

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

AIR QUALITY MONITORING
September 2016
Monthly Report

Prepared by:

West Central Airshed Society
Drayton Valley, Alberta





October 15, 2016

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

Dear Mr. Whitney:

**Monthly Ambient Air Quality Monitoring Report for September 2016
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 Robert Scotten 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 seven readings occurring in September 2016 in excess of the 1-hour average guideline as indicated in Air Monitoring Directive Section III.A.3. (a) for TRS. There was also one reading occurring in September 2016 in excess of the 24-hour average guideline as indicated in Air Monitoring Directive Section III.A.3. (a) for TRS.

2. Operational times less than 90 percent:

There were no operational times less than 90 percent in the month of September.

3. Monitoring Notes:

AMS 906 (Hinton)

The TRS analyzer returned an uptime of 98.8% due to maintenance. The O₃ analyzer returned an uptime of 99.9% due to maintenance. The PM_{2.5} analyzer returned an uptime of 96.3% due to instrument malfunctioning. All other analyzers and meteorological equipment returned uptimes of 100.0% for the month of September.

If additional information is required please contact Patrick Andersen at (780) 514-3533 or (403) 505-1041.

Sincerely,

Handwritten signature of Robert Scotten in cursive.

Robert Scotten
Executive Director

Handwritten signature of Patrick Andersen in cursive.

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
	2016	September

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	98.8	0.019	7	0.004	1
PM _{2.5}	906	96.3	51.8 µg/m ³	0	17.71 µg/m ³	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
SEPTEMBER 2016**

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													September 2016		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	676	98.8	1.3	0.0	19.0	0.2	0.2	0.6	1.5	3.0	7	1	0.004	
SO ₂ (ppb)	35	685	100.0	0.4	0.0	10.0	0.0	0.1	0.2	0.3	1.1	0	-	0.003	
O ₃ (ppb)	35	684	99.9	15.3	0.6	39.6	1.4	4.5	13.6	24.8	31.5	0	0	0.027	
NO (ppb)	36	684	100.0	2.9	0.0	38.6	0.1	0.3	1.1	3.0	8.4	-	-	-	
NO ₂ (ppb)	36	684	100.0	3.9	0.1	22.7	1.0	1.8	3.1	5.2	7.6	0	0	0.009	
NO _x (ppb)	36	684	100.0	6.7	0.2	44.8	1.2	2.5	4.6	8.6	15.0	-	-	-	
Particulate Matter 2.5 microns (µm ³)	0	693	96.3	7.4	0.0	51.8	0.1	2.7	5.5	9.7	15.3	0	0	17.71 ug/m3	
Wind Speed (kph)	0	720	100.0	2.8	0.0	15.9	0.2	0.7	1.7	3.9	7.1	-	-	-	
Temperature (°C)	0	720	100.0	9.5	-3.4	24.3	1.5	5.3	9.3	13.9	17.2	-	-	-	
Relative Humidity (%)	0	720	100.0	63.0	17.6	91.5	28.3	42.1	68.6	84.9	89.0	-	-	-	
Std Dev Wind Direction (deg)	0	720	100.0	56.1	18.5	106.0	32.8	41.8	53.7	70.1	82.3	-	-	-	
Std Dev Wind Speed (kph)	0	720	100.0	2.4	0.0	7.6	0.8	1.2	2.0	3.2	5.4	-	-	-	



WCAS - Hinton
Summary of Hourly Averages

Total Reduced Sulphur (TRS) - ppb
September 2016

Maximum Value: 19.39 ppb on Sep 13 23:00		Maximum Daily Average: 4.28 ppb on Sep 15		Hours in Service: 720																						
Minimum Value: 0 ppb on Sep 4 21:00		Minimum Daily Average: 0.11 ppb on Sep 4		Hours of Data: 676																						
Maximum Diurnal Average: 2.24 ppb at hour 6		Minimum Diurnal Average: 0.56 ppb at hour 16		Hours of Missing Data: 44																						
Monthly Average: 1.330 ppb		Percentiles: P ₁ = 0.1 P ₁₀ = 0.2 Q ₁ = 0.2 Median = 0.6 Q ₃ = 1.5 P ₉₀ = 3.0 P ₉₉ = 11.2		Hours of Calibration: 35																						
				Percent Operational Time: 98.8																						
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-Sep	1	0	0	Z	1	1	1	0	1	1	1	1	1	0	0	1	1	0	1	0	0	0	0	0	0.59	1.23
2-Sep	0	0	0	Z	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0.33	0.97
3-Sep	0	0	0	Z	3	2	2	2	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0.53	2.75
4-Sep	0	0	0	Z	0	0	0	0	0	0	0	C	C	C	C	C	0	0	0	0	0	0	0	0	0.11	0.23
5-Sep	0	0	0	Z	0	1	1	1	1	3	2	1	1	0	0	0	0	0	1	0	4	2	0	0	0.93	4.42
6-Sep	2	3	2	Z	2	2	6	7	6	1	7	4	1	0	0	1	0	0	0	0	0	0	2	1	2.14	7.13
7-Sep	1	0	1	Z	1	2	1	1	6	5	1	2	1	1	1	0	1	2	3	1	0	0	0	0	1.40	6.15
8-Sep	0	0	0	Z	0	0	1	2	2	3	1	0	1	1	0	0	0	0	0	0	1	1	2	1	0.82	3.48
9-Sep	0	1	1	Z	0	0	1	1	0	1	0	1	1	1	2	1	1	3	3	3	1	2	3	3	1.32	2.83
10-Sep	3	1	3	Z	2	1	1	1	0	1	2	2	1	1	1	1	1	0	2	1	1	1	2	1	1.34	3.43
11-Sep	3	0	0	Z	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.39	2.78
12-Sep	0	0	0	Z	6	10	6	3	4	3	1	0	0	0	0	0	1	4	0	0	1	0	0	0	1.77	9.56
13-Sep	1	1	1	Z	2	2	2	2	0	0	M	M	M	M	M	M	0	0	3	3	4	5	19	11	--	19.39
14-Sep	5	6	5	Z	1	1	1	1	2	0	0	0	0	0	0	M	M	M	1	0	0	1	1	4	1.56	5.95
15-Sep	5	3	1	Z	12	16	15	17	7	7	6	5	1	1	1	0	0	0	0	0	0	0	0	0	4.28	17.19
16-Sep	1	1	1	Z	1	2	1	2	2	2	1	2	2	1	1	1	2	2	2	0	0	0	0	0	1.24	2.39
17-Sep	0	0	0	Z	0	0	0	0	0	1	2	2	2	2	2	2	2	3	2	0	0	0	0	0	1.09	2.51
18-Sep	2	2	1	Z	1	2	1	1	0	2	1	1	1	1	1	1	0	0	1	3	4	1	1	0	1.24	4.22
19-Sep	0	0	0	Z	2	5	3	2	7	6	3	1	1	1	0	0	0	0	0	0	2	1	1	0	1.57	7.31
20-Sep	1	2	2	Z	2	2	3	1	2	0	1	1	1	1	1	0	0	0	1	1	0	0	0	0	1.08	3.00
21-Sep	1	1	0	Z	2	3	2	3	3	4	3	3	2	0	0	0	0	0	0	0	0	1	6	7	1.78	7.06
22-Sep	8	3	1	Z	3	3	2	1	10	3	5	2	1	0	0	0	0	0	0	0	0	0	0	1	1.99	9.63
23-Sep	13	6	2	Z	1	1	1	0	0	0	1	3	1	2	1	1	2	1	1	0	4	3	1	1	2.06	12.88
24-Sep	1	0	1	Z	0	6	5	2	2	1	1	0	0	1	1	0	1	2	4	9	6	1	1	0	1.96	8.74
25-Sep	0	0	0	Z	0	0	0	0	0	0	0	1	1	1	1	1	0	1	1	2	1	2	3	3	0.84	2.85
26-Sep	0	0	1	Z	2	1	1	0	1	0	1	1	1	1	1	1	1	1	1	2	1	0	1	0	0.91	2.23
27-Sep	2	2	0	Z	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	1	0	0	0.52	2.41
28-Sep	0	1	0	Z	1	1	2	2	3	5	7	3	1	0	0	0	0	0	0	0	0	0	0	0	1.25	6.57
29-Sep	0	0	0	Z	0	1	1	1	2	5	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0.99	5.75
30-Sep	0	1	3	Z	2	2	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0.91	2.72
																								Diurnal Average		
1.73 1.22 0.96 -- 1.71 2.24 1.99 1.87 2.23 2.01 1.98 1.48 0.94 0.72 0.62 0.56 0.58 0.82 1.00 1.04 1.14 0.87 1.48 1.22																								Diurnal Maximum		
12.88 5.95 4.64 -- 11.68 15.64 15.40 17.19 9.63 7.11 7.13 5.29 2.48 1.77 2.07 2.11 2.13 3.66 3.86 8.74 5.83 4.52 19.39 11.33																										
Z - zerospan C - Calibration M - Maintenance																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb																										



WCAS - Hinton
Summary of Hourly Averages

Sulphur Dioxide (SO₂) - ppb
September 2016

Maximum Value: 10.00 ppb on Sep 25 15:00		Maximum Daily Average: 2.61 ppb on Sep 25		Hours in Service: 720																													
Minimum Value: 0.0 ppb on Sep 1 02:00		Minimum Daily Average: 0.03 ppb on Sep 5		Hours of Data: 685																													
Maximum Diurnal Average: 1.09 ppb at hour 13		Minimum Diurnal Average: 0.12 ppb at hour 5		Hours of Missing Data: 35																													
Monthly Average: 0.432 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 0.2 Q ₃ = 0.3 P ₉₀ = 1.1 P ₉₉ = 5.6		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-Sep	0.1	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.1	0.5	0.5	0.1	0.1	0.6	0.5	0.1	0.2	0.1	0.0	0.1	0.0	0.19	1.06							
2-Sep	0.1	0.1	0.1	Z	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.1	0.6	1.3	1.4	0.2	0.2	0.1	0.2	0.1	0.1	0.2	0.1	0.2	0.24	1.36							
3-Sep	0.2	0.2	0.2	Z	0.2	0.1	0.2	0.1	0.1	0.1	0.2	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.2	0.2	0.14	0.19							
4-Sep	0.1	0.1	0.1	Z	0.0	0.1	0.0	0.1	0.1	0.2	0.1	C	C	C	C	C	0.2	0.3	0.3	0.1	0.2	0.1	0.1	0.1	0.13	0.30							
5-Sep	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.1	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.03	0.30							
6-Sep	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.0	0.1	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.06	0.45							
7-Sep	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.1	0.2	0.3	0.6	0.2	0.6	0.2	0.6	0.4	0.4	0.4	0.1	0.1	0.1	0.1	0.0	0.1	0.19	0.60							
8-Sep	0.1	0.1	0.1	Z	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.0	0.1	0.09	0.17							
9-Sep	0.1	0.1	0.1	Z	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.2	1.3	1.6	1.7	3.1	1.5	2.2	1.6	1.4	0.6	1.5	1.6	1.1	0.87	3.13							
10-Sep	0.6	0.4	0.3	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.0	0.09	0.58							
11-Sep	0.1	0.1	0.1	Z	0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.08	0.15							
12-Sep	0.1	0.1	0.1	Z	0.0	0.2	0.2	0.2	0.2	0.4	0.3	0.2	0.2	0.2	0.1	0.4	0.4	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.20	0.45							
13-Sep	0.2	0.2	0.2	Z	0.2	0.4	0.4	0.3	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.2	0.1	0.2	0.1	0.2	0.1	0.2	0.20	0.39							
14-Sep	0.2	0.2	0.2	Z	0.2	0.2	0.2	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.1	0.2	0.1	0.2	0.1	0.2	0.4	0.18	0.36							
15-Sep	0.2	0.1	0.1	Z	0.1	0.1	0.1	0.2	0.3	0.9	1.9	2.6	1.1	1.1	1.0	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.50	2.65							
16-Sep	0.1	0.1	0.1	Z	0.1	0.1	0.2	0.3	0.3	0.3	0.8	1.1	2.8	1.7	0.5	1.6	0.7	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.49	2.78							
17-Sep	0.0	0.1	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.9	2.8	1.8	2.3	3.1	5.0	4.2	0.5	0.8	0.2	0.1	0.0	0.0	0.0	0.0	0.95	4.95							
18-Sep	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.6	0.4	0.7	0.6	0.4	0.2	0.1	0.2	0.2	0.2	0.1	0.2	0.1	0.18	0.71							
19-Sep	0.1	0.2	0.2	Z	0.1	0.2	0.2	0.2	0.2	0.2	0.9	0.4	0.9	1.1	0.3	0.1	0.2	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.26	1.09							
20-Sep	0.0	0.1	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.1	0.4	0.3	0.3	0.2	0.2	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.16	0.35							
21-Sep	0.3	0.2	0.3	Z	0.3	0.2	0.3	0.3	0.2	0.2	0.3	0.9	1.2	0.3	0.2	0.1	0.2	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.29	1.21							
22-Sep	0.1	0.0	0.1	Z	0.1	0.1	0.1	0.1	0.2	0.1	0.3	0.4	0.2	0.2	0.3	0.2	0.4	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.17	0.44							
23-Sep	0.2	0.2	0.2	Z	0.1	0.1	0.1	0.1	0.0	0.1	0.2	2.0	5.2	1.7	2.6	2.9	4.8	3.1	0.6	0.2	0.5	0.8	0.3	0.3	1.15	5.19							
24-Sep	0.2	0.0	0.1	Z	0.0	0.1	0.0	0.1	0.4	1.7	1.1	0.1	0.3	1.8	1.1	0.4	1.8	0.9	0.4	0.2	0.3	0.2	0.3	0.3	0.51	1.83							
25-Sep	0.3	0.3	0.2	Z	0.2	0.2	0.2	0.2	0.1	0.2	0.5	3.7	8.3	6.0	10.0	7.9	0.8	5.7	6.3	4.5	2.2	1.2	0.7	0.4	2.61	10.00							
26-Sep	0.2	0.2	0.5	Z	1.4	1.4	0.4	0.4	0.9	0.5	2.4	4.3	2.7	1.0	1.2	3.2	5.0	1.9	2.5	6.6	2.1	0.3	1.1	0.3	1.76	6.63							
27-Sep	0.9	0.5	0.3	Z	0.1	0.2	0.2	0.1	0.2	0.2	0.2	1.3	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.28	1.33							
28-Sep	0.1	0.1	0.1	Z	0.2	0.2	0.3	0.3	0.2	0.5	1.4	1.0	1.0	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.3	0.2	0.2	0.2	0.43	1.40							
29-Sep	0.1	0.2	0.1	Z	0.1	0.1	0.1	0.2	0.2	0.3	1.5	1.4	0.6	0.4	0.2	0.3	0.4	0.4	0.2	0.2	0.2	0.2	0.2	0.1	0.33	1.45							
30-Sep	0.1	0.1	0.2	Z	0.2	0.2	0.1	0.2	0.1	0.2	0.1	0.2	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.14	0.23							
		0.15	0.14	0.13	--	0.12	0.15	0.13	0.14	0.16	0.27	0.57	0.87	1.09	0.87	1.00	0.98	0.68	0.64	0.50	0.54	0.30	0.23	0.23	0.17	Diurnal Average							
		0.90	0.54	0.49	--	1.36	1.41	0.42	0.36	0.91	1.65	2.81	4.30	8.27	6.04	10.00	7.90	4.98	5.69	6.35	6.63	2.20	1.45	1.56	1.07	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

Ozone (O₃) - ppb
September 2016

Maximum Value: 39.63 ppb on Sep 27 17:00		Maximum Daily Average: 26.80 ppb on Sep 27		Hours in Service: 720																																													
Minimum Value: 0.6 ppb on Sep 21 05:00		Minimum Daily Average: 4.93 ppb on Sep 30		Hours of Data: 684																																													
Maximum Diurnal Average: 27.86 ppb at hour 15		Minimum Diurnal Average: 5.13 ppb at hour 8		Hours of Missing Data: 36																																													
Monthly Average: 15.311 ppb		Percentiles: P ₁ = 0.6 P ₁₀ = 1.4 Q ₁ = 4.5 Median = 13.6 Q ₃ = 24.8 P ₉₀ = 31.5 P ₉₉ = 36.7		Hours of Calibration: 35																																													
				Percent Operational Time: 99.9																																													
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-Sep	24.4	15.2	8.9	Z	12.6	9.7	14.1	21.4	16.2	19.8	26.8	31.2	33.8	33.7	33.7	33.0	32.6	32.2	31.5	22.9	22.1	22.4	20.0	15.1	23.19	33.77																							
2-Sep	10.8	10.4	6.0	Z	3.8	3.8	5.2	7.2	10.1	16.0	19.6	24.4	26.0	29.2	28.9	24.4	21.8	17.5	14.7	12.2	9.9	9.2	12.7	6.3	14.36	29.17																							
3-Sep	4.8	2.4	2.8	Z	1.2	1.3	1.2	2.2	5.9	8.6	8.7	9.9	9.6	11.1	11.0	11.2	11.9	12.3	12.6	13.8	14.7	12.9	11.0	9.9	8.30	14.72																							
4-Sep	11.5	11.0	8.4	Z	4.1	9.0	10.8	10.7	12.4	12.3	12.4	C	C	C	C	C	13.8	14.0	15.0	14.2	14.2	10.2	10.2	8.6	11.25	14.99																							
5-Sep	6.8	5.6	3.9	Z	1.5	1.8	1.4	2.5	3.1	5.3	7.0	6.5	6.8	9.5	12.8	14.3	11.9	9.1	11.0	8.0	6.2	2.5	1.8	1.2	6.11	14.28																							
6-Sep	1.3	1.1	1.3	Z	0.8	0.9	1.0	1.4	2.3	3.5	7.4	11.2	14.9	21.5	21.7	23.2	21.7	21.9	17.7	14.4	13.7	12.4	5.6	2.0	9.69	23.22																							
7-Sep	2.2	2.0	1.8	Z	0.9	1.0	1.2	1.8	8.8	15.1	22.8	25.2	24.9	24.8	24.4	25.9	26.3	25.7	24.1	11.1	8.5	9.5	10.1	8.0	13.31	26.28																							
8-Sep	7.3	7.2	2.9	Z	2.1	2.0	1.8	1.9	3.3	11.9	16.0	16.9	17.7	18.8	19.7	21.2	19.9	20.0	26.1	23.1	18.3	15.5	11.0	6.9	12.68	26.09																							
9-Sep	4.9	5.1	2.6	Z	1.0	1.1	1.0	2.0	5.5	10.4	16.5	21.6	23.4	24.6	23.5	24.2	22.2	18.3	16.9	15.6	20.0	16.8	16.4	19.8	13.61	24.60																							
10-Sep	20.9	24.2	23.9	Z	10.8	4.1	2.6	5.8	11.9	17.9	29.1	29.7	33.0	31.9	32.0	28.8	28.5	30.5	29.8	26.2	26.4	24.4	16.9	14.8	21.92	32.96																							
11-Sep	18.7	28.7	24.1	Z	23.3	21.4	16.5	14.1	12.4	11.1	11.0	15.6	22.1	23.5	22.9	24.6	28.3	26.1	22.5	16.6	10.8	11.6	7.7	5.9	18.24	28.75																							
12-Sep	6.2	5.6	4.4	Z	2.3	1.9	1.4	2.0	7.3	10.3	15.8	23.6	27.6	29.8	30.1	31.4	30.9	27.8	18.4	5.5	3.0	2.7	1.8	4.4	12.80	31.37																							
13-Sep	1.9	1.1	1.1	Z	0.8	1.0	1.0	5.0	19.2	21.3	23.3	24.3	25.1	25.2	25.1	25.2	24.0	22.6	18.2	11.0	6.4	4.5	3.5	1.7	12.71	25.20																							
14-Sep	1.7	1.4	2.2	Z	1.1	1.3	1.5	2.9	10.5	15.5	17.5	19.6	22.3	23.4	22.1	20.0	21.8	M	17.6	10.4	8.2	12.2	14.1	11.7	11.76	23.35																							
15-Sep	5.6	4.0	2.5	Z	1.2	1.2	1.4	2.4	6.4	10.4	14.2	19.2	25.5	28.8	31.6	31.5	33.6	34.6	21.6	3.3	3.4	3.6	5.7	3.7	12.84	34.64																							
16-Sep	2.3	2.5	2.1	Z	1.4	1.1	1.1	1.6	3.0	14.5	20.5	24.5	27.0	27.8	27.4	25.4	26.5	21.0	20.3	25.7	23.1	13.4	8.9	10.5	14.42	27.77																							
17-Sep	7.8	5.3	4.7	Z	4.4	4.4	2.7	2.4	6.9	21.6	26.3	30.2	30.0	32.8	31.1	30.8	29.6	27.6	25.9	24.8	27.2	17.3	11.6	7.1	17.94	32.76																							
18-Sep	11.5	26.2	23.9	Z	12.0	9.5	11.3	7.1	9.6	20.4	31.9	32.4	32.5	32.3	33.2	32.2	33.1	32.4	31.6	26.7	25.1	14.6	7.6	5.0	21.83	33.21																							
19-Sep	3.2	3.1	2.0	Z	2.0	1.5	1.0	1.3	6.1	13.0	24.5	28.8	30.4	30.7	30.1	27.5	25.4	23.9	23.6	11.8	12.9	17.5	14.0	12.0	15.06	30.72																							
20-Sep	7.7	8.0	7.5	Z	4.7	5.6	5.0	4.9	9.4	16.7	21.3	25.4	24.7	26.1	29.6	30.9	23.6	20.9	12.9	4.5	3.4	2.0	2.0	1.1	12.96	30.93																							
21-Sep	0.8	0.6	0.6	Z	0.6	0.8	0.8	1.2	2.8	8.4	13.9	19.8	30.0	32.5	32.3	32.4	32.7	33.9	25.7	23.6	20.1	11.9	8.2	4.2	14.67	33.85																							
22-Sep	2.7	1.5	0.8	Z	0.8	0.8	0.7	1.1	5.3	12.3	18.3	22.9	23.6	26.6	31.1	32.9	29.5	23.8	17.0	13.0	11.2	9.1	11.1	4.8	13.07	32.86																							
23-Sep	1.8	0.9	0.8	Z	0.7	0.8	0.8	1.6	2.8	5.7	13.8	34.1	35.4	36.0	36.8	37.0	32.3	32.6	34.2	34.2	29.9	28.4	29.5	27.1	19.88	37.03																							
24-Sep	24.6	22.1	15.1	Z	23.4	19.6	16.4	3.4	11.4	32.0	34.8	35.8	35.8	35.2	36.3	36.3	34.6	33.4	30.9	28.8	12.1	9.9	5.4	7.5	23.68	36.31																							
25-Sep	4.2	4.6	4.9	Z	3.9	3.0	1.8	3.9	7.8	11.2	14.6	23.4	29.2	32.5	30.4	33.3	36.5	33.7	30.6	29.0	29.5	26.4	23.4	22.4	19.13	36.51																							
26-Sep	23.2	18.9	23.6	Z	27.1	24.6	26.9	27.3	24.1	28.2	32.9	33.2	34.7	34.0	32.4	26.9	22.4	21.6	19.6	19.5	26.0	27.3	27.4	26.8	26.47	34.69																							
27-Sep	22.4	17.1	21.1	Z	36.7	31.4	25.4	11.9	11.5	12.8	21.8	31.6	35.4	36.7	38.6	38.8	39.6	38.5	35.4	32.6	33.0	22.9	14.5	6.5	26.80	39.63																							
28-Sep	6.3	4.1	2.5	Z	0.8	0.9	0.7	1.6	4.6	10.4	19.6	25.0	27.8	31.0	34.3	33.6	33.5	34.5	26.1	4.6	1.3	1.4	2.5	2.6	13.47	34.53																							
29-Sep	1.8	0.9	0.8	Z	0.7	0.6	0.7	0.9	2.7	8.4	15.5	18.7	24.3	26.7	29.0	28.6	28.7	27.7	18.0	12.6	7.3	2.2	0.8	0.6	11.23	29.05																							
30-Sep	0.6	0.6	0.9	Z	1.4	0.8	0.6	0.7	1.1	1.4	1.5	2.1	4.3	9.1	15.9	12.7	7.8	6.7	5.6	4.3	5.7	7.3	9.7	12.7	4.93	15.89																							
																								8.33	8.06	6.94	--	6.27	5.56	5.26	5.13	8.15	13.55	18.64	22.99	25.43	27.10	27.86	27.52	26.17	24.99	21.83	16.79	15.12	12.73	10.84	9.03	Diurnal Average	
																								24.55	28.75	24.15	--	36.74	31.42	26.91	27.27	24.13	32.00	34.75	35.80	35.76	36.71	38.63	38.76	39.63	38.50	35.36	34.18	33.03	28.37	29.51	27.08	Diurnal Maximum	
Z - zerospan C - Calibration M - Maintenance																																																	
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 82.5 ppb 24-hr -- ppb																																																	



