

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

**AIR QUALITY MONITORING**  
**August 2015**  
**Monthly Report**

**Prepared by:**

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





September 15<sup>th</sup>, 2015

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

Dear Mr. Whitney:

**Monthly Ambient Air Quality Monitoring Report for August 2015  
For Hinton Pulp – A Division of West Fraser Mills Ltd.**

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

Network Station is                      AMS 906                      Hinton  
Identified as:

The person responsible for this reporting is Robert Scotten Executive Director of West Central Airshed Society.

The following operational notes are included as required by the Air Monitoring Directive:

**1. Concentrations in excess of the Clean Air (Maximum Levels) Regulation:**

There were 12 readings occurring in August 2015 in excess of the one – hour average guidelines as indicated in Air Monitoring Directive Section III.A.3. (a) for H<sub>2</sub>S. The maximum one-hour average reading was 20.33 ppb, occurring August 11<sup>th</sup>. There were two readings in August 2015 in excess of the twenty–four hour average guidelines as indicated in Air Monitoring Directive Section III.A.3. (a) for H<sub>2</sub>S. The maximum 24-hour average reading was 3.96 ppb.

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

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

**3. Monitoring Notes:**

**AMS 906 (Hinton)**

All analyzers and meteorological equipment returned uptimes of 100 percent for the month of August.

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	August

### TOTAL EMISSIONS FOR MONTH (IN TONNES)

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

### "HOURS" OF EXCEEDED STACK LICENSED LIMITS (CEM)

POLLUTANT	STACK TYPE	1-HR AVG CONCENTRATION	1-HR AVG MASS EMISSION	24-HR AVG MASS EMISSION	STACK TOP TEMP.	% TIME STACK MONITOR OPERATIONAL
SO <sub>2</sub>						

### STATIC AMBIENT MONITORING

PARAMETER	NO. OF STATIONS	PEAK READING	AVG. OF NETWORK	NO. OF STATIONS OVER GUIDELINES
T.S.				
H <sub>2</sub> S				

### CONTINUOUS AMBIENT MONITORING

PARAMETER	STATION NUMBER	% TIME OPERATIONAL	1-HR AVERAGE		24-HR AVERAGE	
			MAXIMUM CONCENTRATION (ppm)	NO. READINGS > REGULATIONS	MAXIMUM CONCENTRATION (ppm)	NO. READINGS > REGULATIONS
Wind	906	100.0	n/a	n/a	n/a	n/a
TRS	906	100.0	0.020	12	0.004	2
PM <sub>2.5</sub>	906	100.0	63.6 µg/m <sup>3</sup>	0	31.11 µg/m <sup>3</sup>	1

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  
AUGUST 2015**

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

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



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

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

Maximum Value: 20.33 ppb on Aug 11 08:00		Maximum Daily Average: 3.96 ppb on Aug 27		Hours in Service: 744																							
Minimum Value: 0 ppb on Aug 1 19:00		Minimum Daily Average: 0.19 ppb on Aug 26		Hours of Data: 708																							
Maximum Diurnal Average: 4.34 ppb at hour 8		Minimum Diurnal Average: 0.61 ppb at hour 16		Hours of Missing Data: 36																							
Monthly Average: 1.610 ppb		Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.1 Q <sub>1</sub> = 0.2 Median = 0.5 Q <sub>3</sub> = 1.6 P <sub>90</sub> = 4.7 P <sub>99</sub> = 11.4		Hours of Calibration: 36																							
				Percent Operational Time: 100.0																							
Day	Hourly Period Ending At																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Aug	0	0	4	Z	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.38	4.20	
2-Aug	0	0	4	Z	10	6	7	12	8	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2.27	11.98	
3-Aug	0	1	5	Z	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.65	4.73	
4-Aug	0	0	0	Z	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.20	0.86	
5-Aug	3	3	1	Z	0	1	3	1	1	0	0	1	0	1	1	2	0	2	2	1	0	1	1	1	1.13	2.83	
6-Aug	3	6	8	Z	4	3	1	5	1	1	2	2	1	1	3	2	4	6	6	1	5	0	1	1	2.87	7.77	
7-Aug	0	1	0	Z	1	1	1	1	1	2	0	0	1	0	0	0	0	0	1	1	0	0	0	0	0.60	1.54	
8-Aug	0	0	0	Z	3	4	5	2	4	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1.12	4.92	
9-Aug	0	5	11	Z	2	2	5	1	0	0	1	1	0	0	1	0	0	0	0	0	0	0	1	1	1.40	11.13	
10-Aug	1	3	6	Z	6	4	7	10	6	1	0	1	1	1	0	1	0	0	0	0	0	0	1	3	2.33	9.80	
11-Aug	2	2	2	Z	3	4	11	20	7	2	1	1	1	0	0	0	0	0	0	1	9	1	0	0	3.02	20.33	
12-Aug	0	2	1	Z	1	1	4	9	8	7	2	1	1	0	0	0	0	0	1	0	0	0	0	0	1.77	9.40	
13-Aug	0	1	5	Z	2	3	9	10	3	4	2	2	2	2	1	1	1	0	0	0	0	0	1	2	2.31	9.58	
14-Aug	1	1	1	Z	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.40	1.46	
15-Aug	0	1	0	Z	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2	0	2	0.49	2.07	
16-Aug	1	1	0	Z	2	1	0	4	8	6	0	1	1	0	0	0	0	0	0	0	1	2	1	1	1.41	8.24	
17-Aug	1	8	9	Z	9	10	11	7	8	6	3	1	1	0	0	1	0	0	0	5	0	0	0	0	3.62	11.06	
18-Aug	0	1	1	Z	0	4	7	6	0	0	0	0	0	0	1	1	3	3	4	4	6	2	1	0	1.99	6.67	
19-Aug	0	0	0	Z	1	1	1	2	2	1	2	1	0	0	0	0	0	0	0	C	0	0	0	0	0.68	2.18	
20-Aug	0	0	2	Z	10	11	1	3	1	C	C	C	C	0	0	0	0	0	0	0	0	0	0	0	1.62	10.97	
21-Aug	0	0	0	Z	0	0	0	0	0	3	2	1	1	0	1	0	0	0	0	8	2	4	10	5	1.67	9.82	
22-Aug	8	2	3	Z	5	2	3	8	6	3	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1.90	8.34	
23-Aug	1	0	0	Z	1	1	4	9	4	0	0	0	0	0	1	1	1	2	0	1	0	0	0	3	1.34	8.74	
24-Aug	2	2	2	Z	1	1	1	2	17	13	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1.89	17.49	
25-Aug	0	0	0	Z	8	9	10	3	15	4	2	2	1	1	1	1	2	3	0	0	0	0	0	0	2.70	15.19	
26-Aug	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	0.42	
27-Aug	0	0	5	Z	8	13	19	9	10	6	4	3	2	4	1	0	0	1	0	0	0	4	0	0	3.96	18.75	
28-Aug	0	0	0	Z	1	1	1	1	0	0	0	0	2	4	4	3	4	3	0	0	1	1	1	2	1.32	4.35	
29-Aug	2	1	1	Z	11	6	3	5	5	9	0	0	0	0	0	0	1	1	1	9	3	0	0	0	2.65	11.09	
30-Aug	0	0	0	Z	0	0	0	2	1	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0.40	2.39	
31-Aug	1	1	1	Z	1	1	1	1	5	5	3	2	1	1	1	1	1	1	2	1	1	1	2	2	1.60	4.59	
		0.98	1.42	2.43	--	3.09	2.95	3.82	4.34	3.97	2.68	1.09	0.77	0.64	0.70	0.64	0.61	0.73	0.82	0.74	1.11	0.99	0.71	0.79	0.96	Diurnal Average	
		7.66	8.18	11.13	--	11.09	12.89	18.75	20.33	17.49	13.23	4.38	3.02	2.32	4.36	3.53	2.85	4.19	5.50	6.18	9.21	8.70	4.06	9.82	5.36	Diurnal Maximum	
Z - zerospan		C - Calibration																									
Alberta Ambient Air Quality Objectives (AAAQO):		1-hr 10 ppb					24-hr 3 ppb																				



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

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

Maximum Value: 88.56 ppb on Aug 20 14:00		Maximum Daily Average: 8.77 ppb on Aug 20		Hours in Service: 744																																													
Minimum Value: 0.0 ppb on Aug 1 01:00		Minimum Daily Average: 0.00 ppb on Aug 15		Hours of Data: 708																																													
Maximum Diurnal Average: 3.96 ppb at hour 14		Minimum Diurnal Average: 0.06 ppb at hour 5		Hours of Missing Data: 36																																													
Monthly Average: 0.725 ppb		Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.0 Q <sub>1</sub> = 0.0 Median = 0.1 Q <sub>3</sub> = 0.4 P <sub>90</sub> = 1.4 P <sub>99</sub> = 6.3		Hours of Calibration: 36																																													
				Percent Operational Time: 100.0																																													
Day	Hourly Period Ending At																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Aug	0.0	0.0	0.0	Z	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	0.0	0.0	0.0	0.0	0.0	0.0	0.04	0.13																							
2-Aug	0.0	0.0	0.1	Z	0.0	0.0	0.0	0.1	0.3	2.0	1.3	0.3	0.2	0.1	0.2	0.2	0.1	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.28	1.98																							
3-Aug	0.1	0.1	0.2	Z	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.3	0.4	0.3	0.5	0.6	0.3	0.2	0.7	0.9	0.4	0.28	0.92																							
4-Aug	0.2	0.1	0.1	Z	0.0	0.0	0.0	0.1	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.1	0.05	0.18																							
5-Aug	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	1.0	1.6	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.16	1.64																							
6-Aug	0.0	0.0	0.1	Z	0.0	0.0	0.1	0.1	0.0	0.1	0.0	0.2	0.2	0.3	2.0	1.0	0.6	0.2	0.1	0.1	0.1	0.0	0.1	0.0	0.24	1.96																							
7-Aug	0.0	0.1	0.1	Z	0.0	0.1	0.0	0.1	0.2	0.5	0.4	0.6	0.3	0.9	0.2	0.2	0.4	0.1	0.2	0.1	0.2	0.2	0.2	0.2	0.23	0.90																							
8-Aug	0.2	0.3	0.2	Z	0.2	0.2	0.2	0.2	0.2	2.2	5.2	1.5	0.4	0.4	0.3	0.3	0.3	0.2	0.3	0.4	0.3	0.2	0.1	0.0	0.59	5.20																							
9-Aug	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	1.1	1.3	0.0	0.6	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.24	2.50																							
10-Aug	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.1	1.0	0.3	0.0	0.1	0.5	1.1	0.1	1.2	0.3	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.21	1.15																							
11-Aug	0.0	0.1	0.1	Z	0.0	0.0	0.0	0.1	0.1	0.5	1.0	1.5	1.3	0.8	0.7	0.1	3.1	0.8	1.3	0.3	0.0	0.0	0.0	0.0	0.51	3.07																							
12-Aug	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.1	0.7	3.1	3.0	2.2	1.4	0.9	1.4	0.9	2.5	0.0	0.3	0.1	0.1	0.0	0.1	0.1	0.72	3.12																							
13-Aug	0.0	0.0	0.1	Z	0.0	0.0	0.1	0.2	0.2	0.4	0.4	1.6	5.3	8.7	4.4	3.1	0.5	0.0	0.0	0.0	0.0	0.1	0.0	0.0	1.10	8.72																							
14-Aug	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.1	0.2	0.2	0.5	0.4	0.4	0.4	0.3	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.14	0.54																							
15-Aug	0.1	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.06																							
16-Aug	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.7	0.6	0.5	0.5	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.16	0.70																							
17-Aug	0.2	0.1	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.7	0.6	0.5	4.7	0.8	0.5	1.0	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.46	4.73																							
18-Aug	0.1	0.2	0.9	Z	0.0	0.0	0.0	0.1	0.1	0.2	0.3	0.2	0.8	0.5	1.7	0.4	1.0	1.3	1.6	0.7	0.1	0.1	0.1	0.0	0.45	1.69																							
19-Aug	0.0	0.0	0.0	Z	0.0	0.1	0.1	0.2	0.5	0.6	0.2	0.7	0.5	0.3	0.1	0.1	0.1	0.1	0.1	0.1	C	0.1	0.1	0.1	0.19	0.67																							
20-Aug	0.1	0.2	0.1	Z	0.1	0.2	0.2	0.3	0.4	C	C	C	C	88.6	40.1	36.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.77	88.56																							
21-Aug	0.0	0.0	0.0	Z	0.0	0.0	11.3	0.0	0.0	0.1	0.1	0.0	0.1	0.3	0.4	0.2	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.1	0.56	11.33																							
22-Aug	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.2	0.6	1.1	1.4	2.9	2.4	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.40	2.91																							
23-Aug	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.1	5.0	0.7	2.6	1.2	2.4	1.5	5.1	1.9	0.2	0.1	0.2	0.1	0.1	0.2	0.93	5.12																							
24-Aug	0.1	0.1	0.1	Z	0.0	0.2	0.2	0.3	0.2	0.4	0.2	0.2	0.4	0.9	0.3	0.2	0.3	0.2	0.1	0.0	0.1	0.2	0.1	0.0	0.22	0.91																							
25-Aug	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.2	1.3	4.3	3.9	6.4	2.8	0.7	1.6	1.0	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.99	6.39																							
26-Aug	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.2	0.8	1.0	1.2	0.9	0.7	0.4	0.1	0.1	0.1	0.1	0.28	1.22																							
27-Aug	0.1	0.1	0.1	Z	0.1	0.0	0.2	0.2	0.7	2.4	6.0	3.8	4.1	1.4	2.7	1.2	0.6	2.7	1.6	0.3	0.2	0.5	0.2	0.1	1.27	5.96																							
28-Aug	0.1	0.1	0.1	Z	0.1	0.2	0.3	0.2	0.1	0.2	0.3	0.7	1.4	1.6	0.3	1.5	1.3	1.8	0.6	0.1	0.2	0.2	0.1	0.1	0.51	1.82																							
29-Aug	0.5	0.1	0.1	Z	0.0	0.0	0.1	0.1	0.1	0.2	0.4	0.3	0.2	0.3	0.4	0.6	0.3	0.2	0.9	1.4	2.1	0.4	0.2	0.2	0.39	2.07																							
30-Aug	0.2	0.2	0.1	Z	0.0	0.1	0.2	0.2	1.2	0.6	0.5	0.7	3.9	1.7	0.2	3.3	1.3	0.5	0.9	0.3	0.2	0.9	1.6	1.0	0.85	3.92																							
31-Aug	3.2	6.5	5.4	Z	1.1	1.1	0.6	1.5	3.0	2.6	3.0	2.8	5.6	4.8	4.9	5.4	3.1	2.3	1.6	0.4	0.5	0.5	0.3	0.2	2.63	6.52																							
																								0.17	0.27	0.26	--	0.06	0.08	0.45	0.14	0.32	0.65	1.15	0.85	1.42	3.96	2.30	2.10	0.85	0.47	0.40	0.20	0.17	0.16	0.15	0.11	Diurnal Average	
																								3.19	6.52	5.41	--	1.14	1.09	11.33	1.53	3.01	3.12	5.96	3.89	6.39	88.56	40.14	36.27	5.12	2.71	1.63	1.41	2.07	0.91	1.62	0.98	Diurnal Maximum	
Z - zerospan      C - Calibration																																																	
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb      24-hr 48 ppb																																																	



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

**Ozone (O<sub>3</sub>) - ppb**  
**August 2015**

Maximum Value: 50.06 ppb on Aug 13 17:00		Maximum Daily Average: 32.25 ppb on Aug 4		Hours in Service: 744																									
Minimum Value: 0.9 ppb on Aug 23 05:00		Minimum Daily Average: 8.67 ppb on Aug 6		Hours of Data: 706																									
Maximum Diurnal Average: 34.41 ppb at hour 16		Minimum Diurnal Average: 5.51 ppb at hour 6		Hours of Missing Data: 38																									
Monthly Average: 21.015 ppb		Percentiles: P <sub>1</sub> = 1.1 P <sub>10</sub> = 2.5 Q <sub>1</sub> = 8.1 Median = 21.8 Q <sub>3</sub> = 31.9 P <sub>90</sub> = 39.5 P <sub>99</sub> = 48.1		Hours of Calibration: 38																									
				Percent Operational Time: 100.0																									
Day	Hourly Period Ending At																								Daily Average	Daily Maximum			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24					
1-Aug	7.5	6.0	8.1	Z	8.0	5.4	3.7	11.2	22.7	29.1	30.6	30.4	29.2	29.2	32.4	31.9	33.8	34.4	32.0	29.8	24.3	20.4	13.1	7.9	20.92	34.43			
2-Aug	6.3	5.7	4.9	Z	1.6	1.7	4.4	10.8	18.9	26.8	32.5	36.4	36.2	34.1	32.8	32.0	33.4	35.4	36.7	35.3	31.6	24.5	20.2	20.3	22.72	36.73			
3-Aug	17.5	12.2	10.0	Z	3.1	2.8	3.3	4.9	9.6	21.9	30.2	36.8	40.7	41.9	43.3	43.7	43.9	47.0	46.8	47.6	44.2	47.3	44.9	35.3	29.51	47.59			
4-Aug	25.5	25.2	30.0	Z	23.0	22.5	18.6	21.9	35.7	39.6	40.7	41.1	40.3	39.6	39.3	39.0	39.6	38.6	36.4	32.1	31.1	28.7	27.4	25.6	32.25	41.15			
5-Aug	20.2	19.1	17.7	Z	13.1	13.5	13.8	13.9	15.5	18.0	18.9	21.5	25.0	26.9	26.6	29.0	28.6	27.4	23.3	20.5	20.2	9.7	4.5	2.7	18.68	29.00			
6-Aug	2.1	2.8	3.5	Z	1.4	1.4	1.8	4.9	7.1	8.3	10.4	12.7	14.6	15.6	16.4	17.8	16.7	14.8	13.4	11.1	8.2	9.2	3.7	1.5	8.67	17.79			
7-Aug	1.6	1.5	1.7	Z	1.3	1.3	3.0	4.4	11.1	16.4	22.6	25.4	25.4	25.6	22.3	22.4	25.4	23.5	22.8	20.3	11.7	2.8	3.0	2.9	12.97	25.62			
8-Aug	2.9	2.7	2.3	Z	2.3	1.5	1.8	2.6	7.6	16.9	24.5	28.3	29.0	28.4	28.6	30.1	30.0	29.5	28.9	25.5	21.1	17.2	14.6	10.7	16.82	30.08			
9-Aug	10.4	8.1	5.5	Z	2.3	2.4	5.8	12.9	25.6	25.2	26.3	29.0	29.6	34.0	38.3	36.5	31.8	32.5	33.9	31.5	27.4	14.8	9.2	6.6	20.84	38.28			
10-Aug	3.0	2.6	2.4	Z	1.3	1.7	2.2	8.4	18.1	22.8	24.6	27.1	32.4	37.7	35.1	36.6	35.4	32.6	29.2	25.4	18.1	6.1	6.1	6.7	18.06	37.66			
11-Aug	6.0	3.5	1.6	Z	1.3	1.3	2.3	2.2	4.7	11.2	20.0	22.2	34.6	37.5	38.1	39.4	38.1	39.4	38.3	35.5	29.9	19.8	19.8	13.6	20.01	39.40			
12-Aug	8.3	6.9	3.7	Z	1.9	2.1	4.1	10.1	27.2	43.0	46.8	39.9	42.4	44.4	43.8	44.2	44.3	44.4	42.7	35.5	29.6	17.5	12.7	10.3	26.33	46.78			
13-Aug	7.7	5.8	4.8	Z	2.0	2.5	3.7	9.1	19.7	25.9	26.9	31.5	41.2	42.4	48.5	49.0	50.1	46.8	46.6	32.7	26.5	24.6	18.7	16.7	25.37	50.06			
14-Aug	12.6	12.0	11.0	Z	10.8	5.9	8.1	13.4	29.7	32.2	33.0	32.1	35.0	35.3	33.9	33.1	32.5	31.4	30.8	34.8	23.9	21.5	15.6	17.2	23.73	35.27			
15-Aug	17.8	12.2	12.1	Z	18.3	17.6	14.5	13.6	13.2	16.2	21.4	17.2	15.6	10.9	12.4	10.7	14.4	11.4	9.3	6.2	7.7	6.5	5.4	4.9	12.59	21.43			
16-Aug	4.8	6.9	6.1	Z	2.1	1.9	2.7	3.4	4.4	11.1	17.9	19.7	23.3	23.4	22.8	20.5	24.3	23.4	19.2	18.9	11.6	5.1	3.4	2.2	12.12	24.26			
17-Aug	1.6	1.8	1.7	Z	1.2	1.4	1.5	3.6	8.6	15.1	16.4	20.8	28.4	31.1	33.3	33.6	31.9	31.3	31.5	36.2	29.6	17.6	18.8	22.6	18.24	36.25			
18-Aug	24.1	26.8	26.7	Z	24.5	17.9	11.7	16.0	20.0	25.2	30.3	33.5	34.0	33.9	34.3	35.0	35.1	34.3	33.2	32.1	26.5	9.1	6.2	7.9	25.15	35.06			
19-Aug	5.8	4.1	3.1	Z	1.4	1.4	1.9	3.0	22.8	29.9	26.9	34.4	37.9	37.6	39.5	43.2	44.4	44.6	40.7	25.9	37.2	35.5	31.8	22.1	25.01	44.61			
20-Aug	15.5	11.4	10.6	Z	6.0	8.4	21.1	21.9	25.8	C	C	C	C	C	C	C	C	27.5	27.9	25.6	23.2	17.9	17.8	15.6	--	27.93			
21-Aug	15.1	15.9	13.8	Z	7.2	7.3	17.0	19.1	15.0	17.4	16.9	19.7	21.8	22.7	25.0	25.3	25.4	24.7	23.8	19.7	11.2	6.6	4.1	4.2	16.48	25.41			
22-Aug	4.1	1.8	1.7	Z	0.9	1.1	1.8	3.6	7.3	12.4	16.6	22.7	27.2	29.0	30.3	30.5	28.5	26.8	19.5	20.9	18.3	12.1	5.9	3.9	14.22	30.51			
23-Aug	2.7	2.2	1.8	Z	0.9	1.0	1.4	3.7	14.4	21.3	22.8	26.3	30.1	33.1	34.7	34.6	34.3	34.0	30.2	14.0	8.0	5.1	7.7	8.4	16.21	34.72			
24-Aug	8.3	5.6	2.5	Z	1.0	1.0	1.1	1.7	7.1	23.0	27.2	29.2	33.6	35.6	34.7	35.9	37.4	39.9	31.9	29.9	27.2	31.3	22.3	16.3	21.04	39.91			
25-Aug	9.8	7.2	4.5	Z	1.1	1.3	1.2	2.1	13.9	19.0	26.9	39.4	48.2	48.2	49.0	49.9	49.8	48.0	40.6	35.8	34.9	28.4	25.3	21.8	26.35	49.94			
26-Aug	22.0	18.7	18.3	Z	11.5	8.9	5.1	11.2	18.5	24.9	30.6	33.5	39.5	41.6	43.0	42.8	41.0	38.3	34.6	28.1	24.4	19.9	8.5	6.5	24.84	42.95			
27-Aug	3.3	2.4	1.8	Z	1.2	1.7	2.6	6.7	13.2	22.4	29.1	35.9	34.1	39.6	42.6	43.8	44.8	44.3	44.0	43.0	42.4	20.4	15.9	14.6	23.89	44.77			
28-Aug	9.1	6.5	4.8	Z	1.9	1.3	1.5	2.2	5.9	12.5	21.2	35.4	35.4	32.1	32.4	30.8	31.0	30.4	30.2	29.0	23.0	23.8	16.6	17.1	18.87	35.39			
29-Aug	16.1	12.3	10.6	Z	4.4	2.8	2.9	2.9	5.6	11.3	22.0	26.4	27.3	30.4	39.5	40.2	23.0	23.8	26.6	32.7	31.2	29.1	25.7	21.3	20.35	40.22			
30-Aug	22.0	10.7	8.0	Z	4.3	3.4	2.4	19.0	36.3	41.8	43.5	42.5	41.0	40.7	41.8	40.0	40.4	40.6	39.3	36.5	36.8	36.0	36.9	38.1	30.52	43.50			
31-Aug	36.0	34.3	33.7	Z	30.0	26.7	18.9	24.7	28.4	29.2	29.9	31.1	30.7	31.3	30.5	30.8	31.5	30.5	30.7	34.0	30.3	27.9	25.2	25.4	29.63	35.99			
		11.28	9.51	8.68	--	6.17	5.51	6.00	9.33	16.56	22.33	26.24	29.41	32.13	33.14	34.18	34.41	33.81	33.29	31.38	28.50	24.71	19.24	15.77	13.90	Diurnal Average			
		35.99	34.25	33.65	--	29.99	26.69	21.11	24.68	36.28	42.96	46.78	42.54	48.24	48.24	48.98	49.94	50.06	48.05	46.82	47.59	44.25	47.25	44.87	38.07	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**  
**August 2015**

