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

AIR QUALITY MONITORING
March 2016
Monthly Report

Prepared by:

West Central Airshed Society
Drayton Valley, Alberta

West Central
Airshed Society

April 19th, 2016

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

Dear Mr. Whitney:

Monthly Ambient Air Quality Monitoring Report for March 2016
For Hinton Pulp – A Division of West Fraser Mills Ltd.

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

Network Station is Identified as:	AMS 906	Hinton

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 was 1 reading occurring in March 2016 in excess of the one – hour average guidelines as indicated in Air Monitoring Directive Section III.A.3. (a) for H_2S. The maximum one-hour average reading was 14.81 ppb, occurring March 9th. There were no readings in March 2016 in excess of the twenty–four hour average guidelines as indicated in Air Monitoring Directive Section III.A.3. (a) for H_2S. The maximum 24-hour average reading was 2.40 ppb.

There was 1 reading occurring in March 2016 in excess of the one – hour average guidelines as indicated in Air Monitoring Directive Section III.A.3. (a) for $PM_{2.5}$. The maximum one-hour average reading was 124.32 $\mu g/m^3$, occurring March 1st. There were no readings in March 2016 in excess of the twenty–four hour average guidelines as indicated in Air Monitoring Directive Section III.A.3. (a) for H_2S. The maximum 24-hour average reading was 13.34 $\mu g/m^3$,

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)

The $PM_{2.5}$ analyzer failed to return one hour of data, with an uptime of 99.9% All other analyzers and meteorological equipment returned uptimes of 100% for the month of March.

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
	2016	March

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_2S				

CONTINUOUS AMBIENT MONITORING

			1-HR AVERAGE		24-HR AVERAGE	
PARAMETER	STATION NUMBER	% TIME OPERATIONAL	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	0.015	1	0.002	0
$PM_{2.5}$	906	99.9	124.3 $\mu g/m^3$	1	13.34 $\mu g/m^3$	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
MARCH 2016

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

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

Summary Report **West Central Airshed Society**

Continuous air quality/meteorlogical monitoring measurements

Hinton Pulp / Hinton **Station 906**		**March 2016**												24 Hour Average Max **(ppm)**
									Percentile			**Exceedences**		
Parameter	**Calibration Hours**	**Number of Data**	**Percent Uptime**	**Mean**	**Min**	**Max**	**P10**	**Q1**	**Median**	**Q3**	**P90**	**1-hour**	**24-hour**	
TRS (ppb)	35	709	100.0	0.6	0.0	15.0	0.2	0.2	0.3	0.6	1.3	1	0	0.002
SO_2 (ppb)	35	709	100.0	0.2	0.0	18.8	0.0	0.0	0.1	0.2	0.5	0	-	0.001
O_3 (ppb)	35	709	100.0	22.8	0.1	48.0	2.9	9.0	21.7	37.0	42.2	0	0	0.033
NO (ppb)	37	707	100.0	3.1	0.0	58.7	0.1	0.4	1.1	2.9	8.2	-	-	-
NO_2 (ppb)	37	707	100.0	7.6	0.2	30.7	1.7	3.5	6.1	10.8	15.3	0	0	0.012
NO_x (ppb)	37	707	100.0	10.7	0.2	87.1	2.2	4.3	7.3	14.0	22.7	-	-	-
Particulate Matter 2.5 microns ($\mu g/m^3$)	0	743	99.9	7.8	0.0	124.3	2.9	4.4	6.1	8.6	13.7	1	0	13.34 ug/m3
Wind Speed (kph)	0	744	100.0	3.5	0.0	13.8	0.5	1.2	3.0	5.0	7.1	-	-	-
Temperature (^{o}C)	0	744	100.0	1.9	-10.8	19.0	-3.7	-2.2	1.0	5.6	8.9	-	-	-
Relative Humidity (%)	0	744	100.0	61.3	11.0	91.7	24.4	41.2	66.6	82.3	89.4	-	-	-
Std Dev Wind Direction (deg)	0	744	100.0	49.6	15.9	108.3	26.2	33.0	44.7	63.5	82.0	-	-	-
Std Dev Wind Speed (kph)	0	744	100.0	2.5	0.0	8.5	1.0	1.4	2.1	3.1	4.5	-	-	-

WCAS - Hinton
Summary of Hourly Averages

Total Reduced Sulphur (TRS) - ppb
March 2016

Maximum Value: 14.81 ppb on Mar 9 02:00

Maximum Daily Average: 2.40 ppb on Mar 8

Minimum Value: 0 ppb on Mar 9 13:00

Minimum Daily Average: 0.22 ppb on Mar 6

Maximum Diurnal Average: 1.23 ppb at hour 10

Minimum Diurnal Average: 0.27 ppb at hour 14

Monthly Average: 0.631 ppb

Percentiles: P_1 = 0.0 P_{10} = 0.2 Q_1 = 0.2 Median = 0.3 Q_3 = 0.6 P_{90} = 1.3 P_{99} = 5.5

Hours in Service:	744
Hours of Data:	709
Hours of Missing Data:	35
Hours of Calibration:	35
Percent Operational Time:	100.0

Day	Hourly Period Ending At																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1-Mar	1	1	1	Z	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.45	1.31
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	0.29	0.43
3-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	0.30	0.49
4-Mar	0	0	0	Z	0	0	0	0	0	0	0	0	0	1	1	0	1	1	0	0	0	0	0	0	0.39	0.92
5-Mar	1	2	1	Z	0	0	0	0	0	1	4	3	2	0	1	1	1	1	1	1	0	1	0	0	0.97	4.12
6-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	0.22	0.38
7-Mar	1	1	2	Z	1	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0.56	1.98
8-Mar	0	0	0	Z	0	3	8	7	6	9	4	0	0	0	0	0	0	0	0	0	1	6	1	8	2.40	8.94
9-Mar	6	15	6	Z	1	2	2	1	1	3	0	0	0	0	0	0	1	1	1	0	0	0	0	0	1.82	14.81
10-Mar	0	0	0	Z	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0.34	0.94
11-Mar	0	0	4	Z	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0.50	4.06
12-Mar	1	1	0	Z	1	1	1	1	3	4	3	1	1	0	0	0	0	0	0	0	0	0	0	0	0.81	4.17
13-Mar	0	0	0	Z	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.36	0.72
14-Mar	0	0	1	Z	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.41	1.41
15-Mar	0	0	0	Z	1	1	1	1	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0.40	0.99
16-Mar	0	1	2	Z	2	2	1	2	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.66	1.99
17-Mar	0	1	0	Z	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.30	0.78
18-Mar	0	0	0	Z	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.45	1.35
19-Mar	0	0	0	Z	0	0	0	0	0	0	0	0	0	C	C	C	C	1	0	0	0	0	0	0	0.28	0.62
20-Mar	0	0	0	Z	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.38	1.33
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	0	0.31	0.40
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	0	0.23	0.32
23-Mar	0	1	1	Z	1	1	1	0	1	2	4	1	0	0	0	0	0	0	1	0	0	0	0	0	0.62	3.68
24-Mar	0	0	0	Z	0	0	0	0	0	1	1	1	0	0	1	1	0	0	0	0	0	0	0	0	0.41	1.28
25-Mar	1	1	0	Z	0	1	0	1	0	1	0	1	1	0	1	1	0	0	1	2	5	1	1	1	0.85	4.68
26-Mar	2	3	2	Z	1	1	1	2	2	1	1	1	0	0	0	0	1	0	1	0	4	1	1	1	1.08	3.67
27-Mar	1	1	1	Z	0	0	1	1	1	2	2	0	0	0	0	0	1	0	0	0	0	0	1	0	0.53	1.78
28-Mar	0	0	0	Z	1	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1	0	3	3	0.62	2.86
29-Mar	3	3	1	Z	1	1	0	1	0	1	0	0	0	0	0	0	1	0	0	0	0	0	1	1	0.58	2.85
30-Mar	0	0	1	Z	3	1	0	1	2	2	2	2	1	0	0	0	0	0	0	0	1	1	1	2	0.91	2.61
31-Mar	1	0	0	Z	2	3	2	2	1	2	2	0	0	0	0	1	1	0	0	0	0	1	3	2	1.06	3.49
	0.69	1.08	0.91	--	0.67	0.65	0.78	0.81	0.87	1.23	1.02	0.58	0.38	0.27	0.29	0.36	0.38	0.34	0.36	0.33	0.59	0.55	0.58	0.76	Diurnal Average	
	5.55	14.81	5.58	--	2.61	2.86	7.96	6.94	5.95	8.94	4.28	2.54	1.51	0.92	0.74	1.28	0.89	1.30	1.49	1.85	4.68	5.66	3.49	8.31	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_2) - ppb
March 2016

Maximum Value: 18.76 ppb on Mar 24 11:00

Maximum Daily Average: 0.85 ppb on Mar 24

Minimum Value: 0.0 ppb on Mar 6 05:00

Minimum Daily Average: 0.02 ppb on Mar 10

Maximum Diurnal Average: 0.77 ppb at hour 11

Minimum Diurnal Average: 0.05 ppb at hour 5

Monthly Average: 0.218 ppb

Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 0.0 Median = 0.1 Q_3 = 0.2 P_{90} = 0.5 P_{99} = 2.2

Hours in Service:	744
Hours of Data:	709
Hours of Missing Data:	35
Hours of Calibration:	35
Percent Operational Time:	100.0

Day	Hourly Period Ending At																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1-Mar	0.2	0.1	0.0	Z	0.0	0.2	0.0	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.2	0.2	0.15	0.26
2-Mar	0.2	0.2	0.2	Z	0.1	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.3	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.23	0.33
3-Mar	0.2	0.2	0.2	Z	0.2	0.2	0.1	0.1	0.3	0.1	0.1	0.2	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.2	0.16	0.28
4-Mar	0.2	0.2	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	2.6	1.9	0.8	3.2	3.4	0.5	0.5	0.2	0.0	0.0	0.0	0.64	3.41
5-Mar	0.6	0.8	0.7	Z	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.5	0.3	1.6	1.2	1.4	0.6	0.1	0.2	0.1	0.1	0.1	0.1	0.39	1.64
6-Mar	0.0	0.0	0.2	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.1	0.0	0.04	0.16
7-Mar	0.0	0.1	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.3	0.8	0.6	0.9	0.5	1.9	0.6	0.1	0.1	0.0	0.0	0.0	0.1	0.27	1.92
8-Mar	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.1	0.4	0.3	0.1	0.0	0.1	0.2	0.1	0.8	0.5	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.13	0.80
9-Mar	0.0	0.1	0.2	Z	0.1	0.3	0.5	0.4	0.5	0.3	0.1	0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.13	0.47
10-Mar	0.0	0.0	0.0	Z	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.02	0.15
11-Mar	0.1	0.1	0.1	Z	0.0	0.1	0.0	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.2	0.1	0.07	0.18
12-Mar	0.0	0.0	0.1	Z	0.0	0.1	0.2	0.2	0.2	0.2	0.2	0.3	0.6	2.2	0.5	0.3	0.2	0.3	0.3	0.2	0.5	0.5	0.2	0.1	0.33	2.19
13-Mar	0.2	0.1	0.1	Z	0.2	0.2	0.2	0.2	0.3	0.2	0.3	0.5	0.8	0.3	0.7	1.3	1.3	0.2	0.1	0.1	0.0	0.0	0.1	0.0	0.33	1.29
14-Mar	0.0	0.0	0.0	Z	0.0	0.1	0.0	0.1	0.1	0.3	0.2	0.6	0.5	0.2	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.12	0.62
15-Mar	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.1	0.2	0.0	0.2	0.2	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.1	0.1	0.07	0.24
16-Mar	0.1	0.2	0.2	Z	0.2	0.2	0.2	0.1	0.0	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.09	0.24
17-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	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.05	0.15
18-Mar	0.1	0.1	0.0	Z	0.1	0.1	0.0	0.1	0.1	0.2	0.3	2.4	0.6	2.1	2.4	1.3	0.8	0.9	0.2	0.1	0.0	0.1	0.1	0.0	0.53	2.39
19-Mar	0.0	0.1	0.0	Z	0.0	0.0	0.1	0.0	0.2	0.1	0.1	0.0	0.0	C	C	C	C	0.2	0.1	0.0	0.1	0.1	0.0	0.1	0.06	0.24
20-Mar	0.1	0.1	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.4	0.6	0.7	0.6	0.4	0.6	0.5	0.3	0.4	1.4	1.5	0.4	0.1	0.37	1.46
21-Mar	0.0	0.1	0.1	Z	0.0	0.0	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.0	0.1	0.1	0.1	0.2	0.1	0.1	0.10	0.20
22-Mar	0.0	0.1	0.1	Z	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.04	0.13
23-Mar	0.0	0.0	0.0	Z	0.1	0.1	0.0	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.03	0.21
24-Mar	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.1	18.8	0.1	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.85	18.76
25-Mar	0.1	0.1	0.1	Z	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.5	0.5	0.6	2.3	0.6	0.3	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.28	2.26
26-Mar	0.1	0.1	0.1	Z	0.0	0.2	0.2	0.2	0.1	0.2	0.6	1.1	0.7	0.1	0.5	0.1	0.7	0.2	0.2	0.1	0.2	0.2	0.2	0.1	0.27	1.13
27-Mar	0.1	0.1	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.7	0.1	0.0	0.2	1.0	1.2	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.20	1.20
28-Mar	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.5	2.0	0.2	0.1	0.5	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.16	2.02
29-Mar	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.3	0.8	0.5	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.10	0.84
30-Mar	0.0	0.0	0.0	Z	0.1	0.5	0.0	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.08	0.48
31-Mar	0.1	0.1	0.1	Z	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.7	1.2	1.2	1.9	1.5	0.6	0.2	0.2	0.2	0.3	0.2	0.3	0.44	1.94
	0.08	0.10	0.09	--	0.05	0.10	0.08	0.09	0.12	0.12	0.77	0.29	0.28	0.47	0.51	0.42	0.50	0.28	0.12	0.10	0.15	0.15	0.10	0.08	Diurnal Average	
	0.62	0.83	0.70	--	0.22	0.48	0.45	0.37	0.47	0.29	18.76	2.35	0.78	2.62	2.39	1.94	3.16	3.41	0.54	0.51	1.43	1.46	0.43	0.27	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_3) - ppb
March 2016

Maximum Value: 48.02 ppb on Mar 16 12:00

Maximum Daily Average: 33.17 ppb on Mar 28

Minimum Value: 0.1 ppb on Mar 23 05:00

Minimum Daily Average: 12.43 ppb on Mar 3

Maximum Diurnal Average: 38.02 ppb at hour 15

Minimum Diurnal Average: 8.94 ppb at hour 8

Monthly Average: 22.775 ppb

Percentiles: P_1 = 0.4 P_{10} = 2.9 Q_1 = 9.0 Median = 21.7 Q_3 = 37.0 P_{90} = 42.2 P_{99} = 46.2

Hours in Service:	744
Hours of Data:	709
Hours of Missing Data:	35
Hours of Calibration:	35
Percent Operational Time:	100.0

Day	Hourly Period Ending At																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1-Mar	0.4	0.8	4.6	Z	6.4	9.9	6.1	1.1	3.3	5.8	12.0	28.1	37.1	41.6	42.6	42.9	42.2	40.4	36.2	33.3	34.9	34.6	34.4	37.4	23.30	42.92
2-Mar	35.6	32.7	30.6	Z	21.7	19.0	12.7	15.1	16.7	20.3	21.7	22.5	23.0	20.9	23.3	23.0	24.0	20.1	18.7	17.1	14.5	6.2	1.1	1.0	19.20	35.58
3-Mar	4.5	4.0	6.7	Z	6.9	5.6	4.0	1.5	0.9	6.1	14.0	20.7	22.1	21.1	20.1	24.5	20.4	19.3	17.4	13.0	13.5	11.1	14.4	13.9	12.43	24.50
4-Mar	14.5	10.3	12.9	Z	12.5	11.1	9.9	9.3	10.2	11.7	12.2	11.1	15.9	40.3	42.9	42.1	41.1	41.2	38.2	31.9	19.4	10.5	6.1	6.6	20.09	42.94
5-Mar	19.8	30.8	35.9	Z	15.1	11.5	8.7	7.0	5.9	6.9	15.6	26.9	30.0	43.2	43.1	44.2	41.5	44.4	40.0	23.2	11.1	9.4	16.5	11.3	23.56	44.41
6-Mar	15.6	16.7	17.4	Z	13.0	12.1	12.5	9.5	12.7	17.8	20.2	26.2	29.6	34.7	31.0	26.8	25.1	22.9	19.0	16.7	13.0	4.4	0.8	0.4	17.31	34.69
7-Mar	1.4	2.8	4.8	Z	3.2	5.9	6.9	6.9	6.9	9.2	11.1	20.4	41.3	42.5	42.3	43.2	41.6	42.0	33.0	22.0	26.8	16.1	7.2	4.1	19.20	43.24
8-Mar	1.8	2.4	2.6	Z	0.4	0.5	1.7	0.3	0.9	7.5	31.4	41.3	43.7	44.4	44.9	43.1	43.6	41.6	34.8	34.0	25.2	28.1	27.2	27.7	23.00	44.90
9-Mar	22.9	17.2	9.5	Z	5.8	2.0	1.0	1.1	2.7	16.4	40.0	43.2	44.0	45.2	45.3	45.3	44.9	43.0	38.0	27.0	8.2	4.2	4.4	19.2	23.07	45.31
10-Mar	19.4	17.7	15.4	Z	19.2	14.7	14.2	12.9	17.8	27.5	31.7	34.7	40.1	41.0	42.9	42.1	42.3	40.2	38.5	39.7	39.9	40.1	37.0	32.7	30.51	42.86
11-Mar	34.3	34.5	32.4	Z	35.4	33.9	33.3	34.6	34.7	38.0	40.9	40.5	41.5	43.2	44.4	43.9	41.9	43.0	26.8	6.1	7.2	5.4	3.0	1.4	30.45	44.45
12-Mar	7.1	3.2	2.2	Z	1.5	0.7	0.5	1.0	4.8	12.3	27.8	39.0	42.0	39.2	44.2	44.2	41.4	41.2	39.1	32.3	26.6	37.6	33.4	34.9	24.17	44.24
13-Mar	40.9	32.0	20.5	Z	9.7	2.9	2.7	1.8	5.2	22.4	40.5	46.6	47.2	47.9	47.2	46.9	46.0	45.4	42.3	34.5	24.2	14.9	7.0	17.9	28.12	47.90
14-Mar	8.3	5.1	6.4	Z	2.7	4.3	2.0	1.4	2.6	10.8	28.0	36.8	42.6	41.4	37.7	37.7	39.2	40.6	35.9	29.9	27.5	25.5	23.5	18.4	22.10	42.64
15-Mar	13.9	7.3	8.2	Z	5.8	7.7	1.7	3.5	8.5	17.6	27.1	34.9	37.2	37.8	40.0	40.1	37.7	39.5	41.2	31.8	6.1	7.4	6.2	3.3	20.19	41.23
16-Mar	2.8	0.3	1.0	Z	0.9	0.5	1.4	6.6	16.0	21.3	40.8	48.0	46.4	46.2	46.2	45.5	44.9	44.6	43.6	43.2	42.0	38.9	39.8	38.0	28.66	48.02
17-Mar	34.0	29.2	34.0	Z	29.9	21.6	22.7	22.1	26.4	31.3	32.7	35.0	38.5	39.2	40.3	40.0	40.5	40.7	38.7	27.1	5.6	9.7	12.4	6.9	28.63	40.70
18-Mar	7.2	5.4	5.1	Z	0.5	3.1	6.7	6.0	7.1	20.8	31.8	36.2	40.2	41.9	41.6	42.7	43.3	42.2	31.0	19.8	21.6	14.3	10.1	9.9	21.24	43.30
19-Mar	9.8	8.4	10.1	Z	5.9	2.9	0.9	2.6	9.3	36.4	43.8	45.5	45.3	C	C	C	C	13.2	33.6	17.5	9.6	8.5	8.4	9.5	16.91	45.49
20-Mar	5.8	2.3	5.4	Z	9.3	5.4	1.4	3.9	6.0	12.3	25.0	36.2	38.4	38.5	35.3	40.4	36.5	34.0	31.9	29.9	27.3	24.1	22.8	21.9	21.48	40.42
21-Mar	20.4	19.9	19.6	Z	15.8	16.1	14.4	14.4	16.1	16.1	16.0	17.0	18.2	20.0	18.2	17.8	18.1	17.2	16.6	15.2	14.5	15.3	19.5	23.0	17.37	23.04
22-Mar	24.8	25.3	22.3	Z	22.3	18.8	17.8	16.6	17.5	19.3	19.8	20.7	20.7	20.8	20.3	18.6	16.3	16.3	16.1	10.9	9.7	13.2	8.5	8.3	17.60	25.29
23-Mar	6.8	3.1	1.4	Z	0.1	0.2	1.1	3.6	3.8	7.2	16.3	23.9	28.7	31.4	34.6	35.6	34.0	35.1	34.5	32.1	26.5	23.4	18.6	17.9	18.26	35.61
24-Mar	14.6	16.6	16.8	Z	17.1	19.1	14.1	12.0	13.7	8.7	9.2	16.3	30.9	30.8	29.5	27.6	31.6	25.5	20.7	11.9	8.1	7.3	6.9	4.7	17.11	31.60
25-Mar	6.7	7.7	7.4	Z	6.7	4.0	11.4	14.0	23.2	18.6	22.7	25.0	28.5	35.8	35.5	36.8	37.2	38.7	37.7	34.1	28.5	25.7	17.0	8.3	22.22	38.71
26-Mar	6.6	3.6	0.8	Z	2.8	0.9	0.3	1.7	6.9	21.0	36.9	41.1	43.1	43.4	43.9	44.3	44.0	44.0	42.7	40.9	32.6	12.1	5.8	2.7	22.70	44.29
27-Mar	1.8	2.7	4.0	Z	1.7	0.3	1.0	2.5	11.0	31.0	34.6	41.1	42.5	42.9	43.0	41.2	40.1	40.3	38.9	42.2	41.2	39.4	38.7	40.0	27.05	43.00
28-Mar	38.2	37.9	35.9	Z	33.2	33.0	29.7	24.8	29.1	32.6	35.5	37.0	37.6	37.9	42.5	41.0	40.9	41.0	39.7	35.2	34.3	28.0	12.1	5.5	33.17	42.53
29-Mar	8.7	7.8	7.9	Z	1.5	2.0	13.4	15.3	34.2	35.6	41.1	44.0	44.4	44.7	44.6	42.4	39.9	41.3	39.4	37.9	29.7	28.0	27.5	27.4	28.64	44.75
30-Mar	28.0	30.9	23.8	Z	21.8	24.4	21.4	22.7	24.5	24.8	22.5	22.6	33.0	36.1	36.1	36.0	34.3	35.0	34.0	26.0	31.2	27.7	20.8	15.7	27.53	36.14
31-Mar	10.0	3.6	2.3	Z	1.6	1.7	1.9	1.5	5.3	12.6	20.0	33.6	37.4	37.0	37.0	35.9	37.5	39.7	39.4	36.2	27.7	18.4	9.0	4.6	19.74	39.72
	15.06	13.62	13.16	--	10.67	9.54	8.95	8.94	12.38	18.70	26.55	32.14	35.85	37.70	38.02	37.86	37.07	35.93	33.47	27.50	22.20	19.02	16.12	15.32	Diurnal Average	
	40.89	37.86	35.94	--	35.35	33.89	33.29	34.58	34.70	37.96	43.82	48.02	47.20	47.90	47.24	46.90	46.04	45.42	43.64	43.18	41.97	40.08	39.83	40.03	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 2016

