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

AIR QUALITY MONITORING
June 2015
Monthly Report

Prepared by:

West Central Airshed Society
Drayton Valley, Alberta

West Central
Airshed Society

July 15th, 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 June 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 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 were no readings occurring in June 2015 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 7.23 ppb, occurring June 28th. There were no readings in June 2015 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 1.69 ppb.

There were nine (9) readings occurring in June 2015 in excess of the one – hour average guidelines and three (3) in excess of the twenty-four hour guidelines as indicated in Air Monitoring Directive Section III.A.3. (a) for $PM_{2.5}$. The maximum one-hour average reading was 260.66 $\mu g/m^3$, occurring June 7th. It is believed these exceedences were due to forest fire activity.

2. Operational times less than 90 percent:

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

3. Monitoring Notes:

AMS 906 (Hinton)

All analyzers and meteorological equipment returned uptimes of 99.4 percent due to power outage.

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	June

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	99.4	n/a	n/a	n/a	n/a
TRS	906	99.4	0.007	0	0.002	0
$PM_{2.5}$	906	99.4	260.7 $\mu g/m^3$	9	52.82 $\mu g/m^3$	3

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
JUNE 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 **West Central Airshed Society**

Continuous air quality/meteorlogical monitoring measurements

Hinton Pulp / Hinton **Station 906**			**June 2015**									24 Hour Average Max **(ppm)**
							-------	-------	**Percentile**	---------	-------	
Parameter	**Calibration Hours**	**Number of Data**	**Percent Uptime**	**Mean**	**Min**	**Max**	**P10**	**Q1**	**Median**	**Q3**	**P90**	
TRS (ppb)	38	678	99.4	0.8	0.0	7.0	0.1	0.2	0.3	0.9	2.2	0.002
SO_2 (ppb)	38	678	99.4	0.2	0.0	5.3	0.0	0.0	0.0	0.1	0.8	0.001
O_3 (ppb)	38	678	99.4	30.3	2.2	74.7	6.2	14.5	30.9	43.3	54.6	0.046
NO (ppb)	38	678	99.4	1.4	0.0	13.5	0.1	0.2	0.7	1.7	3.9	-
NO_2 (ppb)	38	678	99.4	3.9	0.3	17.4	1.3	2.1	3.2	5.0	7.5	0.006
NO_x (ppb)	38	678	99.4	5.3	0.2	26.9	1.5	2.6	4.0	6.7	11.1	-
Particulate Matter 2.5 microns (μ/m^3)	1	715	99.4	14.4	0.0	260.7	2.9	5.6	10.0	17.1	26.6	52.82 ug/m3
Wind Speed (kph)	0	716	99.4	2.7	0.0	13.7	0.5	0.9	2.1	3.7	5.7	-
Temperature (^oC)	0	716	99.4	14.9	2.1	32.1	7.2	9.5	14.4	19.8	24.0	-
Relative Humidity (%)	0	716	99.4	57.2	10.3	91.7	21.2	33.2	60.5	81.3	88.3	-
Std Dev Wind Direction (deg)	0	716	99.4	58.2	16.6	114.5	33.5	41.8	54.7	73.8	89.7	-
Std Dev Wind Speed (kph)	0	716	99.4	2.3	0.3	7.1	1.0	1.4	2.1	3.0	3.9	-

WCAS - Hinton
Summary of Hourly Averages

Total Reduced Sulphur (TRS) - ppb
June 2015

Maximum Value: 7.23 ppb on Jun 28 07:00

Maximum Daily Average: 1.69 ppb on Jun 16

Minimum Value: 0 ppb on Jun 8 20:00

Minimum Daily Average: 0.16 ppb on Jun 17

Maximum Diurnal Average: 2.17 ppb at hour 7

Minimum Diurnal Average: 0.22 ppb at hour 18

Monthly Average: 0.771 ppb

Percentiles: P_1 = 0.1 P_{10} = 0.1 Q_1 = 0.2 Median = 0.3 Q_3 = 0.9 P_{90} = 2.2 P_{99} = 5.6

Hours in Service:	720
Hours of Data:	678
Hours of Missing Data:	42
Hours of Calibration:	38
Percent Operational Time:	99.4

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-Jun	0	0	2	Z	2	2	3	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.78	5.62
2-Jun	0	0	0	Z	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.19	0.25
3-Jun	0	0	0	Z	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.32	1.21
4-Jun	0	0	0	Z	0	1	1	2	2	1	2	1	0	0	0	0	0	0	0	1	0	0	1	0	0.58	1.70
5-Jun	1	0	0	Z	1	3	1	1	1	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0.54	2.57
6-Jun	0	1	2	Z	1	0	0	1	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.65	3.55
7-Jun	0	0	0	Z	3	3	1	3	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.69	2.79
8-Jun	0	2	6	Z	1	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.67	5.67
9-Jun	0	0	0	Z	1	1	2	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.54	3.16
10-Jun	0	0	0	Z	0	1	3	5	2	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0.72	5.25
11-Jun	0	0	0	Z	0	1	3	7	3	2	0	0	1	1	1	0	0	0	0	0	0	0	0	1	0.98	6.78
12-Jun	0	0	2	Z	1	3	1	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	3	0	0.71	2.91
13-Jun	0	0	1	Z	1	2	1	1	0	1	1	1	1	0	0	0	0	0	0	1	3	1	1	1	0.87	2.87
14-Jun	2	1	1	Z	4	1	1	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	0	0	0.77	4.23
15-Jun	0	0	1	Z	0	0	1	1	4	4	3	0	0	0	0	0	0	0	0	0	0	0	0	1	0.79	4.07
16-Jun	6	6	1	Z	3	4	7	2	3	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	1.69	7.04
17-Jun	0	0	0	Z	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.16	0.22
18-Jun	0	0	0	Z	0	0	1	0	2	4	1	0	0	0	0	0	0	0	0	0	0	0	1	2	0.58	4.11
19-Jun	0	0	0	Z	0	0	1	1	3	3	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0.64	2.65
20-Jun	0	1	1	Z	1	5	7	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.96	6.79
21-Jun	0	0	0	Z	2	1	2	3	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.62	3.14
22-Jun	0	1	0	Z	3	2	2	2	1	1	0	0	0	0	0	0	0	0	0	0	0	1	1	2	0.74	2.53
23-Jun	1	1	1	Z	1	3	4	6	3	3	1	0	1	1	C	C	C	C	C	C	C	0	1	2	--	6.50
24-Jun	1	1	0	Z	1	1	2	3	2	1	1	0	0	0	0	0	0	0	0	0	1	1	2	3	0.93	3.43
25-Jun	1	1	0	Z	1	2	2	1	4	1	1	0	0	1	1	0	0	1	0	0	0	3	2	0	1.07	3.76
26-Jun	1	1	1	Z	1	1	1	1	1	1	1	0	0	0	0	0	0	0	1	2	1	0	0	0	0.61	2.02
27-Jun	0	0	0	Z	1	1	2	2	1	1	0	0	0	0	0	0	0	0	2	3	PF	PF	PF	PF	0.72	2.94
28-Jun	RE	1	2	Z	0	4	7	5	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.19	7.23
29-Jun	4	1	1	Z	2	1	1	1	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.77	3.61
30-Jun	0	0	0	Z	1	1	4	1	1	1	1	1	1	1	3	5	1	1	1	1	1	1	1	0	1.17	4.79
	0.75	0.70	0.86	--	1.11	1.55	2.17	2.15	1.74	1.12	0.69	0.36	0.32	0.28	0.33	0.34	0.30	0.22	0.33	0.36	0.36	0.47	0.54	0.54	Diurnal Average	
	5.92	5.70	5.67	--	4.23	5.01	7.23	6.78	4.07	4.11	3.00	1.12	1.27	1.11	2.56	4.79	1.44	0.63	1.53	2.94	2.87	2.96	2.85	3.43	Diurnal Maximum	

Z - zerospan C - Calibration PF - Power Failure RE - Recovery

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
June 2015

Maximum Value: 5.30 ppb on Jun 3 10:00

Maximum Daily Average: 0.88 ppb on Jun 26

Minimum Value: 0.0 ppb on Jun 1 01:00

Minimum Daily Average: 0.00 ppb on Jun 17

Maximum Diurnal Average: 1.01 ppb at hour 10

Minimum Diurnal Average: 0.00 ppb at hour 5

Monthly Average: 0.242 ppb

Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 0.0 Median = 0.0 Q_3 = 0.1 P_{90} = 0.8 P_{99} = 3.4

Hours in Service:	720
Hours of Data:	678
Hours of Missing Data:	42
Hours of Calibration:	38
Percent Operational Time:	99.4

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-Jun	0.0	0.0	0.0	Z	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	0.0	0.0	0.0	0.01	0.12
2-Jun	0.0	0.0	0.1	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.04	0.29
3-Jun	0.0	0.0	0.0	Z	0.0	0.0	0.0	2.6	3.4	5.3	2.4	0.3	0.2	0.1	0.1	0.1	0.2	0.1	0.2	0.1	0.1	0.1	0.0	0.0	0.67	5.30
4-Jun	0.1	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.2	2.3	0.9	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.16	2.34
5-Jun	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.9	1.6	1.0	0.7	2.5	1.0	0.2	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.34	2.51
6-Jun	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.2	1.3	1.8	1.3	1.3	3.1	0.0	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.41	3.11
7-Jun	0.0	0.0	0.0	Z	0.0	0.1	0.0	0.0	1.0	1.2	1.3	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.19	1.27
8-Jun	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	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.03	0.79
9-Jun	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.1	1.0	0.5	1.3	1.2	0.6	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.23	1.25
10-Jun	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.5	0.6	0.3	0.2	0.4	0.3	0.6	0.4	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.15	0.58
11-Jun	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.5	3.1	1.1	2.0	2.1	2.8	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.55	3.13
12-Jun	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.02	0.19
13-Jun	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	0.00	0.03
14-Jun	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.4	0.2	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	0.03	0.36
15-Jun	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.3	0.2	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	0.03	0.26
16-Jun	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.5	0.1	0.3	4.7	1.4	0.1	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.35	4.69
17-Jun	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	0.00	0.00
18-Jun	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.6	1.0	0.3	1.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.20	1.74
19-Jun	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	0.00	0.00
20-Jun	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.5	0.1	0.4	0.2	1.0	1.2	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.20	1.16
21-Jun	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.2	1.2	1.8	0.1	0.0	0.0	0.0	0.4	2.7	0.8	0.0	0.0	0.0	0.0	0.0	0.1	0.32	2.68
22-Jun	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.1	0.6	1.4	0.7	1.6	1.6	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.27	1.62
23-Jun	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	1.2	4.1	0.5	0.6	0.9	C	C	C	C	C	C	C	0.0	0.0	0.0	--	4.06
24-Jun	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.5	0.7	0.3	0.0	0.1	1.0	0.0	0.0	0.1	0.1	0.0	0.0	1.2	0.3	0.0	0.0	0.18	1.21
25-Jun	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.1	1.7	0.1	1.0	0.0	0.4	1.9	0.3	1.6	2.4	1.4	0.0	0.1	0.8	0.3	0.1	0.54	2.45
26-Jun	0.8	0.2	0.2	Z	0.0	0.0	0.1	0.3	0.8	4.2	1.8	1.2	1.9	0.7	0.4	2.2	1.3	0.8	1.0	1.8	0.7	0.0	0.0	0.0	0.88	4.16
27-Jun	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.3	0.7	0.6	0.3	0.5	0.6	0.3	0.3	0.3	0.8	0.5	0.7	PF	PF	PF	PF	0.31	0.76
28-Jun	RE	0.0	0.0	Z	0.0	0.0	0.0	0.4	4.6	3.6	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.0	0.41	4.57
29-Jun	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.1	1.0	0.9	0.5	1.5	1.1	0.9	0.7	0.4	0.6	0.2	0.0	0.0	0.0	0.0	0.0	0.35	1.50
30-Jun	0.0	0.0	0.0	Z	0.0	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	0.00	0.07
	0.03	0.01	0.01	--	0.00	0.00	0.01	0.13	0.55	1.01	0.69	0.73	0.59	0.36	0.37	0.20	0.25	0.21	0.12	0.10	0.08	0.04	0.02	0.01	Diurnal Average	
	0.80	0.19	0.16	--	0.01	0.07	0.10	2.56	4.57	5.30	4.06	4.69	3.11	2.79	2.51	2.18	2.68	2.45	1.42	1.79	1.21	0.77	0.33	0.13	Diurnal Maximum	

Z - zerospan C - Calibration PF - Power Failure RE - Recovery

Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb

WCAS - Hinton
Summary of Hourly Averages

Ozone (O_3) - ppb
June 2015

Maximum Value: 74.70 ppb on Jun 6 17:00

Maximum Daily Average: 46.02 ppb on Jun 10

Minimum Value: 2.2 ppb on Jun 20 05:00

Minimum Daily Average: 13.61 ppb on Jun 30

Maximum Diurnal Average: 46.89 ppb at hour 16

Minimum Diurnal Average: 7.50 ppb at hour 5

Monthly Average: 30.333 ppb

Percentiles: P_1 = 3.0 P_{10} = 6.2 Q_1 = 14.5 Median = 30.9 Q_3 = 43.3 P_{90} = 54.6 P_{99} = 70.5

Hours in Service:	720
Hours of Data:	678
Hours of Missing Data:	42
Hours of Calibration:	38
Percent Operational Time:	99.4

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-Jun	10.7	8.9	9.6	Z	3.5	5.5	10.8	12.0	33.6	39.5	36.7	34.5	31.5	38.2	40.8	41.0	42.1	43.2	41.6	40.2	39.4	37.9	35.2	29.9	28.96	43.19
2-Jun	28.4	29.0	28.4	Z	24.5	21.5	18.7	16.8	16.7	20.0	21.3	23.7	33.4	41.1	43.3	45.6	45.7	42.7	41.1	39.0	34.9	30.7	27.0	23.6	30.32	45.67
3-Jun	24.5	24.9	23.6	Z	7.0	4.5	9.7	21.5	29.3	36.8	36.1	43.0	38.9	47.2	56.2	60.7	64.7	67.8	62.5	60.5	58.7	57.7	43.6	37.3	39.86	67.78
4-Jun	33.3	24.7	16.7	Z	7.1	9.6	6.3	7.9	7.6	15.0	20.0	45.1	49.6	54.1	55.5	50.4	42.1	37.0	38.7	26.6	17.8	9.1	5.0	3.4	25.34	55.54
5-Jun	4.2	3.7	3.3	Z	3.5	4.6	6.6	15.1	28.6	42.0	48.7	49.4	50.3	51.2	52.8	54.7	53.1	47.9	50.0	48.5	45.1	30.2	17.1	12.8	31.45	54.68
6-Jun	11.8	8.5	7.3	Z	3.5	3.8	7.9	24.6	46.0	62.4	67.6	67.9	69.9	71.4	73.3	73.9	74.7	69.8	66.0	61.9	53.0	38.2	26.1	23.8	44.07	74.70
7-Jun	23.0	19.5	16.0	Z	11.6	5.7	8.5	14.7	41.0	51.8	59.8	60.1	55.9	51.3	49.0	45.3	40.7	40.4	41.6	39.1	35.0	19.3	9.5	7.5	32.45	60.13
8-Jun	8.9	7.9	9.2	Z	6.0	5.6	7.5	26.0	37.1	38.9	39.1	37.7	39.1	49.3	52.5	60.9	62.5	65.8	70.7	71.3	69.2	53.3	37.9	26.5	38.39	71.32
9-Jun	24.5	20.2	16.4	Z	5.5	5.3	16.9	25.7	45.3	57.0	60.1	63.7	66.0	67.2	65.4	62.8	64.3	63.5	63.2	60.6	54.6	48.5	43.4	33.7	44.95	67.21
10-Jun	23.4	17.6	17.0	Z	8.7	8.3	14.1	33.0	48.3	54.1	58.1	64.0	68.6	69.5	71.4	67.3	59.8	56.2	63.8	67.4	63.2	51.1	39.4	34.2	46.02	71.45
11-Jun	25.1	22.6	15.0	Z	11.4	8.1	7.9	18.2	41.2	62.0	64.0	65.0	63.1	64.7	67.4	62.1	62.4	65.3	60.7	67.6	55.3	49.3	43.4	39.3	45.27	67.62
12-Jun	26.1	22.7	18.0	Z	16.4	13.1	25.0	37.6	39.7	37.1	39.4	40.2	41.5	43.8	42.4	39.0	35.4	35.3	37.5	38.0	38.9	35.4	29.8	21.0	32.76	43.82
13-Jun	16.1	22.9	24.4	Z	10.2	12.0	9.2	10.9	16.5	25.4	21.3	19.7	22.4	30.0	37.1	45.0	38.0	40.3	38.3	34.2	28.7	21.9	20.2	19.6	24.54	45.04
14-Jun	14.7	18.6	21.0	Z	14.1	19.1	19.5	20.5	30.4	31.4	31.3	41.2	41.3	35.0	35.5	39.4	36.7	33.6	31.2	31.2	24.1	16.7	10.8	9.0	26.35	41.34
15-Jun	6.9	5.6	5.8	Z	3.0	4.9	6.7	7.5	10.5	17.9	35.4	43.1	45.3	47.1	48.2	51.2	50.8	50.5	46.8	46.5	40.4	33.5	32.2	20.7	28.73	51.18
16-Jun	14.5	8.6	6.3	Z	4.4	7.5	9.7	16.8	21.7	23.2	26.5	37.1	47.5	48.2	45.5	47.0	42.3	40.2	31.0	29.6	25.2	30.4	34.3	23.2	26.98	48.18
17-Jun	16.5	15.7	12.9	Z	10.4	17.2	18.1	17.5	12.7	14.0	15.8	14.6	13.5	16.0	15.7	17.9	17.3	17.1	14.5	15.0	15.1	13.6	8.2	8.3	14.67	18.08
18-Jun	8.8	6.7	4.7	Z	3.1	5.9	6.2	14.0	18.7	27.8	39.6	47.4	49.2	51.2	50.8	50.9	50.2	46.6	48.9	44.6	38.0	25.0	25.1	20.0	29.72	51.20
19-Jun	10.7	4.9	6.3	Z	3.1	2.6	4.5	4.9	6.1	12.5	22.3	30.1	24.1	19.8	29.6	35.2	26.2	20.5	23.3	27.0	22.6	11.6	5.5	3.2	15.50	35.22
20-Jun	3.5	3.0	3.4	Z	2.2	3.3	7.1	11.2	36.0	46.1	49.2	50.2	49.8	50.0	47.6	44.6	40.1	41.0	44.2	43.3	33.0	15.5	9.3	4.3	27.73	50.17
21-Jun	4.6	4.4	4.6	Z	5.9	4.5	8.6	19.4	27.7	37.2	44.4	49.0	52.0	49.3	54.4	59.0	59.6	59.2	54.8	53.3	45.4	28.5	39.4	43.7	35.17	59.58
22-Jun	43.3	30.9	28.0	Z	14.0	14.4	20.3	25.0	31.4	38.6	43.6	43.6	44.4	42.2	40.0	39.3	37.1	39.0	38.0	35.1	27.2	17.2	12.3	9.2	31.06	44.42
23-Jun	4.2	4.1	2.6	Z	2.5	3.0	5.1	11.5	16.9	27.1	36.0	40.4	35.9	28.6	C	C	C	C	C	C	C	32.2	26.0	18.1	--	40.36
24-Jun	12.7	11.9	10.1	Z	5.5	3.6	8.8	17.1	20.2	25.4	31.9	35.6	36.1	37.2	32.8	35.6	37.5	38.4	37.9	31.6	34.7	37.2	36.1	37.7	26.77	38.41
25-Jun	27.1	17.8	12.4	Z	5.8	5.1	3.5	7.7	28.9	39.6	44.9	46.9	47.6	45.8	46.3	46.5	44.7	44.1	42.1	41.1	37.9	31.5	32.7	32.1	31.83	47.63
26-Jun	30.6	24.6	11.1	Z	5.9	5.3	13.2	21.5	23.5	30.9	40.4	41.5	43.0	45.8	48.3	49.5	50.7	52.2	51.4	48.4	44.3	30.9	15.6	14.9	32.32	52.20
27-Jun	11.8	10.2	9.5	Z	4.9	4.1	8.7	22.6	34.5	41.5	44.1	42.3	48.7	48.2	44.5	46.6	46.6	45.4	41.8	37.4	PF	PF	PF	PF	31.22	48.69
28-Jun	RE	22.7	17.3	Z	6.1	7.3	14.5	25.6	37.1	39.5	35.5	33.3	32.8	33.3	33.7	33.5	33.6	32.0	33.3	33.2	33.3	27.0	22.0	23.5	27.74	39.50
29-Jun	13.8	8.5	7.5	Z	9.5	7.0	6.2	5.9	15.0	29.7	30.9	33.5	38.2	35.4	38.6	38.9	38.1	35.8	30.8	32.6	31.4	27.9	22.7	20.1	24.27	38.95
30-Jun	15.3	9.7	7.5	Z	5.8	6.8	4.9	4.7	7.0	12.7	11.7	21.4	19.2	17.4	17.6	15.9	13.8	12.6	12.3	16.4	14.2	20.6	21.4	24.0	13.61	24.04
	17.21	14.70	12.53	--	7.50	7.64	10.50	17.25	26.99	34.58	38.51	42.17	43.30	44.31	46.08	46.89	45.20	44.25	43.38	42.11	37.88	30.41	25.22	21.54	Diurnal Average	
	43.31	30.92	28.41	--	24.51	21.53	25.02	37.59	48.32	62.44	67.57	67.90	69.88	71.45	73.32	73.89	74.70	69.83	70.70	71.32	69.24	57.70	43.59	43.72	Diurnal Maximum	

