



# Palliser Airshed Society

## Ambient Air Monitoring Network Summary

January 2008

Prepared By:



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February 19, 2008

**Alberta Environment**  
12th Floor, Oxbridge Place  
9820-106 Street  
Edmonton Alberta T6B 2X3

**Attention: Director of Monitoring and Evaluation**

**RE: Palliser Airshed Society (PAS) Ambient Air Monitoring Report – January 2008**

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Enclosed is the PAS Ambient Monitoring Report for the month of **January 2008**.

**Continuous Monitoring – Crescent Heights and Portable-Brooks**

Included in this report are; monthly sampling table, detailed hourly average reports and multipoint calibration reports of all instruments.

**Crescent Heights:**

- ◆ All analyzers and instruments at the Crescent Heights Station were greater than 90% operational for for the month of January
- ◆ The measured ambient air quality was within the Provincial and Federal guidelines with no exceedences recorded at the Crescent Heights Station
- ◆ The following is a summary of the monthly averages recorded during sampling:
  - Monthly average concentrations of NO<sub>2</sub> was 9.4 ppb
  - Monthly average concentrations for O<sub>3</sub> was 22.2 ppb
  - Monthly average concentrations for CO was 0.20 ppm
  - Monthly average concentrations for THC was 2.12 ppm
  - Monthly average concentrations for PM<sub>2.5</sub> was 2.2 µg/m<sup>3</sup>
- ◆ The Air Quality Index (AQI) recorded 705 hours of Good readings for the month of January.

**Portable-Brooks:**

- ◆ All pollutant analyzers at the Portable Brooks Station were 100% operational for the month of January, however the wind sensors were less than 90% operational. **Alberta Environment reference # 197728...**
- ◆ There was one exceedences of the Alberta Objective (10 ppb) for H<sub>2</sub>S in January:
  1. Janaury 9<sup>th</sup> (7:00-8:00): H<sub>2</sub>S 14.8 ppb: **Alberta Environment reference # 196889.**
- ◆ The following is a summary of the monthly averages recorded during sampling:
  - Monthly average concentrations of SO<sub>2</sub> was 0.5 ppb
  - Monthly average concentrations for H<sub>2</sub>S was 0.2 ppb
  - Monthly average concentrations for O<sub>3</sub> was 21.8 ppb



### Passive Monitoring – Twenty Sites throughout the PAS zone:

The passive sample analyses were performed by MAXXAM Analytics Inc. There are no results for Site 1 as the samples were not collected due to road closure. There are no results for Site 14 as passive shelter and samples were removed from operation by a disgruntled land owner, the site was relocated at the end of January. The following are the ranges for January 2008 recorded by the twenty passive stations located throughout the PAS zone.

- ◆ Average concentrations for SO<sub>2</sub> passives ranged from 0.3 to 0.7 ppb with a mean of 0.5 ppb.
- ◆ Average concentrations for NO<sub>2</sub> passives ranged from 0.4 to 5.7 ppb with a mean of 2.3 ppb.
- ◆ Average concentrations for O<sub>3</sub> passives ranged from 24.5 to 45.5 ppb with a mean of 32.8 ppb.

If you have any questions, please contact the Focus office at 1-888-466-6555 or 1-888-869-2252.

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AQM Environmental Engineer



# Continuous Monitoring

## Ambient Air Monitoring Network

### Crescent Heights Station

#### General Station Issues

Routine monthly calibrations were performed on January 29<sup>th</sup> (NO<sub>x</sub> and THC), and January 30<sup>th</sup> (O<sub>3</sub> and CO).

Parameter	Make	Model	Units	Notes
Ozone	TECO	43I	ppb	No operational problems observed.
Nitrogen Dioxide	Teledyne - API	200E	ppb	No operational problems observed.
Total Hydrocarbons	Bendix	400A	ppm	No operational problems observed.
Carbon Monoxide	TEI	49C	ppm	No operational problems observed.
PM <sub>2.5</sub>	R&P TEOM	1400ab	µg/m <sup>3</sup>	Six (6) hours were flagged for excessive baseline drift. No other operational problems observed.
Wind Speed	Met One	010C	kph	No operational problems observed.
Wind Direction	Met One	020C	Deg	No operational problems observed.
Ambient Temperature	Met One	083D	DegC	No operational problems observed.
Relative Humidity	Met One	083D	%	No operational problems observed.
Solar Radiation	Met One	096-1	W/m <sup>2</sup>	No operational problems observed.
Data Acquisition System	Titan Logix	AP1000		No operational problems observed.



# Continuous Monitoring

## Ambient Air Monitoring Network

### Portable-Brooks Station

#### General Station Issues

Routine monthly calibrations were performed on January 17<sup>th</sup> (O<sub>3</sub>, SO<sub>2</sub> and H<sub>2</sub>S).

Parameter	Make	Model	Units	Notes
Ozone	Teledyne - API	400E	ppb	No operational problems observed.
Sulphur Dioxide	TEI	43A	ppb	No operational problems observed.
Hydrogen Sulphide	TEI	43A	ppb	There was one exceedences of the Alberta Objective (10 ppb) for H <sub>2</sub> S: January 9 <sup>th</sup> H <sub>2</sub> S 14.8 ppb: <b>Alberta Environment reference # 196889</b> . No operational problems observed.
Wind Speed	Blue Sky		kph	Due to bearings failing and the wind system falling upside down (January 15 <sup>th</sup> to Janaury 17 <sup>th</sup> ) – a total of one hundred and five (105) hours were flagged invalid. <b>Alberta Environment reference #197728</b>
Wind Direction	Blue Sky		Deg	Due to bearings failing and the wind system falling upside down (January 15 <sup>th</sup> to Janaury 17 <sup>th</sup> ) – a total of one hundred and five (105) hours were flagged invalid. <b>Alberta Environment reference #197728</b>
Data Acquisition System	Titan Logix	AP1000		No operational problems observed.



## January 2008 Monthly Overall Summary Report Ambient Air Quality Data

Jan-2008				Palliser Airshed Society			Maximum Recorded Values						Operational Time (%)
Pollutant (units)	Objectives		Station	Monthly Average	Exceedence		Conc	1-hr		24-hr / 8-hr			
	1-hr	24-hr			1-hr	24-hr		Day	WSPD (km/hr)	WDIR (Sector)	Conc	Day	
NO (ppb)			Crescent Heights	4.7	-	-	82.3	Jan-11 19:00	4.3	SSE	22.7	Jan-11	100.0%
NO <sub>2</sub> (ppb)	212	106	Crescent Heights	9.4	0	0	39.0	Jan-18 20:00	5.4	SE	17.2	Jan-18	100.0%
NO <sub>x</sub> (ppb)			Crescent Heights	13.8	-	-	105.7	Jan-11 19:00	4.3	SSE	39.4	Jan-11	100.0%
O <sub>3</sub> (ppb)	82		Crescent Heights	22.2	0	-	38.4	Jan-02 03:00	31.6	S	34.7	Jan-26	100.0%
O <sub>3</sub> (ppb) - 8-hr		65	Crescent Heights			0					37.0	Jan-02	
CO (ppm)	13		Crescent Heights	0.20	0	-	0.9	Jan-11 19:00	4	SSE	0.4	Jan-11	100.0%
CO (ppm) - 8-hr		5	Crescent Heights			0					0.5	Jan-11	
THC (ppm)			Crescent Heights	2.12	-	-	3.3	Jan-11 08:00	4.8	NNE	2.6	Jan-11	100.0%
PM <sub>2.5</sub> (µg/m <sup>3</sup> )		30 <sup>a</sup>	Crescent Heights	2.2	0	0	11.3	Jan-19 01:00	3.2	NE	5.3	Jan-11	99.2%
RH (%)			Crescent Heights	62.5	-	-	-	-	-	-	-	-	100.0%
SR (W/m <sup>2</sup> )			Crescent Heights	63.3	-	-	-	-	-	-	-	-	100.0%
Temp (°C)			Crescent Heights	-7.6	-	-	-	-	-	-	-	-	100.0%
WSPD v (km/hr)			Crescent Heights	14.0	-	-	41.1	Jan-14 15:00	41.1	SW	28.2	Jan-05	100.0%
WSPD s (km/hr)			Crescent Heights	14.4	-	-	41.3	Jan-14 15:00	41.3	SW	28.3	Jan-05	100.0%
WDIR			Crescent Heights	WSW	-	-	-	-	-	-	-	-	100.0%
SO <sub>2</sub> (ppb)	172	57	Portable-Brooks	0.5	0	0	6.9	Jan-31 21:00	15.8	N	2.3	Jan-29	100.0%
O <sub>3</sub> (ppb)	82		Portable-Brooks	21.8	0	-	40.5	Jan-26 15:00	16.3	WSW	33.9	Jan-26	100.0%
O <sub>3</sub> (ppb) - 8-hr		65	Portable-Brooks			0					38.0	Jan-26	
H <sub>2</sub> S (ppb)	10	3	Portable-Brooks	0.25	1	0	14.8	Jan-09 07:00	N	N	1.8	Jan-09	100.0%
WSPD v (km/hr)			Portable-Brooks	13.7	-	-	36.9	Jan-02 06:00	36.9	SSW	24.9	Jan-05	85.9%
WSPD s (km/hr)			Portable-Brooks	13.8	-	-	36.9	Jan-02 06:00	36.9	SSW	25.0	Jan-02	85.9%
WDIR			Portable-Brooks	SSW	-	-	-	-	-	-	-	-	85.9%

Note: <sup>a</sup> the draft 24-hr Alberta Ambient Air Quality Objective



# **PAS - Crescent Heights**

## **Monthly Summary Tables, Graphs and Roses**



# PAS - Crescent Heights - AQI Monthly Summary

Station: Crescent Heights  
Station Owner: PAS

## Air Quality Index (AQI)

Monitoring Dates: January 1, 2008 to February 1, 2008

Alberta's Air Quality Index

Good	1 to 25
Fair	26 to 50
Poor	51 to 100
Very Poor	> 100

### Summary

Number of 1-hr Good Readings:	705
Number of 1-hr Fair Readings:	0
Number of 1-hr Poor Readings:	0
Number of 1-hr Very Poor Readings:	0

### Status Flag Characters

C	Calibration	A	AIC - Zero / Span Check
S	Instrument out of Service	X	Filter Exchange
N	No Data	M	Equipment Maintenance
D	Excessive Instrument Drift	P	Power Failure

Day	Mountain Standard Time																							
Hour Start Hour End	0:00 1:00	1:00 2:00	2:00 3:00	3:00 4:00	4:00 5:00	5:00 6:00	6:00 7:00	7:00 8:00	8:00 9:00	9:00 10:00	10:00 11:00	11:00 12:00	12:00 13:00	13:00 14:00	14:00 15:00	15:00 16:00	16:00 17:00	17:00 18:00	18:00 19:00	19:00 20:00	20:00 21:00	21:00 22:00	22:00 23:00	23:00 0:00
1-Jan-08	8	7	4	5	4	4	6	6	N	13	14	N	14	12	10	7	5	5	5	5	6	8	7	N
2-Jan-08	10	N	N	19	19	18	19	N	18	17	17	16	16	16	14	13	12	9	13	16	16	17	17	17
3-Jan-08	17	16	15	16	15	13	N	9	6	10	14	15	17	16	15	13	12	12	13	13	14	14	14	13
4-Jan-08	14	15	15	16	16	N	16	15	15	15	15	16	17	17	16	15	13	14	17	17	16	16	16	15
5-Jan-08	16	16	15	15	N	14	15	15	15	14	15	16	17	17	16	16	16	15	16	15	16	15	15	16
6-Jan-08	17	17	17	N	16	16	15	15	14	15	15	16	17	17	16	14	12	11	10	8	9	12	14	13
7-Jan-08	13	13	N	11	11	11	9	5	5	6	8	13	12	13	14	11	7	6	7	6	5	6	7	8
8-Jan-08	8	N	10	9	7	9	9	9	7	8	11	13	15	15	14	14	13	11	10	11	11	8	8	11
9-Jan-08	N	11	9	8	7	4	6	4	5	3	4	5	5	5	5	4	4	6	7	5	4	4	5	N
10-Jan-08	6	5	5	8	10	11	8	5	5	10	13	15	17	18	16	15	12	11	7	5	6	8	N	6
11-Jan-08	4	4	4	5	4	4	4	5	4	3	5	4	4	6	5	6	6	5	7	9	9	N	5	4
12-Jan-08	4	3	3	4	8	8	8	9	8	8	10	12	13	14	13	13	10	8	6	5	N	7	4	4
13-Jan-08	8	11	10	9	7	4	5	6	6	5	9	11	12	14	13	12	8	6	6	N	7	8	10	12
14-Jan-08	12	13	13	14	16	15	15	14	15	15	17	17	19	18	18	18	17	18	N	17	17	17	17	17
15-Jan-08	14	16	16	13	15	16	16	13	13	15	14	13	17	17	17	17	N	9	15	11	14	13	11	
16-Jan-08	8	6	8	6	4	5	7	6	7	9	13	15	15	15	15	N	13	14	12	13	13	15	15	
17-Jan-08	14	14	14	13	16	15	14	14	13	15	14	13	16	16	16	N	14	11	11	8	11	11	5	7
18-Jan-08	6	9	10	14	14	13	8	7	6	6	7	11	14	14	N	14	13	7	9	6	9	9	8	6
19-Jan-08	7	9	7	6	6	9	10	7	5	8	8	10	11	N	12	12	11	11	9	11	10	11	12	12
20-Jan-08	12	11	14	15	14	15	16	15	15	15	14	15	N	15	14	13	13	12	12	13	12	12	12	11
21-Jan-08	10	9	10	11	12	13	12	14	14	16	17	N	16	17	16	16	16	15	14	14	12	9	12	12
22-Jan-08	12	11	13	12	11	8	9	10	10	12	N	14	16	17	17	15	15	16	14	15	14	13	12	13
23-Jan-08	11	7	5	4	6	6	7	6	7	N	9	16	17	18	18	17	16	15	14	15	15	14	16	16
24-Jan-08	15	16	14	13	12	9	5	7	N	7	7	7	7	9	11	10	9	8	10	13	13	13	14	14
25-Jan-08	11	12	14	11	10	8	6	N	6	7	6	6	8	17	17	15	10	7	8	9	17	18	18	18
26-Jan-08	18	17	18	17	16	16	N	15	16	17	18	18	18	18	19	19	18	17	17	17	17	17	17	15
27-Jan-08	16	15	13	12	16	N	14	15	14	13	14	15	14	10	11	9	10	11	12	13	13	13	13	13
28-Jan-08	13	13	13	13	N	13	13	13	13	14	15	15	15	15	15	14	14	13	11	8	8	9	9	10
29-Jan-08	8	8	7	N	5	5	6	6	8	9	10	12	14	15	N	13	14	13	13	13	13	13	13	13
30-Jan-08	12	11	N	11	12	11	10	7	6	9	10	N	7	2	13	13	13	11	9	10	6	7	7	7
31-Jan-08	8	9	N	5	7	11	15	12	N	17	17	17	17	18	18	13	11	10	11	11	11	11	11	11





# PAS - Crescent Heights Nitrogen Dioxide Monthly Summary

Station: Crescent Heights  
Station Owner: PAS

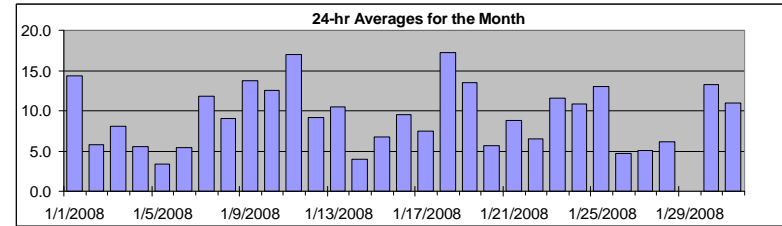
## HOURLY AVERAGE TABLE

## Nitrogen Dioxide (NO<sub>2</sub>)

Monitoring Dates: January 1, 2008 to February 1, 2008

Objective Limit: Alberta Environment: 1-hr 212 ppb 24-hr 106 ppb  
Summary

Number of 1-hr Exceedances:	0
Number of 24-hr Exceedances:	0
Maximum 1-hr Average:	39.0 ppb 18-Jan 20:00 21:00
Maximum 24-hr Average:	17.2 ppb 18-Jan



AIC Time:	33 hrs	Operational Time:	705 hrs						
Calibration Time:	6 hrs	AMD Operational Uptime:	100.0%						
Percentile	99	95	75	50	25	5	1	Average	Median
	31.7	24.2	12.7	6.9	4.3	2.2	1.4	9.4 ppb	6.9 ppb

### Status Flag Characters

C	Calibration	A	AIC - Zero / Span Check
S	Instrument out of Service	X	Filter Exchange
N	No Data	M	Equipment Maintenance
D	Excessive Instrument Drift	P	Power Failure

Day	Mountain Standard Time																							24-hour Average	Daily Maximum		
Hour Start	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00		
1-Jan-08	16	16	17	21	17	17	23	26	A	4	2	3	3	5	9	15	19	19	21	21	26	11	16	5		14.3	25.9
2-Jan-08	14	4	1	2	2	2	2	A	5	4	5	5	7	4	6	9	9	16	9	6	6	4	6	3		5.7	16.0
3-Jan-08	2	5	8	3	4	8	A	16	24	18	7	7	3	6	7	10	11	9	8	7	6	6	5	5		8.1	24.5
4-Jan-08	2	2	3	5	1	A	6	5	6	9	9	6	7	6	7	8	12	8	3	3	5	3	3	6		5.5	11.8
5-Jan-08	3	2	5	2	A	4	3	4	4	5	4	3	4	2	2	3	3	4	3	4	3	4	3	3		3.4	5.4
6-Jan-08	2	2	3	A	6	4	6	4	5	4	6	5	4	3	6	6	8	5	7	12	10	7	4	5		5.4	12.0
7-Jan-08	4	4	A	5	5	5	10	18	16	15	13	7	8	7	5	7	14	27	29	24	19	11	9	8		11.8	28.6
8-Jan-08	10	A	7	9	15	10	11	10	13	12	9	8	7	4	7	6	7	9	8	8	8	13	12	6		9.0	15.3
9-Jan-08	A	6	6	8	8	12	17	17	18	12	9	8	10	9	10	13	18	22	24	21	17	18	22	A		13.8	23.6
10-Jan-08	25	20	19	10	7	6	11	21	22	10	4	2	3	1	3	3	6	9	18	23	23	34	A	11		12.5	33.8
11-Jan-08	17	18	17	19	17	17	18	19	16	12	8	10	11	13	14	14	21	22	23	24	23	A	20	16		16.9	23.7
12-Jan-08	12	13	15	13	6	4	7	3	4	7	4	4	1	1	4	5	11	14	16	17	A	13	18	18		9.1	18.3
13-Jan-08	10	6	7	6	9	13	22	23	24	17	8	4	5	4	5	5	12	16	12	A	12	9	7	3		10.5	23.6
14-Jan-08	3	2	3	4	2	4	5	5	7	5	3	6	4	5	2	5	5	4	A	4	5	5	3	2		3.9	6.8
15-Jan-08	5	5	3	6	4	4	2	9	10	8	9	11	5	4	4	3	3	A	19	5	13	5	8	8		6.8	19.1
16-Jan-08	15	18	14	14	19	20	12	15	12	11	8	3	5	3	5	5	A	7	7	9	6	5	3	4		9.5	20.3
17-Jan-08	5	4	4	6	2	2	5	5	9	5	6	4	3	2	5	A	6	11	10	16	10	8	17	28		7.5	28.0
18-Jan-08	26	9	7	4	5	9	17	20	23	26	18	10	5	6	A	8	10	21	17	24	39	36	32	26		17.2	39.0
19-Jan-08	29	37	28	25	26	12	11	13	19	14	13	10	10	A	9	7	6	5	7	7	8	5	4	4		13.5	37.3
20-Jan-08	5	5	3	3	4	4	4	5	5	6	8	4	A	4	5	7	7	8	8	7	7	6	6	7		5.6	7.7
21-Jan-08	9	10	8	7	7	6	9	7	7	4	3	A	17	12	16	15	7	6	7	7	9	13	8	8		8.8	17.0
22-Jan-08	6	9	6	9	9	14	16	11	11	9	A	9	5	2	2	6	6	2	3	1	2	3	6	3		6.5	15.6
23-Jan-08	6	14	22	18	25	27	30	26	30	A	17	5	2	2	2	4	5	6	8	5	4	6	2	1		11.6	29.9
24-Jan-08	3	1	4	7	8	13	19	30	A	29	18	18	20	13	7	10	12	11	8	4	4	3	3	3		10.8	29.7
25-Jan-08	7	8	5	9	9	11	24	A	21	23	15	18	17	6	4	8	14	30	33	22	5	4	3	4		13.0	32.8
26-Jan-08	2	6	2	4	6	5	A	12	8	5	4	6	3	3	3	4	5	5	3	4	5	4	3	4		4.6	11.8
27-Jan-08	3	3	7	10	2	A	6	3	6	7	5	4	6	7	6	8	7	6	5	3	3	3	5	3		5.1	9.9
28-Jan-08	3	4	5	6	A	4	6	6	5	4	3	2	2	2	2	3	4	6	9	15	16	12	12	12		6.2	15.6
29-Jan-08	15	14	14	A	20	19	23	26	20	14	5	0	0	0	0	C	C	C	C	C	C	A	5	7		N	25.7
30-Jan-08	8	9	A	9	6	9	11	18	20	13	10	11	10	7	5	5	5	8	15	13	22	30	29	31		13.3	30.8
31-Jan-08	35	37	A	23	27	15	7	13	12	4	2	3	3	3	3	9	9	10	9	7	6	6	6	5		11.0	37.2
Hourly Avg	10.0	9.8	8.8	9.2	9.5	9.6	11.8	13.4	13.3	10.5	7.8	6.5	6.3	5.0	5.5	7.3	9.0	11.2	12.0	11.1	11.1	9.9	9.3	8.3			
Hourly Max	35.1	37.3	28.4	24.7	26.9	26.7	29.7	29.7	29.9	28.8	18.2	17.8	20.4	13.4	15.8	15.0	20.8	29.6	32.8	24.2	39.0	36.2	31.7	30.8			

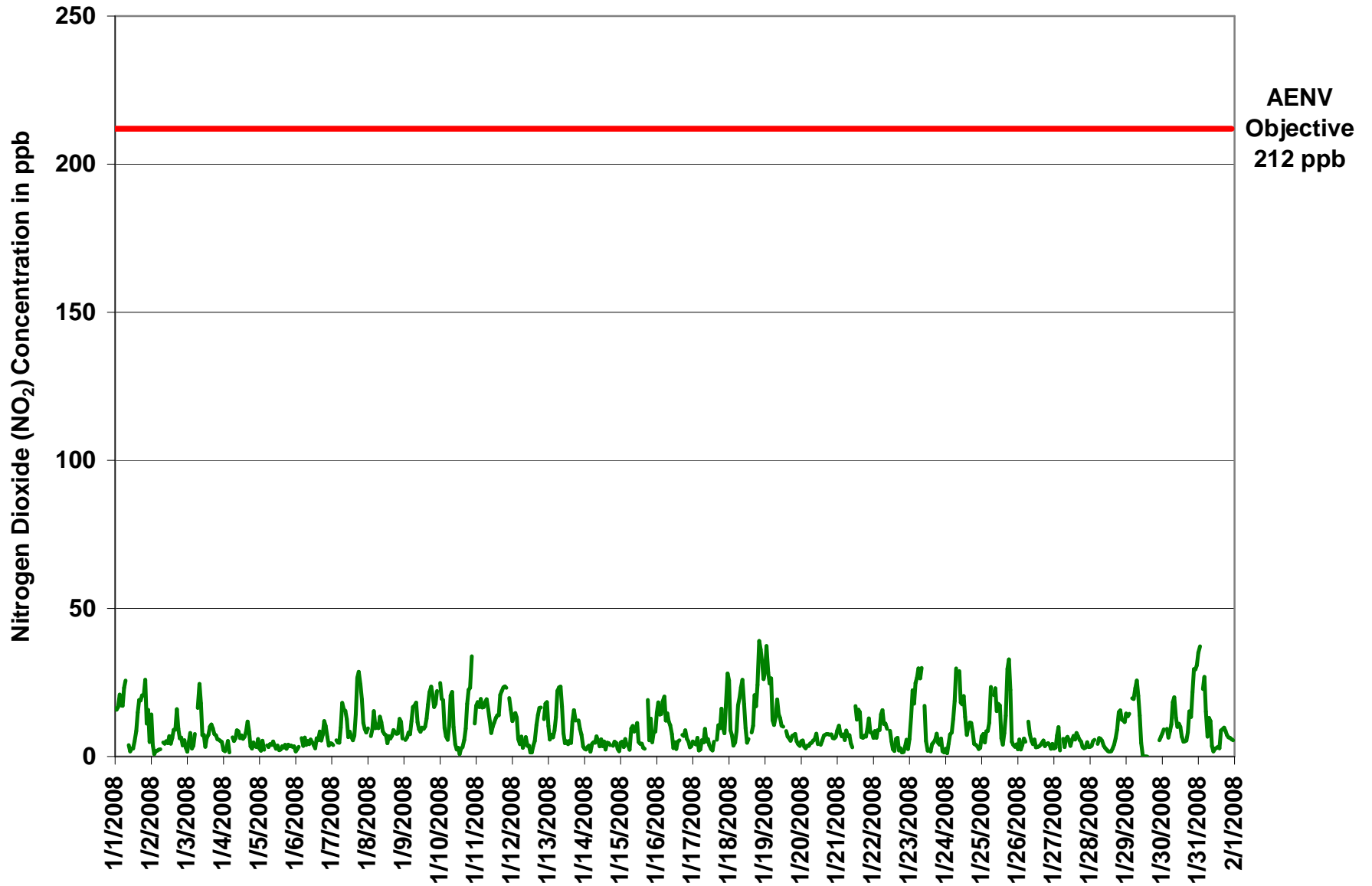


Figure 1. PAS - Crescent Heights Nitrogen Dioxide 1-hr Average Monthly Trend



Station: Crescent Heights  
 Station Owner: PAS

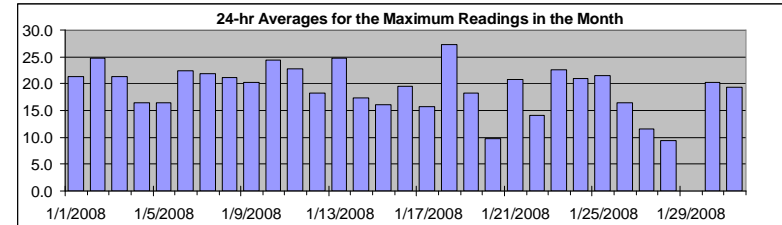
**INSTANTANEOUS (30 Second) MAXIMUM TABLE**

**Nitrogen Dioxide (NO<sub>2</sub>)**

Monitoring Dates: January 1, 2008 to February 1, 2008

**Summary**

Maximum 1-hr Value:	83.6	ppb	2-Jan	10:00 11:00
Maximum 24-hr Value:	27.3	ppb	18-Jan	



AIC Time:	33 hrs	Operational Time:	705 hrs						
Calibration Time:	6 hrs	AMD Operational Uptime:	100.0%						
Percentile	99	95	75	50	25	5	1	Average	Median
	55.6	42.9	26.8	17.2	8.3	3.4	2.2	19.1 ppb	17.2 ppb

**Status Flag Characters**

C	Calibration	A	AIC - Zero / Span Check
S	Instrument out of Service	X	Filter Exchange
N	No Data	M	Equipment Maintenance
D	Excessive Instrument Drift	P	Power Failure

**Day Mountain Standard Time**

Hour Start Hour End	0:00 1:00	1:00 2:00	2:00 3:00	3:00 4:00	4:00 5:00	5:00 6:00	6:00 7:00	7:00 8:00	8:00 9:00	9:00 10:00	10:00 11:00	11:00 12:00	12:00 13:00	13:00 14:00	14:00 15:00	15:00 16:00	16:00 17:00	17:00 18:00	18:00 19:00	19:00 20:00	20:00 21:00	21:00 22:00	22:00 23:00	23:00 0:00	24-hour Average	Daily Maximum	
1-Jan-08	20	21	33	24	23	21	25	54	A	17	3	7	5	8	10	24	26	26	28	25	34	17	25	13	21.4	54.0	
2-Jan-08	21	48	2	17	15	16	13	A	21	36	84	19	24	14	26	34	16	47	22	27	30	10	25	4	24.8	83.6	
3-Jan-08	3	31	66	5	8	28	A	23	40	47	9	10	5	9	9	27	42	31	22	40	9	10	11	8	21.4	66.3	
4-Jan-08	4	3	5	32	2	A	22	8	8	31	32	8	36	15	10	29	38	11	5	3	30	5	5	38	16.5	38.1	
5-Jan-08	5	3	43	12	A	26	18	32	12	19	5	4	24	3	4	14	4	19	3	14	36	43	19	19	16.5	43.0	
6-Jan-08	3	12	40	A	56	16	31	13	33	6	47	36	31	4	34	8	27	8	10	38	24	24	7	6	22.4	55.7	
7-Jan-08	7	8	A	39	7	7	32	38	38	18	17	10	11	20	7	10	32	54	35	27	25	20	21	19	21.8	54.0	
8-Jan-08	27	A	14	17	29	15	32	16	19	16	12	33	28	16	28	9	10	40	13	47	15	21	16	12	21.1	46.9	
9-Jan-08	A	7	22	9	12	17	29	24	24	15	26	17	11	11	11	15	20	24	36	22	19	22	52	A	20.2	51.7	
10-Jan-08	54	26	24	18	10	8	33	27	35	46	9	3	17	9	11	32	11	18	23	30	35	44	A	37	24.4	53.9	
11-Jan-08	27	21	19	21	18	23	21	23	20	17	10	22	14	21	19	16	26	27	50	33	30	A	27	21	22.8	50.5	
12-Jan-08	18	24	20	34	13	7	26	5	6	28	11	24	2	3	24	12	28	19	24	25	A	17	24	25	18.2	34.2	
13-Jan-08	51	20	26	9	24	18	25	30	30	42	28	7	8	28	53	7	17	24	39	A	38	12	28	5	24.7	53.4	
14-Jan-08	4	3	4	16	3	21	19	17	20	27	42	61	21	24	3	28	6	6	A	5	36	22	8	2	17.4	61.2	
15-Jan-08	43	25	5	11	11	15	4	21	24	14	17	15	12	9	14	12	4	A	32	11	27	7	23	12	16.1	42.7	
16-Jan-08	21	23	21	27	26	37	36	25	14	13	20	4	14	3	14	7	A	9	32	43	14	14	4	28	19.5	43.1	
17-Jan-08	30	31	8	22	3	3	24	7	19	9	14	6	5	3	18	A	9	13	21	23	19	16	29	31	15.8	31.4	
18-Jan-08	28	26	10	6	8	13	23	36	38	34	26	13	6	17	A	44	18	33	38	45	50	41	43	32	27.3	49.6	
19-Jan-08	32	62	35	35	35	16	12	19	23	19	16	16	13	A	15	9	7	7	8	12	12	6	6	5	18.2	62.0	
20-Jan-08	7	8	6	4	5	5	7	6	8	13	11	7	A	6	7	10	8	12	10	23	39	7	7	8	9.8	38.9	
21-Jan-08	23	29	9	11	16	6	26	9	18	8	5	A	46	33	33	32	23	8	10	8	30	40	15	36	20.8	46.2	
22-Jan-08	8	25	23	44	28	17	37	14	14	18	A	14	14	5	7	13	12	5	4	2	3	5	8	5	14.2	43.6	
23-Jan-08	13	18	33	29	39	34	65	39	47	A	25	18	17	27	3	16	8	8	30	6	7	30	3	2	22.5	64.8	
24-Jan-08	31	3	22	27	26	60	26	36	A	32	34	20	55	20	13	12	13	14	10	8	5	4	4	5	20.9	60.5	
25-Jan-08	23	19	25	17	17	19	36	A	23	25	21	28	20	16	7	23	25	33	44	37	7	5	6	17	21.4	43.9	
26-Jan-08	3	28	3	7	20	8	A	64	21	8	7	18	5	5	23	15	30	13	5	19	22	28	4	25	16.5	63.9	
27-Jan-08	4	5	18	13	4	A	48	4	35	25	10	6	10	11	7	10	9	8	9	4	5	6	8	6	11.5	47.8	
28-Jan-08	5	7	8	9	A	8	10	16	8	6	5	4	3	2	3	4	5	9	13	21	20	18	16	16	9.3	20.9	
29-Jan-08	18	20	20	A	33	38	27	27	25	20	7	2	0	0	0	C	C	C	C	C	C	A	7	8	N	38.1	
30-Jan-08	11	13	A	13	9	12	25	35	46	19	14	15	15	10	11	8	9	18	23	19	36	34	33	38	20.2	46.0	
31-Jan-08	37	40	A	27	31	26	17	21	50	33	2	13	10	22	17	21	14	11	10	10	8	7	7	7	19.3	49.5	
Hourly Avg	19.4	20.3	20.2	19.2	18.3	18.6	25.8	23.8	24.8	22.1	18.9	15.4	16.1	12.5	14.6	17.3	17.2	19.1	20.9	21.7	22.9	18.5	16.4	16.4			
Hourly Max	53.9	62.0	66.3	43.6	55.7	60.5	64.8	63.9	49.5	46.6	83.6	61.2	55.1	32.9	53.4	44.4	42.4	54.0	50.5	46.9	49.6	43.6	51.7	38.1			

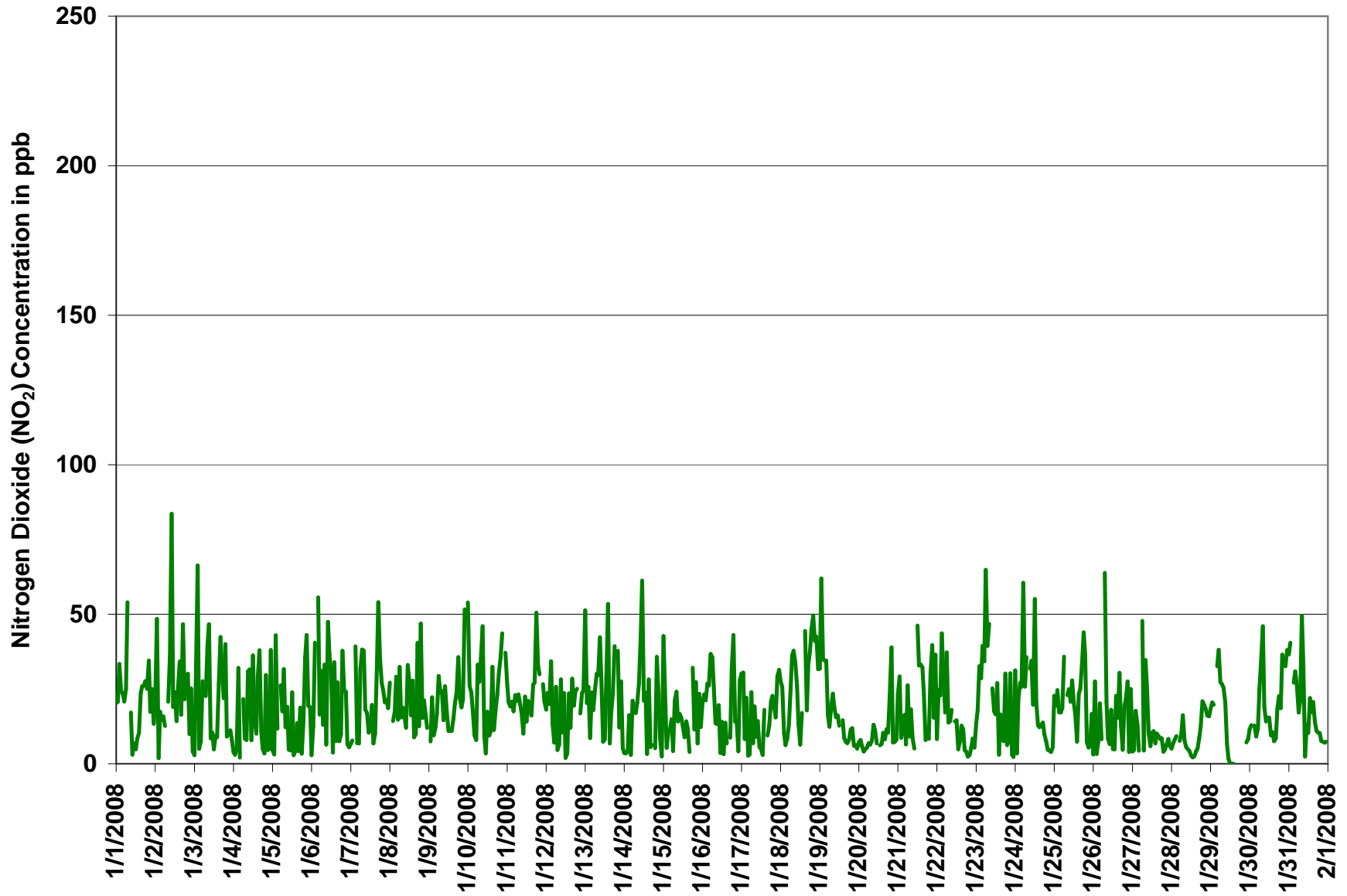
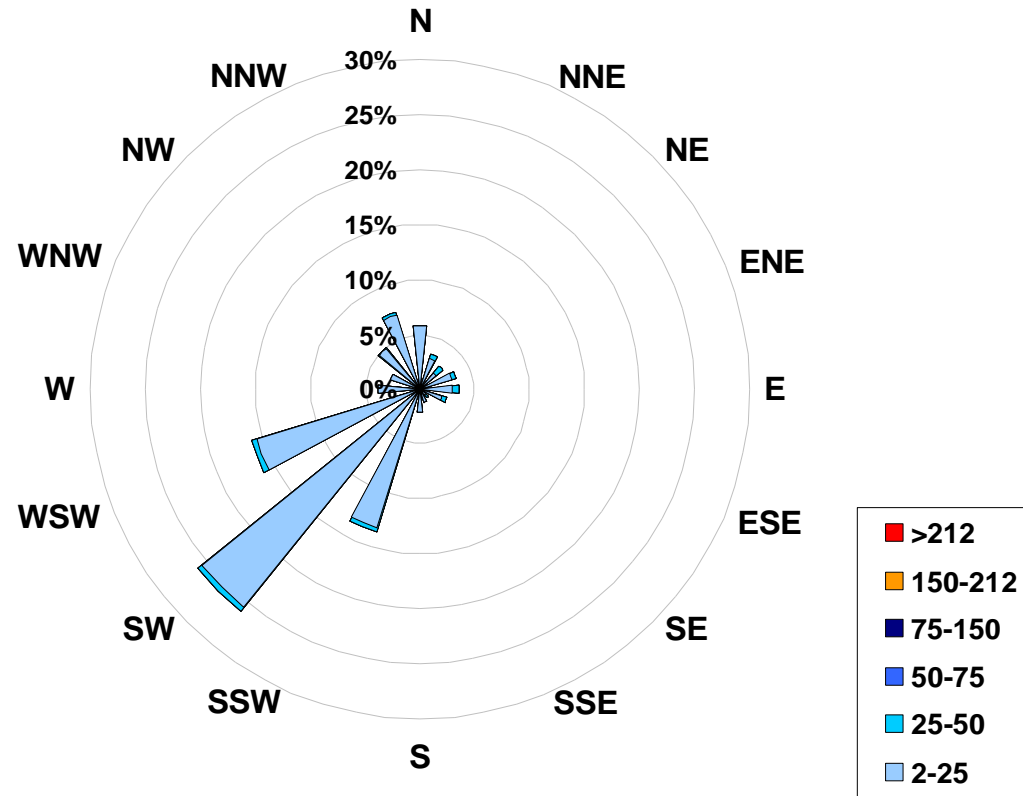


Figure 2. PAS - Crescent Heights Nitrogen Dioxide Instantaneous (30 Second) Maximum Value Monthly Trend



**1-hr Average Concentration Rose for Nitrogen Dioxide (in ppb) Located at the Crescent Heights Site for January 2008**



**Calms: 0%**

Frequency Distribution of NO <sub>2</sub> in ppb			Frequency (hrs)
Range			
2.0	< 25		681
25	to 50		17
50	to 75		5
75	to 150		2
150	to 212		0
	> 212		0
Total Non-Zero Values			705



## PAS - Crescent Heights Nitric Oxide Monthly Summary

Station: Crescent Heights  
 Station Owner: PAS

### HOURLY AVERAGE TABLE

### Nitric Oxide (NO)

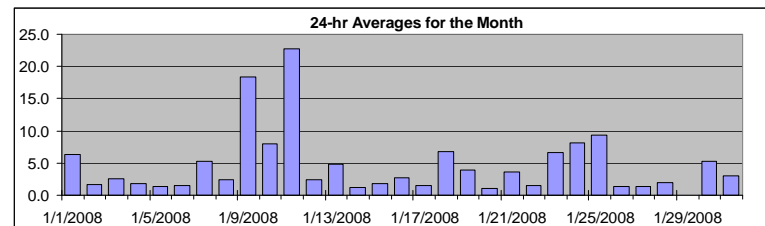
Monitoring Dates: January 1, 2008 to February 1, 2008

Guideline Limit: 

1-hr	na	ppb	24-hr	na	ppb
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 Summary

Maximum 1-hr Average:	82.3	ppb	11-Jan	19:00 20:00
Maximum 24-hr Average:	22.7	ppb	11-Jan	



AIC Time:	33 hrs	Operational Time:	705 hrs						
Calibration Time:	6 hrs	AMD Operational Uptime:	100.0%						
Percentile	99	95	75	50	25	5	1	Average	Median
	44.5	20.3	3.7	1.9	0.9	0.2	0.0	4.7 ppb	1.9 ppb

#### Status Flag Characters

C	Calibration	A	AIC - Zero / Span Check
S	Instrument out of Service	X	Filter Exchange
N	No Data	M	Equipment Maintenance
D	Excessive Instrument Drift	P	Power Failure

Day	Mountain Standard Time																								24-hour Average	Daily Maximum	
	Hour Start Hour End	0:00 1:00	1:00 2:00	2:00 3:00	3:00 4:00	4:00 5:00	5:00 6:00	6:00 7:00	7:00 8:00	8:00 9:00	9:00 10:00	10:00 11:00	11:00 12:00	12:00 13:00	13:00 14:00	14:00 15:00	15:00 16:00	16:00 17:00	17:00 18:00	18:00 19:00	19:00 20:00	20:00 21:00	21:00 22:00	22:00 23:00			23:00 0:00
1-Jan-08	3	4	11	11	5	3	10	39	A	1	1	2	2	4	6	6	4	4	7	3	16	0	1	0	6.3	38.9	
2-Jan-08	2	3	0	0	1	1	1	A	1	2	2	2	3	2	3	4	2	3	2	1	1	1	2	0	1.7	3.9	
3-Jan-08	0	1	6	0	1	3	A	1	7	11	3	3	2	2	3	3	3	2	3	1	1	1	0	2.6	11.2		
4-Jan-08	0	0	1	3	0	A	2	1	1	3	4	3	3	3	2	2	5	1	1	1	1	1	3	1.9	5.5		
5-Jan-08	1	1	4	1	A	1	1	2	1	2	1	1	2	1	1	1	1	1	1	1	2	2	1	1	1.4	3.7	
6-Jan-08	0	0	1	A	2	1	2	1	1	1	3	2	1	1	3	1	2	1	1	3	2	2	1	0	1.5	3.4	
7-Jan-08	0	1	A	3	0	1	2	11	8	5	5	3	5	3	2	2	5	13	24	12	7	2	3	2	5.2	24.3	
8-Jan-08	4	A	1	2	6	1	4	2	3	4	4	4	3	2	3	2	2	3	1	2	1	2	1	1	2.4	6.3	
9-Jan-08	A	0	1	0	1	2	10	13	29	13	12	11	14	12	9	8	9	24	60	58	29	29	62	A	18.4	61.6	
10-Jan-08	45	18	27	3	0	0	3	3	7	2	1	0	1	0	1	1	1	1	1	6	13	43	A	7	8.0	44.6	
11-Jan-08	14	5	2	12	6	12	25	40	25	21	9	18	18	20	18	11	14	21	52	82	77	A	18	3	22.7	82.3	
12-Jan-08	0	2	3	11	0	0	4	0	0	5	2	3	1	1	2	1	4	2	1	4	A	1	3	4	2.4	11.3	
13-Jan-08	4	2	2	0	2	1	10	17	20	18	7	3	3	2	3	1	2	3	2	A	6	1	2	1	4.9	20.1	
14-Jan-08	0	0	0	2	0	1	1	1	1	1	2	1	3	1	3	1	2	1	1	A	1	2	1	0	0	1.2	2.8
15-Jan-08	2	2	0	1	0	1	0	3	3	2	3	5	2	2	2	1	1	A	5	1	3	1	2	1	1.8	5.4	
16-Jan-08	1	1	2	2	3	11	4	7	3	4	3	2	3	1	2	1	A	1	3	5	1	1	1	2	2.8	10.9	
17-Jan-08	3	2	0	2	0	1	1	1	1	1	2	2	1	1	2	A	1	1	1	1	1	0	1	7	1.5	7.1	
18-Jan-08	5	1	1	0	0	2	4	6	10	31	20	10	4	4	A	3	2	4	4	8	17	8	9	2	6.8	30.7	
19-Jan-08	2	23	9	3	4	1	3	2	4	6	8	8	7	A	3	1	0	0	1	1	1	1	0	0	3.9	23.0	
20-Jan-08	1	1	1	1	2	2	1	0	0	1	3	2	A	2	2	2	1	1	0	1	1	0	0	0	1.1	2.6	
21-Jan-08	2	2	1	0	1	0	3	1	2	2	2	A	17	12	13	12	2	1	1	1	3	4	0	3	3.7	16.8	
22-Jan-08	0	3	1	2	2	1	6	2	2	2	A	2	2	1	1	2	1	1	1	0	0	1	1	0	1.6	6.0	
23-Jan-08	0	1	9	4	10	9	34	23	27	A	17	5	1	2	1	1	0	0	2	0	0	4	0	0	6.6	33.9	
24-Jan-08	1	0	1	2	2	6	1	14	A	50	23	24	32	18	6	5	2	1	0	0	0	0	0	0	8.1	50.0	
25-Jan-08	0	0	2	1	0	1	16	A	15	39	23	29	21	3	1	4	3	16	28	9	0	0	1	1	9.3	38.8	
26-Jan-08	0	2	0	0	1	1	A	4	2	1	1	2	1	1	2	3	2	1	1	1	1	2	1	2	1.4	4.4	
27-Jan-08	1	0	1	1	0	A	2	0	2	2	3	2	3	4	2	2	1	1	1	1	1	1	2	1	1.4	3.6	
28-Jan-08	1	1	2	1	A	1	2	2	2	2	2	3	2	2	2	3	2	2	2	3	3	2	2	2	2.0	3.1	
29-Jan-08	2	2	2	A	4	12	6	11	14	20	9	4	0	0	0	C	C	C	C	C	C	A	0	1	N	20.3	
30-Jan-08	1	2	A	2	1	1	3	5	10	11	10	15	16	9	5	3	2	1	1	1	4	7	5	5	5.2	15.6	
31-Jan-08	10	20	A	1	2	3	1	2	6	2	1	2	2	3	2	5	3	1	1	1	1	1	1	1	3.1	19.6	
Hourly Avg	3.5	3.4	3.2	2.5	2.0	2.7	5.5	7.5	7.2	8.8	6.1	5.9	5.8	4.0	3.4	3.3	2.8	3.8	7.2	7.3	6.8	4.1	4.0	1.6	31.1	19.6	
Hourly Max	44.6	23.0	27.3	11.8	10.2	12.3	33.9	39.8	28.7	50.0	22.9	29.2	32.1	20.0	17.6	11.9	13.8	23.6	59.6	82.3	77.3	42.7	61.6	7.1	31.1	19.6	



