

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

**AIR QUALITY MONITORING**  
**March 2015**  
**Monthly Report**

**Prepared by:**

**West Central Airshed Society**  
**Drayton Valley, Alberta**





April 7<sup>th</sup>, 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 March 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 seven (7) readings occurring in March 2015 in excess of the one – hour average guidelines as indicated in Air Monitoring Directive Section III.A.3. (a) for H<sub>2</sub>S. The maximum one-hour average reading was 26.34 ppb, occurring March 18<sup>th</sup>. There was one (1) reading in March 2015 in excess of the twenty–four hour average guidelines as indicated in Air Monitoring Directive Section III.A.3. (a) for H<sub>2</sub>S. The maximum 24-hour average reading was 6.06 ppb.

**2. Operational times less than 90 percent:**

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

**3. Monitoring Notes:**

**AMS 906 (Hinton)**

All analyzers and meteorological equipment returned uptimes of 100 percent.

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	March

### TOTAL EMISSIONS FOR MONTH (IN TONNES)

POLLUTANT	INCINERATOR STACK	FLARE	MISCELLANEOUS
SO <sub>2</sub>			

### "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 <sub>2</sub>						

### STATIC AMBIENT MONITORING

PARAMETER	NO. OF STATIONS	PEAK READING	AVG. OF NETWORK	NO. OF STATIONS OVER GUIDELINES
T.S.				
H <sub>2</sub> 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	0.026	7	0.006	1
PM <sub>2.5</sub>	906	100.0	53.6 µg/m <sup>3</sup>	0	16.98 µg/m <sup>3</sup>	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  
MARCH 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												24 Hour Average Max (ppm)
March 2015												
Parameter	Calibration Hours	Number of Data	Percent Uptime	Mean	Min	Max	P10	Q1	Percentile Median	Q3	P90	
TRS (ppb)	36	708	100.0	1.3	0.0	26.0	0.2	0.2	0.5	1.5	3.2	0.006
SO <sub>2</sub> (ppb)	36	708	100.0	0.7	0.0	10.2	0.0	0.0	0.1	0.5	2.3	0.003
O <sub>3</sub> (ppb)	36	708	100.0	28.5	1.0	58.9	5.6	14.5	31.8	42.3	46.5	0.044
NO (ppb)	37	707	100.0	3.7	0.0	39.7	0.1	0.4	1.3	4.1	10.9	-
NO <sub>2</sub> (ppb)	37	707	100.0	8.8	0.1	32.8	1.2	3.4	6.3	13.3	19.5	0.014
NO <sub>x</sub> (ppb)	37	707	100.0	12.5	0.0	61.6	1.4	4.2	7.6	18.5	30.6	-
Particulate Matter 2.5 microns (μ/m <sup>3</sup> )	0	744	100.0	9.1	0.0	53.6	3.8	5.1	7.3	10.8	16.5	16.98 ug/m3
Wind Speed (kph)	0	744	100.0	4.0	0.1	17.6	0.6	1.3	3.3	5.8	8.5	-
Temperature (°C)	0	744	100.0	2.4	-23.4	18.4	-5.4	-1.7	2.2	8.1	11.4	-
Relative Humidity (%)	0	744	100.0	55.6	7.5	91.2	24.8	35.8	55.8	76.6	85.9	-
Std Dev Wind Direction (deg)	0	744	100.0	50.1	12.7	115.0	27.1	33.4	44.9	60.3	86.0	-
Std Dev Wind Speed (kph)	0	744	100.0	2.9	0.0	9.9	1.1	1.5	2.4	3.9	5.7	-



**WCAS - Hinton**  
**Summary of Hourly Averages**

**Total Reduced Sulphur (TRS) - ppb**  
**March 2015**

Maximum Value: 26.34 ppb on Mar 18 08:00		Maximum Daily Average: 6.06 ppb on Mar 18		Hours in Service: 744																						
Minimum Value: 0 ppb on Mar 28 16:00		Minimum Daily Average: 0.18 ppb on Mar 2		Hours of Data: 708																						
Maximum Diurnal Average: 2.05 ppb at hour 10		Minimum Diurnal Average: 0.55 ppb at hour 15		Hours of Missing Data: 36																						
Monthly Average: 1.279 ppb		Percentiles: P <sub>1</sub> = 0.1 P <sub>10</sub> = 0.2 Q <sub>1</sub> = 0.2 Median = 0.5 Q <sub>3</sub> = 1.5 P <sub>90</sub> = 3.2 P <sub>99</sub> = 10.5		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-Mar	1	0	0	Z	1	1	1	1	3	9	6	2	0	0	0	1	0	1	2	4	0	0	0	0		
2-Mar	0	0	0	Z	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
3-Mar	3	7	5	Z	7	2	1	1	2	13	3	4	0	0	0	0	0	0	0	0	0	2	5			
4-Mar	1	0	1	Z	1	1	1	1	2	2	0	0	0	0	0	2	4	3	1	1	2	0	0			
5-Mar	1	1	0	Z	0	0	1	3	2	3	3	2	2	1	0	2	3	3	2	2	4	3	4			
6-Mar	4	5	3	Z	2	9	11	7	2	0	0	0	0	0	0	0	0	0	0	1	1	4	2			
7-Mar	1	2	1	Z	0	0	0	0	0	0	0	1	1	0	0	1	2	2	3	11	3	1	2	5		
8-Mar	4	2	1	Z	1	1	1	1	1	2	0	0	0	1	1	2	2	2	4	7	4	5	5			
9-Mar	3	4	5	Z	3	2	2	4	1	2	0	0	1	0	0	0	0	0	1	2	1	1	0			
10-Mar	0	0	0	Z	1	0	0	1	0	1	4	3	3	3	0	0	1	1	0	0	0	0	0			
11-Mar	0	0	0	Z	0	0	0	0	0	0	0	0	1	1	0	0	1	1	2	2	1	0	0			
12-Mar	0	0	0	Z	0	0	1	2	5	4	2	2	1	1	1	1	0	0	0	1	2	2	1			
13-Mar	2	3	1	Z	6	0	1	1	1	1	1	1	2	1	1	2	3	3	0	1	0	1	1			
14-Mar	1	1	1	Z	1	1	0	1	1	1	0	2	3	2	2	2	4	4	1	4	2	0	1			
15-Mar	1	1	1	Z	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
16-Mar	0	0	0	Z	3	6	4	4	5	4	1	1	1	1	1	1	1	0	0	0	0	7	10			
17-Mar	8	6	6	Z	4	3	2	1	5	6	6	2	1	0	0	0	0	0	0	0	0	0	8			
18-Mar	12	7	4	Z	7	4	13	26	24	C	C	C	C	C	1	1	1	2	0	3	1	1	0			
19-Mar	0	0	0	Z	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
20-Mar	0	0	0	Z	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
21-Mar	0	0	0	Z	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
22-Mar	0	0	0	Z	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
23-Mar	0	0	0	Z	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
24-Mar	0	0	0	Z	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	1	1	1			
25-Mar	0	1	2	Z	2	1	1	2	4	4	2	2	2	1	1	1	1	2	1	1	1	0	0			
26-Mar	0	0	0	Z	1	0	0	0	0	1	1	1	1	1	1	1	1	1	1	2	1	0	0			
27-Mar	1	1	1	Z	2	2	2	0	0	1	1	1	1	2	2	3	2	3	2	1	1	0	1			
28-Mar	1	1	2	Z	1	0	0	0	0	0	0	0	0	0	0	1	0	2	3	3	3	2				
29-Mar	3	2	2	Z	1	1	1	1	1	2	2	2	1	1	2	2	0	0	0	1	1	1	2			
30-Mar	4	2	0	Z	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0			
31-Mar	0	0	0	Z	0	0	0	0	0	0	3	1	1	0	0	0	0	2	0	0	3	2	4			
		1.70	1.64	1.29	--	1.55	1.30	1.49	1.91	2.02	2.05	1.38	1.04	0.82	0.65	0.55	0.60	0.74	1.13	1.03	1.30	1.25	0.93	1.23	1.82	Diurnal Average
		11.84	7.26	5.72	--	7.33	9.13	13.48	26.34	23.72	13.22	6.39	4.26	3.10	3.18	2.24	2.54	2.13	4.28	3.60	10.59	6.89	4.21	6.64	9.52	Diurnal Maximum
Z - zerospan		C - Calibration																								
Alberta Ambient Air Quality Objectives (AAAQO):		1-hr 10 ppb					24-hr 3 ppb																			



**WCAS - Hinton**  
**Summary of Hourly Averages**

**Sulphur Dioxide (SO<sub>2</sub>) - ppb**  
**March 2015**

Maximum Value: 10.17 ppb on Mar 29 02:00		Maximum Daily Average: 3.36 ppb on Mar 5		Hours in Service: 744																													
Minimum Value: 0.0 ppb on Mar 2 05:00		Minimum Daily Average: 0.01 ppb on Mar 20		Hours of Data: 708																													
Maximum Diurnal Average: 1.42 ppb at hour 15		Minimum Diurnal Average: 0.24 ppb at hour 7		Hours of Missing Data: 36																													
Monthly Average: 0.726 ppb		Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.0 Q <sub>1</sub> = 0.0 Median = 0.1 Q <sub>3</sub> = 0.5 P <sub>90</sub> = 2.3 P <sub>99</sub> = 8.3		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-Mar	0.2	0.1	0.1	Z	0.1	0.0	0.1	0.1	0.1	0.2	0.3	0.3	0.1	1.1	0.8	1.1	0.7	1.9	0.6	0.2	0.1	0.0	0.0	0.1	0.36	1.88							
2-Mar	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.03							
3-Mar	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.7	1.7	0.1	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.16	1.65							
4-Mar	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.3	0.1	0.0	0.0	0.0	0.3	0.0	0.0	2.0	0.2	0.3	0.1	0.0	1.2	0.0	0.0	0.19	2.03							
5-Mar	0.2	0.2	0.1	Z	0.0	0.0	1.1	6.0	2.8	3.5	5.3	6.0	3.3	4.3	1.6	0.5	3.5	5.0	5.3	4.6	7.8	2.3	7.9	6.0	3.36	7.87							
6-Mar	2.3	1.8	0.4	Z	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.24	2.30								
7-Mar	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	2.1	0.7	0.0	0.0	3.2	0.5	0.9	0.3	0.0	0.0	0.0	0.0	0.0	0.33	3.22								
8-Mar	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.9	0.5	0.0	0.4	1.5	3.8	2.0	4.2	4.2	6.0	2.5	0.2	0.1	0.7	0.1	1.18	5.99							
9-Mar	4.0	5.9	2.1	Z	2.4	1.2	0.5	0.8	0.3	0.2	0.1	0.0	0.5	2.6	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.2	0.1	0.1	0.91	5.90							
10-Mar	0.0	0.0	0.0	Z	0.1	0.0	0.0	0.1	0.0	0.0	0.2	0.2	0.3	2.7	1.1	0.3	0.5	0.8	0.2	0.1	0.0	0.2	0.6	0.4	0.35	2.75							
11-Mar	0.2	0.0	0.1	Z	0.1	0.1	0.1	0.1	0.2	0.2	0.4	0.8	1.8	1.9	1.3	0.1	1.2	1.7	1.7	2.2	0.5	0.5	0.2	0.1	0.67	2.22							
12-Mar	0.1	0.1	0.3	Z	0.1	0.2	0.2	0.1	1.3	0.8	2.6	3.2	1.1	1.5	2.3	4.3	0.8	0.7	1.3	2.3	3.6	6.5	5.6	1.0	1.73	6.51							
13-Mar	1.5	2.1	1.5	Z	2.2	0.3	0.2	0.2	0.1	1.0	2.9	2.3	1.5	2.7	2.0	2.2	1.3	3.5	2.0	0.3	0.2	0.3	0.2	0.3	1.34	3.46							
14-Mar	0.3	0.2	0.2	Z	0.3	0.5	0.3	0.3	0.2	3.4	0.6	7.3	8.6	5.2	8.8	5.6	6.0	3.4	3.5	0.3	0.0	0.2	0.0	0.5	2.42	8.83							
15-Mar	0.1	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.01	0.12							
16-Mar	0.0	0.0	0.0	Z	0.0	0.0	0.1	0.0	0.1	0.2	1.4	2.8	3.6	1.2	4.0	6.5	4.4	2.8	1.0	0.1	0.0	0.0	0.0	0.0	1.22	6.46							
17-Mar	0.0	0.0	0.0	Z	0.0	0.1	0.1	0.0	0.2	0.2	1.3	1.8	1.5	1.3	0.4	0.3	0.2	0.2	0.3	0.1	0.0	0.1	0.0	0.0	0.36	1.83							
18-Mar	0.0	0.0	0.0	Z	0.0	0.2	0.2	0.1	0.1	C	C	C	C	C	0.8	1.3	0.4	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.20	1.29							
19-Mar	0.0	0.0	0.1	Z	0.0	0.0	0.0	0.1	0.0	0.1	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.05	0.18							
20-Mar	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.08							
21-Mar	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.02	0.12							
22-Mar	0.0	0.0	0.0	Z	0.1	0.1	0.1	0.1	0.1	0.0	0.3	0.1	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.06	0.33							
23-Mar	0.0	0.0	0.0	Z	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.05	0.14							
24-Mar	0.0	0.0	0.0	Z	0.0	0.0	0.1	0.0	0.1	0.1	0.3	0.5	1.0	0.5	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.12	1.01							
25-Mar	0.0	0.0	0.1	Z	0.0	0.0	0.1	0.1	0.2	0.1	0.1	0.6	0.6	1.2	0.4	0.5	0.9	1.1	0.1	0.1	0.1	0.1	0.1	0.2	0.29	1.24							
26-Mar	0.1	0.1	0.1	Z	0.1	0.2	0.1	0.1	0.2	0.3	1.6	2.8	4.8	1.0	1.5	1.4	1.2	1.7	2.0	1.8	0.5	0.2	0.0	0.0	0.95	4.79							
27-Mar	0.3	0.1	0.0	Z	0.7	2.2	2.0	0.1	0.2	0.7	1.6	4.4	3.6	3.7	6.5	8.3	4.6	3.3	0.4	0.4	0.3	0.1	0.1	0.2	1.90	8.33							
28-Mar	0.2	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.2	1.9	3.8	5.4	5.1	1.0	0.78	5.41							
29-Mar	6.8	10.2	9.7	Z	8.6	3.1	1.9	3.0	1.3	2.5	0.2	0.1	0.5	1.0	8.4	5.7	0.1	0.0	0.0	0.0	0.2	0.1	0.1	0.0	2.77	10.17							
30-Mar	0.1	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.2	0.1	0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.06	0.26							
31-Mar	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.1	1.3	0.6	1.9	0.1	0.0	0.0	1.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.26	1.94							
		0.53	0.68	0.48	--	0.49	0.27	0.24	0.38	0.25	0.49	0.73	1.26	1.22	1.19	1.42	1.41	1.11	1.04	0.83	0.56	0.58	0.57	0.68	0.33	Diurnal Average							
		6.81	10.17	9.71	--	8.64	3.09	1.98	6.02	2.83	3.46	5.29	7.29	8.63	5.19	8.83	8.33	6.04	5.05	5.99	4.62	7.75	6.51	7.87	6.04	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 (O<sub>3</sub>) - ppb**  
**March 2015**

