



# **Peace Airshed Zone Association**

## **Ambient Air Monitoring Network Summary**

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

**Operations and Reporting**

**FOCUS**  
AIR QUALITY MONITORING

February 28<sup>th</sup>, 2014

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

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

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

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

Company	Facility	LSD	EPEA Approval Number
Advantage Oil & Gas Ltd.	Glacier	05-02-076-13-W6	262479-00-00
Alberta Power (2000) Ltd. (an ATCO company)	Sturgeon	SW-06-069-21-W5	10283-02-02
ATCO Power Canada	Poplar Hill	11-19-073-08-W6	67774-01-01
ATCO Power Canada	Valleyview	SW-06-069-21-W5	147709-01-01
AltaGas Ltd.	Pouce Coupe	03-03-081-13-W6	247673-00-00
	Ante Creek	02-26-068-25-W5	266694-00-00
	Gordondale	16-31-78-11-W6M	287474-00-00
Apache Canada Ltd.	House Mountain	01-08-070-10-W5	10137-02-02
Barrick Energy Inc.	Sturgeon/Valleyview	02-02-069-22-W5	1633-02-00
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

<b>Company</b>	<b>Facility</b>	<b>LSD</b>	<b>EPEA Approval Number</b>
	Gold Creek	13-26-067-05-W6	00010446-02-00
	Teepee Creek	SE-2-074-04-W6	00001635-02-00
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
Grande Prairie Generation Inc.	Northern Prairie Power Project	04-19-073-08-W6	00238762-00-00
Long Run Exploration	Eaglesham	01-25-076-01-W6	00241532-00-00
	Kakut	14-12-075-03-W6	00248469-00-00
	Donnelly	06-01-077-21-W5	00000087-02-00
	Puskwaskau	03-26-074-01-W6	00017524-01-00
Longview Oil Corp.	Sunset House	06-22-070-20-W5	138884-01-00
Penn West Petroleum Ltd.	Tangent	13-29-080-23-W5	00001746-02-00
	Pouce Coupe	16-07-078-11-W6	00000614-01-00

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

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

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

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

**Henry Pirker Station:**

- ◆ The measured ambient air quality was within the AAAQO for the Henry Pirker station.
- ◆ All analyzers and sensors at the Henry Pirker station had an operational uptime greater than 90% for the month of January with the exception of the THC analyzer, which experienced actuator failure and required an extended period of time to acquire replacement parts, returning an uptime of 74.9%. **AE Reference #280824**

**Evergreen Park Station:**

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

**Smoky Heights Station:**

- ◆ The measured ambient air quality was within the AAAQO for the Smoky Heights station with the exception of the PM<sub>2.5</sub> analyzer, which recorded two (2) 1-hour exceedences of the guideline of 80 µg/m<sup>3</sup>:
  - Jan 15 01:00 188.7 µg/m<sup>3</sup> Alberta Environment Reference # 279444
  - Jan 15 13:00 132.2 µg/m<sup>3</sup> Alberta Environment Reference # 279444
- ◆ All analyzers and sensors at the Smoky Heights station had an operational uptime greater than 90% for the month of January.

**Beaverlodge Station:**

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

**Valleyview Station:**

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

**Reno Station:**

- ◆ The measured ambient air quality was within the AAAQO for the Reno station.
- ◆ All analyzers and sensors at the Reno station had an operational uptime greater than 90% for the month of January, with the exception of the SO<sub>2</sub>, which was noted to be in need of repair in December, and parts ordered at that time. Analyzer failed before parts arrived and was returned to service on January 18<sup>th</sup>, returning an uptime of 54.8%. In addition, the wind head unfroze on January 9<sup>th</sup>, returning an uptime of 65.5%.

**Falher Station:**

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

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

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

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

- Monthly average concentrations for SO<sub>2</sub> passives ranged from 0.1 ppb to 0.7 ppb, with a mean of 0.3 ppb.
- Monthly average concentrations for NO<sub>2</sub> passives ranged from 0.2 ppb to 10.2 ppb, with a mean of 1.6 ppb.
- Monthly average concentrations for O<sub>3</sub> passives ranged from 18.2 ppb to 52.5 ppb, with a mean of 38.8 ppb.
- Monthly average concentrations for H<sub>2</sub>S were between 0.1 And 0.6 pbb, with a mean of 0.3 ppb.

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

On Behalf of the  
Peace Airshed Zone Association



Shelly Pruden, C. Tech  
Environmental Coordinator  
City of Grande Prairie

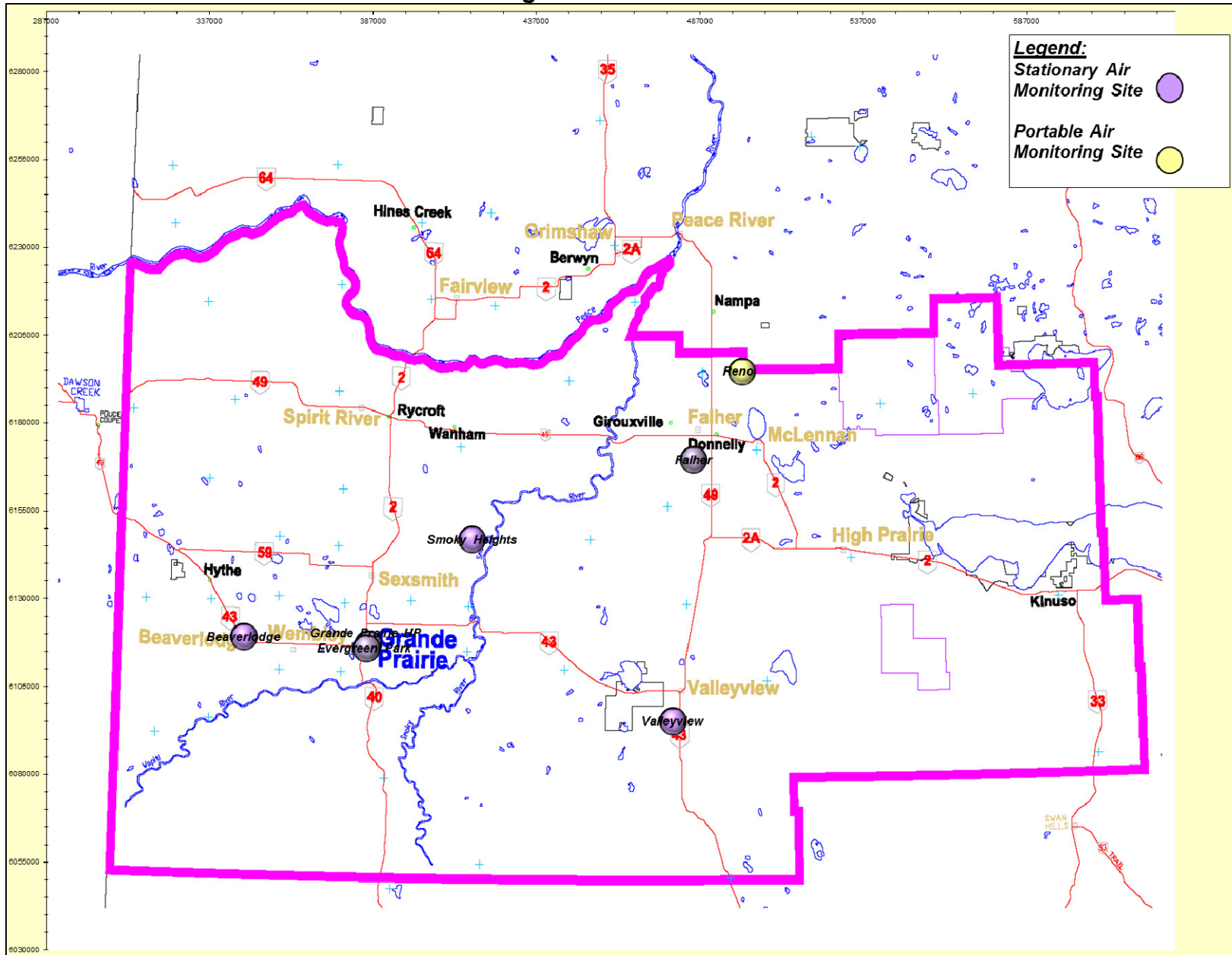


Greg Pippus, MSc., EP.  
Environmental Leader  
Weyerhaeuser - Grande Prairie Operations



Jeff Cooper, C.Tech.  
AQM Operations Manager

# Location of PAZA Continuous Monitoring Stations



## PAZA Monthly Continuous Data Summary

Jan-2014		Peace Airshed Zone Association					Maximum Recorded Values				Operational Time (%)
							1-hr		24-hr / 8-hr		
Pollutant (units)	Objectives		Station	Monthly Average	Exceedence		Conc	Day	Conc	Day	
	1-hr	24-hr			1-hr	24-hr					
SO <sub>2</sub> (ppb)	172	48	Henry Pirker	0.4	0	0	19.1	Jan-12 00:00	1.5	Jan-11	100%
SO <sub>2</sub> (ppb)	172	48	Evergreen Park	0.2	0	0	2.9	Jan-27 14:00	0.6	Jan-04	100%
SO <sub>2</sub> (ppb)	172	48	Smoky Heights	0.7	0	0	9.7	Jan-15 11:00	1.5	Jan-16	100%
SO <sub>2</sub> (ppb)	172	48	Beaverlodge	0.3	0	0	3.7	Jan-04 20:00	1.3	Jan-04	100%
SO <sub>2</sub> (ppb)	172	48	Valleyview	0.8	0	0	19.1	Jan-15 20:00	4.7	Jan-23	99%
SO <sub>2</sub> (ppb)	172	48	Reno	0.2	0	0	2.0	Jan-30 18:00	0.5	Jan-20	55%
SO <sub>2</sub> (ppb)	172	48	Falher	0.2	0	0	6.2	Jan-01 11:00	0.9	Jan-01	100%
NO (ppb)			Henry Pirker	11.5	0	0	247.0	Jan-17 20:00	59.6	Jan-20	100%
NO <sub>2</sub> (ppb)	159	106	Henry Pirker	18.5	0	0	62.7	Jan-17 20:00	36.2	Jan-20	100%
NO <sub>x</sub> (ppb)			Henry Pirker	30.0	0	0	309.3	Jan-17 20:00	95.9	Jan-20	100%
NO (ppb)			Beaverlodge	0.9	0	0	28.3	Jan-27 11:00	5.3	Jan-27	97%
NO <sub>2</sub> (ppb)	159	106	Beaverlodge	5.5	0	0	31.5	Jan-27 19:00	15.7	Jan-27	97%
NO <sub>x</sub> (ppb)			Beaverlodge	6.4	0	0	48.1	Jan-27 11:00	20.8	Jan-27	97%
NO (ppb)			Reno	0.3	0	0	6.1	Jan-08 11:00	1.0	Jan-28	93%
NO <sub>2</sub> (ppb)	159	106	Reno	2.6	0	0	12.5	Jan-31 23:00	6.0	Jan-28	93%
NO <sub>x</sub> (ppb)			Reno	2.9	0	0	16.9	Jan-08 11:00	7.0	Jan-28	93%
O <sub>3</sub> (ppb)	82		Henry Pirker	21.3	0	-	48.1	Jan-17 00:00	36.4	Jan-15	100%
O <sub>3</sub> (ppb) - 8-hr			Henry Pirker		0				47.1	Jan-17	
O <sub>3</sub> (ppb)	82		Beaverlodge	32.5	0	-	49.7	Jan-17 00:00	44.2	Jan-16	100%
O <sub>3</sub> (ppb) - 8-hr			Beaverlodge		0				48.2	Jan-17	
O <sub>3</sub> (ppb)	82		Reno	33.3	0	-	47.4	Jan-14 16:00	41.8	Jan-14	93%
O <sub>3</sub> (ppb) - 8-hr			Reno		0				46.0	Jan-14	
CO (ppm)	13		Henry Pirker	0.27	0	-	2.5	Jan-17 20:00	0.6	Jan-17	100%
CO (ppm) - 8-hr		5	Henry Pirker		0				1.4	Jan-18	



## PAZA Monthly Continuous Data Summary – continued

Jan-2014		Peace Airshed Zone Association					Maximum Recorded Values				
							1-hr		24-hr / 8-hr		
THC (ppm)			Henry Pirker	2.1	-	-	3.0	Jan-09 04:00	2.4	Jan-08	75%
CH <sub>4</sub> (ppm)			Henry Pirker	2.1	-	-	2.9	Jan-09 04:00	2.4	Jan-08	75%
NMHC (ppm)			Henry Pirker	0.0	-	-	0.4	Jan-29 19:00	0.0	Jan-29	75%
THC (ppm)			Reno	2.23	-	-	3.1	Jan-10 15:00	2.4	Jan-04	91%
TRS (ppb)			Henry Pirker	0.6	-	-	1.9	Jan-17 20:00	0.9	Jan-20	100%
TRS (ppb)			Evergreen Park	0.4	-	-	2.6	Jan-05 07:00	0.9	Jan-08	100%
TRS (ppb)			Smoky Heights	0.1	-	-	0.9	Jan-09 09:00	0.3	Jan-08	100%
TRS (ppb)			Reno	0.3	-	-	0.6	Jan-03 17:00	0.4	Jan-10	93%
H <sub>2</sub> S (ppb)	10	3	Valleyview	0.2	0	0	1.8	Jan-21 15:00	0.4	Jan-08	99%
H <sub>2</sub> S (ppb)	10	3	Falher	0.2	0	0	0.6	Jan-05 01:00	0.3	Jan-13	100%
PM <sub>2.5</sub> (µg/m <sup>3</sup> )	80	30	Henry Pirker	5.5	0	0	34.4	Jan-01 04:00	14.9	Jan-01	100%
PM <sub>2.5</sub> (µg/m <sup>3</sup> )	80	30	Evergreen Park	2.7	0	0	36.4	Jan-01 21:00	11.5	Jan-01	100%
PM <sub>2.5</sub> (µg/m <sup>3</sup> )	80	30	Smoky Heights	3.0	2	0	188.7	Jan-15 01:00	23.1	Jan-15	99%
PM <sub>2.5</sub> (µg/m <sup>3</sup> )	80	30	Beaverlodge	7.9	0	0	27.1	Jan-28 05:00	13.9	Jan-27	98%
PM <sub>2.5</sub> (µg/m <sup>3</sup> )	80	30	Reno	1.9	0	0	26.0	Jan-20 02:00	5.2	Jan-08	90%
RH (%)			Henry Pirker	66.4	-	-	85.0	Jan-11 11:00	75.7	Jan-11	100%
RH (%)			Evergreen Park	68.2	-	-	92.1	Jan-11 11:00	82.8	Jan-03	100%
RH (%)			Beaverlodge	74.6	-	-	100.0	Jan-02 03:00	92.5	Jan-11	100%
RH (%)			Valleyview	69.9	-	-	97.0	Jan-14 09:00	87.5	Jan-02	99%
SR (W/m <sup>2</sup> )			Henry Pirker	31.8	-	-	272.6	Jan-28 14:00	57.1	Jan-28	100%
Temp (°C)			Henry Pirker	-6.4	-	-	10.3	Jan-24 13:00	6.8	Jan-24	100%
Temp (°C)			Evergreen Park	-5.2	-	-	11.6	Jan-24 16:00	8.6	Jan-24	100%
Temp (°C)			Smoky Heights	-7.3	-	-	10.4	Jan-25 09:00	6.8	Jan-25	100%
Temp (°C)			Beaverlodge	-4.4	-	-	12.4	Jan-24 16:00	8.7	Jan-24	100%
Temp (°C)			Valleyview	-5.5	-	-	11.2	Jan-15 01:00	7.7	Jan-25	99%
Temp (°C)			Reno	-9.8	-	-	6.2	Jan-14 23:00	3.7	Jan-24	93%
Temp (°C)			Falher	-9.7	-	-	8.0	Jan-14 23:00	3.7	Jan-24	100%

## PAZA Monthly Continuous Data Summary – continued

Jan-2014 Peace Airshed Zone Association							Maximum Recorded Values				
							1-hr		24-hr / 8-hr		
WSPD s (km/hr)			Henry Pirker	8.8	-	-	52.0	Jan-15 00:00	27.6	Jan-15	100%
WSPD s (km/hr)			Evergreen Park	13.0	-	-	82.0	Jan-15 01:00	39.4	Jan-15	98%
WSPD s (km/hr)			Smoky Heights	14.7	-	-	75.0	Jan-15 01:00	38.2	Jan-15	100%
WSPD s (km/hr)			Beaverlodge	12.9	-	-	82.0	Jan-15 00:00	38.4	Jan-14	100%
WSPD s (km/hr)			Valleyview	5.4	-	-	45.0	Jan-15 01:00	14.2	Jan-19	99%
WSPD s (km/hr)			Reno	15.4	-	-	74.0	Jan-15 02:00	29.4	Jan-14	66%
WSPD s (km/hr)			Falher	14.7	-	-	71.0	Jan-15 01:00	37.2	Jan-15	100%
WSPD v (km/hr)			Henry Pirker	5.9	-	-	52.0	Jan-15 00:00	26.8	Jan-15	100%
WSPD v (km/hr)			Evergreen Park	8.9	-	-	81.0	Jan-15 01:00	38.6	Jan-15	98%
WSPD v (km/hr)			Smoky Heights	9.9	-	-	75.0	Jan-15 01:00	37.2	Jan-15	100%
WSPD v (km/hr)			Beaverlodge	8.1	-	-	82.0	Jan-15 00:00	37.7	Jan-14	100%
WSPD v (km/hr)			Valleyview	2.8	-	-	45.0	Jan-15 01:00	13.5	Jan-19	99%
WSPD v (km/hr)			Reno	7.2	-	-	73.0	Jan-15 02:00	26.3	Jan-14	66%
WSPD v (km/hr)			Falher	4.2	-	-	71.0	Jan-15 01:00	36.7	Jan-15	100%
WDIR			Henry Pirker	W	-	-	-	-	-	-	100%
WDIR			Evergreen Park	W	-	-	-	-	-	-	98%
WDIR			Smoky Heights	W	-	-	-	-	-	-	100%
WDIR			Beaverlodge	W	-	-	-	-	-	-	100%
WDIR			Valleyview	WNW	-	-	-	-	-	-	99%
WDIR			Reno	SW	-	-	-	-	-	-	66%
WDIR			Falher	SW	-	-	-	-	-	-	100%

# Continuous Network Equipment Summary

## PAZA – Henry Pirker Station

### General Station Issues

Routine monthly calibrations were performed on January 6<sup>th</sup> (CO, TRS, THC) and 7<sup>th</sup> (SO<sub>2</sub>, NO<sub>x</sub>, O<sub>3</sub>).

Parameter	Make	Model	Notes
SO <sub>2</sub>	TEI	43C	No operational issues observed.
NO <sub>x</sub> /NO/NO <sub>2</sub>	TEI	42C	No operational issues observed.
O <sub>3</sub>	TEI	49C	No operational issues observed.
CO	TEI	48C	No operational issues observed.
THC/CH <sub>4</sub> /NMHC	TEI	55I	Actuator failed on January 21 <sup>st</sup> , repaired on January 27 <sup>th</sup> and recalibrated on January 28 <sup>th</sup> . <b>AE Reference #280824</b>
TRS	TEI	45C/43C	No operational issues observed.
PM <sub>2.5</sub>	Sharp	5030	Three (3) hours invalid due to datalogger failure to collect from the analyzer.
RH	Met One	083D	No operational issues observed.
ET	Met One	083D	No operational issues observed.
SR	Met One	096-1	No operational issues observed.
WS / WD	Met One	010C/020C	No operational issues observed.

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**PAZA – Evergreen Park Station**

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**General Station Issues**

Routine monthly calibration performed on January 10<sup>th</sup> (SO<sub>2</sub>, TRS, PM<sub>2.5</sub>).

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<b>Parameter</b>	<b>Make</b>	<b>Model</b>	<b>Notes</b>
SO <sub>2</sub>	TEI	43i	No operational issues observed.
TRS	TEI	43C	No operational issues observed.
PM <sub>2.5</sub>	R&P	1400AB	Two (2) hours flagged as invalid due to negative swings, one (1) hour flagged due to analyzer failure.
ET	Met One/Gill	083D	No operational issues observed.
RH	Met One/Gill		No operational issues observed.
WS / WD	Met One/ Gill		Ultrasonic wind head exhibited irregular behavior due to icing from December 30 <sup>th</sup> , self stabilizing on January 1 <sup>st</sup> .

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**PAZA – Smoky Heights Station**

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**General Station Issues**

Routine monthly calibration performed on January 31<sup>st</sup> (SO<sub>2</sub>, TRS, PM<sub>2.5</sub>).

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<b>Parameter</b>	<b>Make</b>	<b>Model</b>	<b>Notes</b>
SO <sub>2</sub>	TEI	43C	No operational issues observed.
TRS	TEI	43C	No operational issues observed.
PM <sub>2.5</sub>	R&P	1400AB	Five (5) hours flagged invalid due to negative swings. Two 1-hour exceedences of the AAAQO were recorded on January 15 <sup>th</sup> . <b>AE Reference #279444</b>
ET	Met One	083D	No operational issues observed.
WS / WD	Met One	010C/020C	No operational issues observed.

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**PAZA – Beaverlodge Station**

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**General Station Issues**

Routine monthly calibrations performed on January 9<sup>th</sup> (NO<sub>x</sub>, O<sub>3</sub>, SO<sub>2</sub>, PM<sub>2.5</sub>).

<b>Parameter</b>	<b>Make</b>	<b>Model</b>	<b>Notes</b>
SO <sub>2</sub>	TEI	43CTL	No operational issues observed.
NO <sub>x</sub> /NO/NO <sub>2</sub>	TEI	42C	Analyzer rebuilt on January 8 <sup>th</sup> , calibrated January 9 <sup>th</sup> .
O <sub>3</sub>	TEI	49C	No operational issues observed.
PM <sub>2.5</sub>	R&P	1400AB	Twelve (12) hours flagged invalid due to negative swings.
ET	n/a	n/a	No operational issues observed.
RH	n/a	n/a	No operational issues observed.
WS / WD	Blue Sky	857	No operational issues observed.

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**PAZA – Valleyview Station**

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**General Station Issues**

Routine monthly calibrations were performed on January 24<sup>th</sup> (SO<sub>2</sub> & H<sub>2</sub>S). Eight (8) hours flagged invalid due to power outage.

<b>Parameter</b>	<b>Make</b>	<b>Model</b>	<b>Notes</b>
SO <sub>2</sub>	TEI	43i	Irregular spans prompted maintenance during calibration to stabilize.
H <sub>2</sub> S	TEI	43A	No operational issues observed.
ET	Gill	Met Pak 3	No operational issues observed.
RH	Gill	Met Pak 3	No operational issues observed.
WS / WD	Gill	Met Pak 3	No operational issues observed.

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**PAZA – Portable-Reno**

**General Station Issues**

Routine monthly calibrations were performed on January 18<sup>th</sup> (SO<sub>2</sub>, NO<sub>x</sub>, O<sub>3</sub>), and January 19<sup>th</sup> (TRS, THC). Power outage on January 15<sup>th</sup> damaged power connection between utility and trailer, repaired on January 17<sup>th</sup>.

Parameter	Make	Model	Notes
SO <sub>2</sub>	TEI	43i	Analyzer failed on January 4 <sup>th</sup> . Parts received and repairs completed January 17 <sup>th</sup> , returned to service January 18 <sup>th</sup> . <b>AE Reference # 280825</b>
NO <sub>x</sub>	TEI	42i	No operational issues observed.
O <sub>3</sub>	TEI	49C	No operational issues observed.
TRS	TEI	39C	No operational issues observed.
THC	TEI	51C	No operational issues observed.
PM <sub>2.5</sub>	R&P	1400AB	Twentyfive (25) hours flagged invalid due to negative swings.
ET	Gill	Met Pak 3	No operational issues observed.
WS / WD	Gill	Met Pak 3	Wind head freezing continued from December, returned to service January 9 <sup>th</sup> .



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**PAZA – Falher Station**

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**General Station Issues**

Routine monthly calibrations were performed on January 18<sup>th</sup> (SO<sub>2</sub> & H<sub>2</sub>S). Power outage on January 15<sup>th</sup> invalidated four (4) hours.

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

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PAZA

Henry Pirker Station

Monthly Summary Tables, Graphs and  
Roses

## Hourly Averages

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

Henry Pirker - January 2014

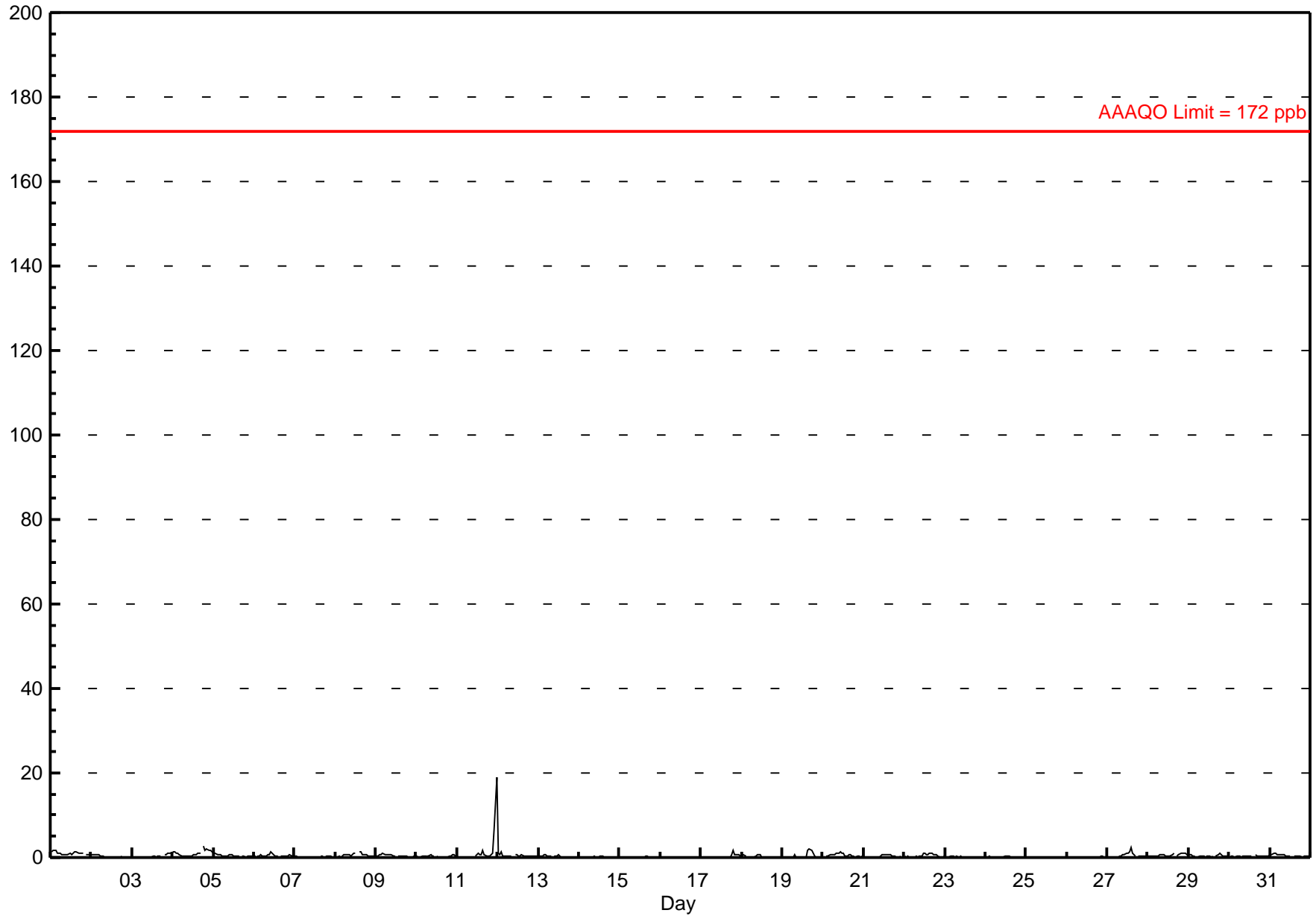
Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 19.1 ppb on Jan 12 00:00	Maximum Daily Average: 1.5 ppb on Jan 11		Hours of Data:	709
Minimum Value: 0 ppb on Jan 2 11:00	Minimum Daily Average: 0.0 ppb on Jan 25		Hours of Missing Data:	35
Maximum Diurnal Average: 0.9 ppb at hour 24	Minimum Diurnal Average: 0.3 ppb at hour 6		Hours of Calibration:	35
Monthly Average: 0.38 ppb	Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.0 Q <sub>1</sub> = 0.1 Median = 0.2 Q <sub>3</sub> = 0.5 P <sub>90</sub> = 0.8 P <sub>99</sub> = 1.8		Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1.0	1.7	
2-Jan	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.2	0.8	
3-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	1	1	1	0.2	1.0	
4-Jan	1	1	1	1	1	0	0	0	0	0	0	0	1	1	1	1	1	1	A	3	2	2	2	2	1	1.0	2.7
5-Jan	1	1	1	1	1	0	0	0	0	1	1	1	0	0	0	0	A	0	0	0	0	0	0	0	0.5	1.1	
6-Jan	0	0	0	0	1	0	0	0	1	1	1	1	0	0	0	A	0	0	0	0	0	0	1	1	0	0.5	1.4
7-Jan	0	0	0	0	0	0	0	0	0	0	C	C	C	0	A	0	0	0	0	0	0	0	0	0	0.1	0.4	
8-Jan	0	0	0	0	0	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	0	0	0	0	0.6	1.5	
9-Jan	0	0	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	1.0	
10-Jan	0	0	0	0	0	0	0	0	1	1	1	A	0	0	0	0	0	0	0	0	0	0	1	1	0	0.3	0.8
11-Jan	0	0	0	0	0	0	0	0	0	0	A	0	1	1	1	2	1	0	0	0	0	1	1	6	19	1.5	19.1
12-Jan	1	1	1	0	0	0	0	0	0	0	A	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0.4	1.3
13-Jan	0	0	0	1	1	0	0	1	A	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.6
14-Jan	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.4
15-Jan	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	0.3
16-Jan	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1
17-Jan	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	1	1	1	0	0.2	1.6
18-Jan	0	1	0	A	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.8
19-Jan	0	0	A	0	0	0	0	1	0	0	0	0	0	0	0	2	2	2	1	0	0	0	0	0	0	0.4	1.9
20-Jan	0	A	0	0	1	1	1	1	1	1	1	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0.5	1.5
21-Jan	A	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0.3	0.8
22-Jan	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	0	0	A	0	0.4	1.0
23-Jan	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	0.3
24-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.1	0.3
25-Jan	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
26-Jan	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	0.2
27-Jan	0	0	0	0	0	0	0	0	0	1	1	1	1	1	2	1	0	A	0	0	0	0	0	0	0	0.5	2.4
28-Jan	0	0	0	0	0	0	0	1	1	1	0	1	0	0	1	1	A	0	1	1	1	1	1	1	1	0.6	1.1
29-Jan	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	1	1	1	0	0	0	0	0	0.4	1.1
30-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	0	0	0	0	0	0	0	0	0	0.3	0.7
31-Jan	1	1	1	1	1	1	1	1	1	1	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.5	1.0
	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.3	0.4	0.5	0.4	0.3	0.4	0.4	0.3	0.4	0.5	0.9		Diurnal Average	
	1.5	1.7	1.6	1.6	1.2	0.9	0.8	0.8	0.9	1.1	1.5	1.2	1.1	1.3	2.4	1.7	1.9	1.6	2.7	1.7	2.1	1.8	6.4	19.1		Diurnal Maximum	

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

### Hourly Averages

Sulphur Dioxide (SO<sub>2</sub>) - ppb  
Henry Pirker - January 2014



## Hourly Maximums

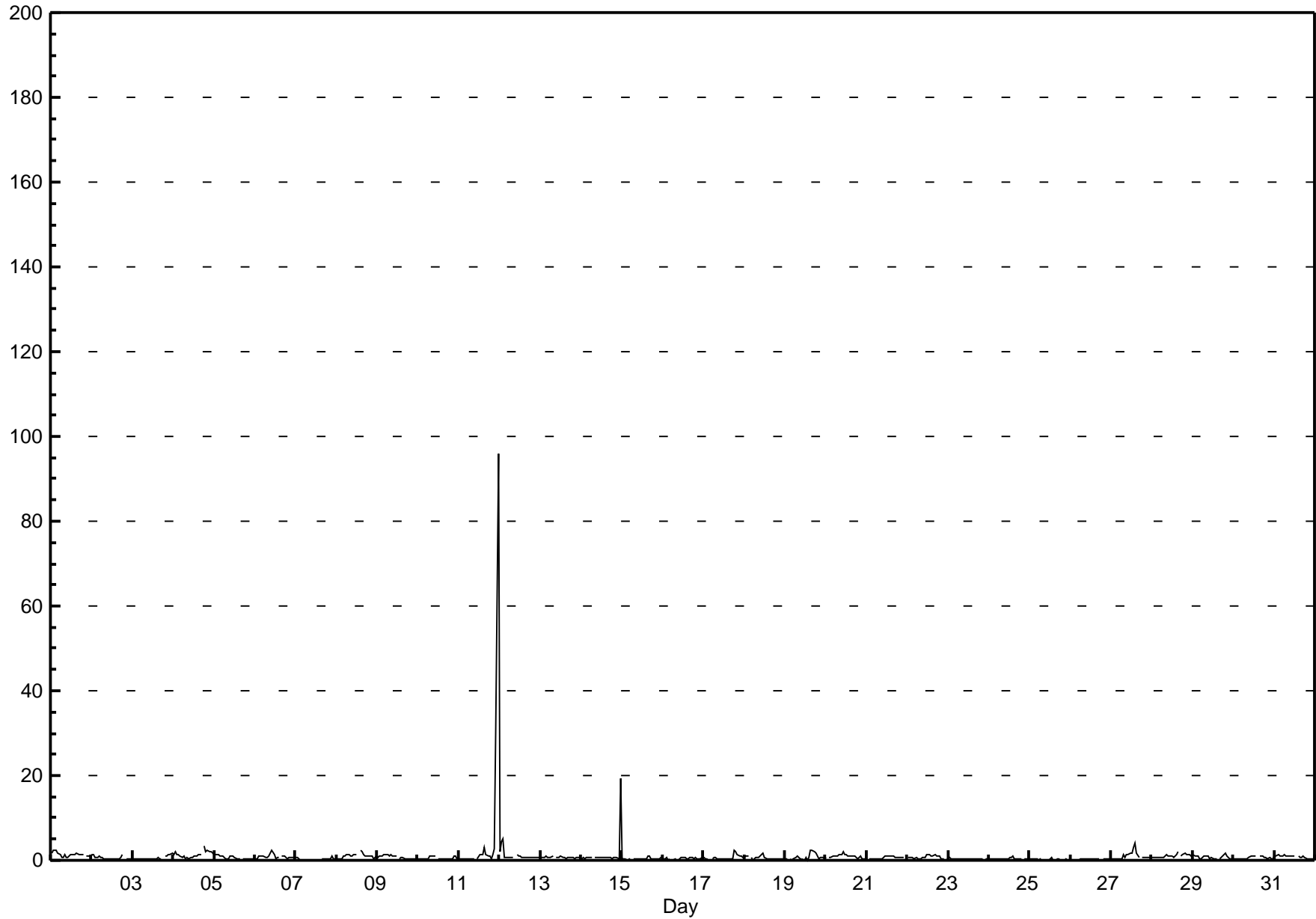
Sulphur Dioxide (SO<sub>2</sub>) - ppb

Henry Pirker - January 2014

Maximum Value: 96.1 ppb on Jan 12 00:00 Minimum Value: 0 ppb on Jan 7 09:00 Maximum Diurnal Average: 4.4 ppb at hour 24 Monthly Average: 0.93 ppb		Maximum Daily Average: 6.4 ppb on Jan 11 Minimum Daily Average: 0.2 ppb on Jan 25 Minimum Diurnal Average: 0.6 ppb at hour 6 Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.3 Q <sub>1</sub> = 0.4 Median = 0.5 Q <sub>3</sub> = 1.0 P <sub>90</sub> = 1.4 P <sub>99</sub> = 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-Jan	2	2	2	2	2	1	1	1	1	1	1	1	1	1	2	2	2	1	1	A	1	1	1	1.4	2.3		
2-Jan	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	1	1	A	0	0	0	0	0.6	1.3		
3-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	A	1	1	1	1	2	0.6	1.6		
4-Jan	1	2	1	1	1	1	1	0	1	0	1	1	1	1	1	1	A	3	2	2	2	2	2	1.4	3.4		
5-Jan	1	1	1	1	1	1	1	0	0	1	1	1	1	1	1	A	1	1	1	1	0	0	0	0.8	1.5		
6-Jan	0	0	1	1	1	1	1	1	1	2	2	1	0	1	1	A	1	1	1	0	1	1	1	0.9	2.5		
7-Jan	1	1	0	0	0	0	0	0	0	0	C	C	C	0	A	0	0	0	0	0	0	1	0	0	0.4	0.9	
8-Jan	0	0	0	0	1	1	1	1	1	1	1	1	1	A	2	2	1	1	1	1	1	1	0	1	1.0	2.4	
9-Jan	1	1	1	1	1	1	1	1	1	1	1	1	A	0	1	1	0	0	0	0	0	0	0	0	0.8	1.5	
10-Jan	0	0	0	0	0	0	0	1	1	1	1	A	0	0	0	0	0	0	0	0	0	0	1	1	0	0.6	1.0
11-Jan	0	0	0	0	0	0	0	0	0	0	A	0	1	1	1	3	1	1	1	0	1	3	31	96	6.4	96.1	
12-Jan	2	4	5	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.1	4.9	
13-Jan	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	0	1	1	1	1	0	1	1	1	0.6	1.1	
14-Jan	0	1	0	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	0	1	1	1	0	19	1.3	19.3	
15-Jan	1	1	0	0	0	0	A	0	0	0	0	0	0	0	1	1	1	1	0	1	1	0	1	1	0.4	1.0	
16-Jan	1	1	1	0	1	A	0	0	0	0	0	1	1	1	0	0	1	1	0	1	0	0	0	1	0.4	0.6	
17-Jan	1	0	0	0	A	0	1	1	1	0	0	0	0	0	0	0	0	0	2	2	1	1	1	1	0.7	2.2	
18-Jan	1	1	1	A	1	0	0	1	1	1	1	1	2	1	0	0	0	0	0	0	0	0	0	0	0.6	1.7	
19-Jan	0	0	A	0	0	0	1	1	1	1	0	0	1	0	1	3	3	2	2	1	0	1	1	0	0.7	2.5	
20-Jan	1	A	1	1	1	1	1	1	2	2	2	2	1	1	1	1	1	1	1	1	0	1	0	0	1.0	2.0	
21-Jan	A	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.0	
22-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	A	0	0.8	1.5
23-Jan	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.4	0.6
24-Jan	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	A	0	0	0	0.5	0.9
25-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	A	0	0	0	0	0.2	0.5
26-Jan	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	0.3	0.5
27-Jan	0	0	0	0	0	0	0	1	1	1	1	2	2	3	4	2	1	A	1	1	1	1	1	1	1	1.1	4.2
28-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	A	1	1	2	1	1	1	1	1	1.0	1.9
29-Jan	1	1	1	1	0	0	1	1	1	1	0	1	0	0	0	A	0	1	2	2	1	1	0	0	0	0.7	1.5
30-Jan	0	0	0	0	0	0	0	0	0	1	1	1	1	1	A	1	1	1	1	1	1	0	1	0	0	0.6	1.0
31-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	0	0	0	0	0	0.8	1.4
	0.7	0.8	0.8	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.8	0.8	0.8	0.7	0.9	0.9	0.8	0.7	0.9	0.8	0.7	0.8	1.6	4.4	Diurnal Average		
	2.0	4.3	4.9	2.3	1.8	1.4	1.4	1.3	1.5	1.6	2.5	1.7	1.7	3.2	4.2	2.9	2.5	2.0	3.4	2.1	2.5	2.7	30.9	96.1	Diurnal Maximum		
C - Calibration																								A - Automated Daily Zero Span			

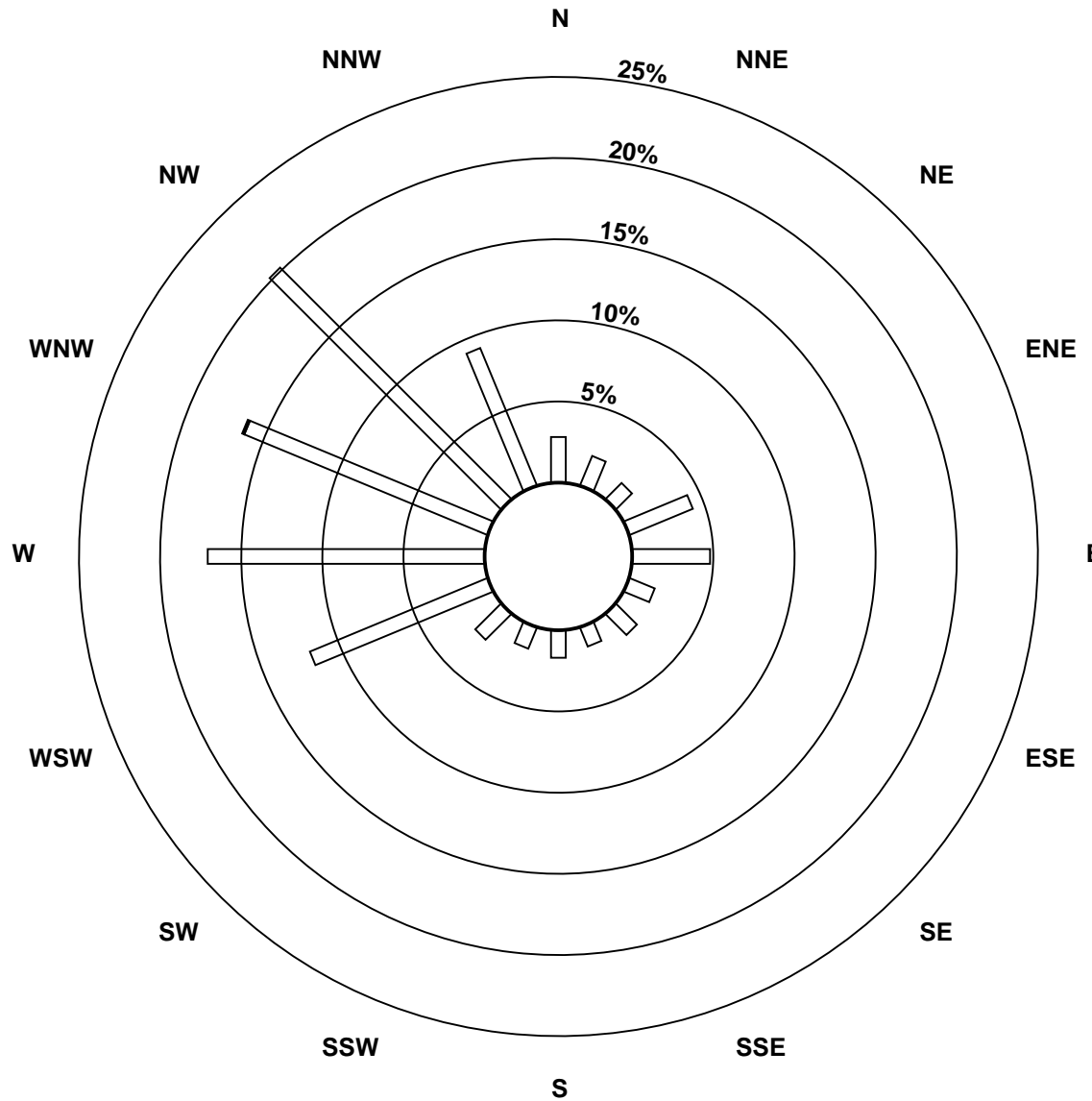
### Hourly Maximums

Sulphur Dioxide (SO<sub>2</sub>) - ppb  
Henry Pirker - January 2014

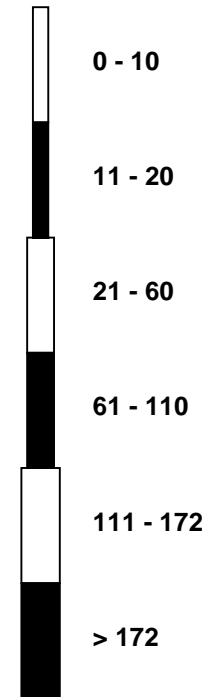


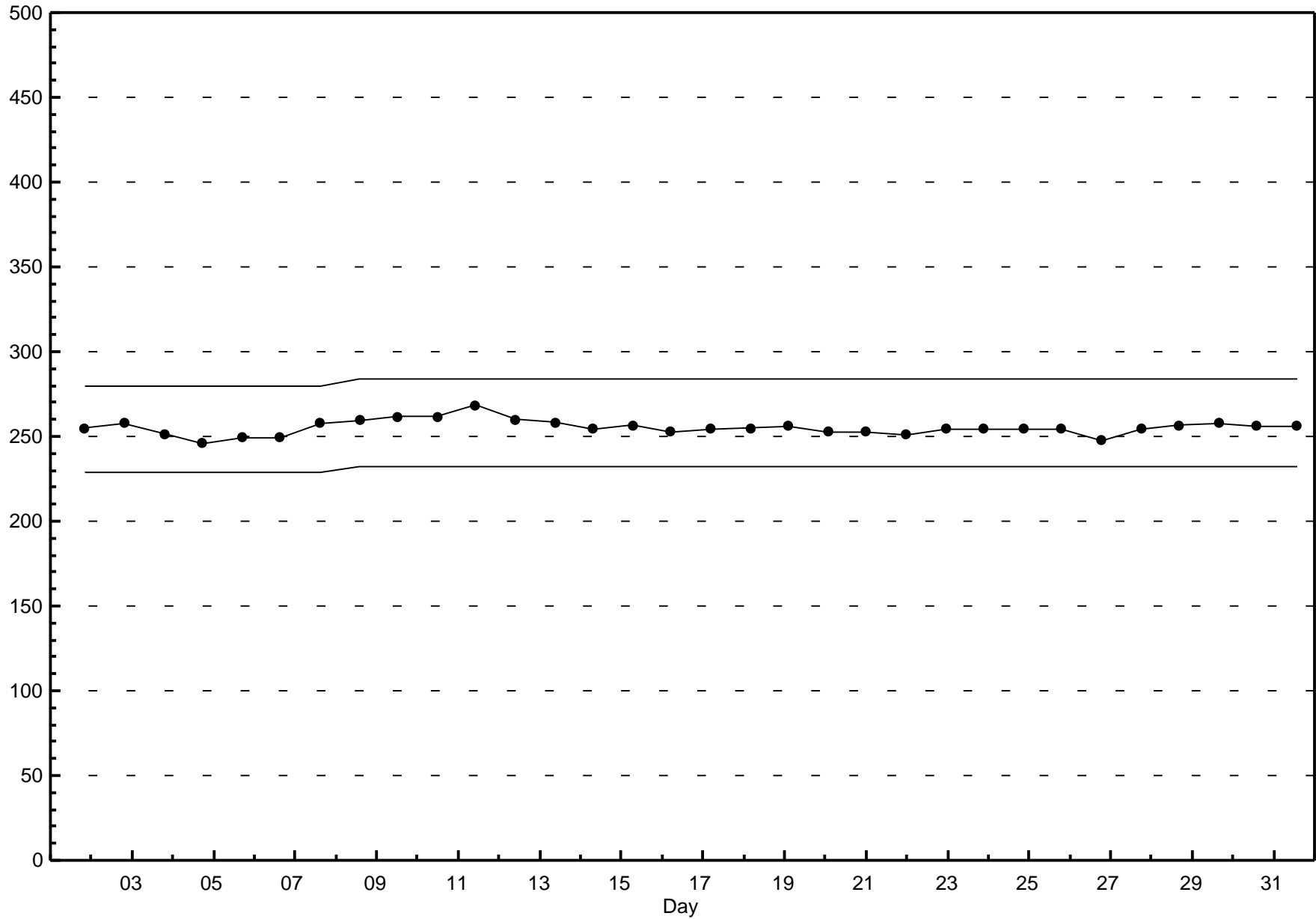
**Pollutant Rose**

**Sulphur Dioxide (SO<sub>2</sub>) - ppb**  
**Henry Pirker - January 2014**



**Pollutant Classes (ppb)**







## Hourly Averages

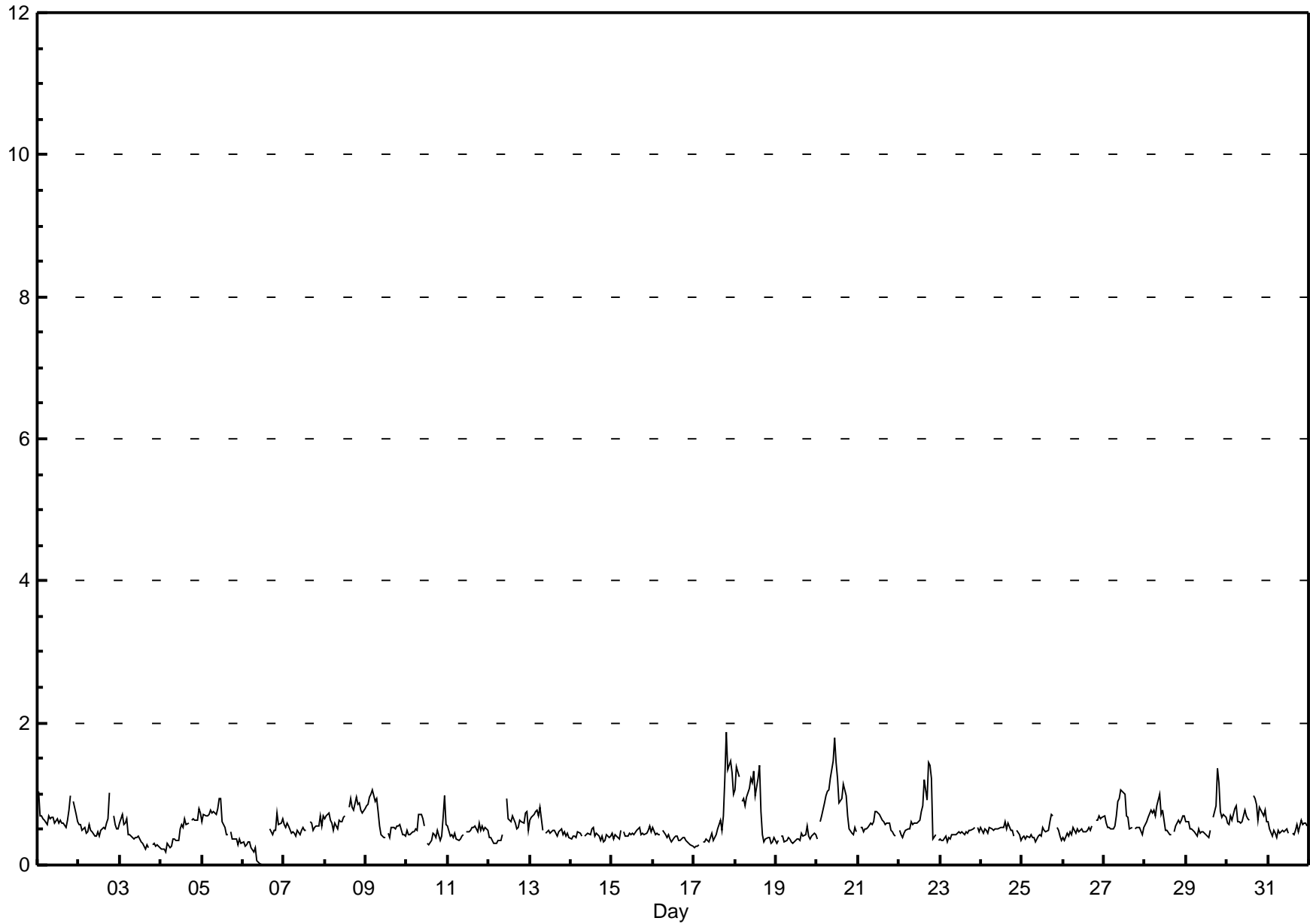
Total Reduced Sulphur (TRS) - ppb

Henry Pirker - January 2014

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0	Hours in Service: 744
Maximum Value: 1.9 ppb on Jan 17 20:00	Maximum Daily Average: 0.9 ppb on Jan 20
Minimum Value: 0 ppb on Jan 6 12:00	Hours of Data: 710
Maximum Diurnal Average: 0.6 ppb at hour 19	Hours of Missing Data: 34
Monthly Average: 0.55 ppb	Hours of Calibration: 34
Minimum Daily Average: 0.3 ppb on Jan 6	Percent Operational Time: 100.0
Minimum Diurnal Average: 0.5 ppb at hour 4	
Percentiles: P <sub>1</sub> = 0.2 P <sub>10</sub> = 0.3 Q <sub>1</sub> = 0.4 Median = 0.5 Q <sub>3</sub> = 0.6 P <sub>90</sub> = 0.8 P <sub>99</sub> = 1.4	

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

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



## Hourly Maximums

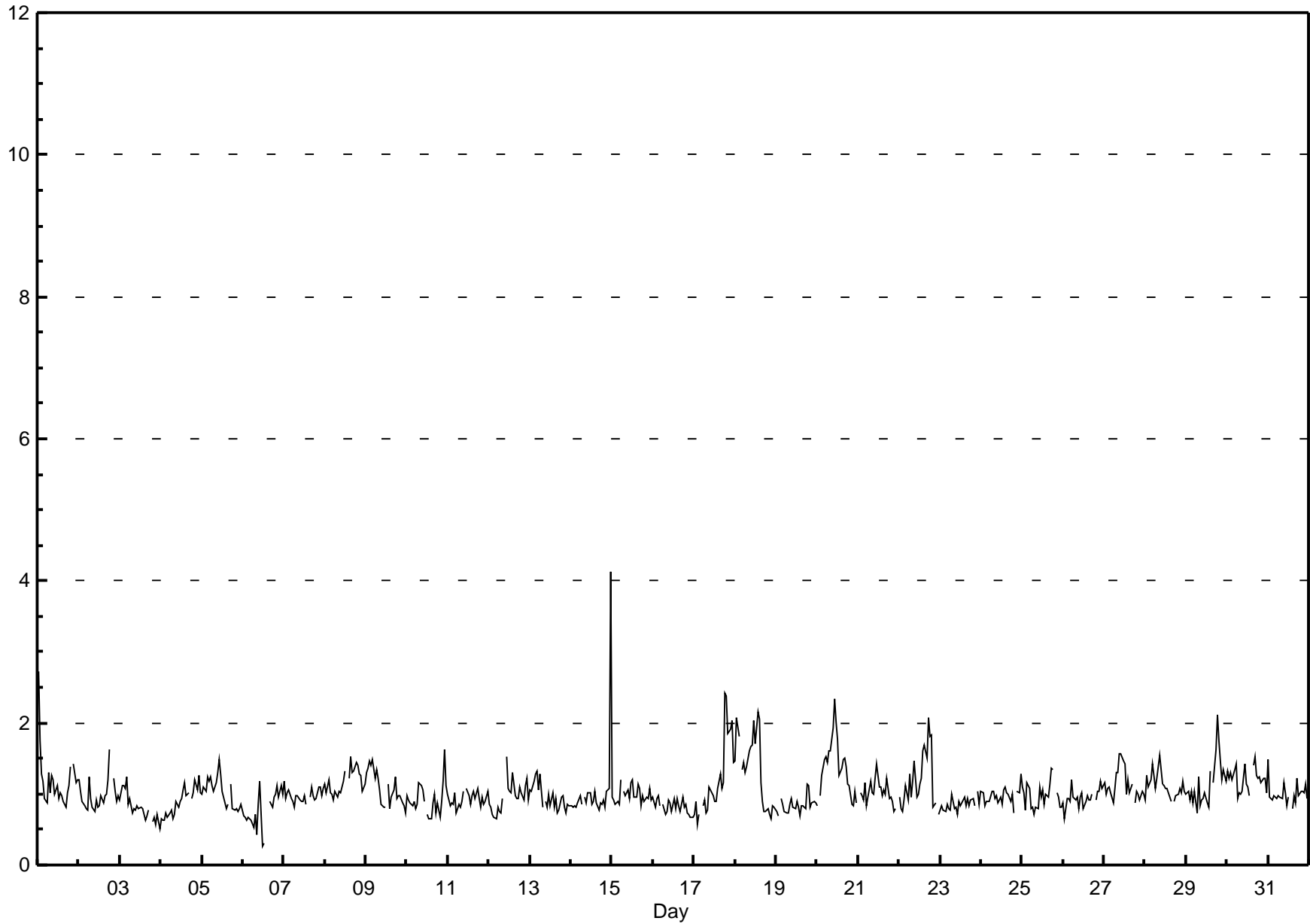
Total Reduced Sulphur (TRS) - ppb

Henry Pirker - January 2014

Maximum Value: 4.1 ppb on Jan 15 00:00      Maximum Daily Average: 1.4 ppb on Jan 20 Minimum Value: 0 ppb on Jan 6 12:00      Minimum Daily Average: 0.8 ppb on Jan 6 Maximum Diurnal Average: 1.1 ppb at hour 19      Minimum Diurnal Average: 1.0 ppb at hour 6 Monthly Average: 1.03 ppb      Percentiles: P <sub>1</sub> = 0.6 P <sub>10</sub> = 0.8 Q <sub>1</sub> = 0.9 Median = 1.0 Q <sub>3</sub> = 1.1 P <sub>90</sub> = 1.4 P <sub>99</sub> = 2.1																								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-Jan	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1.2	2.7																						
2-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	A	1	1	1	1	1.0	1.6																						
3-Jan	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	1.2																						
4-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	0.9	1.3																						
5-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1.0	1.5																						
6-Jan	1	1	1	1	1	1	1	1	0	1	1	0	0	C	C	C	1	1	1	1	1	1	1	1	0.8	1.2																						
7-Jan	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																						
8-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	2	1	1	1	1	1	1	1	1.2	1.5																						
9-Jan	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	1.5																						
10-Jan	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	2	1	0.9	1.6																						
11-Jan	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.1																						
12-Jan	1	1	1	1	1	1	1	1	1	1	A	2	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.5																						
13-Jan	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.3																						
14-Jan	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	1	1.0	4.1																						
15-Jan	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.2																						
16-Jan	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.0																						
17-Jan	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	1	1	1.2	2.4																						
18-Jan	1	2	2	A	1	1	1	1	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1.4	2.2																						
19-Jan	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.1																						
20-Jan	1	A	1	1	1	2	1	2	2	2	2	2	2	1	1	1	2	1	1	1	1	1	1	1	1.4	2.3																						
21-Jan	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	1.4																						
22-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	1	1	A	1.2	2.1																						
23-Jan	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	1.0																						
24-Jan	1	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	1.3																						
25-Jan	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	1.4																						
26-Jan	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																						
27-Jan	1	1	1	1	1	1	1	1	1	2	2	1	1	1	1	1	1	A	1	1	1	1	1	1	1.1	1.6																						
28-Jan	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1.1	1.5																						
29-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	2	2	2	1	1	1	1	1.2	2.1																						
30-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	2	1	1	1	1	1	1	1	1.2	1.5																						
31-Jan	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	1.5																						
																								1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.1	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.1	1.1	1.1	1.0	1.0	1.1	1.1	Diurnal Average
																								2.7	2.1	1.8	1.4	1.5	1.5	1.4	1.6	1.6	1.9	2.3	2.0	1.8	2.2	2.0	1.7	1.5	2.1	2.4	2.4	1.8	1.9	2.0	4.1	Diurnal Maximum
C - Calibration      A - Automated Daily Zero Span																																																

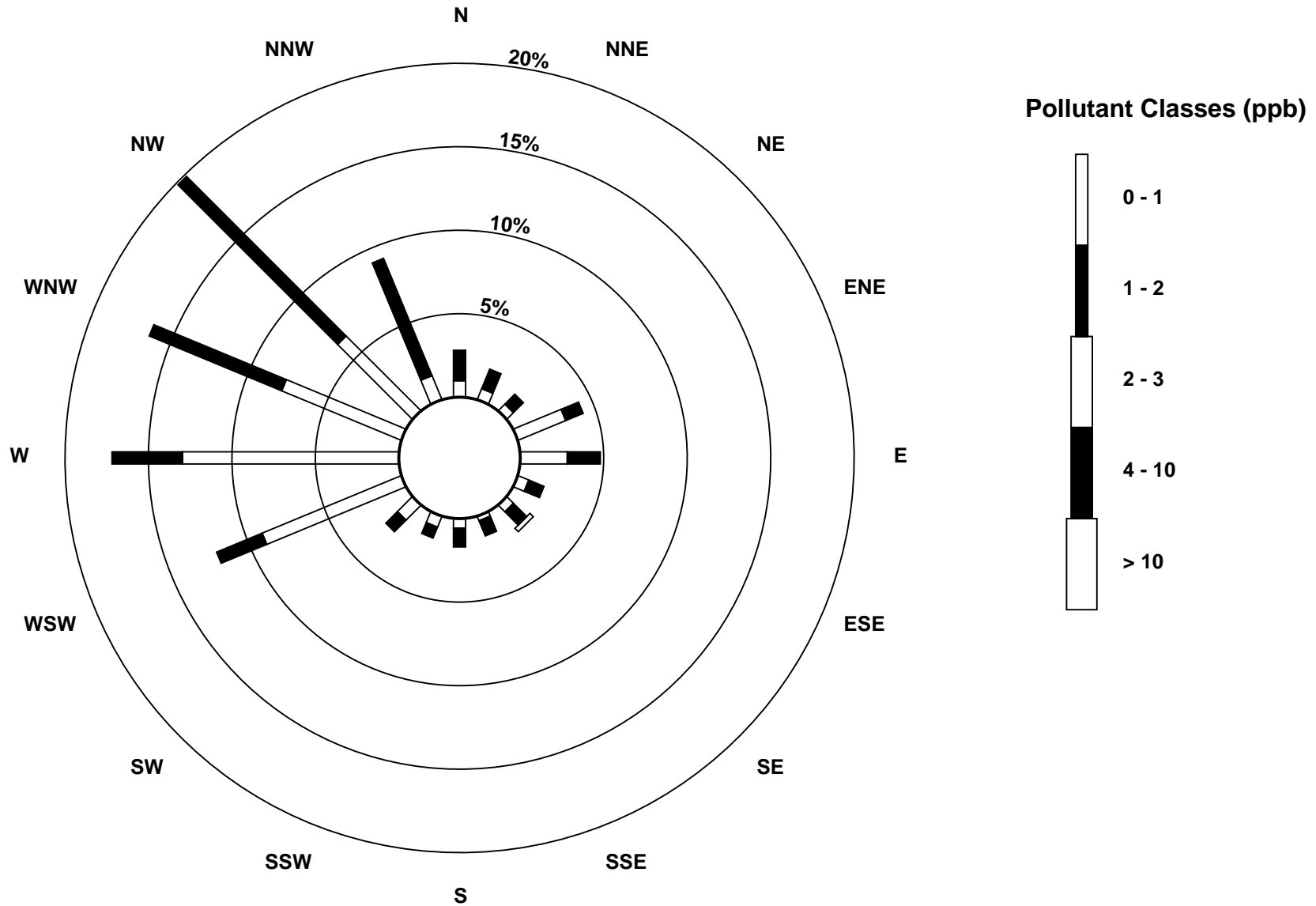
**Hourly Maximums**

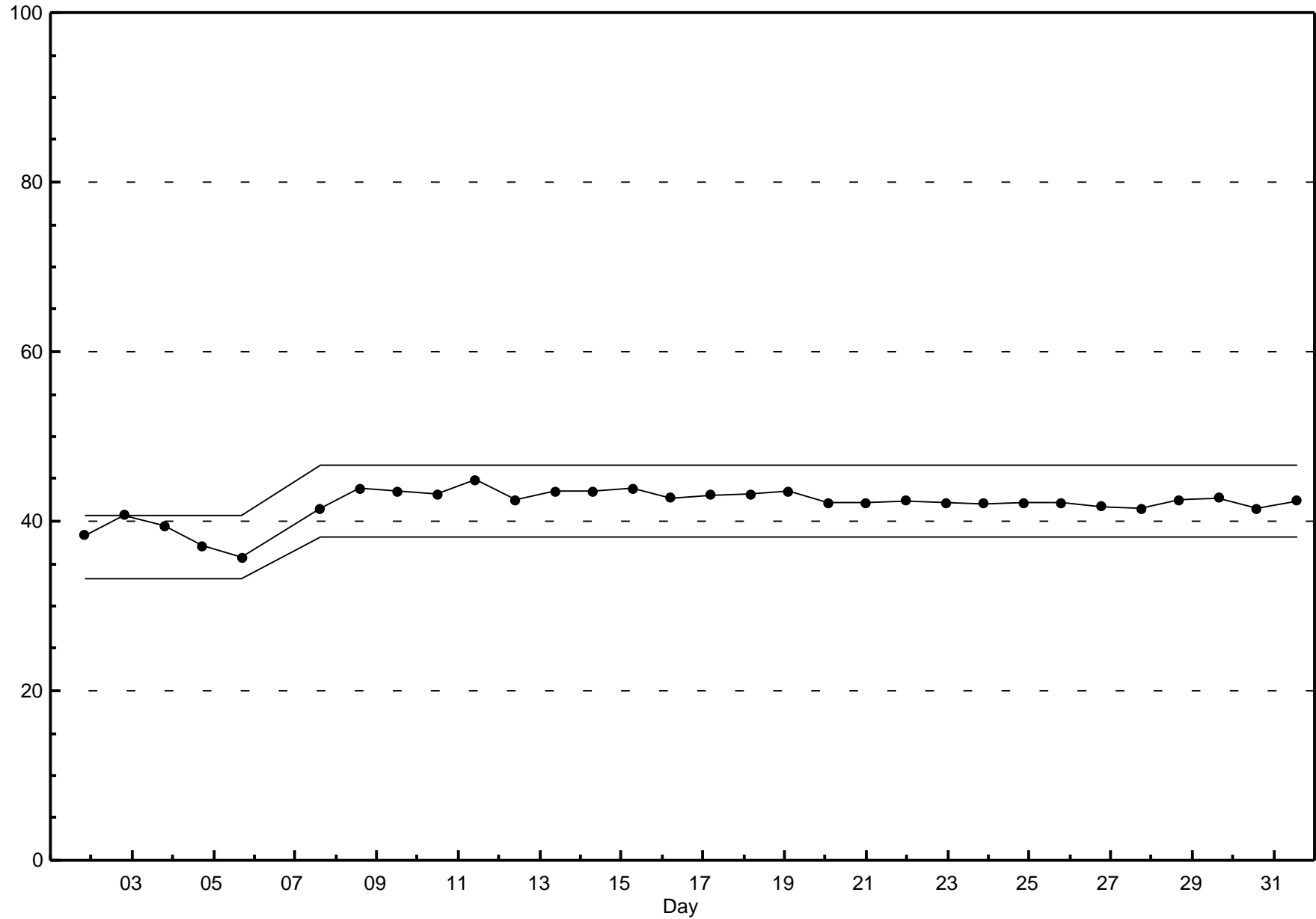
**Total Reduced Sulphur (TRS) - ppb**  
**Henry Pirker - January 2014**



**Pollutant Rose**

**Total Reduced Sulphur (TRS) - ppb**  
**Henry Pirker - January 2014**



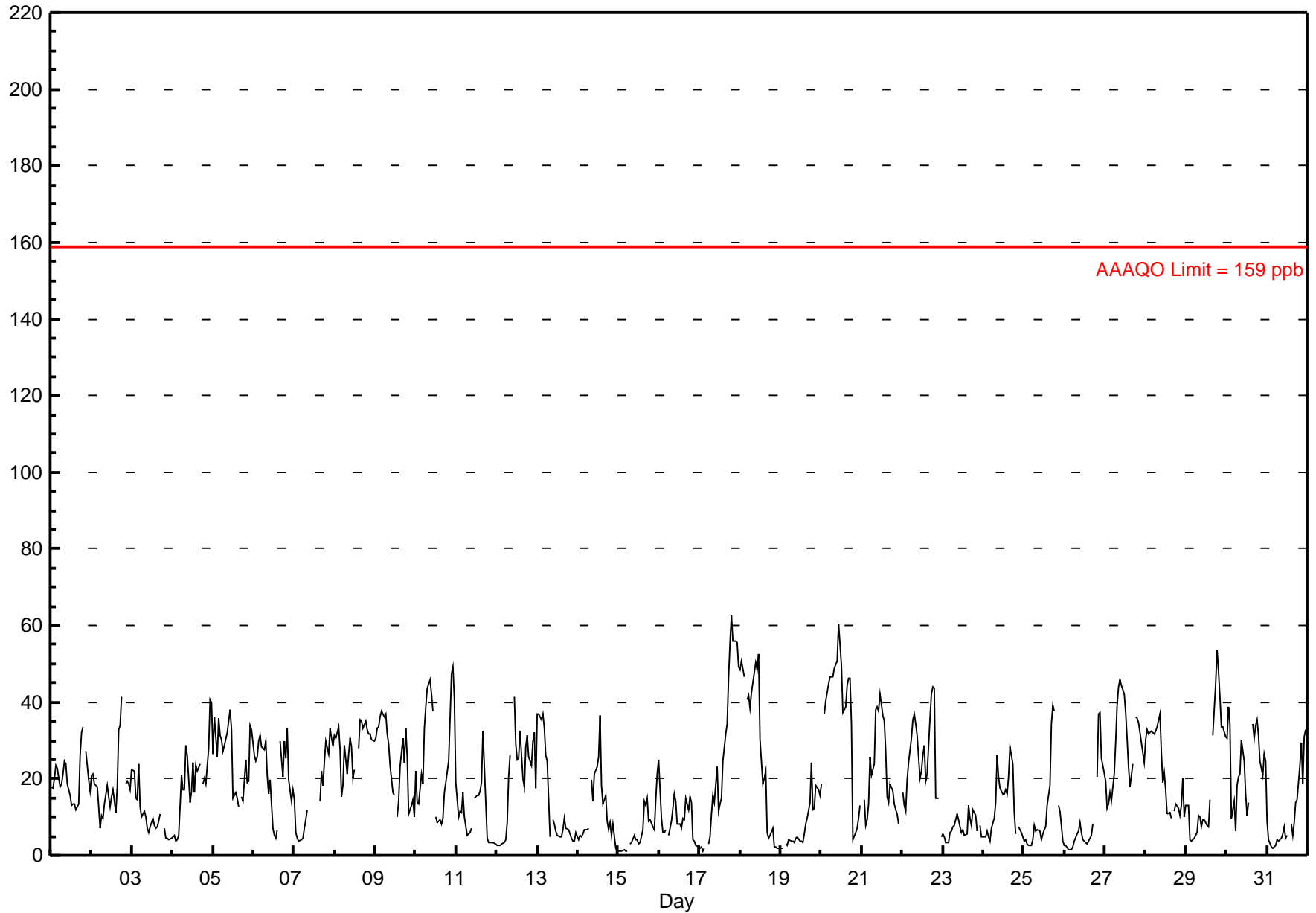


## Hourly Averages

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

Henry Pirker - January 2014

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 62.7 ppb on Jan 17 20:00      Maximum Daily Average: 36.2 ppb on Jan 20		Hours in Service: 744 Hours of Data: 707 Hours of Missing Data: 37 Hours of Calibration: 37 Percent Operational Time: 100.0																								
Minimum Value: 1 ppb on Jan 15 00:00 Maximum Diurnal Average: 24.6 ppb at hour 19 Monthly Average: 18.52 ppb		Minimum Daily Average: 6.5 ppb on Jan 15 Minimum Diurnal Average: 14.3 ppb at hour 4 Percentiles: P <sub>1</sub> = 1.3 P <sub>10</sub> = 3.8 Q <sub>1</sub> = 6.9 Median = 15.5 Q <sub>3</sub> = 28.5 P <sub>90</sub> = 36.9 P <sub>99</sub> = 55.0																								
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-Jan	18	18	20	23	23	18	19	21	25	24	19	16	13	14	13	12	13	26	32	33	A	27	20	17	20.1	33.4
2-Jan	21	21	19	18	13	7	10	10	13	18	15	13	15	17	11	18	33	34	41	A	19	19	19	17	18.3	41.4
3-Jan	22	22	15	15	24	13	10	12	10	7	6	8	10	8	7	7	9	11	A	7	4	4	4	5	10.4	23.8
4-Jan	5	5	4	4	5	21	17	17	29	26	14	17	24	17	24	22	24	A	19	20	19	28	41	40	19.1	40.8
5-Jan	26	36	26	36	31	30	27	29	32	35	38	33	15	16	15	13	A	15	14	25	19	19	34	33	26.0	38.0
6-Jan	26	25	26	30	31	28	28	30	21	16	20	7	5	5	7	A	30	21	30	25	33	20	14	17	21.4	33.0
7-Jan	14	6	5	4	4	5	7	9	12	C	C	C	C	C	C	14	22	18	24	30	27	33	30	29	16.3	33.3
8-Jan	31	30	33	28	15	18	29	21	27	31	28	20	22	A	28	35	35	33	35	33	32	32	30	30	28.5	35.4
9-Jan	31	33	34	36	38	36	37	32	29	24	16	16	A	10	14	23	31	24	33	26	11	13	14	10	24.8	37.7
10-Jan	22	14	13	21	19	33	39	44	46	42	38	A	10	9	9	8	10	16	19	25	36	47	49	41	26.5	49.3
11-Jan	19	10	11	11	16	10	5	6	6	7	A	15	16	15	17	19	32	14	4	3	3	3	3	3	10.9	32.4
12-Jan	3	3	3	3	3	4	8	21	26	A	41	29	25	25	32	20	18	29	31	26	24	30	32	17	19.7	41.4
13-Jan	37	37	35	37	33	26	25	5	A	9	8	6	5	5	5	7	10	7	7	6	5	4	4	6	14.2	36.9
14-Jan	4	5	5	5	7	7	7	A	20	14	21	23	26	36	18	13	15	9	7	8	5	8	2	1	11.7	36.5
15-Jan	1	1	1	1	1	1	A	3	3	5	4	4	3	3	7	14	13	15	9	9	8	7	15	21	6.5	21.2
16-Jan	25	10	6	6	7	A	5	9	12	16	14	8	8	7	10	9	15	12	15	14	4	4	3	2	9.6	24.9
17-Jan	2	2	1	2	A	3	5	11	16	14	23	11	13	15	24	32	34	47	55	63	56	56	55	49	25.6	62.7
18-Jan	49	51	47	A	41	42	38	42	48	50	49	52	30	19	20	22	6	4	5	7	2	2	2	2	27.4	52.5
19-Jan	2	2	A	3	3	4	4	4	3	5	5	4	4	3	6	8	10	14	24	12	12	18	17	16	7.9	24.3
20-Jan	19	A	37	40	45	47	47	47	49	51	60	55	50	37	39	44	46	46	34	4	6	7	10	13	36.2	60.3
21-Jan	A	15	8	9	13	26	21	24	38	39	38	42	37	35	27	15	14	19	17	13	12	11	8	A	21.8	42.3
22-Jan	16	13	12	20	24	31	35	37	34	31	20	22	26	29	19	21	36	42	44	44	15	15	A	5	25.7	44.0
23-Jan	5	5	3	3	6	6	8	8	11	9	7	6	7	5	6	13	10	8	12	10	6	A	8	5	7.2	13.0
24-Jan	5	5	6	5	4	7	10	14	26	21	18	16	16	17	16	21	28	24	11	5	A	7	6	5	12.7	28.3
25-Jan	4	4	3	3	3	4	8	6	7	6	4	6	7	7	13	18	34	39	38	A	13	12	8	4	10.9	39.1
26-Jan	3	3	1	1	2	2	4	6	6	9	6	4	4	3	4	5	5	8	A	20	37	37	26	23	9.5	37.2
27-Jan	19	12	14	16	14	21	29	39	44	46	45	42	37	31	23	18	24	A	36	36	35	32	27	24	28.9	45.8
28-Jan	30	33	32	32	32	32	32	33	37	27	19	22	17	11	11	10	A	11	14	12	11	13	20	10	21.8	36.9
29-Jan	13	13	4	4	4	4	6	10	10	7	9	9	8	8	15	A	31	45	54	48	41	34	34	31	19.2	53.6
30-Jan	30	39	34	10	14	6	18	20	21	30	25	16	11	14	A	34	31	34	35	31	25	21	26	25	24.0	38.7
31-Jan	9	4	2	2	2	3	4	4	5	6	7	5	5	A	8	5	9	14	15	23	30	19	31	33	10.6	32.9
		17.0	15.9	15.3	14.3	15.9	16.5	18.1	19.1	22.2	21.5	21.3	18.1	16.2	15.0	15.5	17.3	21.6	22.0	24.6	21.4	18.9	19.4	19.7	17.8	Diurnal Average
		48.5	50.8	46.6	40.1	44.8	46.5	46.6	46.7	48.9	50.6	60.3	55.1	49.7	37.4	38.9	44.3	46.3	46.7	55.4	62.7	55.9	56.0	55.4	49.4	Diurnal Maximum
C - Calibration		A - Automated Daily Zero Span																								
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 159 ppb		24-hr 106 ppb																								





## Hourly Maximums

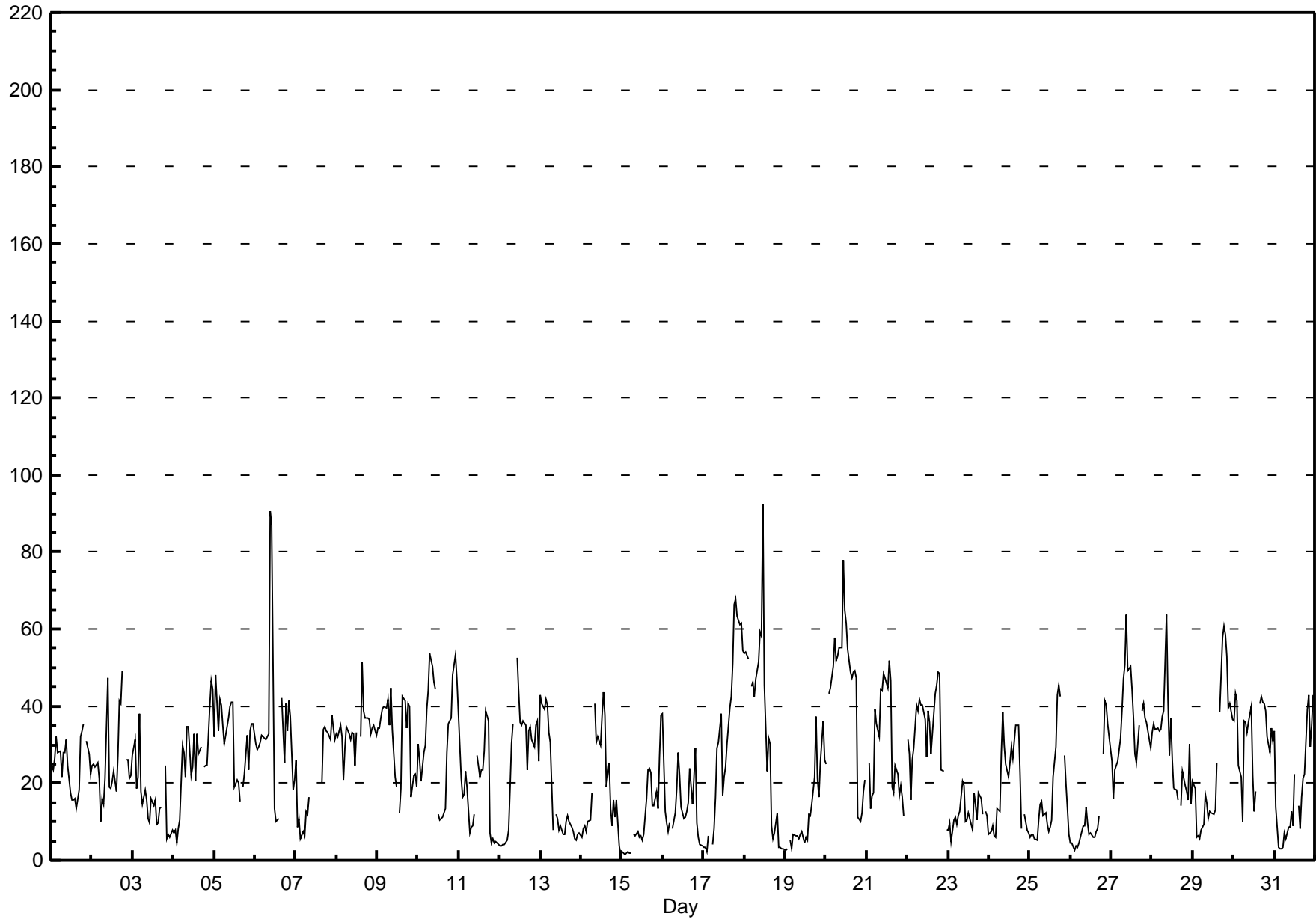
Nitrogen Dioxide (NO<sub>2</sub>) - ppb

Henry Pirker - January 2014

Maximum Value: 92.5 ppb on Jan 18 12:00		Maximum Daily Average: 43.9 ppb on Jan 20		Hours in Service: 744																							
Minimum Value: 2 ppb on Jan 15 03:00		Minimum Daily Average: 11.6 ppb on Jan 15		Hours of Data: 707																							
Maximum Diurnal Average: 32.1 ppb at hour 10		Minimum Diurnal Average: 18.7 ppb at hour 4		Hours of Missing Data: 37																							
Monthly Average: 24.86 ppb		Percentiles: P <sub>1</sub> = 2.1 P <sub>10</sub> = 6.4 Q <sub>1</sub> = 11.3 Median = 23.6 Q <sub>3</sub> = 35.6 P <sub>90</sub> = 44.3 P <sub>99</sub> = 64.2		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-Jan	25	24	26	32	28	28	21	28	28	31	25	17	16	16	16	14	18	32	34	36	A	31	28	23	25.0	35.5	
2-Jan	25	25	24	25	21	10	16	14	21	47	19	19	21	23	18	27	42	41	49	A	26	26	21	22	25.3	49.1	
3-Jan	27	31	19	22	38	18	15	18	16	11	10	16	14	16	9	10	14	14	A	25	6	7	6	8	15.9	38.0	
4-Jan	7	8	5	8	10	30	28	22	35	35	22	24	33	21	33	28	29	A	24	25	25	40	47	44	25.2	46.7	
5-Jan	32	48	34	42	40	35	30	33	37	40	41	41	19	21	20	15	A	19	23	32	24	34	36	36	31.8	48.0	
6-Jan	30	29	30	31	33	32	31	32	33	90	87	13	10	11	11	A	42	25	41	34	41	37	18	21	33.1	90.5	
7-Jan	26	9	11	5	7	6	13	12	16	C	C	C	C	C	C	20	34	35	34	33	31	38	34	31	22.0	37.7	
8-Jan	33	32	35	32	21	29	35	33	31	33	33	24	33	A	32	52	39	37	37	36	33	34	35	32	33.6	51.6	
9-Jan	34	34	37	39	40	39	42	35	45	34	21	19	A	12	18	42	42	34	41	40	16	22	23	19	31.7	44.8	
10-Jan	30	26	20	28	30	39	44	54	50	46	44	A	12	10	11	12	14	28	36	37	48	51	53	47	33.5	53.6	
11-Jan	38	21	16	17	23	19	7	9	9	12	A	27	22	24	24	28	39	36	7	5	6	4	5	4	17.4	38.9	
12-Jan	4	4	4	4	5	8	19	30	36	A	53	43	36	35	36	35	24	34	35	31	29	35	36	26	26.1	52.6	
13-Jan	43	41	39	42	40	33	31	8	A	12	11	8	9	7	7	10	12	10	8	7	6	5	7	7	17.5	42.9	
14-Jan	6	8	9	7	10	11	17	A	40	31	32	30	37	44	38	19	25	14	9	16	11	16	4	2	18.9	43.6	
15-Jan	2	2	2	2	2	2	A	7	6	7	6	6	5	7	16	23	24	23	14	14	18	13	27	38	11.6	37.6	
16-Jan	38	13	10	8	10	A	8	12	19	28	22	14	11	11	13	15	24	14	22	29	10	6	4	4	14.9	37.9	
17-Jan	3	3	2	6	A	4	8	16	29	31	38	17	22	24	30	40	42	51	66	68	63	61	61	54	32.2	67.7	
18-Jan	54	54	52	A	45	46	43	47	52	59	58	93	46	23	32	30	9	6	7	12	3	3	3	3	33.9	92.5	
19-Jan	3	3	A	5	3	7	6	6	6	7	7	5	6	5	12	12	15	22	37	21	17	25	36	26	12.6	37.1	
20-Jan	25	A	43	45	50	58	52	53	55	55	78	65	61	55	49	47	49	49	47	11	10	12	18	21	43.9	78.0	
21-Jan	A	26	14	17	17	39	36	32	44	44	48	47	45	52	47	19	18	24	22	17	20	16	11	A	29.8	51.9	
22-Jan	32	28	16	26	29	40	39	42	40	40	37	27	39	36	28	33	43	46	49	48	23	23	A	8	33.5	48.7	
23-Jan	8	10	5	10	11	9	11	13	21	19	10	10	12	11	8	18	14	10	17	16	12	A	13	12	12.2	20.7	
24-Jan	7	8	9	7	6	14	13	28	39	30	25	21	25	30	26	31	35	35	23	8	A	12	8	7	19.3	38.6	
25-Jan	6	7	7	6	5	10	15	15	11	12	9	8	9	11	22	30	43	46	43	A	27	20	14	7	16.5	45.6	
26-Jan	4	5	3	4	3	5	6	9	9	14	10	7	7	6	6	8	8	11	A	28	41	40	35	32	13.0	41.3	
27-Jan	26	16	23	24	26	32	39	47	51	64	49	50	44	37	28	25	35	A	39	41	37	36	31	29	36.0	63.8	
28-Jan	33	35	34	34	34	34	37	39	64	42	27	37	26	19	18	16	A	14	23	19	18	16	30	15	28.9	63.9	
29-Jan	20	19	6	6	6	8	9	17	15	11	13	12	12	13	25	A	38	58	61	59	53	40	41	37	25.1	60.9	
30-Jan	36	43	41	25	22	10	36	36	33	36	40	22	13	18	A	40	43	41	41	39	32	28	34	31	32.1	43.1	
31-Jan	34	14	4	3	3	4	7	5	9	9	13	9	22	A	14	8	16	21	23	39	43	30	35	43	17.7	43.0	
		23.0	20.8	19.3	18.7	20.6	22.0	23.8	25.1	30.0	32.1	30.6	25.2	22.9	21.2	22.3	24.4	28.6	28.6	31.4	28.4	25.1	25.4	25.1	22.9	Diurnal Average	
		53.8	54.1	52.3	44.7	50.4	57.7	51.7	53.6	63.9	90.5	87.0	92.5	61.5	55.0	49.0	51.6	48.8	57.6	66.3	67.7	63.3	61.3	61.5	54.3	Diurnal Maximum	
C - Calibration		A - Automated Daily Zero Span																									

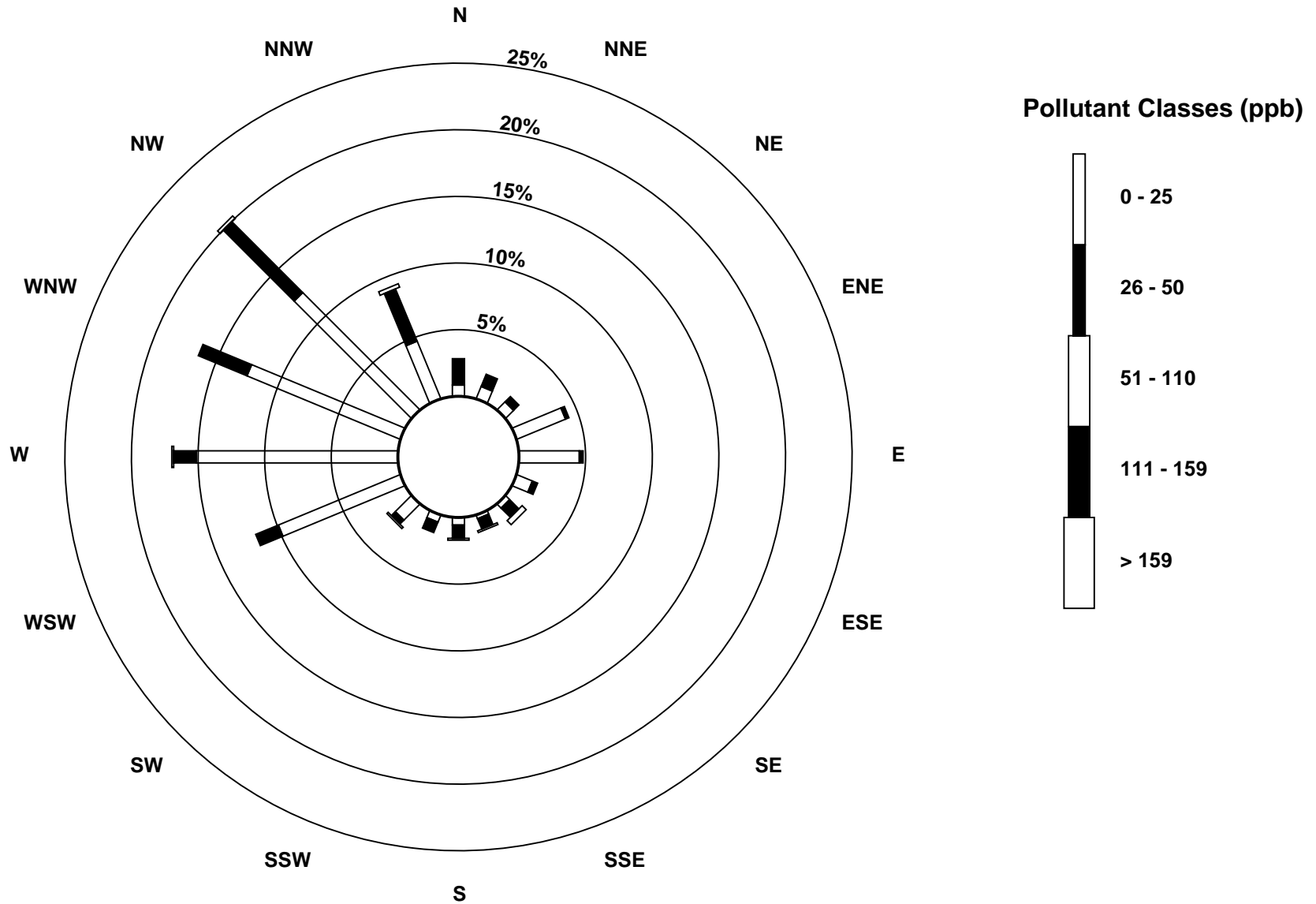
### Hourly Maximums

**Nitrogen Dioxide (NO<sub>2</sub>) - ppb**  
**Henry Pirker - January 2014**



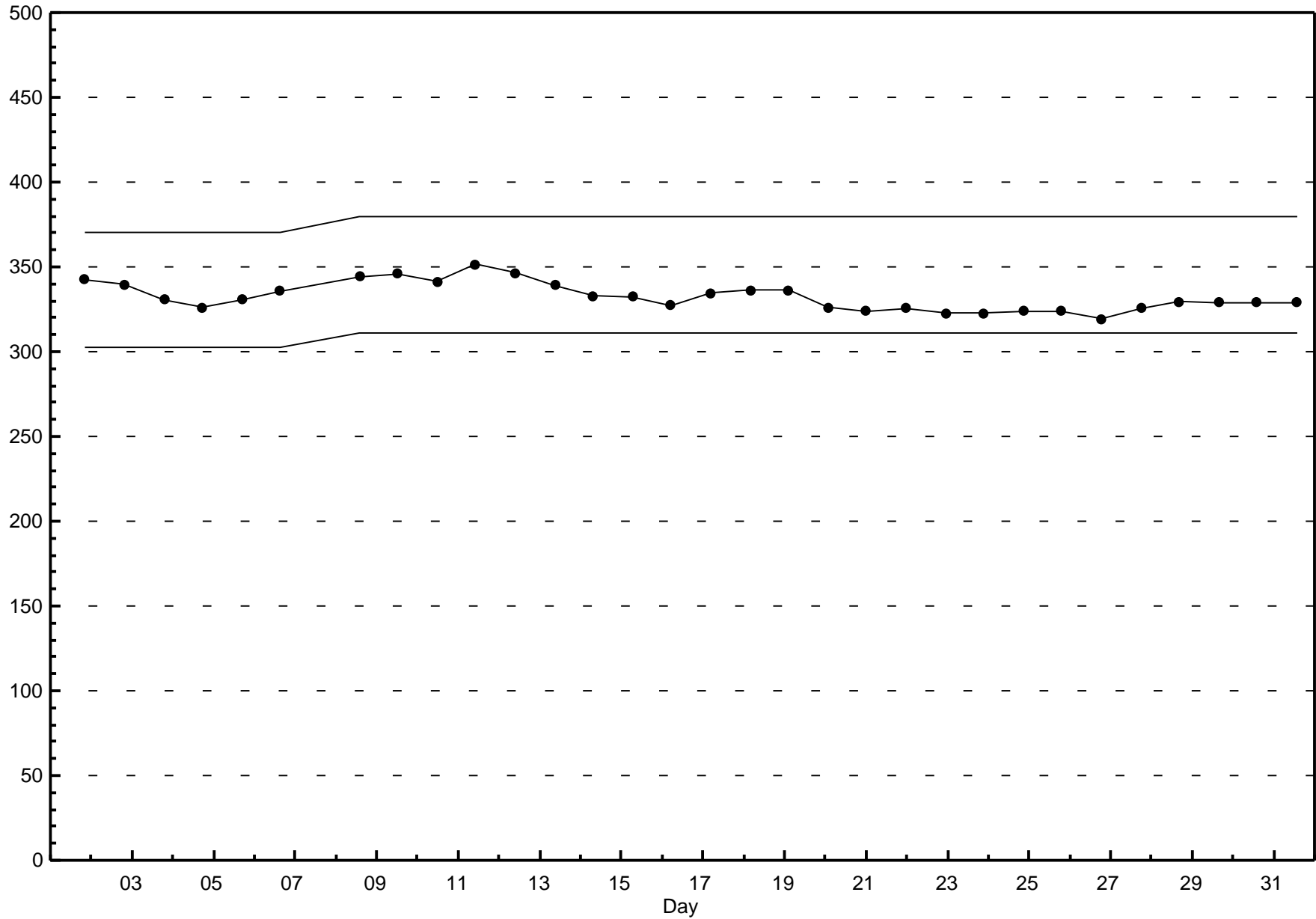
**Pollutant Rose**

**Nitrogen Dioxide (NO<sub>2</sub>) - ppb**  
**Henry Pirker - January 2014**



**Span Responses**

**Nitrogen Dioxide (NO<sub>2</sub>)**  
**Henry Pirker - January 2014**



## Hourly Averages

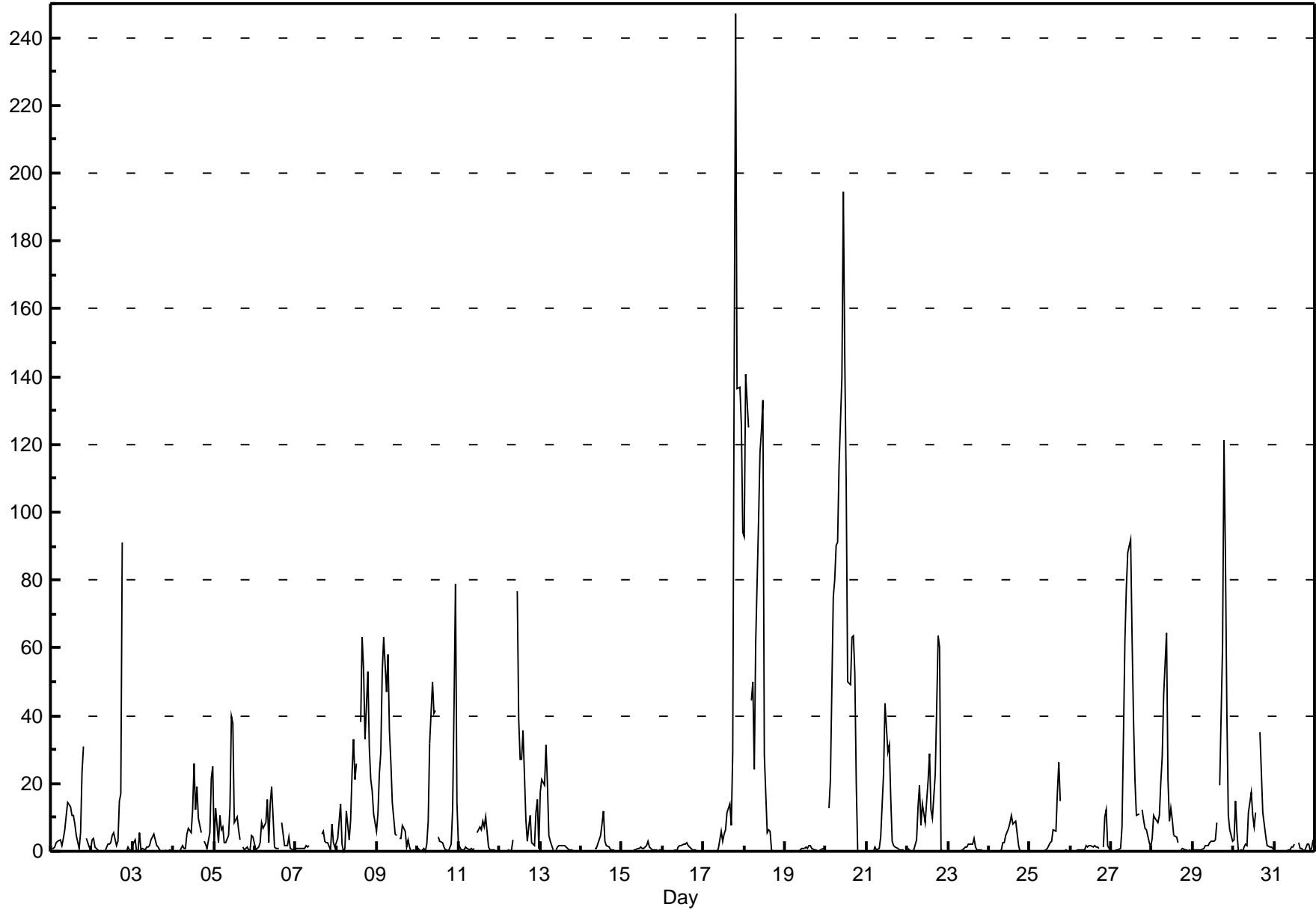
Nitrogen Oxide (NO) - ppb

Henry Pirker - January 2014

Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 247.0 ppb on Jan 17 20:00	Maximum Daily Average: 59.6 ppb on Jan 20		Hours of Data:	707
Minimum Value: 0 ppb on Jan 2 05:00	Minimum Daily Average: 0.5 ppb on Jan 19		Hours of Missing Data:	37
Maximum Diurnal Average: 25.1 ppb at hour 11	Minimum Diurnal Average: 4.5 ppb at hour 4		Hours of Calibration:	37
Monthly Average: 11.45 ppb	Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.0 Q <sub>1</sub> = 0.3 Median = 1.5 Q <sub>3</sub> = 8.7 P <sub>90</sub> = 31.7 P <sub>99</sub> = 135.2		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-Jan	1	1	1	3	3	3	2	4	6	11	14	13	10	11	8	5	1	6	23	31	A	4	1	1	7.1	30.9	
2-Jan	3	4	1	0	0	0	0	0	0	2	2	3	5	6	2	3	15	17	91	A	0	1	0	0	6.7	90.9	
3-Jan	2	3	0	0	5	0	1	0	1	1	2	4	5	3	2	1	0	0	A	1	0	0	0	0	1.5	5.5	
4-Jan	0	0	0	0	0	2	1	1	5	7	6	12	26	12	19	10	5	A	3	2	1	6	22	25	7.2	25.8	
5-Jan	2	13	3	11	7	7	3	3	5	13	40	38	8	10	6	4	A	1	0	1	0	0	5	4	8.0	40.0	
6-Jan	1	1	1	3	9	7	9	15	2	14	19	1	1	1	1	A	8	2	2	1	4	1	0	0	4.5	19.0	
7-Jan	1	1	1	1	1	1	1	1	2	C	C	C	C	C	C	5	6	3	2	2	0	8	2	1	2.2	7.9	
8-Jan	3	4	14	2	0	1	12	3	9	23	33	21	26	A	38	63	54	33	53	30	21	18	11	6	20.8	63.1	
9-Jan	11	23	29	53	63	47	58	36	26	15	5	5	A	4	4	8	6	1	3	1	0	0	0	0	17.3	63.0	
10-Jan	1	0	0	1	0	2	9	32	50	41	41	A	4	3	3	1	1	1	0	2	12	44	79	14	14.8	78.7	
11-Jan	2	1	0	0	1	1	1	1	1	1	A	6	7	6	9	7	10	1	0	0	0	0	0	0	2.5	10.3	
12-Jan	0	0	0	0	0	0	0	0	3	A	77	39	27	27	35	9	3	7	10	3	1	11	15	1	11.8	76.6	
13-Jan	17	21	20	31	20	5	3	0	A	1	1	2	2	2	2	1	1	0	0	0	0	0	0	0	5.6	31.3	
14-Jan	0	0	0	0	0	0	0	A	1	1	2	5	8	12	3	2	1	0	0	0	0	0	0	0	1.6	12.0	
15-Jan	0	0	0	0	0	0	A	0	1	1	1	1	1	1	2	3	1	1	0	0	0	0	0	0	0.6	3.2	
16-Jan	1	0	0	0	0	A	0	0	0	1	2	2	2	2	2	1	1	0	0	0	0	0	0	0	0.7	2.4	
17-Jan	0	0	0	0	A	0	0	0	0	1	6	3	5	6	11	14	8	29	142	247	136	137	126	94	42.0	247.0	
18-Jan	93	141	125	A	44	50	24	62	98	118	124	133	28	5	6	6	0	0	0	0	0	0	0	0	46.0	140.9	
19-Jan	0	0	A	0	0	0	0	0	0	0	1	1	1	1	2	2	1	0	1	0	0	1	0	0	0.5	1.8	
20-Jan	0	A	13	21	75	80	90	91	114	140	194	145	108	50	49	63	64	52	20	0	0	0	0	0	59.6	194.4	
21-Jan	A	0	0	0	0	1	0	1	4	14	23	44	29	31	16	3	2	1	1	1	1	1	1	0	A	7.8	43.6
22-Jan	1	0	0	0	1	3	13	20	8	14	8	15	21	29	12	10	23	43	63	60	1	0	A	0	15.0	63.4	
23-Jan	0	0	0	0	0	0	0	0	0	1	1	1	2	2	2	4	1	0	0	0	0	A	0	0	0.7	3.9	
24-Jan	0	0	0	0	0	0	0	0	3	2	5	7	9	11	8	8	9	2	0	0	A	0	0	0	2.8	10.5	
25-Jan	0	0	0	0	0	0	0	0	0	0	1	2	3	3	6	6	17	26	15	A	0	0	0	0	3.5	26.4	
26-Jan	0	0	0	0	0	0	0	0	0	1	1	1	2	1	2	1	1	1	A	1	10	12	2	1	1.8	12.1	
27-Jan	0	0	0	0	0	1	7	34	62	78	88	92	63	39	21	11	11	A	12	9	7	6	3	1	23.7	91.8	
28-Jan	4	11	10	8	11	20	28	46	64	21	9	13	9	5	4	2	A	1	1	0	0	0	1	0	11.7	64.3	
29-Jan	0	0	0	0	1	1	1	2	2	2	2	3	3	4	8	A	19	61	121	86	41	11	6	3	16.4	121.3	
30-Jan	3	15	6	0	0	0	1	2	2	11	17	11	7	12	A	35	23	12	8	5	2	1	1	1	7.7	35.1	
31-Jan	0	0	0	0	0	0	0	0	0	0	1	1	2	A	2	1	1	1	0	2	2	0	1	4	0.9	3.6	

4.9	7.9	7.5	4.5	8.0	7.8	8.8	11.9	15.7	18.4	25.1	21.5	14.7	10.7	9.9	10.0	10.1	10.5	19.8	16.9	8.4	8.8	9.2	5.3	Diurnal Average
92.8	140.9	125.1	53.0	75.0	80.2	90.4	91.2	113.6	140.0	194.4	145.1	107.5	49.9	49.2	63.1	63.7	60.6	141.9	247.0	136.3	136.9	125.9	94.1	Diurnal Maximum



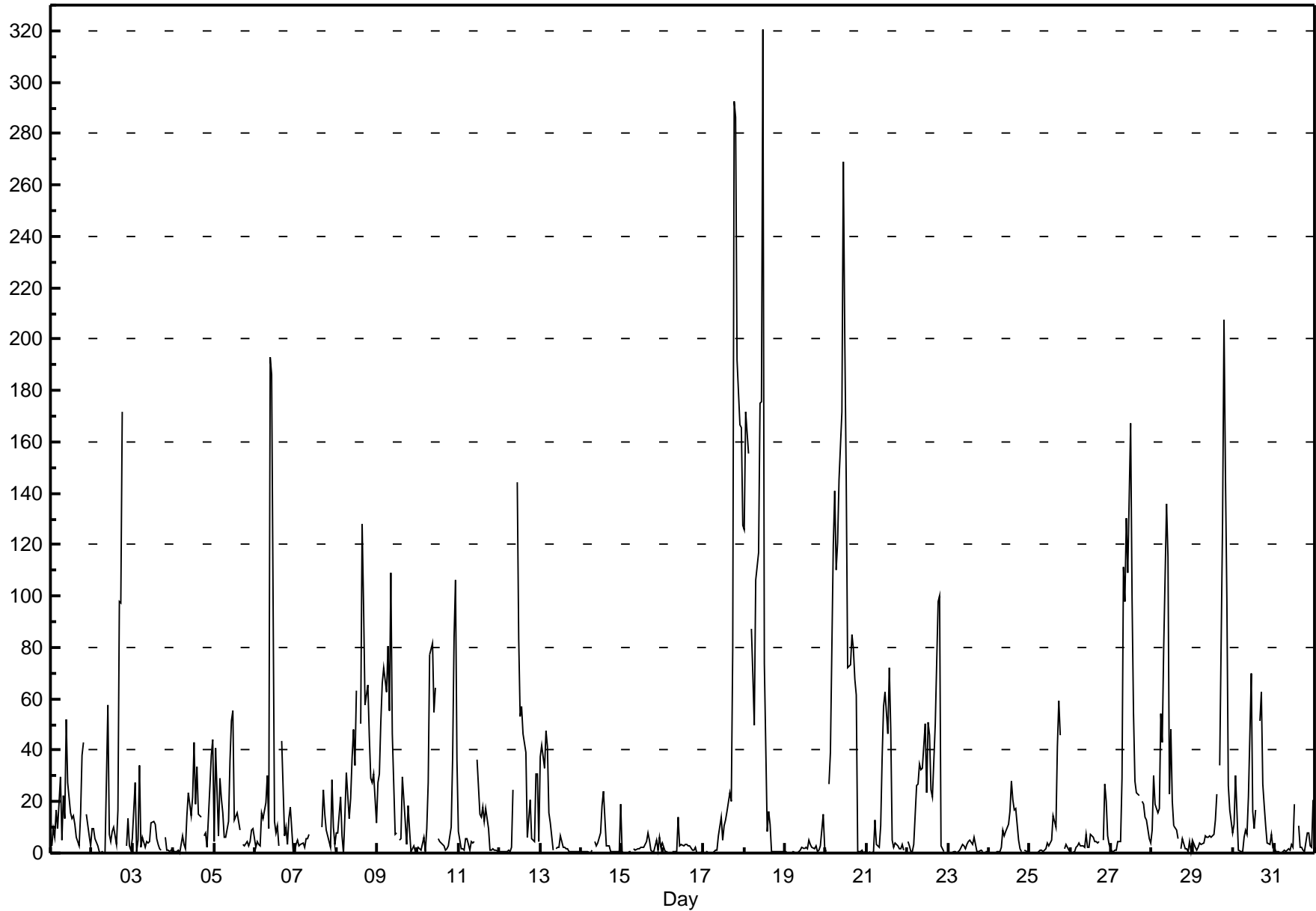
## Hourly Maximums

**Nitrogen Oxide (NO) - ppb**  
**Henry Pirker - January 2014**

Maximum Value: 320.4 ppb on Jan 18 12:00		Maximum Daily Average: 84.0 ppb on Jan 20		Hours in Service: 744																						
Minimum Value: 0 ppb on Jan 2 08:00		Minimum Daily Average: 1.8 ppb on Jan 23		Hours of Data: 707																						
Maximum Diurnal Average: 46.9 ppb at hour 11		Minimum Diurnal Average: 8.4 ppb at hour 4		Hours of Missing Data: 37																						
Monthly Average: 21.82 ppb		Percentiles: P <sub>1</sub> = 0.1 P <sub>10</sub> = 0.5 Q <sub>1</sub> = 1.2 Median = 5.1 Q <sub>3</sub> = 21.5 P <sub>90</sub> = 62.8 P <sub>99</sub> = 188.3		Hours of Calibration: 37																						
				Percent Operational Time: 100.0																						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	3	9	6	17	9	30	5	22	13	52	27	16	13	15	11	6	3	15	38	43	A	15	7	3	16.4	51.9
2-Jan	9	9	6	3	0	0	0	0	0	58	7	5	9	10	4	17	98	97	172	A	3	14	3	1	22.7	171.9
3-Jan	5	27	1	5	34	2	6	2	5	4	4	12	12	11	6	3	1	1	A	6	1	1	1	1	6.7	33.9
4-Jan	1	1	0	1	0	7	3	2	14	23	14	22	43	19	34	15	14	A	7	8	3	26	38	44	14.7	44.2
5-Jan	5	41	7	29	21	16	6	6	12	36	52	55	13	15	13	9	A	3	3	4	3	4	9	9	16.1	55.3
6-Jan	2	4	3	3	16	13	20	30	9	193	186	12	8	10	3	A	44	7	10	4	14	18	1	1	26.5	192.7
7-Jan	4	5	3	3	4	2	5	6	7	C	C	C	C	C	C	10	24	15	9	7	2	29	10	3	8.2	28.6
8-Jan	8	8	22	7	0	14	32	13	21	37	48	34	63	A	51	128	96	58	65	45	29	27	31	12	36.9	128.1
9-Jan	28	31	51	66	72	63	81	56	109	46	7	8	A	5	5	30	12	3	19	9	0	3	1	0	30.7	109.0
10-Jan	2	2	1	6	1	10	27	77	82	55	64	A	5	5	3	3	1	1	3	10	37	84	106	36	27.0	106.1
11-Jan	9	2	2	1	6	5	1	4	4	4	A	36	15	14	18	12	17	10	1	1	1	1	1	1	7.2	36.4
12-Jan	1	1	1	1	1	1	1	2	25	A	144	83	53	57	46	39	6	13	21	6	4	31	31	4	24.8	144.4
13-Jan	38	42	33	48	42	16	12	1	A	1	2	3	7	3	2	2	2	1	1	1	1	1	1	1	11.1	47.7
14-Jan	1	1	0	0	1	0	1	A	5	3	4	8	18	24	14	3	3	1	1	1	1	0	0	19	4.7	24.3
15-Jan	1	0	0	0	0	1	A	2	1	1	2	2	2	2	4	8	5	1	1	1	5	1	6	2	2.1	7.6
16-Jan	4	0	0	0	0	A	1	1	0	14	3	4	3	3	3	3	3	1	1	2	0	0	0	0	2.0	13.8
17-Jan	0	0	1	0	A	0	0	1	1	7	14	5	10	13	16	23	20	79	292	286	192	167	166	128	61.8	292.3
18-Jan	126	172	155	A	87	69	50	106	117	175	176	320	74	9	16	11	1	1	1	1	1	1	0	0	72.5	320.4
19-Jan	0	0	A	0	0	0	0	0	0	1	2	1	2	2	5	3	2	1	3	1	1	3	15	2	2.0	15.1
20-Jan	1	A	27	39	120	141	110	121	146	172	269	201	145	72	73	85	80	68	62	1	1	1	0	0	84.0	269.1
21-Jan	A	0	0	0	0	13	3	2	10	37	57	63	47	72	48	5	2	4	3	2	1	4	1	A	17.1	72.1
22-Jan	4	3	1	0	3	26	27	35	32	33	50	24	51	46	25	22	51	74	98	100	3	1	A	0	30.8	100.0
23-Jan	0	0	0	0	0	0	0	1	3	3	2	4	4	5	3	6	4	1	1	1	1	A	1	1	1.8	6.0
24-Jan	0	0	0	0	0	0	0	2	9	6	8	11	16	28	21	17	17	5	2	0	A	1	0	0	6.4	28.2
25-Jan	0	0	0	0	0	1	1	1	1	2	4	3	4	5	14	10	41	59	46	A	2	3	2	1	8.7	59.4
26-Jan	0	0	1	2	3	4	3	3	2	7	2	2	7	6	4	4	4	4	A	5	27	20	7	3	5.3	26.7
27-Jan	1	0	1	1	4	4	29	111	98	130	109	167	99	54	28	23	23	A	20	19	14	13	5	4	41.7	167.0
28-Jan	9	30	19	16	17	54	43	79	136	115	23	48	20	10	9	6	A	2	6	1	1	1	4	1	28.3	136.0
29-Jan	5	2	1	2	4	3	4	6	6	6	7	6	7	13	23	A	34	129	208	147	98	26	17	8	33.2	207.7
30-Jan	11	30	16	1	1	1	6	9	7	22	70	16	9	17	A	51	63	27	18	11	4	4	7	2	17.5	69.9
31-Jan	3	1	0	0	0	0	1	0	2	1	3	2	19	A	11	2	2	1	1	8	8	3	2	21	4.0	20.8
		9.3	14.1	11.9	8.4	14.9	16.6	16.0	23.4	29.3	42.9	46.9	40.5	26.9	19.5	17.7	19.2	23.2	23.5	38.2	25.1	15.7	16.7	15.8	10.3	Diurnal Average
		125.7	172.0	155.5	66.1	119.7	141.2	110.1	120.6	145.5	192.7	269.1	320.4	145.4	72.3	73.3	128.1	98.1	128.7	292.3	286.2	192.1	166.7	165.8	127.5	Diurnal Maximum
C - Calibration		A - Automated Daily Zero Span																								

**Hourly Maximums**

**Nitrogen Oxide (NO) - ppb**  
**Henry Pirker - January 2014**



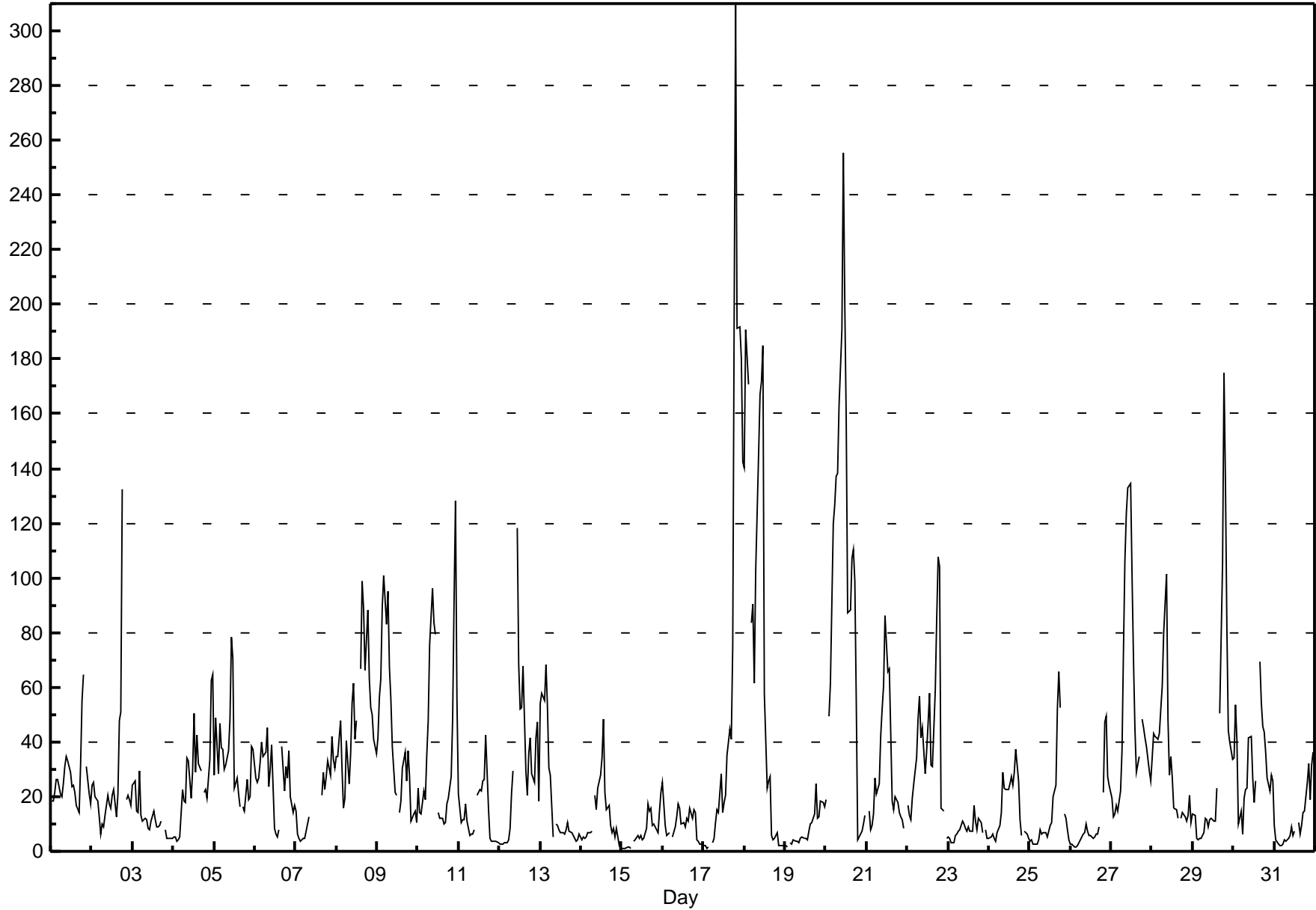


## Hourly Averages

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

Henry Pirker - January 2014

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0		Hours in Service: 744																																														
Maximum Value: 309.3 ppb on Jan 17 20:00		Maximum Daily Average: 95.9 ppb on Jan 20																																														
Minimum Value: 1 ppb on Jan 15 03:00		Hours of Data: 707																																														
Maximum Diurnal Average: 46.4 ppb at hour 11		Hours of Missing Data: 37																																														
Monthly Average: 29.96 ppb		Hours of Calibration: 37																																														
Minimum Daily Average: 7.2 ppb on Jan 15		Percent Operational Time: 100.0																																														
Minimum Diurnal Average: 18.8 ppb at hour 4																																																
Percentiles: P <sub>1</sub> = 1.4 P <sub>10</sub> = 4.2 Q <sub>1</sub> = 7.7 Median = 18.2 Q <sub>3</sub> = 36.2 P <sub>90</sub> = 66.4 P <sub>99</sub> = 190.6																																																
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																								
1-Jan	18	19	22	26	26	21	20	25	31	34	33	29	24	24	21	17	14	32	55	64	A	31	21	17	27.2	64.4																						
2-Jan	24	25	20	18	12	7	10	9	13	20	17	16	20	23	13	21	48	51	133	A	19	21	19	17	25.0	132.5																						
3-Jan	24	26	15	14	29	13	11	12	11	8	8	11	15	11	9	9	9	11	A	8	5	5	5	5	11.9	29.3																						
4-Jan	5	6	4	4	5	22	18	18	34	33	20	29	50	29	43	32	29	A	21	22	20	34	62	65	26.3	64.8																						
5-Jan	28	49	28	47	38	37	30	32	37	48	78	71	23	27	21	16	A	16	15	26	19	20	39	37	34.0	78.1																						
6-Jan	27	25	27	32	40	35	36	45	24	30	39	8	6	5	8	A	38	22	31	27	37	20	14	17	25.8	45.0																						
7-Jan	15	6	5	4	4	5	8	10	12	C	C	C	C	C	C	20	29	23	28	33	28	42	33	31	18.6	42.0																						
8-Jan	34	35	48	30	16	20	41	25	36	54	62	41	48	A	66	99	89	66	88	63	53	50	41	36	49.5	98.6																						
9-Jan	42	56	63	89	101	83	95	67	56	38	21	21	A	14	18	31	36	26	37	27	11	14	15	10	42.2	100.9																						
10-Jan	23	14	14	22	19	35	48	76	96	83	79	A	14	12	12	10	10	17	19	27	48	91	128	55	41.5	128.3																						
11-Jan	21	11	12	12	18	11	6	6	6	8	A	20	23	22	26	26	43	15	5	4	4	4	3	3	13.3	42.6																						
12-Jan	3	3	3	3	3	4	9	21	29	A	118	68	52	52	68	29	21	36	42	28	25	41	47	18	31.5	118.1																						
13-Jan	54	58	55	68	53	31	28	5	A	10	9	8	7	7	7	8	10	8	7	6	5	4	4	6	19.8	68.3																						
14-Jan	4	5	5	5	7	7	7	A	21	15	23	28	34	49	22	15	17	9	7	9	5	8	2	1	13.3	48.5																						
15-Jan	1	1	1	1	1	1	A	4	4	6	5	6	4	4	8	18	15	16	9	10	8	7	15	22	7.2	21.6																						
16-Jan	25	10	6	6	7	A	5	9	13	17	16	10	10	9	12	11	16	12	15	14	4	4	3	2	10.3	25.4																						
17-Jan	2	2	1	2	A	3	5	11	15	14	28	14	18	21	35	45	41	75	197	309	191	192	180	142	67.1	309.3																						
18-Jan	140	191	171	A	83	90	61	103	145	167	172	185	58	23	26	27	6	4	5	7	2	2	2	2	72.6	190.5																						
19-Jan	2	2	A	3	3	4	4	4	3	5	6	5	5	4	7	10	10	14	25	12	13	18	18	16	8.3	24.8																						
20-Jan	19	A	50	61	120	127	137	138	163	191	255	201	158	87	88	107	110	99	55	4	6	7	10	13	95.9	255.2																						
21-Jan	A	15	8	9	13	27	21	25	42	52	61	86	66	67	43	18	15	20	18	14	13	11	9	A	29.6	85.9																						
22-Jan	17	13	12	20	25	34	48	57	42	45	29	37	47	58	32	31	59	85	108	104	16	15	A	5	40.7	107.6																						
23-Jan	5	5	3	3	6	6	8	8	11	10	8	7	9	7	8	17	11	8	12	11	7	A	8	5	7.9	16.9																						
24-Jan	5	5	6	5	4	7	10	14	29	23	23	23	25	28	24	29	37	26	12	6	A	8	6	5	15.5	37.1																						
25-Jan	4	4	3	3	3	4	8	6	7	7	5	8	10	11	20	24	52	66	53	A	14	12	8	4	14.5	65.8																						
26-Jan	3	3	2	2	2	3	4	6	7	10	7	6	6	5	5	6	6	9	A	22	47	49	27	24	11.4	49.4																						
27-Jan	20	12	14	17	15	22	37	73	106	124	133	134	100	70	44	29	35	A	48	45	42	38	30	26	52.7	134.4																						
28-Jan	34	43	42	41	43	52	60	80	101	48	28	34	27	16	15	12	A	12	14	13	11	13	21	10	33.6	101.4																						
29-Jan	14	13	5	4	5	5	7	12	12	9	12	12	11	11	23	A	51	105	175	135	82	44	40	34	35.7	175.2																						
30-Jan	34	53	40	10	14	7	20	22	23	42	42	27	18	26	A	69	54	46	44	36	27	22	28	26	31.7	69.5																						
31-Jan	9	4	2	2	2	3	4	4	5	6	9	6	7	A	11	6	10	14	15	25	32	19	32	36	11.5	36.5																						
																								21.9	23.8	22.8	18.8	23.9	24.2	26.9	30.9	37.8	40.0	46.4	39.6	30.8	25.7	25.3	27.3	31.8	32.5	44.5	38.3	27.3	28.2	29.0	23.0	Diurnal Average
																								140.1	190.5	170.5	89.3	119.9	126.9	137.2	138.1	162.7	190.9	255.2	200.6	157.5	87.4	88.2	107.4	110.2	105.4	196.7	309.3	191.4	192.0	180.3	142.3	Diurnal Maximum
C - Calibration																								A - Automated Daily Zero Span																								



# Hourly Maximums

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

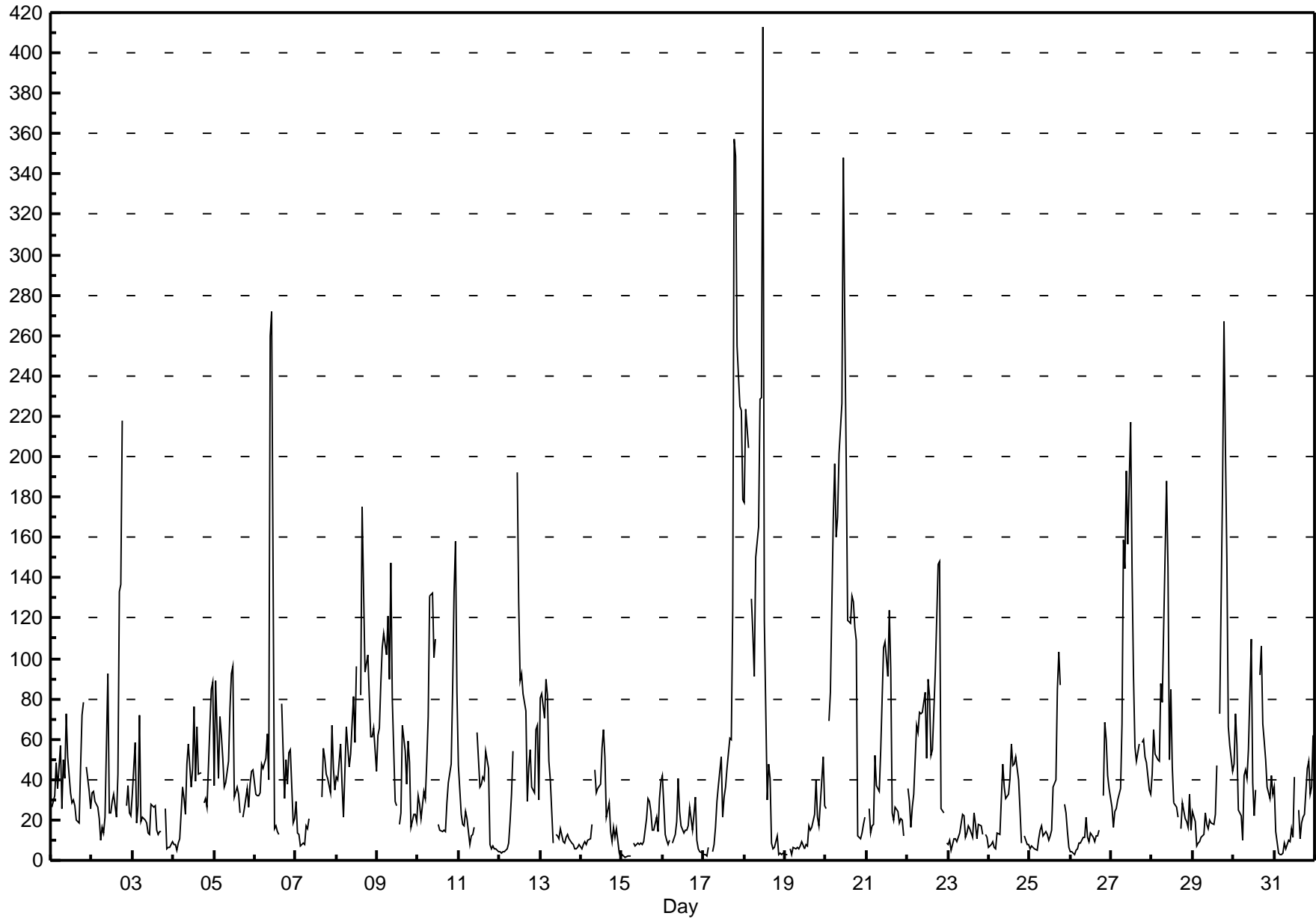
### Henry Pirker - January 2014

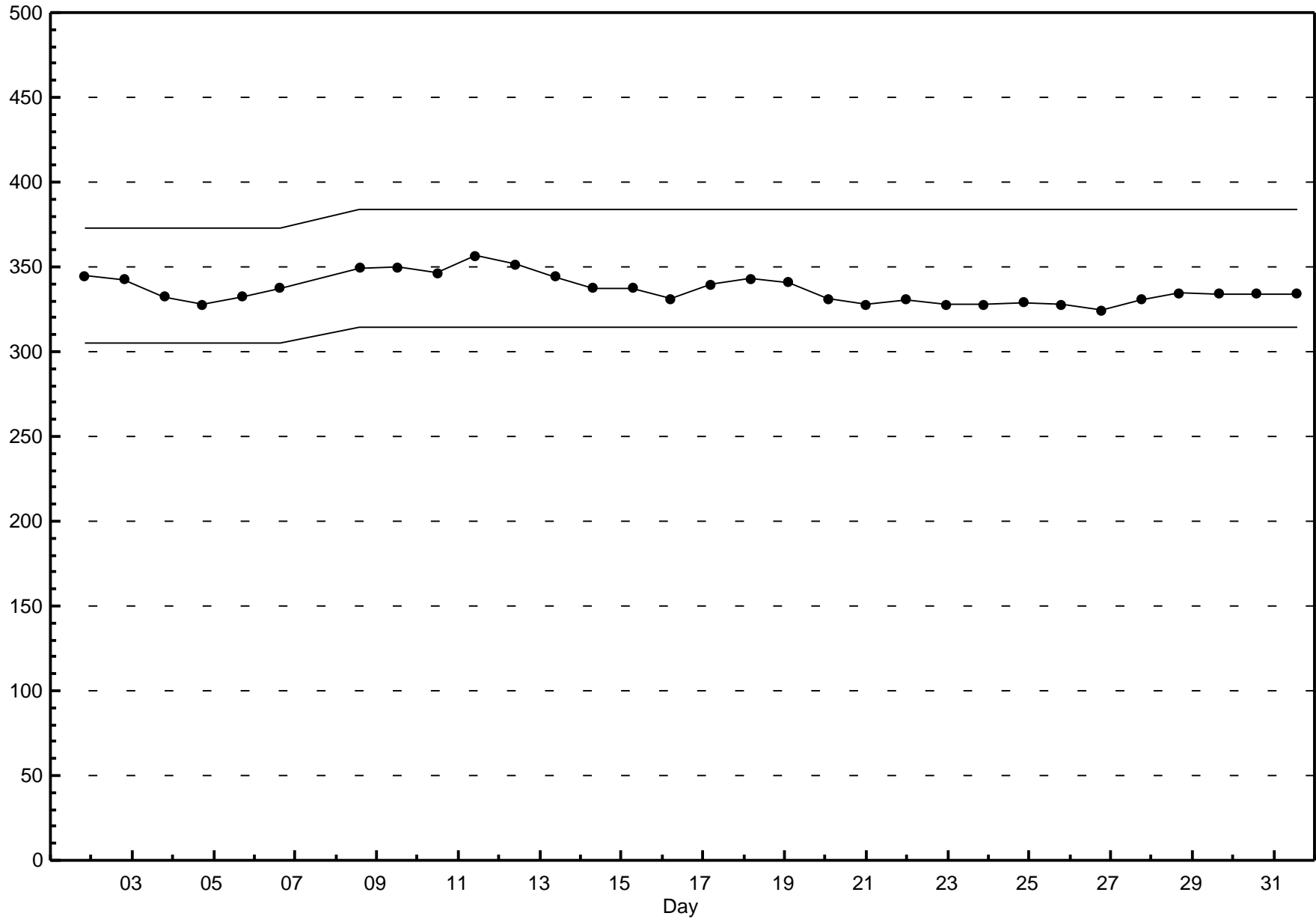
<b>Maximum Value: 412.8 ppb on Jan 18 12:00</b>		<b>Maximum Daily Average: 126.4 ppb on Jan 20</b>		Hours in Service: 744 Hours of Data: 707 Hours of Missing Data: 37 Hours of Calibration: 37 Percent Operational Time: 100.0																							
<b>Minimum Value: 2 ppb on Jan 15 03:00</b>		<b>Minimum Daily Average: 13.4 ppb on Jan 15</b>																									
<b>Maximum Diurnal Average: 76.7 ppb at hour 11</b>		<b>Minimum Diurnal Average: 26.9 ppb at hour 4</b>																									
<b>Monthly Average: 45.94 ppb</b>		Percentiles: P <sub>1</sub> = 2.5 P <sub>10</sub> = 7.0 Q <sub>1</sub> = 13.1 Median = 28.9 Q <sub>3</sub> = 54.9 P <sub>90</sub> = 105.6 P <sub>99</sub> = 265.2																									
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-Jan	26	29	32	49	36	57	25	50	40	73	51	33	29	30	27	20	19	47	72	79	A	46	34	26	40.4	78.6	
2-Jan	33	34	29	27	21	10	17	14	22	93	23	23	29	33	21	43	133	136	218	A	27	37	24	22	46.4	217.8	
3-Jan	33	58	19	27	72	20	21	20	19	13	12	28	26	27	15	13	15	14	A	25	6	7	7	9	22.0	71.8	
4-Jan	8	8	5	8	10	36	31	23	48	58	36	46	76	39	66	43	44	A	29	31	26	66	85	88	39.6	88.3	
5-Jan	37	89	40	71	62	51	37	38	49	76	93	96	32	36	33	24	A	21	25	36	26	38	44	45	47.8	96.1	
6-Jan	33	32	32	33	47	45	51	62	40	260	272	16	17	14	13	A	77	31	50	37	53	55	18	20	56.9	271.7	
7-Jan	29	13	13	7	9	8	17	16	20	C	C	C	C	C	C	31	56	51	43	41	33	67	45	35	29.6	66.8	
8-Jan	41	40	58	38	22	44	66	47	53	67	81	58	96	A	82	175	134	93	102	80	61	61	66	44	69.9	174.9	
9-Jan	62	66	87	105	112	102	121	90	147	79	29	27	A	18	23	67	54	38	59	49	16	23	23	19	61.6	147.3	
10-Jan	32	28	21	34	31	49	71	131	133	101	110	A	18	15	14	15	14	29	38	47	85	133	158	83	60.4	158.0	
11-Jan	47	23	18	17	24	21	8	12	13	16	A	64	36	37	41	40	54	46	8	6	7	5	5	5	24.0	63.6	
12-Jan	4	4	4	4	6	9	19	32	54	A	192	127	89	92	82	74	29	47	55	37	34	65	67	30	50.3	192.0	
13-Jan	81	83	71	89	82	49	40	9	A	13	12	11	16	9	9	11	13	11	9	8	6	6	7	8	28.2	89.4	
14-Jan	6	8	9	8	10	11	18	A	45	34	36	37	56	65	51	22	28	14	9	16	11	16	4	2	22.4	64.8	
15-Jan	3	2	2	2	2	2	A	8	7	8	8	8	8	9	21	31	29	24	15	15	21	14	30	39	13.4	39.4	
16-Jan	42	13	10	8	10	A	8	13	19	41	24	17	13	15	15	17	26	15	23	31	10	6	4	4	16.7	41.8	
17-Jan	3	3	2	6	A	4	8	16	29	37	52	21	31	36	45	61	60	125	357	349	255	225	223	178	92.5	357.2	
18-Jan	177	224	205	A	129	112	91	150	165	228	230	413	119	30	47	41	9	5	6	12	3	4	3	3	104.6	412.8	
19-Jan	3	3	A	5	3	7	6	6	6	7	9	6	8	7	17	15	17	23	40	22	17	28	51	27	14.5	51.0	
20-Jan	25	A	69	83	169	197	160	170	201	227	348	266	197	119	118	131	128	116	109	12	11	13	18	21	126.4	348.0	
21-Jan	A	26	13	17	18	52	37	34	54	80	106	108	91	124	94	24	20	26	24	18	21	20	12	A	46.3	124.2	
22-Jan	36	29	16	26	32	67	63	73	72	73	83	51	90	81	52	55	93	119	147	148	26	24	A	8	63.8	148.4	
23-Jan	8	10	5	11	11	9	11	14	23	22	11	14	17	16	11	23	17	11	18	17	12	A	13	12	13.8	23.5	
24-Jan	7	8	9	7	6	14	13	30	48	36	31	33	40	58	47	48	51	40	25	8	A	12	8	7	25.4	57.9	
25-Jan	6	7	7	5	5	11	15	17	12	14	13	10	12	15	36	40	85	103	87	A	28	23	14	7	24.8	103.2	
26-Jan	5	5	3	5	6	9	8	12	11	21	12	9	14	12	9	12	12	15	A	32	68	60	42	36	18.1	68.1	
27-Jan	26	16	24	25	30	35	68	159	145	193	157	217	143	91	56	49	58	A	58	59	51	48	35	33	77.3	217.1	
28-Jan	42	65	53	50	49	88	78	115	188	145	50	85	46	29	27	22	A	16	29	21	19	16	33	15	55.6	187.7	
29-Jan	25	19	7	9	9	11	13	24	18	16	20	19	18	23	47	A	72	186	267	204	149	66	57	44	57.4	267.2	
30-Jan	47	73	57	25	22	10	42	45	40	55	110	38	22	35	A	92	106	67	59	50	36	31	42	33	49.4	109.6	
31-Jan	37	15	4	3	3	4	8	6	10	10	15	11	41	A	25	10	18	22	23	45	49	33	36	62	21.3	61.8	
		32.1	34.4	30.7	26.9	34.9	38.0	39.1	47.9	57.7	72.3	76.7	65.3	49.3	39.8	39.5	42.9	50.7	51.3	69.1	52.9	40.3	41.5	40.2	32.2	Diurnal Average	
		177.4	223.6	204.6	105.2	169.3	196.5	160.2	170.2	201.1	260.0	348.0	412.8	197.3	124.2	117.6	174.9	133.7	186.0	357.2	348.9	255.2	225.2	222.7	178.5	Diurnal Maximum	
C - Calibration		A - Automated Daily Zero Span																									

### Hourly Maximums

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

Henry Pirker - January 2014





## Hourly Averages

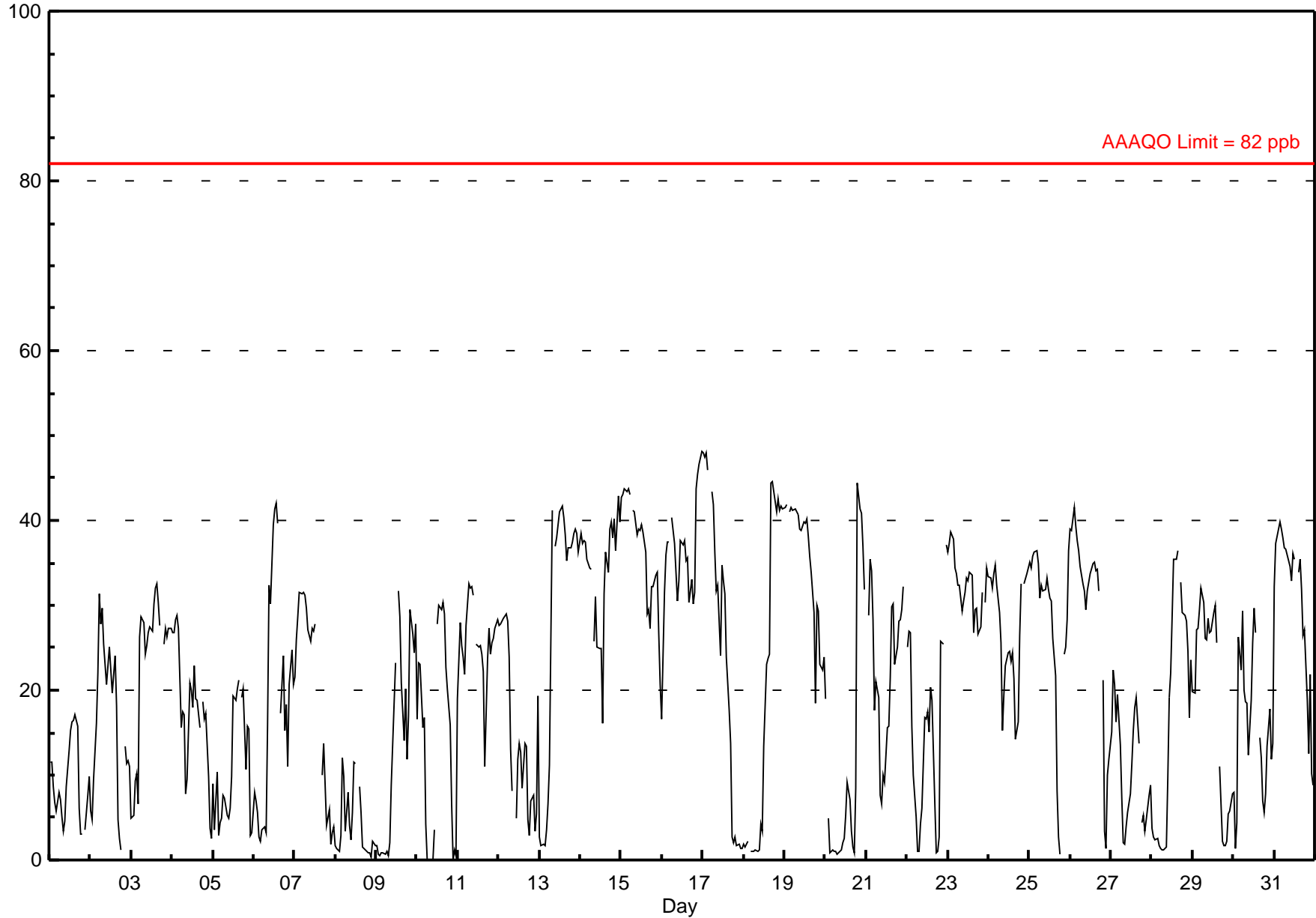
Ozone (O<sub>3</sub>) - ppb

Henry Pirker - January 2014

Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 48.1 ppb on Jan 17 00:00	Maximum Daily Average: 36.4 ppb on Jan 15		Hours of Data:	710
Minimum Value: 0 ppb on Jan 10 07:00	Minimum Daily Average: 4.3 ppb on Jan 8		Hours of Missing Data:	34
Maximum Diurnal Average: 26.7 ppb at hour 14	Minimum Diurnal Average: 16.9 ppb at hour 19		Hours of Calibration:	34
Monthly Average: 21.28 ppb	Percentiles: P <sub>1</sub> = 0.5 P <sub>10</sub> = 2.2 Q <sub>1</sub> = 8.0 Median = 23.7 Q <sub>3</sub> = 32.2 P <sub>90</sub> = 38.4 P <sub>99</sub> = 45.1		Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																								
1-Jan	12	11	9	7	6	8	7	5	3	5	9	13	15	16	16	17	16	6	3	3	A	4	8	10	9.0	17.1																						
2-Jan	6	5	10	16	22	31	28	30	25	21	23	25	22	20	24	18	5	2	1	A	13	11	12	11	16.6	31.4																						
3-Jan	5	5	9	10	7	26	29	28	24	25	27	27	27	30	32	32	30	28	A	25	27	26	27	27	23.3	32.5																						
4-Jan	27	27	28	29	27	16	17	17	8	10	21	20	18	23	19	19	16	A	19	17	17	10	4	3	17.8	28.9																						
5-Jan	9	3	10	3	4	5	8	7	5	5	6	10	19	19	20	21	A	19	20	11	16	15	3	3	10.6	21.3																						
6-Jan	8	7	6	3	2	3	4	3	16	32	30	39	41	42	40	A	17	24	15	18	11	21	25	21	18.7	42.0																						
7-Jan	22	26	29	31	31	32	31	30	27	26	27	27	28	C	C	C	10	14	9	4	6	2	3	4	19.9	31.5																						
8-Jan	2	1	1	3	12	10	3	8	4	2	6	12	11	A	9	6	2	1	1	1	1	0	2	2	4.3	12.0																						
9-Jan	2	1	0	1	1	1	1	1	2	9	19	23	A	32	29	21	14	20	12	17	29	27	24	28	13.6	31.7																						
10-Jan	17	23	23	16	17	4	0	0	0	0	4	A	28	30	29	30	29	23	20	16	7	0	1	0	13.8	30.4																						
11-Jan	19	28	25	24	22	28	33	32	32	31	A	25	25	25	24	22	11	24	27	24	26	26	27	28	25.6	32.6																						
12-Jan	28	28	28	28	29	28	24	13	8	A	5	12	14	13	8	14	13	5	3	7	8	3	5	19	14.9	29.0																						
13-Jan	3	2	2	2	4	7	11	41	A	37	38	39	41	42	40	38	35	37	37	37	38	39	38	36	28.0	41.7																						
14-Jan	39	37	38	37	35	34	34	A	26	31	25	25	25	16	31	36	34	39	40	38	40	36	43	40	33.9	42.8																						
15-Jan	43	43	44	43	44	43	A	41	41	38	39	39	39	39	36	29	29	27	32	32	34	34	27	21	36.4	43.8																						
16-Jan	17	32	36	37	37	A	40	37	34	31	33	38	37	38	35	36	30	33	30	31	44	45	47	48	35.9	48.1																						
17-Jan	48	48	48	46	A	43	42	36	32	32	24	35	33	31	24	18	14	3	2	3	2	2	1	1	24.6	48.0																						
18-Jan	2	1	2	A	1	1	1	1	1	1	4	3	13	23	24	24	44	45	43	41	43	41	42	41	19.3	44.6																						
19-Jan	42	42	A	41	42	41	41	41	41	39	40	40	40	38	36	34	29	18	30	29	23	22	24	24	35.3	41.8																						
20-Jan	19	A	5	1	1	1	1	1	1	1	2	3	5	9	7	3	1	1	8	44	41	41	37	32	11.6	44.3																						
21-Jan	A	29	35	34	28	18	21	19	8	7	10	9	16	16	21	30	30	23	25	28	28	29	32	A	22.6	35.5																						
22-Jan	25	27	27	16	10	5	1	1	4	6	17	17	17	15	20	19	7	1	1	3	26	25	A	37	14.2	37.1																						
23-Jan	36	37	39	38	34	34	32	32	29	30	32	33	33	34	34	27	29	30	27	28	31	A	30	34	32.3	38.7																						
24-Jan	33	33	32	34	35	32	29	26	15	19	23	24	25	23	24	21	14	16	26	33	A	32	34	34	27.0	34.7																						
25-Jan	35	34	36	36	36	35	31	32	32	32	33	32	31	30	26	22	8	3	1	A	24	25	28	37	27.8	36.5																						
26-Jan	39	39	42	39	38	36	35	33	32	30	32	33	34	35	35	34	34	32	A	21	3	1	10	12	29.4	41.6																						
27-Jan	15	22	21	16	19	14	7	2	2	4	6	8	11	15	18	19	14	A	4	5	3	5	8	9	10.8	22.3																						
28-Jan	4	3	2	2	2	1	1	1	1	10	19	22	29	35	35	36	A	33	29	29	28	25	17	24	16.9	36.4																						
29-Jan	20	20	27	27	30	32	30	26	26	28	27	27	29	30	26	A	11	2	2	2	2	5	6	8	19.2	32.1																						
30-Jan	8	1	4	26	22	29	20	19	18	12	19	26	30	27	A	14	12	7	6	8	13	18	12	14	15.9	29.7																						
31-Jan	32	37	39	40	39	38	37	37	35	35	33	36	35	A	34	35	32	26	27	19	13	22	10	9	30.4	39.9																						
																								20.4	21.8	21.9	22.9	21.3	21.2	20.0	20.0	17.8	19.6	21.0	24.1	25.7	26.7	26.2	24.2	19.9	19.0	16.9	19.8	20.8	19.8	19.5	20.5	Diurnal Average
																								47.9	47.5	48.0	46.0	43.7	43.3	41.8	41.3	41.1	39.0	39.0	39.8	41.4	42.0	40.3	38.2	44.3	44.6	43.4	44.3	43.7	45.5	46.6	48.1	Diurnal Maximum

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



# Hourly Maximums

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

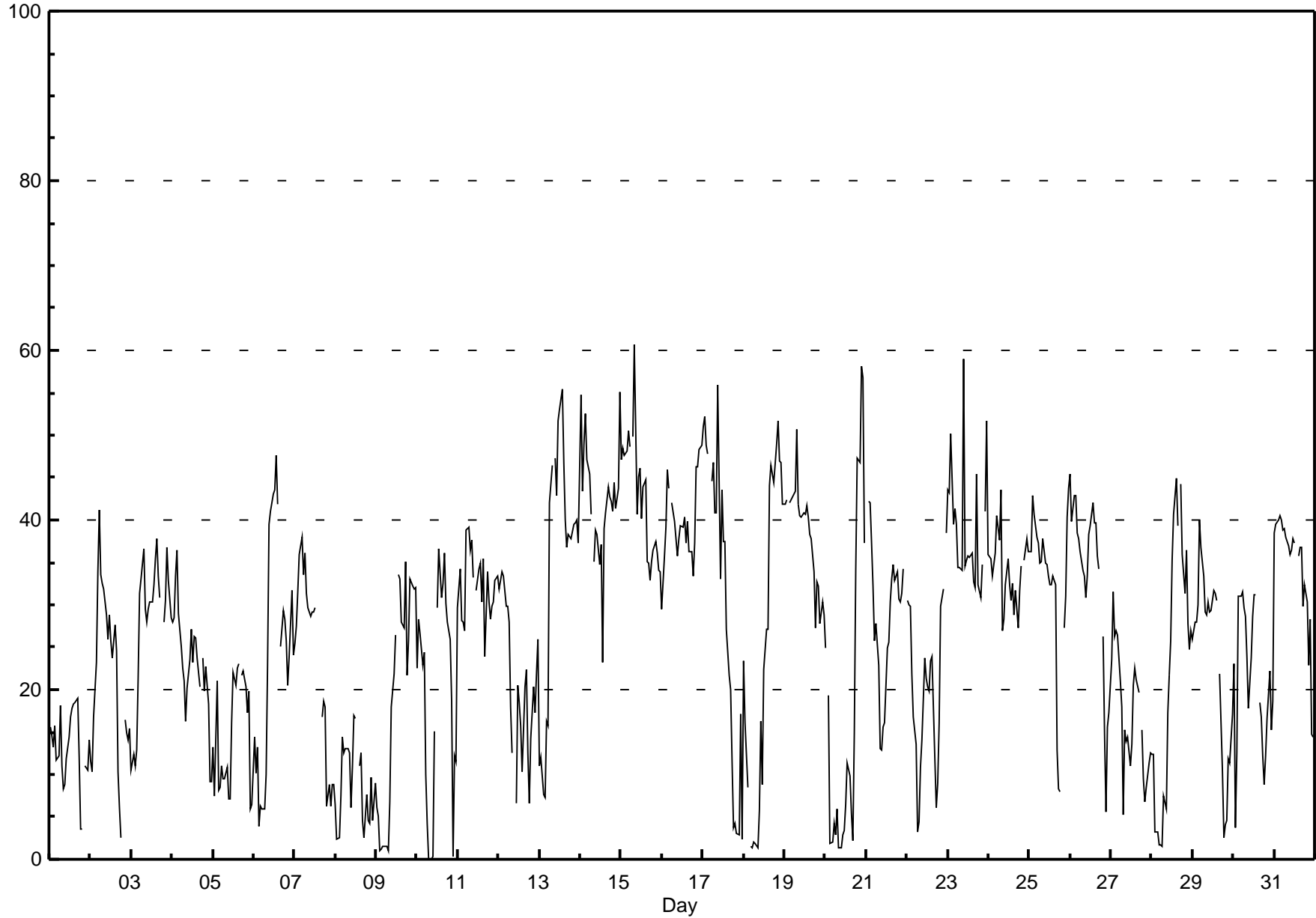
Henry Pirker - January 2014

Maximum Value: 60.7 ppb on Jan 15 09:00		Maximum Daily Average: 42.5 ppb on Jan 15		Hours in Service: 744																						
Minimum Value: 0 ppb on Jan 10 08:00		Minimum Daily Average: 8.9 ppb on Jan 8		Hours of Data: 710																						
Maximum Diurnal Average: 31.4 ppb at hour 14		Minimum Diurnal Average: 22.8 ppb at hour 19		Hours of Missing Data: 34																						
Monthly Average: 26.59 ppb		Percentiles: P <sub>1</sub> = 1.4 P <sub>10</sub> = 6.5 Q <sub>1</sub> = 15.1 Median = 28.8 Q <sub>3</sub> = 36.8 P <sub>90</sub> = 42.9 P <sub>99</sub> = 55.0		Hours of Calibration: 34																						
				Percent Operational Time: 100.0																						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	16	15	13	16	12	12	18	11	8	9	12	14	17	18	18	18	19	12	4	4	A	11	10	14	13.1	18.9
2-Jan	11	10	17	23	34	41	33	33	32	29	26	29	26	24	28	25	10	6	3	A	16	15	14	15	21.7	41.3
3-Jan	10	12	11	13	21	31	33	37	30	28	30	30	30	32	35	38	33	31	A	28	30	37	33	28	28.0	37.9
4-Jan	28	28	33	36	29	25	23	21	16	20	24	27	23	26	26	24	20	A	24	20	23	18	9	9	23.2	36.5
5-Jan	13	7	21	8	8	11	9	9	11	7	7	16	22	21	23	23	A	22	22	20	17	20	6	7	14.4	23.0
6-Jan	14	10	13	4	6	6	6	10	23	40	41	43	44	48	42	A	25	29	28	26	20	24	32	24	24.3	47.6
7-Jan	26	28	32	36	38	34	36	31	30	29	29	29	30	C	C	C	17	19	18	6	9	6	9	9	23.7	38.0
8-Jan	6	2	2	7	14	12	13	13	13	6	11	17	17	A	11	13	5	3	8	5	4	10	5	9	8.9	17.0
9-Jan	6	5	1	1	2	2	2	1	7	18	22	26	A	34	33	28	27	35	22	26	33	32	32	32	18.5	35.2
10-Jan	23	28	27	23	24	10	4	0	0	0	15	A	30	37	31	33	36	30	28	26	19	0	12	12	19.4	36.5
11-Jan	30	34	28	28	27	39	39	37	38	33	A	32	34	35	30	35	24	34	30	28	30	30	33	33	32.3	39.1
12-Jan	32	33	34	33	30	30	28	18	12	A	7	20	18	16	10	20	22	13	7	14	20	17	22	26	21.0	33.9
13-Jan	11	12	8	7	16	16	42	46	A	47	43	52	53	55	47	40	37	38	38	39	40	40	40	37	34.9	55.4
14-Jan	55	43	49	53	47	45	41	A	35	39	38	35	37	23	39	41	44	43	42	41	44	41	44	55	42.4	55.2
15-Jan	47	48	48	48	51	49	A	50	61	41	45	46	40	44	45	35	35	33	35	37	38	36	34	34	42.5	60.7
16-Jan	29	36	39	46	44	A	42	40	38	36	38	39	39	40	37	40	36	36	33	37	46	46	48	49	39.8	48.8
17-Jan	51	52	49	48	A	45	47	41	41	56	33	44	37	38	27	22	20	11	4	4	3	3	17	2	30.2	55.8
18-Jan	23	16	8	A	1	1	2	2	1	6	16	9	22	27	27	44	46	45	44	49	52	47	47	42	25.2	51.7
19-Jan	42	42	A	42	42	43	43	51	42	41	40	41	41	42	40	38	38	34	27	33	32	28	30	29	38.3	50.8
20-Jan	25	A	19	2	2	4	3	6	1	1	3	3	6	11	10	5	2	15	34	47	47	58	57	37	17.4	58.2
21-Jan	A	42	37	32	26	28	23	13	13	16	16	25	26	30	33	35	33	34	31	30	31	34	A	28.6	42.2	
22-Jan	30	30	30	22	17	14	3	4	11	14	24	21	20	20	23	24	12	6	9	16	30	32	A	38	19.6	38.4
23-Jan	43	43	50	40	41	39	34	34	34	59	35	35	36	36	36	33	32	45	32	31	35	A	41	52	39.0	59.0
24-Jan	36	35	33	35	36	41	38	44	27	28	32	35	32	30	33	29	32	27	32	35	A	35	38	36	33.9	43.6
25-Jan	36	36	43	41	38	37	35	35	38	35	35	33	32	32	33	32	13	8	8	A	27	31	40	44	32.3	43.7
26-Jan	45	40	43	43	38	38	36	34	33	31	33	38	39	42	40	40	36	34	A	26	15	6	16	17	33.2	45.4
27-Jan	24	32	26	27	26	21	18	5	15	14	14	11	14	21	23	21	20	A	15	9	7	9	11	13	17.2	31.5
28-Jan	12	12	3	3	2	2	2	7	6	17	22	26	35	41	45	39	A	44	36	31	36	28	25	27	21.8	44.9
29-Jan	26	28	28	30	40	37	33	29	29	30	29	29	32	31	30	A	22	10	3	4	5	12	11	17	23.8	40.0
30-Jan	23	4	12	31	31	32	30	29	24	18	24	29	31	31	A	19	17	12	9	12	17	22	15	19	21.2	31.6
31-Jan	39	40	40	40	40	39	39	38	37	36	36	38	37	A	36	37	37	30	32	30	23	28	15	14	34.0	40.5
		27.1	26.9	26.8	27.4	26.4	26.0	25.3	24.6	23.5	26.0	26.0	28.8	30.0	31.4	30.7	29.6	25.9	25.5	22.8	24.7	25.8	25.1	26.0	26.0	Diurnal Average
		54.7	52.2	50.2	52.5	50.5	48.6	46.8	50.8	60.7	59.0	45.1	51.6	53.1	55.4	46.7	44.0	46.5	45.5	44.5	48.9	51.7	58.2	56.8	55.2	Diurnal Maximum
C - Calibration		A - Automated Daily Zero Span																								



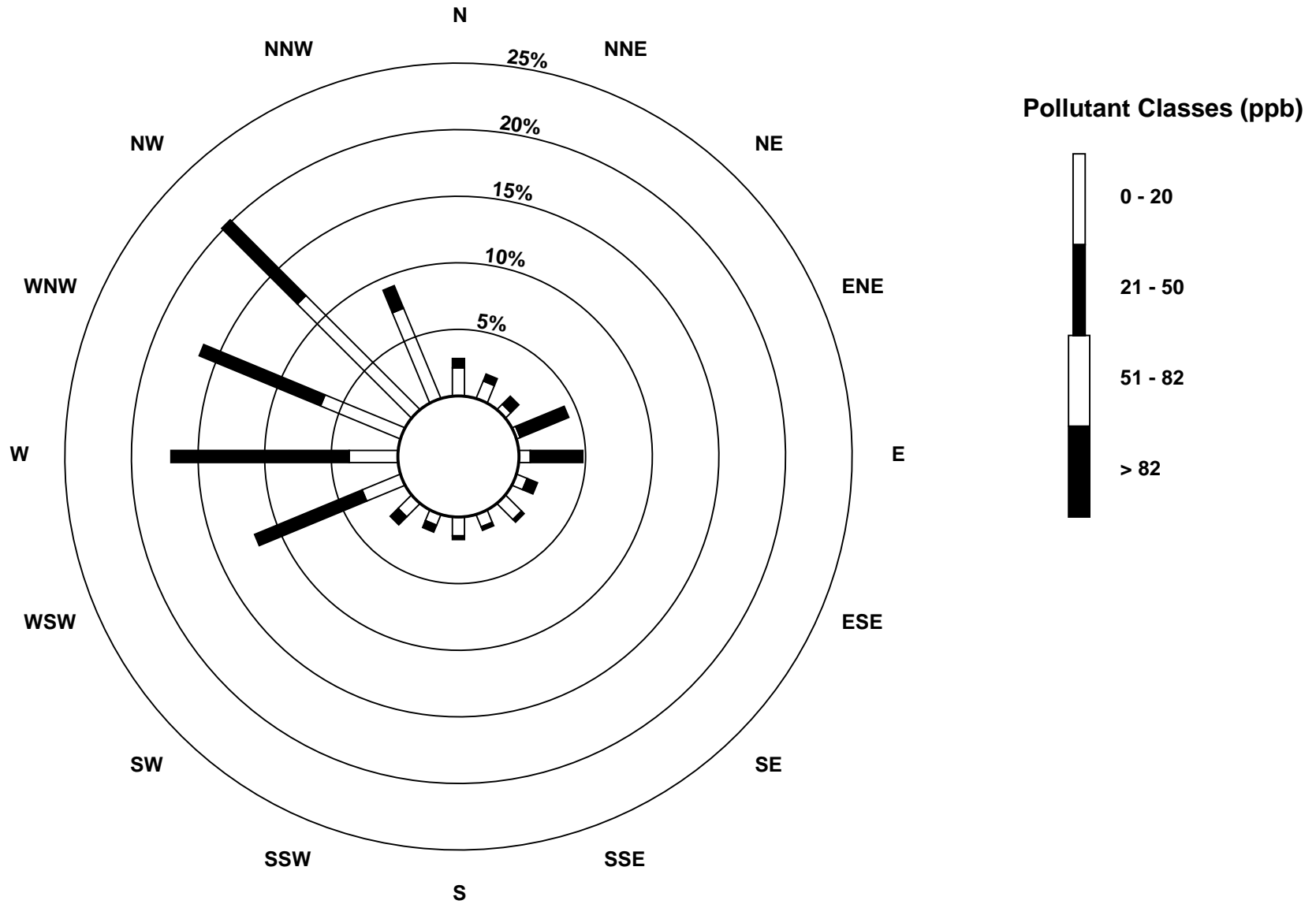
# Hourly Maximums

Ozone (O<sub>3</sub>) - ppb  
Henry Pirker - January 2014



**Pollutant Rose**

Ozone (O<sub>3</sub>) - ppb  
Henry Pirker - January 2014



## Eight Hour Running Averages

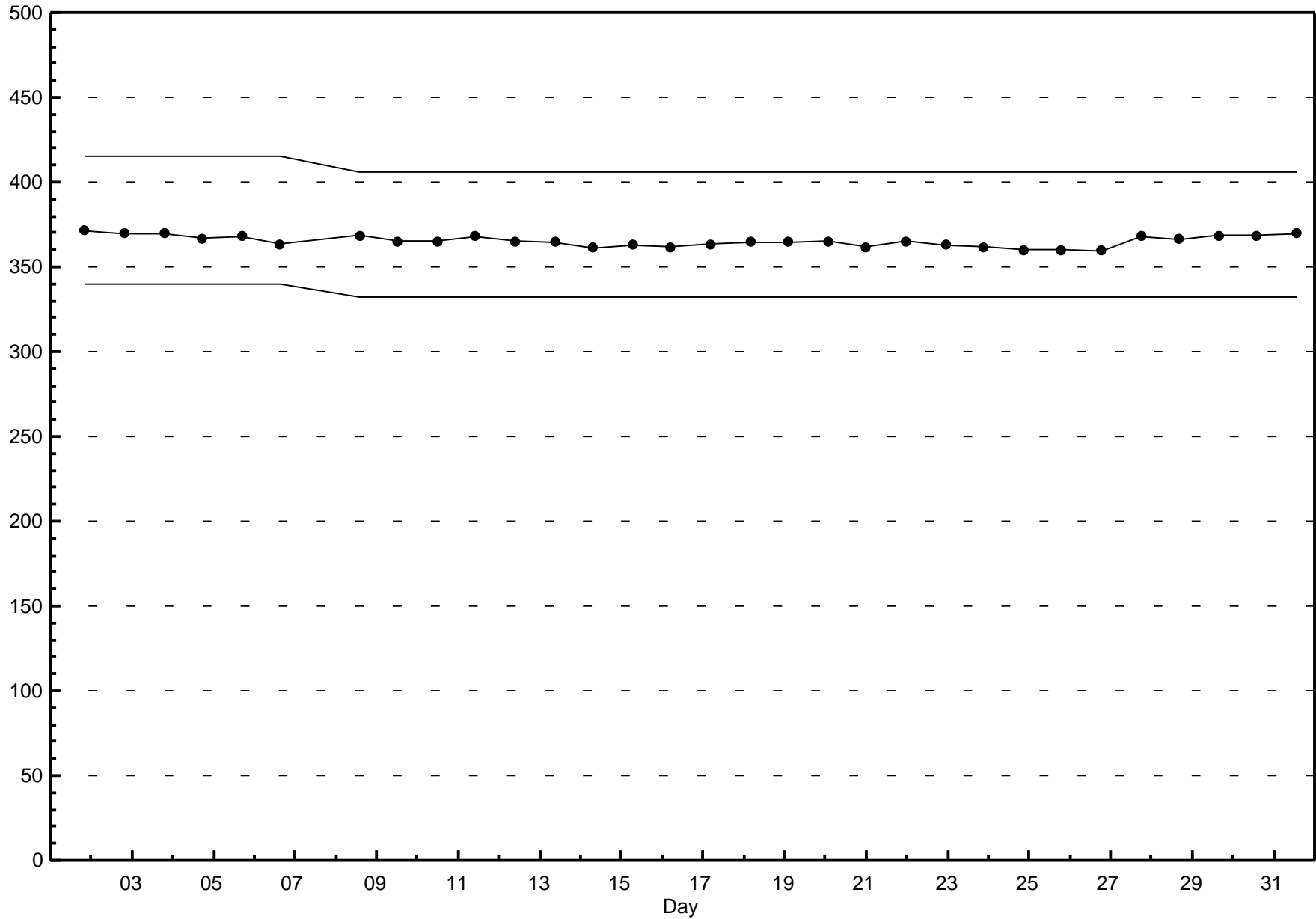
Ozone (O<sub>3</sub>) - ppb

Henry Pirker - January 2014

Maximum Value: 47.1 ppb on Jan 17 05:00																						Hours in Service:	744		
Minimum Value: 0.9 ppb on Jan 9 08:00																						Hours of Data:	738		
Percentiles: P <sub>1</sub> = 1.2 P <sub>10</sub> = 5.4 Q <sub>1</sub> = 10.6 Median = 22.2 Q <sub>3</sub> = 31.1 P <sub>90</sub> = 36.9 P <sub>99</sub> = 41.8																						Hours of Missing Data:	6		
																						Hours of Calibration:	6		
																						Percent Operational Time:	100.0		
Day	Hourly Period Ending At (MST)																								Daily Maximum
1-Jan	9	9	9	9	9	9	9	8	7	6	6	7	8	9	10	12	13	14	13	12	11	9	8	7	13.5
2-Jan	6	5	6	8	10	13	16	18	21	23	24	26	26	24	24	22	20	17	15	13	12	11	9	8	25.6
3-Jan	8	8	10	10	9	11	13	15	17	20	22	24	27	27	28	28	29	29	30	29	29	29	28	27	29.6
4-Jan	27	27	27	27	27	26	25	24	21	19	18	17	16	17	17	17	18	19	19	19	18	17	14	12	27.4
5-Jan	11	10	9	7	6	5	6	6	6	6	5	6	8	10	11	13	14	16	18	19	18	18	15	12	18.5
6-Jan	12	10	9	8	6	4	4	4	5	9	12	16	21	26	31	34	35	33	31	28	24	21	19	19	34.6
7-Jan	20	20	21	23	26	27	28	29	30	30	29	29	28	28	27	N	N	N	N	N	N	7	7	6	29.6
8-Jan	5	4	3	3	3	4	5	5	5	5	6	7	7	7	7	7	7	7	6	4	3	3	2	1	7.4
9-Jan	1	1	1	1	1	1	1	1	1	2	4	7	8	12	16	19	21	22	21	22	21	21	21	21	22.4
10-Jan	22	22	24	23	22	19	16	12	10	7	4	3	4	8	12	17	21	25	27	26	23	19	16	12	27.1
11-Jan	11	11	12	13	15	18	22	26	28	28	29	29	29	29	28	26	23	22	23	23	23	23	23	24	29.4
12-Jan	26	27	27	27	28	28	28	26	23	23	19	17	15	13	10	10	11	10	10	10	9	8	7	8	28.1
13-Jan	7	6	6	5	5	5	6	9	10	15	20	25	31	36	40	39	39	39	39	38	38	38	38	37	39.8
14-Jan	38	38	38	38	37	37	36	36	35	34	32	30	29	26	26	27	28	29	31	32	34	37	38	39	38.7
15-Jan	40	40	41	42	42	43	43	43	43	42	41	41	40	40	39	38	36	35	34	33	32	32	31	30	43.0
16-Jan	28	28	29	30	30	29	31	34	36	36	36	36	36	36	35	35	35	35	35	34	35	36	37	39	38.6
17-Jan	41	43	45	47	47	47	46	44	42	40	37	35	35	33	31	29	26	23	20	16	12	8	5	3	47.1
18-Jan	2	2	2	2	2	1	1	1	1	1	2	2	3	6	9	12	17	23	28	32	36	38	40	43	42.5
19-Jan	42	42	42	42	41	41	41	41	41	41	41	40	40	40	40	39	38	37	34	33	32	30	28	26	42.2
20-Jan	24	24	22	18	14	10	7	4	1	1	1	1	2	3	4	4	4	4	5	10	15	18	22	26	25.8
21-Jan	29	33	37	36	34	30	28	26	24	21	18	15	13	13	13	15	17	19	21	24	25	27	28	28	37.1
22-Jan	27	28	28	26	24	20	16	14	11	9	7	8	9	10	12	14	15	14	12	10	11	13	12	14	28.1
23-Jan	18	24	29	34	35	36	36	35	34	34	33	32	32	32	32	31	31	31	31	30	30	29	29	30	36.5
24-Jan	30	31	32	33	33	33	33	32	30	28	27	25	24	23	22	22	22	21	22	23	23	24	25	27	33.1
25-Jan	30	33	34	35	35	35	35	35	34	34	33	33	32	32	31	30	27	23	19	17	16	16	16	18	35.1
26-Jan	22	27	33	34	36	37	38	37	37	35	34	33	33	33	33	33	33	34	34	32	28	23	19	16	38.0
27-Jan	14	12	13	13	15	16	16	15	13	11	9	8	7	7	8	10	12	13	13	12	11	10	8	7	16.2
28-Jan	5	5	5	4	4	4	3	2	2	3	5	7	11	15	19	23	27	30	31	32	32	31	28	26	32.3
29-Jan	25	24	24	23	24	24	26	27	28	28	28	28	28	28	27	28	25	22	18	15	11	7	4	5	28.3
30-Jan	4	4	5	8	10	13	15	16	18	19	21	21	22	21	21	21	20	19	17	15	12	11	11	11	21.6
31-Jan	14	17	22	26	29	31	35	37	38	37	37	36	36	35	35	35	34	33	32	30	27	26	23	20	37.7
42.2 42.6 44.8 46.7 47.1 46.8 46.1 44.4 42.8 42.1 41.4 40.7 40.2 40.1 39.8 39.4 38.9 38.8 38.7 38.5 38.1 38.1 40.4 42.5																									
Diurnal Maximums																									
N - Not Valid																									

**Span Responses**

**Ozone (O<sub>3</sub>)**  
**Henry Pirker - January 2014**



## Hourly Averages

Carbon Monoxide (CO) - ppm

Henry Pirker - January 2014

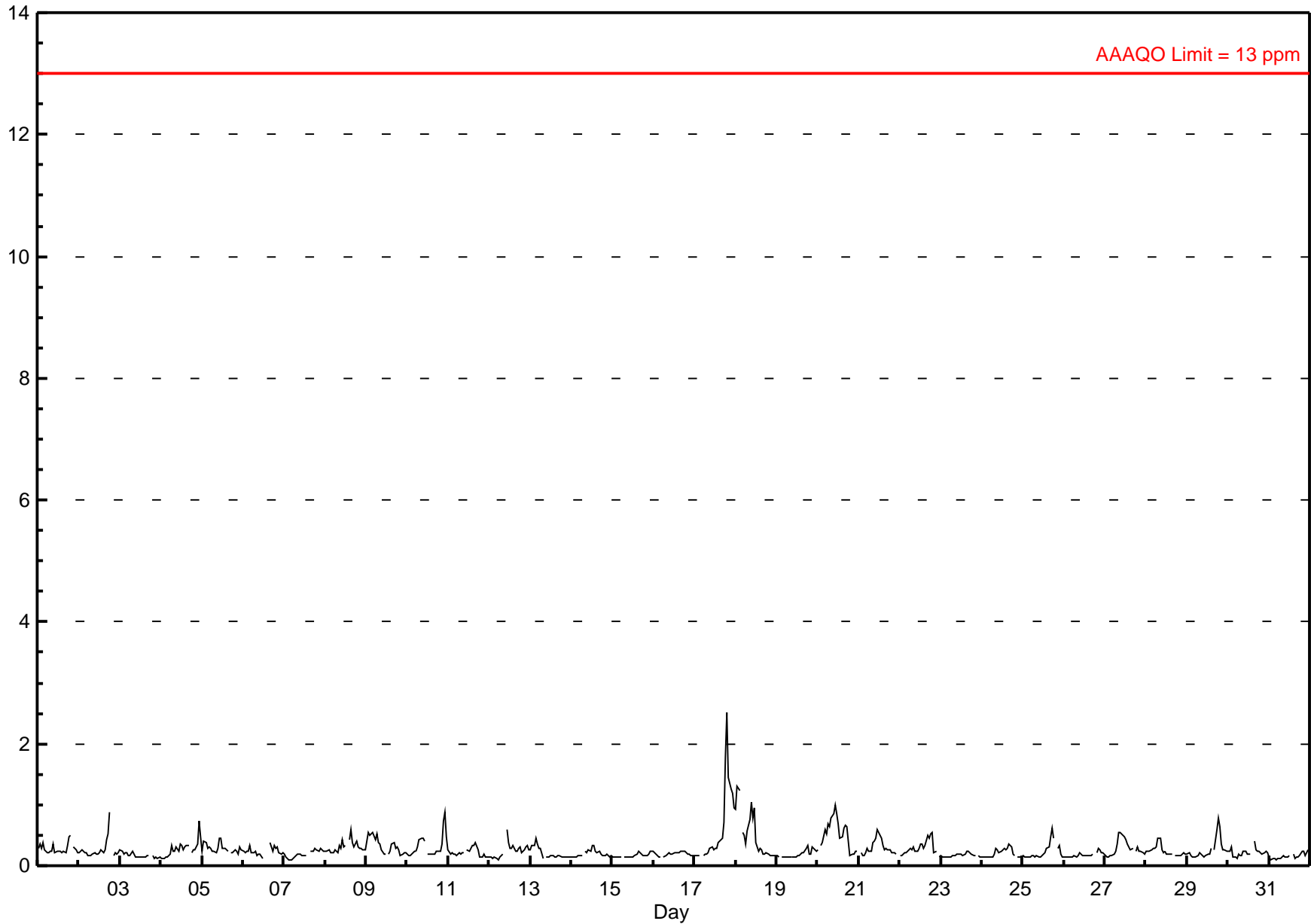
Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0	Hours in Service: 744
Maximum Value: 2.53 ppm on Jan 17 20:00	Maximum Daily Average: 0.61 ppm on Jan 17
Minimum Value: 0.1 ppm on Jan 12 06:00	Hours of Data: 709
Maximum Diurnal Average: 0.36 ppm at hour 19	Hours of Missing Data: 35
Monthly Average: 0.267 ppm	Hours of Calibration: 35
Percentiles: P <sub>1</sub> = 0.11 P <sub>10</sub> = 0.15 Q <sub>1</sub> = 0.17 Median = 0.21 Q <sub>3</sub> = 0.29 P <sub>90</sub> = 0.44 P <sub>99</sub> = 1.16	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-Jan	0.3	0.3	0.3	0.4	0.3	0.2	0.2	0.2	0.2	0.2	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.5	0.5	A	0.3	0.3	0.2	0.28	0.50																						
2-Jan	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.3	0.4	0.5	0.9	A	0.2	0.2	0.2	0.26	0.88																						
3-Jan	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	0.1	0.2	0.2	A	0.2	0.1	0.1	0.1	0.1	0.17	0.26																						
4-Jan	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.2	0.2	0.3	0.2	0.4	0.3	0.3	0.3	0.3	0.3	A	0.2	0.3	0.3	0.4	0.7	0.5	0.28	0.73																						
5-Jan	0.2	0.4	0.4	0.3	0.3	0.3	0.2	0.2	0.2	0.3	0.5	0.5	0.3	0.3	0.3	0.2	A	0.2	0.2	0.3	0.2	0.2	0.3	0.3	0.29	0.46																						
6-Jan	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.1	C	C	C	A	0.4	0.2	0.3	0.3	0.3	0.2	0.2	0.2	0.24	0.38																						
7-Jan	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.3	0.2	0.19	0.29																						
8-Jan	0.2	0.2	0.3	0.2	0.2	0.2	0.3	0.2	0.3	0.3	0.4	0.3	0.3	A	0.4	0.6	0.4	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.31	0.58																						
9-Jan	0.4	0.5	0.5	0.5	0.5	0.4	0.5	0.4	0.4	0.3	0.2	0.2	A	0.2	0.2	0.3	0.4	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.33	0.55																						
10-Jan	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.4	0.5	0.5	0.4	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.4	0.7	0.9	0.5	0.32	0.88																						
11-Jan	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.3	0.2	0.3	0.3	0.3	0.4	0.3	0.2	0.1	0.2	0.2	0.1	0.2	0.22	0.38																						
12-Jan	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	A	0.6	0.4	0.3	0.3	0.3	0.2	0.2	0.3	0.3	0.2	0.3	0.3	0.3	0.2	0.24	0.60																						
13-Jan	0.3	0.3	0.3	0.4	0.4	0.3	0.3	0.1	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.21	0.44																						
14-Jan	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.3	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.20	0.33																						
15-Jan	0.1	0.2	0.2	0.2	0.1	0.1	A	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.17	0.24																						
16-Jan	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.20	0.24																						
17-Jan	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.7	1.8	2.5	1.5	1.3	1.2	0.9	0.61	2.53																						
18-Jan	0.9	1.3	1.2	A	0.6	0.5	0.4	0.6	0.8	1.0	0.8	0.9	0.4	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.51	1.32																						
19-Jan	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.3	0.3	0.2	0.19	0.32																						
20-Jan	0.3	A	0.3	0.4	0.6	0.5	0.7	0.6	0.8	0.8	1.0	0.9	0.7	0.4	0.5	0.6	0.7	0.6	0.4	0.2	0.2	0.2	0.2	0.2	0.52	1.00																						
21-Jan	A	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.4	0.4	0.4	0.6	0.5	0.5	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	A	0.30	0.60																						
22-Jan	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.2	0.2	0.3	0.4	0.4	0.3	0.3	0.5	0.5	0.5	0.5	0.2	0.2	A	0.1	0.29	0.54																						
23-Jan	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	0.2	0.2	0.2	0.2	A	0.2	0.2	0.17	0.24																						
24-Jan	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.3	0.3	0.3	0.3	0.4	0.3	0.2	0.2	A	0.2	0.2	0.2	0.21	0.36																						
25-Jan	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.5	0.6	0.4	A	0.3	0.3	0.2	0.2	0.23	0.62																						
26-Jan	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.3	0.3	0.2	0.2	0.18	0.29																						
27-Jan	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.4	0.6	0.5	0.5	0.5	0.4	0.4	0.3	0.3	0.3	A	0.2	0.3	0.2	0.2	0.2	0.2	0.30	0.55																						
28-Jan	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.4	0.5	0.3	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	0.24	0.46																						
29-Jan	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	A	0.3	0.6	0.8	0.6	0.4	0.3	0.3	0.2	0.27	0.79																						
30-Jan	0.2	0.2	0.3	0.1	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.4	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.21	0.39																						
31-Jan	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.2	A	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.16	0.26																						
																								0.23	0.24	0.24	0.21	0.23	0.21	0.24	0.25	0.28	0.29	0.30	0.29	0.26	0.24	0.26	0.28	0.30	0.30	0.36	0.33	0.26	0.28	0.28	0.24	Diurnal Average
																								0.94	1.32	1.23	0.52	0.58	0.53	0.70	0.63	0.78	1.04	1.00	0.95	0.69	0.46	0.47	0.63	0.67	0.70	1.79	2.53	1.46	1.26	1.19	0.95	Diurnal Maximum