WCAS - Hinton
Summary of Hourly Averages

Nitrogen Oxide (NO) - ppb
September 2016

Maximum Value: 38.55 ppb on Sep 13 07:00		Maximum Daily Average: 7.25 ppb on Sep 13		Hours in Service: 720																																													
Minimum Value: 0.0 ppb on Sep 14 18:00		Minimum Daily Average: 0.20 ppb on Sep 11		Hours of Data: 684																																													
Maximum Diurnal Average: 9.95 ppb at hour 8		Minimum Diurnal Average: 0.68 ppb at hour 18		Hours of Missing Data: 36																																													
Monthly Average: 2.858 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.1 Q ₁ = 0.3 Median = 1.1 Q ₃ = 3.0 P ₉₀ = 8.4 P ₉₉ = 23.5		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-Sep	0.1	0.2	0.5	Z	2.0	0.4	1.5	1.5	1.6	1.4	2.3	0.9	0.9	0.4	0.5	0.4	0.5	0.4	0.3	0.4	0.3	0.2	0.1	0.1	0.74	2.33																							
2-Sep	0.2	1.0	0.1	Z	1.3	1.4	1.9	1.2	0.8	1.1	0.5	0.1	1.3	1.6	1.1	1.3	1.5	0.5	1.0	0.4	0.3	0.1	0.2	0.1	0.82	1.91																							
3-Sep	0.1	0.1	0.1	Z	5.3	6.2	5.7	3.8	1.2	0.5	0.3	0.3	1.1	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.0	0.0	0.0	1.13	6.20																							
4-Sep	0.0	0.7	0.2	Z	1.2	0.5	0.8	0.6	0.7	1.0	0.8	C	C	C	C	C	C	1.4	0.8	0.5	0.7	0.5	0.3	0.1	--	1.45																							
5-Sep	0.1	0.1	0.2	Z	1.5	0.8	2.4	3.6	3.2	4.1	4.1	4.2	2.9	1.8	1.0	0.7	2.1	0.4	2.1	0.1	0.3	1.8	1.8	2.6	1.82	4.18																							
6-Sep	2.2	5.0	9.2	Z	1.6	4.9	4.7	3.8	5.1	1.5	3.6	4.5	1.1	1.4	1.3	1.1	0.6	1.1	0.9	2.1	0.3	0.1	0.4	1.6	2.53	9.18																							
7-Sep	0.7	2.2	0.3	Z	7.9	10.7	10.2	10.8	8.9	5.5	2.2	0.6	1.9	0.8	1.8	1.2	1.1	0.8	0.3	2.7	1.2	1.0	0.2	0.2	3.19	10.78																							
8-Sep	0.1	0.2	0.6	Z	1.0	4.0	14.3	5.2	11.3	4.3	0.6	0.2	0.5	1.7	0.2	0.1	0.1	0.1	0.1	0.1	0.5	0.0	0.1	0.4	1.99	14.31																							
9-Sep	0.4	0.1	0.6	Z	6.8	13.7	18.2	18.1	3.4	5.5	4.1	1.3	2.2	3.0	2.7	2.5	1.6	2.3	1.6	1.1	0.4	1.7	2.0	0.9	4.10	18.20																							
10-Sep	0.3	0.1	0.1	Z	3.1	5.7	11.9	6.2	1.3	4.3	0.3	0.8	0.1	0.9	1.0	0.2	0.3	0.4	0.3	0.2	0.1	0.3	0.2	0.4	1.67	11.89																							
11-Sep	0.1	0.1	0.0	Z	0.1	0.1	0.2	0.1	0.7	0.2	0.4	0.4	0.3	0.3	0.3	0.6	0.1	0.1	0.0	0.1	0.2	0.0	0.1	0.1	0.20	0.72																							
12-Sep	0.3	0.1	0.1	Z	0.7	2.6	3.1	11.7	5.7	7.7	4.1	2.8	2.5	2.2	2.8	1.6	1.4	0.2	2.5	4.6	3.7	4.6	2.3	1.0	2.97	11.73																							
13-Sep	2.3	9.8	4.8	Z	21.1	36.7	38.6	24.8	1.3	1.5	1.2	1.5	1.4	1.1	1.1	0.9	1.2	1.1	0.8	1.4	3.7	3.4	1.3	5.7	7.25	38.55																							
14-Sep	4.7	14.5	5.3	Z	13.9	17.6	23.3	28.6	2.4	1.1	1.4	2.0	1.0	0.9	0.1	0.2	0.0	0.0	0.8	5.0	5.0	1.1	1.0	0.0	5.65	28.58																							
15-Sep	0.8	1.2	2.1	Z	4.0	7.2	5.3	11.5	11.1	3.2	3.9	3.6	2.2	1.3	1.2	0.1	0.1	0.1	4.5	9.0	6.0	2.8	0.4	0.7	3.56	11.45																							
16-Sep	1.8	1.1	0.8	Z	1.7	3.8	15.2	32.3	32.4	8.9	4.7	1.5	1.6	1.4	1.1	2.1	0.5	0.3	0.3	0.2	0.3	0.5	1.2	0.2	4.94	32.38																							
17-Sep	0.5	1.2	0.5	Z	1.3	3.5	2.1	7.0	4.9	2.1	2.2	1.1	1.3	1.2	1.0	0.7	0.8	0.3	0.2	0.1	0.5	0.2	0.8	0.1	1.46	7.02																							
18-Sep	0.1	0.0	0.0	Z	0.1	0.1	0.8	1.0	1.7	1.2	0.8	1.4	0.6	1.4	1.1	0.9	0.3	0.2	0.2	0.1	0.1	0.2	0.6	0.7	0.59	1.66																							
19-Sep	0.6	1.0	1.0	Z	3.6	2.5	9.5	18.0	15.1	7.4	1.8	1.1	1.5	0.7	0.3	0.6	1.2	0.9	3.0	1.0	0.3	0.1	0.5	0.3	3.12	17.97																							
20-Sep	0.1	0.1	0.1	Z	0.1	0.1	0.3	3.6	3.8	4.7	1.7	0.7	1.5	1.9	1.1	1.4	1.6	1.9	1.5	2.0	2.8	4.2	2.0	2.4	1.72	4.70																							
21-Sep	6.9	6.7	6.1	Z	8.3	13.8	11.0	17.6	9.5	2.7	1.9	3.1	1.8	0.3	0.7	0.2	1.1	0.8	2.2	1.0	0.3	2.0	0.2	0.9	4.31	17.64																							
22-Sep	0.3	1.1	2.5	Z	11.7	17.2	20.1	13.6	15.1	3.0	4.9	3.6	1.9	1.6	1.4	1.4	1.4	0.7	5.1	3.8	1.7	0.4	0.6	0.9	4.96	20.11																							
23-Sep	0.9	2.0	2.4	Z	4.2	7.1	10.8	9.0	8.5	11.1	7.4	2.1	2.3	0.6	1.1	0.9	1.6	0.4	0.2	0.1	0.1	0.1	0.1	0.0	3.16	11.06																							
24-Sep	0.1	0.1	2.2	Z	0.9	0.5	0.1	9.7	5.5	1.2	0.8	0.5	0.6	1.0	0.7	0.5	1.1	0.3	0.1	0.1	2.5	0.4	2.1	0.2	1.36	9.72																							
25-Sep	4.8	0.4	0.2	Z	3.4	3.5	5.2	3.0	1.3	2.7	3.6	3.1	2.3	1.4	2.2	1.8	0.4	0.7	0.3	0.2	0.2	0.2	0.1	0.2	1.79	5.18																							
26-Sep	0.7	0.9	0.1	Z	0.1	1.7	0.2	1.0	0.9	3.2	1.4	2.7	1.4	0.3	0.5	1.6	2.3	1.0	0.5	0.7	0.2	0.1	0.1	0.0	0.95	3.16																							
27-Sep	0.1	0.1	0.1	Z	0.6	0.2	2.3	2.4	3.9	6.4	2.7	1.6	0.1	0.1	0.0	0.0	0.0	0.0	0.3	0.5	0.0	0.6	0.3	0.8	1.01	6.40																							
28-Sep	0.2	0.8	2.1	Z	10.5	18.0	31.1	20.3	11.9	16.2	9.7	5.9	3.7	1.0	0.7	1.2	1.4	0.8	0.4	10.4	9.4	6.3	1.8	1.0	7.16	31.10																							
29-Sep	0.5	9.0	4.3	Z	4.2	5.1	9.7	13.2	12.9	14.7	10.3	4.3	1.8	1.1	1.0	1.0	1.8	1.3	1.7	2.4	0.6	5.5	4.9	4.9	5.04	14.70																							
30-Sep	2.3	4.7	3.1	Z	13.5	16.3	9.8	15.2	8.5	9.3	7.8	8.4	5.9	3.5	2.4	2.0	3.1	1.9	1.1	1.4	1.2	0.2	0.5	0.1	5.32	16.29																							
																								1.08	2.16	1.67	--	4.53	6.86	9.01	9.95	6.49	4.59	3.05	2.22	1.63	1.21	1.05	0.94	1.01	0.68	1.11	1.72	1.43	1.28	0.87	0.89	Diurnal Average	
																								6.86	14.51	9.18	--	21.13	36.70	38.55	32.30	32.38	16.18	10.28	8.41	5.92	3.51	2.78	2.46	3.10	2.35	5.13	10.44	9.43	6.28	4.95	5.71	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
September 2016

Maximum Value: 22.73 ppb on Sep 28 20:00		Maximum Daily Average: 8.65 ppb on Sep 28		Hours in Service: 720																						
Minimum Value: 0.1 ppb on Sep 8 16:00		Minimum Daily Average: 1.05 ppb on Sep 11		Hours of Data: 684																						
Maximum Diurnal Average: 6.39 ppb at hour 20		Minimum Diurnal Average: 2.20 ppb at hour 15		Hours of Missing Data: 36																						
Monthly Average: 3.867 ppb		Percentiles: P ₁ = 0.2 P ₁₀ = 1.0 Q ₁ = 1.8 Median = 3.1 Q ₃ = 5.2 P ₉₀ = 7.6 P ₉₉ = 12.6		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-Sep	3.2	3.4	6.4	Z	5.6	3.8	3.2	7.1	6.6	4.3	4.1	2.0	1.9	1.0	1.4	1.5	1.8	1.5	1.9	3.5	1.5	1.9	1.3	1.9	3.09	7.06
2-Sep	2.4	2.3	2.8	Z	1.9	2.3	2.9	2.5	2.7	2.6	1.3	0.5	2.6	3.0	2.3	2.5	2.9	1.6	1.6	1.5	1.2	1.3	1.7	1.7	2.10	3.05
3-Sep	1.3	0.4	0.4	Z	6.7	6.2	4.3	3.1	1.7	0.5	0.2	0.3	1.1	0.3	0.2	0.1	0.2	0.3	0.3	0.6	1.0	0.8	0.6	0.8	1.37	6.72
4-Sep	0.7	2.9	2.4	Z	5.2	2.5	1.8	1.5	1.1	1.0	0.9	C	C	C	C	C	C	1.5	1.2	1.3	1.7	2.2	2.0	2.4	--	5.24
5-Sep	2.1	1.7	1.5	Z	2.2	1.3	1.4	1.9	2.1	2.7	3.5	3.2	2.2	1.6	1.1	0.9	1.9	0.9	2.3	1.0	1.7	2.9	2.1	2.0	1.93	3.55
6-Sep	2.2	3.1	2.9	Z	1.3	1.8	1.8	1.4	1.9	0.7	1.8	3.1	1.7	1.1	1.6	1.9	0.9	1.7	3.3	5.3	3.2	0.9	3.1	4.3	2.21	5.33
7-Sep	2.1	1.6	1.4	Z	1.6	2.2	2.5	2.8	8.0	6.3	3.5	1.0	2.4	1.0	2.3	1.7	2.4	3.0	1.7	8.8	6.7	4.7	2.2	1.6	3.11	8.85
8-Sep	1.0	1.0	4.0	Z	2.0	3.3	7.6	4.4	6.5	6.8	1.5	0.5	0.7	2.3	0.2	0.1	0.2	0.1	0.2	0.4	3.8	1.1	2.4	2.3	2.28	7.60
9-Sep	2.7	1.8	2.2	Z	2.3	3.4	2.6	3.1	2.7	4.4	3.2	2.1	3.4	4.0	5.0	4.7	5.4	7.4	8.8	9.5	4.2	9.8	9.9	6.7	4.74	9.89
10-Sep	4.9	3.8	4.1	Z	7.8	11.5	12.2	6.4	2.4	4.4	1.3	2.7	0.4	2.2	2.2	0.4	1.1	1.7	3.4	3.2	4.9	3.0	3.2	5.5	4.03	12.24
11-Sep	2.4	1.1	0.4	Z	0.8	0.4	0.8	0.7	1.2	0.6	0.6	0.5	0.5	0.6	0.5	1.1	0.4	0.5	0.5	2.0	3.9	1.3	1.5	1.7	1.05	3.94
12-Sep	2.0	1.2	1.1	Z	2.9	3.6	3.1	3.9	4.6	5.7	3.7	2.6	2.4	2.4	2.8	2.4	2.5	1.0	8.3	15.6	11.4	10.1	8.1	4.0	4.58	15.61
13-Sep	4.9	4.8	3.6	Z	5.0	7.0	6.6	6.2	2.1	1.7	1.4	2.1	1.7	1.4	1.9	1.7	2.0	2.7	5.4	11.0	9.7	10.6	7.8	8.9	4.80	11.02
14-Sep	7.0	7.3	6.7	Z	7.8	7.6	7.2	9.6	3.1	1.7	1.8	2.2	1.5	1.2	0.6	1.3	0.3	0.3	2.1	10.1	11.1	6.3	6.3	4.0	4.65	11.08
15-Sep	7.9	7.9	8.0	Z	6.3	6.0	4.7	4.4	6.9	3.4	4.5	5.4	3.1	2.1	2.5	0.5	0.7	0.8	9.9	22.4	16.9	13.1	7.6	8.3	6.66	22.37
16-Sep	8.3	5.2	4.1	Z	5.2	5.9	5.7	6.4	9.6	8.5	6.6	3.1	3.4	3.0	3.0	4.6	2.3	7.4	6.8	1.6	1.9	6.7	5.9	3.1	5.15	9.56
17-Sep	4.1	4.5	3.7	Z	3.5	4.5	3.9	3.8	3.7	3.6	4.7	3.5	4.4	3.4	3.8	4.1	1.8	1.7	1.6	2.1	1.3	1.9	2.5	1.9	3.21	4.72
18-Sep	2.6	1.9	1.6	Z	2.9	2.5	4.2	3.1	2.7	2.1	2.1	3.0	1.6	3.1	2.8	2.4	0.9	0.9	1.4	1.0	0.7	4.8	5.8	4.0	2.53	5.79
19-Sep	2.9	2.7	3.0	Z	3.1	4.1	4.6	5.2	8.7	9.5	3.8	1.6	3.2	2.5	0.9	1.7	3.4	3.6	4.8	8.5	5.3	2.1	3.3	4.7	4.06	9.47
20-Sep	3.6	2.9	3.9	Z	2.7	1.9	4.0	6.7	5.5	4.9	2.9	1.9	3.6	3.7	2.0	2.7	3.5	3.5	6.3	7.7	8.4	7.3	4.8	4.3	4.30	8.41
21-Sep	4.9	3.5	2.4	Z	2.6	3.5	2.8	3.4	2.6	2.2	2.2	4.3	3.5	0.9	1.2	0.6	2.0	2.0	7.6	6.3	4.5	7.6	2.8	5.3	3.42	7.63
22-Sep	4.4	3.8	3.7	Z	5.6	4.7	4.3	2.6	6.1	3.0	6.4	5.7	3.2	3.0	2.8	3.1	4.4	4.9	10.4	11.5	8.8	6.8	6.7	7.8	5.38	11.53
23-Sep	4.9	4.1	2.6	Z	2.4	2.9	3.4	3.1	2.8	4.5	6.8	5.4	5.6	2.5	3.7	3.2	7.0	4.5	2.5	1.6	2.7	3.0	2.3	3.7	3.70	7.03
24-Sep	3.0	2.2	6.5	Z	5.6	6.1	3.6	8.9	5.9	3.4	2.1	1.1	1.2	2.6	1.8	1.4	2.9	2.8	1.7	2.8	12.5	8.1	8.8	5.7	4.38	12.54
25-Sep	5.5	4.3	2.4	Z	4.2	4.8	5.7	3.3	3.0	3.2	4.6	7.3	7.6	4.8	6.9	5.4	1.5	4.5	6.3	4.8	3.3	4.3	3.2	4.1	4.57	7.60
26-Sep	2.7	2.9	2.0	Z	3.1	5.7	4.7	3.5	4.1	3.8	3.8	5.7	4.1	1.5	1.9	3.2	6.2	4.4	6.4	8.9	2.9	1.6	1.5	0.9	3.72	8.90
27-Sep	4.5	5.0	2.0	Z	1.4	1.5	6.1	10.1	7.6	8.7	3.6	2.4	0.3	0.4	0.3	0.5	0.4	0.4	1.6	2.4	0.9	3.9	5.2	9.4	3.42	10.15
28-Sep	6.6	6.5	7.0	Z	9.1	9.0	9.0	6.5	7.3	12.9	12.9	9.3	6.1	2.4	2.1	3.7	4.4	3.8	8.0	22.7	19.0	14.4	9.9	6.2	8.65	22.73
29-Sep	4.7	7.0	6.1	Z	3.4	3.1	3.3	3.0	3.9	9.9	13.0	7.6	3.2	2.7	2.5	2.8	4.2	4.1	6.8	8.6	8.3	10.8	7.3	5.0	5.72	12.99
30-Sep	3.7	3.2	4.2	Z	5.8	6.1	6.2	8.8	5.7	6.8	5.7	5.4	4.4	3.4	3.5	4.6	5.6	6.3	5.8	4.8	3.9	2.4	2.1	1.8	4.79	8.79
																								Diurnal Average		
																								Diurnal Maximum		
																								3.77 3.46 3.43 -- 4.00 4.31 4.47 4.59 4.43 4.46 3.83 3.29 2.79 2.21 2.20 2.24 2.54 2.67 4.30 6.39 5.59 5.19 4.39 4.14		
																								8.29 7.92 7.99 -- 9.13 11.52 12.24 10.15 9.56 12.92 12.99 9.30 7.60 4.83 6.94 5.43 7.03 7.39 10.45 22.73 19.04 14.41 9.94 9.38		
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
September 2016