# PAS - Crescent Heights Oxides of Nitrogen Monthly Summary

Station: Crescent Heights  
 Station Owner: PAS

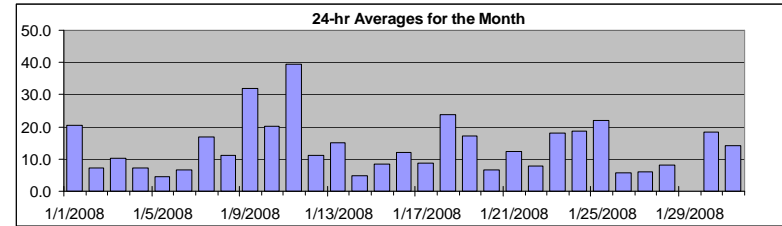
## HOURLY AVERAGE TABLE

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

Monitoring Dates: January 1, 2008 to February 1, 2008

Guideline Limit: Alberta Environment: 1-hr na ppb 24-hr na ppb

Maximum 1-hr Average:	105.7	ppb	11-Jan	19:00 20:00
Maximum 24-hr Average:	39.4	ppb	11-Jan	



AIC Time:	33 hrs	Operational Time:	705 hrs						
Calibration Time:	6 hrs	AMD Operational Uptime:	100.0%						
Percentile	99	95	75	50	25	5	1	Average	Median
	75.2	41.9	16.8	8.5	5.3	2.6	1.1	13.8 ppb	8.5 ppb

### Status Flag Characters

C	Calibration	A	AIC - Zero / Span Check
S	Instrument out of Service	X	Filter Exchange
N	No Data	M	Equipment Maintenance
D	Excessive Instrument Drift	P	Power Failure

Day	Mountain Standard Time																							24-hour Average	Daily Maximum		
Hour Start	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00		
1-Jan-08	19	19	28	32	22	20	33	64	A	5	2	5	5	9	14	21	23	22	27	24	42	11	17	4	20.3	64.3	
2-Jan-08	16	7	1	2	2	2	3	A	5	6	7	6	10	6	9	13	11	19	11	7	8	4	7	3	7.1	18.8	
3-Jan-08	2	6	13	3	4	11	A	17	31	29	10	10	5	8	9	13	14	12	9	10	6	6	6	5	10.4	30.7	
4-Jan-08	2	2	3	8	2	A	8	6	7	12	12	9	10	8	9	10	17	10	4	3	6	4	4	8	7.1	17.1	
5-Jan-08	3	2	9	3	A	5	4	6	5	7	5	4	6	3	3	4	4	5	3	5	5	6	4	4	4.5	8.9	
6-Jan-08	2	3	4	A	8	4	8	4	6	5	8	7	5	4	9	7	10	6	8	15	12	8	4	5	6.6	14.7	
7-Jan-08	4	4	A	9	5	5	12	29	23	20	18	10	13	10	7	9	19	39	53	36	26	13	12	10	16.7	52.7	
8-Jan-08	13	A	8	11	21	11	14	11	16	15	12	11	10	6	9	7	8	11	9	10	8	14	12	7	11.2	21.4	
9-Jan-08	A	6	7	8	8	14	26	30	47	24	21	19	23	21	19	20	27	45	83	78	45	46	83	A	31.9	83.4	
10-Jan-08	69	37	46	12	6	5	13	24	29	12	4	2	4	1	3	4	6	10	19	28	36	76	A	18	20.2	76.2	
11-Jan-08	31	23	18	31	23	28	44	59	41	33	16	28	29	33	31	25	34	43	75	106	100	A	37	18	39.4	105.7	
12-Jan-08	11	16	17	24	5	3	10	2	4	11	5	6	2	2	5	6	15	15	17	21	A	13	20	22	11.0	24.1	
13-Jan-08	14	7	9	7	10	14	32	40	43	35	14	7	8	6	8	6	14	18	14	A	18	10	9	4	15.1	43.5	
14-Jan-08	3	2	3	5	2	6	6	6	8	7	5	9	5	8	3	6	5	4	A	4	7	6	3	2	4.9	8.5	
15-Jan-08	6	7	3	6	4	4	3	12	13	10	12	16	7	6	6	4	3	A	24	6	16	6	10	9	8.5	24.4	
16-Jan-08	16	20	16	16	22	31	16	22	14	14	11	4	7	4	6	7	A	8	10	14	7	6	4	5	12.1	31.1	
17-Jan-08	7	6	4	8	2	3	7	6	11	6	7	6	3	3	7	A	6	11	10	17	10	8	18	35	8.8	34.8	
18-Jan-08	31	9	8	4	5	10	21	25	33	56	38	19	8	9	A	10	12	24	20	32	56	44	40	28	23.7	56.4	
19-Jan-08	30	60	37	27	30	13	13	15	23	20	21	18	17	A	12	8	6	5	8	8	8	6	4	4	17.1	59.9	
20-Jan-08	6	6	4	4	5	6	5	5	6	7	10	6	A	5	7	9	8	8	8	8	9	6	6	7	6.6	10.1	
21-Jan-08	10	12	8	7	9	6	11	8	9	6	5	A	34	24	29	27	9	7	8	7	12	17	8	11	12.2	33.6	
22-Jan-08	6	12	7	11	10	15	21	12	13	11	A	11	7	3	3	8	8	3	4	2	2	4	6	2	7.9	21.4	
23-Jan-08	6	14	31	21	35	36	64	50	57	A	34	10	3	4	3	5	5	6	9	4	4	10	1	1	17.9	63.5	
24-Jan-08	4	1	5	9	10	19	19	44	A	79	41	41	52	31	13	15	13	12	8	4	4	3	2	2	18.7	78.5	
25-Jan-08	7	7	6	9	9	12	39	A	36	62	38	47	38	9	5	11	17	45	61	31	5	4	4	4	22.0	61.6	
26-Jan-08	3	8	2	4	7	5	A	16	9	6	5	8	4	4	5	6	7	6	4	5	6	6	3	6	5.8	15.9	
27-Jan-08	3	3	8	11	2	A	8	3	8	8	5	8	10	7	10	8	6	6	6	3	3	4	6	4	6.2	10.8	
28-Jan-08	4	4	6	7	A	5	8	8	7	5	5	4	4	4	5	6	8	11	18	18	15	14	13	8.0	18.2		
29-Jan-08	17	16	16	A	24	31	28	37	35	34	13	4	0	0	0	C	C	C	C	C	C	A	4	7	N	36.8	
30-Jan-08	9	11	A	11	7	10	13	23	30	24	21	26	25	16	10	8	7	9	17	14	26	37	34	36	18.4	36.6	
31-Jan-08	45	57	A	24	29	18	7	15	18	5	3	5	5	6	5	14	12	11	9	8	7	7	7	6	14.1	56.9	
Hourly Avg	13.3	12.9	11.7	11.5	11.3	12.1	17.1	20.6	20.2	19.1	13.6	12.1	11.9	8.8	8.8	10.3	11.5	14.8	18.9	18.2	17.7	13.7	13.0	9.6			
Hourly Max	69.1	59.9	45.9	31.8	35.0	35.5	63.5	64.3	56.9	78.5	40.9	46.7	52.3	32.7	31.3	26.7	34.4	45.1	82.9	105.7	100.2	76.2	83.4	35.6			

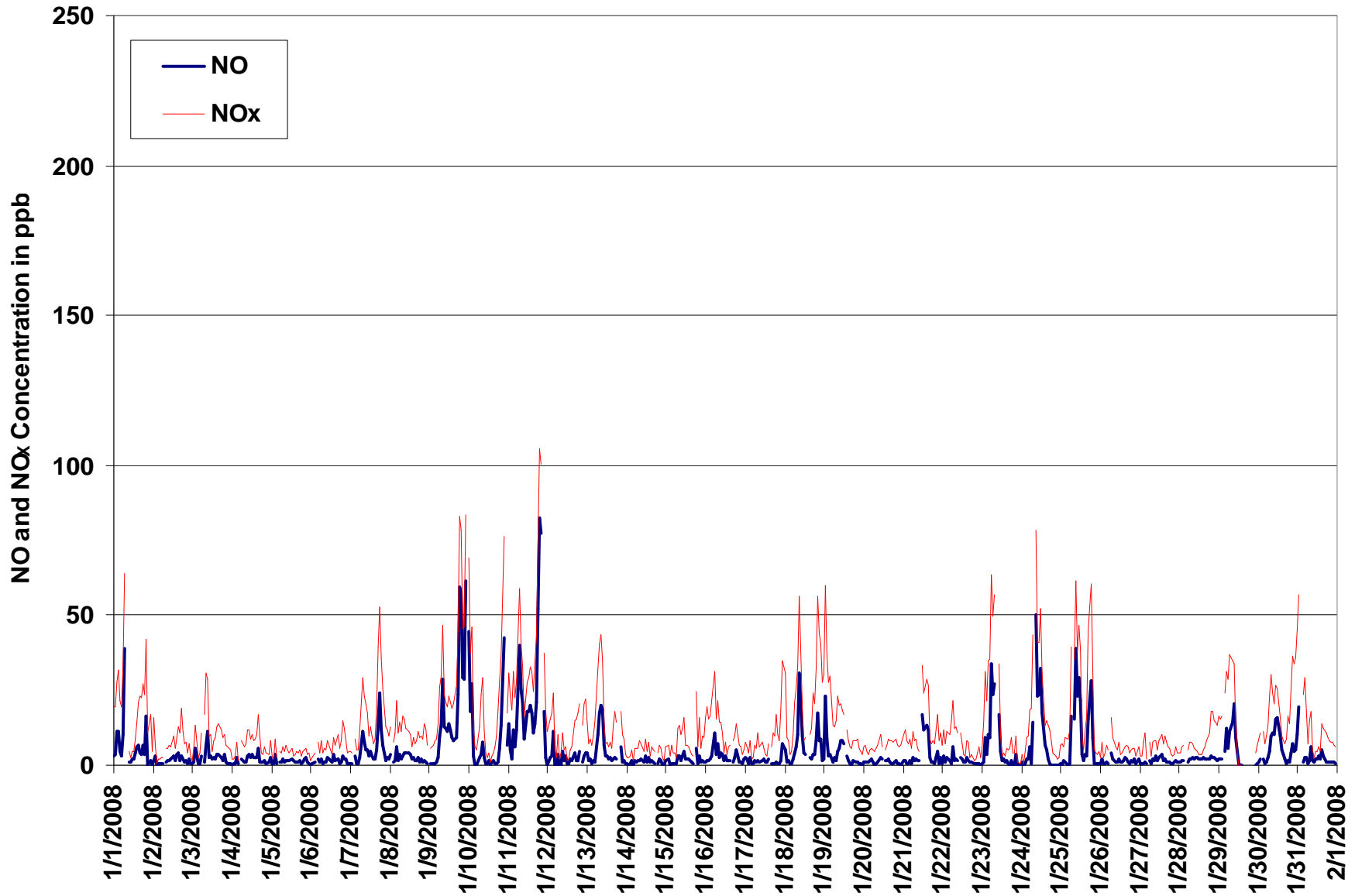


Figure 3. PAS - Crescent Heights Oxides of Nitrogen 1-hr Average Monthly Trend





Station: Crescent Heights  
 Station Owner: PAS

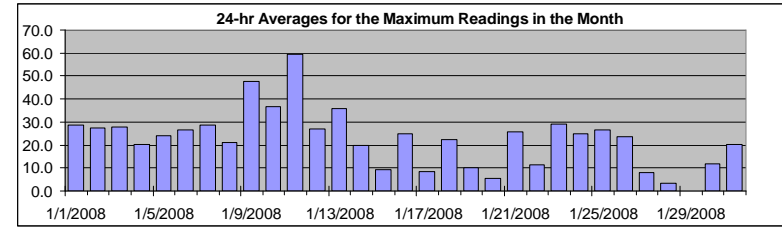
**INSTANTANEOUS (30 Second) MAXIMUM TABLE**

**Nitric Oxide (NO)**

Monitoring Dates: January 1, 2008 to February 1, 2008

**Summary**

Maximum 1-hr Value:	324.9	ppb	11-Jan	18:00 19:00
Maximum 24-hr Value:	59.3	ppb	11-Jan	



AIC Time:	33 hrs	Operational Time:	705 hrs						
Calibration Time:	6 hrs	AMD Operational Uptime:	100.0%						
Percentile	99	95	75	50	25	5	1	Average	Median
	142.3	87.6	34.3	8.1	2.5	1.0	0.5	23.1 ppb	8.1 ppb

**Status Flag Characters**

C	Calibration	A	AIC - Zero / Span Check
S	Instrument out of Service	X	Filter Exchange
N	No Data	M	Equipment Maintenance
D	Excessive Instrument Drift	P	Power Failure

**Day Mountain Standard Time**

Hour Start Hour End	0:00 1:00	1:00 2:00	2:00 3:00	3:00 4:00	4:00 5:00	5:00 6:00	6:00 7:00	7:00 8:00	8:00 9:00	9:00 10:00	10:00 11:00	11:00 12:00	12:00 13:00	13:00 14:00	14:00 15:00	15:00 16:00	16:00 17:00	17:00 18:00	18:00 19:00	19:00 20:00	20:00 21:00	21:00 22:00	22:00 23:00	23:00 0:00	24-hour Average	Daily Maximum
1-Jan-08	8	12	105	18	16	5	16	284	A	19	2	6	5	6	8	20	11	13	26	10	58	1	6	1	28.6	283.9
2-Jan-08	20	106	1	13	20	12	13	A	24	29	43	21	50	15	27	49	6	49	41	25	41	4	19	1	27.3	106.2
3-Jan-08	1	29	111	1	1	25	A	3	37	72	4	5	3	4	3	60	65	62	36	109	3	2	2	1	27.8	111.0
4-Jan-08	1	1	1	50	1	A	40	3	3	33	42	4	44	16	4	32	101	2	2	2	30	2	2	52	20.3	100.8
5-Jan-08	1	1	92	1	A	26	11	74	6	14	2	2	53	2	2	15	2	31	1	8	64	88	27	30	24.1	92.0
6-Jan-08	1	8	38	A	58	17	27	10	27	2	58	44	41	2	89	3	42	1	2	67	44	25	2	1	26.5	88.9
7-Jan-08	1	2	A	96	1	2	35	87	67	7	8	5	7	17	3	3	42	115	43	25	14	9	27	45	28.8	115.2
8-Jan-08	52	A	4	5	55	4	39	5	5	18	6	46	44	18	37	3	4	67	2	51	5	11	4	2	21.1	67.0
9-Jan-08	A	2	29	2	3	7	81	53	57	22	64	36	16	15	11	11	13	35	138	88	58	49	255	A	47.5	255.2
10-Jan-08	158	36	43	30	1	2	78	10	62	53	2	1	19	3	34	59	2	3	3	23	48	76	A	100	36.8	158.2
11-Jan-08	106	10	4	17	10	68	31	73	52	41	16	116	25	34	25	18	27	46	325	123	137	A	51	10	59.3	324.9
12-Jan-08	3	66	12	151	2	0	60	0	1	99	5	41	2	2	47	12	74	13	3	12	A	3	6	8	27.1	150.9
13-Jan-08	114	23	46	1	36	3	17	57	45	136	70	5	6	12	38	3	3	37	51	A	74	3	48	1	36.0	135.6
14-Jan-08	1	1	1	50	1	17	16	28	24	34	28	59	24	38	2	40	2	1	A	2	46	37	1	1	19.7	58.7
15-Jan-08	65	30	1	2	2	3	1	12	11	3	6	8	10	4	13	2	2	A	17	3	9	2	6	3	9.3	64.7
16-Jan-08	2	3	3	9	8	131	74	36	4	6	30	2	11	2	9	2	A	3	76	93	6	6	1	55	25.0	131.0
17-Jan-08	46	35	1	30	1	1	14	2	4	2	9	4	3	2	6	A	2	1	3	2	2	2	5	16	8.4	46.2
18-Jan-08	10	3	4	1	3	5	8	24	46	59	33	15	6	25	A	12	7	42	38	52	62	23	35	5	22.5	62.1
19-Jan-08	6	98	17	11	10	3	4	3	8	8	12	15	10	A	6	4	1	1	3	3	3	2	1	2	10.1	98.4
20-Jan-08	3	2	3	2	3	4	2	1	1	4	4	5	A	3	2	3	2	1	1	29	48	1	2	1	5.5	47.7
21-Jan-08	31	50	2	2	20	1	30	3	18	3	4	A	61	39	42	50	40	2	4	1	35	89	2	66	25.9	88.5
22-Jan-08	1	35	35	69	25	2	53	3	4	5	A	5	5	2	4	5	2	2	2	1	2	2	2	1	11.5	69.0
23-Jan-08	2	4	26	20	47	21	142	147	69	A	36	20	15	29	2	17	2	1	24	1	1	39	0	0	29.0	146.7
24-Jan-08	43	1	13	25	17	135	3	47	A	66	72	27	61	29	12	10	3	2	1	1	0	1	0	1	24.8	135.0
25-Jan-08	2	3	37	4	2	2	55	A	33	44	38	76	32	14	4	31	7	27	103	88	2	1	2	7	26.6	103.1
26-Jan-08	1	43	1	2	16	1	A	50	17	2	2	29	3	2	31	89	59	11	1	33	18	60	1	72	23.6	89.2
27-Jan-08	1	1	7	2	1	A	56	1	37	29	7	3	5	6	3	4	2	2	3	1	3	2	3	3	7.9	55.7
28-Jan-08	2	3	3	3	A	3	4	5	3	3	4	4	3	3	3	4	3	2	3	5	4	5	3	4	3.4	5.3
29-Jan-08	4	4	4	A	41	121	14	17	23	30	12	7	2	1	1	C	C	C	C	C	A	0	3		N	120.8
30-Jan-08	3	4	A	5	2	5	14	23	36	17	15	27	27	13	9	7	10	3	6	4	14	12	10	12	12.0	35.5
31-Jan-08	16	36	A	4	5	18	19	7	167	39	2	31	13	44	19	28	7	2	2	2	2	3	2	1	20.3	167.0
Hourly Avg	23.6	21.7	23.0	21.5	14.0	22.2	33.0	36.9	30.7	29.9	21.1	22.4	20.0	13.4	16.6	20.5	18.7	19.9	33.1	29.7	28.7	19.2	17.6	16.8		
Hourly Max	158.2	106.2	111.0	150.9	58.4	135.0	142.4	283.9	167.0	135.6	72.0	116.2	61.0	43.8	88.9	89.2	100.8	115.2	324.9	122.5	136.6	88.5	255.2	100.0		



Station: Crescent Heights  
 Station Owner: PAS

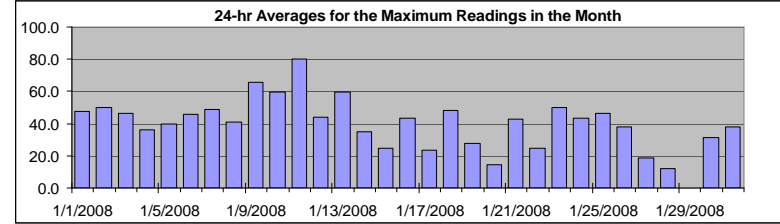
**INSTANTANEOUS (30 Second) MAXIMUM TABLE**

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

Monitoring Dates: January 1, 2008 to February 1, 2008

**Summary**

Maximum 1-hr Value:	374.8	ppb	11-Jan	18:00 19:00
Maximum 24-hr Value:	80.1	ppb	11-Jan	



AIC Time:	33 hrs	Operational Time:	705 hrs						
Calibration Time:	6 hrs	AMD Operational Uptime:	100.0%						
Percentile	99	95	75	50	25	5	1	Average	Median
	180.7	116.3	57.1	24.9	10.1	4.4	2.5	40.6 ppb	24.9 ppb

**Status Flag Characters**

C	Calibration	A	AIC - Zero / Span Check
S	Instrument out of Service	X	Filter Exchange
N	No Data	M	Equipment Maintenance
D	Excessive Instrument Drift	P	Power Failure

**Day Mountain Standard Time**

Hour Start Hour End	0:00 1:00	1:00 2:00	2:00 3:00	3:00 4:00	4:00 5:00	5:00 6:00	6:00 7:00	7:00 8:00	8:00 9:00	9:00 10:00	10:00 11:00	11:00 12:00	12:00 13:00	13:00 14:00	14:00 15:00	15:00 16:00	16:00 17:00	17:00 18:00	18:00 19:00	19:00 20:00	20:00 21:00	21:00 22:00	22:00 23:00	23:00 0:00	24-hour Average	Daily Maximum
1-Jan-08	28	32	133	42	39	25	40	308	A	35	4	13	9	14	18	40	36	38	53	35	89	18	31	14	47.6	308.0
2-Jan-08	40	146	2	29	35	28	22	A	42	61	126	39	69	26	50	83	21	88	63	52	63	13	44	5	49.9	146.2
3-Jan-08	3	57	170	5	9	49	A	25	73	117	12	15	8	12	11	83	91	92	53	142	12	11	13	9	46.5	169.6
4-Jan-08	4	3	5	81	2	A	60	11	9	64	73	11	80	31	13	60	138	13	6	4	59	6	6	90	36.1	137.7
5-Jan-08	5	4	135	12	A	52	28	105	17	33	6	6	76	5	6	27	6	50	4	19	98	131	44	48	39.8	135.0
6-Jan-08	3	19	78	A	84	33	58	19	57	8	100	78	71	5	119	10	65	8	11	104	65	48	8	6	46.0	119.2
7-Jan-08	7	10	A	129	7	7	66	124	102	22	24	15	17	36	10	12	72	162	74	52	39	28	48	56	48.7	162.1
8-Jan-08	79	A	18	21	82	17	69	18	23	33	16	79	69	26	63	10	14	107	14	98	19	32	20	13	40.8	107.4
9-Jan-08	A	8	45	10	14	23	107	73	80	35	90	51	26	25	22	24	32	55	170	105	76	69	296	A	65.4	296.2
10-Jan-08	212	62	63	47	9	10	109	36	97	98	10	4	36	10	43	91	13	20	26	53	81	115	A	132	59.8	211.9
11-Jan-08	130	30	23	37	27	91	51	93	71	56	26	133	37	51	44	33	50	72	375	149	155	A	77	31	80.1	374.8
12-Jan-08	21	89	31	181	15	6	79	4	7	126	15	65	3	3	69	20	102	31	25	36	A	20	28	32	43.8	180.8
13-Jan-08	165	43	69	9	59	19	38	86	74	178	97	11	11	40	91	9	18	60	89	A	112	14	75	6	59.8	177.8
14-Jan-08	4	4	4	63	3	37	31	42	44	61	70	102	40	59	5	69	6	7	A	5	80	51	9	3	34.8	102.0
15-Jan-08	107	55	5	13	13	17	4	33	35	17	23	22	20	13	25	12	5	A	46	15	36	8	29	15	24.6	107.1
16-Jan-08	22	24	24	35	33	168	109	61	17	17	48	5	23	5	20	9	A	12	106	133	19	20	5	80	43.3	168.0
17-Jan-08	75	65	9	51	4	4	38	8	23	10	19	8	7	4	24	A	11	13	23	23	21	16	34	46	23.2	75.2
18-Jan-08	38	28	14	7	10	17	31	54	78	93	59	28	12	39	A	56	24	74	70	91	108	63	76	35	48.0	107.8
19-Jan-08	37	160	51	44	44	17	15	20	31	25	27	31	23	A	21	12	8	8	10	14	14	8	6	6	27.4	160.2
20-Jan-08	9	10	9	6	7	8	8	7	8	17	14	12	A	8	9	13	10	12	10	51	85	8	8	9	14.6	84.9
21-Jan-08	50	79	10	12	34	7	53	11	35	10	7	A	107	57	57	78	56	9	13	9	65	112	17	95	42.7	112.2
22-Jan-08	8	54	58	112	54	19	90	16	17	23	A	18	19	6	11	17	14	5	5	3	3	7	9	5	24.9	112.0
23-Jan-08	15	21	56	48	84	55	207	173	112	A	60	39	31	55	5	31	10	8	55	7	8	67	2	2	49.9	206.9
24-Jan-08	67	4	35	51	43	195	28	82	A	97	106	47	90	48	24	21	15	15	10	7	5	4	4	5	43.5	195.3
25-Jan-08	25	20	61	20	18	19	90	A	56	68	58	103	51	31	10	52	31	59	139	111	7	6	7	23	46.2	138.7
26-Jan-08	3	69	3	8	35	8	A	98	38	10	7	46	6	5	53	97	89	22	5	48	38	85	5	92	38.0	97.8
27-Jan-08	4	5	24	14	5	A	104	5	71	54	14	8	14	16	9	12	10	10	11	5	6	8	11	7	18.5	104.2
28-Jan-08	6	8	10	11	A	10	13	18	10	8	7	7	5	4	5	7	7	11	14	25	24	23	19	20	12.0	25.3
29-Jan-08	21	24	23	A	73	156	40	43	42	50	18	8	0	0	C	C	C	C	C	C	A	6	10	N	155.6	
30-Jan-08	14	15	A	18	11	14	38	52	81	36	29	42	42	21	19	14	18	21	28	22	50	45	42	50	31.3	80.7
31-Jan-08	51	76	A	31	35	38	36	26	194	69	4	43	21	65	37	49	21	13	12	12	9	10	9	8	37.7	194.1
Hourly Avg	41.8	40.8	41.6	39.6	30.5	39.7	57.4	56.9	53.2	51.1	39.0	36.2	34.1	24.0	29.7	36.2	34.3	37.8	52.4	49.2	49.9	36.0	32.9	31.6		
Hourly Max	211.9	160.2	169.6	180.8	84.1	195.3	206.9	308.0	194.1	177.8	126.5	133.2	106.6	65.3	119.2	97.1	137.7	162.1	374.8	148.7	155.2	130.5	296.2	131.8		

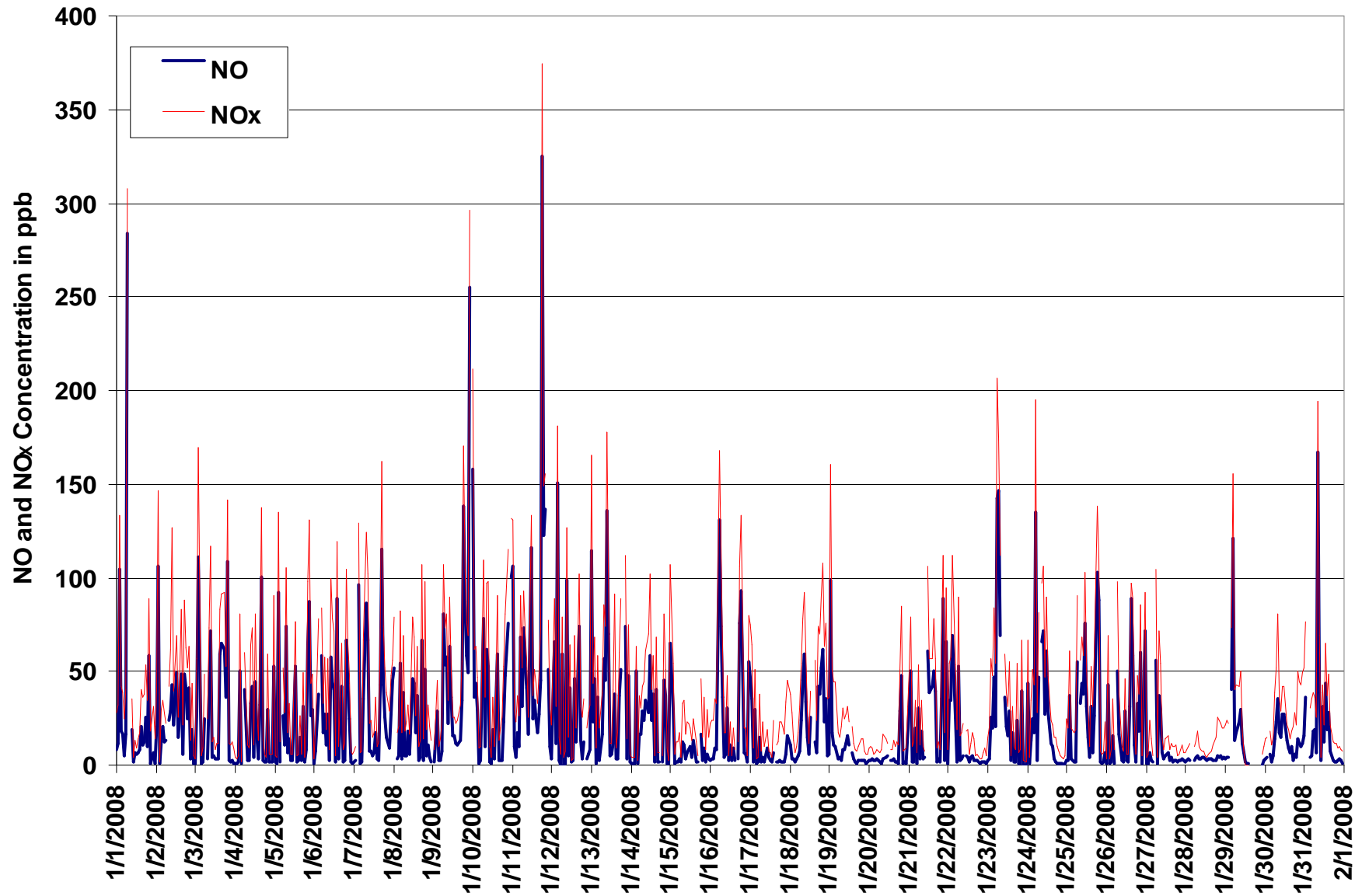


Figure 4. PAS - Crescent Heights Oxides of Nitrogen Instantaneous (30 Second) Maximum Value Monthly Trend



## PAS - Crescent Heights Ozone Monthly Summary

Station: Crescent Heights  
Station Owner: PAS

## HOURLY AVERAGE TABLE

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

Monitoring Dates: January 1, 2008 to February 1, 2008

Objective Limit: Alberta Environment: 1-hr 82 ppb 24-hr na ppb

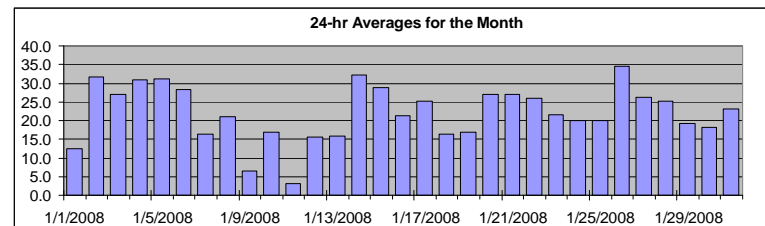
## Summary

Number of 1-hr Exceedances:	0		
Maximum 1-hr Average:	38.4 ppb	2-Jan	3:00 4:00
Maximum 24-hr Average:	34.7 ppb	26-Jan	

AIC Time:	33 hrs		Operational Time:	709 hrs					
Calibration Time:	2 hrs		AMD Operational Uptime:	100.0%					
Percentile	99	95	75	50	25	5	1	Average	Median
	36.9	34.7	30.0	25.1	15.9	1.3	0.0	22.2 ppb	25.1 ppb

## Day Mountain Standard Time

Hour Start	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	24-hour Average	Daily Maximum
1-Jan-08	4	6	7	3	6	6	1	2	A	26	28	26	27	25	20	14	9	7	6	4	3	16	15	27	12.5	27.7
2-Jan-08	21	35	38	38	38	37	37	A	35	34	34	32	31	32	29	26	24	17	26	31	31	33	33	33	31.6	38.4
3-Jan-08	34	32	30	32	29	26	A	18	12	20	28	30	35	32	29	25	25	24	26	25	27	28	29	26	27.0	34.6
4-Jan-08	27	29	29	32	33	A	32	30	31	30	31	32	33	34	32	30	25	28	34	33	32	32	31	31	30.9	33.9
5-Jan-08	32	33	31	30	A	28	31	31	30	28	30	32	33	33	33	32	31	31	31	29	32	30	30	32	31.1	33.3
6-Jan-08	33	34	34	A	32	31	30	30	29	30	31	32	33	33	31	29	24	22	20	16	19	25	28	25	28.4	34.4
7-Jan-08	26	26	A	23	21	21	17	10	11	12	16	26	25	27	28	23	15	3	1	1	4	12	15	15	16.4	27.5
8-Jan-08	17	A	20	18	13	18	17	18	14	17	21	26	30	31	28	27	26	22	20	23	23	16	17	23	21.1	30.8
9-Jan-08	A	21	18	15	14	8	2	0	1	5	8	10	10	11	11	8	3	0	0	0	0	0	0	A	6.6	21.3
10-Jan-08	0	1	2	15	21	22	17	7	7	21	27	29	34	36	33	30	24	22	13	7	7	0	A	12	16.9	36.3
11-Jan-08	3	1	1	0	0	0	0	0	0	5	10	9	8	9	8	8	2	0	1	1	1	A	1	5	3.2	9.9
12-Jan-08	7	6	5	8	15	16	16	17	16	16	20	23	27	28	26	25	20	15	12	10	A	14	9	7	15.7	28.0
13-Jan-08	16	22	20	18	14	7	0	1	8	18	22	25	27	26	24	15	12	13	A	14	15	19	23	15.7	27.0	
14-Jan-08	25	26	27	28	32	30	30	29	29	30	33	34	37	36	37	36	34	35	A	35	34	34	35	33	32.1	37.2
15-Jan-08	29	32	32	26	31	32	33	26	26	29	27	27	33	33	33	34	33	A	18	30	23	28	25	22	28.8	34.2
16-Jan-08	15	12	15	13	7	5	14	12	15	18	26	31	29	31	29	29	A	27	27	23	26	26	30	29	21.2	31.0
17-Jan-08	28	28	27	26	31	30	27	29	25	29	27	26	32	33	31	A	28	22	22	17	23	23	11	1	25.2	33.0
18-Jan-08	0	18	20	27	28	26	16	13	10	9	15	22	27	29	A	28	25	15	17	11	1	2	6	9	16.3	28.7
19-Jan-08	6	6	5	7	7	19	19	15	10	15	17	20	22	A	25	24	22	22	18	21	21	21	23	24	16.9	25.0
20-Jan-08	23	23	27	30	29	30	31	31	30	30	27	30	A	31	29	26	25	25	25	25	24	24	24	23	27.1	31.2
21-Jan-08	20	19	21	23	24	25	24	28	29	33	34	A	32	33	33	32	32	31	29	28	24	19	24	24	27.0	34.0
22-Jan-08	25	23	25	23	22	16	17	21	20	25	A	29	32	35	34	30	30	32	29	29	28	26	24	26	26.1	34.9
23-Jan-08	22	14	5	8	2	1	1	4	5	A	18	31	35	36	36	34	32	30	28	30	30	28	32	32	21.6	36.5
24-Jan-08	31	31	28	25	24	18	11	1	A	5	13	14	13	18	22	20	17	16	20	26	25	26	28	28	20.1	31.2
25-Jan-08	23	23	28	23	21	15	2	A	2	5	11	12	17	34	34	30	20	2	3	17	34	35	36	36	20.1	36.3
26-Jan-08	37	33	36	34	32	33	A	31	33	35	36	36	37	36	38	38	37	35	35	34	35	34	34	31	34.7	37.9
27-Jan-08	31	31	26	23	32	A	29	30	28	27	27	30	28	20	22	19	21	23	24	26	26	27	25	27	26.1	32.1
28-Jan-08	27	27	25	25	A	27	25	26	26	28	29	30	30	30	30	29	27	25	22	16	16	19	19	19	25.1	30.1
29-Jan-08	15	16	15	A	6	6	1	0	5	12	19	24	29	30	28	26	27	26	26	26	26	27	26	26	19.2	29.7
30-Jan-08	24	23	A	23	24	22	20	14	12	18	21	C	C	A	27	27	26	23	17	19	12	3	4	4	18.1	26.8
31-Jan-08	0	0	A	10	9	22	30	24	26	33	35	34	35	35	36	26	21	20	21	23	23	23	23	23	23.1	36.0
Hourly Avg	20.1	21.0	21.4	20.9	20.6	20.0	18.3	17.2	17.9	21.1	24.0	26.2	28.3	29.6	28.6	26.3	23.4	20.4	19.5	20.6	20.8	21.5	21.8	22.5		
Hourly Max	36.8	35.1	38.0	38.4	37.8	36.8	37.3	30.9	35.4	34.7	36.0	35.6	37.2	36.4	37.8	37.9	36.8	35.2	34.7	34.8	34.8	35.1	36.3	36.0		



## Status Flag Characters

C	Calibration	A	AIC - Zero / Span Check
S	Instrument out of Service	X	Filter Exchange
N	No Data	M	Equipment Maintenance
D	Excessive Instrument Drift	P	Power Failure

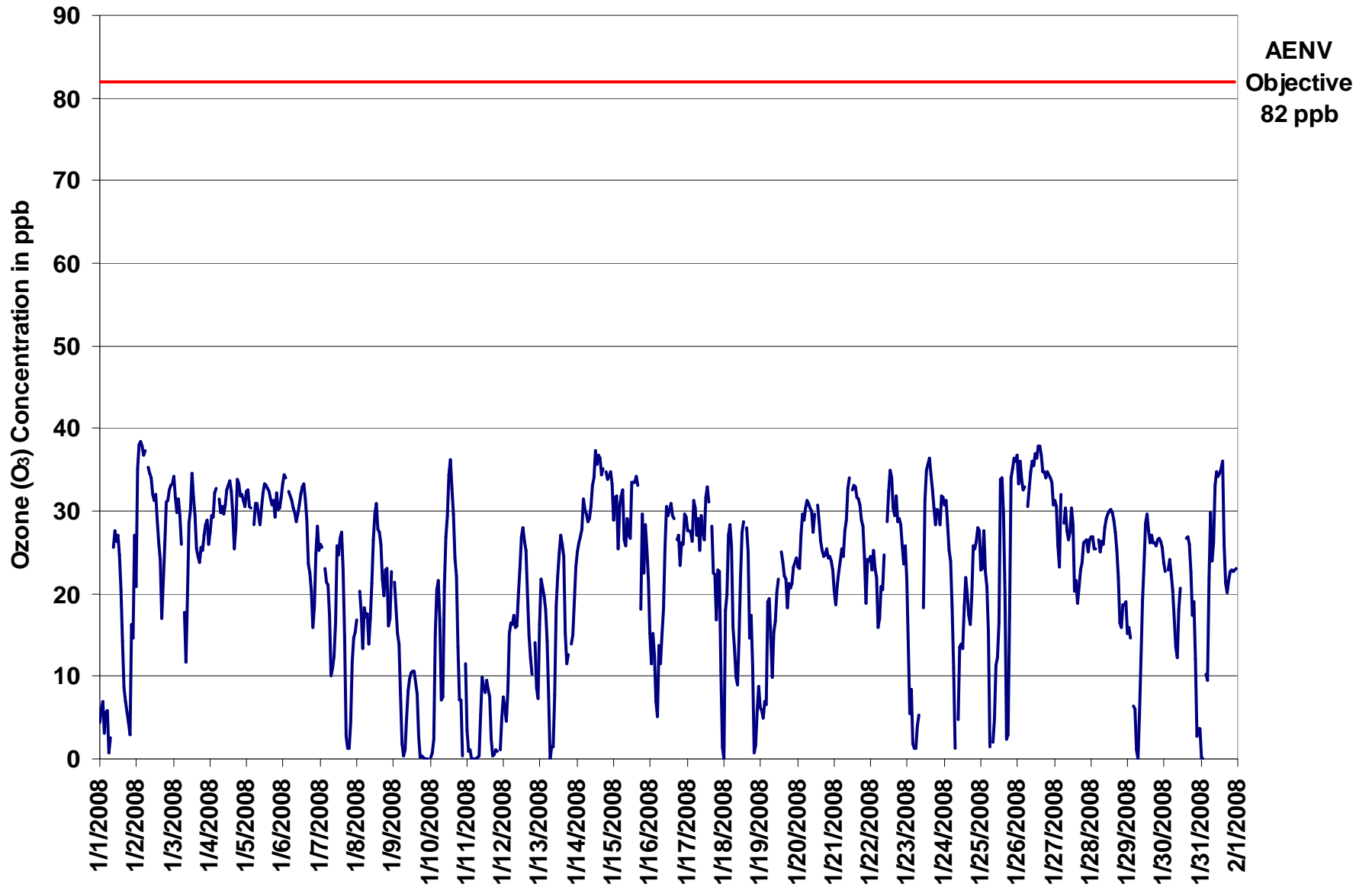


Figure 5. PAS - Crescent Heights Ozone 1-hr Average Monthly Trend



Station: Crescent Heights  
 Station Owner: PAS

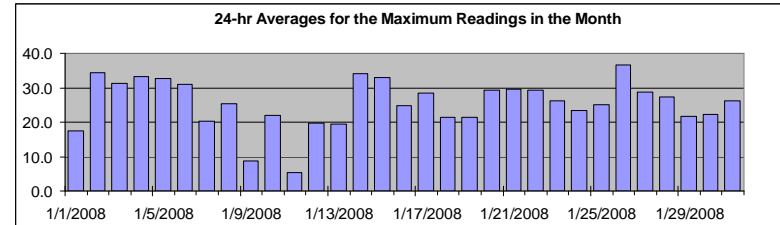
**INSTANTANEOUS (30 Second) MAXIMUM TABLE**

**Ozone (O<sub>3</sub>)**

Monitoring Dates: January 1, 2008 to February 1, 2008

**Summary**

Maximum 1-hr Value:	39.6	ppb	26-Jan	15:00 16:00
Maximum 24-hr Value:	36.7	ppb	26-Jan	



AIC Time:	33 hrs	Operational Time:	709 hrs						
Calibration Time:	2 hrs	AMD Operational Uptime:	100.0%						
Percentile	99	95	75	50	25	5	1	Average	Median
	38.5	36.6	32.7	27.7	20.8	5.7	0.5	25.5 ppb	27.7 ppb

**Status Flag Characters**

C	Calibration	A	AIC - Zero / Span Check
S	Instrument out of Service	X	Filter Exchange
N	No Data	M	Equipment Maintenance
D	Excessive Instrument Drift	P	Power Failure