Maximum Value: 32.00 ppb on Aug 19 08:00		Maximum Daily Average: 4.89 ppb on Aug 24		Hours in Service: 744																							
Minimum Value: 0.0 ppb on Aug 27 21:00		Minimum Daily Average: 0.44 ppb on Aug 4		Hours of Data: 704																							
Maximum Diurnal Average: 6.81 ppb at hour 7		Minimum Diurnal Average: 0.40 ppb at hour 19		Hours of Missing Data: 40																							
Monthly Average: 1.865 ppb		Percentiles: P <sub>1</sub> = 0.0 P <sub>10</sub> = 0.1 Q <sub>1</sub> = 0.4 Median = 0.9 Q <sub>3</sub> = 1.9 P <sub>90</sub> = 3.9 P <sub>99</sub> = 15.2		Hours of Calibration: 40																							
				Percent Operational Time: 100.0																							
Day	Hourly Period Ending At																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Aug	0.8	0.6	0.5	Z	1.1	2.7	11.8	2.6	0.7	0.7	0.4	0.5	0.1	0.1	0.5	0.3	0.5	0.6	0.1	0.3	0.1	0.1	0.3	0.4	1.13	11.77	
2-Aug	0.2	0.2	0.2	Z	2.0	3.3	2.4	4.1	1.8	2.0	0.9	0.3	0.2	0.3	0.3	0.4	0.3	0.3	0.2	0.2	0.4	0.5	1.0	0.5	0.95	4.07	
3-Aug	0.1	0.1	0.3	Z	1.4	2.6	3.8	3.9	4.2	1.0	0.7	0.5	0.5	0.5	0.3	0.4	1.0	0.5	0.4	0.5	0.2	0.2	0.3	0.1	1.03	4.21	
4-Aug	0.4	0.1	0.1	Z	0.3	0.2	0.8	1.9	0.6	0.5	0.4	0.4	0.2	0.4	0.8	0.7	0.8	0.6	0.3	0.2	0.1	0.1	0.0	0.0	0.44	1.94	
5-Aug	0.1	0.2	0.3	Z	0.2	0.7	1.0	0.3	1.1	1.8	1.2	2.2	1.4	2.2	1.1	0.2	0.2	0.8	0.2	0.8	0.2	0.6	1.1	3.5	0.92	3.46	
6-Aug	2.1	1.1	0.3	Z	3.1	10.3	13.6	9.7	1.0	7.5	3.5	3.4	1.6	1.2	1.9	1.2	0.5	0.3	0.4	1.0	0.3	0.3	1.4	2.4	2.95	13.55	
7-Aug	1.2	0.7	0.7	Z	2.1	15.6	5.8	1.9	2.8	3.4	3.1	2.1	2.4	1.4	0.5	2.8	2.4	0.7	0.8	0.3	1.2	10.6	2.6	1.2	2.89	15.64	
8-Aug	1.7	3.3	1.6	Z	0.6	7.3	9.1	6.5	2.8	4.5	3.7	0.7	0.8	1.1	1.4	1.0	1.2	2.1	1.3	1.3	0.7	1.0	1.8	1.0	2.45	9.08	
9-Aug	0.3	0.5	0.2	Z	1.8	1.4	3.0	1.5	0.5	0.7	1.3	1.4	1.4	0.7	0.4	1.6	1.2	0.3	0.2	0.1	0.4	0.5	0.1	0.3	0.86	3.03	
10-Aug	2.0	2.2	1.2	Z	5.8	3.9	8.8	9.7	4.8	2.2	2.6	1.6	2.2	1.3	0.9	0.6	1.3	0.8	0.7	1.4	1.0	6.6	3.4	0.7	2.85	9.67	
11-Aug	1.0	2.9	3.1	Z	3.9	9.5	4.9	12.1	13.1	9.7	3.0	3.5	2.7	1.4	1.5	0.8	0.9	0.5	0.3	0.2	0.1	0.6	0.3	0.1	3.30	13.08	
12-Aug	0.7	0.8	1.4	Z	4.7	7.0	3.0	5.1	5.7	3.4	2.5	3.8	1.5	1.1	2.5	2.7	2.2	1.7	0.4	0.4	0.2	1.2	1.6	1.1	2.38	6.99	
13-Aug	0.5	1.2	1.0	Z	1.3	1.7	5.2	7.5	4.7	1.3	1.6	1.6	2.0	4.0	0.9	1.4	0.2	0.0	0.1	0.1	0.1	0.1	0.1	0.4	1.61	7.47	
14-Aug	0.6	0.1	0.4	Z	0.1	3.1	1.6	2.6	1.1	1.0	1.0	0.8	1.0	1.1	0.6	1.1	0.7	0.1	0.0	0.1	0.4	0.2	0.1	0.1	0.80	3.12	
15-Aug	0.1	0.1	0.1	Z	0.2	0.7	0.3	0.3	0.2	0.6	1.9	0.9	2.6	0.8	1.8	1.2	2.4	0.6	0.8	0.4	0.5	0.5	0.8	0.4	0.79	2.64	
16-Aug	0.2	0.1	0.1	Z	2.5	2.2	1.5	3.2	4.1	1.2	2.1	2.9	2.2	1.1	1.2	0.5	0.7	0.3	0.2	0.4	0.6	0.1	0.4	1.1	1.26	4.14	
17-Aug	2.1	0.7	1.1	Z	2.2	8.8	5.4	4.3	2.0	1.2	2.2	2.0	2.8	1.3	0.5	0.5	0.1	0.1	0.0	0.0	0.1	1.1	0.3	0.1	1.69	8.80	
18-Aug	0.0	0.2	0.1	Z	0.4	0.8	1.2	2.4	2.4	2.3	2.6	1.3	1.4	1.2	0.8	0.2	0.4	0.5	0.5	0.2	0.9	4.5	0.7	0.5	1.11	4.45	
19-Aug	0.2	0.6	1.0	Z	5.5	12.5	25.2	32.0	2.6	1.0	0.9	1.2	1.9	3.2	0.1	0.0	0.0	0.0	0.1	0.2	1.3	0.1	0.0	0.4	3.91	32.00	
20-Aug	0.2	1.5	0.1	Z	2.1	1.3	1.1	1.4	1.1	C	C	C	C	C	C	C	C	C	C	0.5	0.5	0.4	0.2	0.1	0.1	--	2.12
21-Aug	0.2	0.1	0.1	Z	0.2	0.4	0.9	0.8	0.4	0.2	0.9	1.3	1.3	2.4	1.5	0.8	0.9	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.57	2.42	
22-Aug	0.3	1.1	1.0	Z	3.9	8.7	1.9	1.7	3.9	3.5	1.4	0.9	1.8	1.1	0.8	1.4	0.9	1.0	0.7	0.5	0.1	2.3	3.0	0.9	1.85	8.71	
23-Aug	2.0	1.8	1.7	Z	15.7	15.6	12.8	10.0	2.1	0.6	2.6	1.0	1.2	0.8	0.7	0.5	0.9	0.4	0.1	2.8	1.8	1.9	0.8	0.2	3.39	15.69	
24-Aug	0.1	3.2	1.5	Z	5.1	16.0	26.7	25.7	14.5	7.3	1.6	0.8	1.0	0.5	0.7	0.9	2.0	0.7	0.5	0.7	1.8	0.4	0.5	0.1	4.89	26.74	
25-Aug	0.4	0.1	0.6	Z	1.3	1.6	8.3	14.6	7.1	3.4	2.9	1.8	1.9	0.9	0.3	0.3	0.5	0.3	0.3	0.2	0.1	0.4	0.1	0.1	2.06	14.56	
26-Aug	0.1	0.2	0.4	Z	0.6	0.7	2.5	2.7	1.8	1.4	0.7	0.8	0.7	0.4	1.0	1.3	1.2	0.9	1.0	0.9	0.5	0.3	1.9	0.3	0.96	2.66	
27-Aug	0.4	0.5	0.6	Z	3.7	1.6	1.2	1.7	1.9	1.2	1.6	1.2	0.5	1.0	1.0	1.0	0.5	0.4	0.2	0.1	0.0	1.6	0.7	0.4	0.99	3.66	
28-Aug	0.8	0.4	0.2	Z	3.5	17.3	29.4	14.8	8.1	6.3	3.7	1.3	1.2	1.3	0.4	1.3	0.8	1.0	0.4	0.6	0.6	0.3	0.1	0.6	4.10	29.38	
29-Aug	0.8	0.1	0.1	Z	0.9	3.9	3.8	8.7	9.1	6.0	2.0	1.0	0.8	0.8	0.5	0.7	0.6	2.3	1.1	0.5	0.5	0.6	0.7	0.3	1.99	9.05	
30-Aug	0.8	0.6	0.9	Z	2.9	3.8	7.8	2.8	0.4	0.5	0.4	1.0	1.2	0.9	0.3	1.3	0.6	0.3	0.2	0.0	0.1	0.2	0.0	0.0	1.18	7.77	
31-Aug	0.1	0.2	0.1	Z	0.4	1.4	6.3	2.4	2.1	1.9	1.6	1.4	2.5	1.8	2.0	2.0	1.5	1.2	0.3	0.3	0.2	0.1	0.1	0.1	1.30	6.31	
		0.66	0.82	0.68	--	2.56	5.38	6.81	6.40	3.51	2.60	1.82	1.46	1.43	1.21	0.91	0.98	0.92	0.67	0.40	0.48	0.48	1.21	0.80	0.57	Diurnal Average	
		2.15	3.31	3.08	--	15.69	17.33	29.38	32.00	14.51	9.65	3.71	3.85	2.77	4.03	2.53	2.84	2.40	2.27	1.33	2.76	1.85	10.60	3.42	3.46	Diurnal Maximum	
Z - zerospan		C - Calibration																									
Alberta Ambient Air Quality Objectives (AAAQO):		1-hr --- ppb								24-hr --- ppb																	



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

**Nitrogen Dioxide (NO<sub>2</sub>) - ppb**  
**August 2015**

Maximum Value: 16.29 ppb on Aug 10 22:00		Maximum Daily Average: 6.80 ppb on Aug 12		Hours in Service:	744																																												
Minimum Value: 0.4 ppb on Aug 19 17:00		Minimum Daily Average: 2.01 ppb on Aug 21		Hours of Data:	704																																												
Maximum Diurnal Average: 6.22 ppb at hour 22		Minimum Diurnal Average: 2.34 ppb at hour 18		Hours of Missing Data:	40																																												
Monthly Average: 4.129 ppb		Percentiles: P <sub>1</sub> = 0.6 P <sub>10</sub> = 1.5 Q <sub>1</sub> = 2.2 Median = 3.4 Q <sub>3</sub> = 5.5 P <sub>90</sub> = 7.5 P <sub>99</sub> = 13.7		Hours of Calibration:	40																																												
				Percent Operational Time:	100.0																																												
Day	Hourly Period Ending At																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Aug	6.9	7.9	6.6	Z	5.7	7.6	9.6	5.1	2.3	1.7	1.4	1.5	0.7	0.9	1.0	1.2	1.5	1.2	0.9	2.0	4.6	2.5	3.1	4.6	3.50	9.58																							
2-Aug	3.1	3.6	2.9	Z	6.4	5.4	3.5	4.6	3.9	4.6	2.5	1.0	0.7	0.8	1.3	1.5	1.3	1.3	1.5	2.3	3.9	7.8	7.4	7.3	3.42	7.81																							
3-Aug	5.1	5.3	6.3	Z	5.7	4.3	4.1	5.4	6.5	3.3	2.8	2.6	2.6	2.1	1.6	1.9	2.5	2.2	2.5	2.7	3.0	5.4	8.1	5.7	3.98	8.10																							
4-Aug	1.0	0.7	1.1	Z	4.7	4.7	6.5	6.8	2.2	1.4	1.4	1.3	1.0	1.4	1.4	2.2	2.3	2.9	2.3	1.3	1.1	1.8	1.7	2.1	2.33	6.83																							
5-Aug	5.3	2.5	3.9	Z	3.3	4.1	5.6	1.6	3.3	4.4	2.6	3.4	3.5	2.9	3.4	0.9	0.9	1.5	1.6	3.8	3.3	7.1	7.7	6.5	3.61	7.71																							
6-Aug	5.1	4.2	3.2	Z	3.8	3.3	2.4	5.4	1.9	5.8	4.5	4.6	2.9	2.4	3.1	2.6	1.8	1.5	1.9	4.0	3.0	3.1	4.0	3.0	3.38	5.83																							
7-Aug	1.8	1.3	2.6	Z	2.7	4.3	2.8	2.5	2.4	3.0	2.9	2.3	2.0	2.4	2.1	3.1	2.4	2.3	2.1	1.4	8.1	13.5	10.5	7.3	3.73	13.51																							
8-Aug	6.0	4.9	3.5	Z	1.5	3.6	3.0	3.6	2.7	6.0	6.0	2.1	2.8	1.7	1.7	1.6	1.5	2.3	2.2	3.8	5.3	6.6	7.0	8.2	3.82	8.19																							
9-Aug	5.8	4.2	5.5	Z	6.8	5.8	6.5	4.7	2.1	1.9	3.5	4.1	3.4	2.3	3.0	2.7	2.7	1.4	1.5	2.2	2.9	6.1	4.8	3.8	3.81	6.80																							
10-Aug	4.3	5.9	4.6	Z	5.1	4.0	3.5	8.8	9.0	5.1	5.1	4.9	5.4	5.5	2.4	4.3	4.3	3.8	5.0	7.0	8.4	16.3	13.1	10.3	6.34	16.29																							
11-Aug	8.4	9.9	9.1	Z	6.4	6.8	4.7	6.2	7.5	8.3	6.6	10.1	5.6	3.0	3.2	1.8	3.4	2.8	4.0	5.6	4.5	7.0	5.7	5.1	5.90	10.11																							
12-Aug	6.4	5.3	7.2	Z	6.9	5.5	5.0	8.2	15.6	14.6	9.8	5.2	3.2	2.9	5.1	4.7	4.4	4.6	4.8	2.6	5.1	10.8	9.6	9.0	6.80	15.62																							
13-Aug	8.8	8.4	7.1	Z	7.6	7.0	7.4	13.1	9.2	9.0	6.7	9.0	9.5	11.5	4.5	5.0	1.2	0.8	1.0	2.1	1.5	2.3	3.8	4.2	6.11	13.06																							
14-Aug	5.8	5.7	3.9	Z	1.9	6.2	6.7	6.4	3.4	3.3	3.3	3.6	3.0	3.0	2.3	3.5	3.7	4.0	2.0	1.2	1.2	3.1	1.9	2.3	3.54	6.65																							
15-Aug	1.2	1.4	0.9	Z	1.1	2.0	2.5	3.1	3.1	3.3	6.7	3.9	4.2	2.9	1.8	2.2	3.0	2.0	2.1	1.7	2.4	3.0	3.5	3.6	2.68	6.73																							
16-Aug	1.8	1.3	0.9	Z	4.0	3.2	2.6	2.4	2.5	1.3	1.8	3.4	3.0	2.6	2.7	1.8	1.9	1.7	1.7	2.1	3.7	3.4	1.9	2.5	2.35	3.99																							
17-Aug	2.8	2.0	2.4	Z	1.4	1.6	1.2	2.0	2.1	2.9	3.7	4.1	5.8	2.6	1.5	2.1	0.7	0.7	0.5	1.0	2.4	8.4	3.8	1.4	2.48	8.37																							
18-Aug	0.8	3.3	4.9	Z	4.2	6.7	7.4	6.8	3.4	3.5	2.9	1.8	2.7	1.8	2.5	1.6	3.0	3.6	3.9	2.9	4.5	16.2	13.1	5.9	4.66	16.24																							
19-Aug	5.4	4.5	3.0	Z	3.7	5.1	8.0	11.0	10.5	6.7	4.0	3.1	3.2	3.5	0.6	0.4	0.4	0.6	0.6	2.2	3.5	2.0	2.8	4.8	3.89	10.96																							
20-Aug	7.0	6.5	3.6	Z	6.9	8.0	5.8	4.2	2.9	C	C	C	C	C	C	C	C	C	C	2.2	2.0	3.2	1.9	1.7	2.0	--	7.97																						
21-Aug	1.3	1.4	1.2	Z	1.7	2.3	2.2	2.1	3.1	1.8	3.3	2.7	3.1	4.1	3.2	1.9	1.3	0.4	0.6	0.5	2.3	1.7	2.2	1.9	2.01	4.13																							
22-Aug	1.9	1.9	2.4	Z	3.1	3.4	1.4	1.2	3.1	3.2	1.3	1.1	2.1	1.8	1.7	2.7	3.1	3.1	4.0	3.1	2.8	5.4	6.4	4.8	2.82	6.38																							
23-Aug	4.4	3.2	3.2	Z	3.1	2.7	2.8	4.0	2.7	1.1	4.2	2.2	2.8	2.1	2.5	1.9	3.2	1.6	1.5	15.3	13.6	12.0	7.5	6.5	4.52	15.34																							
24-Aug	5.8	5.8	6.0	Z	5.7	5.8	4.9	5.2	9.3	14.2	4.1	2.0	2.3	1.8	2.2	2.4	3.4	2.3	4.3	5.3	7.0	4.2	7.1	6.1	5.10	14.22																							
25-Aug	5.9	2.7	2.5	Z	4.7	3.3	2.7	4.2	8.9	7.1	6.8	7.6	8.6	4.1	1.3	1.7	2.8	2.3	5.8	3.7	2.9	6.5	5.9	5.0	4.66	8.93																							
26-Aug	3.7	4.7	5.5	Z	8.3	5.4	9.0	5.8	4.0	3.0	2.3	2.8	2.8	2.3	2.8	3.2	3.5	3.5	5.7	5.7	7.1	5.2	9.1	6.0	4.85	9.12																							
27-Aug	4.0	3.8	2.6	Z	4.5	3.8	3.2	4.1	5.1	4.5	5.1	4.7	3.6	6.9	3.8	3.3	2.5	3.1	3.1	3.4	2.0	13.9	10.1	6.8	4.70	13.86																							
28-Aug	7.7	6.9	6.9	Z	7.2	9.1	9.8	7.4	7.0	6.6	6.8	4.0	5.3	3.6	1.5	3.3	2.9	4.2	3.0	3.7	7.6	5.0	6.6	6.7	5.78	9.79																							
29-Aug	6.9	4.5	4.8	Z	7.4	9.0	7.2	8.6	9.7	9.9	4.0	2.9	2.8	3.3	3.1	3.4	3.0	4.0	6.0	4.0	6.1	3.7	4.2	5.3	5.38	9.90																							
30-Aug	4.7	8.4	2.9	Z	3.4	4.3	6.3	5.9	2.6	1.9	1.6	1.8	3.5	2.3	1.0	3.3	2.0	1.3	2.2	2.7	1.5	2.9	3.7	2.1	3.15	8.38																							
31-Aug	6.7	9.9	7.2	Z	4.1	6.9	11.0	8.0	4.6	3.5	2.7	2.8	4.0	3.5	3.8	4.3	3.1	3.3	1.9	2.5	3.5	3.8	1.6	2.0	4.56	10.97																							
																								4.70	4.58	4.15	--	4.61	5.00	5.12	5.43	5.06	4.90	4.01	3.55	3.54	3.07	2.40	2.54	2.46	2.34	2.66	3.35	4.26	6.22	5.80	4.93	Diurnal Average	
																								8.76	9.94	9.14	--	8.33	9.15	10.97	13.06	15.62	14.64	9.84	10.11	9.50	11.51	5.10	4.98	4.43	4.63	6.01	15.34	13.64	16.29	13.09	10.29	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<sub>x</sub>) - ppb**  
**August 2015**

