

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

AIR QUALITY MONITORING
November 2015
Monthly Report

Prepared by:

West Central Airshed Society
Drayton Valley, Alberta





December 8th, 2015

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 November 2015
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 22 readings occurring in November 2015 in excess of the one – hour average guidelines as indicated in Air Monitoring Directive Section III.A.3. (a) for H₂S. The maximum one-hour average reading was 27.12 ppb, occurring November 25th. There were four readings in November 2015 in excess of the twenty–four hour average guidelines as indicated in Air Monitoring Directive Section III.A.3. (a) for H₂S. The maximum 24-hour average reading was 9.57 ppb.

2. Operational times less than 90 percent:

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

3. Monitoring Notes:

AMS 906 (Hinton)

The PM_{2.5} analyzer experienced unstable operation, returning an uptime of 99.9 percent. All other analyzers and meteorological equipment returned uptimes of 100 percent for the month of November.

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

Sincerely,



Robert Scotten
Executive Director



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
	2015	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	0.027	22	0.010	4
PM _{2.5}	906	99.9	25.4 µg/m ³	0	10.09 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
NOVEMBER 2015**

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 2015		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	2.1	0.0	27.0	0.2	0.3	1.0	2.3	5.2	22	3	0.010	
SO ₂ (ppb)	35	685	100.0	0.8	0.0	56.5	0.0	0.1	0.2	0.3	1.2	0	-	0.007	
O ₃ (ppb)	35	685	100.0	17.6	0.0	41.8	0.5	5.3	17.9	28.9	34.1	0	0	0.035	
NO (ppb)	37	683	100.0	7.3	0.0	162.7	0.2	0.6	2.0	6.3	18.2	-	-	-	
NO ₂ (ppb)	37	683	100.0	10.5	0.5	54.2	3.2	5.2	8.6	13.7	20.0	0	0	0.027	
NO _x (ppb)	37	683	100.0	17.7	0.5	191.2	3.8	6.7	11.7	20.3	36.7	-	-	-	
Particulate Matter 2.5 microns (µ/m ³)	0	719	99.9	6.2	0.0	25.4	2.4	3.9	5.5	7.8	11.6	0	0	10.09 ug/m3	
Wind Speed (kph)	0	720	100.0	3.5	0.0	17.4	0.4	1.2	2.2	5.1	8.6	-	-	-	
Temperature (°C)	0	720	100.0	-3.5	-21.2	11.9	-12.9	-6.5	-2.4	0.2	3.5	-	-	-	
Relative Humidity (%)	0	720	100.0	69.8	26.0	91.4	41.9	52.5	76.4	85.4	89.6	-	-	-	
Std Dev Wind Direction (deg)	0	720	100.0	48.5	0.2	106.6	26.6	33.9	43.8	59.3	80.8	-	-	-	
Std Dev Wind Speed (kph)	0	720	100.0	2.6	0.0	11.0	0.9	1.2	1.8	3.5	5.5	-	-	-	



WCAS - Hinton
Summary of Hourly Averages

Total Reduced Sulphur (TRS) - ppb
November 2015

Maximum Value: 27.12 ppb on Nov 25 22:00		Maximum Daily Average: 9.57 ppb on Nov 25		Hours in Service: 720																																													
Minimum Value: 0 ppb on Nov 4 16:00		Minimum Daily Average: 0.28 ppb on Nov 23		Hours of Data: 685																																													
Maximum Diurnal Average: 3.43 ppb at hour 11		Minimum Diurnal Average: 0.82 ppb at hour 16		Hours of Missing Data: 35																																													
Monthly Average: 2.144 ppb		Percentiles: P ₁ = 0.1 P ₁₀ = 0.2 Q ₁ = 0.3 Median = 1.0 Q ₃ = 2.3 P ₉₀ = 5.2 P ₉₉ = 19.0		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	0	0	0	0	0	0	0	0	0	0	0	0	2	3	10	0.86	10.17																								
2-Nov	15	5	2	Z	14	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1.96	14.65																								
3-Nov	2	1	2	Z	1	6	2	1	2	2	5	3	0	1	0	0	0	0	0	0	0	0	2	1.37	5.98																								
4-Nov	2	1	2	Z	5	5	4	3	2	2	0	0	1	0	0	0	1	4	1	1	10	3	6	2.39	10.14																								
5-Nov	6	3	3	Z	1	1	7	6	5	4	8	6	1	0	2	0	0	1	1	1	1	1	4	2.69	7.62																								
6-Nov	0	1	4	Z	6	5	6	3	2	2	2	2	1	1	0	1	3	4	3	5	3	4	3	2.81	6.01																								
7-Nov	2	2	2	Z	1	1	1	1	0	2	2	0	1	2	2	2	1	0	0	0	0	0	1	1.12	2.49																								
8-Nov	1	1	2	Z	0	0	0	0	0	0	0	0	0	1	2	2	1	0	0	0	0	1	1	0.67	1.89																								
9-Nov	0	0	0	Z	0	0	0	0	0	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0.38	0.97																								
10-Nov	0	0	0	Z	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	3	2	0	3	0.64	3.17																								
11-Nov	5	8	1	Z	2	0	2	1	0	1	1	1	1	3	2	4	2	4	5	4	4	3	3	2.50	7.87																								
12-Nov	3	1	1	Z	1	1	1	2	1	0	0	0	0	1	1	2	2	1	3	2	1	0	0	1.15	2.85																								
13-Nov	1	0	0	Z	0	1	1	1	1	0	0	3	2	1	1	1	1	1	2	1	1	2	1	1.02	2.66																								
14-Nov	1	3	4	Z	7	4	4	3	3	1	6	8	4	5	2	1	1	1	1	1	1	1	1	2.82	8.06																								
15-Nov	1	1	0	Z	0	0	0	0	0	0	0	0	2	1	1	1	0	1	0	1	1	0	1	0.59	1.76																								
16-Nov	1	1	0	Z	5	1	5	7	8	6	4	3	1	0	0	0	0	1	0	0	2	10	1	2.51	10.14																								
17-Nov	0	2	0	Z	0	0	1	1	1	1	1	1	1	0	0	0	0	0	0	0	1	2	0	0.60	2.13																								
18-Nov	0	0	0	Z	2	10	8	12	4	2	5	7	6	4	2	2	2	4	3	2	1	1	1	3.45	11.75																								
19-Nov	0	0	4	Z	3	0	0	0	2	0	5	4	0	0	1	0	0	1	1	4	5	4	11	2.09	11.27																								
20-Nov	10	8	2	Z	3	10	2	5	5	14	16	12	3	2	1	1	0	1	2	2	2	5	2	4.80	16.20																								
21-Nov	2	2	2	Z	1	0	1	2	2	2	0	0	1	2	7	2	2	1	1	1	1	2	4	4	1.91	6.65																							
22-Nov	6	2	3	Z	3	2	2	4	4	3	4	4	5	1	0	0	0	1	1	0	1	1	0	2.12	5.81																								
23-Nov	0	0	0	Z	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.28	0.56																								
24-Nov	0	0	0	Z	0	0	0	0	0	0	0	1	1	1	0	0	1	2	1	1	2	3	4	2	0.92	3.80																							
25-Nov	1	5	7	Z	10	10	11	19	19	9	7	4	4	2	1	0	0	5	6	24	19	27	18	11	9.57	27.12																							
26-Nov	5	27	15	Z	7	10	13	12	13	19	24	8	0	0	0	C	0	2	1	0	C	C	C	C	8.85	26.89																							
27-Nov	0	0	0	Z	0	1	0	0	1	0	1	0	0	1	1	0	1	1	1	1	2	2	1	1	0.62	2.02																							
28-Nov	2	1	1	Z	1	1	1	1	1	1	1	2	1	1	1	1	1	1	2	1	1	2	1	1	1.25	1.93																							
29-Nov	2	3	1	Z	1	1	1	1	1	1	1	2	2	1	1	1	1	1	3	2	2	2	2	2	1.45	2.88																							
30-Nov	2	3	2	Z	2	2	2	2	2	2	6	5	2	1	2	2	1	3	4	3	3	3	1	2	2.39	5.54																							
																								2.35	2.77	2.08	--	2.63	2.57	2.60	2.96	2.68	2.57	3.43	2.66	1.39	1.05	1.11	0.82	0.92	1.19	1.49	1.97	2.11	2.75	2.67	2.55	Diurnal Average	
																								14.65	26.89	15.35	--	14.33	10.35	13.35	19.28	18.76	19.07	24.07	11.96	5.61	5.29	6.65	2.36	4.34	5.45	5.63	24.50	19.44	27.12	17.97	11.37	Diurnal Maximum	
Z - zerospan C - Calibration																								Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb																									



WCAS - Hinton
Summary of Hourly Averages

Sulphur Dioxide (SO₂) - ppb
November 2015

Maximum Value: 56.55 ppb on Nov 26 18:00		Maximum Daily Average: 6.81 ppb on Nov 26		Hours in Service: 720																																													
Minimum Value: 0.0 ppb on Nov 1 05:00		Minimum Daily Average: 0.10 ppb on Nov 8		Hours of Data: 685																																													
Maximum Diurnal Average: 2.58 ppb at hour 18		Minimum Diurnal Average: 0.32 ppb at hour 3		Hours of Missing Data: 35																																													
Monthly Average: 0.785 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 0.2 Q ₃ = 0.3 P ₉₀ = 1.2 P ₉₉ = 12.1		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	0.1	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.3	0.3	0.3	0.2	0.2	0.2	0.1	0.2	0.1	0.2	0.1	0.12	0.32																							
2-Nov	0.1	0.1	0.1	Z	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.12	0.21																							
3-Nov	0.1	0.1	0.1	Z	0.0	0.1	0.2	0.2	0.3	0.6	0.2	0.1	0.1	0.3	0.3	0.1	0.2	0.1	0.2	0.1	0.2	0.2	0.2	0.2	0.18	0.55																							
4-Nov	0.3	0.2	0.2	Z	0.2	0.3	0.3	0.3	0.3	0.2	0.4	0.8	4.1	0.2	0.2	0.1	1.1	3.0	1.0	0.3	0.2	0.0	0.1	0.1	0.60	4.07																							
5-Nov	0.1	0.0	0.1	Z	0.0	0.0	0.0	0.1	0.2	0.1	0.2	0.1	0.1	0.0	0.6	0.1	0.1	0.0	0.1	0.0	0.1	0.2	0.1	0.1	0.12	0.62																							
6-Nov	0.1	0.2	0.1	Z	0.0	0.1	0.2	0.2	0.2	0.2	1.3	3.4	3.4	4.1	4.5	1.1	5.3	5.6	2.9	0.8	3.8	7.4	6.6	4.4	2.43	7.44																							
7-Nov	2.7	5.2	0.5	Z	0.7	1.0	1.2	0.8	0.5	3.1	1.5	1.1	1.9	1.3	5.2	1.2	0.6	0.3	0.2	0.2	0.2	0.2	0.1	1.30	5.25																								
8-Nov	0.2	0.1	0.1	Z	0.0	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.0	0.1	0.1	0.1	0.1	0.10	0.18																							
9-Nov	0.1	0.2	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.2	0.4	0.2	0.4	0.2	0.2	0.2	0.1	0.1	0.2	0.1	0.2	0.2	0.2	0.1	0.16	0.38																							
10-Nov	0.1	0.2	0.1	Z	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.3	0.2	0.0	0.1	0.0	0.1	0.5	0.0	0.1	0.6	1.1	1.3	2.6	0.34	2.57																							
11-Nov	2.3	0.1	1.9	Z	0.1	0.0	0.0	0.0	0.0	0.0	0.1	1.0	2.5	1.2	0.5	1.1	0.3	0.8	0.5	0.2	0.2	0.4	1.7	0.6	0.67	2.52																							
12-Nov	0.5	0.3	0.2	Z	0.1	0.2	0.2	0.7	1.1	0.3	0.3	0.3	0.3	0.5	1.8	1.1	0.4	0.3	0.2	0.5	2.5	1.1	0.5	0.4	0.60	2.52																							
13-Nov	0.7	0.5	0.2	Z	0.1	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.4	0.4	0.4	0.6	0.4	0.2	0.3	0.3	0.32	0.69																							
14-Nov	0.2	0.2	0.2	Z	0.1	0.2	0.1	0.2	0.2	0.1	0.3	0.1	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.17	0.27																							
15-Nov	0.1	0.0	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.2	0.1	0.1	0.2	0.2	0.1	0.1	0.2	0.2	0.4	0.2	0.1	0.13	0.35																							
16-Nov	0.1	0.2	0.2	Z	0.0	0.2	0.2	0.4	0.7	0.8	0.7	0.6	0.3	0.1	0.2	0.2	0.3	0.1	0.2	0.1	0.3	0.2	0.2	0.2	0.27	0.84																							
17-Nov	0.2	0.9	0.4	Z	0.1	0.1	0.1	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.0	0.1	0.1	0.20	0.94																							
18-Nov	0.0	0.1	0.1	Z	0.1	0.2	0.1	0.2	0.3	0.4	0.4	0.3	0.4	0.2	0.4	0.4	0.2	0.1	0.2	0.5	0.4	0.2	0.2	0.2	0.25	0.52																							
19-Nov	0.1	0.1	0.2	Z	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.4	0.2	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.14	0.36																							
20-Nov	0.0	0.0	0.0	Z	0.0	0.0	0.1	0.0	0.0	0.0	0.2	0.3	0.4	1.2	0.6	0.4	0.4	2.9	5.0	4.0	4.0	3.6	0.9	0.9	1.08	5.00																							
21-Nov	1.0	1.5	2.4	Z	0.6	0.3	1.4	2.2	5.4	6.3	0.7	0.6	5.0	13.6	5.5	8.0	7.4	2.3	1.9	6.9	6.0	12.1	6.1	9.4	4.63	13.56																							
22-Nov	2.1	1.0	0.9	Z	11.3	12.1	8.4	3.0	8.0	5.4	2.9	2.0	0.4	0.3	0.2	0.2	0.2	0.4	0.4	0.2	0.5	0.2	0.2	0.2	2.63	12.13																							
23-Nov	0.2	0.2	0.3	Z	0.2	0.3	0.2	0.2	0.1	0.2	0.1	0.2	0.4	0.5	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.1	0.2	0.2	0.23	0.48																							
24-Nov	0.2	0.1	0.3	Z	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.3	0.3	0.4	0.7	0.6	0.5	0.3	0.2	0.1	0.1	0.28	0.72																							
25-Nov	0.1	0.1	0.1	Z	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.2	0.3	0.3	0.4	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.11	0.40																							
26-Nov	0.1	0.1	0.0	Z	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.2	C	26.6	56.5	21.8	16.6	C	C	C	C	6.81	56.55																							
27-Nov	0.3	0.3	0.1	Z	0.1	0.1	0.1	0.0	0.2	0.1	0.3	0.2	0.2	0.3	0.2	0.3	0.0	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.14	0.31																							
28-Nov	0.0	0.0	0.1	Z	0.1	0.2	0.0	0.1	0.0	0.2	0.1	0.2	0.2	0.2	0.3	0.3	0.3	0.2	0.2	0.2	0.1	0.2	0.2	0.1	0.15	0.32																							
29-Nov	0.2	0.2	0.2	Z	0.1	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.1	0.2	0.9	0.4	0.4	0.2	0.2	0.1	0.23	0.85																							
30-Nov	0.1	0.1	0.2	Z	0.1	0.1	0.6	0.3	0.2	0.2	0.6	0.7	0.2	0.1	0.1	0.2	0.5	1.1	1.5	0.9	0.3	0.2	0.1	0.1	0.37	1.45																							
																								0.41	0.41	0.32	--	0.50	0.56	0.49	0.35	0.65	0.66	0.41	0.47	0.76	0.88	0.79	0.60	1.55	2.58	1.33	1.14	0.76	1.01	0.70	0.74	Diurnal Average	
																								2.69	5.20	2.43	--	11.26	12.13	8.44	2.96	7.99	6.28	2.91	3.36	4.95	13.56	5.46	8.01	26.59	56.55	21.82	16.57	6.03	12.09	6.55	9.39	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

Ozone (O₃) - ppb
November 2015

Maximum Value: 41.83 ppb on Nov 19 18:00																								Maximum Daily Average: 34.56 ppb on Nov 21																								Hours in Service: 720	
Minimum Value: 0.0 ppb on Nov 1 05:00																								Minimum Daily Average: 2.95 ppb on Nov 14																								Hours of Data: 685	
Maximum Diurnal Average: 26.64 ppb at hour 14																								Minimum Diurnal Average: 11.16 ppb at hour 8																								Hours of Missing Data: 35	
Monthly Average: 17.609 ppb																								Percentiles: P ₁ = 0.0 P ₁₀ = 0.5 Q ₁ = 5.3 Median = 17.9 Q ₃ = 28.9 P ₉₀ = 34.1 P ₉₉ = 40.0																								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	1.3	0.1	0.3	Z	0.0	1.0	2.2	1.9	2.2	5.5	9.1	15.0	14.7	13.6	13.0	12.1	10.4	7.6	5.5	1.5	0.2	0.4	0.1	0.7	5.14	15.01																							
2-Nov	4.2	5.2	1.4	Z	0.0	0.0	0.2	0.0	0.4	3.9	8.5	10.5	12.0	12.2	10.1	7.3	5.5	3.3	0.4	0.2	0.0	0.2	0.3	0.0	3.73	12.20																							
3-Nov	0.0	0.0	0.0	Z	0.0	0.0	0.5	0.2	0.1	0.4	6.0	12.9	17.4	19.4	21.4	21.9	17.3	4.7	10.6	11.0	4.3	6.0	1.5	0.2	6.77	21.95																							
4-Nov	0.2	0.5	0.4	Z	0.0	0.0	0.0	0.0	4.9	25.4	30.1	32.9	33.1	36.3	36.0	35.9	33.4	28.4	29.4	28.1	27.0	21.7	10.0	2.5	18.09	36.32																							
5-Nov	2.4	3.1	2.2	Z	4.7	1.9	5.6	1.9	1.2	2.3	1.5	6.0	23.7	25.7	22.9	22.1	19.7	15.8	6.4	0.7	1.2	0.2	0.3	0.3	7.47	25.71																							
6-Nov	0.4	0.8	0.3	Z	0.0	0.0	0.0	0.0	0.4	1.9	23.9	26.0	27.0	31.1	29.9	33.8	28.2	29.1	30.1	33.5	31.5	25.8	28.1	29.7	17.89	33.81																							
7-Nov	30.5	28.2	33.8	Z	24.9	25.8	24.4	27.7	30.4	28.4	28.8	27.5	28.7	28.5	23.9	25.9	26.8	22.6	22.7	21.6	26.4	30.0	28.7	26.2	27.06	33.76																							
8-Nov	24.8	18.7	16.1	Z	17.9	24.6	21.9	16.7	13.4	10.3	13.7	16.9	19.9	21.1	21.3	19.3	9.9	2.4	10.7	17.8	14.2	16.3	14.3	8.2	16.11	24.75																							
9-Nov	6.8	4.0	4.5	Z	4.0	3.8	5.6	3.9	4.7	7.1	16.5	18.5	22.7	22.7	23.3	24.7	24.0	22.6	22.7	24.9	26.0	26.9	26.6	25.6	16.18	26.86																							
10-Nov	28.3	29.8	29.5	Z	29.0	29.2	27.8	29.5	27.7	29.7	31.0	31.4	31.5	32.2	31.2	30.0	24.5	26.2	29.5	25.4	26.7	35.2	37.4	30.6	29.72	37.45																							
11-Nov	31.7	34.1	30.7	Z	27.2	28.4	22.1	17.2	22.6	22.4	20.7	28.6	32.2	33.7	33.3	32.9	35.0	29.6	28.3	20.5	23.4	32.8	29.4	32.2	28.21	35.00																							
12-Nov	31.6	28.8	8.5	Z	2.2	1.2	2.9	20.9	29.1	31.0	34.2	34.5	32.2	34.3	32.1	34.3	35.5	35.8	36.1	34.9	29.9	22.4	13.4	16.1	25.30	36.11																							
13-Nov	23.1	25.6	22.2	Z	26.8	22.8	13.1	3.4	2.2	10.1	9.7	7.7	12.0	13.7	16.7	6.0	2.4	0.5	0.7	0.2	0.4	0.4	0.5	0.7	9.62	26.82																							
14-Nov	0.1	0.1	0.0	Z	0.0	0.0	0.0	0.0	0.2	1.5	3.4	8.1	16.2	19.5	12.7	3.7	0.2	1.0	0.4	0.7	0.2	0.0	0.0	0.0	2.95	19.49																							
15-Nov	0.0	0.7	5.2	Z	15.2	13.7	12.5	9.7	5.0	6.8	7.7	11.7	12.8	12.0	16.8	15.5	18.1	19.0	21.3	25.0	27.3	25.1	24.1	27.4	14.46	27.38																							
16-Nov	25.1	23.8	22.1	Z	4.6	0.5	0.4	0.1	0.4	1.8	3.8	21.6	30.2	31.9	32.2	33.0	33.1	23.1	17.8	36.0	33.3	21.4	15.6	27.5	19.10	35.98																							
17-Nov	33.9	31.1	30.1	Z	27.9	24.6	10.0	2.6	0.9	6.9	6.6	9.4	8.2	11.8	11.3	12.7	13.4	6.2	14.7	24.6	33.0	30.9	28.7	23.3	17.52	33.87																							
18-Nov	29.2	29.5	29.0	Z	2.9	3.6	1.9	3.4	0.7	2.4	6.3	10.6	13.3	28.1	32.6	30.2	22.8	20.3	4.9	1.2	4.3	2.7	2.6	6.3	12.56	32.63																							
19-Nov	30.5	33.0	26.8	Z	27.7	33.5	28.3	18.4	20.4	26.2	24.6	23.8	33.8	31.9	34.1	41.0	41.5	41.8	38.5	31.1	20.3	16.0	11.9	9.9	28.04	41.83																							
20-Nov	12.7	15.3	16.9	Z	18.3	9.8	1.3	1.7	5.1	8.2	8.7	11.8	30.2	34.1	35.1	35.3	35.6	29.9	28.0	27.5	29.2	29.4	35.4	35.6	21.53	35.60																							
21-Nov	30.7	29.5	32.5	Z	37.3	38.7	34.4	33.0	28.9	31.7	39.1	38.9	35.7	29.9	35.0	33.3	33.6	38.5	39.2	35.8	37.7	33.9	36.0	31.6	34.56	39.20																							
22-Nov	39.0	40.2	40.1	Z	30.3	32.2	33.5	37.1	31.6	34.8	38.6	39.0	39.9	39.6	41.1	41.3	38.8	17.8	6.5	10.5	0.9	3.9	6.9	8.5	28.36	41.33																							
23-Nov	4.3	5.3	2.1	Z	0.1	0.0	0.9	2.8	7.2	9.0	13.1	17.9	21.8	22.6	23.4	25.3	22.7	19.4	22.6	25.0	24.8	27.7	30.7	31.4	15.66	31.36																							
24-Nov	31.3	32.2	28.1	Z	27.0	27.7	26.8	24.5	21.0	20.7	18.9	22.0	23.0	23.9	22.5	21.9	6.9	0.1	0.2	0.2	1.4	5.2	6.0	5.3	17.25	32.23																							
25-Nov	3.1	7.9	12.7	Z	10.1	9.3	7.6	12.1	19.0	24.9	28.7	30.0	30.0	29.2	28.6	23.9	19.9	13.8	13.9	14.0	16.5	15.1	10.2	7.3	16.87	30.01																							
26-Nov	2.7	8.5	6.5	Z	8.0	8.1	8.0	7.5	10.9	12.9	19.9	27.4	35.0	36.2	36.1	C	C	C	C	C	33.8	34.6	36.0	37.0	20.50	37.01																							
27-Nov	37.6	37.8	36.9	Z	38.3	36.0	37.7	36.5	33.5	37.3	35.6	37.8	40.0	38.1	37.8	33.0	31.6	25.1	25.9	17.9	17.0	13.9	12.9	13.8	30.95	39.96																							
28-Nov	14.4	16.4	15.0	Z	13.4	5.3	11.0	6.0	10.4	8.0	16.0	24.7	32.5	33.5	27.1	20.8	21.8	14.2	20.6	17.9	17.2	12.0	11.9	9.9	16.51	33.54																							
29-Nov	6.3	7.8	12.5	Z	14.6	14.2	14.6	13.6	13.0	14.0	18.6	21.3	22.3	25.8	25.6	23.6	18.3	8.2	1.9	3.1	3.0	5.8	5.4	6.6	13.05	25.81																							
30-Nov	7.6	6.1	5.5	Z	3.9	3.8	2.9	2.2	3.9	4.0	5.1	8.8	23.8	26.5	26.9	15.4	4.7	2.6	3.4	2.5	1.9	4.2	6.1	6.5	7.75	26.94																							
																								16.46	16.81	15.72	--	13.87	13.33	11.94	11.16	11.72	14.31	17.61	21.11	25.20	26.64	26.47	24.70	21.91	17.58	17.00	17.00	17.10	16.66	15.71	15.36	Diurnal Average	
																								39.00	40.24	40.07	--	38.29	38.70	37.67	37.11	33.53	37.26	39.13	39.05	39.96	39.58	41.14	41.33	41.55	41.83	39.20	35.98	37.72	35.25	37.45	37.01	Diurnal Maximum	
Z - zerospan 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 2015