Maximum Value: 44.84 ppb on Sep 13 07:00		Maximum Daily Average: 15.76 ppb on Sep 28		Hours in Service: 720																						
Minimum Value: 0.2 ppb on Sep 8 16:00		Minimum Daily Average: 1.24 ppb on Sep 11		Hours of Data: 684																						
Maximum Diurnal Average: 14.46 ppb at hour 8		Minimum Diurnal Average: 3.18 ppb at hour 16		Hours of Missing Data: 36																						
Monthly Average: 6.706 ppb		Percentiles: P ₁ = 0.3 P ₁₀ = 1.2 Q ₁ = 2.5 Median = 4.6 Q ₃ = 8.6 P ₉₀ = 15.0 P ₉₉ = 31.4		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-Sep	3.3	3.6	6.9	Z	7.6	4.2	4.7	8.6	8.2	5.7	6.5	2.9	2.8	1.4	1.9	1.9	2.3	2.0	2.3	4.0	1.8	2.1	1.3	2.1	3.82	8.58
2-Sep	2.5	3.3	2.9	Z	3.2	3.8	4.8	3.7	3.5	3.7	1.8	0.7	3.9	4.6	3.4	3.8	4.5	2.1	2.5	1.9	1.5	1.4	1.8	1.8	2.92	4.76
3-Sep	1.4	0.5	0.6	Z	12.0	12.4	10.0	6.8	2.9	1.0	0.5	0.6	2.2	0.6	0.3	0.3	0.3	0.4	0.4	0.7	1.3	0.8	0.7	0.8	2.49	12.39
4-Sep	0.7	3.6	2.6	Z	6.5	3.0	2.5	2.1	1.7	2.0	1.6	C	C	C	C	C	C	3.1	2.2	1.9	2.5	2.7	2.4	2.6	--	6.46
5-Sep	2.3	1.8	1.7	Z	3.8	2.1	3.7	5.4	5.3	6.8	7.6	7.3	5.0	3.4	2.1	1.7	4.0	1.2	4.3	1.1	2.1	4.7	3.9	4.6	3.73	7.61
6-Sep	4.4	8.0	12.0	Z	2.8	6.6	6.5	5.2	7.0	2.2	5.3	7.6	2.8	2.5	2.9	3.0	1.5	2.8	4.2	7.4	3.5	1.0	3.4	5.9	4.72	11.95
7-Sep	2.8	3.7	1.6	Z	9.4	12.8	12.6	13.4	16.9	11.8	5.7	1.6	4.3	1.7	4.1	3.0	3.6	3.8	2.0	11.5	7.8	5.7	2.4	1.8	6.26	16.86
8-Sep	1.1	1.1	4.7	Z	2.9	7.2	21.8	9.6	17.7	11.1	2.1	0.7	1.1	4.0	0.4	0.2	0.3	0.3	0.2	0.5	4.4	1.1	2.6	2.6	4.25	21.80
9-Sep	3.0	1.9	2.8	Z	9.0	17.0	20.7	21.1	6.0	9.9	7.3	3.4	5.6	7.0	7.7	7.1	7.1	9.7	10.4	10.6	4.6	11.5	11.8	7.5	8.82	21.08
10-Sep	5.2	3.9	4.2	Z	10.9	17.1	24.0	12.5	3.6	8.6	1.6	3.5	0.5	3.1	3.2	0.6	1.4	2.0	3.7	3.3	5.0	3.2	3.4	5.9	5.68	24.04
11-Sep	2.4	1.2	0.4	Z	0.8	0.5	1.0	0.9	1.9	0.8	1.0	0.8	0.8	0.9	0.8	1.7	0.5	0.6	0.5	2.1	4.1	1.3	1.6	1.8	1.24	4.12
12-Sep	2.3	1.3	1.2	Z	3.7	6.2	6.2	15.5	10.3	13.3	7.8	5.4	4.8	4.6	5.5	3.9	3.9	1.2	10.8	20.2	15.1	14.6	10.4	4.9	7.53	20.16
13-Sep	7.2	14.5	8.4	Z	26.0	43.4	44.8	30.8	3.4	3.2	2.6	3.6	3.1	2.5	3.0	2.6	3.2	3.8	6.3	12.4	13.4	13.9	9.1	14.6	11.99	44.84
14-Sep	11.6	21.7	12.0	Z	21.7	25.1	30.3	38.0	5.6	2.8	3.1	4.2	2.5	2.1	0.7	1.5	0.3	0.3	2.9	15.1	16.0	7.3	7.3	4.1	10.27	37.96
15-Sep	8.8	9.1	10.1	Z	10.3	13.1	10.0	15.8	17.9	6.6	8.4	9.0	5.2	3.4	3.7	0.6	0.7	0.8	14.3	31.3	22.9	15.9	7.9	8.9	10.21	31.29
16-Sep	10.1	6.3	4.9	Z	6.8	9.7	20.8	38.5	41.7	17.3	11.3	4.6	5.0	4.4	4.1	6.7	2.9	7.7	7.1	1.8	2.2	7.2	7.1	3.3	10.06	41.72
17-Sep	4.6	5.7	4.3	Z	4.8	8.0	6.0	10.8	8.7	5.7	6.9	4.6	5.6	4.6	4.8	4.8	2.6	2.0	1.8	2.2	1.8	2.0	3.3	2.0	4.67	10.81
18-Sep	2.7	1.9	1.6	Z	3.0	2.6	4.9	4.2	4.4	3.3	2.9	4.4	2.2	4.5	3.8	3.2	1.2	1.2	1.6	1.1	0.8	5.0	6.4	4.7	3.12	6.37
19-Sep	3.5	3.7	4.0	Z	6.7	6.6	14.0	23.0	23.6	16.8	5.7	2.6	4.7	3.3	1.2	2.3	4.5	4.5	7.8	9.5	5.6	2.2	3.8	5.0	7.16	23.65
20-Sep	3.7	3.0	4.1	Z	2.8	2.0	4.3	10.3	9.3	9.6	4.6	2.5	5.1	5.6	3.0	4.1	5.2	5.4	7.9	9.6	11.2	11.5	6.7	6.7	6.01	11.50
21-Sep	11.7	10.1	8.5	Z	10.8	17.2	13.7	20.9	12.0	4.9	4.1	7.4	5.3	1.2	1.9	0.8	3.1	2.8	9.8	7.3	4.8	9.6	2.9	6.2	7.69	20.85
22-Sep	4.7	4.9	6.1	Z	17.2	21.7	24.3	16.0	21.1	6.0	11.3	9.3	5.1	4.6	4.3	4.4	5.8	5.6	15.6	15.3	10.4	7.2	7.3	8.7	10.31	24.30
23-Sep	5.7	6.1	5.0	Z	6.6	9.9	14.1	12.0	11.2	15.5	14.2	7.4	7.9	3.1	4.9	4.1	8.6	4.9	2.7	1.7	2.7	3.0	2.4	3.7	6.85	15.46
24-Sep	3.1	2.3	8.7	Z	6.5	6.5	3.7	18.5	11.4	4.6	2.9	1.6	1.8	3.6	2.5	1.8	4.0	3.2	1.8	2.9	15.0	8.5	10.9	5.9	5.73	18.52
25-Sep	10.3	4.7	2.6	Z	7.7	8.4	10.9	6.3	4.3	5.8	8.1	10.3	9.9	6.2	9.1	7.3	1.9	5.2	6.6	5.0	3.5	4.5	3.3	4.3	6.35	10.87
26-Sep	3.4	3.8	2.1	Z	3.2	7.3	5.0	4.6	5.1	7.0	5.3	8.4	5.6	1.8	2.4	4.8	8.5	5.5	6.9	9.6	3.1	1.7	1.5	1.0	4.67	9.59
27-Sep	4.6	5.1	2.1	Z	2.0	1.7	8.3	12.6	11.5	15.1	6.3	4.0	0.4	0.4	0.3	0.5	0.4	0.5	1.9	2.9	1.0	4.5	5.5	10.2	4.42	15.07
28-Sep	6.8	7.3	9.1	Z	19.6	26.8	39.9	26.7	19.1	29.0	22.5	15.1	9.8	3.4	2.8	4.9	5.8	4.6	8.5	33.1	28.4	20.7	11.7	7.2	15.76	39.85
29-Sep	5.2	15.9	10.3	Z	7.6	8.2	13.0	16.0	16.7	24.5	23.2	11.8	4.9	3.8	3.5	3.8	6.1	5.4	8.5	10.9	8.9	16.3	12.2	9.9	10.72	24.46
30-Sep	6.0	7.8	7.3	Z	19.3	22.3	15.9	23.8	14.1	16.1	13.5	13.7	10.2	6.8	5.9	6.7	8.7	8.1	6.9	6.2	5.1	2.6	2.6	1.9	10.06	23.84
																								Diurnal Average		
																								Diurnal Maximum		
																								Diurnal Average		
																								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
September 2016

Maximum Value: 51.76 µg/m ³ on Sep 12 21:00		Maximum Daily Average: 17.71 µg/m ³ on Sep 28		Hours in Service: 720																																													
Minimum Value: 0.0 µg/m ³ on Sep 1 08:00		Minimum Daily Average: 2.05 µg/m ³ on Sep 2		Hours of Data: 693																																													
Maximum Diurnal Average: 11.62 µg/m ³ at hour 2		Minimum Diurnal Average: 3.03 µg/m ³ at hour 15		Hours of Missing Data: 27																																													
Monthly Average: 7.364 µg/m ³		Percentiles: P ₁ = 0.0 P ₁₀ = 0.1 Q ₁ = 2.7 Median = 5.5 Q ₃ = 9.7 P ₉₀ = 15.3 P ₉₉ = 40.8		Hours of Calibration: 0																																													
Percentiles: P ₁ = 0.0 P ₁₀ = 0.1 Q ₁ = 2.7 Median = 5.5 Q ₃ = 9.7 P ₉₀ = 15.3 P ₉₉ = 40.8		Percent Operational Time: 96.3																																															
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-Sep	4.7	7.0	6.3	8.1	10.5	11.5	6.5	0.0	2.9	1.7	0.3	3.9	3.6	2.9	0.7	0.0	1.4	2.9	3.5	3.7	10.3	5.1	23.6	36.0	6.55	36.04																							
2-Sep	0.0	0.0	3.8	2.9	0.1	5.1	3.0	0.6	7.3	0.0	0.0	0.0	0.0	3.8	3.7	4.7	0.0	3.5	0.0	3.5	4.9	0.9	0.7	0.6	2.05	7.27																							
3-Sep	6.9	7.1	1.8	7.9	5.8	6.0	8.2	10.5	6.4	2.2	0.0	0.0	0.0	0.0	3.6	0.0	0.6	1.2	1.2	0.5	0.0	0.0	0.0	0.0	2.91	10.50																							
4-Sep	2.4	3.6	1.4	3.8	2.4	2.9	2.9	0.0	0.0	2.1	7.0	3.1	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	--	6.99																						
5-Sep	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	2.8	7.9	5.4	2.9	0.7	0.0	1.7	0.3	0.0	3.6	2.9	0.0	--	7.89																							
6-Sep	0.4	8.7	3.0	4.9	0.2	5.1	2.7	5.6	1.3	6.0	0.0	10.3	5.6	0.0	0.0	0.0	1.5	3.7	1.7	4.5	4.3	2.6	2.0	4.8	3.28	10.29																							
7-Sep	10.3	6.6	7.5	6.1	5.9	6.6	7.1	7.1	10.1	16.0	3.6	0.0	0.0	0.0	2.3	0.3	2.2	0.9	6.6	3.7	9.9	2.9	2.6	1.4	5.00	15.97																							
8-Sep	5.9	5.5	4.9	4.5	4.5	4.2	7.6	19.6	21.8	0.0	0.4	0.0	0.0	0.0	0.0	0.0	1.0	1.6	4.1	0.7	0.4	3.4	3.3	1.2	3.93	21.78																							
9-Sep	2.7	7.9	4.2	0.9	8.1	7.4	8.7	8.0	9.4	3.4	3.2	0.0	0.6	2.4	6.4	7.9	7.3	9.2	9.3	11.7	6.0	7.9	12.3	14.2	6.63	14.17																							
10-Sep	12.0	7.7	5.4	4.6	6.5	10.0	10.2	9.7	3.7	8.1	3.1	2.3	0.1	1.0	0.0	4.0	0.9	5.3	3.0	2.9	2.8	7.4	5.0	0.0	4.82	12.03																							
11-Sep	4.5	2.7	6.1	0.0	3.3	3.5	4.2	0.8	3.1	2.8	0.5	1.8	1.8	0.0	3.6	3.9	4.0	8.8	6.7	4.5	6.6	6.2	9.3	14.8	4.30	14.81																							
12-Sep	12.1	7.3	7.9	4.6	3.3	4.0	2.7	7.3	4.8	16.9	14.7	4.9	0.0	0.0	0.0	1.6	2.2	9.4	42.0	50.7	51.8	44.6	45.0	45.6	15.97	51.76																							
13-Sep	31.2	31.9	32.3	24.7	25.7	18.9	22.5	18.5	12.9	3.0	1.3	0.0	3.5	5.1	4.0	2.8	1.7	2.7	6.5	12.8	13.6	13.8	13.1	17.9	13.36	32.33																							
14-Sep	15.5	20.6	16.4	14.1	10.0	10.2	9.7	13.3	10.4	5.8	3.5	7.0	0.1	0.0	7.4	20.7	31.9	14.4	6.3	14.9	11.9	13.1	10.9	1.9	11.25	31.86																							
15-Sep	5.4	11.3	15.4	8.1	11.2	8.5	9.7	7.8	8.6	12.5	9.7	8.2	11.6	2.9	0.0	0.0	1.7	5.0	5.8	18.4	20.2	23.2	11.0	14.5	9.61	23.15																							
16-Sep	14.8	42.0	9.7	7.0	6.4	7.6	9.6	17.2	20.9	18.8	11.7	9.7	4.0	3.4	0.9	2.3	4.1	6.9	11.3	5.9	6.2	3.5	7.9	10.1	10.08	41.95																							
17-Sep	8.7	15.7	14.8	12.7	8.2	10.7	3.5	5.1	9.8	4.1	2.9	1.7	3.8	0.0	3.7	3.4	3.8	2.7	1.9	3.3	6.5	1.9	2.6	0.0	5.48	15.73																							
18-Sep	2.1	8.1	3.8	2.8	2.7	2.5	3.5	1.2	5.9	1.5	4.5	4.2	3.4	3.7	3.3	2.2	2.4	2.2	0.0	1.2	0.0	2.8	1.7	1.8	2.82	8.12																							
19-Sep	2.8	7.5	5.4	6.9	6.6	7.7	8.6	3.1	15.6	14.4	10.1	5.6	1.3	5.9	0.1	0.0	0.0	2.4	2.6	6.5	2.7	4.1	4.3	10.0	5.60	15.62																							
20-Sep	7.1	7.0	5.3	6.7	4.2	4.1	4.8	9.3	6.2	3.2	22.9	3.0	30.7	45.4	AF	AF	AF	AF	0.0	2.3	4.2	4.4	6.6	7.2	9.24	45.36																							
21-Sep	11.7	10.7	6.3	1.2	5.7	6.2	7.4	8.2	7.6	4.9	6.9	5.3	12.4	3.1	0.0	0.0	0.0	2.5	3.7	4.4	8.8	5.9	10.7	9.6	5.97	12.37																							
22-Sep	8.4	13.4	9.9	7.8	13.8	7.6	8.4	8.8	6.7	9.3	12.1	18.9	10.7	5.6	6.7	4.0	4.5	7.4	12.8	16.8	17.2	12.2	10.9	2.7	9.86	18.90																							
23-Sep	6.0	13.9	8.8	8.7	7.0	5.5	4.5	0.6	9.2	7.0	6.2	9.2	9.6	7.1	1.6	0.0	12.1	8.5	5.3	6.4	3.2	3.1	5.3	1.8	6.27	13.94																							
24-Sep	5.3	4.0	9.0	11.2	4.7	1.6	3.4	5.9	8.7	9.8	4.0	0.0	0.9	0.0	2.4	2.9	6.4	0.9	1.4	1.6	28.7	30.7	27.2	25.8	8.19	30.74																							
25-Sep	17.9	26.2	13.0	15.3	11.3	8.0	6.3	10.7	6.5	5.8	0.5	5.8	6.4	3.6	3.8	0.0	3.2	1.0	2.0	2.9	6.5	2.9	4.3	0.0	6.83	26.16																							
26-Sep	2.2	4.1	1.9	4.6	3.3	3.2	2.9	2.7	4.2	4.0	4.6	9.4	9.6	6.1	2.1	3.4	6.7	10.9	6.5	10.8	8.5	0.0	4.6	6.1	5.10	10.91																							
27-Sep	5.9	12.1	10.6	8.5	2.2	0.0	3.1	4.6	4.5	1.8	6.0	4.6	2.9	1.7	1.8	3.3	4.7	3.4	8.5	8.6	6.5	8.9	7.5	4.8	5.27	12.14																							
28-Sep	8.9	14.3	12.7	9.7	18.7	14.9	17.5	15.1	16.0	29.2	39.8	32.3	25.4	9.0	7.3	7.5	16.1	6.8	15.1	29.3	23.5	24.7	18.6	12.7	17.71	39.83																							
29-Sep	12.1	13.0	11.4	12.1	12.3	5.1	7.9	10.1	11.8	16.8	37.6	36.1	12.3	9.0	9.4	8.7	13.0	17.1	13.7	16.2	15.6	17.1	10.2	9.3	14.09	37.64																							
30-Sep	11.4	17.0	15.4	10.7	10.2	12.9	6.1	14.2	12.8	10.1	11.9	13.5	12.4	9.7	7.2	6.9	11.8	7.8	8.5	7.5	5.4	1.1	0.0	3.6	9.51	17.03																							
																								8.25	11.62	8.77	7.62	7.41	6.95	7.01	7.78	8.59	7.63	7.91	6.79	6.23	4.71	3.03	3.26	5.16	5.31	6.61	8.86	9.88	8.90	9.11	8.92	Diurnal Average	
																								31.21	41.95	32.33	24.70	25.68	18.93	22.52	19.57	21.78	29.18	39.83	36.08	30.68	45.36	9.39	20.72	31.86	17.08	41.97	50.65	51.76	44.64	44.99	45.61	Diurnal Maximum	

AF - Analyzer Failure

Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 80 ul/m³ 24-hr 30 ul/m³

Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 906, Hinton

Calibration Date: September 4, 2016

Parameter: NO/NO₂/NO_x

Instrument: Teco 42i

Serial Number: CM13040041

Previous Calibration Date: August 24, 2016

Calibration: Routine

Calibration Equipment: Sabio 2010 SN 08600312

Barometric Pressure: 26.70" Hg

Calibration Method: Standard Gas Dilution/GPT

Cylinder ID: FF13698

Temperature: 21.7° C

Cylinder Concentration: 12.5 ppm NO

In Service: January 14, 2015

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	5.6	5.7	NA	0.900	1.002	1.000	200 ppb
Current	5.5	5.8	NA	0.911	1.007	1.000	200 ppb

NO	Final Zero: 0.1 ppb	Final Span: 157.7 ppb	As Found Correction Factor: 0.996
NO ₂	Final Zero: -0.4 ppb	Final Span: 0.7 ppb	As Found Correction Factor: 0.000
NO _x	Final Zero: 0.0 ppb	Final Span: 157.7 ppb	As Found Correction Factor: 0.998

Results of Linear Regression			Slope	Intercept	R ²
NO	R _c vs C _c	Previous	149.498800	43.235870	0.999987
		Current	150.169000	28.754140	0.999979
	C _i vs C _c	Current	1.000000	-0.000011	0.999980
NO ₂	R _c vs C _c	Previous	149.826200	45.494920	0.999987
		Current	151.163500	33.696040	0.999962
	C _i vs C _c	Current	1.000000	0.000002	0.999962
NO _x	R _c vs C _c	Previous	149.950100	28.782510	0.999987
		Current	151.330600	9.446004	0.999995
	C _i vs C _c	Current	1.000000	-0.000030	0.999995