Maximum Value: 42.87 ppb on Aug 19 08:00      Maximum Daily Average: 9.99 ppb on Aug 24																						Hours in Service: 744 Hours of Data: 704																											
Minimum Value: 0.4 ppb on Aug 19 17:00      Minimum Daily Average: 2.57 ppb on Aug 21 Maximum Diurnal Average: 11.92 ppb at hour 7      Minimum Diurnal Average: 3.00 ppb at hour 18 Monthly Average: 5.990 ppb      Percentiles: P <sub>1</sub> = 0.7 P <sub>10</sub> = 1.8 Q <sub>1</sub> = 2.9 Median = 4.7 Q <sub>3</sub> = 7.5 P <sub>90</sub> = 11.0 P <sub>99</sub> = 22.8																						Hours of Missing Data: 40 Hours of Calibration: 40 Percent Operational Time: 100.0																											
Day	Hourly Period Ending At																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Aug	7.7	8.5	7.2	Z	6.8	10.2	21.3	7.7	3.0	2.4	1.8	2.0	0.8	1.0	1.5	1.5	2.0	1.7	1.0	2.2	4.7	2.6	3.4	5.0	4.61	21.32																							
2-Aug	3.3	3.8	3.1	Z	8.4	8.8	5.9	8.7	5.7	6.6	3.4	1.3	0.9	1.1	1.6	1.9	1.6	1.6	1.7	2.5	4.3	8.3	8.3	7.8	4.37	8.76																							
3-Aug	5.2	5.5	6.7	Z	7.2	6.9	8.0	9.3	10.7	4.4	3.4	3.0	3.1	2.5	1.9	2.3	3.4	2.7	2.9	3.1	3.3	5.6	8.4	5.8	5.00	10.70																							
4-Aug	1.5	0.8	1.3	Z	5.0	4.9	7.3	8.8	2.8	1.9	1.8	1.6	1.2	1.8	2.2	2.9	3.1	3.5	2.6	1.5	1.2	1.9	1.7	2.1	2.76	8.76																							
5-Aug	5.4	2.6	4.2	Z	3.4	4.8	6.6	1.8	4.4	6.2	3.8	5.7	4.9	5.1	4.5	1.1	1.1	2.2	1.7	4.6	3.5	7.7	8.8	10.0	4.53	10.01																							
6-Aug	7.3	5.2	3.5	Z	6.9	13.6	15.9	15.1	2.9	13.3	8.0	8.0	4.5	3.6	4.9	3.8	2.3	1.8	2.3	5.1	3.3	3.5	5.4	5.4	6.32	15.89																							
7-Aug	3.0	2.0	3.3	Z	4.8	19.9	8.6	4.4	5.3	6.4	6.0	4.4	4.4	3.8	2.5	5.9	4.8	3.0	2.8	1.7	9.3	24.1	13.1	8.5	6.61	24.08																							
8-Aug	7.7	8.2	5.1	Z	2.1	10.9	12.0	10.0	5.5	10.5	9.7	2.8	3.6	2.8	3.1	2.6	2.6	4.4	3.5	5.1	6.0	7.6	8.8	9.2	6.26	12.02																							
9-Aug	6.0	4.6	5.7	Z	8.6	7.3	9.6	6.2	2.5	2.6	4.8	5.5	4.8	3.0	3.4	4.2	3.9	1.7	1.7	2.2	3.2	6.5	4.9	4.1	4.66	9.55																							
10-Aug	6.3	8.1	5.8	Z	10.8	7.9	12.2	18.5	13.8	7.3	7.7	6.5	7.7	6.8	3.3	4.8	5.5	4.5	5.7	8.3	9.4	22.9	16.5	11.0	9.20	22.92																							
11-Aug	9.4	12.7	12.2	Z	10.3	16.2	9.6	18.3	20.5	17.9	9.6	13.7	8.4	4.4	4.6	2.6	4.3	3.2	4.3	5.8	4.6	7.6	6.1	5.2	9.20	20.52																							
12-Aug	7.1	6.1	8.5	Z	11.6	12.5	8.0	13.3	21.3	18.0	12.3	9.0	4.7	3.9	7.6	7.3	6.6	6.3	5.2	2.9	5.3	12.0	11.2	10.1	9.18	21.30																							
13-Aug	9.2	9.7	8.1	Z	8.8	8.7	12.5	20.5	13.9	10.2	8.2	10.5	11.5	15.5	5.4	6.4	1.4	0.8	1.0	2.2	1.5	2.4	3.9	4.5	7.70	20.51																							
14-Aug	6.3	5.8	4.3	Z	1.9	9.3	8.3	9.0	4.5	4.3	4.3	4.4	3.9	4.0	2.9	4.6	4.5	4.7	2.1	1.2	1.3	3.5	2.1	2.4	4.34	9.30																							
15-Aug	1.4	1.5	1.0	Z	1.2	2.6	2.8	3.4	3.3	3.8	8.6	4.8	6.8	3.7	3.6	3.4	5.4	2.6	2.9	2.1	2.8	3.5	4.3	4.0	3.46	8.64																							
16-Aug	1.9	1.4	0.9	Z	6.5	5.4	4.0	5.6	6.6	2.5	3.9	6.4	5.2	3.7	3.9	2.3	2.6	2.0	1.8	2.5	4.2	3.6	2.3	3.6	3.60	6.60																							
17-Aug	4.9	2.7	3.5	Z	3.6	10.4	6.6	6.3	4.1	4.1	5.8	6.1	8.6	3.8	1.9	2.5	0.9	0.8	0.6	1.1	2.5	9.4	4.0	1.5	4.16	10.38																							
18-Aug	0.9	3.6	5.0	Z	4.6	7.5	8.6	9.2	5.8	5.8	5.5	3.0	4.0	3.1	3.3	1.8	3.4	4.1	4.4	3.1	5.3	20.7	13.7	6.4	5.77	20.69																							
19-Aug	5.6	5.1	4.0	Z	9.2	17.5	33.1	42.9	13.1	7.7	4.9	4.3	5.1	6.6	0.7	0.5	0.4	0.7	0.7	2.4	4.8	2.1	2.7	5.1	7.79	42.87																							
20-Aug	7.2	8.0	3.7	Z	9.0	9.4	7.0	5.9	4.3	C	C	C	C	C	C	C	C	C	C	2.4	2.1	3.3	1.8	1.6	1.9	--	9.43																						
21-Aug	1.3	1.4	1.3	Z	1.9	2.7	3.1	2.9	3.5	2.0	4.1	3.9	4.4	6.6	4.7	2.7	2.3	0.5	0.7	0.6	2.5	1.9	2.4	2.0	2.57	6.57																							
22-Aug	2.1	3.0	3.4	Z	7.0	12.1	3.2	2.9	7.0	6.6	2.7	2.0	3.9	2.8	2.5	4.1	4.0	4.1	4.7	3.6	3.0	7.7	9.4	5.7	4.67	12.05																							
23-Aug	6.4	5.0	4.9	Z	18.7	18.3	15.5	14.0	4.8	1.7	6.8	3.2	3.9	2.9	3.2	2.4	4.1	1.9	1.6	18.2	15.5	13.9	8.3	6.7	7.92	18.72																							
24-Aug	6.0	8.9	7.5	Z	10.8	21.8	31.6	30.8	23.9	21.5	5.8	2.8	3.3	2.3	2.9	3.3	5.4	3.0	4.8	6.1	8.9	4.6	7.7	6.3	9.99	31.61																							
25-Aug	6.3	2.8	3.1	Z	6.0	4.9	11.0	18.7	16.0	10.5	9.7	9.5	10.5	5.1	1.6	2.1	3.3	2.6	6.2	3.9	3.1	6.9	6.1	5.0	6.72	18.71																							
26-Aug	3.8	4.9	6.0	Z	9.0	6.2	11.6	8.5	5.9	4.4	2.9	3.6	3.5	2.6	3.8	4.4	4.7	4.4	6.8	6.7	7.6	5.5	11.0	6.3	5.83	11.58																							
27-Aug	4.4	4.4	3.1	Z	8.2	5.4	4.5	5.8	7.1	5.7	6.7	5.9	4.1	7.9	4.8	4.3	3.0	3.5	3.3	3.5	2.0	15.5	10.9	7.2	5.71	15.47																							
28-Aug	8.5	7.3	7.2	Z	10.7	26.5	39.2	22.2	15.1	12.9	10.6	5.3	6.5	4.9	1.9	4.6	3.7	5.2	3.4	4.2	8.2	5.3	6.7	7.3	9.89	39.16																							
29-Aug	7.7	4.6	4.9	Z	8.3	13.0	11.0	17.2	18.7	15.9	6.0	4.0	3.6	4.2	3.6	4.1	3.6	6.2	7.1	4.5	6.7	4.3	4.9	5.6	7.38	18.70																							
30-Aug	5.5	9.0	3.8	Z	6.4	8.1	14.0	8.7	3.1	2.4	2.0	2.7	4.7	3.2	1.3	4.7	2.6	1.5	2.5	2.8	1.6	3.1	3.7	2.1	4.33	14.04																							
31-Aug	6.8	10.1	7.4	Z	4.6	8.3	17.3	10.4	6.8	5.4	4.3	4.3	6.5	5.3	5.8	6.4	4.6	4.5	2.2	2.7	3.7	3.9	1.7	2.1	5.87	17.30																							
																								5.36	5.40	4.82	--	7.18	10.38	11.92	11.84	8.57	7.50	5.84	5.01	4.97	4.28	3.31	3.51	3.37	3.00	3.05	3.82	4.73	7.41	6.59	5.49	Diurnal Average	
																								9.37	12.75	12.23	--	18.72	26.49	39.16	42.87	23.86	21.54	12.31	13.67	11.46	15.53	7.63	7.34	6.64	6.33	7.13	18.16	15.53	24.08	16.52	11.01	Diurnal Maximum	
Z - zerospan      C - Calibration																																																	
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr --- ppb      24-hr --- ppb																																																	



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

**PM2.5 (PM<sub>2.5</sub>) - µg/m<sup>3</sup>**  
**August 2015**

Maximum Value: 63.45 µg/m <sup>3</sup> on Aug 27 12:00		Maximum Daily Average: 31.11 µg/m <sup>3</sup> on Aug 27		Hours in Service: 744																																													
Minimum Value: 0.0 µg/m <sup>3</sup> on Aug 4 02:00		Minimum Daily Average: 2.88 µg/m <sup>3</sup> on Aug 21		Hours of Data: 738																																													
Maximum Diurnal Average: 13.04 µg/m <sup>3</sup> at hour 10		Minimum Diurnal Average: 7.04 µg/m <sup>3</sup> at hour 15		Hours of Missing Data: 6																																													
Monthly Average: 9.768 µg/m <sup>3</sup>		Percentiles: P <sub>1</sub> = 0.2 P <sub>10</sub> = 2.7 Q <sub>1</sub> = 4.4 Median = 7.2 Q <sub>3</sub> = 12.0 P <sub>90</sub> = 18.7 P <sub>99</sub> = 47.9		Hours of Calibration: 6																																													
				Percent Operational Time: 100.0																																													
Day	Hourly Period Ending At																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Aug	13.5	10.9	15.0	10.3	11.0	11.2	12.8	12.1	8.6	4.5	5.1	5.2	4.7	6.3	3.8	6.5	5.9	5.7	7.3	6.4	7.9	6.8	7.3	7.9	8.20	14.98																							
2-Aug	6.3	6.3	7.1	9.0	9.5	7.5	10.6	10.9	10.1	9.4	6.4	2.4	2.9	4.8	6.2	6.0	7.1	7.5	8.7	9.6	11.4	11.6	11.8	9.8	8.04	11.83																							
3-Aug	10.2	9.0	10.0	9.5	7.6	10.2	13.8	16.3	18.5	15.1	13.6	12.7	13.0	6.9	9.4	12.2	11.7	12.4	12.3	12.9	13.7	14.5	15.5	14.1	12.30	18.53																							
4-Aug	1.9	0.0	0.4	2.8	4.9	5.7	7.2	5.7	1.7	2.4	3.0	5.9	5.3	6.9	6.9	8.4	7.5	7.0	9.3	8.1	5.3	4.3	5.3	5.6	5.07	9.34																							
5-Aug	7.5	7.8	6.3	4.0	4.3	4.3	6.2	4.9	4.4	5.2	4.9	5.5	2.1	4.0	4.1	1.6	2.3	3.4	4.6	4.2	3.3	4.1	4.2	4.3	4.48	7.76																							
6-Aug	3.8	4.5	2.3	2.8	3.2	4.2	7.3	13.3	4.4	11.0	7.8	7.6	5.5	6.3	3.4	3.3	3.4	4.1	3.1	3.8	3.6	1.5	1.2	2.2	4.74	13.29																							
7-Aug	2.2	1.8	2.3	3.4	4.3	5.3	5.9	7.2	2.1	4.2	2.1	4.1	5.3	4.8	6.3	5.9	3.8	6.3	6.9	4.9	9.6	12.1	8.6	7.0	5.27	12.09																							
8-Aug	5.3	7.6	5.9	4.3	4.1	4.4	8.6	6.8	7.4	10.6	9.8	7.8	5.6	5.8	6.3	8.2	8.7	8.6	8.0	9.6	12.4	12.0	11.0	13.2	8.00	13.16																							
9-Aug	8.4	9.3	10.0	8.4	10.5	11.5	10.9	9.0	4.7	6.2	9.3	8.2	11.1	1.3	3.9	9.4	4.7	3.4	2.9	4.6	6.2	9.4	5.1	5.1	7.23	11.52																							
10-Aug	5.6	5.8	5.3	6.3	5.3	5.9	12.0	14.3	14.8	7.1	5.9	8.2	8.2	11.5	7.7	11.3	11.0	11.1	12.6	15.2	18.6	24.8	20.1	17.0	11.07	24.79																							
11-Aug	16.7	17.9	17.0	15.9	15.0	15.2	18.3	17.7	20.6	17.7	19.5	21.5	4.1	6.8	7.2	8.0	10.0	11.7	15.4	16.8	21.5	22.1	13.0	12.6	15.09	22.05																							
12-Aug	11.3	12.1	11.5	9.8	9.0	8.8	12.1	18.1	36.5	36.9	17.8	5.5	5.9	8.7	8.9	9.4	11.4	10.5	12.6	18.0	14.9	15.3	9.6	8.0	13.44	36.91																							
13-Aug	8.8	9.5	11.2	9.6	8.7	9.5	21.9	21.6	17.4	21.8	17.9	24.4	25.1	11.6	11.5	16.7	15.4	12.6	14.2	25.0	9.0	7.5	5.2	6.7	14.29	25.11																							
14-Aug	6.4	5.3	5.4	7.0	6.6	8.0	6.8	9.0	1.9	6.1	6.2	8.4	6.3	8.4	5.1	7.4	5.6	5.5	6.2	4.7	10.2	4.9	5.8	5.7	6.37	10.21																							
15-Aug	2.8	4.2	2.9	2.3	2.9	4.4	3.8	4.6	4.9	6.0	3.8	4.9	2.7	5.7	2.0	5.0	3.0	2.7	1.9	3.0	2.4	3.8	2.9	3.7	3.60	6.02																							
16-Aug	2.6	2.0	2.4	3.3	2.7	2.3	4.3	4.7	5.6	0.0	2.8	3.2	1.9	4.9	4.4	11.5	0.0	4.5	8.2	6.9	6.4	6.3	3.1	2.3	4.01	11.51																							
17-Aug	2.1	1.8	3.2	3.3	1.7	5.2	7.5	10.3	6.0	7.3	7.0	5.1	12.3	1.9	2.6	4.6	4.6	4.1	2.0	3.3	6.5	9.1	4.8	5.6	5.08	12.28																							
18-Aug	5.3	5.8	8.0	5.3	4.4	6.2	7.6	8.5	5.8	3.9	2.8	2.7	4.3	4.7	5.6	4.4	4.6	6.3	6.1	6.3	4.1	14.8	7.7	3.8	5.79	14.81																							
19-Aug	4.6	4.8	4.0	3.3	4.7	7.3	14.4	19.8	4.7	4.1	7.8	1.8	4.9	8.8	2.1	0.8	3.5	2.2	5.3	6.8	5.8	7.7	5.7	7.9	5.94	19.76																							
20-Aug	11.0	8.3	7.4	8.1	6.7	10.2	7.5	8.8	5.5	C	C	C	C	C	C	0.0	2.1	3.8	0.0	1.1	2.1	0.2	0.3	0.2	4.63	11.00																							
21-Aug	0.4	0.2	1.0	1.5	2.0	3.4	1.8	3.8	4.2	3.0	3.0	1.8	4.0	2.7	3.6	5.1	3.4	3.0	2.7	3.6	4.7	3.3	4.4	2.7	2.88	5.09																							
22-Aug	2.1	2.4	2.8	2.7	2.8	3.9	3.3	5.1	9.3	6.3	2.5	2.0	2.5	2.9	2.0	3.9	5.4	4.9	9.8	7.3	5.8	9.6	12.7	8.6	5.03	12.73																							
23-Aug	6.6	6.7	7.2	5.5	6.8	6.6	5.9	10.1	5.5	2.9	7.5	4.8	4.5	4.8	8.9	12.9	16.3	18.4	21.4	37.4	36.5	35.4	31.0	26.9	13.78	37.44																							
24-Aug	21.8	18.5	17.2	13.6	10.4	12.3	12.3	17.4	25.6	51.3	7.6	6.4	8.9	15.0	18.0	20.3	24.3	21.8	23.8	20.8	19.8	16.3	17.5	14.5	18.14	51.31																							
25-Aug	15.2	13.0	12.4	13.4	15.7	16.0	17.2	23.3	46.1	27.0	29.1	33.2	30.9	13.5	3.5	5.7	6.6	14.3	26.8	18.8	16.6	14.5	12.9	13.5	18.29	46.05																							
26-Aug	11.8	12.2	11.9	12.1	12.1	12.7	14.4	14.7	11.0	9.7	10.3	14.6	26.4	33.3	33.0	34.5	37.9	35.9	44.2	47.2	40.1	36.0	36.8	32.2	24.38	47.18																							
27-Aug	32.9	29.7	30.2	31.9	30.3	30.5	37.4	47.3	49.5	60.5	61.5	63.5	58.0	58.4	12.3	9.2	9.5	8.8	8.2	7.1	7.7	24.8	24.7	12.6	31.11	63.45																							
28-Aug	13.3	15.5	16.0	13.1	11.8	18.8	25.6	21.1	23.0	20.7	19.2	12.0	10.7	7.3	4.4	4.5	4.0	7.5	7.1	6.8	15.0	10.9	12.2	11.2	12.98	25.55																							
29-Aug	11.0	10.1	8.0	8.1	7.9	9.4	10.6	17.6	17.7	20.7	13.9	9.1	9.4	11.2	10.8	14.5	28.8	0.3	0.8	5.8	10.6	7.8	5.8	7.0	10.71	28.80																							
30-Aug	7.7	8.7	6.3	5.6	7.0	5.8	10.4	7.1	3.6	0.9	2.7	0.5	6.0	3.5	1.5	5.4	6.4	2.6	3.1	3.6	2.3	2.9	4.0	4.4	4.67	10.40																							
31-Aug	8.1	12.4	12.6	11.3	8.7	8.8	8.6	7.3	8.9	8.4	5.7	5.9	8.2	5.7	5.8	7.8	5.5	5.2	5.3	2.2	4.6	3.8	3.2	2.0	6.92	12.64																							
																								8.61	8.52	8.50	7.98	7.84	8.90	11.20	12.85	12.57	13.04	10.55	9.96	10.02	9.29	7.04	8.53	8.86	8.26	9.71	10.71	10.93	11.55	10.11	8.98	Diurnal Average	
																								32.91	29.69	30.24	31.94	30.31	30.50	37.37	47.25	49.52	60.52	61.50	63.45	58.01	58.35	33.02	34.54	37.94	35.89	44.21	47.18	40.11	35.99	36.83	32.20	Diurnal Maximum	
C - Calibration																																																	
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 80 ul/m^3 24-hr 30 ul/m^3																																																	

**Summary Report**

*Continuous air quality/meteorological monitoring measurements*

**West Central Airshed Society**

Hinton Pulp / Hinton Station 906												24 Hour Average Max (ppm)
August 2015												
Parameter	Calibration Hours	Number of Data	Percent Uptime	Mean	Min	Max	P10	Q1	Percentile Median	Q3	P90	
TRS (ppb)	36	708	100.0	1.6	0.0	20.0	0.1	0.2	0.5	1.6	4.7	0.004
SO <sub>2</sub> (ppb)	36	708	100.0	0.7	0.0	88.6	0.0	0.0	0.1	0.4	1.4	0.009
O <sub>3</sub> (ppb)	38	706	100.0	21.0	0.9	50.1	2.5	8.1	21.8	31.9	39.5	0.032
NO (ppb)	40	704	100.0	1.9	0.0	32.0	0.1	0.4	0.9	1.9	3.9	-
NO <sub>2</sub> (ppb)	40	704	100.0	4.1	0.4	16.3	1.5	2.2	3.4	5.5	7.5	0.007
NO <sub>x</sub> (ppb)	40	704	100.0	6.0	0.4	42.9	1.8	2.9	4.7	7.5	11.0	-
Particulate Matter 2.5 microns (µ/m <sup>3</sup> )	6	738	100.0	9.8	0.0	63.5	2.7	4.4	7.2	12.0	18.7	31.11 ug/m3
Wind Speed (kph)	0	744	100.0	2.9	0.0	14.5	0.4	0.8	1.8	4.2	7.1	-
Temperature (°C)	0	744	100.0	15.1	0.4	30.8	7.6	10.1	14.6	19.6	23.6	-
Relative Humidity (%)	0	744	100.0	57.1	6.5	91.5	24.3	35.9	58.8	80.1	88.7	-
Std Dev Wind Direction (deg)	0	744	100.0	56.5	20.7	113.9	31.9	40.4	52.8	70.7	88.6	-
Std Dev Wind Speed (kph)	0	744	100.0	2.5	0.3	9.3	0.9	1.3	2.0	3.2	4.8	-