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

### Hourly Averages

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



# Hourly Maximums

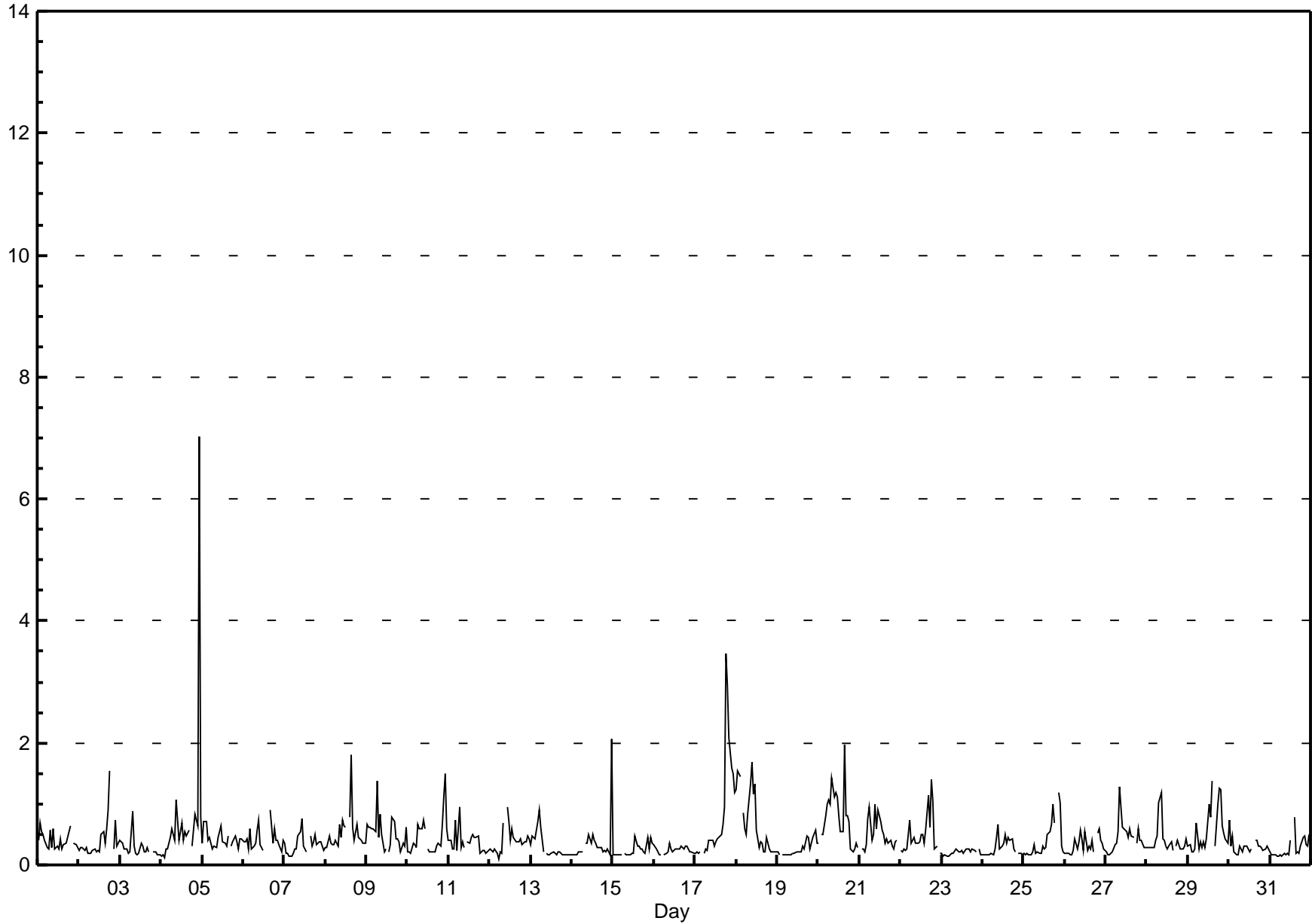
Carbon Monoxide (CO) - ppm

Henry Pirker - January 2014

Maximum Value: 7.03 ppm on Jan 4 23:00		Maximum Daily Average: 0.83 ppm on Jan 17		Hours in Service: 744																							
Minimum Value: 0.1 ppm on Jan 12 06:00		Minimum Daily Average: 0.21 ppm on Jan 23		Hours of Data: 709																							
Maximum Diurnal Average: 0.61 ppm at hour 23		Minimum Diurnal Average: 0.26 ppm at hour 4		Hours of Missing Data: 35																							
Monthly Average: 0.425 ppm		Percentiles: P <sub>1</sub> = 0.15 P <sub>10</sub> = 0.18 Q <sub>1</sub> = 0.22 Median = 0.32 Q <sub>3</sub> = 0.48 P <sub>90</sub> = 0.75 P <sub>99</sub> = 1.70		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-Jan	0.4	0.7	0.5	0.5	0.4	0.3	0.3	0.6	0.3	0.6	0.3	0.3	0.3	0.4	0.3	0.3	0.3	0.4	0.5	0.6	A	0.4	0.3	0.3	0.41	0.69	
2-Jan	0.2	0.3	0.3	0.2	0.3	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.5	0.6	0.4	0.6	0.9	1.6	A	0.3	0.7	0.3	0.4	0.40	1.55	
3-Jan	0.4	0.4	0.3	0.3	0.3	0.2	0.2	0.9	0.3	0.2	0.2	0.2	0.4	0.3	0.2	0.2	0.3	0.2	A	0.2	0.2	0.2	0.2	0.2	0.27	0.89	
4-Jan	0.2	0.2	0.1	0.3	0.3	0.5	0.6	0.5	0.4	1.1	0.4	0.5	0.7	0.4	0.5	0.5	0.6	A	0.3	0.6	0.8	0.6	7.0	0.8	0.77	7.03	
5-Jan	0.4	0.7	0.7	0.4	0.4	0.4	0.3	0.3	0.3	0.4	0.5	0.6	0.4	0.4	0.3	0.5	A	0.3	0.4	0.5	0.4	0.3	0.4	0.4	0.42	0.72	
6-Jan	0.4	0.4	0.4	0.3	0.6	0.3	0.3	0.4	0.6	0.7	0.3	0.2	C	C	C	A	0.9	0.4	0.6	0.4	0.4	0.3	0.2	0.4	0.42	0.91	
7-Jan	0.4	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.5	0.5	0.8	0.3	0.3	0.2	A	0.5	0.3	0.4	0.5	0.3	0.4	0.4	0.3	0.2	0.33	0.75	
8-Jan	0.3	0.3	0.5	0.4	0.3	0.3	0.4	0.3	0.7	0.4	0.7	0.6	0.6	A	0.8	1.8	0.6	0.4	0.7	0.5	0.4	0.4	0.4	0.4	0.53	1.80	
9-Jan	0.7	0.6	0.6	0.6	0.6	0.6	1.4	0.5	0.8	0.5	0.2	0.3	A	0.2	0.3	0.8	0.7	0.4	0.4	0.4	0.2	0.4	0.3	0.6	0.52	1.37	
10-Jan	0.2	0.2	0.2	0.4	0.3	0.3	0.7	0.6	0.6	0.7	0.6	A	0.3	0.2	0.2	0.2	0.2	0.3	0.4	0.3	0.7	1.1	1.5	0.6	0.46	1.49	
11-Jan	0.4	0.4	0.3	0.3	0.7	0.2	0.9	0.3	0.4	0.3	A	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.2	0.2	0.2	0.2	0.2	0.2	0.37	0.94	
12-Jan	0.3	0.2	0.2	0.3	0.2	0.1	0.2	0.2	0.7	A	0.9	0.7	0.4	0.6	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.4	0.5	0.4	0.39	0.95	
13-Jan	0.3	0.5	0.4	0.6	0.7	0.9	0.6	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.30	0.91	
14-Jan	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.4	0.4	0.5	0.4	0.5	0.4	0.4	0.3	0.3	0.3	0.2	0.2	0.2	0.3	0.2	2.1	0.35	2.06	
15-Jan	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	0.5	0.3	0.3	0.3	0.3	0.2	0.2	0.5	0.3	0.4	0.4	0.24	0.47	
16-Jan	0.3	0.3	0.2	0.2	0.2	A	0.2	0.2	0.2	0.4	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.24	0.35	
17-Jan	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.4	0.4	0.4	0.3	0.4	0.4	0.5	0.5	0.7	1.0	3.5	2.9	2.1	1.6	1.5	1.2	0.83	3.47	
18-Jan	1.2	1.5	1.4	A	0.8	0.6	0.5	0.8	1.3	1.7	1.2	1.3	0.6	0.3	0.4	0.4	0.2	0.2	0.4	0.3	0.2	0.2	0.2	0.2	0.70	1.69	
19-Jan	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.5	0.5	0.3	0.3	0.5	0.6	0.4	0.26	0.57	
20-Jan	0.4	A	0.5	0.5	0.8	1.0	1.1	1.0	1.4	1.1	1.2	1.1	0.8	0.6	0.6	2.0	0.8	0.8	0.7	0.3	0.2	0.3	0.4	0.3	0.77	1.98	
21-Jan	A	0.3	0.3	0.2	0.3	0.8	0.9	0.4	0.5	1.0	0.6	0.9	0.7	0.6	0.5	0.4	0.4	0.4	0.4	0.3	0.3	0.4	0.4	A	0.49	1.01	
22-Jan	0.2	0.2	0.3	0.2	0.3	0.7	0.4	0.4	0.5	0.4	0.4	0.4	0.5	0.5	0.4	0.6	1.1	0.6	1.4	1.0	0.3	0.3	A	0.2	0.48	1.41	
23-Jan	0.2	0.1	0.2	0.1	0.1	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.2	0.3	0.2	0.2	A	0.3	0.2	0.21	0.27	
24-Jan	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.5	0.7	0.3	0.3	0.4	0.5	0.4	0.5	0.4	0.4	0.3	0.2	A	0.2	0.2	0.2	0.29	0.67	
25-Jan	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.5	0.6	0.7	1.0	0.7	A	1.2	1.0	0.3	0.2	0.40	1.19	
26-Jan	0.2	0.2	0.2	0.2	0.2	0.2	0.4	0.2	0.4	0.6	0.4	0.2	0.5	0.2	0.3	0.3	0.4	0.2	A	0.5	0.6	0.4	0.4	0.3	0.33	0.59	
27-Jan	0.2	0.2	0.2	0.2	0.2	0.3	0.4	0.6	1.3	1.0	0.6	0.6	0.6	0.5	0.6	0.5	0.5	A	0.4	0.6	0.4	0.4	0.3	0.3	0.46	1.28	
28-Jan	0.3	0.3	0.3	0.3	0.3	0.4	0.5	1.0	1.2	0.4	0.4	0.3	0.3	0.3	0.4	0.2	A	0.3	0.4	0.3	0.3	0.3	0.3	0.4	0.39	1.18	
29-Jan	0.3	0.3	0.2	0.2	0.3	0.7	0.3	0.4	0.3	0.4	0.3	0.4	1.0	0.8	1.4	A	0.3	1.0	1.3	1.2	0.6	0.5	0.4	0.4	0.56	1.37	
30-Jan	0.7	0.3	0.5	0.2	0.2	0.2	0.3	0.3	0.2	0.3	0.3	0.3	0.2	0.3	A	0.4	0.4	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.30	0.73	
31-Jan	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.4	A	0.8	0.2	0.2	0.2	0.2	0.3	0.5	0.5	0.3	0.3	0.5	0.27	0.77
		0.33	0.33	0.33	0.26	0.33	0.36	0.42	0.39	0.51	0.52	0.43	0.41	0.41	0.38	0.44	0.48	0.45	0.44	0.60	0.49	0.44	0.43	0.61	0.42	Diurnal Average	
		1.23	1.55	1.45	0.61	0.84	0.99	1.37	1.03	1.43	1.69	1.19	1.33	1.01	0.78	1.37	1.98	1.14	1.01	3.47	2.93	2.10	1.60	7.03	2.06	Diurnal Maximum	
C - Calibration		A - Automated Daily Zero Span																									

**Hourly Maximums**

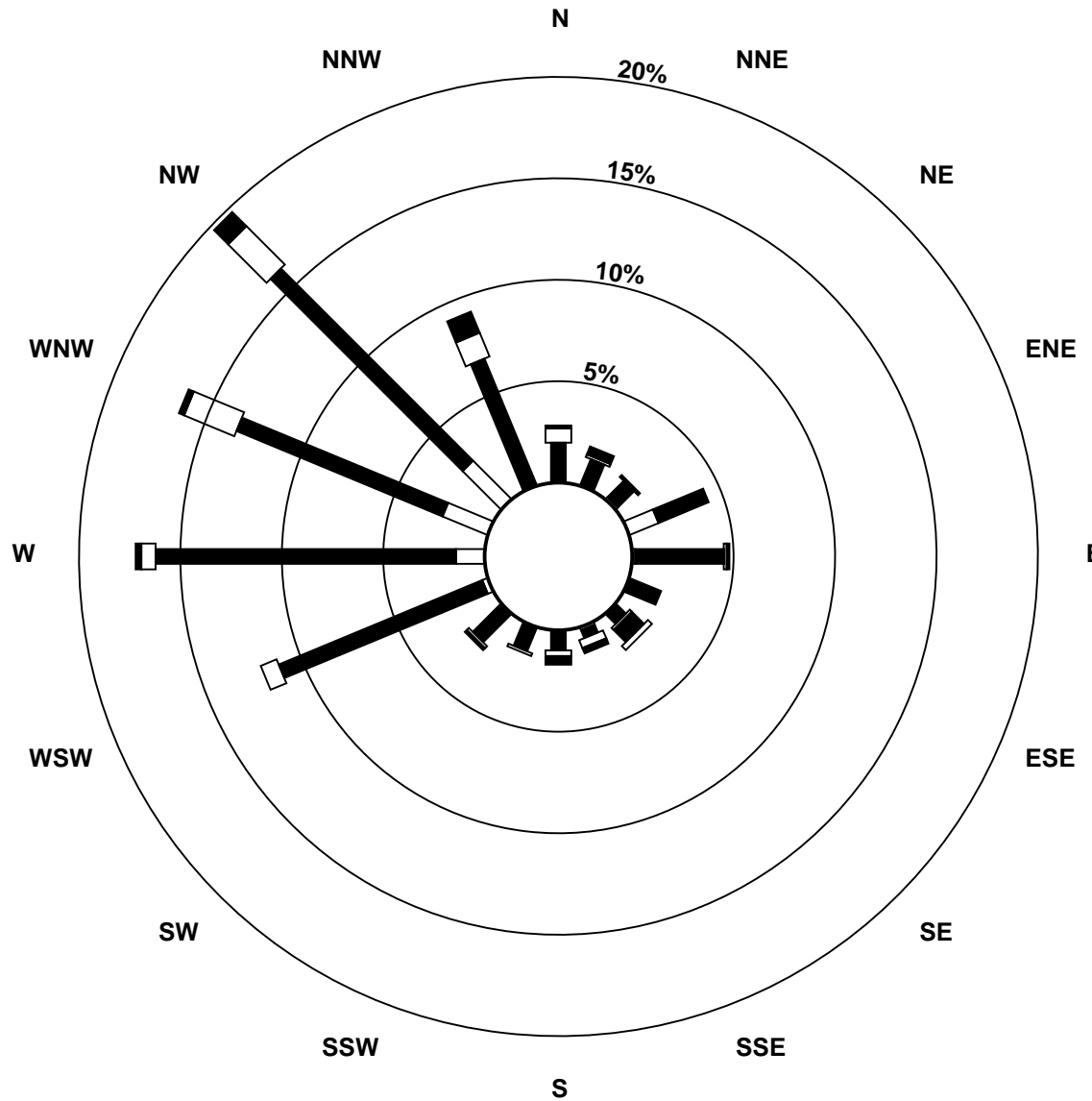
**Carbon Monoxide (CO) - ppm**  
**Henry Pirker - January 2014**



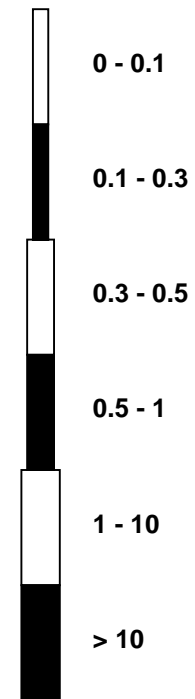


**Pollutant Rose**

**Carbon Monoxide (CO) - ppm**  
**Henry Pirker - January 2014**



**Pollutant Classes (ppm)**



## Eight Hour Running Averages

Carbon Monoxide (CO) - ppm

Henry Pirker - January 2014

Number of Exceedences (AAAQO): 8-hr: 0	Hours in Service: 744
Maximum Value: 1.43 ppm on Jan 18 02:00	Hours of Data: 737
Minimum Value: 0.12 ppm on Jan 31 08:00	Hours of Missing Data: 7
	Hours of Calibration: 7
	Percent Operational Time: 100.0
Percentiles: P <sub>1</sub> = 0.13 P <sub>10</sub> = 0.15 Q <sub>1</sub> = 0.18 Median = 0.23 Q <sub>3</sub> = 0.30 P <sub>90</sub> = 0.39 P <sub>99</sub> = 1.06	

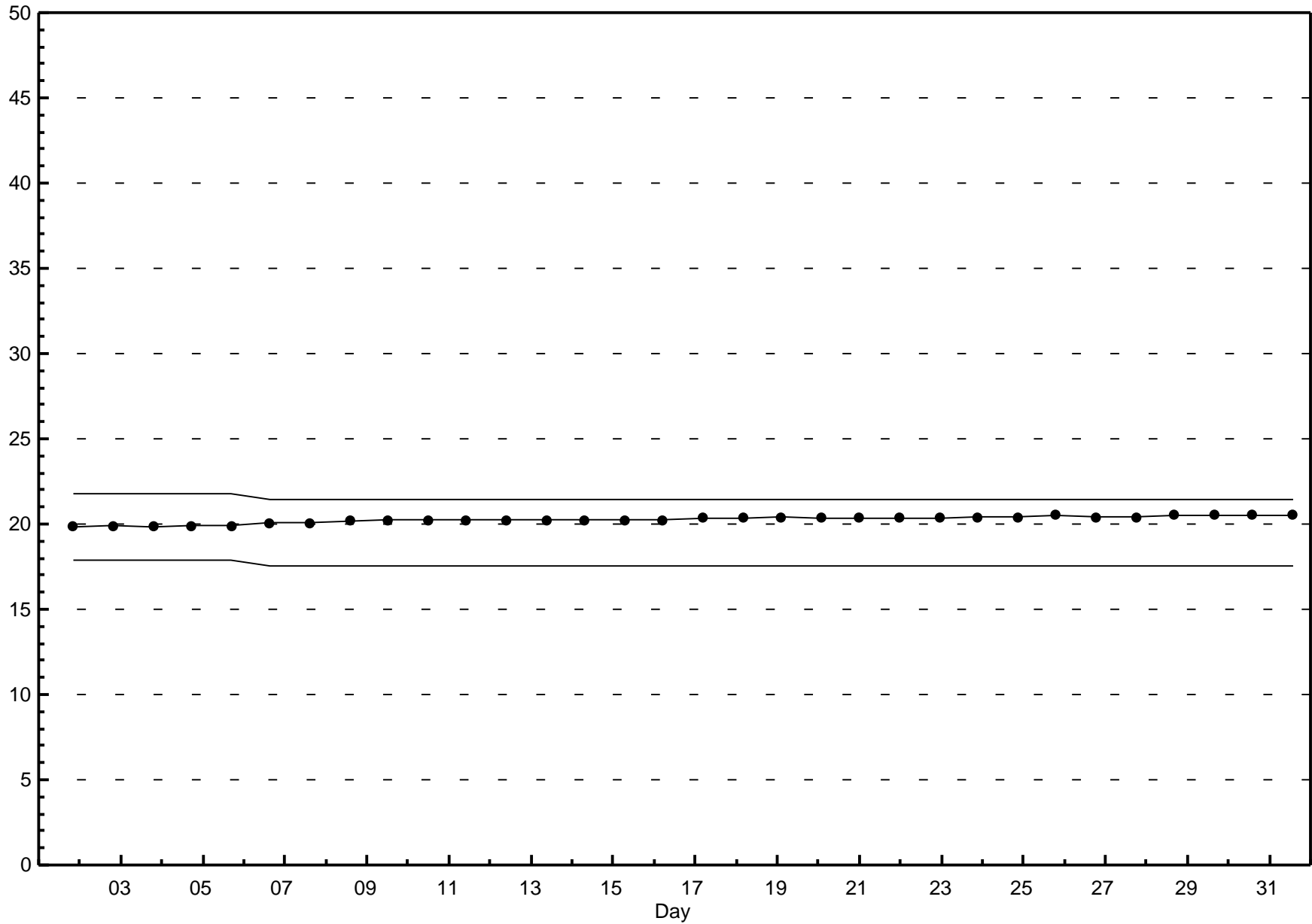
Day	Hourly Period Ending At (MST)																								Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.33	
2-Jan	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.4	0.4	0.4	0.4	0.4	0.39	
3-Jan	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	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.35	
4-Jan	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.37	
5-Jan	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.40	
6-Jan	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	N	N	N	N	N	N	N	0.3	0.3	0.3	0.29	
7-Jan	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	0.26	
8-Jan	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.40	
9-Jan	0.3	0.3	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.48	
10-Jan	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.4	0.4	0.4	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.3	0.4	0.4	0.42	
11-Jan	0.4	0.4	0.4	0.4	0.4	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.43	
12-Jan	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.34	
13-Jan	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.33	
14-Jan	0.2	0.2	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	
15-Jan	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	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.20	
16-Jan	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.22	
17-Jan	0.2	0.2	0.2	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	0.4	0.6	0.9	1.0	1.1	1.2	1.3	1.29
18-Jan	1.4	1.4	1.4	1.2	1.1	1.0	0.8	0.8	0.8	0.7	0.7	0.7	0.6	0.6	0.6	0.5	0.4	0.3	0.2	0.2	0.2	0.2	0.2	0.2	1.43	
19-Jan	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.25	
20-Jan	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.5	0.6	0.6	0.7	0.7	0.8	0.7	0.7	0.7	0.7	0.7	0.6	0.5	0.5	0.4	0.4	0.3	0.76	
21-Jan	0.3	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	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.2	0.2	0.43	
22-Jan	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	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.42	
23-Jan	0.3	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.32	
24-Jan	0.2	0.2	0.2	0.2	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	0.2	0.2	0.28	
25-Jan	0.2	0.2	0.2	0.2	0.2	0.2	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	0.4	0.4	0.4	0.4	0.4	0.39	
26-Jan	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	0.2	0.31	
27-Jan	0.2	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	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.2	0.45	
28-Jan	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	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.32	
29-Jan	0.2	0.2	0.2	0.2	0.2	0.2	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	0.4	0.4	0.5	0.4	0.4	0.45	
30-Jan	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	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.42	
31-Jan	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.21	
	1.35	1.43	1.36	1.19	1.06	0.95	0.84	0.78	0.76	0.72	0.68	0.74	0.76	0.75	0.72	0.72	0.70	0.68	0.60	0.85	1.00	1.12	1.22	1.29		

Diurnal Maximums

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

### Span Responses

Carbon Monoxide (CO)  
Henry Pirker - January 2014



## Hourly Averages

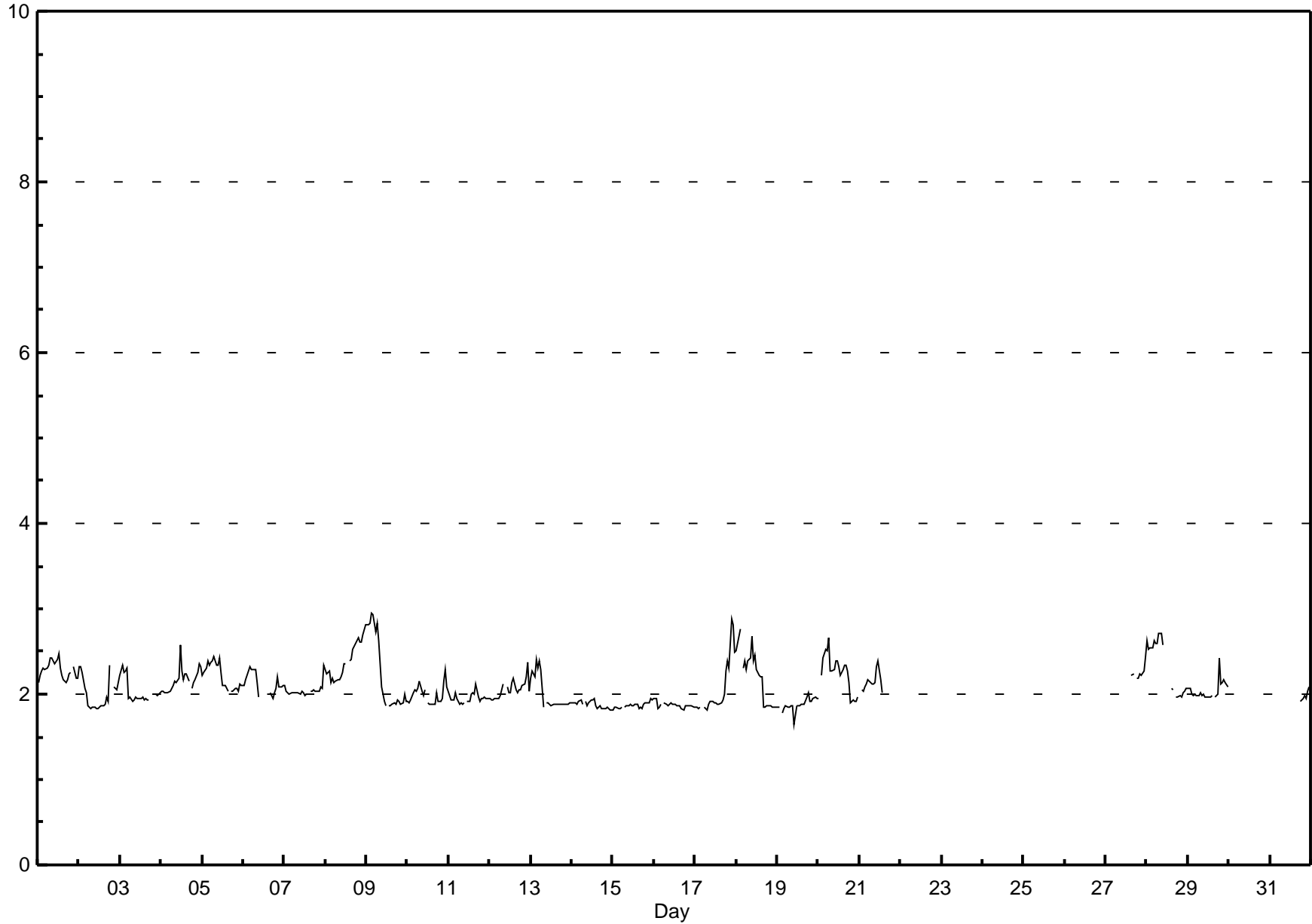
## Total Hydrocarbons (THC) - ppm

### Henry Pirker - January 2014

Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 2.95 ppm on Jan 9 04:00	Maximum Daily Average: 2.39 ppm on Jan 8		Hours of Data:	525
Minimum Value: 1.6 ppm on Jan 19 11:00	Minimum Daily Average: 1.87 ppm on Jan 15		Hours of Missing Data:	219
Maximum Diurnal Average: 2.17 ppm at hour 5	Minimum Diurnal Average: 2.00 ppm at hour 18		Hours of Calibration:	32
Monthly Average: 2.085 ppm	Percentiles: P <sub>1</sub> = 1.82 P <sub>10</sub> = 1.86 Q <sub>1</sub> = 1.90 Median = 2.02 Q <sub>3</sub> = 2.22 P <sub>90</sub> = 2.40 P <sub>99</sub> = 2.83		Percent Operational Time:	74.9

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Jan	2.1	2.2	2.3	2.3	2.3	2.3	2.3	2.4	2.4	2.4	2.4	2.4	2.5	2.3	2.2	2.2	2.1	2.2	2.2	2.3	A	2.3	2.2	2.2	2.2	2.28	2.48																						
2-Jan	2.3	2.3	2.3	2.1	2.0	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.9	1.9	2.0	1.9	2.3	A	2.1	2.1	2.1	2.1	2.00	2.33																							
3-Jan	2.2	2.3	2.3	2.3	2.3	2.0	2.0	1.9	1.9	2.0	2.0	1.9	2.0	2.0	1.9	2.0	1.9	1.9	A	2.0	2.0	2.0	2.0	2.0	2.03	2.33																							
4-Jan	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.2	2.6	2.3	2.2	2.2	2.2	2.1	A	2.1	2.1	2.2	2.2	2.4	2.3	2.16	2.58																							
5-Jan	2.2	2.3	2.3	2.4	2.3	2.4	2.4	2.4	2.3	2.3	2.4	2.3	2.1	2.1	2.1	2.0	A	2.0	2.0	2.1	2.1	2.0	2.1	2.1	2.21	2.44																							
6-Jan	2.1	2.2	2.2	2.3	2.3	2.3	2.3	2.3	2.1	2.0	C	C	C	C	1.9	A	2.0	1.9	2.0	2.1	2.2	2.1	2.1	2.1	2.13	2.32																							
7-Jan	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.3	2.04	2.34																							
8-Jan	2.3	2.2	2.3	2.1	2.2	2.1	2.1	2.2	2.2	2.2	2.3	2.4	2.4	A	2.4	2.4	2.5	2.6	2.6	2.7	2.6	2.6	2.7	2.8	2.39	2.82																							
9-Jan	2.8	2.8	2.8	3.0	2.9	2.7	2.8	2.6	2.3	2.1	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	2.25	2.95																							
10-Jan	1.9	1.9	1.9	2.0	2.0	2.0	2.1	2.2	2.0	2.0	2.0	A	1.9	1.9	1.9	1.9	1.9	2.0	1.9	1.9	1.9	2.2	2.3	2.1	2.00	2.29																							
11-Jan	2.0	1.9	1.9	1.9	2.0	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	2.0	2.0	2.0	2.1	2.0	1.9	2.0	2.0	2.0	2.0	2.0	1.96	2.11																							
12-Jan	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.1	A	2.1	2.0	2.0	2.1	2.2	2.0	2.0	2.0	2.1	2.1	2.1	2.2	2.4	2.0	2.05	2.37																							
13-Jan	2.2	2.3	2.2	2.4	2.3	2.4	2.3	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.01	2.40																							
14-Jan	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	1.8	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.88	1.95																							
15-Jan	1.8	1.8	1.9	1.8	1.8	1.8	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.9	1.8	1.9	1.9	1.9	1.9	1.9	1.9	1.87	1.95																							
16-Jan	2.0	2.0	1.8	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	1.8	1.8	1.9	1.9	1.9	1.9	1.9	1.8	1.87	1.96																							
17-Jan	1.8	1.8	1.8	1.8	A	1.8	1.8	1.8	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.3	2.4	2.3	2.9	2.8	2.5	2.05	2.88																							
18-Jan	2.5	2.6	2.8	A	2.3	2.4	2.3	2.4	2.4	2.7	2.4	2.4	2.3	2.2	2.2	2.2	1.8	1.8	1.9	1.9	1.9	1.8	1.8	1.8	2.21	2.76																							
19-Jan	1.8	1.9	A	1.8	1.8	1.9	1.8	1.9	1.9	1.9	1.6	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	1.9	1.9	2.0	2.0	1.9	1.88	2.03																							
20-Jan	2.0	A	2.2	2.4	2.5	2.5	2.7	2.3	2.3	2.3	2.4	2.4	2.3	2.2	2.3	2.3	2.3	2.3	2.1	1.9	1.9	1.9	2.0	2.0	2.24	2.67																							
21-Jan	A	2.1	2.0	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.3	2.4	2.2	2.0	N	N	N	N	N	N	N	N	N	N	N	--	2.39																						
22-Jan	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--																						
23-Jan	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--																						
24-Jan	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--																						
25-Jan	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--																						
26-Jan	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--																						
27-Jan	N	N	N	N	N	N	N	N	N	N	N	N	N	N	M	M	2.2	2.2	A	2.2	2.2	2.2	2.2	2.3	2.4	--	2.43																						
28-Jan	2.6	2.5	2.5	2.5	2.6	2.6	2.6	2.7	2.7	2.6	C	C	C	C	2.1	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.32	2.72																							
29-Jan	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	2.4	2.1	2.1	2.2	2.1	2.1	2.04	2.43																							
30-Jan	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--																						
31-Jan	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	M	M	M	1.9	2.0	2.0	1.9	2.0	2.1	--	2.09																							
																								2.13	2.14	2.16	2.13	2.17	2.14	2.15	2.12	2.11	2.08	2.07	2.08	2.04	2.00	2.02	2.03	2.01	2.00	2.06	2.04	2.04	2.09	2.11	2.10	Diurnal Average	
																								2.81	2.82	2.84	2.95	2.93	2.72	2.84	2.70	2.72	2.68	2.43	2.58	2.48	2.30	2.39	2.40	2.53	2.56	2.64	2.66	2.61	2.88	2.82	2.82	Diurnal Maximum	

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



## Hourly Maximums

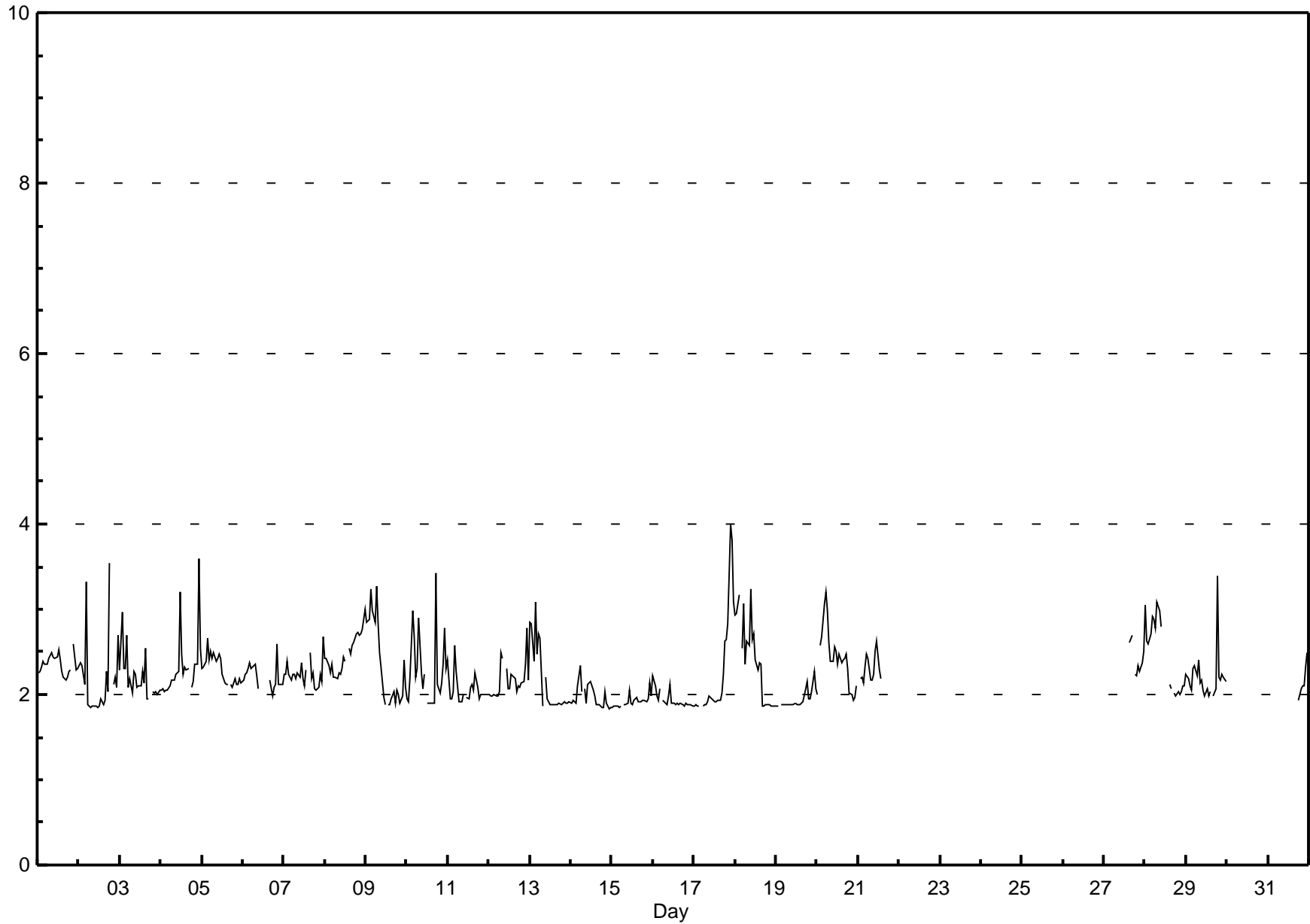
Total Hydrocarbons (THC) - ppm

Henry Pirker - January 2014

Maximum Value: 4.00 ppm on Jan 17 22:00		Maximum Daily Average: 2.47 ppm on Jan 8		Hours in Service: 744																																													
Minimum Value: 1.8 ppm on Jan 14 23:00		Minimum Daily Average: 1.92 ppm on Jan 15		Hours of Data: 525																																													
Maximum Diurnal Average: 2.43 ppm at hour 5		Minimum Diurnal Average: 2.09 ppm at hour 15		Hours of Missing Data: 219																																													
Monthly Average: 2.221 ppm		Percentiles: P <sub>1</sub> = 1.85 P <sub>10</sub> = 1.88 Q <sub>1</sub> = 1.95 Median = 2.14 Q <sub>3</sub> = 2.37 P <sub>90</sub> = 2.69 P <sub>99</sub> = 3.33		Hours of Calibration: 32																																													
Percent Operational Time: 74.9																										Daily Average	Daily Maximum																						
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																									
1-Jan	2.2	2.3	2.3	2.4	2.4	2.4	2.4	2.5	2.5	2.4	2.4	2.4	2.5	2.4	2.3	2.2	2.2	2.2	2.3	2.3	A	2.6	2.3	2.3	2.36	2.59																							
2-Jan	2.3	2.4	2.3	2.1	3.3	1.9	1.9	1.8	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.3	2.0	3.5	A	2.1	2.2	2.1	2.7	2.18	3.54																							
3-Jan	2.3	3.0	2.3	2.3	2.7	2.1	2.2	2.0	2.3	2.2	2.1	2.1	2.1	2.3	2.1	2.5	1.9	1.9	A	2.0	2.0	2.0	2.0	2.0	2.20	2.97																							
4-Jan	2.1	2.1	2.0	2.0	2.0	2.1	2.2	2.2	2.2	2.2	2.3	3.2	2.5	2.2	2.3	2.3	2.3	A	2.1	2.2	2.3	2.3	3.6	2.5	2.32	3.59																							
5-Jan	2.3	2.3	2.4	2.7	2.4	2.5	2.4	2.5	2.4	2.4	2.5	2.4	2.2	2.1	2.1	2.1	A	2.1	2.1	2.2	2.1	2.1	2.2	2.1	2.29	2.67																							
6-Jan	2.2	2.2	2.3	2.3	2.4	2.3	2.3	2.4	2.2	2.1	C	C	C	C	2.0	A	2.2	2.0	2.1	2.1	2.6	2.1	2.1	2.1	2.21	2.60																							
7-Jan	2.2	2.2	2.4	2.2	2.2	2.2	2.2	2.2	2.3	2.2	2.4	2.2	2.1	2.3	A	2.5	2.2	2.3	2.1	2.1	2.1	2.2	2.1	2.7	2.24	2.67																							
8-Jan	2.4	2.4	2.3	2.3	2.3	2.2	2.2	2.2	2.3	2.2	2.3	2.4	2.4	A	2.5	2.5	2.6	2.6	2.7	2.7	2.7	2.8	3.0	2.47	2.99																								
9-Jan	2.8	2.9	2.9	3.2	3.0	2.9	3.3	2.8	2.5	2.3	2.0	1.9	A	1.9	1.9	1.9	2.0	1.9	2.1	2.0	1.9	2.0	2.4	2.1	2.37	3.27																							
10-Jan	1.9	1.9	2.2	3.0	2.7	2.2	2.3	2.9	2.3	2.1	2.2	A	1.9	1.9	1.9	1.9	1.9	3.4	2.1	2.0	2.1	2.4	2.8	2.3	2.27	3.42																							
11-Jan	2.4	1.9	1.9	2.0	2.6	2.3	1.9	1.9	1.9	2.0	A	2.0	1.9	2.1	2.1	2.1	2.3	2.1	1.9	2.0	2.0	2.0	2.0	2.0	2.06	2.57																							
12-Jan	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.5	2.4	A	2.3	2.1	2.1	2.2	2.2	2.2	2.0	2.1	2.1	2.1	2.1	2.3	2.8	2.2	2.16	2.79																							
13-Jan	2.8	2.8	2.4	3.1	2.5	2.7	2.7	1.9	A	2.2	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	2.16	3.09																							
14-Jan	1.9	1.9	1.9	1.9	2.1	2.3	2.0	A	2.1	1.9	2.1	2.1	2.1	2.0	2.0	1.9	1.9	1.9	1.8	1.8	2.0	1.9	1.8	1.8	1.97	2.33																							
15-Jan	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	2.1	1.9	1.9	1.9	2.0	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.1	2.0	1.92	2.13																							
16-Jan	2.2	2.1	2.0	1.9	2.1	A	1.9	1.9	1.9	2.0	2.1	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.94	2.22																							
17-Jan	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	1.9	2.0	2.0	1.9	1.9	1.9	1.9	1.9	2.0	2.2	2.6	2.6	2.8	4.0	3.8	3.1	2.25	4.00																							
18-Jan	2.9	2.9	3.2	A	2.6	3.1	2.4	2.6	2.6	3.2	2.6	2.7	2.4	2.3	2.4	2.4	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.40	3.23																							
19-Jan	1.9	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.1	2.1	1.9	2.0	2.0	2.3	2.1	1.94	2.28																							
20-Jan	2.0	A	2.6	2.7	3.1	3.2	3.0	2.6	2.4	2.4	2.6	2.5	2.4	2.5	2.4	2.4	2.4	2.5	2.3	2.0	2.0	1.9	2.0	2.1	2.43	3.21																							
21-Jan	A	2.2	2.2	2.1	2.3	2.5	2.4	2.2	2.2	2.2	2.5	2.6	2.3	2.2	N	N	N	N	N	N	N	N	N	N	--	2.63																							
22-Jan	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-Jan	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-Jan	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-Jan	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--																							
26-Jan	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-Jan	N	N	N	N	N	N	N	N	N	N	N	N	N	N	M	M	2.6	2.7	A	2.2	2.2	2.3	2.3	2.4	2.5	--	2.69																						
28-Jan	3.0	2.6	2.6	2.7	2.9	2.9	2.8	3.1	3.0	2.8	C	C	C	C	2.1	2.1	A	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.47	3.08																							
29-Jan	2.2	2.2	2.1	2.1	2.3	2.3	2.2	2.4	2.1	2.2	2.0	2.0	2.1	2.0	2.0	A	2.0	2.1	3.4	2.2	2.2	2.2	2.2	2.2	2.20	3.39																							
30-Jan	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-Jan	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	M	M	M	1.9	2.1	2.1	2.1	2.3	2.5	--	2.49																							
																								2.27	2.27	2.27	2.30	2.43	2.35	2.29	2.28	2.22	2.22	2.21	2.20	2.12	2.09	2.09	2.14	2.11	2.14	2.22	2.10	2.14	2.22	2.33	2.25	Diurnal Average	
																								3.04	2.97	3.17	3.24	3.32	3.21	3.27	3.08	2.99	3.23	2.64	3.20	2.53	2.48	2.55	2.61	2.69	3.42	3.54	2.73	2.83	4.00	3.81	3.09	Diurnal Maximum	
C - Calibration																								M - Maintenance				N - Not Valid				A - Automated Daily Zero Span																	

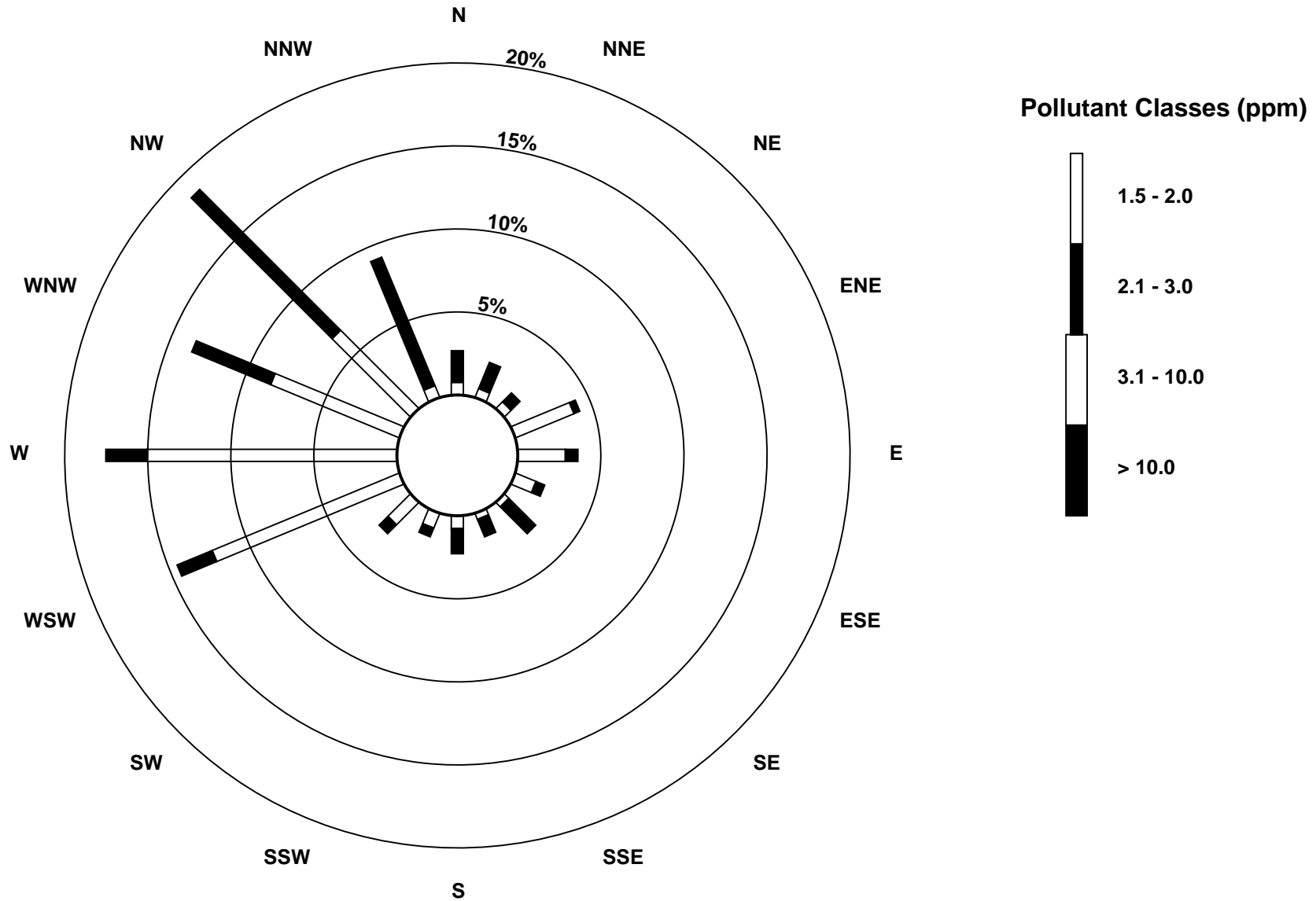
**Hourly Maximums**

**Total Hydrocarbons (THC) - ppm**  
**Henry Pirker - January 2014**



**Pollutant Rose**

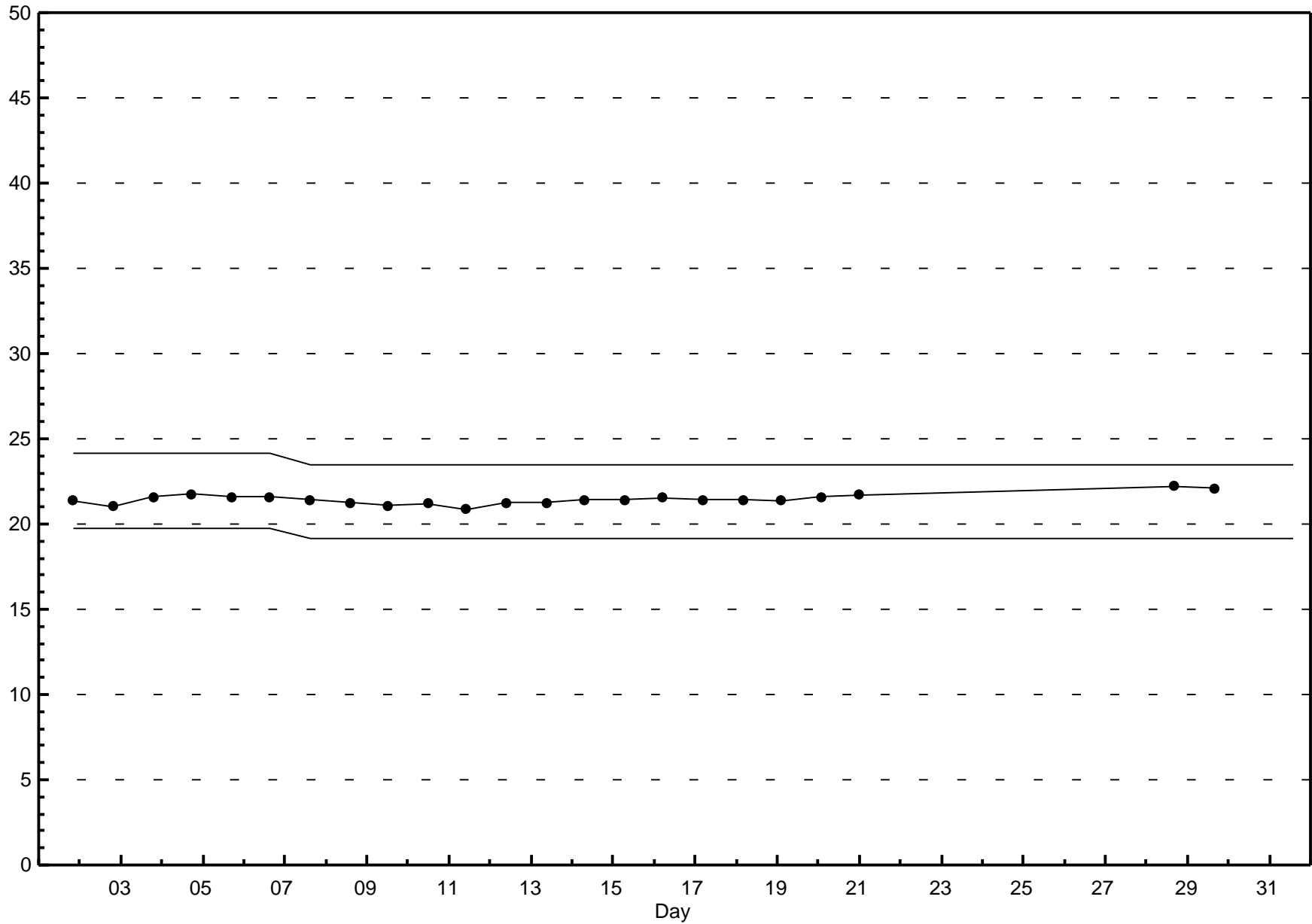
**Total Hydrocarbons (THC) - ppm**  
**Henry Pirker - January 2014**





### Span Responses

Total Hydrocarbons (THC)  
Henry Pirker - January 2014



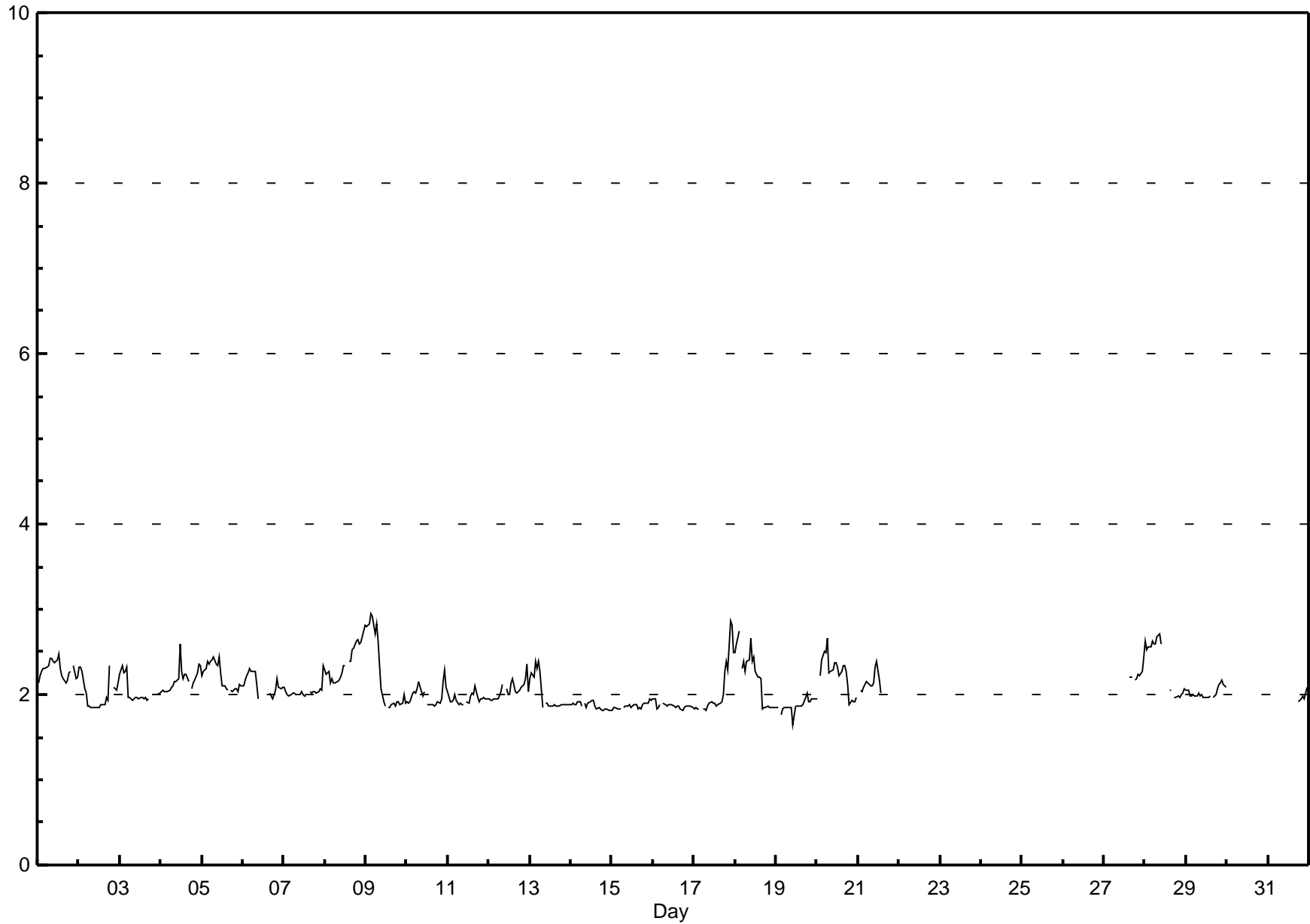
## Hourly Averages

Methane (CH<sub>4</sub>) - ppm  
Henry Pirker - January 2014

Number of Exceedences (AAQO):		1-hr: 0    24-hr: 0		Hours in Service: 744																																													
Maximum Value: 2.94 ppm on Jan 9 04:00		Maximum Daily Average: 2.38 ppm on Jan 8		Hours of Data: 525																																													
Minimum Value: 1.6 ppm on Jan 19 11:00		Minimum Daily Average: 1.86 ppm on Jan 15		Hours of Missing Data: 219																																													
Maximum Diurnal Average: 2.17 ppm at hour 5		Minimum Diurnal Average: 1.99 ppm at hour 18		Hours of Calibration: 32																																													
Monthly Average: 2.081 ppm		Percentiles: P <sub>1</sub> = 1.81 P <sub>10</sub> = 1.85 Q <sub>1</sub> = 1.89 Median = 2.01 Q <sub>3</sub> = 2.22 P <sub>90</sub> = 2.39 P <sub>99</sub> = 2.82		Percent Operational Time: 74.9																																													
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Jan	2.1	2.2	2.3	2.3	2.3	2.3	2.3	2.4	2.4	2.4	2.4	2.4	2.5	2.3	2.2	2.2	2.1	2.2	2.2	2.3	A	2.3	2.2	2.2	2.2	2.29	2.48																						
2-Jan	2.3	2.3	2.3	2.1	2.0	1.9	1.9	1.8	1.8	1.9	1.8	1.8	1.9	1.9	1.9	1.9	2.0	1.9	2.3	A	2.1	2.1	2.1	2.1	2.00	2.34																							
3-Jan	2.2	2.3	2.3	2.3	2.3	2.0	2.0	1.9	1.9	2.0	2.0	2.0	2.0	2.0	1.9	2.0	1.9	1.9	A	2.0	2.0	2.0	2.0	2.0	2.04	2.34																							
4-Jan	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.2	2.1	2.2	2.6	2.3	2.2	2.2	2.2	2.2	A	2.1	2.1	2.2	2.3	2.4	2.3	2.17	2.59																							
5-Jan	2.2	2.3	2.3	2.4	2.4	2.4	2.4	2.4	2.3	2.3	2.4	2.3	2.1	2.1	2.1	2.0	A	2.0	2.0	2.1	2.1	2.0	2.1	2.1	2.22	2.44																							
6-Jan	2.1	2.2	2.2	2.3	2.3	2.3	2.3	2.3	2.1	1.9	C	C	C	C	1.9	A	2.0	1.9	2.0	2.1	2.2	2.1	2.1	2.1	2.12	2.31																							
7-Jan	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.3	2.03	2.33																							
8-Jan	2.3	2.2	2.3	2.1	2.2	2.1	2.1	2.2	2.2	2.2	2.3	2.3	2.3	A	2.4	2.4	2.5	2.6	2.6	2.6	2.6	2.6	2.7	2.8	2.38	2.81																							
9-Jan	2.8	2.8	2.8	2.9	2.9	2.7	2.8	2.6	2.3	2.1	1.9	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	1.9	1.9	2.24	2.94																							
10-Jan	1.9	1.9	1.9	2.0	2.0	2.0	2.1	2.1	2.0	2.0	2.0	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.1	2.3	2.1	1.98	2.28																							
11-Jan	2.0	1.9	1.9	1.9	2.0	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	2.0	2.0	2.0	2.1	2.0	1.9	1.9	2.0	2.0	2.0	2.0	1.95	2.11																							
12-Jan	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.1	A	2.1	2.0	2.0	2.1	2.2	2.0	2.0	2.0	2.0	2.1	2.1	2.2	2.4	2.0	2.05	2.36																							
13-Jan	2.2	2.3	2.2	2.4	2.3	2.4	2.3	1.8	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	2.00	2.40																							
14-Jan	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	1.8	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.87	1.94																							
15-Jan	1.8	1.8	1.8	1.8	1.8	1.8	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.8	1.9	1.9	1.9	1.9	1.9	1.9	1.86	1.94																							
16-Jan	1.9	1.9	1.8	1.8	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.9	1.9	1.9	1.9	1.9	1.8	1.87	1.95																							
17-Jan	1.8	1.8	1.8	1.8	A	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	2.0	2.3	2.4	2.3	2.9	2.8	2.04	2.87																							
18-Jan	2.5	2.6	2.7	A	2.3	2.4	2.3	2.4	2.4	2.7	2.4	2.4	2.3	2.2	2.2	2.2	1.8	1.8	1.9	1.9	1.9	1.8	1.8	1.8	2.20	2.75																							
19-Jan	1.8	1.8	A	1.8	1.8	1.9	1.8	1.8	1.9	1.9	1.6	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	1.9	1.9	2.0	1.9	1.9	1.87	2.02																							
20-Jan	2.0	A	2.2	2.4	2.5	2.5	2.7	2.3	2.3	2.3	2.4	2.4	2.3	2.2	2.3	2.3	2.3	2.3	2.1	1.9	1.9	1.9	1.9	2.0	2.23	2.66																							
21-Jan	A	2.0	2.0	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.3	2.4	2.2	2.0	N	N	N	N	N	N	N	N	N	N	--	2.38																							
22-Jan	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--																						
23-Jan	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--																						
24-Jan	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--																						
25-Jan	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--																						
26-Jan	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--																						
27-Jan	N	N	N	N	N	N	N	N	N	N	N	N	N	N	M	M	2.2	2.2	A	2.2	2.2	2.2	2.2	2.3	2.4	--	2.44																						
28-Jan	2.6	2.5	2.6	2.6	2.6	2.6	2.6	2.7	2.7	2.6	C	C	C	C	2.1	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.32	2.71																							
29-Jan	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	2.1	2.1	2.1	2.2	2.1	2.1	2.02	2.17																							
30-Jan	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--																						
31-Jan	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	M	M	M	1.9	2.0	2.0	1.9	2.0	2.1	--	2.09																							
																								2.12	2.14	2.15	2.13	2.17	2.14	2.15	2.12	2.10	2.08	2.06	2.08	2.04	2.00	2.02	2.02	2.01	1.99	2.04	2.04	2.04	2.09	2.11	2.10	Diurnal Average	
																								2.80	2.81	2.83	2.94	2.92	2.71	2.83	2.68	2.71	2.67	2.44	2.59	2.48	2.30	2.38	2.40	2.52	2.55	2.62	2.65	2.60	2.87	2.81	2.81	Diurnal Maximum	
C - Calibration																								M - Maintenance				N - Not Valid				A - Automated Daily Zero Span																	

**Hourly Averages**

**Methane (CH<sub>4</sub>) - ppm**  
**Henry Pirker - January 2014**



## Hourly Maximums

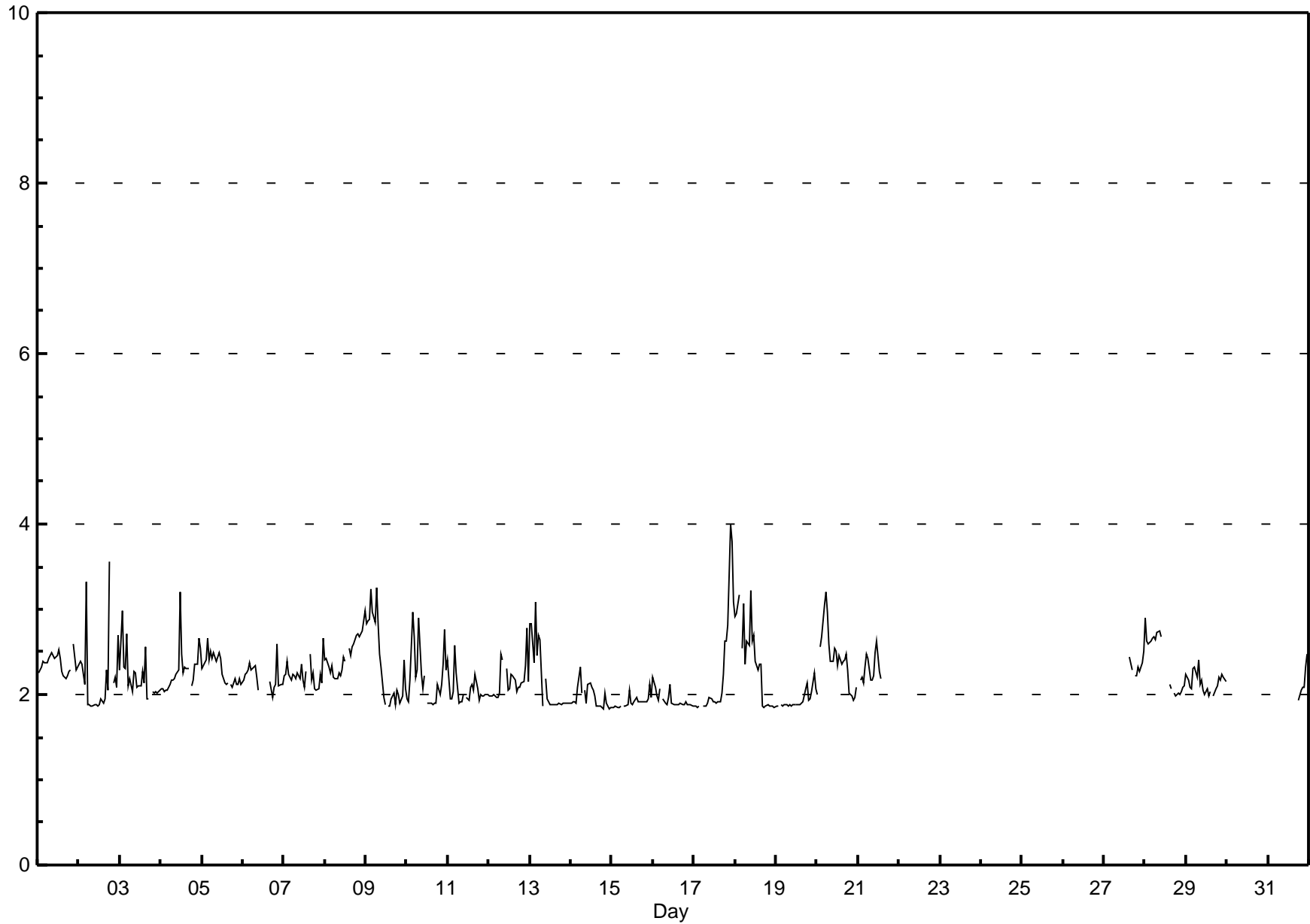
Methane (CH<sub>4</sub>) - ppm

Henry Pirker - January 2014

Maximum Value: 3.99 ppm on Jan 17 22:00		Maximum Daily Average: 2.46 ppm on Jan 8		Hours in Service: 744																																													
Minimum Value: 1.8 ppm on Jan 14 23:00		Minimum Daily Average: 1.91 ppm on Jan 15		Hours of Data: 525																																													
Maximum Diurnal Average: 2.41 ppm at hour 5		Minimum Diurnal Average: 2.06 ppm at hour 18		Hours of Missing Data: 219																																													
Monthly Average: 2.206 ppm		Percentiles: P <sub>1</sub> = 1.85 P <sub>10</sub> = 1.88 Q <sub>1</sub> = 1.94 Median = 2.13 Q <sub>3</sub> = 2.36 P <sub>90</sub> = 2.65 P <sub>99</sub> = 3.21		Hours of Calibration: 32																																													
				Percent Operational Time: 74.9																																													
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Jan	2.2	2.3	2.3	2.4	2.4	2.4	2.4	2.5	2.5	2.5	2.4	2.4	2.5	2.4	2.3	2.2	2.2	2.2	2.3	2.3	A	2.6	2.3	2.3	2.36	2.60																							
2-Jan	2.3	2.4	2.4	2.1	3.3	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	1.9	1.9	2.3	2.0	3.6	A	2.1	2.2	2.1	2.7	2.19	3.55																							
3-Jan	2.3	3.0	2.3	2.3	2.7	2.1	2.2	2.0	2.3	2.2	2.1	2.1	2.1	2.3	2.1	2.6	2.0	2.0	A	2.0	2.0	2.0	2.0	2.1	2.21	2.98																							
4-Jan	2.1	2.1	2.0	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.3	3.2	2.5	2.3	2.3	2.3	2.3	A	2.1	2.2	2.4	2.4	2.7	2.6	2.28	3.20																							
5-Jan	2.3	2.3	2.4	2.7	2.4	2.5	2.4	2.5	2.4	2.4	2.5	2.4	2.2	2.1	2.1	2.1	A	2.1	2.1	2.2	2.1	2.1	2.2	2.1	2.30	2.67																							
6-Jan	2.2	2.2	2.2	2.3	2.4	2.3	2.3	2.3	2.2	2.0	C	C	C	C	1.9	A	2.2	2.0	2.1	2.1	2.6	2.1	2.1	2.1	2.20	2.60																							
7-Jan	2.2	2.2	2.4	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.4	2.2	2.1	2.3	A	2.5	2.2	2.2	2.1	2.0	2.1	2.2	2.1	2.7	2.23	2.65																							
8-Jan	2.4	2.4	2.3	2.2	2.3	2.2	2.2	2.2	2.3	2.2	2.3	2.4	2.4	A	2.5	2.5	2.6	2.6	2.7	2.7	2.7	2.8	3.0	2.46	2.98																								
9-Jan	2.8	2.9	2.9	3.2	3.0	2.8	3.3	2.8	2.5	2.3	2.0	1.9	A	1.9	1.9	1.9	2.0	1.9	2.0	2.0	1.9	2.0	2.4	2.1	2.36	3.26																							
10-Jan	1.9	1.9	2.2	3.0	2.7	2.2	2.3	2.9	2.2	2.1	2.2	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.1	2.0	2.1	2.4	2.8	2.20	2.97																							
11-Jan	2.4	1.9	1.9	2.0	2.6	2.3	1.9	1.9	1.9	2.0	A	2.0	1.9	2.1	2.1	2.0	2.2	2.1	1.9	2.0	2.0	2.0	2.0	2.0	2.05	2.57																							
12-Jan	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.5	2.4	A	2.3	2.1	2.1	2.2	2.2	2.2	2.0	2.1	2.1	2.1	2.1	2.3	2.8	2.2	2.15	2.78																							
13-Jan	2.8	2.8	2.4	3.1	2.5	2.7	2.6	1.9	A	2.2	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	2.15	3.08																							
14-Jan	1.9	1.9	1.9	1.9	2.1	2.3	2.0	A	2.1	1.9	2.1	2.1	2.1	2.0	2.0	1.9	1.9	1.9	1.9	1.8	1.8	2.0	1.9	1.8	1.97	2.32																							
15-Jan	1.8	1.9	1.9	1.9	1.8	1.9	A	1.9	1.9	1.9	2.1	1.9	1.9	1.9	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.1	2.0	1.91	2.13																							
16-Jan	2.2	2.1	2.0	1.9	2.1	A	1.9	1.9	1.9	2.0	2.1	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.93	2.21																							
17-Jan	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	1.9	2.0	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.2	2.6	2.6	2.8	4.0	3.8	3.1	2.24	3.99																							
18-Jan	2.9	2.9	3.2	A	2.5	3.1	2.3	2.6	2.6	3.2	2.6	2.7	2.4	2.3	2.4	2.4	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.39	3.22																							
19-Jan	1.9	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.1	2.1	1.9	2.0	2.0	2.3	2.1	1.93	2.26																							
20-Jan	2.0	A	2.6	2.7	3.1	3.2	3.0	2.6	2.4	2.4	2.5	2.5	2.3	2.5	2.4	2.4	2.4	2.5	2.3	2.0	2.0	1.9	2.0	2.1	2.42	3.20																							
21-Jan	A	2.2	2.2	2.1	2.3	2.5	2.4	2.2	2.2	2.2	2.5	2.6	2.3	2.2	N	N	N	N	N	N	N	N	N	N	N	--	2.63																						
22-Jan	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--																						
23-Jan	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--																						
24-Jan	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--																						
25-Jan	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--																						
26-Jan	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--																						
27-Jan	N	N	N	N	N	N	N	N	N	N	N	N	N	N	M	M	2.4	2.3	A	2.2	2.2	2.3	2.3	2.4	2.5	--	2.50																						
28-Jan	2.9	2.6	2.6	2.6	2.7	2.7	2.6	2.7	2.8	2.7	C	C	C	C	2.1	2.1	A	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.38	2.90																							
29-Jan	2.2	2.2	2.1	2.1	2.3	2.3	2.2	2.4	2.1	2.2	2.0	2.0	2.1	2.0	2.0	A	2.0	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.14	2.41																							
30-Jan	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--																						
31-Jan	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	M	M	M	1.9	2.1	2.1	2.1	2.1	2.3	2.5	--	2.48																						
																								2.26	2.27	2.27	2.30	2.41	2.33	2.28	2.26	2.21	2.21	2.20	2.20	2.21	2.09	2.08	2.13	2.09	2.06	2.16	2.10	2.13	2.21	2.28	2.25	Diurnal Average	
																								2.92	2.98	3.16	3.23	3.32	3.20	3.26	2.90	2.75	3.22	2.63	3.20	2.53	2.46	2.53	2.56	2.56	2.60	3.55	2.72	2.82	3.99	3.80	3.08	Diurnal Maximum	
C - Calibration																								M - Maintenance				N - Not Valid				A - Automated Daily Zero Span																	

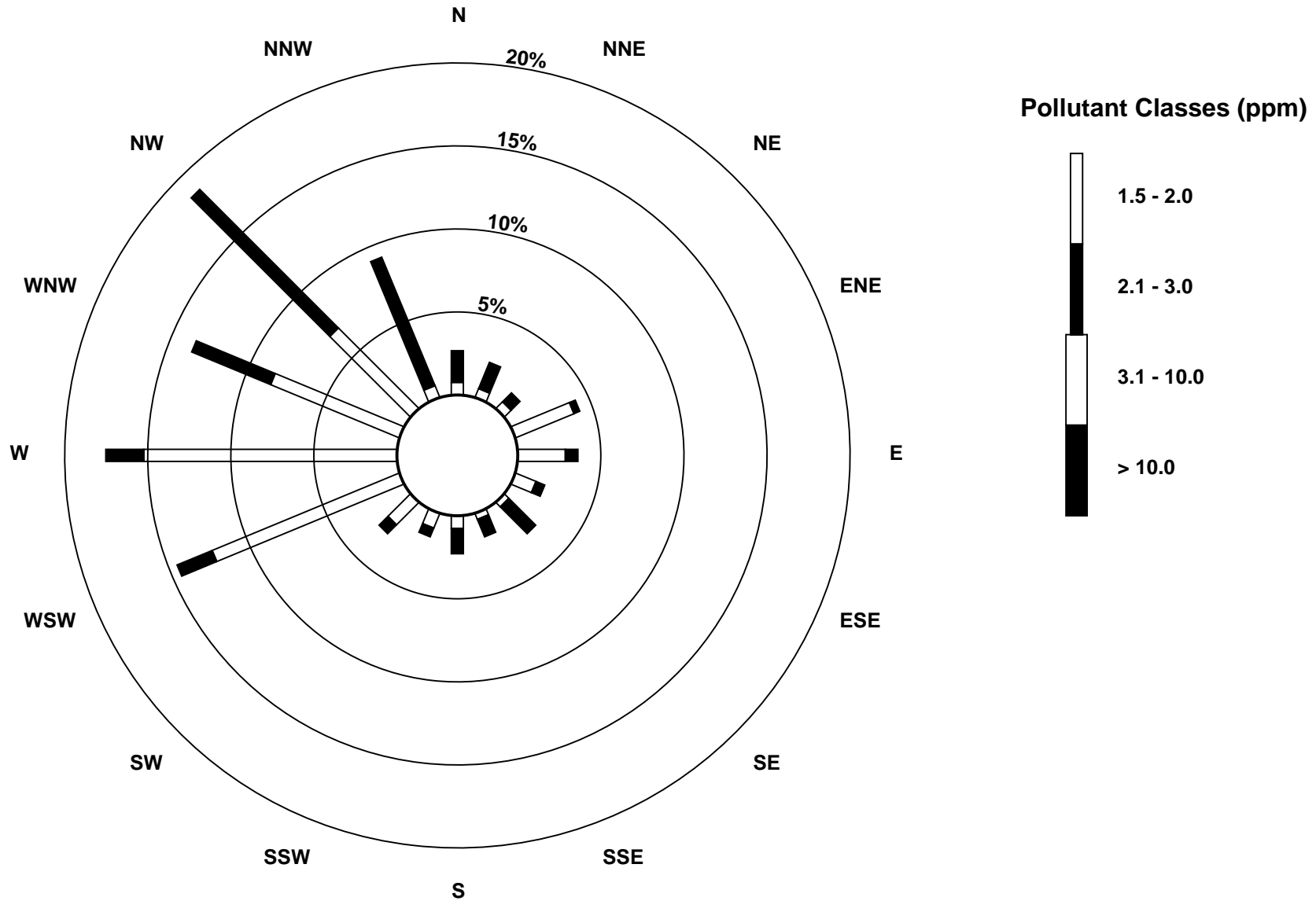
# Hourly Maximums

Methane (CH<sub>4</sub>) - ppm  
Henry Pirker - January 2014



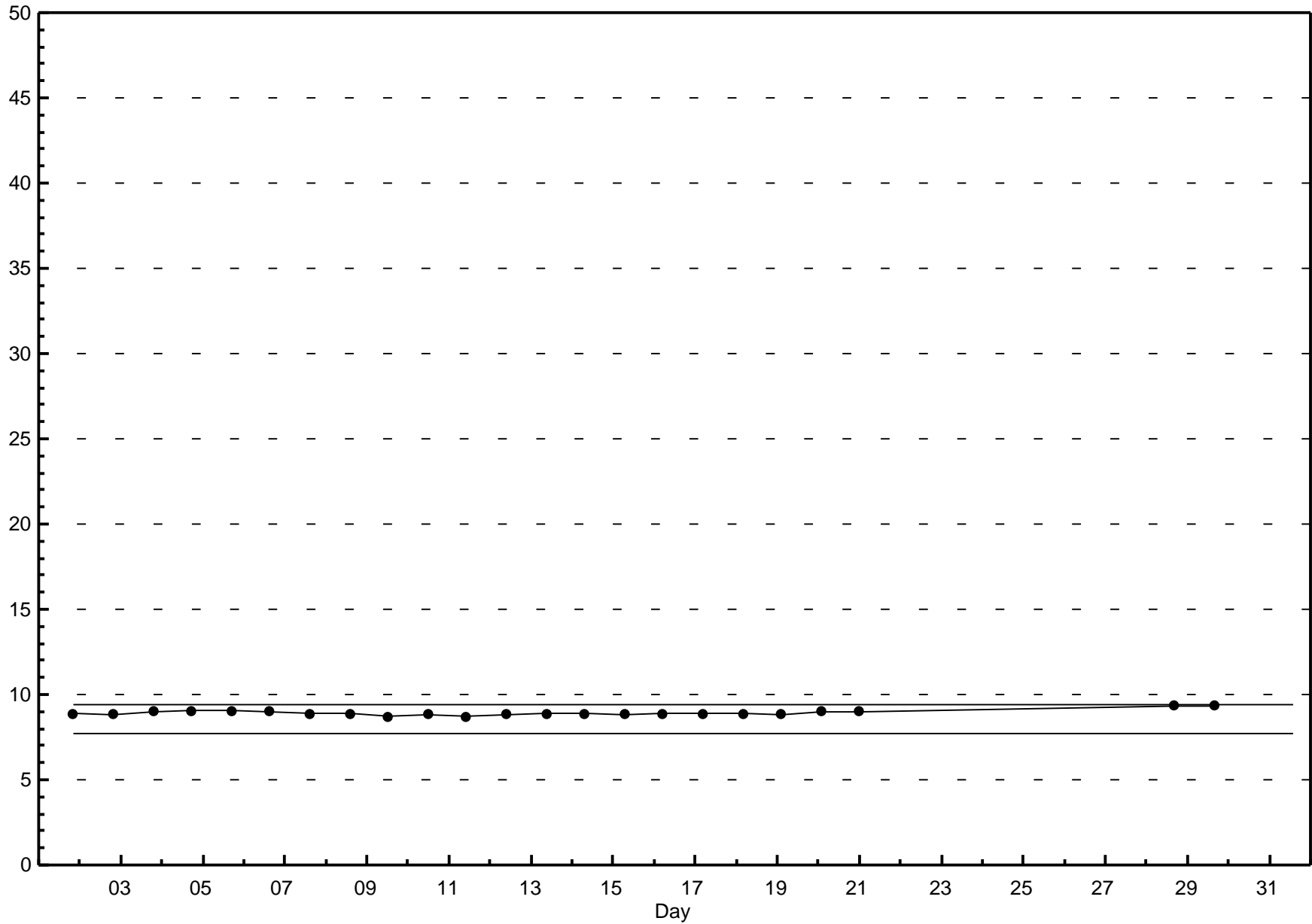
**Pollutant Rose**

**Methane (CH<sub>4</sub>) - ppm**  
**Henry Pirker - January 2014**



### Span Responses

Methane (CH<sub>4</sub>)  
Henry Pirker - January 2014



## Hourly Averages

## Non Methane Hydrocarbon (NMHC) - ppm

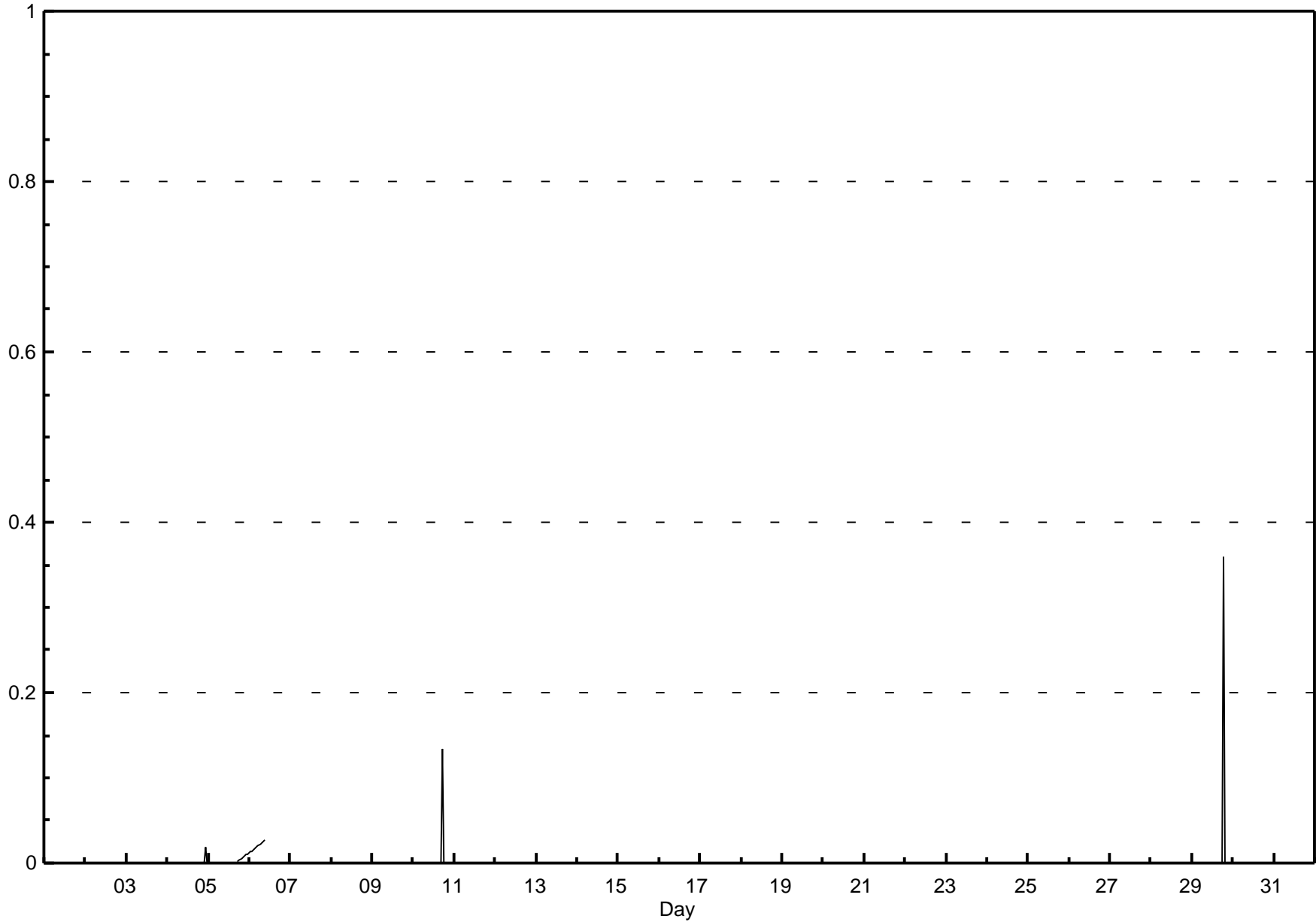
### Henry Pirker - January 2014

Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 0.36 ppm on Jan 29 19:00	Maximum Daily Average: 0.02 ppm on Jan 29		Hours of Data:	525
Minimum Value: 0.0 ppm on Jan 1 07:00	Minimum Daily Average: 0.00 ppm on Jan 2		Hours of Missing Data:	219
Maximum Diurnal Average: 0.02 ppm at hour 19	Minimum Diurnal Average: 0.00 ppm at hour 13		Hours of Calibration:	32
Monthly Average: 0.002 ppm	Percentiles: P <sub>1</sub> = 0.00 P <sub>10</sub> = 0.00 Q <sub>1</sub> = 0.00 Median = 0.00 Q <sub>3</sub> = 0.00 P <sub>90</sub> = 0.00 P <sub>99</sub> = 0.02		Percent Operational Time:	74.9

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.00	0.00																						
3-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.00	0.00																							
4-Jan	0.0	0.0	0.0	0.0	0.0	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	0.02																							
5-Jan	0.0	0.0	0.0	0.0	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	0.01																							
6-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	C	C	C	C	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.03																							
7-Jan	0.0	0.0	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																							
8-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00																							
9-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00																							
10-Jan	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	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.13																							
11-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00																							
12-Jan	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																							
13-Jan	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																							
14-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00																							
15-Jan	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00																							
16-Jan	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00																							
17-Jan	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00																							
18-Jan	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00																							
19-Jan	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00																							
20-Jan	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00																							
21-Jan	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	N	N	N	N	N	N	N	N	N	N	N	--	0.00																							
22-Jan	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--																						
23-Jan	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--																						
24-Jan	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--																						
25-Jan	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--																						
26-Jan	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--																						
27-Jan	N	N	N	N	N	N	N	N	N	N	N	N	N	M	M	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--	0.00																						
28-Jan	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	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00																							
29-Jan	0.0	0.0	0.0	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	0.4	0.0	0.0	0.0	0.0	0.0	0.02	0.36																							
30-Jan	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--																						
31-Jan	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	M	M	M	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	0.01	0.02	0.00	0.00	0.00	0.00	0.00	Diurnal Average		
																								0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.36	0.00	0.01	0.01	0.02	0.01	Diurnal Maximum	

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



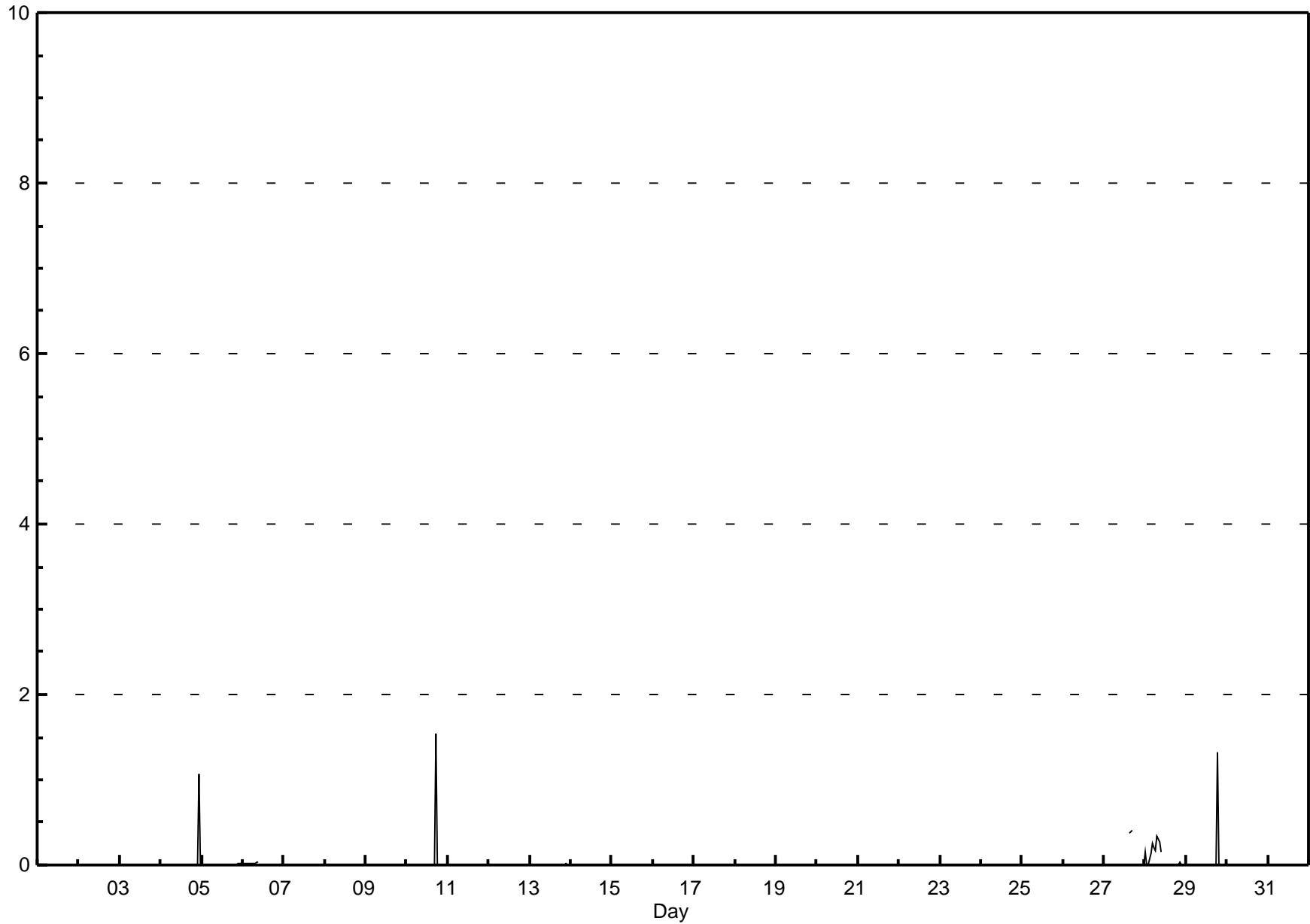


# Hourly Maximums

## Non Methane Hydrocarbon (NMHC) - ppm

### Henry Pirker - January 2014

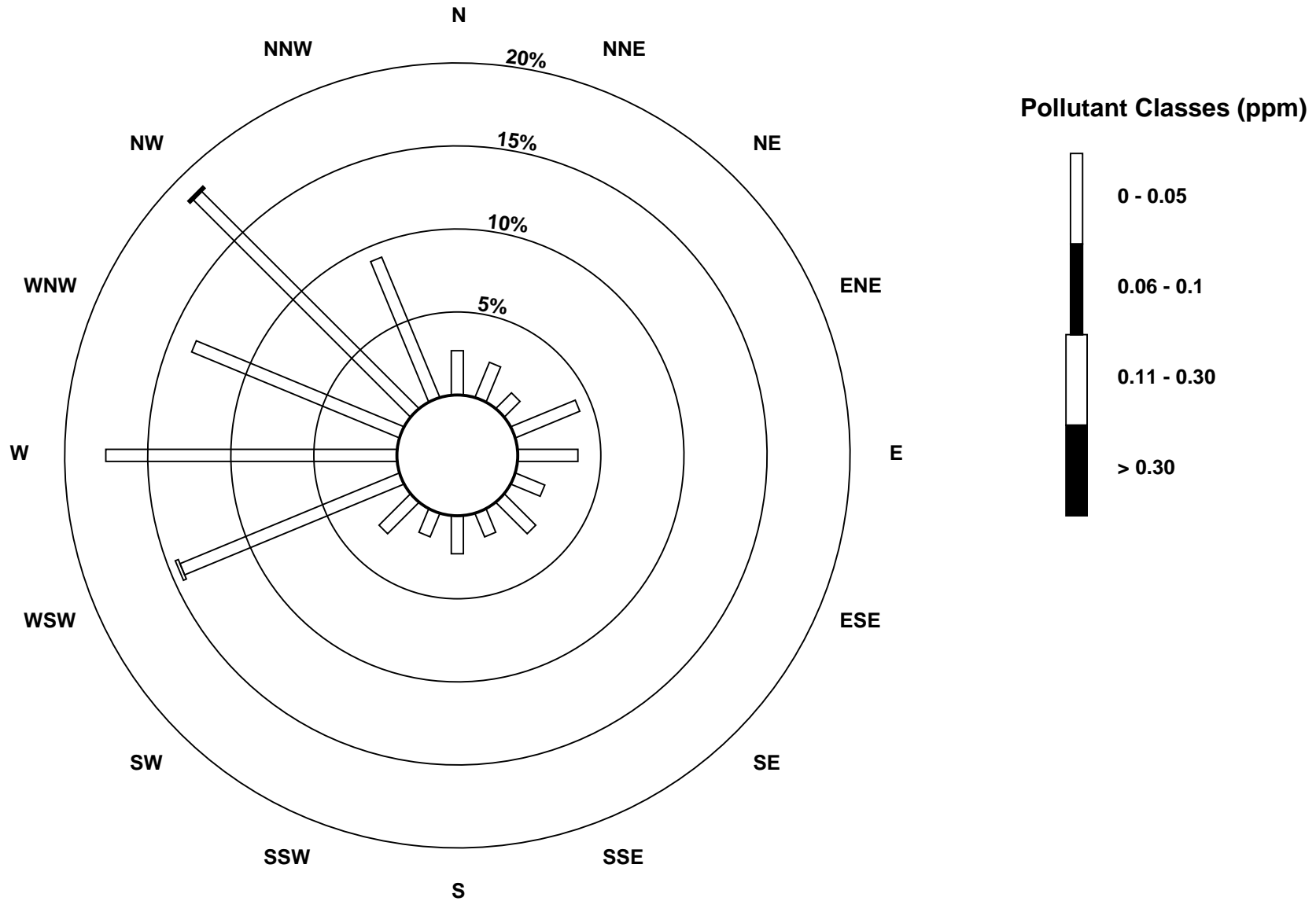
Maximum Value: 1.53 ppm on Jan 10 18:00		Maximum Daily Average: 0.09 ppm on Jan 28		Hours in Service: 744																							
Minimum Value: 0.0 ppm on Jan 21 08:00		Minimum Daily Average: 0.00 ppm on Jan 11		Hours of Data: 525																							
Maximum Diurnal Average: 0.07 ppm at hour 18		Minimum Diurnal Average: 0.00 ppm at hour 14		Hours of Missing Data: 219																							
Monthly Average: 0.014 ppm		Percentiles: P <sub>1</sub> = 0.00 P <sub>10</sub> = 0.00 Q <sub>1</sub> = 0.00 Median = 0.00 Q <sub>3</sub> = 0.00 P <sub>90</sub> = 0.00 P <sub>99</sub> = 0.34		Hours of Calibration: 32																							
				Percent Operational Time: 74.9																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.00	0.00
3-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.00	0.00	
4-Jan	0.0	0.0	0.0	0.0	0.0	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	1.1	0.0	0.05	1.07	
5-Jan	0.0	0.0	0.0	0.0	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	0.01	
6-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	C	C	C	C	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.03	
7-Jan	0.0	0.0	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	
8-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	
9-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	
10-Jan	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	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.07	1.53	
11-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	
12-Jan	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	
13-Jan	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	0.01	
14-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	
15-Jan	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	
16-Jan	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	
17-Jan	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	
18-Jan	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	
19-Jan	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	
20-Jan	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	
21-Jan	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	N	N	N	N	N	N	N	N	N	N	N	--	0.00	
22-Jan	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
23-Jan	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
24-Jan	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
25-Jan	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
26-Jan	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
27-Jan	N	N	N	N	N	N	N	N	N	N	N	N	N	M	M	0.4	0.4	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--	0.41
28-Jan	0.1	0.0	0.0	0.1	0.2	0.2	0.2	0.3	0.3	0.2	C	C	C	C	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.09	0.34	
29-Jan	0.0	0.0	0.0	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	1.3	0.0	0.0	0.0	0.0	0.0	0.06	1.32	
30-Jan	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
31-Jan	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	M	M	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--	0.00
		0.01	0.00	0.00	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.02	0.02	0.07	0.06	0.00	0.00	0.00	0.05	0.00	Diurnal Average		
		0.15	0.02	0.02	0.13	0.25	0.20	0.18	0.34	0.27	0.15	0.00	0.00	0.00	0.00	0.37	0.41	1.53	1.32	0.01	0.04	0.01	1.07	0.01	Diurnal Maximum		
C - Calibration		M - Maintenance					N - Not Valid					A - Automated Daily Zero Span															

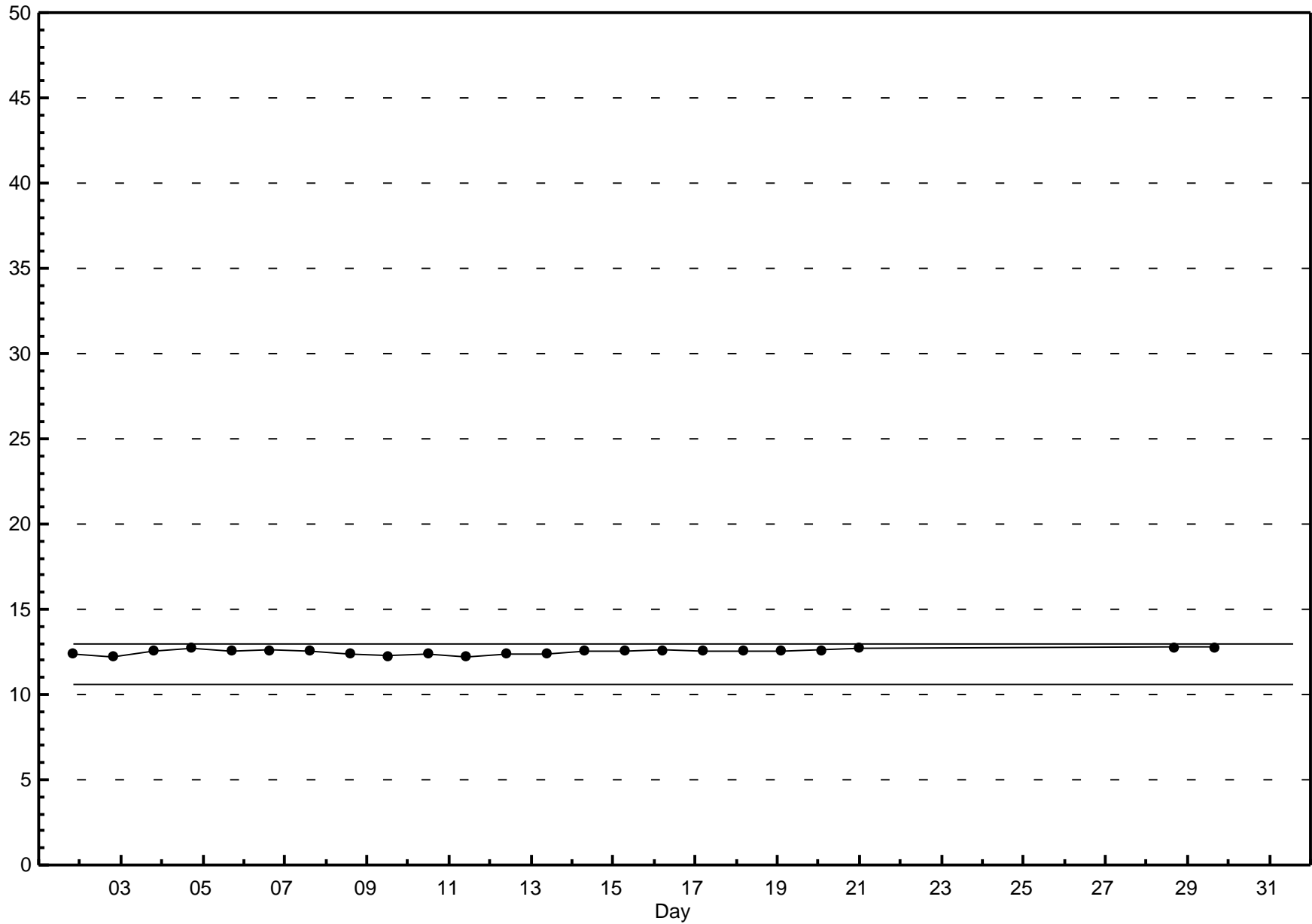


**Pollutant Rose**

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

**Henry Pirker - January 2014**





## Hourly Averages

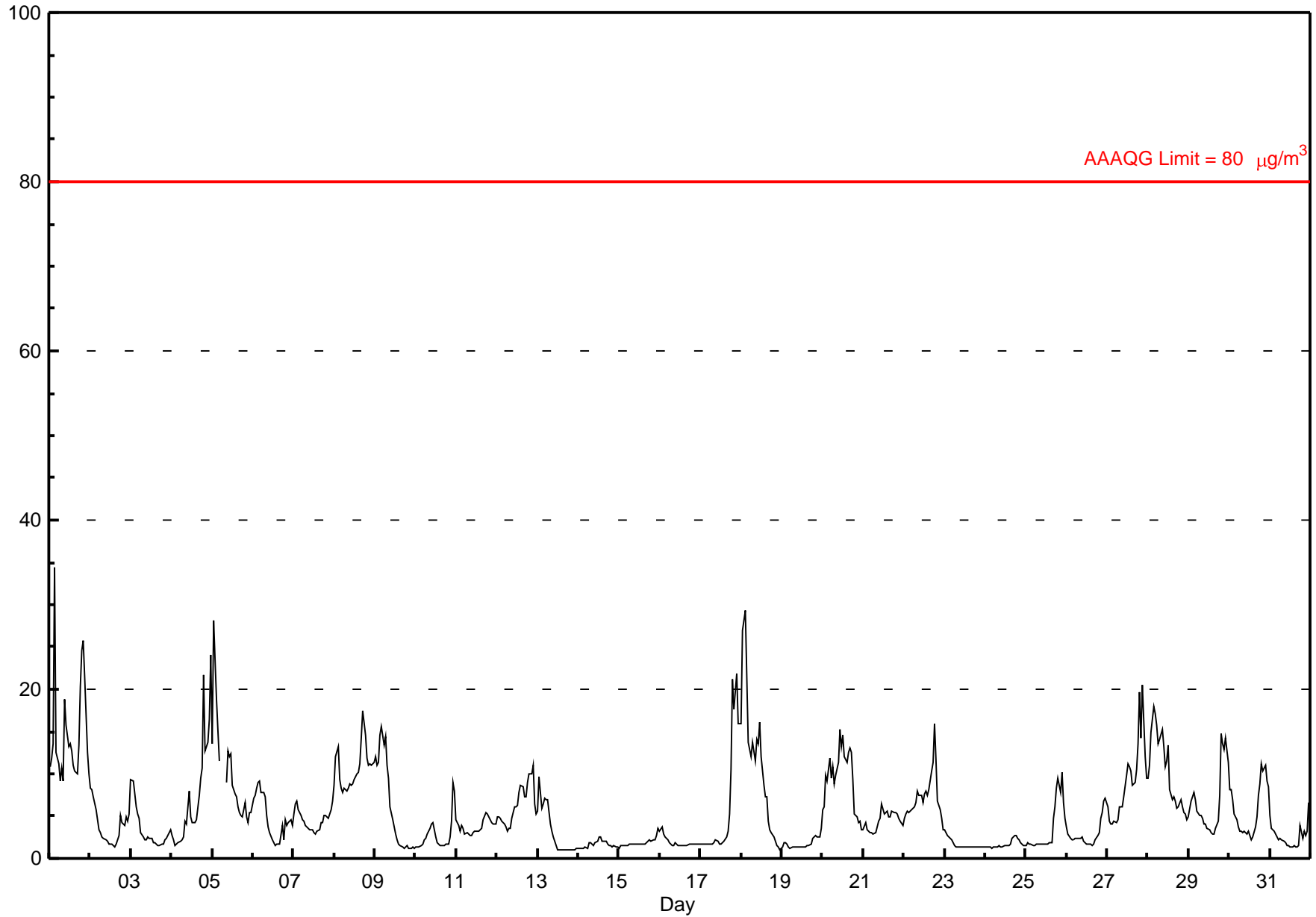
## Particulate Matter 2.5 (PM<sub>2.5</sub>) - µg/m<sup>3</sup>

### Henry Pirker - January 2014

Number of Exceedences: 1-hr: 0 24-hr: 0	Hours in Service: 744
Maximum Value: 34.4 µg/m <sup>3</sup> on Jan 1 04:00	Maximum Daily Average: 14.9 µg/m <sup>3</sup> on Jan 1
Minimum Value: 1 µg/m <sup>3</sup> on Jan 13 15:00	Hours of Data: 741
Minimum Daily Average: 1.6 µg/m <sup>3</sup> on Jan 14	Hours of Missing Data: 3
Maximum Diurnal Average: 7.2 µg/m <sup>3</sup> at hour 20	Hours of Calibration: 0
Monthly Average: 5.47 µg/m <sup>3</sup>	Percent Operational Time: 99.6
Percentiles: P <sub>1</sub> = 1.0 P <sub>10</sub> = 1.4 Q <sub>1</sub> = 1.8 Median = 3.8 Q <sub>3</sub> = 7.6 P <sub>90</sub> = 12.1 P <sub>99</sub> = 23.5	

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-Jan	11	12	14	34	13	11	9	11	9	19	16	13	14	13	11	10	10	13	20	25	26	22	13	10	14.9	34.4
2-Jan	8	8	7	6	5	3	3	3	2	2	2	2	2	2	1	2	2	3	5	4	4	5	4	5	3.8	8.2
3-Jan	9	9	8	6	5	5	3	3	2	2	3	2	2	2	2	2	2	2	2	2	2	2	3	3	3.4	9.3
4-Jan	3	2	1	2	2	2	2	3	4	4	8	5	4	4	4	5	7	9	11	22	13	14	16	24	7.1	24.0
5-Jan	14	28	19	15	12	N	N	N	9	13	12	12	9	8	7	6	5	5	5	7	5	4	5	5	9.7	28.1
6-Jan	7	8	8	9	9	8	8	7	5	4	3	2	2	2	2	2	4	2	5	4	4	5	4	4	4.7	9.1
7-Jan	5	6	7	6	5	5	4	4	4	3	3	3	3	3	3	3	4	4	5	5	5	6	7	4.6	6.9	
8-Jan	9	12	13	9	8	8	8	8	8	9	9	9	10	10	11	14	17	15	12	11	11	11	11	11	10.6	17.5
9-Jan	12	11	11	15	16	13	14	11	9	6	5	4	3	2	2	1	1	1	2	1	1	1	1	1	6.1	15.7
10-Jan	1	1	1	2	2	2	2	3	4	4	4	3	3	2	2	2	1	2	2	2	3	4	9	8	2.8	9.1
11-Jan	5	4	3	4	4	3	3	3	3	3	3	3	3	3	3	4	5	5	5	5	5	4	4	4	3.8	5.5
12-Jan	5	5	5	4	4	4	3	4	4	5	6	6	6	8	9	9	7	7	9	10	10	11	6	5	6.3	11.1
13-Jan	6	10	6	7	7	7	7	4	3	3	2	2	1	1	1	1	1	1	1	1	1	1	1	1	3.1	9.7
14-Jan	1	1	1	1	1	1	2	2	2	2	2	2	2	3	2	2	2	2	2	1	1	1	1	1	1.6	2.6
15-Jan	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	4	4	1.8	3.6
16-Jan	3	4	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1.9	3.7
17-Jan	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	5	10	21	18	22	16	16	5.9	21.8
18-Jan	16	27	29	22	14	13	12	14	12	14	14	16	12	9	7	7	4	3	3	3	2	1	1	1	10.7	29.3
19-Jan	1	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	3	3	3	3	1.8	3.5
20-Jan	6	6	10	9	12	10	11	9	10	11	15	13	15	12	11	13	13	13	9	5	5	4	4	3	9.6	15.2
21-Jan	3	4	3	3	3	3	3	3	4	4	5	6	5	5	6	5	5	6	5	5	5	5	4	4	4.4	6.4
22-Jan	5	5	6	5	6	6	6	7	8	8	7	7	8	8	8	8	10	11	16	12	7	6	5	3	7.3	16.0
23-Jan	3	3	3	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.7	3.4
24-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	3	3	2	2	2	2	2	1.7	2.7
25-Jan	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	5	6	8	10	8	10	7	5	3.5	10.2
26-Jan	4	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	5	5	7	7	2.9	7.1
27-Jan	6	4	4	4	4	4	5	6	6	6	7	10	11	11	10	9	9	11	14	20	14	20	12	10	9.0	20.5
28-Jan	9	11	15	18	17	16	14	14	15	13	11	12	13	8	7	7	7	6	6	7	6	5	5	5	10.3	17.9
29-Jan	5	7	7	8	7	6	5	5	5	4	4	4	3	3	3	3	4	4	8	15	14	13	14	11	6.7	14.8
30-Jan	8	8	7	5	5	4	3	3	3	3	3	3	3	2	3	4	5	8	9	11	10	11	9	8	5.8	11.1
31-Jan	5	4	3	3	2	2	2	2	2	2	2	1	1	1	1	1	1	1	4	2	3	3	3	7	2.6	6.6
	5.7	6.8	6.6	6.8	5.7	5.0	4.8	4.7	4.7	5.1	5.1	5.0	4.8	4.3	4.1	4.2	4.6	5.2	6.1	7.2	6.3	6.7	5.9	5.9	Diurnal Average	
	15.9	28.1	29.3	34.4	17.1	15.7	14.4	14.1	15.3	18.8	15.8	16.0	14.6	12.8	11.3	12.6	14.2	17.5	20.4	24.6	25.7	21.8	16.5	24.0	Diurnal Maximum	

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



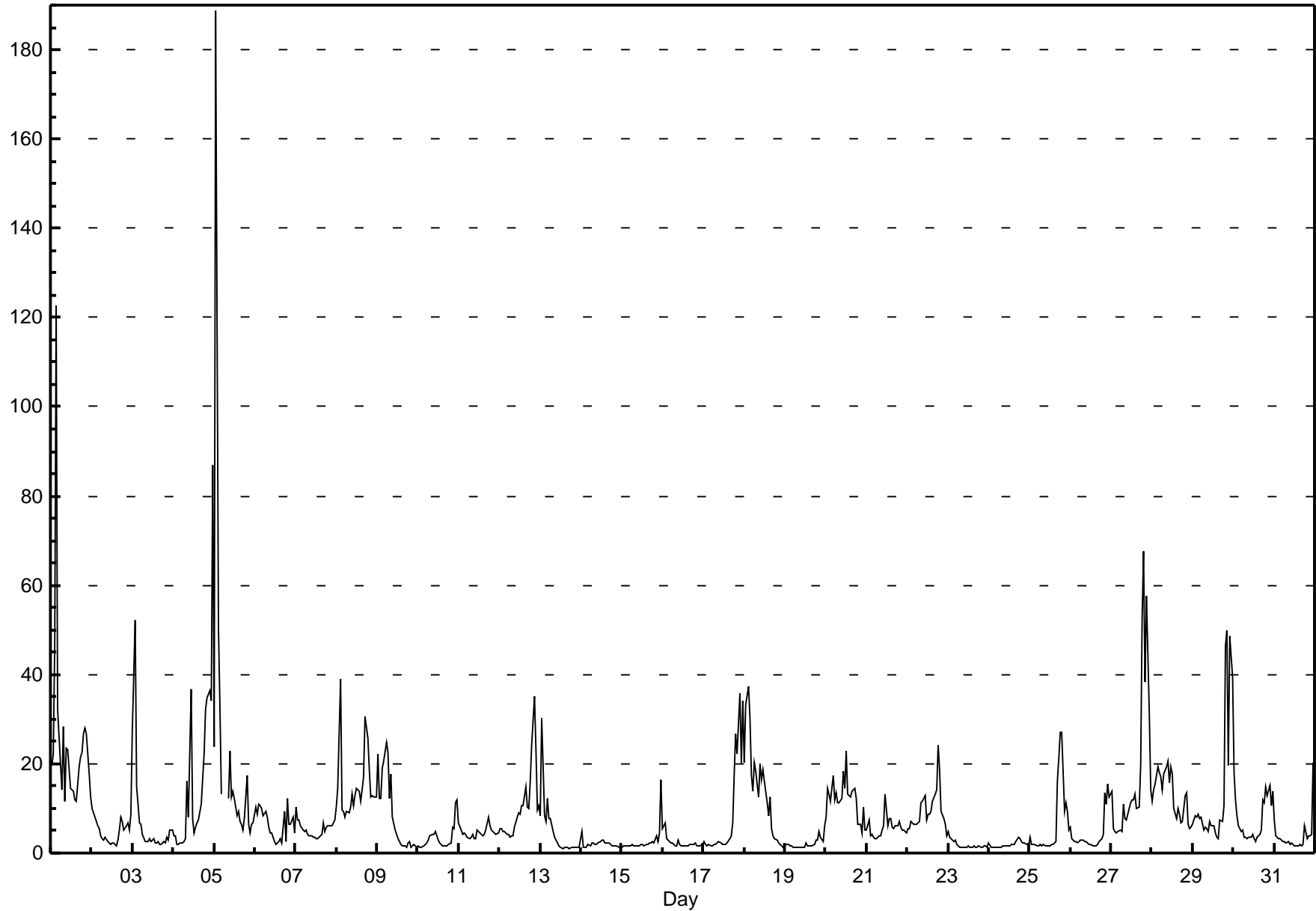
# Hourly Maximums

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

Henry Pirker - January 2014

Maximum Value: 188.8 µg/m <sup>3</sup> on Jan 5 02:00		Maximum Daily Average: 25.2 µg/m <sup>3</sup> on Jan 1		Hours in Service: 744 Hours of Data: 741 Hours of Missing Data: 3 Hours of Calibration: 0 Percent Operational Time: 99.6																																													
Minimum Value: 1 µg/m <sup>3</sup> on Jan 13 14:00 Maximum Diurnal Average: 15.8 µg/m <sup>3</sup> at hour 2 Monthly Average: 8.45 µg/m <sup>3</sup>		Minimum Daily Average: 1.9 µg/m <sup>3</sup> on Jan 23 Minimum Diurnal Average: 4.9 µg/m <sup>3</sup> at hour 15 Percentiles: P <sub>1</sub> = 1.1 P <sub>10</sub> = 1.6 Q <sub>1</sub> = 2.1 Median = 4.7 Q <sub>3</sub> = 10.9 P <sub>90</sub> = 18.6 P <sub>99</sub> = 51.4																																															
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Jan	20	22	47	123	32	20	14	28	12	23	23	15	14	14	12	12	19	22	23	27	28	27	18	12	25.2	122.7																							
2-Jan	10	9	8	6	6	4	3	3	3	3	2	2	2	2	2	3	5	8	7	5	6	7	5	9	5.0	10.0																							
3-Jan	27	52	15	11	7	7	4	3	2	3	3	2	3	2	2	3	2	2	2	2	3	3	5	5	7.1	52.0																							
4-Jan	4	4	2	2	2	2	3	3	16	8	37	8	5	6	7	7	11	17	22	32	35	36	34	87	16.2	87.1																							
5-Jan	24	189	50	33	13	N	N	N	12	23	13	14	12	8	9	7	6	5	8	17	6	5	7	7	22.3	188.8																							
6-Jan	10	9	11	11	10	8	9	8	6	5	4	3	2	2	3	3	2	9	3	12	6	6	8	5	6.5	12.1																							
7-Jan	10	7	7	6	5	5	5	4	4	4	4	4	3	3	4	4	7	5	6	6	6	6	7	7	5.4	10.2																							
8-Jan	10	15	39	10	9	8	9	9	10	13	11	13	15	14	12	14	17	31	26	19	13	13	13	13	14.7	38.9																							
9-Jan	22	12	12	19	21	25	22	12	18	8	5	4	3	3	2	2	2	1	2	3	1	2	2	1	8.5	24.9																							
10-Jan	1	1	1	2	2	2	3	4	4	4	4	5	4	3	2	2	2	2	2	2	6	6	11	12	3.5	11.9																							
11-Jan	7	5	4	5	4	3	3	4	4	3	3	5	4	4	4	4	5	8	6	5	5	5	4	4	4.6	8.1																							
12-Jan	6	6	5	5	4	4	3	4	4	6	8	9	9	11	11	15	10	10	16	24	35	23	10	11	10.3	35.0																							
13-Jan	8	30	8	7	12	8	8	5	4	3	2	2	1	1	1	1	1	1	1	1	1	1	1	1	4.6	30.1																							
14-Jan	5	1	1	1	2	2	2	2	2	2	2	2	3	3	3	2	2	2	2	2	2	2	1	1	2.0	4.7																							
15-Jan	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	4	2	5	16	2.7	16.5																							
16-Jan	6	7	3	3	3	2	2	2	2	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2.4	6.8																							
17-Jan	3	2	2	2	2	2	2	2	2	3	2	2	2	2	2	3	4	7	17	27	22	36	20	34	8.3	35.7																							
18-Jan	20	33	37	30	17	14	20	18	13	20	16	19	16	11	8	13	5	4	3	3	2	2	2	1	13.7	37.4																							
19-Jan	2	2	2	2	2	1	1	1	1	1	1	1	2	2	2	2	2	2	3	3	5	3	3	6	2.2	6.0																							
20-Jan	8	15	13	12	17	12	14	11	11	12	18	14	23	13	13	14	14	15	12	6	7	4	10	5	12.3	22.8																							
21-Jan	5	7	4	4	4	3	3	4	4	5	6	13	6	8	8	6	5	6	6	7	6	5	5	4	5.6	13.2																							
22-Jan	5	6	7	7	6	7	7	7	11	12	13	7	9	9	9	12	13	14	24	19	9	8	7	4	9.6	24.1																							
23-Jan	5	4	3	3	3	2	2	1	1	1	1	1	2	1	1	2	1	1	2	1	1	2	2	1	1.9	4.8																							
24-Jan	2	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	3	4	3	3	2	2	2	2	1.9	3.6																							
25-Jan	4	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	16	21	27	27	9	11	9	5	6.6	27.2																							
26-Jan	6	3	3	2	2	2	3	3	3	3	2	2	2	2	2	2	2	3	3	4	13	11	15	13	4.4	15.4																							
27-Jan	14	5	5	5	5	5	5	11	8	7	9	11	12	12	13	10	10	20	53	67	38	58	31	14	17.8	67.5																							
28-Jan	12	14	16	19	18	17	14	18	19	21	16	19	18	10	8	10	9	7	7	13	13	6	6	6	13.1	20.6																							
29-Jan	6	8	8	9	8	8	5	6	5	5	7	6	6	4	3	3	7	7	11	46	50	20	49	39	13.7	49.9																							
30-Jan	18	12	8	6	5	5	3	3	3	3	4	4	3	2	3	4	5	12	11	15	13	15	11	14	7.7	18.1																							
31-Jan	7	4	3	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	6	3	4	4	4	20	3.7	20.4																							
																								9.3	15.8	10.7	11.3	7.4	6.2	6.0	6.1	6.2	6.8	7.3	6.3	6.1	5.2	4.9	5.4	6.3	8.1	10.3	13.1	11.5	10.7	9.9	11.7	Diurnal Average	
																								27.3	188.8	50.1	122.7	32.2	24.9	22.4	28.4	19.3	23.4	36.8	19.4	22.8	13.9	13.3	14.8	19.4	30.7	52.6	67.5	49.9	57.8	48.5	87.1	Diurnal Maximum	
N - Not Valid																																																	

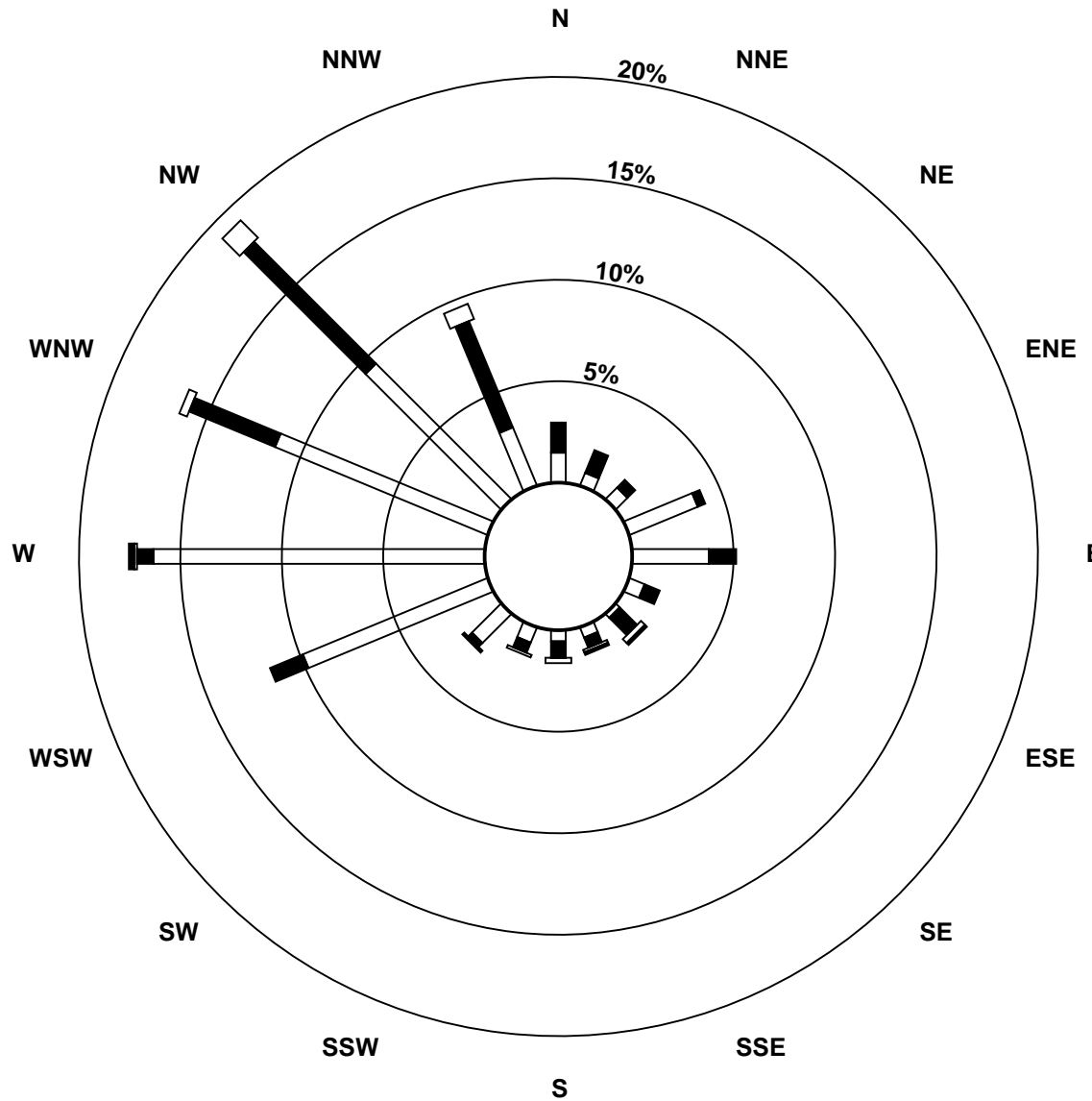




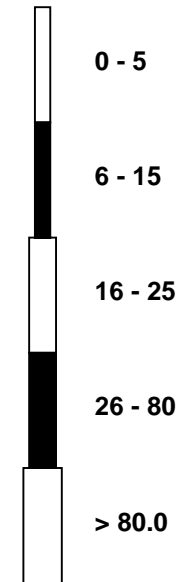
**Pollutant Rose**

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

**Henry Pirker - January 2014**



**Pollutant Classes (μg/m<sup>3</sup>)**



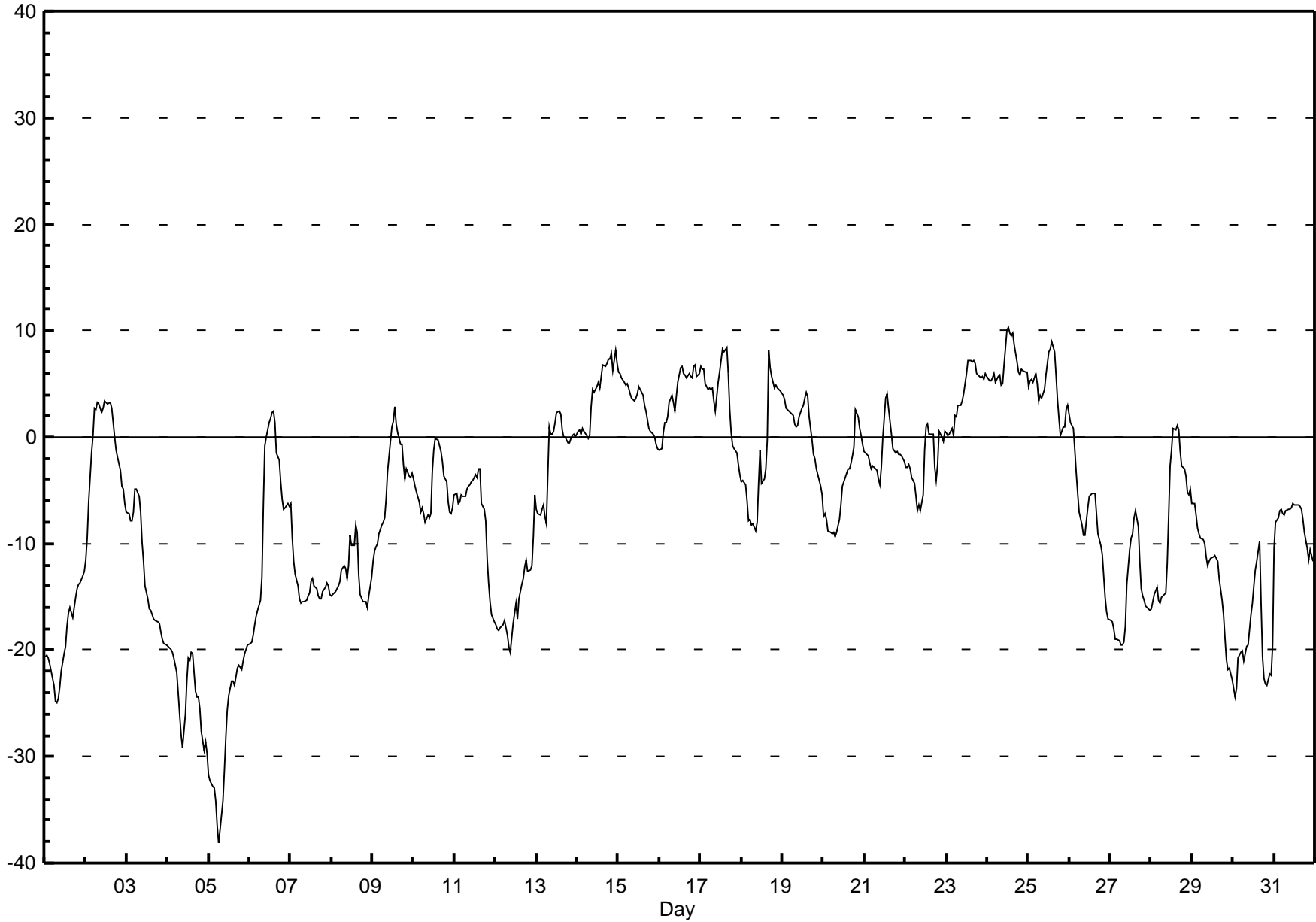
## Hourly Averages

External Temperature (ET) - °C

Henry Pirker - January 2014

Number of Exceedences (AAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 10.3 °C on Jan 24 13:00	Maximum Daily Average: 6.8 °C on Jan 24		Hours of Data:	744
Minimum Value: -38 °C on Jan 5 07:00	Minimum Daily Average: -27.3 °C on Jan 5		Hours of Missing Data:	0
Maximum Diurnal Average: -3.2 °C at hour 15	Minimum Diurnal Average: -8.4 °C at hour 7		Hours of Calibration:	0
Monthly Average: -6.41 °C	Percentiles: P <sub>1</sub> = -32.2 P <sub>10</sub> = -20.0 Q <sub>1</sub> = -14.0 Median = -5.4 Q <sub>3</sub> = 1.4 P <sub>90</sub> = 5.5 P <sub>99</sub> = 8.6		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-Jan	-21	-20	-21	-21	-22	-23	-25	-25	-25	-23	-22	-20	-20	-18	-17	-16	-17	-16	-15	-14	-14	-14	-13	-13	-18.9	-12.6
2-Jan	-12	-10	-6	-1	0	3	3	3	3	2	3	3	3	3	3	3	1	0	-1	-2	-3	-5	-5	-6	-0.7	3.4
3-Jan	-7	-7	-8	-8	-7	-5	-5	-6	-7	-10	-12	-14	-15	-16	-16	-17	-17	-17	-17	-17	-18	-19	-19	-20	-12.7	-4.9
4-Jan	-20	-20	-20	-20	-21	-22	-24	-26	-28	-29	-26	-23	-21	-21	-20	-20	-24	-24	-24	-26	-28	-29	-29	-30	-23.9	-19.6
5-Jan	-32	-32	-33	-33	-34	-36	-38	-37	-34	-31	-28	-26	-24	-23	-23	-23	-23	-22	-21	-22	-21	-20	-20	-20	-27.3	-19.6
6-Jan	-19	-19	-19	-18	-17	-16	-15	-13	-6	-1	0	1	2	2	2	1	-2	-2	-4	-6	-7	-7	-6	-7	-7.3	2.4
7-Jan	-6	-9	-12	-13	-14	-15	-16	-15	-15	-15	-15	-15	-14	-13	-14	-14	-15	-15	-15	-15	-14	-14	-14	-15	-13.8	-6.2
8-Jan	-15	-15	-15	-14	-14	-14	-12	-12	-12	-13	-12	-9	-10	-10	-8	-9	-13	-15	-15	-15	-15	-16	-15	-13	-13.0	-8.3
9-Jan	-12	-11	-10	-10	-9	-8	-8	-8	-6	-3	0	1	1	3	1	0	-1	-1	-3	-4	-3	-4	-4	-3	-4.2	2.8
10-Jan	-4	-5	-5	-6	-7	-7	-7	-8	-7	-8	-7	-3	-1	0	0	-1	-1	-2	-4	-4	-6	-7	-7	-7	-4.8	-0.2
11-Jan	-5	-5	-6	-6	-5	-6	-6	-5	-5	-5	-4	-4	-4	-4	-3	-3	-6	-7	-8	-11	-14	-15	-17	-17	-7.1	-3.0
12-Jan	-18	-18	-18	-18	-18	-17	-18	-19	-20	-20	-17	-17	-16	-17	-15	-14	-13	-12	-12	-13	-12	-12	-9	-5	-15.3	-5.4
13-Jan	-7	-7	-7	-7	-6	-7	-8	1	0	0	1	1	2	2	2	1	0	0	0	-1	0	0	0	0	-1.7	2.5
14-Jan	1	1	0	1	1	0	0	0	3	4	4	5	5	5	6	7	7	7	7	7	8	6	8	7	4.1	8.1
15-Jan	6	6	6	5	5	5	5	4	4	3	4	4	5	5	4	3	3	2	1	1	0	0	-1	-1	3.2	6.1
16-Jan	-1	-1	0	1	1	2	3	4	3	2	4	5	6	7	6	6	6	6	6	6	7	7	6	6	4.1	6.8
17-Jan	7	6	6	5	5	5	5	5	3	2	5	6	7	8	8	8	6	3	0	-1	-1	-2	-3	-4	3.8	8.4
18-Jan	-4	-4	-5	-6	-8	-8	-8	-8	-9	-8	-4	-1	-4	-4	-3	0	8	7	6	5	5	5	4	4	-1.7	8.1
19-Jan	4	3	3	3	2	2	2	1	1	1	2	3	3	4	4	4	2	0	-2	-2	-3	-4	-5	-5	1.0	4.2
20-Jan	-8	-7	-8	-9	-9	-9	-9	-9	-9	-8	-6	-5	-4	-4	-3	-3	-2	-2	-1	3	2	1	0	-1	-4.6	2.6
21-Jan	-1	-2	-2	-2	-3	-3	-3	-3	-4	-5	-3	0	4	4	3	2	0	-1	-1	-1	-2	-2	-2	-2	-1.2	4.0
22-Jan	-3	-3	-3	-3	-4	-4	-6	-7	-6	-7	-5	-1	1	1	0	0	0	-3	-4	-3	1	0	0	1	-2.4	1.3
23-Jan	0	0	0	1	0	2	2	3	3	3	4	5	6	7	7	7	7	7	6	6	6	6	5	6	4.2	7.2
24-Jan	6	5	5	6	6	5	6	6	5	5	7	10	10	10	10	10	9	7	6	6	6	6	6	6	6.8	10.3
25-Jan	5	5	5	5	6	5	3	4	4	4	4	6	7	8	8	9	8	6	4	2	0	1	1	3	4.7	8.9
26-Jan	2	1	1	-1	-3	-5	-7	-8	-9	-9	-8	-7	-6	-5	-5	-5	-7	-9	-10	-11	-13	-15	-16	-17	-7.3	2.1
27-Jan	-17	-17	-18	-19	-19	-19	-20	-20	-19	-18	-14	-11	-9	-9	-8	-7	-8	-12	-14	-15	-15	-16	-16	-16	-14.8	-6.9
28-Jan	-16	-15	-15	-14	-15	-16	-15	-15	-15	-12	-8	-3	-1	1	1	1	1	-1	-3	-3	-4	-5	-5	-5	-7.6	1.0
29-Jan	-6	-6	-7	-9	-9	-9	-10	-10	-11	-12	-12	-11	-11	-11	-11	-12	-13	-15	-17	-19	-21	-22	-22	-23	-12.9	-6.2
30-Jan	-24	-24	-24	-21	-20	-20	-21	-20	-20	-19	-17	-16	-14	-12	-12	-10	-16	-21	-23	-23	-23	-22	-22	-20	-19.3	-9.8
31-Jan	-10	-8	-8	-7	-7	-7	-7	-7	-7	-7	-7	-6	-6	-6	-6	-7	-7	-8	-9	-11	-12	-11	-11	-12	-8.0	-6.2
	-7.6	-7.7	-7.8	-7.7	-7.9	-8.0	-8.4	-8.1	-7.9	-7.6	-6.1	-4.5	-3.7	-3.4	-3.2	-3.2	-4.2	-5.3	-6.1	-6.6	-6.9	-7.3	-7.4	-7.3		Diurnal Average
	6.6	6.4	6.4	5.5	6.0	5.1	5.7	5.8	4.9	5.0	6.8	10.0	10.3	9.8	9.5	9.7	8.7	7.0	7.3	7.4	7.9	6.8	8.1	6.9		Diurnal Maximum



# Hourly Averages

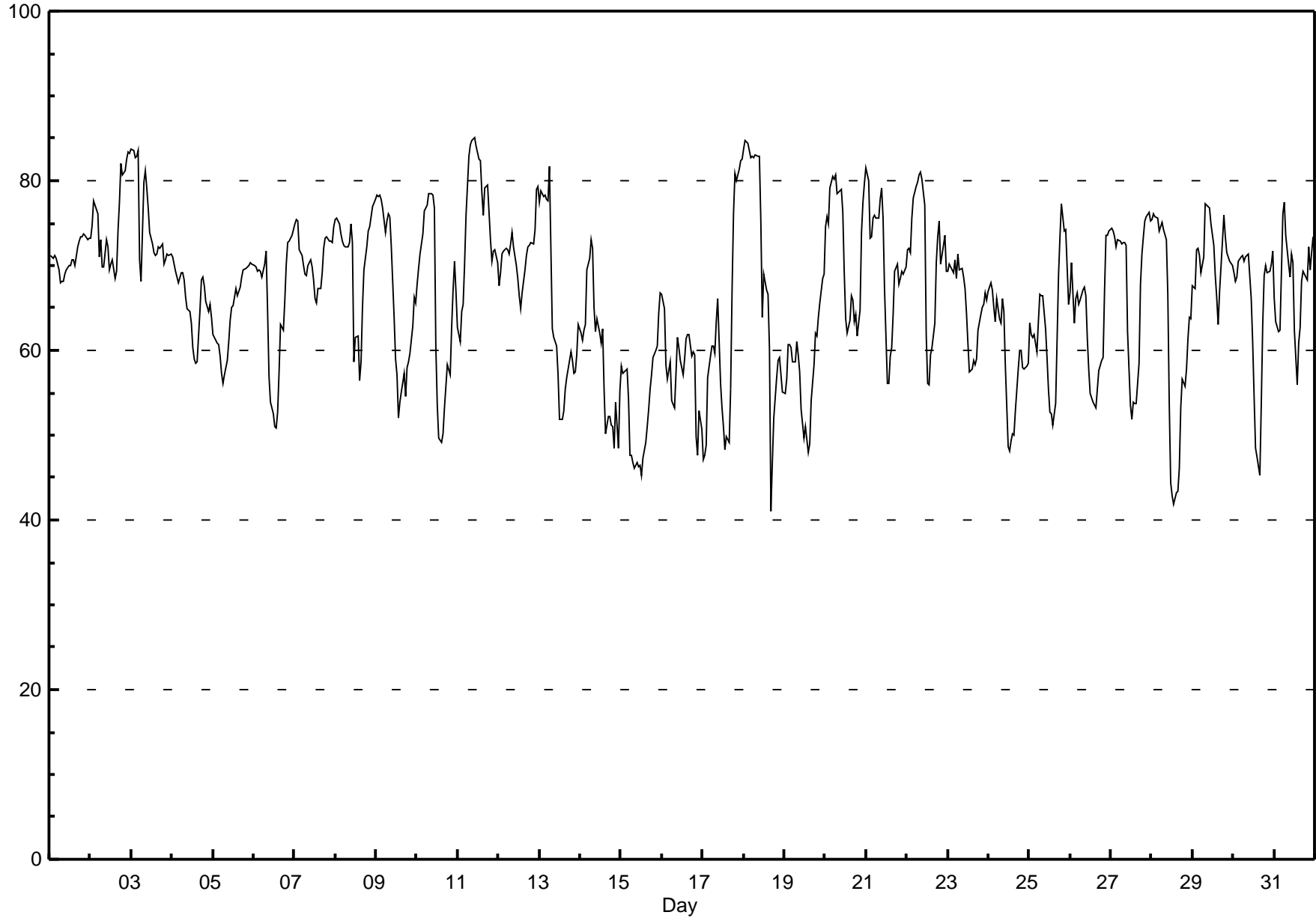
Relative Humidity (RH) - %

Henry Pirker - January 2014

Number of Exceedences (AAQO): 1-hr: 0 24-hr: 0 Maximum Value: 85.0 % on Jan 11 11:00 Maximum Daily Average: 75.7 % on Jan 11																			Hours in Service: 744 Hours of Data: 744							
Minimum Value: 41 % on Jan 18 17:00 Minimum Daily Average: 53.4 % on Jan 15 Maximum Diurnal Average: 70.4 % at hour 5 Minimum Diurnal Average: 58.3 % at hour 14 Monthly Average: 66.44 % Percentiles: P <sub>1</sub> = 45.2 P <sub>10</sub> = 53.5 Q <sub>1</sub> = 59.6 Median = 68.1 Q <sub>3</sub> = 72.9 P <sub>90</sub> = 77.6 P <sub>99</sub> = 83.9																			Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	71	71	71	71	71	70	68	68	68	69	70	70	71	71	70	72	73	73	73	73	74	74	73	73	71.0	73.7
2-Jan	73	75	78	77	76	71	73	70	70	73	72	69	70	71	69	69	74	77	82	81	81	83	83	83	75.0	83.4
3-Jan	84	84	83	83	84	71	68	80	81	79	77	74	72	72	71	71	72	72	73	70	71	71	71	71	75.2	83.8
4-Jan	71	70	69	69	68	69	69	68	66	65	65	63	60	59	58	59	65	68	69	68	66	65	65	64	65.7	71.0
5-Jan	62	62	61	61	59	57	56	57	59	61	64	65	65	67	66	67	67	69	70	70	70	70	70	70	64.4	70.3
6-Jan	70	70	69	69	69	69	70	72	65	57	54	53	51	51	53	58	63	62	66	70	73	73	74	74	64.7	74.3
7-Jan	75	75	75	72	71	70	69	69	70	71	70	68	66	66	67	67	69	72	73	73	73	73	73	74	70.9	75.4
8-Jan	75	76	75	74	73	72	72	72	73	75	73	59	62	62	56	59	65	70	72	74	75	76	77	78	70.5	77.7
9-Jan	78	78	78	78	77	74	75	76	76	72	64	59	57	52	54	55	57	55	58	59	60	63	66	66	66.1	78.3
10-Jan	68	70	71	74	76	77	77	78	79	78	77	60	54	50	49	50	53	56	58	57	63	67	70	67	65.8	78.5
11-Jan	63	61	65	65	70	76	83	84	85	85	85	84	82	82	79	76	79	79	76	73	70	72	72	70	75.7	85.0
12-Jan	68	69	71	72	72	72	71	73	74	72	70	68	66	65	67	69	71	72	72	73	73	74	79	79	71.4	79.3
13-Jan	78	79	78	78	78	78	82	63	62	61	61	57	52	52	53	55	57	58	60	59	57	58	59	63	64.0	81.6
14-Jan	62	61	62	63	70	71	73	72	65	62	64	62	61	63	55	50	52	52	51	51	48	54	48	55	59.5	73.1
15-Jan	58	57	58	58	54	48	48	47	46	47	46	46	45	47	49	51	53	55	57	59	60	60	64	67	53.4	66.8
16-Jan	67	65	58	57	58	59	54	53	57	61	60	59	57	59	61	62	62	59	60	60	50	48	53	51	57.9	66.7
17-Jan	47	48	49	57	59	60	61	60	63	66	56	53	51	48	50	49	55	67	76	81	80	81	82	83	61.8	82.6
18-Jan	84	85	84	84	83	83	83	83	83	83	75	64	69	67	67	60	41	47	52	57	59	59	57	55	69.3	84.7
19-Jan	55	57	61	61	60	59	59	61	60	57	53	50	51	49	48	49	54	58	62	62	64	66	69	69	58.0	69.0
20-Jan	74	76	75	79	81	80	81	79	79	79	76	69	64	62	64	67	66	63	64	62	65	74	77	80	72.3	80.6
21-Jan	81	80	73	73	76	76	76	76	78	79	76	67	56	56	59	60	64	69	70	68	69	69	69	70	70.4	81.5
22-Jan	72	72	72	76	78	79	80	81	81	80	77	62	56	56	59	60	63	70	73	75	70	72	73	69	71.2	80.9
23-Jan	69	70	70	69	71	69	71	69	70	69	67	64	61	57	58	59	58	59	62	64	65	65	67	66	65.4	71.3
24-Jan	67	68	67	65	63	66	64	63	66	65	58	49	48	49	50	50	53	58	60	60	58	58	58	58	59.2	67.9
25-Jan	63	62	61	62	60	63	67	66	66	62	59	55	53	52	51	54	61	69	73	77	74	74	70	65	63.4	77.3
26-Jan	67	70	63	66	67	65	66	67	67	66	61	58	55	54	54	53	55	58	59	59	67	74	74	74	63.3	74.0
27-Jan	74	74	73	72	73	73	73	73	73	72	62	54	52	54	54	54	59	68	71	73	75	76	76	75	68.0	76.3
28-Jan	75	76	76	76	74	75	75	74	73	67	54	44	43	42	43	43	46	53	57	56	58	61	64	64	61.2	76.1
29-Jan	68	67	72	72	71	69	71	77	77	77	77	75	72	69	66	63	67	73	76	73	72	71	70	70	71.5	77.2
30-Jan	69	68	69	71	71	71	71	71	71	71	66	61	55	49	47	45	54	63	69	70	69	69	70	72	65.1	71.7
31-Jan	66	63	62	62	69	76	78	74	70	69	71	70	62	56	61	63	68	69	69	68	72	69	71	73	68.1	77.5
																								Diurnal Average		
																								Diurnal Maximum		

**Hourly Averages**

**Relative Humidity (RH) - %**  
**Henry Pirker - January 2014**



## Hourly Averages

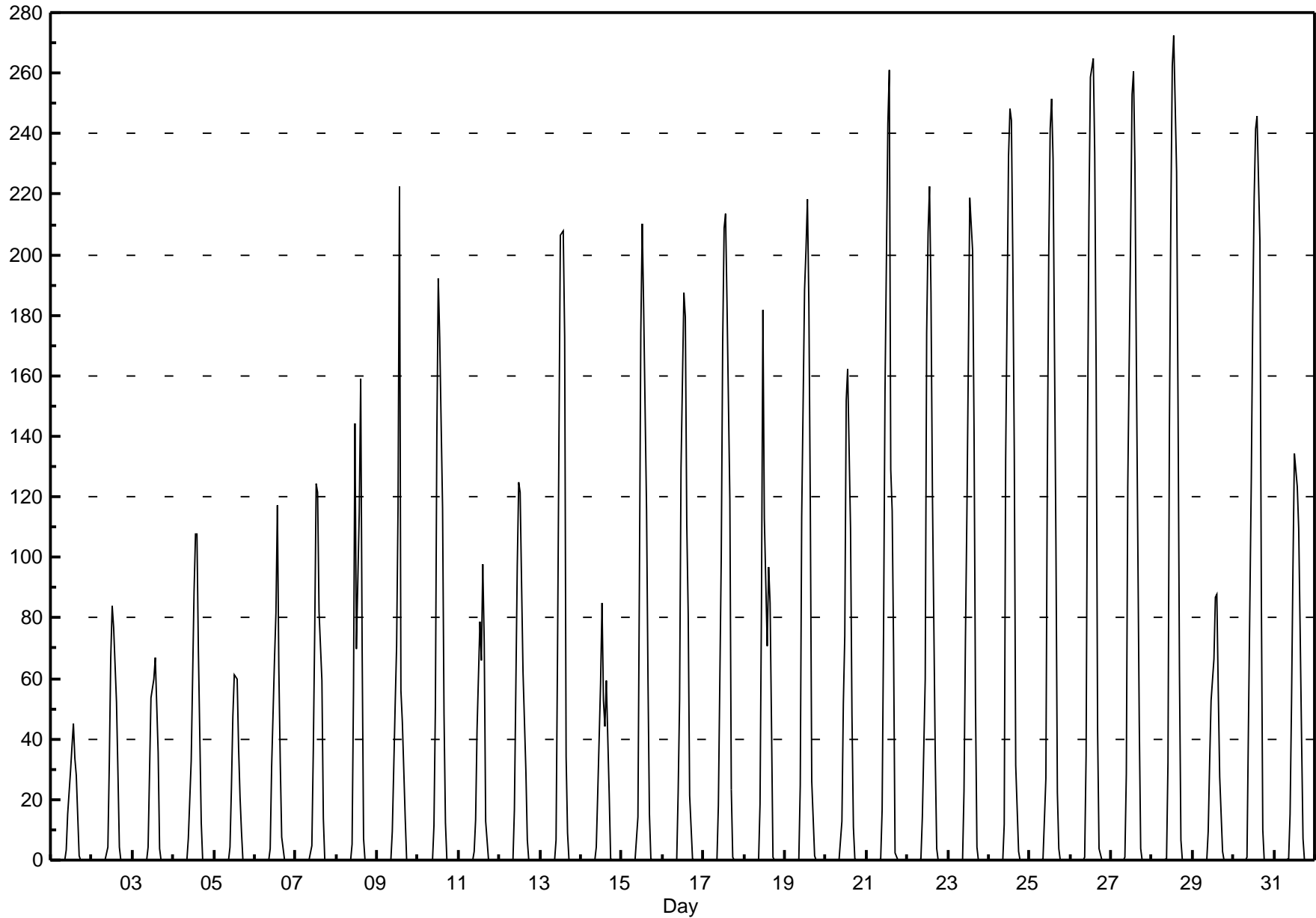
Solar Radiation (SR) - W/m<sup>2</sup>

Henry Pirker - January 2014

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 272.6 W/m <sup>2</sup> on Jan 28 14:00      Maximum Daily Average: 57.1 W/m <sup>2</sup> on Jan 28		Hours in Service: 744 Hours of Data: 744 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0																								
Minimum Value: 0 W/m <sup>2</sup> on Jan 1 01:00 Maximum Diurnal Average: 161.2 W/m <sup>2</sup> at hour 14 Monthly Average: 31.84 W/m <sup>2</sup>		Minimum Daily Average: 8.1 W/m <sup>2</sup> on Jan 1 Minimum Diurnal Average: 0.0 W/m <sup>2</sup> at hour 1 Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.0 Q <sub>1</sub> = 0.0 Median = 0.0 Q <sub>3</sub> = 32.2 P <sub>90</sub> = 124.9 P <sub>99</sub> = 247.3																								
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-Jan	0	0	0	0	0	0	0	0	0	4	15	29	37	45	34	28	2	0	0	0	0	0	0	0	8.1	45.2
2-Jan	0	0	0	0	0	0	0	0	0	4	32	67	84	77	52	29	4	0	0	0	0	0	0	0	14.6	83.9
3-Jan	0	0	0	0	0	0	0	0	0	4	29	54	60	67	51	35	4	0	0	0	0	0	0	0	12.7	67.0
4-Jan	0	0	0	0	0	0	0	0	0	7	33	61	89	108	108	69	12	0	0	0	0	0	0	0	20.3	107.9
5-Jan	0	0	0	0	0	0	0	0	0	4	24	47	61	60	37	21	10	0	0	0	0	0	0	0	11.0	61.2
6-Jan	0	0	0	0	0	0	0	0	0	4	31	66	82	117	64	32	8	0	0	0	0	0	0	0	16.8	117.2
7-Jan	0	0	0	0	0	0	0	0	0	5	36	76	125	122	82	59	14	0	0	0	0	0	0	0	21.6	124.5
8-Jan	0	0	0	0	0	0	0	0	0	5	57	144	70	115	159	70	7	0	0	0	0	0	0	0	26.1	159.0
9-Jan	0	0	0	0	0	0	0	0	0	9	51	71	116	223	56	45	14	0	0	0	0	0	0	0	24.4	222.6
10-Jan	0	0	0	0	0	0	0	0	0	11	51	140	192	172	116	49	12	0	0	0	0	0	0	0	31.0	192.3
11-Jan	0	0	0	0	0	0	0	0	0	3	13	43	79	66	98	72	13	0	0	0	0	0	0	0	16.1	98.0
12-Jan	0	0	0	0	0	0	0	0	0	17	97	125	121	91	62	29	7	0	0	0	0	0	0	0	22.9	124.9
13-Jan	0	0	0	0	0	0	0	0	0	7	67	138	206	208	173	34	9	0	0	0	0	0	0	0	35.1	208.0
14-Jan	0	0	0	0	0	0	0	0	0	4	22	58	85	53	44	59	22	0	0	0	0	0	0	0	14.5	84.8
15-Jan	0	0	0	0	0	0	0	0	0	14	90	174	210	182	116	60	15	0	0	0	0	0	0	0	35.9	210.1
16-Jan	0	0	0	0	0	0	0	0	0	22	53	130	187	179	111	81	21	0	0	0	0	0	0	0	32.7	187.3
17-Jan	0	0	0	0	0	0	0	0	0	18	100	171	209	214	184	119	23	1	0	0	0	0	0	0	43.3	213.5
18-Jan	0	0	0	0	0	0	0	0	0	19	84	182	113	71	97	85	44	1	0	0	0	0	0	0	29.0	181.8
19-Jan	0	0	0	0	0	0	0	0	0	25	113	188	202	218	184	118	26	1	0	0	0	0	0	0	44.8	218.5
20-Jan	0	0	0	0	0	0	0	0	0	13	52	74	152	162	110	48	11	0	0	0	0	0	0	0	25.9	162.4
21-Jan	0	0	0	0	0	0	0	0	0	17	76	155	244	261	129	115	68	2	0	0	0	0	0	0	44.4	260.8
22-Jan	0	0	0	0	0	0	0	0	0	14	60	174	208	223	188	122	34	4	0	0	0	0	0	0	42.7	222.7
23-Jan	0	0	0	0	0	0	0	0	0	23	73	114	164	219	201	141	52	4	0	0	0	0	0	0	41.3	218.8
24-Jan	0	0	0	0	0	0	0	0	0	12	132	233	248	245	197	135	31	3	0	0	0	0	0	0	51.5	248.3
25-Jan	0	0	0	0	0	0	0	0	1	27	127	201	241	252	232	104	22	4	0	0	0	0	0	0	50.4	251.6
26-Jan	0	0	0	0	0	0	0	1	35	141	215	258	265	233	161	43	4	0	0	0	0	0	0	0	56.5	264.6
27-Jan	0	0	0	0	0	0	0	1	29	123	207	253	260	230	164	46	4	0	0	0	0	0	0	0	54.8	260.4
28-Jan	0	0	0	0	0	0	0	1	32	143	213	262	273	227	150	62	7	0	0	0	0	0	0	0	57.1	272.6
29-Jan	0	0	0	0	0	0	0	0	9	32	52	66	87	88	56	28	3	0	0	0	0	0	0	0	17.6	87.8
30-Jan	0	0	0	0	0	0	0	1	44	126	180	219	242	246	204	87	10	0	0	0	0	0	0	0	56.6	245.7
31-Jan	0	0	0	0	0	0	0	1	15	52	97	134	123	110	76	40	7	0	0	0	0	0	0	0	27.2	134.1
																								Diurnal Average		
																								Diurnal Maximum		

### Hourly Averages

Solar Radiation (SR) - W/m<sup>2</sup>  
Henry Pirker - January 2014





## Hourly Averages

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

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1 Spd	3	3	2	0	3	2	2	3	1	3	3	4	5	4	3	4	4	2	2	2	2	5	5	6	2.4	6.4
Dir	307	320	293	219	330	329	312	335	311	308	324	326	324	300	286	300	108	186	158	268	309	270	244	299.5	244.5	
2 Spd	7	7	9	8	8	13	12	16	13	10	12	16	11	5	8	4	3	5	5	5	6	4	5	2	6.9	15.8
Dir	260	247	256	258	236	260	266	270	256	250	243	244	241	275	264	291	325	325	354	343	335	332	339	310	266.8	244.2
3 Spd	3	3	3	2	3	5	5	5	8	11	13	12	10	8	7	5	4	2	0	8	9	12	11	9	3.7	13.5
Dir	327	340	334	342	32	66	65	80	78	69	69	79	64	66	48	64	108	123	357	302	305	307	322	317	34.0	69.3
4 Spd	9	8	10	9	8	6	6	5	4	5	5	4	6	5	4	4	5	10	11	7	5	5	2	3	5.9	11.1
Dir	315	312	312	305	295	290	306	312	319	305	317	305	295	315	294	294	311	322	324	335	327	294	293	345	311.2	323.6
5 Spd	2	1	3	2	2	3	3	3	2	2	2	1	2	1	4	5	5	4	0	4	4	3	2	2	0.7	4.9
Dir	348	266	323	359	341	316	322	325	298	294	303	161	99	254	125	100	84	90	349	297	291	280	228	215	330.8	84.4
6 Spd	3	5	2	1	3	5	6	5	13	21	12	14	17	14	12	9	7	9	4	6	6	4	3	2	6.0	20.7
Dir	192	182	160	353	201	256	250	256	266	287	317	315	307	307	306	330	354	341	299	333	345	343	341	313	302.6	287.3
7 Spd	5	10	11	11	11	9	6	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.7	10.8
Dir	71	81	77	76	72	64	66	74	254	247	144	241	269	273	262	246	218	265	169	117	75	61	0	3	73.2	77.2
8 Spd	0	0	0	0	0	0	1	4	2	3	2	3	2	3	4	4	4	3	3	5	4	4	3	2	2.3	4.6
Dir	359	357	157	110	120	132	329	337	315	309	309	335	312	334	331	318	319	319	339	339	327	320	313	330	325.1	338.6
9 Spd	2	0	1	0	1	2	0	5	4	7	16	13	15	19	14	5	5	9	3	5	11	5	8	8	6.1	18.8
Dir	309	323	184	130	307	283	20	239	283	236	241	248	239	238	247	281	253	228	306	291	247	280	215	256	248.5	238.4
10 Spd	8	8	7	4	2	2	2	2	3	4	5	10	19	18	18	20	17	14	7	11	3	0	4	3	7.1	20.0
Dir	231	246	237	335	226	249	267	269	240	261	246	271	253	258	259	256	264	252	256	272	244	40	92	82	256.3	255.7
11 Spd	6	7	6	5	5	9	11	14	12	6	4	4	5	6	6	5	6	12	19	22	20	21	18	20	3.8	21.8
Dir	91	107	127	111	75	82	89	96	94	84	80	14	297	280	299	282	281	314	314	301	300	298	301	296	326.7	301.5
12 Spd	19	16	13	13	12	13	5	1	2	2	2	3	3	5	2	5	4	1	3	3	3	2	4	5	4.5	18.5
Dir	306	300	303	295	301	323	283	208	169	235	336	326	303	307	299	112	113	170	322	313	306	191	263	311	300.9	306.1
13 Spd	1	1	1	2	3	3	5	24	18	20	20	23	25	27	28	23	21	23	23	21	22	23	22	19	16.1	27.9
Dir	17	51	277	9	300	340	312	279	263	276	262	263	269	274	271	267	263	260	257	262	264	259	258	252	267.0	271.0
14 Spd	21	16	12	13	6	7	7	5	13	12	6	4	7	6	11	15	16	22	21	16	13	8	39	52	13.3	52.0
Dir	254	246	235	242	211	172	160	154	275	249	199	190	200	198	238	238	239	237	229	231	228	272	251	253	238.3	252.8
15 Spd	50	47	45	40	38	46	49	44	37	34	33	32	30	21	18	12	18	15	16	14	7	4	2	4	26.8	50.0
Dir	254	257	260	262	268	276	280	280	279	280	278	280	283	286	285	271	265	271	262	273	311	306	282	281	272.4	254.4
16 Spd	7	5	10	12	9	6	18	18	8	5	9	18	13	16	13	16	13	17	15	11	22	21	21	27	13.3	27.1
Dir	281	297	278	249	239	296	280	269	272	303	256	250	260	276	268	270	249	252	250	252	258	261	281	276	265.6	275.7
17 Spd	36	32	35	15	12	13	17	14	9	4	5	11	9	6	6	3	1	2	3	2	2	1	1	1	9.3	35.7
Dir	262	264	278	286	283	289	286	263	279	294	282	273	281	287	283	285	335	166	134	141	186	340	338	307	274.6	262.2
18 Spd	2	4	2	1	3	3	1	1	1	1	0	3	8	4	3	9	29	34	28	21	35	37	34	28	10.8	36.7
Dir	146	151	130	196	289	347	206	331	18	13	138	310	335	315	316	286	262	257	255	250	255	249	255	250	258.8	249.5
19 Spd	29	24	18	21	23	23	24	19	20	23	20	23	25	20	15	14	11	5	5	6	5	4	5	5	15.7	29.1
Dir	249	260	273	260	252	261	259	256	258	270	272	269	280	283	265	271	287	297	274	280	304	321	309	292	267.9	249.4
20 Spd	2	2	1	2	2	2	2	1	0	0	1	1	3	3	2	2	1	2	6	20	10	5	4	3	2.2	19.5
Dir	251	215	48	153	128	1	128	328	189	272	126	235	311	285	315	328	308	186	297	289	314	321	310	327	297.9	289.4
21 Spd	3	4	4	4	3	4	4	5	4	3	2	1	1	2	2	8	9	8	7	8	9	5	8	5	1.9	9.2
Dir	319	274	299	273	301	320	326	328	339	286	331	19	286	354	51	96	92	91	78	101	95	84	101	95	58.8	91.9
22 Spd	3	2	1	1	1	0	3	4	4	4	2	1	1	4	4	2	2	3	4	7	10	3	5	14	2.9	13.8
Dir	77	76	113	280	19	273	313	320	311	321	334	329	311	310	304	330	326	302	285	285	286	284	287	302.2	302.2	286.5

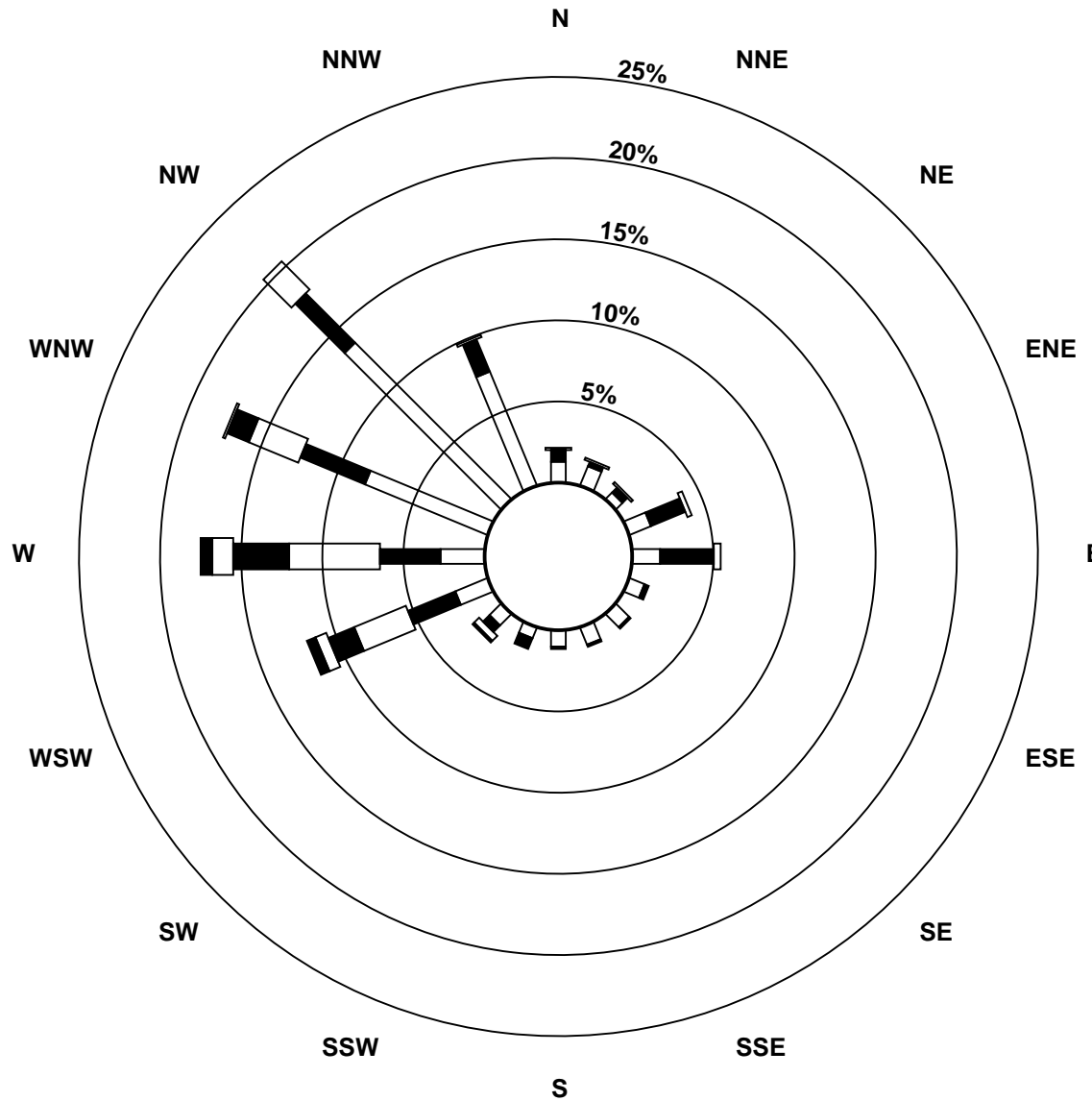
## Hourly Averages

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

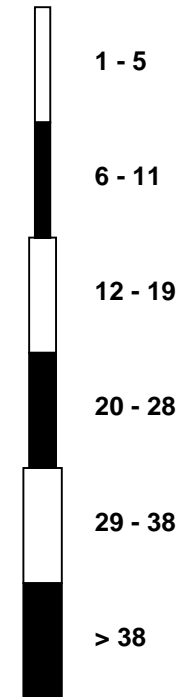
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
23 Spd	11	8	8	8	7	11	10	12	11	12	10	16	17	15	16	13	17	20	12	14	16	17	14	16	12.7	19.6
Dir	279	280	300	298	302	280	291	294	295	286	290	285	282	296	291	278	260	256	263	279	282	267	264	266	279.8	256.0
24 Spd	15	11	8	11	13	11	11	11	7	8	9	3	8	7	8	10	7	9	9	13	17	15	16	16	10.2	17.0
Dir	254	244	241	252	260	244	260	265	274	285	282	275	264	292	294	280	263	263	305	288	265	269	264	266	267.4	265.2
25 Spd	14	13	15	13	16	9	8	12	10	11	13	11	9	8	4	4	3	4	4	5	9	8	10	14	8.1	16.1
Dir	280	274	278	282	267	288	314	320	332	310	315	310	330	335	324	284	350	326	319	327	338	348	7	17	311.4	267.1
26 Spd	9	7	14	12	12	10	9	8	7	6	9	7	6	6	5	6	8	7	4	3	3	3	3	3	5.2	13.7
Dir	10	323	358	45	68	75	75	89	83	89	95	104	81	83	71	84	79	86	81	51	335	318	316	325	60.0	358.3
27 Spd	3	3	2	3	3	2	2	3	3	2	2	2	4	4	3	3	3	5	5	4	3	3	4	3	2.8	5.2
Dir	323	318	309	318	310	308	320	289	337	310	295	282	297	333	284	55	12	335	317	337	323	333	330	312	321.2	334.5
28 Spd	2	4	5	4	3	3	4	3	4	8	6	4	9	10	8	8	10	11	11	13	11	6	5	5	6.0	12.6
Dir	17	241	252	260	311	302	313	301	323	319	315	340	289	299	340	317	289	317	322	320	320	300	287	305	308.0	319.9
29 Spd	3	2	10	10	8	6	6	5	7	8	6	7	6	7	6	4	2	2	3	3	4	4	4	1	3.5	10.4
Dir	319	81	94	96	79	85	76	71	82	63	44	32	38	13	7	354	299	269	315	316	313	349	324	21	44.2	93.7
30 Spd	1	2	1	4	3	6	6	7	8	5	5	6	7	4	2	2	5	5	5	6	7	7	3	4	3.4	7.7
Dir	343	349	211	167	251	316	278	284	269	245	230	213	231	284	296	249	313	321	331	330	316	321	293	285	283.3	269.0
31 Spd	18	19	20	23	18	16	15	17	14	11	8	11	12	10	6	5	4	6	6	4	3	3	2	2	9.9	22.7
Dir	287	287	297	298	307	306	307	297	311	319	323	316	341	342	353	304	279	294	304	326	322	308	222	125	306.4	298.5
Spd	7.2	6.5	6.0	5.0	4.6	4.8	5.2	6.0	5.2	5.7	4.9	5.9	7.0	6.7	6.0	4.8	5.2	5.8	5.7	6.7	7.2	6.4	6.6	7.2	Diurnal Average	
Dir	271.9	267.9	277.8	278.0	278.6	289.4	287.1	283.7	284.1	287.1	282.3	280.1	283.3	290.7	286.5	280.6	273.7	271.6	280.4	287.1	284.7	284.4	275.9	275.5	Diurnal Maximum	
Spd	50.0	46.5	45.3	40.2	37.6	46.2	49.4	43.5	37.0	34.4	33.1	32.1	30.0	27.3	27.9	23.1	28.6	33.9	27.8	21.8	34.8	36.7	38.8	52.0	Diurnal Maximum	
Dir	254.4	257.0	259.9	262.2	267.6	275.6	280.0	279.7	278.6	279.7	277.8	280.5	282.9	273.6	271.0	266.8	261.8	257.4	254.6	301.5	255.3	249.5	250.8	252.8	Diurnal Maximum	
Maximum Speed Value: 52 km/h on Jan 15 00:00		Minimum Speed Value: 0 km/h on Jan 7 11:00										Hours in Service: 744														
Maximum Daily Speed Average: 26.8 km/h on Jan 15		Minimum Daily Speed Average: 0.7 km/h on Jan 8										Hours of Data: 744														
Maximum Diurnal Speed Average: 7.2 km/h at hour 1		Minimum Diurnal Speed Average: 4.6 km/h at hour 5										Hours of Missing Data: 0														
Monthly Average Velocity: 5.89 km/h 280.84 deg		Speed Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 1.5 Q <sub>1</sub> = 3.0 Median = 5.5 Q <sub>3</sub> = 11.5 P <sub>90</sub> = 19.0 P <sub>99</sub> = 41.8										Percent Operational Time: 100.0														
All monthly, daily, and diurnal averages have been calculated using vector methods																										
Frequency Distribution																										
		Speed Range (km/h)																								
Direction	0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total																			
North	43	13	3	0	0	0	59																			
NorthEast	9	11	1	0	0	0	21																			
East	17	43	6	0	0	0	66																			
SouthEast	21	2	0	0	0	0	23																			
South	19	5	0	0	0	0	24																			
SouthWest	22	16	16	2	0	0	56																			
West	55	54	71	41	15	9	245																			
NorthWest	154	58	31	7	0	0	250																			
Total	340	202	128	50	15	9	744																			

**Wind Rose**

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



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



# Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Henry Pirker - January 2014

Maximum Speed: 52 km/h on Jan 15 00:00	Maximum Daily Speed Average: 27.6 km/h on Jan 15	Hours in Service: 744
Minimum Speed: 0 km/h on Jan 7 22:00	Minimum Daily Speed Average: 2.6 km/h on Jan 8	Hours of Data: 744
Maximum Diurnal Speed Average: 9.9 km/h at hour 1	Minimum Diurnal Speed Average: 7.7 km/h at hour 16	Hours of Missing Data: 0
Monthly Average Speed: 8.76 km/h	Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 2.2 Q <sub>1</sub> = 3.4 Median = 5.9 Q <sub>3</sub> = 11.8 P <sub>90</sub> = 19.1 P <sub>99</sub> = 41.9	Percent Operational Time: 100.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	3	3	2	1	3	2	2	3	2	3	3	4	5	4	4	5	4	3	3	3	3	6	5	7	3.4	6.6
2-Jan	7	8	9	9	10	14	12	16	14	10	12	16	11	7	8	5	4	3	5	6	7	4	5	3	8.4	15.9
3-Jan	4	4	3	2	4	5	6	5	8	11	14	12	10	9	7	5	4	2	0	9	9	12	11	9	6.8	13.7
4-Jan	9	8	10	9	8	6	6	5	4	5	5	4	6	5	4	4	6	10	11	7	5	5	3	4	6.2	11.2
5-Jan	3	1	3	2	2	3	3	3	2	2	2	2	2	2	5	5	5	4	2	4	4	3	3	3	3.0	5.1
6-Jan	3	5	3	2	4	6	8	6	14	21	14	14	17	14	12	9	7	9	4	6	6	4	3	2	8.0	20.9
7-Jan	7	10	11	11	11	9	6	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.8	11.1
8-Jan	0	0	0	0	0	0	1	5	4	3	3	4	2	3	4	4	4	4	3	5	5	4	3	3	2.6	4.9
9-Jan	2	1	1	2	1	3	0	5	6	9	16	13	16	19	14	6	6	9	5	6	11	7	9	9	7.3	18.9
10-Jan	8	9	8	5	3	2	3	3	3	4	5	10	19	18	18	20	17	14	7	11	4	1	4	3	8.3	20.1
11-Jan	7	8	6	5	5	9	11	14	13	6	4	4	5	7	6	5	6	13	20	22	20	21	18	20	10.6	22.1
12-Jan	19	16	13	13	12	13	5	2	2	2	2	3	3	5	2	5	4	3	3	3	3	3	5	6	6.2	18.7
13-Jan	3	3	2	3	3	4	5	24	18	21	20	24	25	27	28	23	21	23	23	21	22	23	22	19	17.0	28.0
14-Jan	21	16	13	13	6	7	7	6	13	13	7	5	7	6	12	15	17	22	21	16	14	9	39	52	14.8	52.4
15-Jan	50	47	46	40	38	46	50	44	37	35	33	32	30	21	18	12	18	15	16	14	8	5	2	4	27.6	50.2
16-Jan	7	6	11	12	9	7	18	18	8	6	10	18	13	17	14	16	13	17	15	11	22	21	21	27	14.1	27.3
17-Jan	36	32	35	16	12	13	17	15	10	4	5	11	9	6	6	4	3	2	3	2	2	2	1	1	10.4	36.2
18-Jan	3	4	3	2	3	3	2	2	2	1	1	3	8	5	4	10	29	34	28	21	35	37	34	28	12.6	36.8
19-Jan	29	24	18	21	23	23	24	20	20	23	21	23	25	20	15	14	12	6	5	7	6	5	5	5	16.3	29.2
20-Jan	2	3	2	3	2	2	2	3	1	1	1	3	4	4	2	3	2	2	7	20	10	5	5	3	3.8	19.7
21-Jan	3	4	4	4	4	4	4	5	5	3	2	2	2	3	5	8	9	8	7	8	9	5	8	6	5.1	9.2
22-Jan	3	3	2	1	2	2	3	4	4	4	3	2	2	4	4	3	2	3	5	7	10	4	6	14	4.0	13.8
23-Jan	11	8	8	9	7	11	10	13	11	12	10	17	17	16	16	13	18	20	12	14	16	17	14	16	13.2	19.8
24-Jan	15	11	8	11	13	11	11	11	7	8	10	3	8	7	8	10	7	9	9	14	17	15	16	17	10.7	17.1
25-Jan	14	14	15	13	16	10	8	12	11	11	13	11	9	8	4	4	3	4	5	5	9	8	10	15	9.7	16.3
26-Jan	9	7	14	13	12	10	9	8	7	6	9	7	6	6	5	6	8	7	4	3	3	3	3	3	7.1	14.0
27-Jan	3	3	2	3	3	2	3	3	3	2	2	2	4	5	4	4	4	5	4	3	4	5	3	3	3.4	5.3
28-Jan	2	4	5	5	4	3	4	4	4	8	6	4	9	10	9	8	10	11	12	13	11	7	5	5	6.7	12.8
29-Jan	4	5	11	10	8	6	6	5	7	8	7	7	7	7	7	5	3	2	3	3	4	4	4	2	5.6	10.5
30-Jan	2	2	3	5	4	6	6	7	8	5	5	6	7	4	3	2	5	5	5	6	7	7	4	5	4.9	8.1
31-Jan	18	19	20	23	18	17	15	17	15	12	8	11	12	10	6	5	4	6	6	5	4	3	3	3	10.8	22.8
	9.9	9.3	9.3	8.6	8.1	8.4	8.6	9.4	8.4	8.4	8.1	8.9	9.7	9.0	8.2	7.7	8.2	8.9	8.2	8.9	9.3	8.1	9.0	9.6	Diurnal Average	
	50.2	46.7	45.6	40.4	37.9	46.3	49.6	43.7	37.1	34.5	33.2	32.3	30.1	27.4	28.0	23.2	28.8	34.1	27.9	22.1	35.0	36.8	39.2	52.4	Diurnal Maximum	

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

# Hourly Standard Deviations

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

Maximum Value: 96.8 deg on Jan 9 04:00		Hours in Service: 744																							
Minimum Value: 4.3 deg on Jan 15 09:00		Hours of Data: 744																							
Percentiles: P <sub>1</sub> = 4.6 P <sub>10</sub> = 6.2 Q <sub>1</sub> = 8.9 Median = 15.2 Q <sub>3</sub> = 27.3 P <sub>90</sub> = 50.0 P <sub>99</sub> = 82.5		Hours of Missing Data: 0																							
		Hours of Calibration: 0																							
		Percent Operational Time: 100.0																							
Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	17	28	49	62	45	23	16	28	56	18	17	8	10	14	18	12	16	68	40	40	70	16	20	14	70.0
2-Jan	17	23	14	14	31	14	8	6	5	9	8	7	6	49	17	38	27	22	10	14	13	22	6	66	66.3
3-Jan	28	32	20	25	22	11	11	15	11	10	12	10	14	17	17	22	17	18	28	14	8	14	7	7	32.1
4-Jan	7	8	7	10	5	11	11	16	14	17	12	16	6	20	9	8	10	4	7	13	14	29	75	27	75.3
5-Jan	65	68	21	18	20	8	12	22	19	19	61	43	29	49	35	20	18	18	87	21	15	43	51	59	87.0
6-Jan	31	11	72	68	22	26	39	30	14	8	28	9	5	5	6	14	10	9	25	15	6	13	23	29	71.7
7-Jan	65	13	13	13	10	11	15	14	15	15	18	16	16	17	21	17	29	25	58	50	82	33	31	21	82.0
8-Jan	20	49	23	29	37	30	51	37	61	20	20	32	41	27	21	20	13	16	21	10	13	16	22	50	61.2
9-Jan	34	83	74	97	36	64	53	37	47	66	6	11	8	6	31	31	15	59	34	11	44	22	23	96.8	
10-Jan	6	7	28	38	33	52	44	48	18	23	21	14	7	5	5	5	8	7	16	7	37	70	14	26	69.7
11-Jan	9	13	16	19	11	12	7	7	6	11	28	34	17	27	12	19	12	14	7	10	8	6	7	6	33.8
12-Jan	8	8	5	6	9	8	17	45	23	22	49	16	19	15	42	23	33	79	30	22	16	71	43	43	79.1
13-Jan	78	68	65	54	70	39	20	5	11	7	6	6	7	5	6	7	6	6	5	6	6	6	8	6	78.5
14-Jan	5	9	6	9	27	12	15	60	9	18	22	27	14	14	17	8	9	9	6	8	17	22	8	7	59.7
15-Jan	6	5	6	6	7	5	5	5	4	5	5	5	5	4	7	6	9	10	7	11	29	26	77	19	77.4
16-Jan	12	22	17	11	15	42	5	7	24	36	31	7	17	15	20	12	11	6	5	11	7	10	15	8	42.4
17-Jan	9	6	6	7	6	7	7	14	24	28	13	9	7	8	10	35	86	26	24	25	27	65	77	73	85.7
18-Jan	38	17	59	76	33	60	56	83	70	49	67	58	8	42	42	30	7	5	6	11	6	5	5	9	83.4
19-Jan	6	6	10	7	6	7	6	7	6	9	7	8	6	10	8	9	10	25	19	24	16	19	9	10	25.0
20-Jan	46	35	62	26	34	61	43	88	62	81	57	76	16	26	29	36	70	62	40	7	18	20	23	18	87.6
21-Jan	20	23	16	15	30	27	20	20	15	32	37	40	42	66	65	9	6	7	9	13	8	12	11	13	65.9
22-Jan	26	35	55	72	49	84	30	22	39	15	30	45	45	15	15	42	29	13	13	11	11	72	67	5	84.4
23-Jan	13	14	13	20	18	10	6	10	11	6	6	5	8	7	4	13	7	9	11	9	16	10	9	9	20.2
24-Jan	5	13	9	11	7	7	7	8	12	14	8	28	12	10	7	7	14	11	14	12	7	8	6	12	28.3
25-Jan	6	12	7	13	9	19	12	9	22	10	7	7	6	8	15	24	42	25	12	9	5	7	23	7	41.9
26-Jan	19	12	13	24	12	10	18	15	11	13	9	16	18	15	16	13	11	8	18	23	19	21	11	22	24.1
27-Jan	18	24	16	13	22	17	33	11	25	15	23	20	25	25	56	55	40	15	15	15	25	11	19	29	56.3
28-Jan	78	19	20	23	26	35	17	18	11	9	14	26	11	16	23	13	15	5	5	12	6	19	18	29	78.2
29-Jan	34	87	9	11	15	16	14	12	15	16	18	18	20	14	10	30	22	33	22	38	16	25	23	73	87.1
30-Jan	59	19	75	22	38	12	14	12	18	15	14	14	15	27	23	36	21	11	10	11	7	10	40	34	75.1
31-Jan	11	7	6	5	5	5	6	5	6	8	8	10	10	18	20	18	13	6	7	35	32	54	33	63	62.8
	78.5	87.1	75.1	96.8	69.5	84.4	55.9	87.6	70.0	81.5	67.4	76.0	44.9	65.9	64.9	54.6	85.7	79.1	87.0	50.5	82.0	72.3	77.4	73.0	

PAZA

Evergreen Park Station

Monthly Summary Tables, Graphs and  
Roses

## Hourly Averages

Sulphur Dioxide (SO<sub>2</sub>) - ppb  
Evergreen Park - January 2014

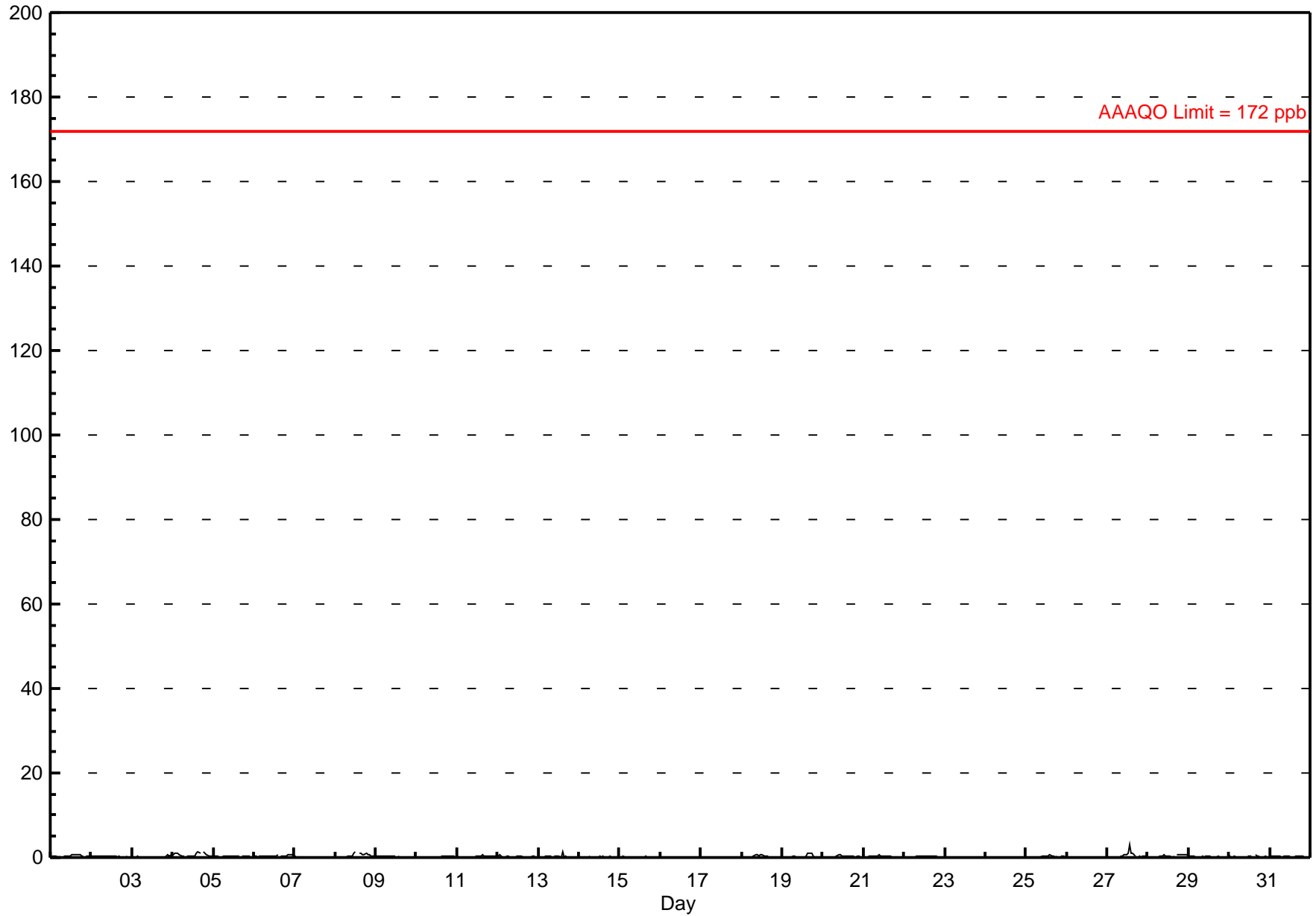
Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0	Hours in Service: 744
Maximum Value: 2.9 ppb on Jan 27 14:00	Maximum Daily Average: 0.6 ppb on Jan 4
Minimum Value: 0 ppb on Jan 3 07:00	Hours of Data: 710
Maximum Diurnal Average: 0.4 ppb at hour 15	Hours of Missing Data: 34
Monthly Average: 0.22 ppb	Hours of Calibration: 34
Minimum Daily Average: 0.0 ppb on Jan 16	Percent Operational Time: 100.0
Minimum Diurnal Average: 0.1 ppb at hour 6	
Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.0 Q <sub>1</sub> = 0.1 Median = 0.1 Q <sub>3</sub> = 0.3 P <sub>90</sub> = 0.5 P <sub>99</sub> = 1.1	

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	0	0	A	0	0	0	0.4	0.8
2-Jan	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
3-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	1	0	1	0.1	0.6
4-Jan	1	1	1	1	1	0	0	0	0	0	0	0	0	0	1	1	1	A	1	1	1	0	0	0	0.6	1.3
5-Jan	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
6-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	A	0	0	0	0	0	1	1	1	0.4	0.7
7-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.0	0.3
8-Jan	0	0	0	0	0	0	0	0	0	0	0	1	1	A	1	1	1	1	1	1	1	0	0	0	0.5	1.3
9-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.2	0.4
10-Jan	0	0	0	0	0	0	0	0	0	0	0	C	C	C	0	0	0	0	0	0	0	0	0	0	0.1	0.3
11-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.2	0.5
12-Jan	0	1	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.2	0.6
13-Jan	0	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	1.4
14-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
15-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
16-Jan	0	0	0	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
17-Jan	0	0	0	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
18-Jan	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0.2	0.6
19-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0.2	1.0
20-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.5
21-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.7
22-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.5
23-Jan	0	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
24-Jan	0	0	0	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
25-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.6
26-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
27-Jan	0	0	0	0	0	0	0	0	0	0	0	1	1	1	3	1	1	1	0	0	0	0	0	0	0.4	2.9
28-Jan	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0.4	0.8
29-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.5
30-Jan	0	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	0.8
31-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.5
	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.3	0.4	0.4	0.3	0.2	0.3	0.2	0.2	0.2	0.2	0.2	Diurnal Average	
	0.7	0.9	0.9	0.9	0.6	0.4	0.3	0.4	0.6	0.7	0.8	1.0	1.3	2.9	1.4	1.3	1.0	1.0	1.2	0.9	0.7	0.7	0.7	0.6	Diurnal Maximum	

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

### Hourly Averages

Sulphur Dioxide (SO<sub>2</sub>) - ppb  
Evergreen Park - January 2014





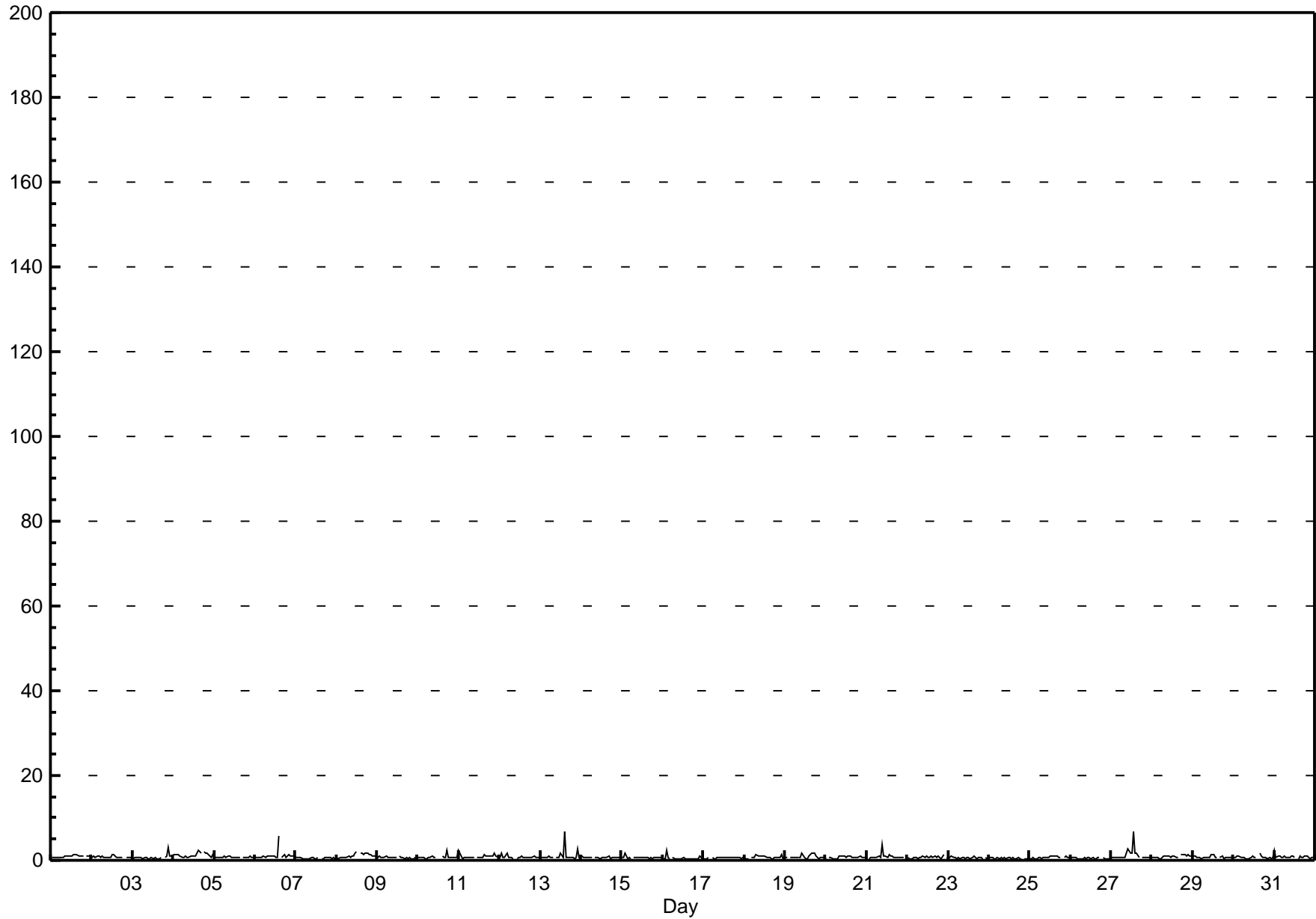
## Hourly Maximums

Sulphur Dioxide (SO<sub>2</sub>) - ppb  
Evergreen Park - January 2014

Maximum Value: 6.9 ppb on Jan 27 14:00		Maximum Daily Average: 1.2 ppb on Jan 27		Hours in Service: 744																							
Minimum Value: 0 ppb on Jan 16 11:00		Minimum Daily Average: 0.5 ppb on Jan 7		Hours of Data: 710																							
Maximum Diurnal Average: 1.2 ppb at hour 15		Minimum Diurnal Average: 0.6 ppb at hour 6		Hours of Missing Data: 34																							
Monthly Average: 0.79 ppb		Percentiles: P <sub>1</sub> = 0.4 P <sub>10</sub> = 0.5 Q <sub>1</sub> = 0.5 Median = 0.7 Q <sub>3</sub> = 0.9 P <sub>90</sub> = 1.2 P <sub>99</sub> = 2.8		Hours of Calibration: 34																							
				Percent Operational Time: 100.0																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	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	1.4	
2-Jan	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	A	1	1	1	1	0.8	1.5	
3-Jan	0	1	1	1	1	1	0	1	1	0	0	1	0	1	0	0	0	1	A	1	1	3	1	1	0.7	3.1	
4-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	A	2	2	2	1	1	1	1.2	2.2	
5-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	0.7	1.0	
6-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	6	A	1	1	1	1	1	1	1	1	1.1	5.6	
7-Jan	1	1	1	1	1	0	0	0	0	1	1	0	1	1	A	0	0	1	1	1	1	0	1	0	0.5	0.7	
8-Jan	1	0	1	1	1	1	1	1	1	1	1	2	2	A	2	2	1	2	2	1	1	1	1	1	1.1	1.9	
9-Jan	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	0	1	0	0	1	1	0.7	0.9	
10-Jan	1	1	1	1	0	0	1	1	1	1	1	C	C	C	1	1	1	2	1	1	1	1	1	1	0.7	2.4	
11-Jan	2	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	2	1	1	0.9	2.3	
12-Jan	1	2	1	1	2	1	1	1	0	A	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.7	
13-Jan	1	1	1	1	1	1	1	1	A	1	1	1	2	1	7	1	1	1	1	1	0	1	3	1	1.1	6.8	
14-Jan	1	1	1	1	1	1	1	A	1	1	1	0	1	1	1	1	1	0	1	1	1	1	1	1	0.7	0.9	
15-Jan	1	1	2	1	1	0	A	1	1	1	1	1	1	1	1	1	0	1	0	1	1	1	1	1	0.6	1.6	
16-Jan	0	0	2	1	1	A	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0.6	2.4	
17-Jan	0	0	0	1	A	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0.6	0.8	
18-Jan	1	0	0	A	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	0	0	0.8	1.4	
19-Jan	1	1	A	1	1	1	1	1	1	1	2	1	0	1	1	1	2	2	1	1	0	1	1	1	0.8	1.8	
20-Jan	1	A	1	1	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.2	
21-Jan	A	0	1	1	1	1	1	1	1	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	3.8	
22-Jan	1	0	0	0	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	A	1	0.7	1.5	
23-Jan	0	1	1	1	1	0	1	0	1	1	0	1	1	0	1	1	1	0	1	1	0	A	1	0	0.6	0.9	
24-Jan	1	1	1	0	0	1	0	1	0	1	0	1	1	0	1	0	0	1	0	1	A	0	1	1	0.5	0.8	
25-Jan	0	0	1	1	0	1	1	0	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	0.7	1.1	
26-Jan	0	1	1	1	0	0	0	0	1	0	1	1	0	1	0	0	1	1	A	1	0	0	0	0	0.5	0.7	
27-Jan	1	1	1	1	1	1	1	1	1	2	3	2	2	7	2	2	1	A	1	1	1	1	1	1	1.2	6.9	
28-Jan	1	1	1	1	0	0	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	0.9	1.5	
29-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	0	1	1	1	1	1	0.7	1.3	
30-Jan	1	1	1	1	1	1	1	0	0	0	1	1	1	1	A	2	1	1	1	1	1	1	0	1	0.7	1.6	
31-Jan	2	1	1	1	1	1	1	1	1	1	1	1	1	A	0	1	1	1	1	1	1	1	1	1	0.9	2.4	
	0.8	0.7	0.8	0.7	0.7	0.6	0.6	0.7	0.7	0.9	0.8	0.8	0.9	1.0	1.2	0.9	0.8	0.8	0.8	0.8	0.8	0.7	0.8	0.8	0.7	Diurnal Average	
	2.4	1.6	2.4	1.4	1.7	1.1	1.0	1.2	1.1	3.8	2.8	1.7	1.9	6.9	6.8	2.2	1.6	2.4	2.0	1.8	1.6	3.1	2.9	1.3	Diurnal Maximum		
C - Calibration		A - Automated Daily Zero Span																									