Maximum Value: 58.92 ppb on Mar 28 15:00		Maximum Daily Average: 43.54 ppb on Mar 29		Hours in Service: 744																																													
Minimum Value: 1.0 ppb on Mar 10 05:00		Minimum Daily Average: 19.67 ppb on Mar 24		Hours of Data: 708																																													
Maximum Diurnal Average: 43.46 ppb at hour 16		Minimum Diurnal Average: 13.07 ppb at hour 7		Hours of Missing Data: 36																																													
Monthly Average: 28.545 ppb		Percentiles: P <sub>1</sub> = 1.3 P <sub>10</sub> = 5.6 Q <sub>1</sub> = 14.5 Median = 31.8 O <sub>3</sub> = 42.3 P <sub>90</sub> = 46.5 P <sub>99</sub> = 53.1		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-Mar	8.3	13.2	14.2	Z	11.3	9.6	4.1	2.1	6.5	15.7	25.8	41.8	45.2	47.2	47.2	46.6	45.9	42.6	39.4	39.9	43.5	42.8	39.7	41.1	29.29	47.20																							
2-Mar	43.7	44.6	44.4	Z	42.5	40.2	34.7	37.6	40.2	40.6	42.4	43.5	43.0	43.0	42.6	43.3	43.6	43.1	42.4	41.4	41.6	39.7	29.5	30.3	40.77	44.58																							
3-Mar	29.9	29.1	27.9	Z	29.0	19.8	11.6	17.5	25.3	24.4	33.4	37.0	41.9	42.5	44.9	45.2	45.5	44.6	36.5	21.8	13.6	8.9	15.8	16.8	28.82	45.51																							
4-Mar	15.5	14.1	14.1	Z	10.8	2.4	2.0	7.0	26.5	38.7	43.1	43.7	43.9	44.7	45.0	44.5	40.9	39.6	37.7	26.5	29.8	37.4	41.3	42.3	30.05	45.01																							
5-Mar	42.4	42.8	43.1	Z	43.1	42.8	40.8	32.5	38.7	38.7	38.0	38.7	41.1	42.8	44.1	43.2	39.2	33.7	31.9	35.6	32.9	37.8	32.7	34.9	38.76	44.14																							
6-Mar	37.8	37.0	37.8	Z	26.7	30.5	39.6	43.6	43.9	45.9	47.4	47.5	48.2	48.7	49.5	49.1	48.2	46.9	43.0	41.4	24.3	17.3	12.3	8.6	38.05	49.47																							
7-Mar	6.3	9.3	18.4	Z	18.3	7.2	13.4	10.8	13.4	22.8	29.6	40.2	47.2	47.4	47.1	44.6	46.3	46.9	46.6	43.0	20.6	10.2	5.9	3.2	26.04	47.43																							
8-Mar	2.4	6.3	8.4	Z	6.3	3.3	1.4	1.5	6.0	40.4	45.2	46.2	46.5	45.7	44.4	44.9	43.3	42.0	39.9	39.1	39.6	38.7	38.5	37.8	29.03	46.54																							
9-Mar	34.6	34.1	35.4	Z	32.9	34.1	11.8	21.7	17.5	22.6	37.5	35.8	37.4	37.6	42.5	43.4	42.7	42.1	41.1	41.5	34.0	18.5	6.4	4.3	30.85	43.35																							
10-Mar	2.1	2.0	3.2	Z	1.0	1.5	1.8	1.6	6.7	14.6	22.6	30.8	33.3	44.9	44.8	45.4	41.6	38.6	29.5	27.2	26.3	31.2	23.8	16.9	21.38	45.43																							
11-Mar	14.5	11.5	9.6	Z	8.2	6.3	6.6	6.3	11.2	12.5	13.6	16.3	18.2	42.5	43.8	45.8	44.2	41.8	38.5	38.8	40.0	38.2	38.6	26.2	24.93	45.78																							
12-Mar	22.6	17.1	11.2	Z	5.4	1.8	2.8	19.0	37.8	38.9	40.9	42.6	45.5	46.7	46.1	44.1	44.6	44.2	42.4	39.6	35.4	33.5	35.1	41.1	32.11	46.68																							
13-Mar	38.8	36.0	40.2	Z	34.2	35.7	20.4	4.7	7.6	6.2	16.3	36.1	45.5	46.8	46.5	47.3	45.4	42.1	20.0	21.6	16.3	14.9	7.1	29.48	48.58																								
14-Mar	3.7	4.2	3.1	Z	1.2	13.8	14.7	8.6	29.2	41.5	41.9	36.9	37.0	39.1	36.3	39.2	40.4	39.8	37.8	37.2	34.8	35.0	41.4	36.4	28.40	41.94																							
15-Mar	28.9	18.7	11.6	Z	12.7	10.3	6.2	10.1	31.4	37.6	38.4	41.1	40.9	41.7	42.3	44.2	44.7	44.8	49.1	41.4	38.2	28.2	15.7	11.2	29.97	49.08																							
16-Mar	11.8	8.8	6.8	Z	9.0	8.8	4.0	2.9	8.8	26.3	35.7	40.3	44.5	49.2	51.5	51.9	51.7	49.1	37.9	12.7	14.6	12.0	13.2	5.6	24.22	51.88																							
17-Mar	6.6	9.7	4.3	Z	1.8	1.1	2.1	2.2	5.7	19.0	37.0	40.6	40.4	43.2	49.1	47.2	46.3	47.5	41.9	28.4	21.8	20.4	10.1	9.1	23.29	49.12																							
18-Mar	5.7	5.5	3.3	Z	8.0	1.2	1.0	6.7	12.6	C	C	C	C	C	52.3	51.1	49.4	49.5	46.6	38.0	17.8	4.5	4.5	4.1	20.11	52.33																							
19-Mar	4.5	8.5	6.4	Z	8.6	2.7	9.5	9.4	16.2	21.0	15.8	26.7	34.5	38.4	38.0	42.3	40.6	38.9	35.3	28.9	19.8	6.2	6.1	7.1	20.24	42.31																							
20-Mar	8.3	18.7	28.1	Z	24.8	25.5	25.9	25.8	26.2	22.0	23.4	25.5	27.1	25.7	25.9	26.3	24.8	24.9	25.5	25.4	26.3	24.5	21.3	22.0	24.09	28.07																							
21-Mar	23.0	23.5	25.6	Z	26.5	24.6	23.7	21.5	21.4	21.3	22.1	23.9	23.3	22.7	23.5	24.2	25.9	26.1	26.0	25.3	25.9	25.2	15.2	14.3	23.24	26.45																							
22-Mar	12.4	7.2	2.4	Z	1.3	1.2	1.8	4.9	15.0	23.3	32.0	30.5	31.4	33.5	34.8	33.6	30.2	29.4	27.0	25.6	25.8	24.9	22.2	22.7	20.58	34.78																							
23-Mar	22.3	20.1	19.7	Z	21.7	19.0	17.8	16.5	18.6	19.5	23.0	25.0	27.3	28.6	28.8	28.7	28.1	26.8	25.5	23.3	20.7	22.3	17.3	14.9	22.41	28.78																							
24-Mar	15.4	10.5	11.3	Z	4.2	2.9	2.1	2.8	5.6	11.5	25.4	35.9	41.4	43.0	43.4	44.9	39.7	40.6	35.1	23.5	6.8	3.0	2.0	1.4	19.67	44.91																							
25-Mar	1.6	1.5	1.4	Z	1.3	1.7	1.5	2.4	4.3	8.4	21.0	30.6	42.0	48.7	50.0	50.1	49.6	43.6	44.1	43.1	39.8	23.9	12.4	5.7	22.99	50.06																							
26-Mar	8.4	5.9	4.7	Z	7.1	6.0	10.4	5.8	7.7	20.3	34.0	34.6	32.8	38.2	38.4	38.0	38.5	37.5	32.9	34.7	33.9	30.4	19.1	28.2	23.81	38.49																							
27-Mar	24.5	24.6	33.0	Z	28.6	35.6	35.0	40.7	41.3	44.5	44.1	43.4	41.9	42.0	42.8	40.8	42.0	40.9	42.8	38.3	14.5	6.3	6.0	21.4	33.70	44.55																							
28-Mar	41.8	37.3	32.8	Z	12.6	4.0	4.6	3.9	26.7	42.3	46.3	47.1	52.5	58.3	58.9	58.1	57.8	57.9	50.0	43.9	46.0	44.9	43.7	48.7	40.02	58.92																							
29-Mar	40.7	40.0	40.9	Z	41.0	44.5	45.2	40.0	41.4	45.5	47.8	47.5	46.9	46.5	42.8	42.9	46.8	46.5	47.0	50.1	51.2	44.2	28.9	33.2	43.54	51.16																							
30-Mar	42.0	33.3	17.7	Z	3.0	2.7	5.6	9.8	12.2	18.4	18.2	20.0	36.3	47.3	51.0	51.1	48.6	49.3	45.5	43.0	40.1	33.3	35.6	20.3	29.75	51.12																							
31-Mar	20.1	12.8	15.6	Z	5.3	5.6	3.2	9.2	16.9	23.0	37.8	47.8	49.6	53.5	45.2	46.0	41.0	43.7	54.1	50.3	46.6	47.7	49.0	46.6	33.50	54.08																							
																								20.02	18.97	18.61	--	15.75	14.41	13.07	13.84	20.07	26.93	32.66	36.59	39.56	42.66	43.41	43.46	42.56	41.56	39.20	34.48	29.93	26.05	22.52	21.41	Diurnal Average	
																								43.70	44.58	44.38	--	43.12	44.49	45.16	43.65	43.89	45.92	47.76	47.78	52.54	58.27	58.92	58.14	57.85	57.85	54.08	50.30	51.16	47.74	48.96	48.71	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**  
**March 2015**

Maximum Value: 39.72 ppb on Mar 25 09:00		Maximum Daily Average: 11.19 ppb on Mar 25		Hours in Service: 744																																													
Minimum Value: 0.0 ppb on Mar 2 19:00		Minimum Daily Average: 0.16 ppb on Mar 2		Hours of Data: 707																																													
Maximum Diurnal Average: 10.01 ppb at hour 8		Minimum Diurnal Average: 0.48 ppb at hour 19		Hours of Missing Data: 37																																													
Monthly Average: 3.697 ppb		Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.1 Q <sub>1</sub> = 0.4 Median = 1.3 Q <sub>3</sub> = 4.1 P <sub>90</sub> = 10.9 P <sub>99</sub> = 28.3		Hours of Calibration: 37																																													
				Percent Operational Time: 100.0																																													
Day	Hourly Period Ending At																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Mar	2.0	0.1	0.0	Z	1.1	1.4	3.3	16.3	7.8	14.2	11.5	2.0	1.7	0.7	0.7	0.8	0.6	0.5	0.2	0.1	0.1	0.1	0.1	0.1	2.84	16.33																							
2-Mar	0.0	0.0	0.0	Z	0.1	0.9	0.9	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.16	0.94																							
3-Mar	0.0	0.0	0.0	Z	0.0	0.5	1.4	0.6	1.3	5.7	4.5	3.4	1.7	1.9	0.1	0.1	0.1	0.1	1.7	5.4	10.6	4.2	1.2	0.2	1.94	10.63																							
4-Mar	0.7	0.5	1.7	Z	2.2	12.5	12.3	8.7	2.8	1.3	1.1	1.2	2.3	1.5	1.0	1.0	1.7	0.7	0.4	2.3	2.1	0.2	0.1	0.1	2.53	12.49																							
5-Mar	0.0	0.0	0.1	Z	0.0	0.0	0.0	0.4	0.7	1.5	2.4	2.3	1.7	2.2	1.1	0.8	1.1	0.9	0.5	0.3	0.5	0.1	0.3	0.7	0.78	2.38																							
6-Mar	0.2	0.2	0.1	Z	0.3	0.1	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	4.0	4.1	2.8	2.7	0.66	4.06																							
7-Mar	3.1	3.0	0.9	Z	3.5	5.2	4.8	7.9	7.6	5.1	6.9	4.3	0.4	0.0	0.1	1.2	0.2	0.2	0.1	0.1	6.0	8.2	9.4	12.4	3.94	12.36																							
8-Mar	8.1	1.0	1.8	Z	2.9	14.9	15.7	13.3	11.6	1.2	0.5	0.3	0.5	1.0	1.6	0.8	1.2	0.5	0.2	0.2	0.0	0.0	0.0	0.0	3.37	15.67																							
9-Mar	0.3	0.2	0.2	Z	0.1	0.2	13.2	3.1	11.9	9.2	0.2	0.3	0.9	1.1	0.0	0.0	0.0	0.2	0.0	0.0	1.8	2.6	13.6	9.2	2.97	13.57																							
10-Mar	10.9	10.9	4.3	Z	21.8	18.2	13.0	30.4	12.1	7.4	9.6	5.5	3.7	2.9	1.0	0.9	0.7	0.5	2.0	1.4	3.1	0.7	2.9	0.5	7.14	30.36																							
11-Mar	0.8	1.7	2.0	Z	4.1	3.6	5.1	6.3	3.8	5.3	8.4	9.1	11.5	2.0	1.4	0.5	0.7	0.6	0.3	0.1	0.1	0.4	0.6	0.6	3.01	11.52																							
12-Mar	0.2	1.6	7.5	Z	6.9	18.2	29.2	10.6	0.6	1.0	1.7	1.9	0.8	0.9	1.3	1.4	0.5	0.3	0.1	0.1	0.2	0.3	0.2	0.1	3.72	29.20																							
13-Mar	0.1	0.1	0.1	Z	0.3	1.4	1.7	23.2	14.8	24.0	12.2	3.7	0.8	1.0	0.7	0.5	0.3	0.6	0.3	10.6	5.7	2.1	3.7	10.1	5.12	24.00																							
14-Mar	8.7	3.9	4.1	Z	21.5	8.0	7.9	18.4	6.3	0.5	1.4	2.5	2.2	1.3	2.0	1.2	1.8	0.6	0.4	0.1	0.1	0.2	0.4	0.8	4.11	21.52																							
15-Mar	0.4	1.2	1.0	Z	3.8	7.4	11.0	6.5	1.5	1.7	1.8	1.2	0.9	0.7	1.1	0.7	1.2	0.6	0.0	0.3	0.3	0.3	3.8	3.5	2.21	11.03																							
16-Mar	1.7	1.9	2.6	Z	1.1	0.8	6.8	14.0	16.6	2.9	2.5	2.1	1.8	0.9	1.3	1.6	0.9	0.8	1.8	8.6	2.8	1.6	0.8	4.5	3.50	16.56																							
17-Mar	4.6	0.8	5.6	Z	10.9	36.6	26.6	16.6	26.7	15.9	7.9	3.5	3.1	1.7	1.9	1.0	1.0	0.3	0.5	2.1	2.5	0.7	2.9	1.4	7.60	36.57																							
18-Mar	5.0	8.2	8.3	Z	4.3	28.3	35.2	9.1	3.5	C	C	C	C	C	C	0.4	0.0	0.0	0.0	0.1	10.6	18.4	13.0	8.1	--	35.23																							
19-Mar	4.1	2.9	1.4	Z	2.1	8.9	4.3	12.3	5.2	5.9	18.1	14.8	10.6	5.6	5.4	0.7	1.1	0.8	1.5	1.0	1.5	5.9	2.3	6.8	5.36	18.05																							
20-Mar	5.5	0.8	0.4	Z	1.3	0.3	2.0	1.3	1.8	3.1	2.9	2.2	1.7	1.4	1.5	1.4	1.4	0.8	0.4	0.6	0.3	0.6	0.8	0.8	1.44	5.46																							
21-Mar	0.3	0.2	0.2	Z	0.9	0.8	1.2	2.6	2.0	2.0	3.0	1.6	1.9	1.6	2.0	1.6	1.7	0.7	0.7	0.8	0.1	0.7	1.8	2.7	1.35	3.01																							
22-Mar	1.2	4.0	10.5	Z	16.6	17.6	18.4	7.7	4.5	4.0	2.3	2.0	1.8	1.5	1.1	0.9	1.3	1.0	0.4	0.6	0.6	0.1	1.6	0.6	4.37	18.41																							
23-Mar	0.4	0.4	0.5	Z	1.6	1.9	1.4	3.7	4.0	8.1	5.6	3.7	2.3	1.9	2.7	1.3	2.1	0.8	0.4	0.8	0.1	0.4	1.1	1.6	2.03	8.11																							
24-Mar	0.9	2.7	0.3	Z	6.1	7.7	14.8	21.8	23.9	15.7	9.6	5.4	3.1	1.5	1.1	0.8	1.6	0.7	0.4	1.1	2.8	2.2	23.0	23.0	7.40	23.91																							
25-Mar	14.6	16.0	17.9	Z	22.3	26.8	27.0	28.4	39.7	21.6	13.9	6.8	3.4	1.5	0.6	0.4	0.6	0.5	0.1	0.1	0.2	1.1	4.6	9.4	11.19	39.72																							
26-Mar	3.9	6.0	4.9	Z	10.6	5.9	5.9	15.2	12.2	7.9	2.9	3.0	3.5	1.1	1.5	1.2	0.9	0.6	1.0	0.4	0.1	1.2	5.0	4.9	4.34	15.17																							
27-Mar	1.3	2.8	0.4	Z	3.6	0.5	0.7	1.3	1.7	0.9	1.9	2.5	2.1	2.0	2.8	3.1	1.6	0.9	0.1	0.3	8.4	10.1	17.9	18.7	3.72	18.67																							
28-Mar	0.1	0.2	1.2	Z	3.5	9.5	7.6	9.5	2.9	1.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.3	0.3	0.0	1.60	9.50																							
29-Mar	0.5	0.7	0.5	Z	0.7	0.1	0.3	2.0	1.9	0.9	0.1	0.1	0.2	0.5	2.7	2.2	0.3	0.1	0.1	0.0	0.3	0.1	3.3	0.5	0.79	3.28																							
30-Mar	0.0	0.5	5.6	Z	12.6	16.3	10.2	6.1	7.7	4.7	5.5	7.9	5.0	4.0	1.5	0.6	0.7	0.7	1.1	0.0	0.3	0.3	0.3	1.1	4.04	16.31																							
31-Mar	0.8	9.8	2.0	Z	7.5	9.5	17.3	13.0	9.0	5.9	6.5	1.0	1.4	0.4	0.2	0.4	1.6	0.5	0.0	0.0	0.0	0.0	0.0	0.0	3.77	17.31																							
																								2.59	2.65	2.78	--	5.63	8.52	9.66	10.01	7.94	5.97	4.84	3.14	2.38	1.44	1.27	0.88	0.86	0.50	0.48	1.23	2.11	2.17	3.82	4.04	Diurnal Average	
																								14.60	15.95	17.94	--	22.28	36.57	35.23	30.36	39.72	24.00	18.05	14.78	11.52	5.64	5.38	3.12	2.06	1.02	2.02	10.62	10.63	18.36	23.02	23.03	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 (NO<sub>2</sub>) - ppb**  
**March 2015**

Maximum Value: 32.75 ppb on Mar 14 08:00		Maximum Daily Average: 13.94 ppb on Mar 10		Hours in Service: 744																						
Minimum Value: 0.1 ppb on Mar 28 15:00		Minimum Daily Average: 1.92 ppb on Mar 2		Hours of Data: 707																						
Maximum Diurnal Average: 15.13 ppb at hour 7		Minimum Diurnal Average: 3.05 ppb at hour 16		Hours of Missing Data: 37																						
Monthly Average: 8.798 ppb		Percentiles: P <sub>1</sub> = 0.3 P <sub>10</sub> = 1.2 Q <sub>1</sub> = 3.4 Median = 6.3 Q <sub>3</sub> = 13.3 P <sub>90</sub> = 19.5 P <sub>99</sub> = 30.1		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-Mar	21.6	11.7	10.0	Z	11.5	10.9	15.3	17.8	13.2	14.8	12.0	4.0	2.6	2.2	2.2	2.6	2.8	6.1	7.0	3.2	1.0	1.1	2.8	1.1	7.72	21.65
2-Mar	0.6	0.6	0.6	Z	1.1	3.3	7.7	4.1	1.4	0.7	0.6	0.6	0.6	0.6	0.7	0.6	0.5	0.6	0.8	1.0	1.2	2.1	8.9	5.1	1.92	8.93
3-Mar	5.3	5.6	5.4	Z	4.3	11.3	18.4	13.9	6.8	10.7	7.9	5.6	3.1	2.7	0.5	0.6	0.6	1.2	9.5	22.3	27.1	30.1	21.4	16.2	10.02	30.14
4-Mar	14.6	16.3	14.1	Z	16.1	27.3	29.3	25.7	13.6	5.2	3.1	2.6	3.1	3.3	2.7	2.9	6.8	5.0	8.9	21.6	17.1	9.5	5.3	3.3	11.19	29.32
5-Mar	3.1	2.6	2.4	Z	2.0	2.4	5.4	15.0	7.5	8.0	8.0	7.3	4.3	6.2	3.6	3.8	8.2	12.5	13.1	8.9	12.7	4.7	12.7	9.0	7.10	15.05
6-Mar	3.7	5.0	3.0	Z	12.8	9.5	2.8	0.8	0.8	0.5	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	1.9	4.6	22.9	24.4	21.5	20.1	5.95	24.39
7-Mar	21.3	16.4	9.2	Z	12.2	20.7	15.7	18.1	14.4	8.7	10.1	9.7	1.6	0.5	0.4	3.9	1.3	1.8	1.5	0.9	25.6	30.3	32.0	31.9	12.53	32.00
8-Mar	26.4	17.8	13.4	Z	15.9	19.9	20.5	17.3	12.8	4.5	2.3	1.2	1.6	2.7	4.8	3.1	5.3	4.9	5.3	3.3	0.6	0.4	1.0	0.4	8.05	26.44
9-Mar	4.6	6.4	4.2	Z	7.6	5.8	30.2	18.5	20.3	16.0	1.0	1.5	2.4	3.6	0.2	0.4	0.3	1.2	1.1	2.9	11.0	22.3	25.1	22.7	9.10	30.17
10-Mar	21.9	22.4	18.9	Z	21.9	19.6	16.4	19.8	13.9	10.8	17.1	16.7	14.1	9.6	2.9	2.5	4.4	5.7	14.8	14.2	13.9	8.7	13.0	17.3	13.94	22.44
11-Mar	15.8	15.6	15.8	Z	15.8	17.1	17.5	17.7	13.7	14.0	13.4	13.1	17.0	6.1	3.8	2.0	3.9	5.3	7.0	7.5	5.6	6.1	5.5	6.9	10.71	17.70
12-Mar	6.9	10.3	14.9	Z	18.4	21.1	21.4	11.9	5.4	3.6	5.3	5.2	2.3	2.5	3.7	4.5	2.9	3.0	4.0	6.2	10.0	13.1	10.8	3.5	8.30	21.38
13-Mar	6.0	8.4	6.2	Z	9.7	10.1	13.5	26.1	19.1	24.5	18.9	13.6	3.5	3.2	2.6	2.4	2.2	5.5	6.9	29.8	21.7	20.8	20.3	25.8	13.08	29.76
14-Mar	23.7	19.9	20.4	Z	21.4	19.9	26.7	32.8	14.6	4.8	4.2	7.6	7.6	5.9	5.9	3.5	5.6	3.1	4.9	1.8	2.0	3.4	1.0	6.8	10.76	32.75
15-Mar	7.4	8.9	9.9	Z	13.3	21.6	25.6	17.2	5.5	3.7	4.2	2.7	2.5	2.4	2.4	1.7	1.7	2.5	0.8	3.1	4.0	9.2	19.1	20.2	8.25	25.62
16-Mar	18.1	19.5	18.2	Z	12.9	11.7	18.7	17.4	16.7	6.4	6.1	4.9	5.3	3.3	4.9	6.7	5.3	6.7	14.1	28.1	20.0	17.1	10.3	22.2	12.81	28.11
17-Mar	17.5	11.0	15.7	Z	15.9	19.0	18.1	14.5	17.6	17.7	18.6	7.9	7.5	4.9	4.6	4.1	4.3	2.5	5.0	13.5	16.3	11.8	15.0	11.9	11.95	18.97
18-Mar	19.1	21.1	24.9	Z	15.9	23.3	26.4	12.3	8.4	C	C	C	C	C	C	3.8	2.1	0.7	0.8	10.3	26.8	30.1	25.2	21.8	--	30.10
19-Mar	20.6	17.6	17.4	Z	15.0	19.5	12.8	20.0	13.0	13.0	21.5	19.1	14.4	8.5	8.9	2.9	4.0	3.1	5.2	6.2	10.1	14.0	10.9	11.3	12.56	21.48
20-Mar	13.6	5.9	3.5	Z	6.1	5.6	5.7	5.5	4.7	5.7	6.3	4.8	4.1	4.8	5.7	5.4	6.1	5.5	4.3	4.3	3.6	4.6	6.8	4.9	5.54	13.64
21-Mar	3.1	4.3	3.5	Z	3.2	4.0	4.6	5.5	4.5	4.4	3.9	3.2	3.7	4.3	4.0	4.7	5.3	5.1	6.9	6.7	4.3	4.9	13.3	13.3	5.24	13.29
22-Mar	9.6	11.2	15.0	Z	15.1	13.2	13.1	10.3	6.5	5.4	3.4	2.6	2.2	2.3	1.8	2.0	3.5	3.3	2.7	3.4	4.3	3.0	6.0	4.2	6.27	15.12
23-Mar	3.2	3.9	5.0	Z	4.0	3.7	5.8	9.3	8.3	9.6	6.4	5.3	4.3	3.2	4.1	3.8	5.0	4.4	4.4	5.6	4.9	5.0	8.4	9.1	5.51	9.56
24-Mar	5.5	6.8	4.5	Z	10.0	12.5	12.2	11.3	10.0	8.6	8.6	6.5	3.7	2.7	2.7	2.5	4.8	2.9	2.4	6.5	9.9	6.8	10.1	9.9	7.02	12.45
25-Mar	8.7	10.5	10.9	Z	9.3	10.1	8.9	10.5	16.1	16.7	16.1	12.2	9.0	4.3	3.0	3.1	4.9	6.3	0.9	1.0	3.4	9.0	13.6	16.5	8.92	16.74
26-Mar	12.5	12.2	10.7	Z	9.1	9.9	8.3	14.6	11.8	8.8	6.3	6.0	7.4	2.1	3.4	3.9	3.5	4.2	8.0	6.0	4.0	8.0	12.5	8.4	7.90	14.64
27-Mar	10.1	10.8	4.1	Z	9.9	9.4	11.3	5.7	5.6	4.0	4.2	5.2	4.6	4.6	6.5	8.9	5.0	5.2	3.0	8.0	21.9	23.9	25.4	17.8	9.35	25.42
28-Mar	2.1	2.8	5.1	Z	13.4	18.9	15.4	12.9	6.6	2.5	0.4	0.3	0.2	0.1	0.1	0.1	0.4	0.2	2.6	6.8	7.3	10.1	9.7	2.1	5.23	18.90
29-Mar	10.8	12.3	10.4	Z	10.0	5.8	5.0	8.7	7.1	3.4	0.7	0.6	0.9	1.0	6.0	4.5	0.9	1.0	1.4	1.3	2.9	6.6	14.1	9.8	5.44	14.06
30-Mar	3.4	9.0	16.9	Z	21.5	20.1	19.4	15.5	15.7	13.6	12.6	13.1	7.5	5.6	3.4	2.4	3.2	2.4	5.1	4.1	5.0	7.6	6.8	10.6	9.75	21.49
31-Mar	7.4	15.0	10.0	Z	17.0	15.2	16.7	12.6	9.8	9.6	11.0	3.3	3.7	1.8	1.2	1.3	7.1	3.8	0.6	0.3	0.3	0.4	0.2	0.3	6.48	17.01
																								Diurnal Average		
																								Diurnal Maximum		
11.24 11.03 10.45 -- 12.02 13.62 15.13 14.31 10.50 8.67 7.82 6.22 4.84 3.52 3.22 3.05 3.62 3.74 5.00 7.85 10.37 11.26 12.54 11.75																										
26.44 22.44 24.89 -- 21.89 27.28 30.17 32.75 20.27 24.50 21.48 19.08 16.98 9.63 8.90 8.86 8.23 12.55 14.82 29.76 27.08 30.26 32.00 31.88																										
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<sub>x</sub>) - ppb**  
**March 2015**