# Calibration Data Summary

## West Central Airshed Society

Operator: WCAS

Location: Station 906, Hinton

Calibration Date: August 20, 2015

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

Instrument: Teco 42i

Serial Number: CM13040041

Previous Calibration Date: July 24, 2015

Calibration: Routine

Calibration Equipment: SABIO 2010 sn # 04300810

Barometric Pressure: 26.50" Hg

Calibration Method: Std.Gas Dilution / GPT

Cylinder ID: FF16109

Temperature: 21.0° C

Cylinder Concentration: 12.6 ppm NO & NO<sub>x</sub>

In Service: January 14, 2015

Technician: Dean Yustak

Instrument Settings	NO bkg ppb	NO <sub>x</sub> bkg ppb	Pre-reactor bkg ppb	NO Coefficient	NO <sub>x</sub> Coefficient	NO <sub>2</sub> Coefficient	Monitoring Range
Previous	4.6	4.7	na	0.756	1.002	0.997	300 ppb
Current	4.7	4.8	na	0.772	1.001	0.997	200 ppb

NO	Final Zero: -0.1 ppb	Final Span: 198.6 ppb	As Found Correction Factor: 1.003
NO <sub>2</sub>	Final Zero: 0.4 ppb	Final Span: 0.7 ppb	As Found Correction Factor: NA
NO <sub>x</sub>	Final Zero: -0.1 ppb	Final Span: 198.9 ppb	As Found Correction Factor: 1.004

Results of Linear Regression			Slope	Intercept	R <sup>2</sup>
NO	R <sub>c</sub> vs C <sub>c</sub>	Previous	99.684060	-37.817550	0.999970
		Current	150.424200	17.306610	0.999997
	C <sub>i</sub> vs C <sub>c</sub>	Current	1.000000	-0.000021	0.999997
NO <sub>2</sub>	R <sub>c</sub> vs C <sub>c</sub>	Previous	100.024800	7.102906	0.999970
		Current	151.222000	-67.909000	0.999925
	C <sub>i</sub> vs C <sub>c</sub>	Current	1.000000	0.000010	0.999925
NO <sub>x</sub>	R <sub>c</sub> vs C <sub>c</sub>	Previous	100.036600	-50.798340	0.999970
		Current	150.758400	3.005959	0.999997
	C <sub>i</sub> vs C <sub>c</sub>	Current	1.000000	-0.000021	0.999997

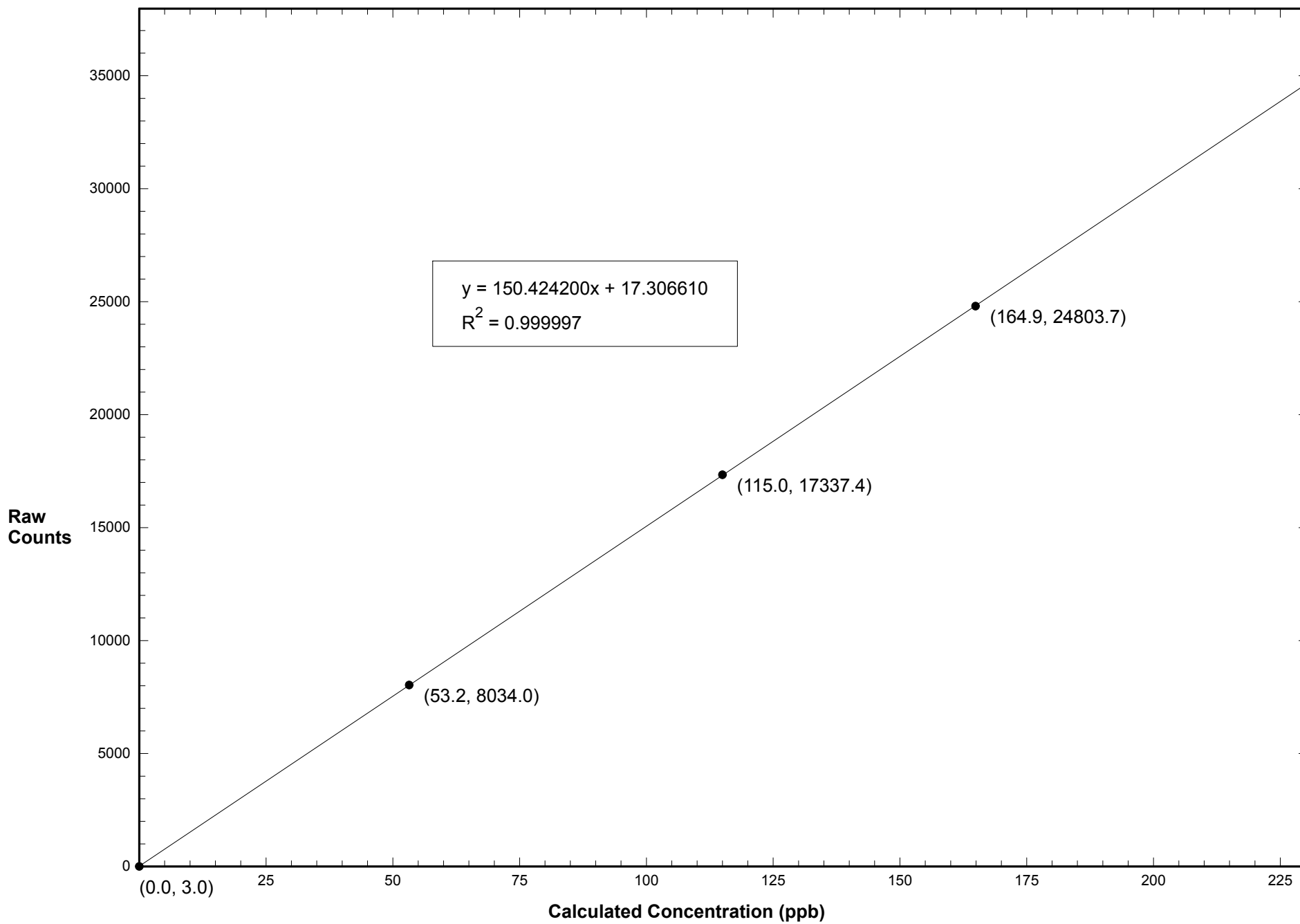
Comments:

**Calibration Data Summary (Page 2)**

August 20, 2015 - Station 906

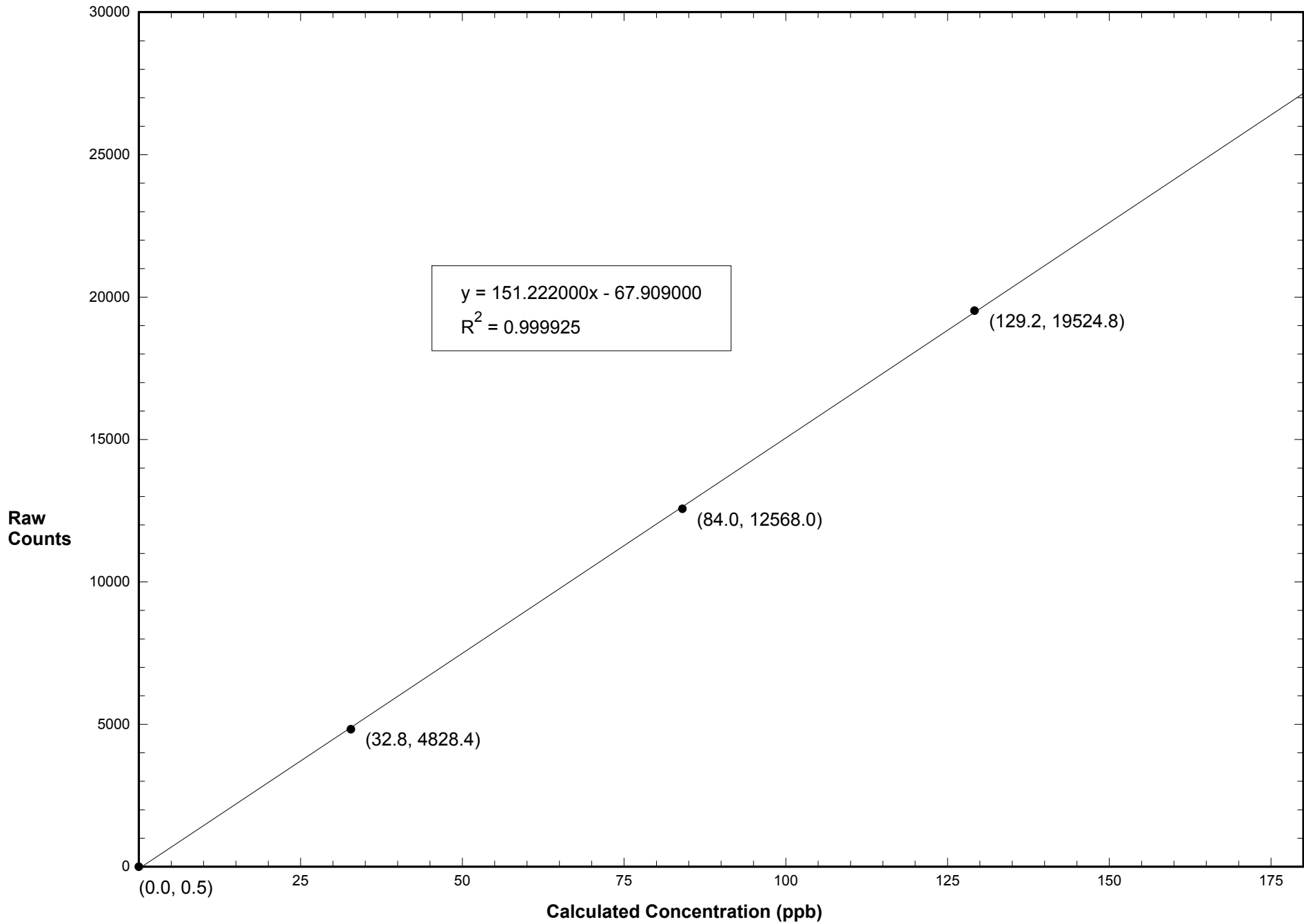
NO Flow Rate (LPM)	Dilution Flow Rate (LPM)	Calculated Concentration C <sub>c</sub> (ppb)	Raw Count Output R <sub>c</sub>	Indicated Concentration C <sub>i</sub> (ppb)	Correction Factor C <sub>c</sub> /C <sub>i</sub>		
0.06710	5.060	164.9	24803.7	164.8	1.001		
0.04670	5.070	115.0	17337.4	115.1	0.999		
0.02150	5.069	53.2	8034.0	53.3	0.999		
0.00000	5.057	0.0	3.0	-0.1			
NO Calibration					Average Correction Factor:	0.999	
0.06710	5.060	164.9	24849.7	164.8	1.001		
0.04670	5.070	115.0	17365.3	115.2	0.999		
0.02150	5.069	53.2	8013.2	53.1	1.002		
0.00000	5.057	0.0	4.0	0.0			
NO <sub>x</sub> Calibration					Average Correction Factor:	1.000	
Reference Concentration NO (ppb)	Raw Count Output NO	Calculated Concentration NO (ppb)	Calculated Concentration NO <sub>2</sub> , C <sub>c</sub> (ppb)	Raw Count Output R <sub>c</sub>	Indicated Concentration C <sub>i</sub> (ppb)	Correction Factor C <sub>c</sub> /C <sub>i</sub>	Converter Efficiency C <sub>i</sub> /C <sub>c</sub>
164.6	5346.4	35.4	129.2	19524.8	129.6	0.997	1.003
164.6	12137.9	80.6	84.0	12568.0	83.6	1.005	0.995
164.6	19846.6	131.8	32.8	4828.4	32.4	1.012	0.988
			0.0	0.5	0.5		
					Average Correction Factor:	1.005	
NO <sub>2</sub> Gas Phase Titration					Average Converter Efficiency:	0.995	
Parameter	Correction Factor (Previous)	Correction Factor: (Current)	Percent Change of Correction Factor				
NO	0.998	1.001	0.3				
NO <sub>2</sub>	1.000	0.997	-0.3				
NO <sub>x</sub>	0.997	1.001	0.4				

# Station 906 NO August 20, 2015: Linear Regression

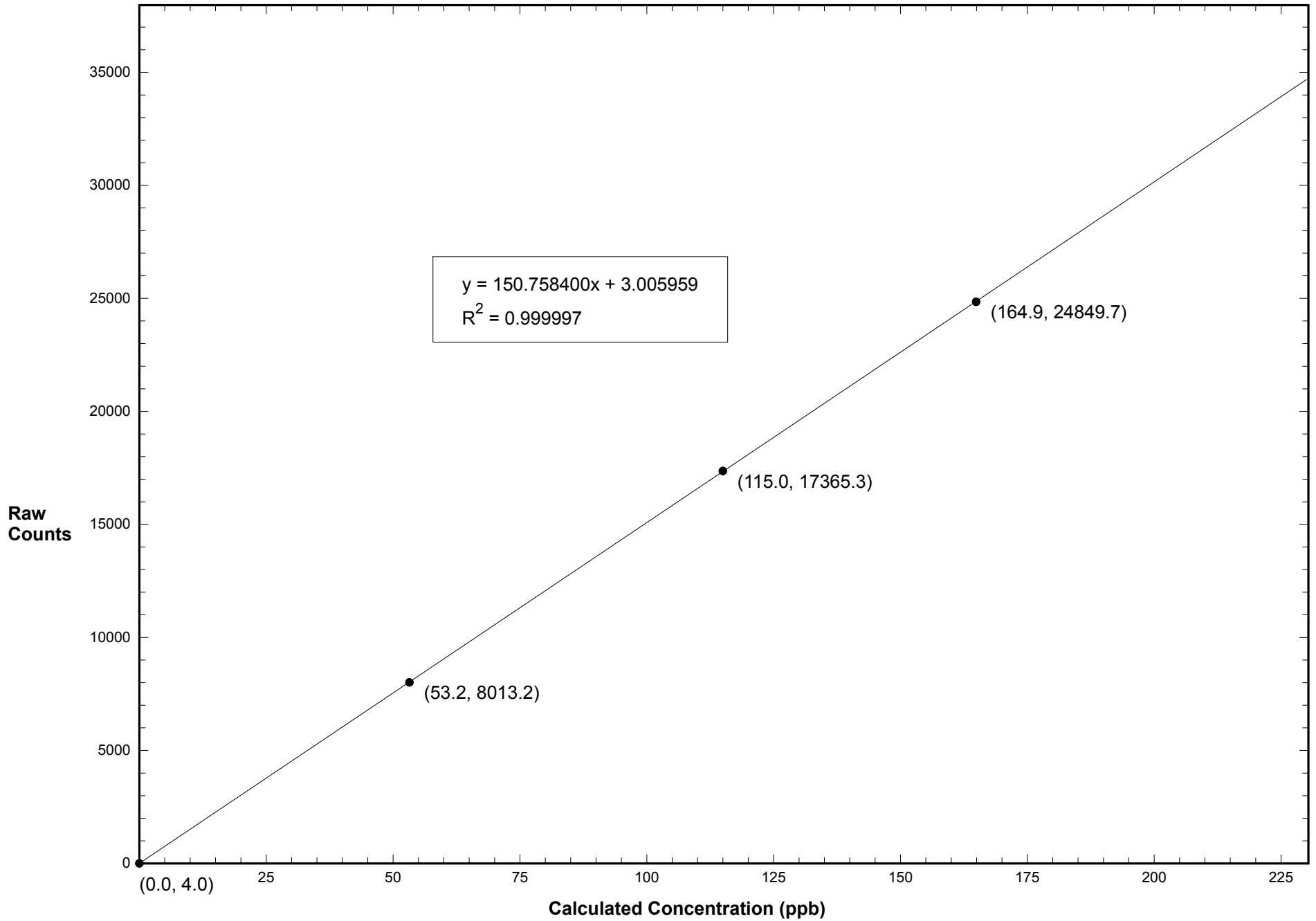




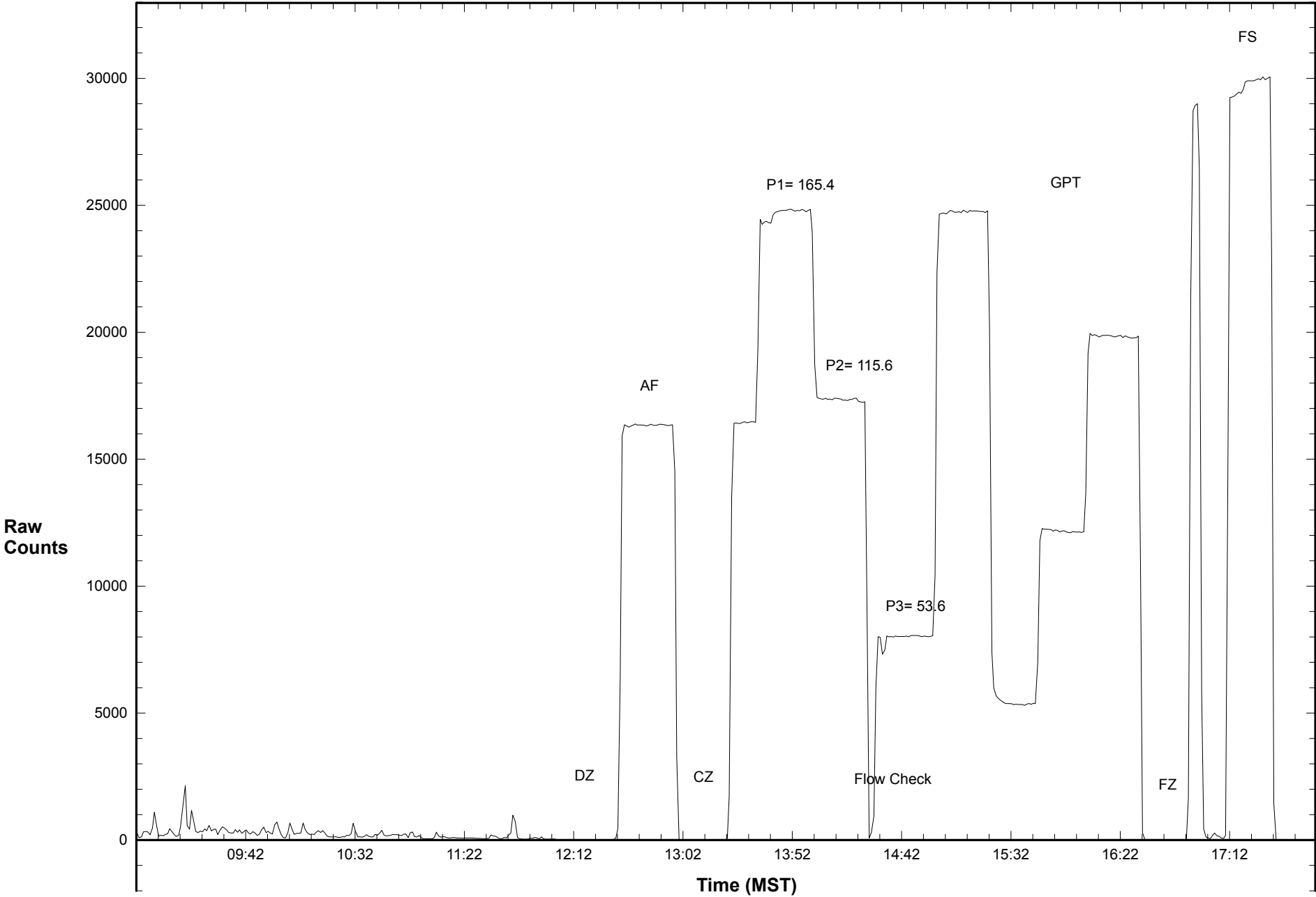
### Station 906 NO2 August 20, 2015: Linear Regression



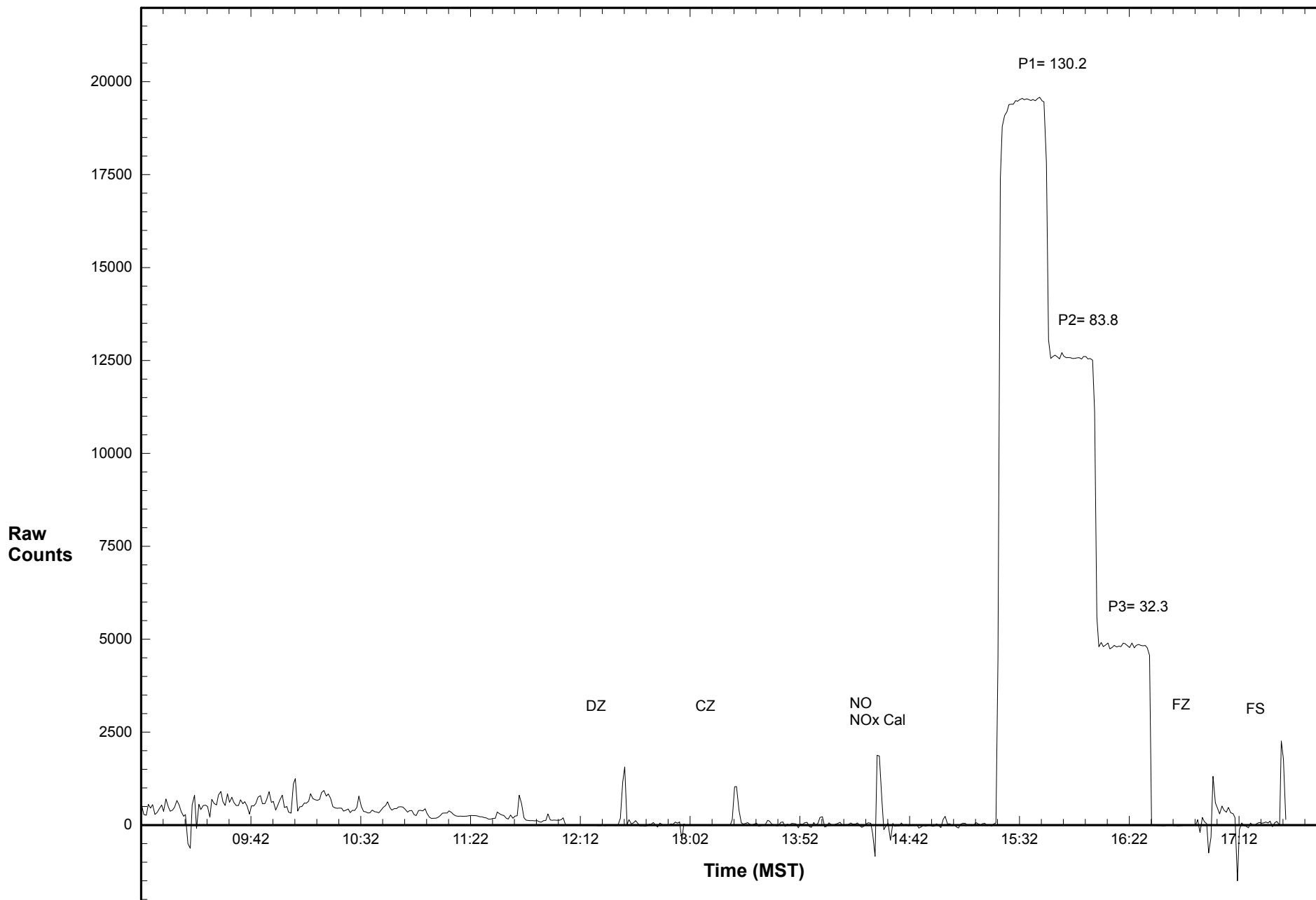
# Station 906 NOX August 20, 2015: Linear Regression