**Day Mountain Standard Time**

Hour Start Hour End	0:00 1:00	1:00 2:00	2:00 3:00	3:00 4:00	4:00 5:00	5:00 6:00	6:00 7:00	7:00 8:00	8:00 9:00	9:00 10:00	10:00 11:00	11:00 12:00	12:00 13:00	13:00 14:00	14:00 15:00	15:00 16:00	16:00 17:00	17:00 18:00	18:00 19:00	19:00 20:00	20:00 21:00	21:00 22:00	22:00 23:00	23:00 0:00	24-hour Average	Daily Maximum
1-Jan-08	9	10	12	9	10	12	7	8	A	27	29	29	28	26	23	21	13	15	14	10	12	23	25	31	17.6	31.0
2-Jan-08	34	37	39	39	39	38	38	A	36	36	35	34	33	33	32	30	28	21	33	33	36	35	36	35	34.4	39.2
3-Jan-08	36	35	34	33	32	30	A	28	24	31	31	35	36	35	33	31	30	27	27	28	29	31	32	28	31.1	36.0
4-Jan-08	29	31	31	34	34	A	34	32	33	33	33	34	36	36	36	33	30	34	35	35	34	33	34	33	33.3	35.8
5-Jan-08	34	34	33	32	A	30	33	33	31	31	32	34	35	34	34	34	33	32	32	34	33	32	33	33	32.8	34.9
6-Jan-08	34	35	35	A	34	33	34	34	31	32	34	34	35	35	33	33	26	25	24	19	25	29	31	26	31.0	35.4
7-Jan-08	27	28	A	26	23	22	21	21	16	15	22	28	27	29	29	28	22	9	7	7	9	17	18	18	20.4	29.2
8-Jan-08	23	A	23	23	22	26	22	22	18	22	27	30	33	33	31	30	28	26	23	27	26	22	21	26	25.4	33.3
9-Jan-08	A	23	21	19	19	13	5	2	5	8	10	11	12	12	12	10	6	1	2	1	0	0	0	A	8.8	23.2
10-Jan-08	2	4	10	21	24	25	23	13	15	25	30	33	37	38	35	32	29	26	24	14	22	2	A	20	21.9	37.8
11-Jan-08	9	4	2	0	0	0	0	1	1	13	12	11	9	11	10	9	7	1	2	2	1	A	4	10	5.2	12.9
12-Jan-08	14	9	11	16	19	19	19	19	18	20	22	27	28	29	28	29	24	21	17	17	A	20	16	13	19.7	29.1
13-Jan-08	21	25	22	21	17	13	3	7	4	14	23	24	27	29	29	27	22	16	15	A	20	19	24	25	19.4	28.8
14-Jan-08	27	28	29	31	33	33	32	31	32	32	35	37	38	38	38	38	36	38	A	37	36	37	36	36	34.2	38.5
15-Jan-08	31	36	36	28	34	35	33	34	34	34	34	34	35	36	36	35	34	A	31	32	30	29	30	28	33.0	36.2
16-Jan-08	20	17	20	19	19	11	17	16	17	21	31	32	32	32	31	31	A	29	30	28	28	29	31	31	24.8	31.9
17-Jan-08	31	30	29	31	33	31	30	31	29	32	31	30	35	34	33	A	31	26	27	24	26	27	18	7	28.6	35.3
18-Jan-08	2	22	26	30	30	30	26	19	21	16	18	26	30	32	A	30	29	22	24	21	4	4	15	14	21.4	31.6
19-Jan-08	12	15	13	19	21	24	23	19	12	17	22	23	25	A	29	26	24	27	21	25	23	22	25	25	21.4	28.6
20-Jan-08	25	25	31	31	31	33	34	33	33	33	30	31	A	32	31	29	27	27	26	27	27	26	25	24	29.2	33.6
21-Jan-08	23	22	23	25	27	27	27	29	31	34	35	A	36	36	36	35	34	33	34	30	28	23	27	26	29.7	36.2
22-Jan-08	26	26	27	27	25	18	24	24	25	30	A	32	35	36	36	35	34	35	30	31	30	29	27	28	29.2	36.4
23-Jan-08	27	18	16	16	9	8	8	14	13	A	25	36	37	38	38	37	35	33	32	32	32	33	33	26.2	38.1	
24-Jan-08	33	33	32	31	30	26	17	4	A	12	19	17	15	24	25	22	19	19	23	27	26	27	29	29	23.4	33.0
25-Jan-08	28	30	31	27	24	20	5	A	3	7	16	15	24	37	36	32	30	17	14	34	35	37	38	38	25.1	38.2
26-Jan-08	38	37	38	37	36	36	A	35	37	36	37	38	38	38	39	40	39	36	36	35	36	35	35	32	36.7	39.6
27-Jan-08	32	32	31	34	34	A	30	31	30	30	31	32	31	25	23	21	22	25	26	27	27	28	28	28	28.6	33.9
28-Jan-08	28	28	28	28	A	29	28	28	28	29	30	31	31	31	30	30	29	27	25	20	21	22	21	23	27.2	31.1
29-Jan-08	20	20	19	A	11	9	7	1	10	17	22	27	30	30	29	27	28	27	27	27	27	27	27	28	21.8	30.5
30-Jan-08	27	25	A	25	27	25	25	20	19	21	22	C	C	A	29	29	28	27	23	23	20	14	8	9	22.2	28.7
31-Jan-08	2	0	A	15	20	31	32	29	33	35	36	35	36	36	37	34	23	22	24	24	24	24	24	24	26.2	37.3
Hourly Avg	23.5	23.9	25.1	25.1	24.7	23.7	22.0	21.3	22.1	24.8	27.2	29.0	30.5	31.5	30.7	29.2	26.7	24.2	23.6	24.3	24.3	24.6	25.0	25.4		
Hourly Max	37.7	37.3	39.0	39.2	39.2	37.7	38.4	34.9	36.6	36.3	37.1	37.5	38.5	38.0	39.5	39.6	38.7	37.6	35.7	36.9	36.2	36.8	37.7	38.2		

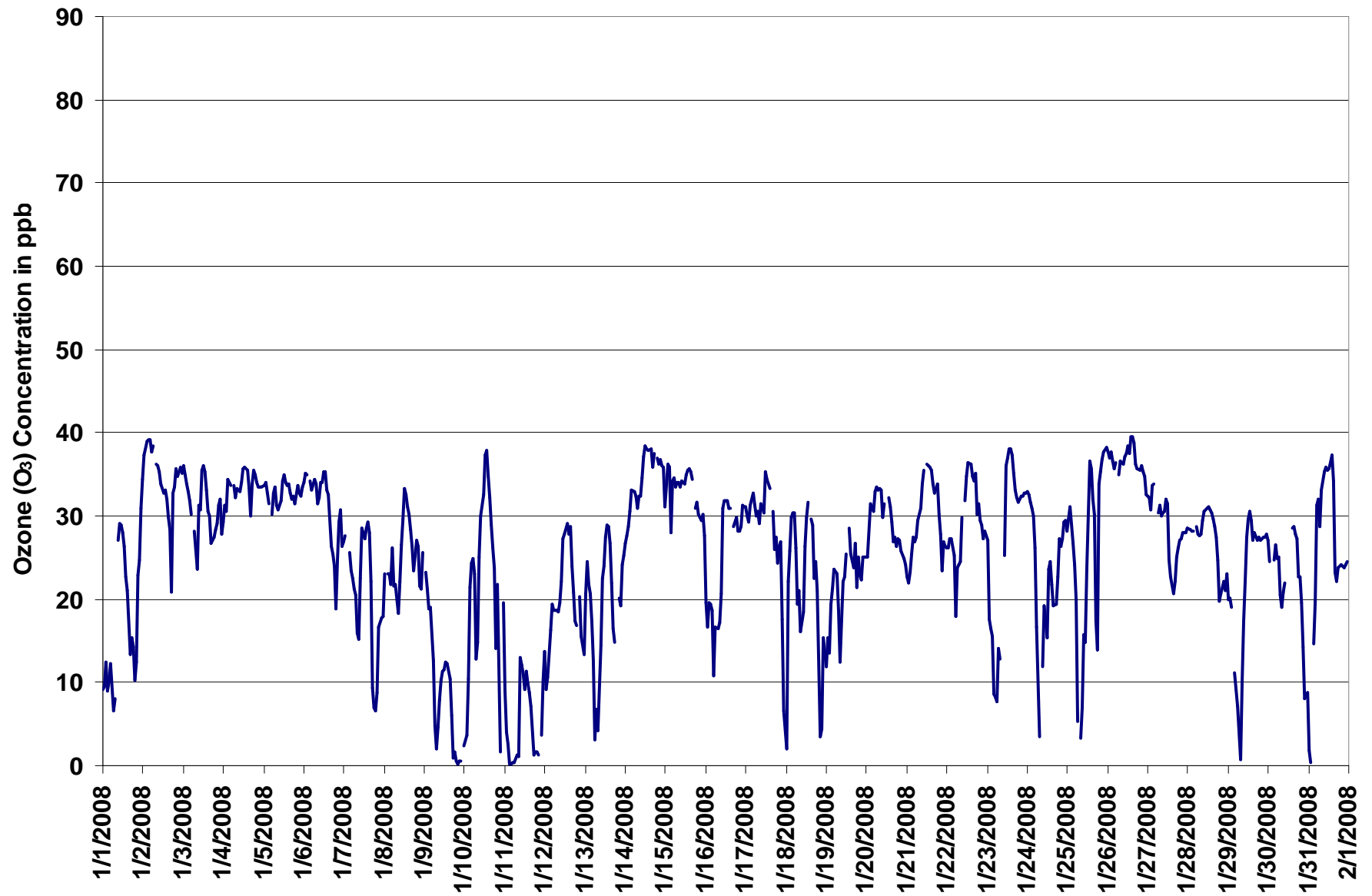
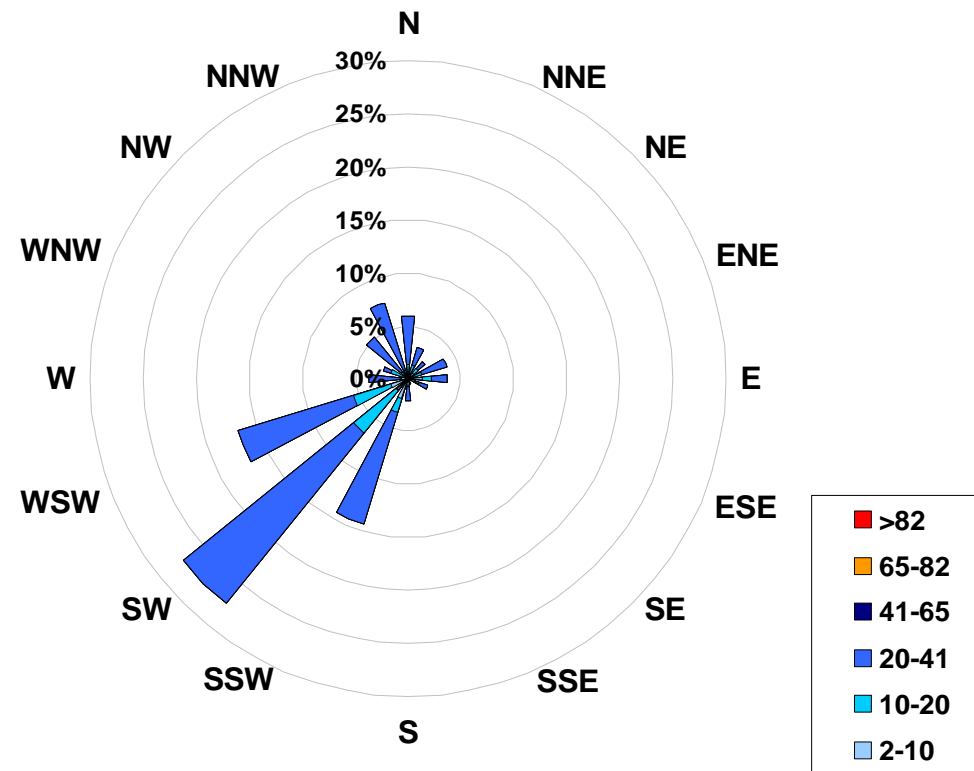


Figure 6. PAS - Crescent Heights Ozone Instantaneous (30 Second) Maximum Value Monthly Trend



1-hr Average Concentration Rose for Ozone (in ppb) Located at the Crescent Heights Site for January 2008



Calms: 0%

Frequency Distribution of O <sub>3</sub> in ppb			Frequency (hrs)
Range			
2.0	< 10		115
10	to 20		126
20	to 41		468
41	to 65		0
65	to 82		0
	> 82		0
Total Non-Zero Values			709







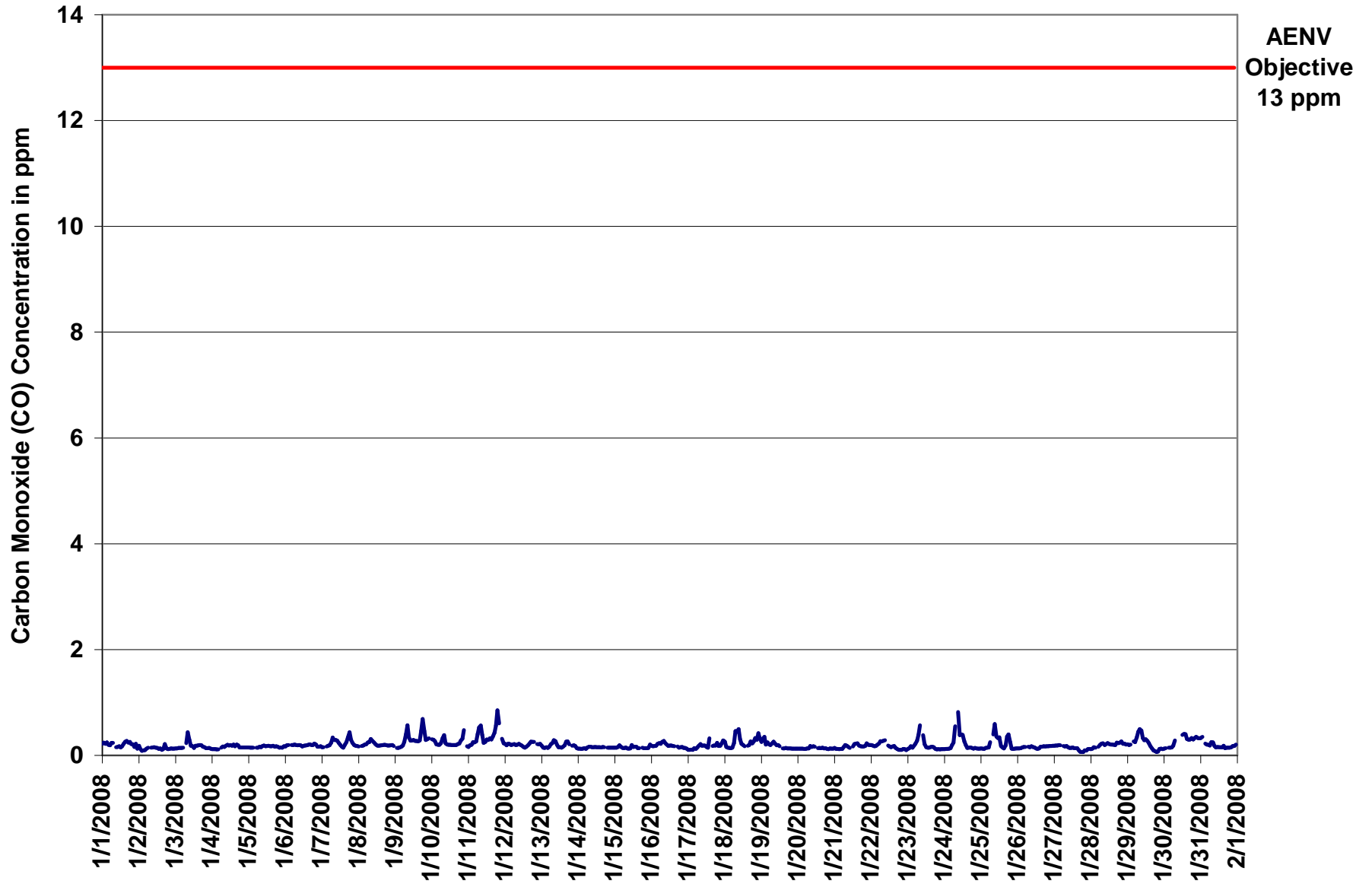


Figure 7. PAS - Crescent Heights Carbon Monoxide 1-hr Average Monthly Trend



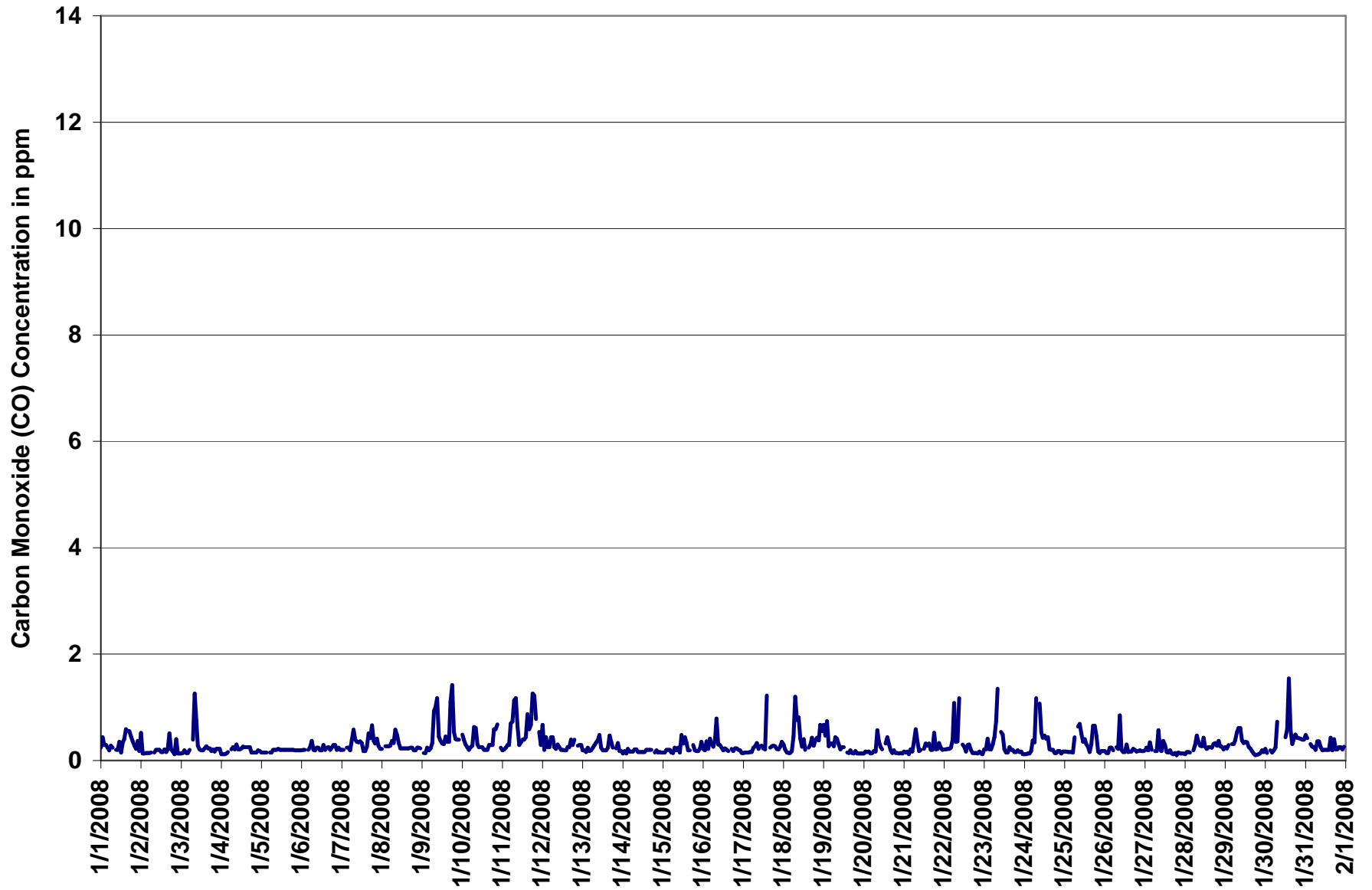
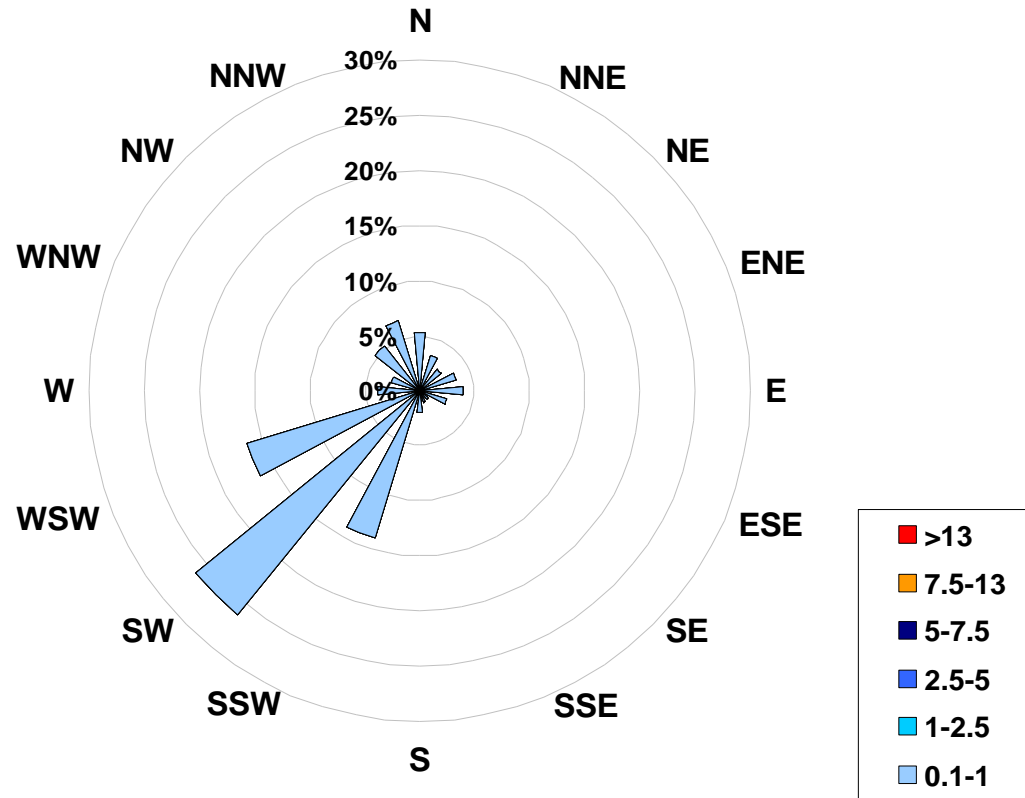


Figure 8. PAS - Crescent Heights Carbon Monoxide Instantaneous (30 Second) Maximum Value Monthly Trend



**1-hr Average Concentration Rose for Carbon Monoxide (in ppm) Located at the Crescent Heights Site for January 2008**



**Calms: 0%**

Frequency Distribution of CO in ppm			Frequency (hrs)
Range			
0.1	<	1	708
1	to	2.5	0
2.5	to	5	0
5	to	7.5	0
7.5	to	13	0
	>	13	0
Total Non-Zero Values			708







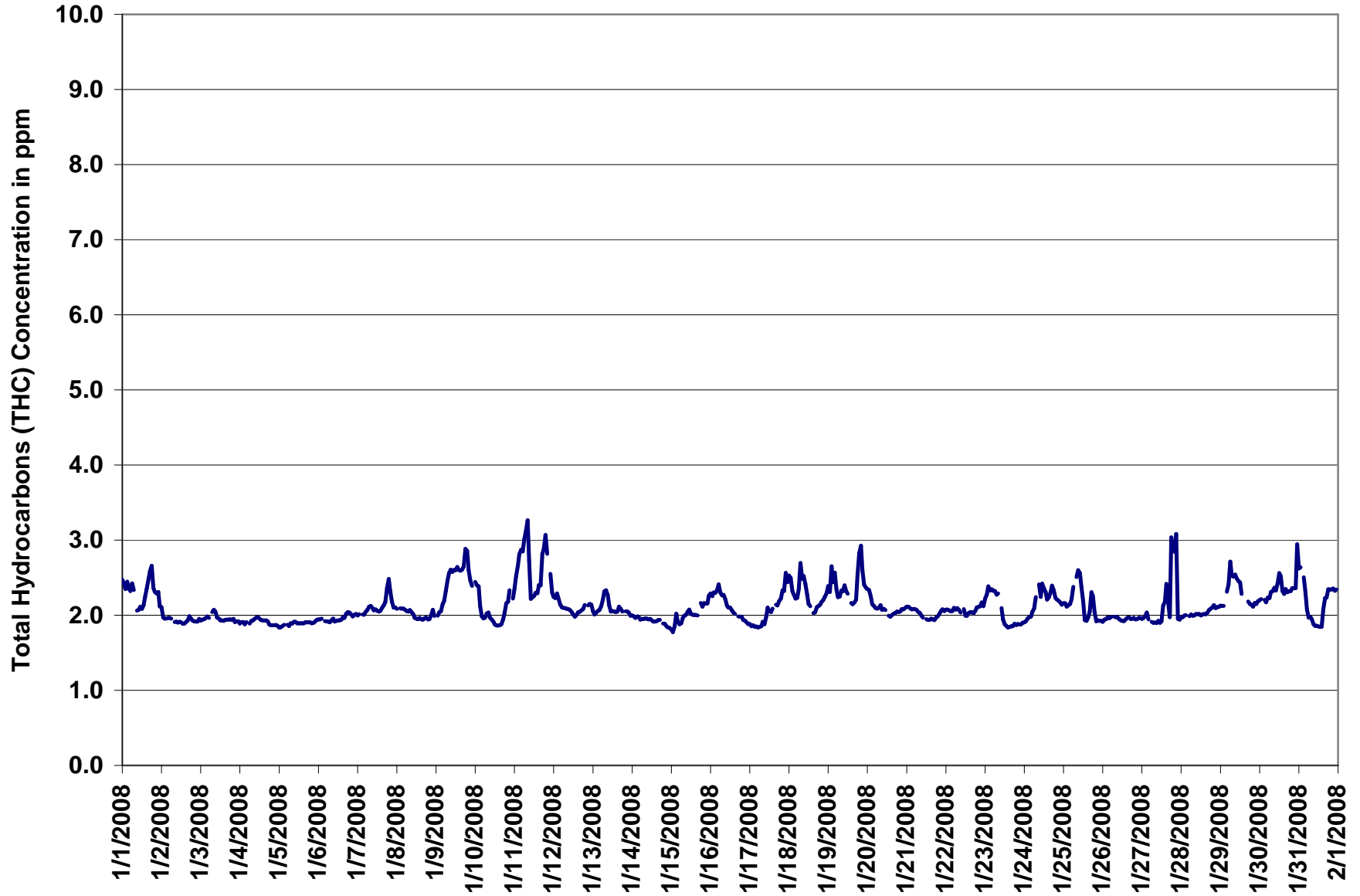


Figure 9. PAS - Crescent Heights Total Hydrocarbons 1-hr Average Monthly Trend



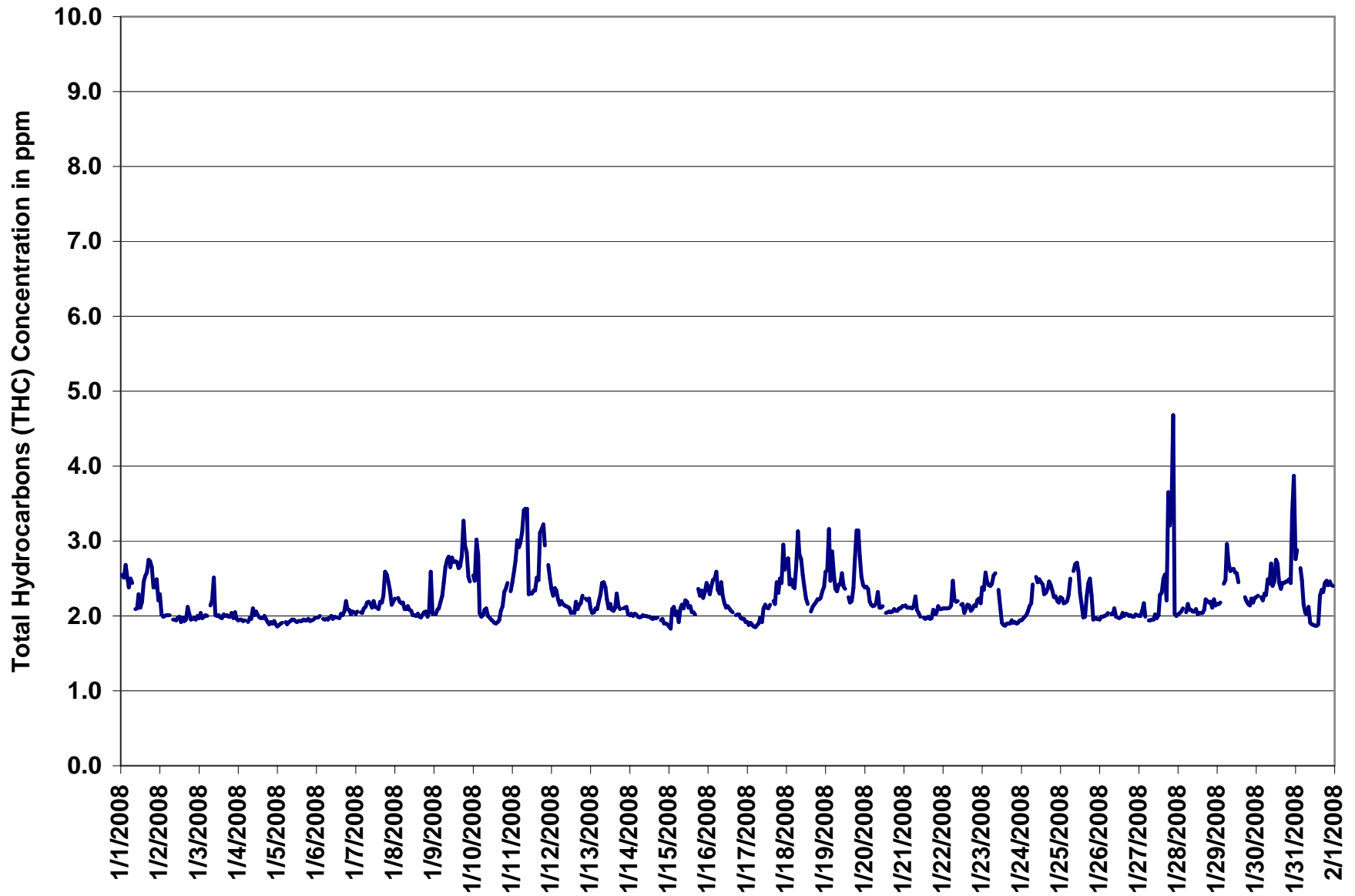
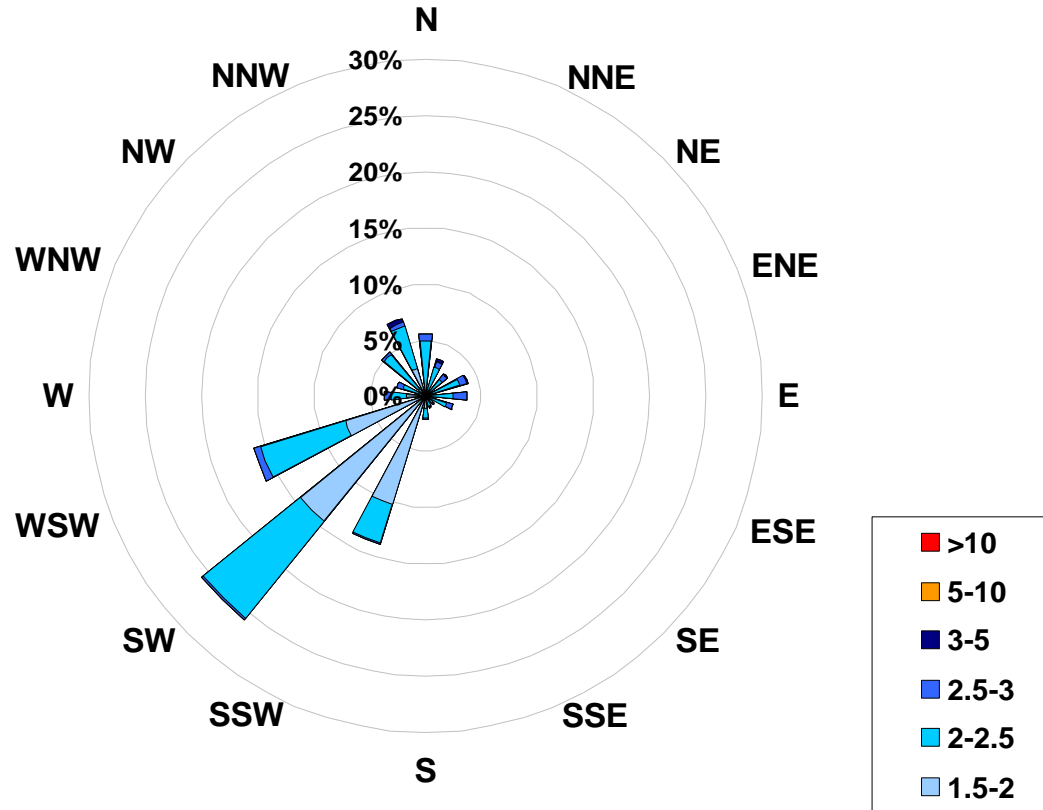


Figure 10. PAS - Crescent Heights Total Hydrocarbons Instantaneous (30 Second) Maximum Value Monthly Trend



**1-hr Average Concentration Rose for Total Hydrocarbons (in ppm)  
Located at the Crescent Heights Site for January 2008**



**Calms: 0%**

Frequency Distribution of THC in ppm			Frequency (hrs)
Range			
1.5	< 2		275
2	to 2.5		377
2.5	to 3		50
3	to 5		6
5	to 10		0
	> 10		0
Total Non-Zero Values			709



## PAS - Crescent Heights Particulate Matter (less than 2.5 microns) Monthly Summary

Station: Crescent Heights  
Station Owner: PAS

### HOURLY AVERAGE TABLE

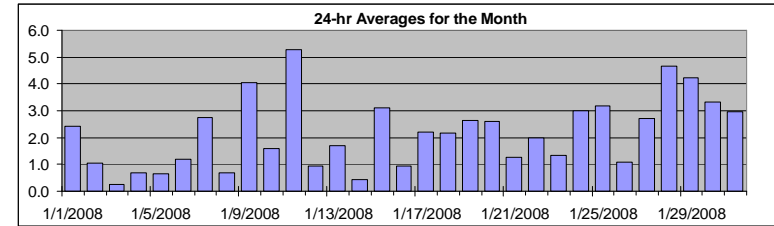
Particulate Matter (PM<sub>2.5</sub>)

Monitoring Dates: January 1, 2008 to February 1, 2008

Draft Objective Limit: Alberta Environment: 1-hr - µg/m<sup>3</sup> 24-hr 30 µg/m<sup>3</sup>  
Summary

Number of 24-hr Exceedances (draft):	0	
Maximum 1-hr Average:	11.3 µg/m <sup>3</sup>	19-Jan 1:00 2:00
Maximum 24-hr Value:	5.3 µg/m <sup>3</sup>	11-Jan

AIC Time:	0 hrs		Operational Time:	738 hrs					
Calibration Time:	0 hrs		AMD Operational Uptime:	99.2%					
Percentile	99	95	75	50	25	5	1	Average / Median	Geomean
	9.3	6.8	3.2	1.6	0.4	0.0	0.0	2.2 µg/m <sup>3</sup>	1.7 µg/m <sup>3</sup>



#### Status Flag Characters

C	Calibration	A	AIC - Zero / Span Check
S	Instrument out of Service	X	Filter Exchange
N	No Data	M	Equipment Maintenance
D	Excessive Instrument Drift	P	Power Failure

Day	Mountain Standard Time																								24-hour Average	Daily Maximum
	Hour Start Hour End	0:00 1:00	1:00 2:00	2:00 3:00	3:00 4:00	4:00 5:00	5:00 6:00	6:00 7:00	7:00 8:00	8:00 9:00	9:00 10:00	10:00 11:00	11:00 12:00	12:00 13:00	13:00 14:00	14:00 15:00	15:00 16:00	16:00 17:00	17:00 18:00	18:00 19:00	19:00 20:00	20:00 21:00	21:00 22:00	22:00 23:00		
1-Jan-08	9	8	5	5	3	3	3	4	2	2	1	D	0	0	1	1	2	0	0	1	1	0	0	D	2.4	9.4
2-Jan-08	0	D	D	0	0	0	0	0	0	0	2	2	1	1	3	1	2	2	2	3	1	1	2	1	1.0	2.6
3-Jan-08	0	0	1	0	0	0	0	0	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	3.2
4-Jan-08	1	1	3	3	1	0	2	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	1	1	0.7	3.1
5-Jan-08	1	2	2	3	2	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0.7	2.6	
6-Jan-08	0	0	0	0	0	1	2	0	0	2	2	2	1	1	2	2	2	2	0	2	2	1	2	1	1.2	2.4
7-Jan-08	1	1	1	1	0	1	4	2	3	4	3	2	3	2	2	4	3	5	8	7	4	2	1	1	2.7	7.9
8-Jan-08	1	1	0	0	1	1	4	0	0	1	0	0	0	0	0	0	1	1	1	1	2	1	1	0.7	4.0	
9-Jan-08	1	1	2	2	2	2	8	3	6	4	2	4	6	5	4	4	4	7	8	6	3	4	5	2	4.1	8.4
10-Jan-08	4	3	3	1	0	0	0	0	1	1	0	0	0	0	0	1	2	1	3	3	3	7	4	1	1.6	6.8
11-Jan-08	4	4	3	3	4	2	3	6	4	3	3	4	5	8	7	7	7	7	8	10	10	9	4	2	5.3	10.5
12-Jan-08	0	1	1	2	1	1	2	0	1	2	2	1	1	0	1	1	1	1	0	1	0	0	0	0	0.9	2.1
13-Jan-08	1	1	2	0	1	1	2	4	3	6	3	2	1	2	2	5	2	0	0	0	0	0	0	0	1.7	5.6
14-Jan-08	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2	2	0	2	0	0	0	1	2	0.4	2.5
15-Jan-08	2	3	6	9	4	2	4	5	7	7	4	2	1	2	2	2	2	1	3	1	2	1	1	1	3.1	9.1
16-Jan-08	1	1	1	2	2	0	0	3	2	2	1	0	0	0	1	2	1	1	1	0	1	1	1	0	1.0	2.8
17-Jan-08	1	1	0	2	1	0	3	3	5	5	2	2	1	1	2	3	3	2	2	4	2	0	2	5	2.2	5.3
18-Jan-08	4	3	3	1	2	2	1	2	4	7	7	2	1	0	1	0	0	1	0	1	2	3	3	2	2.2	7.0
19-Jan-08	3	11	1	0	0	0	0	1	2	3	2	1	1	2	2	4	4	4	4	3	2	5	4	4	2.6	11.3
20-Jan-08	4	4	2	1	1	0	0	1	1	2	3	2	2	2	3	4	4	4	5	4	4	3	4	5	2.6	4.8
21-Jan-08	5	5	3	2	1	1	1	0	1	1	0	0	0	0	0	1	1	0	1	1	2	2	2	2	1.3	4.8
22-Jan-08	1	2	3	2	1	2	4	5	4	1	2	1	3	3	3	2	3	2	1	1	1	0	0	0	2.0	4.5
23-Jan-08	0	1	1	0	0	1	2	5	6	6	1	0	0	0	0	1	0	1	1	1	1	1	1	1	1.3	6.3
24-Jan-08	1	1	1	1	1	2	2	3	4	7	5	5	8	5	3	4	3	3	2	2	2	3	4	1	3.0	8.2
25-Jan-08	3	2	2	2	0	2	6	5	7	9	4	4	3	0	1	3	2	7	9	2	1	0	1	2	3.2	9.0
26-Jan-08	1	1	2	1	1	1	2	3	3	2	2	2	1	0	1	0	2	1	0	0	0	0	0	0	1.1	2.8
27-Jan-08	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	5	5	6	7	7	9	8	8	8	2.7	8.5
28-Jan-08	7	7	7	7	4	6	5	5	4	5	4	3	4	4	4	4	4	4	4	6	5	4	4	5	4.7	7.2
29-Jan-08	3	3	3	4	5	5	5	6	10	10	6	6	5	0	D	0	2	4	2	3	2	4	3	4	4.2	10.3
30-Jan-08	3	2	2	3	2	3	2	3	3	7	7	10	8	2	1	3	2	1	2	1	3	3	3	6	3.3	9.7
31-Jan-08	2	5	4	3	8	6	1	1	D	0	0	0	0	0	1	0	0	1	3	5	5	7	7	7	2.9	8.2
Hourly Avg	2.0	2.5	2.2	1.9	1.6	1.6	2.2	2.2	2.9	3.4	2.3	1.9	1.8	1.3	1.6	2.0	2.1	2.2	2.6	2.5	2.3	2.4	2.2	2.2		
Hourly Max	9.4	11.3	7.2	9.1	8.2	6.4	7.6	5.7	10.2	10.3	6.8	9.7	8.2	7.7	6.6	7.3	6.7	6.7	8.7	10.4	10.5	9.4	8.1	8.2		

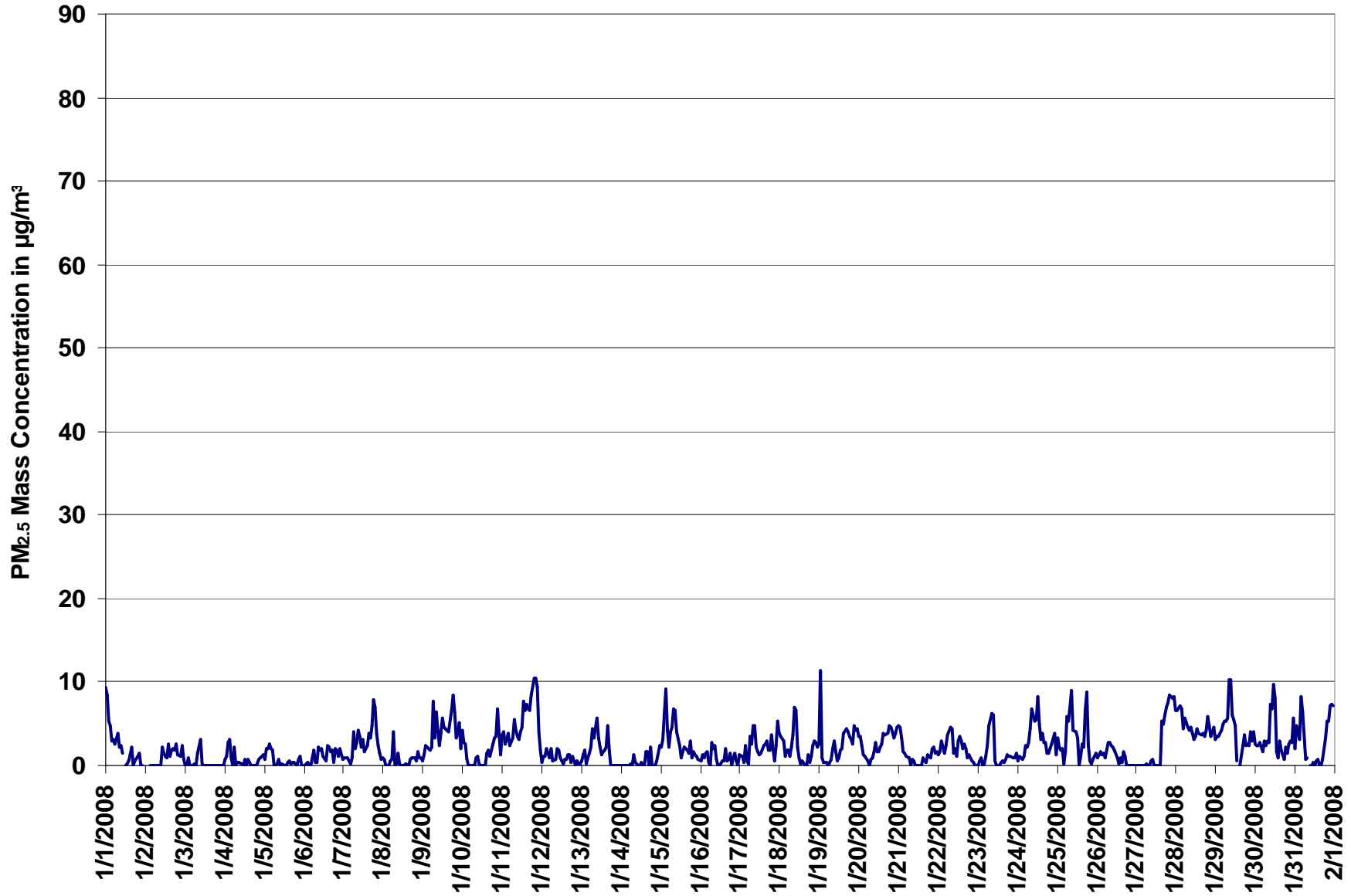


Figure 11. PAS - Crescent Heights Particulate Matter (less than 2.5 microns) 1-hr Average Monthly Trend



Station: Crescent Heights  
 Station Owner: PAS

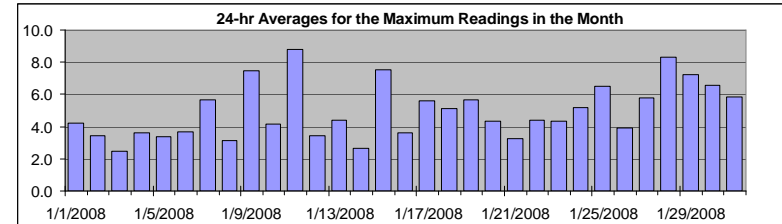
### INSTANTANEOUS (30 Second) MAXIMUM TABLE

Particulate Matter (PM<sub>2.5</sub>)

Monitoring Dates: January 1, 2008 to February 1, 2008

**Summary**

Maximum 1-hr Average:	34.4	µg/m <sup>3</sup>	19-Jan	1:00 2:00
Maximum 24-hr Value:	8.8	µg/m <sup>3</sup>	11-Jan	



AIC Time:	0 hrs	Operational Time:	744 hrs						
Calibration Time:	0 hrs	AMD Operational Uptime:	100.0%						
Percentile	99	95	75	50	25	5	1	Average / Median	Geomean
	16.4	11.5	6.1	4.2	2.6	1.2	0.1	5.0	4 µg/m <sup>3</sup>
								4.7 µg/m <sup>3</sup>	

**Status Flag Characters**

C	Calibration	A	AIC - Zero / Span Check
S	Instrument out of Service	X	Filter Exchange
N	No Data	M	Equipment Maintenance
D	Excessive Instrument Drift	P	Power Failure