Maximum Value: 162.72 ppb on Nov 30 19:00																						Maximum Daily Average: 38.69 ppb on Nov 30																						Hours in Service: 720					
Minimum Value: 0.0 ppb on Nov 18 03:00																						Minimum Daily Average: 0.71 ppb on Nov 27																						Hours of Data: 683					
Maximum Diurnal Average: 15.80 ppb at hour 19																						Minimum Diurnal Average: 2.21 ppb at hour 2																						Hours of Missing Data: 37					
Monthly Average: 7.290 ppb																						Percentiles: P ₁ = 0.0 P ₁₀ = 0.2 Q ₁ = 0.6 Median = 2.0 Q ₃ = 6.3 P ₉₀ = 18.2 P ₉₉ = 89.6																						Hours of Calibration: 37					
																																												Percent Operational Time: 100.0					
Day	Hourly Period Ending At																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Nov	4.2	11.9	10.5	Z	4.4	4.9	2.9	4.7	5.0	5.0	2.3	1.6	2.2	1.9	2.9	1.3	1.2	1.5	1.9	2.7	8.8	2.6	7.5	3.7	4.16	11.91																							
2-Nov	0.3	0.1	4.3	Z	2.9	16.2	6.3	10.4	13.3	6.0	3.9	3.7	2.8	2.6	2.8	4.5	3.3	8.1	9.6	13.6	12.8	2.6	4.5	4.8	6.05	16.16																							
3-Nov	5.6	6.7	7.7	Z	3.2	5.0	11.2	14.9	41.8	67.9	17.9	8.4	0.9	2.4	2.0	2.3	1.9	9.2	2.7	1.3	7.3	3.2	5.1	7.3	10.27	67.89																							
4-Nov	7.0	7.3	5.9	Z	5.9	13.9	19.7	27.3	13.2	0.9	1.5	1.3	2.5	0.7	2.9	1.0	0.4	0.2	0.1	0.3	0.2	0.8	1.1	4.2	5.15	27.30																							
5-Nov	2.8	2.2	9.5	Z	2.5	4.6	5.0	13.5	24.4	12.7	27.9	13.1	1.9	0.3	1.1	0.7	1.7	0.3	7.8	5.5	7.1	15.7	7.7	14.3	7.93	27.94																							
6-Nov	11.4	7.9	12.9	Z	8.8	11.4	17.9	24.2	25.1	27.2	3.4	4.0	1.9	1.5	1.5	0.5	1.2	0.9	0.7	0.2	0.4	1.2	1.0	0.4	7.19	27.20																							
7-Nov	0.2	1.0	0.0	Z	2.0	0.8	2.2	0.6	0.7	0.9	0.8	2.9	1.5	1.1	3.3	0.9	0.8	0.9	1.3	0.8	0.3	0.2	1.5	0.0	1.08	3.33																							
8-Nov	0.6	0.1	1.2	Z	0.3	0.7	0.4	0.2	2.9	3.1	1.4	1.8	2.6	3.3	2.3	0.9	4.5	8.8	5.5	0.6	1.3	0.4	0.3	0.4	1.89	8.81																							
9-Nov	1.3	1.4	0.8	Z	2.7	3.7	3.6	1.9	3.3	4.8	3.7	3.8	2.7	2.7	2.2	1.8	2.5	0.9	0.6	0.3	0.3	0.2	0.1	0.1	1.97	4.78																							
10-Nov	0.2	0.1	0.1	Z	0.2	0.4	0.6	0.5	0.7	1.5	1.6	1.4	1.4	1.2	1.4	1.1	1.6	2.1	0.6	0.5	1.0	0.4	0.2	0.6	0.85	2.13																							
11-Nov	0.9	0.1	0.3	Z	0.3	0.4	0.5	2.6	0.5	1.1	2.5	2.2	1.8	1.5	0.6	0.8	0.1	0.2	0.3	2.0	1.1	0.2	0.5	0.3	0.90	2.61																							
12-Nov	0.2	0.2	5.5	Z	5.0	15.7	17.5	8.1	1.6	3.9	1.3	1.0	3.5	1.5	0.9	0.5	0.1	0.0	0.0	0.1	0.5	3.6	5.2	4.8	3.50	17.52																							
13-Nov	0.7	0.5	2.7	Z	1.3	0.2	13.7	19.7	14.5	5.7	4.7	10.0	5.9	8.6	7.4	22.2	36.6	31.4	43.1	54.4	36.7	19.5	20.9	25.0	16.76	54.39																							
14-Nov	10.4	9.7	11.2	Z	16.0	22.3	19.1	25.3	32.7	18.7	33.9	17.1	11.4	5.6	6.3	13.7	24.7	15.3	13.4	6.2	26.2	21.8	18.3	7.0	16.79	33.93																							
15-Nov	3.1	2.7	1.0	Z	0.3	0.2	0.1	0.4	1.0	2.8	7.9	5.0	4.6	5.0	2.5	3.8	0.7	0.9	0.8	0.3	1.1	0.2	0.3	0.2	1.96	7.92																							
16-Nov	0.1	0.1	0.9	Z	5.7	14.1	16.4	38.9	91.0	107.1	95.1	13.8	3.8	2.5	2.0	2.2	3.1	3.1	5.0	1.7	1.5	2.5	0.7	0.5	17.90	107.14																							
17-Nov	0.3	0.7	3.6	Z	0.4	1.2	7.3	27.1	34.1	7.0	16.3	8.7	11.2	5.8	5.0	4.4	3.6	10.6	4.3	1.1	0.1	0.0	0.0	0.2	6.66	34.14																							
18-Nov	0.1	0.0	0.0	Z	15.0	11.1	5.8	15.4	44.0	49.8	47.1	26.3	33.1	5.0	1.7	1.8	6.4	1.3	16.7	54.9	34.0	14.6	10.5	2.5	17.26	54.85																							
19-Nov	0.4	0.1	0.1	Z	0.4	1.7	3.6	2.1	3.0	4.6	3.9	9.6	2.8	1.2	1.2	0.6	0.4	0.1	0.2	1.3	0.8	4.4	0.5	2.5	1.98	9.63																							
20-Nov	0.3	1.4	1.6	Z	0.1	6.8	31.8	16.8	1.6	6.3	22.1	38.1	5.1	2.4	1.8	1.0	0.5	0.6	0.9	1.2	1.1	1.0	0.3	0.2	6.21	38.15																							
21-Nov	0.5	0.7	0.5	Z	0.1	0.1	0.3	0.4	1.6	1.9	0.4	0.5	1.6	3.0	1.4	1.7	1.2	0.3	0.2	0.6	0.4	0.8	0.7	1.2	0.88	2.98																							
22-Nov	0.2	0.1	0.1	Z	1.2	0.8	1.0	0.2	0.7	1.0	0.7	0.6	0.2	0.2	0.1	0.1	0.3	16.9	17.6	3.9	33.7	8.6	8.6	3.0	4.34	33.70																							
23-Nov	5.1	1.7	18.5	Z	12.1	18.8	10.2	7.3	4.6	5.8	4.1	3.4	3.3	3.6	1.8	1.3	1.4	1.5	1.4	1.0	1.1	0.3	0.2	0.1	4.72	18.84																							
24-Nov	0.1	0.2	0.0	Z	0.0	0.1	0.2	0.2	1.4	1.2	5.5	3.1	4.2	5.0	4.1	2.0	34.0	72.4	62.3	48.3	17.3	2.9	1.5	0.4	11.59	72.41																							
25-Nov	1.2	0.4	0.2	Z	0.1	1.1	3.3	1.7	0.7	1.0	0.7	1.3	2.0	2.8	2.8	3.3	2.0	1.1	2.6	1.6	0.3	0.2	0.5	0.4	1.36	3.27																							
26-Nov	3.1	1.5	0.5	Z	0.3	0.4	0.7	0.7	1.8	4.5	2.6	3.7	1.6	1.7	1.3	C	C	C	C	C	C	C	C	0.2	0.2	--	4.51																						
27-Nov	0.6	0.1	0.1	Z	0.1	0.1	0.1	0.3	0.4	0.5	1.7	2.0	1.6	2.3	1.6	2.0	0.7	0.3	0.2	0.8	0.1	0.1	0.5	0.1	0.71	2.25																							
28-Nov	0.5	0.4	0.4	Z	2.4	32.0	2.0	7.6	2.0	23.9	16.6	8.1	3.1	2.7	5.2	5.0	3.3	0.9	0.2	0.2	0.1	4.5	5.2	1.7	5.56	32.03																							
29-Nov	7.6	2.5	0.1	Z	0.0	0.7	2.2	9.1	2.7	5.8	5.6	9.9	12.0	7.8	6.0	3.9	2.2	15.8	95.5	23.9	32.2	7.2	1.7	1.0	11.11	95.45																							
30-Nov	2.0	4.5	9.2	Z	6.6	5.1	58.0	26.3	16.4	38.2	82.7	79.0	9.2	7.5	6.1	16.1	55.2	127.9	162.7	107.1	40.5	18.9	3.8	6.9	38.69	162.72																							
																								2.36	2.21	3.66	--	3.34	6.48	8.78	10.27	12.88	14.03	13.99	9.52	4.74	3.11	2.75	3.49	6.76	11.50	15.80	11.60	9.25	4.78	3.63	3.13	Diurnal Average	
																								11.43	11.91	18.45	--	15.98	32.03	57.99	38.91	90.97	107.14	95.13	79.00	33.13	8.57	7.37	22.18	55.21	127.89	162.72	107.13	40.52	21.76	20.89	25.00	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 2015

Maximum Value: 54.22 ppb on Nov 30 19:00		Maximum Daily Average: 27.18 ppb on Nov 30		Hours in Service: 720																																													
Minimum Value: 0.5 ppb on Nov 12 19:00		Minimum Daily Average: 5.05 ppb on Nov 7		Hours of Data: 683																																													
Maximum Diurnal Average: 14.76 ppb at hour 19		Minimum Diurnal Average: 7.11 ppb at hour 14		Hours of Missing Data: 37																																													
Monthly Average: 10.474 ppb		Percentiles: P ₁ = 1.0 P ₁₀ = 3.2 Q ₁ = 5.2 Median = 8.6 Q ₃ = 13.7 P ₉₀ = 20.0 P ₉₉ = 35.2		Hours of Calibration: 37																																													
Percentiles: P ₁ = 1.0 P ₁₀ = 3.2 Q ₁ = 5.2 Median = 8.6 Q ₃ = 13.7 P ₉₀ = 20.0 P ₉₉ = 35.2		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	10.7	12.0	9.8	Z	7.7	6.8	6.0	7.1	9.3	8.4	5.4	4.4	5.0	5.3	5.7	5.6	7.1	8.4	9.0	8.7	9.3	8.0	9.4	10.2	7.79	12.02																							
2-Nov	6.6	4.8	5.4	Z	5.1	7.1	4.7	4.9	4.4	3.6	3.6	4.3	4.9	4.2	5.7	6.7	6.8	8.9	10.6	9.2	7.5	4.6	5.1	5.5	5.84	10.59																							
3-Nov	6.5	7.2	7.6	Z	6.3	6.5	8.8	10.0	10.5	10.7	9.1	9.5	2.1	4.6	4.4	4.7	7.3	19.7	9.4	6.4	12.7	6.5	11.1	9.7	8.32	19.68																							
4-Nov	8.8	9.1	9.6	Z	7.6	9.0	6.2	8.2	12.4	4.8	4.8	3.8	6.8	2.2	3.3	3.2	6.4	9.9	7.6	8.6	6.6	3.9	13.2	19.4	7.63	19.45																							
5-Nov	16.2	13.8	12.3	Z	8.4	11.5	12.2	16.6	18.5	18.5	22.7	18.4	4.3	1.7	5.7	5.0	8.4	7.4	15.9	14.4	11.6	11.5	8.2	10.0	11.88	22.72																							
6-Nov	9.7	8.5	8.7	Z	8.1	6.8	8.0	7.4	7.2	9.5	10.0	11.7	11.2	8.8	9.8	4.4	10.6	7.8	5.9	1.6	4.0	12.4	8.7	6.8	8.15	12.38																							
7-Nov	5.8	9.0	0.6	Z	6.4	7.6	10.3	4.7	2.7	5.3	3.3	5.2	3.5	2.9	9.2	5.1	5.2	5.4	4.2	4.7	3.6	3.3	5.7	2.5	5.05	10.25																							
8-Nov	5.0	6.2	4.4	Z	2.6	3.6	6.7	5.4	10.6	11.0	5.0	5.3	5.0	8.1	7.4	5.4	14.2	19.1	15.3	8.9	13.5	7.9	6.9	8.5	8.09	19.15																							
9-Nov	7.6	7.2	6.6	Z	7.9	8.1	6.9	7.1	8.6	6.6	4.9	4.2	3.2	3.8	3.3	4.1	5.8	6.8	6.6	4.1	3.0	2.9	3.0	4.6	5.51	8.61																							
10-Nov	3.2	1.7	2.0	Z	2.3	2.6	4.3	2.4	5.2	3.3	3.0	3.6	3.7	3.1	4.8	6.1	9.3	10.7	7.2	11.0	11.0	4.5	3.3	8.4	5.08	11.04																							
11-Nov	6.0	0.8	6.3	Z	5.9	4.0	8.0	12.1	6.8	6.2	6.9	5.2	4.6	3.6	2.0	4.1	1.0	7.4	6.5	15.6	12.7	2.1	6.6	2.6	5.96	15.63																							
12-Nov	3.3	5.2	24.3	Z	23.0	21.7	19.8	13.0	10.2	8.1	3.9	4.6	7.6	4.4	6.5	2.4	0.6	0.6	0.5	1.5	7.3	11.5	22.4	15.4	9.47	24.25																							
13-Nov	9.3	6.7	7.8	Z	4.9	6.2	14.3	24.5	19.0	12.2	12.3	14.2	8.4	10.4	9.0	17.1	17.9	16.1	18.6	20.0	16.9	16.9	15.9	14.5	13.61	24.50																							
14-Nov	12.7	13.9	13.2	Z	14.0	11.9	12.7	11.7	12.4	8.5	11.7	10.9	11.9	10.2	10.0	15.9	15.7	13.7	14.8	11.5	10.8	8.1	7.9	6.7	11.78	15.93																							
15-Nov	5.5	5.7	6.0	Z	6.6	5.7	4.6	6.3	9.6	8.5	11.4	8.0	7.3	8.4	5.2	9.9	6.7	5.8	5.1	2.8	3.3	6.0	6.9	4.2	6.50	11.45																							
16-Nov	5.4	6.3	8.5	Z	10.5	20.0	17.0	17.9	23.2	25.1	28.2	13.7	5.9	4.2	5.6	5.1	5.5	11.3	18.1	2.7	5.0	12.7	17.7	7.2	12.03	28.18																							
17-Nov	2.5	6.2	5.7	Z	5.1	8.7	19.1	30.5	24.3	14.3	17.7	14.1	16.9	12.0	13.1	12.5	11.5	18.1	17.8	6.5	1.3	2.0	2.8	3.6	11.58	30.54																							
18-Nov	2.5	1.4	1.0	Z	23.7	19.1	20.0	18.1	24.4	22.7	22.5	21.3	24.6	9.7	4.8	8.7	16.4	17.5	27.6	33.5	29.8	26.5	22.1	12.7	17.86	33.48																							
19-Nov	4.5	4.4	9.0	Z	3.6	6.6	11.0	17.9	16.6	14.0	11.9	14.8	6.1	7.2	5.2	2.2	1.8	1.0	3.1	10.4	16.1	16.3	15.2	14.8	9.30	17.91																							
20-Nov	12.0	8.0	12.0	Z	6.5	13.6	28.9	22.7	14.4	12.5	17.8	24.4	13.2	9.4	8.0	8.0	6.7	13.7	15.0	16.7	15.1	13.8	5.3	6.5	13.22	28.91																							
21-Nov	11.3	12.6	9.7	Z	4.0	2.2	7.8	10.0	15.0	12.3	2.6	3.1	7.1	13.6	6.3	9.8	8.9	4.1	3.7	8.9	7.3	12.3	7.4	12.8	8.38	15.03																							
22-Nov	2.6	1.5	1.5	Z	13.7	14.2	10.3	5.2	13.0	8.9	4.7	3.9	1.0	1.1	0.8	0.8	2.3	25.7	30.9	21.6	33.1	26.6	22.1	18.2	11.46	33.09																							
23-Nov	20.7	15.6	17.2	Z	20.0	20.8	16.1	14.4	11.4	11.4	9.2	10.0	10.6	11.8	9.1	7.6	9.9	10.5	8.0	6.0	4.6	2.9	2.3	1.7	10.95	20.80																							
24-Nov	1.9	1.8	1.8	Z	1.8	1.7	3.2	3.2	6.3	4.6	9.8	6.1	6.1	6.7	7.7	8.0	25.8	31.0	29.1	27.5	22.6	13.9	12.1	11.5	10.63	31.04																							
25-Nov	12.8	8.8	5.4	Z	8.5	10.9	13.5	13.2	8.1	5.0	2.3	2.7	4.0	5.9	7.8	13.4	17.8	19.2	10.8	8.3	8.8	9.5	13.2	16.6	9.84	19.25																							
26-Nov	20.2	12.6	13.9	Z	12.3	11.3	11.4	12.3	10.9	9.3	5.7	8.3	3.2	2.9	3.1	C	C	C	C	C	C	C	C	3.3	2.3	--	20.17																						
27-Nov	3.4	2.8	3.7	Z	3.1	6.1	4.4	6.4	9.1	6.3	9.0	6.6	4.7	7.6	7.7	12.7	13.6	18.9	12.7	8.4	5.4	10.2	12.0	9.9	8.03	18.89																							
28-Nov	10.5	8.1	8.5	Z	9.7	20.1	11.6	19.6	14.8	23.2	15.7	14.6	8.0	8.1	15.5	22.1	20.0	25.1	12.7	13.8	12.1	15.4	14.4	13.3	14.65	25.08																							
29-Nov	22.0	16.3	12.2	Z	9.2	10.1	10.1	13.3	12.9	10.8	11.6	18.1	19.9	16.1	16.2	18.0	22.9	32.4	47.2	35.5	32.9	19.3	17.2	13.8	19.04	47.22																							
30-Nov	11.6	15.1	16.7	Z	19.8	21.2	32.6	31.6	24.8	23.8	34.4	36.3	16.1	15.3	16.2	30.3	45.6	49.5	54.2	43.7	30.6	22.9	15.7	17.3	27.18	54.22																							
																								8.69	7.78	8.37	--	8.94	10.19	11.69	12.60	12.56	10.98	10.70	10.38	7.90	7.11	7.30	8.93	11.44	14.69	14.76	12.84	12.35	10.84	10.56	9.71	Diurnal Average	
																								21.98	16.33	24.25	--	23.73	21.72	32.62	31.61	24.79	25.14	34.37	36.25	24.63	16.09	16.23	30.33	45.62	49.47	54.22	43.70	33.09	26.57	22.35	19.45	Diurnal Maximum	
Z - zerospan C - Calibration																																																	
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 159 ppb 24-hr 106 ppb																																																	