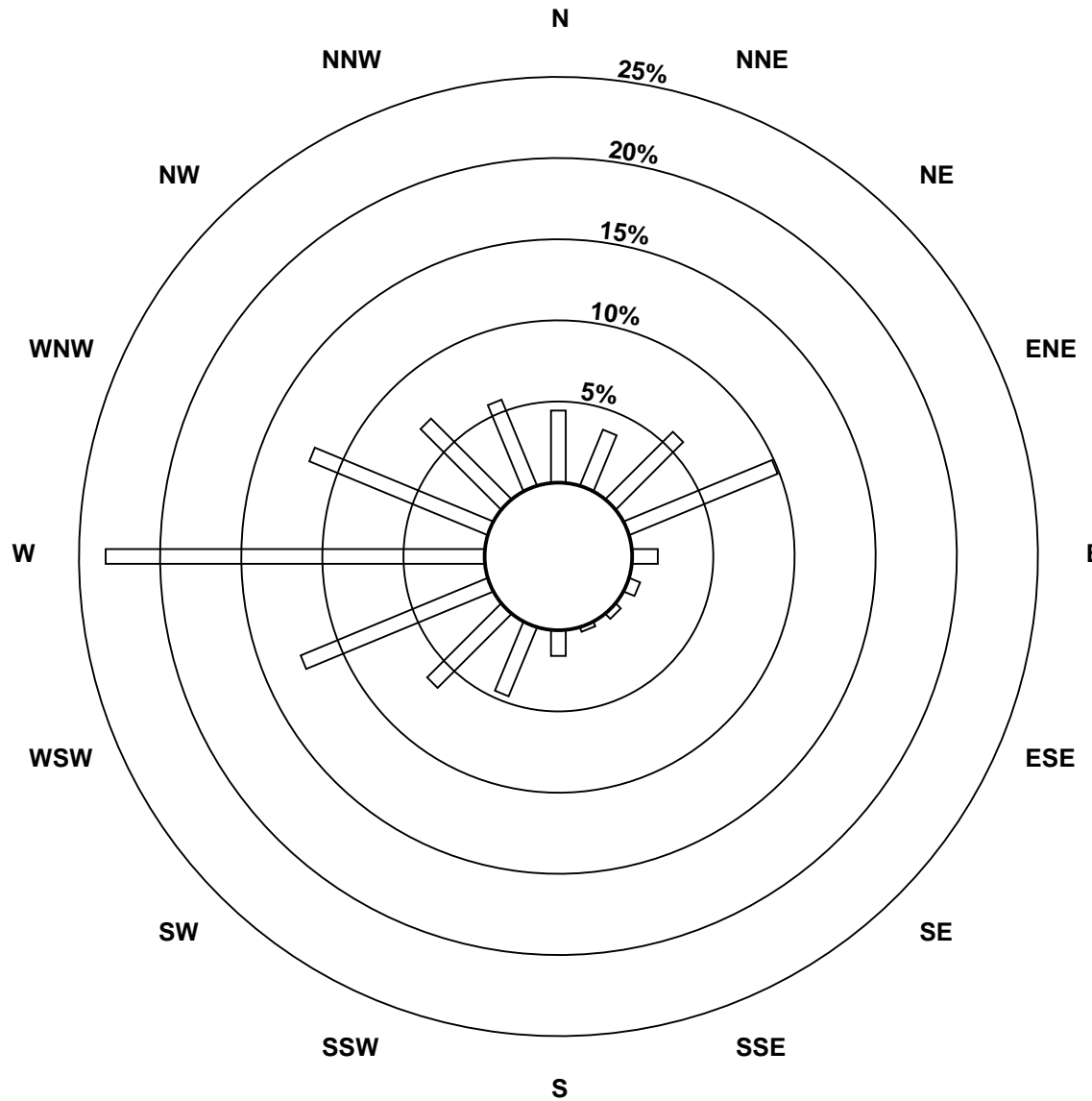
### Hourly Maximums

Sulphur Dioxide (SO<sub>2</sub>) - ppb  
Evergreen Park - January 2014

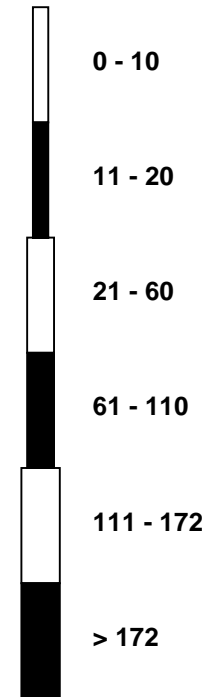


**Pollutant Rose**

**Sulphur Dioxide (SO<sub>2</sub>) - ppb**  
**Evergreen Park - January 2014**

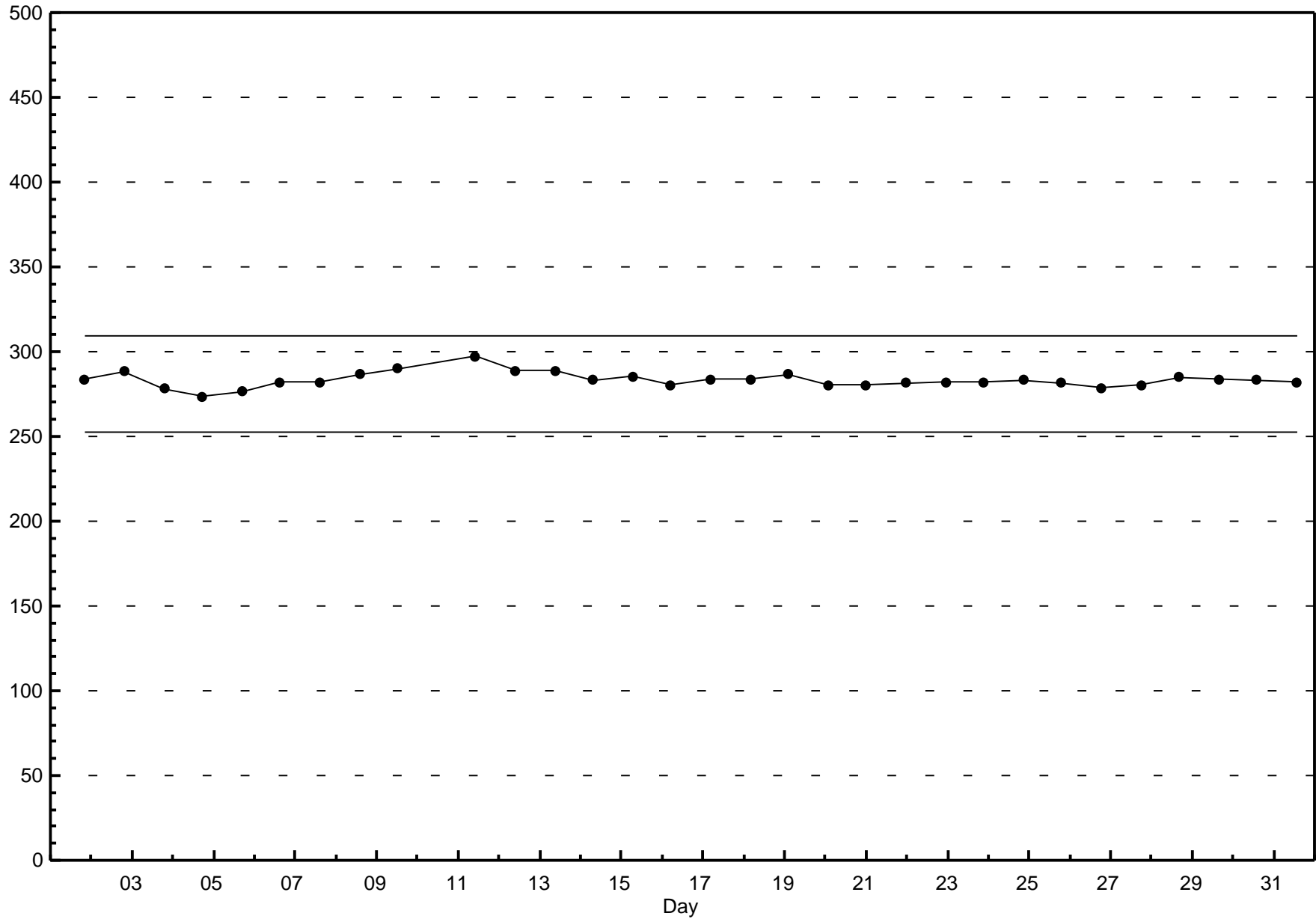


**Pollutant Classes (ppb)**



### Span Responses

Sulphur Dioxide (SO<sub>2</sub>)  
Evergreen Park - January 2014



## Hourly Averages

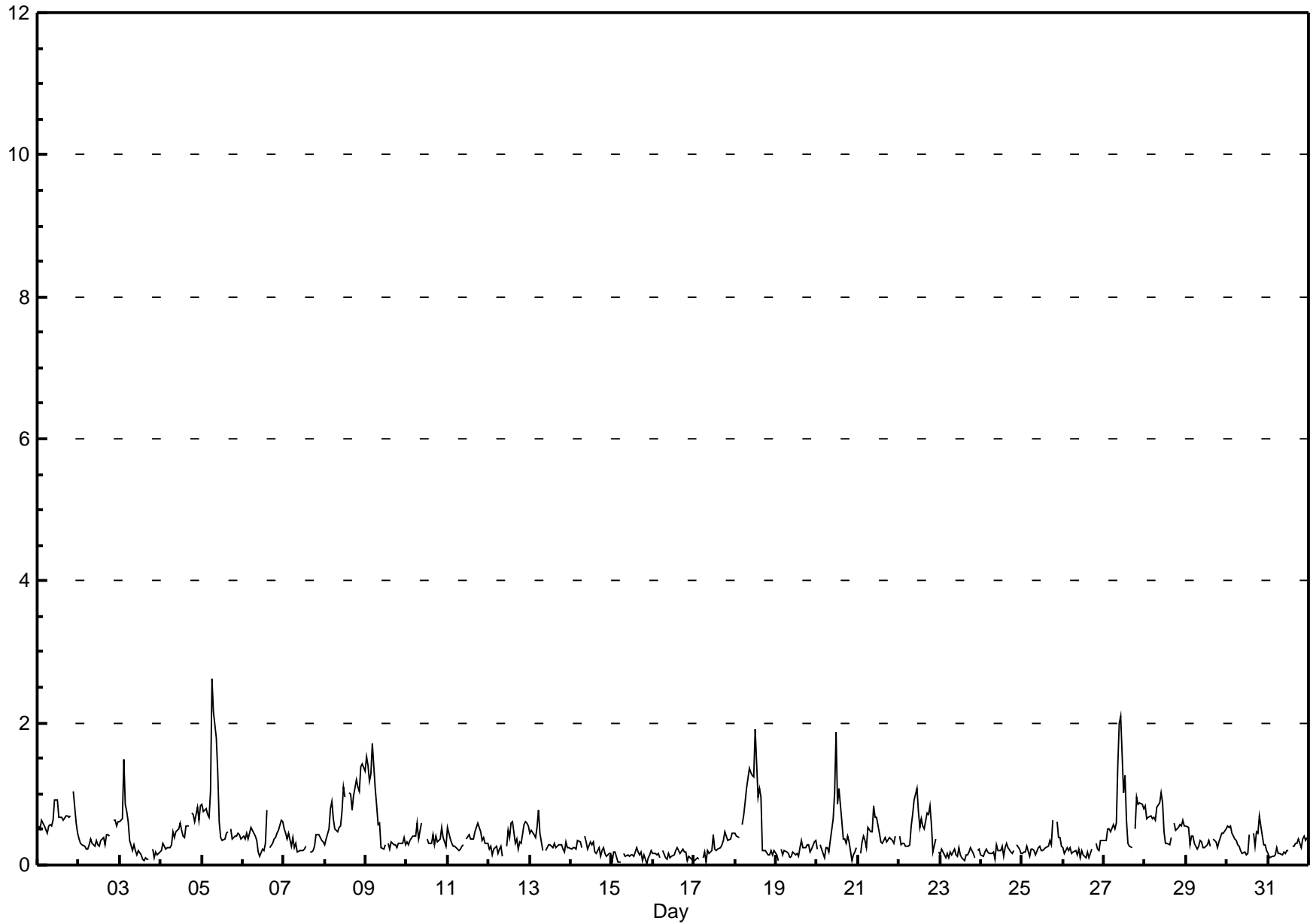
Total Reduced Sulphur (TRS) - ppb

Evergreen Park - January 2014

Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 2.6 ppb on Jan 5 07:00	Maximum Daily Average: 0.9 ppb on Jan 8		Hours of Data:	710
Minimum Value: 0 ppb on Jan 15 21:00	Minimum Daily Average: 0.1 ppb on Jan 15		Hours of Missing Data:	34
Maximum Diurnal Average: 0.5 ppb at hour 10	Minimum Diurnal Average: 0.3 ppb at hour 17		Hours of Calibration:	34
Monthly Average: 0.40 ppb	Percentiles: P <sub>1</sub> = 0.1 P <sub>10</sub> = 0.1 Q <sub>1</sub> = 0.2 Median = 0.3 Q <sub>3</sub> = 0.5 P <sub>90</sub> = 0.8 P <sub>99</sub> = 1.8		Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	0	0.6	1.0
2-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	1	1	0.4	0.6
3-Jan	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.3	1.5
4-Jan	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	1	1	A	1	1	1	1	1	1	0.5	0.8
5-Jan	1	1	1	1	1	1	3	2	2	1	1	0	0	0	0	0	A	1	0	0	0	0	0	0	0.8	2.6
6-Jan	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	A	0	0	0	0	0	0	0	1	0.4	0.8
7-Jan	1	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
8-Jan	0	0	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.4
9-Jan	2	1	1	1	2	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.6	1.7
10-Jan	0	0	0	0	0	0	1	0	1	C	C	C	0	0	0	0	0	0	0	0	0	1	0	0	0.4	0.6
11-Jan	1	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	1	1	0	0	0	0	0.4	0.6
12-Jan	0	0	0	0	0	0	0	0	0	0	A	0	0	1	1	0	0	0	0	0	0	1	1	1	0.4	0.6
13-Jan	0	0	0	0	1	1	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.8
14-Jan	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4
15-Jan	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
16-Jan	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
17-Jan	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.5
18-Jan	0	0	0	A	1	1	1	1	1	1	1	1	2	1	1	1	0	0	0	0	0	0	0	0	0.7	1.9
19-Jan	0	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
20-Jan	0	A	0	0	0	0	0	0	0	1	1	2	1	1	1	0	0	0	0	0	0	0	0	0	0.4	1.9
21-Jan	A	0	0	0	0	0	1	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.8
22-Jan	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	A	0.5	1.1
23-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.2	0.2
24-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.2	0.3
25-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	A	1	0	0	0	0.3	0.6
26-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0.2	0.3
27-Jan	0	0	1	0	0	1	1	1	1	2	2	1	1	1	0	0	0	A	1	1	1	1	1	1	0.8	2.1
28-Jan	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	A	1	0	1	1	1	1	1	0.6	1.0
29-Jan	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	1	0.4	0.5
30-Jan	1	1	1	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	1	1	0	0	0	0.4	0.7
31-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.2	0.4
	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	0.4	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	Diurnal Average	
	1.5	1.4	1.5	1.3	1.7	1.1	2.6	2.2	1.8	2.0	2.1	1.9	1.9	1.1	1.1	1.0	0.8	1.0	1.2	1.1	1.0	1.4	1.4	1.3	Diurnal Maximum	

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



## Hourly Maximums

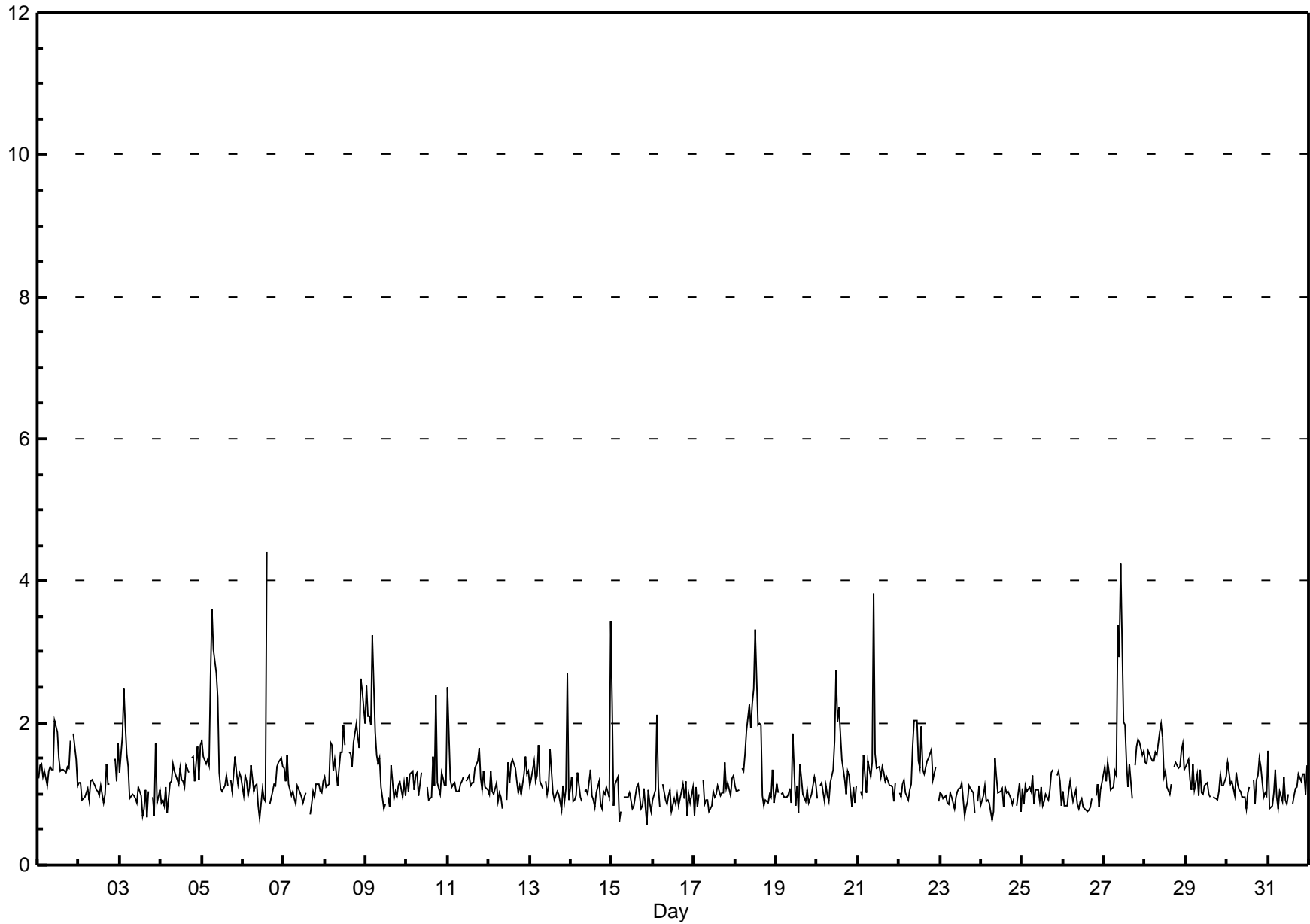
Total Reduced Sulphur (TRS) - ppb

Evergreen Park - January 2014

Maximum Value: 4.4 ppb on Jan 6 15:00		Maximum Daily Average: 1.7 ppb on Jan 27		Hours in Service: 744																							
Minimum Value: 1 ppb on Jan 15 21:00		Minimum Daily Average: 0.9 ppb on Jan 26		Hours of Data: 710																							
Maximum Diurnal Average: 1.4 ppb at hour 10		Minimum Diurnal Average: 1.1 ppb at hour 17		Hours of Missing Data: 34																							
Monthly Average: 1.22 ppb		Percentiles: P <sub>1</sub> = 0.7 P <sub>10</sub> = 0.9 Q <sub>1</sub> = 1.0 Median = 1.1 Q <sub>3</sub> = 1.3 P <sub>90</sub> = 1.7 P <sub>99</sub> = 3.3		Hours of Calibration: 34																							
				Percent Operational Time: 100.0																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	1	1	1	1	1	1	1	1	1	1	2	2	2	1	1	1	1	1	1	2	A	2	1	1	1.4	2.0	
2-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	2	1.1	1.7	
3-Jan	1	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	2	1	1	1.2	2.5	
4-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	2	2	1	2	1	2	1.2	1.7	
5-Jan	2	2	1	1	1	3	4	3	3	2	1	1	1	1	1	1	A	1	1	2	1	1	1	1	1.6	3.6	
6-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	A	1	1	1	1	1	1	2	1	1.3	4.4	
7-Jan	1	1	2	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1.0	1.5	
8-Jan	1	1	1	2	2	1	1	1	1	2	2	2	2	A	2	2	1	2	2	2	2	3	2	2	1.6	2.6	
9-Jan	3	2	2	2	3	2	2	1	2	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1.4	3.2	
10-Jan	1	1	1	1	1	1	1	1	1	C	C	C	1	1	1	2	1	2	1	1	1	1	1	1	1.2	2.4	
11-Jan	3	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	2	1	1	1	1	1	1.3	2.5	
12-Jan	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	2	1	1	1.2	1.5	
13-Jan	1	1	1	1	1	2	1	1	A	1	1	1	2	1	1	1	1	1	1	1	1	1	3	1	1.2	2.7	
14-Jan	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	1.1	3.4	
15-Jan	2	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	2.3	
16-Jan	1	1	2	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	2.1	
17-Jan	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	1.4	
18-Jan	1	1	1	A	1	1	1	2	2	2	2	2	3	2	2	2	1	1	1	1	1	1	1	1	1.5	3.3	
19-Jan	1	1	A	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1.1	1.9	
20-Jan	1	A	1	1	1	1	1	1	1	1	2	3	2	2	1	1	1	1	1	1	1	1	1	1	1.3	2.7	
21-Jan	A	1	1	2	1	1	1	1	1	4	2	1	1	1	1	1	1	1	1	1	1	1	1	A	1.4	3.8	
22-Jan	1	1	1	1	1	1	1	1	2	2	2	1	1	2	1	1	1	2	2	2	1	1	A	1	1.4	2.0	
23-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1.0	1.1	
24-Jan	1	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	1.5	
25-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1.1	1.3	
26-Jan	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	
27-Jan	1	1	1	1	1	1	1	1	3	3	4	2	2	1	1	1	1	A	1	2	2	2	2	2	1.7	4.3	
28-Jan	1	1	2	1	1	1	2	2	2	2	1	1	1	1	1	1	A	1	1	1	1	2	2	1	1.5	2.0	
29-Jan	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	1.5	
30-Jan	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	1.5	
31-Jan	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	1.6	
		1.3	1.2	1.2	1.2	1.2	1.2	1.2	1.3	1.4	1.3	1.3	1.2	1.1	1.2	1.2	1.1	1.2	1.2	1.2	1.1	1.3	1.3	1.3	Diurnal Average		
		2.5	2.1	2.5	2.0	3.2	2.6	3.6	3.0	3.4	3.8	4.3	2.7	3.3	2.2	4.4	2.0	1.5	2.4	2.0	1.8	1.8	2.6	2.7	3.4	Diurnal Maximum	
C - Calibration		A - Automated Daily Zero Span																									

**Hourly Maximums**

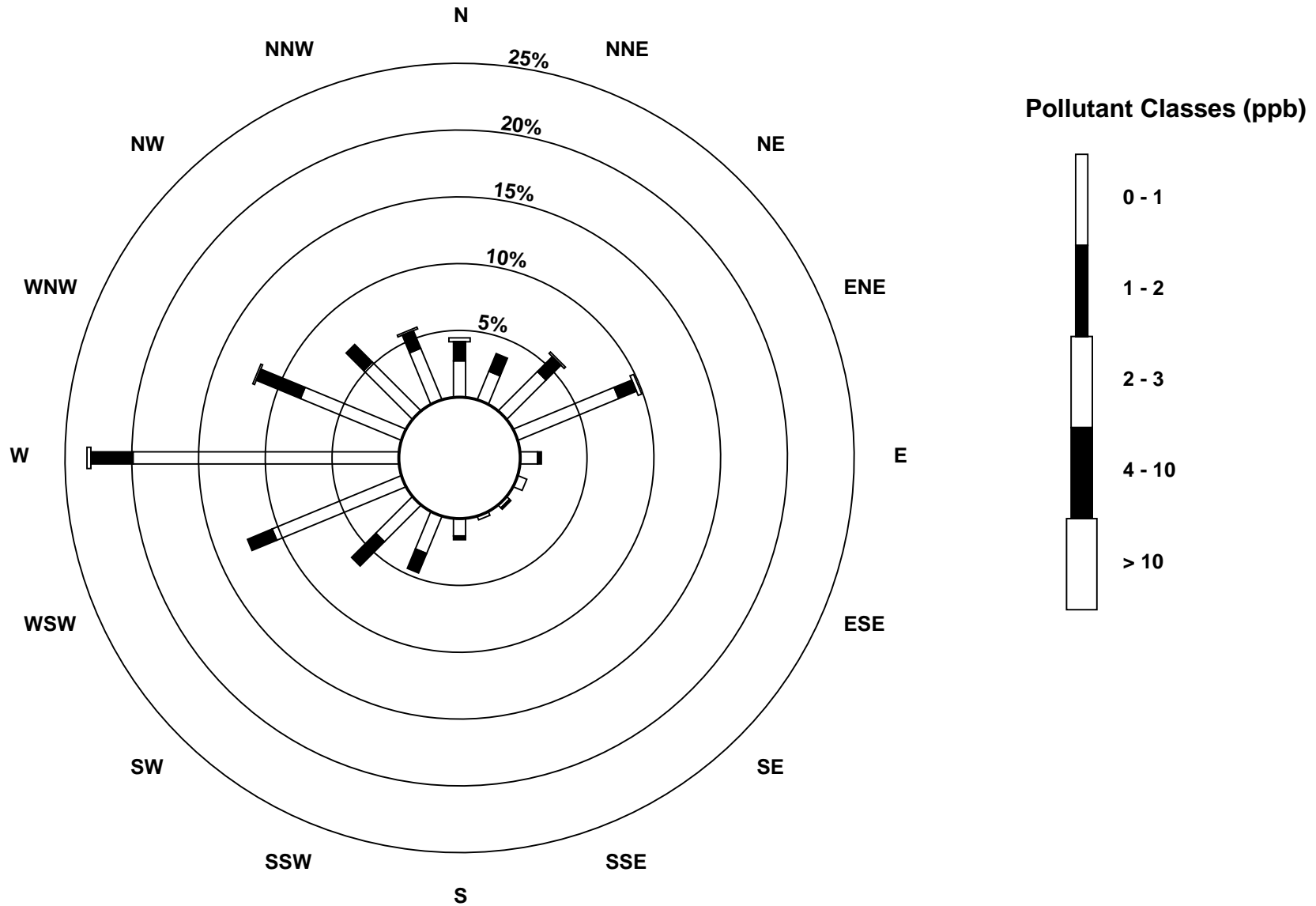
**Total Reduced Sulphur (TRS) - ppb**  
**Evergreen Park - January 2014**





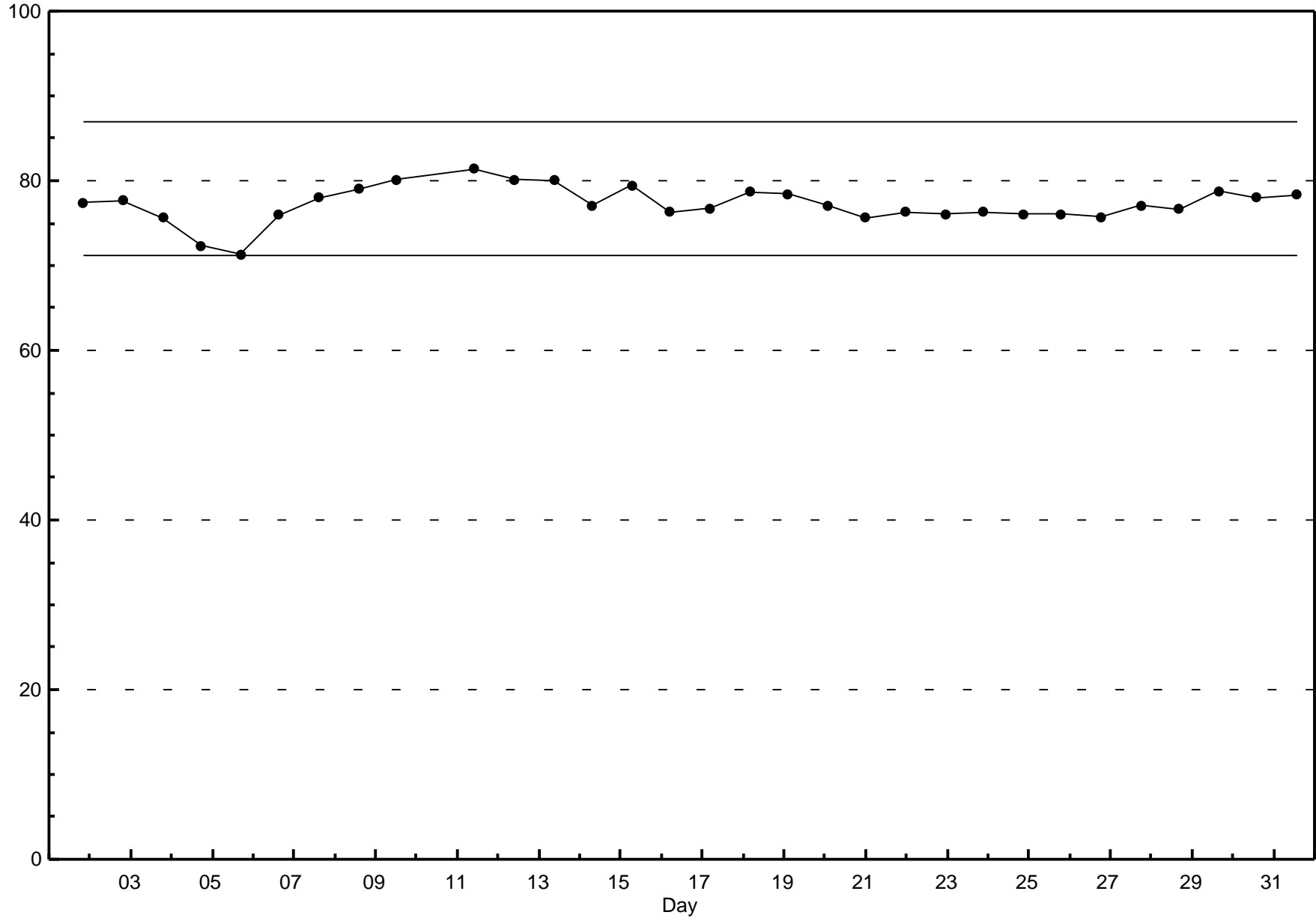
**Pollutant Rose**

**Total Reduced Sulphur (TRS) - ppb**  
**Evergreen Park - January 2014**



**Span Responses**

**Total Reduced Sulphur (TRS)  
Evergreen Park - January 2014**



## Hourly Averages

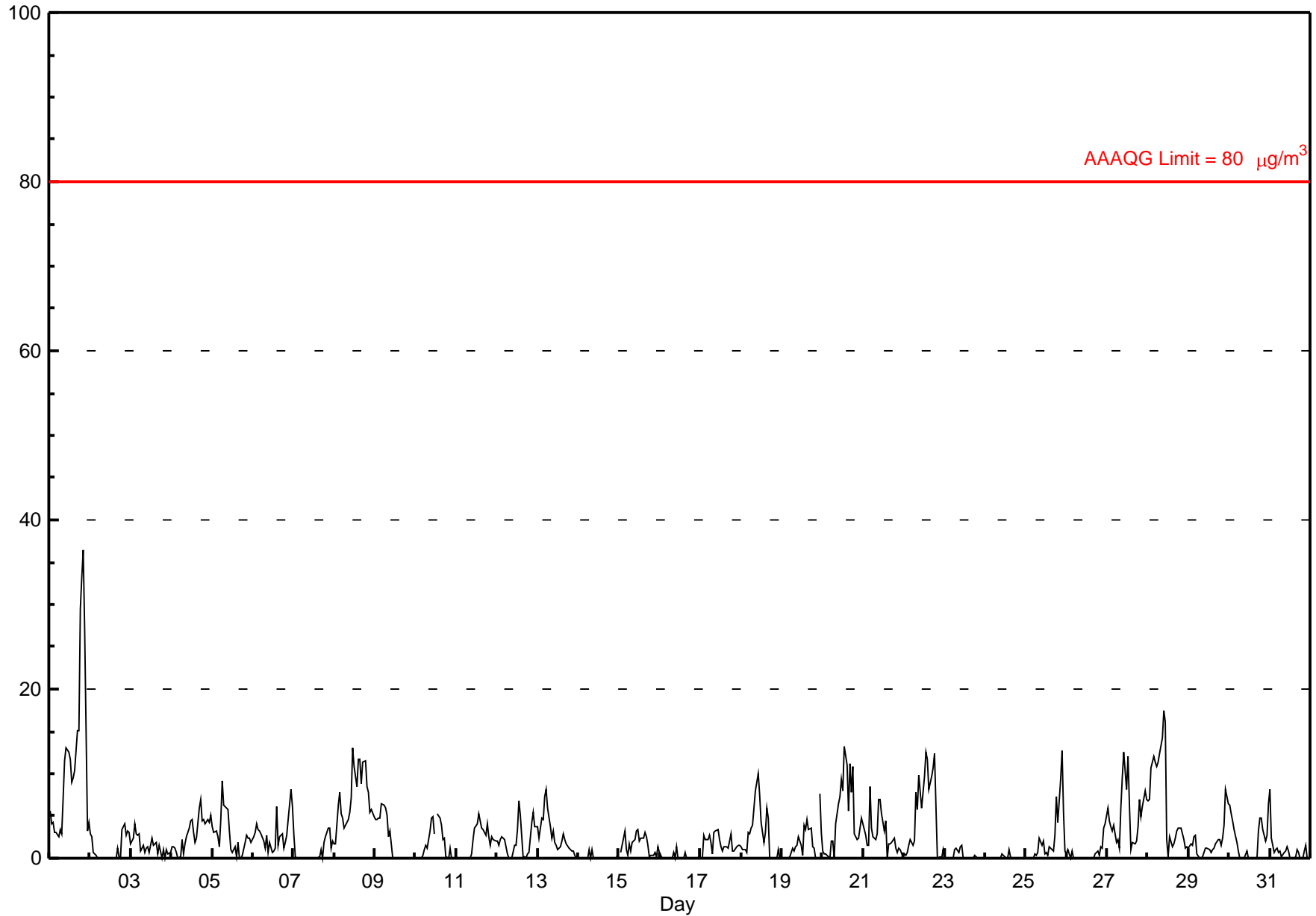
## Particulate Matter 2.5 (PM<sub>2.5</sub>) - µg/m<sup>3</sup>

### Evergreen Park - January 2014

Number of Exceedences: 1-hr: 0 24-hr: 0	Hours in Service: 744
Maximum Value: 36.4 µg/m <sup>3</sup> on Jan 1 21:00	Maximum Daily Average: 11.5 µg/m <sup>3</sup> on Jan 1
Minimum Value: 0 µg/m <sup>3</sup> on Jan 2 05:00	Hours of Data: 740
Minimum Daily Average: 0.1 µg/m <sup>3</sup> on Jan 24	Hours of Missing Data: 4
Maximum Diurnal Average: 3.8 µg/m <sup>3</sup> at hour 11	Hours of Calibration: 1
Monthly Average: 2.66 µg/m <sup>3</sup>	Percent Operational Time: 99.6
Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.0 Q <sub>1</sub> = 0.0 Median = 1.5 Q <sub>3</sub> = 3.5 P <sub>90</sub> = 7.0 P <sub>99</sub> = 14.3	

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-Jan	6	4	4	3	3	2	3	3	7	11	13	13	12	9	9	10	15	15	30	33	36	27	3	4	11.5	36.4																						
2-Jan	3	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	3	4	3	3	3	1.0	4.1																						
3-Jan	2	2	4	3	3	3	1	2	1	1	1	2	1	2	2	0	1	0	1	0	1	1	1	1	1.5	4.1																						
4-Jan	1	1	1	1	0	0	2	1	2	3	4	4	5	3	2	2	6	7	4	5	4	5	4	5	3.0	6.9																						
5-Jan	4	3	3	3	1	5	9	6	6	6	3	1	1	1	0	2	0	0	0	2	3	2	2	2	2.7	9.2																						
6-Jan	3	3	4	3	3	3	2	1	3	1	2	1	1	1	6	1	3	3	1	2	3	5	8	6	2.8	8.2																						
7-Jan	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	3	4	3	1	2	0.8	3.6																						
8-Jan	2	2	6	8	5	5	4	4	5	5	7	13	11	8	12	12	9	11	12	8	8	5	6	5	7.2	13.0																						
9-Jan	5	5	5	5	6	6	6	5	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.0	6.5																						
10-Jan	0	0	0	0	0	1	2	1	3	5	5	3	C	5	5	4	2	2	0	0	1	0	0	0	1.7	5.2																						
11-Jan	0	0	0	0	0	N	0	0	0	0	2	3	4	5	4	4	3	3	4	3	1	2	2	2	1.9	5.3																						
12-Jan	2	2	2	3	2	1	1	0	0	0	2	1	3	7	5	0	0	0	1	1	4	5	4	4	2.0	6.7																						
13-Jan	4	2	5	5	7	8	6	4	2	3	2	1	1	1	2	3	2	2	1	1	1	1	0	0	2.7	8.1																						
14-Jan	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	1.0																						
15-Jan	N	1	2	3	1	0	2	1	2	2	3	3	2	2	2	3	3	1	0	0	0	1	0	1	1.6	3.3																						
16-Jan	1	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0.1	1.3																						
17-Jan	0	0	3	2	2	3	2	1	3	3	3	2	1	1	1	1	1	2	3	1	1	1	2	2	1.7	3.5																						
18-Jan	1	1	1	1	3	3	4	4	8	9	10	8	4	2	3	6	5	0	0	0	0	0	1	0	3.0	9.9																						
19-Jan	0	0	0	0	0	0	1	1	1	2	3	2	0	4	3	4	3	4	1	1	0	N	8	3	1.8	7.6																						
20-Jan	1	1	0	0	0	2	2	0	4	6	7	9	8	13	11	6	11	8	11	3	2	2	4	5	4.9	13.2																						
21-Jan	4	3	2	2	8	4	2	2	3	7	7	5	3	4	0	2	2	2	2	1	1	1	1	0	2.8	8.5																						
22-Jan	1	0	1	2	2	2	2	8	6	10	6	8	10	13	12	8	10	11	12	6	0	0	0	1	5.3	12.6																						
23-Jan	0	0	0	0	0	0	1	1	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.5																						
24-Jan	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0.1	1.1																						
25-Jan	0	0	0	0	0	1	0	1	2	2	2	1	1	0	1	1	1	3	7	4	9	13	5	1	2.3	12.7																						
26-Jan	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	4	4	0.6	4.0																						
27-Jan	6	4	4	3	4	2	2	1	6	9	13	8	12	6	1	2	2	2	4	7	5	6	8	7	5.2	12.5																						
28-Jan	7	7	11	12	11	11	11	12	14	17	16	2	0	3	1	2	2	3	4	4	3	2	1	1	6.6	17.4																						
29-Jan	1	2	2	3	3	1	0	0	0	1	1	1	1	1	1	1	2	2	2	2	2	4	8	6	1.9	8.1																						
30-Jan	6	5	4	3	2	1	0	0	0	0	1	0	0	0	0	0	0	3	5	5	3	2	3	6	2.1	6.4																						
31-Jan	8	2	1	1	1	1	1	0	1	1	1	1	0	0	0	0	1	1	0	0	1	2	0	0	1.0	8.1																						
																								2.3	1.7	2.1	2.1	2.2	2.1	2.2	1.9	2.7	3.5	3.8	3.0	2.7	3.0	2.8	2.5	2.7	2.8	3.5	3.1	3.2	3.2	2.5	2.3	Diurnal Average
																								8.1	7.0	10.6	12.0	11.4	10.8	11.4	12.4	14.2	17.4	16.0	13.0	12.0	13.2	11.8	11.7	15.1	15.0	29.6	33.2	36.4	27.1	8.2	7.0	Diurnal Maximum

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

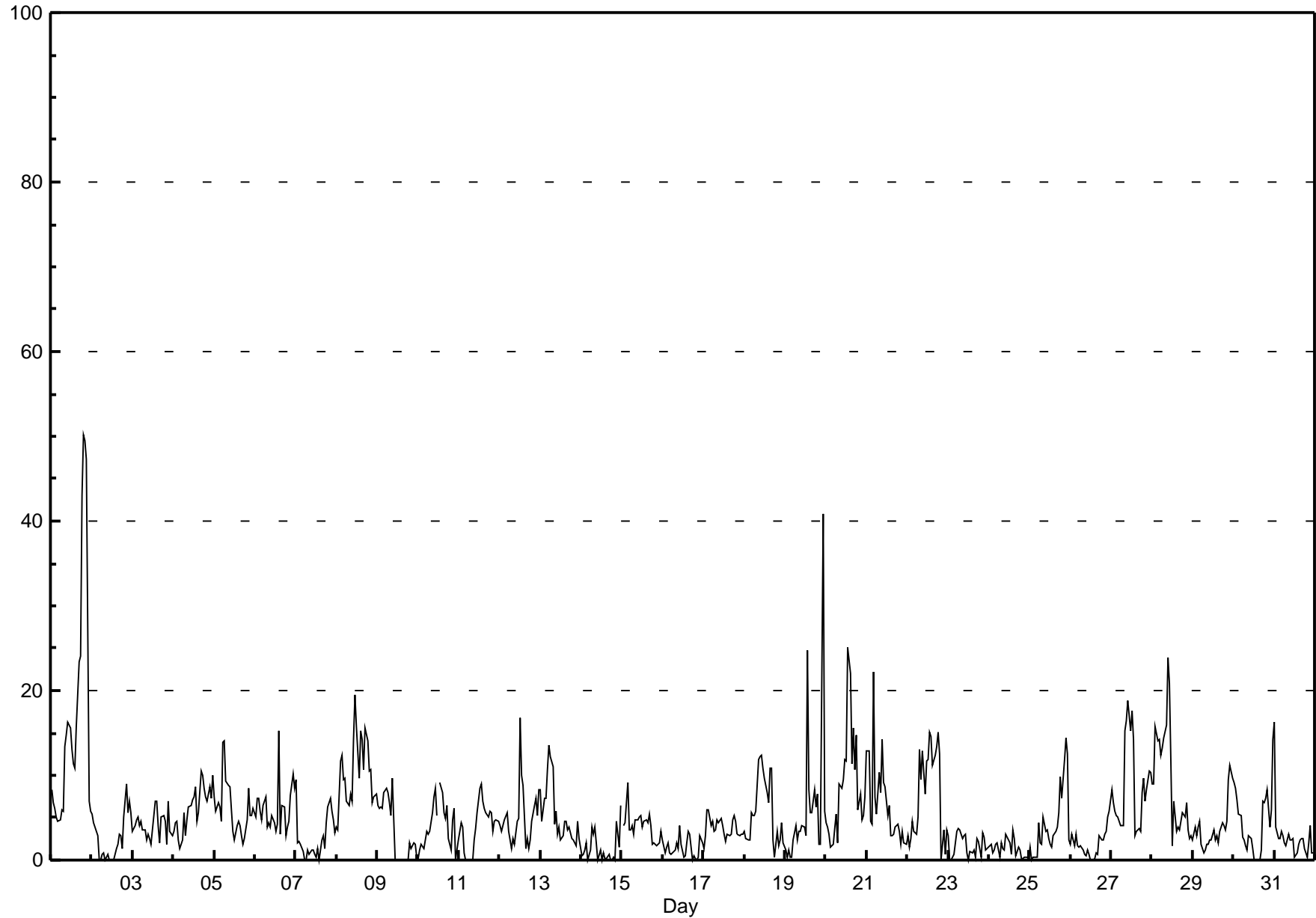


## Hourly Maximums

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

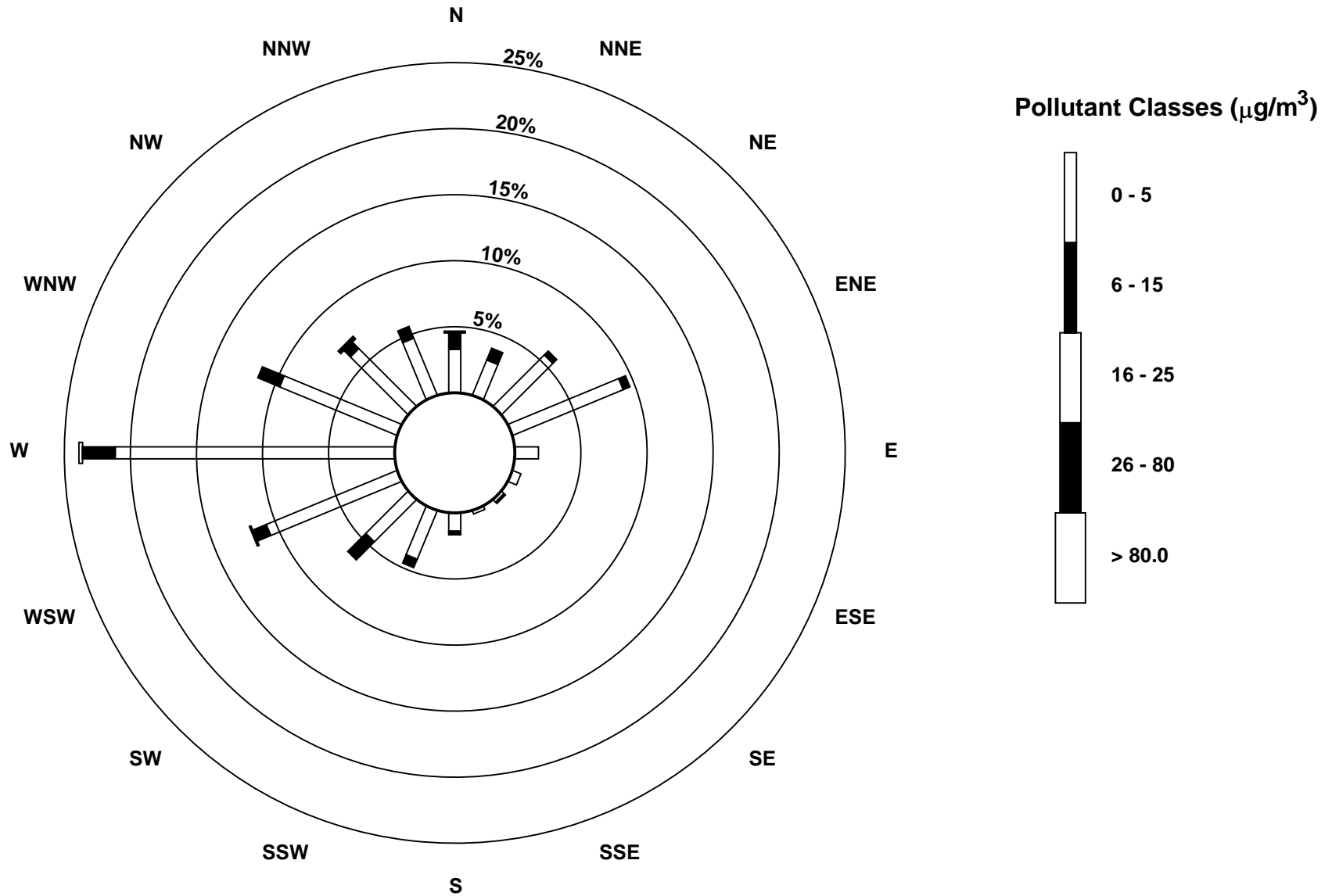
### Evergreen Park - January 2014

Maximum Value: 50.2 µg/m <sup>3</sup> on Jan 1 20:00 Minimum Value: 0 µg/m <sup>3</sup> on Jan 2 05:00 Maximum Diurnal Average: 6.2 µg/m <sup>3</sup> at hour 14 Monthly Average: 5.19 µg/m <sup>3</sup>		Maximum Daily Average: 17.0 µg/m <sup>3</sup> on Jan 1 Minimum Daily Average: 1.4 µg/m <sup>3</sup> on Jan 24 Minimum Diurnal Average: 4.0 µg/m <sup>3</sup> at hour 2 Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.6 Q <sub>1</sub> = 1.9 Median = 3.8 Q <sub>3</sub> = 6.8 P <sub>90</sub> = 11.3 P <sub>99</sub> = 24.6		Hours in Service: 744 Hours of Data: 742 Hours of Missing Data: 2 Hours of Calibration: 1 Percent Operational Time: 99.9																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
1-Jan	8	7	6	5	5	5	6	6	13	15	16	16	13	11	11	16	23	24	43	50	49	47	7	6	17.0	50.2	
2-Jan	6	4	4	3	0	0	1	1	0	1	0	0	0	0	1	2	3	3	1	5	9	6	7	6	2.6	9.0	
3-Jan	3	4	5	5	4	5	4	4	2	3	3	2	5	7	7	4	2	5	5	5	2	7	3	3	4.1	7.0	
4-Jan	3	4	5	2	1	2	6	3	5	6	6	7	7	9	5	6	10	10	8	7	7	9	7	10	6.1	10.4	
5-Jan	7	6	7	6	5	14	14	9	9	9	6	3	2	4	5	4	3	2	3	5	8	5	5	6	6.1	14.1	
6-Jan	5	7	7	6	5	7	7	4	4	4	5	4	3	4	15	3	6	6	3	4	5	8	10	8	5.9	15.2	
7-Jan	9	2	2	2	1	0	0	1	1	1	1	1	0	1	0	2	3	1	4	6	7	6	5	3	2.6	9.4	
8-Jan	4	4	12	12	9	10	7	7	8	7	14	19	16	10	15	14	11	16	14	10	11	7	7	8	10.5	19.4	
9-Jan	7	6	6	6	8	8	8	7	5	10	0	0	0	0	0	0	0	0	0	2	1	2	2	0	3.3	9.7	
10-Jan	0	1	2	1	2	3	3	3	6	7	8	5	C	9	8	6	5	7	3	1	5	6	0	1	4.1	9.2	
11-Jan	2	4	4	1	0	0	0	0	0	2	4	6	8	9	7	6	6	5	6	6	3	5	5	5	3.9	8.9	
12-Jan	4	3	4	5	6	3	2	1	3	2	5	5	17	10	9	1	3	1	2	5	7	7	5	8	4.9	16.7	
13-Jan	8	5	7	7	11	14	12	11	4	6	3	4	2	3	5	5	4	4	3	2	2	2	5	3	5.4	13.6	
14-Jan	0	1	1	2	0	1	4	3	4	2	0	1	0	1	0	0	1	0	0	0	0	5	2	7	1.4	6.5	
15-Jan	N	4	4	9	4	4	4	3	5	5	5	5	4	5	5	4	5	4	2	2	2	2	2	3	4.0	9.2	
16-Jan	2	1	2	2	1	1	1	1	2	1	4	2	0	1	2	3	3	0	1	0	0	0	3	2	1.5	4.1	
17-Jan	1	3	6	6	4	5	3	4	5	4	5	4	3	2	3	3	3	5	5	5	3	3	3	3	3.8	6.0	
18-Jan	3	3	2	2	6	5	5	6	12	12	12	11	10	8	7	11	11	2	0	3	2	2	4	2	5.9	12.4	
19-Jan	1	0	1	0	0	2	4	2	3	3	4	4	3	25	8	6	6	8	6	8	2	2	41	6	6.1	40.9	
20-Jan	4	4	3	2	2	4	5	2	9	8	9	12	12	25	22	11	16	11	15	6	8	5	5	7	8.6	25.0	
21-Jan	13	13	4	4	22	7	5	10	8	14	9	9	5	6	3	3	3	4	4	3	2	3	2	2	6.7	22.3	
22-Jan	3	2	3	5	3	3	5	13	9	13	8	12	12	15	15	11	12	13	15	13	0	4	1	4	8.0	15.0	
23-Jan	3	0	0	1	2	3	4	3	3	3	3	1	0	1	1	1	0	3	2	0	3	3	1	1	1.8	3.7	
24-Jan	2	2	1	1	2	2	0	2	1	1	3	2	2	1	4	3	1	2	1	0	0	0	0	0	1.4	3.6	
25-Jan	2	0	0	0	0	4	2	2	5	3	4	3	2	2	3	3	4	6	10	7	12	14	13	2	4.3	14.3	
26-Jan	2	3	2	3	2	2	2	1	1	1	1	1	0	0	0	1	1	3	2	2	3	3	5	6	1.9	5.8	
27-Jan	8	7	6	5	5	4	4	4	15	16	19	15	18	14	3	3	4	3	8	10	7	8	10	10	8.7	18.9	
28-Jan	9	9	16	14	14	12	13	14	16	24	21	12	2	7	3	4	4	5	6	5	7	4	3	3	9.4	23.8	
29-Jan	2	4	3	4	5	2	1	1	2	2	2	2	4	2	3	2	3	4	4	4	5	9	11	10	3.8	11.2	
30-Jan	9	8	7	5	5	3	2	2	1	3	3	1	0	0	0	0	1	7	7	7	8	4	6	14	4.4	14.3	
31-Jan	16	4	3	3	3	3	2	2	3	2	2	3	0	1	2	2	3	3	1	0	2	4	1	1	2.8	16.3	
		5.0	4.0	4.3	4.2	4.4	4.4	4.4	4.3	5.3	6.2	6.0	5.5	5.0	6.2	5.5	4.5	5.1	5.3	6.0	6.0	5.8	6.2	5.9	4.8	Diurnal Average	
		16.3	12.8	15.8	14.1	22.3	13.8	14.1	14.5	16.0	23.8	20.9	19.4	17.7	25.0	22.1	15.8	23.3	24.1	43.1	50.2	49.4	47.2	40.9	14.3	Diurnal Maximum	
C - Calibration		N - Not Valid																									



**Pollutant Rose**

**Particulate Matter 2.5 (PM<sub>2.5</sub>) - μg/m<sup>3</sup>**  
**Evergreen Park - January 2014**



## Hourly Averages

External Temperature (ET) - °C

Evergreen Park - January 2014

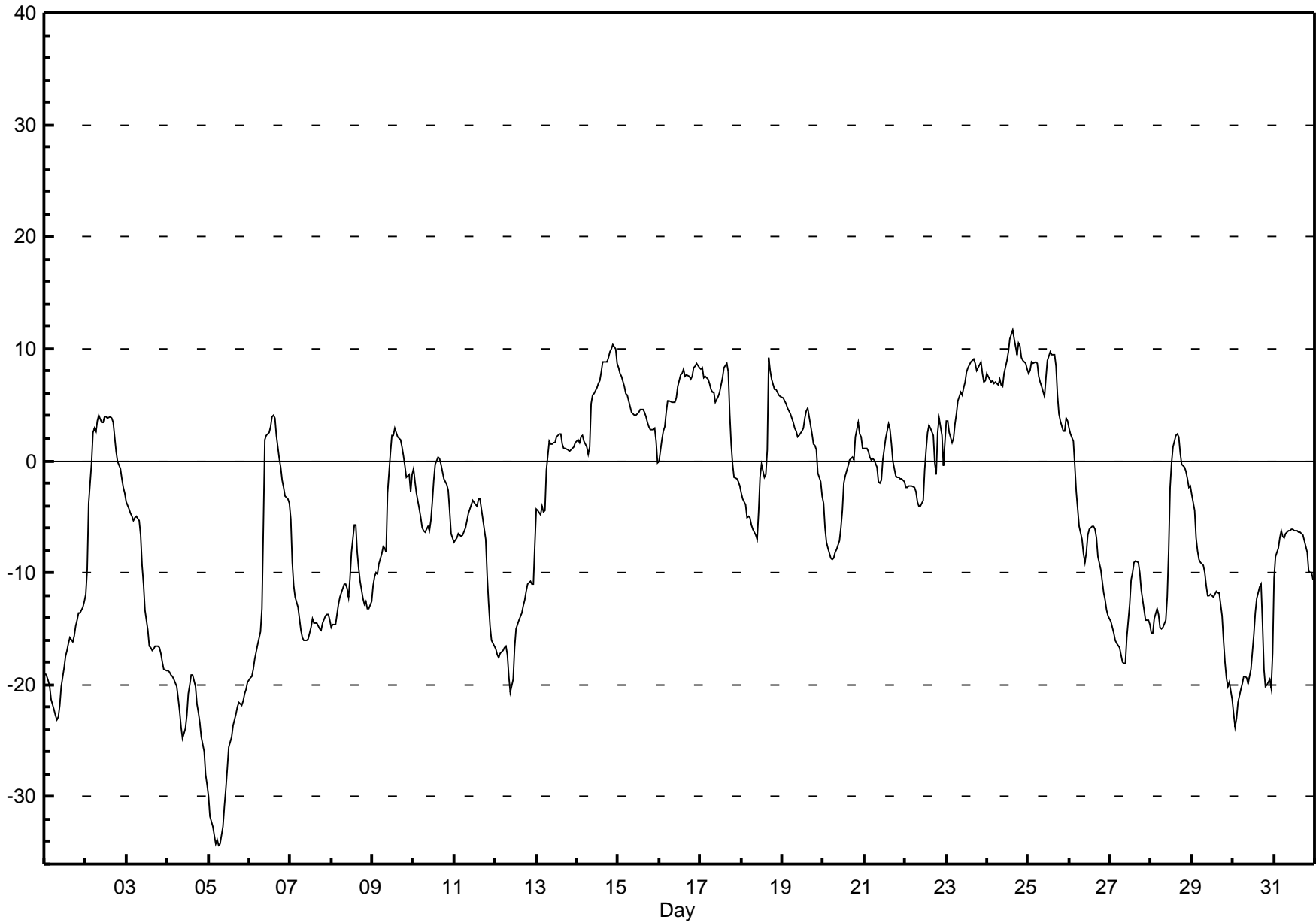
Number of Exceedences (AAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 11.6 °C on Jan 24 16:00	Maximum Daily Average: 8.6 °C on Jan 24		Hours of Data:	744
Minimum Value: -34 °C on Jan 5 07:00	Minimum Daily Average: -27.2 °C on Jan 5		Hours of Missing Data:	0
Maximum Diurnal Average: -2.4 °C at hour 16	Minimum Diurnal Average: -6.8 °C at hour 7		Hours of Calibration:	0
Monthly Average: -5.18 °C	Percentiles: P <sub>1</sub> = -31.8 P <sub>10</sub> = -19.2 Q <sub>1</sub> = -13.2 Median = -3.8 Q <sub>3</sub> = 2.8 P <sub>90</sub> = 7.3 P <sub>99</sub> = 10.0		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-Jan	-19	-19	-20	-20	-21	-22	-23	-23	-23	-22	-20	-18	-17	-17	-16	-16	-16	-16	-15	-14	-14	-14	-13	-13	-17.9	-12.6
2-Jan	-12	-10	-4	0	3	3	3	3	4	3	3	4	4	4	4	4	3	2	1	0	-1	-2	-2	-3	0.6	4.0
3-Jan	-4	-4	-5	-5	-5	-5	-5	-5	-7	-9	-11	-13	-15	-17	-17	-17	-17	-17	-17	-17	-17	-18	-19	-19	-11.8	-3.7
4-Jan	-19	-19	-19	-19	-20	-20	-21	-22	-24	-25	-24	-23	-21	-20	-19	-19	-20	-22	-23	-23	-25	-26	-28	-29	-22.0	-18.8
5-Jan	-30	-32	-33	-33	-34	-34	-34	-34	-33	-31	-29	-28	-26	-25	-24	-23	-23	-22	-22	-22	-21	-21	-20	-20	-27.2	-19.8
6-Jan	-19	-19	-19	-18	-17	-16	-15	-13	-6	2	2	3	3	4	4	4	2	0	-1	-2	-2	-3	-3	-4	-5.6	4.1
7-Jan	-5	-9	-11	-12	-13	-14	-15	-16	-16	-16	-16	-15	-15	-14	-14	-14	-15	-15	-15	-15	-14	-14	-14	-14	-13.8	-5.2
8-Jan	-15	-15	-15	-14	-13	-12	-12	-11	-11	-11	-12	-10	-8	-6	-6	-8	-10	-11	-12	-13	-13	-13	-13	-13	-11.5	-5.7
9-Jan	-11	-10	-10	-10	-9	-8	-8	-8	-8	-3	1	2	2	3	3	2	2	1	0	0	-2	-1	-3	-1	-3.2	2.9
10-Jan	-1	-2	-3	-4	-5	-6	-6	-6	-6	-6	-5	-4	-2	0	0	0	0	-1	-2	-2	-3	-4	-6	-7	-3.4	0.4
11-Jan	-7	-7	-6	-7	-7	-7	-6	-5	-5	-4	-4	-4	-4	-4	-3	-3	-4	-6	-7	-10	-13	-15	-16	-17	-7.1	-3.4
12-Jan	-17	-17	-18	-17	-17	-17	-17	-17	-19	-21	-19	-17	-15	-15	-14	-14	-13	-12	-12	-11	-11	-11	-11	-8	-14.9	-7.5
13-Jan	-4	-4	-5	-4	-5	-4	-1	2	2	1	2	2	2	2	2	1	1	1	1	1	1	1	1	2	-0.1	2.4
14-Jan	2	2	2	2	2	1	1	1	5	6	6	7	7	7	8	9	9	9	9	9	10	10	10	9	6.0	10.4
15-Jan	8	8	8	7	6	6	5	5	4	4	4	4	4	5	5	4	4	3	3	3	3	3	2	0	4.5	8.3
16-Jan	0	2	3	3	4	5	5	5	5	5	6	7	8	8	8	8	8	8	7	8	8	8	9	8	6.1	8.7
17-Jan	8	8	7	8	7	7	6	6	6	5	6	6	7	7	8	9	8	4	1	0	-1	-2	-2	-2	4.9	8.7
18-Jan	-3	-3	-4	-5	-5	-5	-6	-6	-7	-7	-5	-2	0	-1	-1	1	9	8	7	6	6	6	6	6	-0.2	9.3
19-Jan	6	5	5	5	4	4	3	3	3	2	2	3	3	4	4	5	4	2	2	1	1	-1	-2	-3	2.7	5.6
20-Jan	-4	-6	-7	-8	-9	-9	-9	-8	-8	-7	-6	-4	-2	-1	0	0	0	0	0	2	3	2	2	1	-3.2	3.4
21-Jan	1	1	1	0	0	0	0	-1	-2	-2	-2	0	2	3	3	3	2	0	-1	-2	-2	-2	-2	-2	0.0	3.3
22-Jan	-2	-2	-2	-2	-2	-2	-3	-4	-4	-4	-4	-3	-1	1	2	3	3	2	0	-1	3	4	2	0	-0.5	3.8
23-Jan	4	4	3	2	2	3	4	5	6	6	6	7	8	8	9	9	9	9	8	9	9	8	7	7	6.3	9.1
24-Jan	8	7	7	7	7	7	7	7	7	7	8	9	10	11	11	12	11	9	10	10	9	9	9	8	8.6	11.6
25-Jan	8	8	9	9	9	9	7	7	7	6	7	9	9	10	10	9	8	6	4	4	3	3	4	4	6.9	9.7
26-Jan	3	2	2	0	-3	-4	-6	-7	-8	-9	-8	-7	-6	-6	-6	-6	-7	-9	-10	-11	-12	-12	-13	-14	-6.5	2.9
27-Jan	-14	-15	-15	-16	-16	-17	-17	-18	-18	-18	-16	-13	-11	-10	-9	-9	-9	-10	-12	-12	-13	-14	-14	-15	-13.8	-9.0
28-Jan	-15	-15	-14	-13	-14	-15	-15	-15	-14	-12	-8	-2	0	1	2	2	2	1	0	-1	-1	-2	-2	-2	-6.4	2.3
29-Jan	-3	-4	-7	-8	-9	-9	-9	-10	-11	-12	-12	-12	-12	-12	-12	-12	-12	-14	-16	-18	-19	-20	-20	-21	-12.3	-3.0
30-Jan	-23	-24	-23	-22	-20	-20	-19	-19	-19	-20	-19	-17	-15	-14	-12	-11	-11	-14	-19	-20	-20	-19	-20	-17	-18.3	-11.0
31-Jan	-11	-9	-8	-7	-6	-7	-7	-7	-6	-6	-6	-6	-6	-6	-6	-6	-6	-7	-7	-8	-10	-10	-10	-11	-7.5	-6.1
	-6.2	-6.4	-6.5	-6.5	-6.6	-6.7	-6.8	-6.8	-6.6	-6.4	-5.6	-4.3	-3.4	-2.8	-2.4	-2.4	-2.5	-3.6	-4.3	-4.7	-5.0	-5.5	-6.0	-6.0	Diurnal Average	
	8.3	8.3	8.8	8.7	8.8	8.7	7.5	7.3	6.8	6.6	7.8	9.0	9.8	10.8	11.3	11.6	10.9	9.4	10.4	10.2	10.0	10.4	9.9	8.7	Diurnal Maximum	



### Hourly Averages

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



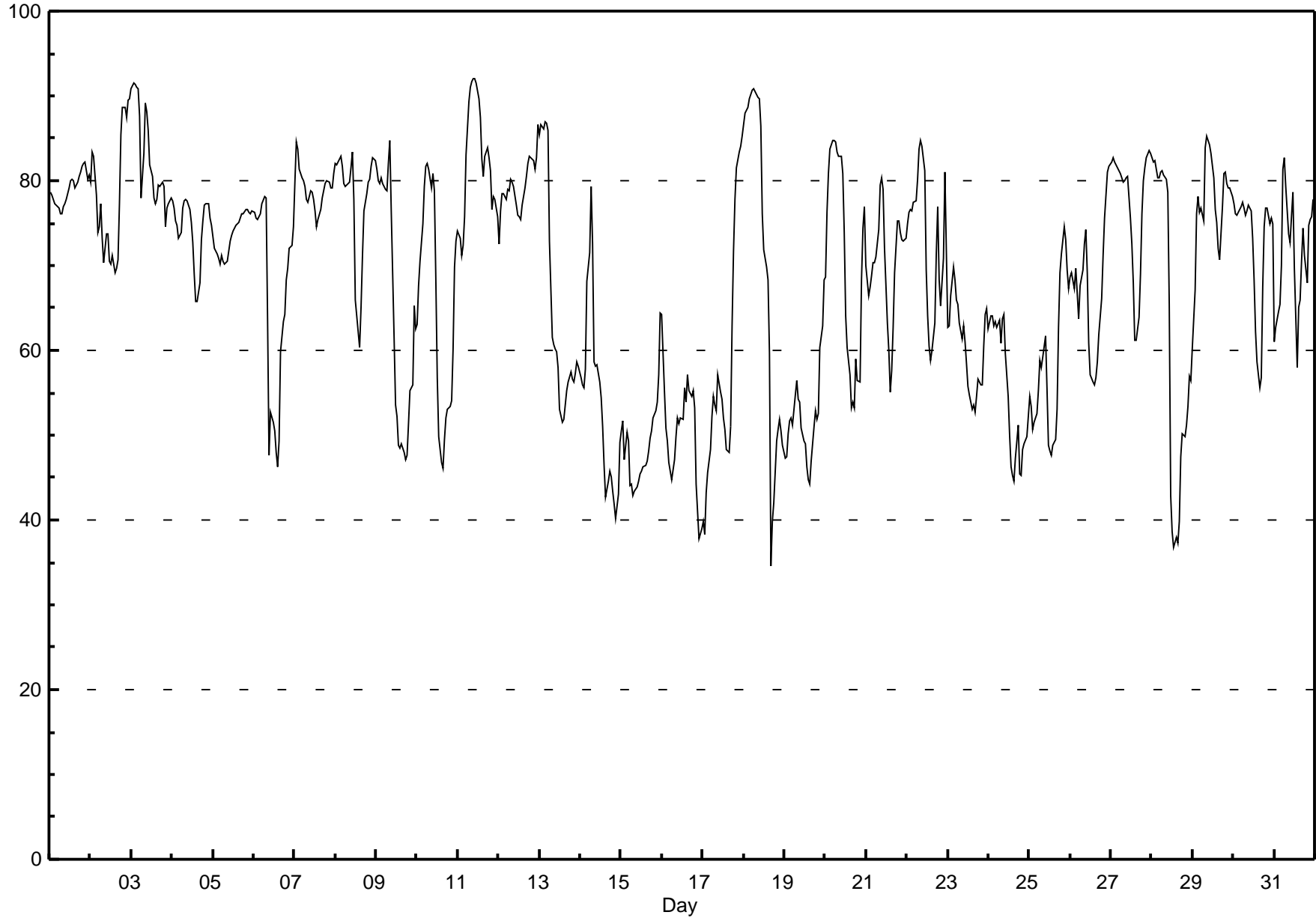
# Hourly Averages

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

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 92.1 % on Jan 11 11:00 Maximum Daily Average: 82.8 % on Jan 3		Hours in Service: 744 Hours of Data: 744 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0																								
Minimum Value: 35 % on Jan 18 17:00 Maximum Diurnal Average: 73.3 % at hour 7 Monthly Average: 68.22 %		Minimum Daily Average: 48.8 % on Jan 15 Minimum Diurnal Average: 59.1 % at hour 16 Percentiles: P <sub>1</sub> = 38.9 P <sub>10</sub> = 48.9 Q <sub>1</sub> = 56.2 Median = 72.0 Q <sub>3</sub> = 79.2 P <sub>90</sub> = 82.8 P <sub>99</sub> = 90.8																								
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	79	78	78	77	77	77	76	76	77	77	78	79	80	80	80	79	80	80	81	82	82	82	80	81	79.0	82.1
2-Jan	80	83	83	78	74	75	77	73	70	74	74	70	70	71	69	70	71	77	85	89	89	88	89	90	77.9	89.6
3-Jan	91	91	91	91	91	88	78	83	89	88	86	82	80	78	77	78	79	79	80	79	75	77	77	78	82.8	91.5
4-Jan	78	77	75	75	73	74	77	78	78	78	77	75	73	69	66	66	68	73	75	77	77	77	76	75	74.3	77.8
5-Jan	73	72	71	71	70	71	71	70	71	72	73	74	74	75	75	75	76	76	76	77	77	76	76	76	73.6	76.6
6-Jan	76	76	75	76	76	77	78	78	64	48	53	52	50	48	46	49	60	63	64	68	70	72	72	75	65.3	78.1
7-Jan	80	85	84	81	80	80	79	78	78	79	79	78	76	75	75	77	78	79	80	80	80	79	79	81	79.1	84.6
8-Jan	82	82	82	83	82	80	79	80	80	82	83	78	66	62	60	65	71	77	78	80	80	82	83	82	77.4	83.4
9-Jan	81	80	80	80	80	79	79	82	85	76	61	54	52	49	48	49	48	47	48	51	55	56	65	63	64.5	84.7
10-Jan	63	68	71	75	79	82	82	81	79	81	79	68	57	50	47	46	50	52	53	53	54	60	70	73	65.5	82.0
11-Jan	74	73	71	72	76	83	89	91	92	92	92	91	90	87	83	81	83	84	83	81	77	78	78	76	82.4	92.1
12-Jan	73	76	78	78	78	79	79	80	80	79	77	76	76	75	77	79	81	82	83	83	82	81	83	87	79.3	86.6
13-Jan	85	87	86	87	87	86	73	62	61	60	60	58	53	52	52	54	55	56	57	57	56	57	59	58	64.9	86.9
14-Jan	57	56	56	58	68	72	79	73	59	58	58	56	54	51	46	43	45	46	45	43	42	40	43	49	54.0	79.3
15-Jan	50	52	47	50	49	44	44	43	43	44	45	45	46	46	46	47	48	50	50	52	53	54	57	64	48.8	64.4
16-Jan	64	55	51	49	47	46	45	47	50	52	51	52	52	56	54	57	55	55	55	53	44	41	38	39	50.3	64.3
17-Jan	40	38	43	46	48	52	55	54	53	57	55	54	52	51	48	48	51	63	72	78	82	83	84	85	58.0	85.2
18-Jan	87	88	89	90	90	91	91	90	90	90	86	76	72	70	68	60	35	40	42	49	51	52	50	49	70.6	90.8
19-Jan	47	47	50	52	52	51	55	56	54	54	51	49	49	46	45	44	47	51	53	52	52	60	63	68	52.1	68.4
20-Jan	69	76	81	84	85	85	85	83	83	83	81	74	64	60	57	53	54	53	59	57	56	68	74	77	70.9	84.8
21-Jan	70	67	67	69	70	70	71	74	80	80	79	72	63	60	55	58	63	69	75	75	74	73	73	73	70.1	80.4
22-Jan	75	76	77	76	77	78	80	84	85	84	81	70	64	60	59	60	63	71	77	68	65	71	81	72	73.1	84.7
23-Jan	63	63	66	70	68	66	65	63	61	63	61	58	56	55	53	54	53	55	57	56	56	61	64	65	60.5	69.9
24-Jan	63	64	64	63	63	63	63	61	64	64	60	55	50	46	45	45	47	51	45	45	48	49	50	52	55.0	64.2
25-Jan	55	53	51	52	53	55	59	58	59	62	56	49	48	48	49	49	53	63	69	71	75	73	69	67	58.1	74.5
26-Jan	69	69	67	70	67	64	68	69	73	74	69	61	57	56	56	57	59	62	66	71	76	78	81	82	67.5	81.7
27-Jan	82	83	82	82	82	81	80	80	80	80	81	76	73	68	61	61	64	69	76	80	82	83	84	83	77.1	83.6
28-Jan	83	82	82	80	80	81	81	81	80	79	65	43	39	37	38	37	40	47	50	50	51	53	57	56	61.4	82.7
29-Jan	60	67	76	78	76	77	75	84	85	85	84	83	80	77	75	72	71	77	81	81	80	79	79	78	77.5	85.2
30-Jan	77	76	76	76	77	77	77	76	76	77	76	73	68	62	59	56	57	67	75	77	77	75	76	75	72.4	77.4
31-Jan	61	63	65	65	70	81	83	79	74	73	76	79	70	58	65	66	71	74	71	68	75	76	76	78	71.5	82.8
		70.5	71.1	71.5	72.1	72.5	73.0	73.3	73.1	72.6	72.4	70.5	66.5	63.1	60.6	59.2	59.1	60.4	64.2	66.5	67.2	67.4	68.9	70.5	71.2	Diurnal Average
		90.8	91.5	91.3	91.0	90.9	90.6	90.8	91.0	91.7	92.0	92.1	91.5	89.6	87.5	82.6	80.5	82.9	83.8	85.4	88.6	88.6	87.5	89.4	89.6	Diurnal Maximum

### Hourly Averages

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



## Hourly Averages

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

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1 Spd	N	N	N	N	N	N	N	N	N	N	N	N	6	9	4	5	8	2	2	2	3	6	8	7	--	9.1
Dir	N	N	N	N	N	N	N	N	N	N	N	N	257	262	282	275	294	65	245	356	323	320	261	248	--	262.4
2 Spd	8	11	12	12	21	24	16	18	20	26	28	25	24	16	11	4	5	1	2	1	5	5	2	2	11.8	28.0
Dir	261	232	275	260	258	246	252	260	262	251	251	257	255	257	261	268	266	338	27	3	338	340	311	239	258.5	251.2
3 Spd	3	2	1	1	1	4	5	6	12	15	17	16	17	18	13	11	4	1	2	5	9	14	14	14	5.9	17.7
Dir	350	340	313	287	38	61	74	57	68	65	65	65	54	61	46	48	67	90	202	288	318	317	321	335	35.3	60.6
4 Spd	9	9	10	8	7	7	8	5	7	8	7	6	8	5	9	9	7	9	5	6	4	2	2	0	6.2	9.6
Dir	318	311	309	301	297	298	312	322	329	319	292	308	288	293	292	290	281	275	281	276	300	250	17	195	299.8	308.7
5 Spd	1	1	1	1	1	0	1	0	0	1	2	3	2	4	3	1	6	3	3	5	6	6	4	3	0.4	6.1
Dir	99	32	236	61	58	219	10	264	295	54	54	53	7	9	122	91	58	51	312	255	277	257	219	200	339.1	277.2
6 Spd	2	6	3	2	3	7	9	6	11	29	13	14	11	9	15	12	8	5	5	5	6	4	3	4	5.9	29.2
Dir	194	210	218	81	209	227	251	279	276	262	312	336	326	294	285	313	358	354	321	351	341	3	339	4	296.4	262.0
7 Spd	8	15	17	14	14	13	11	10	10	11	11	7	9	6	11	8	7	3	4	3	2	3	3	0	7.2	17.0
Dir	66	66	70	69	65	64	72	73	78	71	73	76	50	49	51	64	52	68	304	278	287	232	184	116	65.2	69.7
8 Spd	0	1	2	1	3	2	3	3	0	1	1	2	2	2	5	5	3	1	1	2	2	2	3	0	1.0	4.9
Dir	72	218	28	203	264	242	236	350	352	205	207	219	256	6	8	18	9	288	294	334	322	292	262	277	309.7	8.3
9 Spd	1	1	0	1	1	2	3	5	3	22	25	27	32	42	36	26	31	21	13	8	14	11	2	17	13.8	42.5
Dir	351	204	308	53	276	237	214	211	94	243	238	247	247	249	246	243	234	233	265	239	228	199	253	243.5	249.1	
10 Spd	12	5	8	8	1	0	3	2	4	6	5	18	26	27	28	29	27	20	12	6	4	1	3	3	9.6	29.5
Dir	257	209	196	203	139	334	226	259	276	272	271	260	262	265	264	269	269	261	258	267	262	191	63	63	259.6	269.4
11 Spd	4	2	2	4	7	10	11	9	7	4	2	3	10	15	9	6	7	9	27	26	30	23	23	20	7.3	30.3
Dir	57	88	135	63	62	70	72	78	85	59	27	290	262	276	287	298	312	278	325	321	325	317	318	324	328.6	325.4
12 Spd	20	17	13	15	13	9	4	2	0	3	1	2	3	4	4	4	2	3	1	1	3	2	5	5	3.9	19.5
Dir	323	315	305	296	312	317	218	183	190	216	38	26	356	14	43	57	47	58	13	292	259	328	55	37	326.6	322.8
13 Spd	2	2	2	1	1	2	10	24	32	37	36	41	45	46	48	39	36	40	40	39	36	36	32	36	27.2	47.7
Dir	300	17	43	37	279	265	285	264	262	268	264	262	269	269	269	265	259	263	262	264	262	261	260	262	264.8	269.5
14 Spd	30	27	25	24	7	8	12	8	26	22	24	18	16	24	30	41	41	43	46	46	41	56	64	79	30.7	78.5
Dir	258	246	248	251	226	177	188	193	256	241	229	234	245	244	243	244	240	242	239	244	243	253	251	253	244.2	253.0
15 Spd	81	68	71	68	64	59	56	49	45	40	39	39	31	26	25	28	26	29	30	24	12	2	0	0	38.6	81.2
Dir	256	254	263	264	266	271	275	278	273	272	272	277	280	282	283	275	270	265	265	265	266	249	211	252	268.1	256.5
16 Spd	1	11	20	23	29	26	27	30	24	22	28	32	32	33	30	18	21	23	26	19	40	40	41	43	26.4	43.3
Dir	293	262	252	253	261	267	258	267	274	263	260	260	266	265	261	263	244	238	251	252	248	251	268	269	259.5	269.0
17 Spd	49	29	29	32	25	25	23	26	22	12	13	21	21	13	10	5	3	1	1	0	0	0	1	0	14.4	48.6
Dir	263	260	261	276	276	270	273	260	268	282	286	274	281	290	284	343	9	200	205	190	102	185	217	349	271.6	262.9
18 Spd	0	1	1	1	3	2	0	2	0	0	0	2	6	4	6	11	40	46	33	31	54	59	51	45	15.9	59.2
Dir	157	96	191	85	216	208	237	224	180	50	241	350	331	302	306	256	267	261	248	246	254	253	255	251	256.3	253.3
19 Spd	46	42	42	37	40	42	38	35	39	36	32	34	24	21	24	17	15	11	12	16	10	3	3	4	25.4	45.9
Dir	255	261	266	263	261	263	265	266	263	262	272	269	278	287	271	273	263	254	260	271	18	326	228	265.7	254.9	
20 Spd	2	1	2	4	2	2	1	1	1	0	0	2	1	2	5	4	2	1	3	9	5	5	1	3	0.9	8.7
Dir	220	174	49	213	57	27	54	180	354	33	75	44	192	266	212	215	222	215	338	263	308	9	335	210	261.2	263.2
21 Spd	6	8	4	7	6	5	3	2	1	3	1	1	4	7	4	6	6	4	7	5	6	6	3	2	1.6	7.6
Dir	262	273	292	284	269	280	316	327	281	224	24	49	347	23	104	64	61	57	57	84	65	59	72	59	10.2	272.6
22 Spd	2	2	0	1	1	0	1	3	1	2	0	1	2	4	4	2	3	1	3	7	7	2	0	8	1.8	8.4
Dir	34	28	288	262	42	244	315	277	274	297	25	231	341	317	286	303	2	336	224	270	254	225	80	279	289.4	279.4

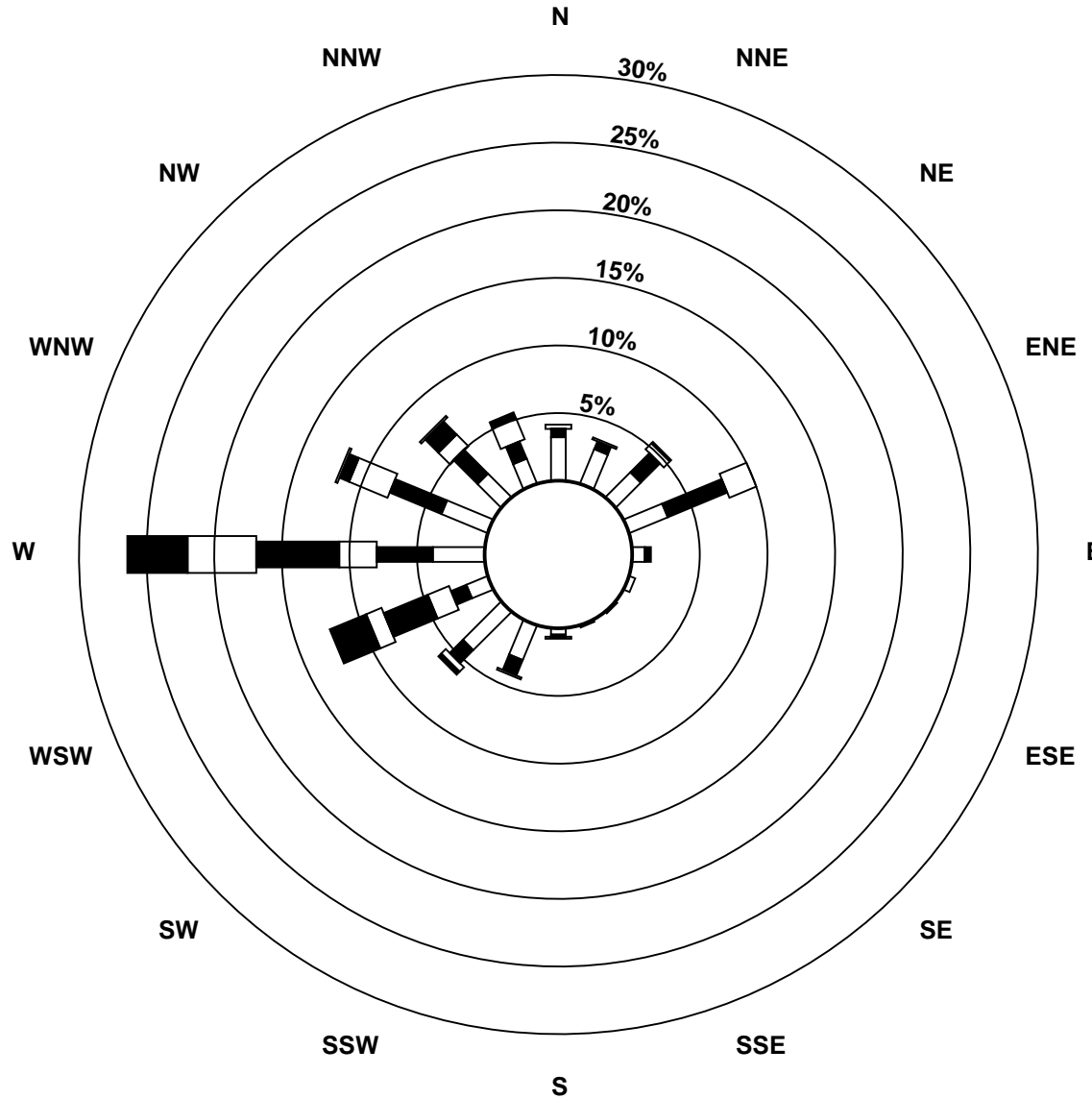
## Hourly Averages

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

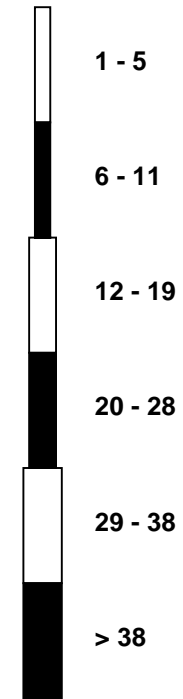
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
23 Spd	22	23	14	2	8	12	11	17	17	13	23	26	29	17	22	20	32	30	16	25	35	21	19	17	19.2	35.1
Dir	259	246	229	315	258	258	264	268	267	288	275	270	263	280	284	277	269	262	262	270	263	280	283	283	268.2	262.8
24 Spd	21	15	12	11	12	16	11	17	10	11	18	16	19	18	17	12	9	8	26	36	35	26	23	23	17.0	36.1
Dir	276	283	287	292	294	283	298	277	332	307	283	289	282	288	278	299	291	293	262	263	268	278	278	274	280.7	262.5
25 Spd	14	22	24	20	39	29	17	14	11	9	6	19	19	15	13	6	2	0	2	2	3	5	11	21	10.9	38.9
Dir	297	273	278	293	270	281	301	278	330	300	315	325	337	337	335	325	46	337	282	312	312	324	32	35	305.6	269.6
26 Spd	13	11	14	17	15	17	9	5	6	6	8	5	7	10	10	10	8	6	2	1	1	0	1	2	7.0	17.1
Dir	31	356	9	56	68	62	79	75	66	67	82	108	62	58	55	50	62	52	42	43	355	47	14	26	52.9	56.3
27 Spd	0	0	0	0	0	0	0	1	1	1	2	1	2	8	6	8	5	3	2	2	0	1	2	3	1.3	8.3
Dir	335	354	18	37	37	250	69	69	135	64	66	357	281	356	6	39	8	21	287	301	258	343	263	223	2.2	39.3
28 Spd	1	4	7	8	3	5	4	1	2	4	7	8	13	16	12	14	15	14	9	10	5	6	8	6	6.1	16.4
Dir	181	224	239	232	231	211	226	249	288	261	260	298	277	276	337	334	327	328	290	310	303	300	284	296	291.2	275.6
29 Spd	6	6	13	9	11	8	9	9	11	11	14	11	13	10	8	6	0	1	1	0	0	4	2	3	6.2	13.7
Dir	323	51	65	66	62	60	58	60	67	56	45	46	48	36	30	32	249	201	29	214	294	26	254	14	49.1	45.2
30 Spd	2	0	1	0	2	6	7	6	7	3	9	12	11	6	8	8	7	8	6	4	5	5	0	10	4.2	11.9
Dir	219	74	194	236	238	217	289	285	236	221	206	209	211	220	214	212	213	338	338	302	302	272	258	260	242.4	209.5
31 Spd	23	22	21	16	25	23	19	20	21	20	11	17	21	16	8	5	4	4	6	3	2	2	2	2	11.2	25.0
Dir	275	277	279	301	325	326	327	318	330	338	338	331	346	357	34	356	278	250	297	288	260	231	195	165	316.9	325.1
Spd	10.4	9.1	8.7	7.8	8.1	7.7	7.0	7.9	7.7	8.5	8.2	9.9	10.6	10.2	9.5	7.7	8.9	8.7	9.3	10.1	11.1	9.7	8.4	9.3	Diurnal Average	
Dir	270.5	265.7	269.4	273.5	276.7	275.2	276.7	275.1	279.4	273.9	272.1	276.0	281.2	283.9	280.6	281.0	271.4	265.1	265.4	268.2	268.7	270.2	271.4	270.6	Diurnal Maximum	
Spd	81.2	67.8	71.1	67.7	64.4	59.3	55.9	49.1	44.7	40.0	39.4	41.0	44.6	45.7	47.7	40.9	41.2	46.1	46.3	45.5	54.0	59.2	63.8	78.5	Diurnal Maximum	
Dir	256.5	254.0	262.9	264.1	265.5	271.5	275.4	278.4	273.4	272.4	271.5	261.6	268.6	269.1	269.5	244.2	240.4	261.4	238.7	244.4	254.3	253.3	250.9	253.0	Diurnal Maximum	
Maximum Speed Value: 81 km/h on Jan 15 01:00																		Minimum Speed Value: 0 km/h on Jan 18 09:00						Hours in Service: 744		
Maximum Daily Speed Average: 38.6 km/h on Jan 15																		Minimum Daily Speed Average: 0.4 km/h on Jan 8						Hours of Data: 732		
Maximum Diurnal Speed Average: 11.1 km/h at hour 21																		Minimum Diurnal Speed Average: 7.0 km/h at hour 7						Hours of Missing Data: 12		
Monthly Average Velocity: 8.91 km/h 273.31 deg																		Speed Percentiles: P <sub>1</sub> = 0.2 P <sub>10</sub> = 0.9 Q <sub>1</sub> = 2.5 Median = 7.5 Q <sub>3</sub> = 18.0 P <sub>90</sub> = 31.5 P <sub>99</sub> = 63.3						Percent Operational Time: 98.4		
All monthly, daily, and diurnal averages have been calculated using vector methods																										
N - Not Valid																										
Frequency Distribution																										
		Speed Range (km/h)																								
Direction	0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total																			
North	44	11	3	2	0	0	60																			
NorthEast	55	37	18	1	0	0	111																			
East	22	11	5	0	0	0	38																			
SouthEast	6	0	0	0	0	0	6																			
South	22	3	1	0	0	0	26																			
SouthWest	55	14	8	13	4	6	100																			
West	53	48	41	56	40	42	280																			
NorthWest	38	36	23	13	1	0	111																			
Total	295	160	99	85	45	48	732																			

**Wind Rose**

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



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



# Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Evergreen Park - January 2014

Maximum Speed: 82 km/h on Jan 15 01:00	Maximum Daily Speed Average: 39.4 km/h on Jan 15	Hours in Service: 744
Minimum Speed: 0 km/h on Jan 27 01:00	Minimum Daily Speed Average: 2.4 km/h on Jan 27	Hours of Data: 732
Maximum Diurnal Speed Average: 15.6 km/h at hour 13	Minimum Diurnal Speed Average: 11.6 km/h at hour 23	Hours of Missing Data: 12
Monthly Average Speed: 13.01 km/h	Percentiles: P <sub>1</sub> = 0.6 P <sub>10</sub> = 1.7 Q <sub>1</sub> = 3.5 Median = 8.1 Q <sub>3</sub> = 18.3 P <sub>90</sub> = 31.6 P <sub>99</sub> = 63.8	Percent Operational Time: 98.4

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	N	N	N	N	N	N	N	N	N	N	N	N	13	11	5	5	11	6	4	4	3	7	8	8	--	12.8
2-Jan	8	12	15	12	22	24	16	18	21	26	28	25	24	16	11	5	5	3	2	1	5	6	3	2	12.9	28.1
3-Jan	4	2	1	1	2	4	5	6	12	16	18	16	17	18	14	12	5	2	3	7	10	15	15	14	9.1	18.2
4-Jan	10	9	10	9	8	7	8	5	7	8	8	7	9	6	10	9	7	9	6	7	5	4	2	2	7.1	10.1
5-Jan	1	2	2	1	1	2	2	1	0	1	2	4	3	5	4	4	6	4	3	5	7	7	5	4	3.1	6.6
6-Jan	4	6	5	2	4	8	11	8	12	29	16	15	12	9	15	13	9	7	6	6	6	5	3	4	9.0	29.4
7-Jan	9	16	17	15	14	14	12	10	10	11	12	8	9	7	11	8	8	4	4	4	3	3	4	2	9.0	17.5
8-Jan	1	1	3	3	4	4	6	4	4	2	3	2	2	2	5	5	4	1	2	2	3	3	4	3	3.0	5.7
9-Jan	1	1	1	1	2	4	4	5	4	23	26	28	32	43	36	26	31	21	14	10	16	11	6	17	15.1	42.8
10-Jan	13	5	8	10	3	2	5	3	5	6	5	18	26	27	28	30	27	20	13	7	4	1	3	3	11.3	29.7
11-Jan	5	3	3	4	7	10	11	9	8	5	2	3	10	15	10	7	7	10	28	27	31	24	24	21	11.9	31.3
12-Jan	20	18	14	15	13	10	5	2	1	3	2	2	4	4	5	4	3	4	3	2	4	3	5	6	6.4	20.2
13-Jan	4	4	2	1	5	4	11	24	33	38	36	41	45	46	48	39	36	40	40	39	36	36	32	36	28.2	48.0
14-Jan	30	27	25	24	8	8	13	9	26	23	24	18	16	24	30	41	41	43	47	46	42	56	64	79	31.9	78.9
15-Jan	82	68	71	68	65	60	56	50	45	40	40	39	31	26	26	25	28	26	30	30	24	13	2	1	39.4	81.7
16-Jan	3	12	21	23	30	27	27	30	25	22	28	32	32	33	31	18	21	23	26	20	40	41	42	44	27.1	43.8
17-Jan	49	29	29	32	25	25	23	26	22	12	14	21	21	14	11	5	3	1	1	1	3	1	1	1	15.4	49.0
18-Jan	1	1	3	3	3	3	2	2	1	1	1	2	7	7	8	11	40	46	34	31	55	60	51	45	17.4	59.6
19-Jan	46	43	42	37	40	42	38	35	40	36	32	34	25	22	25	17	15	11	13	16	10	3	4	4	26.2	46.4
20-Jan	2	1	2	5	3	2	2	2	1	1	1	2	2	3	5	4	3	1	6	11	7	5	1	3	3.1	11.2
21-Jan	6	8	5	7	6	5	3	3	5	4	2	1	4	7	7	7	6	5	7	5	6	7	3	3	5.1	7.8
22-Jan	3	2	2	2	2	1	2	4	3	3	1	1	2	4	5	3	3	2	3	7	7	2	2	9	3.2	9.1
23-Jan	22	23	14	8	8	12	11	18	18	14	23	27	29	18	22	20	32	30	16	25	35	22	20	18	20.2	35.4
24-Jan	21	15	12	11	13	17	12	17	10	12	18	17	19	18	17	13	9	9	26	36	36	27	23	23	18.0	36.3
25-Jan	15	22	24	21	39	31	18	15	12	10	7	19	20	16	13	6	3	2	2	2	4	5	12	21	14.1	39.2
26-Jan	13	11	15	18	16	17	9	5	6	6	8	6	8	10	11	10	9	6	2	1	1	0	1	2	8.1	18.3
27-Jan	0	1	0	0	1	0	1	2	1	1	2	2	3	8	7	9	5	3	2	3	1	1	3	4	2.4	8.5
28-Jan	2	4	7	8	4	5	4	2	3	4	7	9	13	17	12	14	15	15	10	11	7	8	8	7	8.2	17.3
29-Jan	6	8	14	10	12	9	9	9	11	11	14	11	13	10	9	7	2	2	1	1	1	5	3	3	7.5	14.0
30-Jan	4	1	1	1	3	6	8	7	7	3	9	12	11	6	9	8	7	8	6	5	6	6	1	11	6.1	12.0
31-Jan	23	22	21	17	26	23	20	21	22	21	12	17	22	17	9	6	4	4	6	4	3	3	2	2	13.6	25.6
	13.7	12.6	13.1	12.4	12.9	12.9	11.8	11.8	12.5	13.1	13.3	14.7	15.6	15.2	14.7	12.7	13.2	11.9	11.7	12.1	13.6	12.5	11.6	12.9	Diurnal Average	
	81.7	68.2	71.5	68.1	64.8	59.7	56.4	49.6	44.9	40.3	39.6	41.3	44.9	46.0	48.0	41.3	41.5	46.3	46.7	45.9	54.6	59.6	64.3	78.9	Diurnal Maximum	

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

# Hourly Standard Deviations

Wind Direction (WD) - deg  
Evergreen Park - January 2014

Maximum Value: 98.6 deg on Jan 17 20:00																								Hours in Service:	744
Minimum Value: 4.5 deg on Jan 16 19:00																								Hours of Data:	732
Percentiles: P <sub>1</sub> = 5.1 P <sub>10</sub> = 6.9 Q <sub>1</sub> = 11.7 Median = 22.0 Q <sub>3</sub> = 49.1 P <sub>90</sub> = 75.9 P <sub>99</sub> = 95.6																								Hours of Missing Data:	12
																								Hours of Calibration:	0
																								Percent Operational Time:	98.4
Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	N	N	N	N	N	N	N	N	N	N	N	N	47	36	32	24	33	57	58	68	64	30	23	13	67.9
2-Jan	17	15	44	18	10	6	7	9	12	6	5	6	5	7	12	28	16	59	37	43	32	25	70	40	70.1
3-Jan	50	57	53	53	43	38	9	13	15	15	13	18	14	14	14	13	26	74	60	40	23	18	18	12	74.4
4-Jan	16	16	18	19	18	19	13	15	20	20	20	30	23	43	26	19	15	10	37	62	65	79	65	88	88.0
5-Jan	87	79	65	42	32	90	76	92	98	60	35	34	43	41	54	80	37	41	30	24	25	33	30	40	97.5
6-Jan	59	21	69	45	69	23	43	40	20	7	38	17	19	21	15	23	26	47	27	36	22	30	33	37	69.3
7-Jan	41	17	15	19	15	15	18	21	19	17	19	29	18	29	15	22	19	59	26	63	68	40	53	81	80.8
8-Jan	89	92	67	88	46	71	68	61	96	89	89	76	44	39	15	14	26	48	65	43	44	50	50	91	96.0
9-Jan	87	75	96	91	65	75	62	47	58	27	7	12	6	7	9	8	9	16	46	71	50	88	14	96.2	
10-Jan	14	41	8	75	71	76	54	81	31	22	31	7	5	6	6	7	8	6	11	16	49	68	29	33	80.6
11-Jan	50	79	50	37	13	10	13	13	18	22	32	46	8	17	20	29	23	21	12	16	15	15	15	13	78.6
12-Jan	15	16	16	16	20	26	44	65	97	74	48	48	24	28	27	30	41	37	79	89	56	75	55	35	96.5
13-Jan	74	84	54	60	88	64	24	6	7	8	6	6	7	7	6	7	6	6	6	6	5	6	5	6	88.1
14-Jan	8	6	5	10	32	29	15	42	12	12	7	8	8	7	11	8	7	7	8	8	8	7	7	6	42.4
15-Jan	7	6	6	7	6	7	8	8	6	7	7	8	9	10	12	8	7	6	6	6	7	34	60	84	84.0
16-Jan	63	18	6	5	6	7	7	8	13	7	7	7	8	8	6	14	11	11	4	9	7	9	13	9	62.7
17-Jan	8	8	7	8	11	8	9	8	7	16	14	8	15	17	24	37	32	82	85	99	82	96	87	89	98.6
18-Jan	83	78	77	82	48	89	95	25	97	80	90	39	24	63	47	25	6	9	9	8	6	6	6	6	96.6
19-Jan	8	7	6	7	6	7	7	7	6	6	8	7	13	19	9	9	9	11	9	6	17	45	66	18	66.4
20-Jan	35	82	65	84	64	52	76	68	61	94	81	36	88	45	22	24	35	84	78	62	51	23	82	51	93.8
21-Jan	22	15	23	21	12	21	30	46	72	78	79	54	26	25	54	19	16	30	13	22	26	22	35	28	78.7
22-Jan	31	37	91	89	54	90	60	49	71	46	78	71	43	31	31	56	15	57	59	10	30	68	78	26	91.3
23-Jan	5	7	11	75	12	12	8	13	16	26	10	9	7	18	13	11	7	5	16	12	8	12	10	12	75.0
24-Jan	11	13	15	19	19	18	25	16	19	25	11	18	10	13	10	20	20	25	5	5	5	9	10	8	25.5
25-Jan	16	8	10	16	8	22	18	19	31	26	30	14	9	12	11	35	84	79	34	38	31	27	15	9	84.0
26-Jan	13	19	22	22	18	14	20	20	12	11	21	52	36	19	14	15	20	13	14	35	39	55	64	35	63.6
27-Jan	51	54	46	59	50	80	67	81	73	47	25	64	49	23	22	15	25	27	37	34	63	42	57	73	81.0
28-Jan	71	44	32	12	81	50	29	68	55	34	12	28	14	21	24	11	10	12	30	15	34	34	26	27	80.9
29-Jan	14	57	15	20	16	17	18	16	18	16	13	17	16	20	20	15	81	74	85	79	77	42	79	45	85.0
30-Jan	67	77	71	78	58	12	36	29	18	32	9	6	9	21	13	19	14	22	17	27	28	24	94	23	94.0
31-Jan	9	10	8	17	13	12	11	12	12	10	15	14	17	22	17	36	28	23	31	51	66	63	55	55	66.3
89.0 92.1 96.2 90.6 88.1 90.3 94.8 91.7 97.5 93.8 89.5 75.8 88.3 62.8 53.9 79.8 84.0 84.2 85.0 98.6 81.6 95.8 94.0 91.3																									
N - Not Valid																									



PAZA

## Smoky Heights Station

Monthly Summary Tables, Graphs and  
Roses

## Hourly Averages

## Sulphur Dioxide (SO<sub>2</sub>) - ppb Smoky Heights - January 2014

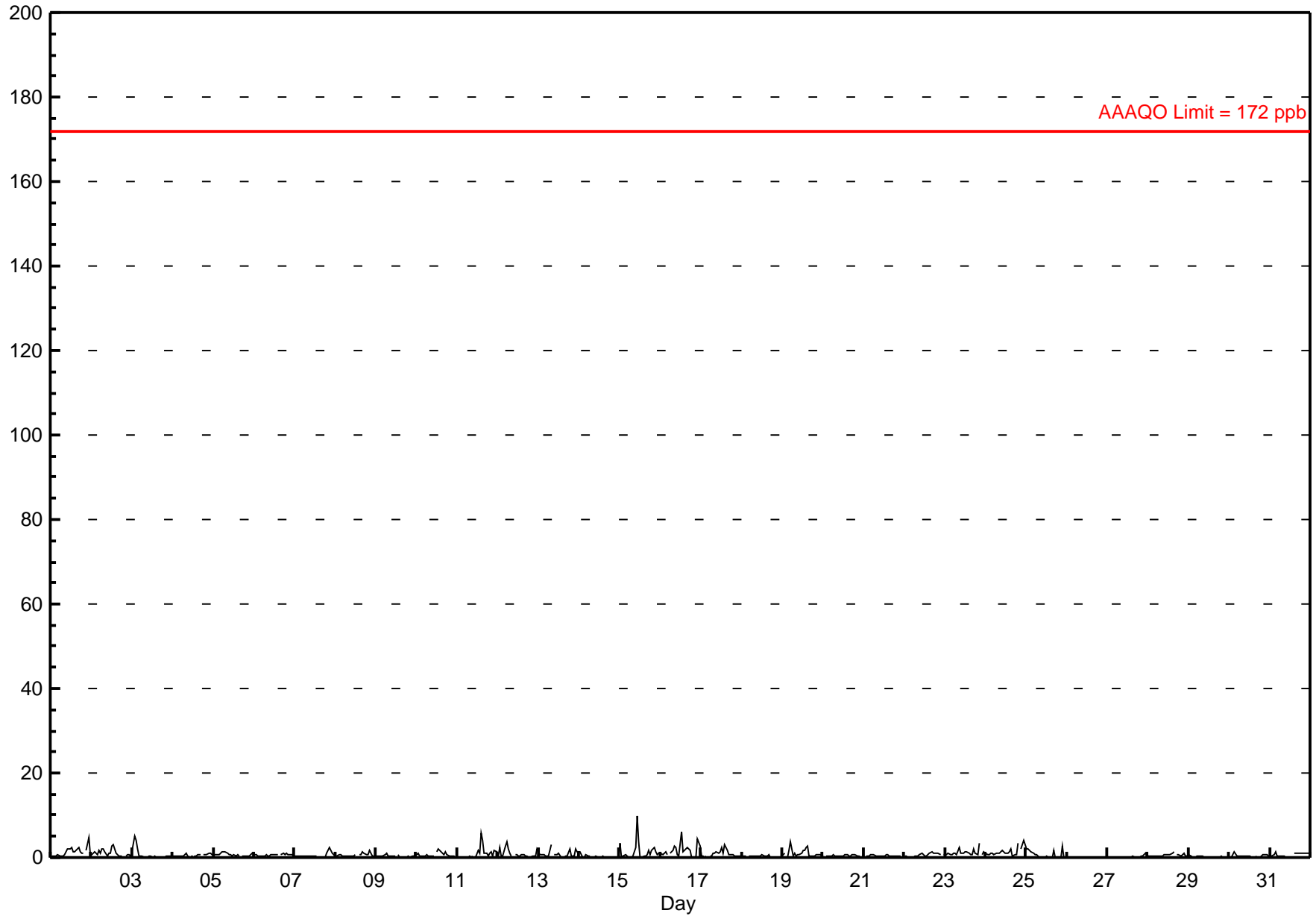
Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 9.7 ppb on Jan 15 11:00	Maximum Daily Average: 1.5 ppb on Jan 16		Hours of Data:	710
Minimum Value: 0 ppb on Jan 26 01:00	Minimum Daily Average: 0.0 ppb on Jan 26		Hours of Missing Data:	34
Maximum Diurnal Average: 1.0 ppb at hour 13	Minimum Diurnal Average: 0.5 ppb at hour 19		Hours of Calibration:	34
Monthly Average: 0.69 ppb	Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.1 Q <sub>1</sub> = 0.2 Median = 0.4 Q <sub>3</sub> = 0.9 P <sub>90</sub> = 1.5 P <sub>99</sub> = 3.9		Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	0	0	0	0	1	0	0	0	1	1	2	2	3	1	1	2	2	2	1	1	A	2	5	1	1.3	4.7
2-Jan	1	1	1	1	2	1	2	2	1	0	1	1	3	3	1	1	1	0	0	A	0	1	1	0	1.1	3.2
3-Jan	2	5	4	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0.7	5.2
4-Jan	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1	1	1	A	1	1	1	1	1	1	0.5	1.0
5-Jan	1	1	1	1	1	1	1	1	1	1	1	0	1	0	1	0	A	0	0	0	0	0	0	1	0.7	1.5
6-Jan	1	1	0	0	0	0	0	1	0	0	1	1	1	1	1	A	1	1	1	1	1	1	1	0	0.6	1.0
7-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	1	3	2	1	1	0.5	2.5
8-Jan	0	0	1	1	0	0	0	0	0	0	0	0	1	A	1	1	1	1	1	1	2	1	0	0	0.6	1.7
9-Jan	0	0	0	0	0	1	1	1	0	0	0	0	A	1	0	0	0	0	0	0	0	0	0	1	0.3	1.0
10-Jan	1	1	0	0	0	0	1	0	0	0	0	A	1	2	1	1	1	1	1	0	0	0	0	0	0.7	1.9
11-Jan	0	0	0	0	0	0	0	0	0	0	A	0	2	1	6	4	1	1	0	1	1	0	2	1	0.9	5.6
12-Jan	0	2	0	0	3	4	2	1	0	A	1	1	0	0	1	1	0	0	0	0	0	0	0	2	0.9	3.8
13-Jan	1	1	1	1	0	0	0	3	A	1	1	1	1	0	0	0	0	0	2	0	0	0	2	1	0.8	3.2
14-Jan	1	1	0	0	1	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.4
15-Jan	4	0	0	1	0	0	A	0	0	2	10	4	0	0	0	0	1	2	1	2	2	1	1	1	1.4	9.7
16-Jan	1	1	1	1	1	A	1	2	3	3	1	0	6	1	2	2	2	2	0	0	0	0	4	3	1.5	6.2
17-Jan	0	0	0	0	A	0	0	1	1	1	1	1	2	1	3	2	1	1	1	1	0	0	0	0	0.9	3.1
18-Jan	0	0	0	A	0	0	1	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0.3	0.6
19-Jan	1	1	A	A	2	4	0	1	0	1	1	2	2	3	3	0	0	0	0	1	1	1	1	0	1.0	3.8
20-Jan	0	A	0	0	0	0	1	0	0	0	0	0	1	1	0	0	1	1	1	1	0	0	0	0	0.4	0.7
21-Jan	A	0	0	0	1	1	1	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	A	0.4	0.6
22-Jan	0	0	0	0	0	0	0	0	0	1	1	1	0	0	1	1	1	1	1	1	1	1	1	1	0.6	1.3
23-Jan	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	2	1	1	3	A	1	1	1.1	3.5
24-Jan	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	2	0	1	1	3	A	2	4	3	1.4	4.0
25-Jan	2	2	2	1	1	1	1	0	0	0	0	0	0	0	0	0	2	0	0	A	0	3	0	0	0.7	2.7
26-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0.0	0.1
27-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	1	1	0.1	0.8
28-Jan	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	A	A	1	1	0	1	1	0	0	0.5	1.3
29-Jan	1	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	0.6
30-Jan	0	0	1	1	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	1	1	1	0	0.3	1.2
31-Jan	0	0	1	1	0	0	0	0	0	0	C	C	C	1	1	1	1	1	1	1	1	1	1	1	0.7	1.3
	0.7	0.7	0.6	0.5	0.6	0.6	0.6	0.7	0.5	0.6	0.9	0.6	1.0	0.7	1.0	0.9	0.7	0.7	0.5	0.6	0.7	0.7	0.9	0.8		Diurnal Average
	3.6	5.2	4.1	2.2	2.8	3.8	2.1	3.2	2.8	2.5	9.7	3.6	6.2	3.2	5.6	4.0	2.3	1.9	2.0	3.4	3.5	2.7	4.7	3.1		Diurnal Maximum

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

### Hourly Averages

Sulphur Dioxide (SO<sub>2</sub>) - ppb  
Smoky Heights - January 2014



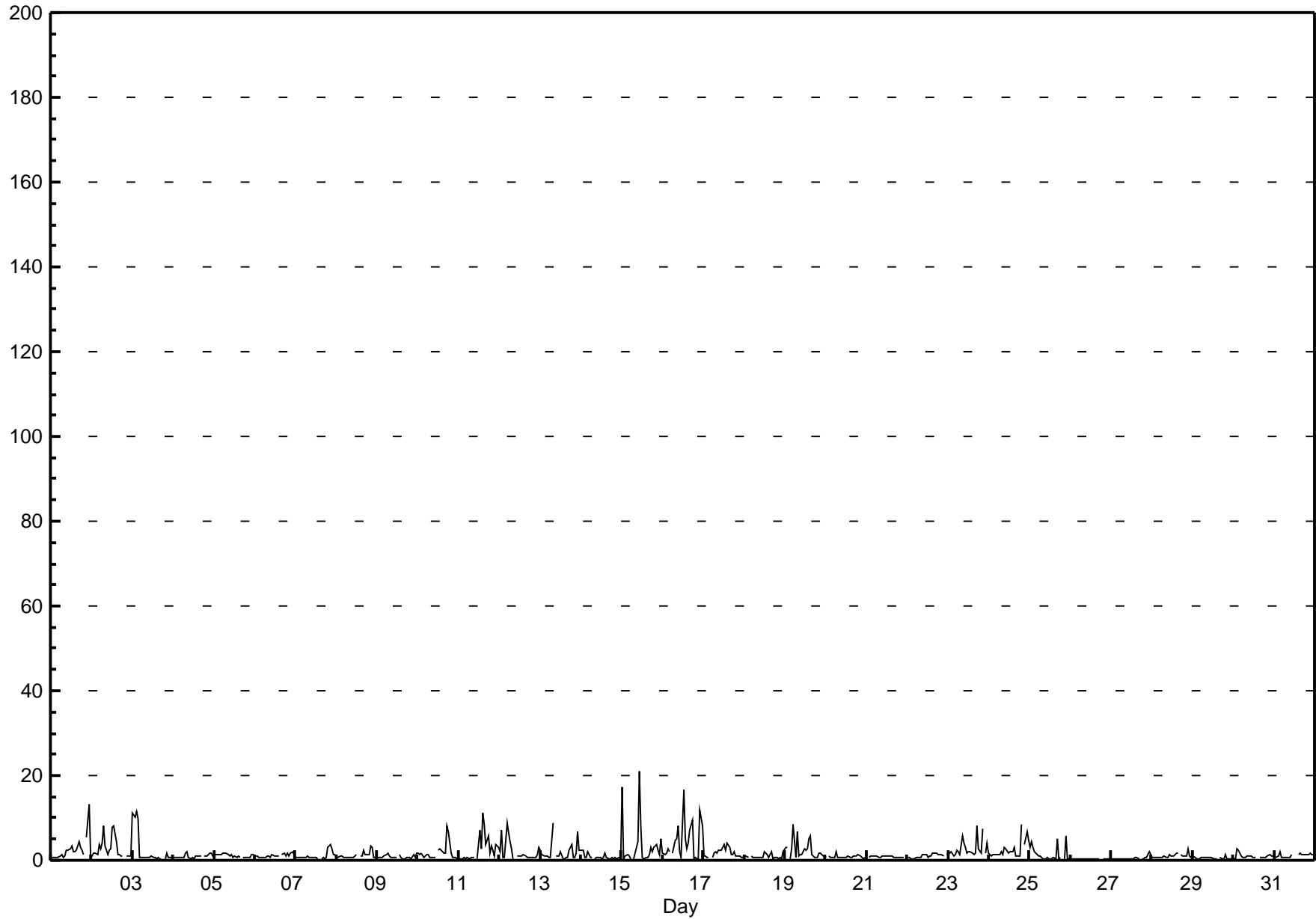
## Hourly Maximums

## Sulphur Dioxide (SO<sub>2</sub>) - ppb Smoky Heights - January 2014

Maximum Value: 20.9 ppb on Jan 15 11:00		Maximum Daily Average: 4.3 ppb on Jan 16		Hours in Service: 744																							
Minimum Value: 0 ppb on Jan 14 20:00		Minimum Daily Average: 0.4 ppb on Jan 26		Hours of Data: 710																							
Maximum Diurnal Average: 2.2 ppb at hour 23		Minimum Diurnal Average: 1.2 ppb at hour 7		Hours of Missing Data: 34																							
Monthly Average: 1.61 ppb		Percentiles: P <sub>1</sub> = 0.3 P <sub>10</sub> = 0.5 Q <sub>1</sub> = 0.6 Median = 0.9 Q <sub>3</sub> = 1.6 P <sub>90</sub> = 3.2 P <sub>99</sub> = 11.3		Hours of Calibration: 34																							
				Percent Operational Time: 100.0																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	1	1	1	1	1	1	2	1	1	2	2	3	3	2	2	2	4	3	3	1	A	5	13	1	2.4	13.3	
2-Jan	1	2	2	1	4	3	4	8	3	1	3	3	8	8	5	1	1	1	1	A	1	1	1	1	2.7	8.3	
3-Jan	11	10	11	10	1	1	1	1	1	1	1	1	1	0	1	0	0	A	1	2	1	1	1	2.4	11.4		
4-Jan	1	1	1	1	1	1	1	2	2	1	0	1	1	1	1	1	A	1	1	1	2	2	1	0.9	1.9		
5-Jan	1	1	1	1	1	2	2	2	1	1	1	1	1	1	1	A	1	1	1	1	1	1	2	1.2	1.9		
6-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	2	1	2	1	2	2	1	1.1	2.2		
7-Jan	1	1	1	1	1	1	1	1	1	1	1	1	0	A	1	1	0	1	3	4	3	1	1	1.1	3.7		
8-Jan	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	2	1	1	1	3	3	1	1	1.2	3.4		
9-Jan	1	1	1	1	1	1	2	1	1	1	1	A	1	1	0	0	1	1	1	0	1	1	2	0.8	1.8		
10-Jan	2	1	2	1	1	1	1	1	1	1	A	2	3	2	2	2	8	7	2	1	1	1	0	1.8	8.1		
11-Jan	0	0	0	1	0	1	0	1	1	1	A	0	7	3	11	8	4	6	2	3	2	1	4	3	2.6	11.2	
12-Jan	2	7	1	1	9	7	4	3	0	A	1	1	1	1	1	1	1	1	1	1	1	1	3	2.1	8.7		
13-Jan	2	1	1	1	1	1	1	9	A	1	1	1	2	0	0	1	1	2	4	1	1	2	7	2	1.8	8.8	
14-Jan	2	2	1	1	2	1	1	A	0	1	1	1	0	1	2	1	0	0	1	0	1	0	1	1	0.8	2.4	
15-Jan	17	0	1	1	1	0	A	0	2	4	21	8	1	0	1	1	1	3	2	3	4	2	1	5	3.5	20.9	
16-Jan	2	1	2	3	2	A	2	5	5	8	2	1	16	5	3	4	7	10	0	1	0	0	12	8	4.3	16.4	
17-Jan	1	1	1	1	A	1	2	2	2	2	2	3	4	2	4	3	1	1	2	1	1	1	1	1	1.7	4.1	
18-Jan	1	1	1	A	1	1	1	1	1	1	1	1	2	1	1	2	0	1	1	0	1	1	2	0.9	2.2		
19-Jan	3	3	A	0	3	8	1	7	1	1	3	2	3	5	6	1	1	1	1	2	2	1	1	2.4	8.4		
20-Jan	1	A	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	0	1	0.9	2.1	
21-Jan	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	0.9	1.2	
22-Jan	1	1	1	1	0	1	1	1	1	1	1	1	1	1	2	2	2	2	1	1	1	1	A	1	1.0	1.7	
23-Jan	1	2	2	1	1	2	2	1	6	4	3	2	2	2	2	1	2	8	3	2	8	A	2	4	2.7	8.3	
24-Jan	2	1	1	1	1	1	1	2	1	3	3	2	2	2	2	3	1	1	1	8	A	4	7	5	2.5	8.4	
25-Jan	3	4	3	2	2	1	1	1	0	0	1	0	0	0	1	1	5	0	1	A	0	6	0	0	1.5	5.9	
26-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	0	0	0	0	0.4	0.5	
27-Jan	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1	1	A	0	0	1	1	2	1	0.5	2.0	
28-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	A	1	1	1	1	1	3	1	1	1.0	2.7	
29-Jan	1	1	0	0	0	1	1	1	1	1	1	0	0	0	A	1	0	0	1	0	0	0	0	0	0.6	1.3	
30-Jan	0	0	3	2	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	0.9	2.9	
31-Jan	1	1	1	2	1	1	1	1	1	1	1	C	C	C	1	2	1	1	1	1	1	2	1	2	1.1	2.1	
		2.1	1.6	1.4	1.3	1.3	1.2	1.8	1.2	1.4	1.9	1.3	2.2	1.5	1.8	1.7	1.6	2.0	1.3	1.4	1.4	1.6	2.2	1.7	Diurnal Average		
		17.1	10.3	11.4	9.8	8.7	8.4	4.3	8.8	5.8	8.1	20.9	8.1	16.4	8.3	11.2	8.5	7.2	9.6	6.9	8.4	7.6	5.9	13.3	8.1	Diurnal Maximum	
C - Calibration		A - Automated Daily Zero Span																									

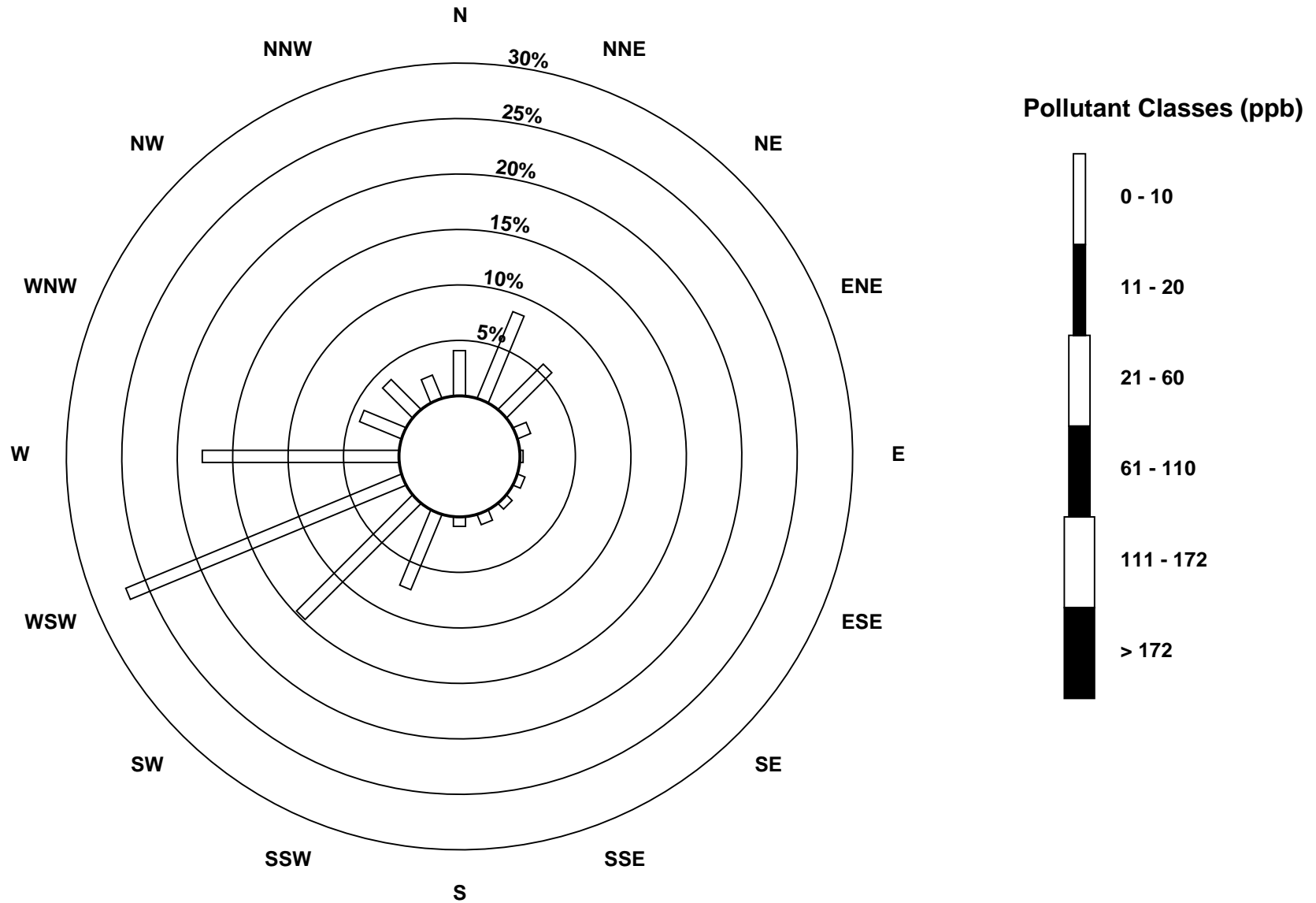
# Hourly Maximums

Sulphur Dioxide (SO<sub>2</sub>) - ppb  
Smoky Heights - January 2014



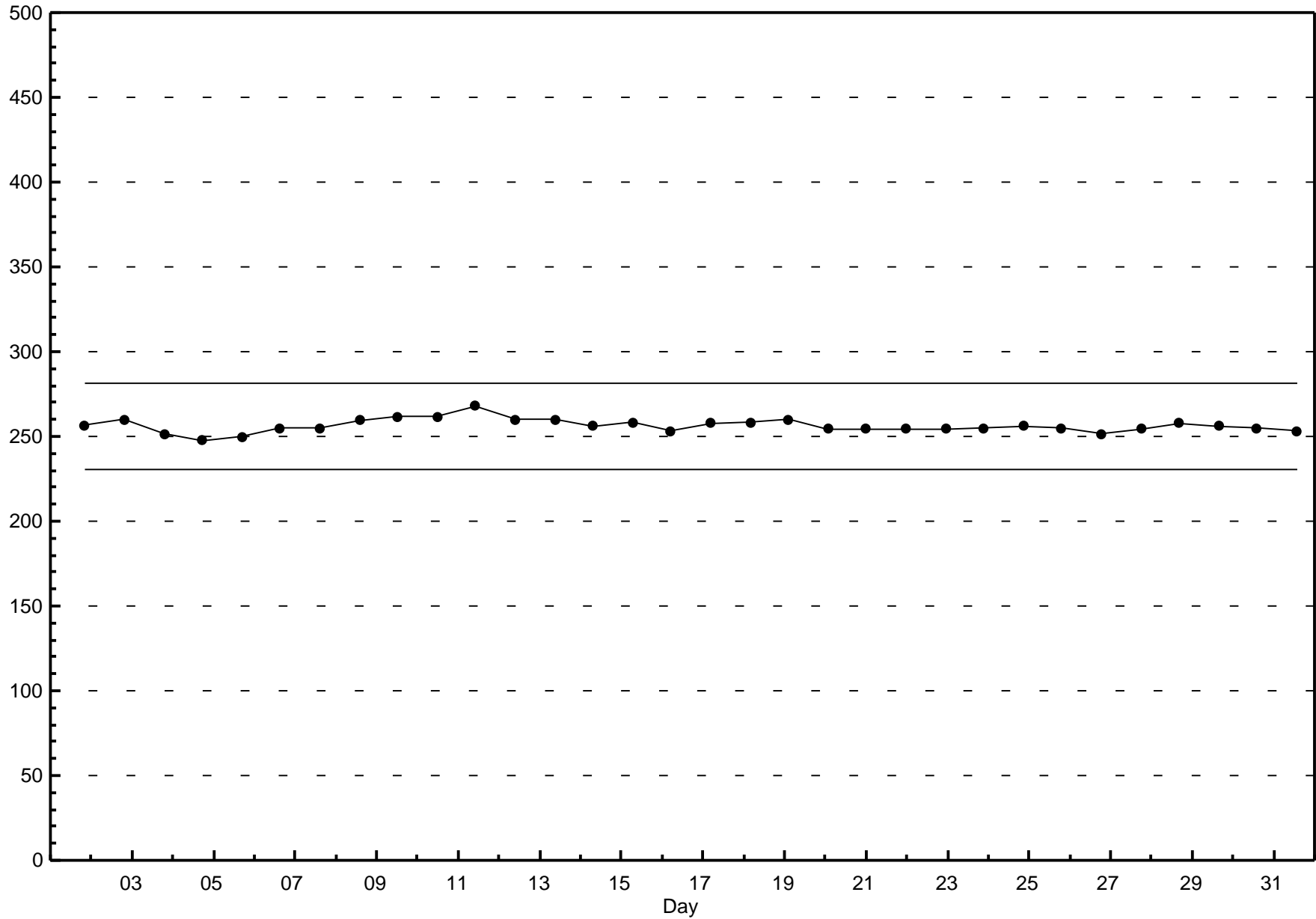
**Pollutant Rose**

**Sulphur Dioxide (SO<sub>2</sub>) - ppb**  
**Smoky Heights - January 2014**



### Span Responses

Sulphur Dioxide (SO<sub>2</sub>)  
Smoky Heights - January 2014



## Hourly Averages

## Total Reduced Sulphur (TRS) - ppb

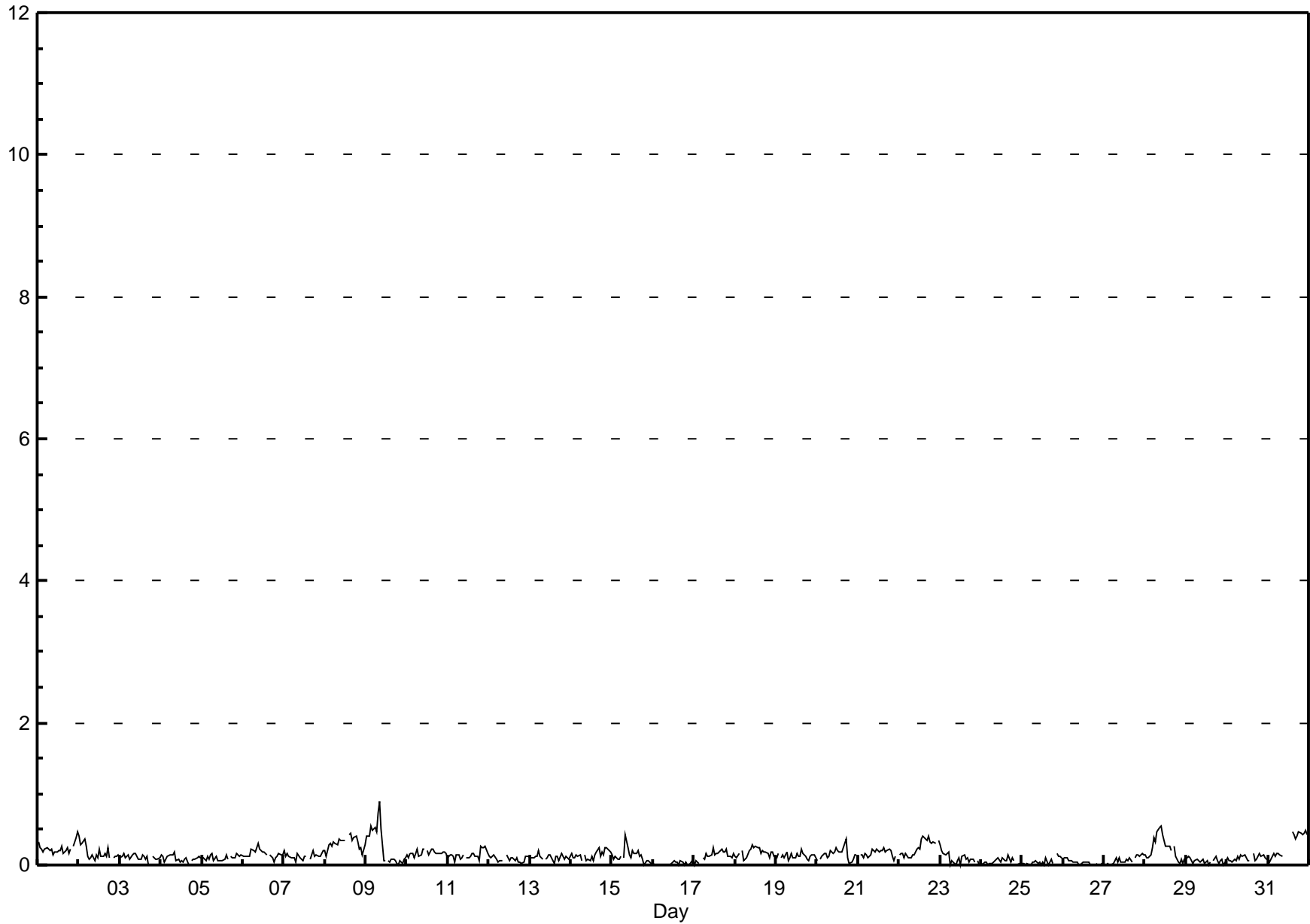
### Smoky Heights - January 2014

Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 0.9 ppb on Jan 9 09:00	Maximum Daily Average: 0.3 ppb on Jan 8		Hours of Data:	709
Minimum Value: 0 ppb on Jan 4 17:00	Minimum Daily Average: 0.0 ppb on Jan 16		Hours of Missing Data:	35
Maximum Diurnal Average: 0.2 ppb at hour 9	Minimum Diurnal Average: 0.1 ppb at hour 2		Hours of Calibration:	35
Monthly Average: 0.14 ppb	Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.0 Q <sub>1</sub> = 0.1 Median = 0.1 Q <sub>3</sub> = 0.2 P <sub>90</sub> = 0.3 P <sub>99</sub> = 0.5		Percent Operational Time:	100.0

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

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



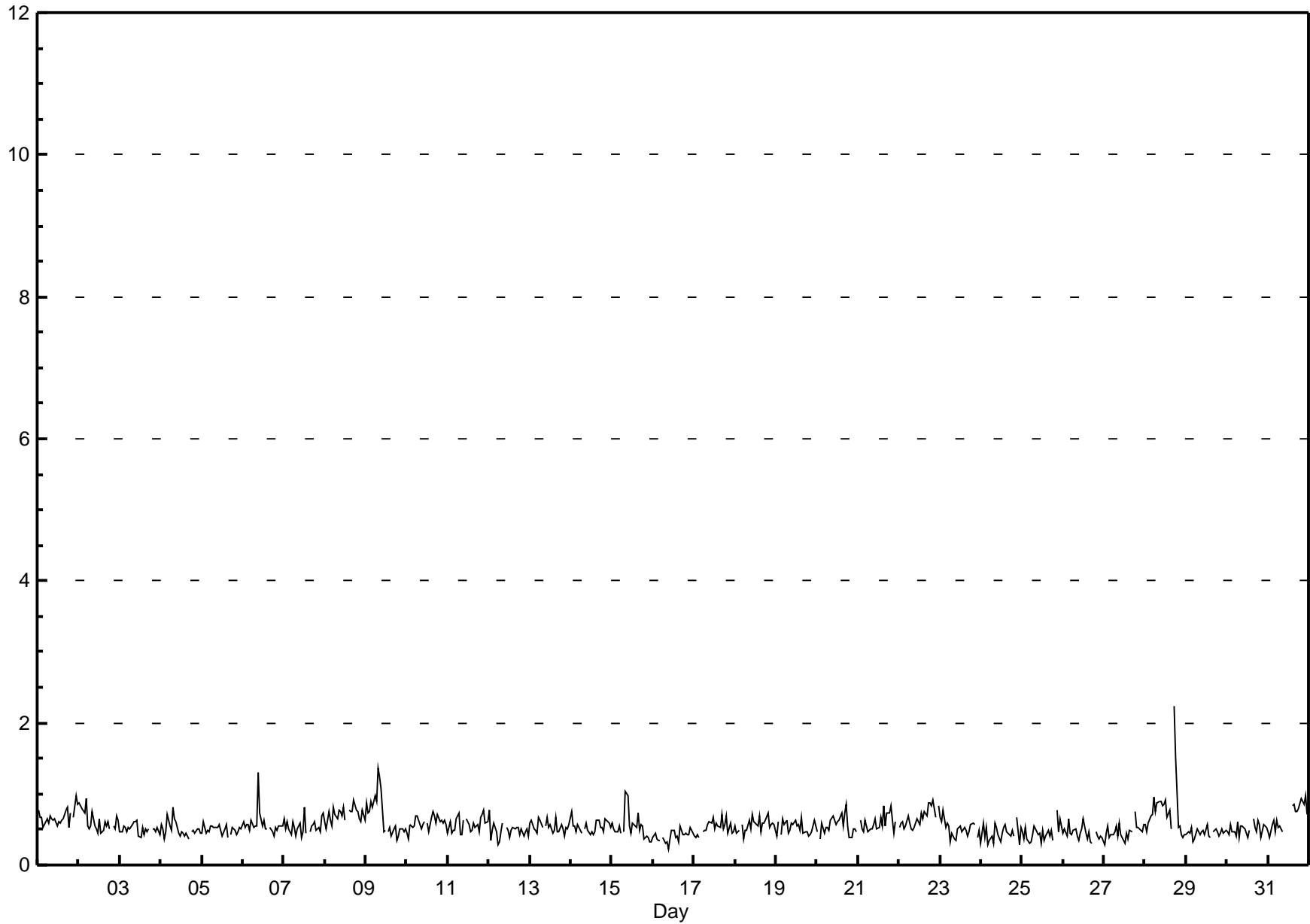


## Hourly Maximums

Total Reduced Sulphur (TRS) - ppb

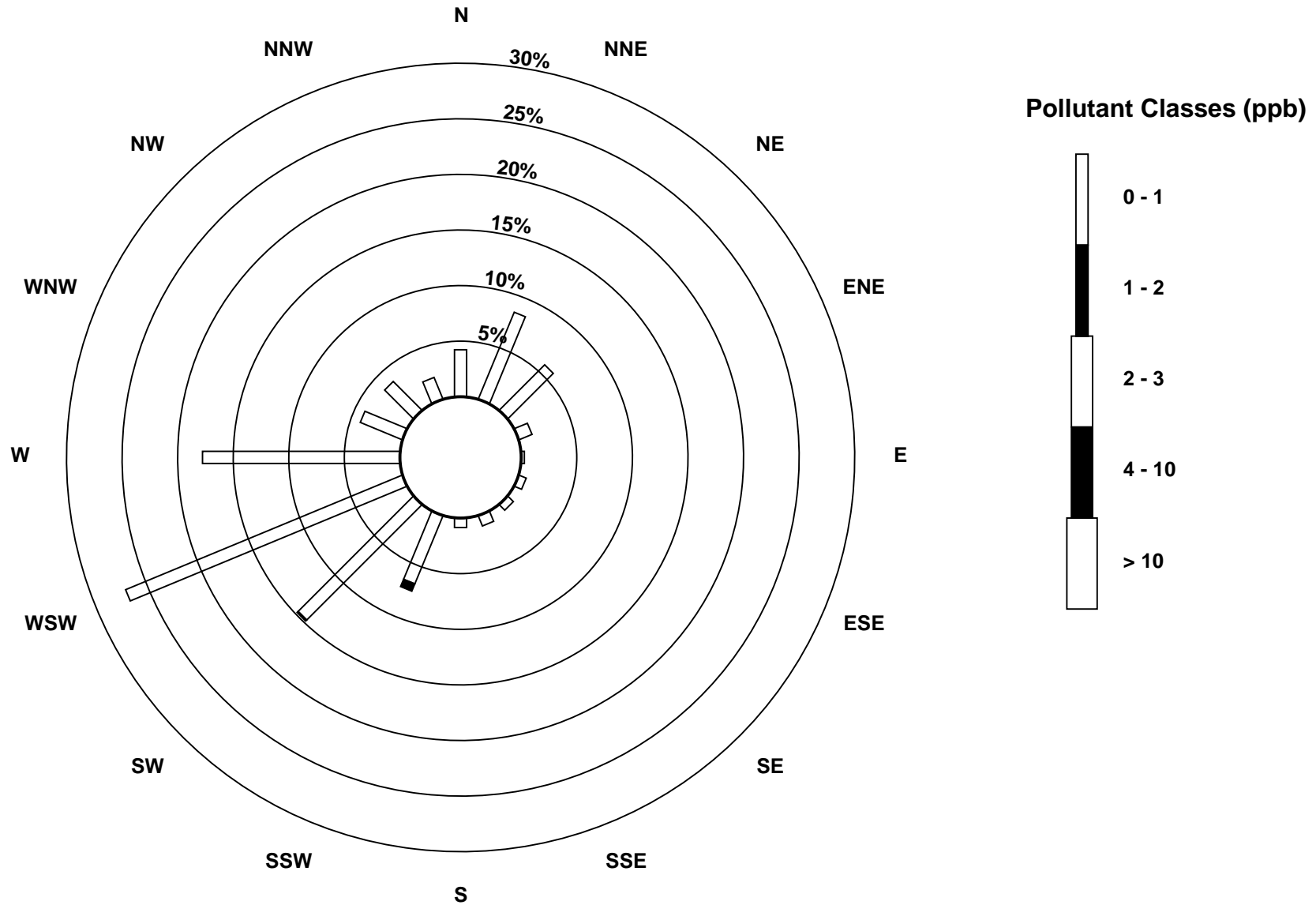
Smoky Heights - January 2014

Maximum Value: 2.2 ppb on Jan 28 18:00		Maximum Daily Average: 0.8 ppb on Jan 28		Hours in Service: 744																							
Minimum Value: 0 ppb on Jan 16 10:00		Minimum Daily Average: 0.4 ppb on Jan 16		Hours of Data: 709																							
Maximum Diurnal Average: 0.6 ppb at hour 18		Minimum Diurnal Average: 0.5 ppb at hour 14		Hours of Missing Data: 35																							
Monthly Average: 0.55 ppb		Percentiles: P <sub>1</sub> = 0.3 P <sub>10</sub> = 0.4 Q <sub>1</sub> = 0.5 Median = 0.5 Q <sub>3</sub> = 0.6 P <sub>90</sub> = 0.7 P <sub>99</sub> = 1.0		Hours of Calibration: 35																							
				Percent Operational Time: 100.0																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	0.7	1.0	
2-Jan	1	1	1	1	1	1	1	1	1	1	0	0	1	0	0	1	1	1	1	A	1	1	1	1	0.6	0.9	
3-Jan	0	0	1	1	0	1	1	1	1	1	1	0	0	1	0	0	0	0	A	1	1	0	1	0	0.5	0.6	
4-Jan	1	1	0	0	1	1	0	1	1	1	0	0	0	0	0	0	0	A	0	0	0	1	1	0	0.5	0.8	
5-Jan	0	1	0	0	0	1	1	1	1	1	1	0	0	1	1	0	A	0	1	0	0	0	1	1	0.5	0.6	
6-Jan	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	A	1	0	0	1	0	1	1	1	0.6	1.3	
7-Jan	1	1	1	1	0	1	1	0	1	1	0	0	1	0	A	0	1	1	1	1	0	1	0	1	1	0.5	0.8
8-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	0.9
9-Jan	1	1	1	1	1	1	1	1	1	1	0	0	A	1	0	1	0	1	1	1	0	0	1	1	0	0.7	1.4
10-Jan	0	0	1	1	1	1	1	1	0	1	1	A	1	0	1	1	1	1	1	1	1	1	1	1	1	0.6	0.7
11-Jan	0	1	0	0	0	1	1	0	0	1	A	1	1	0	0	1	1	1	0	1	1	1	1	1	1	0.6	0.8
12-Jan	1	0	0	1	0	0	0	0	1	A	1	0	0	0	1	1	1	1	1	0	1	0	0	1	0	0.5	0.8
13-Jan	1	1	1	0	0	1	1	1	A	1	1	1	1	0	0	1	0	0	1	1	0	1	1	1	1	0.5	0.7
14-Jan	1	1	1	0	1	0	0	A	1	1	0	0	0	0	0	1	1	1	1	0	1	1	1	1	1	0.5	0.7
15-Jan	1	1	0	0	1	0	A	0	1	1	1	0	1	1	1	1	0	1	1	0	0	0	0	0	0	0.5	1.0
16-Jan	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0.4	0.5
17-Jan	0	0	0	0	A	0	0	0	1	1	1	1	1	1	1	1	1	0	1	1	0	1	0	0	0	0.5	0.7
18-Jan	1	0	0	A	1	0	0	0	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	0.6	0.7
19-Jan	0	1	A	0	1	1	1	0	0	1	1	1	1	1	0	1	0	0	0	0	0	0	1	1	1	0.5	0.7
20-Jan	0	A	0	1	0	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	1	0	0.6	0.9
21-Jan	A	1	1	0	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	A	0.6	0.8
22-Jan	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	0.9
23-Jan	1	1	1	1	1	1	0	0	0	0	1	1	1	0	1	0	0	0	1	1	1	A	0	0	0	0.5	0.8
24-Jan	0	1	0	1	0	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0	0	A	1	0	1	0.4	0.7
25-Jan	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	A	1	0	1	1	1	0.5	0.8
26-Jan	0	0	0	1	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	A	0	0	0	0	0	0.4	0.7
27-Jan	0	0	1	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	A	1	1	1	1	0	1	0.5	0.8
28-Jan	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	2	2	1	1	0	0	0	0	0.8	2.2
29-Jan	0	0	0	1	0	0	1	0	0	0	0	0	1	0	0	A	0	1	0	0	0	1	0	0	0	0.5	0.6
30-Jan	0	0	1	0	0	0	1	0	1	1	1	0	0	0	A	1	1	0	1	1	0	1	1	1	1	0.5	0.7
31-Jan	0	0	1	1	0	1	1	1	0	C	C	C	1	A	1	1	1	1	1	1	1	1	1	1	1	0.7	1.0
	0.5	0.5	0.5	0.5	0.5	0.6	0.5	0.6	0.6	0.6	0.6	0.5	0.6	0.5	0.5	0.6	0.5	0.6	0.6	0.6	0.5	0.5	0.6	0.5		Diurnal Average	
	0.9	0.8	0.8	0.9	0.9	1.0	0.9	1.4	1.2	1.3	0.8	0.8	0.9	0.7	0.8	0.9	0.8	2.2	1.5	0.9	0.9	0.9	1.0	0.9		Diurnal Maximum	
C - Calibration		A - Automated Daily Zero Span																									



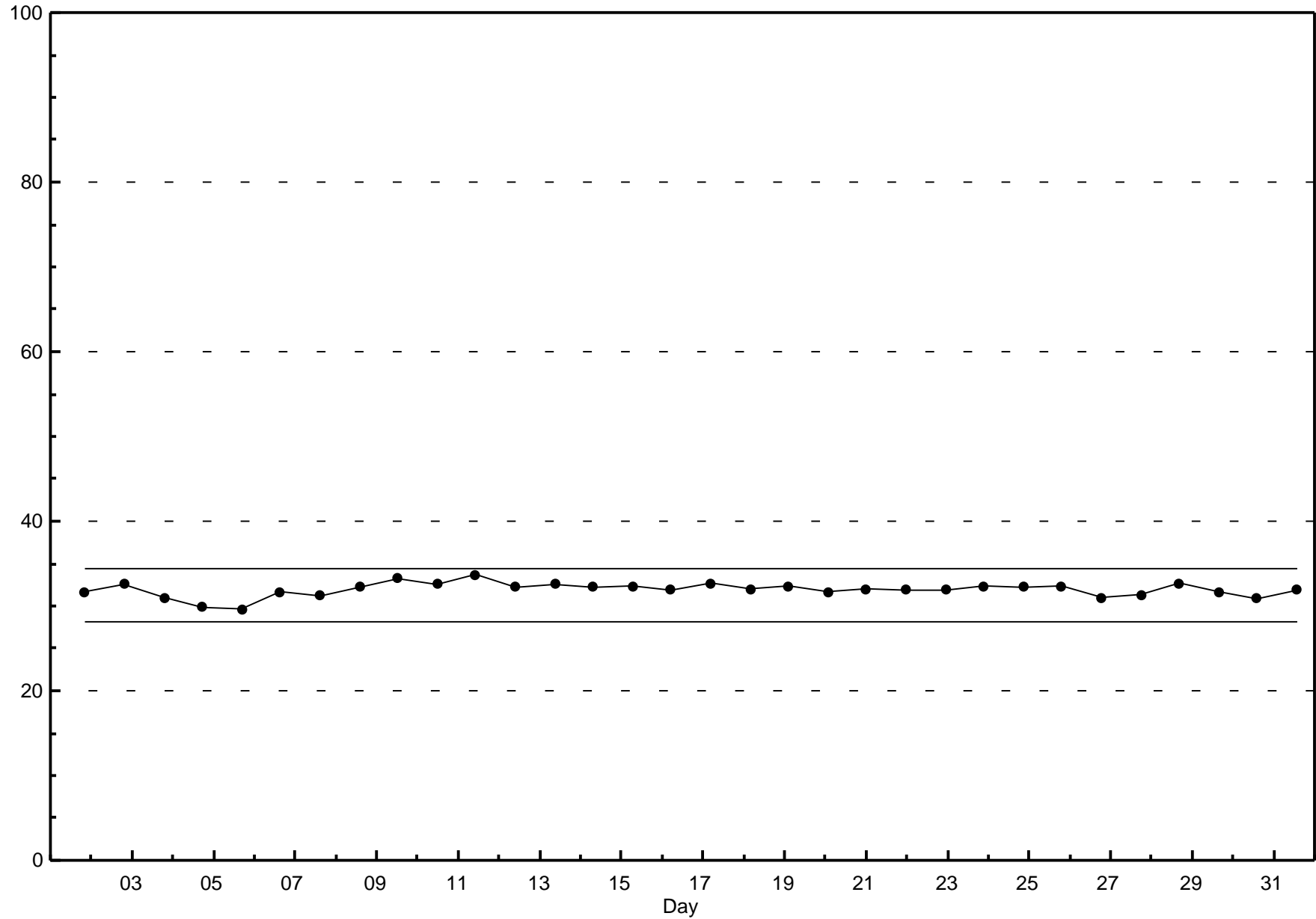
**Pollutant Rose**

**Total Reduced Sulphur (TRS) - ppb**  
**Smoky Heights - January 2014**



### Span Responses

Total Reduced Sulphur (TRS)  
Smoky Heights - January 2014



## Hourly Averages

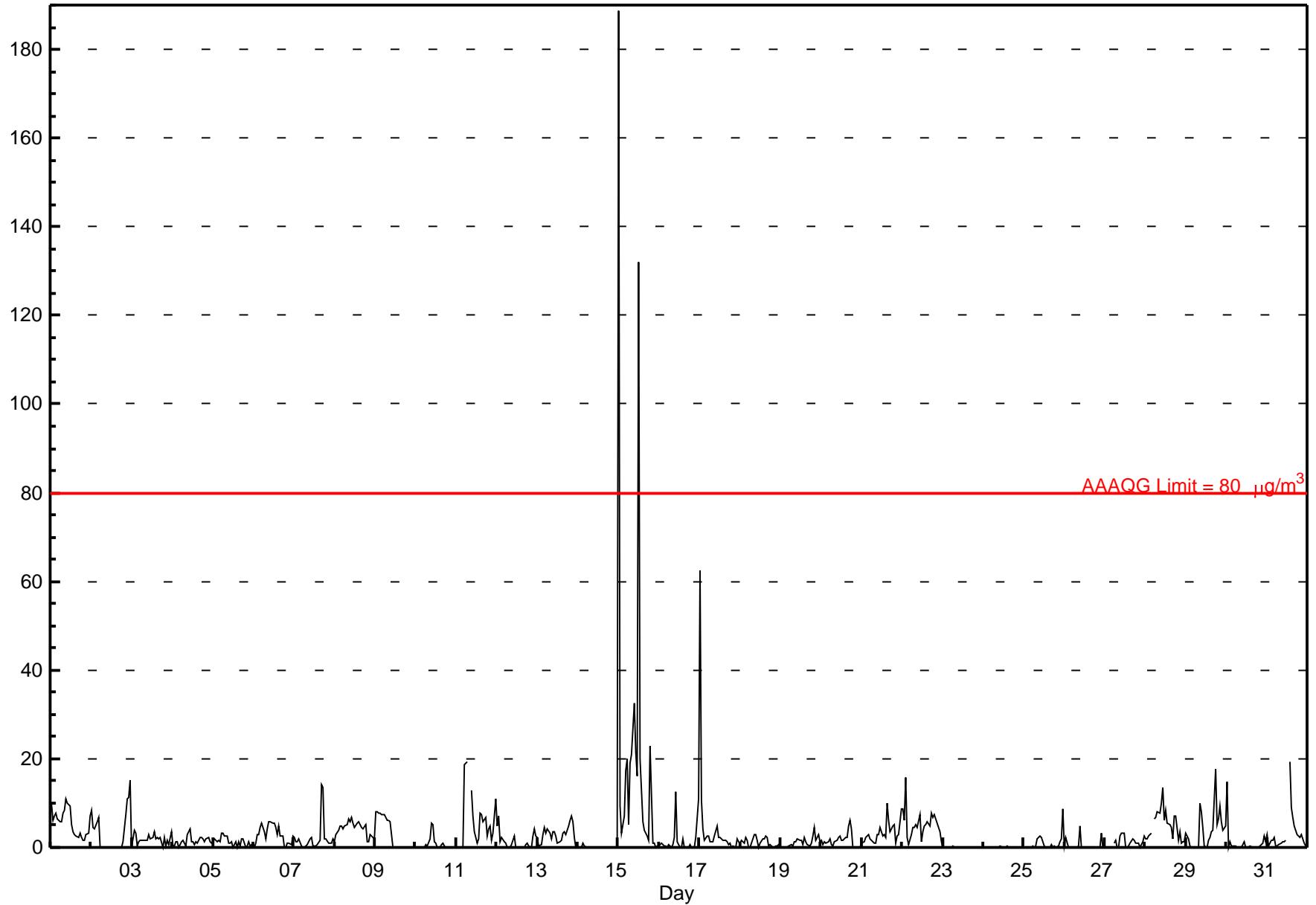
## Particulate Matter 2.5 (PM<sub>2.5</sub>) - µg/m<sup>3</sup>

### Smoky Heights - January 2014

Number of Exceedences: 1-hr: 2 24-hr: 0	Hours in Service: 744
Maximum Value: 188.7 µg/m <sup>3</sup> on Jan 15 01:00	Maximum Daily Average: 23.1 µg/m <sup>3</sup> on Jan 15
Minimum Value: 0 µg/m <sup>3</sup> on Jan 2 06:00	Hours of Data: 738
Minimum Daily Average: 0.0 µg/m <sup>3</sup> on Jan 24	Hours of Missing Data: 6
Maximum Diurnal Average: 10.5 µg/m <sup>3</sup> at hour 1	Hours of Calibration: 1
Monthly Average: 3.01 µg/m <sup>3</sup>	Percent Operational Time: 99.3
Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.0 Q <sub>1</sub> = 0.0 Median = 1.3 Q <sub>3</sub> = 3.3 P <sub>90</sub> = 6.6 P <sub>99</sub> = 20.1	

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																								
1-Jan	10	6	7	8	6	6	6	8	9	11	10	9	5	4	3	3	2	3	2	2	2	3	3	7	5.6	11.0																						
2-Jan	8	4	4	6	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	7	11	11	15	3.1	15.0																						
3-Jan	0	4	3	0	1	2	2	2	2	2	3	2	2	4	2	2	2	2	0	2	0	2	0	4	1.8	4.0																						
4-Jan	0	0	1	1	0	1	2	1	0	3	4	1	1	1	1	1	2	2	2	1	2	2	1	1	1.4	4.1																						
5-Jan	1	2	1	2	1	3	3	3	3	1	1	1	0	1	0	1	0	2	2	0	0	1	0	1	1.3	3.4																						
6-Jan	0	1	3	3	5	5	3	2	4	6	6	5	6	5	3	5	3	2	0	0	1	1	1	2	3.0	6.0																						
7-Jan	2	1	1	2	0	0	0	0	1	2	2	0	0	0	1	2	14	14	2	2	1	1	1	2	2.2	14.0																						
8-Jan	1	3	4	5	5	4	5	5	6	6	7	5	4	5	6	5	4	4	5	1	1	3	3	2	4.2	6.6																						
9-Jan	8	8	8	8	7	7	7	6	6	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3.0	8.0																						
10-Jan	0	0	0	0	0	0	1	0	2	6	5	1	1	0	0	1	1	0	0	0	0	0	0	0	0.8	5.5																						
11-Jan	0	0	0	0	0	19	19	N	N	13	7	4	1	2	8	7	6	7	3	4	5	2	3	11	5.4	19.5																						
12-Jan	5	7	1	2	1	1	0	0	0	1	3	0	0	0	0	0	0	1	1	0	0	3	4	3	1.4	7.2																						
13-Jan	2	0	1	3	5	3	4	3	2	4	4	2	1	1	2	3	4	3	5	6	7	6	2	0	3.0	7.0																						
14-Jan	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.9																						
15-Jan	189	9	3	7	17	20	5	19	21	33	22	16	132	20	6	4	3	3	2	23	1	1	0	0	23.1	188.7																						
16-Jan	0	1	1	0	0	0	1	0	1	2	13	1	0	0	2	0	0	0	1	0	0	0	2	11	1.5	12.6																						
17-Jan	63	11	4	2	2	2	1	1	1	3	5	2	2	2	2	2	1	1	1	0	0	0	2	1	4.6	62.5																						
18-Jan	1	2	1	2	2	0	0	1	3	3	2	0	1	2	2	3	2	0	1	0	0	0	0	1	1.2	2.8																						
19-Jan	0	0	0	0	0	0	1	0	1	1	2	2	2	1	2	1	1	0	1	3	4	2	3	1	1.2	4.4																						
20-Jan	2	1	1	1	1	2	1	0	1	2	2	3	1	2	2	2	5	6	4	0	0	0	0	0	1.6	6.2																						
21-Jan	1	1	2	3	3	2	2	1	1	3	3	5	3	3	2	10	6	4	5	5	1	3	3	9	3.3	9.8																						
22-Jan	9	6	16	2	1	3	5	4	5	5	7	1	4	5	5	6	5	8	7	7	7	4	4	1	5.3	15.8																						
23-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.5																						
24-Jan	0	0	0	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																						
25-Jan	0	0	0	0	0	0	0	0	2	3	2	1	0	0	0	1	0	0	0	0	1	2	9	0.9	8.7																							
26-Jan	0	2	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0.5	4.9																						
27-Jan	0	0	0	N	N	1	1	0	0	3	3	3	0	0	1	2	2	1	1	1	0	1	3	1.1	3.3																							
28-Jan	2	2	3	3	N	6	7	8	8	10	14	6	8	5	4	2	7	7	2	4	1	1	1	5.1	13.5																							
29-Jan	3	2	0	0	0	0	0	0	10	8	5	0	0	2	2	3	4	18	5	7	9	6	4	5	3.9	17.8																						
30-Jan	15	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	3	1	1.0	14.8																						
31-Jan	3	0	1	2	2	0	0	1	1	1	1	2	C	19	9	7	5	4	3	2	3	2	1	0	3.0	19.2																						
																								10.5	2.4	2.2	2.1	2.4	2.9	2.4	2.2	3.0	4.5	4.3	2.4	5.8	2.7	2.1	2.3	2.4	3.0	1.9	2.3	1.8	1.8	1.9	2.9	Diurnal Average
																								188.7	10.6	15.8	7.7	17.3	20.1	19.5	18.9	20.8	32.7	21.7	16.1	132.2	20.0	9.0	9.8	14.0	17.8	7.0	22.8	9.3	11.0	11.1	15.0	Diurnal Maximum

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



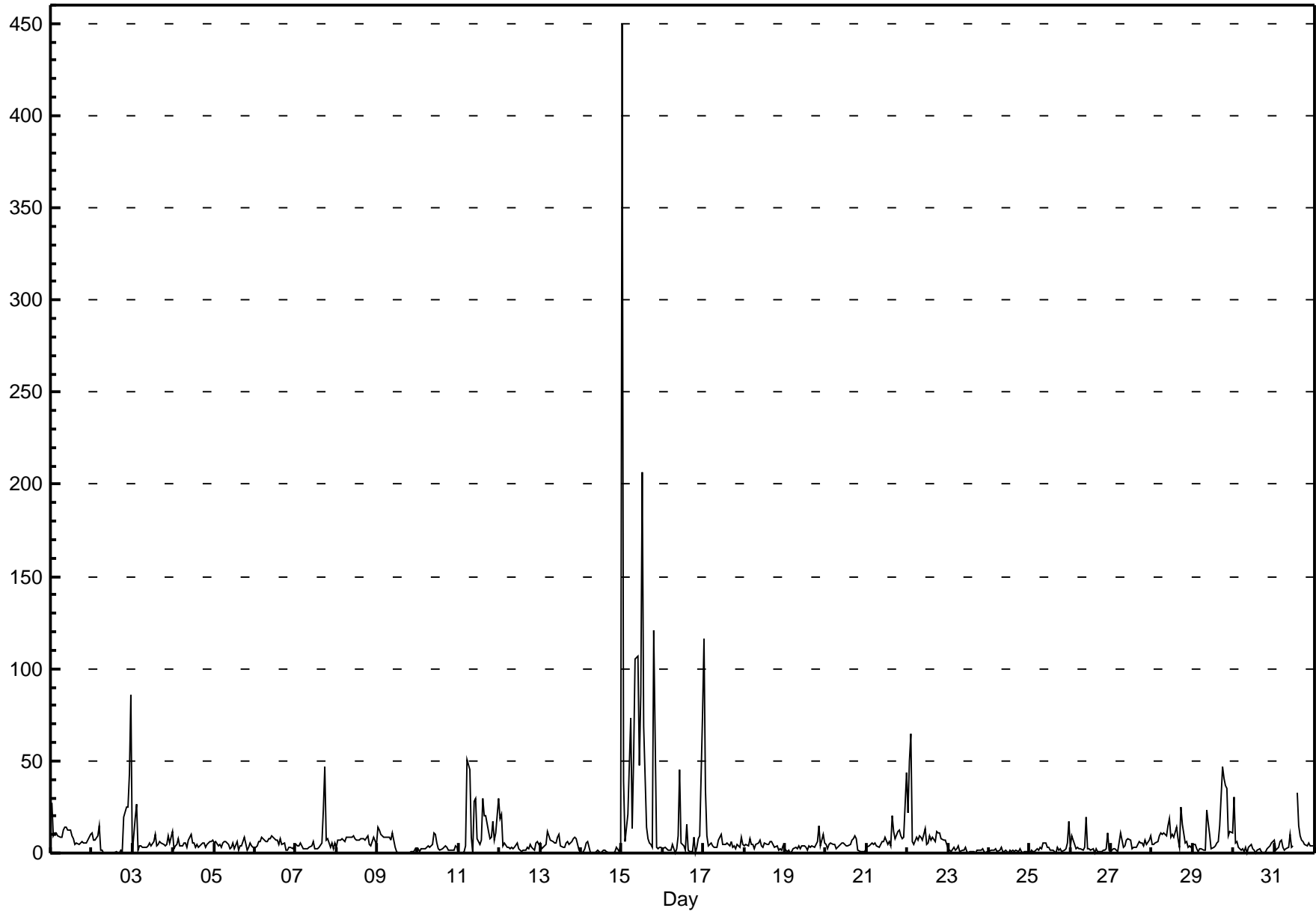
# Hourly Maximums

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

## Smoky Heights - January 2014

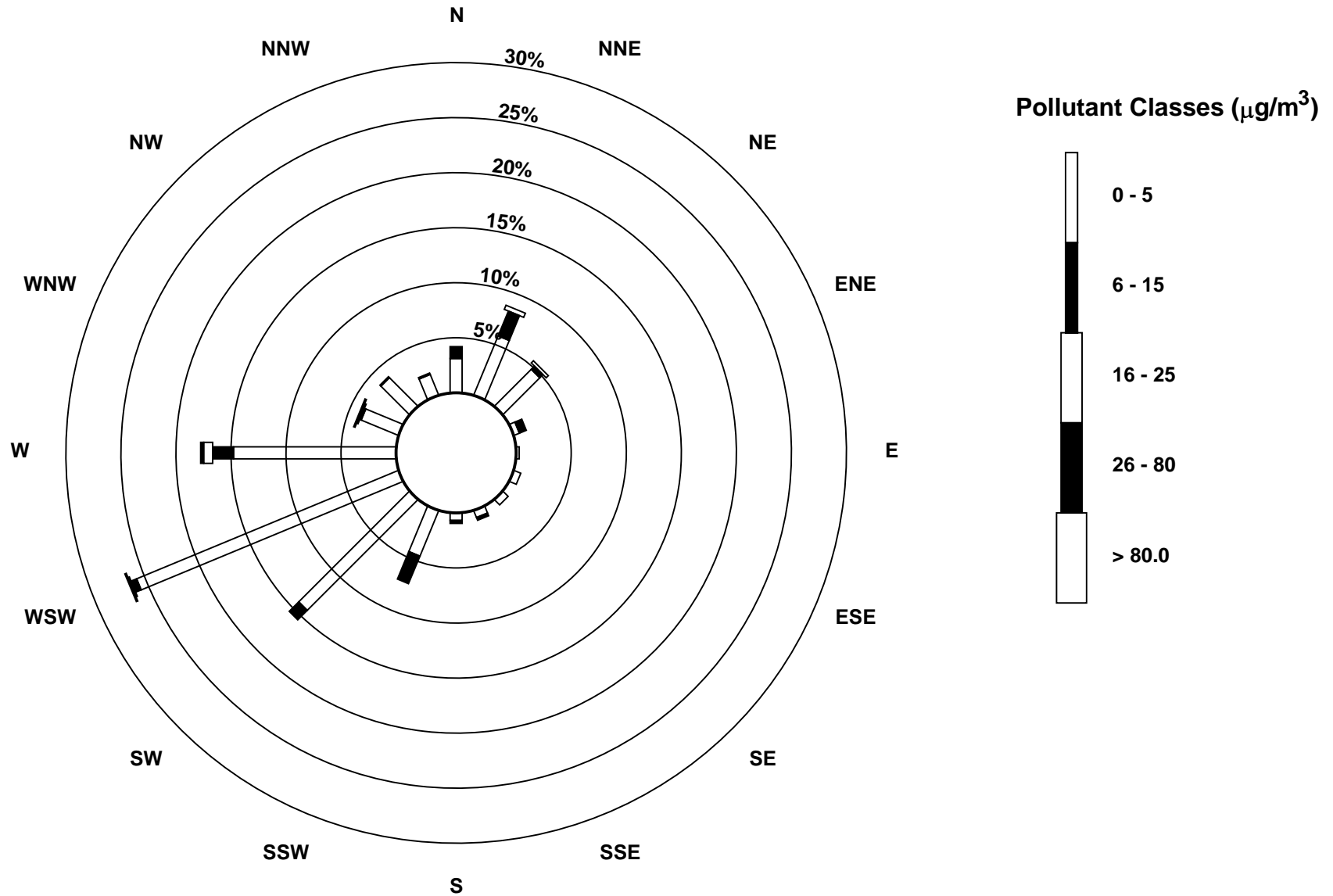
<b>Maximum Value: 450.2 µg/m<sup>3</sup> on Jan 15 01:00</b>		<b>Maximum Daily Average: 62.2 µg/m<sup>3</sup> on Jan 15</b>		Hours in Service: 744 Hours of Data: 743 Hours of Missing Data: 1 Hours of Calibration: 1 Percent Operational Time: 100.0																							
<b>Minimum Value: 0 µg/m<sup>3</sup> on Jan 2 08:00</b>		<b>Minimum Daily Average: 1.2 µg/m<sup>3</sup> on Jan 24</b>																									
<b>Maximum Diurnal Average: 24.4 µg/m<sup>3</sup> at hour 1</b>		<b>Minimum Diurnal Average: 5.1 µg/m<sup>3</sup> at hour 22</b>																									
<b>Monthly Average: 8.09 µg/m<sup>3</sup></b>		Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.8 Q <sub>1</sub> = 2.2 Median = 4.4 Q <sub>3</sub> = 7.3 P <sub>90</sub> = 12.1 P <sub>99</sub> = 68.8																									
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	27	10	11	11	9	8	9	13	14	14	13	12	9	8	5	6	5	6	6	5	5	5	9	10	9.5	27.4	
2-Jan	11	7	7	10	14	1	1	0	0	0	0	0	0	0	1	0	0	2	0	20	25	25	43	86	10.6	85.6	
3-Jan	0	19	26	2	4	4	3	3	3	4	6	4	6	10	4	4	6	6	5	4	4	10	6	12	6.4	26.2	
4-Jan	2	4	4	7	4	4	6	5	3	7	10	6	6	3	5	3	5	6	5	3	4	6	6	7	5.1	10.3	
5-Jan	5	6	4	4	3	5	6	6	5	3	3	5	3	6	2	4	4	6	9	2	3	6	4	3	4.5	8.6	
6-Jan	3	4	6	7	8	8	7	6	8	8	9	7	7	7	5	7	5	6	2	1	3	3	2	4	5.5	9.1	
7-Jan	4	4	4	5	2	2	3	3	3	4	6	2	2	2	3	5	23	46	7	8	3	5	2	6	6.5	46.5	
8-Jan	3	7	7	8	7	6	9	9	9	8	9	8	7	7	8	8	8	7	9	5	4	6	9	5	7.1	9.1	
9-Jan	14	13	10	10	9	9	9	8	7	11	4	0	0	0	0	0	0	0	0	0	0	1	2	1	4.5	14.1	
10-Jan	2	1	2	2	2	3	4	3	5	11	10	6	3	2	3	3	4	3	1	2	1	1	4	3	3.4	11.0	
11-Jan	0	0	0	1	4	50	45	8	0	28	30	8	4	7	30	21	21	12	8	9	17	7	11	29	14.5	50.3	
12-Jan	19	21	4	5	3	3	2	3	2	3	5	2	2	1	2	1	3	3	4	3	2	6	6	4	4.6	20.8	
13-Jan	6	3	4	5	12	9	7	6	5	5	9	10	4	3	3	5	6	5	6	8	9	8	5	2	5.9	11.5	
14-Jan	0	0	2	6	6	0	0	0	0	1	1	0	1	1	2	1	0	0	0	0	1	3	1	6	1.3	6.4	
15-Jan	450	39	6	21	47	73	13	52	105	107	47	86	206	69	14	8	6	5	3	121	3	2	3	3	62.2	450.2	
16-Jan	2	3	2	1	2	1	5	0	2	9	45	5	4	2	16	1	1	1	8	0	3	8	9	76	8.6	75.8	
17-Jan	116	35	9	4	6	4	3	3	3	7	10	5	5	5	6	4	6	3	4	2	5	3	9	5	10.8	115.9	
18-Jan	4	5	4	8	5	5	2	5	6	7	4	3	5	5	4	6	6	5	3	4	1	3	2	4	4.4	7.8	
19-Jan	2	1	1	0	1	2	3	2	4	3	4	4	3	2	4	3	4	3	5	6	15	4	10	5	3.8	14.6	
20-Jan	5	3	5	6	5	5	2	3	4	5	6	5	4	4	5	7	8	9	8	1	1	1	1	1	4.3	9.3	
21-Jan	3	4	5	6	5	5	4	3	5	6	6	9	5	6	4	20	12	8	12	13	9	8	8	43	8.7	43.3	
22-Jan	22	50	65	7	5	9	7	9	9	7	13	5	5	9	7	9	6	12	11	11	8	7	7	5	12.7	65.0	
23-Jan	2	2	1	3	1	2	4	1	1	1	3	1	0	1	1	0	0	2	2	2	3	1	0	1	1.4	3.5	
24-Jan	1	2	2	2	2	1	2	3	1	1	1	0	1	0	2	1	2	1	3	1	0	1	1	1	1.2	3.5	
25-Jan	0	2	1	1	2	2	3	3	5	5	3	3	1	1	1	0	3	2	3	1	2	2	5	17	2.9	17.4	
26-Jan	3	10	5	2	3	3	2	2	3	20	3	2	1	2	0	2	1	1	1	2	1	3	11	1	3.5	19.5	
27-Jan	1	2	2	2	1	11	7	3	4	7	7	7	3	3	3	3	7	5	6	4	7	5	7	10	4.9	11.0	
28-Jan	5	5	5	7	10	11	10	11	10	15	19	8	10	8	14	8	3	25	15	5	7	3	4	3	9.2	24.9	
29-Jan	5	5	2	1	2	2	2	2	23	17	10	2	3	4	5	7	15	46	41	37	35	9	12	11	12.4	46.5	
30-Jan	30	5	7	3	2	2	1	3	0	3	4	2	1	0	2	2	1	0	0	1	2	4	6	6	3.7	30.5	
31-Jan	7	2	3	7	7	3	2	2	3	10	3	4	C	33	14	9	7	7	5	4	6	4	4	4	6.5	33.0	
		24.4	8.7	7.0	5.2	6.2	8.2	5.9	5.8	8.1	10.9	9.8	7.2	10.4	6.8	5.5	5.2	5.6	7.8	6.2	9.2	6.1	5.1	6.7	12.0	Diurnal Average	
		450.2	49.8	65.0	21.4	47.2	73.3	45.0	51.6	105.3	106.5	47.4	86.4	206.3	68.9	29.6	20.5	23.5	46.5	40.8	121.2	34.7	24.7	42.5	85.6	Diurnal Maximum	
C - Calibration																											





**Pollutant Rose**

**Particulate Matter 2.5 (PM<sub>2.5</sub>) -  $\mu\text{g}/\text{m}^3$**   
**Smoky Heights - January 2014**



## Hourly Averages

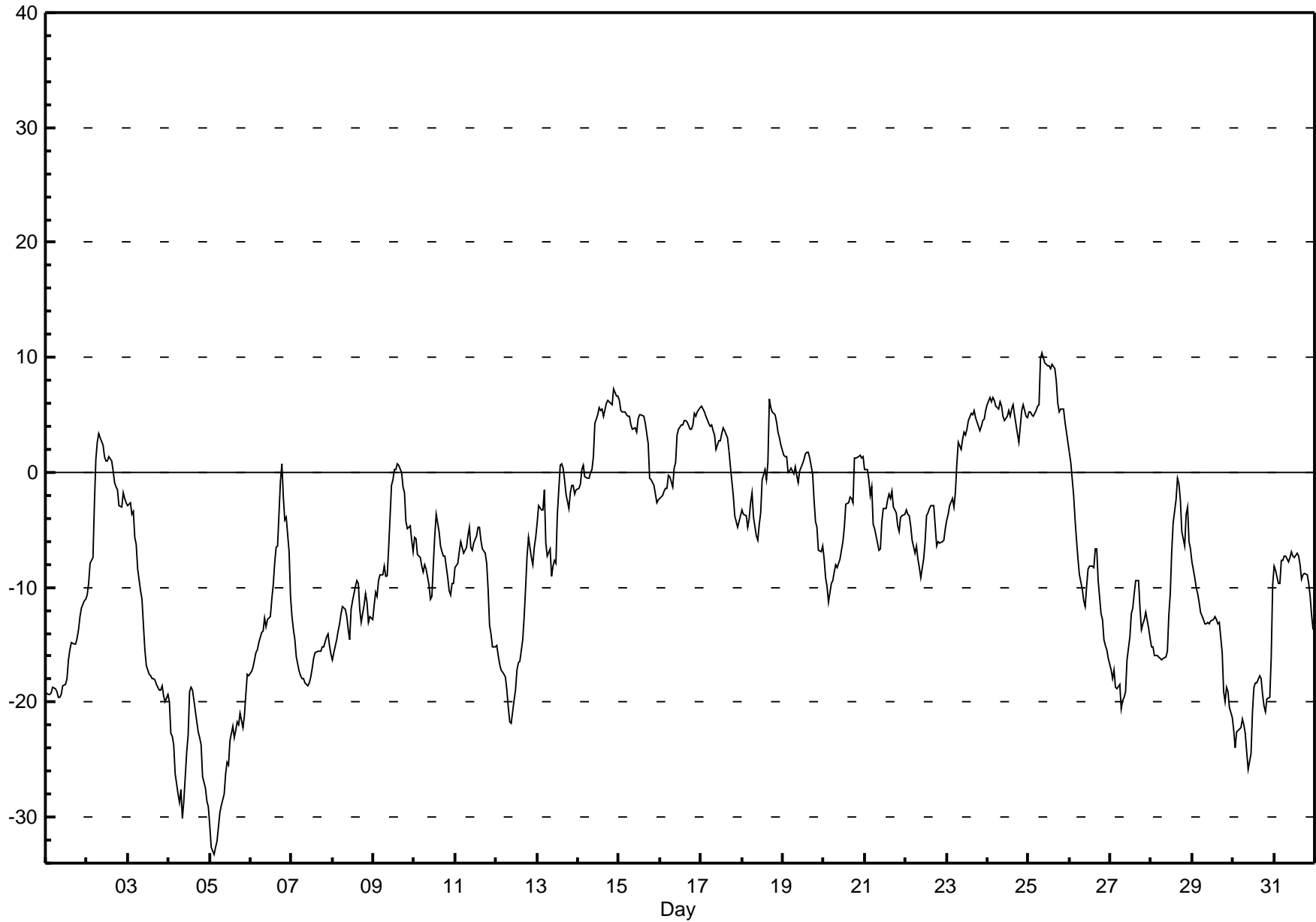
External Temperature (ET) - °C

Smoky Heights - January 2014

Number of Exceedences (AAQO): 1-hr: 0 24-hr: 0 Maximum Value: 10.4 °C on Jan 25 09:00      Maximum Daily Average: 6.8 °C on Jan 25		Hours in Service: 744 Hours of Data: 744 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0																																															
Minimum Value: -33 °C on Jan 5 03:00 Maximum Diurnal Average: -5.0 °C at hour 16 Monthly Average: -7.28 °C		Minimum Daily Average: -25.4 °C on Jan 5 Minimum Diurnal Average: -9.1 °C at hour 10 Percentiles: P <sub>1</sub> = -29.7 P <sub>10</sub> = -19.3 Q <sub>1</sub> = -14.4 Median = -6.7 Q <sub>3</sub> = 0.1 P <sub>90</sub> = 4.8 P <sub>99</sub> = 9.2																																															
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-Jan	-19	-19	-19	-19	-19	-19	-19	-20	-20	-19	-19	-18	-18	-16	-15	-15	-15	-15	-14	-14	-13	-12	-11	-11	-16.6	-11.0																							
2-Jan	-11	-10	-8	-7	-3	1	3	3	3	2	1	1	1	1	0	-1	-1	-1	-1	-3	-3	-2	-2	-3	-1.5	3.3																							
3-Jan	-3	-3	-4	-3	-6	-6	-8	-10	-11	-13	-15	-17	-18	-18	-18	-18	-18	-18	-19	-19	-19	-19	-20	-19	-13.4	-2.6																							
4-Jan	-20	-23	-23	-24	-26	-28	-29	-28	-30	-29	-24	-23	-19	-19	-19	-20	-22	-23	-23	-24	-27	-27	-29	-29	-24.4	-18.7																							
5-Jan	-31	-33	-33	-33	-32	-31	-30	-29	-28	-26	-25	-25	-23	-22	-23	-22	-22	-22	-21	-22	-21	-19	-18	-18	-25.4	-17.6																							
6-Jan	-17	-17	-16	-16	-15	-15	-14	-14	-13	-13	-13	-13	-11	-10	-8	-7	-6	-1	1	-2	-4	-4	-7	-11	-10.2	0.7																							
7-Jan	-13	-14	-15	-16	-17	-18	-18	-18	-18	-19	-18	-18	-17	-16	-16	-16	-16	-16	-15	-15	-14	-14	-15	-16	-16.1	-12.6																							
8-Jan	-16	-16	-15	-14	-13	-12	-12	-12	-13	-14	-15	-12	-11	-10	-9	-10	-12	-13	-12	-11	-11	-13	-13	-13	-12.5	-9.4																							
9-Jan	-12	-10	-11	-9	-9	-9	-8	-9	-9	-7	-1	-1	0	0	1	1	0	-1	-2	-4	-5	-5	-6	-7	-5.1	0.7																							
10-Jan	-6	-6	-7	-7	-8	-9	-8	-8	-10	-11	-11	-8	-6	-4	-5	-6	-7	-7	-7	-9	-10	-11	-10	-10	-8.0	-3.6																							
11-Jan	-8	-8	-7	-6	-6	-7	-7	-6	-5	-7	-7	-6	-5	-5	-5	-6	-7	-7	-8	-10	-13	-14	-15	-15	-7.9	-4.8																							
12-Jan	-15	-16	-17	-17	-18	-18	-19	-20	-22	-22	-20	-19	-17	-17	-16	-15	-12	-10	-7	-6	-7	-8	-6	-6	-14.6	-5.6																							
13-Jan	-4	-3	-3	-3	-2	-6	-7	-7	-9	-8	-8	-8	-4	1	1	0	-1	-2	-3	-2	-1	-1	-2	-1	-3.5	0.8																							
14-Jan	-1	-1	0	1	0	-1	0	0	0	1	4	5	6	5	6	5	6	6	6	6	6	7	7	7	3.3	7.2																							
15-Jan	6	5	5	5	5	5	5	4	4	4	4	5	5	5	5	4	3	3	-1	-1	-1	-2	-3	-2	3.0	6.3																							
16-Jan	-2	-2	-2	-1	-1	0	0	-1	0	1	3	4	4	4	5	4	4	4	4	4	5	5	5	6	2.2	5.6																							
17-Jan	6	6	5	5	4	4	4	4	3	2	3	3	3	4	4	3	2	1	-1	-2	-4	-5	-4	-4	1.9	5.8																							
18-Jan	-3	-4	-4	-5	-4	-3	-2	-4	-6	-6	-5	-3	-1	0	-1	1	6	6	5	5	4	3	3	2	-0.5	6.4																							
19-Jan	2	1	1	0	0	0	0	0	0	-1	0	1	1	2	2	1	0	-2	-4	-5	-7	-7	-6	-6	-0.8	1.8																							
20-Jan	-8	-9	-10	-11	-10	-9	-9	-8	-8	-8	-7	-6	-5	-3	-3	-2	-2	-3	1	1	1	1	1	1	-4.7	1.4																							
21-Jan	0	0	-1	-2	-1	-4	-5	-6	-7	-7	-4	-3	-3	-2	-2	-2	-2	-3	-4	-5	-5	-4	-4	-4	-3.3	0.3																							
22-Jan	-3	-4	-4	-5	-6	-7	-6	-8	-8	-9	-8	-6	-4	-3	-3	-3	-3	-5	-6	-6	-6	-6	-5	-5	-5.4	-2.8																							
23-Jan	-4	-4	-3	-2	-3	-2	1	3	2	3	4	3	4	4	5	5	5	5	4	4	4	4	5	5	2.2	5.4																							
24-Jan	6	6	6	7	6	6	6	6	6	5	5	5	5	5	6	6	5	3	3	4	5	6	5	5	5.3	6.5																							
25-Jan	5	5	5	5	5	6	6	10	10	10	9	9	9	9	9	9	8	6	5	6	5	4	3	3	6.8	10.4																							
26-Jan	2	1	-2	-4	-6	-8	-9	-10	-11	-12	-10	-8	-8	-8	-7	-7	-9	-12	-13	-15	-15	-15	-16	-16	-8.8	1.8																							
27-Jan	-17	-18	-17	-19	-19	-18	-21	-20	-20	-19	-16	-14	-12	-12	-11	-9	-9	-12	-14	-13	-13	-12	-14	-14	-15.1	-9.4																							
28-Jan	-15	-15	-16	-16	-16	-16	-16	-16	-16	-16	-12	-11	-7	-4	-2	0	-1	-2	-5	-6	-4	-3	-6	-7	-9.6	-0.5																							
29-Jan	-8	-9	-10	-10	-11	-12	-13	-13	-13	-13	-13	-13	-13	-13	-13	-13	-13	-16	-19	-20	-19	-19	-20	-21	-14.1	-7.7																							
30-Jan	-22	-24	-23	-22	-22	-22	-22	-23	-24	-26	-24	-21	-19	-18	-18	-18	-18	-19	-20	-21	-20	-20	-16	-10	-20.5	-9.8																							
31-Jan	-8	-9	-10	-10	-8	-8	-7	-7	-8	-7	-7	-7	-7	-7	-7	-8	-9	-9	-9	-9	-10	-11	-12	-14	-8.6	-7.0																							
																								-7.8	-8.0	-8.2	-8.4	-8.4	-8.5	-8.5	-8.6	-9.0	-9.1	-8.0	-7.3	-6.1	-5.3	-5.2	-5.0	-5.2	-5.8	-6.4	-6.8	-7.0	-7.1	-7.5	-7.5	Diurnal Average	
																								6.3	6.5	6.2	6.5	6.2	5.8	5.9	9.8	10.4	9.5	9.3	9.3	9.2	9.1	9.4	9.0	7.9	6.2	6.1	6.1	5.9	7.2	6.7	6.7	Diurnal Maximum	

