

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

AIR QUALITY MONITORING
November 2017
Monthly Report

Prepared by:

West Central Airshed Society
Drayton Valley, Alberta

December 15, 2017

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 November 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 November in excess of the AAAQO for H₂S, as indicated in Air Monitoring Directive Section III.A.3. (a). There were two one-hour TRS exceedances on November 11, and one 24-hour PM_{2.5} exceedance on November 14.

2. Operational times less than 90 percent:

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

3. Monitoring Notes:

AMS 906 (Hinton)

All analyzers and meteorological sensors returned uptimes of 100% for the month of November.

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	November

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	0.013	2	0.003	0
PM _{2.5}	906	100.0	70.0 µg/m ³	0	34.31 µg/m ³	0
H ₂ S	906	100.0	0.010	0	0.003	1

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
NOVEMBER 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													November 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)	35	685	100.0	0.9	0.0	13.0	0.2	0.2	0.3	1.0	2.3	2	0	0.003	
SO ₂ (ppb)	35	685	100.0	0.2	0.0	3.7	0.0	0.0	0.0	0.1	0.4	0	-	0.001	
H ₂ S (ppb)	35	685	100.0	0.8	0.0	10.0	0.3	0.4	0.5	0.8	1.8	0	0	0.003	
O ₃ (ppb)	35	685	100.0	16.0	0.3	38.1	1.3	6.2	14.6	26.4	31.8	0	-	0.032	
NO (ppb)	36	684	100.0	2.6	0.0	35.5	0.1	0.3	1.0	2.9	7.0	-	-	-	
NO ₂ (ppb)	36	684	100.0	4.0	0.3	13.9	1.4	2.3	3.7	5.2	6.9	0	0	0.007	
NO _x (ppb)	36	684	100.0	6.6	0.3	46.5	1.8	2.8	5.0	8.0	13.8	-	-	-	
Particulate Matter 2.5 microns (µm ³)	0	720	100.0	13.9	0.2	70.0	2.8	5.2	10.9	19.8	28.5	0	1	34.31 ug/m3	
Wind Speed (kph)	0	720	100.0	3.9	0.1	14.2	0.7	1.5	3.3	5.6	7.9	-	-	-	
Temperature (°C)	0	720	100.0	-5.6	-21.6	8.2	-13.5	-10.2	-6.2	-0.2	3.3	-	-	-	
Relative Humidity (%)	0	720	100.0	72.0	28.1	98.0	42.9	62.4	78.5	83.6	88.0	-	-	-	
Std Dev Wind Direction (deg)	0	720	100.0	44.9	12.6	106.6	23.6	29.2	39.0	56.4	77.8	-	-	-	
Std Dev Wind Speed (kph)	0	720	100.0	2.5	0.2	10.1	1.0	1.5	2.1	3.0	4.8	-	-	-	



WCAS - Hinton
Summary of Hourly Averages

Total Reduced Sulphur (TRS) - ppb
November 2017

Maximum Value: 13.32 ppb on Nov 11 11:00		Maximum Daily Average: 3.11 ppb on Nov 11		Hours in Service: 720																						
Minimum Value: 0 ppb on Nov 4 17:00		Minimum Daily Average: 0.16 ppb on Nov 2		Hours of Data: 685																						
Maximum Diurnal Average: 1.53 ppb at hour 11		Minimum Diurnal Average: 0.56 ppb at hour 22		Hours of Missing Data: 35																						
Monthly Average: 0.901 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.2 Q ₁ = 0.2 Median = 0.3 Q ₃ = 1.0 P ₉₀ = 2.3 P ₉₉ = 6.2		Hours of Calibration: 35																						
				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-Nov	0	0	0	Z	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.22	0.65
2-Nov	0	0	0	Z	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.16	0.27
3-Nov	0	0	0	Z	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	3	0.52	5.21
4-Nov	2	2	1	Z	1	0	0	2	1	2	6	4	4	2	1	0	0	0	0	0	0	0	0	1	1.30	5.84
5-Nov	3	4	5	Z	4	4	0	2	3	3	2	1	1	0	0	0	0	0	1	0	0	1	1	0	1.60	4.88
6-Nov	2	4	2	Z	1	1	1	1	0	1	1	0	0	0	0	0	0	0	2	1	1	0	0	1	0.88	3.57
7-Nov	1	0	0	Z	0	0	1	2	3	3	5	6	3	1	0	0	0	0	0	0	0	0	0	0	1.23	6.25
8-Nov	0	0	0	Z	0	0	0	1	0	0	0	1	2	1	1	0	1	1	1	1	1	1	1	1	0.59	1.79
9-Nov	1	1	0	Z	1	0	0	0	0	0	0	5	8	7	4	2	1	1	0	0	0	1	1	2	1.60	8.48
10-Nov	2	2	3	Z	3	3	3	3	3	3	4	2	1	0	0	0	0	0	0	1	2	1	1	1	1.70	3.57
11-Nov	0	0	0	Z	1	0	1	2	6	7	13	11	9	5	3	3	3	2	1	0	0	0	0	0	3.11	13.32
12-Nov	0	0	0	Z	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.23	0.30
13-Nov	0	0	0	Z	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.31	0.57
14-Nov	0	0	0	Z	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.28	0.36
15-Nov	0	0	0	Z	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.28	0.34
16-Nov	0	0	0	Z	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.29	0.38
17-Nov	0	0	0	Z	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	0.32	0.81
18-Nov	1	0	1	Z	2	2	1	1	1	2	1	1	1	1	3	1	0	1	2	1	1	1	0	0	1.02	3.12
19-Nov	0	0	1	Z	1	1	1	1	1	2	1	1	2	2	1	1	0	1	1	1	1	0	0	0	0.92	2.04
20-Nov	0	0	0	Z	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.37	1.17
21-Nov	0	0	0	Z	0	0	0	0	0	0	0	1	2	2	1	1	1	1	0	0	0	0	0	0	0.56	2.19
22-Nov	0	0	0	Z	0	0	0	2	3	C	C	C	C	C	1	1	2	1	0	0	0	0	0	0	0.69	2.77
23-Nov	1	0	1	Z	3	6	3	0	0	0	1	3	2	2	2	2	2	4	4	3	2	1	1	1	1.94	5.98
24-Nov	1	1	1	Z	1	1	1	1	1	1	1	1	1	2	2	3	4	1	1	3	4	2	1	1	1.42	4.05
25-Nov	0	0	0	Z	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.25	0.42
26-Nov	0	0	0	Z	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0.32	1.21
27-Nov	1	1	0	Z	1	1	2	1	0	0	0	0	0	0	0	1	1	1	3	4	2	2	2	2	1.03	3.51
28-Nov	2	2	2	Z	3	2	2	1	1	0	0	1	1	0	0	2	1	0	0	2	2	2	4	2	1.45	3.86
29-Nov	1	2	2	Z	2	4	2	3	4	4	2	1	0	0	0	1	1	1	1	1	1	0	0	0	1.54	4.06
30-Nov	1	0	1	Z	0	0	0	0	0	0	2	2	2	2	2	1	1	1	1	1	1	1	0	0	0.85	1.93
																								Diurnal Average		
																								Diurnal Maximum		
0.66 0.78 0.76 -- 0.91 0.94 0.75 0.88 1.11 1.18 1.53 1.48 1.48 1.07 0.86 0.73 0.72 0.67 0.80 0.82 0.74 0.56 0.72 0.66																										
2.92 4.05 4.88 -- 3.91 5.98 2.99 2.97 5.86 7.45 13.32 11.08 9.44 6.54 3.91 2.85 4.05 4.08 3.93 3.51 3.61 2.08 5.21 3.00																										
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
November 2017

Maximum Value: 3.66 ppb on Nov 28 02:00		Maximum Daily Average: 0.96 ppb on Nov 28		Hours in Service: 720																													
Minimum Value: 0.0 ppb on Nov 1 03:00		Minimum Daily Average: 0.01 ppb on Nov 1		Hours of Data: 685																													
Maximum Diurnal Average: 0.32 ppb at hour 13		Minimum Diurnal Average: 0.07 ppb at hour 5		Hours of Missing Data: 35																													
Monthly Average: 0.178 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 0.1 P ₉₀ = 0.4 P ₉₉ = 2.3		Hours of Calibration: 35																													
				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-Nov	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							
2-Nov	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	0.03	0.05							
3-Nov	0.0	0.0	0.0	Z	0.0	0.0	0.1	0.1	0.1	0.2	0.3	0.4	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.11	0.36							
4-Nov	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	0.5	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.07	0.53							
5-Nov	0.0	0.0	0.0	Z	0.0	0.0	0.2	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.06	0.20							
6-Nov	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.1	0.1	0.1	0.04	0.15								
7-Nov	0.1	0.1	0.0	Z	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.07	0.32								
8-Nov	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.5	0.5	0.2	0.1	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.10	0.52								
9-Nov	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	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.03	0.09								
10-Nov	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.06	0.15								
11-Nov	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	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.04	0.07								
12-Nov	0.1	0.1	0.1	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	0.1	0.0	0.0	0.0	0.05	0.08								
13-Nov	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	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.1	0.04	0.07								
14-Nov	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	0.1	0.1	0.0	0.1	0.03	0.07								
15-Nov	0.0	0.0	0.0	Z	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.09	0.16								
16-Nov	0.1	0.1	0.1	Z	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.07	0.17								
17-Nov	0.0	0.1	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.06	0.25								
18-Nov	0.0	0.0	0.3	Z	0.8	0.7	0.3	0.4	0.9	1.0	0.6	0.8	1.3	0.7	1.3	0.5	0.3	0.8	0.9	0.6	0.8	0.3	0.1	0.60	1.34								
19-Nov	0.1	0.3	0.4	Z	0.4	0.3	1.0	0.6	0.7	1.1	1.0	0.9	1.7	1.6	0.6	0.2	0.1	0.1	0.2	0.1	0.1	0.0	0.0	0.49	1.65								
20-Nov	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	0.02	0.04								
21-Nov	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	0.0	0.0	0.0	0.0	0.0	0.0	0.04	0.09								
22-Nov	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.1	0.1	C	C	C	C	C	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.06	0.15								
23-Nov	0.1	0.1	0.1	Z	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.3	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.07	0.26								
24-Nov	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.2	0.5	0.7	0.9	0.3	0.1	0.4	1.5	0.5	0.1	0.0	0.24	1.51								
25-Nov	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	0.01	0.03								
26-Nov	0.0	0.0	0.0	Z	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.05	0.15								
27-Nov	0.1	0.2	0.0	Z	0.0	0.0	0.7	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.3	2.2	1.9	0.30	2.25							
28-Nov	2.4	3.7	1.5	Z	0.3	1.7	0.7	1.3	0.4	0.2	0.4	0.7	1.3	0.3	0.1	0.9	1.0	0.2	0.1	0.4	0.9	0.5	1.2	2.0	0.96	3.66							
29-Nov	1.7	2.5	1.0	Z	0.1	0.0	0.0	0.0	0.1	0.0	0.2	0.7	0.5	0.7	0.8	2.0	2.6	3.6	1.0	1.0	1.0	0.1	0.3	0.3	0.89	3.60							
30-Nov	0.8	0.3	0.3	Z	0.1	0.0	0.1	0.1	0.0	0.0	1.1	1.4	2.3	2.1	2.7	1.8	0.2	0.3	0.1	0.1	0.1	0.1	0.0	0.61	2.73								
		0.19	0.26	0.14	--	0.07	0.11	0.13	0.12	0.10	0.12	0.16	0.22	0.32	0.29	0.30	0.28	0.20	0.21	0.14	0.16	0.15	0.08	0.16	0.17	Diurnal Average							
		2.39	3.66	1.48	--	0.85	1.66	1.03	1.29	0.92	1.08	1.07	1.42	2.32	2.13	2.73	1.99	2.63	3.60	1.05	1.51	1.05	0.46	2.25	1.99	Diurnal Maximum							
Z - zerospan		C - Calibration																															
Alberta Ambient Air Quality Objectives (AAQO):		1-hr 172 ppb				24-hr 48 ppb																											



WCAS - Hinton
Summary of Hourly Averages

Hydrogen Sulphide (H2S) - ppb
November 2017

Maximum Value: 10.10 ppb on Nov 11 11:00		Maximum Daily Average: 2.52 ppb on Nov 11		Hours in Service: 720																							
Minimum Value: 0 ppb on Nov 4 16:00		Minimum Daily Average: 0.34 ppb on Nov 1		Hours of Data: 685																							
Maximum Diurnal Average: 1.29 ppb at hour 11		Minimum Diurnal Average: 0.61 ppb at hour 22		Hours of Missing Data: 35																							
Monthly Average: 0.836 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.3 Q ₁ = 0.4 Median = 0.5 Q ₃ = 0.8 P ₉₀ = 1.8 P ₉₉ = 4.7		Hours of Calibration: 35																							
				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-Nov	0	0	0	Z	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.34	0.66	
2-Nov	0	0	0	Z	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.37	0.51	
3-Nov	0	0	0	Z	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	2	0.61	4.40	
4-Nov	1	2	1	Z	1	0	0	1	1	2	4	3	3	2	0	0	0	0	0	0	0	0	0	1	0.97	4.36	
5-Nov	2	3	3	Z	3	3	0	1	2	2	1	1	0	0	0	0	0	0	1	0	0	0	1	0	1.05	3.29	
6-Nov	2	3	2	Z	1	1	1	1	0	1	1	0	0	0	0	0	0	0	1	1	1	1	0	1	0.84	2.88	
7-Nov	1	1	1	Z	1	1	1	1	2	2	4	5	2	1	1	1	1	1	1	1	1	0	0	0	1.16	4.72	
8-Nov	1	1	1	Z	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.71	1.32	
9-Nov	1	1	1	Z	1	1	0	0	0	0	0	3	6	5	3	1	1	1	0	0	0	1	1	1	1.23	6.00	
10-Nov	1	2	2	Z	2	2	2	2	2	2	2	2	1	0	0	0	0	0	1	1	1	1	1	1	1.23	2.49	
11-Nov	1	1	1	Z	1	1	1	2	4	5	10	8	7	4	3	2	2	2	1	1	1	0	1	0	2.52	10.10	
12-Nov	0	0	1	Z	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	1	0	1	1	1	0.48	0.60	
13-Nov	1	0	1	Z	1	1	1	0	1	1	0	1	1	0	0	1	1	0	1	1	1	1	0	1	0.52	0.66	
14-Nov	1	1	0	Z	1	1	1	0	1	1	1	0	1	1	1	1	1	1	1	1	1	0	0	1	0.54	0.61	
15-Nov	1	0	0	Z	0	0	0	1	1	0	1	1	1	0	1	1	1	1	1	1	1	1	1	0	0.53	0.60	
16-Nov	1	0	0	Z	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	0.52	0.62	
17-Nov	0	0	0	Z	0	1	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	1	0.50	0.79	
18-Nov	1	0	1	Z	1	1	1	1	1	1	1	1	1	1	2	1	0	1	1	1	1	1	0	0	0.80	2.15	
19-Nov	0	0	1	Z	1	1	1	1	1	1	1	1	1	2	1	1	0	1	1	1	1	0	0	0	0.81	1.52	
20-Nov	1	0	0	Z	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	0	0	0	0	0.59	1.18	
21-Nov	1	0	0	Z	1	0	1	1	1	1	1	1	1	2	1	1	1	1	1	1	0	1	0	1	0.71	1.53	
22-Nov	1	1	1	Z	1	1	1	2	2	C	C	C	C	C	1	1	2	1	0	0	0	0	0	0	0.74	2.35	
23-Nov	1	1	1	Z	3	5	2	0	0	0	1	3	2	2	2	1	2	4	3	2	1	1	1	1	1.63	4.71	
24-Nov	1	1	1	Z	1	1	1	1	1	1	1	1	1	2	1	2	3	0	1	2	3	2	1	0	1.12	2.93	
25-Nov	0	0	0	Z	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.41	0.55	
26-Nov	0	0	0	Z	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0.40	1.13	
27-Nov	1	1	0	Z	0	1	1	1	0	0	0	0	0	0	0	1	1	1	3	3	2	2	2	2	0.90	2.94	
28-Nov	1	2	2	Z	2	1	2	1	1	0	0	0	1	0	0	1	0	0	0	2	2	2	3	1	1.09	3.15	
29-Nov	0	1	1	Z	1	4	2	2	4	3	2	0	0	0	0	0	1	1	1	1	1	0	0	0	1.11	3.70	
30-Nov	0	0	1	Z	0	0	0	0	0	0	2	1	1	1	1	1	1	1	1	1	1	1	0	0	0.66	1.60	
		0.68	0.75	0.75	--	0.85	0.88	0.73	0.82	1.00	1.03	1.29	1.22	1.19	0.92	0.74	0.69	0.69	0.69	0.79	0.81	0.74	0.61	0.75	0.67	Diurnal Average	
		1.85	2.88	3.29	--	2.70	4.71	2.38	2.30	4.39	5.42	10.10	8.17	7.03	4.55	2.84	2.46	2.66	3.51	3.15	2.94	2.93	1.71	4.40	2.34	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
November 2017

Maximum Value: 38.11 ppb on Nov 27 13:00		Maximum Daily Average: 31.95 ppb on Nov 29		Hours in Service: 720																																													
Minimum Value: 0.3 ppb on Nov 8 23:00		Minimum Daily Average: 3.74 ppb on Nov 9		Hours of Data: 685																																													
Maximum Diurnal Average: 23.99 ppb at hour 14		Minimum Diurnal Average: 12.15 ppb at hour 9		Hours of Missing Data: 35																																													
Monthly Average: 15.955 ppb		Percentiles: P ₁ = 0.4 P ₁₀ = 1.3 Q ₁ = 6.2 Median = 14.6 Q ₃ = 26.4 P ₉₀ = 31.8 P ₉₉ = 36.3		Hours of Calibration: 35																																													
				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-Nov	20.4	19.0	17.4	Z	17.0	18.4	18.1	16.8	16.6	20.5	22.3	20.6	23.2	26.4	27.8	32.6	33.3	36.1	36.3	33.9	33.6	31.0	27.4	26.0	24.99	36.34																							
2-Nov	26.4	26.1	25.9	Z	21.7	22.7	23.9	24.4	26.3	27.2	26.3	28.5	29.3	30.3	29.9	28.5	30.3	31.8	31.0	30.6	30.6	30.4	30.1	28.8	27.88	31.83																							
3-Nov	27.0	29.8	29.6	Z	24.9	25.3	23.3	21.1	21.3	25.8	26.4	24.7	26.1	27.4	25.6	25.1	25.5	22.6	16.0	16.3	20.0	15.9	6.0	7.3	22.31	29.83																							
4-Nov	6.4	6.1	6.0	Z	3.6	2.0	1.2	2.0	4.0	7.5	10.9	19.9	23.6	26.4	26.1	26.2	23.5	22.8	26.7	19.9	16.5	17.2	19.5	17.6	14.59	26.73																							
5-Nov	18.5	11.0	7.5	Z	12.9	14.3	18.6	11.9	12.5	17.1	20.6	22.1	27.4	31.4	29.1	28.4	25.8	18.8	3.8	1.2	1.7	0.9	1.1	2.0	14.72	31.37																							
6-Nov	3.5	4.4	3.3	Z	3.1	0.4	1.7	1.0	6.3	17.9	28.4	31.6	32.3	34.0	33.8	32.7	32.1	28.5	4.8	0.7	1.8	4.2	4.5	1.6	13.59	33.99																							
7-Nov	1.3	1.7	1.4	Z	3.4	3.9	2.4	0.9	0.8	2.5	9.7	8.2	17.1	24.1	22.9	25.9	24.2	19.2	20.2	19.7	18.1	19.9	19.1	15.9	12.28	25.92																							
8-Nov	10.5	10.9	10.4	Z	7.7	4.5	2.2	0.8	7.9	13.2	15.4	16.3	18.6	21.5	24.5	21.7	12.1	11.9	5.3	1.1	0.5	0.4	0.3	0.5	9.49	24.47																							
9-Nov	0.7	0.3	0.3	Z	0.5	0.8	2.1	2.2	1.8	2.4	3.3	5.8	8.4	12.1	14.7	12.4	7.6	2.2	4.2	1.7	0.8	0.7	0.5	0.7	3.74	14.70																							
10-Nov	0.5	0.6	0.5	Z	0.6	0.7	0.7	0.5	0.6	1.2	3.0	9.6	15.3	24.9	25.9	22.3	19.1	14.2	3.6	1.3	0.7	0.7	0.5	0.6	6.42	25.86																							
11-Nov	0.4	0.4	0.4	Z	0.4	0.3	0.4	0.4	0.7	1.7	2.9	3.8	5.8	6.7	6.1	3.7	2.0	1.8	1.8	6.5	15.1	18.2	18.5	20.1	5.15	20.05																							
12-Nov	19.6	17.3	15.3	Z	16.4	15.1	15.9	14.7	13.3	12.2	12.9	15.0	15.2	15.2	13.4	12.0	11.3	8.1	6.4	4.1	4.6	1.9	2.1	1.1	11.43	19.64																							
13-Nov	1.1	1.6	0.5	Z	0.5	0.7	0.9	1.4	6.2	9.6	15.2	16.9	17.1	18.8	14.8	12.4	11.3	7.7	6.7	5.5	5.6	3.8	4.5	4.0	7.26	18.82																							
14-Nov	5.0	7.6	8.3	Z	8.9	7.5	7.1	6.1	5.9	9.0	11.5	11.4	10.7	9.5	7.8	8.2	8.0	8.0	9.1	10.1	12.0	11.8	11.9	12.3	9.04	12.29																							
15-Nov	13.7	14.9	13.9	Z	9.8	7.3	8.1	8.0	7.6	9.2	9.7	10.5	11.2	11.9	11.9	10.5	8.1	6.5	5.9	9.1	8.8	5.2	6.6	8.0	9.41	14.87																							
16-Nov	9.0	10.4	9.5	Z	9.4	9.8	7.5	7.0	7.2	8.4	8.1	9.7	10.2	10.5	10.3	8.9	8.3	6.6	6.9	7.8	7.3	6.6	8.6	7.9	8.51	10.50																							
17-Nov	8.1	6.9	6.9	Z	8.2	7.0	7.4	6.2	4.7	7.3	9.6	12.7	9.9	11.4	11.6	12.1	8.7	3.3	2.7	4.6	4.9	2.8	1.1	1.2	6.93	12.66																							
18-Nov	8.1	30.9	31.8	Z	27.6	29.3	34.6	34.4	31.3	29.2	34.3	33.9	30.9	35.5	29.6	33.2	33.6	29.1	26.2	27.5	26.6	31.1	34.8	35.1	30.37	35.48																							
19-Nov	32.5	33.4	32.1	Z	32.0	31.7	27.8	28.9	28.7	27.6	32.2	34.4	32.9	30.8	32.5	32.1	31.1	29.6	26.1	16.5	25.7	26.9	25.9	20.8	29.22	34.38																							
20-Nov	18.0	18.5	18.4	Z	17.4	9.5	10.2	4.5	13.9	15.0	20.7	26.5	25.4	27.1	26.9	24.2	16.2	20.5	21.0	21.8	21.3	16.9	9.3	8.7	17.90	27.10																							
21-Nov	8.3	9.0	6.4	Z	3.8	4.9	5.4	5.6	6.4	9.5	11.2	13.8	10.0	9.7	11.0	7.2	4.9	6.4	6.6	7.2	6.4	5.4	3.9	4.2	7.27	13.82																							
22-Nov	3.2	2.3	1.7	Z	0.7	0.5	0.5	0.7	0.7	C	C	C	C	C	18.5	16.3	7.2	2.1	4.5	1.7	3.9	4.8	3.7	1.0	4.11	18.46																							
23-Nov	0.9	0.5	0.5	Z	0.9	0.9	4.2	15.6	13.3	18.8	15.2	25.8	30.0	32.3	30.3	23.8	4.8	22.9	27.0	26.6	29.7	23.6	13.0	6.5	15.96	32.30																							
24-Nov	6.0	6.5	2.2	Z	2.5	1.5	1.3	4.3	0.7	1.2	3.9	11.3	31.2	32.4	32.9	30.5	31.6	32.9	28.7	27.2	25.3	25.5	24.6	23.9	16.86	32.90																							
25-Nov	17.4	12.8	11.0	Z	16.2	19.2	19.7	22.0	10.1	13.3	23.3	28.3	29.1	29.6	30.0	28.8	22.3	13.0	14.6	14.1	14.0	23.6	24.9	27.1	20.18	30.00																							
26-Nov	26.5	25.4	25.5	Z	21.8	21.2	21.4	20.9	20.3	21.2	21.0	20.6	17.9	16.4	15.1	14.0	11.4	9.9	8.6	5.3	9.3	13.1	19.5	15.5	17.47	26.55																							
27-Nov	18.2	37.4	37.4	Z	29.5	27.8	30.5	32.2	9.8	32.0	34.0	36.5	38.1	37.2	34.3	25.0	26.9	12.1	6.3	2.4	1.6	20.0	28.1	30.6	25.56	38.11																							
28-Nov	30.1	28.9	34.3	Z	36.3	31.4	36.0	33.6	34.7	20.8	35.9	35.5	34.4	36.4	36.2	31.8	27.1	14.1	28.4	29.4	30.4	32.4	28.8	26.9	31.04	36.41																							
29-Nov	30.7	27.4	27.8	Z	29.7	31.6	31.2	32.6	32.0	29.7	31.9	33.0	35.5	35.3	34.0	31.1	30.1	29.5	33.8	32.7	31.3	35.6	34.7	33.7	31.95	35.61																							
30-Nov	30.4	25.5	27.9	Z	26.1	16.2	14.0	17.6	18.8	12.2	20.7	31.3	29.7	30.4	30.3	31.1	33.3	27.9	11.3	8.9	4.0	5.4	9.4	7.6	20.43	33.28																							
																								13.42	14.24	13.80	--	13.11	12.22	12.62	12.61	12.15	14.59	17.94	20.62	22.29	23.99	23.25	21.76	19.06	16.67	14.48	13.18	13.74	14.53	14.09	13.24	Diurnal Average	
																								32.52	37.36	37.35	--	36.32	31.67	36.03	34.40	34.66	32.02	35.93	36.54	38.11	37.17	36.22	33.17	33.64	36.12	36.34	33.90	33.61	35.61	34.84	35.10	Diurnal Maximum	
Z - zeronspan C - Calibration																																																	
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 82.5 ppb 24-hr -- ppb																																																	



