

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

AIR QUALITY MONITORING
July 2017
Monthly Report

Prepared by:

West Central Airshed Society
Drayton Valley, Alberta

August 15, 2017

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

Dear Mr. Whitney:

**Monthly Ambient Air Quality Monitoring Report for July 2017
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 Gary Redmond, 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 eighteen 1-hour and five 24-hour PM_{2.5} reading in July in excess of the AAAQO, as indicated in Air Monitoring Directive Section III.A.3. (a). These are attributed to wildfire smoke in the region. There were nine 1-hour and two 24-hour TRS readings in July in excess of the AAAQO. There was one 1-hour H₂S reading in July in excess of the AAAQO.

2. Operational times less than 90 percent:

All analyzers and meteorological equipment returned operational times greater than 90%, with the exception of the H₂S analyzer which returned an uptime of 74.7% due to analyzer malfunctioning. AEP reference number: 327698.

3. Monitoring Notes:

AMS 906 (Hinton)

The O₃ analyzer returned an uptime of 99.9% for the month of July due to maintenance checks. The H₂S analyzer returned an uptime of 74.7% for the month of July due to analyzer malfunctioning. All other analyzers and meteorological sensors returned uptimes of 100%.

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

Sincerely,

A handwritten signature in black ink, appearing to read 'PAT ANDERSEN', written in a cursive style.

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
	2017	July

TOTAL EMISSIONS FOR MONTH (IN TONNES)

POLLUTANT	INCINERATOR STACK	FLARE	MISCELLANEOUS
SO ₂			

"HOURS" OF EXCEEDED STACK LICENSED LIMITS (CEM)

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

STATIC AMBIENT MONITORING

PARAMETER	NO. OF STATIONS	PEAK READING	AVG. OF NETWORK	NO. OF STATIONS OVER GUIDELINES
T.S.				
H ₂ S				

CONTINUOUS AMBIENT MONITORING

PARAMETER	STATION NUMBER	% TIME OPERATIONAL	1-HR AVERAGE		24-HR AVERAGE	
			MAXIMUM CONCENTRATION (ppm)	NO. READINGS > REGULATIONS	MAXIMUM CONCENTRATION (ppm)	NO. READINGS > REGULATIONS
Wind	906	100.0	n/a	n/a	n/a	n/a
TRS	906	100.0	0.020	9	0.004	2
PM _{2.5}	906	100.0	104.2 µg/m ³	18	60.06 µg/m ³	5
H ₂ S	906	99.9	0.016	1	0.003	0

SIGNATURE OF COMPANY REPRESENTATIVE

FOR ALBERTA ENVIRONMENT USE ONLY

WEST CENTRAL AIRSHED SOCIETY

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

**AMS 906
HINTON
JULY 2017**

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

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

Summary Report

Continuous air quality/meteorological monitoring measurements

West Central Airshed Society

Hinton Pulp / Hinton Station 906													July 2017		24 Hour Average Max (ppm)
Parameter	Calibration Hours	Number of Data	Percent Uptime	Mean	Min	Max	Percentile					Exceedences			
							P10	Q1	Median	Q3	P90	1-hour	24-hour		
TRS (ppb)	43	701	100.0	1.2	0.0	20.0	0.1	0.2	0.4	1.3	3.2	9	2	0.004	
SO ₂ (ppb)	38	706	100.0	0.6	0.0	16.4	0.0	0.0	0.0	0.2	1.6	0	-	0.003	
H ₂ S (ppb)	30	526	74.7	0.8	0.0	16.0	0.0	0.2	0.4	0.8	1.9	1	0	0.003	
O ₃ (ppb)	39	704	99.9	23.5	0.7	63.0	3.6	10.2	23.8	34.5	44.7	0	-	0.040	
NO (ppb)	40	704	100.0	1.0	0.0	12.5	0.0	0.1	0.4	1.2	2.7	-	-	-	
NO ₂ (ppb)	40	704	100.0	3.4	0.3	14.5	1.1	1.8	2.9	4.5	6.5	0	0	0.005	
NO _x (ppb)	40	704	100.0	4.5	0.0	19.8	1.3	2.0	3.6	5.8	8.7	-	-	-	
Particulate Matter 2.5 microns (µm ³)	0	744	100.0	20.2	1.1	104.2	3.9	7.4	15.2	24.3	40.9	18	5	60.06 ug/m3	
Wind Speed (kph)	0	744	100.0	2.7	0.0	15.2	0.5	0.9	1.9	3.9	5.8	-	-	-	
Temperature (°C)	0	744	100.0	16.7	2.9	31.3	9.5	12.3	16.1	21.5	25.2	-	-	-	
Relative Humidity (%)	0	744	100.0	57.0	8.6	95.2	25.3	35.7	58.4	77.8	88.3	-	-	-	
Std Dev Wind Direction (deg)	0	744	100.0	55.0	16.8	103.6	31.4	41.3	52.3	67.8	84.3	-	-	-	
Std Dev Wind Speed (kph)	0	744	100.0	2.3	0.2	8.4	1.0	1.3	1.9	3.1	4.1	-	-	-	



WCAS - Hinton
Summary of Hourly Averages

Total Reduced Sulphur (TRS) - ppb
July 2017

Maximum Value: 19.98 ppb on Jul 17 02:00		Maximum Daily Average: 3.91 ppb on Jul 17		Hours in Service: 744																																													
Minimum Value: 0 ppb on Jul 3 20:00		Minimum Daily Average: 0.17 ppb on Jul 14		Hours of Data: 701																																													
Maximum Diurnal Average: 3.71 ppb at hour 8		Minimum Diurnal Average: 0.38 ppb at hour 15		Hours of Missing Data: 43																																													
Monthly Average: 1.246 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.1 Q ₁ = 0.2 Median = 0.4 O ₃ = 1.3 P ₉₀ = 3.2 P ₉₉ = 11.6		Hours of Calibration: 43																																													
Percentiles: P ₁ = 0.0 P ₁₀ = 0.1 Q ₁ = 0.2 Median = 0.4 O ₃ = 1.3 P ₉₀ = 3.2 P ₉₉ = 11.6		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-Jul	0	1	4	Z	4	1	2	2	1	1	1	2	1	1	0	0	0	0	1	0	1	1	2	1	1.20	4.36																							
2-Jul	0	0	0	Z	Z	Z	1	3	2	2	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0.62	2.65																							
3-Jul	0	0	0	Z	Z	Z	2	1	2	1	1	1	0	C	C	C	2	1	0	0	0	0	0	0	0.60	1.94																							
4-Jul	0	0	0	Z	0	1	2	4	6	5	3	1	1	0	0	1	1	2	2	3	0	0	0	0	1.45	5.75																							
5-Jul	0	0	0	Z	0	0	2	8	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.67	7.95																							
6-Jul	0	0	0	Z	2	3	3	7	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.06	6.61																							
7-Jul	0	0	0	Z	1	2	6	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3	2	1	0.88	5.79																							
8-Jul	0	0	0	Z	0	0	0	4	6	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.82	6.09																							
9-Jul	0	0	0	Z	2	2	3	4	3	1	2	1	1	0	0	1	1	2	0	1	0	0	0	0	1.23	3.85																							
10-Jul	0	0	0	Z	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0.25	0.62																							
11-Jul	0	0	0	Z	0	0	0	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0.28	1.01																							
12-Jul	0	0	0	Z	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.17	0.29																							
13-Jul	0	0	0	Z	0	0	0	0	3	0	0	0	2	1	1	2	0	0	0	0	0	0	0	0	0.56	2.53																							
14-Jul	0	0	0	Z	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.17	0.46																							
15-Jul	0	2	3	Z	3	4	6	8	7	4	1	1	0	0	1	1	1	3	2	2	3	5	0	1	2.64	8.35																							
16-Jul	0	0	0	Z	4	4	2	4	1	0	0	2	0	Z	1	2	1	4	4	5	5	6	2	3	2.37	5.65																							
17-Jul	16	20	20	2	1	3	3	10	3	3	3	3	3	Z	0	0	0	0	0	0	0	0	0	0	3.91	19.98																							
18-Jul	0	0	0	11	19	13	8	10	7	1	1	0	0	Z	0	0	0	0	0	0	0	0	0	0	3.17	18.50																							
19-Jul	0	5	5	4	5	8	8	19	12	7	3	1	2	Z	1	0	0	0	0	0	0	0	0	1	3.70	18.51																							
20-Jul	2	2	3	3	4	5	3	5	4	1	1	1	2	Z	1	1	1	0	1	0	0	1	2	3	2.00	4.80																							
21-Jul	2	2	0	3	1	1	0	1	1	1	1	0	0	Z	0	1	1	2	2	2	1	1	0	3	1.20	3.05																							
22-Jul	1	0	0	1	0	0	1	0	1	1	2	1	2	Z	1	1	0	0	0	0	7	2	0	0	1.01	7.09																							
23-Jul	0	0	1	0	0	0	1	0	0	Z	0	0	0	0	0	0	0	Z	0	1	1	1	1	0	0.38	0.94																							
24-Jul	0	1	1	Z	1	1	1	1	2	2	3	2	1	1	0	0	0	0	1	0	0	0	0	1	0.87	2.58																							
25-Jul	1	1	1	Z	1	1	1	0	1	1	2	1	1	1	0	0	0	0	0	0	0	0	0	1	0.66	2.03																							
26-Jul	10	5	3	Z	4	4	11	7	3	3	1	0	1	C	C	C	1	0	0	0	0	0	0	1	2.83	11.38																							
27-Jul	1	1	1	Z	5	3	3	4	2	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	1.19	4.54																							
28-Jul	0	0	0	Z	1	1	2	3	2	3	3	2	2	1	0	0	0	0	0	0	0	0	0	1	0.99	3.14																							
29-Jul	1	0	0	Z	1	1	1	4	5	3	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0.91	4.72																							
30-Jul	0	0	0	Z	0	3	2	2	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.68	3.32																							
31-Jul	0	0	0	Z	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.21	0.44																							
																								1.25	1.43	1.56	3.35	2.22	2.21	2.45	3.71	2.73	1.66	1.18	0.86	0.73	0.39	0.38	0.46	0.44	0.56	0.52	0.61	0.76	0.74	0.49	0.61	Diurnal Average	
																								15.53	19.98	19.94	10.56	18.50	12.99	11.38	18.51	12.08	7.28	3.14	2.97	2.58	1.38	1.24	2.40	1.52	3.96	4.36	5.19	7.09	5.65	2.44	3.34	Diurnal Maximum	
Z - zerospan C - Calibration																																																	
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb																																																	