### Hourly Averages

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



## Hourly Averages

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

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1 Spd	5	2	1	1	2	3	1	1	1	4	4	4	6	7	6	5	7	9	5	10	12	15	14	14	4.7	14.7
Dir	36	75	69	221	160	192	177	73	11	286	268	255	257	244	230	224	238	231	216	238	239	247	229	205	234.0	247.0
2 Spd	16	17	19	13	16	19	18	23	20	22	18	19	20	16	14	11	13	10	9	2	8	10	8	6	11.8	22.5
Dir	211	226	222	225	235	245	253	255	258	256	261	263	264	255	263	259	265	270	273	351	24	10	15	6	255.7	254.9
3 Spd	8	9	8	14	10	10	11	14	14	22	20	19	16	13	15	9	5	2	3	7	4	5	1	3	8.5	21.6
Dir	1	6	22	356	6	16	41	42	38	40	37	41	34	39	32	42	53	217	231	269	292	349	253	328	25.4	40.1
4 Spd	8	3	11	8	7	5	7	8	4	9	13	11	12	12	17	15	13	11	16	11	1	5	6	1	7.9	17.2
Dir	331	300	315	308	254	239	261	262	228	289	306	310	341	336	318	305	297	301	301	309	298	238	285	143	301.0	317.7
5 Spd	4	4	4	3	2	4	6	4	4	4	1	0	3	1	3	0	1	2	4	6	2	7	10	10	2.3	10.1
Dir	246	235	217	245	236	246	267	261	246	234	225	133	223	192	118	260	55	32	38	35	25	228	234	240	242.1	239.8
6 Spd	10	13	13	13	14	14	17	20	5	5	5	7	1	1	2	1	6	9	12	2	4	0	16	17	3.9	19.5
Dir	232	227	227	225	232	231	225	225	217	58	43	57	71	236	230	185	203	237	308	211	165	223	41	37	233.1	224.6
7 Spd	17	16	13	13	16	13	14	15	15	14	13	14	14	14	12	12	15	12	10	7	2	4	11	11	10.2	16.6
Dir	38	39	39	22	28	28	27	31	33	30	30	33	33	32	30	29	22	18	24	6	359	165	228	226	28.4	37.9
8 Spd	13	12	13	12	12	12	9	8	7	8	8	5	6	7	7	10	16	17	27	25	20	20	20	18	12.1	26.6
Dir	235	236	243	245	231	215	194	188	198	206	205	213	223	217	215	234	211	243	259	275	241	225	242	215	232.0	258.6
9 Spd	21	22	23	21	17	12	17	16	11	12	26	24	22	28	30	34	29	19	20	16	15	18	9	9	19.0	34.4
Dir	229	213	209	223	213	207	213	196	201	229	241	239	234	225	227	236	231	229	238	241	246	243	271	233	228.0	235.5
10 Spd	9	10	11	10	13	12	10	4	6	4	3	17	15	18	15	14	15	17	14	11	9	5	8	4	9.3	17.6
Dir	257	253	247	240	240	274	288	18	30	35	229	258	244	258	246	252	254	262	254	254	264	244	222	233	255.6	258.0
11 Spd	5	4	4	2	4	6	9	11	12	15	13	9	9	7	4	4	3	8	5	14	14	9	8	5	6.1	14.6
Dir	226	222	240	195	21	31	35	45	52	32	23	20	5	342	10	13	10	31	9	10	356	354	23	14	16.7	31.6
12 Spd	5	7	6	4	11	15	13	10	9	12	18	14	14	13	11	11	11	15	14	16	13	16	24	16	11.1	24.4
Dir	329	306	326	298	245	258	259	246	206	212	230	228	231	237	248	247	242	211	196	217	259	253	243	258	241.5	243.3
13 Spd	15	14	13	2	6	10	8	2	6	4	4	10	20	33	32	34	32	22	19	26	25	23	19	20	14.8	33.6
Dir	250	250	265	204	305	38	22	136	218	177	256	247	255	272	266	264	265	257	249	265	262	261	257	254	261.7	264.0
14 Spd	17	19	27	26	19	17	24	22	23	22	27	32	34	30	24	12	24	30	25	20	20	24	26	54	23.8	54.4
Dir	253	243	248	242	244	194	192	192	196	217	228	224	235	228	225	180	213	219	213	220	223	237	233	245	225.2	244.7
15 Spd	75	68	52	49	51	48	47	45	38	40	34	36	42	41	35	32	28	25	24	27	21	19	18	19	37.2	74.7
Dir	255	247	252	255	264	269	273	270	272	275	274	281	287	287	281	278	277	275	245	256	265	259	264	258	266.7	254.5
16 Spd	13	9	11	11	6	10	8	12	17	21	30	29	25	21	19	21	22	23	27	26	29	30	26	35	19.3	35.0
Dir	260	210	192	239	220	223	248	252	251	256	269	273	273	261	255	261	252	252	244	238	238	253	274	259	253.2	258.9
17 Spd	39	36	33	32	26	23	22	27	26	26	23	16	17	21	20	18	14	5	12	8	6	10	10	14	19.8	38.6
Dir	262	263	270	269	265	268	265	262	262	253	259	259	268	263	266	268	268	234	261	265	226	223	231	234	260.9	261.9
18 Spd	12	11	16	11	16	18	14	11	13	10	8	7	14	14	11	15	23	30	43	43	45	41	37	30	19.7	44.8
Dir	229	229	230	230	227	218	230	207	189	193	198	232	253	242	241	265	262	246	248	243	243	243	245	257	239.3	243.2
19 Spd	25	29	29	25	26	29	30	33	29	26	27	28	30	28	24	16	12	10	9	13	16	13	11	4	21.4	32.7
Dir	248	248	251	260	261	262	267	261	248	250	257	257	256	255	257	259	291	284	255	265	269	267	272	284	258.9	260.8
20 Spd	7	9	8	12	8	14	13	14	13	13	15	13	12	7	8	12	7	5	20	15	8	7	11	13	10.2	20.2
Dir	225	232	250	248	230	249	253	250	249	245	242	232	232	235	253	256	252	236	299	273	314	254	282	303	255.9	299.3
21 Spd	9	12	11	9	15	10	5	4	4	5	1	1	3	0	1	1	1	6	7	7	5	6	8	5	3.0	14.5
Dir	297	305	275	278	280	268	228	218	222	198	153	164	285	289	86	349	14	36	26	25	352	5	34	16	307.2	280.5
22 Spd	8	5	3	4	3	5	8	6	7	9	5	7	7	9	9	10	10	9	10	15	14	16	10	13	6.6	15.6
Dir	24	11	15	26	8	249	256	225	223	217	231	229	206	245	262	267	265	270	266	260	262	255	259	250	257.2	254.7

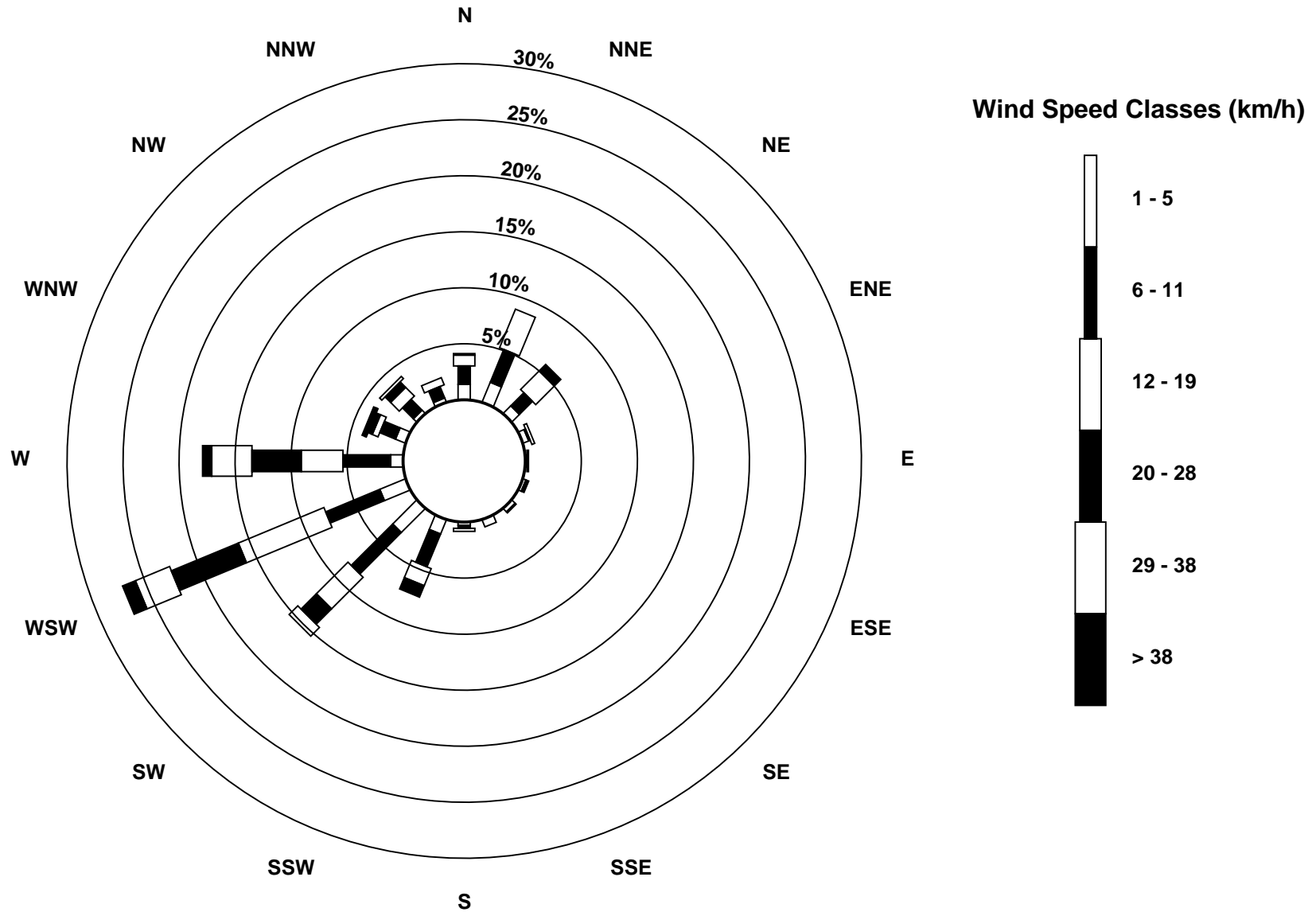
## Hourly Averages

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

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
23 Spd	14	15	15	13	18	19	21	27	22	26	25	29	29	27	28	23	19	28	19	15	16	21	21	26	21.2	29.2
Dir	242	247	240	244	255	255	250	259	247	251	255	247	250	251	252	245	252	259	247	209	235	228	242	254	248.0	247.0
24 Spd	27	31	32	28	30	26	20	22	27	26	24	21	14	11	7	10	12	13	14	20	31	30	26	29	22.1	32.4
Dir	258	255	251	256	263	258	245	252	259	260	263	263	253	260	286	281	273	265	260	261	257	258	259	260	258.9	250.7
25 Spd	30	32	35	37	36	28	22	28	34	28	24	20	17	13	11	8	6	8	10	12	13	15	14	14	16.5	36.8
Dir	257	258	259	256	257	254	266	300	314	318	323	320	317	325	342	332	357	322	311	308	346	349	359	10	295.0	255.6
26 Spd	11	19	22	27	24	22	15	13	14	13	13	8	11	5	7	3	3	3	6	6	4	5	6	6	7.9	27.4
Dir	7	19	45	55	42	37	57	73	34	49	97	117	136	115	118	143	151	210	270	303	322	30	25	331	50.5	55.2
27 Spd	2	1	5	1	2	3	2	4	4	7	7	6	8	4	5	6	5	2	9	10	10	10	10	10	4.9	10.2
Dir	350	75	271	290	35	315	242	237	251	232	234	198	232	244	267	268	267	259	250	244	246	235	244	237	247.0	246.3
28 Spd	11	10	8	10	10	8	8	8	7	8	7	5	4	3	1	0	4	6	0	1	6	8	6	10	3.3	10.9
Dir	235	207	209	201	197	197	205	208	211	207	177	204	196	50	110	202	217	336	163	267	309	351	56	36	212.4	234.8
29 Spd	13	15	12	10	11	11	12	14	10	12	14	17	13	13	14	11	8	5	3	3	9	11	12	11	10.7	16.6
Dir	46	51	38	27	34	37	34	34	26	23	21	33	31	19	18	19	12	14	294	29	31	25	23	22	28.5	32.6
30 Spd	5	4	3	6	9	7	8	9	12	18	24	25	31	29	26	30	30	29	29	32	30	31	31	37	18.7	37.4
Dir	21	344	322	254	260	250	238	221	242	257	230	212	220	241	243	238	252	254	256	262	259	270	281	298	253.5	297.8
31 Spd	32	27	30	27	22	7	9	14	9	20	18	22	15	9	5	11	9	10	10	6	8	9	7	8	11.3	32.4
Dir	317	294	260	272	316	278	298	331	334	319	329	3	11	41	279	236	254	260	262	244	273	277	267	262	299.3	316.6
Spd	10.9	10.7	11.1	10.3	10.0	9.1	8.6	8.3	7.6	8.3	9.1	8.9	10.1	10.2	9.5	9.8	10.1	10.1	11.5	11.1	10.6	10.8	9.9	10.6	Diurnal Average	
Dir	264.0	256.9	254.5	257.8	262.0	257.4	257.2	257.0	258.5	265.6	265.6	262.8	261.7	263.4	262.8	260.8	258.9	257.5	257.9	259.3	260.9	258.9	263.5	264.0	Diurnal Maximum	
Spd	74.7	67.8	52.0	48.6	51.0	48.2	47.4	44.6	38.4	40.4	33.8	36.4	42.2	41.1	35.1	34.4	31.9	30.2	42.5	43.1	44.8	40.6	37.5	54.4	Diurnal Maximum	
Dir	254.5	246.7	252.4	255.2	264.4	269.0	272.7	270.1	272.2	275.1	273.8	280.9	286.7	287.1	280.9	235.5	265.2	218.7	247.6	243.1	243.2	243.0	244.9	244.7	Diurnal Maximum	
Maximum Speed Value: 75 km/h on Jan 15 01:00																		Minimum Speed Value: 0 km/h on Jan 28 19:00						Hours in Service:		744
Maximum Daily Speed Average: 37.2 km/h on Jan 15																		Minimum Daily Speed Average: 2.3 km/h on Jan 5						Hours of Data:		744
Maximum Diurnal Speed Average: 11.5 km/h at hour 19																		Minimum Diurnal Speed Average: 7.6 km/h at hour 9						Hours of Missing Data:		0
Monthly Average Velocity: 9.87 km/h 260.31 deg																		Speed Percentiles: P <sub>1</sub> = 0.6 P <sub>10</sub> = 3.7 Q <sub>1</sub> = 7.2 Median = 12.3 Q <sub>3</sub> = 19.7 P <sub>90</sub> = 28.7 P <sub>99</sub> = 47.7						Percent Operational Time:		100.0
All monthly, daily, and diurnal averages have been calculated using vector methods																										
Frequency Distribution																										
		Speed Range (km/h)																								
Direction	0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total																			
North	16	26	18	1	0	0	61																			
NorthEast	13	24	43	6	0	0	86																			
East	7	0	2	0	0	0	9																			
SouthEast	7	3	1	0	0	0	11																			
South	14	11	6	3	0	0	34																			
SouthWest	33	75	68	37	14	5	232																			
West	16	55	63	64	46	13	257																			
NorthWest	9	18	16	6	5	0	54																			
Total	115	212	217	117	65	18	744																			

**Wind Rose**

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



# Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Smoky Heights - January 2014

Maximum Speed: 75 km/h on Jan 15 01:00	Maximum Daily Speed Average: 38.2 km/h on Jan 15	Hours in Service: 744
Minimum Speed: 0 km/h on Jan 5 12:00	Minimum Daily Speed Average: 3.8 km/h on Jan 5	Hours of Data: 744
Maximum Diurnal Speed Average: 16.0 km/h at hour 3	Minimum Diurnal Speed Average: 13.0 km/h at hour 16	Hours of Missing Data: 0
Monthly Average Speed: 14.72 km/h	Percentiles: P <sub>1</sub> = 1.0 P <sub>10</sub> = 4.1 Q <sub>1</sub> = 7.5 Median = 12.6 Q <sub>3</sub> = 20.0 P <sub>90</sub> = 28.8 P <sub>99</sub> = 47.8	Percent Operational Time: 100.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	5	2	1	1	2	3	2	2	1	4	4	4	6	7	6	5	7	9	6	10	12	15	15	14	5.9	14.8
2-Jan	16	17	19	13	17	19	18	23	20	22	18	19	20	17	14	11	13	10	9	5	8	10	8	6	14.7	22.6
3-Jan	8	10	8	14	10	10	12	14	14	22	20	19	16	13	15	9	5	3	4	7	4	5	2	4	10.4	21.7
4-Jan	9	4	11	8	8	5	8	8	5	11	13	11	12	13	17	15	13	12	16	12	3	6	6	4	9.6	17.3
5-Jan	4	5	4	3	2	5	6	4	4	4	1	0	3	1	3	0	1	2	4	6	2	7	10	10	3.8	10.1
6-Jan	10	13	13	13	14	15	17	20	7	5	5	7	2	2	3	2	7	10	13	6	4	4	16	17	9.3	19.6
7-Jan	17	16	13	13	16	13	14	15	15	15	13	14	14	14	12	15	13	10	7	3	5	11	11	11	12.5	16.6
8-Jan	13	12	13	12	12	12	9	8	8	9	8	6	6	7	7	10	16	17	27	25	21	21	21	18	13.3	27.3
9-Jan	22	22	23	21	17	13	17	16	11	12	26	25	22	28	31	34	29	19	20	16	15	18	10	9	19.8	34.4
10-Jan	9	10	11	10	13	12	11	4	6	5	4	17	15	18	15	14	16	17	14	11	10	6	9	4	10.8	17.7
11-Jan	5	4	4	2	4	6	9	11	12	15	13	9	9	8	4	4	4	8	8	14	15	10	9	6	8.1	15.3
12-Jan	6	8	7	4	11	15	13	10	9	12	18	14	14	13	11	11	11	15	15	16	14	16	24	16	12.7	24.4
13-Jan	15	14	13	4	10	11	9	4	6	4	5	10	20	33	32	34	32	22	19	26	25	23	19	20	17.1	33.7
14-Jan	17	19	27	26	20	17	24	23	23	22	27	32	34	30	24	13	24	30	25	20	20	25	27	54	25.2	54.5
15-Jan	75	68	52	49	51	48	47	45	38	41	34	37	42	41	35	32	28	25	25	27	21	19	18	19	38.2	74.9
16-Jan	14	9	11	12	7	10	9	13	17	21	30	29	26	22	19	21	22	24	27	26	29	30	27	35	20.3	35.1
17-Jan	40	36	33	32	26	23	23	27	26	26	23	16	18	21	20	18	14	5	12	9	7	10	10	14	20.4	40.0
18-Jan	13	11	16	12	16	18	14	11	13	10	8	8	14	14	11	16	23	30	43	43	45	41	38	31	20.7	44.9
19-Jan	25	29	29	25	26	29	30	33	29	26	27	29	30	28	24	16	12	11	10	13	16	13	13	4	21.9	32.8
20-Jan	7	9	8	12	8	14	13	14	13	13	15	13	12	8	8	13	8	5	21	16	8	7	11	13	11.3	20.8
21-Jan	10	12	12	10	15	10	5	4	4	5	2	1	3	0	2	1	1	6	7	7	6	6	8	6	5.9	14.5
22-Jan	8	5	4	4	3	6	8	6	7	9	6	7	7	10	9	10	10	9	10	15	14	16	10	13	8.6	15.8
23-Jan	14	15	15	13	18	19	21	27	22	26	25	29	29	27	28	23	20	28	20	16	16	21	21	26	21.6	29.2
24-Jan	28	32	33	28	30	26	20	22	27	26	24	21	15	11	7	10	12	14	14	20	31	30	26	29	22.3	32.5
25-Jan	30	32	35	37	36	28	23	28	34	28	24	20	17	13	11	8	7	9	10	12	13	15	15	14	20.7	36.9
26-Jan	11	19	22	28	25	22	15	14	14	14	13	9	12	6	8	3	3	4	6	6	4	6	6	6	11.5	27.6
27-Jan	3	2	5	4	3	4	2	5	5	8	7	6	9	4	6	6	5	2	9	10	10	10	10	11	6.0	10.8
28-Jan	11	10	8	10	11	8	8	8	7	8	8	6	5	3	1	0	4	7	2	3	7	10	6	10	6.8	11.4
29-Jan	13	16	12	10	11	11	13	14	10	12	14	17	13	13	14	11	8	5	3	4	9	11	12	11	11.1	16.6
30-Jan	5	4	4	6	9	7	8	9	12	18	24	25	32	30	26	30	30	29	30	32	30	32	32	39	21.1	38.6
31-Jan	33	29	30	30	22	8	9	14	9	20	19	24	16	9	8	11	10	10	10	6	8	9	8	8	14.9	32.7
	16.0	15.9	16.0	15.0	15.3	14.5	14.0	14.7	13.9	15.2	15.3	15.6	15.9	14.9	13.9	13.0	13.2	13.2	14.4	14.4	13.9	14.7	14.8	15.6	Diurnal Average	
	74.9	67.9	52.1	48.7	51.1	48.2	47.5	44.7	38.5	40.5	33.9	36.5	42.4	41.3	35.2	34.4	31.9	30.2	42.6	43.1	44.9	40.7	37.6	54.5	Diurnal Maximum	

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



# Hourly Standard Deviations

Wind Direction (WD) - deg  
Smoky Heights - January 2014

Maximum Value: 99.9 deg on Jan 28 19:00																	Hours in Service: 744								
Minimum Value: 1.8 deg on Jan 24 12:00																	Hours of Data: 744								
Percentiles: P <sub>1</sub> = 2.3 P <sub>10</sub> = 3.7 Q <sub>1</sub> = 5.3 Median = 8.5 Q <sub>3</sub> = 16.7 P <sub>90</sub> = 31.0 P <sub>99</sub> = 83.8																	Hours of Missing Data: 0								
																	Hours of Calibration: 0								
																	Percent Operational Time: 100.0								
Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	15	16	80	72	40	11	44	69	38	14	15	6	7	11	8	11	8	7	23	9	10	8	10	6	80.4
2-Jan	9	2	6	6	12	7	6	4	5	2	3	3	2	4	4	3	6	4	15	61	7	8	8	7	61.0
3-Jan	8	9	18	9	14	18	6	11	4	5	8	6	7	6	6	9	10	75	24	11	27	16	79	83	82.6
4-Jan	18	50	7	23	36	21	14	6	22	35	8	20	9	9	9	6	5	6	6	72	90	57	22	88	89.7
5-Jan	19	23	10	13	17	15	4	12	8	10	15	45	16	35	31	52	47	27	18	6	68	19	10	7	68.0
6-Jan	13	6	8	6	4	6	6	4	78	12	16	25	84	40	21	84	45	30	20	70	33	89	11	5	88.7
7-Jan	4	5	12	6	6	6	6	5	4	5	6	4	5	5	4	4	10	10	12	70	30	7	3	69.8	
8-Jan	10	4	5	10	5	9	23	9	22	19	5	28	13	17	14	11	6	14	13	9	15	18	19	14	28.0
9-Jan	21	8	6	7	14	17	15	6	6	19	6	6	5	4	8	3	3	10	6	13	6	12	27	13	26.9
10-Jan	6	13	11	6	8	9	36	23	11	41	46	4	8	7	4	6	10	6	6	9	26	27	36	22	46.1
11-Jan	9	18	28	66	25	9	8	8	9	4	4	7	10	14	29	45	29	28	58	10	21	24	18	26	66.4
12-Jan	42	47	17	42	19	6	6	17	10	9	3	7	4	3	11	8	13	14	14	16	17	7	3	18	46.6
13-Jan	6	6	6	72	89	23	19	70	21	28	22	5	7	3	3	3	3	4	6	2	4	3	5	4	89.2
14-Jan	7	3	2	4	16	8	4	5	3	8	5	5	4	6	4	21	7	4	5	11	7	8	6	4	20.8
15-Jan	4	3	4	4	4	3	4	4	4	4	5	4	5	5	6	5	4	6	8	7	4	12	6	5	12.1
16-Jan	6	17	11	8	8	9	26	17	8	6	7	3	5	5	7	4	10	9	4	9	10	10	15	5	25.9
17-Jan	16	4	4	2	4	5	7	4	5	6	6	12	7	5	3	2	12	13	14	19	23	17	6	6	22.9
18-Jan	10	5	6	6	13	7	11	16	6	7	13	17	8	12	8	12	4	4	3	3	4	4	4	10	16.9
19-Jan	9	3	4	6	2	4	2	5	4	4	3	3	4	3	3	6	13	15	25	7	7	6	53	53	53.0
20-Jan	25	9	7	12	15	9	5	3	5	5	9	4	5	6	10	12	11	31	18	17	12	26	7	4	30.7
21-Jan	32	8	25	27	3	61	17	10	29	14	59	88	24	79	65	55	13	4	5	15	18	9	8	20	87.5
22-Jan	11	16	59	8	30	50	18	30	9	5	28	14	6	20	4	3	4	6	5	5	5	8	10	11	59.4
23-Jan	3	4	7	10	4	4	8	4	5	4	5	3	3	3	6	6	6	5	12	17	6	4	7	6	16.7
24-Jan	7	5	6	5	3	4	4	5	3	2	2	2	5	6	36	12	6	4	6	5	4	3	3	3	36.3
25-Jan	4	4	3	3	3	3	14	9	4	5	4	4	4	9	9	9	15	5	9	16	8	8	10	10	16.3
26-Jan	9	13	7	8	7	8	10	21	15	29	18	23	12	17	13	25	18	36	8	18	15	39	12	16	39.0
27-Jan	26	76	8	79	39	20	50	24	28	26	5	13	22	26	5	8	10	25	6	6	6	7	10	21	78.5
28-Jan	20	9	7	4	11	15	7	11	10	8	11	17	49	42	86	84	20	40	100	72	40	47	19	5	99.9
29-Jan	6	10	6	9	11	7	5	4	7	9	8	5	9	8	6	8	6	8	27	62	4	6	5	6	61.7
30-Jan	9	18	42	12	7	9	7	8	7	14	8	15	10	15	7	5	6	7	7	5	9	6	17	14	41.9
31-Jan	9	21	5	22	12	29	19	12	10	8	11	21	17	9	52	4	18	10	13	16	8	7	11	7	52.2
	41.9	76.3	80.4	78.5	89.2	60.6	50.3	70.4	78.0	40.6	59.1	87.5	83.7	78.5	85.6	84.2	47.2	75.4	99.9	72.3	89.7	88.7	79.2	88.0	

PAZA

Beaverlodge Station

Monthly Summary Tables, Graphs and  
Roses

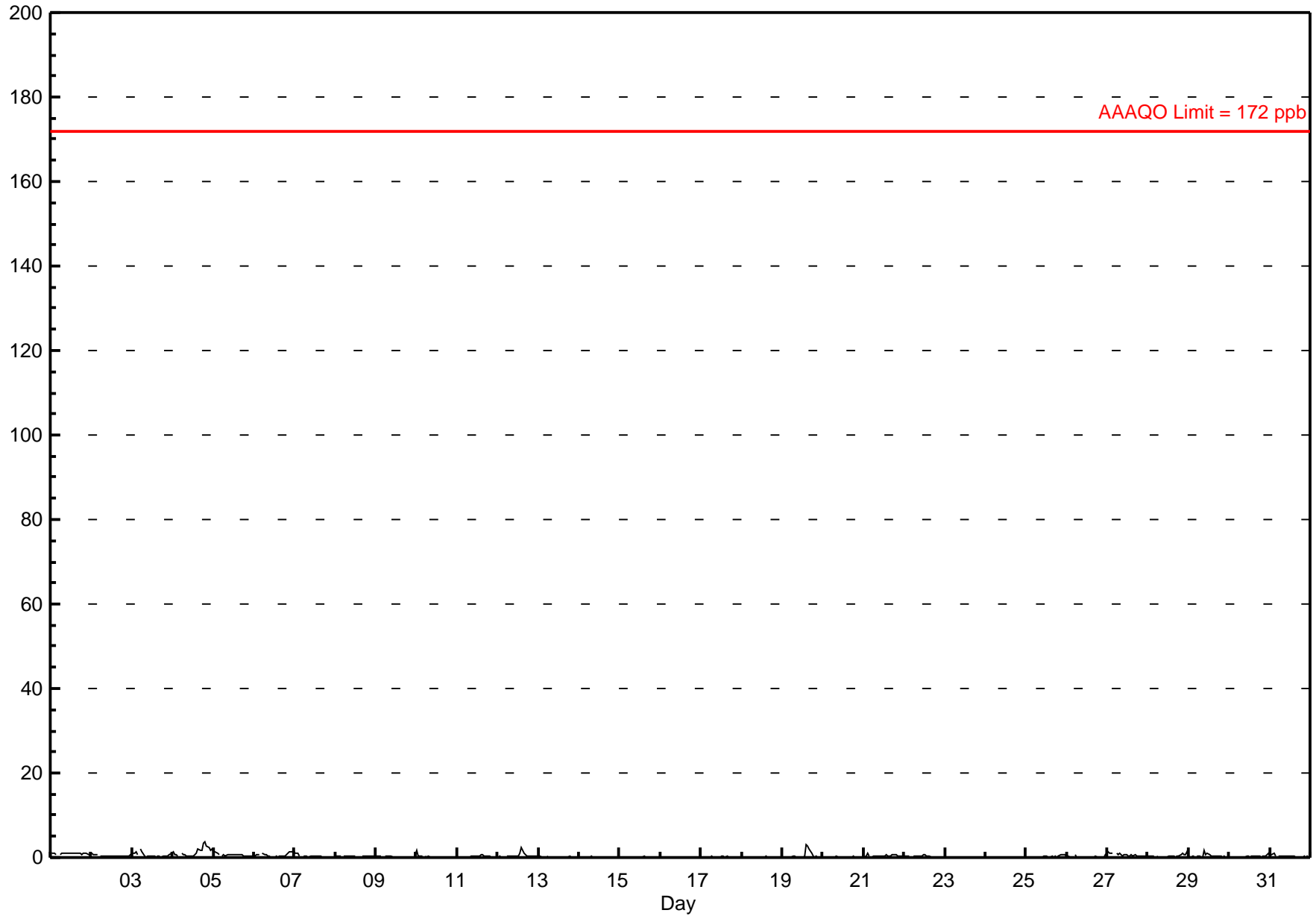
## Hourly Averages

## Sulphur Dioxide (SO<sub>2</sub>) - ppb Beaverlodge - January 2014

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 3.7 ppb on Jan 4 20:00 Maximum Daily Average: 1.3 ppb on Jan 4		Hours in Service: 744 Hours of Data: 710 Hours of Missing Data: 34 Hours of Calibration: 34 Percent Operational Time: 100.0																																															
Minimum Value: 0 ppb on Jan 16 01:00 Maximum Diurnal Average: 0.5 ppb at hour 15 Monthly Average: 0.33 ppb		Minimum Daily Average: 0.0 ppb on Jan 16 Minimum Diurnal Average: 0.2 ppb at hour 9 Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.0 Q <sub>1</sub> = 0.1 Median = 0.2 Q <sub>3</sub> = 0.4 P <sub>90</sub> = 0.8 P <sub>99</sub> = 2.1																																															
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Jan	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	1.0																							
2-Jan	1	1	1	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.9																							
3-Jan	1	1	1	1	A	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.6	2.0																							
4-Jan	1	1	1	0	A	1	1	1	0	0	0	0	0	1	1	2	2	2	3	4	3	2	2	2	1.3	3.7																							
5-Jan	1	1	1	1	A	0	1	0	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0.6	1.5																							
6-Jan	0	1	1	1	A	1	1	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	2	0.6	1.6																							
7-Jan	1	1	1	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.1																							
8-Jan	0	0	0	0	A	0	0	0	0	0	0	0	1	C	C	C	0	0	0	0	0	0	0	0	0.3	0.5																							
9-Jan	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	0.5																							
10-Jan	2	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	1.8																							
11-Jan	0	0	0	0	A	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0.2	0.8																							
12-Jan	0	0	0	0	A	0	0	0	0	0	0	0	0	1	2	1	1	0	0	0	0	0	0	0	0.5	2.4																							
13-Jan	0	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																							
14-Jan	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2																							
15-Jan	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.3																							
16-Jan	0	0	0	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-Jan	0	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																							
18-Jan	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2																							
19-Jan	0	0	0	0	A	0	0	0	0	0	0	0	0	1	3	3	2	1	0	0	0	0	0	0	0.5	3.0																							
20-Jan	0	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																							
21-Jan	0	0	1	0	A	0	0	0	0	0	0	1	0	1	1	0	1	1	1	1	0	0	0	0	0.4	1.2																							
22-Jan	0	0	0	0	A	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0.3	0.6																							
23-Jan	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1																							
24-Jan	0	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																							
25-Jan	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0.2	0.8																							
26-Jan	0	0	0	0	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.2	0.7																							
27-Jan	1	1	1	1	A	1	1	1	1	0	1	1	0	0	1	0	1	0	0	0	0	0	0	0	0.6	1.2																							
28-Jan	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0.4	1.3																							
29-Jan	0	0	0	1	A	0	0	0	0	2	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0.4	1.7																							
30-Jan	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.2	1.0																							
31-Jan	1	1	1	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.2																							
																								0.4	0.4	0.4	0.3	--	0.4	0.3	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.5	0.4	0.3	0.3	0.3	0.3	0.4	0.4	0.3	0.3	0.4	Diurnal Average
																								1.8	1.3	1.2	1.2	--	2.0	1.4	0.9	0.9	1.7	0.9	0.9	0.9	1.1	3.0	2.7	2.2	1.6	3.3	3.7	2.8	2.2	1.8	1.9	Diurnal Maximum	
C - Calibration      A - Automated Daily Zero Span Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb    24-hr 48 ppb    30-day 11 ppb																																																	

### Hourly Averages

Sulphur Dioxide (SO<sub>2</sub>) - ppb  
Beaverlodge - January 2014



## Hourly Maximums

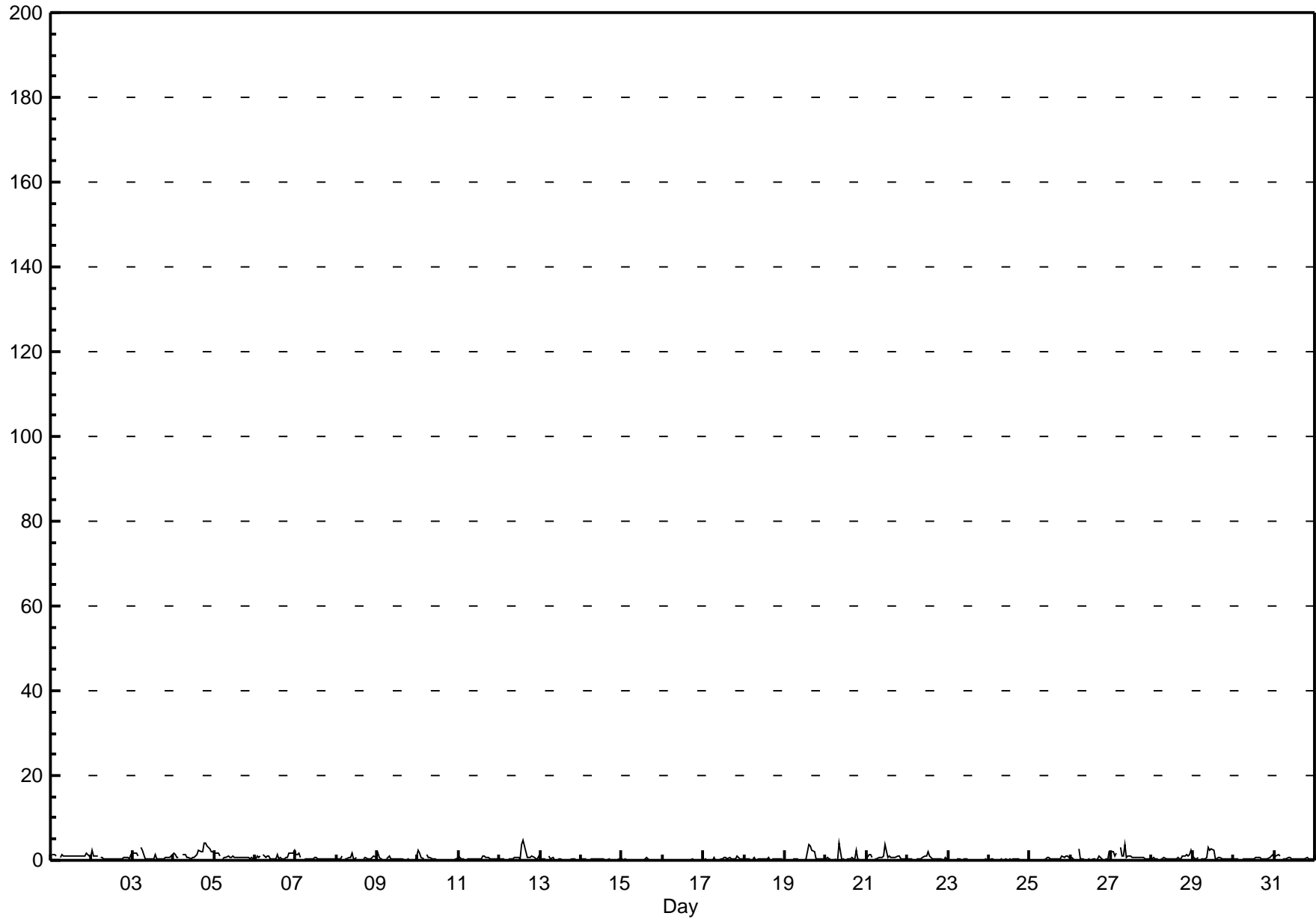
Sulphur Dioxide (SO<sub>2</sub>) - ppb

Beaverlodge - January 2014

Maximum Value: 4.8 ppb on Jan 12 15:00		Maximum Daily Average: 1.7 ppb on Jan 4		Hours in Service: 744																								
Minimum Value: 0 ppb on Jan 16 11:00		Minimum Daily Average: 0.1 ppb on Jan 16		Hours of Data: 710																								
Maximum Diurnal Average: 0.8 ppb at hour 1		Minimum Diurnal Average: 0.5 ppb at hour 8		Hours of Missing Data: 34																								
Monthly Average: 0.58 ppb		Percentiles: P <sub>1</sub> = 0.1 P <sub>10</sub> = 0.1 Q <sub>1</sub> = 0.2 Median = 0.3 Q <sub>3</sub> = 0.7 P <sub>90</sub> = 1.3 P <sub>99</sub> = 3.6		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-Jan	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1.1	1.8		
2-Jan	2	1	1	1	A	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	1	0.6	2.3	
3-Jan	2	2	2	1	A	3	2	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1	1	1	1	0.9	3.2	
4-Jan	2	1	1	1	A	1	1	1	1	1	0	1	1	1	2	2	2	2	4	4	3	3	2	2	1.7	4.0		
5-Jan	2	2	2	1	A	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	0.8	1.8		
6-Jan	0	1	1	1	A	1	1	1	1	0	0	0	0	1	0	1	0	1	1	1	2	2	2	2	0.9	2.3		
7-Jan	1	1	2	1	A	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0.5	1.6		
8-Jan	0	0	0	1	A	0	0	1	1	2	0	0	1	C	C	C	0	1	0	0	0	1	1	1	0.6	1.6		
9-Jan	2	1	0	0	A	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.4	1.6		
10-Jan	2	2	1	0	A	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	2.4		
11-Jan	1	0	0	0	A	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0.4	1.1		
12-Jan	0	0	0	0	A	0	0	0	0	1	1	1	0	4	5	2	1	1	1	1	1	0	0	1	0.9	4.8		
13-Jan	0	0	0	0	A	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.0		
14-Jan	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3		
15-Jan	0	0	0	0	A	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0.2	0.7		
16-Jan	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2		
17-Jan	0	0	0	0	A	0	1	0	0	0	0	0	1	1	0	1	0	0	0	0	1	0	0	0	0.3	1.0		
18-Jan	0	0	0	0	A	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0.3	0.8		
19-Jan	0	0	0	0	A	0	0	0	0	0	0	0	0	2	4	3	2	2	0	0	0	0	0	0	0.8	3.6		
20-Jan	0	1	0	0	A	0	0	0	4	0	0	0	0	0	0	1	0	0	2	0	0	0	0	0	0.5	3.9		
21-Jan	0	1	1	1	A	0	0	1	1	1	1	4	1	1	1	1	1	1	1	1	1	0	0	0	0.8	3.6		
22-Jan	0	0	0	0	A	0	0	0	0	1	1	1	2	1	1	0	0	0	0	0	0	0	1	0	0.5	1.9		
23-Jan	0	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		
24-Jan	0	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		
25-Jan	0	0	0	0	A	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	1	1	1	1	0.4	1.1		
26-Jan	1	1	0	0	A	3	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	0.5	2.9		
27-Jan	2	2	1	2	A	3	1	1	4	1	1	1	1	1	1	1	1	1	1	1	0	0	0	1	1.1	3.8		
28-Jan	1	1	0	1	A	0	0	1	0	0	0	0	0	0	0	1	0	0	1	1	1	1	1	2	0.6	2.4		
29-Jan	1	0	0	1	A	0	0	0	1	3	3	3	2	0	0	1	1	0	0	0	0	0	0	0	0.8	3.1		
30-Jan	0	0	0	0	A	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	1	1	1	0.4	1.3		
31-Jan	1	1	1	1	A	0	0	1	1	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0.5	1.5		
		0.8	0.7	0.6	0.5	--	0.7	0.5	0.5	0.6	0.5	0.5	0.6	0.5	0.7	0.7	0.7	0.5	0.5	0.6	0.5	0.5	0.5	0.5	0.7	Diurnal Average		
		2.4	2.0	1.6	1.6	--	3.2	2.5	1.3	3.9	3.1	2.5	3.6	2.3	3.7	4.8	3.3	2.4	2.0	4.0	4.0	3.3	2.6	2.1	2.4	Diurnal Maximum		
C - Calibration					A - Automated Daily Zero Span																							

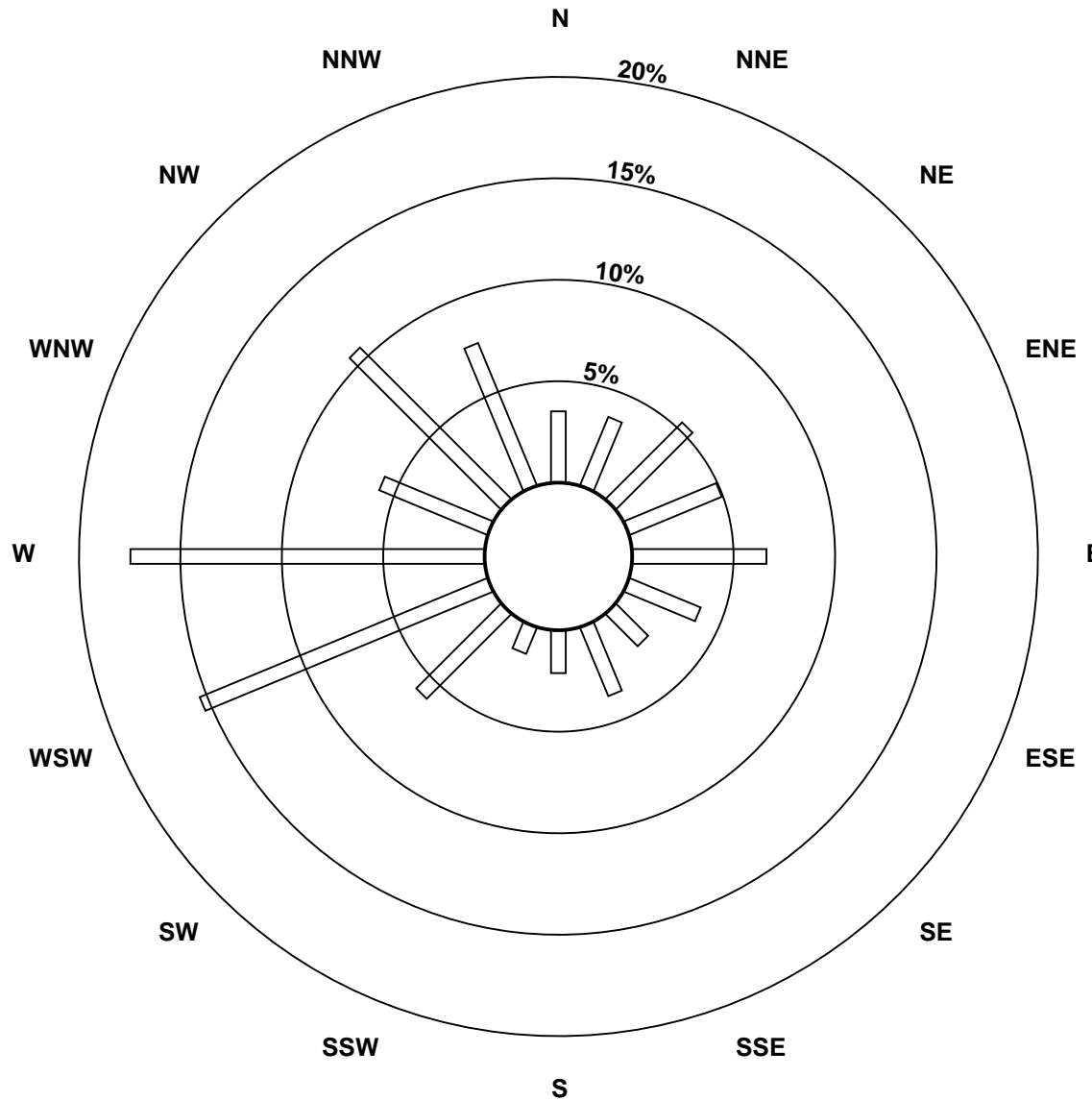
### Hourly Maximums

Sulphur Dioxide (SO<sub>2</sub>) - ppb  
Beaverlodge - January 2014

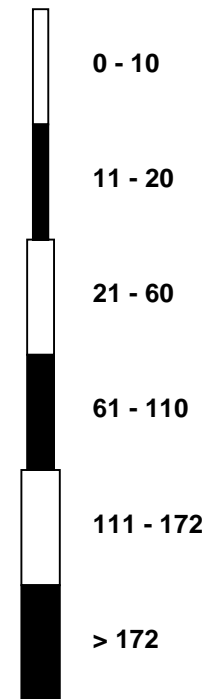


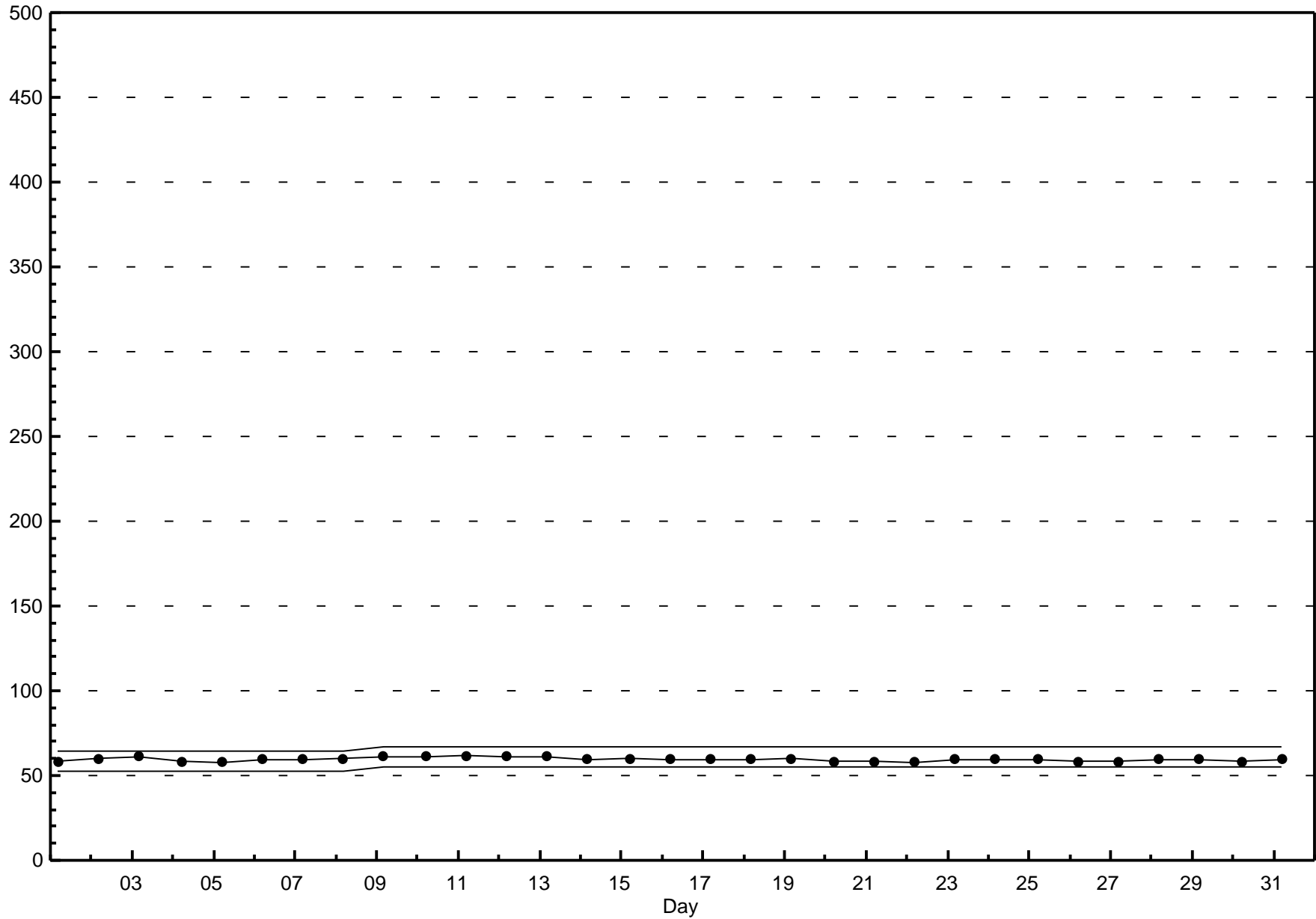
**Pollutant Rose**

**Sulphur Dioxide (SO<sub>2</sub>) - ppb**  
**Beaverlodge - January 2014**



**Pollutant Classes (ppb)**







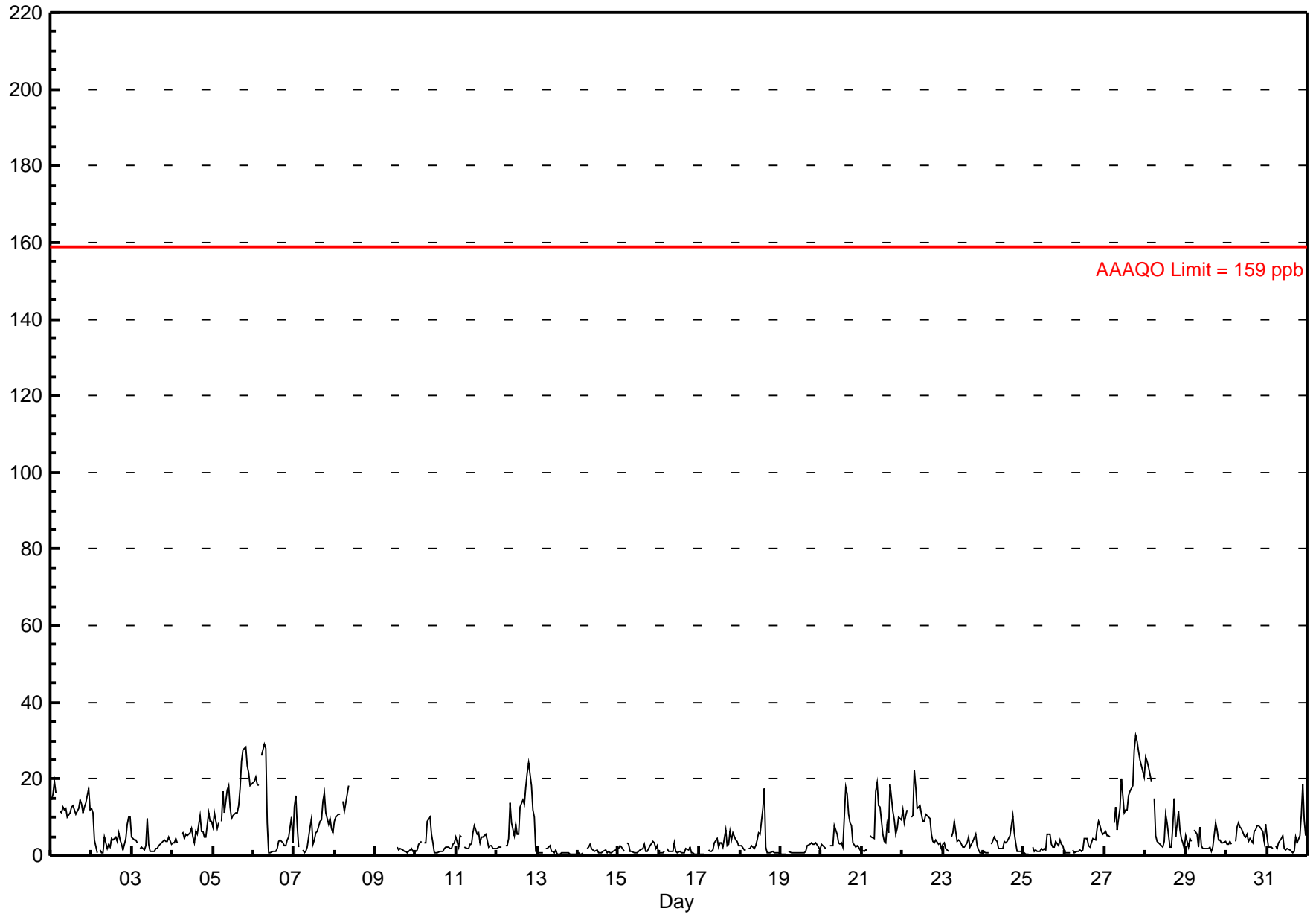
## Hourly Averages

## Nitrogen Dioxide (NO<sub>2</sub>) - ppb Beaverlodge - January 2014

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0	Hours in Service: 744
Maximum Value: 31.5 ppb on Jan 27 19:00	Maximum Daily Average: 15.7 ppb on Jan 27
Minimum Value: 0 ppb on Jan 19 03:00	Hours of Data: 686
Maximum Diurnal Average: 7.5 ppb at hour 18	Hours of Missing Data: 58
Monthly Average: 5.53 ppb	Hours of Calibration: 34
Minimum Daily Average: 0.9 ppb on Jan 13	Percent Operational Time: 96.8
Minimum Diurnal Average: 4.3 ppb at hour 14	
Percentiles: P <sub>1</sub> = 0.4 P <sub>10</sub> = 0.8 Q <sub>1</sub> = 1.6 Median = 3.3 Q <sub>3</sub> = 7.6 P <sub>90</sub> = 12.9 P <sub>99</sub> = 27.6	

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	14	16	19	16	A	12	11	13	12	12	10	11	13	13	12	11	12	15	13	11	13	14	18	12	13.2	19.3
2-Jan	12	11	4	1	A	1	1	1	5	2	3	2	5	4	5	4	6	4	3	2	4	8	10	10	4.7	12.4
3-Jan	5	4	4	3	A	2	2	2	3	10	3	1	1	1	2	2	3	3	4	4	4	4	5	3	3.2	9.7
4-Jan	4	3	4	4	A	6	6	4	6	5	6	7	5	3	6	6	10	6	6	5	5	11	9	9	6.0	11.0
5-Jan	8	11	7	8	A	9	17	11	17	18	13	10	11	11	11	13	18	25	28	28	24	22	18	19	15.5	28.2
6-Jan	19	21	19	18	A	26	29	28	8	1	1	1	1	1	2	4	4	3	2	2	4	5	10	4	9.3	28.9
7-Jan	13	16	8	2	A	2	1	1	2	7	10	3	4	6	6	9	9	14	16	11	8	10	7	6	7.5	16.3
8-Jan	9	10	11	11	A	14	12	16	18	M	M	M	M	M	M	M	M	M	N	N	N	N	N	N	--	18.2
9-Jan	N	N	N	N	N	N	N	N	N	C	C	C	C	C	M	M	M	M	N	N	N	N	N	N	--	2.3
10-Jan	1	2	3	4	A	4	3	9	10	6	3	1	1	1	1	1	1	1	2	2	2	2	3	3	2.9	10.0
11-Jan	5	2	5	5	A	2	2	2	3	3	6	8	6	6	3	5	5	6	4	2	3	3	2	2	3.8	7.8
12-Jan	2	2	2	2	A	3	3	4	14	9	5	8	6	6	13	14	13	18	22	24	18	12	10	1	9.2	24.2
13-Jan	1	1	1	1	A	2	2	3	1	1	1	2	1	1	1	1	1	1	1	0	0	0	0	1	0.9	2.7
14-Jan	1	0	0	1	A	2	2	3	2	1	1	1	1	1	1	1	2	1	1	1	1	1	1	2	1.2	2.9
15-Jan	2	3	2	1	A	3	3	1	1	1	1	1	1	1	2	3	1	1	2	2	4	3	2	3	1.9	3.8
16-Jan	1	1	1	1	A	2	1	1	1	3	1	1	1	1	1	1	2	1	2	1	1	1	0	0	1.1	3.2
17-Jan	0	0	0	1	A	1	1	1	2	3	4	2	3	3	2	7	3	3	6	4	6	4	4	3	2.9	6.8
18-Jan	3	3	2	2	A	2	2	2	2	3	4	6	6	12	18	2	1	1	1	1	1	1	1	1	3.2	17.7
19-Jan	0	0	0	0	A	1	1	1	1	1	1	1	1	1	1	1	3	3	3	3	3	3	2	1	1.4	3.5
20-Jan	3	3	2	2	A	2	3	2	8	5	3	3	3	2	18	16	11	9	8	3	2	3	2	2	5.0	17.9
21-Jan	2	1	2	1	A	5	5	5	17	19	13	13	6	4	3	8	6	19	11	9	5	7	10	9	7.8	19.0
22-Jan	12	9	10	12	A	10	10	23	18	12	13	11	9	9	11	11	10	6	4	4	4	3	4	2	9.3	22.5
23-Jan	3	3	2	1	A	5	6	9	4	4	4	3	2	2	3	5	2	3	4	6	2	2	1	1	3.3	8.8
24-Jan	1	1	1	1	A	3	5	4	4	2	2	2	4	3	4	4	5	10	6	3	1	1	1	1	3.0	10.4
25-Jan	1	0	1	0	A	2	1	2	1	1	2	2	2	1	6	5	3	2	2	4	3	4	3	3	2.2	5.6
26-Jan	1	1	1	1	A	2	1	1	1	1	1	2	4	5	3	2	3	5	4	7	9	8	6	6	3.2	9.1
27-Jan	7	5	5	5	A	8	13	7	10	12	20	11	12	12	16	17	18	28	31	30	27	25	22	21	15.7	31.5
28-Jan	26	25	23	19	A	15	5	4	3	3	2	4	11	9	2	2	8	15	5	12	7	5	3	2	9.0	25.6
29-Jan	5	2	5	4	A	7	5	2	8	3	2	2	2	2	2	1	2	9	7	4	4	3	3	4	3.8	8.6
30-Jan	3	3	4	3	A	4	7	8	8	7	5	5	6	4	5	3	6	7	8	8	8	6	4	8	5.6	8.5
31-Jan	5	2	2	2	A	3	2	3	4	5	2	2	2	2	1	1	1	5	4	5	11	19	9	5	4.2	18.5
	5.5	5.4	5.0	4.4	--	5.3	5.4	5.8	6.4	5.6	4.9	4.3	4.4	4.3	5.4	5.4	5.7	7.5	7.1	6.7	6.1	6.3	5.7	4.7		Diurnal Average
	25.6	24.7	23.3	19.3	--	26.2	28.9	27.8	18.2	19.0	20.0	12.8	12.7	13.0	17.9	16.7	18.1	27.7	31.5	29.8	27.1	25.1	22.0	20.6		Diurnal Maximum

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



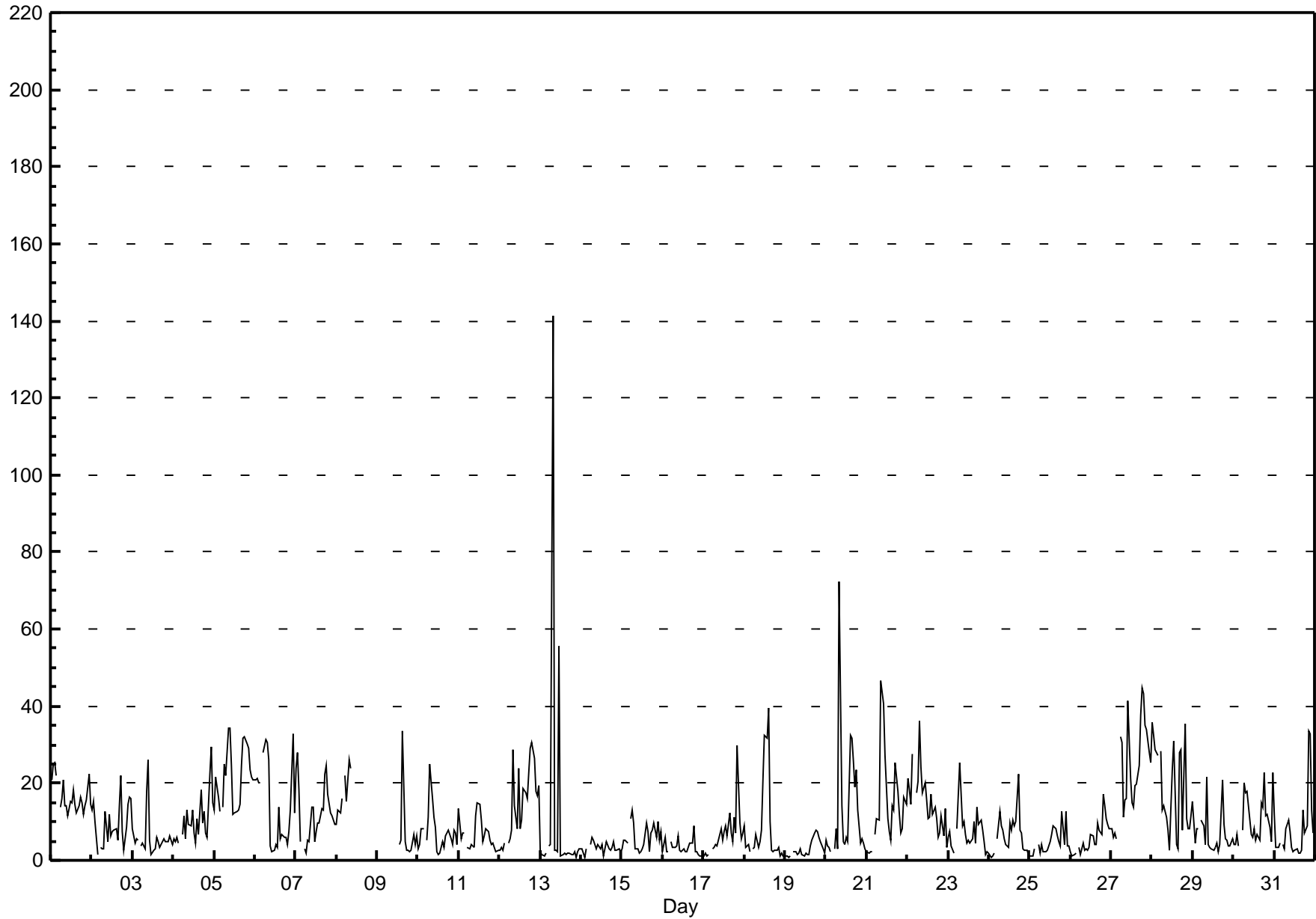
# Hourly Maximums

## Nitrogen Dioxide (NO<sub>2</sub>) - ppb Beaverlodge - January 2014

<b>Maximum Value: 141.5 ppb on Jan 13 08:00</b>		<b>Maximum Daily Average: 23.2 ppb on Jan 27</b>		Hours in Service: 744 Hours of Data: 686 Hours of Missing Data: 58 Hours of Calibration: 34 Percent Operational Time: 96.8																							
<b>Minimum Value: 1 ppb on Jan 19 03:00</b>		<b>Minimum Daily Average: 3.0 ppb on Jan 19</b>																									
<b>Maximum Diurnal Average: 15.7 ppb at hour 8</b>		<b>Minimum Diurnal Average: 7.1 ppb at hour 4</b>																									
<b>Monthly Average: 10.24 ppb</b>		Percentiles: P <sub>1</sub> = 1.0 P <sub>10</sub> = 2.1 Q <sub>1</sub> = 3.4 Median = 6.7 Q <sub>3</sub> = 13.7 P <sub>90</sub> = 23.9 P <sub>99</sub> = 42.9																									
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	21	25	26	22	A	14	16	21	14	14	12	15	15	18	14	12	14	16	15	12	14	16	22	15	16.7	25.5	
2-Jan	13	15	10	2	A	3	3	3	13	5	12	6	7	8	8	5	14	22	8	3	9	14	16	16	9.4	22.1	
3-Jan	8	5	6	5	A	4	4	3	18	26	5	2	2	3	6	5	3	4	6	5	5	5	6	4	6.1	25.9	
4-Jan	5	5	6	4	A	7	12	6	13	9	9	13	7	5	11	7	18	10	13	7	6	23	30	15	10.4	29.5	
5-Jan	13	22	16	13	A	14	25	22	34	34	25	12	12	13	13	14	25	32	32	30	29	23	22	21	21.5	34.4	
6-Jan	21	21	20	20	A	28	31	31	26	4	2	3	4	3	14	6	7	6	6	4	8	13	33	12	14.0	32.9	
7-Jan	24	28	18	5	A	3	2	5	5	14	14	5	8	10	10	13	13	22	25	17	12	11	10	9	12.3	28.1	
8-Jan	9	13	12	16	A	22	15	26	24	M	M	M	M	M	M	M	M	M	N	N	N	N	N	N	--	25.9	
9-Jan	N	N	N	N	N	N	N	N	N	N	C	C	C	C	4	5	34	5	3	3	2	3	7	4	7	--	33.6
10-Jan	3	4	8	8	A	5	11	25	16	11	9	2	2	2	5	3	6	7	8	6	4	8	7	4	7.2	24.8	
11-Jan	13	5	7	7	A	3	3	4	4	3	12	15	14	10	5	6	8	7	5	4	4	3	2	3	6.5	15.0	
12-Jan	2	3	3	4	A	4	6	8	29	14	8	24	8	10	19	17	16	23	29	30	27	18	17	20	14.8	30.4	
13-Jan	2	2	1	2	A	4	4	142	3	2	2	55	1	1	2	1	2	2	2	1	2	1	2	3	10.4	141.5	
14-Jan	3	2	1	3	A	4	6	5	4	3	4	3	4	1	3	5	3	3	3	5	3	3	3	2	3.3	6.1	
15-Jan	3	5	5	4	A	11	13	10	3	3	2	2	3	4	10	7	2	7	8	10	6	10	5	8	6.1	13.0	
16-Jan	2	6	2	2	A	5	3	3	4	6	2	2	3	2	2	3	4	5	9	2	2	2	1	1	3.3	9.0	
17-Jan	1	2	1	2	A	3	4	4	4	5	8	5	7	9	6	12	7	5	11	7	30	10	5	7	6.7	29.9	
18-Jan	9	3	4	2	A	3	3	7	3	5	8	20	33	32	39	10	3	2	3	3	3	1	2	1	8.7	39.4	
19-Jan	1	1	1	1	A	2	2	2	2	3	2	1	2	1	1	4	5	7	8	8	6	5	3	2	3.0	7.8	
20-Jan	5	4	3	2	A	3	8	3	73	14	5	4	6	5	32	32	26	19	24	13	4	6	5	3	13.0	72.5	
21-Jan	2	2	2	2	A	7	11	11	46	44	41	27	11	8	5	14	13	25	18	12	7	8	17	14	15.1	46.4	
22-Jan	21	18	15	28	A	18	20	36	24	17	20	16	11	11	17	12	14	11	6	7	12	6	14	3	15.5	36.2	
23-Jan	6	7	4	2	A	8	17	25	9	10	7	4	5	5	6	10	4	14	9	10	8	5	2	2	7.8	25.5	
24-Jan	2	1	1	2	A	6	13	9	8	6	4	4	10	8	10	9	10	23	8	7	3	3	3	1	6.5	22.5	
25-Jan	1	1	1	3	A	4	2	4	2	2	3	4	5	7	9	8	6	5	4	13	4	13	4	4	4.7	12.8	
26-Jan	2	1	1	2	A	3	1	5	2	3	3	3	7	6	4	4	10	8	7	17	14	11	9	8	5.8	17.1	
27-Jan	8	6	7	6	A	32	30	11	16	16	41	21	15	14	19	20	24	38	45	43	35	34	28	25	23.2	44.7	
28-Jan	36	32	29	27	A	28	13	14	11	8	3	13	24	31	4	3	28	29	8	35	11	8	8	12	18.1	35.8	
29-Jan	15	5	8	8	A	10	9	4	22	4	3	3	3	3	4	2	4	21	9	6	5	4	4	6	7.1	21.6	
30-Jan	4	4	7	4	A	8	20	18	18	14	7	6	8	5	7	5	15	14	23	11	12	9	5	23	10.7	22.9	
31-Jan	12	3	3	4	A	4	3	8	10	8	3	2	3	3	2	2	3	13	7	9	34	33	13	7	8.3	33.6	
		9.0	8.4	7.6	7.1	--	9.0	10.4	15.7	15.3	10.6	9.5	10.1	8.3	8.1	9.8	9.6	10.5	13.3	12.0	11.3	10.7	10.3	10.0	8.6	Diurnal Average	
		35.8	32.5	28.8	27.6	--	32.3	31.2	141.5	72.5	43.6	41.4	55.5	32.6	31.7	39.4	33.6	28.1	37.6	44.7	43.1	34.9	33.9	32.9	25.3	Diurnal Maximum	
C - Calibration					M - Maintenance					N - Not Valid					A - Automated Daily Zero Span												

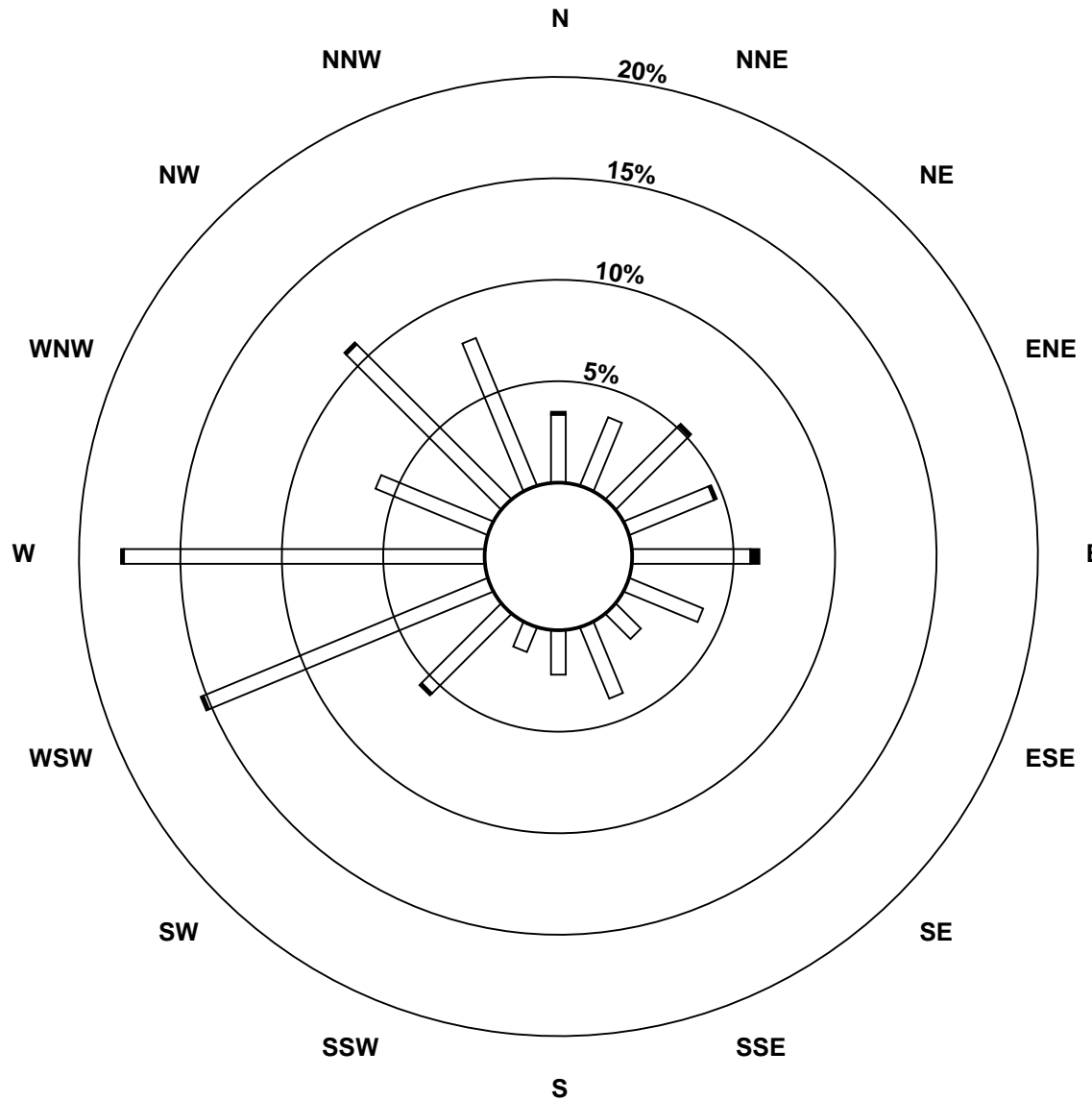
### Hourly Maximums

Nitrogen Dioxide (NO<sub>2</sub>) - ppb  
Beaverlodge - January 2014

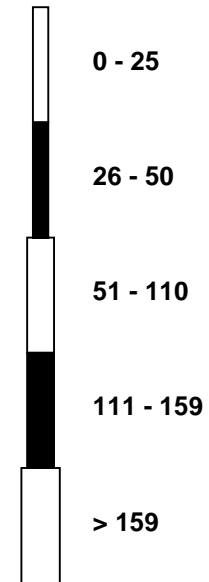


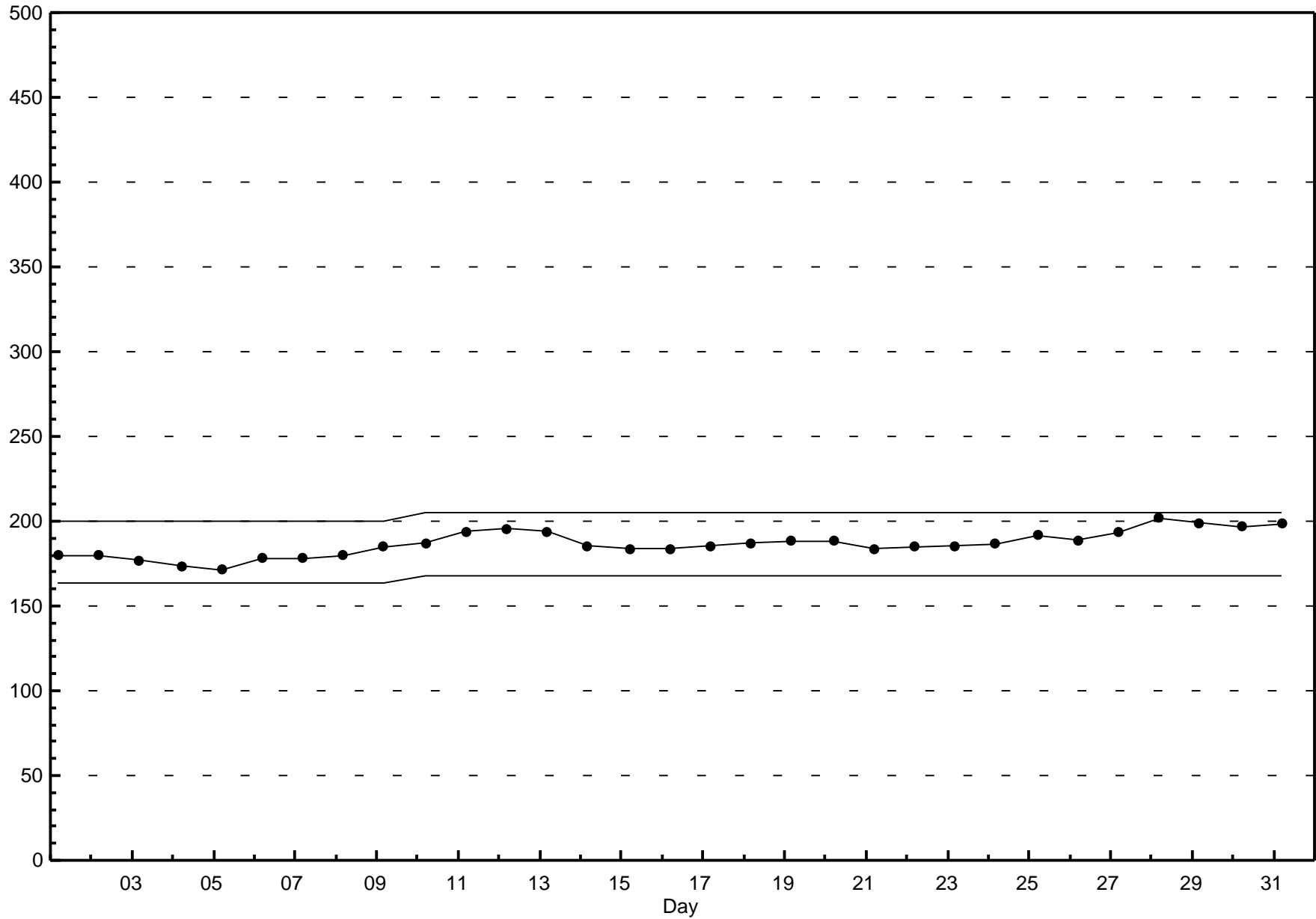
**Pollutant Rose**

**Nitrogen Dioxide (NO<sub>2</sub>) - ppb**  
**Beaverlodge - January 2014**



**Pollutant Classes (ppb)**





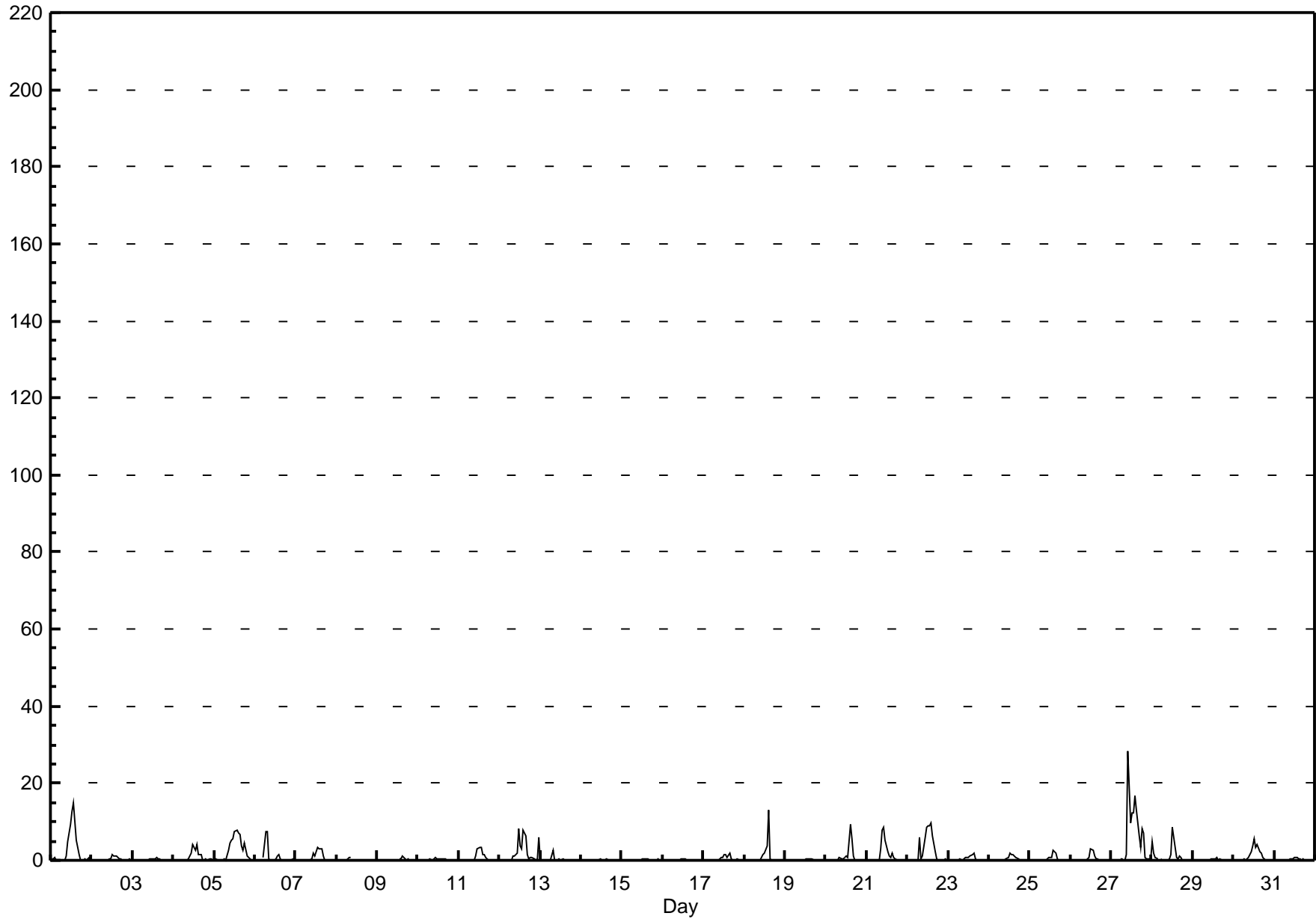
## Hourly Averages

## Nitrogen Oxide (NO) - ppb Beaverlodge - January 2014

Number of Exceedences (AAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 28.3 ppb on Jan 27 11:00	Maximum Daily Average: 5.3 ppb on Jan 27		Hours of Data:	686
Minimum Value: 0 ppb on Jan 2 20:00	Minimum Daily Average: 0.1 ppb on Jan 16		Hours of Missing Data:	58
Maximum Diurnal Average: 3.4 ppb at hour 15	Minimum Diurnal Average: 0.0 ppb at hour 4		Hours of Calibration:	34
Monthly Average: 0.92 ppb	Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.0 Q <sub>1</sub> = 0.0 Median = 0.1 Q <sub>3</sub> = 0.5 P <sub>90</sub> = 2.6 P <sub>99</sub> = 12.2		Percent Operational Time:	96.8

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	0	0	1	0	A	0	0	0	0	1	5	9	13	15	10	5	2	0	0	0	0	0	1	0	2.7	14.7
2-Jan	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	1.4
3-Jan	0	0	0	0	A	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0.2	0.9
4-Jan	0	0	0	0	A	0	0	0	0	0	2	4	3	2	4	2	1	0	0	0	0	0	1	0	0.9	4.2
5-Jan	0	0	0	0	A	0	0	0	3	4	5	6	8	8	7	7	4	2	4	1	1	0	0	0	2.7	7.8
6-Jan	0	0	0	0	A	1	8	7	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0.9	7.6
7-Jan	0	0	0	0	A	0	0	0	0	0	2	1	2	3	3	3	1	0	0	0	0	0	0	0	0.7	3.3
8-Jan	0	0	0	0	A	0	0	1	1	M	M	M	M	M	M	M	M	M	N	N	N	N	N	N	--	0.7
9-Jan	N	N	N	N	N	N	N	N	N	C	C	C	C	C	C	C	C	C	N	N	N	N	N	N	--	1.1
10-Jan	0	0	0	0	A	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.7
11-Jan	0	0	0	0	A	0	0	0	0	0	1	3	3	3	1	2	1	0	0	0	0	0	0	0	0.7	3.2
12-Jan	0	0	0	0	A	0	0	0	1	1	2	8	4	3	8	6	1	0	1	1	0	0	0	6	1.9	8.0
13-Jan	0	0	0	0	A	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	2.6
14-Jan	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
15-Jan	0	0	0	0	A	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	0	0.2	0.6
16-Jan	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
17-Jan	0	0	0	0	A	0	0	0	0	0	1	1	1	1	1	2	0	0	0	0	0	0	0	0	0.3	1.7
18-Jan	0	0	0	0	A	0	0	0	0	0	1	2	2	4	13	1	0	0	0	0	0	0	0	0	1.0	13.0
19-Jan	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
20-Jan	0	0	0	0	A	0	0	0	1	0	0	1	1	1	9	6	1	0	0	0	0	0	0	0	0.9	9.5
21-Jan	0	0	0	0	A	0	0	0	3	8	8	5	2	1	1	2	1	0	0	0	0	0	0	0	1.4	8.4
22-Jan	0	0	0	0	A	0	0	6	0	1	6	9	9	9	10	6	2	0	0	0	0	0	0	0	2.6	9.8
23-Jan	0	0	0	0	A	0	0	0	0	0	1	1	1	1	1	2	0	0	0	0	0	0	0	0	0.4	1.9
24-Jan	0	0	0	0	A	0	0	0	0	0	0	1	2	2	1	1	1	0	0	0	0	0	0	0	0.4	2.0
25-Jan	0	0	0	0	A	0	0	0	0	0	0	1	1	1	3	2	0	0	0	0	0	0	0	0	0.4	2.6
26-Jan	0	0	0	0	A	0	0	0	0	0	0	1	3	3	1	1	0	0	0	0	0	0	0	0	0.4	2.8
27-Jan	0	0	0	0	A	0	0	0	0	2	28	10	12	12	17	13	6	3	8	7	1	0	0	0	5.3	28.3
28-Jan	5	2	1	0	A	0	0	0	0	0	0	1	9	6	1	0	1	1	0	0	0	0	0	0	1.2	8.5
29-Jan	0	0	0	0	A	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0.1	0.6
30-Jan	0	0	0	0	A	0	0	0	0	1	2	4	6	4	4	2	2	1	0	0	0	0	0	0	1.1	5.6
31-Jan	0	0	0	0	A	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0.2	0.7
	0.2	0.1	0.1	0.0	--	0.1	0.3	0.6	0.3	0.7	2.3	2.4	3.0	2.8	3.4	2.2	0.9	0.4	0.5	0.4	0.1	0.1	0.1	0.3	Diurnal Average	
	4.7	1.8	0.6	0.2	--	0.6	7.6	7.4	2.8	7.8	28.3	9.8	12.7	14.7	16.7	12.9	6.3	3.5	8.2	6.9	0.8	0.5	0.9	6.0	Diurnal Maximum	

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





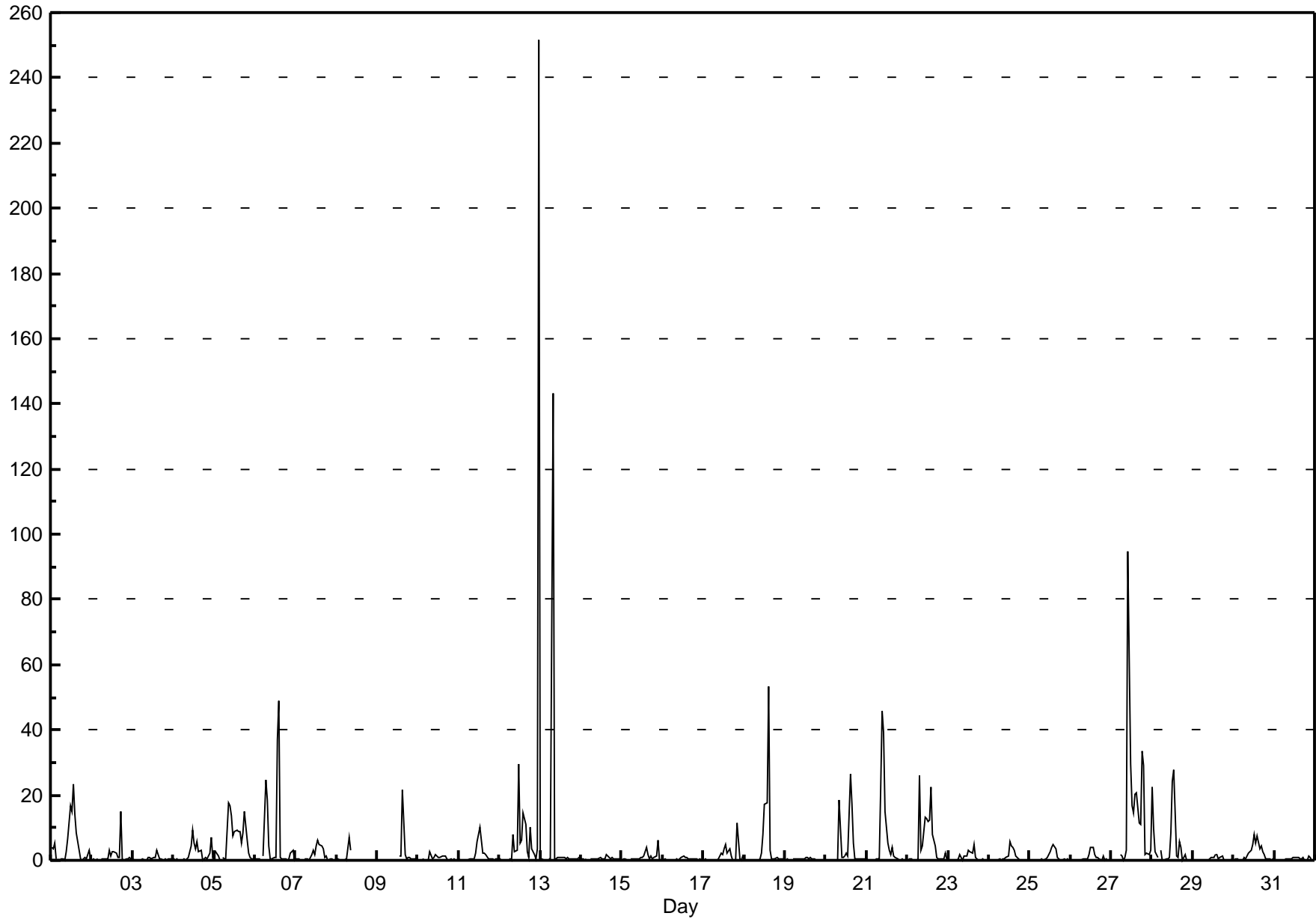
## Hourly Maximums

## Nitrogen Oxide (NO) - ppb Beaverlodge - January 2014

Maximum Value: 251.4 ppb on Jan 13 00:00		Maximum Daily Average: 15.5 ppb on Jan 12		Hours in Service: 744																						
Minimum Value: 0 ppb on Jan 28 19:00		Minimum Daily Average: 0.4 ppb on Jan 19		Hours of Data: 686																						
Maximum Diurnal Average: 8.8 ppb at hour 15		Minimum Diurnal Average: 0.2 ppb at hour 4		Hours of Missing Data: 58																						
Monthly Average: 3.26 ppb		Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.1 Q <sub>1</sub> = 0.2 Median = 0.5 Q <sub>3</sub> = 1.7 P <sub>90</sub> = 6.4 P <sub>99</sub> = 37.1		Hours of Calibration: 34																						
				Percent Operational Time: 96.8																						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	4	4	5	1	A	0	0	1	0	3	6	17	15	23	14	9	3	1	0	0	1	0	3	0	4.8	23.2
2-Jan	0	0	0	0	A	0	0	0	0	0	3	1	3	2	2	1	1	15	1	0	1	1	1	0	1.5	15.0
3-Jan	0	0	0	0	A	0	1	0	0	1	1	1	1	1	3	2	0	0	0	0	0	0	0	0	0.6	2.9
4-Jan	0	0	0	0	A	0	0	0	0	1	4	9	5	3	6	3	3	0	0	1	0	2	7	1	2.1	9.4
5-Jan	2	2	1	0	A	1	1	1	18	17	14	7	9	9	9	9	5	8	15	6	2	1	1	1	6.0	17.6
6-Jan	0	1	0	0	A	1	25	18	5	0	0	1	1	37	49	1	0	0	0	0	0	2	3	0	6.4	49.0
7-Jan	0	1	1	0	A	0	0	0	0	2	3	2	4	6	5	4	3	1	1	0	1	0	0	0	1.6	6.0
8-Jan	0	0	0	0	A	0	0	7	3	M	M	M	M	M	M	M	M	M	N	N	N	N	N	N	--	7.1
9-Jan	N	N	N	N	N	N	N	N	N	C	C	C	C	1	1	21	2	0	1	1	1	0	0	1	--	21.5
10-Jan	0	0	0	0	A	0	0	3	1	1	2	1	1	1	1	1	1	1	0	0	0	0	0	0	0.7	2.8
11-Jan	0	0	0	0	A	0	0	1	0	0	2	6	10	6	2	2	2	0	0	0	0	0	0	0	1.5	10.0
12-Jan	0	0	0	0	A	0	1	0	8	2	3	29	5	6	14	11	3	1	10	4	2	1	3	251	15.5	251.4
13-Jan	0	0	0	0	A	0	0	143	1	1	1	1	1	1	1	1	0	0	0	1	0	1	1	1	6.7	143.4
14-Jan	0	0	0	0	A	0	0	0	0	0	0	1	0	0	1	2	1	0	1	0	0	1	1	0	0.5	1.6
15-Jan	0	0	0	0	A	0	0	0	0	0	1	1	1	1	4	2	0	1	0	1	1	6	0	0	1.0	6.3
16-Jan	0	0	0	0	A	0	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0.4	1.4
17-Jan	0	0	0	0	A	0	0	0	0	0	2	2	4	5	2	4	1	0	0	0	11	0	0	1	1.5	11.2
18-Jan	0	0	0	0	A	0	0	0	0	0	2	8	17	17	53	3	1	0	1	1	1	0	1	0	4.7	53.4
19-Jan	0	0	0	0	A	0	0	0	0	1	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0.4	1.0
20-Jan	0	0	0	0	A	0	0	0	19	1	1	1	2	1	26	17	5	0	0	0	0	0	0	0	3.3	26.5
21-Jan	0	0	0	0	A	0	0	0	22	46	39	15	5	3	2	4	1	1	0	0	0	0	0	0	6.1	45.6
22-Jan	0	0	0	1	A	0	0	26	3	4	13	13	12	12	22	8	5	1	0	0	0	0	2	0	5.4	26.0
23-Jan	0	0	0	0	A	0	0	2	0	1	1	1	3	3	2	5	1	0	0	0	1	0	0	0	1.0	4.9
24-Jan	0	0	0	0	A	0	0	0	0	0	1	2	6	4	4	3	1	0	0	0	0	0	0	0	1.0	5.9
25-Jan	0	0	0	0	A	0	0	0	0	0	1	2	2	4	5	3	1	0	0	0	0	0	0	0	0.9	4.9
26-Jan	0	0	0	0	A	0	0	0	0	1	1	2	4	4	2	1	1	0	0	2	0	0	0	0	0.8	4.1
27-Jan	0	0	0	0	A	2	1	0	1	3	95	30	17	15	20	20	11	11	33	29	2	2	2	3	13.0	94.8
28-Jan	22	10	3	1	A	3	0	0	1	0	1	8	24	28	1	1	6	4	0	2	0	0	0	0	5.0	27.5
29-Jan	0	0	0	0	A	0	0	0	0	0	0	1	1	2	2	1	1	1	0	0	0	0	0	0	0.4	1.8
30-Jan	0	0	0	0	A	0	1	0	1	2	3	5	8	6	7	4	4	3	2	0	0	0	0	1	2.1	8.1
31-Jan	0	0	0	0	A	0	0	0	0	1	1	1	1	1	1	1	0	1	0	0	1	1	0	0	0.5	1.2
		1.1	0.8	0.5	0.2	--	0.4	1.1	6.9	2.8	3.1	6.9	5.8	5.7	6.8	8.8	4.8	2.2	1.8	2.3	1.7	0.9	0.7	0.9	8.8	Diurnal Average
		22.4	9.8	5.3	0.9	--	2.9	24.6	143.4	22.2	45.6	94.8	29.6	24.1	37.0	53.4	21.5	11.5	15.0	33.4	28.9	11.2	6.3	6.9	251.4	Diurnal Maximum
C - Calibration					M - Maintenance					N - Not Valid					A - Automated Daily Zero Span											

### Hourly Maximums

Nitrogen Oxide (NO) - ppb  
Beaverlodge - January 2014



## Hourly Averages

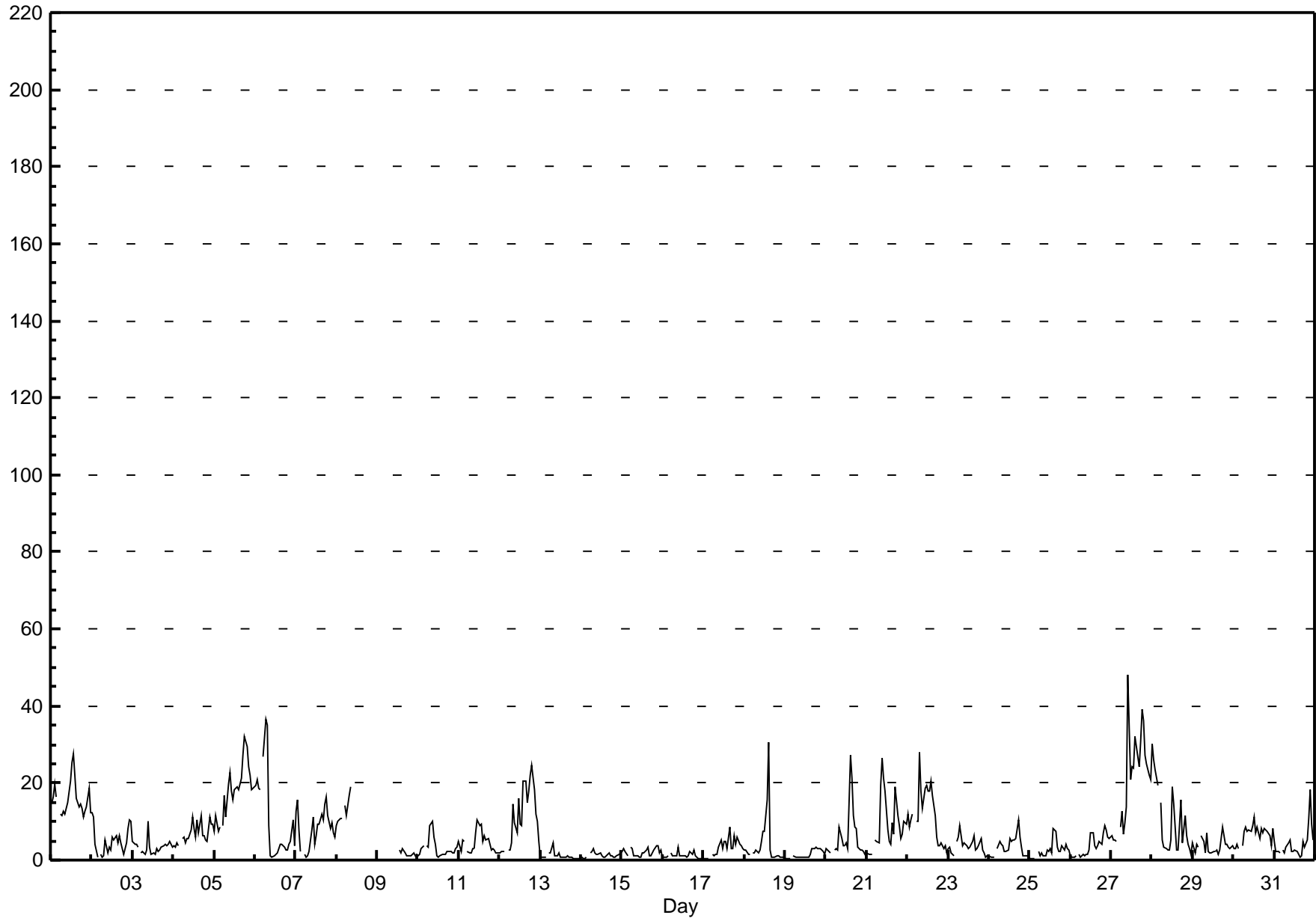
## Oxides of Nitrogen (NO<sub>x</sub>) - ppb

### Beaverlodge - January 2014

Number of Exceedences (AAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 48.1 ppb on Jan 27 11:00	Maximum Daily Average: 20.8 ppb on Jan 27		Hours of Data:	686
Minimum Value: 0 ppb on Jan 16 23:00	Minimum Daily Average: 1.1 ppb on Jan 13		Hours of Missing Data:	58
Maximum Diurnal Average: 8.7 ppb at hour 15	Minimum Diurnal Average: 4.4 ppb at hour 4		Hours of Calibration:	34
Monthly Average: 6.40 ppb	Percentiles: P <sub>1</sub> = 0.4 P <sub>10</sub> = 0.9 Q <sub>1</sub> = 1.7 Median = 3.6 Q <sub>3</sub> = 8.5 P <sub>90</sub> = 17.8 P <sub>99</sub> = 32.1		Percent Operational Time:	96.8

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	15	16	20	17	A	12	11	13	12	13	15	21	25	28	22	16	14	15	13	11	13	14	19	12	15.9	27.8
2-Jan	12	11	4	1	A	1	1	1	5	2	3	3	6	5	6	4	6	4	3	2	4	8	10	10	5.0	12.4
3-Jan	5	4	4	3	A	2	2	2	3	10	3	1	2	1	3	2	3	3	4	4	4	4	5	3	3.4	9.9
4-Jan	4	3	4	4	A	6	6	4	6	5	8	11	8	6	10	7	12	6	6	5	5	11	9	9	6.9	11.7
5-Jan	8	11	7	9	A	9	17	11	20	23	18	15	18	19	18	20	21	27	32	29	24	22	18	19	18.1	32.2
6-Jan	20	21	19	18	A	27	36	35	9	1	1	1	2	2	3	4	4	4	3	2	4	5	10	4	10.2	36.5
7-Jan	13	16	8	2	A	2	1	1	2	8	11	4	6	9	9	12	10	15	16	11	8	10	7	6	8.2	16.4
8-Jan	9	10	11	11	A	14	12	17	19	M	M	M	M	M	M	M	M	M	N	N	N	N	N	N	--	18.9
9-Jan	N	N	N	N	N	N	N	N	N	C	C	C	C	M	M	M	M	M	N	N	N	N	N	N	--	2.9
10-Jan	1	2	3	4	A	4	3	9	10	6	4	1	1	1	1	1	1	2	2	2	2	3	3	3	3.0	10.0
11-Jan	5	2	5	5	A	2	2	2	3	3	7	11	9	9	5	6	5	6	4	2	3	3	2	2	4.4	10.5
12-Jan	2	2	2	2	A	3	3	4	15	10	7	16	9	9	20	20	15	18	22	25	18	12	10	5	10.9	24.7
13-Jan	1	1	1	1	A	2	2	5	1	1	1	2	1	1	1	1	1	1	1	1	0	0	0	1	1.1	4.5
14-Jan	1	1	0	1	A	2	2	3	2	1	1	2	1	1	1	1	2	1	1	1	1	1	1	2	1.3	3.0
15-Jan	2	3	2	1	A	3	3	1	1	1	1	1	2	2	2	3	1	1	2	3	4	4	2	3	2.1	3.9
16-Jan	1	1	1	1	A	2	1	1	1	3	1	1	1	1	1	1	2	1	2	1	1	1	0	0	1.2	3.3
17-Jan	0	0	0	1	A	1	1	1	2	4	5	3	5	5	3	9	3	3	6	4	6	4	4	3	3.2	8.5
18-Jan	3	3	2	2	A	2	2	2	2	3	5	8	7	16	30	3	1	1	1	1	1	1	1	1	4.1	30.4
19-Jan	0	0	0	0	A	1	1	1	1	1	1	1	1	1	1	2	3	3	3	3	3	3	2	1	1.5	3.4
20-Jan	3	3	2	2	A	2	3	3	9	6	4	4	5	3	27	21	11	9	8	4	2	3	2	2	5.9	27.2
21-Jan	2	1	2	1	A	5	5	5	19	26	21	18	8	5	4	10	7	19	11	9	5	7	10	9	9.1	26.5
22-Jan	12	9	10	12	A	10	10	28	18	13	19	19	18	18	20	17	12	6	4	4	4	3	4	2	11.8	28.1
23-Jan	3	3	2	1	A	5	6	9	4	4	4	4	3	3	5	7	3	3	4	6	3	2	1	1	3.6	8.9
24-Jan	1	1	1	1	A	3	5	4	4	2	2	3	6	5	5	5	6	10	6	3	1	1	1	1	3.3	10.4
25-Jan	1	0	1	0	A	2	1	2	1	1	2	2	3	2	8	7	3	2	2	4	3	4	3	3	2.6	8.2
26-Jan	1	1	1	1	A	2	1	1	1	2	2	2	7	7	4	3	4	5	4	7	9	8	6	6	3.6	9.1
27-Jan	7	5	5	5	A	9	13	7	10	14	48	21	24	24	32	29	24	31	39	36	27	25	22	21	20.8	48.1
28-Jan	30	26	24	19	A	15	5	3	3	3	5	19	14	3	3	9	16	5	11	6	4	3	2	2	10.0	30.0
29-Jan	5	2	4	3	A	6	5	2	7	2	2	2	2	2	3	1	3	9	6	4	4	3	3	4	3.7	8.7
30-Jan	3	3	4	3	A	4	8	9	8	8	7	9	11	7	9	5	8	7	8	8	8	6	4	8	6.7	11.1
31-Jan	5	2	2	2	A	3	2	3	4	5	2	2	3	2	2	1	1	5	4	5	11	18	9	5	4.3	18.4
	5.7	5.5	5.1	4.4	--	5.3	5.6	6.3	6.7	6.3	7.2	6.6	7.3	7.0	8.7	7.5	6.6	7.8	7.5	7.0	6.2	6.3	5.8	4.9		Diurnal Average
	30.0	26.2	23.6	19.3	--	26.8	36.5	35.2	19.7	26.5	48.1	20.9	25.3	27.8	32.1	29.4	24.2	30.8	39.3	36.3	27.4	25.1	22.0	20.7		Diurnal Maximum

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

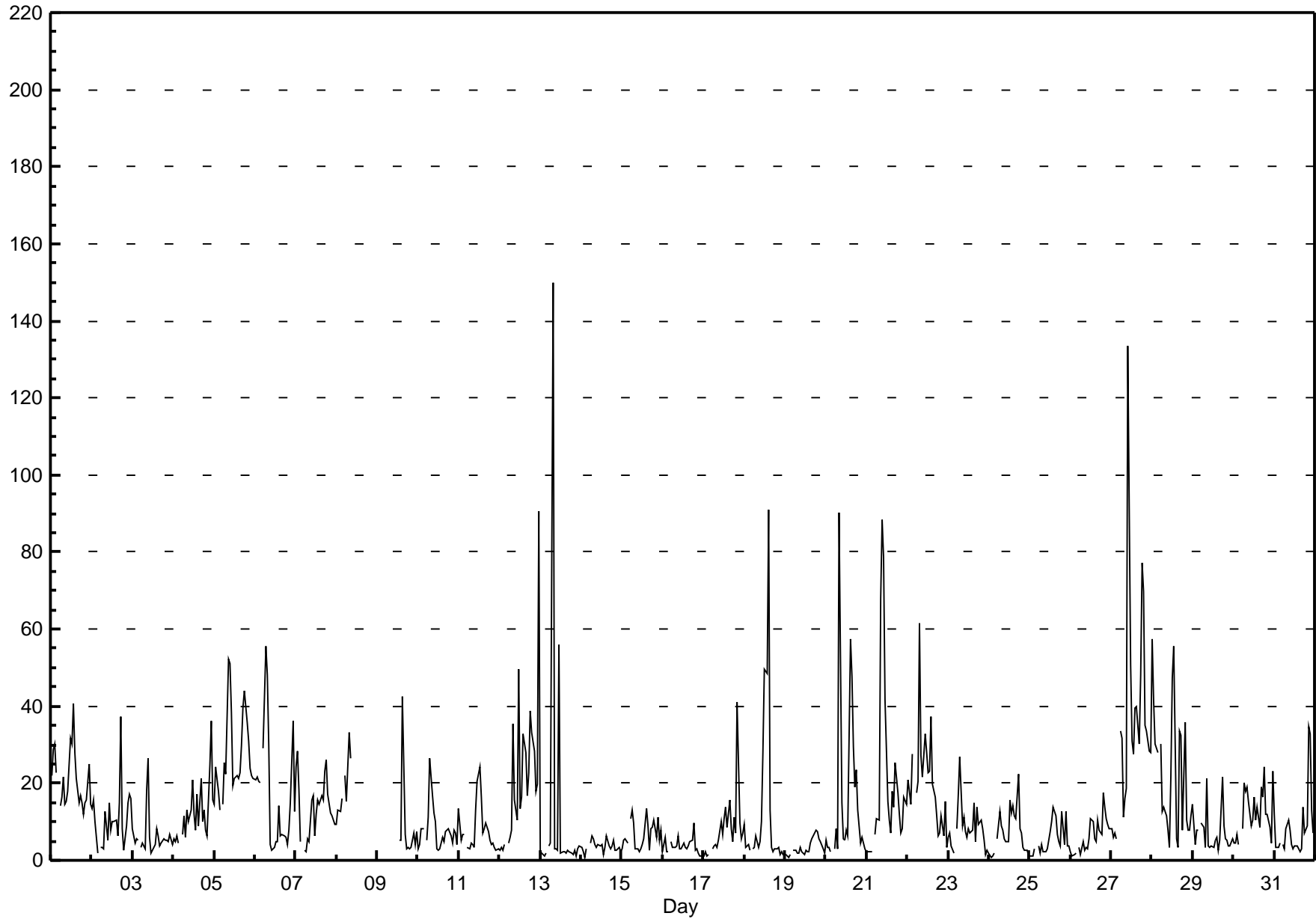


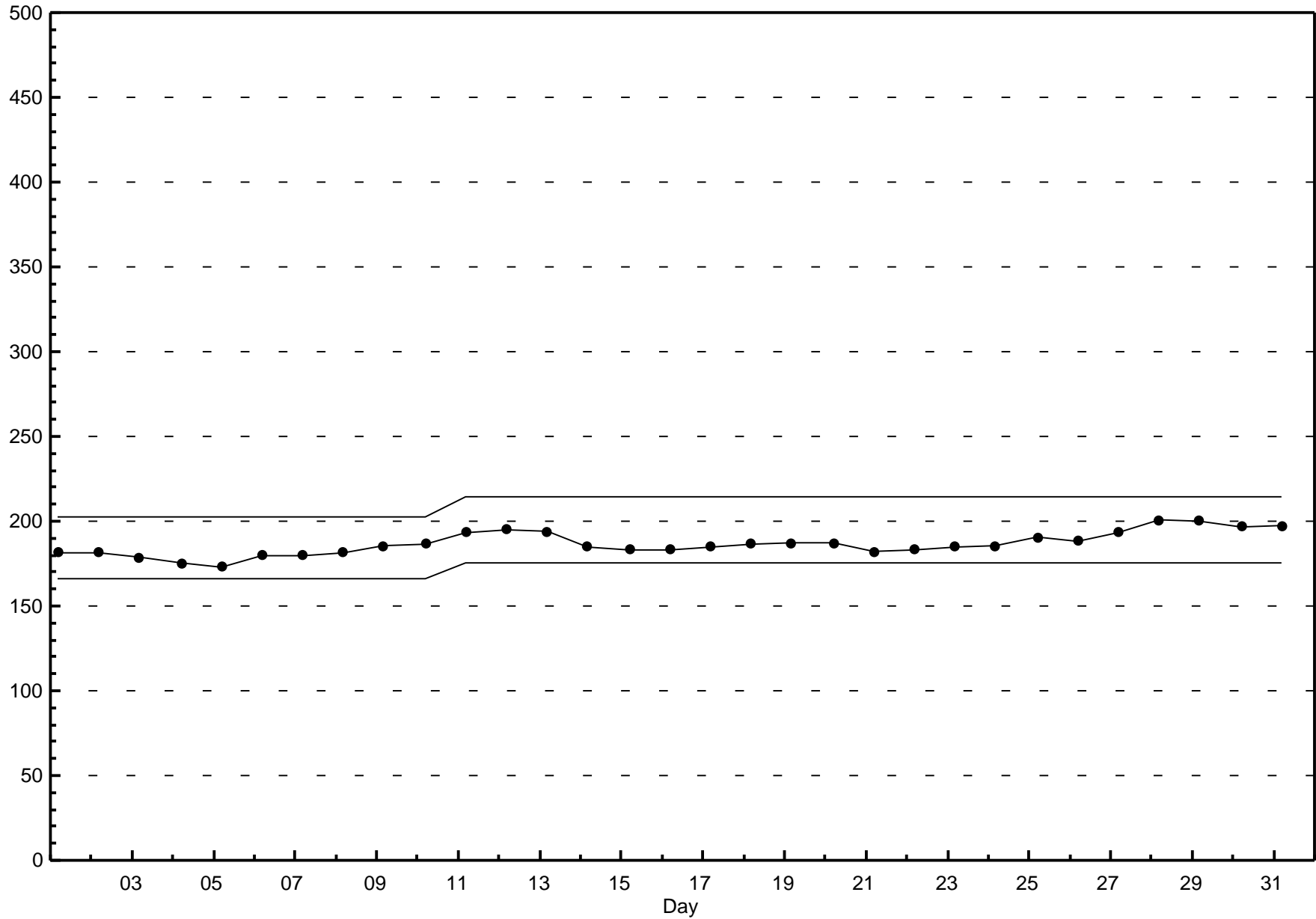
# Hourly Maximums

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

Beaverlodge - January 2014

<b>Maximum Value: 149.9 ppb on Jan 13 08:00</b>		<b>Maximum Daily Average: 35.3 ppb on Jan 27</b>		Hours in Service: 744 Hours of Data: 686 Hours of Missing Data: 58 Hours of Calibration: 34 Percent Operational Time: 96.8																							
<b>Minimum Value: 1 ppb on Jan 19 03:00</b>		<b>Minimum Daily Average: 3.3 ppb on Jan 19</b>																									
<b>Maximum Diurnal Average: 17.9 ppb at hour 9</b>		<b>Minimum Diurnal Average: 7.2 ppb at hour 4</b>																									
<b>Monthly Average: 12.62 ppb</b>		Percentiles: P <sub>1</sub> = 1.1 P <sub>10</sub> = 2.4 Q <sub>1</sub> = 3.6 Median = 7.5 Q <sub>3</sub> = 15.7 P <sub>90</sub> = 28.8 P <sub>99</sub> = 74.9																									
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	22	29	30	23	A	14	16	22	14	15	18	32	30	41	28	21	15	17	15	12	15	16	25	15	21.1	40.8	
2-Jan	13	16	10	2	A	3	3	3	13	5	15	8	10	10	6	15	37	8	3	9	15	17	16	10.8	37.1		
3-Jan	8	5	6	5	A	3	5	3	18	27	6	2	3	4	8	7	4	4	6	5	5	5	7	4	6.5	26.6	
4-Jan	6	5	6	5	A	7	12	6	13	10	13	21	12	8	17	9	21	10	13	8	6	25	36	16	12.4	36.3	
5-Jan	15	24	18	13	A	15	25	22	52	51	38	19	21	22	21	23	30	39	44	36	31	24	22	21	27.3	52.0	
6-Jan	21	22	21	20	A	29	55	48	30	4	3	3	5	5	14	6	7	6	6	4	8	15	36	13	16.6	55.5	
7-Jan	24	28	18	5	A	3	2	6	5	16	17	6	12	16	14	17	16	23	26	17	12	12	10	9	13.7	28.3	
8-Jan	9	13	13	16	A	22	15	33	27	M	M	M	M	M	M	M	M	M	N	N	N	N	N	N	--	33.1	
9-Jan	N	N	N	N	N	N	N	N	N	N	C	C	C	C	5	5	42	7	3	3	3	7	4	7	--	42.5	
10-Jan	3	4	8	8	A	5	11	26	17	12	10	3	3	3	6	5	7	8	8	6	4	8	7	4	7.7	26.3	
11-Jan	13	5	7	7	A	3	3	4	4	3	13	21	24	16	7	8	10	8	5	4	4	3	2	3	7.8	24.3	
12-Jan	3	3	3	4	A	4	6	8	35	16	10	50	14	16	33	28	17	23	39	33	28	18	20	90	21.8	90.5	
13-Jan	2	2	1	2	A	4	4	150	3	3	3	56	2	2	2	2	3	2	2	2	3	1	3	4	11.1	149.9	
14-Jan	3	2	1	3	A	4	6	6	4	3	4	4	4	2	3	6	4	3	4	5	3	3	3	2	3.6	6.5	
15-Jan	3	5	6	4	A	11	13	10	3	3	2	3	4	5	13	9	3	8	8	10	6	11	5	8	6.8	13.4	
16-Jan	2	6	2	2	A	5	3	3	4	6	3	3	4	3	3	4	5	5	10	3	3	2	1	1	3.6	9.5	
17-Jan	1	2	1	2	A	3	4	4	4	5	10	7	11	14	9	16	8	5	11	7	41	10	5	7	8.1	40.9	
18-Jan	9	3	4	2	A	3	3	6	3	5	10	28	50	48	91	13	3	2	3	3	3	1	2	2	13.0	91.0	
19-Jan	1	1	1	2	A	2	2	2	2	3	2	2	3	2	2	4	6	7	8	8	6	5	3	2	3.3	7.8	
20-Jan	5	4	3	2	A	3	8	3	90	15	6	5	8	6	57	48	30	19	24	13	5	6	5	3	16.0	90.3	
21-Jan	2	2	2	2	A	7	11	11	68	89	79	42	15	11	7	18	14	25	18	12	7	8	16	14	20.8	88.5	
22-Jan	21	18	15	28	A	18	21	62	27	21	33	28	23	23	37	20	16	12	6	7	12	6	15	3	20.5	61.6	
23-Jan	6	7	4	2	A	8	17	27	9	11	7	6	8	7	8	15	5	14	9	10	8	5	2	3	8.6	26.9	
24-Jan	2	1	1	2	A	6	13	9	8	6	5	5	16	12	14	11	11	23	8	7	3	3	3	1	7.3	22.5	
25-Jan	1	1	1	3	A	4	2	4	2	2	3	5	7	10	14	11	7	5	4	13	4	13	4	4	5.4	13.6	
26-Jan	2	1	1	2	A	3	1	5	3	3	3	6	11	10	6	5	11	8	7	18	14	11	9	8	6.4	17.7	
27-Jan	8	6	7	5	A	34	32	11	16	19	134	51	31	28	40	40	30	48	77	70	35	34	28	28	35.3	133.6	
28-Jan	58	42	30	28	A	30	13	14	12	8	3	22	47	56	5	4	34	32	8	36	10	8	8	11	22.5	57.6	
29-Jan	15	4	8	8	A	10	9	3	21	4	3	4	3	5	6	3	5	22	9	6	5	4	4	6	7.2	21.6	
30-Jan	4	4	7	4	A	8	20	18	19	15	9	11	16	11	14	9	19	16	24	12	12	8	5	23	12.5	24.1	
31-Jan	12	3	4	4	A	4	3	8	11	8	4	3	4	4	3	2	3	14	7	9	34	33	13	7	8.6	34.5	
		9.9	9.0	7.9	7.2	--	9.2	11.3	17.9	17.9	13.4	16.1	15.6	13.8	13.5	16.7	13.7	12.1	14.9	14.0	12.7	11.4	10.6	10.7	11.2	Diurnal Average	
		57.6	41.6	30.4	27.9	--	33.7	55.5	149.9	90.3	88.5	133.6	55.8	49.5	55.6	91.0	47.7	33.5	48.1	77.1	69.7	40.9	33.7	36.3	90.5	Diurnal Maximum	
C - Calibration		M - Maintenance				N - Not Valid				A - Automated Daily Zero Span																	





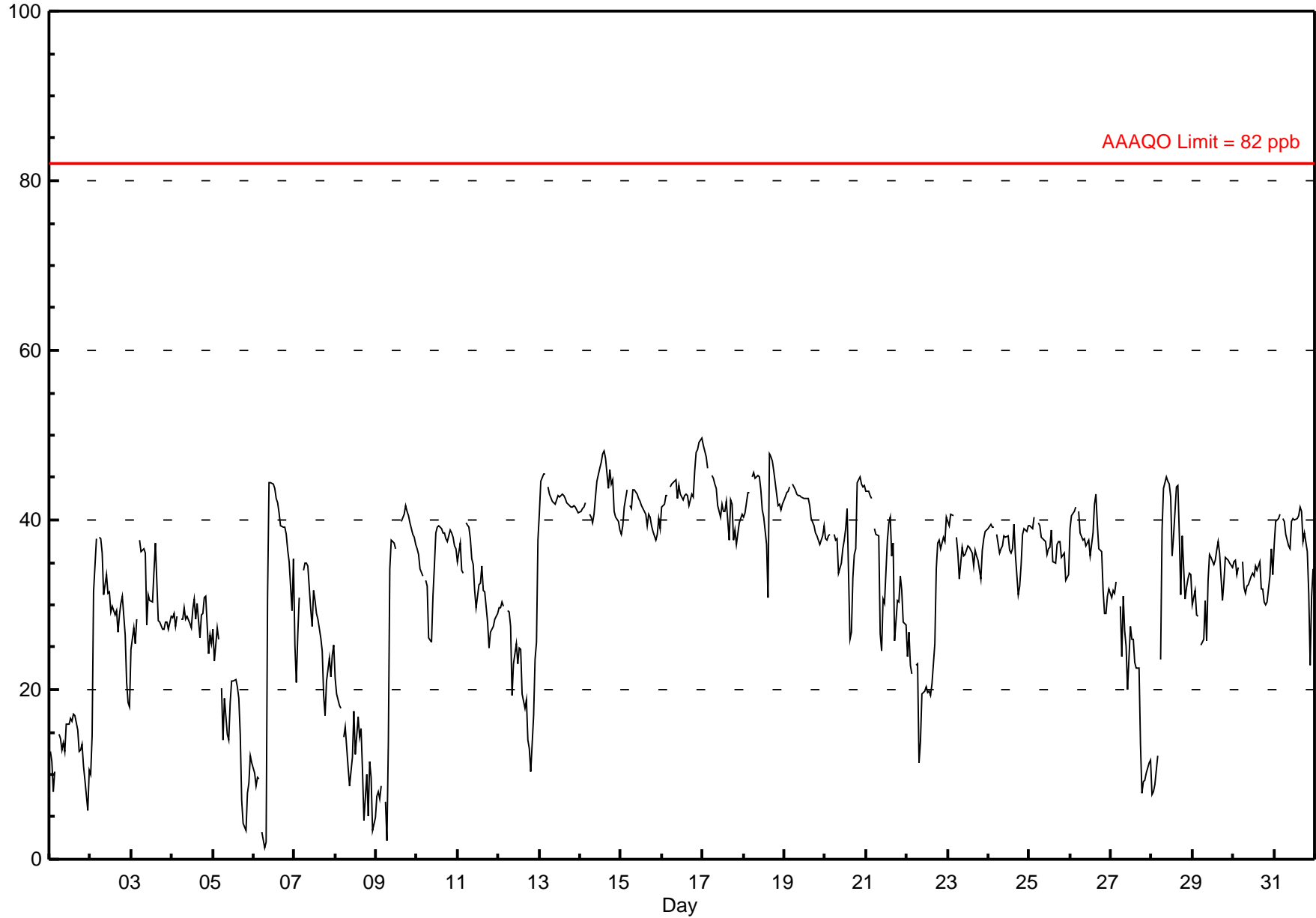
# Hourly Averages

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

Beaverlodge - January 2014

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 49.7 ppb on Jan 17 00:00 Maximum Daily Average: 44.2 ppb on Jan 16																	Hours in Service: 744 Hours of Data: 710 Hours of Missing Data: 34 Hours of Calibration: 34 Percent Operational Time: 100.0									
Minimum Value: 1 ppb on Jan 6 07:00 Minimum Daily Average: 12.4 ppb on Jan 8 Maximum Diurnal Average: 34.6 ppb at hour 14 Minimum Diurnal Average: 31.0 ppb at hour 22 Monthly Average: 32.47 ppb Percentiles: P <sub>1</sub> = 4.4 P <sub>10</sub> = 14.8 Q <sub>1</sub> = 27.3 Median = 35.8 Q <sub>3</sub> = 40.2 P <sub>90</sub> = 43.1 P <sub>99</sub> = 47.8																										
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	13	12	8	10	A	15	14	13	14	13	16	16	17	16	17	17	15	13	13	14	11	9	6	10	13.1	17.1
2-Jan	10	15	32	38	A	38	38	36	31	34	31	32	29	30	29	29	27	29	30	31	27	21	18	18	28.3	37.9
3-Jan	25	27	25	28	A	38	36	37	36	28	31	30	30	34	37	33	28	28	27	27	28	28	27	29	30.3	37.6
4-Jan	28	29	27	29	A	28	28	30	28	29	28	27	29	31	28	30	26	29	29	31	31	24	26	25	28.4	31.1
5-Jan	27	23	27	26	A	20	14	19	15	14	18	21	21	21	20	19	15	7	4	3	8	9	12	11	16.4	27.3
6-Jan	10	9	10	10	A	3	1	2	31	44	44	44	44	42	42	41	39	39	39	38	36	35	29	35	29.1	44.5
7-Jan	25	21	26	31	A	34	35	35	35	29	27	32	31	29	28	26	25	19	17	21	24	22	24	25	27.0	34.9
8-Jan	21	19	18	18	A	14	16	11	9	10	12	18	12	17	14	15	11	5	10	5	12	10	3	5	12.4	21.3
9-Jan	7	8	7	9	A	7	2	14	34	38	37	37	C	C	C	40	41	42	41	40	40	38	38	37	27.8	41.7
10-Jan	37	36	34	33	A	33	32	26	26	31	35	38	39	39	39	39	39	38	38	39	38	38	37	37	35.6	39.3
11-Jan	35	37	34	34	A	40	39	38	35	35	32	30	32	33	35	32	32	28	25	27	27	27	28	29	32.3	39.7
12-Jan	30	30	30	30	A	29	29	27	19	23	25	23	25	25	19	18	19	14	13	10	17	24	26	38	23.6	37.7
13-Jan	41	45	45	45	A	44	43	42	42	42	42	43	43	43	43	43	42	42	41	42	42	42	41	41	42.5	45.5
14-Jan	41	41	41	42	A	41	40	40	41	43	45	46	47	48	48	47	44	46	44	45	41	40	40	39	43.0	48.1
15-Jan	38	39	42	44	A	42	41	44	44	43	43	42	42	41	41	39	41	40	39	39	38	38	40	39	40.8	43.6
16-Jan	42	42	43	43	A	44	44	45	45	43	44	43	42	43	43	43	42	43	43	46	48	48	49	50	44.2	49.7
17-Jan	49	48	47	46	A	45	45	44	44	42	40	42	41	41	42	38	42	42	38	39	37	40	40	41	42.3	48.8
18-Jan	40	41	43	43	A	45	46	45	45	44	41	40	37	31	48	47	47	46	43	42	42	41	42	42	42.8	47.8
19-Jan	43	43	43	44	A	44	44	43	43	43	43	43	43	43	42	42	40	39	39	38	38	37	38	39	41.4	44.3
20-Jan	38	38	38	38	A	38	38	38	34	35	37	38	39	41	26	27	33	36	37	44	45	44	44	44	37.8	45.1
21-Jan	43	43	43	43	A	39	38	38	27	25	31	30	38	40	40	36	37	26	31	30	33	32	28	28	34.7	43.4
22-Jan	24	27	23	22	A	23	23	11	14	20	20	20	20	20	19	21	25	34	37	38	37	38	37	40	25.8	40.4
23-Jan	40	39	41	41	A	38	36	33	37	36	36	36	37	37	36	35	36	36	35	33	36	38	39	39	36.9	40.7
24-Jan	39	39	39	39	A	38	36	37	37	38	38	38	36	36	37	40	36	31	32	35	38	39	39	39	37.3	39.5
25-Jan	39	39	39	40	A	40	39	38	38	37	36	37	37	39	35	35	37	37	37	36	36	33	33	34	37.0	40.4
26-Jan	39	40	41	41	A	41	38	38	38	37	37	38	36	38	42	43	39	37	36	32	29	29	31	32	37.1	43.1
27-Jan	31	32	31	33	A	30	24	31	27	25	20	27	26	26	23	23	23	14	8	9	9	10	11	12	21.9	32.7
28-Jan	8	8	9	12	A	24	39	44	45	45	44	43	36	38	44	44	38	31	38	31	32	33	34	34	32.7	45.1
29-Jan	30	32	29	29	A	25	26	30	26	33	36	36	35	35	36	37	36	30	33	36	36	35	35	34	32.6	37.4
30-Jan	35	35	34	34	A	35	32	31	32	32	33	34	33	35	34	35	32	32	30	30	30	33	37	34	33.2	36.6
31-Jan	37	40	40	41	A	40	40	38	37	37	40	40	40	40	41	41	41	37	38	36	31	23	31	34	37.6	41.5
31.1 31.5 32.0 32.8 -- 32.7 32.2 32.1 32.5 33.1 33.7 34.3 34.0 34.6 33.8 34.0 33.2 31.3 31.3 31.2 31.5 31.0 31.1 32.0 Diurnal Average 48.8 48.1 47.4 46.1 -- 45.2 45.5 44.8 45.3 45.1 44.6 46.1 46.7 47.9 48.1 47.8 47.4 47.0 45.8 45.8 47.9 48.3 49.2 49.7 Diurnal Maximum																										
C - Calibration A - Automated Daily Zero Span Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 82 ppb 24-hr na																										





# Hourly Maximums

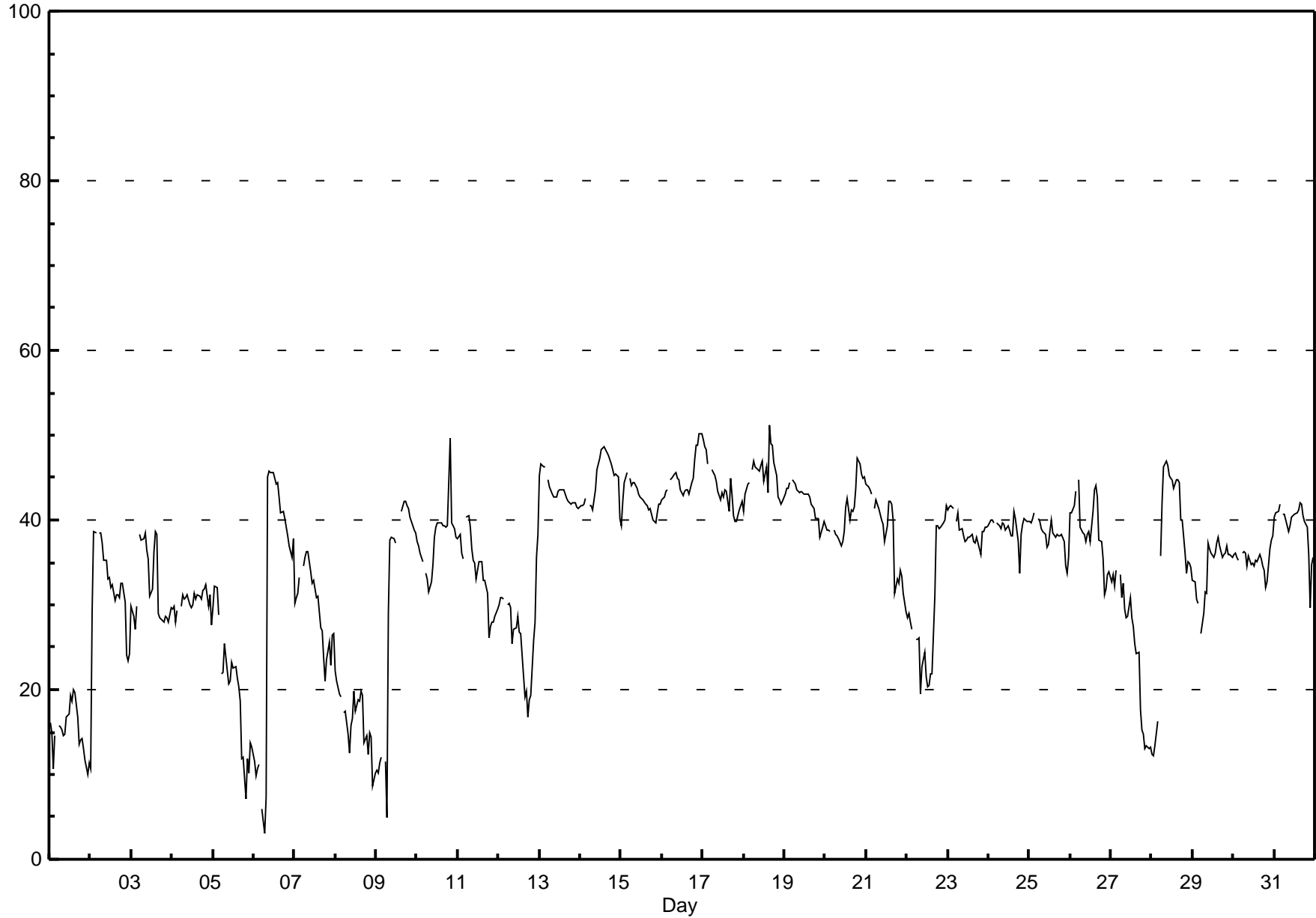
Ozone (O<sub>3</sub>) - ppb

Beaverlodge - January 2014

Maximum Value: 51.2 ppb on Jan 18 16:00		Maximum Daily Average: 45.3 ppb on Jan 18		Hours in Service: 744																						
Minimum Value: 3 ppb on Jan 6 07:00		Minimum Daily Average: 15.2 ppb on Jan 1		Hours of Data: 710																						
Maximum Diurnal Average: 36.4 ppb at hour 14		Minimum Diurnal Average: 33.1 ppb at hour 1		Hours of Missing Data: 34																						
Monthly Average: 34.78 ppb		Percentiles: P <sub>1</sub> = 10.0 P <sub>10</sub> = 19.1 Q <sub>1</sub> = 30.0 Median = 38.0 Q <sub>3</sub> = 41.7 P <sub>90</sub> = 44.7 P <sub>99</sub> = 48.7		Hours of Calibration: 34																						
				Percent Operational Time: 100.0																						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	16	15	11	15	A	16	16	15	15	15	17	17	19	19	20	20	17	14	14	14	13	12	10	11	15.2	20.0
2-Jan	11	29	39	38	A	38	39	37	35	35	33	33	32	32	31	31	31	31	33	33	30	24	23	24	31.4	38.7
3-Jan	30	29	27	30	A	38	38	38	38	36	35	31	32	36	39	38	29	28	28	28	29	29	28	30	32.3	38.7
4-Jan	30	30	28	29	A	30	31	31	31	31	30	30	30	31	31	31	31	31	32	32	32	30	31	28	30.4	32.4
5-Jan	30	32	32	29	A	22	22	25	22	21	21	23	22	23	21	20	19	12	12	7	12	10	14	13	20.2	32.2
6-Jan	11	10	11	11	A	6	3	7	45	46	46	46	45	44	44	43	41	41	40	39	38	37	36	38	31.6	45.7
7-Jan	30	31	31	33	A	35	36	36	36	34	33	33	32	31	31	27	27	24	21	24	26	23	27	27	29.8	36.3
8-Jan	22	21	20	19	A	17	18	15	13	16	17	20	18	19	19	20	19	14	15	12	15	14	9	10	16.5	22.1
9-Jan	11	10	11	12	A	12	5	29	38	38	38	37	C	C	C	41	42	42	42	41	40	39	39	38	30.3	42.3
10-Jan	37	37	36	35	A	34	33	32	33	35	38	39	40	40	40	39	39	39	39	50	40	39	39	38	37.8	49.7
11-Jan	38	38	36	35	A	40	40	39	37	35	35	33	35	35	35	33	33	31	26	27	28	28	29	30	33.8	40.5
12-Jan	30	31	31	31	A	30	30	30	25	27	27	29	27	27	24	19	20	17	19	19	26	28	36	38	26.9	38.4
13-Jan	45	47	46	46	A	45	44	43	43	43	43	43	43	44	44	43	43	42	42	42	42	42	42	41	43.3	46.6
14-Jan	42	42	42	43	A	42	42	41	42	44	46	47	48	48	49	48	48	47	47	46	45	45	45	40	44.7	48.6
15-Jan	39	42	44	46	A	45	44	44	44	44	43	43	42	42	42	42	41	41	41	40	40	41	42	42	42.4	45.7
16-Jan	42	43	43	44	A	45	45	45	46	45	45	44	43	43	44	43	43	44	45	47	49	49	50	50	45.1	50.2
17-Jan	49	49	48	47	A	46	46	45	45	43	42	43	43	44	43	41	45	43	40	40	40	41	42	42	43.8	49.5
18-Jan	41	43	44	44	A	46	47	46	46	46	46	47	45	46	43	51	49	49	47	45	43	42	42	42	45.3	51.2
19-Jan	43	44	44	44	A	45	44	43	43	43	43	43	43	43	43	43	42	41	40	40	40	38	39	40	42.3	44.7
20-Jan	39	39	39	39	A	39	38	38	38	37	37	39	41	43	40	41	41	42	44	47	47	45	45	45	41.0	47.3
21-Jan	44	44	44	43	A	41	42	41	41	40	39	38	39	42	42	42	40	31	33	33	34	33	31	29	38.6	44.2
22-Jan	29	29	28	27	A	26	26	26	20	23	24	22	20	21	22	22	31	39	39	39	39	40	40	42	29.2	41.7
23-Jan	41	41	42	41	A	40	41	39	39	38	38	38	38	38	38	37	37	38	37	36	39	39	39	39	38.9	41.7
24-Jan	39	40	40	40	A	40	39	39	40	40	39	39	39	38	38	41	40	37	34	38	40	40	40	40	39.1	41.0
25-Jan	40	40	40	41	A	40	40	39	39	38	37	37	39	40	38	38	38	38	38	38	38	35	34	36	38.2	40.9
26-Jan	41	41	42	43	A	45	39	38	38	37	38	39	38	41	44	44	43	38	37	35	31	32	33	34	38.8	44.8
27-Jan	33	34	32	34	A	34	31	33	30	28	29	31	28	27	25	24	24	18	15	15	13	13	13	13	25.1	34.0
28-Jan	12	12	13	16	A	36	42	46	47	46	45	45	45	44	45	44	40	40	36	34	35	35	34	36.4	47.0	
29-Jan	33	33	31	30	A	27	29	32	31	37	37	36	36	36	37	38	37	36	36	36	37	36	36	36	34.4	38.0
30-Jan	36	36	36	35	A	36	36	36	35	36	35	35	35	35	35	36	35	35	34	32	33	37	38	38	35.4	38.1
31-Jan	40	41	41	42	A	41	41	40	39	39	40	41	41	41	41	42	42	41	40	39	36	30	35	36	39.4	42.0
		33.1	33.9	33.9	34.3	--	34.6	34.4	35.2	35.8	36.0	36.0	36.1	35.9	36.4	36.3	36.3	35.9	34.3	33.9	33.9	33.7	33.1	33.5	33.7	Diurnal Average
		49.5	48.6	48.3	46.7	--	45.9	46.9	46.3	47.0	46.5	46.5	47.3	48.3	48.4	48.6	51.2	49.0	48.8	46.7	49.7	48.8	48.8	50.1	50.2	Diurnal Maximum
C - Calibration					A - Automated Daily Zero Span																					

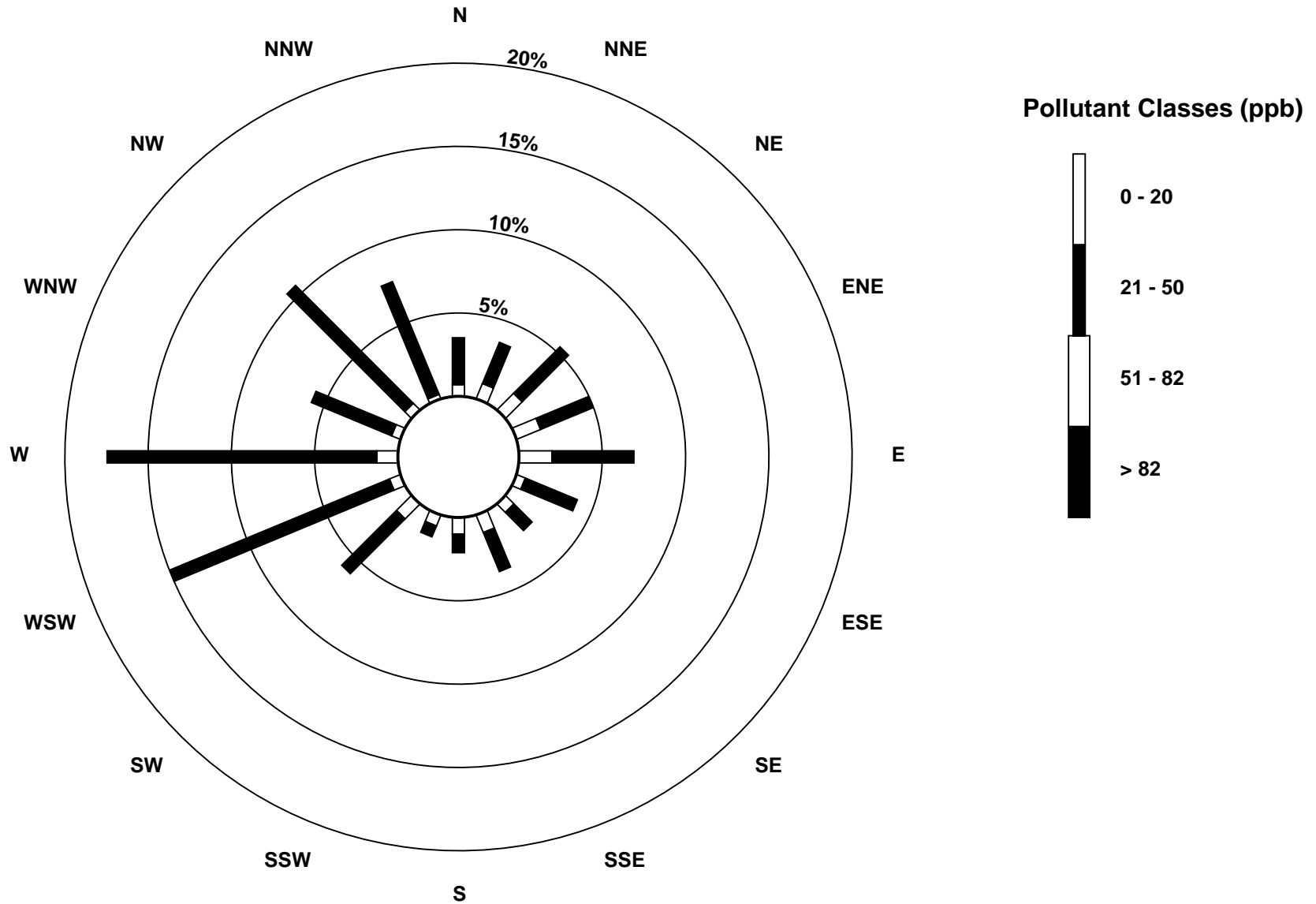
### Hourly Maximums

Ozone (O<sub>3</sub>) - ppb  
Beaverlodge - January 2014



**Pollutant Rose**

Ozone (O<sub>3</sub>) - ppb  
Beaverlodge - January 2014



# Eight Hour Running Averages

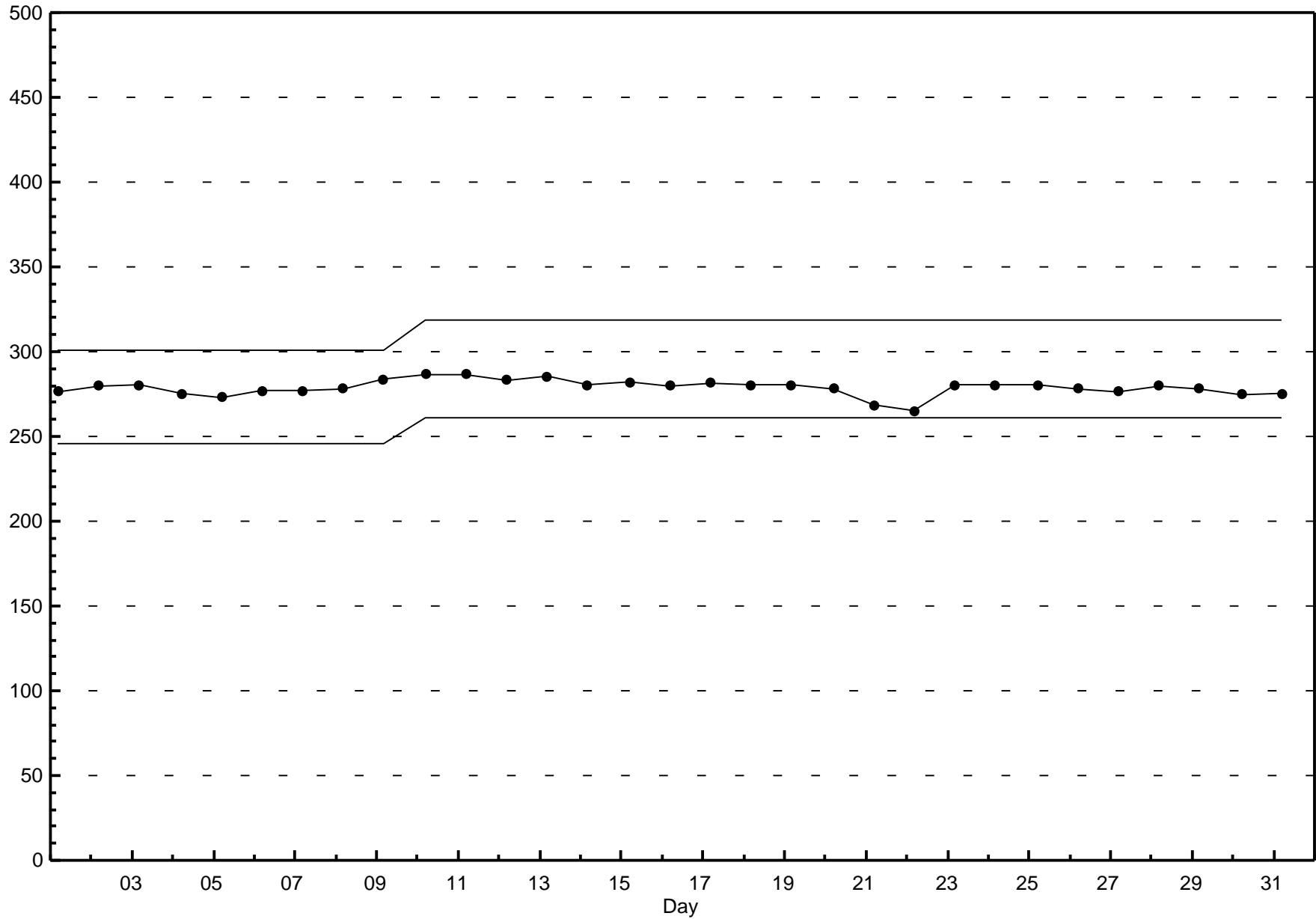
Ozone (O<sub>3</sub>) - ppb

Beaverlodge - January 2014

Maximum Value: 48.2 ppb on Jan 17 05:00	Hours in Service: 744
Minimum Value: 6.4 ppb on Jan 6 08:00	Hours of Data: 738
Percentiles: P <sub>1</sub> = 7.5 P <sub>10</sub> = 15.8 Q <sub>1</sub> = 27.9 Median = 35.0 Q <sub>3</sub> = 39.5 P <sub>90</sub> = 42.7 P <sub>99</sub> = 46.7	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-Jan	11	10	9	10	10	11	12	12	12	12	14	14	15	15	15	16	16	16	15	15	14	14	12	11	15.8
2-Jan	11	11	13	16	17	21	26	29	32	35	35	34	34	33	31	31	30	29	29	29	29	28	26	25	35.1
3-Jan	25	25	24	24	23	26	28	31	32	33	33	34	33	33	33	32	31	31	31	31	30	30	28	28	33.7
4-Jan	28	28	28	28	28	28	28	29	28	28	29	28	28	29	29	29	29	29	29	29	29	29	28	28	29.4
5-Jan	28	27	27	26	26	25	23	22	21	19	18	17	18	18	19	19	19	18	16	14	12	11	10	9	27.9
6-Jan	8	8	9	10	10	9	8	6	9	14	19	24	27	32	37	42	43	42	41	41	40	39	37	37	42.7
7-Jan	35	32	31	30	29	29	30	30	31	32	32	32	32	32	31	30	28	27	26	24	24	23	22	22	34.7
8-Jan	22	22	22	21	21	20	19	17	15	14	13	13	13	13	13	13	14	13	13	11	11	10	9	7	21.8
9-Jan	7	7	7	8	7	7	6	8	12	16	20	24	24	27	N	N	N	N	N	N	41	40	40	40	40.6
10-Jan	39	38	38	37	36	35	35	33	32	31	31	32	33	33	34	36	37	38	39	39	38	38	38	38	39.1
11-Jan	37	37	37	36	36	36	37	37	37	36	36	35	35	34	34	33	32	32	31	30	30	29	28	28	37.4
12-Jan	28	28	29	29	29	29	30	29	28	27	26	25	25	25	23	22	22	21	20	18	17	17	18	20	29.6
13-Jan	23	27	31	35	38	41	43	44	44	43	43	43	43	43	42	43	43	43	42	42	42	42	42	42	43.8
14-Jan	41	41	41	41	41	41	41	41	41	41	42	42	43	44	45	46	46	46	46	46	45	44	43	42	46.3
15-Jan	42	41	41	40	40	40	41	41	42	43	43	43	42	42	42	42	41	41	41	40	40	39	39	39	42.8
16-Jan	39	40	40	41	41	42	42	43	44	44	44	44	44	44	43	43	43	43	43	43	44	44	45	46	46.0
17-Jan	47	48	48	48	48	48	47	46	46	45	44	43	43	42	42	41	41	41	41	40	40	40	39	40	48.2
18-Jan	40	39	40	41	41	42	43	43	44	45	44	44	43	41	41	42	42	42	42	43	43	44	44	44	44.7
19-Jan	43	43	42	42	43	43	43	43	44	43	43	43	43	43	43	43	42	42	41	41	40	39	39	39	43.5
20-Jan	38	38	38	38	38	38	38	38	37	37	37	37	37	37	36	34	34	35	35	35	36	37	39	41	40.9
21-Jan	42	43	44	44	43	43	42	41	39	36	34	32	33	33	33	33	35	35	35	35	34	33	32	31	43.9
22-Jan	29	29	28	27	26	25	24	22	20	19	19	19	19	18	18	19	21	22	25	27	29	31	33	36	35.9
23-Jan	38	38	39	39	39	39	39	38	38	37	37	36	36	36	36	36	36	36	36	36	36	36	36	36	39.5
24-Jan	37	37	38	39	39	39	39	38	38	38	38	37	37	37	37	37	37	36	36	35	36	36	36	36	38.9
25-Jan	37	38	38	39	39	39	39	39	39	39	38	38	38	38	37	37	37	37	37	37	37	36	36	35	39.4
26-Jan	36	36	36	37	37	39	39	40	40	39	39	38	38	38	38	39	39	39	39	38	37	36	35	33	39.9
27-Jan	32	31	31	31	31	31	30	30	30	29	27	26	26	26	26	25	24	23	21	19	17	15	13	12	32.1
28-Jan	10	9	10	10	10	12	16	20	26	31	36	40	40	42	42	41	40	39	37	37	36	35	34	34	42.3
29-Jan	33	33	32	31	31	30	29	29	28	28	29	30	31	32	33	34	36	35	35	35	35	35	35	34	35.5
30-Jan	34	35	35	35	35	35	34	34	33	33	33	33	33	33	33	34	34	33	33	33	32	32	32	32	35.0
31-Jan	33	34	35	37	37	38	39	40	39	39	39	39	39	39	39	39	40	40	40	39	38	36	35	34	40.1
<div style="display: flex; justify-content: space-between;"> <span>46.9</span><span>47.6</span><span>48.1</span><span>48.2</span><span>48.2</span><span>47.8</span><span>47.2</span><span>46.4</span><span>45.7</span><span>44.8</span><span>44.7</span><span>44.4</span><span>43.9</span><span>43.6</span><span>44.5</span><span>45.5</span><span>45.9</span><span>46.3</span><span>46.3</span><span>46.1</span><span>45.4</span><span>44.5</span><span>45.2</span><span>46.0</span> </div> <p style="text-align: center;">Diurnal Maximums</p>																									

N - Not Valid



## Hourly Averages

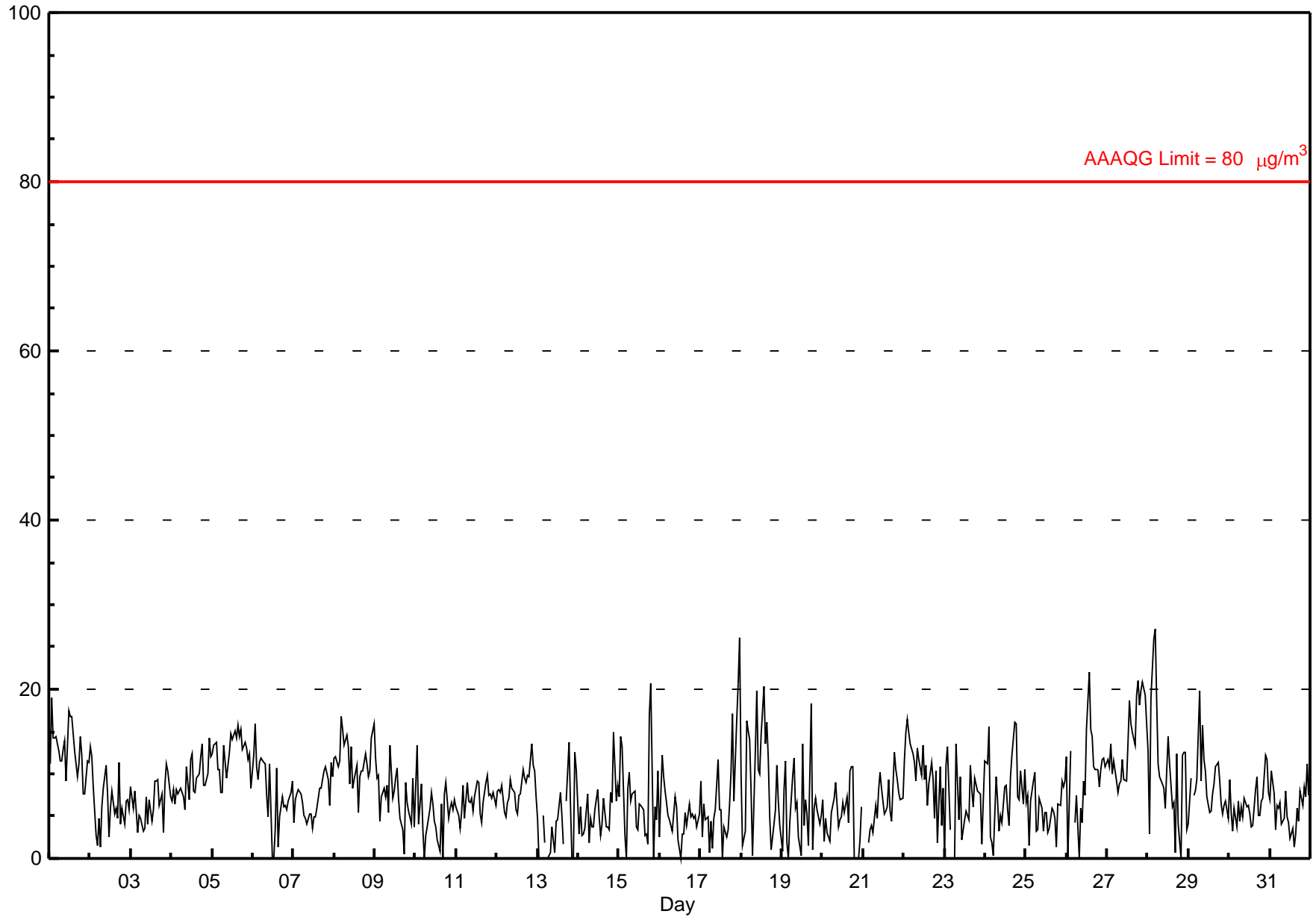
## Particulate Matter 2.5 (PM<sub>2.5</sub>) - µg/m<sup>3</sup>

### Beaverlodge - January 2014

Number of Exceedences: 1-hr: 0 24-hr: 0	Hours in Service: 744
Maximum Value: 27.1 µg/m <sup>3</sup> on Jan 28 05:00	Maximum Daily Average: 13.9 µg/m <sup>3</sup> on Jan 27
Minimum Value: 0 µg/m <sup>3</sup> on Jan 6 12:00	Hours of Data: 732
Maximum Diurnal Average: 9.3 µg/m <sup>3</sup> at hour 3	Hours of Missing Data: 12
Monthly Average: 7.94 µg/m <sup>3</sup>	Hours of Calibration: 0
Minimum Daily Average: 4.4 µg/m <sup>3</sup> on Jan 13	Percent Operational Time: 98.4
Minimum Diurnal Average: 6.8 µg/m <sup>3</sup> at hour 8	
Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 2.9 Q <sub>1</sub> = 4.9 Median = 7.4 Q <sub>3</sub> = 10.7 P <sub>90</sub> = 13.6 P <sub>99</sub> = 20.5	

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-Jan	11	19	14	14	14	13	12	12	13	14	9	17	17	17	15	13	10	11	14	12	8	8	11	11	12.9	19.0																						
2-Jan	13	12	8	3	1	5	1	6	8	11	8	3	6	8	5	6	5	11	4	6	4	7	7	6	6.4	13.1																						
3-Jan	9	6	8	6	3	5	5	3	4	7	4	7	4	6	9	9	9	6	8	3	9	11	10	7	6.6	11.1																						
4-Jan	7	8	6	8	8	8	8	7	6	11	7	12	12	8	8	10	10	12	14	9	9	10	14	12	9.3	14.2																						
5-Jan	12	13	14	10	10	8	8	13	10	11	13	15	14	15	14	16	14	15	13	14	13	12	12	8	12.4	15.8																						
6-Jan	12	16	11	9	11	12	11	11	7	5	11	0	0	4	11	1	5	7	6	6	6	7	8	9	7.8	16.0																						
7-Jan	4	7	8	8	8	7	5	5	4	5	5	3	5	5	6	8	8	9	10	11	9	6	11	10	7.0	11.4																						
8-Jan	12	12	11	12	17	15	13	14	13	9	13	8	9	11	5	10	10	10	12	11	10	10	14	16	11.7	16.7																						
9-Jan	12	9	10	4	7	8	7	9	5	13	7	8	10	11	7	5	3	0	9	7	6	4	10	4	7.3	13.3																						
10-Jan	8	13	4	9	3	0	3	4	6	8	7	4	4	2	1	7	0	8	9	5	6	7	6	7	5.4	13.4																						
11-Jan	6	5	4	5	9	5	9	7	7	7	6	7	9	9	5	4	7	9	10	7	8	7	8	6	6.9	9.9																						
12-Jan	8	8	8	9	5	5	7	7	9	8	8	6	5	7	8	10	9	9	10	10	14	11	10	7	8.3	13.6																						
13-Jan	5	0	N	5	2	N	0	1	4	2	1	4	5	8	5	2	N	7	14	6	0	0	12	10	4.4	13.8																						
14-Jan	3	6	3	3	4	8	2	5	4	4	6	8	5	3	4	7	4	4	3	8	7	15	7	9	5.3	14.9																						
15-Jan	7	14	13	3	0	8	10	7	8	8	4	3	6	6	6	3	3	2	17	21	0	6	5	10	7.1	20.7																						
16-Jan	3	12	10	8	7	5	5	3	5	7	6	2	0	3	3	5	4	6	5	5	5	5	4	5	5.1	12.1																						
17-Jan	9	3	6	5	5	1	4	1	5	6	12	6	6	0	4	3	3	6	10	17	7	16	21	26	7.5	26.1																						
18-Jan	10	1	3	16	15	14	8	0	13	20	10	10	15	20	13	16	12	5	1	4	6	11	7	4	9.8	20.4																						
19-Jan	1	8	12	2	0	4	10	12	6	7	2	0	14	4	7	5	2	18	1	6	7	6	4	5	5.9	18.3																						
20-Jan	7	2	5	3	2	5	6	7	9	4	5	5	7	5	7	4	10	11	11	0	N	0	2	6	5.4	10.9																						
21-Jan	N	N	N	2	3	4	3	6	5	8	10	8	5	6	6	9	6	4	13	10	9	8	7	7	6.7	12.6																						
22-Jan	12	15	16	15	14	12	11	9	13	12	10	13	9	11	6	9	11	9	5	10	2	11	4	8	10.4	16.4																						
23-Jan	0	11	13	3	N	N	0	14	5	10	2	3	5	6	5	11	8	6	9	8	8	8	2	7	6.5	13.6																						
24-Jan	12	11	16	3	2	0	10	7	3	5	4	8	9	6	4	10	12	16	16	7	7	10	7	10	8.1	16.1																						
25-Jan	7	7	2	7	9	10	3	3	7	6	3	5	5	3	4	6	6	5	1	7	6	9	8	9	5.8	10.1																						
26-Jan	12	0	13	N	N	4	7	0	6	4	9	7	15	22	15	14	11	10	10	8	11	12	12	11	9.8	22.0																						
27-Jan	12	11	13	10	12	9	8	9	9	12	9	9	14	19	16	15	13	19	21	18	20	21	19	16	13.9	21.1																						
28-Jan	13	3	19	26	27	19	11	10	9	8	6	10	14	11	6	7	1	12	4	0	12	13	13	3	10.7	27.1																						
29-Jan	4	9	N	7	8	9	20	9	16	12	10	7	5	6	8	9	11	11	9	7	5	6	7	5	8.7	19.8																						
30-Jan	9	5	3	6	4	7	4	6	5	7	6	6	5	4	4	8	10	5	5	7	7	12	12	8	6.5	12.2																						
31-Jan	7	10	8	3	6	6	7	4	5	8	5	4	2	4	1	3	6	4	8	6	8	7	11	7	5.9	11.1																						
																								8.2	8.7	9.3	7.5	7.4	7.5	7.1	6.8	7.3	8.3	7.0	6.9	7.8	8.0	7.0	7.9	7.4	8.8	9.1	8.3	7.5	8.9	9.2	8.8	Diurnal Average
																								13.1	19.0	19.0	25.8	27.1	18.7	19.8	14.5	15.8	19.8	13.1	17.5	16.7	22.0	16.0	16.1	14.4	19.3	21.1	20.7	19.9	20.9	20.7	26.1	Diurnal Maximum

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



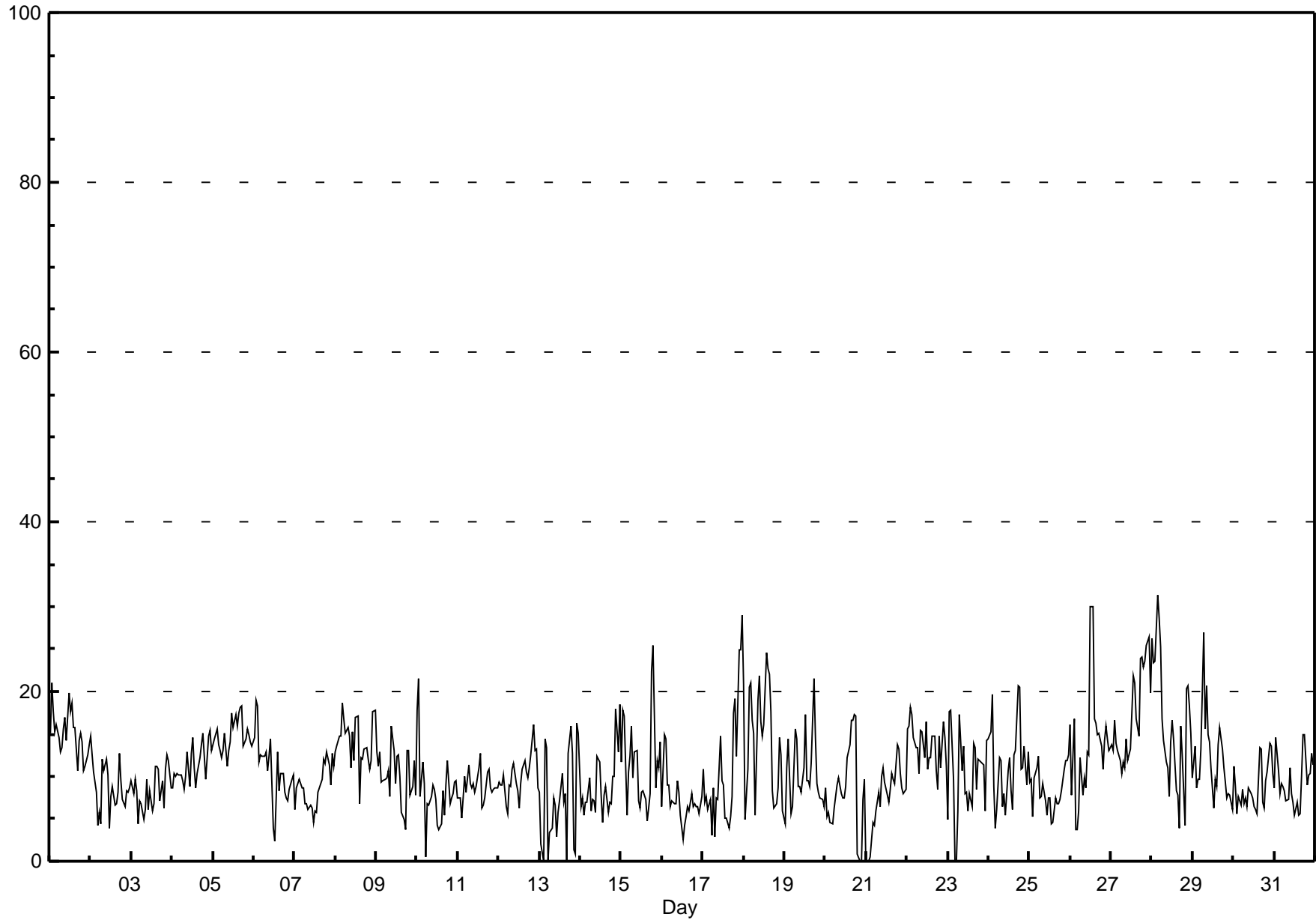


# Hourly Maximums

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

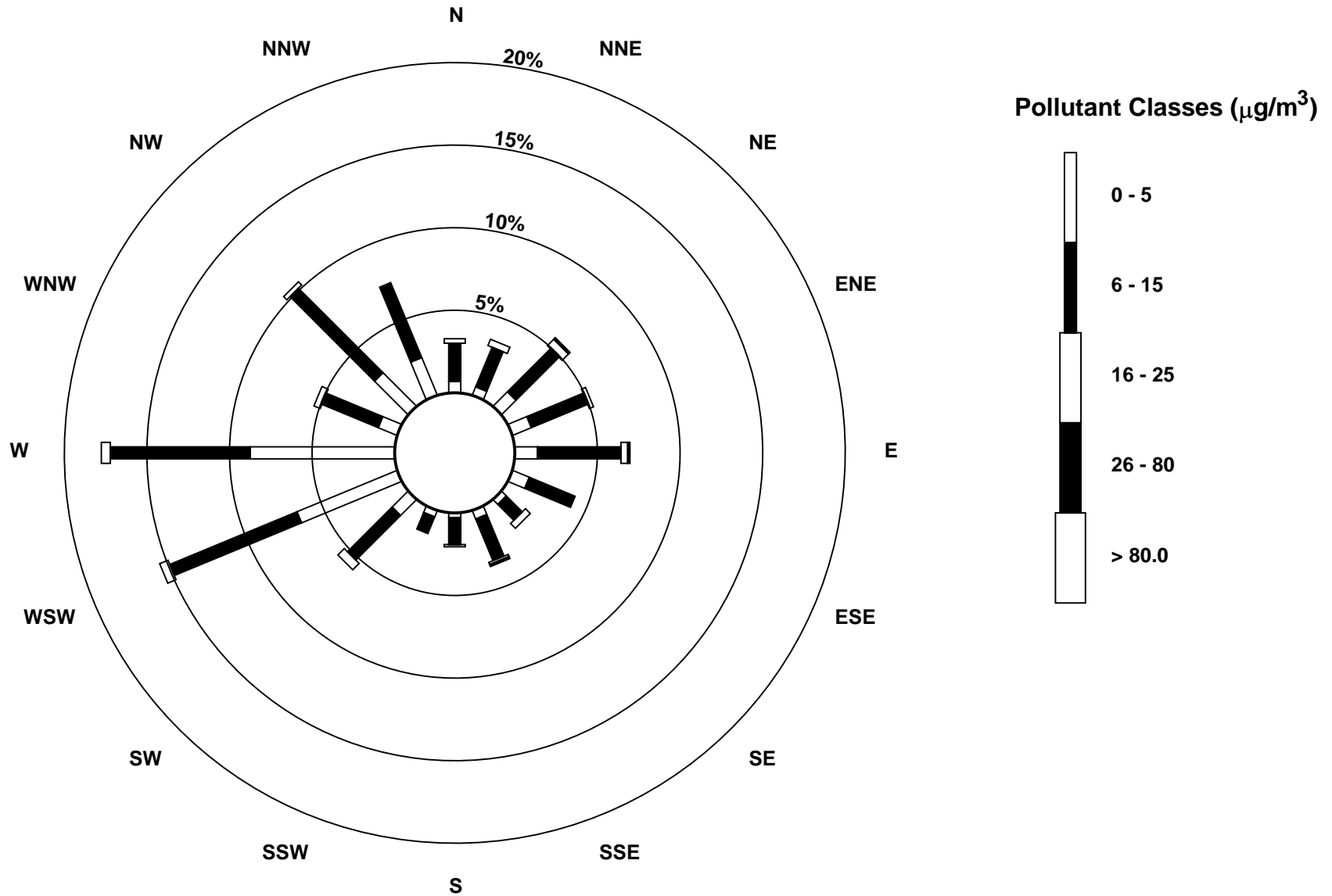
## Beaverlodge - January 2014

<b>Maximum Value: 31.4 µg/m<sup>3</sup> on Jan 28 04:00</b>		<b>Maximum Daily Average: 17.2 µg/m<sup>3</sup> on Jan 27</b>		Hours in Service: 744 Hours of Data: 744 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0																							
<b>Minimum Value: 0 µg/m<sup>3</sup> on Jan 13 03:00</b> <b>Maximum Diurnal Average: 12.7 µg/m<sup>3</sup> at hour 19</b> <b>Monthly Average: 10.84 µg/m<sup>3</sup></b>		<b>Minimum Daily Average: 7.3 µg/m<sup>3</sup> on Jan 13</b> <b>Minimum Diurnal Average: 9.1 µg/m<sup>3</sup> at hour 6</b> Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 5.7 Q <sub>1</sub> = 7.5 Median = 10.0 Q <sub>3</sub> = 13.6 P <sub>90</sub> = 16.8 P <sub>99</sub> = 26.0																									
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-Jan	15	21	18	15	16	15	13	13	16	17	14	20	18	19	16	16	11	14	15	14	11	11	13	14	15.1	21.1	
2-Jan	15	13	11	8	4	6	4	12	11	12	10	4	8	9	7	7	8	13	10	7	6	8	8	9	8.7	14.7	
3-Jan	10	8	10	8	4	7	7	5	6	10	6	8	6	7	11	11	11	7	9	6	11	13	12	9	8.4	12.6	
4-Jan	9	10	10	10	10	10	9	8	10	13	9	13	15	11	9	10	12	14	15	12	10	15	15	13	11.4	15.4	
5-Jan	14	14	16	14	13	12	13	15	11	13	14	17	16	17	16	17	18	18	13	14	16	15	14	14	14.8	18.3	
6-Jan	15	19	18	12	12	12	12	13	11	12	14	4	2	7	13	8	10	10	8	7	7	8	10	10	10.7	19.0	
7-Jan	6	9	9	10	9	9	7	7	6	7	6	5	6	6	8	9	10	12	11	13	11	9	13	11	8.6	12.8	
8-Jan	13	14	15	15	19	17	15	16	15	11	15	12	17	17	7	12	12	13	12	11	12	18	18	14.0	18.7		
9-Jan	13	11	13	9	9	10	10	11	8	16	13	9	12	13	10	6	5	4	13	13	8	9	12	8	10.1	16.0	
10-Jan	18	22	8	12	9	1	7	7	8	9	8	7	4	4	4	8	5	9	12	7	7	8	9	9	8.4	21.5	
11-Jan	7	7	5	8	10	8	11	9	9	9	8	9	11	13	6	7	7	11	11	9	8	8	9	9	8.7	12.7	
12-Jan	9	9	9	10	6	6	9	9	11	12	9	8	6	9	11	12	10	10	11	13	16	13	13	9	10.0	16.0	
13-Jan	8	2	0	14	13	0	3	4	8	7	3	6	7	10	7	8	0	13	16	13	1	1	16	15	7.3	16.2	
14-Jan	6	7	5	7	7	10	6	7	7	6	12	12	8	5	8	9	6	7	7	10	10	18	13	18	8.8	18.4	
15-Jan	12	18	17	5	10	12	16	10	13	13	7	6	8	8	7	5	6	8	22	25	9	12	11	14	11.5	25.4	
16-Jan	6	15	14	9	9	6	7	7	7	10	8	5	3	4	5	6	6	8	6	7	6	6	6	8	7.3	15.0	
17-Jan	11	7	8	6	7	3	9	3	7	7	15	9	9	5	5	4	5	8	17	19	12	25	25	29	10.7	28.9	
18-Jan	21	5	11	21	21	17	15	5	19	22	16	15	16	25	23	22	18	8	6	7	9	15	12	6	14.7	24.5	
19-Jan	4	11	14	10	6	6	16	14	9	9	8	11	17	9	10	9	11	22	14	9	8	7	7	6	10.4	21.6	
20-Jan	9	5	6	5	4	6	8	9	10	8	7	7	9	12	14	17	17	17	17	1	0	0	7	10	8.5	17.3	
21-Jan	0	0	0	3	5	4	6	8	6	10	11	9	8	7	8	10	10	9	14	13	10	9	8	8	7.4	13.8	
22-Jan	16	16	18	17	15	13	13	10	16	15	12	16	11	12	12	15	15	11	8	15	11	16	15	11	13.7	18.1	
23-Jan	5	18	18	10	0	0	6	17	11	14	8	8	6	8	6	14	13	8	12	12	12	11	6	14	9.9	17.7	
24-Jan	14	15	20	9	4	6	12	12	6	8	5	11	12	8	6	12	13	21	20	11	11	14	9	13	11.4	20.6	
25-Jan	9	10	5	10	11	12	8	8	9	7	5	8	7	4	5	7	7	7	7	8	11	12	12	13	8.4	12.6	
26-Jan	16	8	17	4	4	6	12	8	10	9	13	13	30	30	17	16	15	15	14	11	14	16	14	13	13.5	29.9	
27-Jan	14	13	17	14	13	12	10	12	11	14	12	13	18	22	21	17	15	24	24	23	24	25	26	20	17.2	26.5	
28-Jan	26	23	24	31	29	25	17	14	12	11	8	14	17	14	8	8	4	16	13	4	20	21	18	15	16.4	31.4	
29-Jan	10	14	9	10	10	13	27	16	21	15	14	11	6	10	9	14	16	13	11	9	7	8	8	6	11.9	26.9	
30-Jan	11	9	6	8	7	8	7	7	6	9	8	7	6	6	6	13	13	7	6	9	11	14	14	10	8.7	13.8	
31-Jan	9	15	11	8	9	9	8	7	7	11	8	7	6	7	6	6	10	15	15	9	10	10	13	11	9.4	15.0	
		11.3	11.8	11.6	10.6	9.9	9.1	10.4	9.8	10.1	11.1	10.0	9.9	10.4	10.9	9.7	10.8	10.3	12.0	12.7	11.1	10.3	11.9	12.4	12.0	Diurnal Average	
		26.3	23.5	23.5	31.4	28.7	25.3	26.9	17.4	20.7	21.9	16.4	19.9	29.9	29.9	22.7	22.1	18.1	23.9	24.1	25.4	23.6	25.4	26.5	28.9	Diurnal Maximum	



**Pollutant Rose**

**Particulate Matter 2.5 (PM<sub>2.5</sub>) - μg/m<sup>3</sup>**  
**Beaverlodge - January 2014**





Peace Airshed Zone Association

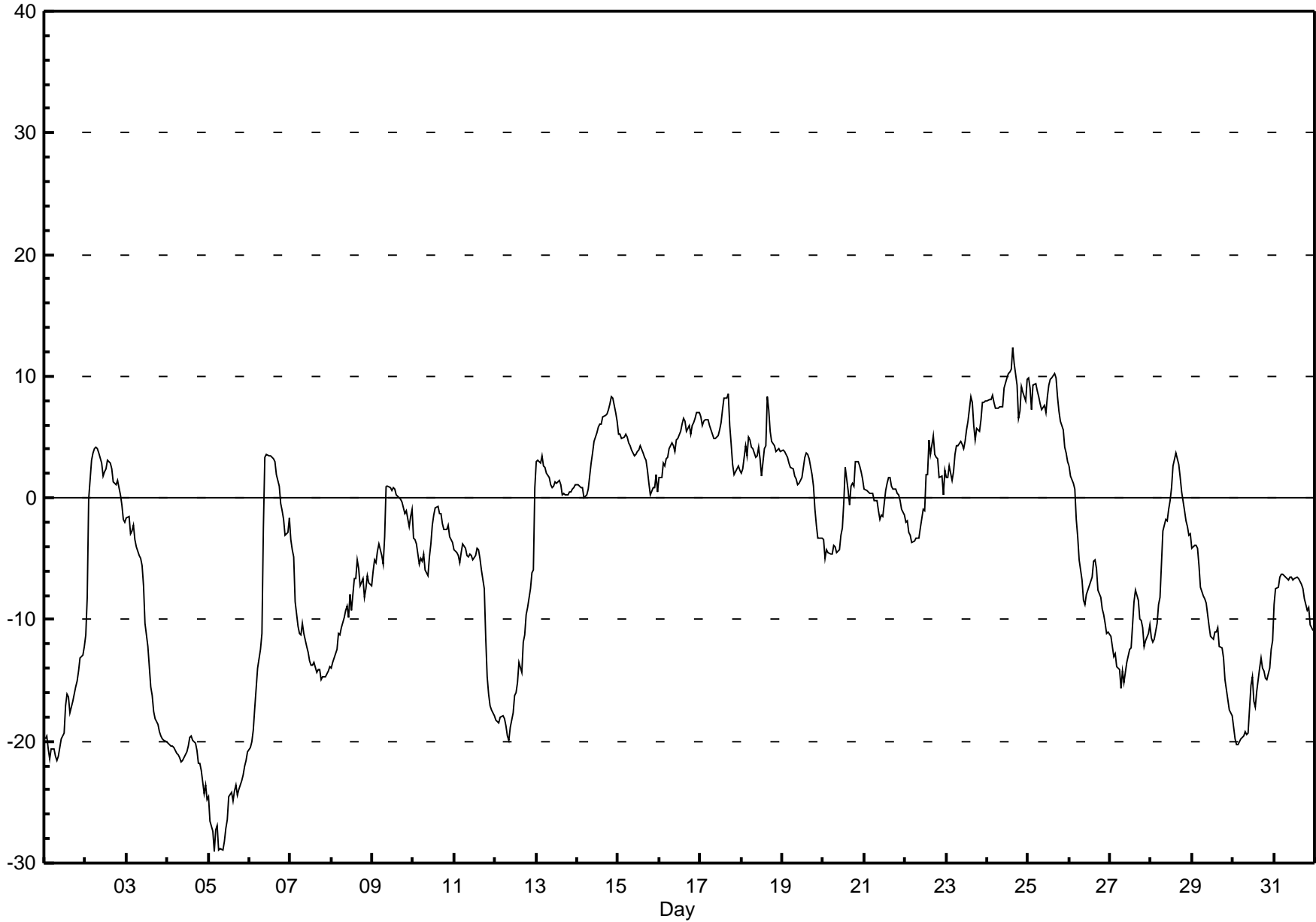
# Hourly Averages

External Temperature (ET) - °C

Beaverlodge - January 2014

Number of Exceedences (AAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 12.4 °C on Jan 24 16:00	Maximum Daily Average: 8.7 °C on Jan 24		Hours of Data:	744
Minimum Value: -29 °C on Jan 5 04:00	Minimum Daily Average: -25.4 °C on Jan 5		Hours of Missing Data:	0
Maximum Diurnal Average: -2.6 °C at hour 16	Minimum Diurnal Average: -5.2 °C at hour 2		Hours of Calibration:	0
Monthly Average: -4.41 °C	Percentiles: P <sub>1</sub> = -27.1 P <sub>10</sub> = -19.4 Q <sub>1</sub> = -11.2 Median = -2.5 Q <sub>3</sub> = 3.1 P <sub>90</sub> = 6.3 P <sub>99</sub> = 9.7		Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	-20	-20	-21	-21	-21	-21	-21	-22	-21	-21	-20	-19	-17	-16	-16	-18	-17	-16	-16	-15	-14	-13	-13	-12	-17.9	-12.2	
2-Jan	-11	-8	0	3	4	4	4	4	4	3	2	2	2	3	3	2	1	1	1	1	0	-1	-2	-2	0.9	4.1	
3-Jan	-2	-1	-3	-3	-2	-3	-4	-5	-5	-6	-7	-10	-12	-14	-15	-16	-18	-18	-19	-19	-20	-20	-20	-20	-10.9	-1.5	
4-Jan	-20	-20	-20	-20	-21	-21	-21	-21	-22	-22	-21	-21	-20	-20	-20	-20	-20	-21	-22	-22	-22	-24	-24	-25	-21.2	-19.6	
5-Jan	-25	-27	-27	-29	-27	-27	-29	-29	-29	-28	-27	-26	-24	-24	-25	-24	-24	-24	-24	-23	-23	-22	-22	-21	-25.4	-20.9	
6-Jan	-21	-20	-19	-17	-16	-14	-12	-11	-3	3	4	3	3	3	3	2	1	0	-1	-2	-3	-3	-2	-4.9	3.5		
7-Jan	-3	-4	-5	-9	-11	-11	-11	-10	-11	-12	-13	-13	-14	-14	-13	-14	-14	-14	-15	-15	-15	-14	-14	-14	-11.8	-3.5	
8-Jan	-14	-14	-13	-12	-11	-11	-11	-10	-9	-9	-10	-8	-9	-7	-7	-5	-6	-7	-7	-8	-7	-6	-7	-7	-9.0	-5.1	
9-Jan	-6	-5	-5	-4	-4	-5	-5	-3	1	1	1	1	1	1	0	0	0	0	-1	-1	-2	-2	-1	-1.7	1.0		
10-Jan	-3	-3	-4	-5	-5	-5	-5	-6	-6	-5	-4	-2	-1	-1	-1	-1	-1	-2	-3	-3	-2	-3	-3	-4	-3.3	-0.7	
11-Jan	-4	-4	-5	-5	-4	-4	-4	-5	-5	-5	-5	-5	-5	-4	-4	-5	-6	-8	-11	-15	-16	-17	-17	-18	-7.6	-3.8	
12-Jan	-18	-18	-18	-18	-18	-18	-19	-20	-20	-19	-18	-16	-16	-15	-14	-14	-12	-11	-10	-9	-7	-6	-6	1	-14.1	0.8	
13-Jan	3	3	3	3	3	3	2	2	1	1	1	1	1	1	1	0	0	0	0	0	0	1	1	1	1.4	3.5	
14-Jan	1	1	1	1	0	0	1	2	3	4	5	5	6	6	6	7	7	7	7	8	8	8	7	6	4.4	8.3	
15-Jan	5	5	5	5	5	5	4	4	4	4	4	4	4	4	4	3	3	2	1	0	1	1	2	0	3.3	5.3	
16-Jan	2	2	3	3	3	3	4	5	4	4	4	5	5	5	6	7	6	5	6	5	6	6	7	7	7	4.8	7.0
17-Jan	7	6	6	6	6	6	6	5	5	5	5	5	6	6	7	8	8	9	6	4	3	2	2	3	2	5.4	8.5
18-Jan	2	2	4	3	5	5	4	4	3	3	4	3	2	4	4	8	7	5	5	4	4	4	4	4	4	4.2	8.4
19-Jan	4	4	4	3	3	3	2	2	2	1	1	2	3	3	4	4	3	2	1	-1	-2	-3	-3	-3	1.5	4.0	
20-Jan	-3	-5	-4	-5	-5	-5	-4	-4	-5	-4	-3	-2	0	2	1	-1	1	1	1	3	3	3	2	2	-1.3	3.0	
21-Jan	1	1	0	0	0	0	0	0	-1	-2	-1	-2	1	1	2	2	1	1	1	0	0	0	-1	-1	0.1	1.6	
22-Jan	-2	-2	-3	-3	-4	-4	-3	-3	-3	-2	-1	-1	2	2	5	4	5	4	3	3	2	2	0	2	0.1	5.2	
23-Jan	2	2	3	1	2	4	4	4	4	5	4	4	5	6	6	8	8	6	5	6	5	6	8	8	8	5.0	8.3
24-Jan	8	8	8	8	8	7	7	7	7	8	9	10	10	10	10	11	12	11	9	7	7	9	9	8	10	8.7	12.4
25-Jan	10	9	7	9	9	9	8	8	7	8	7	8	9	10	10	10	10	10	8	7	6	6	4	4	3	7.8	10.2
26-Jan	3	2	1	1	-2	-3	-5	-7	-8	-9	-8	-8	-7	-7	-5	-5	-6	-8	-8	-9	-10	-10	-11	-11	-5.8	2.6	
27-Jan	-11	-12	-13	-13	-14	-14	-16	-14	-15	-14	-13	-12	-12	-10	-9	-8	-8	-10	-10	-11	-12	-12	-11	-10	-11.9	-7.5	
28-Jan	-11	-12	-12	-10	-9	-8	-5	-3	-2	-2	-1	0	1	3	4	3	3	2	0	-1	-2	-2	-3	-3	-3.0	3.7	
29-Jan	-4	-4	-4	-4	-6	-7	-8	-8	-9	-10	-11	-11	-12	-11	-11	-11	-12	-12	-13	-15	-16	-17	-17	-18	-10.4	-3.9	
30-Jan	-19	-20	-20	-20	-20	-20	-20	-19	-19	-19	-15	-15	-17	-17	-16	-14	-13	-14	-14	-15	-15	-14	-12	-12	-16.6	-11.7	
31-Jan	-9	-8	-7	-7	-6	-6	-6	-7	-7	-7	-6	-7	-7	-7	-7	-7	-7	-7	-8	-9	-9	-10	-11	-11	-7.6	-6.2	
	-5.2	-5.2	-5.1	-5.1	-5.0	-5.1	-5.2	-5.1	-5.0	-4.7	-4.3	-4.0	-3.6	-3.0	-2.7	-2.6	-2.9	-3.6	-4.2	-4.6	-4.8	-5.0	-5.1	-4.8		Diurnal Average	
	9.9	9.1	8.1	9.2	9.4	8.8	8.4	7.7	7.4	7.6	9.1	9.9	10.2	10.4	10.6	12.4	11.1	9.3	7.3	7.8	9.1	8.7	8.0	9.8		Diurnal Maximum	