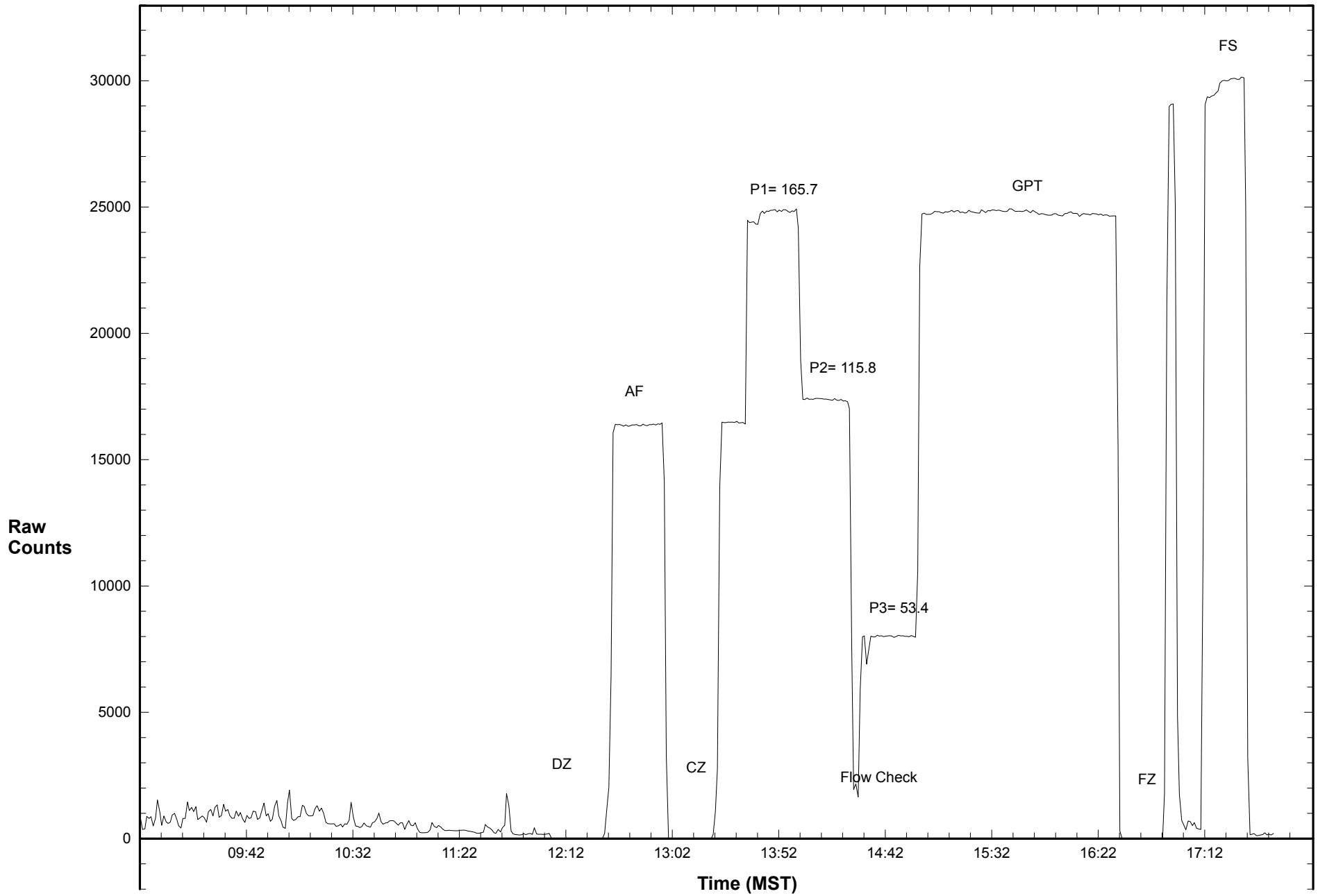
# Station 906 NO August 20, 2015: Calibration Graph



# Station 906 NO2 August 20, 2015: Calibration Graph



# Station 906 NOX August 20, 2015: Calibration Graph



# Calibration Data Summary

## West Central Airshed Society

Operator: WCAS

Location: Station 906, Hinton

Calibration Date: August 20, 2015

Parameter: O<sub>3</sub>

Instrument: Teco 49i

Serial Number: 1136451325

Previous Calibration Date: July 24, 2015

Calibration: Routine

Calibration Equipment: 2B Tech 306 SN-135

Barometric Pressure: 26.50" Hg

Calibration Method: Certified Ozone Generator

Temperature: 21.0° C

Technician: Dean Yustak

Instrument Settings	Background	Coefficient	Monitoring Range
Previous	0.2	1.003	500 ppb
Current	0.1	0.995	500 ppb

Final Zero: -1.3 ppb

Final Span: 436.1 ppb

As Found Correction Factor: 0.984

Calibration System Flow Rate (LPM)	Calculated Concentration C <sub>c</sub> (ppb)	Raw Count Output R <sub>c</sub>	Indicated Concentration C <sub>i</sub> (ppb)	Correction Factor C <sub>c</sub> /C <sub>i</sub>
3.000	398.0	23894.6	397.7	1.001
3.000	250.0	15054.3	250.5	0.998
3.000	100.0	6022.6	100.0	1.000
3.000	0.0	3.8	-0.2	

### Results of Linear Regression

R <sub>c</sub> vs C <sub>c</sub>	Slope	Intercept	R <sup>2</sup>
Previous	60.522900	-138.430400	0.999825
Current	60.042020	15.967950	0.999997
C <sub>i</sub> vs C <sub>c</sub>			
Current	1.000000	0.000000	0.999996

Average Correction Factor: 1.000

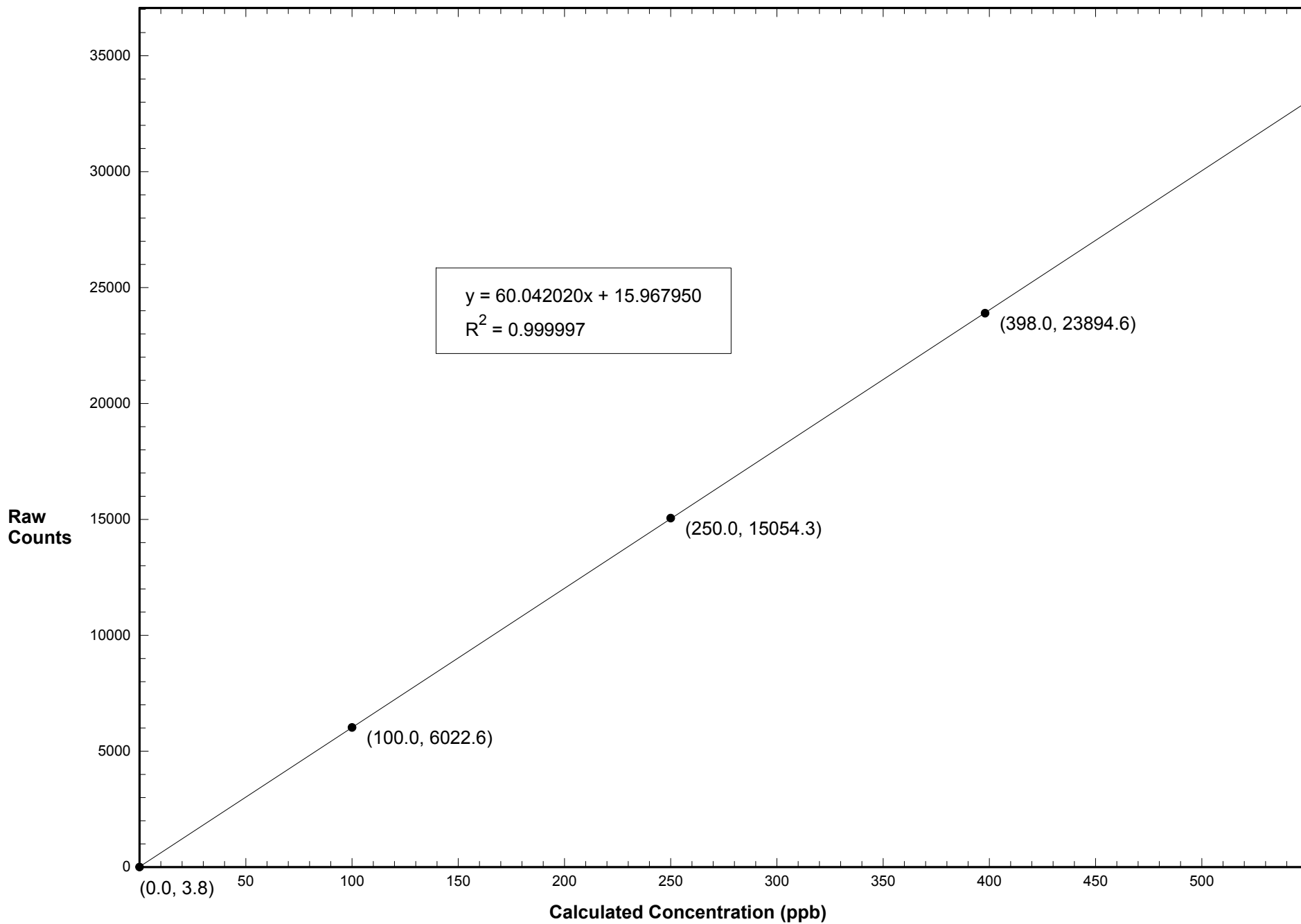
Previous Correction Factor: 0.996

Current Correction Factor: 1.001

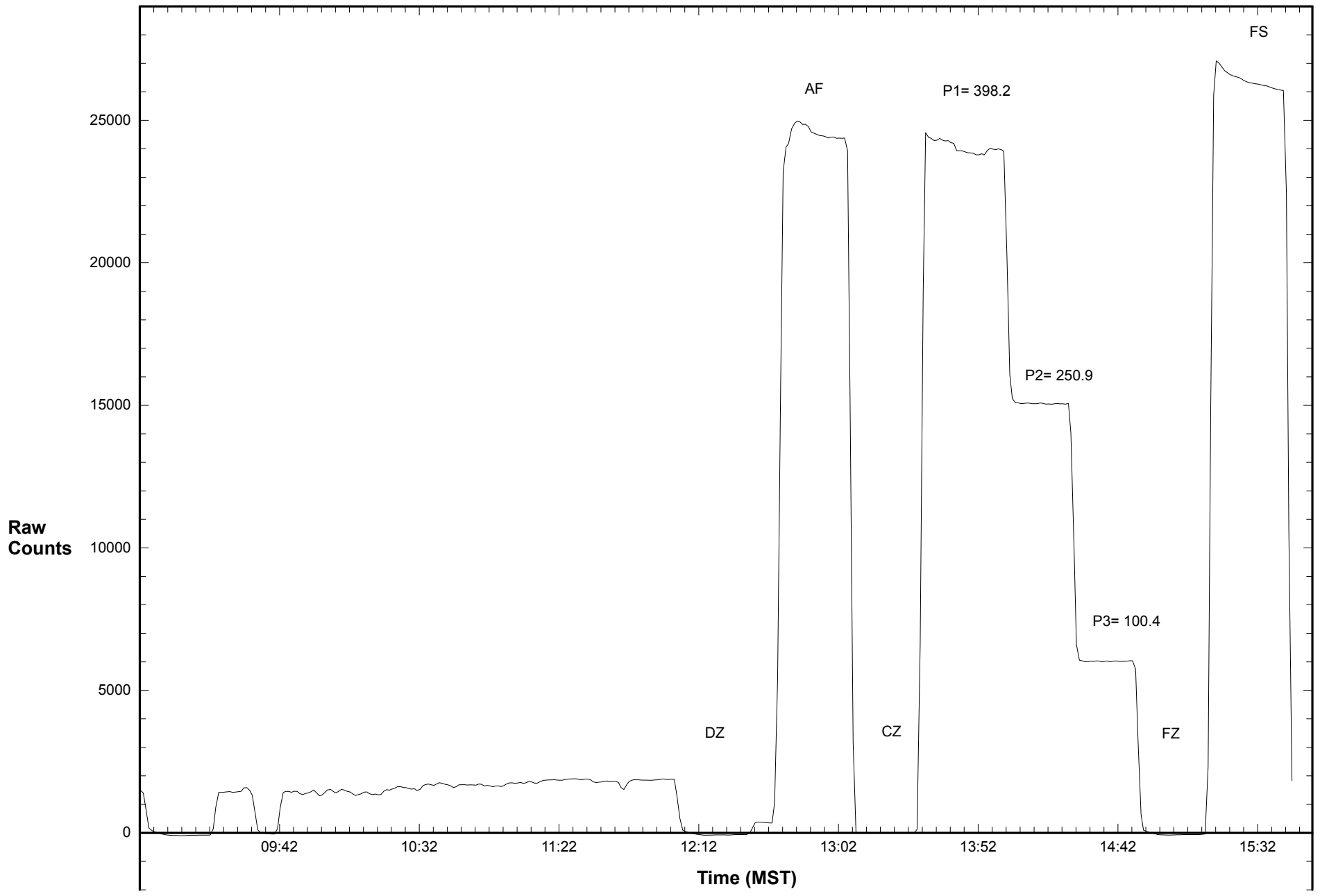
Percent Change of Correction Factor: 0.5

Comments:

### Station 906 O3 August 20, 2015: Linear Regression



# Station 906 O3 August 20, 2015: Calibration Graph





# Calibration Data Summary

## West Central Airshed Society

Operator: WCAS

Location: Station 906, Hinton  
 Calibration Date: August 20, 2015  
 Parameter: SO<sub>2</sub>

Instrument: Teco 43i	Serial Number: CM 12499009	Previous Calibration Date: July 24, 2015
Calibration: Routine	Calibration Equipment: SABIO 2010 sn # 04300810	Barometric Pressure: 26.50" Hg
Calibration Method: Std.Gas Dilution	Cylinder ID: FF16109	Temperature: 21.0° C
Cylinder Concentration: 6.11 ppm SO <sub>2</sub>	In Service: February 5, 2013	Technician: Dean Yustak

Instrument Settings	SO <sub>2</sub> bkg ppb	SO <sub>2</sub> Coefficient	Monitoring Range
Previous	25.8	0.952	200 ppb
Current	26.3	0.968	100 ppb

Final Zero: -0.3 ppm      Final Span: 86.5 ppm      As Found Correction Factor: 1.018

SO <sub>2</sub> Flow Rate (LPM)	Dilution Flow Rate (LPM)	Calculated Concentration C <sub>c</sub> (ppm)	Raw Count Output R <sub>c</sub>	Indicated Concentration C <sub>i</sub> (ppm)	Correction Factor C <sub>c</sub> /C <sub>i</sub>
0.0671	5.060	80.0	23925.9	79.8	1.002
0.0467	5.070	55.8	16786.4	55.9	0.997
0.0215	5.069	25.8	7801.2	25.9	0.996
0.0000	5.057	0.0	3.9	-0.1	

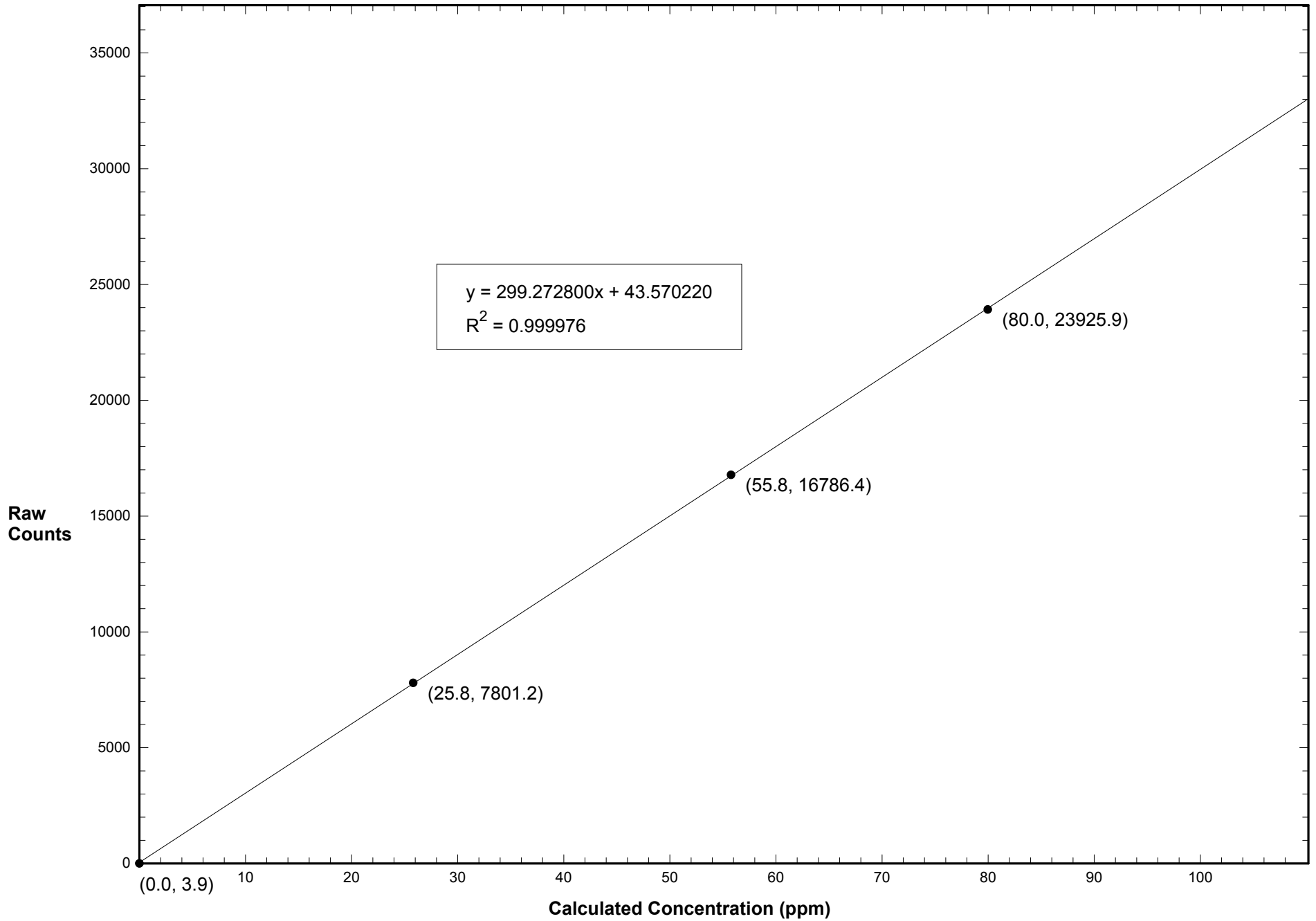
### Results of Linear Regression

R <sub>c</sub> vs C <sub>c</sub>	Slope	Intercept	R <sup>2</sup>
Previous	150.283500	-65.468890	0.999934
Current	299.272800	43.570220	0.999976
C <sub>i</sub> vs C <sub>c</sub>			
Current	1.000000	0.000021	0.999975

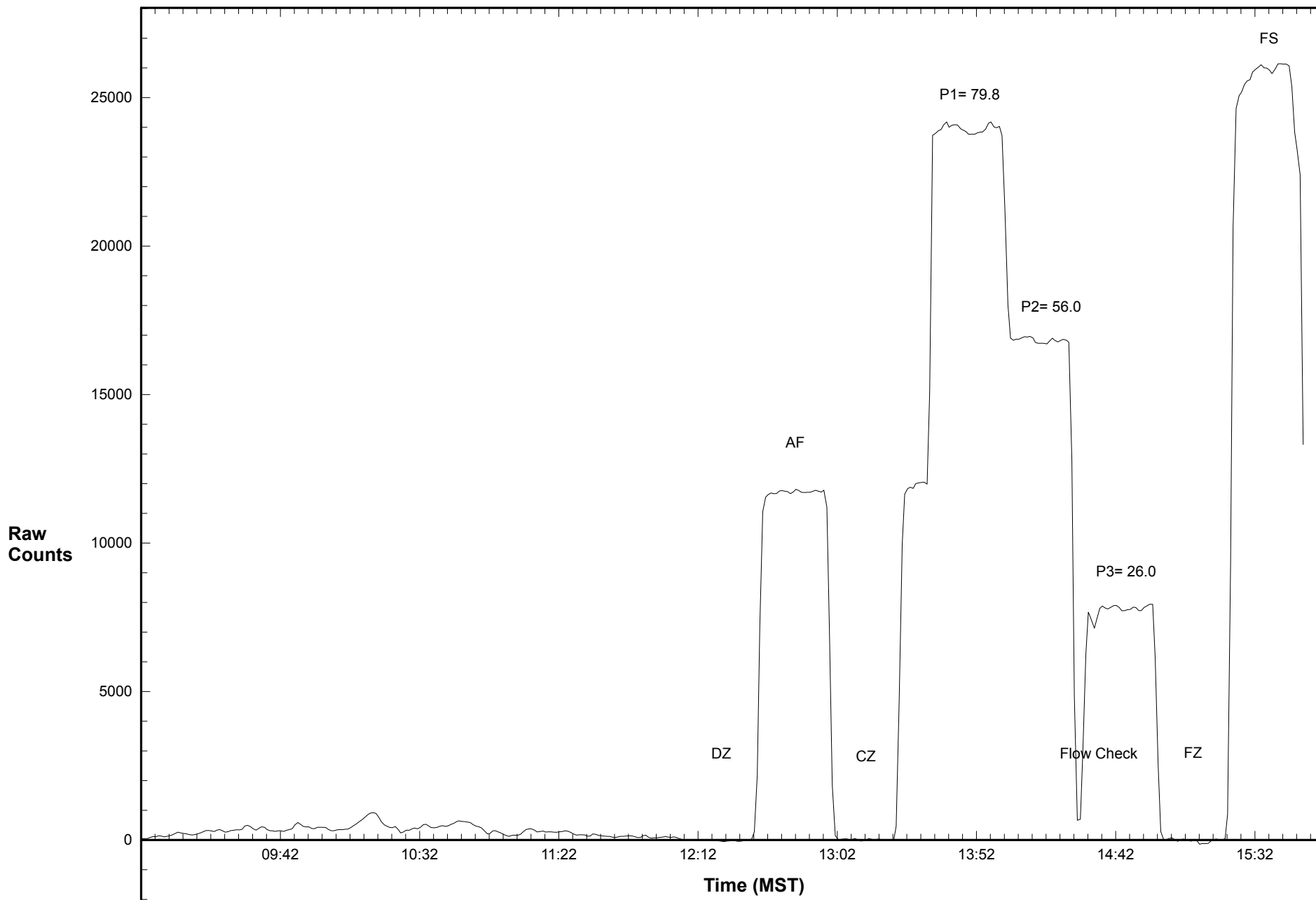
Average Correction Factor: 0.998  
 Previous Correction Factor: 0.997  
 Current Correction Factor: 1.002  
 Percent Change of Correction Factor: 0.5