**Day Mountain Standard Time**

Hour Start / Hour End	0:00 / 1:00	1:00 / 2:00	2:00 / 3:00	3:00 / 4:00	4:00 / 5:00	5:00 / 6:00	6:00 / 7:00	7:00 / 8:00	8:00 / 9:00	9:00 / 10:00	10:00 / 11:00	11:00 / 12:00	12:00 / 13:00	13:00 / 14:00	14:00 / 15:00	15:00 / 16:00	16:00 / 17:00	17:00 / 18:00	18:00 / 19:00	19:00 / 20:00	20:00 / 21:00	21:00 / 22:00	22:00 / 23:00	23:00 / 0:00	24-hour Average	Daily Maximum
1-Jan-08	12	11	8	7	6	5	4	6	4	4	2	1	2	2	2	5	2	2	5	4	1	1	0	4.2	12.2	
2-Jan-08	0	0	0	1	1	0	0	2	1	2	6	10	4	5	5	4	5	5	7	4	5	4	9	3	3.4	9.8
3-Jan-08	1	2	3	2	2	3	3	1	5	9	2	2	1	1	4	2	2	1	2	2	3	1	4	1	2.5	9.1
4-Jan-08	3	6	6	6	3	2	11	2	3	4	4	4	3	3	2	2	1	1	1	3	3	5	3	4	3.6	11.4
5-Jan-08	4	5	5	6	6	5	3	5	4	4	3	2	2	2	2	3	2	2	3	3	2	4	3	1	3.4	5.7
6-Jan-08	1	3	2	0	2	3	8	4	2	5	3	5	4	4	6	4	4	4	2	4	5	3	6	4	3.7	7.9
7-Jan-08	2	3	3	4	3	4	12	3	5	5	5	6	5	3	9	7	6	9	12	10	8	5	3	3	5.7	12.3
8-Jan-08	2	3	2	2	3	3	17	1	2	3	2	1	1	1	2	2	3	3	4	4	3	4	4	3	3.2	17.0
9-Jan-08	3	4	6	5	6	5	22	7	8	7	5	5	8	8	6	6	6	11	14	8	6	7	8	4	7.5	22.3
10-Jan-08	11	7	6	5	0	1	0	2	3	3	5	2	2	1	1	4	4	3	7	6	8	9	7	4	4.2	11.2
11-Jan-08	6	6	5	6	6	4	6	12	6	6	7	7	7	14	12	14	10	11	12	13	13	15	8	5	8.8	14.7
12-Jan-08	2	3	3	5	6	2	12	7	2	4	4	3	3	2	3	2	3	4	2	2	2	2	1	3	3.4	11.6
13-Jan-08	2	3	3	5	3	3	4	12	8	9	6	4	4	4	5	5	8	6	1	2	2	1	2	2	4.4	12.3
14-Jan-08	2	2	0	1	2	2	3	2	3	3	1	2	3	3	2	5	3	3	5	3	4	1	4	5	2.6	5.2
15-Jan-08	5	6	14	14	11	5	8	9	29	24	7	6	3	4	5	5	4	4	5	3	3	3	3	3	7.5	28.6
16-Jan-08	2	3	4	4	8	2	2	8	6	4	3	1	2	2	5	5	3	3	5	1	3	3	5	2	3.6	7.7
17-Jan-08	4	5	2	4	2	3	16	5	7	8	11	10	4	3	5	5	6	4	5	5	4	3	6	8	5.6	15.9
18-Jan-08	7	7	5	6	4	5	4	4	11	12	11	6	3	2	3	2	1	3	2	3	5	4	7	6	5.1	12.0
19-Jan-08	5	34	5	3	3	1	2	3	3	5	4	3	3	4	5	6	6	6	5	5	5	6	6	6	5.6	34.4
20-Jan-08	5	5	5	3	2	3	1	2	2	4	5	5	4	3	4	6	5	6	6	6	5	5	6	6	4.3	6.4
21-Jan-08	7	6	5	3	4	3	3	1	3	3	2	2	2	2	3	3	2	4	2	4	5	4	5	3.3	6.8	
22-Jan-08	3	3	4	4	4	4	12	7	6	4	6	4	6	7	6	5	5	5	2	4	3	2	2	1	4.4	11.9
23-Jan-08	1	4	5	3	2	5	5	23	13	8	5	2	2	1	3	2	3	2	3	2	2	3	2	3	4.4	22.9
24-Jan-08	2	2	2	2	3	6	4	4	6	10	8	8	11	9	6	7	4	4	4	4	4	5	5	4	5.2	11.3
25-Jan-08	7	7	5	5	3	4	10	8	9	13	9	10	10	3	3	5	6	9	16	4	3	3	3	3	6.5	16.2
26-Jan-08	2	2	3	3	3	3	3	17	11	4	3	4	6	3	4	3	9	4	2	1	1	2	1	0	3.9	16.6
27-Jan-08	0	2	2	2	4	1	4	2	1	5	5	4	6	5	3	9	9	10	12	12	11	10	11	10	5.8	11.7
28-Jan-08	11	10	10	12	9	11	13	9	11	11	7	7	7	10	7	5	6	5	6	10	6	5	6	7	8.3	13.0
29-Jan-08	5	5	5	5	7	9	8	8	15	17	11	10	8	4	0	2	8	9	5	7	4	6	8	8	7.2	17.0
30-Jan-08	5	4	4	5	3	5	4	5	5	11	12	13	13	4	3	7	5	5	5	4	7	6	6	16	6.6	15.8
31-Jan-08	5	7	8	7	14	10	10	2	2	1	1	2	1	3	4	4	2	4	6	8	8	10	11	9	5.9	13.6
Hourly Avg	4.2	5.5	4.6	4.5	4.3	3.9	6.9	5.9	6.4	6.8	5.4	4.8	4.5	3.9	4.2	4.5	4.7	4.9	5.4	4.8	4.8	4.6	5.1	4.5		
Hourly Max	12.2	34.4	14.0	13.5	13.6	10.5	22.3	22.9	28.6	23.8	12.2	13.4	12.8	13.5	11.6	13.6	9.9	10.8	16.2	12.5	13.2	14.7	11.0	15.8		

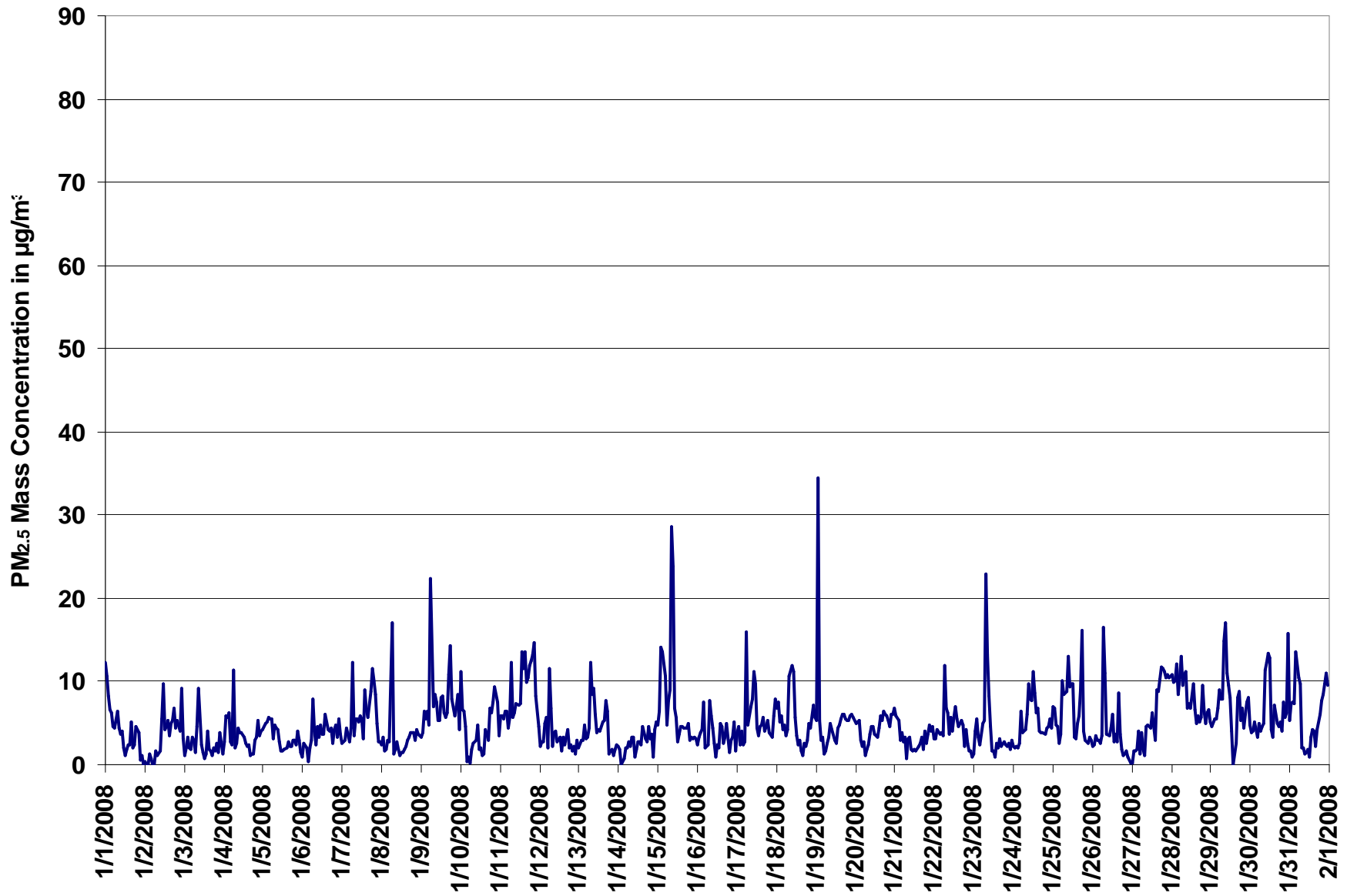
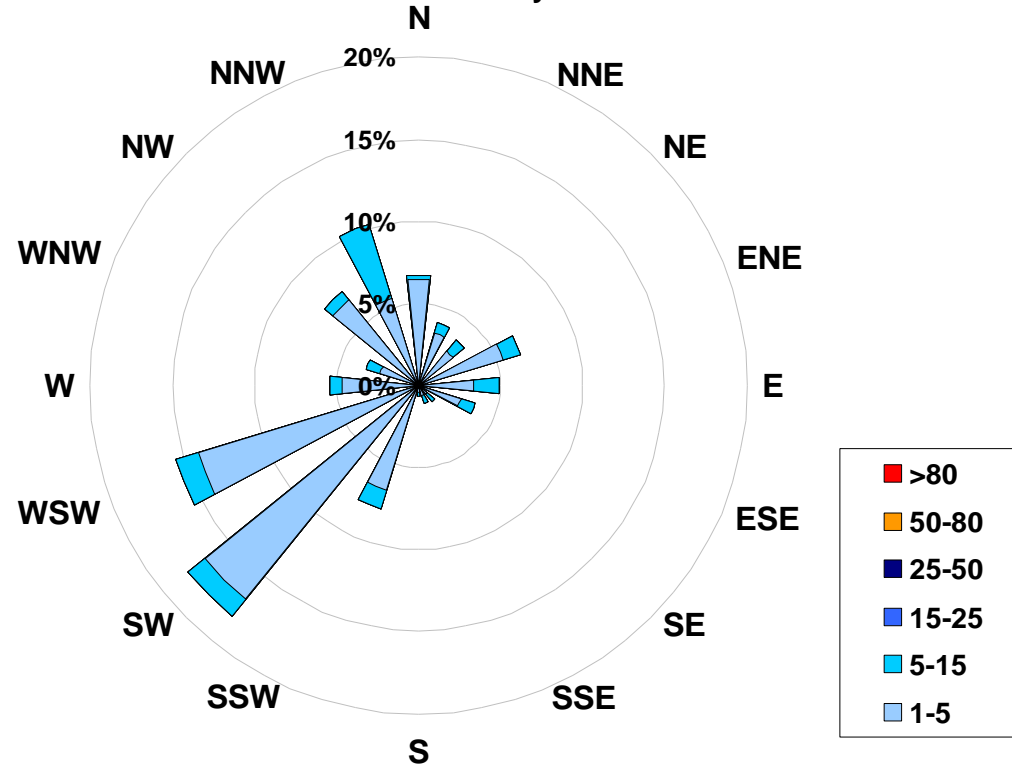


Figure 12. PAS - Crescent Heights Particulate Matter (less than 2.5 microns) Instantaneous (30 Second) Maximum Value Monthly Trend





**1-hr Average Concentration Rose for Particulate Matter (less than 2.5 microns) (in micrograms per cubic meter) Located at the Crescent Heights Site for January 2008**



**Calms: 0%**

Frequency Distribution of PM <sub>2.5</sub> in µg/m <sup>3</sup>			
Range		Frequency (hrs)	
1.0	< 5	660	
5	to 15	78	
15	to 25	0	
25	to 50	0	
50	to 80	0	
	> 80	0	
Total Non-Zero Values			738



# PAS - Crescent Heights Relative Humidity Monthly Summary

Station: Crescent Heights  
Station Owner: PAS

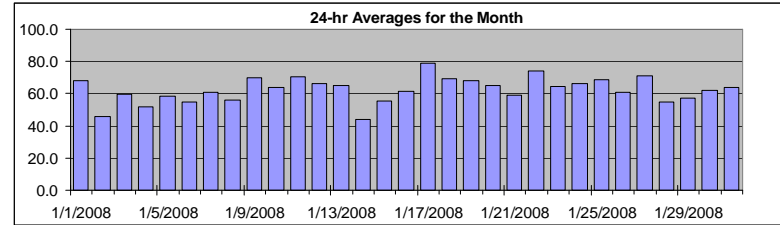
## HOURLY AVERAGE TABLE

## Relative Humidity (RH)

Monitoring Dates: January 1, 2008 to February 1, 2008

### Summary

Maximum 1-hr Average:	89.6 %	17-Jan	9:00 10:00
Maximum 24-hr Value:	79.1 %	17-Jan	



AIC Time:	0 hrs	Operational Time:	744 hrs						
Calibration Time:	0 hrs	AMD Operational Uptime:	100.0%						
Percentile	99	95	75	50	25	5	1	Average	Median
	81.7	78.3	70.2	63.3	55.5	42.9	33.4	62.5 %	63.3 %

### Status Flag Characters

C	Calibration	A	AIC - Zero / Span Check
S	Instrument out of Service	X	Filter Exchange
N	No Data	M	Equipment Maintenance
D	Excessive Instrument Drift	P	Power Failure

Day	Mountain Standard Time																							24-hour Average	Daily Maximum		
Hour Start	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00		
1-Jan-08	75	75	75	74	74	74	73	74	75	75	69	61	58	52	53	58	67	72	72	71	71	69	63	56	68.2	75.3	
2-Jan-08	53	39	32	28	31	35	33	34	37	38	39	42	41	43	47	51	54	58	55	58	62	62	60	62	45.6	62.3	
3-Jan-08	63	64	67	66	69	72	73	74	72	68	61	51	49	51	53	54	54	55	54	56	53	50	49	56	59.8	74.0	
4-Jan-08	55	52	58	64	67	67	66	66	60	55	49	47	45	43	44	47	48	45	39	43	47	47	47	49	52.0	67.3	
5-Jan-08	50	50	52	56	61	68	69	65	68	65	61	56	55	54	52	51	54	58	58	62	55	61	63	61	58.5	68.6	
6-Jan-08	58	57	59	61	59	61	52	58	58	51	47	45	44	41	41	46	55	62	64	64	63	54	53	59	54.6	63.9	
7-Jan-08	58	61	67	67	69	68	68	67	67	61	56	44	43	43	45	49	54	60	65	71	71	71	70	71	61.1	71.1	
8-Jan-08	69	65	64	66	67	66	66	66	66	61	56	50	44	42	44	42	44	50	53	49	49	54	57	59	56.2	68.9	
9-Jan-08	60	64	68	70	72	75	77	79	79	74	71	68	62	58	57	58	64	70	75	76	76	74	73	73	69.7	79.2	
10-Jan-08	74	74	74	69	66	65	67	67	65	58	66	65	59	50	51	53	59	58	59	64	66	69	70	71	64.1	74.0	
11-Jan-08	72	74	79	81	80	79	79	80	78	76	69	62	58	52	51	53	59	65	70	75	76	77	76	74	70.7	81.1	
12-Jan-08	73	73	75	77	77	75	74	75	73	68	65	60	55	51	51	50	53	60	64	67	69	70	69	71	66.4	76.9	
13-Jan-08	70	68	69	73	76	78	81	81	79	69	60	55	46	43	44	47	53	58	66	69	71	73	69	65	65.1	81.1	
14-Jan-08	65	63	61	60	55	53	55	56	48	47	42	39	33	34	33	32	33	33	36	37	38	33	34	38	44.1	64.9	
15-Jan-08	49	53	60	73	77	72	81	77	61	51	46	44	42	38	37	38	44	51	54	55	56	57	56	63	55.6	80.8	
16-Jan-08	65	63	63	65	70	70	66	67	66	63	58	53	52	50	51	54	57	61	63	64	62	63	63	60	61.2	70.0	
17-Jan-08	62	77	79	83	79	76	82	87	89	90	85	77	73	71	71	73	78	80	81	80	80	82	82	81	79.1	89.6	
18-Jan-08	80	80	80	74	71	71	73	73	73	71	69	68	66	63	62	61	63	67	67	67	64	63	66	68	69.2	80.5	
19-Jan-08	69	69	70	68	69	68	68	69	68	67	66	61	61	63	62	70	74	73	71	69	69	69	67	67	67.8	74.4	
20-Jan-08	68	69	70	69	69	68	64	63	63	62	62	58	56	56	59	62	64	66	67	67	69	69	68	68	64.8	69.7	
21-Jan-08	70	70	69	66	66	65	63	62	60	55	53	51	50	48	47	47	51	53	56	60	62	66	66	67	59.2	70.2	
22-Jan-08	68	71	76	79	80	79	77	75	83	79	69	59	64	72	74	72	75	77	76	75	75	76	74	74	74.2	83.4	
23-Jan-08	76	79	79	77	76	75	77	76	76	76	68	54	48	45	45	47	50	56	60	62	64	63	62	61	64.7	79.4	
24-Jan-08	61	61	61	62	64	68	70	73	72	63	58	56	50	53	58	61	67	72	75	78	77	78	78	77	66.5	78.4	
25-Jan-08	77	76	76	75	74	74	74	74	74	75	76	78	72	53	54	57	60	67	71	66	60	62	61	61	68.8	78.0	
26-Jan-08	61	63	63	65	65	64	63	63	61	60	59	56	54	54	52	52	57	62	63	64	63	65	64	67	60.8	67.4	
27-Jan-08	68	70	73	76	70	73	75	74	76	74	71	65	62	74	76	76	76	73	70	68	68	66	66	65	71.1	76.5	
28-Jan-08	63	62	62	61	60	59	56	58	56	54	50	49	45	44	46	47	51	52	55	59	58	54	55	55	54.7	63.4	
29-Jan-08	56	57	58	59	60	59	58	58	58	58	57	55	50	49	52	53	56	58	60	60	61	62	63	64	57.4	64.1	
30-Jan-08	65	65	65	65	64	64	64	64	63	61	61	61	59	57	54	53	56	61	62	62	63	65	65	66	61.9	65.7	
31-Jan-08	67	68	68	68	76	71	62	60	58	57	55	55	56	55	56	63	67	66	66	66	66	66	67	68	63.7	76.2	
Hourly Avg	65.2	65.6	66.8	67.6	68.1	68.1	68.0	68.2	67.2	63.9	60.5	56.3	53.4	51.7	52.4	54.1	58.0	61.3	62.9	64.0	64.0	64.1	63.8	64.4			
Hourly Max	80.5	80.2	80.1	83.2	80.1	79.4	82.1	87.2	89.0	89.6	84.8	78.0	72.8	74.2	75.9	75.9	77.5	80.1	81.0	80.5	80.1	81.6	81.7	81.2			

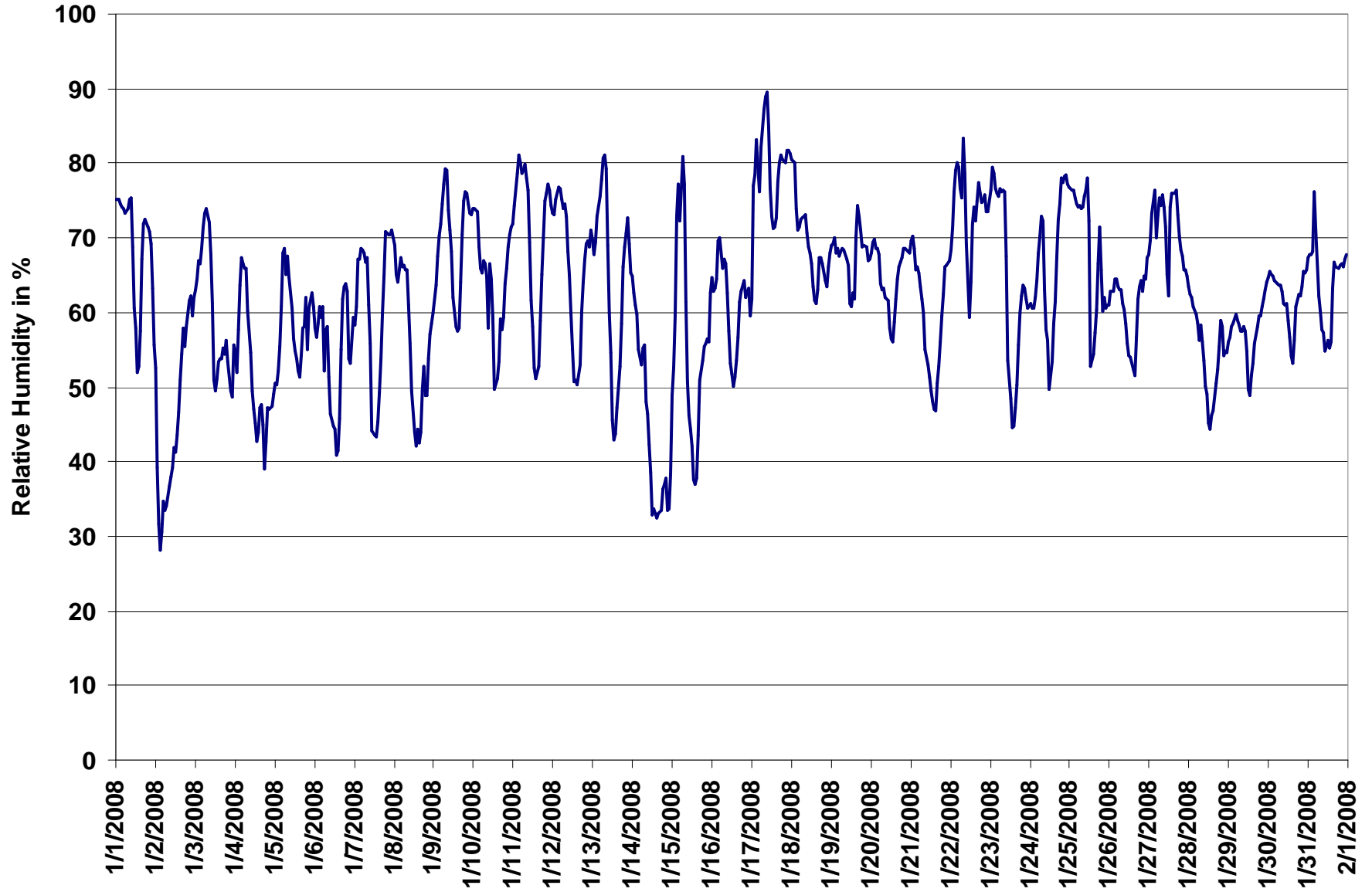


Figure 13. PAS - Crescent Heights Relative Humidity 1-hr Average Monthly Trend



# PAS - Crescent Heights Temperature Monthly Summary

Station: Crescent Heights  
 Station Owner: PAS

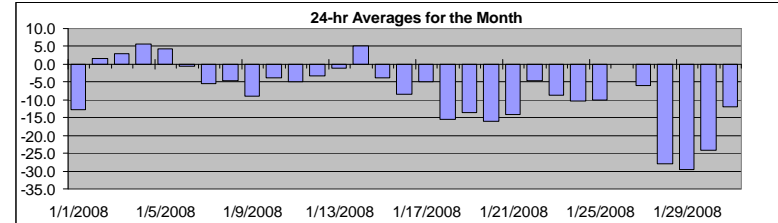
## HOURLY AVERAGE TABLE

## Ambient Temperature (T)

Monitoring Dates: January 1, 2008 to February 1, 2008

### Summary

Maximum 1-hr Average:	8.8 °C	4-Jan	18:00 19:00
Maximum 24-hr Value:	5.7 °C	4-Jan	



AIC Time:	0 hrs	Operational Time:	744 hrs						
Calibration Time:	0 hrs	AMD Operational Uptime:	100.0%						
Percentile	99	95	75	50	25	5	1	Average	Median
	8.3	5.9	-0.2	-6.2	-14.0	-27.1	-31.4	-7.6 °C	-6.2 °C

### Status Flag Characters

C	Calibration	A	AIC - Zero / Span Check
S	Instrument out of Service	X	Filter Exchange
N	No Data	M	Equipment Maintenance
D	Excessive Instrument Drift	P	Power Failure

Day	Mountain Standard Time																								24-hour Average	Daily Maximum	
Hour Start	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00		
1-Jan-08	-16	-16	-16	-17	-18	-18	-18	-18	-16	-14	-11	-10	-9	-7	-7	-9	-11	-13	-13	-12	-11	-10	-8	-6	-12.7	-6.0	
2-Jan-08	-5	-2	0	1	0	0	1	2	2	2	3	3	4	5	4	3	2	1	1	2	2	2	3	2	1.6	4.5	
3-Jan-08	2	2	1	1	0	0	0	0	1	2	4	6	7	7	6	5	5	4	3	2	3	3	3	1	2.8	6.8	
4-Jan-08	1	3	3	4	3	3	3	3	3	4	6	7	8	8	8	7	7	7	9	8	8	8	8	7	5.7	8.8	
5-Jan-08	7	8	7	7	6	4	4	4	3	3	4	6	6	6	7	6	4	3	3	2	2	1	0	0	4.3	7.7	
6-Jan-08	-1	-1	-1	-2	-2	-2	-1	-2	-3	-1	1	3	3	4	5	3	0	-2	-3	-3	-4	-3	-3	-4	-0.7	4.6	
7-Jan-08	-4	-5	-7	-8	-9	-9	-8	-8	-9	-6	-4	-2	0	0	0	0	-2	-3	-4	-6	-7	-8	-8	-9	-5.4	0.2	
8-Jan-08	-9	-8	-8	-9	-9	-8	-9	-8	-8	-6	-3	-2	0	0	0	0	-1	-2	-3	-2	-2	-3	-4	-4	-4.5	0.3	
9-Jan-08	-4	-6	-7	-8	-9	-10	-11	-12	-11	-11	-10	-8	-7	-6	-5	-5	-6	-8	-9	-11	-12	-12	-12	-13	-8.8	-4.4	
10-Jan-08	-13	-11	-11	-7	-5	-6	-7	-7	-6	-3	-3	-2	1	2	2	2	1	0	-2	-3	-3	-4	-4	-5	-3.9	2.5	
11-Jan-08	-5	-5	-6	-7	-7	-7	-7	-7	-7	-7	-5	-3	-1	1	1	1	-1	-3	-4	-6	-7	-8	-9	-9	-5.0	1.4	
12-Jan-08	-9	-9	-10	-9	-7	-7	-6	-7	-7	-5	-3	0	2	4	5	5	3	1	-1	-2	-3	-4	-4	-5	-3.2	4.7	
13-Jan-08	-4	-3	-3	-4	-5	-6	-7	-7	-7	-4	-1	2	4	5	6	6	5	3	0	-1	-2	-2	-2	-1	-1.2	6.3	
14-Jan-08	-1	0	1	1	2	2	3	3	5	6	6	7	9	8	8	8	8	8	7	6	6	6	6	6	5.1	8.6	
15-Jan-08	4	6	5	0	-1	-2	-3	-4	-4	-4	-5	-5	-4	-4	-4	-4	-5	-6	-6	-8	-8	-9	-9	-11	-3.7	5.8	
16-Jan-08	-12	-12	-12	-13	-14	-15	-14	-15	-15	-13	-10	-8	-7	-6	-5	-5	-5	-5	-5	-4	-3	-2	-2	-2	-8.5	-2.1	
17-Jan-08	-2	-3	-3	-2	-2	-2	-2	0	1	1	-3	-4	-5	-6	-7	-7	-9	-10	-9	-9	-9	-10	-11	-11	-4.9	0.7	
18-Jan-08	-11	-11	-11	-13	-14	-16	-19	-20	-18	-18	-16	-15	-14	-13	-13	-13	-14	-15	-17	-16	-16	-17	-17	-17	-15.5	-10.8	
19-Jan-08	-17	-17	-16	-16	-14	-14	-14	-14	-13	-12	-11	-10	-10	-9	-9	-10	-10	-11	-14	-15	-16	-16	-17	-18	-13.5	-9.1	
20-Jan-08	-18	-17	-17	-17	-17	-17	-17	-17	-17	-17	-16	-15	-15	-15	-15	-15	-16	-16	-15	-15	-15	-15	-15	-15	-16.1	-14.7	
21-Jan-08	-16	-17	-18	-19	-20	-20	-20	-20	-19	-17	-15	-14	-13	-11	-11	-10	-11	-11	-11	-11	-10	-9	-8	-8	-14.1	-7.6	
22-Jan-08	-7	-6	-6	-5	-4	-4	-3	-2	-2	-1	0	0	-1	-2	-3	-4	-4	-5	-6	-8	-8	-9	-10	-4.6	0.4		
23-Jan-08	-12	-13	-14	-16	-17	-17	-16	-16	-15	-12	-7	-4	-2	0	0	-1	-2	-4	-6	-6	-7	-7	-7	-7	-8.6	-0.2	
24-Jan-08	-6	-7	-8	-9	-10	-11	-12	-13	-14	-12	-10	-9	-5	-6	-7	-7	-9	-11	-12	-14	-14	-14	-13	-14	-10.2	-5.2	
25-Jan-08	-14	-15	-15	-16	-17	-17	-17	-17	-17	-15	-13	-11	-7	-2	-3	-3	-4	-7	-8	-6	-4	-5	-5	-5	-10.1	-2.0	
26-Jan-08	-5	-5	-5	-5	-4	-4	-4	-4	-3	-2	0	2	3	3	4	4	4	3	3	3	3	3	2	2	-0.1	4.1	
27-Jan-08	2	2	1	1	3	2	1	1	0	1	2	4	5	-2	-6	-8	-11	-15	-18	-20	-21	-22	-23	-23	-6.1	4.9	
28-Jan-08	-24	-24	-25	-26	-26	-27	-27	-27	-28	-28	-28	-28	-28	-28	-28	-28	-28	-29	-30	-30	-30	-30	-31	-31	-31	-27.9	-23.8
29-Jan-08	-31	-31	-32	-32	-33	-33	-34	-35	-34	-31	-30	-29	-28	-27	-27	-28	-27	-27	-27	-27	-27	-27	-26	-25	-29.5	-25.0	
30-Jan-08	-25	-25	-26	-26	-26	-27	-27	-27	-28	-25	-23	-21	-19	-20	-20	-20	-21	-23	-24	-24	-24	-25	-25	-25	-24.1	-19.3	
31-Jan-08	-25	-25	-25	-23	-16	-9	-4	-3	-2	-2	0	0	1	2	-3	-11	-17	-20	-20	-21	-22	-22	-22	-22	-12.1	1.7	
Hourly Avg	-9.0	-8.9	-9.2	-9.5	-9.4	-9.5	-9.6	-9.7	-9.4	-8.0	-6.5	-5.2	-4.0	-3.4	-3.6	-4.1	-5.4	-6.9	-7.7	-8.2	-8.4	-8.7	-8.8	-9.1			
Hourly Max	7.3	7.7	7.4	6.9	5.9	4.4	4.1	3.6	5.2	5.6	6.4	7.4	8.6	8.5	8.5	8.4	8.3	8.2	8.8	8.4	8.0	7.8	7.6	7.2			

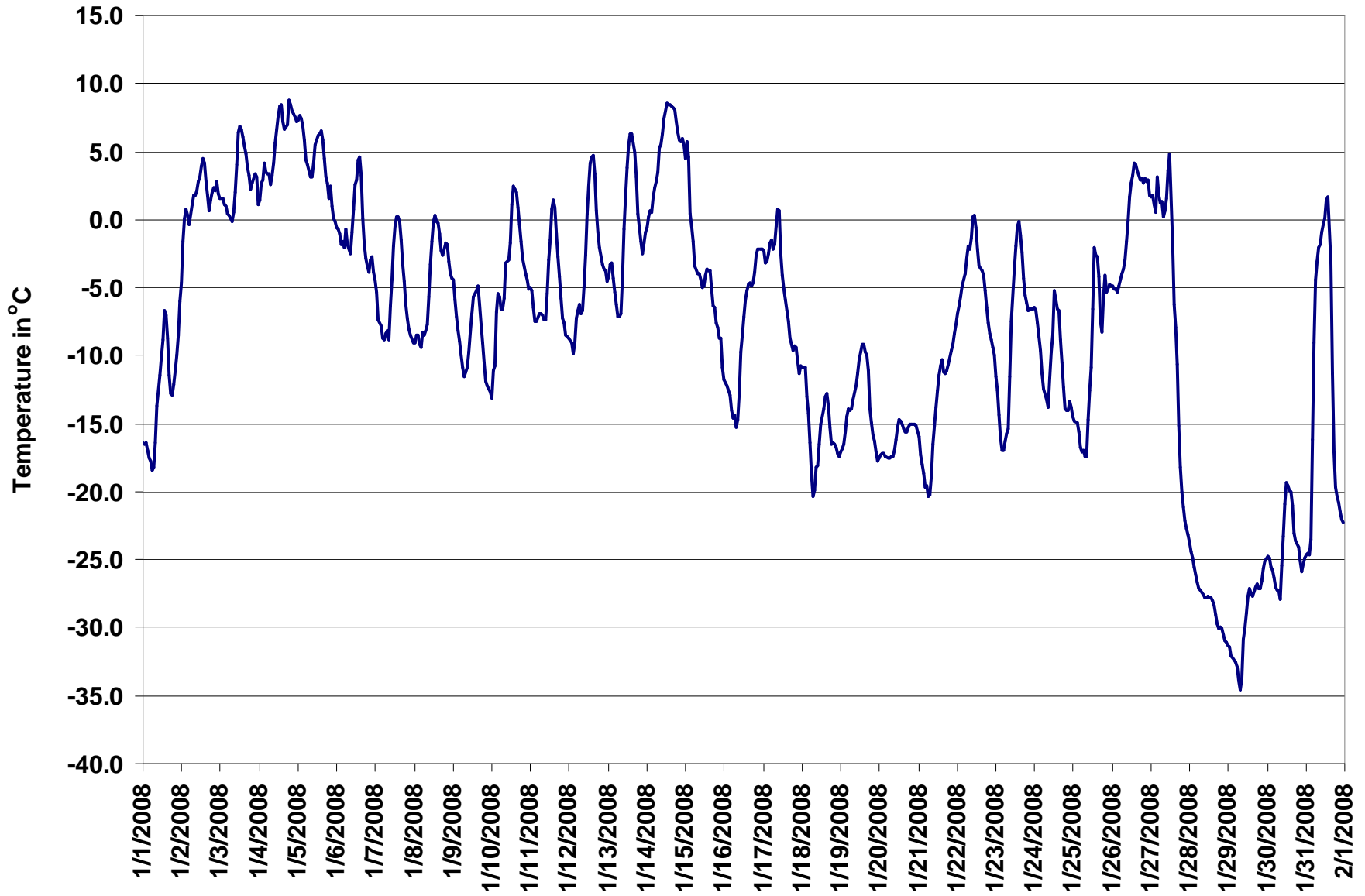


Figure 14. PAS - Crescent Heights Temperature 1-hr Average Monthly Trend



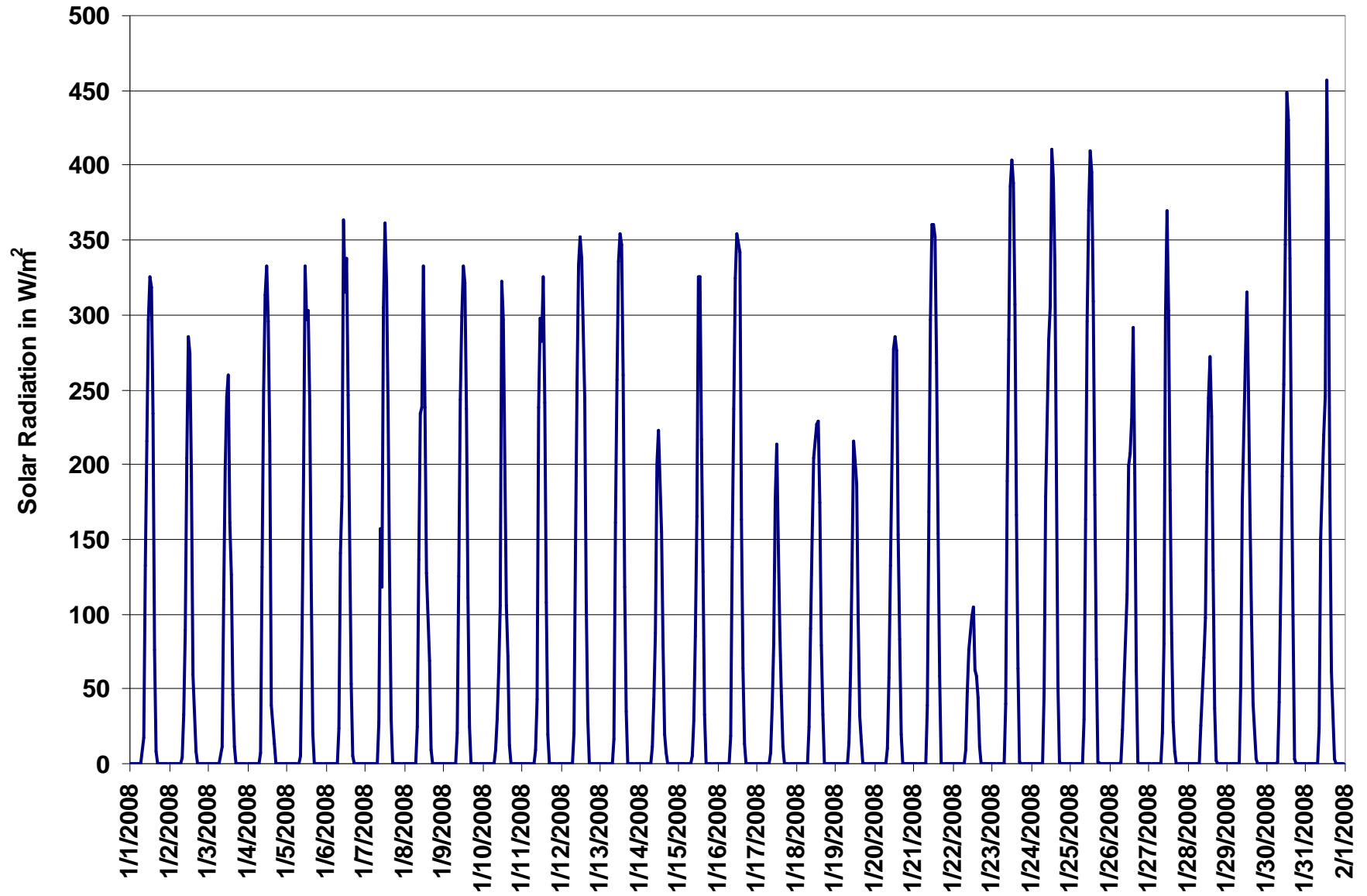


Figure 15. PAS - Crescent Heights Solar Radiation 1-hr Average Monthly Trend



# PAS - Crescent Heights Scalar Wind Speed Monthly Summary

Station: Crescent Heights  
 Station Owner: PAS

## HOURLY AVERAGE TABLE

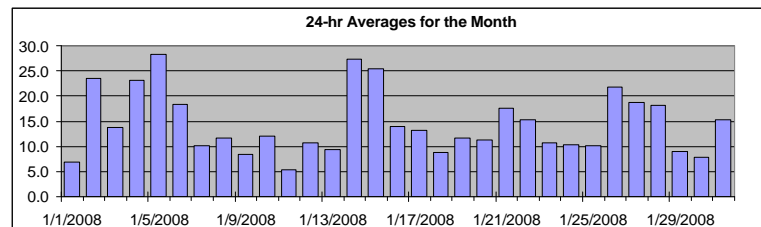
## Wind Speed (WSs)

Monitoring Dates: January 1, 2008 to February 1, 2008

### Summary

Maximum 1-hr Average:	41.3	km/hr	14-Jan	15:00 16:00
Maximum 24-hr Value:	28.3	km/hr	5-Jan	

Calm Time:	0 hrs	0% calms	Operational Time:	744 hrs				
Calibration Time:	0 hrs		AMD Operational Uptime:	100.0%				
Percentile	99	95	75	50	25	5	1	AverageS
	34.7	30.2	19.7	12.5	7.8	4.4	3.5	14.4 km/hr



### Status Flag Characters

C	Calibration	A	AIC - Zero / Span Check
S	Instrument out of Service	X	Filter Exchange
N	No Data	M	Equipment Maintenance
D	Excessive Instrument Drift	P	Power Failure

Day	Mountain Standard Time																							24-hr Scalar Average	Daily Max		
Hour Start	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	24:00		
Hour End	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00			
1-Jan-08	8	8	7	7	7	5	4	7	10	12	12	9	8	4	5	4	5	6	5	5	8	7	8		6.8	11.9	
2-Jan-08	7	16	26	32	35	37	34	33	38	32	34	24	29	30	18	13	12	10	15	19	20	15	19	15		23.4	38.1
3-Jan-08	15	11	13	17	10	9	7	6	5	14	11	10	20	17	14	11	17	21	21	21	18	20	14	11		13.8	21.3
4-Jan-08	22	33	25	29	31	34	29	27	27	22	21	25	24	21	19	14	12	15	23	25	22	19	18	21		23.2	33.8
5-Jan-08	27	30	27	29	32	32	30	26	24	15	27	33	34	33	31	30	29	27	27	22	30	31	27	28		28.3	33.9
6-Jan-08	29	31	28	27	27	18	16	17	22	18	16	19	21	17	15	13	14	16	13	11	13	12	13	14		18.3	30.6
7-Jan-08	13	15	17	15	13	15	11	9	12	8	6	9	8	9	9	11	7	4	6	7	8	10	10	10		10.1	16.9
8-Jan-08	10	8	10	8	6	11	12	13	11	9	9	18	21	20	15	15	16	15	11	12	9	6	5	9		11.7	20.8
9-Jan-08	15	17	12	9	9	8	9	5	6	8	10	12	10	9	10	9	6	4	5	5	7	6	5	7		8.4	17.1
10-Jan-08	6	7	10	12	7	8	6	6	11	20	18	17	22	30	26	20	15	11	9	6	4	4	7	7		12.0	30.2
11-Jan-08	6	5	6	5	5	4	4	4	5	7	6	5	5	5	5	5	4	7	5	4	5	6	7	7		5.3	7.5
12-Jan-08	9	8	8	11	10	14	17	13	13	12	11	11	16	15	14	13	13	7	7	9	7	6	7	7		10.8	16.8
13-Jan-08	12	12	12	9	8	5	3	4	6	9	11	10	8	11	11	10	7	9	11	12	11	7	11	13		9.3	13.3
14-Jan-08	14	17	15	16	17	16	17	29	30	32	33	33	33	30	36	41	35	32	40	30	27	30	28	24		27.3	41.3
15-Jan-08	19	25	31	27	25	30	28	33	36	32	32	28	30	31	29	24	19	21	26	19	19	18	18	10		25.5	35.5
16-Jan-08	7	7	8	6	6	9	12	11	9	11	16	23	25	21	16	18	21	23	20	14	12	14	14	13		14.0	24.9
17-Jan-08	14	15	14	14	15	16	14	17	19	20	27	21	20	18	15	12	10	7	5	4	6	4	4	4		13.2	26.7
18-Jan-08	4	10	10	15	9	10	9	8	3	6	9	11	14	14	13	11	9	11	9	6	5	4	5	5		8.8	15.3
19-Jan-08	3	3	3	3	5	7	9	7	6	10	10	7	9	11	11	13	15	20	24	22	25	22	18	16		11.7	24.8
20-Jan-08	13	12	13	15	13	14	9	5	7	7	10	12	10	10	10	10	9	10	14	13	15	13	15	13		11.3	15.1
21-Jan-08	12	14	12	15	12	16	14	19	19	22	26	29	29	23	26	22	19	16	17	15	11	10	11	12		17.6	29.1
22-Jan-08	13	14	12	10	10	9	8	12	10	9	14	23	29	35	29	23	20	22	19	14	10	8	8	4		15.3	34.8
23-Jan-08	4	5	6	6	6	7	7	8	6	5	9	12	12	11	19	20	17	14	10	11	13	14	17	15		10.7	20.0
24-Jan-08	16	14	12	10	7	7	4	4	5	5	5	4	4	9	13	9	15	14	17	17	16	16	12	11		10.2	16.9
25-Jan-08	4	6	7	4	5	4	5	6	3	4	4	5	7	24	27	17	8	6	7	14	21	18	19	17		10.1	27.4
26-Jan-08	20	22	22	18	17	17	17	17	17	13	14	21	24	20	30	29	28	26	27	29	28	25	24	16		21.7	29.9
27-Jan-08	14	12	7	9	21	15	19	23	13	10	13	7	6	21	27	26	22	26	25	28	27	28	28	23		18.7	28.0
28-Jan-08	23	24	24	24	25	24	23	23	24	22	22	21	22	21	19	19	15	11	9	8	8	10	7	10		18.2	24.7
29-Jan-08	6	5	4	6	5	5	4	6	5	6	7	8	11	14	13	13	14	13	13	14	13	11	10	11		9.0	13.9
30-Jan-08	10	13	15	11	8	9	8	6	8	4	5	4	6	7	10	10	10	9	8	7	7	6	5	3		7.9	14.9
31-Jan-08	4	3	4	4	9	15	24	19	20	24	29	27	29	26	21	18	16	14	12	11	12	9	9	10		15.4	29.4
1-hr Average	12.2	13.6	13.5	13.7	13.4	13.9	13.3	13.6	13.9	13.7	15.3	16.2	17.5	18.3	17.9	16.3	14.9	14.4	14.9	13.9	14.0	13.2	13.1	12.1			
Hourly Max	29.3	33.2	31.3	31.6	34.7	36.9	33.7	33.2	38.1	32.3	33.7	33.4	33.9	34.8	35.8	41.3	34.9	32.3	39.8	30.0	30.2	31.5	27.9	27.5			