Maximum Value: 61.58 ppb on Mar 18 07:00		Maximum Daily Average: 21.06 ppb on Mar 10		Hours in Service: 744																																													
Minimum Value: 0.0 ppb on Mar 28 15:00		Minimum Daily Average: 2.07 ppb on Mar 2		Hours of Data: 707																																													
Maximum Diurnal Average: 24.78 ppb at hour 7		Minimum Diurnal Average: 3.93 ppb at hour 16		Hours of Missing Data: 37																																													
Monthly Average: 12.491 ppb		Percentiles: P <sub>1</sub> = 0.2 P <sub>10</sub> = 1.4 Q <sub>1</sub> = 4.2 Median = 7.6 Q <sub>3</sub> = 18.5 P <sub>90</sub> = 30.6 P <sub>99</sub> = 49.8		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-Mar	23.6	11.8	10.0	Z	12.5	12.2	18.5	34.0	21.0	29.0	23.6	6.0	4.3	2.9	2.8	3.4	3.4	6.6	7.2	3.4	1.0	1.2	2.9	1.2	10.54	34.04																							
2-Mar	0.6	0.6	0.6	Z	1.3	4.3	8.5	4.3	1.6	0.9	0.7	0.6	0.8	0.7	0.8	0.6	0.6	0.6	0.7	0.9	1.2	2.1	9.4	5.1	2.07	9.40																							
3-Mar	5.3	5.6	5.4	Z	4.3	11.8	19.8	14.4	8.1	16.3	12.5	9.0	4.9	4.6	0.6	0.7	0.6	1.3	11.3	27.7	37.7	34.3	22.5	16.3	11.95	37.69																							
4-Mar	15.3	16.7	15.7	Z	18.3	39.8	41.6	34.4	16.4	6.6	4.1	3.8	5.4	4.8	3.7	3.8	8.4	5.7	9.3	23.9	19.2	9.6	5.4	3.4	13.70	41.61																							
5-Mar	3.1	2.6	2.4	Z	2.0	2.4	5.5	15.5	8.1	9.5	10.3	9.6	6.0	8.4	4.7	4.5	9.3	13.5	13.5	9.2	13.2	4.8	13.0	9.7	7.86	15.45																							
6-Mar	3.9	5.1	3.1	Z	13.1	9.6	2.9	0.9	0.9	0.6	0.4	0.4	0.3	0.3	0.3	0.3	0.3	1.9	4.8	27.0	28.4	24.2	22.8	6.60	28.44																								
7-Mar	24.4	19.3	10.1	Z	15.7	26.0	20.5	26.0	22.0	13.7	17.1	14.0	2.1	0.5	0.4	5.1	1.5	2.0	1.6	0.9	31.5	38.5	41.4	44.2	16.46	44.24																							
8-Mar	34.5	18.7	15.2	Z	18.7	34.8	36.1	30.6	24.4	5.6	2.8	1.5	2.1	3.7	6.3	3.9	6.5	5.4	5.5	3.4	0.6	0.4	1.1	0.4	11.40	36.11																							
9-Mar	4.8	6.6	4.3	Z	7.8	6.0	43.3	21.6	32.2	25.2	1.2	1.8	3.3	4.7	0.2	0.4	0.2	1.4	1.1	3.0	12.7	24.9	38.6	31.9	12.06	43.31																							
10-Mar	32.8	33.4	23.2	Z	43.7	37.7	29.4	50.1	25.9	18.2	26.7	22.1	17.8	12.6	3.8	3.3	5.2	6.2	16.8	15.6	16.9	9.3	15.9	17.8	21.06	50.08																							
11-Mar	16.6	17.2	17.7	Z	19.9	20.6	22.6	24.0	17.5	19.3	21.8	22.2	28.5	8.1	5.2	2.4	4.6	5.8	7.3	7.6	5.8	6.5	6.0	7.5	13.69	28.46																							
12-Mar	7.1	11.8	22.4	Z	25.3	39.3	50.5	22.5	6.0	4.5	7.0	7.0	3.1	3.4	4.9	5.9	3.4	3.3	4.1	6.4	10.2	13.4	11.1	3.6	12.00	50.50																							
13-Mar	6.1	8.5	6.3	Z	10.0	11.5	15.2	49.2	33.8	48.5	31.1	17.3	4.3	4.2	3.2	2.9	2.6	6.1	7.2	40.3	27.4	22.9	24.0	35.9	18.19	49.21																							
14-Mar	32.5	23.8	24.5	Z	42.9	27.9	34.6	51.1	20.9	5.3	5.6	10.2	9.9	7.2	7.9	4.7	7.4	3.7	5.3	1.9	2.1	3.6	1.4	7.6	14.87	51.09																							
15-Mar	7.8	10.1	10.9	Z	17.1	29.0	36.6	23.7	7.0	5.3	6.0	3.9	3.3	3.1	3.4	2.3	2.8	3.1	0.7	3.4	4.3	9.5	22.9	23.7	10.44	36.63																							
16-Mar	19.8	21.4	20.8	Z	14.0	12.5	25.5	31.3	33.2	9.3	8.5	6.9	7.1	4.2	6.3	8.3	6.3	7.5	15.9	36.7	22.8	18.7	11.1	26.7	16.30	36.69																							
17-Mar	22.1	11.8	21.2	Z	26.7	55.4	44.6	31.1	44.2	33.6	26.5	11.4	10.6	6.6	6.5	5.2	5.3	2.7	5.4	15.5	18.7	12.5	17.9	13.3	19.52	55.43																							
18-Mar	24.0	29.2	33.2	Z	20.2	51.6	61.6	21.4	12.0	C	C	C	C	C	C	4.1	1.9	0.3	0.5	10.4	37.4	48.5	38.3	29.9	--	61.58																							
19-Mar	24.8	20.5	18.8	Z	17.2	28.5	17.1	32.4	18.2	18.9	39.6	33.9	25.1	14.2	14.3	3.6	5.1	3.8	6.7	7.2	11.6	20.0	13.3	18.2	17.96	39.58																							
20-Mar	19.1	6.7	3.8	Z	7.4	5.9	7.8	6.8	6.5	8.8	9.2	7.0	5.8	6.2	7.3	6.8	7.5	6.3	4.7	5.0	3.9	5.2	7.7	5.7	7.01	19.13																							
21-Mar	3.4	4.6	3.7	Z	4.0	4.8	5.8	8.1	6.5	6.4	6.9	4.8	5.7	6.0	6.1	6.3	6.9	5.8	7.6	7.5	4.5	5.6	15.2	16.1	6.62	16.06																							
22-Mar	10.8	15.2	25.5	Z	31.7	30.7	31.5	18.1	11.0	9.4	5.7	4.7	4.1	3.8	2.9	2.8	4.8	4.3	3.1	4.0	5.0	3.0	7.6	4.9	10.64	31.70																							
23-Mar	3.6	4.3	5.5	Z	5.6	5.6	7.2	13.0	12.3	17.7	12.0	9.0	6.6	5.1	6.8	5.1	7.0	5.3	4.8	6.5	5.1	5.4	9.4	10.8	7.56	17.68																							
24-Mar	6.4	9.6	4.8	Z	16.2	20.2	27.0	33.1	33.9	24.3	18.2	11.9	6.8	4.2	3.9	3.3	6.4	3.6	2.7	7.6	12.8	9.1	33.1	32.9	14.43	33.89																							
25-Mar	23.3	26.4	28.8	Z	31.6	37.0	35.8	38.8	55.7	38.4	30.0	19.0	12.4	5.9	3.6	3.5	5.5	6.8	0.9	1.0	3.7	10.1	18.2	26.0	20.10	55.72																							
26-Mar	16.4	18.2	15.6	Z	19.7	15.8	14.3	29.8	24.0	16.7	9.2	9.0	10.9	3.2	4.9	5.1	4.4	4.8	9.0	6.4	4.1	9.2	17.6	13.4	12.25	29.82																							
27-Mar	11.5	13.6	4.5	Z	13.5	9.9	12.1	7.1	7.4	5.0	6.1	7.7	6.7	6.6	9.2	12.0	6.6	6.1	3.1	8.3	30.4	34.1	43.4	36.4	13.10	43.42																							
28-Mar	2.2	3.0	6.3	Z	17.0	28.5	23.0	22.5	9.6	3.9	0.5	0.3	0.2	0.1	0.0	0.0	0.4	0.2	2.6	6.9	7.5	10.4	10.0	2.1	6.83	28.46																							
29-Mar	11.3	13.0	10.9	Z	10.7	6.0	5.3	10.7	9.1	4.4	0.9	0.7	1.1	1.6	8.7	6.6	1.1	1.1	1.5	1.3	3.3	6.8	17.4	10.3	6.25	17.38																							
30-Mar	3.4	9.5	22.6	Z	34.2	36.4	29.7	21.6	23.4	18.4	18.1	20.9	12.5	9.6	4.8	3.0	3.8	3.1	6.2	4.1	5.3	7.9	7.1	11.7	13.80	36.44																							
31-Mar	8.3	24.9	12.0	Z	24.5	24.8	34.0	25.6	18.8	15.6	17.5	4.3	5.2	2.2	1.4	1.7	8.7	4.3	0.6	0.3	0.3	0.3	0.2	0.2	10.25	34.03																							
																								13.83	13.68	13.23	--	17.64	22.14	24.78	24.31	18.44	14.64	12.66	9.37	7.22	4.95	4.49	3.93	4.47	4.23	5.46	9.07	12.48	13.42	16.36	15.79	Diurnal Average	
																								34.51	33.36	33.21	--	43.66	55.43	61.58	51.09	55.72	48.47	39.58	33.90	28.46	14.16	14.30	12.03	9.32	13.46	16.81	40.35	37.69	48.48	43.42	44.24	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<sub>2.5</sub>) - µg/m<sup>3</sup>**  
**March 2015**

Maximum Value: 53.57 µg/m <sup>3</sup> on Mar 27 22:00		Maximum Daily Average: 16.98 µg/m <sup>3</sup> on Mar 4		Hours in Service: 744																							
Minimum Value: 0.0 µg/m <sup>3</sup> on Mar 18 14:00		Minimum Daily Average: 4.74 µg/m <sup>3</sup> on Mar 2		Hours of Data: 744																							
Maximum Diurnal Average: 11.84 µg/m <sup>3</sup> at hour 22		Minimum Diurnal Average: 5.54 µg/m <sup>3</sup> at hour 15		Hours of Missing Data: 0																							
Monthly Average: 9.071 µg/m <sup>3</sup>		Percentiles: P <sub>1</sub> = 1.8 P <sub>10</sub> = 3.8 Q <sub>1</sub> = 5.1 Median = 7.3 Q <sub>3</sub> = 10.8 P <sub>90</sub> = 16.5 P <sub>99</sub> = 35.4		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-Mar	8.9	8.9	8.0	6.4	6.4	5.7	8.1	8.5	12.6	15.8	10.6	10.5	8.6	6.2	5.6	6.3	5.7	9.5	10.9	7.5	6.2	8.7	7.4	5.0	8.25	15.83	
2-Mar	5.4	5.4	3.5	6.1	4.5	3.8	4.2	3.6	3.8	5.3	4.3	4.0	2.4	3.0	3.9	3.8	4.7	3.7	4.3	6.0	5.8	6.2	10.0	6.1	4.74	9.96	
3-Mar	5.4	4.1	4.0	3.8	3.8	7.3	16.9	22.6	15.5	14.3	7.1	9.2	4.5	5.8	4.3	5.3	5.4	6.8	10.6	15.3	20.2	13.4	9.3	8.5	9.32	22.58	
4-Mar	7.7	10.1	13.4	12.7	11.4	15.7	15.5	15.1	26.2	29.3	33.2	19.4	19.9	19.8	13.6	13.4	16.0	11.5	12.3	17.0	20.7	19.5	16.8	17.3	16.98	33.23	
5-Mar	16.9	14.6	14.0	13.0	11.5	11.3	15.2	26.0	20.7	19.4	18.7	15.6	8.5	10.7	6.9	6.3	10.9	14.5	12.8	9.9	14.0	7.7	12.9	9.9	13.41	26.00	
6-Mar	8.3	8.1	6.0	3.7	8.1	8.6	4.8	3.9	4.5	4.1	4.1	3.7	3.9	3.9	3.8	3.8	3.9	3.8	4.4	6.8	14.2	9.9	12.8	12.2	6.30	14.21	
7-Mar	9.6	8.9	7.3	4.4	6.3	9.3	7.7	6.3	6.7	4.9	4.9	13.4	2.7	1.9	1.9	6.5	4.4	4.1	3.5	3.7	14.9	16.1	16.8	15.8	7.59	16.78	
8-Mar	8.3	4.6	8.5	6.6	5.9	6.3	5.1	4.0	6.6	5.2	3.6	2.4	4.1	5.0	7.5	7.1	8.0	7.0	7.0	6.3	4.2	3.6	3.5	3.8	5.60	8.53	
9-Mar	4.1	4.7	3.7	4.8	5.5	4.3	5.6	6.1	4.5	7.5	3.8	3.3	2.2	2.9	1.2	2.8	3.7	5.2	3.8	4.8	7.4	13.7	19.5	23.3	6.18	23.28	
10-Mar	12.5	8.3	5.4	5.5	7.2	9.5	8.0	5.8	6.7	6.9	22.2	21.6	16.3	16.4	0.4	4.1	5.9	6.3	10.3	11.6	10.2	7.2	6.5	7.8	9.27	22.21	
11-Mar	10.0	7.5	7.8	7.2	7.3	8.7	7.2	7.8	6.8	7.4	8.3	15.2	18.4	9.1	5.7	4.1	7.7	7.4	8.1	9.0	6.3	4.1	5.1	9.2	8.14	18.36	
12-Mar	8.5	9.1	10.3	9.8	9.3	10.3	11.0	9.6	6.8	6.3	5.7	5.6	6.1	8.0	5.8	7.4	5.3	6.3	7.2	8.7	9.8	10.9	11.1	4.9	8.08	11.05	
13-Mar	7.2	10.8	7.2	8.1	10.9	7.9	16.4	18.8	30.1	22.6	17.8	15.9	6.8	3.2	2.3	4.1	3.6	5.7	8.3	31.3	24.2	20.9	14.1	21.5	13.32	31.30	
14-Mar	24.9	16.7	26.6	37.5	36.2	19.7	6.5	12.3	6.1	4.9	4.9	8.2	8.3	9.5	6.6	5.2	16.5	6.5	9.2	7.9	5.2	7.1	3.6	4.4	12.27	37.54	
15-Mar	7.4	7.6	7.9	5.4	5.6	5.1	5.9	6.4	4.2	3.5	3.2	1.8	3.8	3.9	3.5	3.6	4.4	6.2	8.6	9.1	7.7	11.8	13.5	13.0	6.38	13.49	
16-Mar	8.9	13.8	10.9	8.4	7.6	7.3	9.1	15.1	24.5	6.1	7.9	8.1	9.4	5.6	10.0	10.9	9.3	10.1	16.5	22.9	17.5	19.8	12.9	13.1	11.89	24.54	
17-Mar	9.5	5.6	13.2	8.9	10.2	15.6	17.7	41.4	30.1	19.1	48.1	7.5	11.8	6.3	5.2	10.8	7.3	6.4	8.9	16.8	16.6	15.4	11.3	13.4	14.89	48.10	
18-Mar	9.8	10.2	10.5	6.8	6.6	12.3	10.9	7.8	9.6	4.6	10.6	6.3	1.7	0.0	1.0	5.7	4.6	3.0	3.4	12.0	24.4	36.9	27.8	24.7	10.47	36.93	
19-Mar	24.0	19.7	27.9	16.6	20.9	35.6	21.4	13.1	10.2	11.8	14.0	8.6	4.6	3.4	5.3	5.1	5.8	6.4	6.0	4.9	10.5	8.2	9.2	10.5	12.65	35.56	
20-Mar	8.6	4.6	3.4	3.6	3.5	3.9	5.2	3.6	4.3	6.9	7.3	7.4	6.8	6.6	6.1	7.6	10.8	7.8	5.3	5.6	3.9	3.7	4.9	5.0	5.69	10.82	
21-Mar	4.3	4.6	4.4	4.2	5.1	4.8	4.3	4.7	4.5	5.1	6.1	4.9	5.6	6.3	6.1	5.2	5.4	4.9	4.6	4.6	4.5	4.5	4.7	6.7	5.01	6.69	
22-Mar	8.2	7.2	6.9	6.6	5.8	5.1	5.7	5.6	4.9	3.3	3.1	4.2	4.5	4.9	4.8	4.3	4.7	4.7	5.3	5.9	5.6	4.7	4.4	4.6	5.20	8.18	
23-Mar	5.3	4.8	5.1	4.2	4.5	5.5	5.7	7.1	6.1	7.4	6.3	6.1	5.9	6.0	6.4	7.1	7.5	7.4	7.3	8.0	7.1	8.3	8.3	8.8	6.52	8.77	
24-Mar	8.4	8.9	8.6	9.1	9.2	10.4	9.5	10.9	10.6	11.7	16.8	9.9	3.5	5.6	4.0	3.5	7.6	5.2	4.5	4.6	6.0	4.8	8.6	7.1	7.87	16.84	
25-Mar	5.1	6.0	5.5	5.1	6.9	7.3	8.4	7.6	11.8	11.5	13.2	17.3	15.5	5.4	2.9	3.9	7.5	9.5	3.7	2.6	6.0	15.4	20.9	20.1	9.13	20.87	
26-Mar	8.5	7.6	8.6	9.8	10.1	7.9	6.3	9.1	10.4	13.7	8.1	10.9	14.2	8.8	5.9	7.2	5.9	7.2	8.3	7.5	6.5	5.9	13.3	5.5	8.64	14.20	
27-Mar	8.2	10.0	5.4	5.8	9.4	13.8	16.3	11.6	14.7	11.2	14.0	16.3	11.4	12.9	17.5	17.9	15.1	12.4	9.2	10.1	43.8	53.6	30.5	34.6	16.90	53.57	
28-Mar	8.0	6.0	4.9	3.3	6.9	13.2	11.3	14.2	9.2	3.6	3.8	2.6	2.3	2.2	4.0	5.5	5.9	3.2	6.8	8.5	9.1	9.8	10.2	4.8	6.64	14.19	
29-Mar	8.5	9.8	8.1	5.3	6.2	4.9	3.7	8.4	9.3	5.7	4.5	4.8	5.7	3.7	6.4	6.0	3.5	3.9	4.1	5.3	5.6	5.3	13.6	14.5	6.53	14.48	
30-Mar	4.6	8.0	8.2	12.8	20.0	19.0	13.6	12.9	14.2	10.9	9.4	10.9	7.6	7.3	4.9	7.3	8.9	5.5	8.8	12.4	8.5	8.1	6.5	14.3	10.19	20.04	
31-Mar	5.4	9.0	8.6	8.1	11.2	9.0	11.4	9.8	8.8	9.0	22.6	6.1	10.8	5.4	8.1	6.0	5.8	4.3	1.3	2.3	2.6	1.7	2.0	2.9	7.18	22.61	
		9.05	8.57	8.85	8.18	9.16	9.97	9.62	10.95	11.13	9.63	11.23	9.09	7.66	6.45	5.54	6.38	7.15	6.66	7.27	9.32	11.25	11.84	11.35	11.39	Diurnal Average	
		24.86	19.67	27.93	37.54	36.16	35.56	21.42	41.43	30.07	29.26	48.10	21.57	19.85	19.83	17.45	17.87	16.49	14.48	16.47	31.30	43.81	53.57	30.54	34.55	Diurnal Maximum	

Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 80 µl/m<sup>3</sup> 24-hr 30 µl/m<sup>3</sup>

# Calibration Data Summary

## West Central Airshed Society

Operator: WCAS

Location: Station 906, Hinton

Calibration Date: March 18, 2015

Parameter: NO/NO<sub>2</sub>/NO<sub>x</sub>

Instrument: Teco 42i

Serial Number: CM13040041

Previous Calibration Date: February 18, 2015

Calibration: Routine

Calibration Equipment: Sabio 2010 SN 08600312

Barometric Pressure: 26.77" Hg

Calibration Method: Standard Gas Dilution/GPT

Cylinder ID: FF14354

Temperature: 20.1° C

Cylinder Concentration: 12.6 ppm NO

In Service: January 14, 2015

Technician: L. Burns

Instrument Settings	NO bkg ppb	NO <sub>x</sub> bkg ppb	Pre-reactor bkg ppb	NO Coefficient	NO <sub>x</sub> Coefficient	NO <sub>2</sub> Coefficient	Monitoring Range
Previous	4.4	4.7	NA	0.731	1.012	0.997	300 ppb
Current	4.5	4.8	NA	0.754	1.001	0.997	300 ppb

NO	Final Zero: -0.3 ppb	Final Span: 199.5 ppb	As Found Correction Factor: 1.022
NO <sub>2</sub>	Final Zero: 0.6 ppb	Final Span: 1.1 ppb	As Found Correction Factor: 0.000
NO <sub>x</sub>	Final Zero: -0.2 ppb	Final Span: 199.3 ppb	As Found Correction Factor: 1.011

Results of Linear Regression			Slope	Intercept	R <sup>2</sup>
NO	R <sub>c</sub> vs C <sub>c</sub>	Previous	99.485350	-33.820810	0.999965
		Current	99.867290	40.676510	0.999987
	C <sub>i</sub> vs C <sub>c</sub>	Current	1.000000	-0.000021	0.999987
NO <sub>2</sub>	R <sub>c</sub> vs C <sub>c</sub>	Previous	99.795070	-15.641260	0.999965
		Current	100.675300	-65.639070	0.999759
	C <sub>i</sub> vs C <sub>c</sub>	Current	1.000000	-0.000023	0.999760
NO <sub>x</sub>	R <sub>c</sub> vs C <sub>c</sub>	Previous	99.864590	-28.551140	0.999965
		Current	100.299000	27.794790	0.999997
	C <sub>i</sub> vs C <sub>c</sub>	Current	1.000000	-0.000043	0.999997

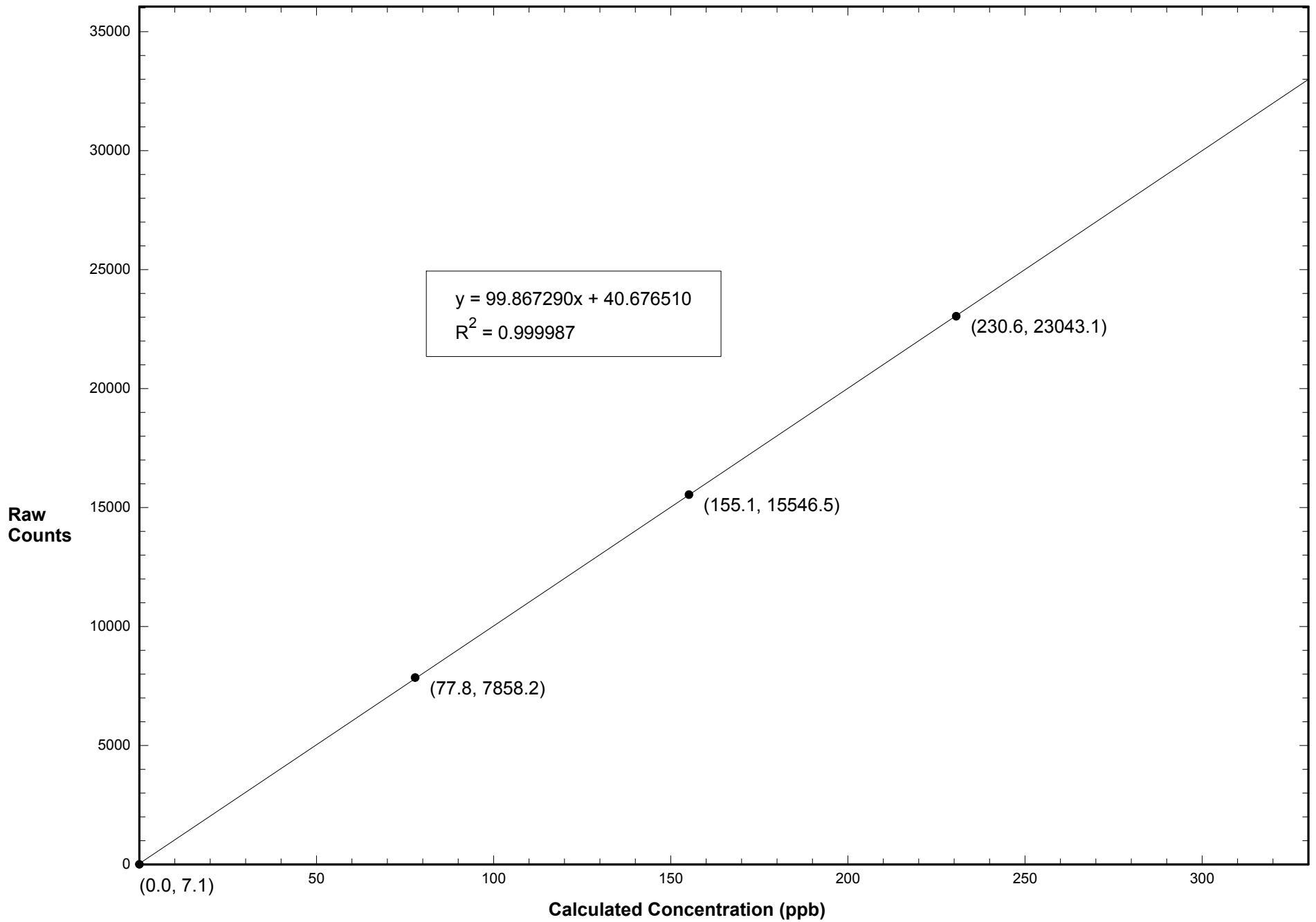
Comments:

**Calibration Data Summary (Page 2)**

March 18, 2015 - Station 906

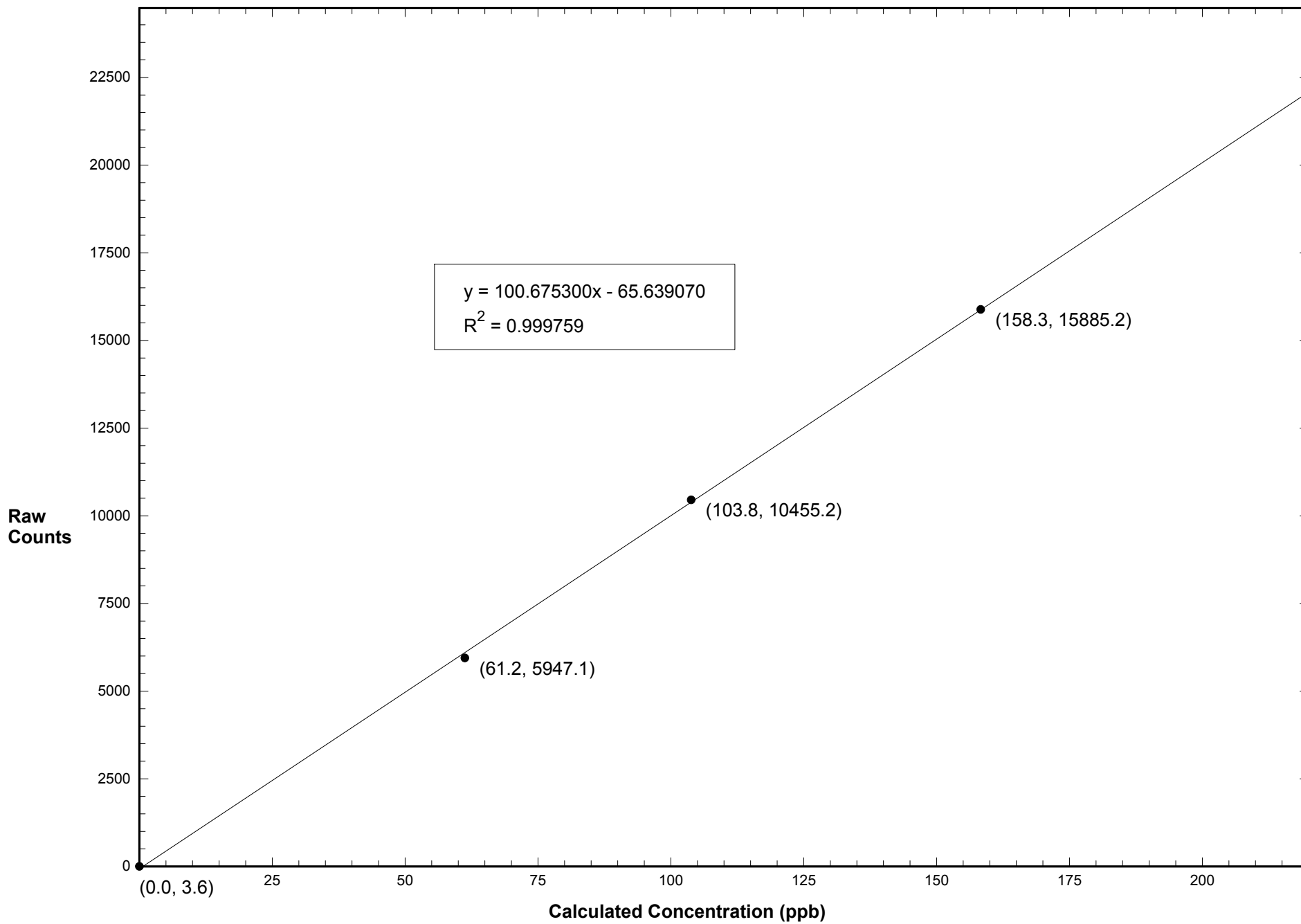
NO Flow Rate (LPM)	Dilution Flow Rate (LPM)	Calculated Concentration C <sub>c</sub> (ppb)	Raw Count Output R <sub>c</sub>	Indicated Concentration C <sub>i</sub> (ppb)	Correction Factor C <sub>c</sub> /C <sub>i</sub>		
0.07538	4.044	230.6	23043.1	230.3	1.001		
0.05030	4.035	155.1	15546.5	155.3	0.999		
0.02495	4.014	77.8	7858.2	78.3	0.994		
0.00000	4.000	0.0	7.1	-0.3			
NO Calibration					Average Correction Factor:	0.998	
0.07538	4.044	230.6	23148.7	230.5	1.000		
0.05030	4.035	155.1	15581.9	155.1	1.000		
0.02495	4.014	77.8	7860.1	78.1	0.997		
0.00000	4.000	0.0	12.8	-0.1			
NO <sub>x</sub> Calibration					Average Correction Factor:	0.999	
Reference Concentration NO (ppb)	Raw Count Output NO	Calculated Concentration NO (ppb)	Calculated Concentration NO <sub>2</sub> , C <sub>c</sub> (ppb)	Raw Count Output R <sub>c</sub>	Indicated Concentration C <sub>i</sub> (ppb)	Correction Factor C <sub>c</sub> /C <sub>i</sub>	Converter Efficiency C <sub>i</sub> /C <sub>c</sub>
236.1	7813.7	77.8	158.3	15885.2	158.4	0.999	1.001
236.1	13255.3	132.3	103.8	10455.2	104.5	0.993	1.007
236.1	17508.3	174.9	61.2	5947.1	59.7	1.025	0.975
			0.0	3.6	0.7		
					Average Correction Factor:	1.006	
NO <sub>2</sub> Gas Phase Titration					Average Converter Efficiency:	0.994	
Parameter	Correction Factor (Previous)	Correction Factor: (Current)	Percent Change of Correction Factor				
NO	0.998	1.001	0.3				
NO <sub>2</sub>	1.001	0.999	-0.2				
NO <sub>x</sub>	0.998	1.000	0.2				