WCAS - Hinton
Summary of Hourly Averages

Sulphur Dioxide (SO₂) - ppb
July 2017

Maximum Value: 16.42 ppb on Jul 15 18:00 Minimum Value: 0.0 ppb on Jul 1 01:00 Maximum Diurnal Average: 1.34 ppb at hour 12 Monthly Average: 0.560 ppb		Maximum Daily Average: 2.64 ppb on Jul 15 Minimum Daily Average: 0.00 ppb on Jul 1 Minimum Diurnal Average: 0.03 ppb at hour 5 Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 O ₃ = 0.2 P ₉₀ = 1.6 P ₉₉ = 7.2		Hours in Service: 744 Hours of Data: 706 Hours of Missing Data: 38 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-Jul	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	0.0	0.00	0.00																						
2-Jul	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.02	0.23																						
3-Jul	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	2.5	4.3	6.9	0.4	0.5	0.0	0.0	0.0	0.0	0.0	0.64	6.92																							
4-Jul	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.1	2.2	4.9	5.4	3.2	1.6	1.2	3.1	1.4	1.9	2.0	0.1	0.1	0.1	0.0	1.19	5.40																							
5-Jul	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.1	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.03	0.19																							
6-Jul	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.1	0.9	1.7	1.1	0.6	0.5	0.4	0.4	0.3	0.5	0.5	1.0	0.9	0.4	0.4	0.4	0.2	0.45	1.75																							
7-Jul	0.3	0.3	0.1	Z	0.0	0.0	0.1	0.3	0.6	1.4	1.9	0.5	0.6	0.5	0.4	0.3	0.3	0.2	0.3	0.5	1.7	10.4	3.4	0.2	1.06	10.39																							
8-Jul	0.1	0.1	0.1	Z	0.1	0.1	0.1	0.2	0.6	9.0	2.9	0.6	0.3	0.2	0.2	0.2	0.1	0.2	0.3	0.3	0.1	0.1	0.2	0.1	0.71	8.97																							
9-Jul	0.1	0.1	0.1	Z	0.0	0.0	0.0	0.2	0.6	1.9	6.2	4.2	4.1	1.6	0.5	3.6	6.3	3.4	1.6	1.7	0.2	0.1	0.1	0.0	1.60	6.31																							
10-Jul	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	0.02																							
11-Jul	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																							
12-Jul	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	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.02	0.24																							
13-Jul	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.6	0.1	0.0	0.1	2.6	10.7	4.9	4.2	1.0	0.1	0.1	0.1	0.0	0.1	0.1	0.1	1.07	10.65																							
14-Jul	0.1	0.0	0.1	Z	0.0	0.0	0.1	0.1	0.1	0.2	0.3	0.4	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.12	0.36																							
15-Jul	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.5	1.7	1.3	2.5	12.9	2.5	1.3	6.9	1.2	1.6	16.4	5.6	5.3	0.7	0.3	0.1	0.1	2.64	16.42																							
16-Jul	0.1	0.1	0.1	Z	0.0	0.0	0.0	0.1	0.3	0.0	0.2	2.3	1.0	Z	1.9	6.3	3.6	4.6	3.6	1.1	0.7	0.4	0.1	0.1	1.21	6.30																							
17-Jul	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.7	1.1	3.8	1.7	1.0	Z	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.0	0.41	3.78																							
18-Jul	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.6	1.5	1.0	0.2	0.5	3.2	Z	2.2	1.1	0.4	0.2	0.0	0.1	0.2	0.1	0.1	0.1	0.52	3.18																							
19-Jul	0.0	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.5	5.0	Z	5.7	1.1	2.9	0.5	0.4	0.3	0.3	0.2	0.2	0.2	0.79	5.67																							
20-Jul	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.3	3.5	6.4	1.8	0.3	Z	0.0	0.1	0.0	0.1	0.2	0.1	0.0	0.1	0.0	0.2	0.63	6.43																							
21-Jul	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.3	0.4	0.1	0.0	Z	0.3	4.8	5.1	9.0	7.1	7.8	2.8	0.5	0.2	0.2	1.70	8.99																							
22-Jul	0.1	0.2	0.1	0.0	0.1	0.1	0.1	0.0	0.2	1.8	6.4	6.1	7.2	Z	2.4	2.3	0.7	0.2	0.1	1.2	2.4	0.3	0.1	0.2	1.40	7.19																							
23-Jul	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.02	0.11																							
24-Jul	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.2	0.0	0.0	0.2	0.8	0.2	0.0	0.4	1.1	0.5	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.15	1.07																							
25-Jul	0.0	0.0	0.0	Z	0.0	0.1	0.0	0.0	0.0	0.1	0.2	0.5	1.3	4.7	0.7	0.7	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.38	4.70																							
26-Jul	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.3	C	C	C	C	C	0.4	1.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.12	1.04																							
27-Jul	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.6	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.07	0.63																							
28-Jul	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.8	0.5	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.11	0.81																							
29-Jul	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.3	0.8	0.5	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.11	0.85																							
30-Jul	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.6	0.6	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.08	0.61																							
31-Jul	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	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.03	0.06																							
																								0.04	0.04	0.04	0.05	0.03	0.03	0.04	0.11	0.29	0.92	1.31	1.34	1.19	0.94	1.02	1.12	1.06	1.29	0.75	0.64	0.32	0.43	0.17	0.06	Diurnal Average	
																								0.33	0.31	0.14	0.13	0.21	0.16	0.17	0.59	1.73	8.97	6.43	12.87	7.19	10.65	6.88	6.30	6.92	16.42	7.10	7.82	2.84	10.39	3.44	0.24	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

Hydrogen Sulphide (H2S) - ppb
July 2017

Maximum Value: 16.03 ppb on Jul 16 05:00		Maximum Daily Average: 3.33 ppb on Jul 16		Hours in Service: 744																																													
Minimum Value: 0 ppb on Jul 1 01:00		Minimum Daily Average: 0.02 ppb on Jul 31		Hours of Data: 526																																													
Maximum Diurnal Average: 4.55 ppb at hour 4		Minimum Diurnal Average: 0.36 ppb at hour 14		Hours of Missing Data: 218																																													
Monthly Average: 0.807 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.2 Median = 0.4 O ₃ = 0.8 P ₉₀ = 1.9 P ₉₉ = 7.5		Hours of Calibration: 30																																													
Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.2 Median = 0.4 O ₃ = 0.8 P ₉₀ = 1.9 P ₉₉ = 7.5		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.2 Median = 0.4 O ₃ = 0.8 P ₉₀ = 1.9 P ₉₉ = 7.5		Percent Operational Time: 74.7																																													
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-Jul	0	0	1	Z	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0.25	1.78																							
2-Jul	0	0	0	Z	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.04	0.52																							
3-Jul	0	0	0	Z	0	0	0	0	0	0	0	0	0	0	1	M	0	0	0	0	0	0	0	0	0.07	0.50																							
4-Jul	0	0	0	Z	1	1	1	2	3	2	1	1	1	0	1	0	0	0	0	0	0	0	1	1	0.88	2.54																							
5-Jul	1	0	1	Z	1	1	1	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.62	3.18																							
6-Jul	0	0	0	Z	1	1	2	3	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.71	2.71																							
7-Jul	0	0	0	Z	1	1	3	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.67	2.80																							
8-Jul	0	0	0	Z	1	1	1	2	3	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.65	2.64																							
9-Jul	0	0	0	Z	2	1	1	2	2	1	1	1	1	1	1	1	1	1	0	1	0	0	0	0	0.81	1.83																							
10-Jul	0	0	0	Z	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0.45	0.70																							
11-Jul	0	0	0	Z	1	0	0	0	1	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0.44	0.74																							
12-Jul	0	0	0	Z	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0.44	0.61																							
13-Jul	0	0	0	Z	1	1	1	1	1	1	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0.59	1.27																							
14-Jul	0	0	0	Z	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.36	0.62																							
15-Jul	0	1	1	Z	2	2	3	3	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.42	3.41																							
16-Jul	1	2	4	7	16	4	3	4	2	2	2	2	2	Z	3	2	1	3	3	3	3	4	4	2	3.33	16.03																							
17-Jul	8	10	10	2	1	2	2	5	2	2	2	2	2	Z	1	1	1	1	1	1	1	1	1	1	2.46	10.00																							
18-Jul	1	1	1	5	8	6	4	5	3	1	1	1	1	Z	Z	AF	AF	AF	AF	AF	AF	AF	AF	AF	--	8.38																							
19-Jul	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	--	--																							
20-Jul	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	--	--																							
21-Jul	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	--	--																							
22-Jul	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	--	--																							
23-Jul	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	--	--																							
24-Jul	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	--	--																							
25-Jul	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	--	--																							
26-Jul	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	C	C	C	C	C	C	1	0	0	0	0	0	0	1	--	0.92																							
27-Jul	1	1	1	Z	4	3	3	3	2	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0.98	3.90																							
28-Jul	0	0	0	Z	1	1	2	2	1	2	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0.59	2.09																							
29-Jul	0	0	0	Z	1	0	1	3	3	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.52	3.43																							
30-Jul	0	0	0	Z	0	3	2	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.36	2.67																							
31-Jul	0	0	0	Z	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.02	0.32																							
																								0.69	0.84	1.00	4.55	1.92	1.31	1.33	1.88	1.41	0.89	0.78	0.63	0.55	0.36	0.47	0.43	0.40	0.43	0.42	0.46	0.43	0.48	0.44	0.44	Diurnal Average	
																								7.87	10.00	9.86	6.78	16.03	6.11	4.39	5.39	3.43	2.02	2.12	2.27	2.08	1.08	2.54	1.75	1.47	2.56	2.77	3.24	3.51	3.68	1.79	2.39	Diurnal Maximum	
Z - zerospan C - Calibration M - Maintenance AF - Analyzer Failure																																																	
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb																																																	