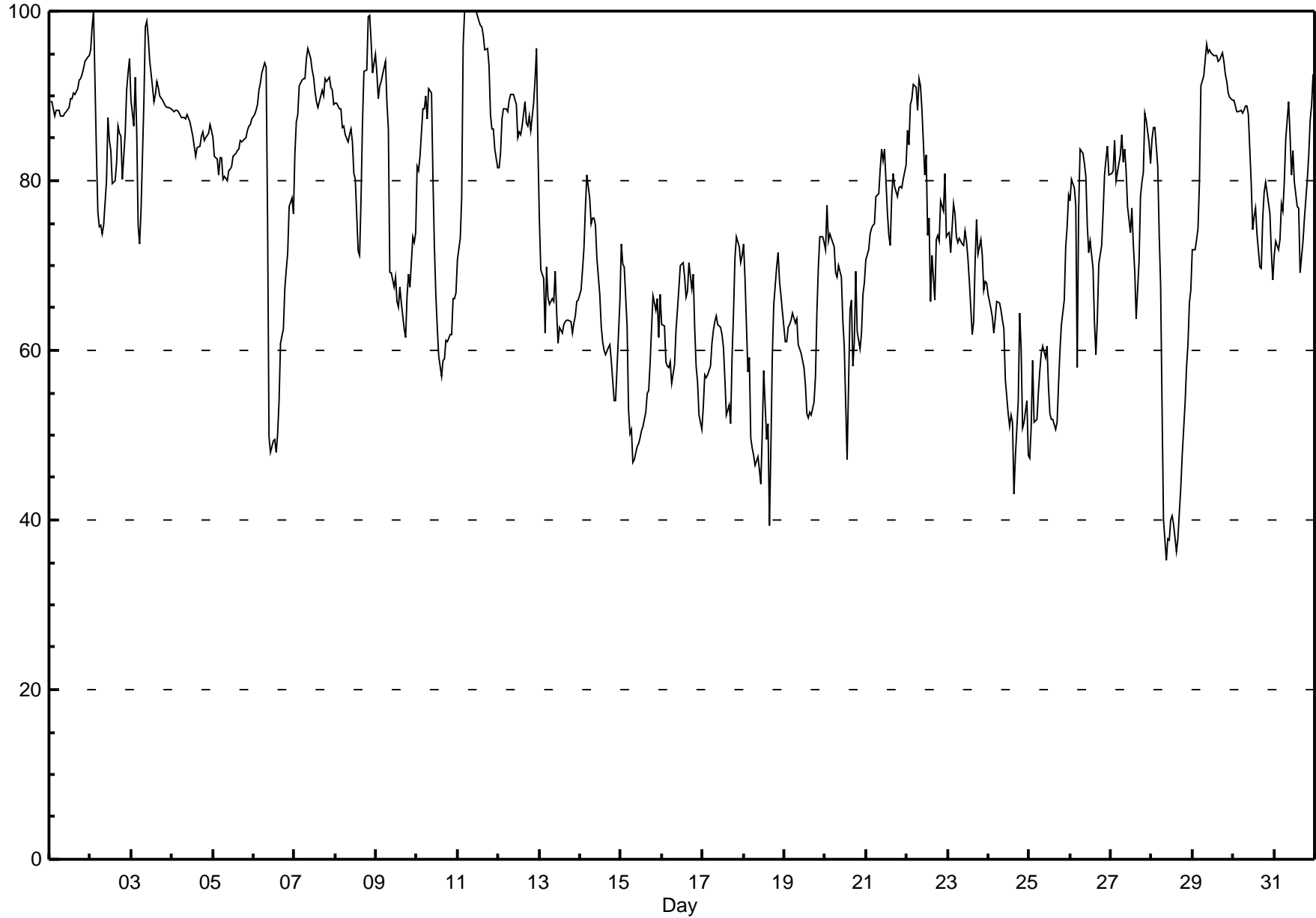
# Hourly Averages

Relative Humidity (RH) - %  
Beaverlodge - January 2014

Number of Exceedences (AAQO): 1-hr: 0 24-hr: 0										Hours in Service: 744																
Maximum Value: 100.0 % on Jan 2 03:00										Maximum Daily Average: 92.5 % on Jan 11										Hours of Data: 744						
Minimum Value: 35 % on Jan 28 09:00										Minimum Daily Average: 54.8 % on Jan 28										Hours of Missing Data: 0						
Maximum Diurnal Average: 77.9 % at hour 3										Minimum Diurnal Average: 68.4 % at hour 16										Hours of Calibration: 0						
Monthly Average: 74.57 %										Percentiles: P <sub>1</sub> = 40.1 P <sub>10</sub> = 54.0 Q <sub>1</sub> = 63.6 Median = 74.8 Q <sub>3</sub> = 87.3 P <sub>90</sub> = 91.7 P <sub>99</sub> = 100.0										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-Jan	89	89	88	88	88	88	88	88	88	88	88	89	90	90	90	90	91	92	92	92	93	94	95	95	90.1	94.7
2-Jan	95	98	100	83	76	75	75	74	75	80	87	85	84	80	80	82	86	86	85	80	86	91	93	94	84.6	100.0
3-Jan	89	86	92	86	75	72	76	89	98	99	97	94	91	89	90	92	91	90	90	89	89	89	89	88	88.8	98.8
4-Jan	88	88	88	88	88	87	88	87	87	88	87	86	85	84	83	84	84	85	86	85	85	86	87	86	86.3	88.3
5-Jan	85	83	83	81	83	83	80	81	80	81	81	82	83	83	83	84	85	85	85	85	86	86	87	87	83.3	87.4
6-Jan	88	88	89	91	92	93	94	93	75	50	48	49	49	48	50	54	61	63	67	69	72	77	78	76	71.4	93.9
7-Jan	83	87	88	91	92	92	92	94	96	94	93	92	91	89	89	90	91	90	92	92	92	91	91	89	90.9	95.6
8-Jan	89	89	88	88	86	86	85	85	85	86	85	81	80	72	71	78	87	93	93	99	100	96	93	95	87.1	99.5
9-Jan	93	90	91	92	93	94	89	86	69	69	67	69	66	65	67	66	63	61	66	69	68	73	73	74	75.5	94.0
10-Jan	82	81	83	88	88	90	87	91	90	80	72	67	63	59	57	59	59	61	61	62	62	66	66	67	72.6	90.8
11-Jan	71	73	78	96	100	100	100	100	100	100	100	100	99	98	98	97	95	96	94	88	86	86	84	82	92.5	100.0
12-Jan	82	83	87	88	89	88	90	90	90	90	89	85	86	85	86	89	87	86	88	86	89	92	96	84	87.7	95.6
13-Jan	75	69	69	62	70	66	65	66	66	69	65	61	63	62	63	63	64	64	63	62	63	64	66	66	65.3	75.4
14-Jan	67	70	72	77	81	78	75	76	76	75	71	67	63	61	60	60	60	61	59	56	54	54	62	66	66.6	80.6
15-Jan	73	70	70	63	53	50	51	47	47	49	49	50	50	51	53	55	55	58	63	66	65	66	62	67	57.6	72.5
16-Jan	63	63	59	58	58	59	56	58	62	65	67	70	70	69	66	67	70	67	69	63	58	56	52	51	62.4	70.4
17-Jan	53	57	57	57	58	61	62	63	64	63	63	62	60	57	52	54	51	59	64	71	73	72	70	71	61.5	73.4
18-Jan	73	69	57	59	50	48	48	46	47	46	44	50	58	49	51	39	49	59	65	70	72	68	66	65	56.2	72.5
19-Jan	61	61	63	63	64	64	63	64	61	60	60	58	56	53	52	53	52	54	57	65	70	73	73	73	61.3	73.4
20-Jan	72	77	73	74	73	72	69	69	70	69	64	61	54	47	65	66	58	61	69	62	60	62	67	68	65.8	77.2
21-Jan	71	72	74	74	75	75	78	79	81	84	82	84	76	74	72	78	81	79	78	79	79	79	80	82	77.8	83.8
22-Jan	86	84	89	90	91	91	88	92	91	89	81	83	73	76	66	71	66	73	74	73	78	76	81	73	80.6	92.0
23-Jan	74	74	72	77	76	73	73	73	73	72	74	73	71	68	62	63	71	75	71	73	71	67	68	68	71.4	77.3
24-Jan	67	65	64	62	64	66	66	65	64	63	57	52	51	52	52	43	47	54	64	60	51	52	54	48	57.5	66.7
25-Jan	47	51	59	52	52	55	58	60	61	59	61	56	53	52	52	51	51	56	60	63	66	72	75	78	58.2	78.3
26-Jan	78	80	79	77	58	77	84	83	82	81	75	72	73	70	63	60	64	70	72	76	81	83	84	81	75.0	84.1
27-Jan	81	81	85	80	81	83	85	82	84	81	77	74	77	73	69	64	71	78	80	81	88	87	84	82	79.5	87.9
28-Jan	85	86	86	82	74	68	53	40	35	38	38	40	40	40	36	38	41	44	48	54	58	61	66	67	54.8	86.3
29-Jan	72	72	73	74	80	91	92	94	96	95	95	95	95	95	95	94	94	95	94	93	92	90	90	90	89.4	96.0
30-Jan	89	89	88	88	88	88	88	89	89	88	80	74	76	77	74	70	70	76	79	80	79	76	72	68	80.5	89.4
31-Jan	71	73	72	73	77	76	80	85	89	85	81	84	80	77	77	69	71	73	76	80	83	87	89	93	79.2	92.6
																								Diurnal Average		
																								Diurnal Maximum		

**Hourly Averages**

**Relative Humidity (RH) - %**  
**Beaverlodge - January 2014**



## Hourly Averages

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

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1 Spd	1	2	2	3	3	3	1	1	1	1	3	2	0	0	1	3	2	1	3	4	3	1	6	2	0.6	5.6
Dir	1	24	225	50	71	76	84	158	152	167	207	225	274	288	250	245	101	234	145	183	192	329	278	166	187	278
2 Spd	4	2	16	32	30	26	29	20	11	11	9	6	4	3	2	2	2	2	6	10	10	8	5	6	8.0	31.9
Dir	59	23	251	262	261	271	264	268	261	235	216	229	205	170	166	170	58	44	28	331	327	327	349	325	270	262
3 Spd	6	10	7	6	6	10	7	4	3	6	10	14	15	15	16	11	15	13	12	14	12	12	10	8	7.6	16.2
Dir	359	21	39	40	39	37	44	68	87	15	90	83	35	26	18	339	314	319	323	324	319	328	336	346	6	18
4 Spd	8	9	8	13	13	5	5	6	6	6	9	8	8	8	5	7	8	8	10	11	11	7	8	5	7.7	12.7
Dir	330	327	321	314	312	323	320	343	337	348	327	315	315	317	328	343	321	316	331	345	331	322	312	54	327	312
5 Spd	4	0	2	6	3	1	1	1	1	4	2	3	1	2	5	4	2	8	3	1	4	2	2	4	0.8	7.6
Dir	30	59	110	125	94	284	68	267	71	272	172	246	155	97	189	250	305	287	313	82	277	224	216	169	232	287
6 Spd	2	6	5	4	3	2	2	3	15	35	35	33	25	12	10	7	7	9	10	9	9	7	7	10	7.2	35.1
Dir	179	170	165	33	278	65	257	50	241	263	266	268	276	305	306	320	313	348	16	7	355	16	351	5	292	266
7 Spd	6	5	5	19	24	20	18	14	10	1	4	12	12	9	9	9	6	0	3	3	5	3	4	3	6.3	23.5
Dir	316	16	135	115	108	105	105	92	126	1	267	150	147	145	150	179	94	99	237	240	178	146	88	121	123	108
8 Spd	1	2	2	2	1	1	3	4	4	1	1	5	2	3	3	3	1	2	2	1	3	2	1	1	0.8	4.7
Dir	222	203	331	31	242	196	92	34	40	81	89	43	216	108	91	97	146	196	263	83	31	10	134	145	76	43
9 Spd	4	2	2	3	3	2	2	4	22	36	31	31	35	42	44	40	28	31	37	30	27	15	17	20	19.5	43.9
Dir	47	74	74	63	77	85	126	232	244	239	235	243	245	247	244	244	241	245	246	247	257	265	262	267	246	244
10 Spd	6	6	4	2	2	1	4	4	2	15	11	30	32	31	28	25	29	19	4	13	8	2	3	3	11.3	31.9
Dir	234	244	239	198	250	279	260	261	225	265	260	266	259	258	254	252	254	255	229	236	250	164	154	81	253	259
11 Spd	7	9	7	7	11	18	24	25	20	9	7	9	7	6	10	12	18	21	25	22	21	14	15	15	6.7	25.4
Dir	88	114	134	101	88	84	78	83	92	90	300	291	281	293	333	342	336	335	333	332	329	322	323	317	8	333
12 Spd	14	15	14	10	8	3	3	3	5	5	5	2	3	3	1	5	3	1	5	2	1	3	2	13	1.8	15.5
Dir	323	303	303	295	326	4	40	113	112	109	110	126	197	71	93	230	156	117	59	104	168	216	54	277	313	303
13 Spd	29	35	14	22	19	27	30	35	38	39	42	45	51	52	49	43	39	40	41	41	38	41	37	33	36.2	52.0
Dir	272	269	294	307	303	288	280	275	270	273	267	269	269	268	268	265	264	265	265	266	264	263	262	258	270	268
14 Spd	26	29	28	18	12	17	12	27	29	30	36	41	49	43	36	40	50	42	48	47	58	60	57	82	37.7	82.0
Dir	248	242	242	253	204	214	204	232	236	235	237	247	253	252	255	246	241	246	248	254	256	259	249	249	246	249
15 Spd	73	61	52	50	58	64	63	54	39	38	41	38	29	24	21	19	29	28	17	12	13	7	6	3	34.4	73.3
Dir	248	249	248	257	265	269	269	272	277	274	271	275	280	279	276	276	271	266	255	265	275	258	260	258	265	248
16 Spd	15	21	26	16	15	15	16	17	19	10	29	27	23	29	29	28	21	24	15	22	29	28	43	44	23.1	43.9
Dir	257	260	263	255	256	248	258	269	267	248	255	248	255	260	265	256	239	237	239	247	248	251	252	256	254	256
17 Spd	41	33	30	30	35	26	21	19	12	7	10	15	12	10	8	1	1	2	2	3	3	2	2	1	12.3	40.6
Dir	250	246	254	271	269	270	274	263	265	288	276	283	278	272	271	112	235	221	223	62	81	91	99	95	264	250
18 Spd	2	3	4	4	5	4	5	2	3	5	2	2	2	3	8	35	38	40	37	43	41	38	43	38	15.0	43.4
Dir	83	216	249	51	255	242	228	77	75	57	61	156	57	320	287	253	248	245	243	242	247	248	250	252	248	242
19 Spd	40	39	35	33	28	33	39	37	42	34	27	25	23	25	22	15	11	9	8	7	0	4	2	2	21.7	42.4
Dir	254	258	258	262	260	258	270	269	269	266	266	268	268	272	269	268	274	270	273	231	219	61	95	77	264	269
20 Spd	1	4	3	3	2	2	1	3	1	2	2	3	4	2	1	2	2	4	2	17	13	11	8	9	1.9	17.0
Dir	153	78	74	105	114	85	65	86	162	72	179	54	21	42	246	257	305	239	344	287	286	290	302	309	307	287
21 Spd	9	7	7	7	8	6	6	8	4	1	5	6	5	4	5	7	8	7	7	9	9	5	3	4	2.7	9.4
Dir	306	326	329	339	354	344	12	11	359	301	264	36	42	56	74	125	105	106	89	89	103	103	161	167	44	89
22 Spd	5	4	2	4	2	4	3	4	1	4	2	4	2	3	1	2	7	12	9	8	3	9	2	7	2.1	12.3
Dir	266	217	41	260	36	54	178	294	22	37	277	55	75	56	76	89	236	243	235	232	233	239	229	262	248	243



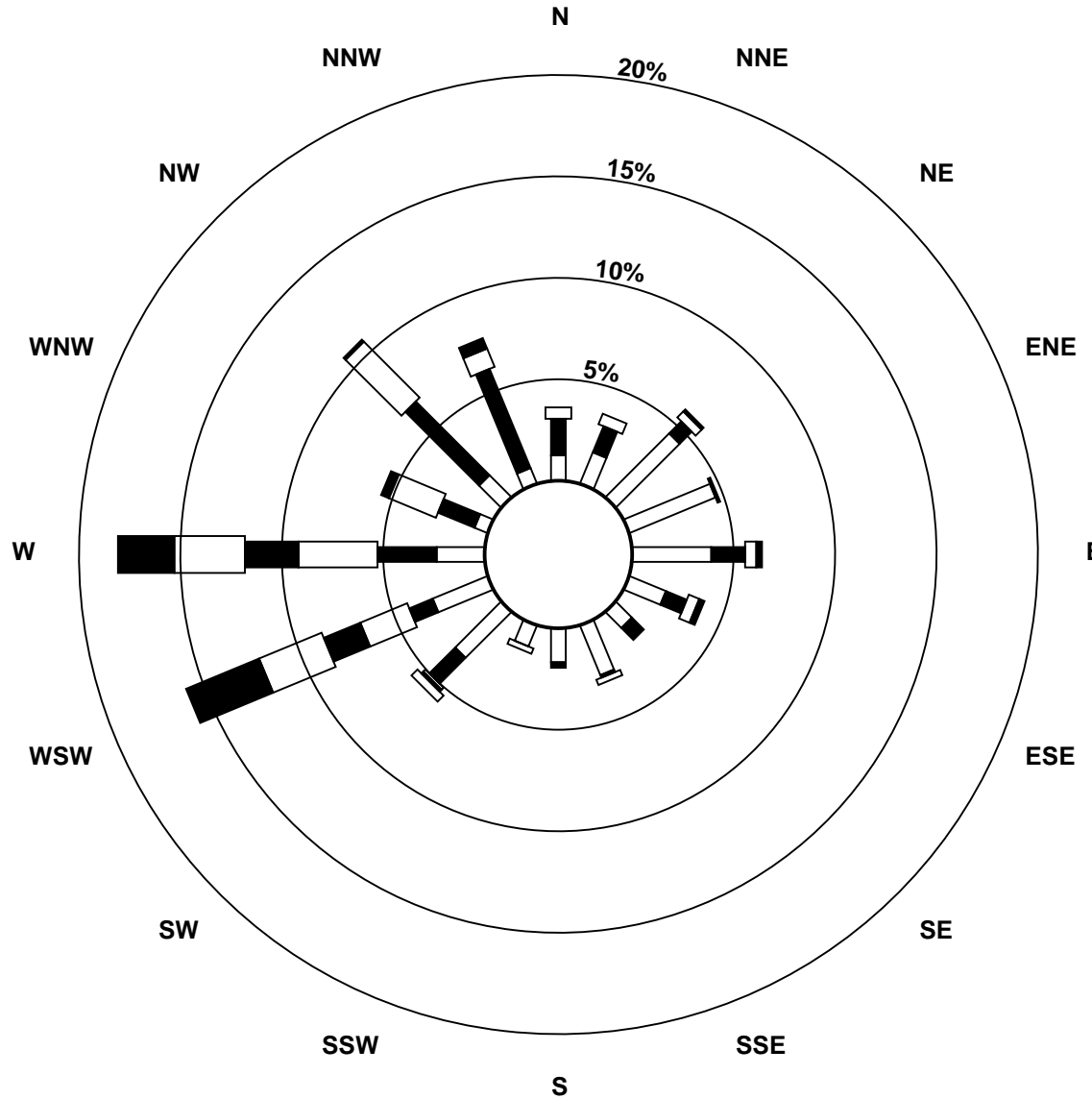
## Hourly Averages

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

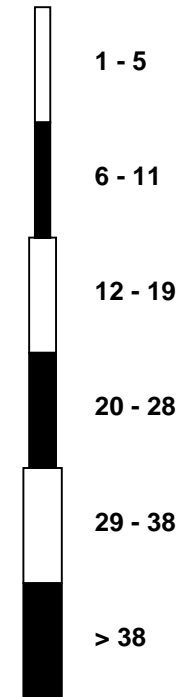
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
23 Spd	14	14	12	4	5	10	14	14	8	5	2	7	14	11	6	10	15	7	7	6	16	16	16	21	9.9	20.6
Dir	260	263	253	239	258	266	272	275	273	266	162	219	247	235	246	241	245	229	226	236	248	283	281	291	258	291
24 Spd	22	17	13	10	12	11	13	11	11	11	2	13	14	3	1	12	15	3	2	7	16	13	13	13	10.2	21.8
Dir	291	289	284	275	280	280	282	284	275	266	305	270	276	124	326	284	276	234	148	261	258	262	272	271	276	291
25 Spd	15	20	10	20	13	10	15	16	16	12	12	11	11	9	6	7	7	8	10	13	12	13	17	13	9.9	20.1
Dir	266	261	254	261	260	276	294	301	303	323	313	326	347	337	300	311	315	327	332	5	345	346	3	11	310	261
26 Spd	15	10	11	13	21	15	15	13	10	9	7	9	8	7	7	5	6	6	4	1	2	2	3	1	6.3	20.9
Dir	35	23	15	11	47	87	104	113	89	89	84	116	114	127	94	100	105	80	72	95	271	285	47	204	74	47
27 Spd	2	1	2	3	2	3	1	2	2	3	2	2	3	2	2	2	2	2	2	3	2	3	2	2	0.6	3.0
Dir	241	305	52	55	60	50	70	154	100	60	272	103	156	33	217	164	39	88	226	264	1	35	305	11	54	264
28 Spd	1	1	2	1	3	3	3	6	4	7	10	9	6	7	11	12	7	5	9	8	9	9	6	8	5.5	12.2
Dir	83	188	13	152	53	55	30	308	326	336	324	307	307	317	339	345	319	322	325	310	310	304	345	319	326	345
29 Spd	6	6	9	6	2	3	5	3	3	15	15	13	11	8	9	10	8	8	12	13	13	15	15	17	7.2	17.5
Dir	330	347	10	356	270	138	136	104	288	31	37	28	13	19	11	9	3	312	319	315	316	320	326	331	351	331
30 Spd	14	10	9	6	6	8	10	8	6	3	3	1	3	4	5	5	4	4	1	6	8	11	8	9	4.1	13.7
Dir	321	332	354	331	329	318	285	273	242	249	179	123	88	54	54	61	98	74	343	310	324	317	294	295	321	321
31 Spd	13	16	13	19	16	13	15	14	12	8	13	12	13	11	10	11	8	6	5	3	4	1	3	4	9.1	19.1
Dir	290	277	282	301	310	314	313	307	304	305	322	320	318	332	343	343	345	327	355	318	298	183	57	56	313	301
Spd	9.6	9.2	7.7	7.2	6.2	5.7	6.5	6.7	7.1	7.8	8.8	9.2	9.5	8.1	7.9	8.7	8.9	8.7	7.5	8.8	9.8	8.7	8.5	9.3	Diurnal Average	
Dir	271	267	268	278	280	276	275	276	267	271	266	268	270	272	273	267	265	265	272	273	275	277	275	274	Diurnal Maximum	
Spd	73.3	61.1	51.8	49.9	58.4	63.8	63.0	54.4	42.4	39.4	42.3	45.3	51.1	52.0	49.2	42.8	50.4	41.7	48.4	47.2	58.4	60.5	57.4	82.0	Diurnal Maximum	
Dir	248	249	248	257	265	269	269	272	269	273	267	269	269	268	268	265	241	246	248	254	256	259	249	249	Diurnal Maximum	
Maximum Speed Value: 82 km/h on Jan 15 00:00		Minimum Speed Value: 0 km/h on Jan 19 21:00												Hours in Service: 744												
Maximum Daily Speed Average: 37.7 km/h on Jan 14		Minimum Daily Speed Average: 0.6 km/h on Jan 1												Hours of Data: 744												
Maximum Diurnal Speed Average: 9.8 km/h at hour 21		Minimum Diurnal Speed Average: 5.7 km/h at hour 6												Hours of Missing Data: 0												
Monthly Average Velocity: 8.14 km/h 271.5 deg		Speed Percentiles: P <sub>1</sub> = 0.5 P <sub>10</sub> = 1.8 Q <sub>1</sub> = 3.0 Median = 7.9 Q <sub>3</sub> = 15.4 P <sub>90</sub> = 32.5 P <sub>99</sub> = 56.4												Percent Operational Time: 100.0												
All monthly, daily, and diurnal averages have been calculated using vector methods																										
Frequency Distribution																										
		Speed Range (km/h)																								
Direction	0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total																			
North	13	36	12	0	0	0	61																			
NorthEast	54	10	6	1	0	0	71																			
East	60	21	7	5	0	0	93																			
SouthEast	25	11	3	1	0	0	40																			
South	29	3	0	0	0	0	32																			
SouthWest	38	17	11	6	14	10	96																			
West	31	29	52	30	40	40	222																			
NorthWest	15	68	39	7	0	0	129																			
Total	265	195	130	50	54	50	744																			

**Wind Rose**

**Wind Speed (WS) (km/h)**  
**Beaverlodge - January 2014**



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



# Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Beaverlodge - January 2014

Maximum Speed: 82 km/h on Jan 15 00:00	Maximum Daily Speed Average: 38.4 km/h on Jan 14	Hours in Service: 744
Minimum Speed: 1 km/h on Jan 27 02:00	Minimum Daily Speed Average: 2.8 km/h on Jan 1	Hours of Data: 744
Maximum Diurnal Speed Average: 14.5 km/h at hour 12	Minimum Diurnal Speed Average: 12.1 km/h at hour 19	Hours of Missing Data: 0
Monthly Average Speed: 12.92 km/h	Percentiles: P <sub>1</sub> = 1.8 P <sub>10</sub> = 2.8 Q <sub>1</sub> = 4.1 Median = 8.3 Q <sub>3</sub> = 15.5 P <sub>90</sub> = 32.5 P <sub>99</sub> = 56.6	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-Jan	3	2	3	3	3	3	2	2	2	1	3	2	1	3	3	3	3	3	4	4	3	3	6	3	2.8	5.7
2-Jan	4	6	17	32	30	26	30	20	11	12	9	7	5	3	3	2	3	2	6	10	10	9	6	7	11.2	31.9
3-Jan	7	10	7	6	7	10	8	5	3	7	11	16	15	16	16	12	15	13	12	15	12	12	11	8	10.5	16.2
4-Jan	8	9	8	13	13	6	6	7	6	6	9	8	8	8	7	7	8	8	10	11	11	8	10	5	8.4	12.7
5-Jan	5	2	3	6	4	2	3	2	2	5	2	3	2	4	5	5	3	8	3	2	4	3	4	4	3.7	7.7
6-Jan	3	6	6	5	3	4	3	4	18	35	35	33	25	12	10	7	7	9	10	9	9	7	8	10	11.6	35.2
7-Jan	7	6	8	20	24	20	18	14	10	8	7	12	12	10	10	9	7	3	4	4	6	4	4	3	9.6	23.5
8-Jan	2	3	2	3	2	3	3	4	6	4	3	5	3	4	3	4	3	3	2	4	5	2	3	3	3.2	5.6
9-Jan	4	2	3	3	3	3	2	7	22	36	31	31	35	42	44	40	28	31	37	30	28	15	18	20	21.5	43.9
10-Jan	7	7	5	3	3	3	4	6	5	16	11	30	32	32	29	25	29	19	5	14	9	6	6	4	12.8	32.0
11-Jan	7	10	7	7	11	18	24	25	20	9	7	9	8	6	10	12	18	21	26	23	21	14	15	15	14.3	25.5
12-Jan	14	16	14	10	9	3	3	3	5	5	5	3	3	4	4	5	4	2	5	3	3	4	4	13	6.1	15.7
13-Jan	30	37	14	23	19	28	30	35	38	39	42	45	51	52	49	43	39	40	41	41	38	41	37	33	36.9	52.1
14-Jan	26	29	28	19	12	17	12	27	29	30	36	41	49	43	36	40	50	42	48	47	58	61	58	82	38.4	82.1
15-Jan	73	61	52	50	59	64	63	55	39	38	41	38	29	24	21	19	29	28	17	13	13	7	7	5	35.2	73.3
16-Jan	15	21	26	16	15	15	16	17	19	10	29	27	24	29	30	29	21	24	15	23	29	28	43	44	23.5	44.0
17-Jan	41	33	30	30	35	26	21	19	13	8	10	15	12	11	8	5	3	2	3	3	4	4	3	3	14.2	41.0
18-Jan	3	3	6	5	5	5	6	4	3	5	4	4	5	4	9	35	38	40	37	43	42	38	43	38	17.6	43.4
19-Jan	40	39	35	33	29	33	39	37	42	34	27	25	23	25	22	15	11	9	9	7	3	5	2	3	22.9	42.4
20-Jan	2	4	3	3	3	3	2	3	2	3	2	4	4	2	3	4	3	4	4	17	13	11	8	10	4.9	17.1
21-Jan	9	7	7	7	9	6	6	8	5	4	5	6	5	4	5	8	8	7	7	9	9	6	4	5	6.5	9.4
22-Jan	6	4	4	4	3	4	3	4	2	4	3	4	3	3	2	2	7	12	10	8	5	9	3	7	4.9	12.4
23-Jan	14	14	12	4	5	10	14	14	9	6	3	7	14	11	6	11	15	9	7	6	17	16	16	21	10.9	20.6
24-Jan	22	17	13	10	12	11	14	12	11	11	4	13	14	5	5	12	15	6	4	8	16	14	14	13	11.5	21.8
25-Jan	15	20	12	20	13	11	15	16	16	13	12	11	11	10	6	7	7	8	10	13	12	13	17	13	12.6	20.2
26-Jan	15	10	11	14	21	16	15	13	10	9	7	9	8	7	7	6	6	6	4	2	3	2	3	1	8.5	20.9
27-Jan	2	1	3	3	2	4	3	2	2	3	4	4	4	3	3	3	3	3	3	4	3	3	3	4	3.0	4.2
28-Jan	4	3	4	3	4	3	3	7	5	8	10	9	7	7	11	12	8	5	9	8	9	10	7	8	6.8	12.3
29-Jan	6	6	9	6	5	4	6	4	4	15	15	13	11	8	9	10	8	8	12	13	13	15	15	18	9.7	17.5
30-Jan	14	10	9	6	6	8	10	8	6	4	3	1	3	4	5	5	5	5	2	6	8	11	9	9	6.6	13.7
31-Jan	14	16	13	20	17	13	16	14	12	8	13	12	14	11	10	11	8	6	5	3	4	3	3	4	10.3	19.6
	13.6	13.4	12.1	12.5	12.4	12.3	12.9	12.8	12.2	12.7	13.0	14.5	14.2	13.0	12.6	13.2	13.3	12.5	12.1	13.0	13.6	12.4	12.5	13.4	Diurnal Average	
	73.3	61.1	51.9	50.2	58.6	64.0	63.1	54.5	42.4	39.4	42.3	45.4	51.2	52.1	49.3	42.8	50.5	41.8	48.5	47.4	58.5	60.6	57.5	82.1	Diurnal Maximum	

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

# Hourly Standard Deviations

Wind Direction (WD) - deg  
Beaverlodge - January 2014

Maximum Value: 98.2 deg on Jan 5 07:00																		Hours in Service: 744							
Minimum Value: 1.9 deg on Jan 14 03:00																		Hours of Data: 744							
Percentiles: P <sub>1</sub> = 2.2 P <sub>10</sub> = 3.8 Q <sub>1</sub> = 6.0 Median = 12.8 Q <sub>3</sub> = 40.8 P <sub>90</sub> = 65.7 P <sub>99</sub> = 90.2																		Hours of Missing Data: 0							
																		Hours of Calibration: 0							
																		Percent Operational Time: 100.0							
Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	68	67	41	50	26	27	43	55	55	56	31	33	96	92	68	37	46	75	22	19	35	76	12	55	95.9
2-Jan	20	80	29	2	4	5	3	5	14	19	6	51	24	42	41	31	40	63	12	4	4	8	47	40	80.1
3-Jan	14	4	10	10	17	4	32	18	51	37	30	29	8	8	5	30	4	7	7	6	6	7	8	11	51.2
4-Jan	10	10	11	4	4	42	24	27	29	13	8	5	6	10	41	7	8	7	13	9	4	35	52	25	52.1
5-Jan	30	93	63	16	32	63	98	68	91	29	52	60	81	83	18	38	82	11	61	73	23	57	66	34	98.2
6-Jan	47	10	40	36	54	63	51	79	67	6	3	4	8	8	9	13	7	16	5	11	16	13	36	29	78.8
7-Jan	27	33	65	8	3	4	6	14	16	82	46	7	6	16	17	11	32	84	55	48	28	27	15	33	84.4
8-Jan	54	36	70	75	59	86	19	57	66	86	66	30	61	25	30	50	59	46	57	83	53	63	67	80	85.5
9-Jan	29	37	44	56	25	34	43	90	7	2	3	4	4	2	2	4	4	4	4	4	7	15	13	7	90.0
10-Jan	12	49	59	36	64	67	38	67	86	6	19	2	3	3	6	8	4	8	81	8	29	82	59	25	85.9
11-Jan	21	20	17	12	4	5	7	8	5	10	34	4	27	21	17	10	6	4	5	7	6	8	9	8	33.7
12-Jan	7	9	5	7	9	29	18	26	16	21	10	34	33	48	82	28	29	59	16	57	82	54	72	13	81.9
13-Jan	8	19	18	10	7	5	4	4	2	3	2	3	4	3	4	3	2	2	2	3	2	3	3	4	18.9
14-Jan	4	2	2	10	7	5	9	4	2	3	5	3	4	4	8	4	3	4	3	5	4	4	4	3	9.7
15-Jan	3	2	3	6	5	4	4	3	5	5	3	4	3	4	3	4	3	4	13	13	6	17	11	84	84.0
16-Jan	5	5	2	7	5	8	7	9	4	14	3	2	5	4	9	15	5	3	6	4	4	5	6	4	14.9
17-Jan	7	3	7	6	3	5	4	8	10	9	9	5	4	10	10	77	92	55	59	26	49	51	31	86	92.3
18-Jan	54	61	63	69	51	58	62	70	18	13	53	58	87	55	47	8	5	5	4	4	3	2	3	3	86.9
19-Jan	2	3	4	5	4	4	4	6	3	5	3	4	6	5	4	6	5	12	34	18	87	24	41	70	86.6
20-Jan	65	21	41	31	42	49	69	41	57	51	46	49	24	35	76	67	60	23	62	9	7	7	13	6	76.0
21-Jan	5	15	13	14	11	12	22	16	37	90	27	8	14	12	11	20	9	12	9	5	9	42	36	36	90.4
22-Jan	18	16	81	17	64	36	37	20	75	47	90	29	56	46	79	39	46	6	5	20	77	12	63	7	89.8
23-Jan	3	7	7	29	55	8	5	4	60	68	43	13	6	5	26	14	6	67	18	18	9	9	7	4	68.4
24-Jan	4	4	6	10	5	7	6	11	9	13	74	7	9	51	79	6	5	64	62	78	7	7	59	12	78.9
25-Jan	12	18	62	7	12	22	6	7	8	21	6	8	12	26	10	11	4	3	5	11	8	6	8	9	61.9
26-Jan	8	12	8	13	5	25	14	15	9	8	6	10	11	10	7	11	10	9	61	68	65	42	28	36	68.3
27-Jan	13	73	12	35	58	66	89	46	35	16	88	67	32	70	46	59	70	52	55	54	51	34	65	57	88.9
28-Jan	79	83	51	86	66	65	35	30	20	13	8	5	23	19	12	8	25	11	5	14	5	13	20	18	85.8
29-Jan	39	21	7	24	66	23	27	52	57	6	4	9	6	7	8	7	19	9	6	3	4	4	3	2	65.5
30-Jan	4	12	13	15	17	14	11	10	12	36	15	61	25	12	10	19	21	12	49	10	7	10	8	12	61.5
31-Jan	9	4	5	13	8	7	6	5	5	8	7	7	9	11	16	10	12	21	19	31	13	82	23	15	82.1
	78.6	93.5	80.7	85.8	66.1	85.5	98.2	90.0	90.6	90.4	89.8	67.4	95.9	91.9	81.9	77.3	92.3	84.4	80.9	82.7	86.6	82.1	72.4	86.2	

PAZA

## Valleyview Station

Monthly Summary Tables, Graphs and  
Roses

## Hourly Averages

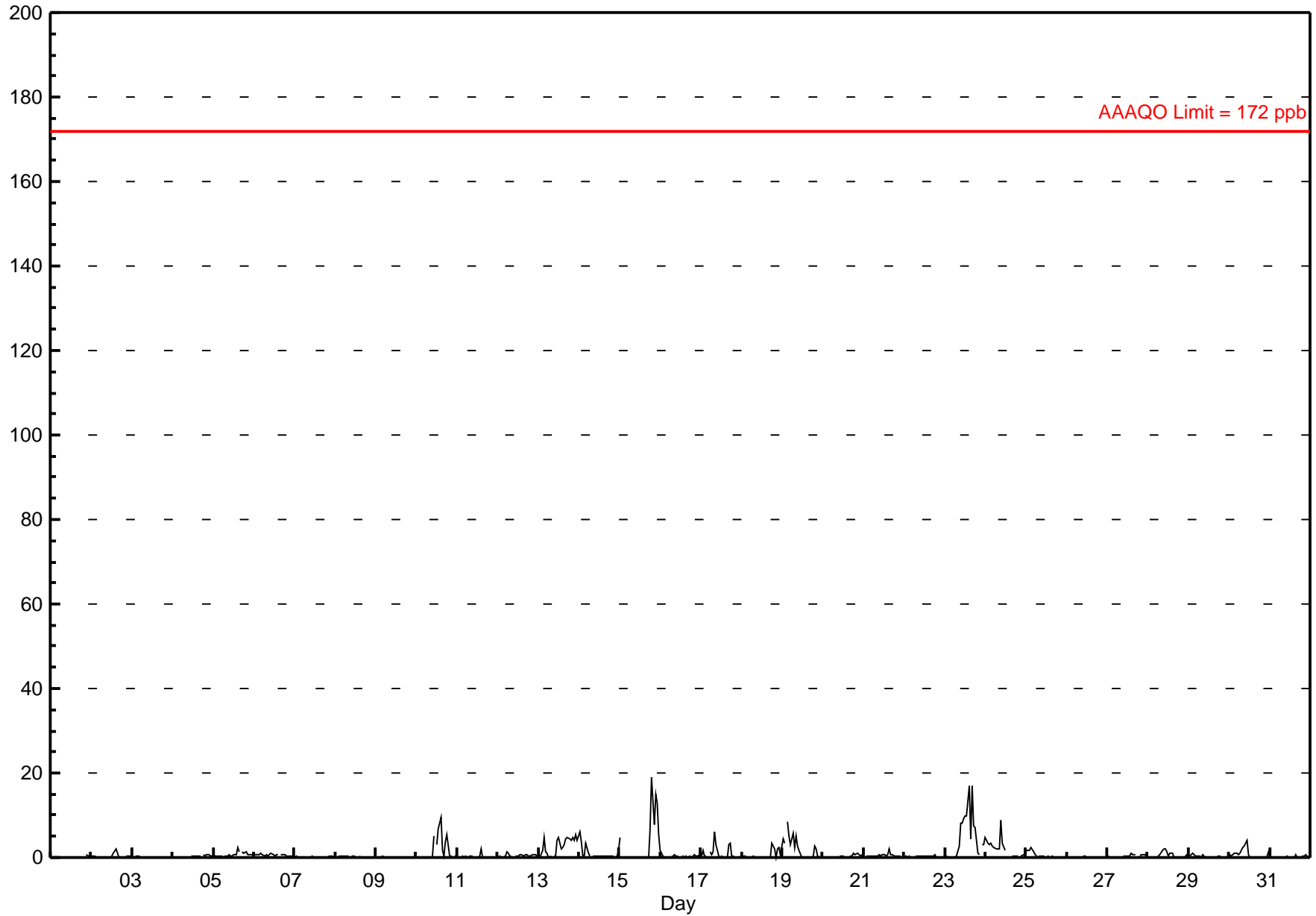
Sulphur Dioxide (SO<sub>2</sub>) - ppb

Valleyview - January 2014

Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 19.1 ppb on Jan 15 20:00	Maximum Daily Average: 4.7 ppb on Jan 23		Hours of Data:	701
Minimum Value: 0 ppb on Jan 1 01:00	Minimum Daily Average: 0.0 ppb on Jan 9		Hours of Missing Data:	43
Maximum Diurnal Average: 1.5 ppb at hour 15	Minimum Diurnal Average: 0.4 ppb at hour 3		Hours of Calibration:	35
Monthly Average: 0.83 ppb	Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.0 Q <sub>1</sub> = 0.0 Median = 0.2 Q <sub>3</sub> = 0.6 P <sub>90</sub> = 2.4 P <sub>99</sub> = 9.7		Percent Operational Time:	98.9

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	0	0	0.1	0.5																							
2-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	1	0	0	0	A	0	0	0	0	0.3	1.9																							
3-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0.1	0.3																							
4-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	0	1	1	0	0	0.2	0.7																							
5-Jan	1	0	0	0	0	0	0	0	0	1	0	0	1	1	3	1	A	1	1	1	1	1	1	1	0.7	2.5																							
6-Jan	1	1	1	1	1	1	0	1	0	1	1	1	0	1	1	A	1	1	1	0	0	0	0	0	0.6	0.9																							
7-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.1	0.3																							
8-Jan	0	0	0	0	0	0	1	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.2	0.5																							
9-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.0	0.2																							
10-Jan	0	0	0	0	0	0	0	0	0	0	5	A	3	7	9	2	0	4	5	0	0	0	0	0	1.6	9.4																							
11-Jan	0	0	0	0	0	0	0	0	0	0	A	0	0	0	2	0	0	0	0	0	0	0	0	0	0.2	2.1																							
12-Jan	0	0	0	0	0	1	1	0	0	A	0	0	0	1	1	0	1	1	0	0	1	1	1	0	0.5	1.2																							
13-Jan	0	0	2	5	1	1	0	0	A	0	0	4	5	2	3	3	4	5	4	4	5	4	6	4	2.7	5.5																							
14-Jan	6	4	0	1	4	1	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1.0	6.2																								
15-Jan	5	P	P	P	P	P	P	P	P	0	0	0	0	0	0	0	0	0	0	7	19	8	15	13	6	--	19.1																						
16-Jan	2	0	0	0	0	A	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0.3	1.5																							
17-Jan	0	2	0	0	A	1	1	2	6	3	0	0	0	0	0	3	4	0	0	0	0	0	0	0	1.0	6.1																							
18-Jan	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	2	0	2	2	1	0.5	3.5																							
19-Jan	4	3	A	9	5	3	6	3	5	3	2	0	0	0	0	0	0	0	0	3	2	0	0	0	2.1	8.6																							
20-Jan	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	1	0.2	1.1																							
21-Jan	A	0	0	0	0	0	0	0	0	1	0	1	1	0	1	2	1	1	0	0	0	0	0	A	0.5	2.0																							
22-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	A	0	0.3	0.5																							
23-Jan	0	0	0	0	0	0	0	0	3	8	8	9	10	10	17	4	17	7	7	1	1	A	3	3	4.7	17.0																							
24-Jan	5	4	3	3	3	2	2	2	2	9	3	2	C	C	C	C	0	0	0	0	A	1	1	1	2.2	8.8																							
25-Jan	2	2	2	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.5	2.5																							
26-Jan	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	0.2																							
27-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	A	0	0	1	1	1	0	0.3	0.9																							
28-Jan	0	0	0	0	0	0	0	1	2	2	1	0	1	1	0	A	A	0	0	0	0	0	0	1	0.5	2.2																							
29-Jan	0	1	1	1	1	0	0	0	1	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.2	1.0																							
30-Jan	1	0	1	1	1	1	1	2	3	3	4	1	0	0	A	0	0	0	0	0	0	0	0	1	0.8	4.1																							
31-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	1	0	0	0	0	0	1	0	0	0.1	0.7																							
																								0.9	0.7	0.4	0.8	0.6	0.5	0.5	0.4	0.8	1.1	1.0	0.7	0.8	0.9	1.5	0.6	1.0	0.9	1.2	1.2	0.7	1.0	1.0	0.8	Diurnal Average	
																								6.2	3.6	3.0	8.6	5.2	3.2	5.9	2.5	6.1	8.8	8.1	9.2	9.8	9.8	16.9	4.3	17.0	7.4	7.1	19.1	8.0	15.1	13.0	5.6	Diurnal Maximum	

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



## Hourly Maximums

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

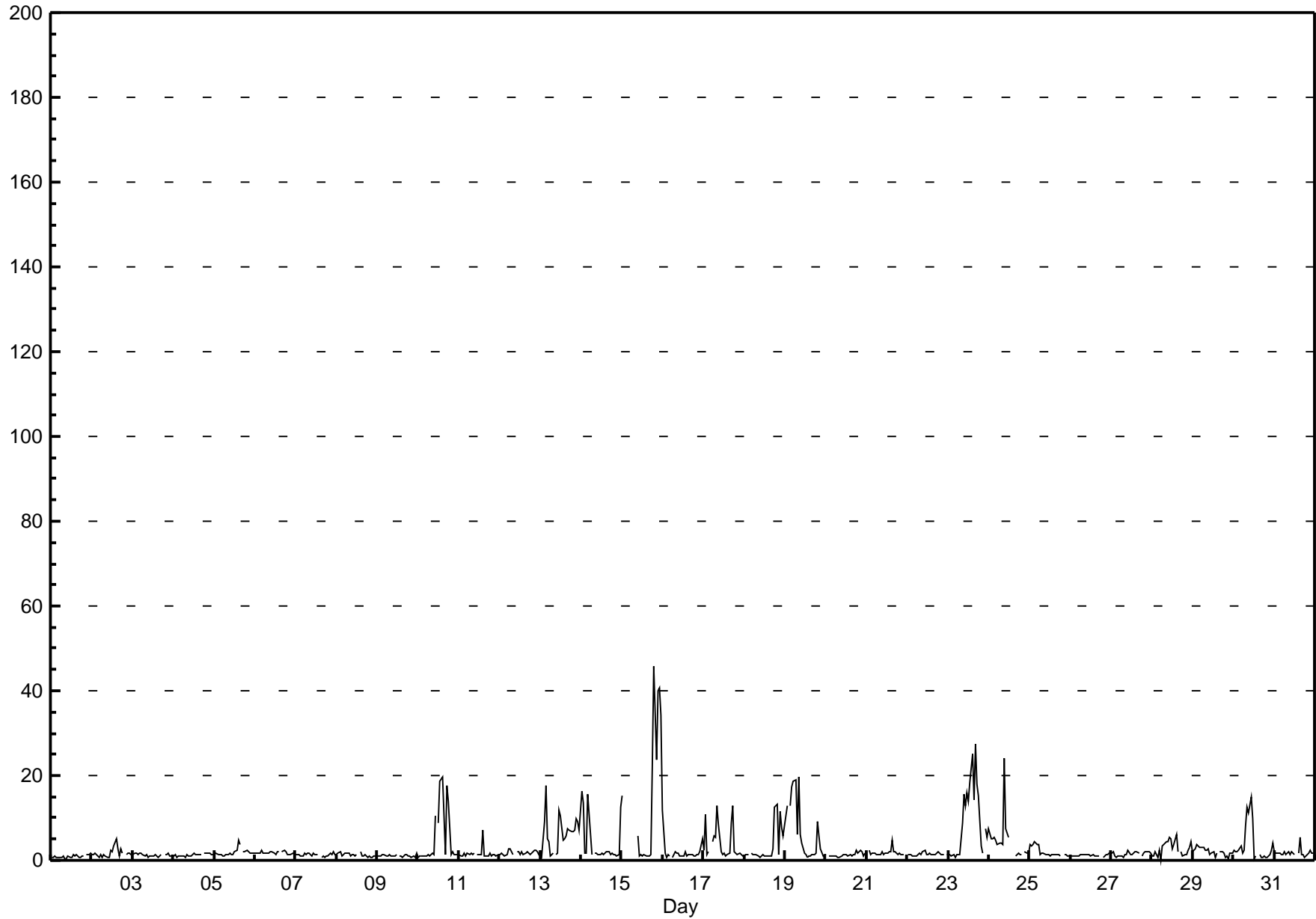
Valleyview - January 2014

Maximum Value: 45.8 ppb on Jan 15 20:00      Maximum Daily Average: 9.3 ppb on Jan 23 Minimum Value: 0 ppb on Jan 28 06:00      Minimum Daily Average: 0.9 ppb on Jan 1 Maximum Diurnal Average: 3.8 ppb at hour 20      Minimum Diurnal Average: 1.9 ppb at hour 3 Monthly Average: 2.96 ppb      Percentiles: P <sub>1</sub> = 0.5 P <sub>10</sub> = 0.9 Q <sub>1</sub> = 1.2 Median = 1.5 Q <sub>3</sub> = 2.0 P <sub>90</sub> = 5.9 P <sub>99</sub> = 23.5																								Hours in Service:	744																								
																								Hours of Data:	701																								
																								Hours of Missing Data:	43																								
																								Hours of Calibration:	35																								
																								Percent Operational Time:	98.9																								
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Jan	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	1	1	1	1	1	A	1	1	2	0.9	1.6																							
2-Jan	1	1	2	1	1	1	1	1	1	1	1	2	2	3	5	3	1	3	2	A	1	2	2	1	1.7	5.1																							
3-Jan	1	2	2	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	2	1	1	1.2	1.7																							
4-Jan	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	2	A	2	2	2	2	2	1	1.3	1.8																							
5-Jan	1	2	1	1	1	1	1	1	2	2	2	1	2	2	5	4	A	2	2	2	2	2	2	2	1.9	4.6																							
6-Jan	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	A	2	3	2	1	1	1	2	1	1.8	2.5																							
7-Jan	1	1	1	1	1	2	1	2	2	1	2	1	1	1	A	1	1	1	1	1	2	1	2	1	1.3	1.9																							
8-Jan	1	2	2	1	1	2	2	2	1	1	1	1	1	A	2	1	1	1	1	1	1	1	1	1	1.3	2.2																							
9-Jan	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	2	1.1	1.9																							
10-Jan	1	1	1	1	1	1	1	1	2	1	11	A	9	19	20	11	1	18	14	1	2	1	1	1	5.2	19.8																							
11-Jan	1	1	1	2	1	2	1	2	1	2	A	1	1	1	7	1	1	1	2	1	1	1	1	1	1.5	7.3																							
12-Jan	1	2	1	1	2	3	3	2	1	A	2	2	1	2	1	2	2	2	2	1	2	2	2	1	1.8	2.6																							
13-Jan	2	1	9	18	5	4	1	2	A	2	2	12	11	5	5	6	7	7	7	7	7	10	9	7	6.3	17.5																							
14-Jan	16	14	2	2	16	6	1	A	2	2	1	1	2	1	2	2	2	1	2	1	1	1	13	4.0	16.1																								
15-Jan	15	P	P	P	P	P	P	P	P	6	1	1	1	1	1	1	1	1	22	46	24	40	41	34	--	45.8																							
16-Jan	12	2	1	1	1	A	1	2	2	2	1	1	1	2	1	1	1	1	1	1	1	2	5	2.0	11.8																								
17-Jan	2	11	1	2	A	5	6	6	13	9	2	1	2	1	1	2	9	13	2	2	1	2	1	1	4.1	12.8																							
18-Jan	1	1	1	A	2	1	1	1	1	1	1	1	1	1	1	1	1	3	13	13	2	11	8	6	3.2	13.1																							
19-Jan	11	13	A	13	17	19	19	6	20	6	4	2	2	1	1	1	1	1	2	9	6	3	1	1	6.9	19.7																							
20-Jan	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	2	2	2	1	2	1.3	2.5																							
21-Jan	A	2	1	2	2	2	1	1	1	2	1	2	2	2	5	2	2	2	1	2	1	1	1	A	1.8	4.9																							
22-Jan	1	1	1	1	1	1	1	2	1	2	2	2	1	2	1	1	1	2	2	2	1	1	A	1	1.4	2.2																							
23-Jan	1	2	1	1	1	1	1	1	9	16	13	16	14	18	25	14	28	18	15	3	2	A	8	5	9.3	27.6																							
24-Jan	7	5	5	5	5	4	4	4	4	24	7	5	C	C	C	C	1	2	1	1	A	2	2	2	4.8	24.1																							
25-Jan	4	3	4	5	4	4	1	2	2	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	2.0	4.5																							
26-Jan	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	A	1	1	1	1	2	1.2	1.6																							
27-Jan	2	2	1	1	1	1	1	1	1	1	3	1	1	2	2	2	2	A	1	2	2	2	2	2	1.5	2.5																							
28-Jan	1	1	2	1	2	0	3	4	4	5	5	5	3	4	6	2	A	2	1	1	1	2	3	4	2.7	6.0																							
29-Jan	2	3	4	3	3	3	3	2	2	3	1	2	2	1	2	A	2	2	2	1	1	1	2	2	2.1	3.7																							
30-Jan	2	2	2	2	3	2	2	8	12	11	15	10	0	1	A	1	1	1	1	1	1	1	2	4	3.8	14.8																							
31-Jan	2	2	2	2	1	1	2	1	2	1	2	2	1	A	2	6	1	1	1	2	2	2	2	2	1.8	5.5																							
																								3.3	2.8	1.9	2.5	2.8	2.5	2.3	2.1	3.2	3.5	3.0	2.8	2.4	2.9	3.7	2.7	2.7	3.3	3.6	3.8	2.6	3.4	3.5	3.7	Diurnal Average	
																								16.1	13.6	9.0	17.5	17.1	18.8	19.1	8.1	19.7	24.1	14.8	15.8	13.8	18.5	25.2	14.4	27.6	18.0	22.1	45.8	23.6	40.0	40.7	34.1	Diurnal Maximum	
C - Calibration																								P - Power Failure						A - Automated Daily Zero Span																			



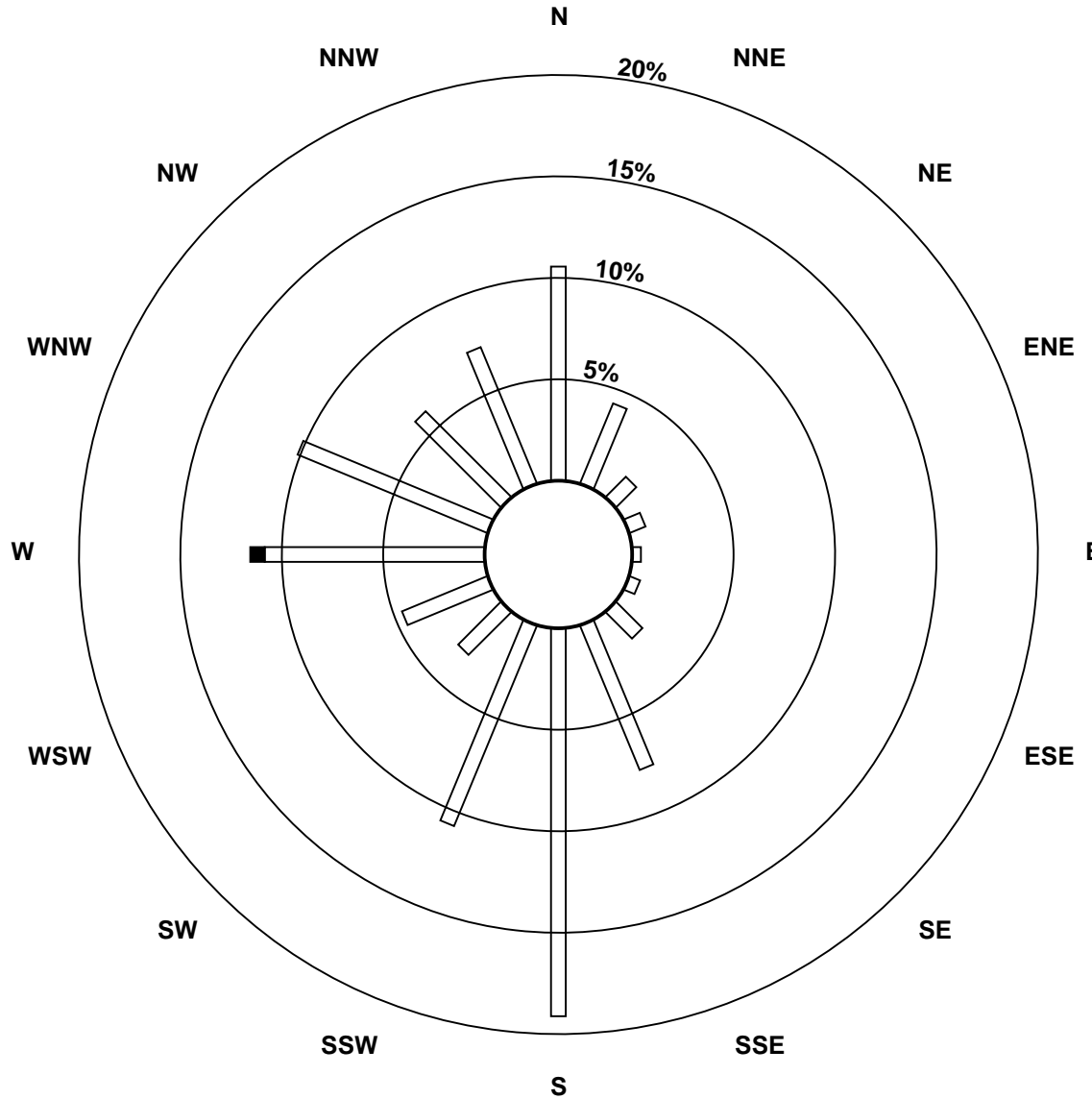
# Hourly Maximums

Sulphur Dioxide (SO<sub>2</sub>) - ppb  
Valleyview - January 2014

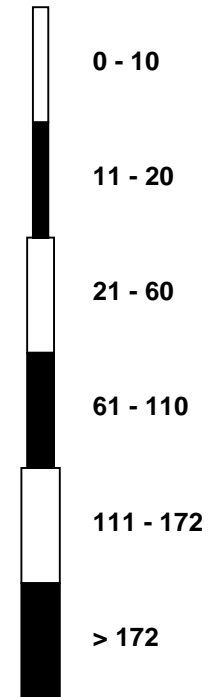


**Pollutant Rose**

**Sulphur Dioxide (SO<sub>2</sub>) - ppb**  
**Valleyview - January 2014**

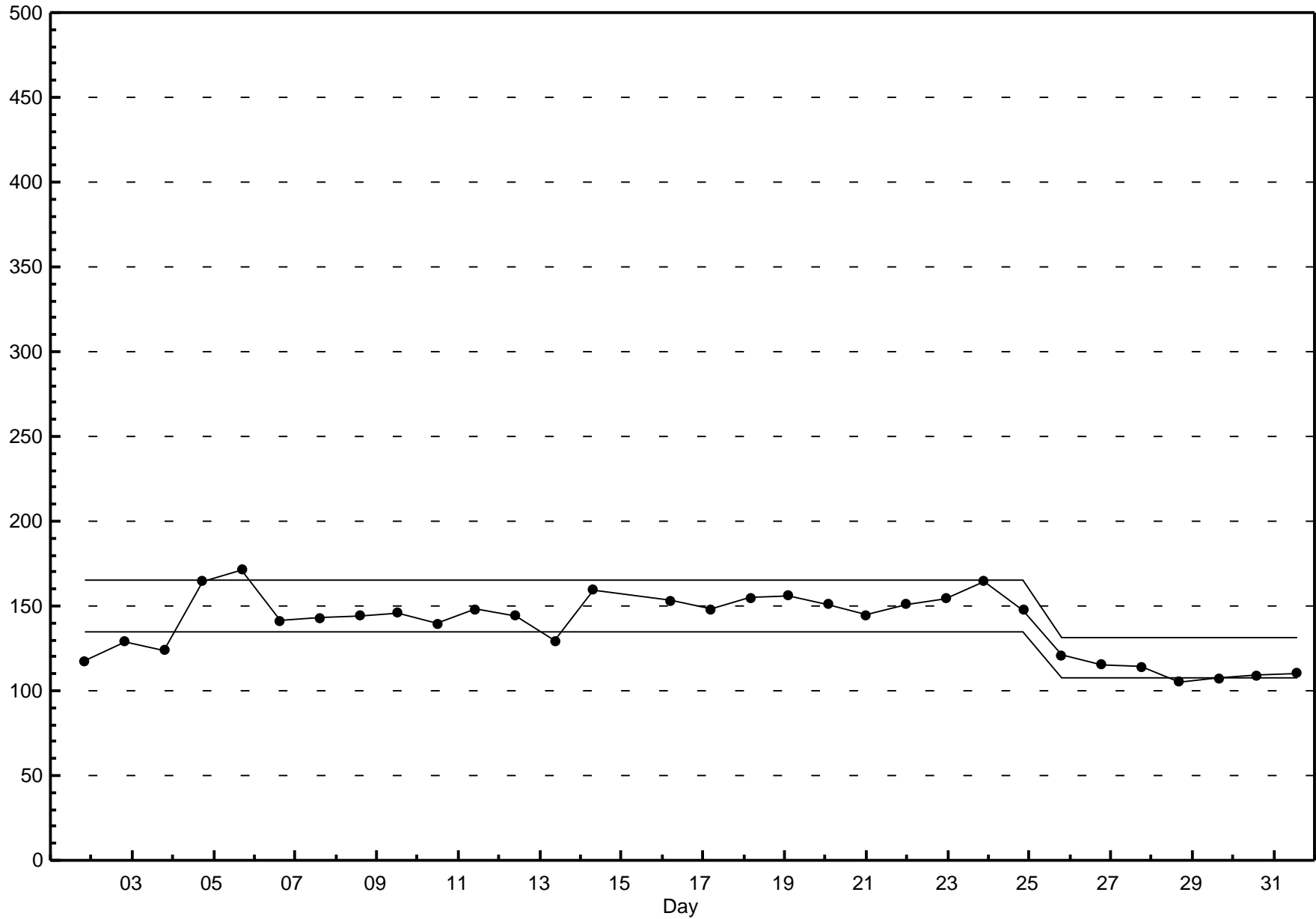


**Pollutant Classes (ppb)**



**Span Responses**

**Sulphur Dioxide (SO<sub>2</sub>)**  
**Valleyview - January 2014**



## Hourly Averages

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

### Valleyview - January 2014

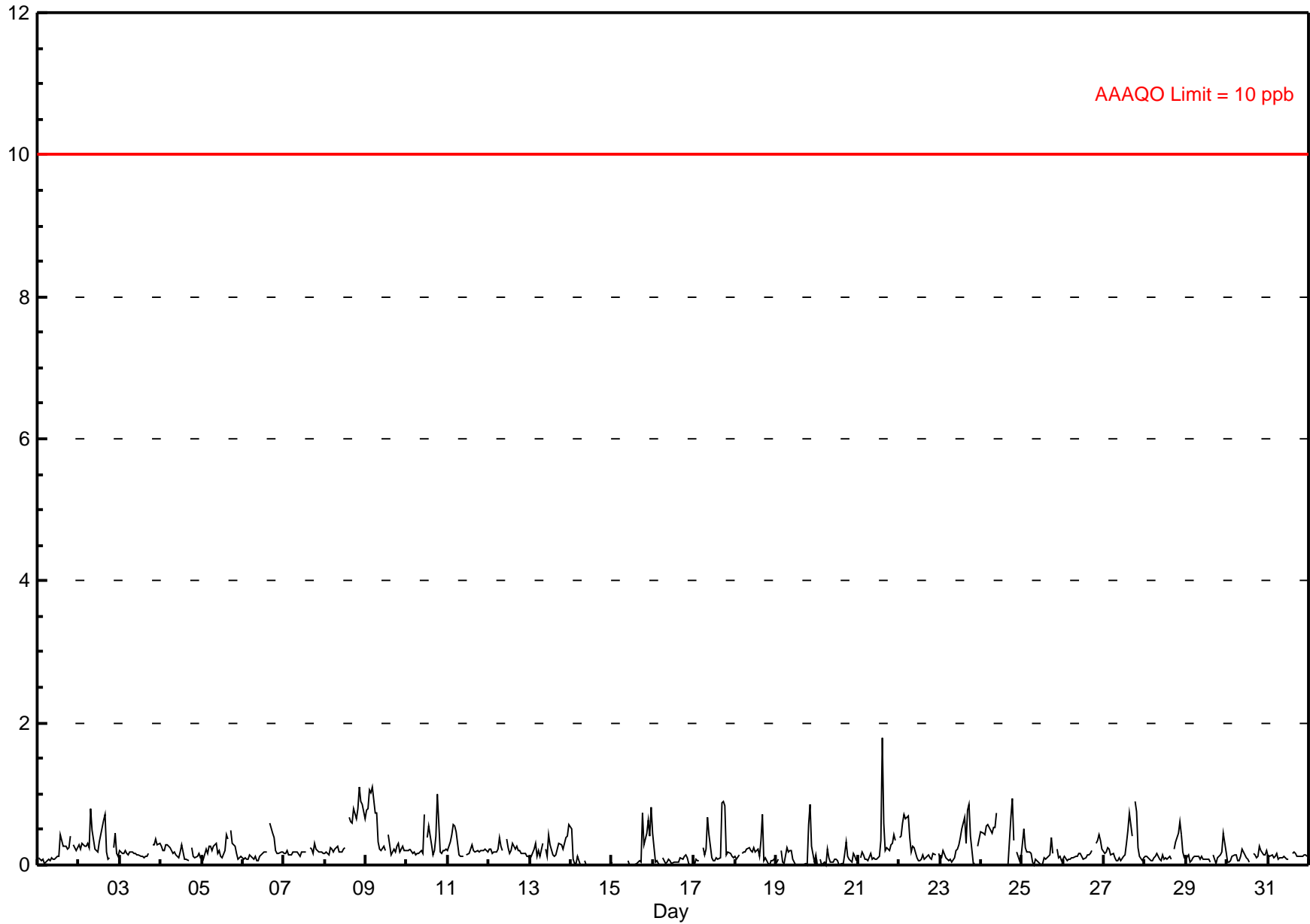
Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0	Hours in Service: 744
Maximum Value: 1.8 ppb on Jan 21 15:00	Maximum Daily Average: 0.4 ppb on Jan 8
Minimum Value: 0 ppb on Jan 14 06:00	Hours of Data: 702
Maximum Diurnal Average: 0.3 ppb at hour 19	Hours of Missing Data: 42
Monthly Average: 0.21 ppb	Hours of Calibration: 34
Minimum Daily Average: 0.0 ppb on Jan 14	Percent Operational Time: 98.9
Minimum Diurnal Average: 0.1 ppb at hour 12	
Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.0 Q <sub>1</sub> = 0.1 Median = 0.2 Q <sub>3</sub> = 0.2 P <sub>90</sub> = 0.5 P <sub>99</sub> = 0.9	

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

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

### Hourly Averages

Hydrogen Sulphide (H<sub>2</sub>S) - ppb  
Valleyview - January 2014



## Hourly Maximums

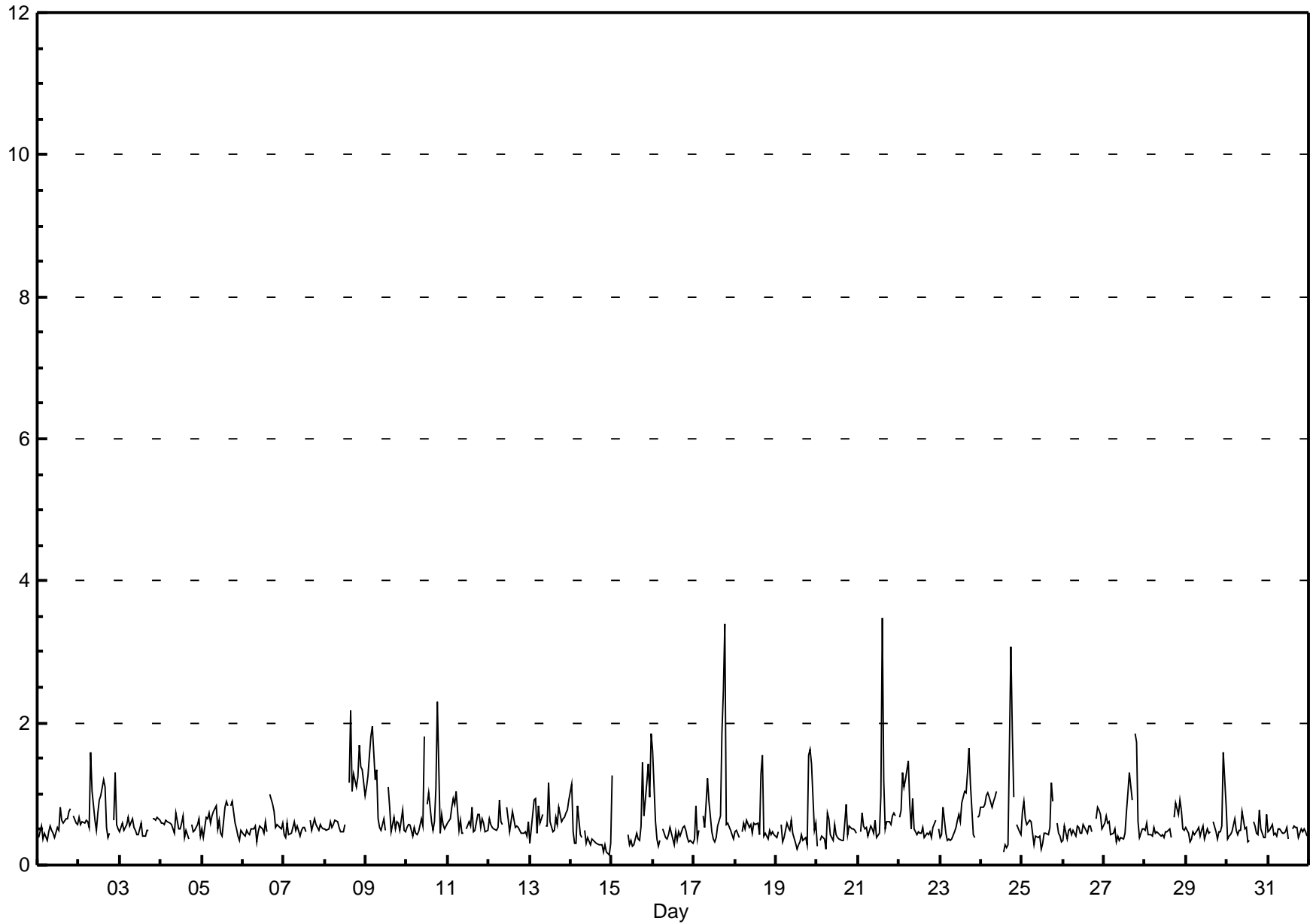
Hydrogen Sulphide (H<sub>2</sub>S) - ppb

Valleyview - January 2014

Maximum Value: 3.5 ppb on Jan 21 15:00 Minimum Value: 0 ppb on Jan 14 23:00 Maximum Diurnal Average: 0.9 ppb at hour 19 Monthly Average: 0.62 ppb		Maximum Daily Average: 0.9 ppb on Jan 8 Minimum Daily Average: 0.4 ppb on Jan 14 Minimum Diurnal Average: 0.5 ppb at hour 13 Percentiles: P <sub>1</sub> = 0.3 P <sub>10</sub> = 0.4 Q <sub>1</sub> = 0.4 Median = 0.5 Q <sub>3</sub> = 0.6 P <sub>90</sub> = 1.0 P <sub>99</sub> = 1.8		Hours in Service: 744 Hours of Data: 702 Hours of Missing Data: 42 Hours of Calibration: 34 Percent Operational Time: 98.9																																												
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																								
1-Jan	0	0	1	0	0	0	0	1	0	0	0	1	0	1	1	1	1	1	1	1	A	1	1	1	0.6	0.8																						
2-Jan	1	1	1	1	1	1	1	2	1	1	0	1	1	1	1	1	1	0	0	A	1	1	1	1	0.8	1.6																						
3-Jan	0	1	0	1	1	1	1	1	1	0	0	0	1	0	0	0	0	0	A	1	1	1	1	1	0.5	0.7																						
4-Jan	1	1	1	1	1	1	1	1	0	1	1	1	1	1	0	0	0	A	1	0	0	1	1	0	0.5	0.7																						
5-Jan	1	0	1	1	1	1	1	1	1	1	1	0	0	1	1	1	A	1	1	1	1	1	0	0	0.6	0.9																						
6-Jan	0	0	0	0	0	1	1	1	0	0	1	1	0	1	0	A	1	1	1	1	1	1	1	1	0.5	1.0																						
7-Jan	0	0	1	0	0	1	1	0	1	0	0	1	1	0	A	1	0	1	1	1	1	0	1	1	0.5	0.7																						
8-Jan	0	0	1	1	1	1	1	1	1	0	0	0	1	A	1	2	1	1	1	1	1	2	1	1	0.9	2.2																						
9-Jan	1	1	2	2	2	1	1	1	1	0	1	0	A	1	1	0	1	1	1	1	1	0	1	0	0.9	1.9																						
10-Jan	1	1	1	0	1	0	0	0	1	1	2	A	1	1	1	0	1	1	1	2	0	1	1	1	0.7	2.3																						
11-Jan	1	1	1	1	1	1	0	1	0	0	A	1	1	1	1	0	0	1	1	1	1	1	0	0	0.6	1.0																						
12-Jan	1	1	1	1	0	1	1	1	1	A	1	1	0	1	1	1	1	1	1	0	0	0	0	1	0.6	0.9																						
13-Jan	0	1	1	1	0	1	1	1	A	1	1	1	1	0	0	1	1	1	1	1	1	1	1	1	0.7	1.1																						
14-Jan	1	0	0	0	1	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	1.1																						
15-Jan	1	P	P	P	P	P	P	P	P	0	0	0	0	0	0	0	0	1	1	1	1	1	1	2	--	1.8																						
16-Jan	2	1	0	0	0	A	1	0	0	0	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0.5	1.6																						
17-Jan	0	1	0	0	A	1	1	1	1	1	0	0	0	0	1	1	2	2	3	1	1	0	0	0	0.8	3.4																						
18-Jan	0	0	0	A	0	1	1	1	1	1	0	1	1	1	0	1	2	0	0	0	0	0	0	0	0.6	1.5																						
19-Jan	0	0	A	1	0	0	1	1	1	0	1	0	0	0	0	0	0	0	0	2	2	1	0	1	0.6	1.6																						
20-Jan	0	A	0	0	0	0	1	1	0	0	1	0	0	0	0	0	1	1	0	1	0	1	0	0	0.5	0.9																						
21-Jan	A	0	1	1	1	1	0	1	1	0	1	0	1	3	1	1	1	1	1	1	1	1	1	1	0.7	3.5																						
22-Jan	1	1	1	1	1	1	1	1	1	1	0	0	0	0	1	0	0	0	0	0	1	1	A	1	0.7	1.5																						
23-Jan	0	0	1	0	0	0	0	0	0	1	1	1	1	1	1	1	1	2	1	0	0	A	1	1	0.7	1.6																						
24-Jan	1	1	1	1	1	1	1	1	1	1	C	C	C	0	0	0	0	3	2	1	A	1	0	0	0.9	3.1																						
25-Jan	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	1	1	1	A	1	0	0	0	0.5	1.1																						
26-Jan	0	1	0	0	1	0	0	0	1	1	0	0	1	0	0	1	1	0	A	1	1	1	1	1	0.5	0.8																						
27-Jan	1	1	1	1	0	0	1	0	0	0	0	0	0	1	1	1	1	A	2	2	1	0	1	1	0.7	1.9																						
28-Jan	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	A	A	1	1	1	1	1	0	0	0.5	0.9																						
29-Jan	1	0	0	0	0	0	0	1	0	0	1	0	1	0	0	A	1	0	0	0	0	1	2	1	0.5	1.6																						
30-Jan	0	0	0	0	1	0	0	0	0	1	1	1	0	0	A	1	1	0	0	1	1	0	0	1	0.5	0.8																						
31-Jan	0	0	1	0	0	0	1	1	0	0	0	1	0	A	1	1	1	1	0	1	0	1	0	0	0.5	0.6																						
																								0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.6	0.7	0.7	0.7	0.8	0.9	0.7	0.7	0.7	0.6	0.6	Diurnal Average
																								1.6	1.3	1.6	1.8	1.9	1.5	1.3	1.6	1.2	1.0	1.8	1.1	0.9	1.1	3.5	2.2	1.9	3.1	3.4	1.7	1.7	1.4	1.6	1.8	Diurnal Maximum
C - Calibration																								P - Power Failure						A - Automated Daily Zero Span																		

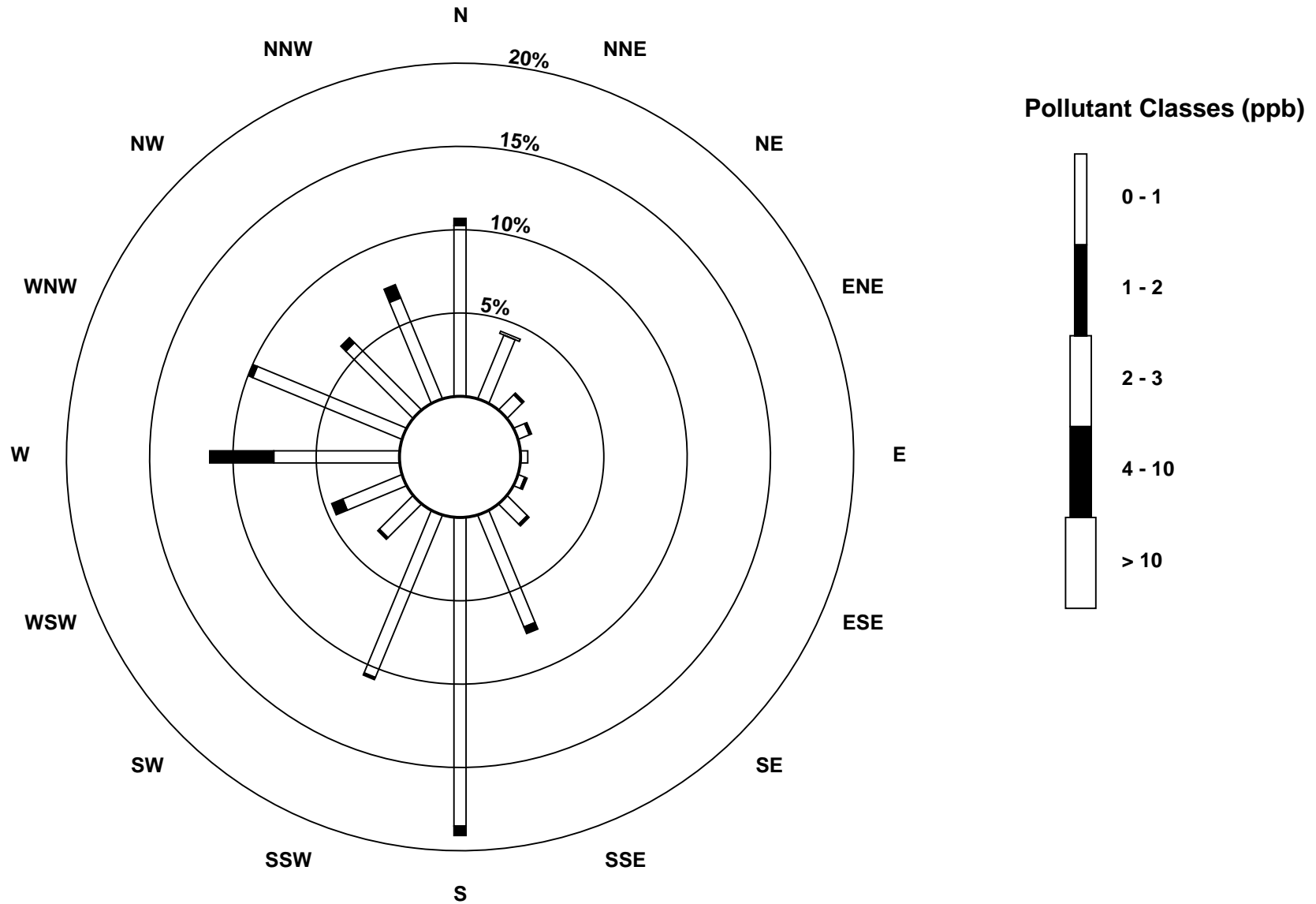
### Hourly Maximums

Hydrogen Sulphide (H<sub>2</sub>S) - ppb  
Valleyview - January 2014



**Pollutant Rose**

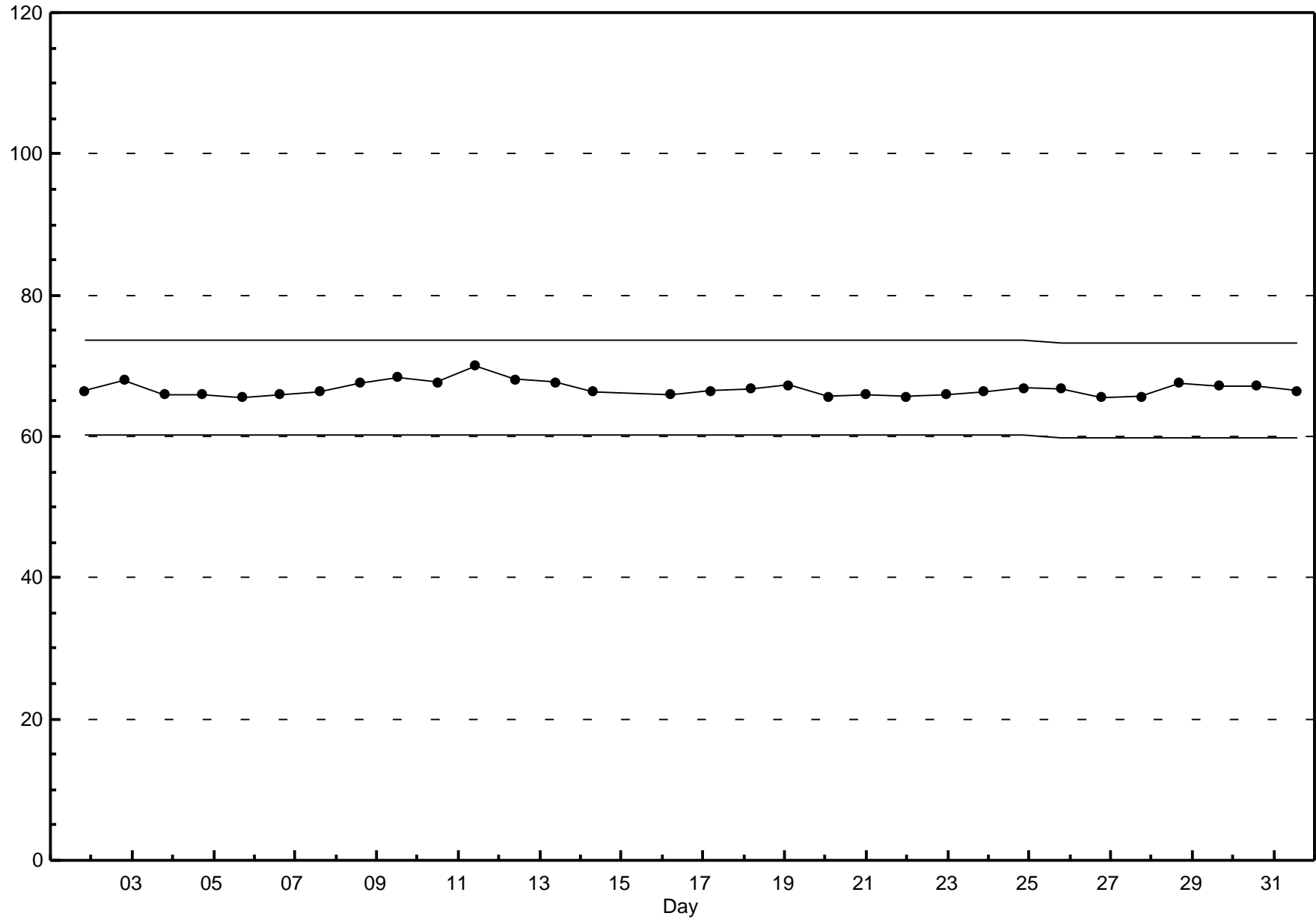
**Hydrogen Sulphide (H<sub>2</sub>S) - ppb**  
**Valleyview - January 2014**





### Span Responses

Hydrogen Sulphide (H<sub>2</sub>S)  
Valleyview - January 2014

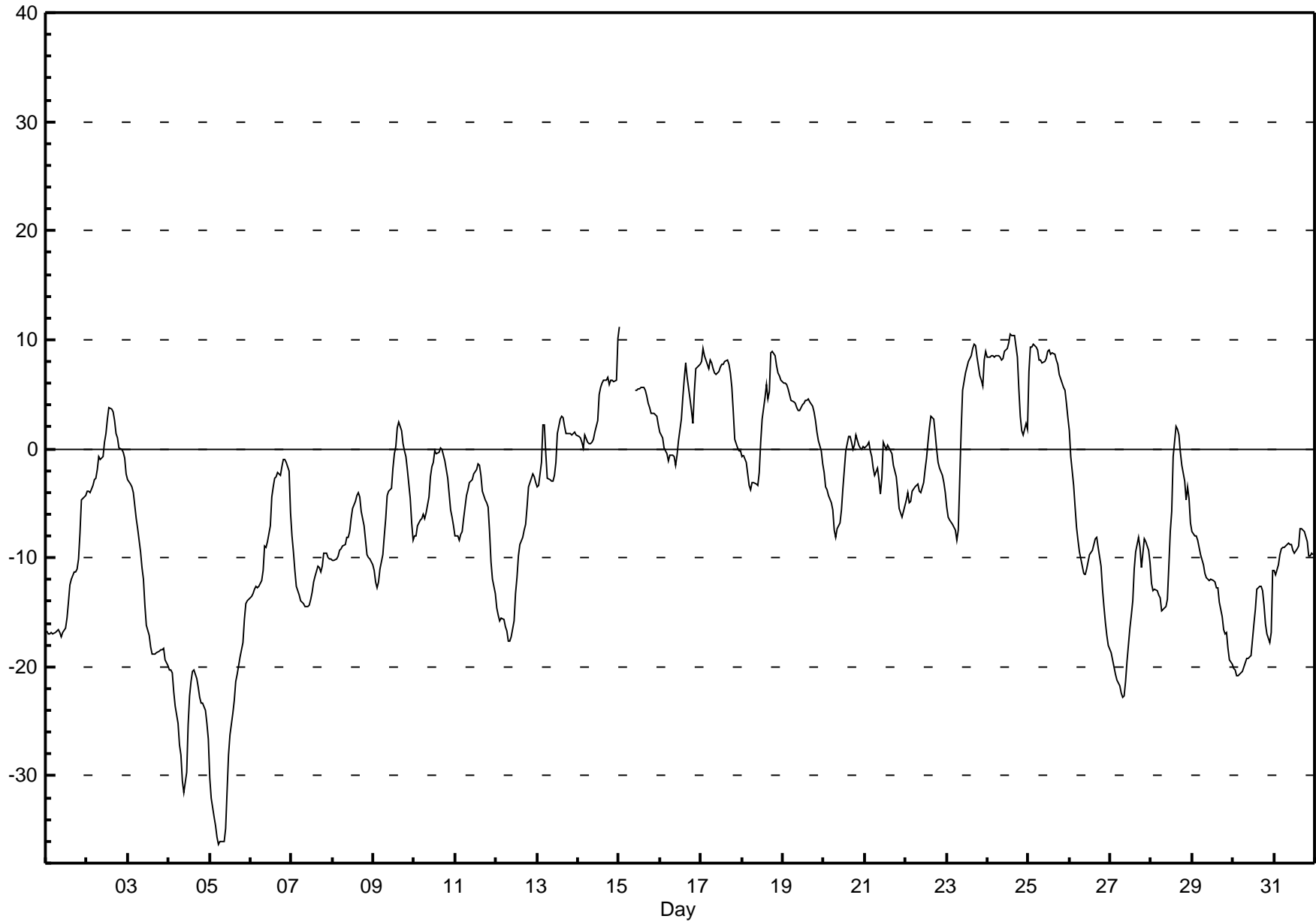


## Hourly Averages

External Temperature (ET) - °C

Valleyview - January 2014

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 11.2 °C on Jan 15 01:00      Maximum Daily Average: 7.7 °C on Jan 25		Hours in Service: 744 Hours of Data: 736 Hours of Missing Data: 8 Hours of Calibration: 0 Percent Operational Time: 98.9																																															
Minimum Value: -36 °C on Jan 5 06:00 Maximum Diurnal Average: -2.3 °C at hour 16 Monthly Average: -5.49 °C		Minimum Daily Average: -26.4 °C on Jan 5 Minimum Diurnal Average: -8.2 °C at hour 8 Percentiles: P <sub>1</sub> = -34.0 P <sub>10</sub> = -18.5 Q <sub>1</sub> = -11.5 Median = -4.1 Q <sub>3</sub> = 1.4 P <sub>90</sub> = 6.9 P <sub>99</sub> = 9.4																																															
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Jan	-17	-17	-17	-17	-17	-17	-17	-17	-17	-17	-17	-16	-15	-14	-12	-12	-11	-11	-11	-10	-8	-5	-4	-4	-13.4	-4.2																							
2-Jan	-4	-4	-4	-3	-3	-3	-2	-1	-1	-1	1	1	3	4	4	3	3	1	1	0	0	0	-1	-2	-0.3	3.8																							
3-Jan	-3	-3	-3	-4	-5	-6	-7	-9	-11	-12	-14	-16	-17	-18	-19	-19	-19	-19	-19	-18	-18	-18	-19	-20	-13.3	-2.8																							
4-Jan	-20	-20	-21	-22	-24	-25	-27	-28	-31	-31	-30	-25	-23	-21	-20	-20	-21	-22	-23	-23	-23	-24	-25	-27	-24.0	-20.2																							
5-Jan	-30	-32	-34	-35	-36	-36	-36	-36	-36	-35	-31	-28	-26	-24	-23	-21	-21	-20	-19	-18	-16	-14	-14	-14	-26.4	-13.8																							
6-Jan	-14	-13	-13	-13	-13	-13	-12	-11	-9	-9	-9	-7	-4	-3	-3	-3	-2	-2	-2	-1	-1	-1	-2	-6	-6.9	-1.0																							
7-Jan	-8	-9	-11	-13	-13	-14	-14	-14	-14	-15	-14	-14	-13	-12	-12	-11	-11	-11	-11	-10	-10	-10	-10	-10	-11.8	-7.9																							
8-Jan	-10	-10	-10	-10	-9	-9	-9	-9	-9	-8	-8	-6	-5	-5	-4	-4	-4	-6	-7	-8	-10	-10	-10	-11	-8.0	-4.0																							
9-Jan	-11	-12	-13	-12	-11	-10	-8	-6	-4	-4	-4	-2	0	0	2	3	2	0	0	-1	-2	-5	-7	-8	-4.7	2.5																							
10-Jan	-8	-8	-7	-7	-6	-6	-6	-6	-4	-3	-2	-1	0	0	0	0	0	-1	-1	-3	-4	-6	-6	-7	-3.8	0.1																							
11-Jan	-8	-8	-8	-8	-8	-6	-4	-4	-3	-3	-3	-2	-2	-1	-1	-2	-4	-5	-5	-5	-8	-10	-12	-13	-5.6	-1.4																							
12-Jan	-15	-15	-16	-16	-16	-16	-17	-18	-18	-17	-16	-13	-12	-10	-9	-8	-7	-7	-5	-3	-3	-2	-3	-3	-11.0	-2.4																							
13-Jan	-4	-3	-1	2	2	0	-3	-3	-3	-3	-2	-1	1	3	3	3	2	1	1	1	1	1	2	1	0.1	3.0																							
14-Jan	1	1	1	0	1	1	0	0	1	1	2	3	5	6	6	6	6	7	6	6	6	6	10	3.7	10.1																								
15-Jan	11	P	P	P	P	P	P	P	P	5	5	5	5	6	6	5	5	4	4	3	3	3	2	--	11.2																								
16-Jan	2	1	0	0	0	-1	-1	-1	-1	-2	-1	1	3	5	6	8	7	5	4	2	5	7	8	8	2.7	7.9																							
17-Jan	8	9	9	8	7	8	8	7	7	7	7	8	8	8	8	8	8	7	6	3	1	0	0	0	6.2	9.2																							
18-Jan	-1	-1	-1	-2	-3	-4	-3	-3	-3	-3	-2	1	3	5	6	5	5	9	9	9	8	7	7	6	2.1	9.0																							
19-Jan	6	6	6	5	5	4	4	4	4	3	4	4	4	4	5	5	4	4	3	3	1	1	0	-1	3.7	6.1																							
20-Jan	-2	-3	-4	-4	-5	-6	-7	-8	-7	-7	-6	-4	-2	0	1	1	1	0	0	1	0	0	0	0	-2.5	1.2																							
21-Jan	0	0	1	0	-1	-2	-2	-2	-3	-4	-3	1	0	0	0	0	0	-2	-3	-4	-6	-6	-6	-5	-1.9	0.5																							
22-Jan	-5	-4	-5	-5	-4	-3	-3	-3	-4	-4	-3	-2	-1	1	2	3	3	1	0	-1	-2	-2	-3	-4	-2.1	3.0																							
23-Jan	-5	-6	-7	-7	-7	-7	-8	-7	2	5	6	7	7	8	9	9	10	9	8	7	6	6	8	9	2.5	9.6																							
24-Jan	8	8	9	8	8	9	8	8	8	8	9	9	10	10	10	10	10	8	5	3	2	1	2	2	7.4	10.5																							
25-Jan	7	9	9	10	9	9	8	8	8	8	8	9	9	9	9	9	8	8	7	6	6	5	4	3	7.7	9.6																							
26-Jan	2	-1	-3	-5	-7	-8	-9	-11	-11	-12	-11	-10	-10	-9	-9	-8	-8	-9	-11	-13	-14	-16	-17	-18	-9.6	1.7																							
27-Jan	-19	-19	-20	-21	-21	-22	-22	-23	-23	-21	-19	-16	-15	-14	-11	-9	-8	-9	-11	-10	-8	-9	-9	-10	-15.5	-8.1																							
28-Jan	-12	-13	-13	-13	-13	-14	-15	-15	-14	-14	-11	-8	-6	-1	2	2	1	0	-2	-3	-5	-3	-5	-7	-7.5	2.1																							
29-Jan	-8	-8	-8	-8	-9	-10	-11	-11	-12	-12	-12	-12	-12	-13	-13	-14	-15	-17	-17	-17	-18	-19	-20	-20	-12.8	-7.6																							
30-Jan	-20	-20	-21	-21	-20	-20	-20	-20	-19	-19	-19	-17	-16	-15	-13	-13	-13	-13	-14	-16	-17	-18	-17	-11	-17.2	-11.1																							
31-Jan	-11	-11	-11	-10	-9	-9	-9	-9	-9	-9	-9	-9	-10	-9	-9	-7	-7	-7	-8	-8	-10	-10	-10	-10	-9.1	-7.3																							
																								-6.1	-6.9	-7.2	-7.4	-7.6	-7.9	-8.2	-8.2	-7.9	-7.3	-6.5	-5.3	-4.3	-3.3	-2.6	-2.3	-2.5	-3.0	-3.6	-4.1	-4.5	-4.8	-5.2	-5.5	Diurnal Average	
																								11.2	9.3	9.4	9.6	9.4	9.0	8.5	8.3	8.2	8.3	9.0	9.2	9.7	10.5	10.5	10.4	10.4	9.4	9.0	8.5	7.6	7.3	8.2	10.1	Diurnal Maximum	
P - Power Failure																																																	



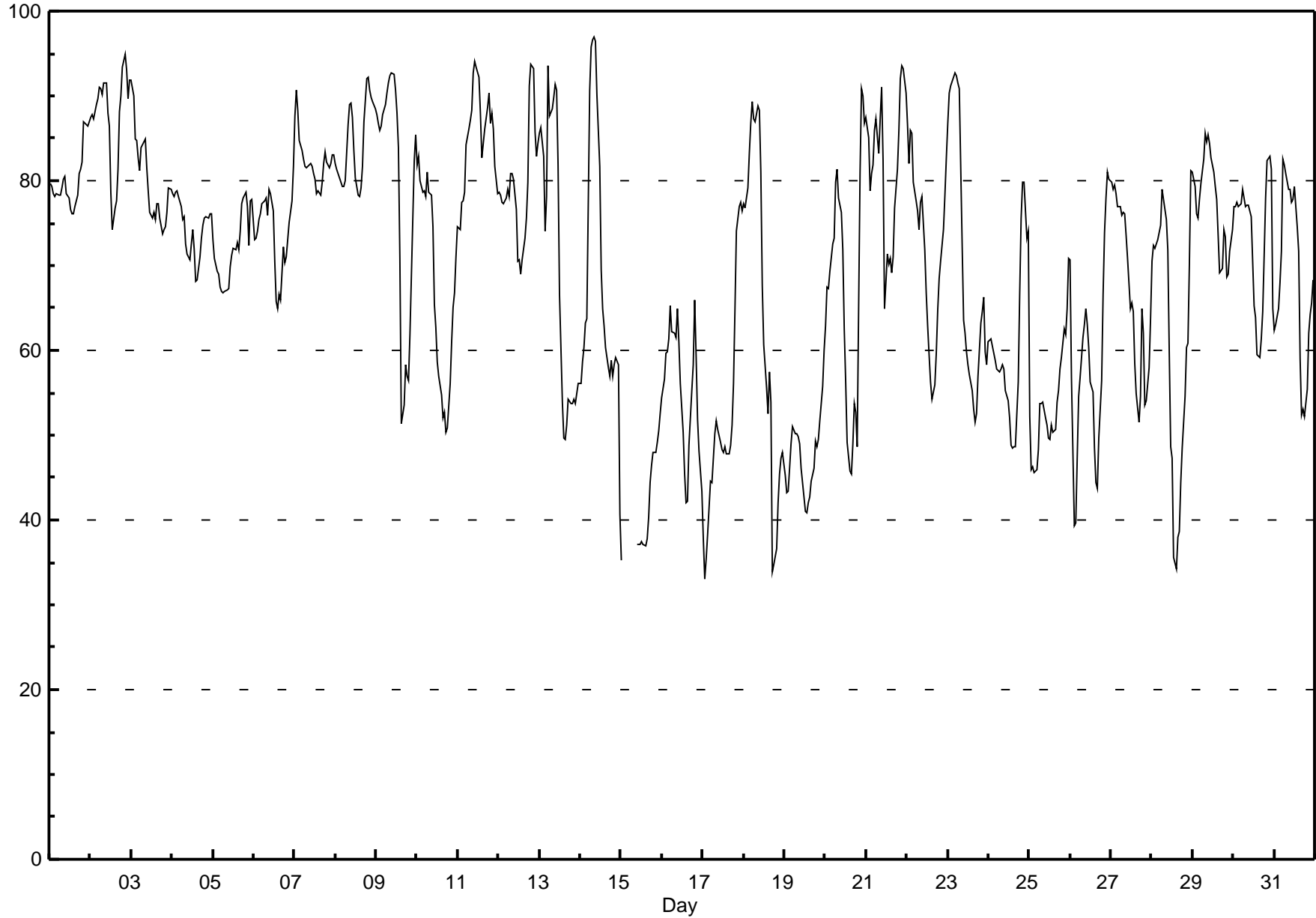
# Hourly Averages

Relative Humidity (RH) - %  
Valleyview - January 2014

Number of Exceedences (AAQO): 1-hr: 0 24-hr: 0 Maximum Value: 97.0 % on Jan 14 09:00 Maximum Daily Average: 87.5 % on Jan 2																			Hours in Service: 744 Hours of Data: 736																														
Minimum Value: 33 % on Jan 17 02:00 Minimum Daily Average: 47.4 % on Jan 19 Maximum Diurnal Average: 77.2 % at hour 8 Minimum Diurnal Average: 59.5 % at hour 16 Monthly Average: 69.92 % Percentiles: P <sub>1</sub> = 36.7 P <sub>10</sub> = 48.7 Q <sub>1</sub> = 57.8 Median = 73.8 Q <sub>3</sub> = 81.0 P <sub>90</sub> = 87.9 P <sub>99</sub> = 93.6																			Hours of Missing Data: 8 Hours of Calibration: 0 Percent Operational Time: 98.9																														
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Jan	80	79	78	78	79	78	78	79	80	81	79	78	77	76	76	77	78	81	81	82	87	87	86	87	80.1	86.9																							
2-Jan	87	88	87	89	90	91	91	90	92	91	88	86	79	74	77	78	81	88	90	93	95	93	90	92	87.5	95.0																							
3-Jan	92	90	85	85	83	81	84	85	85	82	79	76	76	76	75	77	77	76	74	74	75	76	79	79	80.0	91.9																							
4-Jan	78	78	79	79	78	77	75	76	73	71	71	73	74	72	68	68	71	73	75	76	76	76	76	76	74.5	78.8																							
5-Jan	73	71	69	69	68	67	67	67	67	67	70	71	72	72	73	72	74	77	78	79	77	72	78	78	71.9	78.7																							
6-Jan	73	73	74	75	76	77	78	78	76	79	78	76	71	66	65	67	66	72	70	71	73	75	78	82	73.7	81.7																							
7-Jan	88	91	88	85	84	83	82	82	82	82	82	81	80	78	79	78	80	82	83	82	81	82	83	83	82.5	90.6																							
8-Jan	82	81	80	80	79	79	80	87	89	89	87	83	80	78	78	79	82	87	92	92	91	90	89	88	84.4	92.1																							
9-Jan	88	87	86	86	88	89	90	92	92	93	93	91	88	84	71	51	54	58	57	56	62	76	82	85	79.1	92.7																							
10-Jan	82	83	80	79	79	78	81	79	78	75	65	63	59	57	55	52	53	50	51	56	61	65	67	71	67.4	82.8																							
11-Jan	75	74	77	78	79	84	86	87	88	93	94	93	92	88	83	84	86	89	90	87	88	86	82	78	85.1	94.1																							
12-Jan	79	78	77	77	78	79	78	81	81	80	77	70	71	69	71	73	76	80	91	94	93	86	83	84	79.4	93.8																							
13-Jan	86	86	83	74	78	94	88	89	90	91	91	82	67	54	50	49	51	54	54	54	54	54	55	56	70.1	93.6																							
14-Jan	56	59	60	63	64	91	96	97	97	97	90	82	69	65	63	60	58	57	59	57	58	59	58	41	69.0	97.0																							
15-Jan	35	P	P	P	P	P	P	P	P	37	37	37	37	37	37	38	40	44	47	48	48	49	50	53	--	52.5																							
16-Jan	54	57	60	60	61	65	62	62	62	65	61	56	50	45	42	42	49	55	58	66	59	52	48	43	55.7	65.9																							
17-Jan	38	33	35	38	45	44	47	50	52	51	49	48	48	49	48	48	49	51	56	65	74	77	77	77	52.0	77.5																							
18-Jan	77	77	79	83	87	89	87	87	89	88	81	68	61	56	53	57	54	34	35	37	42	45	47	48	65.0	89.3																							
19-Jan	45	43	43	46	49	51	50	50	50	49	46	43	41	41	42	43	45	46	49	49	52	56	60	60	47.4	59.9																							
20-Jan	63	67	67	69	73	73	80	81	78	76	72	63	56	49	46	45	49	54	53	49	81	91	90	87	67.2	90.9																							
21-Jan	87	85	79	81	82	86	87	83	87	91	82	65	71	70	71	69	71	77	81	86	92	94	93	90	81.7	93.5																							
22-Jan	87	82	86	86	80	78	76	74	77	78	72	67	63	59	56	54	56	60	65	69	71	74	78	83	72.1	86.7																							
23-Jan	87	90	91	92	93	92	92	91	72	64	62	60	58	57	55	53	52	52	57	63	65	66	60	58	70.1	92.8																							
24-Jan	61	61	61	60	59	58	57	58	58	58	55	54	52	49	48	49	49	56	67	76	80	80	73	74	60.5	79.8																							
25-Jan	52	46	46	46	46	48	54	54	54	52	51	50	49	51	50	51	54	55	58	59	63	62	65	71	53.6	70.9																							
26-Jan	71	57	39	40	47	55	57	61	63	65	63	60	56	55	49	44	44	50	56	67	74	78	81	80	58.8	81.1																							
27-Jan	80	79	79	79	77	77	76	76	76	73	71	65	66	64	59	55	51	55	65	62	54	54	58	64	67.2	79.8																							
28-Jan	71	72	72	73	74	75	79	78	75	72	60	49	47	36	34	38	39	44	48	55	60	61	70	81	61.0	81.2																							
29-Jan	81	79	76	76	78	80	83	86	85	85	84	83	81	79	78	74	69	70	74	73	69	69	72	74	77.4	85.6																							
30-Jan	77	77	77	77	77	79	78	77	77	77	76	71	65	64	59	59	61	65	71	78	82	83	81	65	73.1	82.8																							
31-Jan	62	63	65	68	72	83	82	81	79	79	77	78	79	75	72	59	52	53	52	55	62	64	66	68	68.6	82.5																							
																								72.5	72.9	72.1	72.3	73.3	76.0	76.7	77.2	76.8	75.2	72.4	68.4	65.7	62.8	60.7	59.5	60.3	62.8	65.7	68.0	70.8	71.8	72.7	72.8	Diurnal Average	
																								91.9	90.6	91.2	92.2	92.8	93.6	95.8	96.6	97.0	96.5	94.1	93.4	92.1	88.0	82.8	84.5	86.1	88.7	92.0	93.8	95.0	93.5	93.1	91.9	Diurnal Maximum	
P - Power Failure																																																	

**Hourly Averages**

**Relative Humidity (RH) - %**  
**Valleyview - January 2014**



## Hourly Averages

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

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1 Spd	3	4	3	1	2	1	2	3	2	1	1	2	1	1	0	1	1	1	0	1	3	7	7	6	0.3	7.5	
Dir	23	351	14	36	36	65	5	15	14	325	8	344	338	300	12	53	46	328	295	158	199	169	175	175	61	169	
2 Spd	3	5	5	5	1	2	2	1	1	2	1	1	3	4	5	4	0	1	1	1	1	3	6	8	1.1	8.0	
Dir	182	182	183	183	246	181	162	328	202	199	217	212	270	264	278	280	207	175	142	135	255	344	0	336	246	336	
3 Spd	7	3	4	3	7	10	13	13	10	12	13	11	12	15	15	11	13	7	1	0	0	0	0	0	7.8	15.0	
Dir	349	343	1	345	347	347	351	5	11	13	16	13	356	358	4	355	353	351	354	340	206	294	186	166	359	358	
4 Spd	1	1	3	2	1	1	1	1	1	1	1	1	3	6	9	8	7	7	5	2	2	2	1	0	1.9	8.7	
Dir	164	272	313	50	174	178	202	189	152	179	184	157	32	326	310	299	306	304	322	298	314	308	198	145	308	310	
5 Spd	1	0	0	0	0	0	0	0	0	0	1	1	2	1	2	1	1	1	1	1	2	8	5	7	0.8	7.6	
Dir	171	170	100	214	112	151	28	167	167	166	270	241	255	325	326	141	352	30	353	11	172	173	172	173	182	173	
6 Spd	6	7	5	6	6	8	6	6	0	5	1	2	0	4	0	0	1	1	1	2	1	1	4	11	1.1	11.2	
Dir	175	175	177	177	178	175	174	175	65	1	328	176	107	30	62	217	248	233	327	323	294	308	32	14	167	14	
7 Spd	10	11	10	9	7	6	4	6	6	5	4	3	3	2	3	1	1	0	4	6	9	10	7	7	2.1	10.9	
Dir	9	5	1	5	11	10	354	359	5	12	357	11	11	1	343	8	302	161	168	165	171	174	174	172	15	5	
8 Spd	8	8	8	7	6	5	5	4	2	3	1	2	0	1	0	1	0	0	0	0	0	0	0	0	2.3	8.3	
Dir	168	168	171	175	177	183	175	175	188	190	193	185	237	315	263	331	2	243	281	309	219	156	203	310	178	168	
9 Spd	0	0	0	0	0	0	1	2	1	3	2	2	2	1	2	7	3	2	3	2	1	1	0	1	1.3	6.9	
Dir	153	108	349	240	70	329	139	185	205	174	195	190	183	169	202	249	231	171	180	194	153	178	206	183	198	249	
10 Spd	1	2	3	1	1	0	1	1	2	5	10	9	10	11	6	4	3	8	5	2	3	2	2	1	3.4	10.7	
Dir	189	178	203	336	190	200	189	200	211	240	271	278	282	275	258	246	235	262	267	228	208	212	208	315	255	275	
11 Spd	1	1	0	1	2	2	5	4	2	1	1	2	2	3	7	7	5	8	4	7	9	10	10	10	2.4	10.5	
Dir	87	354	284	334	352	68	127	137	131	63	286	203	176	238	281	331	346	312	308	319	11	15	18	13	352	13	
12 Spd	10	6	3	1	0	2	0	1	1	0	2	4	6	4	4	2	1	2	5	5	3	5	3	2	1.5	9.7	
Dir	9	23	40	353	201	257	258	149	138	141	169	170	172	174	170	171	180	187	174	172	186	179	192	196	168	9	
13 Spd	1	2	6	14	11	4	3	1	1	1	1	5	16	20	21	21	20	18	19	19	17	17	15	10	10.4	20.9	
Dir	209	210	260	277	294	337	328	146	146	153	169	275	279	284	284	282	280	278	278	280	277	277	277	271	279	282	
14 Spd	8	5	1	2	8	4	3	4	4	3	3	4	4	5	4	5	6	8	8	8	6	5	3	26	4.4	25.7	
Dir	266	251	222	157	257	229	172	173	173	177	177	186	192	189	182	175	168	174	172	174	170	175	177	259	204	259	
15 Spd	45	P	P	P	P	P	P	P	P	P	27	25	24	25	26	23	19	15	10	12	11	9	9	6	--	44.7	
Dir	265	P	P	P	P	P	P	P	P	P	289	291	294	293	296	298	296	292	291	278	277	281	268	266	274	--	265
16 Spd	3	2	2	3	2	2	2	2	2	3	2	3	2	1	1	1	2	2	2	3	5	5	3	3	2.2	5.4	
Dir	237	190	197	197	191	168	170	162	167	182	159	198	193	189	162	130	156	192	186	175	222	175	175	237	187	222	
17 Spd	2	7	4	5	11	15	17	16	15	14	15	15	16	13	11	8	12	8	4	2	2	3	4	3	8.4	16.8	
Dir	221	292	311	331	302	284	287	284	281	283	287	288	287	294	294	290	280	270	251	207	198	192	181	185	283	287	
18 Spd	3	2	2	2	1	2	4	2	3	2	2	1	2	2	2	2	4	19	17	16	15	16	18	20	5.8	19.7	
Dir	201	189	201	210	191	194	199	197	196	199	195	192	225	207	229	235	302	291	274	258	251	256	262	261	254	261	
19 Spd	18	19	18	19	18	17	16	22	21	19	20	19	18	16	16	12	9	9	6	4	6	9	3	1	13.5	21.6	
Dir	262	262	272	265	263	260	274	280	280	280	284	288	289	300	306	307	312	298	305	277	281	289	280	192	281	280	
20 Spd	1	2	2	2	1	2	3	1	2	1	2	1	1	3	2	1	0	1	3	3	8	1	2	2	0.9	8.1	
Dir	188	177	184	183	195	195	331	168	199	208	190	187	189	185	195	185	4	210	237	317	332	290	201	228	227	332	
21 Spd	1	1	3	1	0	1	2	0	1	1	1	0	0	0	1	2	1	1	2	2	2	1	3	0	0.4	3.2	
Dir	205	253	277	321	300	160	138	35	145	154	153	223	253	305	15	54	56	14	349	321	343	332	339	2	331	277	
22 Spd	0	1	0	1	1	1	2	4	0	2	5	5	7	6	4	2	2	3	1	2	2	2	1	1	2.1	7.4	
Dir	236	287	253	327	281	169	184	179	126	175	178	169	166	165	163	165	178	182	185	211	199	202	206	211	178	166	

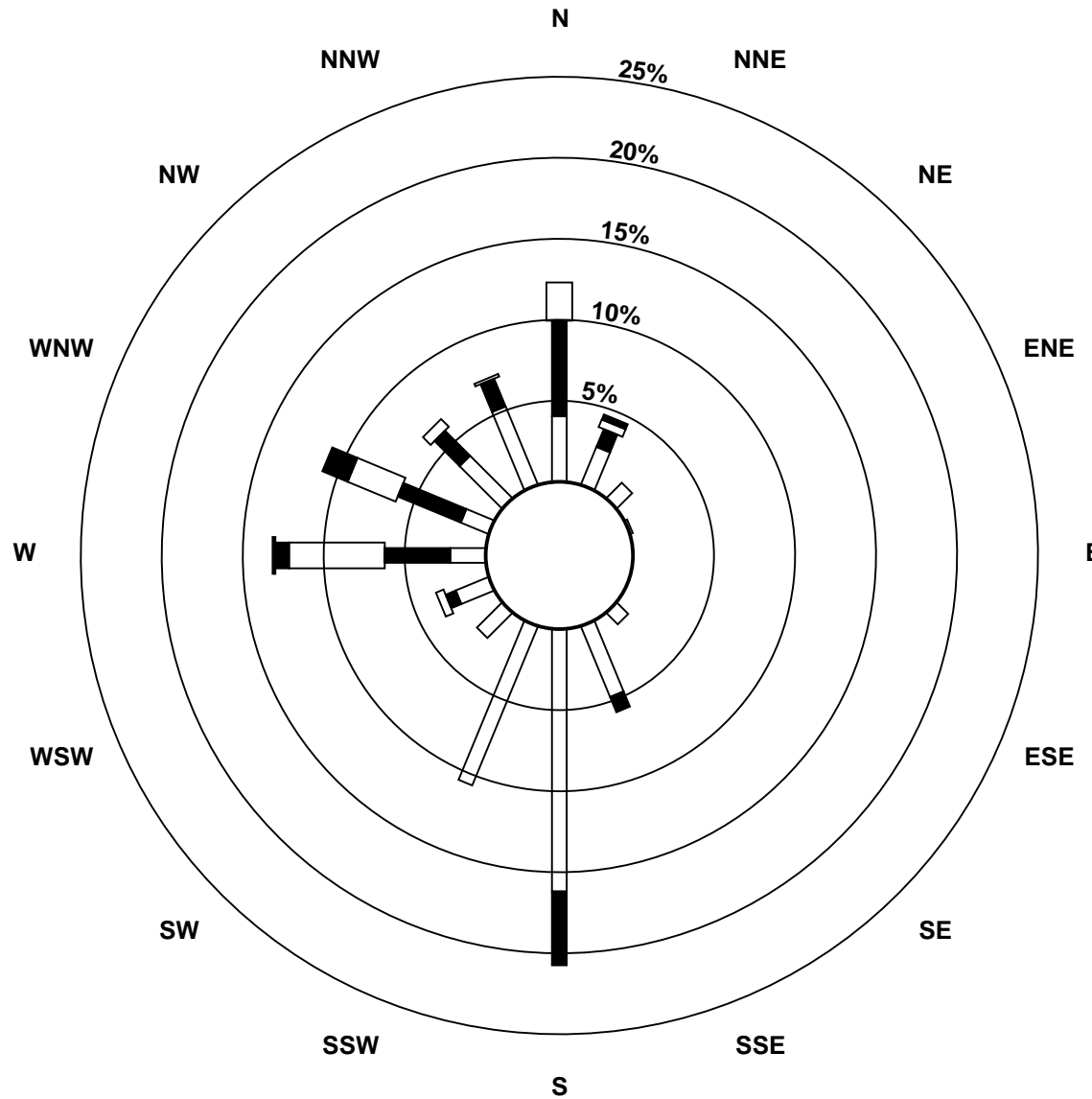
## Hourly Averages

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

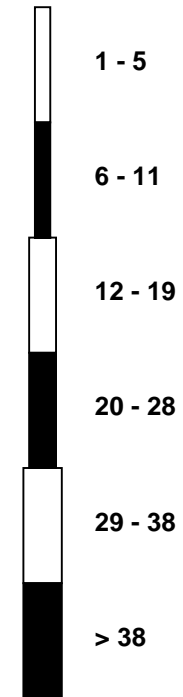
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
23 Spd	0	1	1	1	1	1	1	2	11	16	19	18	17	14	9	6	9	9	0	2	2	3	6	14	6.2	19.2
Dir	219	213	203	194	248	215	180	181	272	280	281	279	276	278	281	286	279	273	229	150	176	200	259	274	272	281
24 Spd	13	15	15	16	15	12	13	11	8	8	8	5	3	4	5	4	3	0	1	2	3	3	3	3	5.8	15.7
Dir	272	274	276	277	279	277	279	281	278	276	279	292	322	326	335	11	3	151	190	155	149	160	154	158	279	277
25 Spd	5	14	15	16	8	7	9	13	12	11	9	8	8	6	5	3	3	4	6	6	11	12	16	7.8	16.2	
Dir	266	278	283	281	279	287	294	289	290	288	298	301	307	304	301	300	306	284	296	296	315	360	5	8	302	281
26 Spd	18	21	20	16	14	12	8	7	5	4	5	4	3	4	2	2	2	1	1	0	0	0	0	0	5.8	20.6
Dir	2	19	19	22	10	7	10	333	332	304	334	340	351	3	33	20	39	84	318	289	325	271	179	184	6	19
27 Spd	0	0	0	0	0	0	0	0	0	0	1	1	2	4	2	3	1	1	0	4	6	6	2	0	0.6	6.5
Dir	167	142	339	159	175	162	199	159	159	184	211	168	338	340	326	338	350	305	185	182	181	171	176	327	195	181
28 Spd	1	2	1	1	3	0	1	2	3	3	3	2	2	1	3	4	3	0	0	0	4	6	4	0	0.6	6.2
Dir	200	197	197	212	196	123	203	184	194	188	183	156	346	189	301	295	317	332	157	1	304	342	0	360	278	0
29 Spd	5	6	4	4	4	7	6	9	8	8	11	10	11	13	12	13	10	4	2	4	10	7	6	6	7.4	13.2
Dir	10	4	22	31	20	10	8	9	6	2	8	5	357	352	352	2	5	344	342	339	357	341	337	358	1	352
30 Spd	6	5	4	3	4	8	2	3	4	8	7	3	5	6	4	4	4	2	1	2	2	2	2	10	1.8	9.9
Dir	6	5	348	324	309	339	275	249	268	265	265	227	175	176	176	164	165	170	178	198	205	202	238	285	261	285
31 Spd	8	7	10	8	10	12	13	8	12	6	6	9	6	9	7	4	7	5	5	4	1	1	2	2	5.7	13.3
Dir	293	301	297	301	309	322	320	319	331	347	5	2	10	0	344	278	314	296	311	250	210	193	165	171	321	320
Spd	3.1	2.2	2.3	2.5	2.8	2.4	2.2	2.3	2.5	3.6	3.7	3.4	3.9	4.2	4.2	3.5	3.1	3.3	2.5	2.3	2.1	1.9	1.6	2.7	Diurnal Average	
Dir	284	296	296	290	293	298	292	288	291	287	290	290	292	300	301	300	302	285	275	257	260	248	269	280	Diurnal Maximum	
Spd	44.7	20.6	20.2	18.5	17.9	16.8	16.8	21.6	20.8	27.3	25.4	24.5	25.1	25.7	23.2	20.9	20.5	19.2	18.6	19.4	16.8	16.8	17.6	25.7	Diurnal Maximum	
Dir	265	19	19	265	263	260	287	280	280	289	291	294	293	296	298	282	280	291	278	280	277	277	262	259	Diurnal Maximum	
Maximum Speed Value: 45 km/h on Jan 15 01:00		Minimum Speed Value: 0 km/h on Jan 21 08:00																Hours in Service: 744								
Maximum Daily Speed Average: 13.5 km/h on Jan 19		Minimum Daily Speed Average: 0.3 km/h on Jan 21																Hours of Data: 736								
Maximum Diurnal Speed Average: 4.2 km/h at hour 14		Minimum Diurnal Speed Average: 1.6 km/h at hour 23																Hours of Missing Data: 8								
Monthly Average Velocity: 2.78 km/h 288.1 deg		Speed Percentiles: P <sub>1</sub> = 0.1 P <sub>10</sub> = 0.5 Q <sub>1</sub> = 1.3 Median = 3.1 Q <sub>3</sub> = 7.1 P <sub>90</sub> = 13.3 P <sub>99</sub> = 23.9																Percent Operational Time: 98.9								
All monthly, daily, and diurnal averages have been calculated using vector methods																										
P - Power Failure																										
Frequency Distribution																										
		Speed Range (km/h)																								
Direction	0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total																			
North	60	46	20	2	0	0	128																			
NorthEast	22	1	0	0	0	0	23																			
East	8	0	0	0	0	0	8																			
SouthEast	36	1	0	0	0	0	37																			
South	182	42	0	0	0	0	224																			
SouthWest	62	2	0	0	0	0	64																			
West	38	37	51	16	0	1	143																			
NorthWest	60	36	8	5	0	0	109																			
Total	468	165	79	23	0	1	736																			

**Wind Rose**

**Wind Speed (WS) (km/h)**  
**Valleyview - January 2014**



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





# Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Valleyview - January 2014

Maximum Speed: 45 km/h on Jan 15 01:00	Maximum Daily Speed Average: 14.2 km/h on Jan 19	Hours in Service: 744
Minimum Speed: 0 km/h on Jan 5 08:00	Minimum Daily Speed Average: 1.4 km/h on Jan 21	Hours of Data: 736
Maximum Diurnal Speed Average: 6.8 km/h at hour 14	Minimum Diurnal Speed Average: 4.2 km/h at hour 19	Hours of Missing Data: 8
Monthly Average Speed: 5.42 km/h	Percentiles: P <sub>1</sub> = 0.2 P <sub>10</sub> = 0.8 Q <sub>1</sub> = 1.5 Median = 3.3 Q <sub>3</sub> = 7.6 P <sub>90</sub> = 13.5 P <sub>99</sub> = 24.1	Percent Operational Time: 98.9

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																								
1-Jan	3	4	3	1	2	1	2	3	2	1	2	2	2	1	1	1	1	1	1	1	4	8	7	6	2.5	7.6																						
2-Jan	4	5	5	5	2	2	3	3	1	2	1	1	3	4	5	4	1	2	1	1	1	3	6	8	3.0	8.1																						
3-Jan	7	3	4	3	7	10	13	13	11	12	14	11	12	15	15	11	11	13	7	1	0	1	0	1	8.1	15.1																						
4-Jan	1	1	3	3	1	1	1	1	1	1	1	1	3	7	9	8	7	7	5	2	2	3	1	1	2.9	8.7																						
5-Jan	2	0	0	0	0	0	0	0	0	0	1	1	2	1	2	1	2	1	1	1	3	8	5	7	1.6	7.7																						
6-Jan	6	7	5	7	6	8	6	6	2	5	2	2	2	4	1	1	1	1	1	2	1	1	4	11	3.9	11.4																						
7-Jan	10	11	10	9	7	6	4	6	6	5	4	4	3	2	3	2	1	1	4	6	9	10	7	7	5.7	11.0																						
8-Jan	8	8	8	7	6	5	5	4	3	3	2	2	1	1	1	0	0	0	0	0	1	1	1	1	2.8	8.4																						
9-Jan	0	0	0	1	1	2	1	2	2	3	2	2	2	1	2	7	3	2	3	2	1	1	1	1	1.8	6.9																						
10-Jan	1	2	3	2	2	1	1	1	2	5	10	9	10	11	7	4	3	8	5	2	3	2	2	1	4.1	10.9																						
11-Jan	1	2	1	1	3	4	6	4	2	1	1	2	2	3	7	7	5	8	4	8	9	10	10	11	4.7	10.6																						
12-Jan	10	6	3	1	0	2	1	1	1	0	2	5	6	4	4	3	1	3	5	5	3	5	3	2	3.3	9.9																						
13-Jan	1	2	6	15	11	7	3	1	1	1	1	5	16	21	21	21	21	18	19	20	17	17	15	10	11.2	21.0																						
14-Jan	8	5	2	2	8	4	3	4	4	3	3	5	4	5	4	5	6	9	8	8	7	5	3	27	5.9	26.5																						
15-Jan	45	P	P	P	P	P	P	P	P	28	26	25	25	26	23	19	15	10	13	12	12	9	9	6	--	45.0																						
16-Jan	4	2	2	3	2	2	2	2	3	2	3	3	2	2	1	1	3	2	2	3	6	5	3	3	2.6	5.6																						
17-Jan	3	8	4	6	11	15	17	16	15	14	15	15	16	13	11	8	12	8	4	2	2	3	4	3	9.4	16.9																						
18-Jan	3	2	2	2	1	2	5	3	3	2	2	1	3	2	2	4	5	19	17	16	15	17	18	20	6.9	19.8																						
19-Jan	18	19	18	19	18	17	16	22	21	20	21	19	18	17	16	12	9	9	7	5	6	9	4	2	14.2	21.7																						
20-Jan	2	2	2	2	1	2	3	2	2	1	2	1	1	3	2	1	1	1	3	4	8	1	2	2	2.1	8.2																						
21-Jan	1	1	3	2	2	1	2	1	1	1	1	0	1	0	1	2	1	1	2	2	2	2	3	1	1.4	3.4																						
22-Jan	0	1	0	1	1	2	2	4	1	2	6	5	8	6	4	3	2	3	1	2	2	2	1	1	2.4	7.5																						
23-Jan	0	1	1	1	1	1	1	2	12	16	19	18	17	14	9	7	9	9	2	2	2	3	8	14	7.1	19.3																						
24-Jan	13	15	15	16	15	12	13	11	8	8	8	6	4	4	5	4	3	1	1	2	3	3	3	3	7.3	15.8																						
25-Jan	6	14	15	16	9	7	10	13	12	11	9	9	8	6	6	5	3	3	4	6	6	11	12	16	9.1	16.3																						
26-Jan	18	21	20	16	14	12	9	7	5	4	5	4	3	4	3	3	2	1	1	1	0	0	0	0	6.4	21.0																						
27-Jan	0	0	0	0	0	0	0	0	0	0	1	2	2	4	2	3	1	1	0	4	7	6	2	0	1.5	6.5																						
28-Jan	1	2	1	2	3	1	1	2	3	3	3	2	3	1	4	4	4	1	0	0	1	5	7	5	2.4	6.7																						
29-Jan	6	6	4	4	4	7	6	9	8	9	11	11	11	13	12	13	10	4	2	4	10	7	6	7	7.7	13.3																						
30-Jan	6	5	5	3	5	9	3	3	5	8	7	4	5	6	4	4	4	2	1	2	2	2	3	10	4.6	10.3																						
31-Jan	8	7	10	8	10	12	13	9	12	6	6	10	6	9	7	4	7	5	6	4	1	1	2	2	6.9	13.4																						
																								6.3	5.4	5.3	5.3	5.2	5.1	5.1	5.2	5.0	5.8	6.1	6.0	6.6	6.8	6.2	5.6	4.9	5.0	4.2	4.2	4.7	5.2	4.9	6.1	Diurnal Average
																								45.0	21.0	20.4	18.7	18.0	17.0	16.9	21.7	21.0	27.5	25.6	24.7	25.3	26.0	23.5	21.0	20.6	19.4	18.7	19.6	16.9	16.9	17.7	26.5	Diurnal Maximum

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

# Hourly Standard Deviations

Wind Direction (WD) - deg

Valleyview - January 2014

Maximum Value: 96.6 deg on Jan 5 10:00		Hours in Service: 744																							
Minimum Value: 4.6 deg on Jan 17 22:00		Hours of Data: 736																							
Percentiles: P <sub>1</sub> = 5.6 P <sub>10</sub> = 7.4 Q <sub>1</sub> = 9.4 Median = 16.8 Q <sub>3</sub> = 36.5 P <sub>90</sub> = 64.7 P <sub>99</sub> = 91.1		Hours of Missing Data: 8																							
		Hours of Calibration: 0																							
		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-Jan	13	18	18	25	17	40	30	22	14	38	39	19	28	73	71	19	39	84	85	60	47	13	7	8	85.5
2-Jan	17	11	11	27	61	12	33	89	37	15	9	20	30	12	11	9	75	49	33	53	45	19	5	5	89.0
3-Jan	10	12	12	12	7	5	10	10	9	10	12	10	8	7	6	8	8	7	32	81	56	92	29	85	91.5
4-Jan	32	71	22	68	26	64	35	34	62	24	22	48	28	14	6	8	8	9	13	59	70	86	64	92	92.0
5-Jan	20	36	72	61	46	63	89	73	90	97	37	65	21	43	23	58	49	38	21	25	71	8	11	8	96.6
6-Jan	15	12	9	11	22	9	26	17	81	37	76	16	87	18	70	68	67	74	54	50	48	74	59	9	86.9
7-Jan	10	8	8	10	11	11	27	13	13	15	22	19	23	24	20	51	34	87	19	12	8	7	8	8	87.4
8-Jan	9	8	8	8	15	16	9	10	11	6	46	47	87	38	54	29	96	77	65	81	89	88	83	76	96.0
9-Jan	75	85	81	62	87	95	64	26	51	18	43	18	17	33	19	6	28	9	20	10	22	39	43	36	95.1
10-Jan	50	13	12	76	53	56	58	12	13	11	11	12	10	11	11	15	14	13	24	26	8	8	15	60	75.7
11-Jan	68	62	64	73	42	65	11	19	29	37	68	29	14	34	17	22	21	15	10	27	11	13	11	9	72.9
12-Jan	10	14	18	88	43	19	84	28	18	25	16	9	8	9	10	30	62	32	7	10	29	9	11	21	88.1
13-Jan	21	10	33	14	23	58	42	49	28	42	39	50	7	7	7	7	7	7	7	6	7	7	7	8	57.5
14-Jan	7	29	29	22	34	35	7	7	6	7	8	8	8	5	7	8	11	5	9	6	11	7	15	41	41.5
15-Jan	7	P	P	P	P	P	P	P	P	7	8	8	7	8	9	8	8	9	7	7	7	13	9	12	12.8
16-Jan	42	13	13	10	5	9	15	32	17	14	17	13	15	32	33	42	30	20	30	13	13	8	36	21	42.0
17-Jan	21	25	62	28	24	7	7	8	6	7	7	7	7	8	7	9	6	10	31	12	7	5	8	9	61.8
18-Jan	26	12	15	11	20	17	24	11	6	8	11	29	38	30	34	52	76	9	13	9	7	12	8	6	75.6
19-Jan	6	7	8	7	7	8	7	7	8	7	8	8	9	10	9	8	9	10	11	15	11	7	38	45	45.4
20-Jan	18	18	16	14	16	33	38	61	29	33	10	16	23	12	27	29	68	42	31	56	8	45	14	20	67.8
21-Jan	22	62	12	75	84	27	32	94	34	20	16	47	55	45	30	10	33	22	40	27	18	66	33	71	93.5
22-Jan	59	52	82	58	71	50	28	9	54	22	8	11	8	8	9	14	27	11	37	40	11	17	15	25	81.7
23-Jan	29	24	17	24	47	53	55	24	40	7	6	6	7	7	8	12	8	9	82	32	36	37	50	10	81.7
24-Jan	11	8	8	6	7	8	8	9	10	9	16	18	27	12	15	25	16	87	24	9	15	24	15	20	86.8
25-Jan	64	7	10	8	24	14	10	7	8	7	8	8	8	8	8	8	12	11	7	16	12	13	9	8	63.9
26-Jan	8	12	9	10	8	7	16	10	16	17	13	12	11	17	27	33	37	60	31	79	69	78	40	18	79.0
27-Jan	53	71	38	78	47	32	33	32	51	59	35	31	41	10	12	12	26	73	79	13	6	7	17	96	96.5
28-Jan	13	17	28	40	33	78	63	17	17	18	26	34	51	56	38	13	13	76	48	77	86	21	26	21	85.8
29-Jan	12	11	16	20	11	10	11	8	9	6	8	9	8	7	9	15	10	15	21	23	6	13	11	17	22.6
30-Jan	12	15	25	25	30	8	52	39	42	16	15	31	11	10	12	15	9	10	13	22	18	11	32	23	51.7
31-Jan	13	17	11	11	7	8	7	9	6	9	25	13	13	12	11	36	14	11	14	36	38	56	21	17	55.6
	75.3	85.4	81.7	88.1	86.7	95.1	89.3	93.5	89.7	96.6	75.7	65.2	86.9	72.5	71.1	67.8	96.0	87.4	85.5	81.5	88.6	91.5	82.8	96.5	
P - Power Failure																									

PAZA

Portable – Reno Station

Monthly Summary Tables, Graphs and  
Roses

## Hourly Averages

## Sulphur Dioxide (SO<sub>2</sub>) - ppb Portable Reno - January 2014

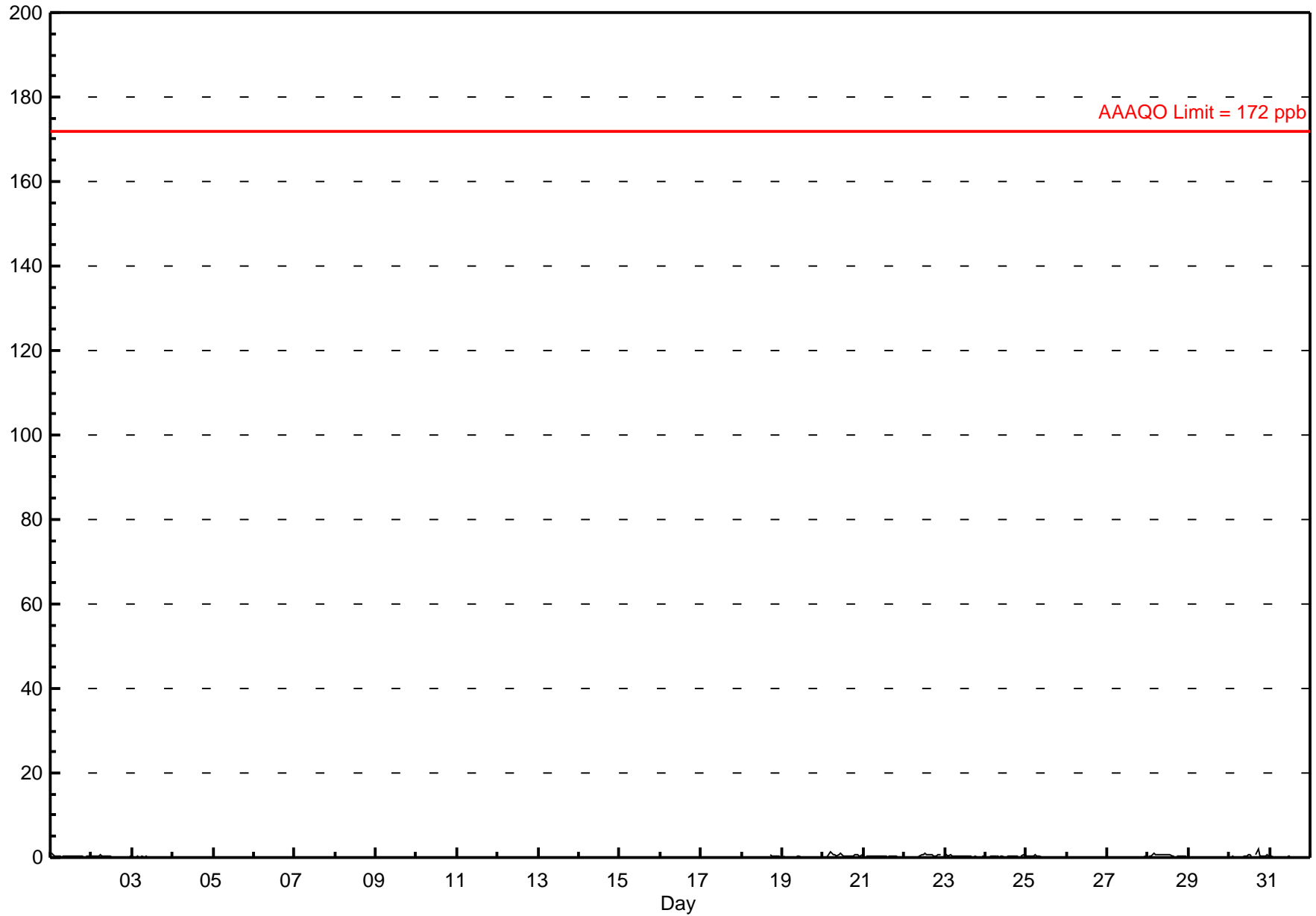
Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0	Hours in Service: 744
Maximum Value: 2.0 ppb on Jan 30 18:00	Maximum Daily Average: 0.5 ppb on Jan 20
Minimum Value: 0 ppb on Jan 2 15:00	Hours of Data: 388
Maximum Diurnal Average: 0.3 ppb at hour 18	Hours of Missing Data: 356
Monthly Average: 0.22 ppb	Hours of Calibration: 20
Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.0 Q <sub>1</sub> = 0.0 Median = 0.2 Q <sub>3</sub> = 0.3 P <sub>90</sub> = 0.5 P <sub>99</sub> = 0.7	Percent Operational Time: 54.8

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

C - Calibration      P - Power Failure      N - Not Valid      A - Automated Daily Zero Span  
 Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb    24-hr 48 ppb    30-day 11 ppb

### Hourly Averages

Sulphur Dioxide (SO<sub>2</sub>) - ppb  
Portable Reno - January 2014



## Hourly Maximums

## Sulphur Dioxide (SO<sub>2</sub>) - ppb Portable Reno - January 2014

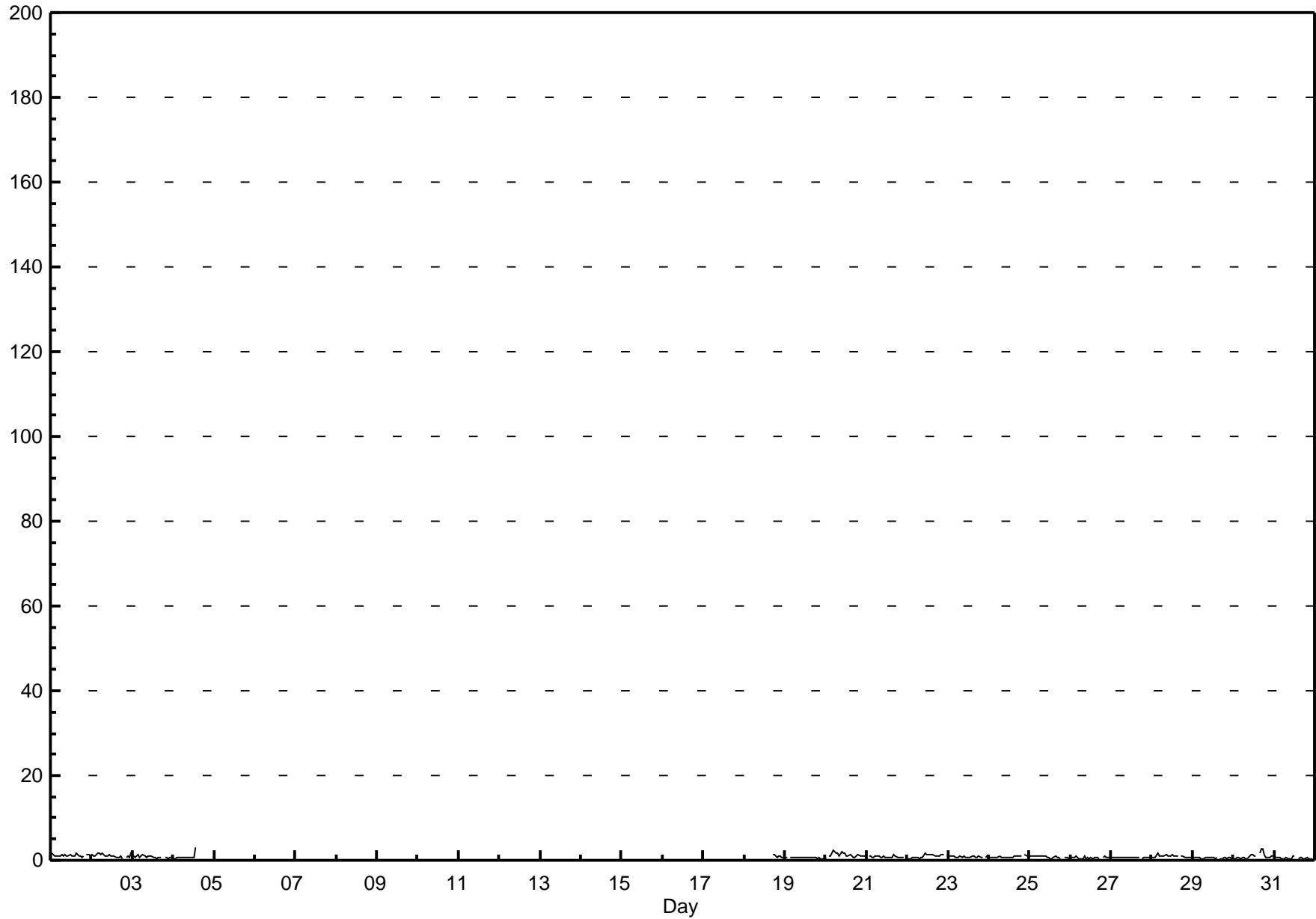
Maximum Value: 3.1 ppb on Jan 4 14:00	Maximum Daily Average: 1.2 ppb on Jan 20	Hours in Service: 744
Minimum Value: 0 ppb on Feb 1 00:00	Minimum Daily Average: 0.6 ppb on Jan 31	Hours of Data: 388
Maximum Diurnal Average: 1.0 ppb at hour 14	Minimum Diurnal Average: 0.7 ppb at hour 23	Hours of Missing Data: 356
Monthly Average: 0.84 ppb	Percentiles: P <sub>1</sub> = 0.3 P <sub>10</sub> = 0.5 Q <sub>1</sub> = 0.6 Median = 0.8 Q <sub>3</sub> = 1.0 P <sub>90</sub> = 1.3 P <sub>99</sub> = 2.4	Hours of Calibration: 20
		Percent Operational Time: 54.8

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	A	1	1	1	1.2	1.8
2-Jan	1	1	1	2	2	1	2	1	1	1	1	1	1	1	1	1	1	1	0	A	1	1	1	2	1.1	1.6
3-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	A	1	1	0	1	1	0.8	1.5
4-Jan	0	0	1	1	1	1	1	1	1	1	1	1	1	3	N	N	N	N	N	N	N	N	N	N	--	3.1
5-Jan	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-Jan	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-Jan	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-Jan	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
9-Jan	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-Jan	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-Jan	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-Jan	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-Jan	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-Jan	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-Jan	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	P	P	P	P	P	P	P	P	P	--	--
16-Jan	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	--	--
17-Jan	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	--	--
18-Jan	N	N	N	N	N	N	N	N	N	N	N	N	N	N	C	C	C	1	1	1	1	1	1	1	--	1.3
19-Jan	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	0	0	0.7	0.8
20-Jan	1	A	1	1	2	2	2	2	1	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1.2	2.5
21-Jan	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	0.8	1.3
22-Jan	0	0	0	1	1	1	1	0	1	1	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1.0	1.6
23-Jan	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
24-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	0.8	1.3
25-Jan	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	0	A	1	1	1	0	0.7	1.1
26-Jan	1	1	1	1	1	0	0	0	1	0	1	0	1	0	1	1	1	1	A	1	1	1	1	1	0.6	1.0
27-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	0	1	1	1	1	1	0.6	0.7
28-Jan	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1.0	1.6
29-Jan	1	1	1	1	1	0	0	1	1	1	1	1	1	0	1	A	0	0	1	1	1	1	1	0	0.6	0.8
30-Jan	0	0	1	1	0	1	1	0	0	1	1	1	1	1	A	2	3	3	1	1	1	1	1	1	1.0	2.8
31-Jan	1	1	1	1	1	0	0	1	0	0	0	1	1	A	0	1	1	0	0	1	0	0	0	0	0.6	1.2
	0.8	0.8	0.8	0.9	0.9	0.8	0.8	0.9	0.8	0.8	0.9	0.9	0.9	1.0	0.8	0.9	0.9	0.9	0.8	0.8	0.8	0.8	0.7	0.7	Diurnal Average	
	1.6	1.5	1.1	1.6	2.5	2.0	1.6	1.5	1.3	2.2	1.6	1.7	1.5	3.1	1.4	1.8	2.7	2.8	1.4	1.4	1.3	1.4	1.4	1.5	Diurnal Maximum	

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

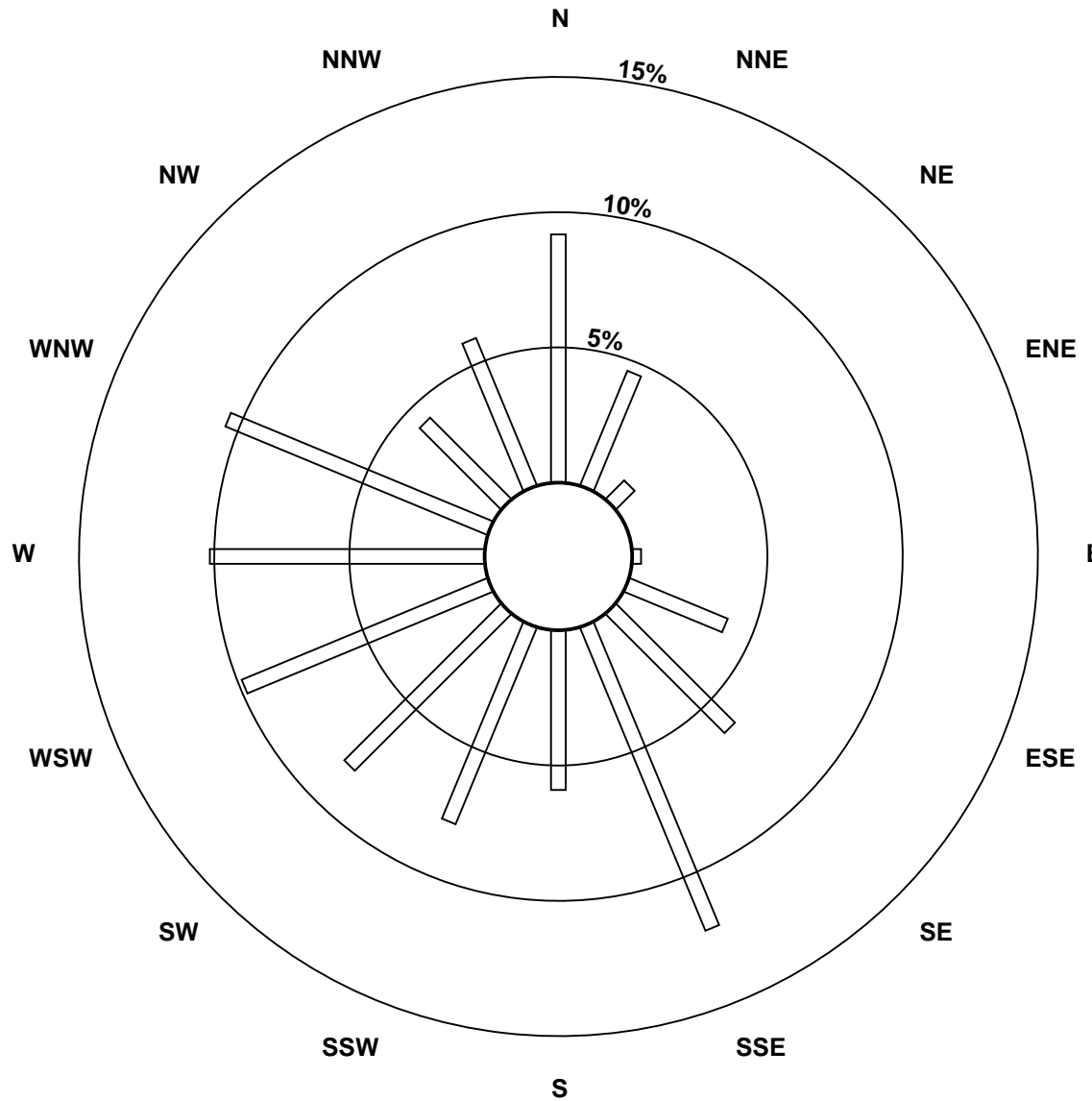
# Hourly Maximums

Sulphur Dioxide (SO<sub>2</sub>) - ppb  
Portable Reno - January 2014

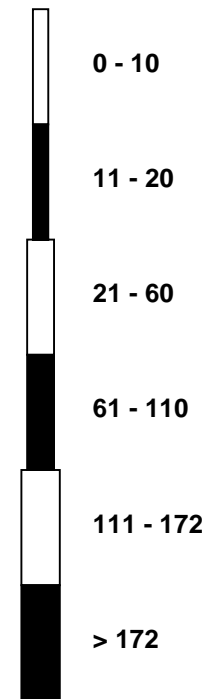


**Pollutant Rose**

**Sulphur Dioxide (SO<sub>2</sub>) - ppb**  
**Portable Reno - January 2014**



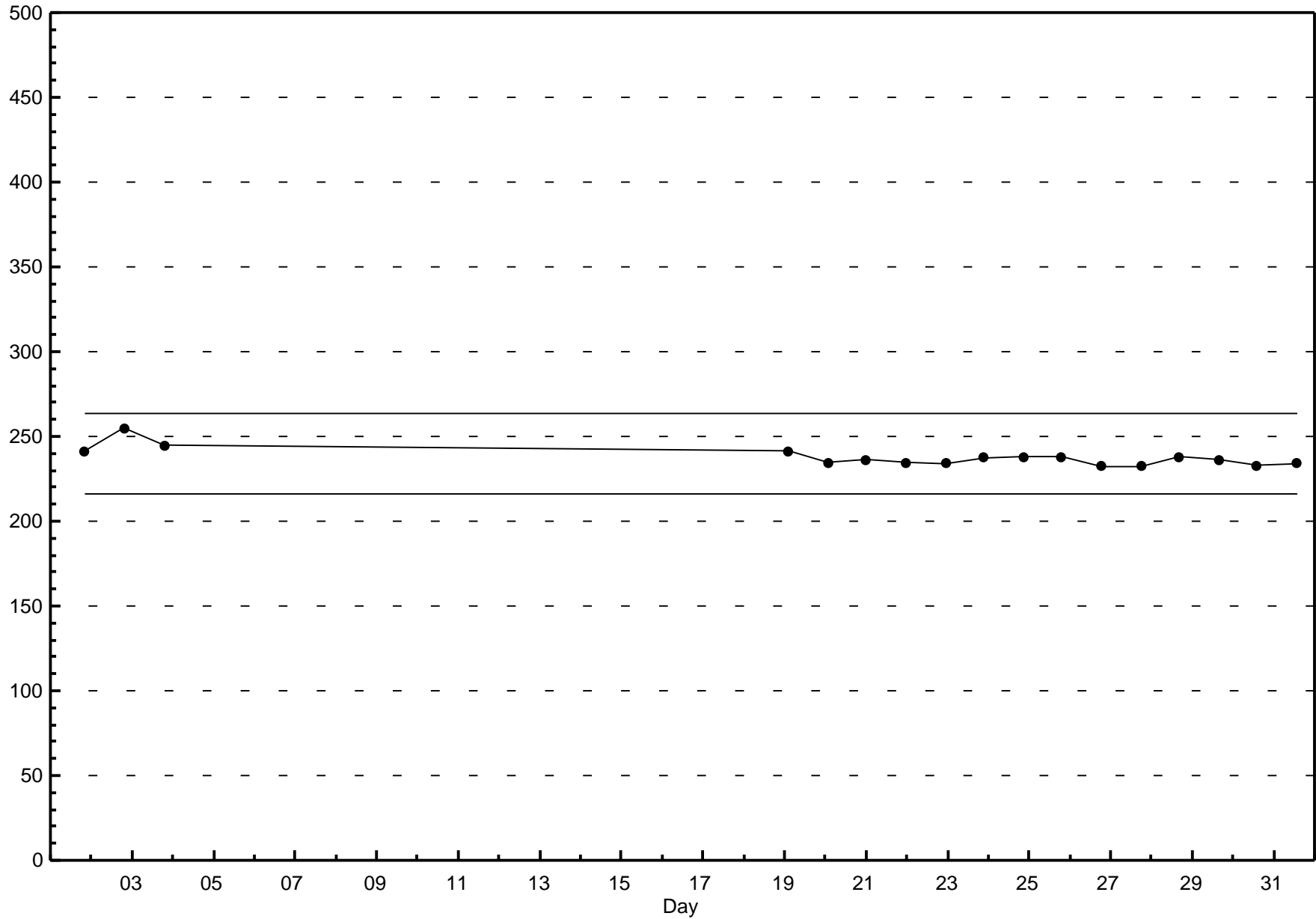
**Pollutant Classes (ppb)**





### Span Responses

Sulphur Dioxide (SO<sub>2</sub>)  
Portable Reno - January 2014



## Hourly Averages

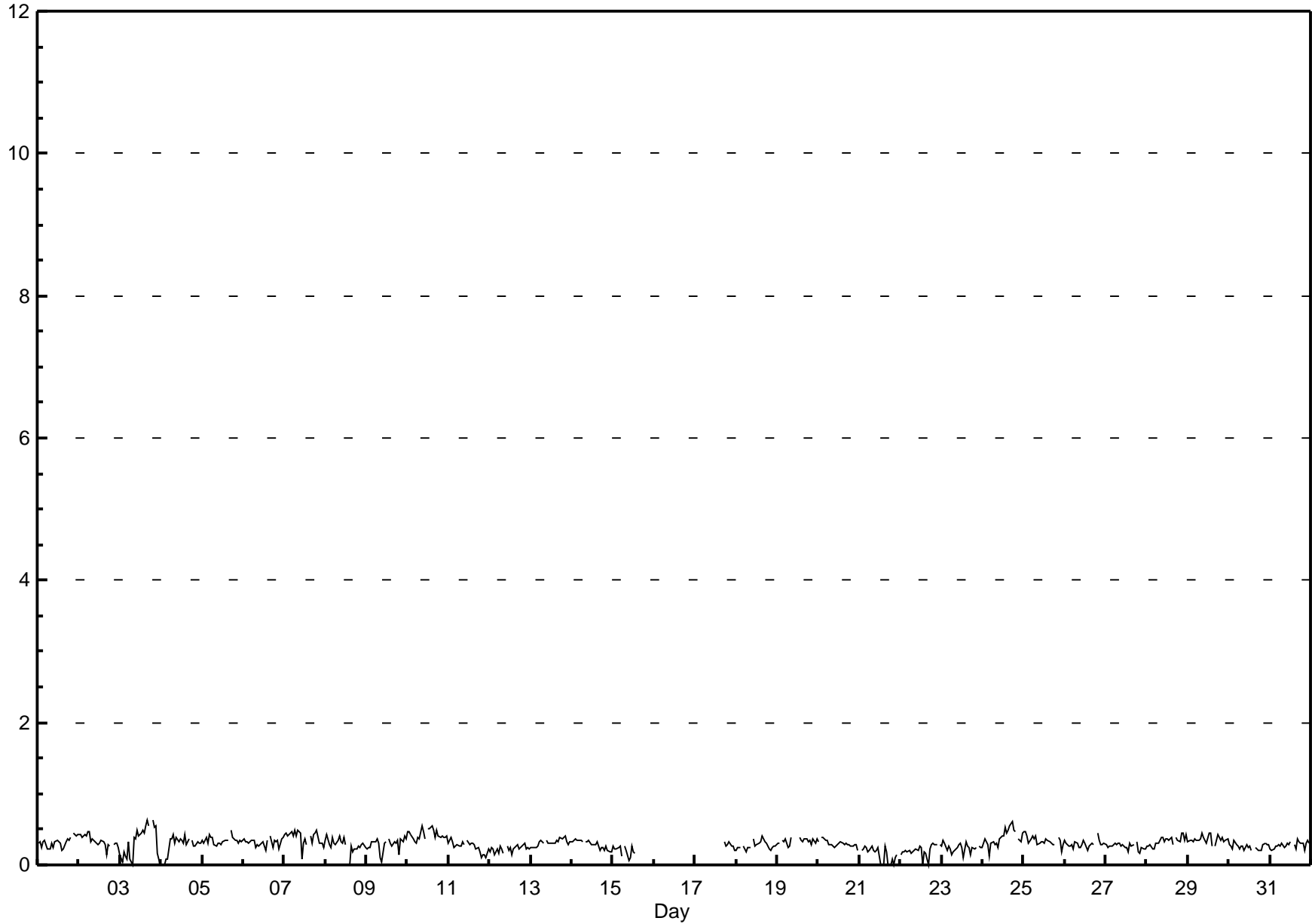
## Total Reduced Sulphur (TRS) - ppb

### Portable Reno - January 2014

Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 0.6 ppb on Jan 3 17:00	Maximum Daily Average: 0.4 ppb on Jan 10		Hours of Data:	658
Minimum Value: 0 ppb on Jan 3 08:00	Minimum Daily Average: 0.1 ppb on Jan 21		Hours of Missing Data:	86
Maximum Diurnal Average: 0.3 ppb at hour 18	Minimum Diurnal Average: 0.3 ppb at hour 4		Hours of Calibration:	34
Monthly Average: 0.30 ppb	Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.2 Q <sub>1</sub> = 0.2 Median = 0.3 Q <sub>3</sub> = 0.3 P <sub>90</sub> = 0.4 P <sub>99</sub> = 0.5		Percent Operational Time:	93.0

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-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.3	0.5																							
2-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.3	0.5																							
3-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	A	1	1	1	0	0	0.3	0.6																							
4-Jan	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																							
5-Jan	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	0.5																							
6-Jan	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	0.4																							
7-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.4	0.5																							
8-Jan	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																							
9-Jan	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																							
10-Jan	0	0	0	0	0	0	0	0	1	0	0	A	1	1	1	0	0	0	0	0	0	0	0	0	0.4	0.5																							
11-Jan	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	0.4																							
12-Jan	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3																							
13-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.4																							
14-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.4																							
15-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	--	0.3																							
16-Jan	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	--	--																							
17-Jan	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	--	0.3																							
18-Jan	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.4																							
19-Jan	0	0	A	0	0	0	0	0	0	0	0	C	C	C	0	0	0	0	0	0	0	0	0	0	0.3	0.4																							
20-Jan	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.4																							
21-Jan	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3																							
22-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3																							
23-Jan	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																							
24-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0	A	0	0	0.4	0.6																							
25-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.3	0.5																							
26-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.3	0.5																							
27-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.3	0.3																							
28-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.3	0.4																							
29-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.4	0.5																							
30-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.3																							
31-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.4																							
																								0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	Diurnal Average		
																								0.5	0.5	0.4	0.4	0.5	0.5	0.5	0.4	0.5	0.5	0.5	0.4	0.5	0.5	0.5	0.6	0.6	0.6	0.5	0.6	0.5	0.5	0.4	0.5	Diurnal Maximum	

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



## Hourly Maximums

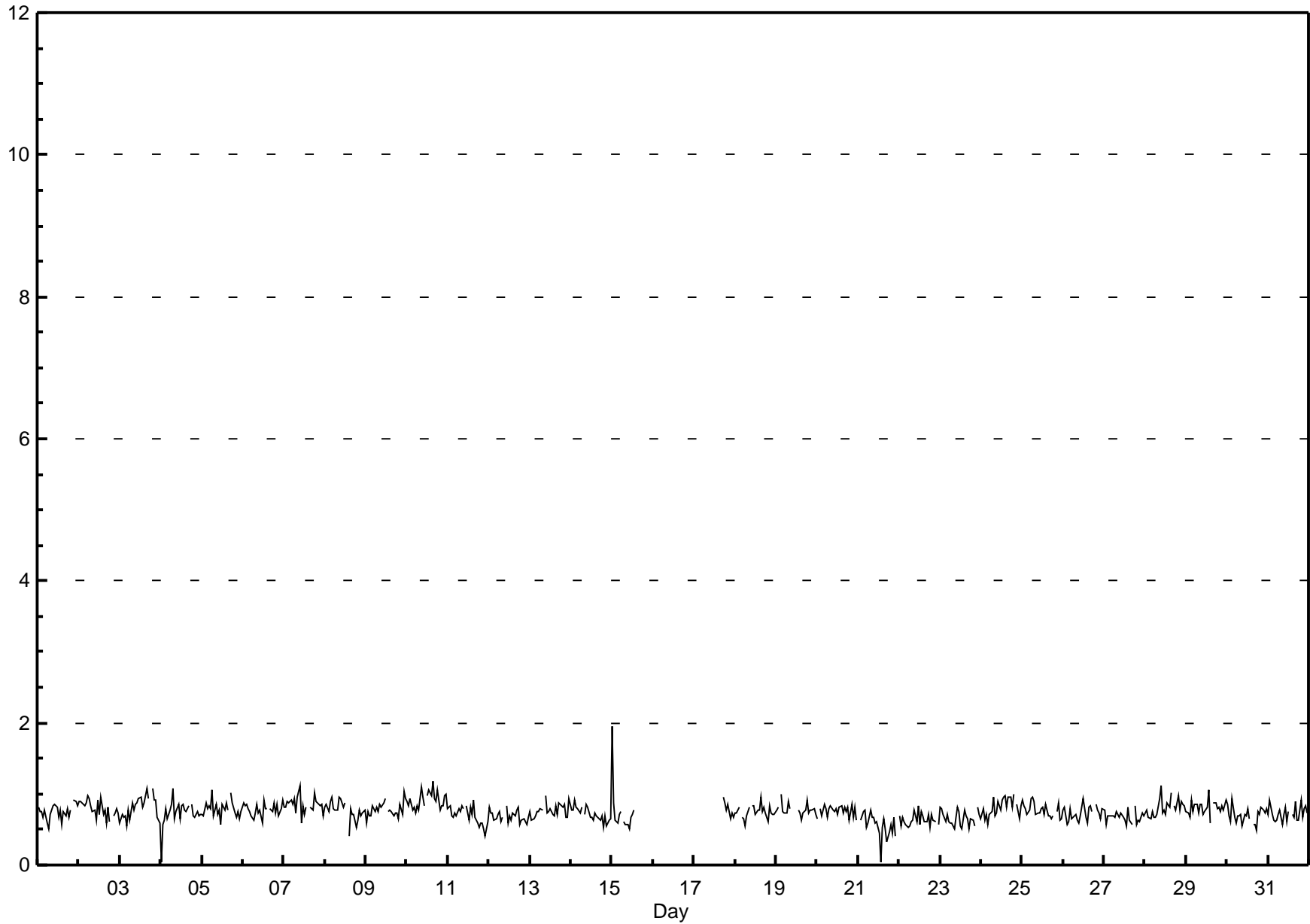
Total Reduced Sulphur (TRS) - ppb

Portable Reno - January 2014

Maximum Value: 2.0 ppb on Jan 15 01:00		Maximum Daily Average: 0.9 ppb on Jan 10		Hours in Service: 744																							
Minimum Value: 0 ppb on Jan 4 01:00		Minimum Daily Average: 0.6 ppb on Jan 21		Hours of Data: 658																							
Maximum Diurnal Average: 0.8 ppb at hour 10		Minimum Diurnal Average: 0.7 ppb at hour 6		Hours of Missing Data: 86																							
Monthly Average: 0.75 ppb		Percentiles: P <sub>1</sub> = 0.4 P <sub>10</sub> = 0.6 Q <sub>1</sub> = 0.7 Median = 0.7 Q <sub>3</sub> = 0.8 P <sub>90</sub> = 0.9 P <sub>99</sub> = 1.1		Hours of Calibration: 34																							
				Percent Operational Time: 93.0																							
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-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	0.7	0.9	
2-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	0.8	1.0	
3-Jan	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	
4-Jan	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	0.7	1.1	
5-Jan	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	
6-Jan	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	0.9	
7-Jan	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	
8-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	A	1	1	1	1	1	1	1	1	0.8	1.0	
9-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.0	
10-Jan	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.2	
11-Jan	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	0	1	0.7	0.9	
12-Jan	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	0.8	
13-Jan	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.0	
14-Jan	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	0.9	
15-Jan	2	1	1	1	1	1	A	1	1	1	1	1	1	1	P	P	P	P	P	P	P	P	P	P	--	2.0	
16-Jan	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	--	--	
17-Jan	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	--	0.9	
18-Jan	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	0.9	
19-Jan	1	1	A	1	1	1	1	1	1	1	1	C	C	C	1	1	1	1	1	1	1	1	1	1	0.8	1.0	
20-Jan	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	0.9	
21-Jan	A	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	0	0	1	0	1	0	1	0	0.6	0.8	
22-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	0.6	0.8	
23-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	0.7	0.8	
24-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	0.8	1.0	
25-Jan	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	0.9	
26-Jan	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	0.9	
27-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	0.7	0.8	
28-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	0.8	1.1	
29-Jan	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	
30-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	0	1	1	1	1	1	1	0.7	0.9	
31-Jan	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	
	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.8	0.7	0.8	0.7	0.7	0.7	0.7	0.7	0.8	Diurnal Average		
	2.0	0.9	0.9	1.0	1.0	1.0	1.1	1.1	1.1	1.1	0.9	0.9	1.0	1.1	1.0	1.2	1.1	1.0	1.1	1.1	0.9	0.9	1.0	1.0	Diurnal Maximum		
C - Calibration																								P - Power Failure		A - Automated Daily Zero Span	

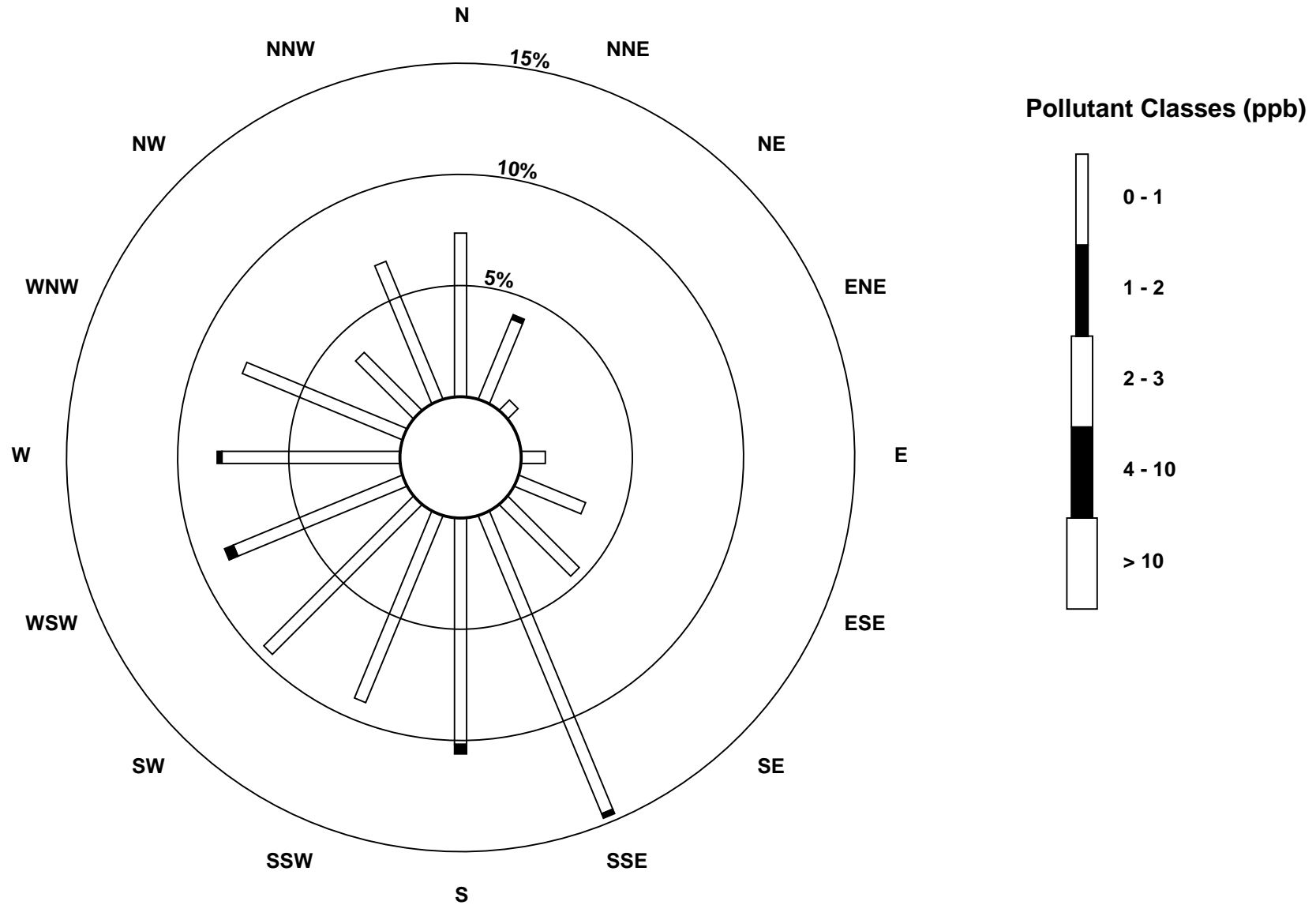
**Hourly Maximums**

**Total Reduced Sulphur (TRS) - ppb**  
**Portable Reno - January 2014**



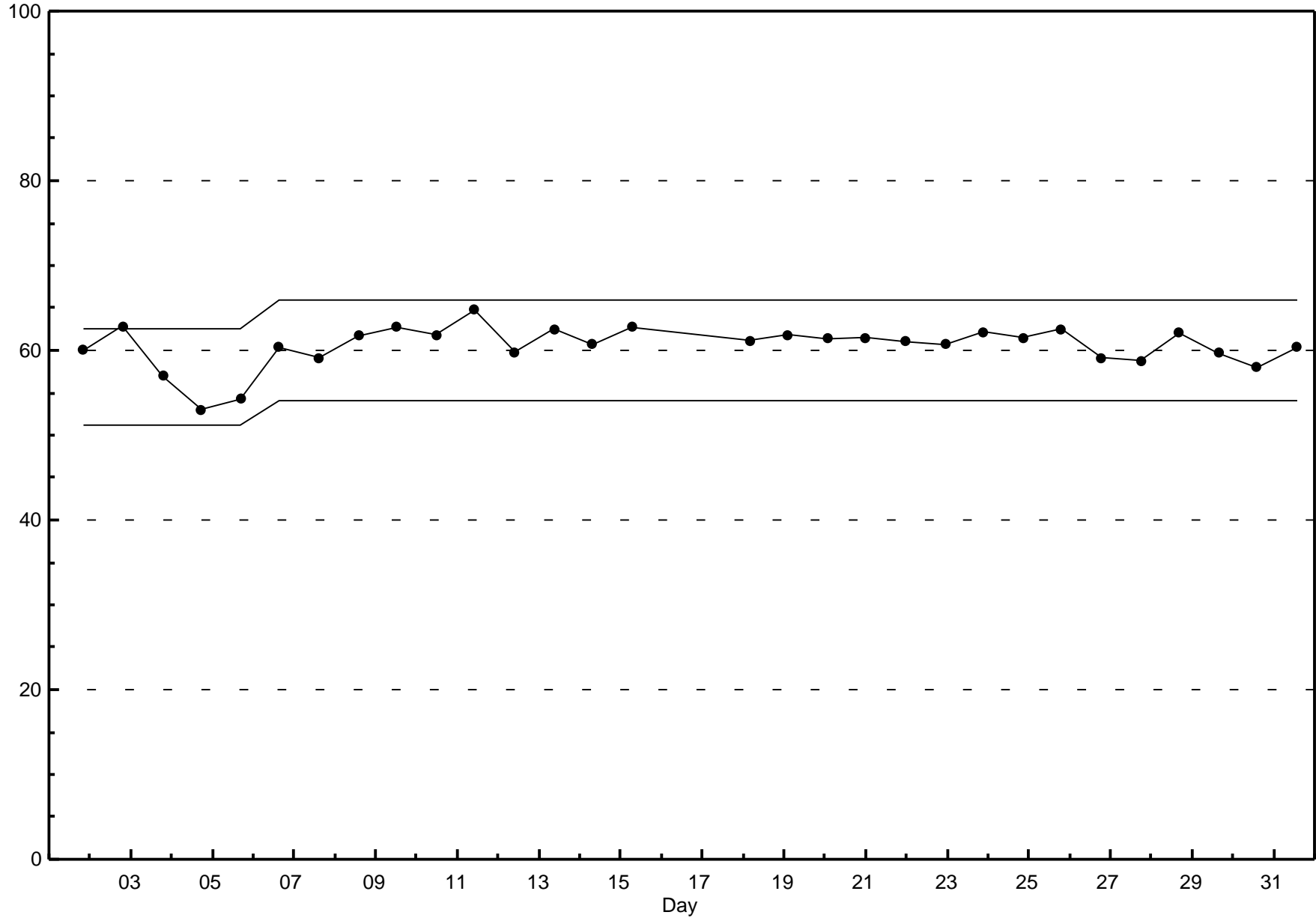
**Pollutant Rose**

**Total Reduced Sulphur (TRS) - ppb**  
**Portable Reno - January 2014**



**Span Responses**

**Total Reduced Sulphur (TRS)  
Portable Reno - January 2014**



## Hourly Averages

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

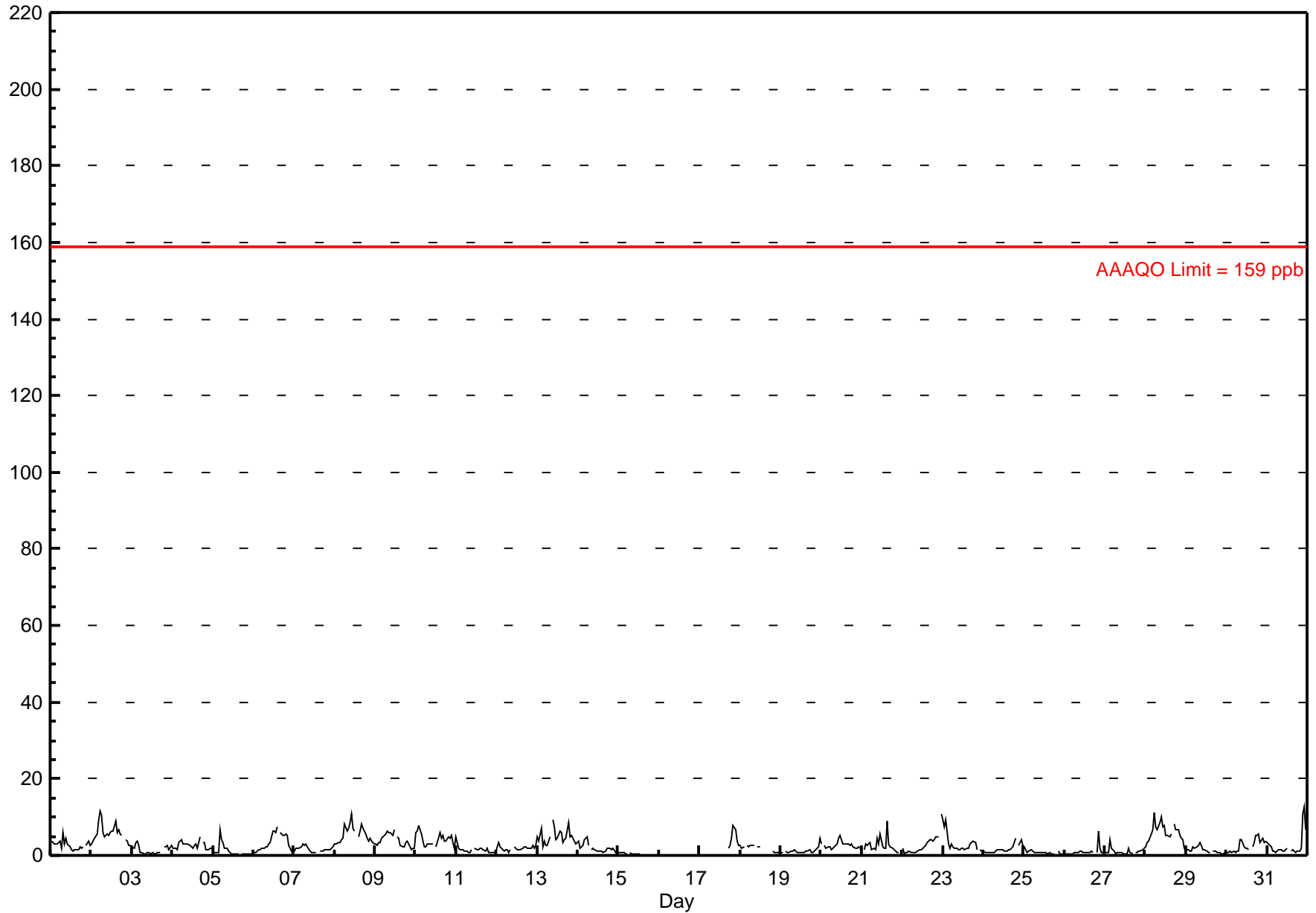
Portable Reno - January 2014

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0	Hours in Service: 744
Maximum Value: 12.5 ppb on Jan 31 23:00	Maximum Daily Average: 6.0 ppb on Jan 28
Minimum Value: 0 ppb on Jan 26 01:00	Hours of Data: 656
Maximum Diurnal Average: 3.1 ppb at hour 10	Hours of Missing Data: 88
Monthly Average: 2.61 ppb	Hours of Calibration: 36
Minimum Daily Average: 0.8 ppb on Jan 25	Percent Operational Time: 93.0
Minimum Diurnal Average: 2.2 ppb at hour 14	
Percentiles: P <sub>1</sub> = 0.4 P <sub>10</sub> = 0.6 Q <sub>1</sub> = 1.0 Median = 1.9 Q <sub>3</sub> = 3.5 P <sub>90</sub> = 5.7 P <sub>99</sub> = 10.6	

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Jan	4	3	3	3	3	4	2	6	3	5	3	2	1	1	1	2	2	2	2	2	A	2	4	3	2.7	6.0																							
2-Jan	3	4	5	6	9	12	11	6	5	6	5	6	6	6	9	6	7	6	5	A	4	4	3	3	5.9	11.7																							
3-Jan	2	2	3	4	3	1	1	0	0	1	1	1	1	0	0	1	1	1	A	2	2	3	1	3	1.4	3.6																							
4-Jan	2	2	2	2	3	4	3	3	3	3	2	2	2	3	3	2	5	A	3	4	2	2	2	2	2.6	5.0																							
5-Jan	1	1	1	1	7	4	3	2	2	1	1	1	0	1	0	0	A	0	0	0	0	0	0	0	1.3	6.7																							
6-Jan	1	1	1	1	2	2	2	2	2	3	3	6	6	6	8	A	6	5	5	6	5	3	1	1	3.4	7.6																							
7-Jan	1	2	2	2	2	3	3	3	2	1	1	1	1	1	A	1	1	1	1	1	2	2	2	2	1.6	3.0																							
8-Jan	3	3	3	4	4	5	8	6	7	8	11	7	7	A	5	6	8	7	6	5	4	4	4	3	5.5	10.8																							
9-Jan	3	3	3	3	5	5	6	6	6	6	5	7	A	5	5	3	2	2	3	4	3	1	2	2	3.9	6.6																							
10-Jan	6	6	8	6	4	2	2	3	3	3	3	A	2	3	6	4	5	4	4	5	5	5	3	2	4.1	7.7																							
11-Jan	5	2	1	1	1	1	1	1	1	1	A	2	2	2	2	2	1	1	2	1	1	1	1	1	1.4	4.7																							
12-Jan	2	3	2	2	1	1	1	1	1	A	2	2	2	1	1	2	2	2	2	2	2	3	2	3	1.9	3.2																							
13-Jan	5	4	7	2	4	2	3	5	A	9	7	4	4	6	6	3	4	5	9	5	5	5	4	3	4.8	9.3																							
14-Jan	4	2	2	2	4	5	3	A	1	2	1	1	1	1	1	1	1	2	2	2	1	2	1	1	1.9	4.7																							
15-Jan	1	1	1	1	0	0	A	1	1	1	1	0	0	0	0	P	P	P	P	P	P	P	P	P	--	0.7																							
16-Jan	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	--	--																							
17-Jan	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	--	--																							
18-Jan	2	2	2	A	3	2	3	3	3	P	2	2	2	C	C	C	C	C	1	1	1	1	1	1	--	2.6																							
19-Jan	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	5	1.2	4.6																							
20-Jan	3	A	3	2	2	2	2	2	2	3	4	5	4	3	3	3	3	3	3	2	2	2	2	2	2.7	5.3																							
21-Jan	A	2	3	3	3	3	2	2	1	5	3	6	2	2	2	9	3	2	2	1	1	1	1	A	2.6	8.8																							
22-Jan	2	1	1	1	1	1	1	1	1	1	2	2	2	2	3	3	4	4	4	4	5	5	A	11	2.6	10.7																							
23-Jan	9	7	9	3	2	3	2	2	2	2	2	2	2	2	2	2	3	3	4	3	1	A	1	1	3.0	9.5																							
24-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	5	A	3	4	3	1.7	4.6																							
25-Jan	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	A	1	0	0	0	0.8	2.3																							
26-Jan	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	A	1	6	2	1	1	1.0	6.5																							
27-Jan	1	1	1	4	2	1	0	1	1	1	1	0	1	1	2	1	0	A	1	1	1	1	2	2	1.0	4.1																							
28-Jan	2	3	4	6	7	11	7	7	9	10	8	8	5	5	5	5	A	8	7	7	5	5	4	2	6.0	11.1																							
29-Jan	2	1	1	1	2	2	2	3	3	3	2	1	1	1	1	A	1	1	1	1	1	1	1	1	1.4	3.4																							
30-Jan	1	1	1	1	1	1	1	1	4	4	2	2	2	2	A	2	3	5	5	6	4	4	3	4	2.6	5.5																							
31-Jan	3	3	2	1	1	1	1	2	2	1	1	2	2	A	1	2	1	1	1	1	2	11	13	7	2.6	12.5																							
																								2.6	2.2	2.6	2.3	2.7	2.8	2.6	2.5	2.5	3.1	2.7	2.7	2.2	2.2	2.7	2.5	2.7	2.8	3.0	2.8	2.8	2.8	2.4	2.4	Diurnal Average	
																								9.5	7.4	9.4	5.7	9.4	11.7	10.6	6.7	8.6	10.2	10.8	7.6	6.5	6.3	9.1	8.8	8.1	8.1	8.6	6.7	7.9	10.8	12.5	10.7	Diurnal Maximum	

