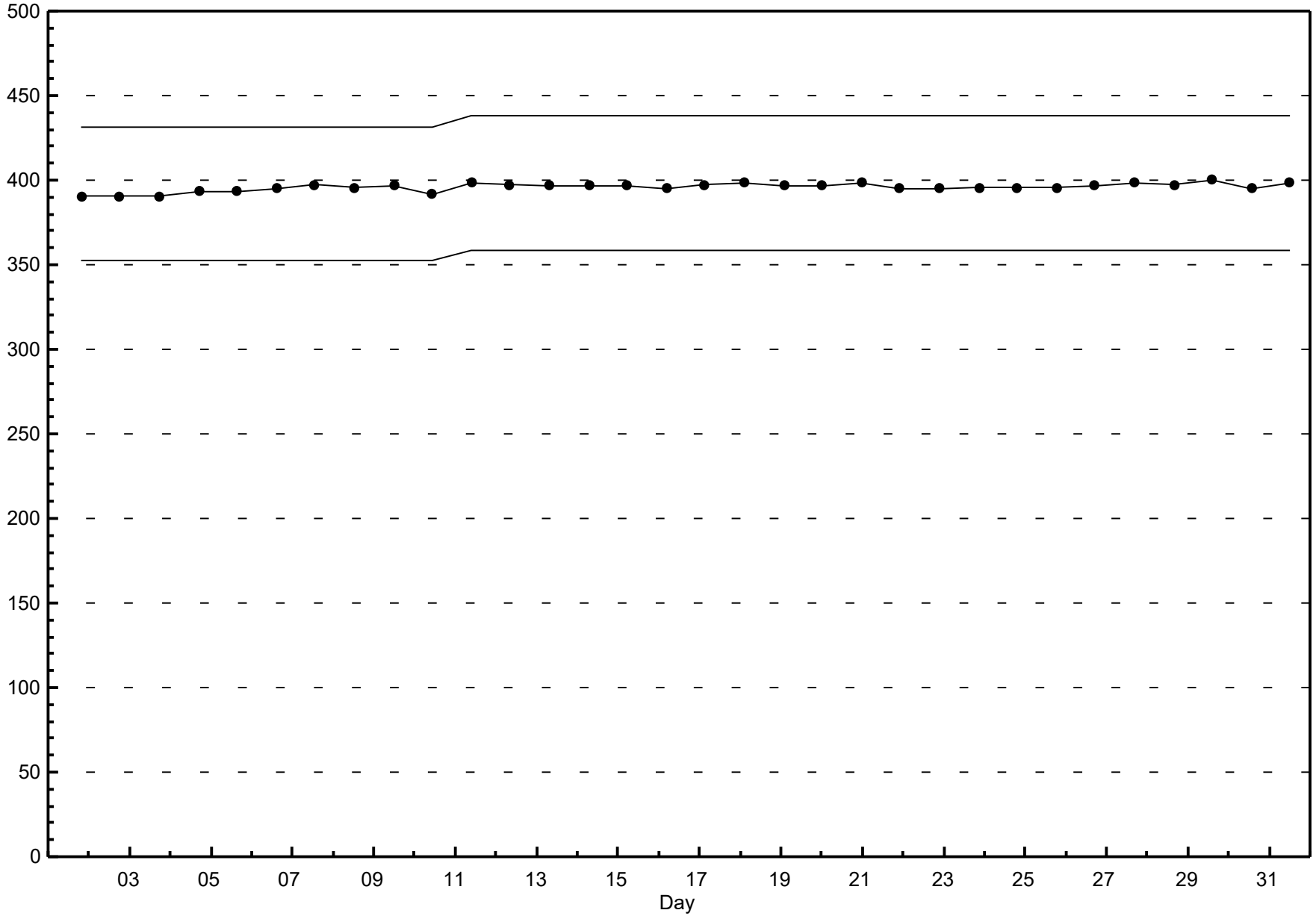
N - Not Valid

Peace Airshed Zone Association

Span Responses

Ozone (O_3)

Wembley - December 2018



PAZA
Peace Airshed Zone Association

Hourly Averages

Total Hydrocarbons (THC) - ppm

Wembley - December 2018

Maximum Value: 2.84 ppm on Dec 18 16:00

Maximum Daily Average: 2.54 ppm on Dec 18

Minimum Value: 1.9 ppm on Dec 14 10:00

Minimum Daily Average: 1.92 ppm on Dec 14

Maximum Diurnal Average: 2.17 ppm at hour 1

Minimum Diurnal Average: 2.09 ppm at hour 20

Monthly Average: 2.133 ppm

Percentiles: P_1 = 1.90 P_{10} = 1.94 Q_1 = 1.99 Median = 2.08 Q_3 = 2.22 P_{90} = 2.44 P_{99} = 2.70

Hours in Service:	744
Hours of Data:	684
Hours of Missing Data:	60
Hours of Calibration:	40
Percent Operational Time:	97.3

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Dec	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.1	2.1	2.1	2.1	2.2	2.2	2.3	2.3	2.3	A	2.3	2.3	2.4	2.5	2.19	2.51
2-Dec	2.6	2.6	2.6	2.5	2.3	2.2	2.1	2.2	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.2	A	2.2	2.2	2.2	2.2	2.2	2.25	2.58
3-Dec	2.3	2.3	2.3	2.3	2.4	2.4	2.3	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.11	2.39
4-Dec	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.96	2.00
5-Dec	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.0	P	P	P	P	2.0	A	2.0	2.0	2.1	2.0	2.1	2.1	2.1	2.3	2.05	2.25
6-Dec	2.2	2.2	2.2	2.1	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	A	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.4	2.4	2.16	2.43
7-Dec	2.5	2.3	2.2	2.2	2.2	2.1	2.1	2.2	2.2	2.3	2.3	2.3	2.2	A	2.3	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.4	2.5	2.27	2.55
8-Dec	2.7	2.6	2.6	2.6	2.7	2.4	2.6	2.4	2.3	2.3	2.3	2.3	A	2.1	2.2	2.3	2.5	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.36	2.71
9-Dec	2.2	2.2	2.2	2.2	2.2	2.2	2.4	2.4	2.3	2.5	2.6	A	2.7	2.6	2.6	2.6	2.6	2.5	2.4	2.3	2.2	2.2	2.2	2.2	2.37	2.70
10-Dec	2.2	2.2	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	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	2.03	2.18
11-Dec	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	A	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	2.01	2.11
12-Dec	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	1.9	1.9	2.0	2.0	2.0	2.0	2.0	1.94	2.00
13-Dec	2.0	2.0	1.9	1.9	2.0	2.0	1.9	A	1.9	1.9	1.9	C	C	C	C	1.9	1.9	1.9	1.9	1.9	N	N	N	N	--	2.00
14-Dec	1.9	1.9	1.9	2.0	2.0	2.0	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.92	1.98
15-Dec	2.0	2.0	2.0	1.9	1.9	A	1.9	1.9	1.9	1.9	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	2.1	1.97	2.10
16-Dec	2.1	2.1	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.2	2.2	2.3	2.05	2.27
17-Dec	2.3	2.3	2.2	A	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.3	2.3	2.2	2.3	2.3	2.3	2.17	2.29
18-Dec	2.3	2.3	A	2.4	2.4	2.4	2.5	2.6	2.6	2.6	2.6	2.5	2.6	2.6	2.7	2.8	2.8	2.8	2.6	2.5	2.5	2.4	2.4	2.4	2.54	2.84
19-Dec	2.3	A	2.3	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.00	2.34
20-Dec	A	2.0	2.0	2.0	2.0	2.0	2.2	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	A	2.00	2.16
21-Dec	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	1.95	1.99
22-Dec	2.0	2.0	2.0	2.1	2.1	2.2	2.3	2.3	2.3	2.5	2.6	2.4	2.5	2.6	2.3	2.4	2.3	2.4	2.5	2.4	2.4	A	2.3	2.4	2.32	2.65
23-Dec	2.4	2.5	2.5	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	N	N	N	N	N	N	N	N	N	N	A	N	N	--	2.52
24-Dec	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	C	C	C	C	2.1	2.1	2.1	2.1	2.1	A	2.3	2.4	2.4	2.3	2.13	2.36
25-Dec	2.3	2.2	2.2	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	A	2.0	2.0	2.0	2.1	2.1	2.09	2.34
26-Dec	2.1	2.0	2.0	2.0	2.1	2.1	2.1	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	A	2.2	2.2	2.1	2.2	2.2	2.2	2.09	2.20
27-Dec	2.1	2.1	2.1	2.1	2.2	2.2	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	A	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.17	2.21
28-Dec	2.2	2.2	2.2	2.3	2.4	2.5	2.4	2.4	2.4	2.5	2.5	2.5	2.4	2.3	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.23	2.53
29-Dec	2.0	2.1	2.1	2.2	2.3	2.7	2.5	2.4	2.2	2.1	2.1	2.1	2.1	2.1	A	2.1	2.0	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.16	2.75
30-Dec	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	A	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.3	2.08	2.26
31-Dec	2.4	2.4	2.6	2.7	2.6	2.6	2.7	2.6	2.6	2.5	2.5	2.5	A	2.5	2.4	2.4	2.4	2.4	2.3	2.0	2.0	2.0	2.0	2.0	2.39	2.70
	2.17	2.15	2.14	2.14	2.14	2.14	2.15	2.14	2.12	2.12	2.14	2.12	2.13	2.14	2.12	2.12	2.12	2.12	2.11	2.09	2.12	2.12	2.15	2.17	Diurnal Average	
	2.66	2.62	2.58	2.70	2.71	2.75	2.65	2.65	2.59	2.58	2.65	2.55	2.70	2.59	2.74	2.84	2.78	2.79	2.60	2.53	2.47	2.43	2.43	2.54	Diurnal Maximum	

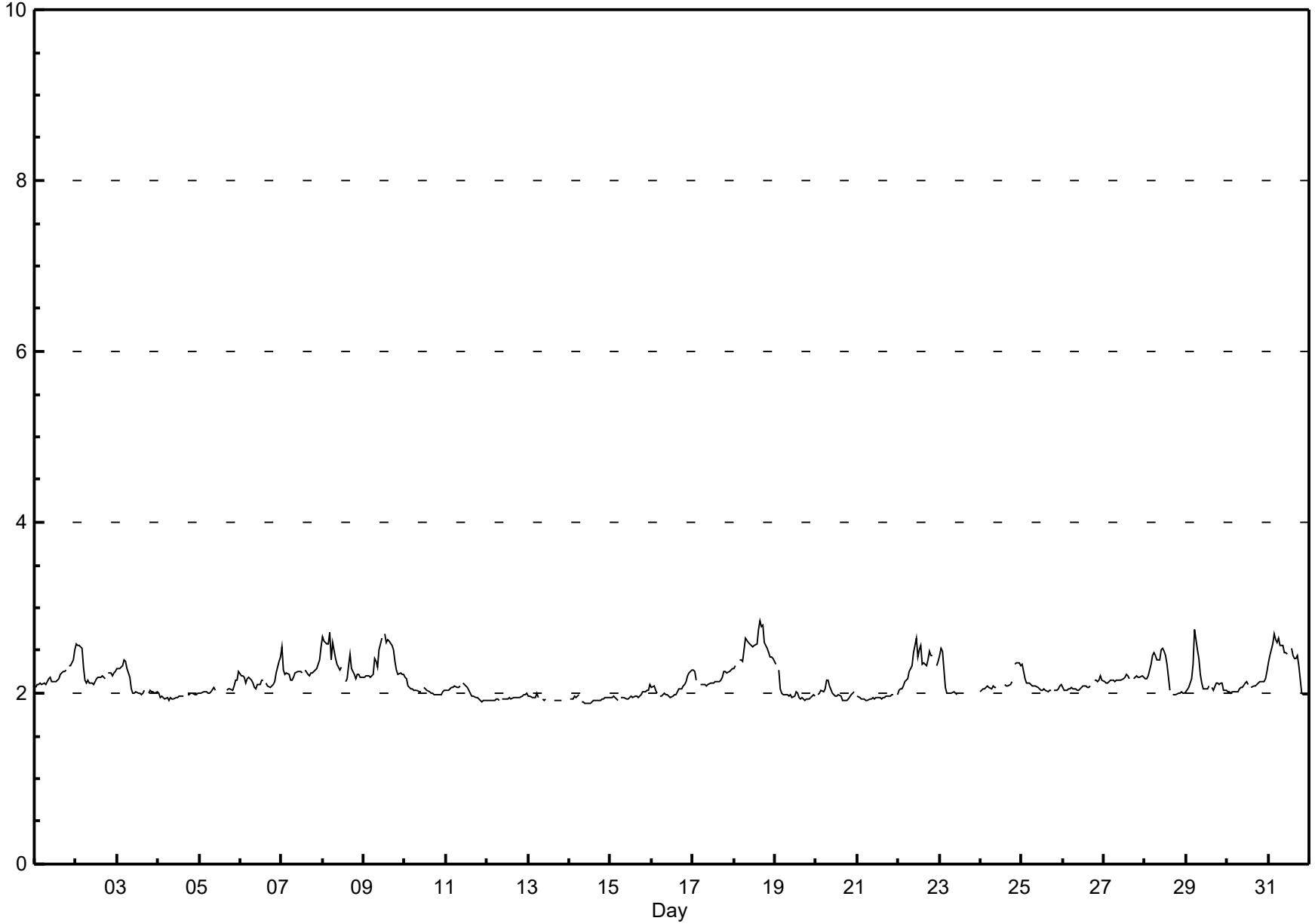
C - Calibration P - Power Failure N - Not Valid A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Averages

Total Hydrocarbons (THC) - ppm

Wembley - December 2018



Peace Airshed Zone Association

Hourly Maximums

Total Hydrocarbons (THC) - ppm

Wembley - December 2018

Maximum Value: 3.44 ppm on Dec 8 12:00

Maximum Daily Average: 2.63 ppm on Dec 18

Minimum Value: 1.9 ppm on Dec 14 12:00

Minimum Daily Average: 1.95 ppm on Dec 14

Maximum Diurnal Average: 2.22 ppm at hour 24

Minimum Diurnal Average: 2.14 ppm at hour 20

Monthly Average: 2.183 ppm

Percentiles: P_1 = 1.93 P_{10} = 1.97 Q_1 = 2.02 Median = 2.12 Q_3 = 2.27 P_{90} = 2.52 P_{99} = 2.88

Hours in Service:	744
Hours of Data:	684
Hours of Missing Data:	60
Hours of Calibration:	40
Percent Operational Time:	97.3

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	2.1	2.1	2.1	2.2	2.2	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.3	A	2.4	2.4	2.5	2.6	2.24	2.55
2-Dec	2.6	2.6	2.6	2.6	2.5	2.3	2.2	2.2	2.2	2.2	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2	A	2.3	2.3	2.2	2.3	2.3	2.29	2.62
3-Dec	2.3	2.3	2.3	2.4	2.4	2.4	2.4	2.2	2.2	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	A	2.0	2.0	2.0	2.1	2.0	2.0	2.15	2.42
4-Dec	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.99	2.04
5-Dec	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.1	2.1	P	P	P	P	2.0	A	2.0	2.1	2.1	2.0	2.2	2.2	2.2	2.4	2.09	2.39
6-Dec	2.2	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.2	2.2	A	2.1	2.1	2.1	2.1	2.2	2.2	2.4	2.5	2.6	2.21	2.56
7-Dec	2.6	2.4	2.3	2.3	2.3	2.2	2.2	2.3	2.3	2.3	2.3	2.3	2.3	A	2.3	2.3	2.2	2.3	2.3	2.3	2.3	2.5	2.4	2.7	2.32	2.66
8-Dec	2.8	2.8	2.8	2.8	2.9	2.5	2.9	2.7	2.5	2.3	2.3	3.4	A	2.2	2.2	2.4	2.6	2.3	2.3	2.2	2.3	2.3	2.2	2.2	2.53	3.44
9-Dec	2.2	2.3	2.2	2.2	2.2	2.3	2.6	2.5	2.4	2.8	2.8	A	2.8	2.7	2.7	2.7	2.6	2.6	2.5	2.3	2.3	2.3	2.2	2.3	2.46	2.82
10-Dec	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	A	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.07	2.24
11-Dec	2.1	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.1	A	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	2.05	2.19
12-Dec	2.0	1.9	2.0	1.9	1.9	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.97	2.04
13-Dec	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	1.9	2.0	2.0	C	C	C	C	2.0	1.9	2.0	1.9	1.9	N	N	N	N	--	2.03
14-Dec	2.0	2.0	2.0	2.0	2.0	2.1	A	1.9	1.9	1.9	1.9	1.9	1.9	2.0	1.9	2.0	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	1.95	2.09
15-Dec	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.2	2.1	2.1	2.1	2.2	2.02	2.21
16-Dec	2.1	2.1	2.1	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.2	2.1	2.2	2.2	2.3	2.3	2.09	2.29
17-Dec	2.3	2.3	2.2	A	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.3	2.3	2.3	2.21	2.34
18-Dec	2.3	2.4	A	2.4	2.4	2.4	2.7	2.7	2.6	2.9	2.6	2.6	2.6	2.7	2.9	2.9	2.9	2.9	2.7	2.7	2.6	2.5	2.5	2.5	2.63	2.92
19-Dec	2.4	A	2.3	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.04	2.41
20-Dec	A	2.0	2.1	2.1	2.1	2.1	2.2	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	1.9	2.0	1.9	2.0	2.0	2.0	2.0	2.0	A	2.04	2.24
21-Dec	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	1.97	2.02
22-Dec	2.1	2.1	2.1	2.1	2.2	2.2	2.3	2.3	2.4	2.7	2.7	2.6	2.7	2.7	2.5	2.4	2.4	2.5	2.5	2.5	2.5	A	2.4	2.4	2.40	2.72
23-Dec	2.6	2.6	2.5	2.4	2.0	2.1	2.0	2.0	2.0	2.0	2.0	N	N	N	N	N	N	N	N	N	N	A	N	N	--	2.57
24-Dec	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	C	C	C	C	2.1	2.1	2.1	2.1	2.2	A	2.4	2.4	2.4	2.3	2.17	2.42
25-Dec	2.4	2.3	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.1	2.1	2.0	2.0	2.1	A	2.1	2.0	2.1	2.1	2.2	2.12	2.39
26-Dec	2.1	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	A	2.2	2.2	2.2	2.2	2.2	2.2	2.12	2.24
27-Dec	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.2	2.2	A	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.20	2.29
28-Dec	2.2	2.2	2.3	2.4	2.5	2.5	2.5	2.5	2.5	2.6	2.6	2.6	2.5	2.4	2.2	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.28	2.56
29-Dec	2.1	2.2	2.2	2.3	2.5	3.0	2.7	2.5	2.3	2.2	2.1	2.1	2.1	2.1	A	2.1	2.1	2.2	2.1	2.1	2.1	2.2	2.1	2.1	2.22	2.96
30-Dec	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.1	A	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.4	2.12	2.40
31-Dec	2.4	2.7	2.7	2.8	2.7	2.7	2.7	2.7	2.6	2.6	2.5	2.5	A	2.6	2.5	2.5	2.5	2.5	2.5	2.1	2.0	2.0	2.0	2.0	2.47	2.82
	2.21	2.21	2.19	2.20	2.20	2.20	2.21	2.19	2.17	2.18	2.18	2.20	2.17	2.19	2.17	2.16	2.16	2.16	2.16	2.14	2.16	2.17	2.19	2.22	Diurnal Average	
	2.80	2.84	2.75	2.82	2.88	2.96	2.93	2.70	2.65	2.92	2.82	3.44	2.80	2.73	2.86	2.88	2.89	2.89	2.72	2.72	2.60	2.49	2.50	2.66	Diurnal Maximum	

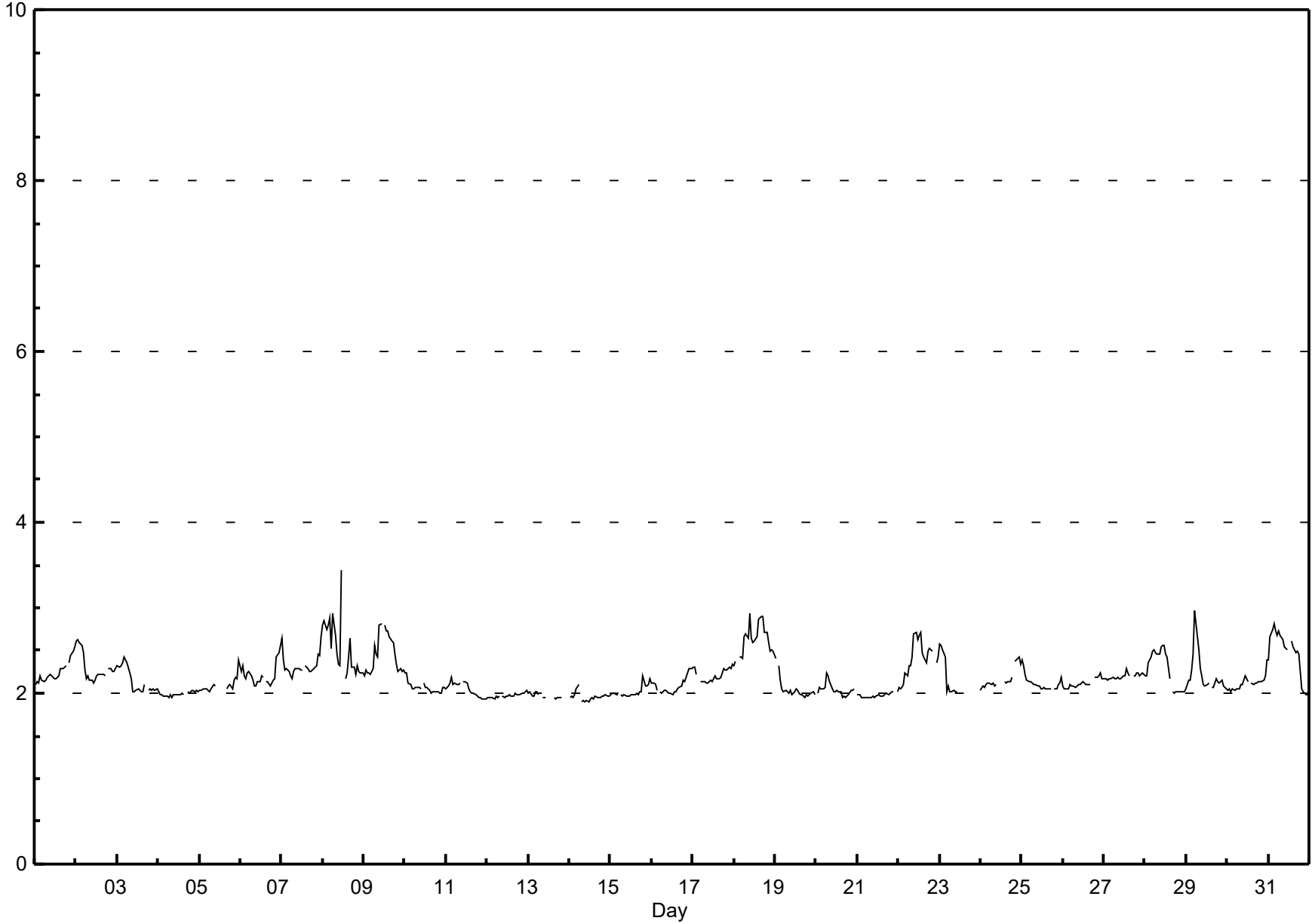
C - Calibration P - Power Failure N - Not Valid A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Total Hydrocarbons (THC) - ppm

Wembley - December 2018

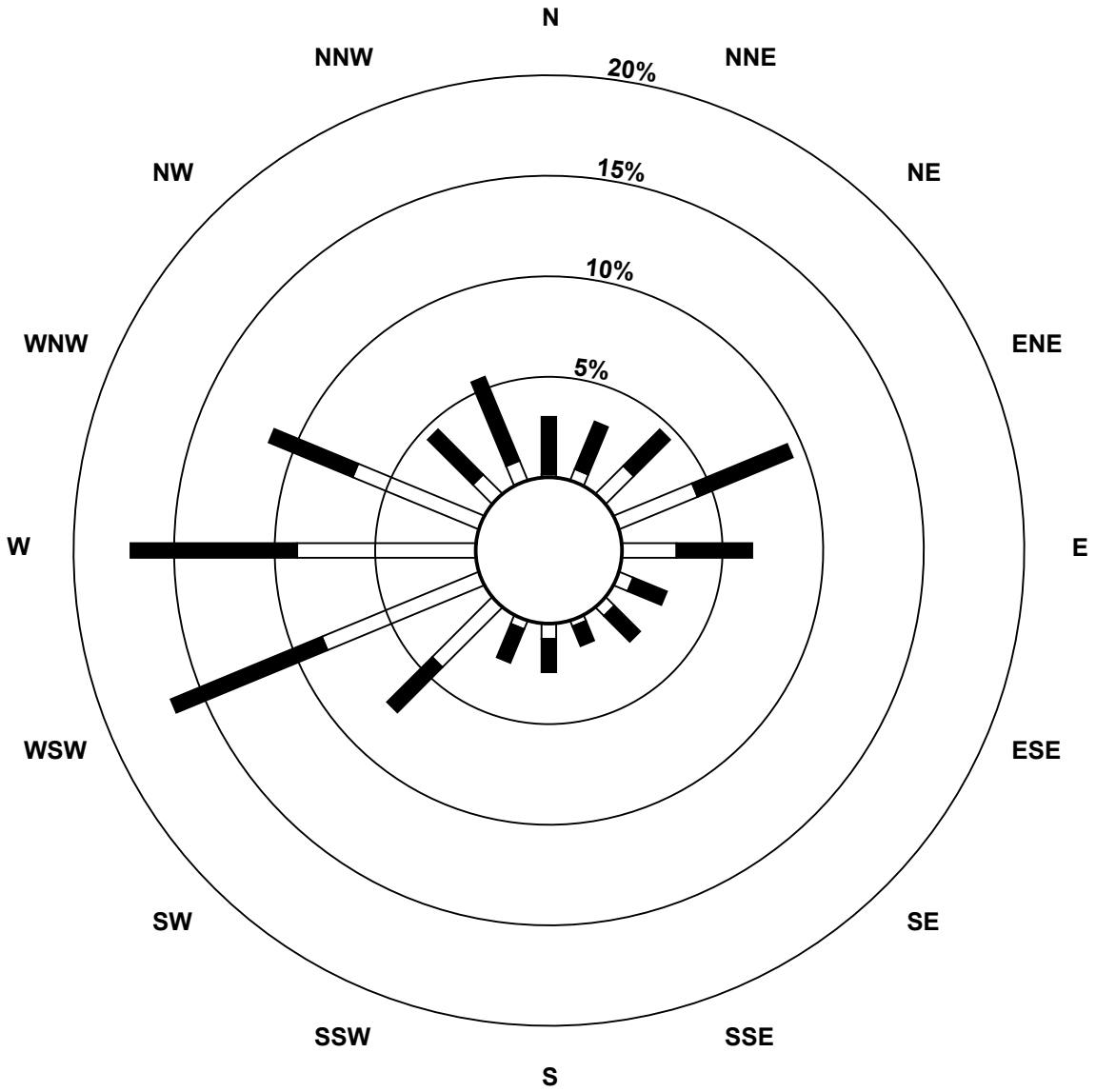


Peace Airshed Zone Association

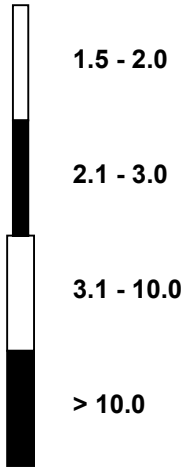
Pollutant Rose

Total Hydrocarbons (THC) - ppm

Wembley - December 2018



Pollutant Classes (ppm)

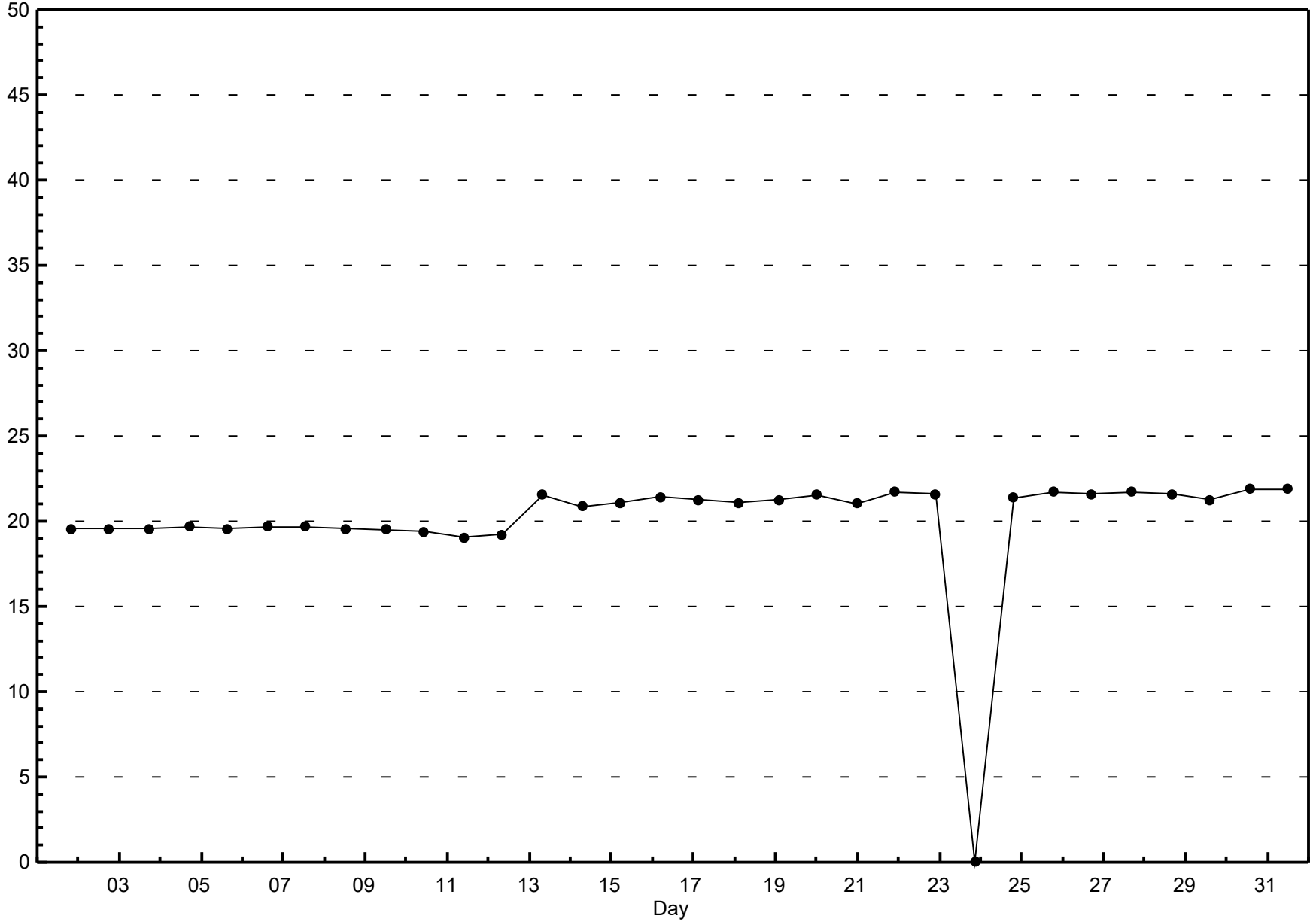


Peace Airshed Zone Association

Span Responses

Total Hydrocarbons (THC)

Wembley - December 2018



Peace Airshed Zone Association

Hourly Averages

Methane (CH_4) - ppm

Wembley - December 2018

Maximum Value: 2.81 ppm on Dec 18 16:00

Maximum Daily Average: 2.51 ppm on Dec 18

Minimum Value: 1.8 ppm on Dec 14 10:00

Minimum Daily Average: 1.89 ppm on Dec 14

Maximum Diurnal Average: 2.15 ppm at hour 1

Minimum Diurnal Average: 2.07 ppm at hour 20

Monthly Average: 2.112 ppm

Percentiles: P_1 = 1.88 P_{10} = 1.91 Q_1 = 1.97 Median = 2.06 Q_3 = 2.21 P_{90} = 2.41 P_{99} = 2.67

Hours in Service:	744
Hours of Data:	684
Hours of Missing Data:	60
Hours of Calibration:	40
Percent Operational Time:	97.3

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	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.3	A	2.3	2.3	2.4	2.5	2.18	2.49
2-Dec	2.6	2.5	2.5	2.5	2.3	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.2	A	2.2	2.2	2.2	2.2	2.2	2.24	2.56
3-Dec	2.3	2.3	2.3	2.3	2.4	2.4	2.3	2.2	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.10	2.37
4-Dec	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	1.9	1.9	1.9	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.95	1.99
5-Dec	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	P	P	P	P	2.0	A	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.2	2.03	2.23
6-Dec	2.2	2.2	2.2	2.1	2.2	2.2	2.1	2.1	2.0	2.0	2.1	2.1	2.1	2.1	A	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.4	2.4	2.14	2.41
7-Dec	2.5	2.3	2.2	2.2	2.2	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.2	A	2.3	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.4	2.5	2.25	2.53
8-Dec	2.6	2.6	2.6	2.6	2.7	2.4	2.6	2.4	2.3	2.3	2.2	2.3	A	2.1	2.1	2.3	2.4	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.34	2.69
9-Dec	2.2	2.2	2.2	2.2	2.2	2.2	2.4	2.4	2.3	2.5	2.6	A	2.7	2.6	2.6	2.6	2.5	2.5	2.4	2.3	2.2	2.2	2.2	2.2	2.36	2.68
10-Dec	2.2	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.01	2.17
11-Dec	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.1	A	2.1	2.1	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.99	2.09
12-Dec	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	1.92	1.99
13-Dec	2.0	2.0	1.9	1.9	1.9	2.0	1.9	A	1.9	1.9	1.9	C	C	C	C	1.9	1.9	1.9	1.9	1.9	N	N	N	N	--	1.99
14-Dec	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	1.8	1.8	1.8	1.8	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.89	1.95
15-Dec	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.1	1.95	2.09
16-Dec	2.1	2.1	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.2	2.2	2.3	2.04	2.25
17-Dec	2.3	2.2	2.1	A	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.15	2.26
18-Dec	2.3	2.3	A	2.4	2.4	2.3	2.5	2.6	2.6	2.5	2.5	2.5	2.5	2.5	2.7	2.8	2.7	2.8	2.6	2.5	2.4	2.4	2.4	2.4	2.51	2.81
19-Dec	2.3	A	2.2	2.0	2.0	1.9	2.0	2.0	1.9	1.9	1.9	1.9	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	1.9	1.97	2.31
20-Dec	A	1.9	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.0	2.0	1.9	1.9	2.0	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	A	1.97	2.13
21-Dec	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	2.0	1.92	1.96
22-Dec	2.0	2.0	2.0	2.0	2.1	2.1	2.2	2.3	2.3	2.4	2.6	2.4	2.5	2.5	2.3	2.3	2.3	2.4	2.5	2.4	2.4	A	2.3	2.4	2.29	2.61
23-Dec	2.4	2.5	2.5	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	N	N	N	N	N	N	N	N	N	N	A	N	N	--	2.49
24-Dec	2.0	2.0	2.0	2.1	2.1	2.1	2.0	2.1	2.1	2.1	C	C	C	C	2.1	2.1	2.1	2.1	2.1	A	2.3	2.3	2.3	2.3	2.12	2.34
25-Dec	2.3	2.2	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	A	2.0	2.0	2.0	2.1	2.1	2.07	2.32
26-Dec	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	A	2.1	2.1	2.1	2.1	2.2	2.1	2.07	2.18
27-Dec	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.1	A	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.14	2.19
28-Dec	2.2	2.1	2.2	2.3	2.4	2.4	2.4	2.4	2.4	2.5	2.5	2.5	2.4	2.3	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.20	2.50
29-Dec	2.0	2.0	2.1	2.2	2.3	2.7	2.5	2.4	2.2	2.1	2.0	2.0	2.0	2.0	A	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.13	2.71
30-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	2.1	A	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.06	2.23
31-Dec	2.3	2.4	2.6	2.7	2.6	2.6	2.6	2.5	2.5	2.5	2.5	2.4	A	2.5	2.4	2.4	2.4	2.4	2.3	2.0	2.0	2.0	2.0	2.0	2.36	2.67
	2.15	2.13	2.12	2.11	2.12	2.12	2.13	2.12	2.10	2.10	2.12	2.10	2.11	2.12	2.10	2.10	2.10	2.10	2.09	2.07	2.10	2.10	2.13	2.15	Diurnal Average	
	2.64	2.60	2.55	2.67	2.69	2.71	2.62	2.61	2.55	2.54	2.63	2.52	2.68	2.58	2.71	2.81	2.74	2.76	2.56	2.50	2.44	2.40	2.40	2.52	Diurnal Maximum	

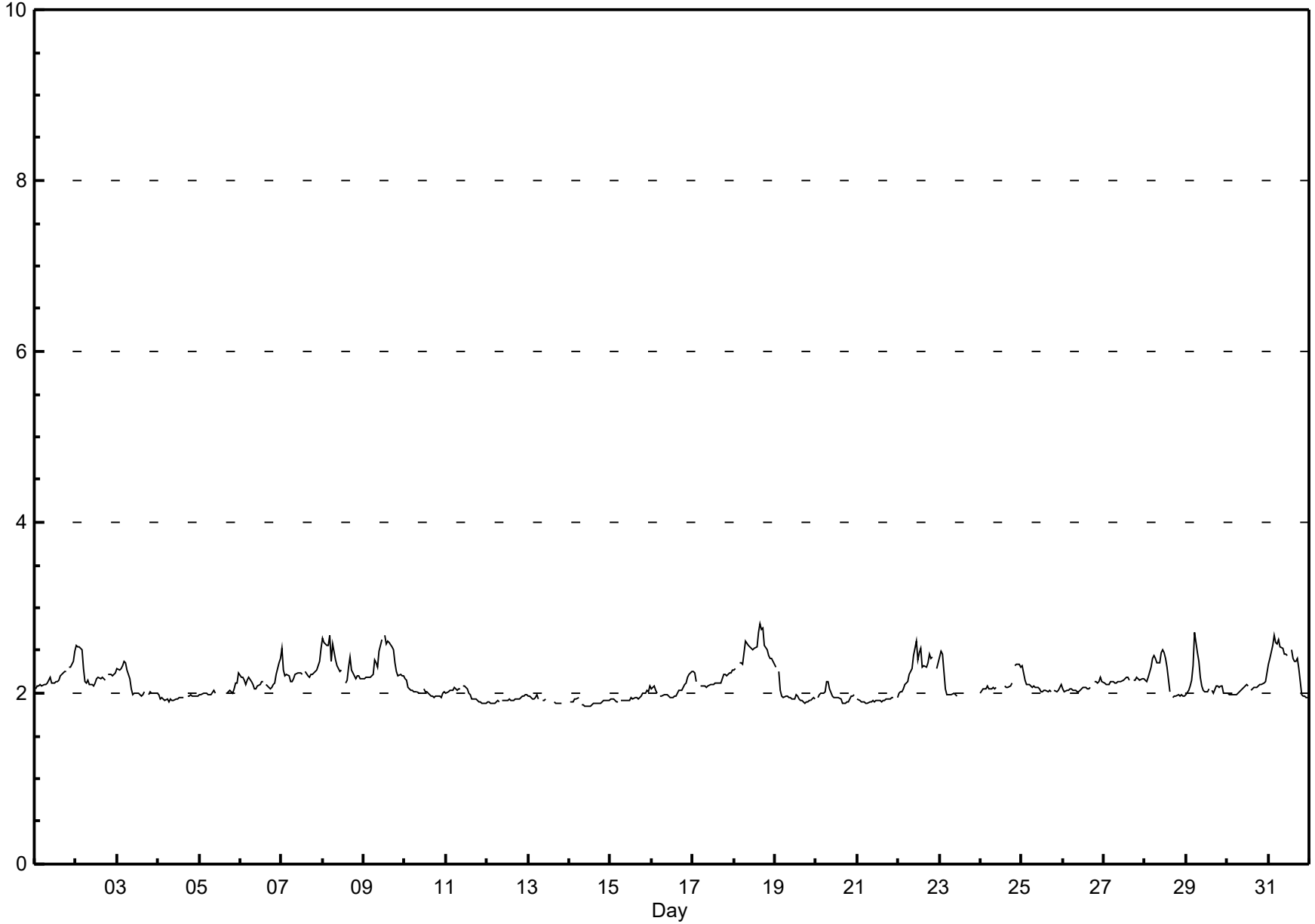
C - Calibration P - Power Failure N - Not Valid A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Averages

Methane (CH_4) - ppm

Wembley - December 2018



Peace Airshed Zone Association

Hourly Maximums

Methane (CH_4) - ppm

Wembley - December 2018

Maximum Value: 2.92 ppm on Dec 29 06:00

Maximum Daily Average: 2.58 ppm on Dec 18

Minimum Value: 1.9 ppm on Dec 14 12:00

Minimum Daily Average: 1.93 ppm on Dec 14

Maximum Diurnal Average: 2.20 ppm at hour 24

Minimum Diurnal Average: 2.12 ppm at hour 20

Monthly Average: 2.159 ppm

Percentiles: P_1 = 1.90 P_{10} = 1.94 Q_1 = 2.00 Median = 2.10 Q_3 = 2.25 P_{90} = 2.48 P_{99} = 2.82

Hours in Service:	744
Hours of Data:	684
Hours of Missing Data:	60
Hours of Calibration:	40
Percent Operational Time:	97.3

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Dec	2.1	2.1	2.1	2.2	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.1	2.1	2.2	2.2	2.3	2.3	2.3	2.3	A	2.3	2.4	2.5	2.5	2.23	2.53
2-Dec	2.6	2.6	2.6	2.5	2.5	2.3	2.2	2.2	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.2	A	2.3	2.3	2.2	2.2	2.3	2.28	2.60
3-Dec	2.3	2.3	2.3	2.4	2.4	2.4	2.3	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	A	2.0	2.0	2.0	2.0	2.0	2.0	2.14	2.41
4-Dec	2.0	2.0	2.0	2.0	1.9	2.0	1.9	2.0	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.97	2.02
5-Dec	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	P	P	P	P	2.0	A	2.0	2.0	2.1	2.0	2.1	2.2	2.2	2.4	2.07	2.36
6-Dec	2.2	2.3	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.2	2.2	A	2.1	2.1	2.1	2.1	2.1	2.2	2.4	2.5	2.6	2.20	2.55
7-Dec	2.6	2.4	2.3	2.3	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.3	2.2	A	2.3	2.2	2.2	2.2	2.3	2.3	2.5	2.4	2.6	2.31	2.63
8-Dec	2.8	2.8	2.7	2.8	2.9	2.5	2.9	2.7	2.4	2.3	2.3	2.4	A	2.1	2.2	2.4	2.6	2.3	2.3	2.2	2.3	2.2	2.2	2.2	2.46	2.91
9-Dec	2.2	2.3	2.2	2.2	2.2	2.3	2.5	2.4	2.4	2.8	2.8	A	2.8	2.7	2.7	2.6	2.6	2.6	2.4	2.3	2.2	2.3	2.2	2.3	2.44	2.80
10-Dec	2.2	2.2	2.1	2.1	2.0	2.0	2.1	2.0	2.1	2.0	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	2.05	2.22
11-Dec	2.0	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.1	A	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	2.02	2.17
12-Dec	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.95	2.02
13-Dec	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	1.9	1.9	1.9	C	C	C	C	1.9	1.9	1.9	1.9	1.9	N	N	N	N	--	2.02
14-Dec	1.9	1.9	1.9	2.0	2.0	2.1	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	1.93	2.07
15-Dec	1.9	2.0	2.0	1.9	2.0	A	1.9	1.9	2.0	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.2	2.1	2.1	2.1	2.2	2.00	2.19
16-Dec	2.1	2.1	2.1	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.2	2.2	2.3	2.3	2.07	2.28
17-Dec	2.3	2.3	2.2	A	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.2	2.3	2.3	2.3	2.19	2.31
18-Dec	2.3	2.3	A	2.4	2.4	2.4	2.6	2.7	2.6	2.6	2.6	2.6	2.6	2.6	2.8	2.8	2.9	2.9	2.7	2.7	2.6	2.5	2.5	2.5	2.58	2.86
19-Dec	2.4	A	2.3	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.01	2.38
20-Dec	A	2.0	2.0	2.0	2.0	2.0	2.2	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	A	2.01	2.20
21-Dec	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	A	2.0	1.94	1.99
22-Dec	2.0	2.0	2.0	2.1	2.2	2.2	2.3	2.3	2.4	2.7	2.7	2.6	2.6	2.7	2.4	2.4	2.3	2.5	2.5	2.5	2.5	A	2.3	2.4	2.37	2.68
23-Dec	2.5	2.5	2.5	2.4	2.0	2.1	2.0	2.0	2.0	2.0	2.0	N	N	N	N	N	N	N	N	N	N	A	N	N	--	2.54
24-Dec	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	C	C	C	C	2.1	2.1	2.1	2.1	2.2	A	2.4	2.4	2.4	2.3	2.15	2.40
25-Dec	2.4	2.3	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.1	2.0	2.0	2.0	2.0	A	2.0	2.0	2.1	2.1	2.2	2.10	2.37
26-Dec	2.1	2.0	2.1	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	A	2.2	2.2	2.2	2.2	2.2	2.2	2.10	2.21
27-Dec	2.1	2.1	2.1	2.1	2.2	2.2	2.1	2.2	2.2	2.2	2.1	2.2	2.2	2.3	2.2	2.2	A	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.17	2.27
28-Dec	2.2	2.2	2.3	2.4	2.5	2.5	2.5	2.4	2.4	2.5	2.5	2.5	2.4	2.4	2.1	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.25	2.53
29-Dec	2.0	2.1	2.1	2.2	2.4	2.9	2.6	2.5	2.3	2.2	2.1	2.1	2.1	2.1	A	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.19	2.92
30-Dec	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.2	2.1	2.1	A	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.4	2.09	2.37
31-Dec	2.4	2.6	2.7	2.8	2.7	2.7	2.7	2.7	2.6	2.5	2.5	2.5	A	2.6	2.5	2.5	2.5	2.5	2.4	2.0	2.0	2.0	2.0	2.0	2.44	2.79
	2.19	2.18	2.17	2.18	2.17	2.18	2.19	2.17	2.15	2.15	2.16	2.14	2.15	2.17	2.15	2.14	2.14	2.14	2.13	2.12	2.14	2.15	2.17	2.20	Diurnal Average	
	2.78	2.82	2.73	2.79	2.85	2.92	2.91	2.66	2.61	2.78	2.80	2.59	2.78	2.72	2.82	2.84	2.86	2.86	2.68	2.68	2.57	2.46	2.47	2.63	Diurnal Maximum	

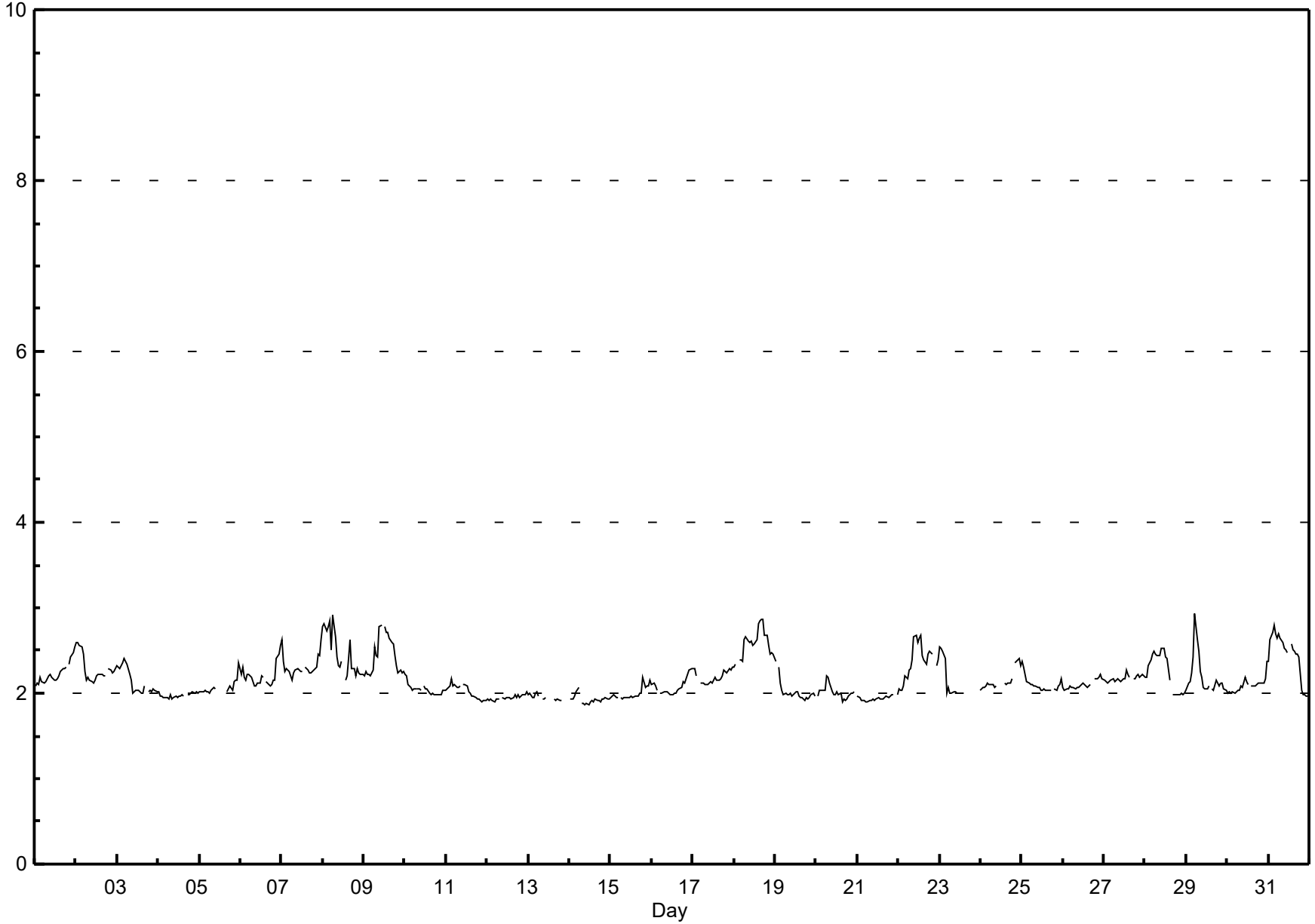
C - Calibration P - Power Failure N - Not Valid A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Methane (CH_4) - ppm

Wembley - December 2018

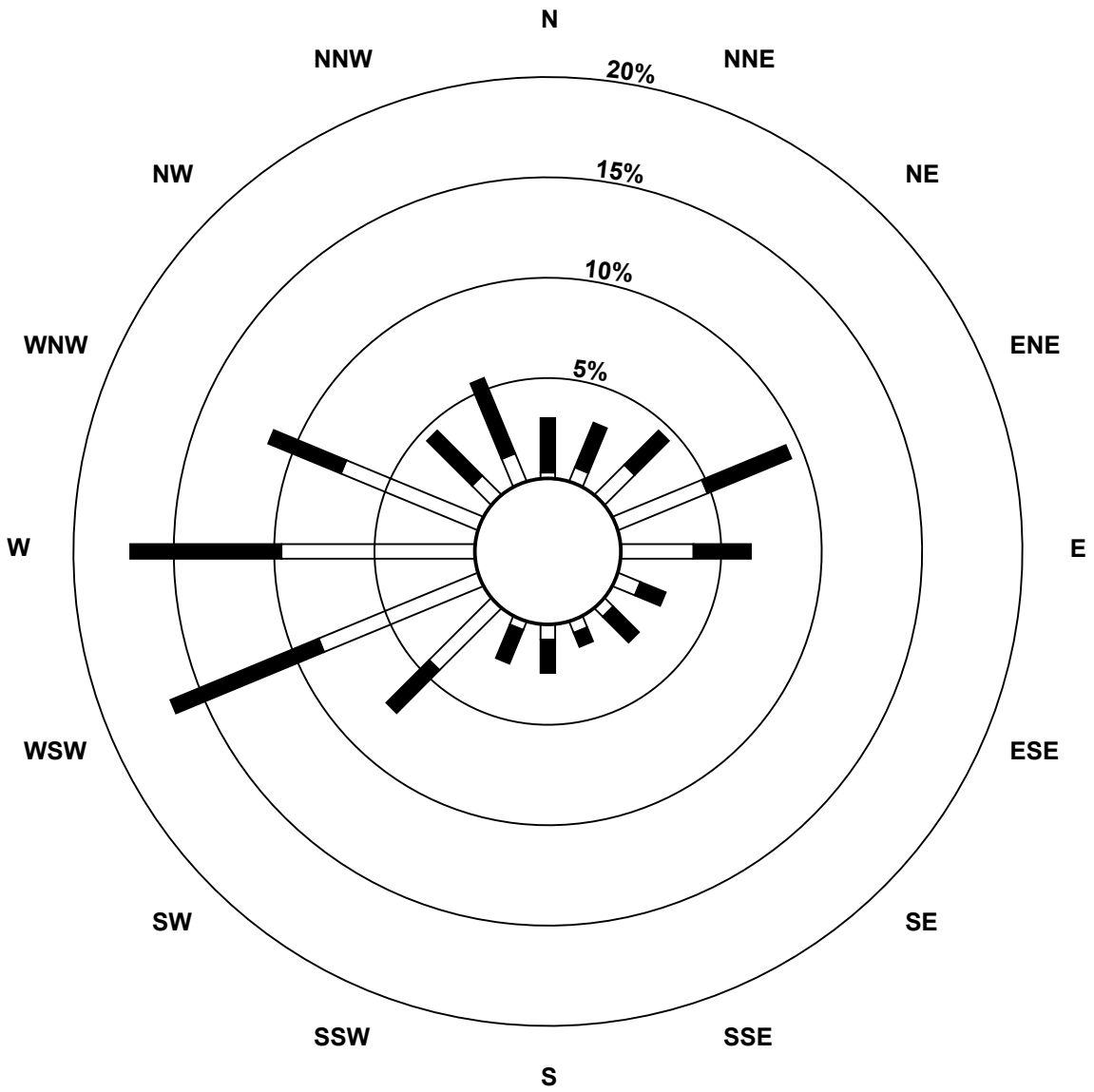


Peace Airshed Zone Association

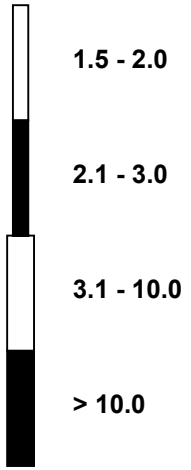
Pollutant Rose

Methane (CH_4) - ppm

Wembley - December 2018



Pollutant Classes (ppm)

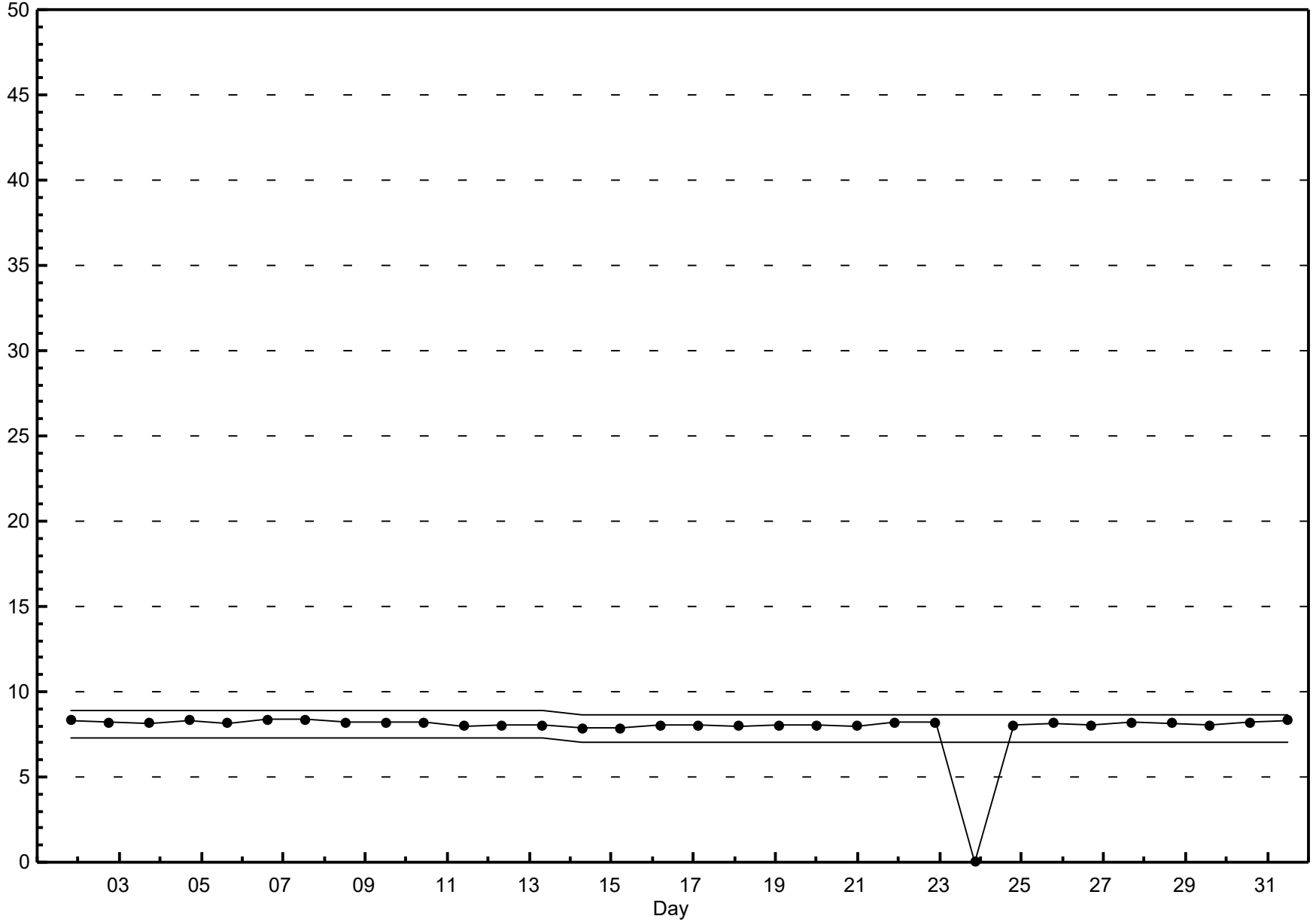


Peace Airshed Zone Association

Span Responses

Methane (CH_4)

Wembley - December 2018



Peace Airshed Zone Association

Hourly Averages

Non Methane Hydrocarbon (NMHC) - ppm

Wembley - December 2018

Maximum Value: 0.02 ppm on Dec 8 12:00

Maximum Daily Average: 0.00 ppm on Dec 8

Minimum Value: 0.0 ppm on Dec 1 01:00

Minimum Daily Average: 0.00 ppm on Dec 1

Maximum Diurnal Average: 0.00 ppm at hour 12

Minimum Diurnal Average: 0.00 ppm at hour 2

Monthly Average: 0.000 ppm

Percentiles: P_1 = 0.00 P_{10} = 0.00 Q_1 = 0.00 Median = 0.00 Q_3 = 0.00 P_{90} = 0.00 P_{99} = 0.00

Hours in Service:	744
Hours of Data:	684
Hours of Missing Data:	60
Hours of Calibration:	40
Percent Operational Time:	97.3

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-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
2-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
3-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
4-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
5-Dec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	P	P	P	P	0.0	A	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
7-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
8-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	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.02
9-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
10-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
11-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
12-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
13-Dec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	C	C	C	C	0.0	0.0	0.0	0.0	0.0	N	N	N	N	--	0.00
14-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
15-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
16-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
17-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
18-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	0.01
19-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
20-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
21-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
22-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
23-Dec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N	N	N	N	N	N	N	N	N	N	A	N	N	--	0.00
24-Dec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	C	C	C	C	0.0	0.0	0.0	0.0	0.0	A	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.00	0.00
26-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
27-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
28-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
29-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
30-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
31-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	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Diurnal Average	
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Diurnal Maximum	