# Station 906 NO March 18, 2015: Linear Regression

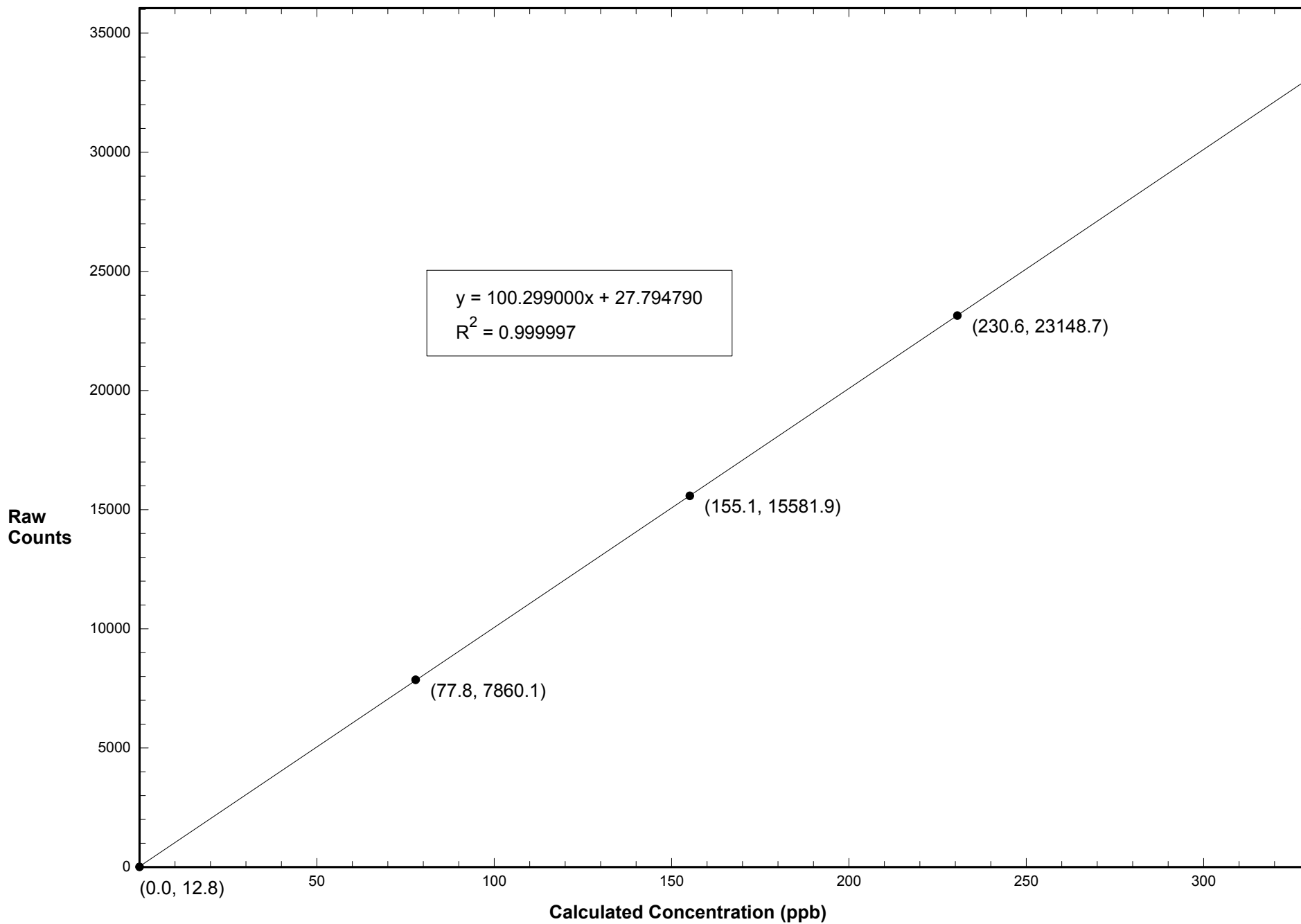




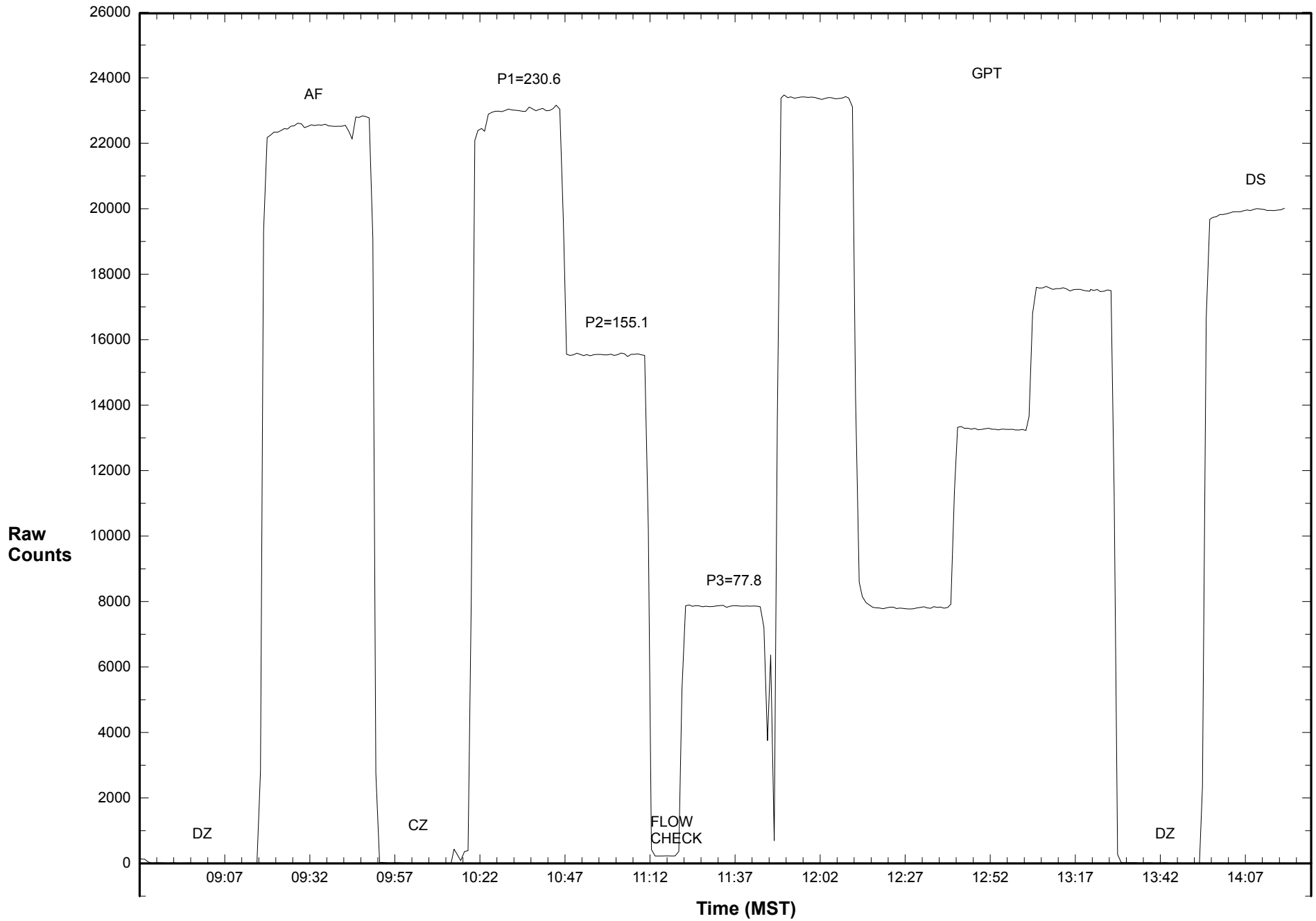
### Station 906 NO2 March 18, 2015: Linear Regression



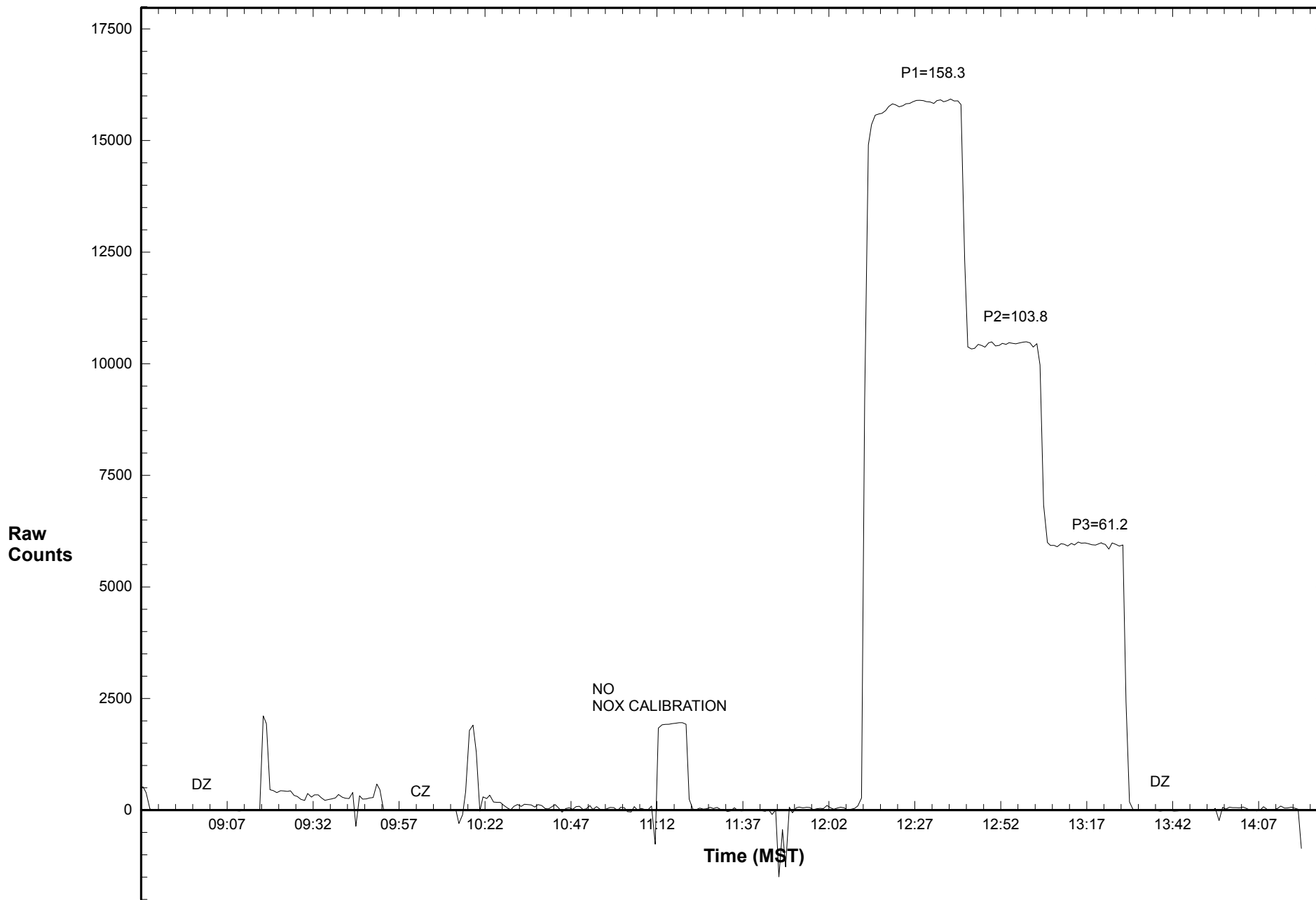
### Station 906 NOX March 18, 2015: Linear Regression



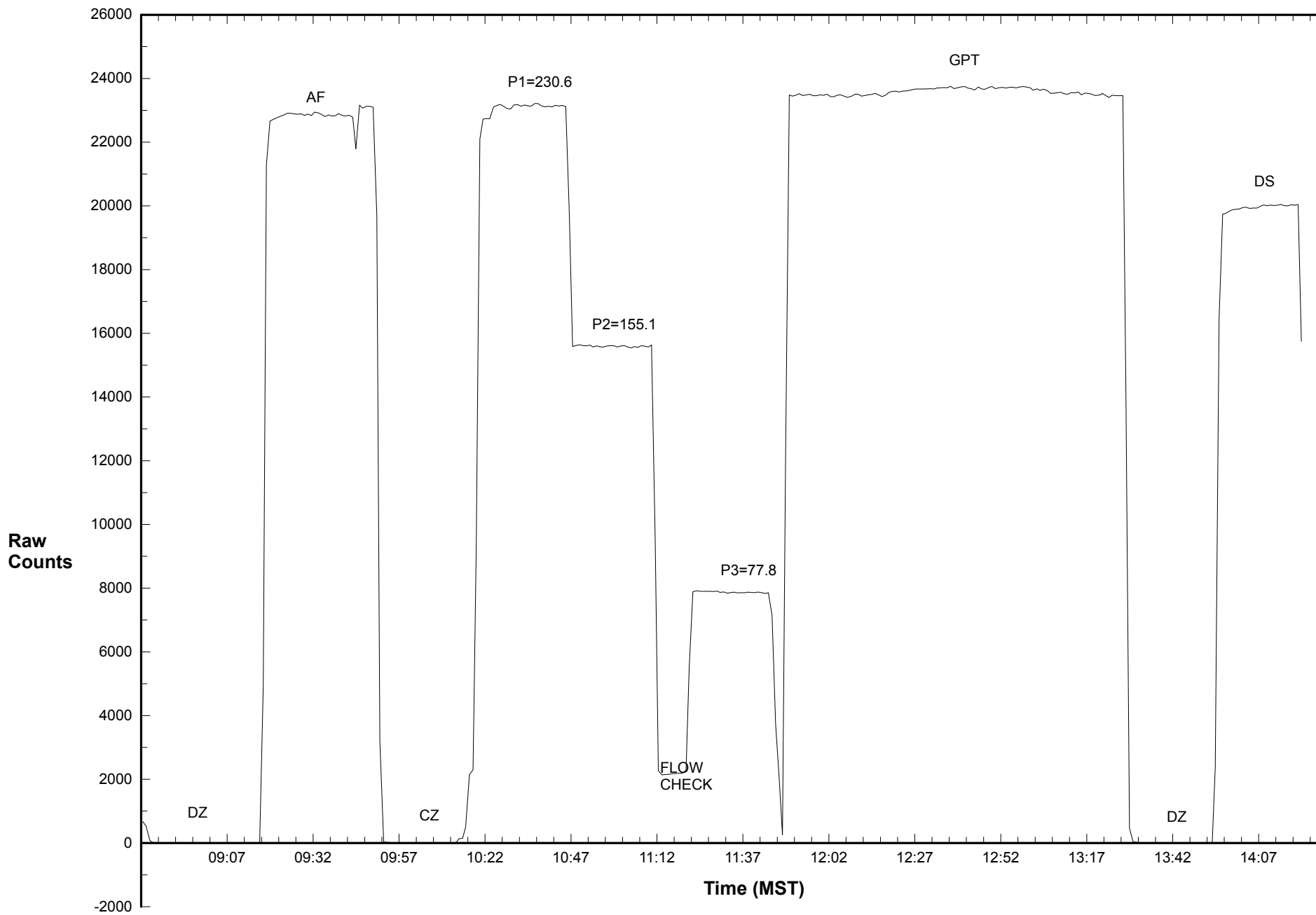
# Station 906 NO March 18, 2015: Calibration Graph



# Station 906 NO2 March 18, 2015: Calibration Graph



# Station 906 NOX March 18, 2015: Calibration Graph



# Calibration Data Summary

## West Central Airshed Society

Operator: WCAS

Location: Station 906, Hinton

Calibration Date: March 18, 2015

Parameter: O<sub>3</sub>

Instrument: Teco 49i

Serial Number: 1136451325

Previous Calibration Date: February 18, 2015

Calibration: Routine

Calibration Equipment: TECO 175-51760-291

Barometric Pressure: 26.77" Hg

Calibration Method: Certified Ozone Generator

Temperature: 20.1° C

Technician: L. Burns

Instrument Settings	Background	Coefficient	Monitoring Range
Previous	-0.2	1.201	500 ppb
Current	0.2	1.397	500 ppb

Final Zero: -1.6 ppb

Final Span: 369.8 ppb

As Found Correction Factor: 1.112

Calibration System Flow Rate (LPM)	Calculated Concentration C <sub>c</sub> (ppb)	Raw Count Output R <sub>c</sub>	Indicated Concentration C <sub>i</sub> (ppb)	Correction Factor C <sub>c</sub> /C <sub>i</sub>
3.000	402.0	24109.4	402.1	1.000
3.000	203.0	12138.7	202.2	1.004
3.000	104.0	6334.5	105.3	0.988
3.000	0.0	-2.7	-0.5	

### Results of Linear Regression

R <sub>c</sub> vs C <sub>c</sub>	Slope	Intercept	R <sup>2</sup>
Previous	59.597380	111.649500	0.999896
Current	59.887570	29.904790	0.999971
C <sub>i</sub> vs C <sub>c</sub>			
Current	1.000000	-0.000006	0.999971

Average Correction Factor: 0.997

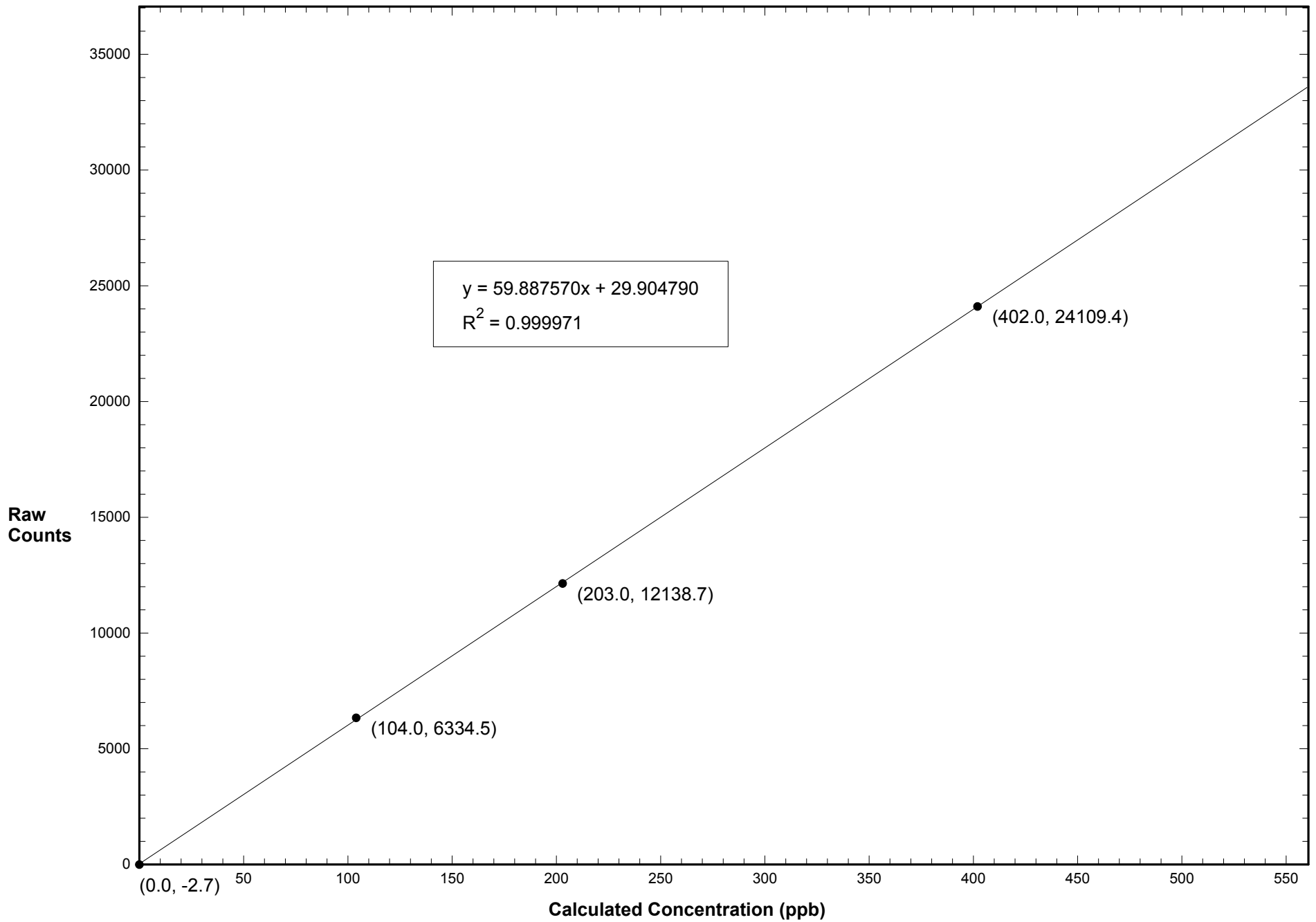
Previous Correction Factor: 1.002

Current Correction Factor: 1.000

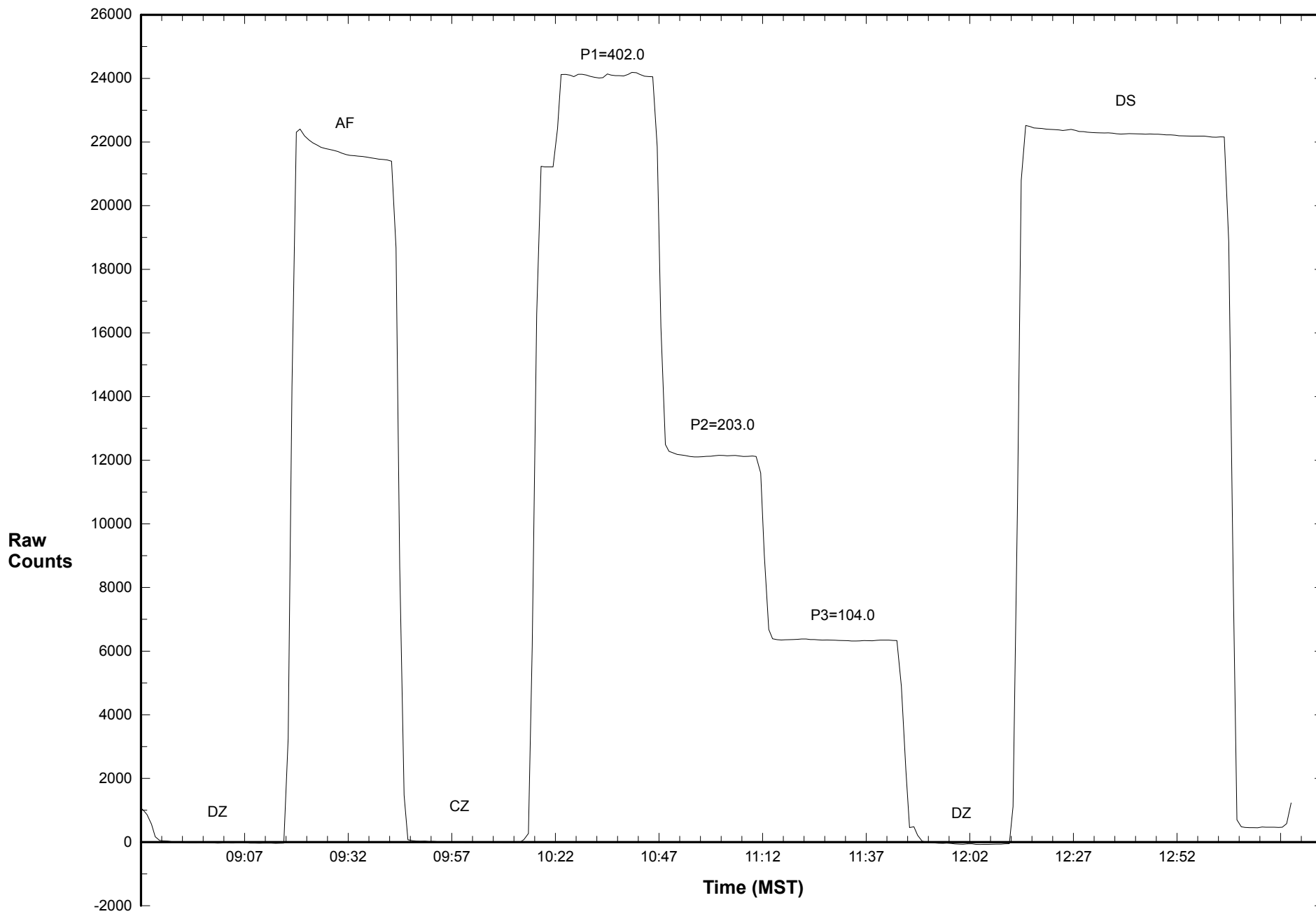
Percent Change of Correction Factor: -0.2