WCAS - Hinton
Summary of Hourly Averages

NOx (NO_x) - ppb
November 2015

Maximum Value: 191.23 ppb on Nov 30 19:00																						Maximum Daily Average: 64.16 ppb on Nov 30																						Hours in Service: 720					
Minimum Value: 0.5 ppb on Nov 12 19:00																						Minimum Daily Average: 5.91 ppb on Nov 10																						Hours of Data: 683					
Maximum Diurnal Average: 29.61 ppb at hour 19																						Minimum Diurnal Average: 9.96 ppb at hour 2																						Hours of Missing Data: 37					
Monthly Average: 17.696 ppb																						Percentiles: P ₁ = 1.0 P ₁₀ = 3.8 Q ₁ = 6.7 Median = 11.7 Q ₃ = 20.3 P ₉₀ = 36.7 P ₉₉ = 114.9																						Hours of Calibration: 37					
																																												Percent Operational Time: 100.0					
Day	Hourly Period Ending At																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Nov	14.9	23.9	20.3	Z	12.0	11.8	8.9	11.8	14.2	13.4	7.6	6.0	7.2	7.3	8.6	6.9	8.2	9.9	10.9	11.3	18.0	10.6	16.9	13.9	11.93	23.90																							
2-Nov	6.8	4.9	9.8	Z	8.0	23.3	10.9	15.3	17.7	9.6	7.5	8.0	7.7	6.8	8.5	11.1	10.1	17.0	20.2	22.8	20.4	7.1	9.5	10.3	11.89	23.30																							
3-Nov	12.1	13.9	15.3	Z	9.5	11.5	19.9	24.8	52.4	78.6	27.0	17.9	3.0	7.1	6.4	7.0	9.3	28.9	12.1	7.7	19.9	9.7	16.2	17.0	18.58	78.64																							
4-Nov	15.8	16.4	15.5	Z	13.6	22.8	25.9	35.6	25.6	5.7	6.3	5.1	9.2	2.9	6.2	4.2	6.8	10.1	7.7	8.9	6.7	4.7	14.3	23.6	12.77	35.57																							
5-Nov	19.0	15.9	21.8	Z	10.9	16.0	17.1	30.1	42.9	31.2	50.7	31.5	6.2	1.9	6.8	5.7	10.1	7.6	23.7	19.9	18.7	27.2	15.8	24.3	19.79	50.66																							
6-Nov	21.1	16.3	21.6	Z	16.9	18.1	26.0	31.6	32.4	36.7	13.3	15.7	13.1	10.3	11.2	4.9	11.8	8.7	6.7	1.8	4.3	13.6	9.6	7.2	15.34	36.68																							
7-Nov	6.0	10.0	0.6	Z	8.4	8.4	12.4	5.3	3.4	6.1	4.1	8.0	5.0	4.0	12.5	6.0	6.0	6.3	5.4	5.5	3.9	3.5	7.1	2.6	6.11	12.47																							
8-Nov	5.6	6.3	5.5	Z	2.8	4.2	7.1	5.5	13.4	14.1	6.3	7.1	7.6	11.4	9.6	6.3	18.7	27.9	20.8	9.4	14.8	8.2	7.1	8.9	9.94	27.94																							
9-Nov	8.8	8.5	7.3	Z	10.6	11.8	10.5	9.0	11.9	11.3	8.6	8.0	5.8	6.5	5.5	5.9	8.3	7.7	7.2	4.4	3.2	3.1	3.1	4.7	7.47	11.89																							
10-Nov	3.3	1.7	2.1	Z	2.5	3.0	4.9	3.0	5.9	4.9	4.6	5.0	5.1	4.3	6.1	7.2	10.9	12.8	7.7	11.5	12.0	4.9	3.5	9.0	5.91	12.79																							
11-Nov	6.8	0.8	6.5	Z	6.1	4.4	8.5	14.7	7.2	7.2	9.4	7.4	6.4	5.1	2.6	4.9	1.0	7.6	6.8	17.6	13.8	2.3	7.0	2.9	6.83	17.64																							
12-Nov	3.4	5.4	29.8	Z	28.0	37.4	37.3	21.0	11.8	11.9	5.2	5.6	11.1	5.9	7.4	2.8	0.7	0.6	0.5	1.6	7.7	15.1	27.5	20.2	12.95	37.38																							
13-Nov	9.9	7.2	10.5	Z	6.1	6.4	27.9	44.1	33.6	17.9	17.0	24.2	14.3	18.9	16.3	39.2	54.6	47.5	61.7	74.4	53.6	36.4	36.8	39.6	30.36	74.41																							
14-Nov	23.2	23.6	24.3	Z	30.0	34.3	31.7	37.0	45.1	27.3	45.7	28.0	23.2	15.7	16.3	29.6	40.4	29.0	28.2	17.7	37.0	29.9	26.1	13.7	28.57	45.65																							
15-Nov	8.6	8.3	7.0	Z	6.8	5.9	4.7	6.7	10.6	11.2	19.4	13.0	12.0	13.3	7.7	13.6	7.4	6.7	5.9	3.1	4.4	6.2	7.1	4.4	8.44	19.35																							
16-Nov	5.5	6.4	9.3	Z	16.1	34.0	33.4	56.8	113.8	132.3	123.3	27.5	9.7	6.6	7.6	7.3	8.6	14.3	23.1	4.3	6.4	15.1	18.4	7.6	29.88	132.34																							
17-Nov	2.7	6.8	9.3	Z	5.4	9.9	26.4	57.6	58.4	21.2	34.0	22.8	28.1	17.8	18.1	17.0	15.1	28.7	22.1	7.6	1.4	2.0	2.8	3.8	18.21	58.36																							
18-Nov	2.6	1.4	1.0	Z	38.7	30.2	25.7	33.5	68.4	72.5	69.5	47.5	57.7	14.8	6.5	10.5	22.8	18.7	44.3	88.1	63.8	41.1	32.6	15.1	35.08	88.12																							
19-Nov	5.0	4.5	9.1	Z	4.1	8.4	14.6	20.0	19.5	18.6	15.8	24.4	8.8	8.5	6.4	2.8	2.2	1.1	3.3	11.7	16.8	20.7	15.6	17.3	11.26	24.38																							
20-Nov	12.2	9.4	13.6	Z	6.5	20.4	60.6	39.5	15.9	18.7	39.9	62.5	18.4	11.9	9.7	9.0	7.1	14.2	15.8	17.8	16.2	14.8	5.6	6.6	19.41	62.51																							
21-Nov	11.7	13.2	10.2	Z	4.1	2.2	8.1	10.4	16.6	14.3	3.0	3.7	8.7	16.5	7.7	11.5	10.1	4.4	3.9	9.5	7.7	13.1	8.1	14.0	9.25	16.63																							
22-Nov	2.7	1.6	1.5	Z	14.9	15.0	11.3	5.4	13.6	9.9	5.4	4.5	1.2	1.3	0.8	0.8	2.6	42.6	48.4	25.4	66.7	35.2	30.7	21.2	15.77	66.72																							
23-Nov	25.8	17.3	35.6	Z	32.1	39.6	26.4	21.7	16.0	17.2	13.2	13.4	13.9	15.3	10.9	8.9	11.3	12.0	9.4	6.9	5.7	3.2	2.5	1.7	15.65	39.64																							
24-Nov	2.0	2.0	1.8	Z	1.8	1.8	3.4	3.4	7.7	5.8	15.3	9.2	10.3	11.7	11.8	10.0	59.8	103.4	91.4	75.7	40.0	16.8	13.5	11.8	22.19	103.38																							
25-Nov	13.9	9.2	5.6	Z	8.5	12.0	16.7	14.8	8.7	6.0	3.0	4.0	6.0	8.7	10.6	16.7	19.9	20.3	13.3	9.9	9.0	9.6	13.7	17.0	11.18	20.29																							
26-Nov	23.2	14.1	14.3	Z	12.6	11.7	12.3	13.3	13.0	14.3	8.8	12.6	5.5	5.4	5.3	C	C	C	C	C	C	C	C	3.1	2.2	--	23.22																						
27-Nov	3.8	2.8	3.8	Z	3.1	6.3	4.6	6.7	9.5	6.9	10.7	8.6	6.4	9.9	9.4	14.8	14.3	19.3	12.8	9.2	5.4	10.3	12.5	10.0	8.74	19.28																							
28-Nov	11.0	8.5	9.0	Z	12.1	52.2	13.6	27.3	16.8	47.2	32.3	22.8	11.2	10.8	20.8	27.2	23.4	26.1	12.8	14.1	12.2	19.9	19.6	15.0	20.25	52.15																							
29-Nov	29.6	18.9	12.3	Z	9.3	10.9	12.3	22.4	15.6	16.7	17.2	28.1	31.9	24.0	22.4	21.9	25.2	48.3	141.4	59.4	65.0	26.6	19.0	14.8	30.14	141.40																							
30-Nov	13.6	19.6	26.0	Z	26.4	26.3	90.4	57.8	41.3	62.0	117.0	113.6	25.3	22.8	22.4	46.4	97.9	174.7	191.2	144.2	71.1	41.9	19.6	24.2	64.16	191.23																							
																								11.03	9.96	12.01	--	12.27	16.67	20.45	22.86	25.43	25.01	24.70	19.86	12.67	10.25	10.08	12.42	18.09	26.08	29.61	24.18	21.58	15.61	14.17	12.82	Diurnal Average	
																								29.60	23.90	35.64	--	38.71	52.15	90.38	57.75	113.76	132.34	123.30	113.58	57.73	23.97	22.45	46.44	97.94	174.74	191.23	144.15	71.11	41.88	36.85	39.55	Diurnal Maximum	
Z - zerospan C - Calibration																																																	
Alberta Ambient Air Quality Objectives (AAQO): 1-hr --- ppb 24-hr --- ppb																																																	



WCAS - Hinton
Summary of Hourly Averages

PM2.5 (PM_{2.5}) - µg/m³
November 2015

Maximum Value: 25.36 µg/m ³ on Nov 26 15:00	Maximum Daily Average: 10.09 µg/m ³ on Nov 5	Hours in Service: 720
Minimum Value: 0.0 µg/m ³ on Nov 16 15:00	Minimum Daily Average: 2.05 µg/m ³ on Nov 27	Hours of Data: 719
Maximum Diurnal Average: 8.12 µg/m ³ at hour 11	Minimum Diurnal Average: 4.40 µg/m ³ at hour 4	Hours of Missing Data: 1
Monthly Average: 6.207 µg/m ³	Percentiles: P ₁ = 0.0 P ₁₀ = 2.4 Q ₁ = 3.9 Median = 5.5 Q ₃ = 7.8 P ₉₀ = 11.6 P ₉₉ = 16.9	Hours of Calibration: 0
		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-Nov	5.7	8.0	7.3	4.8	5.8	4.1	4.1	5.8	8.9	8.9	7.4	7.0	9.3	8.7	10.8	10.7	10.8	12.1	12.5	13.6	13.1	12.5	14.2	10.6	9.03	14.19
2-Nov	5.3	3.9	4.1	4.2	4.6	5.9	4.9	5.9	5.4	5.0	4.4	4.5	4.4	4.6	6.1	6.5	5.6	6.5	7.4	6.8	7.0	4.5	4.7	4.8	5.30	7.44
3-Nov	6.0	5.1	7.2	5.8	5.6	7.0	6.6	5.8	7.2	10.2	9.4	8.6	2.3	4.8	4.4	2.8	3.7	5.0	4.8	4.2	5.7	4.6	6.8	5.3	5.79	10.16
4-Nov	3.4	2.4	8.3	4.0	5.3	7.4	7.1	8.6	10.5	5.0	3.0	4.6	6.6	3.4	3.1	4.1	6.7	9.9	7.7	5.6	5.0	8.8	14.2	6.24	14.20	
5-Nov	11.4	14.2	20.4	17.0	10.6	8.7	10.3	14.2	17.2	15.9	19.0	14.2	5.1	4.5	8.2	4.7	6.9	3.9	6.0	5.4	4.8	7.5	5.8	6.0	10.09	20.36
6-Nov	5.4	4.0	4.0	4.1	4.7	4.3	5.5	7.0	12.8	13.6	6.3	15.8	13.4	12.6	13.3	7.0	12.4	13.8	11.6	6.3	9.0	13.3	10.8	8.3	9.14	15.84
7-Nov	7.0	10.5	5.8	3.7	8.8	8.6	7.5	7.6	3.5	5.6	5.7	4.9	5.3	4.0	11.1	5.9	6.4	12.0	7.3	16.8	6.7	2.7	3.8	4.4	6.91	16.81
8-Nov	4.9	5.6	5.1	4.0	3.4	2.9	2.9	2.8	3.9	5.1	4.5	4.4	5.1	6.5	6.5	4.6	5.5	5.7	5.5	4.2	5.5	4.3	3.8	4.5	4.65	6.52
9-Nov	5.3	4.8	3.7	3.4	4.2	4.5	2.9	3.5	5.3	7.6	3.6	3.8	3.3	4.3	1.9	2.2	2.7	2.2	2.0	2.4	2.2	1.8	2.1	2.3	3.42	7.55
10-Nov	1.6	2.0	2.0	2.1	1.6	2.0	2.7	2.6	3.2	2.6	3.0	4.1	5.1	4.2	2.6	2.7	6.3	8.9	3.9	8.8	12.0	8.0	6.0	10.3	4.50	11.98
11-Nov	11.4	6.1	10.3	10.9	11.9	5.7	7.5	8.0	6.2	6.6	7.5	6.5	6.7	6.9	5.8	7.5	5.8	9.2	6.0	7.4	8.9	3.5	10.0	5.2	7.55	11.88
12-Nov	5.8	4.7	6.0	5.9	5.1	8.1	9.0	9.6	7.1	6.3	3.9	4.4	4.9	5.6	8.1	8.2	6.7	4.8	4.0	5.4	11.4	13.8	11.8	11.6	7.18	13.81
13-Nov	7.4	5.8	2.4	3.4	3.2	4.6	5.3	7.8	9.8	8.1	7.2	9.3	9.0	10.7	8.0	4.8	13.1	6.7	11.0	7.1	5.3	7.4	6.2	7.6	7.14	13.09
14-Nov	5.0	7.5	7.0	5.7	8.7	4.3	5.1	5.1	5.6	3.9	11.8	8.5	11.8	6.5	6.6	4.3	5.5	16.1	12.1	8.3	11.4	9.4	7.9	8.2	7.76	16.05
15-Nov	6.9	5.1	4.7	2.3	2.4	1.9	1.9	3.3	4.3	4.7	7.6	6.3	6.9	6.6	5.0	6.8	5.9	4.0	4.1	3.3	3.3	6.1	6.3	5.6	4.81	7.59
16-Nov	6.5	5.2	5.3	4.8	5.8	5.0	4.9	6.5	9.6	14.9	11.5	6.1	1.0	1.2	0.0	0.0	0.2	1.8	2.1	0.2	1.8	3.7	10.6	2.3	4.63	14.92
17-Nov	2.1	6.7	2.5	3.3	3.2	3.5	3.2	8.0	9.2	5.7	4.2	4.5	6.7	6.6	6.4	3.3	4.0	6.1	8.5	4.8	4.3	6.0	6.7	6.2	5.23	9.24
18-Nov	5.7	5.9	6.6	7.0	7.0	7.8	7.0	7.8	11.5	12.5	14.0	10.7	14.9	4.2	3.8	7.3	5.5	4.4	5.7	7.6	8.9	3.9	3.9	8.3	7.58	14.90
19-Nov	5.1	1.0	4.8	4.1	6.4	5.2	4.1	4.3	5.5	4.3	6.1	7.1	0.6	5.4	5.1	3.3	2.7	5.1	3.3	4.0	6.1	4.4	4.8	6.4	4.55	7.11
20-Nov	5.0	4.0	5.8	2.8	2.1	3.7	5.5	3.4	2.4	5.6	12.7	20.0	6.3	9.7	7.0	7.2	2.9	10.4	13.3	16.3	14.5	13.2	5.7	6.4	7.75	20.00
21-Nov	13.2	13.1	10.5	2.8	4.2	2.9	9.0	11.6	14.3	15.6	3.7	2.4	6.7	13.4	7.2	11.2	8.8	6.0	4.1	8.8	7.8	11.6	9.4	12.9	8.79	15.57
22-Nov	5.9	5.0	4.0	5.4	13.7	15.3	12.2	8.7	15.6	13.1	8.5	7.8	5.3	4.2	3.6	4.1	4.5	11.7	14.2	7.1	8.9	9.0	10.1	14.7	8.86	15.65
23-Nov	12.2	8.1	6.3	6.0	5.9	5.6	5.7	5.3	4.7	6.1	5.8	5.1	3.1	5.1	6.2	6.2	6.3	7.1	5.7	7.4	8.0	5.8	4.6	4.6	6.12	12.23
24-Nov	3.5	3.2	3.3	4.2	3.4	4.3	7.8	8.5	6.8	5.3	4.8	4.5	4.9	3.8	5.5	4.5	7.0	6.1	9.1	8.3	7.8	4.2	4.6	3.8	5.38	9.07
25-Nov	3.7	4.1	3.9	3.4	3.3	4.6	3.2	4.2	3.5	6.6	3.2	5.7	1.3	6.4	5.6	4.3	4.6	6.0	3.7	4.8	6.1	3.4	3.1	3.3	4.25	6.61
26-Nov	3.0	2.3	2.3	2.4	0.8	1.9	1.7	2.0	1.5	3.3	11.5	14.3	2.5	10.7	25.4	3.2	3.6	5.1	2.9	3.9	3.9	4.1	3.2	3.2	4.94	25.36
27-Nov	6.5	UO	0.0	0.0	0.0	0.0	0.0	0.7	1.8	2.2	4.3	0.4	1.1	3.0	1.9	3.4	2.5	3.3	4.9	3.2	1.3	2.4	2.1	1.9	2.05	6.52
28-Nov	2.3	0.7	1.9	0.0	0.5	0.1	0.0	3.8	0.0	11.9	16.1	8.5	1.8	3.2	3.9	4.8	4.9	5.4	4.8	3.3	3.7	4.1	4.0	3.8	3.89	16.08
29-Nov	3.9	4.4	1.5	0.4	0.5	0.0	0.0	0.0	9.0	8.9	15.9	8.9	8.2	7.3	7.2	5.5	4.2	4.8	9.2	7.0	9.8	3.6	3.4	4.8	5.35	15.94
30-Nov	4.4	5.2	3.6	4.0	2.7	3.4	5.6	3.7	4.5	8.0	17.2	16.3	5.7	6.1	6.7	6.6	7.8	14.2	16.5	9.9	6.0	6.5	2.8	4.9	7.18	17.15

5.85	5.47	5.36	4.40	4.84	4.78	5.10	5.87	7.02	7.76	8.12	7.65	5.65	6.13	6.56	5.26	5.78	7.28	7.14	6.75	7.00	6.35	6.27	6.55	Diurnal Average	
13.16	14.20	20.36	17.01	13.72	15.25	12.18	14.23	17.17	15.88	19.02	20.00	14.90	13.35	25.36	11.22	13.09	16.05	16.48	16.81	14.50	13.81	14.19	14.71	Diurnal Maximum	

UO - Unstable Operation
 Alberta Ambient Air Quality Objectives (AAQO): 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: November 26, 2015

Parameter: NO/NO₂/NO_x

Instrument: Teco 42i

Serial Number: CM13040041

Previous Calibration Date: January 20 2015

Calibration: Routine

Calibration Equipment: SABIO 2010 sn # 04300810

Barometric Pressure: 26.90" Hg

Calibration Method: Std.Gas Dilution / GPT

Cylinder ID: FF16109

Temperature: 20.9° C

Cylinder Concentration: 12.6 ppm NO & NO_x

In Service: January 14, 2015

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	5.6	5.8	na	0.894	0.997	0.997	200 ppb
Current	5.5	5.9	na	0.907	1.002	0.956	200 ppb

NO	Final Zero: -0.2 ppb	Final Span: 151.2 ppb	As Found Correction Factor: 1.008
NO ₂	Final Zero: 2.3 ppb	Final Span: 2.7 ppb	As Found Correction Factor: NA
NO _x	Final Zero: -0.1 ppb	Final Span: 151.5 ppb	As Found Correction Factor: 1.019