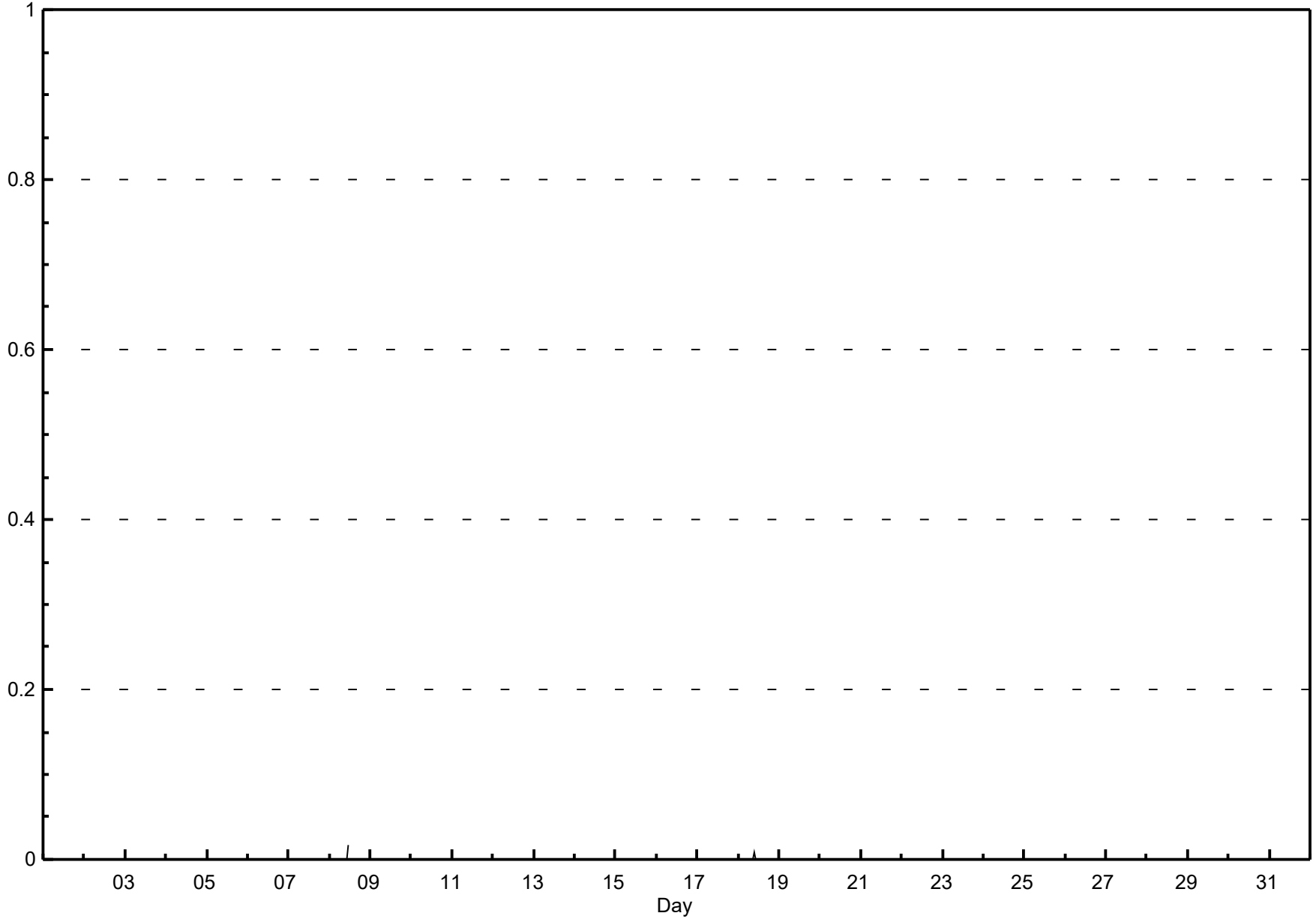
C - Calibration P - Power Failure N - Not Valid A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Averages

Non Methane Hydrocarbon (NMHC) - ppm

Wembley - December 2018



Peace Airshed Zone Association

Hourly Maximums

Non Methane Hydrocarbon (NMHC) - ppm

Wembley - December 2018

Maximum Value: 1.04 ppm on Dec 8 12:00

Maximum Daily Average: 0.05 ppm on Dec 8

Minimum Value: 0.0 ppm on Dec 4 22:00

Minimum Daily Average: 0.00 ppm on Dec 7

Maximum Diurnal Average: 0.04 ppm at hour 12

Minimum Diurnal Average: 0.00 ppm at hour 11

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

Hours in Service:	744
Hours of Data:	684
Hours of Missing Data:	60
Hours of Calibration:	40
Percent Operational Time:	97.3

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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.00	0.00
2-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
3-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
4-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
5-Dec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	P	P	P	P	0.0	A	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
7-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
8-Dec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.05	1.04
9-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
10-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
11-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
12-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
13-Dec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	C	C	C	C	0.0	0.0	0.0	0.0	0.0	N	N	N	N	--	0.00
14-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
15-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
16-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
17-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
18-Dec	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.04	0.92
19-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
20-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
21-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
22-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
23-Dec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N	N	N	N	N	N	N	N	N	N	A	N	N	--	0.00
24-Dec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	C	C	C	C	0.0	0.0	0.0	0.0	0.0	A	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.00	0.00
26-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
27-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
28-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
29-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
30-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
31-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	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Diurnal Average	
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.92	0.00	1.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Diurnal Maximum	

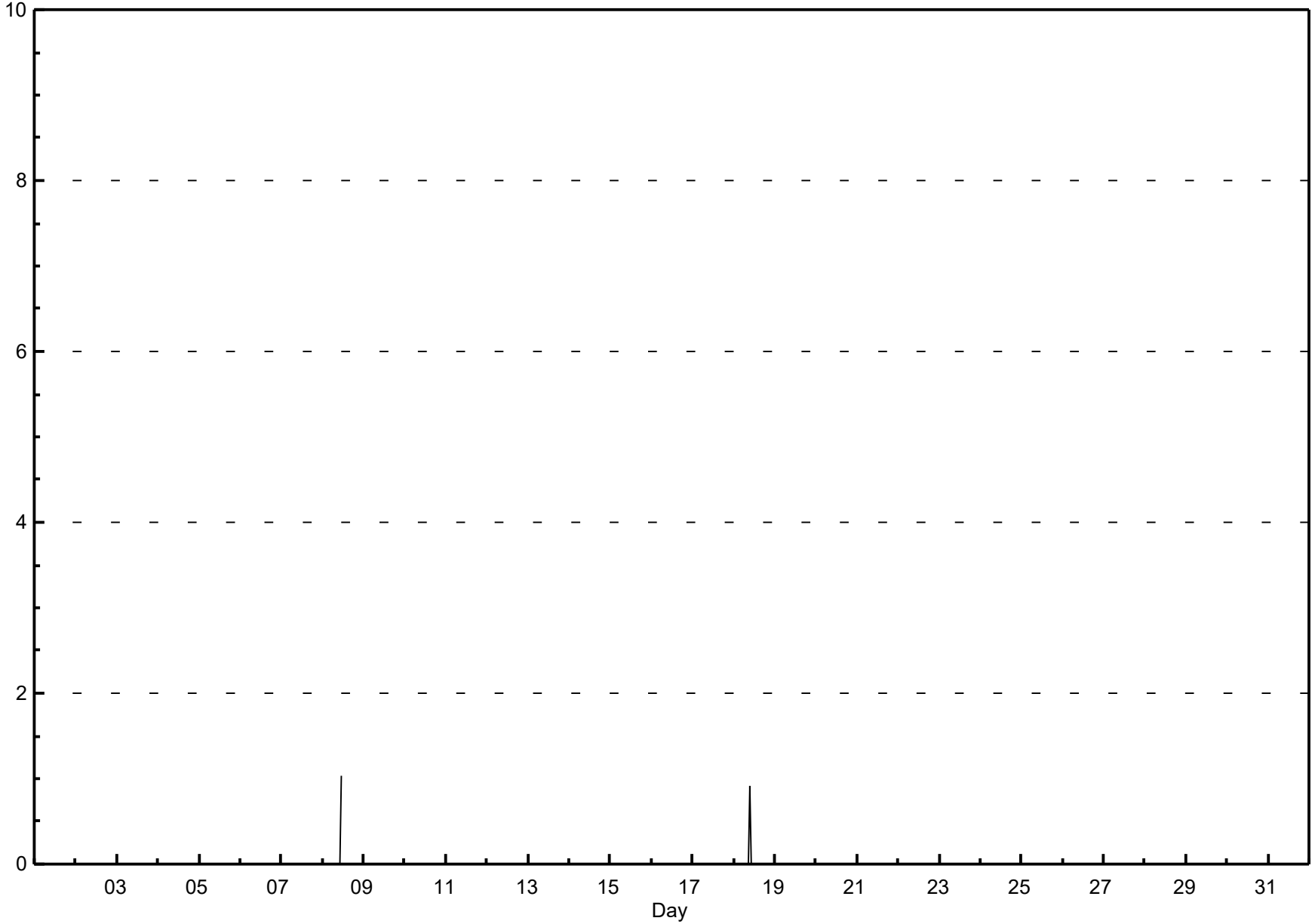
C - Calibration P - Power Failure N - Not Valid A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Non Methane Hydrocarbon (NMHC) - ppm

Wembley - December 2018

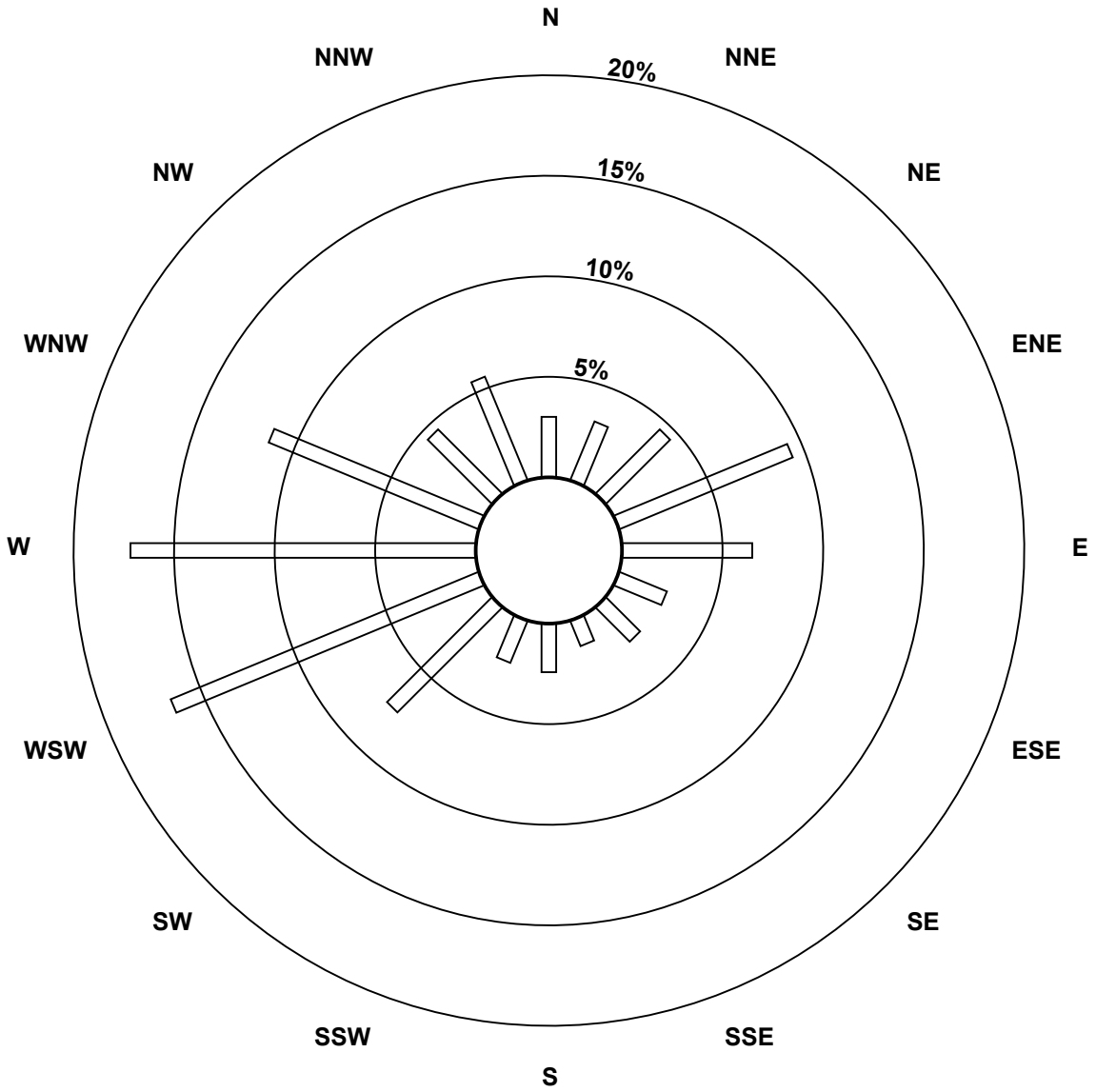


Peace Airshed Zone Association

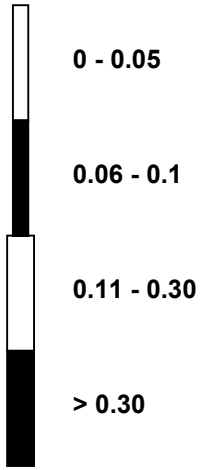
Pollutant Rose

Non Methane Hydrocarbon (NMHC) - ppm

Wembley - December 2018



Pollutant Classes (ppm)

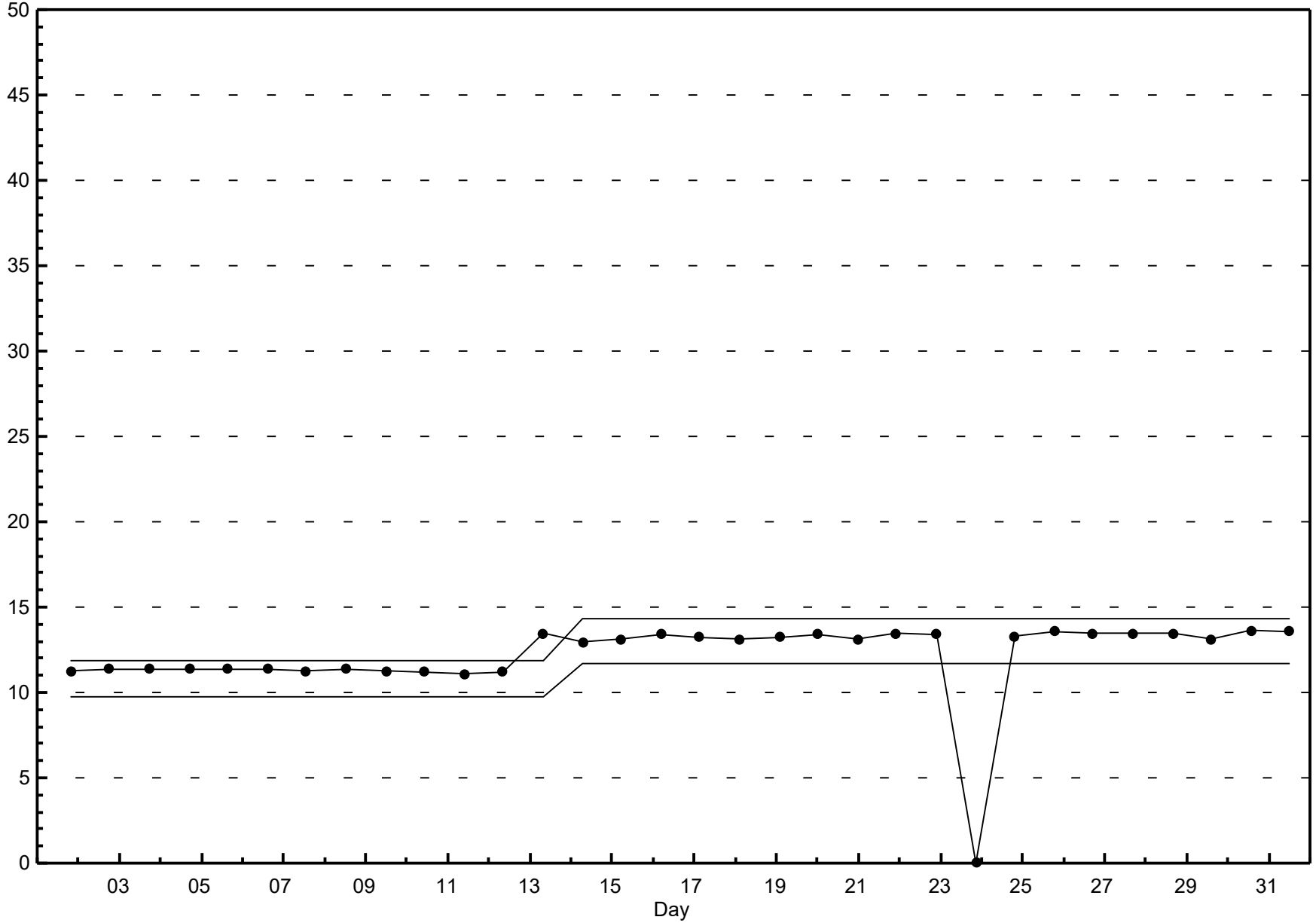


Peace Airshed Zone Association

Span Responses

Non Methane Hydrocarbon (NMHC)

Wembley - December 2018



Peace Airshed Zone Association

Hourly Averages

PM2.5 ($PM_{2.5}$) - $\mu g/m^3$

Wembley - December 2018

Number of Exceedences: 1-hr: 1 24-hr: 0
Maximum Value: 80.0 $\mu g/m^3$ on Dec 29 08:00
Maximum Daily Average: 10.1 $\mu g/m^3$ on Dec 2

Minimum Value: 0 $\mu g/m^3$ on Dec 3 08:00
Maximum Diurnal Average: 5.4 $\mu g/m^3$ at hour 17
Monthly Average: 3.88 $\mu g/m^3$
Minimum Daily Average: 0.4 $\mu g/m^3$ on Dec 12
Minimum Diurnal Average: 2.6 $\mu g/m^3$ at hour 14
Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 0.2 Median = 2.6 Q_3 = 5.8 P_{90} = 9.1 P_{99} = 19.1

Hours in Service:	744
Hours of Data:	739
Hours of Missing Data:	5
Hours of Calibration:	1
Percent Operational Time:	99.5

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Dec	2	2	3	2	3	1	2	3	4	5	4	5	4	3	3	4	5	4	3	4	4	6	10	11	4.0	11.4
2-Dec	10	9	9	8	14	11	18	16	10	4	5	5	7	6	7	13	17	12	6	20	17	5	7	5	10.1	20.3
3-Dec	3	3	3	7	7	5	2	0	0	0	4	0	0	0	0	0	8	1	0	0	0	0	2	2	2.0	8.4
4-Dec	1	0	0	0	1	3	4	3	3	2	1	2	2	4	4	1	3	1	1	0	1	0	0	0	1.5	3.9
5-Dec	0	0	1	0	0	0	0	0	0	0	P	P	P	P	21	23	19	7	5	7	8	6	5	7	5.5	23.2
6-Dec	5	5	4	3	4	4	4	7	5	10	8	11	18	4	4	19	16	10	7	13	13	13	11	9	8.7	19.5
7-Dec	6	5	6	3	3	2	2	3	4	5	12	9	4	1	8	9	7	24	18	18	17	14	16	11	8.6	23.5
8-Dec	10	19	15	13	14	4	7	3	2	5	7	6	3	2	1	5	5	2	3	2	4	5	8	10	6.4	19.4
9-Dec	10	9	9	10	8	7	5	5	13	6	6	4	5	12	10	10	10	8	7	11	7	6	4	9	8.0	12.6
10-Dec	12	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.8	11.6
11-Dec	0	0	2	0	0	0	0	0	0	0	0	2	3	0	0	3	5	3	2	0	0	0	0	0	0.8	5.3
12-Dec	0	0	0	0	0	0	0	0	0	3	2	0	0	0	2	1	0	0	0	0	0	0	0	0	0.4	3.2
13-Dec	0	0	0	2	0	0	1	0	0	0	0	C	4	3	2	2	3	5	3	3	1	2	3	0	1.5	4.6
14-Dec	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	12	4	2	5	6	4	3	3	4	2.0	11.5
15-Dec	5	7	7	6	6	4	5	4	3	2	2	0	1	2	0	1	1	0	2	8	8	3	4	3	3.4	8.1
16-Dec	3	0	1	0	0	0	0	0	0	0	1	0	0	1	1	9	19	11	8	6	5	6	6	5	3.4	18.6
17-Dec	6	4	5	5	5	3	3	3	3	3	4	4	7	6	5	5	5	5	5	6	6	6	7	7	5.0	6.8
18-Dec	7	6	7	7	6	6	7	6	7	6	5	7	7	8	9	11	10	11	8	7	5	4	4	4	6.9	11.1
19-Dec	3	4	3	2	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.6	3.9
20-Dec	0	0	0	1	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	4	4	3	0.8	4.0
21-Dec	9	3	3	2	1	1	1	1	1	1	1	1	0	1	0	1	0	0	0	0	1	2	0	0	1.3	9.4
22-Dec	1	1	1	1	1	1	1	1	1	2	2	4	5	3	3	6	6	3	1	3	2	2	3	4	2.3	6.1
23-Dec	7	13	10	2	0	0	0	1	2	2	2	1	3	2	3	4	3	1	2	2	2	2	2	3	2.8	13.1
24-Dec	9	8	7	4	3	4	4	4	4	4	4	3	4	3	5	6	7	6	6	7	8	6	9	8	5.5	9.4
25-Dec	9	5	4	3	2	3	2	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1.5	8.9
26-Dec	1	0	1	0	1	0	1	1	1	1	2	2	2	1	2	3	3	2	3	4	4	6	6	7	2.2	6.6
27-Dec	10	8	6	5	10	13	11	9	8	8	8	6	5	6	11	10	6	6	9	8	8	7	7	6	8.0	13.4
28-Dec	5	6	6	8	8	7	6	7	7	6	6	5	5	5	0	0	0	0	0	0	0	0	0	0	3.6	7.7
29-Dec	0	0	1	2	4	7	38	80	14	7	4	2	0	4	6	5	5	6	6	9	8	8	2	3	9.2	80.0
30-Dec	4	4	4	4	3	3	2	2	2	3	3	2	2	2	2	2	1	2	2	3	2	2	3	2	2.5	4.0
31-Dec	3	2	2	2	2	0	2	1	3	1	1	1	2	1	0	0	0	0	0	0	0	0	0	0	0.9	3.2
	4.5	4.2	3.9	3.3	3.5	3.0	4.2	5.3	3.2	2.8	3.1	2.9	3.1	2.6	3.6	5.3	5.4	4.3	3.6	4.7	4.4	3.8	4.0	4.0	Diurnal Average	
	11.6	19.4	15.3	12.7	14.2	13.4	38.0	80.0	13.9	9.6	11.6	10.9	18.4	11.8	21.4	23.2	18.6	23.5	18.4	20.3	17.3	14.1	16.3	11.4	Diurnal Maximum	

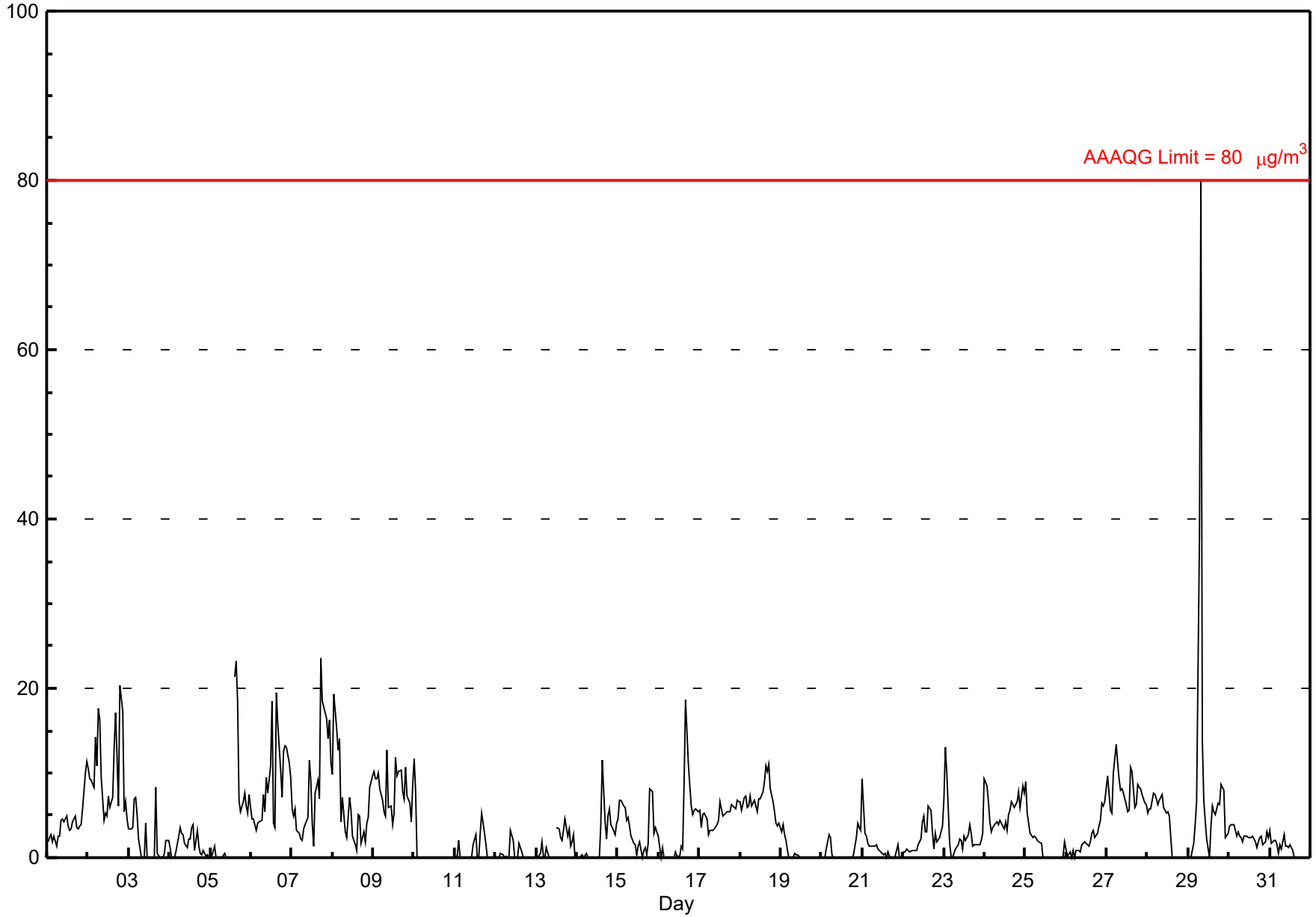
C - Calibration P - Power Failure
Alberta Ambient Air Quality Guideline (AAAQG): 1-hr 80 $\mu g/m^3$ Alberta Ambient Air Quality Objective (AAAQO): 24-hr 30 $\mu g/m^3$

Peace Airshed Zone Association

Hourly Averages

PM2.5 ($PM_{2.5}$) - $\mu g/m^3$

Wembley - December 2018



PAZA
Peace Airshed Zone Association

Hourly Maximums

PM2.5 ($PM_{2.5}$) - $\mu g/m^3$

Wembley - December 2018

Maximum Value: 124.5 $\mu g/m^3$ on Dec 29 08:00

Maximum Daily Average: 15.4 $\mu g/m^3$ on Dec 29

Minimum Value: 0 $\mu g/m^3$ on Dec 3 13:00

Minimum Daily Average: 1.6 $\mu g/m^3$ on Dec 19

Maximum Diurnal Average: 8.9 $\mu g/m^3$ at hour 17

Minimum Diurnal Average: 4.9 $\mu g/m^3$ at hour 14

Monthly Average: 6.41 $\mu g/m^3$

Percentiles: P_1 = 0.0 P_{10} = 0.7 Q_1 = 2.2 Median = 4.8 Q_3 = 8.5 P_{90} = 12.9 P_{99} = 26.8

Hours in Service:	744
Hours of Data:	739
Hours of Missing Data:	5
Hours of Calibration:	1
Percent Operational Time:	99.5

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Dec	3	4	4	3	4	3	4	7	6	6	5	8	5	5	4	8	9	5	5	5	5	9	13	13	6.0	13.0
2-Dec	12	11	10	10	23	19	23	21	15	6	7	7	11	9	9	25	25	16	12	30	24	9	8	7	14.5	30.4
3-Dec	5	5	6	13	12	7	4	2	0	3	7	1	0	0	0	0	19	4	1	1	0	5	4	4	4.3	19.0
4-Dec	3	2	1	3	2	4	5	4	4	4	2	4	4	9	8	3	6	7	2	2	2	1	2	1	3.5	9.4
5-Dec	1	2	4	1	0	1	1	1	2	1	P	P	P	P	31	31	26	20	7	8	9	8	7	10	8.5	31.3
6-Dec	6	6	6	6	5	6	6	11	9	15	16	16	23	15	13	24	24	21	10	23	16	16	13	13	13.3	24.5
7-Dec	10	11	11	5	5	4	5	5	6	7	17	12	9	5	19	16	16	27	26	22	18	18	19	15	12.9	27.0
8-Dec	12	30	23	17	20	6	10	5	4	8	10	8	5	3	4	7	9	3	6	5	7	7	13	13	9.8	30.4
9-Dec	14	11	12	13	10	9	7	6	27	14	11	9	9	16	12	14	13	11	10	12	11	9	7	13	11.7	26.6
10-Dec	24	16	1	1	0	0	0	0	4	3	5	5	1	1	0	0	1	0	0	0	0	0	0	4	2.7	24.4
11-Dec	2	3	4	2	2	0	3	2	2	1	0	6	8	1	1	9	8	9	4	0	1	1	1	1	2.9	8.8
12-Dec	0	2	2	2	2	2	2	2	2	6	5	3	1	2	5	2	1	0	1	0	0	0	0	1	1.8	5.6
13-Dec	1	3	4	4	2	2	4	2	1	2	1	C	5	5	5	4	7	8	6	8	3	4	5	2	3.8	7.8
14-Dec	1	1	2	4	2	3	0	1	1	0	1	2	2	2	6	23	12	6	7	8	7	7	6	8	4.7	23.4
15-Dec	7	10	10	9	10	9	7	5	5	3	3	2	3	4	2	3	2	2	4	13	12	6	5	6	5.9	12.7
16-Dec	5	2	4	2	1	1	2	4	2	1	3	2	3	6	3	19	24	14	11	9	8	9	8	10	6.4	23.6
17-Dec	7	6	10	8	7	6	5	6	5	5	6	10	12	8	7	7	7	7	7	8	8	8	9	8	7.4	12.0
18-Dec	8	7	9	9	8	9	10	7	9	9	9	11	9	9	12	12	12	14	12	8	7	6	6	5	9.1	14.4
19-Dec	4	5	4	4	3	2	1	1	2	2	2	1	1	0	0	0	1	0	1	0	0	0	0	1	1.6	5.4
20-Dec	0	0	1	4	4	5	5	0	0	0	0	0	0	0	0	0	3	2	2	2	4	5	6	6	2.1	6.5
21-Dec	11	7	5	3	2	3	3	3	3	2	2	2	1	2	1	2	2	2	1	1	2	3	1	1	2.7	11.1
22-Dec	2	2	2	3	2	2	3	3	2	4	4	8	9	6	5	9	8	6	4	5	4	4	4	6	4.5	9.0
23-Dec	17	16	13	7	2	2	2	3	3	4	4	3	4	3	5	5	5	3	3	3	4	4	4	7	5.2	17.0
24-Dec	11	11	8	6	5	5	6	6	6	6	6	5	5	6	6	8	9	8	8	8	10	7	14	10	7.6	14.0
25-Dec	11	8	5	5	4	4	4	4	3	4	2	1	1	2	1	3	1	1	1	1	1	1	2	4	3.0	11.2
26-Dec	3	1	2	2	3	1	2	2	3	3	4	4	4	4	4	4	5	6	5	5	6	8	8	8	4.1	8.1
27-Dec	12	11	8	8	16	16	14	13	11	10	9	8	9	7	17	13	9	9	11	10	11	10	9	8	10.8	17.2
28-Dec	7	9	10	11	9	9	8	9	10	9	7	8	8	7	3	0	0	0	0	0	0	0	1	0	5.2	11.5
29-Dec	0	2	2	4	6	13	70	125	31	11	6	4	2	5	8	7	8	11	10	11	12	9	7	5	15.4	124.5
30-Dec	6	5	6	6	5	4	4	4	5	5	5	5	4	4	4	4	3	5	4	5	4	4	6	6	4.7	6.3
31-Dec	6	4	4	5	4	4	4	4	6	4	4	3	4	2	2	0	2	1	2	1	0	0	0	1	2.8	6.5
	6.9	7.0	6.3	5.8	5.8	5.2	7.3	8.6	6.1	5.1	5.4	5.4	5.4	4.9	6.5	8.4	8.9	7.3	5.8	6.9	6.4	5.7	6.1	6.4	Diurnal Average	
	24.4	30.4	23.2	16.7	23.3	19.4	70.1	124.5	31.5	15.1	17.3	15.6	23.3	15.6	31.3	30.8	26.3	27.0	26.1	30.4	24.0	17.6	19.3	15.3	Diurnal Maximum	

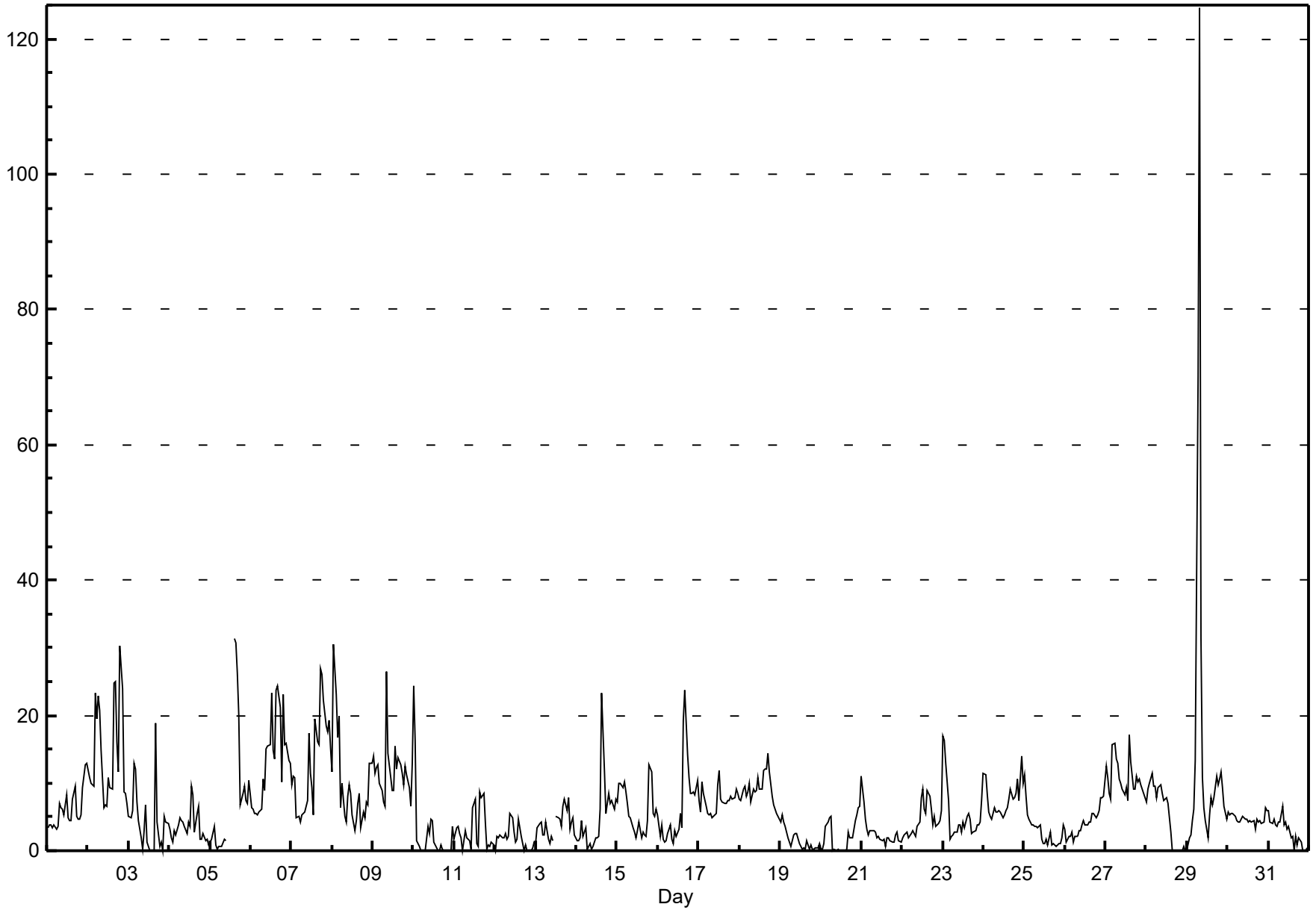
C - Calibration P - Power Failure

Peace Airshed Zone Association

Hourly Maximums

PM2.5 ($PM_{2.5}$) - $\mu g/m^3$

Wembley - December 2018

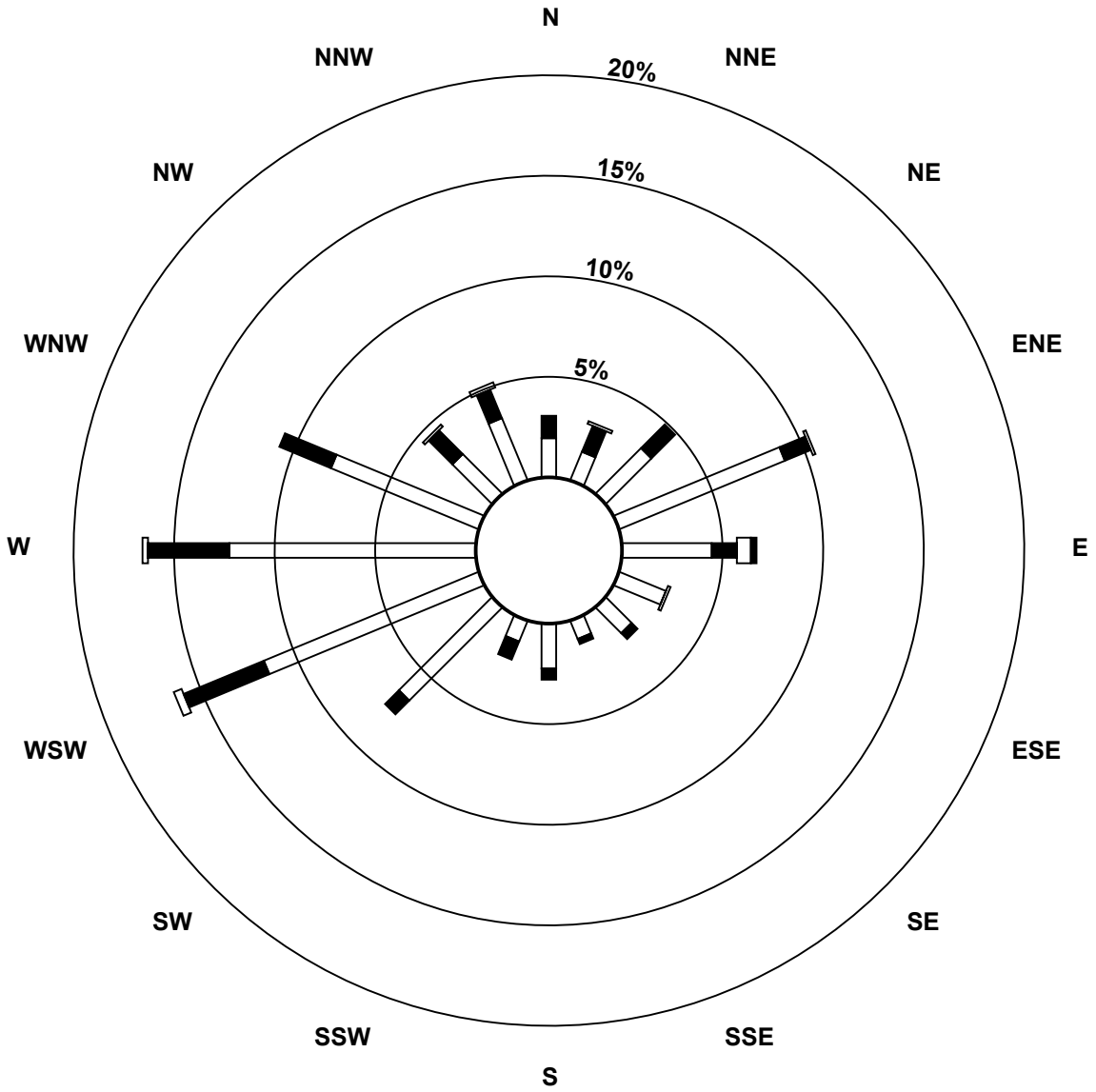


Peace Airshed Zone Association

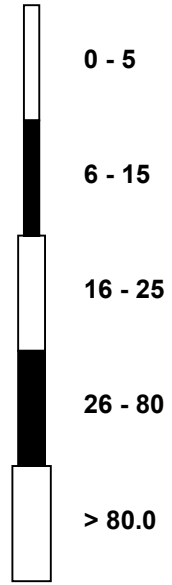
Pollutant Rose

PM2.5 ($PM_{2.5}$) - $\mu g/m^3$

Wembley - December 2018



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



Peace Airshed Zone Association

Hourly Averages

External Temperature (ET) - °C

Wembley - December 2018

Maximum Value: 4.3 °C on Dec 11 16:00

Maximum Daily Average: 0.6 °C on Dec 13

Minimum Value: -23 °C on Dec 31 03:00

Minimum Daily Average: -15.9 °C on Dec 26

Maximum Diurnal Average: -5.1 °C at hour 15

Minimum Diurnal Average: -9.3 °C at hour 1

Monthly Average: -7.98 °C

Percentiles: P_1 = -20.5 P_{10} = -15.3 Q_1 = -12.7 Median = -7.4 Q_3 = -3.7 P_{90} = -0.9 P_{99} = 3.4

Hours in Service:	744
Hours of Data:	740
Hours of Missing Data:	4
Hours of Calibration:	0
Percent Operational Time:	99.5

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Dec	-4	-5	-4	-5	-5	-5	-5	-6	-6	-5	-4	-4	-3	-3	-3	-4	-4	-4	-5	-5	-5	-5	-5	-5	-4.5	-2.9
2-Dec	-5	-5	-5	-6	-6	-6	-6	-6	-7	-7	-7	-8	-7	-8	-8	-8	-9	-9	-9	-8	-9	-10	-10	-10	-7.5	-5.1
3-Dec	-11	-12	-13	-14	-15	-15	-14	-12	-11	-8	-8	-7	-6	-5	-4	-4	-7	-6	-7	-8	-8	-11	-12	-10	-9.5	-3.9
4-Dec	-9	-5	-4	-4	-3	-3	-2	-3	-3	-3	-3	-2	-2	-1	-2	-2	-2	-3	-4	-4	-5	-5	-6	-5	-3.6	-1.5
5-Dec	-6	-6	-6	-6	-6	-6	-6	-7	-7	-7	P	P	P	P	-3	-5	-7	-10	-11	-12	-11	-11	-11	-13	-7.9	-3.5
6-Dec	-13	-15	-14	-14	-15	-15	-15	-15	-14	-14	-12	-9	-9	-7	-6	-8	-10	-12	-13	-14	-15	-16	-16	-15	-12.7	-6.0
7-Dec	-16	-12	-13	-13	-12	-10	-10	-10	-11	-12	-11	-7	-4	-3	-5	-4	-6	-8	-9	-10	-12	-13	-14	-15	-10.0	-2.8
8-Dec	-15	-15	-15	-16	-16	-15	-17	-16	-15	-14	-10	-9	-5	-4	-3	-5	-8	-6	-6	-7	-8	-8	-7	-7	-10.3	-3.3
9-Dec	-9	-10	-10	-11	-12	-12	-13	-14	-14	-15	-13	-12	-10	-10	-8	-9	-8	-8	-8	-7	-7	-7	-7	-5	-9.9	-5.1
10-Dec	-4	-3	-2	-2	-2	-2	-2	-3	-3	-3	-4	-2	-1	0	3	3	2	1	0	-1	-1	-2	-4	-7	-1.7	3.3
11-Dec	-8	-8	-8	-9	-7	-5	-3	-3	-2	-1	0	1	2	4	4	4	3	3	3	2	2	2	1	1	-1.0	4.3
12-Dec	1	1	1	1	0	0	0	1	1	1	1	1	2	2	1	1	0	-1	0	-1	-1	-2	-2	-2	0.2	1.6
13-Dec	-3	-2	0	1	0	-4	-1	1	1	2	4	3	3	4	3	3	2	1	0	-1	-2	-2	-1	-1	0.6	3.6
14-Dec	-1	-1	-1	-2	-2	-2	-2	-3	-5	-5	-5	-5	-5	-3	-3	-4	-4	-5	-5	-5	-5	-6	-6	-6	-3.8	-1.0
15-Dec	-6	-5	-4	-4	-4	-6	-6	-7	-6	-6	-5	-5	-5	-5	-5	-6	-9	-11	-12	-13	-15	-14	-12	-11	-7.6	-3.8
16-Dec	-11	-10	-9	-9	-8	-7	-7	-8	-8	-8	-8	-7	-6	-5	-5	-5	-7	-10	-10	-9	-9	-9	-9	-8	-8.0	-5.0
17-Dec	-8	-7	-7	-7	-7	-7	-8	-9	-10	-10	-10	-9	-6	-6	-5	-4	-7	-9	-10	-10	-8	-8	-8	-8	-7.7	-3.6
18-Dec	-8	-7	-6	-5	-4	-5	-7	-7	-8	-10	-9	-7	-2	-2	-6	-6	-7	-8	-6	-6	-6	-6	-8	-7	-6.4	-2.3
19-Dec	-7	-7	-8	-4	-2	-2	-1	-3	-3	-3	1	1	2	3	4	4	3	2	0	0	0	-1	-1	-1	-1.0	4.3
20-Dec	-4	-4	-5	-4	-4	-3	-4	-4	-4	-3	-2	-3	-2	-2	-2	-2	-2	-3	-3	-3	-3	-3	-3	-3	-3.2	-1.6
21-Dec	-3	-3	-4	-5	-5	-5	-5	-5	-5	-4	-4	-4	-3	-3	-3	-3	-3	-3	-3	-4	-5	-6	-7	-8	-4.3	-2.9
22-Dec	-10	-10	-11	-13	-14	-15	-16	-17	-18	-18	-17	-15	-13	-12	-10	-12	-14	-15	-16	-14	-15	-14	-13	-13	-14.0	-9.5
23-Dec	-13	-12	-12	-10	-10	-10	-11	-11	-11	-11	-10	-10	-10	-9	-10	-11	-11	-12	-12	-12	-12	-12	-12	-13	-11.1	-9.4
24-Dec	-13	-13	-12	-12	-12	-12	-12	-13	-14	-15	-14	-12	-12	-11	-12	-13	-13	-13	-13	-15	-15	-15	-15	-14	-13.1	-10.8
25-Dec	-14	-13	-12	-12	-12	-12	-12	-12	-13	-13	-13	-13	-13	-13	-13	-13	-13	-13	-13	-13	-13	-13	-13	-13	-12.8	-11.6
26-Dec	-14	-14	-14	-16	-18	-20	-18	-18	-18	-18	-18	-16	-15	-16	-16	-16	-15	-15	-16	-15	-14	-14	-14	-14	-15.9	-13.6
27-Dec	-14	-15	-15	-15	-16	-16	-15	-15	-15	-14	-14	-12	-12	-14	-14	-15	-16	-17	-17	-18	-19	-19	-20	-20	-15.7	-11.9
28-Dec	-19	-20	-20	-18	-17	-16	-15	-15	-14	-14	-13	-11	-9	-7	-2	-1	0	-1	-1	-3	-2	-3	-4	-4	-9.5	-0.5
29-Dec	-5	-5	-5	-6	-5	-5	-6	-6	-6	-5	-4	-4	-4	-5	-5	-6	-6	-7	-9	-10	-10	-10	-11	-14	-6.6	-3.9
30-Dec	-15	-16	-16	-15	-16	-16	-16	-17	-17	-18	-18	-16	-14	-13	-13	-13	-13	-14	-14	-14	-15	-18	-19	-20	-15.6	-12.6
31-Dec	-22	-22	-23	-23	-22	-20	-21	-21	-21	-19	-19	-16	-14	-11	-9	-10	-10	-9	-7	-2	-1	0	1	1	-13.3	1.2
	-9.3	-9.0	-9.0	-9.0	-9.0	-9.0	-9.0	-9.1	-9.2	-9.0	-8.3	-7.2	-6.1	-5.6	-5.1	-5.5	-6.5	-7.2	-7.7	-7.8	-8.0	-8.5	-8.7	-8.7	Diurnal Average	
	1.1	0.8	0.8	0.7	0.4	-0.3	0.4	0.9	1.3	2.4	3.6	3.3	3.4	3.5	4.3	4.3	3.4	2.7	2.6	2.0	2.1	1.8	1.5	1.2	Diurnal Maximum	

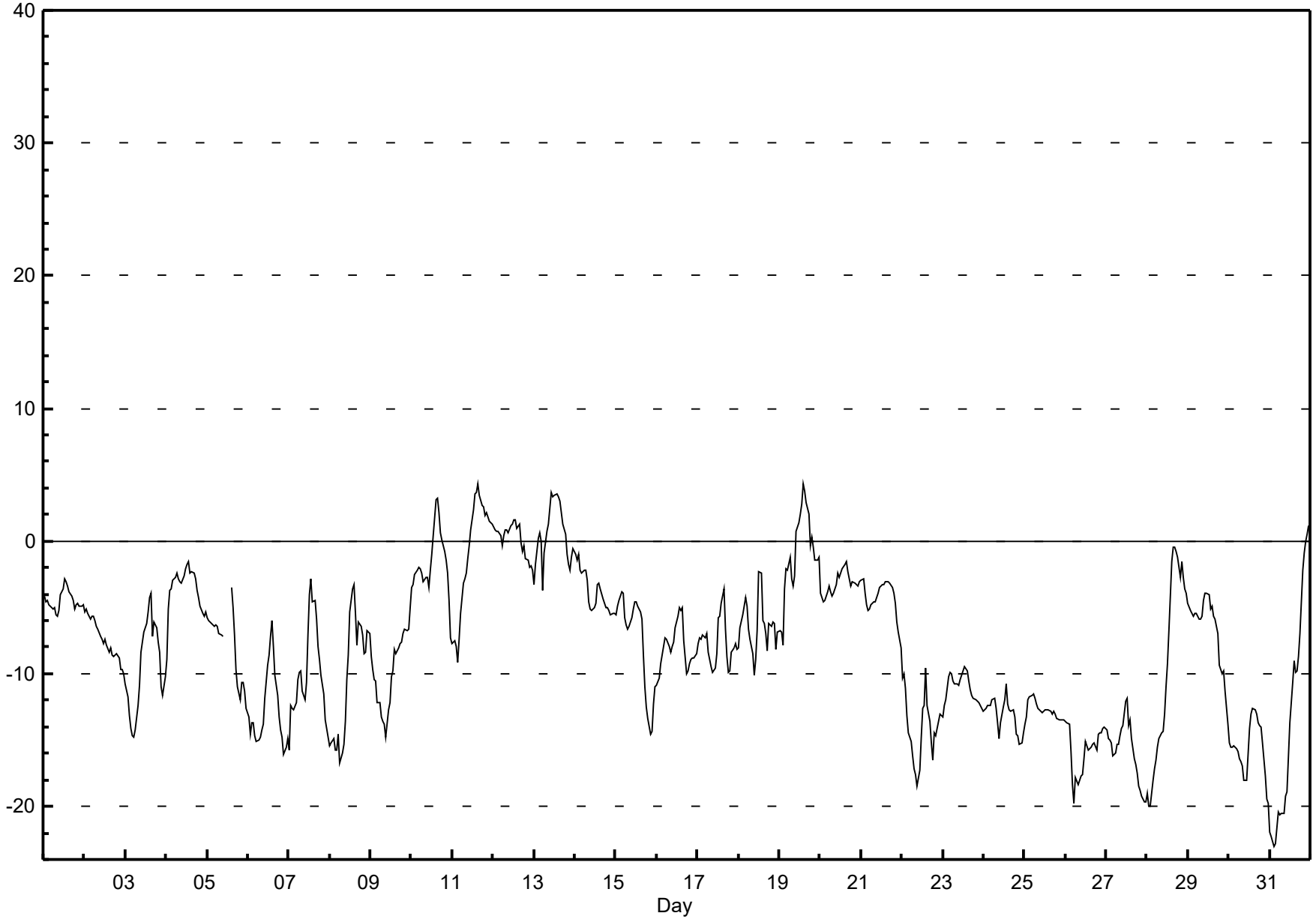
P - Power Failure

Peace Airshed Zone Association

Hourly Averages

External Temperature (ET) - ^{o}C

Wembley - December 2018



PAZA
Peace Airshed Zone Association

Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Wembley - December 2018

Day	Hourly Period Ending At (MST)																								Daily	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	Average	Maximum
1 Spd	2	1	1	1	1	2	1	3	3	1	2	1	1	1	3	2	1	1	4	1	2	1	1	1	0.9	3.5
Dir	351	7	132	69	79	77	100	21	36	29	123	344	343	331	4	342	5	316	333	317	282	255	249	245	2.7	332.7
2 Spd	1	1	1	1	3	3	2	1	2	1	2	3	4	3	4	8	5	14	N	N	N	N	N	N	1.3	13.7
Dir	290	213	199	253	272	265	252	313	184	214	338	358	21	14	343	317	329	190	N	N	N	N	N	N	287.2	190.5
3 Spd	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	6	4	6	6	5	4	2	1	2	--	6.0
Dir	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	275	261	259	269	276	265	251	331	355	--	268.8
4 Spd	4	11	14	13	17	14	14	13	16	18	19	19	15	16	15	16	17	17	13	13	9	11	13	11	13.3	19.4
Dir	220	254	257	256	267	270	268	262	259	267	267	267	265	282	284	260	275	302	302	293	297	302	315	315	275.4	267.4
5 Spd	5	6	4	3	3	4	1	3	2	2	3	4	1	3	3	5	4	2	1	3	5	6	5	6	1.8	6.1
Dir	301	278	244	244	246	222	204	310	233	226	261	258	107	98	80	94	91	23	347	271	268	278	273	303	268.8	303.3
6 Spd	6	5	6	4	6	7	8	8	7	5	2	1	1	2	2	1	2	1	1	2	1	2	2	2	2.5	8.0
Dir	257	261	263	257	304	273	265	258	271	284	255	137	102	103	118	65	24	58	44	6	256	295	237	221	270.8	265.3
7 Spd	3	9	4	2	3	1	1	1	1	2	2	0	2	1	3	4	4	3	3	2	2	2	3	5	1.2	9.2
Dir	271	252	339	317	305	184	183	174	149	237	327	25	254	302	324	348	83	83	86	330	266	277	257	262	287.4	252.4
8 Spd	2	3	4	2	3	3	4	4	4	5	5	4	7	5	1	4	5	3	4	3	2	2	1	2	3.0	7.2
Dir	247	239	197	259	304	230	258	252	258	256	247	275	258	245	232	224	305	273	273	222	327	226	10	309	257.5	258.4
9 Spd	1	2	0	3	3	3	0	2	1	2	2	3	2	2	3	4	5	4	6	4	2	2	4	8	2.3	8.2
Dir	180	181	301	202	292	265	295	134	299	321	219	313	336	304	250	269	256	236	247	241	243	212	254	251	254.1	250.7
10 Spd	10	8	9	8	9	9	6	7	5	5	5	6	7	6	8	10	9	6	6	6	7	5	4	2	6.0	9.9
Dir	254	256	251	269	269	267	253	251	248	255	292	292	306	302	256	250	249	252	240	232	217	188	175	49	255.7	254.1
11 Spd	4	4	3	6	7	6	6	4	5	8	6	3	5	4	3	6	5	8	10	12	17	17	16	14	3.8	17.2
Dir	81	109	116	95	100	100	101	86	98	105	109	132	146	148	170	222	242	231	238	231	233	228	230	228	190.0	228.4
12 Spd	17	16	16	16	11	8	14	17	23	19	21	25	24	24	24	21	10	12	7	5	4	5	6	6	13.3	25.5
Dir	225	237	235	234	239	244	249	240	237	240	242	250	259	249	245	253	249	220	224	200	174	140	122	114	238.2	250.4
13 Spd	6	6	8	9	6	1	9	13	16	20	21	21	15	12	7	11	9	7	3	2	2	2	4	4	8.3	21.2
Dir	128	191	222	240	261	293	231	234	225	228	233	235	232	234	243	236	235	241	254	216	236	186	175	178	229.1	233.5
14 Spd	3	5	5	6	9	10	12	10	8	8	6	4	2	4	2	5	5	3	7	4	4	1	2	2	3.5	11.6
Dir	154	128	113	82	59	71	67	59	56	52	68	62	49	76	309	348	344	323	335	306	295	28	87	319	50.4	67.2
15 Spd	7	7	7	11	11	12	16	11	8	8	8	8	8	9	8	3	3	2	2	3	3	5	7	9	4.9	16.3
Dir	282	253	282	270	294	306	298	297	267	259	270	264	295	297	285	293	292	331	94	89	92	66	75	67	291.6	298.5
16 Spd	7	9	12	14	11	14	12	12	13	11	6	7	5	2	2	3	3	2	4	3	2	2	2	4	4.7	14.1
Dir	77	71	69	71	79	79	79	70	66	66	54	48	55	43	13	247	270	270	299	286	267	247	274	269	63.6	70.9
17 Spd	4	3	5	4	4	3	1	1	2	3	2	2	2	4	3	2	3	2	3	3	2	2	1	2	0.0	4.7
Dir	267	236	220	220	269	224	231	344	240	194	84	86	88	354	12	118	85	38	13	76	18	40	128	76	108.4	220.3
18 Spd	2	4	3	2	1	3	6	4	4	1	3	2	2	1	2	2	3	3	4	3	5	7	4	5	1.8	6.7
Dir	40	89	81	47	46	214	278	243	228	308	327	342	223	154	333	303	257	292	263	264	273	254	260	293	275.5	253.9
19 Spd	4	4	3	8	8	8	8	5	7	7	8	6	8	12	11	10	10	9	7	9	7	5	7	5	7.1	12.4
Dir	272	270	231	249	255	253	257	240	242	230	239	264	277	268	266	264	251	248	302	270	262	273	264	259	259.1	267.8
20 Spd	4	4	3	3	5	7	6	7	9	12	12	16	14	13	13	9	9	8	2	5	5	3	8	11	5.1	15.8
Dir	96	91	70	71	80	74	77	69	66	57	81	68	74	67	71	68	39	37	320	274	264	267	263	272	62.1	67.7
21 Spd	14	16	19	19	21	21	22	23	22	21	20	18	19	17	15	14	11	11	8	6	9	8	8	5	15.1	22.6
Dir	272	268	277	270	273	272	271	271	272	272	279	281	287	289	288	284	284	279	277	258	270	258	254	270	275.2	270.7
22 Spd	3	4	4	2	1	2	3	2	2	1	1	2	2	4	2	2	2	0	3	2	4	1	2	3	1.1	4.5
Dir	292	300	280	283	43	292	277	242	265	261	308	357	276	321	277	360	57	61	38	122	348	96	112	204	307.4	347.7

Peace Airshed Zone Association

Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Wembley - December 2018

Day	Hourly Period Ending At (MST)																								Daily	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	Average	Maximum
23 Spd	6	3	2	7	7	9	7	9	8	6	5	5	4	4	7	7	8	7	7	6	6	7	6	8	5.4	8.7
Dir	328	240	287	58	46	61	43	37	49	73	74	57	35	40	80	76	62	70	71	72	66	71	63	50	57.1	60.8
24 Spd	7	6	5	4	5	4	4	2	2	2	1	1	3	2	3	2	4	2	2	3	5	2	4	2	1.3	6.7
Dir	71	82	90	83	74	102	116	78	61	109	56	11	4	16	6	17	358	356	259	245	246	282	309	276	49.8	70.5
25 Spd	4	4	5	7	7	8	8	9	10	10	9	9	8	6	5	6	3	1	5	5	6	5	6	8	3.6	10.4
Dir	233	246	243	256	266	277	278	277	285	285	295	300	297	298	293	292	283	284	78	85	83	85	71	64	289.0	285.0
26 Spd	8	7	6	6	3	4	2	1	2	1	4	3	3	2	4	4	2	3	1	2	2	3	1	1	1.5	8.1
Dir	71	80	79	75	333	15	70	273	348	327	327	344	7	352	2	329	268	267	77	209	259	319	49	154	24.7	70.8
27 Spd	1	1	1	2	2	2	2	3	5	4	4	1	1	3	2	4	3	4	4	2	2	2	3	3	1.6	4.8
Dir	139	16	21	31	276	273	259	342	335	338	312	277	49	23	43	44	50	64	55	25	4	74	65	40	16.4	334.7
28 Spd	1	1	1	1	2	0	1	1	1	2	1	0	0	5	9	9	10	8	7	5	5	5	2	2	3.0	9.9
Dir	139	240	285	315	260	246	213	211	255	262	323	152	146	239	233	242	235	239	271	253	248	219	203	132	240.1	234.8
29 Spd	2	3	2	4	5	7	8	11	12	11	12	11	11	8	6	7	8	14	10	16	10	9	18	18	3.9	18.1
Dir	111	97	134	89	86	78	79	79	78	80	76	74	68	46	41	352	16	351	301	293	289	278	298	295	20.3	298.0
30 Spd	18	14	14	13	11	11	10	8	7	4	2	1	1	2	1	1	1	2	3	5	3	0	3	2	4.2	18.0
Dir	296	295	292	290	297	295	292	271	274	271	303	12	143	181	152	148	141	76	65	51	69	344	271	321	294.0	295.9
31 Spd	2	1	2	1	1	1	2	0	1	1	1	1	1	0	2	3	1	1	7	11	13	17	18	17	3.9	17.7
Dir	281	256	243	174	340	232	322	222	313	190	82	212	249	178	130	187	261	204	237	239	245	248	246	246	243.7	245.7
Spd	1.9	2.5	2.6	2.1	2.7	1.8	2.5	2.3	2.4	2.4	2.4	2.5	2.4	2.7	2.5	3.2	2.5	2.3	2.5	2.8	3.1	2.4	2.4	2.4	Diurnal Average	
Dir	267.9	251.4	254.4	262.4	288.2	283.9	275.1	274.1	266.1	261.2	270.3	282.0	287.3	287.8	285.7	275.8	285.3	273.5	286.7	264.4	263.1	253.7	263.0	277.2		
Spd	18.0	16.1	18.8	18.5	20.6	20.9	22.5	22.6	23.0	20.9	21.2	25.5	23.8	24.4	24.1	20.6	17.0	16.6	13.0	15.9	17.0	17.2	18.1	17.7	Diurnal Maximum	
Dir	295.9	237.3	277.1	269.5	273.2	272.4	271.4	270.7	237.3	272.5	233.5	250.4	258.6	249.2	245.0	252.7	274.9	302.1	302.0	292.9	233.1	228.4	298.0	294.5		

