

Hinton Pulp
A division of West Fraser Mills Limited
Hinton, Alberta

AIR QUALITY MONITORING
December 2017
Monthly Report

Prepared by:

West Central Airshed Society
Drayton Valley, Alberta

January 15, 2018

Hinton Pulp
A Division of West Fraser Mills Ltd.
Mr. Phil Whitney
760 Switzer Drive
Hinton, AB T7V 1V7

Dear Mr. Whitney:

**Monthly Ambient Air Quality Monitoring Report for December 2017
For Hinton Pulp – A Division of West Fraser Mills Ltd.**

Enclosed are the reports for the continuous ambient air quality monitoring station of the West Central Airshed Society network.

Network Station is AMS 906 Hinton
Identified as:

The person responsible for this reporting is Gary Redmond, Executive Director of West Central Airshed Society.

The following operational notes are included as required by the Air Monitoring Directive:

1. Concentrations in excess of the Clean Air (Maximum Levels) Regulation:

There were no readings in December in excess of the AAAQO for H₂S, as indicated in Air Monitoring Directive Section III.A.3. (a). There was 1 one-hour TRS exceedance recorded on December 16.

2. Operational times less than 90 percent:

All analyzers and meteorological equipment returned operational times greater than 90%.

3. Monitoring Notes:

AMS 906 (Hinton)

The O₃ analyzer returned an uptime of 97.5% due to instrument malfunctioning. All other analyzers and meteorological sensors returned uptimes of 100% for the month of December.

If additional information is required, please call (587) 499-4900.

Sincerely,



Patrick Andersen
Environmental Specialist

Forest Products Industry Monthly Report Summary

Hinton
Plant Name/Location

Hinton Pulp - A Division of West Fraser Mills Ltd.
Company

License Number	Report Date	
	Year	Month
	2017	December

TOTAL EMISSIONS FOR MONTH (IN TONNES)

POLLUTANT	INCINERATOR STACK	FLARE	MISCELLANEOUS
SO ₂			

"HOURS" OF EXCEEDED STACK LICENSED LIMITS (CEM)

POLLUTANT	STACK TYPE	1-HR AVG CONCENTRATION	1-HR AVG MASS EMISSION	24-HR AVG MASS EMISSION	STACK TOP TEMP.	% TIME STACK MONITOR OPERATIONAL
SO ₂						

STATIC AMBIENT MONITORING

PARAMETER	NO. OF STATIONS	PEAK READING	AVG. OF NETWORK	NO. OF STATIONS OVER GUIDELINES
T.S.				
H ₂ S				

CONTINUOUS AMBIENT MONITORING

PARAMETER	STATION NUMBER	% TIME OPERATIONAL	1-HR AVERAGE		24-HR AVERAGE	
			MAXIMUM CONCENTRATION (ppm)	NO. READINGS > REGULATIONS	MAXIMUM CONCENTRATION (ppm)	NO. READINGS > REGULATIONS
Wind	906	100.0	n/a	n/a	n/a	n/a
TRS	906	100.0	0.011	1	0.002	0
PM _{2.5}	906	100.0	41.7 µg/m ³	0	15.53 µg/m ³	0
H ₂ S	906	100.0	0.010	0	0.002	0

SIGNATURE OF COMPANY REPRESENTATIVE

FOR ALBERTA ENVIRONMENT USE ONLY

WEST CENTRAL AIRSHED SOCIETY

**CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
MONTHLY REPORT
CONTINUOUS AIR QUALITY**

**AMS 906
HINTON
DECEMBER 2017**

Operations and Data Collection by:
West Central Airshed Society
Drayton Valley, Alberta

QA/QC, Data Validation and Reporting by:
West Central Airshed Society
Drayton Valley, Alberta

Summary Report

Continuous air quality/meteorological monitoring measurements

West Central Airshed Society

Hinton Pulp / Hinton Station 906													December 2017		24 Hour Average Max (ppm)
Parameter	Calibration Hours	Number of Data	Percent Uptime	Mean	Min	Max	Percentile					Exceedences			
							P10	Q1	Median	Q3	P90	1-hour	24-hour		
TRS (ppb)	36	708	100.0	1.0	0.0	11.0	0.1	0.2	0.5	1.4	2.6	1	0	0.002	
SO ₂ (ppb)	36	708	100.0	0.2	0.0	3.6	0.0	0.0	0.0	0.1	0.3	0	-	0.001	
H ₂ S (ppb)	36	708	100.0	0.9	0.0	10.0	0.3	0.3	0.5	1.2	2.1	0	0	0.002	
O ₃ (ppb)	35	690	97.5	24.2	0.4	44.3	6.1	18.6	26.8	32.0	35.3	0	-	0.034	
NO (ppb)	37	707	100.0	1.5	0.0	32.9	0.0	0.1	0.3	1.2	3.8	-	-	-	
NO ₂ (ppb)	37	707	100.0	3.6	0.2	14.6	1.0	1.6	2.8	4.9	7.8	0	0	0.009	
NO _x (ppb)	37	707	100.0	5.2	0.3	46.5	1.1	1.8	3.3	6.0	11.9	-	-	-	
Particulate Matter 2.5 microns (µm ³)	0	744	100.0	6.5	0.5	41.7	1.8	2.9	4.9	8.3	13.8	0	0	15.53 ug/m3	
Wind Speed (kph)	0	744	100.0	4.1	0.0	16.1	0.7	1.5	3.3	6.0	8.9	-	-	-	
Temperature (°C)	0	744	100.0	-7.0	-34.0	11.2	-25.2	-14.7	-4.7	1.5	4.9	-	-	-	
Relative Humidity (%)	0	744	100.0	58.7	16.2	91.4	32.2	44.1	62.1	73.6	79.8	-	-	-	
Std Dev Wind Direction (deg)	0	744	100.0	45.1	17.1	101.8	25.2	31.2	40.0	52.9	79.8	-	-	-	
Std Dev Wind Speed (kph)	0	744	100.0	2.8	0.3	8.6	1.1	1.4	2.2	3.8	5.3	-	-	-	



WCAS - Hinton
Summary of Hourly Averages

Total Reduced Sulphur (TRS) - ppb
December 2017

Maximum Value: 11.03 ppb on Dec 16 08:00		Maximum Daily Average: 2.32 ppb on Dec 16		Hours in Service: 744																											
Minimum Value: 0 ppb on Dec 9 12:00		Minimum Daily Average: 0.21 ppb on Dec 6		Hours of Data: 708																											
Maximum Diurnal Average: 1.49 ppb at hour 8		Minimum Diurnal Average: 0.70 ppb at hour 22		Hours of Missing Data: 36																											
Monthly Average: 1.019 ppb		Percentiles: P ₁ = 0.1 P ₁₀ = 0.1 Q ₁ = 0.2 Median = 0.5 Q ₃ = 1.4 P ₉₀ = 2.6 P ₉₉ = 5.9		Hours of Calibration: 36																											
				Percent Operational Time: 100.0																											
Day	Hourly Period Ending At																								Daily Average	Daily Maximum					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24							
1-Dec	0	1	1	Z	2	2	2	2	1	0	0	1	2	1	1	1	0	0	0	0	1	1	1	1	0.89	2.20					
2-Dec	0	0	0	Z	0	0	0	0	0	0	1	1	2	1	2	1	2	1	1	1	1	1	0	0	0.81	1.94					
3-Dec	0	0	1	Z	1	2	4	2	2	2	1	3	9	7	5	4	3	2	1	1	1	0	1	2.27	8.65						
4-Dec	1	1	2	Z	0	1	1	2	0	1	0	1	2	2	3	3	1	1	0	0	0	0	2	1.12	2.78						
5-Dec	2	2	1	Z	4	2	2	1	0	0	0	2	0	0	0	3	2	1	1	0	0	0	0	1.09	4.43						
6-Dec	0	0	0	Z	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.21	0.85						
7-Dec	0	0	0	Z	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	3	1	0.57	2.91						
8-Dec	2	1	0	Z	0	1	1	3	1	0	1	0	0	0	1	2	1	0	1	0	1	1	2	0.81	3.11						
9-Dec	1	0	1	Z	3	0	1	0	0	0	0	0	1	0	0	1	1	0	1	2	0	2	3	0.83	2.98						
10-Dec	2	1	0	Z	3	1	2	3	3	3	2	2	3	3	3	3	3	1	1	0	1	1	0	1.76	3.26						
11-Dec	0	1	1	Z	1	1	1	0	0	0	1	1	0	0	0	1	0	1	1	2	0	0	0	0.58	1.58						
12-Dec	0	0	0	Z	1	0	2	2	1	3	5	2	1	1	1	2	1	3	1	2	1	0	0	1.37	5.00						
13-Dec	1	1	1	Z	1	0	1	1	1	2	1	1	0	0	0	0	0	0	1	1	1	1	1	0.69	1.73						
14-Dec	0	0	0	Z	1	1	1	1	1	1	1	0	0	0	1	1	0	0	1	0	0	0	0	0.51	1.30						
15-Dec	0	0	0	Z	0	1	1	1	1	1	2	0	0	0	1	1	0	6	3	4	2	5	6	1.68	5.96						
16-Dec	2	1	1	Z	1	0	10	11	8	1	0	0	0	2	2	2	3	2	2	2	1	1	2	2.32	11.03						
17-Dec	2	2	2	Z	3	2	2	2	1	3	1	0	0	1	2	0	1	1	0	0	0	0	0	1.18	2.90						
18-Dec	1	1	1	Z	1	2	2	2	3	2	2	1	0	1	0	0	0	1	1	1	1	0	0	1.06	2.96						
19-Dec	0	0	0	Z	0	0	0	1	3	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.43	2.91						
20-Dec	0	0	0	Z	0	0	0	2	2	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0.46	2.46						
21-Dec	0	0	0	Z	0	0	0	0	0	1	1	1	2	3	0	0	0	0	0	0	0	0	0	0.48	2.83						
22-Dec	1	1	1	Z	1	2	4	1	1	1	0	0	1	1	1	0	C	C	C	C	C	0	0	0.91	3.83						
23-Dec	0	0	0	Z	0	0	0	0	0	0	0	0	1	0	1	1	4	5	5	5	5	3	2	1.37	4.90						
24-Dec	4	5	1	Z	4	1	1	3	6	3	2	1	3	6	1	2	3	2	1	0	2	1	0	2.23	6.07						
25-Dec	2	3	2	Z	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.53	2.76						
26-Dec	0	0	0	Z	1	0	1	1	2	3	3	4	2	2	1	1	0	0	0	0	0	0	0	1.02	4.23						
27-Dec	0	0	0	Z	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	0	2	2	0.61	4.52						
28-Dec	2	3	6	Z	4	1	2	3	2	3	5	5	4	4	1	0	0	0	0	0	0	0	0	2.00	5.59						
29-Dec	0	0	0	Z	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.23	0.42						
30-Dec	0	0	0	Z	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0.31	0.61						
31-Dec	0	0	0	Z	1	0	0	0	0	0	1	2	4	3	2	2	2	2	2	1	1	1	0	1.20	3.55						
		0.79	0.88	0.81	--	1.15	0.85	1.38	1.49	1.38	1.07	1.08	1.05	1.20	1.36	0.90	0.96	0.95	1.15	0.87	0.91	0.81	0.70	0.71	0.94	Diurnal Average					
		4.39	4.62	5.59	--	4.43	2.48	9.85	11.03	8.13	3.23	5.00	4.77	8.65	7.08	4.60	3.57	3.26	5.96	4.72	4.90	4.75	4.59	5.63	4.52	Diurnal Maximum					
Z - zerospan		C - Calibration																													
Alberta Ambient Air Quality Objectives (AAAQO):		1-hr 10 ppb					24-hr 3 ppb																								



WCAS - Hinton
Summary of Hourly Averages

Sulphur Dioxide (SO₂) - ppb
December 2017

Maximum Value: 3.60 ppb on Dec 10 13:00		Maximum Daily Average: 1.11 ppb on Dec 10		Hours in Service: 744																																												
Minimum Value: 0.0 ppb on Dec 2 05:00		Minimum Daily Average: 0.00 ppb on Dec 21		Hours of Data: 708																																												
Maximum Diurnal Average: 0.31 ppb at hour 14		Minimum Diurnal Average: 0.06 ppb at hour 22		Hours of Missing Data: 36																																												
Monthly Average: 0.162 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 0.1 P ₉₀ = 0.3 P ₉₉ = 2.9		Hours of Calibration: 36																																												
				Percent Operational Time: 100.0																																												
Day	Hourly Period Ending At																								Daily Average	Daily Maximum																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																								
1-Dec	0.1	0.5	0.8	Z	1.4	1.6	1.7	0.7	0.2	0.2	0.6	1.2	1.4	0.6	0.4	0.3	0.1	0.1	0.4	0.1	0.1	0.0	0.1	0.1	0.55	1.67																						
2-Dec	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.7	0.7	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.10	0.72																						
3-Dec	0.0	0.0	0.0	Z	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.02	0.06																						
4-Dec	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.4	0.0	0.6	0.8	1.3	1.2	2.3	0.5	0.4	0.0	0.0	0.4	0.3	0.2	0.5	0.40	2.33																						
5-Dec	0.1	0.0	0.0	Z	0.5	0.2	0.3	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.2	0.1	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.09	0.53																						
6-Dec	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.03																						
7-Dec	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.01	0.06																						
8-Dec	0.1	0.0	0.0	Z	0.0	0.0	0.1	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.0	0.0	0.2	0.2	0.3	0.08	0.42																							
9-Dec	0.1	0.1	0.1	Z	0.2	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.1	0.2	0.0	0.1	0.0	0.1	0.0	0.4	0.2	0.1	1.7	3.2	0.31	3.20																						
10-Dec	3.0	0.8	0.3	Z	1.5	0.2	3.4	2.8	1.0	0.3	2.4	1.7	3.6	2.4	1.0	0.1	0.1	0.3	0.1	0.0	0.1	0.0	0.0	0.0	1.11	3.60																						
11-Dec	0.0	0.0	0.0	Z	0.0	0.1	0.0	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.06	0.14																						
12-Dec	0.0	0.1	0.0	Z	0.2	0.1	0.1	0.1	0.1	0.1	0.4	0.0	0.0	0.3	0.2	0.4	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.10	0.38																						
13-Dec	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.04	0.12																						
14-Dec	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.02	0.04																						
15-Dec	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.03	0.10																						
16-Dec	0.0	0.0	0.0	Z	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.8	1.1	1.7	3.0	2.2	2.3	2.5	0.7	0.4	1.0	0.71	2.97																						
17-Dec	1.7	1.7	1.4	Z	1.8	1.1	2.2	1.7	1.6	3.3	2.2	0.6	0.1	2.9	1.4	0.1	0.1	0.1	0.0	0.0	0.2	0.0	0.0	0.0	1.06	3.27																						
18-Dec	0.0	0.0	0.0	Z	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.04	0.16																						
19-Dec	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.02	0.04																						
20-Dec	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.04																						
21-Dec	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.01																						
22-Dec	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	C	C	C	C	C	0.0	0.0	0.0	0.00	0.03																						
23-Dec	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.02	0.16																						
24-Dec	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.02	0.09																						
25-Dec	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.03																						
26-Dec	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.02	0.15																						
27-Dec	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.08																						
28-Dec	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.03																						
29-Dec	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.02	0.18																						
30-Dec	0.2	0.2	0.2	Z	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.08	0.24																						
31-Dec	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.03	0.14																						
																								0.18	0.12	0.11	--	0.19	0.12	0.27	0.20	0.12	0.16	0.21	0.15	0.23	0.31	0.20	0.18	0.12	0.16	0.13	0.11	0.13	0.06	0.10	0.19	Diurnal Average
																								2.96	1.68	1.44	--	1.75	1.56	3.44	2.83	1.58	3.27	2.42	1.70	3.60	2.92	1.38	2.33	1.72	2.97	2.20	2.31	2.50	0.69	1.66	3.20	Diurnal Maximum
Z - zerospan C - Calibration																																																
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb																																																



WCAS - Hinton
Summary of Hourly Averages

Hydrogen Sulphide (H2S) - ppb
December 2017

Maximum Value: 10.16 ppb on Dec 16 08:00		Maximum Daily Average: 2.06 ppb on Dec 16		Hours in Service: 744																													
Minimum Value: 0 ppb on Dec 23 00:00		Minimum Daily Average: 0.30 ppb on Dec 29		Hours of Data: 708																													
Maximum Diurnal Average: 1.32 ppb at hour 8		Minimum Diurnal Average: 0.70 ppb at hour 22		Hours of Missing Data: 36																													
Monthly Average: 0.925 ppb		Percentiles: P ₁ = 0.2 P ₁₀ = 0.3 Q ₁ = 0.3 Median = 0.5 Q ₃ = 1.2 P ₉₀ = 2.1 P ₉₉ = 5.2		Hours of Calibration: 36																													
				Percent Operational Time: 100.0																													
Day	Hourly Period Ending At																								Daily Average	Daily Maximum							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24									
1-Dec	0	1	1	Z	1	1	2	2	1	0	0	1	1	1	1	0	0	0	0	1	1	1	1	1	0.73	1.58							
2-Dec	0	0	0	Z	0	0	0	0	0	1	1	1	2	1	1	1	1	1	1	1	1	1	0	1	0.76	1.75							
3-Dec	0	0	1	Z	1	1	3	2	1	2	1	2	7	5	4	3	2	2	1	1	1	0	1	1.91	6.58								
4-Dec	1	1	1	Z	0	1	1	1	0	1	0	1	2	2	2	2	1	1	0	0	0	0	2	0.97	2.24								
5-Dec	2	2	1	Z	4	1	2	1	0	0	0	1	0	0	0	1	2	1	1	1	0	0	0	1.02	3.76								
6-Dec	0	0	0	Z	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.36	0.79								
7-Dec	0	0	0	Z	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	2	1	2	0.63	2.39							
8-Dec	1	1	0	Z	1	1	1	2	1	0	1	0	0	0	0	1	1	1	0	1	0	1	1	1	0.77	2.40							
9-Dec	1	0	1	Z	2	0	1	1	0	0	0	0	1	0	0	1	1	0	1	1	0	1	2	0.77	2.09								
10-Dec	1	1	0	Z	2	1	2	2	3	3	2	2	2	2	2	3	1	1	1	1	1	0	1	1.44	2.71								
11-Dec	0	1	1	Z	1	1	1	0	0	0	1	0	0	0	0	1	0	1	1	1	0	0	0	1	0.57	1.44							
12-Dec	0	0	0	Z	1	1	2	2	1	2	4	2	1	1	1	2	1	3	1	1	1	0	0	1.17	4.11								
13-Dec	1	1	1	Z	1	0	1	1	1	1	1	1	0	0	0	0	0	0	1	1	1	1	1	0.70	1.29								
14-Dec	1	0	1	Z	1	1	1	1	1	1	1	0	0	0	1	1	0	0	1	0	0	0	0	0.58	1.40								
15-Dec	0	0	1	Z	0	1	1	1	1	1	2	0	0	0	1	1	0	5	3	4	2	4	5	2	1.58	5.44							
16-Dec	2	1	1	Z	1	0	10	10	7	1	0	0	0	1	2	1	2	2	2	2	2	1	1	2.06	10.16								
17-Dec	1	2	2	Z	2	1	2	1	1	2	1	0	0	1	1	0	1	1	0	0	0	0	0	0.95	2.31								
18-Dec	1	1	1	Z	1	2	2	2	3	2	2	0	0	1	0	0	0	1	1	1	1	0	0	1.04	2.78								
19-Dec	0	0	0	Z	0	0	1	1	3	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.55	2.79								
20-Dec	0	0	0	Z	0	0	0	2	2	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0.55	2.21								
21-Dec	0	0	0	Z	0	0	0	0	0	1	1	1	2	3	0	0	0	0	0	0	0	0	0	0.55	2.82								
22-Dec	1	1	1	Z	1	2	4	1	1	1	0	0	1	1	0	0	C	C	C	C	C	0	0	0.90	3.62								
23-Dec	0	0	0	Z	0	0	0	0	0	0	0	0	1	0	1	1	3	4	4	4	4	2	2	2	1.14	4.09							
24-Dec	3	4	1	Z	3	1	1	2	5	2	1	1	2	5	1	2	2	1	1	1	1	0	1	1.82	4.91								
25-Dec	2	2	2	Z	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.51	2.09								
26-Dec	0	0	0	Z	1	0	0	1	2	2	2	3	2	1	1	1	0	0	0	0	0	0	0	0.90	3.48								
27-Dec	0	0	0	Z	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	1	2	4	0.57	3.50							
28-Dec	1	2	4	Z	3	1	1	2	1	2	4	4	2	3	1	0	0	0	0	0	0	0	0	1.51	4.42								
29-Dec	0	0	0	Z	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.30	0.42								
30-Dec	0	0	0	Z	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0.34	0.53								
31-Dec	0	0	0	Z	1	0	0	0	0	0	1	2	3	2	2	2	2	1	1	1	1	1	1	1	1.04	2.64							
		0.75	0.82	0.75	--	1.01	0.78	1.27	1.32	1.26	0.96	0.95	0.93	1.02	1.13	0.79	0.89	0.88	1.02	0.81	0.89	0.79	0.70	0.70	0.86	Diurnal Average							
		3.43	3.55	4.42	--	3.76	2.31	9.77	10.16	7.36	2.62	4.11	3.52	6.58	5.45	3.69	2.90	2.68	5.26	3.68	4.09	3.86	4.12	5.44	3.50	Diurnal Maximum							
Z - zerospan		C - Calibration																															
Alberta Ambient Air Quality Objectives (AAAQO):		1-hr 10 ppb				24-hr 3 ppb																											