## PAS - Crescent Heights Vector Wind Speed Monthly Summary

Station: Crescent Heights  
Station Owner: PAS

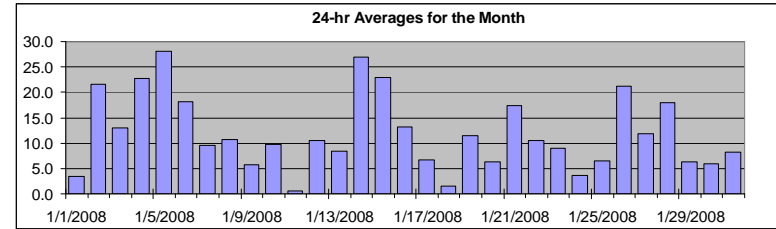
### HOURLY AVERAGE TABLE

### Wind Speed (WSv)

Monitoring Dates: January 1, 2008 to February 1, 2008

#### Summary

Maximum 1-hr Average:	41.1	km/hr	14-Jan	15:00 16:00
Maximum 24-hr Value:	28.2	km/hr	5-Jan	



Calm Time:	0 hrs	0% calms	Operational Time:	744 hrs				
Calibration Time:	0 hrs		AMD Operational Uptime:	100.0%				
Percentile	99	95	75	50	25	5	1	AverageV
	34.6	30.0	19.5	12.2	7.3	3.2	1.8	49.0 km/hr

#### Status Flag Characters

C	Calibration	A	AIC - Zero / Span Check
S	Instrument out of Service	X	Filter Exchange
N	No Data	M	Equipment Maintenance
D	Excessive Instrument Drift	P	Power Failure

Day	Mountain Standard Time																							24-hr Vector Average	Daily Max		
Hour Start	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00		
Hour End	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00			
1-Jan-08	8	8	7	6	7	4	4	6	10	12	12	8	7	1	3	3	5	5	5	4	7	6	6	3.4	11.7		
2-Jan-08	2	15	25	31	34	37	33	33	38	32	34	23	29	30	17	13	11	9	15	19	20	15	19	15	21.6	38.0	
3-Jan-08	15	11	12	17	9	8	6	4	3	13	10	7	19	17	14	11	17	21	21	18	19	14	11	13.0	21.2		
4-Jan-08	22	33	25	29	31	34	29	27	27	22	21	25	23	21	18	13	12	14	23	25	22	19	18	21	22.8	33.7	
5-Jan-08	27	30	26	29	32	32	30	25	24	15	27	33	34	33	31	30	29	27	27	22	30	31	27	27	28.2	33.7	
6-Jan-08	29	31	28	26	27	18	16	17	22	18	16	19	21	17	15	13	14	15	12	10	12	12	13	13	18.1	30.6	
7-Jan-08	13	15	17	15	13	15	11	9	12	8	6	9	7	9	9	10	7	2	6	7	8	10	10	10	9.6	16.6	
8-Jan-08	10	7	8	7	5	10	11	12	10	8	8	18	21	20	15	15	16	14	10	12	9	5	4	8	10.8	20.5	
9-Jan-08	15	17	12	9	9	7	9	3	6	7	9	11	9	8	10	8	5	2	4	5	7	5	5	7	5.8	17.1	
10-Jan-08	6	6	9	11	5	6	4	3	10	20	18	17	21	30	25	20	14	10	9	5	1	3	6	7	9.8	30.0	
11-Jan-08	6	5	5	4	5	2	2	4	5	5	4	3	3	0	5	5	4	7	1	2	4	4	7	5	0.5	7.3	
12-Jan-08	9	8	8	11	9	14	17	13	13	11	11	11	16	15	14	13	13	6	5	9	7	5	6	6	10.5	16.7	
13-Jan-08	12	11	12	9	8	4	3	2	4	8	11	10	8	10	11	10	6	9	11	11	11	6	10	13	8.5	12.8	
14-Jan-08	13	17	15	16	17	15	16	28	29	32	33	33	33	30	36	41	35	32	40	30	27	30	28	24	26.9	41.1	
15-Jan-08	18	25	25	27	24	30	28	33	35	32	32	28	30	31	28	24	19	21	26	19	19	18	18	9	22.9	35.3	
16-Jan-08	7	6	8	5	6	8	12	11	8	11	16	23	25	20	16	17	21	23	20	14	11	14	14	13	13.1	24.6	
17-Jan-08	14	15	14	14	15	16	14	17	19	20	25	21	19	18	15	12	9	7	4	1	6	4	4	2	6.7	25.4	
18-Jan-08	3	10	10	15	9	10	9	8	3	4	9	10	13	14	13	11	9	11	8	5	5	4	5	5	1.5	15.2	
19-Jan-08	3	3	3	2	4	7	9	7	6	9	10	7	9	11	11	13	15	20	24	22	25	22	18	16	11.4	24.7	
20-Jan-08	13	12	13	15	13	14	9	5	7	7	10	11	9	9	9	10	9	10	14	13	14	12	15	13	6.3	15.0	
21-Jan-08	11	14	12	15	11	16	14	19	18	22	26	29	28	23	26	22	19	15	17	15	11	10	11	12	17.4	28.9	
22-Jan-08	12	14	12	10	10	9	8	12	10	9	14	23	29	35	28	23	20	22	19	14	10	8	7	4	10.5	34.7	
23-Jan-08	3	3	5	4	5	6	7	6	6	3	9	12	12	11	19	20	17	14	10	10	13	14	16	15	9.0	19.9	
24-Jan-08	16	14	12	10	5	7	2	4	4	3	1	4	2	9	13	9	15	14	17	17	16	15	12	10	3.7	16.7	
25-Jan-08	4	6	7	4	5	4	4	5	3	3	3	4	5	24	27	17	7	5	5	13	21	17	19	17	6.4	27.2	
26-Jan-08	20	22	22	18	17	17	16	17	16	13	14	21	23	20	30	29	28	26	26	29	28	25	24	16	21.1	29.7	
27-Jan-08	14	11	3	6	20	15	18	23	12	7	10	6	4	21	27	26	21	25	24	28	27	28	28	23	11.9	27.9	
28-Jan-08	23	23	24	23	25	24	23	23	24	22	21	21	22	21	19	18	15	11	9	8	8	10	7	9	18.0	24.6	
29-Jan-08	5	5	2	4	3	4	3	6	5	5	7	7	11	13	12	12	14	13	12	14	13	11	10	10	6.4	13.8	
30-Jan-08	10	13	15	11	8	9	8	6	8	4	4	4	4	6	10	10	10	9	7	7	7	5	5	3	6.0	14.9	
31-Jan-08	3	3	4	3	8	15	24	19	19	24	29	27	29	26	20	16	16	14	12	11	12	9	9	10	8.2	29.3	
1-hr Vector	8.0	9.4	8.4	8.0	8.7	9.0	7.8	8.1	8.1	8.4	8.8	9.2	9.9	10.2	9.3	7.7	6.5	5.4	6.0	5.6	5.7	5.6	5.3	6.2			
Hourly Max	29.2	33.0	27.8	31.3	34.5	36.8	33.4	33.0	38.0	32.2	33.5	33.3	33.7	34.7	35.8	41.1	34.8	31.7	39.7	29.9	30.1	31.1	27.8	27.4			





# PAS - Crescent Heights Standard Deviation of Wind Direction Monthly Summary

Station: Crescent Heights  
 Station Owner: PAS

## HOURLY AVERAGE TABLE

**Wind Direction (WD)**

Monitoring Dates: January 1, 2008 to February 1, 2008

**Summary**


Determined by the Yamartino 15-min interval calculation

Calm Time:	0 hrs	0% calms	Operational Time:	744 hrs			
Calibration Time:	0 hrs		AMD Operational Uptime:	100.0%			
Percentile	99	95	75	50	25	5	1
	77.9	53.4	19.4	10.4	7.0	4.6	3.6

**Status Flag Characters**

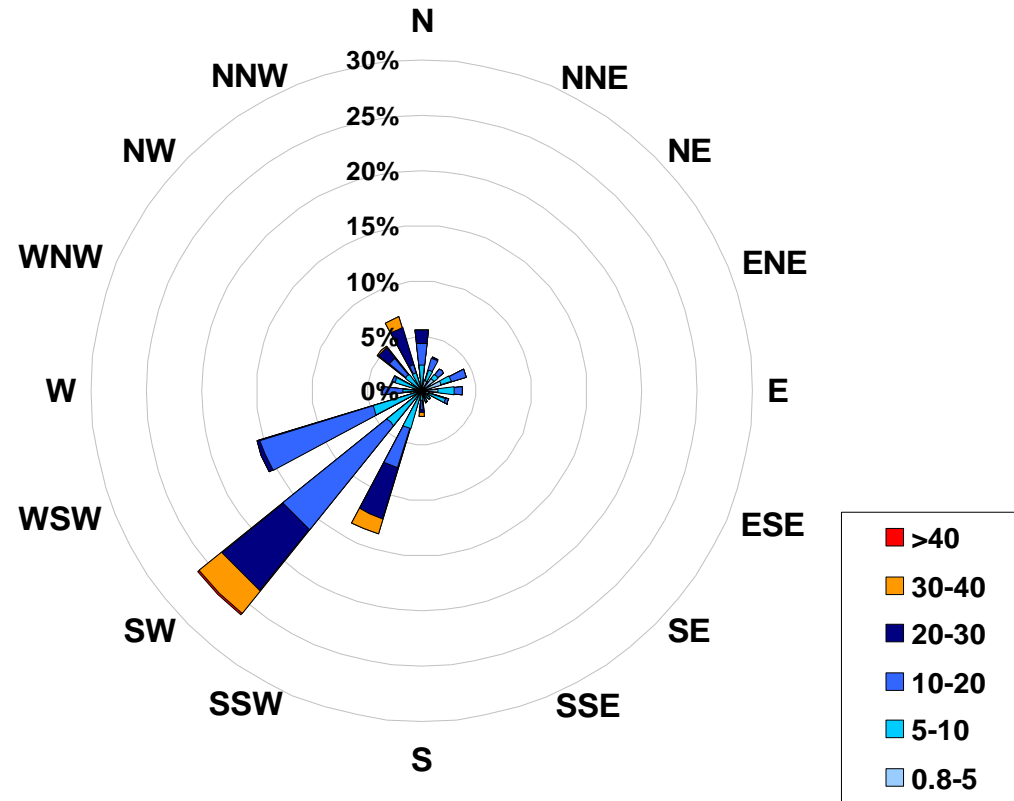
C	Calibration	A	AIC - Zero / Span Check
S	Instrument out of Service	X	Filter Exchange
N	No Data	M	Equipment Maintenance
D	Excessive Instrument Drift	P	Power Failure

Day	Mountain Standard Time																							Daily Maximum																									
Hour Start	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	Hour End	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00
1-Jan-08	10	9	9	20	12	34	30	12	9	8	12	42	25	93	49	46	19	21	20	36	37	23	31	33	92.8																								
2-Jan-08	78	32	14	8	6	5	8	5	5	5	5	21	5	8	17	11	15	32	17	6	7	11	6	7	78.4																								
3-Jan-08	9	12	15	9	10	15	37	67	58	27	53	66	8	7	9	11	12	6	3	3	8	10	17	13	66.7																								
4-Jan-08	7	7	5	8	4	5	4	4	4	5	5	5	6	6	6	12	10	8	8	6	7	6	7	8	11.7																								
5-Jan-08	6	6	6	6	4	4	5	12	9	13	6	6	5	5	6	5	4	5	6	7	4	9	7	5	13.0																								
6-Jan-08	4	4	4	6	5	9	9	14	6	11	8	6	7	6	8	10	10	9	22	19	18	13	12	12	22.5																								
7-Jan-08	7	11	11	9	8	5	13	24	13	22	22	16	29	18	16	9	21	67	37	15	14	12	12	14	67.3																								
8-Jan-08	15	36	37	25	55	34	14	20	13	25	34	10	9	8	11	7	6	9	17	9	29	33	50	24	55.1																								
9-Jan-08	11	5	8	10	9	17	13	48	35	22	16	27	19	22	21	21	46	58	36	17	14	37	35	11	58.3																								
10-Jan-08	19	21	35	28	47	39	62	76	38	8	12	9	10	6	6	6	11	15	10	24	77	38	25	17	77.3																								
11-Jan-08	32	33	34	37	41	65	64	28	20	53	79	63	59	96	25	16	14	13	85	62	50	68	15	43	96.5																								
12-Jan-08	12	8	21	12	48	5	6	10	8	8	13	18	9	8	9	10	4	44	72	13	39	37	31	40	72.1																								
13-Jan-08	10	10	10	12	7	67	21	69	47	9	10	13	21	14	12	11	37	12	8	10	11	36	33	17	69.2																								
14-Jan-08	17	9	10	14	12	9	12	7	5	5	4	5	4	6	4	6	4	10	5	6	11	5	5	9	17.4																								
15-Jan-08	9	10	37	11	7	6	8	7	6	5	6	6	5	5	6	6	5	9	6	7	7	5	10	20	37.0																								
16-Jan-08	14	14	9	45	20	17	10	10	27	9	8	9	8	11	12	8	8	4	10	6	10	7	6	6	44.8																								
17-Jan-08	6	6	8	8	7	6	6	8	8	10	18	4	13	11	11	15	16	13	46	76	12	22	21	78	78.5																								
18-Jan-08	32	8	14	8	15	8	12	4	0	53	7	16	10	11	13	13	10	11	24	23	15	24	1	9	52.9																								
19-Jan-08	14	1	27	26	17	13	5	6	13	4	8	11	14	8	12	6	8	7	4	7	5	8	11	6	27.5																								
20-Jan-08	7	6	6	5	5	4	10	18	14	17	13	17	27	19	27	18	17	32	9	8	8	9	7	7	32.0																								
21-Jan-08	9	6	10	8	14	8	9	6	10	7	8	6	7	10	7	8	9	10	6	4	8	15	18	8	17.9																								
22-Jan-08	14	7	12	10	9	7	13	10	10	19	11	10	4	4	5	6	6	12	5	10	10	9	19	14	19.2																								
23-Jan-08	25	68	43	54	41	29	13	49	21	80	14	14	16	15	15	6	7	11	13	16	13	11	8	8	79.7																								
24-Jan-08	7	9	8	14	51	22	63	21	26	59	88	20	65	11	17	15	8	7	10	6	9	8	9	10	87.5																								
25-Jan-08	19	11	15	23	22	17	37	16	34	33	32	44	65	10	8	12	34	40	73	14	7	9	11	7	73.4																								
26-Jan-08	6	4	6	5	5	6	12	5	16	9	12	7	7	6	6	6	5	5	5	6	8	5	5	6	16.1																								
27-Jan-08	7	25	62	52	10	13	11	5	26	40	38	31	45	15	7	5	15	7	8	5	5	5	6	8	62.1																								
28-Jan-08	8	7	8	8	7	6	7	6	5	6	7	8	8	9	8	7	7	7	9	17	14	9	20	13	20.0																								
29-Jan-08	24	32	55	42	71	48	22	19	13	19	13	17	15	14	13	12	8	9	9	10	8	14	10	10	70.6																								
30-Jan-08	13	6	4	8	9	5	8	8	8	19	26	28	36	22	11	14	8	12	28	26	17	25	26	35	36.3																								
31-Jan-08	33	31	22	46	16	23	6	5	10	6	6	7	5	6	10	33	10	9	8	10	13	15	14	9	46.3																								

Hourly Max	78	68	62	54	71	67	64	76	58	80	88	66	65	96	49	46	46	67	85	76	77	68	50	78
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**1-hr Average Wind Rose (in km/hr) Located at the Crescent Heights Site  
for January 2008**



**Calms: 0%**

Frequency Distribution of Wind in km/hr			Frequency (hrs)
Range			
0.8	<	5	65
5	to	10	212
10	to	20	285
20	to	30	139
30	to	40	42
	>	40	1
Total Non-Zero Values			744



# **PAS – Portable-Brooks**

**Monthly Summary Tables, Graphs and Roses**



# PAS – Brooks Sulphur Dioxide Monthly Summary

Station: Portable-Brooks  
Station Owner: PAS

## HOURLY AVERAGE TABLE

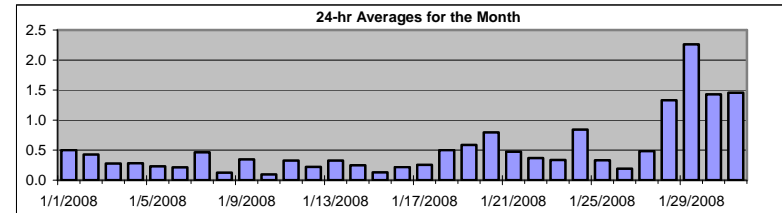
## Sulphur Dioxide (SO<sub>2</sub>)

Monitoring Dates: January 1, 2008 to February 1, 2008

Objective Limit: Alberta Environment: 1-hr 172 ppb 24-hr 57 ppb

Summary			
Number of 1-hr Exceedances:	0		
Number of 24-hr Exceedances:	0		
Maximum 1-hr Average:	6.9 ppb	31-Jan	21:00 22:00
Maximum 24-hr Average:	2.3 ppb	29-Jan	

AIC Time:	32 hrs	Operational Time:	709 hrs						
Calibration Time:	3 hrs	AMD Operational Uptime:	100.0%						
Percentile	99	95	75	50	25	5	1	Average	Median
	3.4	1.6	0.6	0.3	0.2	0.0	0.0	0.5 ppb	0.3 ppb



Status Flag Characters	
C	Calibration
S	Instrument out of Service
N	No Data
D	Excessive Instrument Drift
A	AIC - Zero / Span Check
X	Filter Exchange
M	Equipment Maintenance
P	Power Failure

Day	Mountain Standard Time																								24-hour Average	Daily Maximum			
	Hour Start Hour End	0:00 1:00	1:00 2:00	2:00 3:00	3:00 4:00	4:00 5:00	5:00 6:00	6:00 7:00	7:00 8:00	8:00 9:00	9:00 10:00	10:00 11:00	11:00 12:00	12:00 13:00	13:00 14:00	14:00 15:00	15:00 16:00	16:00 17:00	17:00 18:00	18:00 19:00	19:00 20:00	20:00 21:00	21:00 22:00	22:00 23:00			23:00 0:00		
1-Jan-08	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	2	1	A	1	0	0	0	0	1	0	0.5	1.5	
2-Jan-08	0	0	0	0	1	0	0	0	0	1	1	1	1	0	1	0	A	1	0	0	0	0	0	0	0	0	0.4	1.0	
3-Jan-08	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	0	0	0	0	0	0	0	0	0.3	0.5	
4-Jan-08	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	1	0	0	0	0	0	0	0	0	0.3	0.5	
5-Jan-08	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4	
6-Jan-08	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	0.2	0.5	
7-Jan-08	0	0	0	0	0	0	0	0	0	0	0	0	A	1	1	1	1	1	1	1	1	1	1	1	1	1	0.5	0.9	
8-Jan-08	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3	
9-Jan-08	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1	1	1	1	1	1	1	1	1	0	0.3	0.9	
10-Jan-08	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.5	
11-Jan-08	A	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	1	0	0	0	0	A	0	0.3	0.6	
12-Jan-08	0	1	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	
13-Jan-08	0	0	0	0	0	0	0	0	1	1	0	0	0	1	1	0	0	1	1	0	0	0	A	0	0	0	0.3	0.7	
14-Jan-08	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.2	0.6	
15-Jan-08	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.1	0.8	
16-Jan-08	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0.2	0.5	
17-Jan-08	0	0	0	0	0	0	0	0	0	0	1	C	C	C	A	0	0	0	0	0	0	0	0	0	0	0	0.3	0.5	
18-Jan-08	0	A	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	0	0	1	0.5	0.8	
19-Jan-08	A	1	0	0	0	1	1	1	1	0	0	0	1	2	1	1	1	1	1	1	0	0	0	0	A	0	0.6	1.6	
20-Jan-08	0	0	0	0	0	1	1	1	1	1	1	1	1	1	2	2	1	1	1	1	1	0	0	A	0	0	0.8	2.3	
21-Jan-08	1	0	0	1	1	0	0	0	0	0	0	1	1	1	0	0	1	1	1	1	0	0	0	0	0	0	0.5	0.8	
22-Jan-08	0	A	1	1	1	0	1	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.4	1.1	
23-Jan-08	A	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0	0	0	0	0	1	0	A	0.3	0.6	
24-Jan-08	1	0	1	1	0	1	1	0	1	1	1	1	2	2	1	1	1	1	2	1	0	0	A	0	0	0	0.8	1.8	
25-Jan-08	0	1	1	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	A	0	0	0	0.3	0.8	
26-Jan-08	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.2	0.4	
27-Jan-08	0	0	0	0	0	0	0	0	0	0	0	0	2	3	1	1	1	1	0	0	A	0	0	1	1	1	0.5	2.6	
28-Jan-08	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	A	2	2	2	2	2	2	1.3	2.3	
29-Jan-08	3	2	2	1	1	1	2	2	3	3	3	5	4	4	6	2	1	A	1	1	1	1	1	1	1	2	2	2.3	5.6
30-Jan-08	2	2	2	1	2	2	1	1	1	1	1	2	1	2	2	3	2	A	1	1	1	1	1	1	1	1	1.4	3.4	
31-Jan-08	1	2	1	1	1	1	1	1	1	1	1	1	0	1	1	A	1	3	1	1	1	1	1	7	5	4	1.5	6.9	
Hourly Avg	0.4	0.5	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.5	0.6	0.7	0.7	0.7	0.9	0.6	0.6	0.6	0.6	0.6	0.5	0.4	0.6	0.6	0.5				
Hourly Max	2.5	2.4	1.6	1.4	1.5	1.7	2.1	1.8	2.6	2.7	3.1	4.9	3.5	3.6	5.6	2.1	2.0	2.5	1.8	2.2	2.0	6.9	5.3	3.6					

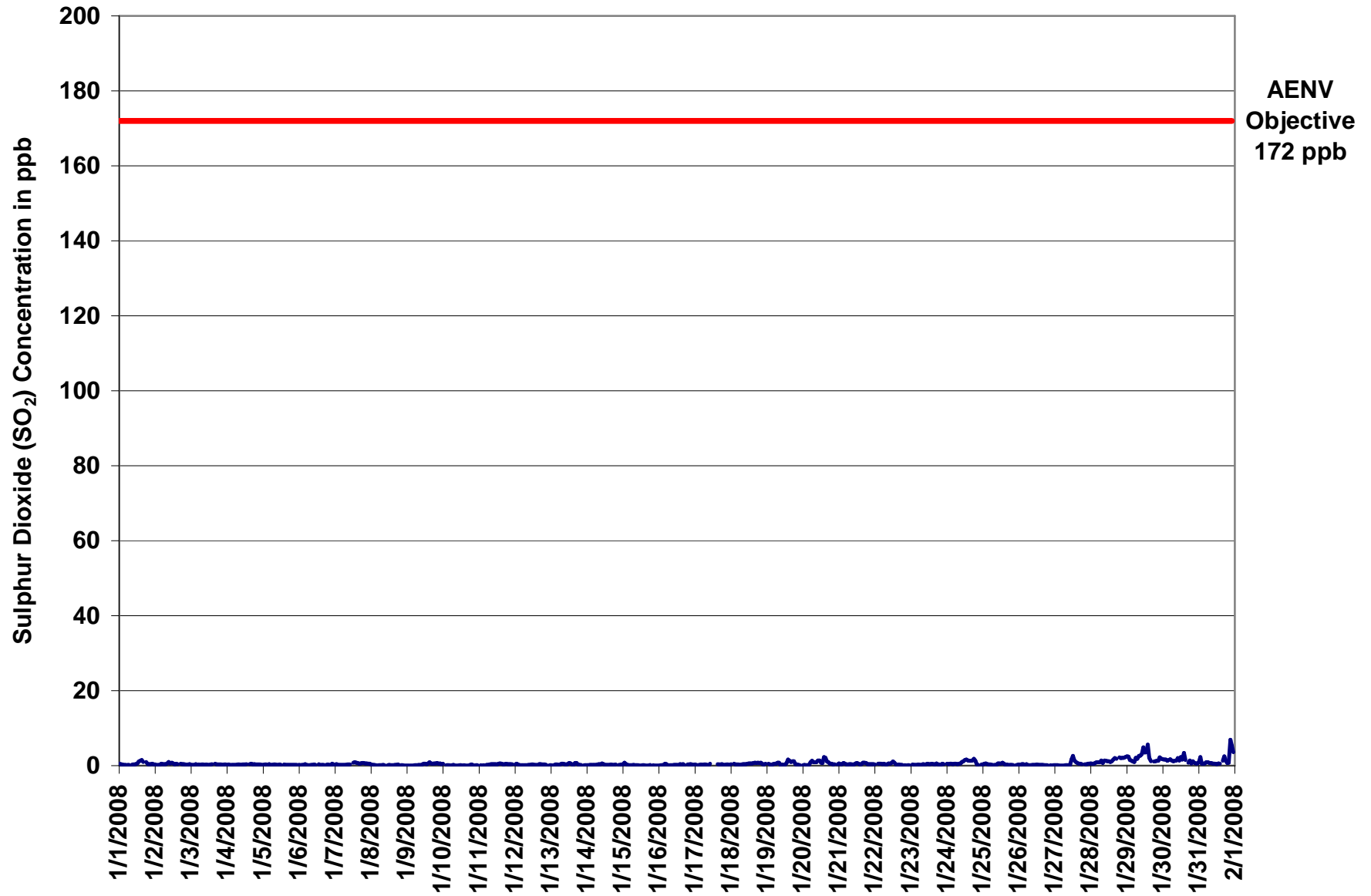


Figure 16. PAS – Brooks Sulphur Dioxide 1-hr Average Monthly Trend



Station: Portable-Brooks  
 Station Owner: PAS

**INSTANTANEOUS (30 Second) MAXIMUM TABLE**

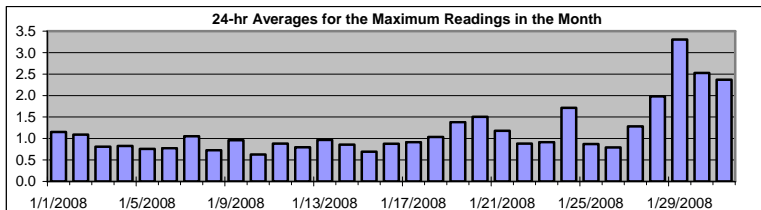
**Sulphur Dioxide (SO<sub>2</sub>)**

Monitoring Dates: January 1, 2008 to February 1, 2008

**Summary**

Maximum 1-hr Value:	8.5	ppb	31-Jan	21:00 22:00
Maximum 24-hr Value:	3.3	ppb	29-Jan	

AIC Time:	32 hrs		Operational Time:	709 hrs					
Calibration Time:	3 hrs		AMD Operational Uptime:	100.0%					
Percentile	99	95	75	50	25	5	1	Average	Median
	5.1	3.1	1.2	0.9	0.7	0.5	0.5	1.2 ppb	0.9 ppb



**Status Flag Characters**

C	Calibration	A	AIC - Zero / Span Check
S	Instrument out of Service	X	Filter Exchange
N	No Data	M	Equipment Maintenance
D	Excessive Instrument Drift	P	Power Failure

Day	Mountain Standard Time																								24-hour Average	Daily Maximum		
	Hour Start Hour End	0:00 1:00	1:00 2:00	2:00 3:00	3:00 4:00	4:00 5:00	5:00 6:00	6:00 7:00	7:00 8:00	8:00 9:00	9:00 10:00	10:00 11:00	11:00 12:00	12:00 13:00	13:00 14:00	14:00 15:00	15:00 16:00	16:00 17:00	17:00 18:00	18:00 19:00	19:00 20:00	20:00 21:00	21:00 22:00	22:00 23:00			23:00 0:00	
1-Jan-08	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	2	3	2	A	2	1	1	1	1	1	1	1.2	2.8
2-Jan-08	1	1	1	1	1	1	1	1	1	1	2	2	1	2	1	1	A	1	1	1	1	1	1	1	1	1	1.1	2.0
3-Jan-08	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	0.8	1.1
4-Jan-08	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	0.8	1.3
5-Jan-08	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	0.8	0.9
6-Jan-08	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	0.8	1.3
7-Jan-08	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	2	1	1	1	1	1	1	1	1	1	1	1.1	1.5
8-Jan-08	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	0.7	1.4
9-Jan-08	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	1	1	2	2	1	1	1	1	1	1.0	1.6
10-Jan-08	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	0.6	1.1
11-Jan-08	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	0.9	1.2
12-Jan-08	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	A	1	1	0.8	2.0
13-Jan-08	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	1	2	1	1	A	1	1	1	1.0	2.2
14-Jan-08	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	1	0.9	1.3
15-Jan-08	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	0.7	1.7
16-Jan-08	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	0.9	2.0
17-Jan-08	1	1	1	1	1	1	1	1	1	1	2	C	C	C	A	1	1	1	2	1	1	1	1	1	1	1	0.9	2.1
18-Jan-08	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1.0	1.9
19-Jan-08	A	1	1	1	1	2	1	3	2	1	1	1	1	2	3	2	1	2	2	2	1	1	1	1	A	1	1.4	2.9
20-Jan-08	1	1	1	1	1	3	3	1	1	2	2	2	1	1	3	3	2	2	2	1	1	1	1	A	1	1	1.5	3.4
21-Jan-08	2	1	1	3	2	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1.2	3.1
22-Jan-08	1	A	1	1	1	1	1	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	0.9	1.7
23-Jan-08	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	0.9	1.4
24-Jan-08	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	3	4	5	4	1	1	A	1	1	1	1.7	4.9
25-Jan-08	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	1	0.9	1.4
26-Jan-08	1	1	2	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	0	1	1	1	1	0.8	1.9
27-Jan-08	1	1	1	1	1	0	1	1	1	1	1	1	5	7	2	2	1	1	1	1	A	1	1	1	1	1	1.3	7.0
28-Jan-08	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	3	3	A	3	2	3	3	3	3	2.0	3.1	
29-Jan-08	3	3	2	2	2	2	3	3	3	3	3	4	7	4	6	8	3	2	A	2	2	2	2	4	3	3	3.3	8.4
30-Jan-08	3	3	2	2	2	2	2	2	2	2	2	4	2	3	3	5	4	A	1	4	1	2	2	2	1	2.5	5.1	
31-Jan-08	3	4	1	1	1	2	2	1	1	1	1	1	1	1	1	A	3	3	2	1	3	9	6	5	2.4	8.5		
Hourly Avg	1.1	1.1	0.9	1.0	0.9	1.0	1.0	1.0	1.1	1.0	1.3	1.4	1.4	1.4	1.6	1.4	1.4	1.2	1.3	1.1	1.1	1.3	1.2	1.1				
Hourly Max	3.2	3.9	2.4	3.1	2.3	2.7	2.8	2.9	3.3	3.3	4.2	7.2	7.0	6.2	8.4	4.3	3.2	3.7	4.9	3.8	3.2	8.5	6.3	5.3				



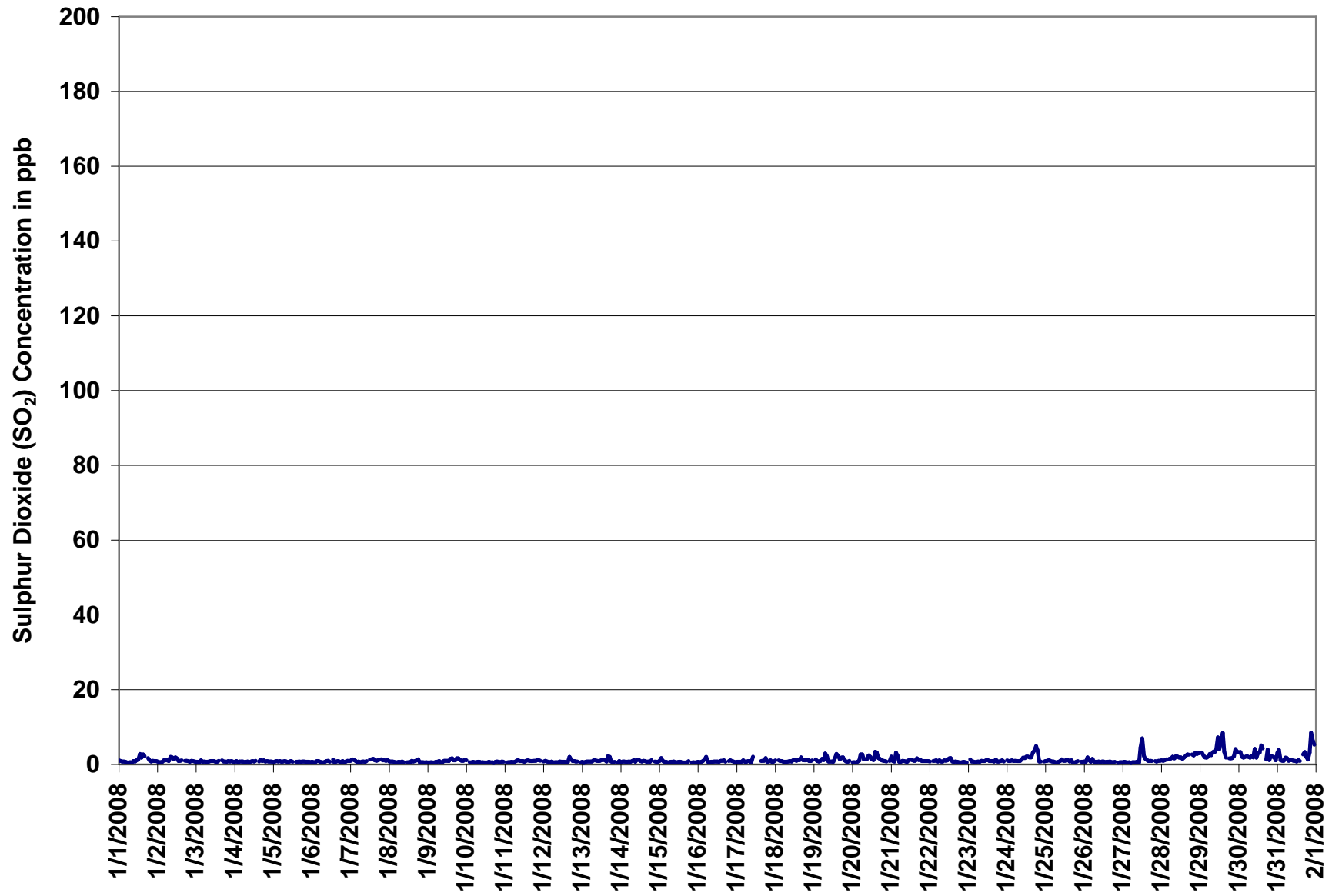
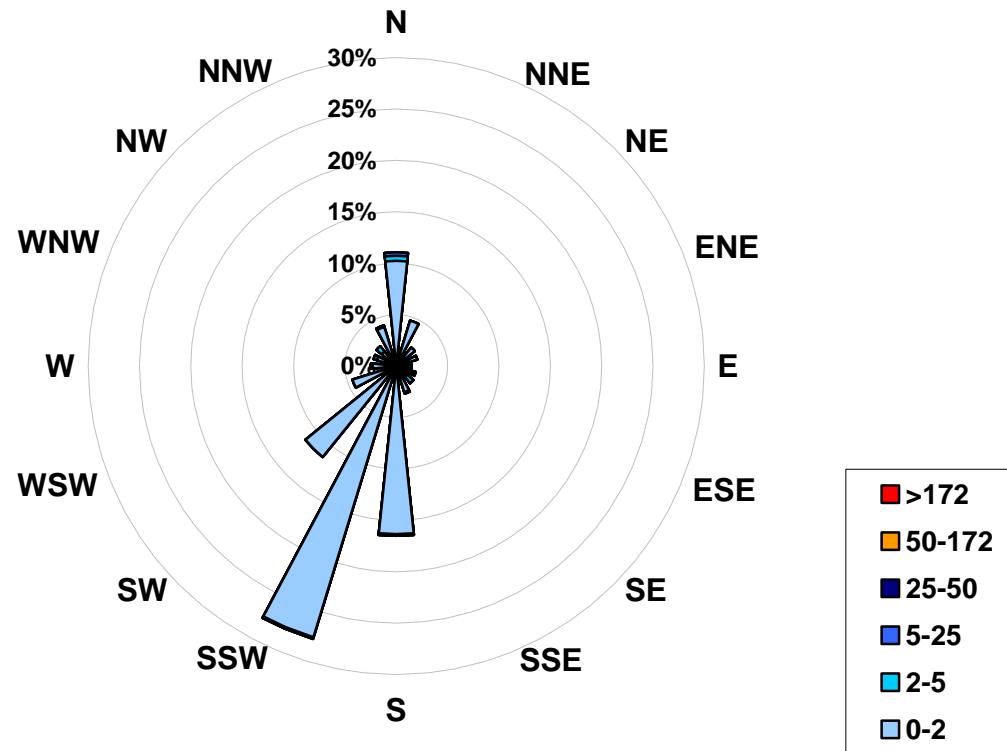


Figure 17. PAS – Brooks Sulphur Dioxide Instantaneous (30 Second) Maximum Value Monthly Trend



1-hr Average Concentration Rose for Sulphur Dioxide (in ppb) Located at the Portable-Brooks Site for January 2008



Calms: 0%

Frequency Distribution of SO <sub>2</sub> in ppb			
Range			Frequency (hrs)
0.0	<	2	680
2	to	5	23
5	to	25	3
25	to	50	0
50	to	172	0
	>	172	0
Total Non-Zero Values			709



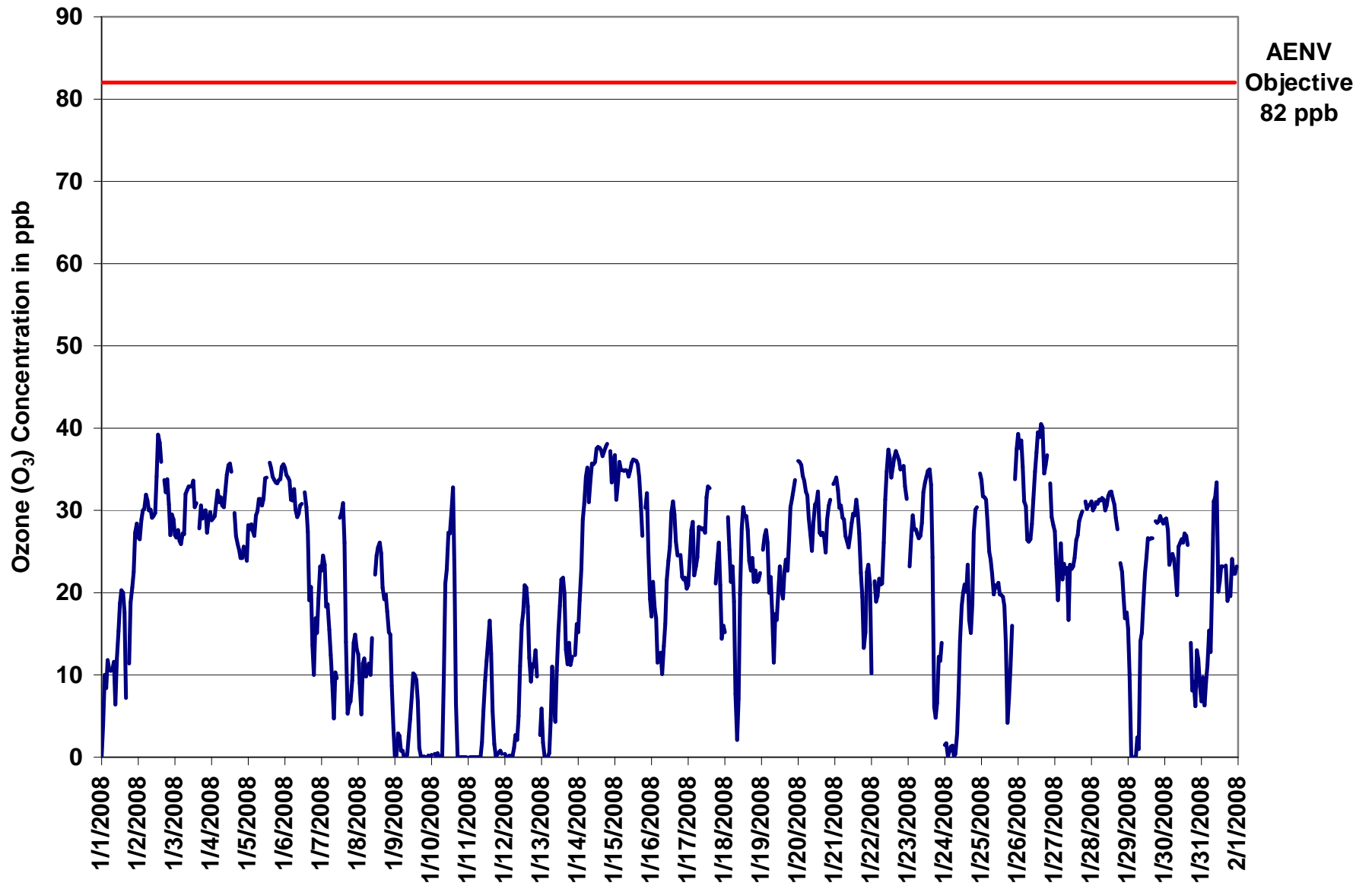


Figure 18. PAS – Brooks Ozone 1-hr Average Monthly Trend

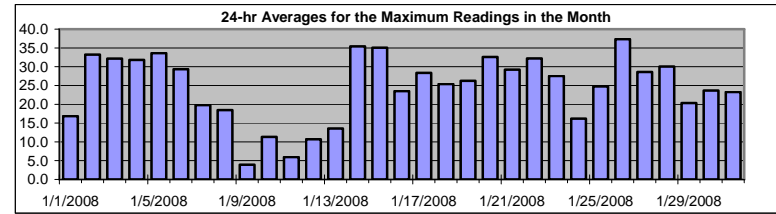


Station: Portable-Brooks  
Station Owner: PAS

INSTANTANEOUS (30 Second) MAXIMUM TABLE

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

Monitoring Dates: January 1, 2008 to February 1, 2008



Summary

Table with 5 columns: Value, Unit, Date, Time Range. Contains 'Maximum 1-hr Value: 43.2 ppb 26-Jan 15:00 16:00' and 'Maximum 24-hr Value: 37.3 ppb 26-Jan'.

Operational/Calibration metrics table including AIC Time (32 hrs), Operational Time (710 hrs), Percentile (99-1), Average (24.5 ppb), and Median (27.5 ppb).

Status Flag Characters

Legend for status flags: C Calibration, S Instrument out of Service, N No Data, D Excessive Instrument Drift, A AIC - Zero / Span Check, X Filter Exchange, M Equipment Maintenance, P Power Failure.

Main data table with columns for Day, Hour Start/End, Mountain Standard Time (0:00-23:00), 24-hour Average, and Daily Maximum. Rows list data for each day from 1-Jan-08 to 31-Jan-08.