Maximum Speed Value: 25 km/h on Dec 12 12:00
Minimum Speed Value: 0 km/h on Dec 7 12:00
Maximum Daily Speed Average: 15.1 km/h on Dec 21
Minimum Daily Speed Average: 0.0 km/h on Dec 1
Maximum Diurnal Speed Average: 3.2 km/h at hour 16
Minimum Diurnal Speed Average: 1.8 km/h at hour 6

Monthly Average Velocity: 2.43 km/h 272.59 deg
Speed Percentiles: P_1 = 0.5 P_{10} = 1.3 Q_1 = 2.2 Median = 4.1 Q_3 = 7.9 P_{90} = 13.1 P_{99} = 21.7
All monthly, daily, and diurnal averages have been calculated using vector methods

Hours in Service:	744
Hours of Data:	723
Hours of Missing Data:	21
Percent Operational Time:	97.2

N - Not Valid

Frequency Distribution

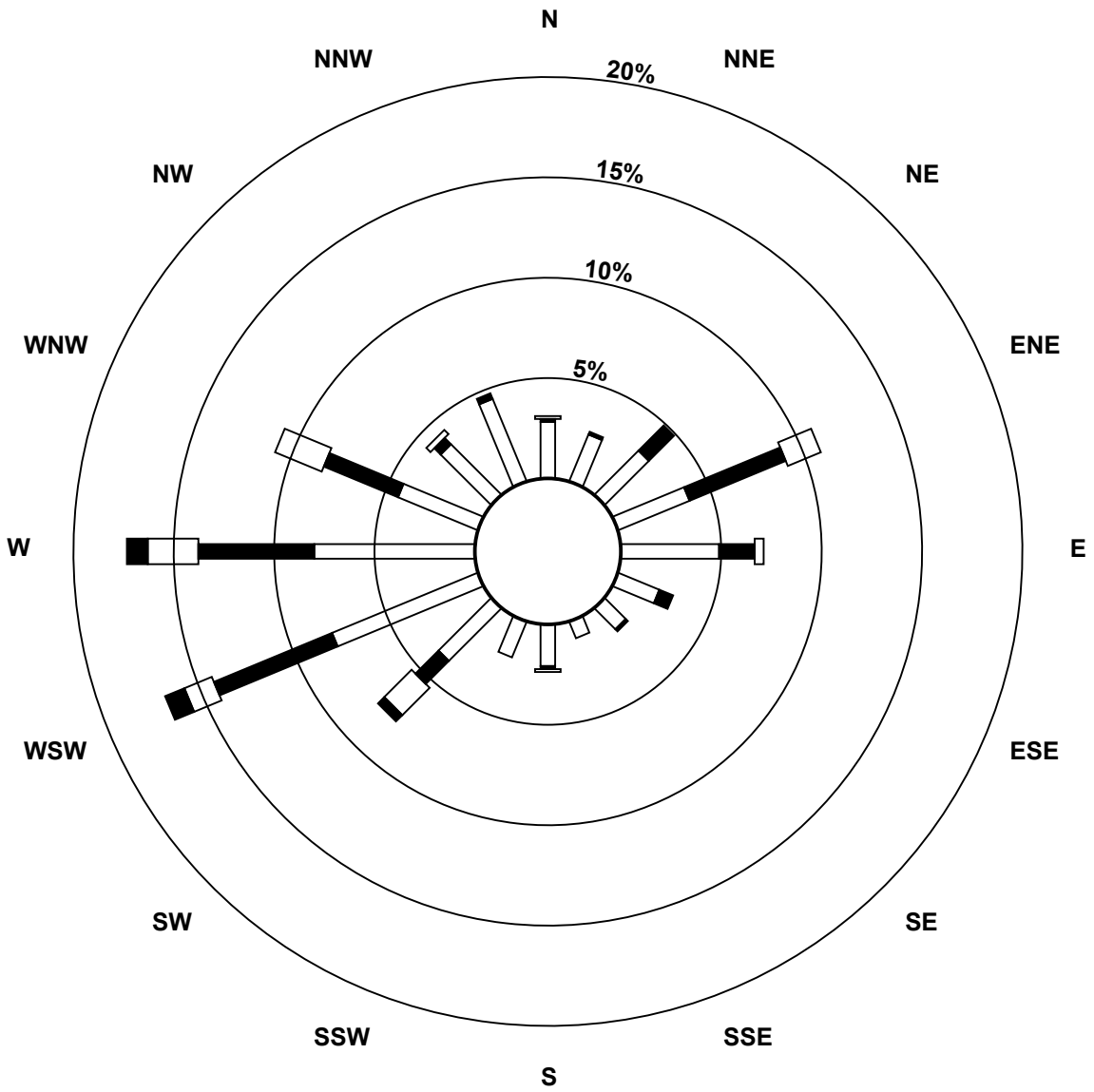
Direction	Speed Range (km/h) 0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total
North	51	3	1	0	0	0	55
NorthEast	41	26	4	0	0	0	71
East	53	42	12	0	0	0	107
SouthEast	29	5	0	0	0	0	34
South	22	2	1	0	0	0	25
SouthWest	60	29	21	7	0	0	117
West	93	85	30	13	0	0	221
NorthWest	55	25	13	0	0	0	93
Total	404	217	82	20	0	0	723

Peace Airshed Zone Association

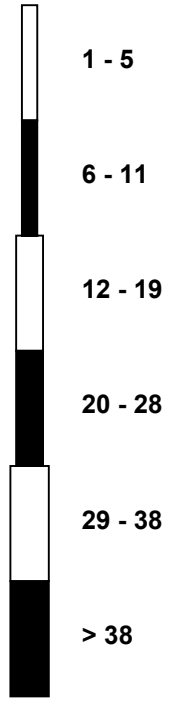
Wind Rose

Wind Speed (WS) (km/h)

Wembley - December 2018



Wind Speed Classes (km/h)



Peace Airshed Zone Association

Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Wembley - December 2018

Maximum Speed: 26 km/h on Dec 12 12:00

Maximum Daily Speed Average: 15.4 km/h on Dec 21

Minimum Speed: 1 km/h on Dec 28 02:00

Minimum Daily Speed Average: 2.0 km/h on Dec 1

Maximum Diurnal Speed Average: 7.3 km/h at hour 9

Minimum Diurnal Speed Average: 5.3 km/h at hour 22

Monthly Average Speed: 6.20 km/h

Percentiles: P_1 = 1.1 P_{10} = 1.8 Q_1 = 2.8 Median = 4.4 Q_3 = 8.0 P_{90} = 13.1 P_{99} = 21.8

Hours in Service:	744
Hours of Data:	723
Hours of Missing Data:	21
Percent Operational Time:	97.2

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	2	1	2	1	2	2	2	3	3	1	2	1	1	2	3	3	1	1	4	3	2	1	2	2	2.0	3.6
2-Dec	2	1	1	1	3	3	2	2	3	2	2	3	4	4	4	8	5	18	N	N	N	N	N	N	3.8	17.6
3-Dec	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	6	4	6	6	5	4	2	3	3	--	6.0
4-Dec	4	11	14	13	17	14	14	13	16	18	19	19	15	17	15	16	17	17	13	13	9	11	13	11	14.2	19.5
5-Dec	5	6	4	3	4	4	2	3	2	2	3	4	2	3	3	5	4	2	1	3	6	6	5	6	3.7	6.3
6-Dec	6	5	6	4	6	7	8	8	7	6	3	1	1	2	2	1	2	2	2	3	2	3	2	2	3.9	8.1
7-Dec	4	9	5	3	4	1	2	2	1	2	3	1	3	2	4	5	4	3	3	2	2	3	3	5	3.2	9.5
8-Dec	3	3	4	2	3	3	4	4	4	5	5	4	7	5	2	5	6	4	4	4	5	4	5	3	4.2	7.2
9-Dec	2	2	2	3	5	3	2	3	2	3	4	4	3	3	3	4	5	4	6	5	4	3	5	8	3.7	8.4
10-Dec	10	8	10	8	9	9	7	8	7	6	6	6	8	6	8	10	9	6	7	6	7	5	4	3	7.2	10.0
11-Dec	4	4	4	6	7	6	6	4	5	8	6	3	5	4	4	6	5	8	10	12	17	17	16	14	7.6	17.3
12-Dec	17	16	17	16	11	8	14	17	23	20	21	26	24	25	24	21	10	12	8	5	5	5	6	6	14.9	25.9
13-Dec	6	6	8	9	8	2	9	13	16	21	21	21	15	13	7	11	9	7	4	3	3	3	4	5	9.4	21.4
14-Dec	3	5	5	6	9	10	12	10	8	8	6	4	3	4	3	5	6	3	7	4	4	4	4	4	5.7	11.7
15-Dec	8	8	8	11	11	12	16	11	8	8	8	8	9	9	8	4	3	3	3	3	3	5	7	9	7.6	16.3
16-Dec	8	9	12	14	11	14	12	12	13	11	6	7	5	3	3	3	4	3	4	3	2	3	3	4	7.1	14.2
17-Dec	5	3	5	4	4	3	2	2	3	4	2	3	3	4	3	3	4	4	4	4	3	3	2	2	3.3	5.0
18-Dec	2	4	3	3	3	3	6	4	4	3	4	2	2	2	3	2	4	4	5	4	6	7	4	5	3.8	6.8
19-Dec	4	4	4	8	8	8	8	5	7	7	9	6	8	12	11	10	10	9	8	9	7	5	7	5	7.6	12.4
20-Dec	4	4	3	4	5	7	6	7	9	12	13	16	15	13	13	9	9	8	4	5	5	4	8	11	8.0	16.0
21-Dec	14	16	19	19	21	21	23	23	22	21	20	18	19	17	16	14	11	11	8	6	9	8	8	6	15.4	22.8
22-Dec	3	4	4	2	2	2	3	2	2	2	2	2	3	4	2	3	3	2	4	3	5	3	3	4	2.8	4.6
23-Dec	6	4	4	7	7	9	7	9	8	6	5	5	4	4	7	7	8	7	7	6	6	7	6	8	6.4	9.0
24-Dec	7	6	5	4	5	4	4	3	3	2	1	2	3	2	3	3	5	3	2	4	5	3	5	3	3.5	6.8
25-Dec	5	4	5	7	7	8	8	9	11	10	10	9	9	7	6	7	4	1	5	6	6	5	6	8	6.6	10.5
26-Dec	8	7	6	6	3	5	4	1	2	2	4	3	3	2	4	4	2	3	1	2	2	3	1	1	3.3	8.2
27-Dec	1	1	1	3	3	3	3	4	5	4	4	3	2	3	2	4	3	4	4	2	2	3	3	4	2.9	5.0
28-Dec	1	1	2	2	2	1	1	1	2	2	2	2	1	6	9	10	10	8	7	5	5	5	3	3	3.8	10.0
29-Dec	3	3	3	4	5	7	8	11	12	11	12	11	11	8	7	8	8	15	11	16	10	9	18	18	9.6	18.2
30-Dec	18	14	14	13	11	11	10	8	7	4	3	2	2	2	2	2	1	2	3	5	4	2	3	3	6.1	18.1
31-Dec	2	2	2	1	2	2	2	1	2	1	2	1	2	2	2	3	1	2	8	12	13	17	18	17	4.9	17.7
	5.6	5.9	6.0	6.3	6.6	6.5	6.9	6.7	7.3	7.0	7.0	6.6	6.4	6.3	6.2	6.4	5.8	5.8	5.4	5.4	5.4	5.3	5.9	6.1	Diurnal Average	
	18.1	16.2	19.0	18.7	20.7	21.1	22.6	22.8	23.3	21.0	21.4	25.9	24.0	24.7	24.3	20.9	17.4	17.6	13.1	16.0	17.1	17.3	18.2	17.8	Diurnal Maximum	

N - Not Valid

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

Peace Airshed Zone Association

Hourly Standard Deviations

Wind Direction (WD) - deg

Wembley - December 2018

Maximum Value: 95.7 deg on Dec 31 08:00

Minimum Value: 3.3 deg on Dec 29 09:00

Percentiles: P_1 = 4.3 P_{10} = 6.6 Q_1 = 9.2 Median = 17.8 Q_3 = 41.7 P_{90} = 65.6 P_{99} = 88.9

Hours in Service:	744
Hours of Data:	723
Hours of Missing Data:	21
Hours of Calibration:	0
Percent Operational Time:	97.2

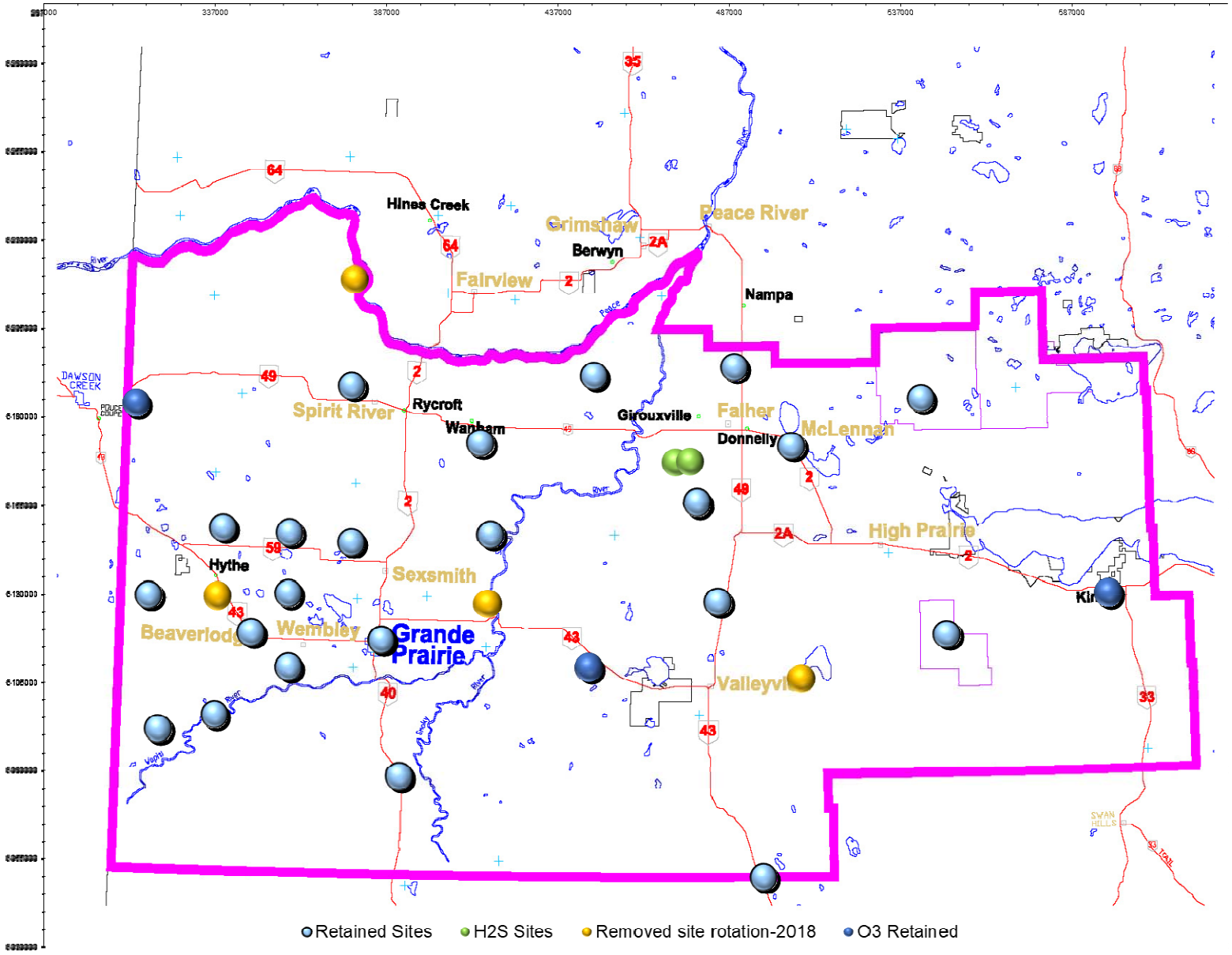
Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Dec	51	78	56	34	42	57	56	17	24	74	23	20	61	46	15	26	68	63	12	72	46	68	65	69	78.1
2-Dec	47	42	40	87	28	17	31	85	66	38	50	17	22	54	16	11	8	67	N	N	N	N	N	N	86.8
3-Dec	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	12	20	6	9	9	13	28	74	30	74.4
4-Dec	54	7	7	7	5	6	7	6	5	5	4	6	6	15	12	8	14	7	9	10	12	7	5	6	54.4
5-Dec	8	9	19	13	16	9	49	21	64	36	7	11	72	19	14	10	15	28	55	40	7	14	14	15	72.1
6-Dec	8	16	7	20	15	5	4	6	4	9	54	70	53	16	31	30	47	47	56	52	53	37	46	40	70.1
7-Dec	52	14	42	47	44	60	49	60	70	41	81	94	69	73	38	31	14	11	21	48	40	45	19	7	93.7
8-Dec	41	19	14	51	25	29	24	23	21	14	10	17	7	11	84	16	40	48	21	47	82	70	79	44	83.8
9-Dec	74	72	89	35	46	27	96	56	72	33	78	55	45	52	20	18	21	27	10	23	67	62	36	13	95.6
10-Dec	8	8	18	13	11	10	20	25	40	17	33	16	32	24	11	8	7	9	7	8	12	29	22	69	68.6
11-Dec	11	18	25	8	12	12	14	12	10	4	6	12	21	12	34	10	11	11	7	6	8	7	7	8	34.1
12-Dec	8	7	6	8	16	14	11	10	8	9	9	10	8	9	7	10	15	6	28	6	27	12	12	26	28.4
13-Dec	19	19	12	7	42	62	11	6	6	6	8	8	8	9	13	9	8	7	64	59	36	71	20	17	70.8
14-Dec	20	12	10	14	6	4	5	6	7	7	10	16	57	28	65	23	32	31	15	18	28	78	71	66	77.9
15-Dec	31	24	13	9	12	7	6	7	15	11	16	14	11	12	12	23	59	51	60	20	17	13	5	4	59.9
16-Dec	14	6	5	7	7	6	4	4	4	4	12	7	14	54	44	30	26	36	23	22	29	57	54	29	57.1
17-Dec	31	21	22	16	19	36	72	74	70	20	46	49	41	25	43	44	41	62	75	43	56	41	67	50	75.4
18-Dec	49	14	24	62	80	44	19	19	28	59	61	51	28	72	44	48	41	28	21	36	20	14	25	13	80.5
19-Dec	27	33	35	13	11	11	20	21	15	22	16	10	15	5	10	8	9	10	24	8	9	11	11	19	34.5
20-Dec	34	16	18	22	10	7	7	6	8	9	12	8	9	5	6	8	9	12	53	15	8	23	9	6	53.1
21-Dec	5	7	9	8	6	6	6	6	6	6	7	7	7	9	9	8	9	8	10	10	6	10	8	10	10.1
22-Dec	9	8	15	31	83	68	17	27	20	80	91	29	25	17	39	34	27	81	31	76	12	89	32	45	90.6
23-Dec	14	45	58	16	15	14	11	8	8	9	16	12	27	20	14	9	7	6	5	8	9	8	11	8	57.9
24-Dec	10	8	7	14	12	12	11	23	31	25	42	47	25	43	26	66	30	33	40	44	25	29	19	56	65.7
25-Dec	16	12	16	8	7	8	8	9	8	10	10	10	13	12	14	11	17	71	14	10	6	15	7	6	70.8
26-Dec	8	8	10	6	48	41	65	55	31	44	13	31	25	17	13	27	20	26	61	15	18	24	70	35	70.2
27-Dec	57	31	90	62	70	71	68	44	18	34	21	66	62	17	18	15	21	13	13	43	13	33	16	14	90.5
28-Dec	59	46	28	78	33	70	29	49	65	36	90	87	66	22	19	10	9	9	23	29	17	7	65	42	90.1
29-Dec	42	18	45	7	9	5	5	6	3	6	5	7	5	9	15	18	11	15	28	8	15	14	7	6	45.1
30-Dec	6	6	6	7	6	9	10	10	7	25	49	89	50	22	47	43	20	44	14	13	34	87	28	35	88.7
31-Dec	31	35	29	67	83	68	42	96	73	70	63	73	48	79	34	39	71	93	17	9	6	6	6	9	95.7
	74.5	78.1	90.5	86.8	83.4	71.4	95.6	95.7	73.2	79.8	90.6	93.7	72.1	78.6	83.8	65.7	70.6	92.8	75.4	75.7	81.8	89.0	78.6	69.1	

N - Not Valid

PAZA

Monthly Passive Data Summary

Location of PAZA Passive Monitoring Stations



Peace Airshed Zone Association - PAZA Passive Stations
December 2018

Station Number	Station Name	SO2 ppb	O3 ppb	NO2 ppb	H2S ppb	Site Legal
Duplicates						
2a	Bay Tree		**39.3**	**1.7**		
2b	Bay Tree		**41.1**	**1.5**		
9a	Spirit River	**0.4**				
9b	Spirit River	**0.3**				
19a	Wanham			**0.2**		
19b	Wanham			**2.1**		
21a	Eaglesham	**0.2**				
21b	Eaglesham	**0.3**				
35a	Jean Cote	**0.3**				
35b	Jean Cote	**0.3**				
40a	McLennan			**2.3**		
40b	McLennan			**2.0**		
63a	Girouxville 3				**0.5**	
63b	Girouxville 3				**0.5**	
2	Bay Tree	**0.3**	**40.2**	**1.6**		13-16-078-13 W6M
3	Fourth Creek	**0.4**		**0.4**		04-13-082-07 W6M
5	Boone Creek	**0.4**		**0.4**		16-36-074-11 W6M
7	Steeprock Creek	**0.3**		**0.3**		09-35-072-13 W6M
9	Spirit River	**0.4**		**1.8**		08-12-079-07 W6M
11	Webber Creek	**0.6**		**0.6**		09-36-074-09 W6M
12	Hythe	**0.4**		**0.4**		14-36-072-11 W6M
14	Sylvester	**0.1**		**1.6**		08-06-069-12 W6M
16	Beaverlodge	**0.8**		**4.3**		15-36-071-10 W6M
17	Poplar	**0.1**		**4.2**		13-06-073-08 W6M
18	Saddle Hills	**0.5**		**1.4**		04-25-074-07 W6M
19	Wanham	**0.4**		**1.1**		16-22-077-03 W6M
21	Eaglesham	**0.2**		**2.4**		16-21-079-25 W5M
24	Wembley	**0.3**		**6.7**		12-31-070-08 W6M
25	Pinto Creek	**0.2**		**2.3**		04-24-069-11 W6M
27	Grande Prairie I	**0.6**		**14.1**		08-15-071-06 W6M
29	Smoky Heights	**0.6**		**4.3**		04-06-075-02 W6M
30	Fitzsimmons	**0.4**		**0.4**		15-36-072-03 W6M
32	Gold Creek	**0.4**		**8.4**		06-33-067-05 W6M
35	Jean Cote	**0.3**		**2.4**		12-35-079-21 W5M
36	Guy	**0.2**		**1.1**	**0.1**	03-04-076-22 W5M
37	Crooked Creek	**0.2**		**3.3**		16-01-071-26 W5M
39	Clouston Creek	**0.3**		**2.4**		12-01-073-22 W5M
40	McLennan	**0.3**		**2.2**		03-29-077-19 W5M
42	Sunset House	**0.4**		**1.3**		05-32-070-19 W5M
44	Peavine	**0.1**		**1.2**		03-05-079-15 W5M
46	Little Smoky	**0.2**		**6.6**		12-01-065-21 W5M
47	Kinuso	**0.2**	**30.4**	**1.8**		12-10-073-10 W5M
49	Grande Prairie HP	**0.4**		**13.7**		17-26-071-06 W6M
50	East Prairie	**0.1**		**1.3**		13-02-072-15 W5M
63	Girouxville 3				**0.5**	14-02-077-23 W5M
64	Girouxville 4				**0.2**	4-08-077-22 W5M

*BDL = Below Detection Level

*N/S - No sample

Passive Summary for December 2018

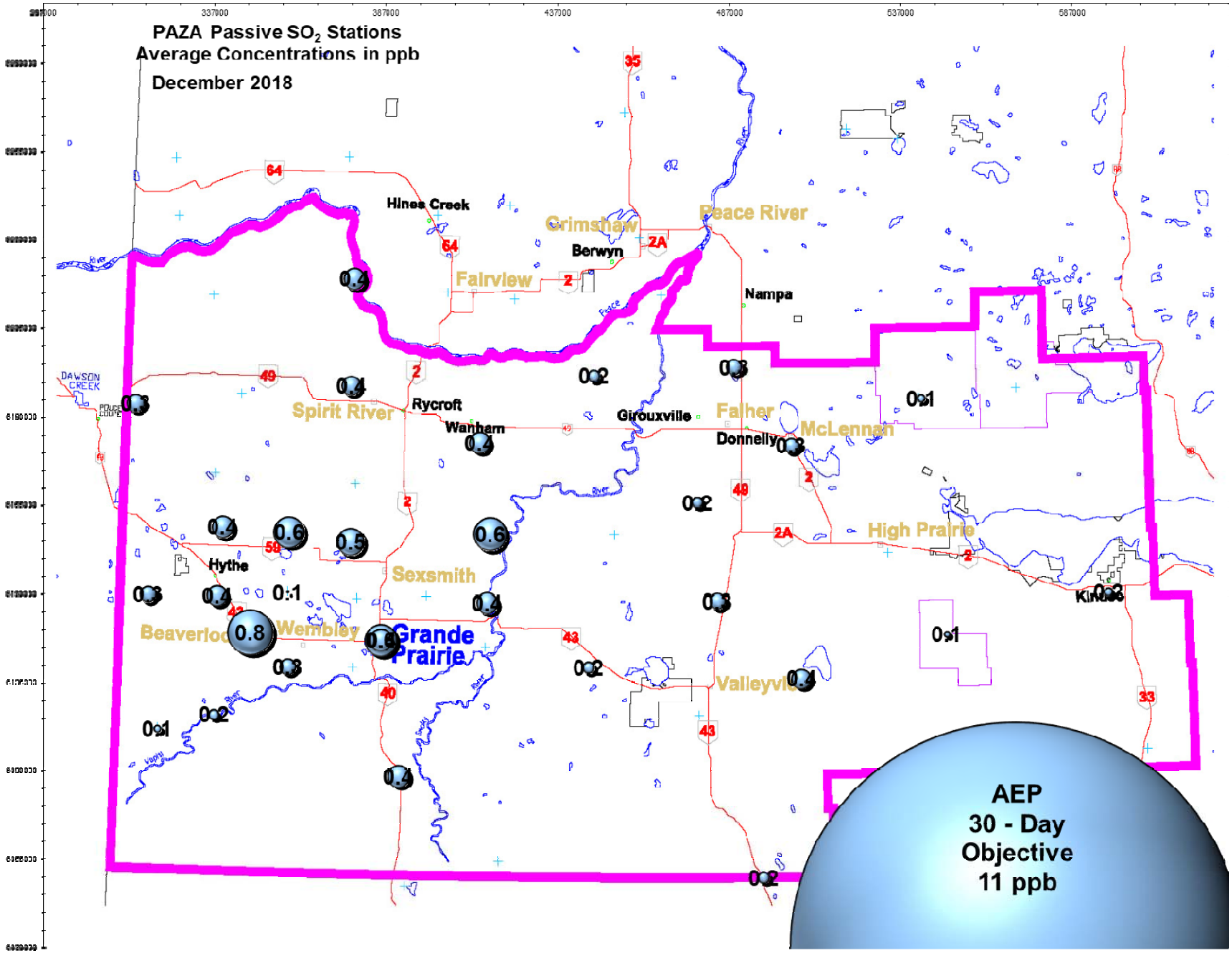
Stats	Sulphur Dioxide SO_2	Ozone O_3	Nitrogen Dioxide NO_2	Hydrogen Sulphide H_2S
	ppb	ppb	ppb	ppb
	Passive Summary for December 2018 (PAZA Zone)			
Mean	**0.3**	**35.3**	**3.1**	**0.3**
Standard Deviation	**0.2**	**6.9**	**3.6**	**0.2**
Minimum	**0.1**	**30.4**	**0.3**	**0.1**
Minimum At	**Poplar (#17)**	**Kinuso (#47)**	**Steeprock Creek (#7)**	**Guy (#36)**
Maximum	**0.8**	**40.2**	**14.1**	**0.5**
Maximum At	**Beaverlodge (#16)**	**Bay Tree (#2)**	**Grande Prairie I (#27)**	**Girouxville 3 (#63a)**

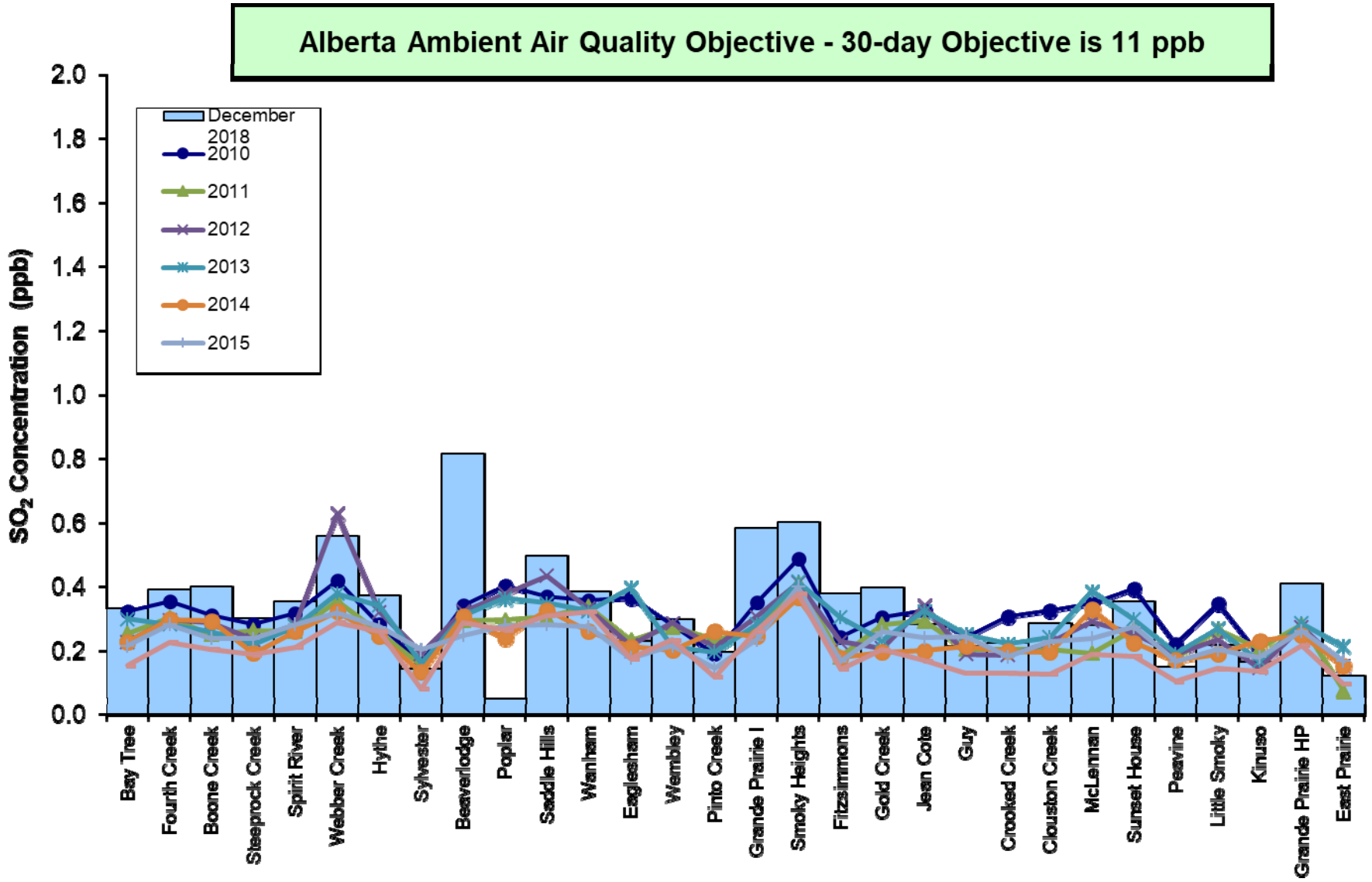
Comparison between Continuous and Passive monitoring at Beaverlodge (passive #16 Beaverlodge)

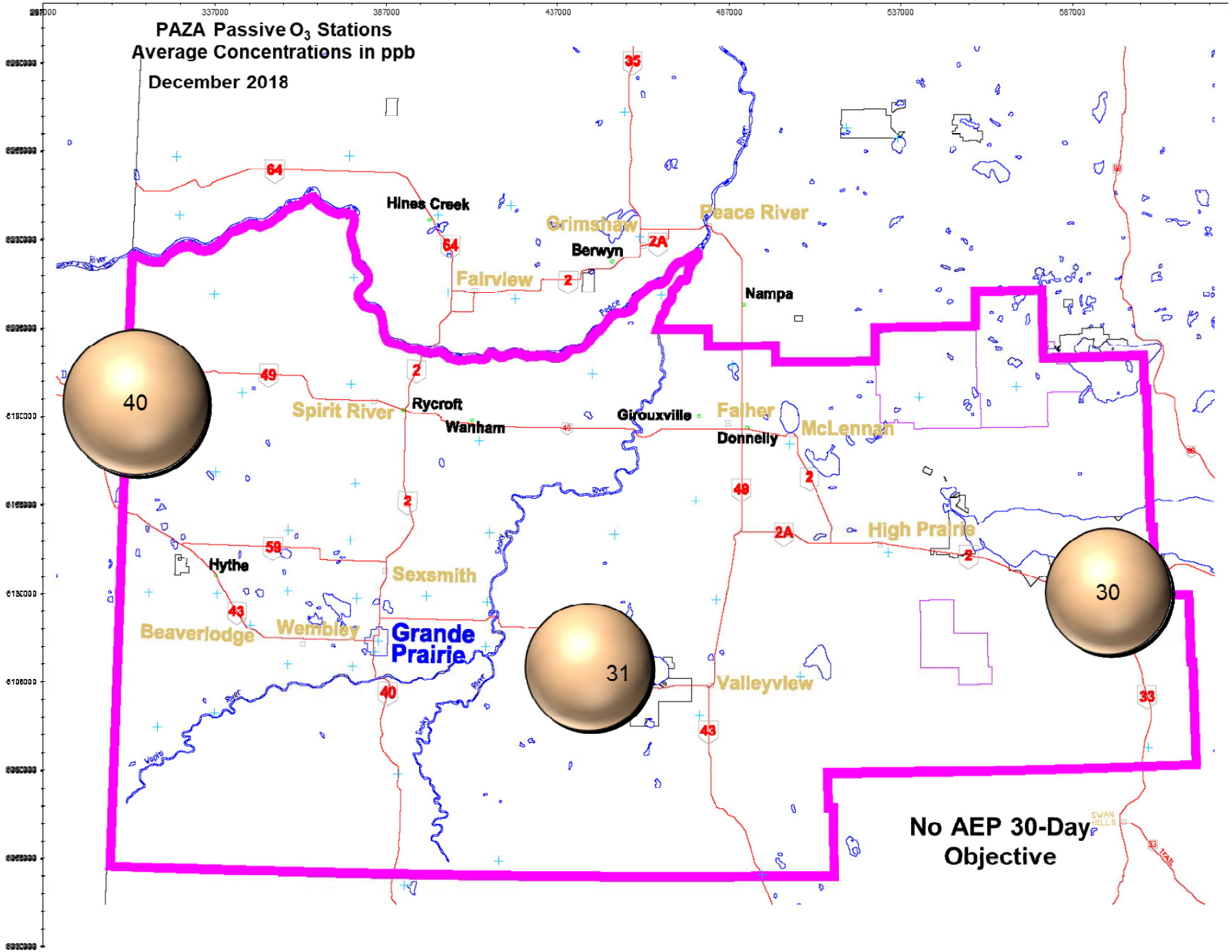
	SO_2	NO_2
PAZA Beaverlodge station	**0.4**	**6.9**
PAZA Beaverlodge passive	**0.8**	**4.3**

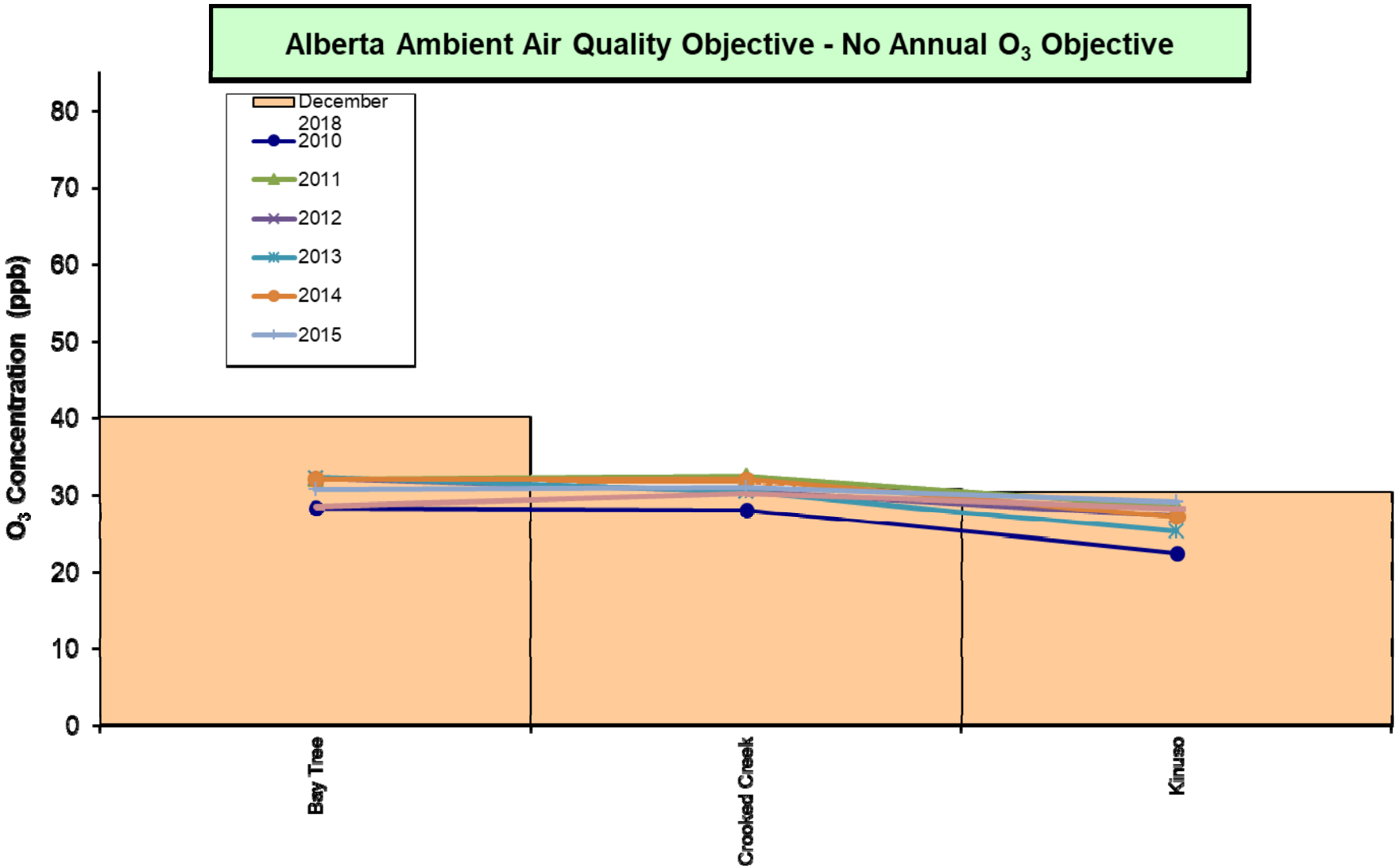
Comparison between Continuous and Passive monitoring at Henry Pirker (passive #49 Grande Prairie HP)

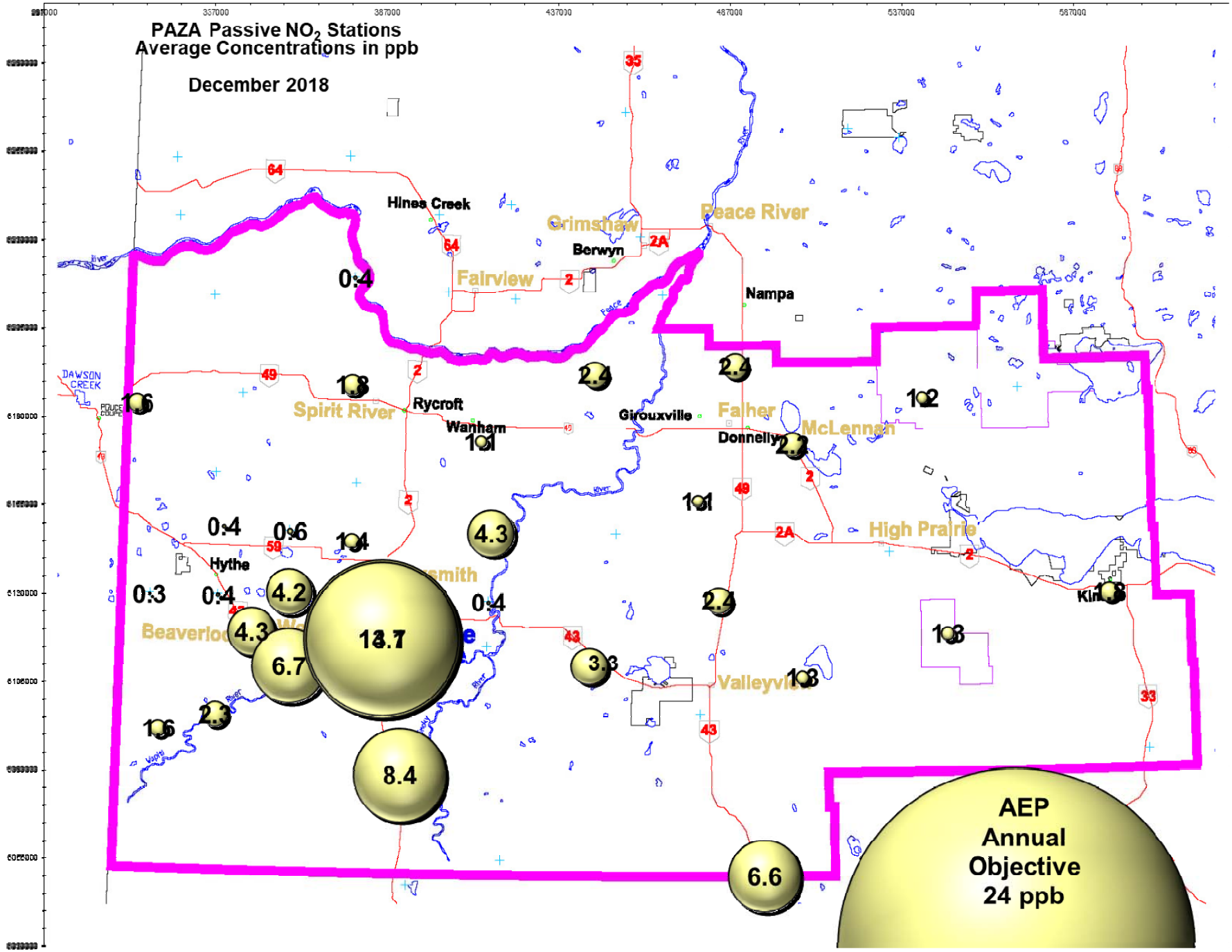
	SO_2	NO_2
PAZA Henry Pirker station	**0.6**	**17.5**
PAZA Grande Prairie passive	**0.6**	**14.1**

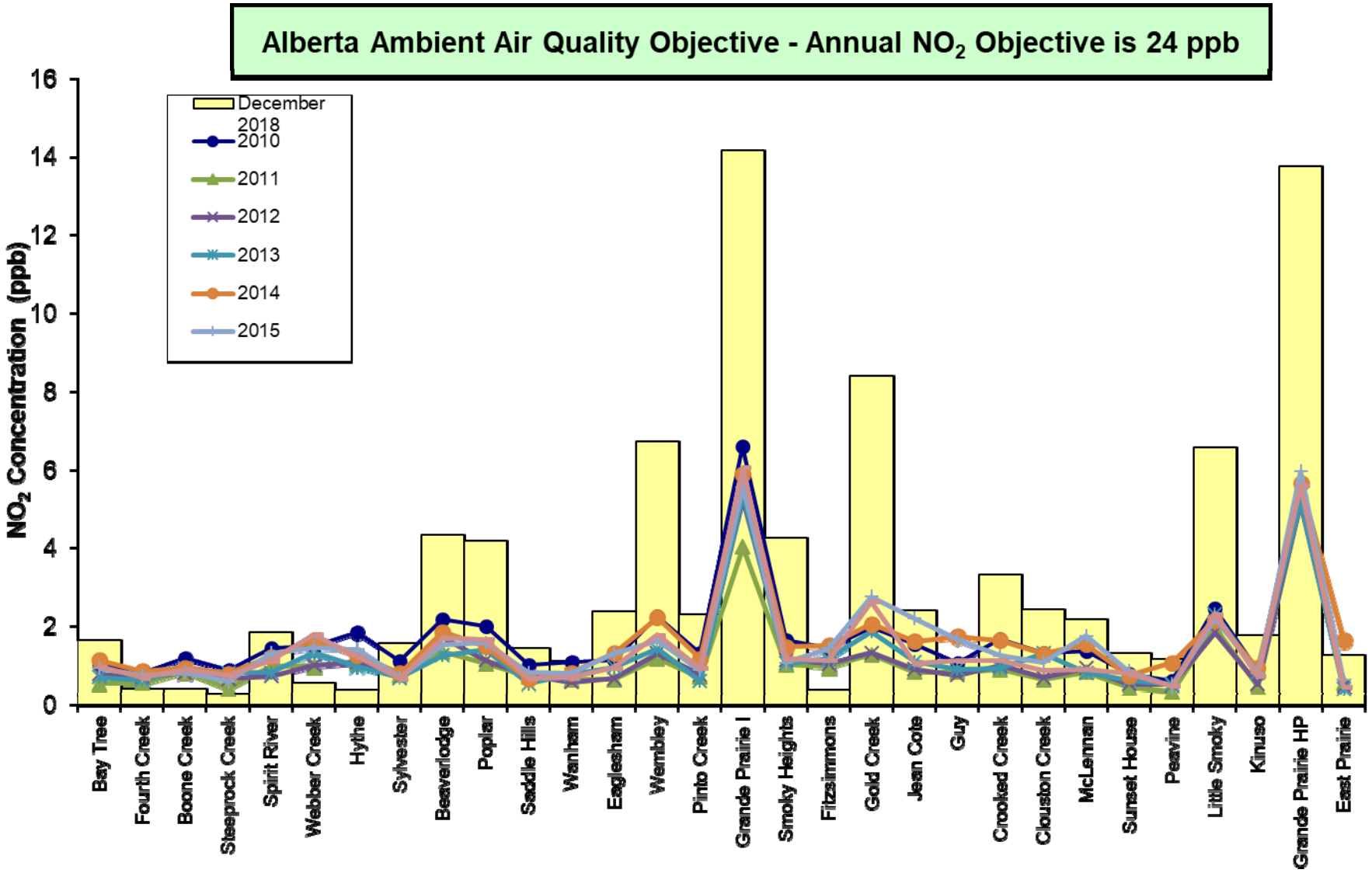

PAZA Passive SO_2 Stations
Average Concentrations in ppb
December 2018
Hines Creek
Crimshaw
Berwyn
Peace River
Fairview
Nampa
DAWSON CREEK
Spirit River
Rycroft
Wanham
Girouxville
Falher
Donnelly
McLennan
High Prairie
Hythe
Sexsmith
Beaverlodge
Wembley
Grande Prairie
Valleyview
AEP
30 - Day
Objective
11 ppb

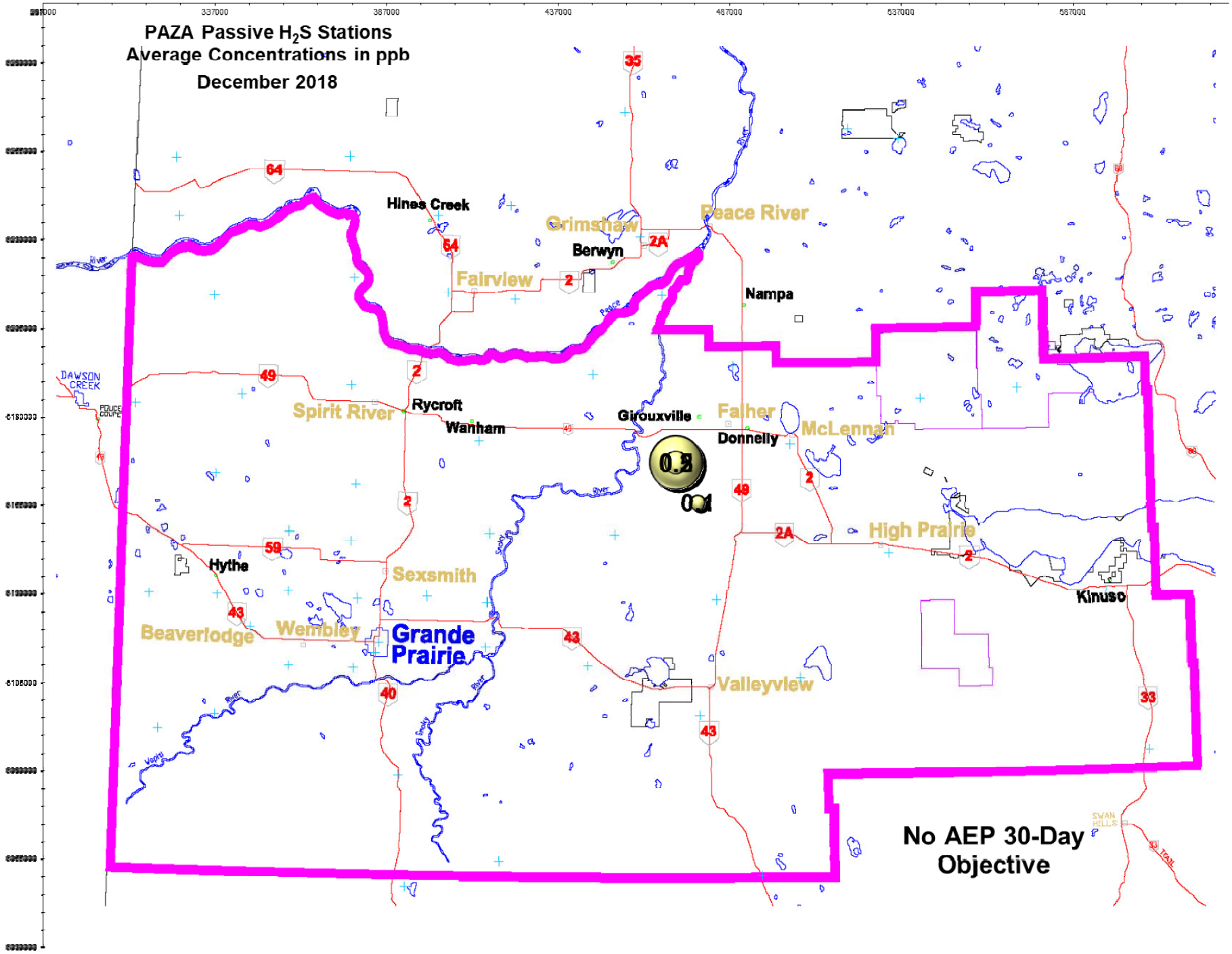

Alberta Ambient Air Quality Objective - 30-day Objective is 11 ppb
SO_2 Concentration (ppb)
2.0
1.8
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
December
2018
2010
2011
2012
2013
2014
2015
Bay Tree
Fourth Creek
Boone Creek
Steeprock Creek
Spirit River
Webber Creek
Hythe
Sylvester
Beaverlodge
Poplar
Saddle Hills
Wanham
Eaglesham
Wembley
Pinto Creek
Grande Prairie I
Smoky Heights
Fitzsimmons
Gold Creek
Jean Cote
Guy
Crooked Creek
Clouston Creek
McLennan
Sunset House
Pearvine
Little Smoky
Kinuso
Grande Prairie HP
East Prairie


PAZA Passive O_3 Stations
Average Concentrations in ppb
December 2018
337000
387000
437000
487000
537000
587000
Hines Creek
Crimshaw
Berwyn
Peace River
Fairview
Nampa
Spirit River
Rycroft
Wanham
Girouxville
Falher
Donnelly
McLennan
High Prairie
Hythe
Sexsmith
Beaverlodge
Wembley
Grande Prairie
Valleyview
40
31
30
No AEP 30-Day Objective


Alberta Ambient Air Quality Objective - No Annual O_3 Objective
December
2018
2010
2011
2012
2013
2014
2015
O_3 Concentration (ppb)
80
70
60
50
40
30
20
10
0
Bay Tree
Crooked Creek
Kinuso


PAZA Passive NO_2 Stations
Average Concentrations in ppb
December 2018
Hines Creek
Grimshaw
Berwyn
Peace River
Fairview
Nampa
DAWSON CREEK
Spirit River
Rycroft
Wanham
Girouxville
Falher
Donnelly
McLennan
High Prairie
Hythe
Beaverlodge
Valleyview
0.4
0.6
0.3
4.3
4.2
18.7
6.7
8.4
3.3
6.6
AEP
Annual
Objective
24 ppb


Alberta Ambient Air Quality Objective - Annual NO2 Objective is 24 ppb
NO2 Concentration (ppb)
0
2
4
6
8
10
12
14
16
December 2018
2010
2011
2012
2013
2014
2015
Bay Tree
Fourth Creek
Boone Creek
Sleeprock Creek
Spirit River
Webber Creek
Hythe
Sylvester
Beaverlodge
Poplar
Saddle Hills
Wanham
Eaglesham
Wembley
Pinto Creek
Grande Prairie I
Smoky Heights
Fitzsimmons
Gold Creek
Jean Cote
Guy
Crooked Creek
Clouston Creek
McLennan
Sunset House
Peavine
Little Smoky
Kinuso
Grande Prairie HP
East Prairie


PAZA Passive H_2S Stations
Average Concentrations in ppb
December 2018
337000
387000
437000
487000
537000
587000
Hines Creek
Grimshaw
Berwyn
Peace River
Fairview
Nampa
DAWSON CREEK
Spirit River
Rycroft
Wanham
Girouxville
Falher
Donnelly
McLennan
0.3
0.1
High Prairie
Kinuso
Hythe
Sexsmith
Beaverlodge
Wembley
Grande Prairie
Valleyview
No AEP 30-Day Objective

December 2018 Calibration Reports

Calibration Report

Parameter **SO2**

Air Monitoring Network **PAZA**

Air Quality Monitoring

Station Information

Calibration Date	December 6, 2018	Previous Calibration	November 20, 2018
Station Number	4	Station Location	Beaverlodge
Reason: Routine	Install	Removal	Other:
Start Time (MST)	13:45	End Time (MST)	15:50
Barometric Pressure	0.921 atm	Station Temperature	20.0 Deg C
Calibrator	Environics 6100	Serial Number	3016
Cal Gas Concentratio	10.1 ppm	Cal Gas Expiry Date	21/02/2021
Gas Cert Reference	EX0012231		
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	1.006642	Calculated slope	1.671895
Calculated intercept	0.174934	Calculated intercept	6.787560
Analyzer make	TEI Model 43i-TLE	Analyzer serial #	713021137

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Background	2.83		2.8	
Coefficient	0.962		0.962	
PMT	-767.8	V	-768.1	V
UV Lamp Voltage	1126	V	1123	V
Chamber Temp	45.4	Deg C	45	Deg C
Pressure	657.40	mm Hg	664.30	mm Hg
Sample Flow	0.515	LPM	0.528	LPM
Lamp Intensity	94	%	94	%

Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4995	0.00	0.0	5.0	N/A
4995	39.94	80.1	43.0	1.8624
4995	19.97	40.2	19.6	2.0557
4995	9.97	20.1	0.1	134.3853
4995	0.00	0.0	5.0	As found zero
4995	39.94	80.1	43.0	As found span
			Average Correction Factor	46.1011

Calculated value of As Found Response: 38.409 ppm Percent Change of As Found: 52.1%

	before calibration		after calibration	
Auto zero	0.1	ppb	108.5	ppb
Auto span	60.0	ppb	7.3	ppb

Notes: No adjustment made.