WCAS - Hinton
Summary of Hourly Averages

Ozone (O₃) - ppb
December 2017

Maximum Value: 44.30 ppb on Dec 12 13:00																								Maximum Daily Average: 34.27 ppb on Dec 17																								Hours in Service: 744	
Minimum Value: 0.4 ppb on Dec 16 08:00																								Minimum Daily Average: 4.49 ppb on Dec 31																								Hours of Data: 690	
Maximum Diurnal Average: 30.86 ppb at hour 15																								Minimum Diurnal Average: 19.17 ppb at hour 8																								Hours of Missing Data: 54	
Monthly Average: 24.167 ppb																								Percentiles: P ₁ = 1.1 P ₁₀ = 6.1 Q ₁ = 18.6 Median = 26.8 O ₃ = 32.0 P ₉₀ = 35.3 P ₉₉ = 41.4																								Hours of Calibration: 35	
																																																Percent Operational Time: 97.5	
Day	Hourly Period Ending At																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Dec	10.5	26.2	30.9	Z	27.3	29.2	27.8	25.1	18.8	33.2	32.4	30.0	28.8	28.0	25.5	26.4	31.3	34.7	33.6	35.6	29.0	25.3	15.5	13.4	26.90	35.60																							
2-Dec	15.3	15.6	15.4	Z	4.3	3.9	8.5	6.0	3.2	1.3	3.8	8.3	16.1	23.1	24.0	22.7	10.4	1.7	1.1	1.3	AF	AF	AF	AF	9.79	23.96																							
3-Dec	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	7.9	1.9	0.7	11.6	26.0	20.8	16.9	12.9	9.4	--	26.00																							
4-Dec	8.6	21.0	27.6	Z	24.7	5.7	4.8	18.3	28.5	29.7	33.2	30.5	29.5	30.1	29.5	25.2	34.1	33.3	37.3	34.8	36.4	36.0	35.4	33.0	27.27	37.28																							
5-Dec	33.7	30.3	26.2	Z	26.2	30.2	26.1	22.4	35.8	35.7	29.1	31.8	39.6	39.0	38.6	28.2	25.7	24.8	28.7	25.1	28.5	26.1	26.9	26.0	29.76	39.56																							
6-Dec	27.9	29.3	28.9	Z	28.4	26.5	27.9	23.9	24.7	29.1	30.3	31.7	32.2	34.5	35.5	33.8	33.9	33.1	32.3	33.7	33.4	32.3	31.8	32.0	30.74	35.46																							
7-Dec	33.3	32.8	32.1	Z	33.4	33.8	33.6	33.8	33.0	32.8	33.8	34.2	35.6	36.2	35.8	35.0	35.7	34.4	30.3	30.7	30.5	26.8	25.6	25.5	32.56	36.24																							
8-Dec	25.5	25.2	26.2	Z	25.9	26.2	27.5	25.6	23.5	26.5	28.3	33.3	32.3	33.0	32.6	30.7	26.6	27.2	29.6	29.6	32.2	32.2	32.6	31.2	28.84	33.26																							
9-Dec	28.5	29.9	30.2	Z	29.7	31.9	30.0	29.4	27.6	29.1	33.7	34.7	35.1	30.4	34.3	30.5	15.2	8.9	31.1	25.7	34.1	38.5	35.8	32.2	29.84	38.52																							
10-Dec	36.2	38.3	35.2	Z	35.1	40.8	33.6	33.6	39.8	42.6	37.4	36.2	32.0	36.1	40.0	42.5	40.6	24.3	10.0	8.2	3.5	2.6	7.3	4.7	28.73	42.63																							
11-Dec	5.3	1.2	2.4	Z	6.0	1.7	11.7	21.1	14.3	22.4	24.4	33.9	36.5	38.4	38.4	35.8	34.7	35.7	31.4	31.2	30.3	30.4	31.8	29.8	23.86	38.40																							
12-Dec	28.4	33.2	33.1	Z	31.3	25.6	7.3	3.6	23.6	35.9	34.4	40.3	44.3	41.6	41.1	35.1	33.0	28.7	29.3	32.8	35.3	34.4	34.3	29.5	31.14	44.30																							
13-Dec	14.6	27.4	16.7	Z	5.7	5.3	1.6	0.8	1.1	1.0	3.8	9.4	26.5	28.3	28.3	25.5	22.1	18.9	17.9	21.2	6.1	0.7	1.2	0.9	12.39	28.32																							
14-Dec	1.1	2.5	6.3	Z	21.2	22.8	20.2	22.0	18.9	22.1	28.1	31.4	31.0	32.1	33.0	29.7	27.0	27.8	30.7	30.5	32.5	33.6	33.4	32.1	24.79	33.61																							
15-Dec	34.6	33.6	28.2	Z	15.8	8.5	16.5	16.0	29.8	16.1	22.1	38.3	40.7	42.8	41.3	40.5	38.9	35.8	28.3	29.0	27.9	29.0	34.5	29.0	29.44	42.82																							
16-Dec	19.3	10.0	11.2	Z	3.4	3.6	2.2	0.4	0.6	25.7	32.6	33.5	35.7	36.1	30.4	30.1	31.1	30.8	28.6	28.4	27.8	36.3	37.2	32.5	22.92	37.20																							
17-Dec	31.4	33.5	32.4	Z	27.5	29.0	26.1	29.3	29.8	24.9	31.4	35.1	36.1	32.8	34.1	38.4	35.3	39.2	42.1	42.8	40.4	41.2	39.5	36.3	34.27	42.76																							
18-Dec	27.6	22.8	11.2	Z	14.4	6.7	1.6	7.3	12.6	13.5	18.5	30.7	34.1	35.9	40.3	39.9	34.4	25.8	21.9	18.5	19.9	28.7	29.7	27.3	22.76	40.27																							
19-Dec	23.1	25.4	24.5	Z	19.6	19.3	14.9	12.0	7.4	2.5	7.9	14.2	19.3	20.7	21.1	23.0	24.7	26.0	27.8	29.1	30.5	30.6	29.7	28.4	20.95	30.57																							
20-Dec	27.6	28.6	26.5	Z	24.6	24.8	24.4	16.8	6.1	2.0	6.6	18.8	26.9	29.5	29.0	30.6	28.0	30.8	31.6	32.3	32.2	32.5	32.3	32.2	24.98	32.55																							
21-Dec	32.5	32.0	32.4	Z	31.8	26.4	26.5	27.1	26.1	24.5	23.2	26.6	18.2	28.2	29.9	32.3	34.2	32.1	30.0	30.2	33.1	35.0	30.7	31.2	29.31	35.03																							
22-Dec	27.7	26.9	26.7	Z	20.2	21.7	18.6	21.4	17.8	21.1	20.7	23.1	22.5	24.5	27.2	30.5	C	C	C	C	C	29.5	29.8	31.3	24.52	31.31																							
23-Dec	31.2	31.9	30.1	Z	32.0	32.1	32.6	32.7	32.2	31.4	30.9	31.0	31.0	31.7	30.9	29.3	34.2	26.3	26.3	27.6	26.9	27.4	26.0	23.3	29.96	34.22																							
24-Dec	22.2	18.7	22.7	Z	20.3	22.4	18.8	18.3	22.0	19.0	21.7	21.1	23.4	22.2	23.8	30.0	19.9	12.1	7.6	8.1	14.8	15.9	16.0	15.4	18.97	30.04																							
25-Dec	15.1	18.9	28.3	Z	29.5	29.4	35.3	36.2	35.8	36.5	37.1	37.2	37.0	34.4	33.9	32.3	31.1	31.0	28.8	25.5	21.8	18.6	15.8	16.0	28.94	37.15																							
26-Dec	13.2	16.7	13.9	Z	10.6	10.7	9.2	3.8	2.7	6.5	9.9	23.4	30.6	31.5	32.6	32.8	31.6	24.8	19.7	19.9	19.4	18.3	20.3	19.8	18.34	32.77																							
27-Dec	17.9	18.3	18.6	Z	24.3	26.0	26.5	25.3	25.2	25.7	22.2	18.5	20.8	26.6	30.2	35.2	35.4	16.9	1.9	6.2	11.7	6.3	6.0	11.8	19.89	35.38																							
28-Dec	8.1	11.8	16.0	Z	19.9	20.6	12.8	13.6	6.1	12.9	16.9	16.4	14.2	16.3	25.8	26.0	26.8	27.7	28.4	26.9	26.5	29.4	29.2	28.6	20.04	29.36																							
29-Dec	29.0	29.4	30.4	Z	30.5	26.8	27.5	25.1	22.8	21.5	21.0	22.5	27.4	28.6	26.8	23.7	21.7	21.0	21.5	22.2	18.9	23.4	22.2	18.6	24.47	30.48																							
30-Dec	19.2	19.8	20.8	Z	22.9	22.4	22.0	21.6	21.4	19.1	22.3	22.5	23.1	23.0	22.4	20.0	17.2	13.3	11.4	4.3	3.1	1.8	1.9	3.8	16.50	23.12																							
31-Dec	3.4	2.3	2.6	Z	2.0	3.6	3.0	2.4	1.6	2.9	6.1	6.9	8.6	11.5	9.4	6.0	2.7	1.3	1.3	3.0	3.1	5.6	8.6	5.2	4.49	11.54																							
21.73 23.11 22.93 -- 21.62 20.59 19.30 19.17 19.77 21.57 23.46 26.85 28.97 30.25 30.86 29.34 27.31 24.30 23.73 24.01 24.51 24.84 24.46 23.01																								Diurnal Average																									
36.18 38.29 35.24 -- 35.09 40.85 35.34 36.20 39.84 42.63 37.41 40.32 44.30 42.82 41.29 42.47 40.56 39.24 42.09 42.76 40.45 41.16 39.46 36.25																								Diurnal Maximum																									
Z - zerospan C - Calibration AF - Analyzer Failure																																																	
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 82.5 ppb 24-hr -- ppb																																																	



WCAS - Hinton
Eight Hour Running Averages

Ozone (O₃) - ppb
December 2017

Maximum Value: 39.85 ppb on Dec 17 23:00																								Maximum Daily Average: 33.27 ppb on Dec 7																								Hours in Service: 744	
Minimum Value: 2.5 ppb on Dec 31 09:00																								Minimum Daily Average: 4.24 ppb on Dec 31																								Hours of Data: 714	
Maximum Diurnal Average: 28.14 ppb at hour 19																								Minimum Diurnal Average: 20.71 ppb at hour 10																								Hours of Missing Data: 30	
Monthly Average: 24.150 ppb																								Percentiles: P ₁ = 2.8 P ₁₀ = 10.7 Q ₁ = 19.1 Median = 26.5 Q ₃ = 30.8 P ₉₀ = 33.5 P ₉₉ = 38.3																								Hours of Calibration: 8	
																																																Percent Operational Time: 97.0	
Day	Hourly Period Ending At																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Dec	10.6	10.4	12.9	13.4	16.8	20.2	22.8	25.3	26.5	27.5	27.7	28.0	28.2	28.0	27.7	27.9	29.5	29.6	29.8	30.5	30.5	30.2	28.9	27.3	24.58	30.52																							
2-Dec	25.3	22.9	20.6	18.5	15.0	11.9	10.9	9.9	8.1	6.1	4.4	4.9	6.4	8.8	10.7	12.8	13.7	13.8	13.4	12.5	12.0	10.2	AF	AF	12.41	25.31																							
3-Dec	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	--	12.54																							
4-Dec	13.4	15.9	17.9	16.8	17.3	15.7	14.6	15.8	18.7	19.9	20.7	21.9	22.5	25.6	28.7	29.5	30.2	30.7	31.2	31.7	32.6	33.3	34.1	35.0	23.91	35.03																							
5-Dec	35.0	34.6	33.2	33.0	31.6	30.7	29.4	27.9	28.2	28.9	29.3	29.7	31.3	32.4	34.0	34.7	33.5	32.1	32.0	31.2	29.8	28.2	26.8	26.5	31.00	34.98																							
6-Dec	26.7	27.3	27.3	27.7	27.6	27.7	27.8	27.5	27.1	27.0	27.2	27.8	28.3	29.3	30.2	31.5	32.6	33.1	33.4	33.6	33.8	33.5	33.0	32.8	29.75	33.77																							
7-Dec	32.7	32.7	32.7	32.5	32.5	32.7	33.0	33.3	33.2	33.2	33.5	33.6	33.8	34.1	34.4	34.6	34.9	35.1	34.7	34.2	33.6	32.4	31.1	29.9	33.27	35.09																							
8-Dec	28.6	27.5	27.0	26.5	25.8	25.7	26.0	26.0	25.7	25.9	26.2	27.1	27.9	28.7	29.4	30.0	30.4	30.5	30.7	30.2	30.2	30.1	30.1	30.1	28.18	30.65																							
9-Dec	30.4	30.7	30.8	31.0	30.6	30.6	30.2	29.9	29.8	29.7	30.2	30.8	31.4	31.2	31.8	31.9	30.4	27.8	27.5	26.4	26.3	27.3	27.5	27.7	29.66	31.92																							
10-Dec	30.3	34.0	34.5	35.8	35.9	36.2	35.9	36.1	36.6	37.3	37.6	37.4	37.0	36.4	37.2	38.3	38.4	36.1	32.7	29.2	25.6	21.5	17.4	12.6	32.93	38.43																							
11-Dec	8.2	5.3	4.4	3.9	4.2	4.1	4.7	7.0	8.3	11.4	14.5	16.9	20.7	25.3	28.7	30.5	33.1	34.7	35.6	35.2	34.5	33.5	32.7	31.9	19.56	35.59																							
12-Dec	31.1	30.8	31.0	31.0	31.2	30.5	27.0	23.2	22.5	22.9	23.1	25.3	26.9	28.9	33.1	37.0	38.2	37.3	36.7	35.7	34.6	33.7	32.9	32.2	30.70	38.22																							
13-Dec	29.9	29.7	28.1	27.5	23.2	19.1	14.4	10.3	8.4	4.6	2.8	3.6	6.2	9.1	12.4	15.5	18.1	20.3	22.1	23.6	21.0	17.6	14.2	11.1	16.36	29.87																							
14-Dec	8.5	6.4	5.0	2.7	4.8	8.0	10.7	13.7	16.3	19.1	22.2	23.3	24.6	25.7	27.3	28.3	29.3	30.0	30.3	30.2	30.4	30.6	30.6	31.0	20.38	30.95																							
15-Dec	31.9	32.6	32.3	32.6	30.2	26.6	24.2	21.9	21.2	18.7	17.8	20.4	23.5	27.8	30.9	33.9	35.1	37.5	38.3	37.2	35.6	33.8	33.0	31.5	29.53	38.32																							
16-Dec	29.1	25.9	23.7	23.0	19.5	15.9	11.2	7.2	4.5	6.7	9.8	12.8	16.8	20.8	24.4	28.1	31.9	32.5	32.0	31.4	30.4	30.4	31.3	31.6	22.11	32.52																							
17-Dec	31.6	31.9	32.4	33.0	33.0	31.9	30.3	29.9	29.6	28.4	28.3	29.1	30.2	30.7	31.7	32.8	33.5	35.3	36.6	37.6	38.1	39.2	39.9	39.6	33.11	39.85																							
18-Dec	38.6	36.6	32.7	31.3	27.6	22.7	17.2	13.1	11.0	9.6	10.7	13.2	15.6	19.3	24.1	28.2	30.9	32.5	32.9	31.4	29.6	28.7	27.4	25.8	24.60	38.63																							
19-Dec	24.4	24.3	24.6	25.5	25.5	24.1	22.0	19.8	17.6	14.3	12.0	12.2	12.2	12.4	13.2	14.5	16.7	19.6	22.1	24.0	25.4	26.6	27.7	28.4	20.38	28.36																							
20-Dec	28.7	29.0	28.9	28.8	28.0	27.2	26.4	24.7	21.7	17.9	15.0	15.5	15.8	16.4	17.0	18.7	21.4	25.0	28.2	29.8	30.5	30.9	31.3	31.5	24.51	31.49																							
21-Dec	32.0	32.2	32.3	32.3	32.2	31.4	30.5	29.8	28.9	27.8	26.5	26.5	24.8	25.0	25.5	26.1	27.1	28.1	28.9	29.4	31.3	32.1	32.2	32.1	29.38	32.28																							
22-Dec	31.3	30.6	30.2	30.2	28.4	26.5	24.7	23.3	21.9	21.1	20.2	20.6	20.9	21.2	22.3	23.4	24.2	24.8	C	C	C	C	C	C	24.77	31.27																							
23-Dec	C	C	30.6	30.6	30.8	31.2	31.6	31.8	31.9	31.9	32.0	31.8	31.7	31.7	31.5	31.0	31.3	30.7	30.1	29.7	29.2	28.6	28.0	27.3	30.68	31.98																							
24-Dec	25.8	24.8	24.4	23.9	22.9	22.2	21.2	20.5	20.5	20.5	20.4	20.5	20.9	20.8	21.4	22.9	22.6	21.8	20.0	18.4	17.3	16.5	15.5	13.7	20.81	25.77																							
25-Dec	13.1	14.0	16.6	17.8	19.9	21.8	24.6	27.5	30.5	33.0	34.3	34.6	35.6	36.2	36.0	35.5	34.9	34.3	33.2	31.8	29.9	27.9	25.6	23.6	28.00	36.20																							
26-Dec	21.3	19.5	17.7	16.6	15.0	13.8	12.9	11.1	9.7	8.2	7.6	9.6	12.1	14.7	17.6	21.3	24.9	27.2	28.4	27.9	26.5	24.9	23.3	21.7	18.06	28.37																							
27-Dec	20.0	19.2	19.1	19.0	19.7	20.7	21.6	22.4	23.5	24.5	25.0	24.2	23.8	23.8	24.3	25.5	26.8	25.7	23.2	21.6	20.5	18.0	14.9	12.0	21.63	26.82																							
28-Dec	8.6	8.0	9.7	10.2	11.4	13.5	14.4	14.7	14.4	14.6	14.7	14.9	14.2	13.7	15.3	16.8	19.4	21.3	22.7	24.0	25.5	27.2	27.6	27.9	16.87	27.92																							
29-Dec	28.2	28.4	28.7	28.9	29.5	29.1	28.9	28.4	27.5	26.4	25.0	24.7	24.3	24.6	24.5	24.3	24.2	24.1	24.2	24.1	23.1	22.4	21.8	21.2	25.69	29.49																							
30-Dec	20.9	20.7	20.6	20.4	21.0	20.8	20.8	21.2	21.6	21.5	21.7	21.8	21.8	21.9	21.9	21.7	21.2	20.5	19.1	16.8	14.3	11.7	9.1	7.1	19.18	21.94																							
31-Dec	5.4	4.0	2.9	2.7	2.5	2.8	3.0	2.7	2.5	2.6	3.1	3.6	4.4	5.4	6.2	6.6	6.8	6.6	6.0	5.5	4.8	4.1	4.0	3.9	4.24	6.77																							
24.20 23.80 23.76 23.56 23.12 22.51 21.77 21.21 20.93 20.71 20.78 21.54 22.46 23.67 25.11 26.47 27.51 27.95 28.14 27.76 26.61 25.91 25.66 24.81																								Diurnal Average																									
38.63 36.58 34.50 35.76 35.90 36.23 35.93 36.13 36.65 37.27 37.58 37.41 37.02 36.43 37.23 38.34 38.43 37.54 38.32 37.59 38.14 39.18 39.85 39.58																								Diurnal Maximum																									
C - Calibration AF - Analyzer Failure																																																	



WCAS - Hinton
Summary of Hourly Averages

Nitrogen Oxide (NO) - ppb
December 2017

Maximum Value: 32.94 ppb on Dec 13 10:00		Maximum Daily Average: 8.45 ppb on Dec 31		Hours in Service:	744																												
Minimum Value: 0.0 ppb on Dec 4 03:00		Minimum Daily Average: 0.11 ppb on Dec 23		Hours of Data:	707																												
Maximum Diurnal Average: 2.94 ppb at hour 18		Minimum Diurnal Average: 0.60 ppb at hour 24		Hours of Missing Data:	37																												
Monthly Average: 1.529 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 0.3 Q ₃ = 1.2 P ₉₀ = 3.8 P ₉₉ = 21.3		Hours of Calibration:	37																												
				Percent Operational Time:	100.0																												
Day	Hourly Period Ending At																								Daily Average	Daily Maximum							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24									
1-Dec	1.1	0.3	0.0	Z	0.6	0.1	0.1	2.0	4.5	0.2	0.3	0.7	0.5	0.4	1.2	0.2	0.1	0.6	0.6	0.1	0.0	0.1	0.6	0.9	0.67	4.54							
2-Dec	0.3	0.5	0.6	Z	1.3	2.6	1.2	1.7	2.4	5.9	4.4	3.0	3.7	1.5	1.3	0.4	8.7	18.0	23.4	9.8	10.8	8.4	2.7	3.3	5.04	23.43							
3-Dec	5.0	3.6	6.4	Z	3.0	10.0	14.0	9.3	6.0	4.2	6.9	6.6	5.6	4.6	3.4	3.1	5.3	9.1	2.4	0.0	0.6	0.4	1.4	1.9	4.91	14.00							
4-Dec	2.2	0.0	0.0	Z	0.8	1.9	2.9	0.8	0.1	0.1	0.3	0.6	0.8	0.7	0.7	1.1	0.1	0.1	0.3	0.1	0.3	0.1	0.0	0.1	0.61	2.88							
5-Dec	0.0	0.0	0.2	Z	0.1	0.0	0.1	1.4	0.2	0.2	0.9	0.7	0.1	0.1	0.1	1.9	0.2	1.4	0.1	0.1	0.3	0.3	0.3	0.1	0.38	1.91							
6-Dec	0.0	0.0	0.0	Z	0.0	0.0	0.1	0.0	0.0	0.1	0.2	0.3	0.6	0.3	0.4	0.7	0.4	0.2	0.1	0.1	0.0	0.1	0.1	0.0	0.17	0.69							
7-Dec	0.0	0.0	0.0	Z	0.0	0.1	0.1	0.4	0.1	0.1	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.12	0.42							
8-Dec	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.1	0.2	0.1	0.3	0.3	0.6	0.6	0.4	0.3	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.15	0.63							
9-Dec	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.3	0.1	0.7	0.2	0.3	3.4	11.2	1.6	1.2	0.1	0.1	0.1	0.2	0.85	11.17							
10-Dec	0.1	0.0	0.0	Z	0.0	0.0	0.4	0.4	0.1	0.0	0.5	0.7	1.6	0.9	0.3	0.0	0.0	3.4	6.0	2.2	6.0	4.5	1.9	1.5	1.33	6.03							
11-Dec	0.7	5.4	4.7	Z	1.6	13.3	1.3	0.1	1.2	0.1	0.3	0.2	0.3	0.4	0.4	0.2	0.3	0.1	0.1	0.0	0.1	0.0	0.0	0.0	1.34	13.29							
12-Dec	0.0	0.0	0.0	Z	0.6	0.8	7.8	16.4	0.5	0.1	0.3	0.1	0.1	0.2	0.1	0.2	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	1.22	16.37							
13-Dec	0.3	0.0	0.4	Z	2.3	3.1	9.5	14.3	23.0	32.9	14.4	9.5	0.9	1.1	0.9	1.0	0.9	0.2	0.2	0.1	11.0	9.1	4.0	3.9	6.23	32.94							
14-Dec	3.7	2.5	0.4	Z	0.0	0.0	0.1	0.0	0.1	0.1	0.2	0.2	0.3	0.3	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.38	3.70							
15-Dec	0.0	0.0	0.1	Z	0.8	3.7	1.3	3.2	0.3	3.5	1.5	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.66	3.73							
16-Dec	0.1	2.6	1.3	Z	1.7	2.1	9.2	21.4	21.9	0.7	0.2	0.4	0.3	0.3	0.7	0.5	0.3	0.3	0.5	0.4	0.5	0.0	0.0	0.2	2.87	21.92							
17-Dec	0.3	0.3	0.3	Z	0.8	0.4	0.5	0.2	0.2	0.6	0.3	0.1	0.2	0.8	0.5	0.1	0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.26	0.80							
18-Dec	0.1	0.2	0.9	Z	1.1	3.1	16.1	4.8	3.4	2.5	1.8	0.6	0.7	0.4	0.0	0.0	0.1	0.1	0.1	0.5	0.5	0.2	0.3	0.2	1.63	16.13							
19-Dec	0.1	0.0	0.7	Z	0.1	0.3	0.2	0.7	1.3	3.5	1.2	1.2	1.8	0.9	1.1	1.0	0.5	0.7	0.5	0.2	0.2	0.2	0.1	0.0	0.73	3.49							
20-Dec	0.1	0.0	0.1	Z	0.1	0.1	0.2	0.2	1.4	8.2	6.5	1.1	1.1	0.8	1.2	0.8	0.9	0.3	0.3	0.2	0.2	0.2	0.1	0.1	1.06	8.22							
21-Dec	0.0	0.0	0.0	Z	0.1	0.0	0.1	0.1	0.3	0.1	0.3	0.2	1.9	0.4	0.6	0.2	0.2	0.3	0.3	0.3	0.2	0.1	0.0	0.0	0.24	1.88							
22-Dec	0.0	0.0	0.0	Z	0.1	0.0	0.0	0.1	0.2	0.4	1.0	0.9	1.0	1.0	1.1	0.7	C	C	C	C	C	C	0.1	0.1	--	1.07							
23-Dec	0.0	0.1	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.4	0.4	0.4	0.5	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.11	0.47							
24-Dec	0.0	0.0	0.0	Z	0.1	0.2	0.1	0.1	0.0	0.2	0.4	1.2	1.1	1.3	1.2	0.2	0.3	1.5	1.1	0.2	0.0	0.0	0.0	0.0	0.42	1.54							
25-Dec	0.0	0.1	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.3	0.4	0.4	0.4	0.3	0.2	0.2	0.1	0.1	0.2	0.1	0.15	0.45							
26-Dec	0.1	0.1	0.4	Z	0.1	0.2	0.1	2.0	1.6	1.5	4.4	0.6	0.3	0.5	0.4	0.2	0.1	0.4	0.4	0.4	0.4	0.3	0.1	0.1	0.65	4.40							
27-Dec	0.1	0.1	0.1	Z	0.1	0.2	0.1	0.2	0.2	0.1	3.2	3.2	8.7	2.8	0.5	0.2	0.2	2.5	8.0	1.8	1.9	4.5	3.8	0.8	1.87	8.65							
28-Dec	2.1	0.7	0.2	Z	0.1	0.1	2.9	0.3	5.7	1.5	1.4	3.1	7.1	5.0	1.6	1.2	1.0	0.8	0.6	0.6	0.6	0.3	0.2	0.2	1.62	7.09							
29-Dec	0.4	0.1	0.1	Z	0.2	0.7	0.3	0.4	1.1	1.3	1.8	3.0	1.9	1.2	1.4	1.7	1.5	1.4	0.9	0.7	1.0	0.3	0.3	0.3	0.95	2.95							
30-Dec	0.2	0.2	0.1	Z	0.1	0.3	0.3	0.3	0.3	0.9	1.0	1.7	1.7	1.8	2.1	2.2	1.9	1.7	1.9	3.1	4.1	5.5	4.2	2.7	1.67	5.48							
31-Dec	2.3	2.8	3.0	Z	3.9	2.4	2.0	3.0	3.2	3.4	7.2	10.6	11.9	11.3	16.1	17.3	24.6	32.5	23.5	6.1	4.5	0.6	0.4	1.8	8.45	32.47							
		0.63	0.63	0.66	--	0.64	1.48	2.29	2.71	2.58	2.35	1.98	1.67	1.80	1.33	1.27	1.20	1.74	2.94	2.44	0.96	1.46	1.19	0.68	0.60	Diurnal Average							
		4.99	5.39	6.39	--	3.86	13.29	16.13	21.41	23.02	32.94	14.40	10.64	11.94	11.29	16.06	17.30	24.57	32.47	23.49	9.79	11.01	9.15	4.22	3.93	Diurnal Maximum							
Z - zerospan		C - Calibration																															
Alberta Ambient Air Quality Objectives (AAAQO):		1-hr --- ppb				24-hr --- ppb																											