WCAS - Hinton
Summary of Hourly Averages

Nitrogen Oxide (NO) - ppb
November 2017

Maximum Value: 35.53 ppb on Nov 10 21:00		Maximum Daily Average: 10.77 ppb on Nov 10		Hours in Service: 720																							
Minimum Value: 0.0 ppb on Nov 29 05:00		Minimum Daily Average: 0.21 ppb on Nov 1		Hours of Data: 684																							
Maximum Diurnal Average: 4.08 ppb at hour 20		Minimum Diurnal Average: 1.36 ppb at hour 2		Hours of Missing Data: 36																							
Monthly Average: 2.563 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.1 Q ₁ = 0.3 Median = 1.0 Q ₃ = 2.9 P ₉₀ = 7.0 P ₉₉ = 18.8		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-Nov	0.0	0.0	0.0	Z	0.0	0.0	0.3	0.4	0.1	0.2	0.3	1.6	0.6	0.3	0.1	0.1	0.2	0.1	0.1	0.1	0.0	0.1	0.0	0.1	0.21	1.56	
2-Nov	0.1	0.0	0.1	Z	0.3	0.4	0.5	1.0	0.4	0.4	0.8	0.5	0.7	0.4	0.6	1.0	1.1	0.7	0.6	0.4	0.2	0.1	0.1	0.1	0.46	1.08	
3-Nov	0.2	0.2	0.1	Z	0.2	0.3	0.8	1.0	0.4	0.8	1.2	1.7	1.0	1.6	1.7	1.2	0.4	0.4	0.9	0.6	1.0	0.5	1.1	0.0	0.75	1.75	
4-Nov	0.4	0.4	0.3	Z	1.0	2.2	3.1	1.1	3.2	6.5	6.1	1.2	1.1	0.7	1.6	0.7	1.3	1.1	0.1	0.8	0.3	0.2	0.8	0.2	1.49	6.50	
5-Nov	0.1	0.6	0.2	Z	0.2	0.7	0.6	0.3	0.4	0.7	1.0	1.6	0.3	0.3	0.6	0.3	0.4	0.2	11.4	13.1	9.9	11.9	4.0	2.6	2.68	13.10	
6-Nov	0.3	0.2	0.5	Z	3.2	8.1	11.5	16.1	2.4	1.3	0.8	0.5	1.0	0.8	1.0	1.1	0.8	0.4	12.6	16.4	8.2	4.4	3.1	4.6	4.31	16.45	
7-Nov	6.7	2.9	1.7	Z	1.2	0.8	3.6	6.6	16.8	9.9	4.6	8.0	3.8	1.4	1.4	1.0	1.5	2.1	1.0	0.7	0.9	0.3	0.1	0.1	3.35	16.75	
8-Nov	0.1	0.2	0.1	Z	0.1	0.7	2.2	6.5	1.3	0.6	1.3	2.6	3.2	3.4	1.5	1.5	3.3	3.3	3.4	16.4	7.7	6.7	7.9	5.9	3.47	16.44	
9-Nov	4.5	7.7	6.4	Z	4.2	3.2	1.6	3.2	4.8	6.6	10.2	12.2	16.4	9.5	5.6	4.2	5.1	10.6	3.6	4.1	10.0	17.7	9.0	4.1	7.15	17.66	
10-Nov	4.6	5.6	6.3	Z	11.2	9.9	12.4	15.7	22.0	13.2	9.1	6.1	4.5	1.4	1.3	1.5	1.5	2.5	5.6	18.7	35.5	26.4	14.2	18.4	10.77	35.53	
11-Nov	5.5	4.6	4.3	Z	4.0	5.0	11.0	11.5	11.7	9.7	12.4	15.2	13.0	7.6	7.1	7.2	7.7	6.2	5.6	1.5	0.9	0.4	0.1	0.2	6.64	15.25	
12-Nov	0.1	0.1	0.1	Z	0.1	0.5	0.2	0.4	0.6	1.0	1.5	1.6	1.5	1.5	1.9	2.0	1.7	2.3	2.1	2.6	1.6	1.3	2.2	2.6	1.28	2.61	
13-Nov	3.1	3.2	2.6	Z	6.1	2.7	2.0	3.5	2.8	1.4	1.2	1.2	1.7	1.2	1.6	1.9	1.5	1.9	1.2	1.3	0.7	1.1	0.8	0.6	1.97	6.08	
14-Nov	0.4	0.2	0.3	Z	0.3	1.0	0.5	0.7	1.9	1.4	2.1	2.0	2.4	3.0	3.0	3.2	2.1	2.4	1.4	1.5	0.5	0.4	0.1	0.2	1.34	3.21	
15-Nov	0.1	0.1	0.1	Z	0.2	0.6	0.8	1.3	1.4	1.4	2.5	2.3	2.5	2.6	2.2	2.3	3.2	2.4	2.2	1.3	1.6	1.3	0.4	0.1	1.43	3.22	
16-Nov	0.2	0.2	0.2	Z	0.5	0.4	1.1	1.7	2.0	2.0	3.3	2.3	2.7	2.2	2.3	3.1	2.6	1.9	1.7	1.1	0.3	1.4	0.3	0.2	1.46	3.31	
17-Nov	0.2	0.3	0.2	Z	0.7	1.1	1.0	1.6	2.2	3.3	6.1	4.7	7.2	5.6	3.0	2.0	2.7	3.0	3.9	1.8	1.6	2.3	7.4	9.3	3.09	9.31	
18-Nov	4.0	0.0	0.1	Z	0.5	0.4	0.1	0.1	0.3	0.7	0.5	0.8	1.4	0.4	1.2	0.4	0.2	0.4	0.5	0.4	0.4	0.1	0.0	0.1	0.56	4.02	
19-Nov	0.1	0.1	0.0	Z	0.1	0.1	0.1	0.1	0.1	0.3	0.5	0.6	1.1	1.5	0.5	0.2	0.1	0.0	0.1	2.7	0.3	0.1	0.2	0.1	0.40	2.72	
20-Nov	0.3	0.3	0.1	Z	0.1	3.2	5.2	5.1	0.4	1.2	1.3	0.3	1.9	0.8	0.6	1.0	1.7	1.6	1.1	1.1	0.8	0.6	0.4	0.5	1.29	5.18	
21-Nov	0.2	0.1	0.5	Z	1.0	1.0	1.8	1.7	1.6	1.9	2.9	3.8	7.1	6.4	3.7	4.7	2.4	1.6	1.3	0.7	0.9	0.7	1.0	0.2	2.06	7.09	
22-Nov	0.2	0.2	0.9	Z	2.4	1.8	1.8	5.5	10.6	C	C	C	C	C	C	5.4	14.1	19.3	7.6	4.8	4.5	1.8	1.5	4.8	--	19.28	
23-Nov	12.0	10.3	12.0	Z	14.7	18.9	3.7	0.6	1.5	0.9	1.3	1.2	0.6	0.8	0.9	1.0	18.1	0.6	0.1	0.2	0.1	0.7	3.5	3.6	4.67	18.94	
24-Nov	2.8	1.2	4.0	Z	3.1	4.5	9.9	4.2	11.1	22.9	12.5	5.9	0.6	0.5	0.7	0.7	0.2	0.4	0.5	0.8	0.5	0.2	0.2	0.5	3.83	22.93	
25-Nov	0.9	1.2	1.1	Z	1.7	1.7	3.9	1.1	3.6	1.6	1.0	0.9	1.3	1.1	1.9	1.3	1.1	2.7	1.7	1.4	2.5	0.3	0.3	0.1	1.49	3.94	
26-Nov	0.0	0.0	0.0	Z	0.1	0.3	0.3	0.5	0.7	0.3	0.5	0.5	1.0	0.9	1.0	1.3	1.4	1.1	1.0	1.0	0.6	0.5	0.1	0.3	0.58	1.41	
27-Nov	0.7	0.0	0.0	Z	0.0	1.2	0.2	0.0	4.0	0.2	0.1	0.0	0.1	0.2	0.4	1.0	0.2	0.9	10.3	21.6	12.4	2.5	0.3	0.3	2.47	21.62	
28-Nov	0.4	0.4	0.2	Z	0.0	0.3	0.1	0.1	0.2	3.0	0.7	0.7	1.1	0.6	0.4	0.5	0.9	5.6	0.4	0.2	0.1	0.0	0.1	0.2	0.70	5.56	
29-Nov	0.0	0.2	0.0	Z	0.0	0.0	0.1	0.0	0.0	0.0	0.4	0.7	0.5	0.4	0.5	0.9	0.7	0.7	0.2	0.2	0.2	0.0	0.0	0.0	0.26	0.88	
30-Nov	0.1	0.1	0.1	Z	0.4	2.0	4.9	5.8	2.5	3.8	3.2	0.8	1.4	1.2	1.3	0.7	0.1	0.3	3.3	4.8	5.5	5.1	1.7	3.0	2.27	5.82	
		1.61	1.36	1.42	--	1.93	2.44	2.84	3.25	3.71	3.36	3.08	2.82	2.81	2.01	1.72	1.78	2.61	2.55	2.85	4.08	3.66	2.97	2.03	2.09	Diurnal Average	
		11.98	10.30	11.98	--	14.70	18.94	12.40	16.06	22.05	22.93	12.53	15.25	16.36	9.49	7.06	7.16	18.08	19.28	12.57	21.62	35.53	26.42	14.20	18.40	Diurnal Maximum	
Z - zerospan C - Calibration																											
Alberta Ambient Air Quality Objectives (AAQO): 1-hr --- ppb 24-hr --- ppb																											



WCAS - Hinton
Summary of Hourly Averages

Nitrogen Dioxide (NO₂) - ppb
November 2017

Maximum Value: 13.91 ppb on Nov 6 19:00																	Maximum Daily Average: 6.53 ppb on Nov 9																	Hours in Service: 720	
Minimum Value: 0.3 ppb on Nov 1 02:00																	Minimum Daily Average: 1.00 ppb on Nov 1																	Hours of Data: 684	
Maximum Diurnal Average: 5.59 ppb at hour 20																	Minimum Diurnal Average: 2.81 ppb at hour 14																	Hours of Missing Data: 36	
Monthly Average: 4.027 ppb																	Percentiles: P ₁ = 0.4 P ₁₀ = 1.4 Q ₁ = 2.3 Median = 3.7 Q ₃ = 5.2 P ₉₀ = 6.9 P ₉₉ = 11.2																	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-Nov	0.3	0.3	0.3	Z	0.4	0.4	1.3	2.3	2.0	1.4	1.4	2.1	1.3	0.9	0.5	0.7	1.1	0.4	0.6	1.2	0.8	1.7	0.8	0.9	1.00	2.33									
2-Nov	0.9	0.8	0.7	Z	2.3	2.2	2.0	2.2	1.4	1.2	1.8	1.3	1.0	0.8	1.2	1.8	1.8	1.5	1.4	1.1	1.1	0.9	0.7	0.9	1.36	2.31									
3-Nov	1.7	1.0	0.8	Z	1.6	1.7	2.5	3.3	3.4	2.0	1.8	2.2	1.6	1.4	2.0	2.1	1.8	2.7	4.7	4.6	3.2	4.6	5.4	4.2	2.61	5.37									
4-Nov	5.2	4.8	5.4	Z	4.6	4.9	5.2	5.1	4.7	5.0	4.7	1.8	1.9	1.5	3.0	2.2	3.5	3.6	1.5	4.1	2.2	1.4	2.1	2.1	3.50	5.42									
5-Nov	1.2	3.2	4.8	Z	3.3	4.1	4.0	5.8	5.0	3.6	2.9	2.7	0.8	0.7	1.5	1.7	2.5	5.0	10.0	10.1	8.9	8.8	7.6	6.4	4.55	10.05									
6-Nov	4.6	4.1	4.5	Z	4.1	6.2	6.7	8.7	6.0	3.3	1.8	1.0	1.3	1.1	1.5	2.2	2.6	3.7	13.9	13.0	8.9	6.8	5.9	6.4	5.12	13.91									
7-Nov	6.0	5.4	4.8	Z	4.1	3.8	5.2	6.2	8.4	6.5	6.1	10.9	7.6	3.8	4.5	3.2	3.7	4.5	3.8	3.3	3.4	2.8	2.6	3.4	4.96	10.87									
8-Nov	4.4	3.0	2.9	Z	2.5	2.5	4.5	6.0	4.8	2.9	2.4	2.8	3.8	4.2	2.8	3.5	8.8	7.5	7.9	9.3	7.8	6.1	6.3	5.4	4.88	9.33									
9-Nov	4.1	5.5	5.1	Z	4.8	5.2	5.1	5.2	5.4	5.5	5.9	7.0	9.2	8.9	7.4	6.9	8.1	9.3	6.6	7.6	7.8	7.6	6.3	5.7	6.53	9.29									
10-Nov	5.8	6.1	5.3	Z	5.0	4.8	5.0	4.8	5.5	4.6	5.0	5.0	5.0	2.7	2.5	3.6	4.0	5.3	9.9	11.0	10.9	8.3	5.7	5.5	5.71	11.00									
11-Nov	3.5	3.1	3.2	Z	2.5	2.4	3.2	3.6	3.8	3.9	5.6	7.1	7.4	6.2	6.2	7.4	7.6	6.2	5.8	5.9	4.6	3.7	2.7	2.4	4.70	7.57									
12-Nov	2.5	2.7	3.2	Z	2.6	2.9	2.5	2.9	3.2	3.1	3.0	2.1	2.1	2.2	2.8	3.1	3.2	4.2	4.7	5.2	4.6	5.6	5.5	5.5	3.46	5.59									
13-Nov	5.2	4.9	4.4	Z	4.1	3.4	3.7	4.2	4.2	3.7	2.2	2.4	3.0	2.6	3.4	4.0	4.6	5.6	4.7	5.0	4.9	5.2	4.7	4.6	4.13	5.62									
14-Nov	4.6	3.5	3.0	Z	2.2	2.7	2.6	3.1	3.7	3.0	2.3	2.4	2.4	2.7	3.4	3.1	3.2	3.7	3.3	2.9	2.2	2.3	2.1	2.2	2.89	4.60									
15-Nov	2.1	1.9	2.3	Z	3.8	5.3	5.0	5.0	4.9	4.2	3.9	4.0	4.1	3.7	3.7	4.4	5.7	6.0	5.9	4.2	3.9	5.6	4.4	3.4	4.24	6.00									
16-Nov	3.2	3.1	3.3	Z	3.7	3.5	3.7	4.1	3.9	3.3	3.4	2.8	2.8	2.9	3.2	4.1	4.0	4.5	4.4	3.9	3.8	4.1	3.5	3.7	3.61	4.50									
17-Nov	3.5	4.1	4.2	Z	4.2	4.8	4.3	5.0	6.2	5.1	4.8	4.2	5.5	4.6	3.7	3.9	6.1	7.9	7.8	5.7	5.5	5.8	6.8	6.6	5.22	7.88									
18-Nov	6.6	1.2	2.3	Z	5.0	4.3	2.2	2.3	4.0	4.6	2.2	2.3	3.3	1.7	3.9	1.6	1.3	3.6	4.9	3.6	4.1	2.2	0.7	0.8	2.98	6.58									
19-Nov	1.9	1.8	2.4	Z	2.2	2.0	4.1	3.5	3.3	4.1	2.5	2.6	3.4	4.0	2.3	2.0	2.1	2.6	3.0	6.5	2.5	1.2	1.1	1.9	2.73	6.46									
20-Nov	1.8	1.7	1.7	Z	1.9	6.6	7.0	9.7	4.6	4.5	2.7	0.8	1.5	1.2	1.2	2.2	5.6	5.0	4.8	3.9	3.8	5.0	7.1	6.3	3.94	9.72									
21-Nov	5.3	4.4	5.0	Z	5.6	4.8	5.4	5.6	6.2	5.2	5.1	4.5	6.8	6.8	5.8	7.6	7.6	6.2	5.7	5.1	5.4	5.9	6.3	6.0	5.75	7.57									
22-Nov	6.3	6.2	6.1	Z	6.5	6.7	6.0	6.4	6.8	C	C	C	C	C	C	7.5	11.0	11.2	7.0	5.2	4.2	3.3	3.2	3.4	--	11.22									
23-Nov	3.9	3.4	3.5	Z	4.0	3.3	2.9	2.4	4.3	3.3	4.7	3.8	2.2	2.8	3.4	4.5	10.5	3.6	3.1	3.9	1.4	5.1	6.7	10.5	4.22	10.55									
24-Nov	8.2	6.4	7.4	Z	4.3	4.3	7.7	4.3	5.1	7.1	5.8	5.4	2.2	1.7	2.5	3.5	2.9	2.2	3.6	4.2	4.3	3.9	4.2	3.7	4.55	8.16									
25-Nov	5.5	6.0	6.6	Z	6.0	6.0	5.8	4.2	7.5	4.3	2.4	1.8	1.9	2.1	2.1	2.8	4.1	7.8	5.2	5.1	5.2	1.8	2.1	1.5	4.25	7.80									
26-Nov	1.6	1.5	1.4	Z	1.8	2.3	2.2	2.4	2.5	2.0	2.1	2.0	2.1	2.0	2.5	2.7	3.6	3.9	4.5	5.5	4.5	2.2	1.7	2.4	2.58	5.46									
27-Nov	3.4	1.2	0.8	Z	1.8	1.1	2.4	1.1	8.8	1.0	0.4	0.3	0.3	0.7	1.8	5.6	4.0	11.3	13.0	13.1	12.9	5.1	5.3	4.1	4.32	13.13									
28-Nov	4.5	5.5	2.5	Z	1.5	4.7	2.2	3.1	2.1	8.0	2.8	2.9	3.5	2.0	1.6	3.5	4.9	9.4	2.6	2.6	2.3	0.9	2.8	4.2	3.48	9.36									
29-Nov	2.7	3.6	3.2	Z	1.5	0.5	0.5	1.0	0.8	1.9	2.4	3.1	2.1	2.2	3.1	4.6	4.7	5.0	2.1	2.3	2.6	0.4	0.7	0.8	2.24	5.03									
30-Nov	2.5	3.7	2.8	Z	3.8	7.1	8.9	7.3	6.2	8.1	7.0	3.1	3.8	3.5	4.0	3.4	1.0	3.4	10.3	8.7	9.7	8.1	6.0	6.0	5.58	10.34									
																								Diurnal Average											
																								Diurnal Maximum											
																								3.76 3.47 3.46 -- 3.39 3.81 4.12 4.36 4.62 4.02 3.42 3.26 3.24 2.81 3.01 3.65 4.52 5.22 5.56 5.59 4.92 4.21 4.03 4.02											
																								8.16 6.41 7.45 -- 6.46 7.07 8.88 9.72 8.78 8.10 6.96 10.87 9.17 8.93 7.38 7.57 11.01 11.28 13.91 13.13 12.90 8.82 7.55 10.55											
Z - zerospan C - Calibration																																			
Alberta Ambient Air Quality Objectives (AAQO): 1-hr 159 ppb 24-hr 106 ppb																																			