Comments:

### Station 906 O3 March 18, 2015: Linear Regression



# Station 906 O3 March 18, 2015: Calibration Graph





# Calibration Data Summary

## West Central Airshed Society

Operator: WCAS

Location: Station 906, Hinton

Calibration Date: March 18, 2015

Parameter: SO<sub>2</sub>

Instrument: TECO 43i

Serial Number: CM12499009

Previous Calibration Date: February 18, 2015

Calibration: Routine

Calibration Equipment: Sabio 2010 SN 08600312

Barometric Pressure: 26.77" Hg

Calibration Method: Standard Gas Dilution

Cylinder ID: FF14354

Temperature: 20.1° C

Cylinder Concentration: 6.34 ppm SO<sub>2</sub>

In Service: January 14, 2015

Technician: L. Burns

Instrument Settings	SO <sub>2</sub> bkg ppb	SO <sub>2</sub> Coefficient	Monitoring Range
Previous	25.5	0.973	200 ppb
Current	26.3	0.996	200 ppb

Final Zero: -0.1 ppm

Final Span: 93.5 ppm

As Found Correction Factor: 1.030

SO <sub>2</sub> Flow Rate (LPM)	Dilution Flow Rate (LPM)	Calculated Concentration C <sub>c</sub> (ppm)	Raw Count Output R <sub>c</sub>	Indicated Concentration C <sub>i</sub> (ppm)	Correction Factor C <sub>c</sub> /C <sub>i</sub>
0.0754	4.044	116.0	17403.2	115.9	1.001
0.0503	4.035	78.1	11754.4	78.3	0.997
0.0250	4.014	39.2	5844.6	39.0	1.004
0.0000	4.000	0.0	-13.2	0.0	

### Results of Linear Regression

R <sub>c</sub> vs C <sub>c</sub>	Slope	Intercept	R <sup>2</sup>
Previous	150.267200	21.748090	0.999975
Current	150.306700	-17.135600	0.999986
C <sub>i</sub> vs C <sub>c</sub>			
Current	1.000000	0.000015	0.999986

Average Correction Factor: 1.001

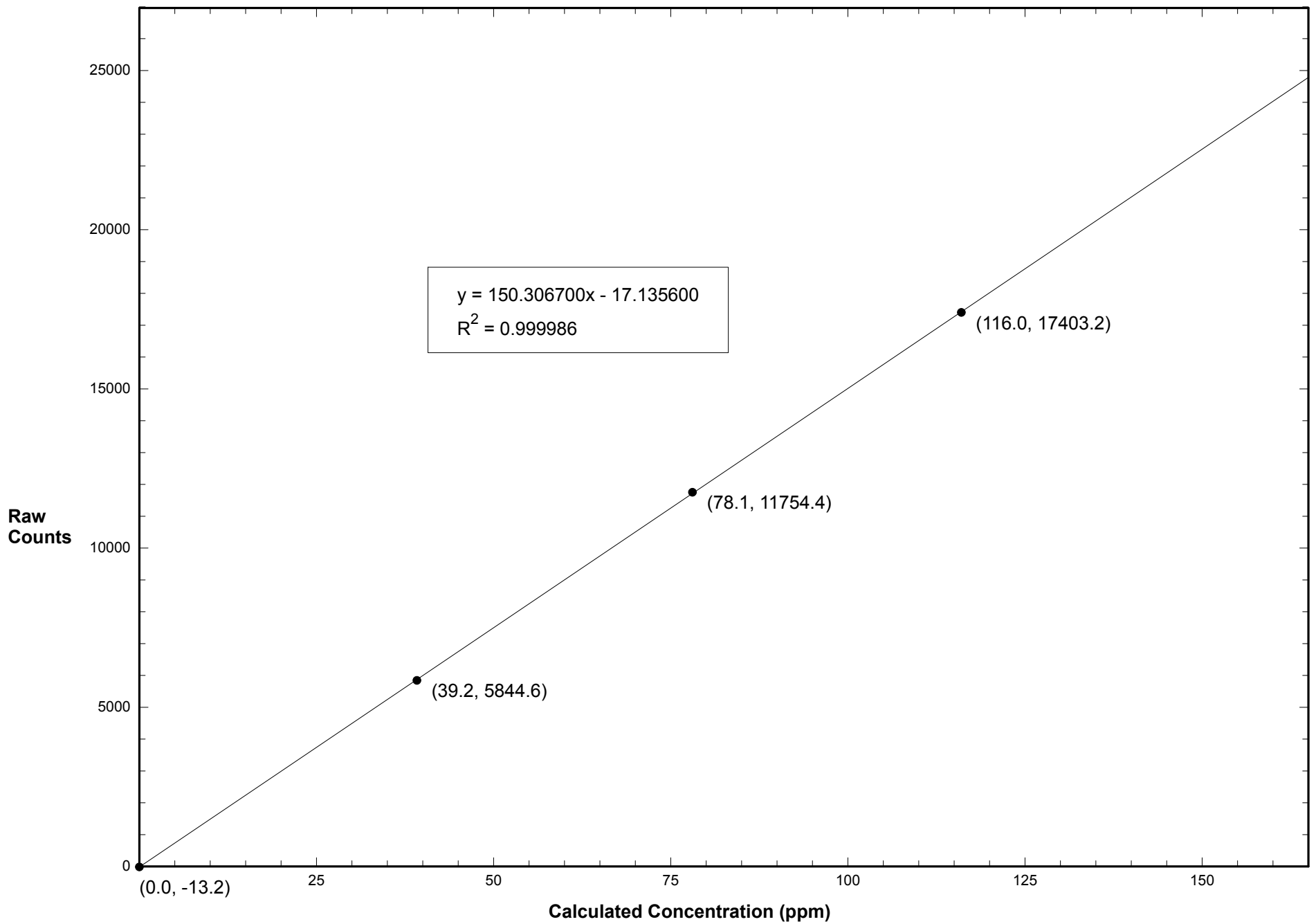
Previous Correction Factor: 1.002

Current Correction Factor: 1.001

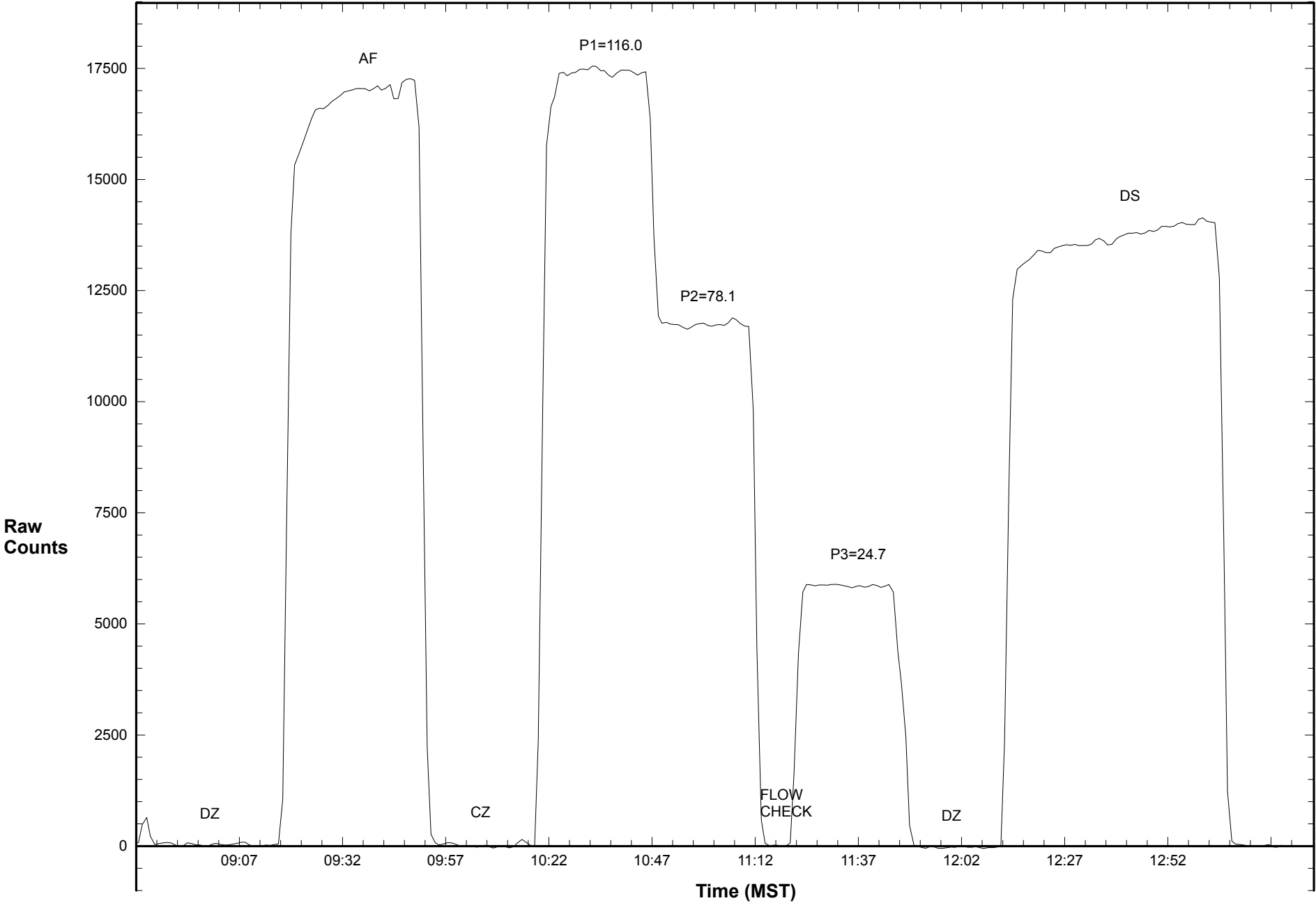
Percent Change of Correction Factor: -0.1

Comments:

# Station 906 SO2 March 18, 2015: Linear Regression



# Station 906 SO2 March 18, 2015: Calibration Graph



# Calibration Data Summary

## West Central Airshed Society

Operator: WCAS

Location: Station 906, Hinton  
 Calibration Date: March 18, 2015  
 Parameter: TRS

Instrument: Teco 43C	Serial Number: 43CTL 60324 - 326	Previous Calibration Date: February 18, 2015
Calibration: Routine	Calibration Equipment: Sabio 2010 SN 08600312	Barometric Pressure: 26.77" Hg
Calibration Method: Standard Gas Dilution	Permeation Device ID: SV14360, 4.89 ppm H2S	Temperature: 20.1° C
Permeation Rate: 0 ng/min	In Service: February 5, 2013	Technician: L. Burns

Instrument Settings	H <sub>2</sub> S bkg ppb	H <sub>2</sub> S Coefficient	Monitoring Range
Previous	1.71	0.764	100 ppb
Current	1.63	0.741	100 ppb

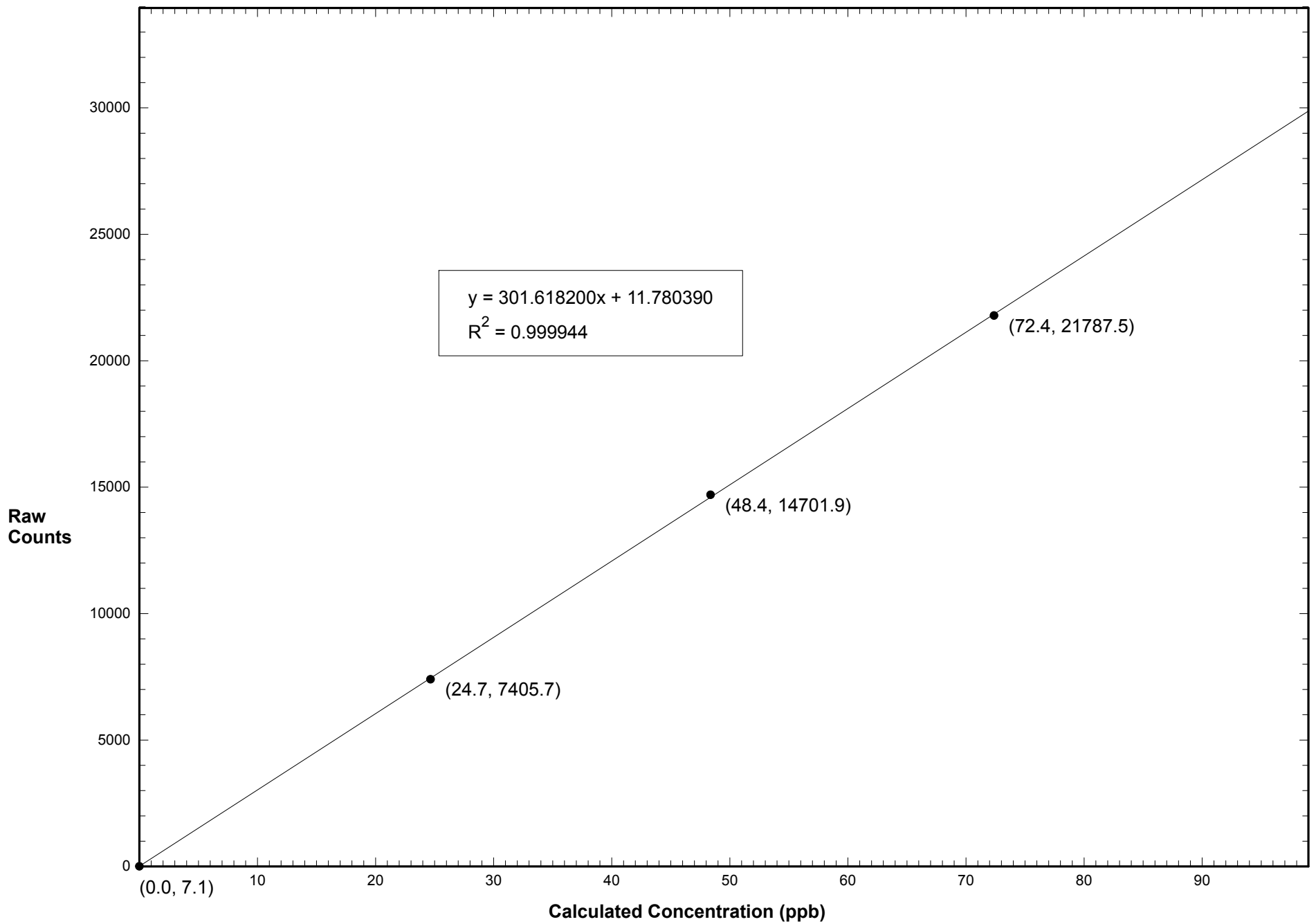
Final Zero: 0.0 ppb                      Final Span: 62.9 ppb                      As Found Correction Factor: 0.970

Calibration System Flow Rate (LPM)	Calculated Concentration C <sub>c</sub> (ppb)	Raw Count Output R <sub>c</sub>	Indicated Concentration C <sub>i</sub> (ppb)	Correction Factor C <sub>c</sub> /C <sub>i</sub>
0.061	72.4	21787.5	72.2	1.002
0.040	48.4	14701.9	48.7	0.993
0.020	24.7	7405.7	24.5	1.006
0.000	0.0	7.1	0.0	