WCAS - Hinton
Summary of Hourly Averages

Ozone (O₃) - ppb
July 2017

Maximum Value: 63.02 ppb on Jul 6 19:00		Maximum Daily Average: 40.30 ppb on Jul 7		Hours in Service: 744																											
Minimum Value: 0.7 ppb on Jul 28 06:00		Minimum Daily Average: 10.24 ppb on Jul 24		Hours of Data: 704																											
Maximum Diurnal Average: 37.46 ppb at hour 16		Minimum Diurnal Average: 5.60 ppb at hour 6		Hours of Missing Data: 40																											
Monthly Average: 23.513 ppb		Percentiles: P ₁ = 1.1 P ₁₀ = 3.6 Q ₁ = 10.2 Median = 23.8 Q ₃ = 34.5 P ₉₀ = 44.7 P ₉₉ = 54.6		Hours of Calibration: 39																											
				Percent Operational Time: 99.9																											
Day	Hourly Period Ending At																								Daily Average	Daily Maximum					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24							
1-Jul	2.5	2.3	2.0	Z	1.6	1.4	3.9	8.1	9.6	11.8	18.6	21.0	20.6	28.5	30.8	32.6	27.8	27.2	29.7	26.5	25.3	15.7	7.5	5.4	15.67	32.57					
2-Jul	4.9	2.7	2.2	Z	0.9	1.3	2.0	9.3	17.6	24.0	32.5	32.2	30.0	34.9	34.7	34.7	33.5	37.2	34.6	33.5	29.1	21.8	23.5	28.3	21.97	37.22					
3-Jul	27.8	23.2	15.2	Z	8.0	5.0	4.0	8.7	18.4	28.1	28.9	32.0	29.1	25.4	31.5	M	36.8	38.5	37.9	37.2	34.0	34.0	23.4	15.0	24.65	38.46					
4-Jul	10.7	8.8	7.0	Z	1.8	2.7	3.6	3.9	12.0	23.4	28.3	32.4	38.1	41.7	44.2	43.4	43.8	40.9	40.6	38.9	29.5	32.0	24.9	12.9	24.59	44.25					
5-Jul	10.0	7.4	5.2	Z	1.9	2.0	4.4	14.9	17.7	24.6	32.7	34.4	35.0	35.2	36.8	38.7	38.5	39.3	41.2	42.2	39.2	32.4	21.4	17.4	24.89	42.25					
6-Jul	14.6	10.6	7.9	Z	2.3	2.3	4.3	12.6	26.7	46.1	52.0	51.0	51.2	51.0	52.3	52.5	52.6	53.7	63.0	61.6	51.4	47.1	45.4	44.7	37.26	63.02					
7-Jul	49.4	42.0	25.0	Z	11.2	7.3	12.5	25.3	38.8	47.4	50.3	46.0	47.4	46.0	47.6	50.6	52.4	52.9	51.1	46.5	46.4	45.7	44.8	40.0	40.30	52.92					
8-Jul	42.6	38.5	28.9	Z	10.8	7.5	6.5	16.3	26.1	44.4	54.2	53.1	54.8	54.9	54.7	54.3	53.6	54.6	52.1	46.5	45.1	40.6	40.4	38.1	39.94	54.89					
9-Jul	33.8	24.1	15.9	Z	13.6	7.9	7.7	16.2	22.1	27.5	30.5	41.1	42.8	41.8	41.4	47.9	46.4	45.7	45.4	42.8	39.5	37.5	20.7	20.7	31.00	47.91					
10-Jul	31.7	33.5	32.9	Z	19.2	14.0	8.1	13.2	20.3	28.1	31.9	35.0	40.8	41.3	42.6	44.8	44.4	44.9	44.0	37.6	27.0	18.6	15.0	12.4	29.62	44.95					
11-Jul	15.3	12.9	18.4	Z	18.3	12.9	7.8	11.1	12.5	7.7	9.3	10.8	10.2	18.7	25.2	29.3	29.4	30.3	29.2	28.9	25.0	18.9	18.2	12.7	17.96	30.32					
12-Jul	11.2	10.4	8.3	Z	4.3	7.7	8.8	11.7	12.1	12.8	12.9	16.4	17.9	20.2	24.5	33.5	38.5	37.6	47.0	37.1	36.1	30.6	18.9	14.5	20.57	47.00					
13-Jul	19.5	17.9	11.8	Z	7.1	5.3	6.1	9.6	19.4	26.5	31.2	37.3	37.5	47.1	51.5	52.3	46.6	44.7	46.5	46.5	44.1	38.1	30.5	21.2	30.37	52.34					
14-Jul	23.5	13.4	8.7	Z	3.5	1.8	3.4	9.0	22.3	34.5	39.5	41.0	43.4	45.2	46.4	46.9	46.5	45.6	50.1	51.2	47.2	40.4	37.2	29.1	31.74	51.21					
15-Jul	19.5	16.0	11.2	Z	6.1	6.2	8.4	17.0	30.7	42.6	51.5	55.0	53.3	49.6	49.3	49.4	49.1	46.3	47.5	43.3	38.5	26.0	17.2	16.9	32.64	55.03					
16-Jul	33.3	35.0	30.9	Z	21.4	20.5	17.5	25.3	26.4	25.9	22.6	21.0	29.1	Z	32.7	29.2	29.1	27.0	25.2	25.7	27.2	26.8	25.2	23.5	26.38	34.96					
17-Jul	23.0	21.0	21.9	20.5	15.7	4.8	4.0	13.4	22.3	22.9	25.0	25.5	24.6	Z	25.6	24.1	23.8	22.1	19.8	14.4	17.8	20.8	14.6	6.9	18.88	25.57					
18-Jul	6.5	5.2	4.6	3.7	2.3	2.4	4.2	10.6	15.3	21.7	27.0	31.4	32.0	Z	37.8	37.2	35.2	32.6	29.7	27.5	26.2	22.2	16.6	12.3	19.31	37.78					
19-Jul	8.8	7.6	5.3	2.8	2.1	1.2	1.5	2.3	7.2	14.3	21.5	26.9	31.8	Z	40.2	40.2	39.2	39.0	39.6	38.3	30.2	20.8	19.7	11.8	19.66	40.18					
20-Jul	12.8	6.7	6.6	6.0	5.8	2.6	1.5	5.8	18.7	34.3	39.9	42.3	43.0	Z	28.8	24.8	26.8	21.5	23.1	21.7	22.2	24.1	24.3	24.3	20.33	42.96					
21-Jul	27.9	22.7	26.6	21.9	20.9	19.7	18.7	19.1	16.6	17.3	22.6	26.0	28.2	Z	30.3	30.6	31.6	29.3	28.8	24.1	24.7	24.4	22.6	15.0	23.89	31.59					
22-Jul	7.9	5.9	4.2	2.2	1.0	1.5	3.3	6.3	9.0	24.3	26.9	28.0	28.1	Z	30.9	29.1	27.9	27.2	28.5	27.3	23.5	22.2	17.9	11.0	17.14	30.94					
23-Jul	8.9	7.2	5.2	4.6	3.1	1.6	3.1	8.9	21.3	Z	26.5	28.1	27.8	27.3	24.7	26.8	26.9	Z	17.6	13.1	8.6	6.9	2.3	1.8	13.75	28.10					
24-Jul	3.0	7.0	9.3	Z	2.8	2.0	3.7	7.4	5.6	6.4	8.0	10.3	16.4	18.4	20.7	23.7	25.3	22.1	16.1	13.0	7.7	2.4	1.8	2.5	10.24	25.33					
25-Jul	1.2	1.4	1.2	Z	1.0	1.0	1.2	2.2	9.6	15.8	18.9	20.3	26.1	30.1	33.1	34.1	34.1	32.7	30.8	29.6	23.5	16.6	8.9	7.9	16.58	34.09					
26-Jul	6.3	2.6	2.4	Z	2.2	3.0	5.0	14.7	20.8	24.1	C	C	C	C	C	C	37.7	36.8	32.9	27.6	25.4	19.8	12.3	7.0	--	37.73					
27-Jul	4.3	3.6	3.6	Z	2.3	1.6	1.8	5.5	9.9	14.3	23.9	33.7	41.6	36.1	38.5	34.7	25.1	23.4	15.2	12.4	16.1	12.1	5.8	2.5	15.99	41.65					
28-Jul	1.7	1.3	1.3	Z	0.7	0.7	1.5	5.8	14.2	22.5	29.8	34.0	38.1	42.1	35.7	33.9	27.0	27.7	26.5	19.5	13.9	5.8	5.0	4.3	17.09	42.08					
29-Jul	4.7	3.9	2.2	Z	1.1	0.7	1.1	3.5	10.1	17.4	25.3	31.2	34.8	37.7	40.0	37.1	39.7	40.0	41.2	39.7	39.0	35.9	26.3	20.1	23.15	41.23					
30-Jul	27.6	29.5	27.2	Z	19.8	17.2	12.5	12.2	10.9	15.2	25.2	32.2	38.2	34.8	35.8	36.1	31.6	30.6	29.2	26.8	20.2	14.1	11.2	5.8	23.65	38.24					
31-Jul	4.3	3.4	4.9	Z	7.9	7.8	3.7	6.4	11.3	20.7	28.1	29.4	31.1	32.0	33.0	34.1	35.4	32.7	35.0	33.7	30.6	26.1	19.3	15.0	21.14	35.41					
		16.11	13.80	11.55	8.81	7.12	5.60	5.66	10.85	17.27	24.21	29.19	31.97	34.10	36.51	36.72	37.46	36.66	36.14	35.46	32.74	29.49	25.18	20.09	16.16	Diurnal Average					
		49.38	41.98	32.91	21.85	21.40	20.50	18.66	25.34	38.85	47.40	54.25	55.03	54.84	54.89	54.70	54.27	53.59	54.62	63.02	61.58	51.37	47.14	45.40	44.67	Diurnal Maximum					
Z - zerospan		C - Calibration		M - Maintenance																											
Alberta Ambient Air Quality Objectives (AAAQO):		1-hr 82.5 ppb		24-hr -- ppb																											