Z - zerospan C - Calibration PF - Power Failure RE - Recovery

Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 82.5 ppb 24-hr -- ppb

WCAS - Hinton
Summary of Hourly Averages

Nitrogen Oxide (NO) - ppb
June 2015

Maximum Value: 13.49 ppb on Jun 20 06:00

Maximum Daily Average: 3.38 ppb on Jun 20

Minimum Value: 0.0 ppb on Jun 5 18:00

Minimum Daily Average: 0.34 ppb on Jun 12

Maximum Diurnal Average: 4.43 ppb at hour 8

Minimum Diurnal Average: 0.34 ppb on Jun 12

Monthly Average: 1.418 ppb

Percentiles: P_1 = 0.0 P_{10} = 0.1 Q_1 = 0.2 Median = 0.7 Q_3 = 1.7 P_{90} = 3.9 P_{99} = 11.5

Hours in Service:	720
Hours of Data:	678
Hours of Missing Data:	42
Hours of Calibration:	38
Percent Operational Time:	99.4

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-Jun	0.1	0.1	0.0	Z	3.3	5.6	4.9	11.5	2.1	0.5	1.4	1.7	1.4	1.2	0.6	0.9	0.9	0.4	0.2	0.3	0.3	0.1	0.0	0.1	1.63	11.53
2-Jun	0.0	0.2	0.0	Z	0.7	0.7	1.4	2.7	3.9	2.5	2.4	2.8	1.5	1.5	1.6	1.7	1.1	1.5	0.9	0.9	0.2	0.9	0.1	0.5	1.30	3.85
3-Jun	0.1	0.5	0.1	Z	3.2	4.9	6.1	3.7	3.8	4.1	2.2	0.5	0.9	1.2	1.5	0.9	1.0	1.1	0.6	0.3	0.0	0.0	0.1	0.0	1.61	6.09
4-Jun	0.0	0.5	0.1	Z	1.2	0.5	2.2	9.3	5.7	5.5	7.6	2.3	0.7	0.5	0.7	0.8	0.2	0.7	1.0	0.4	0.3	0.6	0.9	1.3	1.88	9.26
5-Jun	0.9	0.9	0.5	Z	0.7	2.1	1.6	0.9	1.7	1.3	1.5	1.3	1.6	0.5	0.9	0.2	0.1	0.0	0.0	0.0	0.0	0.2	0.2	1.1	0.79	2.10
6-Jun	0.1	0.2	0.1	Z	7.9	8.7	5.7	5.2	2.9	0.8	0.5	0.5	0.7	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.6	0.5	1.56	8.69
7-Jun	0.0	0.1	0.2	Z	0.3	5.0	4.9	4.5	1.8	0.9	0.6	0.6	0.1	0.1	0.1	0.7	1.6	0.9	0.8	0.4	1.2	1.4	4.9	4.4	1.54	5.05
8-Jun	0.2	2.3	0.1	Z	2.0	12.2	12.9	2.7	1.2	1.4	0.6	1.5	1.0	0.9	1.5	0.5	0.6	0.1	0.0	0.0	0.3	0.1	0.1	0.2	1.85	12.93
9-Jun	0.0	0.3	0.1	Z	6.4	11.1	3.3	7.5	3.9	1.5	1.6	0.9	0.4	0.4	0.4	0.2	0.1	0.0	0.4	0.1	0.9	0.4	0.0	0.0	1.73	11.05
10-Jun	0.1	1.7	0.0	Z	0.8	3.9	5.3	4.2	3.0	1.3	0.5	0.6	0.5	0.5	0.5	0.4	0.2	0.2	0.0	0.2	0.4	0.1	0.0	0.0	1.06	5.28
11-Jun	0.0	0.3	0.5	Z	1.1	4.5	6.0	8.0	3.2	2.5	0.9	0.9	1.0	1.0	0.6	0.3	0.3	0.2	0.5	0.3	0.3	0.1	0.1	0.2	1.43	7.98
12-Jun	0.0	0.1	0.1	Z	0.4	0.5	1.4	1.0	2.0	0.3	0.4	0.0	0.0	0.0	0.0	0.0	0.5	0.9	0.0	0.0	0.0	0.0	0.0	0.1	0.34	1.97
13-Jun	0.1	0.1	0.0	Z	0.3	0.6	1.4	2.2	1.0	0.4	0.5	0.3	1.0	0.2	0.2	0.2	0.2	0.6	0.3	0.3	0.1	0.2	0.1	0.1	0.44	2.18
14-Jun	0.1	0.1	0.1	Z	0.3	0.9	1.8	1.0	1.6	1.1	1.7	0.8	0.8	1.2	0.6	0.5	0.2	0.5	0.3	0.5	0.1	0.1	0.4	0.4	0.65	1.76
15-Jun	0.9	2.0	0.9	Z	6.4	4.4	6.1	11.9	5.6	7.1	2.4	0.5	0.6	0.5	0.4	0.2	0.1	0.2	0.1	1.2	0.3	0.1	0.1	0.1	2.26	11.90
16-Jun	0.1	0.3	2.9	Z	0.7	0.3	1.2	1.0	3.1	2.3	2.1	2.9	1.3	1.8	0.8	1.1	0.5	0.7	0.5	0.3	0.4	0.1	0.1	0.1	1.06	3.10
17-Jun	0.1	0.1	0.1	Z	1.7	1.4	1.4	2.6	2.6	1.9	1.8	2.5	4.6	1.5	2.0	2.5	1.7	1.3	0.4	1.2	0.2	0.5	0.4	0.8	1.46	4.62
18-Jun	0.3	0.4	1.5	Z	6.1	5.7	8.1	1.3	4.4	4.3	1.6	1.0	0.5	0.6	0.9	0.8	1.2	1.1	0.5	0.4	0.1	0.1	0.1	0.3	1.80	8.12
19-Jun	0.4	2.6	0.2	Z	4.5	8.9	1.8	4.9	6.5	4.3	3.2	1.1	2.1	0.9	0.2	1.1	4.6	1.1	0.5	0.6	0.4	1.2	3.6	3.9	2.55	8.87
20-Jun	5.1	4.3	2.3	Z	12.6	13.5	10.3	11.5	3.4	0.3	0.6	0.6	0.9	1.2	0.5	0.1	1.2	0.0	0.0	0.0	2.7	1.5	2.0	3.0	3.38	13.49
21-Jun	2.2	2.0	1.7	Z	1.5	2.8	2.4	3.1	2.8	2.1	1.7	0.3	0.2	0.0	0.1	0.2	0.5	0.2	0.0	0.0	0.0	0.1	0.0	0.1	1.04	3.08
22-Jun	0.0	0.3	0.1	Z	0.2	0.3	0.8	2.5	2.3	1.7	1.0	0.7	1.2	0.3	0.1	1.1	1.5	0.6	0.4	0.5	0.1	0.7	0.6	0.2	0.74	2.47
23-Jun	1.7	2.8	2.6	Z	2.3	4.1	4.2	2.7	0.9	1.7	1.7	1.6	1.2	5.5	C	C	C	C	C	C	C	0.2	0.8	0.1	--	5.54
24-Jun	0.1	0.0	0.2	Z	0.1	2.2	2.3	1.0	2.9	2.3	1.5	1.6	1.7	0.7	0.1	0.9	0.7	0.4	1.3	0.3	0.3	0.0	0.1	0.2	0.91	2.88
25-Jun	1.3	0.7	2.0	Z	2.2	4.0	11.1	8.6	3.1	1.3	0.6	0.7	2.1	0.6	0.7	0.4	0.7	0.5	0.3	0.2	0.1	0.0	0.1	0.1	1.80	11.09
26-Jun	0.4	0.7	1.1	Z	2.6	6.3	4.5	1.5	0.7	1.4	0.7	0.6	0.9	1.5	0.9	0.8	1.0	0.4	0.1	0.2	0.1	1.2	1.4	0.5	1.28	6.30
27-Jun	0.2	0.1	0.2	Z	2.5	7.8	4.4	4.1	0.8	0.6	0.5	0.7	0.4	0.5	0.4	0.6	0.5	1.2	0.2	0.4	PF	PF	PF	PF	1.37	7.79
28-Jun	RE	0.6	0.5	Z	3.3	2.3	2.2	3.4	2.4	1.3	0.5	0.3	0.4	0.6	0.4	0.4	0.4	0.4	0.2	0.1	0.2	0.3	0.6	0.0	0.94	3.36
29-Jun	0.1	0.1	0.3	Z	1.6	2.5	3.4	6.6	5.4	1.9	0.7	0.7	0.9	0.8	0.7	0.6	0.6	0.6	0.2	0.1	0.2	0.1	0.1	0.1	1.22	6.59
30-Jun	0.1	0.1	0.2	Z	1.8	0.5	1.7	1.6	3.5	2.1	1.4	2.1	1.1	0.5	1.5	0.9	0.7	0.3	0.5	1.0	0.2	0.3	0.1	0.1	0.97	3.54
	0.51	0.81	0.62	--	2.61	4.27	4.16	4.43	2.94	2.02	1.49	1.09	1.04	0.89	0.65	0.65	0.79	0.56	0.36	0.35	0.34	0.41	0.61	0.63	Diurnal Average	
	5.12	4.34	2.86	--	12.64	13.49	12.93	11.90	6.47	7.11	7.65	2.95	4.62	5.54	1.99	2.49	4.60	1.53	1.33	1.16	2.67	1.53	4.90	4.38	Diurnal Maximum	

Z - zerospan C - Calibration PF - Power Failure RE - Recovery

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

WCAS - Hinton
Summary of Hourly Averages

Nitrogen Dioxide (NO_2) - ppb
June 2015

Maximum Value: 17.44 ppb on Jun 11 08:00

Maximum Daily Average: 5.93 ppb on Jun 11

Minimum Value: 0.3 ppb on Jun 12 16:00

Minimum Daily Average: 2.05 ppb on Jun 12

Maximum Diurnal Average: 7.12 ppb at hour 8

Minimum Diurnal Average: 2.03 ppb at hour 19

Monthly Average: 3.896 ppb

Percentiles: P_1 = 0.3 P_{10} = 1.3 Q_1 = 2.1 Median = 3.2 Q_3 = 5.0 P_{90} = 7.5 P_{99} = 13.0

Hours in Service:	720
Hours of Data:	678
Hours of Missing Data:	42
Hours of Calibration:	38
Percent Operational Time:	99.4

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-Jun	6.7	4.7	2.2	Z	5.1	5.1	6.5	15.3	4.0	1.6	3.0	2.2	1.9	2.3	2.1	2.4	2.7	1.7	1.3	1.6	2.1	2.3	2.3	6.9	3.74	15.27
2-Jun	4.8	2.6	2.2	Z	4.2	4.5	5.8	6.6	7.0	4.7	5.7	3.9	2.3	2.2	2.8	2.4	2.5	3.6	2.7	3.0	2.8	4.7	3.7	4.5	3.87	6.97
3-Jun	4.1	4.0	3.3	Z	6.6	5.7	6.2	6.2	7.6	9.9	6.0	2.2	2.8	3.0	3.1	3.2	3.3	3.0	2.6	1.7	1.3	1.7	3.7	4.4	4.15	9.86
4-Jun	3.8	5.2	6.8	Z	5.2	4.3	8.4	13.0	10.2	9.6	11.9	5.2	2.8	1.9	1.8	2.1	2.0	2.3	3.0	4.0	4.2	6.5	4.2	3.1	5.30	13.00
5-Jun	2.4	2.3	1.5	Z	1.9	2.0	1.8	1.7	3.4	2.6	2.5	2.5	2.9	1.6	2.8	1.2	1.2	0.8	0.3	0.4	4.1	6.0	7.6	6.5	2.60	7.55
6-Jun	3.2	6.2	3.7	Z	6.1	4.4	4.2	7.8	9.8	3.2	2.3	2.4	2.9	0.3	0.8	0.6	0.4	0.5	0.3	0.3	1.9	9.4	10.5	8.5	3.90	10.49
7-Jun	5.8	5.7	5.0	Z	3.7	7.8	7.1	8.5	5.9	3.7	2.6	2.5	0.7	0.8	1.0	2.7	6.5	4.2	3.0	3.5	4.3	9.4	12.9	11.3	5.14	12.88
8-Jun	4.1	4.7	2.0	Z	4.6	8.5	10.3	4.4	2.5	3.6	2.8	4.0	3.4	1.9	3.8	2.4	2.4	0.6	0.5	0.9	2.9	5.5	7.9	7.6	3.97	10.31
9-Jun	7.5	6.1	7.0	Z	13.1	10.6	6.5	13.7	12.4	4.2	3.3	2.7	1.7	2.0	1.6	2.6	1.3	1.1	2.8	1.7	3.1	4.8	3.7	3.3	5.07	13.67
10-Jun	5.9	7.4	4.3	Z	5.6	6.9	10.5	14.1	12.8	7.1	3.5	3.4	2.5	2.2	2.9	3.1	4.4	4.2	1.2	3.4	3.3	4.5	5.8	5.3	5.39	14.09
11-Jun	5.7	4.7	5.7	Z	6.6	9.8	14.6	17.4	11.2	11.0	4.8	4.2	4.4	5.8	3.2	1.3	2.6	4.0	7.0	2.8	3.4	1.6	1.7	2.9	5.93	17.44
12-Jun	1.4	1.6	2.1	Z	3.6	4.9	6.1	3.5	3.1	1.4	1.5	0.3	0.3	0.4	0.3	0.3	2.3	3.0	0.7	0.5	1.0	1.4	2.8	4.6	2.05	6.05
13-Jun	5.1	1.3	1.0	Z	4.7	5.3	7.3	4.9	2.6	2.1	2.6	1.6	2.2	0.8	1.0	1.2	1.0	3.1	1.5	1.9	0.8	2.4	5.0	3.5	2.73	7.33
14-Jun	2.6	2.0	2.2	Z	2.5	3.7	3.7	3.0	2.2	2.8	3.8	2.0	2.0	2.3	2.5	2.1	1.7	4.7	3.4	3.7	2.7	2.6	3.8	3.6	2.86	4.69
15-Jun	3.9	3.8	5.9	Z	6.7	5.1	3.4	7.8	4.7	6.6	4.3	1.6	1.9	1.3	1.3	1.0	1.2	1.3	1.5	2.3	2.8	2.6	2.4	5.4	3.43	7.81
16-Jun	5.0	5.9	4.5	Z	2.9	1.2	1.9	2.5	5.4	4.5	4.7	5.5	2.6	3.4	2.8	2.3	2.2	3.6	1.8	1.6	2.6	1.6	1.3	1.1	3.08	5.94
17-Jun	1.1	0.8	1.8	Z	2.6	2.7	3.3	4.1	4.2	3.1	3.0	3.7	5.1	2.3	4.0	4.7	4.1	2.6	1.7	2.6	1.5	1.9	2.1	3.3	2.89	5.10
18-Jun	1.6	2.4	3.5	Z	5.0	5.2	4.5	1.5	4.8	6.1	3.2	2.7	1.5	1.5	2.0	1.6	3.8	3.9	1.5	1.8	2.5	4.3	1.4	2.9	3.02	6.06
19-Jun	3.8	6.2	3.1	Z	3.1	3.3	2.5	4.2	6.5	5.7	4.6	2.7	5.4	3.2	1.0	4.3	8.6	3.6	1.6	2.2	2.2	4.2	4.7	5.1	4.00	8.64
20-Jun	5.3	6.0	5.1	Z	4.8	5.4	6.3	9.4	5.1	1.0	1.6	1.3	1.3	2.2	1.2	0.7	2.7	0.4	0.7	0.3	4.0	10.4	11.0	10.8	4.22	11.03
21-Jun	7.5	5.6	5.1	Z	3.8	6.1	6.6	4.8	3.6	3.8	3.0	1.2	1.2	0.6	0.8	1.1	2.9	1.6	0.8	0.7	1.9	4.4	2.0	3.5	3.16	7.51
22-Jun	1.3	3.5	2.7	Z	5.0	2.4	2.9	5.8	4.9	3.9	2.1	2.0	2.6	1.3	0.5	2.6	2.9	1.7	2.2	2.5	1.9	5.4	3.2	3.6	2.91	5.82
23-Jun	4.7	5.1	3.5	Z	2.0	2.3	2.6	3.5	2.0	4.2	4.2	2.4	3.7	11.0	C	C	C	C	C	C	C	2.1	4.7	3.8	--	10.98
24-Jun	2.1	1.6	1.9	Z	1.3	2.1	3.8	2.1	5.0	4.2	3.2	2.3	1.7	1.9	0.6	2.0	1.8	2.0	1.9	2.3	3.6	4.4	5.3	3.8	2.65	5.26
25-Jun	12.2	10.5	11.0	Z	8.1	8.7	11.5	8.2	7.9	4.2	2.1	2.0	2.5	1.9	2.7	2.5	3.4	2.9	2.7	1.1	1.5	4.2	2.5	1.4	5.03	12.20
26-Jun	4.0	5.1	10.0	Z	8.2	7.0	6.4	4.5	1.9	3.2	1.8	1.4	2.1	3.1	2.0	2.2	2.3	1.8	1.2	2.5	2.0	4.4	10.8	7.3	4.14	10.84
27-Jun	6.6	5.0	5.1	Z	6.0	6.5	6.2	8.4	3.4	3.1	3.0	2.9	2.4	2.7	2.8	2.1	2.0	3.6	2.5	4.0	PF	PF	PF	PF	4.12	8.43
28-Jun	RE	6.3	6.0	Z	9.9	8.6	8.2	10.8	9.3	5.6	1.8	1.1	1.2	1.8	1.3	1.3	1.8	2.3	1.9	1.7	2.6	6.0	7.1	3.0	4.53	10.77
29-Jun	5.0	6.2	4.1	Z	8.8	10.6	9.5	12.2	10.1	8.6	3.9	3.3	2.8	2.7	3.7	3.6	4.2	2.6	2.3	2.1	2.4	1.9	2.3	3.5	5.06	12.22
30-Jun	3.7	5.7	3.6	Z	7.5	3.5	6.1	3.5	4.6	4.6	4.3	5.4	5.0	3.5	5.2	4.6	2.8	1.9	4.3	3.4	2.2	3.4	4.8	1.4	4.13	7.55
	4.50	4.60	4.20	--	5.31	5.47	6.16	7.12	5.94	4.66	3.56	2.69	2.54	2.40	2.12	2.21	2.80	2.50	2.03	2.09	2.57	4.27	4.87	4.69	Diurnal Average	
	12.20	10.49	11.02	--	13.10	10.60	14.59	17.44	12.78	10.96	11.92	5.45	5.36	10.98	5.22	4.70	8.64	4.69	6.96	4.01	4.28	10.43	12.88	11.29	Diurnal Maximum	

Z - zerospan C - Calibration PF - Power Failure RE - Recovery

Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 159 ppb 24-hr 106 ppb

WCAS - Hinton
Summary of Hourly Averages

NOx (NO_x) - ppb
June 2015

Maximum Value: 26.88 ppb on Jun 1 08:00

Maximum Daily Average: 7.62 ppb on Jun 20

Minimum Value: 0.2 ppb on Jun 20 20:00

Minimum Daily Average: 2.40 ppb on Jun 12

Maximum Diurnal Average: 11.59 ppb at hour 8

Minimum Diurnal Average: 2.39 ppb at hour 19

Monthly Average: 5.329 ppb

Percentiles: P_1 = 0.3 P_{10} = 1.5 Q_1 = 2.6 Median = 4.0 Q_3 = 6.7 P_{90} = 11.1 P_{99} = 21.2

Hours in Service:	720
Hours of Data:	678
Hours of Missing Data:	42
Hours of Calibration:	38
Percent Operational Time:	99.4