WCAS - Hinton
Summary of Hourly Averages

Nitrogen Dioxide (NO₂) - ppb
December 2017

Maximum Value: 14.60 ppb on Dec 12 08:00		Maximum Daily Average: 8.89 ppb on Dec 31		Hours in Service: 744																													
Minimum Value: 0.2 ppb on Dec 15 14:00		Minimum Daily Average: 1.40 ppb on Dec 7		Hours of Data: 707																													
Maximum Diurnal Average: 4.78 ppb at hour 9		Minimum Diurnal Average: 2.60 ppb at hour 14		Hours of Missing Data: 37																													
Monthly Average: 3.641 ppb		Percentiles: P ₁ = 0.3 P ₁₀ = 1.0 Q ₁ = 1.6 Median = 2.8 Q ₃ = 4.9 P ₉₀ = 7.8 P ₉₉ = 12.6		Hours of Calibration: 37																													
				Percent Operational Time: 100.0																													
Day	Hourly Period Ending At																								Daily Average	Daily Maximum							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24									
1-Dec	4.8	3.3	2.5	Z	3.6	3.2	3.8	4.8	8.3	1.7	2.2	3.5	3.4	3.4	3.9	2.6	0.9	2.1	3.2	1.8	2.0	3.3	5.6	5.1	3.43	8.29							
2-Dec	3.3	2.6	2.5	Z	5.0	4.6	2.7	4.5	5.5	6.6	6.2	4.9	5.3	3.4	3.8	3.1	8.0	11.7	12.7	10.8	9.5	7.8	5.5	5.2	5.89	12.66							
3-Dec	4.9	4.8	5.2	Z	5.0	6.0	6.8	6.3	6.1	4.1	5.3	6.7	8.4	8.0	7.4	7.9	10.1	9.8	7.5	1.3	5.1	6.3	7.2	9.1	6.49	10.08							
4-Dec	8.6	3.1	1.4	Z	3.7	4.4	5.1	4.1	3.4	3.5	1.6	3.4	3.8	3.7	3.9	6.6	2.7	2.9	1.0	2.2	1.9	1.6	1.7	2.6	3.35	8.65							
5-Dec	1.5	2.1	3.7	Z	4.2	2.9	4.8	5.8	1.0	0.9	3.5	2.8	0.3	0.3	0.3	4.3	4.0	4.2	2.6	2.7	2.4	2.9	2.2	2.4	2.69	5.78							
6-Dec	1.5	1.0	1.2	Z	1.3	1.6	1.9	2.3	2.8	1.8	1.4	1.2	1.3	0.9	1.0	1.5	1.6	1.5	1.6	1.1	0.9	1.1	1.2	1.1	1.42	2.76							
7-Dec	0.7	0.8	1.0	Z	0.9	0.9	0.9	1.1	1.4	1.4	1.1	1.2	1.0	1.0	1.4	1.7	1.3	1.8	2.3	1.8	2.0	2.6	1.8	2.2	1.40	2.58							
8-Dec	1.8	1.2	0.9	Z	1.2	1.9	1.9	3.4	2.5	1.7	2.1	1.1	1.7	1.6	1.7	2.3	4.3	3.2	2.3	2.2	1.2	1.7	1.6	1.7	1.97	4.29							
9-Dec	1.3	0.8	1.2	Z	2.0	1.0	1.3	1.0	2.2	1.4	1.5	1.2	1.3	2.7	1.9	2.5	8.1	10.0	3.1	4.5	2.2	1.4	2.9	4.5	2.60	10.05							
10-Dec	3.3	1.5	1.4	Z	3.1	0.7	5.1	4.7	1.9	0.7	3.1	3.4	5.8	3.9	1.7	0.5	1.0	8.2	11.2	9.5	10.7	9.8	6.1	6.7	4.52	11.15							
11-Dec	5.9	8.4	7.3	Z	5.8	10.8	5.4	3.9	5.9	3.0	2.7	1.8	1.7	1.0	1.3	2.3	2.4	1.8	2.1	2.0	1.2	1.0	1.3	1.1	3.49	10.75							
12-Dec	0.9	1.1	1.1	Z	2.7	3.7	10.5	14.6	7.9	1.3	2.4	0.5	0.3	1.2	1.1	3.5	4.5	5.5	5.6	3.2	2.0	2.0	1.8	1.4	3.42	14.60							
13-Dec	2.2	1.7	3.1	Z	7.0	5.6	7.6	7.7	11.1	11.3	7.0	8.0	2.4	2.2	2.6	3.7	4.8	5.5	4.1	2.3	8.2	9.4	7.3	6.9	5.73	11.33							
14-Dec	5.9	4.7	2.6	Z	1.8	1.8	2.4	2.7	2.7	2.5	1.5	0.9	1.0	1.0	1.4	1.8	2.7	2.2	1.8	1.8	1.2	1.2	1.0	1.5	2.10	5.92							
15-Dec	0.7	0.9	1.8	Z	6.2	8.2	5.1	7.1	3.1	8.3	5.0	0.3	0.3	0.2	0.3	0.2	0.3	1.1	4.6	3.4	4.7	3.2	0.6	2.3	2.96	8.35							
16-Dec	3.8	7.2	4.6	Z	7.1	6.9	8.4	10.0	9.1	3.4	1.4	1.5	1.2	1.2	4.1	4.3	4.2	4.8	5.7	6.1	6.3	2.1	1.6	3.5	4.72	10.04							
17-Dec	3.9	3.1	3.4	Z	4.6	3.1	4.5	3.3	2.9	5.1	2.7	1.3	0.8	2.7	2.2	0.3	0.5	0.5	0.4	0.2	1.4	0.4	0.5	1.4	2.15	5.05							
18-Dec	4.4	4.9	7.7	Z	6.2	9.2	12.1	9.4	6.0	6.6	6.3	3.3	2.5	1.8	0.3	0.2	2.3	6.0	6.5	6.3	5.0	2.5	2.2	2.6	4.97	12.05							
19-Dec	3.2	1.7	2.2	Z	2.3	1.7	3.7	4.5	6.5	7.5	4.3	3.0	2.5	2.5	3.9	3.7	3.1	2.9	1.9	1.4	1.3	1.1	1.0	0.9	2.91	7.50							
20-Dec	1.1	0.9	1.3	Z	2.1	1.8	1.9	4.3	7.5	10.3	7.5	2.6	2.2	1.9	2.3	2.0	3.2	2.0	1.7	1.3	1.5	1.2	1.3	1.2	2.74	10.29							
21-Dec	1.1	1.4	1.0	Z	1.3	2.1	1.8	2.1	3.8	3.7	3.9	1.8	6.0	1.9	2.2	1.4	1.0	2.1	2.5	2.5	1.2	0.7	1.8	1.4	2.11	5.96							
22-Dec	2.7	2.6	2.1	Z	5.1	3.2	4.1	3.1	5.7	4.0	5.5	4.7	4.5	3.7	3.4	2.8	C	C	C	C	C	C	2.0	1.5	--	5.67							
23-Dec	1.5	1.2	1.9	Z	1.0	1.0	1.1	1.1	1.2	1.6	1.9	1.8	2.3	2.2	2.0	2.7	1.2	3.6	2.7	1.8	1.5	1.3	1.9	2.1	1.77	3.57							
24-Dec	2.5	4.0	3.0	Z	3.2	3.2	4.6	4.5	2.1	3.6	2.6	3.4	2.5	3.6	3.8	1.4	4.2	6.6	7.3	6.5	3.1	2.1	2.0	2.8	3.60	7.33							
25-Dec	2.7	3.3	1.1	Z	0.8	1.3	0.5	0.5	0.5	0.3	0.3	0.3	0.4	0.9	1.4	1.5	1.7	1.6	1.8	2.3	3.0	3.1	4.6	3.8	1.65	4.58							
26-Dec	4.6	2.2	3.7	Z	4.6	4.3	5.1	8.5	9.0	6.9	6.3	2.1	1.0	1.7	1.8	1.4	1.1	2.8	3.7	3.1	3.2	4.0	3.3	3.4	3.81	9.00							
27-Dec	3.5	3.1	3.3	Z	2.0	1.8	1.4	1.8	2.0	1.6	3.1	4.9	6.3	2.9	1.8	0.7	0.7	8.8	14.3	11.0	8.1	11.2	10.4	7.0	4.85	14.33							
28-Dec	10.1	6.7	4.5	Z	3.1	2.4	6.4	4.6	10.0	5.8	4.2	4.5	7.1	6.4	3.4	3.6	3.1	2.8	2.6	3.0	2.9	1.6	1.3	1.5	4.42	10.08							
29-Dec	1.6	1.4	1.4	Z	1.7	3.3	2.8	3.7	4.4	5.0	5.1	5.0	3.0	2.0	2.4	3.8	4.3	4.7	4.3	4.1	5.9	3.8	4.4	5.9	3.64	5.87							
30-Dec	5.5	5.0	4.4	Z	3.4	3.6	3.6	3.5	3.6	4.8	3.3	3.2	2.8	2.8	2.9	3.9	5.4	6.8	7.9	10.8	10.4	11.6	10.5	8.6	5.58	11.57							
31-Dec	9.3	9.1	9.5	Z	9.7	7.8	7.6	8.0	8.0	7.1	6.2	7.1	8.1	7.9	10.9	12.7	13.5	14.0	13.2	9.1	8.4	6.2	4.6	6.7	8.89	13.97							
		3.52	3.10	2.96	--	3.61	3.68	4.35	4.74	4.78	4.11	3.59	2.95	2.94	2.60	2.66	2.93	3.54	4.72	4.74	4.01	3.96	3.60	3.27	3.49	Diurnal Average							
		10.08	9.13	9.45	--	9.68	10.75	12.05	14.60	11.13	11.33	7.50	8.03	8.37	8.04	10.89	12.69	13.49	13.97	14.33	10.96	10.75	11.57	10.51	9.14	Diurnal Maximum							
Z - zerospan		C - Calibration																															
Alberta Ambient Air Quality Objectives (AAAQO):		1-hr 159 ppb				24-hr 106 ppb																											



WCAS - Hinton
Summary of Hourly Averages

NOx (NO_x) - ppb
December 2017

Maximum Value: 46.51 ppb on Dec 31 18:00																								Hours in Service: 744		
Maximum Daily Average: 17.41 ppb on Dec 31																								Hours of Data: 707		
Minimum Value: 0.3 ppb on Dec 17 20:00																								Hours of Missing Data: 37		
Maximum Diurnal Average: 7.69 ppb at hour 18																								Hours of Calibration: 37		
Monthly Average: 5.199 ppb																								Percent Operational Time: 100.0		
Minimum Daily Average: 1.53 ppb on Dec 7																										
Minimum Diurnal Average: 3.64 ppb at hour 3																										
Percentiles: P ₁ = 0.3 P ₁₀ = 1.1 Q ₁ = 1.8 Median = 3.3 Q ₃ = 6.0 P ₉₀ = 11.9 P ₉₉ = 30.0																										
Day	Hourly Period Ending At																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Dec	5.9	3.6	2.6	Z	4.2	3.3	3.9	6.8	12.9	1.9	2.5	4.2	4.0	3.9	5.1	2.8	1.0	2.8	3.8	1.9	2.1	3.4	6.3	6.0	4.13	12.89
2-Dec	3.7	3.2	3.1	Z	6.3	7.3	3.9	6.3	7.9	12.6	10.7	8.0	9.1	5.0	5.1	3.6	16.8	29.8	36.2	20.7	20.4	16.4	8.2	8.6	10.99	36.20
3-Dec	10.0	8.4	11.7	Z	8.1	16.1	20.9	15.6	12.1	8.4	12.2	13.4	14.0	12.7	10.9	11.0	15.5	18.9	10.0	1.4	5.8	6.8	8.6	11.1	11.46	20.90
4-Dec	10.9	3.2	1.4	Z	4.6	6.4	8.0	5.0	3.5	3.7	1.9	4.0	4.6	4.4	4.7	7.8	2.8	3.0	1.1	2.4	2.0	1.7	1.8	2.7	3.99	10.93
5-Dec	1.5	2.1	3.9	Z	4.3	3.0	5.0	7.2	1.2	1.1	4.5	3.5	0.3	0.4	0.4	6.3	4.2	5.6	2.7	2.8	2.7	3.2	2.5	2.5	3.09	7.17
6-Dec	1.5	1.0	1.2	Z	1.3	1.6	2.0	2.4	2.8	1.9	1.6	1.5	1.9	1.1	1.4	2.2	2.0	1.7	1.6	1.2	0.9	1.2	1.3	1.1	1.59	2.81
7-Dec	0.8	0.8	1.0	Z	0.9	1.0	1.0	1.5	1.4	1.5	1.3	1.5	1.2	1.2	1.7	1.9	1.5	2.0	2.4	1.9	2.0	2.6	1.9	2.2	1.53	2.62
8-Dec	1.9	1.2	0.9	Z	1.2	1.9	1.9	3.5	2.7	1.8	2.4	1.4	2.3	2.3	2.2	2.6	4.5	3.3	2.4	2.3	1.2	1.7	1.7	1.7	2.14	4.54
9-Dec	1.4	0.8	1.2	Z	2.0	1.0	1.2	1.0	2.2	1.4	1.6	1.5	1.4	3.5	2.1	2.9	11.6	21.3	4.7	5.7	2.4	1.5	3.0	4.7	3.48	21.29
10-Dec	3.5	1.6	1.4	Z	3.1	0.7	5.5	5.2	2.1	0.7	3.6	4.1	7.5	4.8	2.1	0.4	0.9	11.7	17.2	11.7	16.8	14.4	8.1	8.3	5.88	17.19
11-Dec	6.7	13.9	12.1	Z	7.5	24.1	6.8	4.0	7.2	3.1	3.0	2.0	2.1	1.4	1.7	2.6	2.7	1.9	2.1	2.1	1.3	1.0	1.3	1.1	4.86	24.14
12-Dec	0.9	1.1	1.1	Z	3.3	4.6	18.4	31.1	8.5	1.4	2.7	0.5	0.3	1.5	1.1	3.7	4.6	6.4	5.6	3.2	2.0	1.9	1.8	1.4	4.65	31.07
13-Dec	2.5	1.7	3.5	Z	9.4	8.7	17.2	22.1	34.2	44.3	21.5	17.6	3.4	3.4	3.5	4.8	5.8	5.8	4.4	2.4	19.3	18.6	11.4	10.9	12.01	44.34
14-Dec	9.7	7.2	3.1	Z	1.8	1.9	2.5	2.7	2.8	2.6	1.6	1.1	1.3	1.3	1.6	2.0	2.8	2.2	1.8	1.9	1.3	1.2	1.1	1.5	2.49	9.68
15-Dec	0.8	0.9	1.8	Z	7.1	12.0	6.5	10.3	3.4	11.9	6.5	0.3	0.4	0.3	0.3	0.3	0.4	1.2	4.7	3.5	4.8	3.2	0.6	2.4	3.64	11.98
16-Dec	4.0	9.8	6.0	Z	8.9	9.0	17.6	31.5	31.1	4.2	1.6	1.9	1.5	1.5	4.9	4.9	4.6	5.2	6.3	6.6	6.9	2.2	1.6	3.7	7.63	31.53
17-Dec	4.3	3.4	3.8	Z	5.5	3.6	5.1	3.5	3.1	5.7	3.1	1.5	0.9	3.5	2.7	0.4	0.6	0.5	0.5	0.3	1.6	0.4	0.5	1.4	2.43	5.74
18-Dec	4.6	5.2	8.7	Z	7.3	12.4	28.3	14.2	9.5	9.1	8.2	3.9	3.2	2.2	0.3	0.3	2.4	6.1	6.7	6.9	5.5	2.7	2.5	2.8	6.65	28.27
19-Dec	3.4	1.8	2.9	Z	2.4	2.0	4.0	5.2	7.8	11.0	5.6	4.3	4.3	3.4	5.0	4.8	3.6	3.7	2.5	1.7	1.6	1.2	1.1	1.0	3.66	11.04
20-Dec	1.3	0.9	1.4	Z	2.3	1.9	2.1	4.6	9.0	18.6	14.0	3.7	3.4	2.6	3.5	2.8	4.2	2.3	2.0	1.5	1.7	1.5	1.4	1.3	3.81	18.56
21-Dec	1.1	1.4	1.0	Z	1.4	2.1	1.9	2.2	4.1	3.9	4.3	2.0	7.9	2.3	2.8	1.6	1.3	2.3	2.8	2.9	1.4	0.8	1.8	1.4	2.37	7.88
22-Dec	2.7	2.6	2.1	Z	5.2	3.3	4.2	3.2	5.9	4.4	6.5	5.6	5.5	4.7	4.5	3.5	C	C	C	C	C	C	2.2	1.6	--	6.55
23-Dec	1.5	1.2	1.9	Z	1.0	1.0	1.1	1.1	1.3	1.6	2.1	2.0	2.7	2.6	2.4	3.2	1.2	3.6	2.8	1.8	1.5	1.3	1.9	2.1	1.87	3.62
24-Dec	2.6	4.1	3.0	Z	3.4	3.4	4.8	4.6	2.2	3.8	3.0	4.6	3.7	5.0	5.1	1.6	4.5	8.1	8.5	6.8	3.1	2.1	2.0	2.8	4.03	8.51
25-Dec	2.7	3.4	1.1	Z	0.8	1.3	0.5	0.6	0.6	0.4	0.3	0.4	0.6	1.3	1.8	1.9	2.1	1.9	2.1	2.5	3.2	3.3	4.8	4.0	1.81	4.84
26-Dec	4.8	2.3	4.2	Z	4.8	4.6	5.3	10.6	10.7	8.5	10.7	2.6	1.4	2.2	2.2	1.7	1.3	3.2	4.1	3.6	3.6	4.3	3.5	3.6	4.51	10.72
27-Dec	3.7	3.3	3.4	Z	2.1	2.0	1.5	2.0	2.1	1.7	6.4	8.1	15.0	5.7	2.4	0.9	0.9	11.3	22.4	12.8	10.1	15.7	14.3	7.9	6.76	22.40
28-Dec	12.2	7.5	4.7	Z	3.3	2.4	9.3	4.9	15.8	7.4	5.6	7.7	14.2	11.5	5.0	4.8	4.1	3.7	3.2	3.7	3.5	1.9	1.5	1.7	6.07	15.77
29-Dec	1.9	1.5	1.5	Z	1.9	4.0	3.1	4.1	5.6	6.3	7.0	8.0	4.9	3.2	3.7	5.5	5.9	6.1	5.3	4.8	7.0	4.1	4.8	6.2	4.62	8.01
30-Dec	5.7	5.2	4.6	Z	3.5	3.9	3.9	3.9	4.0	5.8	4.3	5.0	4.5	4.6	5.1	6.2	7.4	8.5	9.9	14.0	14.6	17.1	14.8	11.4	7.30	17.12
31-Dec	11.6	12.0	12.5	Z	13.6	10.3	9.6	11.1	11.2	10.5	13.4	17.8	20.1	19.2	27.0	30.1	38.2	46.5	36.8	15.3	13.0	6.8	5.1	8.6	17.41	46.51
4.18 3.75 3.64 -- 4.27 5.19 6.68 7.48 7.39 6.49 5.60 4.64 4.76 3.96 3.95 4.16 5.31 7.69 7.22 5.00 5.44 4.81 3.97 4.11																								Diurnal Average		
12.18 13.86 12.54 -- 13.59 24.14 28.27 31.53 34.23 44.34 21.47 17.80 20.10 19.22 27.03 30.08 38.17 46.51 36.83 20.69 20.39 18.60 14.81 11.39																								Diurnal Maximum		
Z - zerospan C - Calibration																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr --- ppb 24-hr --- ppb																										



WCAS - Hinton
Summary of Hourly Averages

PM2.5 (PM_{2.5}) - µg/m³
December 2017

Maximum Value: 41.66 µg/m ³ on Dec 10 21:00		Maximum Daily Average: 15.53 µg/m ³ on Dec 10		Hours in Service: 744																							
Minimum Value: 0.5 µg/m ³ on Dec 1 17:00		Minimum Daily Average: 2.81 µg/m ³ on Dec 29		Hours of Data: 744																							
Maximum Diurnal Average: 8.43 µg/m ³ at hour 1		Minimum Diurnal Average: 4.80 µg/m ³ at hour 4		Hours of Missing Data: 0																							
Monthly Average: 6.535 µg/m ³		Percentiles: P ₁ = 0.8 P ₁₀ = 1.8 Q ₁ = 2.9 Median = 4.9 Q ₃ = 8.3 P ₉₀ = 13.8 P ₉₉ = 28.5		Hours of Calibration: 0																							
				Percent Operational Time: 100.0																							
Day	Hourly Period Ending At																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Dec	18.0	5.1	3.1	1.4	5.1	5.1	6.0	4.6	4.5	1.9	3.6	5.6	7.2	4.9	5.2	3.4	0.5	1.7	3.6	1.2	3.9	3.4	13.9	16.2	5.38	17.99	
2-Dec	4.4	3.3	2.1	3.0	3.9	3.4	2.2	2.8	3.8	6.4	7.6	9.1	13.0	13.6	14.4	6.0	10.0	34.7	27.2	17.8	14.4	14.8	14.9	28.3	10.87	34.65	
3-Dec	16.6	12.3	11.6	7.5	5.0	10.1	17.0	9.7	6.6	7.0	13.3	14.2	33.2	28.5	21.3	17.2	18.2	18.1	7.8	1.8	6.7	6.1	14.9	15.4	13.33	33.21	
4-Dec	17.7	3.2	1.7	1.0	1.2	3.2	4.3	4.3	2.3	5.5	2.0	7.4	9.6	10.8	12.2	18.2	6.4	6.5	2.4	2.8	4.7	4.0	3.2	8.2	5.95	18.22	
5-Dec	5.2	8.4	3.3	5.6	15.1	6.5	10.6	5.1	1.0	1.9	8.5	7.7	1.8	1.3	1.5	7.5	7.6	7.7	6.4	5.4	3.4	2.2	1.6	1.6	5.29	15.11	
6-Dec	1.5	1.8	1.9	4.5	2.7	4.5	2.0	3.1	4.6	2.3	2.3	2.7	3.9	3.9	4.0	4.6	4.5	3.6	3.4	3.2	2.9	2.9	2.8	2.6	3.18	4.65	
7-Dec	2.2	2.3	2.5	2.4	2.2	2.1	2.4	2.3	2.6	2.6	2.7	4.1	3.8	4.3	4.2	5.2	13.0	5.0	11.1	6.7	6.4	8.8	6.6	8.3	4.74	13.04	
8-Dec	7.0	4.1	2.3	2.3	3.1	6.5	6.1	10.3	3.5	2.9	4.2	4.4	4.9	4.8	6.1	8.5	11.4	7.5	6.1	5.5	4.8	9.2	6.8	7.5	5.83	11.37	
9-Dec	4.5	4.1	6.5	5.1	6.9	9.0	5.9	4.6	5.2	3.9	6.4	5.8	6.6	9.6	6.4	9.3	23.8	20.0	6.8	10.5	6.8	5.8	11.9	17.2	8.44	23.82	
10-Dec	15.0	8.6	9.2	9.2	12.9	9.0	24.4	18.6	12.7	9.1	17.7	16.5	23.8	16.3	11.2	7.8	9.8	21.8	26.1	12.8	41.7	14.3	8.4	15.8	15.53	41.66	
11-Dec	8.6	9.5	10.1	8.7	8.0	7.9	6.4	5.6	5.7	5.4	6.8	7.2	4.8	4.2	4.3	5.9	4.3	4.5	5.2	4.8	3.3	3.1	4.6	3.8	5.94	10.08	
12-Dec	2.8	4.0	2.4	5.0	5.8	6.6	10.2	25.9	9.6	7.7	9.5	6.1	2.8	4.3	4.5	8.7	8.0	8.4	7.4	8.5	7.0	6.6	5.8	5.7	7.22	25.93	
13-Dec	8.0	5.7	9.6	11.3	9.0	8.6	20.2	8.4	13.8	11.9	9.3	9.3	5.7	6.2	5.1	5.7	4.6	5.4	5.2	4.9	8.6	9.4	15.5	28.6	9.58	28.56	
14-Dec	20.6	10.3	3.4	2.9	3.2	2.8	2.6	2.2	2.2	2.0	1.8	1.9	2.0	2.1	2.3	3.0	2.2	2.1	2.4	2.2	1.9	2.0	2.3	2.3	3.44	20.59	
15-Dec	2.0	2.1	3.1	3.9	3.0	4.0	4.7	5.6	1.9	4.3	4.0	1.4	1.7	1.8	1.4	1.2	1.3	2.9	8.5	5.3	6.8	7.4	1.9	6.8	3.62	8.48	
16-Dec	6.9	14.5	15.5	12.5	8.0	7.7	8.8	12.0	12.6	2.9	1.7	2.2	3.4	3.7	12.1	12.9	12.2	15.3	16.1	19.7	19.3	6.8	5.5	8.4	10.02	19.73	
17-Dec	10.9	11.0	12.8	16.3	14.0	8.2	12.0	8.8	7.4	12.8	7.4	5.9	2.6	8.3	6.5	1.1	1.2	1.8	1.6	1.1	2.8	1.0	0.8	2.1	6.60	16.28	
18-Dec	5.2	8.2	8.6	7.0	15.6	18.8	21.4	3.5	2.6	3.2	4.4	2.9	3.6	3.5	1.2	1.1	2.7	5.3	7.5	9.4	10.9	2.5	1.6	5.5	6.51	21.45	
19-Dec	22.5	1.6	1.5	3.0	1.8	1.5	1.9	3.5	5.5	9.0	5.4	3.1	2.2	3.0	3.5	5.8	3.9	3.6	5.9	4.2	4.6	4.7	4.8	5.9	4.68	22.49	
20-Dec	4.8	10.9	6.8	4.6	6.3	9.2	6.9	6.9	8.7	11.8	15.4	8.4	6.9	8.2	6.7	6.5	6.5	6.4	5.9	6.1	5.6	5.4	5.0	5.0	7.29	15.40	
21-Dec	4.5	4.4	4.2	4.3	5.9	4.2	3.5	3.7	3.7	5.1	5.7	4.2	16.4	4.3	4.8	3.0	3.5	3.7	3.6	8.4	8.9	2.1	2.9	8.1	5.13	16.43	
22-Dec	3.7	2.9	4.0	4.0	5.0	5.1	5.9	4.1	5.0	2.9	3.1	6.2	8.9	6.1	3.5	3.0	3.3	2.9	4.6	4.0	5.3	2.1	1.4	1.2	4.09	8.92	
23-Dec	1.2	1.0	1.1	0.9	1.0	0.9	0.9	0.8	1.2	1.4	6.3	3.0	5.6	7.8	2.9	4.0	3.2	8.1	4.2	3.9	4.9	4.4	6.2	6.7	3.41	8.12	
24-Dec	8.3	12.2	4.9	2.5	5.6	2.9	4.6	4.5	3.3	7.2	6.2	9.1	12.5	14.5	9.0	3.7	5.9	12.0	12.7	11.0	4.0	3.0	2.7	3.9	6.92	14.52	
25-Dec	3.9	5.0	2.3	2.2	2.2	2.4	1.2	1.4	1.6	1.5	1.3	1.3	1.5	3.6	1.9	1.1	1.1	1.5	7.5	17.8	5.5	1.7	7.0	12.9	3.73	17.81	
26-Dec	11.2	4.1	4.0	2.4	2.6	2.0	2.4	6.1	6.0	3.9	3.0	1.4	0.9	2.3	2.2	1.9	1.3	2.1	2.5	2.0	2.7	2.7	2.6	3.3	3.14	11.22	
27-Dec	5.5	1.8	1.7	2.2	2.1	2.2	2.5	3.0	3.1	3.2	5.6	9.6	8.0	6.7	3.1	1.1	0.7	11.7	11.3	5.1	6.5	12.6	13.1	5.7	5.33	13.06	
28-Dec	10.0	4.8	3.8	3.1	3.7	1.4	3.5	3.6	5.5	2.9	3.6	4.6	15.0	18.3	4.0	1.7	1.8	1.8	1.8	1.3	1.3	1.3	0.7	0.8	4.18	18.25	
29-Dec	1.1	1.4	0.9	0.6	1.2	0.8	3.6	2.2	4.4	3.1	2.5	8.8	4.1	4.1	2.1	1.6	2.8	4.1	5.0	4.2	1.8	1.9	2.1	3.1	2.81	8.81	
30-Dec	4.7	3.8	3.0	3.1	3.6	4.2	4.2	4.4	5.4	8.5	12.0	5.4	8.3	7.6	6.4	6.6	17.1	6.7	15.3	11.2	7.4	37.7	16.4	8.9	8.82	37.65	
31-Dec	22.7	13.6	7.6	6.0	6.0	5.2	4.8	5.1	5.1	5.7	8.3	12.6	13.1	11.6	20.4	27.2	38.0	21.2	15.3	12.5	4.8	3.2	2.7	4.3	11.55	38.02	
		8.43	6.00	5.01	4.80	5.54	5.36	6.87	6.03	5.20	5.17	6.18	6.19	7.67	7.42	6.26	6.25	7.47	8.33	8.06	6.96	7.09	6.24	6.14	8.20	Diurnal Average	
		22.68	14.52	15.50	16.28	15.62	18.81	24.39	25.93	13.84	12.79	17.70	16.54	33.21	28.54	21.33	27.23	38.02	34.65	27.24	19.73	41.66	37.65	16.43	28.56	Diurnal Maximum	
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 80 ul/m ³ 24-hr 30 ul/m ³																											

Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 906, Hinton
 Calibration Date: December 22, 2017
 Parameter: H₂S

Instrument: Teco 45C	Serial Number: 45C-71671-369	Previous Calibration Date: November 22, 2017
Calibration: Routine	Calibration Equipment: Sabio 2010 SN 11100113	Barometric Pressure: 27.09" Hg
Calibration Method: Standard Gas Dilution	Permeation Device ID: DT0014794, 10.5 ppm H ₂ S	Temperature: 21.6° C
Permeation Rate: 0 ng/min	In Service: 10/21/2016 EXP 10/4/2019	Technician: L. Burns

Instrument Settings	H ₂ S bkg ppb	H ₂ S Coefficient	Monitoring Range
Previous	19.5	1.381	100 ppb
Current	18.6	1.338	100 ppb

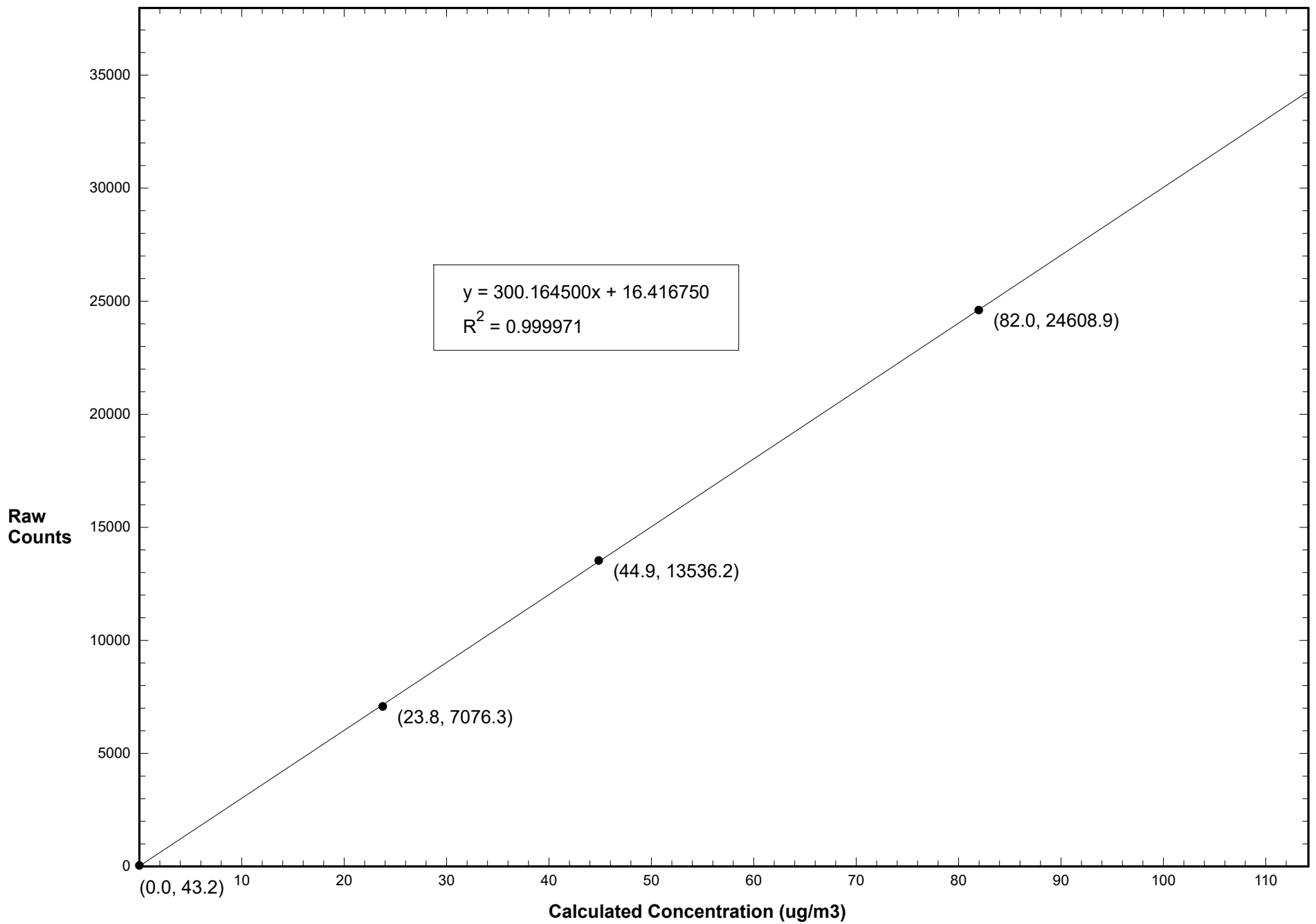
Final Zero: 0.0 ug/m³ Final Span: 44.4 ug/m³ As Found Correction Factor: 0.973

Calibration System Flow Rate (LPM)	Calculated Concentration C _c (ug/m ³)	Raw Count Output R _c	Indicated Concentration C _i (ug/m ³)	Correction Factor C _c /C _i
0.040	82.0	24608.9	81.9	1.000
0.022	44.9	13536.2	45.0	0.996
0.011	23.8	7076.3	23.5	1.010
0.000	0.0	43.2	0.1	

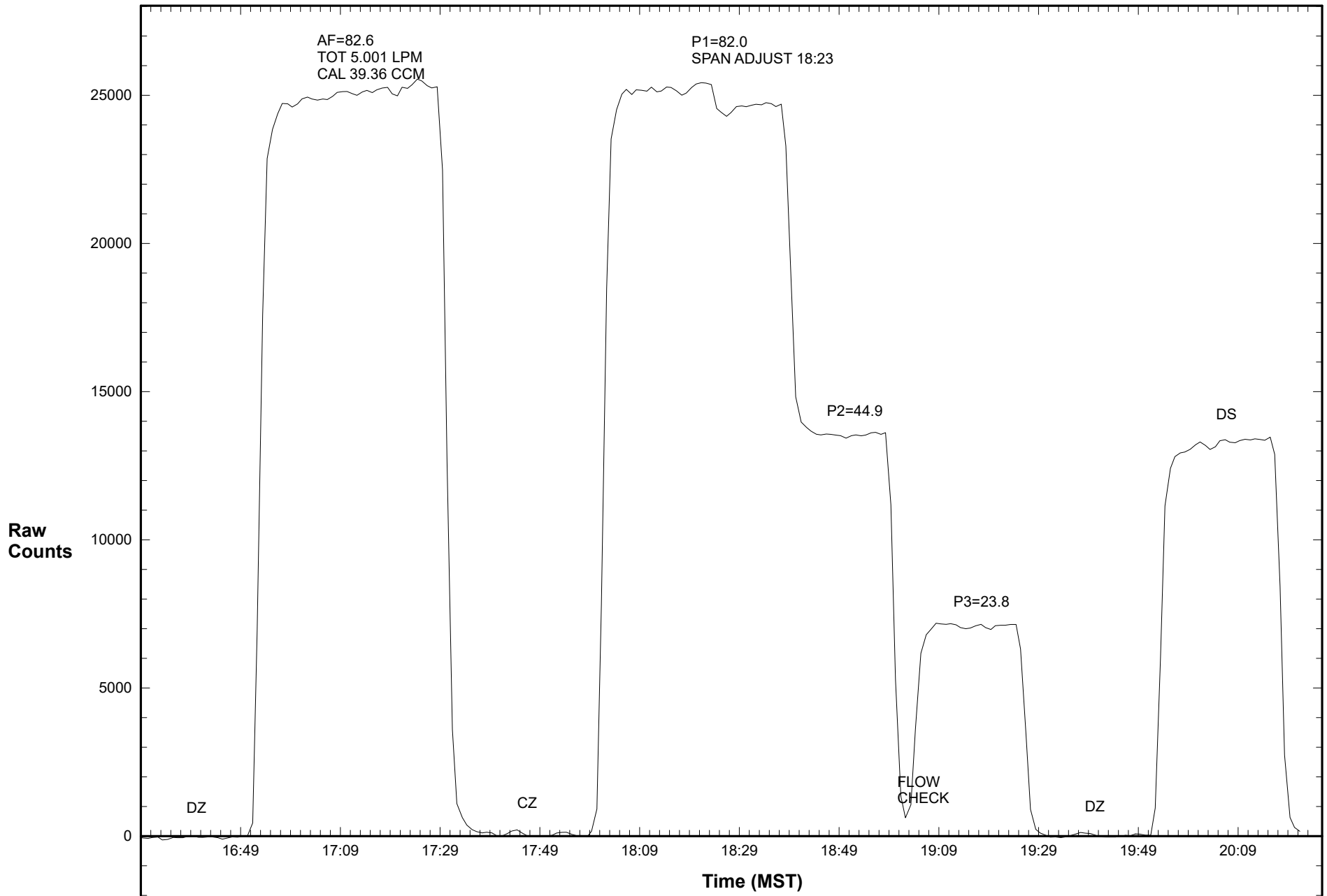
Results of Linear Regression				Average Correction Factor:	1.002
R _c vs C _c	Slope	Intercept	R ²	Previous Correction Factor:	0.994
Previous	298.110100	-130.949500	0.999741	Current Correction Factor:	1.000
Current	300.164500	16.416750	0.999971	Percent Change of Correction Factor:	0.6
C _i vs C _c					
Current	1.000000	0.000000	0.999971		

Comments: SAMPLE FLOW = 0.454 LPM

Station 906 H2S December 22, 2017: Linear Regression



Station 906 H2S December 22, 2017: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 906, Hinton

Calibration Date: December 22, 2017

Parameter: NO/NO₂/NO_x

Instrument: Teco 42i

Serial Number: 0905034788

Previous Calibration Date: November 22, 2017

Calibration: Routine

Calibration Equipment: Sabio 2010 SN 08600312

Barometric Pressure: 27.09" Hg

Calibration Method: Standard Gas Dilution/GPT

Cylinder ID: EX0012529

Temperature: 21.6° C

Cylinder Concentration: 27.4 ppm NO/27.5 ppm NO_x

In Service: 12/6/2017 EXP 10/25/2020

Technician: L. Burns

Instrument Settings	NO bkg ppb	NO _x bkg ppb	Pre-reactor bkg ppb	NO Coefficient	NO _x Coefficient	NO ₂ Coefficient	Monitoring Range
Previous	14.6	14.8	NA	1.327	0.989	0.995	500 ppb
Current	14.5	14.7	NA	1.327	0.995	0.995	500 ppb

NO	Final Zero: -0.8 ppb	Final Span: 155.2 ppb	As Found Correction Factor: 1.000
NO ₂	Final Zero: -0.2 ppb	Final Span: 0.7 ppb	As Found Correction Factor: NA
NO _x	Final Zero: -1.0 ppb	Final Span: 156.1 ppb	As Found Correction Factor: 1.005

Results of Linear Regression			Slope	Intercept	R ²
NO	R _c vs C _c	Previous	59.944320	17.870630	0.999998
		Current	59.961560	54.289590	0.999973
	C _i vs C _c	Current	1.000000	0.000000	0.999973
NO ₂	R _c vs C _c	Previous	60.272930	-9.769105	0.999998
		Current	60.364190	11.154040	0.999994
	C _i vs C _c	Current	1.000000	0.000017	0.999994
NO _x	R _c vs C _c	Previous	59.954120	17.200780	0.999998
		Current	60.005030	49.268540	0.999969
	C _i vs C _c	Current	1.000000	0.000000	0.999969

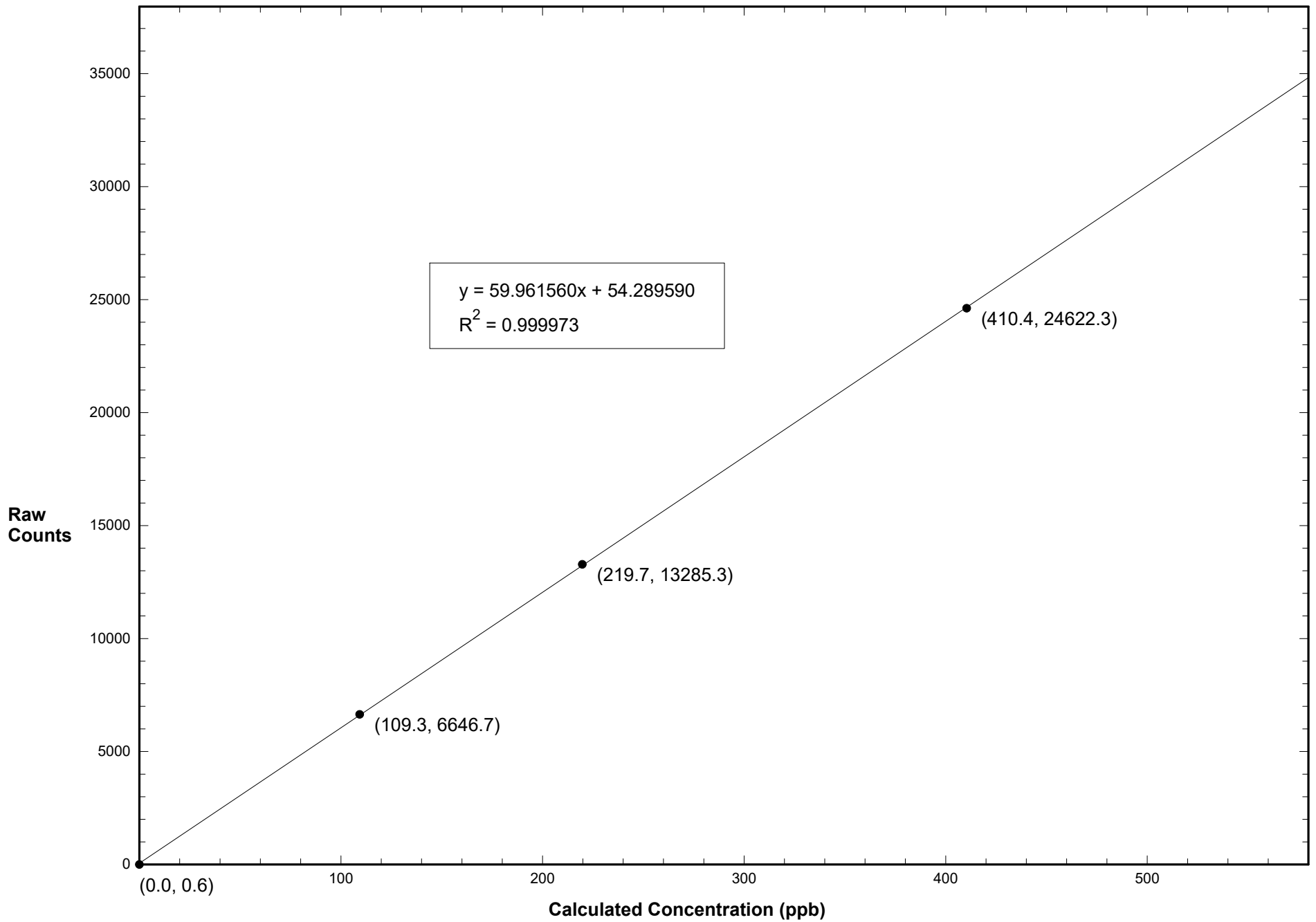
Comments: SAMPLE FLOW = 0.479 LPM

Calibration Data Summary (Page 2)

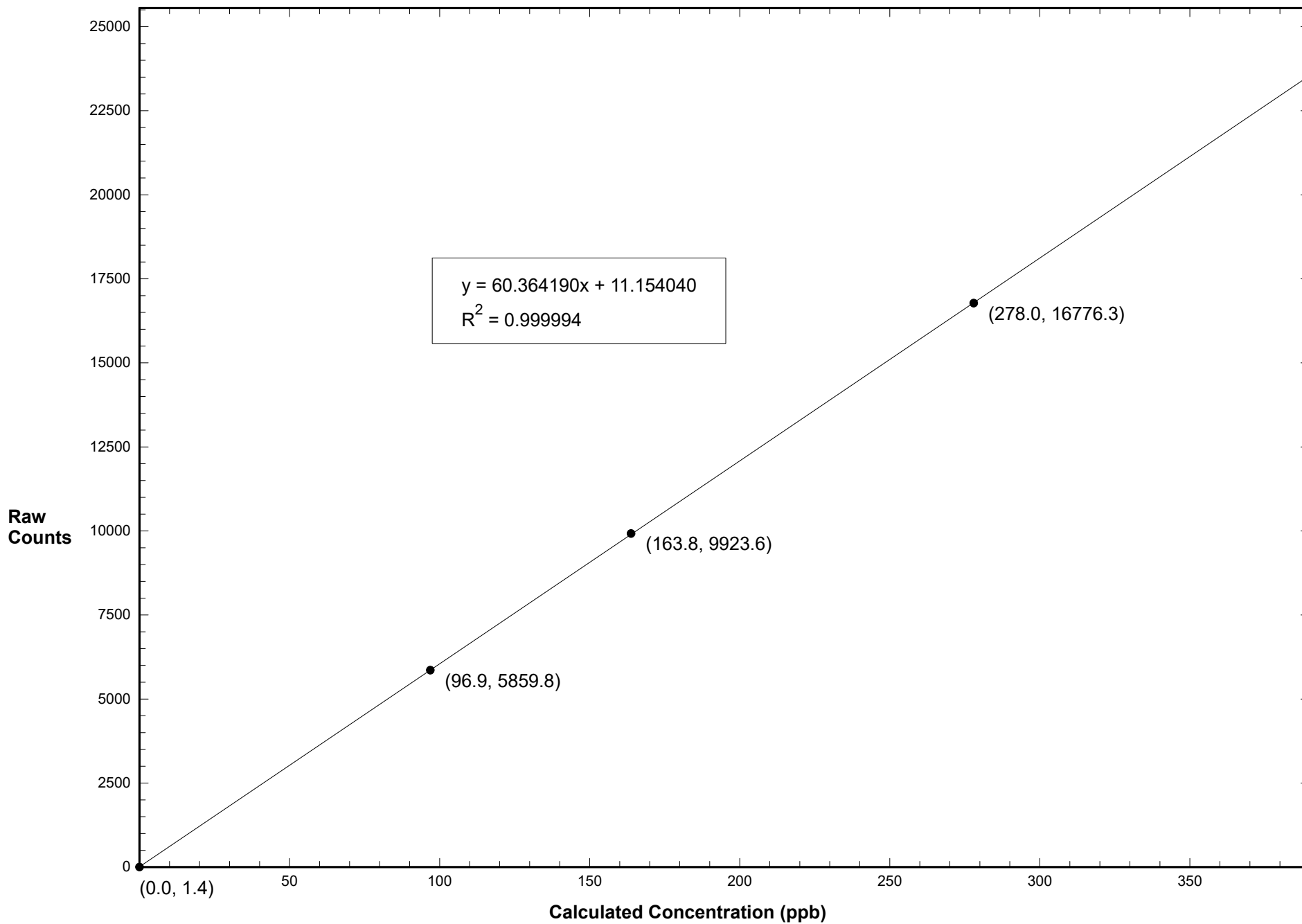
December 22, 2017 - Station 906

NO Flow Rate (LPM)	Dilution Flow Rate (LPM)	Calculated Concentration C _c (ppb)	Raw Count Output R _c	Indicated Concentration C _i (ppb)	Correction Factor C _c /C _i		
0.07621	5.012	410.4	24622.3	409.7	1.002		
0.04052	5.012	219.7	13285.3	220.7	0.996		
0.02011	5.021	109.3	6646.7	109.9	0.994		
0.00000	5.000	0.0	0.6	-0.9			
NO Calibration					Average Correction Factor:	0.997	
0.07621	5.012	411.9	24723.8	411.2	1.002		
0.04052	5.012	220.5	13334.9	221.4	0.996		
0.02011	5.021	109.7	6681.0	110.5	0.993		
0.00000	5.000	0.0	-10.8	-1.0			
NO _x Calibration					Average Correction Factor:	0.997	
Reference Concentration NO (ppb)	Raw Count Output NO	Calculated Concentration NO (ppb)	Calculated Concentration NO ₂ , C _c (ppb)	Raw Count Output R _c	Indicated Concentration C _i (ppb)	Correction Factor C _c /C _i	Converter Efficiency C _i /C _c
410.7	8013.3	132.7	278.0	16776.3	277.7	1.001	0.999
410.7	14859.8	246.9	163.8	9923.6	164.2	0.997	1.003
410.7	18870.5	313.8	96.9	5859.8	96.9	1.000	1.000
			0.0	1.4	-0.2		
					Average Correction Factor:	0.999	
NO ₂ Gas Phase Titration					Average Converter Efficiency:	1.001	
Parameter	Correction Factor (Previous)	Correction Factor: (Current)	Percent Change of Correction Factor				
NO	1.001	1.002	0.1				
NO ₂	1.001	1.001	0.0				
NO _x	1.000	1.002	0.2				