Maximum Value: 58.68 ppb on Mar 9 07:00

Maximum Daily Average: 9.69 ppb on Mar 9

Minimum Value: 0.0 ppb on Mar 16 14:00

Minimum Daily Average: 0.33 ppb on Mar 30

Maximum Diurnal Average: 9.64 ppb at hour 9

Minimum Diurnal Average: 0.45 ppb at hour 18

Monthly Average: 3.095 ppb

Percentiles: P_1 = 0.0 P_{10} = 0.1 Q_1 = 0.4 Median = 1.1 Q_3 = 2.9 P_{90} = 8.2 P_{99} = 24.8

Hours in Service:	744
Hours of Data:	707
Hours of Missing Data:	37
Hours of Calibration:	37
Percent Operational Time:	100.0

Day	Hourly Period Ending At																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1-Mar	25.4	16.6	5.4	Z	1.9	3.5	8.7	15.3	17.2	26.0	20.7	5.4	1.9	0.7	1.9	1.0	0.6	0.6	0.5	0.2	0.3	0.7	0.4	0.3	6.74	25.96
2-Mar	0.2	0.1	0.9	Z	1.3	1.0	1.5	1.6	3.6	3.7	3.3	2.7	3.3	2.5	2.3	2.5	2.1	1.8	0.5	0.8	1.4	3.2	12.1	8.8	2.67	12.10
3-Mar	1.2	2.1	1.3	Z	1.3	2.6	3.8	10.0	19.4	5.5	2.6	2.2	2.6	2.1	1.8	1.6	1.8	1.4	0.6	1.6	0.5	0.6	0.9	0.6	2.97	19.40
4-Mar	0.6	0.6	0.8	Z	0.7	0.9	2.8	2.2	3.0	3.1	3.8	5.3	4.3	2.1	1.3	0.7	1.4	1.0	1.0	2.7	2.8	1.0	2.3	1.8	2.02	5.29
5-Mar	1.5	0.4	0.2	Z	0.7	1.3	4.9	4.0	4.8	7.9	10.6	4.5	4.5	0.8	1.4	1.0	1.2	0.5	0.1	2.1	4.8	4.0	1.5	1.7	2.80	10.56
6-Mar	0.7	0.7	1.3	Z	1.1	1.8	2.4	3.1	3.1	3.1	1.6	1.4	1.4	0.7	1.3	1.2	1.3	1.0	0.6	0.5	0.3	5.1	9.4	8.0	2.22	9.38
7-Mar	3.0	1.3	0.8	Z	2.7	3.5	3.7	3.4	7.0	6.2	7.8	4.9	1.3	0.8	1.0	0.5	0.8	0.3	0.2	1.9	0.4	1.6	4.4	14.3	3.13	14.29
8-Mar	6.7	3.2	2.4	Z	9.0	13.7	10.1	25.4	50.4	45.5	2.4	1.0	0.8	0.7	0.3	1.0	0.7	0.4	0.2	0.5	2.0	0.1	0.1	0.3	7.70	50.39
9-Mar	0.1	0.2	3.2	Z	2.7	29.8	58.7	36.6	45.8	19.4	1.6	1.1	0.8	0.6	0.7	0.7	0.2	0.1	0.1	0.3	4.4	8.0	7.1	0.6	9.69	58.68
10-Mar	0.8	0.3	0.4	Z	0.8	2.9	2.6	2.3	4.2	2.5	2.6	2.2	1.4	1.4	0.9	0.4	0.1	0.3	0.5	0.2	0.2	0.4	0.5	0.8	1.25	4.18
11-Mar	0.7	0.6	0.5	Z	0.3	0.7	0.8	0.3	0.6	1.1	1.2	1.6	1.5	0.7	0.2	0.1	0.3	0.1	2.8	8.1	5.8	15.0	19.0	8.4	3.06	18.98
12-Mar	2.6	4.4	4.3	Z	3.3	15.1	25.7	26.6	17.6	15.9	7.5	2.4	2.1	3.4	0.7	0.3	0.9	0.4	0.9	1.4	0.3	0.3	0.4	0.1	5.94	26.64
13-Mar	0.1	0.2	0.1	Z	3.4	2.9	4.4	13.9	15.9	6.4	1.1	0.7	0.7	0.4	0.5	0.6	0.5	0.0	0.0	0.2	0.1	1.6	1.9	1.5	2.48	15.91
14-Mar	0.9	0.5	1.0	Z	3.6	2.8	2.3	13.3	17.3	12.4	3.1	1.4	1.2	0.7	0.9	1.1	1.1	0.2	0.2	0.2	0.1	0.0	1.0	0.4	2.86	17.27
15-Mar	0.1	1.8	0.4	Z	4.5	1.7	11.1	8.5	9.0	8.1	6.0	4.9	2.0	0.3	0.2	0.1	0.2	0.1	0.0	1.3	7.8	3.5	8.1	3.7	3.63	11.12
16-Mar	4.9	24.6	6.4	Z	12.3	20.4	11.6	7.2	4.3	10.5	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.4	0.0	0.2	4.58	24.55
17-Mar	0.0	0.1	0.2	Z	0.1	0.7	0.4	0.9	1.4	0.7	2.9	1.9	0.2	0.2	0.1	0.2	0.1	0.1	0.1	1.5	3.8	1.9	1.6	3.0	0.96	3.77
18-Mar	1.0	1.7	1.2	Z	6.9	3.6	2.2	4.9	13.8	10.0	3.2	3.5	1.4	1.3	1.3	0.8	1.3	0.3	2.2	0.5	2.6	2.9	3.7	1.0	3.10	13.75
19-Mar	0.5	2.0	0.7	Z	4.7	3.2	8.2	8.9	10.7	1.3	0.8	0.7	1.1	C	C	C	C	C	C	2.7	4.8	6.7	0.9	0.2	--	10.68
20-Mar	2.2	3.8	4.3	Z	0.6	2.9	6.3	5.2	8.7	8.1	3.3	1.1	1.0	0.8	1.5	0.8	0.8	0.5	0.3	0.2	0.3	0.5	0.2	0.3	2.33	8.66
21-Mar	0.3	0.3	0.4	Z	1.0	0.9	1.2	1.6	1.8	1.9	2.3	3.3	3.0	1.7	2.5	2.0	1.7	1.3	0.8	0.7	0.6	1.1	0.3	0.4	1.36	3.33
22-Mar	0.4	0.1	1.2	Z	0.6	0.4	0.8	2.0	2.7	2.8	2.9	2.0	2.1	1.7	1.9	1.9	1.4	0.9	0.5	0.7	0.8	0.9	0.8	0.4	1.30	2.90
23-Mar	0.3	1.8	9.6	Z	20.9	23.1	8.7	2.6	6.5	11.6	4.6	2.1	1.3	0.9	0.8	0.6	1.3	0.4	0.4	0.8	0.7	1.1	1.5	0.5	4.43	23.05
24-Mar	3.0	1.3	0.4	Z	0.9	0.7	0.8	3.4	0.8	7.3	5.7	8.7	1.9	1.7	1.7	1.1	0.8	0.2	0.6	1.1	1.8	0.9	0.2	0.9	1.99	8.68
25-Mar	0.3	0.1	0.5	Z	2.4	1.6	0.4	0.6	0.6	1.6	1.5	2.4	1.7	0.6	1.3	0.4	0.2	0.0	0.0	0.0	0.3	0.2	0.4	1.0	0.80	2.42
26-Mar	0.4	2.2	5.0	Z	0.9	15.3	21.7	18.6	8.7	3.7	1.6	0.8	0.7	0.6	0.4	0.5	0.3	0.2	0.1	0.0	0.1	8.3	5.8	2.6	4.28	21.66
27-Mar	3.4	2.7	8.7	Z	5.0	10.9	8.6	13.6	12.1	1.3	2.9	0.7	0.3	0.6	0.7	0.4	0.2	0.2	0.1	0.0	0.0	0.1	0.1	0.0	3.17	13.63
28-Mar	0.0	0.1	0.2	Z	0.2	0.2	0.6	1.7	1.3	0.3	0.1	0.8	0.9	1.5	0.2	0.9	0.7	0.2	0.1	0.0	0.1	0.4	0.6	0.6	0.52	1.68
29-Mar	0.1	0.2	1.2	Z	7.6	8.2	0.1	2.0	0.9	1.6	1.2	0.9	0.8	0.8	0.5	0.7	1.0	0.5	0.1	0.2	0.7	0.8	0.0	0.4	1.33	8.24
30-Mar	0.1	0.0	0.1	Z	0.1	0.2	0.3	0.3	0.5	0.7	1.1	1.7	0.4	0.0	0.0	0.0	0.2	0.0	0.1	0.7	0.0	0.3	0.2	0.1	0.33	1.71
31-Mar	0.7	3.0	1.8	Z	4.7	9.3	6.7	22.0	5.8	2.6	1.9	1.8	1.0	1.2	1.1	1.2	0.6	0.2	0.0	0.0	0.4	0.5	0.5	2.5	3.02	22.01
	2.01	2.48	2.10	--	3.43	5.99	7.17	8.45	9.64	7.52	3.67	2.39	1.54	1.06	0.99	0.82	0.79	0.45	0.46	1.01	1.58	2.32	2.77	2.12	Diurnal Average	
	25.39	24.55	9.61	--	20.88	29.81	58.68	36.58	50.39	45.47	20.71	8.68	4.46	3.38	2.48	2.46	2.05	1.80	2.81	8.11	7.79	14.96	18.98	14.29	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_2) - ppb
March 2016

Maximum Value: 30.74 ppb on Mar 11 20:00

Maximum Daily Average: 12.44 ppb on Mar 9

Minimum Value: 0.2 ppb on Mar 25 18:00

Minimum Daily Average: 4.01 ppb on Mar 28

Maximum Diurnal Average: 11.20 ppb at hour 8

Minimum Diurnal Average: 2.74 ppb at hour 15

Monthly Average: 7.603 ppb

Percentiles: P_1 = 0.3 P_{10} = 1.7 Q_1 = 3.5 Median = 6.1 Q_3 = 10.8 P_{90} = 15.3 P_{99} = 24.9

Hours in Service:	744
Hours of Data:	707
Hours of Missing Data:	37
Hours of Calibration:	37
Percent Operational Time:	100.0

Day	Hourly Period Ending At																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1-Mar	23.7	21.7	13.9	Z	10.7	10.0	13.2	18.4	14.5	19.3	19.4	10.0	5.1	2.2	3.0	2.7	2.5	3.8	5.8	6.1	5.0	6.0	5.5	3.3	9.82	23.69
2-Mar	3.5	3.5	3.9	Z	7.9	7.5	10.3	10.4	9.5	7.0	6.5	5.0	4.2	4.9	3.5	4.4	5.4	6.3	5.4	5.8	6.6	10.0	12.8	9.5	6.69	12.84
3-Mar	6.8	6.6	5.2	Z	5.3	8.5	8.8	11.3	11.3	8.4	5.3	3.7	3.3	3.8	4.6	3.7	6.8	6.2	5.3	7.9	5.5	5.6	5.4	4.8	6.27	11.29
4-Mar	4.7	9.5	6.1	Z	5.3	5.5	6.1	5.9	5.4	4.7	4.5	6.3	5.5	6.3	4.5	3.9	5.3	6.0	6.6	11.1	16.0	9.4	12.0	12.3	7.09	15.97
5-Mar	12.7	8.0	3.5	Z	5.9	8.1	9.2	10.0	10.2	11.0	15.0	13.7	10.9	2.4	4.3	3.7	5.8	3.3	4.4	16.6	23.1	21.3	11.5	14.1	9.93	23.08
6-Mar	8.8	6.9	8.1	Z	7.1	7.3	7.0	10.6	8.9	9.1	7.9	6.0	6.0	4.4	4.8	5.0	5.1	6.7	7.2	7.3	7.0	12.9	13.1	11.4	7.77	13.07
7-Mar	11.6	16.3	12.6	Z	11.8	9.3	9.2	8.8	8.5	5.6	5.9	5.9	3.8	3.4	3.9	2.3	4.5	2.9	10.6	15.8	7.9	13.2	17.2	15.8	9.00	17.23
8-Mar	15.3	12.5	11.1	Z	11.6	12.4	11.4	12.4	13.2	17.0	5.8	2.1	1.5	1.6	0.9	3.0	2.5	3.4	7.3	6.6	12.0	6.9	9.4	8.8	8.20	16.96
9-Mar	9.0	8.0	14.4	Z	19.1	24.8	28.7	24.4	21.7	19.5	4.7	2.9	1.6	1.6	2.2	2.3	1.3	1.1	4.2	13.5	26.1	25.1	22.6	7.4	12.44	28.69
10-Mar	6.6	6.8	8.2	Z	6.5	11.3	11.9	11.8	10.3	6.3	5.2	4.4	4.3	3.9	2.8	2.0	0.8	3.6	6.4	4.4	3.8	3.5	6.7	10.5	6.17	11.87
11-Mar	8.2	6.4	8.5	Z	2.2	5.5	2.9	2.0	4.1	4.9	3.4	4.3	3.7	2.1	1.4	1.4	2.7	2.0	16.2	30.7	25.3	23.8	26.6	22.6	9.18	30.74
12-Mar	13.2	17.4	20.3	Z	15.6	16.3	15.1	15.8	14.5	16.5	12.3	6.1	6.2	8.8	2.2	2.2	4.0	3.3	5.1	9.9	10.0	3.9	3.9	2.5	9.78	20.31
13-Mar	1.7	6.4	5.7	Z	13.3	11.2	9.4	16.1	17.2	12.8	3.4	2.1	2.0	1.3	1.5	2.1	2.4	0.6	0.6	10.1	10.3	12.7	16.0	8.9	7.30	17.15
14-Mar	15.1	17.4	12.9	Z	15.3	14.6	16.6	14.6	12.7	13.4	7.6	4.5	3.1	2.5	3.9	4.5	4.7	2.7	4.2	3.9	3.6	3.6	5.9	6.0	8.41	17.38
15-Mar	6.9	11.2	11.1	Z	13.5	8.2	18.1	12.4	11.9	9.4	7.9	7.1	3.2	1.1	0.8	0.6	1.3	0.5	0.5	7.7	26.0	17.9	17.5	17.1	9.22	26.04
16-Mar	19.1	20.3	11.5	Z	14.3	14.9	15.7	19.1	10.8	14.6	3.8	0.4	0.3	0.3	0.3	0.3	0.4	0.4	0.5	0.4	1.2	4.0	1.7	3.3	6.85	20.27
17-Mar	4.3	6.8	4.1	Z	6.8	15.4	13.5	13.5	10.1	4.0	5.6	3.8	0.8	0.7	0.5	0.8	0.7	0.8	1.9	9.8	26.5	21.0	15.8	19.6	8.12	26.47
18-Mar	18.4	19.1	19.0	Z	19.6	14.0	8.8	10.4	11.5	9.5	6.5	6.9	3.6	3.6	3.5	2.4	1.9	2.4	12.2	11.5	9.5	12.3	13.5	11.2	10.06	19.59
19-Mar	9.9	11.7	8.9	Z	11.7	13.5	14.7	12.1	11.4	3.4	2.2	1.7	2.1	C	C	C	C	C	C	23.1	20.9	19.7	12.9	10.5	--	23.07
20-Mar	12.4	16.5	11.9	Z	8.9	10.1	15.5	13.2	13.8	16.9	10.3	5.2	4.0	2.7	5.0	3.6	5.5	6.4	6.3	6.7	8.5	10.2	7.5	5.2	8.98	16.89
21-Mar	5.1	4.7	3.9	Z	4.4	4.3	6.1	6.3	5.3	5.3	5.9	6.1	5.4	3.7	5.1	5.2	5.0	4.9	5.1	5.6	5.2	6.0	5.0	4.1	5.12	6.33
22-Mar	3.1	2.8	4.3	Z	4.3	5.6	6.2	8.1	7.1	5.0	3.7	2.2	2.2	2.3	2.8	3.6	3.8	4.1	4.3	6.0	6.5	6.3	6.6	5.4	4.63	8.14
23-Mar	5.7	10.1	8.3	Z	8.4	7.4	5.8	4.9	4.9	8.3	7.8	3.5	2.9	2.3	2.3	2.5	3.6	2.3	2.9	3.2	6.0	7.5	7.8	4.7	5.35	10.09
24-Mar	5.2	4.6	5.7	Z	5.0	5.0	6.5	7.7	5.5	13.1	13.6	13.6	4.4	4.6	5.9	5.1	5.7	3.1	6.2	11.7	12.4	7.8	3.8	11.6	7.29	13.61
25-Mar	9.2	5.8	5.2	Z	10.0	13.0	9.2	6.2	3.4	6.3	3.7	3.9	3.5	1.4	3.3	1.4	1.0	0.2	0.5	1.6	7.0	7.9	8.0	10.5	5.31	12.97
26-Mar	8.3	9.1	11.4	Z	6.2	10.1	9.8	10.2	8.9	5.6	3.9	2.2	1.6	1.2	1.2	1.6	1.6	1.3	1.6	2.1	6.3	24.1	22.8	22.2	7.54	24.14
27-Mar	17.2	12.1	11.1	Z	14.0	16.6	11.9	10.5	13.6	4.6	6.7	1.8	1.0	1.6	2.3	3.0	2.1	2.2	0.8	1.0	0.6	1.7	3.1	0.7	6.10	17.23
28-Mar	0.8	2.3	4.3	Z	3.3	3.8	5.6	8.0	5.5	2.0	1.0	2.7	2.2	4.2	1.0	2.8	2.3	1.9	2.0	2.1	5.8	7.4	9.3	11.9	4.01	11.91
29-Mar	5.3	6.0	10.3	Z	14.6	17.1	5.6	9.0	3.8	5.5	2.6	2.3	2.3	2.2	1.9	3.4	4.3	2.5	3.9	5.1	10.8	8.7	4.9	6.4	6.01	17.14
30-Mar	7.0	4.3	11.3	Z	7.4	9.5	13.6	9.0	6.7	6.5	8.9	9.2	2.7	0.3	0.3	0.5	1.5	0.8	1.7	7.7	1.2	3.8	9.6	7.8	5.71	13.58
31-Mar	10.6	14.4	13.8	Z	9.7	11.8	11.0	14.1	7.6	5.3	3.5	3.1	1.9	2.3	2.5	3.2	2.6	0.9	0.3	0.4	6.9	11.5	12.0	13.0	7.06	14.43
	9.35	9.97	9.37	--	9.67	10.74	10.88	11.20	9.79	9.07	6.59	4.93	3.40	2.79	2.74	2.78	3.24	2.88	4.67	8.24	10.43	10.84	10.65	9.78	Diurnal Average	
	23.69	21.71	20.31	--	19.59	24.77	28.69	24.37	21.71	19.46	19.36	13.74	10.90	8.85	5.94	5.24	6.84	6.72	16.17	30.74	26.47	25.14	26.61	22.57	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
March 2016

Maximum Value: 87.09 ppb on Mar 9 07:00

Maximum Daily Average: 22.08 ppb on Mar 9

Minimum Value: 0.2 ppb on Mar 25 18:00

Minimum Daily Average: 4.52 ppb on Mar 28

Maximum Diurnal Average: 19.61 ppb at hour 8

Minimum Diurnal Average: 3.33 ppb at hour 18

Monthly Average: 10.677 ppb

Percentiles: P_1 = 0.4 P_{10} = 2.2 Q_1 = 4.3 Median = 7.3 Q_3 = 14.0 P_{90} = 22.7 P_{99} = 45.9