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





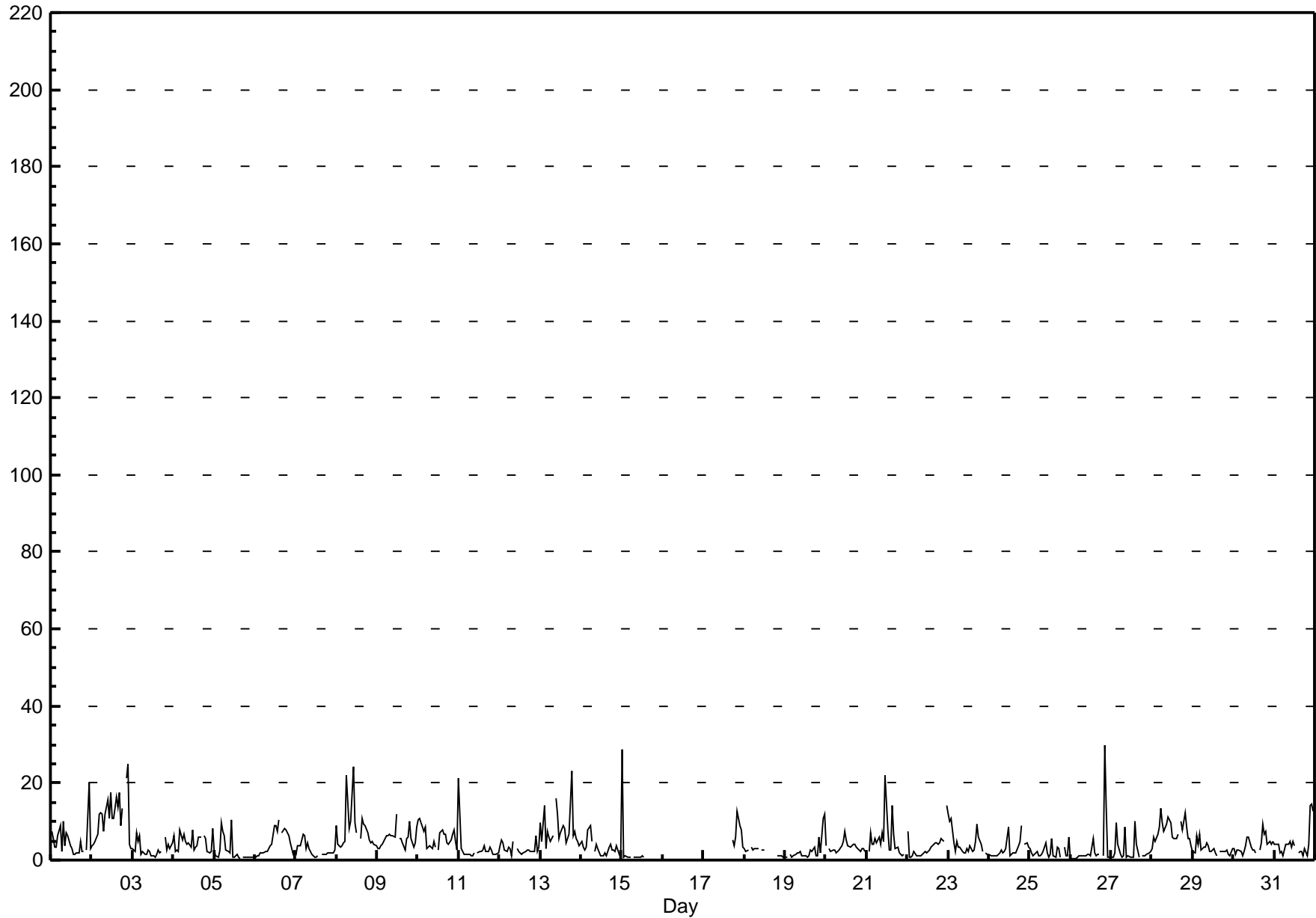
## Hourly Maximums

## Nitrogen Dioxide (NO<sub>2</sub>) - ppb Portable Reno - January 2014

Maximum Value: 29.8 ppb on Jan 26 21:00		Maximum Daily Average: 11.5 ppb on Jan 2		Hours in Service: 744																							
Minimum Value: 0 ppb on Jan 26 02:00		Minimum Daily Average: 2.2 ppb on Jan 25		Hours of Data: 656																							
Maximum Diurnal Average: 5.8 ppb at hour 1		Minimum Diurnal Average: 3.2 ppb at hour 2		Hours of Missing Data: 88																							
Monthly Average: 4.34 ppb		Percentiles: P <sub>1</sub> = 0.6 P <sub>10</sub> = 1.0 Q <sub>1</sub> = 1.8 Median = 3.1 Q <sub>3</sub> = 5.7 P <sub>90</sub> = 9.1 P <sub>99</sub> = 22.1		Hours of Calibration: 36																							
				Percent Operational Time: 93.0																							
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-Jan	7	6	3	3	6	9	2	10	4	7	7	4	3	1	2	2	2	5	2	2	A	3	20	3	4.9	20.1	
2-Jan	4	4	5	7	12	12	12	8	12	16	11	18	11	11	17	14	17	9	13	A	21	25	4	3	11.5	25.1	
3-Jan	3	2	7	5	6	2	2	2	2	3	2	1	1	1	2	2	2	2	A	6	3	4	3	4	2.9	7.1	
4-Jan	6	2	3	2	8	5	7	5	4	4	4	8	3	3	4	6	6	A	6	6	2	2	2	8	4.6	8.2	
5-Jan	2	1	1	3	10	8	7	3	2	2	10	1	1	2	1	1	A	1	1	1	1	1	1	1	2.4	10.4	
6-Jan	1	1	1	2	2	2	2	2	3	4	4	9	9	8	11	A	7	8	8	7	6	4	1	2	4.5	10.6	
7-Jan	2	4	4	4	7	6	3	5	3	1	1	1	1	1	A	1	1	1	2	2	2	2	2	2	2.5	6.7	
8-Jan	9	4	3	4	5	5	22	8	10	17	24	10	7	A	5	11	9	9	7	5	4	5	4	4	8.3	24.3	
9-Jan	3	3	4	4	5	6	6	7	6	6	6	12	A	6	6	4	3	6	6	10	6	3	4	8	5.7	11.8	
10-Jan	11	11	10	7	9	3	3	4	3	5	3	A	3	7	8	7	7	4	4	5	7	8	5	3	5.9	10.9	
11-Jan	21	3	2	2	1	1	1	1	1	2	A	2	2	2	3	4	2	2	3	3	2	2	2	2	2.9	21.3	
12-Jan	4	5	4	2	2	3	3	1	5	A	3	2	2	2	2	2	3	3	2	2	2	6	2	3	2.9	6.4	
13-Jan	10	5	14	3	8	6	5	6	A	16	12	6	7	9	8	5	5	7	23	6	7	6	5	4	7.9	23.0	
14-Jan	5	3	3	3	8	9	5	A	2	4	3	1	1	1	2	1	3	4	3	2	2	4	1	1	3.2	9.1	
15-Jan	29	1	1	1	1	1	A	1	1	1	1	1	1	1	P	P	P	P	P	P	P	P	P	P	--	28.8	
16-Jan	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	--	--	
17-Jan	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	--	12.5	
18-Jan	3	2	2	A	3	3	3	3	3	P	3	3	2	C	C	C	C	C	1	1	1	1	1	1	--	3.4	
19-Jan	1	1	A	1	1	1	1	2	2	2	1	1	1	1	1	3	2	3	1	1	6	2	11	12	2.6	11.9	
20-Jan	4	A	3	2	2	3	2	2	3	4	5	7	5	4	4	4	4	4	3	3	2	3	3	2	3.4	7.4	
21-Jan	A	2	7	4	4	6	4	6	4	7	5	22	8	3	2	14	7	3	3	2	1	1	1	A	5.3	22.1	
22-Jan	8	1	1	1	2	1	1	1	1	1	2	2	2	3	3	4	5	4	4	4	5	5	A	14	3.3	14.3	
23-Jan	12	10	11	5	2	5	3	4	2	2	2	3	2	4	2	3	5	9	6	4	2	A	2	1	4.4	12.1	
24-Jan	1	1	1	1	1	1	2	3	2	2	3	8	1	1	2	2	2	4	5	9	A	4	4	3	2.8	8.9	
25-Jan	3	2	1	2	2	1	1	1	2	4	2	1	2	6	1	1	3	3	1	A	3	1	1	6	2.2	5.9	
26-Jan	0	0	1	0	1	1	1	1	1	1	2	1	1	6	2	1	2	2	A	1	30	14	1	1	3.1	29.8	
27-Jan	1	1	2	10	4	2	1	1	9	1	1	1	1	1	10	4	1	A	1	1	1	1	2	2	2.5	10.1	
28-Jan	3	6	5	7	9	13	10	7	9	11	10	10	6	6	5	7	A	10	8	12	8	5	6	4	7.7	13.5	
29-Jan	2	2	6	4	7	3	4	3	4	4	2	2	3	2	1	A	2	2	2	2	3	1	1	3	2.9	6.9	
30-Jan	3	2	2	3	2	1	2	4	6	6	3	2	3	2	A	3	4	9	7	7	4	5	4	5	3.9	9.2	
31-Jan	4	4	4	2	2	1	3	4	4	5	3	5	4	A	2	2	2	1	3	1	4	14	15	13	4.4	14.7	
		5.8	3.2	4.0	3.3	4.5	4.1	4.2	3.7	3.9	5.1	4.8	5.1	3.3	3.5	4.2	4.2	4.3	4.6	4.9	4.2	5.6	5.0	4.2	4.2	Diurnal Average	
		28.8	10.9	14.2	9.6	11.9	13.5	22.1	10.2	11.8	17.1	24.3	22.1	10.9	10.9	16.6	14.3	17.4	10.1	23.0	12.2	29.8	25.1	20.1	14.3	Diurnal Maximum	
C - Calibration		P - Power Failure						A - Automated Daily Zero Span																			

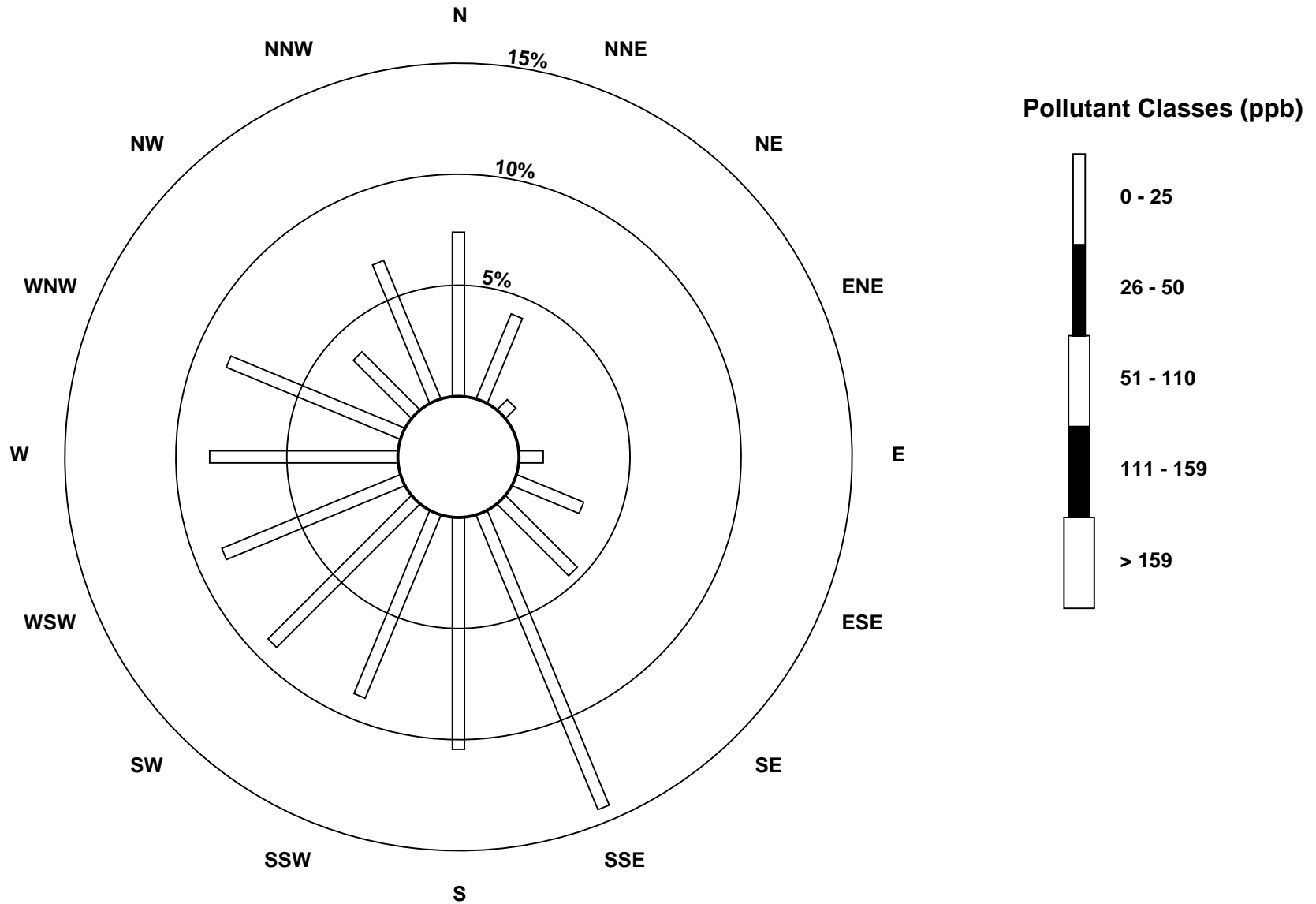
### Hourly Maximums

Nitrogen Dioxide (NO<sub>2</sub>) - ppb  
Portable Reno - January 2014



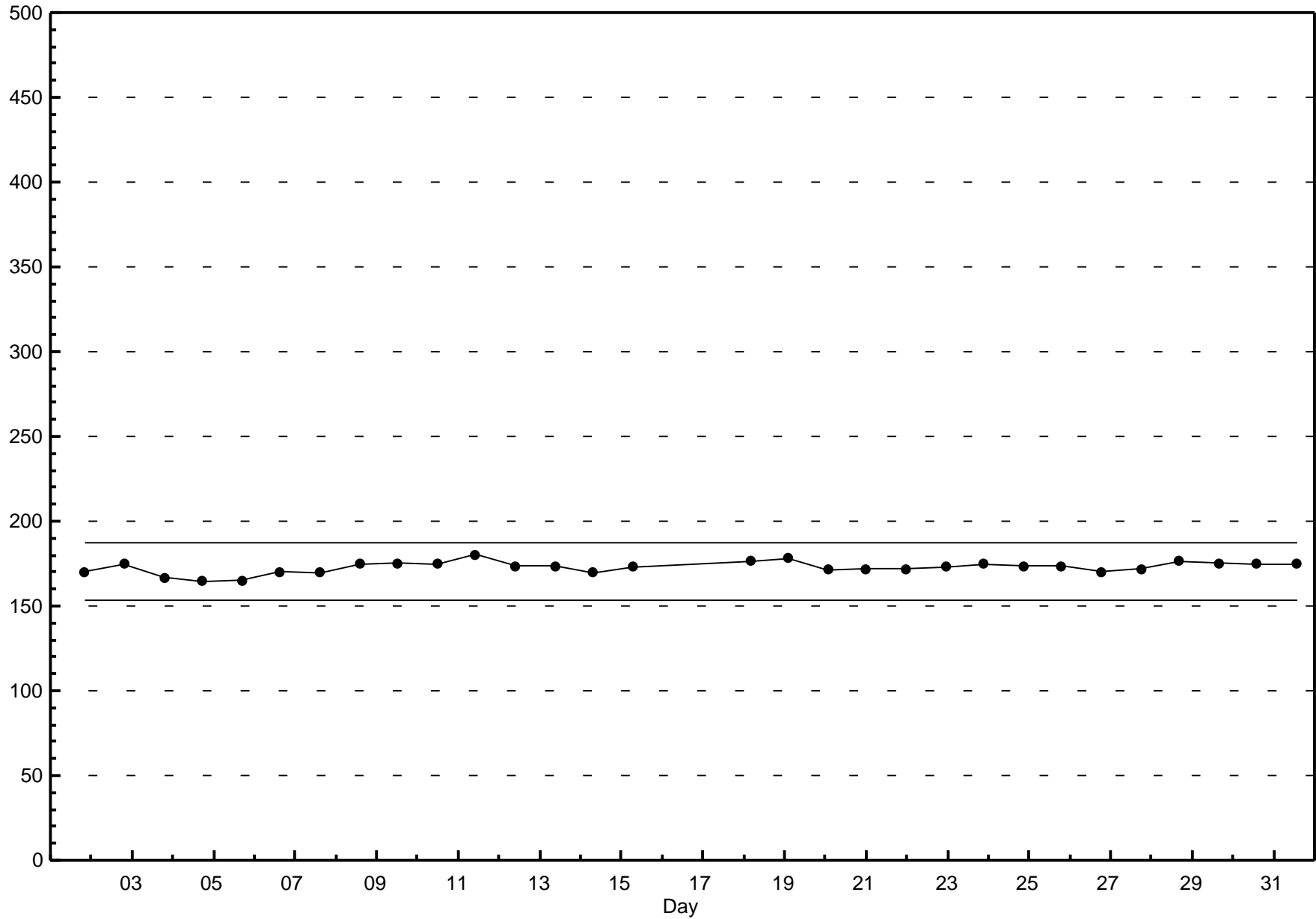
**Pollutant Rose**

**Nitrogen Dioxide (NO<sub>2</sub>) - ppb**  
**Portable Reno - January 2014**



### Span Responses

Nitrogen Dioxide (NO<sub>2</sub>)  
Portable Reno - January 2014



## Hourly Averages

Nitrogen Oxide (NO) - ppb  
Portable Reno - January 2014

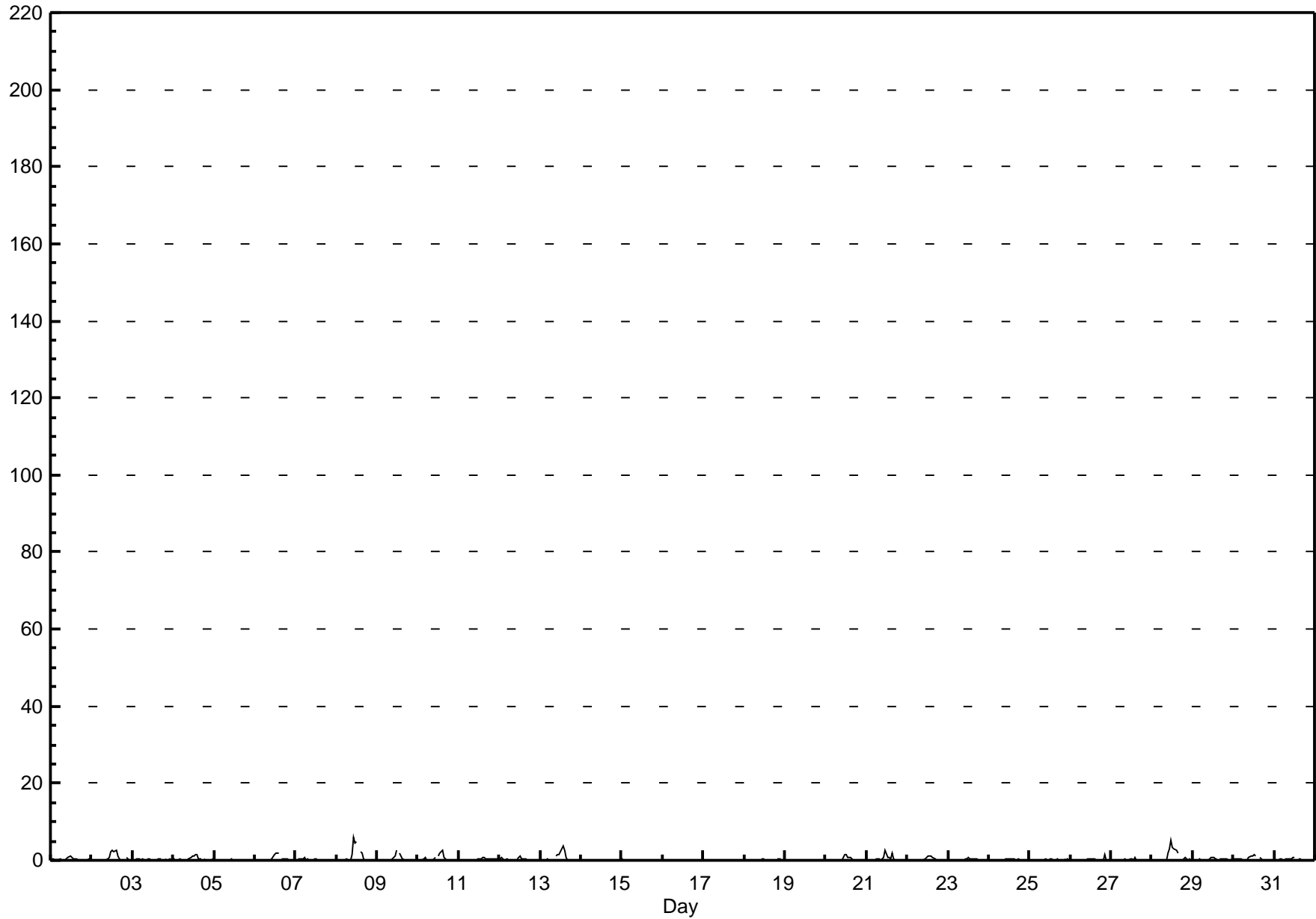
Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 6.1 ppb on Jan 8 11:00	Maximum Daily Average: 1.0 ppb on Jan 28		Hours of Data:	656
Minimum Value: 0 ppb on Jan 1 20:00	Minimum Daily Average: 0.0 ppb on Jan 14		Hours of Missing Data:	88
Maximum Diurnal Average: 1.1 ppb at hour 12	Minimum Diurnal Average: 0.1 ppb at hour 9		Hours of Calibration:	36
Monthly Average: 0.30 ppb	Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.0 Q <sub>1</sub> = 0.0 Median = 0.1 Q <sub>3</sub> = 0.3 P <sub>90</sub> = 0.7 P <sub>99</sub> = 3.2		Percent Operational Time:	93.0

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-Jan	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	A	0	0	0	0.2	1.0
2-Jan	0	0	0	0	0	0	0	0	0	1	1	2	3	2	3	1	0	0	0	A	1	0	0	0	0.6	2.7
3-Jan	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.2	0.5	
4-Jan	0	0	0	0	0	0	0	0	0	1	1	1	2	2	0	0	A	0	0	0	0	0	0	0.4	1.7	
5-Jan	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	0.4	
6-Jan	0	0	0	0	0	0	0	0	0	0	2	2	2	2	A	0	0	0	0	0	0	0	0	0.4	2.0	
7-Jan	0	0	0	0	0	1	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.1	0.7	
8-Jan	0	0	0	0	0	0	0	0	0	1	6	5	5	A	2	2	0	0	0	0	0	0	0	1.0	6.1	
9-Jan	0	0	0	0	0	0	0	0	0	0	1	3	A	2	1	0	0	0	0	0	0	0	0	0.3	2.6	
10-Jan	0	0	0	0	1	0	0	0	0	0	1	A	1	2	3	1	0	0	0	0	0	0	0	0.4	2.6	
11-Jan	0	0	0	0	0	0	0	0	0	0	A	0	0	0	1	1	0	0	0	0	0	0	0	0.2	0.8	
12-Jan	0	1	0	0	0	0	0	0	0	A	1	1	1	1	0	0	0	0	0	0	0	0	0	0.3	0.9	
13-Jan	0	0	0	0	0	0	0	0	A	1	2	1	2	4	3	1	0	0	0	0	0	0	0	0.6	3.9	
14-Jan	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1	
15-Jan	0	0	0	0	0	0	A	0	0	0	0	0	0	0	P	P	P	P	P	P	P	P	P	--	0.2	
16-Jan	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	--	--	
17-Jan	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	--	0.2	
18-Jan	0	0	0	A	0	0	0	0	0	0	0	0	0	C	C	C	C	C	C	0	0	0	0	--	0.5	
19-Jan	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2	
20-Jan	0	A	0	0	0	0	0	0	0	0	1	2	2	1	1	0	0	0	0	0	0	0	0	0.2	1.5	
21-Jan	A	0	0	0	0	0	0	0	0	0	1	3	1	1	1	2	0	0	0	0	0	0	0	0.4	2.7	
22-Jan	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0.2	1.1	
23-Jan	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	A	0	0.2	0.6	
24-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.1	0.5	
25-Jan	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	
26-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	2	0	0	0.2	1.5	
27-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	A	0	0	0	0	0	0.1	0.9	
28-Jan	0	0	0	0	0	0	0	0	0	2	3	5	3	3	3	2	A	0	0	1	0	0	0	1.0	5.0	
29-Jan	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	A	0	0	0	0	0	0	1	0.3	0.6	
30-Jan	0	0	0	0	0	0	0	0	0	1	1	1	1	1	A	1	0	0	0	0	0	0	0	0.4	1.3	
31-Jan	0	0	0	0	0	0	0	0	0	0	1	1	1	A	0	0	0	0	0	0	0	0	0	0.2	0.8	
	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.8	1.1	1.0	0.9	1.0	0.6	0.2	0.1	0.1	0.1	0.2	0.1	0.1	0.1	Diurnal Average	
	0.5	0.7	0.5	0.4	0.6	0.7	0.3	0.5	0.3	1.9	6.1	5.0	4.9	3.9	2.8	2.0	0.5	0.4	0.3	0.6	1.5	0.5	0.3	0.5	Diurnal Maximum	

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

**Hourly Averages**

**Nitrogen Oxide (NO) - ppb**  
**Portable Reno - January 2014**



## Hourly Maximums

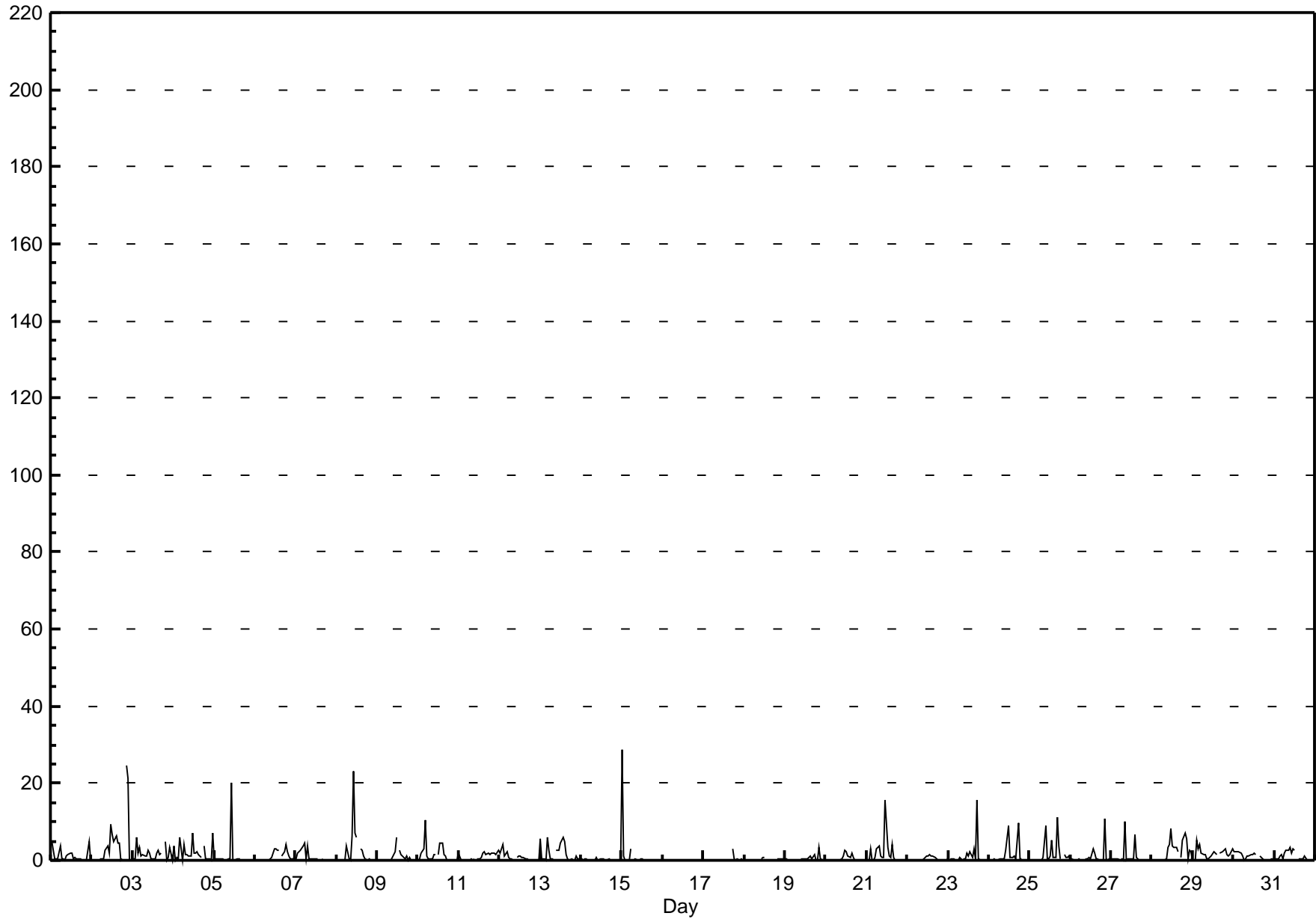
## Nitrogen Oxide (NO) - ppb Portable Reno - January 2014

Maximum Value: 28.8 ppb on Jan 15 01:00		Maximum Daily Average: 4.0 ppb on Jan 2		Hours in Service: 744																							
Minimum Value: 0 ppb on Jan 18 08:00		Minimum Daily Average: 0.2 ppb on Jan 14		Hours of Data: 656																							
Maximum Diurnal Average: 3.1 ppb at hour 12		Minimum Diurnal Average: 0.5 ppb at hour 2		Hours of Missing Data: 88																							
Monthly Average: 1.33 ppb		Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.1 Q <sub>1</sub> = 0.1 Median = 0.3 Q <sub>3</sub> = 1.5 P <sub>90</sub> = 3.5 P <sub>99</sub> = 15.7		Hours of Calibration: 36																							
				Percent Operational Time: 93.0																							
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-Jan	5	3	0	0	0	4	0	0	0	1	2	2	2	1	1	0	0	0	0	0	A	0	5	0	1.1	4.9	
2-Jan	0	0	0	0	0	0	0	0	3	4	2	9	7	5	6	4	4	0	0	A	25	21	0	0	4.0	24.8	
3-Jan	0	0	6	2	3	1	1	1	1	3	2	0	0	0	2	2	2	2	A	5	0	1	3	0	1.7	5.8	
4-Jan	4	0	1	0	6	0	4	1	1	1	1	7	2	2	2	1	1	A	4	0	0	0	0	7	2.0	7.0	
5-Jan	0	0	0	0	0	0	0	0	0	0	20	0	0	0	0	0	A	0	0	0	0	0	0	0	1.0	20.1	
6-Jan	0	0	0	0	0	0	0	0	0	0	1	3	3	2	3	A	1	2	4	2	1	0	0	1	1.1	3.9	
7-Jan	0	2	2	3	4	5	0	4	0	0	0	0	1	0	A	0	0	0	0	0	0	0	0	0	1.0	4.6	
8-Jan	0	0	0	0	0	0	4	0	0	0	6	23	7	6	A	3	3	1	0	0	0	0	0	0	2.4	23.0	
9-Jan	0	0	0	0	0	0	0	0	0	0	1	2	6	A	3	2	1	0	1	0	1	0	0	0	0.8	6.1	
10-Jan	0	0	2	3	10	1	0	0	0	2	1	A	2	4	4	1	1	0	0	0	0	0	0	0	1.5	10.3	
11-Jan	2	0	0	0	0	0	0	0	0	0	A	0	0	1	2	2	2	2	2	2	2	2	1	3	1.0	2.7	
12-Jan	2	3	4	1	2	1	0	0	0	A	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0.8	4.0	
13-Jan	5	0	0	0	6	3	0	0	A	3	3	3	4	6	5	1	0	0	0	0	0	1	0	0	1.9	6.0	
14-Jan	0	0	0	0	0	0	0	A	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.8	
15-Jan	29	1	0	0	0	3	A	0	0	0	0	0	0	0	P	P	P	P	P	P	P	P	P	P	--	28.8	
16-Jan	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	--	--	
17-Jan	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	--	2.9	
18-Jan	0	0	0	A	0	0	0	0	0	0	0	1	1	C	C	C	C	C	C	0	0	0	0	0	--	0.7	
19-Jan	0	0	A	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	0	3	0	0	0	0.5	3.5	
20-Jan	0	A	0	0	0	0	0	0	0	0	1	3	2	1	1	2	1	0	0	0	0	0	0	0	0.5	2.6	
21-Jan	A	0	3	0	0	1	3	4	1	1	1	16	3	1	1	4	1	0	0	0	0	0	0	A	1.8	15.7	
22-Jan	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0.4	1.4	
23-Jan	0	0	0	0	0	0	0	1	0	0	0	2	1	2	1	3	0	16	0	0	0	A	0	0	1.2	15.8	
24-Jan	0	0	0	0	0	0	0	0	0	0	2	9	1	1	1	1	0	10	0	0	A	0	0	0	1.2	9.9	
25-Jan	0	0	0	0	0	0	0	0	1	9	0	0	1	5	1	1	11	4	1	A	1	1	1	1	1.7	11.1	
26-Jan	0	0	0	0	0	0	0	0	0	0	0	1	0	3	2	0	0	0	A	0	11	0	0	0	0.9	10.8	
27-Jan	0	0	0	0	0	0	0	0	10	0	0	0	0	0	7	1	0	A	0	0	0	0	0	0	0.9	9.9	
28-Jan	0	0	0	0	0	0	0	0	0	4	4	8	4	4	3	2	A	1	5	7	6	0	3	2	2.3	8.1	
29-Jan	0	0	5	3	4	2	2	1	0	0	1	1	2	2	2	A	2	2	3	3	1	1	1	3	1.8	5.1	
30-Jan	2	2	2	2	2	1	0	0	1	1	1	2	2	1	A	1	1	0	0	0	0	0	0	0	1.0	2.3	
31-Jan	0	0	0	1	1	0	2	3	3	3	2	3	3	A	0	0	0	0	1	0	0	0	0	0	1.1	3.2	
		1.9	0.5	1.0	0.6	1.5	0.8	0.7	0.6	0.9	1.6	2.6	3.1	1.8	1.8	2.0	1.5	1.2	1.8	0.8	0.9	2.0	1.1	0.6	0.7	Diurnal Average	
		28.8	3.2	5.8	3.1	10.3	4.6	4.0	3.7	9.9	9.0	23.0	15.7	6.8	5.9	6.6	4.4	11.1	15.8	5.2	7.2	24.8	21.2	4.8	7.0	Diurnal Maximum	
C - Calibration		P - Power Failure						A - Automated Daily Zero Span																			



### Hourly Maximums

Nitrogen Oxide (NO) - ppb  
Portable Reno - January 2014



## Hourly Averages

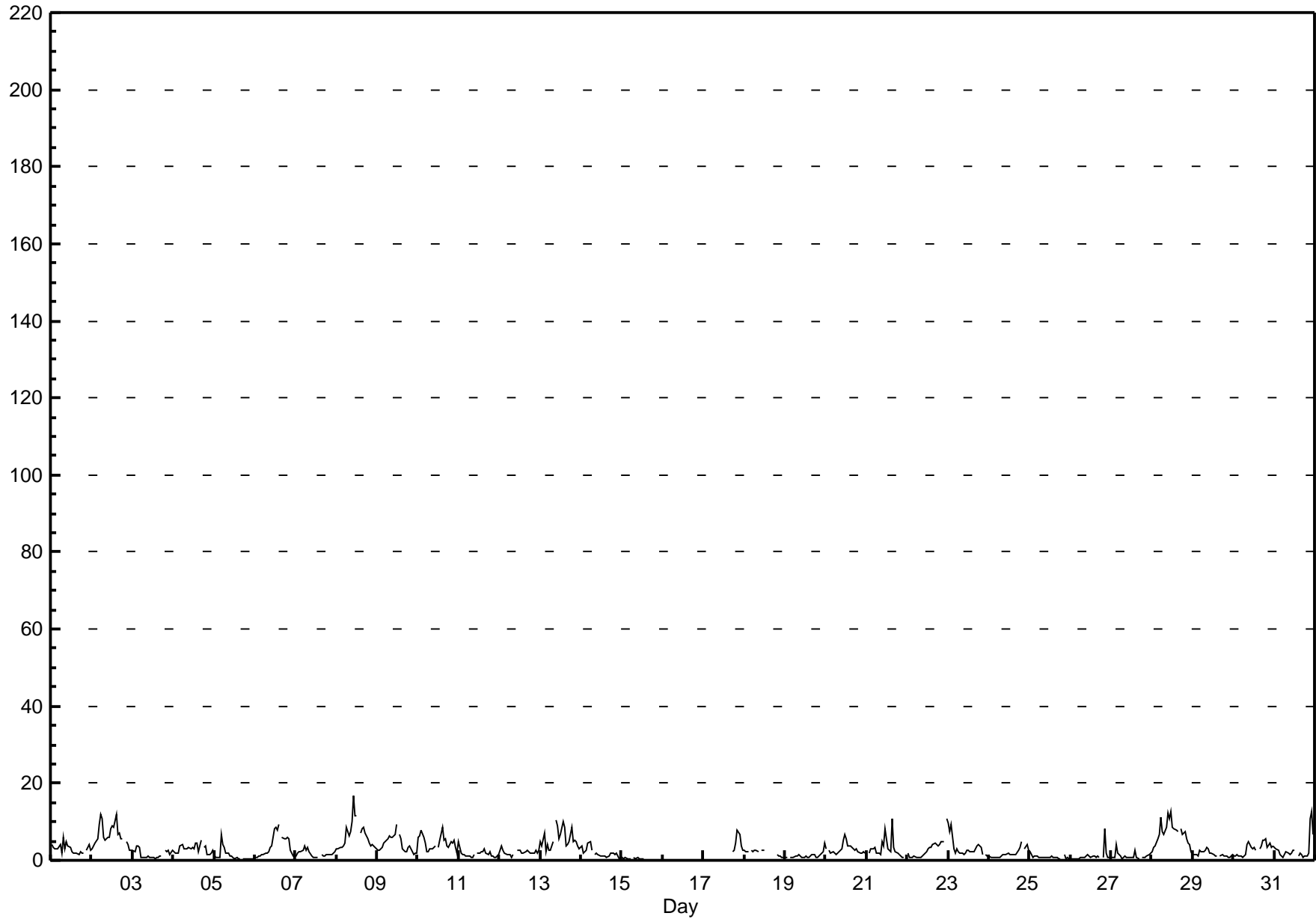
Oxides of Nitrogen (NO<sub>x</sub>) - ppb

Portable Reno - January 2014

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0	Hours in Service: 744
Maximum Value: 16.9 ppb on Jan 8 11:00	Maximum Daily Average: 7.0 ppb on Jan 28
Minimum Value: 0 ppb on Jan 26 01:00	Hours of Data: 656
Maximum Diurnal Average: 3.8 ppb at hour 12	Hours of Missing Data: 88
Monthly Average: 2.90 ppb	Hours of Calibration: 36
Minimum Daily Average: 0.9 ppb on Jan 25	Percent Operational Time: 93.0
Minimum Diurnal Average: 2.3 ppb at hour 2	
Percentiles: P <sub>1</sub> = 0.4 P <sub>10</sub> = 0.7 Q <sub>1</sub> = 1.2 Median = 2.1 Q <sub>3</sub> = 3.7 P <sub>90</sub> = 6.3 P <sub>99</sub> = 11.6	

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	4	4	3	3	3	4	2	6	3	5	4	3	2	2	2	2	2	2	2	2	A	3	4	3	3.0	6.1
2-Jan	3	4	5	6	9	12	11	6	5	6	6	8	9	8	12	7	7	6	5	A	5	4	3	3	6.5	11.8
3-Jan	2	2	4	4	3	1	1	1	1	1	1	1	1	1	1	1	1	1	A	3	2	3	2	3	1.6	3.8
4-Jan	2	2	2	2	4	4	3	3	3	3	3	3	3	4	5	2	5	A	3	4	2	2	2	2	3.0	5.3
5-Jan	1	1	1	1	7	4	3	2	2	1	1	1	1	1	0	0	A	1	0	0	0	0	0	0	1.3	6.7
6-Jan	1	1	1	1	2	2	2	2	2	3	4	8	8	8	9	A	6	5	5	6	5	3	1	1	3.8	9.5
7-Jan	1	2	2	2	3	4	3	3	2	1	1	1	1	1	A	1	1	1	1	1	2	2	2	2	1.8	3.7
8-Jan	3	3	3	3	4	5	8	6	7	10	17	12	11	A	7	8	9	7	5	5	4	4	4	3	6.5	16.9
9-Jan	3	3	3	3	5	5	6	6	6	6	7	9	A	7	6	3	2	2	3	4	3	1	2	2	4.2	9.3
10-Jan	6	6	8	6	4	2	2	3	3	3	4	A	4	5	8	5	6	4	3	5	5	5	3	2	4.5	8.4
11-Jan	5	2	1	1	1	1	1	1	1	1	A	2	2	2	2	3	2	1	2	1	1	1	1	1	1.6	4.7
12-Jan	3	4	3	2	1	1	1	1	1	1	A	3	3	3	2	2	2	2	2	2	2	3	2	3	2.1	3.9
13-Jan	5	4	7	2	4	3	3	5	A	10	9	6	7	10	9	4	4	5	9	5	5	5	4	3	5.5	10.4
14-Jan	4	2	2	2	4	5	3	A	1	2	2	1	1	1	1	1	1	2	2	2	1	2	1	0	1.9	4.7
15-Jan	1	1	1	1	0	0	A	1	1	1	1	1	0	1	P	P	P	P	P	P	P	P	P	P	--	0.7
16-Jan	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	--	--
17-Jan	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	--	--
18-Jan	2	2	2	A	3	2	2	2	2	P	3	3	2	C	C	C	C	C	1	1	1	1	1	1	--	2.7
19-Jan	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	5	1.2	4.6
20-Jan	3	A	3	2	2	2	2	2	2	3	5	7	6	4	4	3	3	3	3	2	2	2	2	2	2.9	6.8
21-Jan	A	2	3	3	3	3	2	2	2	5	4	8	3	2	2	11	3	2	2	1	1	1	1	A	3.0	10.7
22-Jan	2	1	1	1	1	1	1	1	1	1	2	2	3	3	3	4	4	4	4	4	5	5	A	11	2.8	10.9
23-Jan	10	7	9	3	2	3	2	2	2	2	2	2	3	2	2	2	3	4	4	3	1	A	1	1	3.2	9.6
24-Jan	1	1	1	1	1	1	1	1	1	2	2	2	1	2	2	2	2	2	4	5	A	3	4	3	1.8	4.7
25-Jan	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	A	1	1	1	0	0.9	2.2
26-Jan	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	A	1	8	2	1	1	1.1	8.1
27-Jan	1	1	1	4	2	1	1	1	1	1	1	1	1	1	3	1	1	A	1	1	1	1	2	2	1.1	4.2
28-Jan	2	3	4	6	7	11	7	7	9	12	11	13	8	8	8	7	A	8	7	7	6	5	4	2	7.0	12.7
29-Jan	1	1	1	1	3	2	2	3	3	3	2	2	1	1	1	A	1	1	1	1	1	1	1	1	1.6	3.4
30-Jan	1	1	2	1	1	1	1	1	4	5	3	3	3	3	A	3	4	5	5	6	4	4	3	4	3.0	5.5
31-Jan	4	3	2	1	1	1	1	2	2	2	2	2	3	A	1	2	1	1	1	1	2	11	13	7	2.9	12.7
	2.6	2.3	2.7	2.3	2.8	2.8	2.6	2.6	2.5	3.4	3.5	3.8	3.2	3.1	3.7	3.1	3.0	2.9	3.1	2.9	2.9	2.9	2.4	2.5	Diurnal Average	
	9.6	7.5	9.4	5.9	9.5	11.8	10.7	6.7	8.7	12.1	16.9	12.7	11.5	10.2	11.8	10.7	8.6	8.3	8.8	7.4	8.1	11.0	12.7	10.9	Diurnal Maximum	

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



## Hourly Maximums

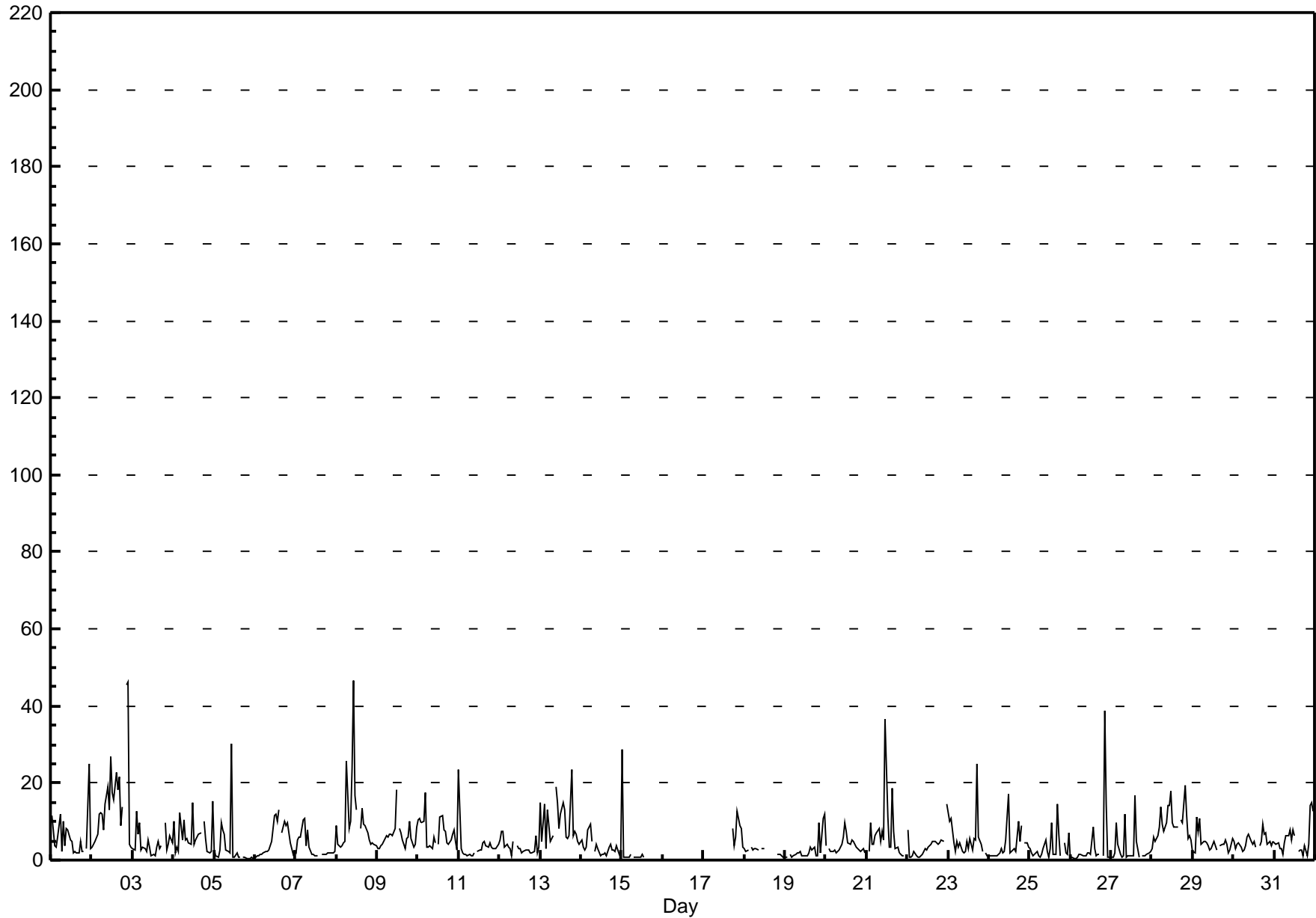
Oxides of Nitrogen (NO<sub>x</sub>) - ppb

Portable Reno - January 2014

Maximum Value: 46.5 ppb on Jan 8 11:00		Maximum Daily Average: 15.4 ppb on Jan 2		Hours in Service: 744																							
Minimum Value: 0 ppb on Jan 26 01:00		Minimum Daily Average: 2.8 ppb on Jan 19		Hours of Data: 656																							
Maximum Diurnal Average: 8.0 ppb at hour 12		Minimum Diurnal Average: 3.4 ppb at hour 2		Hours of Missing Data: 88																							
Monthly Average: 5.38 ppb		Percentiles: P <sub>1</sub> = 0.6 P <sub>10</sub> = 1.0 Q <sub>1</sub> = 2.0 Median = 3.6 Q <sub>3</sub> = 6.6 P <sub>90</sub> = 11.7 P <sub>99</sub> = 28.6		Hours of Calibration: 36																							
				Percent Operational Time: 93.0																							
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-Jan	12	8	4	3	6	12	2	10	4	8	8	5	5	2	2	2	2	5	2	2	A	3	25	3	5.8	25.0	
2-Jan	3	4	5	7	12	12	12	8	14	19	13	27	18	16	23	18	22	9	14	A	46	46	4	3	15.4	46.3	
3-Jan	3	2	13	7	10	2	3	3	2	5	3	1	1	1	3	5	3	4	A	10	3	4	6	4	4.3	12.7	
4-Jan	10	2	3	2	12	5	11	5	5	5	4	15	4	5	6	7	7	A	10	6	2	2	2	15	6.4	15.3	
5-Jan	2	1	1	3	10	8	7	3	2	2	30	1	1	2	1	1	A	1	1	1	1	1	1	1	3.3	30.3	
6-Jan	1	1	1	2	2	2	2	2	3	4	5	12	12	10	13	A	7	10	9	10	7	4	1	2	5.3	13.1	
7-Jan	2	5	6	6	11	11	4	8	3	2	1	1	1	1	A	1	1	1	2	2	2	2	2	2	3.3	10.8	
8-Jan	9	4	4	4	4	5	26	8	10	24	46	17	13	A	8	14	9	9	7	5	4	5	4	4	10.6	46.5	
9-Jan	3	3	4	4	5	6	6	7	7	6	8	18	A	8	7	5	3	6	6	10	6	3	4	8	6.3	18.1	
10-Jan	11	11	10	10	17	3	3	4	3	6	4	A	4	11	12	8	8	5	4	5	7	8	5	3	7.0	17.5	
11-Jan	23	3	2	2	1	1	1	1	1	2	A	2	2	3	4	5	4	3	5	3	3	3	3	4	3.6	23.3	
12-Jan	5	7	8	3	4	3	3	1	5	A	4	3	3	2	2	2	3	2	2	2	2	6	2	3	3.4	7.5	
13-Jan	15	5	14	3	13	9	5	6	A	19	15	8	12	15	13	6	6	7	24	6	8	7	5	4	9.7	23.7	
14-Jan	5	3	3	3	8	9	5	A	2	4	3	1	1	1	2	1	3	4	3	2	2	4	1	1	3.2	9.3	
15-Jan	29	1	1	1	1	2	A	1	1	1	1	1	1	1	P	P	P	P	P	P	P	P	P	P	--	28.7	
16-Jan	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	--	--	
17-Jan	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	--	--	
18-Jan	3	2	3	A	3	3	3	3	3	P	3	3	3	C	C	C	C	C	C	2	1	1	1	1	--	3.4	
19-Jan	1	1	A	1	1	1	2	2	2	2	1	1	1	1	2	3	3	3	3	1	1	10	2	11	12	2.8	12.0
20-Jan	4	A	3	2	2	3	2	2	3	4	6	10	8	5	4	5	5	4	3	3	2	3	3	2	3.8	9.9	
21-Jan	A	2	10	4	4	7	7	8	5	7	5	36	11	3	3	19	8	3	3	2	1	1	1	A	6.9	36.4	
22-Jan	8	1	1	1	2	1	1	1	1	1	3	3	3	4	4	5	5	4	4	4	5	5	A	15	3.6	14.6	
23-Jan	12	10	11	5	2	5	3	4	2	2	2	5	3	5	3	6	5	25	6	4	2	A	2	1	5.5	25.1	
24-Jan	1	1	1	1	1	1	2	3	2	2	5	17	2	2	3	3	2	10	5	9	A	4	4	3	3.7	17.3	
25-Jan	3	2	1	2	2	1	1	2	3	5	2	1	3	10	1	1	15	7	1	A	4	2	2	7	3.4	14.6	
26-Jan	0	1	1	0	1	2	1	1	1	1	2	2	1	9	3	1	2	2	A	1	39	15	1	1	3.8	38.9	
27-Jan	1	1	2	10	4	2	1	1	12	1	1	1	1	1	17	5	1	A	1	1	1	1	2	2	3.0	16.7	
28-Jan	3	6	5	6	9	14	10	7	10	14	14	18	10	9	9	9	A	10	10	19	12	6	6	5	9.5	19.3	
29-Jan	2	2	11	7	11	4	5	5	4	4	3	3	5	4	2	A	4	4	4	5	4	2	2	6	4.5	11.3	
30-Jan	5	3	4	4	3	2	2	4	6	7	5	4	5	3	A	4	5	9	7	7	4	5	4	5	4.7	9.3	
31-Jan	4	4	4	3	3	2	4	6	6	8	5	8	6	A	2	2	2	1	4	1	4	14	15	13	5.4	14.9	
		6.5	3.4	4.7	3.8	5.7	4.7	4.8	4.1	4.4	6.1	7.3	8.0	5.0	5.1	6.0	5.5	5.3	6.0	5.4	4.8	7.2	6.0	4.6	4.8	Diurnal Average	
		28.7	10.9	14.4	10.1	17.5	13.7	25.9	10.2	14.5	23.7	46.5	36.4	17.5	15.6	22.7	18.6	21.8	25.1	23.7	19.3	45.6	46.3	25.0	15.3	Diurnal Maximum	
C - Calibration		P - Power Failure						A - Automated Daily Zero Span																			

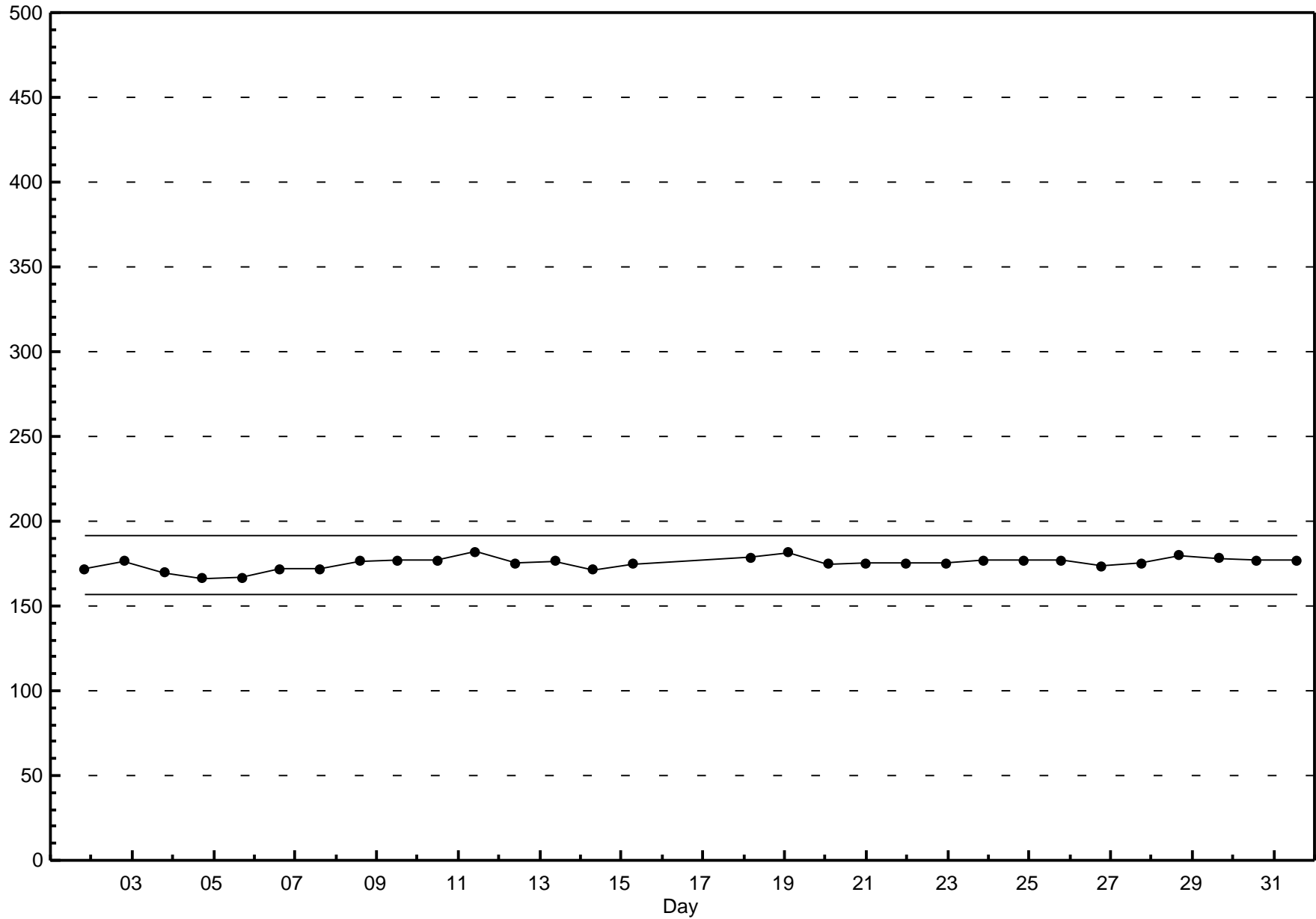
### Hourly Maximums

Oxides of Nitrogen (NO<sub>x</sub>) - ppb  
Portable Reno - January 2014



### Span Responses

Oxides of Nitrogen (NO<sub>x</sub>)  
Portable Reno - January 2014





Peace Airshed Zone Association

# Hourly Averages

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

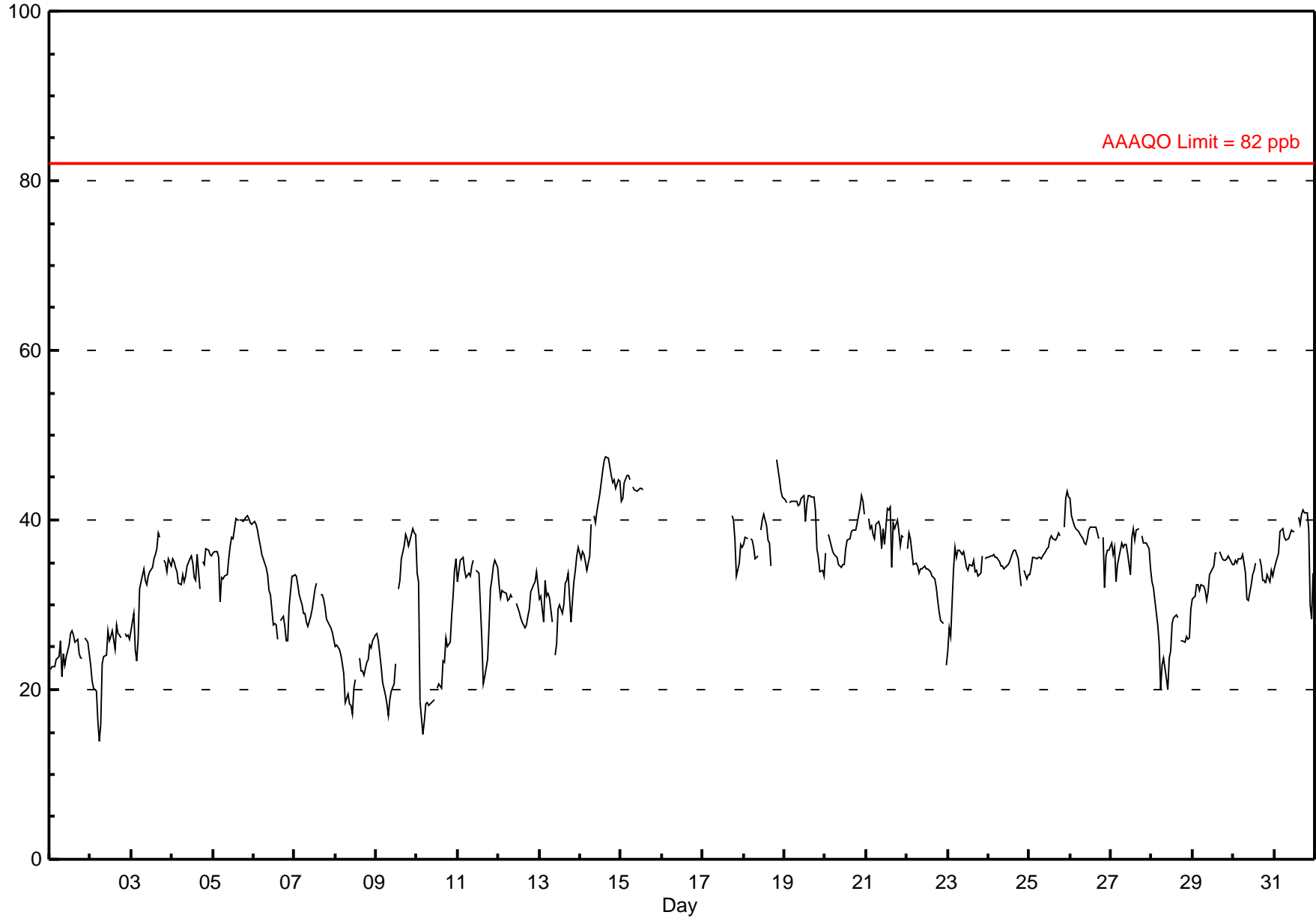
Portable Reno - January 2014

Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 47.4 ppb on Jan 14 16:00	Maximum Daily Average: 41.8 ppb on Jan 14		Hours of Data:	660
Minimum Value: 14 ppb on Jan 2 06:00	Minimum Daily Average: 22.4 ppb on Jan 8		Hours of Missing Data:	84
Maximum Diurnal Average: 34.8 ppb at hour 23	Minimum Diurnal Average: 31.7 ppb at hour 10		Hours of Calibration:	32
Monthly Average: 33.29 ppb	Percentiles: P <sub>1</sub> = 18.0 P <sub>10</sub> = 23.8 Q <sub>1</sub> = 29.1 Median = 34.5 Q <sub>3</sub> = 37.7 P <sub>90</sub> = 40.5 P <sub>99</sub> = 45.7		Percent Operational Time:	93.0

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-Jan	22	23	23	23	24	24	26	22	24	23	24	25	27	27	26	26	26	24	24	24	A	26	26	24	24.4	27.0	
2-Jan	23	21	20	20	16	14	16	23	24	24	24	27	26	26	27	25	28	27	26	26	A	27	26	26	26	23.6	27.6
3-Jan	27	29	25	23	26	32	33	34	33	32	33	34	34	35	36	37	39	38	A	35	35	34	35	35	32.8	38.5	
4-Jan	35	35	34	34	32	32	33	33	33	35	35	36	35	33	33	36	32	A	35	35	37	36	36	36	34.5	36.6	
5-Jan	36	36	36	36	30	33	33	33	33	35	37	38	38	40	40	40	A	40	40	40	40	40	40	40	37.2	40.5	
6-Jan	40	40	39	38	37	36	35	34	34	32	31	28	28	28	26	A	28	29	27	26	26	30	33	33	32.0	39.8	
7-Jan	34	33	32	31	30	29	29	28	27	29	29	31	32	32	A	31	31	31	30	28	28	27	27	26	29.8	33.5	
8-Jan	25	25	25	24	23	22	18	20	18	17	20	21	A	24	22	22	22	23	24	25	25	26	27	22.4	26.5		
9-Jan	27	26	24	23	21	19	18	17	19	20	21	23	A	32	33	35	37	38	38	37	38	39	38	38	28.7	39.0	
10-Jan	34	33	19	15	16	18	18	18	19	19	19	A	20	21	20	23	23	26	25	26	29	31	34	35	23.5	35.3	
11-Jan	33	35	35	36	34	33	34	33	35	35	A	34	34	30	26	21	22	24	28	32	33	35	35	34	31.7	35.6	
12-Jan	32	31	32	32	31	30	31	31	31	31	A	30	30	29	28	28	27	28	29	30	31	32	33	34	32	30.5	33.8
13-Jan	31	31	28	33	31	31	31	28	A	24	25	29	30	29	30	33	33	34	28	31	33	34	36	37	30.8	36.8	
14-Jan	35	36	36	35	34	36	40	A	41	40	41	43	44	46	47	47	47	46	45	44	45	44	45	44	41.8	47.4	
15-Jan	42	43	44	45	45	45	A	44	44	43	44	44	44	43	P	P	P	P	P	P	P	P	P	P	--	45.3	
16-Jan	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	--	--	
17-Jan	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	--	40.5	
18-Jan	37	38	38	A	38	38	37	35	36	P	39	40	41	39	38	37	35	C	C	47	46	45	43	43	39.4	47.2	
19-Jan	42	42	A	42	42	42	42	42	42	42	42	43	43	40	42	43	43	43	41	37	36	34	34	33	40.5	42.9	
20-Jan	36	A	38	38	36	36	36	36	35	34	35	35	37	38	38	39	39	39	39	40	41	43	42	41	37.7	42.9	
21-Jan	A	40	39	39	38	38	39	40	39	37	39	37	41	41	41	34	40	39	40	39	37	38	38	A	38.8	41.5	
22-Jan	37	38	38	36	35	35	35	34	34	34	35	34	34	34	34	33	33	32	30	29	28	28	A	23	33.2	38.4	
23-Jan	24	27	26	34	37	36	36	36	36	36	35	34	34	35	35	35	34	34	33	34	36	A	35	36	33.9	36.7	
24-Jan	36	36	36	36	36	36	35	35	34	34	34	35	35	36	36	36	36	35	34	32	A	34	33	34	34.9	36.4	
25-Jan	33	34	36	36	35	36	36	35	36	36	37	37	38	38	38	38	38	38	38	A	39	43	43	43	37.4	43.3	
26-Jan	43	41	39	39	39	39	38	38	37	37	38	39	39	39	39	39	39	39	38	A	38	32	36	36	36	38.1	42.5
27-Jan	37	36	37	33	35	36	37	37	37	37	36	34	38	39	38	39	39	A	38	37	37	37	37	34	36.8	39.0	
28-Jan	33	32	31	28	25	20	23	24	21	20	24	25	28	29	29	29	A	26	26	26	26	26	26	29	26.2	32.8	
29-Jan	31	31	32	32	32	32	32	32	31	32	34	34	35	36	36	A	36	35	35	35	35	36	35	35	33.7	36.3	
30-Jan	35	35	35	36	35	36	35	34	31	31	32	34	34	35	A	35	35	33	33	33	34	33	34	33	33.9	35.9	
31-Jan	34	35	36	39	39	39	38	38	38	38	39	39	39	A	40	39	41	41	41	41	39	30	28	34	37.6	41.3	
33.3 33.7 32.6 32.6 32.2 32.2 31.9 31.9 32.2 31.7 32.6 33.5 34.1 34.5 33.7 34.0 33.8 33.9 33.3 34.0 34.3 34.1 34.8 34.2																								Diurnal Average			
42.5 42.6 44.4 45.2 45.3 44.7 42.2 43.9 43.5 43.4 43.5 43.7 44.5 45.8 47.0 47.4 47.4 46.3 45.2 47.2 46.0 44.8 44.7 44.5																								Diurnal Maximum			

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







## Hourly Maximums

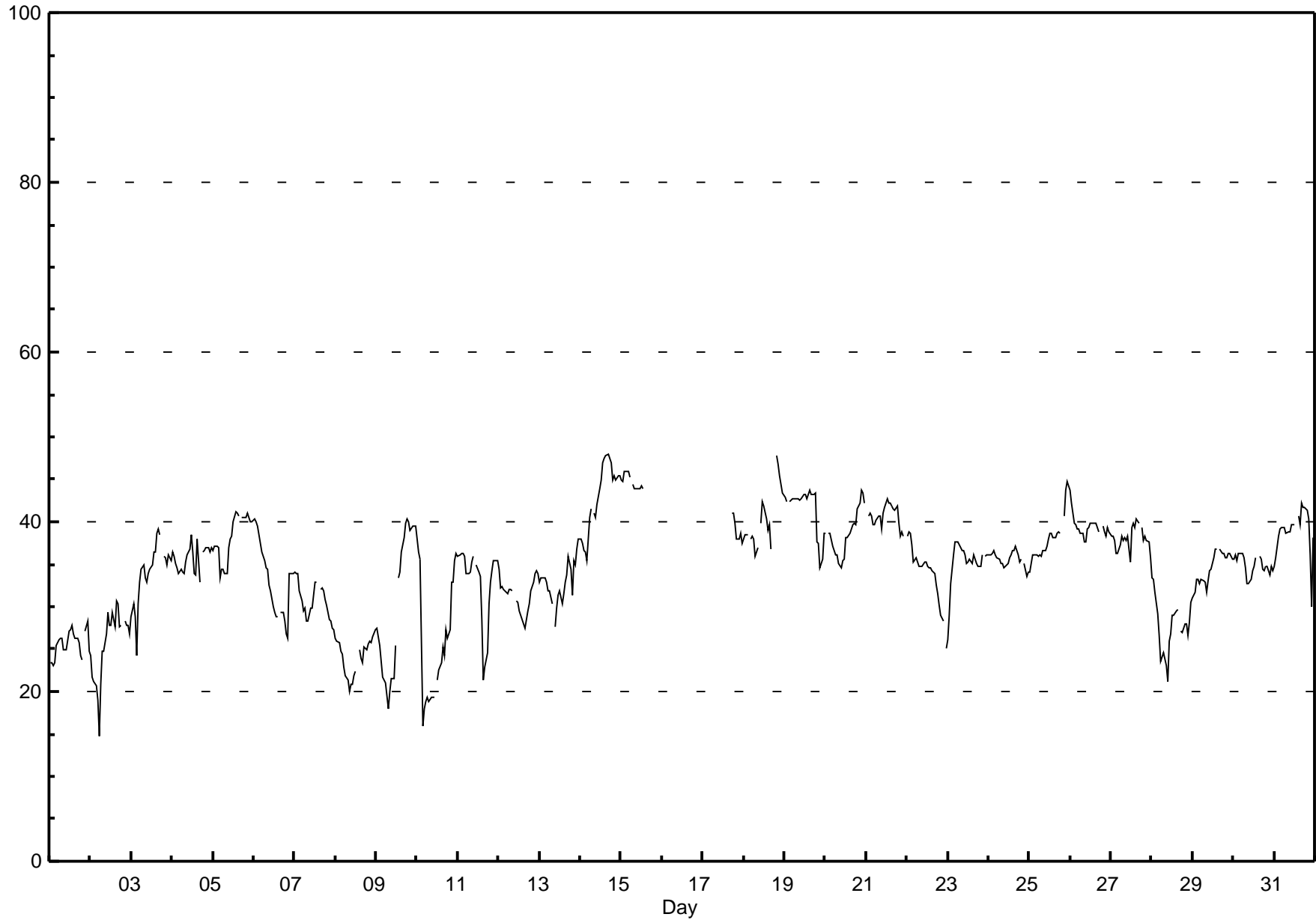
Ozone (O<sub>3</sub>) - ppb

Portable Reno - January 2014

Maximum Value: 47.9 ppb on Jan 14 17:00		Maximum Daily Average: 43.0 ppb on Jan 14		Hours in Service: 744																																												
Minimum Value: 15 ppb on Jan 2 06:00		Minimum Daily Average: 24.0 ppb on Jan 8		Hours of Data: 660																																												
Maximum Diurnal Average: 35.8 ppb at hour 23		Minimum Diurnal Average: 32.9 ppb at hour 8		Hours of Missing Data: 84																																												
Monthly Average: 34.51 ppb		Percentiles: P <sub>1</sub> = 19.2 P <sub>10</sub> = 25.4 Q <sub>1</sub> = 30.6 Median = 35.6 Q <sub>3</sub> = 38.7 P <sub>90</sub> = 41.8 P <sub>99</sub> = 46.9		Hours of Calibration: 32																																												
				Percent Operational Time: 93.0																																												
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-Jan	23	23	23	23	25	26	26	26	25	25	25	27	27	28	27	26	26	26	24	24	A	27	28	25	25.6	28.3																						
2-Jan	24	22	21	21	19	15	21	25	25	27	29	28	28	29	28	31	30	28	28	A	28	28	28	27	25.6	30.8																						
3-Jan	29	30	29	24	30	33	34	35	33	33	34	34	35	36	36	39	39	38	A	36	36	35	36	35	33.9	39.1																						
4-Jan	36	36	35	35	34	34	34	34	35	36	37	38	36	34	34	38	33	A	36	37	37	37	36	37	35.6	38.4																						
5-Jan	37	37	37	37	33	34	34	34	34	37	38	38	40	41	41	41	A	41	41	41	41	40	40	40	38.1	41.3																						
6-Jan	40	40	39	38	37	36	35	35	34	33	32	30	29	29	A	29	29	28	27	26	34	34	34	33.1	40.3																							
7-Jan	34	34	34	32	31	30	30	28	28	30	30	31	33	33	A	32	32	32	31	30	29	28	28	27	30.7	34.1																						
8-Jan	26	26	26	25	24	23	22	21	20	21	21	22	22	A	25	24	23	25	25	26	26	26	27	24.0	27.3																							
9-Jan	27	26	25	24	22	21	19	18	20	21	22	25	A	33	34	36	38	40	40	40	39	39	39	39	30.1	40.4																						
10-Jan	38	36	36	16	18	19	19	19	19	19	19	A	21	22	23	25	24	27	26	27	33	33	35	36	25.8	38.0																						
11-Jan	36	36	36	36	36	34	34	34	35	36	A	35	34	34	28	21	23	25	30	33	34	35	35	35	32.9	36.3																						
12-Jan	34	32	32	32	32	31	32	32	32	A	31	30	29	29	28	27	28	29	30	32	33	34	34	34	31.3	34.5																						
13-Jan	33	33	33	33	33	32	32	30	A	28	30	31	32	30	32	33	34	36	34	31	35	35	37	38	32.9	37.9																						
14-Jan	38	37	37	36	35	40	41	A	41	40	42	44	45	47	47	48	48	47	47	45	45	45	45	45	43.0	47.9																						
15-Jan	45	45	46	46	46	45	A	44	44	44	44	44	44	44	P	P	P	P	P	P	P	P	P	P	--	45.9																						
16-Jan	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	--	--																						
17-Jan	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	--	41.0																						
18-Jan	38	38	39	A	38	38	38	36	37	P	40	42	42	40	39	40	37	C	C	48	47	45	44	43	40.5	47.8																						
19-Jan	43	42	A	42	43	43	43	43	43	43	43	43	43	43	44	43	43	43	38	37	35	36	39	39	41.6	43.8																						
20-Jan	39	A	39	39	37	37	36	36	35	35	35	36	38	38	39	39	40	40	40	42	42	44	43	42	38.7	43.7																						
21-Jan	A	41	41	41	40	40	40	41	41	39	41	42	43	42	42	42	41	41	42	40	38	39	38	A	40.7	42.8																						
22-Jan	38	39	39	37	35	36	35	35	35	35	35	35	35	35	35	34	34	33	32	30	29	28	A	25	34.0	38.8																						
23-Jan	26	29	33	36	38	38	38	37	37	37	36	35	35	36	35	36	36	35	35	35	36	A	36	36	35.2	37.6																						
24-Jan	36	36	36	37	36	36	36	35	35	35	35	35	36	36	37	37	37	36	35	36	A	35	34	34	35.6	37.2																						
25-Jan	34	35	36	36	36	36	36	36	37	37	37	38	39	39	38	38	39	39	39	A	41	44	45	44	38.1	44.7																						
26-Jan	44	42	40	40	39	39	39	39	38	38	39	39	40	40	40	40	39	39	A	39	39	38	39	39	39.4	43.7																						
27-Jan	38	38	38	36	36	37	38	38	38	38	38	38	35	39	40	39	40	40	A	39	38	38	38	36	38.0	40.3																						
28-Jan	33	33	32	29	27	24	24	25	23	21	26	27	29	29	30	30	A	27	27	28	28	27	28	31	27.6	33.3																						
29-Jan	31	32	33	33	33	33	33	33	32	33	34	34	36	37	37	A	37	36	36	36	36	36	36	36	34.4	36.8																						
30-Jan	36	36	35	36	36	36	36	35	33	33	33	34	35	36	A	36	36	34	34	35	35	34	35	34	34.9	36.3																						
31-Jan	35	36	38	39	39	39	39	39	39	39	40	40	40	A	41	40	42	42	42	41	40	36	30	38	38.9	42.3																						
																								34.7	34.7	34.6	33.6	33.4	33.3	33.1	32.9	33.1	33.0	33.8	34.8	35.2	35.5	34.9	35.2	35.0	35.0	34.9	35.3	35.8	35.5	35.8	35.5	Diurnal Average
																								44.9	44.8	45.9	45.9	45.2	42.8	44.4	43.9	43.9	43.9	43.9	44.9	46.9	47.5	47.9	47.9	47.9	47.4	46.9	47.8	46.7	45.5	45.4	45.4	Diurnal Maximum
C - Calibration																								P - Power Failure						A - Automated Daily Zero Span																		

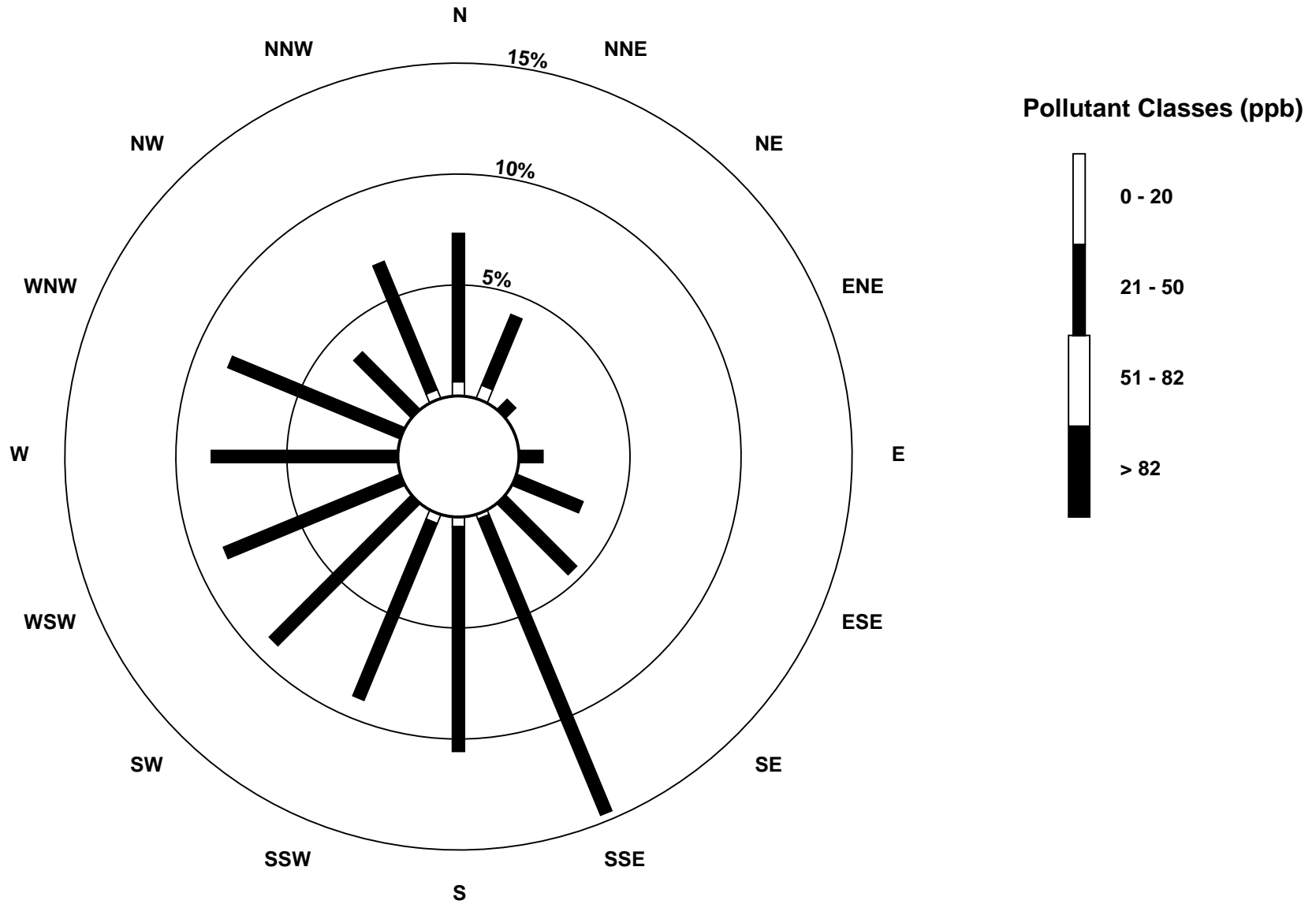
### Hourly Maximums

Ozone (O<sub>3</sub>) - ppb  
Portable Reno - January 2014



**Pollutant Rose**

**Ozone (O<sub>3</sub>) - ppb**  
**Portable Reno - January 2014**



### Eight Hour Running Averages

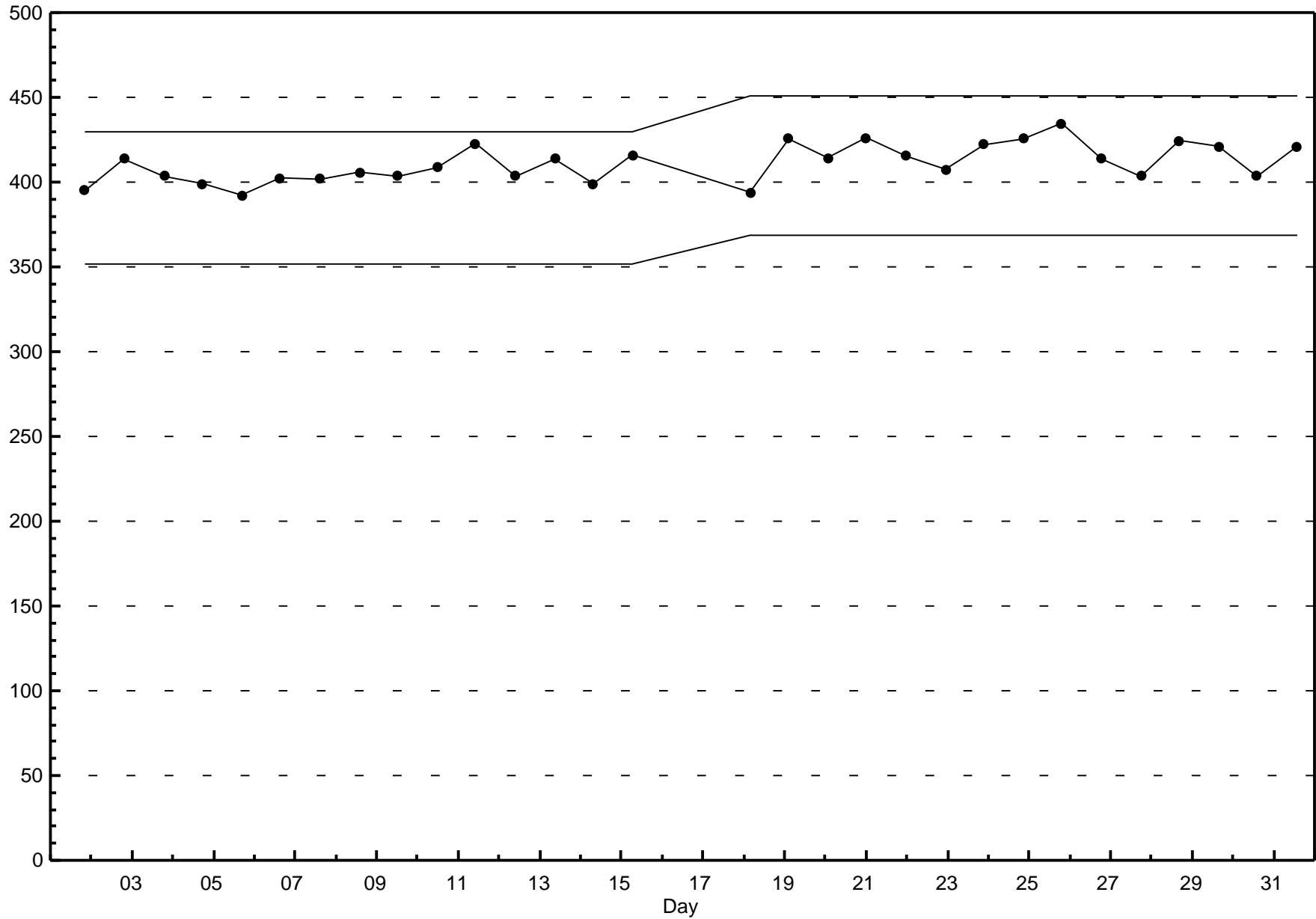
Ozone (O<sub>3</sub>) - ppb

Portable Reno - January 2014

Maximum Value: 46.0 ppb on Jan 14 21:00																								Hours in Service:	744
Minimum Value: 17.7 ppb on Jan 10 10:00																								Hours of Data:	690
Percentiles: P <sub>1</sub> = 19.2 P <sub>10</sub> = 24.0 Q <sub>1</sub> = 29.1 Median = 34.4 Q <sub>3</sub> = 37.4 P <sub>90</sub> = 40.1 P <sub>99</sub> = 45.0																								Hours of Missing Data:	54
																								Hours of Calibration:	0
																								Percent Operational Time:	92.7
Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	22	22	22	23	23	23	23	23	23	23	24	24	24	25	25	25	26	26	25	25	25	25	25	25	25.6
2-Jan	24	24	23	23	22	20	19	19	19	20	20	21	22	24	25	26	26	26	26	26	26	26	27	26	26.6
3-Jan	26	27	27	26	26	27	28	29	29	30	31	32	33	34	34	34	35	36	36	36	36	36	36	36	36.4
4-Jan	35	35	35	35	34	34	34	34	33	33	34	34	34	34	34	35	34	34	34	34	34	35	35	35	35.4
5-Jan	36	36	36	36	35	35	35	34	34	34	34	34	35	36	37	38	38	39	39	40	40	40	40	40	40.1
6-Jan	40	40	40	39	39	38	38	37	36	36	35	33	32	31	30	29	29	28	28	27	27	27	28	29	40.0
7-Jan	30	30	31	32	32	32	31	31	30	29	29	29	29	30	30	30	31	31	31	31	30	29	29	28	32.2
8-Jan	28	27	26	26	25	25	24	23	22	21	20	20	19	19	20	20	21	21	22	23	23	23	24	24	27.7
9-Jan	25	25	25	25	25	24	23	22	21	20	20	20	20	21	23	26	29	31	34	36	36	37	38	38	37.9
10-Jan	37	37	34	32	29	26	24	21	19	18	18	18	19	19	19	20	21	22	23	23	24	25	27	29	37.5
11-Jan	30	31	32	33	34	34	34	34	34	34	34	34	34	34	32	31	29	27	27	27	27	27	29	30	34.4
12-Jan	32	32	33	33	33	32	32	31	31	31	31	31	30	30	30	29	29	29	29	29	29	29	30	31	33.0
13-Jan	31	32	32	32	32	31	31	30	30	29	29	29	28	28	28	29	29	30	31	31	31	32	33	33	33.0
14-Jan	33	34	35	35	35	36	36	36	37	37	38	39	41	42	43	44	44	45	46	46	46	46	45	45	46.0
15-Jan	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	N	N	N	N	N	N	N	N	44.5
16-Jan	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-Jan	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	37.3
18-Jan	37	37	37	36	37	37	37	37	37	37	37	37	38	38	38	39	38	38	38	39	40	41	42	43	43.1
19-Jan	44	44	44	43	43	42	42	42	42	42	42	42	42	42	42	42	42	42	42	41	41	40	39	38	44.4
20-Jan	37	36	35	36	36	36	36	37	36	36	36	35	35	36	36	36	37	37	38	38	39	40	40	40	40.4
21-Jan	41	41	41	41	40	40	39	39	39	39	39	38	39	39	39	39	39	39	39	39	39	39	38	39	40.9
22-Jan	38	38	38	37	37	37	36	36	36	35	35	34	34	34	34	34	34	34	33	33	32	31	31	29	38.2
23-Jan	28	27	27	27	29	30	31	32	34	35	36	36	36	35	35	35	35	35	34	34	34	34	35	35	35.9
24-Jan	35	35	35	36	36	36	36	35	35	35	35	35	35	35	35	35	35	36	35	35	35	35	34	34	35.7
25-Jan	34	34	34	34	34	35	35	35	35	36	36	36	36	37	37	37	37	38	38	38	38	39	40	40	40.3
26-Jan	41	41	41	41	41	41	40	39	39	38	38	38	38	38	38	38	39	39	39	39	38	37	37	36	41.4
27-Jan	36	36	36	35	36	36	36	36	36	36	36	36	37	37	37	37	37	37	38	38	38	38	38	37	38.3
28-Jan	36	36	35	34	32	30	28	27	25	24	23	23	23	24	25	26	27	27	27	27	27	26	26	26	36.2
29-Jan	27	28	28	29	30	31	32	32	32	32	32	32	33	33	33	34	35	35	35	36	36	36	36	35	35.7
30-Jan	35	35	35	35	35	35	35	35	35	34	34	33	33	33	33	33	34	34	34	34	34	33	34	33	35.3
31-Jan	33	34	34	35	35	36	37	37	38	38	38	38	38	38	39	39	39	40	40	40	40	39	38	37	40.3
44.5 44.1 44.1 44.0 44.1 44.2 44.1 44.0 44.2 44.4 44.2 44.0 43.8 43.6 43.6 43.6 44.5 45.3 45.8 46.0 46.0 45.8 45.5 45.1																									
Diurnal Maximums																									
N - Not Valid																									

### Span Responses

Ozone (O<sub>3</sub>)  
Portable Reno - January 2014



## Hourly Averages

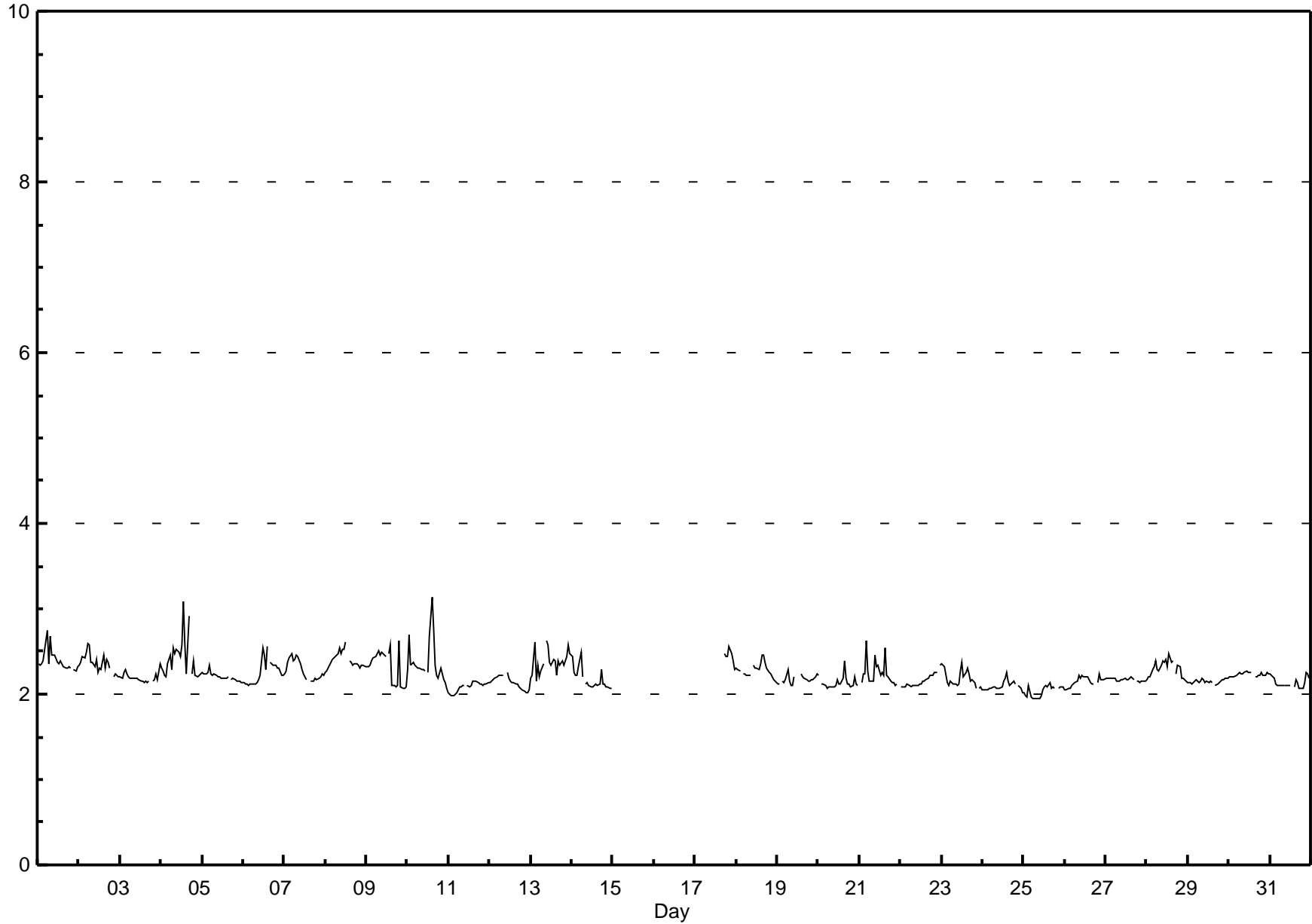
## Total Hydrocarbons (THC) - ppm

### Portable Reno - January 2014

Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 3.14 ppm on Jan 10 15:00	Maximum Daily Average: 2.41 ppm on Jan 4		Hours of Data:	646
Minimum Value: 1.9 ppm on Jan 25 07:00	Minimum Daily Average: 2.03 ppm on Jan 25		Hours of Missing Data:	98
Maximum Diurnal Average: 2.30 ppm at hour 15	Minimum Diurnal Average: 2.19 ppm at hour 23		Hours of Calibration:	32
Monthly Average: 2.230 ppm	Percentiles: P <sub>1</sub> = 1.97 P <sub>10</sub> = 2.09 Q <sub>1</sub> = 2.12 Median = 2.20 Q <sub>3</sub> = 2.31 P <sub>90</sub> = 2.44 P <sub>99</sub> = 2.66		Percent Operational Time:	91.1

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Jan	2.4	2.3	2.4	2.4	2.5	2.7	2.4	2.7	2.5	2.5	2.5	2.4	2.4	2.4	2.4	2.3	2.3	2.3	2.3	2.3	A	2.3	2.3	2.3	2.39	2.74																							
2-Jan	2.3	2.4	2.4	2.4	2.5	2.6	2.6	2.4	2.4	2.3	2.4	2.3	2.3	2.3	2.5	2.3	2.4	2.4	2.3	A	2.2	2.2	2.2	2.2	2.36	2.59																							
3-Jan	2.2	2.2	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.2	2.1	2.1	A	2.2	2.2	2.2	2.2	2.4	2.19	2.35																							
4-Jan	2.3	2.3	2.2	2.2	2.4	2.5	2.3	2.5	2.5	2.5	2.5	2.4	2.6	3.1	2.6	2.2	2.9	A	2.2	2.4	2.2	2.2	2.2	2.2	2.41	3.08																							
5-Jan	2.2	2.2	2.2	2.3	2.3	2.2	2.2	2.2	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	2.1	2.20	2.33																							
6-Jan	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.5	2.5	2.3	2.6	A	2.4	2.3	2.3	2.3	2.3	2.3	2.2	2.2	2.25	2.56																							
7-Jan	2.2	2.3	2.4	2.4	2.5	2.4	2.4	2.5	2.4	2.4	2.3	2.2	2.2	2.2	A	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.28	2.48																							
8-Jan	2.3	2.3	2.3	2.4	2.4	2.4	2.4	2.5	2.5	2.5	2.5	2.6	A	2.4	2.4	2.3	2.4	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.40	2.61																							
9-Jan	2.3	2.3	2.3	2.4	2.4	2.4	2.5	2.5	2.5	2.5	2.5	2.4	A	2.5	2.6	2.1	2.1	2.1	2.1	2.6	2.1	2.1	2.1	2.1	2.32	2.63																							
10-Jan	2.3	2.7	2.3	2.4	2.3	2.3	2.3	2.3	2.3	2.3	2.3	A	2.2	2.7	3.1	2.8	2.3	2.2	2.2	2.3	2.2	2.2	2.1	2.1	2.36	3.14																							
11-Jan	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	A	2.1	2.1	2.1	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.08	2.16																							
12-Jan	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	A	2.3	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.14	2.26																							
13-Jan	2.2	2.2	2.6	2.2	2.3	2.2	2.3	2.4	A	2.6	2.6	2.4	2.3	2.4	2.4	2.2	2.4	2.3	2.4	2.3	2.4	2.4	2.6	2.5	2.37	2.63																							
14-Jan	2.4	2.2	2.2	2.2	2.3	2.5	2.2	A	2.1	2.1	2.1	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	2.17	2.49																							
15-Jan	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	P	P	P	P	P	P	P	P	P	--	--																							
16-Jan	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	--	--																							
17-Jan	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	--	2.55																							
18-Jan	2.3	2.3	2.3	A	2.2	2.2	2.2	2.2	2.2	P	2.3	2.3	2.3	2.3	2.4	2.5	2.5	2.4	2.3	2.3	2.2	2.2	2.2	2.1	2.28	2.46																							
19-Jan	2.1	2.1	A	2.2	2.1	2.2	2.3	2.2	2.1	2.1	2.2	C	C	C	2.2	2.2	2.2	2.2	2.1	2.2	2.2	2.2	2.2	2.2	2.17	2.28																							
20-Jan	2.2	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	2.2	2.4	2.2	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.13	2.38																							
21-Jan	A	2.1	2.2	2.2	2.6	2.3	2.2	2.1	2.2	2.5	2.3	2.3	2.2	2.3	2.2	2.5	2.2	2.2	2.1	2.1	2.1	2.1	2.1	A	2.25	2.63																							
22-Jan	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	2.2	2.2	2.2	2.2	2.3	A	2.3	2.15	2.34																							
23-Jan	2.4	2.3	2.3	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.3	2.4	2.2	2.3	2.3	2.2	2.2	2.2	2.1	2.1	A	2.1	2.1	2.19	2.37																							
24-Jan	2.1	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.3	2.2	2.1	2.1	2.2	2.1	A	2.1	2.1	2.0	2.10	2.26																							
25-Jan	2.0	2.0	2.0	2.1	2.0	2.0	1.9	2.0	2.0	2.0	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	2.1	2.03	2.13																							
26-Jan	2.0	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	2.1	2.1	2.1	A	2.1	2.2	2.2	2.2	2.2	2.15	2.24																							
27-Jan	2.2	2.2	2.2	2.2	2.2	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	2.1	2.1	2.2	2.2	2.17	2.20																							
28-Jan	2.2	2.2	2.2	2.3	2.3	2.4	2.3	2.3	2.3	2.4	2.4	2.4	2.3	2.5	2.4	2.4	A	2.2	2.3	2.3	2.2	2.2	2.2	2.1	2.29	2.48																							
29-Jan	2.1	2.1	2.1	2.1	2.2	2.2	2.1	2.1	2.2	2.2	2.1	2.1	2.1	2.1	2.1	A	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.15	2.19																							
30-Jan	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.2	2.2	2.3	2.3	2.2	2.2	2.2	A	2.2	2.2	2.2	2.2	2.3	2.2	2.2	2.2	2.2	2.23	2.28																							
31-Jan	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	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.3	2.2	2.2	2.13	2.26																							
																								2.21	2.21	2.22	2.21	2.25	2.25	2.22	2.24	2.22	2.25	2.26	2.25	2.24	2.28	2.30	2.26	2.24	2.21	2.21	2.23	2.19	2.20	2.19	2.19	Diurnal Average	
																								2.44	2.70	2.61	2.42	2.63	2.74	2.58	2.68	2.54	2.63	2.57	2.53	2.61	3.08	3.14	2.77	2.91	2.48	2.44	2.63	2.55	2.47	2.58	2.47	Diurnal Maximum	

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



## Hourly Maximums

Total Hydrocarbons (THC) - ppm

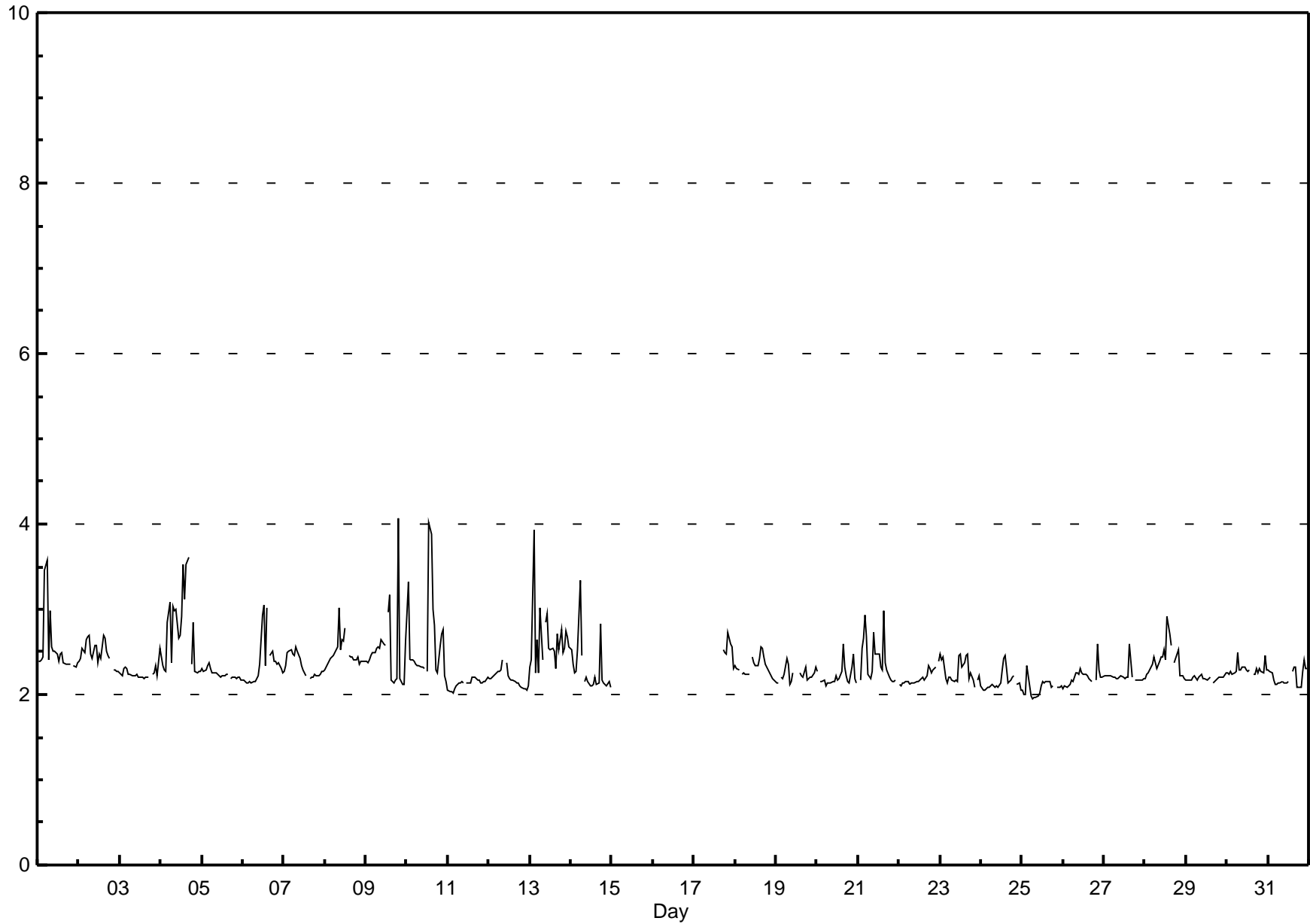
Portable Reno - January 2014

Maximum Value: 4.07 ppm on Jan 9 20:00		Maximum Daily Average: 2.74 ppm on Jan 4		Hours in Service: 744																																												
Minimum Value: 2.0 ppm on Jan 25 07:00		Minimum Daily Average: 2.08 ppm on Jan 25		Hours of Data: 646																																												
Maximum Diurnal Average: 2.47 ppm at hour 15		Minimum Diurnal Average: 2.25 ppm at hour 23		Hours of Missing Data: 98																																												
Monthly Average: 2.330 ppm		Percentiles: P <sub>1</sub> = 2.01 P <sub>10</sub> = 2.12 Q <sub>1</sub> = 2.17 Median = 2.25 Q <sub>3</sub> = 2.41 P <sub>90</sub> = 2.59 P <sub>99</sub> = 3.54		Hours of Calibration: 32																																												
Percent Operational Time: 91.1																										Daily Average	Daily Maximum																					
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																								
1-Jan	2.4	2.4	2.4	2.4	3.5	3.6	2.4	3.0	2.6	2.5	2.5	2.5	2.4	2.5	2.5	2.4	2.3	2.3	2.4	2.4	A	2.3	2.3	2.4	2.53	3.58																						
2-Jan	2.4	2.4	2.5	2.5	2.6	2.7	2.7	2.5	2.4	2.6	2.6	2.4	2.5	2.4	2.7	2.7	2.5	2.5	2.4	A	2.3	2.3	2.3	2.3	2.48	2.69																						
3-Jan	2.3	2.2	2.3	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	A	2.2	2.3	2.3	2.2	2.5	2.25	2.54																							
4-Jan	2.4	2.3	2.3	2.3	2.8	3.1	2.4	3.0	3.0	3.0	2.7	2.7	2.9	3.5	3.1	3.5	3.6	A	2.4	2.8	2.3	2.3	2.3	2.3	2.74	3.61																						
5-Jan	2.3	2.3	2.3	2.3	2.4	2.3	2.3	2.3	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	2.24	2.37																						
6-Jan	2.2	2.2	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.4	2.9	3.1	2.3	3.0	A	2.5	2.5	2.4	2.4	2.4	2.4	2.3	2.3	2.36	3.06																						
7-Jan	2.3	2.3	2.5	2.5	2.5	2.5	2.5	2.6	2.5	2.4	2.3	2.3	2.3	2.2	A	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.33	2.56																						
8-Jan	2.3	2.3	2.4	2.4	2.4	2.5	2.5	2.6	3.0	2.5	2.6	2.8	A	2.5	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.4	2.4	2.4	2.48	3.01																						
9-Jan	2.4	2.4	2.4	2.5	2.5	2.5	2.5	2.6	2.5	2.6	2.6	2.6	A	3.0	3.2	2.2	2.1	2.2	2.2	4.1	2.2	2.1	2.1	2.6	2.52	4.07																						
10-Jan	3.0	3.3	2.4	2.4	2.4	2.4	2.3	2.3	2.3	2.3	2.3	A	2.3	4.0	3.9	3.0	2.8	2.3	2.3	2.6	2.7	2.8	2.2	2.2	2.63	4.02																						
11-Jan	2.1	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	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.2	2.2	2.2	2.13	2.20																						
12-Jan	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.4	A	2.4	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.19	2.40																						
13-Jan	2.3	2.4	3.9	2.3	2.6	2.3	3.0	2.4	A	2.8	3.0	2.6	2.5	2.5	2.5	2.3	2.7	2.5	2.8	2.5	2.5	2.7	2.7	2.6	2.63	3.94																						
14-Jan	2.5	2.4	2.3	2.3	2.5	3.3	2.5	A	2.2	2.2	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.8	2.2	2.1	2.1	2.1	2.1	2.1	2.29	3.35																						
15-Jan	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	P	P	P	P	P	P	P	P	P	--	--																						
16-Jan	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	--	--																						
17-Jan	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	--	2.73																						
18-Jan	2.3	2.3	2.3	A	2.2	2.3	2.2	2.2	2.2	P	2.4	2.4	2.3	2.3	2.4	2.6	2.5	2.4	2.4	2.3	2.3	2.2	2.2	2.2	2.32	2.56																						
19-Jan	2.1	2.1	A	2.2	2.2	2.2	2.4	2.4	2.1	2.1	2.3	C	C	C	2.2	2.2	2.2	2.3	2.2	2.2	2.2	2.3	2.3	2.23	2.42																							
20-Jan	2.3	A	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.3	2.6	2.3	2.2	2.2	2.1	2.3	2.5	2.2	2.1	2.22	2.59																						
21-Jan	A	2.2	2.5	2.7	2.9	2.7	2.2	2.2	2.3	2.7	2.5	2.5	2.5	2.3	2.3	3.0	2.4	2.3	2.2	2.2	2.2	2.1	2.2	A	2.40	2.99																						
22-Jan	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	2.2	2.2	2.3	2.3	2.3	2.3	A	2.4	2.20	2.39																						
23-Jan	2.5	2.4	2.4	2.2	2.1	2.2	2.2	2.2	2.1	2.2	2.1	2.5	2.5	2.3	2.4	2.5	2.5	2.2	2.3	2.2	2.1	A	2.2	2.2	2.27	2.48																						
24-Jan	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.3	2.4	2.5	2.3	2.1	2.2	2.2	2.2	A	2.1	2.1	2.1	2.16	2.45																						
25-Jan	2.0	2.0	2.0	2.3	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.2	2.1	2.1	2.2	2.1	2.1	2.1	A	2.1	2.1	2.1	2.1	2.08	2.34																						
26-Jan	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.3	2.3	2.2	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	A	2.2	2.6	2.3	2.2	2.21	2.60																						
27-Jan	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	2.2	2.2	2.6	2.2	A	2.2	2.2	2.2	2.2	2.2	2.2	2.21	2.59																						
28-Jan	2.2	2.2	2.3	2.3	2.4	2.4	2.4	2.3	2.4	2.4	2.4	2.5	2.4	2.9	2.7	2.6	A	2.4	2.4	2.5	2.2	2.2	2.2	2.2	2.39	2.92																						
29-Jan	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	2.2	2.2	2.2	A	2.1	2.2	2.2	2.2	2.2	2.2	2.3	2.19	2.25																						
30-Jan	2.3	2.2	2.3	2.2	2.3	2.3	2.5	2.3	2.3	2.3	2.3	2.3	2.3	2.3	A	2.2	2.2	2.3	2.3	2.3	2.3	2.3	2.5	2.3	2.29	2.50																						
31-Jan	2.3	2.3	2.3	2.2	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.1	2.2	A	2.3	2.3	2.1	2.1	2.1	2.1	2.3	2.4	2.3	2.3	2.20	2.41																						
																								2.28	2.28	2.33	2.28	2.37	2.39	2.31	2.32	2.31	2.34	2.34	2.34	2.35	2.44	2.47	2.42	2.36	2.30	2.27	2.35	2.28	2.29	2.25	2.26	Diurnal Average
																								2.97	3.32	3.94	2.65	3.45	3.58	3.01	3.03	3.01	3.00	2.95	2.93	3.06	4.02	3.88	3.52	3.61	2.83	2.77	4.07	2.73	2.77	2.68	2.62	Diurnal Maximum
C - Calibration																								P - Power Failure				N - Not Valid				A - Automated Daily Zero Span																



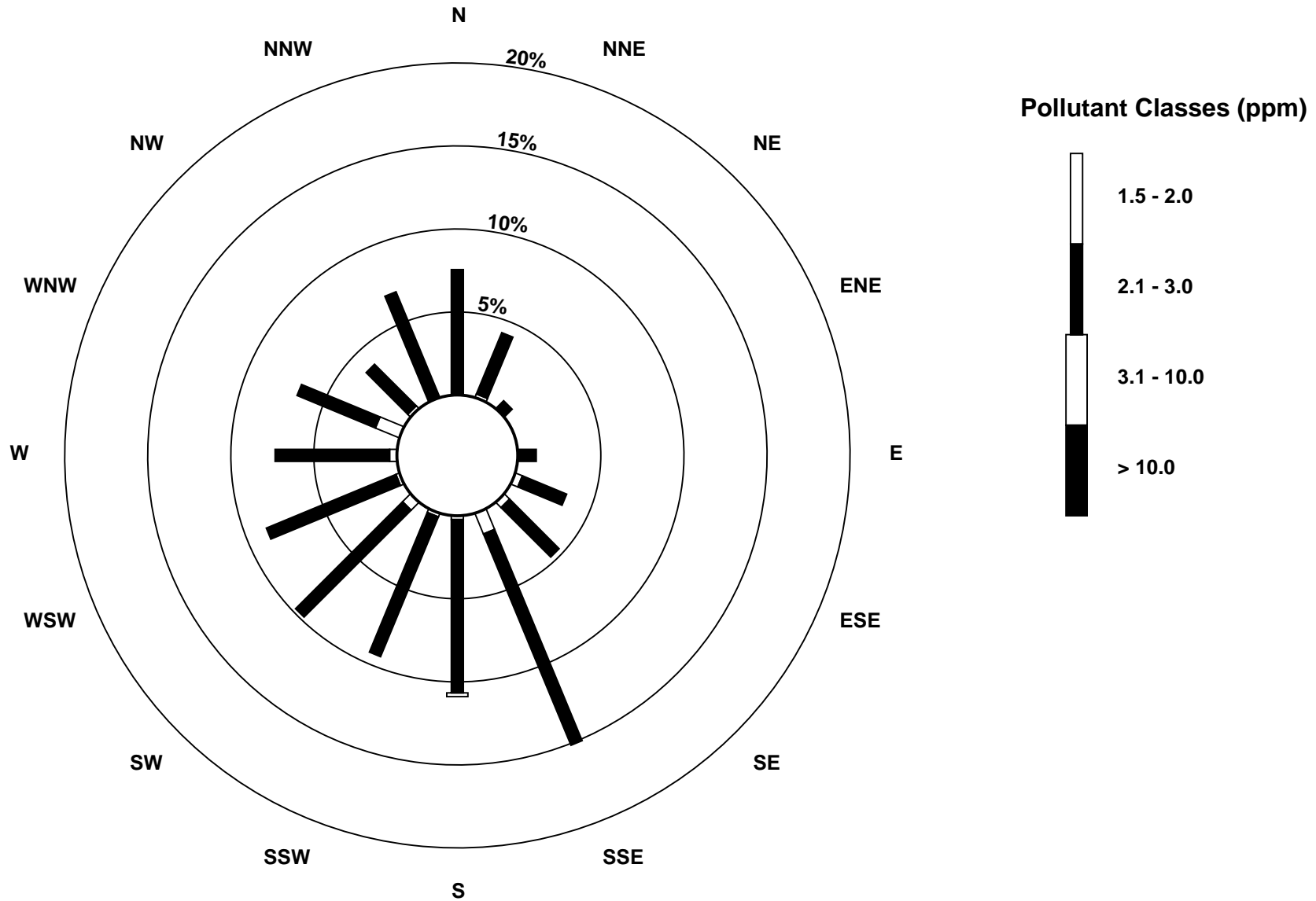
**Hourly Maximums**

**Total Hydrocarbons (THC) - ppm**  
**Portable Reno - January 2014**



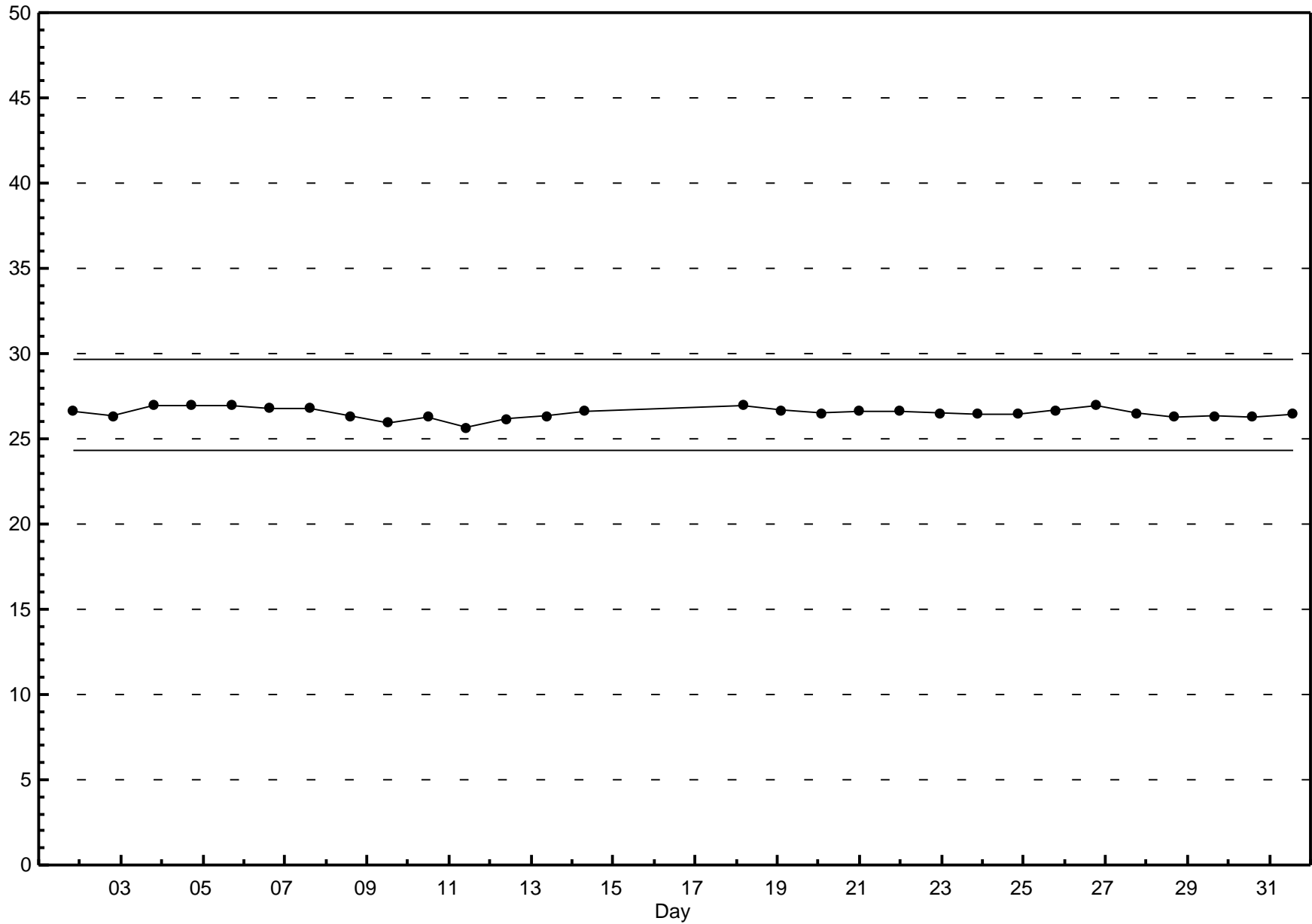
**Pollutant Rose**

**Total Hydrocarbons (THC) - ppm**  
**Portable Reno - January 2014**



### Span Responses

Total Hydrocarbons (THC)  
Portable Reno - January 2014



## Hourly Averages

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

Portable Reno - January 2014

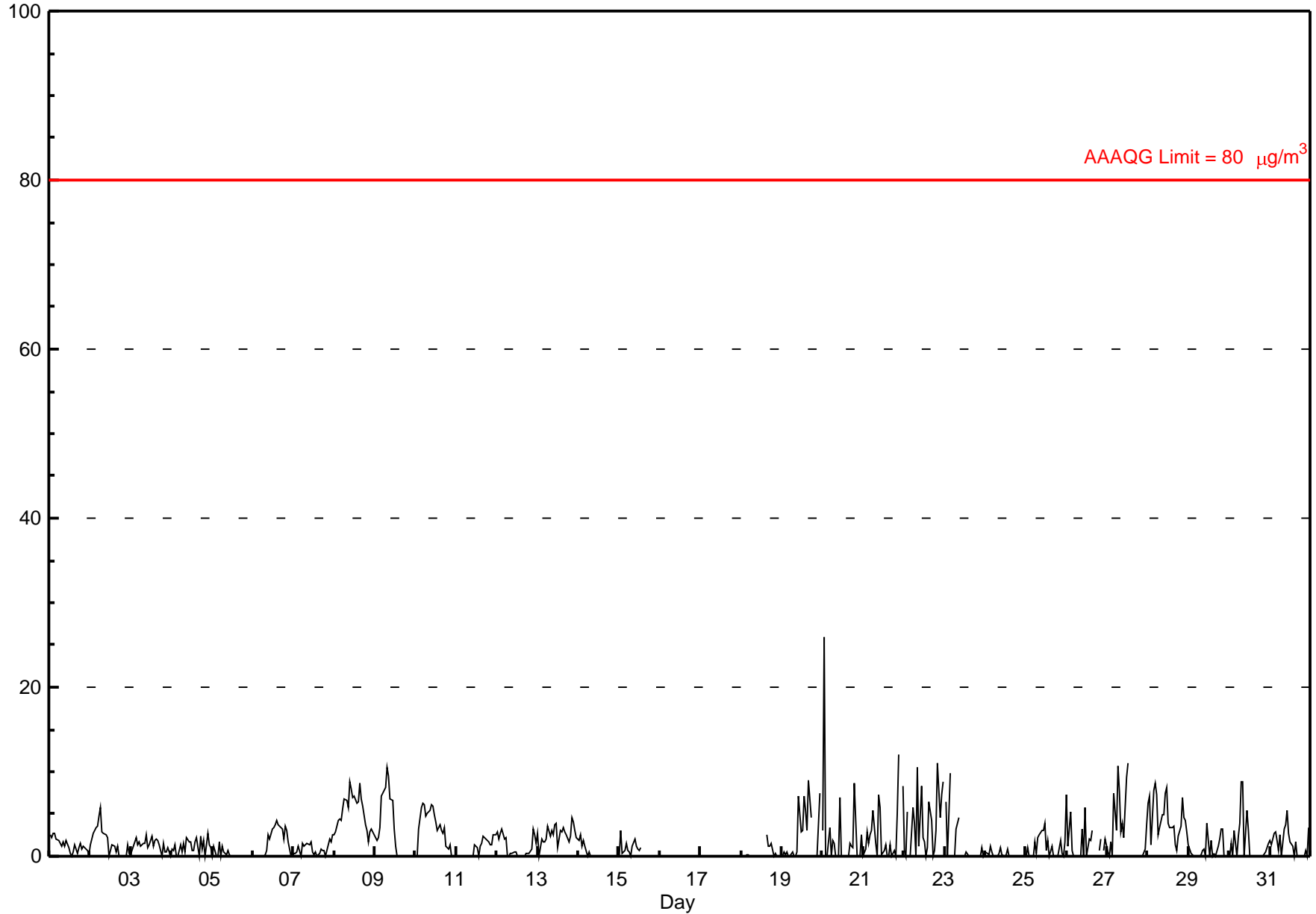
Number of Exceedences: 1-hr: 0 24-hr: 0	Hours in Service: 744
Maximum Value: 26.0 µg/m <sup>3</sup> on Jan 20 02:00	Maximum Daily Average: 5.2 µg/m <sup>3</sup> on Jan 8
Minimum Value: 0 µg/m <sup>3</sup> on Jan 1 14:00	Hours of Data: 667
Maximum Diurnal Average: 3.0 µg/m <sup>3</sup> at hour 11	Hours of Missing Data: 77
Monthly Average: 1.85 µg/m <sup>3</sup>	Hours of Calibration: 0
Minimum Daily Average: 0.2 µg/m <sup>3</sup> on Jan 24	Percent Operational Time: 89.7
Minimum Diurnal Average: 0.9 µg/m <sup>3</sup> at hour 19	
Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.0 Q <sub>1</sub> = 0.0 Median = 1.1 Q <sub>3</sub> = 2.7 P <sub>90</sub> = 5.4 P <sub>99</sub> = 10.5	

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Jan	3	2	3	3	2	2	2	1	2	1	2	1	0	0	1	1	0	1	2	1	1	1	1	0	1.3	2.8																							
2-Jan	1	2	3	3	3	5	6	3	3	2	2	0	1	1	1	1	1	0	0	0	0	0	1	0	1.7	5.8																							
3-Jan	0	1	2	2	1	2	1	2	1	3	1	1	2	1	2	2	2	1	0	1	0	1	1	0	1.3	2.6																							
4-Jan	1	1	1	0	0	1	0	2	1	2	2	2	1	1	2	2	0	2	1	2	0	3	1	1	1.2	2.6																							
5-Jan	0	1	0	0	2	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.7																							
6-Jan	0	0	0	0	0	0	0	0	1	2	2	3	3	4	4	4	4	3	2	4	3	2	0	0	1.7	4.2																							
7-Jan	0	0	1	1	0	2	1	1	2	1	2	0	0	1	0	0	1	1	1	0	1	2	2	3	0.9	2.6																							
8-Jan	3	3	4	4	4	6	7	7	6	9	8	7	7	6	6	9	7	6	4	3	2	3	3	3	5.2	8.8																							
9-Jan	2	2	2	3	7	8	8	11	10	7	7	3	1	0	0	0	0	0	0	0	0	0	0	0	2.9	10.5																							
10-Jan	0	0	3	6	6	6	5	5	5	6	6	5	4	3	4	3	3	3	1	1	1	0	0	0	3.2	6.2																							
11-Jan	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	2	2	2	2	2	1	1	2	3	0.9	2.6																							
12-Jan	3	2	3	3	2	2	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	3	2	1	1.1	3.3																						
13-Jan	3	0	2	2	2	2	4	2	3	3	4	4	1	3	3	3	3	3	2	2	5	4	3	2	2.6	4.5																							
14-Jan	2	3	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	2.6																							
15-Jan	0	3	0	1	2	1	0	0	1	2	1	1	1	1	P	P	P	P	P	P	P	P	P	P	--	3.1																							
16-Jan	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	--	--																							
17-Jan	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	--	0.0																							
18-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	N	3	1	1	2	0	0	0	0	0	0.3	2.5																							
19-Jan	0	0	0	0	0	0	1	0	0	1	7	3	3	7	5	3	9	5	N	0	0	0	7	N	2.3	8.9																							
20-Jan	3	26	0	0	3	0	2	2	0	0	7	0	N	N	N	0	2	1	1	9	0	0	0	3	2.7	26.0																							
21-Jan	0	1	3	2	3	3	5	2	0	7	6	0	1	1	0	0	1	0	1	0	5	12	N	8	2.6	12.1																							
22-Jan	1	0	5	N	0	6	4	0	11	1	8	2	2	0	1	6	4	0	1	3	11	5	7	9	3.8	11.0																							
23-Jan	N	6	0	10	N	0	0	3	5	N	0	0	0	1	0	0	0	0	0	0	0	0	1	0	1.2	9.8																							
24-Jan	0	0	0	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0.2	1.2																							
25-Jan	0	1	0	0	0	2	0	2	3	3	3	4	1	2	0	1	0	0	0	0	2	0	0	2	1.1	3.9																							
26-Jan	7	1	5	1	0	0	0	0	0	3	0	6	0	2	2	3	N	N	N	1	2	N	1	2	1.8	7.3																							
27-Jan	1	0	2	0	7	3	11	8	3	4	2	9	11	N	N	N	N	N	N	0	0	0	1	4	3.6	11.0																							
28-Jan	6	7	1	8	9	7	3	3	5	5	7	8	4	3	3	4	1	1	2	4	7	5	4	3	4.6	8.7																							
29-Jan	1	0	0	0	0	0	0	0	1	1	0	4	0	2	0	0	0	1	2	3	3	0	0	0	0.8	3.9																							
30-Jan	0	2	0	3	0	2	4	9	9	0	5	3	0	N	1	N	N	0	0	0	0	0	1	2	1.9	8.8																							
31-Jan	2	1	3	3	2	1	2	0	3	4	6	3	2	1	0	2	0	0	0	N	0	1	0	3	1.6	5.5																							
																								1.4	2.3	1.5	2.1	2.0	2.1	2.3	2.1	2.5	2.6	3.0	2.5	1.6	1.6	1.4	1.9	1.6	1.2	0.9	1.3	1.6	1.5	1.4	1.7	Diurnal Average	
																								7.3	26.0	5.3	9.8	8.7	7.9	10.7	10.5	10.5	8.8	8.3	9.4	11.0	7.1	6.5	8.7	8.9	5.9	3.7	8.6	11.0	12.1	7.4	8.8	Diurnal Maximum	

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

# Hourly Averages

PM2.5 (PM<sub>2.5</sub>) -  $\mu\text{g}/\text{m}^3$   
Portable Reno - January 2014



## Hourly Maximums

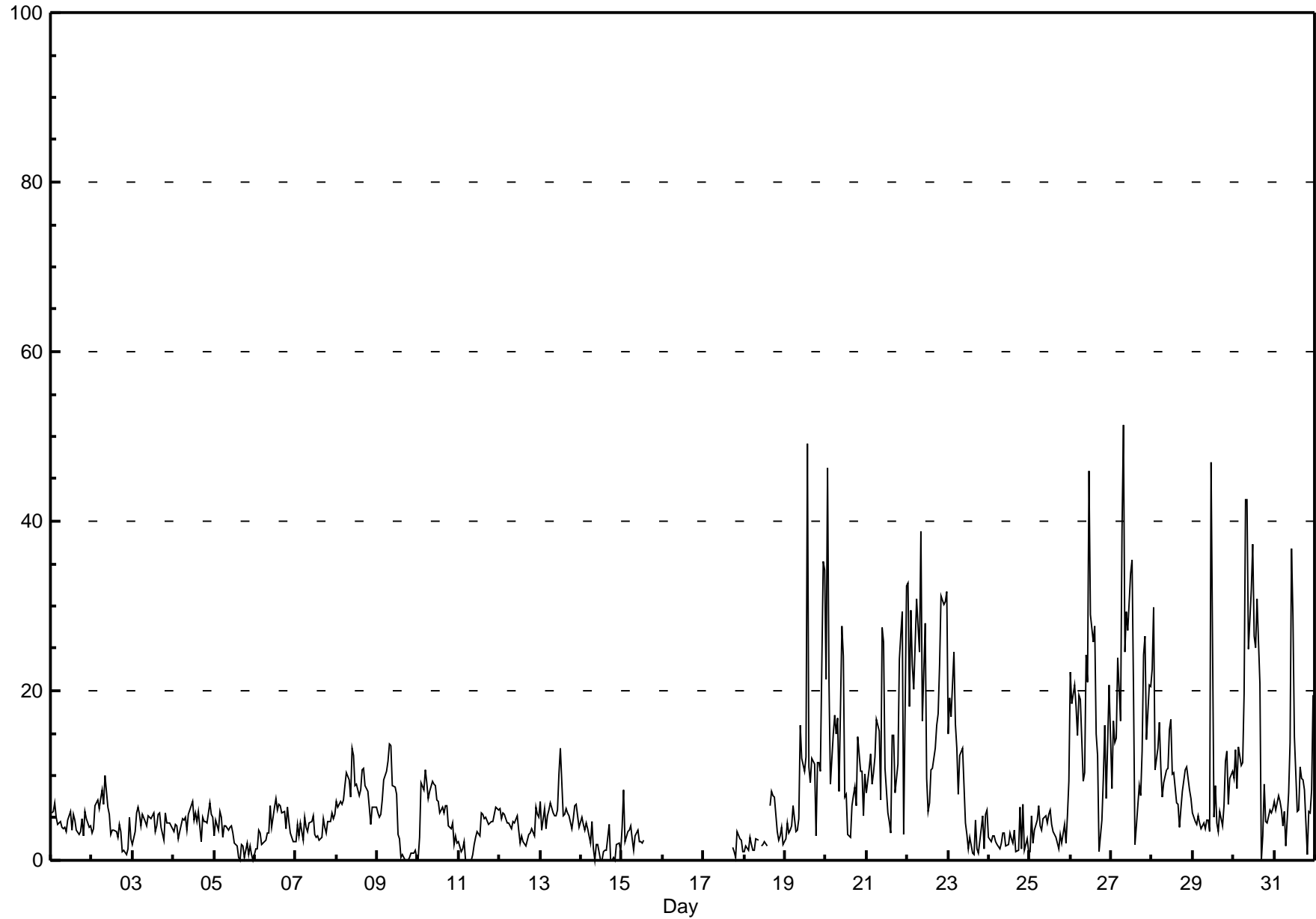
PM2.5 (PM<sub>2.5</sub>) - µg/m<sup>3</sup>

Portable Reno - January 2014

Maximum Value: 51.3 µg/m <sup>3</sup> on Jan 27 08:00		Maximum Daily Average: 21.9 µg/m <sup>3</sup> on Jan 22		Hours in Service: 744																							
Minimum Value: 0 µg/m <sup>3</sup> on Jan 5 16:00		Minimum Daily Average: 1.9 µg/m <sup>3</sup> on Jan 14		Hours of Data: 691																							
Maximum Diurnal Average: 11.6 µg/m <sup>3</sup> at hour 12		Minimum Diurnal Average: 4.9 µg/m <sup>3</sup> at hour 18		Hours of Missing Data: 53																							
Monthly Average: 7.94 µg/m <sup>3</sup>		Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 1.7 Q <sub>1</sub> = 3.1 Median = 5.3 Q <sub>3</sub> = 9.1 P <sub>90</sub> = 19.1 P <sub>99</sub> = 42.5		Hours of Calibration: 0																							
Percent Operational Time: 92.9																											
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	6	6	7	5	4	5	4	4	4	3	5	6	4	5	5	3	3	3	5	3	6	5	4	4	4.5	6.8	
2-Jan	3	4	6	7	6	7	8	7	10	6	5	3	4	4	3	3	4	3	1	1	1	1	5	3	4.4	10.1	
3-Jan	2	3	6	6	5	4	5	5	4	5	5	5	6	3	4	5	6	4	2	6	4	4	4	4	4.5	6.3	
4-Jan	3	4	4	3	3	5	5	5	4	5	6	7	5	6	5	6	2	5	5	5	4	7	5	5	4.7	6.9	
5-Jan	3	5	4	6	5	3	4	4	4	4	4	3	2	2	0	0	2	2	0	2	1	2	1	0	2.5	5.8	
6-Jan	1	1	4	3	2	2	2	3	3	6	4	6	7	6	7	6	6	6	4	6	5	3	2	2	4.1	7.4	
7-Jan	2	4	3	4	2	5	4	3	4	5	5	3	3	3	2	3	5	4	3	5	5	6	5	5	3.9	5.6	
8-Jan	7	6	7	7	7	9	10	10	7	13	12	9	9	8	8	11	11	9	8	6	4	6	6	6	8.2	13.2	
9-Jan	6	5	5	7	10	10	12	14	14	14	9	9	8	3	0	1	0	0	0	0	1	1	1	0	4.9	13.7	
10-Jan	0	3	9	8	11	9	7	8	9	9	9	7	7	6	6	6	7	6	4	4	4	2	3	2	6.1	10.7	
11-Jan	2	1	1	2	0	0	0	0	1	2	3	3	3	6	5	5	5	4	4	5	5	5	6	6	3.1	6.3	
12-Jan	6	5	6	5	4	4	4	4	5	4	5	4	2	3	2	2	2	3	3	4	3	6	5	5	4.1	6.3	
13-Jan	7	4	6	4	5	6	7	6	5	5	6	10	13	5	5	6	6	5	4	5	6	7	5	4	5.9	13.3	
14-Jan	5	4	4	4	4	2	5	1	0	2	2	0	0	1	1	1	4	0	0	0	0	2	2	1	1.9	5.1	
15-Jan	4	8	2	3	4	4	2	1	3	3	2	2	2	2	P	P	P	P	P	P	P	P	P	P	--	8.4	
16-Jan	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	--	--	
17-Jan	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	--	3.4	
18-Jan	1	2	1	3	2	1	1	2	2	2	2	2	2	2	N	6	8	8	7	3	2	3	4	2	3.0	8.2	
19-Jan	3	4	3	4	4	6	3	4	5	16	12	10	12	49	11	9	12	11	3	12	11	10	35	34	11.9	49.2	
20-Jan	21	46	21	9	15	17	15	17	8	28	24	7	8	3	3	6	8	9	6	15	11	10	5	10	13.4	46.3	
21-Jan	8	11	13	9	10	12	17	15	7	27	26	11	6	5	3	15	15	8	11	24	27	29	3	32	14.3	32.3	
22-Jan	33	18	29	23	20	31	28	25	39	17	28	10	6	7	11	11	13	16	17	23	31	30	30	32	21.9	38.9	
23-Jan	15	19	17	25	16	13	8	12	13	9	4	3	1	3	1	1	5	1	1	4	5	1	5	6	7.9	24.6	
24-Jan	3	2	3	3	2	2	1	2	3	3	2	2	3	3	2	4	1	1	6	1	7	1	3	1	2.5	6.7	
25-Jan	1	5	2	4	5	6	4	4	5	5	4	6	6	4	3	3	2	1	3	2	4	2	5	9	4.0	9.3	
26-Jan	22	18	21	18	15	19	19	9	10	24	21	46	29	26	28	15	12	1	5	10	16	7	14	21	17.8	46.0	
27-Jan	8	16	14	14	24	16	39	51	25	29	27	34	35	20	2	4	9	8	13	24	26	14	21	20	20.7	51.3	
28-Jan	23	30	11	13	16	11	7	9	11	11	15	17	10	10	7	7	4	6	8	11	11	10	8	7	11.4	29.8	
29-Jan	6	5	4	5	4	4	4	4	5	5	3	47	5	9	4	3	6	4	6	12	13	7	10	11	7.7	47.0	
30-Jan	10	13	9	13	11	12	20	43	43	25	32	37	26	25	31	21	0	3	9	5	4	6	6	6	17.0	42.6	
31-Jan	7	6	8	7	6	4	6	2	8	14	37	29	15	6	6	11	10	10	8	1	6	6	8	20	9.9	36.8	
		7.5	9.0	7.9	7.8	7.7	8.0	8.7	9.4	9.0	10.6	11.0	11.6	8.1	8.0	6.2	6.2	5.9	4.9	5.2	6.8	7.8	6.8	7.5	9.0	Diurnal Average	
		32.7	46.3	29.5	24.6	23.9	30.9	39.0	51.3	42.6	29.3	36.8	47.0	35.4	49.2	30.8	20.8	14.8	16.0	17.4	24.2	31.2	30.1	35.3	34.3	Diurnal Maximum	
P - Power Failure		N - Not Valid																									

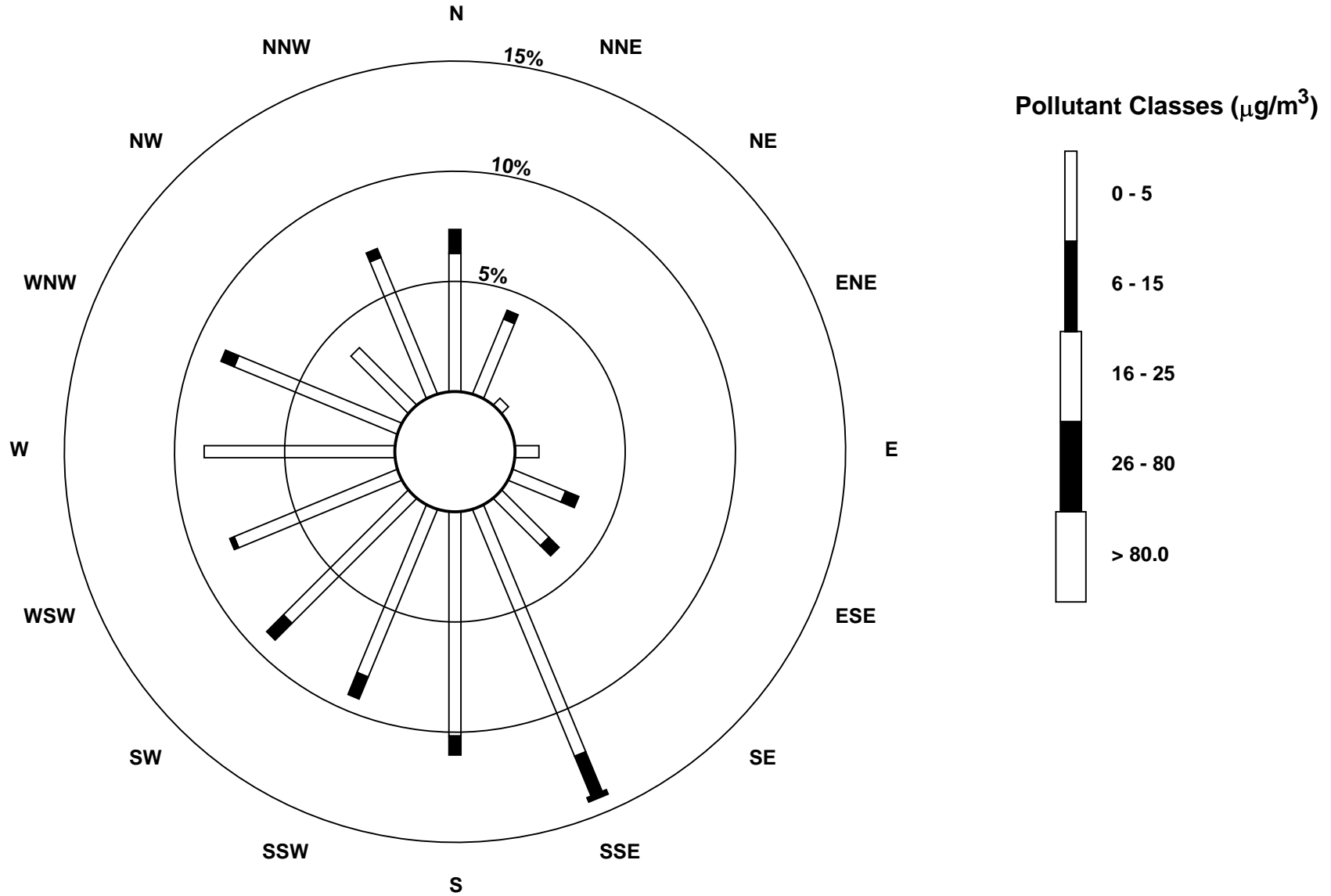
# Hourly Maximums

PM2.5 (PM<sub>2.5</sub>) -  $\mu\text{g}/\text{m}^3$   
Portable Reno - January 2014



**Pollutant Rose**

**PM<sub>2.5</sub> (PM<sub>2.5</sub>) -  $\mu\text{g}/\text{m}^3$   
Portable Reno - January 2014**





## Hourly Averages

External Temperature (ET) - °C

Portable Reno - January 2014

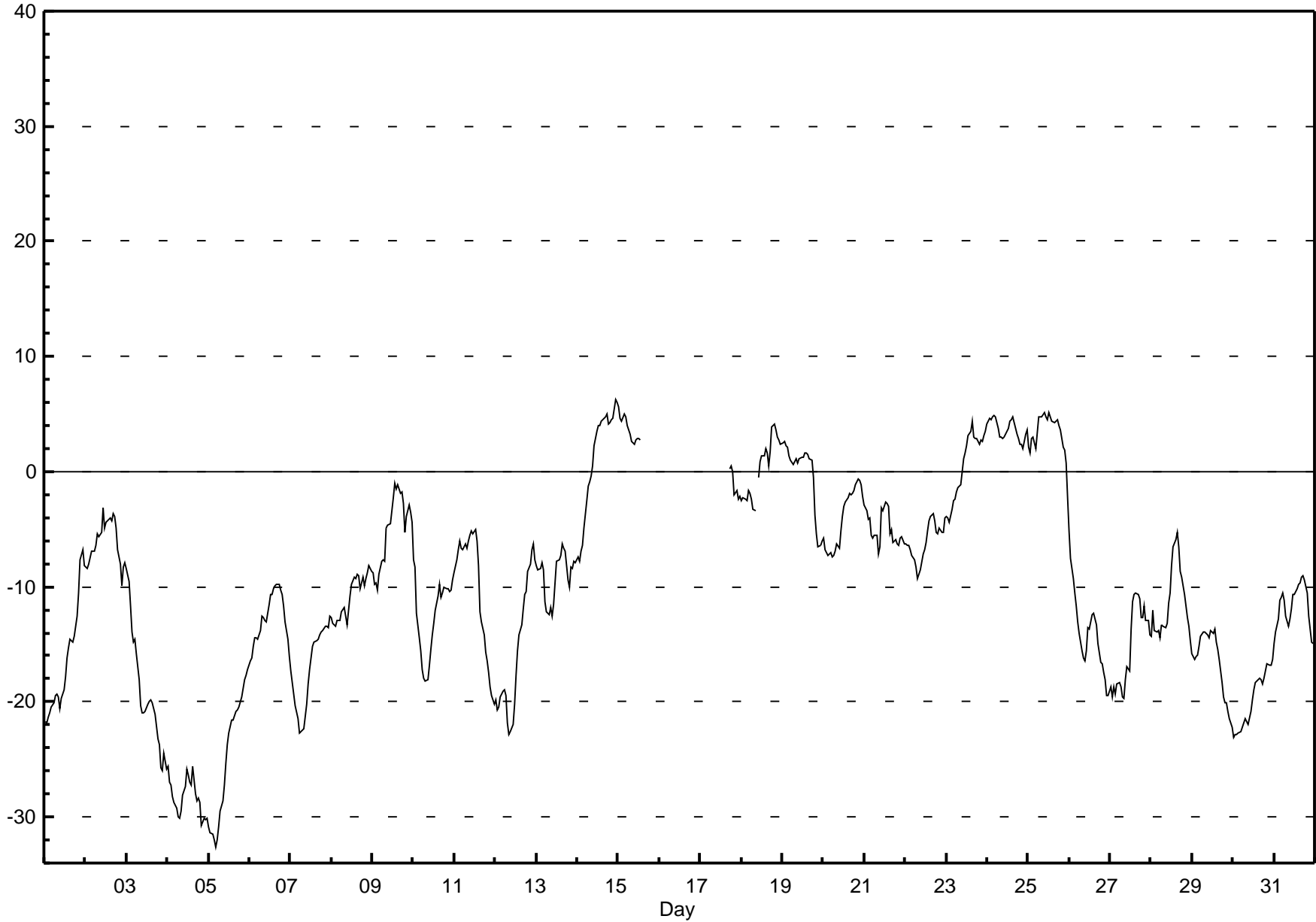
Number of Exceedences (AAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 6.2 °C on Jan 14 23:00	Maximum Daily Average: 3.7 °C on Jan 24		Hours of Data:	692
Minimum Value: -33 °C on Jan 5 05:00	Minimum Daily Average: -28.2 °C on Jan 4		Hours of Missing Data:	52
Maximum Diurnal Average: -7.8 °C at hour 14	Minimum Diurnal Average: -11.4 °C at hour 10		Hours of Calibration:	0
Monthly Average: -9.77 °C	Percentiles: P <sub>1</sub> = -31.0 P <sub>10</sub> = -21.3 Q <sub>1</sub> = -15.9 Median = -9.7 Q <sub>3</sub> = -3.1 P <sub>90</sub> = 2.9 P <sub>99</sub> = 5.0		Percent Operational Time:	93.0

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-Jan	-22	-22	-21	-21	-20	-20	-19	-19	-20	-21	-20	-19	-18	-16	-15	-15	-15	-14	-13	-13	-11	-8	-7	-8	-16.5	-6.8																						
2-Jan	-8	-8	-8	-7	-7	-7	-6	-5	-6	-5	-3	-5	-4	-4	-4	-4	-4	-4	-5	-7	-8	-10	-8	-8	-6.1	-3.2																						
3-Jan	-8	-10	-12	-14	-15	-15	-16	-18	-20	-21	-21	-21	-20	-20	-20	-20	-21	-21	-23	-24	-26	-26	-24	-26	-19.2	-8.4																						
4-Jan	-26	-27	-27	-28	-29	-29	-30	-30	-29	-28	-27	-26	-26	-27	-27	-26	-28	-29	-28	-29	-31	-30	-30	-30	-28.2	-25.6																						
5-Jan	-31	-31	-31	-32	-33	-32	-31	-29	-29	-27	-25	-24	-23	-22	-22	-21	-21	-21	-20	-20	-19	-18	-18	-17	-24.8	-17.2																						
6-Jan	-16	-16	-15	-14	-14	-15	-14	-13	-13	-13	-13	-12	-11	-11	-10	-10	-10	-10	-10	-11	-12	-13	-15	-16	-12.7	-9.8																						
7-Jan	-17	-18	-19	-20	-21	-23	-23	-22	-22	-20	-18	-17	-16	-15	-15	-15	-15	-14	-14	-14	-13	-13	-14	-13	-17.2	-12.5																						
8-Jan	-13	-13	-13	-13	-13	-13	-12	-12	-13	-13	-12	-11	-10	-9	-9	-9	-9	-10	-9	-10	-9	-9	-8	-9	-10.9	-8.2																						
9-Jan	-9	-10	-10	-10	-9	-8	-8	-8	-8	-5	-5	-3	-2	-1	-1	-1	-2	-2	-3	-5	-4	-3	-3	-4	-5.0	-1.0																						
10-Jan	-8	-8	-12	-14	-16	-17	-18	-18	-18	-17	-15	-14	-13	-12	-11	-10	-11	-11	-10	-10	-10	-10	-10	-9	-12.7	-7.7																						
11-Jan	-9	-8	-7	-6	-7	-7	-6	-7	-6	-6	-5	-5	-5	-6	-8	-12	-13	-14	-16	-16	-17	-19	-20	-20	-10.2	-5.0																						
12-Jan	-20	-21	-20	-20	-19	-19	-20	-22	-23	-23	-22	-20	-18	-16	-14	-13	-12	-11	-10	-9	-8	-7	-6	-8	-15.8	-6.3																						
13-Jan	-8	-9	-8	-8	-9	-11	-12	-12	-12	-13	-12	-10	-8	-8	-7	-6	-7	-7	-9	-10	-8	-8	-8	-8	-9.1	-6.3																						
14-Jan	-7	-8	-7	-6	-5	-3	-1	-1	0	0	2	3	4	4	4	5	5	5	4	4	4	5	6	6	1.0	6.2																						
15-Jan	6	5	4	5	5	4	4	3	3	2	3	3	3	3	P	P	P	P	P	P	P	P	P	P	--	5.6																						
16-Jan	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	--	--																						
17-Jan	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	--	0.5																						
18-Jan	-3	-2	-2	-3	-2	-2	-2	-3	-3	P	-1	1	1	1	2	2	0	2	4	4	4	3	3	2	0.3	4.1																						
19-Jan	3	3	2	2	1	1	1	1	1	1	1	1	1	2	2	1	1	1	-1	-4	-5	-7	-6	-6	-0.1	2.7																						
20-Jan	-6	-7	-7	-7	-7	-7	-7	-7	-6	-7	-5	-4	-3	-3	-2	-2	-2	-2	-2	-1	-1	-1	-1	-2	-4.1	-0.6																						
21-Jan	-3	-3	-4	-4	-6	-6	-6	-5	-7	-6	-3	-3	-3	-3	-5	-5	-6	-6	-6	-6	-6	-6	-6	-6	-4.9	-2.7																						
22-Jan	-6	-6	-6	-7	-7	-8	-8	-9	-9	-8	-7	-7	-6	-5	-4	-4	-4	-4	-5	-5	-5	-5	-5	-4	-6.1	-3.7																						
23-Jan	-4	-4	-4	-3	-2	-2	-2	-1	-1	0	1	2	2	3	4	4	3	3	3	2	3	3	3	3	0.6	4.4																						
24-Jan	4	5	4	5	5	5	4	3	3	3	3	4	4	4	5	5	4	3	3	2	2	2	3	4	3.7	4.9																						
25-Jan	2	2	3	3	2	3	5	5	5	5	5	5	5	5	4	4	4	5	4	4	2	2	1	-2	3.4	5.1																						
26-Jan	-5	-8	-9	-10	-12	-13	-14	-16	-16	-16	-16	-14	-14	-12	-12	-13	-13	-15	-17	-17	-18	-18	-19	-19	-14.0	-5.2																						
27-Jan	-19	-20	-19	-19	-18	-18	-19	-20	-20	-18	-17	-17	-14	-11	-11	-11	-11	-11	-13	-13	-12	-13	-13	-14	-15.4	-10.6																						
28-Jan	-14	-12	-14	-14	-14	-14	-13	-13	-14	-13	-11	-11	-8	-7	-6	-5	-7	-9	-9	-11	-12	-13	-13	-15	-11.3	-5.3																						
29-Jan	-16	-16	-16	-16	-15	-14	-14	-14	-14	-14	-14	-14	-14	-14	-15	-15	-16	-16	-18	-20	-20	-21	-22	-22	-16.5	-13.6																						
30-Jan	-23	-23	-23	-23	-23	-22	-22	-21	-22	-22	-21	-20	-19	-18	-18	-18	-18	-18	-18	-18	-17	-17	-17	-16	-19.8	-16.3																						
31-Jan	-15	-14	-13	-11	-11	-11	-11	-13	-13	-13	-12	-11	-11	-10	-10	-10	-9	-9	-9	-11	-13	-14	-15	-15	-11.7	-9.1																						
																								-10.4	-10.7	-10.9	-10.9	-11.0	-11.1	-11.1	-11.3	-11.4	-11.4	-10.0	-9.3	-8.4	-7.8	-8.0	-8.0	-8.3	-8.3	-8.7	-9.1	-9.3	-9.5	-9.5	-9.8	Diurnal Average
																								5.6	4.7	4.5	5.0	4.9	4.8	4.8	4.8	4.8	5.1	4.8	4.5	5.1	4.7	4.5	4.8	4.7	5.0	4.1	4.2	4.5	4.7	6.2	6.0	Diurnal Maximum

P - Power Failure

**Hourly Averages**

**External Temperature (ET) - °C**  
**Portable Reno - January 2014**



## Hourly Averages

Wind Speed (km/h)  
Wind Direction (deg)  
Portable Reno - January 2014

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1 Spd	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
Dir	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
2 Spd	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
Dir	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
3 Spd	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
Dir	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
4 Spd	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
Dir	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
5 Spd	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
Dir	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
6 Spd	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
Dir	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
7 Spd	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
Dir	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
8 Spd	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
Dir	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
9 Spd	N	N	N	N	N	N	N	N	N	N	N	N	N	20	20	22	22	23	22	19	21	20	18	16	--	23.3
Dir	N	N	N	N	N	N	N	N	N	N	N	N	N	208	210	228	229	226	222	213	225	232	229	226	--	225.7
10 Spd	12	9	7	4	3	1	1	1	1	0	1	0	1	5	8	10	11	9	12	12	14	14	13	15	5.1	14.8
Dir	219	198	342	345	349	7	18	33	28	1	171	103	156	170	181	202	168	159	164	180	194	179	176	162	181.4	161.9
11 Spd	18	16	15	17	15	16	17	21	17	22	22	14	4	7	12	11	15	12	14	12	15	11	8	10	6.2	22.2
Dir	163	149	144	144	118	106	103	90	93	91	88	83	20	17	330	338	331	340	339	350	341	352	355	342	70.0	90.7
12 Spd	13	10	4	3	6	5	2	11	11	11	15	18	21	21	23	26	28	27	30	30	29	23	20	15	12.6	29.9
Dir	334	334	341	324	310	287	317	231	224	192	174	161	156	151	159	159	156	162	159	157	152	154	156	169	164.9	157.0
13 Spd	5	5	9	5	3	2	4	3	2	6	7	5	6	8	7	6	14	11	9	12	5	4	3	3	4.7	13.7
Dir	194	214	212	250	325	337	240	213	213	190	156	183	181	183	186	232	257	276	184	178	244	267	233	230	215.4	257.4
14 Spd	5	11	11	17	16	18	18	24	27	26	34	39	41	41	37	38	43	26	27	29	29	35	50	57	26.3	57.5
Dir	165	157	166	165	184	213	209	186	188	201	231	239	237	240	233	231	229	198	181	185	184	207	240	246	215.9	246.0
15 Spd	68	73	54	66	70	64	62	56	47	38	38	41	41	33	P	P	P	P	P	P	P	P	P	P	--	73.4
Dir	257	264	267	271	274	275	276	279	281	286	292	292	289	288	P	P	P	P	P	P	P	P	P	P	--	264.1
16 Spd	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	--	--
Dir	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	--	--
17 Spd	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	7	7	7	10	10	17	18	--	18.1
Dir	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	205	216	201	184	182	163	164	--	164.1
18 Spd	17	16	15	15	17	16	16	16	17	P	17	16	15	12	11	8	14	22	31	39	41	38	38	36	17.0	41.2
Dir	170	168	175	168	173	179	172	171	169	P	164	163	174	164	165	172	204	224	230	243	243	245	250	252	207.7	243.2
19 Spd	37	38	36	35	30	29	27	30	37	35	36	34	34	31	29	25	24	22	11	2	4	1	5	2	23.5	38.1
Dir	255	257	259	259	255	260	261	270	271	274	285	285	283	286	286	279	283	280	313	274	8	191	159	137	271.3	257.1
20 Spd	6	13	15	15	16	16	18	17	17	15	16	12	13	13	8	4	6	6	7	19	19	19	15	14	9.7	19.2
Dir	171	167	168	167	161	164	164	167	167	174	191	196	218	240	263	256	239	200	226	249	255	266	273	287	205.3	254.7
21 Spd	7	8	5	4	5	10	6	5	2	1	0	0	2	3	1	5	5	5	9	11	14	16	18	23	2.2	22.7
Dir	301	295	269	268	266	298	299	324	208	216	349	179	352	317	218	162	156	160	129	128	120	118	111	113	135.1	113.3
22 Spd	22	23	23	21	23	18	21	18	21	18	18	22	22	19	16	15	15	14	15	15	17	16	15	14	16.8	23.4
Dir	115	115	117	117	114	126	130	127	138	141	155	164	164	163	162	164	161	170	170	164	167	167	181	201	146.5	116.6

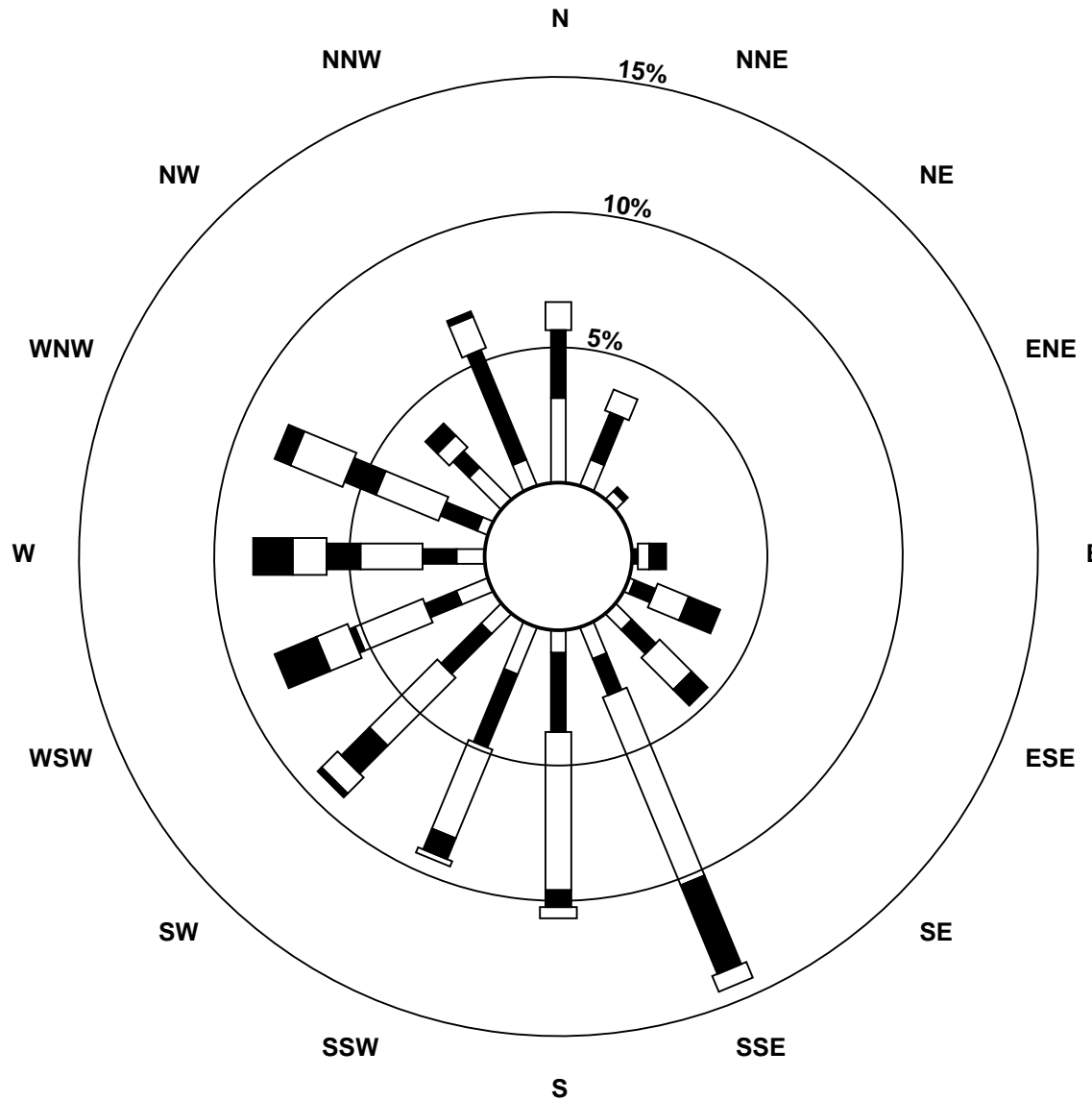
## Hourly Averages

Wind Speed (km/h)  
Wind Direction (deg)  
Portable Reno - January 2014

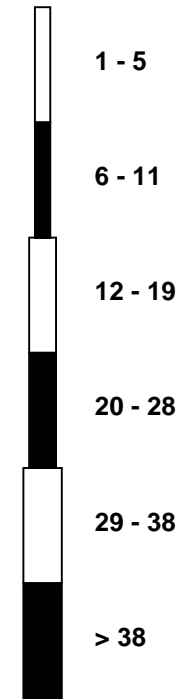
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
23 Spd	11	13	13	18	14	10	13	14	16	15	23	25	24	15	6	4	10	15	13	12	14	12	19	15	12.6	24.7
Dir	195	193	197	220	223	197	232	236	229	250	258	270	276	273	253	246	195	214	183	193	219	231	268	242	233.8	270.5
24 Spd	11	26	26	20	19	18	10	8	16	18	18	15	15	16	13	11	15	11	9	10	13	14	11	12.8	26.3	
Dir	276	285	279	289	294	294	265	213	247	249	253	263	269	268	265	252	251	246	203	186	177	179	213	258.1	285.4	
25 Spd	9	10	8	11	7	12	32	29	23	21	18	16	14	18	15	21	22	24	23	21	9	16	19	19	14.9	31.6
Dir	223	232	256	277	219	272	287	291	298	306	298	298	291	290	291	292	295	307	319	336	347	351	351	9	301.5	287.2
26 Spd	19	18	13	15	13	8	10	4	3	8	10	6	5	2	2	5	3	6	8	5	5	4	2	4	5.5	19.2
Dir	12	15	9	13	19	15	21	6	9	25	37	20	309	2	328	40	52	89	103	121	158	144	127	134	28.1	11.7
27 Spd	7	8	6	7	10	11	10	11	13	15	14	17	19	17	15	16	15	20	19	20	23	23	26	26	14.9	25.8
Dir	128	112	135	131	120	123	143	151	148	135	166	157	157	166	166	144	131	136	144	152	158	159	162	148.5	162.1	
28 Spd	26	20	20	16	14	12	12	12	9	9	7	5	3	3	2	2	2	1	3	5	5	7	7	7	5.1	26.1
Dir	161	149	166	174	187	193	218	222	227	204	215	204	233	241	204	201	197	306	19	3	359	359	347	2	189.9	161.2
29 Spd	6	3	3	2	3	4	3	4	6	8	7	7	7	8	11	11	10	8	7	8	10	11	9	6	6.7	11.5
Dir	15	12	349	355	348	3	359	3	12	13	12	1	347	345	344	345	344	352	354	347	348	5	2	357	356.0	5.0
30 Spd	6	8	11	10	11	6	8	14	15	13	16	16	15	17	17	16	14	13	14	12	13	15	18	16	8.9	17.7
Dir	350	350	333	334	320	304	252	236	223	220	217	207	209	209	187	182	186	183	194	206	243	251	269	288	231.5	268.7
31 Spd	15	16	14	19	16	18	10	7	7	6	10	6	4	4	8	8	11	9	5	2	4	6	7	10	6.6	18.5
Dir	291	282	296	322	324	316	331	344	342	343	330	335	350	310	282	260	289	301	299	224	188	176	180	171	301.9	322.0
Spd	7.0	7.1	6.6	6.7	5.8	6.5	7.0	7.0	7.4	6.0	7.2	8.0	8.9	8.5	7.7	7.7	8.4	7.3	7.0	7.8	8.1	7.7	8.0	7.7	Diurnal Average	
Dir	231.0	236.1	236.4	244.1	245.3	250.3	245.3	236.2	230.5	235.3	238.0	241.3	243.5	239.4	228.4	226.7	225.9	218.4	200.3	199.2	204.0	208.1	220.3	221.8	Diurnal Maximum	
Spd	68.4	73.4	53.8	66.1	69.6	64.1	62.4	55.6	47.1	37.6	38.4	40.8	41.4	41.1	37.1	38.4	43.4	27.3	30.6	39.3	41.2	38.4	50.4	57.5	Diurnal Maximum	
Dir	256.8	264.1	266.9	271.0	273.7	274.7	276.2	279.4	281.5	286.1	291.9	291.6	289.3	240.4	233.4	231.4	228.8	161.6	230.1	243.2	243.2	245.2	240.5	246.0	Diurnal Maximum	
Maximum Speed Value: 73 km/h on Jan 15 02:00																		Minimum Speed Value: 0 km/h on Jan 10 12:00						Hours in Service:		744
Maximum Daily Speed Average: 26.3 km/h on Jan 14																		Minimum Daily Speed Average: 2.2 km/h on Jan 13						Hours of Data:		487
Maximum Diurnal Speed Average: 8.9 km/h at hour 13																		Minimum Diurnal Speed Average: 5.8 km/h at hour 5						Hours of Missing Data:		257
Monthly Average Velocity: 7.16 km/h 228.80 deg																		Speed Percentiles: P <sub>1</sub> = 0.5 P <sub>10</sub> = 3.7 Q <sub>1</sub> = 7.2 Median = 13.7 Q <sub>3</sub> = 18.7 P <sub>90</sub> = 28.7 P <sub>99</sub> = 63.3						Percent Operational Time:		65.5
All monthly, daily, and diurnal averages have been calculated using vector methods																										
P - Power Failure N - Not Valid																										
Frequency Distribution																										
		Speed Range (km/h)																								
Direction	0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total																			
North	23	34	13	1	0	0	71																			
NorthEast	4	2	0	0	0	0	6																			
East	1	3	5	3	0	0	12																			
SouthEast	7	9	18	17	3	0	54																			
South	7	30	69	16	3	0	125																			
SouthWest	13	20	31	9	4	10	87																			
West	7	10	27	13	19	13	89																			
NorthWest	9	15	13	6	0	0	43																			
Total	71	123	176	65	29	23	487																			

**Wind Rose**

**Wind Speed (WS) (km/h)**  
**Portable Reno - January 2014**



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



## Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Portable Reno - January 2014

Maximum Speed: 74 km/h on Jan 15 02:00		Maximum Daily Speed Average: 29.4 km/h on Jan 14		Hours in Service: 744																							
Minimum Speed: 0 km/h on Jan 10 12:00		Minimum Daily Speed Average: 6.7 km/h on Jan 13		Hours of Data: 487																							
Maximum Diurnal Speed Average: 17.3 km/h at hour 2		Minimum Diurnal Speed Average: 13.5 km/h at hour 16		Hours of Missing Data: 257																							
Monthly Average Speed: 15.37 km/h		Percentiles: P <sub>1</sub> = 0.9 P <sub>10</sub> = 4.2 Q <sub>1</sub> = 7.5 Median = 13.9 Q <sub>3</sub> = 18.8 P <sub>90</sub> = 28.8 P <sub>99</sub> = 63.4		Percent Operational Time: 65.5																							
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-Jan	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-Jan	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-Jan	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-Jan	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-Jan	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-Jan	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-Jan	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-Jan	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--	
9-Jan	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-Jan	12	10	7	4	3	1	1	2	1	0	1	0	1	5	8	10	12	9	12	12	14	14	13	15	7.0	14.9	
11-Jan	18	16	15	18	16	16	17	21	17	22	22	14	4	8	12	11	15	12	14	12	15	11	8	10	14.4	22.3	
12-Jan	13	10	4	3	7	5	4	11	11	11	15	18	21	22	23	26	28	27	30	30	29	23	20	15	16.9	30.0	
13-Jan	7	6	9	5	3	5	4	4	3	6	7	7	6	8	8	7	14	11	9	12	8	5	4	3	6.7	13.9	
14-Jan	5	11	12	17	17	19	18	24	27	27	34	39	41	41	37	39	44	26	27	29	29	35	51	58	29.4	57.5	
15-Jan	69	74	54	66	70	64	62	56	47	38	38	41	42	33	P	P	P	P	P	P	P	P	P	P	--	--	
18-Jan	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	--	18.2	
19-Jan	17	16	15	15	17	16	16	16	17	P	17	16	15	12	11	8	15	22	31	39	41	38	38	36	21.2	41.2	
20-Jan	37	38	37	35	30	29	27	30	37	35	36	34	34	31	29	25	24	22	13	4	5	3	5	3	25.2	38.2	
21-Jan	6	13	15	15	16	16	18	17	17	15	16	12	14	13	8	5	6	6	7	19	19	19	15	14	13.4	19.2	
22-Jan	8	8	6	5	5	10	6	5	4	1	0	1	2	3	2	5	5	6	9	11	14	16	18	23	7.2	22.7	
23-Jan	22	23	23	21	23	18	21	18	21	19	19	22	22	19	16	15	15	15	15	15	17	16	15	14	18.4	23.5	
24-Jan	11	13	13	18	15	11	13	14	16	16	23	25	24	15	7	5	11	15	13	12	14	13	20	16	14.6	24.9	
25-Jan	12	26	26	20	19	18	12	9	16	18	18	18	15	15	17	13	11	15	11	9	10	13	14	11	15.3	26.4	
26-Jan	9	10	9	11	7	14	32	29	23	21	18	16	14	18	15	21	22	25	24	21	9	16	19	19	17.6	31.7	
27-Jan	19	18	13	15	13	8	10	4	3	8	10	6	6	3	3	5	3	6	8	5	6	5	2	4	7.5	19.4	
28-Jan	7	8	7	8	10	11	10	11	13	15	15	17	19	18	15	16	15	20	19	20	23	24	26	26	15.4	25.8	
29-Jan	26	20	20	16	14	12	12	12	9	9	7	6	5	3	3	3	3	3	5	5	7	7	7	7	9.1	26.1	
30-Jan	6	3	3	3	4	4	3	4	6	8	7	7	7	9	11	11	10	8	7	8	11	12	9	6	6.9	11.6	
31-Jan	6	8	11	10	12	6	8	14	15	13	16	16	15	17	17	16	14	13	14	13	13	15	18	16	13.2	17.9	
31-Jan	15	16	14	19	16	18	10	8	7	6	10	6	4	4	8	8	12	9	6	3	4	7	7	10	9.4	18.6	
16.3 17.3 15.6 16.2 15.7 15.1 15.3 15.4 15.5 15.1 16.4 16.1 15.5 15.1 13.6 13.5 15.0 14.2 14.4 14.5 15.1 15.3 16.3 16.3																								Diurnal Average			
68.8 73.5 54.0 66.2 69.7 64.2 62.5 55.7 47.2 37.6 38.5 40.9 41.5 41.2 37.5 38.5 44.0 27.3 30.7 39.4 41.2 38.5 50.6 57.5																								Diurnal Maximum			
P - Power Failure      N - Not Valid All monthly, daily, and diurnal averages have been calculated using scalar methods																											

## Hourly Standard Deviations

Wind Direction (WD) - deg  
**Portable Reno - January 2014**

Maximum Value: 92.4 deg on Jan 21 11:00	Hours in Service: 744
Minimum Value: 1.7 deg on Jan 20 04:00	Hours of Data: 487
Percentiles: P <sub>1</sub> = 2.1 P <sub>10</sub> = 3.1 Q <sub>1</sub> = 4.3 Median = 7.4 Q <sub>3</sub> = 12.6 P <sub>90</sub> = 26.6 P <sub>99</sub> = 68.1	Hours of Missing Data: 257
	Hours of Calibration: 0
	Percent Operational Time: 65.5

Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	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-Jan	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-Jan	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-Jan	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-Jan	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-Jan	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-Jan	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-Jan	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--
9-Jan	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-Jan	3	28	13	17	15	30	30	22	34	57	83	70	18	5	10	10	11	11	8	6	7	5	3	4	83.4
11-Jan	2	7	7	6	5	8	8	5	7	3	4	11	22	9	15	11	9	11	9	11	8	10	13	8	22.0
12-Jan	5	5	14	27	12	13	72	9	11	13	6	6	2	8	7	3	4	3	4	2	3	4	3	10	72.2
13-Jan	64	67	8	17	38	55	18	35	49	13	16	60	37	16	15	8	11	10	28	7	63	50	24	21	67.3
14-Jan	27	5	19	7	15	9	14	4	3	10	5	4	4	4	8	4	10	5	6	4	5	7	6	3	26.6
15-Jan	14	3	5	3	3	3	3	3	3	3	4	4	3	4	P	P	P	P	P	P	P	P	P	P	14.1
16-Jan	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	--
17-Jan	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	20.5
18-Jan	4	2	5	4	6	5	4	4	5	P	4	5	9	6	7	8	22	5	4	4	2	3	3	2	21.8
19-Jan	3	3	2	3	3	3	3	5	3	4	4	3	3	3	3	6	4	6	37	64	23	85	11	47	85.3
20-Jan	21	5	3	2	6	3	2	3	4	8	4	3	13	8	8	47	12	14	20	7	4	3	6	4	47.4
21-Jan	11	6	31	37	23	10	10	11	65	67	92	85	37	16	48	7	10	21	5	11	2	4	4	4	92.4
22-Jan	3	3	5	7	4	5	6	7	3	4	8	4	3	2	2	4	4	4	5	5	5	5	6	9	8.7
23-Jan	11	4	11	3	7	10	11	6	5	11	5	6	4	12	17	49	14	8	9	16	5	19	6	23	48.6
24-Jan	33	5	4	9	5	5	46	30	6	3	3	8	6	4	4	7	5	4	5	12	16	6	7	12	45.7
25-Jan	16	13	30	11	14	33	3	4	8	6	5	4	14	4	5	3	4	5	6	11	11	10	13	9	32.8
26-Jan	8	9	8	8	6	8	8	9	15	6	7	22	23	31	36	6	8	16	4	24	10	32	26	9	36.4
27-Jan	4	11	16	15	5	7	5	5	7	2	15	5	4	10	5	3	16	3	2	5	7	3	3	2	16.1
28-Jan	2	5	6	5	6	10	5	7	13	4	7	9	18	22	25	61	32	53	18	16	16	9	9	9	61.4
29-Jan	10	7	13	28	16	9	11	11	8	7	9	10	11	11	10	8	8	10	10	11	12	10	9	11	28.4
30-Jan	12	13	12	11	10	13	16	9	3	7	5	6	7	5	12	6	3	8	9	13	6	7	8	6	16.0
31-Jan	6	5	9	6	5	3	18	12	13	16	6	14	20	32	19	11	19	7	9	34	9	6	6	4	33.7
	63.6	67.3	31.2	37.4	37.9	55.2	72.2	35.2	64.8	66.7	92.4	84.9	37.3	31.8	47.9	61.4	31.9	53.3	36.9	64.3	62.7	85.3	26.1	47.2	

P - Power Failure      N - Not Valid

PAZA

Falher Station

Monthly Summary Tables, Graphs and  
Roses



## Hourly Averages

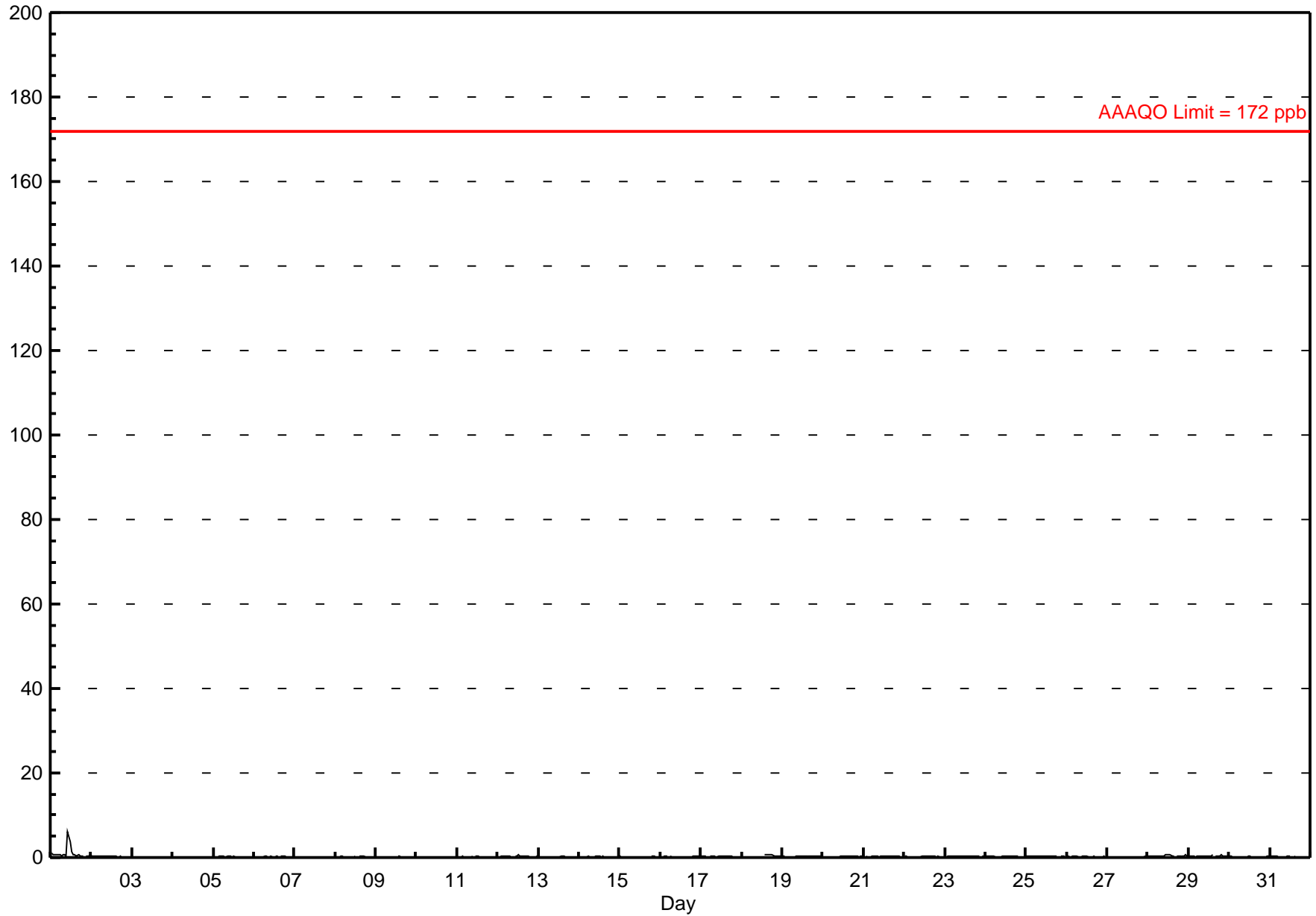
Sulphur Dioxide (SO<sub>2</sub>) - ppb

Falher - January 2014

Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 6.2 ppb on Jan 1 11:00	Maximum Daily Average: 0.9 ppb on Jan 1		Hours of Data:	705
Minimum Value: 0 ppb on Jan 3 20:00	Minimum Daily Average: 0.0 ppb on Jan 7		Hours of Missing Data:	39
Maximum Diurnal Average: 0.4 ppb at hour 11	Minimum Diurnal Average: 0.1 ppb at hour 22		Hours of Calibration:	35
Monthly Average: 0.19 ppb	Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.0 Q <sub>1</sub> = 0.1 Median = 0.2 Q <sub>3</sub> = 0.2 P <sub>90</sub> = 0.4 P <sub>99</sub> = 0.6		Percent Operational Time:	99.5

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	1	1	1	1	1	1	0	1	1	1	6	4	1	1	1	0	1	0	0	0	A	0	0	1	0.9	6.2
2-Jan	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
3-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0.1	0.1
4-Jan	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	0.2
5-Jan	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-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.1	0.3
7-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.0	0.1
8-Jan	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
9-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
10-Jan	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1
11-Jan	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
12-Jan	0	0	0	0	0	0	0	0	0	0	A	0	1	1	0	0	0	0	0	0	0	0	0	0	0.2	0.5
13-Jan	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
14-Jan	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
15-Jan	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	P	P	P	P	0	0	0	0	0	0.1	0.3
16-Jan	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
17-Jan	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3
18-Jan	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.7
19-Jan	0	0	A	0	0	0	0	0	0	0	C	C	C	1	1	1	1	1	1	0	0	0	0	0	0.2	0.3
20-Jan	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	0.5
21-Jan	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3
22-Jan	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
23-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.3	0.4
24-Jan	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
25-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.3	0.4
26-Jan	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	0.2
27-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0.1	0.3
28-Jan	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	A	0	0	0	0	0	1	0	0.4	0.6
29-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	A	0	0	0	1	0	0	0	0	0.3	0.5
30-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.1	0.3
31-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.2	0.4
	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.4	0.3	0.3	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.2	Diurnal Average
	0.9	0.7	0.5	0.5	0.6	0.5	0.4	0.5	0.5	0.5	6.2	3.6	1.3	0.7	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.4	0.4	0.6	0.5	Diurnal Maximum

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



## Hourly Maximums

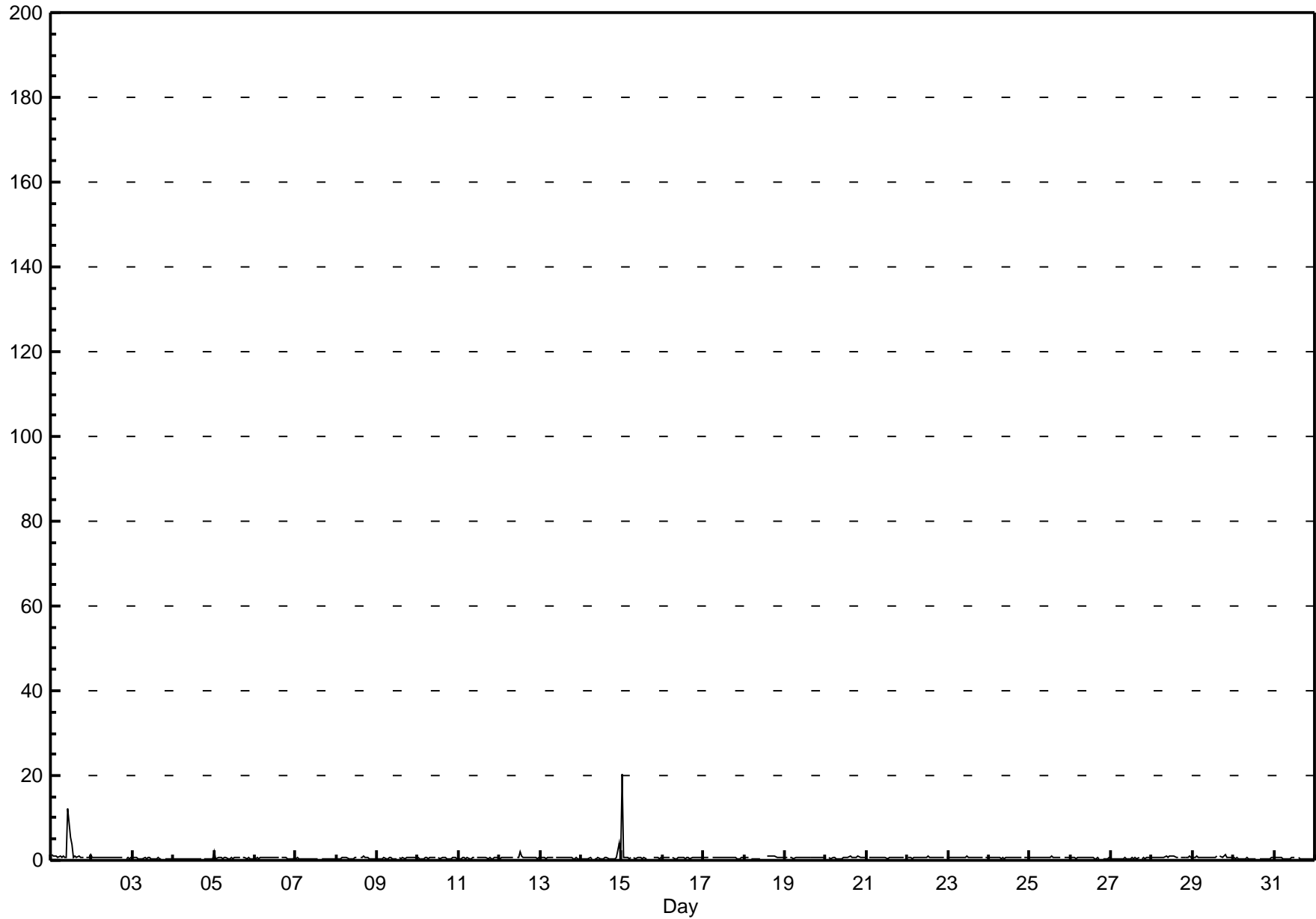
Sulphur Dioxide (SO<sub>2</sub>) - ppb

Falher - January 2014

Maximum Value: 20.2 ppb on Jan 15 01:00		Maximum Daily Average: 1.7 ppb on Jan 1		Hours in Service: 744																							
Minimum Value: 0 ppb on Jan 18 10:00		Minimum Daily Average: 0.4 ppb on Jan 7		Hours of Data: 705																							
Maximum Diurnal Average: 1.3 ppb at hour 1		Minimum Diurnal Average: 0.5 ppb at hour 22		Hours of Missing Data: 39																							
Monthly Average: 0.64 ppb		Percentiles: P <sub>1</sub> = 0.3 P <sub>10</sub> = 0.4 Q <sub>1</sub> = 0.5 Median = 0.6 Q <sub>3</sub> = 0.6 P <sub>90</sub> = 0.8 P <sub>99</sub> = 1.9		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-Jan	1	1	1	1	1	1	1	1	1	1	12	5	4	1	1	1	1	1	1	1	A	1	1	1			
2-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	0	1			
3-Jan	1	1	1	0	0	0	0	1	0	1	1	0	1	0	0	1	0	0	A	0	0	0	0	0			
4-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0			
5-Jan	2	1	1	1	1	0	1	1	0	1	1	0	1	1	1	A	1	1	1	1	1	0	0	0			
6-Jan	0	1	0	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	0	0	0	1			
7-Jan	0	1	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0			
8-Jan	0	0	0	1	1	1	1	0	0	0	1	1	1	1	A	1	1	1	1	1	0	0	0	0			
9-Jan	0	0	0	0	1	0	0	1	1	0	0	0	A	1	1	1	1	1	1	1	1	1	0	0			
10-Jan	1	0	0	0	1	1	0	1	1	1	1	A	1	0	1	1	1	0	0	0	1	1	1	0			
11-Jan	1	0	1	1	0	1	0	0	1	1	A	1	1	1	1	1	1	0	1	0	0	1	1	1			
12-Jan	1	1	1	1	1	1	1	1	1	1	A	1	1	2	1	1	1	1	1	1	1	1	1	1			
13-Jan	1	1	1	0	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	0	0	1	0	0			
14-Jan	0	0	0	0	0	1	0	A	0	0	1	0	0	0	1	1	0	1	0	0	0	1	4	0			
15-Jan	20	1	1	1	1	1	A	1	0	1	1	1	0	1	0	P	P	P	P	1	1	1	1	1			
16-Jan	1	1	1	1	1	1	A	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1			
17-Jan	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1			
18-Jan	0	1	1	A	0	0	0	0	0	0	C	C	C	1	1	1	1	1	1	1	1	1	1	1			
19-Jan	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			
20-Jan	1	A	1	0	1	1	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1			
21-Jan	A	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	A			
22-Jan	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1			
23-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1			
24-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1			
25-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1			
26-Jan	1	1	1	0	1	1	1	1	1	1	1	1	1	0	0	1	0	A	0	0	0	0	0	1			
27-Jan	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	1	0	1	A	0	1	0	1	1			
28-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1			
29-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1			
30-Jan	1	1	1	0	0	0	0	0	0	1	0	0	0	0	A	1	0	0	0	0	0	0	0	1	1		
31-Jan	1	1	1	1	1	0	0	0	0	0	0	1	1	1	A	1	0	0	0	0	0	0	0	0	0		
	1.3	0.6	0.6	0.5	0.6	0.6	0.5	0.5	0.6	0.5	1.0	0.8	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.7	0.6	Diurnal Average	
	20.2	1.1	0.9	0.9	0.8	0.9	0.8	0.9	0.9	0.8	12.1	5.5	3.6	1.1	1.1	1.0	1.1	0.9	1.0	1.2	0.8	0.8	4.2	1.3	Diurnal Maximum		
C - Calibration		P - Power Failure						A - Automated Daily Zero Span																			