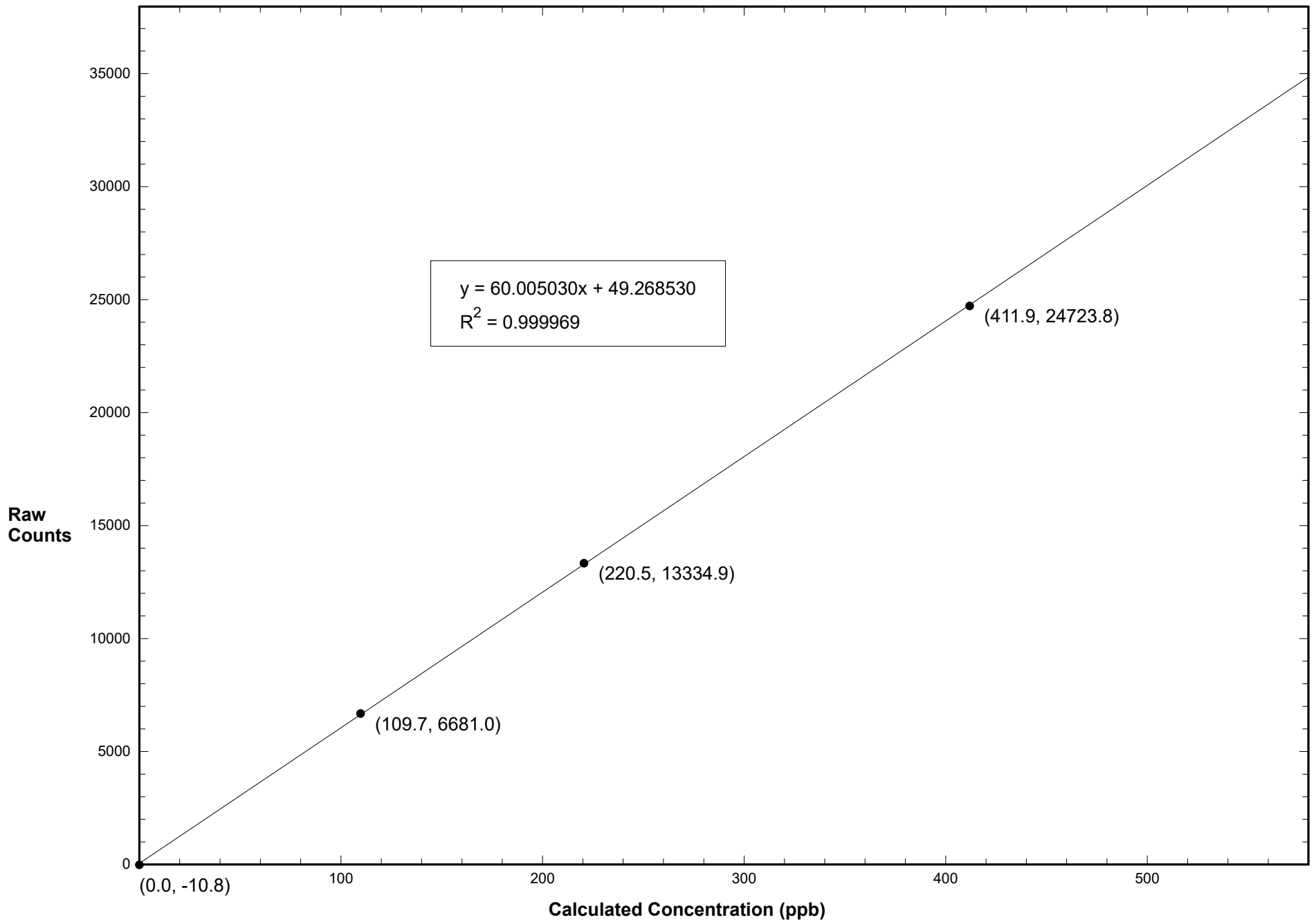
Station 906 NO December 22, 2017: Linear Regression



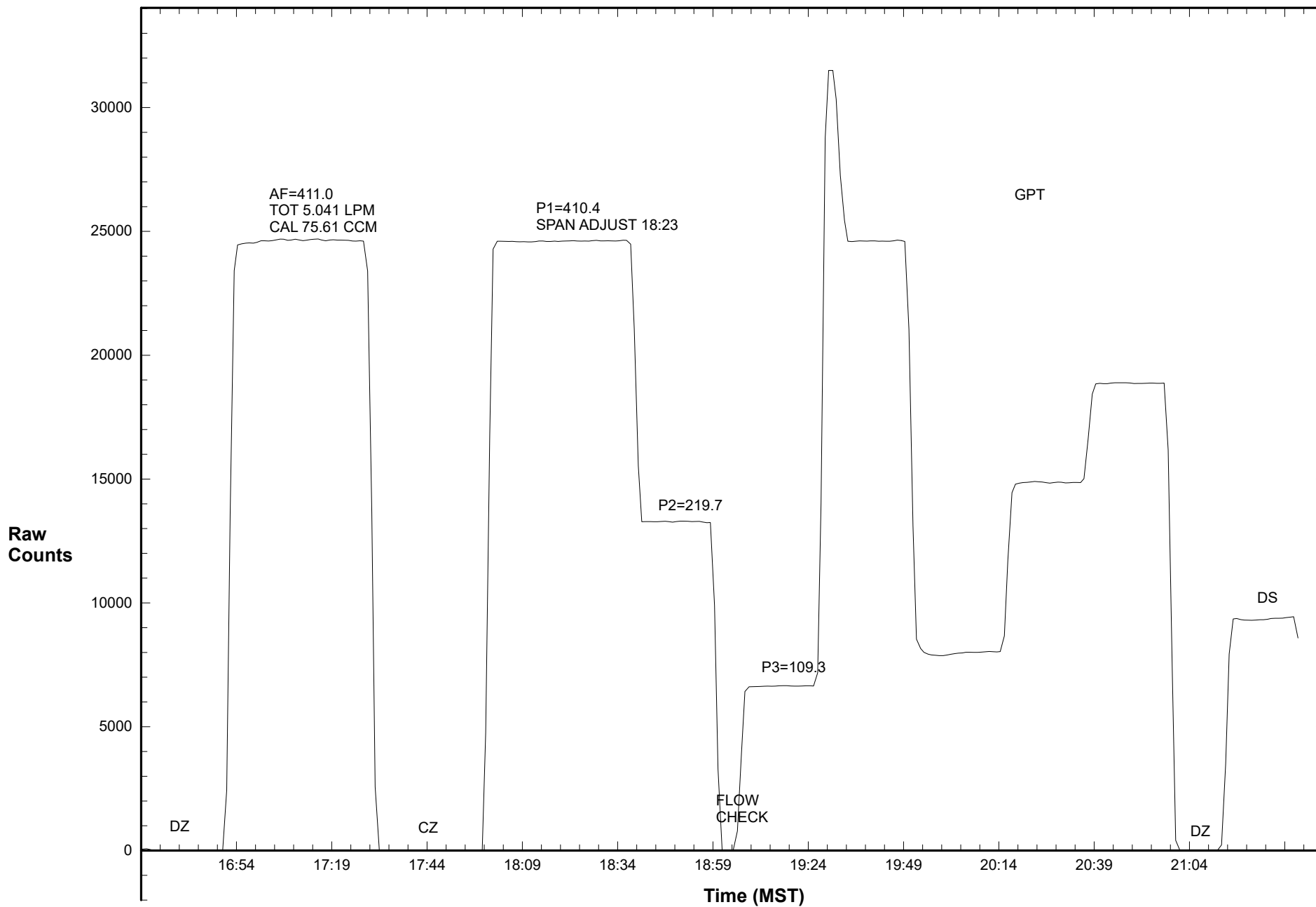
Station 906 NO2 December 22, 2017: Linear Regression



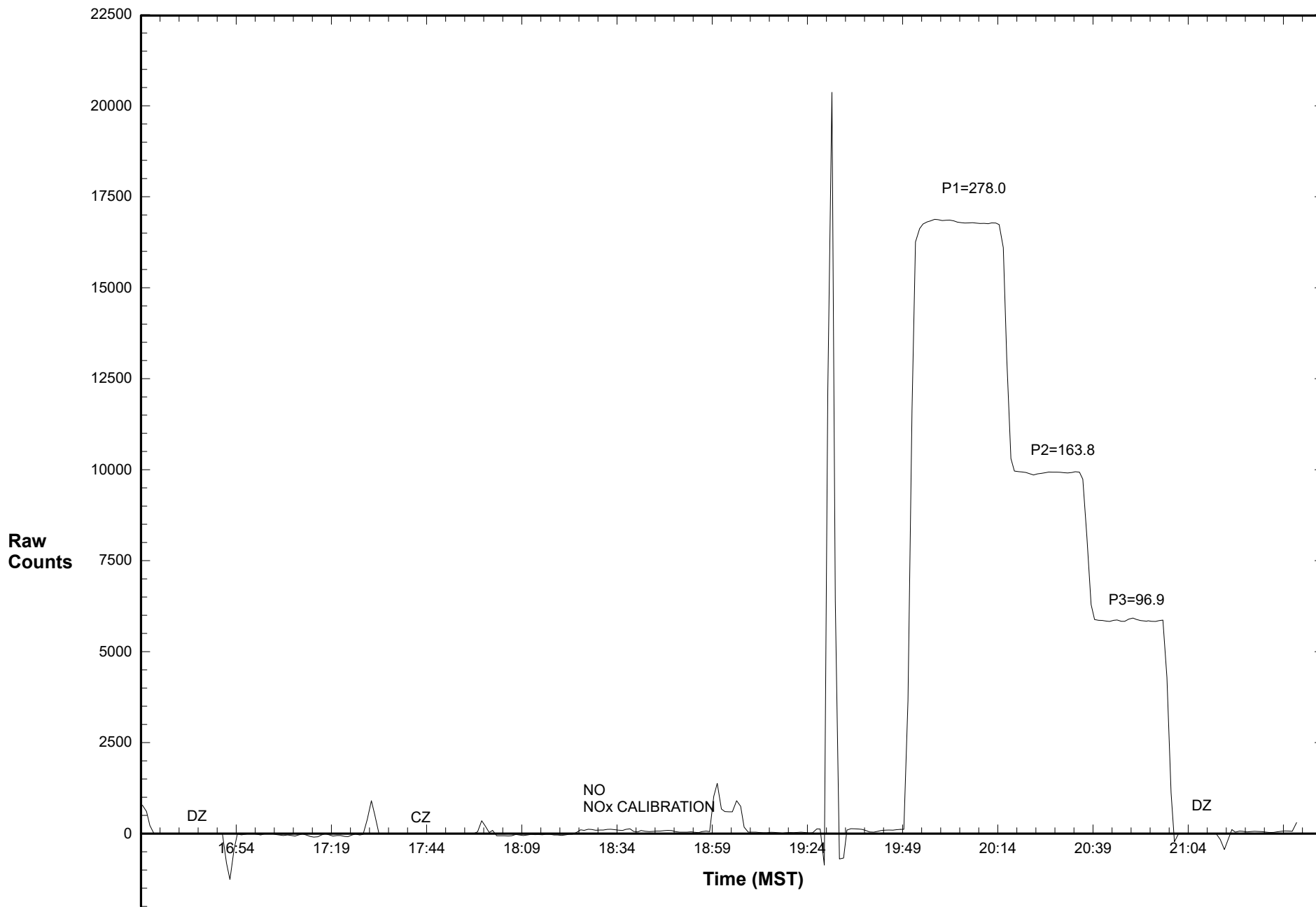
Station 906 NOX December 22, 2017: Linear Regression



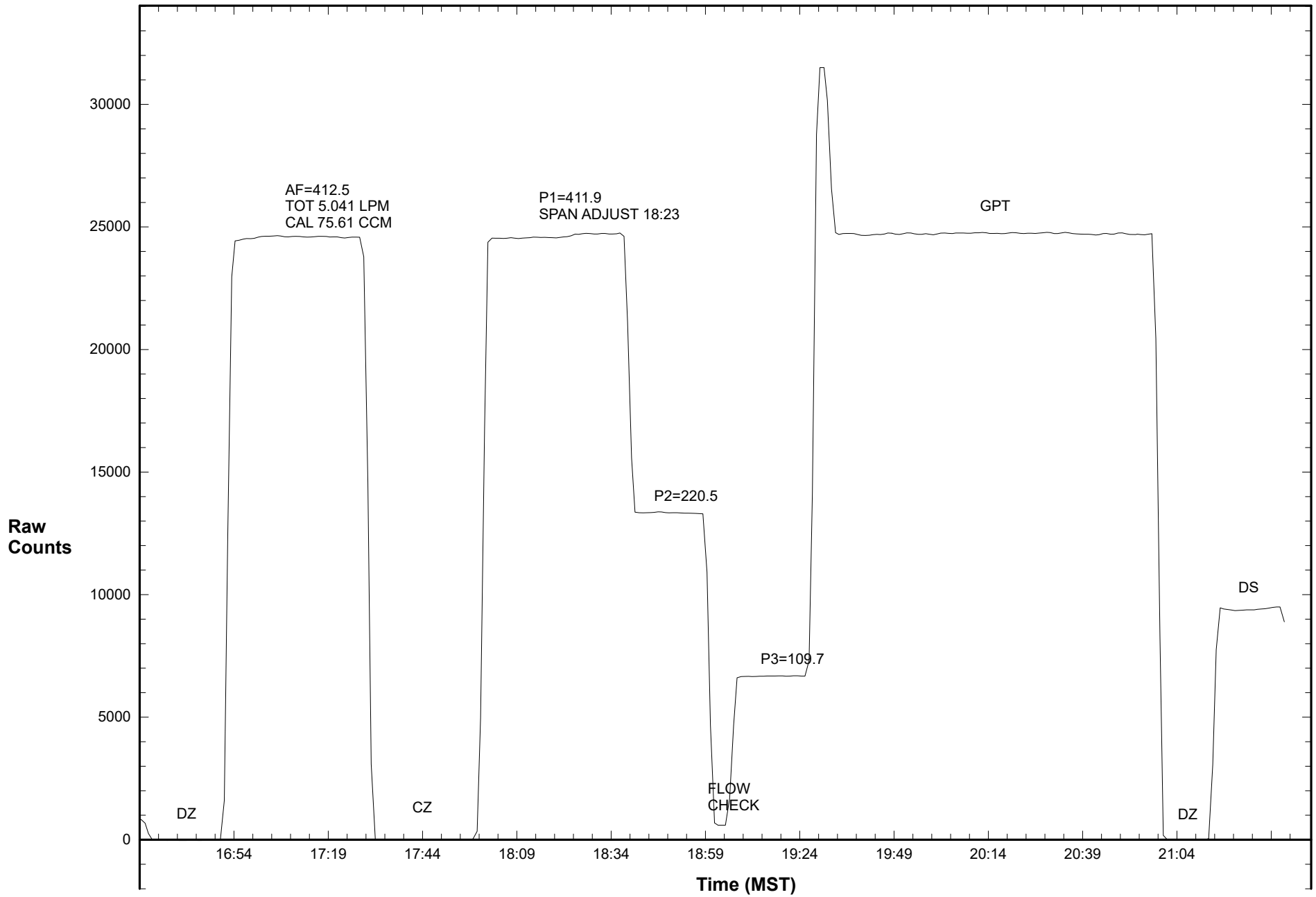
Station 906 NO December 22, 2017: Calibration Graph



Station 906 NO2 December 22, 2017: Calibration Graph



Station 906 NOX December 22, 2017: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 906, Hinton

Calibration Date: December 22, 2017

Parameter: O₃

Instrument: Teco 49i

Serial Number: 1150790050

Previous Calibration Date: November 22, 2017

Calibration: Routine

Calibration Equipment: 2B Tech Model 306 SN142

Barometric Pressure: 27.09" Hg

Calibration Method: Certified Ozone Generator

Temperature: 21.6° C

Technician: L. Burns

Instrument Settings	Background	Coefficient	Monitoring Range
Previous	-0.1	0.994	500 ppb
Current	-0.1	0.973	500 ppb

Final Zero: -1.1 ppb

Final Span: 361.2 ppb

As Found Correction Factor: 0.972

Calibration System Flow Rate (LPM)	Calculated Concentration C _c (ppb)	Raw Count Output R _c	Indicated Concentration C _i (ppb)	Correction Factor C _c /C _i
3.000	399.0	23936.1	398.3	1.002
3.000	215.0	12999.1	215.8	0.997
3.000	105.0	6420.9	105.9	0.991
3.000	0.0	14.3	-1.0	

Results of Linear Regression

R _c vs C _c	Slope	Intercept	R ²
Previous	59.679320	47.973190	0.999974
Current	59.897140	76.087910	0.999966
C _i vs C _c			
Current	1.000000	0.000006	0.999967

Average Correction Factor: 0.996

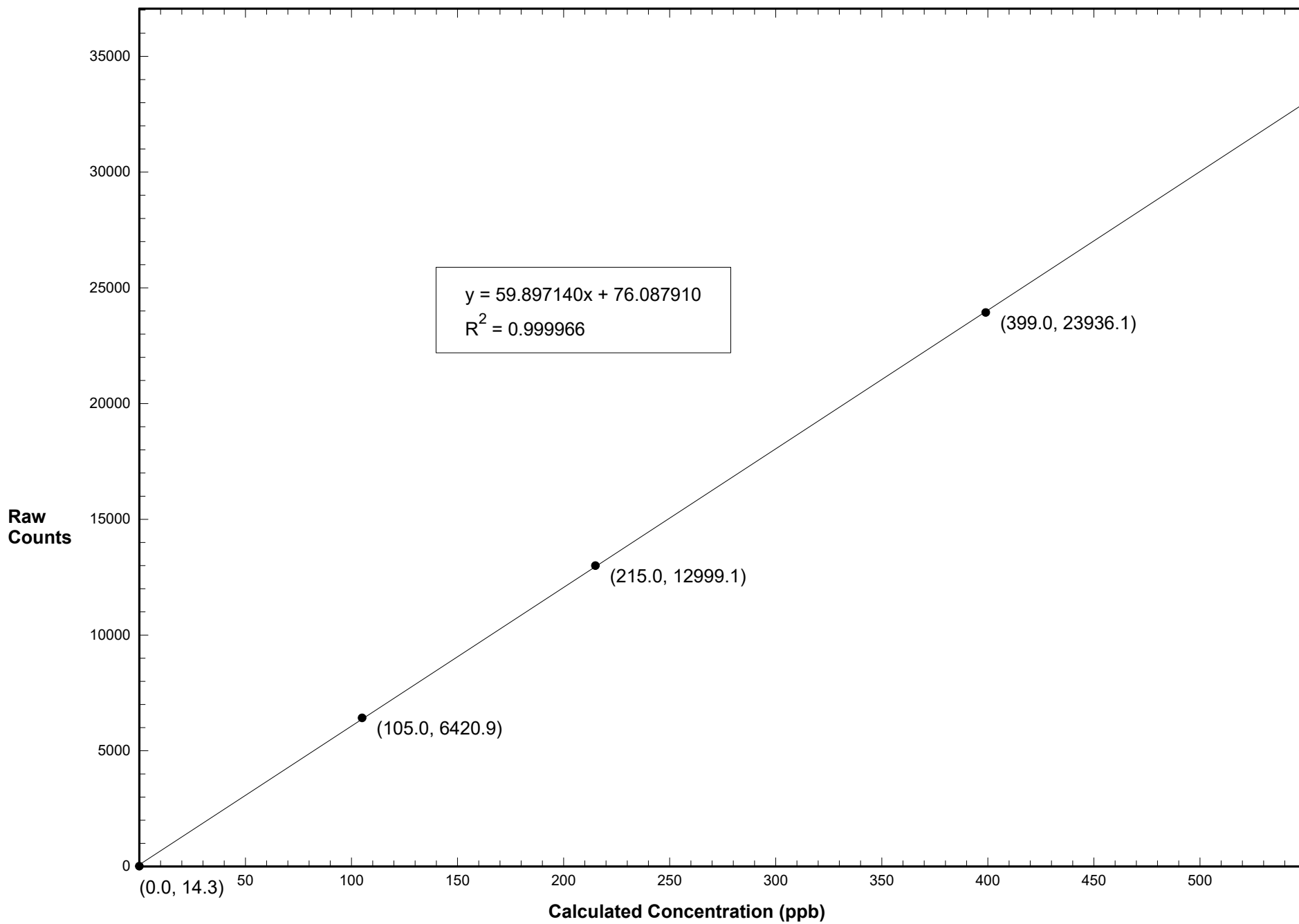
Previous Correction Factor: 1.000

Current Correction Factor: 1.002

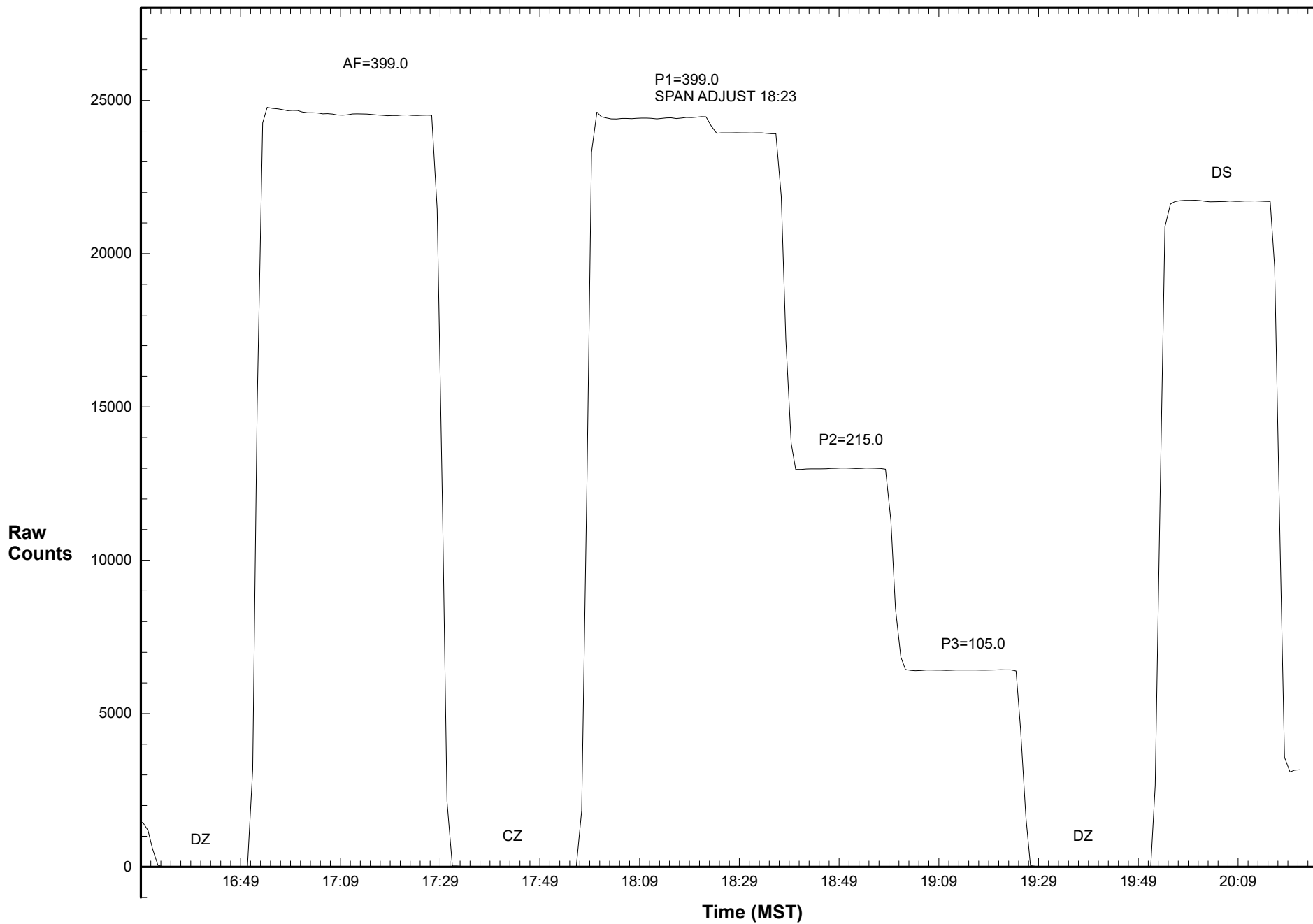
Percent Change of Correction Factor: 0.2

Comments: SAMPLE FLOWS = 0.698 AND 0.678 LPM

Station 906 O3 December 22, 2017: Linear Regression



Station 906 O3 December 22, 2017: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 906, Hinton

Calibration Date: December 22, 2017

Parameter: SO₂

Instrument: TECO 43i

Serial Number: CM12499009

Previous Calibration Date: November 22, 2017

Calibration: Routine

Calibration Equipment: Sabio 2010 SN 08600312

Barometric Pressure: 27.09" Hg

Calibration Method: Standard Gas Dilution

Cylinder ID: EX0012529

Temperature: 21.6° C

Cylinder Concentration: 24.3 ppm SO₂

In Service: 12/6/2017 EXP 10/25/2020

Technician: L. Burns

Instrument Settings	SO ₂ bkg ppb	SO ₂ Coefficient	Monitoring Range
Previous	28.0	0.994	500 ppb
Current	28.1	1.002	500 ppb