WCAS - Hinton Eight Hour Running Averages

Ozone (O₃) - ppb July 2017

Maximum Value: 54.75 ppb on Jul 6 21:00																								Maximum Daily Average: 40.56 ppb on Jul 7																								Hours in Service: 744	
Minimum Value: 1.3 ppb on Jul 25 08:00																								Minimum Daily Average: 10.09 ppb on Jul 24																								Hours of Data: 735	
Maximum Diurnal Average: 35.47 ppb at hour 20																								Minimum Diurnal Average: 10.10 ppb at hour 8																								Hours of Missing Data: 9	
Monthly Average: 23.116 ppb																								Percentiles: P ₁ = 2.4 P ₁₀ = 6.5 Q ₁ = 13.2 Median = 23.2 Q ₃ = 31.3 P ₉₀ = 40.7 P ₉₉ = 53.4																								Hours of Calibration: 9	
																								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-Jul	8.7	6.5	4.6	4.0	2.9	2.5	2.4	3.1	4.1	5.5	7.9	9.5	11.9	15.3	18.6	21.7	24.0	25.9	27.3	27.9	28.5	26.9	24.0	20.6	13.93	28.53																							
2-Jul	17.8	14.7	11.3	9.1	5.6	3.6	2.8	3.3	5.1	8.2	12.5	15.0	18.6	22.8	26.9	30.1	32.1	33.7	34.0	34.1	34.0	32.4	31.0	30.2	19.54	34.14																							
3-Jul	29.5	27.7	25.3	24.1	21.1	18.7	15.9	13.1	11.8	12.5	14.5	16.6	19.3	21.8	25.3	27.6	30.3	31.7	33.0	33.8	34.5	35.7	34.5	32.1	24.60	35.70																							
4-Jul	28.8	25.1	21.3	19.0	14.4	9.9	7.1	5.5	5.7	7.8	10.8	13.5	18.0	22.9	28.0	32.9	36.9	39.1	40.7	41.5	40.4	39.2	36.8	32.9	24.10	41.46																							
5-Jul	28.7	24.5	20.1	17.4	13.5	9.2	6.2	6.5	7.6	10.1	14.0	16.6	20.7	24.9	28.9	31.9	34.5	36.3	37.4	38.4	38.9	38.5	36.6	33.9	23.98	38.89																							
6-Jul	31.0	27.4	23.2	20.5	15.2	10.9	8.5	7.8	9.5	14.6	20.9	24.7	30.8	36.9	42.9	47.9	51.1	52.0	53.4	54.7	54.8	54.3	53.4	52.4	33.28	54.75																							
7-Jul	52.0	50.6	45.8	43.6	37.8	32.1	27.4	24.7	23.2	23.9	27.6	29.9	34.4	39.2	43.6	46.8	48.5	49.2	49.2	49.3	49.2	49.2	48.8	47.5	40.56	52.03																							
8-Jul	46.3	44.5	41.7	41.0	35.9	30.4	25.0	21.6	19.2	20.1	23.7	27.4	32.9	38.8	44.8	49.6	53.0	54.3	54.0	53.2	52.0	50.2	48.4	46.4	39.75	54.28																							
9-Jul	43.9	40.1	35.6	34.0	29.5	24.9	20.2	17.0	15.4	15.9	17.9	20.8	24.5	28.7	32.9	36.9	39.9	42.2	44.1	44.3	43.9	43.3	40.7	37.3	32.24	44.28																							
10-Jul	35.5	34.0	32.4	30.9	28.0	24.7	22.9	21.8	20.2	19.4	19.3	21.2	23.9	27.3	31.7	35.6	38.6	40.7	42.2	42.6	40.8	38.0	34.5	30.5	30.70	42.55																							
11-Jul	26.9	22.9	19.7	17.1	15.9	15.0	14.0	13.8	13.4	12.7	11.4	11.3	10.3	11.0	13.2	15.5	17.6	20.4	22.9	25.2	27.0	27.0	26.1	24.1	18.09	27.03																							
12-Jul	21.8	19.3	16.7	14.9	12.0	10.4	9.0	8.9	9.0	9.4	10.0	10.8	12.5	14.1	16.1	18.8	22.1	25.2	29.5	32.0	34.3	35.6	34.9	32.6	19.17	35.63																							
13-Jul	30.2	27.7	23.3	21.4	17.2	13.6	11.8	11.1	11.0	12.3	15.0	17.8	21.6	26.8	32.5	37.9	41.3	43.5	45.4	46.6	47.4	46.3	43.7	39.8	28.55	47.42																							
14-Jul	36.9	33.0	28.3	25.7	19.8	14.7	10.8	9.0	8.9	11.9	16.3	19.4	24.4	29.8	35.2	39.9	42.9	44.3	45.6	46.9	47.4	46.8	45.7	43.4	30.28	47.39																							
15-Jul	40.1	36.4	31.5	28.7	22.8	17.9	13.8	12.1	13.7	17.5	23.2	27.2	33.1	38.5	43.6	47.7	50.0	50.4	49.9	48.5	46.6	43.7	39.6	35.6	33.83	50.45																							
16-Jul	33.6	32.2	30.1	28.2	25.8	25.0	25.1	26.3	25.3	24.0	22.8	22.6	23.5	23.9	26.1	26.7	27.1	27.2	27.6	28.3	28.0	27.9	26.9	26.2	26.68	33.62																							
17-Jul	25.5	24.7	24.3	23.6	22.2	19.5	16.8	15.5	15.5	15.7	16.1	16.7	17.8	19.7	22.7	24.3	24.5	24.4	23.6	22.0	21.1	21.0	19.7	17.5	20.60	25.46																							
18-Jul	15.4	13.2	11.3	10.0	8.1	5.8	4.5	5.0	6.0	8.1	10.9	14.4	18.1	20.3	25.1	28.9	31.7	33.3	33.7	33.1	32.3	31.0	28.4	25.3	18.91	33.68																							
19-Jul	22.0	18.9	15.8	12.7	9.7	7.1	5.2	3.9	3.7	4.6	6.6	9.6	13.3	15.1	20.6	26.0	30.6	34.1	36.7	38.3	38.1	35.9	33.4	29.8	19.66	38.33																							
20-Jul	26.5	22.5	18.4	14.3	11.3	9.0	6.7	6.0	6.7	10.2	14.3	18.9	23.5	26.5	30.4	33.1	34.3	32.4	30.0	27.1	24.1	24.1	23.6	23.5	20.73	34.27																							
21-Jul	23.6	23.8	24.2	24.2	24.1	23.5	22.8	22.2	20.8	20.1	19.6	20.1	21.0	21.2	22.9	24.5	26.6	28.4	29.3	29.0	28.5	28.0	27.0	25.1	24.18	29.25																							
22-Jul	22.1	19.2	16.1	13.4	10.4	7.5	5.1	4.0	4.2	6.5	9.3	12.5	15.9	18.0	21.9	25.2	27.9	28.3	28.5	28.4	27.8	27.1	25.5	23.2	17.84	28.55																							
23-Jul	20.8	18.3	15.4	12.6	10.0	7.4	5.6	5.3	6.9	6.8	9.9	13.3	16.8	20.4	23.5	26.1	26.9	26.9	25.6	23.5	20.7	17.8	14.6	11.0	16.09	26.88																							
24-Jul	7.6	7.6	6.5	5.6	4.7	4.0	4.2	5.0	5.4	5.3	5.1	5.8	7.5	9.5	11.6	13.7	16.2	18.1	19.1	19.5	18.4	16.4	14.0	11.4	10.09	19.47																							
25-Jul	8.4	5.8	3.9	2.6	1.7	1.5	1.4	1.3	2.5	4.6	7.1	8.7	11.9	15.5	19.5	23.5	26.6	28.7	30.2	31.3	31.0	29.3	26.3	23.0	14.42	31.33																							
26-Jul	19.5	15.8	12.2	9.7	6.7	4.8	4.2	5.2	7.2	10.3	11.6	11.6	C	C	C	C	C	C	C	C	C	30.0	27.5	24.9	--	30.03																							
27-Jul	20.7	16.6	12.9	10.8	7.5	4.9	3.4	3.2	4.0	5.6	8.5	11.6	16.5	20.8	25.4	29.1	31.0	32.1	31.0	28.4	25.2	22.2	18.1	14.1	16.83	32.12																							
28-Jul	11.2	8.4	6.6	5.8	3.6	2.0	1.4	1.8	3.6	6.7	10.7	13.7	18.3	23.5	27.8	31.3	32.9	33.5	33.1	31.3	28.3	23.8	19.9	16.2	16.48	33.55																							
29-Jul	13.4	10.4	7.4	5.7	3.8	3.1	2.6	2.4	3.2	5.1	8.4	11.3	15.5	20.1	25.0	29.2	32.9	35.7	37.7	38.8	39.3	39.1	37.3	35.2	19.28	39.29																							
30-Jul	33.7	32.4	30.6	29.3	26.6	24.0	22.0	20.8	18.5	16.4	16.1	18.2	20.5	22.7	25.6	28.6	31.1	33.1	33.6	32.9	30.6	28.1	25.0	21.2	25.89	33.70																							
31-Jul	17.8	14.4	11.3	9.1	7.4	6.5	5.4	5.5	6.5	9.0	12.3	14.4	17.3	20.3	24.0	27.5	30.5	32.0	32.9	33.4	33.3	32.6	30.9	28.5	19.28	33.39																							
25.80 23.17 20.26 18.36 15.33 12.71 10.78 10.10 10.25 11.62 14.01 16.29 19.81 23.22 27.21 30.60 33.11 34.58 35.38 35.47 34.88 33.59 31.51 28.89																								Diurnal Average																									
52.03 50.57 45.82 43.57 37.82 32.13 27.44 26.26 25.26 23.96 27.56 29.87 34.40 39.23 44.81 49.56 53.00 54.28 54.01 54.73 54.75 54.27 53.41 52.43																								Diurnal Maximum																									
C - Calibration																																																	