Calibration Performed By: Grover Christiansen/ Akpevwe Akpiroroh

Calibration Summary

Parameter **SO2**

Air Monitoring Network **PAZA**

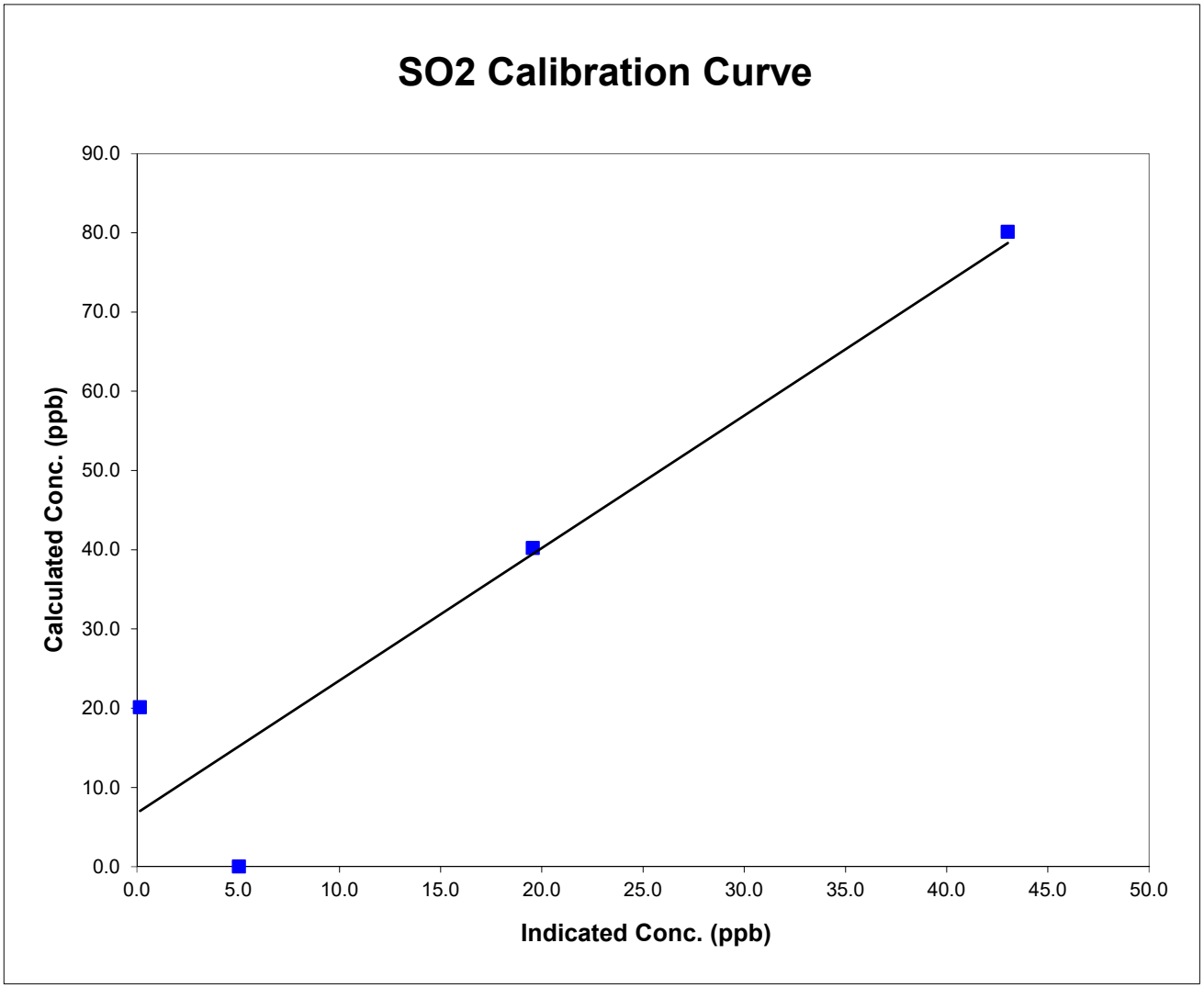
Air Quality Monitoring

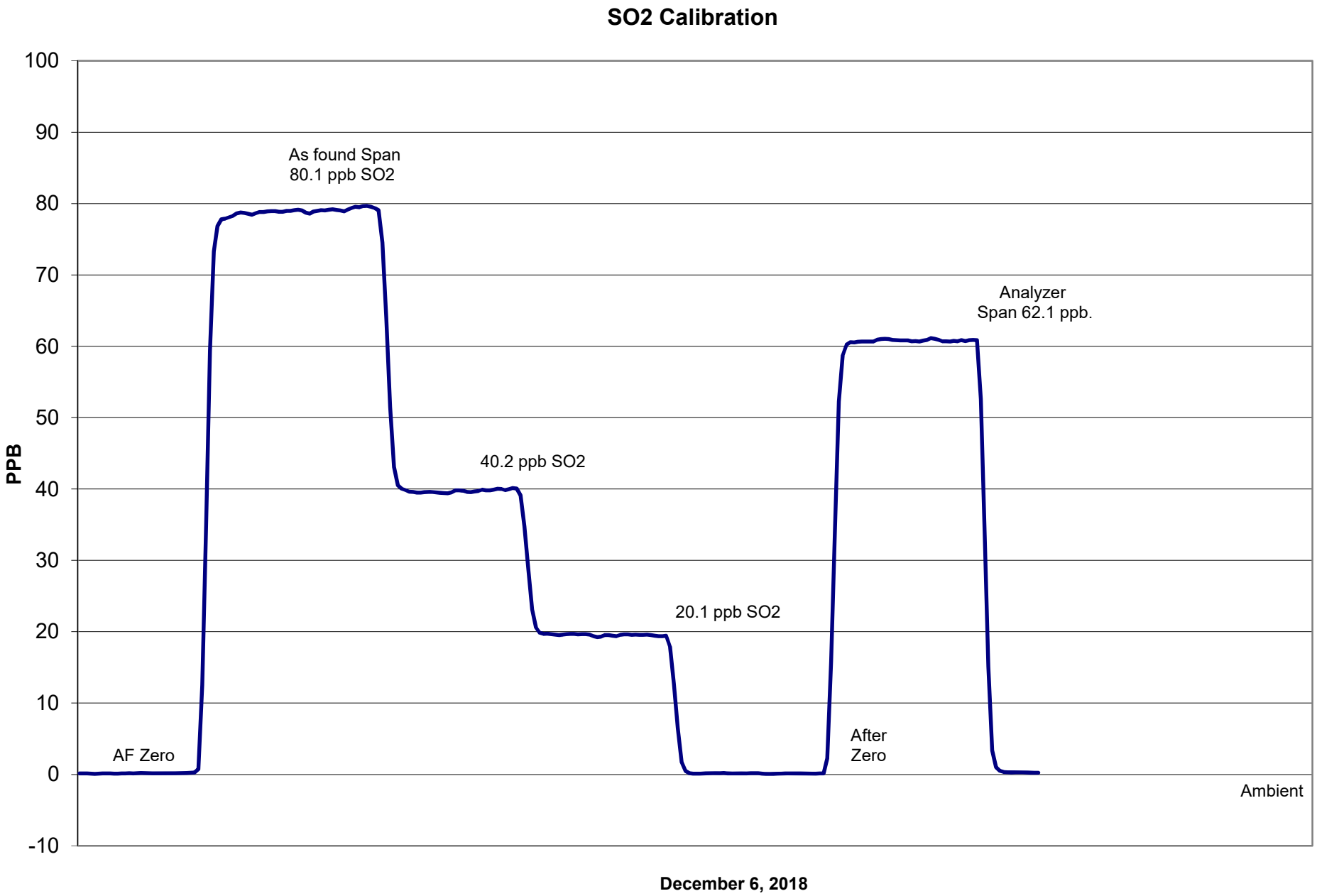
Station Information

Calibration Date	December 6, 2018	Previous Calibration	November 20, 2018
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	13:45	End Time (MST)	15:50
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	5.0	N/A		
80.1	43.0	1.8624	Correlation Coefficient	0.884600
40.2	19.6	2.0557		
20.1	0.1	134.3853	Slope	1.671895
			Intercept	6.787560




SO2 Calibration
100
90
80
70
60
50
40
30
20
10
0
-10
PPB
As found Span
80.1 ppb SO2
40.2 ppb SO2
20.1 ppb SO2
Analyzer
Span 62.1 ppb.
AF Zero
After
Zero
Ambient
December 6, 2018

Calibration Report

Parameter **NO_X-NO-NO_2**

Air Monitoring Network **PAZA**

Air Quality Monitoring

Station Information

Calibration Date	December 6, 2018	Previous Calibration	November 20, 2018
Station Number	4	Station Location	Beaverlodge

Reason: Routine | Installation | Removal | Other:

Start Time (MST)	9:35	End Time (MST)	13:10
Barometric Pressure	0.921 Atm	Station Temperature	20.0 Deg C
Calibrator	Environics 6100	Serial Number	3016
NO Cal Gas Conc	50.4 ppm	Cal Gas Expiry Date	10/24/2020
NOx Cal Gas Conc	50.5 ppm	Cal Gas Serial #	LL107945

DACS Information

DACS make: CR3000 DACS serial No.: 5237

Parameter		NO2	NOx	NO
Before	Data Slope	0.996453	0.994687	0.995840
	Data Offset	-0.296142	1.466979	1.841041
After	Data Slope	0.998618	0.990324	0.990704
	Data Offset	-0.315809	1.494672	1.823947
Channel #		8	6	7
Voltage Range		0 - 5 VDC	0 - 5 VDC	0 - 5 VDC

Analyzer Information

Analyzer make/model: TEI 42i Analyzer serial #: 906535068

Test Point	before		after	
Concentration range	0-500	ppb	0-500	ppb
NO offset	2.2	mV	2.2	mV
NOx bkgnd	2.5	mV	2.5	mV
NO coefficient	1.002		1.002	
NOx coefficient	1.002		1.002	
NO2 conv temp	323.4	Deg C	323.4	Deg C
PMT Temp	-3.0	Deg C	-3.0	Deg C
PMT Volt	-728.9	mV	-728.5	mV
R Cell Press	173.2	in Hg	171.1	in Hg
Sample Flow	0.791	LPM	0.778	LPM

Notes: No adjustment made.

Calibration Report

Parameter **NOX-NO-NO2**

Air Monitoring Network **PAZA**

Air Quality Monitoring

Station Information

Calibration Date: December 6, 2018 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	-0.1	0.1	N/A	N/A
1	4995	39.94	400.6	399.8	0.8	403.7	402.6	0.3	0.9923	0.9930
2	4995	19.97	201.1	200.7	0.4	201.1	199.7	0.5	1.0002	1.0051
3	4995	9.97	100.6	100.4	0.2	98.2	97.9	0.2	1.0243	1.0256
AFZ	4995	0.00	0.0	0.0	0.0	0.1	-0.1	0.1	0.0000	0.0000
AFS	4995	39.94	400.6	399.8	0.8	403.7	402.6	0.3	0.9923	0.9930
							Average Correction Factor		1.0056	1.0079

As Found Concentrations: NO_X= 402.9 NO= 402.9 As Found Percent Change NO_X= 0.6% NO= 0.8%

GPT Calibration Data

Dilution Flow 4995 ccm Source Gas Flow 39.94 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	0.1	-0.1	0.1	N/A	N/A	N/A	N/A
NO point	401.8	401.8	0.0	402.7	401.8	0.2	0.9977	1.0000	N/A	N/A
300	401.8	91.5	310.3	403.2	91.5	311.1	0.9966	1.0000	0.9975	100.3%
200	401.8	187.2	214.6	402.9	187.2	214.8	0.9973	1.0000	0.9988	100.1%
100	401.8	283.3	118.5	403.5	283.3	119.5	0.9958	1.0000	0.9915	100.9%
					Average Correction Factor		0.9966	1.0000	0.9959	100.4%

AIC Data

	Previous calibration				Current calibration			
Parameter	NOx	NO2	NO		NOx	NO2	NO	
Auto zero	-0.3	-0.3	-0.1	ppb	0.0	-0.1	-0.1	ppb
Auto span	289.4	286.0	2.5	ppb	321.4	318.7	1.9	ppb

Calibration Performed By: Grover Christiansen/ Akpevwe

Calibration Summary

Parameter **NO_2**

Air Monitoring Network **PAZA**

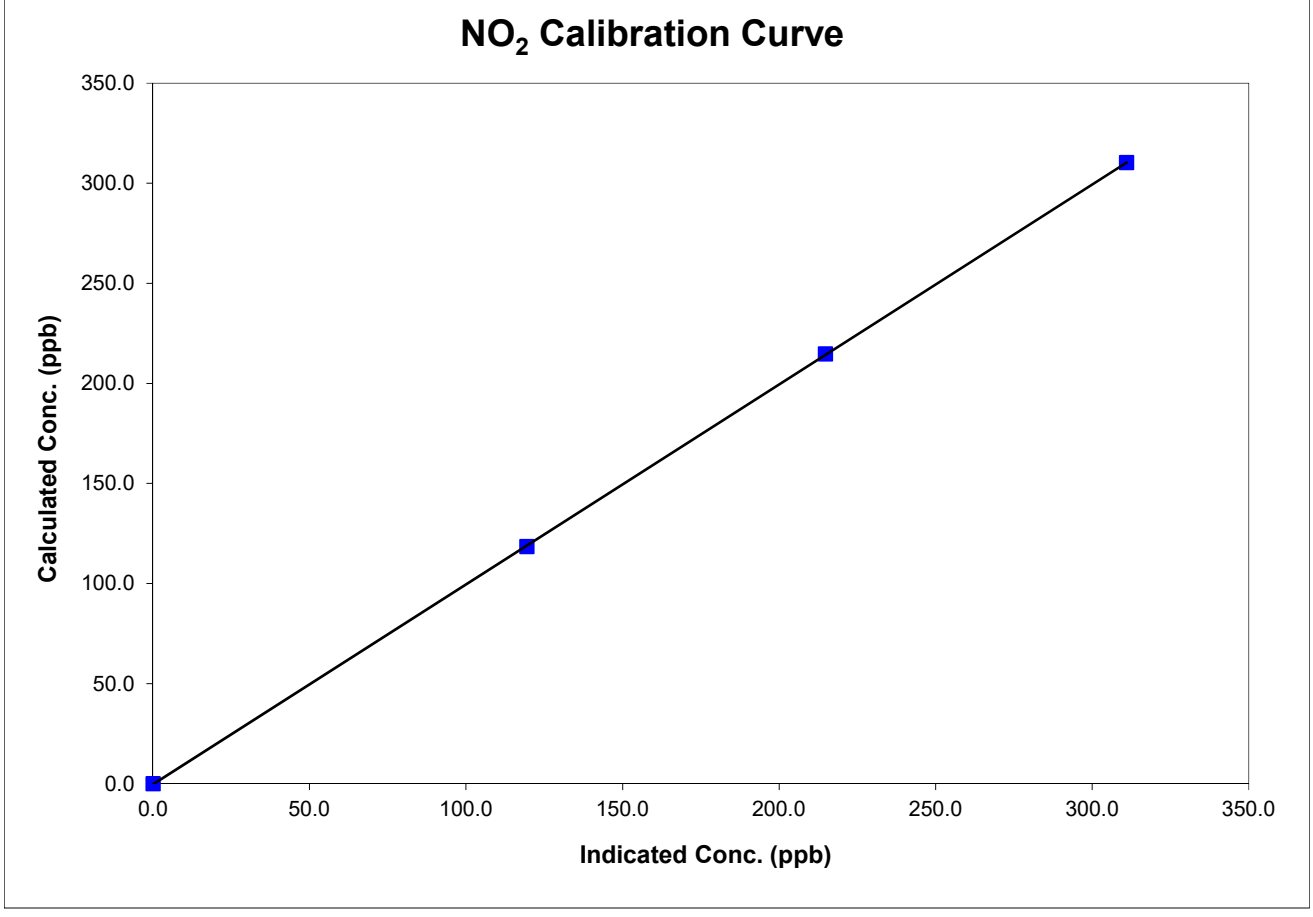
Air Quality Monitoring

Station Information

Calibration Date	December 6, 2018	Previous Calibration	November 20, 2018
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	9:35	End Time (MST)	13:10
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		
310.3	311.1	0.9975	Correlation Coefficient	0.999991
214.6	214.8	0.9988		
118.5	119.5	0.9915	Slope	0.998618
			Intercept	-0.315809



Calibration Summary

Parameter **NO_x**

Air Monitoring Network **PAZA**

Air Quality Monitoring

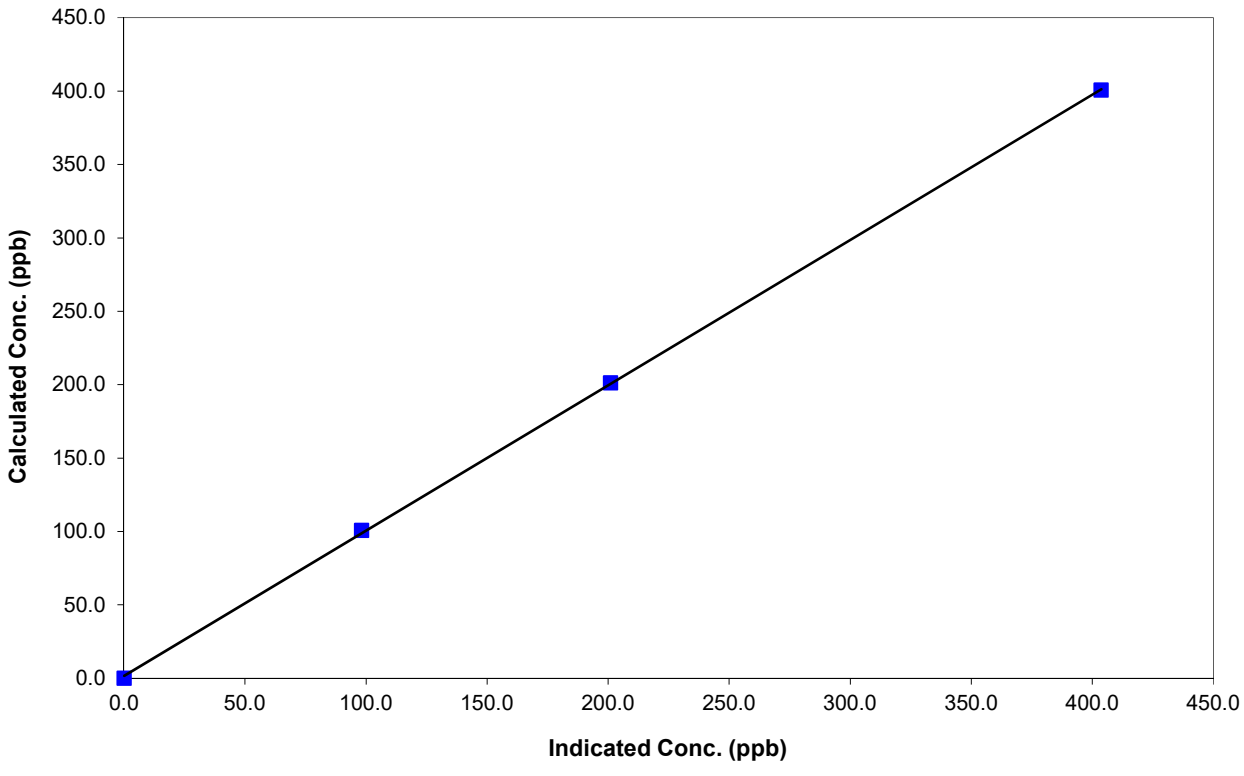
Station Information

Calibration Date	December 6, 2018	Previous Calibration	November 20, 2018
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	9:35	End Time (MST)	13:10
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		
400.6	403.7	0.9923	Correlation Coefficient	0.999923
201.1	201.1	1.0002		
100.6	98.2	1.0243	Slope	0.990324
			Intercept	1.494672

NOx Calibration Curve



Calibration Summary

Parameter **NO**

Air Monitoring Network **PAZA**

Air Quality Monitoring

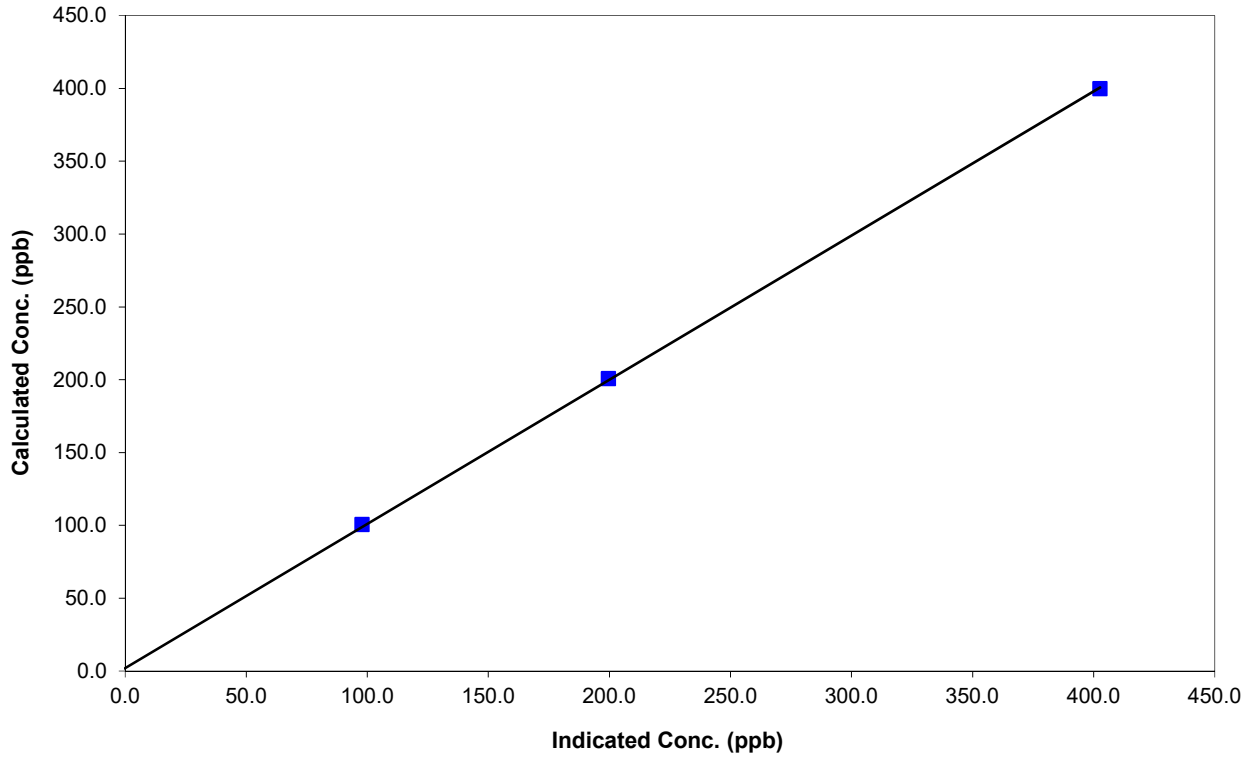
Station Information

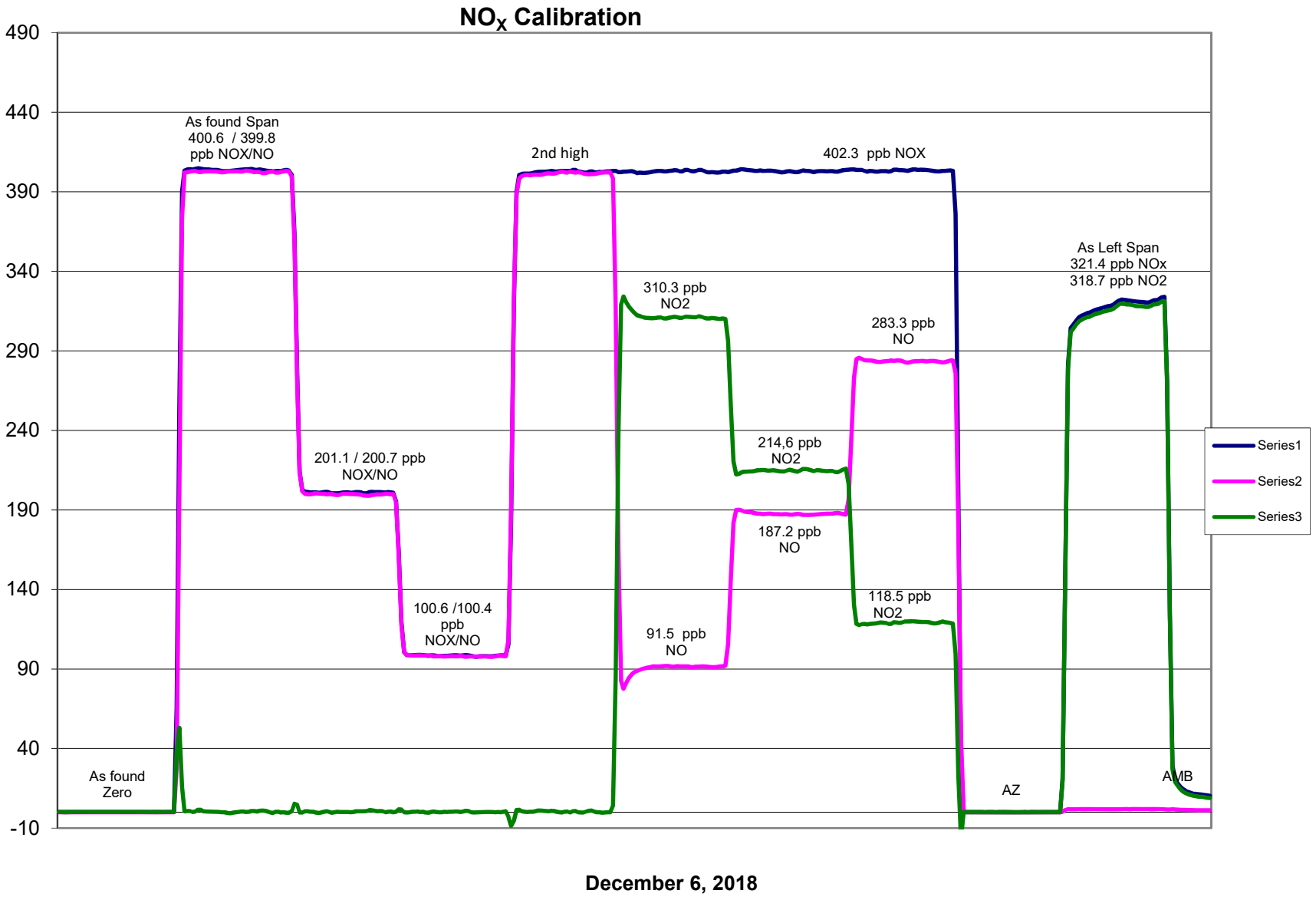
Calibration Date	December 6, 2018	Previous Calibration	November 20, 2018
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	9:35	End Time (MST)	13:10
Analyzer make	TEI 42i	Analyzer serial #	906535068

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.1	N/A		
399.8	402.6	0.9930	Correlation Coefficient	0.999914
200.7	199.7	1.0051		
100.4	97.9	1.0256	Slope	0.990704
			Intercept	1.823947

NO Calibration Curve




NOX Calibration
490
440
390
340
290
240
190
140
90
40
-10
As found Span
400.6 / 399.8
ppb NOX/NO
2nd high
402.3 ppb NOX
As Left Span
321.4 ppb NOx
318.7 ppb NO2
310.3 ppb
NO2
283.3 ppb
NO
214,6 ppb
NO2
201.1 / 200.7 ppb
NOX/NO
187.2 ppb
NO
118.5 ppb
NO2
100.6 /100.4
ppb
NOX/NO
91.5 ppb
NO
As found
Zero
AZ
AMB
Series1
Series2
Series3
December 6, 2018

Calibration Report

Parameter **O3**

Air Monitoring Network **PAZA**

Air Quality Monitoring

Station Information

Calibration Date	December 6, 2018	Previous Calibration	November 20, 2018
Station Number	4	Station Location	Beaverlodge

Reason: Routine | Install | Removal | Other:

Start Time (MST)	12:25	End Time (MST)	14:30
Barometric Pressure	0.921 atm	Station Temperature	20.0 Deg C
Calibrator	Environics 6103	Serial Number	6586
Cal Gas Concentration	NA	Cal Gas Expiry Date	NA
DACS make	CR3000	DACS serial No.	5237
DACS voltage range	0 - 5 volt	DACS channel #	9
	Before		After
Calculated slope	1.000882	Calculated slope	0.998042
Calculated intercept	0.631327	Calculated intercept	0.220773

Analyzer make: Teco 49i — Analyzer serial #: 1136451236,AMU 1879

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
offset	0.10	ppb	0.20	ppb
slope	1.014		1.014	
Lamp temp	67.6	mV	67.5	mV
Lamp Intensity A/B	62785/75356	mV	62952/75782	mV
Pressure	692.6	mm Hg	675.1	mm Hg
Flow A	0.790	LPM	0.775	LPM
Flow B	0.748	LPM	0.732	LPM

Calibration Data

Dilution air flow rate (cc/min)	Calibrator Setting	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
5032	0.00	0.0	0.2	N/A
5032	0.30	310.3	311.2	0.9970
5032	0.20	214.6	214.2	1.0021
5032	0.10	118.5	118.2	1.0022
5032				
5032	0.00	0.0	0.2	As found zero
5032	0.30	310.3	311.2	As found span
			Average Correction Factor	1.0004

Calculated value of As Found Response: 312.0 ppm Percent Change of As Found: 0.5%

	before calibration		after calibration	
Auto zero	0.1	ppb	0.2	ppb
Auto span	274.3	ppb	285.6	ppb

Notes:

Calibration Performed By: Grover Christiansen/ Akpevwe Akpiroroh

Calibration Summary

Parameter **O3**

Air Monitoring Network **PAZA**

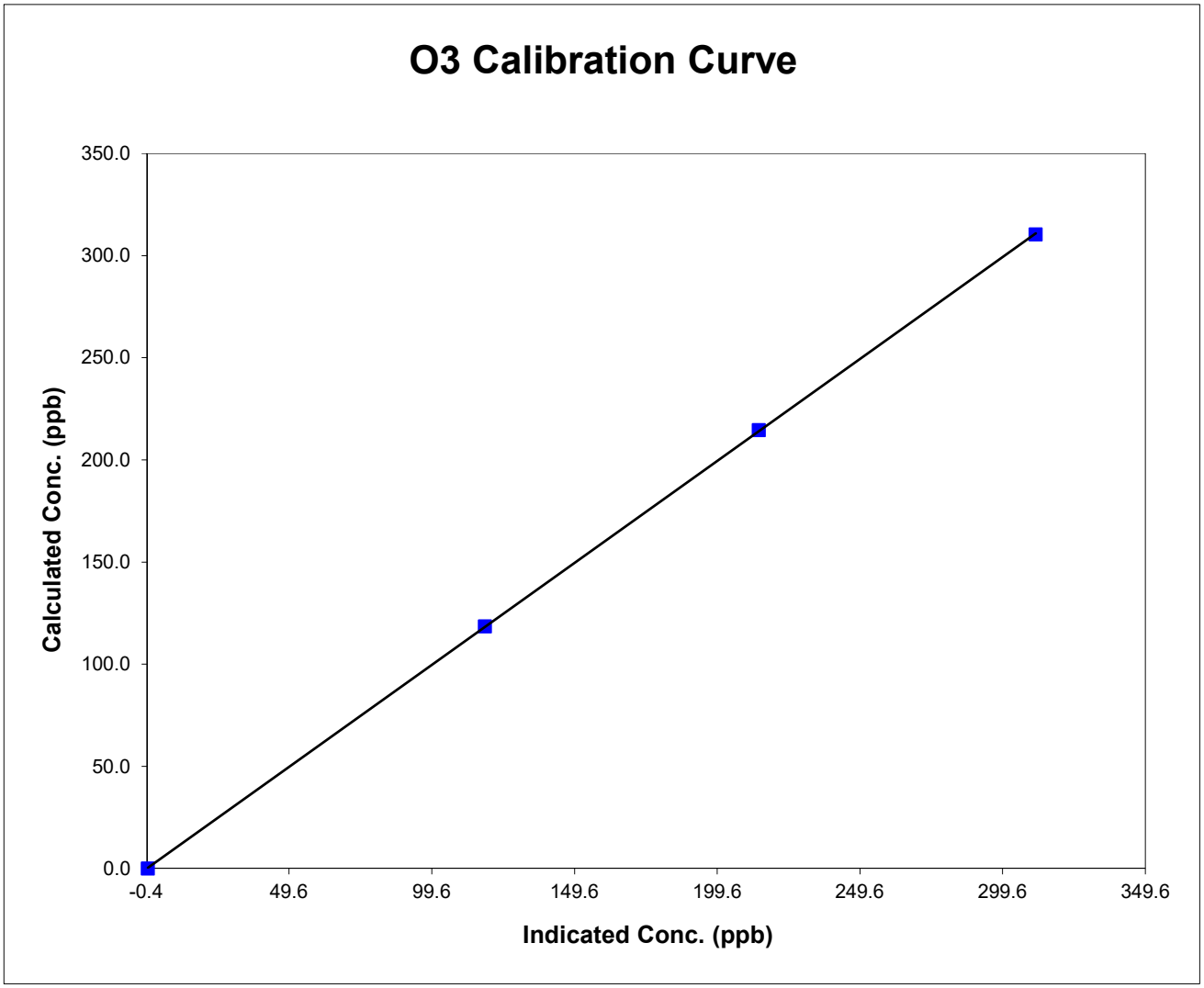
Air Quality Monitoring

Station Information

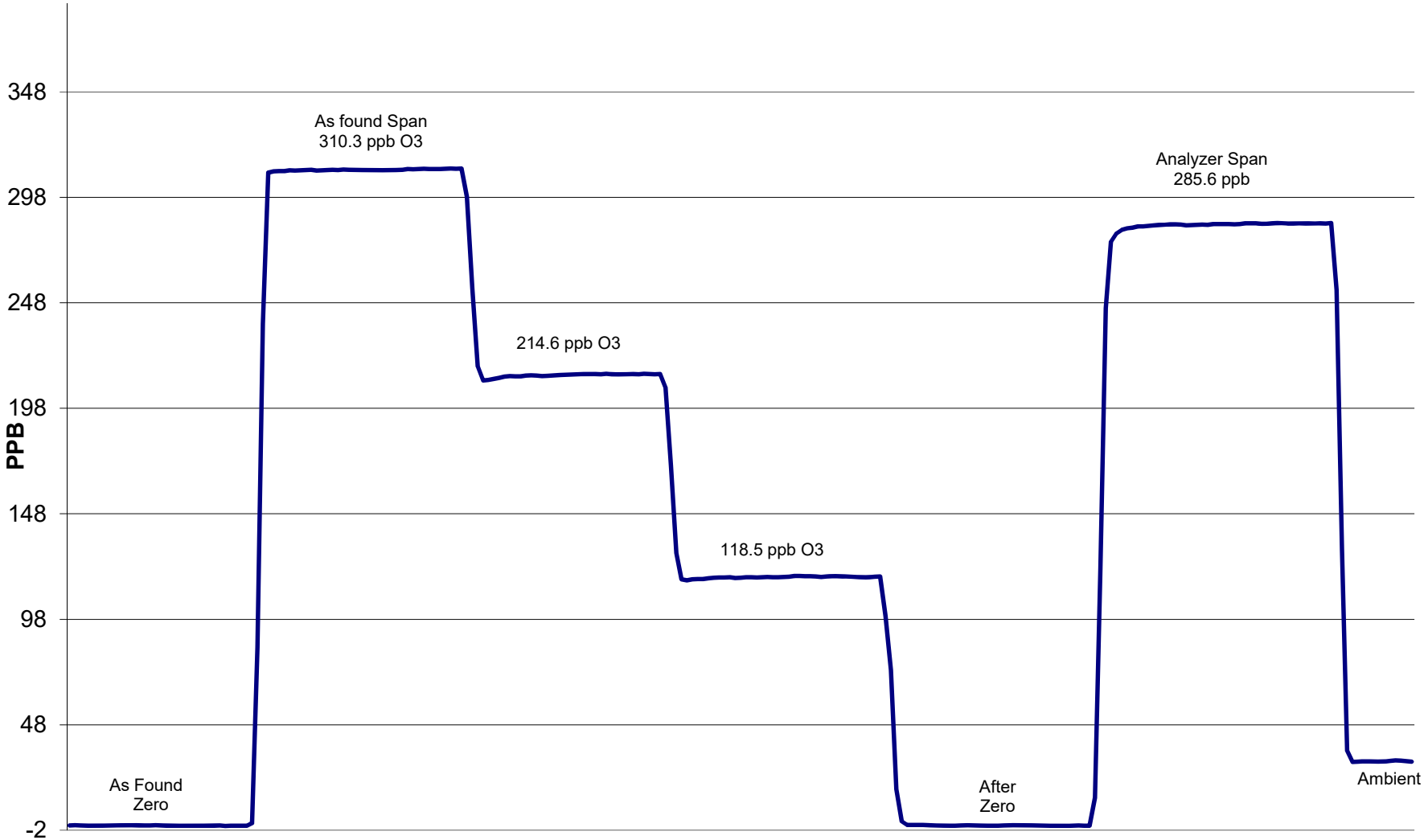
Calibration Date	December 6, 2018	Previous Calibration	November 20, 2018
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	12:25	End Time (MST)	14:30
Analyzer make/model	Teco 49i	Analyzer serial #	1136451236,AMU 1879

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.2	NA		
310.3	311.2	0.9970	Correlation Coefficient	0.999982
214.6	214.2	1.0021		
118.5	118.2	1.0022	Slope	0.998042
			Intercept	0.220773



O3 Calibration



December 6, 2018

Calibration Report

Parameter **SO_2**

Air Monitoring Network **PAZA**

Air Quality Monitoring

Station Information

Calibration Date	December 7, 2018	Previous Calibration	November 28, 2018
Station Number	2	Station Location	Evergreen Park
Reason: Routine	Install	Removal	Other:
Start Time (MST)	10:55	End Time (MST)	13:05:00 PM
Barometric Pressure	0.936 ATM	Station Temperature	22.0 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Concentratio	49.6 ppm	Cal Gas Expiry Date	04/05/2019
Correction factor	0.031602	Cal Gas Cylinder #	LL107945
DACS make	CR3000	DACS serial No.	5236
DACS voltage range	0 - 5 volt	DACS channel #	6
	Before		After
Calculated slope	1.001707	Calculated slope	1.001853
Calculated intercept	-0.152860	Calculated intercept	-0.147290
Analyzer make	Teco 43i	Analyzer serial #	701120008

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
Background	12.2		12.2	
coefficient	1.072		1.072	
Lamp Voltage	846	volts	848	volts
Chamber Temp	45	Deg C	45	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	670.1	mm Hg	670	mm Hg
Sample Flow	0.424	ccm	0.423	ccm
Lamp Intensity	5	%	91	%

Dilution air flow rate (cc/min)	Corrected gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4997	0.0	0.00	1.1	N/A
4997	39.97	393.6	393.4	1.0004
4997	19.99	197.6	197.1	1.0028
4997	9.98	98.9	97.8	1.0111
4997	0.0	0.0	1.1	As Found Zero
4997	39.98	393.7	393.4	As Found Span
			Average Correction Factor	1.0048

Calculated value of As Found Response: 392.849 ppm Percent Change of As Found: 0.2%

	before calibration		after calibration	
Auto zero	0.9	ppm	1.0	ppm
Auto span	270.6	ppm	263.0	ppm

Notes: No adjustment made

Calibration Performed By: Dmytro Dolotii,Akpevwe Akpiroroh

Calibration Summary

Parameter **SO2**

Air Monitoring Network **PAZA**

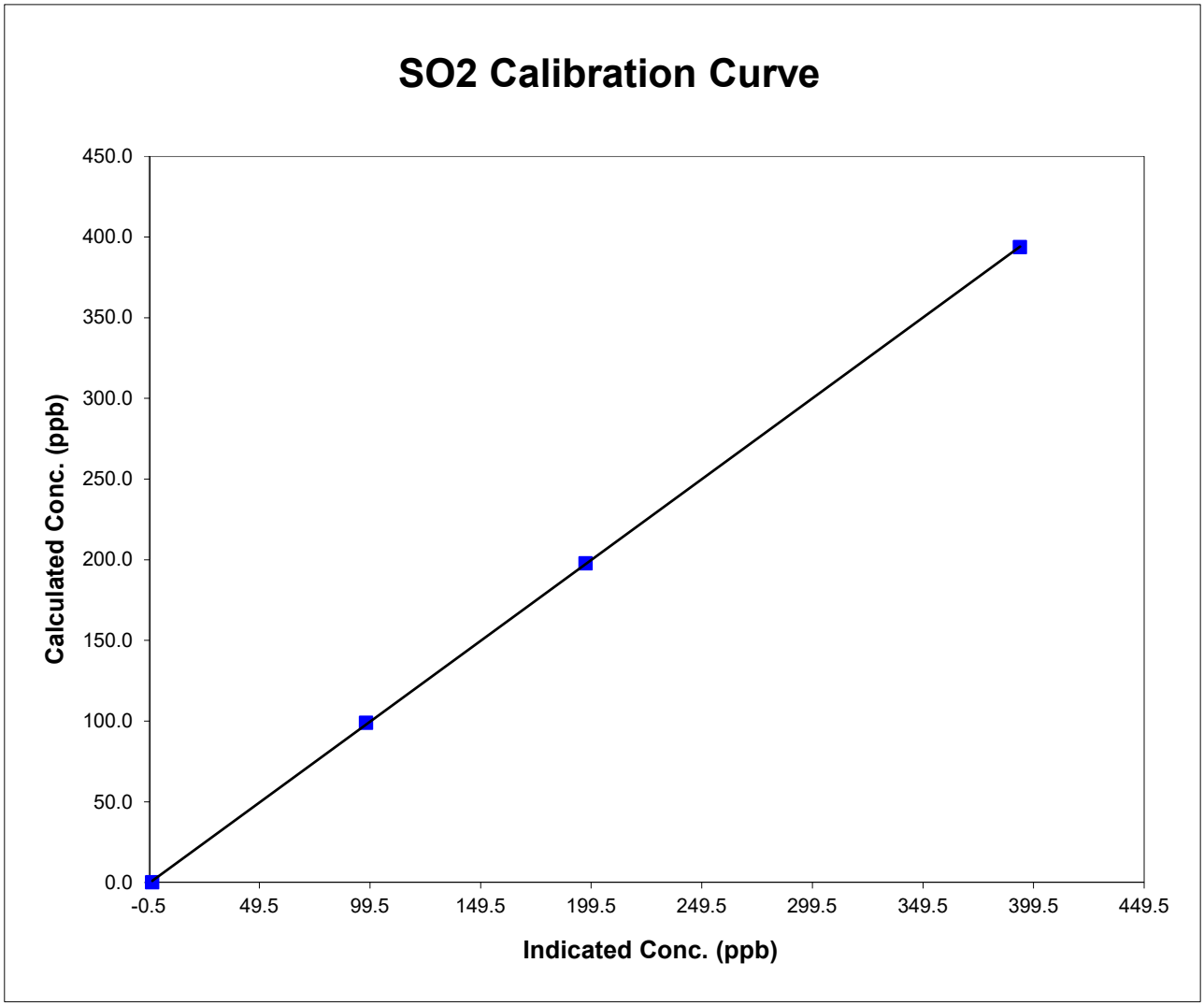
Air Quality Monitoring

Station Information

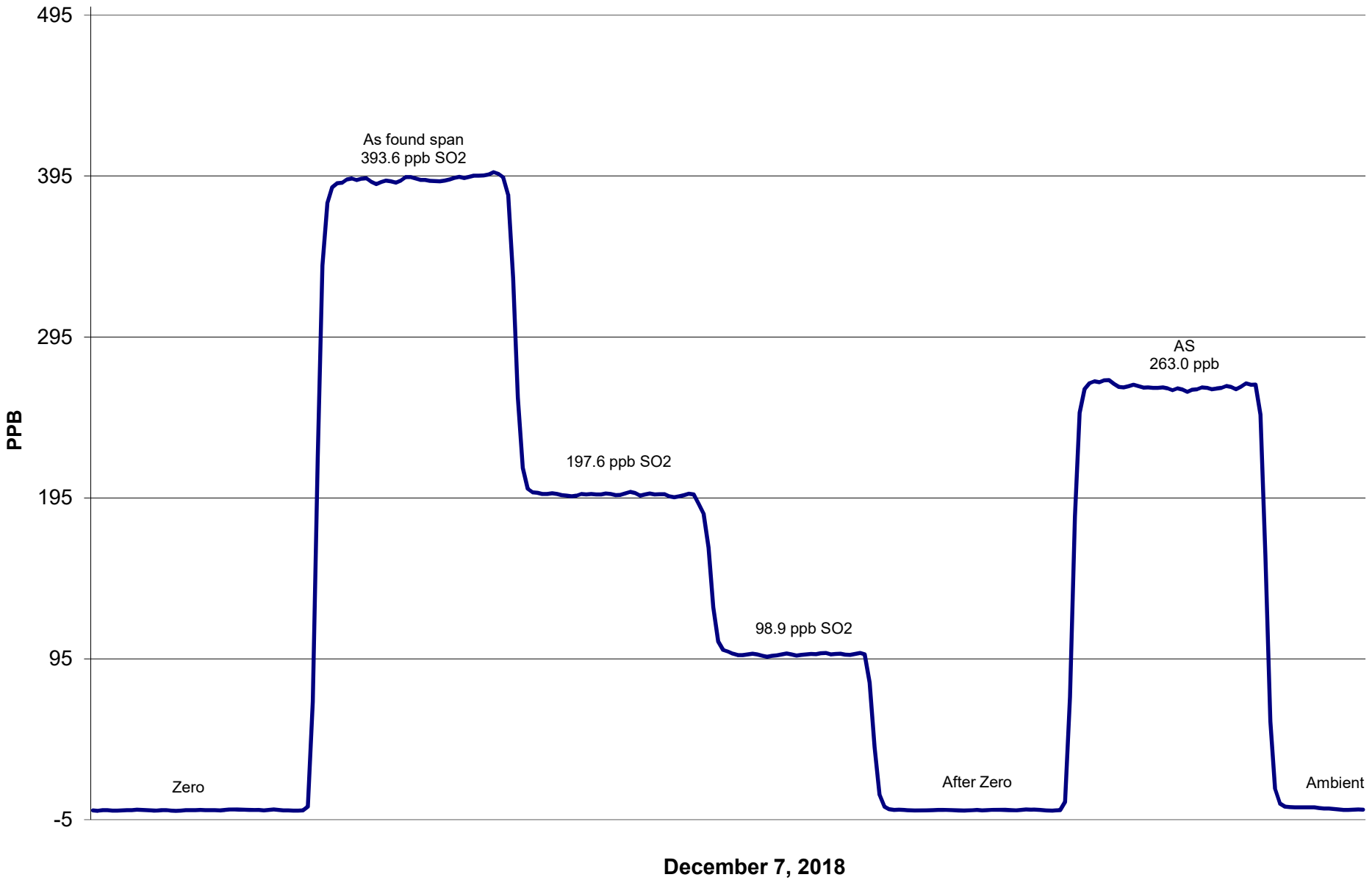
Calibration Date	December 7, 2018	Previous Calibration	November 28, 2018
Station Number	2	Station Location	Evergreen Park
Start Time (MST)	10:55	End Time (MST)	13:05:00 PM
Analyzer make/model	Teco 43i	Analyzer serial #	701120008

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	1.1	N/A		
393.6	393.4	1.0004	Correlation Coefficient	0.999973
197.6	197.1	1.0028		
98.9	97.8	1.0111	Slope	1.001853
			Intercept	-0.147290



SO2 Calibration



December 7, 2018

Calibration Report

Parameter **TRS**

Air Monitoring Network **PAZA**

Air Quality Monitoring

Station Information

Calibration Date	December 7, 2018	Previous Calibration	November 28, 2018
Station Number	2	Station Location	Evergreen Park

Reason: Routine | Install | Removal | Other:

Start Time (MST)	9:20	End Time (MST)	12:05
Barometric Pressure	0.936 ATM	Station Temperature	22.0 Deg C
Calibrator	Evironics 6100	Serial Number	3474
Cal Gas Conc	9.78 ppm	Cal Gas Expiry Date	23/02/2019
Correction factor	0.031602	Cal Gas Cylinder #	EY0000380
DACS make	CR3000	DACS serial No.	5236
DACS voltage range	0 - 5 volt	DACS channel #	5
	Before		After
Calculated slope	1.009090	Calculated slope	0.980199
Calculated intercept	-0.052516	Calculated intercept	-0.176430

Analyzer make: TEI Model 43I | Analyzer serial #:

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Background	26.6	ppb	26.7	ppb
coefficient	0.880		0.880	
Lamp Voltage	893	volts	894	volts
Chamber Temp	44.3	Deg C	44.4	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	656.7	mm Hg	656.4	mm Hg
Sample Flow	0.462	ccm	0.462	ccm
Lamp Intensity	30,379	mv	30,334	mv

Dilution air flow rate (cc/min)	Corrected gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4996	0.00	0.00	0.2	N/A
4996	39.97	77.62	79.4	0.9779
4996	19.96	38.92	39.9	0.9753
6999	9.97	13.91	14.3	0.9732
4996	10.00	0.00	0.8	Sox
4996	0.00	0.00	0.2	As Found Zero
4996	39.97	77.62	79.4	As Found Span
			Average Correction Factor	0.9755

Calculated value of As Found Response: 79.81 ppm Percent Change of As Found: -2.8%

	before calibration		after calibration	
Auto zero	0.4	ppm	0.2	ppm
Auto span	98.6	ppm	96.1	ppm

Notes: No adjustment made

Calibration Performed By: Dmytro Dolotii,Akpevwe Akpiroroh

Calibration Summary

Parameter **TRS**

Air Monitoring Network **PAZA**

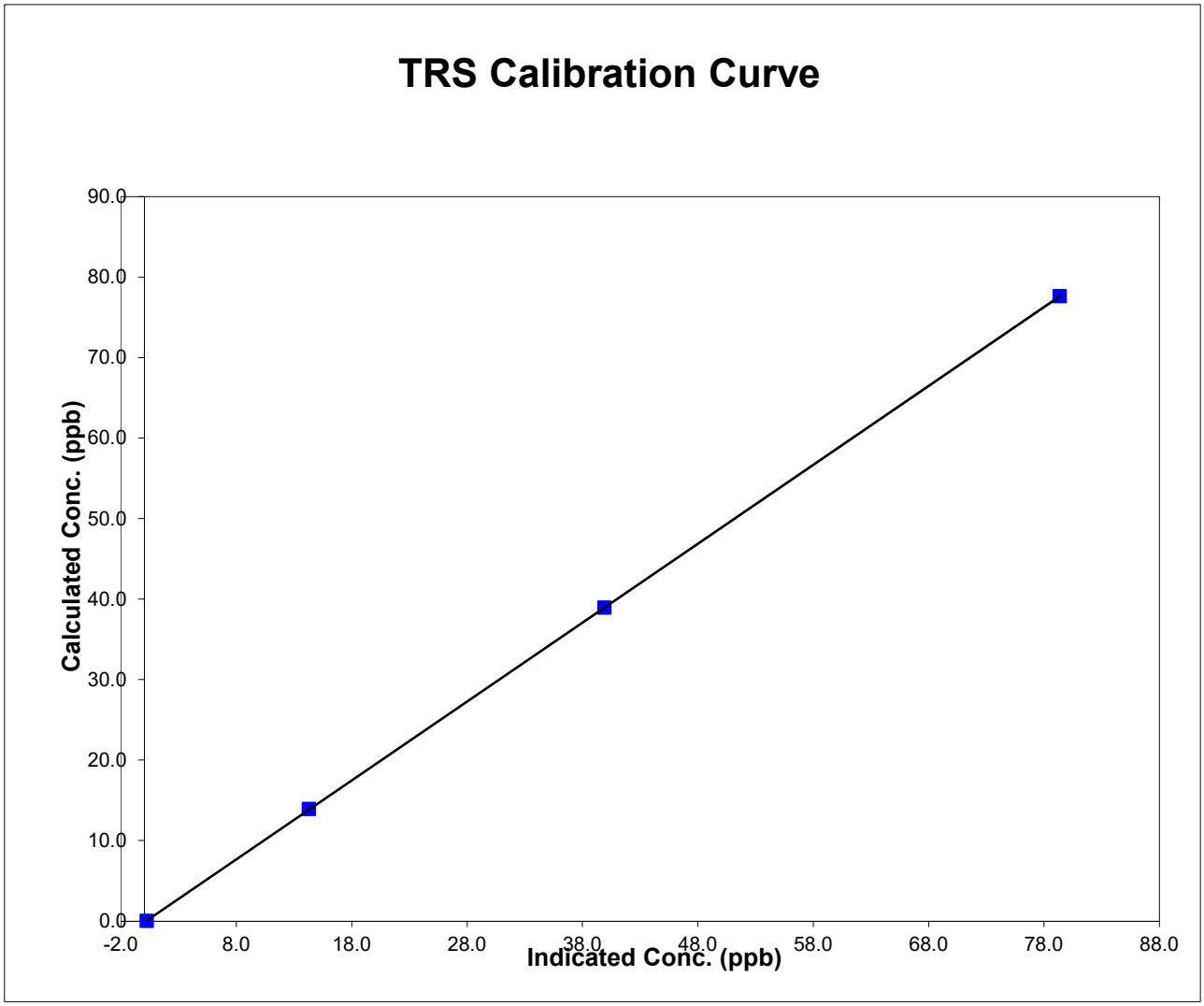
Air Quality Monitoring

Station Information

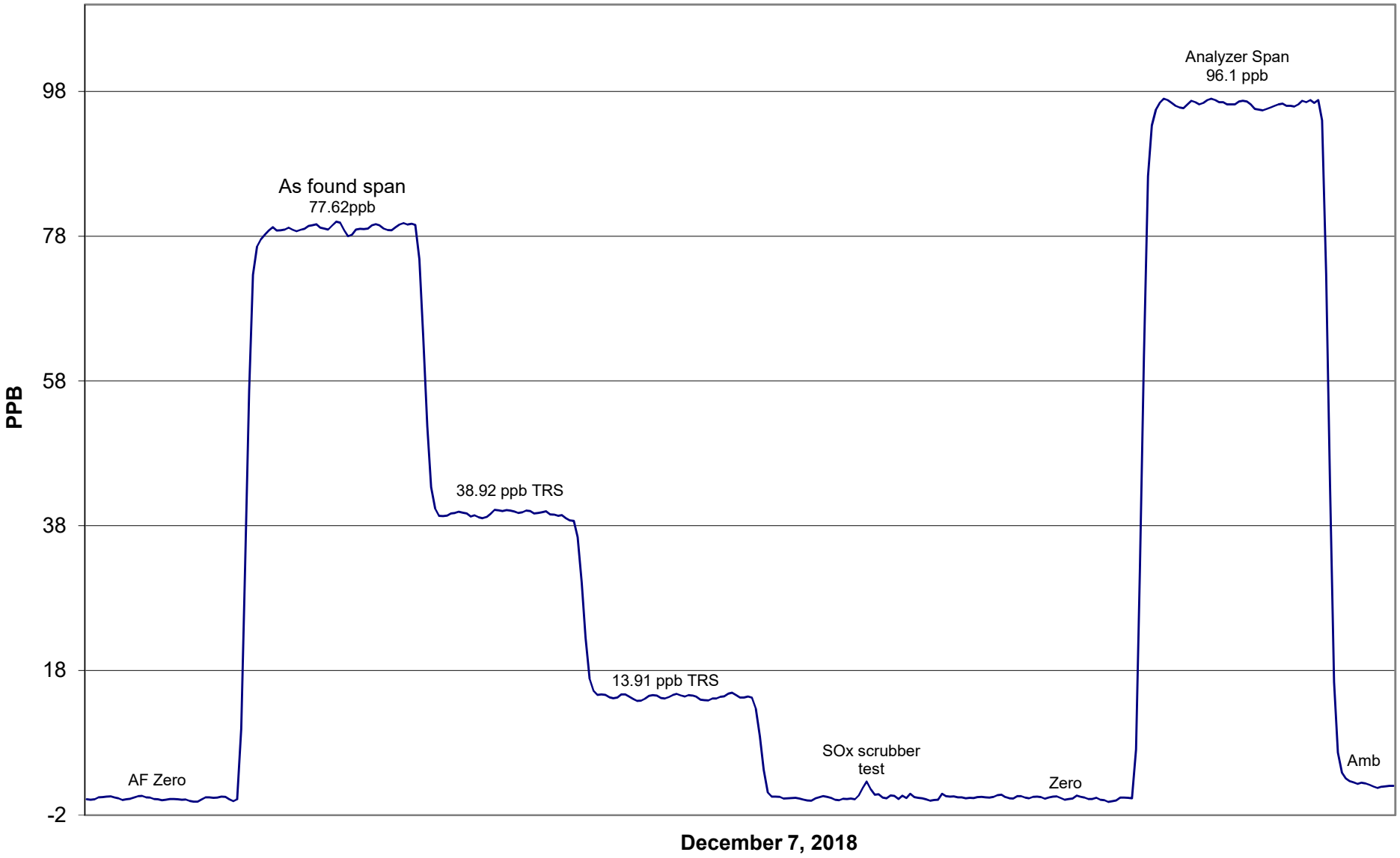
Calibration Date	December 7, 2018	Previous Calibration	November 28, 2018
Station Number	2	Station Location	Evergreen Park
Start Time (MST)	9:20	End Time (MST)	12:05
Analyzer make/model	TEI Model 43I	Analyzer serial #	0

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.2	N/A		
77.6	79.4	0.9779	Correlation Coefficient	0.999997
38.9	39.9	0.9753		
13.9	14.3	0.9732	Slope	0.980199
			Intercept	-0.176430



TRS Calibration



AB TEOM PM2.5 Calibration

Air Quality Monitoring

STATION: **Evergreen Park**
LOCATION: PAZA - Grande Prairie

OPERATOR: Dmytro Dolotii,Akpevwe Akp
DATE: 07-Dec-18

MONITOR INFO / PARAMETER VALUES:

Make/Model	TEOM AB
Configuration	PM2.5
Serial Number	24634
Site Number	2
Inlet Type	PM 10 / SCC
FAdj. Main Setting	1.000
FAdj. Aux. Setting	1.000
T-Case Indicated / Set Point	40/40
T-Air Indicated / Set Point	40/40
T-Cap Indicated / Set Point	40/40
Splitter Assembly Alignment (cm)	15.5

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

RECENT CALIBRATION AND AUDIT HISTORY

Previous Audit	18-Aug-18
Previous Calibration	09-Aug-18

PUMP CAPACITY CHECK *	PASS

* capacity test or pump on timed test utilized to verify pump integrity

"FAIL" indicates that pump requires service.

LEAK CHECK	Indicated Flow (lpm)	
	Main	Auxiliary
PUMP ON	0.010	0.030
PUMP OFF	-0.020	-0.050
NET	0.030	0.080
LIMITS	*<0.15*	*<0.60*

		Ambient Temp. (˚ C)	Ambient Pres. (atm)	Ko *	Bypass flow (lpm)	Sample flow (lpm)
	SET POINT (S)	na	na	16147	13.67	3.000
	INDICATED (I)	-3.2	0.924		13.68	3.000
As Found Data	MEASURED (AF)	-2.7	0.923		13.95	3.190
Adjusted Data	MEASURED (M)	-2.7	0.923	16047	13.95	3.200
	DIFFERENCE (M-I)	0.5	-0.001	-0.6%	0.28	0.20
	LIMITS	*± 2 ^{0} C*	*± 0.005 atm*	*± 2.5 %*	*± 1.0 L/min*	*± 0.2 L/min*

Ko Audit Filter data *Weight:* 0.11014 *Serial #:* *CVK 2123*

COMMENTS: Pass.