Hours in Service:	744
Hours of Data:	707
Hours of Missing Data:	37
Hours of Calibration:	37
Percent Operational Time:	100.0

Day	Hourly Period Ending At																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1-Mar	49.0	38.2	19.2	Z	12.5	13.4	21.8	33.7	31.6	45.2	40.0	15.4	6.9	3.0	4.9	3.7	3.1	4.4	6.3	6.2	5.3	6.7	5.9	3.6	16.53	48.98
2-Mar	3.7	3.6	4.8	Z	9.2	8.5	11.8	12.0	13.0	10.7	9.8	7.7	7.5	7.5	5.9	6.9	7.5	8.0	6.0	6.6	8.0	13.1	24.9	18.3	9.35	24.90
3-Mar	8.0	8.7	6.5	Z	6.6	11.1	12.6	21.2	30.6	13.9	7.9	6.0	5.9	5.9	6.4	5.4	8.7	7.6	5.9	9.5	6.0	6.2	6.3	5.4	9.23	30.64
4-Mar	5.3	10.0	7.0	Z	6.1	6.4	8.9	8.1	8.3	7.8	8.4	11.5	9.9	8.5	5.8	4.7	6.7	6.9	7.7	13.8	18.8	10.4	14.3	14.1	9.10	18.76
5-Mar	14.2	8.3	3.7	Z	6.6	9.4	14.1	14.0	14.9	18.9	25.5	18.3	15.3	3.2	5.7	4.7	6.9	3.8	4.5	18.7	27.8	25.2	13.0	15.8	12.72	27.83
6-Mar	9.5	7.5	9.4	Z	8.2	9.1	9.4	13.7	12.0	12.3	9.5	7.4	7.4	5.1	6.2	6.3	6.4	7.7	7.8	7.7	7.3	18.0	22.4	19.3	9.98	22.42
7-Mar	14.6	17.6	13.4	Z	14.5	12.8	12.8	12.2	15.4	11.8	13.7	10.7	5.2	4.2	5.0	2.9	5.3	3.2	10.8	17.7	8.2	14.8	21.6	30.0	12.11	30.03
8-Mar	22.0	15.6	13.5	Z	20.5	26.0	21.5	37.7	63.4	62.3	8.2	3.1	2.3	2.4	1.3	4.0	3.2	3.8	7.5	7.1	14.0	7.0	9.5	9.1	15.88	63.43
9-Mar	9.1	8.2	17.5	Z	21.8	54.5	87.1	60.8	67.3	38.7	6.3	4.0	2.4	2.2	2.9	3.0	1.5	1.3	4.4	13.7	30.4	33.1	29.7	7.9	22.08	87.09
10-Mar	7.4	7.1	8.6	Z	7.3	14.2	14.5	14.0	14.4	8.8	7.8	6.6	5.7	5.3	3.7	2.4	0.9	3.9	6.8	4.7	4.0	3.8	7.2	11.3	7.41	14.47
11-Mar	8.8	7.0	9.0	Z	2.5	6.2	3.7	2.4	4.7	6.1	4.6	5.9	5.2	2.9	1.6	1.6	3.0	2.1	19.0	38.7	31.1	38.7	45.5	30.9	12.22	45.48
12-Mar	15.8	21.8	24.6	Z	18.9	31.4	40.7	42.4	32.0	32.4	19.7	8.4	8.3	12.2	2.8	2.5	4.8	3.7	5.9	11.2	10.3	4.1	4.3	2.6	15.70	42.39
13-Mar	1.8	6.6	5.8	Z	16.7	14.0	13.8	30.0	33.0	19.2	4.4	2.9	2.7	1.7	2.0	2.6	2.9	0.7	0.6	10.3	10.3	14.3	17.8	10.4	9.76	33.01
14-Mar	15.9	17.8	13.9	Z	18.9	17.4	18.9	27.9	29.9	25.8	10.7	6.0	4.2	3.2	4.9	5.6	5.8	2.9	4.4	4.2	3.7	3.6	6.8	6.5	11.25	29.90
15-Mar	7.0	12.9	11.5	Z	18.0	9.9	29.2	20.8	20.9	17.4	13.9	12.0	5.2	1.4	1.0	0.8	1.5	0.6	0.5	9.1	33.8	21.5	25.6	20.8	12.83	33.76
16-Mar	24.0	44.7	17.9	Z	26.5	35.2	27.2	26.2	15.1	25.1	5.8	0.5	0.3	0.3	0.3	0.3	0.4	0.4	0.5	0.3	1.9	4.4	1.7	3.5	11.42	44.74
17-Mar	4.3	6.9	4.3	Z	6.9	16.1	13.8	14.3	11.5	4.7	8.5	5.7	1.1	0.8	0.6	1.0	0.9	0.9	2.1	11.3	30.2	22.9	17.3	22.6	9.07	30.19
18-Mar	19.3	20.8	20.1	Z	26.4	17.5	11.0	15.3	25.2	19.5	9.7	10.4	5.0	4.9	4.8	3.2	3.2	2.7	14.4	11.9	12.1	15.2	17.2	12.2	13.14	26.44
19-Mar	10.4	13.7	9.6	Z	16.4	16.7	22.9	20.9	22.0	4.7	2.9	2.3	3.1	C	C	C	C	C	C	25.7	25.6	26.3	13.7	10.6	--	26.28
20-Mar	14.5	20.2	16.1	Z	9.5	13.0	21.8	18.4	22.4	24.9	13.5	6.3	5.0	3.5	6.5	4.4	6.3	6.9	6.6	6.9	8.8	10.7	7.7	5.5	11.27	24.95
21-Mar	5.4	4.9	4.3	Z	5.5	5.2	7.3	7.9	7.0	7.3	8.2	9.5	8.4	5.4	7.6	7.3	6.7	6.2	5.9	6.2	5.8	7.0	5.3	4.5	6.47	9.45
22-Mar	3.5	2.8	5.5	Z	4.8	6.1	7.0	10.1	9.8	7.8	6.5	4.2	4.3	4.0	4.7	5.5	5.2	5.0	4.8	6.7	7.2	7.2	7.3	5.8	5.91	10.12
23-Mar	6.0	11.8	17.8	Z	29.1	30.3	14.5	7.5	11.3	19.7	12.4	5.7	4.2	3.2	3.1	3.1	4.8	2.6	3.3	4.0	6.6	8.5	9.3	5.2	9.74	30.34
24-Mar	8.2	5.9	6.0	Z	5.9	5.7	7.2	11.1	6.3	20.3	19.2	22.2	6.3	6.3	7.7	6.1	6.4	3.2	6.7	12.7	14.2	8.6	4.0	12.5	9.25	22.19
25-Mar	9.5	5.9	5.8	Z	12.4	14.6	9.5	6.8	4.0	8.0	5.2	6.3	5.2	2.0	4.6	1.8	1.2	0.2	0.5	1.6	7.2	8.2	8.4	11.4	6.09	14.57
26-Mar	8.7	11.3	16.4	Z	7.1	25.2	31.3	28.6	17.5	9.3	5.4	3.0	2.3	1.8	1.6	2.0	1.9	1.5	1.7	2.1	6.4	32.3	28.5	24.8	11.78	32.30
27-Mar	20.6	14.8	19.7	Z	19.0	27.5	20.4	24.0	25.6	5.9	9.6	2.5	1.3	2.2	3.0	3.4	2.3	2.5	0.8	1.0	0.7	1.8	3.1	0.8	9.24	27.53
28-Mar	0.8	2.4	4.5	Z	3.4	3.9	6.2	9.7	6.8	2.3	1.1	3.5	3.1	5.7	1.2	3.7	3.0	2.1	2.1	2.2	5.9	7.8	9.8	12.5	4.52	12.52
29-Mar	5.4	6.1	11.5	Z	22.1	25.3	5.7	11.0	4.6	7.1	3.8	3.1	3.2	2.9	2.4	4.1	5.2	3.0	4.0	5.2	11.5	9.5	4.9	6.8	7.32	25.33
30-Mar	7.1	4.3	11.3	Z	7.5	9.7	13.9	9.3	7.2	7.2	10.0	10.9	3.2	0.4	0.4	0.6	1.8	0.8	1.8	8.3	1.2	4.1	9.7	8.0	6.02	13.88
31-Mar	11.3	17.4	15.6	Z	14.4	21.0	17.7	35.9	13.3	7.9	5.4	4.9	2.8	3.5	3.6	4.4	3.2	1.1	0.3	0.4	7.2	12.0	12.5	15.4	10.05	35.91
	11.33	12.42	11.45	--	13.07	16.69	18.00	19.61	19.40	16.55	10.25	7.31	4.93	3.85	3.73	3.59	4.03	3.33	5.12	9.23	11.98	13.13	13.39	11.87	Diurnal Average	
	48.98	44.74	24.62	--	29.12	54.45	87.09	60.81	67.34	62.28	40.01	22.19	15.33	12.22	7.67	7.26	8.66	8.05	18.95	38.75	33.76	38.68	45.48	30.94	Diurnal Maximum	

Z - zerospan C - Calibration

Alberta Ambient Air Quality Objectives (AAAQO): 1-hr --- ppb 24-hr --- ppb

West Central Airshed Society

WCAS - Hinton
Summary of Hourly Averages

PM2.5 ($PM_{2.5}$) - $\mu g/m^3$
March 2016

Maximum Value: 124.32 $\mu g/m^3$ on Mar 1 09:00

Maximum Daily Average: 13.34 $\mu g/m^3$ on Mar 1

Minimum Value: 0.0 $\mu g/m^3$ on Mar 16 12:00

Minimum Daily Average: 4.46 $\mu g/m^3$ on Mar 17

Maximum Diurnal Average: 15.30 $\mu g/m^3$ at hour 9

Minimum Diurnal Average: 3.77 $\mu g/m^3$ at hour 14

Monthly Average: 7.776 $\mu g/m^3$

Percentiles: P_1 = 0.7 P_{10} = 2.9 Q_1 = 4.4 Median = 6.1 Q_3 = 8.6 P_{90} = 13.7 P_{99} = 28.2

Hours in Service:	744
Hours of Data:	743
Hours of Missing Data:	1
Hours of Calibration:	0
Percent Operational Time:	99.9

Day	Hourly Period Ending At																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1-Mar	13.5	14.6	11.2	6.0	7.4	5.6	7.2	9.9	124.3	25.7	21.2	14.8	9.3	1.3	3.7	3.5	2.8	4.6	4.7	4.4	3.5	6.7	7.6	6.4	13.34	124.32
2-Mar	4.7	4.8	5.2	5.5	5.6	6.6	6.1	6.8	7.0	7.5	6.5	6.7	5.2	6.6	5.6	5.4	5.4	5.3	5.6	6.0	5.3	5.5	5.7	5.2	5.84	7.50
3-Mar	6.3	6.1	5.6	5.6	5.0	5.9	6.1	7.3	7.0	7.8	8.2	8.3	8.0	7.8	7.8	5.9	7.3	7.1	6.5	6.1	5.0	4.2	4.3	4.2	6.38	8.31
4-Mar	4.3	6.3	5.7	4.6	3.6	4.7	4.4	4.8	5.6	5.9	4.0	4.4	5.0	4.9	4.4	3.6	7.3	6.4	8.3	9.5	11.3	6.4	7.5	6.1	5.80	11.33
5-Mar	8.5	8.2	3.7	5.0	4.9	4.8	4.5	5.9	6.1	7.1	18.4	23.5	14.4	2.1	4.4	4.5	7.1	6.5	6.6	11.9	13.1	10.4	5.6	4.9	8.00	23.46
6-Mar	4.4	5.2	3.9	1.2	1.6	2.7	1.8	3.2	4.8	6.4	5.1	4.1	5.7	6.4	5.6	6.0	5.8	5.4	6.8	6.4	6.4	8.1	7.4	7.4	5.08	8.11
7-Mar	8.4	10.5	9.5	9.8	6.2	5.7	6.2	5.3	5.0	6.9	7.0	4.6	2.4	2.9	4.8	3.7	5.1	3.9	8.6	15.1	8.9	10.9	14.1	14.6	7.50	15.09
8-Mar	10.4	8.3	7.6	7.7	6.2	6.5	6.4	7.7	11.8	16.8	4.2	1.4	2.1	2.6	4.3	1.0	2.4	4.0	6.9	8.3	19.8	8.6	10.4	6.9	7.19	19.84
9-Mar	7.2	6.6	21.4	11.9	9.3	21.7	24.1	14.5	26.2	22.7	3.2	3.6	2.4	2.4	3.2	2.9	1.9	2.3	3.0	10.7	22.4	21.6	18.4	7.0	11.27	26.16
10-Mar	7.8	23.1	10.1	3.1	3.7	9.0	6.8	8.3	11.1	6.7	6.5	5.7	6.1	5.7	7.8	6.6	6.3	5.2	6.2	4.6	5.6	5.1	5.3	5.0	7.13	23.08
11-Mar	5.7	5.5	4.8	4.0	3.3	3.9	3.8	4.0	4.4	4.3	3.7	5.0	4.2	2.9	2.5	2.4	3.8	2.8	17.2	24.7	22.9	30.1	30.4	26.6	9.28	30.41
12-Mar	26.7	14.6	13.7	12.5	9.1	10.9	18.6	29.0	24.1	16.4	12.3	5.2	4.8	2.4	1.6	2.6	6.2	4.9	6.3	12.9	17.2	7.5	8.6	9.3	11.56	29.04
13-Mar	3.7	3.7	3.0	3.1	2.8	3.3	4.3	10.6	5.1	4.9	0.9	0.7	1.3	0.3	0.6	2.3	3.5	2.2	1.3	7.7	10.5	16.4	37.0	7.8	5.71	37.01
14-Mar	20.1	20.9	15.0	18.1	15.4	13.7	16.2	21.2	53.1	24.0	10.0	6.7	4.5	4.5	5.6	7.6	9.6	5.2	6.3	5.2	6.6	6.4	5.6	5.8	12.81	53.11
15-Mar	5.4	6.6	6.8	5.4	6.6	5.4	7.2	5.1	6.3	6.4	3.9	4.4	5.0	0.6	0.2	1.6	1.4	2.2	3.3	5.4	11.1	7.9	5.8	5.2	4.96	11.05
16-Mar	5.2	6.9	6.9	5.7	7.9	9.3	9.9	11.1	10.4	11.0	0.6	0.0	1.4	2.3	2.9	3.3	2.7	4.9	4.3	4.9	5.1	4.6	3.4	3.8	5.36	11.07
17-Mar	3.4	5.8	4.8	4.7	4.0	4.1	3.9	7.1	5.9	4.4	4.9	2.8	1.9	2.0	1.9	2.7	2.7	2.3	3.2	5.5	9.7	8.4	5.7	5.2	4.46	9.67
18-Mar	3.7	4.6	5.6	9.3	18.5	44.5	8.8	40.4	23.2	8.2	8.2	9.1	6.5	4.5	2.9	1.9	2.0	1.5	11.2	12.4	8.7	10.1	10.2	5.6	10.90	44.54
19-Mar	7.0	8.5	6.1	4.2	6.6	8.2	13.3	28.3	38.1	13.8	7.6	6.0	4.2	2.9	2.3	3.0	0.7	3.0	8.9	17.6	22.5	24.8	17.2	9.6	11.02	38.11
20-Mar	13.9	13.6	9.4	4.4	4.9	7.3	11.1	9.7	11.3	14.5	9.8	6.1	5.0	2.7	3.9	3.7	6.0	5.8	6.0	5.7	7.3	8.5	8.4	7.6	7.78	14.48
21-Mar	7.1	8.2	7.4	7.6	7.9	8.7	8.7	8.7	7.6	7.3	7.8	8.0	8.2	8.1	8.4	7.7	7.1	6.8	6.6	6.2	7.5	6.6	6.6	5.4	7.51	8.72
22-Mar	5.5	6.3	5.8	6.2	7.7	8.5	9.3	9.7	9.4	9.2	8.7	7.0	7.0	6.8	7.4	8.4	9.1	9.3	10.0	10.8	10.6	7.2	6.1	5.5	7.99	10.80
23-Mar	5.8	6.4	6.7	9.5	9.3	8.2	5.6	5.0	7.8	14.5	17.5	6.6	5.4	4.9	4.6	4.8	5.7	6.1	5.9	5.0	5.3	4.9	4.8	4.3	6.86	17.51
24-Mar	4.0	4.3	4.2	4.9	5.9	5.9	5.8	5.7	6.2	8.2	AF	10.9	2.8	4.7	6.0	8.9	3.4	3.3	4.3	5.6	7.1	5.9	5.2	7.5	5.68	10.87
25-Mar	6.1	4.0	3.6	2.9	3.3	3.9	3.1	3.7	2.9	3.7	3.0	6.7	5.4	1.1	3.7	3.0	1.9	2.0	2.9	3.2	8.0	8.2	11.0	13.4	4.61	13.43
26-Mar	4.9	6.6	9.7	14.8	2.9	12.8	16.4	15.9	13.0	8.1	5.8	2.9	2.5	3.0	2.8	2.9	3.3	3.4	3.3	4.2	8.7	30.6	24.9	24.6	9.50	30.56
27-Mar	18.5	16.2	18.4	12.8	13.2	11.9	13.8	12.8	11.2	6.8	10.3	2.7	2.4	3.4	4.2	5.4	5.9	5.0	5.4	4.3	4.9	5.6	6.8	5.1	8.64	18.50
28-Mar	5.2	5.6	7.7	7.2	5.9	5.8	5.6	5.9	5.9	4.5	3.9	5.6	4.8	6.7	3.5	3.5	4.1	4.5	3.9	5.0	6.6	6.5	10.8	9.1	5.74	10.76
29-Mar	4.3	5.8	5.2	3.9	9.8	8.8	2.6	6.8	3.9	6.5	3.8	3.1	4.1	3.6	3.9	6.9	8.6	4.6	4.6	5.8	10.6	10.8	7.8	8.4	6.01	10.82
30-Mar	6.9	5.7	10.5	8.6	6.8	7.1	8.0	9.1	8.2	7.6	9.0	10.4	6.4	2.2	4.2	5.4	3.7	5.6	4.7	10.2	4.5	5.5	8.0	9.6	7.00	10.47
31-Mar	8.2	15.3	14.9	12.8	7.1	5.6	7.7	11.2	7.1	6.1	6.7	3.8	2.7	4.7	4.6	6.9	8.8	11.0	8.9	6.6	9.1	13.3	26.4	32.5	10.07	32.46
	7.95	8.67	8.20	7.19	6.85	8.74	8.30	10.81	15.30	9.80	7.42	6.15	4.88	3.77	4.16	4.45	4.90	4.75	6.18	8.12	9.88	10.24	10.87	9.02	Diurnal Average	
	26.65	23.08	21.43	18.12	18.46	44.54	24.05	40.35	124.32	25.74	21.24	23.46	14.37	8.08	8.44	8.93	9.62	11.00	17.20	24.72	22.89	30.56	37.01	32.46	Diurnal Maximum	

AF - Analyzer Failure

Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 80 ul/m^3 24-hr 30 ul/m^3

Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 906, Hinton

Calibration Date: March 19, 2016

Parameter: $NO/NO_2/NO_x$

Instrument: Teco 42i

Serial Number: CM13040041

Previous Calibration Date: February 17, 2016

Calibration: Routine

Calibration Equipment: Sabio 2010 SN 08600312

Barometric Pressure: 26.73" Hg

Calibration Method: Standard Gas Dilution/GPT

Cylinder ID: FF13698

Temperature: 20.5° C

Cylinder Concentration: 12.5 ppm NO

In Service: January 14, 2015

Technician: L. Burns

Instrument Settings	NO bkg ppb	NO_x bkg ppb	Pre-reactor bkg ppb	NO Coefficient	NO_x Coefficient	NO_2 Coefficient	Monitoring Range
Previous	5.6	6.3	NA	0.893	1.002	1.000	200 ppb
Current	5.6	5.9	NA	0.913	1.008	1.000	200 ppb

NO	Final Zero: -0.2 ppb	Final Span: 150.5 ppb	As Found Correction Factor: 1.015
NO_2	Final Zero: 0.0 ppb	Final Span: 1.5 ppb	As Found Correction Factor: NA
NO_x	Final Zero: -0.2 ppb	Final Span: 151.0 ppb	As Found Correction Factor: 1.015

Results of Linear Regression			Slope	Intercept	R^2
NO	R_c vs C_c	Previous	149.835600	38.430980	0.999976
		Current	148.535100	48.041070	0.999919
	C_i vs C_c	Current	1.000000	0.000002	0.999919
NO_2	R_c vs C_c	Previous	149.683700	-34.973810	0.999976
		Current	149.304600	-23.687120	0.999992
	C_i vs C_c	Current	1.000000	0.000011	0.999991
NO_x	R_c vs C_c	Previous	150.252700	19.351680	0.999976
		Current	149.672700	41.316640	0.999943
	C_i vs C_c	Current	1.000000	0.000022	0.999943

Comments:

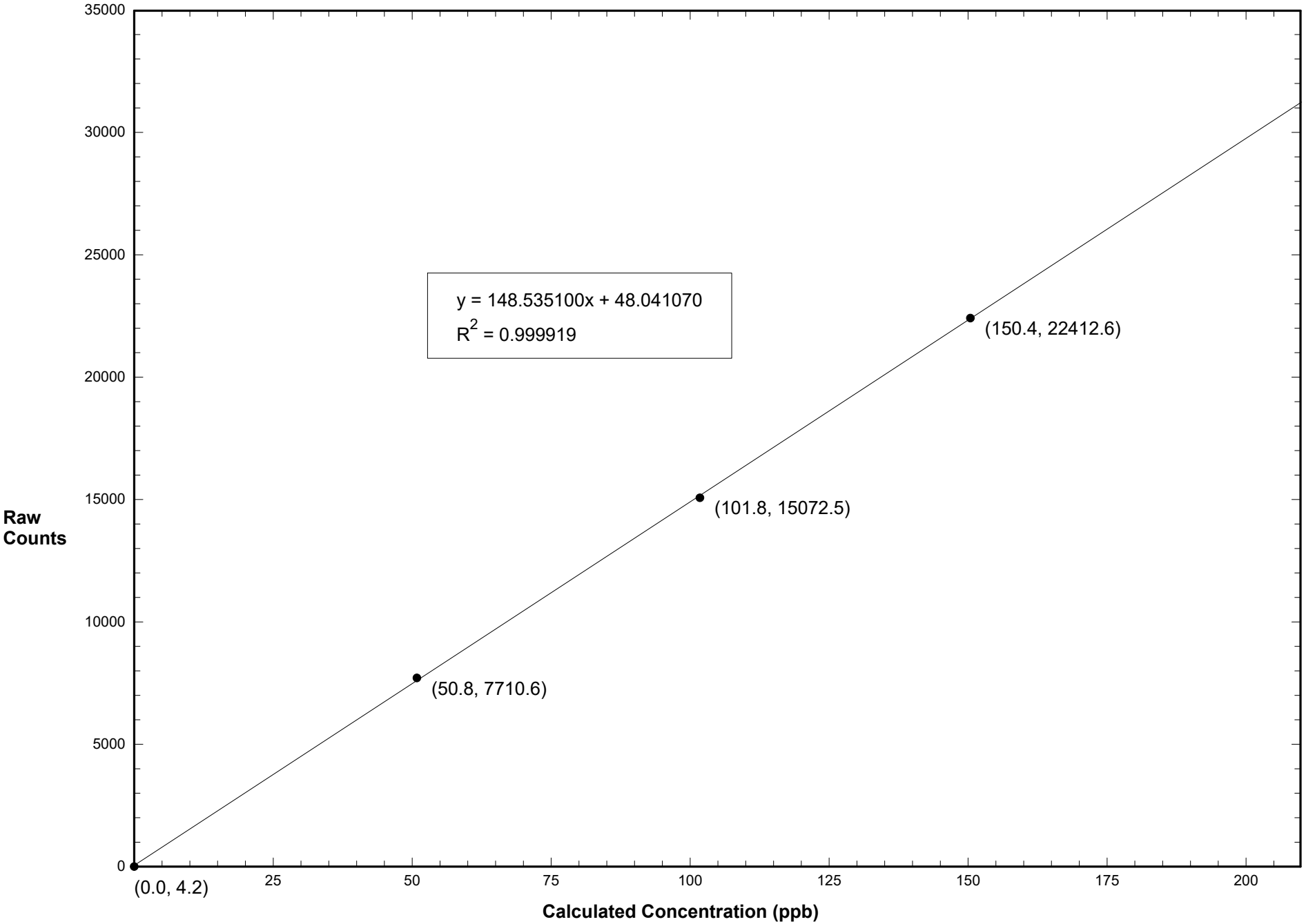
Calibration Data Summary (Page 2)

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
0.07466	6.130	150.4	22412.6	150.6	0.999
0.05021	6.118	101.8	15072.5	101.2	1.006
0.02505	6.133	50.8	7710.6	51.6	0.986
0.00000	6.000	0.0	4.2	-0.3	
NO Calibration				Average Correction Factor:	0.997
0.07466	6.130	150.4	22567.9	150.5	0.999
0.05021	6.118	101.8	15201.5	101.3	1.005
0.02505	6.133	50.8	7748.6	51.5	0.987
0.00000	6.000	0.0	-0.3	-0.3	
NO_x Calibration				Average Correction Factor:	0.997

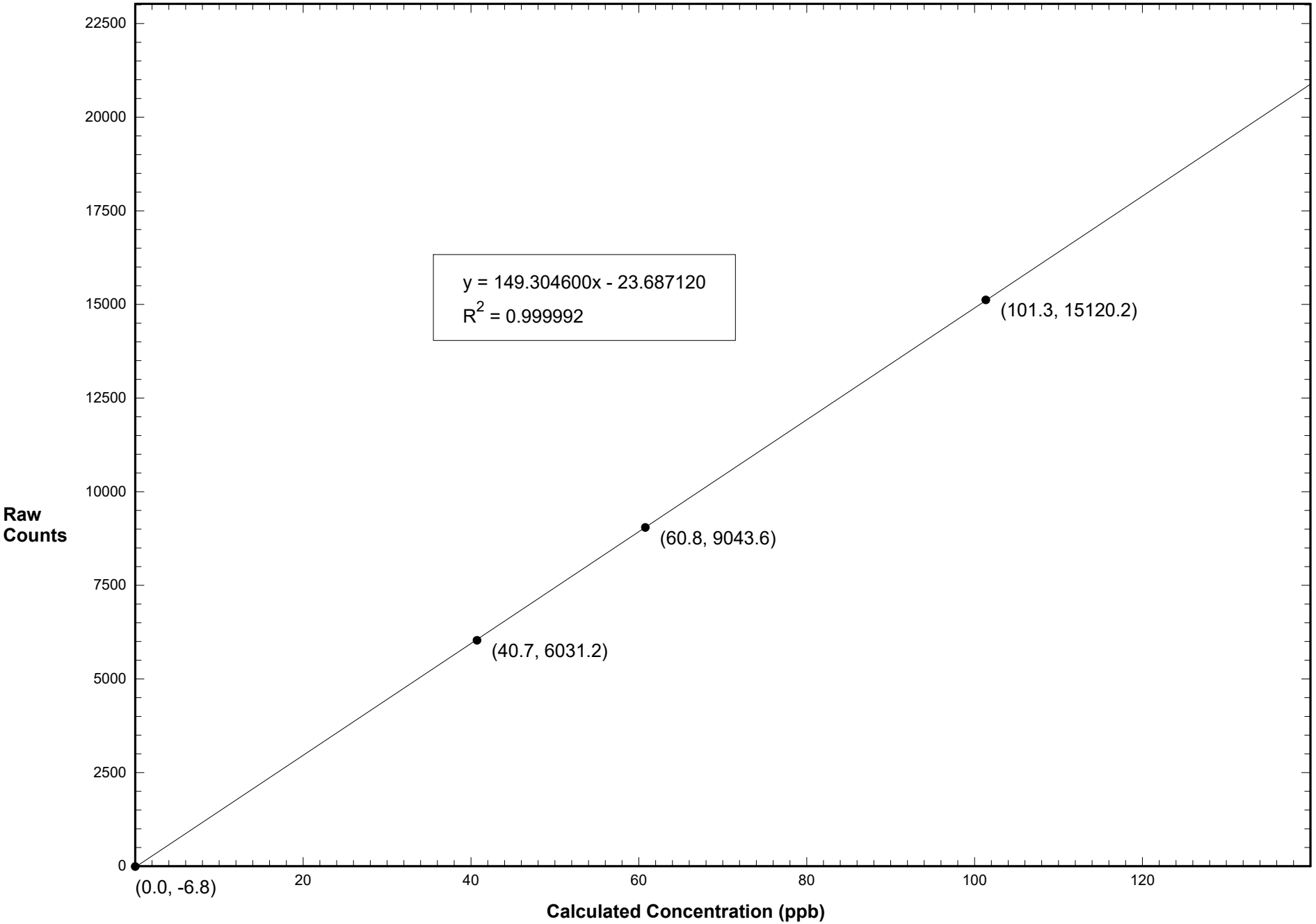
Reference Concentration NO (ppb)	Raw Count Output NO	Calculated Concentration NO (ppb)	Calculated Concentration NO_2, C_c (ppb)	Raw Count Output R_c	Indicated Concentration C_i (ppb)	Correction Factor C_c/C_i	Converter Efficiency C_i/C_c
153.4	7785.7	52.1	101.3	15120.2	101.4	0.999	1.001
153.4	13811.8	92.7	60.8	9043.6	60.7	1.001	0.999
153.4	16790.5	112.7	40.7	6031.2	40.6	1.004	0.996
			0.0	-6.8	0.1		
					Average Correction Factor:	1.001	
NO_2 Gas Phase Titration						Average Converter Efficiency:	0.999

Parameter	Correction Factor (Previous)	Correction Factor: (Current)	Percent Change of Correction Factor
NO	1.002	0.999	-0.3
NO_2	1.000	0.999	-0.1
NO_x	1.001	0.999	-0.2

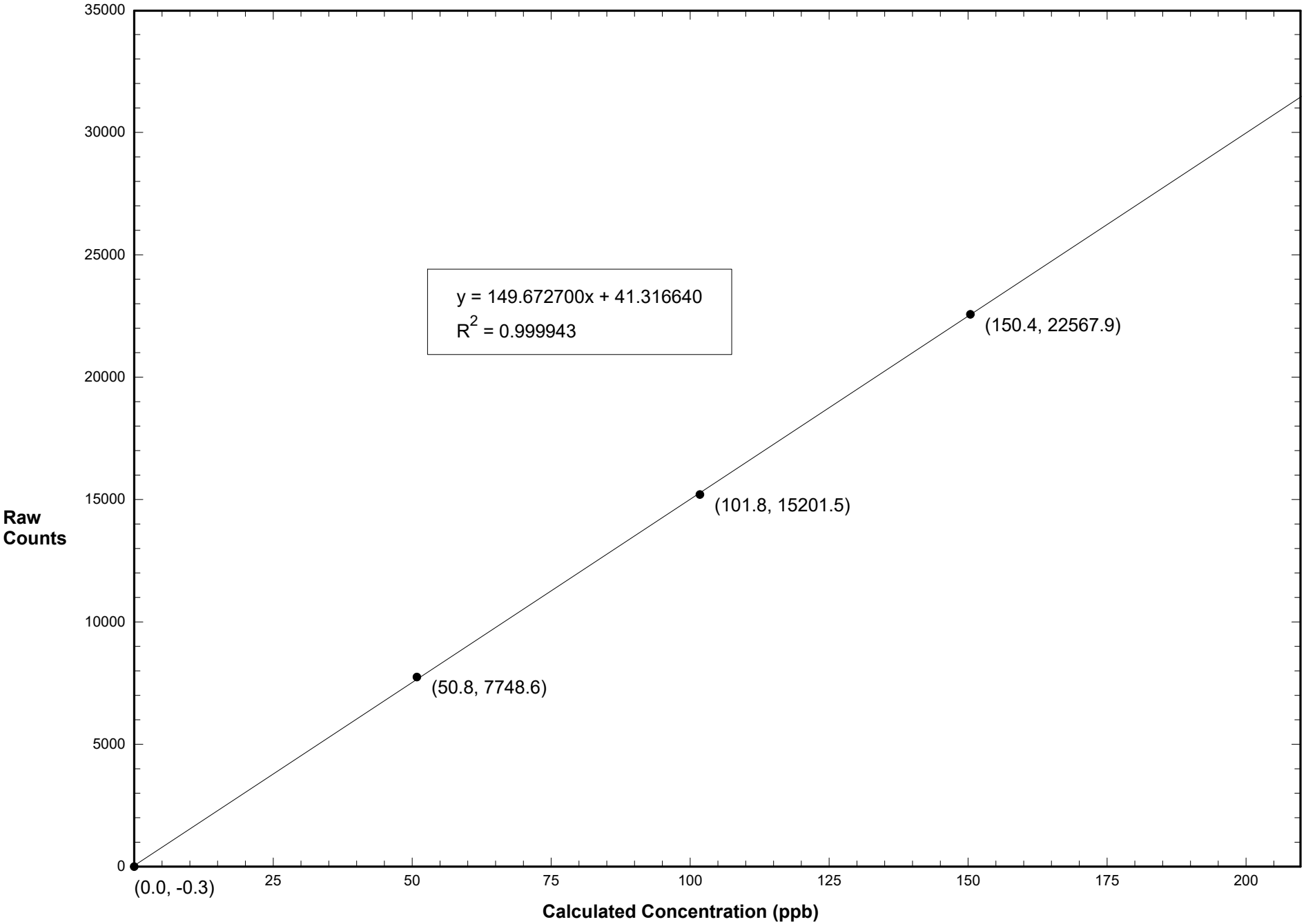
Station 906 NO March 19, 2016: Linear Regression



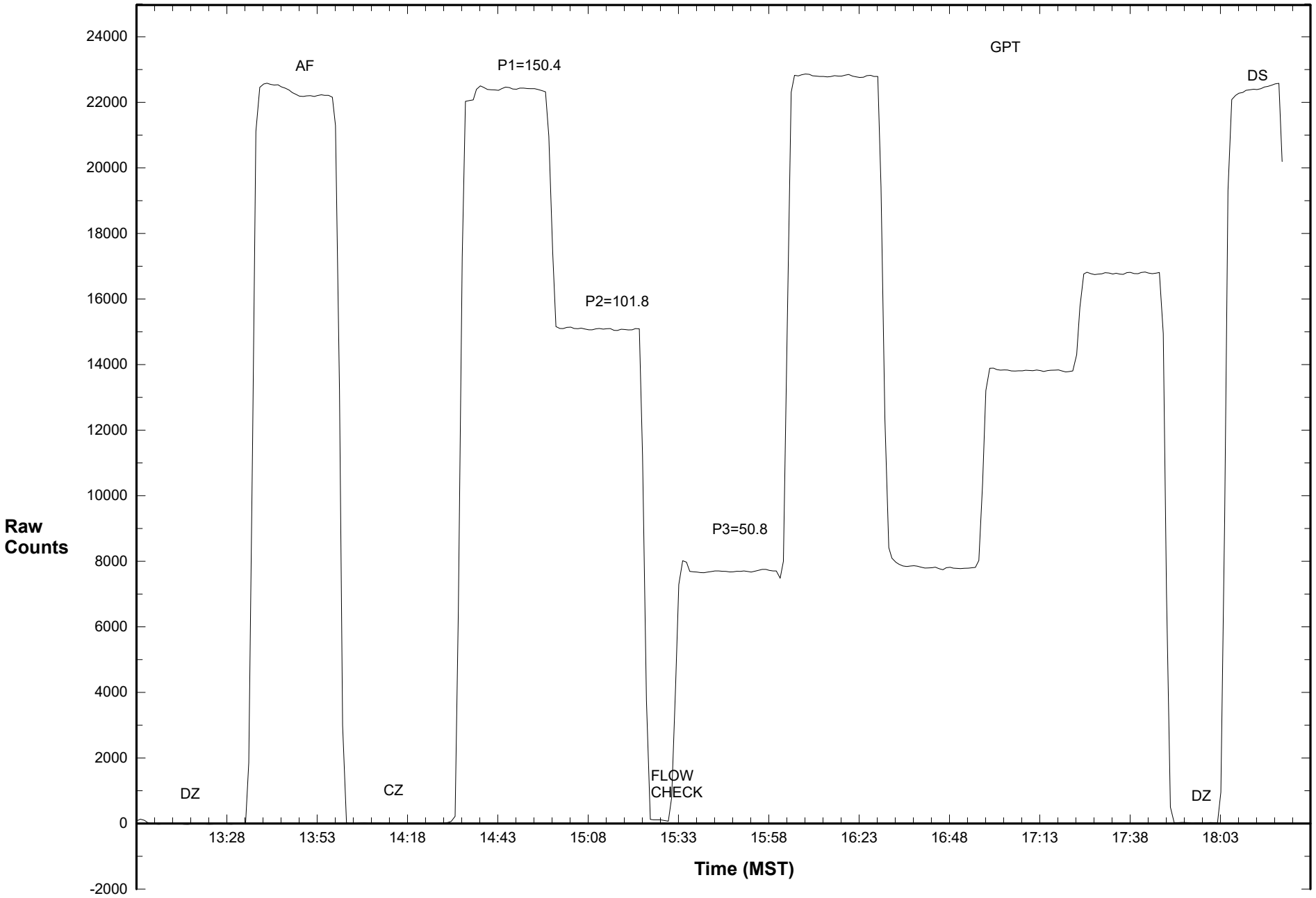
Station 906 NO2 March 19, 2016: Linear Regression



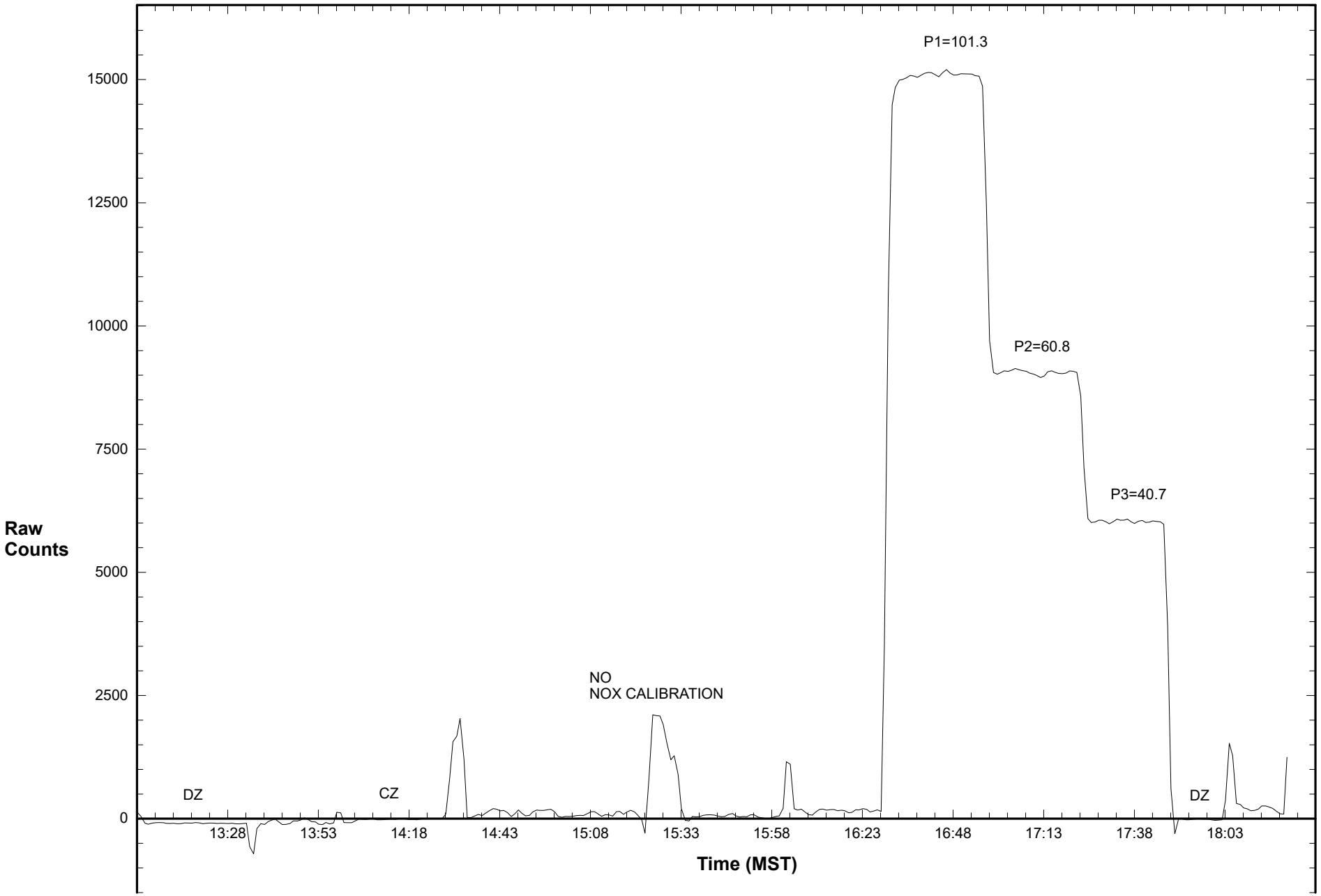
Station 906 NOX March 19, 2016: Linear Regression