Comments:

# Station 906 SO2 August 20, 2015: Linear Regression



# Station 906 SO2 August 20, 2015: Calibration Graph



# Calibration Data Summary

## West Central Airshed Society

Operator: WCAS

Location: Station 906, Hinton  
 Calibration Date: August 20, 2015  
 Parameter: TRS

Instrument: Teco 43C	Serial Number: 43CTL - 60324 - 326	Previous Calibration Date: July 24, 2015
Calibration: Routine	Calibration Equipment: SABIO 2010 sn # 04300810	Barometric Pressure: 26.50" Hg
Calibration Method: Std.Gas Dilution	Permeation Device ID: SV14360, 4.89 ppm H2S	Temperature: 21.0° C
Permeation Rate: 0 ng/min	In Service: February 5, 2013	Technician: Dean Yustak

Instrument Settings	H <sub>2</sub> S bkg ppb	H <sub>2</sub> S Coefficient	Monitoring Range
Previous	3.11	1.049	100 ppb
Current	2.01	0.816	100 ppb

Final Zero: 0.0 ppb                      Final Span: 66.4 ppb                      As Found Correction Factor: 0.878

Calibration System Flow Rate (LPM)	Calculated Concentration C <sub>c</sub> (ppb)	Raw Count Output R <sub>c</sub>	Indicated Concentration C <sub>i</sub> (ppb)	Correction Factor C <sub>c</sub> /C <sub>i</sub>
0.068	80.8	24568.4	80.8	1.000
0.042	49.7	15112.7	49.8	0.998
0.021	25.6	7691.9	25.5	1.006
0.000	0.0	-69.8	0.1	

Results of Linear Regression			
R <sub>c</sub> vs C <sub>c</sub>	Slope	Intercept	R <sup>2</sup>
Previous	301.116400	-82.983530	0.999933
Current	305.275100	-88.960990	0.999988
C <sub>i</sub> vs C <sub>c</sub>			
Current	1.000000	0.000011	0.999987

Average Correction Factor: 1.001

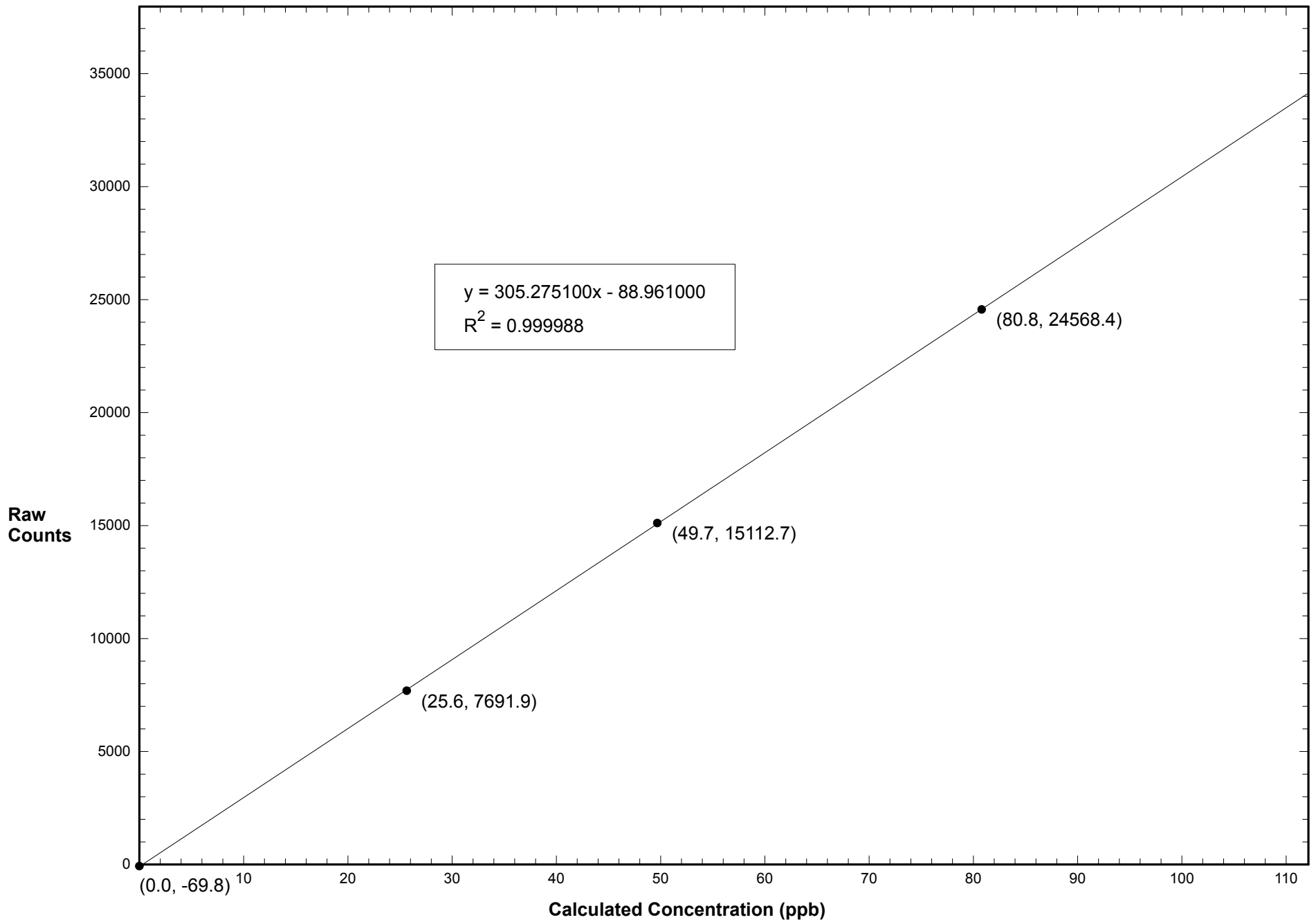
Previous Correction Factor: 0.998

Current Correction Factor: 1.000

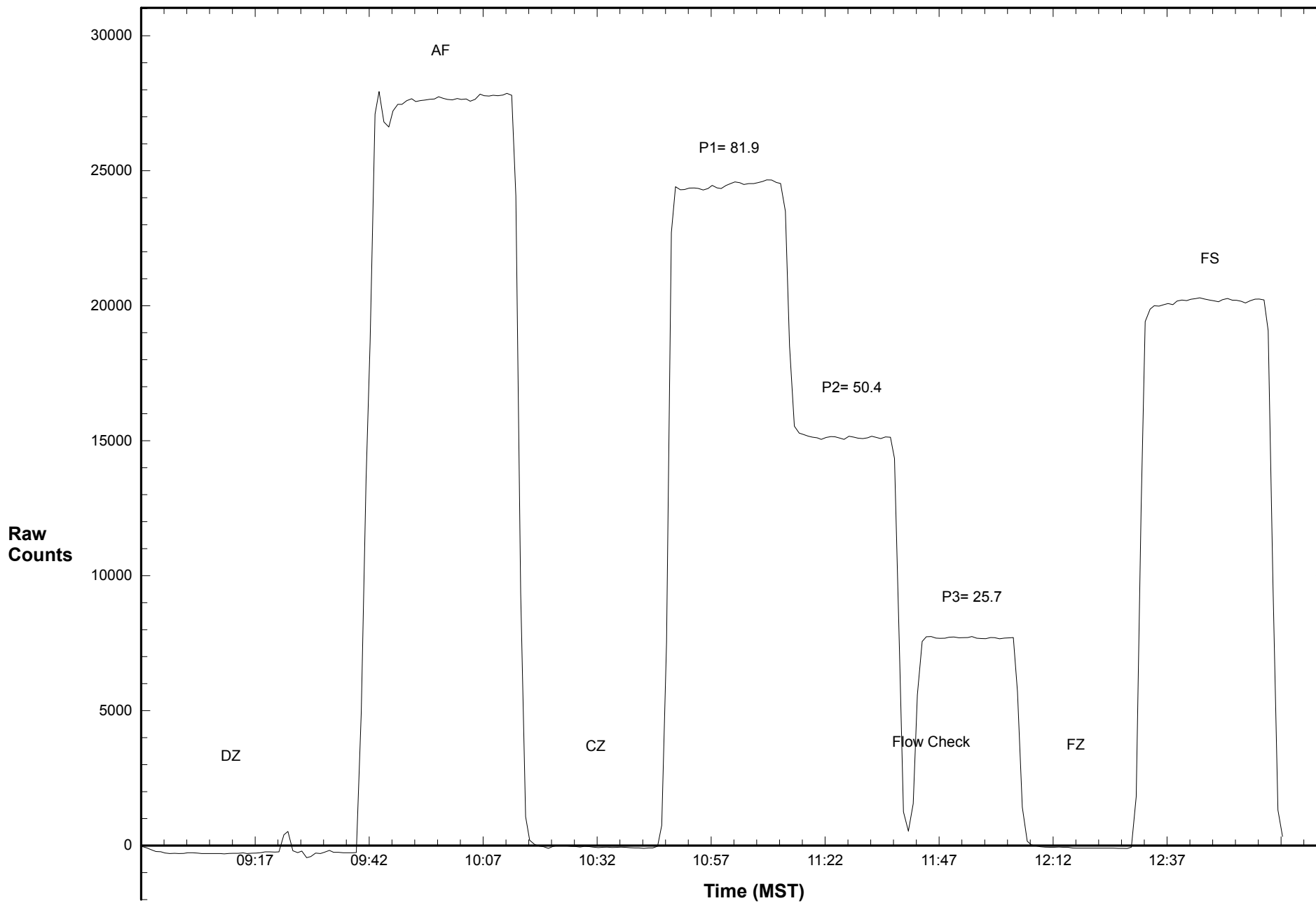
Percent Change of Correction Factor: 0.2

Comments:

# Station 906 TRS August 20, 2015: Linear Regression



# Station 906 TRS August 20, 2015: Calibration Graph



**WEST CENTRAL AIRSHED SOCIETY**

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

**AMS 906  
HINTON  
AUGUST 2015**

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

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



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

**External Temperature (ET) - C**  
**August 2015**

<b>Maximum Value: 30.78 C on Aug 12 17:00</b> <b>Maximum Daily Average: 20.16 C on Aug 12</b>																							<b>Hours in Service: 744</b>			
<b>Minimum Value: 0.4 C on Aug 22 06:00</b> <b>Minimum Daily Average: 7.71 C on Aug 21</b>																							<b>Hours of Data: 744</b>			
<b>Maximum Diurnal Average: 21.71 C at hour 15</b> <b>Minimum Diurnal Average: 8.15 C at hour 6</b>																							<b>Hours of Missing Data: 0</b>			
<b>Monthly Average: 15.137 C</b> <b>Percentiles: P<sub>1</sub> = 3.6 P<sub>10</sub> = 7.6 Q<sub>1</sub> = 10.1 Median = 14.6 Q<sub>3</sub> = 19.6 P<sub>90</sub> = 23.6 P<sub>99</sub> = 29.6</b>																							<b>Hours of Calibration: 0</b>			
																							<b>Percent Operational Time: 100.0</b>			
Day	Hourly Period Ending At																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Aug	15.0	14.5	14.6	14.7	14.3	13.7	13.8	15.5	18.4	20.9	22.2	22.1	22.8	21.4	22.6	23.3	23.6	23.4	22.2	20.8	18.7	16.2	14.4	12.8	18.42	23.63
2-Aug	11.2	10.0	9.3	8.7	8.0	7.4	9.1	13.3	17.3	20.3	23.0	25.0	26.4	27.1	26.3	26.4	25.9	25.5	25.0	23.1	21.4	19.6	17.5	17.2	18.51	27.09
3-Aug	15.0	13.5	12.7	11.4	10.0	9.4	10.5	12.5	15.0	18.2	20.8	23.1	25.2	27.1	28.0	28.2	28.2	27.8	27.0	25.8	23.6	21.3	19.9	18.5	19.70	28.24
4-Aug	17.0	15.5	14.9	14.0	13.3	12.6	12.4	14.8	17.5	19.1	20.2	21.6	22.9	23.8	23.4	22.9	22.3	21.8	20.9	19.1	17.7	16.6	16.0	15.4	18.15	23.80
5-Aug	14.6	12.9	11.6	11.2	11.1	11.0	11.3	11.6	11.8	12.3	12.6	12.9	12.1	13.4	14.7	15.9	15.6	15.4	15.0	14.4	13.3	11.1	9.8	9.0	12.69	15.90
6-Aug	9.0	9.0	8.1	7.1	6.3	5.7	6.0	9.8	11.4	12.0	12.4	12.6	13.1	14.6	15.4	15.6	15.6	15.3	14.3	13.1	12.6	12.1	10.4	9.3	11.29	15.60
7-Aug	8.9	8.5	8.7	8.6	9.0	9.3	10.2	11.5	14.7	18.6	20.1	21.8	23.3	24.2	20.9	21.3	22.8	21.8	21.6	20.4	18.5	15.6	13.6	11.8	16.08	24.16
8-Aug	10.4	9.8	9.0	7.9	7.3	6.6	7.9	10.2	13.1	17.0	20.4	23.0	24.9	24.9	24.6	25.2	25.4	25.1	24.6	23.3	20.6	18.8	17.1	15.5	17.19	25.35
9-Aug	14.2	12.4	12.0	12.2	12.0	11.9	13.1	15.5	17.5	17.9	20.3	21.9	19.9	23.8	24.4	17.6	18.2	20.9	21.0	19.9	18.5	15.2	12.8	11.4	16.86	24.44
10-Aug	10.2	9.5	8.7	7.9	7.2	6.9	7.6	11.4	16.0	17.6	18.2	19.2	22.1	24.9	25.7	22.1	23.5	23.3	22.7	22.1	19.7	17.1	15.7	13.9	16.39	25.72
11-Aug	12.4	11.1	9.4	8.6	8.2	7.6	7.6	8.9	11.1	13.4	17.9	20.5	26.8	28.1	28.7	28.6	28.3	27.8	26.6	25.3	22.0	18.8	18.3	15.3	17.97	28.69
12-Aug	13.2	11.9	10.6	9.4	8.6	8.5	10.0	14.1	18.0	21.6	25.5	27.4	28.8	29.9	30.7	30.7	30.8	29.6	28.4	25.1	22.0	18.7	16.1	14.4	20.16	30.78
13-Aug	13.0	11.5	10.3	9.2	8.3	7.7	8.3	12.5	16.6	17.4	19.0	20.6	23.9	26.3	28.3	30.5	29.6	28.8	27.1	24.2	20.7	18.9	17.2	16.8	18.61	30.55
14-Aug	15.3	14.1	13.7	13.4	13.0	13.0	13.1	14.9	17.7	18.7	18.3	18.2	19.6	19.7	18.0	18.1	17.2	16.5	15.6	13.7	10.9	10.5	10.4	10.3	15.16	19.65
15-Aug	10.1	10.0	10.0	9.7	9.5	9.3	9.3	9.2	9.2	9.5	9.9	10.6	11.3	10.9	11.1	11.1	11.5	10.9	9.7	9.7	9.5	9.3	9.1	9.1	9.98	11.47
16-Aug	9.0	8.8	8.6	8.7	8.5	7.6	7.4	8.0	9.2	10.8	12.5	14.6	16.8	17.1	18.1	18.0	18.7	19.0	16.7	14.6	12.3	10.7	9.8	8.7	12.26	19.04
17-Aug	7.4	6.4	5.7	4.9	4.2	3.6	3.8	6.5	11.1	13.7	15.1	15.9	17.6	19.1	19.9	20.3	21.0	19.4	17.7	17.2	15.5	14.4	13.5	12.9	12.78	21.01
18-Aug	12.6	12.9	12.7	12.1	11.7	10.1	9.4	12.3	14.3	17.0	18.4	19.4	21.0	21.3	22.7	22.2	22.5	22.4	22.0	20.9	17.9	15.0	12.7	10.7	16.41	22.69
19-Aug	9.3	8.3	7.5	7.1	6.8	6.9	8.4	12.1	17.7	19.0	19.4	22.2	24.4	25.4	24.1	24.1	26.1	25.3	23.2	20.8	19.4	17.4	15.9	13.4	16.84	26.11
20-Aug	12.0	10.8	10.2	9.5	9.3	8.9	11.2	13.1	13.9	13.9	15.1	16.7	18.1	18.8	19.4	18.5	17.1	14.9	12.3	11.3	10.9	10.4	9.9	9.7	13.17	19.36
21-Aug	9.4	9.1	8.9	8.5	8.2	8.1	6.9	6.1	6.1	6.0	5.4	5.4	7.1	7.7	7.8	9.2	10.7	11.6	10.5	8.3	6.8	5.9	5.7	5.3	7.71	11.63
22-Aug	4.1	3.0	2.3	1.6	1.0	0.4	0.5	1.9	5.9	9.0	10.9	13.5	15.5	17.2	18.4	19.3	19.5	18.5	17.2	16.5	13.9	11.9	9.4	7.7	9.96	19.49
23-Aug	6.4	5.6	4.5	3.9	4.0	3.8	4.2	7.3	13.3	16.4	19.3	20.9	21.8	22.6	23.4	23.5	23.8	23.6	20.9	18.6	15.8	13.7	12.9	11.9	14.26	23.85
24-Aug	10.9	9.8	8.4	7.2	6.2	5.3	5.0	6.3	9.6	13.6	17.3	19.8	21.1	22.2	22.5	22.8	22.1	21.7	19.6	18.1	16.8	16.8	14.5	12.1	14.57	22.83
25-Aug	10.3	9.0	8.2	7.2	6.3	5.7	5.4	7.0	10.2	13.0	15.6	17.8	20.5	23.3	25.5	25.9	25.5	24.2	20.6	17.8	15.8	15.2	15.0	14.3	14.96	25.88
26-Aug	13.9	13.7	13.6	13.0	12.8	12.5	12.3	12.7	14.4	16.4	18.0	19.4	20.6	21.8	22.0	22.0	21.8	21.1	20.0	18.1	16.2	14.6	12.8	11.3	16.46	21.99
27-Aug	10.1	9.3	9.0	9.1	8.9	8.3	8.8	11.0	13.9	16.4	19.4	21.6	21.9	22.4	26.1	26.6	26.0	25.4	24.2	22.8	21.0	16.4	12.9	10.7	16.75	26.61
28-Aug	9.1	7.9	6.9	6.0	5.7	5.9	6.1	7.0	8.6	13.0	18.3	22.7	22.4	22.2	21.5	21.9	21.0	20.0	18.7	17.9	16.5	15.1	12.5	12.0	14.11	22.73
29-Aug	10.6	8.5	7.5	6.8	6.4	6.9	7.2	7.9	9.5	11.6	16.0	17.1	18.4	20.6	22.2	22.8	15.2	17.0	17.5	17.4	17.4	16.1	15.1	13.4	13.71	22.76
30-Aug	12.7	10.8	9.0	7.8	7.1	6.2	6.7	10.3	14.8	15.8	15.7	17.2	17.8	18.4	18.9	19.1	18.3	17.6	16.4	14.8	14.4	14.3	15.0	14.9	13.91	19.15
31-Aug	14.8	14.9	14.4	13.4	12.6	11.7	10.5	12.8	15.0	16.2	17.2	17.6	17.2	17.8	17.7	17.8	17.0	16.1	14.8	11.8	11.4	10.6	9.5	9.1	14.25	17.80
																							Diurnal Average			
																							Diurnal Maximum			