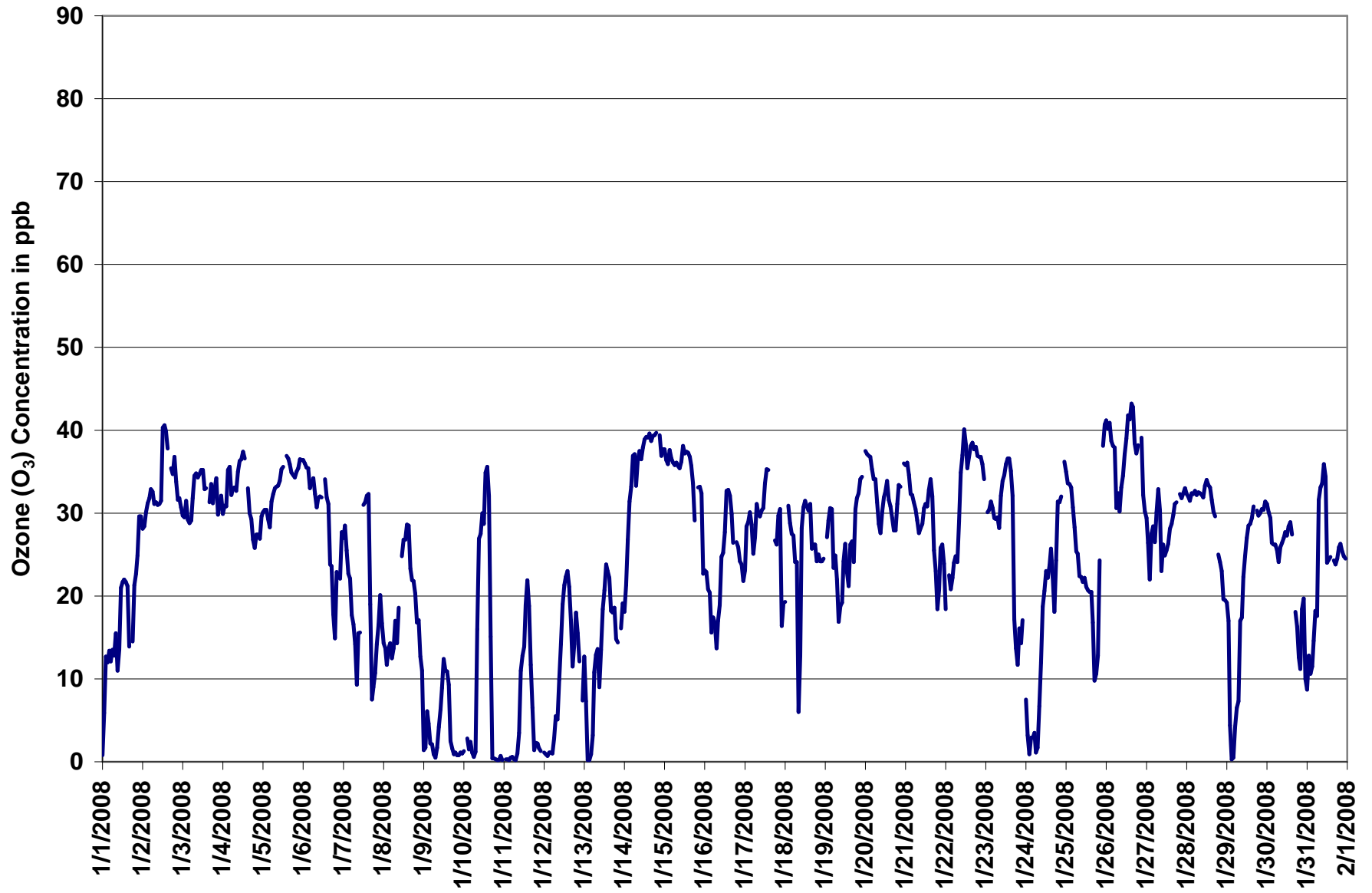
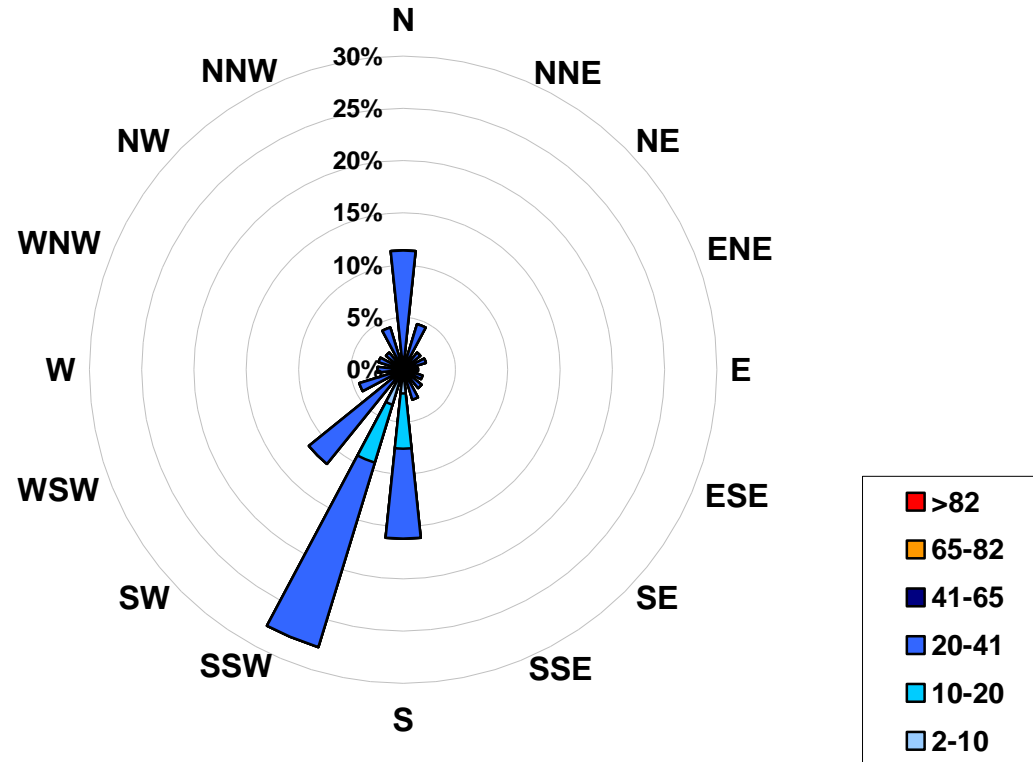


Figure 19. PAS – Brooks Ozone Instantaneous (30 Second) Maximum Value Monthly Trend



**1-hr Average Concentration Rose for Ozone (in ppb) Located at the Portable-Brooks Site for January 2008**



**Calms: 0%**

Frequency Distribution of O <sub>3</sub> in ppb			Frequency (hrs)
Range			
2.0	< 10		126
10	to 20		128
20	to 41		451
41	to 65		0
65	to 82		0
	> 82		0
Total Non-Zero Values			710







### PAS – Brooks Hydrogen Sulphide Monthly Summary

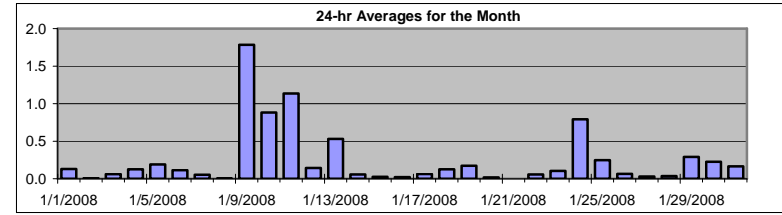
#### HOURLY AVERAGE TABLE

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

Station: Portable-Brooks  
Station Owner: PAS

Monitoring Dates: January 1, 2008 to February 1, 2008

<b>Objective Limit:</b>	<b>Alberta Environment:</b>	1-hr 10 ppb	24-hr 3 ppb
<b>Summary</b>			
Number of 1-hr Exceedances:	1		
Number of 24-hr Exceedances:	0		
Maximum 1-hr Average:	14.8 ppb	9-Jan	7:00 8:00
Maximum 24-hr Value:	1.8 ppb	9-Jan	



<b>AIC Time:</b>	32 hrs	<b>Operational Time:</b>	710 hrs
<b>Calibration Time:</b>	2 hrs	<b>AMD Operational Uptime:</b>	100.0%
<b>Percentile</b>	99 3.5	95 1.0	75 0.2
	50 0.1	25 0.0	5 0.0
	1 0.0	<b>Average</b> 0.2 ppb	
	<b>Median</b> 0.1 ppb		

#### Status Flag Characters

C	Calibration	A	AIC - Zero / Span Check
S	Instrument out of Service	X	Filter Exchange
N	No Data	M	Equipment Maintenance
D	Excessive Instrument Drift	P	Power Failure

Day	Mountain Standard Time																								24-hour Average	Daily Maximum		
Hour Start	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00			
1-Jan-08	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.1	1.7
2-Jan-08	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	0.1
3-Jan-08	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	0.2
4-Jan-08	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	0.3
5-Jan-08	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	0.4
6-Jan-08	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
7-Jan-08	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
8-Jan-08	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	0.1
9-Jan-08	2	1	0	0	0	1	10	15	4	1	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1.8	14.8
10-Jan-08	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	4	4	1	1	4	2		0.9	4.2	
11-Jan-08	A	5	2	1	1	1	1	2	2	1	1	1	1	0	0	0	1	2	1	1	1	2	1	A		1.1	4.6	
12-Jan-08	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0		0.1	0.4	
13-Jan-08	0	0	1	1	1	0	1	1	2	1	0	0	0	0	0	0	0	2	0	0	0	A	0	0		0.5	1.8	
14-Jan-08	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	
15-Jan-08	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0		0.0	0.2	
16-Jan-08	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0		0.0	0.1	
17-Jan-08	0	0	0	0	0	0	0	0	0	0	0	0	0	C	C	A	0	0	0	0	0	0	0	0		0.1	0.3	
18-Jan-08	0	A	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0.1	0.5	
19-Jan-08	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A		0.2	0.3	
20-Jan-08	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
21-Jan-08	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0.0	0.0
22-Jan-08	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0.1	0.2
23-Jan-08	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A		0.1	0.3	
24-Jan-08	1	1	2	2	1	2	5	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0		0.8	5.3	
25-Jan-08	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0		0.2	0.5	
26-Jan-08	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0		0.1	0.2	
27-Jan-08	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	
28-Jan-08	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	
29-Jan-08	0	0	1	1	1	1	1	2	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0		0.3	1.8	
30-Jan-08	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0		0.2	0.4	
31-Jan-08	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0		0.2	0.4	
Hourly Avg	0.2	0.3	0.2	0.2	0.2	0.3	0.7	0.8	0.4	0.2	0.1	0.1	0.1	0.0	0.0	0.1	0.2	0.3	0.3	0.3	0.2	0.2	0.3	0.2				
Hourly Max	2.3	4.6	1.6	1.5	1.1	2.2	10.4	14.8	3.8	1.4	1.1	0.8	0.6	0.3	0.2	0.6	1.4	2.4	3.6	4.2	0.9	1.7	4.0	1.9				

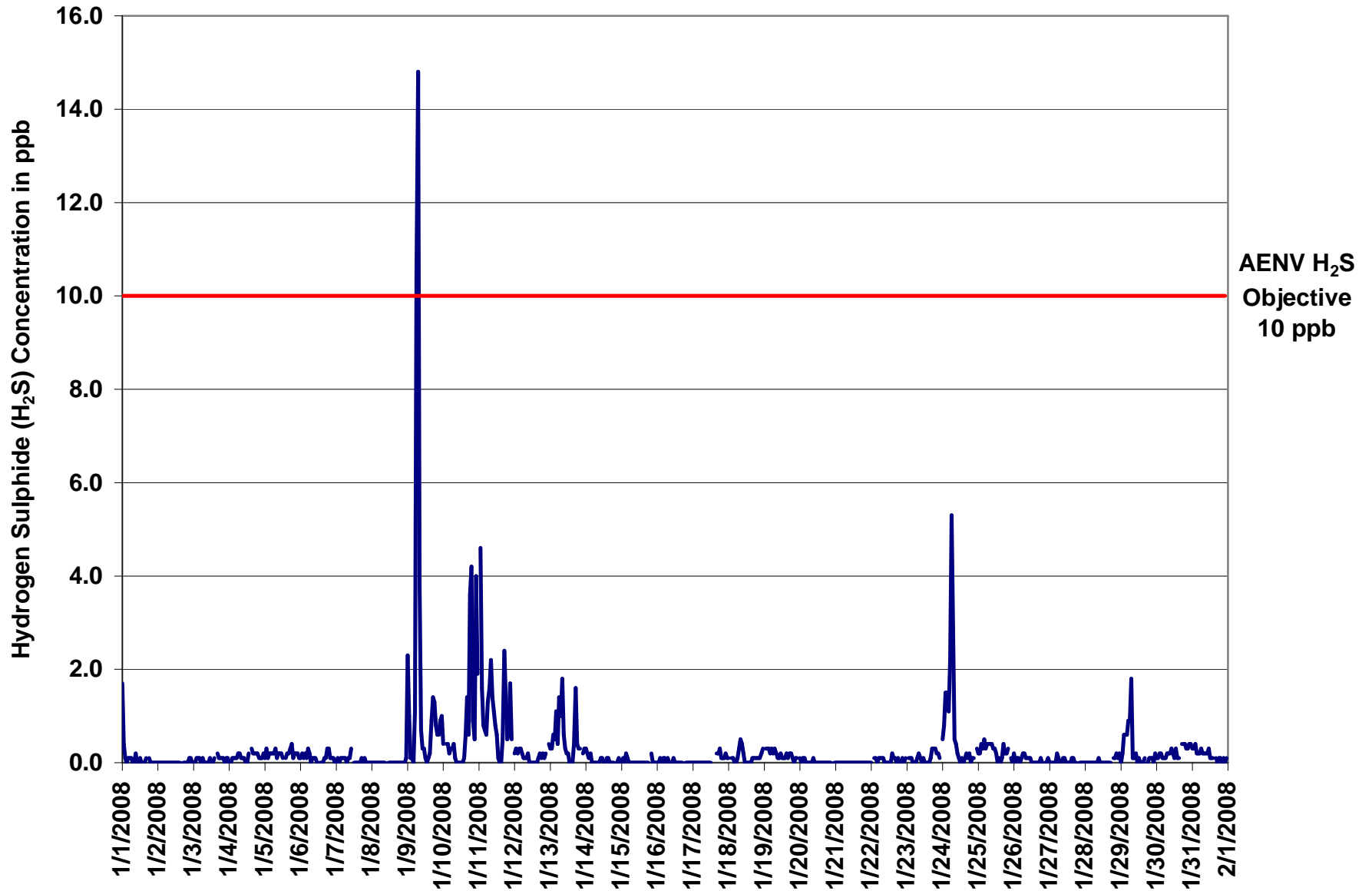


Figure 20. PAS – Brooks Hydrogen Sulphide 1-hr Average Monthly Trend



Station: Portable-Brooks  
Station Owner: PAS

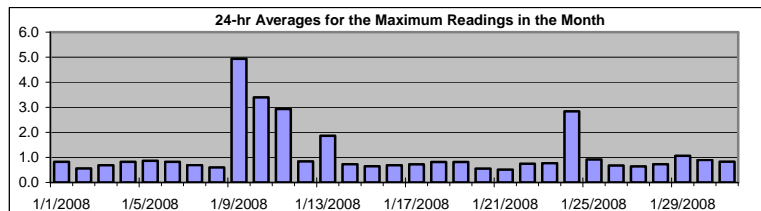
### INSTANTANEOUS (30 Second) MAXIMUM TABLE

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

Monitoring Dates: January 1, 2008 to February 1, 2008

#### Summary

Maximum 1-hr Value:	33.0	ppb	9-Jan	6:00 7:00
Maximum 24-hr Value:	4.9	ppb	9-Jan	



AIC Time:	32 hrs	Operational Time:	710 hrs						
Calibration Time:	2 hrs	AMD Operational Uptime:	100.0%						
Percentile	99	95	75	50	25	5	1	Average	Median
	8.9	2.6	0.9	0.7	0.6	0.5	0.3	1.1 ppb	0.7 ppb

#### Status Flag Characters

C	Calibration	A	AIC - Zero / Span Check
S	Instrument out of Service	X	Filter Exchange
N	No Data	M	Equipment Maintenance
D	Excessive Instrument Drift	P	Power Failure

#### Day Mountain Standard Time

Hour Start Hour End	0:00 1:00	1:00 2:00	2:00 3:00	3:00 4:00	4:00 5:00	5:00 6:00	6:00 7:00	7:00 8:00	8:00 9:00	9:00 10:00	10:00 11:00	11:00 12:00	12:00 13:00	13:00 14:00	14:00 15:00	15:00 16:00	16:00 17:00	17:00 18:00	18:00 19:00	19:00 20:00	20:00 21:00	21:00 22:00	22:00 23:00	23:00 0:00	24-hour Average	Daily Maximum
1-Jan-08	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	0.8	2.6
2-Jan-08	1	1	1	1	1	1	1	1	1	1	0	1	1	0	0	1	A	1	1	1	1	1	1	1	0.6	0.7
3-Jan-08	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	0.7	1.0
4-Jan-08	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	1.2
5-Jan-08	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	0.9	1.1
6-Jan-08	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	0.8	1.1
7-Jan-08	1	1	1	1	1	1	1	1	1	1	1	A	1	0	1	1	1	1	1	1	1	1	1	1	0.7	1.1
8-Jan-08	1	1	1	1	1	1	1	1	0	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	0.6	1.0
9-Jan-08	6	6	1	1	1	5	33	26	9	2	1	1	1	1	1	2	5	5	2	2	2	4	3	4.9	33.0	
10-Jan-08	1	A	2	1	1	1	1	1	1	1	1	1	1	1	5	5	1	6	7	3	1	22	15	3.4	22.0	
11-Jan-08	A	8	3	1	2	2	2	3	4	2	2	2	1	1	0	8	9	7	1	2	4	1	A	2.9	8.7	
12-Jan-08	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	2	1	1	1	1	1	A	1	0.8	1.6	
13-Jan-08	1	1	1	1	3	1	6	3	5	2	1	1	1	1	1	3	7	1	1	1	A	1	1	1.9	6.5	
14-Jan-08	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	1.4	
15-Jan-08	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	0.6	1.0	
16-Jan-08	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	A	1	1	1	1	0.7	1.3	
17-Jan-08	1	1	1	1	1	1	1	1	1	1	1	0	1	C	C	A	1	1	1	1	1	1	1	0.7	1.0	
18-Jan-08	1	A	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.6
19-Jan-08	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	0.8	1.1	
20-Jan-08	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	1	0	0	1	0	1	1	A	1	0.6	0.8
21-Jan-08	1	1	1	0	0	1	0	1	1	1	1	1	0	1	0	0	1	0	1	1	1	0	1	0.5	0.7	
22-Jan-08	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.0	
23-Jan-08	A	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	A	0.8	1.1	
24-Jan-08	1	3	3	2	2	12	14	16	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	2.8	16.2	
25-Jan-08	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	0.9	1.4	
26-Jan-08	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	
27-Jan-08	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	0	1	A	1	1	1	1	0.6	1.0	
28-Jan-08	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	0.7	1.0	
29-Jan-08	1	1	1	1	1	2	2	3	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1.1	3.0	
30-Jan-08	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	0.9	1.3	
31-Jan-08	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	
Hourly Avg	1.0	1.3	1.0	0.8	0.9	1.4	2.5	2.3	1.3	0.9	0.8	0.7	0.7	0.7	0.6	0.8	1.3	1.4	1.3	1.1	0.9	0.9	1.6	1.3		
Hourly Max	5.9	7.8	2.6	2.2	2.9	12.0	33.0	25.7	8.9	2.4	1.7	1.8	1.3	1.3	1.0	5.3	7.7	8.7	7.0	7.0	3.2	4.4	22.0	14.6		

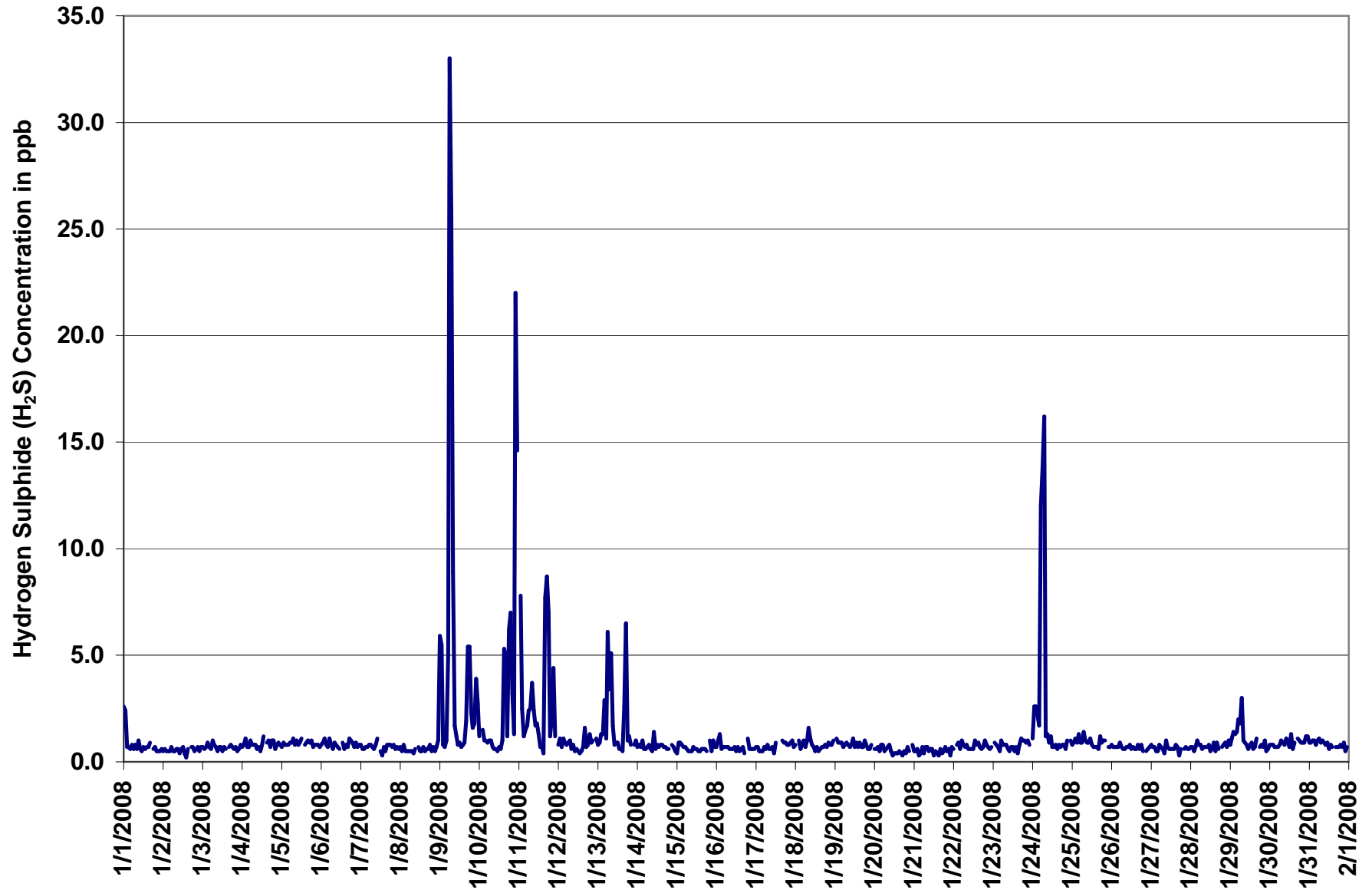
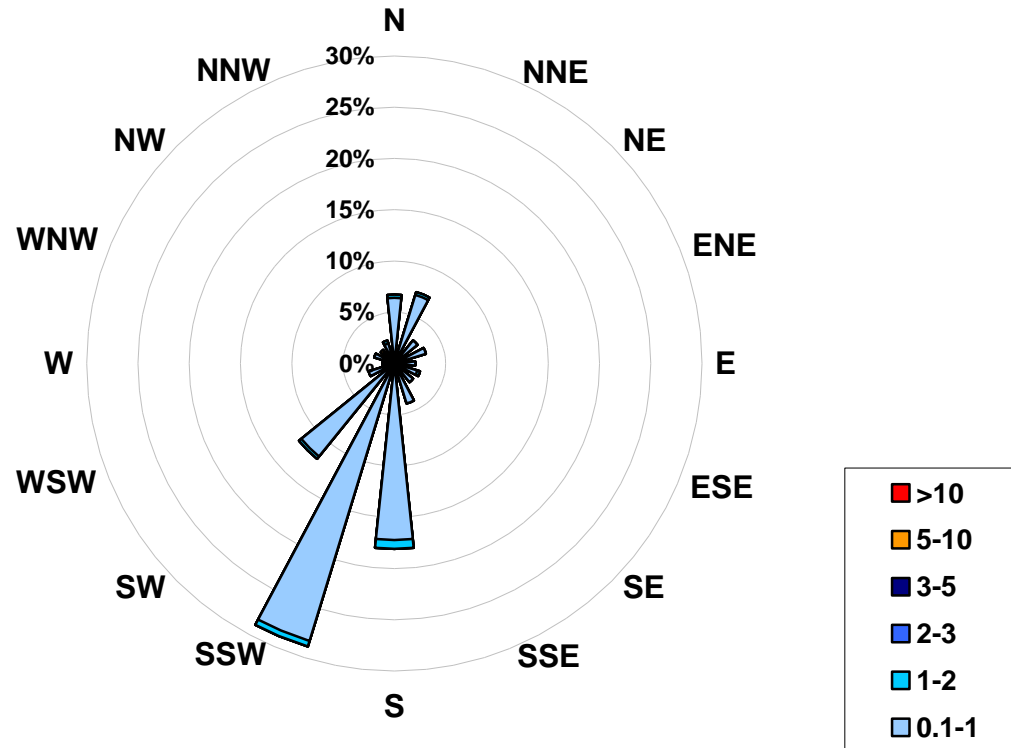


Figure 21. PAS – Brooks Hydrogen Sulphide Instantaneous (30 Second) Maximum Value Monthly Trend



**1-hr Average Concentration Rose for Hydrogen Sulphide (in ppb) Located at the Portable-Brooks Site for January 2008**



**Calms: 0%**

Frequency Distribution of H <sub>2</sub> S in ppb			
Range		Frequency (hrs)	
0.1	< 1		673
1	to 2		21
2	to 3		5
3	to 5		5
5	to 10		1
	> 10		2
Total Non-Zero Values			710



### PAS – Brooks Scalar Wind Speed Monthly Summary

Station: Portable-Brooks  
 Station Owner: PAS

#### HOURLY AVERAGE TABLE

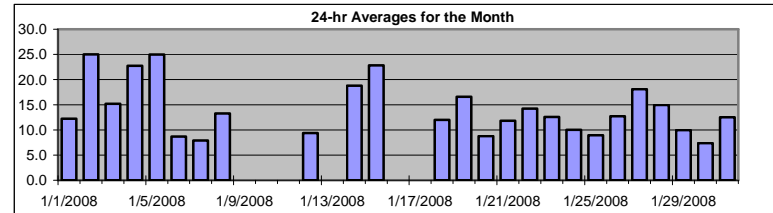
#### Wind Speed (WSs)

Monitoring Dates: January 1, 2008 to February 1, 2008

Summary

Maximum 1-hr Average:	36.9	km/hr	2-Jan	6:00 7:00
Maximum 24-hr Value:	25.0	km/hr	2-Jan	

Calm Time:	0 hrs	0% calms	Operational Time:	635 hrs				
Calibration Time:	4 hrs		AMD Operational Uptime:	85.9%				
Percentile	99	95	75	50	25	5	1	AverageS
	33.9	27.6	18.7	12.3	8.0	3.3	1.7	13.8 km/hr



Status Flag Characters

C	Calibration	A	AIC - Zero / Span Check
S	Instrument out of Service	X	Filter Exchange
N	No Data	M	Equipment Maintenance
D	Excessive Instrument Drift	P	Power Failure

Day	Mountain Standard Time																								24-hr Scalar Average	Daily Max		
Hour Start	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00			
1-Jan-08	4	11	10	12	13	13	12	7	4	6	3	3	5	7	6	9	14	13	16	19	22	27	31	30		12.2	30.9	
2-Jan-08	34	30	33	31	32	37	37	36	36	34	34	31	27	24	19	13	22	21	15	16	9	13	9	10		25.0	36.9	
3-Jan-08	7	8	6	11	11	9	12	12	11	12	16	17	20	18	20	22	16	20	19	20	24	17	21	17		15.2	24.3	
4-Jan-08	22	19	23	19	23	16	22	30	33	36	28	32	30	23	22	19	17	21	19	17	18	19	21		22.7	36.4		
5-Jan-08	26	24	30	27	22	20	27	27	31	29	19	20	18	22	24	26	27	27	27	27	26	27	22	25		25.0	31.0	
6-Jan-08	22	16	14	9	11	10	15	15	13	10	9	9	9	4	2	2	N	N	3	2	2	8	3	3		8.7	21.7	
7-Jan-08	7	6	3	9	5	4	3	9	2	N	N	3	3	N	N	N	11	11	12	13	13	14	11	13		7.9	14.1	
8-Jan-08	9	9	11	11	14	6	11	9	10	15	18	18	18	20	17	16	15	17	18	13	13	12	10	N		13.3	19.7	
9-Jan-08	N	N	6	4	7	N	N	N	N	N	N	N	N	N	N	N	9	12	11	10	10	12	9	6	N	N	11.9	
10-Jan-08	6	11	8	N	N	N	N	N	14	12	12	19	17	10	7	N	N	N	N	N	N	N	N	N	N	N	N	19.0
11-Jan-08	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	12	16	14	N	N	N	15.6
12-Jan-08	11	14	13	5	N	9	12	9	2	N	11	7	9	9	8	10	9	10	15	7	14	9	6	N		9.4	14.5	
13-Jan-08	N	N	N	N	N	N	N	N	8	10	8	10	3	N	11	10	9	14	15	15	16	16	16	16	N	N	16.1	
14-Jan-08	13	14	16	10	10	17	22	12	17	18	22	23	23	22	22	20	22	28	23	18	23	20	16	22		18.8	28.3	
15-Jan-08	23	22	26	25	25	27	30	31	27	23	28	30	28	25	23	22	18	12	9	15	18	15	N	N		22.8	31.2	
16-Jan-08	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	N	N	0.0
17-Jan-08	N	N	N	N	N	N	N	N	N	N	N	C	C	C	C	13	10	8	6	7	7	10	7	5	N	N	13.3	
18-Jan-08	7	16	21	22	13	9	7	6	8	8	12	15	11	10	11	13	14	14	13	11	13	12	10	12		12.0	21.8	
19-Jan-08	12	9	10	9	8	7	12	8	7	8	9	11	16	21	23	25	28	26	26	26	27	27	24	21		16.6	27.5	
20-Jan-08	20	16	13	6	3	8	9	7	7	11	12	9	8	8	8	7	6	6	5	7	7	7	10	12		8.8	19.8	
21-Jan-08	16	17	12	12	15	17	20	16	14	14	20	18	18	13	8	7	7	7	5	5	6	7	5	5		11.8	20.3	
22-Jan-08	6	7	5	6	6	7	8	8	11	11	14	24	28	34	29	19	20	23	18	16	16	13	6	8		14.2	33.8	
23-Jan-08	8	12	16	15	17	16	16	16	17	18	19	17	15	14	12	9	9	7	8	10	10	11	6	3		12.6	19.3	
24-Jan-08	6	4	3	6	4	6	7	7	7	9	11	12	15	15	15	15	13	13	14	15	14	11	10	10		10.0	15.4	
25-Jan-08	10	10	8	10	10	10	7	4	5	5	4	4	4	6	7	6	9	10	15	17	12	11	13	18		9.0	17.6	
26-Jan-08	14	14	17	11	12	8	8	6	6	8	10	11	9	13	13	16	19	16	13	15	18	23	17	11		12.7	22.8	
27-Jan-08	8	8	6	10	14	10	9	9	7	10	17	24	28	26	27	26	26	25	25	22	24	25	27	23		18.1	27.7	
28-Jan-08	24	26	25	21	20	21	22	22	21	16	19	21	19	19	17	13	15	8	6	6	6	3	3	3	3		14.9	25.7
29-Jan-08	2	2	2	1	1	1	1	2	6	8	10	10	11	12	14	17	20	19	18	18	19	17	14	13		10.0	19.5	
30-Jan-08	15	12	10	8	7	7	8	7	4	4	3	3	3	7	7	7	7	5	8	13	9	9	8	6		7.4	15.0	
31-Jan-08	7	8	4	5	4	5	10	17	24	24	25	14	16	16	17	17	15	12	11	8	11	16	9	5		12.5	24.9	
1-hr Average	13.1	13.2	13.0	12.0	12.3	11.9	13.8	13.3	12.9	14.3	15.1	15.4	15.2	15.7	14.7	14.7	14.7	14.8	13.9	13.9	14.4	14.5	12.8	12.7				
Hourly Max	34.2	29.9	33.0	30.9	32.4	36.6	36.9	35.9	35.5	36.4	34.0	32.1	29.7	33.8	28.8	26.4	27.5	28.3	26.5	27.3	26.5	27.4	30.9	30.4				









## PAS – Brooks Standard Deviation of Wind Direction Monthly Summary

Station: Portable-Brooks  
 Station Owner: PAS

### HOURLY AVERAGE TABLE

**Wind Direction (WD)**

Monitoring Dates: January 1, 2008 to February 1, 2008

**Summary**


Determined by the Yamartino 15-min interval calculation

Calm Time:	0 hrs	0% calms	Operational Time:	635 hrs			
Calibration Time:	4 hrs		AMD Operational Uptime:	85.9%			
Percentile	99	95	75	50	25	5	1
	58.9	30.8	10.9	6.8	4.7	2.2	1.5

**Status Flag Characters**

C Calibration	A AIC - Zero / Span Check
S Instrument out of Service	X Filter Exchange
N No Data	M Equipment Maintenance
D Excessive Instrument Drift	P Power Failure

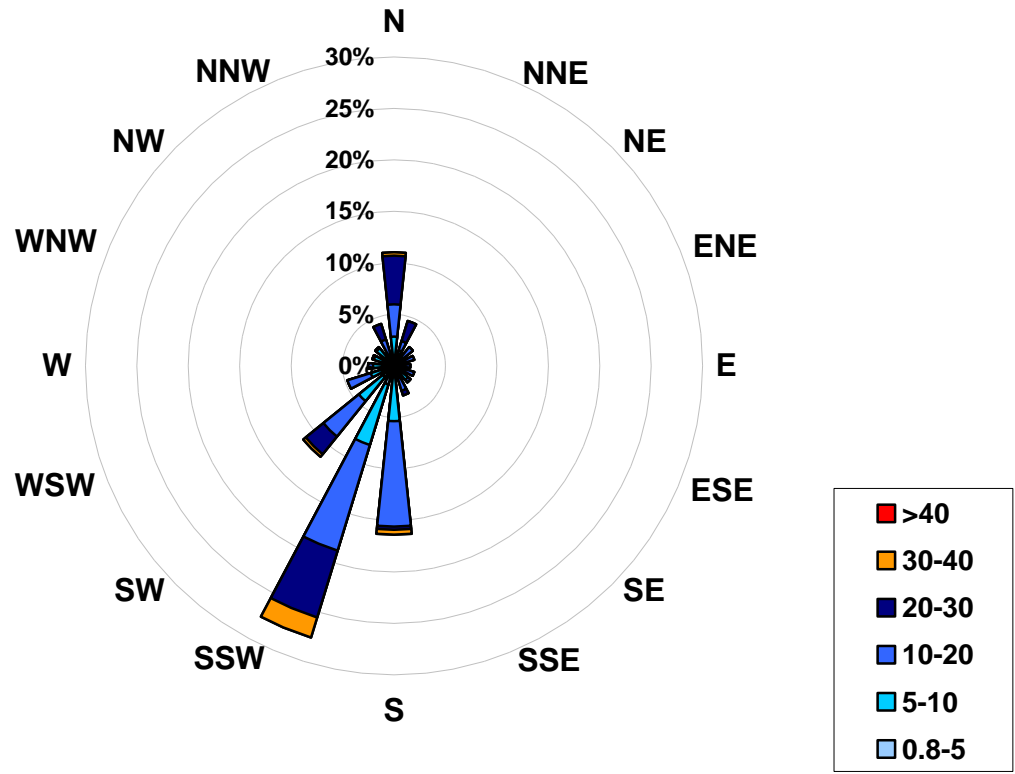
**Day Mountain Standard Time**

Day	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	Daily Maximum
1-Jan-08	25	5	9	3	3	2	2	59	52	12	30	44	27	16	23	13	10	6	6	4	5	4	4	3	58.8	
2-Jan-08	3	5	4	4	4	2	2	2	4	3	5	3	10	6	6	8	11	7	10	11	12	10	27	7	27.0	
3-Jan-08	36	12	38	30	13	8	18	12	10	9	6	7	5	14	8	7	11	10	7	10	8	11	5	11	38.1	
4-Jan-08	7	6	4	5	4	7	5	7	6	3	3	4	4	6	11	9	9	9	9	10	6	4	5	5	10.7	
5-Jan-08	5	3	3	5	5	4	6	4	8	9	8	11	7	6	5	5	5	5	5	5	5	5	5	5	11.2	
6-Jan-08	6	6	7	14	5	8	6	5	5	8	8	11	11	25	15	14	N	N	41	36	10	5	7	6	40.5	
7-Jan-08	8	7	6	6	8	6	4	3	10	N	N	67	8	N	N	N	2	2	2	1	1	2	2	2	67.3	
8-Jan-08	2	3	4	3	3	5	3	4	5	2	2	2	3	3	2	2	2	2	1	2	3	1	3	N	5.3	
9-Jan-08	N	N	6	9	20	N	N	N	N	N	N	N	N	N	N	N	3	3	6	6	6	3	4	6	20.4	
10-Jan-08	3	2	22	N	N	N	N	N	6	7	3	2	3	8	48	N	N	N	N	N	N	N	N	N	48.1	
11-Jan-08	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	7	2	2	6.9	
12-Jan-08	3	2	3	35	N	2	4	5	11	N	4	7	4	4	3	2	4	4	2	15	2	3	14	N	35.1	
13-Jan-08	N	N	N	N	N	N	N	N	58	3	1	3	7	N	3	2	4	4	4	5	2	1	2	2	57.9	
14-Jan-08	2	3	3	3	5	9	5	7	8	6	5	5	6	6	15	19	6	3	5	6	6	8	6	5	19.1	
15-Jan-08	6	52	5	6	6	7	7	7	6	6	6	7	6	7	6	6	6	5	5	5	5	5	N	N	51.8	
16-Jan-08	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	0.0	
17-Jan-08	N	N	N	N	N	N	N	N	N	N	N	C	C	C	C	9	20	23	40	7	13	27	9	19	40.4	
18-Jan-08	48	6	7	8	5	8	20	12	5	6	7	7	7	13	14	7	3	6	5	7	5	10	9	4	47.8	
19-Jan-08	9	9	7	7	28	15	9	5	19	7	9	12	5	6	6	4	3	4	4	4	4	5	5	5	27.7	
20-Jan-08	8	8	7	15	27	30	22	9	8	9	9	11	16	13	11	11	9	18	38	15	12	10	3	5	37.6	
21-Jan-08	4	3	6	5	2	3	3	6	4	3	3	6	4	3	8	33	8	5	11	13	8	11	10	17	33.4	
22-Jan-08	10	12	11	8	10	6	8	13	5	12	7	6	11	7	7	8	6	19	12	14	9	8	33	14	33.2	
23-Jan-08	14	10	4	4	4	5	3	4	3	3	3	5	6	5	8	13	16	8	12	3	6	3	17	37	36.5	
24-Jan-08	23	88	78	12	29	18	4	17	10	5	7	10	6	8	8	6	9	4	8	9	7	8	10	12	87.5	
25-Jan-08	9	13	11	13	9	6	17	12	9	12	19	16	19	17	20	44	7	8	3	6	8	22	5	4	43.6	
26-Jan-08	5	6	4	19	14	26	16	14	21	7	9	11	12	8	6	7	5	17	9	11	4	15	3	8	26.1	
27-Jan-08	34	20	47	12	5	30	59	55	19	10	8	11	10	8	7	5	9	8	7	6	7	8	7	7	59.0	
28-Jan-08	8	6	5	8	7	8	7	6	5	6	6	6	8	8	7	5	8	6	9	7	27	13	25	16	26.6	
29-Jan-08	18	19	31	20	31	85	93	18	8	6	9	14	10	11	10	6	5	5	6	4	5	4	6	6	93.4	
30-Jan-08	6	6	6	6	9	8	5	9	13	15	45	66	45	21	11	29	12	13	12	21	9	12	9	8	65.8	
31-Jan-08	8	9	15	13	14	15	24	4	2	3	7	53	7	9	7	7	5	6	5	13	8	5	10	15	52.9	

Hourly Max	48	88	78	35	31	85	93	59	58	15	45	67	45	25	48	44	20	23	41	36	27	27	33	37
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1-hr Average Wind Rose (in km/hr) Located at the Portable-Brooks Site for January 2008



Calms: 0%

Frequency Distribution of Wind in km/hr Range			Frequency (hrs)
0.8	<	5	56
5	to	10	183
10	to	20	257
20	to	30	115
30	to	40	20
	>	40	0
Total Non-Zero Values			635



# **Palliser Airshed Society**

## **Passive Monitoring – January 2008**

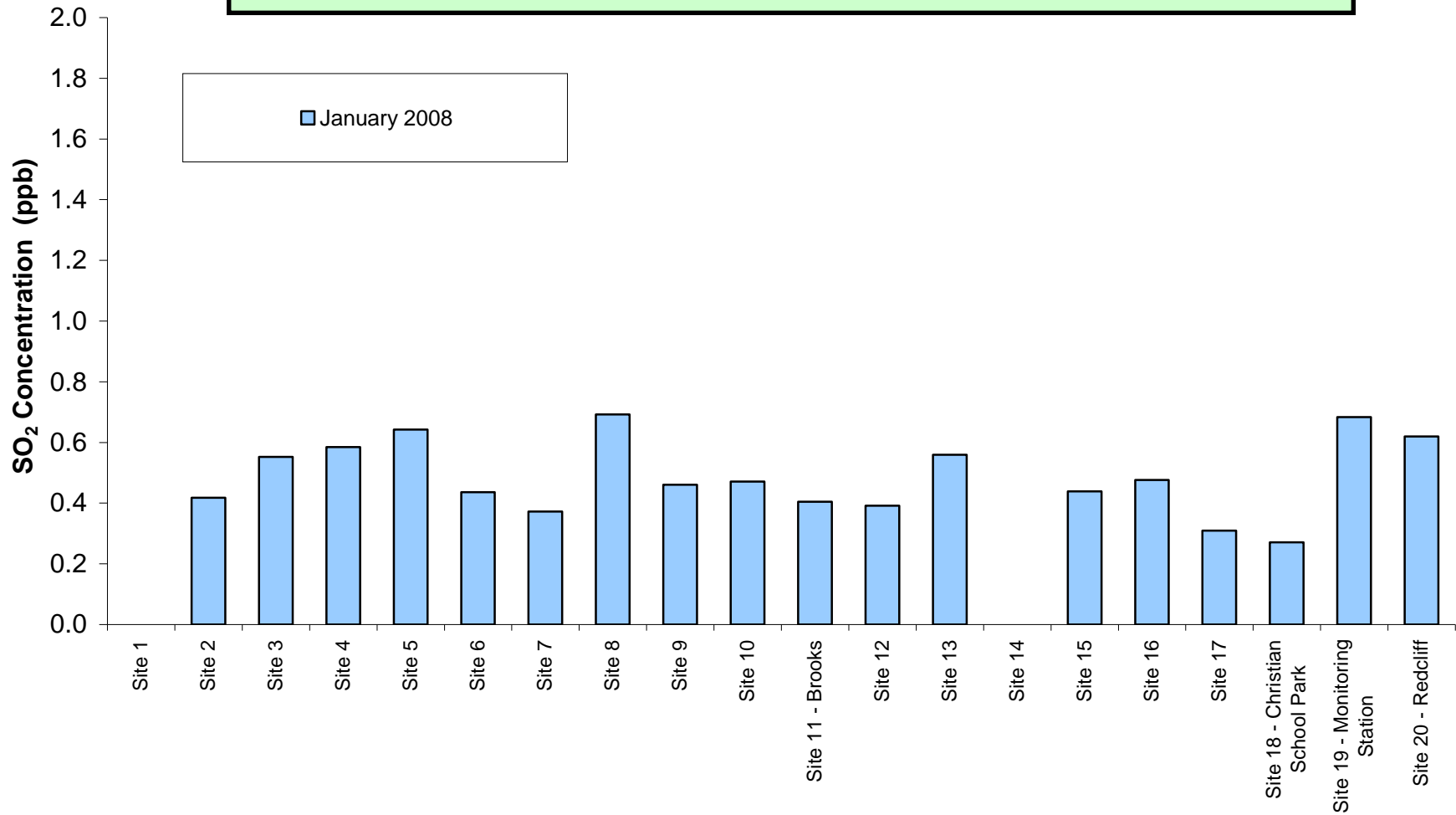


**Palliser Airshed Society - Palliser Passive Stations for January 2008**  
**Palliser Passive Monitoring Expansion**

Station Number	Station Name	SO2 ppb	O3 ppb	NO2 ppb	Location		Elevation meter
					Easting	Northing	
<b>Duplicates</b>							
5a	Site 5	0.5	29.9	2.0			
5b	Site 5	0.8	30.7	1.8			
15a	Site 15	0.5	42.3	0.6			
15b	Site 15	0.4	36.6	0.5			
1	Site 1	n/a	n/a	n/a	562434	5583139	719
2	Site 2	0.4	32.7	1.6	565416	5616277	
3	Site 3	0.6	35.1	1.5	533794	5675379	779
4	Site 4	0.6	32.2	1.5	554771	5717338	718
5	Site 5	0.6	30.3	1.9	494218	5715862	735
6	Site 6	0.4	29.3	2.7	433039	5673766	818
7	Site 7	0.4	28.3	2.4	400808	5620907	780
8	Site 8	0.7	35.4	2.5	498530	5621839	747
9	Site 9	0.5	32.7	2.0	487701	5591707	763
10	Site 10	0.5	31.3	2.9	478223	5613583	774
11	Site 11 - Brooks	0.4	28.3	5.3	439773	5604548	736
12	Site 12	0.4	29.2	1.6	450287	5587201	726
13	Site 13	0.6	33.7	1.0	464279	5548934	
14	Site 14	n/a	n/a	n/a	493206	5521201	870
15	Site 15	0.4	39.4	0.5	465824	5485742	874
16	Site 16	0.5	45.5	0.5	503827	5446942	903
17	Site 17	0.3	42.8	0.4	557668	5452307	942
18	Site 18 - Christian School Park	0.3	27.6	4.4	526575	5538135	709
19	Site 19 - Monitoring Station	0.7	31.8	5.7	522813	5544137	714
20	Site 20 - Redcliff	0.6	24.4	2.9	517479	5546059	725