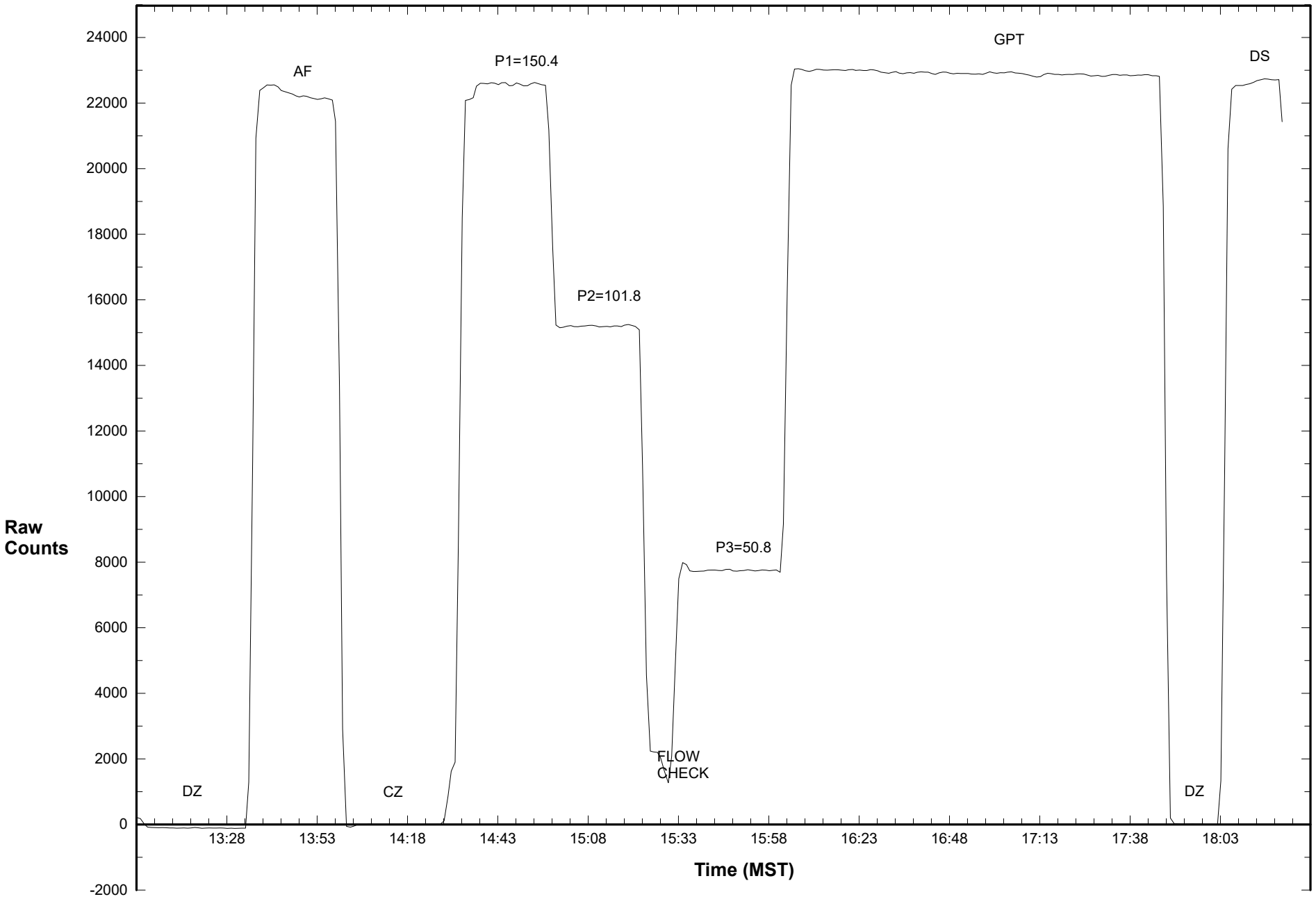
Station 906 NO March 19, 2016: Calibration Graph



Station 906 NO2 March 19, 2016: Calibration Graph



Station 906 NOX March 19, 2016: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 906, Hinton

Calibration Date: March 19, 2016

Parameter: O_3

Instrument: Teco 49i

Serial Number: 1150790050

Previous Calibration Date: February 17, 2016

Calibration: Routine

Calibration Equipment: 2B Tech Model 306 SN142

Barometric Pressure: 26.73" Hg

Calibration Method: Certified Ozone Generator

Temperature: 20.5° C

Technician: L. Burns

Instrument Settings	Background	Coefficient	Monitoring Range
Previous	-0.1	1.040	500 ppb
Current	0.2	1.032	500 ppb

Final Zero: -1.6 ppb

Final Span: 371.7 ppb

As Found Correction Factor: 0.971

Calibration System Flow Rate (LPM)	Calculated Concentration C_c (ppb)	Raw Count Output R_c	Indicated Concentration C_i (ppb)	Correction Factor C_c/C_i
3.000	399.0	23970.6	398.4	1.002
3.000	214.0	12943.0	214.6	0.997
3.000	105.0	6444.4	106.3	0.988
3.000	0.0	-4.1	-1.2	

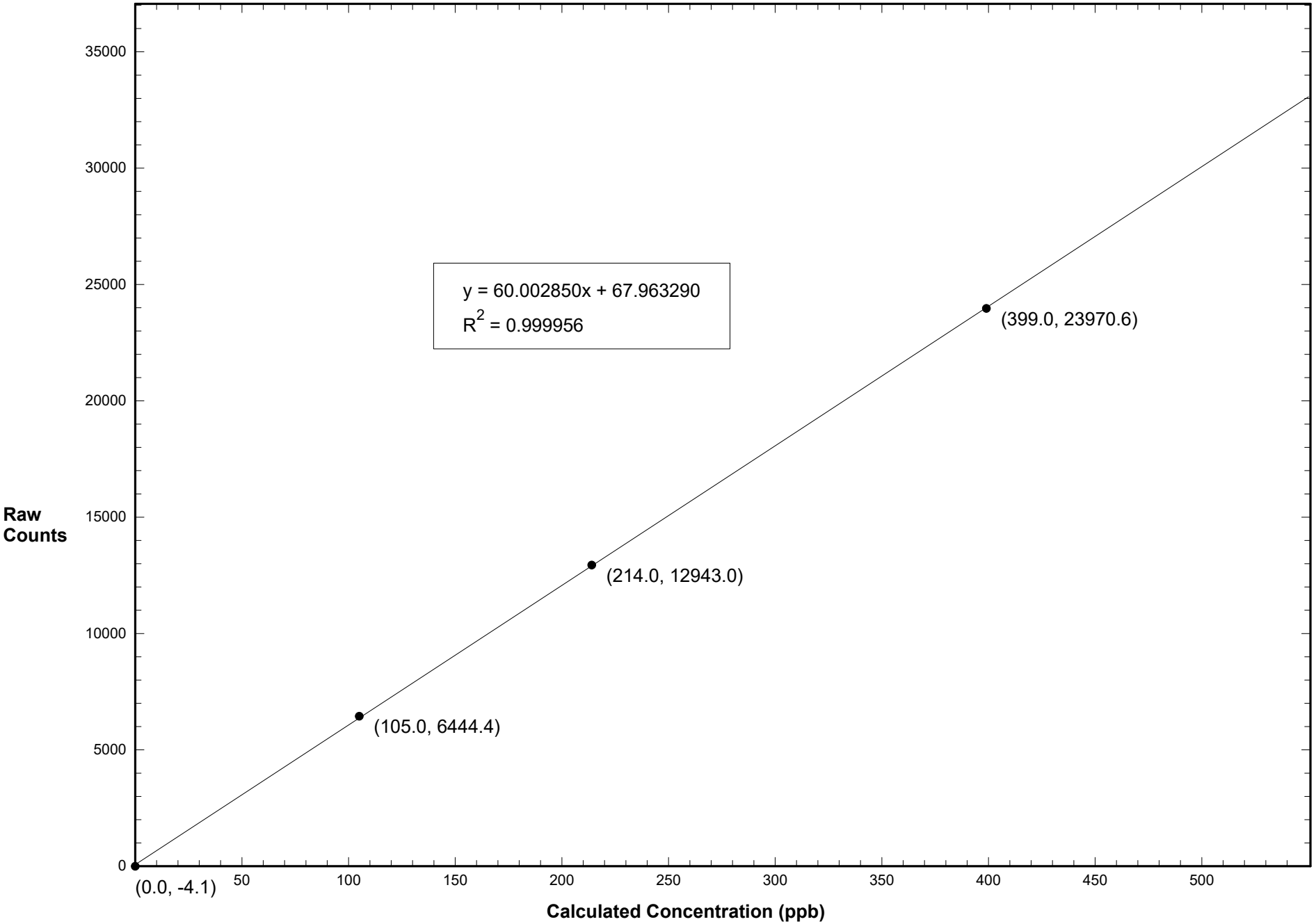
Results of Linear Regression

R_c vs C_c	Slope	Intercept	R^2
Previous	60.042180	11.105630	1.000000
Current	60.002850	67.963290	0.999956
C_i vs C_c			
Current	1.000000	0.000038	0.999956

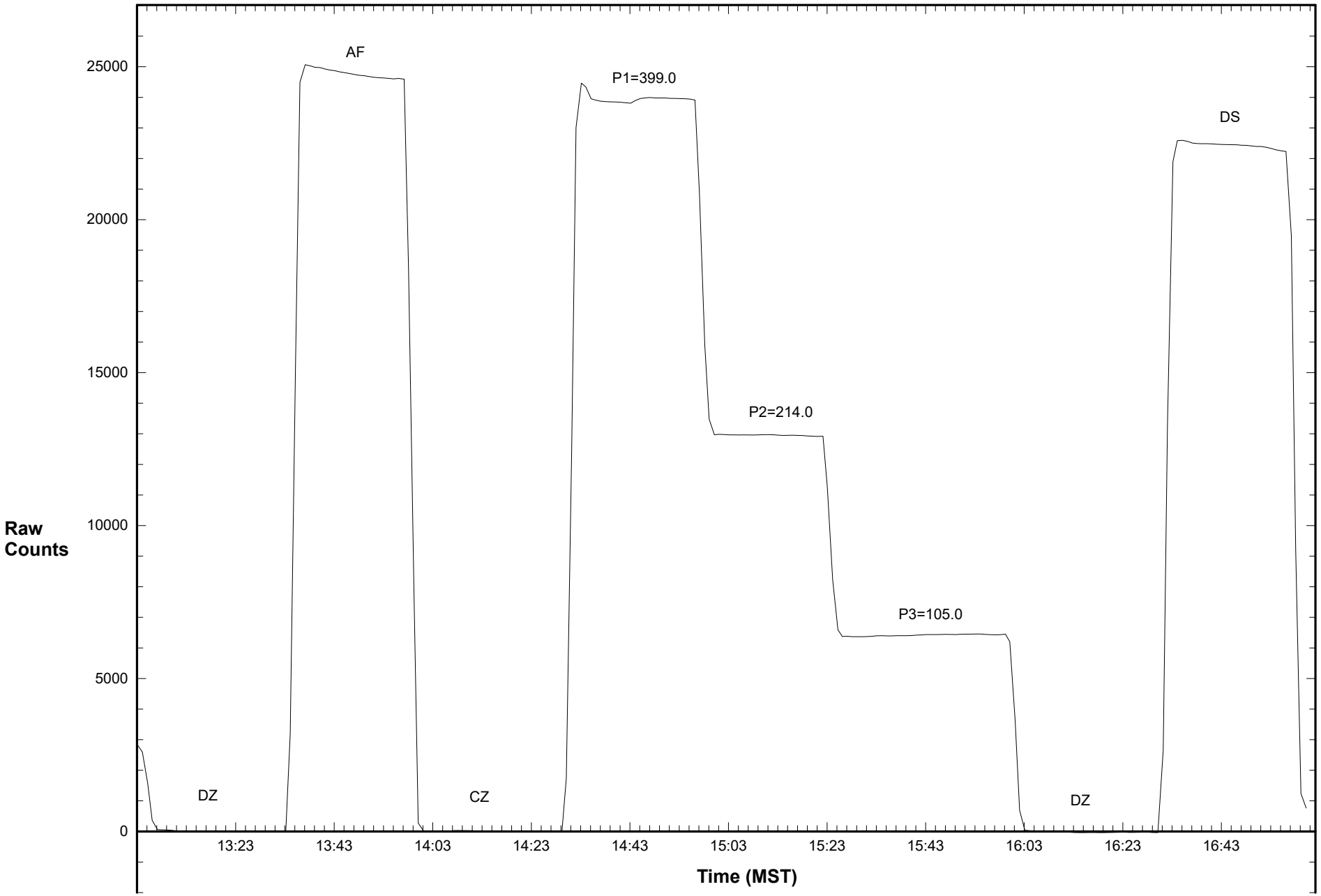
Average Correction Factor:	0.996
Previous Correction Factor:	1.000
Current Correction Factor:	1.002
Percent Change of Correction Factor:	0.2

Comments:

Station 906 O3 March 19, 2016: Linear Regression



Station 906 O3 March 19, 2016: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 906, Hinton

Calibration Date: March 19, 2016

Parameter: SO_2

Instrument: TECO 43i

Serial Number: CM12499009

Previous Calibration Date: February 17, 2016

Calibration: Routine

Calibration Equipment: Sabio 2010 SN 08600312

Barometric Pressure: 26.73" Hg

Calibration Method: Standard Gas Dilution

Cylinder ID: FF13698

Temperature: 20.5° C

Cylinder Concentration: 6.11 ppm SO2

In Service: January 14, 2015

Technician: L. Burns

Instrument Settings	SO_2 bkg ppb	SO_2 Coefficient	Monitoring Range
Previous	25.2	0.984	100 ppb
Current	25.3	1.002	200 ppb

Final Zero: -0.2 ppm

Final Span: 70.5 ppm

As Found Correction Factor: 1.005

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
0.0747	6.130	73.5	22114.6	73.6	0.999
0.0502	6.118	49.7	14922.4	49.6	1.002
0.0251	6.133	24.9	7477.2	24.8	1.001
0.0000	6.000	0.0	48.2	0.1	

Results of Linear Regression

R_c vs C_c	Slope	Intercept	R^2
Previous	298.127800	22.282560	0.999989
Current	300.036200	30.883620	0.999992
C_i vs C_c			
Current	1.000000	-0.000001	0.999993

Average Correction Factor: 1.001

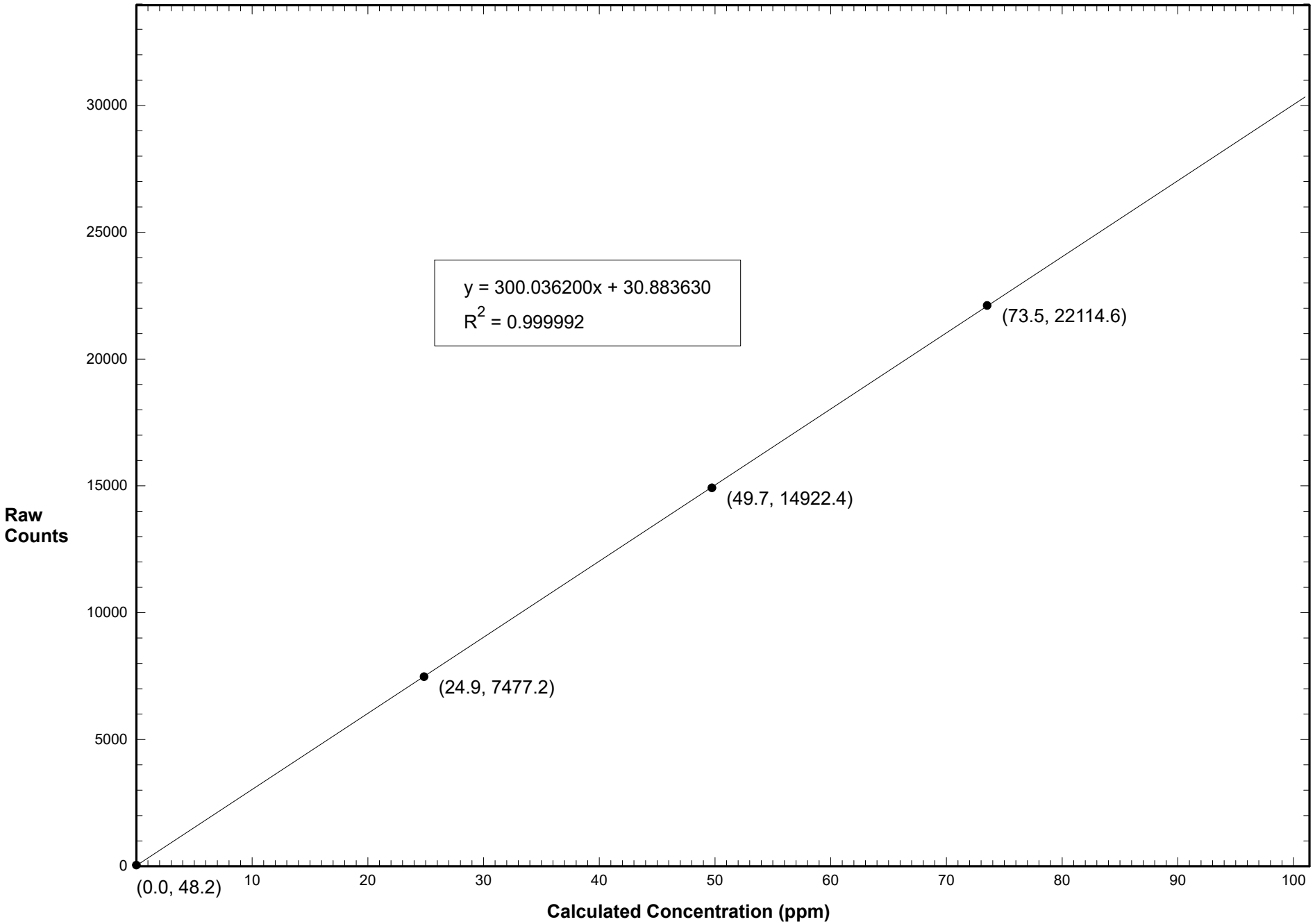
Previous Correction Factor: 0.999

Current Correction Factor: 0.999

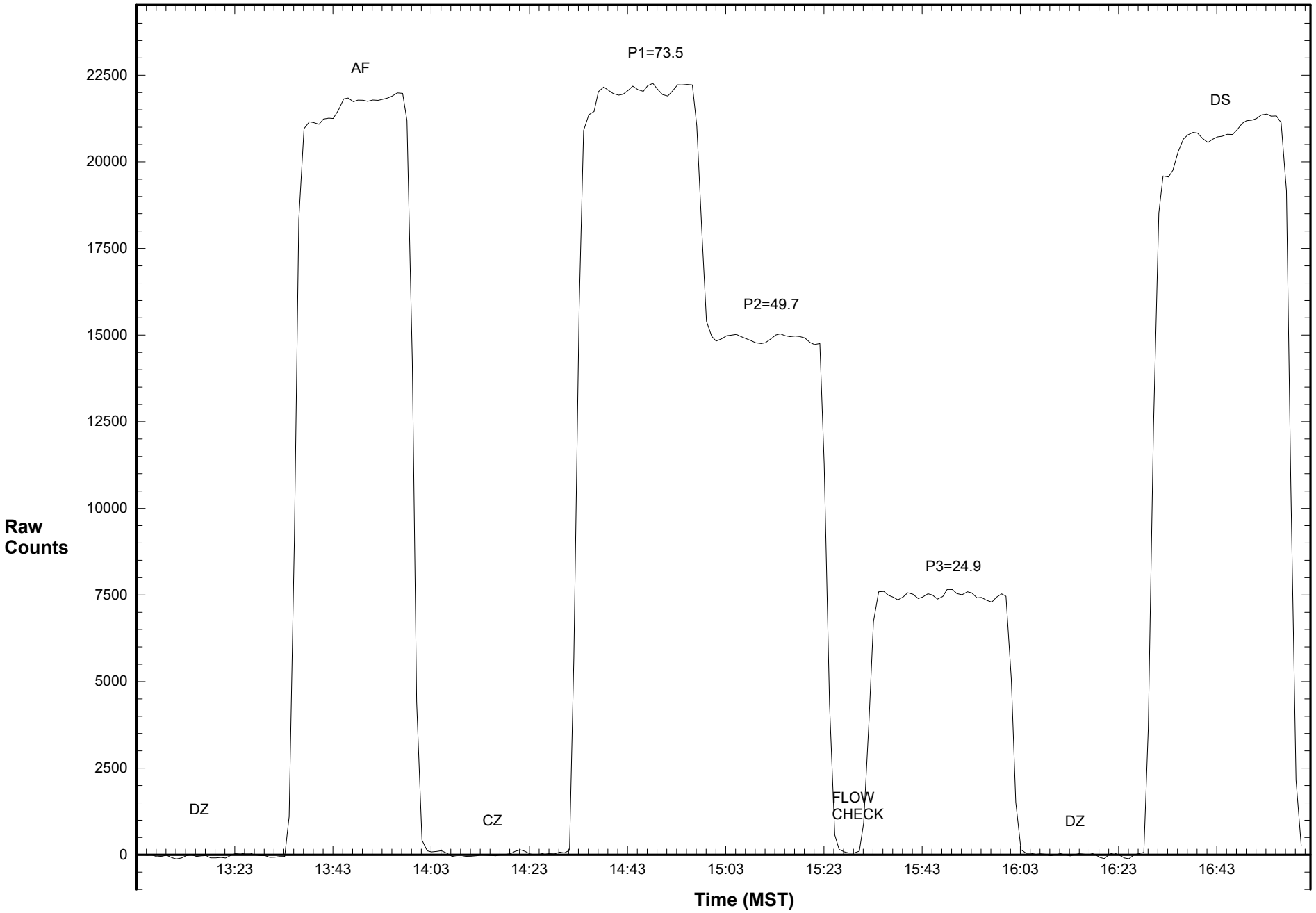
Percent Change of Correction Factor: 0.0

Comments:

Station 906 SO2 March 19, 2016: Linear Regression



Station 906 SO2 March 19, 2016: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 906, Hinton

Calibration Date: March 19, 2016

Parameter: TRS

Instrument: Teco 43C

Serial Number: 43CTL-60324-326

Previous Calibration Date: February 17, 2016

Calibration: Routine

Calibration Equipment: Sabio 2010 SN 08600312

Barometric Pressure: 26.73" Hg

Calibration Method: Standard Gas Dilution

Permeation Device ID: SV14360, 4.89 ppm H2S

Temperature: 20.5° C

Permeation Rate: 0 ng/min

In Service: February 5, 2013

Technician: L. Burns

Instrument Settings	H_2S bkg ppb	H_2S Coefficient	Monitoring Range
Previous	1.84	0.814	100 ppb
Current	1.75	0.792	100 ppb

Final Zero: -0.1 ppb

Final Span: 67.1 ppb

As Found Correction Factor: 0.970

Calibration System Flow Rate (LPM)	Calculated Concentration C_c (ppb)	Raw Count Output R_c	Indicated Concentration C_i (ppb)	Correction Factor C_c/C_i
0.091	71.6	21630.4	71.4	1.002
0.060	47.9	14587.8	48.1	0.995
0.030	24.2	7310.0	24.1	1.004
0.000	0.0	14.8	0.0	