Sample Head Inspection/Cleaning:

Large In Line Filter Inspection & Or Cleaning:

Calibration Report

Parameter **SO2**

Air Monitoring Network **PAZA**

Air Quality Monitoring

Station Information

Calibration Date	December 10, 2018	Previous Calibration	November 7, 2018
Station Number	1	Station Location	Henry Pirker
Reason: Routine	Install	Removal	Other:
Start Time (MST)	11:00	End Time (MST)	14:05:00 PM
Barometric Pressure	923.0 mbar	Station Temperature	20.0 Deg C
Calibrator	Environics	Serial Number	6586
Cal Gas Conc	50.1 ppm	Cal Gas Cert Date	10/24/2020
		Cal Gas Cylinder #	LL107945
DACS make	CR3000	DACS serial No.	5408
DACS voltage range	0 - 1 volt	DACS channel #	10
	Before		After
Calculated slope	1.002048	Calculated slope	1.012811
Calculated intercept	0.624733	Calculated intercept	0.187470
Analyzer make	TEI 43I-TLE	Analyzer serial #	1507864682 (AMU 2006)

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
Background	1.43		1.43	
Coefficient	0.926		0.926	
Pressure	666.1	mm Hg	665.2	mm Hg
Flow	0.441	lpm	0.442	lpm
Lamp intensity	91	Hz	91	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	0.2	N/A
4995	39.99	397.9	392.9	1.0127
4995	19.97	199.5	196.5	1.0153
4995	9.98	99.9	98.2	1.0176
4995	0.00	0.0	0.2	As Found Zero
4995	39.97	397.7	392.9	As Found Span
			Average Correction Factor	1.0152

Calculated value of As Found Response: 394.2 ppb Percent Change of As Found: 0.9%

	before calibration		after calibration	
Auto zero	0.2	ppb	0.2	ppb
Auto span	274.7	ppb	281.3	ppb

Notes: No adjustment made

Calibration Performed By: Dmytro Dolotii

Calibration Summary

Parameter **SO2**

Air Monitoring Network **PAZA**

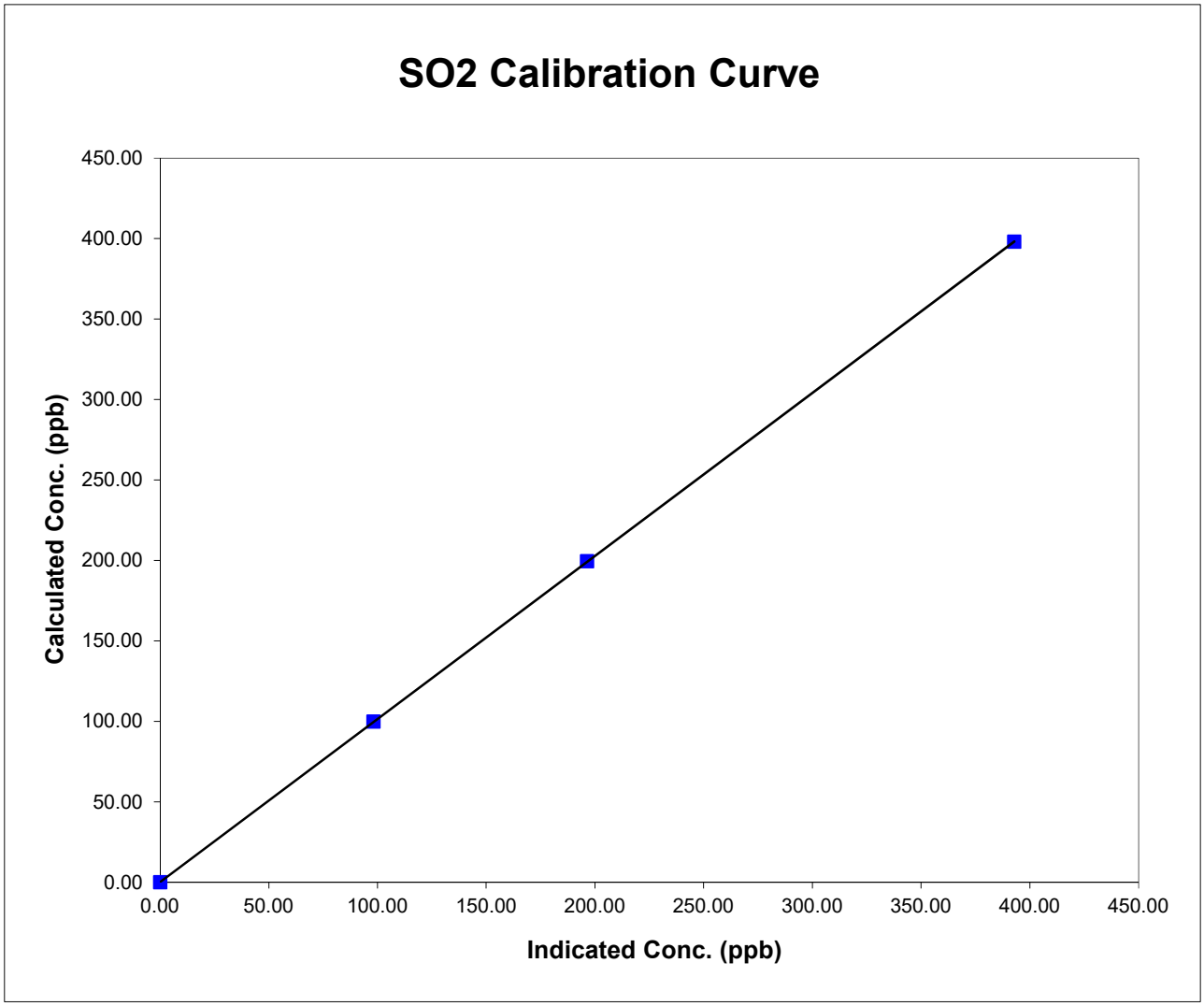
Air Quality Monitoring

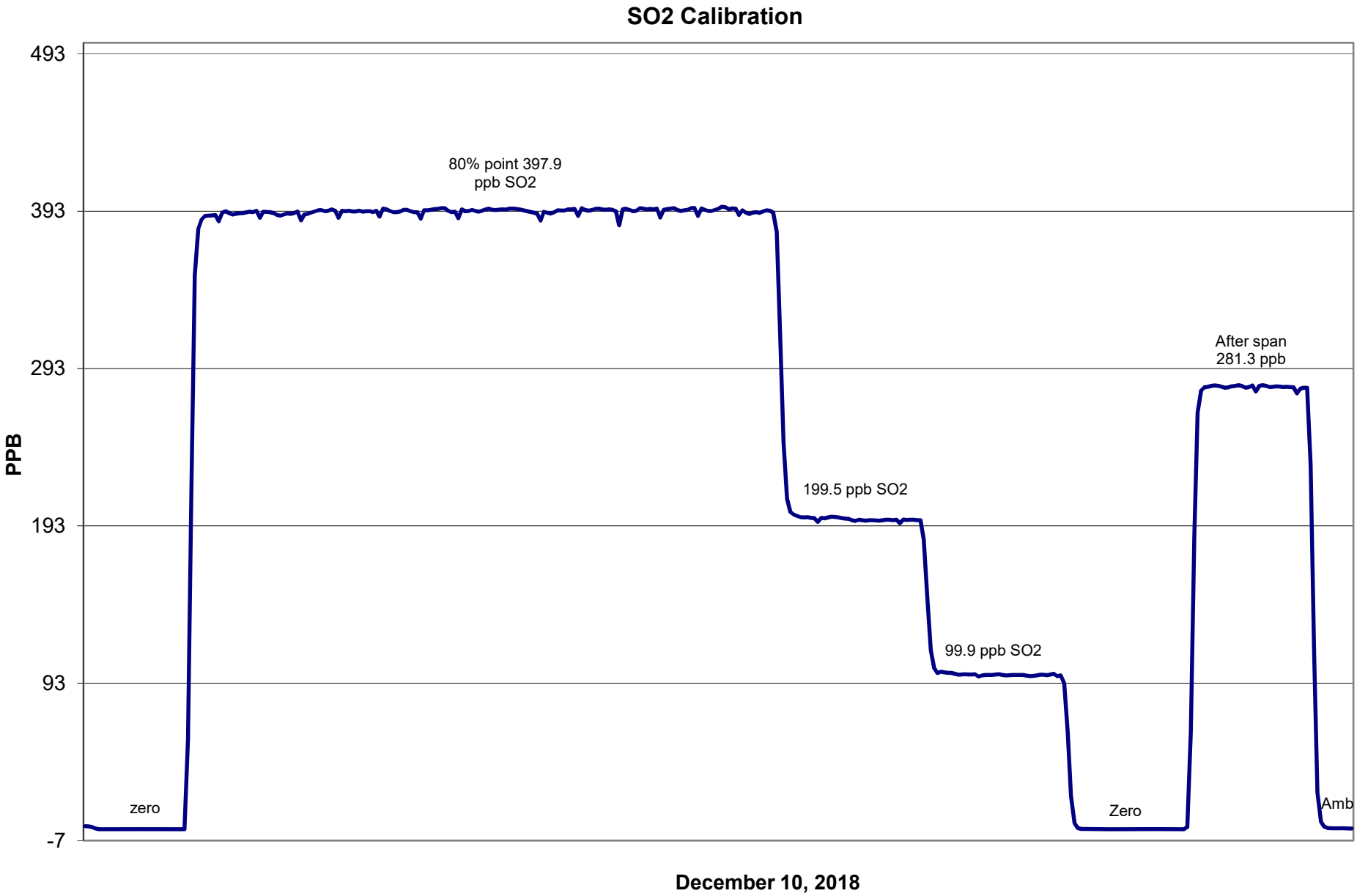
Station Information

Calibration Date	December 10, 2018	Previous Calibration	November 7, 2018
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	11:00	End Time (MST)	14:05:00 PM
Analyzer make/model	TEI 43I-TLE	Analyzer serial #	1507864682 (AMU 2006)

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.2	N/A		
397.9	392.9	1.0127	Correlation Coefficient	0.999996
199.5	196.5	1.0153		
99.9	98.2	1.0176	Slope	1.012811
			Intercept	0.187470




SO2 Calibration
493
393
293
193
93
-7
PPB
80% point 397.9
ppb SO2
199.5 ppb SO2
99.9 ppb SO2
After span
281.3 ppb
zero
Zero
Amb
December 10, 2018

Calibration Report

Parameter **H2S**

Air Monitoring Network **PAZA**

Air Quality Monitoring

Station Information

Calibration Date	December 11, 2018	Previous Calibration	November 9, 2018
Station Number	1	Station Location	Henry Pirker
Reason:	Routine / Install / Removal / Other:		
Start Time (MST)	10:15	End Time (MST)	14:05:00 PM
Barometric Pressure	0.921 mBar	Station Temperature	22.0 Deg C
Calibrator	Environics 6103	Serial Number	6586
Cal Gas Conc	9.78 ppb	Cal Gas Expiry Date	02/28/2020
		Cal Gas Cylinder #	LL119574
DACS make	CR3000	DACS serial No.	5408
DACS voltage range	0 - 1 volt	DACS channel #	9
	Before		After
Calculated slope	0.999978	Calculated slope	0.998418
Calculated intercept	0.010523	Calculated intercept	-0.135702
Analyzer make	TEI 450i	Analyzer serial #	1170050143(AMU 2198)

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Coefficient	0.847		0.826	
Background	13.2		12.9	
Pressure	538.3	mm Hg	533.2	mm Hg
Flow	0.946	ccm	0.940	ccm
Lamp Voltage	772	V	777	V

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4997	0.00	0.00	0.55	N/A
4997	39.98	77.63	78.09	0.9940
4998	19.97	38.92	38.80	1.0031
6997	9.98	13.93	13.79	1.0104
4997	0.00	0.00	0.55	As Found Zero
4997	41.20	79.98	79.53	As Found Span
			Average Correction Factor	1.0025

Calculated value of As Found Response: 79.0 ppb Percent Change of As Found: 1.2%

	before calibration		after calibration	
Auto zero	0.43	ppb	0.50	ppb
Auto span	30.38	ppb	31.11	ppb

Notes: Slight span adjustment made

Calibration Performed By: Dmytro Dolotii

Calibration Summary

Parameter **H2S**

Air Monitoring Network **PAZA**

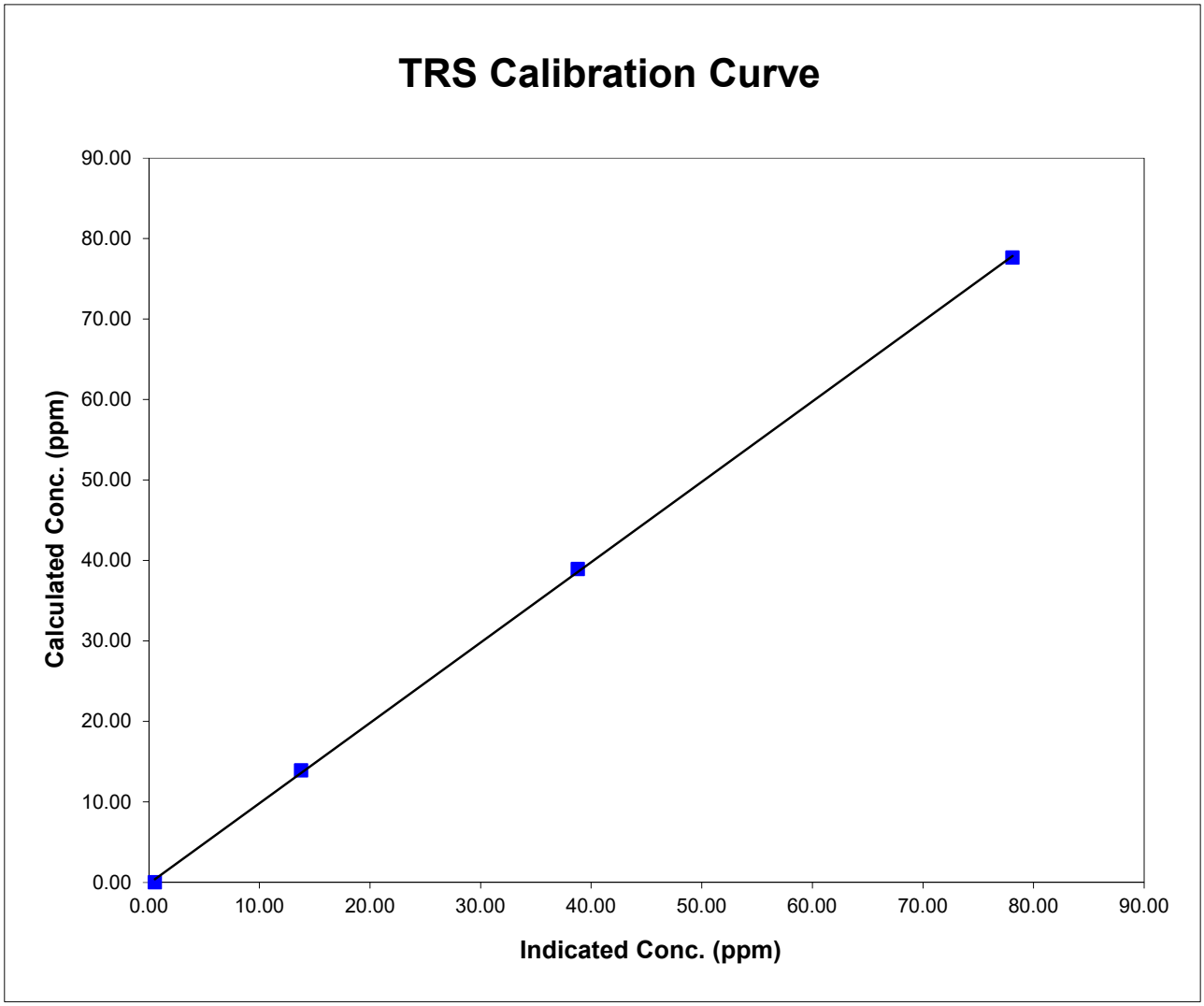
Air Quality Monitoring

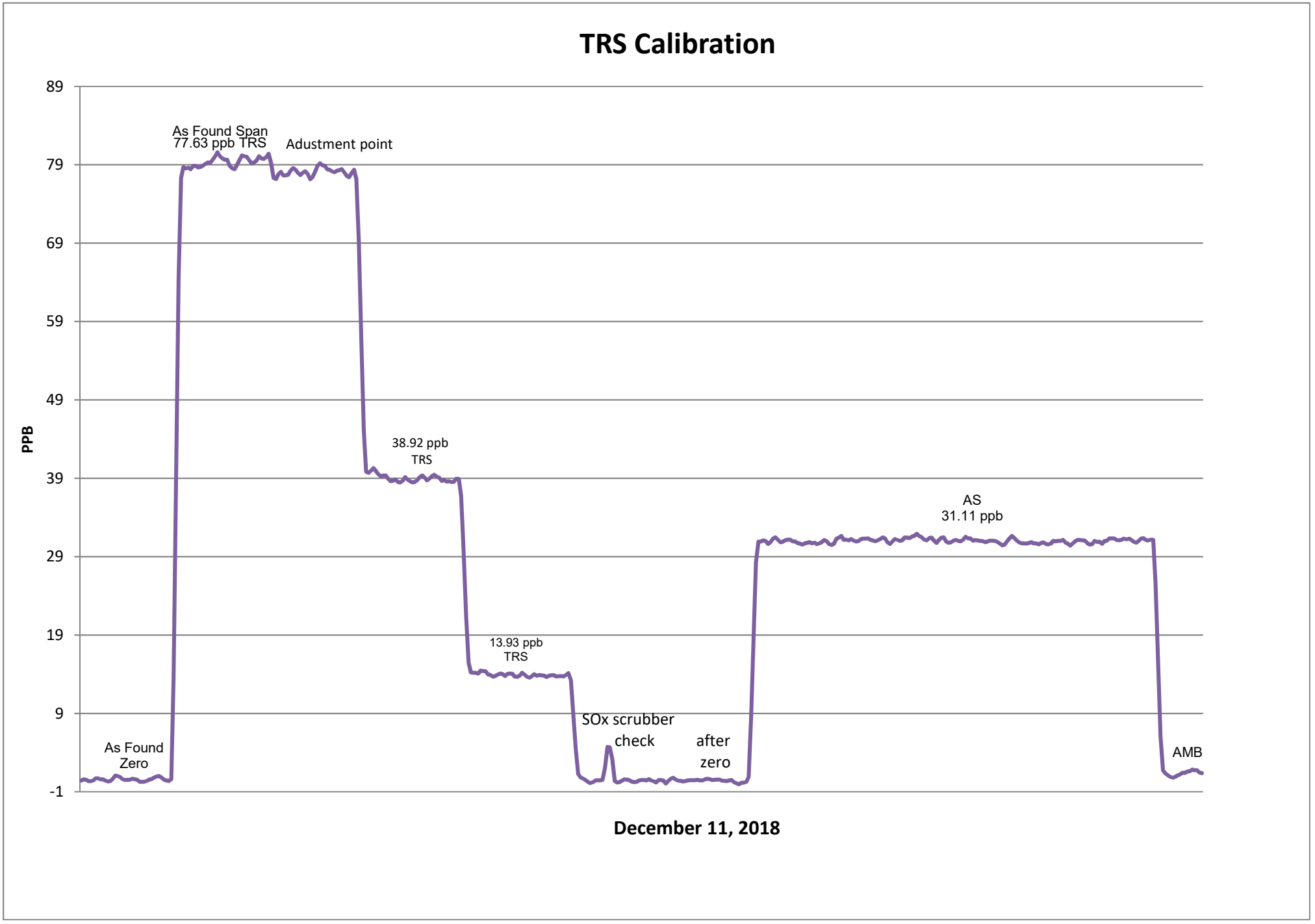
Station Information

Calibration Date	December 11, 2018	Previous Calibration	November 9, 2018
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	10:15	End Time (MST)	14:05:00 PM
Analyzer make/model	TEI 450i	Analyzer serial #	1170050143(AMU 2198)

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.548	N/A		
77.627	78.094	0.9940	Correlation Coefficient	0.999884
38.921	38.801	1.0031		
13.930	13.786	1.0104	Slope	0.998418
			Intercept	-0.135702




TRS Calibration
89
79
69
59
49
39
29
19
9
-1
PPB
As Found Span
77.63 ppb TRS
Adustment point
38.92 ppb
TRS
13.93 ppb
TRS
SOx scrubber
check
after
zero
AS
31.11 ppb
As Found
Zero
AMB
December 11, 2018

Calibration Report

Parameter **NO_X-NO-NO_2**

Air Monitoring Network **PAZA**

Air Quality Monitoring

Station Information

Calibration Date	December 10, 2018	Previous Calibration	November 7, 2018
Station Number	1	Station Location	Henry Pirker

Reason: Routine | Installation | Removal | Other:

Start Time (MST)	11:05		End Time (MST)	15:20:00 PM	
Barometric Pressure	0.923	mbar	Station Temperature	20.0	Deg C
Calibrator	Environics 6103		Serial Number	6586	
NO Cal Gas Conc	50.7	ppm	Cal Gas Expiry Date	10/24/2020	
NOx Cal Gas Conc	50.8	ppm	Cal Gas Serial #	LL107945	

DACS Information

DACS make: CR3000 | DACS serial No.: 5408

Parameter		NO2	NOx	NO
Before	Data Slope	1.008364	1.001882	0.997551
	Data Offset	0.528362	0.807642	0.888842
After	Data Slope	1.004309	1.005357	1.002679
	Data Offset	0.492176	1.013890	1.128350
Channel #		8	6	7
Voltage Range		0 - 5 VDC	0 - 5 VDC	0 - 5 VDC

Analyzer Information

Analyzer make/model: 42i | Analyzer serial #: 906535087

Test Point	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
NO offset	8.7	mV	9.0	mV
NOx bkgnd	8.9	mV	9.5	mV
NO coefficient	1.254		1.114	
NOx coefficient	0.999		0.999	
NO2 conv temp	327.1	Deg C	324.3	Deg C
Cooler Temp	-2.8	Deg C	-2.8	Deg C
PMT Volt	-834.4	mV	-850.3	mV
R Cell Press	210.5	in Hg	209.0	in Hg
Sample Flow	0.477	LPM	0.473	LPM

Notes: PMT, span & zero adjustment made

Calibration Report

Parameter **NOX-NO-NO2**

Air Monitoring Network **PAZA**

Air Quality Monitoring

Station Information

Calibration Date: December 10, 2018 Station Location: Henry Pirker

Calibration Data

	Dilution flow rate (ccm)	Source gas flow rate (ccm)	Calculated NOx conc (ppb)	Calculated NO conc (ppb)	Calculated NO2 conc (ppb)	Indicated NOx conc (ppb)	Indicated NO conc (ppb)	Indicated NO2 conc (ppb)	NOx Correction factor	NO Correction factor
zero	4996	0.00	0.0	0.0	0.0	-0.2	0.2	0.1	N/A	N/A
1	4996	39.97	403.2	402.4	0.8	400.6	401.1	0.1	1.0064	1.0032
2	4996	19.98	202.4	202.0	0.4	199.3	198.9	0.2	1.0153	1.0155
3	4996	9.97	101.2	101.0	0.2	99.2	98.8	0.5	1.0203	1.0224
AFZ	4996	0.00	0.0	0.0	0.0	0.9	0.2	0.9	0.0000	0.0000
AFS	4996	39.97	403.2	402.4	0.8	392.2	391.0	1.3	1.0281	1.0291
							Average Correction Factor		1.0140	1.0137

As Found Concentrations: NO_X= 392.8 NO= 390.8 As Found Percent Change NO_X= -2.6% NO= -2.9%

GPT Calibration Data

Dilution Flow 4995 ccm Source Gas Flow 39.93 ccm

O3 Setpoint (ppb)	Indicated NO high point (ppb)	Calculated 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	-0.2	0.2	0.1	N/A	N/A	N/A	N/A
NO point	400.9	400.9	0.0	400.5	400.9	-0.1	1.0011	1.0000	N/A	N/A
300	400.9	101.0	299.9	399.6	101.0	298.7	1.0032	1.0000	1.0043	99.6%
200	400.9	201.2	199.7	399.9	201.2	198.0	1.0025	1.0000	1.0090	99.1%
100	400.9	304.8	96.1	400.1	304.8	94.6	1.0020	1.0000	1.0166	98.4%
					Average Correction Factor		1.0026	1.0000	1.0099	99.0%

AIC Data

	Previous calibration				Current calibration			
Parameter	NOx	NO2	NO		NOx	NO2	NO	
Auto zero	0.3	0.3	0.2	ppb	0.0	0.1	0.2	ppb
Auto span	288.5	285.8	2.5	ppb	299.4	296.8	2.3	ppb

Calibration Performed By: Dmytro Dolotii

Calibration Summary

Parameter **NO_2**

Air Monitoring Network **PAZA**

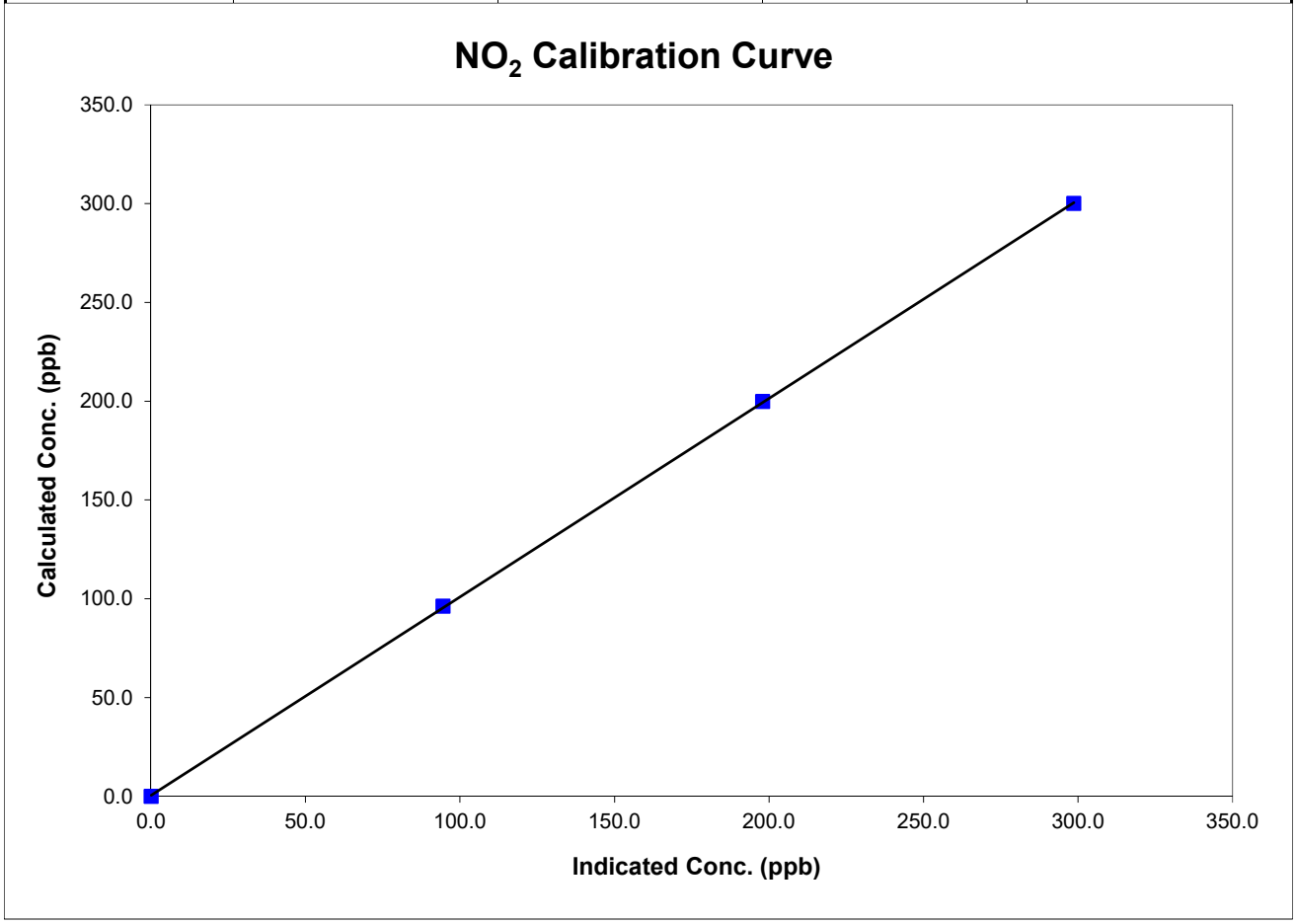
Air Quality Monitoring

Station Information

Calibration Date	December 10, 2018	Previous Calibration	November 7, 2018
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	11:05	End Time (MST)	15:20:00 PM
Analyzer make	42i	Analyzer serial #	906535087

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.1	N/A		
299.9	298.7	1.0043	Correlation Coefficient	0.999975
199.7	198.0	1.0090		
96.1	94.6	1.0166	Slope	1.004309
			Intercept	0.492176



Calibration Summary

Parameter **NO_x**

Air Monitoring Network **PAZA**

Air Quality Monitoring

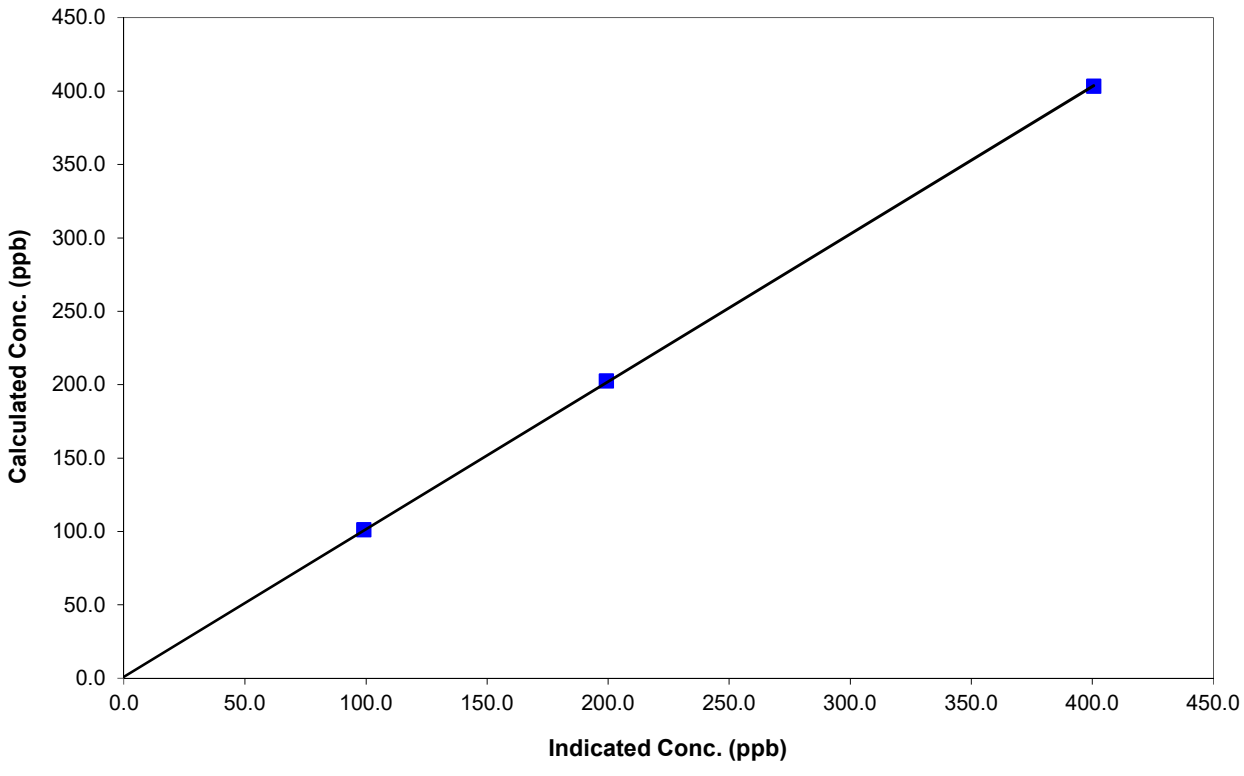
Station Information

Calibration Date	December 10, 2018	Previous Calibration	November 7, 2018
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	11:05	End Time (MST)	15:20:00 PM
Analyzer make	42i	Analyzer serial #	906535087

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.2	N/A		
403.2	400.6	1.0064	Correlation Coefficient	0.999975
202.4	199.3	1.0153		
101.2	99.2	1.0203	Slope	1.005357
			Intercept	1.013890

NOx Calibration Curve



Calibration Summary

Parameter **NO**

Air Monitoring Network **PAZA**

Air Quality Monitoring

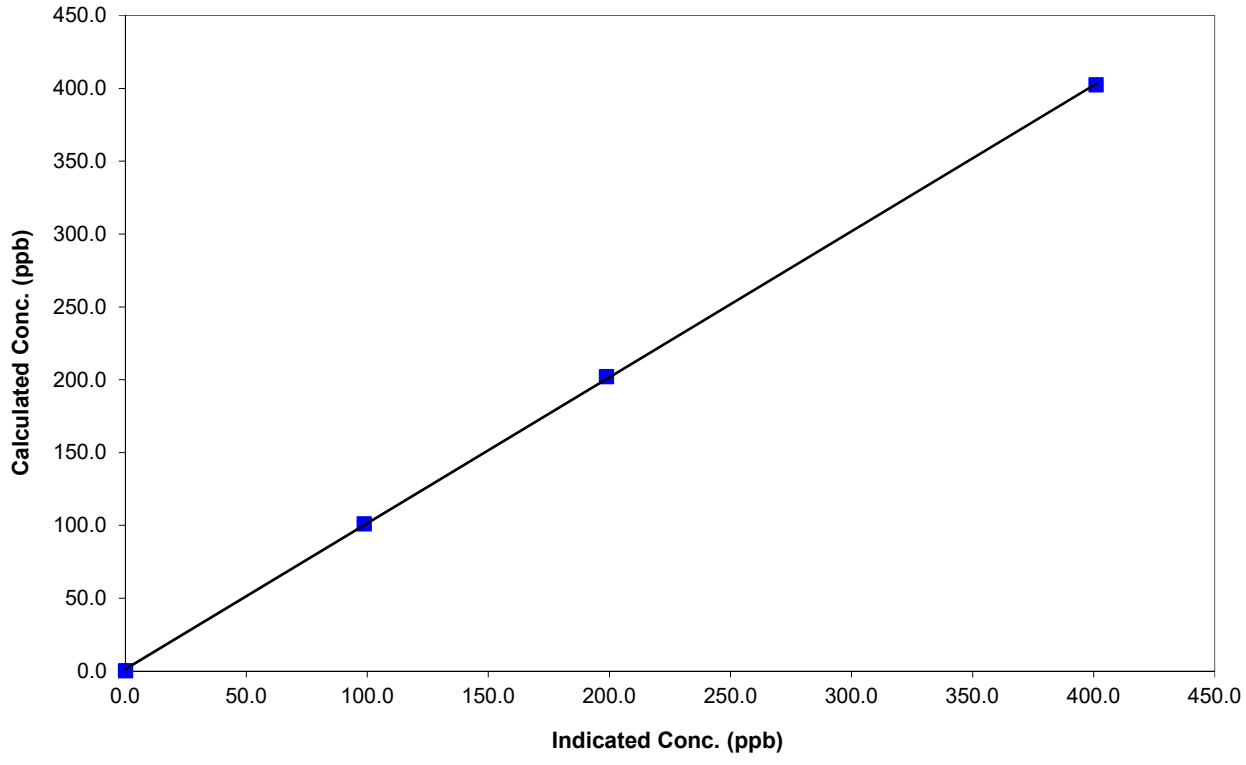
Station Information

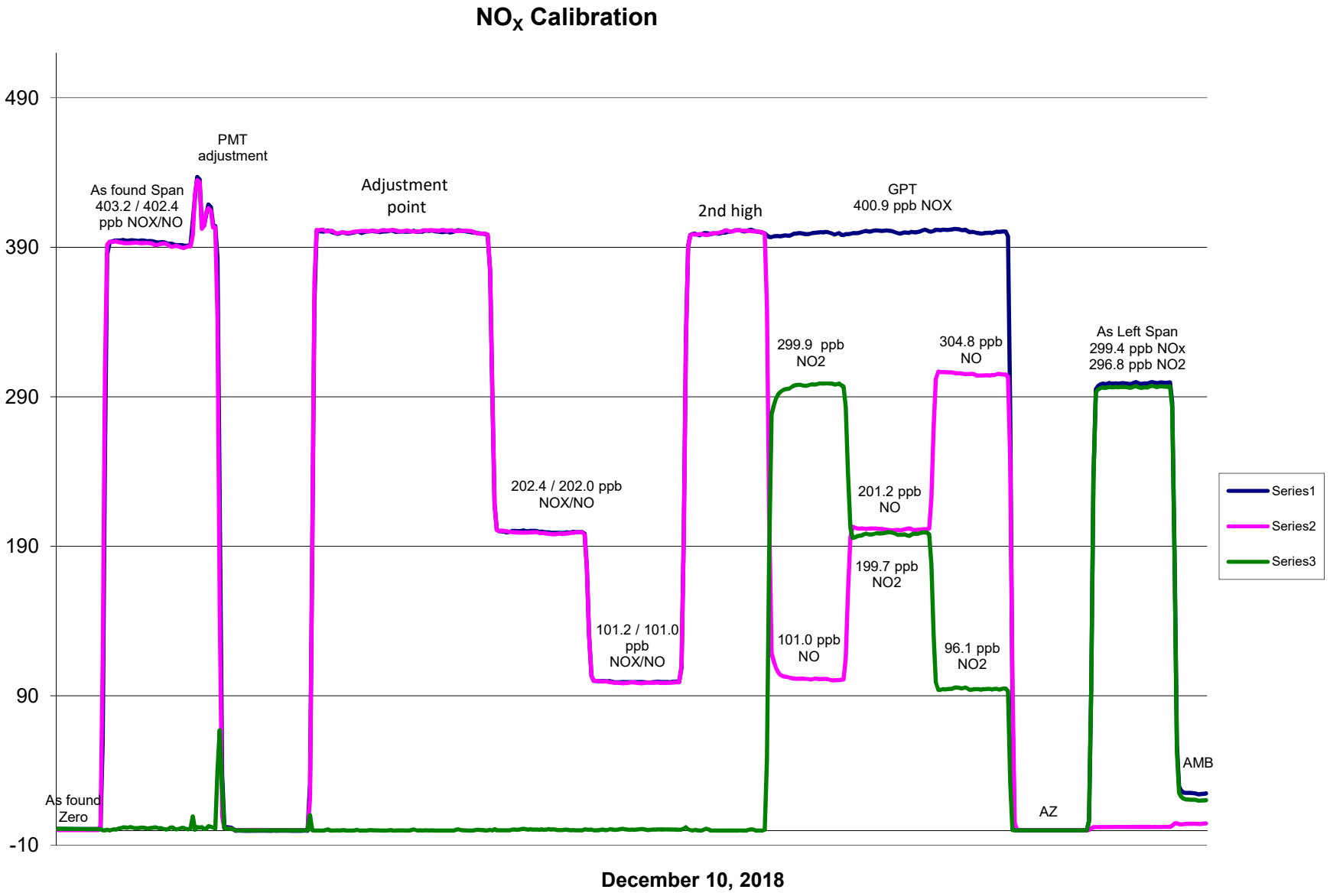
Calibration Date	December 10, 2018	Previous Calibration	November 7, 2018
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	11:05	End Time (MST)	15:20:00 PM
Analyzer make	42i	Analyzer serial #	906535087

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.2	N/A		
402.4	401.1	1.0032	Correlation Coefficient	0.999941
202.0	198.9	1.0155		
101.0	98.8	1.0224	Slope	1.002679
			Intercept	1.128350

NO Calibration Curve




NOX Calibration
490
390
290
190
90
-10
PMT adjustment
As found Span 403.2 / 402.4 ppb NOX/NO
Adjustment point
2nd high
GPT 400.9 ppb NOX
299.9 ppb NO2
304.8 ppb NO
As Left Span 299.4 ppb NOx 296.8 ppb NO2
202.4 / 202.0 ppb NOX/NO
201.2 ppb NO
199.7 ppb NO2
101.2 / 101.0 ppb NOX/NO
101.0 ppb NO
96.1 ppb NO2
AMB
As found Zero
AZ
Series1
Series2
Series3
December 10, 2018

Calibration Report

Parameter **O3**

Air Monitoring Network **PAZA**

Air Quality Monitoring

Station Information

Calibration Date	December 10, 2018	Previous Calibration	November 7, 2018
Station Number	1	Station Location	Henry Pirker

Reason: Routine | Install | Removal | Other:

Start Time (MST)	14:25:00 PM	End Time (MST)	16:45:00 PM
Barometric Pressure	920.0 mbar	Station Temperature	20.0 Deg C
Calibrator	Environics	Serial Number	6586
Cal Gas Concentration	NA	Cal Gas Expiry Date	NA
DACS make	CR3000	DACS serial No.	5237
DACS voltage range	0 - 5 volt	DACS channel #	9
	Before		After
Calculated slope	1.003791	Calculated slope	1.007309
Calculated intercept	1.122725	Calculated intercept	0.236791
Analyzer make	Teco 49I	Analyzer serial #	1507964699 (AMU:2015)

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
offset	-0.30	ppb	-0.30	ppb
slope	0.995		0.995	
Lamp temp	53.7	mV	53.8	mV
Lamp Intensity A/B	62106/67195	mV	62812/67092	mV
Pressure	685.6	mm Hg	692.2	mm Hg
Flow A	0.722	ccm	0.741	ccm
Flow B	0.727	ccm	0.743	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)
4996	0.0	0.0	-0.1	N/A
4998	0.3	299.9	297.7	1.0075
4998	0.2	199.7	197.8	1.0097
4998	0.1	96.1	95.0	1.0111
4996	0.0	0.0	-0.1	As found zero
4996	0.3	299.9	297.7	As found span
			Average Correction Factor	1.0094

Calculated value of As Found Response: 300.0 ppm Percent Change of As Found: 0.0%

	before calibration		after calibration	
Auto zero	0.7	ppb	0.2	ppb
Auto span	375.3	ppb	383.0	ppb

Notes: No adjustment made

Calibration Performed By: Dmytro Dolotii

Calibration Summary

Parameter **O3**

Air Monitoring Network **PAZA**

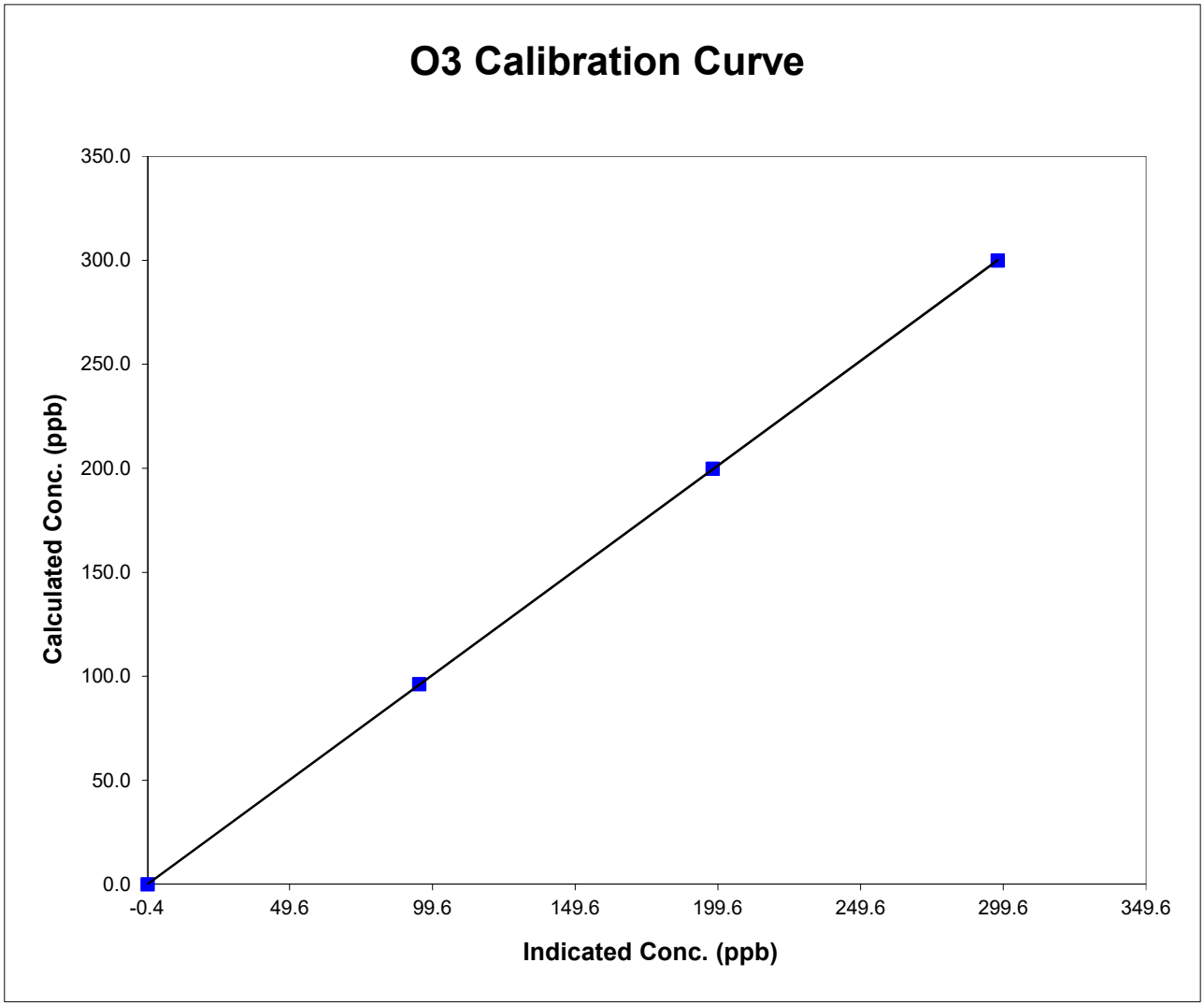
Air Quality Monitoring

Station Information

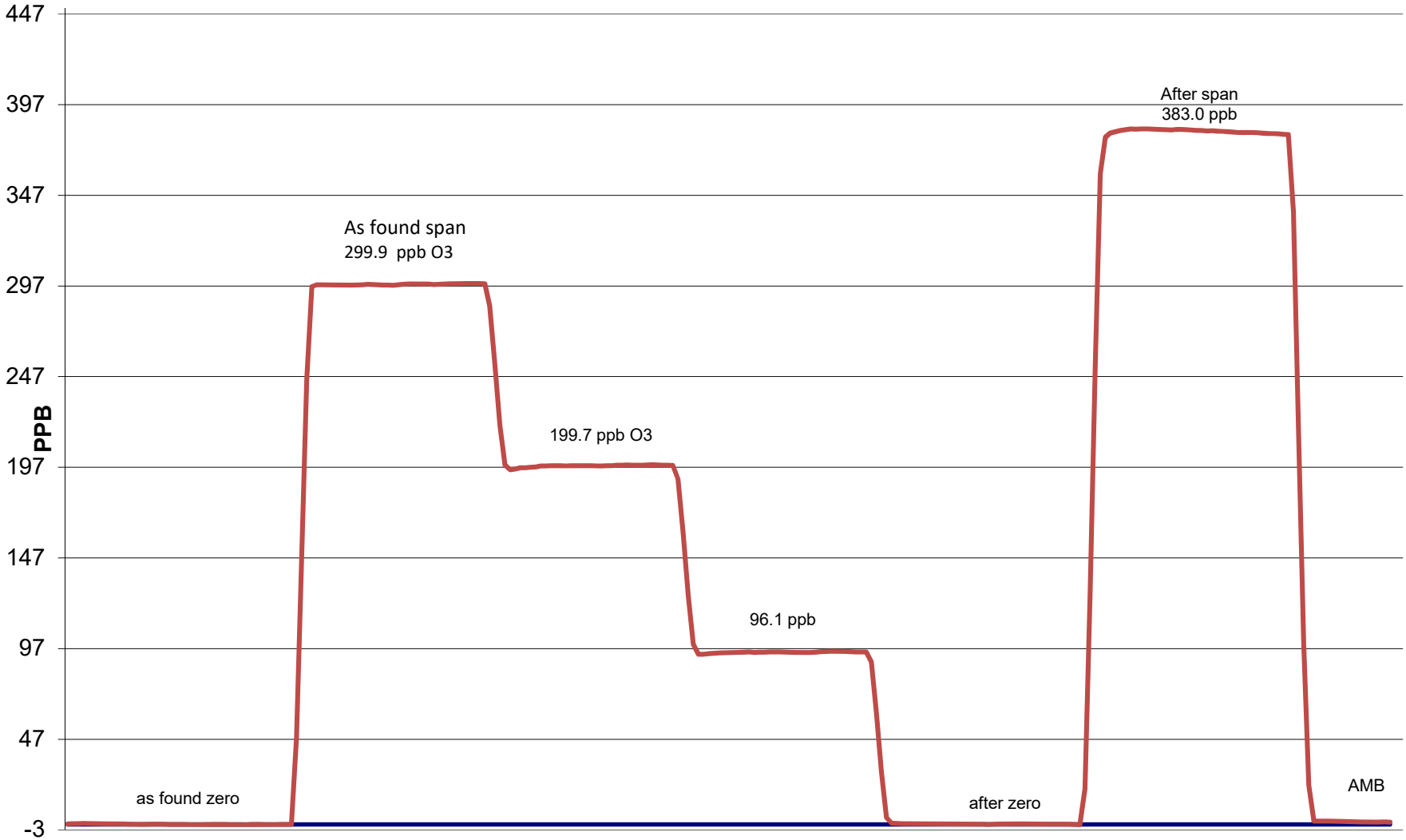
Calibration Date	December 10, 2018	Previous Calibration	November 7, 2018
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	14:25:00 PM	End Time (MST)	16:45:00 PM
Analyzer make/model	Teco 49I	Analyzer serial #	1507964699 (AMU:2015)

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.1	NA		
299.9	297.7	1.0075	Correlation Coefficient	0.999997
199.7	197.8	1.0097		
96.1	95.0	1.0111	Slope	1.007309
			Intercept	0.236791



O3 Calibration



December 10, 2018

Calibration Report

Parameter **CO**

Air Monitoring Network **PAZA**

Air Quality Monitoring

Station Information

Calibration Date	December 4, 2018	Previous Calibration	November 9, 2018
Station Number	1	Station Location	Henry Pirker

Reason: Routine | Install | Removal | Other:

Start Time (MST)	10:20	End Time (MST)	15:10:00 PM
Barometric Pressure	0.921 mBar	Station Temperature	23.0 Deg C
Calibrator	Environics 6100	Serial Number	6586
Cal Gas Conc	2906 ppm	Cal Gas Expiry Date	07/07/2023
		Cal Gas Cylinder #	LL109096
DACS make	CR3000	DACS serial No.	5408
DACS voltage range	0 - 5 volt	DACS channel #	9
	Before		After
Calculated slope	1.000801	Calculated slope	1.002691
Calculated intercept	-0.329175	Calculated intercept	-0.286035

Analyzer make	Model 48I-TLE		Analyzer serial #	1408761378

	before		after	
Concentration range	0 - 50	ppm	0 - 50	ppm
CO zero setting	11.276		-0.199	
CO span setting	1.083		1.101	
Sample pressure	694.4	mm Hg	695.6	mm Hg
Sample Flow	0.442	LPM	0.443	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)
4997	0.00	0.00	0.01	N/A
4998	69.96	40.12	40.10	1.0003
4998	34.98	20.20	20.69	0.9762
4998	17.99	10.42	10.88	0.9579
4998	0.00	0.00	0.83	As Found Zero
4998	69.96	40.12	41.33	As Found Span
			Average Correction Factor	0.9781

Calculated value of As Found Response: 40.204 ppm Percent Change of As Found: -0.2%

	before calibration		after calibration	
Auto zero	0.03	ppm	-0.03	ppm
Auto span	20.61	ppm	20.79	ppm

Notes: Set slope & intersep value to factory setting
Adusted SR ration
Span adjustment made

Calibration Performed By: Dmytro Dolotii

Calibration Summary

Parameter **CO**

Air Monitoring Network **PAZA**

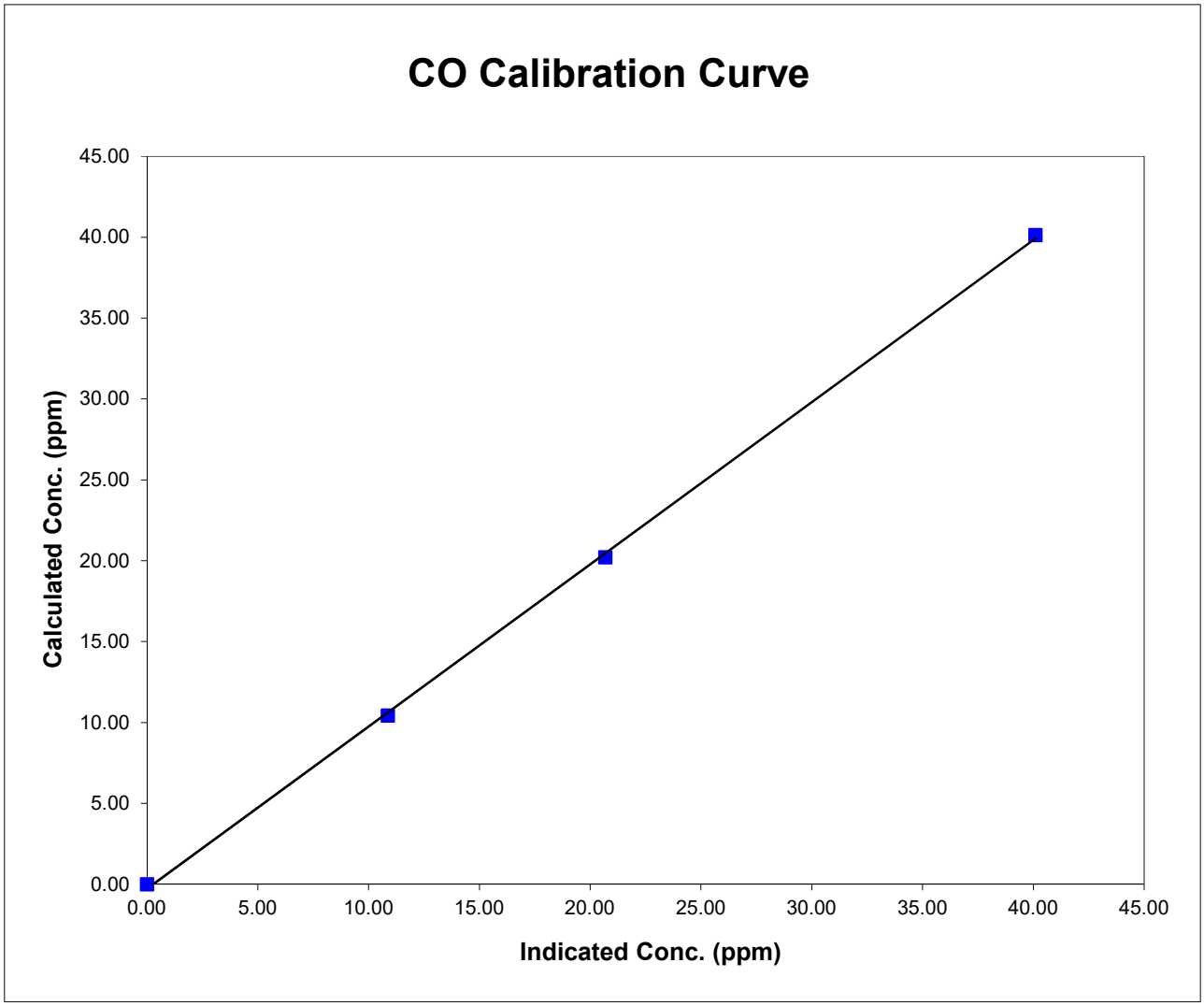
Air Quality Monitoring

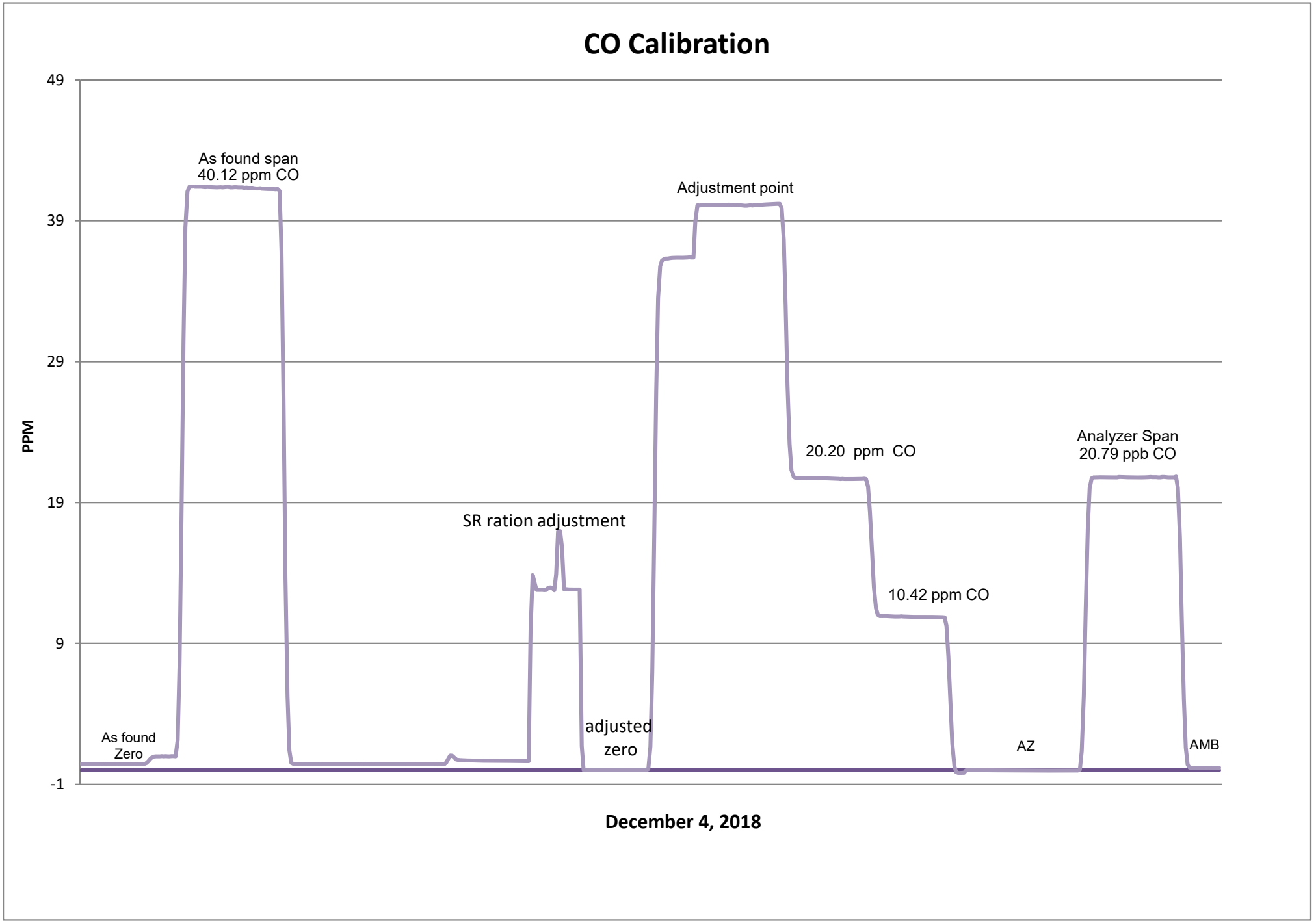
Station Information

Calibration Date	December 4, 2018	Previous Calibration	November 9, 2018
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	10:20	End Time (MST)	15:10:00 PM
Analyzer make/model	Model 48I-TLE	Analyzer serial #	1408761378

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.013	N/A		
40.116	40.104	1.0003	Correlation Coefficient	0.999749
20.197	20.689	0.9762		
10.422	10.880	0.9579	Slope	1.002691
			Intercept	-0.286035




CO Calibration
49
39
29
19
9
-1
PPM
As found span
40.12 ppm CO
Adjustment point
20.20 ppm CO
Analyzer Span
20.79 ppb CO
SR ration adjustment
10.42 ppm CO
As found
Zero
adjusted
zero
AZ
AMB
December 4, 2018

Calibration Report

Parameter **CH4 / NMHC / THC**

Air Monitoring Network **PAZA**

Air Quality Monitoring

Station Information

Calibration Date	December 4, 2018	Previous Calibration	November 9, 2018
Station Number	1	Station Location	Henry Pirker

Reason: Routine | Install | Removal | Other:

Start Time (MST)	13:50:00 PM	End Time (MST)	16:22:00 PM
Barometric Pressure	0.921 mBar	Station Temperature	23.0 Deg C
Calibrator	Environics 6103	Serial Number	6586
Cal Gas CH4 Conc	995.6 ppm CH4	Cal Gas Expiry Date	05/07/2015
Cal Gas C3H8 Conc	370.5 1018.875 ppm CH4	Cal Gas Cylinder #	LL34318
DACS make	CR3000	DACS serial No.	5408
DACS voltage range	0 - 5 volt	DACS channel #	SE 11,12,13

Analyzer make	TEI 55I	Analyzer serial #	1134650658

	before		after	
Concentration range	0-20 (CH4, NMHC); 0-40 (THC)	ppm	0-20 (CH4, NMHC); 0-40 (THC)	ppm
Air pressure	27.8	PSI	27.8	PSI
Fuel pressure	42.1	PSI	42.1	PSI
Carrier pressure	30.3	PSI	30.3	PSI
CH4 cal factor	5.37		5.31	E^{-4}
NMHC cal factor	1.69		1.65	E^{-4}
CH4 Rt	12.40	Sec	12.32	Sec
CH Pk Index	17.00		16.89	

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)
3495	0.00	0.00	0.02	N/A
3495	54.94	15.41	15.45	0.9973
3494	34.97	9.87	9.92	0.9945
3495	14.96	4.24	4.27	0.9930
3495	0.00	0.00	0.02	As Found Zero
3495	54.94	15.41	15.53	As Found Span
			Average Correction Factor	0.9949

Calculated value of As Found Response: 15.543 ppm Percent Change of As Found: -0.9%

	Before		After
Calculated slope	1.007083	Calculated slope	0.998247
Calculated intercept	-0.076978	Calculated intercept	-0.023438

Final Zero/Span Data

	before calibration		after calibration	
Auto zero	0.03	ppm	0.03	ppm
Auto span	9.53	ppm	9.88	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)
3495	0.00	0.00	0.02	N/A
3495	54.94	15.77	15.79	0.9986
3494	34.97	10.10	10.18	0.9923
3495	14.96	4.34	4.38	0.9913
3495	0.00	0.00	0.02	As Found Zero
3495	54.94	15.77	15.99	As Found Span
			Average Correction Factor	0.9941

Calculated value of As Found Response: 15.908 ppm Percent Change of As Found: -0.9%

	Before		After
Calculated slope	0.999568	Calculated slope	0.999230
Calculated intercept	-0.058202	Calculated intercept	-0.033577

Final Zero/Span Data

	before calibration		after calibration	
Auto zero	0.02	ppm	0.02	ppm
Auto span	12.80	ppm	13.26	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)
3495	0.00	0.00	0.03	N/A
3495	54.94	31.18	31.21	0.9989
3494	34.97	19.96	20.08	0.9942
3495	14.96	8.59	8.63	0.9949
3495	0.00	0.00	0.03	As Found Zero
3495	54.94	31.18	31.50	As Found Span
			Average Correction Factor	0.9960

Calculated value of As Found Response: 31.468 ppm Percent Change of As Found: -0.9%

	Before		After
Calculated slope	1.001470	Calculated slope	0.999342
Calculated intercept	-0.042950	Calculated intercept	-0.047002

Final Zero/Span Data

	before calibration		after calibration	
Auto zero	0.02	ppm	0.02	ppm
Auto span	22.32	ppm	23.13	ppm

Notes: Slight span adjustment

Calibration Performed By: Dmytro Dolotii

Calibration Summary

Parameter **CH4**

Air Monitoring Network **PAZA**

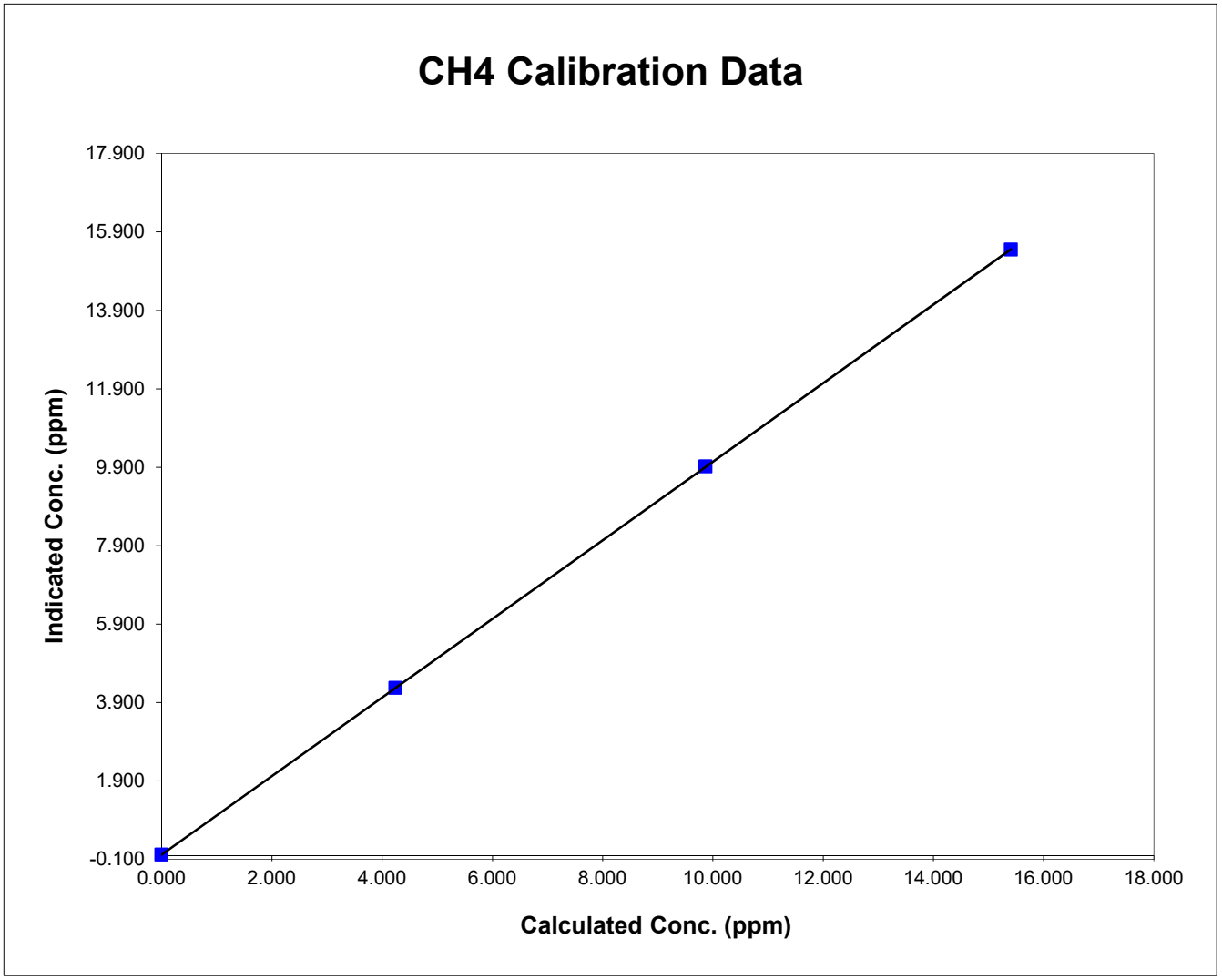
Air Quality Monitoring

Station Information

Calibration Date	December 4, 2018	Previous Calibration	November 9, 2018
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	13:50:00 PM	End Time (MST)	16:22:00 PM
Analyzer make/model	TEI 55I	Analyzer serial #	1134650658