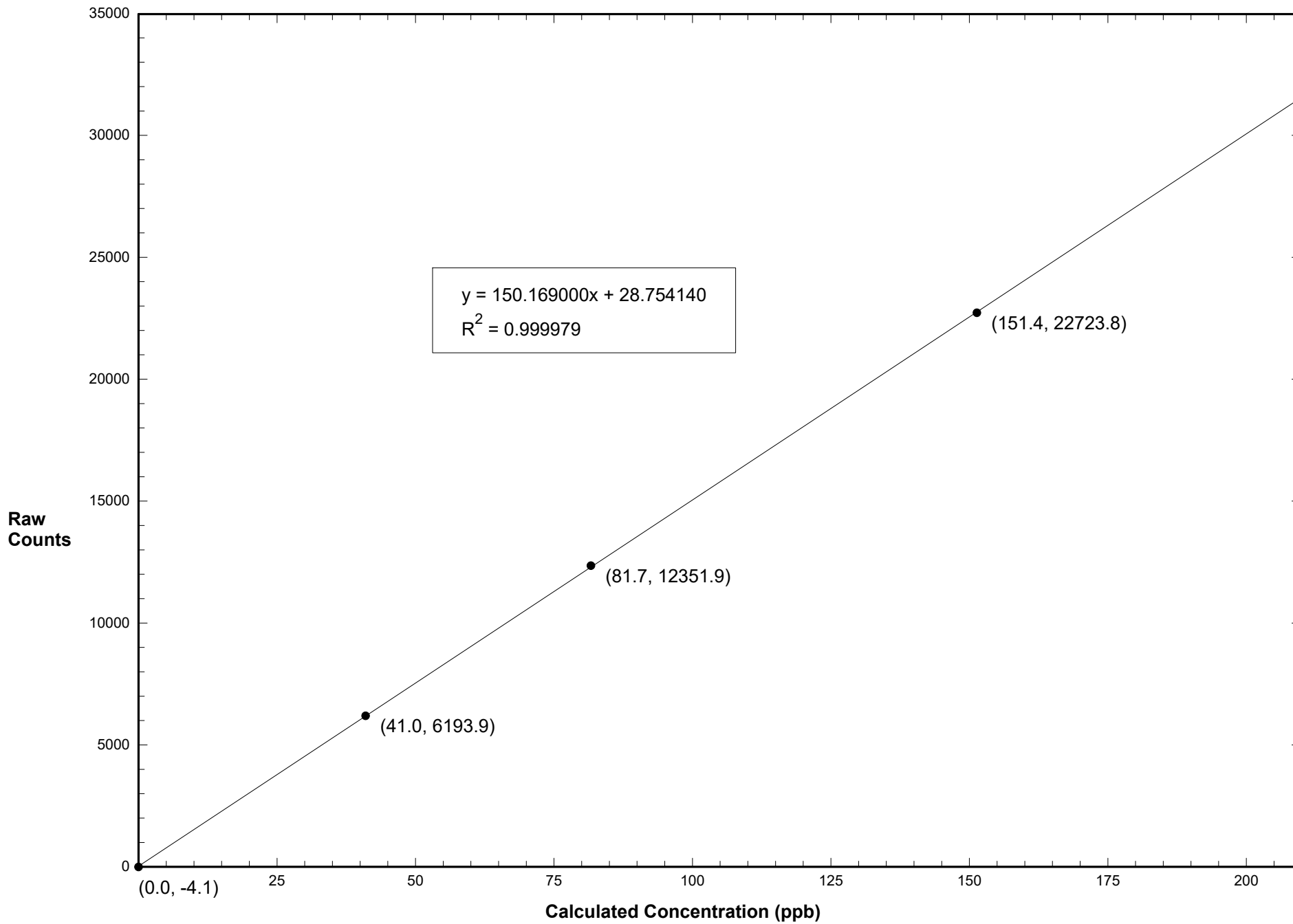
Comments:

Calibration Data Summary (Page 2)

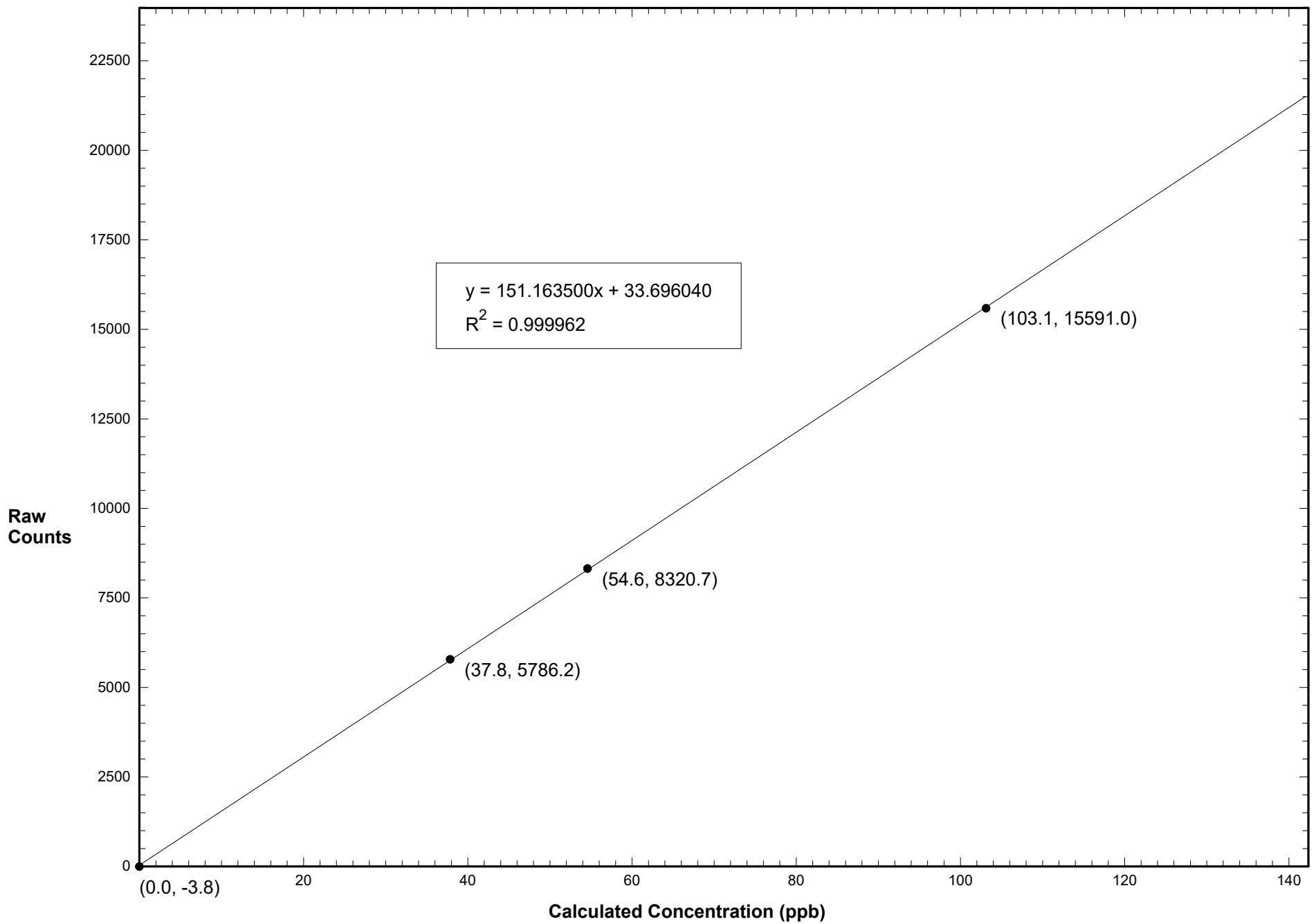
September 4, 2016 - Station 906

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		
0.07506	6.124	151.4	22723.8	151.1	1.001		
0.04012	6.100	81.7	12351.9	82.1	0.995		
0.02005	6.093	41.0	6193.9	41.1	0.999		
0.00000	6.000	0.0	-4.1	-0.2			
NO Calibration					Average Correction Factor:	0.998	
0.07506	6.124	151.4	22897.1	151.2	1.001		
0.04012	6.100	81.7	12400.1	81.9	0.998		
0.02005	6.093	41.0	6214.8	41.0	1.000		
0.00000	6.000	0.0	-5.4	-0.1			
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
151.5	7296.9	48.4	103.1	15591.0	102.9	1.002	0.998
151.5	14587.2	96.9	54.6	8320.7	54.8	0.996	1.004
151.5	17099.7	113.7	37.8	5786.2	38.1	0.994	1.006
			0.0	-3.8	-0.2		
					Average Correction Factor:	0.997	
NO ₂ Gas Phase Titration					Average Converter Efficiency: 1.003		
Parameter	Correction Factor (Previous)	Correction Factor: (Current)	Percent Change of Correction Factor				
NO	0.998	1.001	0.3				
NO ₂	0.996	1.002	0.6				
NO _x	0.998	1.001	0.3				

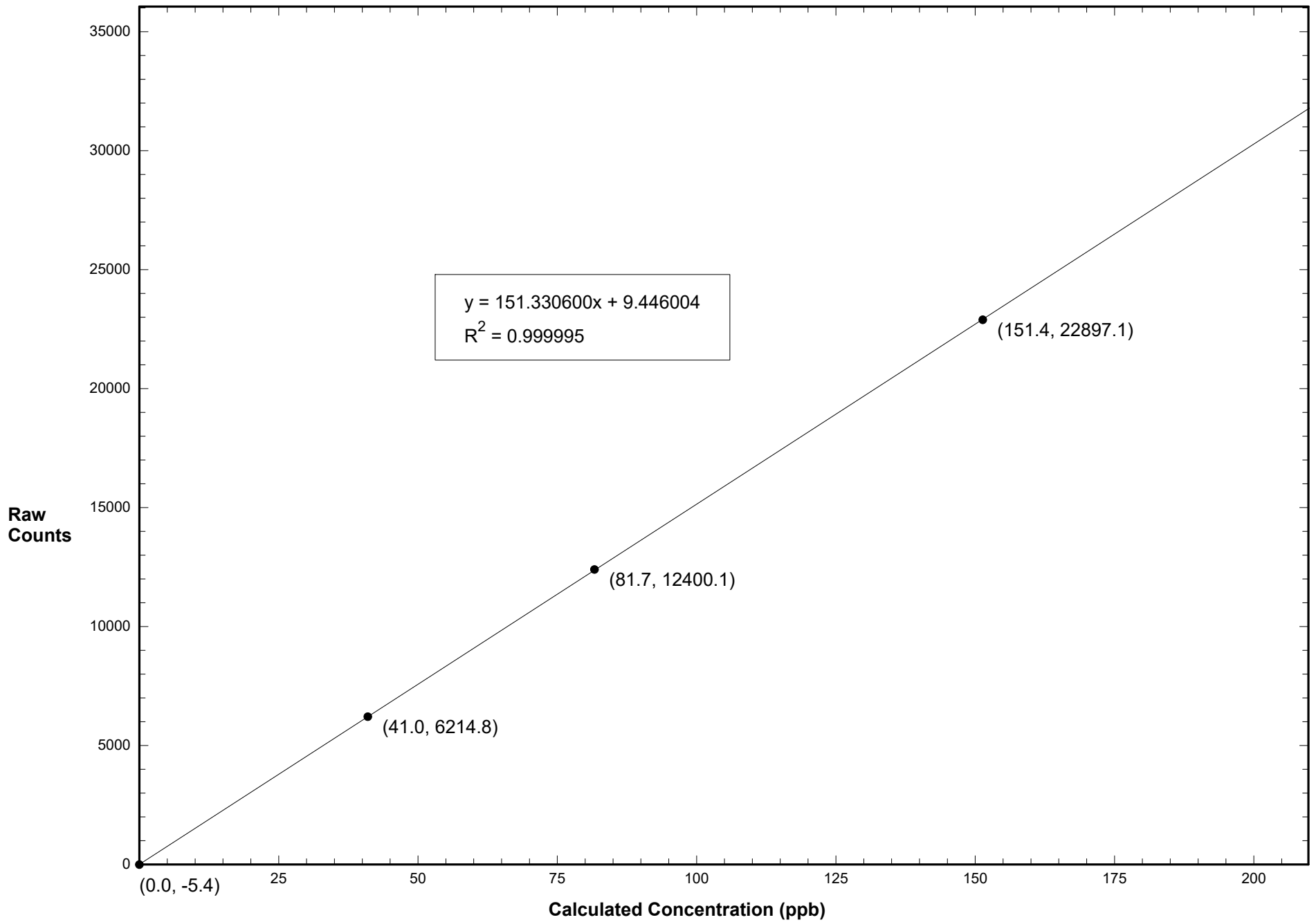
Station 906 NO September 4, 2016: Linear Regression



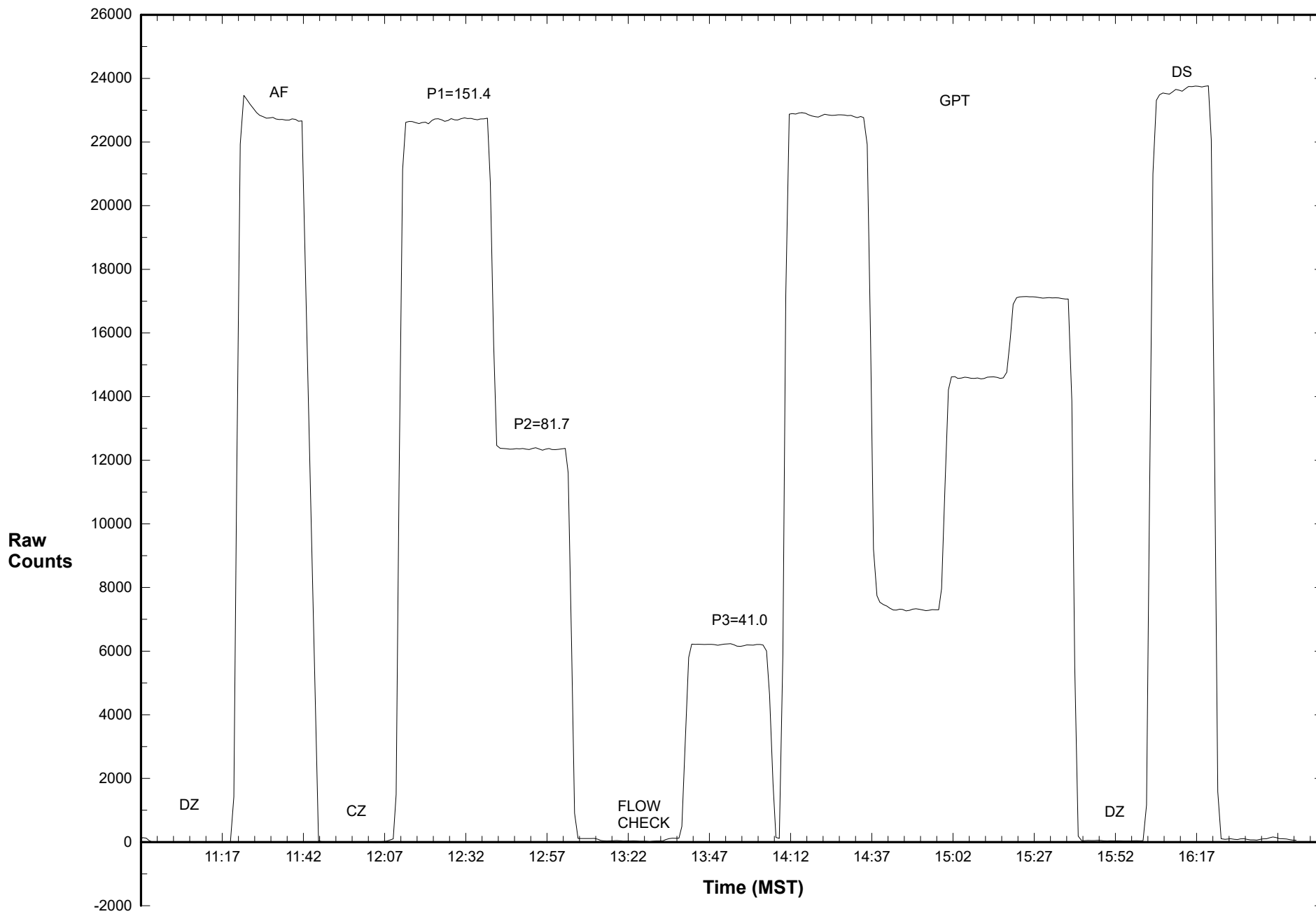
Station 906 NO2 September 4, 2016: Linear Regression



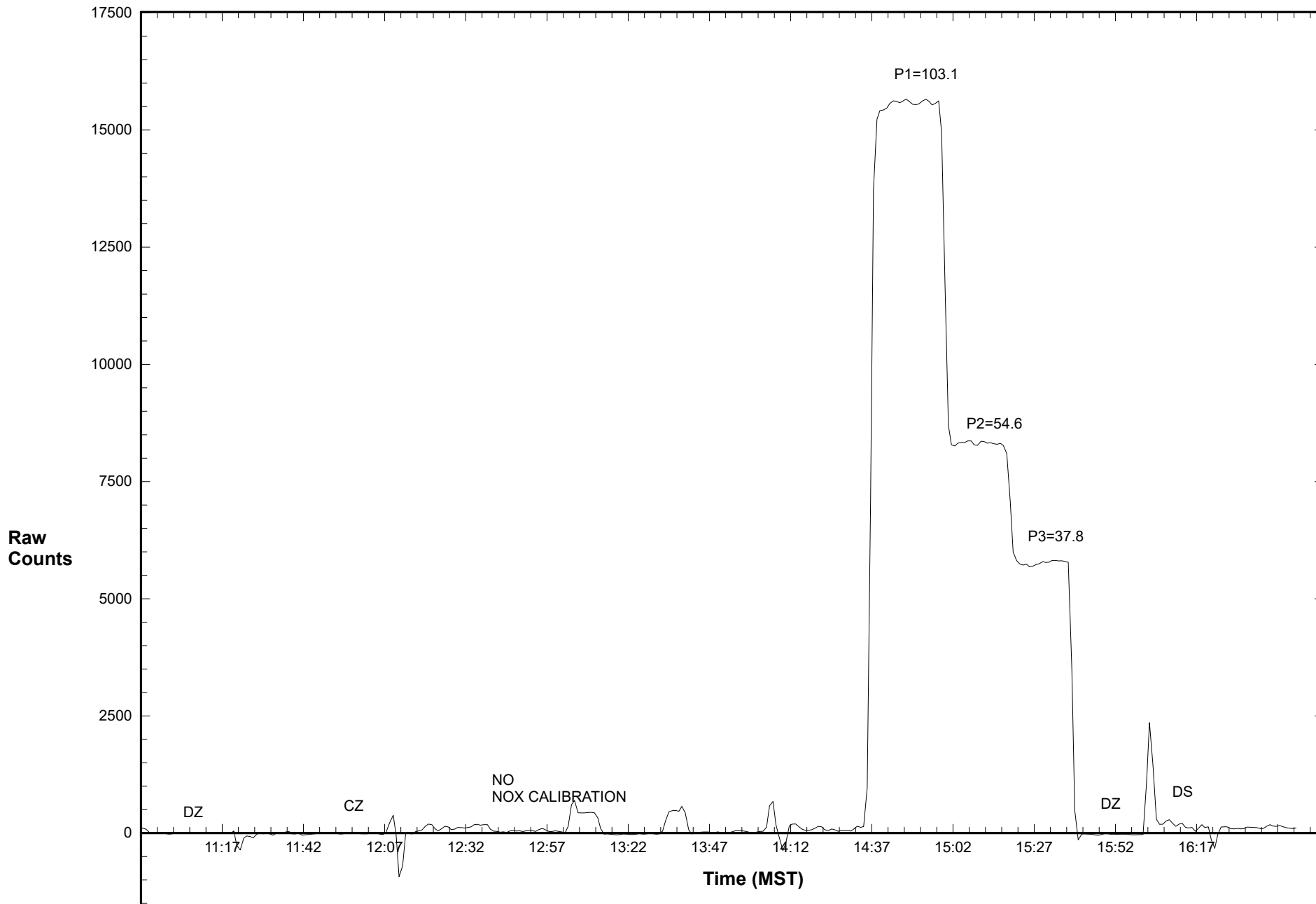
Station 906 NOX September 4, 2016: Linear Regression