WCAS - Hinton
Summary of Hourly Averages

Nitrogen Oxide (NO) - ppb
July 2017

Maximum Value: 12.52 ppb on Jul 25 06:00																								Maximum Daily Average: 2.64 ppb on Jul 25																								Hours in Service: 744	
Minimum Value: 0.0 ppb on Jul 1 17:00																								Minimum Daily Average: 0.18 ppb on Jul 30																								Hours of Data: 704	
Maximum Diurnal Average: 4.50 ppb at hour 7																								Minimum Diurnal Average: 0.12 ppb at hour 21																								Hours of Missing Data: 40	
Monthly Average: 1.040 ppb																								Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 0.4 Q ₃ = 1.2 P ₉₀ = 2.7 P ₉₉ = 8.9																								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-Jul	2.1	0.3	0.7	Z	1.9	2.7	4.4	2.1	1.6	0.8	1.4	0.7	0.3	0.4	0.3	0.2	0.0	0.0	0.0	0.1	0.3	0.0	0.0	0.5	0.90	4.39																							
2-Jul	0.7	1.1	1.8	Z	6.9	4.8	7.0	1.8	1.8	2.0	0.1	0.3	0.6	0.1	0.5	0.8	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	1.33	6.99																							
3-Jul	0.0	0.0	0.1	Z	0.2	2.3	1.5	3.0	1.3	0.4	0.0	0.1	0.0	0.1	0.9	1.0	1.4	0.0	0.0	0.0	0.0	0.0	0.8	0.1	0.58	3.05																							
4-Jul	0.1	0.2	0.1	Z	8.7	3.1	4.7	10.7	5.2	3.3	3.5	2.1	0.9	0.4	0.2	0.7	0.2	0.1	0.0	0.0	0.0	0.0	0.1	0.0	1.93	10.68																							
5-Jul	0.0	0.3	0.0	Z	2.9	6.2	9.4	6.4	2.3	1.3	0.4	0.3	0.5	0.3	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.34	9.43																							
6-Jul	0.0	0.0	0.0	Z	4.3	8.7	10.3	7.4	3.1	0.7	0.5	0.1	0.1	0.0	0.2	0.1	0.4	0.2	0.1	0.0	0.0	0.0	0.0	0.0	1.57	10.32																							
7-Jul	0.0	0.0	0.0	Z	1.3	0.6	1.1	2.0	1.0	0.5	0.3	0.1	0.5	0.3	0.5	0.9	0.6	0.9	0.4	0.6	0.1	0.0	0.0	0.0	0.51	1.95																							
8-Jul	0.0	0.1	0.0	Z	0.5	2.4	4.0	2.1	2.5	1.9	0.7	0.7	0.2	0.2	0.3	0.3	0.2	0.1	0.2	0.2	0.0	0.2	0.0	0.0	0.73	4.03																							
9-Jul	0.0	0.2	0.1	Z	0.2	1.5	2.5	1.3	0.9	1.1	1.3	0.7	0.6	0.2	0.4	0.5	0.8	0.5	0.5	0.1	0.0	0.4	0.2	0.0	0.61	2.48																							
10-Jul	0.1	0.1	0.1	Z	0.3	0.5	1.8	2.4	0.7	0.5	0.7	0.9	0.7	0.4	0.3	0.1	0.2	0.2	0.4	0.0	0.0	0.0	0.0	0.0	0.45	2.35																							
11-Jul	0.0	0.0	0.0	Z	0.1	0.5	1.0	0.7	1.6	1.4	0.6	0.9	1.3	0.8	0.5	0.5	0.3	0.5	0.0	0.0	0.0	0.0	0.0	0.1	0.47	1.63																							
12-Jul	0.0	0.0	0.2	Z	1.7	2.7	5.2	1.4	2.4	1.2	1.5	0.8	1.2	0.5	0.8	0.7	1.3	2.2	0.5	0.1	0.1	0.0	0.0	0.0	1.06	5.21																							
13-Jul	0.0	0.0	0.1	Z	1.2	2.8	1.6	4.2	3.1	0.9	0.7	0.2	0.7	1.6	0.3	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.78	4.24																							
14-Jul	0.0	0.0	0.0	Z	3.3	5.1	9.1	5.3	1.8	0.6	0.4	0.4	0.0	0.0	0.3	0.3	0.9	0.7	0.3	0.1	0.0	0.0	0.0	0.1	1.24	9.07																							
15-Jul	0.0	0.0	0.0	Z	0.2	0.4	1.4	3.2	1.2	0.8	0.4	0.8	0.2	0.4	0.6	0.0	0.0	0.4	0.0	0.1	0.0	0.1	0.0	0.0	0.45	3.24																							
16-Jul	0.0	0.0	0.0	Z	0.1	0.1	0.9	0.7	0.2	0.1	2.5	4.1	1.5	Z	0.9	1.7	1.0	1.3	0.8	0.0	0.0	0.0	0.0	0.0	0.71	4.05																							
17-Jul	0.0	0.0	0.0	0.0	1.4	6.1	6.9	1.0	0.2	0.8	1.2	0.3	0.2	Z	0.1	0.0	0.0	0.0	0.0	1.4	0.5	0.2	0.2	0.6	0.92	6.88																							
18-Jul	0.9	1.4	0.2	0.5	0.8	2.2	2.2	1.8	3.4	1.4	1.8	1.4	1.5	Z	0.3	0.5	0.5	0.4	0.3	0.1	0.3	0.5	0.2	0.3	0.99	3.39																							
19-Jul	0.2	0.3	0.4	0.8	1.2	2.3	2.3	2.4	1.4	1.1	0.7	0.6	1.2	Z	1.2	0.2	1.3	0.2	0.3	0.3	0.2	0.7	0.0	0.4	0.86	2.36																							
20-Jul	0.3	0.4	0.3	0.3	0.4	8.2	9.6	6.6	4.7	1.4	1.3	0.6	0.1	Z	0.5	3.1	0.4	0.2	0.2	0.2	0.1	0.4	0.1	0.2	1.72	9.57																							
21-Jul	0.3	0.9	0.3	0.3	0.3	0.3	0.8	1.1	1.7	2.1	2.0	1.9	0.8	Z	0.6	1.4	0.8	1.8	1.4	0.9	0.1	0.0	0.0	0.1	0.87	2.12																							
22-Jul	0.8	1.3	0.5	1.5	8.6	9.0	7.2	4.9	3.5	2.1	2.5	1.9	1.7	Z	1.0	0.9	0.5	0.5	0.1	0.2	0.1	1.1	0.6	2.8	2.31	9.04																							
23-Jul	0.4	0.1	0.0	0.2	1.6	6.5	8.2	1.9	0.7	Z	0.7	0.7	0.0	0.1	0.0	0.0	0.1	1.6	0.0	0.1	0.1	0.1	2.3	1.0	1.16	8.21																							
24-Jul	1.2	0.2	0.1	Z	1.9	0.9	8.9	4.6	1.9	3.4	4.4	3.8	2.6	1.8	0.7	1.2	2.6	0.9	0.9	0.8	0.6	7.2	5.0	2.1	2.51	8.90																							
25-Jul	5.8	2.9	1.2	Z	4.3	12.5	11.2	7.6	1.2	3.1	1.7	1.1	2.2	1.2	0.3	0.2	0.3	0.2	0.2	0.0	0.0	0.1	3.0	0.5	2.64	12.52																							
26-Jul	0.0	1.5	0.9	Z	0.4	0.7	2.7	0.7	C	C	C	C	C	C	C	C	0.0	0.4	0.3	0.0	0.3	0.3	0.2	0.0	--	2.67																							
27-Jul	0.0	0.1	0.0	Z	0.4	2.1	3.7	4.1	1.5	1.8	0.6	0.6	0.4	0.2	0.2	0.1	0.7	0.3	0.2	0.4	0.2	0.4	0.2	0.4	0.81	4.05																							
28-Jul	0.3	0.2	0.3	Z	1.5	4.0	4.7	2.3	0.4	0.5	0.4	0.3	0.4	0.2	0.0	0.0	0.3	0.2	0.0	0.4	0.1	0.4	0.5	0.2	0.76	4.68																							
29-Jul	0.0	0.2	0.1	Z	0.6	2.5	3.7	4.7	1.8	1.0	1.0	0.5	0.3	0.3	0.1	0.2	0.3	0.3	0.1	0.2	0.2	0.0	0.2	0.1	0.80	4.67																							
30-Jul	0.0	0.0	0.0	Z	0.1	0.0	0.1	0.2	0.7	0.5	0.4	0.5	0.2	0.1	0.0	0.0	0.3	0.3	0.1	0.1	0.1	0.2	0.2	0.1	0.18	0.67																							
31-Jul	0.2	0.0	0.0	Z	0.1	0.1	1.6	1.0	0.8	0.5	0.2	0.3	0.3	0.2	0.3	0.6	0.3	0.3	0.1	0.1	0.1	0.1	0.2	0.1	0.32	1.58																							
																								0.43	0.38	0.24	0.51	1.85	3.28	4.50	3.21	1.83	1.28	1.13	0.93	0.71	0.43	0.42	0.55	0.51	0.48	0.24	0.20	0.12	0.40	0.45	0.31	Diurnal Average	
																								5.84	2.93	1.84	1.52	8.69	12.52	11.17	10.68	5.23	3.43	4.42	4.05	2.58	1.83	1.17	3.13	2.57	2.24	1.36	1.38	0.59	7.19	5.02	2.75	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 (NO₂) - ppb
July 2017