Final Zero: -0.4 ppm

Final Span: 73.1 ppm

As Found Correction Factor: 1.025

SO ₂ Flow Rate (LPM)	Dilution Flow Rate (LPM)	Calculated Concentration C _c (ppm)	Raw Count Output R _c	Indicated Concentration C _i (ppm)	Correction Factor C _c /C _i
0.0762	5.012	364.0	21947.8	363.7	1.001
0.0405	5.012	194.9	11811.8	195.5	0.997
0.0201	5.021	96.9	5867.8	96.8	1.001
0.0000	5.000	0.0	22.5	-0.2	

Results of Linear Regression

R _c vs C _c	Slope	Intercept	R ²
Previous	60.075020	8.357998	0.999998
Current	60.256920	33.695190	0.999993
C _i vs C _c			
Current	1.000000	-0.000038	0.999993

Average Correction Factor: 1.000

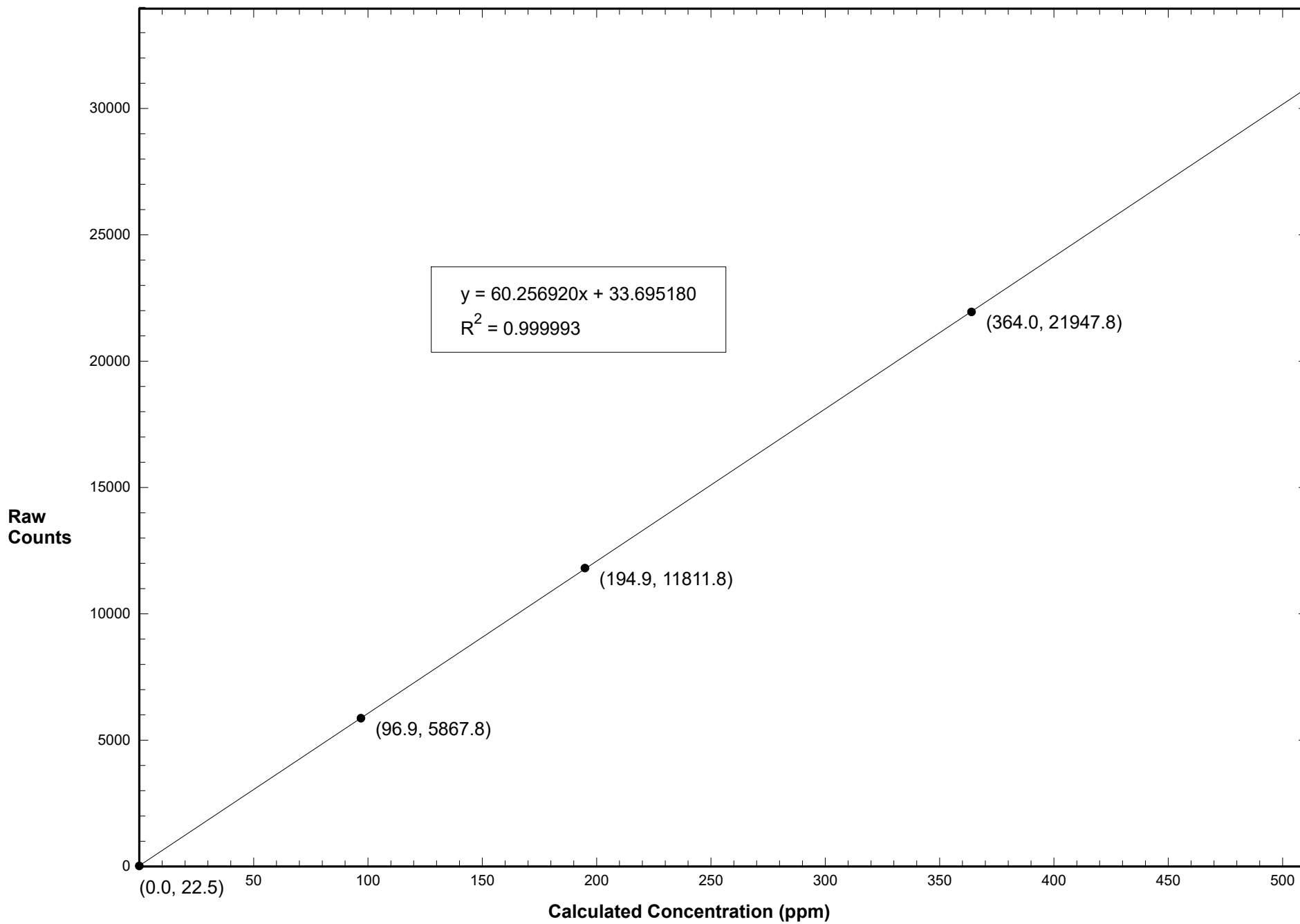
Previous Correction Factor: 1.001

Current Correction Factor: 1.001

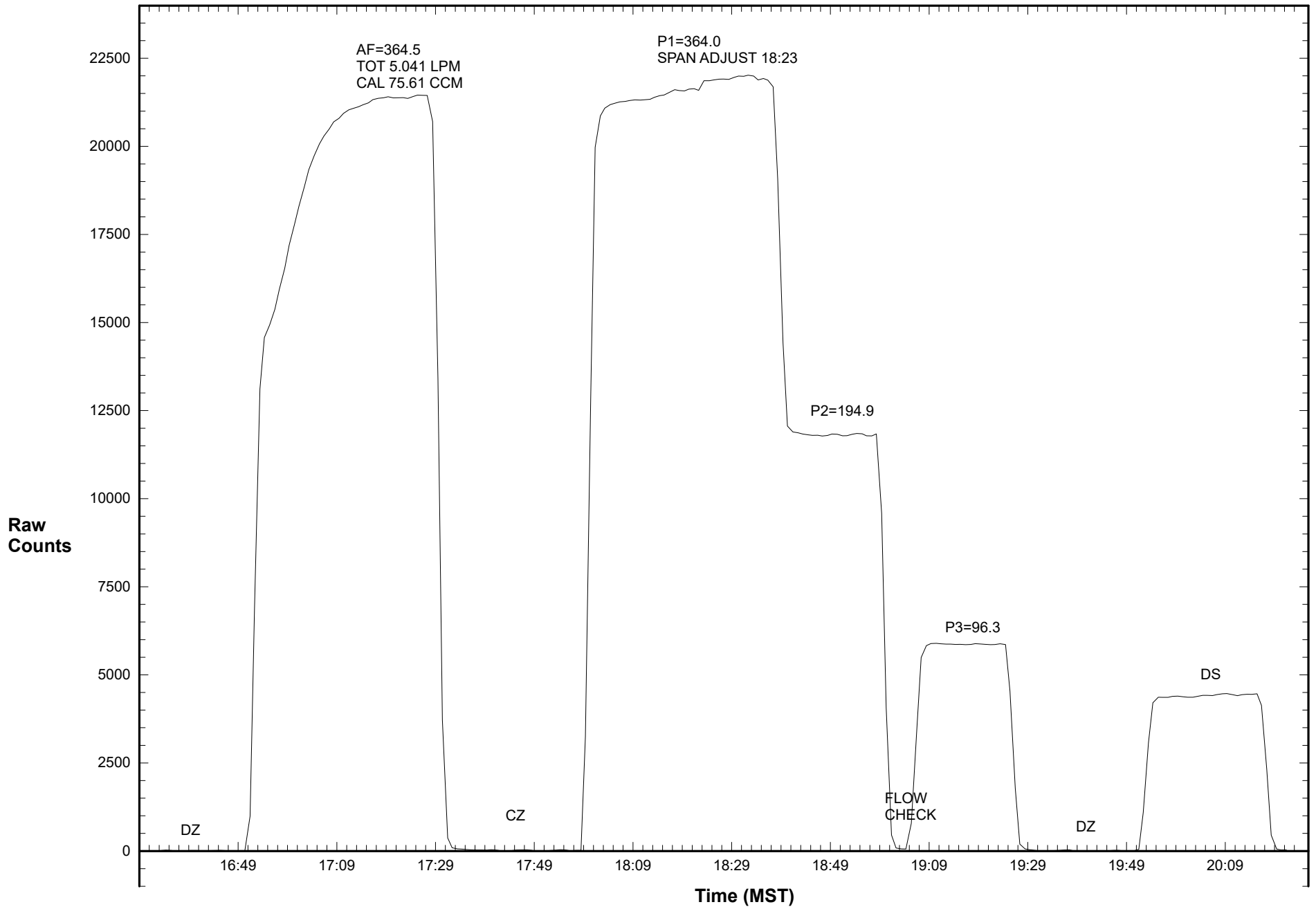
Percent Change of Correction Factor: 0.0

Comments: SAMPLE FLOW = 0.426 LPM

Station 906 SO2 December 22, 2017: Linear Regression



Station 906 SO2 December 22, 2017: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 906, Hinton

Calibration Date: December 22, 2017

Parameter: TRS

Instrument: Teco 43C

Serial Number: 43CTL-60324-326

Previous Calibration Date: November 22, 2017

Calibration: Routine

Calibration Equipment: Sabio 2010 SN 11100113

Barometric Pressure: 27.09" Hg

Calibration Method: Standard Gas Dilution

Permeation Device ID: DT0014794, 10.5 ppm H2S

Temperature: 21.6° C

Permeation Rate: 0 ng/min

In Service: 10/21/2016 EXP 10/4/2019

Technician: L. Burns

Instrument Settings	H ₂ S bkg ppb	H ₂ S Coefficient	Monitoring Range
Previous	1.68	0.768	100 ppb
Current	1.74	0.808	100 ppb

Final Zero: -0.1 ppb

Final Span: 63.2 ppb

As Found Correction Factor: 1.072

Calibration System Flow Rate (LPM)	Calculated Concentration C _c (ppb)	Raw Count Output R _c	Indicated Concentration C _i (ppb)	Correction Factor C _c /C _i
0.040	82.0	24635.2	81.9	1.000
0.022	44.9	13520.9	44.9	0.998
0.011	23.8	7134.3	23.7	1.004
0.000	0.0	41.6	0.0	

Results of Linear Regression

R _c vs C _c	Slope	Intercept	R ²
Previous	301.626300	-82.513560	0.999911
Current	300.250100	30.044720	0.999995
C _i vs C _c			
Current	1.000000	-0.000020	0.999995

Average Correction Factor: 1.001

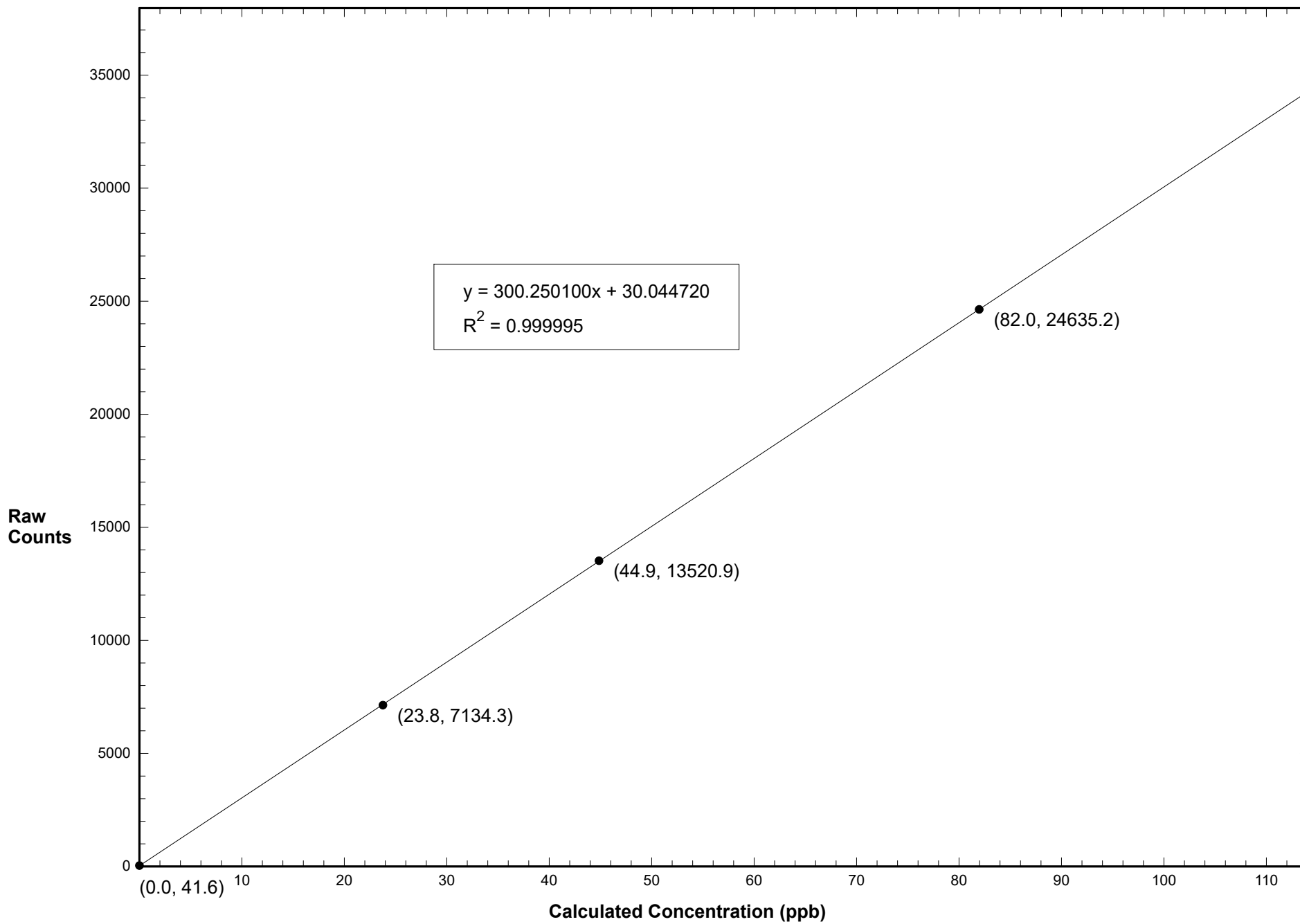
Previous Correction Factor: 1.000

Current Correction Factor: 1.000

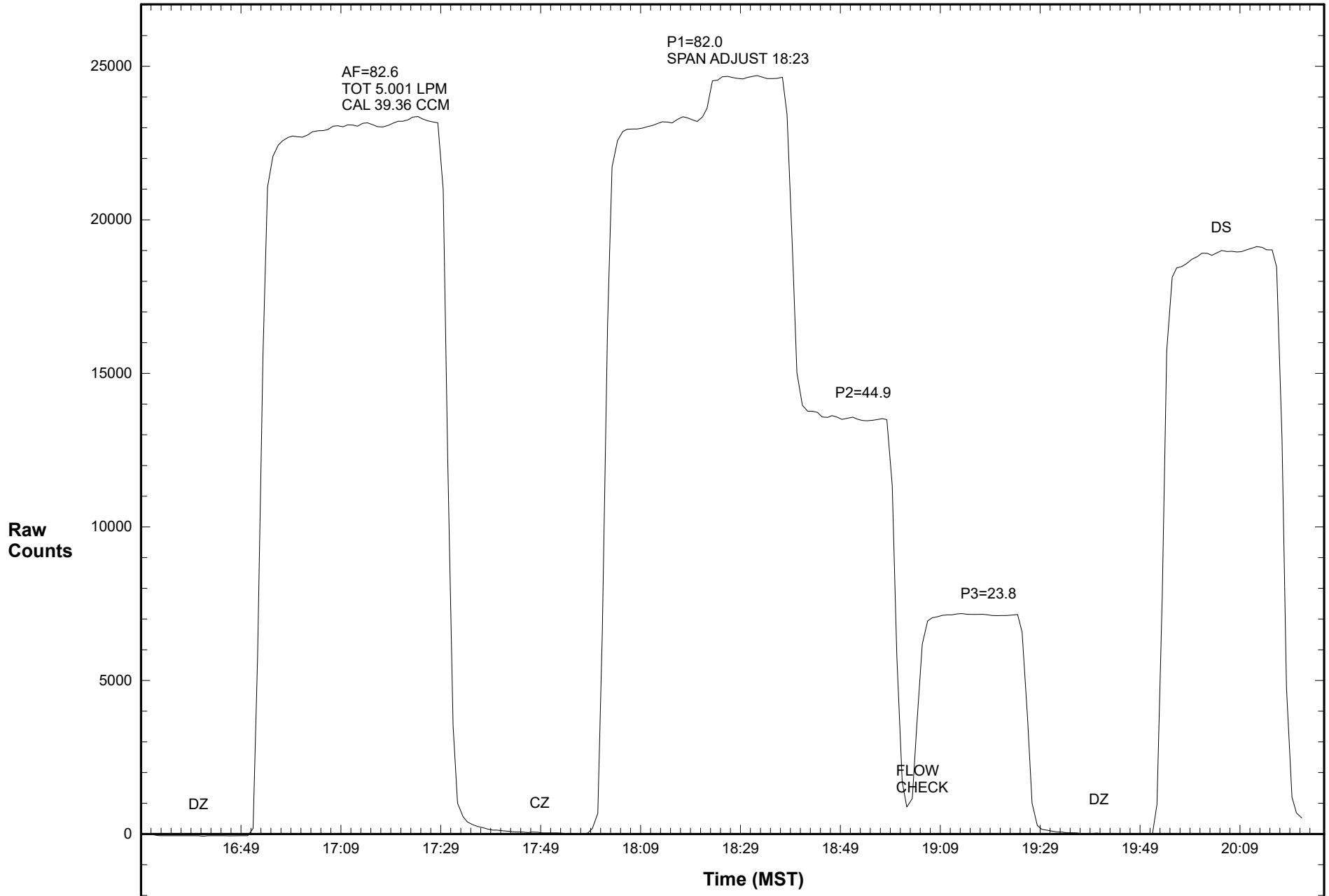
Percent Change of Correction Factor: 0.0

Comments: SAMPLE FLOW = 0.335 LPM

Station 906 TRS December 22, 2017: Linear Regression



Station 906 TRS December 22, 2017: Calibration Graph



WEST CENTRAL AIRSHED SOCIETY

**CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
MONTHLY REPORT
METEOROLOGICAL DATA**

**AMS 906
HINTON
DECEMBER 2017**

Operations and Data Collection by:
West Central Airshed Society
Drayton Valley, Alberta

QA/QC, Data Validation and Reporting by:
West Central Airshed Society
Drayton Valley, Alberta



WCAS - Hinton
Summary of Hourly Averages

External Temperature (ET) - C
December 2017

Maximum Value: 11.17 C on Dec 12 14:00 Maximum Daily Average: 6.50 C on Dec 10																								Hours in Service: 744		
Minimum Value: -34.0 C on Dec 31 09:00 Minimum Daily Average: -29.03 C on Dec 30																								Hours of Data: 744		
Maximum Diurnal Average: -2.90 C at hour 15 Minimum Diurnal Average: -9.06 C at hour 8																								Hours of Missing Data: 0		
Monthly Average: -6.978 C Percentiles: P₁ = -33.2 P₁₀ = -25.2 Q₁ = -14.7 Median = -4.7 Q₃ = 1.5 P₉₀ = 4.9 P₉₉ = 10.1																								Hours of Calibration: 0		
																								Percent Operational Time: 100.0		
Day	Hourly Period Ending At																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Dec	-4.9	0.1	2.9	0.8	1.9	2.9	2.7	2.1	1.6	2.8	3.4	4.2	3.9	3.8	3.7	3.0	1.6	-0.1	0.9	0.5	-1.7	-1.6	-2.9	-3.3	1.19	4.19
2-Dec	-3.8	-4.6	-5.3	-6.2	-6.6	-6.7	-6.6	-6.5	-6.3	-5.8	-5.0	-3.8	-1.7	0.0	1.1	0.2	-1.9	-3.6	-4.6	-5.4	-6.8	-7.6	-8.5	-9.7	-4.83	1.05
3-Dec	-10.7	-11.6	-12.0	-12.5	-12.9	-13.3	-13.7	-14.4	-14.9	-15.1	-12.4	-9.1	-7.0	-5.1	-4.5	-4.6	-4.8	-5.1	-4.5	-4.7	-5.0	-5.8	-7.0	-7.0	-9.06	-4.45
4-Dec	-7.8	-6.7	-5.7	-5.2	-5.1	-7.8	-8.7	-5.9	-3.0	-2.3	-1.6	-0.2	0.5	1.2	1.4	1.5	1.5	1.6	1.5	1.6	2.0	2.3	2.4	2.6	-1.67	2.61
5-Dec	2.0	1.2	-0.1	-0.5	0.4	1.0	1.0	0.4	3.0	3.1	3.4	5.1	6.6	6.7	6.5	5.4	2.7	1.7	1.4	-0.8	0.1	-0.6	-1.2	-1.6	1.95	6.72
6-Dec	-1.9	-2.1	-2.4	-2.8	-3.1	-3.6	-3.2	-4.0	-3.9	-3.0	-2.3	-0.9	0.3	1.2	2.3	2.3	2.1	1.4	1.0	1.1	0.8	0.3	0.0	-0.3	-0.86	2.34
7-Dec	-0.3	-0.7	-1.1	-1.2	-1.2	-1.3	-1.5	-1.5	-1.5	-1.7	-1.1	0.5	1.4	2.4	3.4	4.2	3.9	3.2	1.8	1.3	1.4	0.2	-1.6	-1.0	0.33	4.17
8-Dec	-1.9	-2.7	-3.2	-3.6	-3.4	-2.9	-2.3	-1.4	-2.8	-3.2	-0.4	2.2	3.6	5.0	5.8	4.4	3.4	2.4	2.5	2.3	2.7	3.2	3.4	2.4	0.64	5.79
9-Dec	-0.3	-1.0	0.1	-0.3	1.6	1.2	0.4	-1.1	-1.0	-0.8	3.9	5.6	6.1	6.2	7.1	6.2	4.7	3.1	6.7	5.6	7.9	9.2	10.2	10.3	3.82	10.31
10-Dec	11.2	10.0	7.6	9.1	9.4	9.5	9.7	9.1	8.7	8.5	9.2	9.7	10.5	10.9	10.1	9.6	7.9	6.4	2.7	-0.6	-2.2	-3.2	-3.7	-4.2	6.50	11.16
11-Dec	-4.7	-5.0	-5.1	-4.7	-4.7	-4.1	-3.4	-2.7	-2.6	-2.1	0.3	3.2	5.3	6.7	7.8	7.5	6.7	6.5	4.4	4.6	2.3	2.3	4.0	2.3	1.04	7.78
12-Dec	2.2	6.3	6.5	6.3	7.0	5.9	1.9	2.1	7.2	6.6	7.5	10.0	10.9	11.2	10.8	9.4	7.8	5.6	5.5	4.9	4.9	4.0	3.8	3.1	6.29	11.17
13-Dec	-0.9	1.7	0.5	-1.9	-2.4	-1.9	-2.0	-2.3	-2.4	-3.1	-1.4	2.8	5.2	6.0	6.8	5.8	4.4	2.5	-0.3	-1.2	-2.6	-3.6	-4.3	-5.0	0.02	6.78
14-Dec	-5.5	-5.8	-5.1	-4.1	-3.0	-2.5	-2.7	-2.3	-2.7	-1.7	0.1	1.6	2.3	3.8	4.4	3.6	2.9	2.8	4.8	5.2	5.5	5.2	4.6	4.7	0.67	5.50
15-Dec	4.8	3.9	1.9	0.5	0.3	-0.5	0.7	2.3	3.9	2.3	1.0	4.3	5.6	5.3	5.2	3.5	1.3	-0.4	-0.6	-1.2	-0.8	-1.8	-2.6	-2.1	1.52	5.57
16-Dec	-4.3	-5.2	-7.2	-8.4	-9.1	-9.6	-9.6	-10.1	-10.3	-3.8	-1.2	0.4	1.4	1.4	1.0	0.9	0.7	0.8	0.9	1.2	1.6	1.9	2.1	2.1	-2.61	2.08
17-Dec	2.4	2.4	2.5	3.1	3.5	3.1	2.9	3.0	3.2	3.1	4.4	5.6	6.0	6.6	6.6	5.0	3.3	2.5	2.1	1.7	1.4	0.7	0.3	-0.4	3.14	6.61
18-Dec	-0.9	-1.7	-2.6	-3.3	-4.5	-5.1	-6.1	-6.2	-7.1	-7.0	-3.5	-0.6	1.3	2.1	2.4	1.5	-0.3	-1.2	-1.6	-2.2	-3.0	-3.0	-3.2	-3.5	-2.48	2.37
19-Dec	-3.8	-4.0	-4.5	-4.7	-4.8	-5.0	-5.1	-5.5	-5.6	-5.6	-5.3	-5.0	-4.7	-4.5	-4.9	-5.2	-5.5	-5.9	-6.1	-6.4	-6.8	-7.1	-7.5	-7.8	-5.47	-3.81
20-Dec	-7.7	-7.8	-7.7	-7.7	-7.7	-7.8	-8.1	-9.0	-11.3	-12.7	-11.5	-8.7	-7.3	-6.1	-5.6	-5.6	-5.8	-5.9	-5.9	-6.0	-6.3	-6.7	-6.9	-7.1	-7.62	-5.57
21-Dec	-6.9	-6.9	-7.2	-6.7	-6.6	-7.3	-7.6	-7.5	-7.3	-7.1	-6.7	-6.5	-5.9	-4.6	-4.4	-5.1	-6.4	-7.1	-7.6	-7.9	-8.3	-8.6	-8.9	-9.3	-7.02	-4.44
22-Dec	-9.5	-9.7	-9.8	-10.0	-10.2	-10.4	-10.6	-10.7	-10.4	-10.6	-10.4	-10.1	-9.3	-8.8	-7.7	-8.1	-10.1	-11.4	-12.9	-13.3	-12.0	-11.9	-12.2	-12.4	-10.52	-7.68
23-Dec	-12.4	-12.5	-12.5	-12.5	-12.6	-12.5	-12.1	-12.0	-12.0	-11.6	-11.1	-10.4	-9.9	-9.6	-8.4	-7.9	-6.4	-7.3	-8.6	-8.7	-9.7	-11.3	-12.3	-14.3	-10.78	-6.39
24-Dec	-14.9	-15.2	-15.0	-15.0	-16.3	-15.9	-15.8	-16.5	-17.7	-17.0	-16.6	-15.8	-13.4	-12.3	-10.9	-11.2	-13.0	-15.6	-17.6	-18.0	-17.6	-17.5	-17.5	-17.3	-15.57	-10.86
25-Dec	-17.5	-16.9	-16.6	-16.5	-16.6	-16.4	-16.2	-16.3	-16.4	-16.5	-16.4	-16.1	-16.0	-16.4	-16.6	-17.5	-18.6	-20.1	-21.5	-22.9	-24.2	-25.2	-26.0	-26.6	-18.74	-15.98
26-Dec	-26.7	-27.4	-27.9	-28.2	-28.5	-27.9	-27.0	-25.7	-24.2	-22.9	-20.7	-17.9	-14.9	-13.4	-12.9	-12.7	-12.8	-14.7	-16.6	-17.8	-17.8	-17.2	-17.1	-17.4	-20.43	-12.69
27-Dec	-17.8	-18.3	-18.7	-19.1	-19.0	-19.2	-19.6	-19.7	-19.8	-19.8	-19.5	-18.5	-17.6	-16.4	-16.0	-15.8	-16.9	-18.9	-21.5	-23.0	-23.5	-23.6	-24.1	-24.9	-19.63	-15.80
28-Dec	-25.2	-25.9	-25.8	-26.1	-26.0	-26.2	-26.9	-26.7	-26.1	-26.1	-24.6	-22.5	-19.7	-19.2	-18.9	-19.1	-19.9	-20.5	-20.7	-20.8	-21.3	-21.7	-22.2	-22.3	-23.10	-18.90
29-Dec	-22.5	-23.0	-23.5	-24.2	-25.3	-26.9	-28.0	-28.8	-29.5	-29.8	-29.3	-27.7	-25.5	-24.5	-23.9	-24.2	-25.1	-26.1	-26.8	-27.5	-28.0	-28.6	-29.1	-29.8	-26.57	-22.48
30-Dec	-30.2	-30.4	-30.2	-30.2	-29.9	-29.7	-29.5	-29.4	-29.4	-29.7	-29.3	-28.7	-27.9	-26.7	-25.1	-25.4	-26.0	-27.1	-27.9	-28.9	-30.3	-30.9	-31.6	-32.2	-29.03	-25.08
31-Dec	-32.6	-33.1	-33.3	-33.2	-33.7	-33.7	-33.6	-33.8	-34.0	-33.4	-31.1	-29.3	-25.3	-19.7	-16.3	-16.6	-18.6	-21.2	-22.8	-22.8	-23.9	-25.0	-25.4	-25.8	-27.42	-16.34
																								Diurnal Average		
																								Diurnal Maximum		