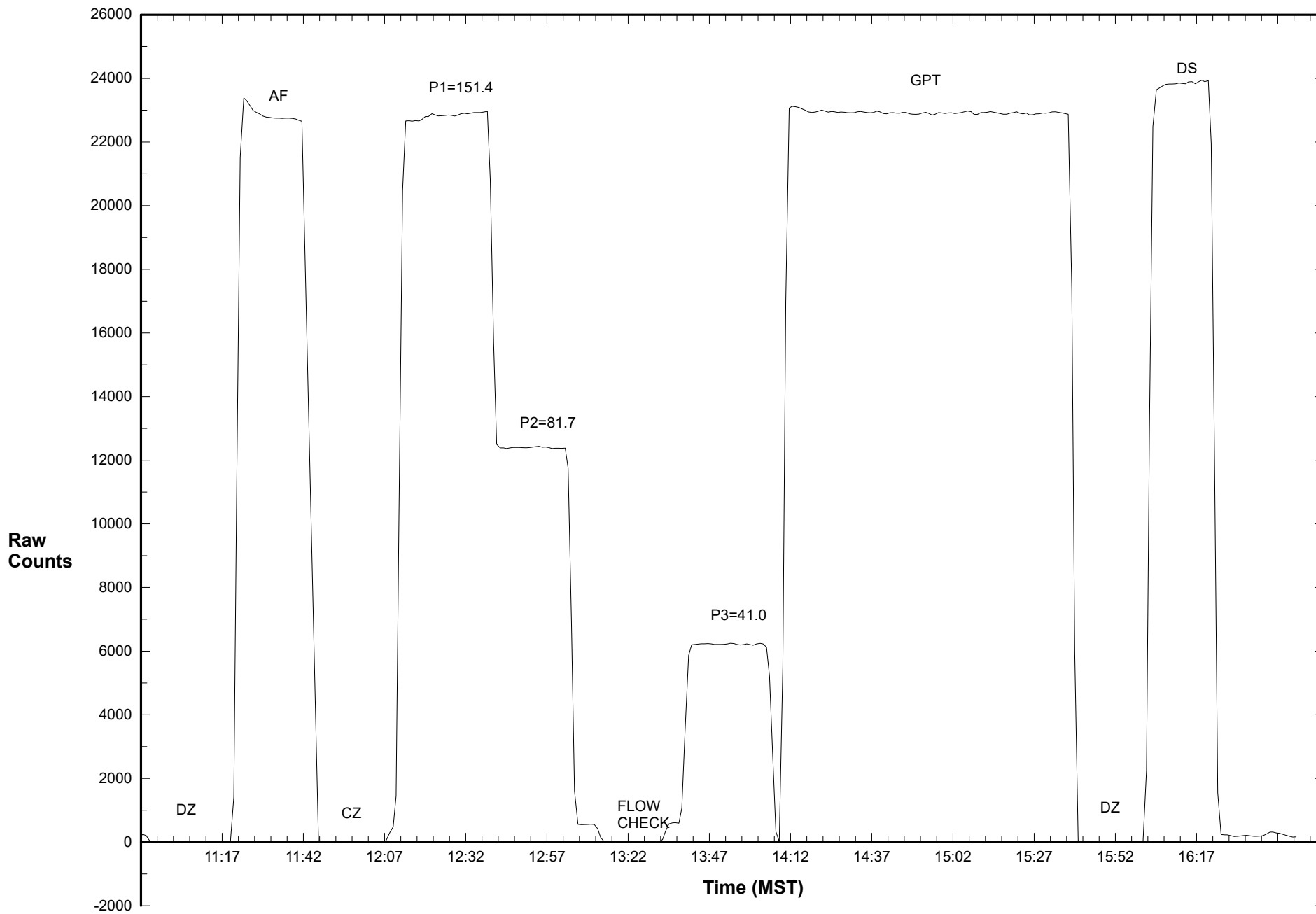
Station 906 NO September 4, 2016: Calibration Graph



Station 906 NO2 September 4, 2016: Calibration Graph



Station 906 NOX September 4, 2016: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 906, Hinton

Calibration Date: September 4, 2016

Parameter: O₃

Instrument: Teco 49i

Serial Number: 1150790050

Previous Calibration Date: August 24, 2016

Calibration: Routine

Calibration Equipment: 2B Tech Model 306 SN142

Barometric Pressure: 26.70" Hg

Calibration Method: Certified Ozone Generator

Temperature: 21.7° C

Technician: L. Burns

Instrument Settings	Background	Coefficient	Monitoring Range
Previous	0.0	1.017	500 ppb
Current	-0.4	1.014	500 ppb

Final Zero: -1.2 ppb

Final Span: 343.6 ppb

As Found Correction Factor: 0.981

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	23995.4	398.0	1.002
3.000	214.0	13022.3	215.4	0.993
3.000	105.0	6429.4	105.7	0.993
3.000	0.0	3.4	-1.2	

Results of Linear Regression

R _c vs C _c	Slope	Intercept	R ²
Previous	60.010940	33.752750	0.999961
Current	60.094100	75.733110	0.999943
C _i vs C _c			
Current	1.000000	0.000070	0.999943

Average Correction Factor: 0.996

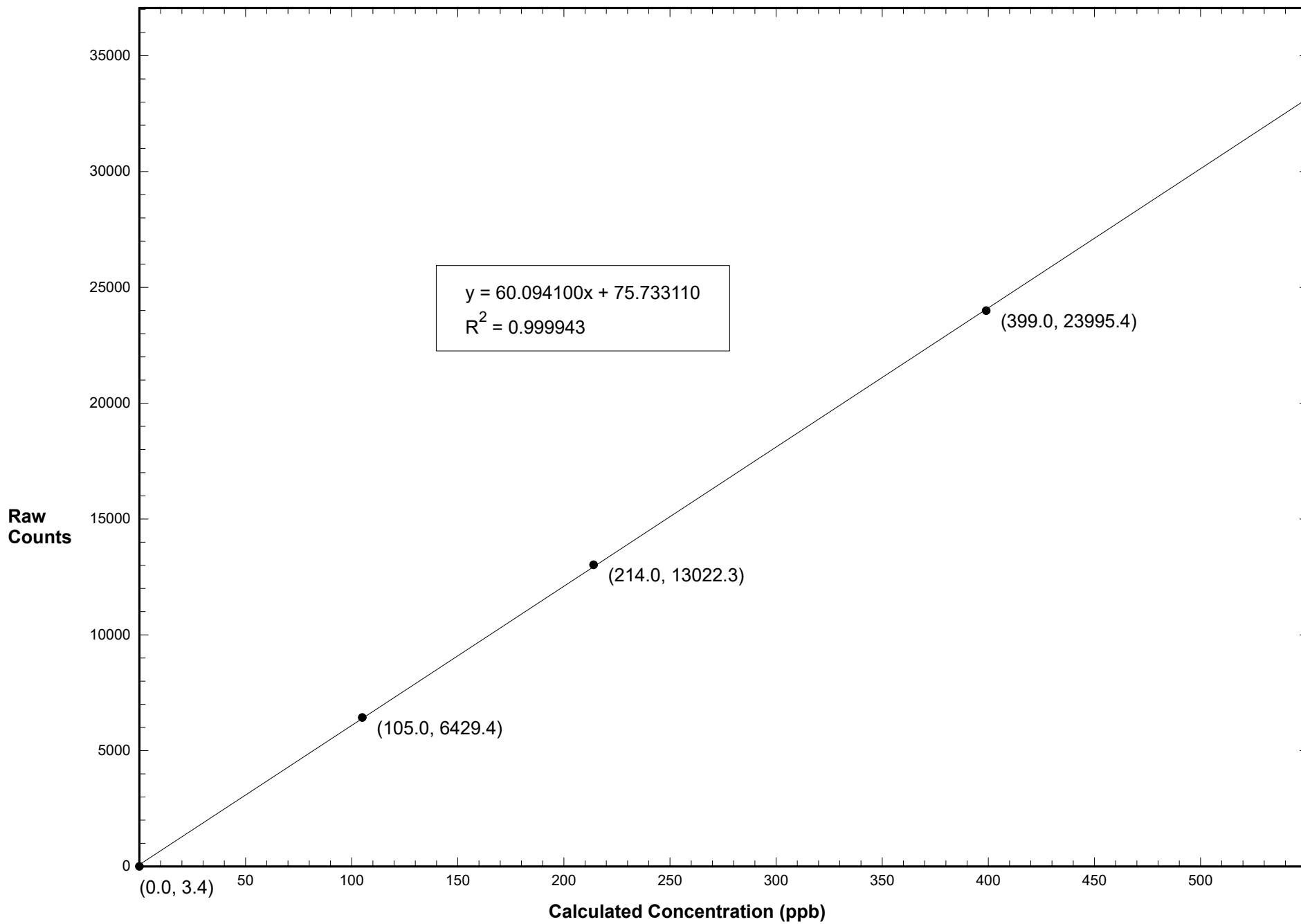
Previous Correction Factor: 0.999

Current Correction Factor: 1.002

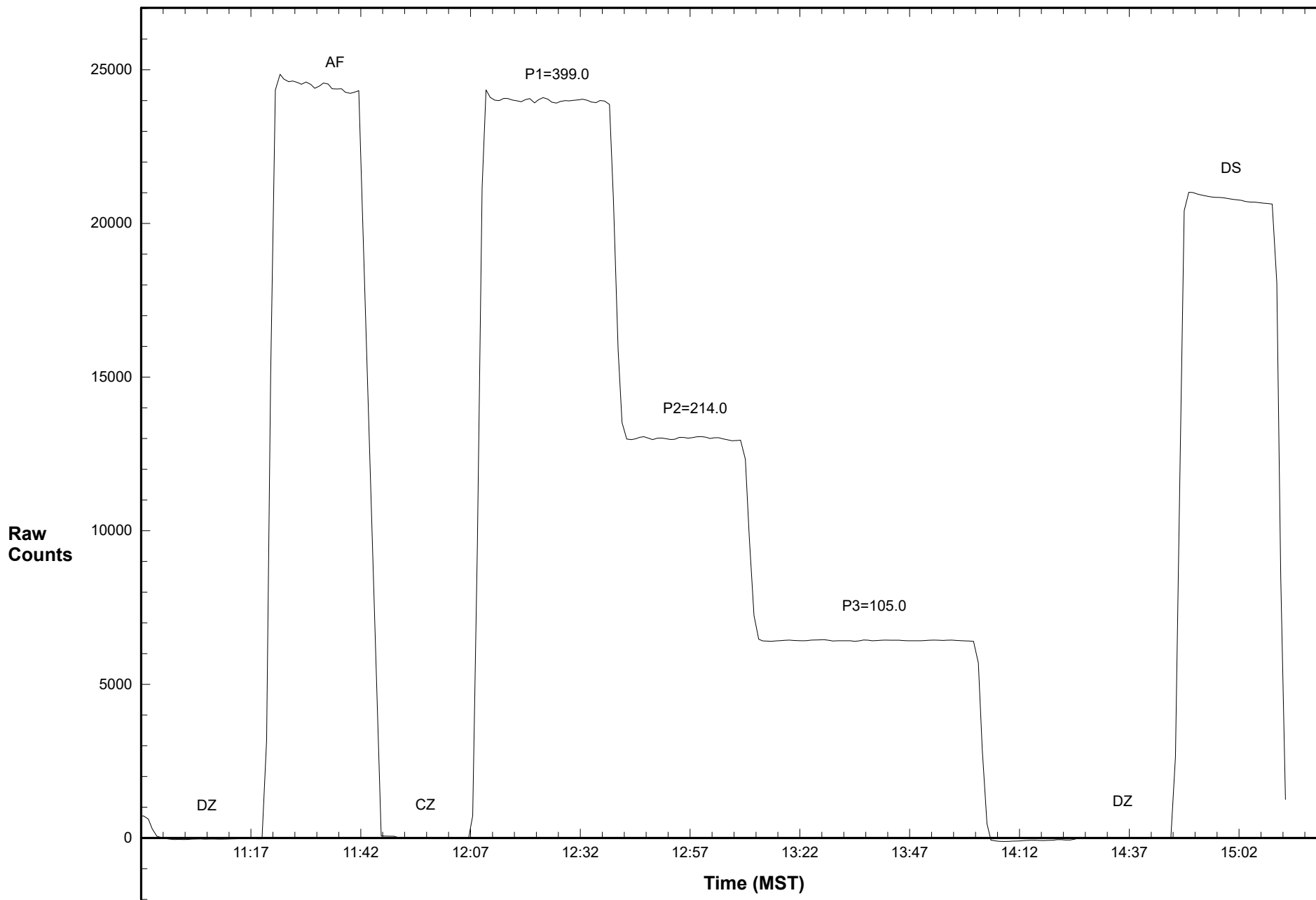
Percent Change of Correction Factor: 0.3

Comments:

Station 906 O3 September 4, 2016: Linear Regression



Station 906 O3 September 4, 2016: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 906, Hinton

Calibration Date: September 4, 2016

Parameter: SO₂

Instrument: TECO 43i

Serial Number: CM12499009

Previous Calibration Date: August 24, 2016

Calibration: Routine

Calibration Equipment: Sabio 2010 SN 08600312

Barometric Pressure: 26.70" Hg

Calibration Method: Standard Gas Dilution

Permeation Device ID:

Temperature: 21.7° C

Permeation Rate: 0 ng/min

In Service: January 14, 2015

Technician: L. Burns

Instrument Settings	Zero Pot	Span Pot	Monitoring Range
Previous	26.9	1.029	100 ppb
Current	25.8	0.980	100 ppb

Final Zero: -0.1 ppm

Final Span: 70.1 ppm

As Found Correction Factor: 0.954

Calibration System Flow Rate (LPM)	Calculated Concentration C _c (ppm)	Raw Count Output R _c	Indicated Concentration C _i (ppm)	Correction Factor C _c /C _i
0.075	74.0	22117.9	74.0	0.999
0.040	39.9	11922.8	39.9	1.000
0.020	20.0	5956.3	19.9	1.005
0.000	0.0	22.1	0.1	

Results of Linear Regression

R _c vs C _c	Slope	Intercept	R ²
Previous	297.906500	60.676700	0.999995
Current	298.846400	-2.457175	0.999993
C _i vs C _c			
Current	1.000000	-0.000015	0.999994

Average Correction Factor: 1.002

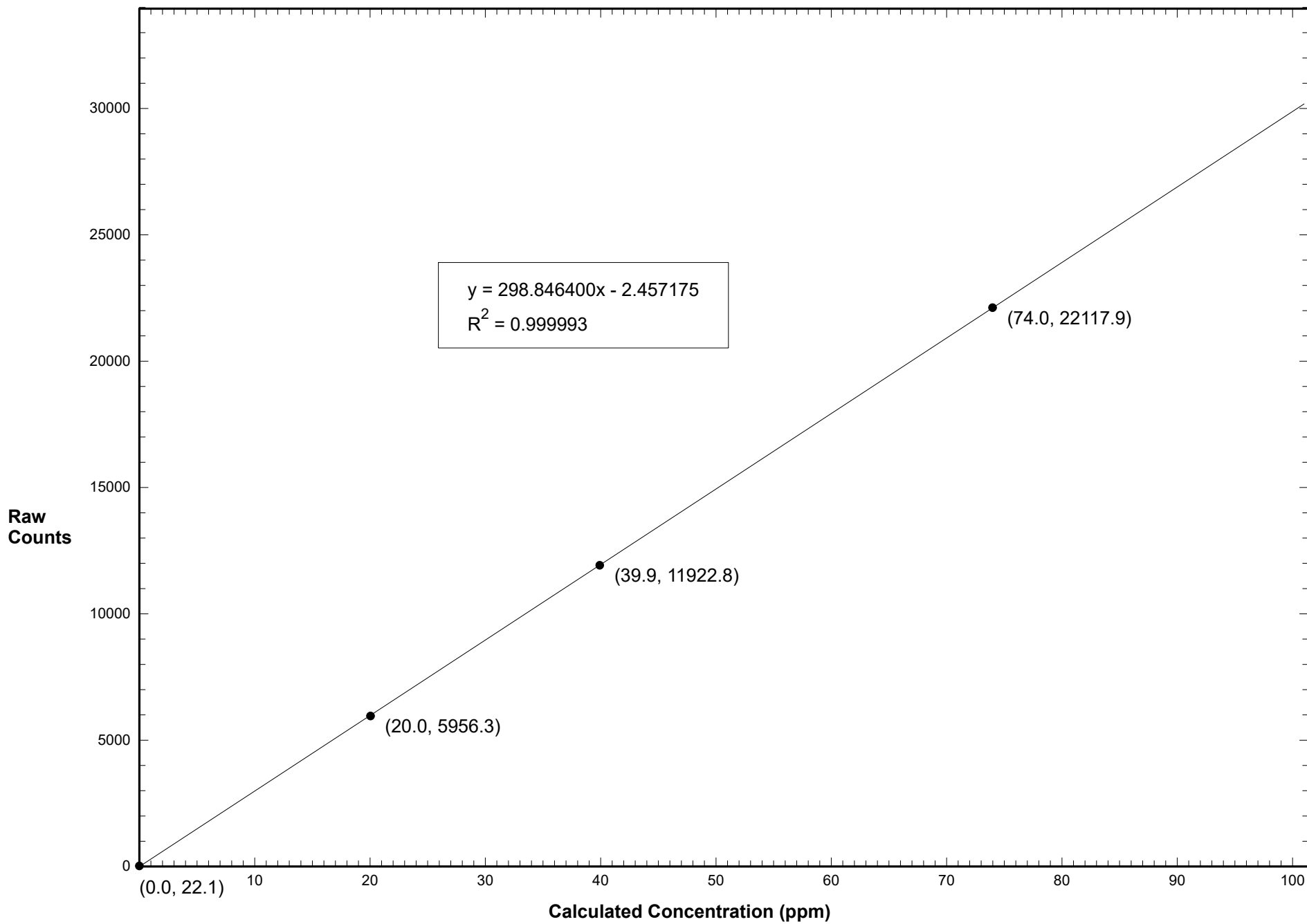
Previous Correction Factor: 0.999

Current Correction Factor: 0.999

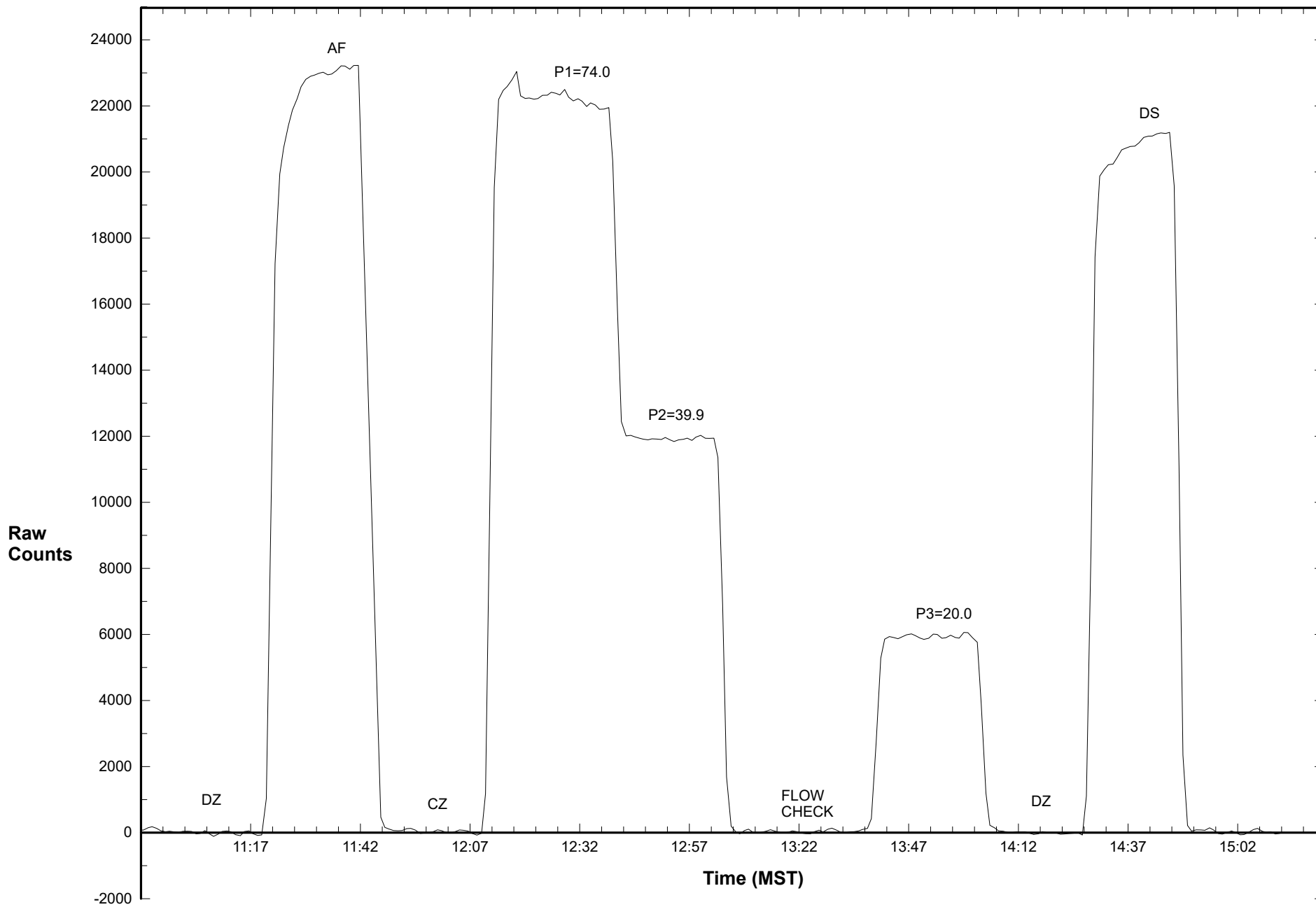
Percent Change of Correction Factor: 0.0