**Alberta Ambient Air Quality Objective - Annual SO<sub>2</sub> Objective is 11 ppb**



**Figure 22. PAS – Sulphur Dioxide Passive Summary Chart**

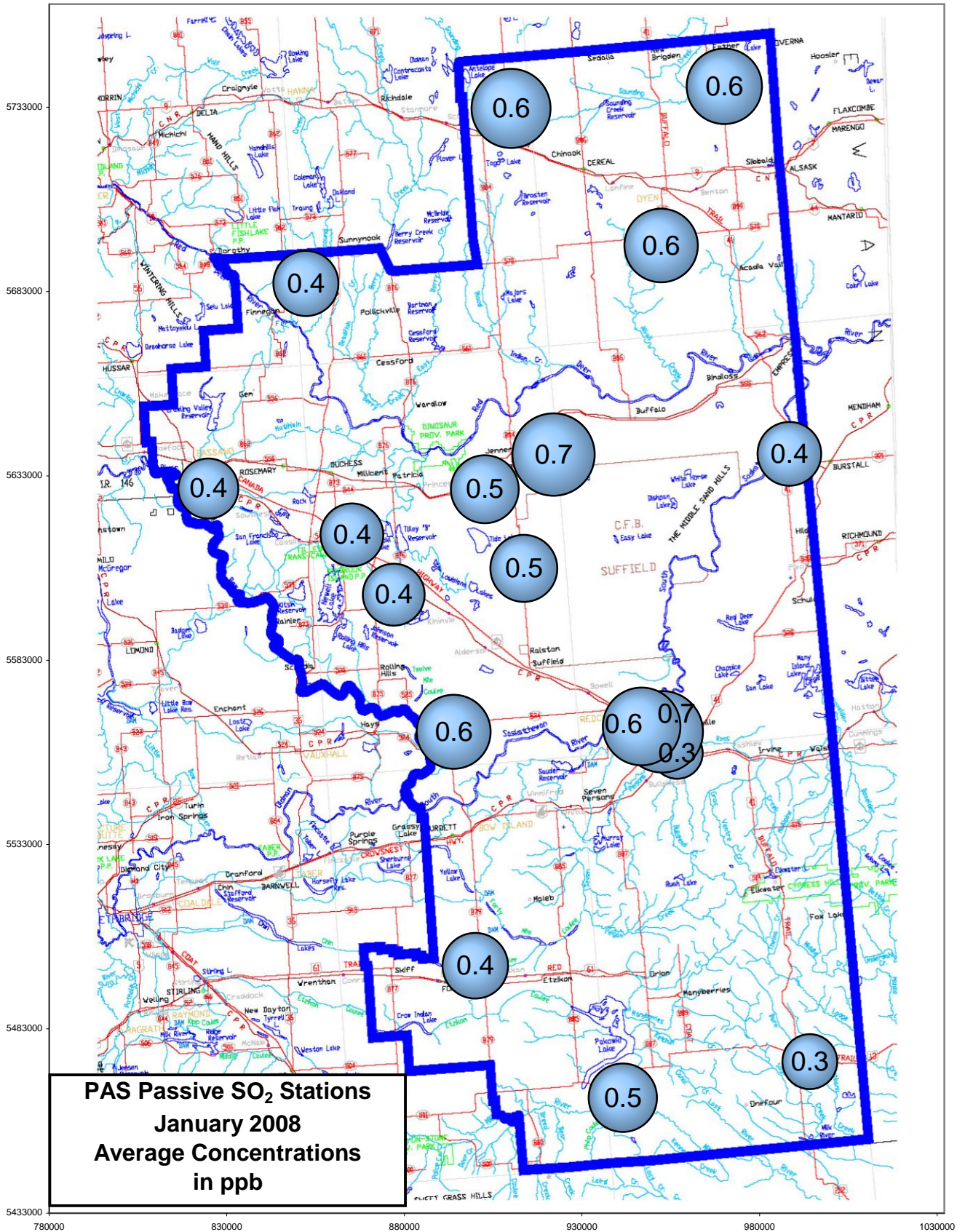


Figure 53. PAS – Sulphur Dioxide Passive Summary Bubble Chart

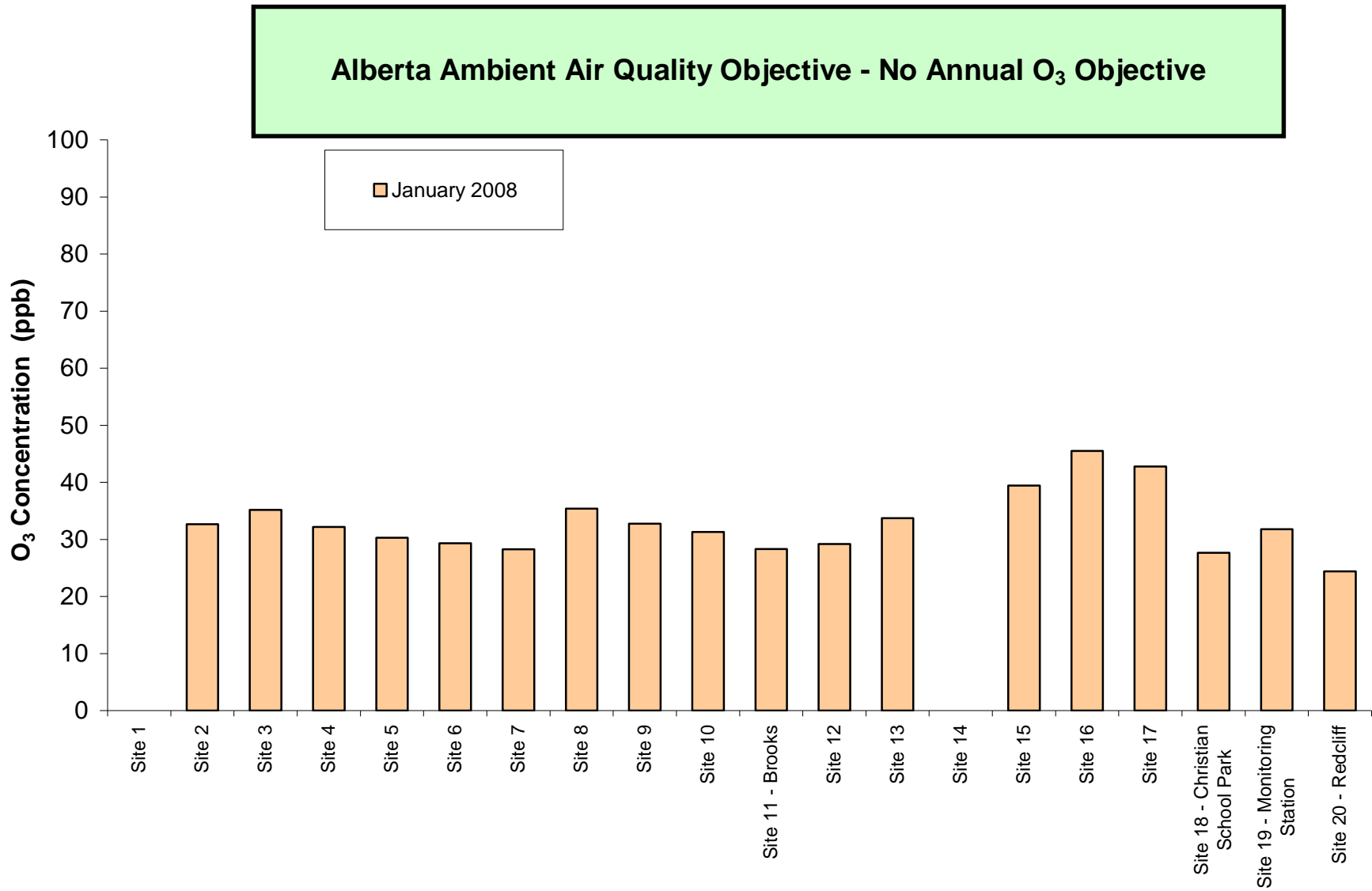


Figure 54. PAS – Ozone Passive Summary Chart

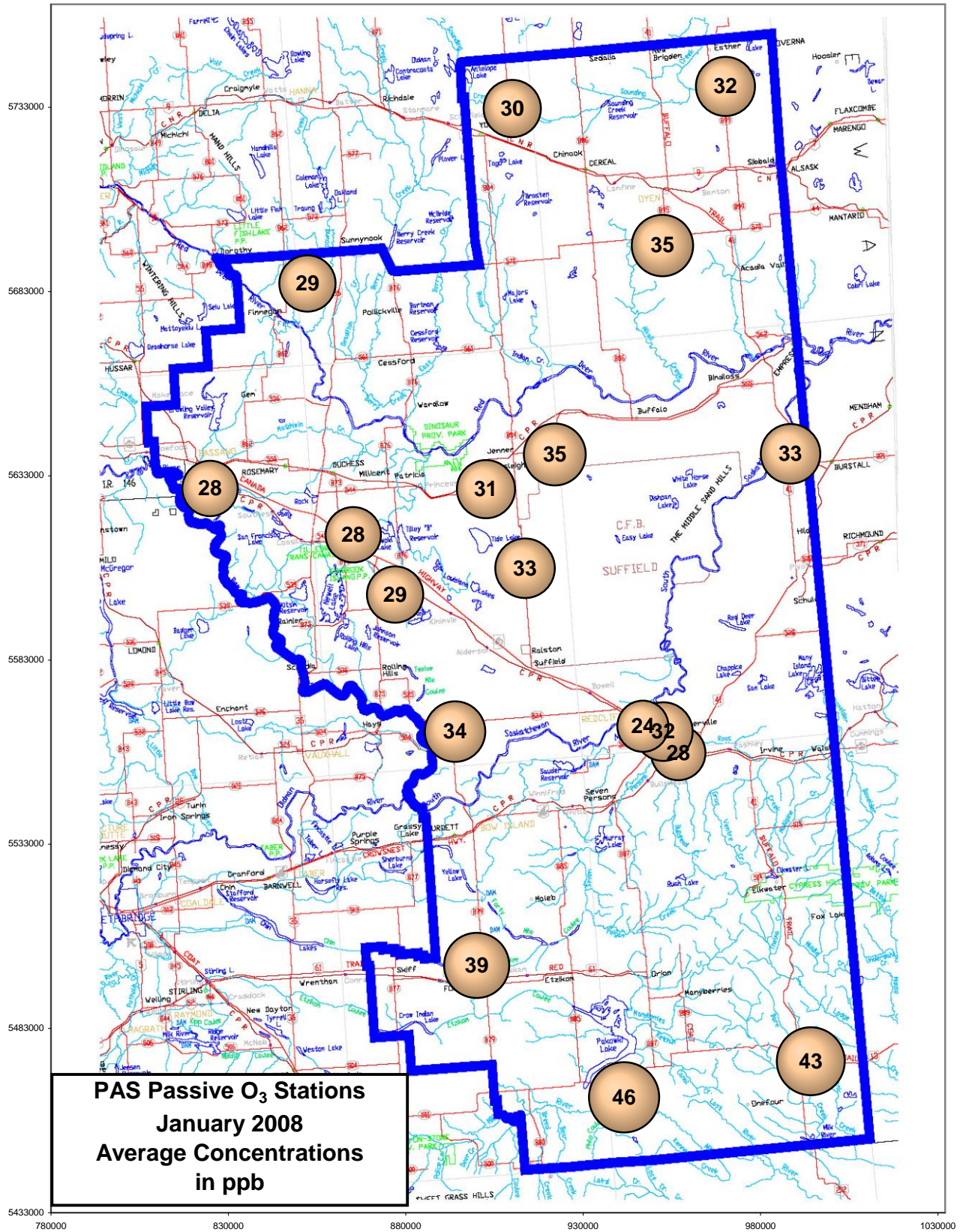
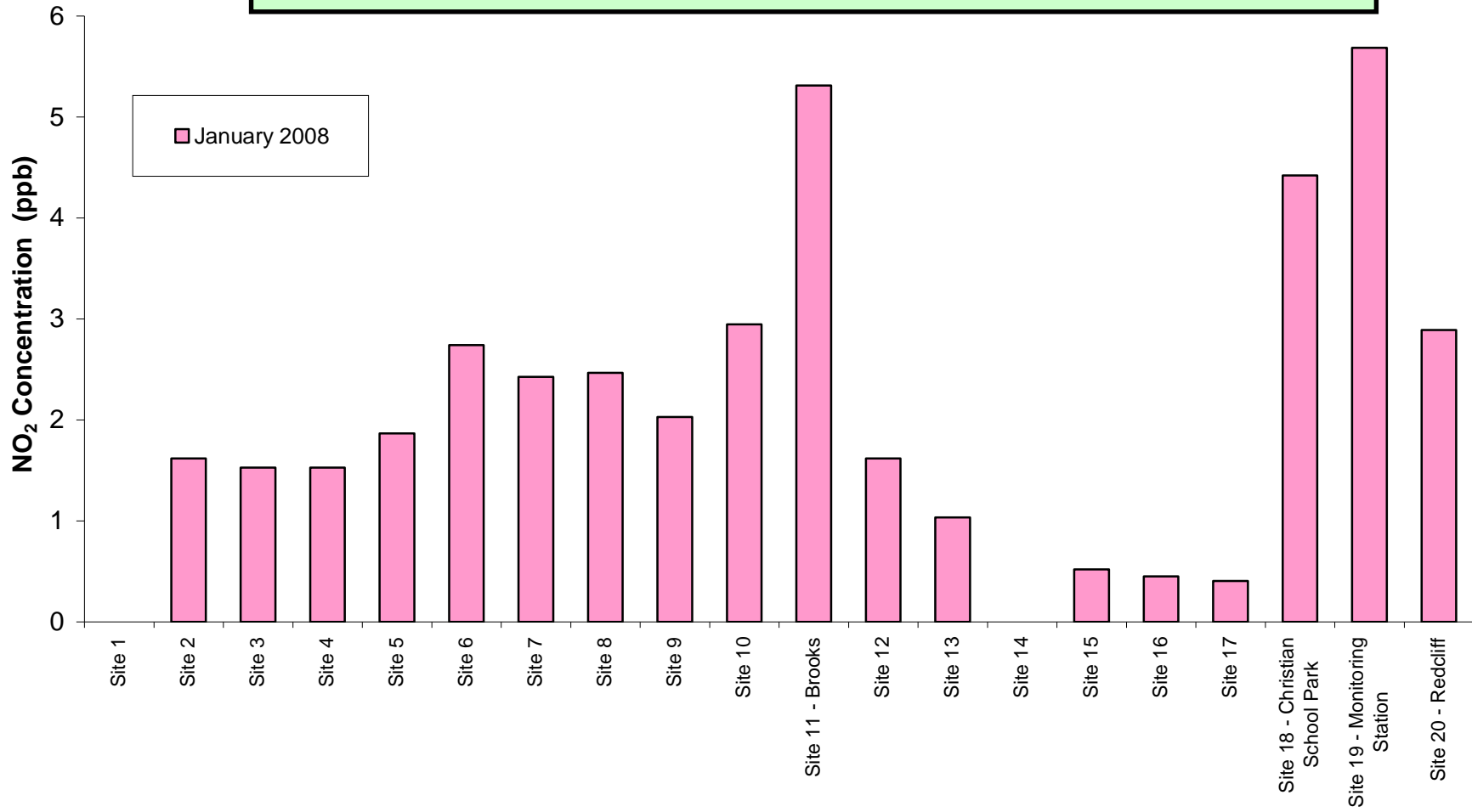


Figure 55. PAS – Ozone Passive Summary Bubble Chart





**Alberta Ambient Air Quality Objective - Annual NO<sub>2</sub> Objective is 32 ppb**



**Figure 56. PAS – Nitrogen Dioxide Passive Summary Chart**

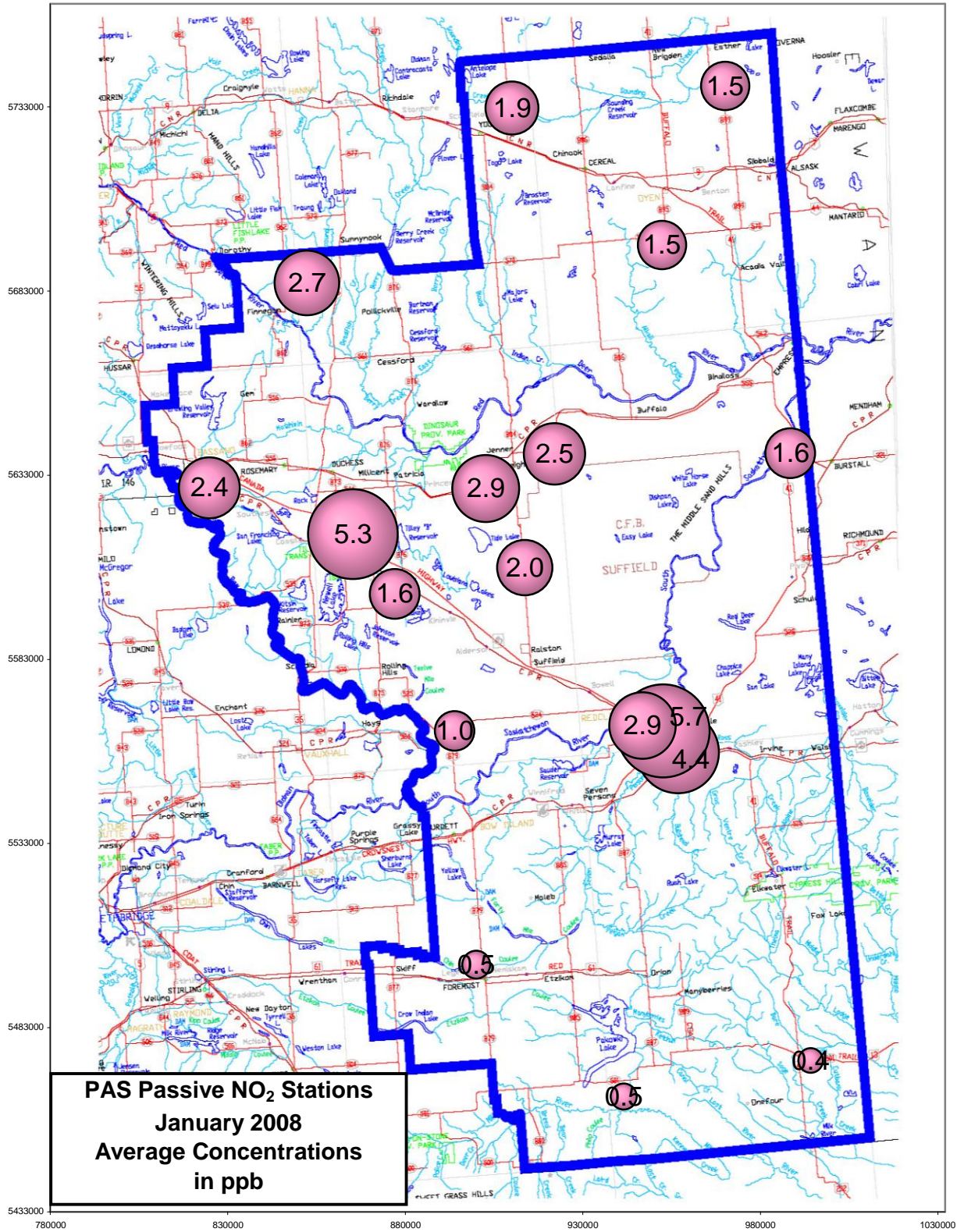


Figure 23. PAS – Nitrogen Dioxide Passive Summary Bubble Chart

# **Palliser Airshed Society**

## **January 2008 - Calibration Reports**

**Crescent Heights Station: O<sub>3</sub>, NO<sub>x</sub>, NO, NO<sub>2</sub>, THC and CO**

**Portable-Brooks: O<sub>3</sub>, SO<sub>2</sub>, and H<sub>2</sub>S**

# Calibration Report

Parameter **O3**Air Monitoring Network **Palliser Airshed**

## Station Information

Calibration Date	January 30, 2008	Previous Calibration	December 14, 2007
Station Number	101	Station Location	Crescent Heights
Reason:	<b>Routine</b>	Calibration	Removal
			Other:
Start Time (MST)	11:00	End Time (MST)	14:00
Barometric Pressure	27.3 inches Hg	Station Temperature	20.0 Deg C
Calibrator	Envionics 6103	Serial Number	2844
Cal Gas Concentration	NA	Cal Gas Expiry Date	NA
DACS make	Focus AP1000	DACS serial No.	45270
DACS voltage range	0 - 10 volt	DACS channel #	5
	Before		After
Calculated slope	0.998458	Calculated slope	1.022171
Calculated intercept	-0.024060	Calculated intercept	-1.000474
Analyzer make	TEI 49i	Analyzer serial #	713021144

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
O3 Background	0.6	ppb	0.5	ppb
O3 Coeff	1.099		1.004	
CellA	86926.0	Hz	74419.0	Hz
CellB	116655.0	Hz	105907.0	Hz
Pressure	699.1	mmHg	692.1	mmHg
Cell A Flow	724.0	ccm	725.0	ccm
Cell B Flow	714	ccm	709	ccm
Bench	32.2	Deg C	29.2	Deg C

## Calibration Data

Dilution air flow rate (cc/min)	Ozone Set Point	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4997	0.0	0.0	0.1	N/A
4997	300.0	296.8	291.0	1.0199
4997	200.0	199.0	195.6	1.0175
4997	100.0	91.0	91.3	0.9971
4997	0.0	0.0	0.1	0.0000
4997	300.0	296.8	291.0	1.0199
Average Correction Factor				1.0115

Calculated value of As Found Response: 290.4 ppm      Percent Change of As Found: -2.2%

	before calibration		after calibration	
Auto zero	1.5	ppb	1.2	ppb
Auto span	277.8	ppb	288.3	ppb

Notes: No adjustments were done...

Calibration Performed By: Lenin Flores

## Calibration Summary

Parameter **O3**  
 Air Monitoring Network **Palliser Airshed**

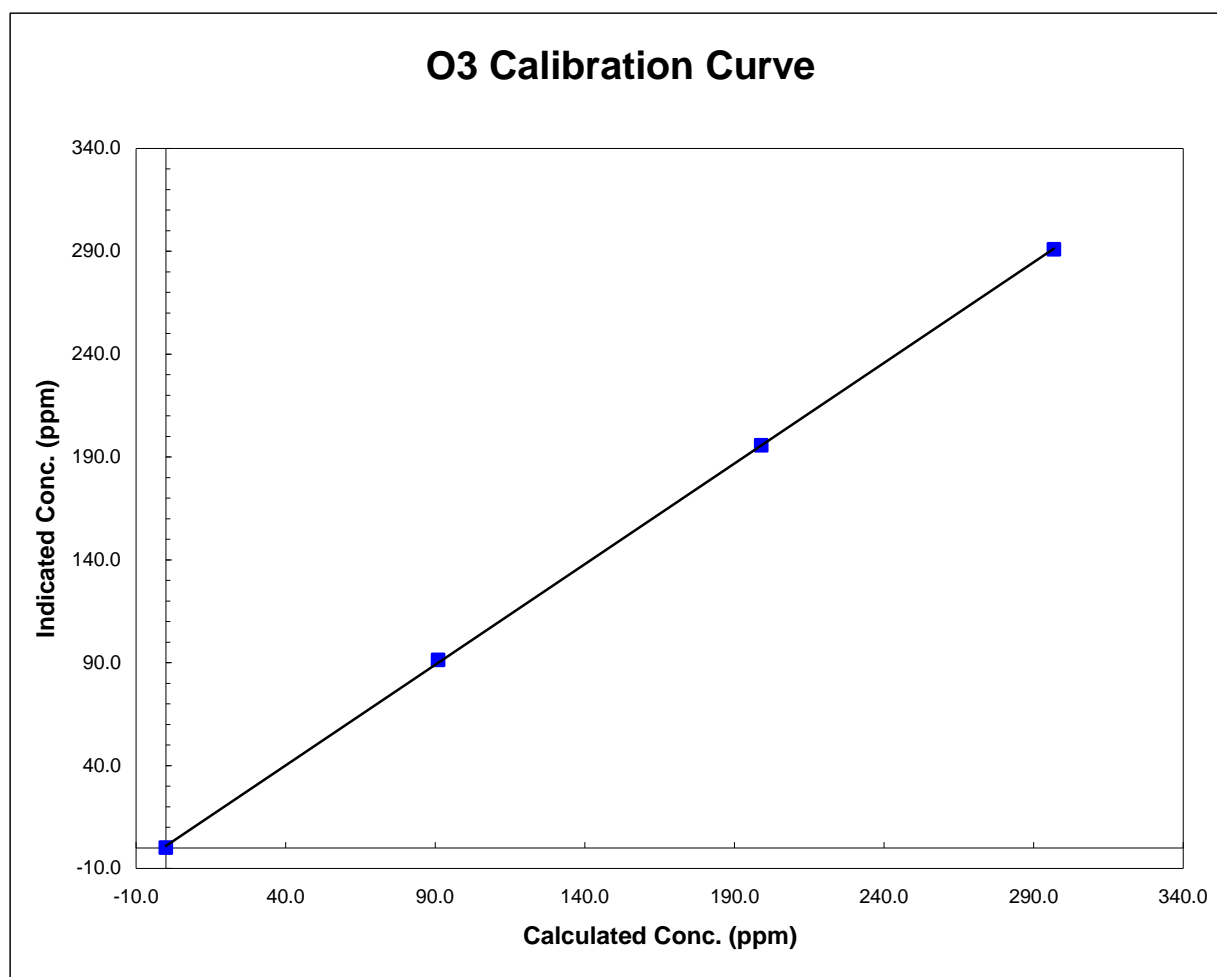


### Station Information

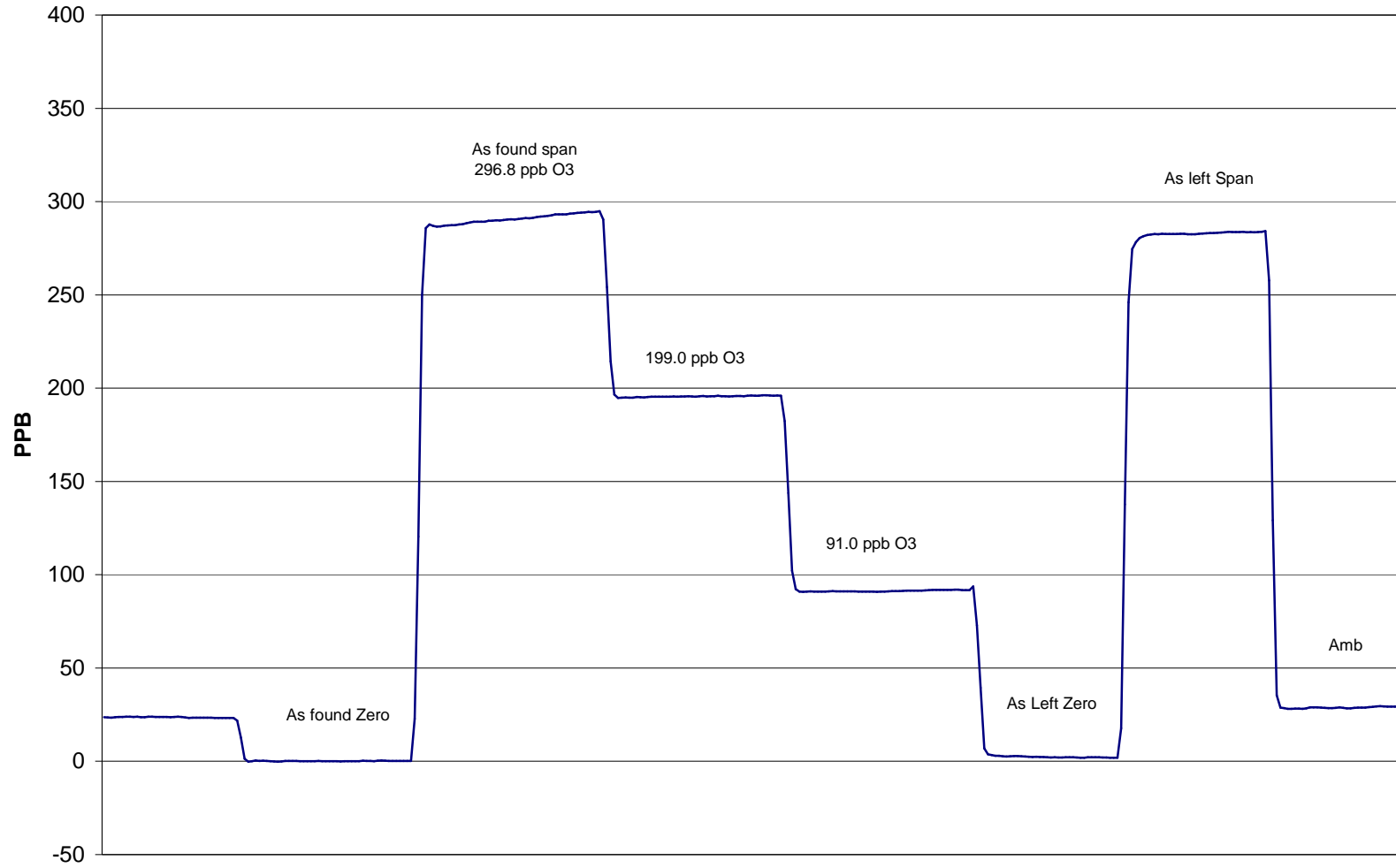
Calibration Date	January 30, 2008	Previous Calibration	December 14, 2007
Station Number	101	Station Location	Crescent Heights
Start Time (MST)	11:00	End Time (MST)	14:00
Analyzer make/model	TEI 49i	Analyzer serial #	713021144

### Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
296.8	291.0	1.0199	Correlation Coefficient	0.999949
199.0	195.6	1.0175		
91.0	91.3	0.9971		
0.0	0.1	N/A	Slope	1.022171
			Intercept	-1.000474



### Crescent Heights O3 Calibration



January 30, 2008

# Calibration Report

Parameter  
Air Monitoring Network

**NO<sub>x</sub>-NO-NO<sub>2</sub>**  
**Palliser Airshed**



## Station Information

Calibration Date	January 29, 2008	Previous Calibration	December 14, 2007
Station Number	101	Station Location	Crescent Heights
Reason:	Routine	Installation	Removal
Other:			
Start Time (MST)	15:41	End Time (MST)	21:30
Barometric Pressure	0.912 Atm	Station Temperature	20.0 Deg C
Calibrator	EnviroNics 6103	Serial Number	2844
NO Cal Gas Conc	48.9 ppm	Cal Gas Expiry Date	January 29, 2008
NOx Cal Gas Conc	48.9 ppm	Cal Gas Serial #	LL-50114

## DACS Information

DACS make FOCUS AP1000 DACS serial No. 45270

Parameter	NO2	NOx	NO
Before	Data Slope	0.997249	0.993289
	Data Offset	1.273594	4.728337
After	Data Slope	1.002923	1.007990
	Data Offset	1.144071	2.047685
Channel #	8	6	7
Voltage Range	0 - 10 VDC	0 - 10 VDC	0 - 10 VDC

## Analyzer Information

Analyzer make/model API Model 200E Analyzer serial # 219

Test Point	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
NO offset	-0.1	mV	-9.0	mV
NOx offset	0.8	mV	-5.5	mV
NO slope	2.841		1.237	
NOx slope	2.852		1.227	
R Cell Temp	50.0	Deg C	49.6	Deg C
PMT Temp	7.0	Deg C	7.0	Deg C
Azero	44.1	mV	57.9	mV
IZS Temp	40.2	Deg C	37.1	Deg C
R Cell Press	3.9	in Hg	4.2	in Hg
Sample Press	27.4	in Hg	26.1	in Hg
O3 Flow	75.0	ccm	75.0	ccm
Sample Flow	457.0	ccm	450.0	ccm

Notes: Adjusted Zero and Span... The rest of the calibration went pretty good...

# Calibration Report

Parameter

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

Air Monitoring Network

Palliser Airshed



## Station Information

Calibration Date: January 29, 2008

Station Location: Crescent Heights

## Calibration Data

	Dilution flow rate (ccm)	Source gas flow rate (ccm)	Calculated NO <sub>x</sub> conc (ppb)	Calculated NO conc (ppb)	Calculated NO <sub>2</sub> conc (ppb)	Indicated NO <sub>x</sub> conc (ppb)	Indicated NO conc (ppb)	Indicated NO <sub>2</sub> conc (ppb)	NO <sub>x</sub> Correction factor	NO Correction factor	
zero	4995	0.00	0.0	0.0	0.0	-1.1	-1.1	-1.7	N/A	N/A	
1	4995	39.95	388.0	388.0	0.0	383.2	385.2	-3.3	1.0125	1.0072	
2	4995	19.96	194.6	194.6	0.0	191.0	191.0	-1.6	1.0187	1.0187	
3	4995	9.99	97.6	97.6	0.0	93.5	93.8	-1.9	1.0435	1.0411	
AFZ	4995	0.00	0.0	0.0	0.0	-15.3	-4.8	-12.2	0.0000	0.0000	
AFS	4995	39.95	388.0	388.0	0.0	337.5	346.1	-9.9	1.1494	1.1211	
									Average Correction Factor	1.0249	1.0223

As Found Concentrations: NO<sub>x</sub>= 357.5 NO= 354.8 As Found Percent Change NO<sub>x</sub>= -7.9% NO= -8.6%

## GPT Calibration Data

Dilution Flow 4996 ccm Source Gas Flow 39.93 ccm

O <sub>3</sub> Setpoint (ppb)	Indicated NO high point (ppb)	Indicated NO drop conc (ppb)	Calculated NO <sub>2</sub> conc (ppb)	Indicated NO <sub>x</sub> conc (ppb)	Indicated NO conc (ppb)	Indicated NO <sub>2</sub> conc (ppb)	NO <sub>x</sub> Correction factor	NO Correction factor	NO <sub>2</sub> Correction factor	Converter Efficiency	
0	-4.8	-4.8	0.0	-1.1	-1.1	-1.7	N/A	N/A	N/A	N/A	
NO point	385.8	385.8	0.0	385.4	385.8	-1.6	1.0009	1.0000	N/A	N/A	
300	385.8	89.0	296.8	385.2	89.0	294.1	1.0016	1.0000	1.0090	99.1%	
200	385.8	186.8	199.0	386.4	186.8	198.0	0.9984	1.0000	1.0049	99.5%	
100	385.8	294.8	91.0	386.2	294.8	90.0	0.9989	1.0000	1.0106	98.9%	
							Average Correction Factor	0.9996	1.0000	1.0082	99.2%

## AIC Data

Parameter	Previous calibration				Current calibration			
	NO <sub>x</sub>	NO <sub>2</sub>	NO		NO <sub>x</sub>	NO <sub>2</sub>	NO	
Auto zero				ppb	0.4	-0.9	0.6	ppb
Auto span				ppb	284.6	277.3	5.3	ppb

Calibration Performed By: Jorge Lenin Flores



## Calibration Summary

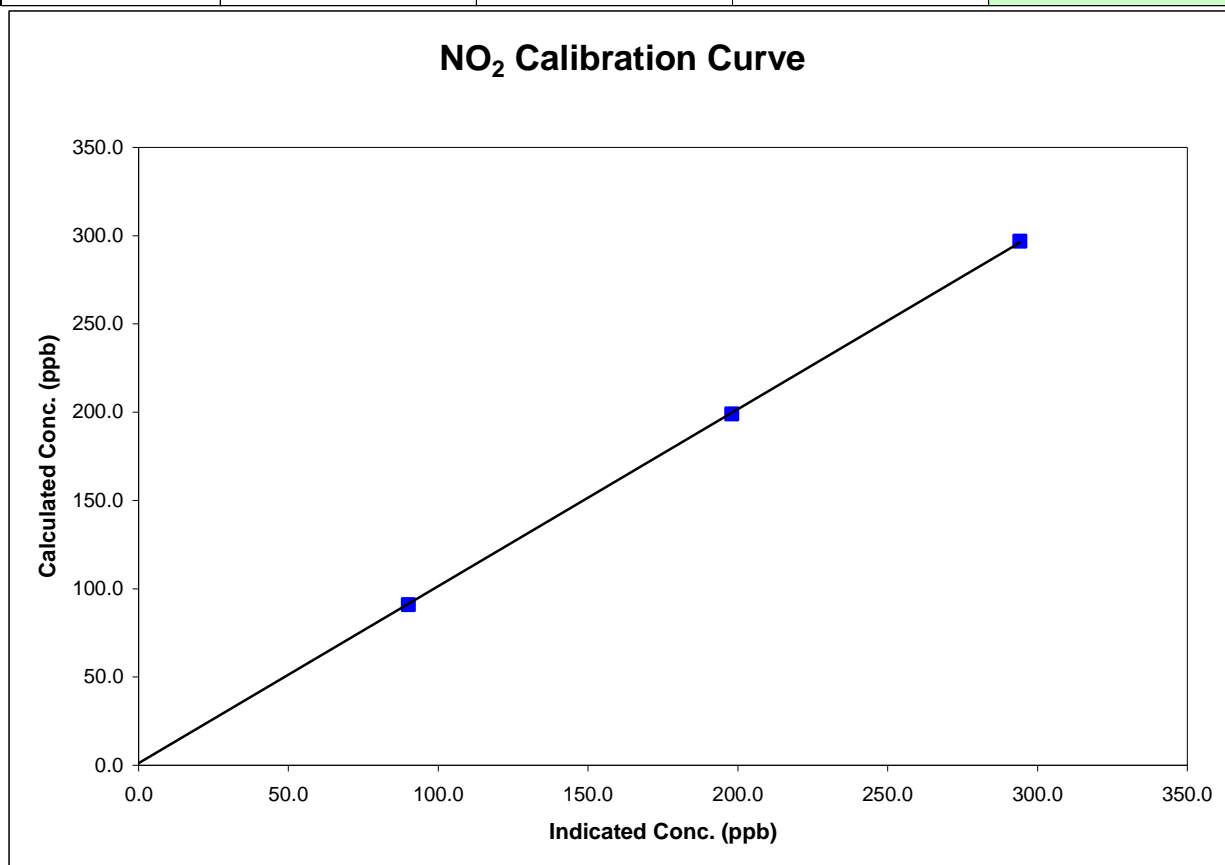
Parameter **NO<sub>2</sub>**Air Monitoring Network **Palliser Airshed**

### Station Information

Calibration Date	January 29, 2008	Previous Calibration	December 14, 2007
Station Number	101	Station Location	Crescent Heights
Start Time (MST)	15:41	End Time (MST)	21:30
Analyzer make	API Model 200E	Analyzer serial #	219

### Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-1.7	N/A		
296.8	294.1	1.0090	Correlation Coefficient	0.999970
199.0	198.0	1.0049		
91.0	90.0	1.0106	Slope	1.002923
			Intercept	1.144071



## Calibration Summary

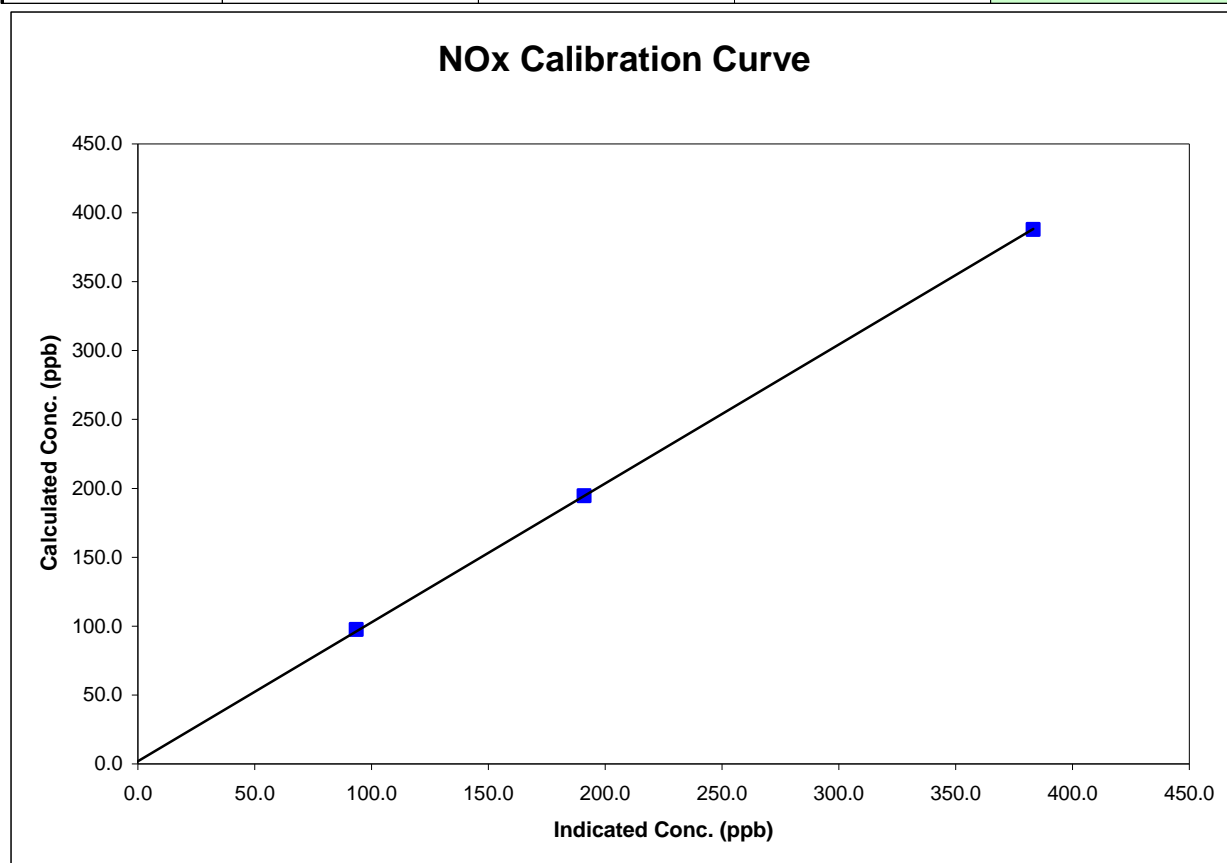
Parameter **NO<sub>x</sub>**Air Monitoring Network **Palliser Airshed**

### Station Information

Calibration Date	January 29, 2008	Previous Calibration	December 14, 2007
Station Number	101	Station Location	Crescent Heights
Start Time (MST)	15:41	End Time (MST)	21:30
Analyzer make	API Model 200E	Analyzer serial #	219

### Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-1.1	N/A		
388.0	383.2	1.0125	Correlation Coefficient	0.999968
194.6	191.0	1.0187		
97.6	93.5	1.0435	Slope	1.007990
			Intercept	2.047685



## Calibration Summary

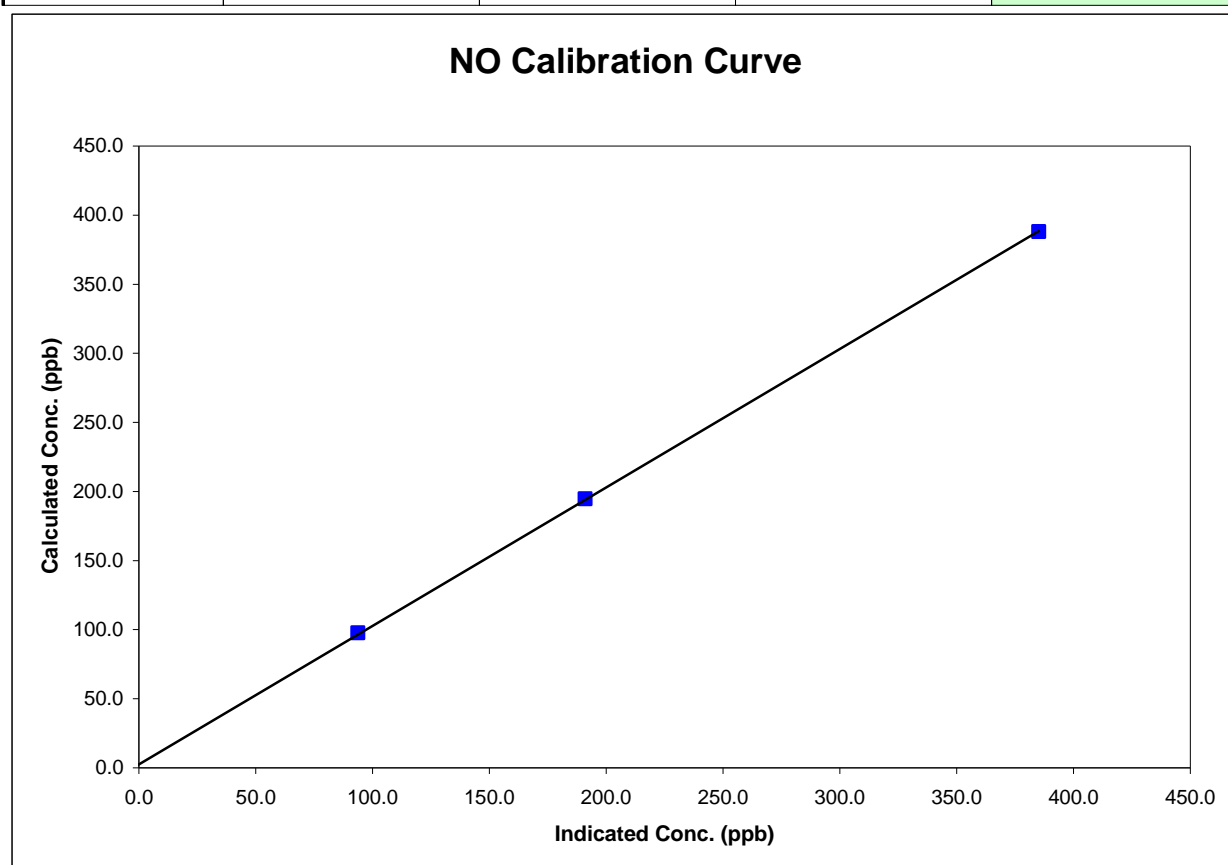
Parameter **NO**Air Monitoring Network **Palliser Airshed**

### Station Information

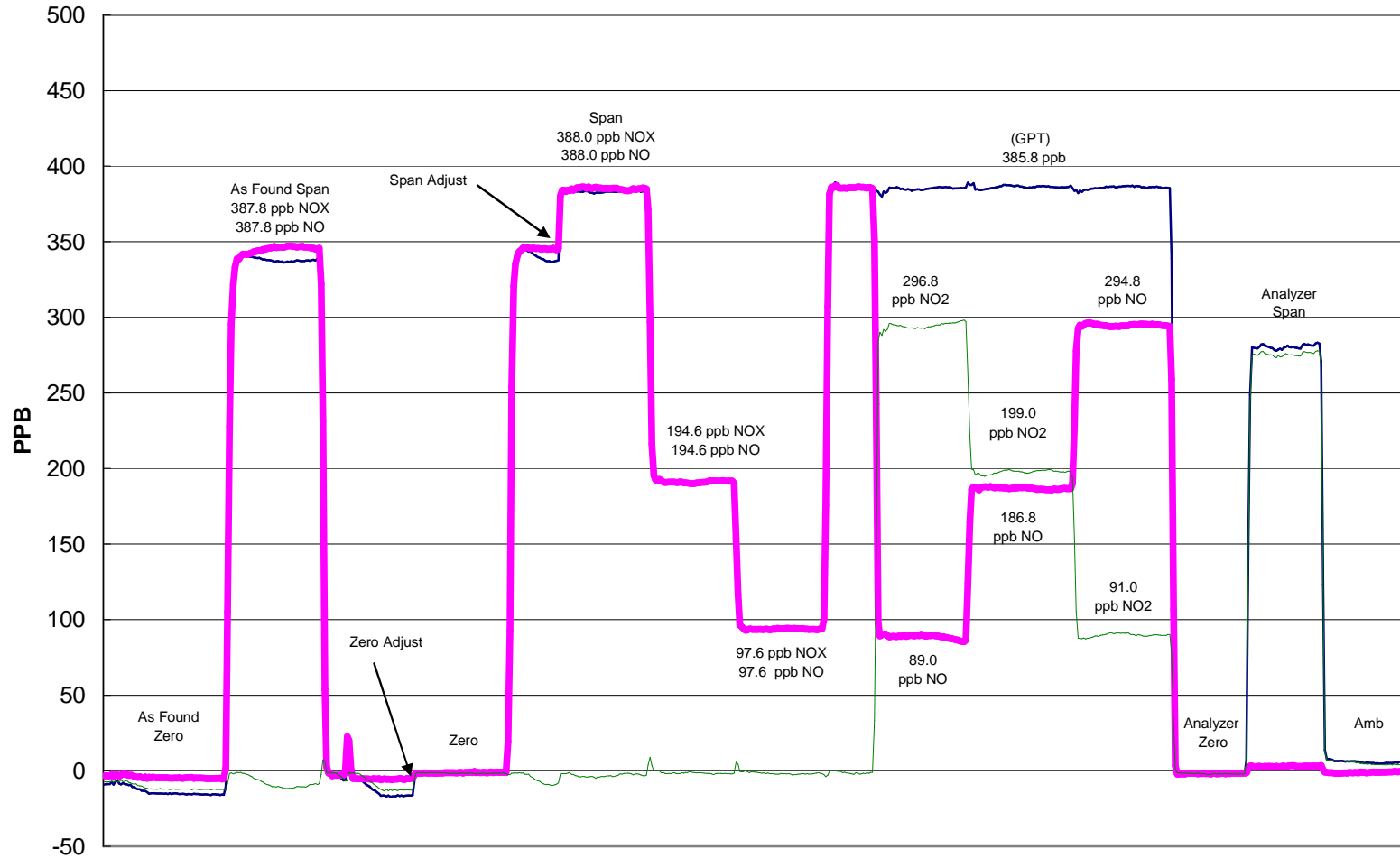
Calibration Date	January 29, 2008	Previous Calibration	December 14, 2007
Station Number	101	Station Location	Crescent Heights
Start Time (MST)	15:41	End Time (MST)	21:30
Analyzer make	API Model 200E	Analyzer serial #	219

### Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-1.1	N/A		
388.0	385.2	1.0072	Correlation Coefficient	0.999953
194.6	191.0	1.0187		
97.6	93.8	1.0411	Slope	1.002682
			Intercept	2.387717



**Crescent Heights NOx Calibration Graph**



January 29, 2008

# Calibration Report

Parameter **THC**  
Air Monitoring Network **Palliser Airshed**



## Station Information

Calibration Date	January 29, 2008	Previous Calibration	December 13, 2007
Station Number	101	Station Location	Crescent Heights
Reason:	<b>Routine</b>	Install	Removal
			Other:
Start Time (MST)	14:00	End Time (MST)	16:30
Barometric Pressure	27.6 inches Hg	Station Temperature	20.0 Deg C
Calibrator	Envionics 6103	Serial Number	2844
Cal Gas Concentration	708 ppm CH <sub>4</sub> / 299 ppm C <sub>3</sub> H <sub>8</sub>	Cal Gas Expiry Date	1/25/2009
Cal Gas CH <sub>4</sub> equiv	1530.25 ppm	Cal Gas Cylinder #	LL-41839
DACS make	Focus AP1000	DACS serial No.	45270
DACS voltage range	0 - 10 volt	DACS channel #	9
	<b>Before</b>		<b>After</b>
Calculated slope	0.999841	Calculated slope	1.026208
Calculated intercept	-0.005392	Calculated intercept	0.045243
Analyzer make	TEI 51C-LT	Analyzer serial #	0407505596

	before		after	
Concentration range	0 - 50	ppm	0 - 50	ppm
THC sample pressure	5.74	PSI	5.75	PSI
THC span counts	12558	raw	12558	raw
THC zero counts	1591	raw	1591	raw
V Bias	-327	Volts	-327	Volts

## 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	0.04	N/A
4995	79.94	24.10	23.46	1.0275
4995	39.95	12.14	11.78	1.0307
4995	9.97	3.05	2.83	1.0763
4995	0.00	0.00	0.04	As Found Zero
4995	79.86	24.08	23.46	As Found Span
Average Correction Factor				1.0448

Calculated value of As Found Response: 23.408 ppm      Percent Change of As Found: 2.8%

	before calibration		after calibration	
Auto zero	0.00	ppm	-0.09	ppm
Auto span	21.07	ppm	19.75	ppm

Notes: No adjustments made...