WCAS - Hinton
Summary of Hourly Averages

NOx (NO_x) - ppb
November 2017

Maximum Value: 46.51 ppb on Nov 10 21:00		Maximum Daily Average: 16.53 ppb on Nov 10		Hours in Service: 720																																													
Minimum Value: 0.3 ppb on Nov 1 01:00		Minimum Daily Average: 1.23 ppb on Nov 1		Hours of Data: 684																																													
Maximum Diurnal Average: 9.72 ppb at hour 20		Minimum Diurnal Average: 4.75 ppb at hour 15		Hours of Missing Data: 36																																													
Monthly Average: 6.625 ppb		Percentiles: P ₁ = 0.4 P ₁₀ = 1.8 Q ₁ = 2.8 Median = 5.0 Q ₃ = 8.0 P ₉₀ = 13.8 P ₉₉ = 29.4		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-Nov	0.3	0.3	0.3	Z	0.4	0.4	1.6	2.7	2.2	1.7	1.7	3.7	1.9	1.2	0.6	0.9	1.4	0.5	0.7	1.3	0.8	1.8	0.9	1.0	1.23	3.71																							
2-Nov	1.0	0.8	0.8	Z	2.7	2.6	2.5	3.2	1.8	1.6	2.7	1.8	1.8	1.2	1.8	2.8	2.9	2.2	2.0	1.6	1.4	1.1	0.8	1.0	1.82	3.22																							
3-Nov	1.9	1.2	0.9	Z	1.9	2.0	3.3	4.4	3.9	2.8	3.0	3.9	2.6	3.0	3.8	3.3	2.1	3.0	5.6	5.1	4.2	5.1	6.5	4.3	3.38	6.52																							
4-Nov	5.6	5.3	5.7	Z	5.5	7.2	8.4	6.2	8.0	11.6	10.8	3.0	2.2	4.6	2.8	4.7	4.7	4.7	4.9	2.5	1.6	2.9	2.3	5.01	11.60																								
5-Nov	1.3	3.9	5.1	Z	3.6	4.9	4.7	6.2	5.5	4.3	4.0	4.3	1.1	1.1	2.1	2.0	2.9	5.3	21.4	23.2	18.9	20.8	11.6	9.0	7.26	23.23																							
6-Nov	4.9	4.3	5.1	Z	7.4	14.3	18.2	24.8	8.4	4.6	2.6	1.5	2.3	1.9	2.5	3.3	3.4	4.1	26.6	29.5	17.1	11.2	9.1	11.0	9.48	29.50																							
7-Nov	12.7	8.3	6.5	Z	5.4	4.7	8.9	12.8	25.2	16.4	10.8	18.9	11.5	5.3	5.9	4.3	5.3	6.6	4.9	4.1	4.4	3.1	2.8	3.5	8.36	25.19																							
8-Nov	4.6	3.2	3.0	Z	2.7	3.2	6.7	12.5	6.2	3.6	3.7	5.5	7.0	7.7	4.3	5.0	12.1	10.9	11.3	25.8	15.6	12.8	14.2	11.4	8.40	25.84																							
9-Nov	8.7	13.3	11.5	Z	9.0	8.4	6.8	8.4	10.2	12.1	16.1	19.2	25.6	18.5	13.0	11.2	13.2	19.9	10.3	11.8	17.9	25.4	15.4	9.9	13.73	25.59																							
10-Nov	10.4	11.8	11.7	Z	16.3	14.8	17.4	20.6	27.6	17.8	14.2	11.1	9.5	4.0	3.9	5.1	5.5	7.9	15.6	29.7	46.5	34.7	20.0	24.0	16.53	46.51																							
11-Nov	9.1	7.8	7.6	Z	6.6	7.5	14.2	15.2	15.5	13.6	18.0	22.5	20.5	13.8	13.3	14.6	15.4	12.4	11.4	7.5	5.6	4.2	2.9	2.6	11.38	22.45																							
12-Nov	2.6	2.8	3.3	Z	2.7	3.4	2.7	3.3	3.8	4.2	4.5	3.7	3.7	3.6	4.8	5.1	5.0	6.5	6.9	7.9	6.3	7.0	7.7	8.1	4.77	8.11																							
13-Nov	8.3	8.2	7.1	Z	10.3	6.2	5.8	7.8	7.2	5.2	3.5	3.6	4.7	3.8	5.1	6.0	6.1	7.6	6.0	6.3	5.6	6.4	5.6	5.3	6.16	10.26																							
14-Nov	5.1	3.7	3.2	Z	2.5	3.7	3.2	3.8	5.6	4.4	4.4	4.5	4.8	5.7	6.5	6.4	5.4	6.1	4.7	4.4	2.7	2.7	2.2	2.4	4.27	6.51																							
15-Nov	2.3	2.0	2.4	Z	4.0	6.0	5.9	6.4	6.3	5.6	6.5	6.3	6.7	6.4	6.0	6.7	9.0	8.4	8.1	5.5	5.5	7.0	4.9	3.5	5.72	9.00																							
16-Nov	3.4	3.2	3.4	Z	4.2	3.9	4.9	5.8	6.0	5.3	6.7	5.2	5.5	5.2	5.5	7.3	6.6	6.4	6.2	5.1	4.2	5.5	3.8	3.9	5.10	7.26																							
17-Nov	3.7	4.4	4.4	Z	4.9	6.0	5.3	6.6	8.4	8.5	10.9	8.9	12.6	10.2	6.8	6.0	8.8	10.9	11.7	7.6	7.1	8.1	14.2	15.9	8.34	15.93																							
18-Nov	10.6	1.2	2.4	Z	5.6	4.7	2.2	2.4	4.4	5.3	2.7	3.2	4.8	2.1	5.1	1.9	1.5	4.0	5.4	4.1	4.6	2.3	0.8	0.8	3.57	10.63																							
19-Nov	1.9	1.9	2.4	Z	2.3	2.0	4.2	3.6	3.4	4.5	3.0	3.2	4.5	5.5	2.7	2.3	2.3	2.7	3.1	9.2	2.9	1.3	1.3	2.0	3.15	9.20																							
20-Nov	2.1	2.0	1.8	Z	1.9	9.9	12.2	14.9	5.0	5.8	4.1	1.1	3.4	2.0	1.8	3.2	7.4	6.7	5.9	5.0	4.6	5.7	7.6	6.9	5.26	14.89																							
21-Nov	5.7	4.6	5.6	Z	6.7	5.9	7.3	7.4	7.9	7.2	8.0	8.4	14.0	13.2	9.6	12.3	10.1	7.8	7.1	5.8	6.4	6.6	7.4	6.2	7.87	13.98																							
22-Nov	6.5	6.4	7.1	Z	8.9	8.5	7.8	11.9	17.5	C	C	C	C	C	C	13.1	25.3	30.7	14.8	10.1	8.9	5.2	4.8	8.3	--	30.72																							
23-Nov	15.9	13.7	15.5	Z	18.7	22.4	6.6	3.0	5.8	4.2	6.0	5.0	2.9	3.7	4.3	5.6	28.6	4.2	3.2	4.1	1.5	5.8	10.3	14.2	8.93	28.61																							
24-Nov	11.0	7.7	11.5	Z	7.5	8.8	17.6	8.5	16.2	30.1	18.4	11.3	2.8	2.2	3.2	4.3	3.1	2.6	4.1	5.0	4.7	4.1	4.5	4.2	8.41	30.13																							
25-Nov	6.5	7.2	7.8	Z	7.7	7.7	9.8	5.3	11.1	5.9	3.4	2.8	3.3	3.3	4.0	4.1	5.2	10.6	6.9	6.6	7.7	2.1	2.4	1.5	5.78	11.10																							
26-Nov	1.6	1.6	1.4	Z	1.9	2.5	2.5	3.0	3.3	2.4	2.6	2.5	3.1	2.9	3.4	4.0	5.1	5.0	5.5	6.5	5.2	2.7	1.8	2.6	3.18	6.47																							
27-Nov	4.1	1.2	0.8	Z	1.8	2.3	2.6	1.2	12.8	1.1	0.5	0.4	0.4	0.9	2.2	6.7	4.3	12.2	23.4	34.8	25.4	7.6	5.6	4.4	6.82	34.82																							
28-Nov	4.9	6.0	2.8	Z	1.5	5.0	2.3	3.2	2.2	11.1	3.5	3.7	4.6	2.5	2.0	4.1	5.8	15.0	3.0	2.7	2.4	0.9	3.0	4.4	4.20	14.98																							
29-Nov	2.7	3.8	3.2	Z	1.5	0.5	0.6	0.9	0.8	1.9	2.8	3.9	2.5	2.6	3.6	5.5	5.5	5.8	2.3	2.5	2.8	0.4	0.7	0.8	2.52	5.80																							
30-Nov	2.7	3.9	2.9	Z	4.3	9.1	13.8	13.2	8.7	12.0	10.2	3.9	5.3	4.7	5.3	4.1	1.1	3.7	13.7	13.5	15.3	13.2	7.8	9.0	7.89	15.28																							
																								5.40	4.86	4.91	--	5.35	6.29	7.00	7.64	8.37	7.41	6.53	6.10	6.08	4.84	4.75	5.46	7.17	7.82	8.46	9.72	8.62	7.21	6.10	6.15	Diurnal Average	
																								15.94	13.71	15.53	--	18.72	22.35	18.21	24.80	27.61	30.13	18.39	22.45	25.59	18.47	13.34	14.65	28.61	30.72	26.58	34.82	46.51	34.74	19.96	24.02	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
November 2017

Maximum Value: 69.96 µg/m ³ on Nov 14 09:00		Maximum Daily Average: 34.31 µg/m ³ on Nov 14		Hours in Service: 720																																													
Minimum Value: 0.2 µg/m ³ on Nov 27 03:00		Minimum Daily Average: 2.34 µg/m ³ on Nov 1		Hours of Data: 720																																													
Maximum Diurnal Average: 18.07 µg/m ³ at hour 13		Minimum Diurnal Average: 11.01 µg/m ³ at hour 4		Hours of Missing Data: 0																																													
Monthly Average: 13.881 µg/m ³		Percentiles: P ₁ = 0.5 P ₁₀ = 2.8 Q ₁ = 5.2 Median = 10.9 Q ₃ = 19.8 P ₉₀ = 28.5 P ₉₉ = 53.2		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-Nov	0.7	0.5	0.5	0.6	0.9	0.8	1.0	2.4	2.4	1.9	2.7	4.5	6.3	1.7	1.2	1.9	2.6	3.5	3.3	3.2	3.3	5.2	3.4	2.0	2.34	6.28																							
2-Nov	3.7	3.3	5.5	11.7	19.8	15.5	10.5	6.4	11.8	14.1	9.8	8.4	6.5	5.0	5.2	3.7	4.4	4.2	5.3	5.8	5.2	7.2	5.7	3.1	7.58	19.80																							
3-Nov	3.8	3.0	2.6	2.7	3.3	3.8	5.8	4.1	4.2	4.4	6.6	7.8	7.6	7.1	6.5	6.0	5.1	4.0	5.3	4.6	6.1	7.0	12.5	10.2	5.59	12.50																							
4-Nov	9.5	11.7	6.7	8.1	6.9	5.9	5.6	4.3	4.7	8.6	13.6	14.7	16.7	27.2	26.5	14.1	11.1	7.9	7.4	9.1	7.3	7.3	9.4	9.7	10.58	27.24																							
5-Nov	8.4	10.6	10.3	10.4	10.8	10.2	13.7	13.7	11.3	10.8	11.7	11.0	5.8	4.6	4.8	5.2	5.0	5.9	13.6	19.1	25.1	17.1	6.4	6.4	10.50	25.09																							
6-Nov	4.1	4.1	4.1	2.7	1.8	2.2	2.1	2.8	1.6	2.7	3.5	2.2	2.6	3.8	10.0	7.1	6.1	5.2	11.6	11.2	8.2	3.0	22.2	20.6	6.07	22.25																							
7-Nov	15.9	10.2	11.3	7.7	3.2	2.4	2.0	3.1	7.7	4.9	5.5	23.8	28.7	17.3	19.9	11.9	11.5	16.1	16.4	15.8	15.4	13.4	15.0	19.0	12.43	28.67																							
8-Nov	40.7	17.1	13.8	11.2	10.4	9.1	9.7	13.1	17.3	19.0	25.5	28.6	39.6	23.6	17.4	15.4	20.5	23.3	23.1	28.8	15.8	15.8	14.4	11.4	19.36	40.75																							
9-Nov	11.8	12.0	11.1	10.7	13.0	17.0	36.7	31.1	18.7	12.1	13.1	24.3	30.9	31.5	24.9	21.6	17.7	16.5	17.3	20.6	26.2	28.1	22.6	24.8	20.61	36.67																							
10-Nov	21.8	25.8	26.4	23.3	26.8	40.0	38.4	28.2	31.7	36.6	39.2	34.9	27.1	17.6	14.6	14.8	12.5	17.5	17.1	24.1	24.6	32.9	31.5	29.2	26.53	40.00																							
11-Nov	20.7	19.7	20.6	14.1	11.6	10.9	14.4	22.8	31.2	42.9	54.3	55.7	65.7	48.8	41.3	37.2	53.9	23.1	13.2	6.9	9.0	10.7	10.7	10.9	27.09	65.74																							
12-Nov	12.4	14.8	14.8	15.2	15.0	13.8	11.8	12.1	13.5	13.9	14.0	14.2	16.5	18.1	19.9	20.6	25.1	28.6	35.6	38.4	38.3	37.2	37.9	38.5	21.68	38.52																							
13-Nov	40.0	39.2	38.9	38.2	37.6	36.1	36.8	38.0	33.4	26.8	25.4	21.5	20.8	24.1	24.7	24.3	20.9	28.4	32.8	29.9	28.7	29.7	28.4	26.7	30.47	40.04																							
14-Nov	27.3	31.0	32.6	28.1	38.1	62.5	60.8	64.0	70.0	59.1	35.5	28.9	26.2	27.2	27.4	27.9	26.7	23.2	21.3	20.8	20.0	21.7	22.7	20.6	34.31	69.96																							
15-Nov	16.7	15.9	16.6	18.4	20.9	22.9	23.1	25.3	28.7	31.1	30.5	27.5	27.9	28.0	26.7	27.3	28.4	31.4	31.4	32.3	28.2	26.0	24.9	22.3	25.50	32.26																							
16-Nov	20.2	19.4	18.5	17.0	16.5	16.3	18.9	17.1	18.3	23.9	27.7	27.5	25.6	27.1	29.4	31.6	25.3	21.1	19.9	19.9	19.8	18.4	15.6	15.9	21.29	31.62																							
17-Nov	15.4	14.7	14.7	13.3	11.8	10.8	9.7	9.6	8.3	7.5	9.5	26.6	32.2	35.5	20.9	18.9	18.3	17.4	17.9	15.1	23.0	15.8	25.2	44.9	18.21	44.91																							
18-Nov	18.8	2.5	4.9	6.6	9.0	7.8	3.5	4.4	6.6	8.9	4.1	5.6	8.0	3.5	8.4	3.0	3.1	6.5	9.8	7.3	9.0	4.1	0.8	1.2	6.15	18.78																							
19-Nov	2.3	2.7	4.0	1.9	4.9	4.1	9.9	8.0	7.1	10.6	6.3	7.1	11.4	13.4	4.9	6.0	1.4	5.8	8.4	8.6	4.3	8.6	9.6	12.8	6.83	13.38																							
20-Nov	13.5	12.5	12.6	12.3	11.2	12.3	10.6	10.8	10.6	10.2	11.1	11.6	9.8	6.2	6.8	8.6	8.5	6.3	9.7	6.4	8.6	7.1	10.2	9.0	9.87	13.49																							
21-Nov	9.0	13.4	6.6	5.0	4.7	4.5	4.2	5.1	6.6	13.6	17.5	30.2	40.2	39.3	28.5	22.5	17.1	13.3	11.6	10.0	9.0	9.6	9.6	8.5	14.15	40.23																							
22-Nov	8.7	9.2	9.6	10.9	11.2	11.5	14.3	20.8	27.1	24.4	17.5	15.9	17.6	17.4	3.6	18.2	12.2	11.3	12.0	14.8	11.6	8.7	19.0	19.8	14.47	27.07																							
23-Nov	20.3	10.7	11.7	18.7	19.1	21.1	10.1	9.9	8.4	5.0	6.5	8.6	4.0	3.9	3.3	2.2	3.2	3.5	5.0	6.3	2.4	3.3	3.7	7.8	8.28	21.11																							
24-Nov	14.5	10.9	15.0	9.0	6.3	3.8	5.1	2.7	3.6	12.6	6.2	15.2	2.5	3.6	4.9	7.6	4.1	1.4	4.5	13.0	11.6	5.0	3.5	5.2	7.16	15.17																							
25-Nov	18.7	17.2	10.2	6.0	0.7	1.1	0.7	0.6	2.6	3.8	5.8	4.9	4.7	6.0	7.0	4.2	3.0	4.7	7.7	7.7	8.8	6.6	6.1	4.6	5.97	18.67																							
26-Nov	5.3	4.7	4.1	5.0	6.8	12.5	14.5	14.1	12.9	15.1	15.5	15.7	22.5	23.8	23.1	22.3	21.0	20.9	23.6	23.3	20.3	5.7	2.3	4.9	14.16	23.77																							
27-Nov	5.2	2.5	0.2	6.2	2.2	0.5	4.1	1.6	0.8	0.2	0.3	0.4	0.5	0.9	1.7	3.6	2.6	4.5	9.2	14.6	9.8	3.7	11.6	9.5	4.02	14.63																							
28-Nov	12.5	16.2	8.9	10.3	3.8	13.3	7.3	8.1	4.4	10.7	6.1	8.1	10.8	3.7	2.5	10.9	9.6	9.8	1.3	6.2	9.0	2.8	9.1	12.6	8.25	16.25																							
29-Nov	7.8	9.7	8.4	1.6	3.5	1.3	1.9	2.5	1.0	3.4	7.4	11.9	10.6	7.8	12.9	17.3	19.3	27.9	8.0	8.7	8.5	1.3	2.8	3.0	7.86	27.94																							
30-Nov	6.7	7.1	7.2	3.4	2.8	3.6	4.2	7.6	1.6	6.7	11.6	9.6	12.8	11.5	14.6	12.3	2.2	5.1	12.2	24.5	10.1	11.3	26.0	4.4	9.13	26.00																							
																								13.88	12.41	11.74	11.01	11.15	12.59	13.05	13.14	13.61	14.86	14.80	16.90	18.07	16.31	14.79	14.28	13.41	13.28	13.85	15.23	14.25	12.47	14.10	13.99	Diurnal Average	
																								40.75	39.22	38.87	38.16	38.15	62.51	60.79	63.99	69.96	59.11	54.28	55.65	65.74	48.80	41.33	37.22	53.92	31.39	35.65	38.41	38.25	37.20	37.90	44.91	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: November 22, 2017

Parameter: H₂S

Instrument: Teco 43C

Serial Number: 45c-71671-369

Previous Calibration Date: October 26 2017

Calibration: Routine

Calibration Equipment: SABIO 2010 sn # 04300810 Barometric Pressure: 26.50" Hg

Calibration Method: Std.Gas Dilution / GPT

Permeation Device ID: Cyl DT0014794 10.5 ppm H₂S Temperature: 24.0° C

Permeation Rate: 0 ng/min

In Service: Oct 21 2016; Exp Oct 2019

Technician: Dean Yustak

Instrument Settings	H ₂ S bkg ppb	H ₂ S Coefficient	Monitoring Range
Previous	18.5	1.321	100 ppb
Current	19.5	1.381	100 ppb

Final Zero: 0.6 ug/m³

Final Span: 48.8 ug/m³

As Found Correction Factor: 1.063

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
0.041	80.3	23956.9	80.8	0.994
0.029	56.9	16759.4	56.7	1.005
0.016	31.4	9039.1	30.8	1.021
0.000	0.0	10.3	0.5	

Results of Linear Regression

R _c vs C _c	Slope	Intercept	R ²
Previous	303.353300	-113.955600	0.999945
Current	298.110100	-130.949500	0.999741
C _i vs C _c			
Current	1.000000	0.000000	0.999741