Results of Linear Regression			Slope	Intercept	R ²
NO	R _c vs C _c	Previous	149.946200	39.193260	0.999981
		Current	150.089700	36.691620	0.999959
	C _i vs C _c	Current	1.000000	0.000000	0.999959
NO ₂	R _c vs C _c	Previous	100.290600	3.247578	0.999981
		Current	150.998900	-346.950700	0.998502
	C _i vs C _c	Current	1.000000	0.000000	0.998501
NO _x	R _c vs C _c	Previous	151.112900	44.788520	0.999981
		Current	150.513400	25.565620	0.999970
	C _i vs C _c	Current	1.000000	-0.000042	0.999970

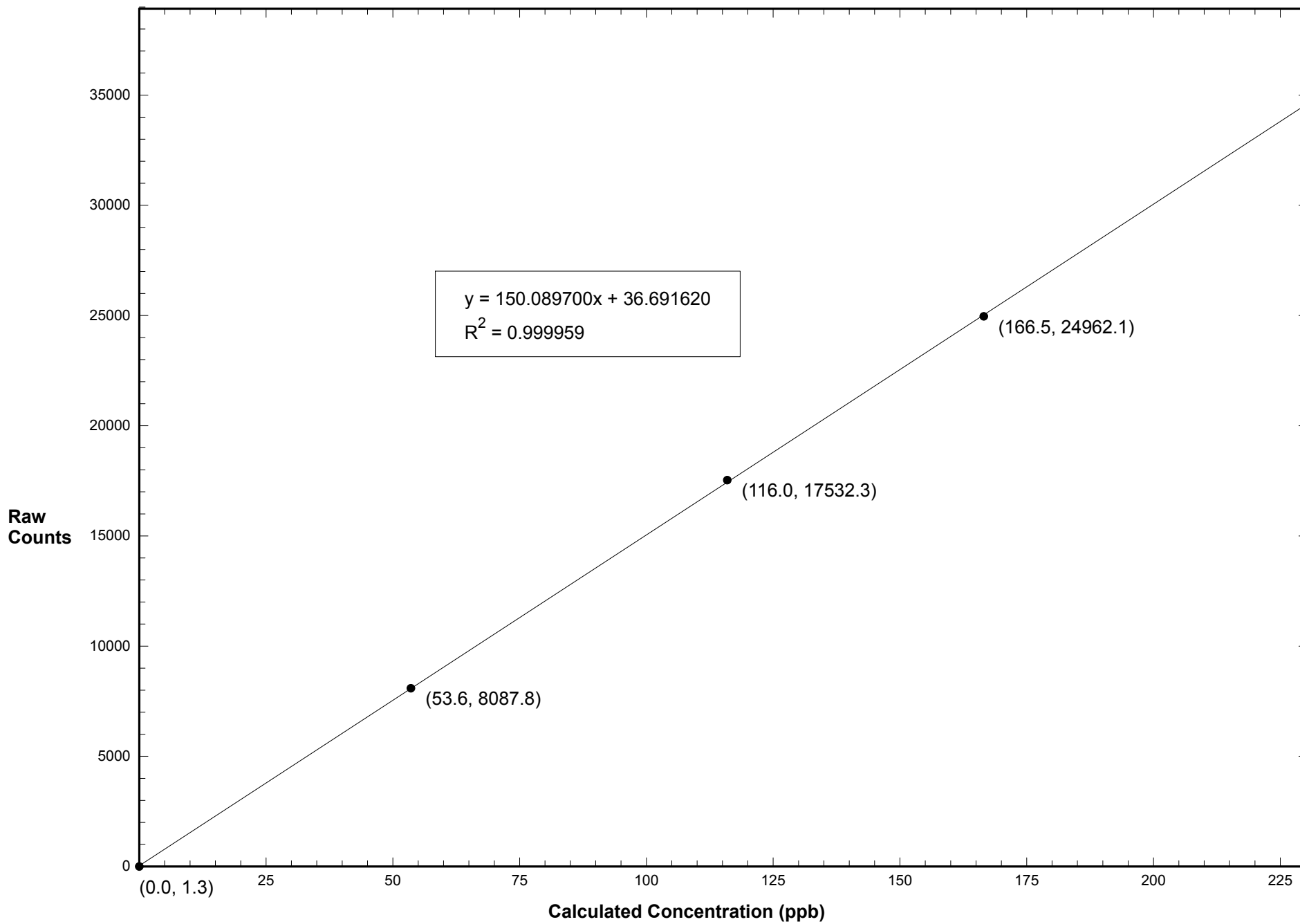
Comments:

Calibration Data Summary (Page 2)

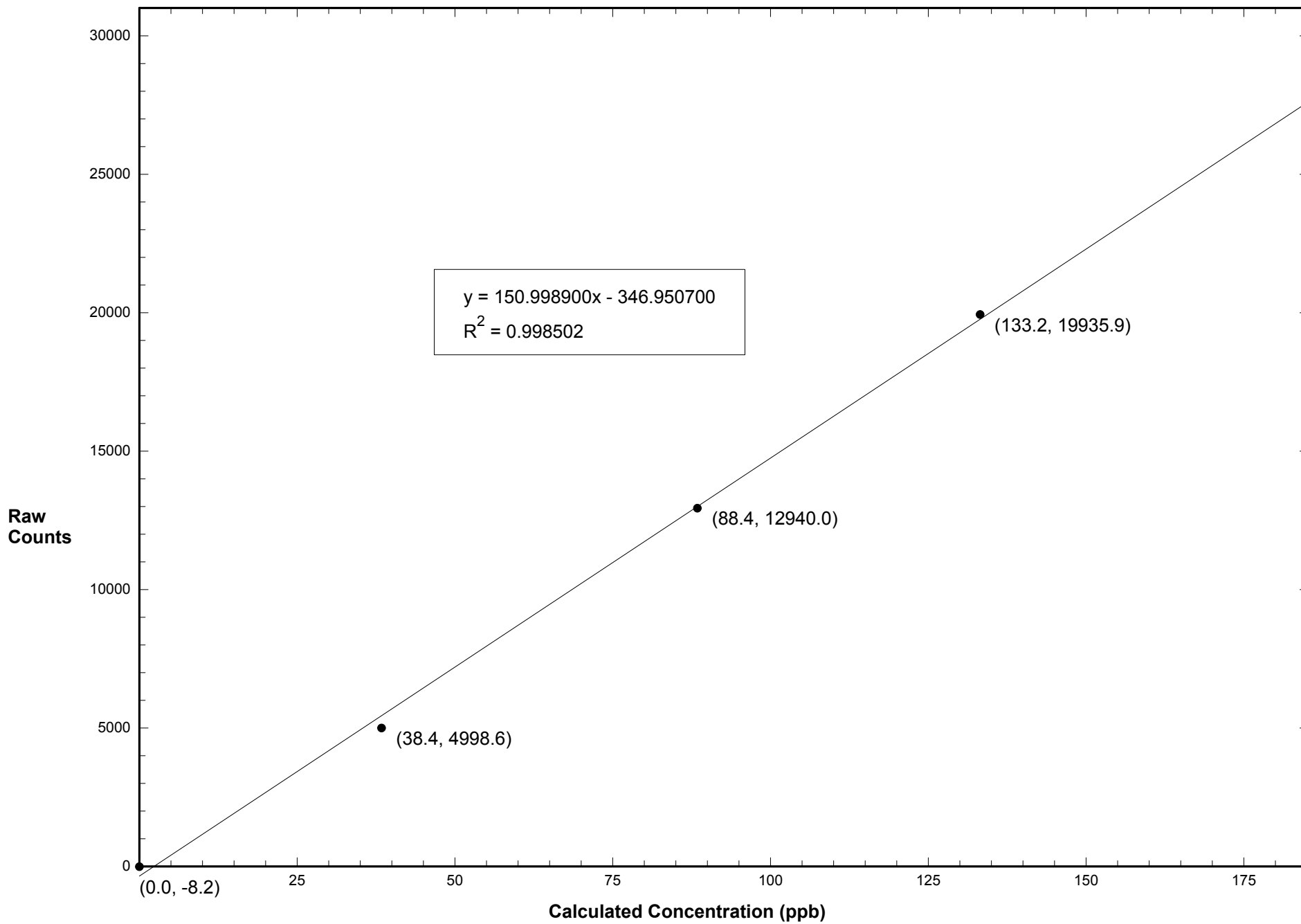
November 26, 2015 - Station 906

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		
0.06738	5.031	166.5	24962.1	166.1	1.003		
0.04675	5.033	116.0	17532.3	116.6	0.995		
0.02150	5.036	53.6	8087.8	53.6	0.999		
0.00000	5.026	0.0	1.3	-0.2			
NO Calibration					Average Correction Factor:	0.999	
0.06738	5.031	166.5	25031.0	166.1	1.002		
0.04675	5.033	116.0	17556.7	116.5	0.996		
0.02150	5.036	53.6	8099.3	53.6	0.999		
0.00000	5.026	0.0	-5.7	-0.2			
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
165.1	4821.5	31.9	133.2	19935.9	134.3	0.992	1.008
165.1	11545.7	76.7	88.4	12940.0	88.0	1.005	0.995
165.1	19056.4	126.7	38.4	4998.6	35.4	1.084	0.923
			0.0	-8.2	2.2		
					Average Correction Factor:	1.027	
NO ₂ Gas Phase Titration					Average Converter Efficiency: 0.976		
Parameter	Correction Factor (Previous)	Correction Factor: (Current)	Percent Change of Correction Factor				
NO	1.001	1.003	0.2				
NO ₂	1.000	0.992	-0.8				
NO _x	1.001	1.002	0.1				

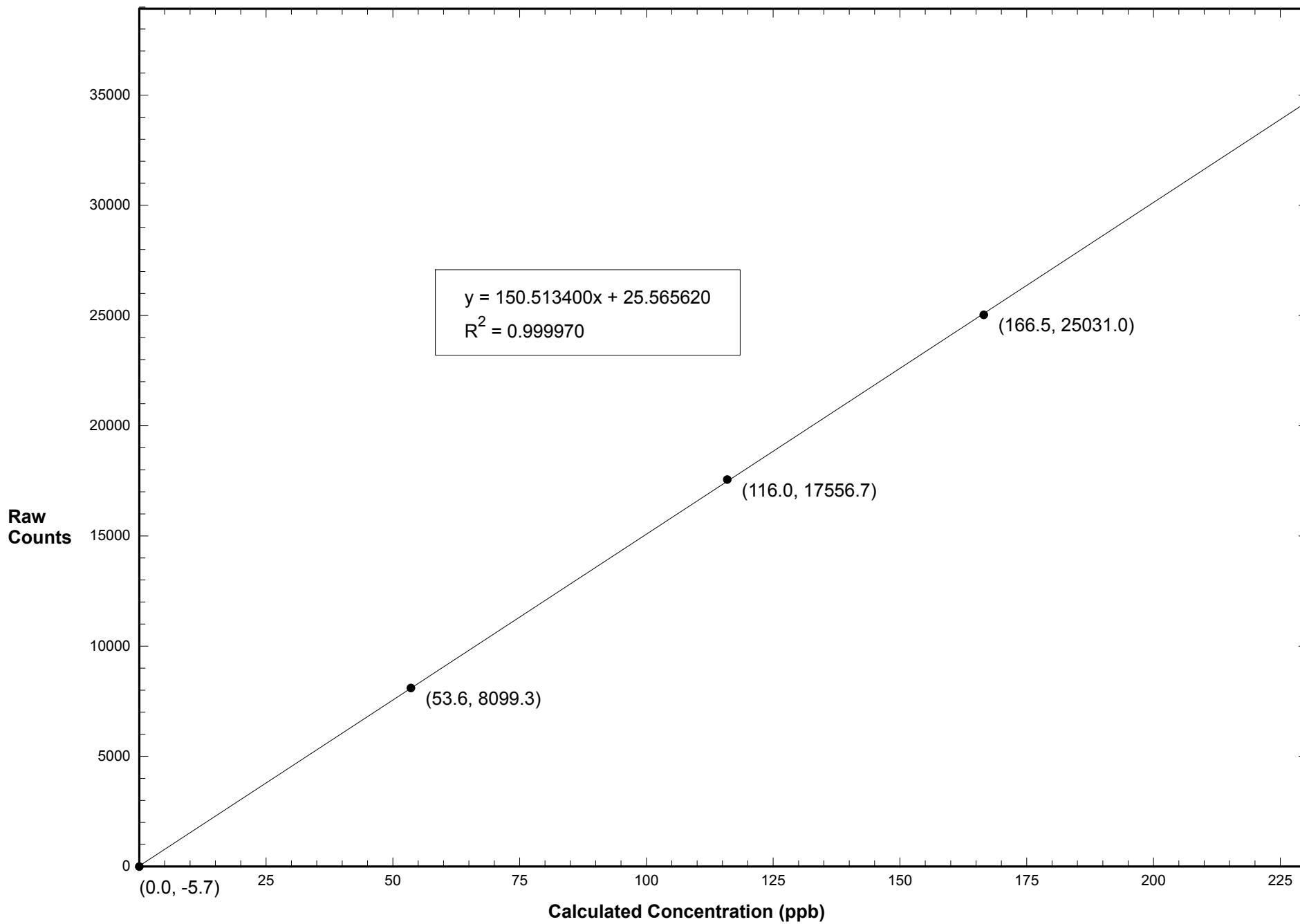
Station 906 NO November 26, 2015: Linear Regression



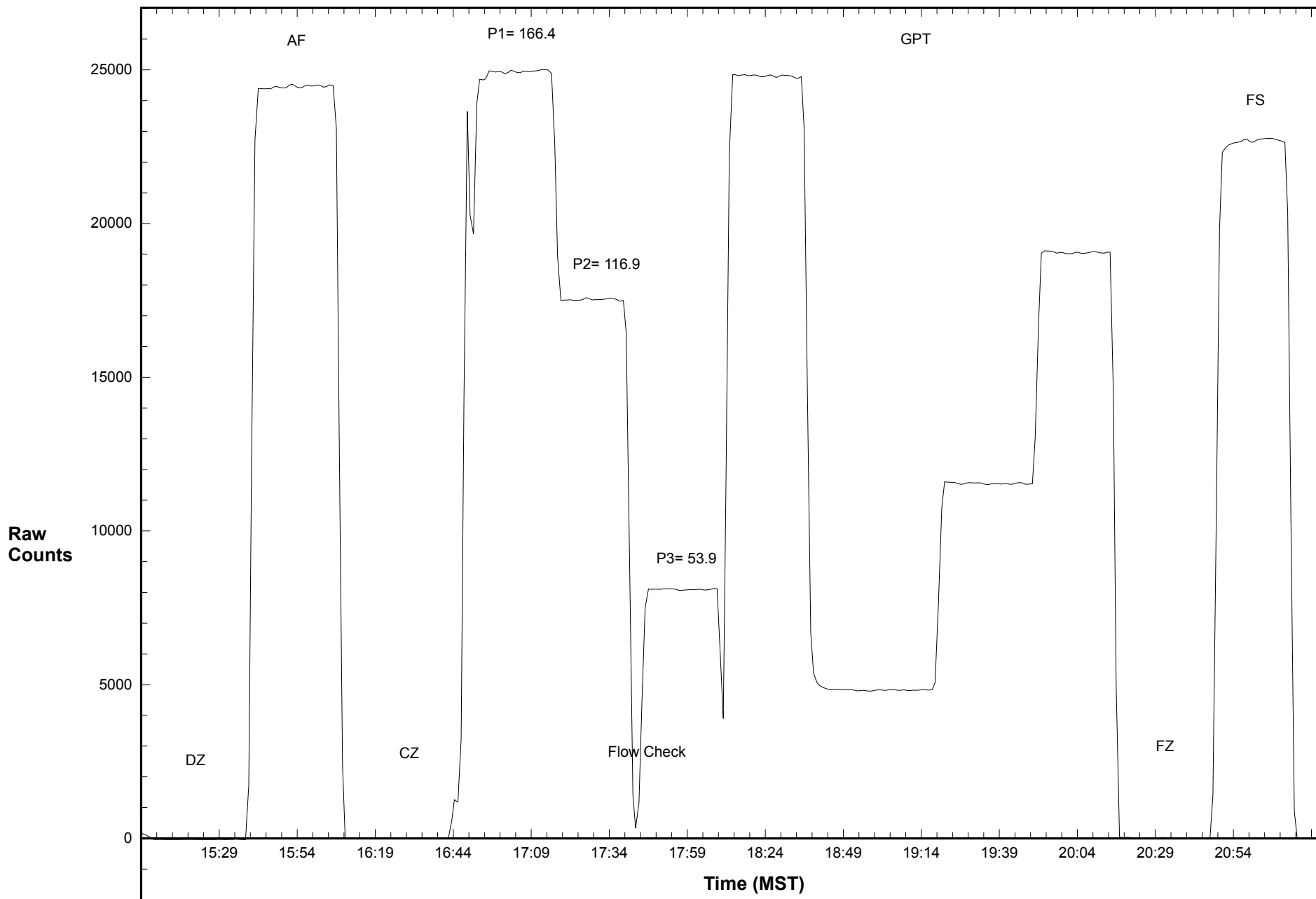
Station 906 NO2 November 26, 2015: Linear Regression



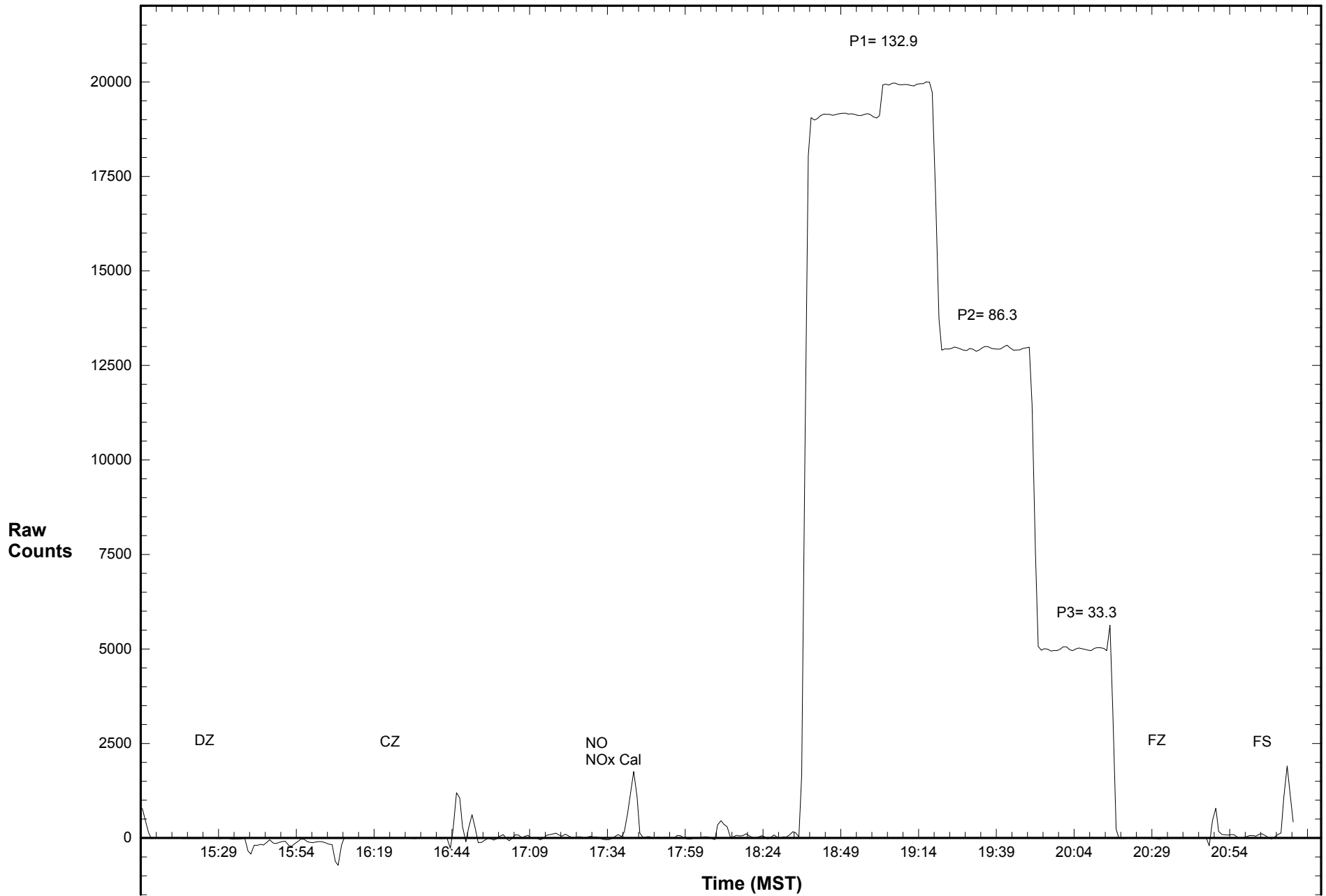
Station 906 NOX November 26, 2015: Linear Regression