WCAS - Hinton
Summary of Hourly Averages

Wind Speed (WS) - kph
December 2017

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1 Spd	1.0	3.4	5.9	1.4	3.5	5.5	3.2	3.1	6.3	9.2	5.8	6.4	5.1	4.4	2.9	2.3	5.3	5.4	8.8	4.6	2.2	0.8	0.8	0.9	3.46	9.20	
Dir	ENE	SW	SW	ESE	W	WSW	W	SW	SSW	SW	SW	SW	WSW	WSW	WNW	NW	SW	SW	SW	WSW	WSW	ESE	ENE	WSW	SW		
2 Spd	1.3	2.7	2.1	0.4	0.7	1.2	1.9	1.5	0.2	0.8	0.9	1.1	0.9	1.3	0.9	1.8	0.5	0.6	1.8	0.3	0.6	0.9	0.7	0.5	0.43	2.69	
Dir	ENE	ENE	ENE	N	ESE	E	ENE	ENE	WNW	E	N	W	WNW	SE	WSW	WNW	S	SE	S	SE	SSE	NE	NE	E	ENE	ENE	
3 Spd	0.4	0.6	0.6	0.3	0.4	0.4	0.2	0.3	0.8	3.1	1.2	0.3	0.0	0.2	0.7	0.4	0.2	0.5	2.3	0.4	3.2	3.7	1.7	1.7	0.47	3.72	
Dir	ESE	NE	SSW	ESE	WNW	NE	NNW	NNW	NE	ENE	SSE	S	W	SE	SE	WNW	ESE	SW	SW	WSW	SW	SW	SSW	SSW	SSW	SW	
4 Spd	2.7	2.8	3.3	5.3	4.4	1.0	1.1	4.7	9.3	8.7	11.6	7.1	6.4	6.3	5.8	7.4	11.5	10.5	14.3	12.3	11.9	11.8	9.9	7.1	7.28	14.35	
Dir	SW	WSW	SW	SW	SSW	W	W	WSW	WSW	WSW	WSW	WSW	WSW	WSW	W	WSW	WSW	WSW	SW	SW	SW	WSW	WSW	WSW	WSW	WSW	
5 Spd	2.9	1.8	1.6	2.7	3.3	6.7	4.2	4.0	5.9	3.0	5.2	4.7	10.8	8.8	7.0	4.5	2.7	4.0	2.7	2.4	10.2	7.8	6.6	6.1	4.09	10.84	
Dir	WSW	WSW	S	WSW	W	WSW	SW	WSW	WNW	W	SW	WNW	NW	NW	NW	SSW	WSW	SW	W	WNW	SW	SW	SW	SW	WSW	NW	
6 Spd	4.4	6.3	5.4	4.2	3.9	4.1	5.8	3.3	4.3	7.4	10.0	11.8	12.4	13.6	15.7	16.1	13.8	10.9	8.8	12.9	11.9	11.6	11.3	10.7	9.14	16.13	
Dir	WSW	WSW	WSW	WSW	WSW	WSW	WSW	W	WSW	WSW	WSW	WSW	SW	SW	SW	SW	SW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	SW
7 Spd	11.8	10.2	8.9	9.1	11.4	12.4	13.0	12.8	10.9	10.2	11.0	11.0	12.3	9.7	8.1	6.2	9.7	8.3	3.2	4.4	5.3	3.6	3.3	3.6	8.71	13.03	
Dir	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	W	W	WSW	W	W	W	WSW	WSW	
8 Spd	3.5	3.6	3.2	2.4	3.9	3.5	3.9	3.5	3.2	2.1	4.6	9.7	8.8	7.7	6.9	5.1	4.1	4.2	3.5	6.1	5.7	6.0	6.2	3.7	4.38	9.68	
Dir	WNW	WNW	NW	WNW	WNW	WNW	WNW	WNW	NW	WNW	WSW	WSW	WSW	SW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	W	WSW	W	W	WSW	
9 Spd	2.7	2.9	3.9	3.9	4.5	3.6	3.6	3.6	2.3	3.5	6.0	9.4	6.5	3.3	7.7	1.7	0.7	0.9	6.5	2.6	7.4	9.2	6.7	5.4	4.05	9.43	
Dir	WNW	WNW	W	WNW	WSW	W	W	WNW	WNW	WNW	WSW	SW	WSW	WSW	SW	WNW	NNW	ENE	SW	SW	SW	WSW	WSW	WSW	WSW	WSW	
10 Spd	9.9	5.6	0.8	5.1	4.8	3.9	8.5	7.0	5.7	5.5	6.5	6.1	7.5	5.2	5.1	2.9	1.8	1.1	0.8	0.7	0.5	1.1	2.0	0.5	3.50	9.91	
Dir	WSW	SW	SSW	SW	WSW	W	WSW	WSW	W	W	W	WSW	WSW	W	W	W	WSW	ESE	ENE	NNW	SSE	ENE	ENE	E	WSW	WSW	
11 Spd	0.9	0.2	0.8	1.1	0.8	0.8	1.8	1.9	2.2	2.7	2.8	5.7	7.3	10.9	9.4	7.0	7.4	7.2	4.1	3.3	2.1	3.0	4.0	2.8	3.19	10.86	
Dir	ESE	ESE	ENE	W	NE	WSW	NW	WNW	NW	WNW	WNW	WSW	WSW	SW	WSW	WSW	SW	WSW	W	W	WNW	WNW	W	NW	WSW	SW	
12 Spd	2.0	5.6	6.6	3.1	6.3	3.0	0.7	3.3	8.2	3.6	3.6	4.1	6.7	4.2	3.0	2.8	5.3	3.7	5.2	4.1	5.6	4.2	3.4	3.2	3.86	8.24	
Dir	W	SW	WSW	WSW	SSW	SSW	S	SW	SW	W	W	WNW	WNW	W	W	WSW	SW	SW	SW	SW	WSW	SW	SW	WSW	WSW	WSW	
13 Spd	1.0	3.2	1.4	0.3	0.6	0.5	0.6	0.4	0.9	0.2	0.4	0.2	4.7	8.1	5.4	4.2	4.0	3.1	2.4	1.4	0.1	0.5	0.2	0.1	1.31	8.10	
Dir	NNE	W	WNW	NNW	NE	NW	WNW	NNW	E	ENE	NNW	SSE	SW	SW	SW	SW	SW	WSW	WNW	W	E	NE	NNE	E	WSW	SW	
14 Spd	0.3	0.0	2.0	2.7	3.0	3.5	3.1	3.3	3.1	3.5	6.0	11.5	11.9	10.7	7.8	3.5	2.4	4.2	4.3	6.6	5.7	6.6	6.1	5.5	4.68	11.90	
Dir	NW	S	WNW	WNW	W	W	WNW	W	WNW	W	WSW	WSW	WSW	WSW	WSW	W	W	W	W	WSW	SW	WSW	WSW	WSW	WSW	WSW	
15 Spd	6.6	4.3	1.2	1.6	2.9	0.9	2.6	2.0	5.7	2.6	2.3	5.8	6.1	8.1	4.5	3.5	3.4	1.9	3.9	2.6	3.6	2.6	1.7	1.3	2.42	8.06	
Dir	SW	WSW	N	E	SSE	NNW	E	WSW	SW	SSW	WNW	NW	WNW	WNW	WNW	WNW	WNW	W	WSW	WSW	WSW	W	W	WNW	W	WNW	
16 Spd	0.6	0.5	1.7	0.7	0.1	0.4	0.8	0.5	1.3	6.8	7.6	9.3	11.9	11.4	8.0	7.1	8.4	9.0	8.2	8.1	7.7	11.4	11.8	7.9	5.55	11.94	
Dir	NNE	NW	E	ENE	ESE	W	W	SE	WNW	WSW	WSW	SW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	W	WSW	WSW	
17 Spd	7.4	8.3	8.9	8.4	9.5	7.0	8.4	13.0	11.3	8.2	11.1	13.8	15.4	8.9	6.1	6.9	2.2	2.2	2.9	4.3	5.5	2.9	2.8	1.5	7.16	15.39	
Dir	WSW	W	WSW	WSW	WSW	W	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	W	WNW	WNW	WNW	W	WNW	SW	W	WNW	W	WSW	WSW	
18 Spd	2.6	0.9	0.4	1.3	1.9	1.1	0.7	2.1	1.3	1.1	1.4	3.1	5.4	4.2	5.7	4.5	3.0	3.2	1.5	0.8	2.2	4.0	2.8	1.1	1.25	5.73	
Dir	SW	ESE	SE	S	WSW	WSW	S	WSW	W	WNW	W	WSW	WSW	W	WNW	WNW	WSW	WSW	SW	WSW	NE	ENE	ENE	ENE	W	WNW	
19 Spd	0.2	1.6	0.2	0.2	0.2	0.2	0.6	1.2	0.1	0.4	1.1	4.0	4.3	6.5	5.7	5.3	4.2	6.4	7.1	6.8	7.3	7.8	5.4	3.9	3.15	7.83	
Dir	ENE	ENE	NNE	WSW	WNW	WSW	SW	SW	NNE	NE	NE	ENE	ENE	ENE	ENE	ENE	NE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE
20 Spd	3.8	4.8	3.6	3.8	1.6	2.3	0.9	1.2	2.0	2.3	1.5	2.0	7.2	8.3	10.6	12.9	10.6	9.3	10.6	12.9	11.2	13.2	13.1	7.7	4.79	13.20	
Dir	ENE	ENE	ENE	ENE	NE	NE	NE	WSW	WSW	SW	W	WNW	WSW	WSW	WSW	SW	SW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW
21 Spd	6.2	7.9	6.1	7.4	6.0	1.8	1.6	1.3	5.2	2.9	2.4	2.5	2.6	2.3	2.4	2.8	3.7	1.7	1.6	1.7	2.5	3.0	1.0	0.8	1.43	7.91	
Dir	WSW	WSW	WSW	WSW	WSW	NW	N	W	WSW	W	WNW	W	WSW	WNW	ENE	NNE	NNE	NE	NE	E	NE	ENE	E	E	W	WSW	
22 Spd	2.2	1.8	2.2	2.4	4.2	1.1	1.9	2.1	2.6	3.6	5.7	5.4	2.4	2.1	3.2	6.0	7.0	4.4	3.0	4.4	5.1	5.7	7.6	7.5	3.86	7.57	
Dir	WSW	WSW	WSW	WNW	WSW	W	W	WSW	WSW	WSW	WSW	WSW	W	W	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW



WCAS - Hinton
Summary of Hourly Averages

Wind Speed (WS) - kph
December 2017

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24				
23 Spd	5.9	8.6	7.6	8.7	8.1	8.2	7.7	9.1	8.3	8.3	9.0	5.9	5.9	3.9	4.8	4.9	5.1	3.4	1.7	1.3	1.6	2.0	2.2	2.5	5.36	9.15		
Dir	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	W	WSW	WSW	WNW	W	NNW	W	WNW	WNW	WNW	NW	WSW	WSW		
24 Spd	2.6	3.5	3.4	6.4	5.3	6.1	3.7	1.8	1.5	1.8	1.8	2.2	2.0	1.7	1.5	1.7	1.7	0.5	0.5	0.6	1.3	0.6	0.5	1.1	2.10	6.38		
Dir	W	W	WSW	WSW	W	WSW	W	W	WSW	W	W	WSW	W	WNW	W	NW	WSW	WSW	E	WNW	WNW	NNW	NW	W	W	WSW		
25 Spd	1.7	2.6	0.8	1.2	1.1	0.7	1.8	2.1	1.6	3.4	3.5	2.8	2.3	4.7	3.6	4.1	3.3	5.9	3.6	2.2	1.1	0.4	1.8	0.7	1.15	5.90		
Dir	WNW	WSW	W	W	WSW	W	NW	NNW	N	NW	NW	N	NE	ENE	E	ENE	ENE	ENE	ENE	ENE	NE	N	ENE	ENE	NE	ENE		
26 Spd	0.6	0.7	1.4	1.0	1.1	0.7	0.8	0.5	0.5	0.8	0.6	1.5	1.8	2.6	3.1	1.6	0.8	3.4	3.3	3.8	4.4	1.9	1.8	2.8	0.84	4.40		
Dir	ENE	NNE	ENE	ENE	NE	NNE	NNE	NNE	NNW	NW	NW	WNW	WNW	WNW	W	W	NNW	ENE	ENE	ENE	E	ENE	ENE	ENE	NE	E		
27 Spd	2.3	4.7	3.1	2.5	1.9	1.6	2.6	0.8	1.7	1.0	1.6	3.9	4.1	2.8	1.1	1.8	2.3	1.1	0.2	0.5	1.6	2.9	1.7	1.1	0.37	4.69		
Dir	E	ENE	ENE	E	NE	NNE	NNW	NNE	ENE	W	W	WSW	WSW	WSW	NW	WNW	NNW	SSW	N	W	WSW	WSW	WSW	WSW	WNW	ENE		
28 Spd	2.2	1.1	1.2	1.4	1.2	1.5	1.0	1.1	0.7	0.8	2.0	1.4	0.2	3.7	4.7	4.7	5.8	7.5	6.6	4.6	5.9	5.5	2.8	3.2	1.80	7.54		
Dir	WSW	W	W	WNW	WNW	WNW	WSW	WNW	SSW	NW	WNW	WNW	NW	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	NE	NE	NE	NE	ENE	
29 Spd	5.0	5.6	5.4	5.9	5.0	4.5	4.5	2.9	3.9	4.8	4.3	4.7	6.1	6.5	6.3	5.5	5.1	6.5	5.8	5.0	3.5	4.1	5.6	5.7	5.06	6.53		
Dir	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	E	ENE	ENE	ENE	ENE	ENE	ENE	
30 Spd	6.1	6.5	6.1	6.7	6.5	5.2	4.7	4.7	4.5	3.1	6.6	5.7	5.6	5.7	5.5	5.1	5.9	2.9	3.9	3.0	2.5	1.0	1.1	1.5	4.56	6.67		
Dir	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	E	E	NE	ENE	NE	NE	NE	ENE	ENE		
31 Spd	1.2	1.0	1.3	1.3	1.6	0.9	0.9	1.3	1.4	0.9	1.1	1.0	0.8	0.6	0.4	0.6	1.2	0.7	0.8	1.7	0.9	0.8	1.7	0.8	0.36	1.74		
Dir	ENE	NE	ENE	NE	ENE	NE	NE	NE	WNW	NNW	NW	NW	WNW	NW	S	ESE	SE	S	WSW	W	WNW	WNW	WNW	WNW	NNW	W		
Spd	1.61	1.66	1.37	1.56	2.01	1.89	1.83	2.28	2.63	2.68	3.39	3.97	4.45	3.55	3.14	2.61	2.38	1.91	1.95	2.19	2.49	2.45	2.34	1.77	Diurnal Average			
Dir	WSW	WSW	WSW	WSW	WSW	W	W	W	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	Diurnal Maximum			
Spd	11.80	10.23	8.88	9.10	11.38	12.40	13.03	13.01	11.30	10.21	11.56	13.75	15.39	13.59	15.70	16.13	13.83	10.93	14.35	12.92	11.93	13.20	13.05	10.70	Diurnal Maximum			
Dir	241.61	243.63	249.68	252.56	249.69	249.42	247.59	247.71	249.58	250.13	236.80	245.54	240.73	235.40	234.59	230.33	233.40	238.81	236.23	239.69	235.84	245.44	246.00	239.09				
Maximum Speed Value: 16.1 kph on Dec 6 16:00																			Minimum Speed Value: 0.0 kph on Dec 3 13:00					Hours in Service:		744		
Maximum Daily Speed Average: 9.14 kph on Dec 6																			Minimum Daily Speed Average: 0.36 kph on Dec 3					Hours of Data:		744		
Maximum Diurnal Speed Average: 4.45 kph at hour 13																			Minimum Diurnal Speed Average: 1.37 kph at hour 3					Hours of Missing Data:		0		
Monthly Average Velocity: 2.409 kph 252.31 deg																			Speed Percentiles: P ₁ = 0.2 P ₁₀ = 0.7 Q ₁ = 1.5 Median = 3.3 Q ₃ = 6.0 P ₉₀ = 8.9 P ₉₉ = 13.4					Percent Operational Time:		100.0		
All monthly, daily, and diurnal averages have been calculated using vector methods																												
Frequency Distribution																												
		Speed Range (kph)																										
Direction	0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total																					
North	23	0	0	0	0	0	23																					
NorthEast	78	27	0	0	0	0	105																					
East	58	15	0	0	0	0	73																					
SouthEast	15	0	0	0	0	0	15																					
South	15	1	0	0	0	0	16																					
SouthWest	65	95	30	0	0	0	190																					
West	174	69	9	0	0	0	252																					
NorthWest	61	9	0	0	0	0	70																					
Total	489	216	39	0	0	0	744																					