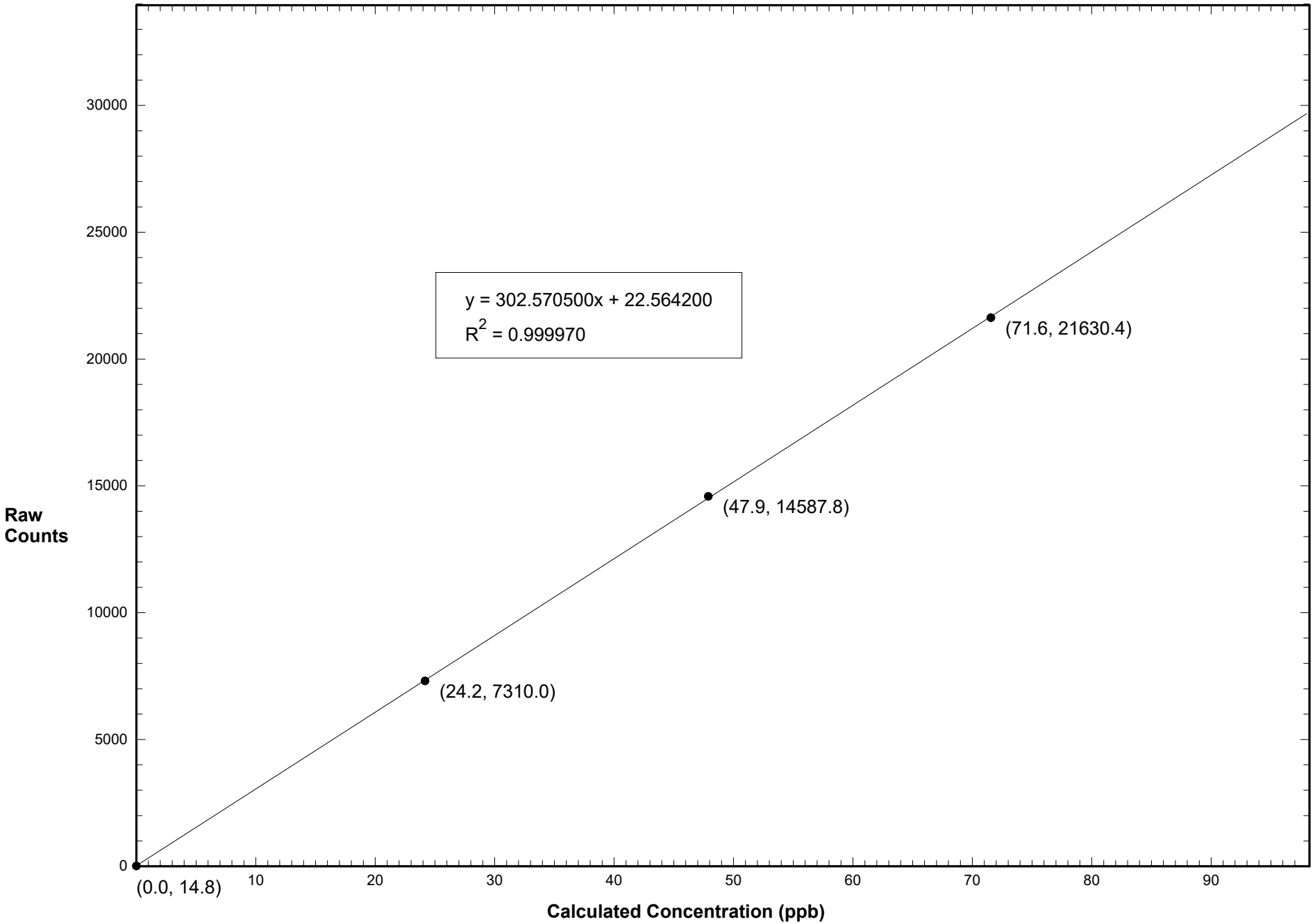
Results of Linear Regression

R_c vs C_c	Slope	Intercept	R^2
Previous	302.059400	0.123831	0.999988
Current	302.570500	22.564190	0.999970
C_i vs C_c			
Current	1.000000	0.000012	0.999969

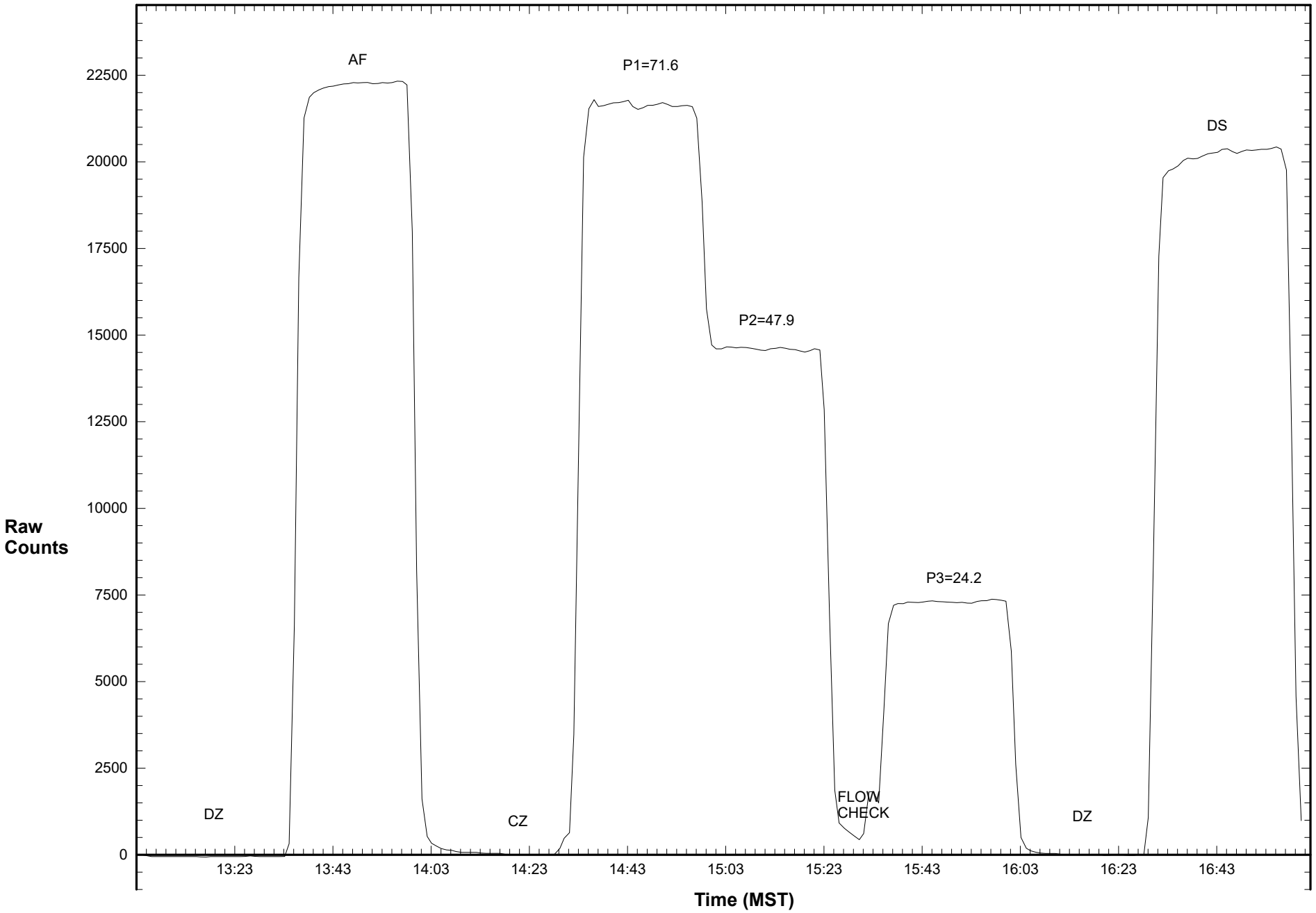
Average Correction Factor:	1.000
Previous Correction Factor:	1.000
Current Correction Factor:	1.002
Percent Change of Correction Factor:	0.2

Comments:

Station 906 TRS March 19, 2016: Linear Regression



Station 906 TRS March 19, 2016: Calibration Graph



WEST CENTRAL AIRSHED SOCIETY

CONTINUOUS AMBIENT AIR QUALITY MONITORING PROGRAM MONTHLY REPORT METEOROLOGICAL DATA

AMS 906
HINTON
MARCH 2016

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

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

Maximum Value: 19.00 C on Mar 31 18:00

Maximum Daily Average: 9.10 C on Mar 31

Minimum Value: -10.8 C on Mar 18 08:00

Minimum Daily Average: -2.78 C on Mar 18

Maximum Diurnal Average: 7.79 C at hour 15

Minimum Diurnal Average: -3.03 C at hour 7

Monthly Average: 1.853 C

Percentiles: P_1 = -9.0 P_{10} = -3.7 Q_1 = -2.2 Median = 1.0 Q_3 = 5.6 P_{90} = 8.9 P_{99} = 12.4

Hours in Service:	744
Hours of Data:	744
Hours of Missing Data:	0
Hours of Calibration:	0
Percent Operational Time:	100.0

Day	Hourly Period Ending At																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1-Mar	-5.1	-6.0	-6.8	-7.3	-7.8	-7.5	-8.3	-9.0	-8.3	-5.5	-1.7	1.6	4.2	5.4	5.5	5.0	4.7	3.9	2.6	1.4	0.9	0.7	0.4	-0.5	-1.56	5.49
2-Mar	-1.3	-1.6	-1.6	-1.7	-1.9	-2.1	-2.0	-1.9	-1.9	-1.2	-0.4	0.2	0.9	1.3	2.1	3.1	2.9	2.1	0.7	0.3	-0.3	-1.1	-1.7	-2.1	-0.39	3.11
3-Mar	-2.0	-2.0	-1.9	-1.9	-1.6	-1.6	-1.7	-1.9	-1.7	-1.0	-0.3	1.2	4.2	4.2	4.8	5.6	5.0	4.0	3.0	1.2	-0.3	-1.8	-2.5	-3.0	0.34	5.58
4-Mar	-3.6	-3.5	-3.3	-3.6	-4.0	-4.3	-4.2	-3.9	-3.7	-3.2	-1.9	-0.2	2.8	10.3	11.3	10.6	11.5	10.0	8.6	7.3	4.2	-0.2	-1.2	-1.7	1.42	11.48
5-Mar	1.5	4.9	5.4	2.8	-0.8	-1.5	-2.2	-2.6	-2.3	-1.1	2.1	5.4	7.9	10.9	11.7	11.7	10.8	8.7	6.3	3.9	1.3	0.1	-1.4	-2.4	3.39	11.73
6-Mar	-2.7	-2.9	-2.5	-2.7	-3.0	-3.4	-3.4	-3.2	-2.4	-0.6	0.6	2.2	3.3	3.3	2.5	2.3	2.9	2.1	1.2	0.7	0.1	-0.8	-1.7	-1.7	-0.42	3.29
7-Mar	-1.6	-2.1	-2.5	-2.9	-3.0	-3.0	-3.2	-3.6	-3.7	-3.0	-0.3	4.5	9.0	9.0	10.6	10.7	9.1	8.3	7.5	5.3	4.2	2.3	0.5	-0.9	2.14	10.75
8-Mar	-2.1	-2.6	-3.1	-3.5	-3.5	-3.5	-3.5	-4.2	-4.4	-0.8	4.8	7.1	7.9	9.1	8.2	8.9	8.6	7.4	5.6	4.3	2.2	2.1	1.9	1.1	2.00	9.11
9-Mar	-0.1	-2.2	-3.1	-3.4	-3.6	-4.4	-5.0	-5.5	-3.4	1.7	4.9	5.8	6.6	6.7	7.6	7.8	7.5	6.2	3.9	1.9	-0.3	-1.7	-2.1	-2.2	0.98	7.79
10-Mar	-2.2	-1.9	-2.1	-2.2	-2.5	-3.0	-3.4	-3.6	-1.7	1.4	4.4	7.9	10.9	11.5	11.7	10.1	9.1	8.3	8.1	7.8	7.5	7.2	6.5	5.7	3.98	11.70
11-Mar	5.4	4.8	4.7	4.0	3.3	3.8	1.9	1.9	4.4	5.6	6.8	7.7	8.4	9.3	8.7	8.6	8.2	8.0	6.5	3.8	2.3	0.8	-1.2	-2.2	4.81	9.28
12-Mar	-2.6	-3.3	-3.9	-4.5	-5.0	-5.5	-5.8	-6.2	-3.8	-0.4	4.1	8.6	11.2	12.0	13.7	13.5	12.6	10.4	9.5	7.5	4.9	5.2	4.0	3.6	3.32	13.66
13-Mar	1.4	0.8	0.3	-0.3	-1.0	-1.6	-1.9	-2.4	-1.6	0.5	4.4	6.2	7.1	7.6	8.1	7.8	8.2	7.6	4.7	3.2	-0.5	-2.6	-3.1	-3.0	2.08	8.25
14-Mar	-3.4	-3.7	-3.7	-3.3	-3.2	-3.1	-3.3	-3.6	-2.9	-1.2	1.5	3.3	4.9	5.8	5.1	4.4	3.8	3.1	2.2	0.7	-0.9	-1.6	-1.5	-1.5	-0.09	5.78
15-Mar	-1.6	-1.8	-1.8	-2.2	-2.3	-3.2	-2.6	-2.7	-2.4	-1.1	1.9	3.0	5.2	4.8	5.0	5.5	5.2	4.4	4.3	2.2	-0.1	-2.2	-3.0	-4.0	0.44	5.51
16-Mar	-4.7	-6.0	-6.7	-7.1	-7.3	-7.8	-7.8	-5.8	-4.0	-1.0	2.2	3.2	3.1	3.4	3.3	3.1	1.9	2.0	0.7	0.2	-0.9	-1.9	-1.9	-2.4	-1.76	3.42
17-Mar	-2.3	-2.4	-2.2	-2.1	-2.6	-2.7	-2.7	-2.7	-2.1	-1.6	-1.1	0.2	1.5	2.5	3.0	2.6	2.2	1.8	0.2	-1.9	-3.3	-4.3	-5.1	-6.5	-1.32	2.97
18-Mar	-7.4	-8.4	-9.0	-9.7	-10.1	-10.6	-10.8	-10.8	-9.0	-5.0	-2.1	0.6	2.5	4.3	5.6	6.2	6.6	6.7	4.4	-0.1	-1.2	-2.5	-3.2	-3.9	-2.78	6.69
19-Mar	-4.6	-5.1	-5.6	-6.0	-7.0	-7.7	-8.3	-8.3	-3.8	1.2	4.2	6.2	7.7	9.2	10.5	11.0	11.0	10.5	9.3	6.2	3.1	1.2	-0.4	-1.5	1.38	10.98
20-Mar	-2.2	-2.5	-3.0	-2.7	-2.3	-2.1	-2.4	-2.0	-0.5	1.8	4.1	5.9	7.8	9.9	10.5	10.6	9.8	8.8	7.9	6.5	5.6	4.2	1.9	0.9	3.19	10.59
21-Mar	0.6	0.3	0.1	-0.1	-0.3	-0.8	-1.1	-1.4	-1.3	-1.0	-0.7	-0.5	0.0	0.5	0.4	0.2	-0.1	-0.2	-0.4	-0.8	-0.9	-1.3	-1.9	-2.4	-0.55	0.57
22-Mar	-2.8	-3.1	-3.0	-3.2	-3.4	-3.7	-3.6	-3.5	-2.9	-2.3	-0.4	0.8	2.0	3.2	3.3	2.7	2.3	1.9	0.6	0.3	0.2	0.0	-0.2	-0.3	-0.63	3.25
23-Mar	-0.4	-0.8	-1.6	-2.4	-2.5	-3.0	-3.2	-3.5	-2.7	-0.3	1.4	4.4	5.6	7.1	7.7	7.3	6.9	6.7	6.1	4.5	3.6	2.7	1.5	1.1	1.92	7.69
24-Mar	0.6	0.4	0.3	0.2	0.2	0.4	0.2	0.2	0.3	1.0	1.7	2.0	3.0	3.7	4.0	3.8	2.1	1.5	0.8	0.7	0.6	0.4	0.1	0.3	1.18	3.99
25-Mar	0.1	0.0	-0.4	-0.5	-0.6	-0.8	-0.8	-0.6	-0.1	0.4	1.3	3.4	5.5	7.2	8.4	8.7	8.3	7.9	6.9	4.6	3.1	1.3	-0.7	-2.5	2.50	8.72
26-Mar	-3.0	-3.5	-4.0	-4.0	-4.3	-5.0	-5.4	-4.6	-1.7	3.3	6.4	8.3	8.8	9.4	9.8	9.9	10.1	9.6	8.3	6.5	4.1	1.6	-0.5	-2.5	2.40	10.08
27-Mar	-3.1	-3.6	-3.9	-4.1	-4.6	-5.1	-5.6	-4.6	-0.3	3.1	6.1	8.4	8.9	9.2	9.6	9.5	9.1	8.6	7.5	6.5	5.5	5.0	4.9	4.3	2.96	9.55
28-Mar	3.7	3.6	3.8	3.6	3.2	3.0	2.2	2.3	3.5	4.4	4.7	4.9	6.6	7.6	8.1	8.4	8.8	8.5	8.6	6.0	4.4	2.6	-0.1	-1.5	4.61	8.76
29-Mar	-2.5	-2.9	-3.4	-3.7	-4.2	-4.1	-4.4	-3.1	1.1	3.4	5.6	7.5	9.1	11.0	12.6	13.2	13.4	13.0	12.1	11.1	9.9	9.1	8.2	7.8	5.00	13.39
30-Mar	7.0	7.1	6.7	5.8	5.0	5.7	5.8	5.6	6.2	7.2	7.8	8.4	10.4	11.3	11.1	10.4	10.2	9.9	9.4	8.5	7.8	7.1	6.9	5.6	7.79	11.32
31-Mar	4.5	3.7	3.2	2.7	2.5	2.5	2.5	3.0	4.0	6.1	8.9	12.4	14.0	15.7	17.1	17.9	18.8	19.0	16.9	13.9	11.4	8.8	5.3	3.4	9.10	19.00
	-1.18	-1.49	-1.77	-2.13	-2.53	-2.77	-3.03	-2.97	-1.72	0.35	2.61	4.53	6.16	7.31	7.79	7.78	7.47	6.79	5.62	4.00	2.53	1.31	0.28	-0.48	Diurnal Average	
	6.99	7.14	6.71	5.76	5.04	5.65	5.85	5.58	6.22	7.17	8.86	12.35	14.02	15.70	17.11	17.94	18.76	19.00	16.90	13.93	11.39	9.12	8.20	7.84	Diurnal Maximum	