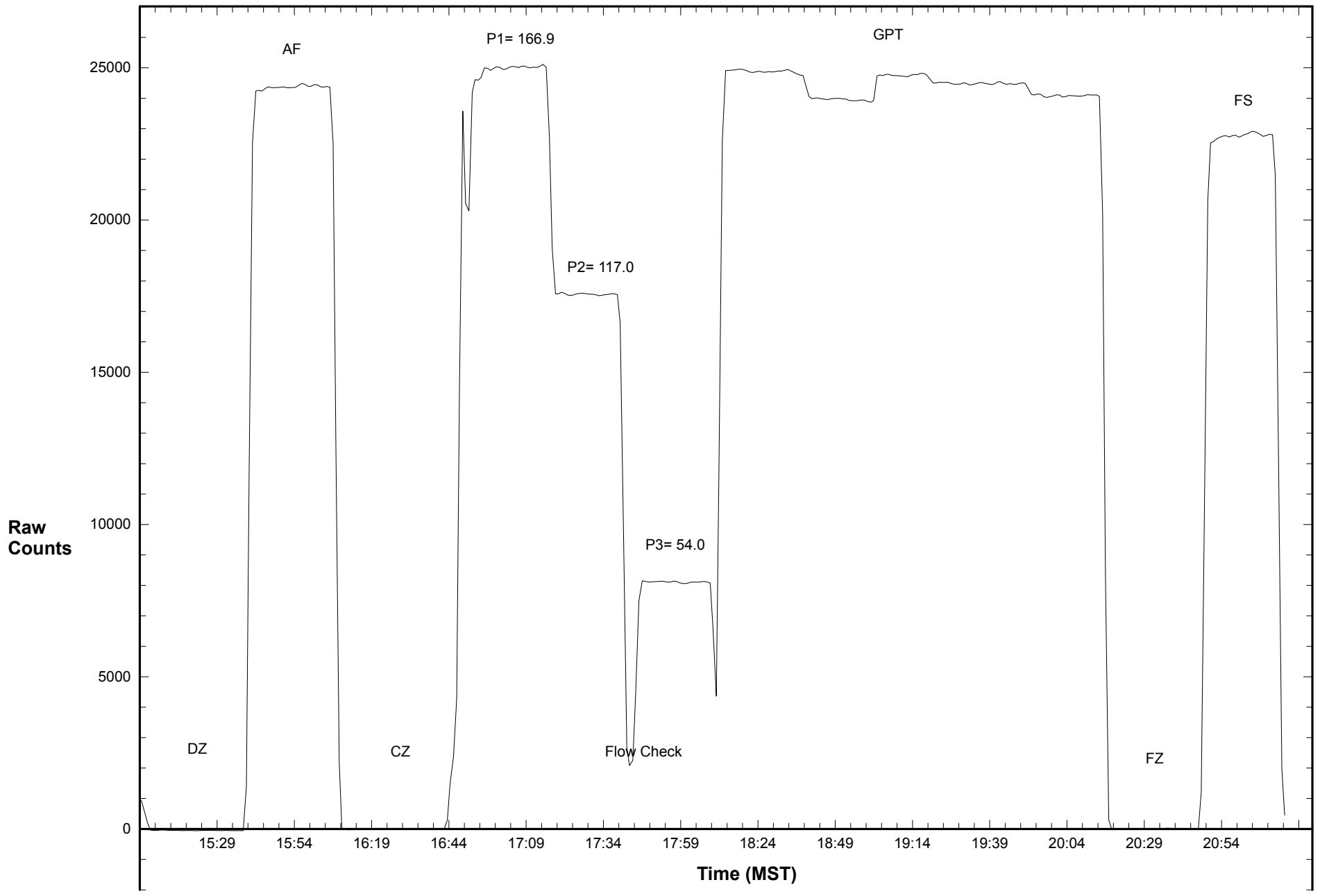
Station 906 NO November 26, 2015: Calibration Graph



Station 906 NO2 November 26, 2015: Calibration Graph



Station 906 NOX November 26, 2015: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 906, Hinton

Calibration Date: November 26, 2015

Parameter: O₃

Instrument: Teco 49i

Serial Number: 1150790050

Previous Calibration Date: October 20 2015

Calibration: Routine

Calibration Equipment: 2B Tech 306 SN-135

Barometric Pressure: 26.90" Hg

Calibration Method: Certified Ozone Generator

Temperature: 20.9° C

Technician: Dean Yustak

Instrument Settings	Background	Coefficient	Monitoring Range
Previous	-0.3	0.993	500 ppb
Current	-0.4	1.016	500 ppb

Final Zero: 0.5 ppb

Final Span: 365.7 ppb

As Found Correction Factor: 1.022

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	411.0	24640.6	411.6	0.999
3.000	258.0	15395.2	257.2	1.003
3.000	103.3	6169.3	103.1	1.002
3.000	0.0	17.4	0.4	

Results of Linear Regression

R _c vs C _c	Slope	Intercept	R ²
Previous	59.788540	52.339660	0.999973
Current	59.891640	-7.951776	0.999988
C _i vs C _c			
Current	1.000000	-0.000015	0.999988

Average Correction Factor: 1.001

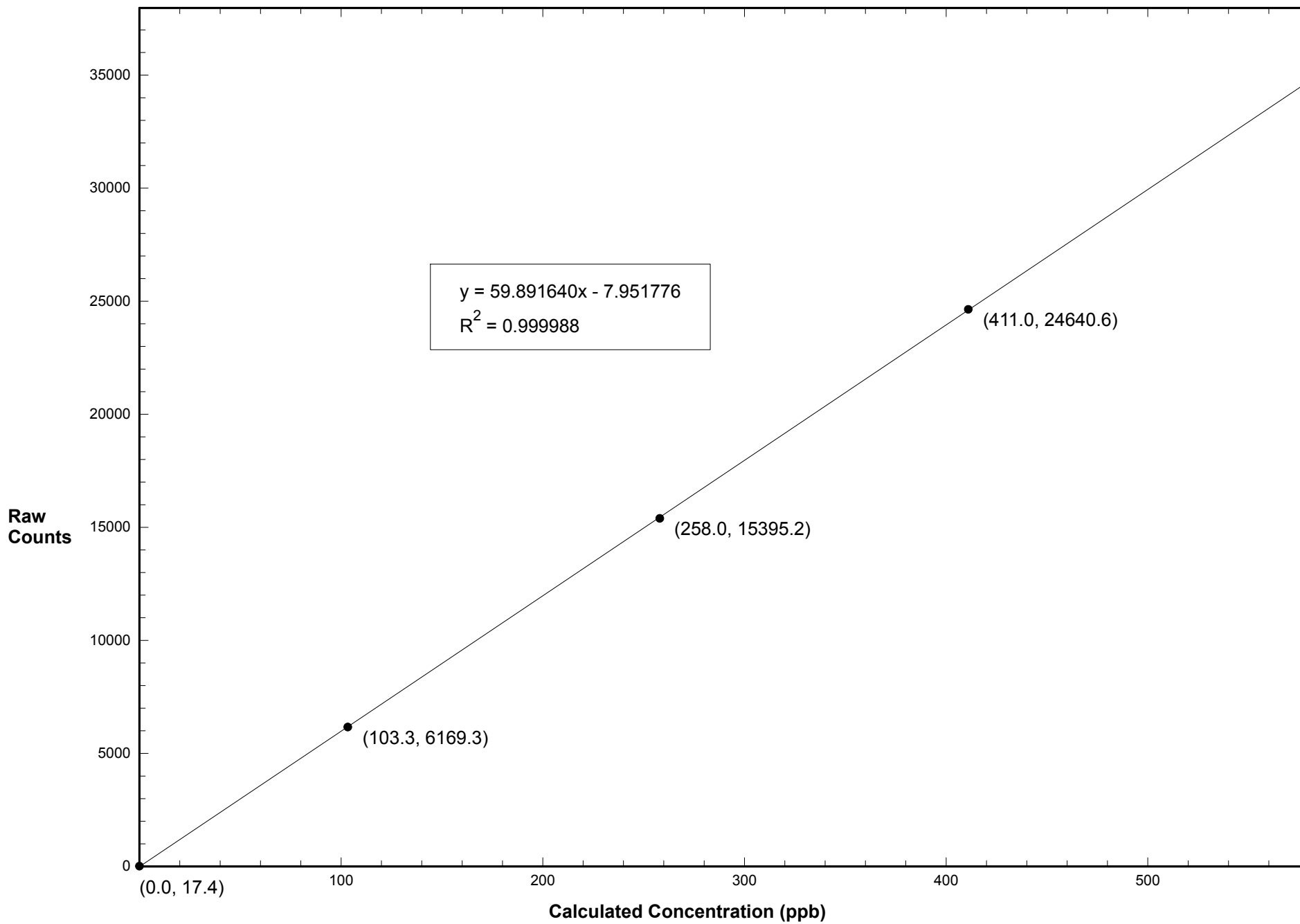
Previous Correction Factor: 1.002

Current Correction Factor: 0.999

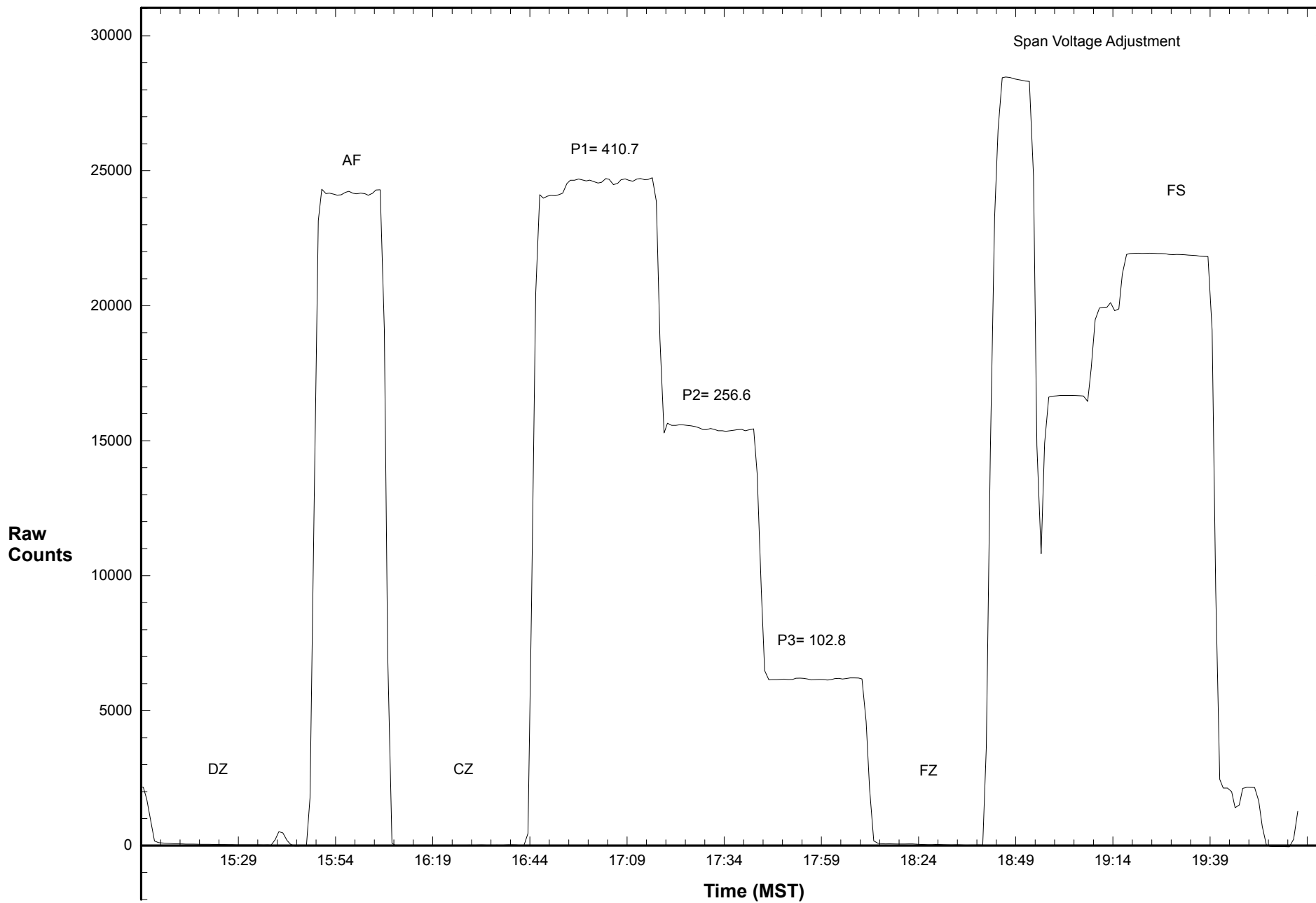
Percent Change of Correction Factor: -0.3

Comments:

Station 906 O3 November 26, 2015: Linear Regression



Station 906 O3 November 26, 2015: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 906, Hinton
 Calibration Date: November 26, 2015
 Parameter: SO₂

Instrument: Teco 43i	Serial Number: CM 12499009	Previous Calibration Date: January 20 2015
Calibration: Routine	Calibration Equipment: SABIO 2010 sn # 04300810	Barometric Pressure: 26.90" Hg
Calibration Method: Std.Gas Dilution	Cylinder ID: FF16109	Temperature: 20.9° C
Cylinder Concentration: 6.11 ppm SO ₂	In Service: February 5, 2013	Technician: Dean Yustak

Instrument Settings	SO ₂ bkg ppb	SO ₂ Coefficient	Monitoring Range
Previous	25.4	0.946	100 ppb
Current	25.4	0.982	100 ppb

Final Zero: -0.1 ppm Final Span: 66.2 ppm As Found Correction Factor: 1.037

SO ₂ Flow Rate (LPM)	Dilution Flow Rate (LPM)	Calculated Concentration C _c (ppm)	Raw Count Output R _c	Indicated Concentration C _i (ppm)	Correction Factor C _c /C _i
0.0674	5.031	80.7	24357.1	80.7	1.001
0.0468	5.033	56.2	16981.0	56.2	1.000
0.0215	5.036	26.0	7902.6	26.2	0.993
0.0000	5.026	0.0	-35.1	-0.1	

Results of Linear Regression			
R _c vs C _c	Slope	Intercept	R ²
Previous	302.874800	-29.122180	0.999976
Current	301.841300	4.787710	0.999984
C _i vs C _c			
Current	1.000000	0.000000	0.999984

Average Correction Factor: 0.998

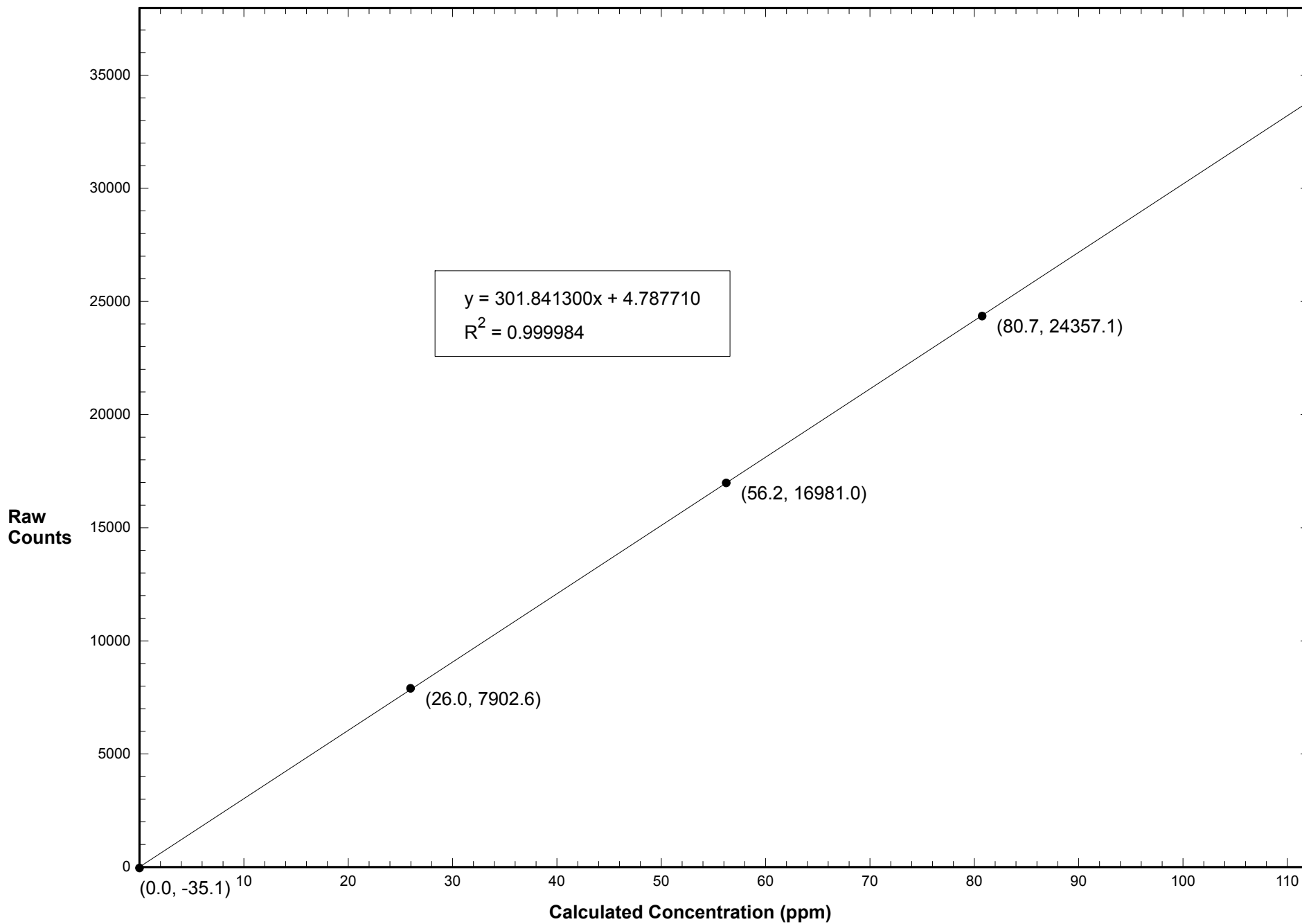
Previous Correction Factor: 1.001

Current Correction Factor: 1.001

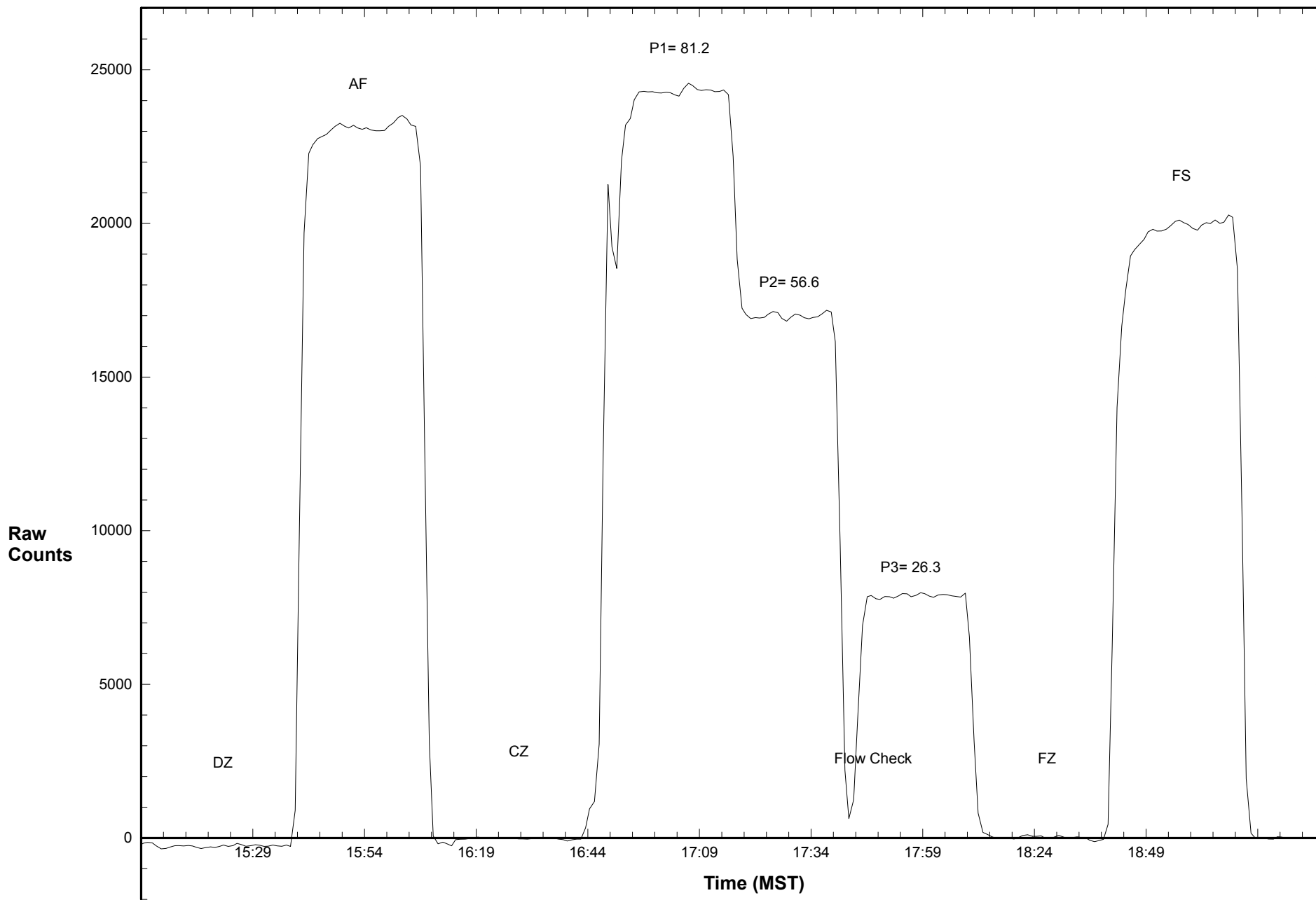
Percent Change of Correction Factor: 0.0

Comments:

Station 906 SO2 November 26, 2015: Linear Regression



Station 906 SO2 November 26, 2015: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 906, Hinton