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-Jun	6.7	4.8	2.2	Z	8.4	10.7	11.4	26.9	6.1	2.1	4.4	3.9	3.3	3.6	2.7	3.2	3.6	2.1	1.5	1.9	2.4	2.3	2.3	7.0	5.39	26.88
2-Jun	4.9	2.8	2.2	Z	4.8	5.2	7.2	9.4	10.9	7.3	8.2	6.8	3.8	3.7	4.4	4.1	3.5	5.1	3.6	3.9	2.9	5.6	3.9	5.1	5.19	10.89
3-Jun	4.2	4.5	3.4	Z	9.9	10.7	12.3	10.0	11.5	14.0	8.3	2.7	3.7	4.2	4.6	4.1	4.3	4.1	3.2	2.0	1.4	1.7	3.9	4.5	5.79	14.04
4-Jun	3.9	5.8	6.9	Z	6.5	4.8	10.7	22.4	16.0	15.2	19.6	7.5	3.6	2.4	2.5	2.9	2.2	3.1	4.0	4.4	4.6	7.1	5.2	4.5	7.20	22.35
5-Jun	3.3	3.1	1.9	Z	2.6	4.1	3.5	2.6	5.1	3.9	4.0	3.8	4.5	2.2	3.7	1.4	1.2	0.8	0.3	0.4	4.1	6.3	7.8	7.6	3.40	7.81
6-Jun	3.3	6.4	3.8	Z	14.1	13.1	9.9	13.0	12.7	4.0	2.8	3.0	3.6	0.3	0.8	0.6	0.4	0.4	0.3	0.3	1.8	11.0	11.1	9.0	5.46	14.08
7-Jun	5.8	5.8	5.2	Z	3.9	12.9	12.0	13.1	7.7	4.5	3.1	3.0	0.7	0.9	1.1	3.4	8.1	5.1	3.8	3.8	5.5	10.8	17.8	15.7	6.69	17.82
8-Jun	4.3	7.0	2.0	Z	6.6	20.8	23.3	7.2	3.7	5.0	3.4	5.5	4.4	2.8	5.3	2.9	3.1	0.6	0.5	1.0	3.3	5.6	8.0	7.8	5.84	23.30
9-Jun	7.6	6.4	7.1	Z	19.5	21.7	9.9	21.3	16.4	5.7	4.9	3.6	2.1	2.5	1.9	2.8	1.4	1.2	3.2	1.7	4.0	5.2	3.7	3.3	6.83	21.73
10-Jun	6.0	9.1	4.3	Z	6.4	10.9	15.9	18.4	15.8	8.5	4.0	4.0	2.9	2.7	3.4	3.5	4.6	4.4	1.2	3.6	3.7	4.6	5.8	5.4	6.48	18.41
11-Jun	5.7	5.0	6.3	Z	7.7	14.4	20.7	25.5	14.5	13.5	5.7	5.2	5.4	6.9	3.8	1.5	2.8	4.2	7.5	3.1	3.7	1.7	1.7	3.2	7.38	25.50
12-Jun	1.4	1.6	2.2	Z	4.0	5.4	7.5	4.5	5.1	1.7	1.9	0.3	0.4	0.4	0.3	0.3	2.9	3.9	0.8	0.4	1.0	1.5	2.8	4.7	2.40	7.51
13-Jun	5.2	1.3	1.0	Z	5.0	5.9	8.7	7.1	3.6	2.5	3.2	1.8	3.2	1.0	1.2	1.3	1.2	3.7	1.7	2.2	0.8	2.6	5.1	3.6	3.18	8.73
14-Jun	2.7	2.0	2.2	Z	2.8	4.6	5.5	4.1	3.8	3.9	5.5	2.9	2.9	3.5	3.1	2.6	1.9	5.2	3.6	4.3	2.9	2.7	4.2	4.0	3.52	5.52
15-Jun	4.8	5.9	6.9	Z	13.1	9.5	9.6	19.8	10.4	13.7	6.7	2.1	2.5	1.8	1.8	1.2	1.3	1.5	1.6	3.5	3.1	2.7	2.5	5.5	5.71	19.78
16-Jun	5.1	6.3	7.4	Z	3.5	1.5	3.1	3.5	8.6	6.8	6.8	8.5	3.9	5.2	3.6	3.4	2.7	4.3	2.3	1.9	3.0	1.7	1.4	1.2	4.16	8.56
17-Jun	1.2	0.9	1.8	Z	4.3	4.2	4.7	6.7	6.8	5.1	4.8	6.3	9.8	3.9	6.0	7.2	5.9	3.9	2.1	3.8	1.8	2.4	2.5	4.1	4.36	9.77
18-Jun	2.0	2.8	5.1	Z	11.2	10.9	12.7	2.8	9.3	10.4	4.9	3.7	2.0	2.1	2.9	2.4	5.1	5.0	2.1	2.2	2.6	4.4	1.5	3.1	4.83	12.65
19-Jun	4.2	8.9	3.3	Z	7.7	12.2	4.4	9.2	13.0	10.0	7.8	3.9	7.4	4.1	1.2	5.4	13.3	4.7	2.1	2.8	2.6	5.4	8.3	9.1	6.58	13.30
20-Jun	10.4	10.4	7.5	Z	17.5	19.0	16.7	21.0	8.5	1.3	2.3	1.9	2.2	3.4	1.6	0.8	3.9	0.4	0.7	0.2	6.7	12.0	13.1	13.8	7.62	21.00
21-Jun	9.7	7.7	6.8	Z	5.3	9.0	9.0	7.9	6.5	5.9	4.7	1.5	1.4	0.7	0.8	1.3	3.4	1.7	0.8	0.7	1.9	4.5	2.0	3.6	4.21	9.74
22-Jun	1.3	3.8	2.8	Z	5.2	2.6	3.7	8.3	7.2	5.6	3.1	2.7	3.8	1.5	0.7	3.7	4.4	2.2	2.6	3.0	2.0	6.1	3.7	3.8	3.66	8.32
23-Jun	6.4	7.9	6.2	Z	4.2	6.3	6.6	6.0	2.7	5.6	5.5	3.5	4.4	16.0	C	C	C	C	C	C	C	2.5	5.7	4.0	--	16.00
24-Jun	2.3	1.8	2.2	Z	1.4	4.2	6.2	3.2	8.0	6.5	4.7	3.9	3.4	2.6	0.8	3.0	2.5	2.4	3.2	2.6	3.9	4.4	5.4	4.0	3.59	7.98
25-Jun	13.6	11.3	13.0	Z	10.4	12.8	22.6	16.8	11.1	5.5	2.7	2.7	4.6	2.4	3.4	2.9	4.1	3.5	3.1	1.3	1.7	4.3	2.6	1.5	6.86	22.64
26-Jun	4.4	5.9	11.2	Z	10.8	13.3	11.0	6.0	2.6	4.6	2.5	2.0	3.0	4.6	2.9	3.0	3.3	2.2	1.4	2.7	2.1	5.6	12.2	7.9	5.44	13.34
27-Jun	6.8	5.1	5.3	Z	8.5	14.3	10.6	12.6	4.2	3.7	3.5	3.6	2.8	3.2	3.2	2.7	2.6	4.8	2.7	4.4	PF	PF	PF	PF	5.51	14.34
28-Jun	RE	6.9	6.6	Z	13.2	11.0	10.5	14.2	11.8	7.0	2.3	1.4	1.6	2.5	1.7	1.7	2.2	2.7	2.1	1.8	2.8	6.3	7.8	3.0	5.50	14.25
29-Jun	5.1	6.4	4.4	Z	10.5	13.1	13.0	18.9	15.6	10.5	4.6	4.0	3.7	3.5	4.4	4.1	4.9	3.1	2.5	2.2	2.6	2.0	2.4	3.7	6.31	18.88
30-Jun	3.8	5.8	3.8	Z	9.3	3.9	7.9	5.1	8.1	6.8	5.7	7.5	6.2	4.0	6.7	5.5	3.5	2.2	4.8	4.5	2.4	3.7	4.9	1.6	5.12	9.34
	5.04	5.45	4.84	--	7.95	9.77	10.36	11.59	8.91	6.70	5.05	3.78	3.57	3.29	2.78	2.86	3.60	3.06	2.39	2.44	2.91	4.71	5.50	5.35	Diurnal Average	
	13.57	11.25	13.05	--	19.50	21.73	23.30	26.88	16.39	15.17	19.65	8.45	9.77	16.00	6.72	7.24	13.30	5.24	7.48	4.46	6.68	11.98	17.82	15.72	Diurnal Maximum	

Z - zerospan C - Calibration PF - Power Failure RE - Recovery

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

WCAS - Hinton
Summary of Hourly Averages

PM2.5 ($PM_{2.5}$) - $\mu g/m^3$
June 2015

Maximum Value: 260.66 $\mu g/m^3$ on Jun 7 07:00

Maximum Daily Average: 52.82 $\mu g/m^3$ on Jun 7

Minimum Value: 0.0 $\mu g/m^3$ on Jun 5 10:00

Minimum Daily Average: 3.44 $\mu g/m^3$ on Jun 17

Maximum Diurnal Average: 27.01 $\mu g/m^3$ at hour 7

Minimum Diurnal Average: 7.98 $\mu g/m^3$ at hour 12

Monthly Average: 14.436 $\mu g/m^3$

Percentiles: P_1 = 0.0 P_{10} = 2.9 Q_1 = 5.6 Median = 10.0 Q_3 = 17.1 P_{90} = 26.6 P_{99} = 92.5

Hours in Service:	720
Hours of Data:	715
Hours of Missing Data:	5
Hours of Calibration:	1
Percent Operational Time:	99.4

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-Jun	10.1	8.7	6.6	7.8	9.6	12.7	12.8	23.6	17.7	12.1	13.6	14.1	13.1	12.5	11.6	12.6	14.3	13.2	10.9	9.4	8.8	8.0	6.1	6.0	11.49	23.58
2-Jun	5.4	5.4	5.7	6.2	7.1	6.9	8.6	8.5	10.1	11.0	13.3	15.5	11.9	12.5	11.7	11.6	14.8	17.0	19.1	18.0	24.2	17.1	14.9	12.1	12.02	24.20
3-Jun	10.9	11.6	10.1	11.6	13.2	13.5	19.0	20.3	22.4	24.9	25.4	10.4	23.3	7.5	7.8	7.0	6.5	10.5	12.8	11.6	11.8	11.4	9.4	5.9	13.29	25.35
4-Jun	7.9	9.3	9.5	6.9	9.6	11.3	13.8	16.3	15.9	14.5	17.9	5.0	5.7	4.3	1.4	10.0	7.7	15.0	1.1	9.4	3.0	4.1	3.0	3.2	8.57	17.88
5-Jun	3.6	3.4	3.7	2.2	0.4	9.4	13.8	0.3	2.7	0.0	0.0	3.7	5.4	6.1	2.3	7.5	10.8	15.2	10.3	7.6	7.6	31.2	33.9	26.5	8.64	33.88
6-Jun	13.1	15.5	13.3	13.5	18.9	21.0	14.8	13.4	20.8	0.0	2.0	4.2	4.3	8.0	12.8	10.1	10.5	21.0	13.5	13.8	16.0	56.2	36.3	26.3	15.81	56.23
7-Jun	26.6	26.8	21.1	14.7	50.9	143.3	260.7	159.6	26.0	13.8	7.5	11.7	16.2	13.4	13.9	43.7	25.2	31.3	28.1	42.4	51.6	66.4	57.0	115.7	52.82	260.66
8-Jun	51.0	53.2	8.6	15.4	29.6	62.8	109.4	16.6	8.3	12.9	10.6	20.7	10.8	2.3	18.9	17.6	24.8	23.3	11.3	14.5	19.6	52.4	19.6	15.0	26.22	109.36
9-Jun	10.5	14.9	19.1	15.3	20.6	56.7	19.2	28.3	23.6	4.8	6.7	7.8	7.2	9.2	14.9	31.7	25.4	19.3	22.7	24.3	24.5	26.5	17.7	41.6	20.51	56.67
10-Jun	26.1	9.8	34.3	25.8	36.8	33.1	32.3	41.5	33.2	18.9	15.6	0.6	11.4	16.1	11.0	29.9	63.8	116.6	41.9	30.5	26.5	54.9	22.3	22.2	31.45	116.60
11-Jun	20.5	24.4	44.8	28.6	73.1	99.1	37.2	43.2	45.6	63.2	16.7	22.1	24.7	15.5	11.6	29.0	45.2	98.7	93.8	9.5	36.0	31.9	14.6	6.3	38.97	99.14
12-Jun	5.8	3.1	5.8	4.6	6.6	7.2	2.2	1.6	0.0	5.7	4.7	9.1	12.2	11.0	12.7	17.5	11.1	2.6	5.7	9.7	10.6	7.7	5.1	7.7	7.08	17.46
13-Jun	7.6	2.1	3.5	3.0	3.6	4.1	6.0	6.0	1.7	0.0	6.3	5.5	5.9	0.0	4.2	3.6	4.2	4.8	4.6	4.1	3.2	4.1	2.2	2.8	3.88	7.57
14-Jun	3.4	2.5	2.6	4.3	3.5	2.7	3.5	5.2	7.6	5.5	5.3	4.3	14.8	13.1	12.2	12.3	12.7	9.8	8.5	6.2	6.5	4.7	4.2	5.8	6.72	14.84
15-Jun	8.4	6.9	7.3	6.3	6.8	7.3	8.5	12.7	14.1	21.9	12.5	12.0	11.4	14.0	11.8	9.5	17.3	19.7	25.1	19.1	22.7	26.4	10.3	8.0	13.33	26.37
16-Jun	4.6	5.6	3.9	4.4	5.8	10.3	13.4	6.9	11.0	10.7	9.3	3.7	0.0	7.4	25.2	0.0	21.5	9.7	11.1	3.9	4.4	2.6	0.0	4.0	7.48	25.21
17-Jun	3.3	3.1	2.4	4.6	3.6	2.2	3.1	3.0	3.7	1.3	0.4	3.4	4.2	4.0	4.4	4.3	6.2	4.5	3.7	4.1	2.8	2.5	3.9	3.9	3.44	6.21
18-Jun	2.9	2.0	5.2	0.9	5.0	3.2	8.8	4.7	9.5	9.8	2.9	0.0	4.7	8.6	8.4	16.3	20.7	23.2	10.8	16.7	19.9	24.4	5.8	7.2	9.23	24.39
19-Jun	7.7	13.4	8.1	8.1	10.9	15.1	5.8	7.2	10.0	7.6	6.6	5.9	7.0	4.3	0.0	0.0	4.8	5.2	0.8	0.0	0.0	2.9	0.3	0.0	5.49	15.09
20-Jun	0.0	1.0	3.1	1.7	1.7	6.9	18.3	8.1	0.0	0.0	0.0	0.0	1.1	2.2	6.5	5.6	8.0	2.7	0.5	3.1	10.2	22.5	25.6	16.1	6.04	25.58
21-Jun	16.4	9.5	3.6	1.8	3.2	5.5	5.8	5.1	4.8	6.5	8.4	9.3	6.7	9.6	5.4	0.6	13.4	9.0	9.3	3.6	35.6	40.5	13.1	9.5	9.83	40.49
22-Jun	6.7	10.9	4.5	8.8	7.3	7.6	6.5	10.8	9.3	7.0	7.7	5.3	7.6	8.4	11.2	24.3	34.7	15.7	18.6	26.8	7.2	8.7	3.4	1.4	10.84	34.66
23-Jun	2.6	4.4	2.6	1.9	1.2	4.6	13.8	7.2	9.5	4.1	0.8	8.2	8.8	19.7	14.0	0.6	9.9	4.3	6.0	0.0	5.2	6.5	5.6	5.3	6.10	19.67
24-Jun	4.2	4.0	3.9	3.3	3.5	5.5	6.8	6.4	10.2	10.4	7.4	7.2	7.4	8.0	9.7	16.5	12.6	9.9	17.5	21.3	11.4	7.3	7.3	8.3	8.75	21.30
25-Jun	19.3	21.1	22.6	14.3	17.8	15.6	29.5	15.4	18.4	9.9	6.2	7.4	10.5	9.8	8.3	9.5	10.9	13.8	9.9	5.9	4.8	10.8	8.2	7.4	12.80	29.51
26-Jun	6.8	7.6	11.1	10.1	16.9	22.8	18.2	13.4	11.8	10.1	5.8	5.9	6.0	7.3	8.8	6.9	7.9	6.2	6.4	10.1	16.8	40.0	38.8	27.5	13.46	40.05
27-Jun	15.8	24.0	11.3	18.0	38.1	79.4	29.3	27.2	39.8	24.8	15.2	10.7	9.7	10.7	17.3	11.0	10.1	8.6	6.1	8.0	PF	PF	PF	PF	20.75	79.39
28-Jun	RE	28.2	17.8	12.4	17.5	36.0	55.5	24.6	25.5	19.2	9.6	10.8	13.7	14.8	13.8	17.4	22.0	24.2	24.3	22.5	24.6	21.0	16.5	18.7	21.32	55.52
29-Jun	17.1	21.8	44.9	25.4	23.6	29.1	18.9	18.1	21.4	22.5	7.1	11.9	9.7	16.5	17.1	16.8	18.7	20.4	18.1	15.3	15.9	14.7	12.2	12.2	18.74	44.93
30-Jun	12.9	13.8	14.6	15.2	16.7	12.9	15.0	14.6	13.0	10.4	9.4	3.2	6.1	7.7	7.8	8.5	5.3	4.4	4.8	4.6	6.5	5.4	11.5	0.0	9.34	16.66
	11.42	12.28	11.86	9.90	15.43	24.93	27.01	18.99	14.92	12.11	8.50	7.98	9.38	9.48	10.55	13.06	16.70	19.33	15.24	12.52	15.11	21.14	14.10	14.70	Diurnal Average	
	51.01	53.19	44.93	28.59	73.13	143.32	260.66	159.62	45.55	63.16	25.35	22.14	24.74	19.67	25.21	43.66	63.84	116.60	93.79	42.35	51.64	66.40	56.96	115.70	Diurnal Maximum	

PF - Power Failure RE - Recovery

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: June 23, 2015

Parameter: $NO/NO_2/NO_x$

Instrument: Teco 42i

Serial Number: CM13040041

Previous Calibration Date: May 13, 2015

Calibration: Routine

Calibration Equipment: Sabio 2010 SN 08600312

Barometric Pressure: 26.77" Hg

Calibration Method: Standard Gas Dilution/GPT

Cylinder ID: FF14354

Temperature: 24.5° C

Cylinder Concentration: 12.6 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	4.5	4.7	NA	0.750	1.005	0.997	300 ppb
Current	4.4	4.6	NA	0.745	1.002	0.997	300 ppb

NO	Final Zero: 0.0 ppb	Final Span: 192.8 ppb	As Found Correction Factor: 1.001
NO_2	Final Zero: -0.3 ppb	Final Span: 0.3 ppb	As Found Correction Factor: 0.000
NO_x	Final Zero: -0.1 ppb	Final Span: 192.9 ppb	As Found Correction Factor: 0.990

Results of Linear Regression			Slope	Intercept	R^2
NO	R_c vs C_c	Previous	100.144200	25.149690	0.999970
		Current	99.917400	4.991645	0.999991
	C_i vs C_c	Current	1.000000	-0.000022	0.999990
NO_2	R_c vs C_c	Previous	100.150500	-90.884530	0.999970
		Current	100.834600	23.679870	0.999960
	C_i vs C_c	Current	1.000000	0.000000	0.999961
NO_x	R_c vs C_c	Previous	99.852780	23.819290	0.999970
		Current	100.205900	1.748458	0.999989
	C_i vs C_c	Current	1.000000	-0.000009	0.999989

Comments:

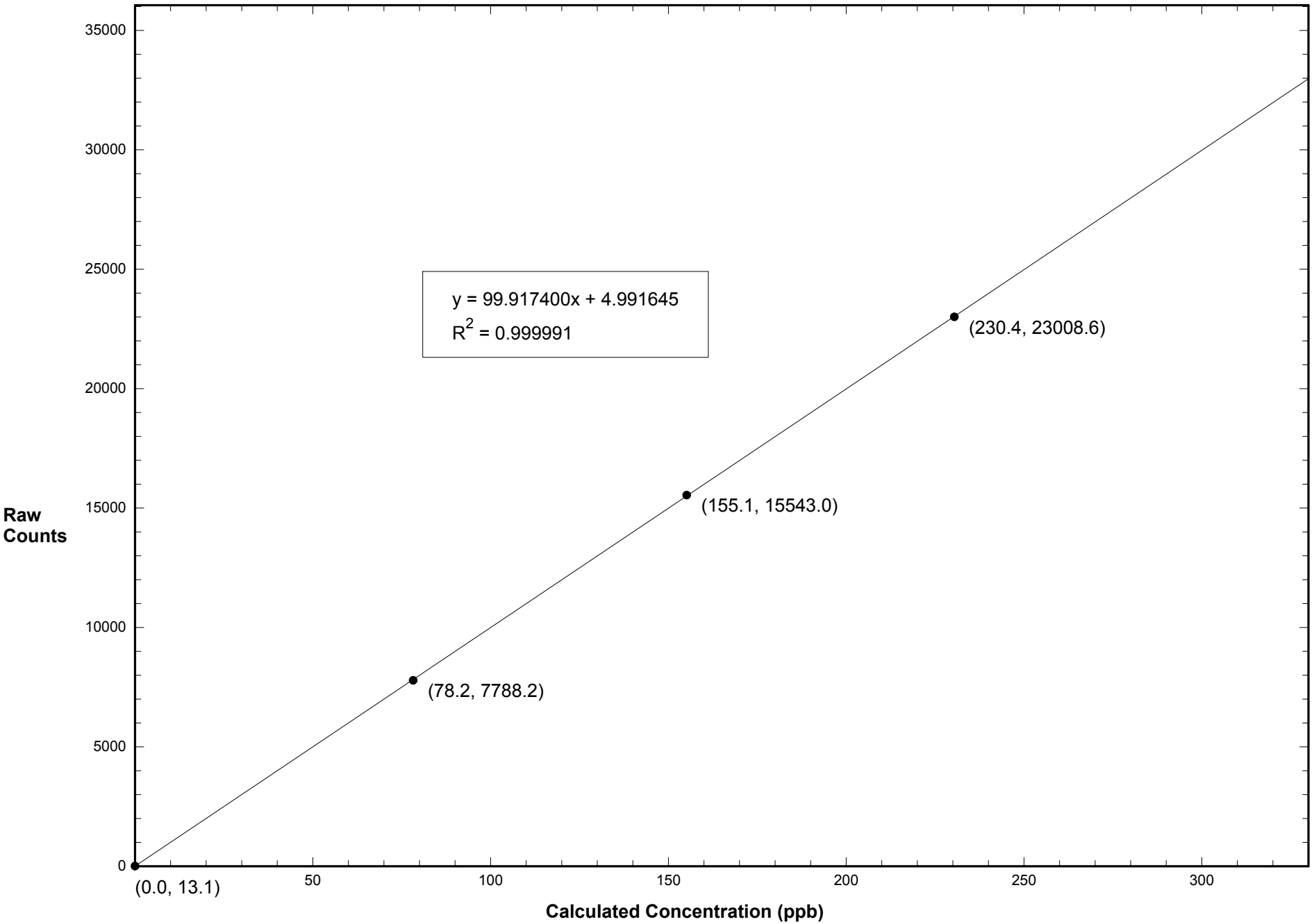
Calibration Data Summary (Page 2)

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
0.07597	4.079	230.4	23008.6	230.2	1.001
0.05032	4.037	155.1	15543.0	155.5	0.998
0.02514	4.025	78.2	7788.2	77.9	1.004
0.00000	4.000	0.0	13.1	0.1	
NO Calibration				Average Correction Factor:	1.001
0.07597	4.079	230.4	23064.2	230.2	1.001
0.05032	4.037	155.1	15592.7	155.6	0.997
0.02514	4.025	78.2	7813.7	78.0	1.003
0.00000	4.000	0.0	3.1	0.0	
NO_x Calibration				Average Correction Factor:	1.000

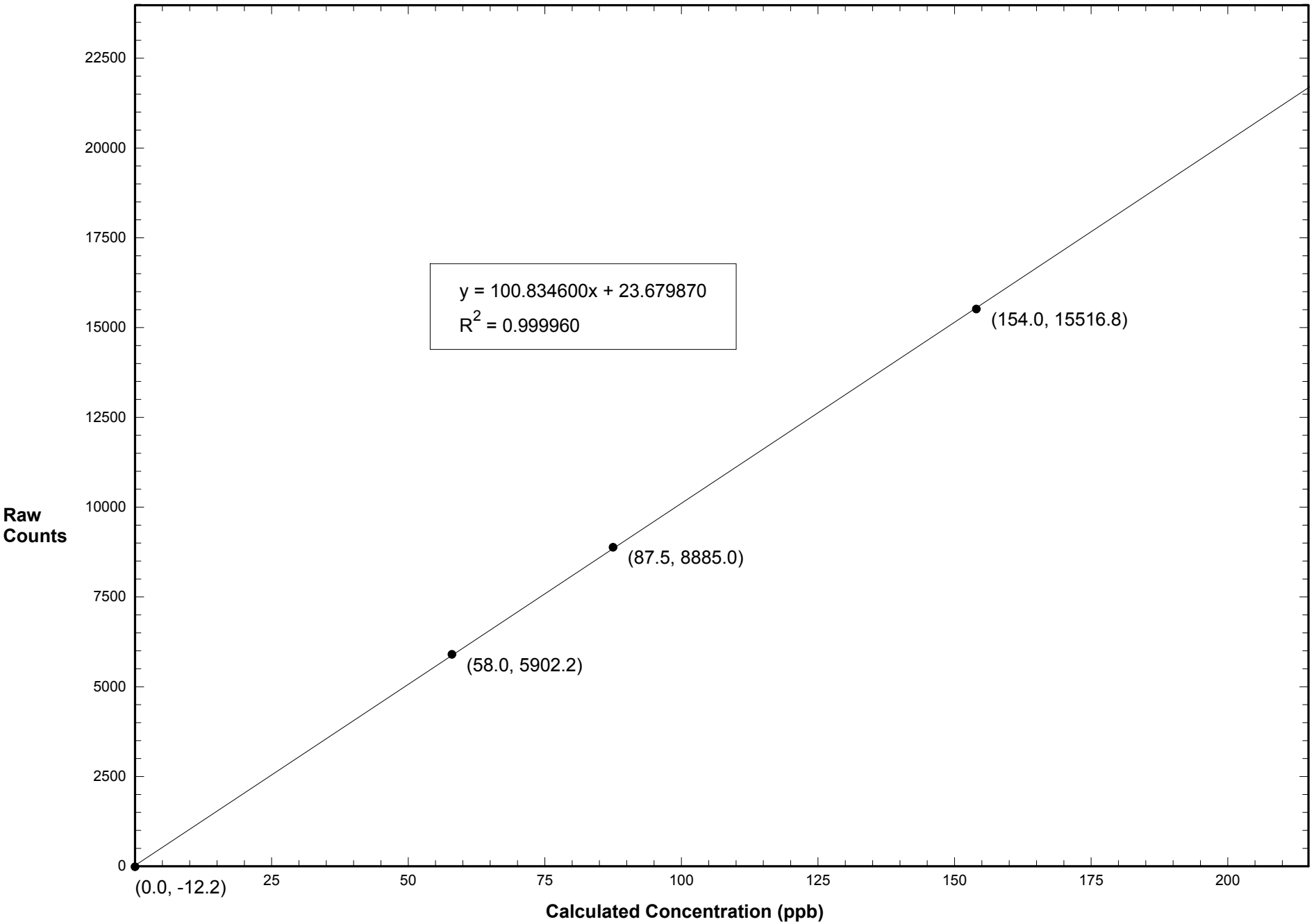
Reference Concentration NO (ppb)	Raw Count Output NO	Calculated Concentration NO (ppb)	Calculated Concentration NO_2, C_c (ppb)	Raw Count Output R_c	Indicated Concentration C_i (ppb)	Correction Factor C_c/C_i	Converter Efficiency C_i/C_c
231.2	7724.8	77.3	154.0	15516.8	153.6	1.002	0.998
231.2	14369.5	143.8	87.5	8885.0	87.9	0.995	1.005
231.2	17315.2	173.2	58.0	5902.2	58.3	0.995	1.005
			0.0	-12.2	-0.4		
					Average Correction Factor:	0.998	
NO_2 Gas Phase Titration						Average Converter Efficiency:	1.002

Parameter	Correction Factor (Previous)	Correction Factor: (Current)	Percent Change of Correction Factor
NO	1.002	1.001	-0.1
NO_2	0.998	1.002	0.4
NO_x	1.002	1.001	-0.1

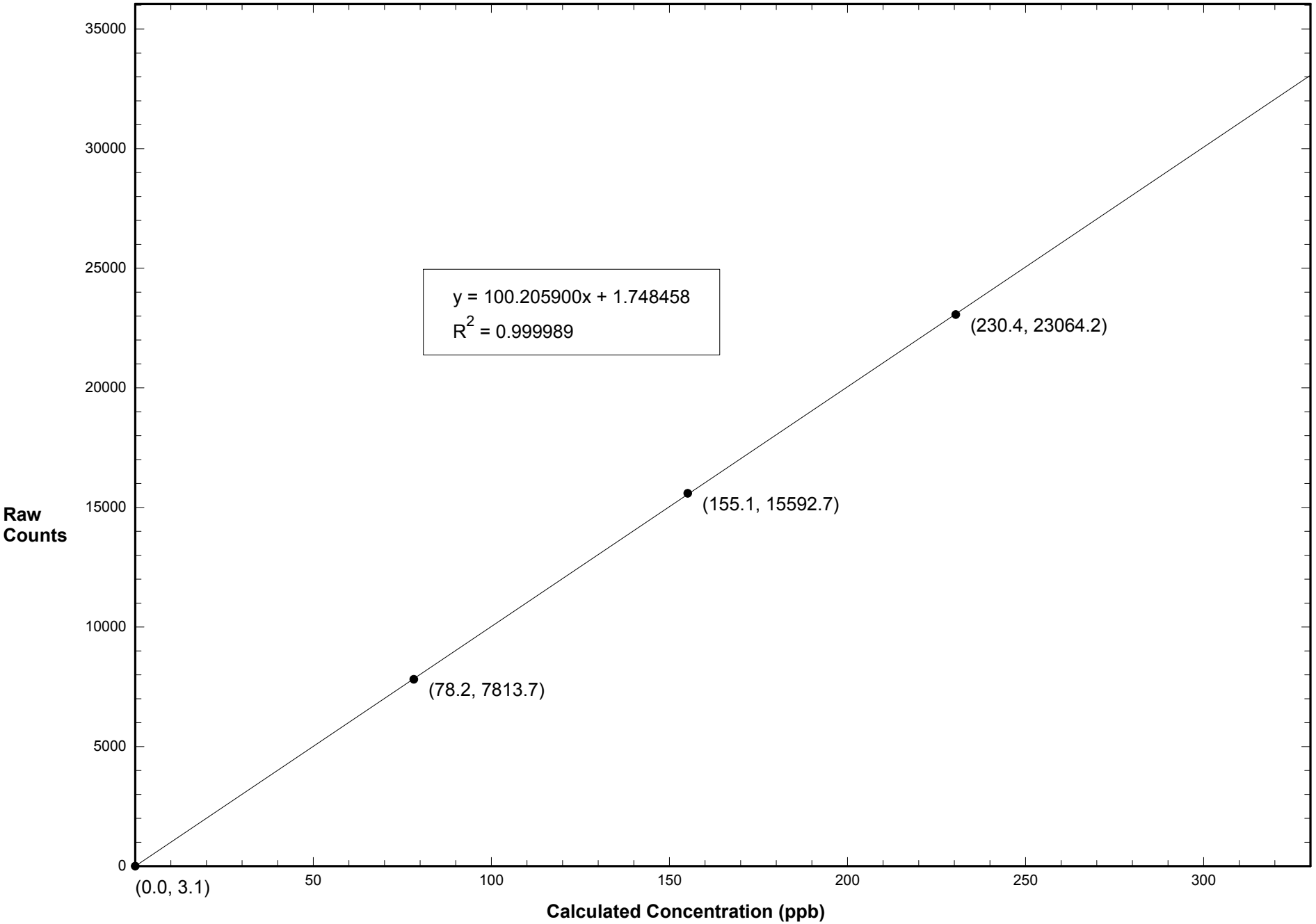
Station 906 NO June 23, 2015: Linear Regression



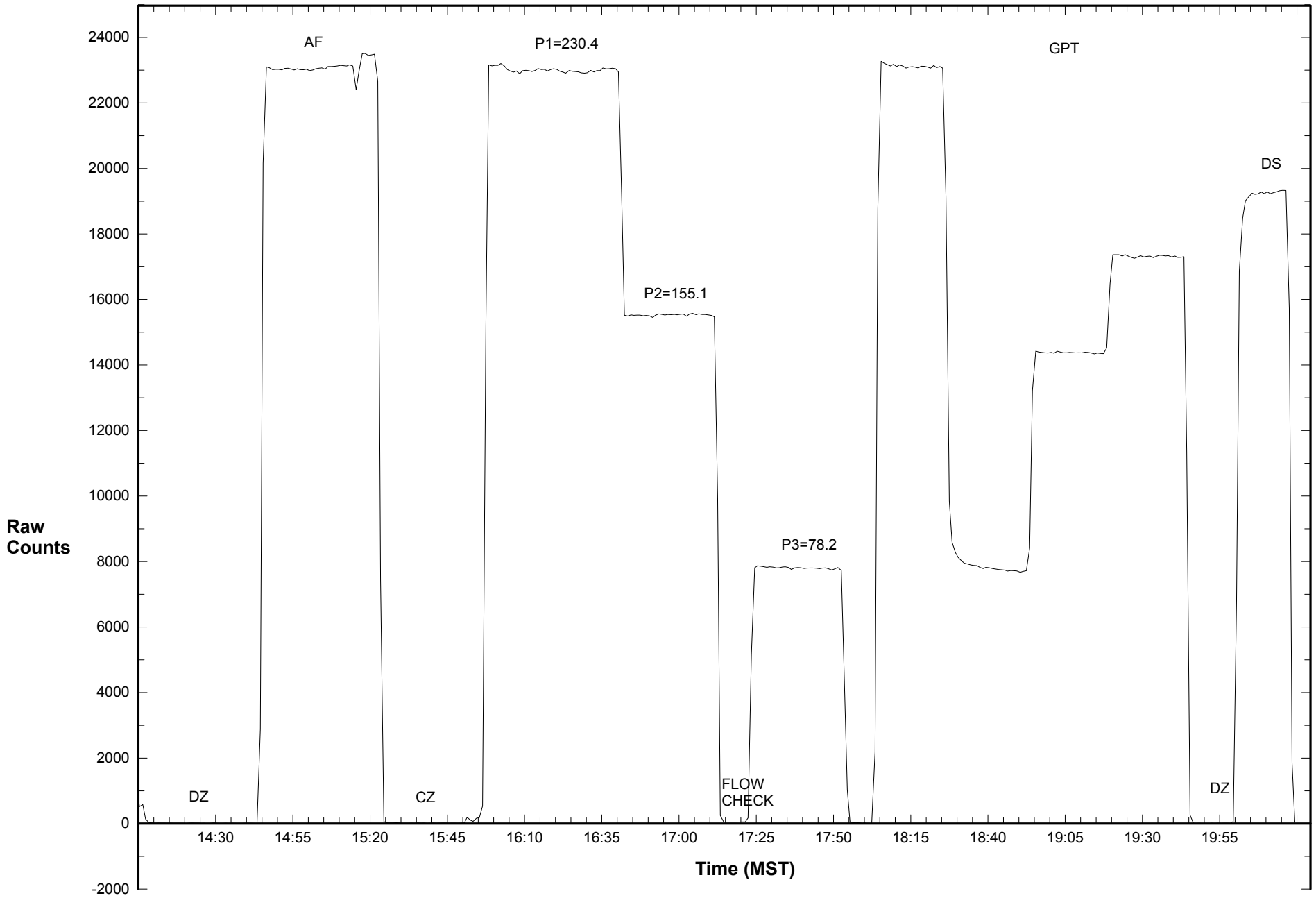
Station 906 NO2 June 23, 2015: Linear Regression



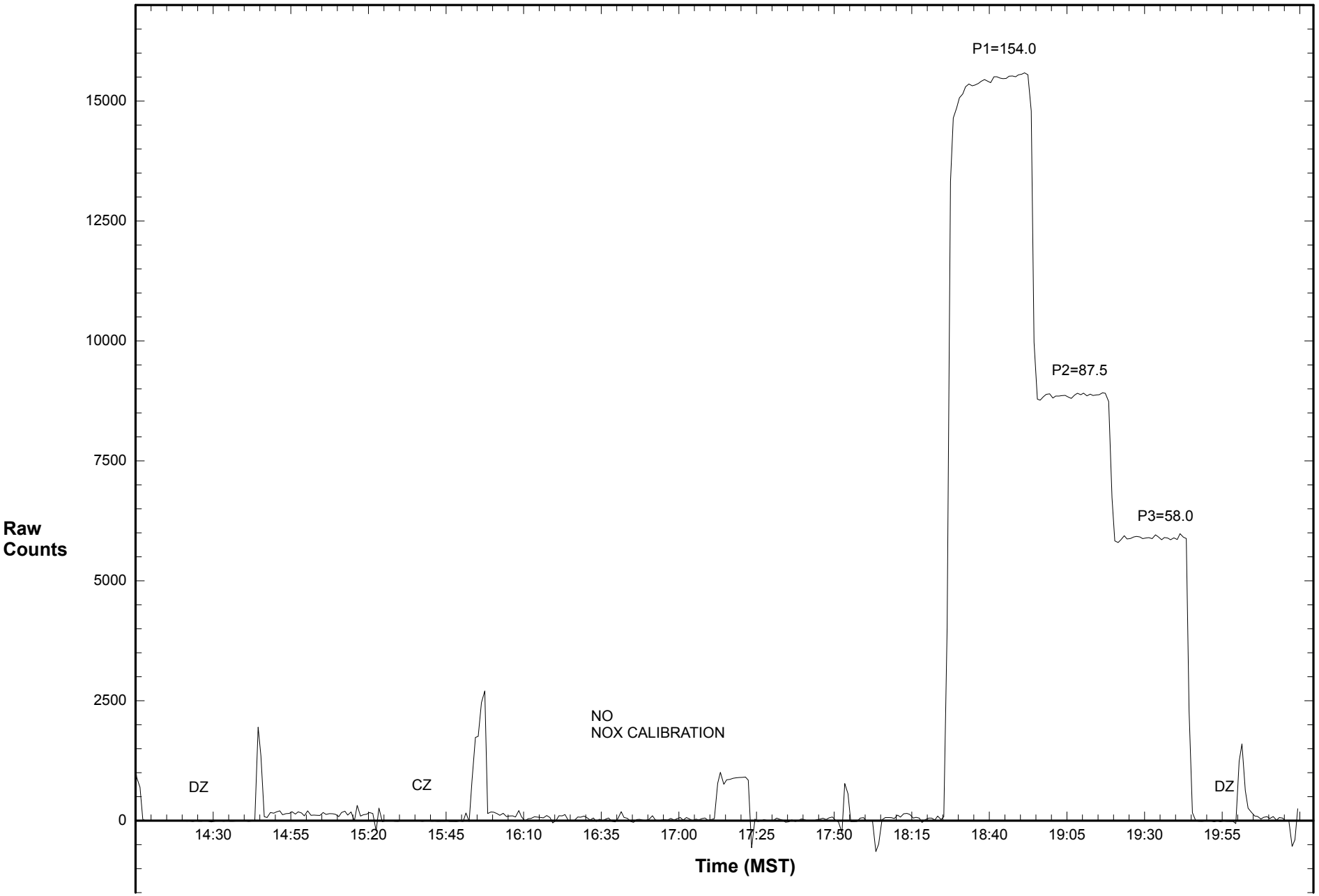
Station 906 NOX June 23, 2015: Linear Regression