WCAS - Hinton

Summary of Hourly Averages

Wind Speed (WS) - kph

March 2016

Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1 Spd	0.5	1.1	1.8	1.9	1.4	2.0	1.0	0.6	0.3	0.7	0.2	1.0	3.3	4.7	6.2	8.1	7.6	7.7	6.9	3.7	4.0	5.1	5.5	5.9	3.07	8.12
Dir	W	ENE	ENE	ENE	ENE	ENE	E	NE	NE	NNE	SE	SSW	ENE	ENE	ESE	ESE	ENE	ENE	ENE	NE	NE	E	ENE	ENE	ENE	ESE
2 Spd	4.6	3.6	4.6	4.2	3.2	2.6	2.3	2.4	3.8	4.8	3.3	3.7	5.2	4.6	7.1	5.3	5.4	4.2	3.8	4.4	4.0	2.2	1.8	2.1	3.83	7.06
Dir	ENE	ENE	ENE	ENE	ENE	ENE	ENE	NE	ENE	ENE	NE	NE	ENE	ENE	ENE	ENE	E	NE	NE	ENE	ENE	E	ENE	NE	ENE	ENE
3 Spd	3.7	2.3	3.6	1.7	2.0	1.7	1.1	0.6	0.1	3.2	4.8	2.2	2.3	7.2	4.4	6.8	3.1	4.0	4.8	3.6	5.7	3.1	3.8	3.5	3.23	7.20
Dir	ENE	ENE	ENE	NE	NE	ENE	ENE	ESE	NNW	NE	ENE	E	E	ENE	NE	ENE	NE	NE	NE	ENE	ENE	NE	ENE	NE	ENE	ENE
4 Spd	4.1	4.3	4.4	5.0	4.8	7.1	5.3	4.1	4.8	5.4	5.4	4.6	1.8	6.7	5.8	2.2	6.2	9.7	1.5	3.4	1.1	4.1	4.9	3.2	1.85	9.70
Dir	ENE	ENE	ENE	ENE	ENE	ENE	ENE	E	ENE	ENE	ENE	ENE	NNE	WSW	WSW	WSW	SW	SW	S	SSE	SE	ENE	ENE	E	E	SW
5 Spd	0.6	3.9	7.2	3.7	5.1	2.7	2.8	2.0	0.2	0.6	0.3	1.1	0.3	13.8	13.4	8.8	7.8	10.9	5.1	3.4	0.7	1.0	2.2	1.3	2.07	13.84
Dir	WNW	WNW	WSW	ENE	ENE	ENE	ENE	ENE	N	E	SW	ENE	ENE	WSW	WSW	WSW	WSW	WSW	WSW	SSE	E	SSW	E	ENE	SW	WSW
6 Spd	4.3	2.6	1.9	2.4	2.3	2.5	1.9	1.4	1.6	1.8	0.7	3.8	5.1	4.8	6.2	6.7	5.8	8.2	4.8	4.9	3.0	1.2	2.1	1.2	3.11	8.18
Dir	ENE	ENE	E	ENE	ENE	E	ENE	ENE	E	NE	NNW	ENE	E	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ESE	SW	E	ENE	ENE
7 Spd	0.8	2.6	0.8	3.4	4.0	4.1	2.7	3.4	2.2	2.2	2.3	3.0	4.6	4.9	4.4	4.3	5.9	3.8	3.6	1.3	2.4	1.8	0.7	0.3	0.60	5.89
Dir	ESE	SW	WSW	E	E	E	ESE	SE	SE	ESE	ENE	ENE	WSW	WSW	WSW	WSW	WSW	WSW	SW	E	ENE	ENE	NNE	NE	S	WSW
8 Spd	0.6	0.5	0.5	0.7	0.5	1.2	1.4	0.3	0.1	1.4	4.0	8.6	9.7	6.8	5.9	5.8	7.3	8.5	4.0	4.1	0.9	2.2	2.7	3.3	2.66	9.67
Dir	NE	E	NE	ESE	S	SW	SW	ENE	N	WNW	WSW	SW	SW	SW	ENE	SW	SW	SW	SW	SW	SW	WSW	SW	SW	SW	SW
9 Spd	1.5	0.7	0.4	1.3	0.1	0.2	0.4	0.2	0.2	1.4	8.1	10.7	9.4	12.2	7.0	4.7	4.4	2.9	2.4	2.3	1.6	0.9	1.0	1.6	2.57	12.22
Dir	W	WNW	ESE	SSE	ESE	WNW	E	NE	NE	WNW	SW	SW	SW	SW	WSW	W	W	W	WSW	WSW	SSW	ENE	ENE	ENE	WSW	SW
10 Spd	2.1	0.4	1.3	1.1	1.5	3.0	1.8	2.5	4.5	6.6	7.1	4.3	5.0	9.7	9.3	7.1	8.1	9.2	13.3	13.4	11.2	11.2	9.2	4.7	3.05	13.45
Dir	E	NNW	NE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	E	WSW	WSW	WSW	W	WNW	WSW	WSW	SW	SW	SW	SW	WSW	WSW	SW
11 Spd	6.8	6.0	7.4	5.1	3.4	5.2	2.3	3.0	3.2	11.3	12.3	9.0	9.7	6.6	4.6	3.4	2.9	1.7	1.9	1.1	1.0	0.9	0.7	0.3	4.18	12.28
Dir	WSW	WSW	SW	WSW	WSW	WSW	WSW	W	W	SW	SW	WSW	WSW	WSW	W	W	WSW	WSW	E	E	ESE	SW	S	W	WSW	SW
12 Spd	0.7	0.4	0.5	0.9	0.6	0.0	0.5	0.4	0.5	0.3	0.8	2.0	2.7	2.7	0.8	0.9	4.9	5.2	4.1	2.9	0.9	5.2	1.3	4.4	0.37	5.25
Dir	WSW	W	E	E	ENE	SSE	SW	WSW	N	WNW	W	E	WSW	SSE	ESE	NNE	ESE	E	ESE	SSE	ENE	W	NW	NNW	ESE	E
13 Spd	4.2	3.7	1.6	1.4	0.7	1.2	0.7	1.0	1.0	2.9	5.8	11.5	10.2	9.4	9.6	9.1	6.8	2.5	1.6	3.3	2.4	0.2	1.3	1.0	3.44	11.55
Dir	NW	SW	WSW	SW	SSE	W	WSW	SE	SE	SW	WSW	SW	WSW	SW	SW	SW	SW	W	WSW	SW	WSW	E	ENE	SSE	SW	SW
14 Spd	0.4	0.3	0.6	0.8	0.5	0.7	0.2	0.1	0.4	3.9	2.9	1.2	2.7	5.9	8.5	7.2	3.7	4.7	3.3	4.5	2.5	1.9	4.0	0.3	2.12	8.45
Dir	WNW	SW	WNW	ENE	NNE	E	NNW	NE	N	ENE	ENE	ENE	E	ENE	ENE	E	ESE	NE	NE	NE	NE	NNE	SSE	N	ENE	ENE
15 Spd	0.1	0.6	1.5	0.7	1.7	0.9	1.8	1.8	1.0	2.0	2.2	4.5	2.4	2.5	2.4	3.6	3.7	3.5	2.9	0.7	4.4	2.2	1.9	2.0	1.69	4.49
Dir	E	SW	WSW	WSW	WSW	WNW	SW	SW	WSW	SW	WSW	SW	WSW	WNW	W	WNW	WNW	NW	NW	N	SSW	SW	SSW	WSW	WSW	SW
16 Spd	2.0	0.5	1.1	2.2	1.5	2.0	1.2	3.1	2.5	3.0	4.8	6.4	6.5	7.3	8.6	7.0	6.0	5.3	5.2	4.8	3.0	4.4	1.9	5.1	3.02	8.60
Dir	SSW	W	WSW	W	W	WSW	W	WSW	WSW	WSW	W	WNW	NW	NW	NNW	NNW	NNW	NNW	NNW	NNW	WNW	SW	WSW	SW	WNW	NNW
17 Spd	2.5	2.8	3.9	3.6	4.4	5.3	5.3	2.1	1.7	1.7	2.4	2.6	4.4	5.2	5.5	4.9	5.3	4.6	3.4	0.8	0.4	1.5	1.6	1.0	1.08	5.46
Dir	SW	SW	SW	WSW	SW	SW	SW	WSW	WSW	WNW	WSW	N	N	N	N	NNE	N	NNE	ENE	E	SSW	SSW	SSW	SSW	WNW	N
18 Spd	0.7	1.1	1.1	0.2	0.5	0.6	1.9	1.7	2.5	1.1	2.1	2.5	2.5	3.4	3.0	2.2	0.4	1.0	1.0	0.9	2.4	0.8	1.0	0.4	1.00	3.44
Dir	SW	SSW	SW	NNW	WNW	W	W	NW	NW	WNW	W	W	WNW	WNW	WNW	NW	SE	N	E	NE	WSW	WNW	ENE	E	WNW	WNW
19 Spd	0.8	1.2	1.5	1.3	0.8	0.2	0.4	0.2	0.2	4.4	5.9	9.7	12.6	12.3	10.1	6.3	6.8	7.7	5.8	2.0	0.9	0.7	0.7	0.3	3.11	12.64
Dir	ENE	ENE	ENE	ENE	ENE	NE	ENE	N	NE	WSW	SW	SW	SW	SW	SW	SW	SW	SW	SSW	S	ENE	E	ENE	N	SW	SW
20 Spd	0.3	0.7	1.3	1.2	0.1	0.6	1.0	0.4	0.2	0.4	0.7	1.4	1.2	5.9	6.7	6.8	5.1	5.2	6.6	4.2	5.6	8.0	7.9	7.4	3.12	8.01
Dir	ENE	E	ENE	ENE	NE	W	NE	WSW	ESE	WSW	NNE	ESE	NE	ENE	NE	NE	NE	ENE	ENE	NE	ENE	ENE	ENE	ENE	ENE	ENE
21 Spd	5.6	5.9	5.8	5.4	5.4	5.8	4.7	5.7	7.0	5.7	4.5	4.6	4.7	4.0	3.4	4.5	5.8	4.4	4.2	2.8	4.4	3.6	6.7	5.3	4.98	6.96
Dir	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	NE	NE	ENE	ENE	ENE	ENE	NE	ENE	ENE	ENE	ENE	ENE	ENE
22 Spd	5.7	5.1	3.9	4.2	5.7	4.3	4.9	4.1	4.1	4.7	3.7	4.0	4.0	2.5	6.0	6.3	3.8	5.7	5.8	2.5	3.6	4.5	1.5	0.8	4.16	6.26
Dir	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	NE	NE	ENE	NE	ENE	ENE	NE	ENE	ENE	ENE	ENE	ENE	NNE	ENE	ENE	ENE

WCAS - Hinton

Summary of Hourly Averages

Wind Speed (WS) - kph

March 2016

Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
23 Spd	1.3	1.1	1.0	0.2	0.4	0.4	1.0	0.9	0.9	0.5	1.2	1.4	4.0	5.0	4.8	5.5	4.6	2.6	2.9	2.1	2.9	3.0	3.0	2.5	1.67	5.47
Dir	SW	WSW	SSW	ESE	ESE	SSW	NW	NNW	N	E	NW	N	ENE	ENE	NE	ENE	ENE	E	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE
24 Spd	2.4	3.1	2.2	2.0	2.6	4.0	2.8	2.2	0.6	2.0	0.6	7.9	1.3	3.9	4.3	2.8	7.0	1.4	0.8	0.1	0.7	1.5	0.1	2.3	0.50	7.89
Dir	ENE	ENE	ENE	ENE	ENE	ENE	NE	ENE	SW	SW	NNE	SW	S	SSW	SW	WSW	SW	WNW	SW	SE	ESE	NE	SSE	SW	SSW	SW
25 Spd	0.7	1.2	1.7	1.9	2.9	1.6	3.4	2.8	6.2	4.0	5.8	4.4	4.6	8.6	5.6	4.0	4.6	5.7	3.4	2.1	4.2	2.7	0.9	1.7	3.31	8.56
Dir	WNW	WNW	W	SW	SW	WSW	WSW	WSW	SW	SW	SW	WSW	WSW	SW	WSW	WSW	W	WNW	W	W	SW	WSW	WSW	WSW	WSW	SW
26 Spd	1.7	0.4	0.2	0.3	0.9	0.2	0.4	0.6	1.1	0.7	7.5	5.5	9.0	12.6	11.0	11.8	10.0	11.1	9.6	6.3	1.5	1.1	0.9	0.3	4.00	12.60
Dir	W	WNW	NW	W	WSW	ESE	E	NE	ENE	ENE	SW	WSW	SW	SW	SW	SW	SW	SW	SW	SW	W	SSW	SSE	WNW	SW	SW
27 Spd	0.1	0.1	0.3	0.4	0.3	0.5	0.3	0.4	0.2	1.8	2.6	9.8	10.5	8.7	7.7	4.1	2.2	1.3	2.5	3.0	3.8	3.3	3.4	4.1	2.34	10.46
Dir	WNW	NNW	E	NE	NE	ENE	E	SE	NNW	W	W	SW	SW	SW	SW	SW	WSW	W	WNW	NW	WNW	WSW	WSW	NW	WSW	SW
28 Spd	3.1	3.6	7.8	5.4	5.6	6.1	6.7	5.4	4.4	3.0	3.6	4.8	3.8	5.7	4.0	5.5	7.5	5.2	4.8	2.1	4.6	4.0	2.1	1.9	4.25	7.84
Dir	WNW	SW	SW	SW	SW	SW	SW	SW	SW	W	NW	WSW	WSW	SW	WNW	SW	SW	SW	WSW	WSW	SW	SW	WSW	WSW	SW	SW
29 Spd	1.6	1.1	0.6	0.8	0.3	0.9	1.4	2.8	6.1	4.3	9.8	12.7	10.8	9.6	6.3	5.4	6.2	8.3	4.4	4.4	2.8	4.1	4.0	3.2	4.50	12.70
Dir	WNW	W	SW	W	NE	SW	W	WSW	WSW	WSW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	WSW	WSW	SW	SW
30 Spd	3.7	4.1	2.8	3.6	2.1	5.4	6.4	2.2	1.6	1.7	1.7	3.1	4.4	5.4	5.0	4.8	2.0	2.4	1.6	0.5	1.3	1.5	3.2	1.4	2.24	6.38
Dir	WSW	WSW	WSW	WSW	WSW	SW	SW	W	W	WSW	WSW	WSW	NW	NW	NNW	NNW	W	N	NE	WNW	W	SW	SW	W	W	SW
31 Spd	1.4	0.3	0.7	0.8	1.4	1.1	0.5	1.1	0.4	1.7	1.0	4.8	7.3	4.4	7.4	5.4	3.9	4.3	6.8	3.5	2.9	2.7	1.1	0.8	1.99	7.45
Dir	E	SE	WSW	W	W	WSW	W	SW	WSW	WNW	WNW	SW	SSW	SSW	SW	WSW	WSW	NW	NW	NW	SW	SW	W	SE	WSW	SW
Spd	0.28	0.09	0.31	0.52	0.55	0.42	0.21	0.14	0.05	0.18	1.33	2.40	2.56	2.94	1.64	1.06	1.56	1.02	0.34	0.21	0.26	0.44	0.36	0.28	Diurnal Average	
Dir	NE	S	S	E	ENE	ESE	SSE	ESE	NE	W	WSW	SW	SW	SW	WSW	WSW	WSW	W	W	SSW	SSE	S	ESE	NE		
Spd	6.83	6.04	7.84	5.44	5.69	7.09	6.72	5.73	6.96	11.29	12.28	12.70	12.64	13.84	13.39	11.81	9.96	11.12	13.34	13.45	11.23	11.25	9.24	7.35	Diurnal Maximum	
Dir	244.80	244.32	218.49	66.12	69.07	74.10	218.51	63.95	65.98	236.42	236.06	222.70	220.58	237.70	238.37	221.38	232.89	224.74	240.60	235.04	236.48	235.89	236.11	68.38		

Maximum Speed Value: 13.8 kph on Mar 5 14:00
Minimum Speed Value: 0.0 kph on Mar 12 06:00
Maximum Daily Speed Average: 4.98 kph on Mar 10
Minimum Daily Speed Average: 0.37 kph on Mar 18
Maximum Diurnal Speed Average: 2.94 kph at hour 14
Minimum Diurnal Speed Average: 0.05 kph at hour 9

Monthly Average Velocity: 0.558 kph 232.66 deg
Speed Percentiles: P_1 = 0.1 P_{10} = 0.5 Q_1 = 1.2 Median = 3.0 Q_3 = 5.0 P_{90} = 7.1 P_{99} = 12.6
All monthly, daily, and diurnal averages have been calculated using vector methods

Hours in Service:	744
Hours of Data:	744
Hours of Missing Data:	0
Percent Operational Time:	100.0

Frequency Distribution

Direction	Speed Range (kph) 0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total
North	26	3	0	0	0	0	29
NorthEast	125	45	0	0	0	0	170
East	111	19	0	0	0	0	130
SouthEast	22	0	0	0	0	0	22
South	19	1	0	0	0	0	20
SouthWest	112	84	16	0	0	0	212
West	104	6	0	0	0	0	110
NorthWest	39	12	0	0	0	0	51
Total	558	170	16	0	0	0	744

WCAS - Hinton
Summary of Hourly Averages

Relative Humidity (RH) - %
March 2016

Maximum Value: 91.74 % on Mar 25 06:00

Maximum Daily Average: 88.01 % on Mar 21

Minimum Value: 11.0 % on Mar 19 15:00

Minimum Daily Average: 36.84 % on Mar 11

Maximum Diurnal Average: 81.85 % at hour 8

Minimum Diurnal Average: 37.40 % at hour 16

Monthly Average: 61.317 %

Percentiles: P_1 = 17.2 P_{10} = 24.4 Q_1 = 41.2 Median = 66.6 Q_3 = 82.3 P_{90} = 89.4 P_{99} = 91.5

Hours in Service:	744
Hours of Data:	744
Hours of Missing Data:	0
Hours of Calibration:	0
Percent Operational Time:	100.0

Day	Hourly Period Ending At																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1-Mar	74.8	75.9	76.8	75.8	76.9	74.4	76.7	80.1	80.8	71.3	59.2	44.1	32.5	24.9	22.9	23.3	25.7	28.6	37.1	45.6	46.9	47.4	50.0	68.0	54.98	80.75
2-Mar	81.7	87.2	88.5	89.0	89.2	89.4	89.4	89.5	89.6	89.0	84.4	81.3	77.0	77.8	74.9	71.1	69.5	73.2	79.8	82.1	84.9	86.6	88.2	89.2	83.43	89.60
3-Mar	90.1	90.5	90.6	90.3	90.3	90.1	89.9	90.0	89.9	88.4	83.0	74.1	62.2	63.3	63.9	59.1	62.5	69.1	72.9	78.5	82.3	84.9	85.7	86.6	80.34	90.58
4-Mar	87.7	88.6	89.6	90.7	90.8	90.7	90.7	90.5	90.4	90.0	83.8	75.3	65.4	26.3	22.6	22.2	20.2	22.4	25.9	30.6	44.5	69.9	75.8	78.2	65.11	90.84
5-Mar	65.0	54.0	53.2	59.1	71.1	73.8	76.9	78.3	79.4	75.9	65.1	55.0	50.6	33.0	26.4	24.3	26.1	34.5	45.9	54.7	63.3	68.1	73.3	77.1	57.67	79.42
6-Mar	77.8	78.2	78.5	79.6	81.1	82.3	83.4	83.7	82.1	76.6	71.7	62.9	58.7	67.9	82.0	81.6	78.5	78.4	82.3	84.8	86.2	87.6	88.9	89.2	79.33	89.19
7-Mar	89.3	90.5	91.5	91.5	91.5	91.5	91.3	91.2	91.1	91.3	91.1	67.9	28.1	24.8	23.9	23.6	24.4	26.1	26.4	35.0	46.8	55.2	62.8	68.8	63.14	91.54
8-Mar	74.3	77.0	78.9	80.6	81.2	82.2	81.5	83.8	86.0	78.2	54.4	34.0	27.3	23.2	33.0	23.3	20.5	20.3	26.4	30.2	39.9	48.0	47.8	51.6	53.49	86.00
9-Mar	57.2	67.9	72.3	73.1	71.9	76.5	79.1	80.6	75.7	52.7	30.5	25.2	23.6	21.9	21.8	21.8	22.4	25.5	30.7	33.3	45.6	55.9	59.5	57.8	49.26	80.62
10-Mar	58.3	59.0	60.9	59.8	61.1	63.6	64.4	66.6	59.5	47.6	39.3	30.2	27.4	23.7	22.2	25.2	27.8	29.1	28.1	28.4	29.6	31.9	36.9	40.6	42.55	66.59
11-Mar	42.3	46.6	46.0	48.0	48.8	43.5	50.7	52.1	40.7	29.8	24.0	23.0	21.4	18.8	19.0	19.7	21.1	20.9	23.9	34.8	41.9	48.4	56.3	62.4	36.84	62.39
12-Mar	64.9	67.6	70.3	73.4	76.5	78.9	81.1	82.3	77.3	60.6	44.8	31.0	26.8	24.5	21.6	21.1	21.7	23.9	25.3	30.8	41.8	58.7	64.0	65.8	51.45	82.29
13-Mar	82.4	85.5	87.7	89.1	89.1	89.8	90.2	90.4	90.2	78.4	49.1	28.9	24.3	21.0	18.8	18.0	17.3	19.6	26.0	25.0	41.2	53.2	60.5	57.1	55.52	90.39
14-Mar	62.1	65.6	68.4	66.1	68.0	67.6	68.2	72.5	73.4	63.0	48.2	40.8	36.3	36.6	40.2	44.8	53.8	63.7	65.6	70.2	78.6	86.3	88.4	89.4	63.24	89.37
15-Mar	89.6	89.9	90.1	90.1	90.3	90.3	90.5	90.3	89.8	85.4	69.8	60.2	56.9	57.7	45.8	40.1	39.9	36.4	35.3	48.5	64.5	73.6	76.7	79.4	70.04	90.49
16-Mar	79.6	82.2	85.6	87.3	87.1	87.4	87.0	83.0	74.2	60.1	34.3	21.7	21.2	22.1	23.2	26.1	29.2	35.3	45.6	48.4	64.9	79.6	75.8	82.0	59.29	87.37
17-Mar	79.4	77.6	80.3	77.5	81.4	82.9	81.7	81.6	80.6	78.5	77.5	64.3	53.2	49.4	45.1	46.7	46.0	44.0	48.7	57.1	65.7	68.3	69.7	74.2	67.14	82.89
18-Mar	75.8	79.9	80.2	81.7	83.2	83.9	83.7	83.5	82.9	69.6	55.0	42.5	35.6	26.2	24.4	22.2	19.6	17.9	22.5	42.2	46.7	54.2	59.9	64.1	55.72	83.88
19-Mar	67.4	69.3	71.5	70.7	74.8	78.2	80.2	81.6	67.7	35.4	22.4	18.6	16.1	13.6	11.0	11.9	12.4	12.3	15.8	23.3	39.2	46.8	54.9	59.3	43.94	81.65
20-Mar	64.5	67.2	70.0	66.6	64.5	67.3	69.1	69.1	64.9	55.7	44.9	32.8	27.7	24.6	24.4	22.9	25.4	28.1	32.5	37.9	41.6	55.2	76.3	83.1	50.69	83.08
21-Mar	84.3	84.2	84.6	85.8	87.1	89.3	90.3	90.7	90.7	90.0	88.8	86.6	84.2	82.6	85.6	87.5	89.1	89.8	90.0	90.1	90.2	90.3	90.4	90.3	88.01	90.71
22-Mar	90.0	89.6	89.2	89.0	88.8	88.7	88.8	88.7	88.2	86.5	81.2	76.5	73.1	68.1	69.7	75.0	79.2	79.9	85.9	88.4	88.8	86.5	86.4	87.3	83.90	90.01
23-Mar	87.8	87.4	88.5	89.3	89.7	89.8	90.0	90.3	90.6	89.3	80.0	63.0	58.9	55.2	54.2	56.6	58.1	57.5	56.6	63.5	67.6	70.7	76.8	78.8	74.59	90.63
24-Mar	80.8	82.5	84.8	86.1	86.8	87.0	88.1	88.9	88.9	86.9	84.5	86.4	82.3	78.1	77.5	78.3	82.0	86.1	88.5	89.5	89.9	90.3	90.6	90.9	85.65	90.88
25-Mar	90.9	91.0	91.3	91.6	91.7	91.7	91.7	91.3	87.1	84.4	80.6	73.7	62.7	44.1	35.0	31.0	27.9	26.6	30.0	37.3	38.8	44.6	57.8	69.9	65.11	91.74
26-Mar	76.2	79.8	82.0	84.0	84.7	85.7	86.7	87.3	79.8	53.5	33.7	26.1	23.2	22.5	21.1	19.5	19.7	20.5	23.8	27.9	37.8	47.3	57.6	66.2	51.94	87.26
27-Mar	72.0	76.0	77.1	78.0	79.9	81.8	83.5	84.2	67.6	50.1	37.3	26.5	24.7	23.9	23.2	24.7	27.9	29.7	37.9	40.5	48.2	53.8	54.9	58.8	52.58	84.22
28-Mar	63.8	65.1	64.5	66.5	69.3	71.5	78.6	79.0	71.3	66.7	64.2	64.4	58.1	51.4	44.9	44.7	43.2	42.9	43.5	52.6	46.2	52.6	76.2	81.1	60.93	81.11
29-Mar	84.9	86.1	85.9	85.6	85.9	85.8	85.4	80.3	53.1	45.2	35.1	29.0	26.9	25.1	24.1	25.0	26.0	25.8	27.1	28.9	33.8	39.1	44.2	45.5	50.58	86.11
30-Mar	48.2	48.3	49.9	54.3	58.8	54.5	53.3	56.7	56.8	54.4	53.1	52.2	44.6	41.3	41.7	45.7	46.7	46.0	46.6	50.9	56.0	60.0	62.1	69.9	52.17	69.92
31-Mar	73.0	74.0	75.2	78.1	80.8	81.7	80.4	79.2	76.9	69.8	59.0	37.0	29.1	25.8	23.6	22.3	20.2	18.4	22.0	28.3	34.0	42.0	57.9	64.4	52.21	81.67
	74.70	76.27	77.55	78.34	79.75	80.38	81.37	81.85	77.97	69.49	59.04	49.52	43.22	38.69	37.67	37.40	38.19	39.75	43.49	49.02	55.72	62.47	67.94	71.83	Diurnal Average	
	90.88	91.03	91.54	91.58	91.68	91.74	91.67	91.30	91.05	91.29	91.07	86.59	84.15	82.61	85.59	87.48	89.06	89.76	89.96	90.09	90.23	90.28	90.56	90.88	Diurnal Maximum	