Maximum Value: 14.51 ppb on Jul 9 23:00		Maximum Daily Average: 5.40 ppb on Jul 15		Hours in Service: 744																																													
Minimum Value: 0.3 ppb on Jul 3 20:00		Minimum Daily Average: 1.26 ppb on Jul 31		Hours of Data: 704																																													
Maximum Diurnal Average: 5.10 ppb at hour 8		Minimum Diurnal Average: 2.19 ppb at hour 14		Hours of Missing Data: 40																																													
Monthly Average: 3.441 ppb		Percentiles: P ₁ = 0.5 P ₁₀ = 1.1 Q ₁ = 1.8 Median = 2.9 Q ₃ = 4.5 P ₉₀ = 6.5 P ₉₉ = 11.7		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-Jul	6.6	5.0	5.0	Z	4.7	3.0	5.6	5.7	6.1	2.0	2.8	2.1	1.3	1.7	1.2	1.2	1.2	0.8	2.4	2.4	3.1	2.2	4.9	3.5	3.24	6.55																							
2-Jul	4.0	2.8	3.4	Z	2.1	1.3	1.8	2.1	3.7	4.1	1.9	1.0	1.1	0.9	1.2	2.2	1.3	0.9	1.0	1.2	3.1	4.3	2.2	0.7	2.10	4.26																							
3-Jul	0.6	2.1	3.4	Z	1.8	4.3	3.2	3.7	2.9	1.1	0.4	0.7	0.8	1.3	4.4	2.9	4.4	0.5	0.9	0.3	0.4	1.5	3.8	5.1	2.20	5.11																							
4-Jul	4.5	4.4	5.1	Z	5.6	3.9	4.2	7.4	7.7	5.6	6.7	4.8	3.2	2.1	1.8	3.2	2.0	2.9	2.7	0.7	1.8	1.9	4.2	8.1	4.11	8.11																							
5-Jul	5.3	5.5	4.7	Z	5.6	4.2	5.2	8.4	5.8	2.8	1.5	1.5	1.8	1.8	1.7	1.6	2.0	2.3	2.0	1.9	2.1	3.5	7.9	9.1	3.83	9.11																							
6-Jul	4.4	4.4	3.3	Z	5.6	7.8	7.3	10.9	8.0	4.7	4.6	3.2	2.8	2.4	2.6	2.3	2.8	2.7	2.9	2.9	3.0	3.3	3.1	3.4	4.28	10.85																							
7-Jul	3.8	6.4	6.7	Z	6.4	3.9	5.1	7.1	5.0	4.1	4.3	3.3	4.4	2.7	2.5	2.3	1.6	2.8	2.7	3.3	2.5	7.8	6.7	4.3	4.34	7.77																							
8-Jul	2.0	2.9	4.3	Z	8.1	8.2	8.6	7.7	9.7	10.3	5.6	3.4	2.7	2.1	2.7	2.6	2.4	2.1	3.2	3.8	2.5	3.9	3.5	3.6	4.60	10.31																							
9-Jul	4.7	7.0	6.8	Z	2.1	3.5	6.7	5.7	3.8	4.4	5.7	4.8	6.5	3.3	2.9	2.7	3.3	2.5	2.4	2.1	2.0	6.7	14.5	8.4	4.89	14.51																							
10-Jul	1.7	1.5	1.2	Z	6.2	8.1	11.6	7.4	3.4	2.3	2.8	3.1	3.1	3.1	3.3	3.5	3.8	3.7	4.8	3.3	2.1	2.1	1.8	1.5	3.71	11.56																							
11-Jul	2.7	2.8	3.1	Z	3.4	4.4	6.2	5.4	6.8	7.1	3.6	4.0	4.9	3.5	2.7	2.7	3.4	3.4	2.6	2.5	2.0	2.1	1.7	4.9	3.73	7.08																							
12-Jul	3.3	2.8	3.7	Z	4.0	4.2	4.6	3.3	4.0	2.3	2.9	1.6	2.0	1.7	2.1	2.5	2.9	3.5	3.2	1.8	3.1	2.7	5.5	3.4	3.08	5.52																							
13-Jul	1.8	2.7	3.7	Z	9.6	7.4	4.7	5.4	5.9	2.6	3.0	2.6	4.1	5.1	2.6	3.3	2.0	1.6	1.1	1.3	1.4	3.6	6.0	7.3	3.85	9.61																							
14-Jul	1.9	4.4	5.3	Z	6.5	5.7	4.8	5.6	5.9	2.8	2.5	2.0	1.6	1.4	1.6	1.7	2.5	3.5	2.3	2.3	2.9	4.0	5.1	4.7	3.52	6.49																							
15-Jul	6.0	4.1	5.3	Z	3.3	3.4	4.4	9.2	6.3	4.8	4.5	6.5	3.1	3.0	4.4	1.6	2.4	7.8	4.2	6.1	5.0	11.6	11.4	5.9	5.40	11.58																							
16-Jul	2.7	2.2	1.9	Z	5.5	3.8	7.0	4.1	3.4	1.9	3.5	8.1	4.9	Z	2.7	4.6	2.8	4.0	4.8	2.2	1.6	1.4	1.7	1.5	3.46	8.13																							
17-Jul	1.1	1.1	1.9	1.1	4.3	12.5	12.4	4.3	1.6	3.1	3.3	1.5	1.4	Z	0.5	0.4	0.7	0.8	0.5	5.3	3.5	1.8	4.0	6.9	3.22	12.50																							
18-Jul	4.6	4.6	2.8	3.7	5.5	4.3	2.3	3.0	5.2	2.6	2.6	2.7	3.0	Z	2.2	2.1	2.4	2.7	2.0	1.9	2.9	4.3	6.5	5.3	3.43	6.47																							
19-Jul	4.2	2.0	3.2	4.7	5.3	5.9	4.3	4.3	5.3	4.6	3.5	3.0	6.3	Z	6.3	3.0	3.6	3.8	3.4	3.8	8.0	11.8	8.3	12.0	5.25	12.00																							
20-Jul	6.4	8.0	5.0	3.5	4.1	9.6	10.2	11.7	10.6	4.2	4.1	2.3	1.1	Z	3.7	7.3	2.2	2.0	2.4	2.4	1.5	2.2	2.2	2.4	4.74	11.69																							
21-Jul	2.1	3.0	1.4	2.7	5.0	3.0	5.3	6.2	6.9	5.6	3.1	2.4	1.7	Z	2.2	4.0	3.6	6.5	5.4	7.7	5.2	3.2	3.4	5.2	4.12	7.68																							
22-Jul	6.8	5.8	4.9	5.0	5.5	4.4	4.1	5.4	6.0	4.0	5.4	4.4	4.0	Z	2.1	2.2	1.7	1.6	0.8	2.4	3.0	1.6	5.5	7.9	4.11	7.92																							
23-Jul	5.1	4.5	3.9	3.0	3.7	4.7	4.0	2.7	1.9	Z	1.9	1.5	1.4	1.4	1.0	0.6	0.8	3.4	0.6	1.3	1.8	2.0	3.5	1.8	2.46	5.08																							
24-Jul	1.7	1.7	1.2	Z	4.1	3.3	4.1	4.4	3.5	3.5	4.4	4.7	3.4	2.8	2.1	2.7	5.2	4.9	6.1	4.9	5.8	6.9	6.6	6.1	4.08	6.89																							
25-Jul	6.8	4.4	2.5	Z	1.7	1.8	2.2	3.3	2.2	2.9	3.5	2.7	3.9	4.5	2.0	1.6	1.2	1.5	2.2	2.4	3.4	5.5	11.7	8.8	3.59	11.67																							
26-Jul	5.7	8.4	7.2	Z	4.3	3.5	4.2	2.4	C	C	C	C	C	C	C	C	0.7	1.7	2.1	1.3	1.5	3.1	3.0	3.0	--	8.36																							
27-Jul	2.8	2.2	1.4	Z	2.1	3.0	3.6	4.5	3.2	3.0	2.2	2.0	1.8	1.2	1.3	1.4	1.4	1.1	1.2	1.1	1.5	1.7	1.4	1.7	2.03	4.53																							
28-Jul	1.4	0.7	0.9	Z	1.3	1.1	1.8	1.6	1.1	1.6	1.8	2.0	2.2	1.6	0.5	0.4	1.5	1.1	1.0	3.1	2.8	3.7	3.3	2.7	1.71	3.73																							
29-Jul	1.6	1.3	1.0	Z	0.9	1.1	1.0	2.3	3.0	2.3	2.8	1.9	1.5	1.6	1.0	0.7	0.9	1.0	1.0	1.3	1.8	1.5	2.4	1.9	1.55	2.98																							
30-Jul	1.1	0.6	0.7	Z	1.5	1.1	1.2	1.2	2.8	1.9	1.4	1.5	1.3	1.0	0.5	0.4	1.4	1.2	0.9	1.0	1.4	2.4	1.9	2.0	1.32	2.79																							
31-Jul	1.3	0.8	0.8	Z	1.2	1.4	2.6	1.7	1.9	1.5	0.5	0.6	0.6	0.6	0.7	1.3	1.1	1.4	0.9	0.9	1.1	1.0	2.3	2.7	1.26	2.70																							
																								3.51	3.54	3.41	3.39	4.22	4.45	4.98	5.10	4.78	3.58	3.23	2.87	2.72	2.19	2.22	2.30	2.23	2.57	2.38	2.54	2.70	3.72	4.83	4.70	Diurnal Average	
																								6.81	8.36	7.15	5.02	9.61	12.50	12.42	11.69	10.56	10.31	6.75	8.13	6.46	5.10	6.30	7.25	5.16	7.79	6.06	7.68	8.03	11.78	14.51	12.00	Diurnal Maximum	
Z - zerospan																								C - Calibration																									
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 159 ppb 24-hr 106 ppb																																																	