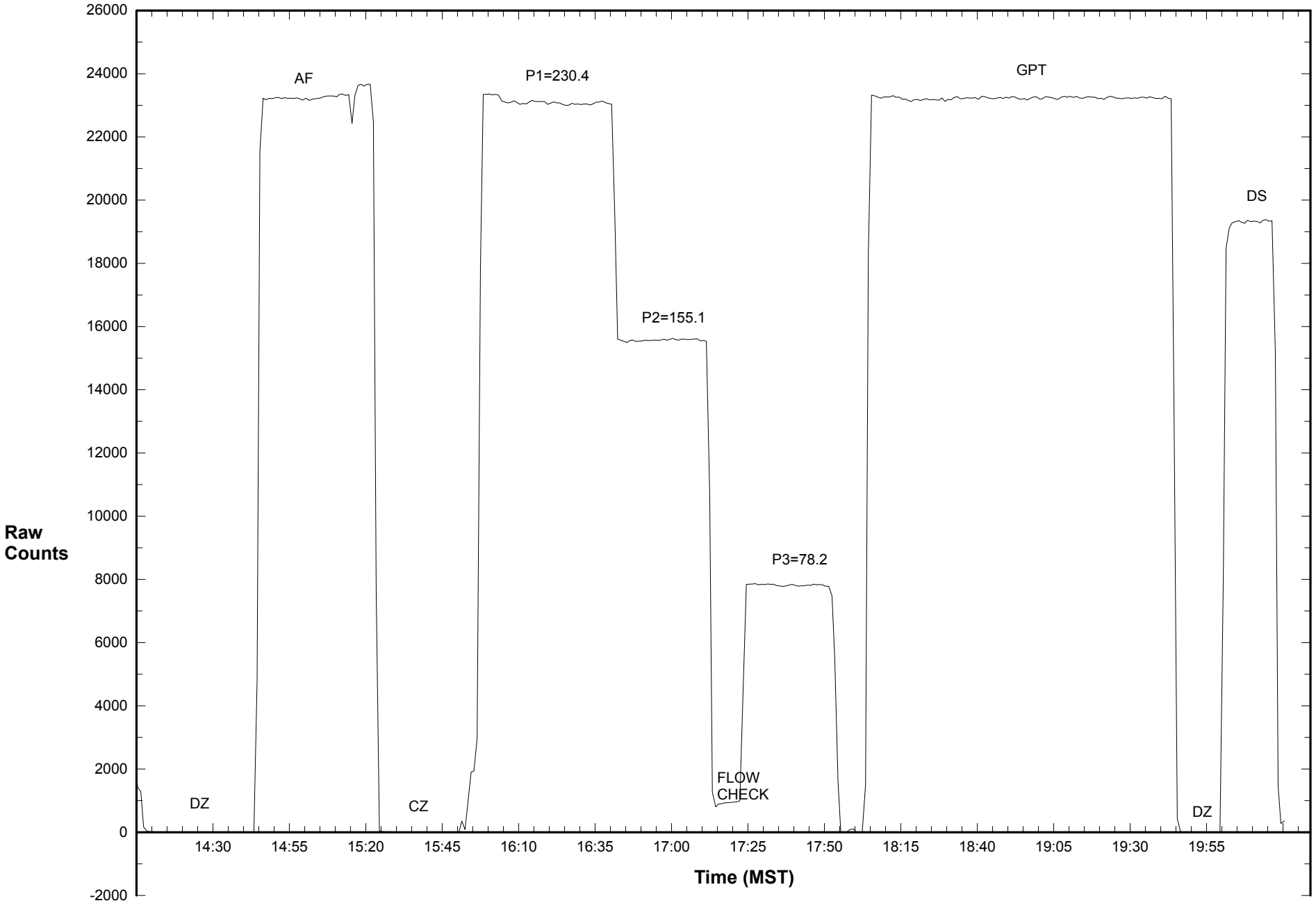
Station 906 NO June 23, 2015: Calibration Graph



Station 906 NO2 June 23, 2015: Calibration Graph



Station 906 NOX June 23, 2015: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 906, Hinton

Calibration Date: June 23, 2015

Parameter: O_3

Instrument: Teco 49i

Serial Number: 1136451325

Previous Calibration Date: May 13, 2015

Calibration: Routine

Calibration Equipment: TECO 175-51760-291

Barometric Pressure: 26.77" Hg

Calibration Method: Certified Ozone Generator

Temperature: 24.5° C

Technician: L. Burns

Instrument Settings	Background	Coefficient	Monitoring Range
Previous	0.4	1.335	500 ppb
Current	-1.4	1.104	500 ppb

Final Zero: 0.4 ppb

Final Span: 332.5 ppb

As Found Correction Factor: 0.968

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	402.0	24088.8	402.8	0.998
3.000	203.0	12000.5	200.9	1.011
3.000	104.0	6268.5	105.1	0.989
3.000	0.0	-8.7	0.2	

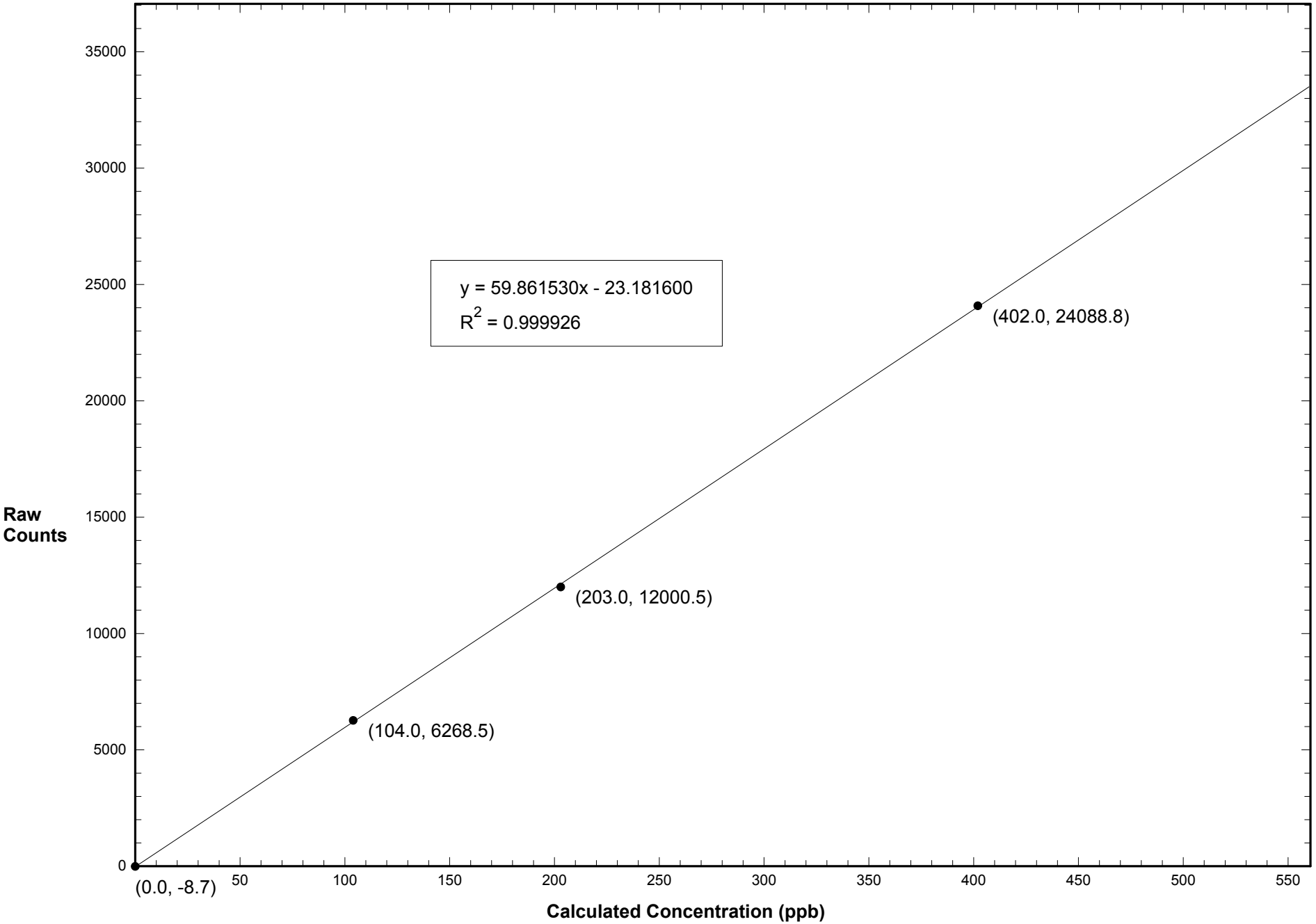
Results of Linear Regression

R_c vs C_c	Slope	Intercept	R^2
Previous	59.815490	21.459160	0.999995
Current	59.861530	-23.181600	0.999926
C_i vs C_c			
Current	1.000000	0.000037	0.999926

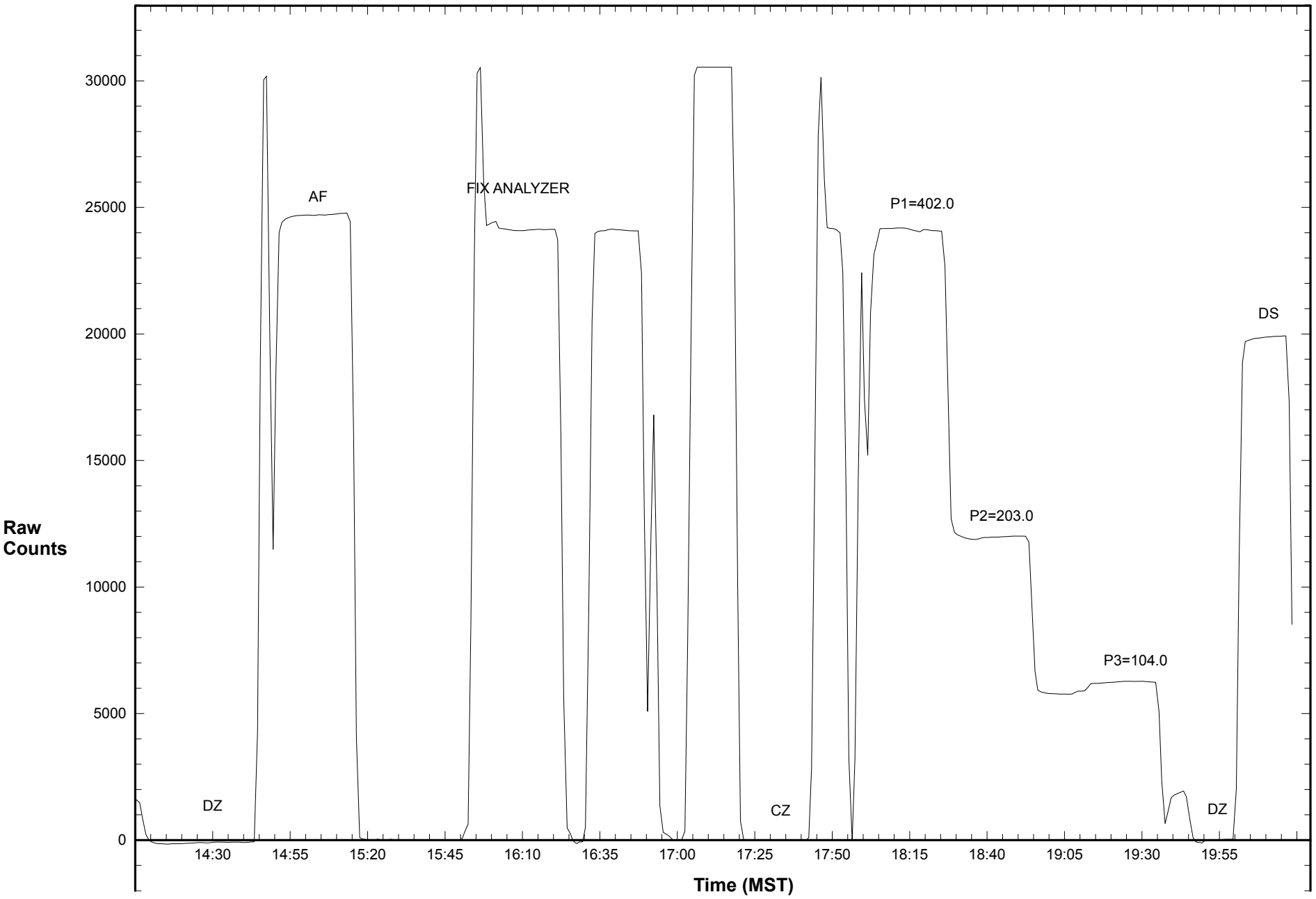
Average Correction Factor:	0.999
Previous Correction Factor:	1.000
Current Correction Factor:	0.998
Percent Change of Correction Factor:	-0.2

Comments:

Station 906 O3 June 23, 2015: Linear Regression



Station 906 O3 June 23, 2015: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 906, Hinton

Calibration Date: June 23, 2015

Parameter: SO_2

Instrument: TECO 43i

Serial Number: CM12499009

Previous Calibration Date: May 13, 2015

Calibration: Routine

Calibration Equipment: Sabio 2010 SN 08600312

Barometric Pressure: 26.77" Hg

Calibration Method: Standard Gas Dilution

Cylinder ID: FF14354

Temperature: 24.5° C

Cylinder Concentration: 6.34 ppm SO2

In Service: January 14, 2015

Technician: L. Burns

Instrument Settings	SO_2 bkg ppb	SO_2 Coefficient	Monitoring Range
Previous	25.8	0.982	200 ppb
Current	26.4	0.993	200 ppb

Final Zero: 0.1 ppm

Final Span: 87.8 ppm

As Found Correction Factor: 1.016

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
0.0760	4.079	115.9	17427.5	116.0	1.000
0.0503	4.037	78.1	11745.2	78.1	0.999
0.0251	4.025	39.4	5872.8	39.1	1.007
0.0000	4.000	0.0	27.5	0.2	

Results of Linear Regression

R_c vs C_c	Slope	Intercept	R^2
Previous	151.073200	-15.456730	0.999971
Current	150.263300	3.080014	0.999984
C_i vs C_c			
Current	1.000000	-0.000004	0.999984

Average Correction Factor: 1.002

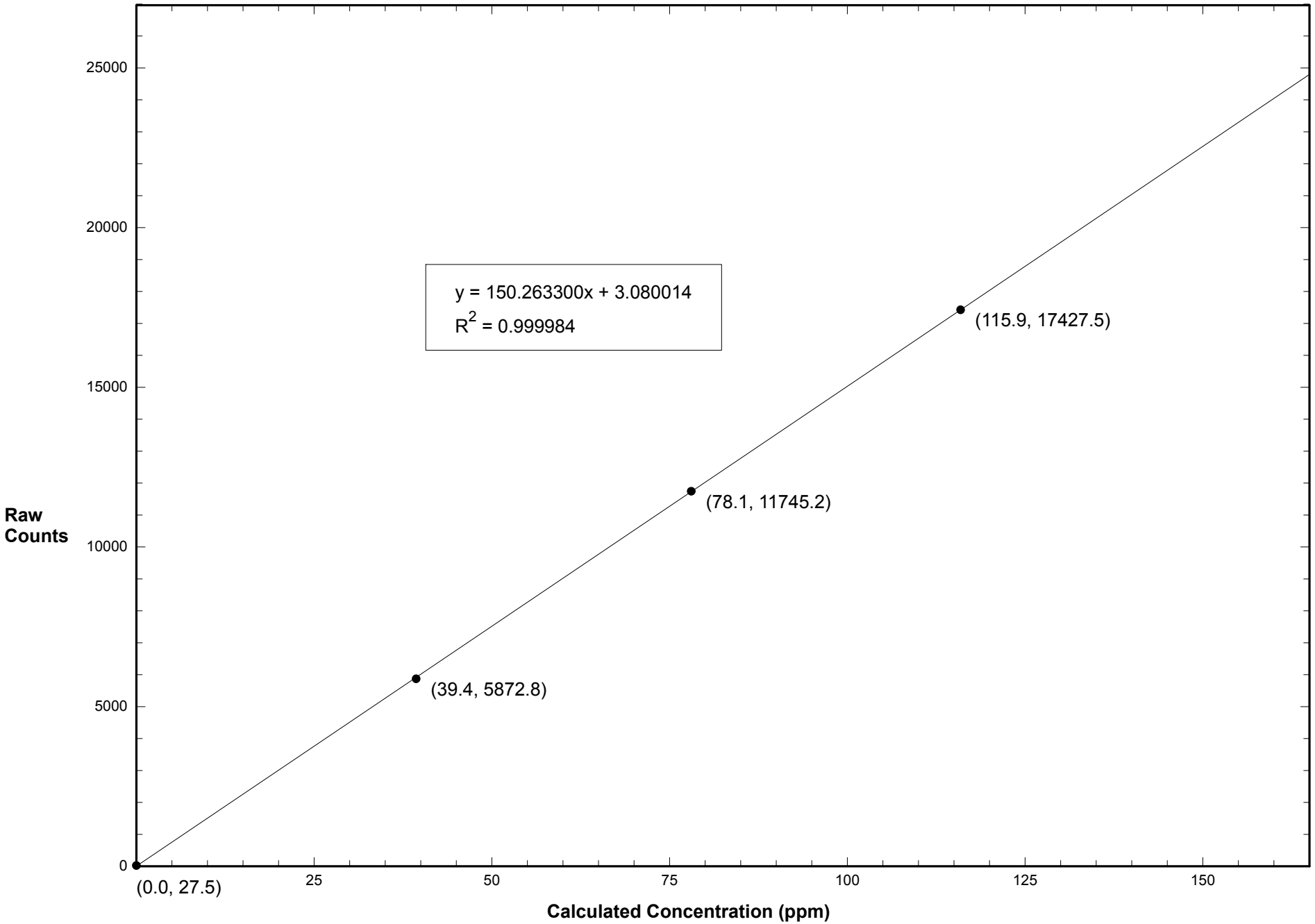
Previous Correction Factor: 1.001

Current Correction Factor: 1.000

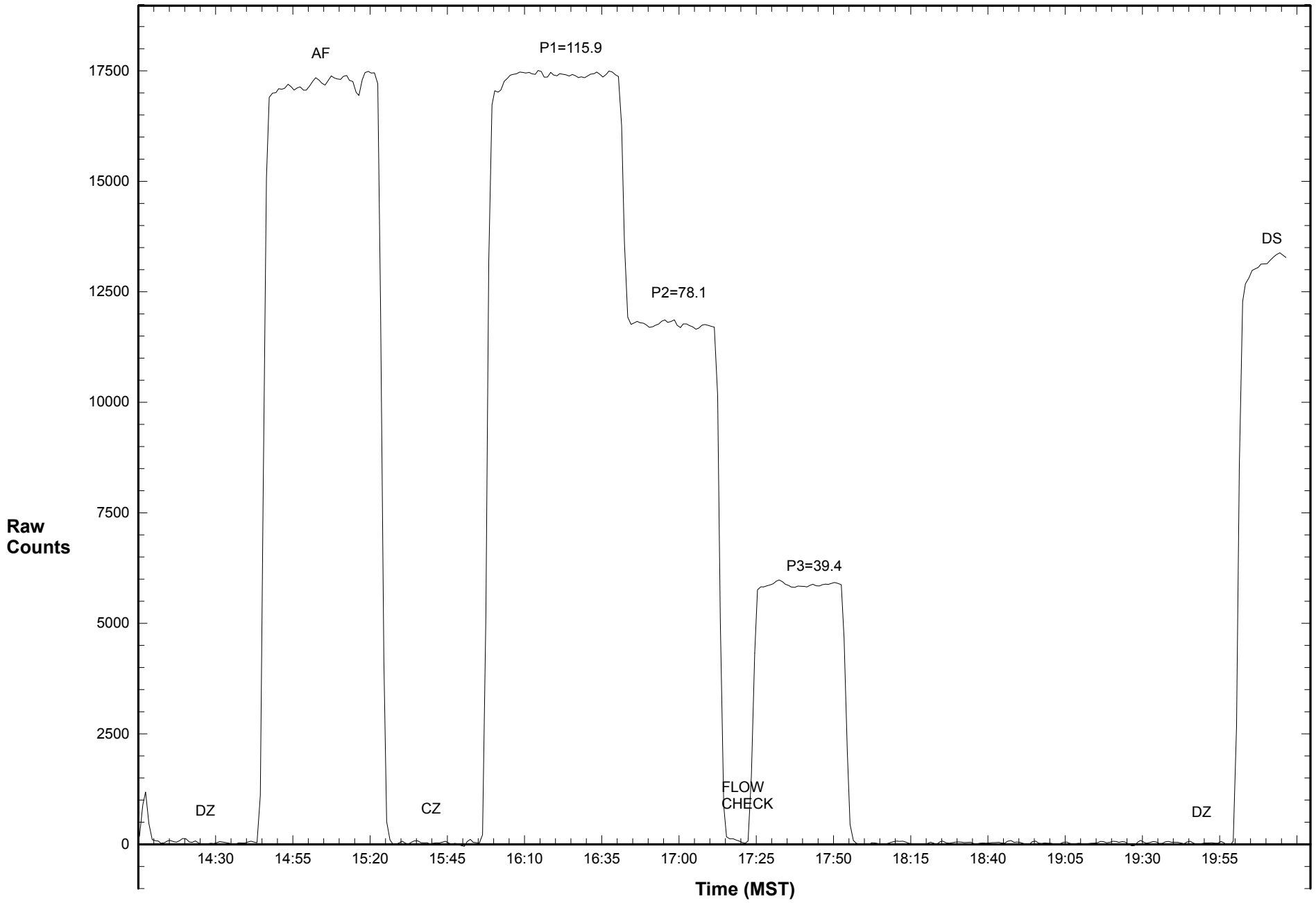
Percent Change of Correction Factor: -0.1

Comments:

Station 906 SO2 June 23, 2015: Linear Regression



Station 906 SO2 June 23, 2015: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 906, Hinton

Calibration Date: June 23, 2015

Parameter: TRS

Instrument: Teco 43C

Serial Number: 43CTL 60324 - 326

Previous Calibration Date: May 13, 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: 24.5° 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	1.74	0.762	100 ppb
Current	1.65	0.726	100 ppb

Final Zero: 0.3 ppb

Final Span: 60.2 ppb

As Found Correction Factor: 0.967

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
0.061	71.9	21576.7	72.2	0.995
0.041	48.7	14435.6	48.5	1.005
0.021	24.8	7168.0	24.3	1.020
0.000	0.0	-23.7	0.4	