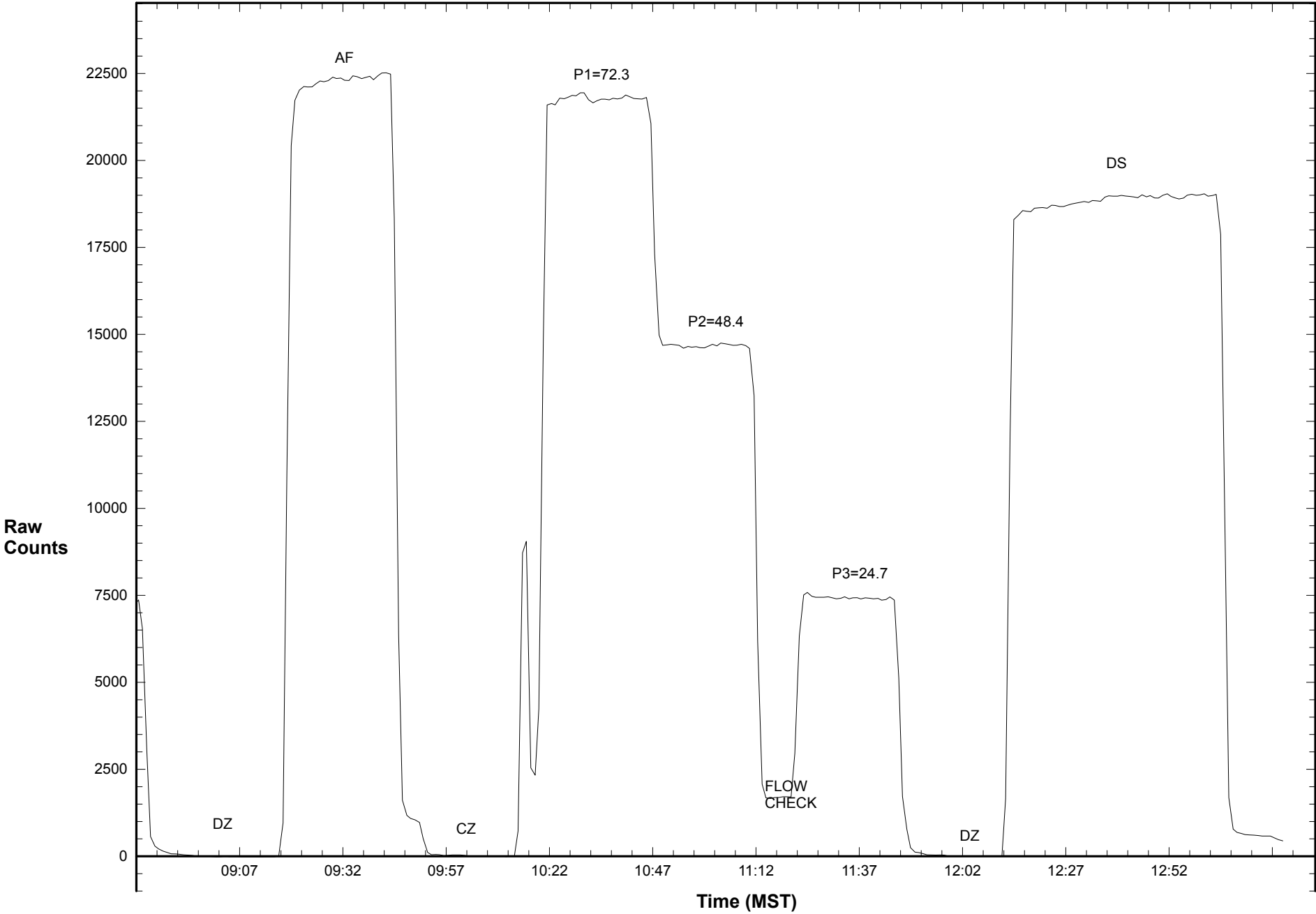
Results of Linear Regression				Average Correction Factor:	1.000
R <sub>c</sub> vs C <sub>c</sub>	Slope	Intercept	R <sup>2</sup>	Previous Correction Factor:	1.001
Previous	300.421800	1.331332	0.999993	Current Correction Factor:	1.002
Current	301.618200	11.780390	0.999944	Percent Change of Correction Factor:	0.1
C <sub>i</sub> vs C <sub>c</sub>					
Current	1.000000	0.000006	0.999943		

Comments:

# Station 906 TRS March 18, 2015: Linear Regression



# Station 906 TRS March 18, 2015: Calibration Graph



**WEST CENTRAL AIRSHED SOCIETY**

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

**AMS 906  
HINTON  
MARCH 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**  
**March 2015**

Maximum Value: 18.35 C on Mar 27 14:00      Maximum Daily Average: 12.36 C on Mar 27		Hours in Service: 744 Hours of Data: 744 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0																								
Minimum Value: -23.4 C on Mar 3 08:00 Maximum Diurnal Average: 8.15 C at hour 15 Monthly Average: 2.403 C		Minimum Daily Average: -13.12 C on Mar 3 Minimum Diurnal Average: -2.39 C at hour 7 Percentiles: P <sub>1</sub> = -19.5 P <sub>10</sub> = -5.4 Q <sub>1</sub> = -1.7 Median = 2.2 Q <sub>3</sub> = 8.1 P <sub>90</sub> = 11.4 P <sub>99</sub> = 17.3																								
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-Mar	-12.6	-13.0	-12.8	-12.6	-13.0	-13.5	-13.8	-14.3	-14.1	-9.5	-3.9	-0.1	2.5	3.9	4.6	4.7	4.2	3.2	2.6	1.5	1.6	0.1	-0.9	-1.0	-4.42	4.70
2-Mar	-1.2	-2.0	-2.2	-3.1	-4.5	-5.9	-6.6	-6.5	-6.4	-7.8	-9.3	-8.5	-7.3	-7.5	-8.0	-8.3	-7.9	-8.8	-10.0	-11.5	-12.6	-13.8	-15.8	-17.9	-8.06	-1.17
3-Mar	-18.9	-19.5	-20.5	-20.9	-21.4	-22.1	-23.0	-23.4	-22.2	-17.7	-12.3	-9.4	-6.8	-4.5	-3.0	-2.6	-2.2	-3.0	-4.7	-7.2	-9.7	-11.7	-13.3	-14.8	-13.12	-2.21
4-Mar	-16.4	-17.5	-18.3	-18.9	-19.2	-19.4	-17.6	-16.4	-11.9	-7.6	-4.7	-2.5	0.1	3.0	5.3	6.2	6.9	5.7	4.8	3.9	3.0	2.9	2.2	1.4	-5.21	6.87
5-Mar	1.6	1.7	2.1	2.2	2.3	2.6	2.7	2.8	2.8	4.1	4.9	5.5	6.2	7.1	7.5	7.1	6.9	6.6	6.5	6.5	6.1	5.4	5.7	5.3	4.68	7.45
6-Mar	4.9	5.0	4.5	3.2	2.4	2.5	2.9	3.9	5.1	7.3	7.9	8.3	8.5	8.4	9.1	8.6	8.2	7.4	5.2	3.9	3.2	0.6	-1.2	-2.0	4.90	9.08
7-Mar	-2.2	-1.8	-1.5	-1.9	-2.5	-3.0	-3.3	-4.2	-3.4	0.1	3.1	7.4	9.5	9.9	9.8	9.7	8.9	8.1	6.7	3.9	3.3	0.6	-0.8	-1.8	2.28	9.94
8-Mar	-2.6	-3.2	-3.5	-3.8	-4.4	-4.9	-5.3	-5.9	-3.7	6.6	9.6	10.8	11.9	12.8	13.1	13.1	13.1	11.6	10.4	9.0	8.4	7.8	8.2	7.7	4.87	13.14
9-Mar	7.8	8.4	7.9	8.8	8.3	8.1	6.3	6.6	5.1	7.5	8.5	8.1	10.3	11.3	11.4	10.7	10.0	9.4	8.6	7.6	6.5	4.1	1.2	-0.4	7.59	11.44
10-Mar	-1.7	-1.8	-1.7	-2.0	-2.2	-2.3	-2.4	-2.2	-1.1	1.3	3.6	5.9	7.2	10.3	12.4	12.5	12.0	11.1	8.3	5.7	4.5	3.6	2.3	0.9	3.50	12.51
11-Mar	-0.2	-0.6	-0.8	-0.8	-0.9	-0.9	-0.9	-0.8	-0.6	0.1	1.7	4.4	7.4	12.4	13.6	13.3	13.1	12.6	10.6	10.2	9.4	8.5	8.6	4.3	5.16	13.62
12-Mar	2.2	1.2	0.3	-0.4	-0.4	-1.0	-0.3	1.7	6.8	7.7	9.6	10.8	11.8	12.4	12.9	13.1	12.5	12.1	11.1	10.2	9.5	9.5	9.5	9.6	7.18	13.14
13-Mar	9.2	9.0	9.5	8.3	8.2	8.1	4.6	1.9	1.6	3.6	6.6	10.6	14.4	16.9	17.4	17.3	17.0	15.5	13.4	10.4	8.2	5.9	4.8	3.1	9.39	17.37
14-Mar	1.2	0.4	0.2	-0.1	-0.3	3.0	5.0	4.5	8.1	11.0	11.9	13.0	12.8	11.8	12.4	12.6	11.1	9.5	7.7	5.0	3.6	3.1	1.9	1.9	6.30	12.96
15-Mar	0.7	-1.2	-1.9	-2.1	-2.7	-2.9	-3.6	-4.3	-1.8	-0.5	0.9	2.0	3.3	3.9	4.2	4.8	5.5	4.9	3.2	0.8	-1.1	-2.5	-3.3	-4.0	0.09	5.45
16-Mar	-4.9	-5.9	-7.0	-7.7	-8.0	-8.3	-8.8	-8.9	-6.6	-3.3	-0.3	1.8	4.1	5.9	7.9	8.9	10.0	9.7	7.5	2.0	-0.6	-2.5	-3.3	-3.9	-0.92	9.98
17-Mar	-4.6	-5.5	-6.1	-6.7	-7.2	-7.4	-8.0	-8.5	-5.4	-2.5	0.2	3.0	6.0	9.3	11.4	11.2	11.8	11.4	8.7	4.7	2.6	0.3	-1.8	-2.6	0.59	11.77
18-Mar	-3.1	-3.2	-3.3	-3.8	-4.4	-4.9	-5.2	-5.5	-2.8	0.6	5.2	9.3	10.7	12.0	12.1	12.4	11.6	10.7	7.7	6.3	4.5	1.7	-0.3	-1.0	2.81	12.40
19-Mar	-0.5	0.1	0.3	0.4	0.4	0.3	0.1	0.5	1.1	2.3	3.2	3.6	3.4	4.8	5.9	6.2	6.3	6.4	4.9	2.8	1.4	0.1	-0.7	0.6	2.25	6.41
20-Mar	1.2	1.0	0.7	0.2	-0.2	-0.6	-1.1	-1.4	-1.1	-0.2	0.3	0.3	0.1	-0.2	-0.6	-0.7	-0.4	-0.4	-0.6	-0.8	-1.1	-1.4	-1.7	-1.8	-0.44	1.24
21-Mar	-1.9	-2.3	-2.6	-2.6	-2.6	-2.5	-2.5	-2.3	-1.8	-1.2	-1.0	-1.3	-1.1	-0.9	-0.5	-0.7	-1.3	-2.0	-2.6	-2.9	-3.0	-3.2	-3.5	-3.7	-2.09	-0.54
22-Mar	-3.8	-4.5	-4.9	-4.6	-4.4	-4.4	-4.2	-3.9	-3.1	-2.4	-1.5	-0.3	1.5	1.6	2.3	2.0	1.4	0.9	0.4	0.0	-0.1	-0.3	-0.5	-0.7	-1.39	2.25
23-Mar	-0.7	-0.7	-0.7	-0.8	-1.0	-1.2	-1.4	-1.5	-1.2	-0.9	-0.3	0.3	0.9	1.7	2.5	1.8	0.8	-0.2	-0.6	-0.7	-0.8	-1.0	-1.0	-1.1	-0.32	2.54
24-Mar	-1.3	-1.8	-1.7	-1.7	-1.7	-1.6	-2.0	-1.7	-0.2	1.5	3.0	3.5	4.5	5.8	3.8	3.8	3.4	4.6	3.5	1.2	-0.8	-1.8	-1.9	-2.3	0.76	5.81
25-Mar	-2.8	-3.3	-3.6	-3.5	-3.5	-3.6	-3.8	-3.4	-2.3	-1.2	1.5	3.6	5.8	8.0	8.3	8.7	8.7	8.1	6.7	5.8	5.0	3.0	2.0	1.4	1.90	8.71
26-Mar	0.9	0.5	0.3	0.7	2.3	1.2	1.1	1.1	2.3	6.5	11.1	12.4	13.1	14.7	14.9	14.3	14.6	14.2	13.4	12.3	10.9	10.7	7.4	8.9	7.91	14.89
27-Mar	8.3	8.5	7.8	9.3	8.8	10.5	10.5	10.6	11.9	13.2	15.5	16.6	17.8	18.4	18.3	17.6	17.3	16.9	15.1	13.4	9.2	6.3	6.3	8.6	12.36	18.35
28-Mar	9.4	8.0	7.6	6.8	5.3	4.1	3.3	2.8	4.5	5.1	7.9	10.3	11.8	12.2	11.7	11.3	12.3	10.6	9.2	8.6	8.7	8.2	8.2	8.0	8.16	12.27
29-Mar	8.3	8.3	7.9	7.7	8.1	7.9	7.6	7.5	8.7	11.2	11.7	11.4	12.2	13.4	12.7	12.2	11.5	10.7	10.1	8.1	6.9	6.1	4.9	3.9	9.11	13.44
30-Mar	3.4	3.0	0.5	-1.2	-2.2	-2.6	-2.4	-1.7	-0.5	0.4	1.6	3.1	6.8	10.3	11.0	11.6	12.0	11.8	11.0	9.4	8.5	7.7	6.9	4.4	4.69	11.99
31-Mar	2.1	0.5	0.1	-0.3	-1.5	-2.2	-2.3	-1.0	1.6	4.7	10.9	12.5	12.7	10.8	8.1	5.0	5.0	6.4	6.1	4.2	3.5	3.3	2.8	2.1	3.96	12.70
																								Diurnal Average		
																								Diurnal Maximum		







**WCAS - Hinton**  
**Summary of Hourly Averages**

**Wind Speed (WS) - kph**  
**March 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	3.4	2.6	2.5	3.4	4.9	4.7	3.9	3.7	4.5	4.7	5.4	4.6	5.5	4.9	4.8	6.4	6.3	4.4	2.7	0.2	0.2	0.2	0.2	0.2	3.50	6.41	
Dir	ENE	ENE	ENE	ENE	ENE	ENE	NE	NE	NE	NE	NE	NE	ENE	ENE	NE	ENE	ENE	NE	NE	NNE	NE	ENE	NE	NE	ENE	ENE	
24 Spd	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.1	0.2	1.2	1.2	3.0	4.4	1.2	3.3	2.7	2.2	3.9	3.3	1.2	0.4	1.1	0.6	2.4	0.16	4.40	
Dir	ENE	NE	NE	E	NE	W	E	NNW	NNW	WNW	WNW	SSW	SSW	W	NE	SW	SSE	NE	NE	ENE	E	W	SW	SW	S	SSW	
25 Spd	2.3	1.7	1.4	1.0	0.3	0.6	0.4	1.4	1.3	1.2	2.1	1.5	2.4	0.8	3.7	4.3	6.3	3.0	2.7	1.0	0.2	2.9	1.0	2.0	0.72	6.31	
Dir	SW	SW	SW	SSW	NNW	SE	ENE	SW	W	NW	NE	SE	NE	WNW	W	WSW	WSW	WSW	WNW	W	NNE	ENE	E	E	WSW	WSW	
26 Spd	1.7	1.7	1.5	0.6	2.0	3.3	3.4	2.2	3.0	0.7	8.5	10.6	9.4	15.5	13.0	11.1	11.1	10.0	8.2	6.9	3.6	3.8	2.0	5.8	4.04	15.55	
Dir	ENE	ENE	E	N	ENE	ENE	ENE	ENE	ENE	N	WSW	SW	WSW	SW	SW	SW	SW	SW	SW	SW	WSW	SW	SSE	S	SW	SW	
27 Spd	1.1	1.3	1.7	2.5	1.5	7.2	7.7	7.0	5.0	10.2	8.5	9.8	5.8	9.4	8.8	10.1	6.1	3.9	4.6	3.2	0.7	1.7	1.7	4.4	4.78	10.21	
Dir	WSW	SW	WSW	WSW	W	SW	SW	SW	SSW	SW	SW	SW	WSW	SW	SW	SW	WSW	WSW	SW	SSW	E	E	S	WNW	SW	SW	
28 Spd	6.1	3.6	2.2	4.0	1.0	0.9	0.7	0.7	1.7	0.1	4.2	6.3	9.1	8.6	9.0	7.7	6.9	5.7	2.0	4.0	7.1	7.0	6.5	3.8	3.28	9.09	
Dir	WNW	WSW	SW	SSW	NE	ENE	ENE	ENE	SSE	SSE	NW	NNW	NW	NW	NW	NW	WNW	WNW	W	WSW	SW	WSW	SW	W	WNW	NW	
29 Spd	4.9	7.4	6.6	6.1	8.5	9.7	8.3	1.8	2.7	4.6	5.6	7.5	7.5	7.4	7.3	9.1	14.4	10.5	9.5	3.0	2.9	3.0	1.3	0.9	5.77	14.41	
Dir	WSW	WSW	WSW	SW	SW	SW	SW	S	SSW	W	W	W	W	WNW	WSW	WSW	SW	SW	SW	W	SSW	SW	S	SW	WSW	SW	
30 Spd	2.2	4.3	1.0	0.4	0.9	0.8	0.5	1.0	1.9	1.4	2.3	3.3	6.3	6.2	6.0	4.2	3.6	4.2	2.4	1.8	2.1	2.1	2.1	1.2	1.80	6.25	
Dir	WSW	SSW	SSE	S	E	SSE	E	N	ENE	NE	ENE	NE	NE	NE	NE	NE	NE	ESE	ESE	ENE	ENE	NE	NE	ENE	ENE	ENE	
31 Spd	3.9	0.9	0.7	0.3	1.0	0.7	1.6	1.5	1.4	1.8	1.5	3.2	9.9	12.8	5.0	3.9	4.4	5.6	9.4	3.9	2.3	3.4	3.4	2.1	1.84	12.81	
Dir	ENE	ENE	NE	E	ENE	SE	E	ESE	ESE	NW	WSW	WSW	SW	SW	NW	NNW	S	WNW	WNW	WNW	W	WNW	W	W	W	SW	
Spd	0.61	0.76	0.29	0.49	0.16	0.69	0.40	0.06	0.31	0.88	1.40	2.24	3.08	3.82	3.36	3.57	3.23	2.29	1.64	1.14	1.05	0.90	1.10	0.71	Diurnal Average		
Dir	W	SW	SW	SW	SW	SSW	S	SE	NNE	WNW	W	WSW	WSW	WSW	W	WSW	WSW	W	W	W	SW	WSW	SW	SW	Diurnal Maximum		
Spd	8.02	9.16	11.16	11.16	11.73	11.49	9.09	6.96	7.74	10.21	11.67	15.21	16.12	17.59	14.39	14.22	14.46	11.31	11.78	10.23	7.06	7.03	7.36	8.37	Diurnal Maximum		
Dir	235.58	234.24	229.37	228.80	228.73	229.92	235.23	216.38	62.70	229.04	235.74	229.74	226.80	225.48	224.93	226.26	233.95	224.37	227.18	231.23	234.37	237.34	227.66	224.90	Diurnal Maximum		
Maximum Speed Value: 17.6 kph on Mar 12 14:00																					Minimum Speed Value: 0.1 kph on Mar 24 06:00				Hours in Service:		744
Maximum Daily Speed Average: 7.50 kph on Mar 5																					Minimum Daily Speed Average: 0.16 kph on Mar 24				Hours of Data:		744
Maximum Diurnal Speed Average: 3.82 kph at hour 14																					Minimum Diurnal Speed Average: 0.06 kph at hour 8				Hours of Missing Data:		0
Monthly Average Velocity: 1.338 kph 253.50 deg										Speed Percentiles: P <sub>1</sub> = 0.1 P <sub>10</sub> = 0.6 Q <sub>1</sub> = 1.3 Median = 3.3 Q <sub>3</sub> = 5.8 P <sub>90</sub> = 8.5 P <sub>99</sub> = 14.4										Percent Operational Time:		100.0					
All monthly, daily, and diurnal averages have been calculated using vector methods																											
Frequency Distribution																											
		Speed Range (kph)																									
Direction	0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total																				
North	19	6	0	0	0	0	25																				
NorthEast	132	44	0	0	0	0	176																				
East	94	8	0	0	0	0	102																				
SouthEast	30	1	0	0	0	0	31																				
South	23	1	0	0	0	0	24																				
SouthWest	83	85	34	0	0	0	202																				
West	94	25	0	0	0	0	119																				
NorthWest	33	32	0	0	0	0	65																				
Total	508	202	34	0	0	0	744																				