Average Correction Factor: 1.007

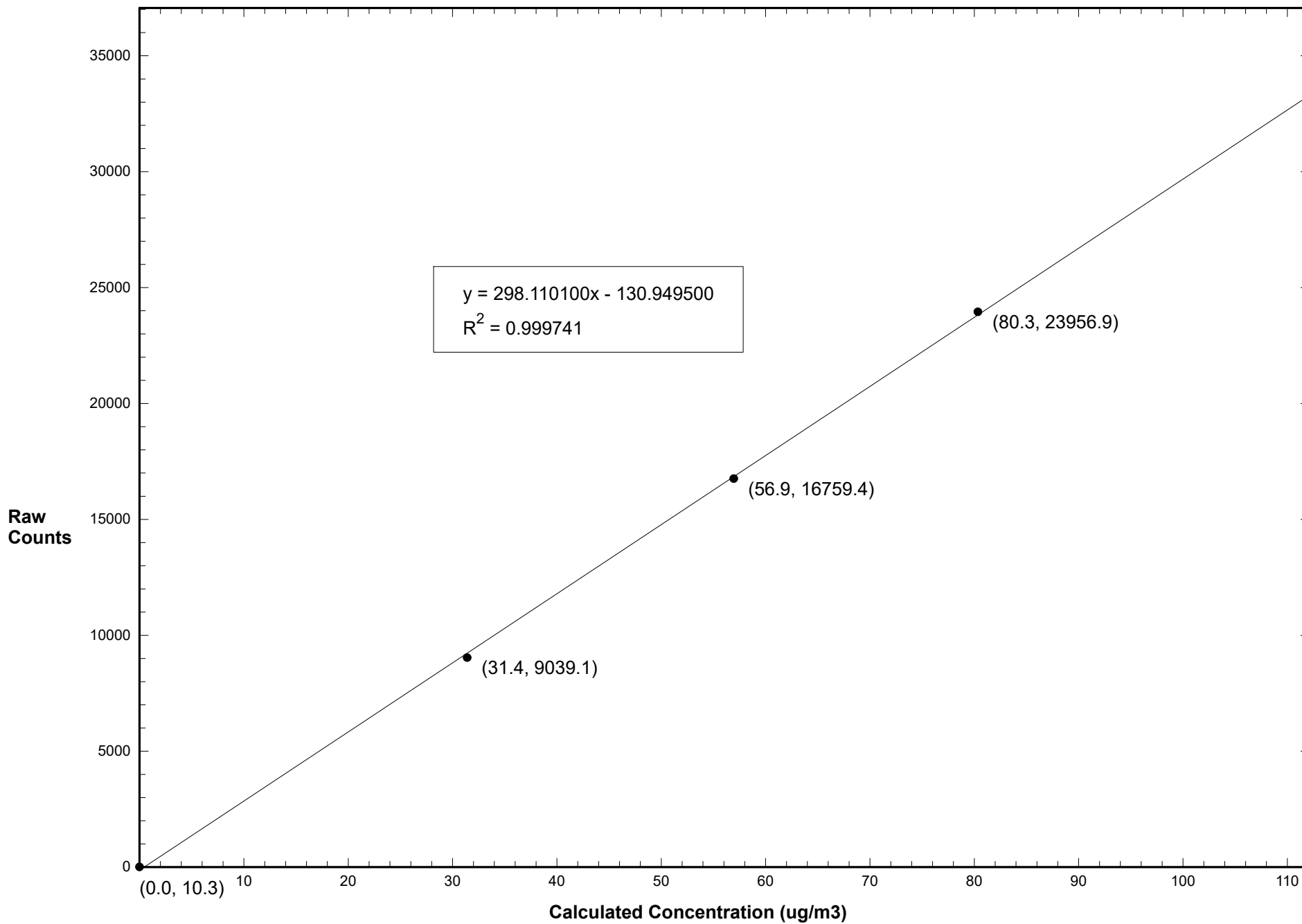
Previous Correction Factor: 1.001

Current Correction Factor: 0.994

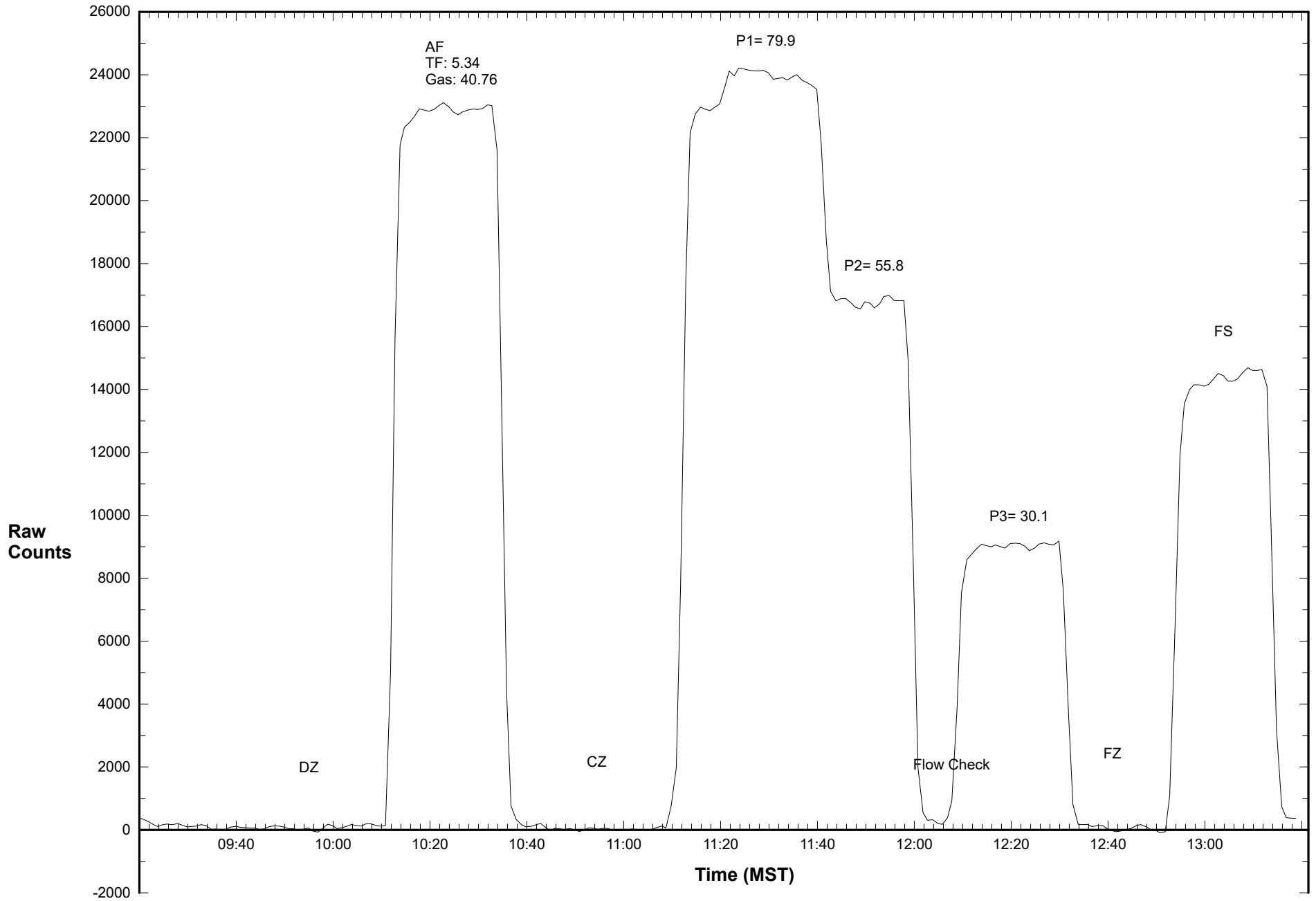
Percent Change of Correction Factor: -0.7

Comments: Sample Flow: 0.446 lpm

Station 906 H2S November 22, 2017: Linear Regression



Station 906 H2S November 22, 2017: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 906, Hinton

Calibration Date: November 22, 2017

Parameter: NO/NO₂/NO_x

Instrument: Teco 42i

Serial Number: 09505034785

Previous Calibration Date: October 26 2017

Calibration: Routine

Calibration Equipment: SABIO 2010 sn # 04300810

Barometric Pressure: 26.50" Hg

Calibration Method: Std.Gas Dilution / GPT

Cylinder ID: CC119396

Temperature: 24.0° C

Cylinder Concentration: 25.4 ppm NO & NO_x

In Service: Oct 2 2017 exp: Aug 2020

Technician: Dean Yustak

Instrument Settings	NO bkg ppb	NO _x bkg ppb	Pre-reactor bkg ppb	NO Coefficient	NO _x Coefficient	NO ₂ Coefficient	Monitoring Range
Previous	14.8	15.0	na	1.315	1.000	0.995	500 ppb
Current	14.6	14.8	na	1.327	0.989	0.995	500 ppb

NO	Final Zero: -0.1 ppb	Final Span: 154.9 ppb	As Found Correction Factor: 1.016
NO ₂	Final Zero: 0.2 ppb	Final Span: 0.1 ppb	As Found Correction Factor: NA
NO _x	Final Zero: -0.3 ppb	Final Span: 154.8 ppb	As Found Correction Factor: 1.005

Results of Linear Regression			Slope	Intercept	R ²
NO	R _c vs C _c	Previous	59.857860	-22.904120	0.999994
		Current	59.944320	17.870630	0.999998
	C _i vs C _c	Current	1.000000	0.000037	0.999998
NO ₂	R _c vs C _c	Previous	59.676970	234.917100	0.999994
		Current	60.272930	-9.769105	0.999989
	C _i vs C _c	Current	1.000000	0.000000	0.999989
NO _x	R _c vs C _c	Previous	59.882320	-11.193800	0.999994
		Current	59.954120	17.200780	0.999997
	C _i vs C _c	Current	1.000000	0.000037	0.999997

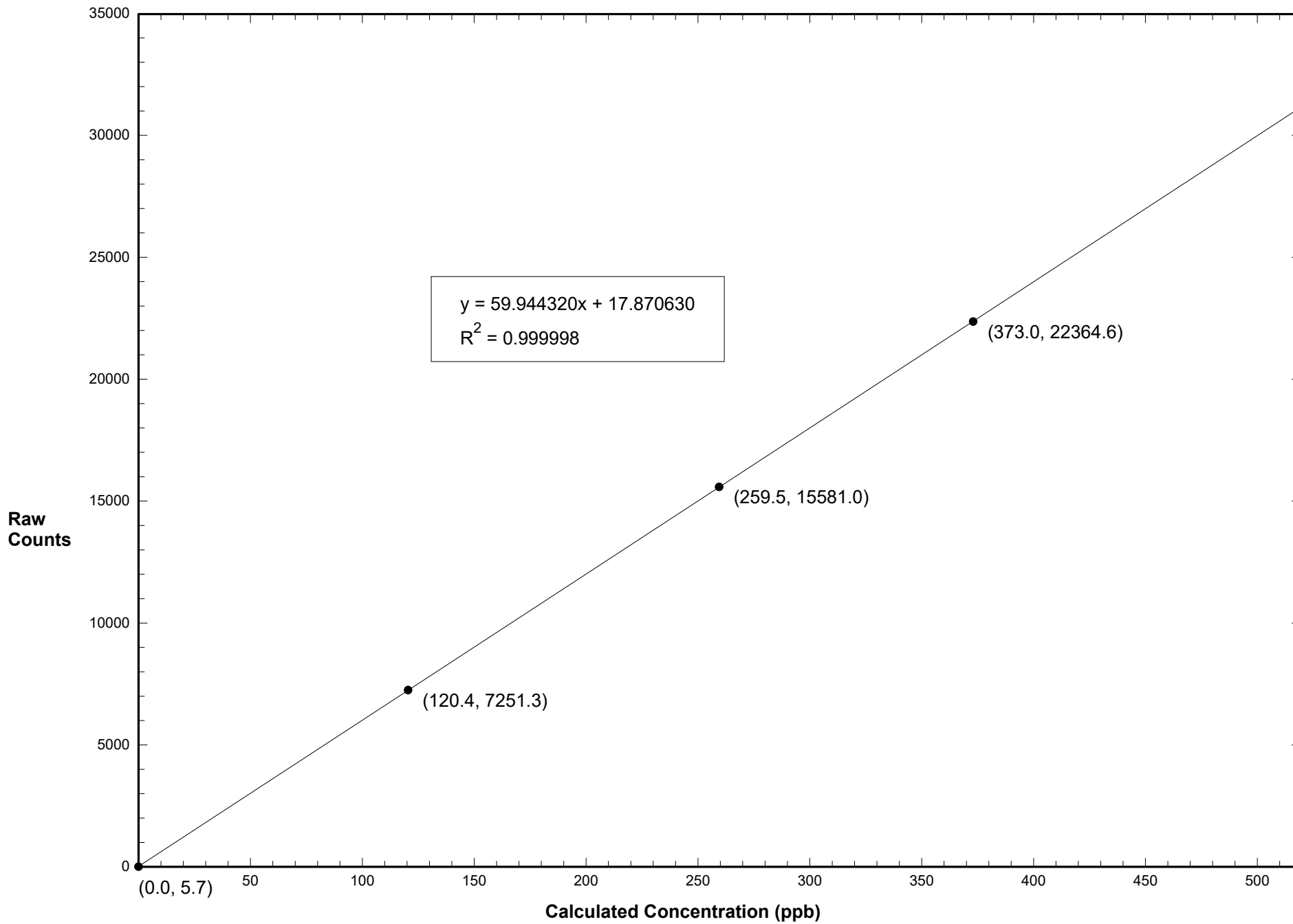
Comments: Sample Flow: 0.470 lpm

Calibration Data Summary (Page 2)

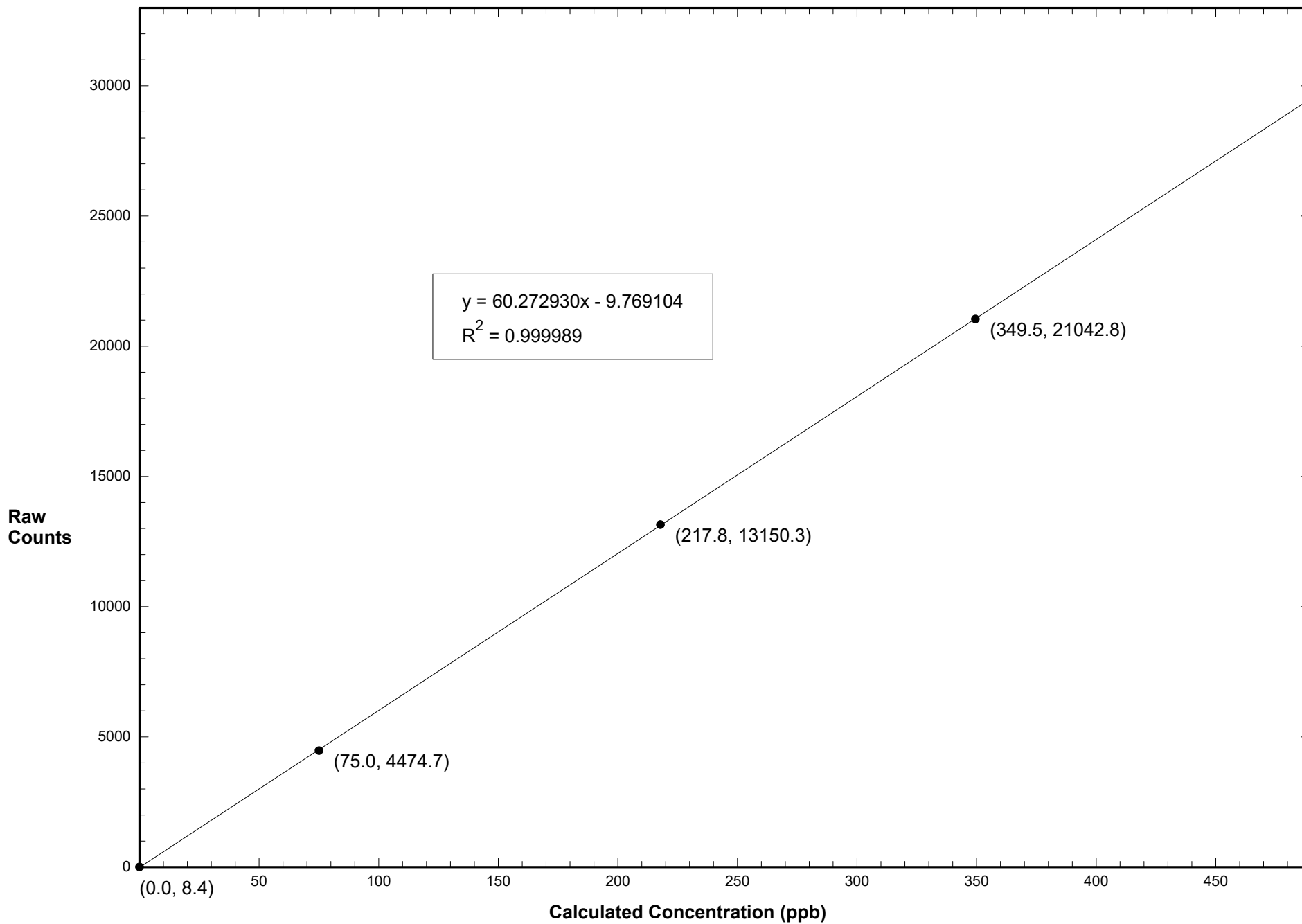
November 22, 2017 - Station 906

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		
0.07930	5.321	373.0	22364.6	372.8	1.001		
0.05480	5.310	259.5	15581.0	259.6	0.999		
0.02530	5.310	120.4	7251.3	120.7	0.998		
0.00000	5.298	0.0	5.7	-0.2			
NO Calibration					Average Correction Factor:	0.999	
0.07930	5.321	373.0	22373.2	372.9	1.000		
0.05480	5.310	259.5	15569.7	259.4	1.000		
0.02530	5.310	120.4	7262.8	120.9	0.997		
0.00000	5.298	0.0	1.6	-0.3			
NO _x Calibration					Average Correction Factor:	0.999	
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
374.8	1535.5	25.3	349.5	21042.8	349.3	1.001	0.999
374.8	9428.1	157.0	217.8	13150.3	218.3	0.998	1.002
374.8	17986.6	299.8	75.0	4474.7	74.4	1.009	0.992
			0.0	8.4	0.3		
					Average Correction Factor:	1.002	
NO ₂ Gas Phase Titration					Average Converter Efficiency:	0.998	
Parameter	Correction Factor (Previous)	Correction Factor: (Current)	Percent Change of Correction Factor				
NO	1.000	1.001	0.1				
NO ₂	1.006	1.001	-0.5				
NO _x	1.000	1.000	0.0				

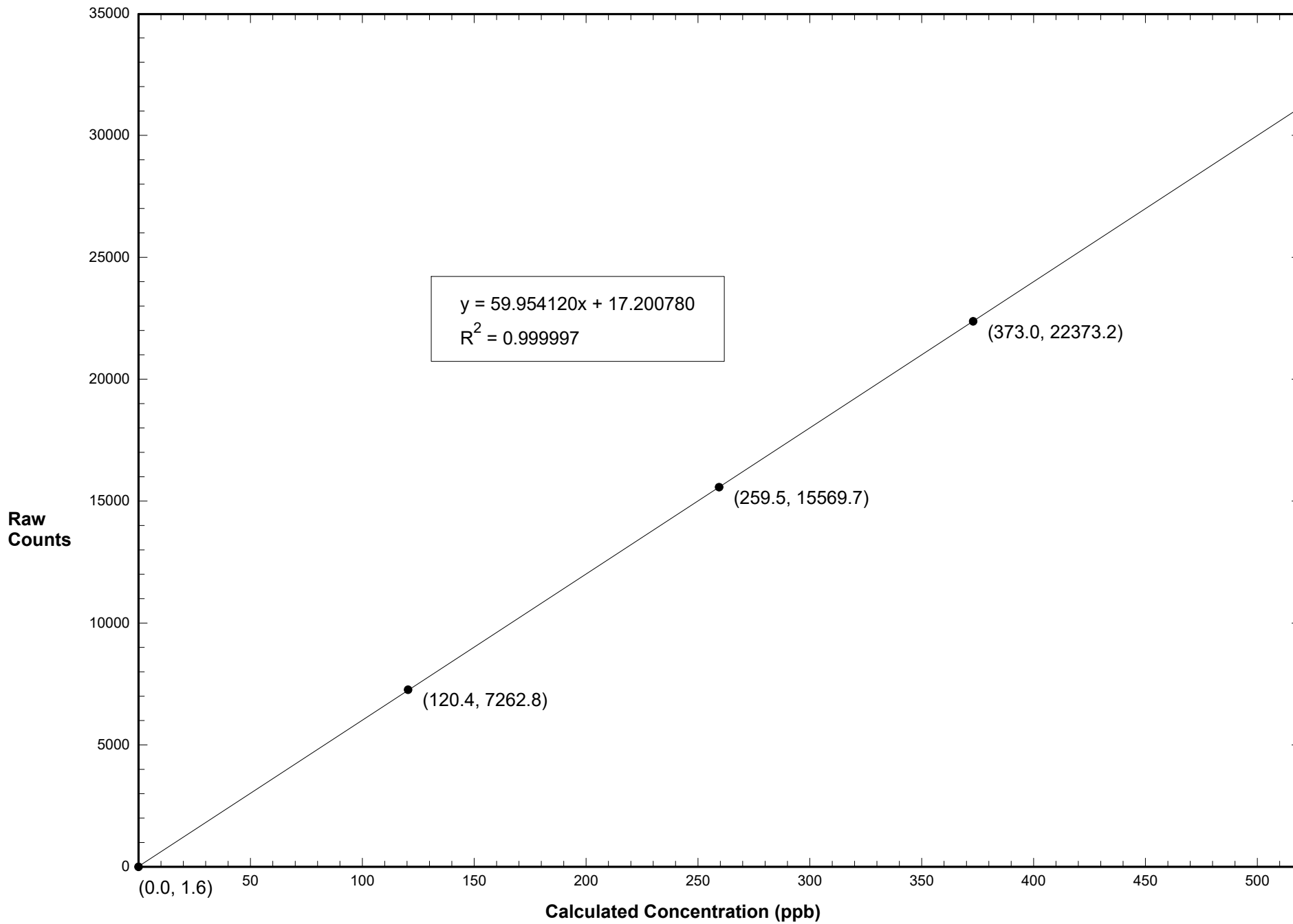
Station 906 NO November 22, 2017: Linear Regression



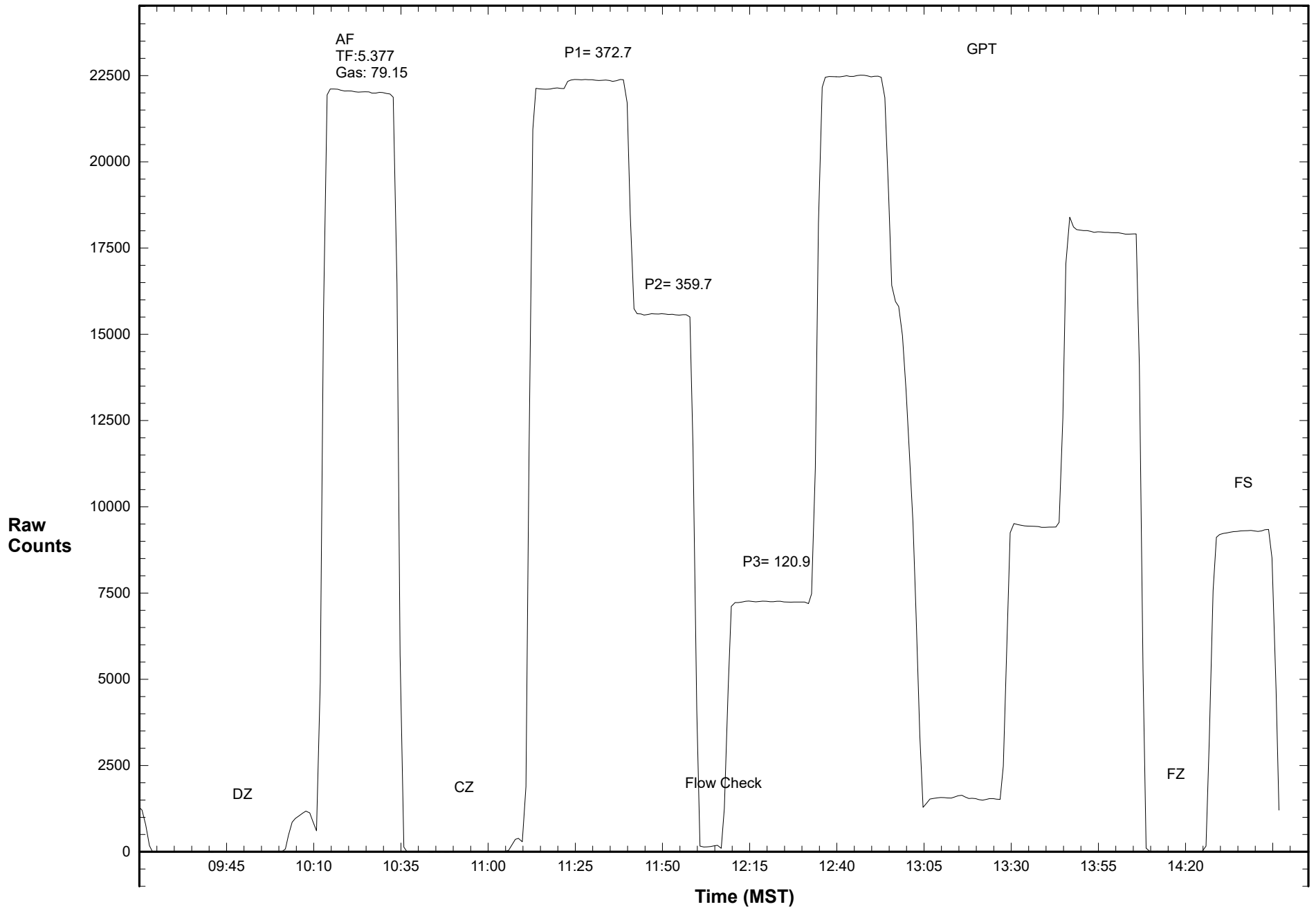
Station 906 NO2 November 22, 2017: Linear Regression