Comments:

Station 906 SO2 September 4, 2016: Linear Regression



Station 906 SO2 September 4, 2016: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 906, Hinton

Calibration Date: September 4, 2016

Parameter: TRS

Instrument: Teco 43C

Serial Number: 43CTL-60324-326

Previous Calibration Date: August 24, 2016

Calibration: Routine

Calibration Equipment: Sabio 2010 SN 08600312

Barometric Pressure: 26.70" Hg

Calibration Method: Standard Gas Dilution

Permeation Device ID: SV14360, 4.89 ppm H₂S

Temperature: 21.7° C

Permeation Rate: 0 ng/min

In Service: February 5, 2013

Technician: L. Burns

Instrument Settings

H₂S bkg ppb

H₂S Coefficient

Monitoring Range

Previous

2.56

0.835

100 ppb

Current

1.66

0.783

100 ppb

Final Zero: 0.4 ppb

Final Span: 67.5 ppb

As Found Correction Factor: 0.931

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

0.091	72.1	21656.3	72.2	1.000
0.051	40.6	12134.4	40.6	1.001
0.026	20.5	6045.6	20.4	1.003
0.000	0.0	-95.9	0.0	

Results of Linear Regression

R _c vs C _c	Slope	Intercept	R ²
Previous	299.681500	1.121103	0.999912
Current	301.639900	-110.630300	0.999998
C _i vs C _c			
Current	1.000000	-0.000004	0.999998

Average Correction Factor: 1.001

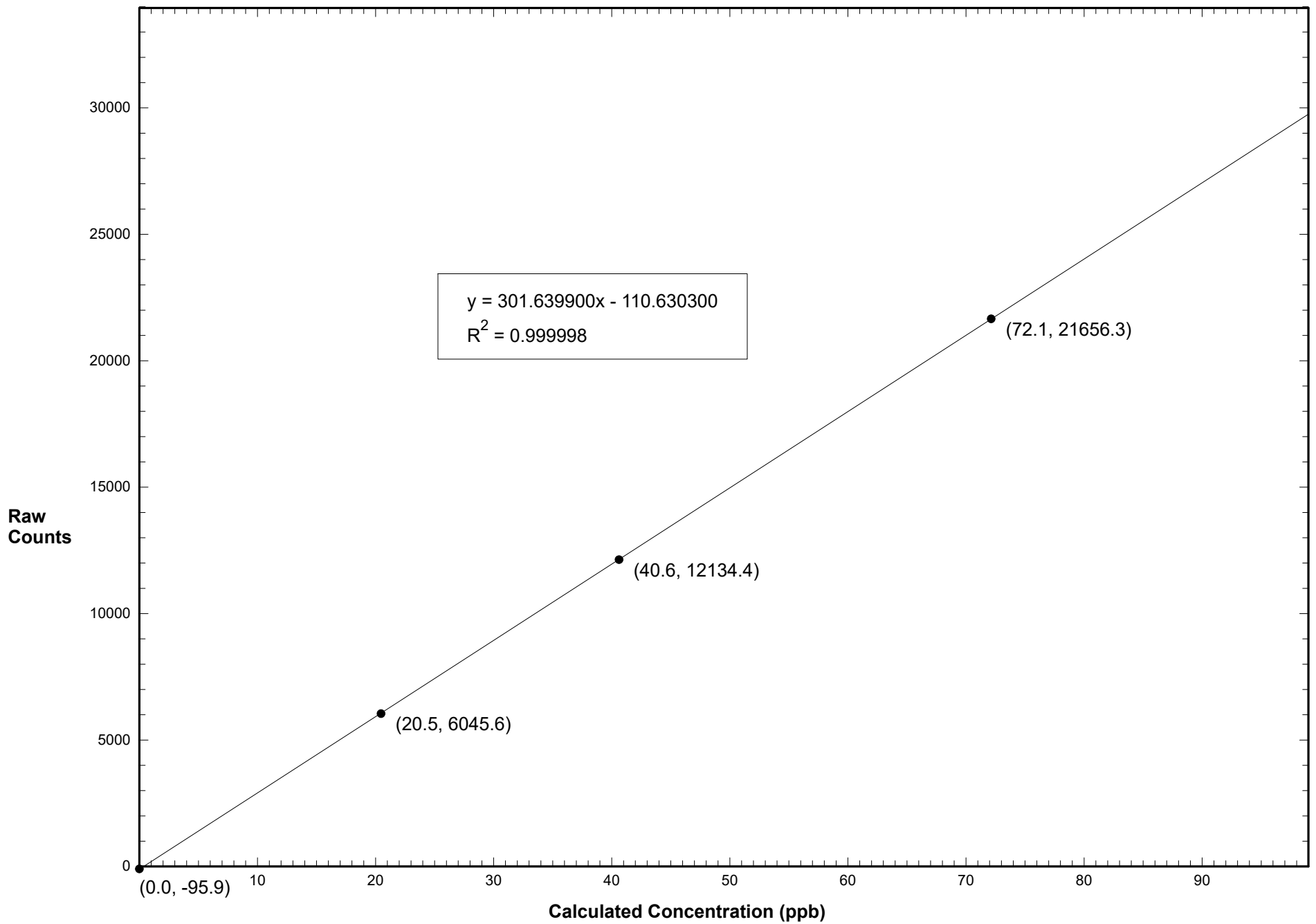
Previous Correction Factor: 1.005

Current Correction Factor: 1.000

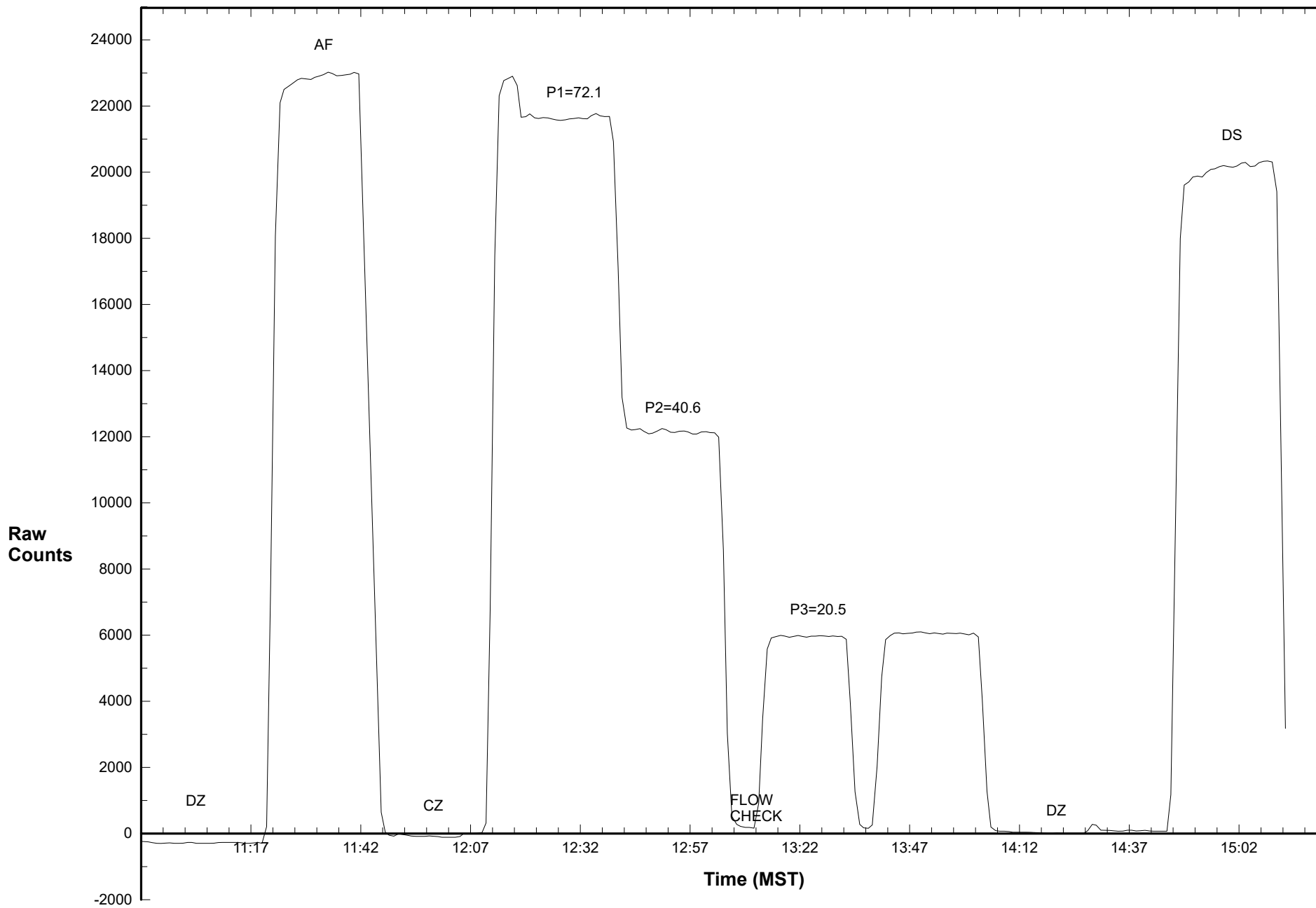
Percent Change of
Correction Factor: -0.5

Comments:

Station 906 TRS September 4, 2016: Linear Regression



Station 906 TRS September 4, 2016: Calibration Graph



WEST CENTRAL AIRSHED SOCIETY

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

**AMS 906
HINTON
SEPTEMBER 2016**

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
September 2016

Maximum Value: 24.26 C on Sep 14 14:00 Maximum Daily Average: 17.87 C on Sep 26																						Hours in Service: 720				
Minimum Value: -3.4 C on Sep 28 07:00 Minimum Daily Average: 4.30 C on Sep 28																						Hours of Data: 720				
Maximum Diurnal Average: 15.93 C at hour 15 Minimum Diurnal Average: 3.84 C at hour 7																						Hours of Missing Data: 0				
Monthly Average: 9.535 C Percentiles: P₁ = -2.4 P₁₀ = 1.5 Q₁ = 5.3 Median = 9.3 Q₃ = 13.9 P₉₀ = 17.2 P₉₉ = 23.4																						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-Sep	13.9	12.5	11.9	11.6	12.1	11.7	11.3	10.6	11.2	11.8	15.1	18.3	19.8	20.6	19.9	18.5	18.1	18.8	17.3	14.7	13.0	11.7	10.6	9.7	14.37	20.59
2-Sep	9.1	9.3	8.9	8.8	8.4	8.5	8.6	8.9	9.2	9.6	10.9	11.4	12.6	14.1	14.0	9.7	10.8	11.0	10.3	9.5	9.1	8.4	8.0	7.6	9.87	14.14
3-Sep	7.1	6.4	5.9	6.1	5.7	5.5	5.9	6.4	6.5	8.6	10.3	10.8	10.9	11.8	11.5	11.2	10.5	9.8	9.0	7.7	6.8	6.4	6.0	5.6	8.02	11.77
4-Sep	5.0	4.6	4.3	4.3	4.2	4.1	4.1	4.4	5.0	5.9	7.4	8.4	10.1	11.5	12.3	13.1	12.1	11.5	11.0	9.7	8.8	7.6	6.7	6.2	7.59	13.07
5-Sep	6.0	5.8	5.3	5.1	5.3	4.9	4.8	5.7	6.7	8.3	9.3	10.7	10.8	11.5	11.8	8.6	9.7	9.2	8.7	7.6	6.4	5.2	4.0	3.6	7.29	11.77
6-Sep	3.2	2.9	2.6	2.0	1.4	1.1	1.6	2.3	3.7	5.7	9.9	13.6	13.5	15.5	14.4	16.6	15.2	14.7	12.6	11.5	10.2	8.9	7.5	6.0	8.19	16.58
7-Sep	5.2	5.0	4.7	4.6	4.4	4.5	4.3	5.3	9.6	13.0	15.1	17.2	17.9	17.6	17.5	17.6	16.9	16.0	14.3	11.8	10.7	10.3	9.9	9.4	10.95	17.90
8-Sep	8.5	8.3	7.9	7.8	7.3	6.9	6.7	6.8	8.0	10.2	10.7	10.9	11.0	12.6	13.3	13.9	13.0	13.0	11.3	9.8	9.6	8.6	7.4	7.2	9.62	13.94
9-Sep	7.2	6.5	4.9	3.7	2.4	1.7	1.0	2.9	6.8	10.0	12.6	14.4	15.0	15.9	15.7	16.0	15.4	15.1	14.6	14.2	14.4	14.9	14.8	14.7	10.62	16.05
10-Sep	13.9	13.8	13.6	12.6	11.0	9.0	8.0	8.5	11.4	14.6	17.1	17.2	17.4	16.0	16.3	15.1	14.6	13.1	11.5	10.8	10.3	9.3	7.8	7.0	12.49	17.37
11-Sep	6.5	7.3	6.5	6.6	6.7	6.0	5.9	5.9	5.1	5.2	5.9	6.9	8.3	8.8	9.5	9.2	9.7	8.8	7.4	5.4	5.0	4.8	3.8	3.6	6.62	9.73
12-Sep	3.5	3.1	3.1	1.8	0.7	-0.3	-1.2	0.3	3.9	7.4	9.5	12.1	13.4	14.3	15.3	16.5	17.2	15.8	13.8	11.2	8.3	5.9	4.4	3.0	7.63	17.17
13-Sep	2.2	1.3	0.7	0.2	0.0	-0.2	-0.3	2.4	10.2	12.3	14.6	17.2	19.0	20.7	22.2	23.0	23.5	23.3	21.0	17.7	13.5	11.0	8.8	7.2	11.31	23.53
14-Sep	6.2	5.2	4.9	4.6	4.0	3.7	3.5	5.7	11.8	15.4	17.9	20.9	22.9	24.3	23.6	22.9	23.1	23.9	20.6	18.3	16.7	16.3	16.2	13.1	14.40	24.26
15-Sep	10.8	9.1	7.5	6.5	5.3	4.5	3.8	5.1	9.8	13.9	17.2	19.8	21.9	22.9	23.7	23.3	24.2	24.0	20.3	16.3	12.8	10.8	8.8	7.4	13.74	24.20
16-Sep	6.3	5.4	4.7	4.9	5.5	6.0	5.9	6.2	9.2	14.7	19.4	21.7	22.7	22.8	22.3	22.2	21.7	20.3	18.0	15.4	14.3	13.0	11.7	11.2	13.55	22.81
17-Sep	10.7	10.2	10.0	9.7	9.5	9.3	8.2	8.4	11.0	15.6	17.6	17.3	17.5	18.1	17.7	17.1	16.7	16.0	14.5	13.5	10.1	8.0	7.5	7.1	12.55	18.06
18-Sep	7.5	7.4	6.9	6.9	6.8	6.3	5.9	6.1	7.0	10.5	13.7	15.3	15.3	15.9	15.7	15.0	14.7	13.3	12.1	9.3	7.7	5.7	4.1	2.7	9.66	15.90
19-Sep	1.5	0.6	0.0	0.2	0.4	0.9	1.3	1.9	5.1	8.7	12.0	13.8	13.6	13.8	14.2	10.9	11.4	10.3	9.8	8.9	8.3	7.4	7.0	6.7	7.03	14.16
20-Sep	6.0	5.6	5.6	5.5	5.3	4.9	4.7	5.2	7.3	8.9	10.5	10.7	10.6	11.3	12.0	11.0	8.4	9.3	7.7	6.5	4.7	3.2	2.0	1.2	7.00	11.99
21-Sep	1.0	0.2	-0.3	-0.6	-0.9	-1.0	-1.2	-0.9	1.6	5.2	8.7	11.3	13.3	15.0	15.5	16.0	16.0	15.2	13.3	11.0	8.4	5.9	3.8	2.1	6.61	16.02
22-Sep	0.7	-0.5	-1.4	-1.9	-1.9	-2.3	-2.6	-1.9	1.3	4.6	8.1	10.9	13.3	15.5	17.3	17.2	16.6	15.3	13.8	11.4	9.0	6.9	6.4	5.0	6.70	17.30
23-Sep	3.6	2.4	1.5	0.8	0.5	-0.1	-0.2	0.0	0.9	3.7	9.7	16.4	17.7	17.3	17.2	17.7	16.4	15.0	13.9	13.0	11.9	11.2	11.4	11.0	8.87	17.68
24-Sep	10.6	9.1	8.5	8.1	7.2	5.3	4.1	2.7	7.4	11.8	13.0	13.7	14.3	15.1	15.3	15.0	14.7	13.4	11.3	10.0	7.9	5.6	4.4	3.2	9.66	15.28
25-Sep	2.7	1.9	1.0	0.3	0.1	-0.3	-0.1	0.5	1.5	4.6	8.8	11.9	14.2	15.1	15.7	16.7	16.7	16.2	15.1	14.4	14.2	13.6	12.7	13.1	8.78	16.69
26-Sep	13.1	11.7	13.9	16.0	16.3	15.3	15.6	14.9	14.4	17.0	20.1	20.8	21.5	22.2	22.6	23.5	22.3	20.8	19.5	18.4	17.8	17.4	17.4	16.6	17.87	23.46
27-Sep	15.2	12.7	13.1	11.8	9.2	8.0	7.1	6.4	6.7	7.8	10.7	13.4	14.6	15.3	15.2	14.9	14.1	12.6	10.8	9.5	8.2	5.6	2.9	1.1	10.29	15.31
28-Sep	-0.2	-1.4	-2.1	-2.6	-2.8	-3.1	-3.4	-3.0	0.0	2.2	4.8	8.0	10.6	12.7	14.0	14.8	14.7	13.5	10.5	7.3	4.5	2.6	1.4	0.1	4.30	14.81
29-Sep	-0.9	-1.5	-1.9	-1.9	-2.3	-2.4	-2.5	-2.3	-0.3	3.2	5.8	7.8	10.9	12.6	12.7	12.4	12.2	11.5	9.8	8.0	5.8	4.5	2.9	1.9	4.41	12.65
30-Sep	1.4	2.4	3.1	3.5	3.9	4.2	4.3	5.1	5.2	5.7	6.1	6.6	7.3	8.2	9.7	9.3	8.4	8.0	7.6	7.5	7.4	7.3	7.1	6.7	6.09	9.66
																								Diurnal Average		
																								Diurnal Maximum		