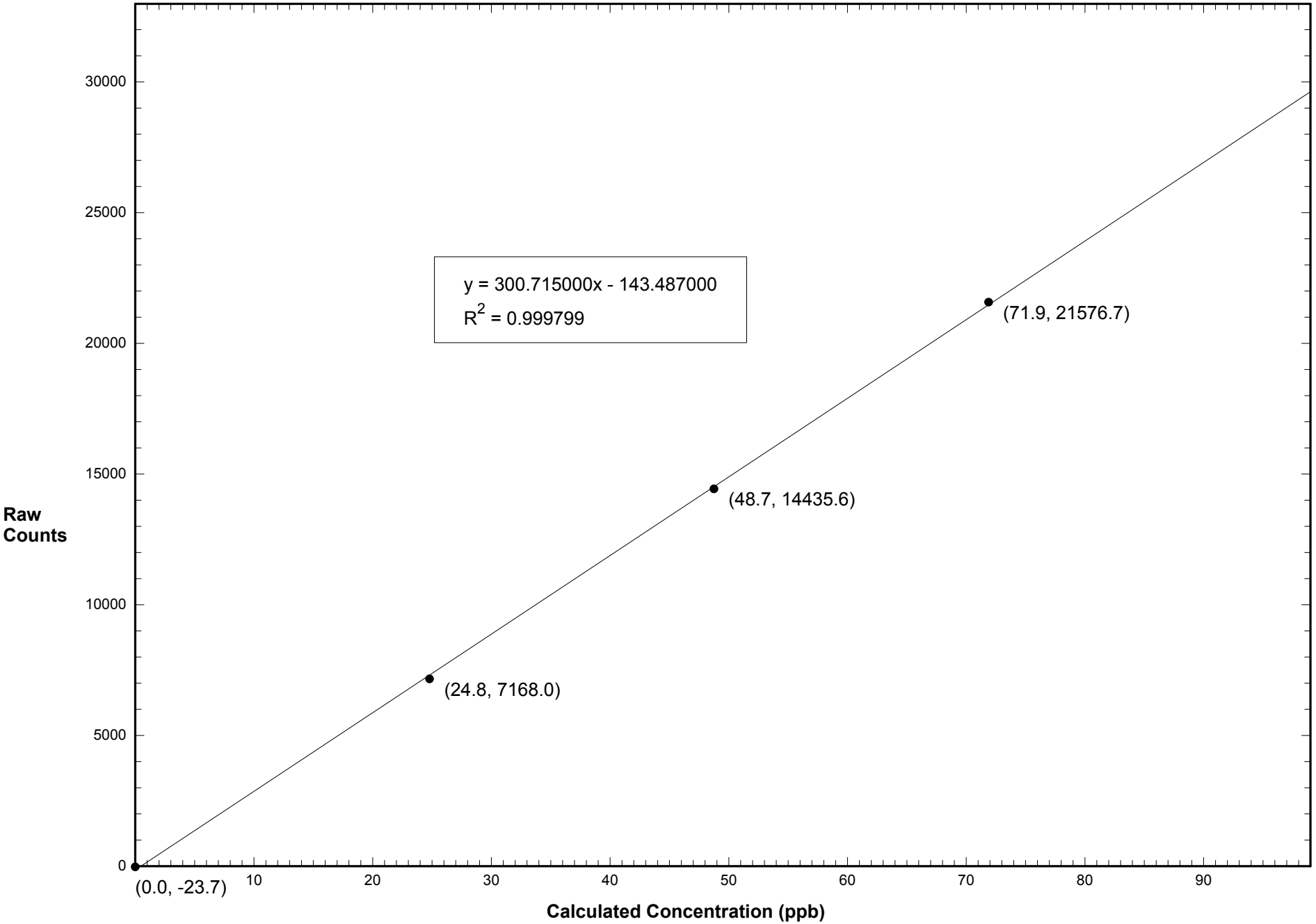
Results of Linear Regression

R_c vs C_c	Slope	Intercept	R^2
Previous	301.002300	-13.281960	0.999931
Current	300.715000	-143.487000	0.999799
C_i vs C_c			
Current	1.000000	0.000000	0.999800

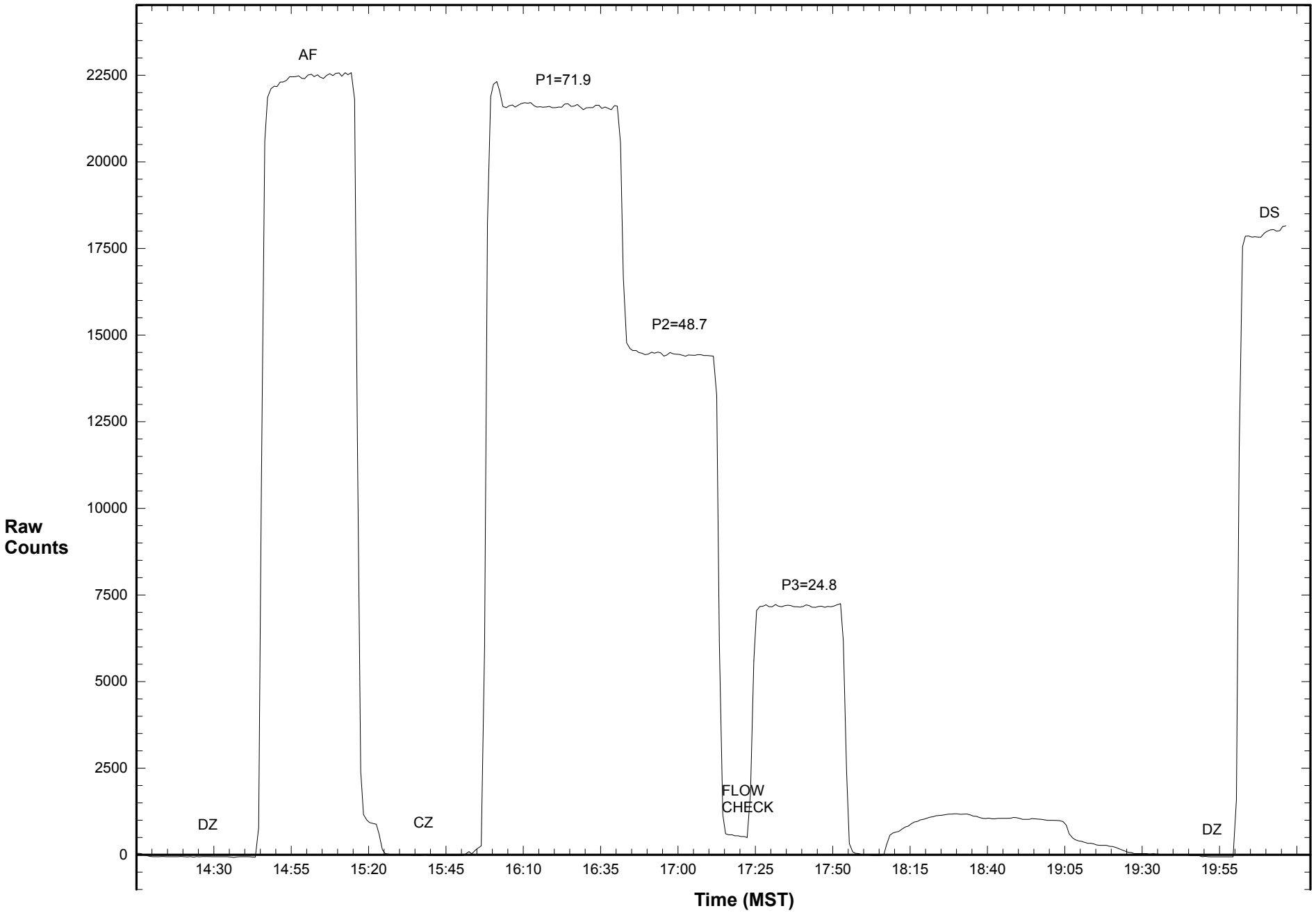
Average Correction Factor:	1.007
Previous Correction Factor:	1.002
Current Correction Factor:	0.995
Percent Change of Correction Factor:	-0.7

Comments:

Station 906 TRS June 23, 2015: Linear Regression



Station 906 TRS June 23, 2015: Calibration Graph



WEST CENTRAL AIRSHED SOCIETY

CONTINUOUS AMBIENT AIR QUALITY MONITORING PROGRAM MONTHLY REPORT METEOROLOGICAL DATA

AMS 906
HINTON
JUNE 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

Maximum Value: 32.13 C on Jun 28 16:00

Maximum Daily Average: 23.53 C on Jun 28

Minimum Value: 2.1 C on Jun 15 05:00

Minimum Daily Average: 8.30 C on Jun 13

Maximum Diurnal Average: 20.51 C at hour 16

Minimum Diurnal Average: 7.95 C at hour 5

Monthly Average: 14.899 C

Percentiles: P_1 = 3.2 P_{10} = 7.2 Q_1 = 9.5 Median = 14.4 Q_3 = 19.8 P_{90} = 24.0 P_{99} = 30.6

Hours in Service:	720
Hours of Data:	716
Hours of Missing Data:	4
Hours of Calibration:	0
Percent Operational Time:	99.4

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-Jun	6.4	5.1	4.2	3.2	2.2	2.6	6.0	8.5	12.6	14.3	14.5	15.0	14.4	15.7	16.0	16.6	15.9	16.4	15.2	14.6	13.8	13.0	12.4	11.7	11.26	16.57
2-Jun	11.1	10.6	10.4	10.0	9.6	9.1	8.4	8.4	8.9	10.4	11.4	13.1	14.6	16.1	17.1	18.1	18.6	18.3	17.5	16.3	15.0	13.4	11.9	11.2	12.89	18.55
3-Jun	11.4	11.1	10.7	10.5	10.1	9.3	11.3	13.5	15.2	17.0	18.2	20.5	20.0	21.0	22.0	21.3	21.2	20.9	20.2	18.2	16.5	15.1	12.4	10.5	15.75	21.96
4-Jun	9.0	7.9	6.5	5.4	5.1	6.0	6.7	7.1	7.9	8.9	11.1	14.2	16.6	17.8	19.2	18.6	16.3	13.6	14.4	14.2	13.0	12.4	11.4	10.5	11.40	19.21
5-Jun	10.2	9.6	9.2	9.2	8.3	8.1	9.6	13.0	16.3	18.5	19.7	20.8	21.5	23.1	23.9	24.6	23.3	22.3	21.4	20.4	19.7	17.1	14.4	13.0	16.55	24.57
6-Jun	12.6	12.8	11.2	10.1	8.9	8.3	10.9	15.1	19.1	21.3	22.2	23.3	24.7	26.3	25.7	25.9	26.5	24.7	24.0	22.4	20.3	18.9	16.5	14.7	18.61	26.51
7-Jun	14.1	13.9	13.3	12.7	12.3	12.2	13.2	15.8	19.4	21.9	24.2	25.1	25.8	24.8	24.4	24.4	24.0	23.8	24.0	22.3	21.1	17.9	15.5	13.6	19.15	25.75
8-Jun	12.2	10.9	10.1	9.8	9.9	11.0	14.0	18.5	20.5	19.8	19.7	19.9	20.5	23.0	24.3	24.4	23.4	23.3	21.3	20.7	19.0	15.5	12.1	10.1	17.25	24.44
9-Jun	9.5	8.7	7.7	6.3	5.0	5.1	8.3	12.7	17.1	19.2	20.1	21.1	22.5	23.3	24.0	22.7	24.2	23.3	22.8	20.5	18.5	15.8	13.0	10.8	15.93	24.23
10-Jun	9.2	7.6	6.4	5.6	4.8	5.1	7.6	11.0	15.0	17.7	19.8	22.2	23.3	24.2	25.4	25.6	24.2	23.2	22.7	21.5	19.9	17.3	13.7	11.2	16.01	25.63
11-Jun	8.6	6.6	5.6	5.0	5.1	5.9	6.9	9.5	14.0	17.7	20.4	22.3	23.3	22.6	22.9	23.1	20.7	19.1	17.4	17.4	15.0	11.8	9.2	9.0	14.13	23.35
12-Jun	7.9	7.6	7.3	7.2	7.2	7.0	7.6	9.1	11.6	12.5	13.8	14.7	15.2	15.8	14.6	12.5	9.9	11.8	12.3	11.7	10.7	9.1	9.0	8.2	10.60	15.83
13-Jun	7.8	7.3	7.0	6.6	6.6	6.7	7.0	7.5	7.6	7.9	8.6	9.0	10.2	8.5	8.7	9.8	8.9	9.5	10.2	10.1	9.5	8.6	8.0	7.8	8.30	10.21
14-Jun	7.6	7.6	7.7	7.7	7.2	7.8	8.0	8.4	9.8	10.7	11.3	11.8	11.2	10.4	10.5	10.0	9.0	7.7	7.8	7.9	7.8	7.2	6.1	5.0	8.60	11.81
15-Jun	4.5	4.2	3.5	2.9	2.1	2.1	2.8	3.4	5.4	8.7	12.3	14.6	16.2	17.9	18.8	19.5	19.3	19.7	18.2	17.8	15.8	13.5	11.8	9.9	11.04	19.69
16-Jun	8.2	7.0	5.7	4.6	4.1	4.9	7.3	11.0	13.5	15.5	16.6	19.3	20.4	20.1	17.4	17.3	16.7	11.7	12.8	12.2	11.9	10.7	9.6	9.5	12.00	20.41
17-Jun	9.5	9.4	9.2	9.1	9.0	8.6	8.5	8.7	9.0	9.2	8.8	8.9	9.2	9.5	9.7	9.8	9.7	9.5	9.6	9.8	9.7	9.0	8.6	9.0	9.21	9.79
18-Jun	8.9	8.3	8.4	8.0	8.1	7.9	8.3	10.4	13.4	15.2	18.0	19.5	19.5	19.8	20.2	21.0	20.6	20.1	18.9	18.3	16.1	14.5	13.3	12.9	14.57	20.98
19-Jun	11.3	10.3	9.6	9.6	9.1	9.2	9.6	10.1	11.0	11.8	13.5	14.8	13.4	11.7	10.2	10.5	10.4	10.6	10.0	10.1	9.6	8.5	7.3	5.8	10.32	14.75
20-Jun	4.6	4.0	3.9	3.5	2.8	3.5	5.4	9.4	13.3	14.9	15.3	16.0	17.3	17.9	17.5	16.5	15.9	16.1	15.6	14.8	12.0	10.6	9.9	8.1	11.19	17.92
21-Jun	6.7	5.5	4.9	4.2	3.3	4.4	6.0	9.3	12.5	14.4	16.8	17.0	18.5	18.9	19.8	20.7	20.8	21.2	21.4	18.9	17.2	14.1	14.4	14.6	13.57	21.39
22-Jun	13.3	12.3	10.4	9.2	7.8	7.6	10.2	13.3	15.6	18.0	19.6	20.2	20.3	20.9	21.7	22.0	21.6	19.8	18.5	14.3	11.5	11.6	11.3	10.4	15.06	22.03
23-Jun	9.5	8.9	8.2	7.5	6.7	6.4	7.4	10.9	14.8	17.9	20.5	21.7	19.9	17.4	17.7	16.8	18.1	20.4	19.3	18.5	17.3	15.4	13.8	11.6	14.44	21.66
24-Jun	9.7	8.7	7.8	6.9	6.1	6.3	10.1	14.3	17.1	19.1	21.6	23.0	24.1	25.1	25.5	25.4	25.4	24.8	22.4	20.8	20.3	20.0	18.9	17.7	17.54	25.46
25-Jun	16.6	13.8	12.6	11.9	11.6	11.6	12.3	13.4	18.7	22.5	24.3	24.7	25.2	26.3	27.4	25.8	26.0	25.7	24.7	23.8	22.8	21.0	20.4	19.3	20.10	27.36
26-Jun	17.7	15.0	13.0	11.5	11.2	11.1	15.0	17.9	20.7	23.3	24.8	25.9	26.6	27.6	28.5	29.5	29.6	29.3	29.1	27.1	25.0	21.2	17.9	15.0	21.40	29.59
27-Jun	13.0	11.5	10.2	9.1	8.3	8.5	11.2	15.3	18.9	21.7	24.6	27.4	29.2	29.3	28.8	30.7	31.2	32.1	30.7	30.1	PF	PF	PF	PF	21.09	32.12
28-Jun	21.2	18.6	15.9	15.0	12.4	12.3	14.9	18.8	22.2	25.5	27.1	28.2	29.5	30.9	31.4	32.1	31.1	29.4	29.4	27.5	26.2	23.7	21.7	19.7	23.53	32.13
29-Jun	17.8	16.6	16.1	16.9	17.7	17.2	16.7	17.1	19.9	22.2	23.2	24.1	24.9	24.8	23.4	22.7	22.3	23.0	22.2	21.7	21.0	19.6	18.2	17.3	20.27	24.85
30-Jun	16.3	15.9	15.8	15.7	16.0	15.6	15.8	16.3	17.2	18.9	17.7	17.5	17.1	16.3	17.1	17.2	17.4	17.2	16.5	15.8	15.9	14.6	13.1	12.9	16.24	18.93
	10.88	9.91	9.08	8.50	7.95	8.06	9.57	11.92	14.61	16.56	17.99	19.19	19.84	20.24	20.46	20.51	20.07	19.62	19.01	17.99	16.27	14.51	12.96	11.76	Diurnal Average	
	21.20	18.56	16.09	16.93	17.74	17.17	16.73	18.76	22.17	25.53	27.08	28.24	29.50	30.93	31.39	32.13	31.23	32.12	30.68	30.12	26.15	23.73	21.69	19.72	Diurnal Maximum	