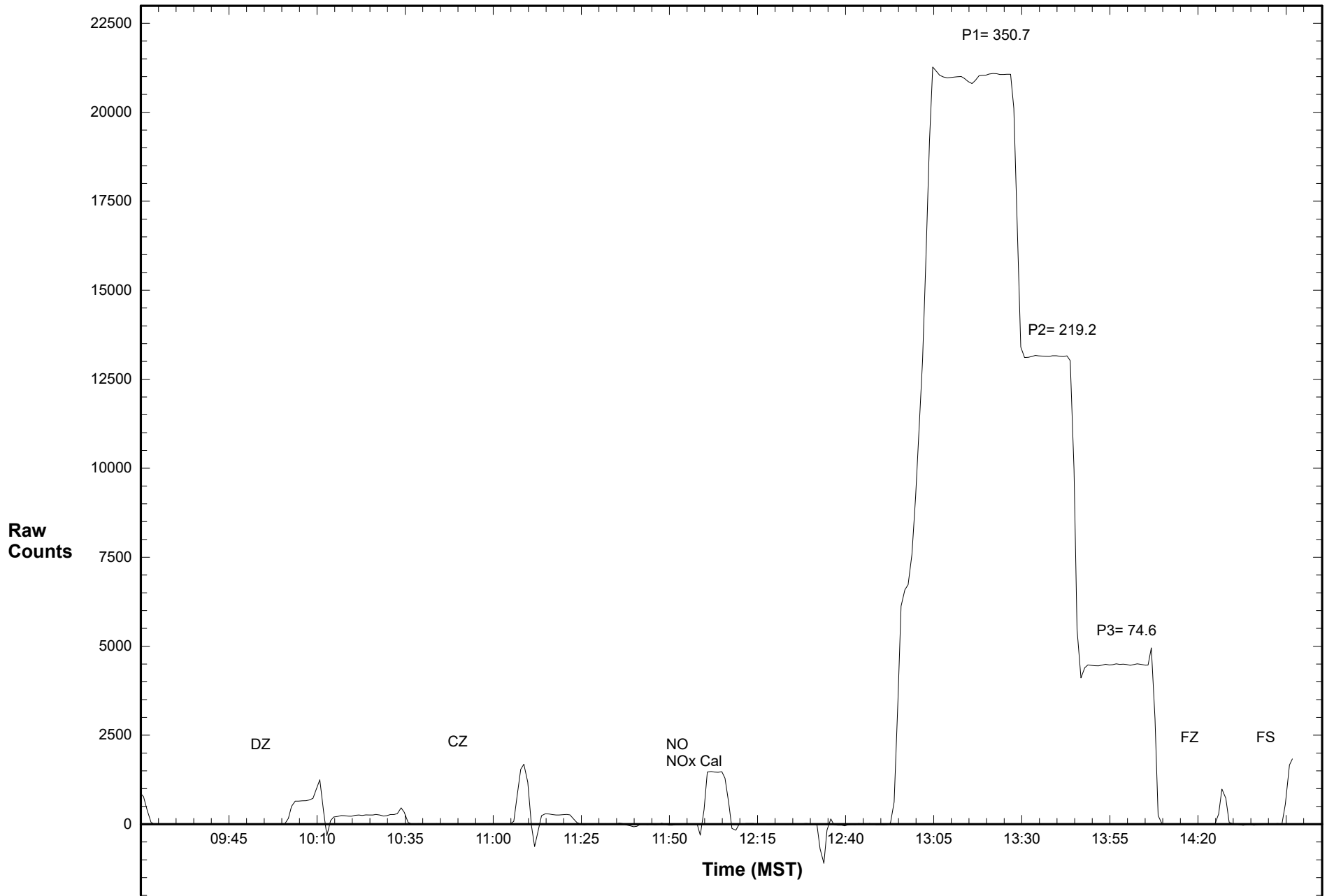
Station 906 NOX November 22, 2017: Linear Regression



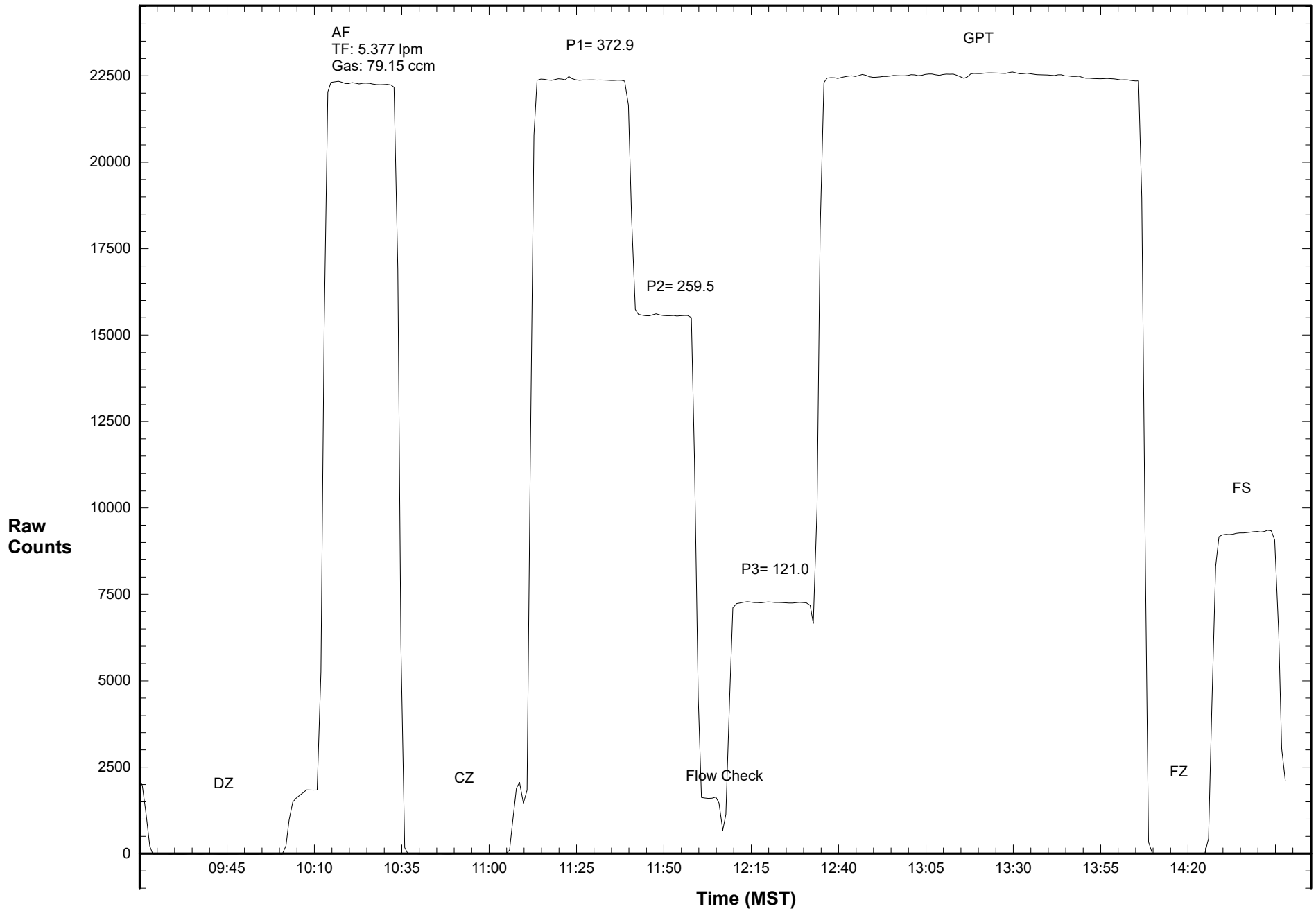
Station 906 NO November 22, 2017: Calibration Graph



Station 906 NO2 November 22, 2017: Calibration Graph



Station 906 NOX November 22, 2017: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 906, Hinton

Calibration Date: November 22, 2017

Parameter: O₃

Instrument: Teco 49i

Serial Number: 1150790050

Previous Calibration Date: October 26 2017

Calibration: Routine

Calibration Equipment: 2B Tech 306 SN-135

Barometric Pressure: 26.50" Hg

Calibration Method: Certified Ozone Generator In service: Jan 16/17

Temperature: 24.0° C

Technician: Dean Yustak

Instrument Settings	Background	Coefficient	Monitoring Range
Previous	-0.1	0.980	500 ppb
Current	-0.1	0.994	500 ppb

Final Zero: -0.7 ppb

Final Span: 380.1 ppb

As Found Correction Factor: 1.016

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	403.0	24100.7	403.0	1.000
3.000	254.0	15173.8	253.5	1.002
3.000	100.1	6097.0	101.4	0.988
3.000	0.0	3.6	-0.7	

Results of Linear Regression

R _c vs C _c	Slope	Intercept	R ²
Previous	59.868570	-6.860745	0.999992
Current	59.679320	47.973190	0.999974
C _i vs C _c			
Current	1.000000	-0.000007	0.999974

Average Correction Factor: 0.997

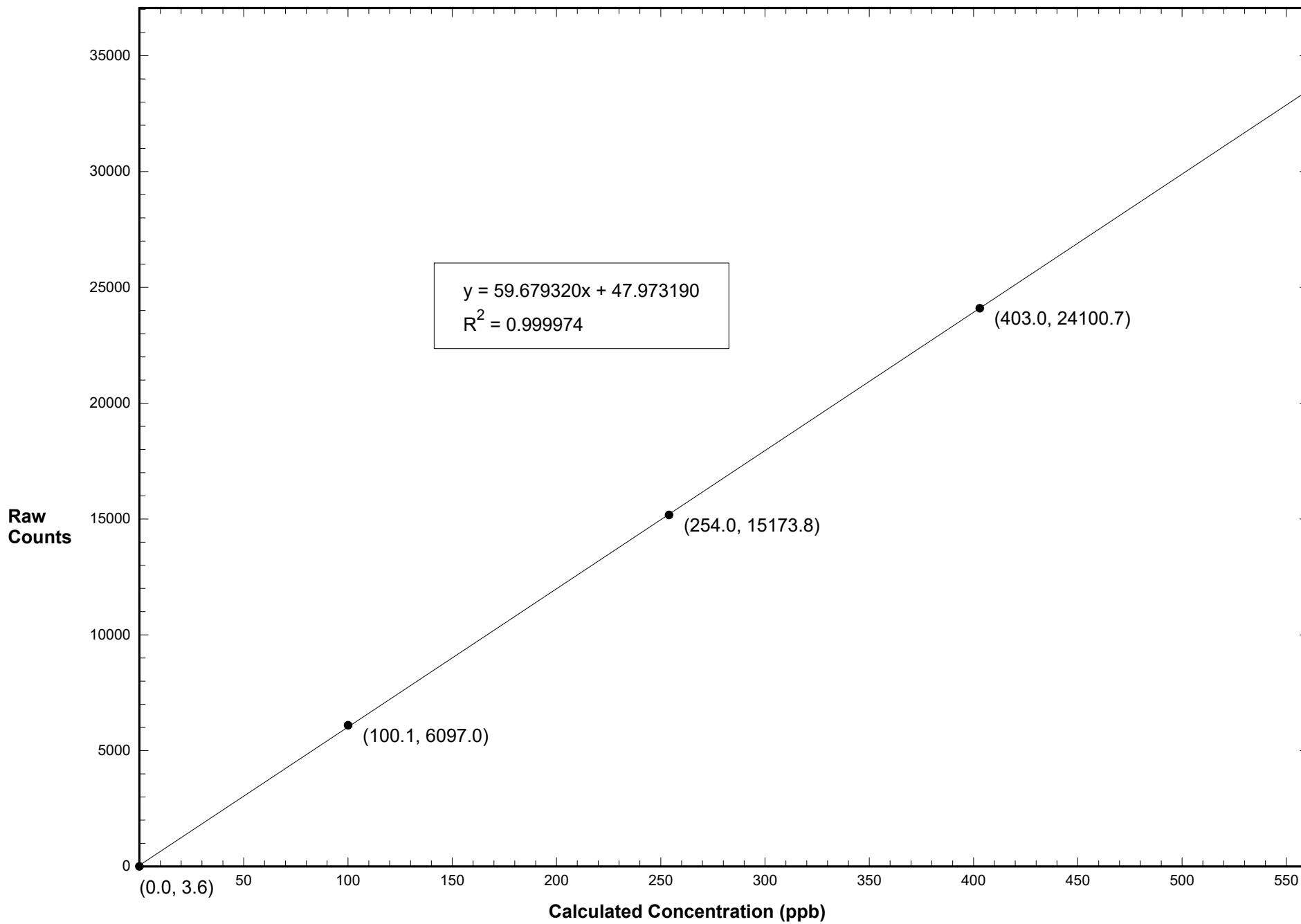
Previous Correction Factor: 0.999

Current Correction Factor: 1.000

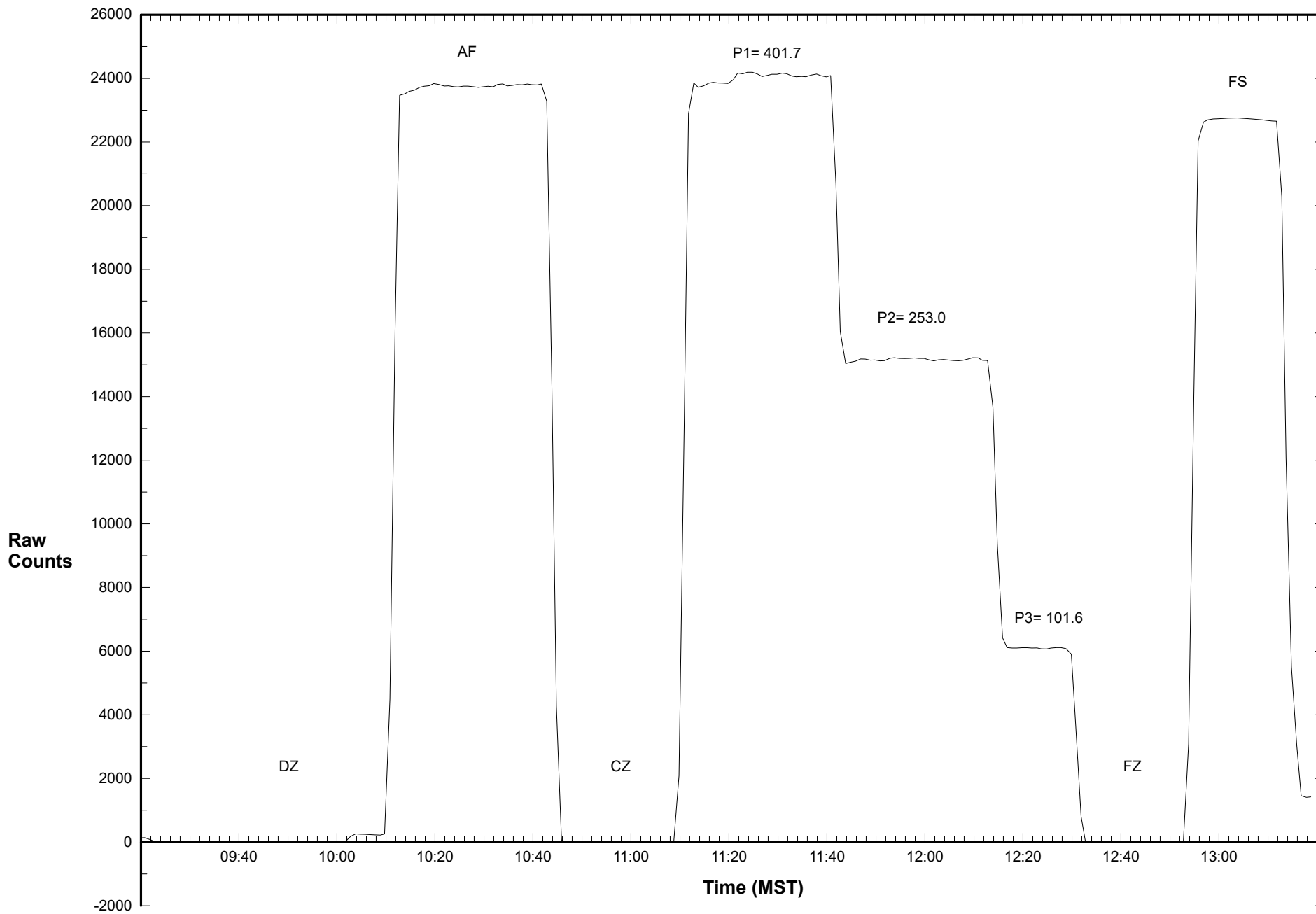
Percent Change of Correction Factor: 0.1

Comments: Sample Flow: 0.689 & 0.687 lpm

Station 906 O3 November 22, 2017: Linear Regression



Station 906 O3 November 22, 2017: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 906, Hinton

Calibration Date: November 22, 2017

Parameter: SO₂

Instrument: Teco 43i

Serial Number: CM 12499009

Previous Calibration Date: October 26 2017

Calibration: Routine

Calibration Equipment: SABIO 2010 sn # 04300810

Barometric Pressure: 26.50" Hg

Calibration Method: Std.Gas Dilution

Cylinder ID: CC119396

Temperature: 24.0° C

Cylinder Concentration: 24.6 ppm SO₂

In Service: Oct 2 2017 exp: Aug 2020

Technician: Dean Yustak

Instrument Settings

SO₂ bkg ppb

SO₂ Coefficient

Monitoring Range

Previous

29.3

1.006

500 ppb

Current

28.0

0.994

500 ppb

Final Zero: -0.1 ppm

Final Span: 71.8 ppm

As Found Correction Factor: 0.999

SO₂ 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

0.0793

5.321

361.2

21697.1

361.0

1.001

0.0548

5.310

251.3

15117.7

251.5

0.999

0.0253

5.310

116.7

7025.8

116.8

0.999

0.0000

5.298

0.0

-2.2

-0.2

Results of Linear Regression

R_c vs C_c

Slope

Intercept

R²

Previous

60.166520

-60.737510

0.999964

Current

60.075020

8.357998

0.999998

C_i vs C_c

Current

1.000000

-0.000043

0.999998

Average Correction Factor:

0.999

Previous Correction Factor:

0.998

Current Correction Factor:

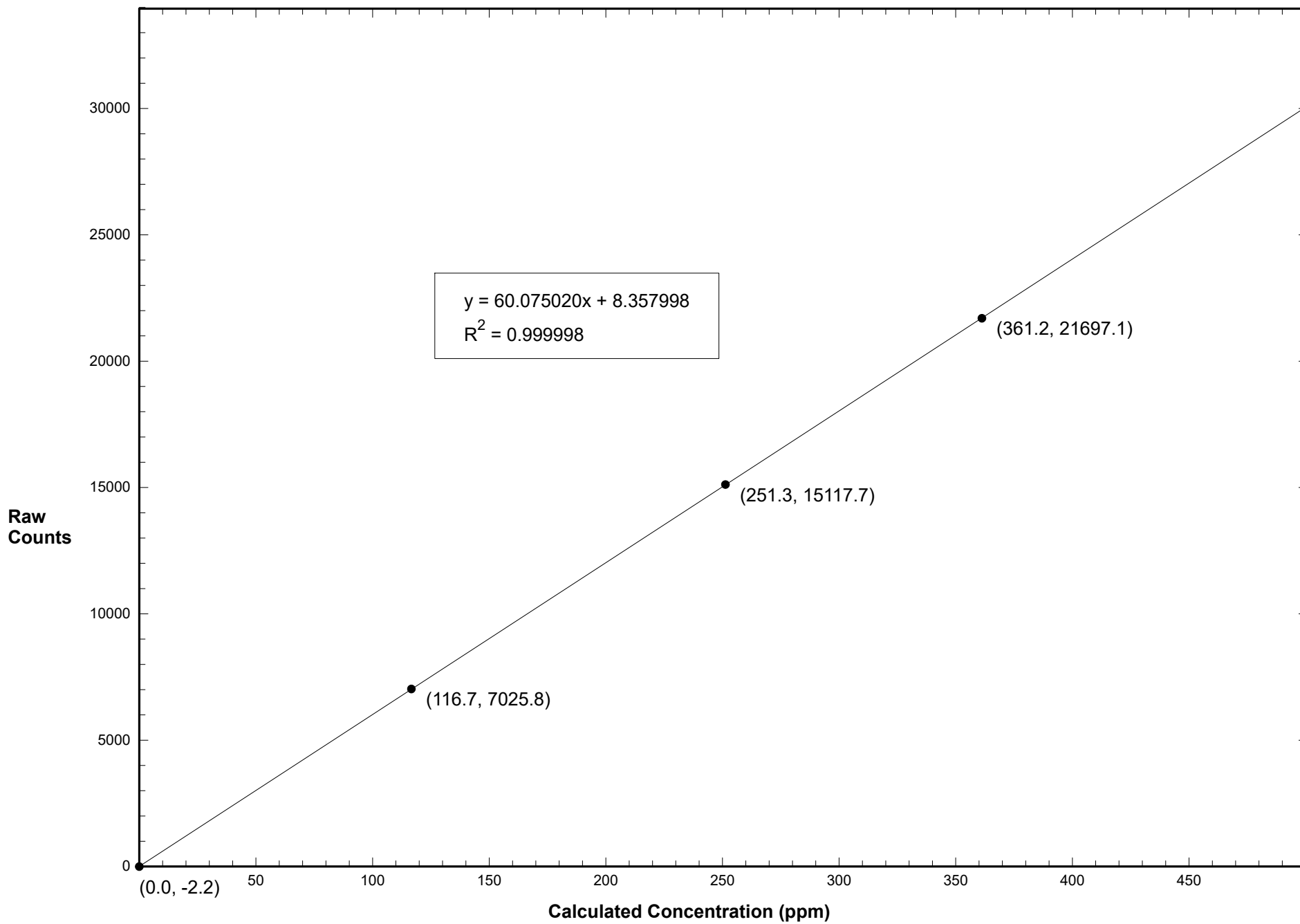
1.001

Percent Change of
Correction Factor:

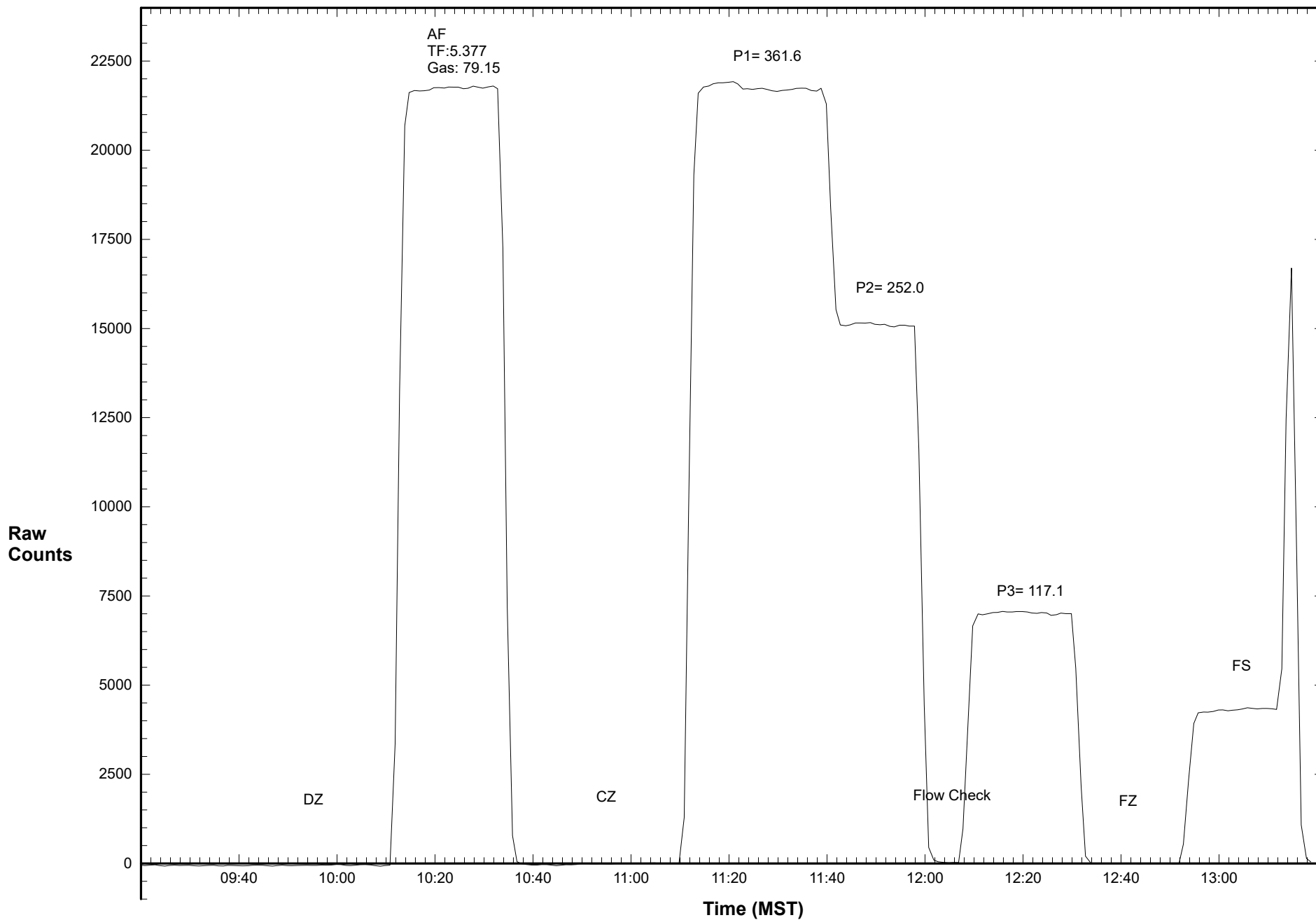
0.3

Comments: Sample Flow 0.421 lpm

Station 906 SO2 November 22, 2017: Linear Regression



Station 906 SO2 November 22, 2017: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 906, Hinton

Calibration Date: November 22, 2017

Parameter: TRS

Instrument: Teco 43C

Serial Number: 43CTL - 60324 - 326

Previous Calibration Date: October 26 2017

Calibration: Routine

Calibration Equipment: SABIO 2010 sn # 04300810 Barometric Pressure: 26.50" Hg

Calibration Method: Std.Gas Dilution

Permeation Device ID: Cyl DT0014794 10.5 ppm H2S Temperature: 24.0° C

Permeation Rate: 0 ng/min

In Service: Oct 21 2016; Exp Oct 2019

Technician: Dean Yustak

Instrument Settings	H ₂ S bkg ppb	H ₂ S Coefficient	Monitoring Range
Previous	1.66	0.769	100 ppb
Current	1.68	0.768	100 ppb

Final Zero: 0.3 ppb

Final Span: 62.2 ppb

As Found Correction Factor: 1.003

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
0.041	80.3	24162.0	80.4	1.000
0.029	56.9	17158.8	57.2	0.996
0.016	31.4	9246.6	30.9	1.015
0.000	0.0	-14.8	0.2	

Results of Linear Regression

R _c vs C _c	Slope	Intercept	R ²
Previous	301.649400	-86.193360	0.999991
Current	301.626300	-82.513560	0.999911
C _i vs C _c			
Current	1.000000	0.000011	0.999911

Average Correction Factor: 1.004

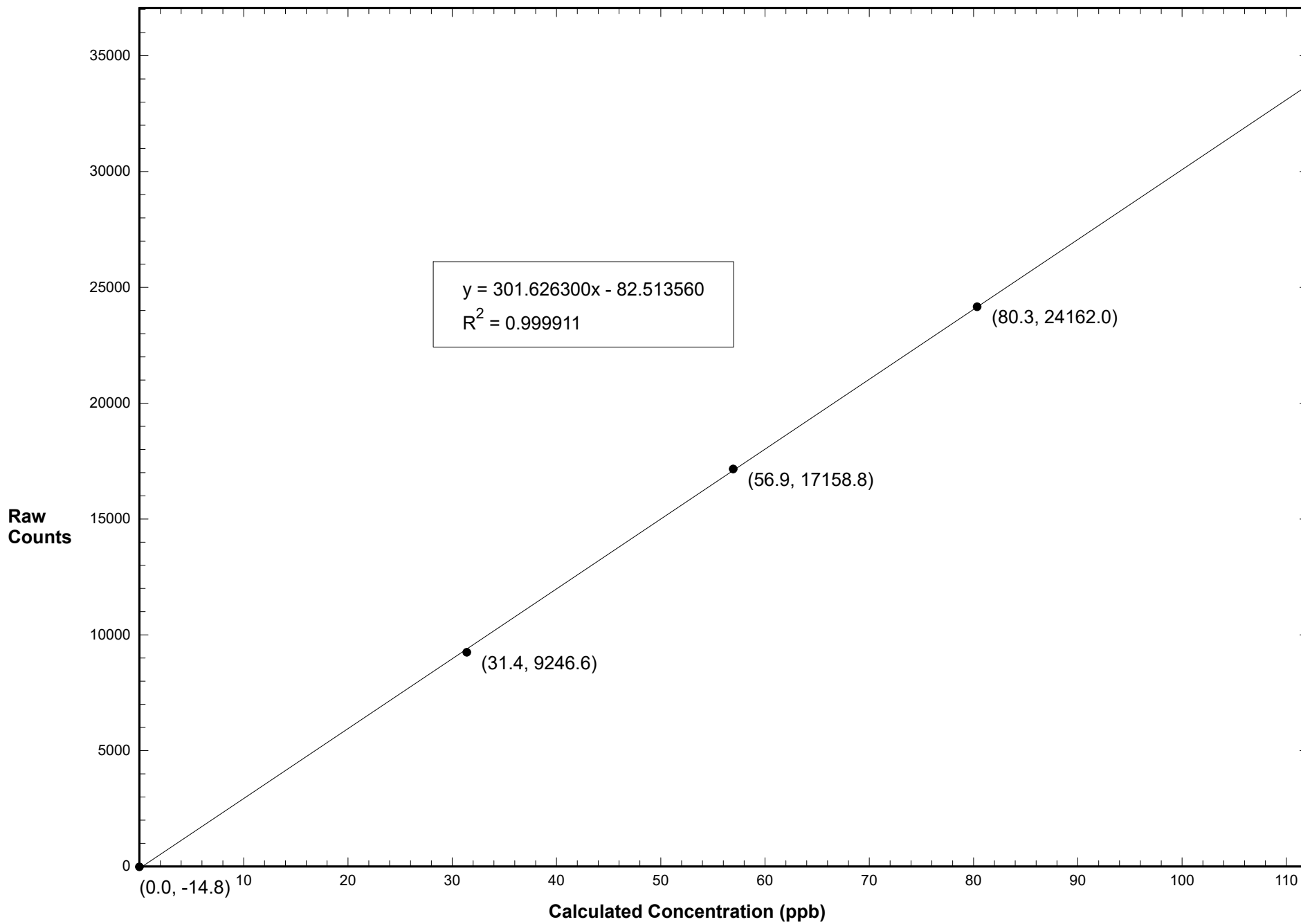
Previous Correction Factor: 0.999

Current Correction Factor: 1.000

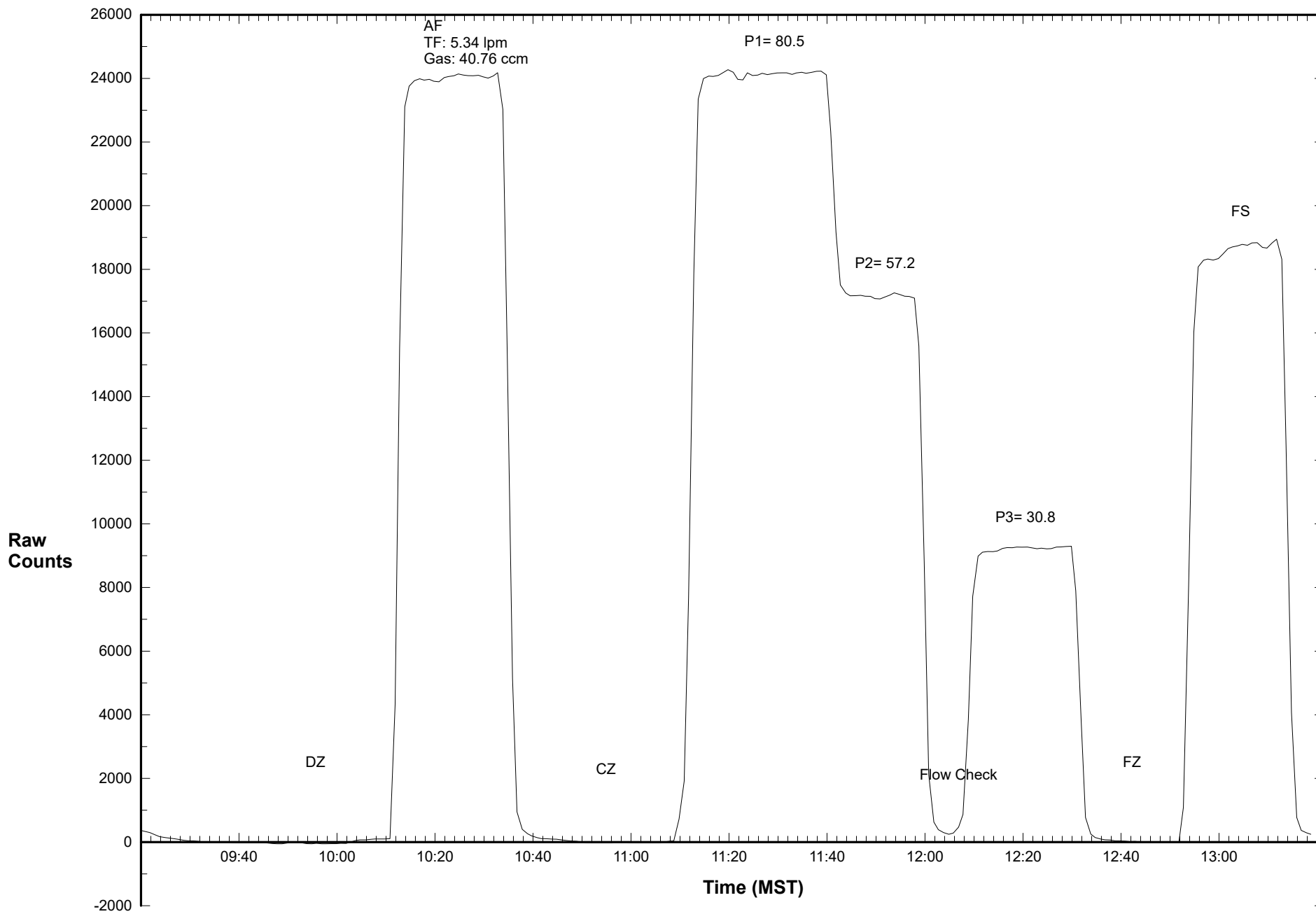
Percent Change of Correction Factor: 0.1

Comments: Sample Flow: 0.333 lpm

Station 906 TRS November 22, 2017: Linear Regression



Station 906 TRS November 22, 2017: Calibration Graph



WEST CENTRAL AIRSHED SOCIETY

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

**AMS 906
HINTON
NOVEMBER 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
November 2017

Maximum Value: 8.20 C on Nov 22 16:00 Maximum Daily Average: 2.93 C on Nov 29																								Hours in Service: 720		
Minimum Value: -21.6 C on Nov 6 07:00 Minimum Daily Average: -14.29 C on Nov 4																								Hours of Data: 720		
Maximum Diurnal Average: -1.79 C at hour 15 Minimum Diurnal Average: -7.82 C at hour 6																								Hours of Missing Data: 0		
Monthly Average: -5.602 C Percentiles: P₁ = -20.8 P₁₀ = -13.5 Q₁ = -10.2 Median = -6.2 Q₃ = -0.2 P₉₀ = 3.3 P₉₉ = 6.8																								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-Nov	-0.6	-1.2	-1.5	-1.8	-2.1	-2.3	-2.4	-2.7	-2.8	-2.9	-2.8	-3.3	-3.3	-3.2	-3.4	-4.1	-5.0	-5.6	-5.9	-6.2	-6.6	-6.7	-7.2	-7.8	-3.81	-0.64
2-Nov	-8.4	-8.7	-9.0	-9.3	-9.6	-9.7	-10.0	-10.3	-10.4	-10.4	-10.2	-10.1	-10.0	-9.8	-9.7	-10.0	-10.1	-10.7	-11.2	-11.5	-11.8	-12.1	-12.4	-12.7	-10.32	-8.38
3-Nov	-13.0	-13.0	-13.0	-13.1	-13.3	-13.3	-13.3	-13.5	-13.8	-13.5	-13.2	-12.8	-11.5	-11.0	-10.7	-11.3	-11.3	-11.8	-12.9	-12.9	-13.3	-14.4	-16.8	-17.2	-13.08	-10.74
4-Nov	-17.9	-19.0	-19.7	-20.1	-20.5	-20.9	-21.0	-21.1	-20.8	-19.0	-16.0	-13.1	-10.0	-8.4	-7.7	-8.0	-8.3	-8.8	-9.5	-9.8	-10.9	-10.8	-10.5	-11.3	-14.29	-7.73
5-Nov	-13.0	-13.8	-14.1	-14.0	-13.4	-12.1	-11.0	-11.2	-11.6	-10.6	-9.7	-7.9	-7.1	-6.5	-6.2	-6.3	-6.7	-7.7	-10.3	-12.0	-13.5	-14.8	-15.9	-16.5	-11.08	-6.22
6-Nov	-17.1	-18.2	-18.9	-20.0	-20.7	-21.4	-21.6	-21.1	-19.5	-15.3	-11.1	-9.1	-7.0	-5.4	-4.1	-3.5	-3.7	-4.9	-7.4	-9.8	-11.9	-12.9	-13.0	-13.4	-12.95	-3.48
7-Nov	-13.7	-14.6	-15.1	-15.4	-15.2	-15.0	-14.2	-13.6	-12.9	-11.8	-10.1	-8.1	-7.0	-6.0	-5.3	-5.9	-6.3	-6.9	-7.3	-7.6	-7.8	-8.1	-8.3	-9.2	-10.22	-5.26
8-Nov	-9.8	-9.8	-9.7	-10.1	-10.9	-11.6	-11.3	-10.8	-10.4	-9.9	-8.6	-6.9	-5.2	-3.1	-1.4	-1.7	-3.2	-4.8	-6.8	-8.9	-10.9	-12.2	-13.5	-14.7	-8.59	-1.43
9-Nov	-15.5	-16.3	-17.0	-17.2	-17.2	-16.9	-16.5	-16.5	-15.9	-14.7	-13.1	-10.6	-7.9	-5.0	-3.1	-2.8	-3.4	-5.1	-6.7	-8.3	-9.5	-9.8	-9.0	-8.1	-11.10	-2.83
10-Nov	-7.9	-7.8	-7.6	-7.5	-7.4	-7.3	-7.1	-7.0	-6.6	-6.1	-4.5	-2.1	0.2	1.9	2.9	2.4	0.7	-1.3	-2.8	-3.9	-5.3	-6.7	-8.0	-8.9	-4.48	2.92
11-Nov	-9.9	-10.8	-11.5	-12.1	-12.7	-13.0	-12.8	-12.1	-11.7	-10.4	-8.8	-5.6	-3.8	-1.9	-0.3	0.3	-0.6	-1.7	-2.1	-2.0	-1.8	-1.9	-2.3	-2.3	-6.33	0.31
12-Nov	-2.5	-2.8	-3.0	-3.4	-3.8	-4.1	-4.5	-4.7	-4.9	-4.7	-4.2	-3.2	-2.9	-2.2	-1.9	-1.9	-2.7	-4.2	-5.7	-6.7	-7.2	-7.3	-7.2	-7.2	-4.28	-1.86
13-Nov	-7.1	-7.0	-7.3	-7.3	-7.3	-6.9	-6.2	-5.8	-4.8	-4.0	-2.9	-2.0	-2.0	-2.2	-2.4	-2.9	-3.4	-3.9	-4.9	-5.6	-5.9	-5.8	-5.8	-5.7	-4.96	-1.98
14-Nov	-5.6	-5.7	-6.0	-6.4	-6.8	-7.2	-7.5	-7.9	-8.1	-8.2	-8.0	-7.6	-7.0	-6.3	-6.0	-5.6	-5.6	-5.6	-5.7	-5.8	-6.1	-6.4	-6.5	-6.8	-6.60	-5.57
15-Nov	-8.3	-9.1	-9.5	-9.7	-9.9	-10.2	-10.4	-10.5	-10.4	-10.3	-10.0	-9.9	-9.7	-9.5	-9.4	-9.3	-9.5	-9.7	-9.7	-9.8	-9.8	-9.8	-9.8	-9.9	-9.76	-8.31
16-Nov	-9.9	-9.9	-10.0	-10.1	-10.2	-10.2	-10.4	-10.7	-10.9	-10.8	-10.4	-9.9	-9.3	-8.8	-8.5	-8.3	-9.0	-10.0	-10.6	-11.0	-11.2	-11.4	-11.8	-11.8	-10.21	-8.33
17-Nov	-12.0	-12.2	-12.3	-12.5	-13.0	-13.3	-13.8	-13.9	-14.5	-14.4	-12.2	-11.2	-9.6	-8.4	-7.6	-7.5	-7.7	-8.0	-8.2	-8.4	-8.7	-9.6	-10.8	-11.6	-10.88	-7.51
18-Nov	-9.9	-5.6	-1.5	0.5	0.7	0.9	0.9	1.6	1.8	1.8	3.0	4.4	5.0	4.8	5.0	4.1	3.5	3.4	3.1	3.0	3.3	3.5	3.6	3.9	1.86	5.00
19-Nov	3.8	4.0	3.6	3.0	3.3	3.3	3.8	3.7	3.4	3.8	4.9	5.9	6.2	6.2	5.0	4.3	3.5	2.5	1.6	0.8	1.0	-1.9	-3.4	-4.2	2.84	6.18
20-Nov	-6.3	-8.3	-10.1	-11.4	-12.1	-12.5	-12.7	-13.1	-13.4	-12.3	-10.2	-9.2	-8.3	-8.5	-7.9	-8.6	-9.8	-11.4	-12.8	-14.1	-15.2	-16.0	-16.9	-17.6	-11.62	-6.26
21-Nov	-18.5	-19.0	-19.4	-19.7	-19.3	-18.9	-18.9	-18.3	-18.0	-17.7	-16.5	-14.8	-12.6	-10.8	-9.6	-8.9	-8.7	-8.6	-8.8	-9.1	-9.0	-9.3	-9.4	-9.2	-13.88	-8.57
22-Nov	-9.1	-9.1	-10.0	-10.3	-9.4	-8.9	-8.7	-8.6	-8.6	-8.2	-6.4	-5.0	-3.0	1.3	7.7	8.2	7.0	4.4	2.9	0.4	0.2	-0.4	-0.4	-1.7	-3.16	8.20
23-Nov	-2.7	-3.0	-3.2	-2.3	-1.6	-1.7	-0.8	1.7	1.7	1.2	1.4	3.5	5.7	7.7	7.9	5.8	3.0	3.1	3.9	4.3	3.0	3.3	2.0	1.4	1.88	7.87
24-Nov	-0.5	-1.7	-2.3	-1.9	-2.2	-2.0	-1.1	-1.0	-1.8	-1.5	1.4	3.8	6.8	7.3	7.5	6.9	6.0	5.6	5.1	5.4	4.6	3.9	3.0	2.4	2.25	7.48
25-Nov	1.2	-0.5	-0.9	-1.3	0.3	1.3	1.6	1.4	-0.4	-2.0	-0.1	1.5	2.1	2.1	2.3	2.2	0.7	-0.7	-1.6	-1.6	-1.8	-1.4	-1.1	-0.8	0.10	2.30
26-Nov	-0.8	-1.4	-2.1	-2.1	-2.2	-2.3	-2.3	-2.4	-2.4	-2.4	-1.9	-1.9	-2.2	-2.9	-3.0	-3.2	-3.2	-3.6	-3.5	-3.2	-0.9	0.9	2.2	1.0	-1.91	2.20
27-Nov	0.3	1.3	0.7	-0.7	-1.2	-1.2	-0.1	0.3	-1.0	0.3	1.0	1.9	2.9	2.2	1.1	0.6	-0.4	-0.9	-2.4	-3.7	-5.1	-3.4	0.7	1.0	-0.24	2.95
28-Nov	1.2	1.7	1.7	2.0	1.6	2.2	2.3	2.2	1.7	1.0	3.9	4.8	4.8	4.6	4.4	3.8	2.2	0.5	0.8	2.1	2.4	2.4	2.6	3.0	2.49	4.83
29-Nov	3.5	3.2	2.5	1.5	1.9	1.7	1.6	2.1	1.1	1.2	3.9	4.5	4.8	4.3	4.6	4.8	4.3	4.1	3.4	3.0	2.4	2.1	2.2	1.8	2.93	4.83
30-Nov	1.8	0.9	1.0	1.4	0.7	-0.8	-0.4	0.8	0.5	-1.3	3.4	5.7	6.1	6.5	6.5	5.9	3.9	2.7	1.7	-0.8	-2.4	-3.3	-3.7	-4.7	1.33	6.47
																								Diurnal Average		
																								Diurnal Maximum		