WCAS - Hinton
Summary of Hourly Averages

Wind Speed (WS) - kph
September 2016

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	1.3	0.7	2.8	2.4	0.6	5.8	1.2	1.7	3.5	3.0	2.5	6.0	3.7	11.3	10.7	6.4	4.7	5.3	0.8	3.8	2.0	0.5	0.9	2.49	11.29
Dir	SE	ENE	E	SW	S	WNW	SSW	SSW	SW	SSW	SSW	WSW	SW	WSW	SW	SW	SW	WSW	SW	NNE	ENE	ENE	NNE	E	SW	SW
2 Spd	0.8	1.0	0.4	1.4	0.8	1.3	1.0	0.9	0.6	2.4	2.0	1.2	1.6	1.8	0.4	2.5	3.2	1.6	1.9	1.5	0.9	1.2	1.1	0.2	0.46	3.19
Dir	NNE	SE	NNE	ENE	NE	NE	NE	ENE	WSW	SW	W	WNW	WNW	WSW	WNW	ENE	E	NNE	ENE	NE	NE	N	ESE	N	NE	E
3 Spd	0.4	0.5	0.8	0.5	2.3	0.6	0.4	0.6	0.2	2.0	1.9	1.1	1.7	5.0	4.0	3.6	3.9	4.1	3.3	2.7	1.5	1.6	0.7	0.3	1.25	5.01
Dir	W	NW	NNW	S	SSW	ENE	NNW	WNW	WSW	WSW	NW	WSW	SSW	N	N	NNW	N	NNW	N	N	NNE	N	NW	NW	NNW	N
4 Spd	0.8	1.8	0.3	0.9	0.6	3.2	3.0	3.6	3.9	4.0	3.1	3.8	3.7	4.5	4.5	4.1	3.2	4.6	4.4	3.8	3.2	1.7	3.7	2.6	2.83	4.58
Dir	NNE	ESE	ESE	E	NNE	ENE	ENE	ENE	ENE	ENE	NE	NE	NNE	NE	NNE	NNE	NNE	E	E	ENE	ENE	ENE	ENE	ENE	ENE	E
5 Spd	1.1	0.2	0.3	0.2	0.5	0.8	0.4	1.7	0.3	0.5	2.3	1.5	4.1	0.5	2.3	0.5	2.5	1.0	4.6	1.2	1.1	1.6	0.2	1.4	0.36	4.65
Dir	NNE	N	NNW	NE	NW	W	N	E	NNE	NW	S	NW	SSW	NE	N	NW	NE	WSW	SSW	W	SSW	SW	SW	WSW	WSW	SSW
6 Spd	0.9	0.5	0.8	1.4	1.3	0.8	0.9	1.2	1.5	1.3	2.2	2.5	1.5	7.5	3.3	1.2	2.4	6.1	2.2	2.1	0.7	0.5	0.1	0.1	0.52	7.55
Dir	WSW	SW	SW	WNW	WNW	W	W	W	WSW	WNW	W	WSW	WSW	SSW	SW	WNW	NE	ENE	ENE	E	N	WSW	SSW	N	WSW	SSW
7 Spd	0.1	0.3	1.0	0.2	0.2	0.8	0.2	0.2	0.8	2.6	5.7	3.8	8.2	4.6	9.9	11.5	10.7	4.0	0.7	1.6	1.6	3.0	2.1	1.8	2.19	11.54
Dir	SSW	SW	WSW	NW	NNW	SW	W	NW	N	SSW	SW	W	SW	WSW	SW	SW	SW	SW	SW	WSW	ENE	ENE	ENE	ENE	SW	SW
8 Spd	1.7	1.1	0.4	0.6	0.8	0.8	2.1	0.6	0.8	1.6	1.3	1.7	2.4	2.6	3.0	4.9	3.0	4.4	5.2	1.6	3.1	0.5	1.9	1.2	0.97	5.15
Dir	NNE	E	NE	ESE	NW	ESE	SW	NNW	SW	SW	NNE	NW	WSW	W	NW	NNW	NW	NW	NNW	WSW	SSW	WSW	SW	ESE	WNW	NNW
9 Spd	0.7	0.7	0.2	0.4	0.2	0.3	0.2	0.9	0.6	3.5	8.3	6.8	9.5	10.5	7.6	11.3	8.9	5.3	5.7	5.1	7.0	6.6	6.9	6.1	4.50	11.28
Dir	WNW	WSW	NNE	W	SW	ENE	E	ENE	NNW	SSW	SSW	SW	SW	SW	SW	SW	SW	WSW	SW	SW	SW	SW	WSW	SW	SW	SW
10 Spd	5.4	5.7	6.8	1.4	0.5	0.6	0.7	2.0	2.1	1.8	2.3	3.1	4.1	4.3	4.2	2.1	1.6	6.6	3.7	1.8	4.6	1.8	0.8	2.3	2.13	6.81
Dir	SW	SW	SW	SSW	NNE	ENE	SE	ENE	ENE	SSE	WNW	W	W	SW	SW	NW	WNW	SSW	SW	SW	SW	SSW	W	SSW	SW	SW
11 Spd	1.5	2.0	0.7	0.9	1.6	2.1	1.3	2.7	1.2	1.6	1.9	4.0	5.3	4.1	3.9	3.6	4.1	3.2	2.1	0.4	0.6	0.2	0.3	0.6	1.42	5.27
Dir	E	S	NW	WNW	WSW	SW	NW	NNW	NW	W	NNW	NNW	N	N	N	NE	N	NNW	NNW	NNE	ENE	NW	NNW	N	NNW	N
12 Spd	0.8	0.2	0.2	0.9	1.2	1.4	0.5	0.4	1.7	2.3	6.7	10.1	7.5	7.4	8.4	4.6	2.9	1.0	0.8	0.5	0.4	0.2	0.0	0.2	2.14	10.12
Dir	ESE	NNW	NNW	WSW	W	WSW	WNW	N	W	WSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SW	WNW	E	SE	NW	ENE	NNW	SW	SSW
13 Spd	0.2	0.2	0.4	0.1	0.3	0.4	0.6	1.8	7.9	12.0	12.9	11.1	14.2	13.5	12.3	11.9	9.1	6.7	2.3	1.5	1.2	1.1	0.4	0.4	4.90	14.20
Dir	ESE	NNW	NNE	E	ESE	E	NE	W	SW	SW	SW	SW	SSW	SSW	SW	SW	SSW	SW	SW	WSW	SW	W	SW	SW	SW	SSW
14 Spd	0.9	0.2	0.7	0.7	0.3	0.2	0.3	0.5	2.7	4.2	6.1	8.2	12.2	11.1	1.9	1.3	3.8	1.9	0.7	0.4	2.4	2.2	3.7	1.3	2.00	12.22
Dir	SSW	ESE	E	ESE	W	W	NNW	N	WSW	WSW	SW	SW	SSW	SSW	NW	N	N	W	NW	NNW	SSE	S	SSW	SSW	SW	SSW
15 Spd	2.3	2.3	1.6	0.6	1.2	1.3	2.4	1.2	1.6	1.9	2.4	2.1	6.1	5.5	6.2	1.2	2.6	1.6	0.2	0.8	0.2	0.7	0.6	0.0	1.36	6.22
Dir	SSW	SSW	SSW	SW	W	WSW	WSW	WSW	W	W	WSW	SW	SSW	SSW	SSW	NW	N	N	NE	S	S	SSE	ENE	E	SW	SSW
16 Spd	0.1	0.5	0.2	0.1	0.2	0.1	0.1	0.1	0.6	0.6	0.3	3.3	7.9	9.0	8.7	4.8	3.0	2.2	1.8	2.0	0.6	0.4	0.8	1.2	1.33	9.02
Dir	ESE	WSW	WNW	NNW	WNW	N	NNE	NNW	E	WNW	WSW	W	SW	SW	SW	SW	WSW	SW	N	NE	NE	NE	NE	ENE	SW	SW
17 Spd	0.5	0.2	0.5	1.1	2.5	1.9	0.1	0.6	0.9	3.9	5.9	9.9	6.4	7.8	4.9	6.9	3.0	2.4	2.3	1.6	2.3	0.3	1.6	0.9	1.83	9.92
Dir	NE	ENE	ENE	ENE	ENE	ENE	NNE	ENE	NE	SW	WSW	SW	SW	SW	WSW	SW	WSW	WSW	WSW	WNW	E	E	SE	WSW	SW	SW
18 Spd	4.0	2.4	1.2	1.7	1.2	1.2	0.7	0.5	0.3	1.9	8.7	7.3	4.5	7.1	9.7	10.5	11.3	12.8	9.0	1.2	0.6	0.5	0.3	0.2	3.90	12.82
Dir	SW	SW	SW	SW	WSW	SW	SSW	WNW	NW	WNW	SW	SW	W	SW	SW	SW	SW	SW	SW	SW	W	W	ENE	NNE	SW	SW
19 Spd	0.2	0.2	0.1	0.5	1.0	1.4	0.2	0.8	1.4	2.0	2.4	0.4	4.6	1.0	3.5	1.3	1.5	3.6	4.7	1.6	1.9	2.6	2.1	2.4	0.96	4.73
Dir	S	ESE	S	W	W	WNW	NNW	SW	S	W	WSW	SSW	S	N	N	SW	ESE	SSE	SSE	SSW	SW	SW	SSW	SW	SSW	SSE
20 Spd	1.0	0.6	1.3	1.1	0.6	0.7	0.8	1.6	2.7	9.4	5.1	2.6	4.4	5.6	4.9	5.0	3.5	3.9	1.4	0.5	1.0	1.3	0.7	0.6	1.89	9.39
Dir	W	WSW	W	SW	NW	W	W	SW	SW	SSW	SSW	SW	SSW	SW	WSW	SSE	NE	SSE	S	NE	S	S	SSW	WSW	SSW	SSW
21 Spd	1.1	0.2	0.5	0.8	0.5	0.8	0.2	0.6	1.3	3.2	3.1	1.7	1.5	2.6	2.9	2.5	3.4	6.5	3.7	3.3	2.3	0.4	1.2	0.8	0.16	6.54
Dir	SSW	WNW	SW	WSW	SW	SW	W	S	WNW	WNW	WNW	WSW	WSW	WNW	NE	N	E	ESE	ESE	E	ENE	W	W	WSW	ENE	ESE
22 Spd	0.4	0.3	0.2	0.1	0.4	0.1	0.3	0.6	0.6	0.8	1.7	2.5	1.3	2.7	5.9	5.5	2.3	1.4	1.4	2.8	1.8	2.5	0.8	0.4	1.00	5.89
Dir	WSW	WNW	ENE	E	SSW	WSW	WNW	WNW	NW	WNW	S	ENE	E	NE	ESE	ESE	E	NE	E	E	ENE	NE	ENE	WSW	E	ESE



WCAS - Hinton
Summary of Hourly Averages

Wind Speed (WS) - kph
September 2016

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	0.2	0.1	0.5	0.4	1.0	1.1	0.6	1.0	2.2	1.0	9.6	8.7	4.0	6.8	7.5	7.4	8.7	11.1	8.8	3.4	3.1	5.0	2.7	3.44	11.09	
Dir	W	WNW	WNW	N	NE	ENE	SE	NE	NE	NE	SW	SW	SW	WSW	SW	WSW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	
24 Spd	2.0	1.1	1.5	2.5	4.6	2.1	2.2	0.4	0.5	7.0	11.0	15.9	15.1	9.1	9.5	10.4	12.2	6.1	1.5	2.1	0.7	0.4	0.5	0.4	4.69	15.89	
Dir	WSW	SW	S	WSW	SW	WSW	WSW	E	W	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	E	NE	NE	ENE	SW	SW	
25 Spd	0.1	0.4	1.8	1.1	2.1	0.3	0.6	2.1	2.1	2.4	1.7	2.4	6.9	9.1	5.7	7.7	12.3	9.5	7.4	4.3	7.1	5.3	1.0	3.5	2.82	12.34	
Dir	SSE	NE	ENE	E	ENE	NNW	NE	NE	ENE	ENE	ENE	SW	SW	SW	WSW	SW	SW	SW	SW	WSW	SW	SW	WSW	SW	SW	SW	
26 Spd	2.7	2.2	4.3	6.4	5.4	0.7	5.9	6.0	2.7	7.0	5.2	8.6	7.2	3.8	3.7	7.9	5.8	5.8	5.0	6.6	11.8	7.1	8.7	4.0	5.22	11.77	
Dir	SSE	NE	WSW	SW	SW	S	SW	SSW	WSW	SSW	WSW	SW	SW	W	WSW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	
27 Spd	1.8	2.5	3.3	4.9	4.0	1.4	4.0	0.3	1.4	2.7	2.1	3.4	8.7	6.9	8.4	9.1	9.1	6.2	2.5	3.1	2.3	1.9	2.3	0.9	1.61	9.12	
Dir	SW	NE	NNE	NNE	ESE	E	SE	NE	SSW	SSW	NE	W	NW	WNW	WNW	NW	NW	NW	N	E	NNE	SSW	SSW	SE	NW	NW	
28 Spd	0.9	0.2	0.3	0.2	0.1	0.1	0.2	0.8	0.1	0.6	0.8	1.8	3.3	3.3	4.4	3.9	4.0	3.7	1.0	0.2	0.1	0.1	0.0	0.1	0.61	4.44	
Dir	SW	WNW	ENE	NE	NW	SSW	NE	E	NNE	WNW	W	S	SSW	NNE	NNE	NNE	NE	ENE	NE	E	SE	NNE	NE	WNW	NE	NNE	
29 Spd	0.1	0.1	0.1	0.2	0.1	0.1	0.3	0.2	0.9	0.3	0.1	2.6	6.1	5.7	8.0	6.5	4.9	4.8	1.4	2.2	0.5	1.5	0.2	0.2	1.75	8.03	
Dir	NNW	ENE	NW	NW	W	W	W	NW	WNW	WSW	ENE	NE	ENE	NE	NE	NE	E	ENE	NE	E	NE	E	ENE	ENE	ENE	ENE	NE
30 Spd	0.1	0.5	0.8	0.1	0.9	0.0	0.4	2.2	0.9	0.7	0.2	1.1	1.6	1.4	2.7	5.2	4.2	6.0	3.2	3.3	2.6	2.7	3.5	4.1	1.50	6.04	
Dir	N	WNW	WNW	N	SW	SE	ENE	S	N	SSW	WNW	NE	NW	E	E	ENE	NE	ENE	NE	NE	NE	NE	NNE	NE	NE	ENE	
Spd	0.55	0.27	0.33	0.34	0.46	0.10	0.49	0.03	0.52	2.04	2.74	3.41	4.28	3.42	2.88	2.64	1.86	1.56	1.22	0.39	0.75	0.63	0.69	0.49	Diurnal Average		
Dir	SW	SSW	WSW	WSW	SW	W	SW	S	WSW	SW	SW	SW	SW	SW	SW	SW	WSW	SW	SW	SSW	SSW	SW	SSW	SSW	Diurnal Maximum		
Spd	5.42	5.68	6.81	6.38	5.45	3.22	5.92	6.01	7.94	11.96	12.90	15.89	15.10	13.53	12.26	11.91	12.34	12.82	11.09	8.83	11.77	7.12	8.70	6.10	Diurnal Maximum		
Dir	233.02	227.22	230.63	234.31	230.45	62.89	214.77	202.54	221.06	217.43	216.85	214.17	213.61	212.51	219.80	216.48	222.72	222.09	222.95	219.93	224.28	229.24	223.71	233.56			
Maximum Speed Value: 15.9 kph on Sep 24 12:00																				Minimum Speed Value: 0.0 kph on Sep 16 00:00				Hours in Service: 720			
Maximum Daily Speed Average: 5.22 kph on Sep 26																				Minimum Daily Speed Average: 0.16 kph on Sep 28				Hours of Data: 720			
Maximum Diurnal Speed Average: 4.28 kph at hour 13																				Minimum Diurnal Speed Average: 0.03 kph at hour 8				Hours of Missing Data: 0			
Monthly Average Velocity: 1.316 kph 228.38 deg																				Speed Percentiles: P ₁ = 0.1 P ₁₀ = 0.2 Q ₁ = 0.7 Median = 1.7 Q ₃ = 3.9 P ₉₀ = 7.1 P ₉₉ = 12.0				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	61	2	0	0	0	0	63																				
NorthEast	116	7	0	0	0	0	123																				
East	68	1	0	0	0	0	69																				
SouthEast	20	2	0	0	0	0	22																				
South	42	4	0	0	0	0	46																				
SouthWest	115	89	20	0	0	0	224																				
West	108	0	0	0	0	0	108																				
NorthWest	58	7	0	0	0	0	65																				
Total	588	112	20	0	0	0	720																				



WCAS - Hinton
Summary of Hourly Averages

Relative Humidity (RH) - %
September 2016

Maximum Value: 91.45 % on Sep 23 09:00 Maximum Daily Average: 88.08 % on Sep 30 Minimum Value: 17.6 % on Sep 15 15:00 Minimum Daily Average: 34.59 % on Sep 26 Maximum Diurnal Average: 84.43 % at hour 8 Minimum Diurnal Average: 35.78 % at hour 15 Monthly Average: 62.966 % Percentiles: P ₁ = 18.3 P ₁₀ = 28.3 Q ₁ = 42.1 Median = 68.6 O ₃ = 84.9 P ₉₀ = 89.0 P ₉₉ = 91.2																								Hours in Service:	720	
																								Hours of Data:	720	
																								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-Sep	74.7	82.2	83.7	85.2	82.7	85.8	86.1	85.9	86.7	82.3	65.0	44.9	30.9	28.9	26.8	28.0	29.6	29.3	32.0	50.6	62.7	65.5	69.8	75.0	61.44	86.69
2-Sep	78.7	78.3	81.3	83.0	86.0	87.4	88.1	88.9	89.1	85.8	78.6	73.9	65.0	54.0	51.9	81.5	79.9	81.7	84.9	87.0	88.6	89.2	89.3	89.1	80.89	89.33
3-Sep	89.6	89.9	90.2	90.5	90.8	90.9	91.0	91.1	90.3	75.9	67.8	63.9	67.6	57.8	56.0	54.5	55.9	56.7	59.5	62.5	64.1	66.4	70.7	73.7	73.64	91.05
4-Sep	74.9	74.4	76.8	78.0	79.1	77.4	76.1	75.2	71.2	69.0	64.8	62.0	57.0	52.9	51.9	50.7	55.1	56.1	58.0	64.0	66.6	73.8	76.6	79.2	67.53	79.17
5-Sep	82.0	83.3	85.3	86.8	87.4	87.8	88.1	87.6	84.3	77.5	72.0	68.5	72.4	70.4	63.0	75.0	77.2	83.0	80.0	85.9	87.8	88.6	88.9	89.4	81.34	89.43
6-Sep	89.7	89.9	90.4	90.8	91.0	91.2	91.3	91.2	91.3	91.4	81.8	60.3	51.1	32.6	40.6	32.5	38.4	41.7	53.5	59.1	65.9	72.6	78.7	84.6	70.90	91.37
7-Sep	86.2	87.3	87.5	88.0	88.2	88.7	88.7	88.7	71.1	55.8	41.3	34.9	30.5	34.2	31.8	28.0	29.3	32.7	40.2	55.8	65.5	69.3	72.3	77.6	61.40	88.72
8-Sep	85.5	86.4	87.5	88.6	89.1	89.5	89.7	89.2	88.8	77.2	70.3	68.0	68.4	57.6	54.4	49.5	52.8	51.8	56.7	65.7	66.4	72.0	78.1	79.4	73.44	89.66
9-Sep	80.5	81.6	85.1	87.1	88.1	88.9	89.4	89.8	80.2	63.4	47.9	38.3	34.3	32.6	34.9	33.7	37.0	40.6	42.1	44.0	43.3	41.6	42.3	43.1	57.91	89.78
10-Sep	47.0	46.0	47.4	52.4	61.9	72.2	76.0	75.1	64.2	51.8	40.1	39.1	34.7	39.0	37.2	45.8	44.3	47.1	57.4	60.3	55.5	59.4	68.5	69.9	53.85	76.05
11-Sep	68.9	64.5	71.1	70.0	69.6	71.3	72.9	69.5	73.7	76.9	72.6	66.3	56.0	52.6	48.6	48.9	44.9	49.1	56.4	67.6	72.6	74.2	79.1	81.4	65.78	81.36
12-Sep	79.9	81.9	82.8	85.0	86.9	88.3	89.0	89.0	78.7	62.5	52.2	35.2	28.3	25.4	23.6	21.5	21.5	28.6	37.4	53.5	66.6	74.6	80.0	82.8	60.64	89.02
13-Sep	85.3	86.8	87.7	88.4	89.0	89.2	89.4	85.6	47.9	39.8	33.5	28.0	25.0	23.1	20.6	19.2	18.8	19.9	25.4	33.6	49.2	57.9	68.8	74.9	53.62	89.35
14-Sep	77.2	79.8	81.1	81.6	83.0	85.2	85.4	79.9	56.4	40.7	33.5	26.3	20.4	17.8	20.5	23.6	21.0	18.4	25.2	32.9	40.7	42.6	40.7	53.4	48.63	85.40
15-Sep	63.1	68.7	73.1	77.2	81.8	84.0	85.2	82.8	65.8	52.2	41.5	34.5	23.6	19.0	17.6	19.8	17.9	17.9	26.8	44.7	57.5	63.0	70.3	75.1	52.62	85.19
16-Sep	78.0	80.9	83.5	83.5	82.3	81.2	81.9	83.2	73.4	51.0	37.5	29.9	24.3	22.7	23.3	24.6	26.3	28.6	39.5	54.4	59.2	65.0	71.2	73.6	56.62	83.47
17-Sep	75.1	77.8	78.8	80.3	82.9	85.0	87.1	88.0	80.3	49.0	34.7	33.9	33.9	29.5	31.4	33.3	38.3	41.5	45.6	49.7	71.9	83.9	88.1	88.5	62.03	88.53
18-Sep	89.1	86.1	86.1	88.0	88.7	89.2	89.2	89.7	89.7	73.8	40.9	32.5	31.7	28.8	28.3	29.3	29.7	33.5	38.1	51.9	57.1	66.3	74.2	79.9	62.16	89.75
19-Sep	83.5	85.9	87.1	87.7	87.6	87.1	86.8	86.5	77.3	62.6	45.6	34.5	33.4	32.7	35.3	56.6	55.0	60.0	59.8	69.6	73.7	79.7	80.9	82.0	67.96	87.65
20-Sep	83.5	86.6	86.8	87.0	87.3	88.1	88.4	88.0	80.5	66.9	60.2	57.0	59.7	57.6	50.0	50.8	75.9	73.3	80.5	83.5	86.7	86.9	87.8	88.5	76.75	88.52
21-Sep	89.2	89.4	89.8	90.2	90.5	90.7	90.8	91.1	90.1	80.8	63.3	50.6	36.7	26.4	24.6	25.1	23.8	26.3	33.0	40.8	51.6	63.5	75.0	80.5	63.07	91.07
22-Sep	84.3	86.6	88.0	88.9	89.5	89.7	89.9	90.0	84.9	66.1	53.2	43.4	38.1	33.0	27.7	28.5	31.9	43.6	52.2	62.3	71.0	77.8	80.4	83.7	66.02	89.99
23-Sep	86.3	87.5	88.5	89.0	89.7	90.4	91.0	91.4	91.5	90.9	67.3	29.4	23.0	24.4	22.3	21.5	24.7	28.0	31.9	36.3	42.3	45.4	44.5	47.0	57.68	91.45
24-Sep	51.5	65.0	70.0	66.6	65.0	70.8	71.4	79.7	62.9	33.7	26.9	24.6	23.3	22.0	20.1	20.6	21.2	24.5	30.3	34.9	46.3	57.6	65.2	69.0	46.79	79.66
25-Sep	73.3	75.5	79.3	81.7	82.3	82.7	84.3	81.9	76.7	66.0	53.4	44.4	39.0	36.8	37.3	33.9	33.2	35.6	40.2	44.1	44.9	48.0	52.6	52.1	57.47	84.30
26-Sep	51.2	57.8	48.9	39.3	36.9	39.2	37.5	40.3	45.3	33.8	24.3	21.6	20.1	21.1	20.8	21.1	24.5	27.8	31.5	35.3	36.1	37.2	37.9	40.4	34.59	57.85
27-Sep	44.3	53.8	54.3	57.6	67.5	76.5	80.7	86.7	88.1	87.0	71.4	43.4	24.4	19.2	17.8	18.0	18.1	20.8	25.1	29.1	33.2	47.5	57.6	66.4	49.53	88.10
28-Sep	73.0	78.5	81.8	83.3	84.8	86.0	86.7	87.0	78.3	67.1	56.3	43.9	35.5	30.3	28.0	27.8	28.7	32.7	45.6	59.0	69.5	75.7	78.7	82.8	62.53	87.03
29-Sep	85.9	87.3	88.0	88.7	89.2	89.5	89.6	89.6	86.5	72.2	61.9	57.6	53.6	51.6	52.4	53.3	53.7	56.7	64.9	72.2	79.3	82.8	85.0	86.5	74.08	89.60
30-Sep	87.6	88.3	88.3	87.8	88.0	88.9	89.7	90.1	90.1	90.3	90.1	90.2	90.2	87.7	75.1	78.2	85.6	87.3	88.4	89.6	90.2	90.5	90.7	91.0	88.08	90.97
																								Diurnal Average	74.68	
																								Diurnal Maximum	90.97	