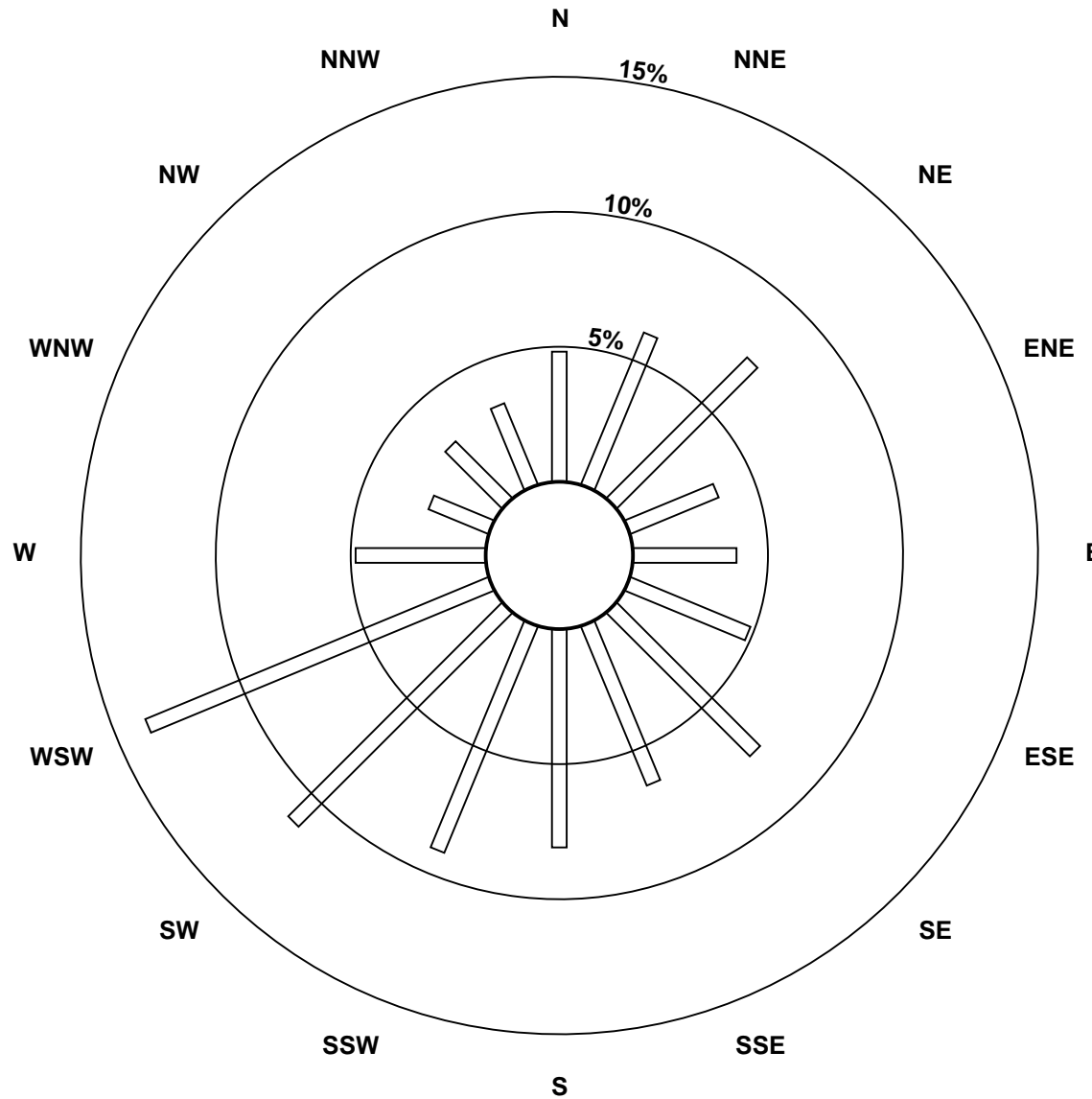
### Hourly Maximums

Sulphur Dioxide (SO<sub>2</sub>) - ppb  
Falher - January 2014

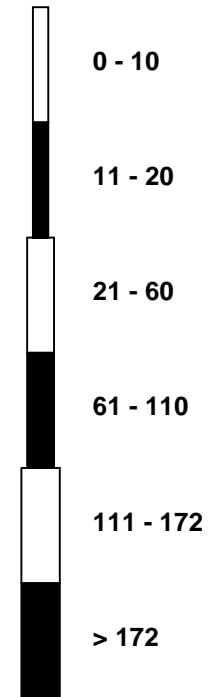


**Pollutant Rose**

**Sulphur Dioxide (SO<sub>2</sub>) - ppb**  
**Falher - January 2014**

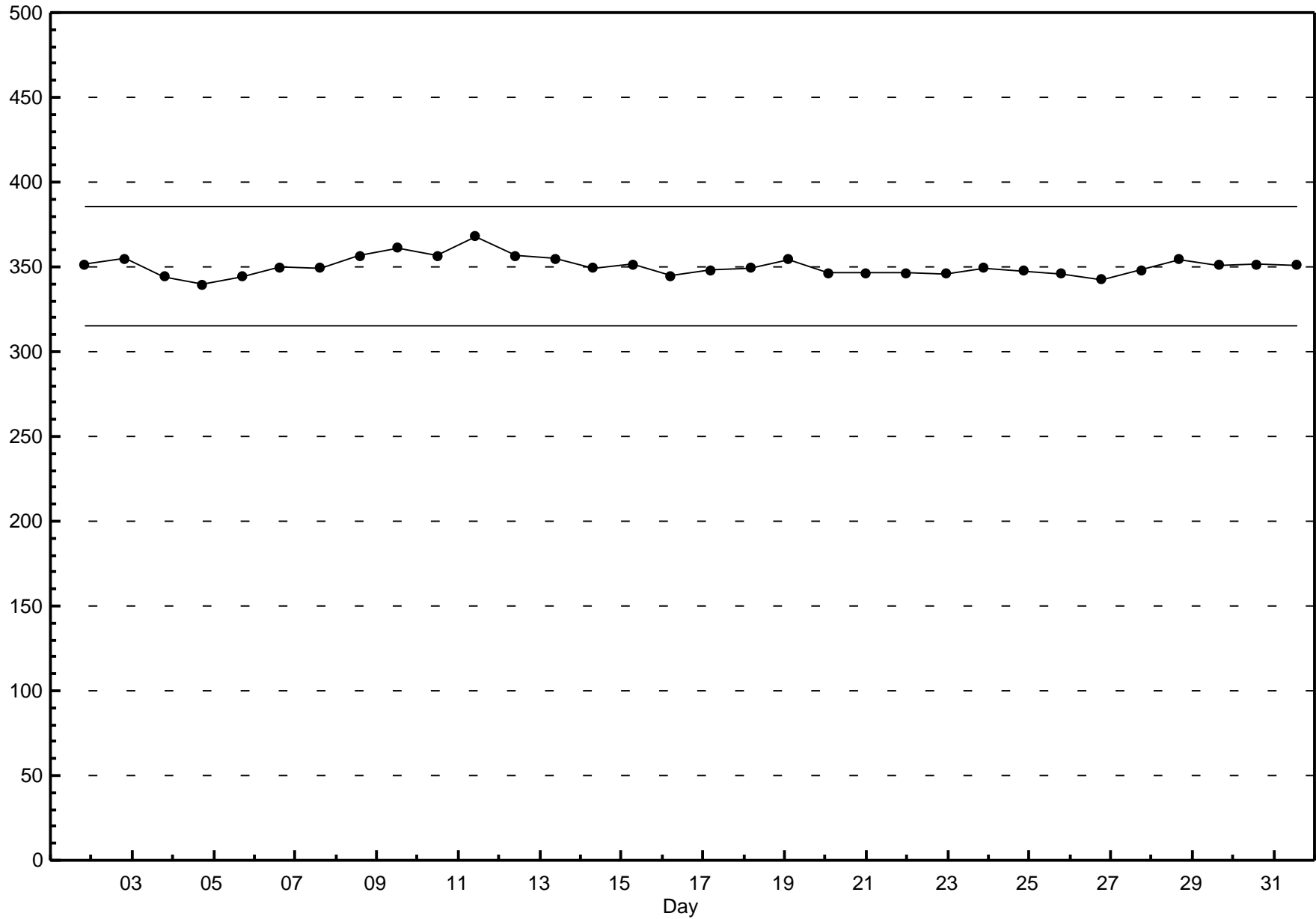


**Pollutant Classes (ppb)**



### Span Responses

Sulphur Dioxide (SO<sub>2</sub>)  
Falher - January 2014



## Hourly Averages

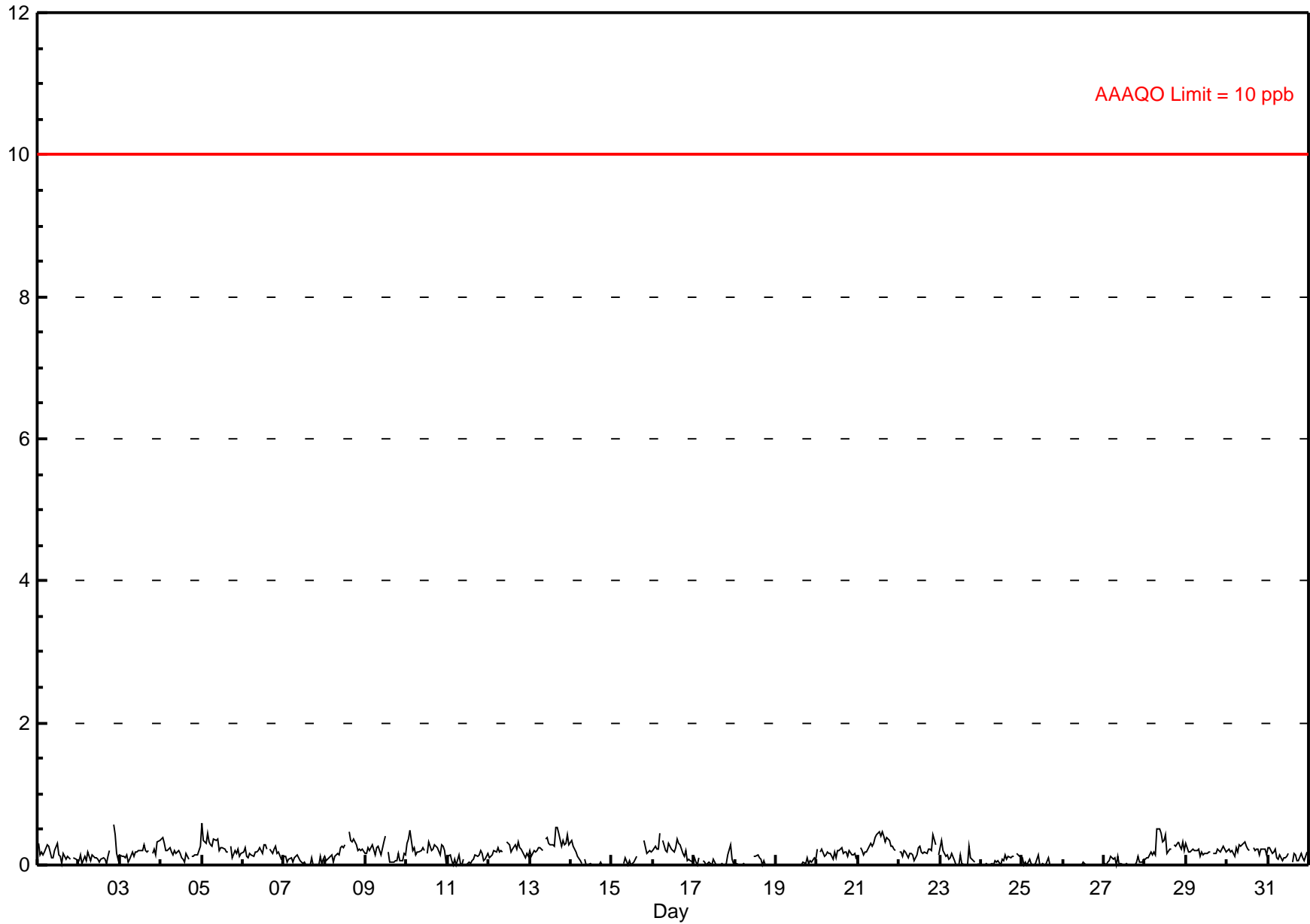
## Hydrogen Sulphide (H<sub>2</sub>S) - ppb

### Falher - January 2014

Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 0.6 ppb on Jan 5 01:00	Maximum Daily Average: 0.3 ppb on Jan 13		Hours of Data:	705
Minimum Value: 0 ppb on Jan 7 14:00	Minimum Daily Average: 0.0 ppb on Jan 26		Hours of Missing Data:	39
Maximum Diurnal Average: 0.2 ppb at hour 1	Minimum Diurnal Average: 0.1 ppb at hour 24		Hours of Calibration:	35
Monthly Average: 0.15 ppb	Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.0 Q <sub>1</sub> = 0.0 Median = 0.1 Q <sub>3</sub> = 0.2 P <sub>90</sub> = 0.3 P <sub>99</sub> = 0.5		Percent Operational Time:	99.5

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

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





## Hourly Maximums

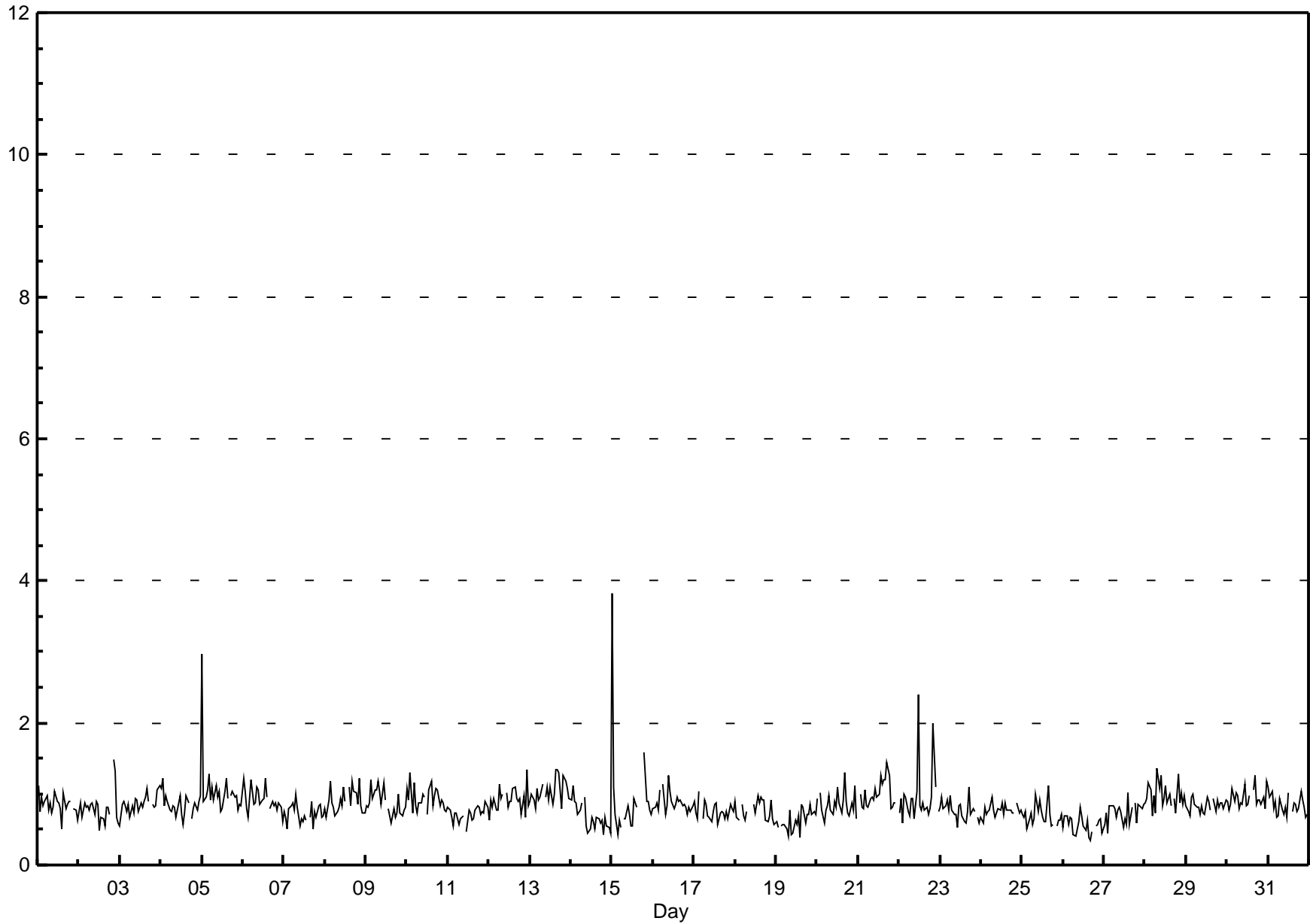
Hydrogen Sulphide (H<sub>2</sub>S) - ppb

Falher - January 2014

Maximum Value: 3.8 ppb on Jan 15 01:00      Maximum Daily Average: 1.1 ppb on Jan 5 Minimum Value: 0 ppb on Jan 26 17:00      Minimum Daily Average: 0.6 ppb on Jan 26 Maximum Diurnal Average: 1.0 ppb at hour 1      Minimum Diurnal Average: 0.8 ppb at hour 24 Monthly Average: 0.84 ppb      Percentiles: P <sub>1</sub> = 0.4 P <sub>10</sub> = 0.6 Q <sub>1</sub> = 0.7 Median = 0.8 Q <sub>3</sub> = 0.9 P <sub>90</sub> = 1.1 P <sub>99</sub> = 1.4																								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-Jan	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	1.1	
2-Jan	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	A	1	1	1	1	0.8	1.5	
3-Jan	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	
4-Jan	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	1.2	
5-Jan	3	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	3.0	
6-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	0.9	1.2	
7-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	0	1	1	1	1	1	1	0.7	1.0	
8-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	0.9	1.2	
9-Jan	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	0.9	1.2	
10-Jan	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.3	
11-Jan	1	1	1	1	1	1	1	1	1	1	A	0	1	1	1	1	1	1	1	1	1	1	1	1	0.7	0.9	
12-Jan	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.3	
13-Jan	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.3	
14-Jan	1	1	1	1	1	1	1	A	1	1	0	1	1	1	1	1	1	1	1	0	1	1	1	0	0.7	1.1	
15-Jan	4	1	1	0	1	1	A	1	1	1	1	1	1	1	P	P	P	P	2	1	1	1	1	0.9	3.8		
16-Jan	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.3	
17-Jan	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.0	
18-Jan	1	1	1	A	1	1	1	1	C	C	C	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.0	
19-Jan	1	1	A	1	1	1	0	0	1	0	0	1	1	1	0	1	1	1	1	1	1	1	1	1	0.6	0.9	
20-Jan	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.3	
21-Jan	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.4	
22-Jan	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	2	1	A	1	1.0	2.4
23-Jan	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	
24-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	0.8	1.0	
25-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	0.7	1.1	
26-Jan	1	1	1	1	1	1	0	0	0	1	1	1	1	0	1	0	0	0	A	1	1	1	1	0	0.6	0.8	
27-Jan	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	0.7	1.0	
28-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1.0	1.4	
29-Jan	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	1.0	
30-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	0.9	1.3	
31-Jan	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	
	1.0	0.8	0.8	0.8	0.9	0.8	0.8	0.8	0.8	0.8	0.9	0.8	0.8	0.8	0.8	0.8	0.9	0.8	0.8	0.8	0.8	0.9	0.8	0.8	0.8	Diurnal Average	
	3.8	1.2	1.3	1.2	1.3	1.2	1.1	1.4	1.1	1.3	1.2	2.4	1.1	1.3	1.2	1.3	1.3	1.4	1.3	1.6	2.0	1.3	1.3	1.2	Diurnal Maximum		
C - Calibration      P - Power Failure      A - Automated Daily Zero Span																											

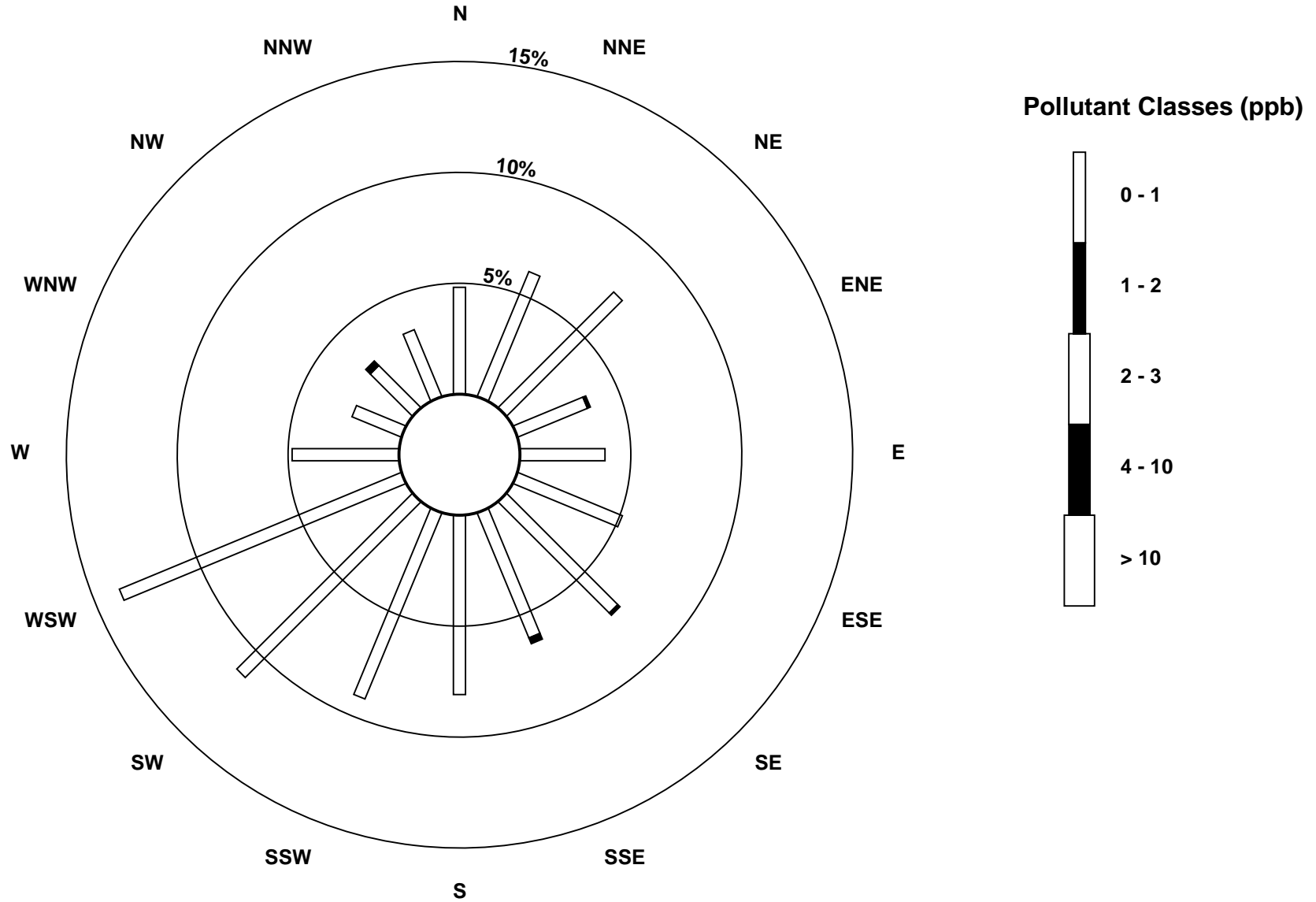
### Hourly Maximums

Hydrogen Sulphide (H<sub>2</sub>S) - ppb  
Falher - January 2014



**Pollutant Rose**

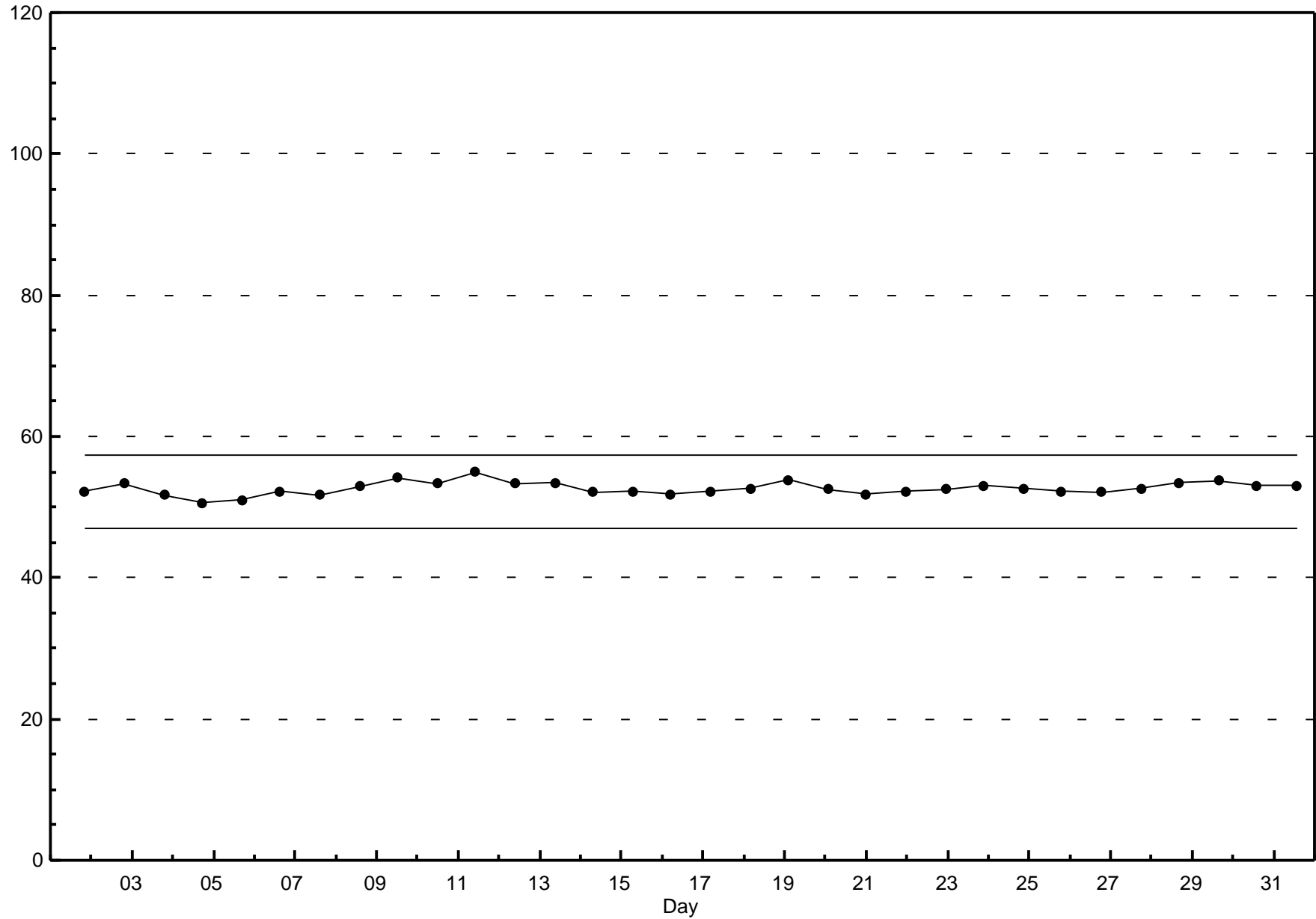
**Hydrogen Sulphide (H<sub>2</sub>S) - ppb**  
**Falher - January 2014**



### Span Responses

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

Falher - January 2014

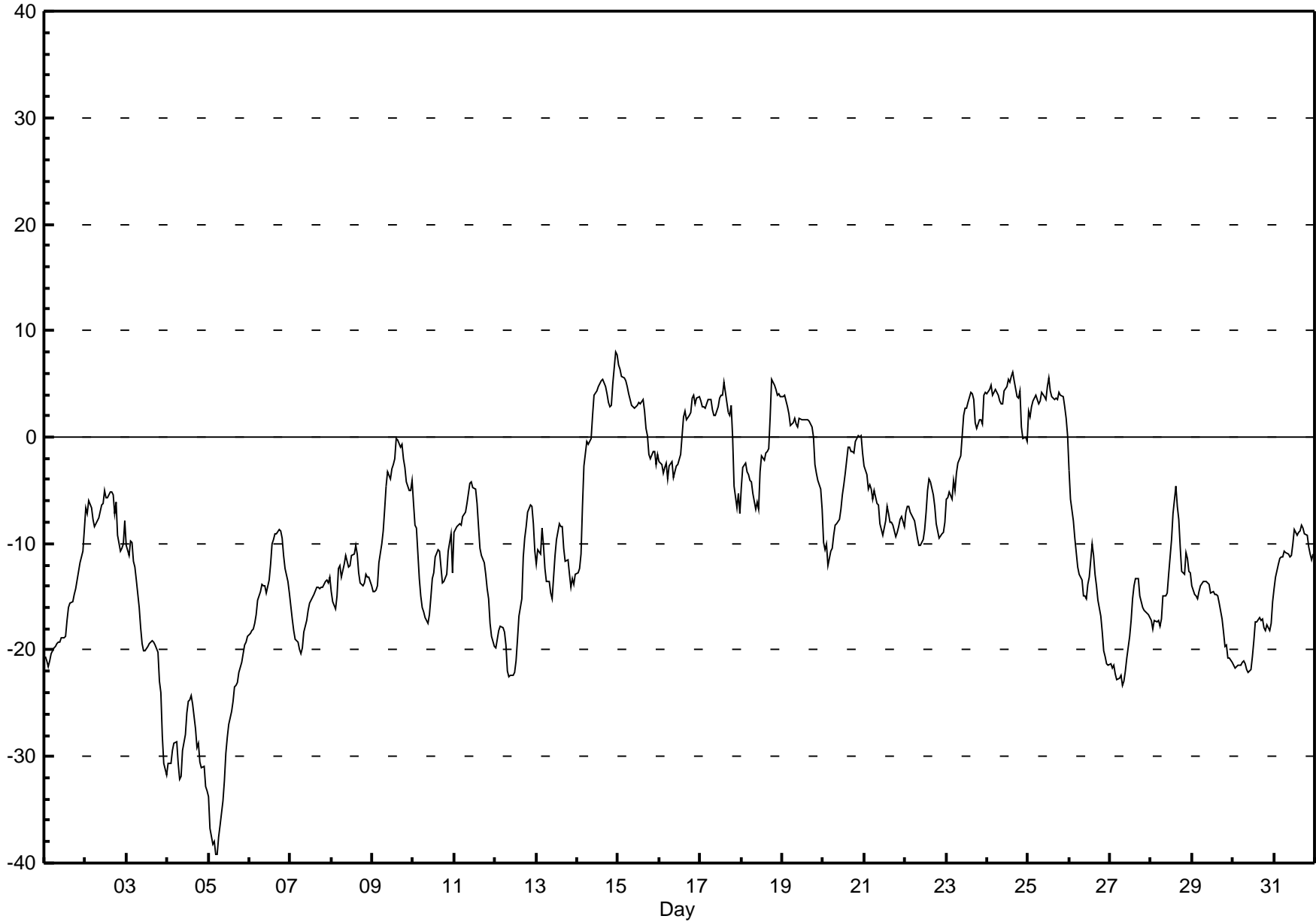


## Hourly Averages

External Temperature (ET) - °C

Falher - January 2014

Number of Exceedences (AAQO):		1-hr: 0		24-hr: 0		Hours in Service: 744																Daily Average		Daily Maximum																								
Maximum Value: 8.0 °C on Jan 14 23:00		Maximum Daily Average: 3.7 °C on Jan 24		Hours of Data: 744																																												
Minimum Value: -39 °C on Jan 5 06:00		Minimum Daily Average: -29.1 °C on Jan 4		Hours of Missing Data: 0																																												
Maximum Diurnal Average: -7.1 °C at hour 15		Minimum Diurnal Average: -11.0 °C at hour 9		Hours of Calibration: 0																																												
Monthly Average: -9.65 °C		Percentiles: P <sub>1</sub> = -34.3 P <sub>10</sub> = -21.3 Q <sub>1</sub> = -15.5 Median = -9.9 Q <sub>3</sub> = -2.4 P <sub>90</sub> = 3.5 P <sub>99</sub> = 5.7		Percent Operational Time: 100.0																																												
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																								
1-Jan	-21	-21	-22	-21	-20	-20	-20	-19	-19	-19	-19	-19	-19	-17	-16	-16	-15	-15	-14	-13	-13	-12	-11	-9	-17.0	-8.7																						
2-Jan	-7	-7	-6	-7	-8	-8	-8	-8	-8	-6	-6	-5	-6	-6	-5	-5	-5	-7	-6	-9	-11	-10	-10	-8	-7.2	-5.0																						
3-Jan	-10	-11	-10	-10	-12	-12	-13	-16	-18	-19	-20	-20	-20	-19	-19	-19	-19	-19	-20	-23	-24	-28	-31	-32	-18.6	-9.7																						
4-Jan	-31	-31	-31	-29	-29	-29	-31	-32	-32	-29	-28	-26	-25	-25	-24	-25	-27	-29	-29	-30	-31	-31	-33	-33	-29.1	-24.3																						
5-Jan	-34	-37	-38	-38	-39	-39	-38	-36	-34	-32	-30	-28	-27	-26	-25	-24	-23	-23	-22	-21	-20	-20	-19	-19	-28.8	-18.8																						
6-Jan	-18	-18	-18	-17	-17	-15	-14	-14	-14	-14	-15	-13	-12	-10	-10	-9	-9	-9	-9	-9	-11	-12	-14	-15	-13.2	-8.7																						
7-Jan	-16	-17	-18	-19	-19	-20	-20	-20	-18	-17	-16	-16	-15	-15	-15	-14	-14	-14	-14	-14	-14	-13	-14	-13	-16.1	-13.2																						
8-Jan	-15	-15	-16	-15	-12	-12	-13	-12	-11	-12	-12	-11	-11	-10	-11	-13	-14	-14	-14	-13	-13	-13	-14	-14	-12.8	-10.2																						
9-Jan	-15	-15	-14	-14	-12	-10	-9	-7	-5	-3	-4	-3	-3	-2	0	0	-1	-1	-2	-3	-4	-5	-5	-4	-5.8	-0.1																						
10-Jan	-6	-8	-9	-13	-15	-16	-16	-17	-18	-17	-15	-13	-13	-11	-11	-11	-12	-14	-14	-13	-11	-10	-9	-13	-12.6	-6.2																						
11-Jan	-9	-8	-8	-8	-8	-7	-7	-6	-5	-4	-4	-5	-5	-6	-8	-10	-11	-12	-13	-14	-15	-17	-19	-20	-9.7	-4.2																						
12-Jan	-20	-19	-18	-18	-18	-18	-20	-22	-23	-22	-22	-22	-21	-19	-17	-15	-11	-10	-8	-7	-6	-7	-8	-11	-15.9	-6.3																						
13-Jan	-12	-11	-11	-9	-10	-12	-14	-14	-15	-15	-13	-11	-10	-8	-8	-8	-10	-12	-12	-13	-14	-13	-14	-13	-11.7	-8.2																						
14-Jan	-13	-12	-11	-7	-3	0	-1	0	0	2	4	4	5	5	5	5	5	4	3	3	3	5	8	8	0.9	8.0																						
15-Jan	7	6	6	6	5	5	4	3	3	3	3	3	3	3	4	2	1	0	-2	-2	-1	-1	-3	-2	2.3	6.8																						
16-Jan	-2	-3	-3	-3	-2	-4	-3	-2	-4	-3	-3	-3	-2	0	2	2	2	2	2	4	4	3	4	4	-0.3	3.9																						
17-Jan	3	3	3	3	3	4	3	3	2	2	3	4	4	4	5	3	2	2	3	0	-5	-7	-5	-7	1.5	5.2																						
18-Jan	-5	-3	-2	-3	-4	-4	-4	-5	-7	-6	-7	-3	-2	-2	-1	-1	-1	2	5	5	5	4	4	4	-1.4	5.4																						
19-Jan	4	4	3	3	2	1	1	2	1	1	2	2	2	2	2	2	1	1	0	-3	-3	-4	-5	-7	0.5	3.9																						
20-Jan	-10	-11	-10	-12	-11	-10	-9	-8	-8	-8	-7	-5	-4	-3	-1	-1	-1	-1	-1	0	0	0	0	-1	-5.2	0.2																						
21-Jan	-3	-3	-5	-4	-5	-6	-5	-6	-6	-8	-9	-9	-8	-6	-7	-8	-8	-8	-9	-9	-8	-8	-7	-8	-6.9	-2.8																						
22-Jan	-7	-7	-6	-7	-7	-8	-9	-9	-10	-10	-10	-9	-7	-5	-4	-4	-5	-7	-8	-9	-9	-9	-9	-8	-7.6	-3.9																						
23-Jan	-6	-6	-5	-6	-4	-5	-3	-2	-2	0	2	3	3	3	4	4	3	1	1	2	2	1	4	4	-0.1	4.2																						
24-Jan	4	4	5	4	4	4	4	3	3	3	4	5	5	5	6	6	5	4	4	4	1	0	0	0	3.7	6.1																						
25-Jan	2	2	3	3	4	4	3	3	4	4	4	5	6	4	4	4	4	4	4	4	4	3	2	0	3.4	5.6																						
26-Jan	-3	-6	-8	-9	-11	-12	-13	-13	-15	-15	-15	-14	-13	-10	-11	-13	-14	-15	-17	-18	-20	-21	-21	-21	-13.7	-3.1																						
27-Jan	-21	-22	-21	-22	-23	-23	-22	-23	-23	-22	-21	-19	-17	-15	-14	-13	-13	-15	-15	-16	-16	-16	-17	-17	-18.7	-13.3																						
28-Jan	-17	-18	-17	-17	-17	-18	-17	-15	-15	-15	-13	-11	-10	-7	-5	-7	-8	-10	-13	-13	-11	-11	-13	-13	-12.9	-4.6																						
29-Jan	-14	-15	-15	-15	-14	-14	-14	-13	-14	-14	-14	-15	-14	-15	-15	-15	-16	-17	-18	-20	-20	-21	-21	-21	-15.9	-13.5																						
30-Jan	-21	-22	-22	-21	-21	-21	-21	-21	-22	-22	-22	-21	-19	-17	-17	-17	-17	-17	-18	-18	-18	-18	-18	-15	-19.5	-15.5																						
31-Jan	-14	-13	-12	-11	-11	-11	-11	-11	-11	-11	-11	-10	-9	-9	-9	-9	-8	-9	-9	-9	-10	-11	-12	-11	-10.5	-8.2																						
																								-10.6	-10.9	-10.9	-10.9	-10.8	-10.9	-10.9	-11.0	-11.0	-10.7	-10.1	-9.3	-8.5	-7.7	-7.1	-7.3	-7.8	-8.3	-8.5	-9.0	-9.4	-9.8	-9.9	-10.2	Diurnal Average
																								6.8	6.4	5.7	5.6	5.2	4.8	4.0	3.5	4.3	3.8	4.3	4.8	5.6	5.1	5.7	6.1	5.3	4.0	5.4	4.9	4.5	5.0	8.0	7.7	Diurnal Maximum



## Hourly Averages

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

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1 Spd	5	5	4	3	2	1	4	4	6	5	5	6	9	14	19	21	25	25	23	30	31	28	21	20	11.4	31.1
Dir	193	177	156	191	132	49	40	27	67	15	41	34	19	4	10	14	14	23	32	27	32	36	44	64	31	32
2 Spd	16	12	13	7	2	3	1	3	6	2	15	19	16	17	13	3	2	4	3	3	5	7	5	9	3.6	19.5
Dir	107	130	160	207	248	295	277	75	326	191	160	171	158	156	151	138	222	348	320	350	311	310	302	295	165	171
3 Spd	7	4	11	19	20	15	18	22	23	31	31	22	21	24	23	21	12	5	5	7	5	3	3	5	13.3	31.5
Dir	242	185	278	286	279	254	277	250	240	244	252	258	251	242	234	230	228	232	201	169	136	84	177	206	247	244
4 Spd	4	7	5	3	6	6	3	5	8	12	10	12	11	15	13	12	12	11	11	9	10	10	1	2	8.1	15.5
Dir	149	151	166	133	112	113	133	131	148	145	145	149	151	148	154	153	145	143	141	137	148	164	240	319	146	148
5 Spd	2	6	3	6	6	6	6	6	9	11	10	12	14	15	18	21	22	24	27	24	22	25	25	24	14.0	27.4
Dir	314	349	9	339	330	322	320	322	328	326	335	340	341	339	351	353	357	349	342	350	356	0	358	360	347	342
6 Spd	25	24	26	24	21	14	15	15	14	8	5	8	11	5	8	6	4	2	9	10	15	18	20	18	6.9	26.3
Dir	4	10	6	11	18	29	25	19	34	47	61	113	150	198	203	225	232	279	312	292	287	277	273	271	349	6
7 Spd	17	17	18	20	15	15	15	14	10	11	12	15	16	19	25	25	25	21	20	26	23	22	21	23	10.7	25.5
Dir	262	248	244	255	260	256	266	278	309	331	5	13	15	22	18	22	25	28	21	20	26	36	34	35	355	20
8 Spd	21	16	13	10	8	4	5	1	7	7	8	8	8	6	7	8	4	9	10	10	9	7	9	8	6.3	21.0
Dir	29	30	35	42	75	146	178	120	128	114	135	120	120	103	98	56	37	20	38	30	31	30	29	38	58	29
9 Spd	6	7	6	6	5	5	5	6	4	12	15	16	14	12	22	23	21	23	21	21	19	17	16	14	9.6	23.4
Dir	27	32	24	34	44	50	71	102	121	167	188	187	180	188	210	209	202	195	188	186	192	187	176	182	184	195
10 Spd	8	8	10	11	16	9	6	6	3	4	2	1	1	2	6	7	9	10	7	11	16	17	15	10	4.1	16.9
Dir	200	171	185	285	276	262	247	236	176	182	211	272	178	140	127	97	93	86	106	138	161	152	154	86	165	152
11 Spd	17	14	11	14	18	20	20	18	19	21	20	10	8	12	16	19	20	22	21	22	21	22	14	11	2.6	21.9
Dir	106	92	69	51	46	49	48	45	40	29	45	29	338	308	253	245	245	241	250	249	248	257	235	206	330	249
12 Spd	11	12	8	6	17	16	11	12	10	10	13	14	14	15	15	14	21	25	26	30	27	21	12	7	10.5	29.5
Dir	193	182	200	186	167	163	148	130	105	73	55	36	21	26	48	47	66	85	91	103	100	101	79	45	94	103
13 Spd	1	2	5	5	7	7	8	8	3	1	7	10	8	8	2	3	2	8	14	6	3	4	8	11	3.1	13.6
Dir	158	185	39	194	230	209	197	213	205	271	139	144	142	143	114	58	149	124	141	92	88	347	47	58	140	141
14 Spd	12	9	9	14	16	21	17	20	21	26	40	43	44	42	37	41	26	24	25	25	24	31	55	67	23.3	67.0
Dir	74	57	59	141	176	201	158	144	151	196	213	214	214	215	210	215	202	159	150	143	154	189	225	226	195	226
15 Spd	71	69	57	56	54	56	50	46	41	37	34	34	34	35	35	28	23	23	17	19	20	17	15	20	36.7	70.5
Dir	231	233	234	238	244	244	244	244	245	246	247	246	247	248	251	243	234	233	225	226	226	223	207	225	239	231
16 Spd	11	13	13	13	12	9	9	14	8	15	11	7	6	10	9	6	9	15	16	21	16	13	20	7	10.9	20.8
Dir	207	169	190	192	188	168	177	169	144	178	180	143	130	178	177	183	156	177	176	193	207	204	216	269	184	193
17 Spd	16	15	23	19	23	28	26	20	18	18	17	18	22	17	10	12	12	12	8	4	8	10	13	10	13.0	27.8
Dir	232	217	232	244	248	247	241	238	243	249	257	255	243	253	249	234	231	227	249	194	102	119	133	114	235	247
18 Spd	15	18	16	16	18	13	15	13	10	11	12	10	10	10	9	8	12	21	36	41	39	34	35	34	14.2	40.9
Dir	142	148	140	137	144	128	140	139	127	126	103	102	122	117	112	134	185	199	211	214	215	215	222	225	178	214
19 Spd	36	39	35	29	26	21	23	29	30	29	34	33	32	26	21	20	20	21	18	17	16	11	11	3	23.9	39.4
Dir	227	228	228	229	228	223	228	233	233	237	246	239	238	234	226	233	242	230	225	237	233	232	214	163	232	228
20 Spd	6	9	8	10	12	11	16	13	11	13	14	11	11	12	14	13	9	8	10	13	16	15	16	11	6.7	16.3
Dir	90	65	88	99	107	96	124	128	109	128	134	151	182	197	237	241	211	204	206	240	210	208	239	248	171	239
21 Spd	11	9	15	14	14	6	10	5	4	1	4	8	6	5	6	7	5	8	9	12	14	16	16	17	2.6	16.6
Dir	237	204	196	203	203	196	199	238	217	305	61	83	115	79	73	48	47	42	44	42	46	49	48	48	89	48
22 Spd	21	20	22	22	24	27	26	23	21	22	20	15	9	8	10	8	8	9	10	9	9	8	7	7	13.7	27.3
Dir	50	56	60	62	51	51	48	45	43	46	59	73	88	114	142	132	114	88	72	95	94	94	121	128	67	51

## Hourly Averages

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

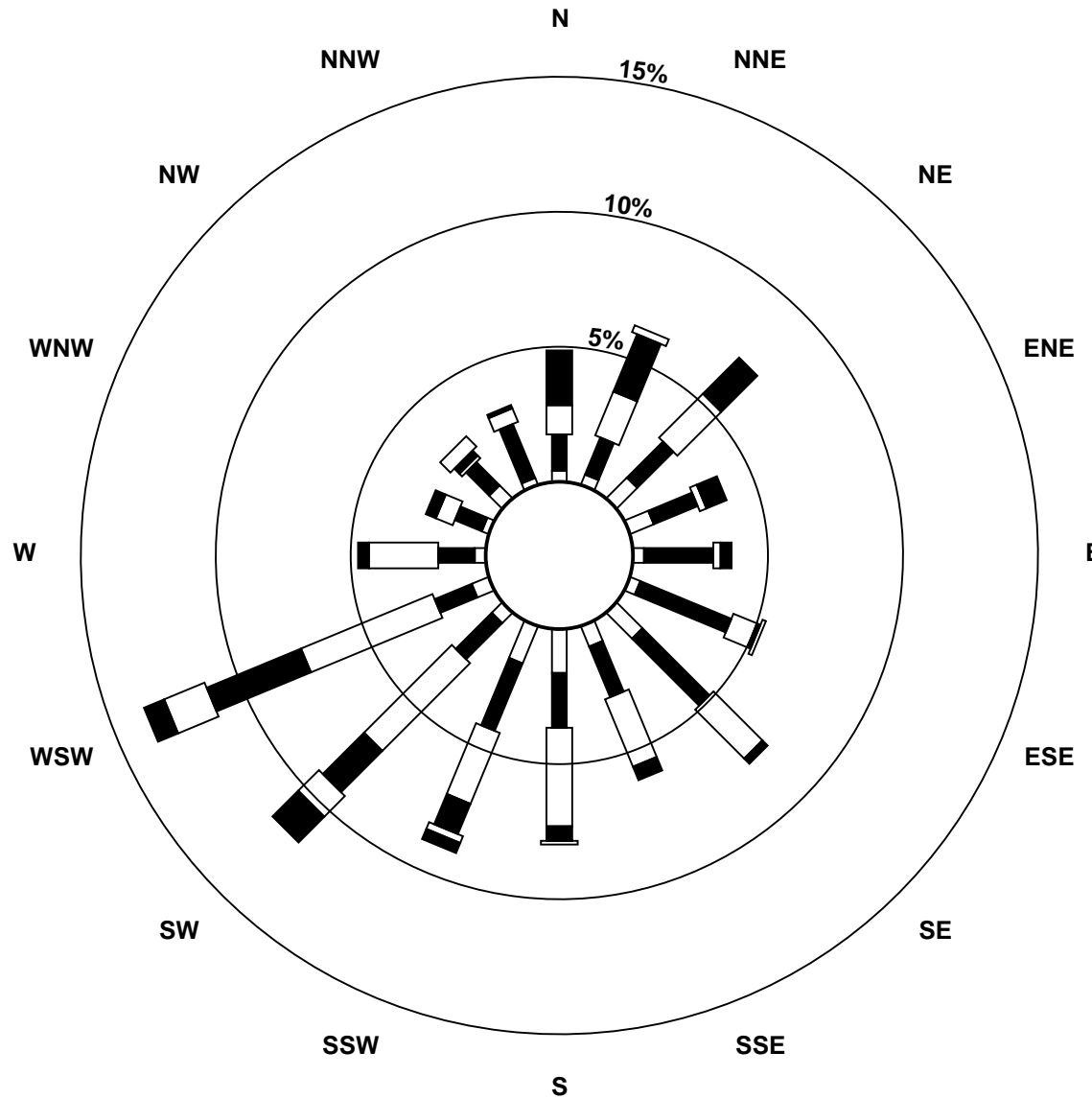
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
23 Spd	14	11	11	10	16	15	15	8	5	16	18	10	14	18	17	13	7	12	17	14	10	12	23	20	12.3	23.4
Dir	181	168	176	187	179	186	200	207	191	230	228	235	243	235	242	238	214	179	188	200	177	218	242	227	210	242
24 Spd	18	21	26	20	22	25	18	8	5	12	9	13	13	16	15	12	15	13	13	8	7	11	14	12	12.7	26.2
Dir	233	254	257	245	248	244	257	271	255	239	242	239	243	239	241	243	244	222	199	182	128	166	171	196	235	257
25 Spd	14	12	15	14	18	17	15	18	23	14	20	21	18	17	14	13	14	18	21	20	24	23	30	35	15.5	34.7
Dir	220	214	226	231	231	223	232	251	257	249	257	259	250	243	234	266	269	266	286	301	312	319	312	318	266	318
26 Spd	34	33	24	19	15	8	6	7	12	7	8	8	4	1	3	6	8	9	9	7	6	3	7	7	8.7	33.7
Dir	322	314	297	299	298	287	249	267	277	287	327	357	60	99	35	0	354	356	6	7	0	353	334	341	319	322
27 Spd	7	7	8	10	6	8	12	11	11	16	14	12	15	14	16	19	22	22	22	23	22	18	19	16	13.8	23.4
Dir	334	332	340	355	341	343	346	349	337	352	4	14	21	32	38	36	30	18	11	11	9	7	11	13	9	11
28 Spd	8	6	10	8	12	4	5	13	12	15	13	15	11	10	4	0	4	2	7	8	8	9	9	12	3.1	15.0
Dir	35	342	36	114	114	132	143	154	141	154	171	180	202	219	239	3	172	19	14	316	278	267	238	239	177	154
29 Spd	10	9	10	12	11	12	11	9	13	16	19	17	19	16	19	13	12	17	13	11	14	16	20	16	13.3	20.1
Dir	261	227	247	271	285	284	284	255	272	274	277	263	264	253	258	260	252	238	236	230	231	231	242	236	255	242
30 Spd	14	15	14	13	8	7	10	13	11	10	12	11	9	5	9	11	8	8	10	9	9	14	14	22	6.7	21.9
Dir	237	227	213	219	217	154	127	110	102	107	107	96	107	130	76	74	64	92	96	118	139	163	176	187	144	187
31 Spd	22	19	18	16	15	17	18	12	9	8	6	6	8	6	5	10	13	7	4	5	9	10	10	10	9.5	22.2
Dir	190	194	198	206	204	212	217	243	288	278	268	231	229	229	199	200	217	215	198	170	174	163	160	142	206	190
Spd	5.1	5.2	5.6	5.5	5.7	5.7	5.0	4.1	2.9	4.2	4.5	4.6	5.6	6.0	5.1	3.9	2.7	2.4	2.3	1.9	2.2	2.9	4.8	4.1	Diurnal Average	
Dir	226	219	226	234	228	224	221	219	228	228	223	216	221	225	226	237	230	200	194	196	194	206	231	240	Diurnal Maximum	
Spd	70.5	68.8	57.5	56.0	54.4	56.3	50.2	46.4	40.6	37.2	39.6	43.3	43.6	42.1	36.9	41.4	26.4	24.9	36.4	40.9	39.2	34.1	54.9	67.0	Diurnal Maximum	
Dir	231	233	234	238	244	244	244	244	245	246	213	214	214	215	210	215	202	85	211	214	215	215	225	226	Diurnal Maximum	
Maximum Speed Value: 71 km/h on Jan 15 01:00																			Minimum Speed Value: 0 km/h on Jan 28 16:00					Hours in Service:		744
Maximum Daily Speed Average: 36.7 km/h on Jan 15																			Minimum Daily Speed Average: 2.6 km/h on Jan 13					Hours of Data:		744
Maximum Diurnal Speed Average: 6.0 km/h at hour 14																			Minimum Diurnal Speed Average: 1.9 km/h at hour 20					Hours of Missing Data:		0
Monthly Average Velocity: 4.19 km/h 223.1 deg																			Speed Percentiles: P <sub>1</sub> = 1.2 P <sub>10</sub> = 5.0 Q <sub>1</sub> = 8.0 Median = 12.6 Q <sub>3</sub> = 18.8 P <sub>90</sub> = 24.7 P <sub>99</sub> = 53.9					Percent Operational Time:		100.0
All monthly, daily, and diurnal averages have been calculated using vector methods																										
Frequency Distribution																										
		Speed Range (km/h)																								
Direction	0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total																			
North	8	19	20	25	0	0	72																			
NorthEast	10	31	22	29	3	0	95																			
East	5	35	14	4	1	0	59																			
SouthEast	16	45	37	5	0	0	103																			
South	17	30	48	15	1	0	111																			
SouthWest	9	32	69	33	19	19	181																			
West	5	20	38	20	3	0	86																			
NorthWest	5	21	3	4	4	0	37																			
Total	75	233	251	135	31	19	744																			



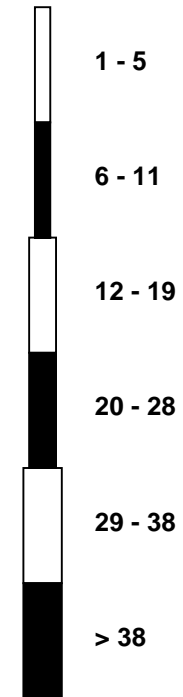
**Wind Rose**

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

**Falher - January 2014**



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



# Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Falher - January 2014

Maximum Speed: 71 km/h on Jan 15 01:00	Maximum Daily Speed Average: 37.2 km/h on Jan 15	Hours in Service: 744
Minimum Speed: 1 km/h on Jan 1 06:00	Minimum Daily Speed Average: 6.6 km/h on Jan 13	Hours of Data: 744
Maximum Diurnal Speed Average: 16.6 km/h at hour 23	Minimum Diurnal Speed Average: 12.7 km/h at hour 9	Hours of Missing Data: 0
Monthly Average Speed: 14.66 km/h	Percentiles: P <sub>1</sub> = 2.1 P <sub>10</sub> = 5.3 Q <sub>1</sub> = 8.3 Median = 12.7 Q <sub>3</sub> = 18.8 P <sub>90</sub> = 24.9 P <sub>99</sub> = 54.3	Percent Operational Time: 100.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	5	5	4	3	2	1	4	5	6	5	6	6	9	14	19	21	25	25	23	30	31	28	22	21	13.4	31.1
2-Jan	17	12	14	7	3	3	2	4	7	7	15	20	16	17	13	3	2	5	4	3	5	7	6	9	8.3	19.5
3-Jan	8	4	11	19	20	15	18	23	24	32	31	22	22	24	23	21	12	5	5	7	5	3	4	5	15.1	31.5
4-Jan	5	7	5	4	6	6	3	5	8	12	10	12	12	15	13	12	12	11	11	10	10	10	5	2	8.7	15.5
5-Jan	2	7	4	6	6	6	6	6	9	11	10	12	14	15	18	21	22	24	27	24	22	25	25	24	14.5	27.5
6-Jan	26	24	26	24	21	14	15	15	14	9	5	8	11	6	9	7	5	3	9	10	15	18	20	18	13.8	26.4
7-Jan	17	17	18	20	15	15	16	15	10	11	12	15	16	19	25	25	25	21	20	26	23	22	21	23	18.6	25.5
8-Jan	21	16	13	11	8	5	5	2	7	8	9	8	8	6	7	8	4	9	10	10	9	7	9	8	8.6	21.0
9-Jan	6	7	6	6	5	5	5	6	5	12	15	16	14	13	22	23	21	23	21	21	19	17	16	14	13.3	23.4
10-Jan	8	8	11	11	16	9	6	6	4	4	2	1	1	2	6	7	9	11	8	11	16	17	15	11	8.4	17.2
11-Jan	17	15	12	14	18	20	20	18	19	22	20	11	8	13	17	19	20	22	21	22	22	22	15	11	17.4	21.9
12-Jan	11	12	8	6	17	16	12	12	10	10	13	14	14	15	15	14	21	25	26	30	27	21	13	7	15.4	29.6
13-Jan	3	6	6	6	7	8	9	8	3	3	7	10	9	8	4	3	4	8	14	6	4	4	8	11	6.6	13.6
14-Jan	12	9	9	15	17	22	18	20	21	27	40	43	44	42	37	41	27	24	25	25	25	32	55	67	29.0	67.2
15-Jan	71	69	58	56	54	56	50	46	41	37	34	34	34	35	35	28	23	23	17	19	20	18	15	20	37.2	70.6
16-Jan	12	14	13	13	12	9	9	14	9	15	11	7	7	10	9	6	9	15	16	21	16	13	21	10	12.2	20.8
17-Jan	17	15	23	19	23	28	26	20	18	18	17	18	22	17	10	12	12	8	7	8	11	13	10	10	16.0	27.8
18-Jan	15	19	16	16	18	13	15	13	11	11	12	10	11	10	9	13	22	36	41	39	34	35	34	34	19.3	40.9
19-Jan	36	39	35	29	26	21	23	29	30	29	34	33	32	26	21	20	20	21	18	17	16	12	11	5	24.3	39.4
20-Jan	7	9	8	10	12	11	16	13	11	14	14	11	11	12	15	13	9	8	10	13	16	15	16	11	12.0	16.4
21-Jan	11	9	15	14	14	6	10	5	4	4	4	9	6	5	6	7	5	8	10	12	14	16	16	17	9.5	16.6
22-Jan	21	20	22	22	24	27	26	23	21	22	20	16	9	8	10	8	8	9	10	10	9	9	7	8	15.3	27.3
23-Jan	14	12	11	10	16	15	15	8	5	16	19	11	14	18	17	13	7	12	17	14	11	13	23	20	13.8	23.5
24-Jan	18	21	26	20	22	25	19	8	6	12	9	13	13	16	15	12	15	13	13	9	8	11	14	12	14.5	26.3
25-Jan	14	13	15	14	18	17	15	18	23	14	20	21	18	17	14	13	14	18	21	20	24	23	30	35	18.7	35.2
26-Jan	34	33	24	19	15	8	6	7	12	8	8	8	6	2	3	6	8	9	9	8	6	3	7	7	10.6	33.8
27-Jan	7	7	8	10	6	8	12	12	11	16	14	12	15	14	16	19	22	22	22	23	22	18	19	16	14.6	23.4
28-Jan	9	6	11	8	13	5	13	12	15	13	15	11	10	5	2	4	2	7	9	10	9	9	12	12	9.0	15.1
29-Jan	10	9	10	12	11	12	11	9	13	16	19	17	19	16	19	13	12	17	13	11	14	16	20	16	14.0	20.2
30-Jan	14	15	14	13	8	7	10	13	11	10	12	11	9	5	10	11	8	8	10	9	9	14	14	22	11.2	22.0
31-Jan	22	19	18	16	15	17	18	12	9	9	7	6	8	6	5	11	13	8	4	5	9	10	10	10	11.1	22.2
	15.9	15.4	15.3	14.6	15.1	13.9	13.7	13.1	12.7	14.1	14.8	14.5	14.3	14.1	14.4	13.9	13.3	14.3	15.1	15.5	15.7	15.4	16.6	16.0	Diurnal Average	
	70.6	68.8	57.5	56.1	54.4	56.4	50.2	46.4	40.7	37.2	39.6	43.3	43.7	42.1	37.1	41.4	27.1	25.0	36.5	40.9	39.3	34.2	55.1	67.2	Diurnal Maximum	

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

# Hourly Standard Deviations

Wind Direction (WD) - deg

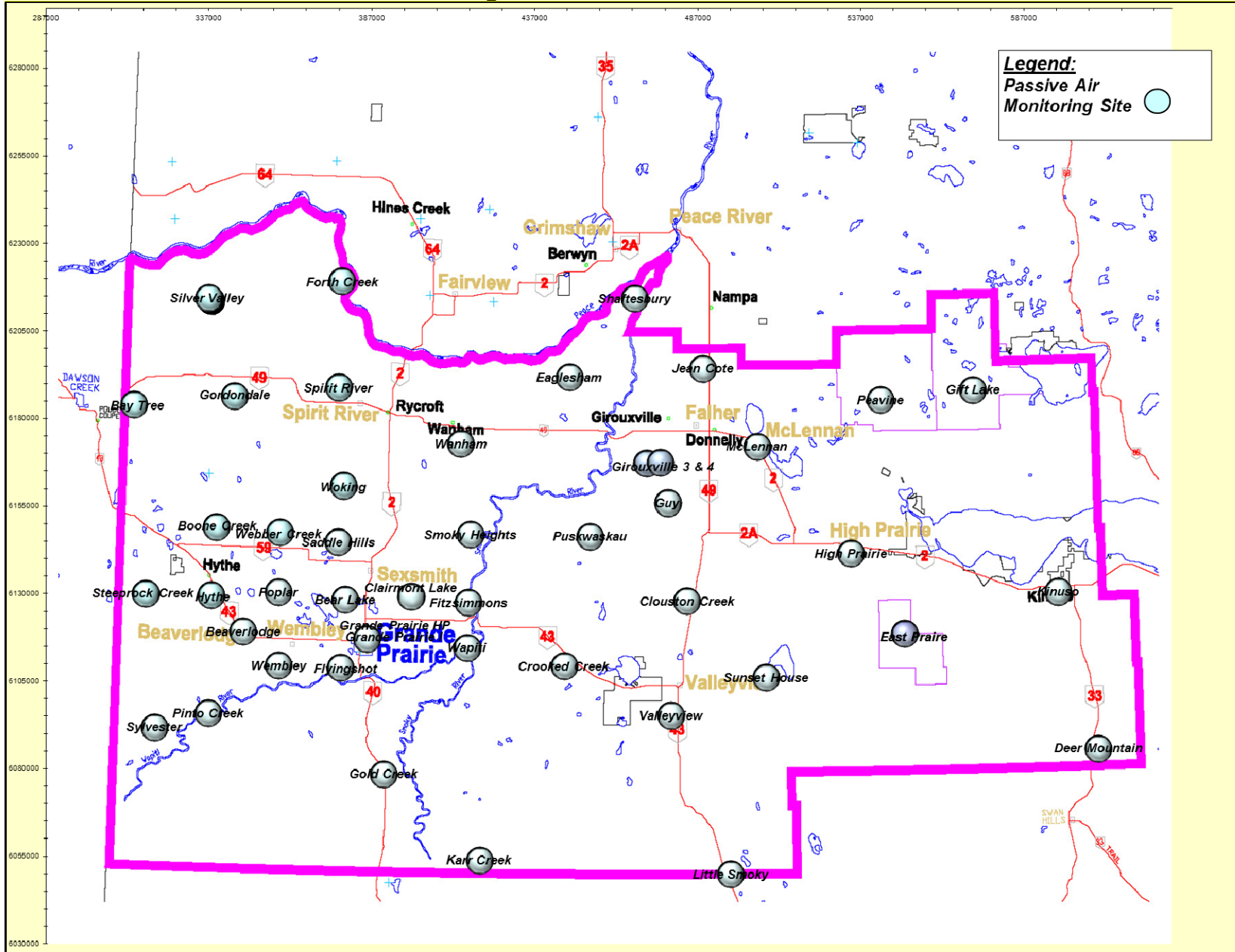
Falher - January 2014

Maximum Value: 93.8 deg on Jan 13 02:00																		Hours in Service: 744							
Minimum Value: 1.4 deg on Jan 19 09:00																		Hours of Data: 744							
Percentiles: P <sub>1</sub> = 1.6 P <sub>10</sub> = 2.5 Q <sub>1</sub> = 3.8 Median = 6.6 Q <sub>3</sub> = 12.8 P <sub>90</sub> = 24.1 P <sub>99</sub> = 69.0																		Hours of Missing Data: 0							
																		Hours of Calibration: 0							
																		Percent Operational Time: 100.0							
Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	17	8	9	16	12	69	23	18	11	27	23	12	7	5	5	3	3	6	5	2	4	3	6	5	68.6
2-Jan	11	11	23	14	24	36	39	56	50	71	5	3	2	3	10	37	26	37	28	24	11	7	19	8	70.7
3-Jan	17	28	18	6	5	8	9	12	7	3	4	4	7	4	3	4	5	13	11	20	25	30	50	16	50.2
4-Jan	27	7	16	17	4	4	11	5	9	7	4	4	5	2	2	2	3	3	3	2	5	5	73	15	72.5
5-Jan	29	35	42	7	5	3	3	3	3	3	4	2	4	4	3	6	4	3	4	3	3	3	3	3	41.8
6-Jan	4	2	4	2	4	5	7	8	9	18	21	15	4	23	14	34	35	57	14	11	4	4	4	6	57.0
7-Jan	5	6	5	4	3	5	4	5	10	12	8	4	6	4	4	3	3	3	5	3	2	5	4	2	12.5
8-Jan	2	3	9	7	17	28	21	68	6	19	26	12	16	12	11	15	16	6	10	3	4	2	3	4	68.2
9-Jan	8	8	5	4	6	10	6	9	44	6	4	4	3	11	2	2	6	2	3	3	4	4	4	4	43.7
10-Jan	21	8	31	9	2	10	5	10	45	19	17	39	29	38	10	8	14	16	35	11	7	10	15	12	45.3
11-Jan	6	20	13	4	4	5	10	7	11	4	5	19	13	21	14	9	10	4	5	3	4	11	7	12	21.4
12-Jan	10	6	15	30	6	4	11	6	21	6	5	8	9	13	3	6	9	6	4	3	5	7	18	14	30.1
13-Jan	86	94	42	51	15	28	10	9	26	70	9	12	32	10	63	28	78	11	4	10	50	19	15	12	93.8
14-Jan	2	11	8	18	11	9	11	4	5	20	2	1	2	2	5	2	13	6	7	7	7	14	5	4	20.0
15-Jan	2	2	2	3	2	2	2	2	3	2	2	2	2	2	2	4	4	3	3	4	4	8	5	5	7.9
16-Jan	31	21	3	5	1	13	14	4	20	3	27	10	30	7	4	11	11	11	6	5	6	5	14	41	41.4
17-Jan	9	3	7	4	4	2	3	4	4	5	3	3	7	7	6	8	3	9	14	50	18	19	9	10	49.8
18-Jan	9	3	4	5	3	4	5	5	15	15	5	9	11	6	27	32	25	5	5	2	2	3	3	2	32.4
19-Jan	2	2	1	2	2	3	2	2	1	3	2	4	2	3	5	5	6	4	7	6	4	11	14	57	56.9
20-Jan	17	6	17	5	12	13	11	7	12	6	4	12	6	8	13	7	8	9	10	15	15	14	6	9	17.2
21-Jan	19	9	3	6	3	48	18	39	8	68	27	20	10	20	12	8	14	18	10	5	3	3	4	3	67.7
22-Jan	2	2	6	5	3	2	3	3	2	4	2	9	5	14	7	11	13	11	11	14	7	10	9	16	16.4
23-Jan	4	9	6	6	2	4	4	5	41	13	5	14	8	4	4	10	17	7	5	16	6	20	4	6	41.1
24-Jan	8	10	5	4	4	2	11	24	23	7	7	5	4	2	2	4	2	12	9	15	24	18	4	16	24.1
25-Jan	3	13	5	7	4	4	8	7	2	4	2	2	4	5	2	15	8	5	12	5	5	6	5	10	14.7
26-Jan	4	8	6	6	6	27	17	10	8	18	17	13	51	47	29	3	4	8	3	7	15	10	5	7	51.2
27-Jan	3	3	9	6	14	7	4	5	6	4	4	4	3	5	2	1	3	2	2	2	2	2	4	3	13.9
28-Jan	24	18	30	12	7	49	22	3	6	7	6	3	15	4	51	91	41	73	11	19	41	24	17	16	91.3
29-Jan	10	8	7	9	4	4	4	10	7	3	4	5	4	5	3	7	6	4	9	5	5	6	6	5	10.5
30-Jan	9	12	8	6	9	20	10	4	3	4	6	4	7	15	8	3	6	11	15	6	21	8	13	3	20.8
31-Jan	2	4	3	3	3	4	3	14	8	13	21	7	9	17	10	12	8	12	19	16	7	6	10	7	21.3
86.0	93.8	42.1	51.0	24.2	68.6	39.1	68.2	49.6	70.7	26.9	39.3	51.2	46.9	63.2	91.3	78.0	73.2	35.4	49.8	49.8	30.2	72.5	56.9		

# PAZA

## Monthly Passive Data Summary

## Location of PAZA Passive Monitoring Stations



## PAZA Passive Results for January 2014

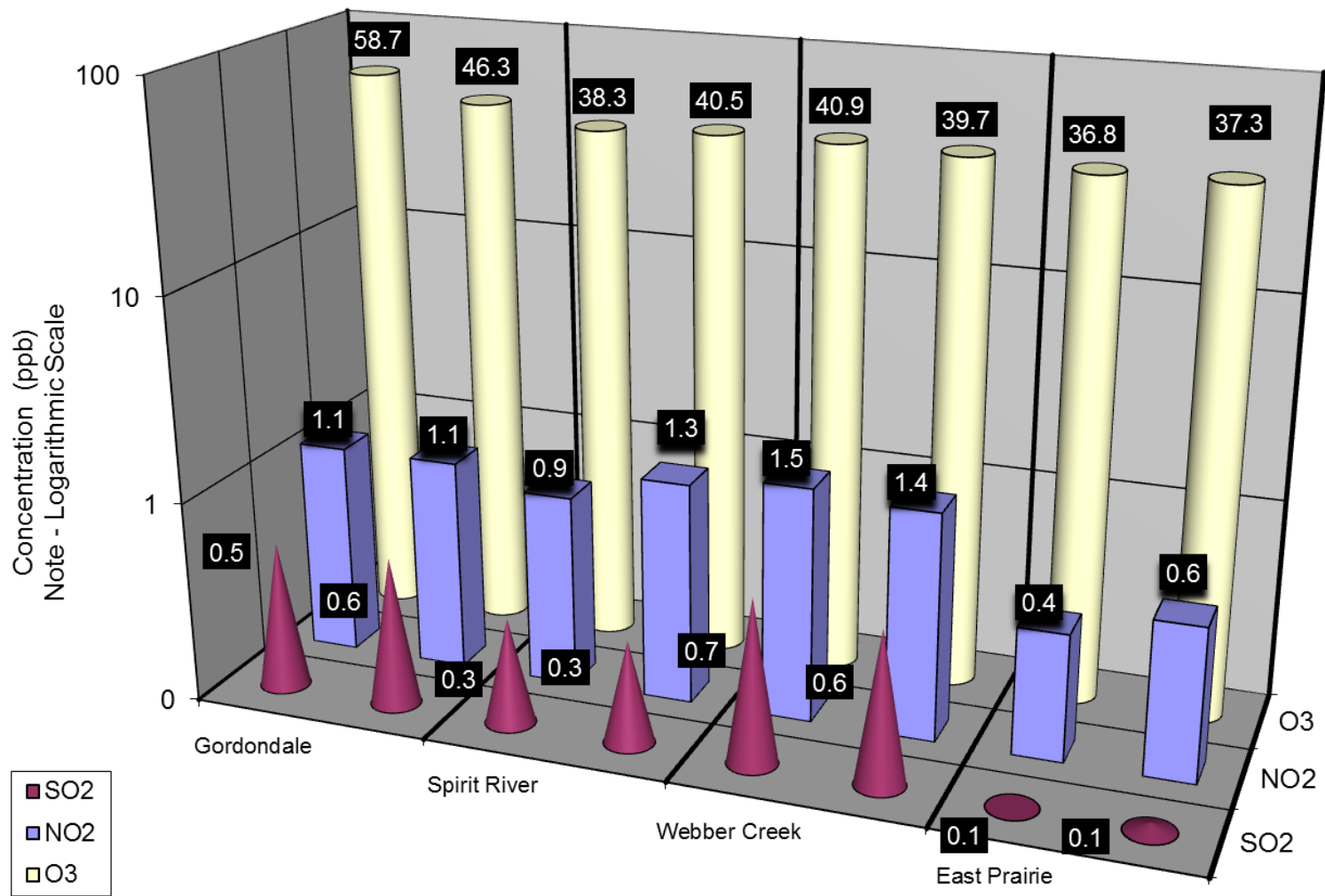
Station Number	Station Name	SO2 ppb	O3 ppb	NO2 ppb	H2S ppb	Site Legal
<b>Duplicates</b>						
4a	Gordondale	0.5	58.7	1.1		
4b	Gordondale	0.6	46.3	1.1		
9a	Spirit River	0.3	38.3	0.9		
9b	Spirit River	0.3	40.5	1.3		
11a	Webber Creek	0.7	40.9	1.5		
11b	Webber Creek	0.6	39.7	1.4		
50a	East Prairie	0.1	36.8	0.4		
50b	East Prairie	0.1	37.3	0.6		
64a	Girouxville 4				0.3	
64b	Girouxville 4				0.3	
1	Silver Valley	0.6	45.8	1.0		08-27-081-11 W6M
2	Bay Tree	0.6	41.5	0.9		13-16-078-13 W6M
3	Fourth Creek	0.3	18.2	0.2		04-13-082-07 W6M
4	Gordondale	0.5	52.5	1.1		04-34-078-10 W6M
5	Boone Creek	0.4	39.5	0.9		16-36-074-11 W6M
7	Steeprock Creek	0.2	44.4	0.6		09-35-072-13 W6M
9	Spirit River	0.3	39.4	1.1		08-12-079-07 W6M
10	Woking	0.5	36.1	0.7		01-13-076-07 W6M
11	Webber Creek	0.6	40.3	1.4		09-36-074-09 W6M
12	Hythe	0.3	38.1	1.4		14-36-072-11 W6M
14	Sylvester	0.1	32.3	0.8		08-06-069-12 W6M
16	Beaverlodge	0.3	36.6	2.3		15-36-071-10 W6M
17	Poplar	0.4	41.6	1.2		13-06-073-08 W6M
18	Saddle Hills	0.5	46.0	0.8		04-25-074-07 W6M
19	Wanham	0.4	38.8	0.8		16-22-077-03 W6M
20	Shaftesbury	0.2	20.4	0.5		04-03-082-23 W5M
21	Eaglesham	0.3	37.3	0.5		16-21-079-25 W5M
23	Bear Lake	0.4	46.1	1.9		15-31-072-06 W6M
24	Wembley	0.3	38.4	N/S		12-31-070-08 W6M
25	Pinto Creek	0.2	40.8	1.0		04-24-069-11 W6M
26	Flyingshot	0.2	34.5	2.2		15-36-070-07 W6M
27	Grande Prairie I	0.4	32.6	8.9		08-15-071-06 W6M

## PAZA Passive Results for January 2014 (Continued)

28	Clairmont Lake	0.4	48.1	1.5		09-06-073-04 W6M
29	Smoky Heights	0.7	40.1	2.0		04-06-075-02 W6M
30	Fitzsimmons	0.3	37.6	1.7		15-36-072-03 W6M
32	Gold Creek	0.2	34.3	2.8		06-33-067-05 W6M
33	Wapiti	0.3	42.2	1.6		02-25-071-03 W6M
34	Puskwaskau	0.1	35.1	0.7		15-35-074-25 W5M
35	Jean Cote	0.1	20.7	0.7		12-35-079-21 W5M
36	Guy	0.2	41.6	0.9		03-04-076-22 W5M
37	Crooked Creek	0.2	42.3	1.7		16-01-071-26 W5M
38	Karr Creek	0.1	33.6	1.2		10-16-065-02 W6M
39	Clouston Creek	0.3	44.9	1.5		12-01-073-22 W5M
40	McLennan	0.3	43.8	1.0		03-29-077-19 W5M
41	Valleyview	0.2	40.3	0.8		09-30-069-22 W5M
42	Sunset House	0.3	45.4	0.7		05-32-070-19 W5M
43	High Prairie	0.2	44.9	1.5		16-13-074-17 W5M
44	Peavine	0.2	38.4	0.8		03-05-079-15 W5M
45	Gift Lake	0.1	44.6	0.7	0.1	10-07-079-12 W5M
46	Little Smoky	0.1	36.6	3.5		12-01-065-21 W5M
47	Kinuso	0.1	36.3	1.2		12-10-073-10 W5M
48	Deer Mountain	0.2	47.0	0.5		15-22-068-09 W5M
49	Grande Prairie HP	0.4	28.9	10.2		17-26-071-06 W6M
50	East Prairie	0.1	37.0	0.5		13-02-072-15 W5M
63	Girouxville 3				0.6	14-02-077-23 W5M
64	Girouxville 4				0.3	4-08-077-22 W5M

\*BDL = Below Detection Level

\*NS - No sample



Duplicate Summary Chart



## Passive Summary for January 2014

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

Passive Summary for January 2014 (PAZA Zone)				
Mean	0.3	38.8	1.6	0.3
Standard Deviation	0.2	7.1	1.9	0.2
Minimum	0.1	18.2	0.2	0.1
Minimum At	Karr Creek (#38)	Fourth Creek (#3)	Fourth Creek (#3)	Gift Lake (#45)
Maximum	0.7	52.5	10.2	0.6
Maximum At	Smoky Heights (#29)	Gordondale (#4)	Grande Prairie HP	Girouxville 3 (#63)

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

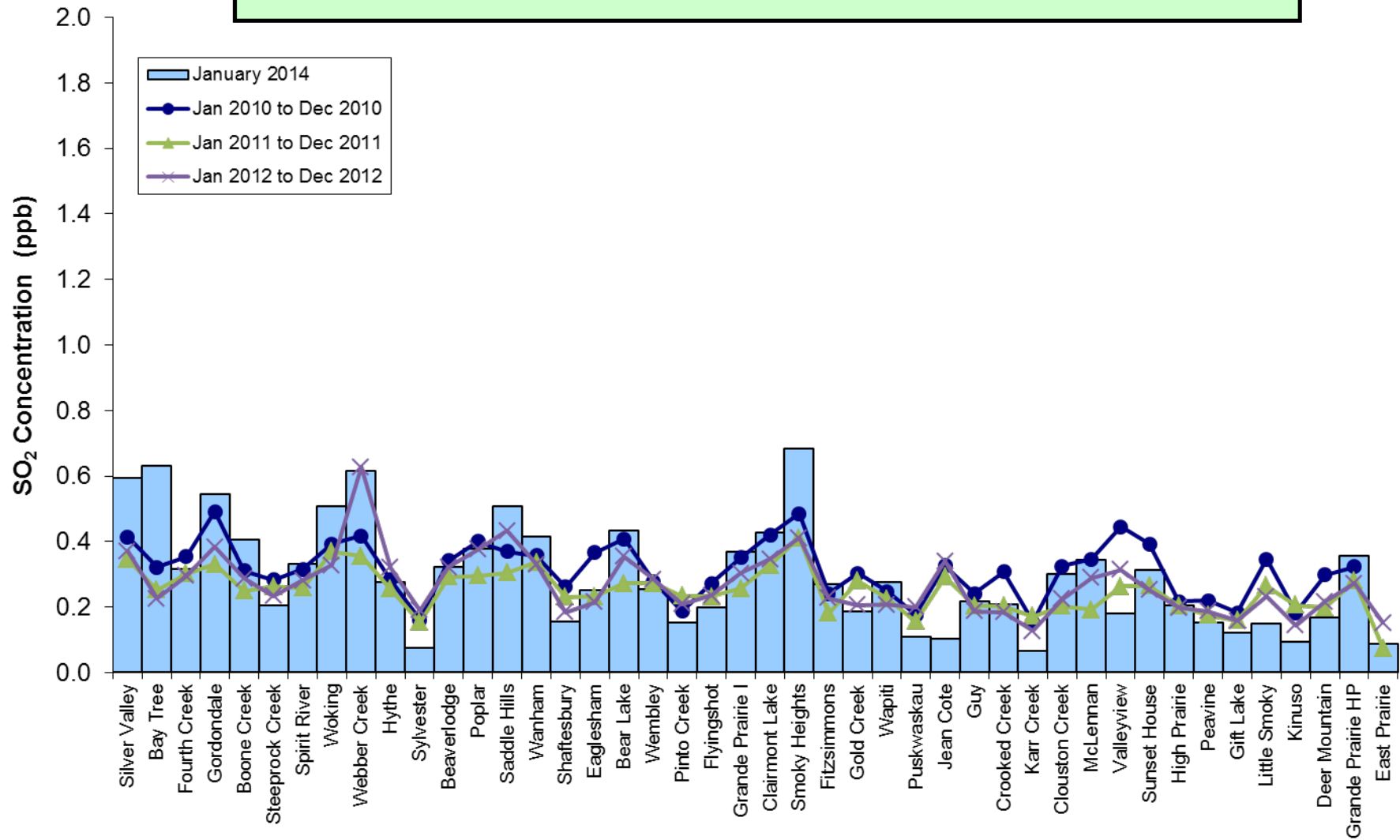
	SO <sub>2</sub>	O <sub>3</sub>	NO <sub>2</sub>
PAZA Beaverlodge station	0.3	32.5	5.5
PAZA Beaverlodge passive	0.3	36.6	2.3

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

	SO <sub>2</sub>	O <sub>3</sub>	NO <sub>2</sub>
PAZA Henry Pirker station	0.4	21.3	18.5
PAZA Grande Prairie passive	0.4	28.9	10.2



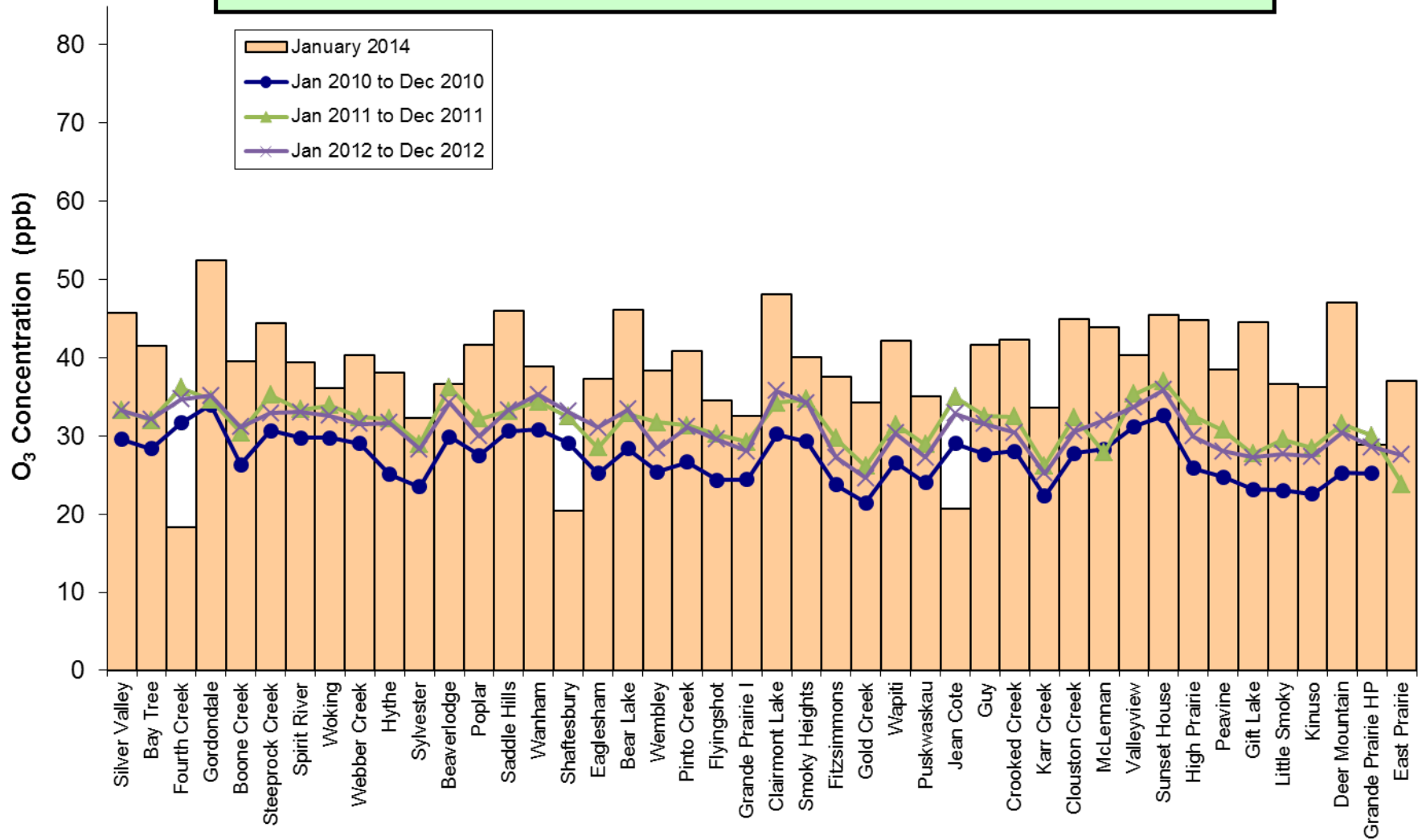
**Alberta Ambient Air Quality Objective - 30-day Objective is 11 ppb**



**SO<sub>2</sub> Summary Chart**

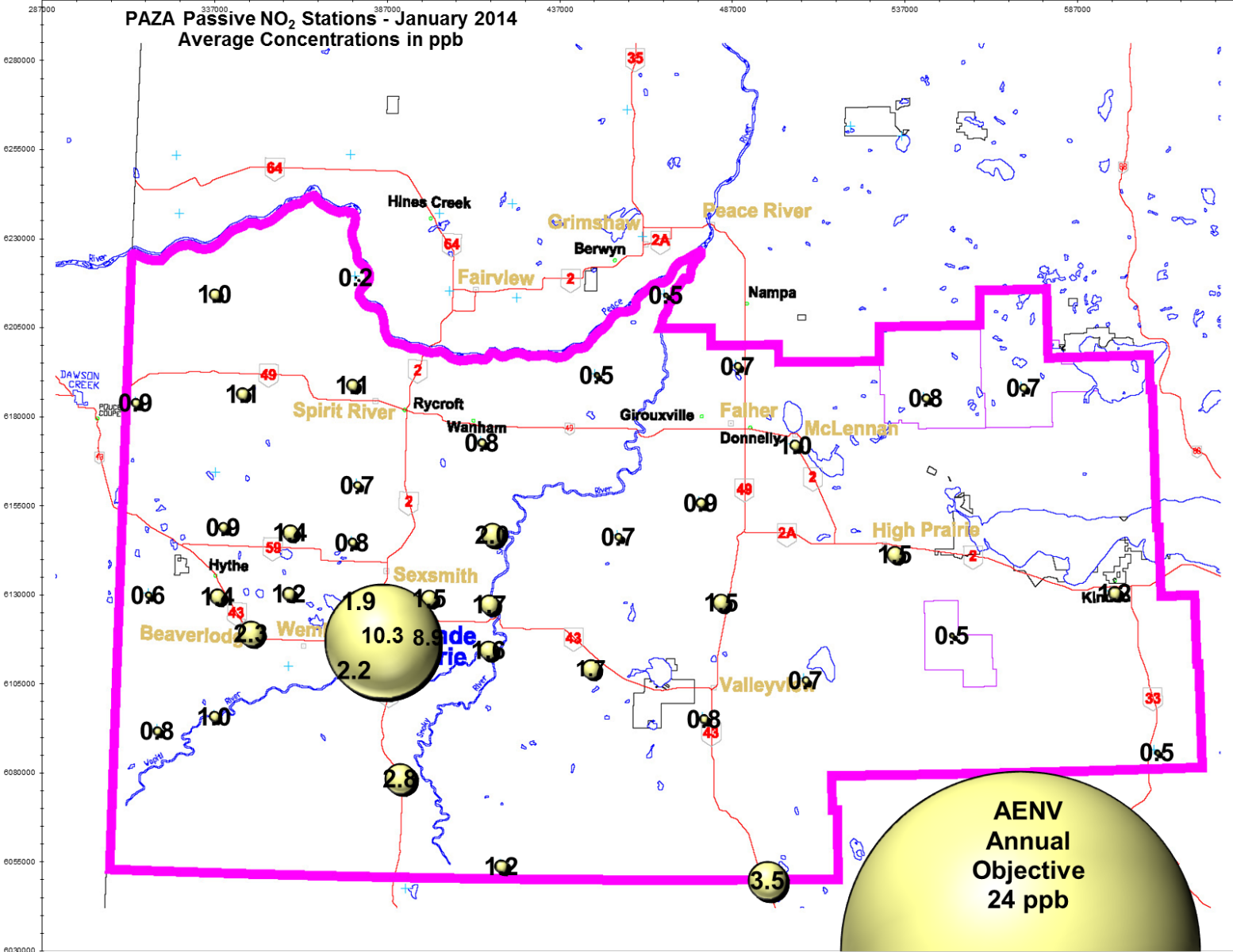


## Alberta Ambient Air Quality Objective - No Annual O<sub>3</sub> Objective



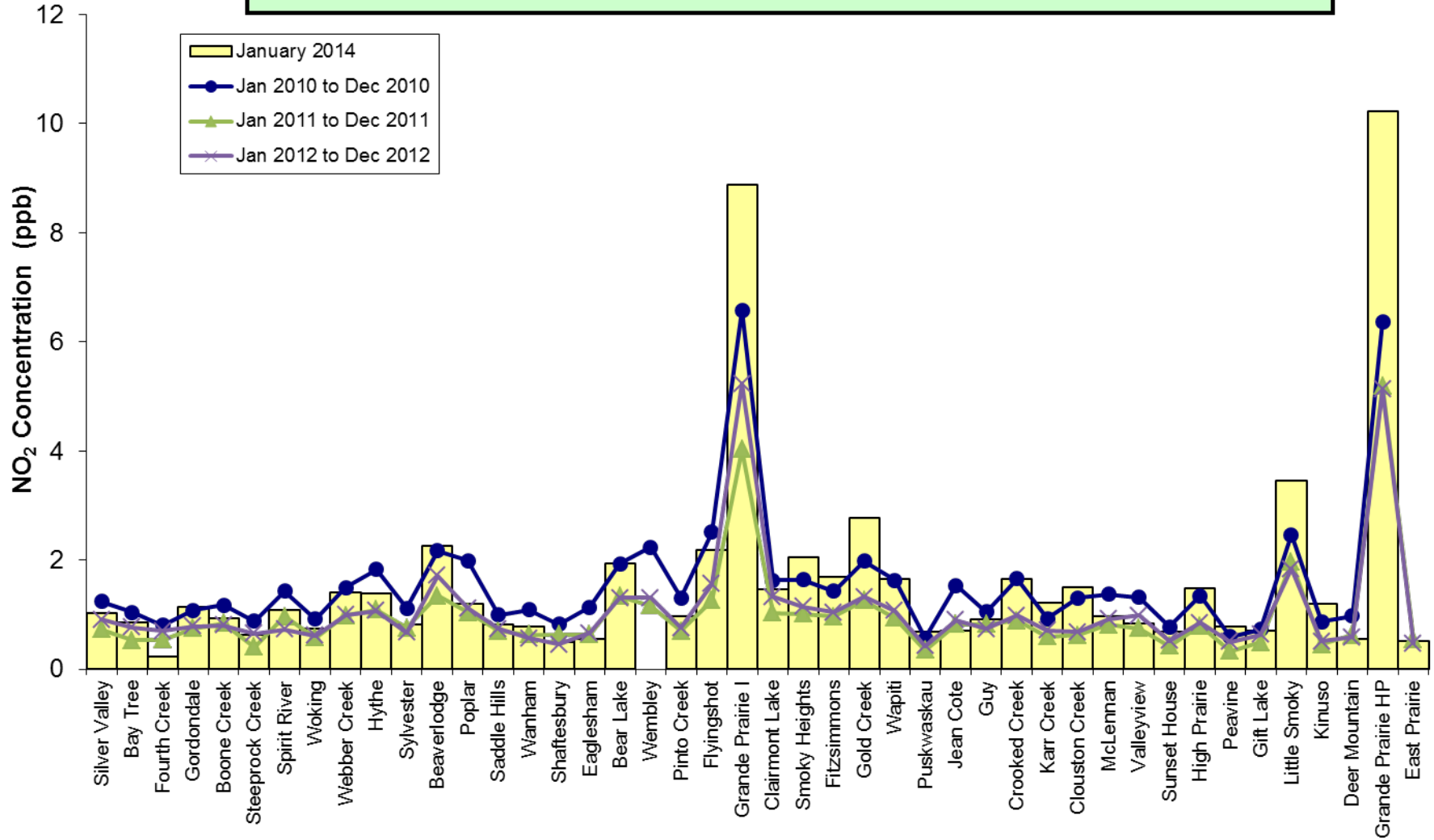
**O<sub>3</sub> Summary Chart**



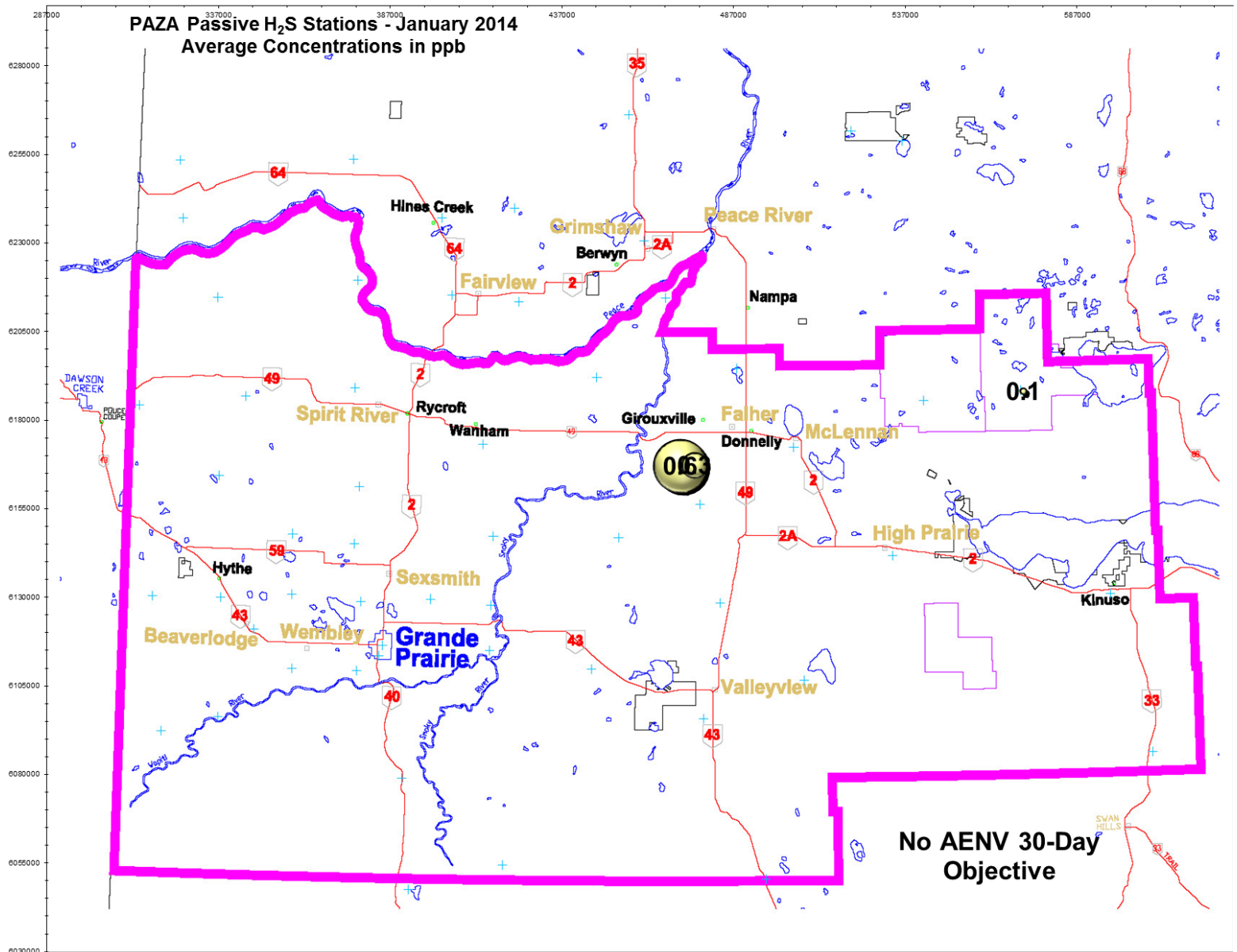


**NO<sub>2</sub> Bubble Chart**

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



**NO<sub>2</sub> Summary Chart**



H<sub>2</sub>S Bubble Chart



# PAZA

## **ALBERTA ENVIRONMENT AND SUSTAINABLE RESOURCES INCIDENCE REPORT**

### **January 2014**

## Air Monitoring Directive Exceedence Report

**Alberta Environment and Sustainable Resource Development**  
**Environmental Service Response Centre**  
 111 Twin Atria Building  
 4999 – 98<sup>th</sup> Avenue  
 Edmonton, Alberta T6B 2X3  
 Phone: (780) 422-4505  
 Fax: (780) 427-1044

<b>Reference Number:</b>	280824	<b>Reported To (AESRD Contact):</b>	Nancy
<b>Date &amp; Time Incident Reported to AESRD:</b>	25/02/2014 10:45	<b>Reported By:</b>	Patrick Andersen
<b>Reported on Behalf of:</b>	PAZA	<b>Approval Number (if applicable):</b>	Not Applicable
<b>Location(s) of Incident:</b>	Henry Pirker AQM Station		
<b>Start Date &amp; Time of Incident:</b>	January 21, 2014 15:00	<b>End Date &amp; Time of Incident:</b>	January 27, 2014 15:00
<b>Reason or Nature of Incident:</b>			
THC analyzer actuator failed, parts arrived on January 26 <sup>th</sup> , repaired and returned to service January 27 <sup>th</sup> .			
<b>Immediate Actions Taken:</b>			
Wait for parts, repair analyzer.			
<b>Investigation Details:</b>			
NA			
<b>Actions Taken to Prevent Reoccurrence (if any):</b>			
NA			
<b>Additional Actions Required (if any):</b>			
NA			
<b>Report Completed By:</b>	Patrick Andersen	<b>Date Report Submitted:</b>	25/02/2014
<b>7-Day Letter Due Date:</b>	04/03/2014		

## Air Monitoring Directive Exceedence Report

**Alberta Environment and Sustainable Resource Development**  
**Environmental Service Response Centre**  
 111 Twin Atria Building  
 4999 – 98<sup>th</sup> Avenue  
 Edmonton, Alberta T6B 2X3  
 Phone: (780) 422-4505  
 Fax: (780) 427-1044

<b>Reference Number:</b>	279444	<b>Reported To (AESRD Contact):</b>	Vincent
<b>Date &amp; Time Incident Reported to AESRD:</b>	January 15, 2014 01:45 MST	<b>Reported By:</b>	Tosh Hayashi
<b>Reported on Behalf of:</b>	PAZA	<b>Approval Number (if applicable):</b>	Not Applicable
<b>Location(s) of Incident:</b>	Smoky Heights Air quality monitoring station		
<b>Start Date &amp; Time of Incident:</b>	January 15, 2014 00:00	<b>End Date &amp; Time of Incident:</b>	January 15, 2014 13:00
<b>Reason or Nature of Incident:</b>			
The PM2.5 monitor exceeded the 1-hour limit of 80µg/m <sup>3</sup> details as follows:			
00-01:00 MST	PM 2.5	188.7 ug/m3	WS=74.7 km/hr WD=254.5 deg
12-13:00 MST	PM 2.5	132.2 ug/m3	WS=42.2 km/hr WD=286.7 deg
<b>Immediate Actions Taken:</b>			
Upon reviewing the data, it was deemed to be valid, proceeded to report to AESRD.			
<b>Investigation Details:</b>			
A review of the data shows no evidence of false readings. Elevated readings were recorded throughout the day, though only 2 hourly averages were above limit.			
<b>Actions Taken to Prevent Reoccurrence (if any):</b>			
NA			
<b>Additional Actions Required (if any):</b>			
NA			
<b>Report Completed By:</b>	Tosh Hayashi	<b>Date Report Submitted:</b>	January 16, 2014
<b>7-Day Letter Due Date:</b>	January 22, 2014		

## Air Monitoring Directive Exceedence Report

**Alberta Environment and Sustainable Resource Development**  
**Environmental Service Response Centre**  
 111 Twin Atria Building  
 4999 – 98<sup>th</sup> Avenue  
 Edmonton, Alberta T6B 2X3  
 Phone: (780) 422-4505  
 Fax: (780) 427-1044

<b>Reference Number:</b>	280825	<b>Reported To (AESRD Contact):</b>	Nancy
<b>Date &amp; Time Incident Reported to AESRD:</b>	25/02/2014 10:40	<b>Reported By:</b>	Patrick Andersen
<b>Reported on Behalf of:</b>	PAZA	<b>Approval Number (if applicable):</b>	Not Applicable
<b>Location(s) of Incident:</b>	Reno portable AQM station		
<b>Start Date &amp; Time of Incident:</b>	January 4, 2014 15:00	<b>End Date &amp; Time of Incident:</b>	January 18, 2014 14:00
<b>Reason or Nature of Incident:</b>			
Analyzer showed signs of instability during calibration in December. Parts were ordered at that time. Analyzer failed on January 4 <sup>th</sup> , parts arrived on January 17 <sup>th</sup> and installed. Analyzer allowed to stabilize overnight, calibrated and returned to service January 18 <sup>th</sup> .			
<b>Immediate Actions Taken:</b>			
Wait for parts, repair analyzer.			
<b>Investigation Details:</b>			
NA			
<b>Actions Taken to Prevent Reoccurrence (if any):</b>			
NA			
<b>Additional Actions Required (if any):</b>			
NA			
<b>Report Completed By:</b>	Patrick Andersen	<b>Date Report Submitted:</b>	25/02/2014
<b>7-Day Letter Due Date:</b>	04/03/2014		

# January 2014 Calibration Reports

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

**PAZA – Evergreen Park Station with the following calibrations:  
SO<sub>2</sub>, TRS, PM<sub>2.5</sub>**

**PAZA – Smoky Heights Station with the following calibrations:  
SO<sub>2</sub>, TRS, PM<sub>2.5</sub>**

**PAZA – Beaverlodge Station with the following calibrations:  
SO<sub>2</sub>, NO, NO<sub>2</sub>, NO<sub>x</sub>, O<sub>3</sub>, PM<sub>2.5</sub>**

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

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

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

# Calibration Report



Parameter SO2

Air Monitoring Network PAZA

## Station Information

Calibration Date	January 7, 2014	Previous Calibration	December 6, 2013
Station Number	1	Station Location	Henry Pirker
Reason:	<input checked="" type="checkbox"/> Routine	<input type="checkbox"/> Install	<input type="checkbox"/> Removal
			<input type="checkbox"/> Other:
Start Time (MST)	10:00	End Time (MST)	12:40
Barometric Pressure	717.000 mm	Station Temperature	20.5 Deg C
Calibrator		Serial Number	3016
Cal Gas Conc	51.5 ppm	Cal Gas Cert Date	March 12, 2014
		Cal Gas Cylinder #	LL105159
DACS make	CR3000	DACS serial No.	5408
DACS voltage range	0 - 1 volt	DACS channel #	10
	Before		After
Calculated slope	0.997884	Calculated slope	0.999640
Calculated intercept	1.910377	Calculated intercept	2.515030
Analyzer make	TEI 43C	Analyzer serial #	610816292

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
Background	9.4		9.4	
Coefficient	0.781		0.781	
Pressure	643.8	mm Hg	640.3	mm Hg
Flow	0.478	lpm	0.477	lpm
Lamp intensity	44042	Hz	44498	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	0.0	N/A
4995	39.93	408.4	407.7	1.0017
4995	19.97	205.1	200.0	1.0252
4995	9.97	102.6	98.5	1.0415
4995	0.00	0.0	0.0	As Found Zero
4995	39.93	408.4	407.7	As Found Span
Average Correction Factor				1.0228

Calculated value of As Found Response: 408.7 ppb      Percent Change of As Found: -0.1%

	before calibration		after calibration	
Auto zero	0.1	ppb	0.1	ppb
Auto span	250.7	ppb	253.7	ppb

Notes: No adjustment made.

Calibration Performed By: Grover Christiansen, Dmytro Dolotii

# Calibration Summary

Parameter SO2  
 Air Monitoring Network PAZA

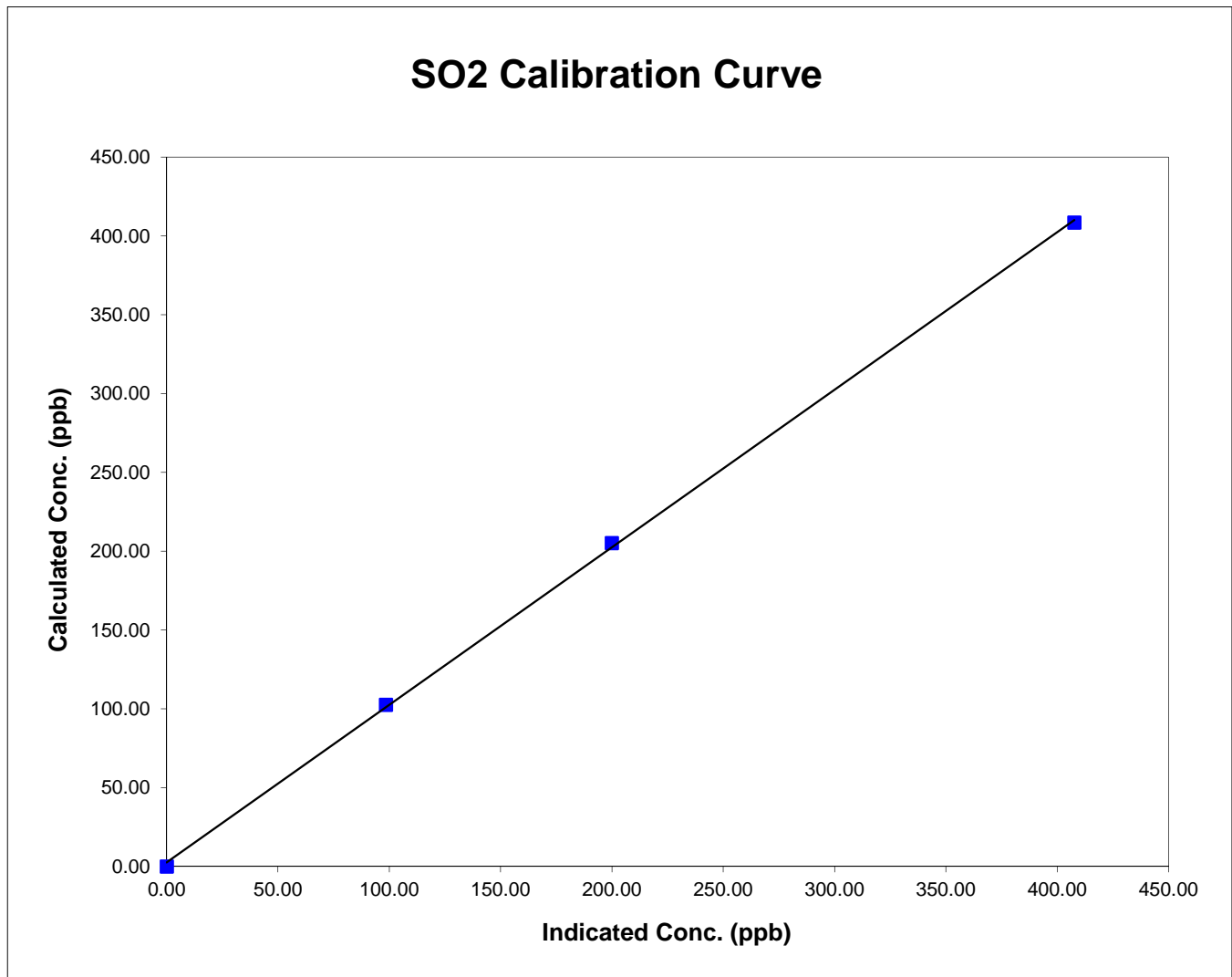


## Station Information

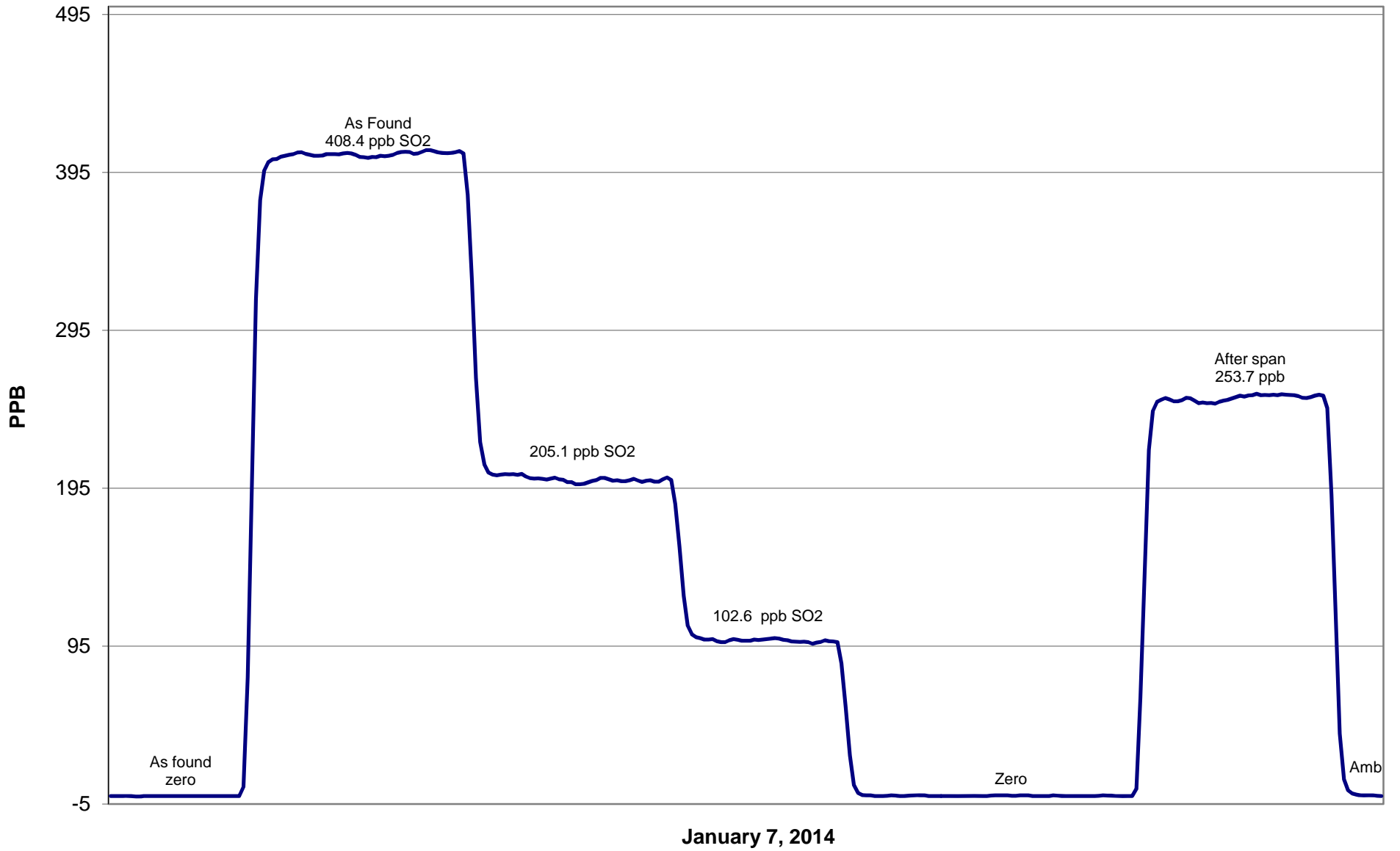
Calibration Date	January 7, 2014	Previous Calibration	December 6, 2013
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	10:00	End Time (MST)	12:40
Analyzer make/model	TEI 43C	Analyzer serial #	610816292

## Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.0	N/A		
408.4	407.7	1.0017	Correlation Coefficient	0.999796
205.1	200.0	1.0252		
102.6	98.5	1.0415	Slope	0.999640
			Intercept	2.515030



# SO2 Calibration





# Calibration Report

Parameter  
Air Monitoring Network

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



### Station Information

Calibration Date	January 7, 2014	Previous Calibration	December 6, 2013
Station Number	1	Station Location	Henry Pirker
Reason:	<span style="background-color: yellow;">Routine</span> Installation Removal Other:		
Start Time (MST)	9:00	End Time (MST)	14:17
Barometric Pressure	717.000 mm	Station Temperature	20.5 Deg C
Calibrator	EnviroNics	Serial Number	3016
NO Cal Gas Conc	51.3 ppm	Cal Gas Expiry Date	March 12, 2014
NO <sub>x</sub> Cal Gas Conc	51.4 ppm	Cal Gas Serial #	LL105159

### DACS Information

DACS make	CR3000	DACS serial No.	5408	
Parameter	NO2	NOx	NO	
Before	Data Slope	1.001646	1.001732	0.999730
	Data Offset	0.321365	1.131226	1.962583
After	Data Slope	1.001518	1.001300	0.998320
	Data Offset	-1.555520	1.660329	1.815726
Channel #	8	6	7	
Voltage Range	0 - 5 VDC	0 - 5 VDC	0 - 5 VDC	

### Analyzer Information

Analyzer make/model	TEI 42C	Analyzer serial #	508011073	
Test Point	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
NO offset	13.3	mV	13.3	mV
NO <sub>x</sub> bkgnd	13.7	mV	13.7	mV
NO coefficient	1.086		1.086	
NO <sub>x</sub> coefficient	0.999		0.999	
NO2 conv temp	318.0	Deg C	318.0	Deg C
Cooler	-2.5	Deg C	-2.5	Deg C
PMT Volt	-774.0	mV	-774.0	mV
R Cell Press	194.7	in Hg	194.8	in Hg

# Calibration Report

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



Calibration Date: **January 7, 2014** Station Location: **Henry Pirker**

	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	0.0	-0.1	N/A	N/A	
1	4995	39.93	407.6	406.8	0.8	406.3	406.6	-0.4	1.0033	1.0007	
2	4995	19.97	204.7	204.3	0.4	201.9	202.0	-0.3	1.0140	1.0114	
3	4995	9.97	102.4	102.2	0.2	98.9	98.8	0.1	1.0349	1.0348	
AFZ	4995	0.00	0.0	0.0	0.0	0.1	0.0	-0.1	0.0000	0.0000	
AFS	4995	39.93	407.6	406.8	0.8	408.1	408.7	-0.7	0.9989	0.9954	
									Average Correction Factor	1.0174	1.0157

As Found Concentrations: **NO<sub>x</sub>= 409.2** **NO= 410.7** As Found Percent Change **NO<sub>x</sub>= 0.4%** **NO= 1.0%**

Dilution Flow 4995 ccm Source Gas Flow 39.93 ccm

O3 Setpoint (ppb)	Indicated NO high point (ppb)	Indicated NO drop conc (ppb)	Calculated NO2 conc (ppb)	Indicated NOx conc (ppb)	Indicated NO conc (ppb)	Indicated NO2 conc (ppb)	NOx Correction factor	NO Correction factor	NO2 Correction factor	Converter Efficiency	
0	0.0	0.0	0.0	0.1	0.0	-0.1	N/A	N/A	N/A	N/A	
NO point	406.0	406.0	0.0	406.3	406.0	0.1	0.9994	1.0000	N/A	N/A	
300	406.0	103.1	302.9	406.3	103.1	303.5	0.9992	1.0000	0.9981	100.2%	
200	406.0	201.3	204.7	406.4	201.3	205.2	0.9990	1.0000	0.9976	100.2%	
100	406.0	303.8	102.3	410.3	303.8	106.5	0.9896	1.0000	0.9598	104.2%	
							Average Correction Factor	0.9959	1.0000	0.9852	101.5%

Parameter	Previous calibration				Current calibration			
	NOx	NO2	NO	ppb	NOx	NO2	NO	ppb
Auto zero	0.0	0.0	-0.1	ppb	-0.2	-0.3	-0.1	ppb
Auto span	329.9	327.5	2.4	ppb	338.0	336.6	1.5	ppb

Calibration Performed By: Grover Christiansen

# Calibration Summary

Parameter NO<sub>2</sub>

Air Monitoring Network PAZA



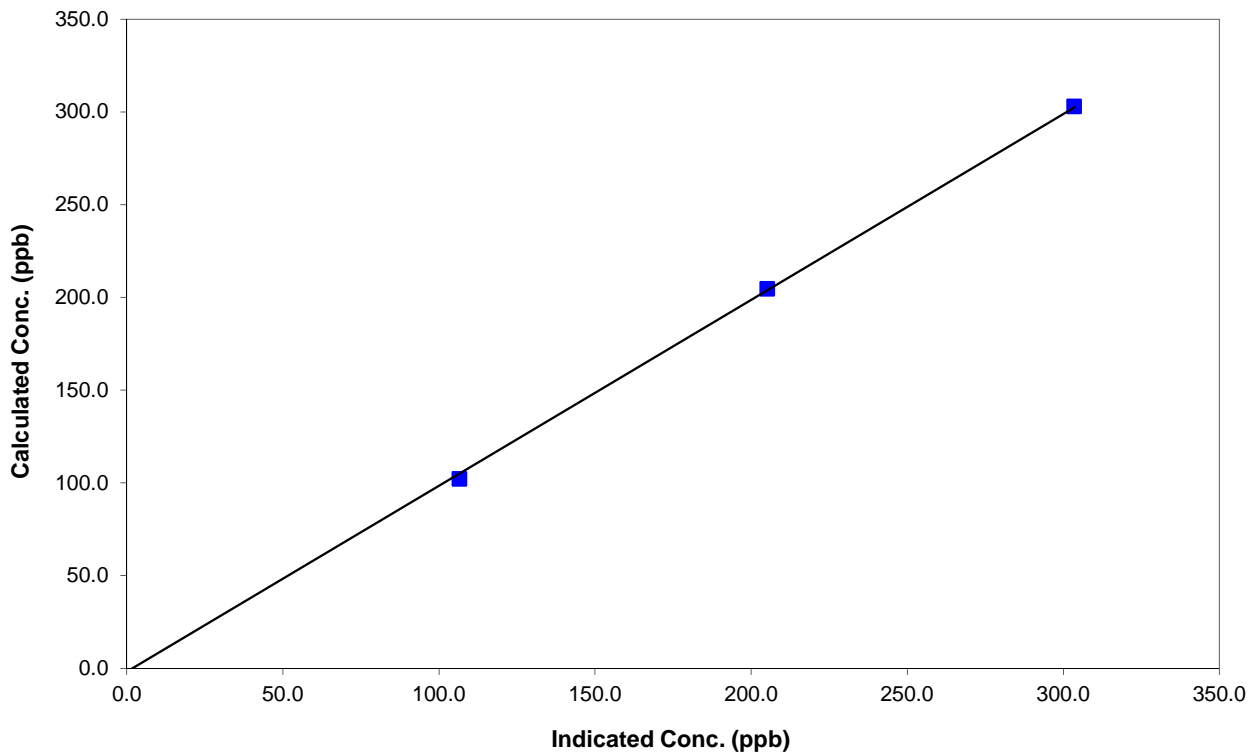
## Station Information

Calibration Date	January 7, 2014	Previous Calibration	December 6, 2013
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	9:00	End Time (MST)	14:17
Analyzer make	TEI 42C	Analyzer serial #	508011073

## Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.1	N/A	Correlation Coefficient	0.999769
302.9	303.5	0.9981		
204.7	205.2	0.9976		
102.3	106.5	0.9598	Slope	1.001518
			Intercept	-1.555520

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



# Calibration Summary

Parameter NO<sub>x</sub>

Air Monitoring Network PAZA



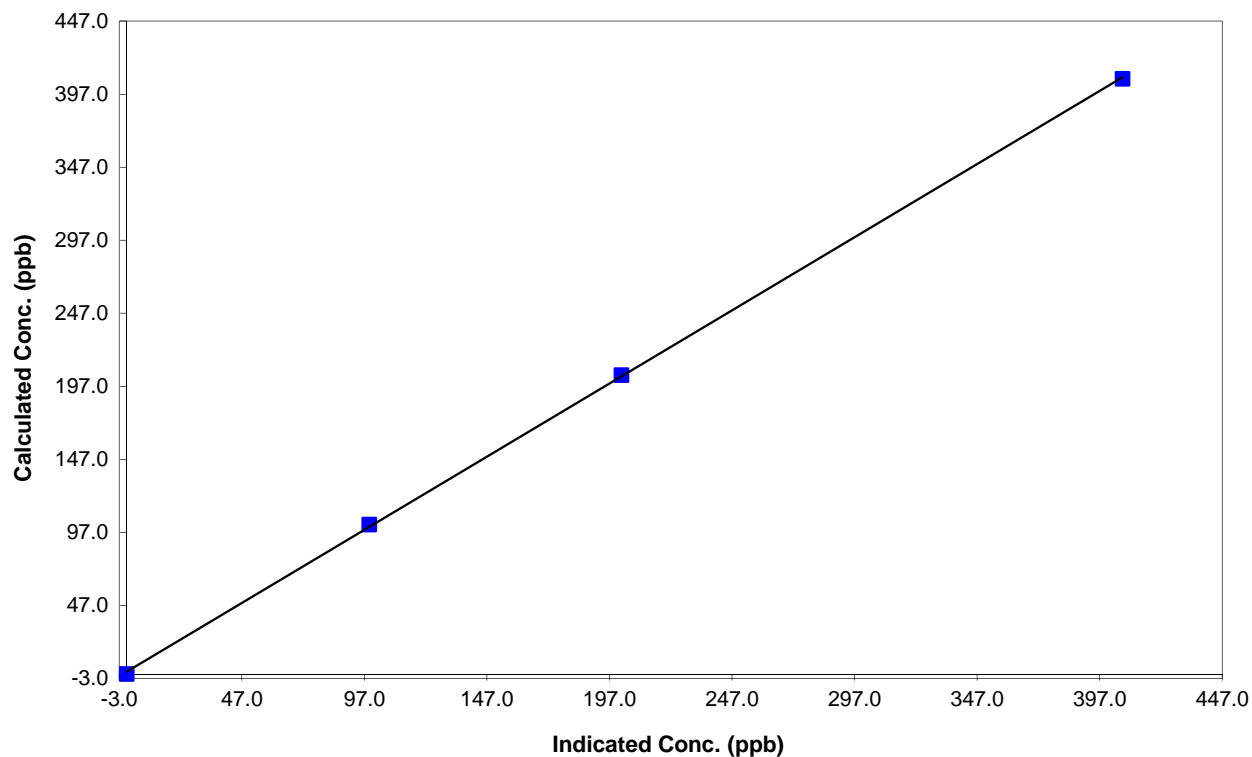
## Station Information

Calibration Date	January 7, 2014	Previous Calibration	December 6, 2013
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	9:00	End Time (MST)	14:17
Analyzer make	TEI 42C	Analyzer serial #	508011073

## Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.1	N/A	Correlation Coefficient	0.999920
407.6	406.3	1.0033		
204.7	201.9	1.0140	Slope	1.001300
102.4	98.9	1.0349		
			Intercept	1.660329

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



# Calibration Summary

Parameter NO

Air Monitoring Network PAZA



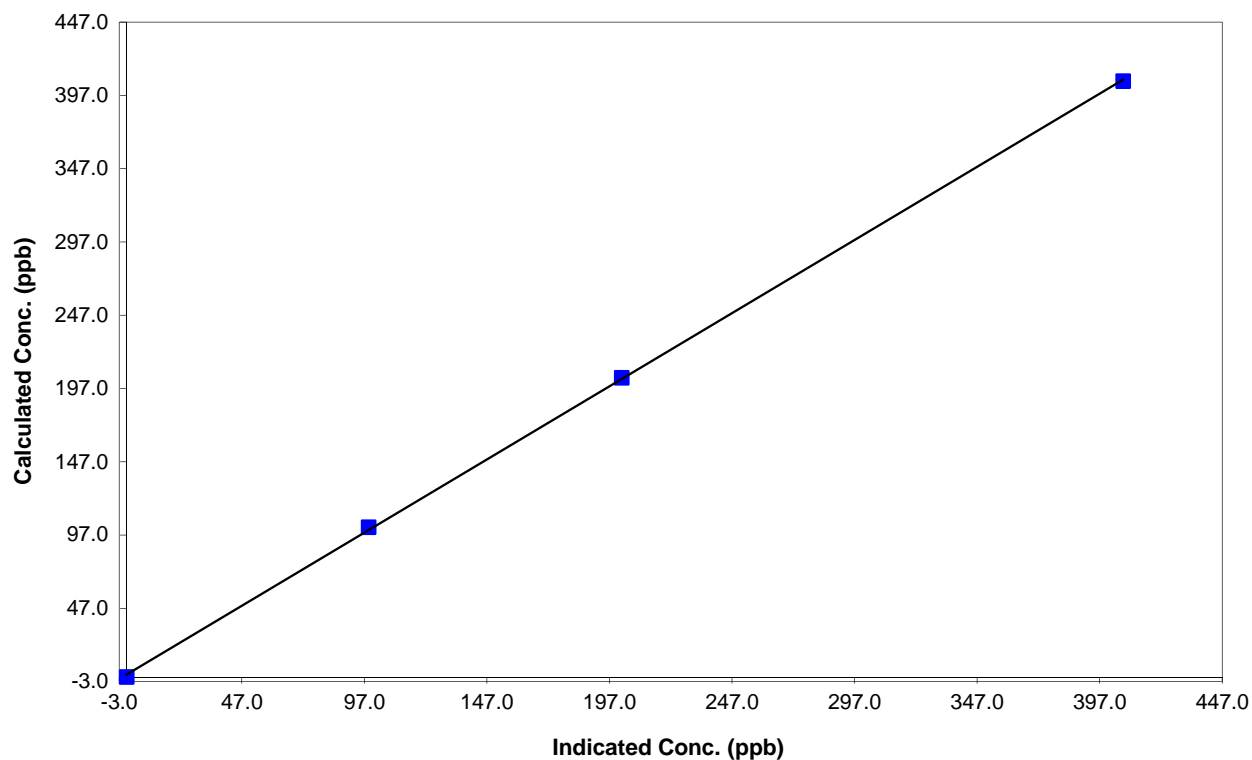
## Station Information

Calibration Date	January 7, 2014	Previous Calibration	December 6, 2013
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	9:00	End Time (MST)	14:17
Analyzer make	TEI 42C	Analyzer serial #	508011073

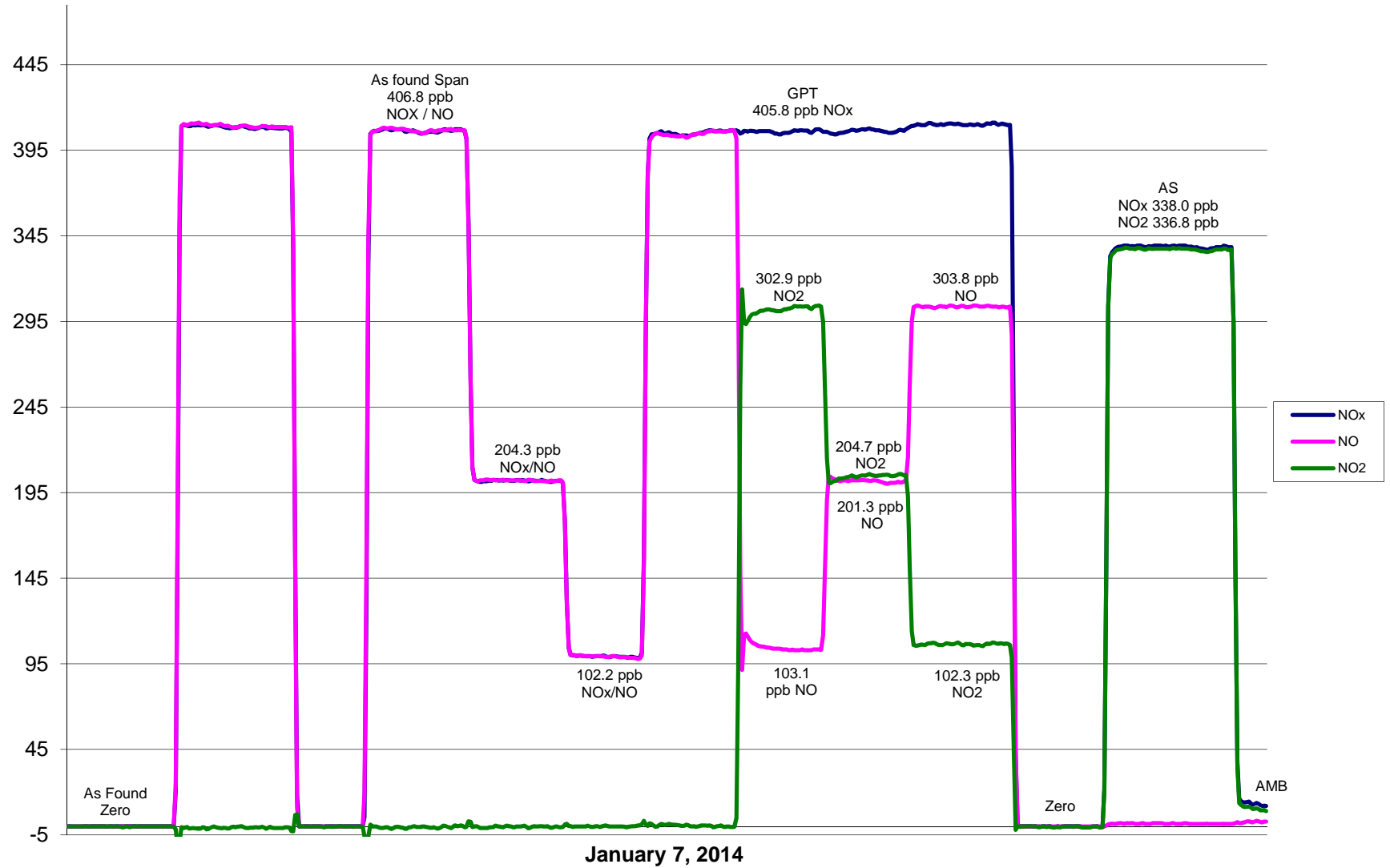
## Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.0	N/A	Correlation Coefficient	0.999914
406.8	406.6	1.0007		
204.3	202.0	1.0114	Slope	0.998320
102.2	98.8	1.0348		

## NO Calibration Curve



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



# Calibration Report



Parameter 03

Air Monitoring Network PAZA

## Station Information

Calibration Date	<u>January 7, 2014</u>	Previous Calibration	<u>December 6, 2013</u>
Station Number	<u>1</u>	Station Location	<u>Henry Pirker</u>
Reason:	<input checked="" type="checkbox"/> Routine	<input type="checkbox"/> Install	<input type="checkbox"/> Removal
		<input type="checkbox"/> Other:	
Start Time (MST)	<u>13:05:00 PM</u>	End Time (MST)	<u>15:57</u>
Barometric Pressure	<u>717.000</u> mm	Station Temperature	<u>20.5</u> Deg C
Calibrator	<u>Environics</u>	Serial Number	<u>3016</u>
Cal Gas Concentration	<u>NA</u>	Cal Gas Expiry Date	<u>NA</u>
DACS make	<u>CR3000</u>	DACS serial No.	<u>5237</u>
DACS voltage range	<u>0 - 5 volt</u>	DACS channel #	<u>9</u>
	<u>Before</u>		<u>After</u>
Calculated slope	<u>0.996376</u>	Calculated slope	<u>0.995843</u>
Calculated intercept	<u>-0.380515</u>	Calculated intercept	<u>-0.882586</u>
Analyzer make	<u>Teco 49C</u>	Analyzer serial #	<u>607415761</u>

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
offset	0.00	ppb	0.00	ppb
slope	1.011		1.011	
Lamp temp	57	mV	57	mV
Lamp Intensity A/B	12741/101427	mV	105682/94949	mV
Pressure	676.6	mm Hg	671.7	mm Hg
Flow A	0.718	ccm	0.715	ccm
Flow B	0.722	ccm	0.719	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)
4995	0.0	0.0	-0.1	N/A
4995	0.3	302.9	305.1	0.9929
4995	0.2	204.7	205.4	0.9967
4995	0.1	102.3	105.6	0.9684
4995	0.0	0.0	-0.1	As found zero
4995	0.3	302.9	305.1	As found span
Average Correction Factor				0.9860

Calculated value of As Found Response: 303.7 ppm      Percent Change of As Found: 0.3%

	before calibration		after calibration	
Auto zero	1.0	ppb	-1.0	ppb
Auto span	355.0	ppb	366.6	ppb

Notes: No span adjust

Calibration Performed By: Grover Christiansen, Dmytro Dolotii

# Calibration Summary

Parameter           03            
Air Monitoring Network   PAZA  

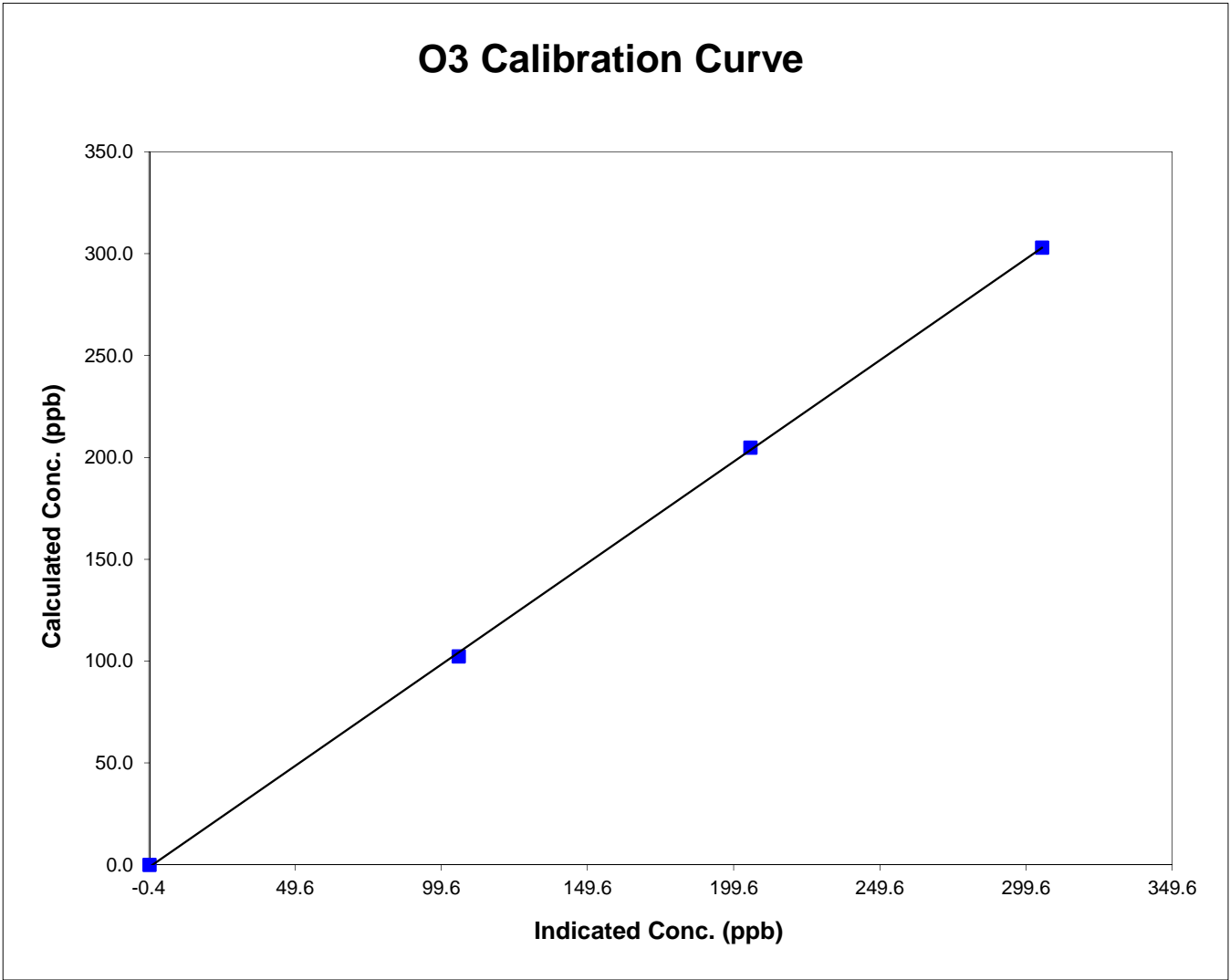


### Station Information

Calibration Date	January 7, 2014	Previous Calibration	December 6, 2013
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	13:05:00 PM	End Time (MST)	15:57
Analyzer make/model	Teco 49C	Analyzer serial #	607415761

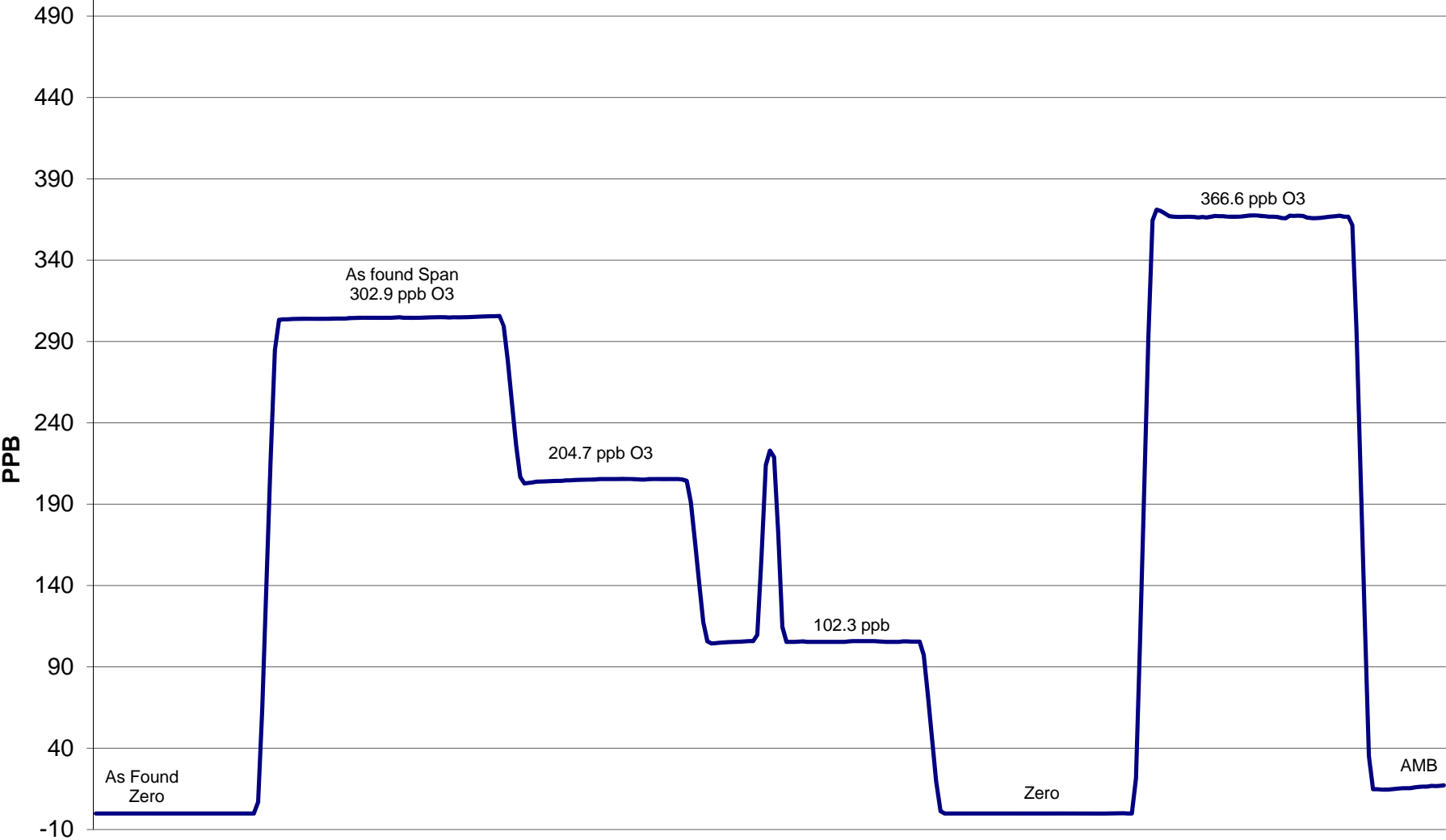
### Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.1	NA		
302.9	305.1	0.9929	Correlation Coefficient	0.999880
204.7	205.4	0.9967		
102.3	105.6	0.9684	Slope	0.995843
			Intercept	-0.882586





# O3 Calibration



January 7, 2014

# Calibration Report



Parameter CO

Air Monitoring Network PAZA

## Station Information

Calibration Date	January 6, 2014	Previous Calibration	December 7, 2013
Station Number	1	Station Location	Henry Pirker
Reason:	<input checked="" type="checkbox"/> Routine	<input type="checkbox"/> Install	<input type="checkbox"/> Removal
			<input type="checkbox"/> Other:
Start Time (MST)	12:00	End Time (MST)	14:49
Barometric Pressure	704.0 mm/hg	Station Temperature	21.0 Deg C
Calibrator	EnviroNics 6100	Serial Number	3016
Cal Gas Conc	2898 ppm	Cal Gas Expiry Date	04/02/2013
		Cal Gas Cylinder #	LL83909
DACS make	CR3000	DACS serial No.	5408
DACS voltage range	0 - 1 volt	DACS channel #	9
	Before		After
Calculated slope	0.990051	Calculated slope	1.006631
Calculated intercept	-0.174126	Calculated intercept	0.135424
Analyzer make	TEI Model 48C	Analyzer serial #	508011062

	before		after	
Concentration range	0 - 50	ppm	0 - 50	ppm
CO span setting	1.005		1.005	
CO zero setting	-0.238		-0.238	
Sample pressure	679.4	mm Hg	680.7	mm Hg
Sample Flow	1.116	LPM	1.117	LPM

## Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4995	0.00	0.00	0.01	N/A
4995	69.94	40.02	39.70	1.0079
4995	34.96	20.14	19.76	1.0191
4995	17.96	10.38	10.06	1.0321
4995	0.00	0.00	0.01	As Found Zero
4995	69.94	40.02	39.70	As Found Span
Average Correction Factor				1.0197

Calculated value of As Found Response: 39.122 ppm      Percent Change of As Found: 2.2%

	before calibration		after calibration	
Auto zero	0.03	ppm	0.03	ppm
Auto span	19.81	ppm	20.08	ppm

Notes: Slight zero adjust.N.o span adjust

Calibration Performed By: Grover Christiansen,Dmytro Dolotii

# Calibration Summary

Parameter CO  
 Air Monitoring Network PAZA



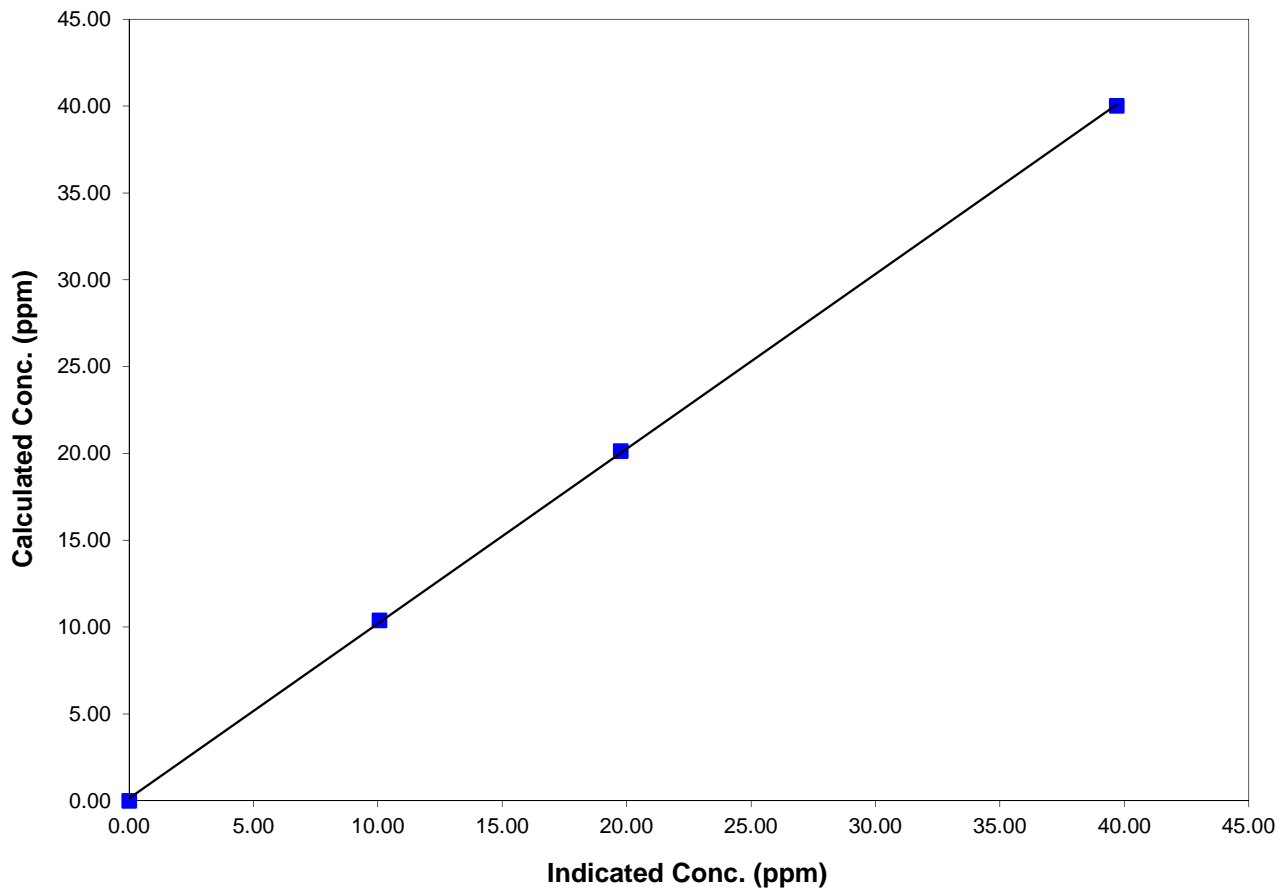
## Station Information

Calibration Date	January 6, 2014	Previous Calibration	December 7, 2013
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	12:00	End Time (MST)	14:49
Analyzer make/model	TEI Model 48C	Analyzer serial #	508011062

## Calibration Data

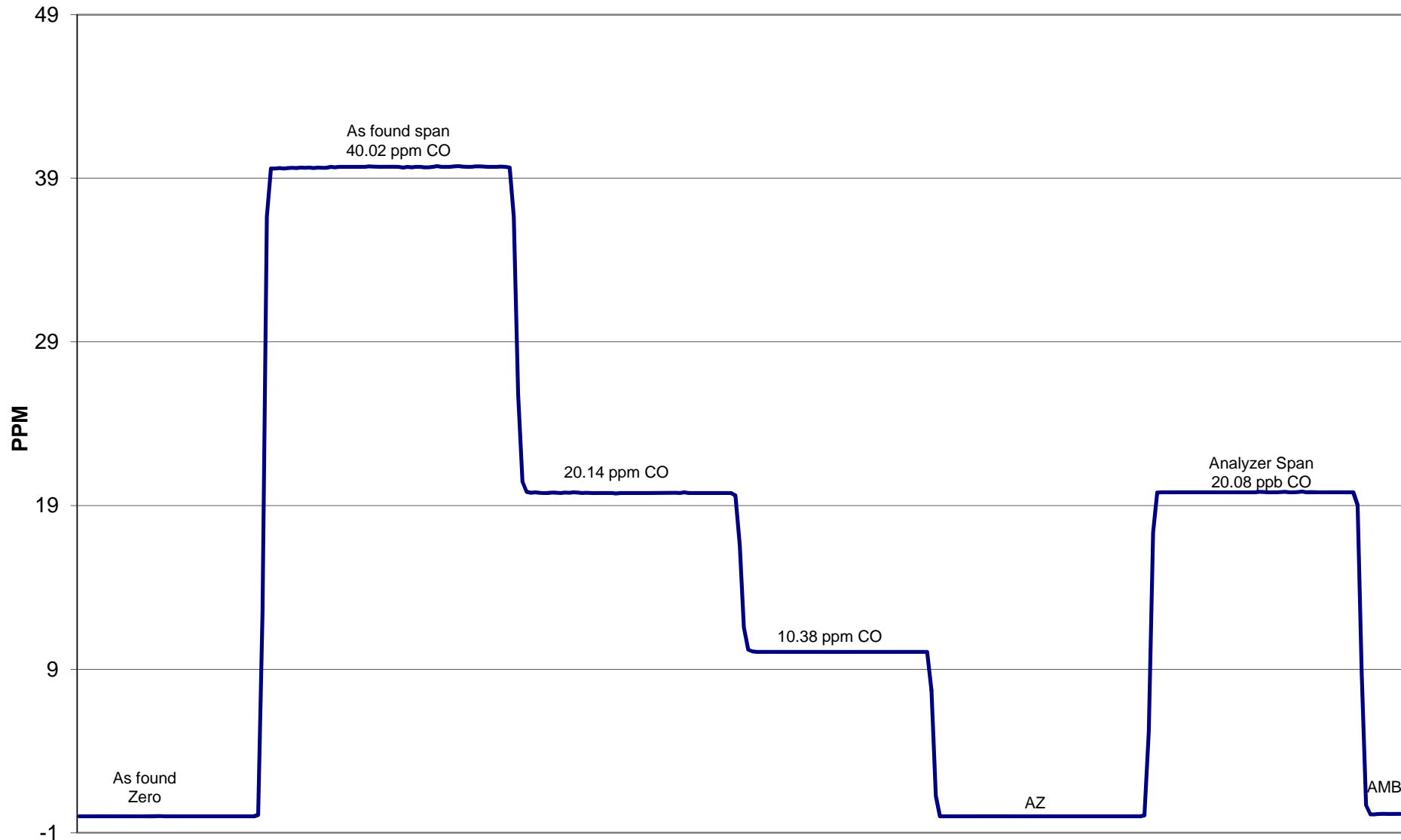
Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.011	N/A	Correlation Coefficient	0.999936
40.017	39.705	1.0079		
20.142	19.764	1.0191	Slope	1.006631
10.383	10.060	1.0321		
			Intercept	0.135424

### CO Calibration Curve



11.15 ppm CO

### CO Calibration



January 6, 2014

# Calibration Report



Parameter CH4 / NMHC / THC

Air Monitoring Network PAZA

## Station Information

Calibration Date	January 6, 2014	Previous Calibration	December 7, 2013
Station Number	1	Station Location	Henry Pirker
Reason:	<input type="checkbox"/> Routine	<input type="checkbox"/> Install	<input type="checkbox"/> Removal
			<input type="checkbox"/> Other:
Start Time (MST)	9:50	End Time (MST)	13:38
Barometric Pressure	NA inches Hg	Station Temperature	20.0 Deg C
Calibrator	EnviroNics	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 #	LL34989
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	5.68		5.68	E <sup>-4</sup>
NMHC cal factor	1.64		1.64	E <sup>-4</sup>
Rt	12.60	Sec	12.60	Sec
Pk Index	23.00		23.00	

## 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)
1996	0.00	0.00	0.02	N/A
1996	64.93	12.73	12.77	0.9971
1996	39.93	7.92	7.90	1.0029
1996	14.95	3.00	2.96	1.0133
1996	0.00	0.00	0.02	As Found Zero
1996	64.93	12.73	12.60	As Found Span
Average Correction Factor				1.0044

Calculated value of As Found Response: 12.523 ppm Percent Change of As Found: 1.6%

	Before		After
Calculated slope	0.994093	Calculated slope	0.997717
Calculated intercept	0.013369	Calculated intercept	0.014943

## Final Zero/Span Data

	before calibration		after calibration	
Auto zero	0.03	ppm	0.03	ppm
Auto span	9.11	ppm	8.94	ppm

**NMHC Calibration Data**

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
1996	0.00	0.00	0.02	N/A
1996	64.93	17.41	17.38	1.0019
1996	39.93	10.84	10.85	0.9991
1996	14.95	4.11	4.09	1.0052
1996	0.00	0.00	0.02	As Found Zero
1996	64.93	17.41	17.30	As Found Span
Average Correction Factor				1.0021

Calculated value of As Found Response: 17.076 ppm      Percent Change of As Found: 1.9%

	<u>Before</u>		<u>After</u>
Calculated slope	0.986912	Calculated slope	1.002014
Calculated intercept	0.026249	Calculated intercept	-0.009801

**Final Zero/Span Data**

	before calibration		after calibration	
Auto zero	0.02	ppm	0.02	ppm
Auto span	12.55	ppm	12.44	ppm

**THC Calibration Data**

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
1996	0.00	0.00	0.03	N/A
1996	64.93	30.14	30.13	1.0003
1996	39.93	18.76	18.73	1.0018
1996	14.95	7.11	7.05	1.0093
1996	0.00	0.00	0.03	As Found Zero
1996	64.93	30.14	29.88	As Found Span
Average Correction Factor				1.0038

Calculated value of As Found Response: 29.619 ppm      Percent Change of As Found: 1.7%

	<u>Before</u>		<u>After</u>
Calculated slope	0.990734	Calculated slope	1.000608
Calculated intercept	0.043708	Calculated intercept	0.010803

**Final Zero/Span Data**

	before calibration		after calibration	
Auto zero	0.02	ppm	0.02	ppm
Auto span	21.66	ppm	21.38	ppm

Notes: A few spikes at beginning of as found zero due to loose zero fitting on calibrator.  
Complete as found span & run adjustment point.

Calibration Performed By: Grover Christiansen, Dmytro Dolotii

# Calibration Summary

Parameter CH4

Air Monitoring Network PAZA



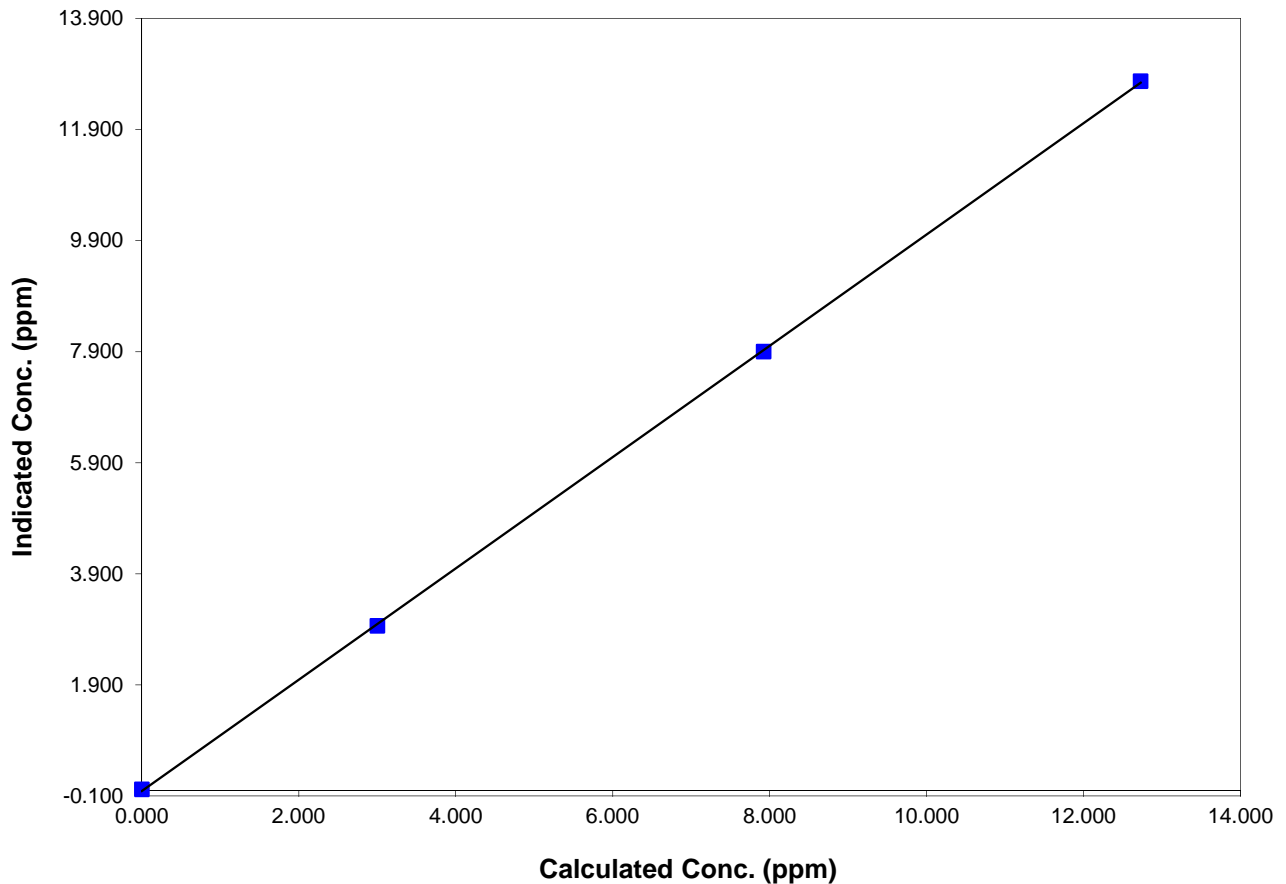
## Station Information

Calibration Date	January 6, 2014	Previous Calibration	December 7, 2013
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	9:50	End Time (MST)	13:38
Analyzer make/model	TEI 55I	Analyzer serial #	1134650658

## Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.019	N/A	Correlation Coefficient	0.999965
12.728	12.766	0.9971		
7.924	7.901	1.0029	Slope	0.997717
3.003	2.964	1.0133		
			Intercept	0.014943

## CH4 Calibration Data



# Calibration Summary

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



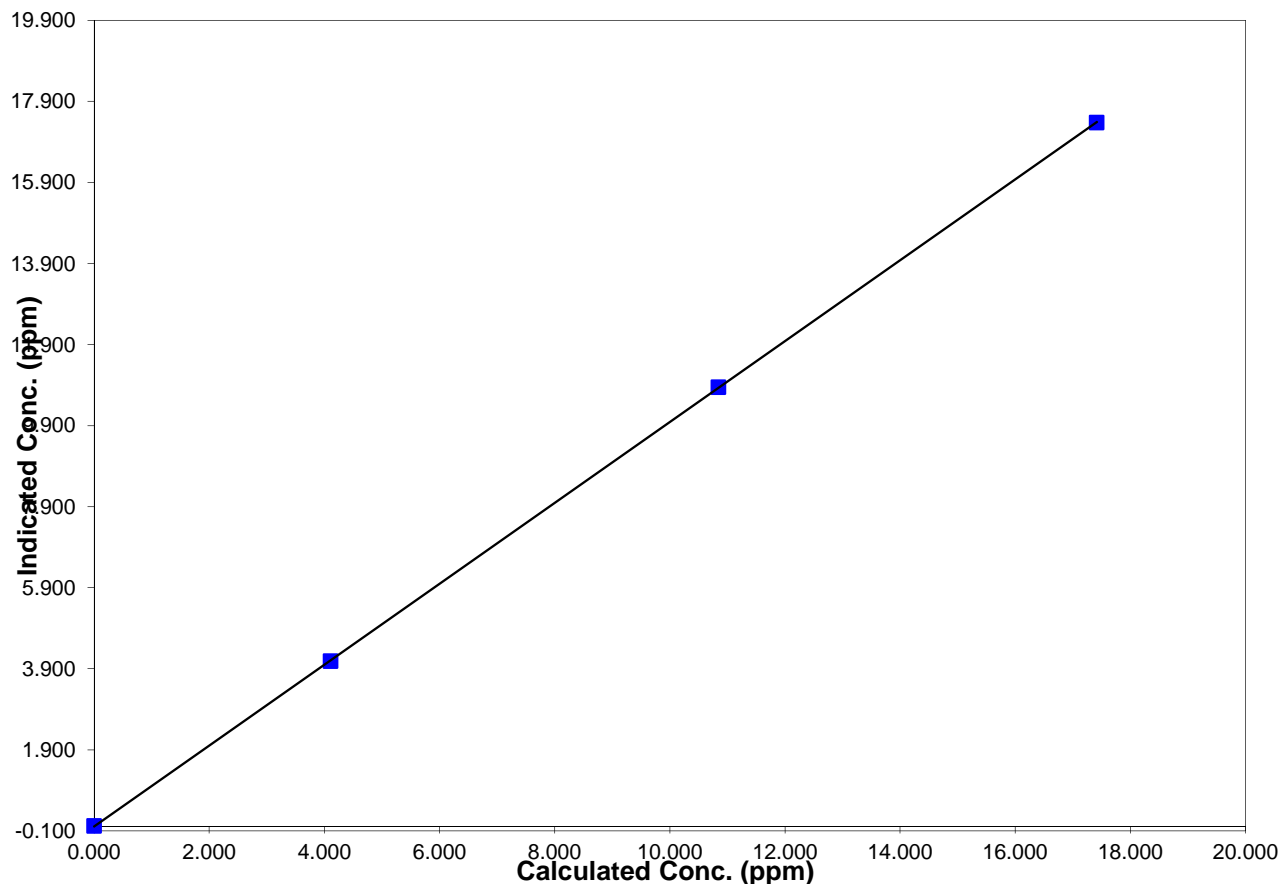
### Station Information

Calibration Date	<u>      </u> January 6, 2014 <u>      </u>	Previous Calibration	<u>      </u> December 7, 2013 <u>      </u>
Station Number	<u>      </u> 1 <u>      </u>	Station Location	<u>      </u> Henry Pirker <u>      </u>
Start Time (MST)	<u>      </u> 9:50 <u>      </u>	End Time (MST)	<u>      </u> 13:38 <u>      </u>
Analyzer make/model	<u>      </u> TEI 55I <u>      </u>	Analyzer serial #	<u>      </u> 1134650658 <u>      </u>

### Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.019	N/A	Correlation Coefficient	0.999993
17.414	17.381	1.0019		
10.841	10.851	0.9991		
4.109	4.088	1.0052		
			Slope	1.002014
			Intercept	-0.009801

## NMHC Calibration Data





# Calibration Summary

Parameter THC

Air Monitoring Network PAZA



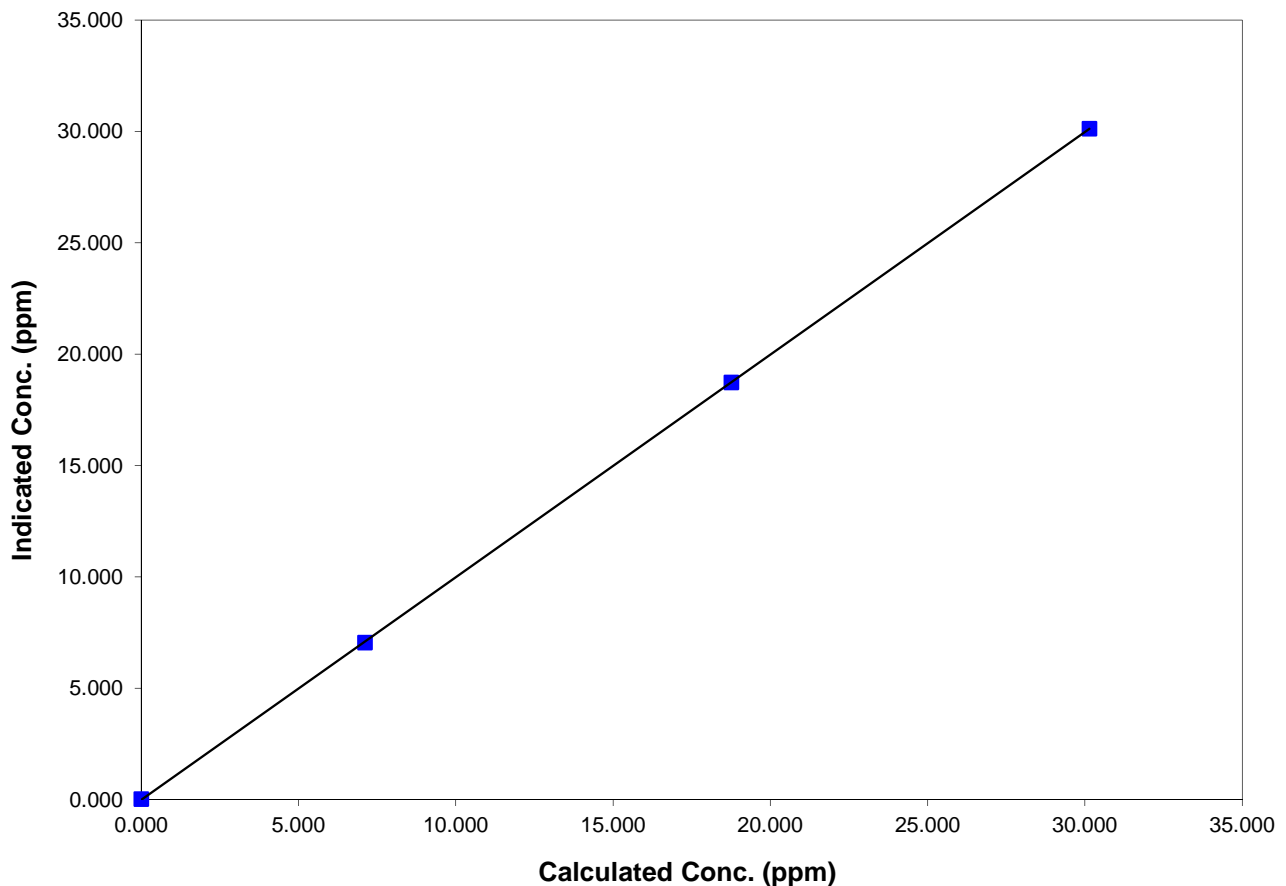
## Station Information

Calibration Date	January 6, 2014	Previous Calibration	December 7, 2013
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	9:50	End Time (MST)	13:38
Analyzer make/model	TEI 55I	Analyzer serial #	1134650658

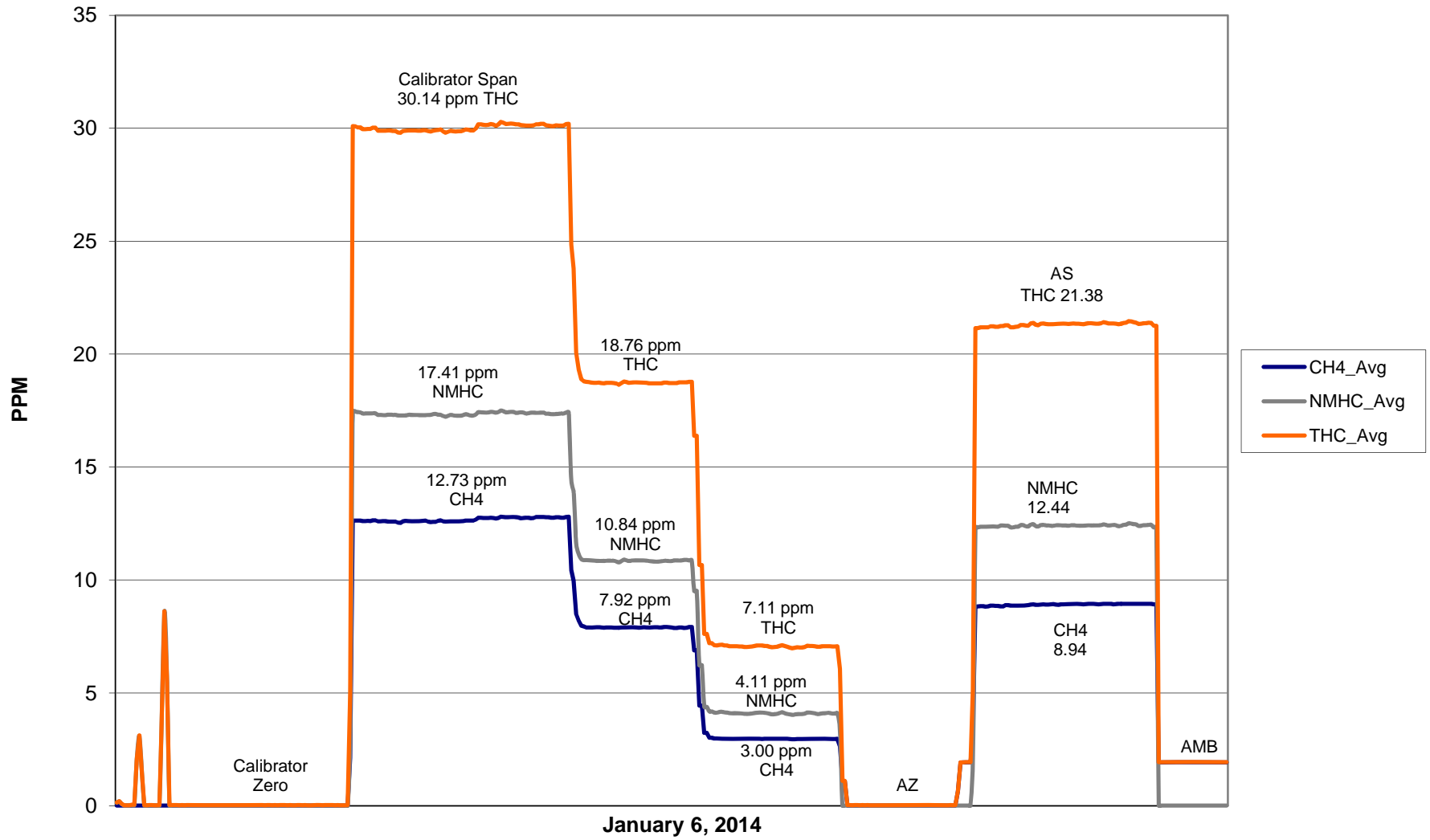
## Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.032	N/A	Correlation Coefficient	0.999991
30.143	30.133	1.0003		
18.764	18.730	1.0018	Slope	1.000608
7.113	7.047	1.0093		
			Intercept	0.010803

## THC Calibration Data



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



# Calibration Report

Parameter CH4 / NMHC / THC

Air Monitoring Network \_\_\_\_\_

**PAZA**



## Station Information

Calibration Date	January 28, 2014	Previous Calibration	January 6, 2014
Station Number	1	Station Location	Henry Pirker
Reason:	<input type="checkbox"/> Routine	<input type="checkbox"/> Install	<input type="checkbox"/> Removal
		<input type="checkbox"/> Other:	
Start Time (MST)	10:10	End Time (MST)	13:36
Barometric Pressure	NA inches Hg	Station Temperature	20.0 Deg C
Calibrator	EnviroNics	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 #	LL34989
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	5.68		5.68	E <sup>-4</sup>
NMHC cal factor	1.64		1.64	E <sup>-4</sup>
Rt	12.60	Sec	12.60	Sec
Pk Index	23.00		23.00	

## 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)
1996	0.00	0.00	0.02	N/A
1996	64.93	12.73	12.78	0.9963
1996	39.93	7.92	7.94	0.9980
1996	14.95	3.00	3.00	1.0027
1996	0.00	0.00	0.02	As Found Zero
1996	64.93	12.73	13.11	As Found Span
Average Correction Factor				0.9990

Calculated value of As Found Response: 13.073 ppm Percent Change of As Found: -2.7%

	Before	After
Calculated slope	0.997717	0.997101
Calculated intercept	0.014943	-0.001048

## Final Zero/Span Data

	before calibration		after calibration	
Auto zero	0.03	ppm	0.03	ppm
Auto span	9.11	ppm	9.36	ppm

**NMHC Calibration Data**

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
1996	0.00	0.00	0.02	N/A
1996	64.93	17.41	17.44	0.9988
1996	39.93	10.84	10.83	1.0012
1996	14.95	4.11	4.01	1.0256
1996	0.00	0.00	0.02	As Found Zero
1996	64.93	17.41	17.11	As Found Span
Average Correction Factor				1.0085

Calculated value of As Found Response: 17.120 ppm      Percent Change of As Found: 1.7%

	<u>Before</u>		<u>After</u>
Calculated slope	1.002014	Calculated slope	0.997579
Calculated intercept	-0.009801	Calculated intercept	0.038346

**Final Zero/Span Data**

	before calibration		after calibration	
Auto zero	0.02	ppm	0.02	ppm
Auto span	12.55	ppm	12.77	ppm

**THC Calibration Data**

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
1996	0.00	0.00	0.03	N/A
1996	64.93	30.14	30.19	0.9984
1996	39.93	18.76	18.75	1.0009
1996	14.95	7.11	7.00	1.0160
1996	0.00	0.00	0.03	As Found Zero
1996	64.93	30.14	30.20	As Found Span
Average Correction Factor				1.0051

Calculated value of As Found Response: 30.195 ppm      Percent Change of As Found: -0.2%

	<u>Before</u>		<u>After</u>
Calculated slope	1.000608	Calculated slope	0.997987
Calculated intercept	0.010803	Calculated intercept	0.040089

**Final Zero/Span Data**

	before calibration		after calibration	
Auto zero	0.02	ppm	0.02	ppm
Auto span	21.66	ppm	22.12	ppm

Notes: Run as found span, span adjust and run adjustment point.  
Seems to have stabilized well following actuator replacement yesterday.

Calibration Performed By: Grover Christiansen

# Calibration Summary

Parameter CH4

Air Monitoring Network PAZA



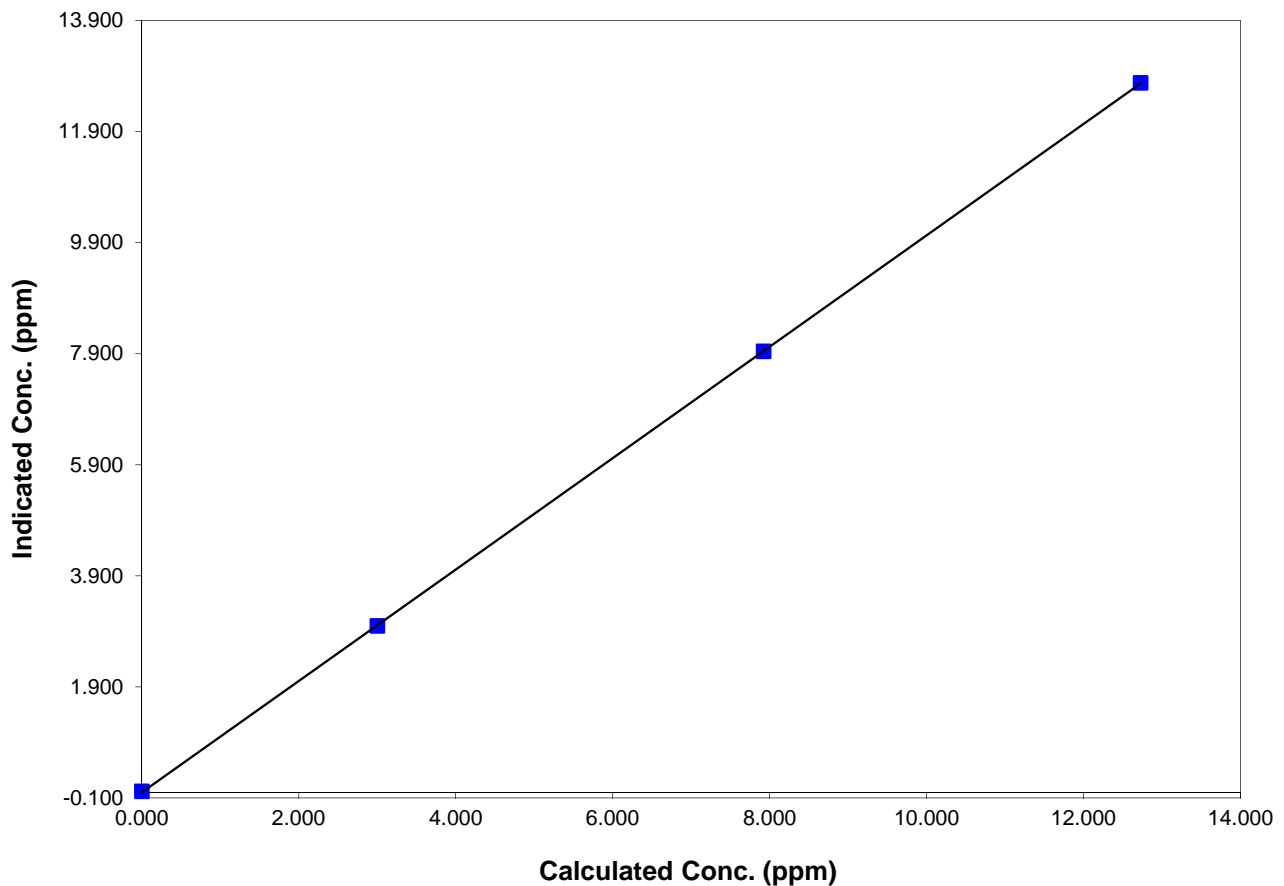
## Station Information

Calibration Date	January 28, 2014	Previous Calibration	January 6, 2014
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	10:10	End Time (MST)	13:36
Analyzer make/model	TEI 55I	Analyzer serial #	1134650658

## Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.018	N/A	Correlation Coefficient	0.999992
12.728	12.776	0.9963		
7.924	7.939	0.9980	Slope	0.997101
3.003	2.995	1.0027		
			Intercept	-0.001048

## CH4 Calibration Data





# Calibration Summary

Parameter THC

Air Monitoring Network PAZA



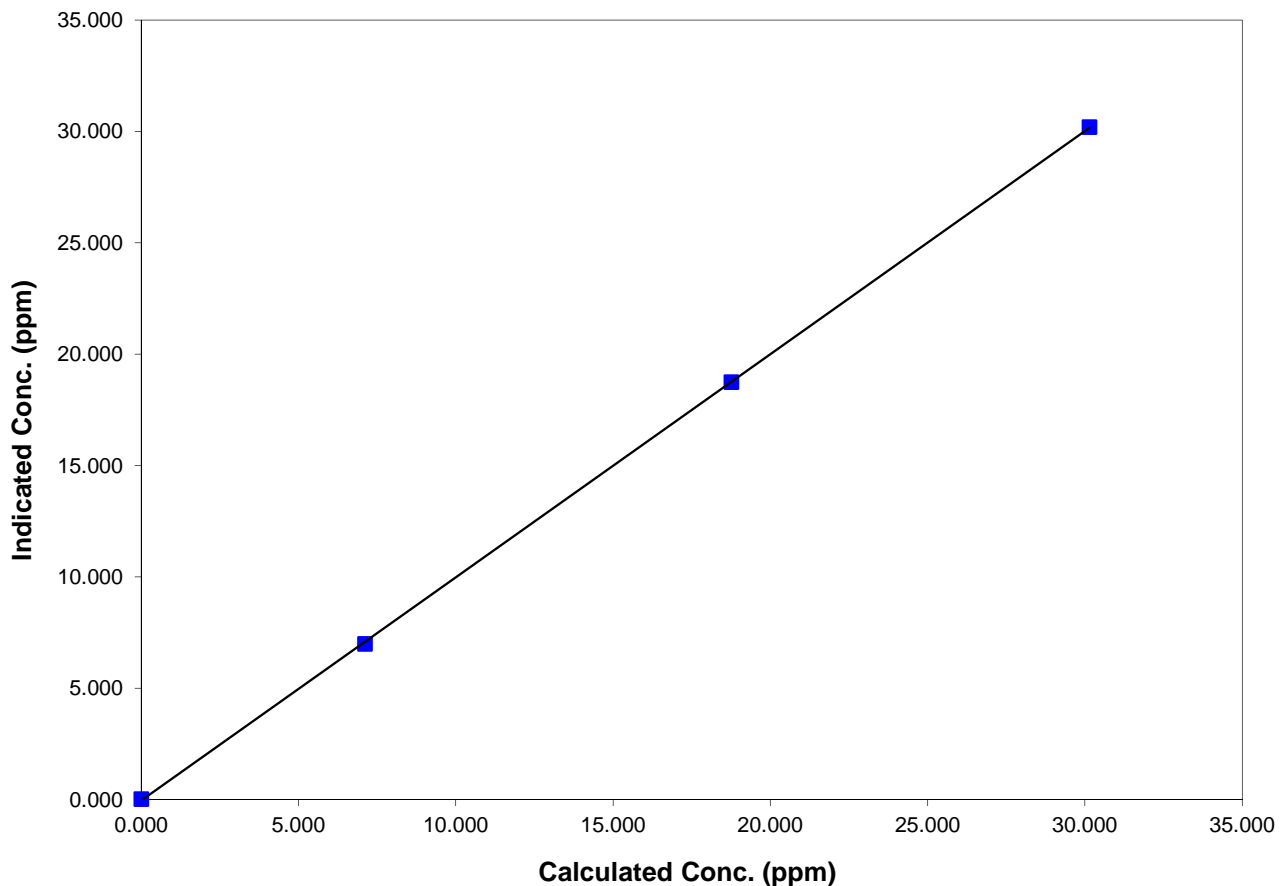
## Station Information

Calibration Date	January 28, 2014	Previous Calibration	January 6, 2014
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	10:10	End Time (MST)	13:36
Analyzer make/model	TEI 55I	Analyzer serial #	1134650658

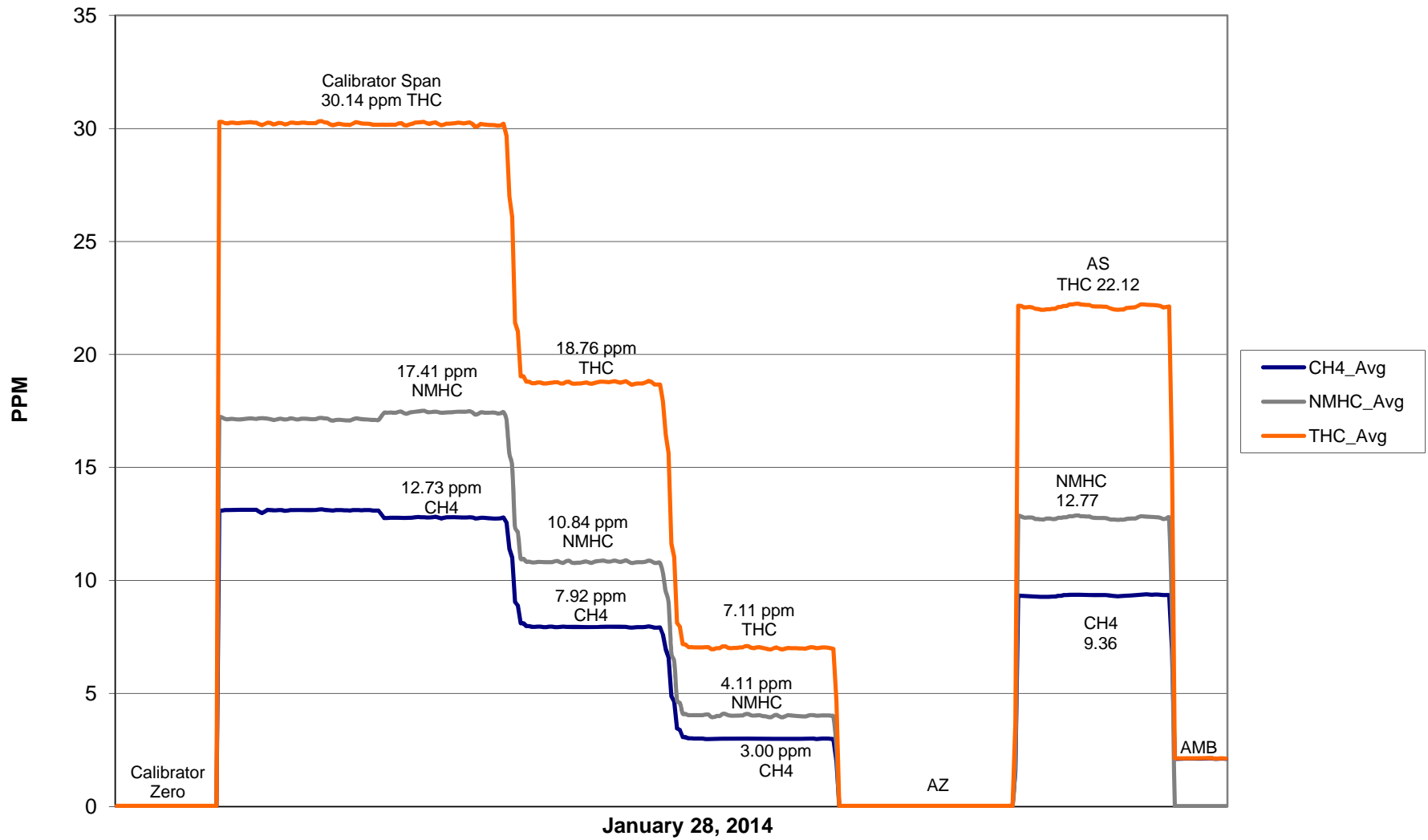
## Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.031	N/A	Correlation Coefficient	0.999974
30.143	30.192	0.9984		
18.764	18.748	1.0009	Slope	0.997987
7.113	7.001	1.0160		
			Intercept	0.040089

## THC Calibration Data



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





# Calibration Report



Parameter                                                                 
 Air Monitoring Network                                                               

## Station Information

Calibration Date	January 6, 2014	Previous Calibration	December 7, 2013
Station Number	1	Station Location	Henry Pirker
Reason:	<input checked="" type="checkbox"/> Routine	<input type="checkbox"/> Install	<input type="checkbox"/> Removal
			<input type="checkbox"/> Other:
Start Time (MST)	13:33:00 PM	End Time (MST)	15:48
Barometric Pressure	704.000 mm/Hg	Station Temperature	20.0 Deg C
Calibrator	EnviroNics 6100	Serial Number	3474
Cal Gas Conc	10.4 ppb	Cal Gas Expiry Date	08/07/2016
		Cal Gas Cylinder #	LL110781
DACS make	CR3000	DACS serial No.	5408
DACS voltage range	0 - 1 volt	DACS channel #	9
	Before		After
Calculated slope	0.982830	Calculated slope	1.016844
Calculated intercept	0.228153	Calculated intercept	0.322705
Analyzer make	TEI 45C	Analyzer serial #	630718528

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Coefficient	0.988		0.988	
Background	18.1		17.6	
Pressure	667.6	mm Hg	658.8	mm Hg
Flow	0.451	ccm	0.452	ccm
Lamp Voltage	879	v	879	v

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)		Correction factor (Cc/lc)
4995	0.00	0.00	-0.18	N/A
4995	39.93	82.48	80.91	1.0194
4995	19.95	41.37	40.16	1.0303
8995	8.95	10.34	9.81	1.0537
4995	0.00	0.00	-0.18	As Found Zero
4995	39.93	82.48	80.91	As Found Span
Average Correction Factor				1.0345

Calculated value of As Found Response: 79.9 ppb      Percent Change of As Found: 3.1%

	before calibration		after calibration	
Auto zero	-0.92	ppb	0.31	ppb
Auto span	33.06	ppb	42.70	ppb

Notes: No span adjustment made. Slight zero adjust.  
 Second point a little short due to snow removal, daily span kicked in on last point cutting it a little short as well.