Calibration Performed By: Lenin Flores

## Calibration Summary

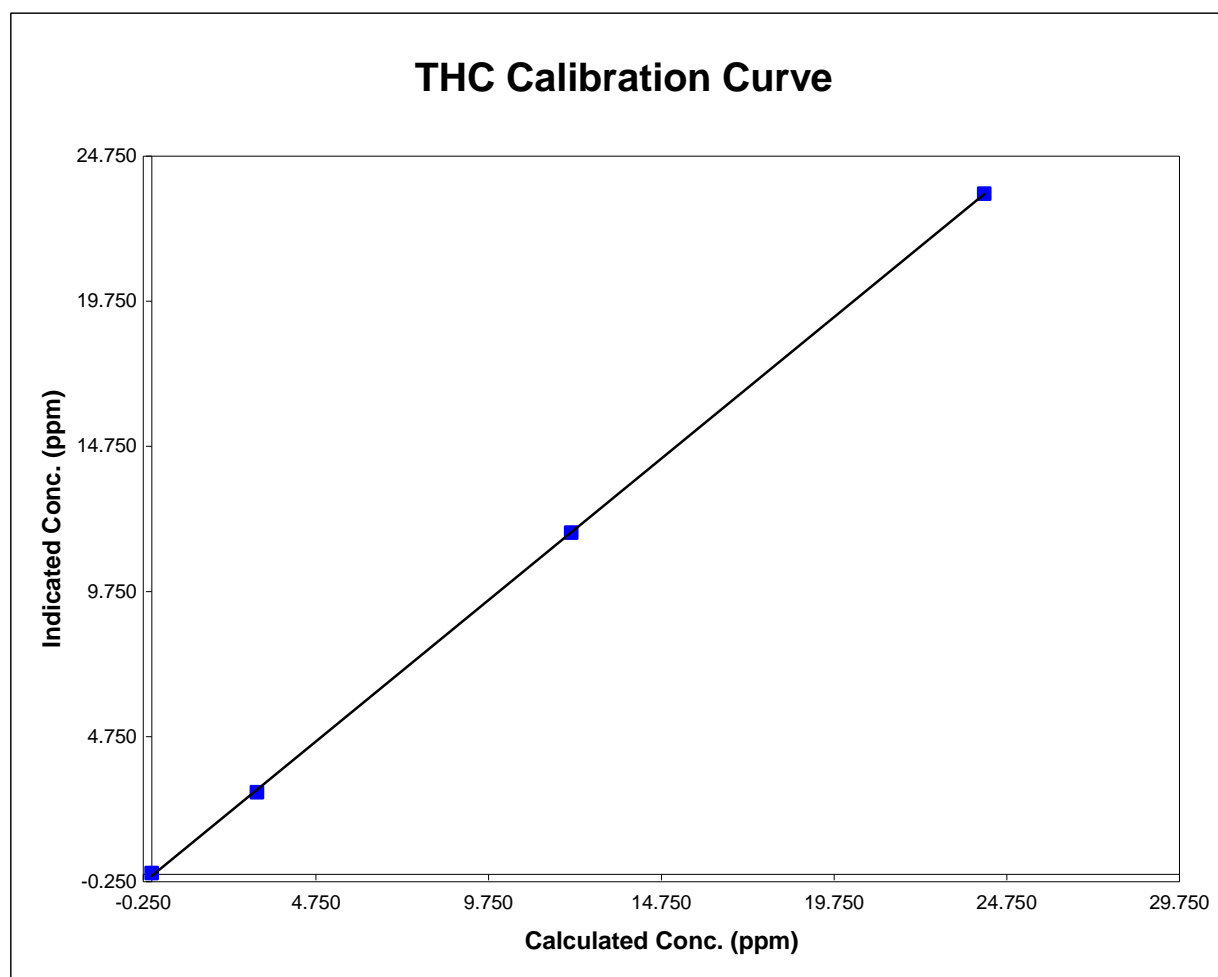
Parameter **THC**Air Monitoring Network **Palliser Airshed**

### Station Information

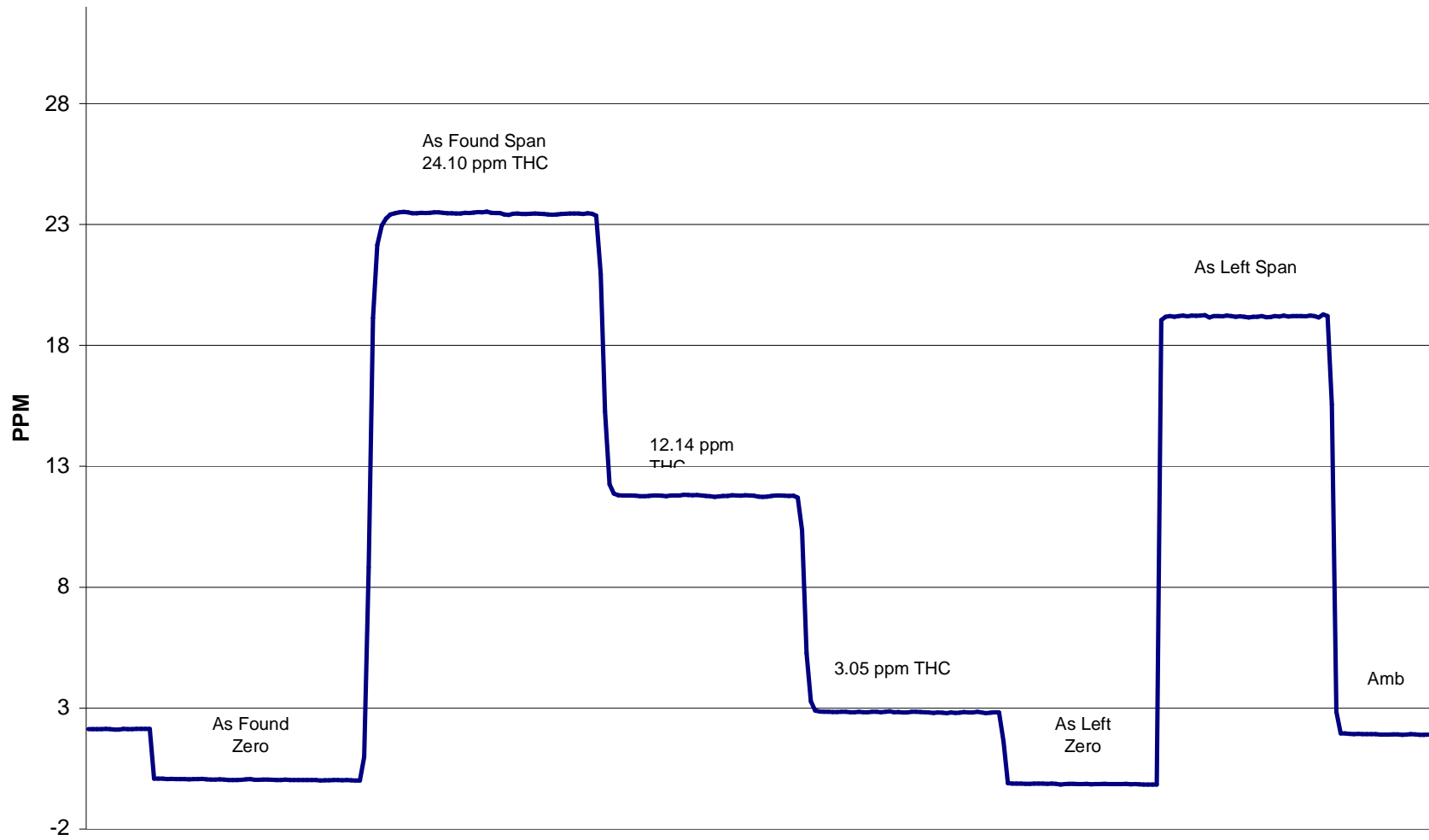
Calibration Date	January 29, 2008	Previous Calibration	December 13, 2007
Station Number	101	Station Location	Crescent Heights
Start Time (MST)	14:00	End Time (MST)	16:30
Analyzer make/model	TEI 51C-LT	Analyzer serial #	0407505596

### Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.042	N/A		
24.104	23.459	1.0275	Correlation Coefficient	0.999950
12.142	11.780	1.0307		
3.048	2.832	1.0763	Slope	1.026208
			Intercept	0.045243



### Crescent Heights THC Calibration



January 29, 2008

# Calibration Report



Parameter CO  
 Air Monitoring Network Palliser

### Station Information

Calibration Date	January 30, 2008	Previous Calibration	December 13, 2007
Station Number	101	Station Location	Crescent Heights
Reason:	<input checked="" type="checkbox"/> Routine	<input type="checkbox"/> Install	<input type="checkbox"/> Removal
			<input type="checkbox"/> Other:
Start Time (MST)	8:15	End Time (MST)	12:05
Barometric Pressure	27.28 in Hg	Station Temperature	20.0 Deg C
Calibrator	Envionics 6103	Serial Number	2844
Cal Gas Conc	2998 ppm	Cal Gas Expiry Date	3/14/2008
		Cal Gas Cylinder #	BLM002248
DACS make	Focus AP1000	DACS serial No.	45270
DACS voltage range	0 - 1 volt	DACS channel #	11
	<u>Before</u>		<u>After</u>
Calculated slope	0.978722	Calculated slope	1.031211
Calculated intercept	-0.502874	Calculated intercept	-0.407186
Analyzer make	TEI Model 48C	Analyzer serial #	436609887

	before		after	
Concentration range	0 - 50	ppm	0 - 50	ppm
CO coefficient	1.080		1.106	
CO bkg setting	1.202		3.56	
Lamp ratio	1.141572		1.138325	
Lamp intensity	199242	Hz	199960	Hz
Sample Flow	1.011	LPM	1.008	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)
3996	0.00	0.00	0.94	N/A
3996	49.94	37.01	36.63	1.0102
3996	29.96	22.31	21.55	1.0353
3996	9.96	7.45	7.20	1.0348
3996	0.00	0.00	0.94	0.0000
3996	49.94	37.01	39.89	0.9276
Average Correction Factor				1.0268

Calculated value of As Found Response: 37.617 ppm      Percent Change of As Found: -1.7%

	before calibration		after calibration	
Auto zero	-0.11	ppm	-0.61	ppm
Auto span	19.35	ppm	19.08	ppm

Notes: Adjusted Zero, no Span adjustment was necessary...

Calibration Performed By: Lenin Flores



## Calibration Summary



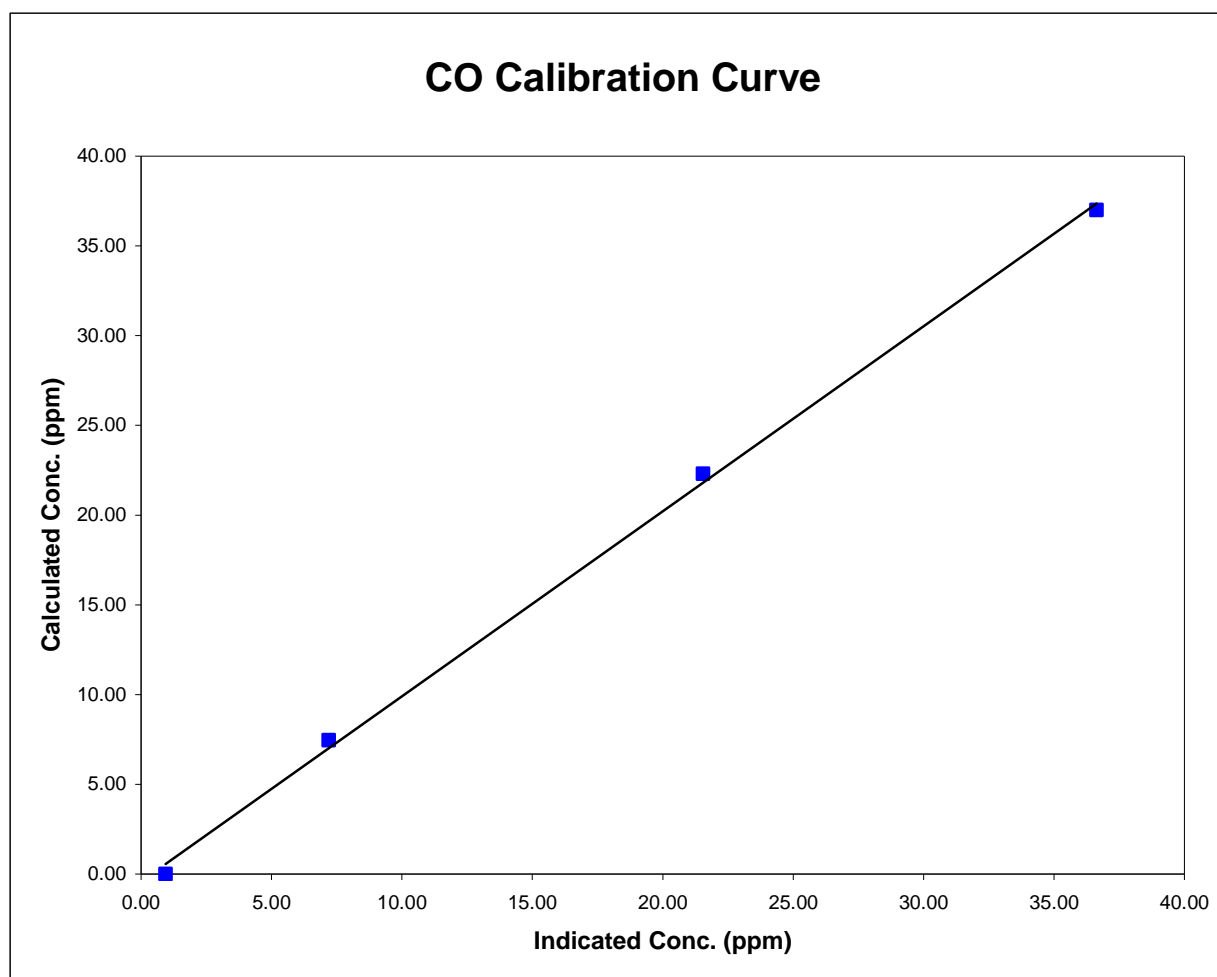
Parameter **CO**  
 Air Monitoring Network **Palliser**

### Station Information

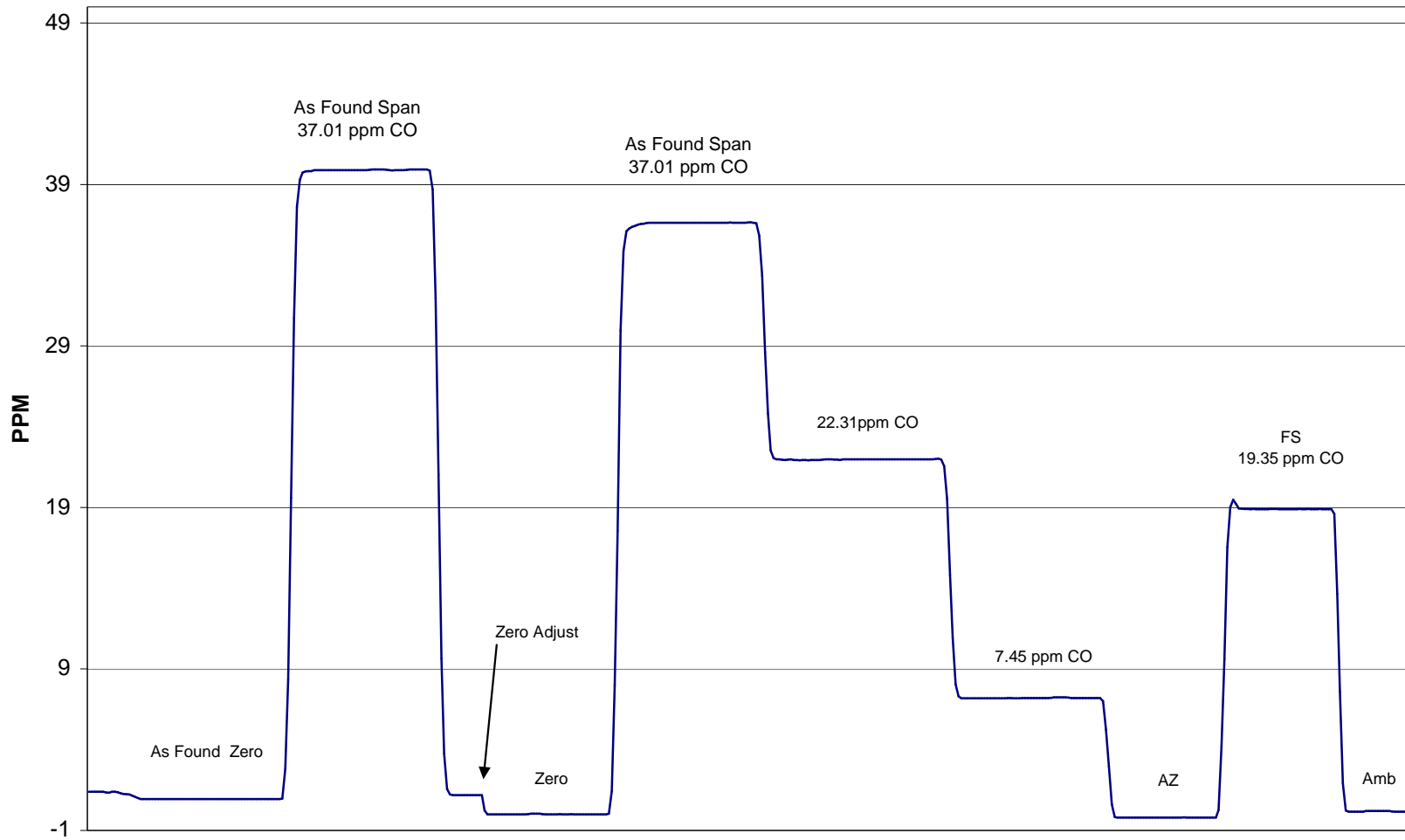
Calibration Date	January 30, 2008	Previous Calibration	December 13, 2007
Station Number	101	Station Location	Crescent Heights
Start Time (MST)	8:15	End Time (MST)	12:05
Analyzer make/model	TEI Model 48C	Analyzer serial #	436609887

### Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.00	0.94	N/A		
37.01	36.63	1.0102	Correlation Coefficient	0.998906
22.31	21.55	1.0353		
7.45	7.20	1.0348	Slope	1.031211
			Intercept	-0.407186



### Crescent Heights CO Calibration



January 30, 2008

# Calibration Report



Parameter **03**  
 Air Monitoring Network **PAS**

## Station Information

Calibration Date	January 17, 2008	Previous Calibration	December 17, 2007
Station Number	110	Station Location	Rover - Brooks
Reason:	<input checked="" type="checkbox"/> Routine	<input type="checkbox"/> Install	<input type="checkbox"/> Removal
			Other: <input type="text"/>
Start Time (MST)	14:50	End Time (MST)	17:20
Barometric Pressure	27.5 inches Hg	Station Temperature	20.0 Deg C
Calibrator	Envionics 6103	Serial Number	2844
Cal Gas Concentration	NA	Cal Gas Expiry Date	NA
DACS make	Focus AP1000	DACS serial No.	45265
DACS voltage range	0 - 1 volt	DACS channel #	7
	Before		After
Calculated slope	0.940746	Calculated slope	0.966191
Calculated intercept	-0.992664	Calculated intercept	-1.769017
Analyzer make	API Model 400E	Analyzer serial #	331

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
Offset	-11	ppb	-11	ppb
Slope	1.038		1.038	
Lamp measure	4479.1	mV	4383.0	mV
Lamp Reference	4478.9	mV	4385.1	mV
Pressure	26.1	inches Hg	26.6	inches Hg
Sample Flow	670	ccm	637	ccm
Sample temp	34.8	Deg C	35.7	Deg C

## Calibration Data

Dilution air flow rate (cc/min)	Ozone Set Point	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4996	0.0	0.0	1.1	N/A
4996	300.0	296.8	308.4	0.9623
4996	200.0	199.0	208.3	0.9553
4996	100.0	91.0	96.8	0.9398
4996	0.0	0.0	1.1	As Found Zero
4996	300.0	296.8	308.4	As Found Span
Average Correction Factor				0.9525

Calculated value of As Found Response: 288.1 ppm      Percent Change of As Found: -2.9%

	before calibration		after calibration	
Auto zero	-0.2	ppb	3.0	ppb
Auto span	393.0	ppb	419.1	ppb

Notes: No adjustments were made...

Calibration Performed By: Lenin Flores, Travis Mehrer

# Calibration Summary



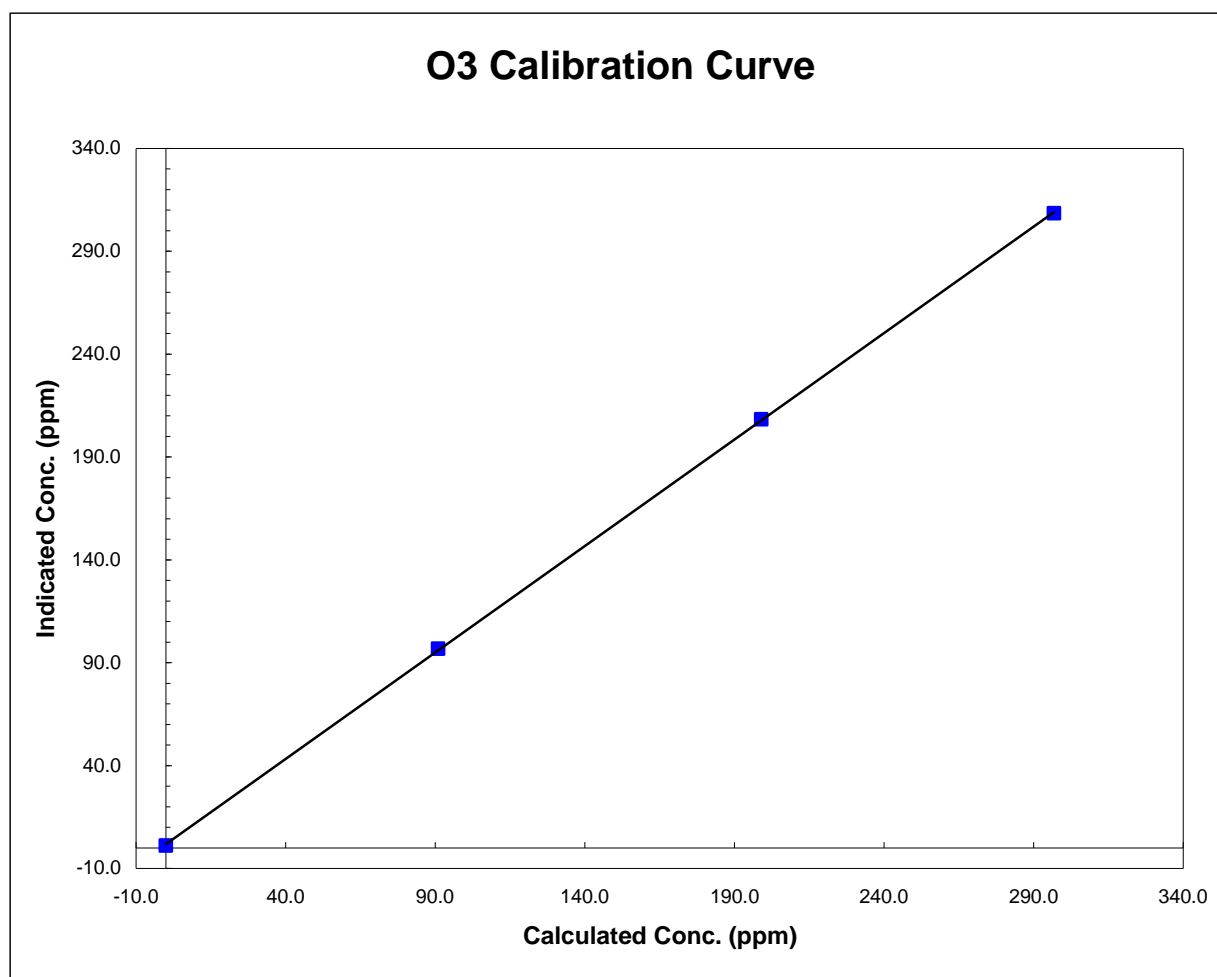
Parameter **O3**  
 Air Monitoring Network **PAS**

### Station Information

Calibration Date	January 17, 2008	Previous Calibration	December 17, 2007
Station Number	110	Station Location	Rover - Brooks
Start Time (MST)	14:50	End Time (MST)	17:20
Analyzer make/model	API Model 400E	Analyzer serial #	331

### Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
296.8	308.4	0.9623	Correlation Coefficient	0.999966
199.0	208.3	0.9553		
91.0	96.8	0.9398		
0.0	1.1	N/A		
			Slope	0.966191
			Intercept	-1.769017



Portable- Brooks O3 Calibration



January 17, 2008

# Calibration Report



Parameter **SO2**  
 Air Monitoring Network **PAS**

### Station Information

Calibration Date	January 17, 2007	Previous Calibration	December 17, 2007
Station Number	110	Station Location	Rover - Brooks
Reason:	<input checked="" type="checkbox"/> Routine	<input type="checkbox"/> Install	<input type="checkbox"/> Removal
			<input type="checkbox"/> Other:
Start Time (MST)	10:37	End Time (MST)	14:20
Barometric Pressure	27.80 inches Hg	Station Temperature	28.0 Deg C
Calibrator	Envionics 6103	Serial Number	2844
Cal Gas Concentration	50.3 ppm	Cal Gas Expiry Date	27-Jul-09
Gas Cert Reference	LL-16136		
DACS make	Focus AP1000	DACS serial No.	45265
DACS voltage range	0 - 10 volt	DACS channel #	5
	<u>Before</u>		<u>After</u>
DACS Scale High	500	DACS slope	500
DACS Scale Low	0	DACS intercept	0
Calculated slope	1.024419	Calculated slope	1.009239
Calculated intercept	2.784667	Calculated intercept	8.139377
Analyzer make	TEI Model 43A	Analyzer serial #	NA

	before		after	
Concentration range	0-500	ppb	0-500	ppb
SO2 zero pot	1.5		1.5	
SO2 span pot	4.65		4.65	
Analyzer flow	4.75	LPM	4.75	LPM
UV Lamp voltage	860	V	859	V
Vacuum	22	in Hg	23.5	in Hg

### Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4996	0.00	0.0	-3.8	N/A
4996	39.95	399.0	388.7	1.0266
4996	19.94	200.0	189.8	1.0536
4996	9.98	100.2	85.9	1.1674
4996	0.00	0.0	-3.8	As found zero
4996	39.95	399.0	388.7	As found span
Average Correction Factor				1.0825

Calculated value of As Found Response: 404.789 ppm      Percent Change of As Found: -1.4%

	before calibration		after calibration	
Auto zero	-7.0	ppm	-4.1	ppm
Auto span	203.9	ppm	193.9	ppm

Notes: No adjustments were made...

Calibration Performed By: Lenin Flores

# Calibration Summary



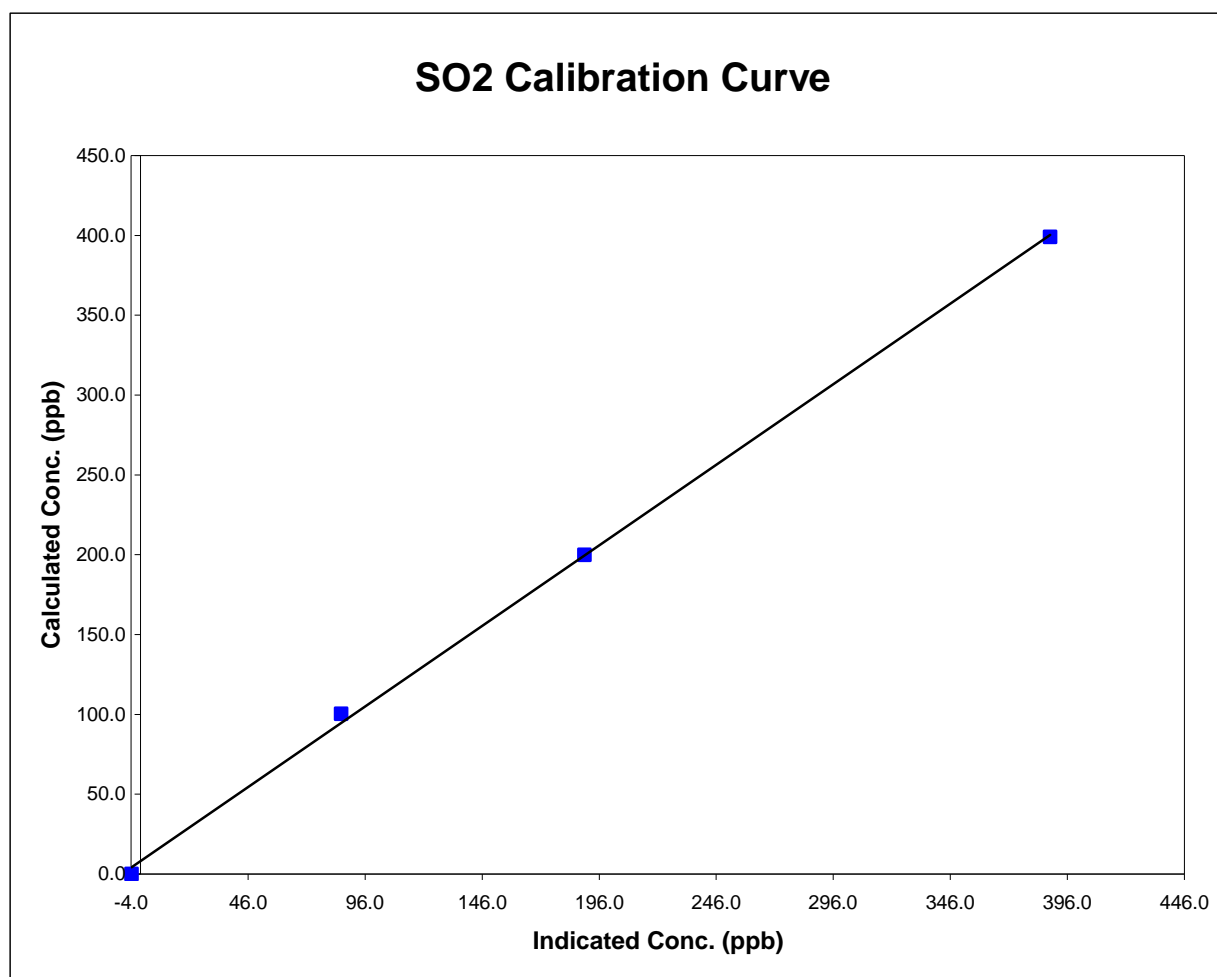
Parameter **SO2**  
 Air Monitoring Network **PAS**

### Station Information

Calibration Date	January 17, 2007	Previous Calibration	December 17, 2007
Station Number	110	Station Location	Rover - Brooks
Start Time (MST)	10:37	End Time (MST)	14:20
Analyzer make/model	TEI Model 43A	Analyzer serial #	NA

### Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-3.8	N/A		
399.0	388.7	1.0266	Correlation Coefficient	0.999420
200.0	189.8	1.0536		
100.2	85.9	1.1674	Slope	1.009239
			Intercept	8.139377



### Portable-Brooks SO2 Calibration



January 17, 2007



# Calibration Report



Parameter **H2S**  
 Air Monitoring Network **PAS**

### Station Information

Calibration Date	January 17, 2008	Previous Calibration	December 17, 2007
Station Number	110	Station Location	Brooks Rover
Reason:	<input checked="" type="checkbox"/> Routine	<input type="checkbox"/> Install	<input type="checkbox"/> Removal
			Other: <input type="checkbox"/>
Start Time (MST)	13:00	End Time (MST)	15:45
Barometric Pressure	27.8 inches Hg	Station Temperature	28.0 Deg C
Calibrator	Envionics 6103	Serial Number	2844
Cal Gas Concentration	5.02 ppm	Cal Gas Expiry Date	15-Nov-05
Gas Cert Reference	BLM003489		
DACS make	Focus AP1000	DACS serial No.	45265
DACS voltage range	0 - 10 volt	DACS channel #	6
	Before		After
DACS Scale High	100	DACS slope	100
DACS Scale Low	0	DACS intercept	0
Calculated slope	0.978898	Calculated slope	0.973175
Calculated intercept	-0.792040	Calculated intercept	-0.482108
Analyzer make	TEI Model 43A	Analyzer serial #	43A-25575-221

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
H2S zero pot	910		910	
H2S span pot	540		540	
Analyzer flow	0.900	LPM	0.900	LPM
UV Lamp voltage	933	V	939	V
Vacuum	22.0	in Hg	22.5	in Hg

### Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4996	0.00	0.0	0.6	N/A
4996	79.87	79.0	81.6	0.9680
4996	39.94	39.8	41.7	0.9556
4996	19.94	20.0	20.7	0.9626
4996	0.00	0.0	0.6	As found zero
4996	79.86	79.0	81.6	As found span
Average Correction Factor				0.9621

Calculated value of As Found Response: 78.53 ppm      Percent Change of As Found: 0.6%

	before calibration		after calibration	
Auto zero	1.3	ppm	0.7	ppm
Auto span	36.1	ppm	40.7	ppm

Notes: No adjustments were made...

Calibration Performed By: Lenin Flores

# Calibration Summary



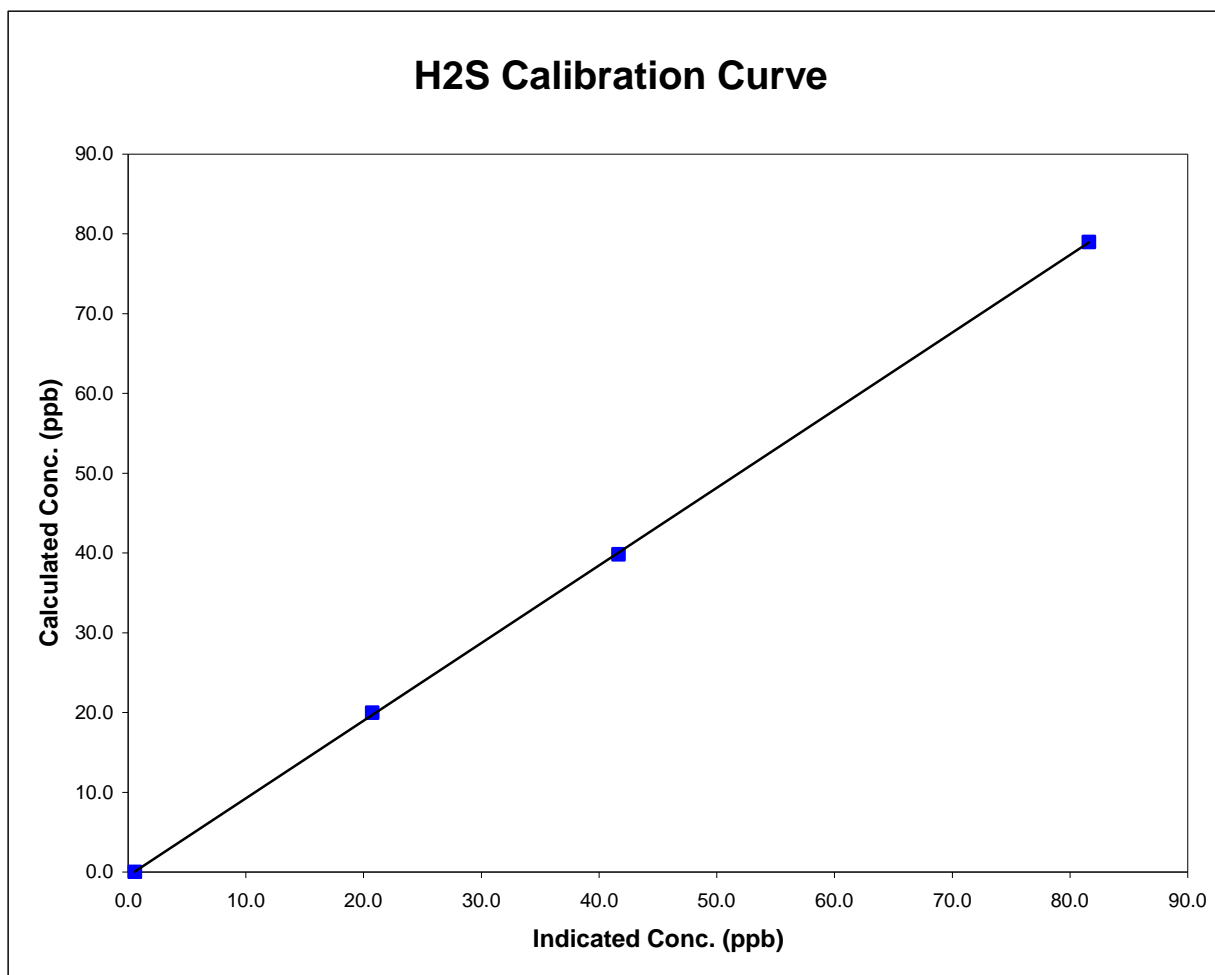
Parameter **H2S**  
 Air Monitoring Network **PAS**

### Station Information

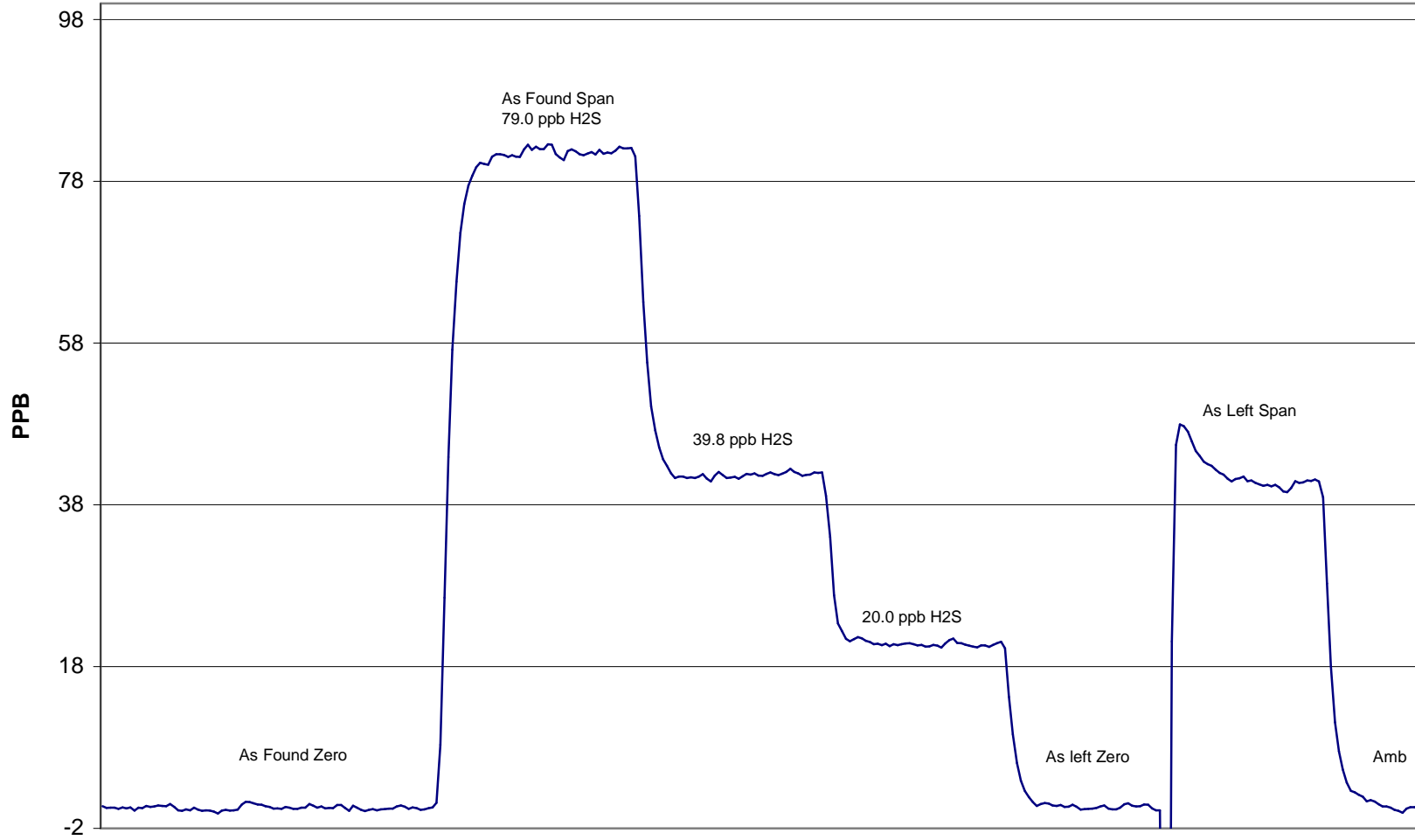
Calibration Date	January 17, 2008	Previous Calibration	December 17, 2007
Station Number	110	Station Location	Brooks Rover
Start Time (MST)	13:00	End Time (MST)	15:45
Analyzer make/model	TEI Model 43A	Analyzer serial #	43A-25575-221

### Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.6	N/A		
79.0	81.6	0.9680	Correlation Coefficient	0.999959
39.8	41.7	0.9556		
20.0	20.7	0.9626	Slope	0.973175
			Intercept	-0.482108



Portable-Brooks H2S Calibration



January 17, 2008