Calibration Date: November 26, 2015

Parameter: TRS

Instrument: Teco 43C

Serial Number: 43CTL - 60324 - 326

Previous Calibration Date: January 20 2015

Calibration: Routine

Calibration Equipment: SABIO 2010 sn # 04300810

Barometric Pressure: 26.90" Hg

Calibration Method: Std.Gas Dilution

Permeation Device ID: SV14360, 4.89 ppm H2S

Temperature: 20.9° C

Permeation Rate: 0 ng/min

In Service: February 5, 2013

Technician: Dean Yustak

Instrument Settings	H ₂ S bkg ppb	H ₂ S Coefficient	Monitoring Range
Previous	1.92	0.794	100 ppb
Current	1.84	0.798	100 ppb

Final Zero: 0.0 ppb

Final Span: 66.5 ppb

As Found Correction Factor: 0.998

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
0.068	81.3	24429.3	81.3	1.000
0.042	50.0	15013.4	50.0	1.000
0.021	25.9	7737.5	25.8	1.002
0.000	0.0	-15.5	0.0	

Results of Linear Regression

R _c vs C _c	Slope	Intercept	R ²
Previous	301.747600	-89.011630	0.999962
Current	300.697100	-27.391350	0.999998
C _i vs C _c			
Current	1.000000	-0.000011	0.999999

Average Correction Factor: 1.001

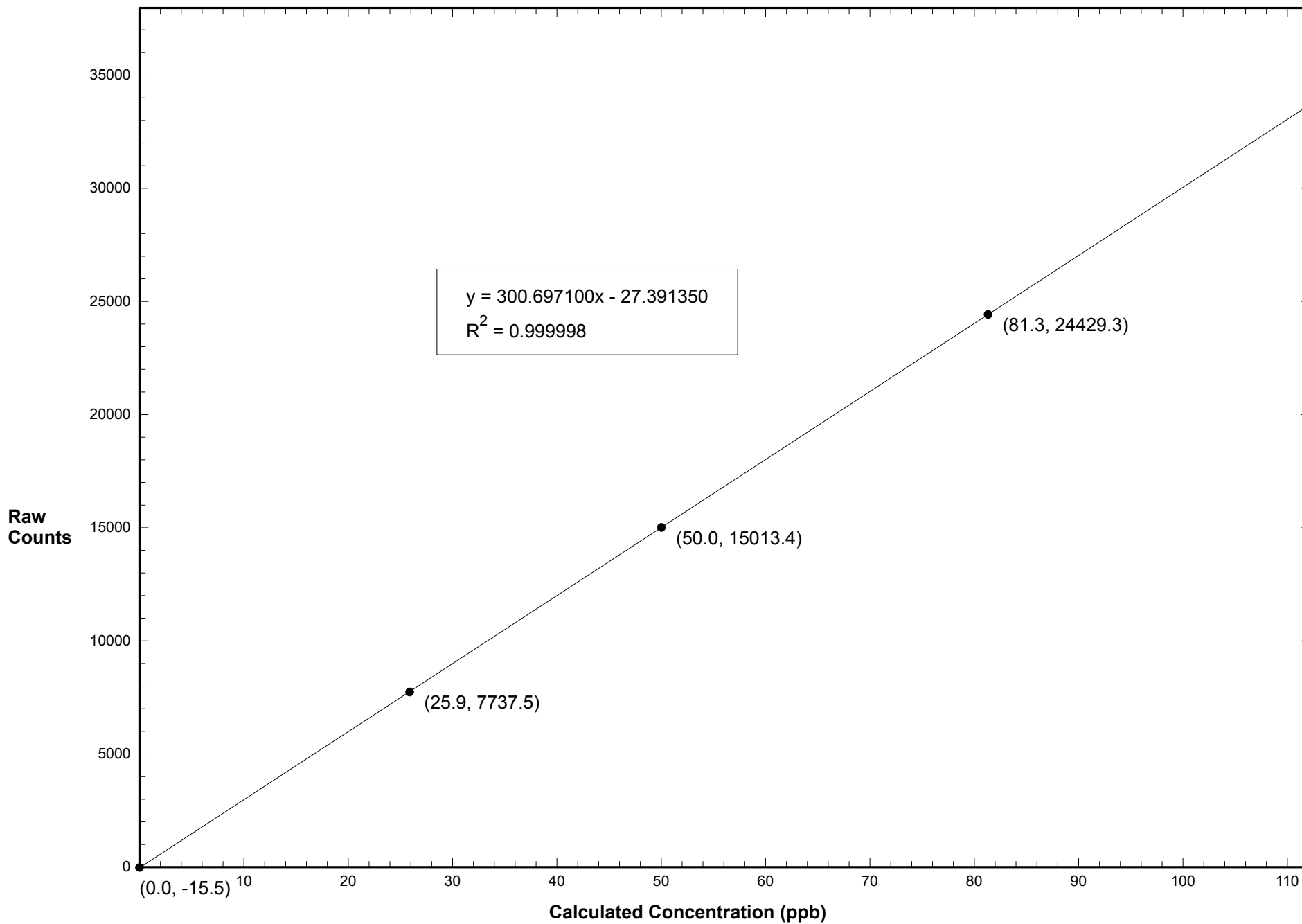
Previous Correction Factor: 0.998

Current Correction Factor: 1.000

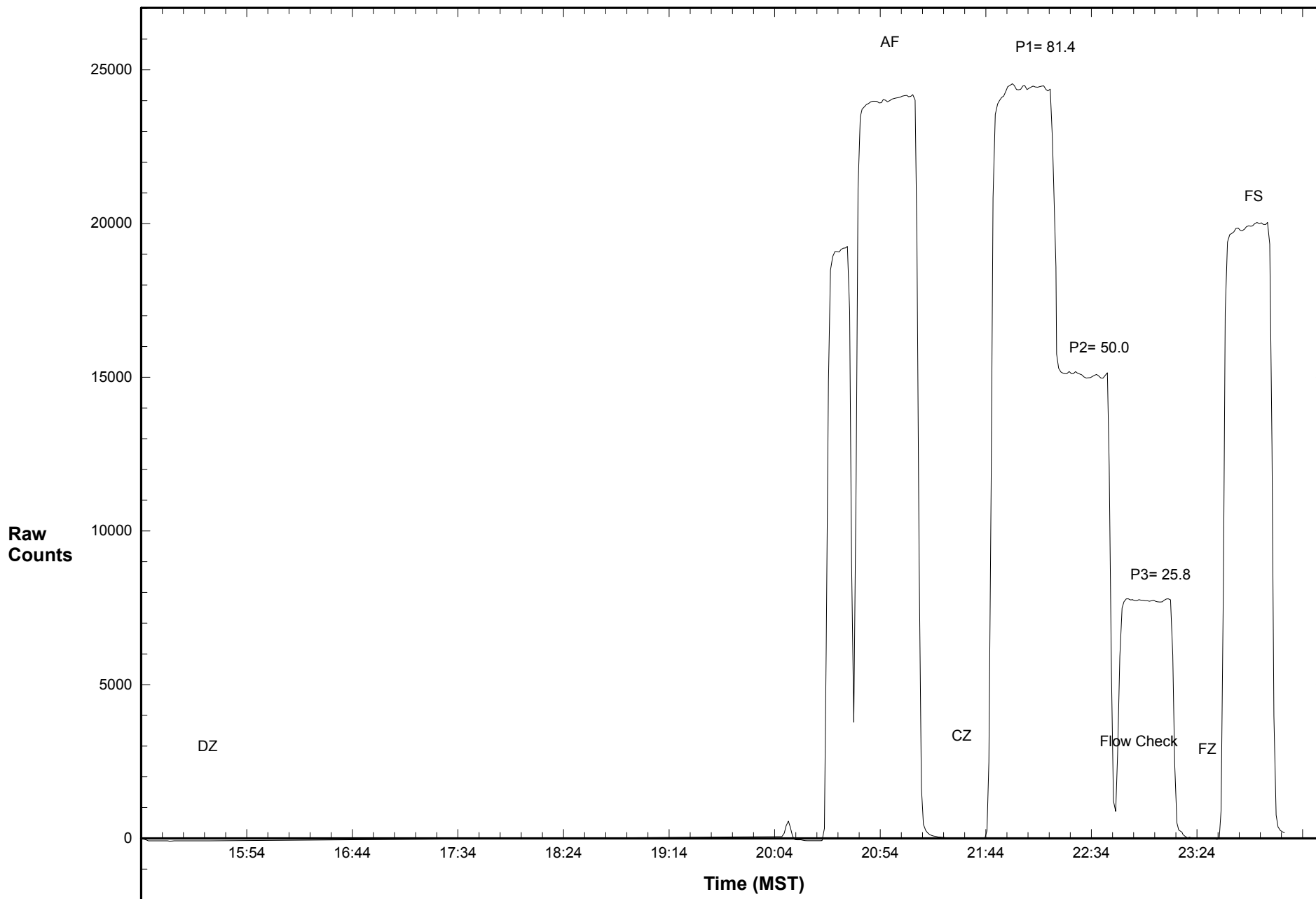
Percent Change of Correction Factor: 0.2

Comments:

Station 906 TRS November 26, 2015: Linear Regression



Station 906 TRS November 26, 2015: Calibration Graph



WEST CENTRAL AIRSHED SOCIETY

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

**AMS 906
HINTON
NOVEMBER 2015**

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 2015

Maximum Value: 11.93 C on Nov 7 14:00		Maximum Daily Average: 7.51 C on Nov 7		Hours in Service: 720																							
Minimum Value: -21.2 C on Nov 25 02:00		Minimum Daily Average: -14.83 C on Nov 25		Hours of Data: 720																							
Maximum Diurnal Average: 0.97 C at hour 15		Minimum Diurnal Average: -6.37 C at hour 7		Hours of Missing Data: 0																							
Monthly Average: -3.459 C		Percentiles: P ₁ = -20.5 P ₁₀ = -12.9 Q ₁ = -6.5 Median = -2.4 O ₃ = 0.2 P ₉₀ = 3.5 P ₉₉ = 9.0		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	-4.0	-4.6	-4.6	-4.5	-4.0	-3.9	-3.9	-3.5	-2.8	-1.9	-0.7	0.9	1.8	1.7	1.8	1.6	1.3	1.0	0.5	-0.2	-0.2	-0.5	-0.8	-0.8	-1.25	1.84	
2-Nov	-0.4	-1.0	-1.4	-1.4	-1.2	-0.9	-1.5	-2.0	-2.3	-1.0	0.9	2.4	2.7	2.9	2.9	2.3	1.7	0.9	0.2	-0.6	-0.8	-0.7	-0.5	-0.7	0.02	2.94	
3-Nov	-0.5	-0.5	-0.8	-0.8	-1.2	-1.2	-1.0	-1.4	-2.2	-1.7	0.7	1.1	2.1	3.5	3.1	2.5	1.8	0.7	0.4	-0.1	-1.1	-1.5	-2.3	-3.0	-0.15	3.45	
4-Nov	-3.9	-4.8	-5.1	-5.7	-6.4	-6.9	-7.5	-6.4	-4.7	-0.1	3.0	4.5	5.7	6.2	6.3	6.2	5.1	4.0	3.2	2.7	1.4	-1.8	-2.4	-2.1	-0.40	6.32	
5-Nov	-2.0	-2.2	-2.3	-2.4	-1.9	-1.6	-1.0	-1.2	-0.8	-0.1	0.2	1.2	3.2	3.5	3.4	2.5	1.6	0.6	-0.1	-0.8	-1.4	-1.5	-2.5	-3.1	-0.37	3.51	
6-Nov	-3.5	-4.2	-4.9	-5.6	-6.1	-7.2	-7.8	-8.3	-8.0	-4.9	2.5	5.2	5.8	6.6	6.8	6.8	7.0	7.0	6.9	6.8	7.4	8.2	8.6	9.0	1.42	9.00	
7-Nov	9.2	9.5	8.8	8.4	7.5	8.1	7.9	7.2	8.0	8.3	9.0	9.8	11.4	11.9	10.9	9.8	9.1	6.6	3.7	3.5	3.5	3.1	2.9	2.2	7.51	11.93	
8-Nov	2.0	1.4	0.5	0.2	0.1	0.0	-0.1	0.0	0.0	0.2	0.3	0.4	0.7	0.5	0.8	0.6	0.3	0.1	-0.1	-0.4	-0.5	-0.6	-0.8	-0.7	0.21	2.00	
9-Nov	-0.9	-0.9	-1.1	-1.3	-1.6	-2.2	-2.3	-2.5	-2.4	-1.6	-0.5	-0.1	0.6	1.2	1.4	0.9	-0.2	-1.3	-2.0	-2.6	-3.1	-3.5	-4.0	-4.5	-1.44	1.39	
10-Nov	-4.0	-4.1	-4.3	-4.6	-4.8	-4.8	-4.8	-4.8	-4.3	-3.3	-2.1	-1.0	-0.6	0.8	0.8	1.1	1.0	2.1	2.2	1.5	1.9	3.6	4.0	2.5	-1.08	3.96	
11-Nov	2.6	1.7	2.3	1.4	0.7	0.1	-0.4	-0.4	-0.2	0.0	1.2	3.3	4.1	4.6	3.2	2.3	0.4	-0.5	-1.7	-1.7	-1.8	-1.5	-0.7	-1.2	0.73	4.64	
12-Nov	-1.4	-2.5	-4.1	-5.8	-7.1	-7.9	-8.4	-3.6	0.3	1.1	2.2	2.0	2.4	3.5	2.9	3.0	2.4	2.1	2.0	1.8	1.8	0.3	-0.7	-1.2	-0.62	3.46	
13-Nov	0.1	0.4	-0.5	-1.9	0.0	-0.4	-1.3	-1.6	-2.1	-1.1	-1.1	-0.6	0.7	1.6	2.3	1.4	-0.8	-1.9	-2.4	-3.1	-3.9	-4.3	-5.7	-7.0	-1.38	2.34	
14-Nov	-7.3	-7.7	-8.4	-8.8	-8.5	-9.1	-9.6	-9.6	-9.7	-9.6	-7.8	-4.8	-1.6	0.3	1.6	0.7	-0.2	-1.0	-1.4	-1.8	-2.2	-2.5	-2.3	-2.6	-4.73	1.57	
15-Nov	-2.6	-2.5	-2.5	-2.3	-2.3	-2.3	-2.3	-2.4	-2.4	-2.1	-1.6	-1.2	-0.5	-0.8	-1.0	-1.3	-1.3	-1.9	-2.2	-2.7	-2.8	-2.9	-3.1	-3.2	-2.09	-0.47	
16-Nov	-3.7	-4.2	-4.6	-5.9	-7.7	-7.5	-9.0	-10.2	-11.1	-9.6	-5.5	-3.0	-1.3	-0.9	-1.3	-0.7	-1.2	-3.4	-3.5	-1.0	-0.9	-3.4	-4.2	-3.0	-4.45	-0.73	
17-Nov	-1.3	-0.6	-1.1	-2.7	-3.2	-2.7	-4.1	-4.8	-5.3	-4.9	-4.0	-3.2	-2.8	-2.9	-2.7	-2.8	-2.9	-2.9	-2.6	-2.7	-3.5	-3.8	-4.0	-4.5	-3.16	-0.62	
18-Nov	-4.9	-5.3	-6.0	-6.9	-9.0	-10.2	-11.3	-12.2	-12.6	-12.4	-9.8	-7.9	-4.9	-2.1	-1.8	-2.6	-4.0	-6.1	-9.3	-11.1	-10.9	-12.7	-13.1	-13.9	-8.37	-1.79	
19-Nov	-7.5	-6.3	-7.4	-8.1	-7.2	-5.6	-5.8	-6.1	-6.2	-5.6	-6.2	-4.6	-2.9	-2.7	-3.9	-4.3	-4.9	-6.1	-6.3	-6.9	-8.0	-9.2	-10.6	-11.0	-6.39	-2.69	
20-Nov	-10.9	-11.0	-10.3	-11.6	-13.2	-13.9	-14.8	-16.0	-17.4	-16.5	-14.4	-7.7	-3.6	-2.5	-1.7	-1.7	-1.4	-1.2	-1.0	-0.8	-0.8	-0.7	-1.0	-0.5	-7.27	-0.47	
21-Nov	-1.0	-0.8	-0.2	-0.2	0.0	0.2	0.1	0.9	0.7	0.9	1.9	2.6	3.0	3.5	3.2	4.0	4.4	4.7	4.9	5.1	5.3	5.5	4.9	4.9	2.44	5.45	
22-Nov	4.2	4.7	4.4	5.2	5.5	5.9	5.1	4.3	5.3	5.5	5.8	5.7	5.0	6.0	7.2	6.7	4.6	2.3	-1.5	-2.5	-3.6	-4.6	-4.8	-5.7	2.94	7.24	
23-Nov	-6.1	-6.1	-6.1	-6.0	-5.9	-6.0	-6.0	-6.0	-5.7	-5.3	-4.7	-4.7	-4.4	-4.2	-4.0	-3.9	-3.9	-3.9	-4.0	-4.4	-4.9	-5.3	-5.6	-5.8	-5.13	-3.87	
24-Nov	-5.9	-6.2	-6.9	-7.8	-8.8	-9.9	-10.8	-11.2	-11.6	-12.1	-11.6	-10.7	-9.2	-8.2	-7.1	-8.0	-11.0	-13.5	-15.4	-17.0	-17.7	-18.6	-19.3	-20.2	-11.62	-5.90	
25-Nov	-21.0	-21.2	-20.9	-21.1	-20.8	-20.4	-20.5	-18.9	-17.6	-15.2	-12.5	-10.4	-8.5	-7.3	-6.6	-6.9	-7.9	-10.1	-12.6	-14.4	-14.6	-14.8	-15.6	-16.1	-14.83	-6.61	
26-Nov	-17.4	-17.6	-18.2	-18.5	-18.7	-19.0	-19.2	-19.4	-19.0	-17.4	-13.4	-7.4	-4.9	-3.2	-2.6	-2.0	-2.2	-3.4	-2.8	-3.2	-3.9	-4.0	-4.3	-4.7	-10.26	-1.98	
27-Nov	-4.8	-5.0	-5.7	-5.8	-5.7	-6.0	-6.1	-6.1	-6.7	-5.7	-4.5	-2.9	-1.5	-0.1	0.2	0.3	-0.6	-2.7	-4.5	-7.2	-9.3	-10.4	-11.0	-12.1	-5.16	0.29	
28-Nov	-12.0	-13.0	-13.5	-13.3	-14.4	-15.3	-15.4	-15.8	-15.8	-14.0	-10.3	-6.0	-2.5	-0.9	0.1	-0.4	-2.5	-4.3	-6.4	-7.9	-8.8	-10.2	-11.0	-12.1	-9.39	0.14	
29-Nov	-12.2	-13.1	-13.1	-13.4	-14.0	-14.4	-14.6	-14.4	-14.6	-14.2	-9.9	-5.6	-2.5	0.0	1.5	0.3	-2.1	-4.8	-7.1	-8.6	-10.0	-11.5	-12.4	-13.2	-9.32	1.54	
30-Nov	-13.6	-13.6	-14.4	-14.4	-15.2	-15.0	-14.7	-14.8	-15.7	-16.0	-12.0	-6.7	-3.4	-0.7	1.3	0.0	-3.0	-6.0	-8.1	-9.8	-11.0	-11.9	-12.8	-12.9	-10.19	1.27	
		-4.49	-4.71	-5.08	-5.52	-5.84	-5.99	-6.37	-6.37	-6.23	-5.34	-3.49	-1.64	-0.20	0.72	0.97	0.62	-0.31	-1.43	-2.37	-3.01	-3.47	-4.06	-4.51	-4.91	Diurnal Average	
		9.22	9.53	8.75	8.41	7.48	8.09	7.89	7.20	7.96	8.34	9.01	9.82	11.38	11.93	10.86	9.78	9.12	7.02	6.86	6.75	7.43	8.16	8.61	9.00	Diurnal Maximum	