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.019	N/A		
15.408	15.450	0.9973	Correlation Coefficient	0.999998
9.866	9.921	0.9945		
4.243	4.274	0.9930	Slope	0.998247
			Intercept	-0.023438



Calibration Summary

Parameter **NMHC**

Air Monitoring Network **PAZA**

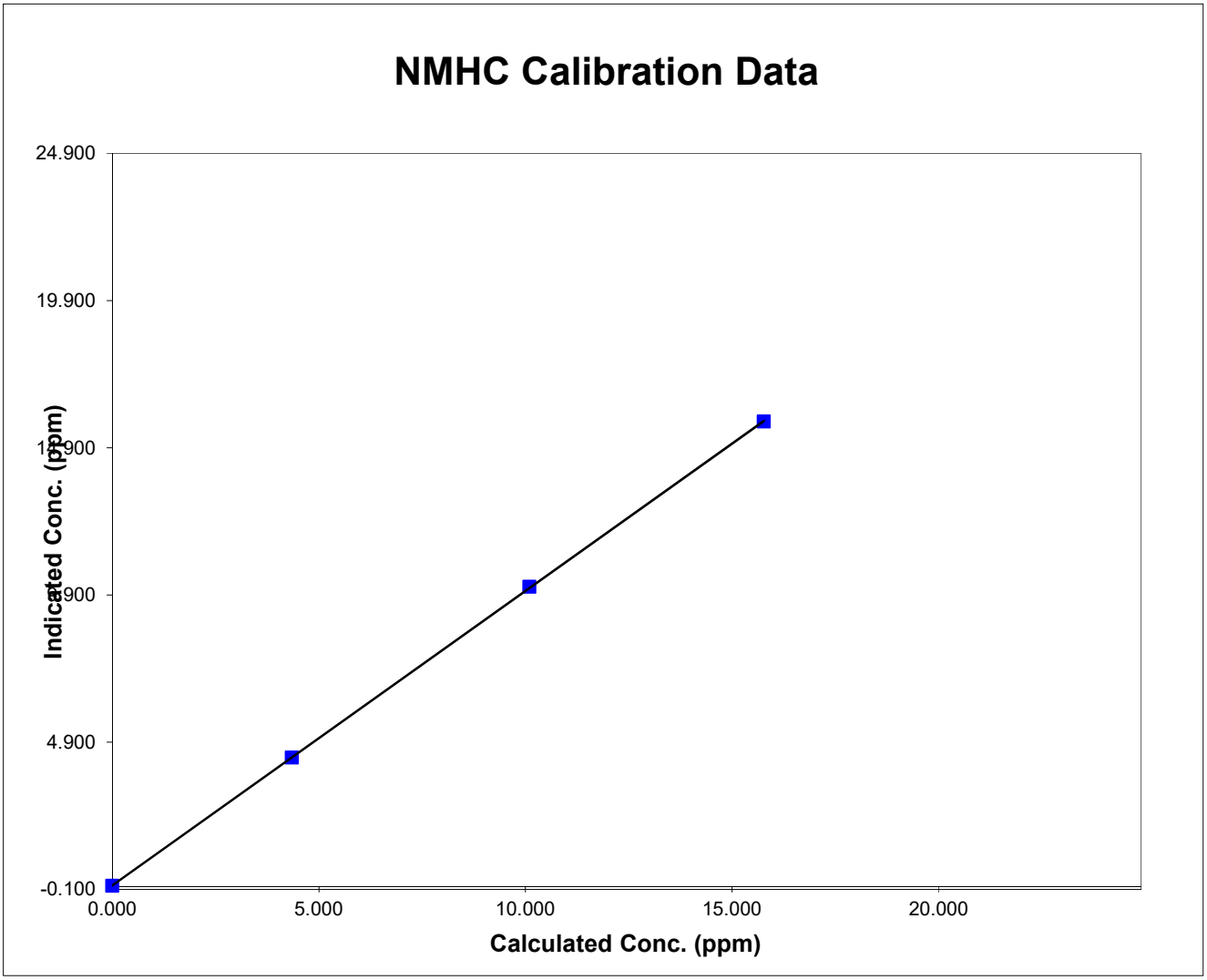
Air Quality Monitoring

Station Information

Calibration Date	December 4, 2018	Previous Calibration	November 9, 2018
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	13:50:00 PM	End Time (MST)	16:22:00 PM
Analyzer make/model	TEI 55I	Analyzer serial #	1134650658

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.020	N/A		
15.768	15.790	0.9986	Correlation Coefficient	0.999985
10.096	10.175	0.9923		
4.343	4.381	0.9913	Slope	0.999230
			Intercept	-0.033577



Calibration Summary

Parameter **THC**

Air Monitoring Network **PAZA**

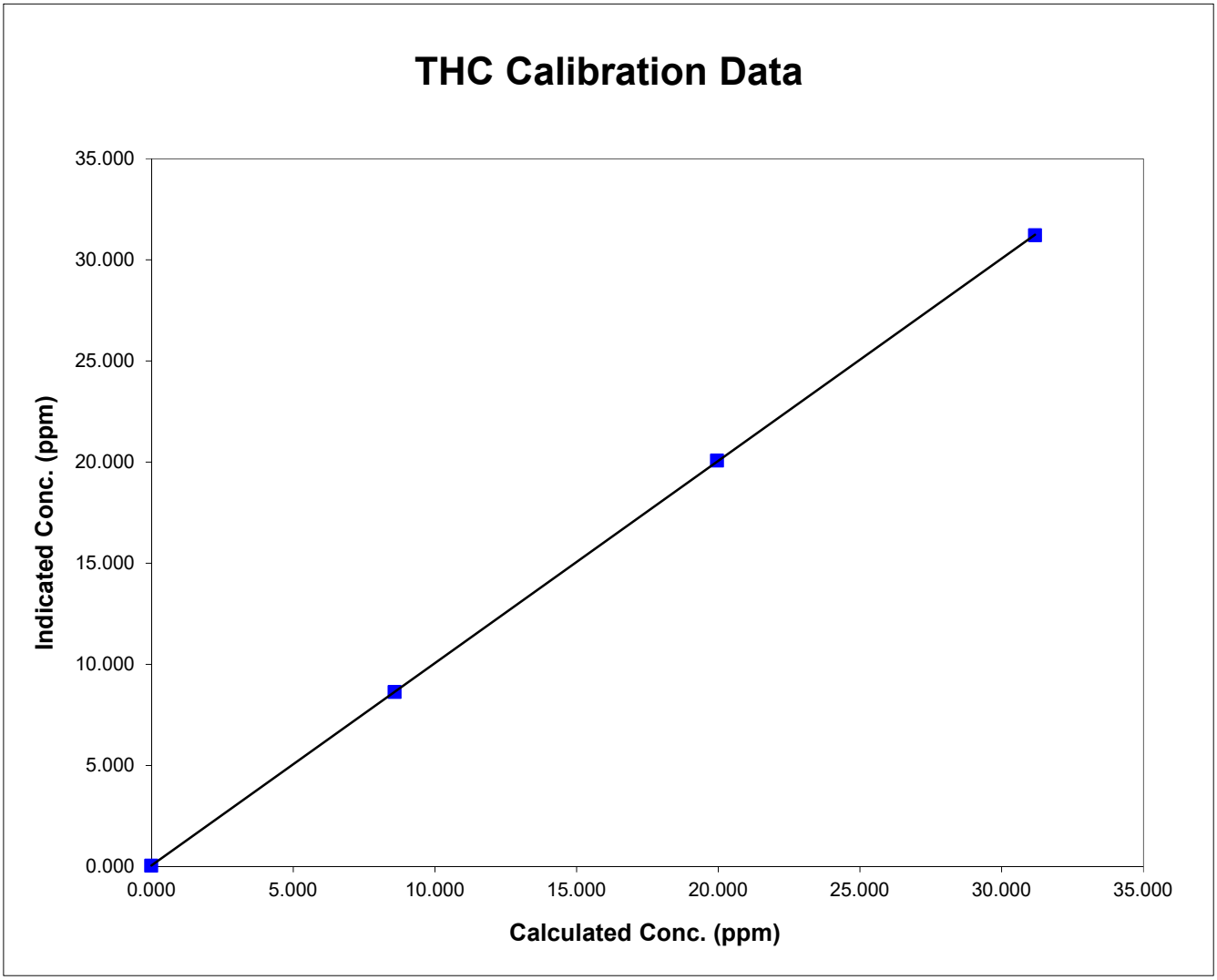
Air Quality Monitoring

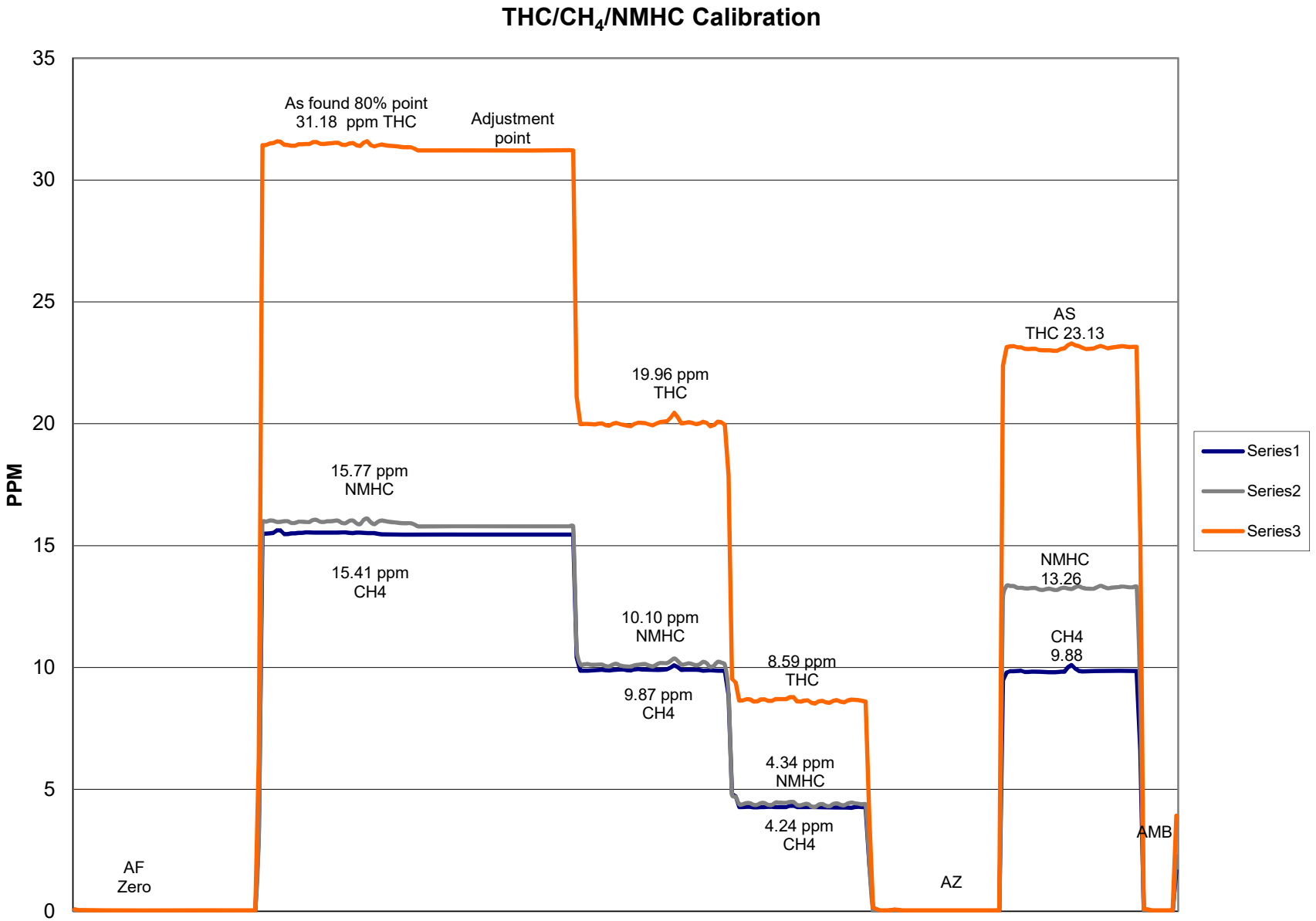
Station Information

Calibration Date	December 4, 2018	Previous Calibration	November 9, 2018
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	13:50:00 PM	End Time (MST)	16:22:00 PM
Analyzer make/model	TEI 55I	Analyzer serial #	1134650658

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.033	N/A		
31.177	31.210	0.9989	Correlation Coefficient	0.999992
19.962	20.079	0.9942		
8.586	8.630	0.9949	Slope	0.999342
			Intercept	-0.047002




THC/CH4/NMHC Calibration
PPM
35
30
25
20
15
10
5
0
As found 80% point
31.18 ppm THC
Adjustment
point
19.96 ppm
THC
8.59 ppm
THC
4.34 ppm
NMHC
4.24 ppm
CH4
AS
THC 23.13
NMHC
13.26
CH4
9.88
15.77 ppm
NMHC
15.41 ppm
CH4
10.10 ppm
NMHC
9.87 ppm
CH4
AF
Zero
AZ
AMB
Series1
Series2
Series3

Calibration Report

Air Quality Monitoring

Parameter **CH4 / NMHC / THC**

Air Monitoring Network **PAZA**

Station Information

Calibration Date	December 11, 2018	Previous Calibration	December 4, 2018
Station Number	1	Station Location	Henry Pirker

Reason: Routine | Install | Removal | Other:

Start Time (MST)	11:45	End Time (MST)	16:15:00 PM
Barometric Pressure	0.921 mBar	Station Temperature	23.0 Deg C
Calibrator	Environics 6103	Serial Number	6586
Cal Gas CH4 Conc	995.6 ppm CH4	Cal Gas Expiry Date	05/07/2015
Cal Gas C3H8 Conc	370.5 1018.875 ppm CH4	Cal Gas Cylinder #	LL34318
DACS make	CR3000	DACS serial No.	5408
DACS voltage range	0 - 5 volt	DACS channel #	SE 11,12,13

Analyzer make	TEI 55I	Analyzer serial #	1134650658

	before		after	
Concentration range	0-20 (CH4, NMHC); 0-40 (THC)	ppm	0-20 (CH4, NMHC); 0-40 (THC)	ppm
Air pressure	27.8	PSI	27.9	PSI
Fuel pressure	42.1	PSI	42.1	PSI
Carrier pressure	30.3	PSI	30.3	PSI
CH4 cal factor	5.31		5.65	E^{-4}
NMHC cal factor	1.65		1.79	E^{-4}
CH4 Rt	12.32	Sec	12.40	Sec
CH Pk Index	16.89		17.00	

CH4 Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
3495	0.00	0.00	0.02	N/A
3495	54.94	15.41	15.49	0.9947
3494	34.97	9.87	9.87	0.9994
3495	14.96	4.24	4.28	0.9921
3495	0.00	0.00	0.02	As Found Zero
3495	54.94	15.41	15.01	As Found Span
			Average Correction Factor	0.9954

Calculated value of As Found Response: 15.024 ppm Percent Change of As Found: 2.5%

	Before		After
Calculated slope	1.007083	Calculated slope	0.996804
Calculated intercept	-0.076978	Calculated intercept	-0.011414

Final Zero/Span Data

	before calibration		after calibration	
Auto zero	0.03	ppm	0.03	ppm
Auto span	9.53	ppm	9.79	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)
3495	0.00	0.00	0.02	N/A
3495	54.94	15.77	15.89	0.9923
3494	34.97	10.10	10.16	0.9938
3495	14.96	4.34	4.36	0.9969
3495	0.00	0.00	0.02	As Found Zero
3495	54.94	15.77	15.14	As Found Span
			Average Correction Factor	0.9943

Calculated value of As Found Response: 15.053 ppm Percent Change of As Found: 4.5%

	Before		After
Calculated slope	0.999568	Calculated slope	0.993164
Calculated intercept	-0.058202	Calculated intercept	-0.002599

Final Zero/Span Data

	before calibration		after calibration	
Auto zero	0.02	ppm	0.02	ppm
Auto span	12.80	ppm	13.23	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)
3495	0.00	0.00	0.03	N/A
3495	54.94	31.18	31.36	0.9943
3494	34.97	19.96	20.02	0.9972
3495	14.96	8.59	8.61	0.9969
3495	0.00	0.00	0.03	As Found Zero
3495	54.94	31.18	30.12	As Found Span
			Average Correction Factor	0.9961

Calculated value of As Found Response: 30.088 ppm Percent Change of As Found: 3.5%

	Before		After
Calculated slope	1.001470	Calculated slope	0.995393
Calculated intercept	-0.042950	Calculated intercept	-0.004566

Final Zero/Span Data

	before calibration		after calibration	
Auto zero	0.02	ppm	0.02	ppm
Auto span	22.32	ppm	23.01	ppm

Notes: Replaced hydrogen cylinder
Slight span adjustment

Calibration Performed By: Dmytro Dolotii

Calibration Summary

Parameter **CH4**

Air Monitoring Network **PAZA**

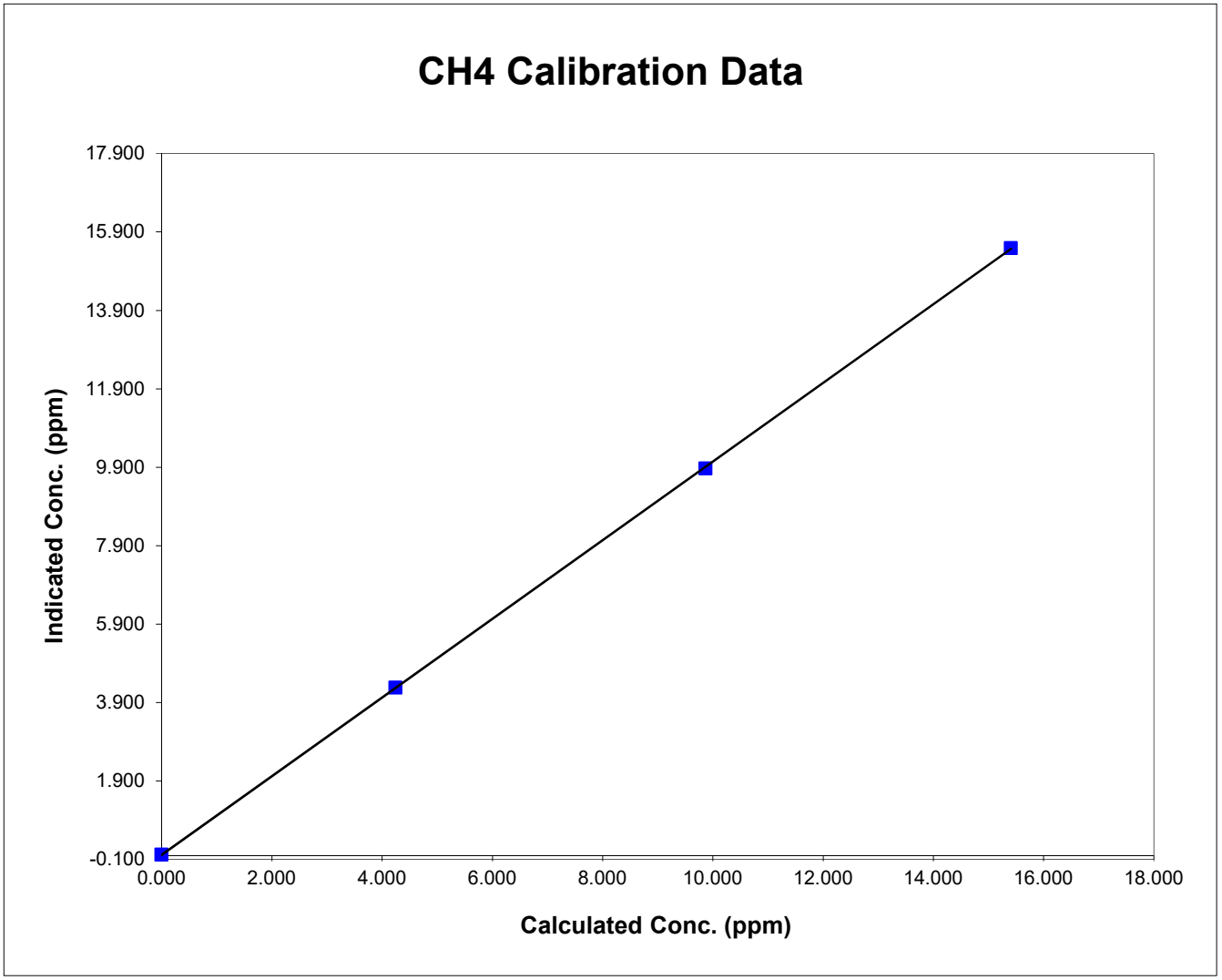
Air Quality Monitoring

Station Information

Calibration Date	December 11, 2018	Previous Calibration	December 4, 2018
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	11:45	End Time (MST)	16:15:00 PM
Analyzer make/model	TEI 55I	Analyzer serial #	1134650658

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.019	N/A		
15.408	15.491	0.9947	Correlation Coefficient	0.999985
9.866	9.871	0.9994		
4.243	4.277	0.9921	Slope	0.996804
			Intercept	-0.011414



Calibration Summary

Parameter **NMHC**

Air Monitoring Network **PAZA**

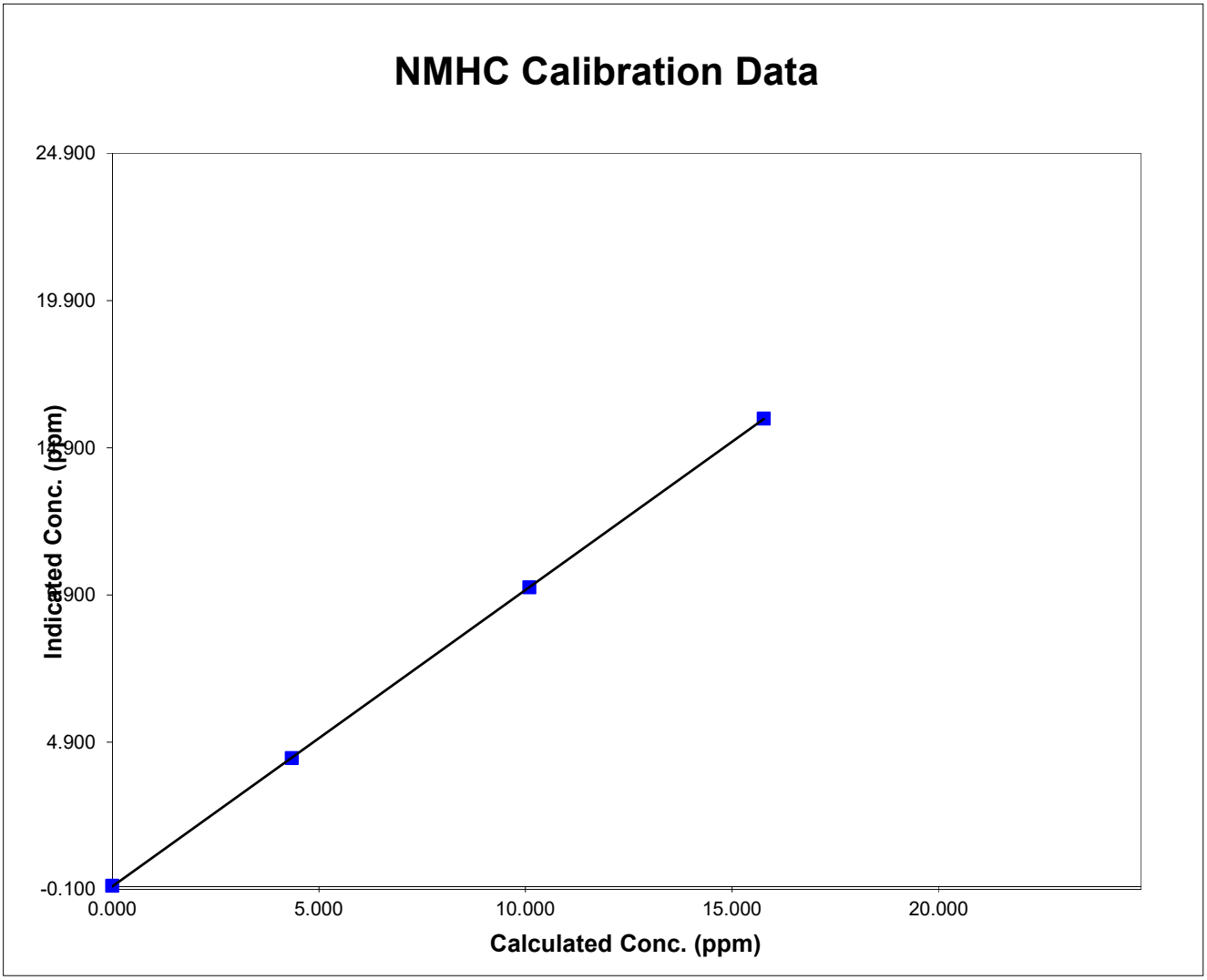
Air Quality Monitoring

Station Information

Calibration Date	December 11, 2018	Previous Calibration	December 4, 2018
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	11:45	End Time (MST)	16:15:00 PM
Analyzer make/model	TEI 55I	Analyzer serial #	1134650658

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.020	N/A		
15.768	15.891	0.9923	Correlation Coefficient	0.999994
10.096	10.159	0.9938		
4.343	4.356	0.9969	Slope	0.993164
			Intercept	-0.002599



Calibration Summary

Parameter **THC**

Air Monitoring Network **PAZA**

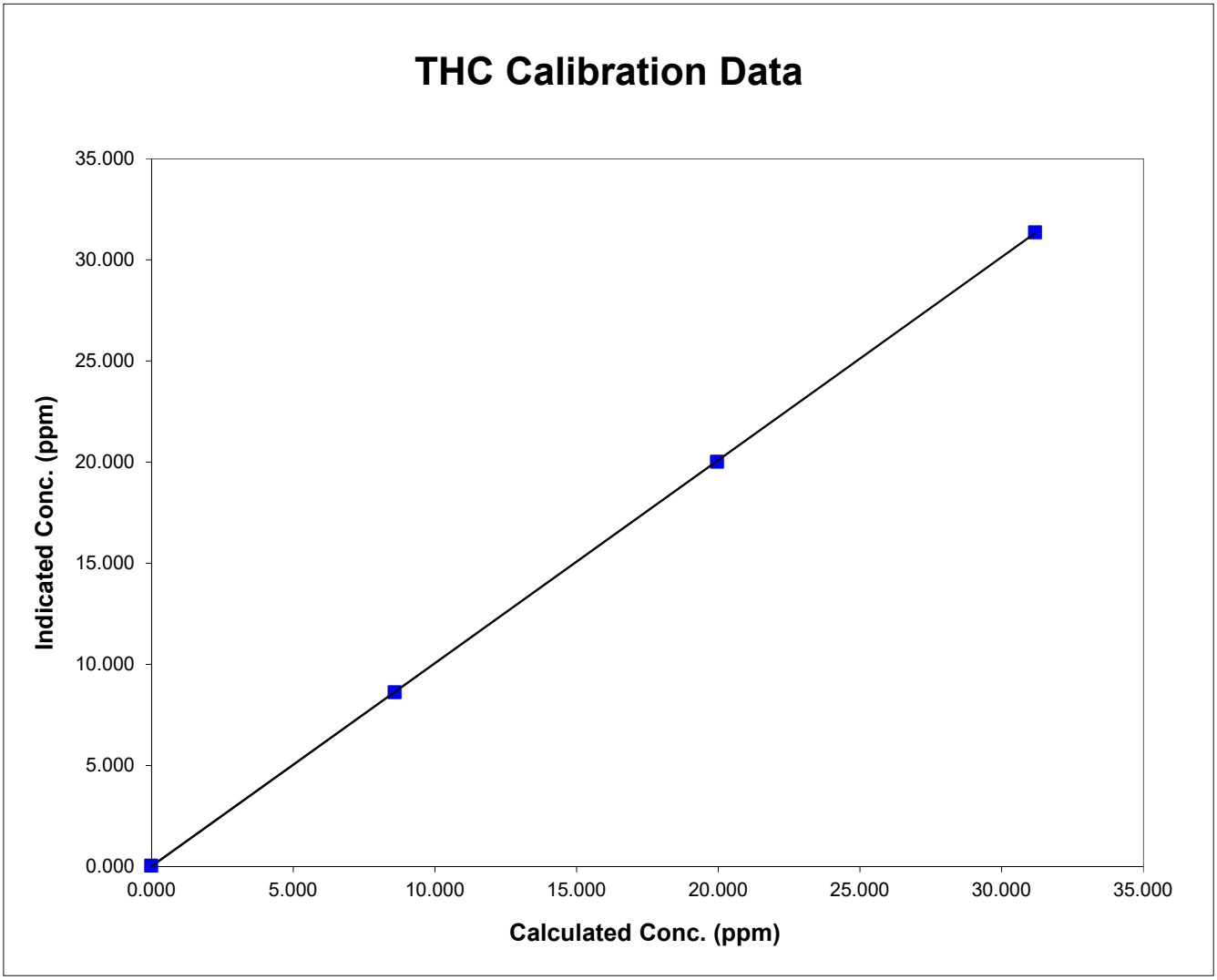
Air Quality Monitoring

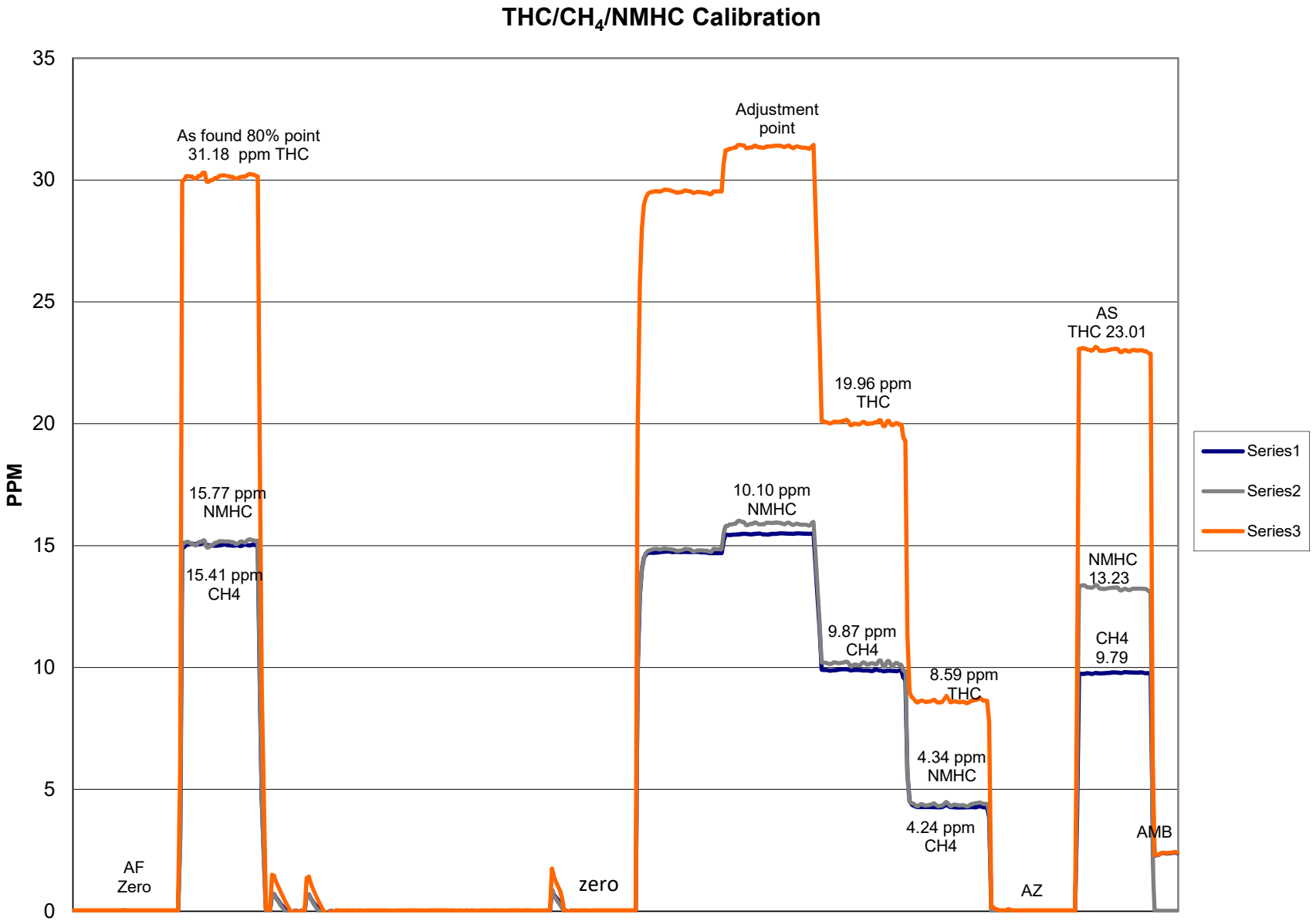
Station Information

Calibration Date	December 11, 2018	Previous Calibration	December 4, 2018
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	11:45	End Time (MST)	16:15:00 PM
Analyzer make/model	TEI 55I	Analyzer serial #	1134650658

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.032	N/A		
31.177	31.356	0.9943	Correlation Coefficient	0.999993
19.962	20.019	0.9972		
8.586	8.613	0.9969	Slope	0.995393
			Intercept	-0.004566




THC/CH4/NMHC Calibration
PPM
35
30
25
20
15
10
5
0
As found 80% point
31.18 ppm THC
Adjustment
point
19.96 ppm
THC
AS
THC 23.01
15.77 ppm
NMHC
15.41 ppm
CH4
10.10 ppm
NMHC
9.87 ppm
CH4
8.59 ppm
THC
4.34 ppm
NMHC
4.24 ppm
CH4
NMHC
13.23
CH4
9.79
AMB
AF
Zero
zero
AZ
Series1
Series2
Series3

SHARP 5030 PM2.5 Calibration

Air Quality Monitoring

STATION:	Henry Pirker	OPERATOR:	Dmytro Dolotii
LOCATION:	Muskoseepi Park	Last calibration date:	Sep 12 20178
START TIME (MST):	10:00	Calibration date:	December 11 2018
END TIME (MST):	16:00		

MONITOR INFO / PARAMETER VALUES:

Make/Model	SHARP 5030	Audit Device Model	Delta cal
Configuration	PM 2.5	Audit Device S/N	N402807
Serial Number	N-759	Certification Date	01-Oct-15

AUDIT / CALIBRATION RESULTS:

		Ambient Temp. (˚C)	Ambient Pres. (mbar)	Leak Check (L/min)	Flow Rate (lpm)	Time settings (hh:mm)
	Audit values (I)	4.1	897	16.67	16.67	14:08
As Found Data	MEASURED (AF)	4.0	897	15.92	16.91	15:21
	AF Difference (AF-I)	-0.1	0	0.75	0.24	1:13
Adjusted Data	MEASURED (M)	4.0	897	15.92	16.91	14:08
	Adj Difference (M-I)	-0.1	0	-0.75	0.24	0:00
	LIMITS	*± 4.0 ^{0}C*	*13.33 mbar*	*0.8 L/min*	*± 1.0 L/min*	*±2 min*

	As found	Adjusted
Nephelometer zero	0.7	0
Foil calibration	7113	7069

Sample Head Inspect/Cleaning: Cleaned sample head, heads were fairly clean, almost no debies present.

Status of sampling tape: 99% full

Nozzle Inspection / cleanliness: Inspected the nozzle. Looked clean

COMMENTS: Leak check value is close to the limit of 0.8L/m. Will order pump rebuilt kit to perfomed the pump maintanance

Adjusted time on the instrument according to winter saving time

Calibration Report

Parameter **SO_2**

Air Monitoring Network **PAZA**

Air Quality Monitoring

Station Information

Calibration Date	December 14, 2018	Previous Calibration	November 26, 2018
Station Number	3	Station Location	Smokey Heights
Reason: Routine	Install	Removal	Other:
Start Time (MST)	12:05	End Time (MST)	14:10:00 PM
Barometric Pressure	0.924 ATM	Station Temperature	19.0 Deg C
Calibrator	Environics 6103	Serial Number	6586
Cal Gas Concentratio	49.6 ppm	Cal Gas Cert Date	04/05/2019
Correction factor	0.031517	Cal Gas Cylinder #	LL107945
DACS make	CR3000	DACS serial No.	5238
DACS voltage range	0 - 5 volt	DACS channel #	6
	Before		After
Calculated slope	0.993146	Calculated slope	0.994007
Calculated intercept	0.313146	Calculated intercept	0.663197
Analyzer make	Teco 43i	Analyzer serial #	701120009

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
Background	16.3		16.3	
coefficient	0.972		0.972	
Lamp Voltage	948	volts	950	volts
Chamber Temp	45	Deg C	45	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	655.4	mm Hg	654.8	mm Hg
Sample Flow	0.439	lpm	0.439	lpm
Lamp Intensity	87	%	88	%

Dilution air flow rate (cc/min)	Corrected gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
4995	0.0	0.00	0.3	N/A
4995	39.94	393.5	395.7	0.9942
4995	19.97	197.5	197.2	1.0015
4995	9.99	99.0	98.2	1.0077
4995	0.0	0.00	0.3	As Found Zero
4995	39.94	393.5	395.7	As Found Span
			Average Correction Factor	1.0011

Calculated value of As Found Response: 393.081 ppb Percent Change of As Found: 0.1%

	before calibration		after calibration	
Auto zero	0.3	ppb	0.3	ppb
Auto span	214.0	ppb	218.6	ppb

Notes: No adjustment made

Calibration Performed By: Dmytro Dolotii,Akpevwe Akpiroroh

Calibration Summary

Parameter **SO2**

Air Monitoring Network **PAZA**

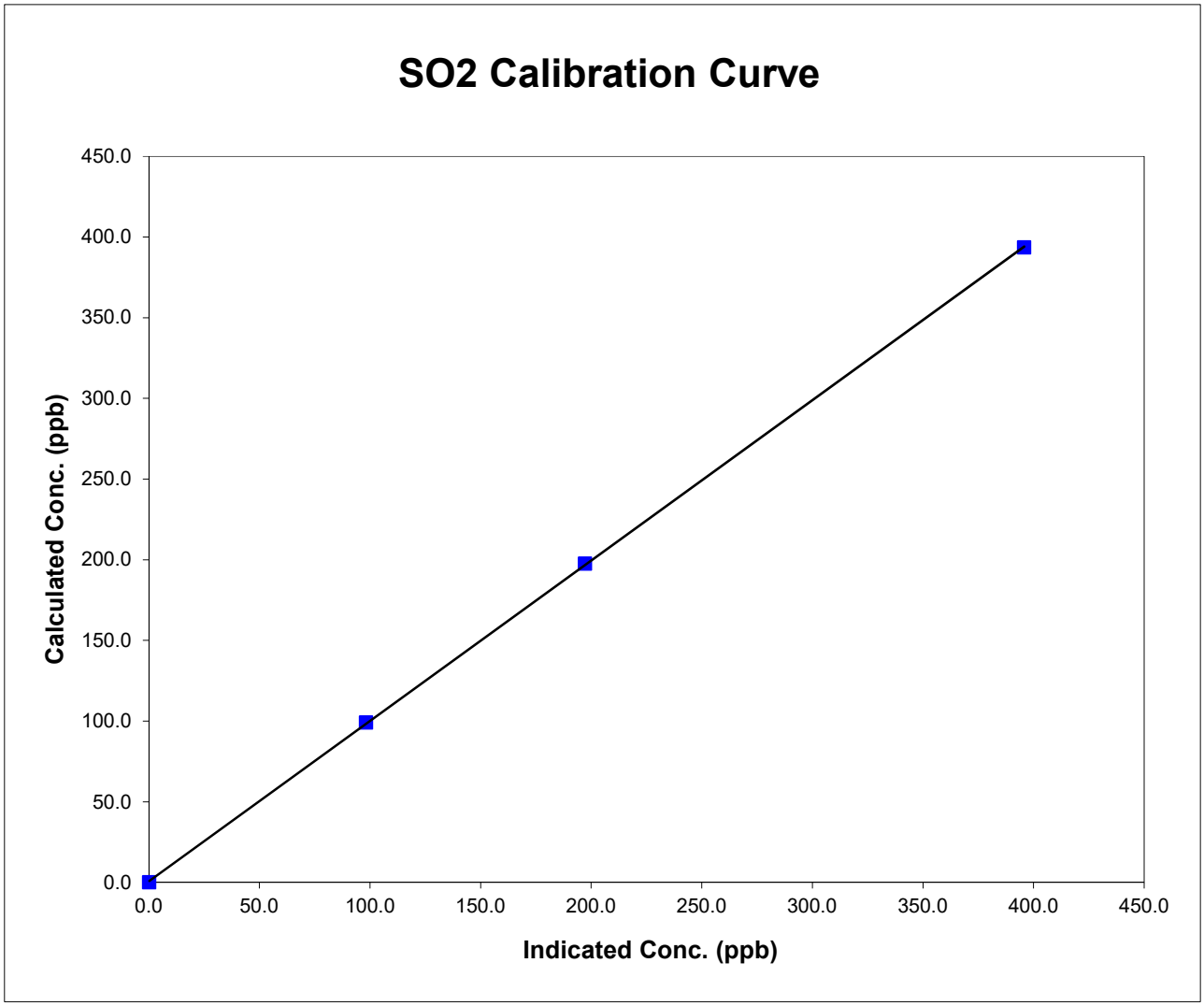
Air Quality Monitoring

Station Information

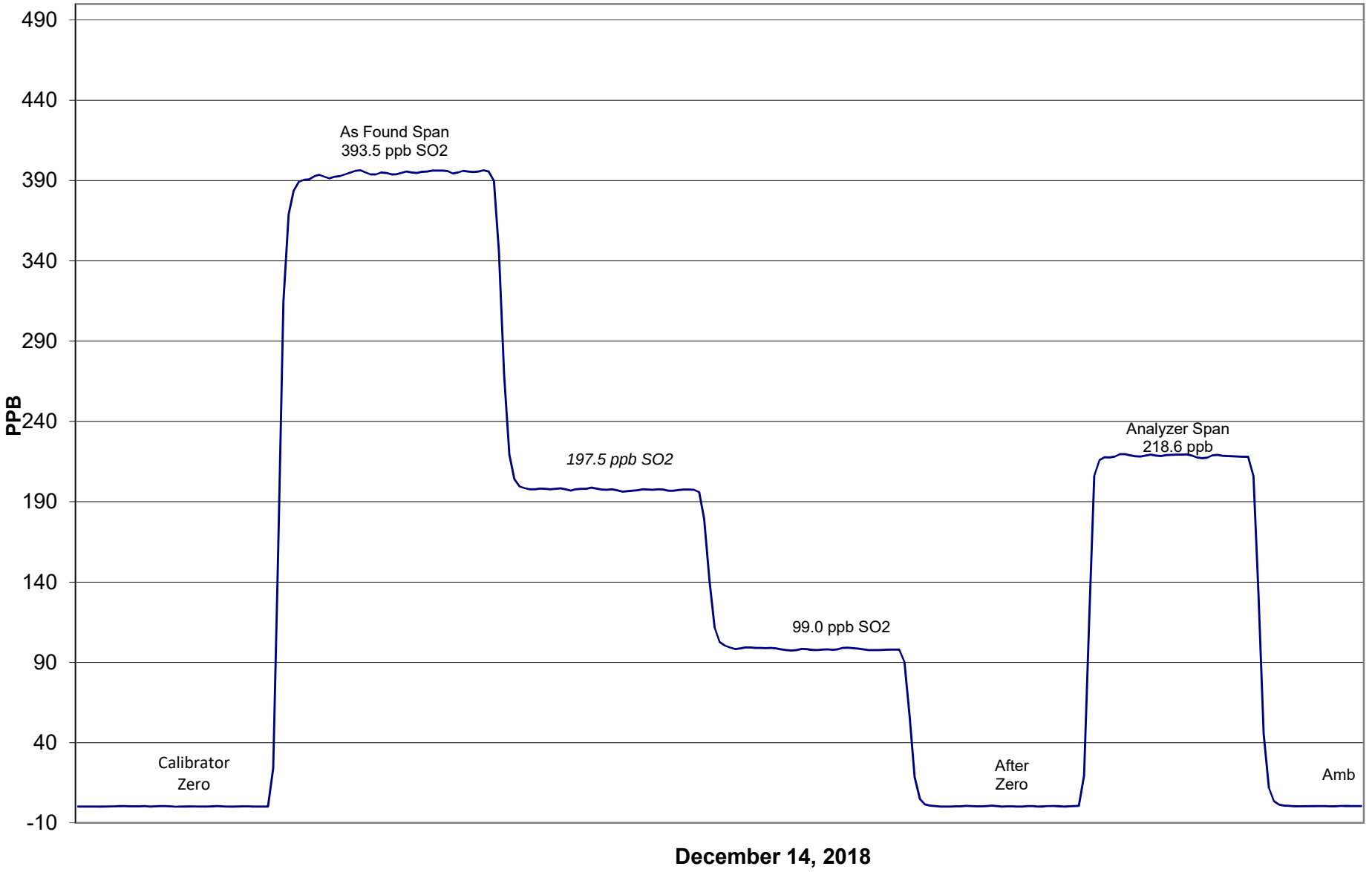
Calibration Date	December 14, 2018	Previous Calibration	November 26, 2018
Station Number	3	Station Location	Smokey Heights
Start Time (MST)	12:05	End Time (MST)	14:10:00 PM
Analyzer make/model	Teco 43i	Analyzer serial #	701120009

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.3	N/A		
393.5	395.7	0.9942	Correlation Coefficient	0.999973
197.5	197.2	1.0015		
99.0	98.2	1.0077	Slope	0.994007
			Intercept	0.663197



Smokey Heights SO_2 Calibration



Calibration Report

Parameter **TRS**

Air Monitoring Network **PAZA**

Air Quality Monitoring

Station Information

Calibration Date	December 14, 2018	Previous Calibration	November 26, 2018
Station Number	3	Station Location	Smokey Heights
Reason: Routine	Install	Removal	Other:
Start Time (MST)	10:15	End Time (MST)	13:05
Barometric Pressure	0.923 ATM	Station Temperature	19.0 Deg C
Calibrator	Environics 6103	Serial Number	6586
Cal Gas Conc	9.78 ppm	Cal Gas Expiry Date	23/02/2019
Correction factor	0.031483	Cal Gas Cylinder #	EY0000380
DACS make	CR3000	DACS serial No.	5238
DACS voltage range	0 - 5 volt	DACS channel #	5
	Before		After
Calculated slope	0.992992	Calculated slope	0.999237
Calculated intercept	-0.128448	Calculated intercept	-0.140982
Analyzer make	TEI Model 43I APSAA	Analyzer serial #	1153630151

	before		after	
Concentration range	100	ppb	100	ppb
Background	15.2	ppb	15.2	ppb
coefficient	1.071		1.071	
Lamp Voltage	813	volts	812	volts
Chamber Temp	45	Deg C	45.2	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	657.5	mm Hg	654.7	mm Hg
Sample Flow	0.410	lpm	0.408	lpm
Lamp Intensity	92	mv	92	mv

Dilution air flow rate (cc/min)	Corrected gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
4995	0.0	0.00	0.2	N/A
4995	39.98	77.66	77.9	0.9971
4995	19.97	38.94	39.1	0.9968
6995	9.98	13.93	14.1	0.9900
4995	40.98		0.7	Sox test
4995	0.0	0.00	0.2	After Found Zero
4995	39.98	77.66	77.9	After Found Span
			Average Correction Factor	0.9946

Calculated value of As Found Response: 77.04 ppb Percent Change of As Found: 0.8%

	before calibration		after calibration	
Auto zero	0.5	ppb	0.1	ppb
Auto span	67.7	ppb	68.0	ppb

Notes: No adjustment made

Calibration Performed By: Dmytro Dolotii, Akpevwe Akpiroroh

Calibration Summary

Parameter **TRS**

Air Monitoring Network **PAZA**

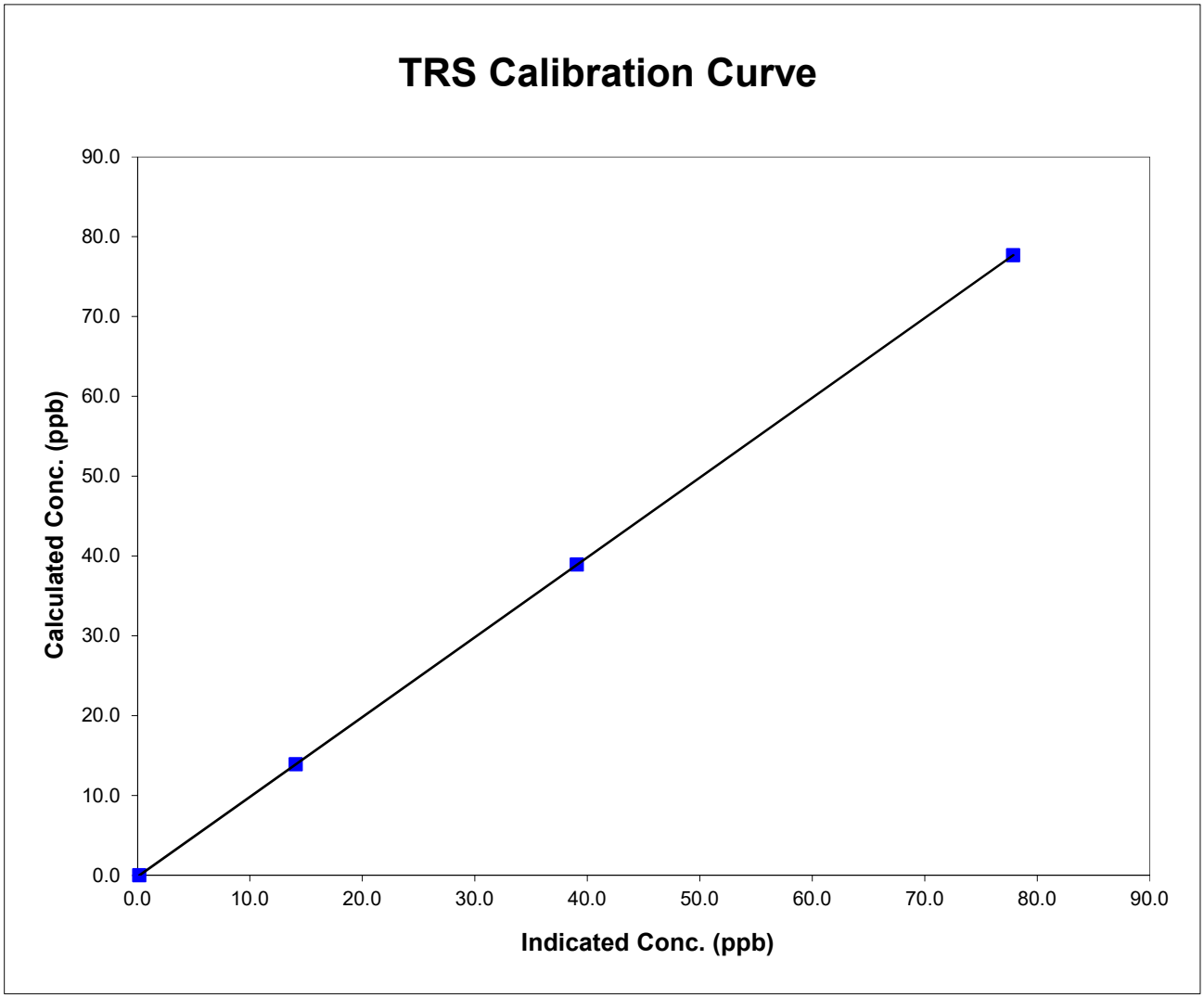
Air Quality Monitoring

Station Information

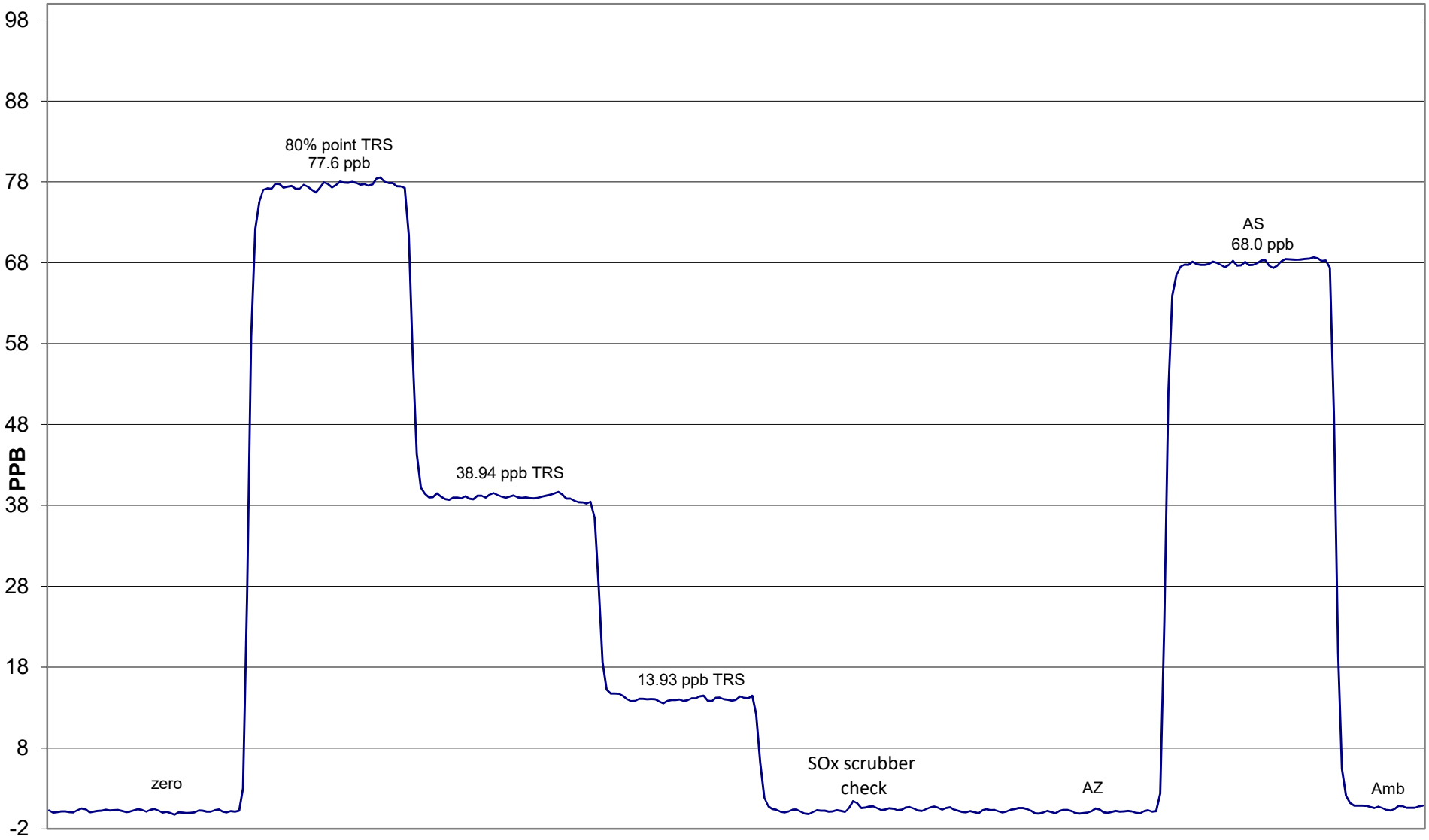
Calibration Date	December 14, 2018	Previous Calibration	November 26, 2018
Station Number	3	Station Location	Smokey Heights
Start Time (MST)	10:15	End Time (MST)	13:05
Analyzer make/model	TEI Model 43I APSAA	Analyzer serial #	1153630151

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.2	N/A		
77.7	77.9	0.9971	Correlation Coefficient	0.999999
38.9	39.1	0.9968		
13.9	14.1	0.9900	Slope	0.999237
			Intercept	-0.140982



Smokey Heights TRS Calibration



December 14, 2018

Calibration Report

Parameter **SO2**

Air Monitoring Network **PAZA**

Air Quality Monitoring

Station Information

Calibration Date	December 6, 2018	Previous Calibration	November 9, 2018
Station Number	6	Station Location	Valleyview

Reason: Routine | Install | Removal | Other:

Start Time (MST)	11:25	End Time (MST)	13:50:00 PM
Barometric Pressure	0.929 atm	Station Temperature	21.0 Deg C
Calibrator	Environics 6103	Serial Number	3016
Cal Gas Concentratio	49.4 ppm	Cal Gas Exp Date	October 24, 2020
Gas Cylinder Num.	EY0000751		
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	1.000619	Calculated slope	1.001491
Calculated intercept	-0.497564	Calculated intercept	-0.089963

Analyzer make	TEI Model 43i - APSCB		Analyzer serial #	701120010

	before		after	
Concentration range	0-500	ppb	0-500	ppb
Background	7.7		7.1	
Coefficient	0.9		0.838	
UV Lamp Voltage	796	LPM	796	LPM
Chamber Temp	45	V	45	V
Perm Gas Temp	45	C	45	C
Pressure	681.2	in Hg	684.9	in Hg
Sample Flow	0.459	LPM	0.462	LPM
Lamp Intensity	91	Hz	91	%

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	0.9	N/A
4995	39.95	392.0	391.9	1.0001
4995	19.97	196.7	196.0	1.0037
4995	9.97	98.4	97.6	1.0086
4995	0.00	0.0	0.9	As found zero
4995	39.95	392.0	419.3	As found span
			Average Correction Factor	1.0041

Calculated value of As Found Response: 418.1 ppb Percent Change of As Found: -6.7%

	before calibration		after calibration	
Auto zero	0.9	ppb	0.9	ppb
Auto span	284.5	ppb	263.1	ppb

Notes: Span adjustment made

Calibration Performed By: Dmytro Dolotii

Calibration Summary

Parameter **SO2**

Air Monitoring Network **PAZA**

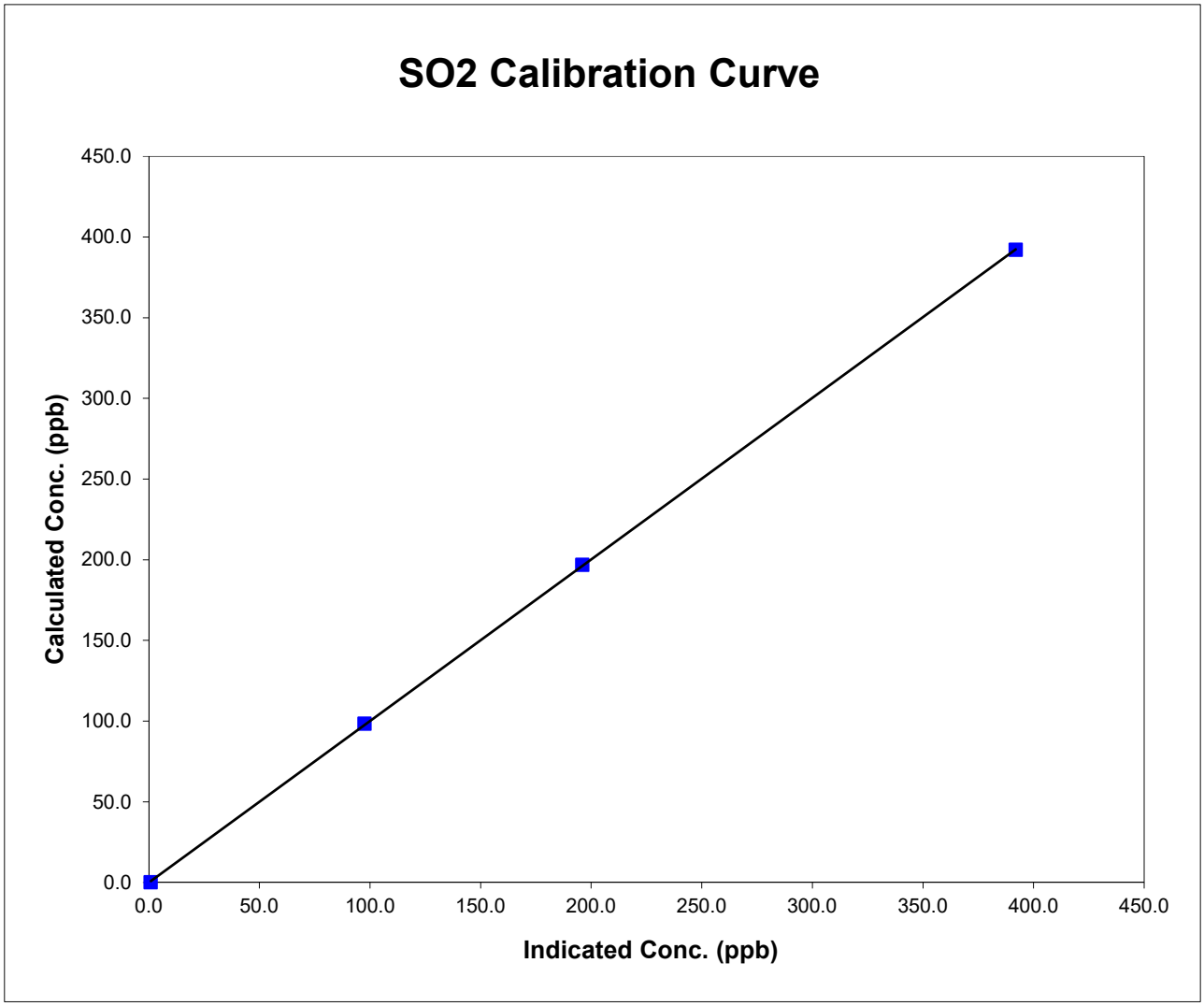
Air Quality Monitoring

Station Information

Calibration Date	December 6, 2018	Previous Calibration	November 9, 2018
Station Number	6	Station Location	Valleyview
Start Time (MST)	11:25	End Time (MST)	13:50:00 PM
Analyzer make/model	TEI Model 43i - APSCB	Analyzer serial #	701120010