WCAS - Hinton
Summary of Hourly Averages

NOx (NO_x) - ppb
July 2017

Maximum Value: 19.82 ppb on Jul 20 07:00		Maximum Daily Average: 6.62 ppb on Jul 24		Hours in Service: 744																																													
Minimum Value: 0.0 ppb on Jul 3 20:00		Minimum Daily Average: 1.51 ppb on Jul 30		Hours of Data: 704																																													
Maximum Diurnal Average: 9.52 ppb at hour 7		Minimum Diurnal Average: 2.60 ppb at hour 19		Hours of Missing Data: 40																																													
Monthly Average: 4.481 ppb		Percentiles: P ₁ = 0.4 P ₁₀ = 1.3 Q ₁ = 2.0 Median = 3.6 Q ₃ = 5.8 P ₉₀ = 8.7 P ₉₉ = 17.7		Hours of Calibration: 40																																													
Percentiles: P ₁ = 0.4 P ₁₀ = 1.3 Q ₁ = 2.0 Median = 3.6 Q ₃ = 5.8 P ₉₀ = 8.7 P ₉₉ = 17.7		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-Jul	8.7	5.3	5.7	Z	6.6	5.7	10.0	7.8	7.8	2.8	4.3	2.9	1.6	2.0	1.5	1.4	1.1	0.7	2.4	2.6	3.5	1.9	4.7	4.0	4.13	10.02																							
2-Jul	4.8	3.9	5.3	Z	9.1	6.1	8.8	4.0	5.5	6.1	2.0	1.3	1.6	1.0	1.7	2.9	1.4	0.7	0.8	1.0	3.0	4.4	1.9	0.4	3.38	9.11																							
3-Jul	0.3	1.9	3.5	Z	2.0	6.6	4.7	6.8	4.2	1.4	0.5	0.7	0.8	1.4	5.3	3.9	5.7	0.3	0.7	0.0	0.1	1.4	4.6	5.3	2.70	6.78																							
4-Jul	4.6	4.6	5.2	Z	14.3	7.1	8.9	18.2	13.0	9.0	10.3	6.9	4.2	2.5	2.0	3.9	2.2	3.0	2.7	0.3	1.6	1.6	4.3	8.1	6.02	18.15																							
5-Jul	5.3	5.9	4.7	Z	8.6	10.4	14.6	14.8	8.1	4.0	1.8	1.7	2.2	2.1	2.1	1.7	2.0	2.2	1.9	1.7	1.8	3.5	7.7	9.1	5.14	14.81																							
6-Jul	4.2	4.4	3.3	Z	10.0	16.5	17.6	18.3	11.1	5.4	5.2	3.4	2.9	2.5	2.8	2.4	3.3	3.0	3.0	2.8	3.0	3.2	2.9	3.3	5.86	18.33																							
7-Jul	3.7	6.3	6.8	Z	7.7	4.6	6.3	9.2	6.0	4.6	4.7	3.5	5.0	3.0	3.0	3.2	2.2	3.8	3.2	3.9	2.7	7.8	6.7	4.2	4.87	9.15																							
8-Jul	1.9	2.9	4.3	Z	8.6	10.6	12.7	9.8	12.3	12.3	6.4	4.2	2.9	2.3	3.0	2.8	2.6	2.2	3.4	4.0	2.6	4.1	3.5	3.7	5.36	12.68																							
9-Jul	4.8	7.2	7.0	Z	2.3	5.0	9.3	7.1	4.8	5.5	7.1	5.6	7.1	3.6	3.3	3.2	4.1	2.9	2.9	2.3	2.1	7.2	14.8	8.4	5.55	14.83																							
10-Jul	1.8	1.6	1.3	Z	6.6	8.7	13.4	9.8	4.2	2.8	3.5	4.0	3.8	3.5	3.6	3.7	4.0	4.0	5.2	3.2	1.8	1.9	1.5	1.2	4.14	13.44																							
11-Jul	2.4	2.7	3.1	Z	3.6	4.9	7.3	6.2	8.5	8.5	4.2	4.9	6.3	4.3	3.2	3.2	3.8	3.9	2.4	2.3	1.8	1.8	1.5	5.0	4.17	8.50																							
12-Jul	3.2	2.8	3.9	Z	5.7	6.9	9.9	4.7	6.4	3.5	4.4	2.4	3.2	2.1	2.8	3.2	4.2	5.7	3.7	1.9	3.2	2.6	5.5	3.3	4.15	9.87																							
13-Jul	1.8	2.7	3.8	Z	10.9	10.2	6.3	9.6	9.1	3.6	3.7	2.8	4.8	6.7	2.8	3.7	2.0	1.6	0.9	1.1	1.2	3.5	6.0	7.4	4.62	10.86																							
14-Jul	1.7	4.3	5.3	Z	9.9	10.7	13.9	10.9	7.8	3.4	2.8	2.4	1.5	1.4	1.9	2.0	3.4	4.1	2.7	2.4	2.8	4.0	5.1	4.7	4.75	13.90																							
15-Jul	5.9	3.9	5.2	Z	3.5	3.8	5.9	12.5	7.6	5.6	4.9	7.4	3.3	3.4	5.0	1.4	2.2	8.2	4.2	6.2	4.8	11.8	11.3	5.8	5.82	12.51																							
16-Jul	2.6	2.2	1.9	Z	5.6	3.9	7.9	4.9	3.7	2.0	6.0	12.2	6.3	Z	3.5	6.3	3.7	5.2	5.6	2.1	1.4	1.2	1.6	1.4	4.15	12.22																							
17-Jul	1.1	1.1	1.8	1.0	5.7	18.7	19.4	5.4	1.8	3.9	4.5	1.8	1.6	Z	0.6	0.3	0.5	0.5	0.2	6.7	4.0	2.0	4.2	7.5	4.10	19.37																							
18-Jul	5.5	6.0	3.0	4.2	6.4	6.5	4.5	4.8	8.7	4.0	4.4	4.1	4.5	Z	2.5	2.6	2.9	3.2	2.3	2.0	3.1	4.9	6.7	5.6	4.45	8.66																							
19-Jul	4.5	2.3	3.6	5.6	6.5	8.3	6.7	6.7	6.7	5.8	4.3	3.6	7.6	Z	7.5	3.2	5.0	4.0	3.8	4.1	8.3	12.5	8.3	12.5	6.15	12.51																							
20-Jul	6.7	8.4	5.3	3.9	4.5	17.9	19.8	18.4	15.3	5.7	5.4	2.9	1.1	Z	4.2	10.4	2.7	2.2	2.6	2.6	1.6	2.5	2.3	2.7	6.49	19.82																							
21-Jul	2.4	3.9	1.7	3.0	5.4	3.3	6.1	7.3	8.6	7.8	5.2	4.3	2.5	Z	2.8	5.4	4.4	8.4	6.8	8.6	5.3	3.2	3.4	5.3	5.01	8.62																							
22-Jul	7.6	7.1	5.5	6.6	14.2	13.5	11.3	10.4	9.5	6.2	7.9	6.3	5.7	Z	3.1	3.1	2.2	2.1	0.9	2.6	3.1	2.7	6.1	10.7	6.45	14.20																							
23-Jul	5.5	4.7	4.0	3.2	5.4	11.3	12.3	4.6	2.6	Z	2.6	2.2	1.4	1.5	0.9	0.5	0.9	5.1	0.6	1.4	1.9	2.1	5.8	2.8	3.62	12.30																							
24-Jul	2.9	1.8	1.3	Z	6.0	4.2	13.1	9.1	5.4	6.9	8.9	8.5	6.0	4.6	2.8	4.0	7.8	5.8	7.0	5.6	6.4	14.1	11.6	8.2	6.62	14.12																							
25-Jul	12.7	7.4	3.7	Z	6.0	14.3	13.4	10.9	3.3	6.0	5.3	3.8	6.2	5.7	2.4	1.7	1.5	1.7	2.4	2.4	3.2	5.6	14.7	9.3	6.24	14.68																							
26-Jul	5.6	9.9	8.0	Z	4.8	4.3	6.9	3.1	C	C	C	C	C	C	C	C	C	0.6	2.1	2.4	1.2	1.8	3.4	3.2	2.9	--	9.86																						
27-Jul	2.8	2.3	1.4	Z	2.5	5.1	7.3	8.6	4.7	4.8	2.9	2.6	2.2	1.4	1.6	1.6	1.6	2.1	1.4	1.4	1.5	1.8	2.1	1.7	2.0	2.86	8.63																						
28-Jul	1.7	0.8	1.2	Z	2.8	5.2	6.5	4.0	1.5	2.1	2.2	2.4	2.6	1.8	0.6	0.4	1.8	1.3	1.0	3.6	2.9	4.1	3.9	3.0	2.49	6.48																							
29-Jul	1.6	1.4	1.0	Z	1.5	3.6	4.7	7.0	4.8	3.4	3.9	2.4	1.8	1.8	1.1	0.9	1.2	1.3	1.2	1.5	2.0	1.6	2.6	2.0	2.36	6.99																							
30-Jul	1.1	0.6	0.7	Z	1.6	1.1	1.3	1.4	3.5	2.5	1.8	2.0	1.6	1.1	0.5	0.4	1.7	1.5	1.1	1.1	1.4	2.6	2.1	2.0	1.51	3.49																							
31-Jul	1.5	0.9	0.8	Z	1.3	1.6	4.2	2.8	2.7	2.1	0.7	0.9	0.9	0.9	1.0	1.8	1.4	1.7	1.0	0.9	1.2	1.1	2.5	2.8	1.59	4.24																							
																								3.90	3.91	3.66	3.92	6.11	7.77	9.52	8.35	6.64	4.89	4.39	3.81	3.44	2.63	2.64	2.85	2.73	3.03	2.60	2.70	2.75	4.08	5.25	4.99	Diurnal Average	
																								12.67	9.86	8.05	6.58	14.28	18.66	19.82	18.37	15.34	12.28	10.33	12.22	7.58	6.69	7.52	10.43	7.76	8.37	7.03	8.62	8.34	14.12	14.83	12.50	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_{2.5}) - μg/m³
July 2017