WCAS - Hinton
Summary of Hourly Averages

Wind Speed (WS) - kph
November 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	2.9	4.2	2.9	1.9	2.0	2.0	0.9	2.1	1.5	1.4	0.8	2.4	6.3	5.2	3.5	4.1	5.0	3.4	3.2	2.4	0.7	2.5	6.1	8.0	2.12	8.00	
Dir	NNW	NNW	NNW	NNW	NNW	NW	WSW	SW	NW	N	SW	ESE	ENE	NNE	N	N	NNE	N	N	NE	NE	E	ENE	ENE	NNE	ENE	
2 Spd	7.0	3.3	3.0	2.0	2.5	2.2	4.2	4.7	6.6	5.5	5.4	5.9	6.6	8.4	7.8	7.4	8.2	7.9	8.4	8.7	8.1	6.9	5.1	3.6	5.79	8.73	
Dir	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	NE	NE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	NE	ENE	ENE	
3 Spd	3.8	5.7	5.1	5.2	6.3	6.7	6.5	4.7	3.6	3.8	7.8	5.7	5.2	8.9	5.5	4.9	3.6	2.6	1.9	1.2	3.0	1.7	1.5	2.2	3.62	8.85	
Dir	ENE	ENE	NE	NE	ENE	ENE	ENE	ENE	NNE	E	ESE	ESE	ENE	ESE	E	ENE	NNE	NE	ENE	NE	E	S	WSW	W	ENE	ESE	
4 Spd	1.9	1.7	1.3	0.8	0.8	0.6	0.8	1.2	0.9	0.8	2.0	2.2	2.1	2.6	1.0	2.1	2.7	2.9	1.1	0.9	1.0	0.6	1.7	2.2	0.68	2.93	
Dir	WSW	WSW	WSW	SW	WNW	WNW	W	W	WNW	W	W	W	W	W	S	ENE	ENE	E	N	S	NW	WNW	WSW	W	W	E	
5 Spd	1.9	2.7	2.6	2.2	1.8	3.7	4.3	2.5	2.2	2.0	3.8	3.7	2.0	3.3	3.8	2.6	2.9	1.9	0.7	1.8	2.5	1.2	0.8	0.7	2.21	4.27	
Dir	W	W	WNW	W	W	WSW	WSW	WSW	WSW	SW	SW	WNW	W	WSW	WSW	SW	WSW	SSE	SSW	SSW	SSW	SSW	WSW	WSW	WSW	WSW	
6 Spd	1.8	1.5	0.8	0.5	0.2	0.7	0.4	1.8	3.0	3.4	5.7	11.3	11.6	13.3	12.2	11.2	8.5	4.3	0.6	0.8	0.5	0.2	1.2	0.4	3.41	13.28	
Dir	WSW	WSW	W	NW	N	WNW	NNE	NW	NW	WNW	WSW	WSW	SW	SW	SW	SW	SW	SW	SW	NNE	ENE	NNW	N	ENE	E	WSW	SW
7 Spd	1.0	0.6	0.4	0.2	0.8	0.4	0.9	0.3	0.5	0.6	0.9	0.4	3.6	4.5	4.1	5.2	5.7	5.4	4.2	3.0	4.0	4.6	3.8	2.8	2.16	5.75	
Dir	ENE	ENE	NE	N	ENE	NW	W	NW	NW	WNW	WSW	N	ENE	NE	NE	NE	ENE	ENE	ENE	NE	ENE	ENE	ENE	ENE	NE	ENE	
8 Spd	0.9	1.2	0.8	1.0	0.5	0.5	0.7	0.8	1.0	1.2	2.0	2.0	1.2	2.5	1.2	0.7	2.3	4.3	2.8	2.4	0.7	0.4	0.5	0.6	0.64	4.29	
Dir	ENE	ENE	ENE	NNW	NNW	NNW	NNE	NE	WNW	NW	N	E	WSW	SW	WSW	NE	NE	ENE	ENE	ENE	NE	WNW	NE	N	NE	ENE	
9 Spd	0.8	0.5	1.4	0.6	1.1	2.0	1.7	1.8	0.5	1.2	0.4	0.8	1.1	0.7	3.1	2.9	1.9	3.0	3.9	0.9	0.6	0.6	1.0	0.3	1.00	3.93	
Dir	E	NE	ENE	NNE	ENE	E	ENE	ENE	ENE	ENE	WNW	WNW	WSW	E	NE	NE	ENE	ENE	ENE	NE	SSW	SW	W	N	ENE	ENE	
10 Spd	0.7	1.1	0.4	0.3	0.9	0.9	0.4	0.4	1.1	1.7	0.9	1.4	0.5	1.7	3.8	3.9	5.8	4.4	1.6	0.9	0.3	0.5	0.2	0.5	1.15	5.82	
Dir	ENE	S	NW	SSW	NNE	NE	S	NW	ENE	ENE	NW	NE	W	NE	ENE	ENE	ENE	ENE	NE	ENE	ESE	E	ESE	E	ENE	ENE	
11 Spd	0.5	0.4	0.4	0.7	0.5	0.2	0.3	0.2	0.6	1.4	1.2	0.6	3.5	2.2	0.9	1.1	1.7	3.3	3.7	3.5	6.2	5.1	4.0	6.1	1.80	6.20	
Dir	E	ENE	ENE	E	ENE	NE	NNE	N	N	NW	NW	N	ENE	ENE	E	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE
12 Spd	7.3	6.3	5.4	5.2	4.3	4.4	4.3	3.5	4.7	4.3	3.8	5.0	5.0	5.0	4.3	4.0	6.4	5.6	6.3	3.0	3.6	2.0	2.2	2.1	4.48	7.30	
Dir	ENE	ENE	ENE	ENE	NE	NE	NE	NE	ENE	ENE	NE	NE	ENE	ENE	ENE	NE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE
13 Spd	0.5	1.3	0.5	0.4	1.9	3.1	1.5	1.7	3.5	2.9	6.4	5.1	6.1	7.5	6.1	5.8	4.7	4.9	7.7	6.2	4.8	3.3	3.9	3.0	3.61	7.71	
Dir	E	SW	ENE	SE	ENE	ENE	ENE	E	ENE	ENE	ENE	ENE	ENE	ESE	ENE	NE	NE	ENE	ENE	ENE	ENE	ENE	NE	NE	ENE	ENE	
14 Spd	6.1	4.5	5.9	6.0	5.2	4.9	3.6	3.8	6.3	6.4	7.0	6.6	5.9	5.9	5.4	5.6	5.6	5.4	5.2	5.7	7.1	6.1	6.5	5.9	5.60	7.06	
Dir	ENE	ENE	ENE	ENE	NE	ENE	NE	NNE	ENE	ENE	ENE	ENE	NE	NE	NE	NE	ENE	ENE	ENE	ENE	E	E	ENE	ENE	ENE	ENE	E
15 Spd	8.3	9.3	8.9	7.4	7.0	5.7	5.7	5.5	4.7	5.5	4.4	4.4	4.3	5.5	5.6	4.9	4.4	4.5	2.7	4.0	3.7	2.9	1.5	1.2	5.02	9.33	
Dir	ENE	ENE	ENE	ENE	ENE	ENE	NE	ENE	NE	ENE	ENE	NE	NE	ENE	ENE	ENE	ENE	ENE	NE	ENE	ENE	ENE	NNE	NNE	ENE	ENE	
16 Spd	1.9	2.1	2.6	2.4	1.5	1.3	3.1	2.9	4.8	5.0	4.5	4.0	3.8	2.6	3.6	4.6	6.3	6.1	5.7	5.2	3.8	4.3	5.2	3.2	3.72	6.32	
Dir	ENE	ENE	ENE	ENE	E	NE	ENE	NE	ENE	ENE	NE	ENE	NE	NE	ENE	NE	ENE	ENE	NE	ENE	NNE	NE	ENE	NE	ENE	ENE	
17 Spd	2.0	2.2	2.6	2.0	3.4	3.5	2.7	4.9	1.3	1.0	1.4	1.0	1.3	1.8	2.3	2.4	1.1	1.4	1.5	0.6	1.2	0.4	2.0	1.6	1.59	4.93	
Dir	NNE	NE	ENE	NE	ENE	NE	ENE	ENE	N	SE	SSE	SW	SSE	E	ENE	NE	ENE	ENE	ENE	ENE	ENE	NE	ENE	E	ENE	ENE	
18 Spd	2.0	2.6	6.7	5.8	6.7	8.0	10.6	12.3	11.7	9.4	14.2	12.6	9.6	11.8	7.2	5.8	6.5	6.4	6.1	5.6	4.9	5.5	13.6	12.4	8.07	14.17	
Dir	WSW	WNW	WSW	W	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	W	W	W	W	WSW	W	WSW	SW	SW	SW	WSW	WSW	
19 Spd	9.5	11.3	9.9	9.4	9.1	6.8	6.8	4.6	3.1	2.9	10.0	10.9	10.0	9.4	9.9	5.9	6.0	3.6	2.6	1.0	2.8	7.7	5.1	4.5	5.01	11.26	
Dir	SW	SW	SW	SW	SW	SW	SW	WSW	W	WSW	WSW	WSW	WSW	WSW	WSW	WSW	SW	WSW	WNW	S	NE	E	ENE	ENE	SW	SW	
20 Spd	4.8	5.2	4.0	3.7	2.0	2.9	4.7	3.3	3.3	2.7	2.4	1.8	2.3	0.8	2.0	5.7	3.3	4.7	4.1	3.2	3.6	3.3	2.0	1.9	1.36	5.66	
Dir	NE	NE	NE	NE	N	S	S	SW	WSW	WSW	SW	W	WSW	NNE	E	ENE	ENE	ENE	NE	NE	ENE	ENE	ENE	ENE	ENE	ENE	ENE
21 Spd	1.3	1.9	1.2	0.6	0.4	2.7	2.8	2.2	1.2	1.3	0.5	1.2	0.1	1.0	1.9	1.2	2.1	3.2	3.9	3.5	4.8	5.0	4.0	1.2	2.00	4.97	
Dir	NE	ENE	NE	ENE	NNW	NE	ENE	ENE	ENE	ENE	NNE	E	ESE	ENE	NE	E	ENE	NE	ENE	NE	ENE	ENE	ENE	NE	ENE	ENE	
22 Spd	1.2	1.1	1.8	0.2	0.1	0.7	0.9	0.6	0.3	3.4	3.6	2.9	3.1	1.1	1.3	0.3	2.4	2.9	5.4	1.3	3.9	4.6	2.7	0.1	1.47	5.44	
Dir	NE	NE	ENE	ESE	SW	NW	NW	NE	ENE	ENE	ENE	ENE	ENE	SSW	ESE	ESE	S	SE	ESE	NE	E	E	E	ENE	E	ENE	



WCAS - Hinton
Summary of Hourly Averages

Wind Speed (WS) - kph
November 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	1.1	0.6	0.7	1.2	0.6	0.3	5.1	4.8	1.6	2.4	2.9	5.7	3.5	4.8	5.4	3.8	0.8	1.8	3.9	5.7	2.4	6.4	2.2	4.4	1.73	6.38	
Dir	E	ENE	ESE	SE	SW	E	ENE	NE	E	S	WSW	WSW	W	WSW	WSW	SW	S	WSW	WSW	SW	WSW	SW	SW	SW	SW	SW	
24 Spd	3.8	2.3	1.0	1.0	0.9	1.4	1.5	2.6	0.2	0.9	2.1	1.3	7.4	4.2	9.4	9.0	9.3	7.1	2.6	6.8	8.2	9.2	8.5	8.8	3.58	9.39	
Dir	SSW	S	E	SW	E	ENE	ENE	ENE	ENE	E	ENE	S	SW	W	WSW	WSW	WSW	SW	SW	WSW	WSW	WSW	SW	SW	SW	WSW	
25 Spd	7.2	4.3	4.1	2.4	4.0	8.4	8.8	7.5	0.7	4.1	6.4	5.7	6.6	6.3	6.3	5.5	3.5	3.0	3.6	2.9	2.6	5.2	5.1	6.3	2.37	8.84	
Dir	SSW	S	SSW	SSE	S	SSW	SSW	SW	ENE	ENE	ENE	E	E	ENE	ESE	ESE	ENE	ENE	ENE	NE	ENE	ENE	ENE	ENE	ESE	SSW	
26 Spd	6.1	5.5	6.0	5.3	4.0	4.3	3.9	5.0	7.4	9.0	8.8	8.6	6.5	6.9	4.7	4.0	2.8	2.0	0.6	0.5	3.9	3.3	3.1	0.3	3.71	9.03	
Dir	ENE	ENE	ENE	ENE	ENE	ENE	E	E	E	ENE	ENE	ENE	NE	ENE	ENE	ENE	ENE	ENE	SW	SSE	WSW	WNW	WSW	ESE	ENE	ENE	
27 Spd	2.9	4.5	2.3	1.7	2.3	1.9	4.2	2.1	1.2	4.4	4.9	7.2	9.6	9.7	10.7	6.6	4.1	4.0	1.0	0.8	1.2	2.2	7.2	5.8	3.69	10.71	
Dir	WSW	W	W	S	WNW	WNW	W	W	NW	WNW	WNW	WNW	WNW	WSW	SW	SW	WSW	SW	SW	NW	E	WNW	WSW	WSW	W	SW	
28 Spd	6.9	7.7	6.9	6.7	4.7	8.8	5.4	3.8	2.9	2.7	5.4	11.5	13.1	13.0	12.4	5.4	0.6	3.0	2.2	5.9	6.8	6.3	4.4	7.1	5.91	13.08	
Dir	WSW	WSW	WSW	WSW	WSW	WSW	WSW	W	WNW	SSE	WSW	WSW	SW	SW	WSW	WSW	W	E	WNW	WSW	WSW	W	W	WSW	WSW	WSW	
29 Spd	9.4	5.6	4.0	2.3	2.0	2.1	2.4	3.6	2.4	2.1	5.9	10.8	12.7	14.1	13.0	10.2	9.9	12.1	8.0	7.8	5.3	5.0	4.1	3.2	6.42	14.12	
Dir	WSW	WSW	WSW	WNW	WSW	WNW	W	WSW	W	WSW	WSW	WSW	SW	WSW	WSW	WSW	WSW	WSW	W	WSW	W	W	WNW	WSW	WSW	WSW	
30 Spd	2.6	1.1	4.4	4.8	6.0	1.7	6.1	7.2	2.9	2.5	5.1	10.9	8.7	8.8	9.7	8.9	2.8	2.0	2.9	1.4	0.8	2.3	3.4	2.2	3.34	10.94	
Dir	SW	SSE	SW	SSW	SSW	ESE	SSW	SSW	SW	ENE	WSW	WSW	WSW	WSW	WSW	WSW	W	SW	SW	SE	SE	ENE	ENE	ENE	SW	WSW	
Spd	0.30	0.30	0.39	0.32	0.26	0.16	0.32	0.06	0.59	1.00	0.18	1.01	0.85	1.03	1.00	0.12	0.78	1.24	1.55	0.87	1.03	0.94	0.60	0.40	Diurnal Average		
Dir	E	ENE	NE	ENE	NE	ENE	S	SE	NNE	ENE	SW	SW	WSW	SW	SW	NE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	E	Diurnal Maximum		
Spd	9.47	11.26	9.93	9.38	9.11	8.78	10.60	12.31	11.74	9.37	14.17	12.65	13.08	14.12	13.00	11.18	9.93	12.06	8.45	8.73	8.17	9.24	13.63	12.41	Diurnal Maximum		
Dir	218.91	226.00	226.88	224.56	228.86	240.38	242.97	242.68	243.77	245.45	243.35	241.86	236.42	238.12	236.77	226.91	247.73	249.05	61.93	58.80	248.12	237.16	231.90	224.36			
Maximum Speed Value: 14.2 kph on Nov 18 11:00																			Minimum Speed Value: 0.1 kph on Nov 23 00:00					Hours in Service:		720	
Maximum Daily Speed Average: 8.07 kph on Nov 18																			Minimum Daily Speed Average: 0.64 kph on Nov 8					Hours of Data:		720	
Maximum Diurnal Speed Average: 1.55 kph at hour 19																			Minimum Diurnal Speed Average: 0.06 kph at hour 8					Hours of Missing Data:		0	
Monthly Average Velocity: 0.272 kph 70.045 deg																			Speed Percentiles: P ₁ = 0.2 P ₁₀ = 0.7 Q ₁ = 1.5 Median = 3.3 Q ₃ = 5.6 P ₉₀ = 7.9 P ₉₉ = 13.0					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	26	0	0	0	0	0	26																				
NorthEast	167	82	0	0	0	0	249																				
East	106	29	0	0	0	0	135																				
SouthEast	11	5	0	0	0	0	16																				
South	25	0	0	0	0	0	25																				
SouthWest	56	54	20	0	0	0	130																				
West	73	28	1	0	0	0	102																				
NorthWest	35	2	0	0	0	0	37																				
Total	499	200	21	0	0	0	720																				



WCAS - Hinton
Summary of Hourly Averages

Relative Humidity (RH) - %
November 2017

Maximum Value: 97.95 % on Nov 23 07:00 Maximum Daily Average: 90.01 % on Nov 13																							Hours in Service: 720 Hours of Data: 720																									
Minimum Value: 28.1 % on Nov 29 13:00 Minimum Daily Average: 38.34 % on Nov 29 Maximum Diurnal Average: 76.95 % at hour 1 Minimum Diurnal Average: 58.94 % at hour 15 Monthly Average: 72.046 % Percentiles: P₁ = 31.1 P₁₀ = 42.9 Q₁ = 62.4 Median = 78.5 Q₃ = 83.6 P₉₀ = 88.0 P₉₉ = 95.5																							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-Nov	82.2	79.5	77.7	77.8	77.9	77.9	78.2	82.8	85.9	81.3	77.9	86.0	84.6	74.2	72.4	70.9	67.4	69.4	68.6	71.6	78.0	79.9	78.1	72.7	77.20	85.96																						
2-Nov	71.2	75.0	76.7	77.6	82.3	77.3	79.9	80.6	79.8	79.2	77.3	75.9	76.6	72.7	74.0	80.7	78.8	79.1	79.3	76.4	76.2	78.6	79.9	81.0	77.77	82.26																						
3-Nov	79.5	75.2	76.7	78.7	80.4	77.9	79.2	75.6	73.9	70.0	66.3	63.6	59.3	53.9	57.8	64.8	69.3	73.7	79.3	80.6	78.0	79.3	81.4	81.5	73.16	81.46																						
4-Nov	80.1	79.8	78.6	79.0	78.9	78.5	78.1	78.2	78.5	78.6	77.2	72.0	64.5	58.6	55.6	58.2	63.4	67.8	70.4	72.2	79.6	81.5	78.7	80.5	73.70	81.47																						
5-Nov	83.1	86.1	85.6	84.9	84.6	82.4	78.6	83.0	85.0	84.1	82.0	73.4	65.1	59.4	60.2	63.4	66.3	71.6	81.6	83.8	83.6	83.4	82.6	81.7	78.14	86.06																						
6-Nov	82.1	81.1	80.5	78.9	79.2	77.9	78.1	78.9	79.9	77.2	63.5	50.9	45.7	41.5	38.1	36.4	37.9	42.9	57.8	69.2	76.6	80.2	81.1	83.3	66.63	83.25																						
7-Nov	84.1	84.7	84.0	83.8	83.7	83.7	84.6	84.7	85.2	85.2	81.9	76.1	67.5	59.5	60.4	66.1	69.8	80.8	83.6	85.8	85.7	84.2	85.0	86.0	79.83	86.05																						
8-Nov	87.4	87.7	87.3	87.0	86.8	86.2	86.3	86.1	85.8	84.9	81.1	73.1	65.5	57.0	51.1	52.8	58.8	66.9	76.4	83.1	85.9	87.1	85.7	84.4	78.11	87.66																						
9-Nov	83.8	82.5	82.1	82.4	82.3	83.4	82.9	82.5	83.0	83.7	84.5	84.9	81.8	71.5	64.7	62.3	64.2	70.7	77.7	82.9	86.2	86.3	87.0	86.6	80.00	86.99																						
10-Nov	85.9	86.2	86.0	86.8	86.9	87.4	87.5	88.1	87.7	86.2	80.3	72.0	64.1	60.7	58.0	60.8	66.8	75.3	81.4	84.1	86.8	88.5	89.5	90.6	80.32	90.61																						
11-Nov	89.6	88.6	87.7	86.9	86.3	85.6	87.3	87.5	87.1	87.5	89.4	87.6	83.2	78.7	74.3	74.0	78.1	80.9	82.1	80.8	78.3	77.8	79.8	80.2	83.30	89.62																						
12-Nov	80.4	81.3	82.0	82.6	83.5	84.3	84.3	84.2	84.3	83.1	79.7	74.1	72.2	69.7	69.7	70.2	72.8	79.0	84.6	87.6	91.6	92.3	92.7	92.9	81.63	92.85																						
13-Nov	92.4	91.8	91.5	91.8	91.7	92.1	91.7	93.9	94.8	94.8	92.9	89.4	86.8	81.2	80.9	82.1	83.1	84.4	89.3	92.3	93.5	93.1	92.9	91.9	90.01	94.83																						
14-Nov	92.3	91.9	90.2	85.1	83.5	81.1	82.7	82.7	82.2	81.5	80.3	79.9	79.5	78.7	78.9	78.2	79.4	80.3	81.2	82.1	82.6	83.1	83.2	83.0	82.65	92.26																						
15-Nov	85.2	86.2	86.8	88.0	88.4	88.5	88.2	88.1	88.1	88.2	88.0	87.1	84.2	81.7	79.8	78.9	79.9	81.6	82.6	83.7	83.0	80.6	80.2	81.9	84.54	88.47																						
16-Nov	80.4	77.4	77.9	76.2	75.2	75.5	80.8	82.3	82.5	81.8	79.5	77.5	75.2	74.4	73.5	74.7	78.0	78.5	77.9	78.3	78.5	78.5	77.0	77.0	77.86	82.48																						
17-Nov	77.8	78.1	78.0	81.0	81.9	80.8	80.9	79.9	80.8	81.3	71.3	66.4	62.2	59.8	61.1	63.1	64.8	68.9	71.6	74.9	76.1	79.4	83.2	85.8	74.53	85.76																						
18-Nov	84.0	68.7	52.6	45.0	45.4	44.6	43.5	41.5	41.9	42.4	37.2	33.8	34.4	35.1	38.0	42.6	45.4	47.6	49.7	50.1	47.7	45.2	42.7	40.7	45.83	84.01																						
19-Nov	41.6	42.6	45.9	48.6	47.2	47.2	45.7	45.3	46.0	44.7	40.5	38.2	40.0	41.6	47.0	52.5	57.5	67.1	75.6	78.3	78.5	88.5	91.7	90.2	55.92	91.65																						
20-Nov	86.0	82.8	82.2	81.5	81.6	79.1	77.6	78.0	77.8	74.0	64.5	59.1	57.4	56.1	56.3	60.9	66.8	69.4	72.5	75.1	78.0	79.2	80.6	82.1	73.28	86.00																						
21-Nov	81.1	81.1	80.7	80.0	80.1	80.0	80.1	80.3	79.9	79.3	78.6	75.4	72.0	71.3	69.7	69.4	72.1	75.3	77.4	78.6	79.5	81.5	84.6	83.8	77.99	84.57																						
22-Nov	83.1	84.3	86.3	86.9	86.0	84.2	86.4	90.9	92.4	90.7	84.0	79.2	74.9	68.8	62.1	60.1	63.5	72.6	80.2	84.2	88.9	91.7	92.2	93.7	81.98	93.72																						
23-Nov	95.0	95.4	95.2	96.0	96.4	97.5	98.0	96.7	96.0	95.6	95.7	88.7	76.1	54.8	47.2	54.2	72.1	64.9	58.9	55.0	60.9	57.9	65.5	67.0	78.35	97.95																						
24-Nov	75.0	80.6	83.3	83.4	83.9	84.8	81.1	80.1	85.2	83.8	70.5	59.1	39.4	37.1	33.8	34.7	36.3	35.6	38.1	40.4	44.8	45.4	46.7	48.3	59.66	85.20																						
25-Nov	54.6	63.5	65.9	69.3	63.1	60.5	61.5	62.5	69.8	76.9	73.4	70.4	67.8	67.0	65.8	65.5	72.1	78.6	82.4	82.9	83.9	82.8	81.6	78.4	70.83	83.95																						
26-Nov	76.4	83.2	92.3	90.7	88.1	83.8	81.8	81.0	81.1	80.7	78.4	79.3	82.4	84.4	85.0	85.4	86.2	89.4	91.4	90.4	92.4	93.9	92.7	89.8	85.84	93.91																						
27-Nov	88.8	72.0	76.1	79.3	72.3	66.9	58.9	55.7	62.6	57.3	48.4	37.6	29.1	39.5	48.8	48.2	53.1	54.3	61.5	68.2	72.4	61.2	41.4	40.4	58.08	88.76																						
28-Nov	39.3	38.1	39.0	36.9	39.1	36.9	39.9	39.5	41.7	45.2	38.2	39.5	42.3	43.1	44.1	45.7	52.5	58.8	57.4	52.2	51.4	49.5	47.4	42.6	44.19	58.76																						
29-Nov	38.8	40.6	42.0	44.9	44.0	45.3	44.4	43.0	46.9	45.5	35.4	30.9	28.1	29.4	28.5	28.7	30.9	31.2	34.1	37.4	40.0	41.1	43.0	46.2	38.34	46.90																						
30-Nov	47.1	50.6	54.8	55.3	58.8	65.9	61.6	54.3	54.1	62.4	44.5	34.7	32.9	32.5	31.6	32.6	39.1	42.6	47.8	58.3	65.3	69.8	70.5	74.3	51.73	74.30																						
																							76.95	76.55	76.86	76.88	76.64	75.91	75.66	75.60	76.66	76.24	71.42	67.20	63.16	59.80	58.94	60.61	64.23	67.97	71.74	74.02	76.14	76.71	76.62	76.62	Diurnal Average	
																							94.96	95.37	95.21	95.98	96.41	97.48	97.95	96.71	95.97	95.60	95.70	89.35	86.81	84.36	84.95	85.43	86.23	89.35	91.40	92.26	93.49	93.91	92.90	93.72	Diurnal Maximum	