WCAS - Hinton
Summary of Hourly Standard Deviations

Wind Speed (WS) - kph
March 2016

Maximum Value: 8.53 kph on Mar 10 19:00

Maximum Daily Average: 4.37 kph on Mar 10

Minimum Value: 0.0 kph on Mar 15 01:00

Minimum Daily Average: 1.43 kph on Mar 18

Maximum Diurnal Average: 4.01 kph at hour 14

Minimum Diurnal Average: 1.56 kph at hour 7

Monthly Average: 2.477 kph

Percentiles: P_1 = 0.5 P_{10} = 1.0 Q_1 = 1.4 Median = 2.1 Q_3 = 3.1 P_{90} = 4.5 P_{99} = 6.9

Hours in Service:	744
Hours of Data:	744
Hours of Missing Data:	0
Hours of Calibration:	0
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1-Mar	1.4	1.1	1.4	1.7	1.5	1.6	1.2	0.9	1.1	1.1	1.1	1.2	2.3	2.6	3.3	4.3	3.3	2.9	3.6	2.8	2.9	2.6	3.0	2.9	2.16	4.33
2-Mar	1.9	1.3	1.7	1.6	1.2	1.6	1.9	1.7	1.9	1.9	1.7	1.9	2.1	2.2	2.2	2.5	3.2	2.6	2.3	2.3	1.7	1.0	1.3	1.2	1.87	3.21
3-Mar	1.4	1.4	1.9	1.8	1.6	1.7	1.3	1.0	1.0	1.8	2.2	2.1	2.1	3.3	2.8	3.1	1.8	2.6	2.7	2.9	3.3	2.0	2.8	2.1	2.11	3.28
4-Mar	2.2	2.3	2.8	2.2	2.2	2.9	2.7	3.0	2.5	2.7	3.6	3.1	2.9	5.5	4.7	2.4	6.1	6.5	3.5	2.7	2.2	3.1	3.0	1.5	3.18	6.50
5-Mar	3.1	3.0	5.1	3.5	2.9	2.0	1.7	1.8	0.9	1.1	1.2	1.3	2.1	8.5	8.1	7.0	6.7	7.7	5.8	1.8	1.3	3.0	2.2	1.5	3.46	8.45
6-Mar	1.9	2.1	2.3	1.9	1.8	1.8	1.6	1.6	1.4	1.4	0.9	2.7	3.4	2.9	2.8	2.8	3.3	3.6	3.1	2.8	2.0	1.3	1.7	1.2	2.18	3.57
7-Mar	1.4	2.3	1.4	2.0	2.0	1.8	1.8	1.6	1.5	1.7	1.5	1.3	4.0	4.2	4.1	4.1	5.3	3.8	2.0	2.5	2.5	1.5	1.1	1.1	2.34	5.30
8-Mar	1.4	1.3	1.2	1.2	1.3	1.5	1.1	0.9	0.8	1.2	3.9	4.8	5.1	5.3	3.8	5.4	5.4	4.1	3.4	3.2	1.3	2.1	2.1	2.2	2.67	5.40
9-Mar	1.4	1.1	0.9	1.5	1.1	1.1	0.9	0.7	0.7	1.6	5.3	6.1	5.5	6.4	5.7	3.9	4.2	2.9	2.4	1.4	1.6	1.3	1.6	1.6	2.53	6.37
10-Mar	2.2	1.4	1.4	1.3	1.3	1.5	1.6	1.7	2.8	3.2	3.2	2.9	5.0	6.9	7.6	6.9	6.6	7.7	8.5	7.3	6.9	6.2	6.1	4.5	4.37	8.53
11-Mar	5.7	4.7	4.5	4.5	3.0	4.3	2.1	3.1	3.9	6.7	7.1	6.6	6.9	5.7	3.6	3.1	2.9	2.1	1.5	1.3	1.4	1.4	1.3	1.1	3.68	7.07
12-Mar	1.1	1.1	1.0	1.1	1.0	1.0	1.0	1.1	1.2	1.2	1.5	2.1	2.7	2.5	2.7	1.8	4.3	2.9	2.7	2.5	3.4	5.3	1.7	3.3	2.09	5.30
13-Mar	4.0	2.8	1.5	1.2	1.5	1.2	1.2	1.6	1.4	1.7	4.6	5.9	6.1	5.8	5.8	5.8	5.2	2.8	1.7	1.5	1.6	1.1	2.5	1.5	2.91	6.08
14-Mar	1.1	0.6	0.9	0.8	0.7	0.9	0.2	0.1	0.8	1.6	2.0	1.8	2.3	2.9	3.5	3.0	3.4	2.4	1.7	2.7	2.1	1.7	3.2	0.7	1.71	3.48
15-Mar	0.0	1.4	1.8	1.1	1.4	1.0	1.6	1.5	1.5	2.0	2.4	2.5	1.9	2.2	2.6	2.8	2.9	2.2	2.8	1.6	1.7	1.8	1.8	1.5	1.83	2.87
16-Mar	1.9	1.0	1.0	1.3	1.7	1.6	1.7	2.6	2.1	2.9	3.4	3.5	3.5	4.1	4.6	4.2	3.6	4.0	4.5	3.6	2.6	2.5	2.0	3.7	2.81	4.58
17-Mar	2.2	2.2	3.1	3.2	2.5	2.7	2.8	2.3	1.8	1.6	2.1	4.2	3.2	3.5	3.9	4.0	4.0	3.6	2.3	1.2	1.1	1.7	1.4	1.3	2.58	4.21
18-Mar	1.3	1.2	1.2	0.2	0.7	0.8	0.9	0.8	0.9	1.4	1.7	2.0	2.0	1.9	2.2	2.4	2.5	1.8	1.1	1.3	2.2	1.5	1.2	1.2	1.43	2.48
19-Mar	1.0	1.2	1.6	1.7	1.0	0.8	0.9	0.7	0.8	4.4	3.7	4.7	5.2	5.8	4.9	4.4	4.0	3.6	2.5	1.7	1.6	1.4	1.2	1.1	2.49	5.83
20-Mar	0.9	1.1	1.3	1.3	0.9	1.1	0.9	1.3	0.7	1.1	1.1	1.5	1.8	3.4	4.0	4.0	3.3	2.9	3.0	2.6	2.7	4.0	3.1	2.9	2.12	4.03
21-Mar	2.6	2.8	2.4	2.0	2.7	2.8	2.4	2.4	2.8	2.6	2.3	2.5	2.5	2.1	2.1	2.1	2.3	2.3	2.3	2.1	1.6	2.2	2.8	2.8	2.40	2.84
22-Mar	2.4	2.3	2.0	1.9	2.1	2.3	2.4	2.0	2.0	2.2	1.9	2.0	1.9	2.1	2.7	2.9	2.3	2.6	2.5	1.8	2.5	2.1	1.2	0.9	2.12	2.92
23-Mar	1.4	2.0	1.2	0.5	0.7	1.0	1.1	1.0	1.2	1.1	1.3	1.9	2.3	2.4	2.5	2.8	2.8	2.8	2.6	2.6	2.3	2.1	1.9	2.3	1.82	2.82
24-Mar	1.8	2.0	2.0	1.8	1.9	1.6	2.0	1.7	0.9	1.7	1.6	3.4	3.0	2.4	3.4	2.5	2.8	1.5	1.5	0.8	1.4	1.2	0.9	1.6	1.90	3.44
25-Mar	0.9	1.0	1.7	2.0	2.5	1.6	2.1	2.9	2.8	3.1	3.1	3.1	3.8	4.9	4.7	4.0	3.6	3.4	3.2	2.5	2.2	1.8	1.4	1.4	2.65	4.92
26-Mar	1.2	0.9	0.3	0.6	1.1	0.9	0.7	1.0	1.2	1.1	6.8	4.5	5.8	6.0	6.0	5.8	5.9	6.3	4.8	3.9	1.6	1.2	1.1	0.5	2.88	6.83
27-Mar	0.3	0.2	0.7	0.7	0.6	0.8	0.5	1.0	1.0	1.7	2.1	5.9	5.0	4.1	3.4	2.5	2.3	2.4	2.4	2.4	1.5	2.2	2.5	2.5	2.02	5.92
28-Mar	2.0	3.4	3.8	4.0	3.0	3.4	3.0	3.2	3.2	2.5	2.8	3.5	3.1	3.3	3.6	4.2	5.4	3.6	3.8	2.1	3.1	2.3	1.6	1.6	3.14	5.39
29-Mar	1.2	1.0	0.9	1.0	0.9	1.2	1.1	2.2	3.2	3.5	5.3	4.9	4.8	4.5	3.9	3.9	4.3	3.6	2.9	2.5	1.8	2.7	2.6	2.4	2.76	5.30
30-Mar	2.7	2.9	2.5	2.8	1.9	2.5	3.1	2.1	2.1	2.0	2.0	3.1	3.3	2.9	2.8	3.3	1.8	2.8	2.2	1.6	1.6	1.6	2.0	1.2	2.37	3.31
31-Mar	1.3	0.7	1.2	1.0	1.3	1.4	0.9	1.3	1.0	1.4	2.0	3.0	4.1	3.9	5.0	4.1	3.7	3.2	2.8	2.3	2.0	2.2	1.5	1.3	2.19	5.02
	1.79	1.74	1.82	1.71	1.61	1.68	1.56	1.64	1.64	2.10	2.75	3.22	3.54	4.01	3.97	3.74	3.84	3.46	2.97	2.40	2.18	2.19	2.06	1.83	Diurnal Average	
	5.67	4.70	5.09	4.51	3.00	4.28	3.12	3.25	3.87	6.70	7.07	6.56	6.93	8.45	8.11	6.98	6.67	7.74	8.53	7.26	6.93	6.23	6.14	4.51	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
March 2016

Maximum Value: 108.34 deg on Mar 1 01:00

Maximum Daily Average: 72.57 deg on Mar 12

Minimum Value: 15.9 deg on Mar 13 20:00

Minimum Daily Average: 26.32 deg on Mar 2

Maximum Diurnal Average: 57.26 deg at hour 23

Minimum Diurnal Average: 39.27 deg at hour 14

Monthly Average: 49.567 deg

Percentiles: P_1 = 19.4 P_{10} = 26.2 Q_1 = 33.0 Median = 44.7 Q_3 = 63.5 P_{90} = 82.0 P_{99} = 101.5

Hours in Service:	744
Hours of Data:	744
Hours of Missing Data:	0
Hours of Calibration:	0
Percent Operational Time:	100.0

Day	Hourly Period Ending At																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1-Mar	108.3	76.8	37.9	64.4	50.6	44.3	67.0	88.9	79.1	73.7	94.0	67.1	54.4	38.9	29.7	28.9	22.4	20.3	26.4	43.5	41.8	29.1	32.9	31.8	52.18	108.34
2-Mar	18.6	19.6	21.0	20.8	18.7	24.7	24.1	34.5	26.7	24.4	27.0	29.0	22.5	25.0	20.0	29.9	39.8	39.3	36.7	26.0	20.5	19.4	32.1	31.5	26.32	39.83
3-Mar	17.9	30.8	27.0	48.5	35.7	53.2	56.2	77.3	81.5	32.5	28.9	75.4	74.4	25.2	37.2	21.5	31.8	38.3	37.3	56.3	39.6	37.9	57.5	34.8	44.02	81.47
4-Mar	27.2	33.6	38.3	29.7	30.1	22.9	32.3	60.2	27.1	33.9	48.0	46.2	70.0	44.6	49.7	59.4	60.6	40.8	92.4	58.7	82.0	44.1	38.6	33.6	46.00	92.44
5-Mar	92.4	43.2	36.8	81.0	34.7	51.2	44.9	73.4	99.5	72.5	96.6	64.5	90.7	35.0	34.5	45.5	50.1	38.0	64.7	40.7	86.8	102.1	73.4	81.2	63.89	102.13
6-Mar	24.5	65.0	75.7	50.0	51.8	45.5	58.8	62.5	38.1	33.9	49.7	29.5	43.6	39.0	28.7	25.4	35.1	25.7	38.9	32.0	36.9	67.8	58.4	63.9	45.03	75.73
7-Mar	81.0	46.0	76.5	36.0	27.5	27.9	37.0	34.5	51.3	51.5	33.4	37.6	54.7	49.2	51.2	51.1	51.6	55.4	29.0	86.2	70.8	40.2	68.4	91.4	51.64	91.42
8-Mar	87.9	80.6	88.7	80.7	95.4	56.8	36.9	93.3	85.9	65.7	46.2	33.8	36.2	52.8	62.6	56.0	45.0	24.5	42.2	43.8	73.2	39.6	46.5	32.8	58.63	95.37
9-Mar	41.7	78.2	73.2	61.3	97.9	97.3	81.0	81.0	77.3	54.9	33.7	31.8	34.5	28.4	48.4	48.9	49.5	57.3	46.6	32.7	78.5	81.4	76.0	79.6	61.30	97.92
10-Mar	64.2	87.8	46.4	51.3	30.6	25.4	38.3	38.5	26.2	27.5	29.7	39.0	58.3	43.1	47.1	52.5	46.5	48.6	32.1	27.4	35.0	30.8	35.5	50.2	42.17	87.84
11-Mar	44.7	46.0	32.5	41.3	37.8	43.5	41.0	50.1	48.8	33.9	31.6	41.1	40.4	48.1	45.1	46.0	51.9	53.7	38.7	57.7	70.1	69.6	93.8	91.2	49.94	93.83
12-Mar	77.7	92.8	93.6	58.7	69.1	94.4	77.3	82.3	94.2	91.8	95.3	62.7	58.4	75.7	108.3	77.5	38.5	39.1	38.2	76.4	91.9	51.2	65.3	31.4	72.57	108.33
13-Mar	69.6	43.9	34.8	51.3	97.8	60.5	68.4	69.5	73.6	31.5	40.7	28.5	35.4	36.0	35.5	43.4	40.0	59.8	42.8	15.9	34.9	76.7	83.4	93.5	52.80	97.82
14-Mar	82.5	60.3	69.8	22.2	45.2	59.7	50.4	74.8	45.2	22.9	42.0	92.5	59.4	31.7	23.9	29.2	63.5	37.6	34.0	32.8	45.6	40.6	74.5	80.6	50.87	92.54
15-Mar	75.9	67.8	42.5	48.5	44.3	40.1	56.1	40.5	40.4	49.7	39.1	33.1	46.6	44.1	47.6	40.9	38.3	31.9	50.8	88.0	18.0	62.6	71.5	33.9	48.01	87.97
16-Mar	59.8	102.8	44.1	34.9	54.6	55.8	92.4	57.4	58.5	54.1	46.5	34.2	33.2	30.0	28.9	33.0	32.1	35.6	65.2	51.1	51.2	28.1	62.9	43.1	49.56	102.80
17-Mar	43.4	36.8	34.7	41.2	25.2	21.4	29.6	53.6	45.0	49.1	58.3	104.0	46.8	46.3	44.8	52.0	47.3	50.2	46.9	69.3	87.4	58.9	68.6	83.0	51.81	103.96
18-Mar	78.7	53.8	80.0	42.4	77.0	50.6	27.8	33.4	20.9	76.5	52.4	52.7	53.9	37.1	59.0	65.7	104.8	81.1	80.6	68.5	71.1	92.4	72.7	89.3	63.43	104.76
19-Mar	76.7	37.6	77.3	74.8	60.8	90.3	77.4	78.3	86.0	53.9	35.8	26.8	20.5	24.4	27.3	38.1	34.6	22.2	24.9	84.2	89.6	95.6	61.7	106.7	58.57	106.70
20-Mar	81.6	57.2	54.3	45.5	96.6	66.7	28.6	90.3	76.4	89.0	76.2	80.5	87.2	34.8	36.7	36.9	39.7	31.6	24.8	35.6	27.3	26.7	22.8	21.6	52.85	96.60
21-Mar	26.3	24.7	21.6	19.5	27.8	26.3	30.0	24.5	22.6	25.4	31.3	33.1	31.7	33.8	32.9	26.4	22.6	29.2	29.7	38.5	20.6	29.3	24.1	31.1	27.62	38.47
22-Mar	25.0	26.7	28.0	24.9	22.5	33.8	31.3	28.6	28.3	29.2	32.8	35.8	33.8	63.1	28.3	31.4	39.0	27.3	26.2	34.6	34.3	23.7	28.4	43.0	31.67	63.07
23-Mar	53.2	63.8	59.6	72.7	63.0	90.0	27.8	40.5	66.6	84.7	74.3	84.3	38.4	34.5	38.4	32.7	36.1	84.6	71.2	78.3	63.5	43.6	48.8	56.4	58.63	89.95
24-Mar	51.8	38.2	48.8	53.1	38.8	24.5	45.0	47.5	52.2	55.9	76.8	24.9	91.6	51.3	44.4	43.3	22.8	37.9	88.3	97.5	70.6	38.1	88.1	25.8	52.40	97.54
25-Mar	30.5	32.9	44.1	37.7	38.4	29.9	31.0	35.7	25.6	31.0	28.6	46.4	47.8	36.4	50.7	57.9	48.1	31.2	51.5	56.2	23.6	25.2	84.2	40.8	40.22	84.21
26-Mar	33.1	90.8	66.8	68.4	51.1	90.0	81.3	71.7	41.3	71.7	61.4	48.3	36.6	31.3	33.0	24.7	33.7	26.9	28.2	31.1	47.7	63.1	50.6	53.0	51.49	90.77
27-Mar	78.1	72.1	59.9	60.0	75.4	63.1	59.7	82.1	91.0	49.0	53.3	37.3	28.2	30.5	27.2	46.1	54.6	83.4	41.0	44.4	19.9	41.6	48.4	35.0	53.39	91.00
28-Mar	33.9	47.0	26.2	40.8	31.0	32.0	23.3	31.2	45.9	49.6	48.9	43.1	53.0	38.6	52.5	40.6	42.2	40.5	43.5	57.9	35.8	41.8	47.6	45.1	41.33	57.88
29-Mar	28.9	34.7	44.9	42.3	70.1	68.0	22.0	32.4	32.6	45.4	27.2	19.3	23.8	24.0	39.1	43.6	41.7	21.7	29.2	22.7	32.3	39.2	43.2	48.2	36.52	70.10
30-Mar	42.0	33.2	44.6	37.4	44.4	26.0	24.2	44.0	46.8	49.9	49.6	44.9	46.8	27.9	36.8	38.6	51.1	66.0	66.7	97.3	51.6	53.0	31.0	37.4	45.46	97.32
31-Mar	72.3	98.7	67.2	81.9	31.9	50.0	73.0	52.7	71.5	52.7	77.9	40.7	34.6	56.9	44.2	49.3	49.5	59.3	20.3	17.9	33.8	46.3	84.0	83.6	56.26	98.66
	55.79	55.59	51.52	49.13	50.83	50.51	47.56	56.93	55.04	50.56	50.56	47.36	47.99	39.27	41.73	42.45	44.02	43.20	44.80	51.71	51.16	49.67	57.26	54.98	Diurnal Average	
	108.34	102.80	93.63	81.89	97.92	97.28	92.40	93.30	99.52	91.83	96.58	103.96	91.59	75.67	108.33	77.46	104.76	84.65	92.44	97.54	91.85	102.13	93.83	106.70	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 2016