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

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

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1 Spd	1.9	0.6	1.6	1.2	1.1	0.7	0.3	2.5	2.6	3.9	4.2	5.2	1.5	3.0	4.2	3.7	4.2	3.0	3.9	2.5	0.8	1.1	0.6	0.4	1.77	5.21
Dir	E	SW	SE	ENE	S	ENE	SE	ENE	NE	NE	ENE	ESE	NNE	NNE	ESE	ENE	E	SE	NE	ENE	ENE	NNW	NNW	NE	ENE	ESE
2 Spd	0.3	0.3	1.3	1.2	0.8	1.0	0.5	0.9	1.3	1.9	2.9	2.5	3.6	3.6	5.7	6.4	7.0	7.3	6.3	3.5	3.5	1.7	1.1	1.4	1.92	7.31
Dir	N	N	W	WSW	W	W	W	W	W	SSW	E	NE	NNE	E	ENE	ENE	ENE	ENE	ENE	NE	E	ESE	E	ESE	ENE	ENE
3 Spd	0.2	0.4	1.7	0.5	0.2	0.7	0.9	0.7	2.2	4.0	3.7	4.5	4.7	6.5	9.6	11.2	11.3	14.5	12.2	10.6	5.3	3.9	2.9	2.1	3.74	14.53
Dir	N	W	SW	S	E	ENE	ENE	NNE	NE	NNE	NNE	NE	NE	ESE	E	ESE	ESE	ESE	SE	ESE	ENE	ENE	ENE	N	E	ESE
4 Spd	1.0	1.1	1.8	2.8	0.9	0.3	0.2	0.8	2.5	3.3	1.9	3.4	4.2	3.7	4.7	6.3	7.4	5.9	5.7	7.7	7.6	5.7	0.2	0.3	2.96	7.67
Dir	WSW	NNE	E	SSE	SE	NNE	NNE	NE	NE	ENE	NNE	NE	NE	NE	ENE	E	E	ENE	ENE	NE	ENE	ENE	WNW	SW	ENE	NE
5 Spd	1.3	2.7	2.9	2.5	2.9	2.4	2.1	0.6	2.1	5.3	7.2	7.0	7.7	7.0	2.4	2.0	2.6	2.9	1.9	3.3	3.4	1.4	1.3	2.0	3.07	7.72
Dir	WSW	SW	SW	SW	SW	SW	SW	WNW	SW	SW	SW	SW	SW	SW	W	WNW	WSW	WSW	SSW	SW	SW	SW	SSW	SSW	SW	SW
6 Spd	1.8	0.6	0.7	1.0	0.9	0.3	1.1	0.8	1.3	3.5	2.4	3.5	4.1	3.1	3.2	3.6	1.8	1.3	2.7	3.9	1.1	3.0	0.4	0.5	1.67	4.07
Dir	SW	W	WSW	SW	WSW	SE	E	NW	NW	SSW	SW	SW	WSW	WSW	WSW	SW	W	W	SW	SW	W	SW	W	NW	WSW	WSW
7 Spd	0.7	0.5	0.3	1.2	0.2	0.6	1.4	1.0	4.1	3.3	8.8	9.4	6.1	2.1	2.6	3.4	8.9	7.8	4.7	0.2	0.4	0.5	0.4	0.2	2.27	9.40
Dir	WNW	NNW	WSW	NW	WNW	SW	W	WNW	SW	SW	SW	SW	SW	W	NE	SE	SW	SW	SW	W	E	S	E	E	SW	SW
8 Spd	0.4	0.1	0.5	0.8	1.8	0.4	1.3	0.6	1.6	2.0	0.2	2.7	2.8	6.3	7.0	7.7	10.0	8.7	7.5	4.8	2.5	1.4	0.2	0.7	2.09	9.95
Dir	ENE	NE	SE	W	WSW	W	NW	NW	NW	SW	SW	NNE	NE	ESE	SE	SE	SE	SE	SE	ESE	E	E	E	E	SE	SE
9 Spd	0.8	0.9	0.8	0.3	0.7	1.1	0.5	0.6	5.7	4.9	4.3	6.5	3.7	4.5	3.6	8.6	2.4	2.7	2.1	1.0	2.4	0.3	0.7	0.2	1.05	8.60
Dir	ENE	WSW	WSW	ESE	ENE	WSW	WSW	NNW	SW	SW	SSW	S	NE	SW	SSW	E	NE	NNE	NNE	ESE	WNW	WNW	SSW	SSW	SSW	SSW
10 Spd	0.1	2.6	1.1	1.9	0.4	1.4	1.0	1.2	2.0	3.9	6.4	3.4	1.0	1.8	3.1	3.7	6.8	4.9	2.0	4.3	0.7	0.8	2.2	1.4	2.10	6.77
Dir	NNE	WSW	SW	SW	WSW	WSW	W	SSW	SW	SW	SSW	SW	S	NE	SW	SW	SSW	SSW	SSW	SSE	SSW	S	S	S	SSW	SSW
11 Spd	2.0	1.7	0.2	0.5	0.8	0.8	2.1	0.5	0.6	2.3	0.8	1.1	8.1	11.2	9.5	14.3	11.4	9.6	8.0	4.5	0.2	1.7	1.4	0.3	3.32	14.33
Dir	SSW	S	SE	WNW	W	SW	W	WSW	NE	SE	N	W	SW	SW	SSW	SSW	SW	SW	SW	SW	SW	E	ENE	NE	SW	SSW
12 Spd	0.3	0.2	0.3	0.3	0.4	0.2	0.9	0.8	0.8	0.6	1.8	7.8	7.4	5.8	7.1	8.1	7.1	9.7	4.7	4.3	1.7	1.0	1.1	0.8	2.07	9.72
Dir	NNE	NNW	NNW	NW	ENE	WNW	NW	WNW	W	S	ESE	SSW	SW	SW	SW	SW	SSW	SW	SSW	SW	NE	NE	E	E	SW	SSW
13 Spd	0.4	0.5	0.1	0.4	0.4	1.7	1.7	1.2	2.7	0.9	0.7	1.0	2.0	2.8	4.7	5.4	3.1	2.3	2.2	4.8	4.2	1.1	1.0	0.7	0.61	5.39
Dir	ENE	WNW	ESE	WNW	W	WSW	W	WSW	SW	W	SSE	NE	ENE	SW	WSW	WSW	WNW	NW	NNW	NE	NE	ENE	SW	SE	W	WSW
14 Spd	0.8	0.4	0.3	0.7	0.5	1.1	0.8	1.8	5.9	5.4	6.0	4.9	5.7	6.8	6.8	6.9	5.9	6.4	2.8	3.5	1.5	4.3	1.0	2.1	2.98	6.90
Dir	ESE	NNW	WSW	WSW	WNW	ENE	NE	ENE	ENE	ENE	ENE	NE	NE	E	E	ENE	ENE	ENE	NNE	NNE	NE	ENE	N	SW	ENE	ENE
15 Spd	1.1	0.3	1.0	1.7	2.2	2.7	1.0	0.5	0.2	0.9	2.6	0.6	1.5	0.7	3.9	1.8	5.9	2.5	3.5	0.6	1.7	2.4	0.9	0.7	0.68	5.90
Dir	E	NNW	NNE	NE	NE	ENE	NE	NNE	W	WSW	SSW	SSW	SE	E	SE	SW	SSW	E	E	NNE	S	SSW	SW	SSW	SE	SSW
16 Spd	0.7	0.3	0.4	1.7	1.4	0.6	0.5	1.1	1.3	3.2	7.8	3.9	3.0	1.1	1.0	1.8	1.4	2.6	1.5	2.6	0.4	1.0	0.8	1.5	0.91	7.82
Dir	SW	W	W	SW	SW	WSW	W	W	W	SW	SSW	SSW	S	ENE	SSW	NNE	E	NNE	NE	SSE	W	WSW	SW	SSW	SSW	SSW
17 Spd	1.3	0.7	1.3	0.9	0.9	1.7	0.8	0.7	1.5	1.6	1.6	3.9	4.6	5.9	1.6	2.7	2.4	1.5	2.0	1.6	0.2	0.7	1.7	0.6	1.09	5.95
Dir	SW	SW	WSW	WSW	WSW	SW	WNW	W	WNW	WNW	WNW	SSW	SSW	SSW	WSW	WSW	N	NNW	NW	W	SE	SE	ENE	NNE	WSW	SSW
18 Spd	1.4	5.1	6.7	2.1	2.3	1.7	0.5	1.8	4.1	4.2	7.6	7.8	6.2	2.0	2.5	2.4	3.0	3.3	3.0	2.6	0.3	0.5	0.4	0.4	2.62	7.84
Dir	ENE	SSW	SSW	WSW	SW	WSW	W	WSW	SW	SSW	SSW	SSW	SSW	WSW	W	W	WSW	WSW	WSW	WSW	WSW	SSE	SE	ENE	SW	SSW
19 Spd	0.3	0.6	0.8	0.3	0.7	0.8	1.5	1.0	3.9	5.1	1.3	8.7	11.8	10.6	3.7	4.2	4.5	4.9	3.2	2.1	4.3	3.8	1.1	0.4	1.30	11.77
Dir	ENE	ENE	NE	ESE	ENE	E	ENE	NNE	SW	SW	W	SW	SW	SW	NW	NW	NW	NW	NW	NE	ESE	ENE	ENE	ENE	WSW	SW
20 Spd	0.2	0.1	0.4	0.3	1.6	1.1	1.1	1.1	1.4	7.5	2.6	1.9	2.0	3.2	1.8	3.3	3.5	3.6	4.7	3.0	2.0	1.3	1.0	1.1	0.89	7.48
Dir	ESE	ENE	W	WSW	SW	S	WSW	W	SSW	SSW	S	SSE	SE	SSE	E	ENE	NE	NE	ENE	ENE	NE	ENE	ENE	NE	ESE	SSW
21 Spd	1.1	1.4	1.4	1.2	0.4	0.7	5.5	3.5	0.6	1.9	3.2	5.9	2.5	6.0	5.0	2.5	0.8	2.5	2.3	1.0	1.7	0.9	1.0	0.5	0.77	6.00
Dir	ENE	NE	NE	N	N	N	ENE	ENE	NNW	WSW	SW	SW	SW	SSW	SSW	WSW	WSW	NW	WNW	W	WSW	W	WSW	WNW	WSW	SSW
22 Spd	1.1	0.6	1.2	0.6	0.5	0.4	0.6	1.4	2.2	3.4	7.0	4.9	5.6	3.3	2.7	2.6	1.3	2.2	2.0	1.3	2.2	1.8	0.9	0.7	1.26	6.99
Dir	WSW	W	WSW	WSW	W	S	W	WNW	W	WSW	SSW	SSW	SSW	SW	SW	WSW	WSW	S	NE	ENE	NNE	ENE	E	SW	SW	SSW



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

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

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
23 Spd	0.6	0.4	0.7	0.0	0.3	0.3	1.1	0.6	1.8	4.7	1.4	3.1	5.9	6.9	7.1	7.0	3.7	2.3	0.1	0.9	0.9	0.4	1.1	1.2	1.92	7.11	
Dir	E	ENE	NE	W	NNE	WNW	SW	S	WSW	SSW	SW	SSW	SW	SW	SW	SW	WSW	WSW	WSW	S	S	S	SSE	S	SW	SW	
24 Spd	0.6	0.5	0.4	0.1	0.7	0.1	0.3	0.7	0.7	1.3	3.9	5.3	4.9	4.3	4.7	5.8	9.4	8.2	3.4	2.2	2.4	2.0	1.6	0.7	2.15	9.39	
Dir	WSW	S	SE	WNW	SW	E	NW	NNW	NW	ESE	NE	ENE	E	NE	ENE	E	SE	ESE	ENE	ENE	ENE	E	ESE	ENE	E	SE	
25 Spd	0.5	0.5	0.4	2.1	1.3	2.2	1.5	0.5	1.3	1.1	2.0	1.1	1.1	0.7	3.4	3.7	3.1	0.3	2.2	3.3	2.1	0.4	0.4	0.3	0.98	3.75	
Dir	E	NNW	NE	W	W	W	W	NW	WNW	NNW	NW	W	E	NW	WNW	W	WSW	NW	N	N	N	ENE	SW	NNW	WNW	W	
26 Spd	0.5	0.3	0.8	0.3	0.5	0.3	0.3	3.6	4.2	4.2	2.5	2.2	5.1	5.1	6.1	6.9	8.6	6.5	4.3	3.0	1.6	0.5	0.5	0.3	2.52	8.59	
Dir	E	ENE	ESE	N	ENE	NNE	NE	ENE	ENE	ENE	NE	NE	ENE	ENE	ESE	ESE	ESE	E	E	E	ENE	NE	E	NW	E	ESE	
27 Spd	0.2	0.2	0.4	1.9	0.5	0.4	0.3	0.7	1.4	1.9	1.7	1.3	0.8	0.7	9.5	11.5	11.4	9.9	9.3	8.1	4.8	0.8	0.4	0.7	2.94	11.50	
Dir	NE	NW	W	SW	WSW	W	NW	WNW	WNW	W	W	W	WNW	WNW	SW	SW	SW	SW	SW	SW	SW	ENE	ENE	ESE	SW	SW	
28 Spd	0.4	0.2	0.7	0.4	0.4	0.5	0.2	1.5	1.5	1.7	3.0	3.4	4.4	5.3	3.4	3.7	3.6	5.6	4.3	8.7	0.5	0.7	0.7	3.8	0.99	8.65	
Dir	ENE	NE	ENE	NE	NNE	ENE	NNW	NE	ENE	ENE	ENE	ENE	SW	WSW	W	W	W	SW	SSW	SSW	E	S	SW	SSE	SW	SSW	
29 Spd	1.0	1.0	1.9	1.3	0.3	0.8	0.9	0.2	0.5	1.0	3.8	4.1	3.9	4.7	6.0	5.2	5.9	4.3	3.8	5.7	6.8	4.2	4.5	2.3	0.60	6.85	
Dir	SSE	NE	SSW	SW	WNW	NE	NE	NW	W	ENE	NE	NE	NE	NNE	NE	ESE	SW	S	SW	W	SW	SSW	SSW	S	S	SW	
30 Spd	1.5	0.7	1.7	1.5	1.5	2.2	0.7	3.4	7.6	12.4	11.8	13.7	11.5	12.8	13.4	12.3	13.5	12.4	9.5	5.8	6.8	6.7	9.3	8.2	6.85	13.73	
Dir	SE	ESE	ENE	ENE	ENE	ENE	ENE	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SSW	SW	SW	SW	SW	
31 Spd	7.1	11.7	13.1	6.9	1.3	1.5	1.8	1.4	4.4	4.7	4.9	7.8	13.1	10.3	7.8	8.0	12.0	10.3	3.8	3.5	5.9	4.9	0.8	3.1	5.77	13.14	
Dir	SW	SW	SW	WSW	W	E	E	SSW	W	W	W	SW	SW	SW	SW	SW	SW	SW	SW	W	SSW	SSW	SW	W	SW	SW	
Spd	0.34	0.67	0.80	0.65	0.38	0.16	0.21	0.24	0.86	1.62	1.57	2.17	2.22	1.85	1.72	2.44	2.52	2.01	0.72	0.78	0.67	0.61	0.46	0.60	Diurnal Average		
Dir	S	SW	SW	WSW	WSW	SW	NW	NNW	WSW	SW	SSW	SSW	SSW	SSW	SSW	S	SSW	S	S	SE	ESE	SE	S	SSW	Diurnal Maximum		
Spd	7.13	11.71	13.08	6.91	2.93	2.72	5.53	3.56	7.64	12.35	11.78	13.73	13.14	12.76	13.44	14.33	13.45	14.53	12.16	10.55	7.60	6.65	9.33	8.24	Diurnal Maximum		
Dir	230.45	231.78	230.16	242.18	230.35	57.95	60.49	66.16	221.74	224.52	222.96	214.23	225.27	221.13	221.61	209.69	223.04	118.89	135.03	118.56	60.74	212.48	221.91	228.30	Diurnal Maximum		
Maximum Speed Value: 14.5 kph on Aug 3 18:00																				Minimum Speed Value: 0.0 kph on Aug 23 04:00				Hours in Service: 744			
Maximum Daily Speed Average: 6.85 kph on Aug 30																				Minimum Daily Speed Average: 0.60 kph on Aug 25				Hours of Data: 744			
Maximum Diurnal Speed Average: 2.52 kph at hour 17																				Minimum Diurnal Speed Average: 0.16 kph at hour 6				Hours of Missing Data: 0			
Monthly Average Velocity: 0.969 kph 198.74 deg																				Speed Percentiles: P <sub>1</sub> = 0.1 P <sub>10</sub> = 0.4 Q <sub>1</sub> = 0.8 Median = 1.8 Q <sub>3</sub> = 4.2 P <sub>90</sub> = 7.1 P <sub>99</sub> = 13.0				Percent Operational Time: 100.0			
All monthly, daily, and diurnal averages have been calculated using vector methods																											
Frequency Distribution																											
		Speed Range (kph)																									
Direction	0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total																				
North	35	0	0	0	0	0	35																				
NorthEast	123	17	0	0	0	0	140																				
East	80	17	1	0	0	0	98																				
SouthEast	33	11	3	0	0	0	47																				
South	44	9	0	0	0	0	53																				
SouthWest	127	62	19	0	0	0	208																				
West	115	2	0	0	0	0	117																				
NorthWest	46	0	0	0	0	0	46																				
Total	603	118	23	0	0	0	744																				



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

**Relative Humidity (RH) - %**  
**August 2015**

<b>Maximum Value: 91.48 % on Aug 15 09:00</b> <b>Maximum Daily Average: 87.71 % on Aug 15</b>																								<b>Hours in Service: 744</b> <b>Hours of Data: 744</b>		
<b>Minimum Value: 6.5 % on Aug 12 16:00</b> <b>Minimum Daily Average: 40.08 % on Aug 31</b> <b>Maximum Diurnal Average: 82.59 % at hour 6</b> <b>Minimum Diurnal Average: 31.45 % at hour 15</b> <b>Monthly Average: 57.104 %</b> <b>Percentiles: P<sub>1</sub> = 9.4 P<sub>10</sub> = 24.3 Q<sub>1</sub> = 35.9 Median = 58.8 Q<sub>3</sub> = 80.1 P<sub>90</sub> = 88.7 P<sub>99</sub> = 91.2</b>																								<b>Hours of Missing Data: 0</b> <b>Hours of Calibration: 0</b> <b>Percent Operational Time: 100.0</b>		
Day	Hourly Period Ending At																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Aug	61.7	64.7	66.3	66.0	67.6	70.9	71.6	63.6	50.6	40.7	35.7	35.2	31.0	35.8	29.5	29.7	28.9	28.1	33.4	37.9	47.1	57.5	66.0	73.2	49.70	73.16
2-Aug	78.6	82.6	84.8	85.0	86.0	87.7	84.6	67.5	51.9	40.0	29.5	22.5	19.0	18.9	23.0	23.1	24.8	26.8	30.1	36.0	41.2	48.5	57.3	59.4	50.36	87.68
3-Aug	69.5	74.8	77.2	80.1	84.2	86.5	85.5	79.5	72.6	65.1	57.4	50.8	43.7	29.8	26.7	29.0	30.0	31.0	36.1	41.8	50.7	61.4	67.7	71.0	58.42	86.53
4-Aug	60.1	60.2	53.8	56.6	58.8	62.0	64.6	53.5	36.9	29.6	25.9	23.6	22.2	21.3	21.3	23.4	24.0	25.8	30.1	37.4	40.6	45.2	47.9	50.6	40.64	64.63
5-Aug	59.1	75.5	85.5	87.6	88.1	87.3	86.5	87.2	85.3	80.2	77.5	73.8	73.0	68.7	61.9	54.8	56.1	56.1	60.7	62.4	63.9	74.4	79.6	82.2	73.63	88.10
6-Aug	82.2	85.6	86.0	87.5	88.7	89.2	89.3	81.3	75.1	74.1	79.3	81.0	81.0	75.9	68.7	63.0	62.5	64.5	71.9	77.9	83.1	82.6	86.7	88.7	79.40	89.33
7-Aug	89.6	90.1	90.3	90.5	90.7	90.8	90.4	89.7	70.8	50.6	36.4	27.6	25.6	23.9	33.6	33.2	25.6	27.9	29.7	36.6	45.9	58.7	66.2	72.7	57.79	90.79
8-Aug	76.2	78.9	82.4	85.3	86.1	87.3	86.4	79.3	67.0	49.5	36.6	30.1	25.8	24.1	24.3	23.6	24.0	24.2	25.0	30.3	40.6	47.6	55.5	62.3	52.18	87.29
9-Aug	66.7	74.8	75.6	75.3	76.0	78.1	74.3	66.9	55.2	54.2	48.1	41.2	54.9	38.7	26.2	53.7	57.9	46.9	43.6	48.1	53.7	67.9	77.4	81.9	59.89	81.90
10-Aug	86.0	87.7	88.0	88.9	89.1	89.6	90.0	78.1	57.5	49.8	45.3	42.9	35.3	26.6	22.0	28.7	26.2	28.1	32.2	35.0	44.5	57.5	61.3	66.7	56.54	89.99
11-Aug	71.7	75.8	82.3	84.7	85.8	86.5	87.5	85.3	79.3	65.8	51.1	45.3	17.0	12.4	10.7	10.3	11.1	13.2	16.0	19.0	27.7	41.9	44.9	56.6	49.25	87.51
12-Aug	66.2	70.9	76.6	79.9	82.8	83.6	78.3	62.1	47.8	35.7	22.2	11.2	9.0	7.7	7.0	6.5	6.6	7.3	9.1	21.2	30.1	41.7	51.8	58.3	40.57	83.65
13-Aug	64.0	70.1	74.5	78.0	81.4	82.2	80.0	65.2	45.6	42.5	38.5	36.7	29.1	17.9	12.2	9.4	11.3	14.4	16.0	31.3	48.3	54.9	60.3	60.8	46.86	82.23
14-Aug	65.9	68.3	70.3	69.9	69.6	70.7	67.9	58.4	40.6	37.9	39.0	41.2	36.5	36.8	40.9	42.4	43.5	43.6	47.5	57.2	82.6	87.4	89.3	90.4	58.25	90.35
15-Aug	90.7	90.9	91.1	91.2	91.3	91.4	91.4	91.4	91.5	91.5	90.0	85.4	79.8	84.3	79.9	82.9	79.9	81.9	86.7	87.3	86.9	88.7	89.2	89.9	87.71	91.48
16-Aug	90.1	90.3	90.5	90.4	90.2	90.3	90.6	90.3	89.4	75.4	58.8	49.1	36.6	36.7	36.6	47.9	39.8	37.7	48.9	63.2	76.0	84.6	86.6	86.9	69.86	90.63
17-Aug	87.8	88.9	89.3	89.7	90.0	90.4	90.6	90.2	75.1	61.9	56.7	50.3	42.8	32.1	29.0	28.6	30.3	33.2	38.8	36.3	46.3	53.6	57.5	56.4	60.24	90.63
18-Aug	58.8	59.5	62.1	64.2	65.0	72.8	78.0	67.2	59.1	47.8	39.5	32.7	28.3	28.5	26.3	27.7	27.1	27.2	29.2	32.3	42.1	54.8	65.8	74.4	48.76	78.01
19-Aug	79.4	83.2	85.6	86.1	86.8	86.9	84.8	76.7	43.1	33.6	39.0	27.5	20.7	19.4	20.5	17.0	13.8	13.7	19.3	23.6	24.0	28.4	34.0	46.4	45.57	86.85
20-Aug	55.3	62.1	66.5	70.5	68.5	67.8	54.2	50.5	48.1	48.2	46.6	41.9	37.3	32.1	28.3	33.9	40.4	53.6	69.2	74.7	78.1	77.7	80.5	79.1	56.89	80.46
21-Aug	80.4	80.8	83.1	86.3	88.8	90.0	89.4	88.6	89.5	89.8	89.6	86.0	80.3	74.7	77.2	74.1	67.1	61.1	64.0	73.3	81.2	86.0	88.4	88.4	81.59	90.04
22-Aug	89.0	89.4	89.9	90.2	90.5	90.8	91.3	91.2	84.8	66.8	57.7	45.1	34.8	28.1	24.7	23.0	24.0	25.4	41.4	41.4	49.8	58.7	71.8	78.7	61.60	91.26
23-Aug	82.2	84.7	86.6	87.9	88.7	89.0	88.8	81.5	54.4	38.8	31.9	28.4	24.9	22.6	20.3	21.0	20.7	22.1	30.6	41.8	54.2	62.9	65.3	67.8	54.04	88.96
24-Aug	71.7	75.9	82.4	85.8	87.2	87.8	88.8	88.1	77.5	60.6	46.5	40.0	36.3	33.2	33.5	31.9	30.4	31.2	42.2	47.6	52.4	53.7	63.7	73.9	59.25	88.83
25-Aug	80.5	85.5	87.5	88.4	88.9	89.4	89.8	89.0	78.6	60.5	51.0	45.2	33.4	21.0	11.1	9.6	9.5	13.9	35.9	49.9	58.5	62.8	64.8	69.4	57.26	89.77
26-Aug	71.5	72.9	73.0	76.3	75.5	77.6	78.3	76.5	69.0	60.1	53.7	49.6	44.2	40.2	37.9	39.1	40.8	45.4	50.5	59.4	67.2	73.9	80.8	85.5	62.46	85.50
27-Aug	87.5	88.6	89.5	89.7	88.7	89.3	90.0	87.8	68.9	54.2	43.4	35.9	39.2	37.3	16.8	12.6	12.3	11.9	12.9	14.2	17.3	31.6	47.9	57.9	51.07	90.01
28-Aug	66.3	71.8	75.3	79.7	81.1	81.3	81.4	79.5	71.6	56.5	41.4	27.3	26.8	29.8	33.5	32.7	34.9	37.0	40.8	43.0	49.0	52.3	63.0	63.4	54.99	81.44
29-Aug	67.2	76.8	79.7	81.2	83.0	83.4	83.4	82.6	77.3	68.9	54.5	51.7	51.1	47.6	43.0	39.0	80.6	66.5	51.1	37.7	36.1	41.5	45.9	52.1	61.74	83.44
30-Aug	51.5	64.0	74.9	79.5	81.8	84.5	84.4	67.0	43.4	35.7	34.6	27.8	25.9	24.3	21.0	21.2	23.3	23.6	25.7	29.1	30.7	32.1	30.3	31.5	43.65	84.53
31-Aug	30.8	30.6	34.1	39.3	41.9	45.3	51.5	43.5	36.2	33.6	31.2	28.9	29.6	27.4	27.4	26.8	28.4	32.2	38.2	49.0	53.5	60.8	70.1	71.6	40.08	71.58
72.20 75.99 78.54 80.37 81.38 82.59 82.06 76.11 64.32 54.83 48.01 42.45 37.91 34.12 31.45 32.25 33.40 34.05 38.94 44.39 51.72 59.07 65.08 69.29																								Diurnal Average		
90.66 90.89 91.09 91.22 91.33 91.42 91.41 91.43 91.48 91.48 89.98 85.95 81.04 84.31 79.85 82.89 80.59 81.93 86.66 87.27 86.88 88.67 89.33 90.35																								Diurnal Maximum		