WCAS - Hinton
Summary of Hourly Averages

Wind Speed (WS) - kph
November 2015

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	1.3	0.5	1.3	0.7	1.5	1.9	1.9	2.0	1.8	2.6	3.8	6.3	5.8	5.1	4.7	3.5	3.6	2.6	2.3	1.0	0.3	1.3	1.5	2.8	1.76	6.29
Dir	S	S	ENE	E	NE	E	ENE	ENE	NE	ENE	NE	ENE	NE	NE	NE	NNE	NE	NE	ENE	WSW	WSW	WSW	SSW	WSW	NE	ENE
2 Spd	2.1	1.3	0.2	1.0	1.8	0.4	2.5	1.6	2.3	3.7	5.1	2.5	2.5	4.4	3.5	4.5	2.7	3.2	1.5	1.7	1.9	0.8	1.6	1.1	1.50	5.09
Dir	WSW	W	WNW	WSW	SW	SSE	ENE	ENE	ENE	ENE	ENE	ENE	NE	NE	NE	NE	NE	ENE	ENE	NE	ENE	NE	S	WSW	ENE	ENE
3 Spd	0.3	2.8	1.0	1.7	0.2	0.4	1.3	1.4	0.2	0.3	0.4	2.3	1.5	1.0	4.1	5.5	3.1	1.2	2.2	1.7	1.6	0.9	1.5	3.1	0.37	5.55
Dir	NNW	SSE	W	SW	SSW	NW	SSE	SW	SW	N	SW	NW	NW	W	ENE	ENE	ENE	ENE	NE	NE	E	ENE	SW	SW	ENE	ENE
4 Spd	1.9	2.3	1.0	0.7	0.7	0.3	0.5	0.2	2.4	5.9	7.8	8.3	10.3	12.1	13.2	10.5	9.7	5.5	4.5	5.9	3.3	1.0	0.9	0.4	4.37	13.23
Dir	WSW	SSW	SW	WNW	SSW	NNW	W	NW	W	WSW	WSW	WSW	WSW	SW	SW	SW	SW	SW	WSW	SW	SW	W	E	S	SW	SW
5 Spd	0.4	0.7	0.4	1.1	2.7	0.4	0.8	0.3	1.1	2.3	0.9	2.5	3.3	3.9	3.6	3.4	5.4	1.0	0.7	0.9	0.4	1.3	1.3	1.9	0.90	5.41
Dir	ENE	ENE	ENE	ENE	ENE	WNW	SW	ENE	ENE	SSW	SSE	W	WNW	W	WSW	WSW	SW	W	SE	WNW	S	SW	WSW	SSW	WSW	SW
6 Spd	2.3	2.1	1.3	0.6	0.4	0.5	0.8	1.1	1.9	1.5	6.7	7.7	6.9	10.5	10.4	13.2	9.6	5.8	5.7	5.8	5.9	6.4	5.5	7.0	4.41	13.22
Dir	SSW	SW	SSW	W	SW	NNE	ENE	ENE	ENE	E	SW	WSW	WSW	SW	WSW	SW	WSW	WSW	WSW	W	W	WSW	WSW	WSW	WSW	SW
7 Spd	9.2	9.6	6.0	6.5	2.5	1.5	2.0	1.5	11.3	7.5	7.4	6.5	4.7	5.0	6.5	3.1	6.8	5.2	6.4	5.2	4.9	2.6	2.5	1.2	2.33	11.29
Dir	SW	SW	W	WNW	NNE	NNE	S	N	SW	WSW	WSW	S	SW	W	WSW	WSW	SW	NE	ENE	ENE	ENE	E	SSE	WNW	SW	SW
8 Spd	3.3	0.7	0.8	0.1	0.2	0.2	0.2	0.1	0.2	0.2	0.1	0.1	0.1	1.2	0.6	0.3	0.2	0.3	0.2	0.0	0.3	2.1	0.4	0.2	0.25	3.32
Dir	S	WSW	ESE	N	NE	ENE	NE	N	NE	NNE	N	NW	SSW	SSW	WNW	NW	E	E	SE	SE	SW	SW	S	NNE	SSW	S
9 Spd	0.4	1.4	0.7	0.3	1.2	0.9	0.6	0.9	1.1	1.1	2.3	2.9	3.1	2.7	5.1	7.7	7.9	5.6	6.6	5.5	7.1	8.1	5.7	5.0	3.01	8.07
Dir	E	E	NE	E	SW	WSW	NNW	N	NNE	NW	WSW	SW	SW	WSW	SW	SW	SSW	SW	SW	SW	SW	SW	SW	SW	SW	SW
10 Spd	8.3	8.6	7.4	8.8	9.1	12.0	12.2	12.6	12.4	13.7	14.8	11.8	12.8	11.6	11.6	9.8	1.6	6.6	11.1	8.3	7.5	12.3	15.6	4.7	10.09	15.64
Dir	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	S	SW	SW	WSW	WSW	WSW	SW	W	SW	SW
11 Spd	4.3	4.1	8.3	5.3	4.0	6.9	4.0	4.4	3.7	2.4	1.6	5.7	8.3	7.5	3.4	6.2	3.5	5.7	2.9	3.3	2.8	3.3	4.5	3.4	4.31	8.32
Dir	W	W	SW	WSW	WSW	SW	SW	SSW	SW	WSW	WSW	SW	WSW	SW	W	W	W	SW	SW	SW	SW	W	W	W	WSW	WSW
12 Spd	3.8	1.8	1.8	0.5	0.1	1.5	2.5	3.7	6.9	7.4	9.0	9.8	6.2	6.4	7.1	6.5	7.8	8.1	7.0	5.0	3.1	1.8	1.7	1.9	3.42	9.84
Dir	WSW	SW	SSW	ESE	W	ENE	ENE	WSW	SW	S	SW	SW	SSW	SW	SW	W	W	W	W	W	SW	E	ESE	ESE	SW	SW
13 Spd	2.5	2.7	3.7	3.5	8.0	1.5	1.3	1.4	2.4	0.7	0.5	2.8	1.0	2.7	4.3	0.6	1.5	0.7	1.8	1.3	2.1	0.5	0.8	1.5	1.07	7.99
Dir	E	SE	E	ESE	SSE	W	NNE	SSW	ENE	E	NE	SW	W	SW	SSW	NE	E	SSW	SE	SW	SW	ESE	ESE	SE	SSE	SSE
14 Spd	0.9	0.7	0.6	0.2	0.7	0.2	0.6	0.2	0.4	0.3	0.9	1.4	0.9	1.2	0.1	0.1	1.0	1.5	1.3	0.7	0.6	0.1	0.9	1.6	0.20	1.61
Dir	SSE	SSW	N	WNW	SW	N	NNE	SW	WNW	NNW	WNW	WNW	W	NW	N	E	ENE	ENE	E	NNE	E	NE	ENE	ENE	NNE	ENE
15 Spd	0.4	1.2	2.3	2.9	1.9	0.5	0.3	0.2	0.2	0.2	0.1	0.2	0.2	1.6	0.9	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.24	2.92
Dir	NE	NE	NE	NE	NE	N	N	NNE	ENE	ENE	NNW	W	W	SW	WSW	SW	WSW	WSW	SW	WSW	WSW	WSW	SW	WSW	NE	NE
16 Spd	0.1	1.0	6.0	2.7	0.8	3.7	1.6	1.4	1.4	0.1	0.4	2.8	6.5	8.8	7.7	9.2	6.4	1.8	4.2	10.5	4.7	3.1	4.5	7.8	3.23	10.46
Dir	W	WNW	SW	W	WSW	SW	WSW	W	SW	ENE	S	WSW	SW	SW	SW	SW	SE	ESE	SW	S	ESE	WSW	SW	SW	SSW	S
17 Spd	9.2	5.7	5.5	3.0	6.3	3.8	1.3	2.0	2.7	1.7	0.8	1.2	0.9	3.7	2.2	2.2	1.6	1.4	3.9	1.9	2.4	1.2	1.3	1.7	0.77	9.24
Dir	SW	SW	SSW	S	SW	SW	NNE	E	NE	ENE	ESE	NE	ENE	ENE	NE	NE	NE	SSW	SW	N	N	W	W	WNW	SW	SW
18 Spd	0.9	1.4	1.7	0.9	0.9	3.0	2.6	2.8	2.6	3.3	2.4	1.3	1.0	2.4	2.3	2.7	4.0	2.8	1.7	0.5	3.0	0.6	1.4	0.7	1.49	4.02
Dir	NW	NNW	NW	SW	SSW	WSW	WSW	WSW	SW	SW	SW	WSW	NW	WSW	WSW	WSW	SW	WSW	NNE	ESE	SW	N	NW	N	WSW	SW
19 Spd	6.6	8.0	3.5	2.0	2.5	3.4	2.4	0.9	3.9	5.8	1.6	2.6	5.8	4.1	4.0	3.6	2.4	4.5	3.4	3.8	1.3	1.4	1.5	2.1	2.26	7.98
Dir	SW	SW	WSW	WNW	ENE	SE	SE	W	SW	SW	WSW	SW	SW	SW	N	WNW	NNW	WNW	WSW	SW	WSW	SW	W	W	WSW	SW
20 Spd	2.3	0.9	0.9	1.9	1.7	1.3	3.3	2.3	2.6	1.8	1.4	0.2	3.9	6.7	8.1	9.8	11.5	7.9	5.9	8.3	8.9	9.6	3.4	7.7	4.55	11.53
Dir	W	SW	SSW	WSW	W	SW	SSW	SW	W	WNW	WNW	S	WSW	WSW	WSW	WSW	SW	WSW	WSW	WSW	WSW	SW	WSW	WSW	WSW	SW
21 Spd	5.2	5.3	10.4	11.9	12.2	13.8	9.2	10.1	8.2	9.6	15.5	15.0	15.0	10.4	7.7	12.2	13.3	16.6	17.4	13.6	15.4	9.8	6.3	6.1	11.17	17.39
Dir	WSW	WSW	SW	SW	SW	SW	WSW	WSW	WSW	WSW	SW	SW	SW	WSW	W	WSW	WSW	WSW	WSW	WSW	WSW	WSW	W	W	WSW	WSW
22 Spd	5.0	5.8	4.4	5.2	8.0	11.7	6.6	4.5	4.3	4.6	4.3	3.2	2.1	4.1	5.3	4.8	2.5	0.4	1.7	1.7	0.1	1.4	2.5	1.0	3.01	11.74
Dir	W	W	W	WSW	WSW	WSW	WSW	W	WSW	WSW	W	W	W	WNW	WNW	NW	WNW	SSW	ESE	E	E	ENE	ENE	E	W	WSW



WCAS - Hinton
Summary of Hourly Averages

Wind Speed (WS) - kph
November 2015

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
23 Spd	0.2	0.2	0.2	0.1	0.2	0.4	1.2	2.3	3.9	2.2	2.8	4.8	5.9	4.5	3.4	3.1	2.7	0.7	3.5	5.5	6.1	5.6	5.4	5.8	2.86	6.05	
Dir	SE	W	SSW	NE	NNE	NE	ENE	ENE	ENE	E	ENE	ENE	ENE	NE	NE	NE	NE	NE	ENE	ENE	ENE	NE	NE	ENE	ENE	ENE	
24 Spd	5.1	5.0	2.6	2.4	4.6	5.1	3.4	2.1	0.2	0.8	1.3	1.2	1.4	2.0	0.4	0.3	0.4	1.1	1.1	1.5	1.8	1.8	1.5	1.0	0.81	5.11	
Dir	ENE	ENE	NNE	NE	N	N	N	N	SE	N	E	WNW	WNW	S	SW	NNW	SE	SSW	S	SSW	SW	W	WSW	NW	N	N	
25 Spd	0.5	1.7	2.2	1.0	1.8	1.2	1.5	1.7	1.8	0.9	1.3	1.7	1.9	2.0	2.9	3.3	3.1	2.5	1.6	2.3	1.4	1.1	1.4	1.2	1.67	3.30	
Dir	WSW	W	WNW	W	WNW	W	WNW	W	W	WNW	W	W	W	WSW	WSW	WSW	WSW	W	W	WNW	W	WNW	W	WNW	W	WSW	
26 Spd	0.4	1.7	1.9	1.0	2.5	2.6	2.2	2.3	2.4	1.6	2.3	3.6	9.2	10.3	11.4	11.2	7.6	4.6	9.3	8.6	7.1	7.5	9.8	12.2	5.32	12.23	
Dir	W	W	W	W	W	W	W	W	WNW	WNW	WNW	WSW	SW	SW	SW	SW	SW	WSW	SW	WSW	WSW	WSW	SW	SW	WSW	SW	
27 Spd	13.2	10.3	8.6	7.3	9.4	7.0	9.4	9.0	5.6	6.3	5.4	7.6	7.3	3.5	2.8	2.2	3.6	2.8	2.2	2.0	1.8	2.5	2.9	3.0	5.49	13.16	
Dir	SW	SW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	SW	WSW	WSW	WSW	WSW	W	NW	W	W	W	W	W	WSW	SW	
28 Spd	2.1	2.2	2.6	3.3	2.3	1.4	2.2	1.6	1.6	2.0	1.1	3.1	2.8	2.0	1.7	1.2	2.8	1.8	1.2	1.7	1.7	1.8	1.9	1.8	1.92	3.29	
Dir	W	W	WSW	W	W	W	W	W	WSW	SW	WNW	SW	WSW	W	W	W	SW	W	W	WNW	W	WSW	WSW	W	W	W	
29 Spd	1.9	2.6	2.2	2.1	1.9	1.5	1.7	2.0	0.9	1.3	1.8	1.8	1.0	1.6	1.1	2.9	3.5	1.5	0.4	1.4	1.6	2.2	0.9	1.4	1.63	3.47	
Dir	SW	W	W	W	W	W	W	W	WSW	WNW	W	WSW	W	WSW	WSW	SW	SW	WSW	WSW	W	SW	W	WSW	W	WSW	SW	
30 Spd	2.2	1.9	1.7	1.4	0.4	1.3	0.9	1.1	0.4	0.4	0.3	0.1	1.9	1.5	1.2	2.3	1.9	0.8	0.9	0.7	1.0	1.5	1.4	1.6	1.10	2.32	
Dir	W	SW	WSW	WSW	SSW	W	SW	WSW	WSW	SW	NW	NNW	SW	SW	WSW	SW	SW	SSW	SSW	WSW	SW	W	W	W	WSW	SW	
Spd	2.40	2.23	2.04	1.75	1.72	2.09	1.46	1.64	1.70	1.91	2.36	2.79	3.24	3.39	3.13	3.29	2.82	2.23	2.16	2.07	1.90	2.14	2.03	2.05	Diurnal Average		
Dir	SW	WSW	WSW	WSW	SW	WSW	WSW	WSW	WSW	SW	WSW	SW	WSW	WSW	WSW	WSW	SW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	Diurnal Maximum	
Spd	13.16	10.33	10.38	11.93	12.19	13.84	12.18	12.61	12.44	13.66	15.51	15.01	15.05	12.08	13.23	13.22	13.33	16.64	17.39	13.57	15.39	12.28	15.64	12.23	Diurnal Maximum		
Dir	232.86	234.20	235.77	235.15	236.44	235.19	226.04	227.85	225.01	220.52	235.86	233.33	228.81	232.63	225.77	230.40	246.96	243.26	240.73	244.59	242.75	242.78	226.52	232.55	Diurnal Maximum		
Maximum Speed Value: 17.4 kph on Nov 21 19:00																		Minimum Speed Value: 0.0 kph on Nov 8 20:00						Hours in Service: 720			
Maximum Daily Speed Average: 11.17 kph on Nov 21																		Minimum Daily Speed Average: 0.20 kph on Nov 8						Hours of Data: 720			
Maximum Diurnal Speed Average: 3.39 kph at hour 14																		Minimum Diurnal Speed Average: 1.46 kph at hour 7						Hours of Missing Data: 0			
Monthly Average Velocity: 2.267 kph 238.95 deg																		Speed Percentiles: P ₁ = 0.1 P ₁₀ = 0.4 Q ₁ = 1.2 Median = 2.2 Q ₃ = 5.1 P ₉₀ = 8.6 P ₉₉ = 15.0						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	30	1	0	0	0	0	31																				
NorthEast	84	14	0	0	0	0	98																				
East	49	1	0	0	0	0	50																				
SouthEast	19	1	0	0	0	0	20																				
South	23	6	0	0	0	0	29																				
SouthWest	142	103	34	0	0	0	279																				
West	161	21	1	0	0	0	183																				
NorthWest	28	2	0	0	0	0	30																				
Total	536	149	35	0	0	0	720																				



WCAS - Hinton
Summary of Hourly Averages

Relative Humidity (RH) - %
November 2015

Maximum Value: 91.44 % on Nov 13 20:00 Maximum Daily Average: 89.57 % on Nov 8																						Hours in Service: 720 Hours of Data: 720																											
Minimum Value: 26.0 % on Nov 22 15:00 Minimum Daily Average: 42.12 % on Nov 22 Maximum Diurnal Average: 77.18 % at hour 7 Minimum Diurnal Average: 56.01 % at hour 15 Monthly Average: 69.787 % Percentiles: P₁ = 29.6 P₁₀ = 41.9 Q₁ = 52.5 Median = 76.4 O₃ = 85.4 P₉₀ = 89.6 P₉₉ = 91.1																						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	83.7	85.1	86.3	87.1	86.6	86.1	86.5	86.8	87.8	87.9	85.8	81.3	76.6	76.6	77.2	78.2	79.7	82.1	86.3	89.0	89.7	90.1	90.4	89.6	84.85	90.41																							
2-Nov	85.8	86.2	87.2	88.1	88.2	86.4	88.0	89.2	89.8	86.6	76.4	70.0	67.3	67.7	69.4	74.1	78.6	82.3	85.1	87.1	88.2	88.4	88.9	89.1	82.84	89.80																							
3-Nov	89.7	90.1	90.3	90.4	90.6	90.7	90.9	91.0	91.1	91.0	87.7	81.5	77.6	68.4	66.9	65.1	67.0	72.9	76.4	79.9	83.1	85.7	87.1	88.2	83.06	91.06																							
4-Nov	87.9	87.3	89.1	89.4	89.8	89.3	88.2	89.0	88.6	62.1	42.9	35.7	32.5	29.6	28.9	29.1	33.0	39.1	42.5	43.0	47.1	62.5	67.5	69.2	60.97	89.83																							
5-Nov	70.5	71.9	73.8	74.8	73.2	73.6	71.1	71.6	72.0	68.3	68.9	65.8	58.3	62.2	65.4	69.5	74.4	78.3	83.8	85.2	86.7	86.0	87.7	88.7	74.23	88.74																							
6-Nov	86.8	85.9	87.1	88.7	89.7	88.8	88.0	87.6	87.9	88.4	49.2	35.5	33.7	33.1	36.0	36.9	39.2	41.2	43.2	45.1	44.1	42.4	42.4	41.4	60.09	89.70																							
7-Nov	40.9	40.3	43.4	43.4	46.4	44.4	47.3	52.1	51.3	50.7	47.3	43.4	37.5	34.6	38.0	40.5	42.0	57.3	72.8	74.0	70.6	69.4	71.6	76.9	51.51	76.95																							
8-Nov	79.9	84.5	87.8	89.2	90.0	90.4	90.7	90.8	90.9	90.8	90.9	90.6	90.4	89.7	89.0	89.1	90.0	90.5	90.8	90.9	91.0	90.9	90.5	90.5	89.57	91.01																							
9-Nov	90.6	90.9	91.0	91.1	91.3	91.4	91.3	91.1	91.0	90.3	78.9	72.4	69.5	67.8	67.3	67.9	70.7	74.3	75.5	76.1	75.7	74.4	74.5	74.8	80.41	91.43																							
10-Nov	70.1	69.0	68.7	67.8	67.3	65.8	64.2	63.6	61.5	56.6	51.7	49.6	48.7	45.6	46.2	47.1	52.5	48.0	45.3	51.1	45.7	40.0	38.7	47.8	54.69	70.08																							
11-Nov	48.2	52.0	46.9	57.8	67.1	71.0	74.2	73.2	69.8	68.3	62.4	44.8	35.5	29.7	35.5	40.6	51.5	61.0	60.3	51.2	47.1	45.0	44.0	48.9	53.58	74.19																							
12-Nov	51.5	52.1	59.8	67.9	74.1	77.5	78.2	56.1	36.4	32.4	29.6	30.2	28.0	30.6	38.5	44.3	47.4	48.0	48.2	49.3	48.9	53.4	57.5	60.2	50.00	78.21																							
13-Nov	58.9	61.3	66.7	74.1	73.4	76.3	80.7	83.3	84.7	82.4	87.0	89.7	89.7	86.6	83.2	84.1	88.9	90.6	91.4	91.4	91.0	90.8	89.8	88.9	82.70	91.44																							
14-Nov	88.6	88.4	87.7	87.5	87.8	87.0	86.7	86.8	86.6	86.7	87.7	89.0	88.5	81.2	79.5	84.1	87.9	89.6	90.4	90.5	90.8	90.9	91.0	91.0	87.75	91.03																							
15-Nov	91.1	91.0	91.0	91.0	91.0	90.9	90.9	90.9	90.9	90.9	90.6	89.7	87.3	86.0	87.4	84.8	81.5	79.0	75.5	75.2	71.0	70.7	72.5	71.0	84.66	91.05																							
16-Nov	73.4	75.9	76.4	80.1	86.2	85.7	86.2	87.1	86.0	85.2	71.3	63.2	54.4	53.1	50.1	44.4	46.1	64.1	65.0	51.2	53.6	68.0	73.0	62.4	68.42	87.08																							
17-Nov	54.6	56.3	55.8	63.1	69.1	72.7	78.1	83.1	84.4	84.6	81.7	78.4	77.5	83.0	87.1	88.3	89.1	89.6	89.2	82.9	71.6	71.9	73.4	79.1	76.86	89.56																							
18-Nov	75.9	73.1	76.4	78.6	82.8	85.7	85.8	85.4	84.7	83.2	77.3	71.2	64.0	48.9	42.7	44.6	47.7	53.8	72.0	78.1	76.7	76.7	78.8	80.3	71.85	85.82																							
19-Nov	65.3	60.1	65.7	71.8	73.0	73.1	78.2	80.6	81.0	74.4	76.5	70.8	59.2	59.0	66.1	62.2	61.1	79.1	79.3	76.5	79.9	82.9	84.4	85.5	72.73	85.52																							
20-Nov	84.7	84.5	82.1	82.3	83.2	83.8	82.1	80.7	80.2	79.6	80.7	69.9	52.5	45.7	42.8	43.8	41.6	44.5	45.2	45.5	46.3	44.3	46.8	42.8	63.15	84.69																							
21-Nov	46.0	45.1	41.3	39.2	38.6	36.8	39.1	39.7	41.6	41.8	39.1	39.8	41.6	45.3	50.5	46.4	45.4	44.0	42.6	41.6	40.3	40.1	42.9	43.5	42.18	50.48																							
22-Nov	46.7	43.2	42.8	37.3	34.4	30.9	33.2	36.1	31.1	30.2	29.6	30.3	33.3	30.2	26.0	26.9	30.9	39.4	56.6	61.3	67.1	69.6	70.2	73.6	42.12	73.63																							
23-Nov	75.9	77.5	78.4	79.3	79.6	80.0	80.3	79.0	76.6	74.5	71.1	81.7	86.4	86.9	87.3	88.3	89.1	89.5	89.5	89.2	88.9	88.3	88.2	88.3	83.07	89.55																							
24-Nov	88.1	88.0	86.9	85.5	83.1	81.2	80.2	78.8	78.4	80.4	76.0	73.1	67.8	62.4	60.4	62.8	75.0	80.0	80.8	80.0	79.7	79.5	78.7	77.6	77.67	88.12																							
25-Nov	76.7	77.2	77.2	76.7	77.1	77.5	77.4	79.2	79.7	80.5	77.8	67.8	61.6	58.4	55.9	54.9	58.3	70.0	81.0	82.5	82.4	82.0	81.8	81.4	73.96	82.54																							
26-Nov	79.9	80.5	79.6	79.3	79.2	79.0	78.6	78.4	78.8	79.1	81.3	70.5	53.3	47.2	46.1	45.2	45.9	51.6	48.0	49.3	52.2	52.3	52.5	53.1	64.19	81.26																							
27-Nov	52.7	52.3	54.6	54.6	52.9	53.9	52.6	52.1	54.4	50.7	46.4	40.6	36.6	35.1	34.9	35.7	35.9	44.8	56.3	72.3	81.1	85.3	85.8	85.0	54.44	85.83																							
28-Nov	85.5	83.5	83.8	83.5	82.6	81.8	81.9	81.1	81.4	82.2	83.0	71.7	55.5	46.8	41.9	44.2	51.8	59.8	71.8	76.4	81.0	83.6	85.6	85.3	73.57	85.56																							
29-Nov	85.2	84.4	84.3	83.7	83.1	83.0	82.7	83.0	82.3	83.0	83.7	74.5	57.8	43.6	38.5	41.9	50.0	60.8	71.0	77.0	82.0	84.6	84.8	84.3	73.71	85.19																							
30-Nov	83.9	83.4	82.4	82.3	81.7	81.7	82.1	81.6	81.1	80.9	83.7	83.8	66.4	51.3	41.6	43.8	53.9	64.9	72.1	77.6	82.5	85.2	83.5	83.6	74.78	85.15																							
																								73.28	73.36	74.14	75.52	76.44	76.55	77.18	76.96	76.06	74.13	69.86	65.22	59.63	56.20	56.01	56.96	60.20	65.67	69.59	70.68	71.20	72.49	73.48	74.07	Diurnal Average	
																								91.05	91.00	91.01	91.15	91.32	91.43	91.27	91.09	91.06	91.01	90.85	90.62	90.36	89.65	88.99	89.11	89.96	90.62	91.36	91.44	91.02	90.94	90.97	91.03	Diurnal Maximum	