PF - Power Failure

WCAS - Hinton

Summary of Hourly Averages

Wind Speed (WS) - kph

June 2015

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	0.1	0.3	1.3	0.5	0.5	0.9	0.6	1.2	2.8	3.0	6.2	8.6	10.9	8.1	5.6	5.2	6.4	5.9	4.9	4.4	4.7	3.7	4.4	6.0	3.42	10.88
Dir	WNW	W	SW	W	WSW	SSW	WNW	W	NNW	N	ENE	ENE	ENE	ENE	NE	NE	NE	NE	NE	NE	ENE	ENE	ENE	ENE	NE	ENE
2 Spd	3.7	3.6	3.9	3.3	3.4	2.7	4.6	2.9	3.7	3.1	3.6	5.2	7.8	8.1	9.4	9.4	9.2	6.9	6.9	6.1	3.6	3.9	2.6	3.6	4.44	9.40
Dir	ENE	NE	ENE	NE	ENE	NE	NE	NE	NE	NE	NE	NE	ESE	ESE	ESE	ESE	ESE	E	E	ENE	ENE	ENE	ENE	ENE	E	ESE
3 Spd	3.4	2.4	1.1	1.9	1.0	0.6	0.7	1.3	0.9	1.3	4.5	4.6	6.2	6.5	7.9	7.7	8.0	10.3	9.5	6.6	3.9	3.5	2.6	2.5	3.56	10.30
Dir	NE	NE	NE	SSE	SE	SSW	E	NNE	NW	E	NE	NNE	ENE	ENE	E	E	ESE	ESE	E	ENE	NE	ENE	ENE	ENE	E	ESE
4 Spd	1.2	1.1	0.2	0.5	0.4	0.6	0.4	0.8	0.7	0.6	0.7	1.0	1.7	2.1	4.5	4.4	2.1	1.7	1.8	0.9	0.7	1.0	1.0	0.2	0.53	4.45
Dir	NE	E	W	E	NNW	WNW	NNW	SSW	NW	NW	E	SSE	NNE	ENE	ESE	SSE	N	ENE	E	NE	ENE	SW	NE	SSE	E	ESE
5 Spd	0.8	0.8	0.8	0.5	0.7	0.8	0.9	1.5	2.9	6.6	7.9	5.5	8.5	4.3	4.3	2.4	2.2	1.6	2.9	2.0	2.9	0.3	0.0	0.7	1.94	8.53
Dir	WSW	NE	W	W	W	WNW	WNW	WNW	SW	SSW	SSW	SSW	SSW	SW	SSW	W	W	NW	NW	WNW	SW	NE	NNW	NE	SW	SSW
6 Spd	0.3	0.6	0.4	0.9	0.9	0.5	1.0	2.4	1.1	4.8	8.5	7.1	4.1	3.7	0.7	3.3	3.4	3.4	2.8	2.1	1.1	1.5	1.3	2.0	1.15	8.49
Dir	ESE	SSW	W	SSW	NE	ENE	ENE	ESE	WNW	SW	SW	SW	WSW	NNW	NNW	WNW	WNW	NW	NW	WNW	NNW	E	SSE	ESE	WSW	SW
7 Spd	0.7	0.3	0.5	0.3	0.8	0.5	0.4	0.6	1.6	1.6	1.1	1.2	2.2	1.3	2.1	2.0	4.2	2.6	3.4	2.9	1.8	0.9	0.5	0.9	0.80	4.24
Dir	NNE	E	ENE	N	WSW	NNE	NW	N	NW	NW	N	E	NNW	NW	W	ENE	E	NE	ENE	ENE	E	ESE	E	ENE	NE	E
8 Spd	0.1	1.2	1.4	0.7	0.8	0.8	1.5	4.8	4.1	4.2	3.3	1.9	2.5	4.3	4.8	7.2	4.9	3.8	4.3	2.4	1.6	1.0	0.5	1.2	2.10	7.18
Dir	WNW	WSW	W	E	W	E	ENE	ENE	ENE	ENE	ENE	E	ENE	SE	ENE	ENE	NE	N	NNE	NNE	ENE	ENE	NE	ENE	ENE	ENE
9 Spd	1.9	1.5	0.3	0.5	0.3	0.7	0.2	0.5	1.4	2.8	4.8	5.4	3.4	1.2	2.4	3.0	3.3	2.4	5.5	6.1	4.7	2.4	0.5	0.4	1.31	6.10
Dir	ENE	ENE	SSE	ESE	NE	N	SW	SSE	SSW	S	SSE	SE	ESE	SSW	NE	N	N	N	ENE	ENE	ENE	ENE	N	WSW	ENE	ENE
10 Spd	0.6	0.6	0.4	0.2	0.9	0.4	1.1	1.4	1.8	1.7	0.7	3.3	1.5	2.7	2.2	3.2	3.1	3.0	2.1	2.3	1.3	0.8	3.4	1.9	0.30	3.43
Dir	NE	NNE	N	NNE	WSW	NNW	NNW	NW	ENE	N	NE	NNE	S	S	SSW	NNE	N	N	NNW	ESE	SE	S	SSW	S	NNE	SSW
11 Spd	0.2	0.3	0.2	0.3	0.5	0.6	0.8	0.9	1.9	1.1	2.5	0.3	5.2	7.8	4.7	3.4	3.7	3.2	5.6	4.7	2.8	3.7	2.0	2.3	0.37	7.82
Dir	NE	NNW	N	NW	NNW	SE	ESE	WSW	WNW	SSE	NE	W	WSW	SW	WSW	NNE	ENE	NE	SSW	SSW	ENE	NE	ENE	SSE	SSW	SW
12 Spd	0.7	1.1	1.3	0.3	1.5	1.4	4.0	5.0	8.4	2.2	2.9	4.1	4.7	4.4	5.5	7.8	3.1	5.9	3.9	2.3	2.5	2.2	1.1	1.1	2.12	8.44
Dir	N	ESE	WSW	W	SW	WSW	SW	SW	SSW	WNW	WNW	NW	NW	NW	NW	NW	W	SW	NW	NW	WNW	WSW	SW	NE	W	SSW
13 Spd	1.7	0.2	2.0	1.1	0.5	2.0	1.1	0.6	1.1	4.8	2.3	1.4	2.2	3.3	0.5	1.7	1.1	4.2	3.6	2.5	1.3	1.8	2.8	3.6	1.41	4.80
Dir	ENE	SE	SSW	SSW	SSW	SSW	SW	ENE	SSW	SW	WSW	W	WSW	NNE	ENE	SW	WSW	SSW	SW	SW	W	SSW	SW	SW	SW	SW
14 Spd	1.5	2.1	3.3	1.7	2.2	3.8	3.4	3.9	8.0	5.1	2.8	2.6	5.1	9.7	5.6	7.7	4.5	3.8	2.5	5.5	2.3	1.8	0.4	1.8	3.53	9.67
Dir	WSW	SW	SW	SSW	SW	SSW	S	S	SSW	SSW	S	SE	SSW	SSW	SW	SW	SW	SW	WSW	SSW	SW	SW	SSW	SSW	SSW	SSW
15 Spd	1.5	1.1	2.5	3.0	4.3	2.5	1.0	3.2	1.3	1.3	1.1	0.8	2.6	2.1	2.1	2.0	1.1	2.6	2.5	7.1	3.4	0.6	1.2	2.1	0.31	7.07
Dir	S	SW	SSW	SW	SSW	SSW	WSW	SSW	W	W	NW	NW	NNW	N	NNE	NNE	NNE	NNE	NE	ESE	ESE	NNW	ENE	SW	S	ESE
16 Spd	1.8	2.1	1.5	0.9	1.0	0.5	1.7	1.7	2.4	2.3	1.9	3.9	5.3	6.0	0.9	5.3	2.7	5.0	2.5	1.6	3.2	2.0	3.4	0.2	0.37	6.00
Dir	SW	SW	SW	SW	WSW	WSW	WNW	WNW	WSW	W	WSW	SW	SSW	SSW	WNW	E	NNE	ENE	NNE	NNE	ENE	ENE	ENE	WNW	S	SSW
17 Spd	0.3	0.4	0.4	1.6	2.4	4.1	3.7	3.5	2.5	2.8	3.5	3.3	3.2	3.5	3.3	3.8	2.8	2.2	1.9	2.7	2.2	1.5	1.4	1.9	2.37	4.06
Dir	WNW	E	ENE	E	NE	ENE	NE	NE	NE	NNE	NE	NNE	NE	NE	NE	ENE	NE	NE	NNE	ENE	NE	NE	NE	E	NE	ENE
18 Spd	2.9	1.6	0.7	0.7	2.7	3.4	0.9	1.8	0.8	1.3	1.0	0.2	1.6	6.5	5.1	5.7	4.6	2.2	2.2	4.0	0.6	0.9	0.7	0.9	1.12	6.54
Dir	ENE	NE	S	SW	SSW	SSW	WSW	NNW	WNW	WSW	E	SE	NNW	ENE	ENE	ENE	ENE	ENE	SE	ESE	NE	NNE	WSW	E	E	ENE
19 Spd	0.1	0.5	0.3	0.3	0.1	0.4	0.4	1.4	0.6	2.0	2.5	4.3	3.3	0.7	1.8	2.3	2.9	1.9	1.5	2.7	1.0	0.9	0.4	0.5	0.95	4.32
Dir	W	ENE	WNW	W	WNW	NNE	NW	ENE	NW	NE	ENE	NE	E	N	N	SE	SE	NE	NNE	ENE	NE	ENE	ESE	S	ENE	NE
20 Spd	1.1	0.7	1.1	0.5	0.2	0.8	0.8	1.4	2.5	4.2	8.7	10.2	8.9	8.1	2.1	3.3	4.4	2.7	1.2	1.8	0.5	0.9	0.7	0.3	1.32	10.23
Dir	SSE	S	ESE	SE	E	SSW	NW	ENE	WSW	W	SW	SW	SW	SW	NNW	NNE	E	NNW	NW	NNW	ENE	SE	SSE	ESE	SW	SW
21 Spd	0.2	0.4	2.3	2.3	0.5	1.0	1.6	2.6	2.8	4.7	2.6	1.9	1.0	2.7	2.1	1.3	1.5	0.6	1.7	0.8	0.9	0.8	2.3	1.5	0.40	4.67
Dir	E	SE	SW	WSW	WSW	W	WSW	WSW	WSW	SSW	SSE	E	E	N	NNE	NE	WNW	N	W	WNW	NE	NE	E	S	SW	SSW
22 Spd	1.3	1.9	0.9	2.0	1.5	1.4	1.9	2.2	2.8	4.0	3.3	2.0	3.4	0.9	3.3	4.0	2.3	4.3	6.1	1.9	0.4	2.0	1.1	1.3	0.34	6.09
Dir	SW	SSW	SW	SW	WSW	WNW	WNW	W	WSW	SW	SSW	SW	S	NW	N	ENE	NE	ENE	ENE	NE	NE	S	S	SW	SSW	ENE

WCAS - Hinton

Summary of Hourly Averages

Wind Speed (WS) - kph

June 2015

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	1.0	1.5	0.2	1.0	1.1	0.9	0.8	1.6	2.2	2.2	1.2	2.3	3.9	6.1	0.3	2.0	1.0	0.9	1.1	6.6	7.2	5.5	4.8	1.5	1.91	7.20
Dir	S	S	SW	SSW	WSW	W	W	W	WNW	WNW	W	SE	WSW	SSW	ENE	SW	SE	NW	WSW	SSW	SSW	SW	SSW	W	SW	SSW
24 Spd	2.2	1.3	0.4	0.9	1.1	1.2	1.5	1.9	1.9	2.9	4.1	7.1	6.1	1.9	4.9	4.9	2.5	2.2	13.7	2.4	3.3	4.2	3.2	1.6	1.54	13.65
Dir	WNW	NW	WSW	SW	W	WNW	WNW	W	W	WSW	SW	S	S	SSW	N	ENE	E	S	SSE	ESE	SW	SW	SW	WSW	SSW	SSE
25 Spd	2.8	0.6	1.2	0.3	0.3	0.7	0.8	0.8	1.6	1.9	4.0	6.1	8.3	3.2	5.4	9.8	8.7	11.9	9.7	11.6	9.6	2.8	7.2	2.2	4.44	11.88
Dir	S	SE	SSW	NW	SSW	WSW	SW	SW	WNW	SW	WSW	SSW	SSW	SW	SW	SW	SW	SW	SW	SW	SW	WSW	SW	WSW	SW	SW
26 Spd	3.2	1.7	0.9	0.6	0.3	0.6	1.1	1.3	1.7	1.3	6.0	6.1	7.7	8.8	8.6	4.9	5.6	7.7	2.8	1.4	0.6	1.2	0.8	1.0	2.53	8.79
Dir	S	SSW	SE	SW	SE	SE	ESE	WSW	NNW	W	SW	SW	SW	SSW	SSW	SW	SW	SW	W	WNW	N	ENE	ESE	ENE	SW	SSW
27 Spd	0.5	0.3	0.3	0.3	0.3	0.6	0.5	0.8	0.6	0.8	2.9	3.3	3.4	2.3	2.0	4.6	4.2	8.3	3.3	1.9	PF	PF	PF	PF	0.26	8.26
Dir	E	NE	NNE	NNW	NE	NNW	NNW	NNW	WNW	NNW	NNE	NNE	NE	NE	NNE	ESE	SSE	SSW	WSW	W	PF	PF	PF	PF	E	SSW
28 Spd	1.5	1.5	2.4	3.8	0.2	0.5	1.2	0.7	0.8	2.7	3.4	4.1	4.8	4.6	5.4	5.1	6.0	5.1	4.9	2.7	3.5	1.4	2.2	0.5	1.80	6.05
Dir	WSW	SW	SW	SSW	SW	WSW	WNW	NW	NNW	NNE	NNE	NNE	NE	NE	NE	NE	ENE	ENE	ENE	NE	ENE	E	ESE	N	NE	ENE
29 Spd	0.9	0.5	0.7	0.7	2.8	0.7	0.8	0.5	1.2	0.8	1.1	3.0	6.3	5.4	5.7	4.6	4.7	4.8	2.6	3.8	3.9	4.1	2.1	2.7	2.09	6.27
Dir	WSW	N	SW	NE	SSW	SSE	NW	ENE	NE	N	WNW	ESE	E	ENE	ENE	ENE	ENE	ENE	NE	NE	ENE	ENE	NE	ENE	ENE	E
30 Spd	0.5	0.3	0.3	0.8	2.4	0.7	1.9	0.4	0.7	0.6	1.7	6.8	4.1	2.5	3.0	1.8	0.8	1.1	3.7	4.5	2.6	7.3	4.7	4.8	2.17	7.30
Dir	ENE	NE	NW	WSW	SSW	WSW	SW	WNW	NNE	NW	SW	SSW	SSW	WSW	SW	WSW	WSW	W	SW	SSW	SW	SW	SW	SW	SW	SW
Spd	0.25	0.19	0.53	0.48	0.55	0.38	0.29	0.23	0.80	0.87	0.65	0.88	1.17	0.80	0.71	1.46	1.24	0.71	0.70	0.82	0.55	0.45	0.55	0.43	Diurnal Average	
Dir	ESE	SE	SW	SSW	SSW	SW	W	W	WSW	WSW	SSW	SSE	S	SSE	ENE	ENE	E	E	E	ESE	E	ESE	SSE	SE		
Spd	3.74	3.58	3.95	3.79	4.32	4.06	4.65	4.98	8.44	6.64	8.75	10.23	10.88	9.67	9.35	9.77	9.21	11.88	13.65	11.63	9.64	7.30	7.22	6.00	Diurnal Maximum	
Dir	59.30	53.80	57.71	200.38	199.35	58.84	50.46	215.39	210.75	206.94	225.26	214.98	65.29	203.30	110.79	220.79	107.97	225.36	157.32	216.73	221.66	223.97	221.84	63.96		

Maximum Speed Value: 13.7 kph on Jun 24 19:00
Minimum Speed Value: 0.0 kph on Jun 5 23:00
Maximum Daily Speed Average: 4.44 kph on Jun 2
Minimum Daily Speed Average: 0.26 kph on Jun 4
Maximum Diurnal Speed Average: 1.46 kph at hour 16
Minimum Diurnal Speed Average: 0.19 kph at hour 2

Monthly Average Velocity: 0.317 kph 145.80 deg
Speed Percentiles: $P_1 = 0.2$ $P_{10} = 0.5$ $Q_1 = 0.9$ Median = 2.1 $Q_3 = 3.7$ $P_{90} = 5.7$ $P_{99} = 9.5$
All monthly, daily, and diurnal averages have been calculated using vector methods

Hours in Service:	720
Hours of Data:	716
Hours of Missing Data:	4
Percent Operational Time:	99.4

PF - Power Failure

Frequency Distribution

Direction	Speed Range (kph) 0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total
North	48	0	0	0	0	0	48
NorthEast	147	20	0	0	0	0	167
East	71	19	0	0	0	0	90
SouthEast	32	5	1	0	0	0	38
South	48	11	0	0	0	0	59
SouthWest	123	37	2	0	0	0	162
West	87	0	0	0	0	0	87
NorthWest	63	2	0	0	0	0	65
Total	619	94	3	0	0	0	716

WCAS - Hinton
Summary of Hourly Averages

Relative Humidity (RH) - %
June 2015

Maximum Value: 91.70 % on Jun 20 07:00

Maximum Daily Average: 88.40 % on Jun 17

Minimum Value: 10.3 % on Jun 26 18:00

Minimum Daily Average: 36.57 % on Jun 28

Maximum Diurnal Average: 82.34 % at hour 6

Minimum Diurnal Average: 36.53 % at hour 16

Monthly Average: 57.222 %

Percentiles: P_1 = 11.9 P_{10} = 21.2 Q_1 = 33.2 Median = 60.5 Q_3 = 81.3 P_{90} = 88.3 P_{99} = 91.3

Hours in Service:	720
Hours of Data:	716
Hours of Missing Data:	4
Hours of Calibration:	0
Percent Operational Time:	99.4

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-Jun	73.5	78.5	80.3	82.5	85.5	85.4	73.4	66.5	57.1	53.6	54.2	52.9	55.4	50.0	48.6	47.6	48.7	46.6	50.0	52.9	55.3	57.6	60.6	61.8	61.60	85.50
2-Jun	64.7	66.5	68.4	71.7	72.7	74.4	75.3	75.9	74.7	71.6	69.5	64.6	58.8	52.4	48.3	44.3	42.9	45.8	50.1	55.1	61.5	68.3	74.7	78.2	63.77	78.23
3-Jun	78.3	79.4	80.8	80.8	80.5	81.2	77.0	68.8	61.4	53.5	50.8	42.6	46.4	39.1	31.4	30.5	27.9	25.6	29.2	34.5	40.5	44.4	56.2	63.4	54.34	81.21
4-Jun	70.5	75.4	80.1	83.7	85.0	84.7	82.6	87.6	89.4	90.1	88.5	68.7	58.2	49.5	38.6	42.9	56.7	76.9	75.1	79.7	87.0	88.7	89.2	90.1	75.78	90.14
5-Jun	90.4	90.6	90.9	91.0	91.1	91.2	91.2	81.1	61.3	41.9	31.4	28.1	25.4	24.0	21.4	20.5	23.1	27.8	27.0	29.4	29.0	42.5	56.8	63.9	52.97	91.23
6-Jun	67.1	68.4	74.3	77.0	81.2	84.4	73.8	53.8	39.0	26.7	22.7	20.7	17.6	14.8	13.3	13.4	11.6	15.2	17.7	20.4	25.9	30.8	41.9	48.8	40.02	84.44
7-Jun	52.2	54.7	60.3	63.8	64.9	67.6	66.0	58.0	36.9	29.2	21.6	19.2	19.7	22.4	23.0	23.8	25.5	27.2	25.8	30.1	35.0	48.7	59.6	66.7	41.74	67.60
8-Jun	72.4	75.4	75.4	77.9	76.4	72.6	64.3	46.6	37.7	39.3	39.5	39.2	39.3	25.9	21.2	16.8	16.1	15.9	16.5	17.3	19.9	31.2	46.3	56.6	43.32	77.92
9-Jun	58.5	63.8	67.2	75.5	78.1	79.0	66.0	51.3	35.3	23.2	19.5	17.3	15.0	13.3	12.4	14.3	12.0	12.7	13.5	19.5	27.2	37.7	49.0	57.6	38.28	79.01
10-Jun	66.0	72.6	77.0	81.4	84.5	82.3	73.9	61.7	47.3	39.6	35.4	23.5	15.1	14.1	11.0	13.5	18.8	21.9	16.4	10.9	13.9	21.6	32.8	41.0	40.68	84.54
11-Jun	53.8	62.4	70.3	71.8	73.5	71.9	67.7	59.9	40.8	28.3	25.0	20.3	16.1	15.0	14.7	18.1	22.8	23.9	27.9	25.5	38.7	60.6	75.8	78.4	44.30	78.42
12-Jun	84.4	86.0	85.9	86.1	86.0	86.5	79.1	66.7	47.7	38.8	30.2	26.8	24.7	22.4	25.8	37.1	53.5	41.7	37.4	38.4	44.8	59.2	61.6	69.6	55.01	86.46
13-Jun	76.2	79.4	81.2	86.8	88.4	88.1	88.7	88.9	86.2	80.2	80.0	81.3	76.6	79.6	77.3	74.3	83.0	76.7	75.5	76.9	81.7	86.4	87.3	86.8	81.98	88.91
14-Jun	87.3	86.9	84.9	84.5	88.0	83.4	82.2	82.3	74.7	70.6	69.2	64.6	67.8	76.7	80.0	75.5	80.1	88.4	89.3	86.0	86.1	87.2	88.5	89.5	81.40	89.49
15-Jun	89.8	89.9	90.2	90.6	91.0	91.4	91.5	91.6	91.6	82.8	63.3	52.0	46.7	39.2	33.5	27.7	27.7	26.9	33.0	32.5	43.0	56.4	69.3	77.3	63.70	91.61
16-Jun	81.1	83.5	84.0	86.8	88.5	89.0	85.0	69.1	57.9	53.1	51.3	36.9	27.9	28.4	49.2	51.2	53.7	85.0	86.1	86.1	86.6	88.4	89.2	90.0	70.33	89.95
17-Jun	90.5	90.8	91.0	91.2	91.3	91.2	91.0	90.5	90.2	90.1	89.5	88.6	87.9	86.4	86.0	83.7	84.5	86.6	86.9	85.7	85.0	87.1	88.3	87.7	88.40	91.29
18-Jun	87.4	89.0	89.3	88.8	88.9	86.4	85.9	79.2	67.3	59.7	47.3	35.4	32.3	34.5	32.1	31.4	28.4	32.2	36.0	42.3	52.8	61.5	64.6	67.4	59.17	89.30
19-Jun	77.1	80.6	83.7	84.4	86.2	87.0	86.8	86.9	86.8	85.7	76.5	68.9	75.2	82.1	82.5	74.7	79.0	84.4	87.0	83.5	85.9	88.3	90.0	90.4	83.06	90.37
20-Jun	90.4	90.6	90.8	90.8	91.1	91.5	91.7	81.0	51.8	39.8	32.1	28.6	26.4	24.2	27.9	31.9	34.8	36.0	32.1	35.9	47.8	59.5	65.3	74.3	56.93	91.70
21-Jun	79.0	83.1	83.7	83.5	85.8	84.9	80.8	64.5	52.0	44.6	37.3	36.0	30.4	32.8	25.0	18.6	19.6	19.7	20.7	25.2	33.7	51.8	46.0	44.9	49.31	85.82
22-Jun	53.0	60.0	70.3	73.8	79.2	80.2	68.2	54.0	44.8	35.2	28.3	27.9	26.0	28.5	29.8	27.4	30.0	35.2	41.6	66.0	85.7	86.6	87.6	89.0	54.51	89.05
23-Jun	89.9	90.3	90.6	90.8	91.0	91.2	91.3	85.1	70.4	57.1	40.4	33.3	40.6	54.7	52.3	53.8	48.3	39.6	43.7	42.6	43.4	54.0	61.5	71.9	63.66	91.33
24-Jun	78.3	81.3	84.2	85.8	87.2	87.8	78.2	62.3	52.8	46.7	34.6	25.3	22.0	19.9	24.9	21.3	20.4	21.0	26.4	36.5	33.9	29.2	32.2	37.3	47.05	87.80
25-Jun	41.4	56.2	62.7	67.8	71.3	72.0	72.0	68.9	46.2	31.1	25.0	22.2	20.3	21.1	18.3	19.5	20.2	21.4	24.2	26.2	29.4	37.3	41.1	45.4	40.05	72.03
26-Jun	50.3	60.9	69.6	76.4	77.8	77.9	65.3	60.5	52.2	37.5	25.2	22.9	20.3	16.7	14.1	12.4	11.2	10.3	12.0	16.0	20.6	33.1	47.8	58.4	39.56	77.88
27-Jun	65.7	72.5	74.9	79.5	82.6	81.4	71.5	52.9	39.6	34.2	31.4	26.2	21.2	21.4	25.0	19.7	16.6	10.9	12.8	15.1	PF	PF	PF	PF	42.75	82.55
28-Jun	37.8	47.9	56.9	58.0	69.9	71.3	61.9	47.3	34.0	26.3	22.6	22.0	20.7	18.3	17.7	17.1	18.0	22.4	23.1	27.7	28.8	36.3	42.5	49.2	36.57	71.29
29-Jun	58.1	64.9	66.8	63.3	59.1	65.0	71.1	69.5	61.6	50.9	45.5	43.3	37.9	42.7	46.4	48.8	52.2	53.0	58.8	60.0	62.6	68.2	75.3	79.4	58.51	79.41
30-Jun	84.3	85.9	85.4	85.5	88.2	89.8	90.3	90.4	89.3	78.6	84.2	77.2	76.7	84.2	83.9	84.1	84.7	86.4	87.2	88.1	87.8	84.7	88.0	87.0	85.50	90.39
	71.65	75.59	78.37	80.38	82.15	82.34	78.13	70.09	59.26	51.33	45.73	40.55	38.28	37.81	37.19	36.53	38.40	40.57	42.10	44.87	50.81	58.19	64.44	69.03	Diurnal Average	
	90.50	90.84	90.98	91.16	91.29	91.46	91.70	91.61	91.57	90.13	89.50	88.62	87.91	86.43	85.99	84.14	84.68	88.35	89.25	88.06	87.83	88.70	89.99	90.37	Diurnal Maximum	