WCAS - Hinton
Summary of Hourly Averages

Relative Humidity (RH) - %
December 2017

Maximum Value: 91.40 % on Dec 19 10:00 Maximum Daily Average: 83.83 % on Dec 19 Minimum Value: 16.2 % on Dec 10 01:00 Minimum Daily Average: 33.52 % on Dec 10 Maximum Diurnal Average: 66.08 % at hour 7 Minimum Diurnal Average: 46.49 % at hour 15 Monthly Average: 58.745 % Percentiles: P ₁ = 20.7 P ₁₀ = 32.2 Q ₁ = 44.1 Median = 62.1 Q ₃ = 73.6 P ₉₀ = 79.8 P ₉₉ = 88.2																								Hours in Service:	744																								
																								Hours of Data:	744																								
																								Hours of Missing Data:	0																								
																								Hours of Calibration:	0																								
																								Percent Operational Time:	100.0																								
Day	Hourly Period Ending At																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Dec	74.2	50.7	40.9	48.7	46.1	40.5	40.0	42.1	42.5	38.6	37.9	35.2	38.2	40.1	41.9	46.7	55.7	75.6	59.5	56.1	69.3	73.3	78.1	79.4	52.13	79.42																							
2-Dec	79.9	82.0	83.2	85.6	87.0	88.1	86.1	84.2	83.6	83.4	81.0	75.8	64.7	57.4	53.5	56.8	65.5	72.6	75.6	77.4	82.5	84.5	86.5	87.9	77.71	88.11																							
3-Dec	87.8	86.5	85.6	85.4	84.9	85.5	85.6	83.7	83.2	82.9	80.9	78.7	80.0	75.2	73.4	74.0	74.3	74.9	61.6	57.9	55.5	56.4	62.8	63.1	75.83	87.83																							
4-Dec	67.9	63.5	59.5	56.0	56.1	68.7	75.2	62.8	49.0	47.5	43.8	44.6	44.0	41.4	42.2	42.7	42.9	43.7	43.4	43.5	43.4	43.1	42.2	42.6	50.41	75.19																							
5-Dec	44.1	47.0	51.5	53.5	52.0	46.5	44.2	43.3	28.6	27.1	30.1	25.6	19.1	19.5	20.7	25.8	36.5	40.3	40.0	51.9	48.8	53.9	56.5	58.4	40.20	58.45																							
6-Dec	59.3	58.9	59.6	61.2	61.3	63.1	60.2	62.6	63.5	58.6	55.9	50.4	46.5	44.3	40.7	41.3	42.9	46.4	49.4	49.3	50.5	52.4	53.8	54.4	53.60	63.49																							
7-Dec	53.9	54.6	56.3	56.0	55.7	55.7	55.8	55.9	55.5	55.8	53.1	47.2	44.1	40.9	37.9	36.2	37.5	39.9	46.9	49.9	49.7	55.0	61.5	59.8	50.62	61.47																							
8-Dec	63.2	66.3	67.9	68.8	67.2	64.7	61.0	57.4	61.5	62.2	50.8	39.6	34.7	30.6	28.6	33.9	37.7	41.1	40.5	41.9	40.3	38.1	35.9	39.9	48.90	68.84																							
9-Dec	50.1	51.9	47.2	48.9	40.8	41.0	43.8	49.6	47.5	48.0	29.8	25.1	24.1	25.5	22.2	25.3	30.0	39.1	24.5	28.1	21.4	19.4	21.7	21.1	34.42	51.94																							
10-Dec	16.2	16.5	21.8	20.7	19.3	22.0	23.3	25.4	26.4	26.7	24.7	23.6	21.9	22.1	24.3	24.7	27.8	31.4	46.2	58.3	64.9	68.9	72.5	74.7	33.52	74.68																							
11-Dec	76.7	78.9	79.7	77.7	77.5	76.0	72.5	66.3	65.7	63.3	58.4	43.8	34.6	31.3	29.8	32.2	34.8	36.5	44.7	45.2	53.8	56.3	52.1	58.3	56.08	79.68																							
12-Dec	60.6	47.4	46.5	46.2	37.6	37.0	53.3	48.8	24.5	28.3	27.1	23.5	24.0	24.3	24.8	28.4	32.1	40.7	40.1	42.8	42.8	45.4	45.9	48.3	38.34	60.55																							
13-Dec	65.4	55.8	61.2	71.0	73.7	73.5	74.2	75.9	75.9	78.5	71.5	56.3	46.3	43.4	41.3	44.9	50.4	57.7	68.9	72.5	78.1	80.8	82.5	84.6	66.01	84.60																							
14-Dec	86.0	86.4	85.8	83.0	78.2	74.3	74.7	73.0	73.9	70.4	63.3	55.5	52.2	46.2	44.1	47.3	49.1	50.3	43.1	42.0	40.3	39.9	41.4	40.1	60.02	86.43																							
15-Dec	37.2	39.7	48.0	54.7	58.5	64.8	63.6	59.0	47.5	53.8	53.8	31.6	23.0	19.8	21.5	24.4	30.0	36.5	35.3	36.6	33.4	39.9	44.1	40.9	41.57	64.76																							
16-Dec	51.0	54.7	63.5	69.2	72.0	74.4	76.6	78.9	81.0	54.1	41.9	33.6	27.7	26.8	29.6	29.4	30.0	31.9	33.8	35.1	36.3	36.1	35.2	37.4	47.51	81.03																							
17-Dec	37.1	37.6	39.2	39.4	38.6	40.3	41.9	41.8	41.0	41.5	35.9	30.5	29.9	33.1	32.4	33.3	42.9	32.8	25.4	28.9	30.7	33.5	36.3	39.7	35.99	42.93																							
18-Dec	42.4	47.5	54.1	56.6	60.2	64.2	70.2	68.9	69.7	66.9	52.0	36.3	28.3	25.7	22.1	23.0	29.1	35.1	37.6	41.1	46.9	54.7	58.3	62.1	48.03	70.15																							
19-Dec	64.3	69.0	78.3	82.8	86.2	89.7	91.3	91.1	90.8	91.4	91.1	88.9	85.6	82.9	81.2	79.0	79.9	81.7	81.8	83.1	85.2	85.8	85.5	85.4	83.83	91.40																							
20-Dec	84.9	83.2	84.2	82.2	82.7	83.5	83.6	83.4	84.9	83.6	78.0	69.9	62.1	54.8	50.0	48.1	47.2	46.1	45.2	45.5	45.6	46.5	47.1	47.8	65.41	84.85																							
21-Dec	47.5	47.8	49.7	48.9	53.6	74.2	80.3	82.0	79.1	81.3	83.4	85.0	84.4	78.8	75.9	75.0	79.1	75.4	76.8	77.5	76.7	66.9	71.9	75.9	71.96	84.95																							
22-Dec	80.5	82.9	80.7	76.9	76.5	79.3	80.7	78.8	76.1	75.8	70.7	71.0	71.8	70.2	59.6	53.2	61.0	63.6	71.1	73.4	68.4	67.6	63.7	63.4	71.54	82.90																							
23-Dec	63.4	61.8	61.3	61.8	61.7	61.2	59.6	58.3	57.7	56.9	57.1	59.0	59.9	61.1	55.2	54.4	52.9	56.5	61.5	61.9	64.2	66.5	69.7	76.1	60.83	76.08																							
24-Dec	78.5	77.2	73.6	71.9	76.1	73.4	74.1	75.9	78.6	78.4	75.6	71.5	64.7	63.4	55.3	55.6	62.4	71.5	77.2	79.1	79.5	79.7	80.4	79.7	73.07	80.41																							
25-Dec	79.8	78.6	76.9	74.9	73.6	71.9	64.4	60.8	59.5	59.5	55.6	52.3	51.7	58.9	62.2	62.4	65.5	68.2	72.3	75.6	76.1	75.3	73.7	73.0	67.63	79.82																							
26-Dec	72.2	70.9	70.5	70.1	69.9	70.8	71.8	73.0	74.5	75.9	77.6	78.1	66.9	56.8	48.4	49.9	54.7	67.8	75.3	73.8	74.7	77.7	78.1	78.6	69.92	78.56																							
27-Dec	78.2	78.4	77.9	76.9	73.3	71.2	68.5	70.7	69.6	70.2	72.3	68.7	64.8	58.7	52.7	47.1	52.0	62.1	72.2	76.0	75.7	75.0	73.9	73.2	69.15	78.41																							
28-Dec	73.1	72.3	72.6	72.4	72.5	72.0	71.6	71.9	72.4	72.4	73.4	74.6	75.4	75.0	76.1	75.8	74.7	72.8	70.9	73.9	74.1	73.8	74.6	74.4	73.45	76.08																							
29-Dec	73.2	72.3	71.8	71.1	71.2	70.9	70.2	69.7	69.0	68.6	68.6	67.9	63.8	63.3	63.6	66.2	68.8	70.0	69.7	69.2	68.4	68.0	67.0	66.2	68.69	73.24																							
30-Dec	65.8	65.3	65.3	64.5	64.5	65.4	65.8	65.6	65.6	66.4	65.6	64.4	63.6	63.3	62.2	64.0	65.9	68.8	69.1	68.9	68.2	67.7	66.9	66.2	65.78	69.13																							
31-Dec	65.6	65.2	65.3	64.8	64.4	64.3	64.2	64.0	63.9	64.5	65.7	66.9	70.7	69.7	67.7	71.5	75.7	76.2	75.8	75.6	74.6	73.1	73.0	73.0	68.98	76.22																							
																								63.87	62.93	63.86	64.58	64.29	65.42	66.08	65.31	63.29	62.34	58.91	54.03	50.59	48.53	46.49	47.50	51.25	55.08	55.99	57.81	58.71	59.85	61.05	62.13	Diurnal Average	
																								87.83	86.55	85.82	85.57	86.99	89.71	91.28	91.11	90.76	91.40	91.11	88.94	85.56	82.91	81.21	79.01	79.87	81.73	81.83	83.08	85.21	85.82	86.51	87.90	Diurnal Maximum	



WCAS - Hinton
Summary of Hourly Standard Deviations

Wind Speed (WS) - kph
December 2017

Maximum Value: 8.56 kph on Dec 17 13:00		Maximum Daily Average: 5.46 kph on Dec 17		Hours in Service: 744																																													
Minimum Value: 0.3 kph on Dec 19 05:00		Minimum Daily Average: 1.05 kph on Dec 31		Hours of Data: 744																																													
Maximum Diurnal Average: 3.73 kph at hour 13		Minimum Diurnal Average: 2.32 kph at hour 6		Hours of Missing Data: 0																																													
Monthly Average: 2.773 kph		Percentiles: P ₁ = 0.6 P ₁₀ = 1.1 Q ₁ = 1.4 Median = 2.2 Q ₃ = 3.8 P ₉₀ = 5.3 P ₉₉ = 7.7		Hours of Calibration: 0																																													
				Percent Operational Time: 100.0																																													
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Dec	2.1	3.9	4.3	2.6	3.6	5.1	3.4	2.5	3.3	5.2	4.2	4.3	4.4	3.7	3.0	2.1	4.5	4.7	3.7	3.5	2.5	2.8	1.4	2.1	3.46	5.25																							
2-Dec	1.5	2.3	1.4	1.1	1.5	1.3	1.3	1.4	1.1	1.2	1.2	1.0	1.7	1.5	1.5	1.5	1.3	1.1	1.7	1.3	1.1	1.4	1.0	1.0	1.36	2.34																							
3-Dec	1.0	1.2	2.2	1.5	0.9	0.7	0.7	0.8	1.0	2.0	1.3	0.7	0.7	1.0	1.4	0.7	1.1	1.3	1.7	0.9	1.8	1.8	1.9	1.4	1.23	2.18																							
4-Dec	2.0	2.1	2.5	2.2	1.6	1.1	1.3	3.5	4.3	4.8	5.2	5.2	5.1	4.9	5.4	5.5	6.1	6.0	6.1	5.0	5.5	5.7	4.8	5.3	4.21	6.13																							
5-Dec	3.0	2.5	2.1	2.4	3.3	4.2	3.2	3.2	3.6	2.8	4.0	4.1	5.0	4.3	3.8	3.1	1.8	4.0	3.8	1.9	5.2	3.5	2.8	2.7	3.36	5.22																							
6-Dec	3.1	3.7	3.5	3.4	3.2	3.5	3.9	3.2	3.2	5.1	5.8	5.8	6.2	6.4	6.7	6.4	6.0	5.9	5.3	5.7	5.8	5.0	5.3	5.2	4.89	6.74																							
7-Dec	5.3	5.7	6.0	6.2	6.1	6.0	6.3	6.5	6.0	5.7	5.7	5.8	5.8	5.9	5.4	4.4	5.1	5.1	2.3	3.3	4.2	2.7	1.8	2.7	5.01	6.54																							
8-Dec	2.4	1.6	1.5	1.5	1.8	2.1	2.6	2.1	1.8	1.5	4.6	5.3	5.0	4.2	4.3	4.1	3.0	3.1	2.9	4.2	4.0	4.8	5.0	3.0	3.18	5.30																							
9-Dec	1.7	1.6	2.1	1.8	3.1	2.3	1.8	1.6	1.7	2.0	4.7	5.6	4.7	2.5	3.5	2.3	1.4	1.9	3.8	3.1	4.2	4.1	5.3	4.9	2.99	5.61																							
10-Dec	6.4	4.3	2.5	2.8	3.8	3.6	6.6	5.9	5.5	5.3	6.0	5.7	6.9	5.2	5.0	3.4	2.1	2.2	1.4	1.2	1.2	1.2	1.4	1.1	3.77	6.91																							
11-Dec	1.6	1.1	1.5	1.4	1.0	1.8	1.5	1.4	1.3	1.4	1.8	4.4	4.1	5.3	5.5	4.9	4.8	5.2	3.2	2.6	1.3	1.5	3.3	1.4	2.64	5.50																							
12-Dec	3.1	6.1	4.5	3.0	4.9	3.8	1.8	3.1	4.1	2.9	3.0	3.5	4.7	3.7	3.0	2.5	3.2	2.2	2.7	3.3	4.1	2.7	3.0	3.2	3.42	6.05																							
13-Dec	1.3	2.8	1.8	0.9	1.0	1.3	1.1	1.0	1.2	1.2	1.1	0.9	3.6	3.7	2.9	2.4	2.0	1.8	1.2	1.3	0.6	0.8	0.9	0.6	1.56	3.70																							
14-Dec	0.6	0.9	1.3	2.0	1.7	2.1	2.1	2.6	2.0	3.1	4.9	5.9	6.8	6.5	5.5	2.9	2.5	3.8	3.7	5.1	3.8	5.2	3.9	3.4	3.42	6.77																							
15-Dec	4.2	3.5	2.1	1.5	2.4	1.6	3.0	2.2	3.3	3.6	2.3	3.0	3.4	4.0	3.4	2.4	1.9	1.7	2.7	2.2	2.5	2.1	1.8	1.8	2.60	4.20																							
16-Dec	1.2	1.1	1.7	1.2	1.0	1.0	1.3	1.0	1.5	3.2	4.1	4.6	6.0	6.5	5.6	5.6	6.7	6.8	6.6	6.4	6.1	7.8	8.3	6.7	4.26	8.32																							
17-Dec	6.3	7.3	7.0	6.9	7.6	6.4	6.9	8.0	7.6	6.3	7.9	8.6	8.6	7.7	5.0	3.9	2.3	2.3	2.5	3.5	2.9	2.2	2.0	1.3	5.46	8.56																							
18-Dec	2.4	1.1	1.2	1.6	1.8	1.2	1.5	2.0	1.5	1.4	1.5	3.0	3.8	3.1	3.6	2.8	2.8	2.1	1.6	1.1	2.0	2.5	1.7	1.5	2.03	3.82																							
19-Dec	1.2	1.3	0.7	0.7	0.3	0.5	0.8	1.3	1.0	0.5	1.1	2.1	2.5	3.1	3.3	3.2	2.9	3.4	3.3	3.6	2.9	3.4	2.7	2.7	2.01	3.60																							
20-Dec	2.1	2.1	2.0	1.8	1.3	1.6	1.0	1.5	1.3	1.2	1.5	1.8	4.0	4.5	4.6	5.2	4.4	5.0	5.3	5.8	5.3	6.0	6.2	4.5	3.34	6.21																							
21-Dec	4.0	4.3	4.5	4.6	4.0	1.2	1.4	2.1	3.5	2.2	1.8	1.6	2.0	1.9	2.2	2.2	3.0	1.8	1.8	1.9	2.1	3.1	1.1	1.1	2.47	4.57																							
22-Dec	1.6	2.0	2.0	2.0	2.5	1.4	1.5	2.2	2.4	3.2	2.7	2.6	2.2	2.3	2.4	3.8	2.8	3.1	1.9	2.4	3.3	3.4	3.8	3.5	2.54	3.78																							
23-Dec	3.8	3.9	3.2	4.4	4.2	4.3	4.5	4.9	4.9	4.4	4.5	3.6	4.1	3.1	3.4	3.1	3.4	2.4	1.5	1.7	1.3	1.6	1.3	1.4	3.29	4.93																							
24-Dec	2.1	2.0	2.3	2.7	3.1	3.5	2.8	1.8	1.6	2.0	2.0	2.3	1.6	1.3	1.5	1.1	1.2	1.5	0.9	0.8	1.1	0.8	0.6	1.0	1.74	3.51																							
25-Dec	1.1	2.2	1.2	1.4	1.4	1.4	1.5	1.7	1.6	2.0	1.8	2.0	1.9	2.1	1.5	2.4	2.2	2.2	1.7	1.1	1.3	0.5	1.1	0.9	1.59	2.39																							
26-Dec	0.7	0.9	1.0	0.9	0.9	1.0	0.9	0.9	0.7	1.0	1.0	1.0	1.4	1.9	2.6	1.7	1.0	1.9	2.0	2.0	1.4	1.8	1.3	1.6	1.31	2.60																							
27-Dec	2.1	2.3	2.1	1.6	1.9	1.6	1.6	1.2	1.3	1.0	1.5	2.3	2.6	2.0	1.5	1.4	1.7	1.4	1.0	1.1	1.5	1.4	1.4	1.2	1.61	2.57																							
28-Dec	1.5	1.1	1.3	1.1	1.4	1.4	1.3	1.4	1.6	1.4	1.3	1.3	0.9	1.8	2.4	2.8	3.3	3.5	2.4	2.0	2.6	2.9	2.2	2.0	1.88	3.52																							
29-Dec	3.1	2.8	3.0	3.2	2.8	2.3	2.0	1.6	1.7	1.6	1.6	1.7	2.3	2.6	2.8	2.5	2.0	2.2	2.2	2.2	1.5	2.3	2.1	2.1	2.26	3.18																							
30-Dec	2.3	2.6	2.8	2.7	2.3	2.0	2.1	1.8	1.8	1.9	2.6	2.4	2.2	2.2	3.0	2.5	2.0	1.9	1.3	1.0	1.0	1.7	0.9	1.2	2.01	2.99																							
31-Dec	1.2	1.2	1.0	1.1	1.1	0.9	0.9	1.0	1.3	1.0	1.2	1.0	1.1	0.8	1.1	1.1	1.0	0.8	0.9	1.1	1.0	0.9	1.3	1.1	1.05	1.31																							
																								2.45	2.63	2.47	2.33	2.50	2.32	2.34	2.44	2.54	2.65	3.02	3.33	3.73	3.55	3.44	3.04	2.90	2.98	2.69	2.65	2.74	2.82	2.63	2.37	Diurnal Average	
																								6.38	7.34	7.04	6.89	7.61	6.39	6.95	7.95	7.59	6.32	7.86	8.56	8.56	7.73	6.74	6.42	6.74	6.76	6.61	6.41	6.11	7.76	8.32	6.71	Diurnal Maximum	



WCAS - Hinton
Summary of Hourly Standard Deviations

Wind Direction (WD) - deg
December 2017

Maximum Value: 101.77 deg on Dec 28 09:00																							Hours in Service: 744																									
Maximum Daily Average: 71.99 deg on Dec 3																							Hours of Data: 744																									
Minimum Value: 17.1 deg on Dec 13 14:00																							Hours of Missing Data: 0																									
Maximum Diurnal Average: 51.10 deg at hour 1																							Hours of Calibration: 0																									
Minimum Daily Average: 25.00 deg on Dec 29																							Percent Operational Time: 100.0																									
Minimum Diurnal Average: 40.01 deg at hour 12																																																
Monthly Average: 45.130 deg																																																
Percentiles: P₁ = 19.5 P₁₀ = 25.2 Q₁ = 31.2 Median = 40.0 Q₃ = 52.9 P₉₀ = 79.8 P₉₉ = 96.7																																																
Day	Hourly Period Ending At																								Daily Average	Daily Maximum																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																								
1-Dec	85.8	77.6	37.9	90.2	63.8	51.6	57.9	41.1	36.3	30.8	43.8	44.2	46.5	43.7	55.4	56.8	31.0	53.9	23.6	41.3	46.4	86.6	78.3	80.4	54.36	90.17																						
2-Dec	81.1	56.0	52.5	74.6	65.2	63.9	50.2	38.4	96.2	80.3	68.0	40.0	71.3	81.1	79.8	34.0	84.9	80.4	52.7	84.4	75.7	81.4	72.1	80.0	68.51	96.16																						
3-Dec	66.6	83.6	84.5	97.1	84.3	68.2	89.7	94.3	51.8	38.6	79.2	68.0	101.1	100.4	93.3	54.3	86.1	93.9	36.9	78.0	27.9	29.1	82.2	38.6	71.99	101.11																						
4-Dec	29.7	37.5	32.5	20.8	21.1	44.1	44.2	33.7	24.7	27.0	22.7	42.9	47.2	42.9	45.9	43.8	29.2	29.9	22.5	22.7	25.7	26.9	26.9	39.2	32.66	47.18																						
5-Dec	51.2	86.6	81.6	52.4	55.7	38.3	43.9	53.3	29.0	47.6	37.7	47.9	22.6	25.6	32.2	55.8	38.0	68.0	67.0	55.3	24.2	23.3	21.7	24.8	45.15	86.64																						
6-Dec	35.4	30.7	35.0	46.4	45.0	39.5	35.9	47.2	41.3	36.9	34.3	26.5	27.2	25.8	24.4	24.1	24.9	28.6	34.0	25.4	27.5	26.3	27.6	27.7	32.40	47.18																						
7-Dec	26.5	32.3	35.8	37.1	30.3	29.5	30.0	31.3	33.4	33.5	31.2	31.8	28.2	32.4	36.8	40.5	31.1	38.1	37.6	40.1	43.2	36.0	29.1	37.4	33.89	43.21																						
8-Dec	36.7	26.0	23.2	38.9	22.9	30.4	34.1	34.1	39.7	52.9	47.4	30.9	29.2	29.8	32.6	40.2	37.1	41.6	42.3	34.2	39.1	45.0	44.1	43.5	36.50	52.86																						
9-Dec	28.0	29.0	28.4	22.6	29.9	36.7	23.6	20.3	48.3	31.1	42.2	30.3	39.6	47.6	24.2	57.1	82.7	86.8	34.2	65.3	30.0	25.2	45.2	52.2	40.01	86.78																						
10-Dec	35.6	47.5	95.9	28.5	42.6	48.3	45.5	54.1	52.6	50.8	51.8	49.0	50.8	54.9	56.1	61.4	60.4	82.2	74.6	66.1	90.4	70.7	53.0	90.1	58.87	95.90																						
11-Dec	85.9	77.5	97.4	70.6	59.6	90.0	52.6	34.2	22.8	24.5	30.9	43.9	32.1	26.5	31.9	34.0	33.4	41.7	33.2	38.8	29.5	27.2	42.1	24.4	45.20	97.45																						
12-Dec	67.8	67.3	36.7	60.5	62.2	98.6	95.2	63.4	25.9	39.5	45.9	47.6	36.4	44.0	46.7	45.9	29.6	34.1	22.9	36.5	33.1	39.0	43.2	54.8	49.03	98.65																						
13-Dec	73.5	47.4	58.7	96.2	78.4	84.8	82.1	73.2	80.0	80.3	94.2	88.0	44.8	17.1	35.0	36.2	37.9	33.9	21.1	27.1	92.9	49.9	90.3	83.0	62.75	96.23																						
14-Dec	81.2	97.9	22.3	33.1	32.1	31.7	34.9	37.8	34.4	44.5	40.3	26.5	30.0	33.0	36.3	43.1	51.4	45.5	47.1	33.7	45.8	46.2	31.5	35.3	41.48	97.90																						
15-Dec	34.7	58.6	86.5	61.5	63.5	87.4	71.6	76.6	39.8	82.7	60.1	25.1	28.8	26.4	40.0	35.2	27.7	37.4	28.0	34.0	29.3	36.2	49.4	67.1	49.48	87.38																						
16-Dec	89.0	57.0	52.5	73.5	93.6	67.4	50.8	95.2	48.5	23.7	30.4	27.9	26.7	32.5	37.5	43.1	40.5	38.7	43.7	43.9	46.3	37.1	39.5	41.3	49.19	95.24																						
17-Dec	42.7	44.2	43.1	48.8	43.8	47.3	45.0	32.9	35.6	40.1	37.0	36.2	29.2	44.6	47.2	28.6	45.8	55.2	59.0	52.7	32.9	44.0	41.9	42.4	42.50	58.95																						
18-Dec	69.0	61.1	82.1	86.6	46.6	47.3	81.1	51.1	42.7	46.8	46.2	54.8	37.2	41.0	36.5	37.5	40.6	36.1	41.0	52.6	64.1	34.1	33.3	60.1	51.22	86.56																						
19-Dec	95.8	40.6	61.9	65.3	62.5	51.2	35.9	35.1	94.4	28.5	41.2	25.1	34.2	27.2	34.8	35.3	38.6	31.9	27.4	31.3	24.3	24.0	26.6	35.6	42.04	95.84																						
20-Dec	33.8	31.2	26.3	24.8	32.9	31.2	51.8	87.6	26.0	40.0	47.4	39.5	31.0	29.2	26.2	25.5	25.9	31.2	29.7	28.3	29.4	29.0	29.7	35.5	34.30	87.56																						
21-Dec	39.8	32.8	44.2	35.5	37.6	36.0	32.6	67.1	39.7	42.3	38.6	39.9	48.5	48.0	55.8	46.8	45.2	49.4	48.7	74.9	46.2	56.3	64.7	81.0	47.99	81.00																						
22-Dec	31.6	47.1	49.3	42.6	35.7	41.9	34.8	49.5	37.1	43.4	25.4	27.6	42.7	58.4	42.2	35.3	23.8	31.9	42.7	31.6	31.6	35.6	30.3	29.9	37.59	58.36																						
23-Dec	40.6	30.1	25.5	28.9	31.8	32.7	33.5	32.3	32.7	32.6	30.2	34.4	40.8	50.3	46.3	44.9	43.8	41.5	70.9	80.7	44.4	41.1	40.0	41.3	40.48	80.71																						
24-Dec	43.8	31.0	35.2	28.7	34.3	41.3	43.6	56.6	47.9	57.7	61.6	58.8	51.3	29.5	51.2	47.8	28.6	83.8	74.6	63.1	37.1	57.0	35.6	47.2	47.81	83.79																						
25-Dec	33.2	40.2	80.1	55.7	57.6	83.4	42.9	43.3	38.3	23.9	28.7	44.3	64.3	23.9	37.0	33.8	41.9	21.0	22.8	24.9	45.4	39.1	31.5	39.9	41.55	83.45																						
26-Dec	37.9	42.5	36.0	41.7	38.1	70.7	46.2	69.5	43.4	49.3	83.8	33.4	37.6	35.6	43.8	52.9	48.4	29.9	24.4	25.2	22.7	56.0	34.9	35.2	43.29	83.83																						
27-Dec	60.8	26.6	43.5	34.4	47.1	56.2	28.5	54.9	51.0	39.9	38.4	34.4	38.8	56.5	83.0	54.5	43.7	81.9	95.9	89.4	49.2	31.3	31.8	27.9	49.99	95.89																						
28-Dec	43.2	41.0	38.5	31.3	48.0	44.4	61.8	68.5	101.8	72.0	40.0	50.0	86.7	41.6	34.0	37.7	36.6	25.2	21.1	24.6	25.9	28.3	43.6	39.1	45.20	101.77																						
29-Dec	33.8	28.4	29.4	31.2	37.3	28.9	23.9	27.2	23.6	19.5	19.2	17.2	21.3	23.8	29.2	26.2	21.4	19.3	22.1	23.0	26.8	25.1	21.6	20.4	25.00	37.34																						
30-Dec	21.8	23.3	24.7	21.7	21.0	20.7	24.6	20.4	20.1	24.3	18.5	22.9	23.2	26.6	33.5	31.0	18.6	31.5	19.7	18.2	25.5	80.1	33.3	40.4	26.90	80.07																						
31-Dec	47.6	68.1	40.8	37.3	31.1	37.5	41.1	36.1	49.8	39.0	60.7	51.3	53.2	58.4	89.0	86.8	56.3	55.5	41.7	32.3	62.8	48.3	48.6	67.2	51.70	89.01																						
																							51.10	48.42	49.09	48.98	46.96	51.01	47.41	50.34	44.79	42.71	44.41	40.01	42.02	40.59	45.09	42.90	41.46	47.10	40.74	44.51	41.14	42.44	42.70	47.19	Diurnal Average	
																							95.84	97.90	97.45	97.06	93.64	98.65	95.25	95.24	101.77	82.68	94.19	88.01	101.11	100.43	93.35	86.85	86.10	93.88	95.89	89.41	92.86	86.62	90.30	90.15	Diurnal Maximum	

WEST CENTRAL AIRSHED SOCIETY

**CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
MONTHLY REPORT**

**END OF REPORT
DECEMBER 2017**