Calibration Performed By:

# Calibration Summary

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



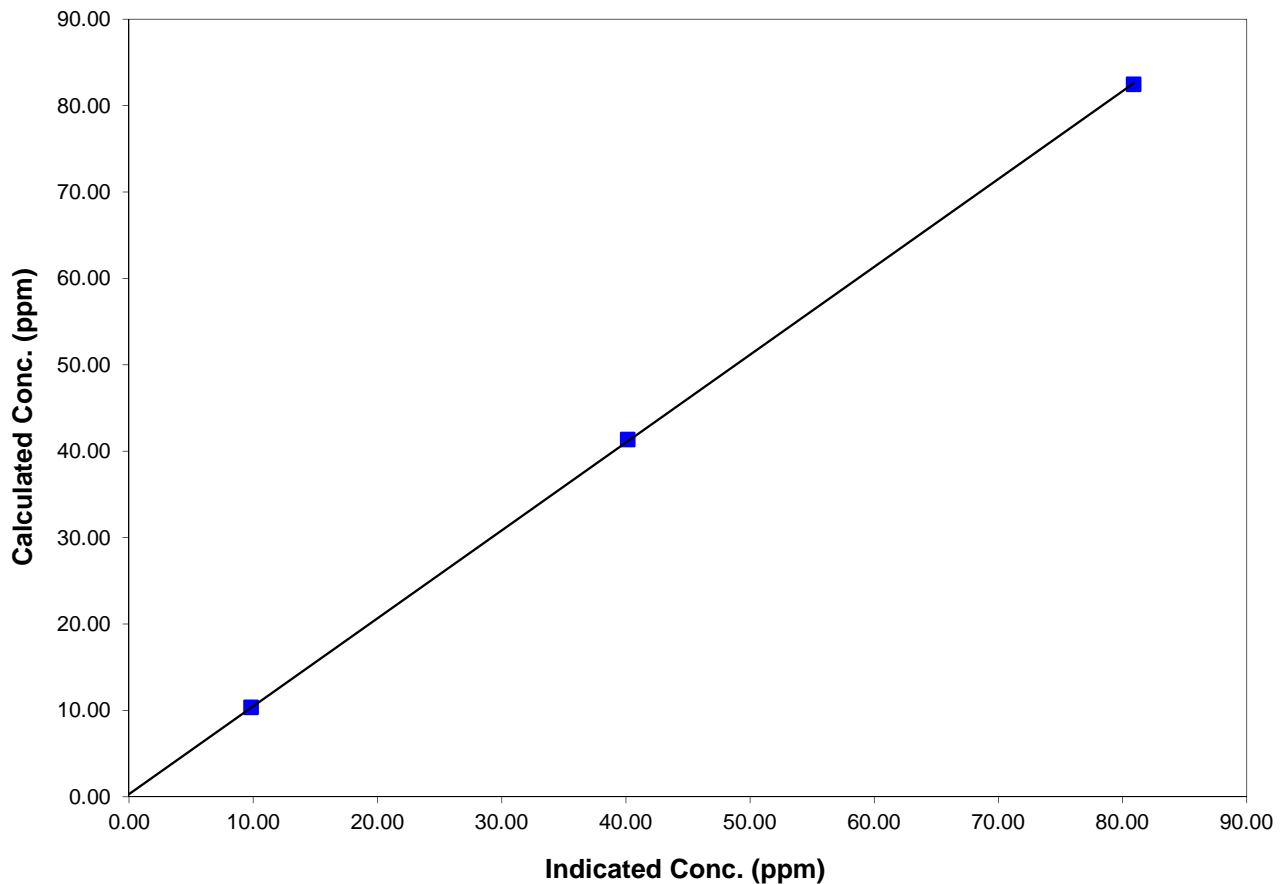
## Station Information

Calibration Date	<u>                    </u> January 6, 2014	Previous Calibration	<u>                    </u> December 7, 2013
Station Number	<u>                    </u> 1	Station Location	<u>                    </u> Henry Pirker
Start Time (MST)	<u>                    </u> 13:33:00 PM	End Time (MST)	<u>                    </u> 15:48
Analyzer make/model	<u>                    </u> TEI 45C	Analyzer serial #	<u>                    </u> 630718528

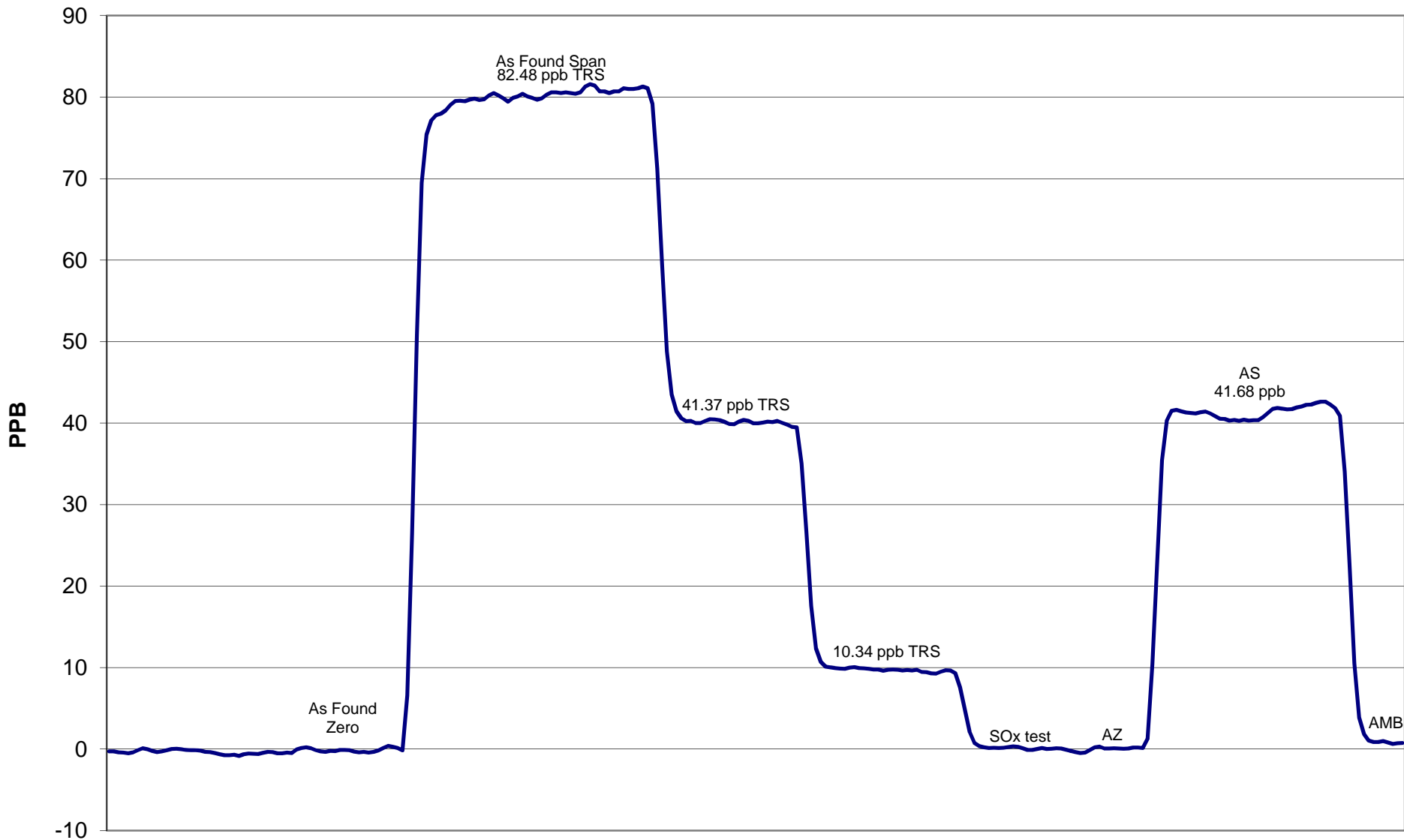
## Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	-0.176	N/A	Correlation Coefficient	0.999980
82.478	80.906	1.0194		
41.372	40.156	1.0303	Slope	1.016844
10.338	9.811	1.0537		
			Intercept	0.322705

## TRS Calibration Curve



# TRS Calibration



January 6, 2014

# Calibration Report



Parameter SO<sub>2</sub>

Air Monitoring Network PAZA

## Station Information

Calibration Date	January 10 2014	Previous Calibration	December 10 2013
Station Number	2	Station Location	Evergreen Park
Reason:	<input checked="" type="checkbox"/> Routine	<input type="checkbox"/> Install	<input type="checkbox"/> Removal
		<input type="checkbox"/> Other:	
Start Time (MST)	10:36	End Time (MST)	13:30
Barometric Pressure	0.924 ATM	Station Temperature	20.0 Deg C
Calibrator	Envionics	Serial Number	3016
Cal Gas Concentration	51.5 ppm	Cal Gas Expiry Date	25/02/2025
Correction factor	0.031409	Cal Gas Cylinder #	LL105159
DACS make	CR3000	DACS serial No.	5236
DACS voltage range	0 - 5 volt	DACS channel #	6
	<u>Before</u>		<u>After</u>
Calculated slope	1.005063	Calculated slope	1.010684
Calculated intercept	0.442718	Calculated intercept	0.734428
Analyzer make	Teco 43i	Analyzer serial #	701120008

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
Background	11.5		11.5	
coefficient	1.203		1.203	
Lamp Voltage	828	volts	832	volts
Chamber Temp	45	Deg C	45	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	656.2	mm Hg	658.6	mm Hg
Sample Flow	0.444	ccm	0.446	ccm
Lamp Intensity	90	%	90	%

Dilution air flow rate (cc/min)	Corrected gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4995	0.0	0.00	0.5	N/A
4995	39.93	408.4	404.1	1.0107
4995	19.97	205.1	201.2	1.0193
4995	9.97	102.6	99.8	1.0275
4995	0.0	0.0	0.5	As Found Zero
4995	39.93	408.4	404.1	As Found Span
Average Correction Factor				1.0192

Calculated value of As Found Response: 406.115 ppm      Percent Change of As Found: 0.6%

	before calibration		after calibration	
Auto zero	1.8	ppm	0.4	ppm
Auto span	290.1	ppm	285.0	ppm

Notes: No adustment made

Calibration Performed By: Grover Christiansen,Dmytro Dolotii

# Calibration Summary



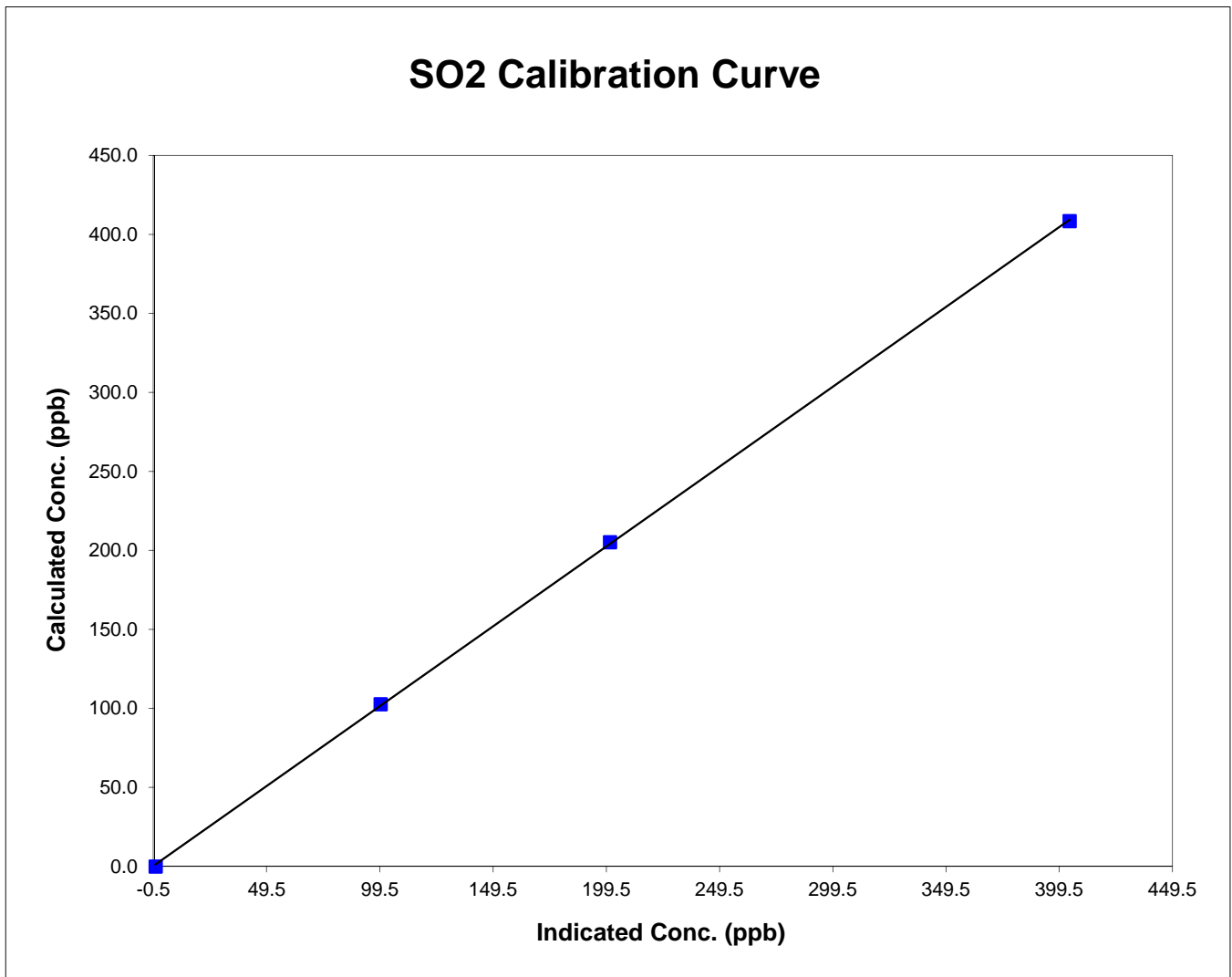
Parameter SO2  
 Air Monitoring Network PAZA

### Station Information

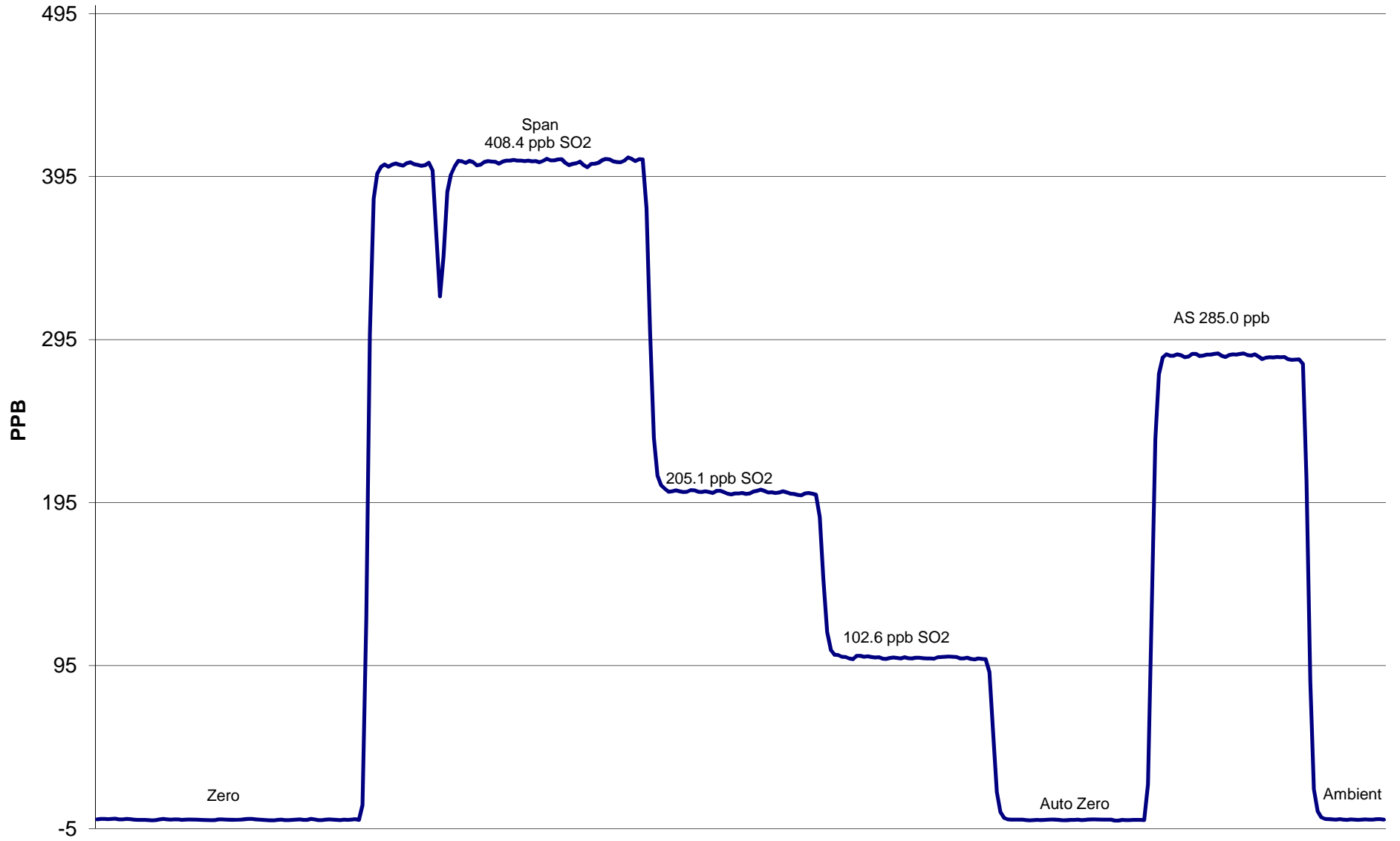
Calibration Date	January 10 2014	Previous Calibration	December 10 2013
Station Number	2	Station Location	Evergreen Park
Start Time (MST)	10:36	End Time (MST)	13:30
Analyzer make/model	Teco 43i	Analyzer serial #	701120008

### Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.5	N/A	Correlation Coefficient	0.999957
408.4	404.1	1.0107		
205.1	201.2	1.0193	Slope	1.010684
102.6	99.8	1.0275		
			Intercept	0.734428



# SO2 Calibration



January 10 2014

# Calibration Report



Parameter                                  **TRS**

Air Monitoring Network    **PAZA**

### Station Information

Calibration Date	January 10 2014		Previous Calibration	December 10 2013	
Station Number	2		Station Location	Evergreen Park	
Reason:	<b>Routine</b>	<input type="checkbox"/> Install	<input type="checkbox"/> Removal	<input type="checkbox"/> Other:	
Start Time (MST)	9:15		End Time (MST)	12:00	
Barometric Pressure	0.907	ATM	Station Temperature	22.0	Deg C
Calibrator	Envionics		Serial Number	3016	
Cal Gas Conc	10.4	ppm	Cal Gas Expiry Date	08/07/2016	
Correction factor	0.030622		Cal Gas Cylinder #	LL110781	
DACS make	CR3000		DACS serial No.	5236	
DACS voltage range	0 - 5 volt		DACS channel #	5	
	<u>Before</u>			<u>After</u>	
Calculated slope	0.990925		Calculated slope	1.002336	
Calculated intercept	0.048514		Calculated intercept	-0.133704	
Analyzer make	TEI Model 43C		Analyzer serial #	3.199E+13	

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Background	38.3	ppb	38.3	ppb
coefficient	1.043		1.043	
Lamp Voltage	1036	volts	1036	volts
Chamber Temp	44.2	Deg C	44.4	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	630.4	mm Hg	631.5	mm Hg
Sample Flow	0.598	ccm	0.602	ccm
Lamp Intensity	31,435	mv	31,561	mv

### Calibration Data

Dilution air flow rate (cc/min)	Corrected gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4995	0.00	0.00	0.3	N/A
4995	39.93	82.48	82.4	1.0007
4995	19.97	41.41	41.5	0.9981
8995	8.97	10.36	10.3	1.0073
4995	9.97	102.79	0.8	Sox Test
4995	0.00	0.00	0.3	As Found Zero
4995	39.93	82.48	82.4	As Found Span
Average Correction Factor				1.0020

Calculated value of As Found Response:                                  81.45 ppm      Percent Change of As Found: **1.2%**

	before calibration		after calibration	
Auto zero	-0.2	ppm	0.3	ppm
Auto span	82.2	ppm	80.0	ppm

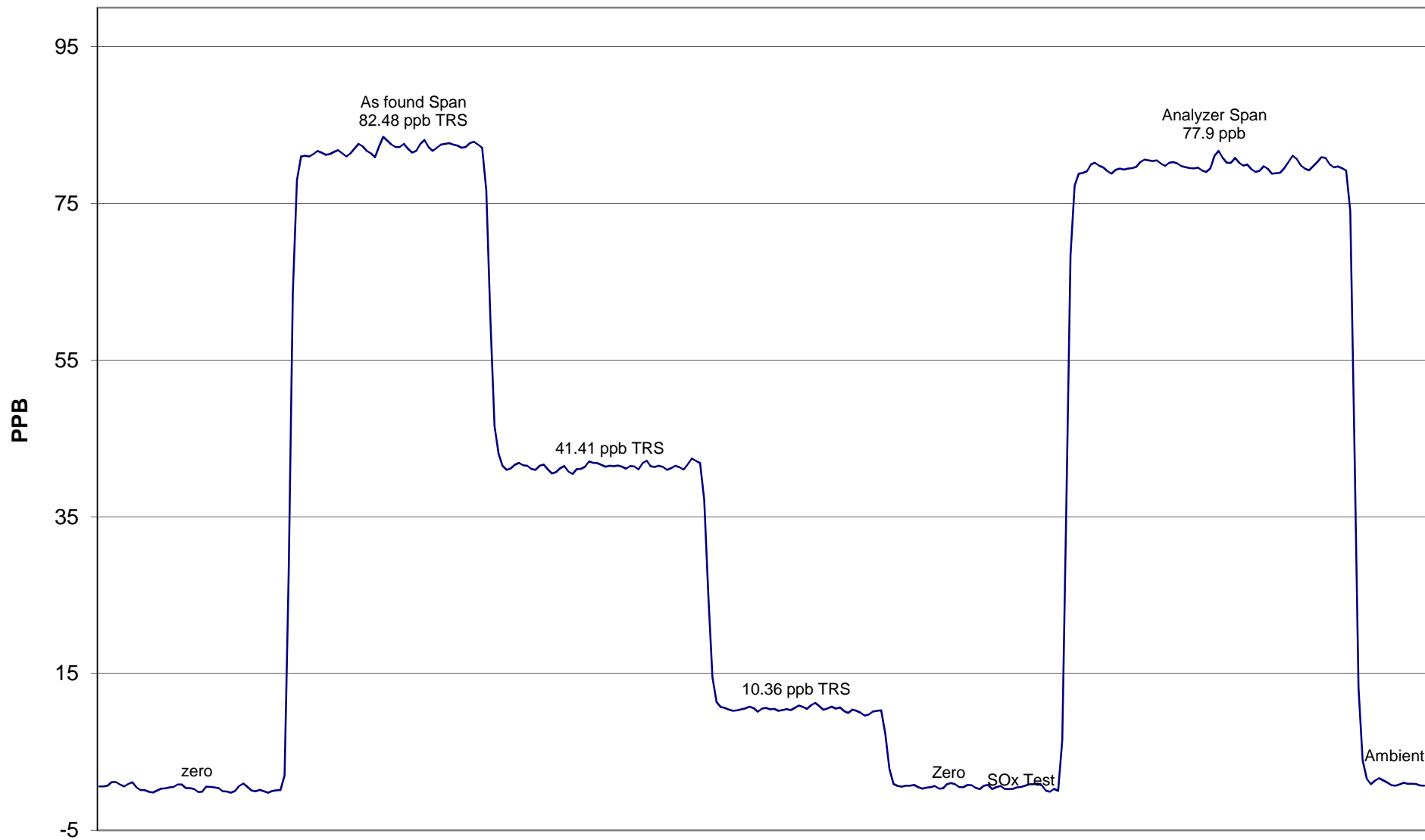
Notes:                                  **No adjustment made**  
  

Calibration Performed By:    Grover Christiansen, Dmytro Dolotii





# TRS Calibration



January 10 2014

# AB TEOM PM2.5 Calibration



STATION: Evergreen Park  
 LOCATION: PAZA - Grande Prairie

OPERATOR: Grover Christiansen  
 DATE: 10-Jan-14

MONITOR INFO / PARAMETER VALUES:

Make/Model	TEOM AB
Configuration	PM2.5
Serial Number	21554
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	15-Aug-13
Previous Calibration	NA

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	0.030	0.040
PUMP OFF	0.000	0.000
NET	0.030	0.040
<b>LIMITS</b>	<b>&lt;0.15</b>	<b>&lt;0.60</b>

	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 )	-3.1	0.909	<del>16147</del>	13.66	2.999
MEASURED ( AF )	-3.5	0.909	<del>16147</del>	13.62	2.986
MEASURED ( M )	-3.5	0.909	16275	13.62	2.986
DIFFERENCE (M-I)	-0.4	0.000	0.8%	-0.05	-0.01
<b>LIMITS</b>	<b>± 2 ° C</b>	<b>± 0.005 atm</b>	<b>± 2.5 %</b>	<b>± 1.0 L/min</b>	<b>± 0.2 L/min</b>

*As Found Data*  
*Adjusted Data*

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

COMMENTS: Pass.

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Sample Head Inspection/Cleaning:      Large In Line Filter Inspection & Or Cleaning:

# Calibration Report



Parameter SO<sub>2</sub>

Air Monitoring Network PAZA

## Station Information

Calibration Date	January 31, 2014	Previous Calibration	December 19, 2013
Station Number	3	Station Location	Smokey Heights
Reason:	<input checked="" type="checkbox"/> Routine	<input type="checkbox"/> Install	<input type="checkbox"/> Removal
			<input type="checkbox"/> Other:
Start Time (MST)	11:00	End Time (MST)	13:58
Barometric Pressure	0.927 ATM	Station Temperature	20.0 Deg C
Calibrator	EnviroNics	Serial Number	3016
Cal Gas Concentration	51.5 ppm	Cal Gas Cert Date	20/01/2016
Correction factor	0.031511	Cal Gas Cylinder #	LL1105159
DACS make	CR3000	DACS serial No.	5238
DACS voltage range	0 - 5 volt	DACS channel #	6
	<u>Before</u>		<u>After</u>
Calculated slope	1.001172	Calculated slope	0.992722
Calculated intercept	0.082377	Calculated intercept	1.034677
Analyzer make	Teco 43i	Analyzer serial #	701120009

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
Background	11.3		11.3	
coefficient	0.973		0.973	
Lamp Voltage	932	volts	934	volts
Chamber Temp	44.9	Deg C	44.9	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	670.8	mm Hg	669.9	mm Hg
Sample Flow	0.449	ccm	0.446	ccm
Lamp Intensity	87	%	87	%

## Calibration Data

Dilution air flow rate (cc/min)	Corrected gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4995	0.0	0.00	0.6	N/A
4995	39.93	408.43	411.3	0.9930
4995	19.97	205.08	204.3	1.0037
4995	9.97	102.59	101.0	1.0157
4995	0.0	0.00	0.6	As Found Zero
4995	39.93	408.43	411.3	As Found Span
Average Correction Factor				1.0041

Calculated value of As Found Response: 411.311 ppm      Percent Change of As Found: -0.7%

	before calibration		after calibration	
Auto zero	0.2	ppb	0.6	ppb
Auto span	253.7	ppb	253.3	ppb

Notes: No adjustment made.

Calibration Performed By: Grover Christiansen

# Calibration Summary



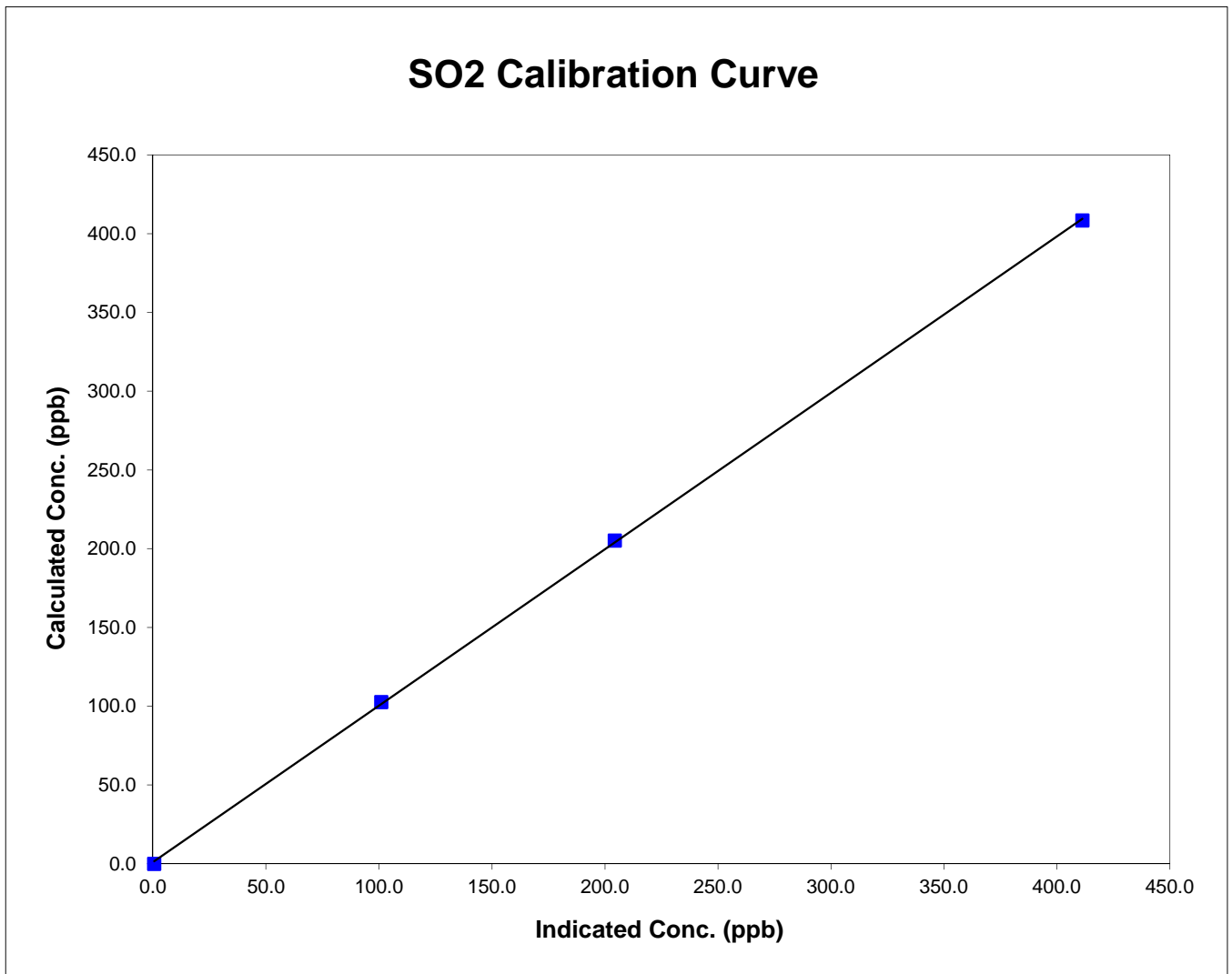
Parameter SO2  
 Air Monitoring Network PAZA

### Station Information

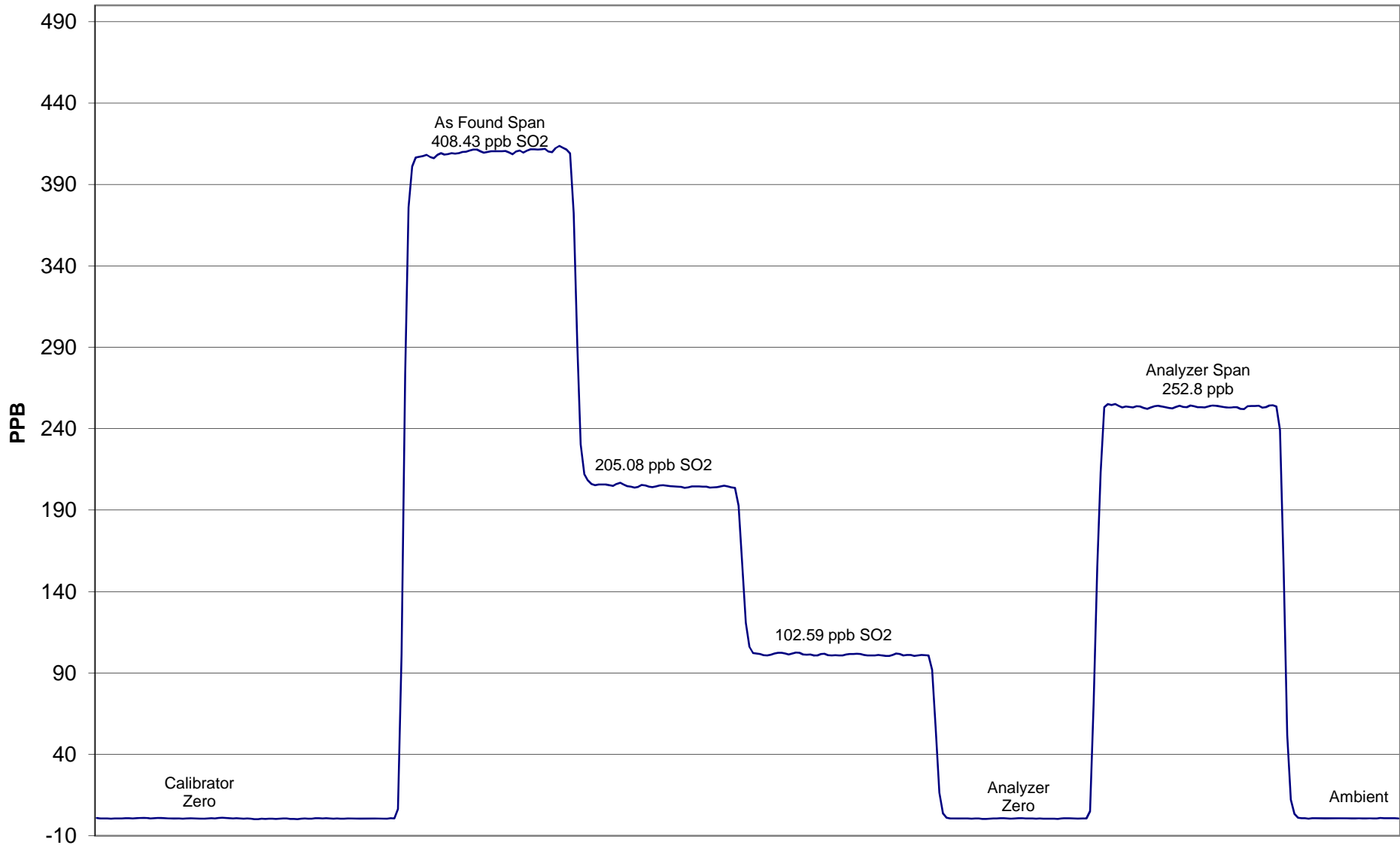
Calibration Date	January 31, 2014	Previous Calibration	December 19, 2013
Station Number	3	Station Location	Smokey Heights
Start Time (MST)	11:00	End Time (MST)	13:58
Analyzer make/model	Teco 43i	Analyzer serial #	701120009

### Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.6	N/A	Correlation Coefficient	0.999929
408.4	411.3	0.9930		
205.1	204.3	1.0037	Slope	0.992722
102.6	101.0	1.0157		
			Intercept	1.034677



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



January 31, 2014

# Calibration Report

Parameter TRS

Air Monitoring Network PAZA



## Station Information

Calibration Date	January 31, 2014	Previous Calibration	December 19, 2013
Station Number	3	Station Location	Smokey Heights
Reason:	<span style="border: 1px solid black; padding: 2px;">Routine</span>	<span style="border: 1px solid black; padding: 2px;">Install</span>	<span style="border: 1px solid black; padding: 2px;">Removal</span> Other: <span style="border: 1px solid black; padding: 2px;"></span>
Start Time (MST)	9:35	End Time (MST)	12:14
Barometric Pressure	0.927 ATM	Station Temperature	20.0 Deg C
Calibrator	EnviroNics	Serial Number	3016
Cal Gas Conc	10.4 ppm	Cal Gas Expiry Date	08/07/2016
Correction factor	0.031511	Cal Gas Cylinder #	LL110781
DACS make	CR3000	DACS serial No.	5238
DACS voltage range	0 - 5 volt	DACS channel #	5
	<u>Before</u>		<u>After</u>
Calculated slope	1.029595	Calculated slope	1.011778
Calculated intercept	-0.712595	Calculated intercept	0.373045
Analyzer make	TEI Model 43C	Analyzer serial #	0436610005

	before		after	
Concentration range	100	ppb	100	ppb
Background	17.3	ppb	18.4	ppb
coefficient	0.956		0.956	
Lamp Voltage	832	volts	832	volts
Chamber Temp	43.9	Deg C	43.9	Deg C
Perm Gas Temp	44.99	Deg C	44.99	Deg C
Pressure	605.2	mm Hg	605.3	mm Hg
Sample Flow	0.640	ccm	0.630	ccm
Lamp Intensity	35,282	mv	35,285	mv

Dilution air flow rate (cc/min)	Corrected gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4995	0.0	0.00	0.0	N/A
4995	39.93	82.48	81.4	1.0132
4995	19.97	41.41	40.1	1.0331
8995	8.97	10.36	9.7	1.0634
4995	0.0	0.00	0.0	As Found Zero
4995	39.93	82.48	81.4	As Found Span
Average Correction Factor				1.0366

Calculated value of As Found Response: 83.11 ppm Percent Change of As Found: -0.8%

	before calibration		after calibration	
Auto zero	1.2	ppm	0.4	ppm
Auto span	31.0	ppm	32.2	ppm

Notes: No span adjust. Scrubber check done submitting 102.59 ppb SO2.

Calibration Performed By: Grover Christiansen

# Calibration Summary



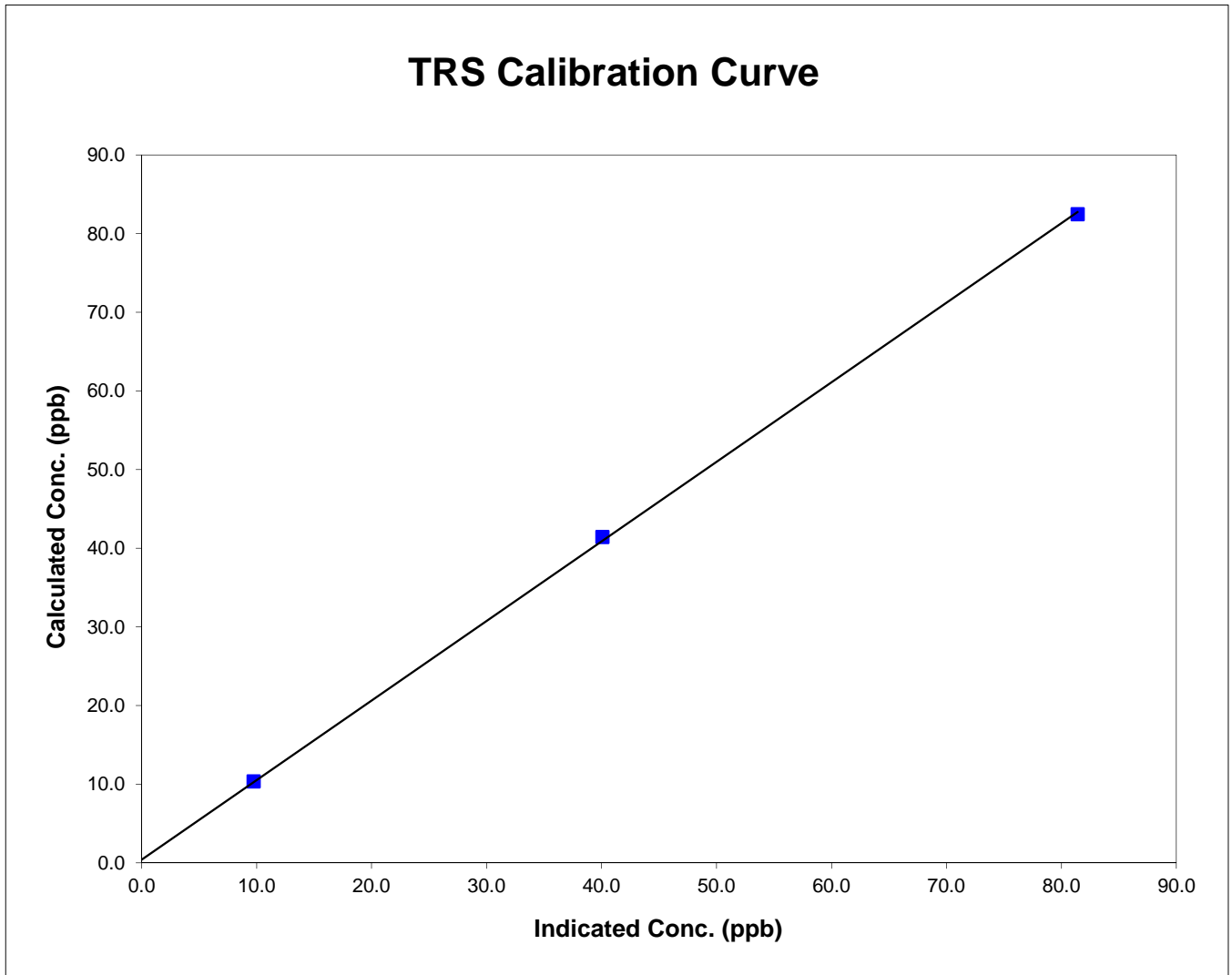
Parameter                                                                **TRS**  
 Air Monitoring Network                                                                **PAZA**

### Station Information

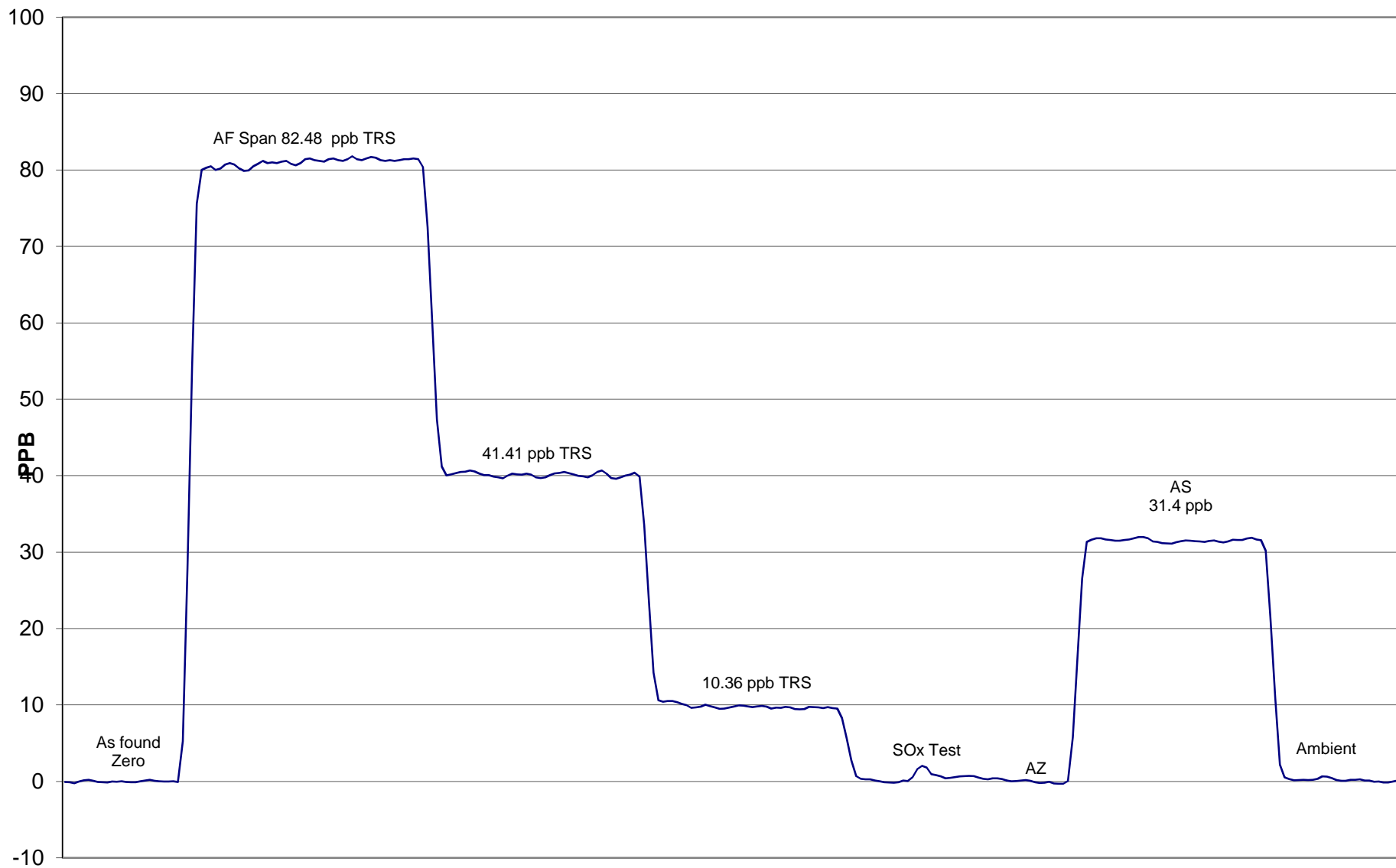
Calibration Date	<u>                    </u> <u>                    </u> <u>                    </u> <b>January 31, 2014</b>	Previous Calibration	<u>                    </u> <u>                    </u> <u>                    </u> <b>December 19, 2013</b>
Station Number	<u>                    </u> <u>                    </u> <u>                    </u> <b>3</b>	Station Location	<u>                    </u> <u>                    </u> <u>                    </u> <b>Smokey Heights</b>
Start Time (MST)	<u>                    </u> <u>                    </u> <u>                    </u> <b>9:35</b>	End Time (MST)	<u>                    </u> <u>                    </u> <u>                    </u> <b>12:14</b>
Analyzer make/model	<u>                    </u> <u>                    </u> <u>                    </u> <b>TEI Model 43C</b>	Analyzer serial #	<u>                    </u> <u>                    </u> <u>                    </u> <b>0436610005</b>

### Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.0	N/A	Correlation Coefficient	0.999892
82.5	81.4	1.0132		
41.4	40.1	1.0331	Slope	1.011778
10.4	9.7	1.0634		
			Intercept	0.373045



# Smokey Heights TRS Calibration



January 31, 2014



# AB TEOM PM2.5 Calibration

STATION: Smokey Heights  
 LOCATION: PASZA - Grande Prairie

OPERATOR: Grover Christansen  
 DATE: 31-Jan-14

MONITOR INFO / PARAMETER VALUES:

Make/Model	TEOM AB
Configuration	PM2.5
Serial Number	24634
Site Number	3
Inlet Type	PM 10 / SCC
FAdj. Main Setting	1.000
FAdj. Aux. Setting	0.995
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	25-Oct-13
Previous Calibration	NA

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	0.068	0.402
PUMP OFF	0.010	-0.010
NET	0.058	0.412
<b>LIMITS</b>	<b>&lt;0.15</b>	<b>&lt;0.60</b>

	Ambient Temp. (°C)	Ambient Pres. (atm)	Ko *	Bypass flow (lpm)	Sample flow (lpm)
SET POINT ( S )	na	na	12122	13.67	3.000
INDICATED ( I )	-7.3	0.927	<del>12122</del>	13.69	3.000
MEASURED ( AF )	-7.4	0.926	<del>12122</del>	13.65	2.960
MEASURED ( M )	-7.4	0.926	12233	13.65	2.960
DIFFERENCE (M-I)	-0.1	-0.001	0.9%	-0.15	-0.04
<b>LIMITS</b>	<b>± 2 ° C</b>	<b>± 0.005 atm</b>	<b>± 2.5 %</b>	<b>± 1.0 L/min</b>	<b>± 0.2 L/min</b>

As Found Data  
 Adjusted Data

Ko Audit Filter data      Weight: 0.11477      Serial #: CVK 3532

COMMENTS:      PASS

Flows & leak checks were performed.

Sample Head Inspection/Cleaning:      Large In Line Filter Inspection & Or Replacement:

# Calibration Report



Parameter SO2

Air Monitoring Network PAZA

## Station Information

Calibration Date	January 8, 2014	Previous Calibration	December 9, 2013
Station Number	4	Station Location	Beaverlodge
Reason:	<input checked="" type="checkbox"/> Routine	<input type="checkbox"/> Install	<input type="checkbox"/> Removal
			<input type="checkbox"/> Other:
Start Time (MST)	13:01:00 PM	End Time (MST)	15:42
Barometric Pressure	0.898 atm	Station Temperature	20.0 Deg C
Calibrator	Envionics	Serial Number	3016
Cal Gas Concentration	10.8 ppm	Cal Gas Expiry Date	28/09/2012
Gas Cert Reference	FF14871		
DACS make	CR3000	DACS serial No.	5237
DACS voltage range	0 - 5 volt	DACS channel #	5
	<u>Before</u>		<u>After</u>
DACS Scale High	100	DACS slope	100
DACS Scale Low	0	DACS intercept	0
Calculated slope	1.020670	Calculated slope	1.014628
Calculated intercept	-0.061119	Calculated intercept	-0.048450
Analyzer make	TEI Model 43i-TLE	Analyzer serial #	713021137

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Background	2.75		2.71	
Coefficient	1.042		1.042	
PMT	-767.4	V	-767.4	V
UV Lamp Voltage	1068	V	1067	V
Chamber Temp	45	Deg C	45	Deg C
Pressure	652.5	mm Hg	667	mm Hg
Sample Flow	0.473	LPM	0.485	LPM
Lamp Intesity	96	%	96	%

## Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4995	0.00	0.0	0.1	N/A
4995	39.93	85.7	84.5	1.0136
4995	19.97	43.0	42.3	1.0156
4995	9.97	21.5	21.3	1.0110
4995	0.00	0.0	0.1	As found zero
4995	39.93	85.7	84.5	As found span
Average Correction Factor				1.0134

Calculated value of As Found Response: 86.120 ppm      Percent Change of As Found: -0.5%

	before calibration		after calibration	
Auto zero	0.2	ppb	0.0	ppb
Auto span	59.9	ppb	60.6	ppb

Notes: Slight zero adjustment made. No span adjust. Calibrate.

Calibration Performed By: Grover Christiansen

# Calibration Summary

Parameter SO2  
 Air Monitoring Network PAZA



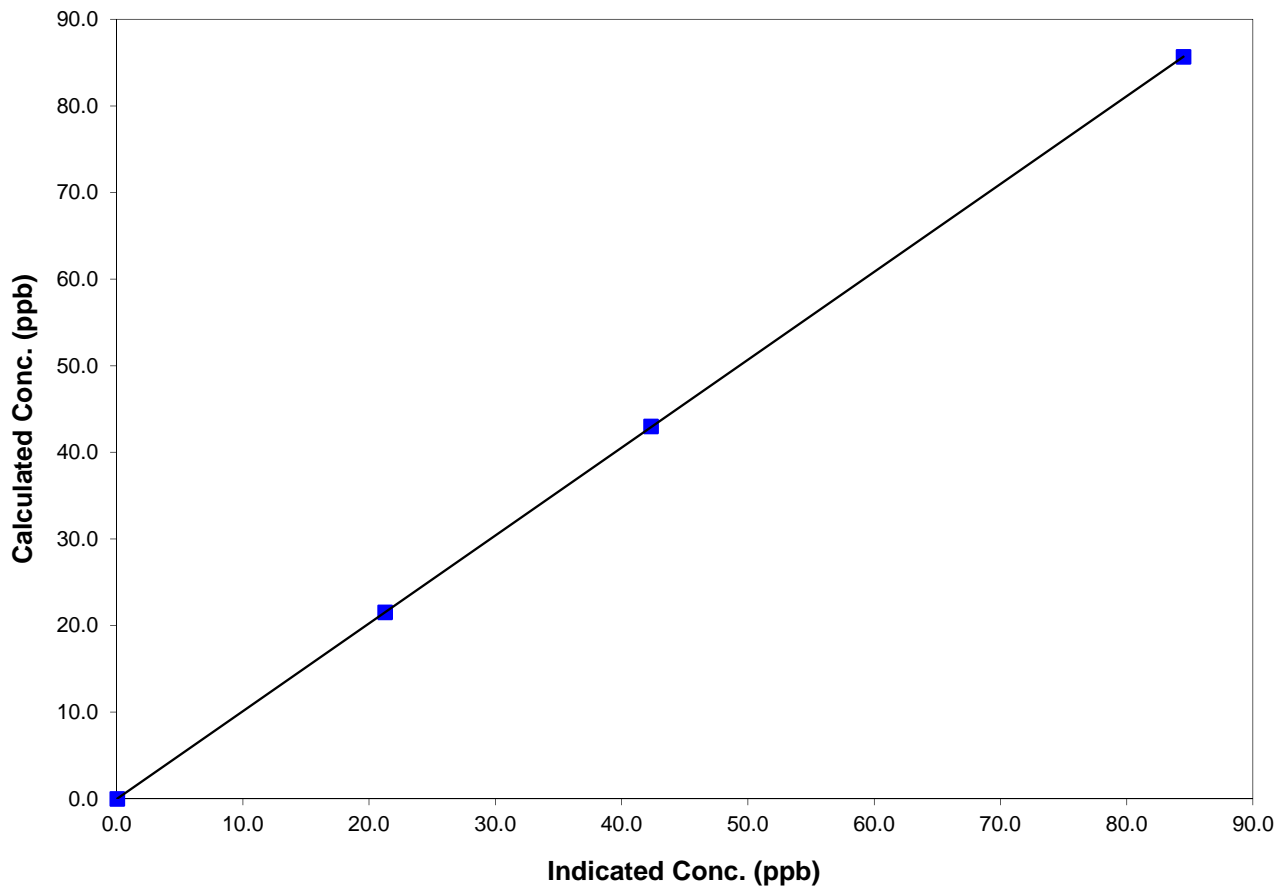
## Station Information

Calibration Date	January 8, 2014	Previous Calibration	December 9, 2013
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	13:01:00 PM	End Time (MST)	15:42
Analyzer make/model	TEI Model 43i-TLE	Analyzer serial #	713021137

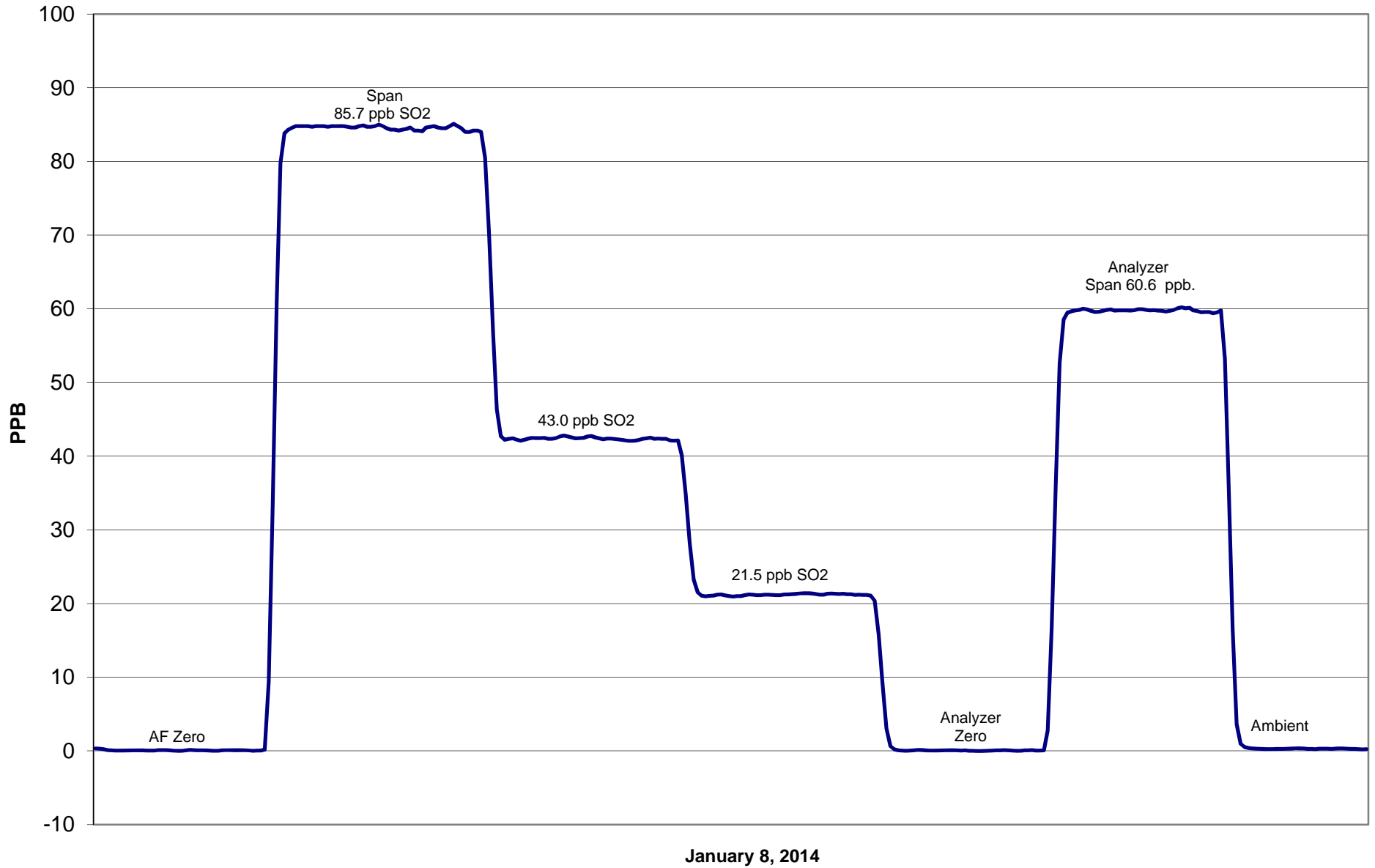
## Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.1	N/A	Correlation Coefficient	0.999997
85.7	84.5	1.0136		
43.0	42.3	1.0156	Slope	1.014628
21.5	21.3	1.0110		
			Intercept	-0.048450

### SO2 Calibration Curve



# SO2 Calibration



# Calibration Report

Parameter  
Air Monitoring Network

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



## Station Information

Calibration Date	January 9, 2014	Previous Calibration	December 9, 2013
Station Number	4	Station Location	Beaverlodge
Reason:	<b>Routine</b>	Installation	Removal
Start Time (MST)	8:15	End Time (MST)	12:54
Barometric Pressure	0.891 Atm	Station Temperature	20.0 Deg C
Calibrator	EnviroNics	Serial Number	3016
NO Cal Gas Conc	51.3 ppm	Cal Gas Expiry Date	February 25, 2021
NO <sub>x</sub> Cal Gas Conc	51.4 ppm	Cal Gas Serial #	LL105159

## DACS Information

DACS make	CR3000	DACS serial No.	5237	
Before	Parameter	NO2	NOx	NO
	Data Slope	1.001238	1.003193	0.999226
After	Data Offset	0.427803	0.653400	0.992680
	Data Slope	1.005754	0.996435	0.997274
	Data Offset	0.752687	0.843773	1.032520
	Channel #	8	6	7
Voltage Range		0 - 5 VDC	0 - 5 VDC	0 - 5 VDC

## Analyzer Information

Analyzer make/model	TEI 42i	Analyzer serial #	906535068	
Test Point	before		after	
Concentration range	0-500	ppb	0-500	ppb
NO offset	2.8	mV	3.2	mV
NO <sub>x</sub> bkgnd	2.9	mV	3.6	mV
NO coefficient	1.192		0.985	
NO <sub>x</sub> coefficient	0.995		1.000	
NO2 conv temp	326.8	Deg C	323.4	Deg C
PMT Temp	-3.0	Deg C	-2.7	Deg C
PMT Volt	-726.7	mV	-743.0	mV
R Cell Press	234.2	in Hg	208.2	in Hg
Sample Flow	0.641	LPM	0.675	LPM

Notes: Rebuilt sample pump & Nox optic kit installed Jan 8, run set up & allow to stabilize overnight.  
Jan 9 Nox calibrated without incident.

# Calibration Report



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

## Station Information

Calibration Date: **January 9, 2014** Station Location: **Beaverlodge**

## Calibration Data

	Dilution flow rate (ccm)	Source gas flow rate (ccm)	Calculated NOx conc (ppb)	Calculated NO conc (ppb)	Calculated NO2 conc (ppb)	Indicated NOx conc (ppb)	Indicated NO conc (ppb)	Indicated NO2 conc (ppb)	NOx Correction factor	NO Correction factor
zero	4995	0.00	0.0	0.0	0.0	-0.2	-0.1	-0.2	N/A	N/A
1	4995	39.93	407.6	406.8	0.8	408.5	407.4	0.3	0.9978	0.9986
2	4995	19.97	204.7	204.3	0.4	204.4	203.3	0.3	1.0013	1.0050
3	4995	9.97	102.4	102.2	0.2	101.1	100.5	0.4	1.0130	1.0166
AFZ	4995	0.00	0.0	0.0	0.0	-0.2	-0.1	-0.2	0.0000	0.0000
AFS	4995	39.93	407.6	406.8	0.8	408.5	407.4	0.4	0.9978	0.9986
Average Correction Factor									1.0040	1.0067

As Found Concentrations: **NO<sub>x</sub>= 409.3** **NO= 408.5** As Found Percent Change **NO<sub>x</sub>= 0.4%** **NO= 0.4%**

## GPT Calibration Data

Dilution Flow 4995 ccm Source Gas Flow 39.93 ccm

O3 Setpoint (ppb)	Indicated NO high point (ppb)	Indicated NO drop conc (ppb)	Calculated NO2 conc (ppb)	Indicated NOx conc (ppb)	Indicated NO conc (ppb)	Indicated NO2 conc (ppb)	NOx Correction factor	NO Correction factor	NO2 Correction factor	Converter Efficiency
0	-0.1	-0.1	0.0	-0.2	-0.1	-0.2	N/A	N/A	N/A	N/A
NO point	407.4	407.4	0.0	408.2	407.4	0.0	0.9981	1.0000	N/A	N/A
300	407.4	109.1	298.3	406.1	109.1	296.4	1.0032	1.0000	1.0065	99.4%
200	407.4	206.2	201.2	405.9	206.2	198.8	1.0036	1.0000	1.0119	98.8%
100	407.4	301.5	105.9	405.9	301.5	103.9	1.0037	1.0000	1.0192	98.1%
Average Correction Factor							1.0035	1.0000	1.0125	98.8%

## AIC Data

Parameter	Previous calibration				Current calibration			
	NOx	NO2	NO		NOx	NO2	NO	
Auto zero	-0.1	-0.1	-0.1	ppb	-0.2	-0.2	-0.1	ppb
Auto span	168.3	166.9	1.1	ppb	189.9	188.6	0.8	ppb

Calibration Performed By: Grover Christiansen

# Calibration Summary

Parameter NO<sub>2</sub>

Air Monitoring Network PAZA



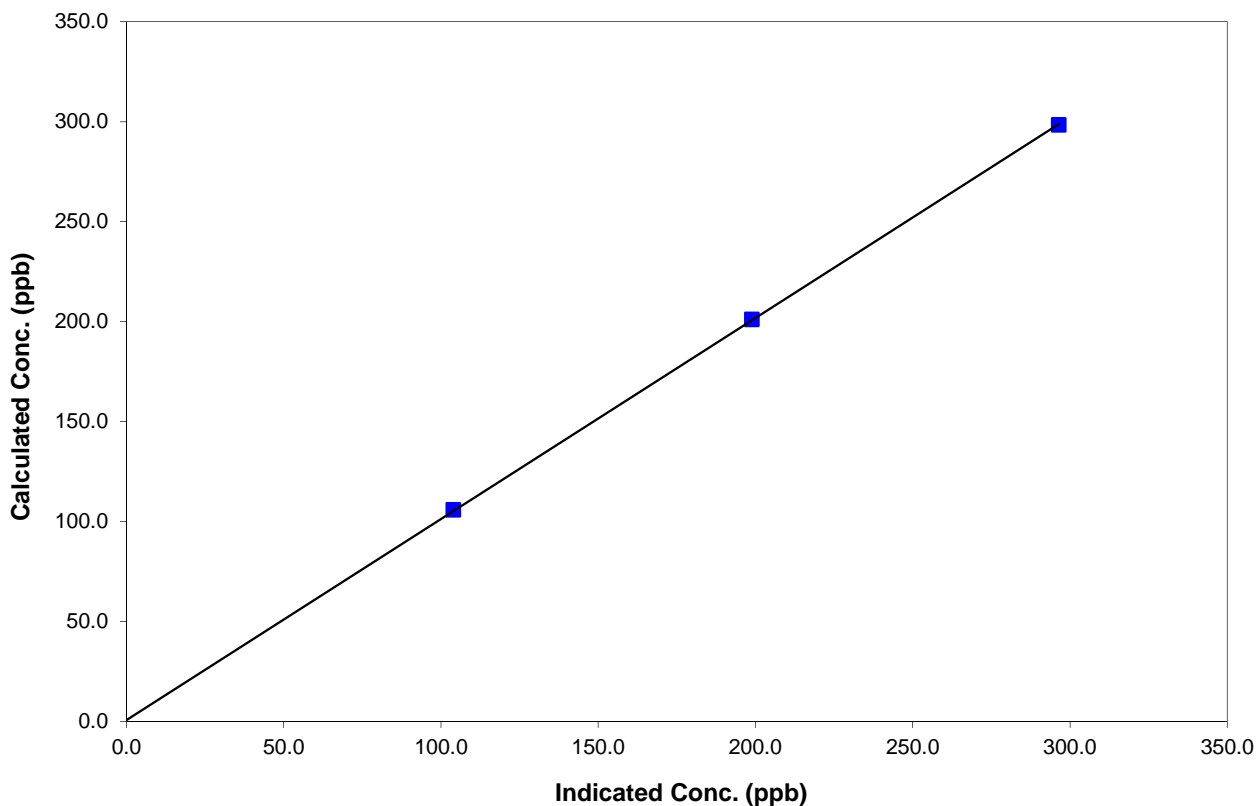
## Station Information

Calibration Date	January 9, 2014	Previous Calibration	December 9, 2013
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	8:15	End Time (MST)	12:54
Analyzer make	TEI 42i	Analyzer serial #	906535068

## Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.2	N/A	Correlation Coefficient	0.999974
298.3	296.4	1.0065		
201.2	198.8	1.0119	Slope	1.005754
105.9	103.9	1.0192		
			Intercept	0.752687

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



# Calibration Summary

Parameter NO<sub>x</sub>

Air Monitoring Network PAZA



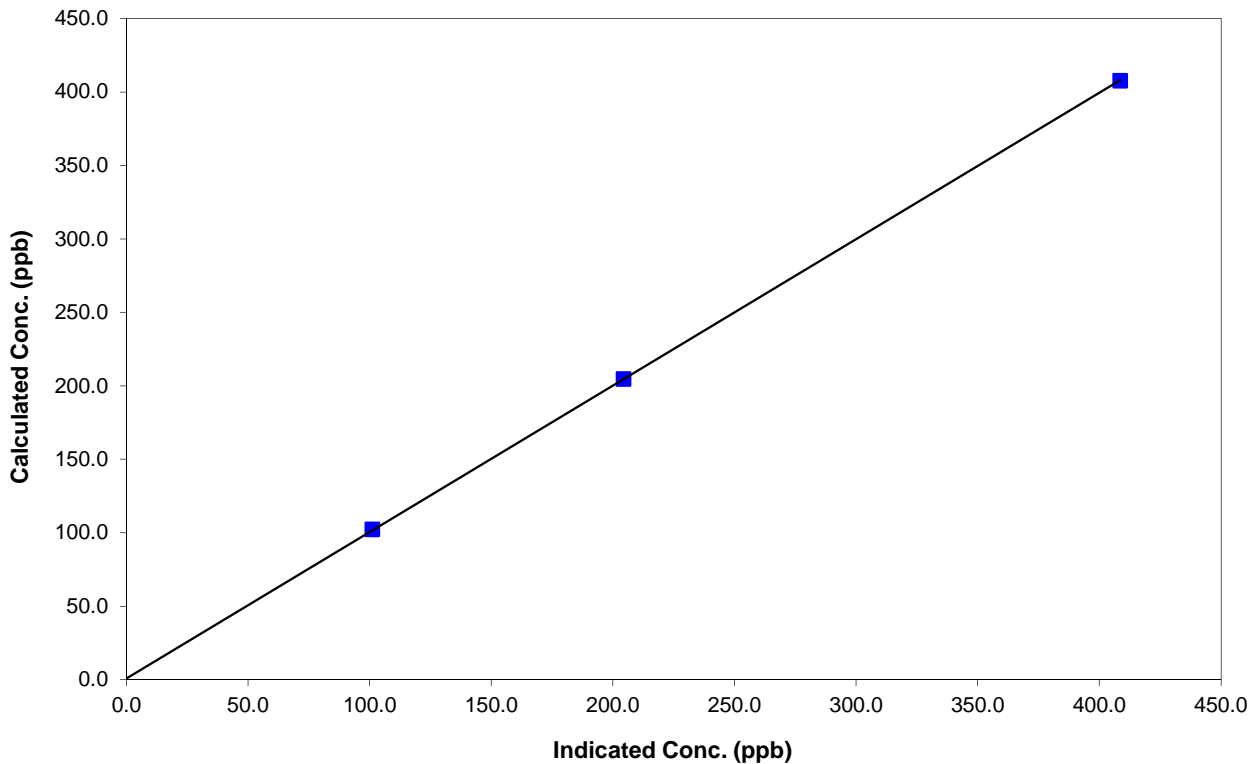
## Station Information

Calibration Date	January 9, 2014	Previous Calibration	December 9, 2013
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	8:15	End Time (MST)	12:54
Analyzer make	TEI 42i	Analyzer serial #	906535068

## Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.2	N/A	Correlation Coefficient	0.999986
407.6	408.5	0.9978		
204.7	204.4	1.0013	Slope	0.996435
102.4	101.1	1.0130		
			Intercept	0.843773

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





# Calibration Summary



Parameter NO

Air Monitoring Network PAZA

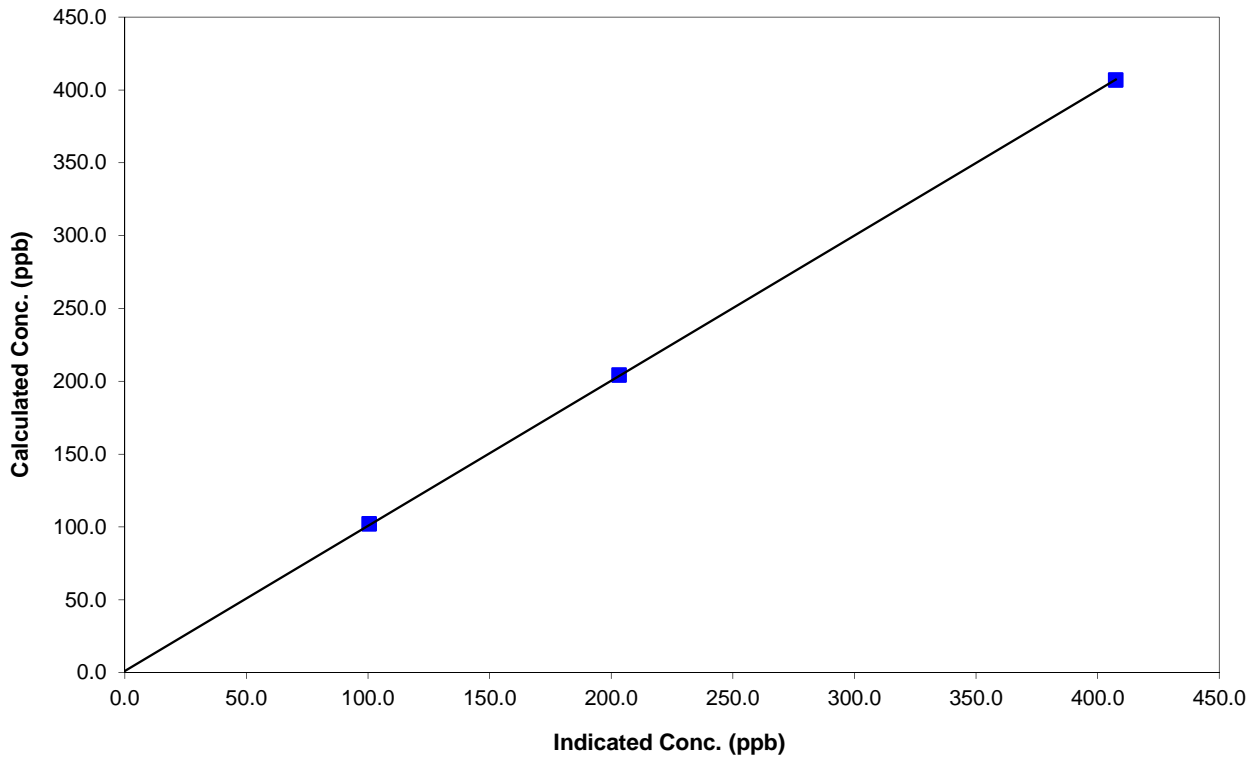
## Station Information

Calibration Date	January 9, 2014	Previous Calibration	December 9, 2013
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	8:15	End Time (MST)	12:54
Analyzer make	TEI 42i	Analyzer serial #	906535068

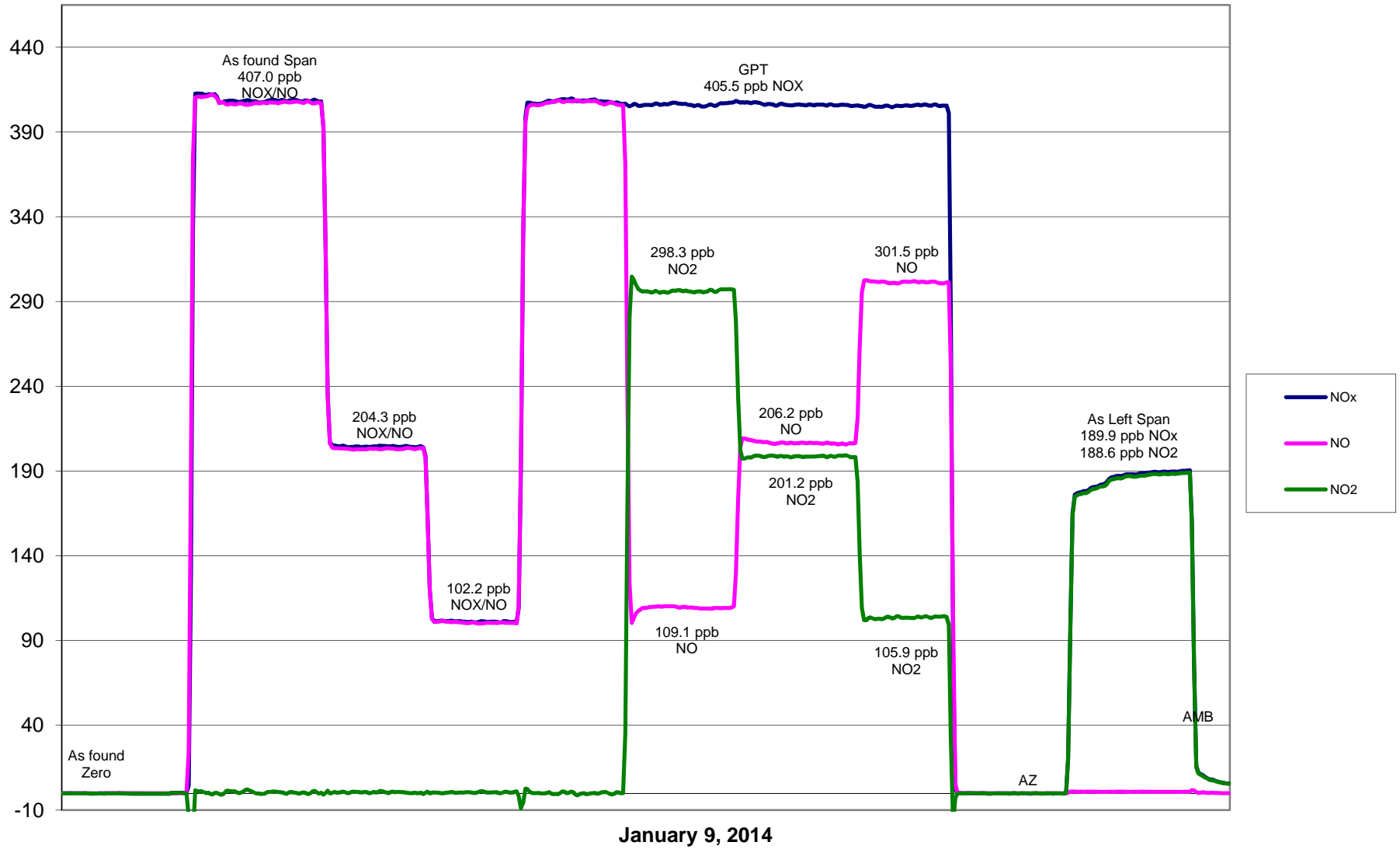
## Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.1	N/A	Correlation Coefficient	0.999975
406.8	407.4	0.9986		
204.3	203.3	1.0050	Slope	0.997274
102.2	100.5	1.0166		
			Intercept	1.032520

## NO Calibration Curve



# PAZA Beaverlodge NO<sub>x</sub> Calibration



# Calibration Report



Parameter 03

Air Monitoring Network PAZA

## Station Information

Calibration Date	January 9, 2014	Previous Calibration	December 9, 2013
Station Number	4	Station Location	Beaverlodge
Reason:	<b>Routine</b>	Install	Removal
		Other:	
Start Time (MST)	11:45	End Time (MST)	16:47
Barometric Pressure	0.891 atm	Station Temperature	20.0 Deg C
Calibrator	EnviroNics	Serial Number	3016
Cal Gas Concentration	NA	Cal Gas Expiry Date	NA
DACS make	CR3000	DACS serial No.	5237
DACS voltage range	0 - 5 volt	DACS channel #	9
	Before		After
Calculated slope	1.025810	Calculated slope	1.008734
Calculated intercept	-0.597926	Calculated intercept	0.827472
Analyzer make	Teco 49i	Analyzer serial #	1136451236

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
offset	-0.10	ppb	-0.40	ppb
slope	1.012		1.036	
Lamp temp	53.8	mV	53.8	mV
Lamp Intensity A/B	66233/69525	mV	66211/69613	mV
Pressure	664.8	mm Hg	669.7	mm Hg
Flow A	0.729	LPM	0.738	LPM
Flow B	0.732	LPM	0.766	LPM

## Calibration Data

Dilution air flow rate (cc/min)	Calibrator Setting	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
5035	0.00	0.0	0.1	N/A
5035	0.30	298.3	295.6	1.0091
5035	0.20	201.2	198.3	1.0149
5035	0.10	105.9	102.9	1.0293
5035	0.00	0.0	0.1	As found zero
5035	0.30	298.3	289.8	As found span
Average Correction Factor				1.0178

Calculated value of As Found Response: 296.5 ppm      Percent Change of As Found: -0.6%

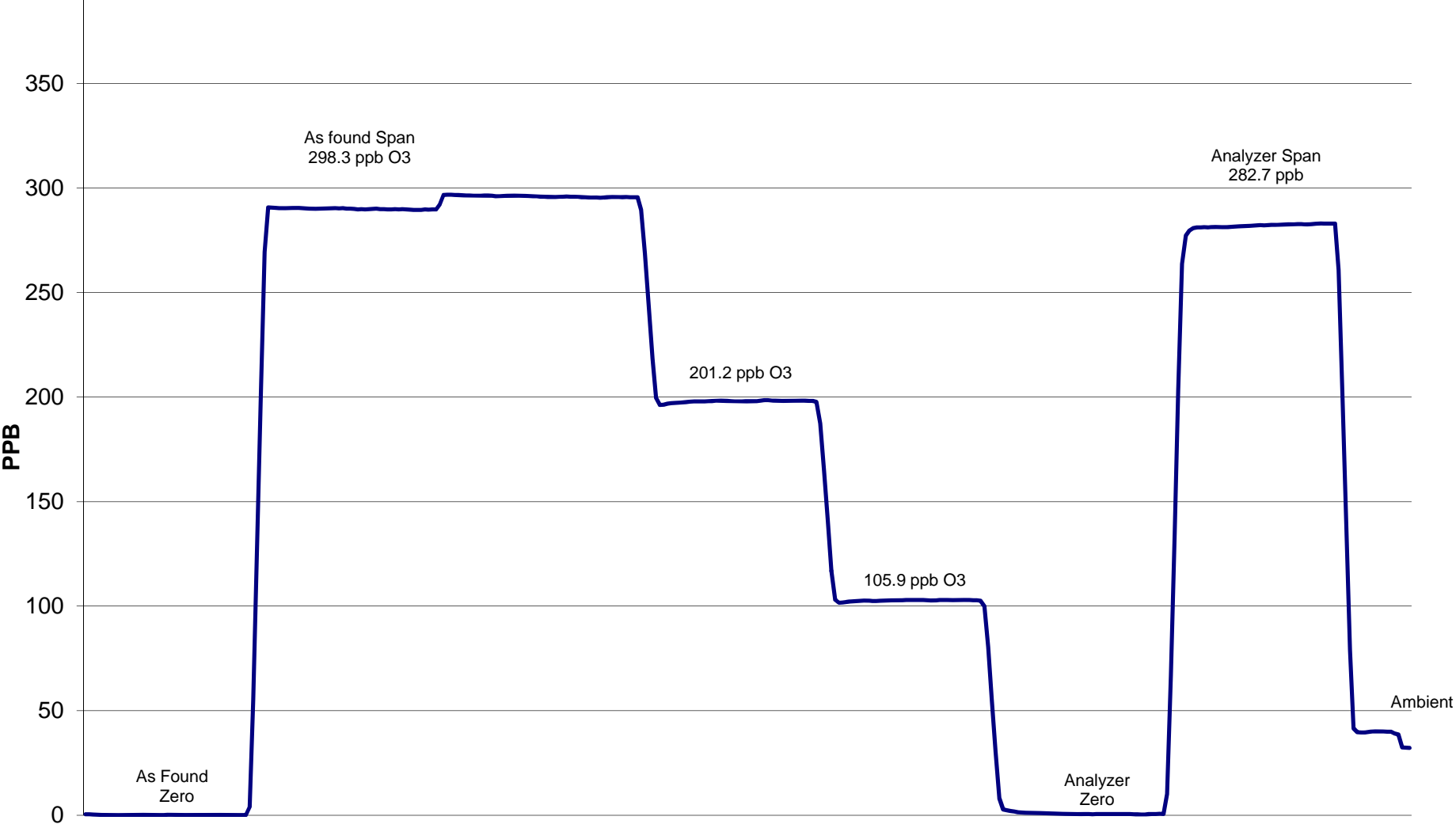
	before calibration		after calibration	
Auto zero	-1.2	ppb	1.4	ppb
Auto span	277.9	ppb	282.7	ppb

Notes: Slight span adjustment made.

Calibration Performed By: Grover Christiansen



# O3 Calibration



January 9, 2014

# FDMS TEOM PM2.5 AUDIT



STATION: BeaverLodge  
 LOCATION: PASZA - Grande Prairie

OPERATOR: Grover Christiansen  
 DATE: 09-Jan-14

MONITOR INFO / PARAMETER VALUES:

Make/Model	TEOM AB
Configuration	PM2.5
Serial Number	AMU1649
Site Number	4
Inlet Type	PM 10 / SCC
FAdj. Main Setting	1.000
FAdj. Aux. Setting	1.000
T-Case Indicated / Set Point	30/30
T-Air Indicated / Set Point	30/30
T-Cap Indicated / Set Point	30/30
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	26-Sep-13
Previous Calibration	

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	0.20	0.25
PUMP OFF	0.02	0.02
NET	0.18	0.23
<b>LIMITS</b>	<b>&lt;0.15</b>	<b>&lt;0.60</b>

	Ambient Temp. (°C)	Ambient Pres. (atm)	Ko *	Bypass flow (lpm)	Sample flow (lpm)
SET POINT ( S )	na	na	14287	13.67	3.00
INDICATED ( I )	12.7	0.911	<del>14287</del>	13.68	3.00
MEASURED ( AF )	12.8	0.912	<del>14287</del>	13.42	2.94
MEASURED ( M )	12.8	0.912	14224	13.42	2.94
DIFFERENCE (M-I)	0.1	0.001	-0.4%	-0.26	-0.06
<b>LIMITS</b>	<b>± 2 ° C</b>	<b>± 0.005 atm</b>	<b>± 2.5 %</b>	<b>± 1.0 L/min</b>	<b>± 0.2 L/min</b>

*As Found Data*  
*Adjusted Data*

Ko Audit Filter data      Weight: 0.11477      Serial #: CVK 3532

COMMENTS:

Sample heads were cleaned.  
 Base leak check: Main: 0.20 Aux: 0.25.  
 Referense leak check: Main: 0.30 Aux: 0.27.

Sample Head Inspection Or Cleaning:      TEOM / FDMS IN LINE FILTER INSPECTION OR REPLACI

# Calibration Report



Parameter SO2

Air Monitoring Network PAZA

## Station Information

Calibration Date	January 24 2014	Previous Calibration	December 19 2013
Station Number	6	Station Location	Valleyview
Reason:	<b>Routine</b>	Install	Removal
			Other:
Start Time (MST)	12:05	End Time (MST)	16:12
Barometric Pressure	702.00 mmHg	Station Temperature	20.0 Deg C
Calibrator	Envionics	Serial Number	3016
Cal Gas Concentration	51.5 ppm	Cal Gas Exp Date	February 25, 2021
Gas Cylinder Num.	LL105159		
DACS make	CR3000	DACS serial No.	5409
DACS voltage range	0 - 5 volt	DACS channel #	4
	<u>Before</u>		<u>After</u>
DACS Scale High	500	DACS slope	500
DACS Scale Low	0	DACS intercept	0
Calculated slope	0.991459	Calculated slope	1.002472
Calculated intercept	0.615268	Calculated intercept	1.159944
Analyzer make	TEI 45C	Analyzer serial #	45C-57531-313

	before		after	
Concentration range	0-500	ppb	0-500	ppb
Background	58.9		59.8	
Coefficient	1.038		1.023	
UV Lamp Voltage	832	LPM	829	LPM
Chamber Temp	44.5	V	44.5	V
Perm Gas Temp	34.5	C	35	C
Pressure	605.9	in Hg	608.01	in Hg
Sample Flow	0.547	LPM	0.548	LPM
Lamp Intensity	42015	Hz	42050	Hz

## Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4995	0.00	0.0	0.8	N/A
4995	39.93	408.4	407.2	1.0029
4995	19.97	205.1	202.3	1.0135
4995	9.97	102.6	99.3	1.0326
4995	0.00	0.0	0.6	As found zero
4995	39.93	408.4	413.1	As found span
Average Correction Factor				1.0164

Calculated value of As Found Response: 409.6 ppm Percent Change of As Found: -0.3%

	before calibration		after calibration	
Auto zero	0.0	ppm	0.0	ppm
Auto span	150.2	ppm	182.0	ppm

Notes: 143 Thermo external zero/span supply for SO2 analyzer was found with siezed internal pump on arrival. Replace pump with external & purge 143 oven for 2 hours. Replace zero cannister. Leak check, check all internal fittings & restart calibration. Slight span adjust.

Calibration Performed By: Grover Christiansen, Dmytro Dolotii.

# Calibration Summary

Parameter SO2  
 Air Monitoring Network PAZA

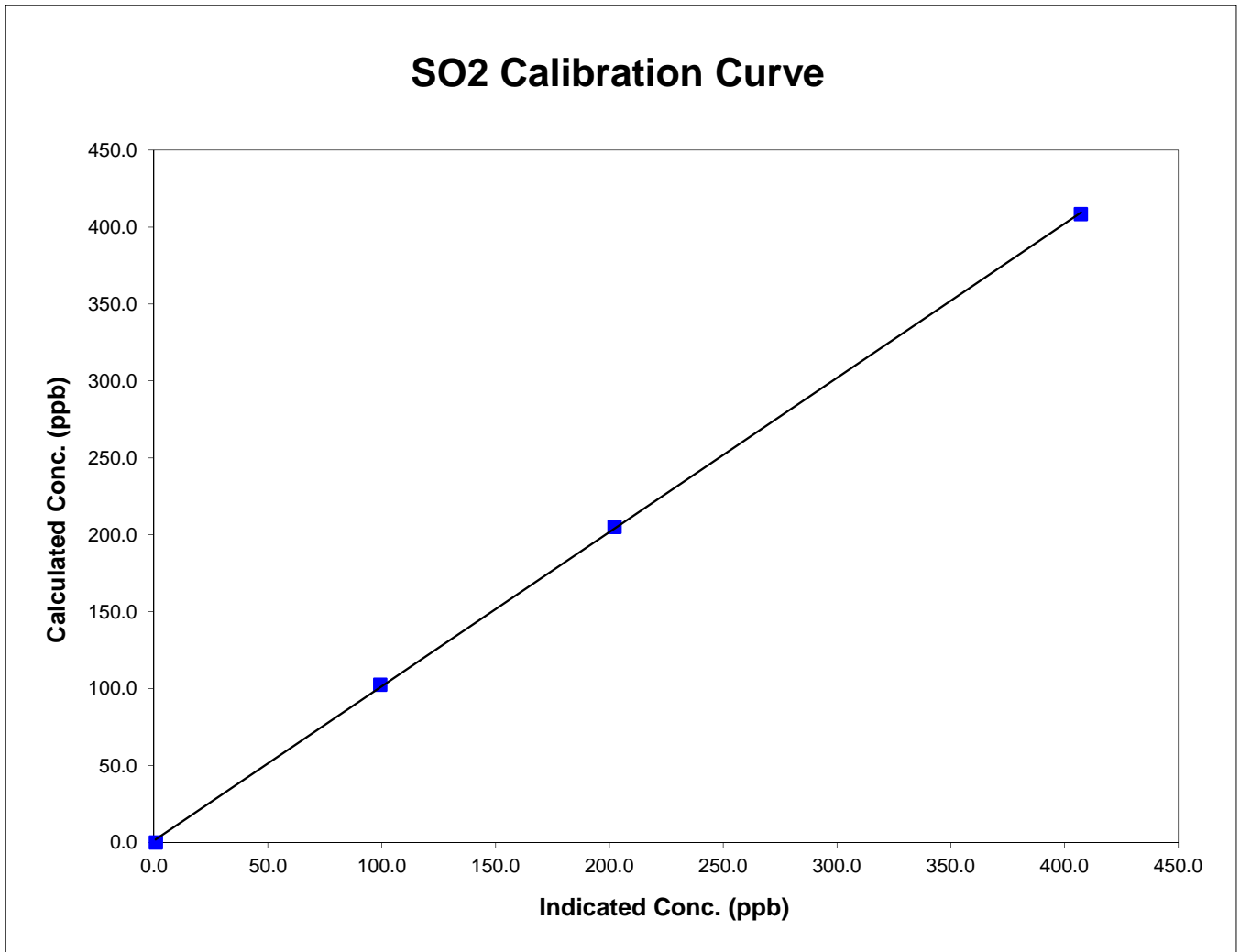


## Station Information

Calibration Date	January 24 2014	Previous Calibration	December 19 2013
Station Number	6	Station Location	Valleyview
Start Time (MST)	12:05	End Time (MST)	16:12
Analyzer make/model	TEI 45C	Analyzer serial #	45C-57531-313

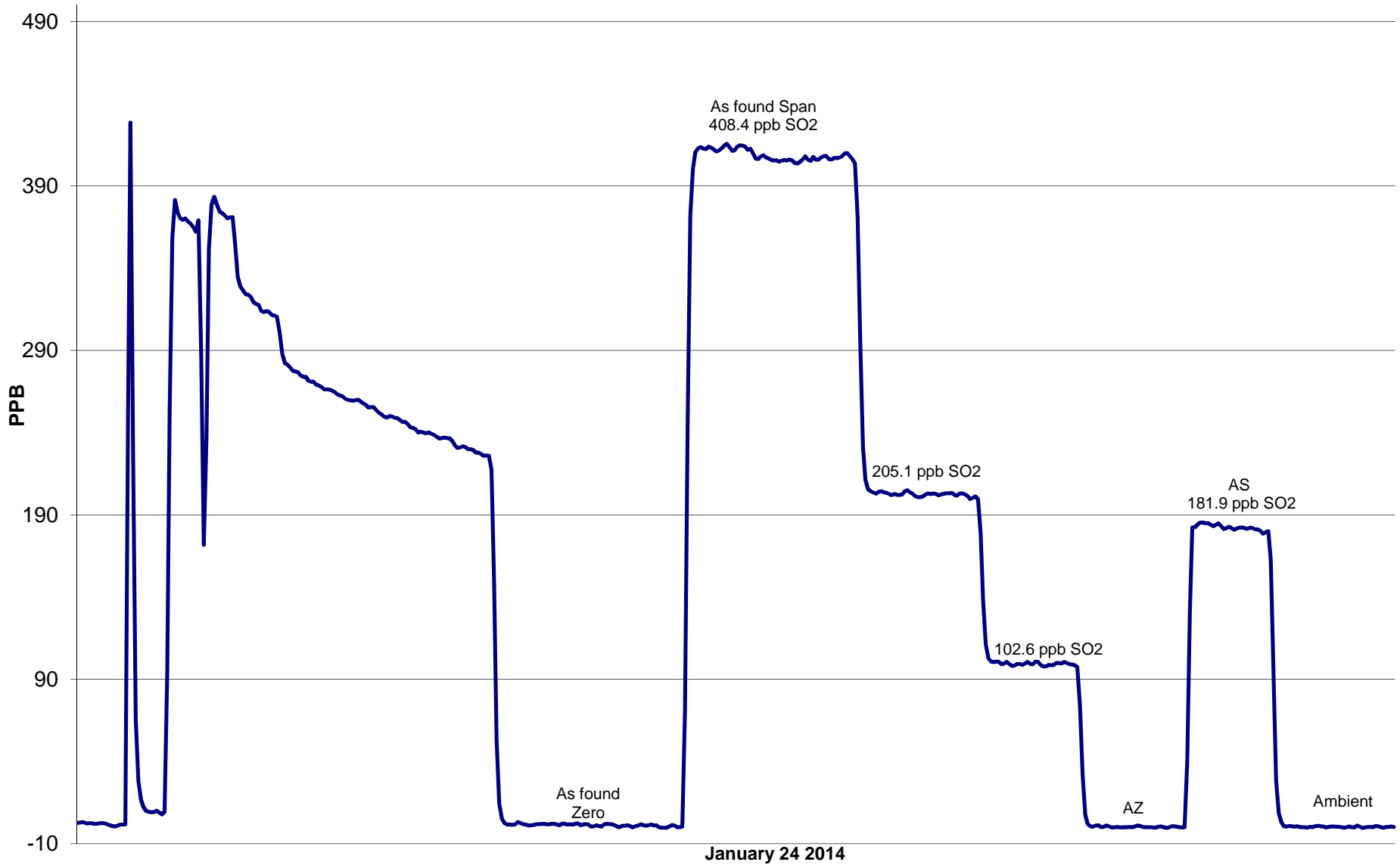
## Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.8	N/A	Correlation Coefficient	0.999899
408.4	407.2	1.0029		
205.1	202.3	1.0135		
102.6	99.3	1.0326	Slope	1.002472
			Intercept	1.159944





# SO2 Calibration



# Calibration Report

Parameter                                 H2S                                  
 Air Monitoring Network   PAZA  



## Station Information

Calibration Date	January 24 2014	Previous Calibration	December 16 2013
Station Number	6	Station Location	Valleyview
Reason:	<span style="background-color: yellow;">Routine</span>	Install	Removal
		Other:	
Start Time (MST)	10:40	End Time (MST)	12:55
Barometric Pressure	702.00 mm	Station Temperature	20.0 Deg C
Calibrator	Envionics	Serial Number	3016
Cal Gas Concentration	10.4 ppm	Cal Gas Expiry Date	July 03 2016
Gas Cert Reference	LL110781		
DACS make	CR3000	DACS serial No.	5409
DACS voltage range	0 - 5 volt	DACS channel #	9
	<u>Before</u>		<u>After</u>
DACS Scale High	100	DACS slope	100
DACS Scale Low	0	DACS intercept	0
Calculated slope	1.009362	Calculated slope	1.003588
Calculated intercept	0.090472	Calculated intercept	0.043219
Analyzer make	TEI Model 43i - APSCB	Analyzer serial #	701120010

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Back Ground	7.0	ppb	7.1	ppb
Coefficient	0.915		0.915	
Lamp Voltage	788	V	790	V
Chamber Temp	44.9	c	44.9	c
Perm Oven Temp	45	c	45	c
Pressure	592.40	mm Hg	588.10	mm Hg
Sample Flow	0.404	ccm	0.403	lpm
Lamp Intensity	91.0	%	91.0	%

## Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4995	0.00	0.0	0.3	N/A
4995	39.93	82.5	82.4	1.0010
4995	19.97	41.4	40.7	1.0165
8995	8.97	10.4	10.1	1.0225
				Sox Test
4995	0.00	0.0	0.3	As found zero
4995	39.93	82.5	82.4	As found span
<b>Average Correction Factor</b>				<b>1.0133</b>

Calculated value of As Found Response: 82.92 ppm Percent Change of As Found: -0.5%

	before calibration		after calibration	
Auto zero	0.5	ppm	0.4	ppm
Auto span	67.3	ppm	65.9	ppm

Notes:           No adjustments made.          

Calibration Performed By:           Grover Christiansen, Dmytro Dolotii.

# Calibration Summary

Parameter                   H2S                    
 Air Monitoring Network   PAZA  

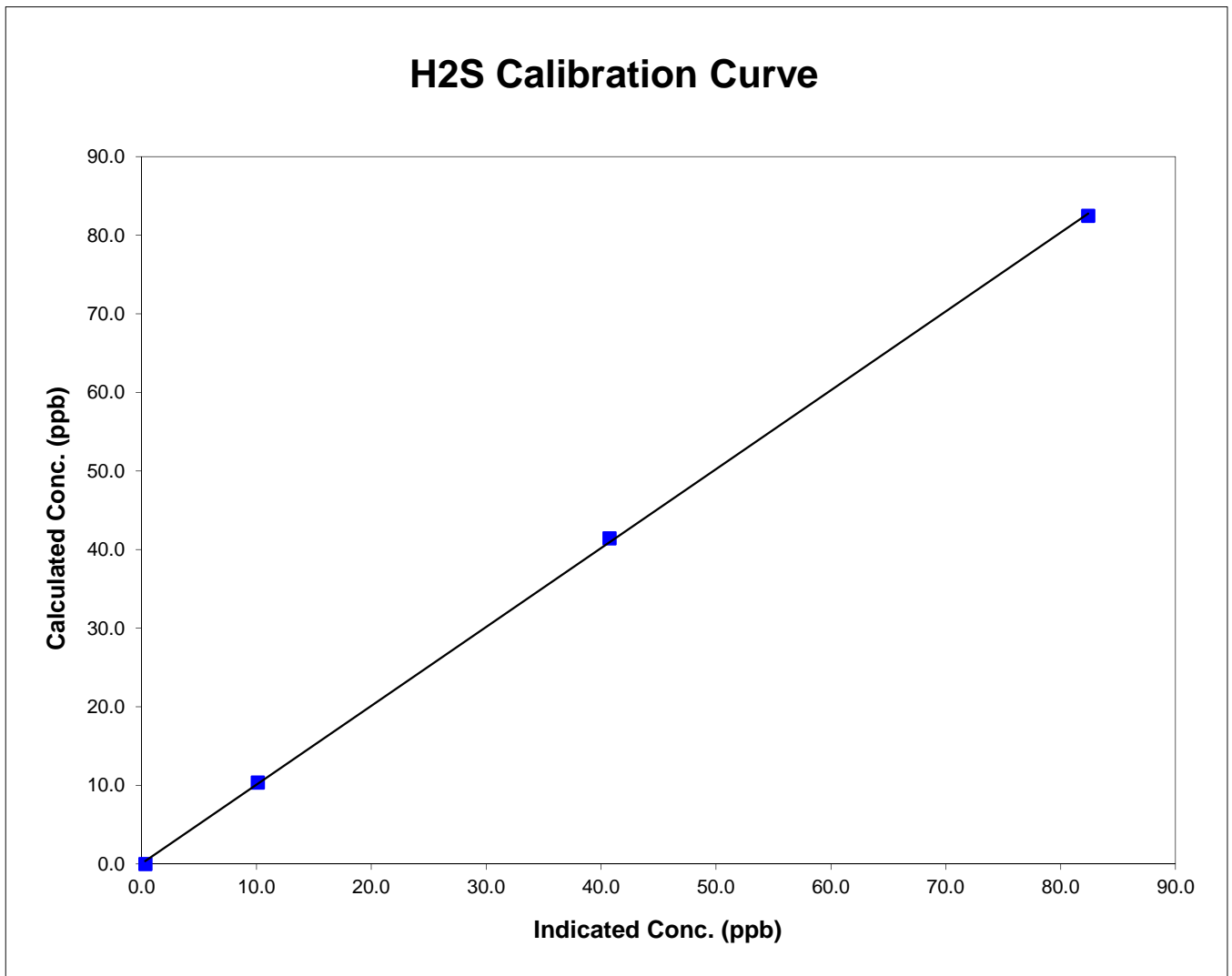


## Station Information

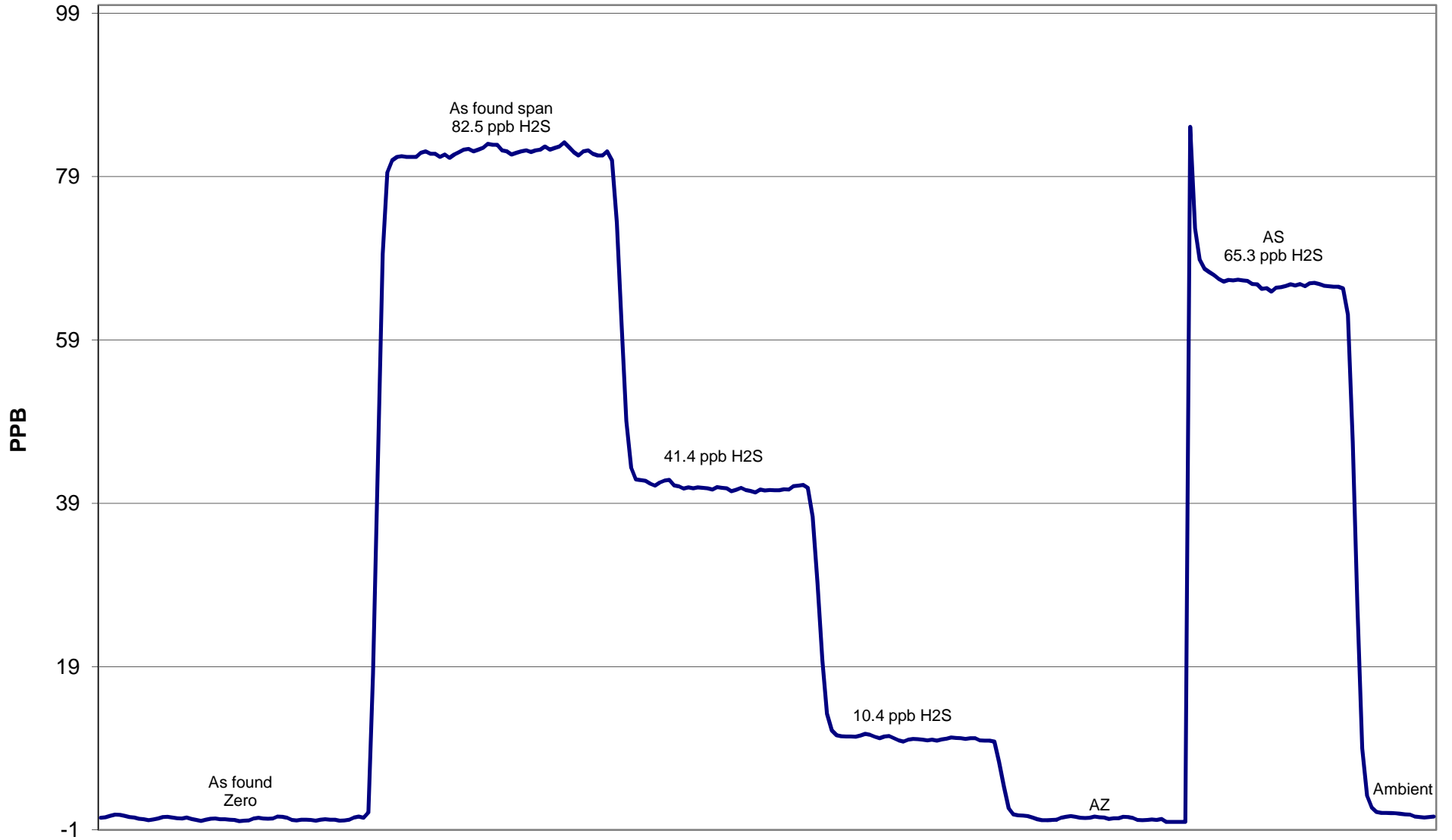
Calibration Date	<u>                  January 24 2014                  </u>	Previous Calibration	<u>                  December 16 2013                  </u>
Station Number	<u>                  6                  </u>	Station Location	<u>                  Valleyview                  </u>
Start Time (MST)	<u>                  10:40                  </u>	End Time (MST)	<u>                  12:55                  </u>
Analyzer make/model	<u>                  TEI Model 43i - APSCB                  </u>	Analyzer serial #	<u>                  701120010                  </u>

## Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.3	N/A	Correlation Coefficient	0.999888
82.5	82.4	1.0010		
41.4	40.7	1.0165		
10.4	10.1	1.0225		
			Slope	1.003588
			Intercept	0.043219



# H2S Calibration



January 24 2014

# Calibration Report

Parameter SO2  
Air Monitoring Network PAZA



## Station Information

Calibration Date	January 18, 2014	Previous Calibration	December 17, 2013
Station Number	10	Station Location	Reno
Reason:	<input checked="" type="checkbox"/> Routine	<input type="checkbox"/> Install	<input type="checkbox"/> Removal
		<input type="checkbox"/> Other:	
Start Time (MST)	14:05:00 PM	End Time (MST)	16:43
Barometric Pressure	0.921 Atm	Station Temperature	20.0 Deg C
Calibrator	EnviroNics 6100	Serial Number	3016
Cal Gas Concentration	51.5 ppm	Cal Gas Expiry Date	12/03/2014
Gas Cert Reference	LL105159		
DACS make	CR3000	DACS serial No.	5407
DACS voltage range	0 - 5 Volt	DACS channel #	2
	<u>Before</u>		<u>After</u>
DACS Scale High	500	DACS slope	500
DACS Scale Low	0	DACS intercept	0
Calculated slope	N/A	Calculated slope	0.996800
Calculated intercept	N/A	Calculated intercept	1.694263
Analyzer make	TEI 43C	Analyzer serial #	436610005

	before		after	
Concentration range	0-500	ppb	0-500	ppb
Background	17		22.7	
Coefficient	1.059		1.048	
UV Lamp Voltage	858	V	860	V
Chamber Temp	44.8	C	44.9	C
Perm Gas Temp	45.01	C	45.01	C
Pressure	666.6	mm Hg	663.4	mm Hg
Sample Flow	0.461	LPM	0.461	LPM
Lamp Intesity	30606	Hz	30752	Hz

## Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4995	0.00	0.0	-0.1	N/A
4995	39.93	408.4	408.8	0.9991
4995	19.97	205.1	203.4	1.0084
4995	9.97	102.6	99.5	1.0308
4995	0.00	0.0	-0.1	As found zero
4995	39.93	408.4	408.8	As found span
Average Correction Factor				1.0128

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

	before calibration		after calibration	
Auto zero	0.3	ppm	0.3	ppm
Auto span	259.1	ppm	243.0	ppm

Notes: Site analyzer was replaced with 43C, serial number 436610005. Set up cal was performed.

Calibration Performed By: Grover Christiansen, Dmytro Dolotii.

# Calibration Summary

Parameter SO2  
 Air Monitoring Network PAZA



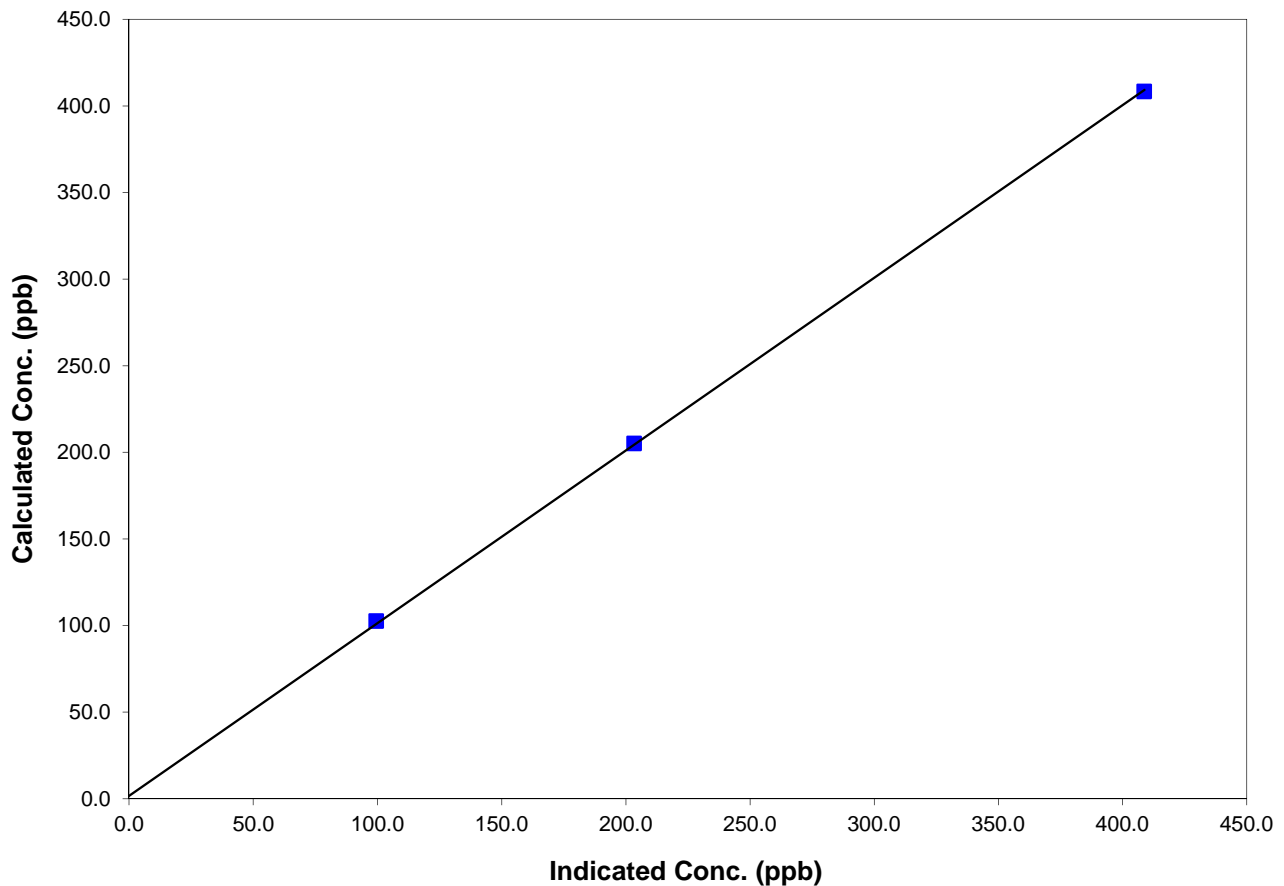
## Station Information

Calibration Date	January 18, 2014	Previous Calibration	December 17, 2013
Station Number	10	Station Location	Reno
Start Time (MST)	14:05:00 PM	End Time (MST)	16:43
Analyzer make/model	TEI 43C	Analyzer serial #	436610005

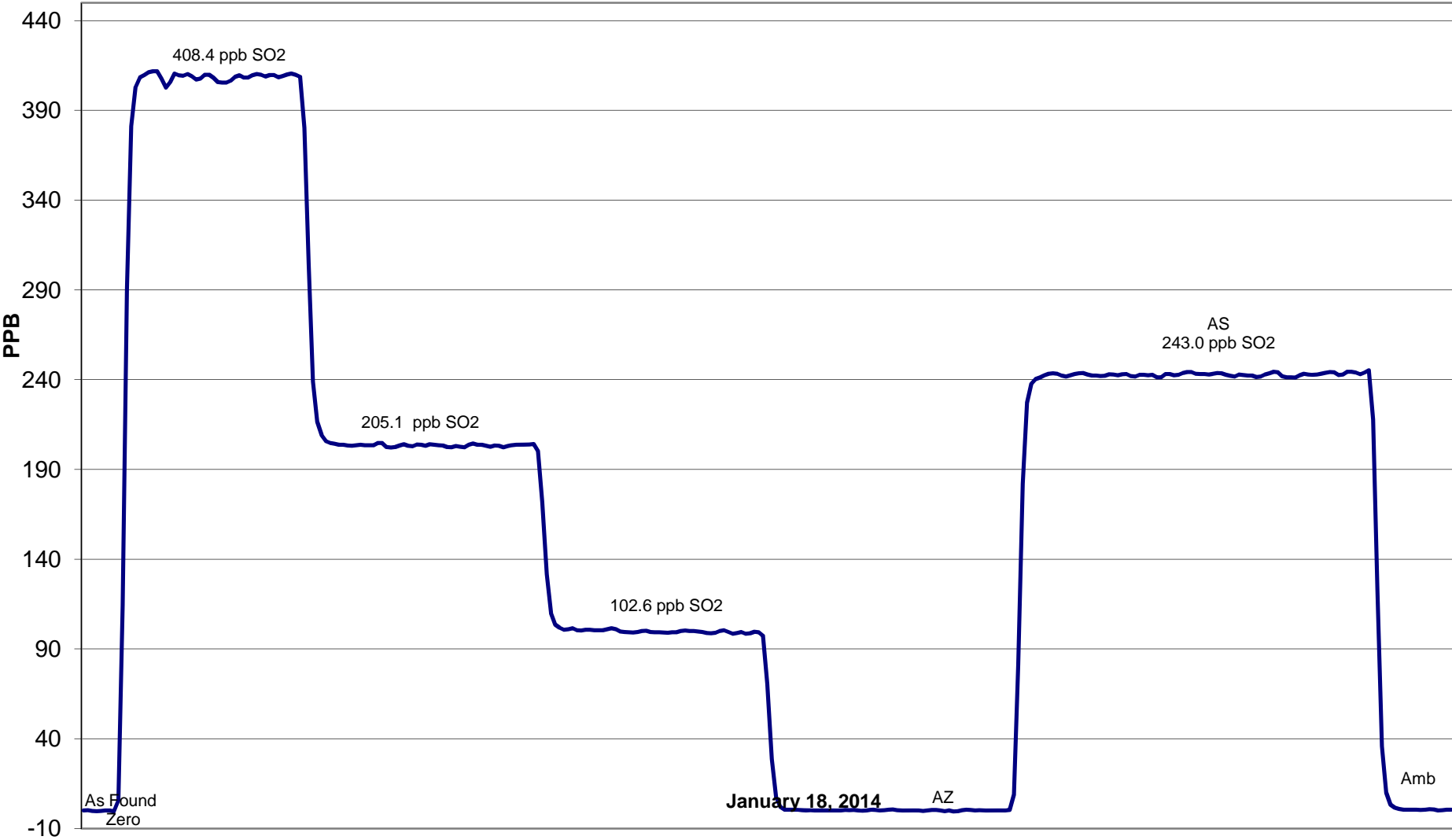
## Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.1	N/A		
408.4	408.8	0.9991	Correlation Coefficient	0.999929
205.1	203.4	1.0084		
102.6	99.5	1.0308	Slope	0.996800
			Intercept	1.694263

### SO2 Calibration Curve



# SO2 Calibration



# Calibration Report

Parameter

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

Air Monitoring Network

PAZA



## Station Information

Calibration Date	January 18, 2014	Previous Calibration	December 17, 2013
Station Number	10	Station Location	Reno
Reason:	<b>Routine</b>	Install	Removal
Other:			
Start Time (MST)	13:20:00 PM	End Time (MST)	18:36
Barometric Pressure	0.921 Atm	Station Temperature	20.0 Deg C
Calibrator	EnviroNics	Serial Number	3016
NO Cal Gas Conc	51.3 ppm	Cal Gas Expiry Date	March 12, 2014
NOx Cal Gas Conc	51.4 ppm	Cal Gas Serial #	LL105159

## DACS Information

DACS make	CR3000	DACS serial No.	5407	
Parameter		NO2	NOx	NO
Before	Data Slope	1.000715	0.996370	0.999014
	Data Offset	-0.102889	0.844014	0.958885
After	Data Slope	0.999870	0.996346	1.000382
	Data Offset	-0.082965	1.745717	1.568021
Channel #		5	3	4
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	5.7	mV	5.7	mV
NOx bkgnd	5.8	mV	5.8	mV
NO coefficient	1.129		1.134	
NOx coefficient	0.994		0.998	
NO2 conv temp	326.8	Deg C	324.5	Deg C
Cooler Temp	-2.9	Deg C	-2.7	Deg C
PMT Volt	-828.8	mV	-828.4	mV
R Cell Press	203.8	in Hg	204.4	in Hg
Sample Flow	0.687	ccm	0.696	ccm

NOTES: Slight span adjustment made.



# Calibration Report



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

## Station Information

Calibration Date: **January 18, 2014** Station Location: **Reno**

## 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	0.0	0.1	N/A	N/A	
1	4995	39.93	407.6	406.8	0.8	408.2	405.9	0.7	0.9987	1.0024	
2	4995	19.97	204.7	204.3	0.4	202.9	202.0	0.2	1.0086	1.0115	
3	4995	9.97	102.4	102.2	0.2	99.3	98.9	0.5	1.0315	1.0329	
AFZ	4995	0.00	0.0	0.0	0.0	-0.1	0.0	0.1	0.0000	0.0000	
AFS	4995	39.93	407.6	406.8	0.8	408.2	405.9	0.7	0.9987	1.0023	
									Average Correction Factor	1.0129	1.0156

As Found Concentrations: **NO<sub>x</sub>= 409.1** **NO= 406.9** As Found Percent Change **NO<sub>x</sub>= 0.4%** **NO= 0.0%**

## GPT Calibration Data

Dilution Flow 4995 ccm Source Gas Flow 39.93 ccm

O3 Setpoint (ppb)	Indicated NO high point (ppb)	Indicated NO drop conc (ppb)	Calculated NO2 conc (ppb)	Indicated NOx conc (ppb)	Indicated NO conc (ppb)	Indicated NO2 conc (ppb)	NOx Correction factor	NO Correction factor	NO2 Correction factor	Converter Efficiency	
0	0.0	0.0	0.0	-0.1	0.0	0.1	N/A	N/A	N/A	N/A	
NO point	406.0	406.0	0.0	407.5	406.0	-0.4	0.9962	1.0000	N/A	N/A	
300	406.0	100.4	305.6	407.3	100.4	305.5	0.9966	1.0000	1.0003	100.0%	
200	406.0	199.4	206.5	408.5	199.4	207.0	0.9937	1.0000	0.9976	100.2%	
100	406.0	299.1	106.9	407.9	299.1	106.8	0.9953	1.0000	1.0006	99.9%	
							Average Correction Factor	0.9952	1.0000	0.9995	100.1%

## AIC Data

Parameter	Previous calibration				Current calibration			
	NOx	NO2	NO		NOx	NO2	NO	
Auto zero	0.8	0.9	0.0	ppb	0.1	0.1	0.2	ppb
Auto span	166.3	164.3	1.4	ppb	180.8	178.3	1.7	ppb

Calibration Performed By: Grover Christiansen

# Calibration Summary

Parameter NO<sub>2</sub>

Air Monitoring Network PAZA



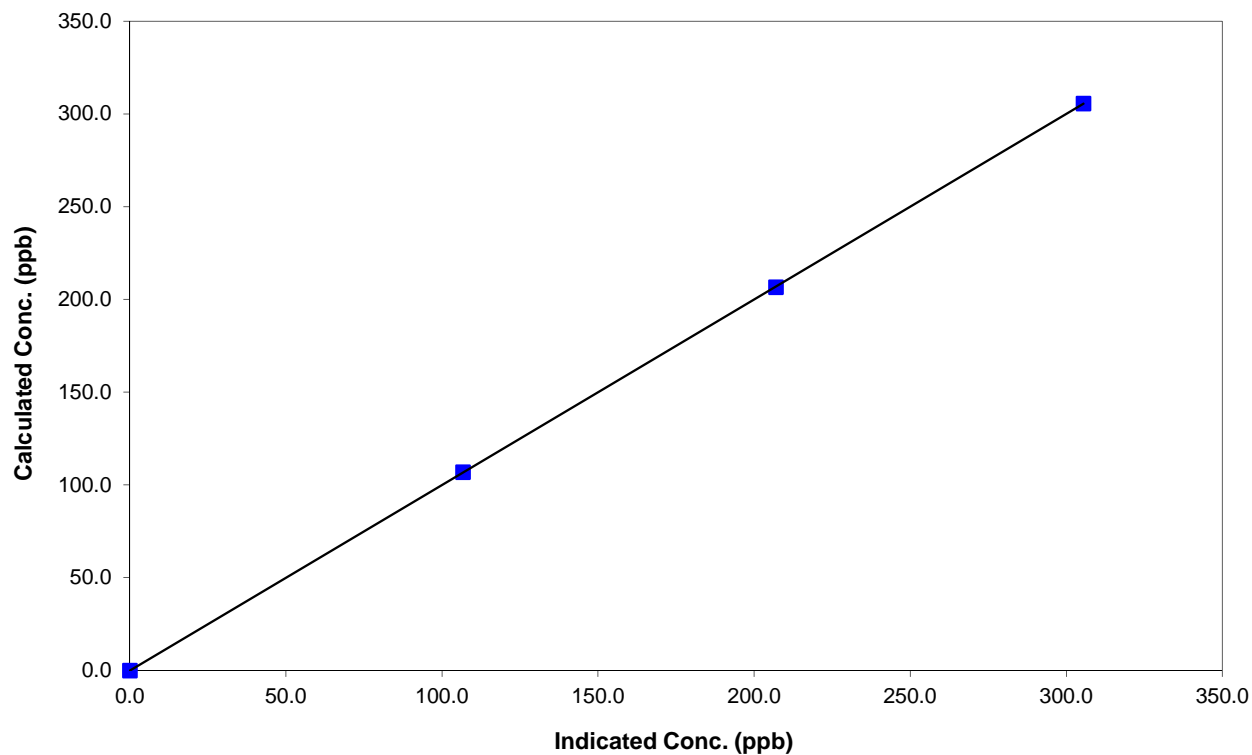
## Station Information

Calibration Date	January 18, 2014	Previous Calibration	December 17, 2013
Station Number	10	Station Location	Reno
Start Time (MST)	13:20:00 PM	End Time (MST)	18:36
Analyzer make	TEI 42i	Analyzer serial #	0701120011

## Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.1	N/A	Correlation Coefficient	0.999996
305.6	305.5	1.0003		
206.5	207.0	0.9976	Slope	0.999870
106.9	106.8	1.0006		
			Intercept	-0.082965

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



# Calibration Summary

Parameter NO<sub>x</sub>

Air Monitoring Network PAZA



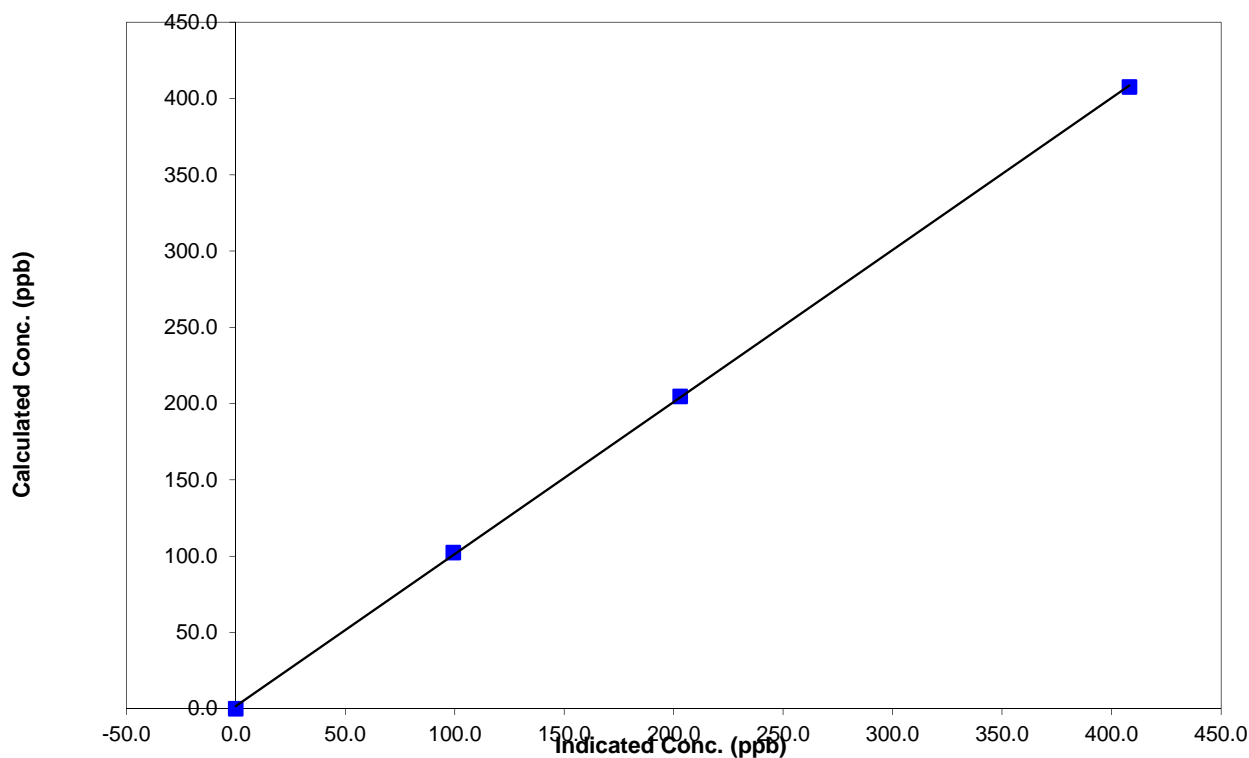
## Station Information

Calibration Date	January 18, 2014	Previous Calibration	December 17, 2013
Station Number	10	Station Location	Reno
Start Time (MST)	13:20:00 PM	End Time (MST)	18:36
Analyzer make	TEI 42i	Analyzer serial #	0701120011

## Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.1	N/A	Correlation Coefficient	0.999922
407.6	408.2	0.9987		
204.7	202.9	1.0086	Slope	0.996346
102.4	99.3	1.0315		
			Intercept	1.745717

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



# Calibration Summary

Parameter NO

Air Monitoring Network PAZA



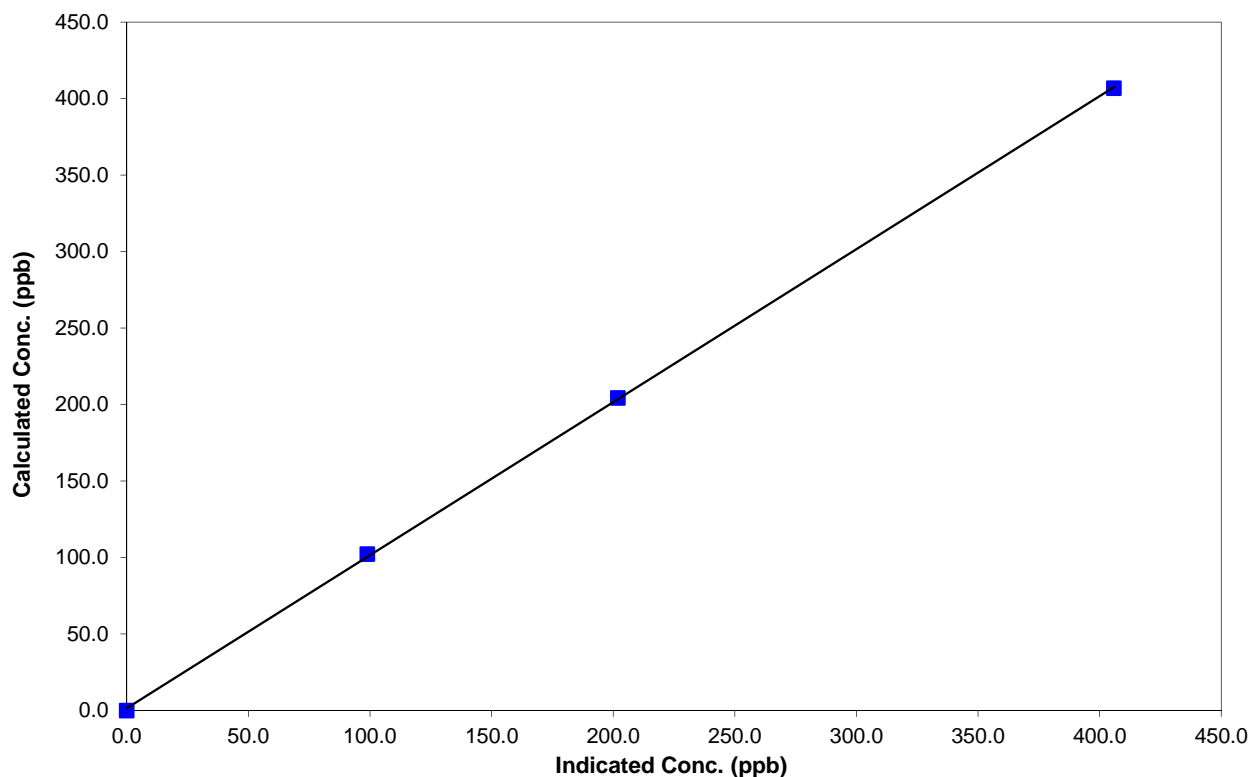
## Station Information

Calibration Date	January 18, 2014	Previous Calibration	December 17, 2013
Station Number	10	Station Location	Reno
Start Time (MST)	13:20:00 PM	End Time (MST)	18:36
Analyzer make	TEI 42i	Analyzer serial #	0701120011

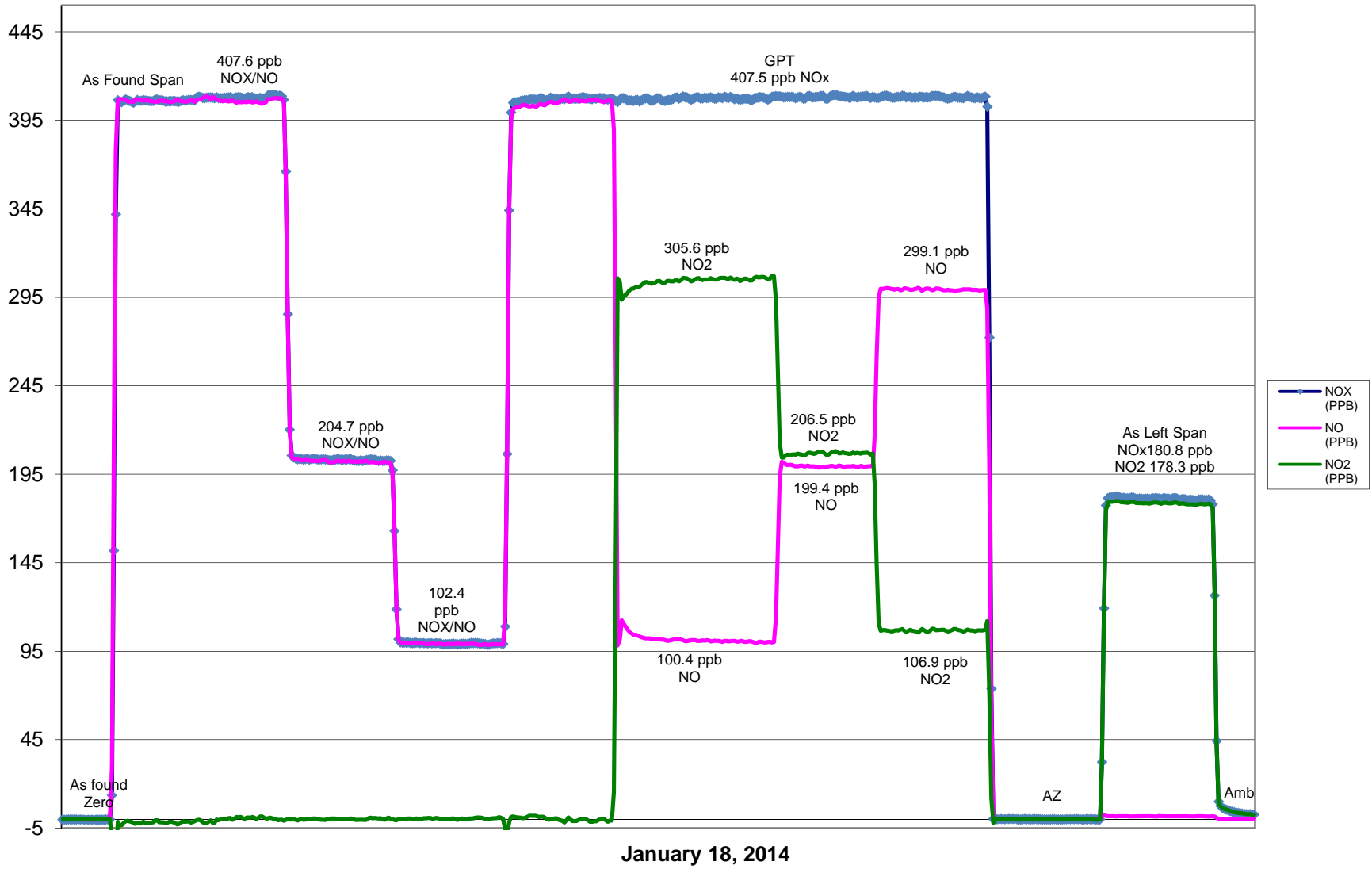
## Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.0	N/A	Correlation Coefficient	0.999931
406.8	405.9	1.0024		
204.3	202.0	1.0115	Slope	1.000382
102.2	98.9	1.0329		
			Intercept	1.568021

## NO Calibration Curve



# PAZA Reno NO<sub>x</sub> Calibration



# Calibration Report



Parameter 03  
Air Monitoring Network PAZA

## Station Information

Calibration Date	January 18 2014	Previous Calibration	December 17 2013
Station Number	10	Station Location	Reno
Reason:	<b>Routine</b>	<input type="checkbox"/> Install	<input type="checkbox"/> Removal remove
		<input type="checkbox"/> Other:	
Start Time (MST)	17:07:00 PM	End Time (MST)	18:50
Barometric Pressure	0.921 atm	Station Temperature	20.0 Deg C
Calibrator	Envionics 6100	Serial Number	3016
DACS make	CR3000	DACS serial No.	5407
DACS voltage range	0 - 5 Volts	DACS channel #	6
	Before		After
Calculated slope	1.004382	Calculated slope	1.011403
Calculated intercept	-0.143072	Calculated intercept	0.386067
Analyzer make	TEI Model 49C	Analyzer serial #	49C-0609716240

	before		after	
Concentration range	0-500	ppb	0-500	ppb
Offset	0	ppb	0	ppb
Span	0.988		0.988	
Cell A intensity	128632	Hz	124108	Hz
Cell B intensity	123778	Hz	119611	Hz
Pressure	662.50	in Hg	666.50	in Hg
Cell A Flow	0.700	ccm	0.700	ccm
Cell B Flow	0.698	cmm	0.699	cmm

## Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
5035	0.00	0.0	0.1	N/A
5035	0.30	305.6	302.3	1.0110
5035	0.20	206.5	203.4	1.0155
5035	0.10	106.9	104.7	1.0206
5035	0.00	0.0	0.1	As found zero
5035	0.30	305.6	302.3	As found span
Average Correction Factor				1.0157

Calculated value of As Found Response: 303.3 ppm Percent Change of As Found: -0.7%

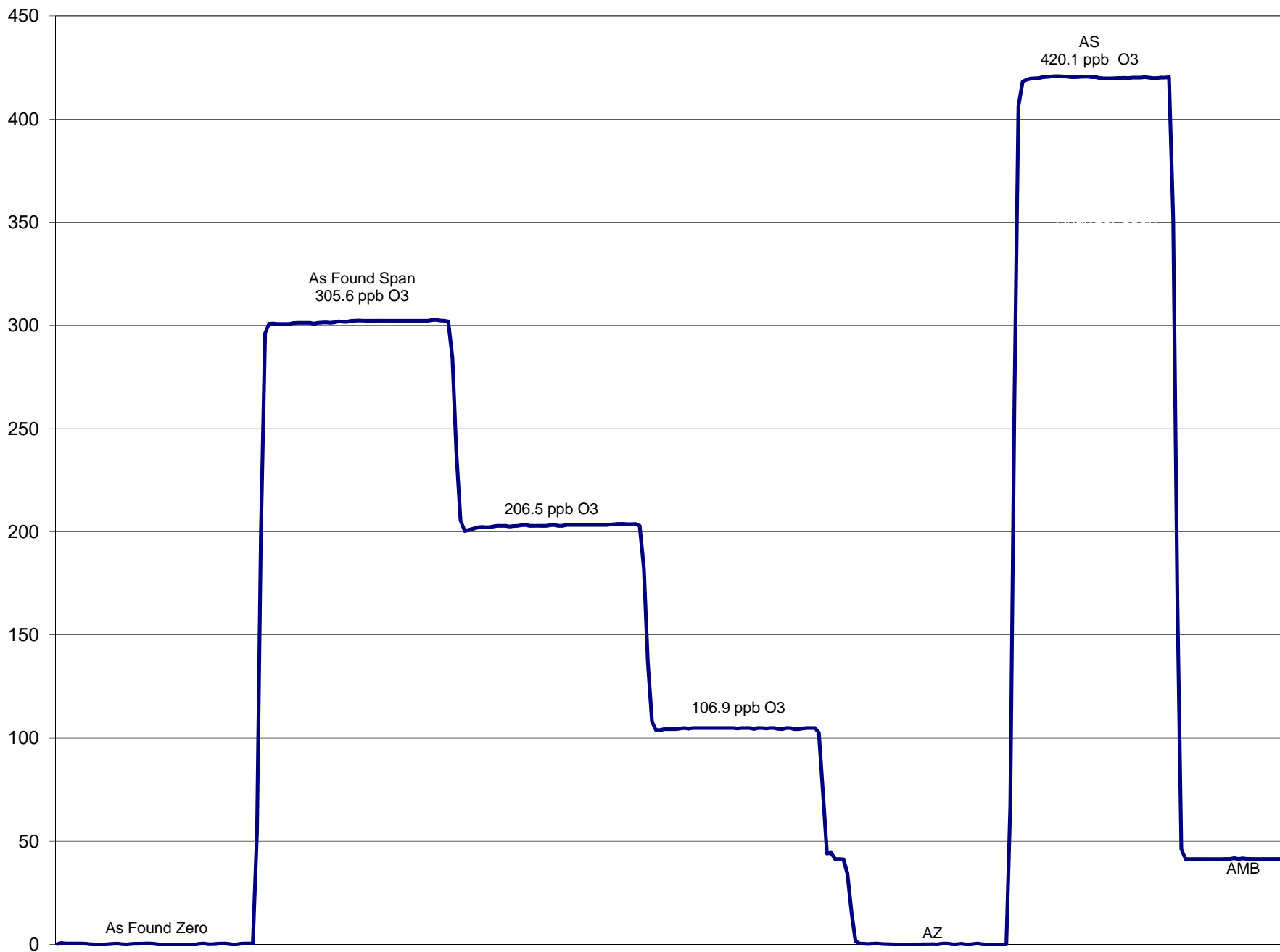
	before calibration		after calibration	
Auto zero	-0.1	ppb	0.5	ppb
Auto span	403.2	ppb	420.1	ppb

Notes: No adjustment made.  
After zero & span were taken from the next auto cal following calibration due to weather.

Calibration Performed By: Grover Christiansen, Dmytro Dolotii.



# O3 (PPB)



January 18 2014



# Calibration Report



Parameter THC  
 Air Monitoring Network PASZA

## Station Information

Calibration Date	January 19, 2014	Previous Calibration	December 17, 2013
Station Number	10	Station Location	Rover Reno
Reason:	<input type="checkbox"/> Routine	<input checked="" type="checkbox"/> Install	<input type="checkbox"/> Removal
			<input type="checkbox"/> Other:
Start Time (MST)	11:05	End Time (MST)	14:18
Barometric Pressure	0.923 ATM	Station Temperature	20.0 Deg C
Calibrator	EnviroNics 6100	Serial Number	3474
Cal Gas Concentration	404 ppm CH4/ 201 ppm C3H8	Cal Gas Expiry Date	28/03/2014
Cal Gas CH4 equiv	956.75 ppm	Cal Gas Cylinder #	LL34989
DACS make	CR3000	DACS serial No.	5407
DACS voltage range	0 - 1 volt	DACS channel #	12
	<u>Before</u>		<u>After</u>
Calculated slope	0.998819	Calculated slope	0.993065
Calculated intercept	0.051900	Calculated intercept	0.169902
Analyzer make	TEI Model 51C-LT	Analyzer serial #	51CLT-79009-390

	before		after	
Concentration range	0 - 25	ppm	0 - 25	ppm
THC sample pressure	6.50	psi	6.50	psi
THC span counts	2170	capture	2170	capture
THC zero counts	907	capture	907	capture

## Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
2996	0.00	0.00	-0.02	N/A
2996	69.93	21.82	21.85	0.9989
2996	29.96	9.47	9.31	1.0171
2996	9.97	3.17	2.88	1.1014
2996	0.00	0.00	-0.02	As Found Zero
2996	69.93	21.82	21.85	As Found Span
Average Correction Factor				1.0391

Calculated value of As Found Response: 21.888 ppm      Percent Change of As Found: -0.3%

	before calibration		after calibration	
Auto zero	0.10	ppm	0.09	ppm
Auto span	21.83	ppm	26.39	ppm

Notes: Daily span cylinder was depleted, replace cylinder with new. Remove spent cylinder for return to Praxai  
 No span adjust .  
 Spike noted on as found span was due to incorrect flow on calibrator that was corrected.

Calibration Performed By: Grover Christiansen

# Calibration Summary



Parameter THC  
 Air Monitoring Network PASZA

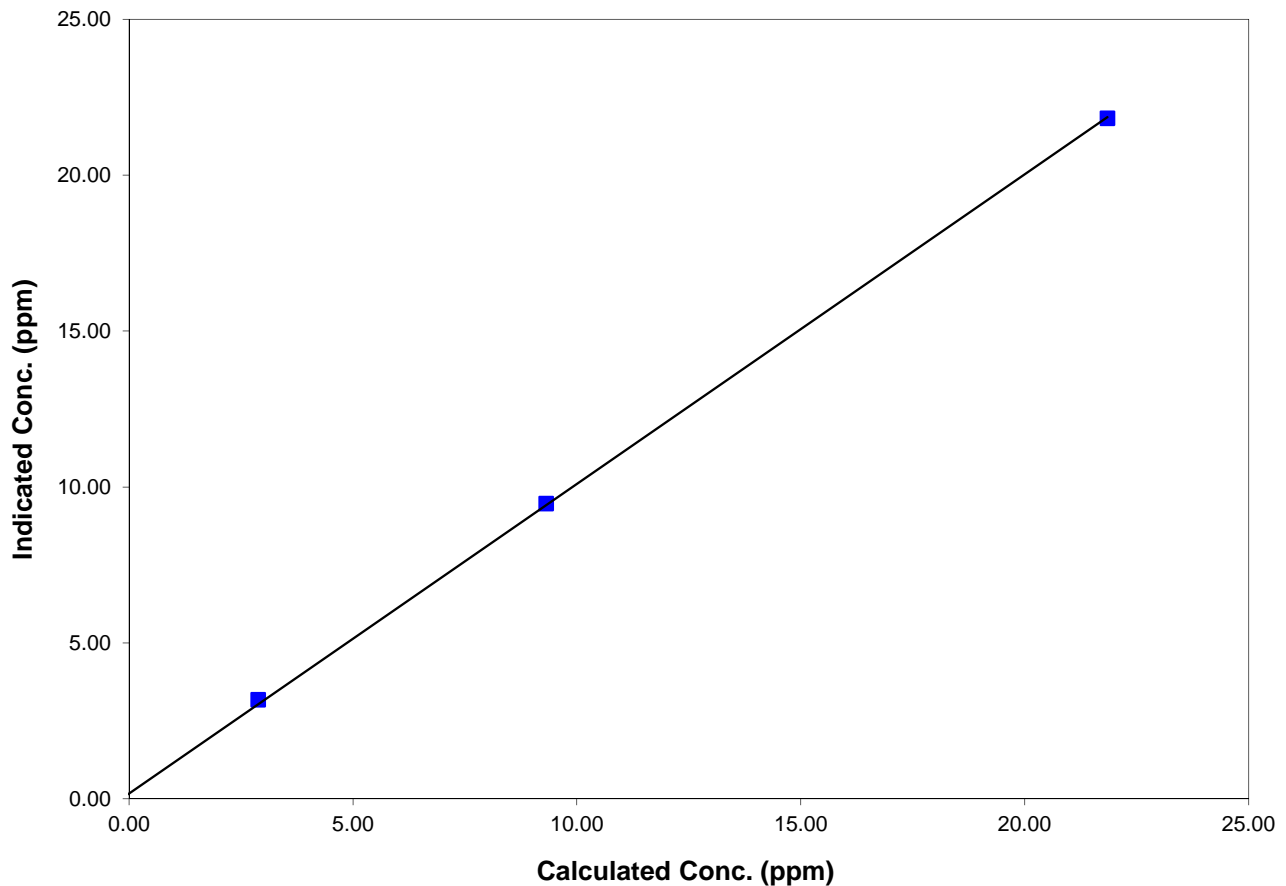
### Station Information

Calibration Date	January 19, 2014	Previous Calibration	December 17, 2013
Station Number	10	Station Location	Rover Reno
Start Time (MST)	11:05	End Time (MST)	14:18
Analyzer make/model	TEI Model 51C-LT	Analyzer serial #	51CLT-79009-390

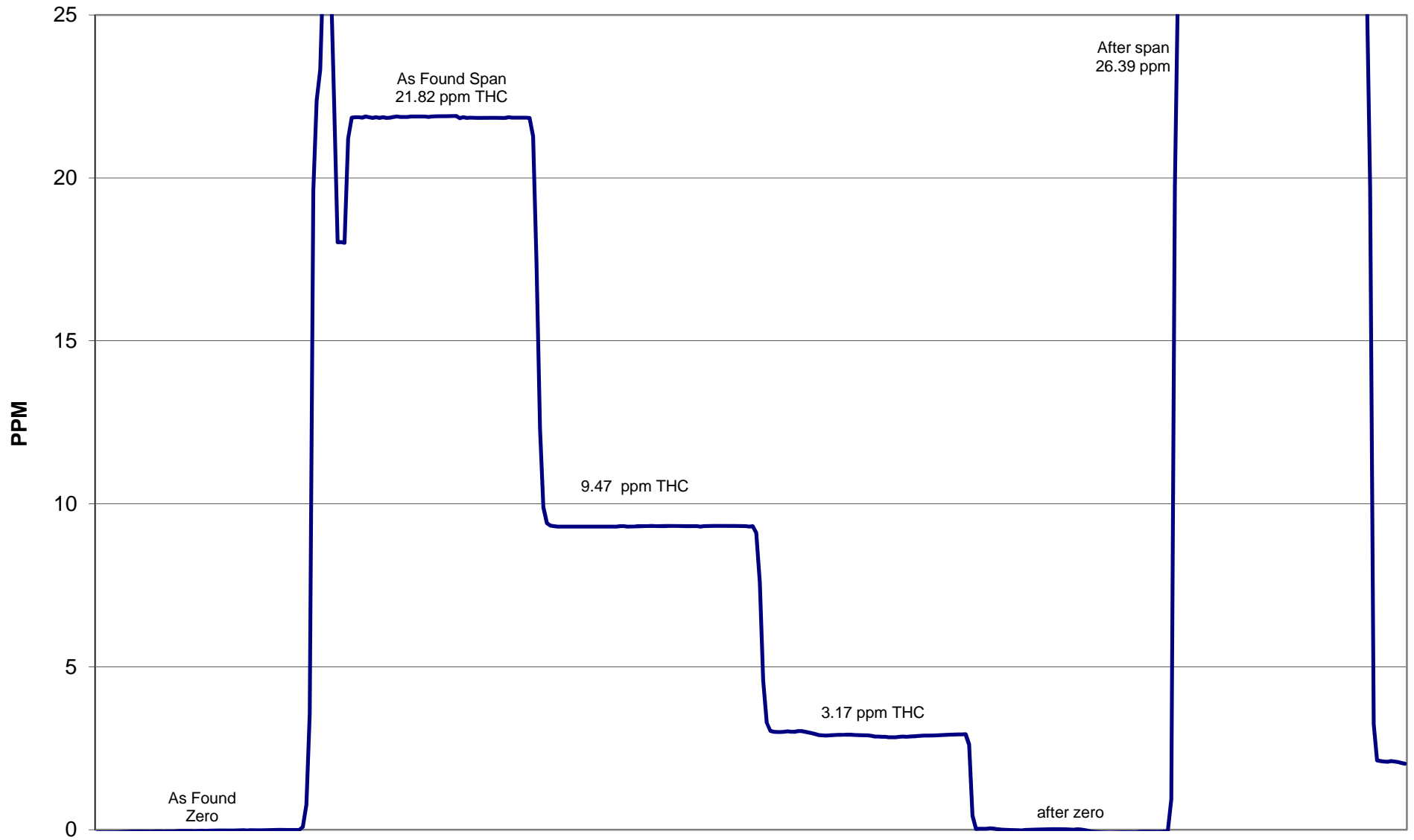
### Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	-0.016	N/A		
21.82	21.85	0.9989	Correlation Coefficient	0.999826
9.47	9.31	1.0171		
3.17	2.88	1.1014	Slope	0.993065
			Intercept	0.169902

## THC Calibration Curve



# THC Calibration



January 19, 2014

# Calibration Report

Parameter                                                                                                                                     TRS  
 Air Monitoring Network                                                                                                    PAZA



## Station Information

Calibration Date	January 19 2014	Previous Calibration	December 17 2013
Station Name	PAZA Rover	Station Location	Reno
Reason:	<input checked="" type="checkbox"/> Routine	<input type="checkbox"/> Install	<input type="checkbox"/> Removal
		<input type="checkbox"/> Other:	
Start Time (MST)	9:30 AM	End Time (MST)	12:33
Barometric Pressure	0.923 Atm	Station Temperature	20.0 Deg C
Calibrator	EnviroNics	Serial Number	3016
Cal Gas Concentration	10.44 ppm	Cal Gas Expiry Date	July/08/2016
Gas Cert Reference	LL110781		
DACS make	CR3000	DACS serial No.	5407
DACS voltage range	0 - 5 Volt	DACS channel #	1
	<u>Before</u>		<u>After</u>
DACS Scale High	100	DACS slope	100
DACS Scale Low	0	DACS intercept	0
Calculated slope	0.996792	Calculated slope	1.014208
Calculated intercept	-0.214409	Calculated intercept	0.282688
Analyzer make	TEI 43C	Analyzer serial #	609716238

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Background	15.7	ppb	16.3	ppb
Coefficient	1.015		1.015	
Lamp Voltage	779	V	778	V
Chamber Temp	44	C	44	C
Perm gas Temp	45	C	45	C
Pressure	654.3	mmHg	655.6	mmHg
Sample Flow	0.441	lpm	0.440	lpm
Lamp Intensity	39113	Hz	39683	Hz

## Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4995	0.0	0.0	0.2	N/A
4995	39.93	82.8	81.6	1.0141
4995	19.97	41.6	40.2	1.0346
8995	8.97	10.4	9.7	1.0686
4995	9.97	102.8	0.3	Sox Test
4995	0.00	0.0	0.2	As found zero
4995	39.93	82.8	81.6	As found span
Average Correction Factor				1.0391

Calculated value of As Found Response: 80.96 ppm      Percent Change of As Found: 2.2%

	before calibration		after calibration	
Auto zero	0.1	ppm	0.5	ppm
Auto span	65.4	ppm	63.4	ppm

Notes: Slight zero adjust, no span adjust.

Sox test showed no reaction.

Calibration Performed By: Grover Christiansen

# Calibration Summary



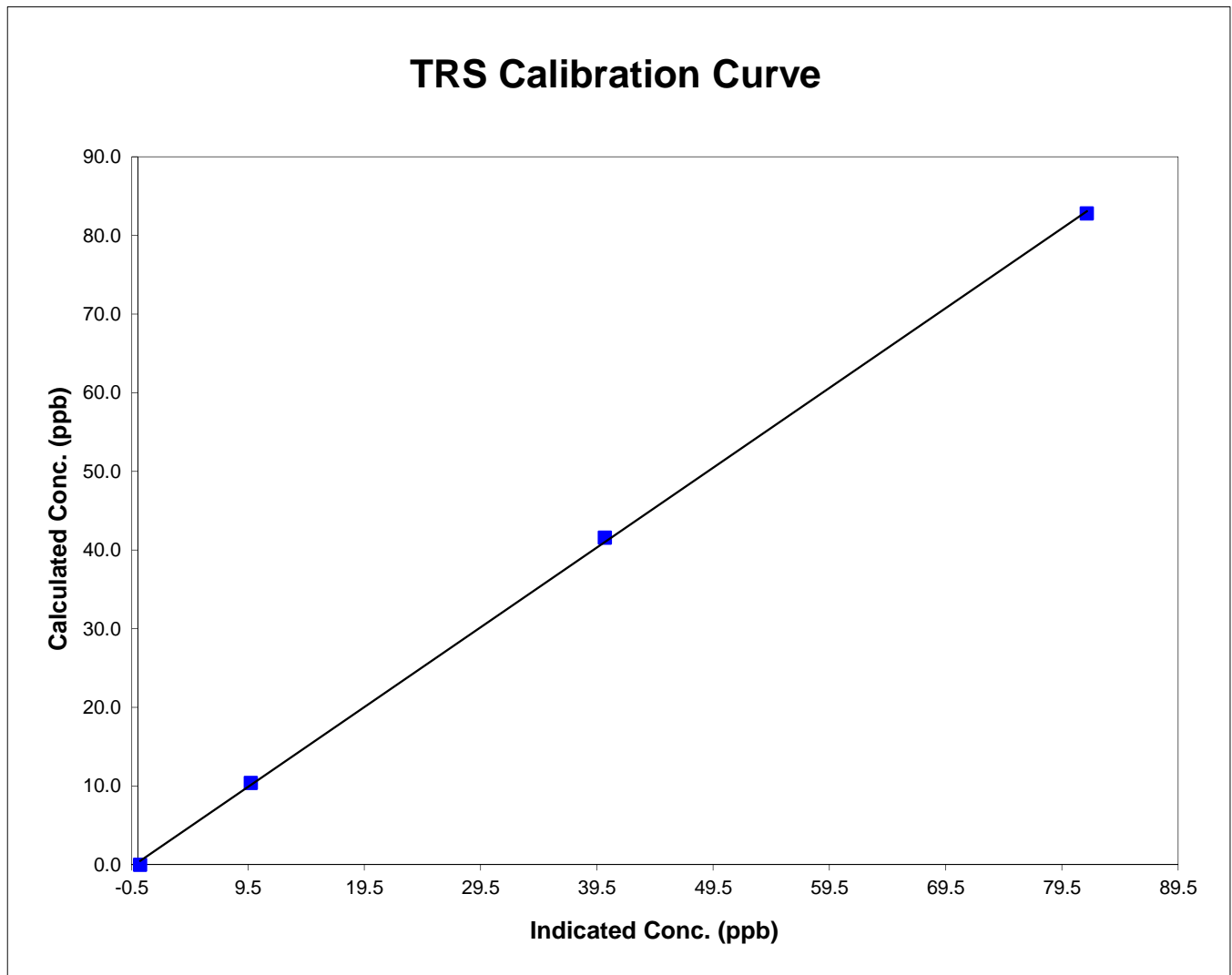
Parameter TRS  
 Air Monitoring Network PAZA

### Station Information

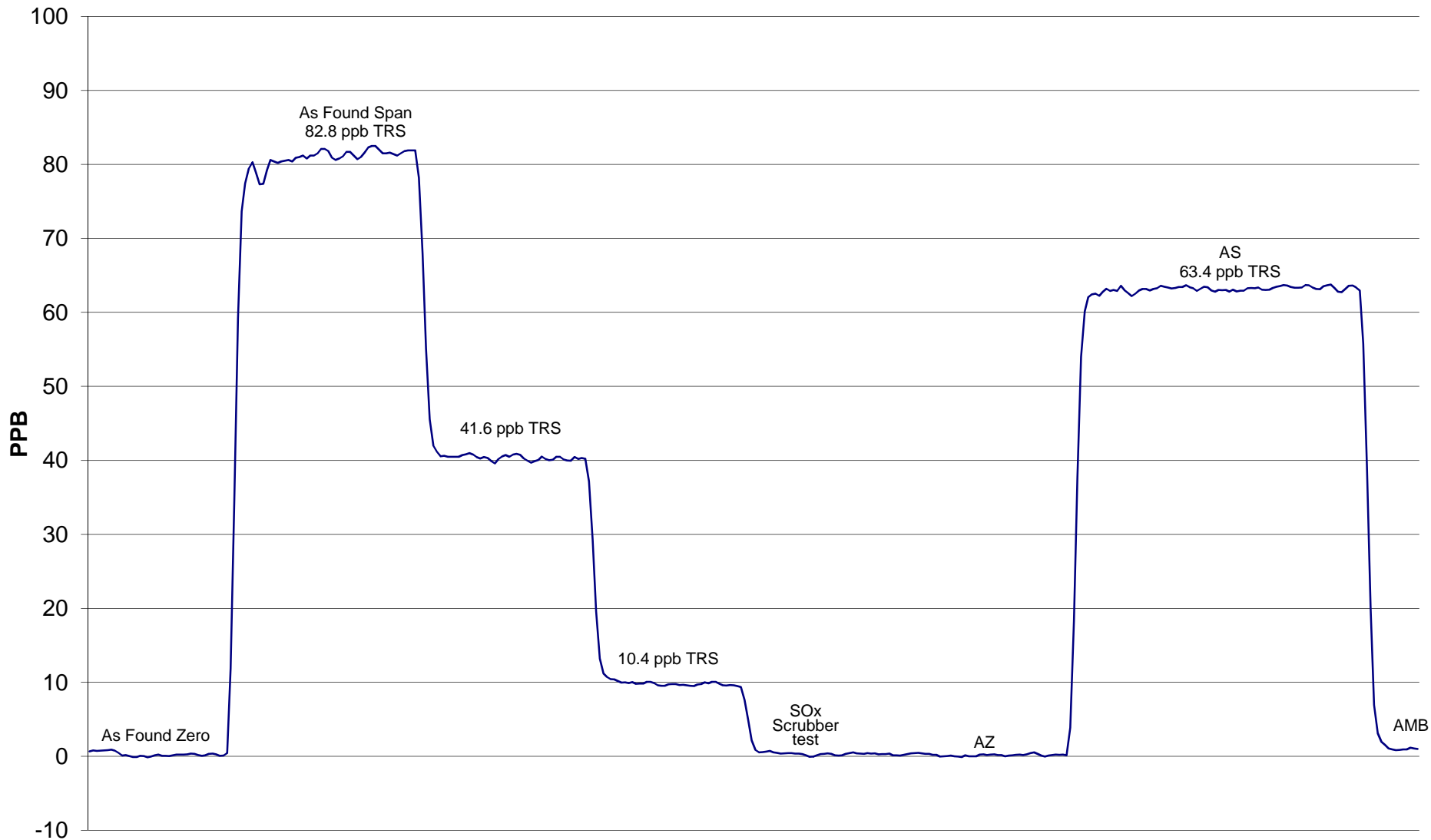
Calibration Date	January 19 2014	Previous Calibration	December 17 2013
Station Number	PAZA Rover	Station Location	Reno
Start Time (MST)	9:30	End Time (MST)	12:33
Analyzer make/model	TEI 43C	Analyzer serial #	609716238

### Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.2	N/A		
82.8	81.6	1.0141	Correlation Coefficient	0.999838
41.6	40.2	1.0346		
10.4	9.7	1.0686	Slope	1.014208
			Intercept	0.282688



# TRS Calibration



January 19 2014

# Calibration Report



Parameter SO<sub>2</sub>

Air Monitoring Network PAZA

## Station Information

Calibration Date	January 18, 2014	Previous Calibration	December 18, 2013
Station Number	1	Station Location	Falher
Reason:	<input checked="" type="checkbox"/> Routine	<input type="checkbox"/> Install	<input type="checkbox"/> Removal
			<input type="checkbox"/> Other:
Start Time (MST)	9:58	End Time (MST)	12:38
Barometric Pressure	0.931 ATM	Station Temperature	20.0 Deg C
Calibrator	EnviroNics	Serial Number	3474
Cal Gas Concentration	51.5 ppm	Cal Gas Expiry Date	25/02/2025
Correction factor	0.031647	Cal Gas Cylinder #	LL105159
DACS make	CR1000	DACS serial No.	3980
DACS voltage range	0 - 5 volt	DACS channel #	6
	<u>Before</u>		<u>After</u>
Calculated slope	1.005233	Calculated slope	0.990452
Calculated intercept	0.171164	Calculated intercept	0.976903
Analyzer make	Teco 43i	Analyzer serial #	1207452008

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
Background	7.2		7.2	
coefficient	0.888		0.905	
Lamp Voltage	857	volts	862	volts
Chamber Temp	44.9	Deg C	45.3	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	674.3	mm Hg	674.9	mm Hg
Sample Flow	0.413	ccm	0.413	ccm
Lamp Intensity	97	%	97	%

Dilution air flow rate (cc/min)	Corrected gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4995	0.0	0.00	0.2	N/A
4995	39.93	408.4	411.8	0.9919
4995	19.96	205.0	205.9	0.9957
4995	9.97	102.6	101.2	1.0142
4995	0.0	0.0	0.2	As Found Zero
4995	39.93	408.4	403.0	As Found Span
Average Correction Factor				1.0006

Calculated value of As Found Response: 405.095 ppm      Percent Change of As Found: **0.8%**

	before calibration		after calibration	
Auto zero	0.5	ppm	0.2	ppm
Auto span	359.4	ppm	357.5	ppm

Notes: Slight span adjust

Calibration Performed By: Grover Christiansen, Dmytro Dolotii

# Calibration Summary



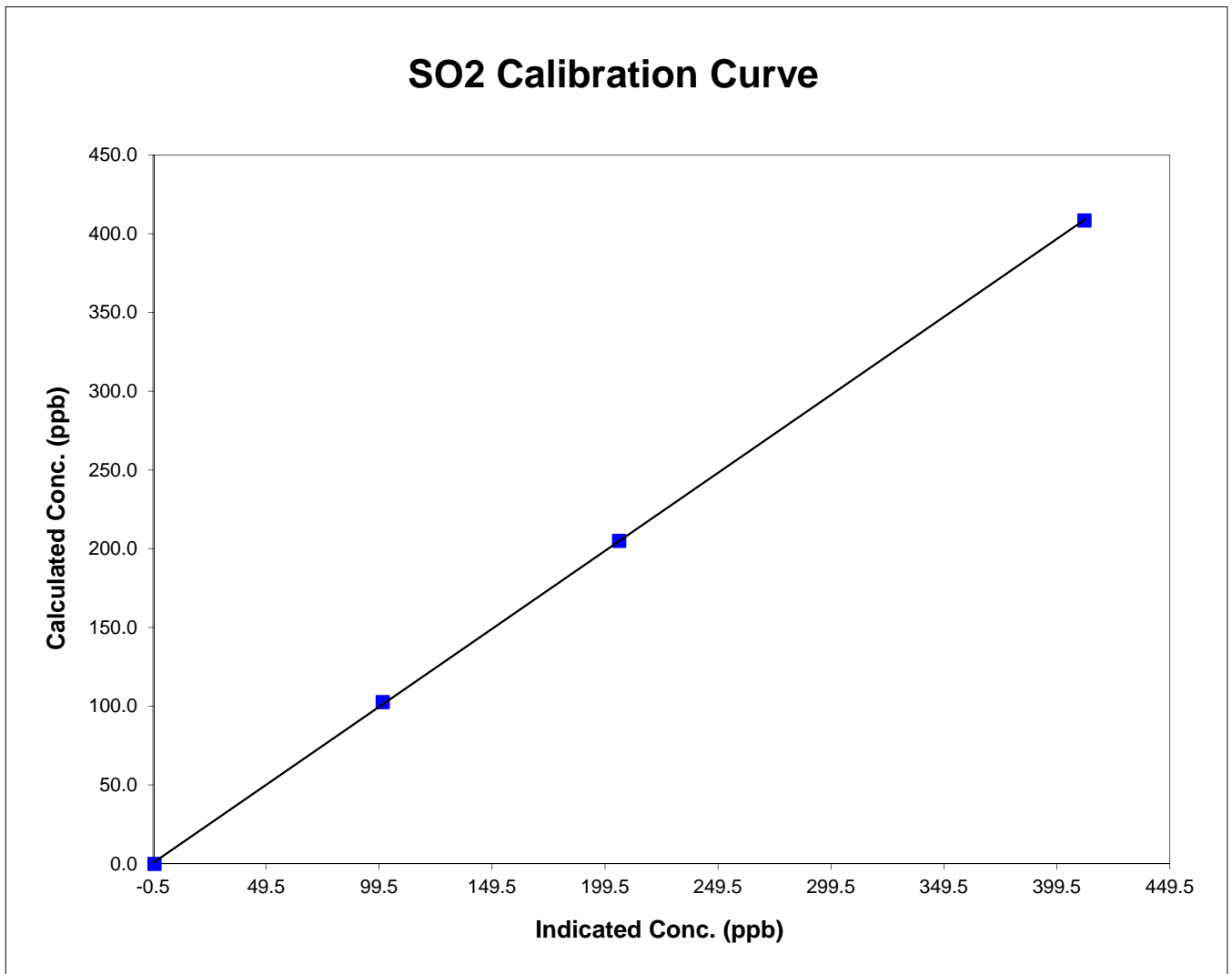
Parameter SO2  
 Air Monitoring Network PAZA

### Station Information

Calibration Date	January 18, 2014	Previous Calibration	December 18, 2013
Station Number	1	Station Location	Falher
Start Time (MST)	9:58	End Time (MST)	12:38
Analyzer make/model	Teco 43i	Analyzer serial #	1207452008

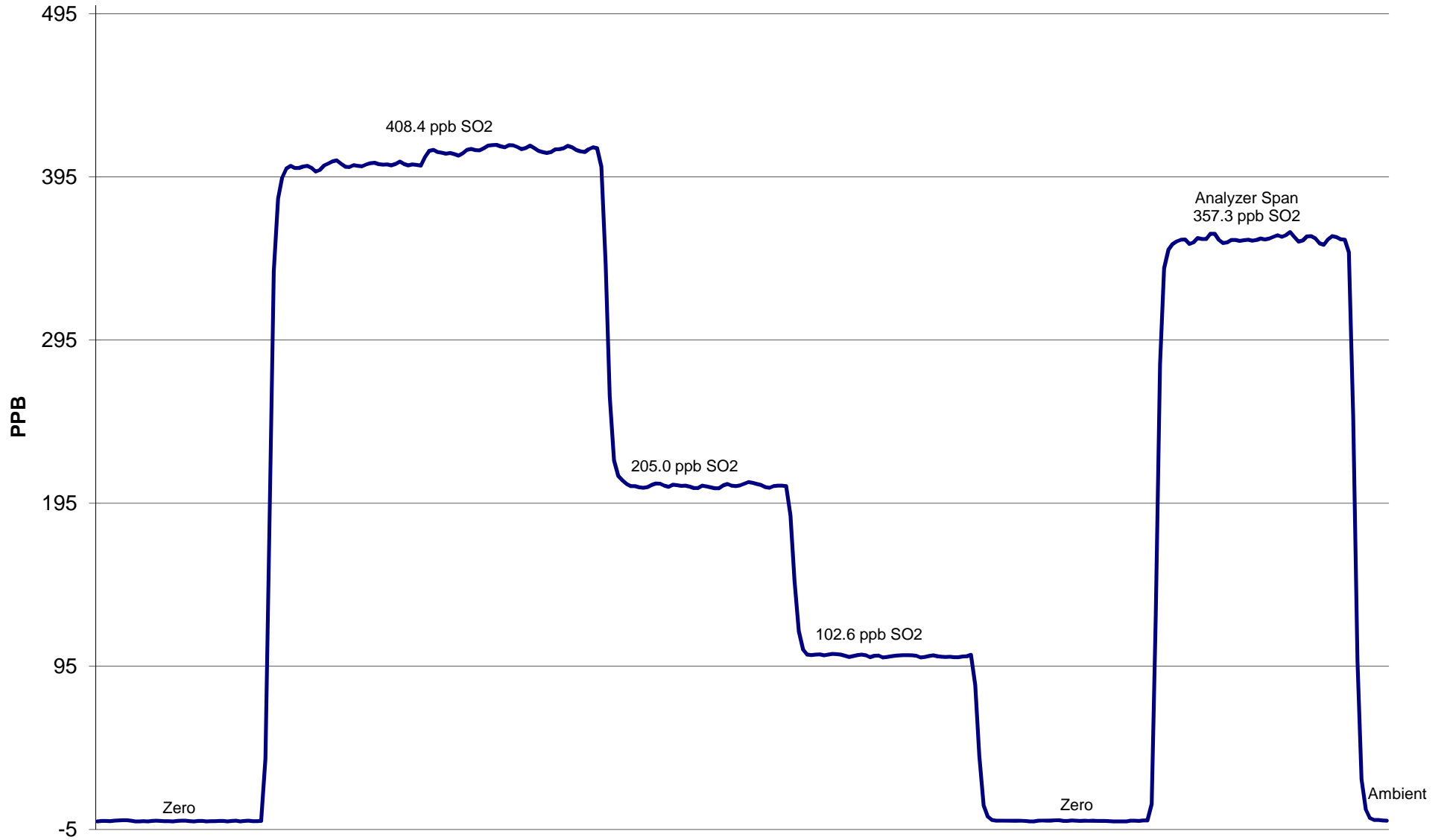
### Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.2	N/A		
408.4	411.8	0.9919	Correlation Coefficient	0.999962
205.0	205.9	0.9957		
102.6	101.2	1.0142	Slope	0.990452
			Intercept	0.976903





# SO2 Calibration



January 18, 2014

# Calibration Report



Parameter H2S  
 Air Monitoring Network PAZA

### Station Information

Calibration Date	January 18, 2014	Previous Calibration	December 18, 2013
Station Number	1	Station Location	Falher
Reason:	<input checked="" type="checkbox"/> Routine	<input type="checkbox"/> Install	<input type="checkbox"/> Removal
		<input type="checkbox"/> Other:	
Start Time (MST)	8:10	End Time (MST)	10:46
Barometric Pressure	0.931 ATM	Station Temperature	20.0 Deg C
Calibrator	EnviroNics	Serial Number	3016
Cal Gas Conc	10.4 ppm	Cal Gas Expiry Date	08/07/2016
Correction factor	0.031647	Cal Gas Cylinder #	LL110781
DACS make	CR1000	DACS serial No.	3980
DACS voltage range	0 - 5 volt	DACS channel #	5
	<u>Before</u>		<u>After</u>
Calculated slope	0.965526	Calculated slope	0.976893
Calculated intercept	-0.322158	Calculated intercept	-0.222548
Analyzer make	Thermo 450i	Analyzer serial #	1207452006

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Background	13.5	ppb	13.5	ppb
coefficient	1.169		1.169	
Lamp Voltage	805	volts	804	volts
Chamber Temp	45.2	Deg C	45	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	565.2	mm Hg	564.9	mm Hg
Sample Flow	0.911	ccm	0.913	ccm
Lamp Intensity	90	mv	90	mv

### Calibration Data

Dilution air flow rate (cc/min)	Corrected gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4995	0.00	0.00	0.4	N/A
4995	39.93	82.48	84.9	0.9718
4995	19.96	41.39	42.2	0.9818
8994	8.97	10.36	10.8	0.9557
4995	0.00	0.00	0.4	As Found Zero
4995	39.93	82.48	84.9	As Found Span
Average Correction Factor				0.9698

Calculated value of As Found Response: 81.20 ppm      Percent Change of As Found: 1.6%

	before calibration		after calibration	
Auto zero	0.0	ppm	0.0	ppm
Auto span	51.2	ppm	55.3	ppm

Notes: No adjustment made.

Calibration Performed By: Grover Christiansen, Dmytro Dolotii

# Calibration Summary



Parameter                     H2S                      
 Air Monitoring Network   PAZA  

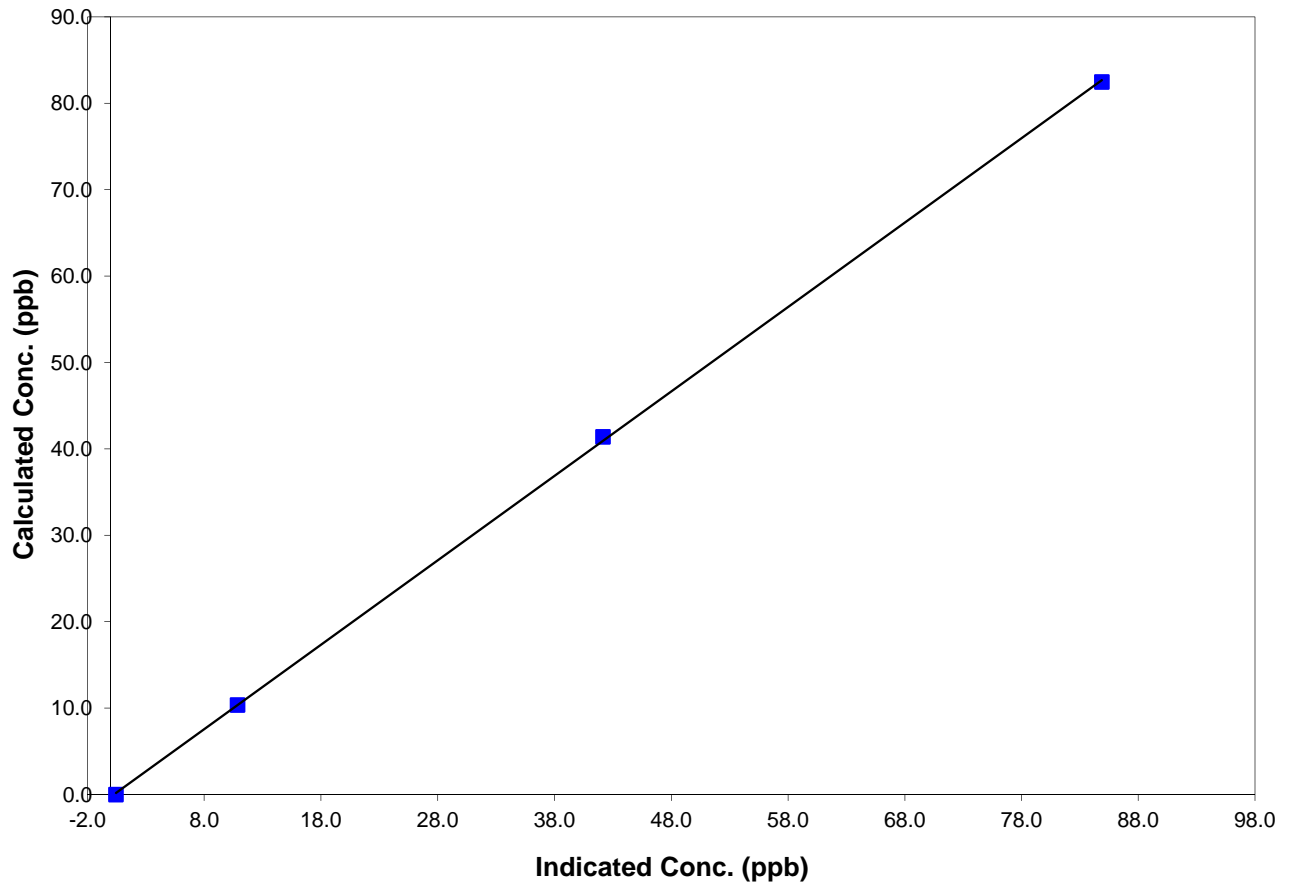
## Station Information

Calibration Date	<u>                    January 18, 2014                    </u>	Previous Calibration	<u>                    December 18, 2013                    </u>
Station Number	<u>                    1                    </u>	Station Location	<u>                    Falher                    </u>
Start Time (MST)	<u>                    8:10                    </u>	End Time (MST)	<u>                    10:46                    </u>
Analyzer make/model	<u>                    Thermo 450i                    </u>	Analyzer serial #	<u>                    1207452006                    </u>

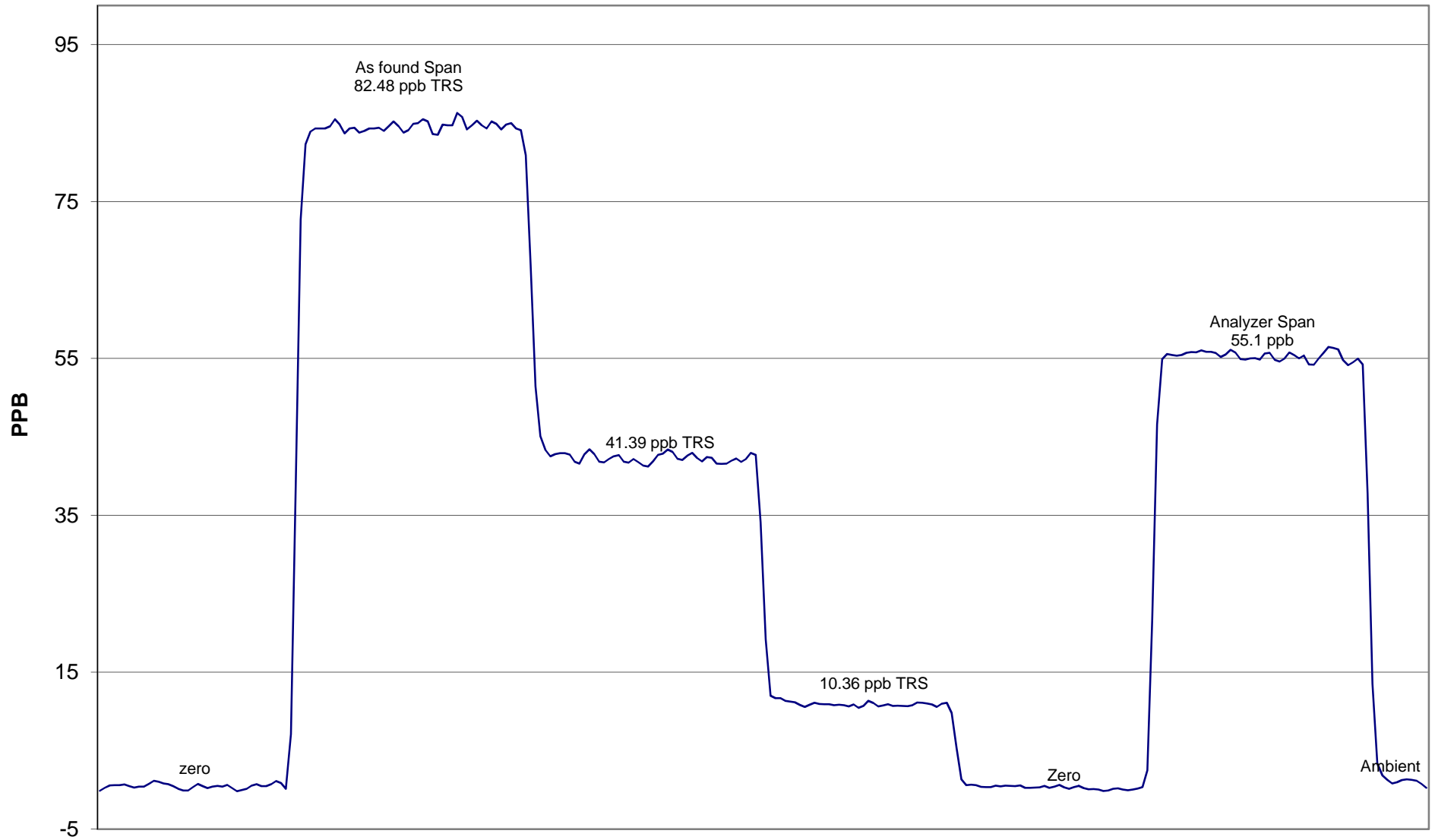
## Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.4	N/A	Correlation Coefficient	0.999933
82.5	84.9	0.9718		
41.4	42.2	0.9818		
10.4	10.8	0.9557		
			Slope	0.976893
			Intercept	-0.222548

### TRS Calibration Curve



## H2S Calibration



January 18, 2014