**WCAS - Hinton**  
**Summary of Hourly Standard Deviations**

**Wind Speed (WS) - kph**  
**March 2015**

Maximum Value: 9.88 kph on Mar 14 17:00																				Maximum Daily Average: 5.19 kph on Mar 5						Hours in Service:	744																						
Minimum Value: 0.0 kph on Mar 23 22:00																				Minimum Daily Average: 1.15 kph on Mar 24						Hours of Data:	744																						
Maximum Diurnal Average: 4.71 kph at hour 15																				Minimum Diurnal Average: 1.82 kph at hour 7						Hours of Missing Data:	0																						
Monthly Average: 2.900 kph																				Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 1.1 Q <sub>1</sub> = 1.5 Median = 2.4 Q <sub>3</sub> = 3.9 P <sub>90</sub> = 5.7 P <sub>99</sub> = 7.9						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-Mar	1.0	0.4	0.7	1.0	1.1	0.8	1.1	1.0	0.9	0.6	1.6	5.0	5.2	5.9	5.7	5.7	5.7	4.3	3.2	2.1	3.3	4.2	1.9	2.3	2.69	5.89																							
2-Mar	3.6	3.2	3.8	3.5	4.7	3.2	1.6	1.8	4.2	6.4	5.7	5.5	4.9	5.0	4.9	4.3	5.1	3.4	2.7	2.6	2.5	1.4	1.3	0.9	3.58	6.37																							
3-Mar	1.4	1.8	1.1	1.3	1.1	1.0	0.7	1.0	1.1	1.2	1.9	2.0	3.5	3.4	4.0	3.3	3.4	3.7	1.7	1.3	1.0	1.2	1.4	0.8	1.85	4.03																							
4-Mar	0.8	0.6	0.9	0.8	0.9	0.7	1.0	1.8	1.9	3.2	4.7	5.4	5.8	5.7	5.8	6.8	4.3	2.0	3.9	2.2	2.0	4.6	4.2	3.9	3.08	6.76																							
5-Mar	5.2	5.4	5.6	4.8	5.8	5.4	5.5	4.8	4.5	4.5	4.6	5.2	4.9	6.7	6.5	6.4	5.7	3.9	3.9	5.7	5.5	3.7	4.8	5.7	5.19	6.71																							
6-Mar	4.1	3.9	3.1	2.1	2.5	1.7	2.0	2.9	2.8	4.5	5.0	4.8	4.7	4.7	4.8	4.8	4.6	3.7	1.5	2.2	2.3	2.2	1.4	1.3	3.23	5.03																							
7-Mar	1.2	1.2	3.1	2.6	1.4	1.3	1.4	1.1	1.6	1.7	1.7	2.9	3.4	3.9	4.2	5.0	4.1	4.2	3.9	1.6	2.1	1.3	1.7	1.6	2.42	4.98																							
8-Mar	1.2	1.0	1.4	1.3	0.7	0.8	1.2	0.9	1.4	6.2	6.9	7.4	7.6	7.0	7.0	6.3	5.3	4.5	4.8	4.2	2.8	3.1	3.1	2.8	3.71	7.57																							
9-Mar	3.5	4.4	4.1	6.1	4.1	3.4	1.9	2.9	1.9	2.1	2.8	2.6	3.8	5.0	5.4	4.1	3.5	2.6	3.4	2.8	2.6	1.9	1.1	1.0	3.21	6.06																							
10-Mar	1.0	1.3	1.1	1.2	1.1	1.0	1.2	1.3	1.5	1.3	1.5	1.3	1.5	2.9	4.5	5.9	4.8	4.2	1.8	2.6	2.8	2.0	1.6	1.5	2.12	5.92																							
11-Mar	1.4	1.1	1.9	2.3	1.8	1.2	1.1	1.6	1.9	1.6	1.7	1.4	2.0	7.1	7.3	6.0	6.7	6.3	4.6	3.5	2.8	2.5	4.2	2.5	3.10	7.34																							
12-Mar	1.9	1.8	2.0	2.4	2.2	1.7	2.7	3.0	5.2	3.3	6.8	7.5	8.9	9.1	8.7	7.7	6.3	6.5	6.4	6.1	5.9	5.6	5.1	4.8	5.07	9.11																							
13-Mar	3.4	3.9	4.1	2.8	2.4	3.4	2.2	2.0	1.8	2.2	2.2	3.7	4.7	2.9	3.8	3.3	4.8	5.0	3.7	1.5	2.4	1.6	2.3	1.5	2.99	5.00																							
14-Mar	1.9	2.1	1.7	1.9	2.0	3.1	2.0	2.1	4.4	5.4	4.8	5.6	7.7	8.4	6.7	7.3	9.9	6.6	7.2	5.0	3.0	3.8	4.2	3.0	4.59	9.88																							
15-Mar	2.2	1.9	1.8	2.3	2.2	1.3	1.3	1.8	3.0	2.5	3.2	2.7	3.0	3.5	3.4	3.3	3.2	2.8	3.5	3.3	2.3	1.5	1.2	1.1	2.42	3.51																							
16-Mar	1.0	1.0	0.5	0.8	1.0	0.9	1.2	0.9	1.2	2.1	2.5	2.7	2.6	2.2	1.7	2.0	1.5	1.5	1.5	1.6	1.7	1.6	1.3	1.1	1.51	2.70																							
17-Mar	1.0	1.0	0.9	0.7	0.6	1.4	1.1	0.7	1.1	1.3	1.8	1.7	1.7	2.6	3.7	3.3	3.3	3.0	2.1	1.6	1.8	1.3	1.3	1.2	1.69	3.71																							
18-Mar	1.1	1.2	1.7	1.3	1.1	1.6	1.5	1.3	1.2	1.4	1.7	4.4	5.8	3.4	4.0	4.1	3.4	3.2	1.6	1.8	1.9	1.1	1.2	1.0	2.17	5.85																							
19-Mar	1.7	1.9	1.2	1.5	1.6	1.0	1.7	1.6	1.7	1.5	2.2	2.8	2.5	2.9	2.7	2.6	3.1	3.0	3.0	1.9	1.8	1.2	1.8	1.3	2.01	3.08																							
20-Mar	1.2	2.4	1.9	1.9	1.9	2.3	2.8	3.2	3.1	2.9	2.8	2.9	3.3	3.2	3.0	3.3	3.2	2.5	2.8	2.9	3.0	3.0	3.1	2.8	2.73	3.34																							
21-Mar	2.5	2.4	2.4	2.5	2.9	2.5	2.1	1.7	2.3	2.7	2.6	2.9	2.9	3.0	3.2	3.8	3.7	2.4	2.2	1.9	1.3	1.2	0.8	0.9	2.37	3.79																							
22-Mar	1.3	1.0	0.9	0.6	0.9	0.3	0.7	0.6	1.1	1.4	1.4	1.8	2.2	1.7	2.4	2.8	2.6	2.7	2.5	2.2	2.2	2.2	2.2	1.8	1.65	2.83																							
23-Mar	1.5	1.7	1.3	1.6	2.0	1.9	2.3	2.3	2.6	2.6	2.8	2.4	2.4	2.2	2.4	2.9	3.1	2.5	2.1	0.6	0.0	0.0	0.0	0.0	1.80	3.07																							
24-Mar	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	1.0	1.2	2.6	2.8	2.8	2.8	2.4	2.7	1.7	1.9	1.3	1.0	1.1	0.8	1.2	1.15	2.82																							
25-Mar	1.4	1.3	1.3	1.5	0.8	1.0	1.0	1.7	1.2	1.1	1.4	1.5	2.2	2.5	3.6	4.0	4.7	2.9	2.3	1.5	1.4	1.6	1.4	1.5	1.87	4.71																							
26-Mar	1.6	1.7	1.4	1.7	1.8	2.6	2.6	1.8	1.7	2.9	5.8	7.3	7.2	8.0	8.2	7.5	7.3	6.0	5.7	5.2	3.8	2.9	1.9	1.8	4.11	8.19																							
27-Mar	1.9	1.9	1.8	3.5	2.7	4.6	4.0	3.7	3.5	6.7	5.4	7.1	5.7	6.8	6.7	8.0	6.0	3.7	4.3	2.3	1.5	1.5	1.7	4.8	4.15	8.03																							
28-Mar	4.8	3.2	2.7	3.6	1.2	1.3	1.4	1.4	3.2	3.0	3.4	4.3	4.8	4.9	5.0	3.5	4.7	3.6	2.2	4.0	5.7	5.6	5.0	4.0	3.61	5.75																							
29-Mar	4.9	6.0	5.4	4.0	6.2	4.6	3.6	3.3	3.4	4.4	4.9	5.3	5.5	5.8	6.4	7.7	7.5	5.8	4.7	4.1	2.6	1.8	2.2	1.8	4.66	7.70																							
30-Mar	1.7	1.8	1.3	1.3	1.1	1.7	1.7	1.4	1.7	1.9	1.4	2.1	3.0	3.0	2.7	2.8	2.4	3.1	3.0	1.8	1.8	1.8	1.5	1.5	1.97	3.07																							
31-Mar	1.9	2.0	2.9	2.3	1.7	1.7	1.7	1.7	2.1	1.5	2.1	3.0	7.3	7.8	4.7	5.1	3.2	5.8	5.4	2.9	2.3	2.3	2.7	1.9	3.17	7.80																							
																								2.04	2.09	2.07	2.11	1.99	1.92	1.82	1.84	2.23	2.75	3.18	3.80	4.31	4.65	4.71	4.71	4.51	3.78	3.34	2.71	2.50	2.28	2.20	2.04	Diurnal Average	
																								5.20	6.02	5.62	6.06	6.15	5.43	5.54	4.82	5.19	6.68	6.92	7.49	8.95	9.11	8.71	8.03	9.88	6.64	7.19	6.08	5.93	5.60	5.08	5.69	Diurnal Maximum	
,Alberta Ambient Air Quality Objectives (AAAQO): 1-hr --- ul/m <sup>3</sup> 24-hr 100 ul/m <sup>3</sup>																																																	



**WCAS - Hinton  
Summary of Hourly Standard Deviations**

**Wind Direction (WD) - deg  
March 2015**

Maximum Value: 115.04 deg on Mar 31 04:00      Maximum Daily Average: 66.58 deg on Mar 10																								Hours in Service:	744		
Minimum Value: 12.7 deg on Mar 4 20:00      Minimum Daily Average: 28.99 deg on Mar 21																								Hours of Data:	744		
Maximum Diurnal Average: 62.29 deg at hour 4      Minimum Diurnal Average: 39.55 deg at hour 19																								Hours of Missing Data:	0		
Monthly Average: 50.099 deg      Percentiles: P <sub>1</sub> = 19.4 P <sub>10</sub> = 27.1 Q <sub>1</sub> = 33.4 Median = 44.9 Q <sub>3</sub> = 60.3 P <sub>90</sub> = 86.0 P <sub>99</sub> = 107.2																								Hours of Calibration:	0		
																								Percent Operational Time:	100.0		
Day	Hourly Period Ending At																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Mar	76.9	25.4	31.5	78.6	53.7	48.8	96.4	82.2	65.2	51.2	89.6	41.5	22.1	30.4	32.7	32.5	29.9	38.9	46.8	50.3	34.4	47.8	97.5	65.0	52.88	97.51	
2-Mar	38.2	35.7	34.8	48.6	47.6	62.0	98.0	62.3	47.7	50.9	50.9	44.1	42.7	33.4	37.0	31.4	32.4	35.7	27.5	27.2	48.7	76.5	76.7	71.4	48.38	97.96	
3-Mar	54.8	49.0	42.7	33.9	34.8	71.4	47.8	37.9	48.2	38.2	52.6	50.5	45.8	67.2	32.9	33.4	36.5	41.0	25.4	40.2	38.4	38.6	58.7	58.2	44.92	71.36	
4-Mar	28.8	27.8	32.3	39.7	57.5	45.2	62.7	39.7	38.9	47.7	29.5	23.9	19.0	26.7	26.3	25.6	53.3	61.2	42.6	12.7	25.0	32.5	29.6	27.3	35.65	62.65	
5-Mar	35.7	33.0	25.7	23.5	25.3	25.7	33.0	44.6	45.4	52.1	53.3	55.1	53.7	34.6	32.7	35.4	38.0	46.1	54.3	45.3	44.3	47.1	35.7	57.5	40.70	57.45	
6-Mar	46.2	54.2	47.6	34.5	37.8	41.6	42.1	48.9	33.5	31.0	28.2	26.0	23.5	32.9	28.7	28.9	26.8	22.1	36.3	56.3	67.4	35.4	88.1	39.6	39.90	88.14	
7-Mar	57.1	86.3	52.2	67.6	72.4	46.9	40.5	72.9	37.9	59.8	42.0	57.8	40.0	37.5	37.7	53.1	49.4	48.3	51.3	43.5	56.7	78.2	86.4	103.3	57.46	103.27	
8-Mar	85.9	82.4	47.3	84.8	63.1	95.3	64.3	97.2	81.5	43.9	32.5	26.5	29.6	30.6	41.2	41.9	47.9	49.5	52.2	54.2	51.5	41.9	54.5	51.6	56.30	97.18	
9-Mar	51.2	53.0	50.0	47.7	49.5	46.0	82.7	46.8	100.9	41.8	24.2	21.4	45.4	44.9	27.4	23.1	27.7	44.9	24.6	42.9	27.4	91.9	73.7	58.5	47.82	100.93	
10-Mar	112.4	82.0	98.6	87.4	86.5	97.8	97.5	70.6	108.0	101.3	83.6	49.5	36.8	94.1	52.6	41.0	37.3	59.8	43.4	40.0	41.5	23.7	22.6	29.7	66.58	112.37	
11-Mar	32.3	82.1	79.4	100.3	87.7	61.2	60.5	50.6	33.8	32.1	24.7	51.1	78.9	37.5	34.3	28.6	35.3	41.0	51.1	39.2	25.4	19.5	30.2	50.2	48.62	100.30	
12-Mar	52.9	36.5	39.1	62.8	75.3	66.7	93.2	46.1	46.9	56.7	42.4	41.3	32.2	30.4	36.3	36.4	28.0	29.8	31.5	33.2	47.9	48.2	39.6	31.1	45.19	93.23	
13-Mar	46.8	54.6	48.6	45.6	74.9	56.9	83.9	84.3	92.1	101.5	72.7	86.1	40.9	44.1	46.3	48.5	52.3	42.8	38.9	93.1	43.7	59.5	72.4	90.6	63.38	101.47	
14-Mar	104.6	103.1	86.0	102.0	112.8	32.9	36.5	78.5	36.2	45.9	58.6	56.3	50.5	39.1	46.1	48.8	36.7	48.2	49.5	44.7	43.2	59.1	39.8	29.0	57.84	112.82	
15-Mar	61.6	97.2	102.2	71.3	73.4	79.2	41.8	36.2	32.7	22.7	28.1	27.7	36.4	30.7	36.1	41.0	51.6	90.6	39.0	29.2	42.1	65.6	52.4	35.5	51.02	102.19	
16-Mar	82.6	43.4	46.5	84.1	19.1	22.9	21.4	78.1	86.3	38.1	48.7	48.2	62.6	57.0	86.2	68.6	83.8	63.4	36.8	49.4	84.5	74.4	68.1	53.6	58.67	86.29	
17-Mar	44.6	49.9	83.7	100.0	70.3	99.6	75.8	56.4	76.4	91.3	69.4	72.8	82.0	61.4	56.3	52.7	35.3	39.3	26.0	59.2	51.0	48.0	86.8	37.4	63.57	100.04	
18-Mar	45.5	33.0	48.4	52.4	66.6	89.9	36.9	60.1	28.8	47.8	58.2	55.4	43.9	39.5	51.7	55.4	45.4	47.5	33.9	26.7	50.0	88.7	81.6	70.3	52.40	89.95	
19-Mar	107.6	115.0	68.9	61.6	106.6	71.6	29.7	33.1	23.4	19.4	20.8	35.6	32.6	29.9	28.6	31.2	29.9	36.6	24.8	28.6	49.4	48.5	88.1	58.9	49.19	114.99	
20-Mar	72.2	25.9	21.0	23.9	37.0	41.8	29.6	32.8	21.9	26.6	34.4	33.9	26.9	30.6	35.0	33.3	37.3	36.1	34.8	41.7	37.4	35.9	36.9	39.8	34.45	72.22	
21-Mar	41.2	36.6	23.6	21.8	25.9	31.3	24.3	20.7	24.5	25.1	27.6	21.7	22.2	28.7	32.2	30.4	28.5	41.2	38.1	30.6	33.9	16.5	32.9	36.4	28.99	41.21	
22-Mar	87.2	96.8	89.1	82.6	78.7	39.1	40.7	33.5	27.3	21.5	20.0	25.9	28.0	26.0	27.1	27.2	31.2	32.2	39.2	43.0	36.9	39.1	40.0	20.2	43.02	96.81	
23-Mar	21.9	33.3	27.1	22.4	21.8	22.7	34.6	35.2	33.0	32.5	33.0	33.2	25.1	27.6	31.1	29.1	29.3	36.6	44.4	73.3	41.6	29.1	26.6	32.7	32.37	73.27	
24-Mar	28.5	40.0	37.5	39.5	64.5	87.9	54.3	66.1	48.9	20.7	59.9	49.0	44.6	79.8	52.9	62.4	90.9	29.6	34.0	39.0	105.2	34.2	43.2	29.2	51.74	105.16	
25-Mar	15.9	37.2	55.1	63.5	69.2	83.8	87.3	42.4	48.2	65.1	50.9	53.8	50.6	94.9	51.6	49.9	44.1	52.6	44.4	59.1	94.9	35.6	67.4	45.2	56.78	94.94	
26-Mar	63.1	57.1	54.0	87.6	70.4	49.9	47.6	39.7	41.8	87.7	38.4	40.3	44.9	29.6	39.6	37.5	37.9	38.1	39.7	42.9	51.2	44.9	54.1	18.9	48.21	87.69	
27-Mar	83.6	88.6	46.0	66.2	82.1	37.0	31.5	27.1	39.1	32.3	40.3	43.2	53.9	42.7	47.0	47.0	53.6	55.8	44.7	41.1	89.6	59.3	78.1	77.6	54.47	89.58	
28-Mar	40.7	48.7	57.5	44.7	60.9	72.0	80.7	86.2	90.2	104.3	51.9	40.8	30.3	30.3	30.0	26.6	39.9	31.4	50.8	52.4	44.6	45.2	43.9	55.8	52.48	104.33	
29-Mar	60.5	48.1	46.1	36.0	44.0	26.9	21.9	100.2	85.8	55.5	51.9	42.7	44.0	46.2	52.4	47.0	29.1	30.8	26.7	82.9	78.1	35.0	99.4	89.3	53.36	100.18	
30-Mar	48.7	25.5	59.1	101.2	60.9	96.2	87.7	78.8	40.7	63.9	30.2	27.4	30.7	31.3	31.0	39.1	41.5	72.5	64.3	50.3	46.8	54.6	48.0	59.3	53.74	101.19	
31-Mar	27.7	82.6	112.1	115.0	79.3	103.1	85.1	84.7	84.8	57.1	78.9	55.8	41.1	32.6	55.8	77.6	61.9	59.1	28.6	36.1	41.0	32.1	39.7	39.9	62.99	115.04	
56.67 56.91 54.63 62.29 61.60 59.78 57.09 57.22 53.22 50.51 46.03 43.18 40.68 42.00 40.54 40.79 42.02 45.25 39.55 45.43 50.77 47.96 57.83 50.42																								Diurnal Average			
112.37 114.99 112.12 115.04 112.82 103.12 97.96 100.18 108.01 104.33 89.61 86.14 81.99 94.94 86.24 77.59 90.90 90.62 64.33 93.07 105.16 91.91 99.44 103.27																								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  
MARCH 2015**