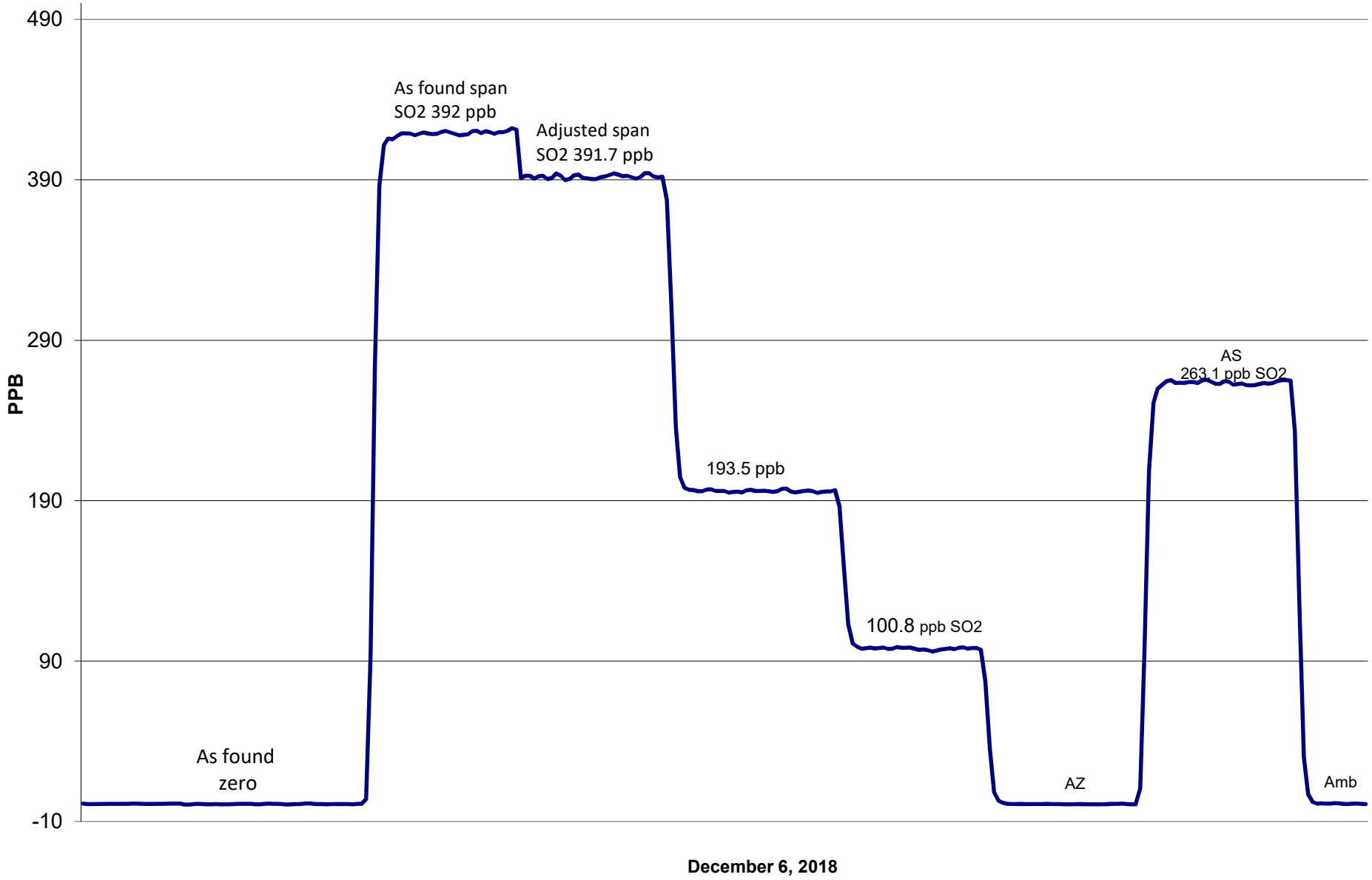
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.9	N/A		
392.0	391.9	1.0001	Correlation Coefficient	0.999978
196.7	196.0	1.0037		
98.4	97.6	1.0086	Slope	1.001491
			Intercept	-0.089963



AZ

SO2 Calibration



Calibration Report

Air Quality Monitoring

Parameter **H2S**

Air Monitoring Network **PAZA**

Station Information

Calibration Date	December 6, 2018	Previous Calibration	November 9, 2018
Station Number	6	Station Location	Valleyview

Reason: Routine | Install | Removal | Other:

Start Time (MST)	9:30	End Time (MST)	12:50
Barometric Pressure	0.929 atm	Station Temperature	21.0 Deg C
Calibrator	Environics 6103	Serial Number	3016
Cal Gas Concentratio	9.78 ppm	Cal Gas Expiry Date	02/26/2020
Gas Cert Reference	LL119574		
DACS make	CR3000	DACS serial No.	5409
DACS voltage range	0 - 5 volt	DACS channel #	9
	Before		After
DACS Scale High	100	DACS slope	100
DACS Scale Low	0	DACS intercept	0
Calculated slope	1.000083	Calculated slope	0.989780
Calculated intercept	-0.008346	Calculated intercept	-0.326622

Analyzer make	TEI Model 450i-APHAA	Analyzer serial # 1170050144

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Back Ground	15.6	ppb	15.0	ppb
Coefficient	1.011		0.971	
Lamp Voltage	771	V	771	V
Chamber Temp	45.1	c	45	c
Convertor	324.1	c	325.2	c
Pressure	489.60	mm Hg	488.70	mm Hg
Sample Flow	0.803	ccm	0.804	lpm
Lamp Intensity	93	%	92	%

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)
4997	0.00	0.0	0.0	N/A
4997	39.98	77.6	78.6	0.9880
4997	19.96	38.9	39.9	0.9746
6996	9.95	13.9	14.6	0.9509
4997	0.00	0.0	0.0	As found zero
4997	39.98	77.6	80.1	As found span
			Average Correction Factor	0.9712

Calculated value of As Found Response: 80.09 ppb Percent Change of As Found: -3.2%

	before calibration		after calibration	
Auto zero	-0.1	ppb	0.2	ppb
Auto span	83.3	ppb	77.0	ppb

Notes: Span adjustment made

Calibration Performed By: Dmytro Dolotii

Calibration Summary

Parameter **H2S**

Air Monitoring Network **PAZA**

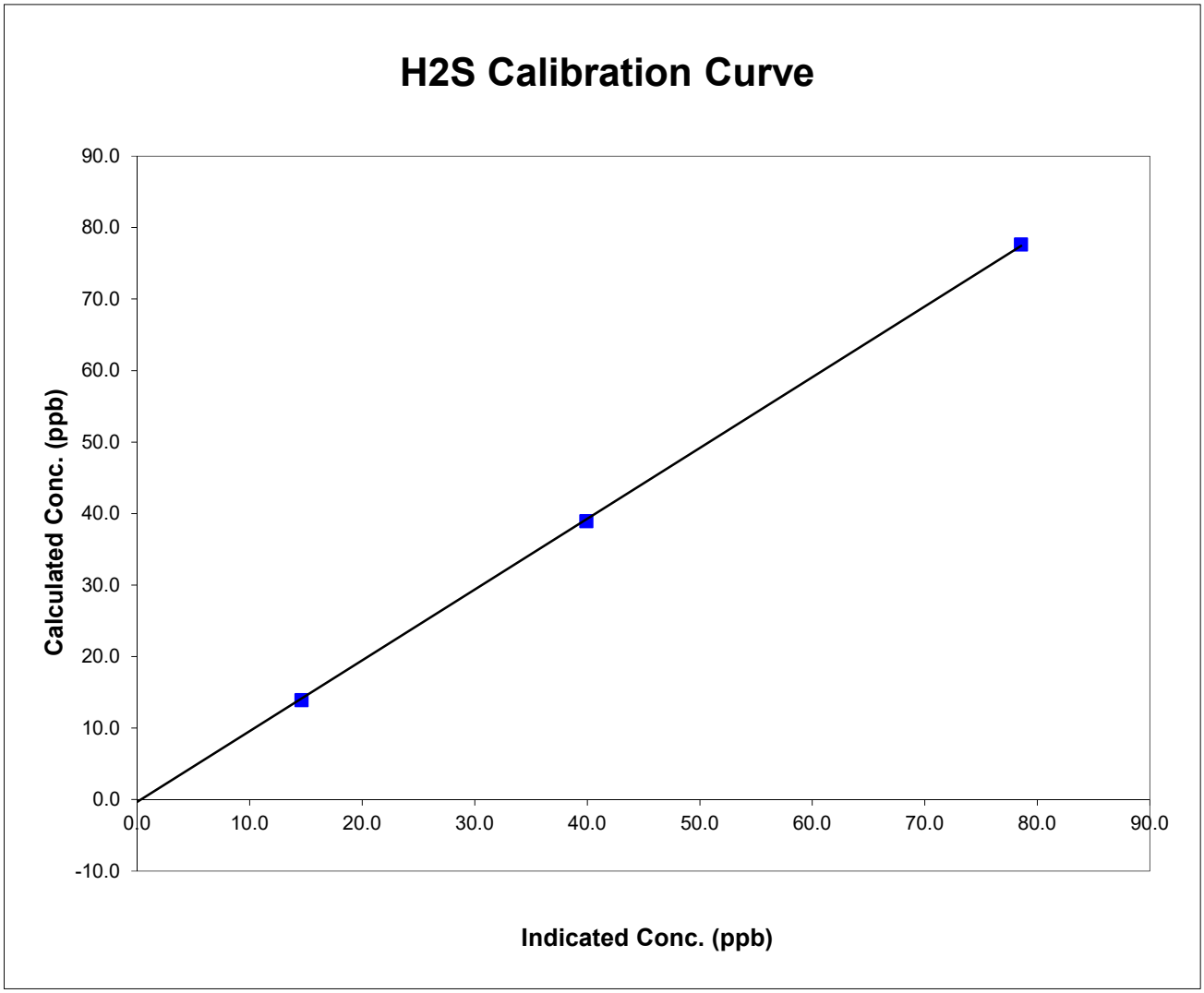
Air Quality Monitoring

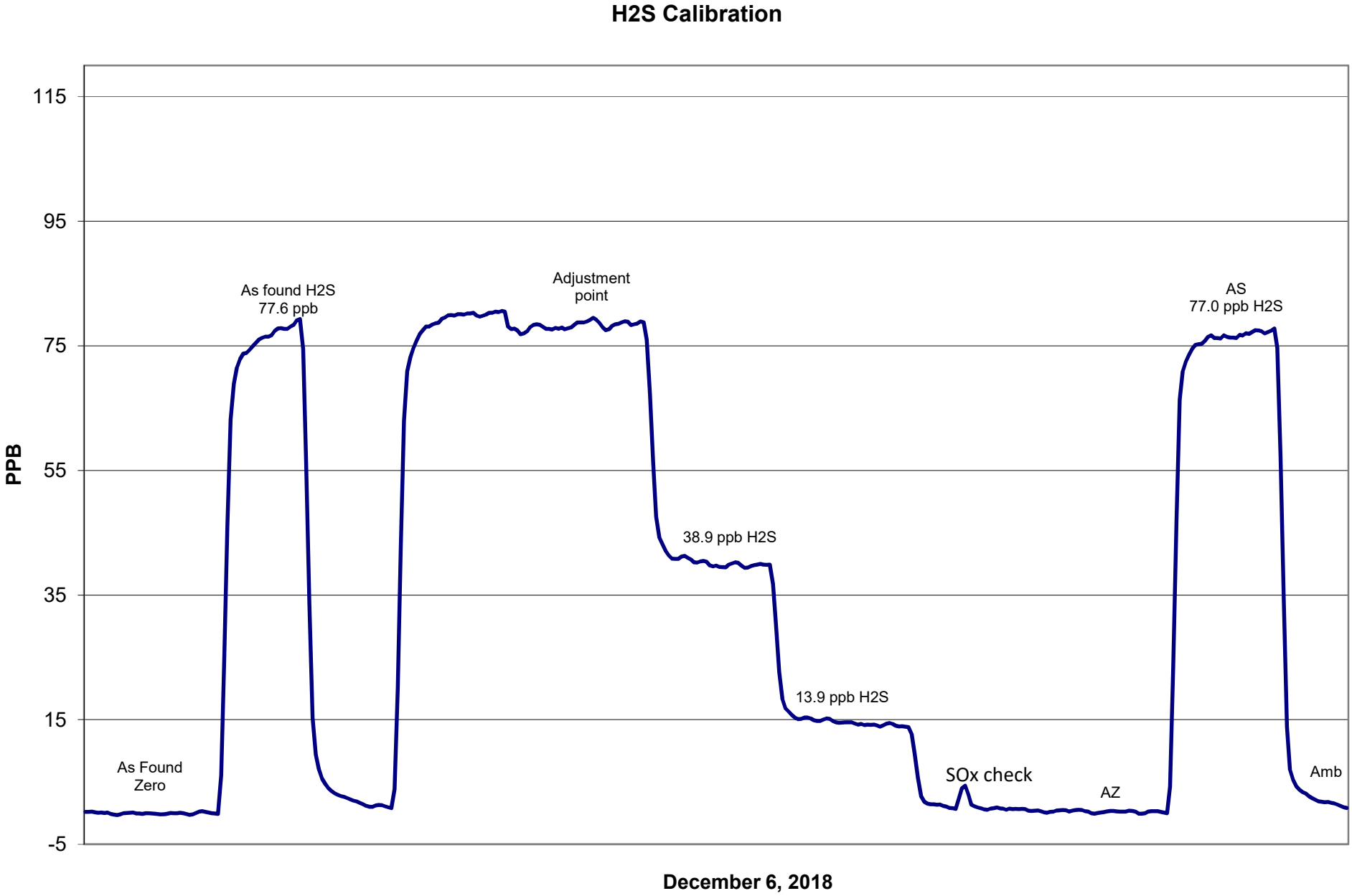
Station Information

Calibration Date	December 6, 2018	Previous Calibration	November 9, 2018
Station Number	6	Station Location	Valleyview
Start Time (MST)	9:30	End Time (MST)	12:50
Analyzer make/model	TEI Model 450i-APHAA	Analyzer serial #	1170050144

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.0	N/A		
77.6	78.6	0.9880	Correlation Coefficient	0.999919
38.9	39.9	0.9746		
13.9	14.6	0.9509	Slope	0.989780
			Intercept	-0.326622




H2S Calibration
115
95
75
55
35
15
-5
PPB
As found H2S
77.6 ppb
Adjustment
point
38.9 ppb H2S
13.9 ppb H2S
SOx check
AZ
AS
77.0 ppb H2S
As Found
Zero
Amb
December 6, 2018

Calibration Report

Parameter **SO_2**

Air Monitoring Network **PAZA**

Air Quality Monitoring

Station Information

Calibration Date	December 18, 2018	Previous Calibration	November 5, 2018
Station Number	1	Station Location	Donnely

Reason: Routine | Install | Removal | Other:

Start Time (MST)	12:45	End Time (MST)	14:45:00 PM
Barometric Pressure	0.934 atm	Station Temperature	21.0 Deg C
Calibrator	Environics 6103	Serial Number	6586
Cal Gas Concentratio	49.6 ppm	Cal Gas Expiry Date	October 24, 2020
Correction factor	0.031641	Cal Gas Cylinder #	LL107945
DACS make	CR1000	DACS serial No.	3980
DACS voltage range	0 - 5 volt	DACS channel #	6
	Before		After
Calculated slope	0.999704	Calculated slope	1.008137
Calculated intercept	-0.448432	Calculated intercept	-0.923247

Analyzer make	Teco 43i	Analyzer serial # 1207452008

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
Background	6.9		6.9	
coefficient	1.016		1.016	
Lamp Voltage	857	volts	859	volts
Chamber Temp	45	Deg C	45	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	662,0	mm Hg	665.9	mm Hg
Sample Flow	0.416	ccm	0.42	ccm
Lamp Intensity	96	%	97	%

Dilution air flow rate (cc/min)	Corrected gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
4995	0.0	0.00	0.8	N/A
4995	39.89	393.0	390.4	1.0067
4995	19.78	195.6	196.0	0.9984
4995	9.90	98.1	97.7	1.0045
4995	0.0	0.0	0.8	As Found Zero
4995	39.99	393.9	390.4	As Found Span
			Average Correction Factor	1.0032

Calculated value of As Found Response: 388.945 ppb Percent Change of As Found: 1.3%

	before calibration		after calibration	
Auto zero	0.9	ppb	0.8	ppb
Auto span	242.8	ppb	251.9	ppb

Notes: No adjustment made

Calibration Performed By: Dmytro Dolotii, Akpevwe Akpiroroh

Calibration Summary

Parameter **SO2**

Air Monitoring Network **PAZA**

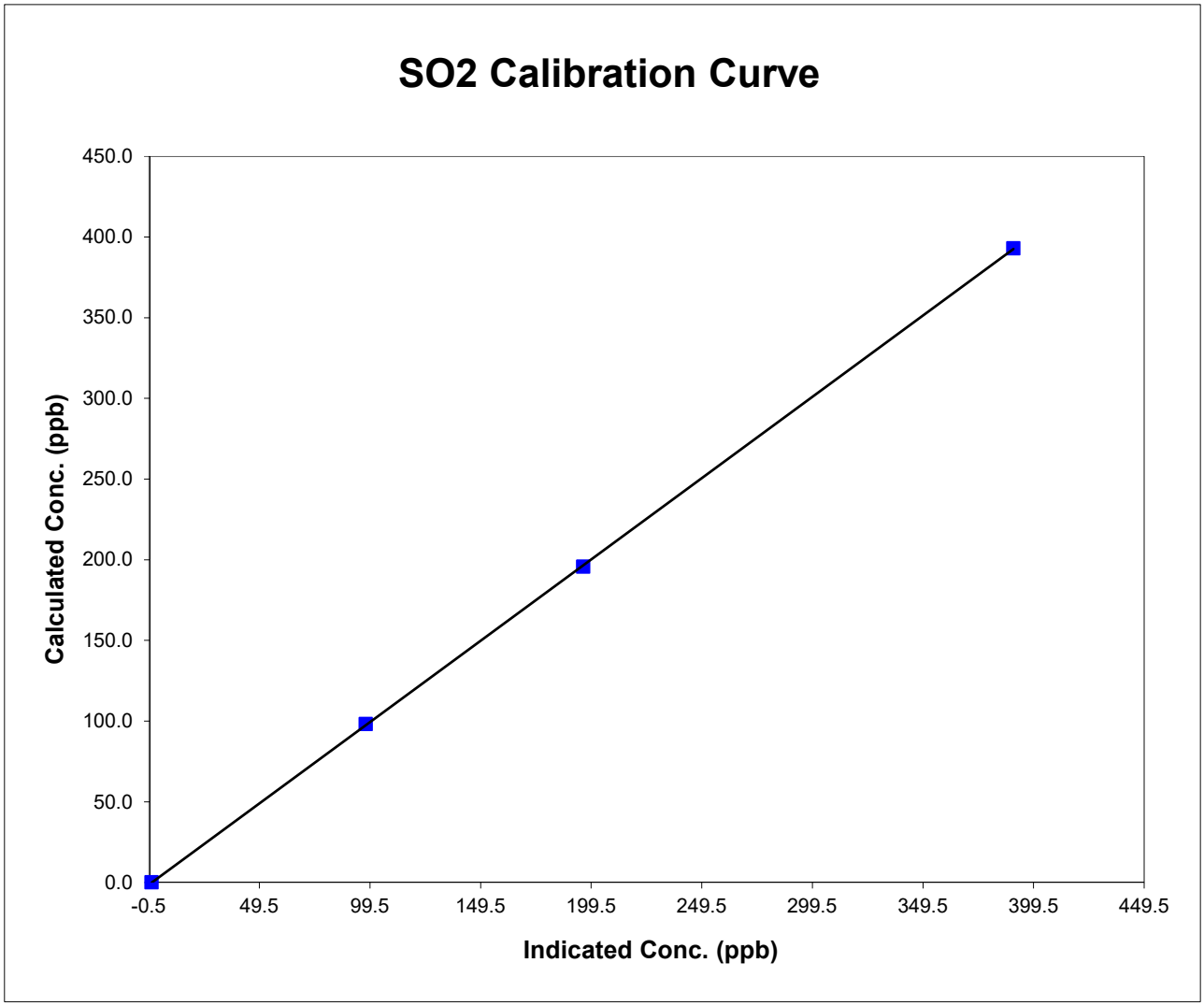
Air Quality Monitoring

Station Information

Calibration Date	December 18, 2018	Previous Calibration	November 5, 2018
Station Number	1	Station Location	Donnely
Start Time (MST)	12:45	End Time (MST)	14:45:00 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		
393.0	390.4	1.0067	Correlation Coefficient	0.999983
195.6	196.0	0.9984		
98.1	97.7	1.0045	Slope	1.008137
			Intercept	-0.923247



SO2 Calibration

Calibration Report

Parameter **H2S**

Air Monitoring Network **PAZA**

Air Quality Monitoring

Station Information

Calibration Date	18/12/2018	Previous Calibration	05/11/2018
Station Number	1	Station Location	Donnely

Reason: Routine | Install | Removal | Other:

Start Time (MST)	10:50	End Time (MST)	13:25:00 PM
Barometric Pressure	0.926 atm	Station Temperature	20.0 Deg C
Calibrator	Environics 6103	Serial Number	6586
Cal Gas Conc	9.78 ppm	Cal Gas Expiry Date	March 19, 2021
Correction factor	0.031477	Cal Gas Cylinder #	LL119574
DACS make	CR1000	DACS serial No.	3980
DACS voltage range	0 - 5 volt	DACS channel #	5
	Before		After
Calculated slope	0.998783	Calculated slope	0.989914
Calculated intercept	-0.371593	Calculated intercept	-0.697700

Analyzer make	Thermo 450i	Analyzer serial #	1207452006

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Background	10.2	ppb	10.2	ppb
coefficient	1.091		1.091	
Lamp Voltage	772	volts	772	volts
Chamber Temp	45	Deg C	45	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	460	mm Hg	460	mm Hg
Sample Flow	0.635	lpm	0.633	lpm
Lamp Intensity	90	mv	91	mv

Calibration Data

Dilution air flow rate (cc/min)	Corrected gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
4992	0.00	0.00	0.9	N/A
4991	39.92	77.60	79.1	0.9816
4991	19.84	38.72	40.0	0.9680
6970	9.93	13.91	14.5	0.9628
4992	0.00	0.00	0.9	As Found Zero
4991	39.92	77.60	79.1	As Found Span
			Average Correction Factor	0.9708

Calculated value of As Found Response: 77.73 ppb Percent Change of As Found: -0.2%

	before calibration		after calibration	
Auto zero	0.8	ppb	0.6	ppb
Auto span	76.7	ppb	79.5	ppb

Notes: No adjustment made

Calibration Performed By: Dmytro Dolotii,Akpevwe Akpiroroh

Calibration Summary

Parameter **H2S**

Air Monitoring Network **PAZA**

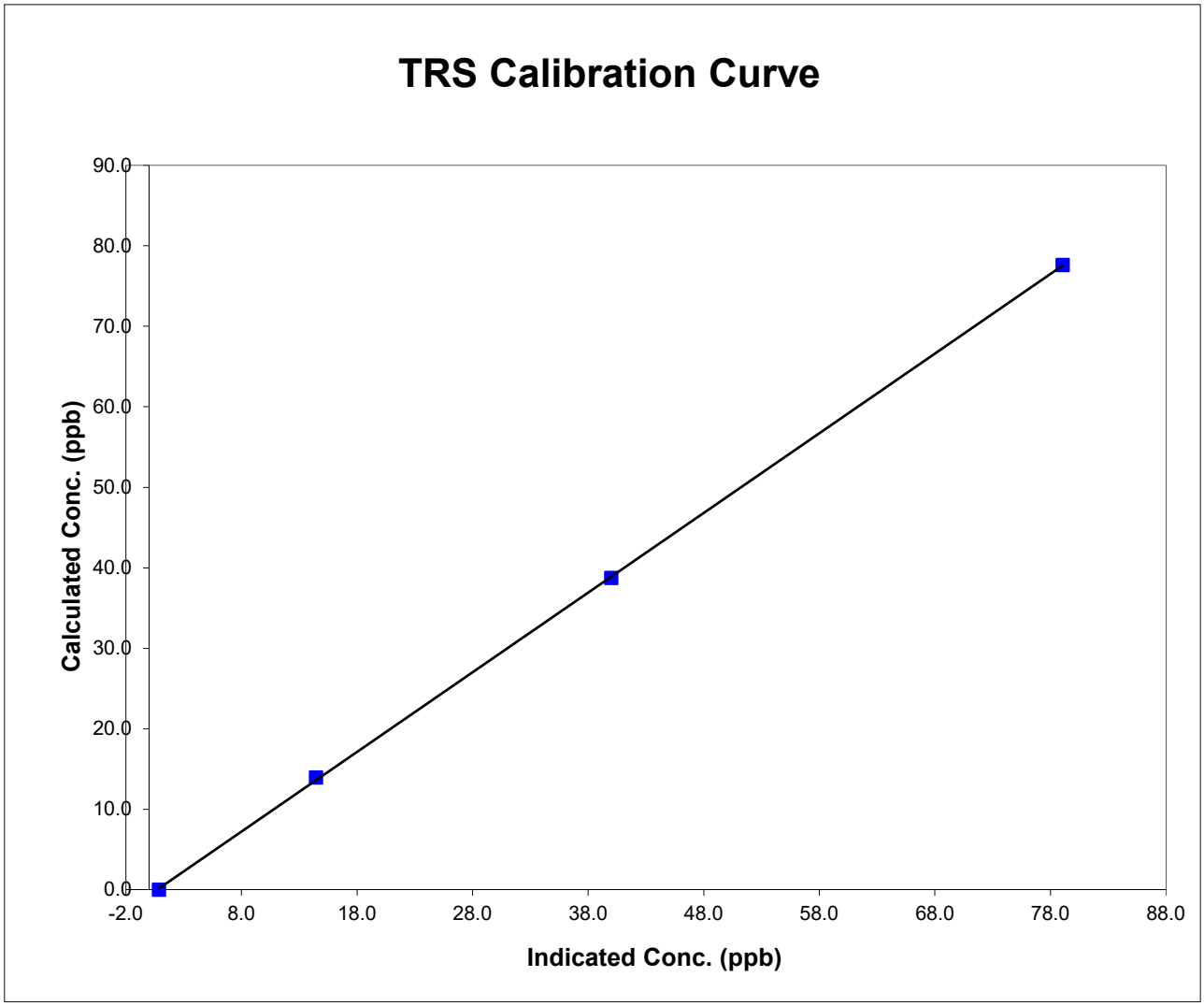
Air Quality Monitoring

Station Information

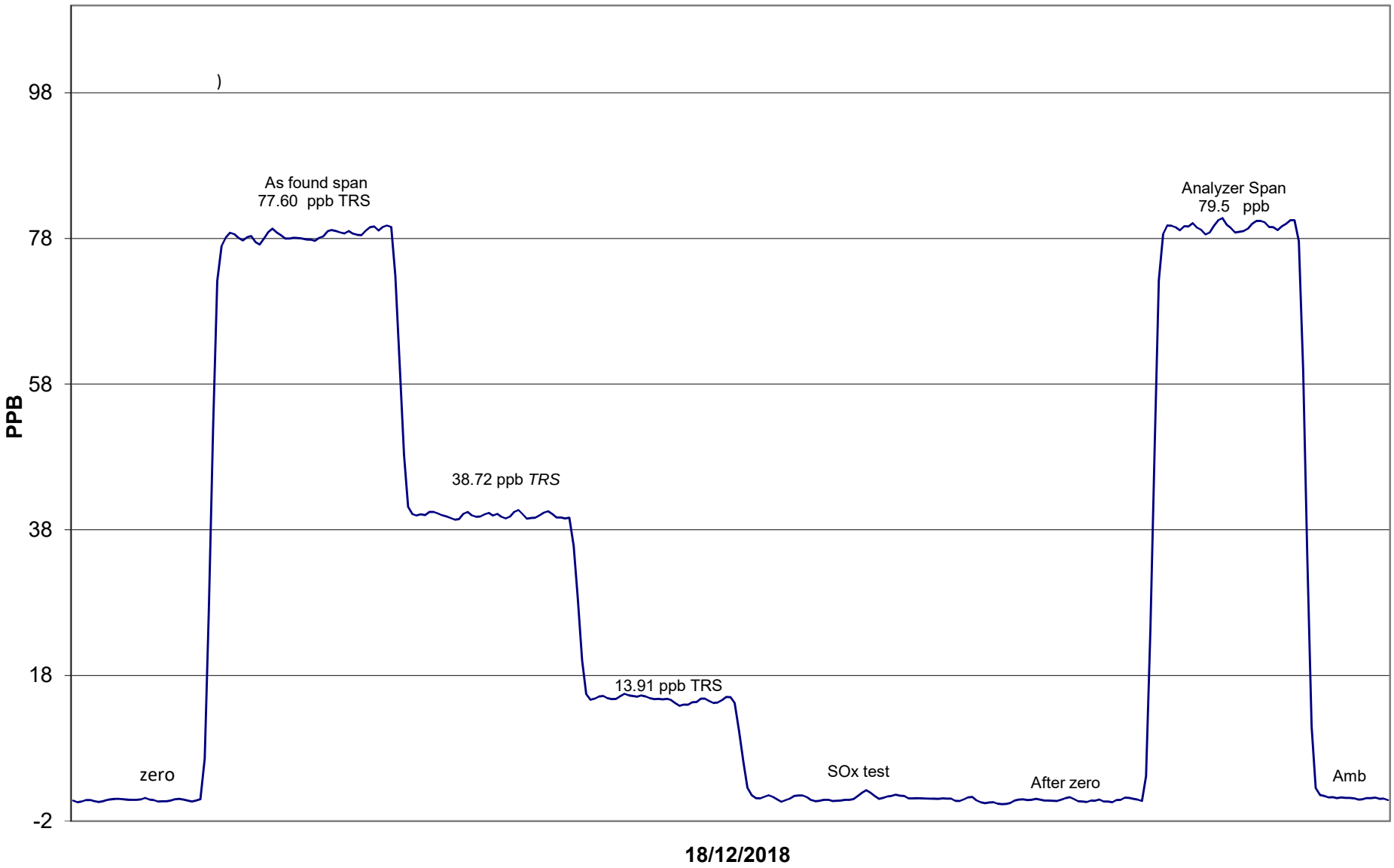
Calibration Date	18/12/2018	Previous Calibration	05/11/2018
Station Number	1	Station Location	Donnely
Start Time (MST)	10:50	End Time (MST)	13:25:00 PM
Analyzer make/model	Thermo 450i	Analyzer serial #	1207452006

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.9	N/A		
77.6	79.1	0.9816	Correlation Coefficient	0.999956
38.7	40.0	0.9680		
13.9	14.5	0.9628	Slope	0.989914
			Intercept	-0.697700



H2S Calibration



Calibration Report

Parameter **SO2**

Air Monitoring Network **PAZA**

Air Quality Monitoring

Station Information

Calibration Date	December 10, 2018	Previous Calibration	November 16, 2018
Station Number	10	Station Location	Wembley
Reason:	Routine / Install / Removal / Other:		
Start Time (MST)	10:55	End Time (MST)	13:25
Barometric Pressure	0.919 Atm	Station Temperature	20.0 Deg C
Calibrator	Environics 6100	Serial Number	3016
Cal Gas Concentratio	50.1 ppm	Cal Gas Expiry Date	10/10/2020
Gas Cert Reference	LL104185		
DACS make	CR3000	DACS serial No.	5407
DACS voltage range	0 - 5 Volt	DACS channel #	2
	Before		After
DACS Scale High	500	DACS slope	500
DACS Scale Low	0	DACS intercept	0
Calculated slope	1.014766	Calculated slope	1.000175
Calculated intercept	-0.388744	Calculated intercept	1.421770
Analyzer make	TEI 43I	Analyzer serial #	1173410005

	before		after	
Concentration range	0-500	ppb	0-500	ppb
Background	17.3		17.4	
Coefficient	0.997		0.997	
UV Lamp Voltage	759	V	759	V
Chamber Temp	45	C	45	C
Perm Gas Temp	45	C	45	C
Pressure	667.4	mm Hg	661	mm Hg
Sample Flow	0.443	LPM	0.436	LPM
Lamp Intesity	96	Hz	95	Hz

Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
4996	0.00	0.0	0.7	N/A
4996	39.96	397.5	397.0	1.0015
4996	19.99	199.7	197.5	1.0111
4996	9.98	99.9	96.2	1.0384
4996	0.00	0.0	0.7	As found zero
4996	39.96	397.5	397.0	As found span
			Average Correction Factor	1.0170

Calculated value of As Found Response: 401.760 ppb Percent Change of As Found: -1.1%

	before calibration		after calibration	
Auto zero	0.3	ppb	0.7	ppb
Auto span	195.0	ppb	202.8	ppb

Notes: No adjustments made

Calibration Performed By: Grover Christiansen/ Akpevwe Akpiroroh

Calibration Summary

Parameter **SO2**

Air Monitoring Network **PAZA**

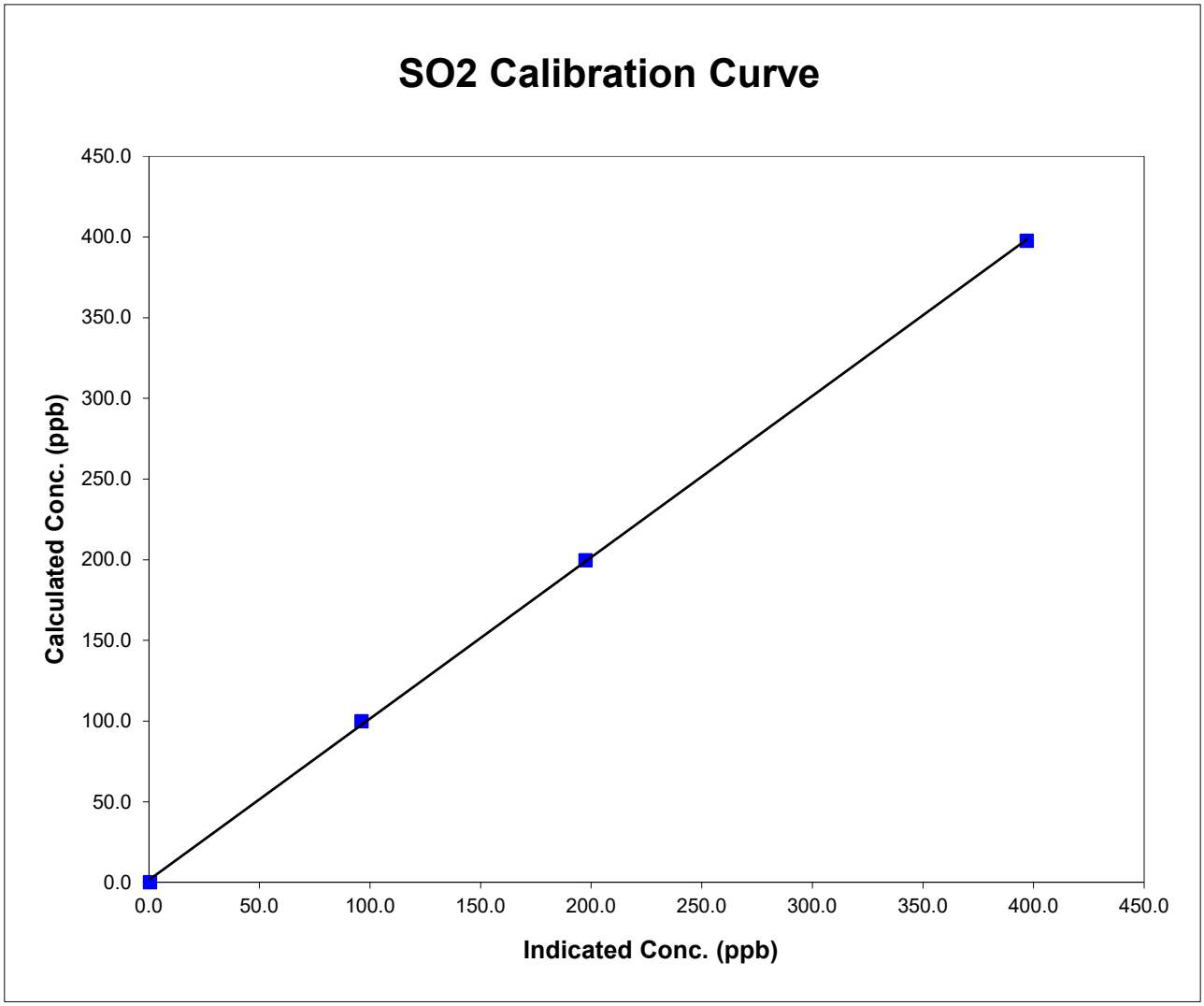
Air Quality Monitoring

Station Information

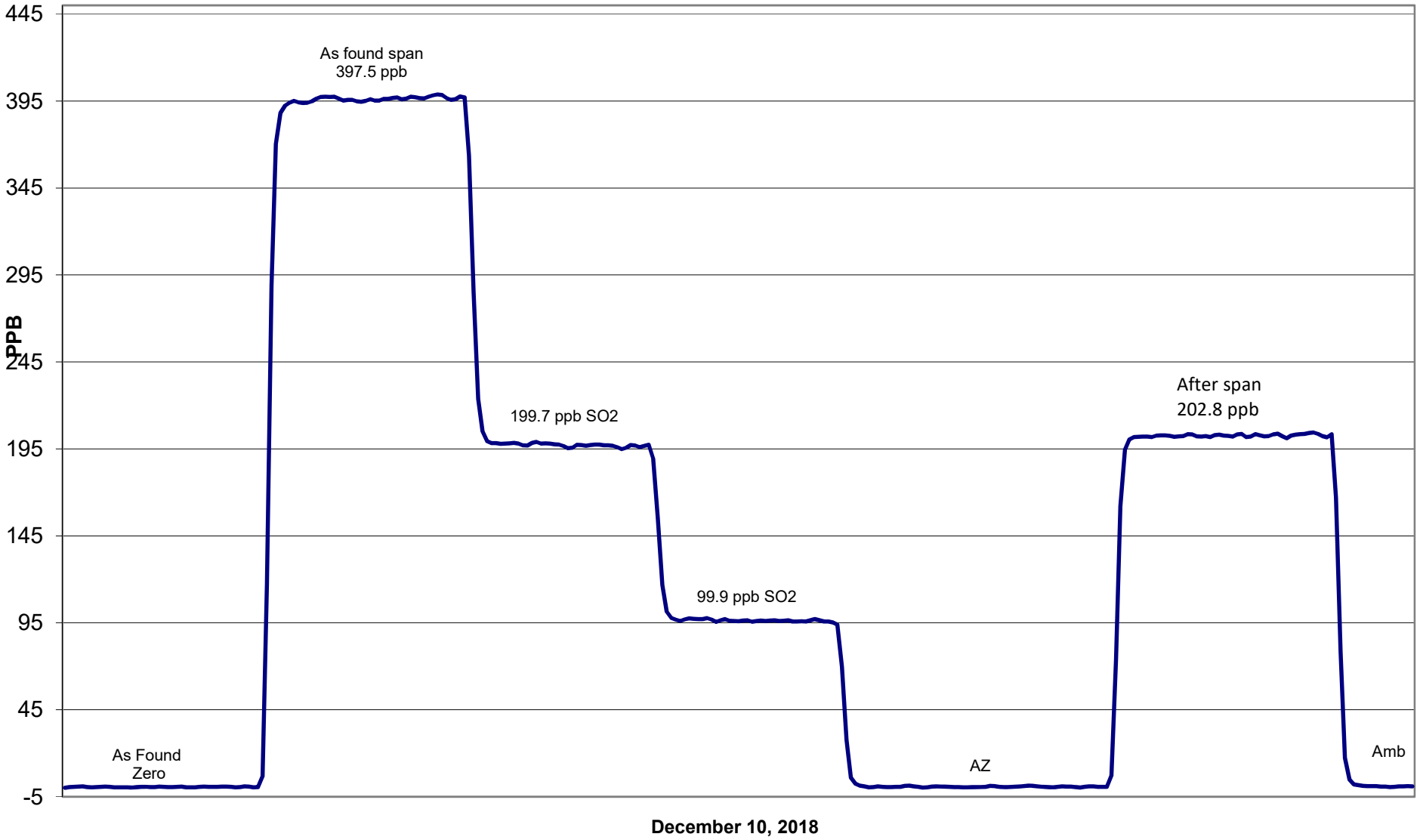
Calibration Date	December 10, 2018	Previous Calibration	November 16, 2018
Station Number	10	Station Location	Wembley
Start Time (MST)	10:55	End Time (MST)	13:25
Analyzer make/model	TEI 43I	Analyzer serial #	1173410005

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.7	N/A		
397.5	397.0	1.0015	Correlation Coefficient	0.999875
199.7	197.5	1.0111		
99.9	96.2	1.0384	Slope	1.000175
			Intercept	1.421770



SO2 Calibration



Calibration Report

Parameter **TRS**

Air Monitoring Network **PAZA**

Air Quality Monitoring

Station Information

Calibration Date	December 13, 2018	Previous Calibration	November 16, 2018
Station Name	PAZA Rover	Station Location	Rycroft
Reason:	Routine / Install	Removal	Other:
Start Time (MST)	9:30 AM	End Time (MST)	12:10
Barometric Pressure	0.919 mbar	Station Temperature	21.0 Deg C
Calibrator	Environics 6100	Serial Number	3016
Cal Gas Concentratio	10 ppm	Cal Gas Expiry Date	10/22/2021
Gas Cert Reference	ET0015252		
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	0.990375	Calculated slope	0.980761
Calculated intercept	0.033716	Calculated intercept	0.241952
Analyzer make	TEI 43C	Analyzer serial #	1153630152

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Background	12	ppb	12.1	ppb
Coefficient	0.982		0.982	
Lamp Voltage	776	V	776	V
Chamber Temp	45.1	C	45	C
Perm gas Temp	45	C	45	C
Pressure	655.7	mmHg	657.5	mmHg
Sample Flow	0.376	lpm	0.376	lpm
Lamp Intensity	86	Hz	86	Hz

Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
4996	0.0	0.0	0.0	N/A
4996	39.96	79.3	80.8	0.9827
4998	19.98	39.8	40.3	0.9892
6998	9.97	14.2	14.0	1.0143
			0.4	Sox Test
4996	0.00	0.0	0.0	As found zero
4996	39.96	79.3	80.8	As found span
			Average Correction Factor	0.9954

Calculated value of As Found Response: 80.01 ppb Percent Change of As Found: -0.8%

	before calibration		after calibration	
Auto zero	0.1	ppb	0.0	ppb
Auto span	53.2	ppb	56.9	ppb

Notes: No adjustment made

Calibration Performed By: Dmytro Dolotii, Akpevwe Akpiroroh

Calibration Summary

Parameter **TRS**

Air Monitoring Network **PAZA**

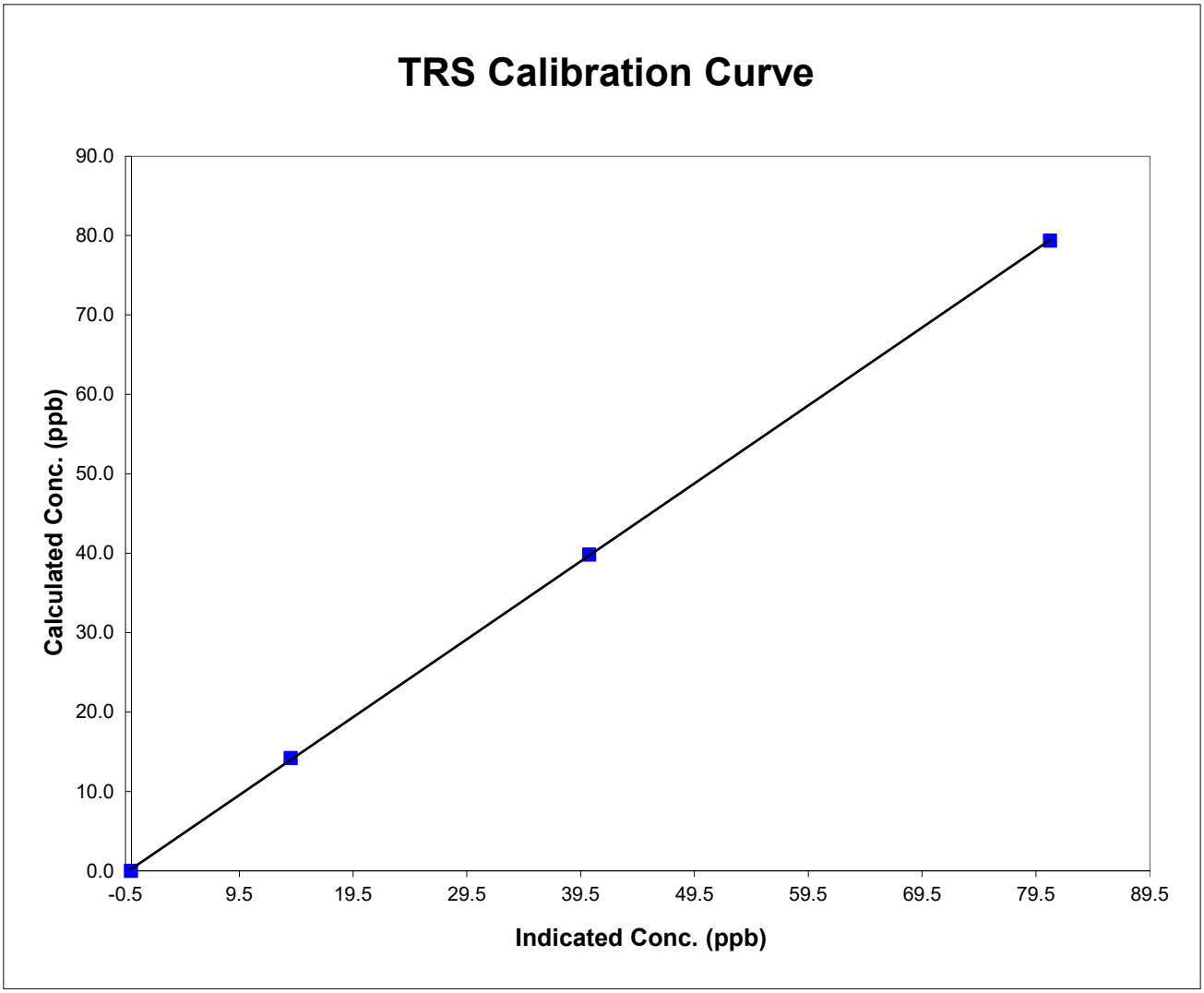
Air Quality Monitoring

Station Information

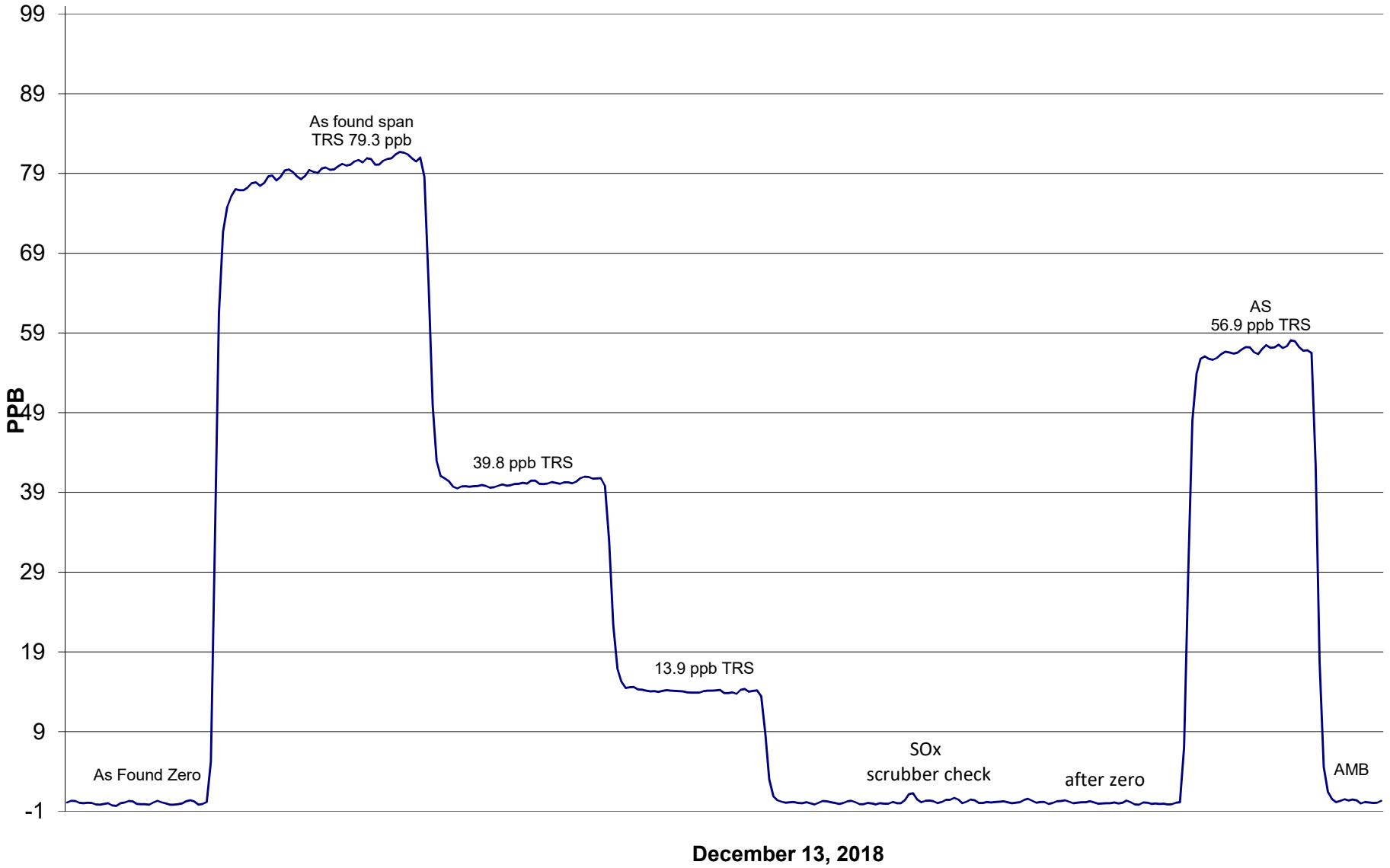
Calibration Date	December 13, 2018	Previous Calibration	November 16, 2018
Station Number	PAZA Rover	Station Location	Rycroft
Start Time (MST)	9:30	End Time (MST)	12:10
Analyzer make/model	TEI 43C	Analyzer serial #	1153630152

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.0	N/A		
79.3	80.8	0.9827	Correlation Coefficient	0.999965
39.8	40.3	0.9892		
14.2	14.0	1.0143	Slope	0.980761
			Intercept	0.241952



TRS Calibration



Calibration Report

Parameter **NO_X-NO-NO_2**

Air Monitoring Network **PAZA**

Air Quality Monitoring

Station Information

Calibration Date	December 10, 2018	Previous Calibration	November 16, 2018
Station Number	10	Station Location	Wembley

Reason: Routine | Installation | Removal | Other:

Start Time (MST)	11:05		End Time (MST)	14:45	
Barometric Pressure	0.919	Atm	Station Temperature	20.0	Deg C
Calibrator	Environicsn 6100		Serial Number	3016	
NO Cal Gas Conc	50.7	ppm	Cal Gas Expiry Date	October 10, 2020	
NOx Cal Gas Conc	50.8	ppm	Cal Gas Serial #	LL104185	

DACS Information

DACS make: CR3000 DACS serial No.: 5407

Parameter		NO2	NOx	NO
Before	Data Slope	1.003761	1.001513	0.998991
	Data Offset	-0.415857	-0.021601	0.387540
After	Data Slope	1.001984	0.998943	0.998002
	Data Offset	0.385906	1.613510	1.199821
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	6.8	mV
NOx bkgnd	7.1	mV	7.6	mV
NO coefficient	1.096		1.096	
NOx coefficient	0.995		0.995	
NO2 conv temp	326.6	Deg C	324.5	Deg C
Cooler	-3.0	Deg C	-3.0	Deg C
PMT Volt	-839.9	mV	-839.5	mV
R Cell Press	174.4	in Hg	179.9	in Hg
Sample Flow	0.733	LPM	0.707	LPM

Notes: No adjustments made

Calibration Report

Parameter **NOX-NO-NO2**

Air Monitoring Network **PAZA**

Station Information

Calibration Date: December 10, 2018 Station Location: Wembley

Calibration Data

	Dilution flow rate (ccm)	Source gas flow rate (ccm)	Calculated NOx conc (ppb)	Calculated NO conc (ppb)	Calculated NO2 conc (ppb)	Indicated NOx conc (ppb)	Indicated NO conc (ppb)	Indicated NO2 conc (ppb)	NOx Correction factor	NO Correction factor
zero	4996	0.00	0.0	0.0	0.0	-0.1	0.2	-0.1	N/A	N/A
1	4996	39.96	403.1	402.3	0.8	402.4	402.5	-1.7	1.0017	0.9996
2	4996	19.99	202.5	202.1	0.4	201.0	201.0	-0.8	1.0073	1.0054
3	4996	9.98	101.3	101.1	0.2	97.8	98.4	-0.3	1.0355	1.0271
AFZ	4996	0.00	0.0	0.0	0.0	-0.1	0.2	-0.1	0.0000	0.0000
AFS	4996	39.96	403.1	402.3	0.8	402.4	402.5	-1.7	1.0017	0.9996
							Average Correction Factor		1.0148	1.0107

As Found Concentrations: NO_X= 403.1 NO= 402.2 As Found Percent Change NO_X= 0.0% NO= 0.0%

GPT Calibration Data

Dilution Flow 4995 ccm Source Gas Flow 39.94 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	402.1	402.1	0.0	402.3	402.1	-1.9	0.9996	1.0000	N/A	N/A
300	402.1	89.9	312.2	402.9	89.9	311.5	0.9981	1.0000	1.0025	99.8%
200	402.1	187.7	214.4	403.2	187.7	213.5	0.9973	1.0000	1.0042	99.6%
100	402.1	283.7	118.4	403.1	283.7	117.4	0.9976	1.0000	1.0089	99.1%
					Average Correction Factor		0.9977	1.0000	1.0052	99.5%

AIC Data

	Previous calibration				Current calibration			
Parameter	NOx	NO2	NO		NOx	NO2	NO	
Auto zero	0.3	0.2	0.2	ppb	0.1	0.0	0.2	ppb
Auto span	189.2	186.8	1.5	ppb	184.7	182.3	1.4	ppb

Calibration Performed By: Grover Christiansen/ Akpevwe

Calibration Summary

Parameter **NO_2**

Air Monitoring Network **PAZA**

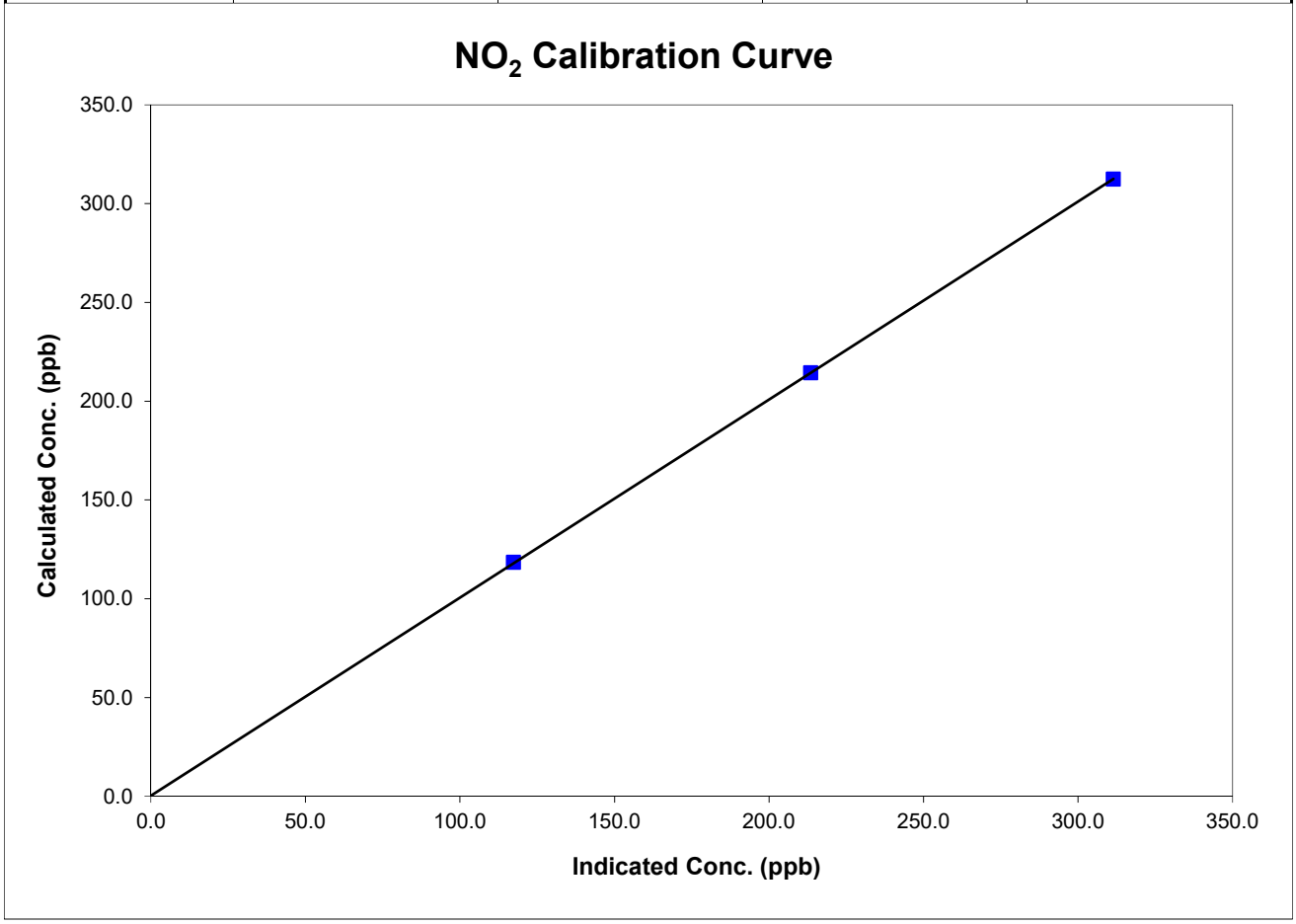
Air Quality Monitoring

Station Information

Calibration Date	December 10, 2018	Previous Calibration	November 16, 2018
Station Number	10	Station Location	Wembley
Start Time (MST)	11:05	End Time (MST)	14:45
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		
312.2	311.5	1.0025	Correlation Coefficient	0.999994
214.4	213.5	1.0042		
118.4	117.4	1.0089	Slope	1.001984
			Intercept	0.385906



Calibration Summary

Parameter **NO_x**

Air Monitoring Network **PAZA**

Air Quality Monitoring

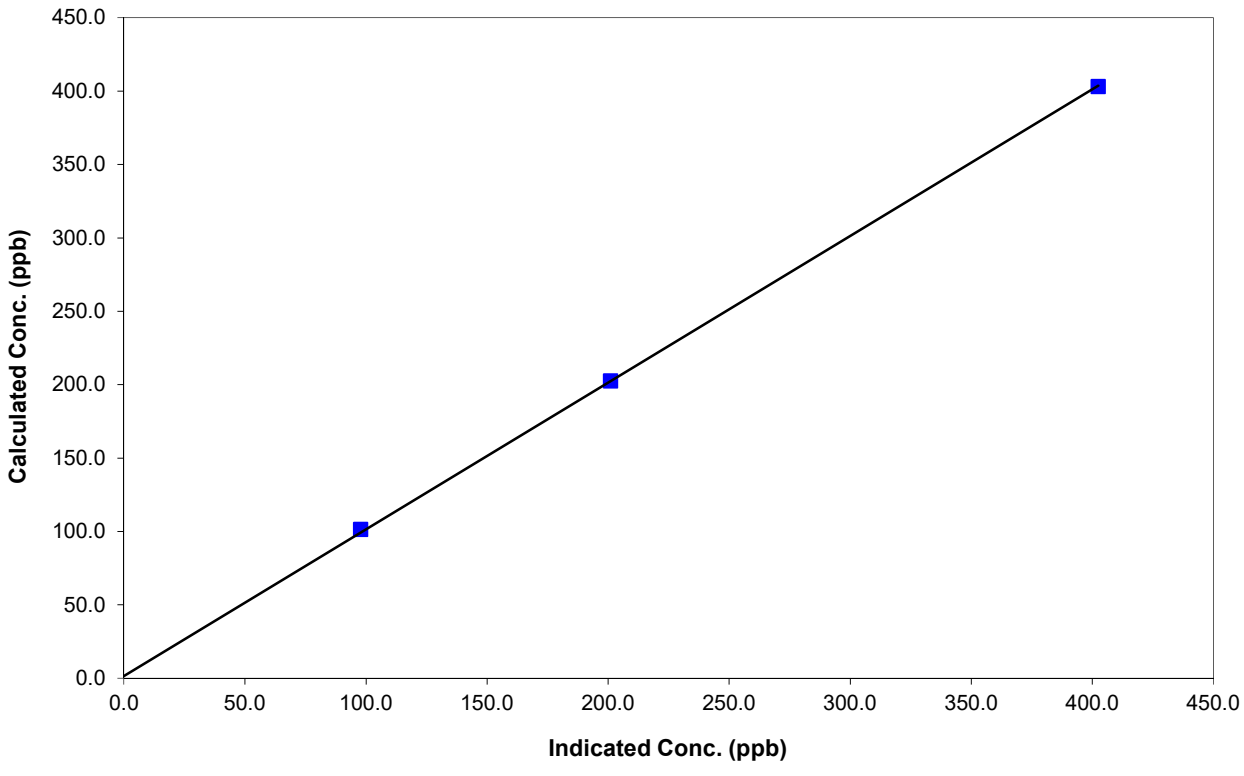
Station Information

Calibration Date	December 10, 2018	Previous Calibration	November 16, 2018
Station Number	10	Station Location	Wembley
Start Time (MST)	11:05	End Time (MST)	14:45
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		
403.1	402.4	1.0017	Correlation Coefficient	0.999927
202.5	201.0	1.0073		
101.3	97.8	1.0355	Slope	0.998943
			Intercept	1.613510