WCAS - Hinton
Summary of Hourly Standard Deviations

Wind Speed (WS) - kph
November 2015

Maximum Value: 10.96 kph on Nov 21 18:00		Maximum Daily Average: 7.64 kph on Nov 21		Hours in Service: 720																																													
Minimum Value: 0.0 kph on Nov 8 09:00		Minimum Daily Average: 0.53 kph on Nov 15		Hours of Data: 720																																													
Maximum Diurnal Average: 3.40 kph at hour 15		Minimum Diurnal Average: 2.02 kph at hour 4		Hours of Missing Data: 0																																													
Monthly Average: 2.555 kph		Percentiles: P ₁ = 0.0 P ₁₀ = 0.9 Q ₁ = 1.2 Median = 1.8 Q ₃ = 3.5 P ₉₀ = 5.5 P ₉₉ = 8.7		Hours of Calibration: 0																																													
				Percent Operational Time: 100.0																																													
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Nov	1.8	1.2	1.1	1.4	1.4	1.6	1.9	1.9	1.3	1.8	2.0	2.7	3.2	3.2	2.9	2.6	2.2	1.5	1.3	1.2	1.4	1.9	1.4	1.6	1.85	3.23																							
2-Nov	1.6	1.4	1.0	1.0	1.5	1.6	1.5	1.6	1.4	2.0	1.8	1.5	1.9	2.1	2.2	2.2	2.2	1.3	1.2	1.0	1.2	1.1	1.4	1.1	1.54	2.25																							
3-Nov	1.2	1.7	1.2	1.7	0.8	1.0	2.4	1.3	0.9	0.7	1.1	1.2	1.3	1.6	3.3	2.2	1.7	1.2	1.7	1.4	1.3	1.2	1.3	1.5	1.44	3.33																							
4-Nov	1.6	1.2	1.1	1.1	1.2	1.1	1.0	1.0	1.9	3.9	5.7	5.5	7.0	6.6	6.1	5.2	5.6	4.6	3.9	3.0	2.1	1.1	1.0	0.7	3.04	6.97																							
5-Nov	1.0	1.0	0.9	1.2	1.5	1.6	1.8	1.3	1.5	2.7	2.0	2.1	3.4	2.6	2.5	2.6	3.3	1.6	1.1	1.1	1.0	1.4	1.0	1.3	1.74	3.44																							
6-Nov	1.4	1.4	1.3	0.8	1.0	0.8	1.0	1.1	1.4	1.5	5.4	7.1	6.3	7.8	7.9	8.1	7.6	5.7	6.1	5.0	5.3	6.5	6.2	5.4	4.26	8.07																							
7-Nov	6.2	7.3	5.1	3.6	2.2	2.7	2.8	3.1	6.1	6.9	5.5	3.1	4.7	4.5	5.7	3.3	4.4	4.7	2.8	2.3	2.4	2.1	1.8	1.2	3.94	7.35																							
8-Nov	2.1	1.2	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	1.4	0.7	0.6	0.7	0.7	0.3	0.5	0.8	1.5	0.9	0.7	0.59	2.13																							
9-Nov	0.7	1.3	1.2	0.7	1.6	1.1	0.9	1.1	1.3	1.4	2.6	2.4	2.6	2.6	3.2	3.5	3.1	2.8	3.1	3.5	3.6	4.1	3.7	3.2	2.30	4.06																							
10-Nov	4.5	5.0	4.3	4.6	5.2	6.1	5.6	6.2	5.8	6.5	6.7	6.8	6.5	5.5	5.5	4.3	3.5	5.5	4.8	6.0	5.7	8.9	8.6	4.5	5.69	8.95																							
11-Nov	4.7	4.0	4.5	4.1	3.5	4.6	3.4	3.1	2.4	2.1	2.6	5.0	5.9	5.5	3.8	5.7	3.6	4.0	2.2	1.9	2.1	3.2	4.2	3.4	3.72	5.92																							
12-Nov	2.9	1.5	1.6	1.2	1.2	1.6	1.9	4.5	4.7	3.1	5.4	5.7	5.2	5.0	5.0	5.9	5.4	6.0	4.4	4.7	3.6	2.2	2.0	2.6	3.63	6.03																							
13-Nov	2.2	2.7	2.2	1.8	2.9	2.2	1.3	2.2	1.4	1.5	1.4	1.9	1.5	2.3	3.9	1.1	1.3	2.3	1.3	1.4	1.9	1.9	1.7	1.7	1.91	3.94																							
14-Nov	1.6	1.7	1.3	1.3	1.1	0.9	1.0	1.0	0.7	0.7	1.0	1.1	1.5	1.1	0.4	0.4	1.0	1.5	1.6	1.2	1.0	0.9	0.8	1.5	1.09	1.70																							
15-Nov	1.0	1.0	1.7	1.8	1.5	0.9	0.4	0.0	0.0	0.0	0.0	0.0	0.4	1.9	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.53	1.91																							
16-Nov	0.1	1.5	3.6	1.5	1.1	2.1	1.4	1.8	1.6	0.8	0.8	3.5	3.8	3.6	3.4	4.1	4.5	2.9	5.5	5.0	4.9	3.3	3.0	3.9	2.82	5.47																							
17-Nov	4.1	4.7	2.9	2.7	2.9	2.7	1.3	1.4	1.8	1.8	1.2	1.4	1.1	1.7	1.6	1.8	1.4	1.6	2.5	2.7	2.5	2.1	1.7	2.2	2.14	4.69																							
18-Nov	1.4	2.3	1.9	1.5	1.4	2.0	1.4	2.2	2.0	2.0	1.9	1.3	1.0	2.5	2.8	2.7	2.8	2.2	1.0	1.1	2.2	1.0	1.5	1.7	1.82	2.85																							
19-Nov	2.6	3.6	2.1	1.1	2.4	2.1	2.3	1.0	3.7	3.4	1.7	2.4	3.0	2.9	3.5	3.2	2.7	2.9	2.3	2.6	1.7	1.6	1.3	1.4	2.40	3.68																							
20-Nov	1.4	1.9	1.6	1.8	1.3	1.2	0.9	1.4	1.4	1.4	1.3	1.5	3.2	4.8	5.6	6.0	5.5	5.2	4.4	6.1	6.5	6.0	4.2	5.1	3.31	6.48																							
21-Nov	4.2	4.5	6.4	6.0	6.7	7.0	6.5	7.2	6.4	7.4	8.1	7.2	7.8	7.8	7.5	9.9	10.2	11.0	10.5	9.3	10.5	8.6	6.2	6.3	7.64	10.96																							
22-Nov	4.6	4.1	3.7	5.1	6.3	6.6	5.7	4.5	4.7	4.7	4.3	3.6	2.2	2.4	2.6	2.6	2.2	1.8	1.7	1.9	1.7	1.5	1.5	1.2	3.38	6.63																							
23-Nov	0.5	0.5	0.5	0.6	0.4	0.8	1.0	1.7	1.2	1.2	1.6	2.1	2.5	2.5	2.6	2.2	1.7	1.0	1.8	2.0	2.7	3.3	3.3	2.9	1.69	3.32																							
24-Nov	2.8	2.5	2.6	2.2	3.4	3.0	2.3	1.9	1.1	1.1	1.4	1.2	1.5	1.7	1.1	0.7	0.6	1.1	1.2	1.9	1.5	1.1	1.3	1.0	1.67	3.40																							
25-Nov	0.8	1.2	1.1	1.1	1.2	1.1	1.2	1.2	1.2	1.2	1.2	2.0	2.2	2.5	2.7	2.5	2.1	1.3	1.4	1.0	1.3	1.1	1.2	1.3	1.46	2.66																							
26-Nov	1.0	1.2	1.3	1.1	1.6	1.7	1.0	1.1	1.4	1.3	1.5	2.9	4.3	4.5	5.5	4.9	5.4	4.1	5.5	5.2	4.8	4.9	5.5	5.6	3.23	5.63																							
27-Nov	6.1	5.4	6.1	5.0	5.4	5.2	5.3	5.8	4.7	4.8	3.9	4.3	3.9	3.8	3.1	2.2	2.5	1.6	1.0	1.1	1.4	1.2	1.4	1.3	3.61	6.15																							
28-Nov	1.3	1.5	1.5	1.6	1.4	1.4	1.8	1.5	1.3	1.9	1.1	2.3	2.0	1.7	1.8	1.2	2.0	1.3	1.2	1.4	1.2	1.3	1.4	1.4	1.53	2.34																							
29-Nov	1.4	1.6	1.4	1.4	1.4	1.0	1.2	1.4	1.0	1.0	1.4	1.7	1.2	1.7	1.7	2.0	2.7	1.6	0.7	1.3	1.3	1.3	1.2	1.2	1.41	2.75																							
30-Nov	1.0	1.6	1.5	1.4	1.0	1.2	1.1	1.2	0.6	0.8	0.7	0.0	1.7	1.8	1.5	2.0	2.1	1.3	0.9	0.9	1.3	1.2	1.5	1.4	1.24	2.09																							
																								2.26	2.39	2.26	2.02	2.15	2.23	2.04	2.16	2.16	2.31	2.51	2.79	3.12	3.32	3.40	3.19	3.13	2.82	2.57	2.59	2.63	2.58	2.41	2.28	Diurnal Average	
																								6.21	7.35	6.36	6.01	6.70	6.97	6.54	7.25	6.44	7.37	8.15	7.24	7.79	7.84	7.87	9.92	10.21	10.96	10.48	9.33	10.49	8.95	8.59	6.32	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
November 2015

Maximum Value: 106.56 deg on Nov 12 05:00		Maximum Daily Average: 67.32 deg on Nov 14		Hours in Service: 720																																												
Minimum Value: 0.2 deg on Nov 15 09:00		Minimum Daily Average: 34.01 deg on Nov 10		Hours of Data: 720																																												
Maximum Diurnal Average: 54.93 deg at hour 8		Minimum Diurnal Average: 41.59 deg at hour 16		Hours of Missing Data: 0																																												
Monthly Average: 48.471 deg		Percentiles: P ₁ = 18.5 P ₁₀ = 26.6 Q ₁ = 33.9 Median = 43.8 Q ₃ = 59.3 P ₉₀ = 80.8 P ₉₉ = 98.4		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-Nov	92.4	96.4	71.4	101.6	58.1	47.6	72.0	50.4	38.8	39.3	33.4	23.1	32.9	37.5	36.7	42.3	39.8	34.0	25.7	68.3	79.5	64.7	66.7	34.6	53.63	101.55																						
2-Nov	35.5	51.6	89.6	38.0	40.8	89.3	44.1	43.5	33.6	22.2	21.0	34.1	43.7	26.7	34.3	25.7	41.8	18.2	30.5	28.4	39.1	47.6	73.0	35.2	41.15	89.64																						
3-Nov	75.1	38.0	50.3	74.4	90.7	72.3	80.8	51.4	85.6	66.0	88.8	19.8	34.4	82.9	73.6	21.5	24.9	26.2	48.6	44.4	32.5	66.1	68.1	26.7	55.97	90.72																						
4-Nov	43.7	28.4	58.2	57.1	65.2	97.6	93.3	77.9	52.5	36.4	38.2	37.0	39.8	31.6	24.5	26.7	27.8	40.1	40.8	25.1	44.0	45.3	48.4	49.4	47.04	97.58																						
5-Nov	75.2	53.3	67.6	44.3	34.5	84.5	77.8	96.0	83.9	62.1	91.9	54.4	65.2	43.2	43.4	39.6	32.2	65.2	83.1	67.8	86.9	81.8	29.0	25.8	62.03	96.03																						
6-Nov	40.4	23.9	52.5	57.0	79.0	58.5	45.3	43.1	39.2	65.2	43.3	50.1	49.5	43.4	42.2	34.3	43.2	54.1	56.4	49.0	49.3	56.2	60.4	44.7	49.17	79.00																						
7-Nov	36.2	43.3	44.3	35.0	59.9	90.8	75.1	87.1	31.7	49.1	44.7	35.8	59.4	51.8	49.3	56.3	38.1	74.7	22.3	25.8	27.9	57.9	47.4	32.8	49.02	90.75																						
8-Nov	29.5	45.5	80.0	58.1	38.3	26.1	32.0	62.1	37.0	29.1	55.0	62.9	55.4	48.6	27.6	57.6	75.8	60.9	63.0	81.5	71.0	26.2	67.8	79.6	52.95	81.55																						
9-Nov	51.1	49.1	62.4	88.6	51.5	50.8	64.2	32.9	69.4	71.8	56.8	43.3	50.5	51.0	31.7	24.3	17.8	29.4	23.4	32.4	27.0	26.8	34.7	34.9	44.81	88.63																						
10-Nov	29.0	34.3	32.1	26.9	31.2	25.6	24.4	24.2	24.3	25.6	24.9	31.2	27.5	25.2	23.9	21.8	98.6	63.3	22.5	40.4	39.8	38.1	26.7	55.0	34.01	98.55																						
11-Nov	58.3	50.6	31.2	46.7	54.1	34.2	35.8	81.7	33.3	48.6	56.0	46.8	40.8	41.6	48.9	48.9	47.5	31.6	36.0	23.0	43.8	52.5	46.5	53.0	45.48	81.71																						
12-Nov	38.8	40.1	83.9	89.3	106.6	61.6	41.4	84.1	38.3	25.8	35.1	31.0	43.6	42.7	41.4	47.3	37.3	39.0	37.8	53.6	67.8	83.7	89.4	92.4	56.34	106.56																						
13-Nov	68.9	67.3	40.0	50.7	37.3	70.9	55.4	72.0	44.2	82.0	86.1	41.1	46.6	34.9	65.0	86.5	60.6	99.7	68.9	68.8	32.4	92.4	92.0	72.8	64.02	99.70																						
14-Nov	101.7	97.3	81.1	76.4	67.3	87.3	71.1	80.4	65.1	87.8	44.0	32.4	58.9	30.7	89.9	84.8	30.4	59.2	87.2	70.3	47.9	81.9	45.9	36.7	67.32	101.66																						
15-Nov	52.4	20.5	29.1	28.0	37.2	34.5	23.3	34.0	0.2	0.3	69.5	34.2	51.5	39.6	45.3	26.6	73.8	76.8	39.5	48.7	41.6	43.3	22.9	38.0	37.95	76.75																						
16-Nov	62.0	50.2	32.6	44.0	55.6	29.8	43.7	96.0	73.0	86.2	88.7	55.1	29.9	22.5	22.9	23.8	64.6	68.4	72.8	42.5	89.3	69.7	34.9	23.9	53.43	96.05																						
17-Nov	25.5	46.1	34.8	49.9	25.0	38.6	63.9	52.0	42.8	50.9	76.1	42.5	37.0	20.0	31.8	36.1	56.3	69.2	29.7	75.6	59.2	83.6	71.3	81.6	49.98	83.65																						
18-Nov	82.8	91.5	61.5	86.4	88.8	48.5	36.8	46.2	37.0	39.6	41.9	47.7	48.7	53.8	62.2	54.6	48.2	41.8	46.4	86.8	83.7	64.1	48.3	89.3	59.85	91.49																						
19-Nov	18.7	20.9	29.8	27.8	73.1	43.9	87.2	69.4	43.9	31.6	48.5	43.8	28.8	63.1	56.9	49.7	59.1	37.4	43.8	45.0	79.6	64.0	37.7	43.6	47.81	87.15																						
20-Nov	36.5	94.0	83.8	60.8	34.2	30.0	13.4	37.1	21.4	30.4	35.9	105.8	42.1	40.2	38.2	33.6	25.7	35.3	44.1	42.4	37.6	34.4	68.6	36.3	44.24	105.83																						
21-Nov	42.2	44.8	34.2	27.6	30.3	27.3	41.3	41.0	45.9	43.9	28.2	26.4	29.5	45.2	51.6	47.3	42.2	36.8	34.5	40.5	37.2	48.1	55.4	57.8	39.97	57.83																						
22-Nov	49.7	36.6	44.5	54.2	44.5	34.0	50.0	50.5	62.4	56.3	54.6	61.0	52.9	32.5	28.8	31.4	51.0	103.4	71.1	74.4	98.2	58.5	37.5	47.9	53.58	103.42																						
23-Nov	72.1	87.5	77.7	55.9	56.5	64.4	43.7	45.7	14.5	30.0	27.5	23.7	22.0	34.1	38.4	41.8	31.3	58.6	21.4	18.4	26.8	32.0	31.6	27.5	40.96	87.53																						
24-Nov	31.4	25.3	42.6	46.4	42.1	35.6	39.5	46.5	95.9	57.8	79.9	53.9	57.8	46.9	101.6	73.6	67.0	59.5	38.8	73.2	40.7	29.3	41.0	34.4	52.53	101.57																						
25-Nov	61.4	35.2	27.4	62.1	32.1	33.9	32.8	35.5	35.2	59.0	46.2	53.5	52.4	55.8	50.2	38.0	36.6	31.4	52.9	20.6	34.7	28.7	29.1	40.7	41.06	62.11																						
26-Nov	81.8	32.6	31.8	65.8	24.3	32.2	32.2	30.7	28.3	41.9	31.3	42.2	24.4	21.9	23.8	22.4	34.9	44.4	34.0	34.9	37.7	34.3	30.0	24.4	35.10	81.76																						
27-Nov	24.4	29.0	38.3	38.8	32.4	42.3	31.8	37.6	45.8	42.7	45.5	32.0	32.6	58.3	56.6	50.5	33.8	34.2	19.6	22.1	35.1	21.4	25.5	22.0	35.51	58.33																						
28-Nov	39.5	30.7	29.0	24.7	54.0	66.0	51.5	59.2	49.8	63.4	54.0	35.8	37.6	36.9	41.7	36.8	35.5	34.9	37.6	29.9	31.3	43.1	42.3	31.9	41.55	65.96																						
29-Nov	44.8	35.9	32.4	28.6	35.6	32.0	35.2	30.2	42.9	36.3	41.0	41.2	44.4	52.4	60.0	32.2	31.7	40.7	45.9	27.9	40.2	35.1	72.9	45.7	40.20	72.95																						
30-Nov	39.1	53.9	52.4	47.3	92.2	37.6	49.8	49.4	47.8	76.2	89.1	82.6	39.1	56.5	54.7	31.6	78.3	77.2	58.2	61.0	49.4	50.1	50.6	55.9	57.50	92.22																						
																								51.33	48.46	50.88	53.08	52.42	50.92	49.62	54.93	45.45	48.58	52.56	44.15	42.62	42.38	46.56	41.59	46.19	51.53	44.55	47.42	50.38	52.03	49.85	45.82	Diurnal Average
																								101.66	97.30	89.64	101.55	106.56	97.58	93.32	96.05	95.88	87.84	91.88	105.83	65.15	82.90	101.57	86.48	98.55	103.42	87.23	86.75	98.16	92.43	92.03	92.43	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
NOVEMBER 2015**