WCAS - Hinton
Summary of Hourly Standard Deviations

Wind Speed (WS) - kph
September 2016

Maximum Value: 7.63 kph on Sep 24 13:00 Maximum Daily Average: 4.55 kph on Sep 26																								Hours in Service: 720																									
Minimum Value: 0.0 kph on Sep 29 00:00 Minimum Daily Average: 1.23 kph on Sep 28																								Hours of Data: 720																									
Maximum Diurnal Average: 4.31 kph at hour 15 Minimum Diurnal Average: 1.28 kph at hour 3																								Hours of Missing Data: 0																									
Monthly Average: 2.436 kph Percentiles: P₁ = 0.0 P₁₀ = 0.8 Q₁ = 1.2 Median = 2.0 Q₃ = 3.2 P₉₀ = 5.4 P₉₉ = 7.1																								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-Sep	1.9	1.5	1.2	2.3	2.1	1.3	5.2	1.9	2.1	3.2	2.5	3.0	6.0	4.0	6.2	6.1	6.7	5.3	4.0	1.3	3.2	1.8	0.8	1.6	3.13	6.74																							
2-Sep	1.1	1.3	0.6	1.8	1.3	1.4	1.6	1.4	0.8	2.3	1.8	1.6	2.0	2.6	2.5	3.1	3.0	1.5	1.8	1.7	1.7	1.2	1.5	0.9	1.68	3.09																							
3-Sep	0.7	0.7	0.9	1.2	2.1	1.1	0.7	1.4	1.7	2.0	1.9	1.7	2.2	3.5	2.8	2.8	2.7	3.1	2.6	2.5	2.3	2.0	1.3	0.8	1.87	3.51																							
4-Sep	1.2	1.6	0.7	1.1	1.0	1.8	1.9	2.0	2.3	2.3	2.1	2.5	2.6	3.3	3.3	3.2	2.5	2.6	2.8	2.2	2.2	1.8	1.7	1.8	2.11	3.26																							
5-Sep	1.2	0.6	0.4	0.3	0.7	0.9	0.5	1.5	0.7	1.2	2.0	1.5	3.0	1.8	3.0	2.2	1.9	1.5	3.6	1.6	1.3	1.7	0.7	1.3	1.46	3.56																							
6-Sep	1.1	1.1	1.2	1.1	1.2	1.0	1.1	1.1	1.5	1.4	2.3	2.5	2.7	5.3	5.1	1.8	3.5	3.2	2.3	1.8	1.4	0.8	0.9	0.2	1.90	5.35																							
7-Sep	0.6	0.8	1.1	1.1	0.5	2.2	0.9	0.8	1.2	3.8	5.8	3.4	6.6	4.8	7.1	6.9	6.1	4.3	1.2	1.7	1.6	2.2	1.8	2.0	2.86	7.10																							
8-Sep	1.6	1.2	0.7	1.5	1.1	1.3	1.9	0.9	1.4	2.0	2.0	2.1	2.7	3.0	2.3	3.6	2.7	3.5	3.9	2.0	2.2	1.1	1.4	1.8	2.00	3.93																							
9-Sep	1.0	1.0	0.5	0.8	0.6	0.8	0.8	1.1	0.8	3.8	4.2	5.2	6.8	7.4	6.5	7.2	6.5	5.2	5.0	4.0	4.6	6.6	6.2	6.8	3.89	7.44																							
10-Sep	4.4	5.0	5.4	1.7	1.5	1.6	1.4	2.3	1.9	2.0	2.2	3.0	3.3	4.0	4.0	2.5	2.2	6.0	2.9	2.1	2.4	2.4	1.6	1.9	2.82	5.97																							
11-Sep	2.5	3.0	1.6	1.4	2.9	2.3	1.9	2.7	2.1	1.8	2.6	3.3	3.9	3.4	3.0	2.9	3.2	2.5	2.2	0.7	1.2	0.9	1.0	1.0	2.25	3.92																							
12-Sep	1.2	0.3	0.4	1.2	1.3	1.3	0.9	1.0	1.7	2.4	3.1	4.2	4.2	4.4	4.5	3.7	3.0	1.6	1.3	1.2	1.0	0.8	0.5	0.4	1.90	4.54																							
13-Sep	0.6	0.5	0.7	0.7	0.8	0.6	0.8	2.6	4.7	5.8	5.6	5.8	6.4	6.3	5.8	5.5	4.5	3.5	2.2	1.7	1.7	1.6	0.9	1.4	2.94	6.44																							
14-Sep	1.7	0.7	1.2	1.4	1.2	0.8	0.9	1.1	3.2	3.5	4.1	4.8	6.0	6.1	2.6	1.9	2.6	2.8	1.5	1.3	2.3	2.6	2.5	2.4	2.46	6.13																							
15-Sep	2.1	1.7	1.5	1.0	1.2	1.3	1.4	1.6	1.7	2.0	2.2	2.3	3.9	4.1	4.8	1.6	1.7	1.6	1.3	1.6	0.6	1.3	1.1	0.8	1.85	4.78																							
16-Sep	0.9	0.9	0.5	0.0	0.2	0.0	0.7	0.8	1.2	1.3	2.6	3.9	6.6	6.3	5.3	3.9	3.6	2.7	3.0	2.7	1.2	1.1	1.4	2.0	2.21	6.57																							
17-Sep	1.5	1.0	0.8	1.4	2.1	1.8	1.4	1.2	2.2	4.7	5.9	6.2	6.2	6.4	5.3	5.4	3.5	3.3	2.9	2.9	2.9	1.7	1.6	1.6	3.08	6.43																							
18-Sep	3.3	2.4	2.1	1.5	1.3	1.4	1.9	1.0	1.1	2.8	6.2	6.3	4.6	6.3	7.0	7.5	6.9	6.5	5.8	1.9	1.2	1.1	1.1	1.2	3.43	7.46																							
19-Sep	1.3	1.1	0.7	1.1	1.3	1.1	0.7	1.4	1.8	2.0	2.1	2.5	2.8	2.0	2.7	3.6	2.3	3.2	2.2	1.7	2.1	2.5	1.6	1.6	1.90	3.61																							
20-Sep	1.1	1.1	1.3	1.6	0.8	1.0	1.2	1.5	2.2	2.5	3.3	2.5	2.8	3.4	4.0	3.3	2.2	3.2	1.9	1.1	1.4	1.6	1.2	1.0	1.97	4.00																							
21-Sep	1.3	0.6	0.9	1.0	0.8	1.0	0.3	1.3	1.3	2.0	2.1	1.9	1.8	1.8	2.7	2.3	3.3	3.1	2.6	1.8	1.8	2.0	1.5	1.4	1.70	3.32																							
22-Sep	0.6	0.6	0.6	0.0	1.0	0.8	0.6	0.9	1.2	1.3	2.0	2.1	1.8	2.3	4.1	3.4	2.8	1.8	1.8	1.6	1.8	1.7	1.2	0.8	1.53	4.13																							
23-Sep	1.2	0.5	0.0	1.0	1.0	1.4	1.4	1.3	1.6	2.0	1.9	6.7	6.5	4.8	5.8	6.3	5.4	6.0	5.8	5.4	3.1	2.7	3.4	2.2	3.23	6.66																							
24-Sep	2.2	2.7	1.9	2.1	2.3	1.7	2.2	1.2	1.4	5.1	6.7	7.6	7.6	6.4	7.1	6.8	6.4	6.0	2.0	1.6	1.7	1.0	1.1	1.2	3.59	7.63																							
25-Sep	1.2	0.8	2.3	1.6	1.9	0.8	1.0	2.0	2.0	1.6	1.5	4.0	5.9	6.1	5.6	5.9	6.8	5.8	5.4	3.9	3.6	4.6	1.9	3.1	3.30	6.79																							
26-Sep	2.6	1.9	3.6	4.9	5.5	3.1	5.1	4.2	2.5	3.9	5.2	6.2	6.6	3.1	3.7	5.9	4.5	4.6	4.5	5.9	6.5	5.6	4.9	4.8	4.55	6.65																							
27-Sep	2.4	3.1	3.4	4.3	3.4	3.9	2.9	1.8	2.4	2.9	2.7	3.5	4.0	3.6	3.7	4.0	4.4	4.0	2.6	3.1	2.7	2.3	2.5	1.3	3.13	4.43																							
28-Sep	1.5	0.8	0.8	0.7	0.3	0.6	0.5	1.1	0.9	1.5	1.7	2.0	2.1	2.3	2.7	2.7	2.9	3.0	1.1	0.0	0.4	0.0	0.0	0.0	1.23	2.96																							
29-Sep	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	1.2	1.0	1.2	2.1	3.1	3.7	3.6	3.1	3.2	3.5	1.8	2.0	1.1	1.6	0.0	0.0	1.37	3.70																							
30-Sep	0.0	0.8	1.0	0.5	1.2	0.6	2.0	2.9	1.4	1.5	0.4	1.4	1.4	2.0	2.4	2.8	2.6	2.3	2.5	2.6	2.1	2.6	2.4	2.9	1.77	2.92																							
																								1.47	1.31	1.28	1.34	1.42	1.29	1.48	1.53	1.74	2.52	3.00	3.52	4.21	4.16	4.31	4.06	3.79	3.56	2.82	2.19	2.11	2.03	1.66	1.68	Diurnal Average	
																								4.45	5.04	5.37	4.90	5.46	3.86	5.25	4.18	4.68	5.80	6.74	7.57	7.63	7.44	7.11	7.46	6.85	6.48	5.83	5.91	6.52	6.65	6.22	6.80	Diurnal Maximum	
,Alberta Ambient Air Quality Objectives (AAAQO): 1-hr --- ul/m ³ 24-hr 100 ul/m ³																																																	



WCAS - Hinton
Summary of Hourly Standard Deviations

Wind Direction (WD) - deg
September 2016

Maximum Value: 105.96 deg on Sep 26 06:00 Maximum Daily Average: 71.25 deg on Sep 16																							Hours in Service:	720																								
Minimum Value: 18.5 deg on Sep 20 10:00 Minimum Daily Average: 40.17 deg on Sep 4																							Hours of Data:	720																								
Maximum Diurnal Average: 63.42 deg at hour 24 Minimum Diurnal Average: 46.41 deg at hour 18																							Hours of Missing Data:	0																								
Monthly Average: 56.142 deg Percentiles: P ₁ = 22.4 P ₁₀ = 32.8 Q ₁ = 41.8 Median = 53.7 Q ₃ = 70.1 P ₉₀ = 82.3 P ₉₉ = 97.7																							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-Sep	89.3	43.7	71.4	52.8	72.7	72.0	49.9	79.2	63.4	53.8	72.6	65.3	57.5	58.7	34.0	34.6	62.4	61.4	41.6	58.3	35.2	48.8	37.6	87.8	58.51	89.29																						
2-Sep	48.4	72.3	37.0	58.2	41.8	49.7	69.2	77.6	43.1	44.8	47.9	49.3	66.9	70.2	92.5	68.6	62.4	42.0	42.6	48.6	59.6	27.9	55.8	77.4	56.41	92.47																						
3-Sep	47.7	47.8	48.0	86.2	75.4	64.5	44.3	67.7	88.8	55.7	64.4	69.2	73.0	41.2	40.9	38.5	41.4	35.8	37.9	50.1	62.3	64.3	52.6	54.5	56.34	88.79																						
4-Sep	35.5	46.3	77.5	46.5	40.5	23.3	26.6	27.2	29.3	31.0	41.6	42.3	46.4	47.2	46.1	48.4	48.9	35.8	42.6	35.8	42.5	51.8	21.8	29.4	40.17	77.52																						
5-Sep	41.4	63.1	34.8	58.0	61.0	38.1	33.4	42.6	64.5	80.3	48.3	54.6	55.5	89.7	62.2	97.7	46.6	51.9	42.9	51.5	34.3	46.4	97.7	40.5	55.71	97.73																						
6-Sep	40.2	63.8	63.0	30.8	32.5	63.0	46.8	31.9	52.6	50.7	59.1	63.5	65.3	49.7	69.7	76.2	54.0	27.4	39.4	41.4	77.8	52.0	83.1	87.2	55.05	87.22																						
7-Sep	85.9	66.6	45.7	82.6	70.3	72.1	85.4	76.9	63.0	90.2	62.1	54.0	49.8	59.9	45.4	36.1	30.5	63.5	66.4	55.6	34.8	37.9	38.9	42.9	59.02	90.21																						
8-Sep	35.4	56.6	56.6	70.9	45.1	69.2	65.6	69.8	80.8	75.8	75.0	68.0	58.3	56.2	42.2	38.9	53.7	39.3	41.3	71.0	51.7	70.9	28.5	71.4	58.01	80.85																						
9-Sep	42.1	38.8	67.9	76.2	78.8	69.9	75.2	46.1	43.4	64.0	29.0	50.7	44.2	43.4	53.6	38.2	45.3	54.7	51.9	46.9	40.0	56.5	53.6	59.7	52.92	78.79																						
10-Sep	50.8	45.5	35.8	69.5	75.0	71.8	76.3	67.6	66.9	78.9	49.4	56.0	48.2	56.0	49.1	61.6	58.5	44.6	48.1	59.9	24.9	55.7	76.1	65.2	57.98	78.92																						
11-Sep	88.0	84.1	69.9	71.3	67.3	47.2	59.2	52.7	81.9	57.3	69.7	44.8	47.6	50.5	50.5	52.8	47.8	37.1	45.8	41.1	82.9	62.2	71.1	58.0	60.03	87.96																						
12-Sep	68.1	44.3	54.1	54.4	36.2	37.5	66.5	63.4	46.2	63.1	32.4	25.7	43.8	45.1	38.1	54.7	60.2	77.2	75.8	85.9	81.0	86.3	94.0	67.1	58.39	94.01																						
13-Sep	93.2	58.3	55.2	86.7	71.6	57.2	36.1	66.6	34.0	28.7	25.3	31.5	24.5	26.0	29.3	26.8	28.1	31.9	56.9	59.9	65.6	53.5	71.1	66.8	49.37	93.19																						
14-Sep	83.9	88.3	49.6	73.8	91.1	89.8	80.5	81.4	54.3	50.2	39.8	33.2	27.0	38.8	50.4	53.9	37.3	72.8	70.7	104.0	83.9	70.9	54.2	76.3	64.84	104.03																						
15-Sep	60.7	38.5	40.9	69.3	35.1	28.9	23.1	68.4	43.4	53.7	55.6	65.2	45.9	53.0	48.9	58.1	39.0	45.4	70.1	73.0	86.4	89.3	77.8	94.1	56.82	94.09																						
16-Sep	84.4	68.4	74.8	80.0	69.1	72.8	81.5	92.9	80.0	80.9	105.9	62.3	49.7	47.6	37.3	55.6	65.8	51.9	79.7	55.2	69.8	82.1	73.8	88.4	71.25	105.93																						
17-Sep	80.4	79.7	37.2	35.5	34.4	50.7	97.7	85.3	91.5	77.5	56.4	37.2	58.9	52.3	63.2	48.5	64.6	69.9	64.9	73.9	70.4	91.4	56.7	70.5	64.54	97.68																						
18-Sep	37.4	59.0	89.0	45.1	35.6	33.2	97.7	58.9	81.4	81.5	51.6	55.1	51.5	56.5	43.3	40.4	36.2	29.3	40.4	62.8	63.8	74.2	73.3	84.1	57.55	97.69																						
19-Sep	91.9	82.4	79.7	71.2	65.7	36.9	77.3	70.0	63.0	52.7	53.9	98.7	40.4	89.6	49.8	95.1	91.3	63.5	20.6	51.2	39.0	53.4	45.1	25.4	62.82	98.72																						
20-Sep	35.0	38.1	45.3	66.0	42.4	36.3	50.2	45.3	51.6	18.5	51.4	51.5	44.3	39.0	55.0	66.9	46.2	60.4	66.7	64.4	50.9	71.1	74.3	52.6	50.97	74.33																						
21-Sep	57.9	78.6	36.7	23.1	30.9	20.3	32.9	84.1	27.7	29.4	50.1	69.7	78.6	47.9	59.1	53.0	66.7	29.1	34.4	28.6	51.7	97.1	65.1	44.6	49.89	97.13																						
22-Sep	29.5	77.9	96.7	72.9	78.8	71.3	42.0	40.1	84.5	92.8	74.5	55.1	78.1	62.3	56.4	32.9	48.9	66.8	45.6	46.6	41.2	31.0	40.2	74.0	60.00	96.68																						
23-Sep	56.2	48.5	88.2	62.9	67.8	70.9	49.1	73.4	63.2	47.8	89.8	42.2	47.1	63.9	54.1	49.4	42.7	38.9	31.5	30.4	49.1	44.9	30.4	38.3	53.36	89.81																						
24-Sep	62.4	82.3	52.5	38.1	20.4	35.8	60.4	74.4	89.2	42.0	37.1	27.6	30.3	41.7	46.0	40.8	29.3	50.1	48.5	34.9	80.7	62.9	86.7	81.5	52.32	89.19																						
25-Sep	96.4	47.3	59.5	54.0	47.8	71.5	36.6	41.8	68.2	48.4	47.1	79.7	49.7	39.0	53.9	46.3	33.3	34.5	40.9	56.4	26.9	45.0	81.4	48.5	52.25	96.39																						
26-Sep	67.6	69.0	49.5	47.7	52.2	106.0	45.6	44.5	60.9	35.0	55.0	51.6	55.3	47.1	56.1	45.3	46.6	51.5	48.8	48.6	32.7	44.9	33.5	82.4	53.22	105.96																						
27-Sep	64.2	79.6	61.3	58.1	63.3	88.6	66.6	79.4	68.1	77.8	72.2	66.3	24.1	30.3	25.1	22.5	22.2	28.8	60.5	65.1	47.2	72.9	55.8	81.1	57.55	88.62																						
28-Sep	78.2	80.4	54.3	62.9	81.6	85.7	51.4	46.1	83.4	83.2	71.8	74.0	53.0	51.3	45.3	40.2	42.9	37.3	24.2	22.9	86.3	70.5	93.4	85.2	62.73	93.39																						
29-Sep	46.8	49.5	87.6	32.2	66.5	47.1	44.1	23.1	44.2	78.9	100.0	39.4	32.7	39.2	28.1	30.4	45.8	39.7	48.9	36.5	38.8	45.9	31.9	27.7	46.04	99.96																						
30-Sep	72.8	39.3	24.4	78.2	44.1	76.0	88.3	93.7	57.6	45.3	53.5	64.3	41.4	67.7	40.2	24.3	31.4	19.6	40.1	37.2	39.7	47.8	38.2	40.1	50.22	93.69																						
																							62.38	61.26	58.14	60.51	56.50	58.57	58.64	62.41	62.34	59.00	58.08	54.94	49.63	52.04	48.86	49.23	47.67	46.41	48.98	53.26	55.04	60.32	59.79	63.42	Diurnal Average	
																							96.39	88.28	96.68	86.75	91.09	105.96	97.69	93.69	91.49	92.84	105.93	98.72	78.57	89.66	92.47	97.73	91.30	77.18	79.72	104.03	86.42	97.13	97.70	94.09	Diurnal Maximum	
,Alberta Ambient Air Quality Objectives (AAAQO): 1-hr --- ul/m^3 24-hr 100 ul/m^3																																																

WEST CENTRAL AIRSHED SOCIETY

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

**END OF REPORT
SEPTEMBER 2016**