NOx Calibration Curve



Calibration Summary

Parameter **NO**

Air Monitoring Network **PAZA**

Air Quality Monitoring

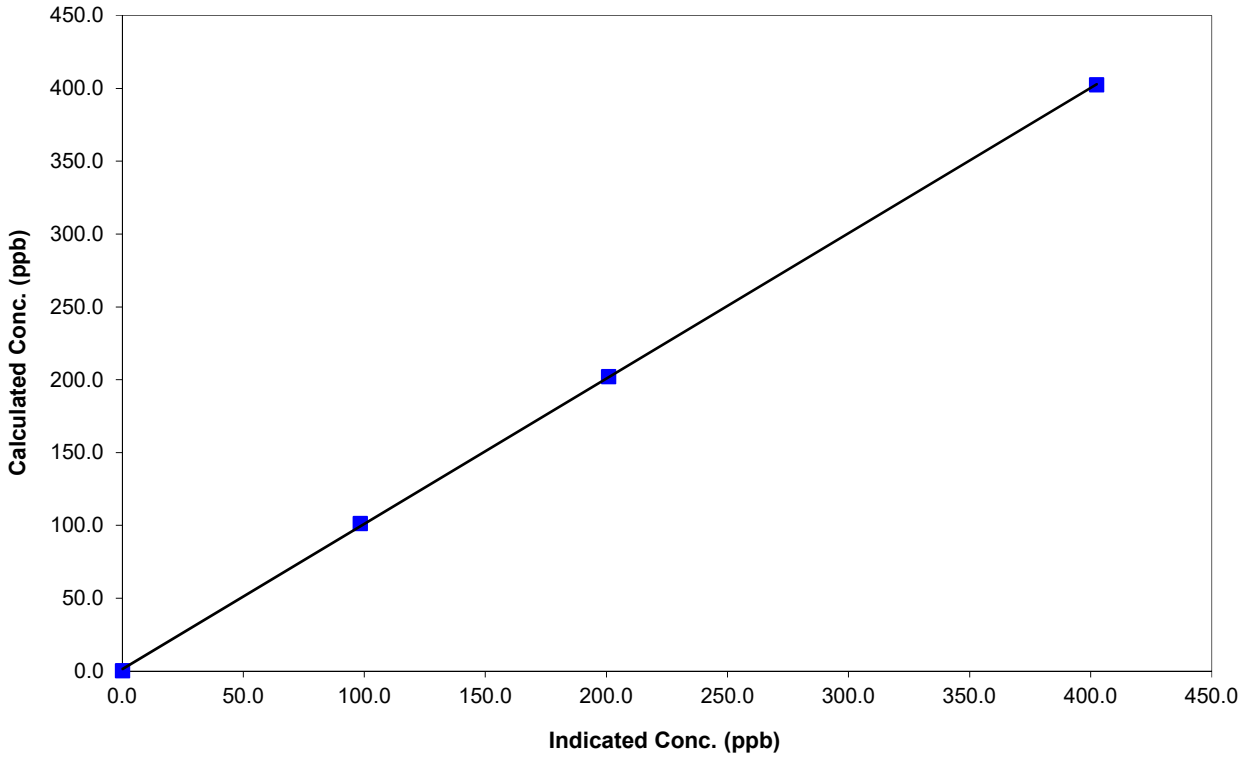
Station Information

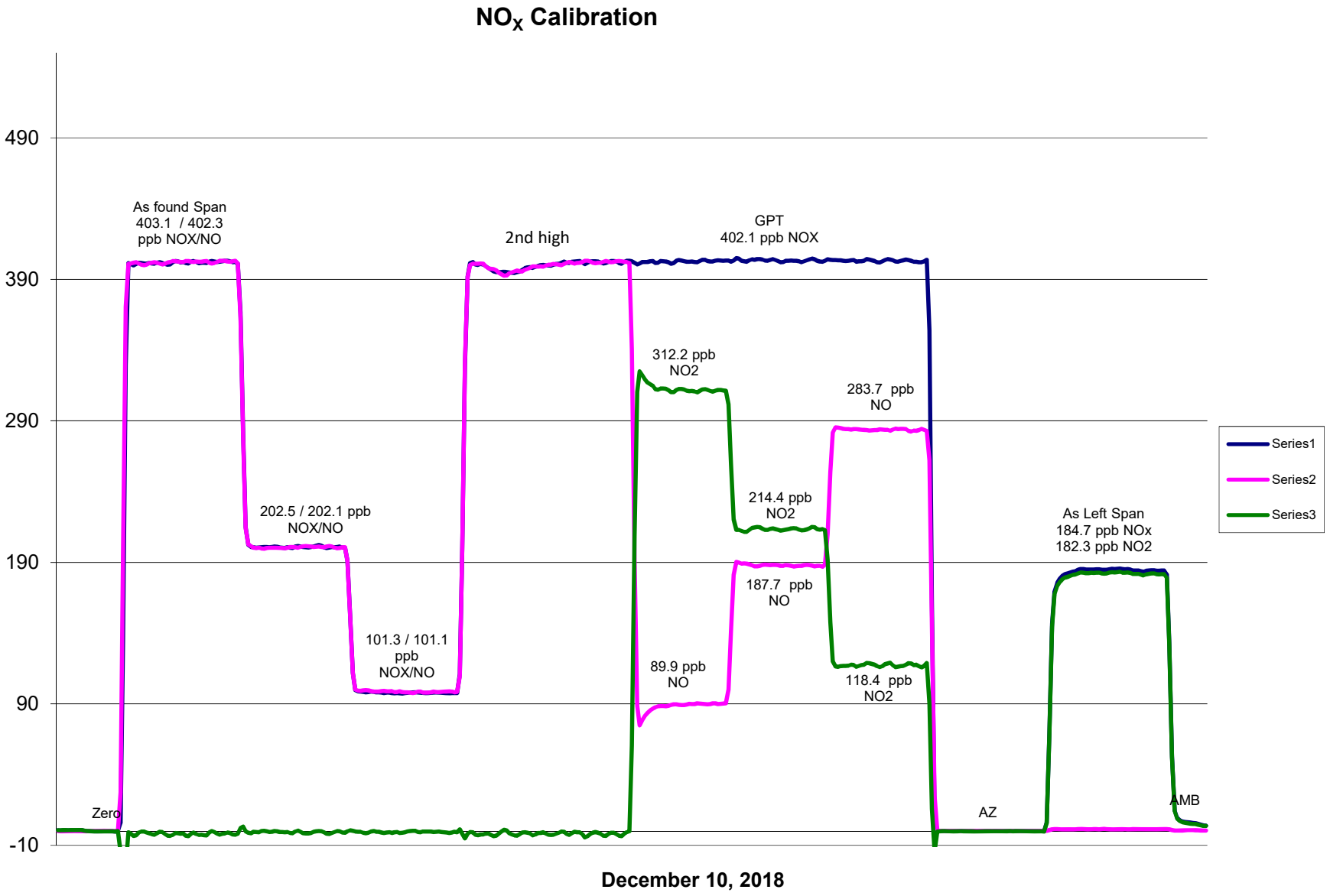
Calibration Date	December 10, 2018	Previous Calibration	November 16, 2018
Station Number	10	Station Location	Wembley
Start Time (MST)	11:05	End Time (MST)	14:45
Analyzer make	TEI 42i	Analyzer serial #	0701120011

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.2	N/A		
402.3	402.5	0.9996	Correlation Coefficient	0.999942
202.1	201.0	1.0054		
101.1	98.4	1.0271	Slope	0.998002
			Intercept	1.199821

NO Calibration Curve




NOX Calibration
490
390
290
190
90
-10
As found Span
403.1 / 402.3
ppb NOX/NO
202.5 / 202.1 ppb
NOX/NO
101.3 / 101.1
ppb
NOX/NO
Zero
2nd high
312.2 ppb
NO2
89.9 ppb
NO
GPT
402.1 ppb NOX
214.4 ppb
NO2
187.7 ppb
NO
283.7 ppb
NO
118.4 ppb
NO2
AZ
As Left Span
184.7 ppb NOx
182.3 ppb NO2
AMB
Series1
Series2
Series3
December 10, 2018

Calibration Report

Parameter **O3**

Air Monitoring Network **PAZA**

Air Quality Monitoring

Station Information

Calibration Date	December 10 2018	Previous Calibration	November 16 2018
Station Number	10	Station Location	Wembley
Reason: Routine	Instal	Removal	Other:
Start Time (MST)	14:05	End Time (MST)	16:05
Barometric Pressure	0.919 atm	Station Temperature	20.0 Deg C
Calibrator	Environics 6100	Serial Number	3016
DACS make	CR3000	DACS serial No.	5407
DACS voltage range	0 - 5 Volts	DACS channel #	6
	Before		After
Calculated slope	1.016666	Calculated slope	0.994004
Calculated intercept	-1.013906	Calculated intercept	-0.559581
Analyzer make	TEI Model 49I	Analyzer serial #	49I-115363156

	before		after	
Concentration range	0-500	ppb	0-500	ppb
Offset	-1.6	ppb	-1.6	ppb
Span	1.010		1.010	
Cell A intensity	89352	Hz	89520	Hz
Cell B intensity	76257	Hz	76294	Hz
Pressure	692.60	in Hg	688.90	in Hg
CellA Flow	0.680	ccm	0.677	ccm
Cell B Flow	0.680	cmm	0.676	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)
5033	0.00	0.0	-0.1	N/A
5033	0.30	312.2	314.2	0.9938
5033	0.20	214.4	216.4	0.9907
5033	0.10	118.4	120.7	0.9810
5033	0.00	0.0	-0.1	As found zero
5033	0.30	312.2	314.2	As found span
			Average Correction Factor	0.9885

Calculated value of As Found Response: 318.4 ppm Percent Change of As Found: 2.0%

	before calibration		after calibration	
Auto zero	0.3	ppb	0.5	ppb
Auto span	385.7	ppb	399.1	ppb

Notes: No adjustment made

Calibration Performed By: Grover Christiansen/ Akpevwe Akpiroroh

Calibration Summary

Parameter **O3**

Air Monitoring Network **PAZA**

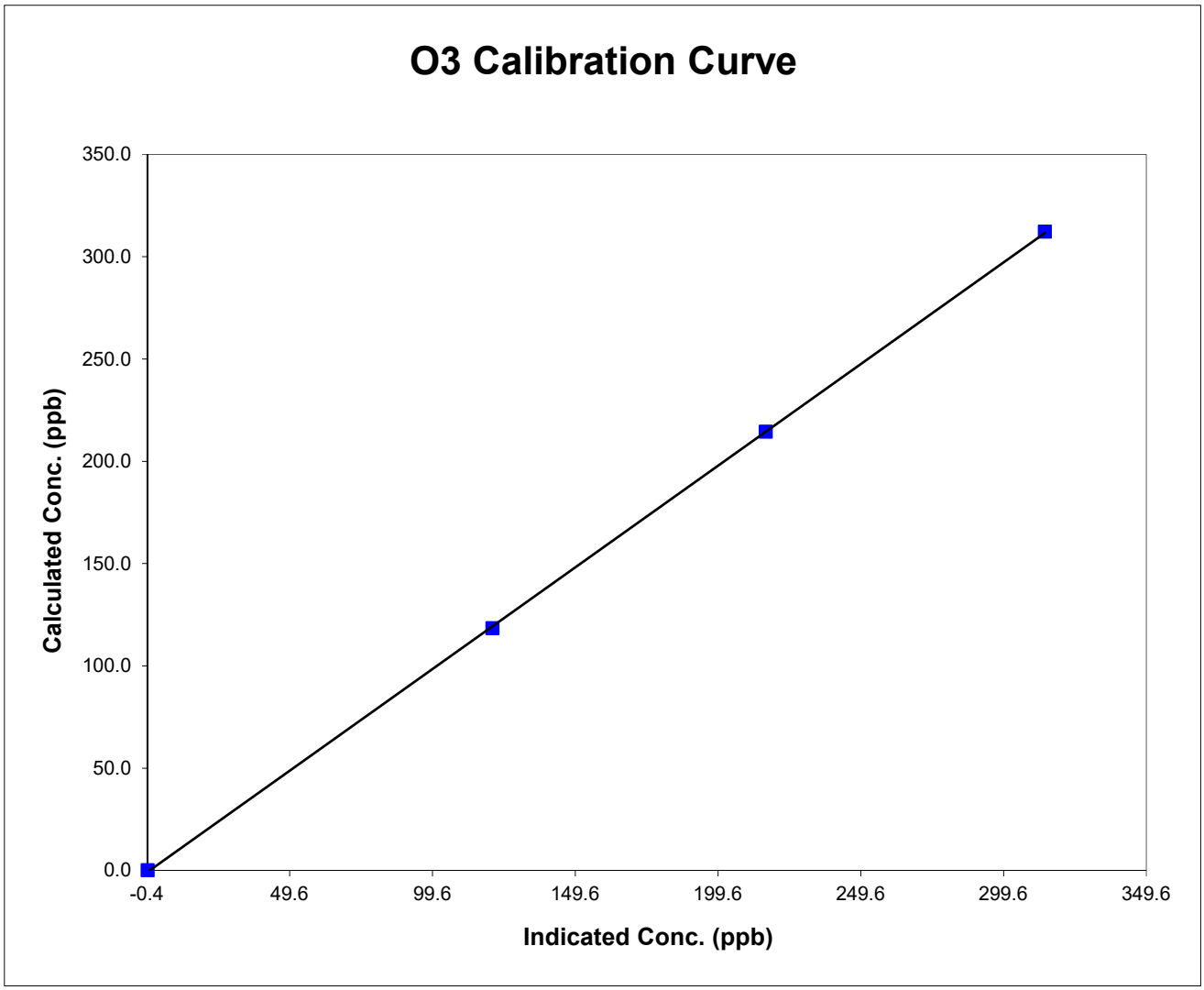
Air Quality Monitoring

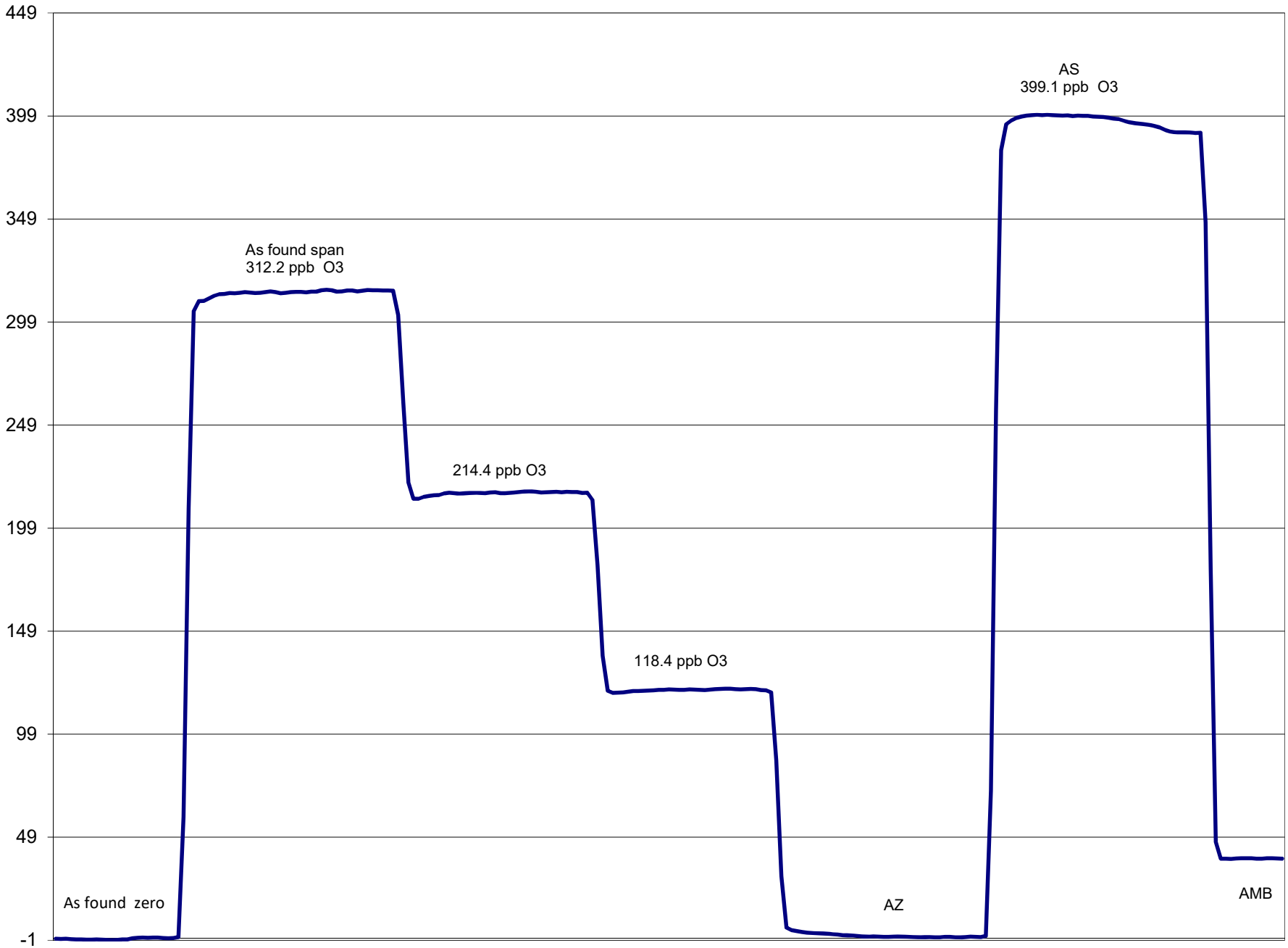
Station Information

Calibration Date	December 10 2018	Previous Calibration	November 16 2018
Station Number	10	Station Location	Wembley
Start Time (MST)	14:05	End Time (MST)	16:05
Analyzer make/model	TEI Model 49I	Analyzer serial #	49I-115363156

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.1	NA		
312.2	314.2	0.9938	Correlation Coefficient	0.999968
214.4	216.4	0.9907		
118.4	120.7	0.9810	Slope	0.994004
			Intercept	-0.559581





December 10 2018

Calibration Report

Parameter **CH4 / NMHC / THC**

Air Monitoring Network **PAZA**

Air Quality Monitoring

Station Information

Calibration Date	December 13, 2018	Previous Calibration	November 27, 2018
Station Number	1	Station Location	Wembley

Reason: Routine | Install | Removal | Other:

Start Time (MST)	11:30	End Time (MST)	15:20:00 PM
Barometric Pressure	0.930 atm	Station Temperature	21.0 Deg C
Calibrator	Environics 6100	Serial Number	3016
Cal Gas CH4 Conc	404 ppm CH4	Cal Gas Expiry Date	28/03/2014
Cal Gas C3H8 Conc	201 552.75 ppm CH4	Cal Gas Cylinder #	LL34988
DACS make	CR3000	DACS serial No.	5408
DACS voltage range	0 - 5 volt	DACS channel #	SE 12,13,14

Analyzer make	TEI 55I-A3PHAA	Analyzer serial #	1151980005

	before		after	
Concentration range	0-20 (CH4, NMHC); 0-40 (THC)	ppm	0-20 (CH4, NMHC); 0-40 (THC)	ppm
Air pressure	34.6	PSI	34.6	PSI
Fuel pressure	49.5	PSI	49.5	PSI
Carrier pressure	42.2	PSI	43.1	PSI
CH4 cal factor	7.34003260		7.11530910	E^{-4}
NMHC cal factor	1.9709519		1.9947173	E^{-4}
CH4 Rt	12.40	Sec	12.40	Sec
CH4 Pk HT	17316		11370	

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)
2000	0.00	0.00	0.02	N/A
1997	64.96	12.73	12.65	1.0058
1997	34.97	6.95	6.83	1.0181
1997	15.96	3.20	3.11	1.0302
2000	0.00	0.00	0.02	As Found Zero
2000	64.93	12.70	12.87	As Found Span
			Average Correction Factor	1.0180

Calculated value of As Found Response: 12.898 ppm Percent Change of As Found: -1.5%

	Before		After
Calculated slope	1.000708	Calculated slope	1.006038
Calculated intercept	0.046742	Calculated intercept	0.033387

Final Zero/Span Data

	before calibration		after calibration	
Auto zero	0.00	ppm	0.02	ppm
Auto span	7.98	ppm	8.07	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)
2000	0.00	0.00	0.00	N/A
2002	64.96	17.37	17.35	1.0011
1997	34.97	9.51	9.42	1.0098
1997	15.96	4.38	4.19	1.0447
2000	0.00	0.00	0.00	As Found Zero
2000	64.93	17.38	17.91	As Found Span
			Average Correction Factor	1.0185

Calculated value of As Found Response: 17.951 ppm Percent Change of As Found: -3.3%

	Before		After
Calculated slope	0.998557	Calculated slope	0.998064
Calculated intercept	0.066995	Calculated intercept	0.089344

Final Zero/Span Data

	before calibration		after calibration	
Auto zero	0.00	ppm	0.00	ppm
Auto span	10.96	ppm	13.07	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)
2000	0.00	0.00	0.02	N/A
1997	64.96	30.14	30.05	1.0031
1997	34.97	16.47	16.26	1.0126
1997	15.96	7.59	7.33	1.0354
2000	0.00	0.00	0.02	As Found Zero
2000	64.93	30.08	30.82	As Found Span
			Average Correction Factor	1.0170

Calculated value of As Found Response: 30.899 ppm Percent Change of As Found: -2.7%

	Before		After
Calculated slope	0.999983	Calculated slope	1.001612
Calculated intercept	0.101784	Calculated intercept	0.112591

Final Zero/Span Data

	before calibration		after calibration	
Auto zero	0.00	ppm	0.03	ppm
Auto span	18.94	ppm	21.15	ppm

Notes: Hydrogen & nitrogen tanks replaced
Slight span adjustment made

Calibration Performed By: Dmytro Dolotii, Akpevwe Akpiroroh

Calibration Summary

Parameter **CH4**

Air Monitoring Network **PAZA**

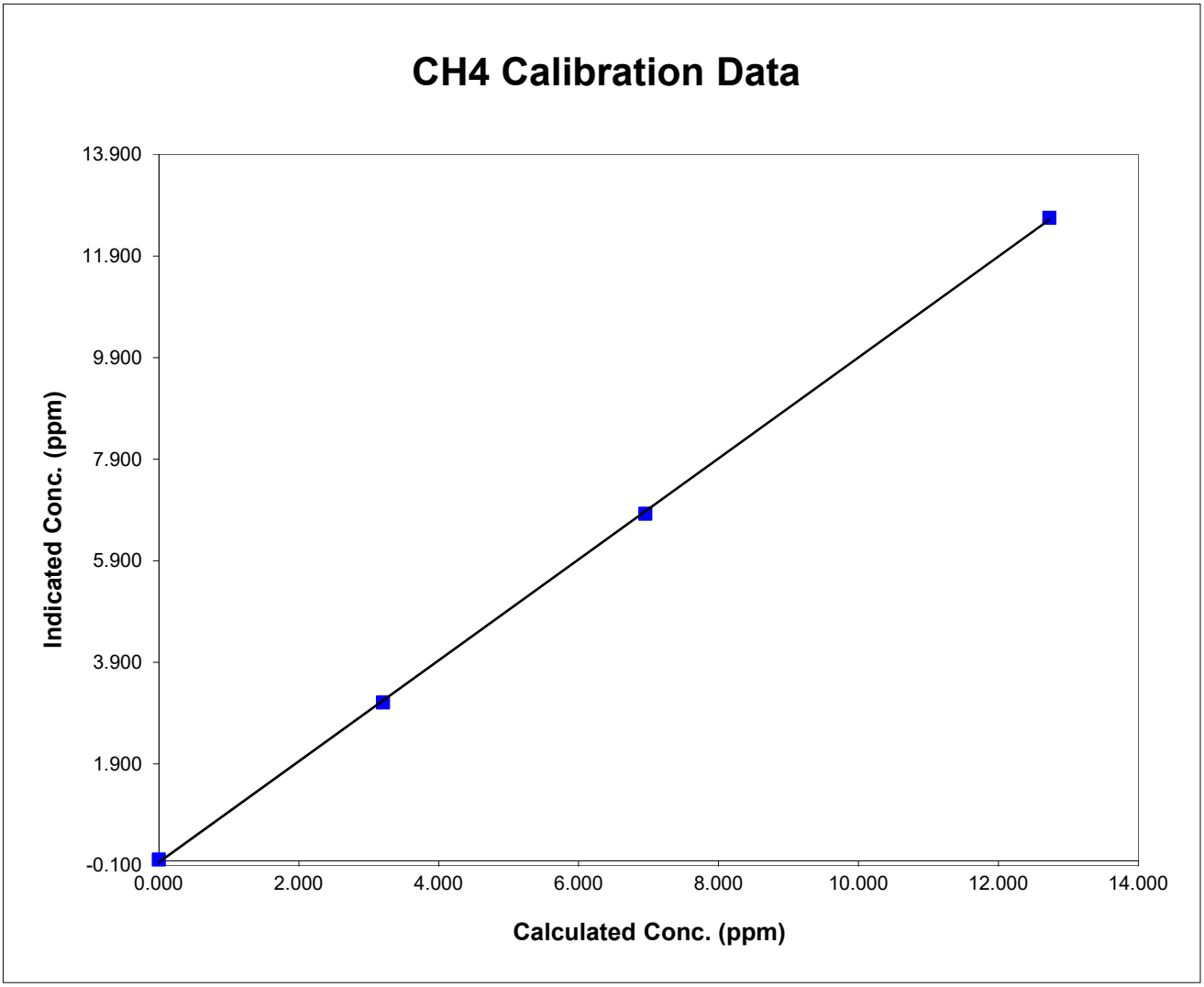
Air Quality Monitoring

Station Information

Calibration Date	December 13, 2018	Previous Calibration	November 27, 2018
Station Number	1	Station Location	Wembley
Start Time (MST)	11:30	End Time (MST)	15:20:00 PM
Analyzer make/model	TEI 55I-A3PHAA	Analyzer serial #	1151980005

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.021	N/A		
12.728	12.654	1.0058	Correlation Coefficient	0.999907
6.953	6.829	1.0181		
3.203	3.109	1.0302	Slope	1.006038
			Intercept	0.033387



Calibration Summary

Parameter **NMHC**

Air Monitoring Network **PAZA**

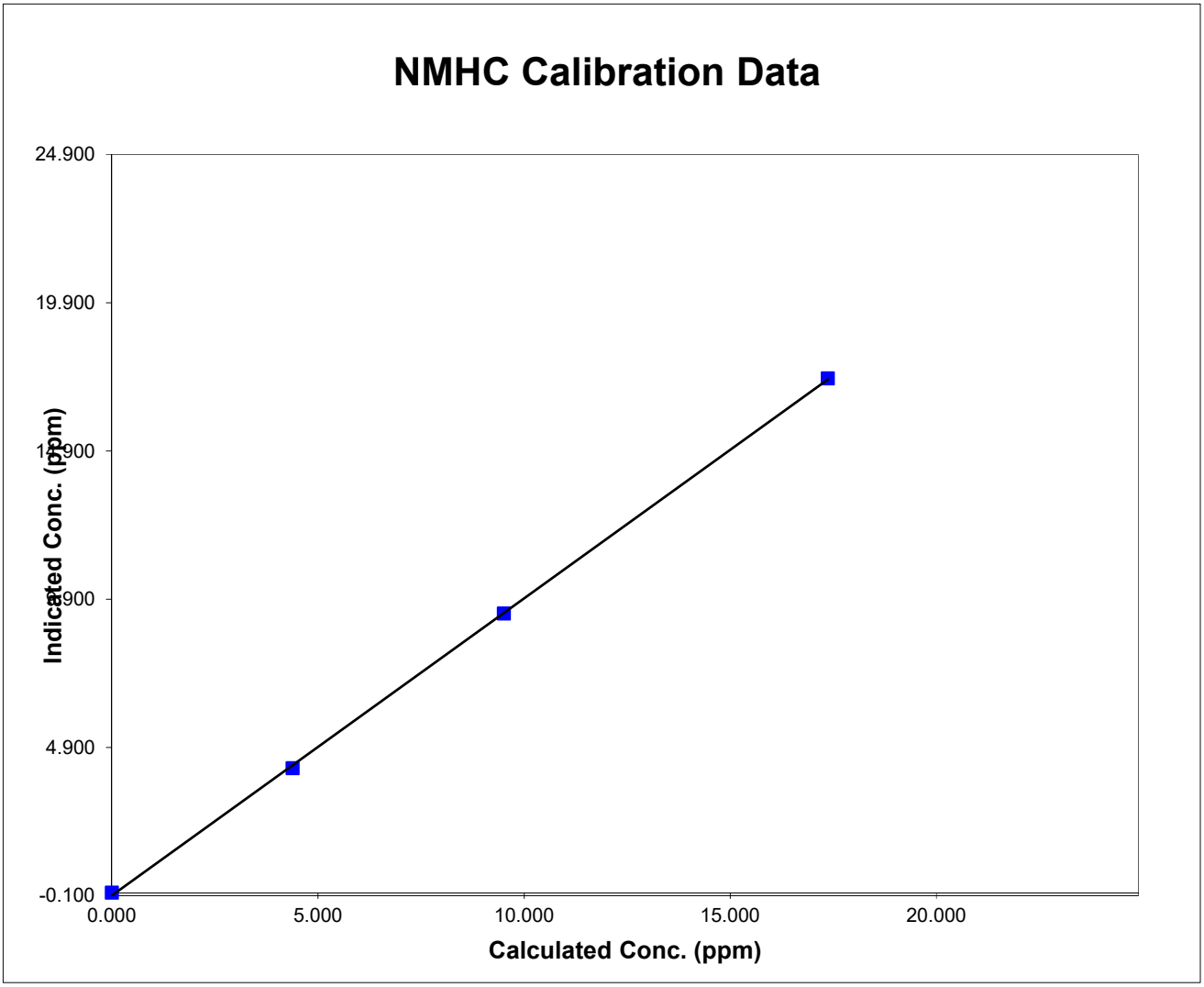
Air Quality Monitoring

Station Information

Calibration Date	December 13, 2018	Previous Calibration	November 27, 2018
Station Number	1	Station Location	Wembley
Start Time (MST)	11:30	End Time (MST)	15:20:00 PM
Analyzer make/model	TEI 55I-A3PHAA	Analyzer serial #	1151980005

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.001	N/A		
17.372	17.353	1.0011	Correlation Coefficient	0.999872
9.513	9.421	1.0098		
4.383	4.195	1.0447	Slope	0.998064
			Intercept	0.089344



Calibration Summary

Parameter **THC**

Air Monitoring Network **PAZA**

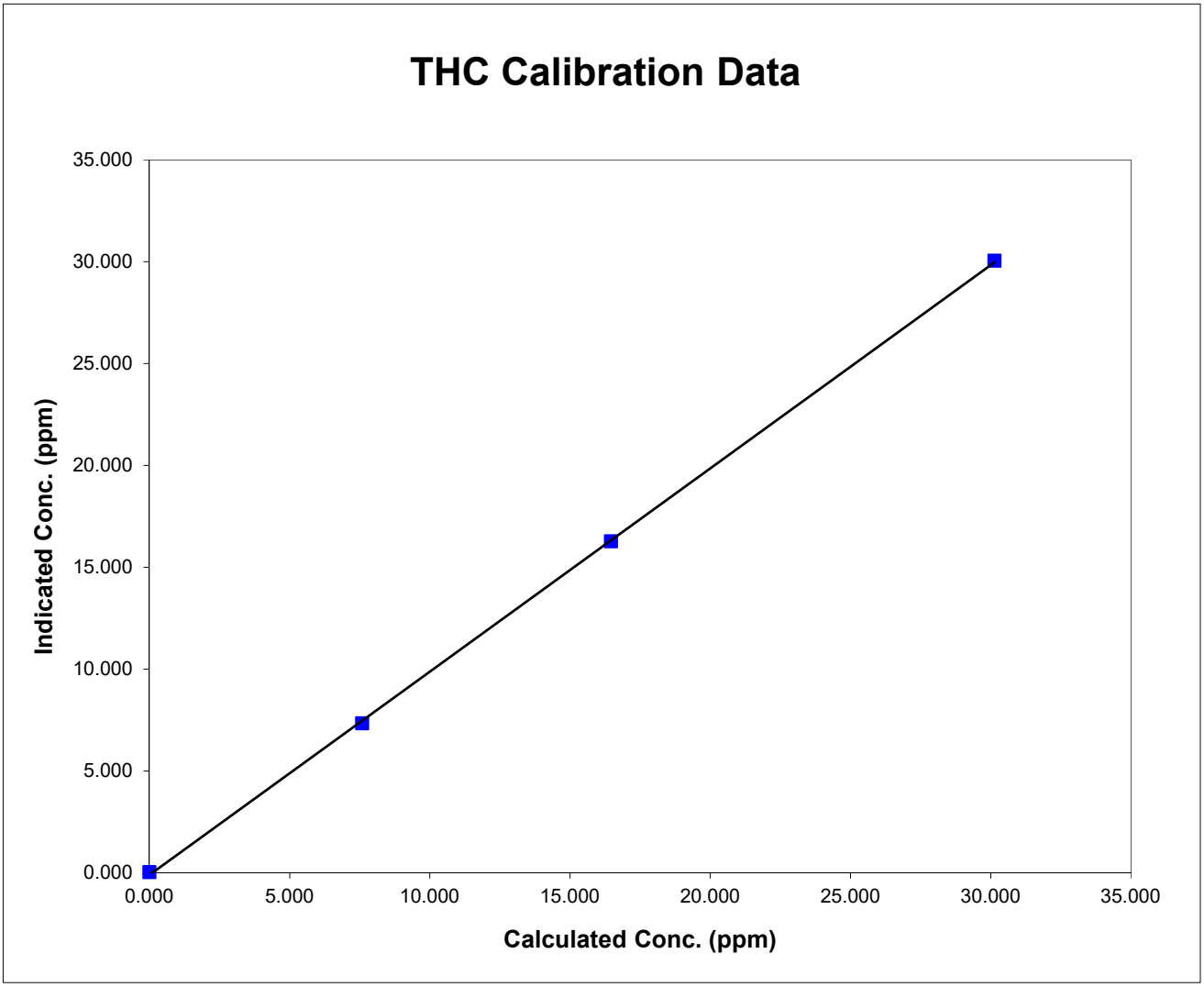
Air Quality Monitoring

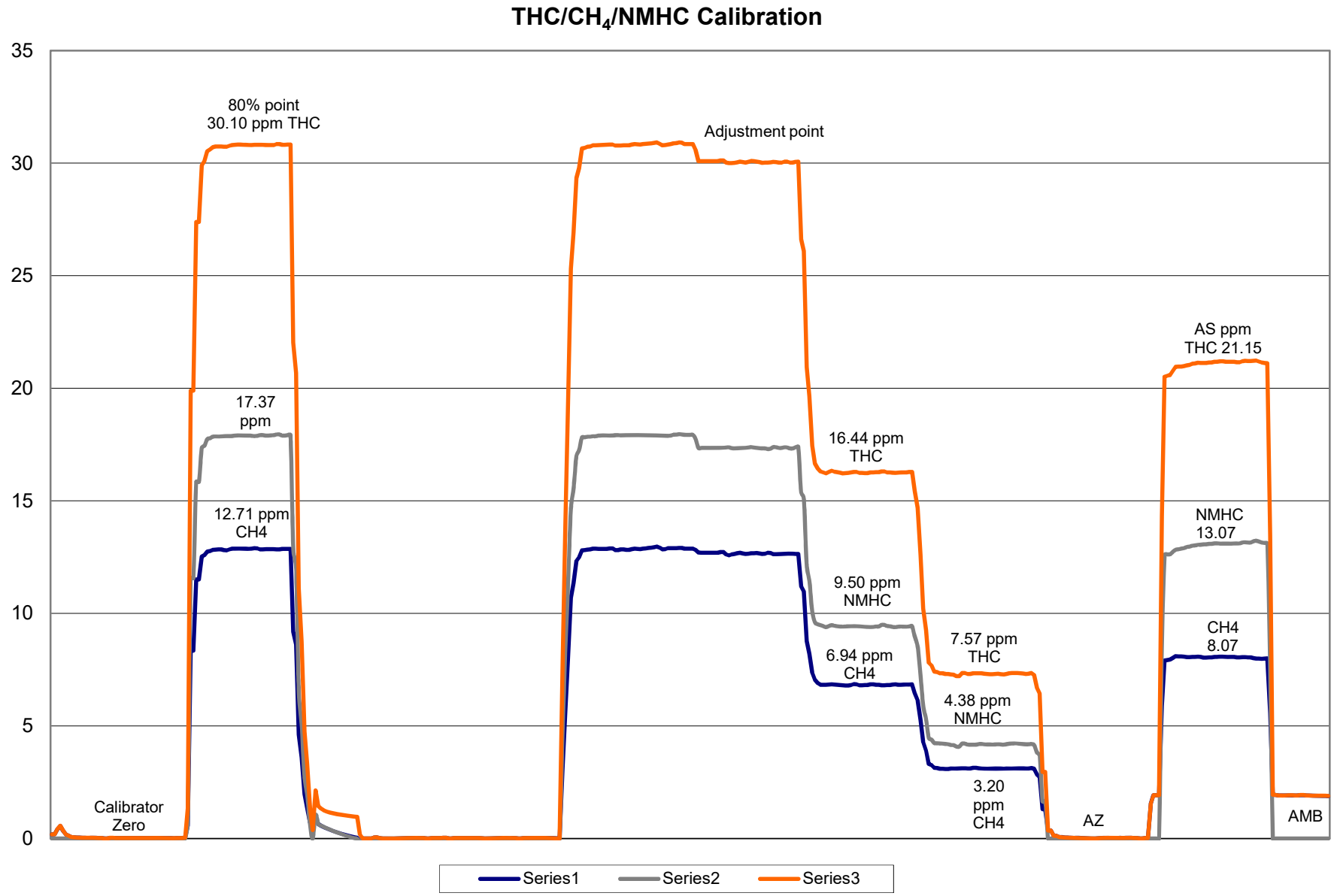
Station Information

Calibration Date	December 13, 2018	Previous Calibration	November 27, 2018
Station Number	1	Station Location	Wembley
Start Time (MST)	11:30	End Time (MST)	15:20:00 PM
Analyzer make/model	TEI 55I-A3PHAA	Analyzer serial #	1151980005

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.020	N/A		
30.141	30.049	1.0031	Correlation Coefficient	0.999911
16.466	16.261	1.0126		
7.586	7.326	1.0354	Slope	1.001612
			Intercept	0.112591




THC/CH4/NMHC Calibration
35
30
25
20
15
10
5
0
80% point
30.10 ppm THC
Adjustment point
17.37
ppm
12.71 ppm
CH4
16.44 ppm
THC
9.50 ppm
NMHC
6.94 ppm
CH4
7.57 ppm
THC
4.38 ppm
NMHC
3.20
ppm
CH4
AS ppm
THC 21.15
NMHC
13.07
CH4
8.07
Calibrator
Zero
AZ
AMB
Series1
Series2
Series3

Calibration Report

Parameter **CH4 / NMHC / THC**

Air Monitoring Network **PAZA**

Air Quality Monitoring

Station Information

Calibration Date	December 24, 2018	Previous Calibration	December 13, 2018
Station Number	1	Station Location	Wembley

Reason: Routine | Install | Removal | Other:

Start Time (MST)	11:30	End Time (MST)	13:55:00 PM
Barometric Pressure	0.930 atm	Station Temperature	21.0 Deg C
Calibrator	Environics 6100	Serial Number	3016
Cal Gas CH4 Conc	404 ppm CH4	Cal Gas Expiry Date	28/03/2014
Cal Gas C3H8 Conc	201 552.75 ppm CH4	Cal Gas Cylinder #	LL34988
DACS make	CR3000	DACS serial No.	5408
DACS voltage range	0 - 5 volt	DACS channel #	SE 12,13,14

Analyzer make	TEI 55I-A3PHAA	Analyzer serial #	1151980005

	before		after	
Concentration range	0-20 (CH4, NMHC); 0-40 (THC)	ppm	0-20 (CH4, NMHC); 0-40 (THC)	ppm
Air pressure	34.6	PSI	34.7	PSI
Fuel pressure	49.5	PSI	49.5	PSI
Carrier pressure	43.1	PSI	42.1	PSI
CH4 cal factor	7.11530910		6.89001930	E^{-4}
NMHC cal factor	1.9947173		1.8953983	E^{-4}
CH4 Rt	12.40	Sec	12.60	Sec
CH4 Pk HT	11370		18476	

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)
2000	0.00	0.00	0.02	N/A
1997	64.96	12.73	12.70	1.0023
1997	34.97	6.95	6.90	1.0077
1997	15.96	3.20	3.16	1.0133
2000	0.00	0.00	0.02	As Found Zero
2000	64.93	12.70	13.06	As Found Span
			Average Correction Factor	1.0078

Calculated value of As Found Response: 13.094 ppm Percent Change of As Found: -3.1%

	Before		After
Calculated slope	1.000708	Calculated slope	1.003232
Calculated intercept	0.046742	Calculated intercept	0.006980

Final Zero/Span Data

	before calibration		after calibration	
Auto zero	0.00	ppm	0.03	ppm
Auto span	7.98	ppm	8.17	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)
2000	0.00	0.00	0.00	N/A
2002	64.96	17.37	17.40	0.9985
1997	34.97	9.51	9.47	1.0050
1997	15.96	4.38	4.27	1.0272
2000	0.00	0.00	0.00	As Found Zero
2000	64.93	17.38	18.27	As Found Span
			Average Correction Factor	1.0102

Calculated value of As Found Response: 18.307 ppm Percent Change of As Found: -5.3%

	Before		After
Calculated slope	0.998557	Calculated slope	0.996580
Calculated intercept	0.066995	Calculated intercept	0.060597

Final Zero/Span Data

	before calibration		after calibration	
Auto zero	0.00	ppm	0.00	ppm
Auto span	10.96	ppm	13.25	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)
2000	0.00	0.00	0.02	N/A
1997	64.96	30.14	30.13	1.0003
1997	34.97	16.47	16.37	1.0056
1997	15.96	7.59	7.45	1.0183
2000	0.00	0.00	0.02	As Found Zero
2000	64.93	30.08	31.36	As Found Span
			Average Correction Factor	1.0081

Calculated value of As Found Response: 31.444 ppm Percent Change of As Found: -4.5%

	Before		After
Calculated slope	0.999983	Calculated slope	0.999727
Calculated intercept	0.101784	Calculated intercept	0.057187

Final Zero/Span Data

	before calibration		after calibration	
Auto zero	0.00	ppm	0.02	ppm
Auto span	18.94	ppm	21.44	ppm

Notes: Actuator replaced on Dec 23 2018
After calibration performed
Span adjustment made

Calibration Performed By: Dmytro Dolotii

Calibration Summary

Parameter **CH4**

Air Monitoring Network **PAZA**

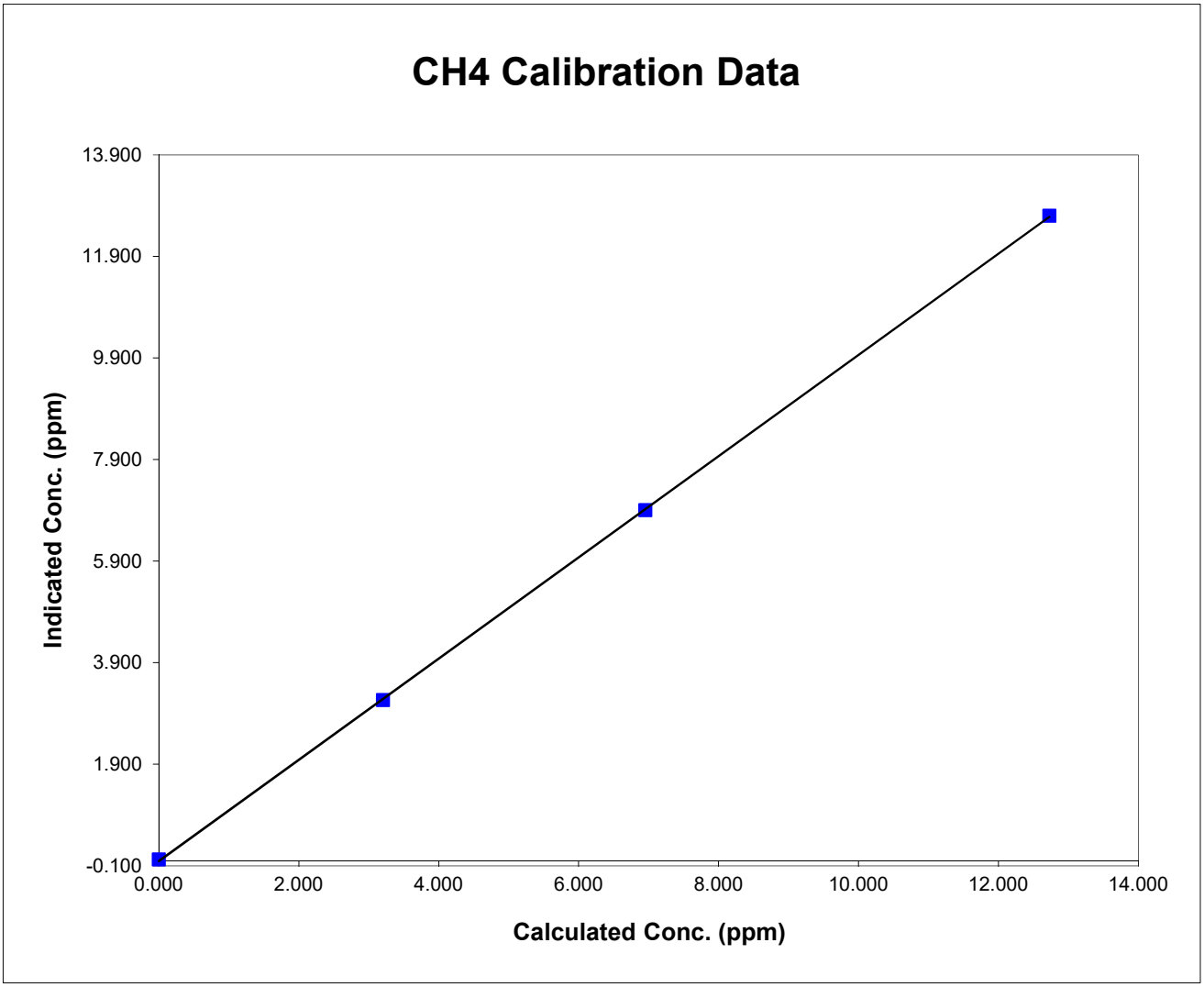
Air Quality Monitoring

Station Information

Calibration Date	December 24, 2018	Previous Calibration	December 13, 2018
Station Number	1	Station Location	Wembley
Start Time (MST)	11:30	End Time (MST)	13:55:00 PM
Analyzer make/model	TEI 55I-A3PHAA	Analyzer serial #	1151980005

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.023	N/A		
12.728	12.699	1.0023	Correlation Coefficient	0.999973
6.953	6.900	1.0077		
3.203	3.161	1.0133	Slope	1.003232
			Intercept	0.006980



Calibration Summary

Parameter **NMHC**

Air Monitoring Network **PAZA**

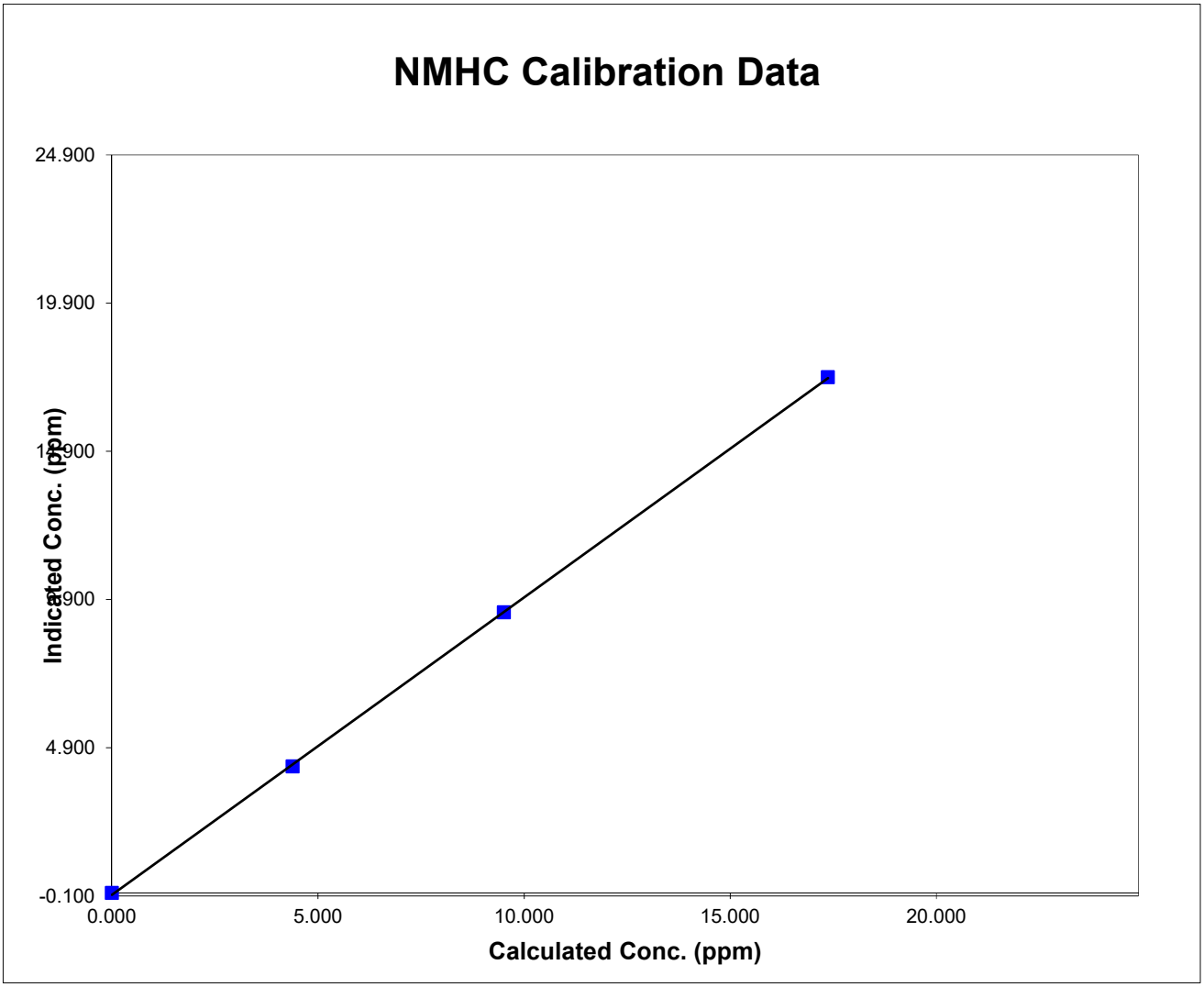
Air Quality Monitoring

Station Information

Calibration Date	December 24, 2018	Previous Calibration	December 13, 2018
Station Number	1	Station Location	Wembley
Start Time (MST)	11:30	End Time (MST)	13:55:00 PM
Analyzer make/model	TEI 55I-A3PHAA	Analyzer serial #	1151980005

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.001	N/A		
17.372	17.398	0.9985	Correlation Coefficient	0.999941
9.513	9.466	1.0050		
4.383	4.266	1.0272	Slope	0.996580
			Intercept	0.060597



Calibration Summary

Parameter **THC**

Air Monitoring Network **PAZA**

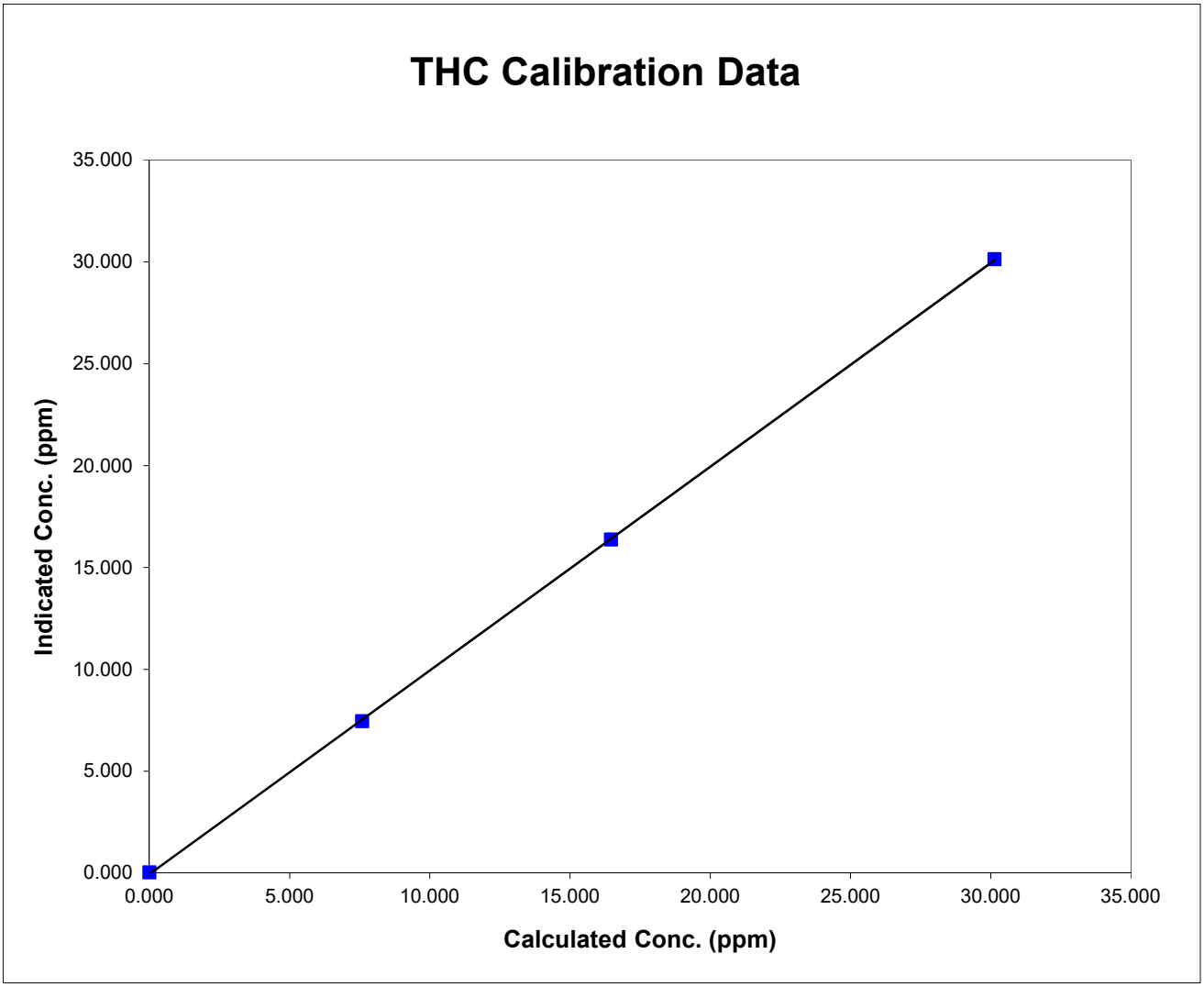
Air Quality Monitoring

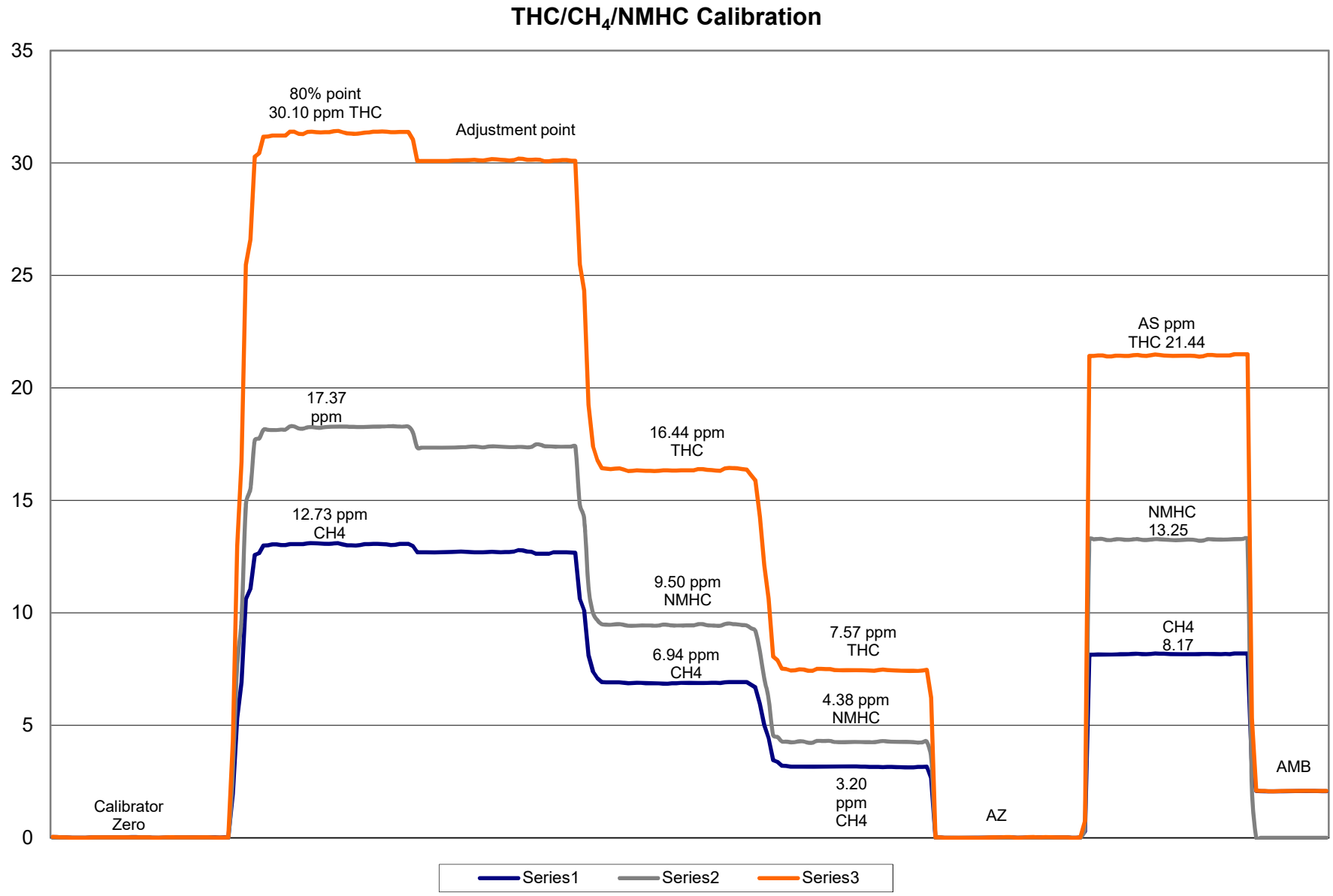
Station Information

Calibration Date	December 24, 2018	Previous Calibration	December 13, 2018
Station Number	1	Station Location	Wembley
Start Time (MST)	11:30	End Time (MST)	13:55:00 PM
Analyzer make/model	TEI 55I-A3PHAA	Analyzer serial #	1151980005

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.022	N/A		
30.141	30.134	1.0003	Correlation Coefficient	0.999968
16.466	16.374	1.0056		
7.586	7.449	1.0183	Slope	0.999727
			Intercept	0.057187




THC/CH4/NMHC Calibration
35
30
25
20
15
10
5
0
80% point
30.10 ppm THC
Adjustment point
17.37
ppm
16.44 ppm
THC
12.73 ppm
CH4
9.50 ppm
NMHC
7.57 ppm
THC
6.94 ppm
CH4
4.38 ppm
NMHC
3.20
ppm
CH4
AS ppm
THC 21.44
NMHC
13.25
CH4
8.17
AMB
Calibrator
Zero
AZ
Series1
Series2
Series3

End of Report
PAZA
December 2018
Ambient Air Monitoring Report