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

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

Maximum Value: 9.34 kph on Aug 31 03:00		Maximum Daily Average: 5.46 kph on Aug 31		Hours in Service: 744																							
Minimum Value: 0.3 kph on Aug 7 05:00		Minimum Daily Average: 1.62 kph on Aug 15		Hours of Data: 744																							
Maximum Diurnal Average: 4.15 kph at hour 16		Minimum Diurnal Average: 1.29 kph at hour 5		Hours of Missing Data: 0																							
Monthly Average: 2.466 kph		Percentiles: P <sub>1</sub> = 0.5 P <sub>10</sub> = 0.9 Q <sub>1</sub> = 1.3 Median = 2.0 Q <sub>3</sub> = 3.2 P <sub>90</sub> = 4.8 P <sub>99</sub> = 7.6		Hours of Calibration: 0																							
				Percent Operational Time: 100.0																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Aug	2.0	1.8	2.5	1.6	1.6	1.1	1.3	1.8	2.3	2.5	3.1	3.4	2.6	2.6	3.0	3.0	3.0	2.8	3.2	2.1	1.1	1.4	1.1	1.0	2.17	3.39	
2-Aug	0.7	0.5	1.2	1.3	1.0	1.1	0.9	1.5	1.7	2.2	2.2	2.5	2.7	3.2	3.4	3.7	3.6	3.7	3.5	3.0	1.9	1.6	1.3	1.5	2.09	3.70	
3-Aug	0.5	1.0	1.3	1.3	0.6	1.1	1.3	1.1	1.8	2.6	2.7	3.1	3.4	4.2	4.7	5.6	5.3	5.7	5.4	5.8	3.1	2.7	1.9	3.1	2.88	5.81	
4-Aug	4.4	2.6	2.8	2.1	2.4	0.7	0.3	1.2	2.3	2.6	2.5	2.9	3.1	3.4	3.4	3.2	3.7	3.4	3.5	4.9	3.8	3.7	1.3	1.0	2.71	4.88	
5-Aug	1.7	2.4	2.2	2.6	2.2	2.0	2.2	1.0	2.5	2.7	3.5	4.3	3.9	4.5	3.0	2.2	2.1	2.7	2.2	2.9	1.8	1.6	1.4	1.5	2.47	4.51	
6-Aug	1.9	1.1	0.9	1.3	1.0	1.1	1.3	1.3	1.2	2.0	2.5	2.4	3.1	3.2	3.3	3.7	2.1	1.7	2.7	2.6	1.5	2.1	0.9	0.8	1.89	3.69	
7-Aug	1.1	0.9	0.4	1.2	0.3	1.4	1.9	1.4	3.1	3.8	5.0	5.6	4.9	3.5	2.3	2.4	4.7	4.1	4.2	1.2	0.9	1.2	0.7	0.6	2.38	5.63	
8-Aug	0.8	0.5	1.0	1.0	1.4	0.6	1.3	0.8	1.6	2.3	2.0	2.5	2.7	4.7	3.1	4.2	4.0	3.5	3.4	2.7	2.0	1.5	0.7	1.7	2.07	4.73	
9-Aug	1.4	1.0	1.2	0.8	1.1	1.2	1.3	0.9	3.1	2.7	3.1	5.1	6.2	2.8	7.0	7.1	2.8	2.2	1.7	1.2	3.4	1.2	1.2	1.2	2.55	7.08	
10-Aug	0.6	1.7	1.2	1.0	0.7	1.3	1.1	1.4	2.1	3.1	3.2	2.8	1.8	2.2	3.9	3.1	2.8	2.4	2.0	2.0	1.4	1.5	1.6	2.0	1.96	3.89	
11-Aug	1.9	1.7	0.9	0.8	1.1	1.3	1.5	1.2	1.0	1.5	1.5	1.5	5.9	7.0	6.5	6.9	6.7	5.3	4.6	4.1	1.2	1.5	1.8	1.0	2.85	7.01	
12-Aug	0.9	0.9	1.0	0.9	0.8	0.4	1.1	1.3	1.5	2.0	2.8	4.3	5.4	4.9	5.0	5.5	5.4	5.6	3.8	3.9	2.6	1.3	1.5	1.5	2.68	5.61	
13-Aug	1.1	0.8	0.7	0.9	0.9	1.5	1.4	1.7	2.5	1.4	1.9	1.5	1.8	3.1	4.9	5.6	3.4	3.1	2.2	4.4	3.6	1.7	1.6	1.9	2.24	5.63	
14-Aug	1.2	0.8	1.0	1.2	0.8	1.2	1.3	2.0	3.1	3.1	2.9	3.6	3.6	3.7	3.5	3.0	3.3	2.7	3.5	2.1	2.4	1.3	1.7	1.7	2.36	3.73	
15-Aug	1.4	0.6	1.4	1.7	2.3	2.1	1.3	0.8	0.6	1.2	1.8	1.5	1.8	1.3	1.7	1.8	2.0	2.6	2.2	1.1	2.1	2.3	1.9	1.4	1.62	2.57	
16-Aug	0.9	0.5	0.8	1.4	1.8	1.1	0.8	1.4	1.5	3.1	2.6	3.2	3.6	1.8	2.4	2.1	2.1	2.0	1.8	2.9	1.1	1.1	1.2	1.5	1.78	3.58	
17-Aug	1.4	1.1	1.4	1.1	1.1	1.4	1.0	1.1	1.7	1.7	1.6	2.7	3.2	4.0	3.3	3.7	2.0	1.7	2.0	2.4	1.5	1.5	1.7	1.0	1.88	3.97	
18-Aug	2.2	3.2	4.4	2.2	2.1	1.6	1.0	2.0	2.7	3.4	3.8	3.8	4.4	3.1	3.1	2.7	3.1	3.5	3.2	3.2	0.7	0.9	0.9	0.9	2.59	4.44	
19-Aug	0.9	0.9	1.4	1.5	1.4	1.2	1.4	1.4	2.5	3.7	2.2	5.8	6.0	7.4	2.7	3.0	3.2	3.0	2.4	2.7	3.1	2.8	1.7	1.2	2.65	7.38	
20-Aug	0.7	0.7	0.7	0.6	1.9	2.3	2.2	1.7	2.6	2.4	2.6	2.7	2.1	3.2	2.6	2.9	3.3	3.5	3.1	1.9	1.8	1.7	1.4	1.5	2.09	3.52	
21-Aug	1.3	1.6	1.4	1.4	0.6	1.3	3.6	3.3	1.0	1.8	3.0	4.5	2.5	3.5	4.4	3.6	2.1	2.1	2.2	1.5	1.7	1.4	1.1	0.8	2.15	4.48	
22-Aug	1.1	0.8	1.3	0.9	0.7	1.1	1.0	1.3	1.9	2.6	3.7	2.9	3.9	3.3	3.4	2.9	2.5	2.2	1.7	2.1	1.7	1.5	1.1	1.2	1.96	3.87	
23-Aug	1.2	0.9	1.2	0.9	0.7	0.9	2.0	1.2	2.5	3.0	2.0	2.7	4.2	5.0	5.7	5.8	3.6	3.3	0.6	1.6	1.4	1.5	1.7	1.4	2.29	5.76	
24-Aug	1.2	1.2	1.0	0.6	1.1	0.4	0.6	0.8	1.0	1.4	2.9	3.2	3.6	2.8	3.0	3.3	3.7	3.9	2.7	2.3	2.3	3.0	1.6	1.3	2.04	3.87	
25-Aug	0.9	0.9	1.0	1.2	1.2	1.6	1.6	1.0	1.2	1.5	1.7	1.9	2.0	2.4	3.3	3.8	3.3	2.7	2.6	2.6	2.2	1.0	0.9	0.7	1.79	3.78	
26-Aug	1.1	0.7	1.1	0.6	0.7	0.6	0.6	2.3	2.5	2.1	2.1	2.6	2.8	2.8	3.4	3.1	3.3	3.3	2.6	2.2	1.8	0.9	0.8	1.0	1.88	3.36	
27-Aug	0.4	0.3	0.8	1.6	0.9	0.7	0.6	0.9	1.5	2.0	2.0	1.8	1.3	1.2	6.6	6.4	6.2	6.5	5.7	4.5	3.8	0.9	1.0	1.2	2.46	6.57	
28-Aug	1.2	1.8	1.5	1.1	1.4	1.3	1.2	1.8	1.8	1.7	2.2	2.1	5.1	5.0	3.7	4.6	4.1	4.8	3.6	4.9	1.7	1.6	1.6	2.1	2.58	5.11	
29-Aug	1.8	1.9	1.7	1.3	1.0	1.3	1.2	0.9	1.4	1.6	2.9	3.2	3.3	3.9	4.5	5.1	7.4	4.2	5.1	6.3	4.1	2.7	2.4	2.4	2.98	7.38	
30-Aug	2.1	1.7	2.2	2.6	1.9	2.5	1.5	3.5	5.4	6.9	5.9	7.3	7.4	7.7	7.5	8.0	7.3	7.0	5.2	4.0	4.3	4.4	5.7	6.1	4.93	7.98	
31-Aug	5.4	8.3	9.3	5.7	3.1	2.8	2.4	3.2	4.8	5.2	5.2	8.1	8.9	7.6	6.8	6.5	7.7	7.8	3.9	4.3	5.6	3.9	1.3	3.3	5.46	9.34	
		1.47	1.45	1.65	1.43	1.29	1.30	1.36	1.52	2.13	2.59	2.81	3.41	3.78	3.83	4.04	4.15	3.86	3.67	3.09	3.06	2.31	1.89	1.50	1.60	Diurnal Average	
		5.44	8.34	9.34	5.70	3.09	2.78	3.64	3.53	5.45	6.93	5.92	8.08	8.88	7.70	7.55	7.98	7.70	7.79	5.69	6.26	5.60	4.44	5.68	6.05	Diurnal Maximum	
,Alberta Ambient Air Quality Objectives (AAAQO): 1-hr --- ul/m <sup>3</sup> 24-hr 100 ul/m <sup>3</sup>																											



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

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

Maximum Value: 113.87 deg on Aug 28 02:00      Maximum Daily Average: 69.30 deg on Aug 28																							Hours in Service: 744 Hours of Data: 744			
Minimum Value: 20.7 deg on Aug 20 10:00      Minimum Daily Average: 45.79 deg on Aug 5 Maximum Diurnal Average: 72.20 deg at hour 1      Minimum Diurnal Average: 43.99 deg at hour 18 Monthly Average: 56.489 deg      Percentiles: P <sub>1</sub> = 24.2 P <sub>10</sub> = 31.9 Q <sub>1</sub> = 40.4 Median = 52.8 Q <sub>3</sub> = 70.7 P <sub>90</sub> = 88.6 P <sub>99</sub> = 104.0																							Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0			
Day	Hourly Period Ending At																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Aug	84.6	84.6	95.7	75.1	79.1	64.4	91.4	30.1	52.9	45.8	48.8	44.0	81.0	42.8	50.6	51.5	51.3	59.9	43.9	33.7	48.2	49.8	65.4	75.4	60.42	95.68
2-Aug	60.5	56.6	29.6	40.8	43.1	33.6	62.3	77.2	66.5	73.5	56.5	73.9	52.0	57.4	36.5	32.9	28.1	28.4	32.1	44.3	31.9	47.2	70.1	54.6	49.57	77.22
3-Aug	72.9	93.8	28.9	89.7	77.9	56.6	50.5	56.0	41.7	39.0	47.8	47.0	45.0	45.2	33.7	32.6	29.7	24.2	27.9	28.2	31.7	36.6	30.3	55.1	46.74	93.79
4-Aug	106.1	97.2	81.4	57.3	89.3	58.3	54.3	49.9	46.6	51.1	90.8	58.1	55.2	64.7	56.5	30.2	30.4	29.9	35.6	36.2	26.0	40.2	101.1	67.0	58.90	106.07
5-Aug	66.4	46.0	42.1	43.3	33.0	32.4	49.9	42.0	51.7	30.7	26.8	38.3	30.3	39.7	66.3	59.3	44.3	51.6	53.4	36.0	26.8	81.2	61.1	46.2	45.79	81.23
6-Aug	55.0	69.9	42.3	54.9	51.9	97.0	53.9	71.5	34.7	35.4	38.9	40.6	46.4	50.3	54.6	51.3	54.1	45.2	39.6	38.7	70.8	33.7	76.8	71.2	53.28	97.00
7-Aug	76.4	59.2	41.7	25.1	27.9	76.2	63.1	49.2	46.5	66.9	34.4	37.5	53.9	81.0	44.0	51.8	31.0	28.1	52.4	93.0	72.4	95.5	59.3	62.2	55.37	95.53
8-Aug	65.6	88.9	75.3	57.3	31.6	56.3	43.3	40.7	46.4	68.4	109.2	64.1	65.7	53.1	32.2	34.8	27.5	29.1	26.7	33.9	35.7	35.7	69.1	99.3	53.75	109.19
9-Aug	85.8	67.9	54.3	104.6	61.1	55.7	80.1	55.7	26.4	31.0	49.9	39.7	80.0	40.2	99.4	63.8	62.3	34.9	38.3	31.6	57.2	91.0	70.2	84.2	61.06	104.60
10-Aug	92.6	24.1	48.8	27.1	52.1	38.7	45.0	72.2	63.5	48.7	29.3	50.5	98.2	63.2	84.5	53.2	24.4	26.0	40.0	28.8	81.4	94.0	54.2	85.2	55.23	98.16
11-Aug	86.0	91.7	98.5	73.2	71.1	70.7	26.8	75.4	67.7	31.1	81.8	81.8	43.4	42.4	44.6	26.9	30.9	33.1	31.2	39.8	97.3	40.4	50.3	90.4	59.43	98.47
12-Aug	87.0	92.2	93.0	86.3	78.2	53.4	47.7	72.1	84.0	101.1	80.5	37.4	48.6	56.2	46.0	45.8	50.5	30.9	52.1	47.7	59.3	57.3	53.8	79.3	64.17	101.07
13-Aug	84.8	64.0	102.1	88.0	99.9	35.5	33.7	56.1	58.2	77.6	106.4	66.3	57.2	63.8	58.2	59.3	53.9	53.8	48.0	46.2	43.8	76.7	58.2	85.1	65.70	106.40
14-Aug	73.4	91.5	87.1	59.5	49.5	47.1	50.2	48.4	27.3	36.0	29.3	41.0	41.5	39.2	31.8	31.3	26.1	27.2	51.1	57.1	58.7	36.2	56.4	52.8	47.91	91.54
15-Aug	58.4	73.9	49.4	42.6	50.1	38.5	39.3	44.1	65.2	34.7	44.6	95.4	74.1	95.6	25.1	63.4	22.4	73.8	30.3	56.4	56.9	37.4	49.0	65.8	53.60	95.64
16-Aug	59.5	45.3	56.5	42.3	59.6	68.1	40.7	51.7	52.3	50.8	22.4	57.9	82.3	91.0	93.6	65.6	76.9	34.4	47.7	90.0	88.8	34.5	76.1	69.7	60.74	93.62
17-Aug	67.6	69.1	34.2	33.3	74.9	39.8	36.0	62.8	48.8	50.5	50.1	43.1	44.7	43.7	75.1	63.8	43.5	43.3	37.7	50.7	102.5	90.1	48.8	63.2	54.89	102.54
18-Aug	79.6	29.8	38.9	59.5	40.0	42.6	69.4	54.5	42.0	49.2	35.2	30.2	45.6	78.3	62.2	53.6	55.5	54.9	54.8	52.3	94.8	60.5	60.5	78.9	55.12	94.84
19-Aug	84.8	80.2	80.9	90.9	85.3	70.4	56.4	68.9	41.3	41.2	60.2	41.1	31.1	42.8	44.1	37.4	43.1	34.1	40.5	64.8	50.9	43.6	79.8	85.5	58.31	90.94
20-Aug	65.5	84.8	59.3	85.8	47.9	94.9	80.4	65.6	86.5	20.7	62.6	87.2	74.6	89.5	70.9	46.0	48.9	56.3	33.9	33.8	37.1	50.0	45.8	54.0	61.75	94.91
21-Aug	40.9	37.1	42.9	35.8	31.0	26.7	39.8	60.9	63.6	41.4	48.9	52.2	59.5	54.2	49.9	76.8	83.1	50.8	51.9	58.7	63.7	80.9	39.0	41.1	51.29	83.11
22-Aug	31.3	42.1	40.7	55.0	44.9	91.9	44.1	38.2	42.9	49.5	37.1	40.0	50.8	61.4	75.8	67.4	86.0	60.0	35.5	66.4	45.0	44.4	55.2	67.2	53.03	91.90
23-Aug	78.9	67.5	66.2	95.5	46.1	84.9	64.2	92.9	94.0	37.2	80.6	67.8	43.6	47.9	48.5	49.7	59.2	56.2	96.8	62.0	60.5	91.5	85.2	61.4	68.26	96.76
24-Aug	78.5	95.7	94.4	97.6	79.3	86.4	48.9	36.1	77.8	61.8	45.1	39.2	45.9	40.6	40.7	38.6	24.0	28.3	44.8	54.1	54.1	89.9	61.7	42.3	58.57	97.59
25-Aug	73.0	76.5	68.7	22.5	35.8	22.5	38.6	90.7	43.1	70.7	59.6	89.9	100.4	96.6	57.6	53.8	57.5	90.2	58.4	48.0	51.4	85.0	80.6	48.2	63.30	100.41
26-Aug	63.3	85.2	49.4	38.3	34.3	45.6	39.1	36.1	34.9	34.2	60.7	74.5	38.9	34.6	38.1	31.9	24.8	31.2	31.6	39.1	42.2	52.3	50.6	88.9	45.82	88.86
27-Aug	57.7	49.9	59.1	70.2	36.8	31.5	59.0	41.0	45.5	52.1	65.5	71.7	56.0	74.0	41.6	32.4	34.6	39.7	34.9	31.5	42.3	55.0	82.5	90.7	52.29	90.74
28-Aug	90.5	113.9	81.9	85.0	90.6	92.1	89.0	54.6	61.7	64.6	46.1	36.7	66.5	56.6	58.4	64.6	64.4	52.9	39.8	33.3	85.4	96.1	97.7	40.8	69.30	113.87
29-Aug	86.1	65.2	42.6	41.9	80.7	74.5	58.2	88.3	107.6	68.7	45.7	45.9	51.4	47.1	44.5	60.6	53.4	80.2	90.7	62.2	37.7	37.1	35.0	57.4	60.94	107.60
30-Aug	79.3	105.2	76.9	95.7	67.7	64.4	84.5	52.7	34.7	31.7	30.3	29.9	39.0	35.9	34.0	36.9	31.7	33.4	29.3	36.4	30.7	34.9	36.2	42.9	48.93	105.20
31-Aug	46.2	43.4	40.9	44.9	103.2	86.8	85.7	94.2	60.4	63.3	59.5	57.4	40.4	47.7	54.0	48.1	38.8	41.5	55.3	83.1	45.1	42.4	47.3	55.1	57.69	103.17
72.20 70.72 61.41 61.90 59.81 59.27 55.65 59.03 55.37 50.28 54.34 54.19 56.23 57.32 53.32 48.88 44.92 43.99 44.73 48.97 55.81 59.39 61.52 66.50																							Diurnal Average			
106.07 113.87 102.09 104.60 103.17 97.00 91.40 94.19 107.60 101.07 109.19 95.40 100.41 96.60 99.45 76.76 86.00 90.22 96.76 93.01 102.54 96.08 101.07 99.32																							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  
AUGUST 2015**