PF - Power Failure

WCAS - Hinton

Summary of Hourly Standard Deviations

Wind Speed (WS) - kph

June 2015

Maximum Value: 7.09 kph on Jun 25 18:00

Maximum Daily Average: 3.63 kph on Jun 25

Minimum Value: 0.3 kph on Jun 1 01:00

Minimum Daily Average: 1.56 kph on Jun 4

Maximum Diurnal Average: 3.71 kph at hour 13

Minimum Diurnal Average: 1.32 kph at hour 4

Monthly Average: 2.325 kph

Percentiles: P_1 = 0.6 P_{10} = 1.0 Q_1 = 1.4 Median = 2.1 Q_3 = 3.0 P_{90} = 3.9 P_{99} = 5.8

Hours in Service:	720
Hours of Data:	716
Hours of Missing Data:	4
Hours of Calibration:	0
Percent Operational Time:	99.4

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-Jun	0.3	0.7	1.7	1.1	0.9	1.8	1.5	1.6	2.4	3.0	3.4	4.7	4.8	4.5	3.6	3.7	4.0	4.3	3.7	3.2	2.9	2.8	2.9	2.3	2.75	4.79
2-Jun	2.4	2.2	2.5	2.3	2.7	2.5	3.2	2.8	2.6	2.4	2.6	3.2	5.3	3.9	4.0	4.0	4.2	3.4	3.2	3.3	2.7	2.5	2.3	2.0	3.00	5.27
3-Jun	2.0	1.8	1.3	1.4	1.1	0.9	1.5	1.6	1.7	2.1	2.5	2.5	4.4	3.7	4.5	4.2	5.1	5.6	4.9	4.0	2.8	2.2	1.4	1.5	2.71	5.64
4-Jun	1.4	1.3	0.9	1.0	0.6	0.7	0.7	1.2	0.9	0.8	1.2	1.8	1.7	2.5	3.4	4.1	2.0	2.7	2.3	1.3	0.9	1.2	1.5	1.4	1.56	4.05
5-Jun	1.5	1.0	0.9	0.7	1.0	1.0	1.1	1.1	3.1	4.7	4.4	4.4	5.7	4.9	4.0	2.5	2.7	2.0	1.5	1.7	2.1	0.9	0.9	1.2	2.30	5.75
6-Jun	1.4	1.6	1.0	1.3	1.3	1.1	1.5	1.7	1.4	4.1	5.6	5.3	3.8	2.6	2.8	2.2	2.7	2.1	2.4	2.1	1.2	1.2	1.7	1.8	2.24	5.57
7-Jun	1.0	1.1	0.9	1.0	1.2	0.9	0.7	1.1	1.8	1.8	2.5	3.0	2.1	2.1	2.7	2.4	2.3	2.4	1.9	1.8	2.1	1.4	1.9	1.3	1.72	2.97
8-Jun	1.0	1.3	1.5	2.3	1.7	1.6	1.8	2.6	2.6	3.0	2.3	1.9	2.2	2.7	3.6	4.1	4.3	4.2	3.7	2.7	2.2	1.4	0.9	1.1	2.36	4.33
9-Jun	1.6	1.6	1.6	1.0	0.8	0.8	1.3	1.6	1.4	2.1	3.4	4.1	2.9	3.3	2.8	2.5	2.4	2.4	3.7	3.4	3.0	1.9	0.7	0.8	2.13	4.08
10-Jun	1.1	0.9	1.0	0.6	1.2	0.6	0.9	1.2	1.7	2.0	2.3	2.6	3.0	3.5	3.1	2.8	2.6	2.0	1.9	1.8	2.5	1.7	2.0	1.8	1.88	3.50
11-Jun	0.5	1.0	0.9	0.7	0.7	1.8	2.4	1.6	1.6	1.9	2.5	4.5	5.3	5.9	4.6	4.1	3.2	2.9	5.8	3.6	3.5	3.1	1.9	2.6	2.77	5.86
12-Jun	1.3	1.7	1.7	1.4	2.2	1.4	3.3	3.1	4.3	1.8	2.8	2.6	2.6	2.8	3.0	3.7	3.1	3.8	2.5	2.1	3.4	2.5	1.6	1.1	2.50	4.31
13-Jun	1.4	1.1	1.7	1.4	1.1	1.6	1.2	1.0	1.8	3.2	2.1	1.9	2.8	3.2	1.5	1.8	1.7	2.2	3.0	2.6	1.7	1.7	2.2	2.6	1.94	3.23
14-Jun	1.5	1.9	2.0	2.1	2.3	3.1	2.9	2.9	2.6	2.6	2.6	3.1	3.9	4.4	3.9	4.3	3.8	3.1	2.4	2.9	1.8	1.6	1.2	1.8	2.69	4.40
15-Jun	1.5	1.4	1.4	1.5	1.4	2.1	1.5	2.3	1.6	1.7	1.8	2.0	2.1	2.3	2.4	2.4	2.2	2.2	2.0	3.0	2.9	2.6	1.7	2.0	2.00	3.02
16-Jun	1.3	1.3	1.9	1.1	1.0	0.8	1.4	1.7	2.2	2.1	2.5	3.8	3.8	3.7	3.4	3.5	3.1	3.5	2.0	1.6	2.1	2.3	3.5	0.4	2.25	3.80
17-Jun	0.7	0.9	0.8	1.4	2.2	2.5	2.4	2.6	2.3	2.5	3.1	2.5	2.7	2.6	2.8	2.8	2.2	2.0	1.7	1.9	2.0	1.8	1.3	1.3	2.05	3.14
18-Jun	1.4	1.3	1.3	1.1	2.2	1.4	1.4	1.3	1.5	2.1	2.0	2.1	3.2	3.7	3.4	3.5	3.2	2.0	3.1	3.5	0.9	1.1	1.6	1.1	2.06	3.73
19-Jun	0.9	0.9	1.2	0.8	0.5	0.6	0.9	1.4	0.8	1.6	2.0	2.6	2.5	1.7	2.3	2.4	2.4	2.0	2.3	2.1	1.1	1.4	1.7	1.6	1.57	2.56
20-Jun	1.7	1.4	1.3	1.3	0.4	1.4	1.1	1.3	3.7	4.0	5.5	6.3	6.9	5.9	3.1	3.2	2.9	2.4	2.0	2.4	1.2	1.6	1.4	0.9	2.63	6.85
21-Jun	0.9	1.3	1.2	1.6	1.4	1.1	1.8	2.6	2.6	3.0	3.3	3.2	2.7	2.2	2.3	2.1	2.0	1.9	1.9	1.2	1.0	1.0	3.1	2.5	1.99	3.28
22-Jun	1.7	2.3	1.1	1.4	1.2	1.2	1.4	1.9	2.8	3.1	3.7	2.4	3.9	1.9	3.1	2.8	2.9	3.4	3.1	3.7	2.3	2.3	2.5	1.4	2.40	3.87
23-Jun	1.7	2.1	0.9	1.3	1.2	1.0	1.2	1.6	1.8	1.8	1.7	3.0	3.5	4.3	2.2	2.7	2.3	1.3	1.7	5.1	2.8	3.3	3.5	1.4	2.22	5.09
24-Jun	1.3	1.1	0.9	1.0	1.2	1.0	1.3	1.8	2.4	2.6	2.9	3.9	4.3	3.1	3.8	2.8	2.5	2.9	6.6	2.6	3.9	3.4	2.6	2.1	2.59	6.59
25-Jun	1.7	1.4	1.5	0.8	1.2	1.5	1.3	1.8	1.6	3.2	4.0	5.0	5.1	4.3	5.4	5.9	5.2	7.1	5.7	5.4	5.5	3.2	6.0	3.4	3.63	7.09
26-Jun	2.8	2.1	1.5	1.5	1.3	1.6	1.4	2.1	1.6	3.2	5.8	5.2	5.7	5.9	6.3	5.2	5.3	5.5	2.9	2.3	1.5	1.5	1.3	1.3	3.12	6.31
27-Jun	1.0	0.8	0.6	0.7	0.5	0.7	0.9	1.1	1.2	1.7	2.8	2.6	3.0	2.2	1.6	3.7	3.5	4.6	3.9	2.8	PF	PF	PF	PF	2.00	4.60
28-Jun	2.2	2.1	1.4	1.8	1.3	1.0	1.1	1.2	1.3	2.2	2.5	3.2	3.3	3.0	3.5	3.6	3.4	2.3	3.0	2.4	2.5	1.5	1.7	1.6	2.22	3.64
29-Jun	1.5	1.0	3.0	2.7	3.6	2.1	1.5	1.0	1.3	1.3	1.4	3.6	3.4	2.9	3.0	2.4	2.5	2.6	2.0	2.5	2.1	2.2	2.0	2.2	2.24	3.65
30-Jun	0.9	0.4	0.7	1.2	2.9	1.0	1.7	0.7	0.9	1.5	2.5	3.7	4.4	3.0	2.5	2.0	1.5	1.8	3.5	3.4	2.2	4.8	2.9	2.5	2.20	4.81
	1.40	1.37	1.34	1.32	1.41	1.37	1.54	1.72	1.97	2.43	2.92	3.36	3.71	3.42	3.28	3.25	3.04	3.03	3.01	2.75	2.31	2.07	2.06	1.69	Diurnal Average	
	2.78	2.31	2.98	2.68	3.64	3.14	3.32	3.07	4.31	4.72	5.81	6.33	6.85	5.89	6.31	5.87	5.29	7.09	6.59	5.43	5.47	4.81	6.02	3.37	Diurnal Maximum	

PF - Power Failure

,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

June 2015

Maximum Value: 114.49 deg on Jun 19 23:00

Maximum Daily Average: 70.69 deg on Jun 11

Minimum Value: 16.6 deg on Jun 18 06:00

Minimum Daily Average: 38.01 deg on Jun 2

Maximum Diurnal Average: 66.43 deg at hour 4

Minimum Diurnal Average: 48.13 deg at hour 20

Monthly Average: 58.226 deg

Percentiles: P_1 = 22.2 P_{10} = 33.5 Q_1 = 41.8 Median = 54.7 Q_3 = 73.8 P_{90} = 89.7 P_{99} = 99.8

Hours in Service:	720
Hours of Data:	716
Hours of Missing Data:	4
Hours of Calibration:	0
Percent Operational Time:	99.4

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-Jun	61.4	78.6	57.0	94.1	70.1	76.3	90.4	72.3	48.8	58.6	32.9	31.5	28.2	37.7	42.6	44.7	42.2	44.2	46.9	43.4	36.8	40.3	30.8	20.8	51.27	94.09
2-Jun	32.8	34.0	33.3	39.2	45.9	46.9	41.2	53.4	40.5	44.3	43.4	39.1	48.3	34.5	34.3	31.6	28.1	31.2	31.6	31.7	35.6	36.7	45.6	29.1	38.01	53.36
3-Jun	30.5	38.5	50.8	57.3	69.3	52.0	84.7	74.5	92.3	89.7	41.0	42.7	44.7	39.5	42.0	36.2	41.6	34.0	34.0	36.2	42.4	38.6	34.4	41.8	49.53	92.25
4-Jun	68.7	62.7	97.9	83.8	47.8	29.3	62.7	65.4	41.9	58.3	75.1	89.8	57.0	74.3	50.2	70.5	56.5	91.1	86.8	62.9	46.6	84.8	87.0	89.5	68.37	97.95
5-Jun	69.0	58.3	47.2	37.7	44.4	35.7	42.2	34.4	59.5	47.9	35.8	60.2	37.8	73.6	59.0	61.2	52.4	56.7	28.6	41.0	33.4	75.0	97.6	81.9	52.93	97.63
6-Jun	95.6	94.7	80.3	79.3	55.4	69.9	62.2	41.8	58.8	53.9	39.7	48.3	54.2	49.5	89.4	44.8	49.4	40.3	49.3	50.9	46.4	30.4	61.9	57.5	58.50	95.65
7-Jun	72.4	82.5	73.2	96.4	59.1	77.6	74.2	59.8	70.7	78.2	98.6	97.0	51.7	84.8	70.3	49.2	32.1	44.1	29.8	41.3	80.6	74.6	94.0	57.5	68.73	98.58
8-Jun	99.9	49.7	56.9	72.5	97.8	90.7	74.8	29.1	42.9	39.7	42.4	59.6	50.7	43.0	47.1	37.2	53.1	56.9	53.9	67.4	54.1	65.9	57.6	51.3	58.09	99.89
9-Jun	68.0	55.6	95.9	101.0	75.5	40.3	86.4	100.0	69.7	64.0	54.6	58.0	68.6	93.7	69.1	51.2	50.7	48.0	39.5	32.6	34.2	40.3	40.1	94.5	63.80	100.96
10-Jun	82.9	49.8	79.4	72.4	65.7	51.6	30.8	47.7	59.5	71.8	99.5	52.4	102.7	90.7	79.6	51.7	38.9	32.6	45.4	64.2	94.4	91.3	37.0	57.6	64.56	102.66
11-Jun	72.1	95.5	86.1	56.2	76.3	85.5	103.3	86.1	54.8	86.0	64.8	93.7	59.2	47.8	57.0	73.7	51.4	56.7	66.3	69.2	78.1	48.5	56.3	71.9	70.69	103.33
12-Jun	86.1	85.6	67.9	96.8	85.5	63.8	38.0	39.9	30.4	49.5	54.9	36.8	39.3	41.8	33.2	25.0	58.4	41.7	39.6	57.2	62.1	61.8	79.2	35.6	54.59	96.75
13-Jun	31.4	104.3	48.6	92.0	89.3	71.1	53.0	79.0	84.9	39.9	52.2	65.1	68.2	60.2	94.8	60.2	65.8	34.3	45.6	48.4	53.6	84.5	40.7	39.9	62.79	104.28
14-Jun	49.3	52.5	37.7	65.8	74.9	58.6	70.0	70.6	20.9	34.4	71.9	88.1	61.0	22.4	43.6	32.6	45.3	43.3	45.9	23.8	40.6	36.7	95.4	70.9	52.34	95.39
15-Jun	65.5	66.7	28.5	21.9	18.4	47.1	59.6	52.6	65.7	73.4	87.2	96.1	58.8	71.0	76.0	74.4	95.3	50.5	39.5	25.0	56.8	85.5	62.2	78.2	60.67	96.10
16-Jun	24.0	29.0	89.9	54.3	37.1	46.0	37.7	49.9	54.6	57.3	71.0	60.2	55.4	37.8	94.7	42.5	64.3	44.8	42.9	44.9	46.8	50.2	47.1	75.2	52.41	94.67
17-Jun	56.3	83.8	48.6	37.5	37.9	33.6	37.4	42.0	49.6	44.5	47.2	46.7	44.6	46.5	47.2	42.2	38.5	52.3	48.2	39.1	49.1	57.1	38.5	33.2	45.89	83.77
18-Jun	25.5	26.7	66.4	67.9	71.5	16.6	50.7	30.0	95.5	83.7	85.9	111.9	87.1	39.2	41.9	33.6	39.8	50.7	88.2	47.0	36.8	33.7	88.2	68.0	57.77	111.94
19-Jun	99.8	61.7	93.0	81.3	76.1	44.0	66.3	49.6	32.5	41.4	54.8	34.2	55.5	88.1	73.0	68.6	60.0	50.5	84.9	37.4	43.3	91.2	114.5	108.8	67.11	114.49
20-Jun	89.2	91.7	47.0	92.5	66.1	83.1	64.0	44.2	88.9	55.3	41.2	35.2	46.4	50.9	72.1	50.5	45.5	40.7	67.0	54.5	91.8	90.3	96.0	79.9	66.01	96.04
21-Jun	78.6	84.1	34.9	41.1	81.5	32.8	56.7	50.9	56.4	48.2	82.2	84.5	96.6	46.9	60.3	94.5	74.2	93.6	53.4	58.4	23.1	39.5	88.5	99.3	65.01	99.26
22-Jun	58.7	61.2	32.3	28.4	19.8	31.4	31.3	47.4	51.7	49.4	82.1	68.0	78.8	78.2	54.7	49.0	64.2	55.8	27.6	66.6	89.2	82.3	97.3	70.8	57.33	97.25
23-Jun	90.4	80.0	93.8	40.9	42.9	40.8	60.1	46.4	44.6	48.6	68.1	79.4	39.8	46.9	98.9	75.9	97.2	73.9	58.6	39.4	21.2	33.2	43.0	41.8	58.57	98.93
24-Jun	26.2	28.4	88.9	41.2	42.8	37.0	34.2	45.9	58.4	53.7	51.0	33.7	66.6	89.7	47.0	35.0	67.5	77.6	23.3	63.9	78.1	40.2	42.5	54.0	51.13	89.71
25-Jun	64.3	70.9	64.3	87.5	98.9	87.5	84.3	82.3	57.3	90.2	56.7	55.8	38.0	74.6	58.0	35.3	34.5	35.5	34.1	26.0	31.2	47.7	40.2	83.6	59.94	98.91
26-Jun	56.5	60.7	72.5	78.2	95.1	97.8	54.2	66.9	54.4	92.4	54.2	56.7	50.1	50.5	51.7	61.7	59.7	50.8	58.4	80.2	89.3	67.3	82.1	54.7	66.49	97.77
27-Jun	95.2	75.2	63.7	77.9	65.1	44.1	62.6	82.6	88.8	92.6	66.0	50.0	70.2	56.8	38.0	48.7	59.0	40.9	58.1	69.1	PF	PF	PF	PF	65.22	95.17
28-Jun	85.6	82.1	40.7	48.8	93.4	73.6	30.8	70.9	67.9	48.8	52.3	48.2	45.8	46.2	44.3	44.7	35.4	26.3	34.3	42.3	41.9	71.6	40.0	73.6	53.72	93.40
29-Jun	98.1	65.1	81.0	95.1	80.5	98.8	74.9	83.8	49.9	65.6	57.4	66.9	35.9	34.9	30.9	30.5	30.2	31.3	43.9	32.7	28.8	29.6	46.2	39.6	55.48	98.81
30-Jun	55.9	49.2	89.6	54.0	66.0	42.8	52.7	53.0	46.6	81.8	82.6	30.3	46.9	43.9	49.8	45.0	60.6	56.3	41.1	47.3	35.3	35.1	32.4	26.7	51.03	89.60
	66.33	65.28	64.92	66.43	65.01	56.87	59.04	58.41	57.94	61.44	61.56	60.66	56.26	56.52	58.35	50.07	53.05	49.55	48.23	48.13	51.78	57.37	62.64	61.62	Diurnal Average	
	99.89	104.28	97.95	100.96	98.91	98.81	103.33	100.00	95.48	92.60	99.52	111.94	102.66	93.71	98.93	94.47	97.25	93.56	88.21	80.15	94.39	91.26	114.49	108.81	Diurnal Maximum	

PF - Power Failure

,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 JUNE 2015