WCAS - Hinton
Summary of Hourly Standard Deviations

Wind Speed (WS) - kph
November 2017

Maximum Value: 10.11 kph on Nov 29 18:00		Maximum Daily Average: 6.17 kph on Nov 18		Hours in Service: 720																																													
Minimum Value: 0.2 kph on Nov 11 08:00		Minimum Daily Average: 1.19 kph on Nov 8		Hours of Data: 720																																													
Maximum Diurnal Average: 3.64 kph at hour 14		Minimum Diurnal Average: 1.98 kph at hour 5		Hours of Missing Data: 0																																													
Monthly Average: 2.545 kph		Percentiles: P₁ = 0.7 P₁₀ = 1.0 Q₁ = 1.5 Median = 2.1 Q₃ = 3.0 P₉₀ = 4.8 P₉₉ = 8.3		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-Nov	2.9	3.2	2.4	1.8	1.5	1.9	1.2	1.9	1.7	1.6	1.5	2.1	3.0	3.5	2.7	3.4	3.3	2.6	2.4	2.2	1.6	2.0	3.3	2.9	2.37	3.47																							
2-Nov	2.9	2.0	1.6	1.3	1.5	1.9	2.1	2.2	3.1	2.0	2.0	3.4	3.6	3.5	3.2	4.0	3.4	3.5	3.2	4.2	4.0	2.6	2.2	2.3	2.75	4.19																							
3-Nov	2.0	3.3	2.8	2.7	2.8	3.0	3.1	2.5	2.7	3.3	3.8	2.8	3.4	3.8	2.7	2.7	2.0	1.9	1.6	1.5	1.5	2.2	1.3	1.1	2.51	3.80																							
4-Nov	1.0	1.2	0.9	1.0	0.8	0.8	0.9	1.2	0.9	1.0	1.5	1.7	1.6	1.6	1.7	1.5	1.7	1.3	1.4	1.4	1.2	1.4	1.6	1.6	1.29	1.73																							
5-Nov	1.4	1.4	1.5	1.6	1.7	2.7	2.8	2.2	1.8	2.0	3.0	2.6	1.9	2.3	2.8	2.1	2.3	1.3	1.1	1.4	1.9	1.1	0.9	0.9	1.86	3.04																							
6-Nov	1.0	1.1	0.9	0.8	1.0	0.9	0.9	1.4	1.3	2.0	4.6	6.1	5.5	5.6	4.9	4.6	3.7	2.9	1.2	1.1	0.9	0.9	1.6	1.0	2.33	6.08																							
7-Nov	1.1	1.1	1.0	0.7	0.9	0.8	1.3	0.9	1.1	0.9	1.1	1.1	1.5	2.1	2.5	2.6	2.6	2.5	2.4	1.9	1.8	2.0	1.6	1.6	1.55	2.61																							
8-Nov	1.0	1.0	0.9	0.8	0.7	0.7	0.9	1.0	1.1	1.2	1.6	1.7	1.7	1.7	1.4	1.2	1.2	1.4	1.8	2.1	1.3	0.7	0.7	0.9	1.19	2.06																							
9-Nov	1.0	0.8	0.9	0.9	1.0	1.2	1.3	1.3	1.0	1.3	0.9	1.1	1.2	1.2	1.8	1.5	1.2	1.9	2.1	1.0	1.3	1.4	1.1	1.9	1.26	2.08																							
10-Nov	1.5	1.5	1.0	1.0	1.1	1.1	1.1	0.9	0.9	1.4	1.2	1.4	1.3	1.9	2.0	1.5	2.2	1.8	1.3	1.1	0.6	0.8	0.6	0.9	1.24	2.20																							
11-Nov	0.7	0.7	0.8	0.9	0.7	0.5	1.0	0.2	0.7	1.1	1.1	0.9	1.1	1.0	1.1	1.3	1.6	1.5	2.2	2.1	2.3	2.7	2.1	2.4	1.28	2.72																							
12-Nov	3.1	2.8	2.3	2.4	2.5	2.4	2.6	2.3	2.7	2.6	1.8	2.8	2.4	2.3	2.0	2.2	2.7	2.3	2.2	2.0	1.6	1.6	1.6	1.5	2.28	3.08																							
13-Nov	1.5	1.5	0.7	0.8	1.3	1.4	1.2	1.9	2.5	2.4	2.6	2.7	2.8	4.4	2.8	3.2	3.0	3.3	3.5	3.2	2.3	1.6	2.0	1.7	2.27	4.44																							
14-Nov	2.2	1.9	2.2	2.1	2.6	2.6	2.4	2.4	3.3	3.0	3.1	3.1	3.1	3.1	2.7	2.7	2.5	2.2	2.3	2.6	3.0	2.8	2.7	2.9	2.65	3.30																							
15-Nov	3.9	3.3	3.3	3.3	3.7	3.2	3.0	3.1	2.6	2.5	2.1	2.5	2.8	2.7	2.7	2.1	2.3	2.0	2.2	1.9	1.6	1.3	1.3	1.0	2.52	3.85																							
16-Nov	1.7	1.3	1.4	1.5	1.3	1.3	1.8	1.8	1.7	2.1	2.4	2.2	1.8	1.9	1.8	2.2	2.8	3.1	3.1	2.9	2.1	2.6	2.6	2.1	2.06	3.07																							
17-Nov	1.7	1.6	1.6	1.7	2.0	2.1	1.5	2.4	1.4	1.4	1.5	1.3	1.5	1.6	1.6	1.3	1.0	1.0	1.2	1.1	1.4	1.2	1.5	1.2	1.49	2.38																							
18-Nov	1.5	2.0	7.3	5.4	5.9	6.2	6.4	7.9	7.5	5.9	8.3	8.2	8.1	8.6	6.4	5.1	5.8	6.2	5.8	5.3	5.1	4.5	7.3	7.5	6.17	8.59																							
19-Nov	4.1	5.0	4.5	4.7	4.7	3.9	4.6	3.6	3.0	3.6	7.2	7.2	7.0	6.8	6.2	4.2	3.7	2.8	2.3	2.1	3.4	3.7	3.8	2.5	4.36	7.18																							
20-Nov	2.9	2.9	2.5	2.4	1.8	2.0	1.6	2.1	2.2	2.5	1.9	1.5	1.8	1.8	1.8	2.1	2.2	2.6	2.6	1.8	1.3	1.2	1.7	1.3	2.01	2.88																							
21-Nov	1.3	1.5	1.3	1.2	0.9	1.7	1.7	1.6	1.2	1.1	1.0	1.6	1.1	1.2	1.2	1.2	1.5	2.0	2.3	2.0	2.1	2.5	2.3	2.0	1.56	2.48																							
22-Nov	1.5	1.3	1.8	1.0	1.3	1.0	1.0	1.3	1.1	1.8	2.1	1.9	2.3	2.6	2.6	2.1	2.7	1.5	2.0	2.2	2.8	2.7	3.0	1.0	1.85	3.00																							
23-Nov	1.8	1.8	1.4	2.4	1.8	2.1	3.7	4.0	2.9	4.9	2.3	4.2	3.9	4.0	4.1	3.4	1.5	2.1	2.8	3.1	2.2	2.1	2.5	2.2	2.81	4.86																							
24-Nov	2.1	1.7	1.3	1.9	1.5	1.4	1.6	1.8	1.3	1.3	1.9	2.5	4.7	4.3	6.2	6.6	5.6	4.2	4.2	5.7	5.8	4.5	3.1	2.6	3.23	6.60																							
25-Nov	1.7	1.2	1.5	1.5	1.2	1.8	2.1	3.2	1.8	2.5	3.4	2.8	3.1	2.6	2.7	2.5	1.7	1.6	1.8	2.0	1.6	2.1	1.8	2.5	2.10	3.40																							
26-Nov	2.5	2.6	2.7	2.7	2.4	2.3	2.8	3.4	3.6	3.9	3.4	3.3	3.6	3.1	2.5	2.2	1.6	1.6	1.6	2.2	2.9	2.0	4.3	1.5	2.69	4.26																							
27-Nov	2.8	3.0	2.4	1.7	2.9	1.6	4.3	2.2	1.8	2.2	3.2	3.3	4.6	6.7	5.8	3.3	3.5	2.5	1.7	1.1	1.2	3.0	5.6	5.0	3.14	6.65																							
28-Nov	5.6	6.3	6.0	5.9	4.1	6.1	4.2	3.3	3.2	3.0	5.7	7.1	7.2	7.4	7.6	4.6	2.6	2.1	2.4	4.3	6.0	5.7	4.7	5.5	5.02	7.60																							
29-Nov	6.7	5.5	3.6	2.0	2.4	2.2	2.3	3.5	2.3	1.8	6.1	7.3	7.7	9.1	8.5	8.8	8.6	10.1	7.3	6.3	4.0	2.9	3.0	2.8	5.19	10.11																							
30-Nov	2.0	1.7	3.2	2.4	1.7	1.5	2.2	2.4	3.5	2.4	5.2	7.2	6.7	7.1	7.5	6.5	2.7	2.2	1.7	1.5	2.1	1.6	2.7	1.7	3.31	7.53																							
																								2.23	2.19	2.19	2.01	1.98	2.08	2.26	2.33	2.20	2.28	2.92	3.26	3.41	3.64	3.45	3.09	2.77	2.61	2.45	2.44	2.36	2.25	2.47	2.20	Diurnal Average	
																								6.73	6.29	7.30	5.94	5.88	6.18	6.42	7.88	7.49	5.86	8.35	8.24	8.09	9.06	8.48	8.80	8.64	10.11	7.26	6.34	6.04	5.72	7.31	7.46	Diurnal Maximum	



WCAS - Hinton
Summary of Hourly Standard Deviations

Wind Direction (WD) - deg
November 2017

Maximum Value: 106.58 deg on Nov 22 16:00																							Maximum Daily Average: 68.36 deg on Nov 22																							Hours in Service: 720		
Minimum Value: 12.6 deg on Nov 25 00:00																							Minimum Daily Average: 27.67 deg on Nov 2																							Hours of Data: 720		
Maximum Diurnal Average: 53.49 deg at hour 4																							Minimum Diurnal Average: 36.57 deg at hour 18																							Hours of Missing Data: 0		
Monthly Average: 44.893 deg																							Percentiles: P₁ = 16.2 P₁₀ = 23.6 Q₁ = 29.2 Median = 39.0 Q₃ = 56.4 P₉₀ = 77.8 P₉₉ = 97.3																							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-Nov	65.1	34.5	51.0	56.3	36.4	38.1	58.0	50.9	58.3	77.2	80.5	64.3	29.1	41.9	42.2	50.4	40.7	47.4	45.0	48.3	73.0	37.5	27.5	20.7	48.93	80.47																						
2-Nov	22.1	30.7	27.4	31.5	33.9	45.9	23.9	24.1	22.8	21.9	23.6	36.3	33.5	24.1	23.4	29.5	27.6	25.7	21.6	28.5	27.7	19.8	22.0	36.8	27.67	45.91																						
3-Nov	31.8	32.8	33.8	31.1	26.2	28.0	24.6	25.8	42.6	52.2	30.0	31.0	39.8	23.7	31.6	30.9	36.4	43.6	41.5	69.5	23.3	81.8	29.2	23.9	36.03	81.76																						
4-Nov	23.2	24.2	22.1	75.1	34.7	36.8	29.7	34.1	52.0	50.0	35.8	32.3	41.6	32.8	83.2	39.6	29.1	27.8	67.2	59.8	59.9	82.8	66.0	43.9	45.15	83.19																						
5-Nov	35.7	35.5	36.1	39.3	57.8	39.5	32.3	49.2	39.0	48.4	39.2	45.0	57.4	37.4	45.9	41.6	49.8	28.6	82.8	26.8	68.7	53.9	24.1	44.9	44.13	82.82																						
6-Nov	26.8	28.9	35.1	61.2	74.8	66.3	85.8	37.8	21.5	29.1	46.3	30.9	26.7	24.5	23.5	23.3	23.1	44.6	94.6	60.2	81.3	92.6	67.5	80.8	49.46	94.59																						
7-Nov	53.5	85.6	87.3	91.8	74.3	64.2	81.3	79.9	76.8	60.4	53.2	84.2	22.4	28.3	36.4	31.7	23.9	26.9	28.9	34.0	22.8	21.4	20.3	23.0	50.53	91.85																						
8-Nov	32.5	26.3	34.0	38.3	69.8	36.1	60.7	55.6	63.3	54.7	48.8	62.6	73.8	52.8	67.5	81.2	22.4	19.5	17.6	44.7	80.1	86.2	76.1	57.1	52.58	86.20																						
9-Nov	58.4	77.5	37.2	64.9	34.3	27.8	33.7	39.6	79.5	46.2	84.8	61.0	66.9	77.8	28.4	28.1	24.6	17.4	25.9	52.9	82.5	93.0	45.6	90.9	53.30	93.04																						
10-Nov	82.1	52.2	74.5	92.0	48.1	53.8	95.4	76.8	45.2	39.7	72.2	68.4	95.9	77.2	36.8	19.7	20.3	19.6	23.2	50.6	64.4	63.7	82.4	65.3	59.15	95.89																						
11-Nov	47.8	80.4	54.0	56.0	50.7	67.4	66.9	70.7	33.1	23.4	49.3	66.5	15.2	24.8	66.4	68.6	45.3	20.3	22.2	30.4	16.8	34.1	26.8	21.8	44.12	80.36																						
12-Nov	23.1	22.5	23.9	26.5	32.1	32.6	35.1	36.0	36.7	35.7	29.5	35.2	30.3	25.6	28.9	35.5	24.7	22.0	18.9	33.0	23.8	49.3	30.3	42.2	30.56	49.32																						
13-Nov	92.9	78.3	42.2	80.5	46.3	20.1	27.5	58.5	48.8	50.9	29.3	29.3	30.0	30.2	29.0	32.3	37.4	32.4	25.9	31.9	25.1	28.0	27.0	33.4	40.30	92.91																						
14-Nov	21.0	23.8	20.9	19.7	29.3	28.8	40.6	39.8	32.3	28.1	26.9	25.3	31.2	33.2	30.3	27.6	27.8	22.8	27.1	24.2	26.9	28.5	23.1	31.3	27.94	40.57																						
15-Nov	28.4	19.2	21.9	25.6	30.9	32.4	33.2	33.8	37.2	25.5	28.9	38.7	41.4	29.1	27.9	28.6	27.7	25.7	35.2	25.3	22.5	27.8	35.0	27.8	29.56	41.45																						
16-Nov	38.6	32.0	21.9	32.3	45.2	32.9	31.4	36.1	23.0	23.4	33.0	29.2	31.8	45.0	27.6	29.9	27.8	31.1	35.1	38.8	35.3	38.0	29.0	39.4	32.82	45.15																						
17-Nov	45.5	41.4	38.3	38.7	32.8	35.2	34.5	28.4	58.1	82.8	48.7	63.4	75.4	68.4	46.1	32.7	37.8	38.4	34.3	71.0	62.7	87.4	47.7	44.5	49.74	87.37																						
18-Nov	44.3	41.7	50.2	51.0	53.2	43.2	34.0	36.6	35.6	35.5	30.8	38.9	46.1	43.9	49.9	47.3	47.5	54.4	54.8	54.5	60.5	47.3	30.7	32.7	44.36	60.47																						
19-Nov	22.8	23.7	23.6	23.9	29.9	32.7	35.4	43.8	59.1	66.1	40.5	37.0	43.0	42.3	34.1	39.2	32.0	50.3	41.9	88.0	70.5	28.9	30.1	33.0	40.48	87.97																						
20-Nov	39.1	36.8	39.2	41.0	56.4	66.9	25.9	32.8	32.8	42.3	45.9	57.5	55.0	92.1	74.9	19.0	34.5	34.1	39.9	33.7	20.3	22.3	40.0	31.7	42.25	92.10																						
21-Nov	33.4	63.3	62.0	86.4	66.5	34.7	34.4	50.6	43.6	40.8	75.2	73.7	100.2	77.5	36.8	59.6	41.9	44.6	37.4	31.7	25.9	28.1	30.2	89.4	52.82	100.19																						
22-Nov	76.6	68.3	67.0	99.6	91.6	67.4	66.0	72.1	79.6	28.3	30.4	47.4	50.3	93.5	91.1	106.6	75.4	42.7	30.4	87.1	59.1	50.0	63.4	96.7	68.36	106.58																						
23-Nov	71.6	86.4	80.7	82.6	70.4	93.0	43.5	56.6	86.7	95.2	35.5	43.8	49.8	47.9	40.8	50.0	89.1	49.9	35.9	23.6	49.2	16.4	71.6	23.7	58.08	95.17																						
24-Nov	49.8	54.1	69.0	99.9	83.8	64.5	81.8	47.5	99.2	86.7	37.9	75.8	37.9	50.7	36.0	39.6	31.7	32.0	98.1	50.1	36.1	22.3	14.6	12.6	54.65	99.88																						
25-Nov	14.2	19.1	24.9	31.4	20.0	14.6	14.0	23.2	94.0	43.0	33.4	29.9	28.9	25.8	27.7	26.8	25.4	32.2	30.8	43.2	28.2	19.3	19.3	20.6	28.76	94.05																						
26-Nov	20.8	24.6	25.7	29.5	39.6	32.9	49.4	38.4	28.0	25.8	22.8	23.9	33.7	26.9	28.5	28.3	39.4	60.1	94.4	98.0	42.5	35.1	66.6	101.6	42.34	101.55																						
27-Nov	69.1	41.8	45.9	67.8	56.9	46.1	47.3	46.1	77.9	26.3	32.3	23.9	28.0	39.8	29.5	27.0	37.0	37.5	94.6	66.6	66.7	68.8	44.1	49.1	48.76	94.55																						
28-Nov	46.4	46.4	47.1	54.0	51.0	34.7	46.2	48.3	58.6	76.1	72.2	35.6	30.2	33.1	38.8	52.1	95.5	49.1	61.9	38.2	45.9	39.9	57.5	42.5	50.04	95.45																						
29-Nov	40.6	47.9	52.7	40.8	58.7	46.9	46.5	49.6	36.7	35.7	52.0	36.9	34.3	36.9	37.0	47.6	50.0	46.2	48.3	42.8	36.4	30.6	40.5	41.0	43.19	58.66																						
30-Nov	49.4	81.5	38.2	36.2	18.8	56.2	20.4	14.2	76.7	63.9	56.4	34.7	45.8	43.5	43.2	40.8	47.0	70.1	66.0	86.1	80.4	40.9	55.5	52.6	50.77	86.08																						
																							43.55	45.38	42.92	53.49	48.47	43.99	44.65	44.56	52.62	47.17	44.18	45.42	44.19	44.35	41.45	40.50	39.09	36.57	46.04	49.11	47.29	45.85	41.45	45.16	Diurnal Average	
																							92.91	86.39	87.33	99.88	91.59	93.02	95.38	79.90	99.22	95.17	84.78	84.15	100.19	93.46	91.10	106.58	95.45	70.08	98.11	97.97	82.55	93.04	82.37	101.55	Diurnal Maximum	

WEST CENTRAL AIRSHED SOCIETY

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

**END OF REPORT
NOVEMBER 2017**