Maximum Value: 104.23 μg/m ³ on Jul 10 14:00																							Maximum Daily Average: 60.06 μg/m ³ on Jul 19				Hours in Service: 744	
Minimum Value: 1.1 μg/m ³ on Jul 22 19:00											Minimum Daily Average: 3.77 μg/m ³ on Jul 23												Hours of Data: 744					
Maximum Diurnal Average: 24.21 μg/m ³ at hour 9											Minimum Diurnal Average: 16.84 μg/m ³ at hour 16												Hours of Missing Data: 0					
Monthly Average: 20.150 μg/m ³											Percentiles: P ₁ = 1.4 P ₁₀ = 3.9 Q ₁ = 7.4 Median = 15.2 Q ₃ = 24.3 P ₉₀ = 40.9 P ₉₉ = 85.6												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-Jul	16.8	14.5	14.1	14.1	15.8	13.1	15.7	11.3	10.3	7.9	9.5	6.2	4.7	7.0	4.7	5.1	4.3	4.2	5.9	4.9	6.2	5.9	7.7	5.8	8.99	16.81		
2-Jul	5.9	6.4	6.1	8.5	11.2	9.3	8.6	16.6	14.3	15.0	10.7	9.1	8.9	8.0	9.0	9.6	10.7	16.8	9.4	8.6	9.2	10.6	10.5	4.0	9.87	16.81		
3-Jul	2.6	3.0	3.5	3.5	3.7	6.8	6.5	10.5	9.7	3.5	2.4	2.8	3.2	3.1	6.6	6.4	8.3	4.0	3.7	3.4	4.8	2.9	4.0	4.6	4.72	10.48		
4-Jul	4.4	4.6	3.4	3.6	6.5	6.4	6.1	14.1	23.5	18.8	25.1	14.1	10.8	7.1	6.7	9.7	8.6	7.4	7.5	7.2	11.5	5.3	6.9	13.3	9.68	25.14		
5-Jul	7.9	7.3	7.0	7.3	8.4	15.4	31.2	34.4	18.9	11.9	8.4	7.4	9.8	12.6	12.3	13.6	13.5	12.7	11.7	9.4	9.1	10.8	11.0	11.9	12.66	34.42		
6-Jul	11.8	13.2	24.2	19.2	22.3	27.6	27.9	36.2	33.2	21.4	20.7	17.4	15.3	13.6	13.6	12.3	12.6	11.6	12.2	13.1	12.9	14.1	14.4	16.7	18.23	36.23		
7-Jul	13.4	14.7	15.2	16.6	19.5	28.0	42.8	33.3	26.4	24.4	23.7	18.4	18.9	18.1	13.3	11.3	14.8	14.6	16.4	15.3	11.9	18.5	13.5	12.9	18.99	42.76		
8-Jul	17.8	23.9	23.9	25.4	26.3	27.2	27.0	33.5	41.5	47.7	35.7	29.7	27.2	24.3	24.6	24.2	24.0	23.3	23.3	24.7	20.1	21.3	21.1	21.2	26.62	47.70		
9-Jul	21.9	23.4	24.7	23.2	26.5	28.4	31.0	29.8	28.3	24.3	26.0	28.0	29.0	26.1	24.1	16.4	13.5	10.3	8.5	8.0	27.3	39.3	41.3	37.6	24.88	41.29		
10-Jul	25.3	17.3	14.2	14.3	13.6	14.4	16.4	20.4	30.8	32.9	42.7	64.8	73.0	104.2	95.4	77.8	74.1	79.2	87.6	81.5	64.2	66.8	74.3	63.7	52.04	104.23		
11-Jul	47.8	41.0	67.5	68.2	64.5	58.4	53.3	56.5	77.1	84.4	50.6	55.3	46.0	17.7	19.8	26.0	30.0	31.2	32.5	34.6	29.4	17.1	17.0	16.8	43.46	84.45		
12-Jul	14.8	15.6	14.9	9.1	10.8	18.8	21.5	18.1	15.9	17.8	18.9	13.5	13.4	20.4	15.7	2.8	2.6	23.0	13.0	39.1	45.7	46.0	47.6	39.9	20.79	47.62		
13-Jul	40.2	39.6	37.3	34.3	33.3	32.7	32.3	33.6	41.1	34.0	32.5	27.9	25.3	12.6	5.5	5.8	8.3	9.0	9.8	9.7	13.0	18.6	20.1	21.4	24.08	41.07		
14-Jul	21.4	23.1	23.7	24.5	23.1	22.6	24.0	24.8	25.6	23.7	25.1	24.2	20.6	18.2	16.4	14.5	14.7	15.2	15.8	15.6	16.2	16.7	15.0	16.3	20.04	25.61		
15-Jul	16.7	19.4	20.1	20.5	27.0	32.1	32.3	35.7	26.2	23.2	21.8	16.3	10.0	10.8	27.5	24.3	39.1	38.7	30.2	27.7	63.4	53.7	53.9	53.1	30.14	63.42		
16-Jul	49.0	48.0	43.1	42.4	43.2	41.8	42.0	33.5	26.1	24.2	52.8	59.3	43.6	22.8	12.4	11.9	11.8	13.2	15.4	14.0	20.9	16.5	12.8	11.4	29.66	59.33		
17-Jul	9.1	6.6	6.6	3.6	3.0	5.2	3.9	3.8	7.4	8.0	8.6	5.1	4.2	1.9	1.5	1.1	1.8	1.5	1.1	1.9	1.8	2.3	4.0	2.6	4.03	9.14		
18-Jul	2.4	2.3	2.6	3.5	4.7	4.2	4.9	10.7	17.6	20.8	33.3	37.6	33.7	38.1	36.9	33.1	31.5	32.6	17.5	15.2	14.6	14.5	14.8	15.9	18.47	38.12		
19-Jul	15.9	16.9	23.6	28.1	33.9	30.1	22.7	32.0	59.4	69.3	73.6	74.6	78.5	73.4	64.5	64.3	66.9	65.2	74.1	87.2	96.0	98.8	97.6	95.0	60.06	98.76		
20-Jul	89.7	84.3	87.8	88.3	86.8	87.4	86.2	90.1	73.7	33.9	14.4	7.4	6.4	4.7	3.9	4.9	8.5	40.4	30.9	21.8	21.0	15.9	10.1	6.4	41.87	90.12		
21-Jul	3.8	5.2	4.1	4.7	3.9	2.8	3.2	3.0	4.8	3.9	3.5	3.7	5.3	7.7	9.4	12.4	13.6	16.4	17.0	17.6	14.4	12.4	11.9	14.4	8.29	17.57		
22-Jul	14.1	15.6	16.8	16.0	17.3	15.8	14.0	14.8	15.2	9.8	7.4	5.9	5.4	4.1	2.9	2.5	1.7	1.1	1.1	1.6	2.7	1.8	2.0	5.1	8.10	17.30		
23-Jul	4.6	4.5	4.9	6.0	6.4	7.3	7.7	6.2	4.0	3.7	3.7	3.4	4.4	2.9	1.6	1.1	1.6	1.7	1.4	2.8	2.7	2.4	2.9	2.5	3.77	7.70		
24-Jul	1.7	1.6	1.2	1.7	1.9	1.7	1.9	4.0	4.0	3.1	4.8	5.2	4.2	3.1	3.1	4.8	7.4	6.9	7.6	6.1	5.6	6.9	5.9	7.2	4.23	7.62		
25-Jul	7.6	6.4	4.6	3.9	4.0	5.6	4.7	5.1	4.8	7.2	7.3	6.7	9.4	10.3	7.3	6.1	5.5	6.1	6.5	5.6	6.2	8.8	9.9	8.7	6.60	10.30		
26-Jul	10.2	10.7	10.7	10.6	9.8	8.2	9.9	9.6	9.2	12.9	10.6	9.5	20.4	42.7	29.9	35.9	34.6	36.5	39.5	38.4	40.5	39.1	36.6	35.6	22.99	42.73		
27-Jul	31.4	28.1	27.0	23.3	20.5	18.7	18.8	24.2	20.3	19.4	19.3	23.5	24.3	21.3	22.0	21.2	17.7	15.2	15.1	14.6	14.3	15.4	15.5	16.1	20.30	31.37		
28-Jul	15.9	14.3	15.6	17.7	16.7	16.0	18.2	19.4	17.5	19.5	21.2	21.1	21.3	19.7	12.2	10.4	12.2	10.7	10.2	11.7	12.0	11.8	11.8	11.7	15.36	21.31		
29-Jul	10.9	10.3	9.8	10.6	10.0	10.5	11.7	17.1	26.5	26.5	26.8	21.7	20.7	22.2	21.0	20.0	20.6	21.4	21.7	23.3	24.0	23.5	24.0	24.2	19.12	26.82		
30-Jul	21.3	17.8	17.4	17.4	17.3	17.2	17.4	17.8	21.0	20.5	18.6	22.7	39.1	35.7	23.4	17.9	34.3	26.5	21.6	21.4	22.5	23.6	23.5	24.3	22.50	39.07		
31-Jul	24.6	24.1	24.7	24.1	19.9	17.5	19.7	19.1	16.1	6.9	3.1	5.9	9.8	12.6	13.9	14.7	15.2	15.6	14.4	9.0	6.1	6.4	6.8	8.8	14.13	24.73		
18.74 18.19 19.36 19.16 19.74 20.35 21.40 23.20 24.21 21.95 21.38 20.92 20.87 20.22 18.10 16.84 18.19 19.75 18.80 19.19 20.98 20.89 20.91 20.30																							Diurnal Average					
89.71 84.31 87.76 88.27 86.84 87.37 86.17 90.12 77.08 84.45 73.60 74.65 78.50 104.23 95.44 77.84 74.10 79.18 87.57 87.21 96.01 98.76 97.64 94.97																							Diurnal Maximum					
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: July 26, 2017

Parameter: NO/NO₂/NO_x

Instrument: Teco 42i

Serial Number: 0905034788

Previous Calibration Date: June 22, 2017

Calibration: Shutdown

Calibration Equipment: Sabio 2010 sn 05200311

Barometric Pressure: 26.73" Hg

Calibration Method: Standard Gas Dilution

Cylinder ID: FF27716

Temperature: 24.0° C

Cylinder Concentration: 12.0 ppm NO/NOX

In Service: June 2/16: Expiry Jan 20/19

Technician: J.McClintock

Instrument Settings	NO bkg ppb	NO _x bkg ppb	Pre-reactor bkg ppb	NO Coefficient	NO _x Coefficient	NO ₂ Coefficient	Monitoring Range
Previous	15.1	15.0	na	1.394	0.987	0.995	200 ppb
Current	15.1	15.0	na	1.394	0.987	0.995	200 ppb

NO	Final Zero: NA	Final Span: NA	As Found Correction Factor: NA
NO ₂	Final Zero: NA	Final Span: NA	As Found Correction Factor: NA
NO _x	Final Zero: NA	Final Span: NA	As Found Correction Factor: NA

Results of Linear Regression		Slope		Intercept	R ²
NO	R _c vs C _c	Previous	149.527700	12.673160	0.999998
		Current	143.939600	139.523700	0.999948
	C _i vs C _c	Current	1.000000	0.000000	0.999948
NO ₂	R _c vs C _c	Previous	150.185100	15.449320	0.999998
		Current	1.#INF	-1.#IND	0.000000
	C _i vs C _c	Current	1.000000	0.000000	0.999948
NO _x	R _c vs C _c	Previous	149.722900	19.263040	0.999998
		Current	143.417100	155.014600	0.999941
	C _i vs C _c	Current	1.000000	0.000000	0.999941

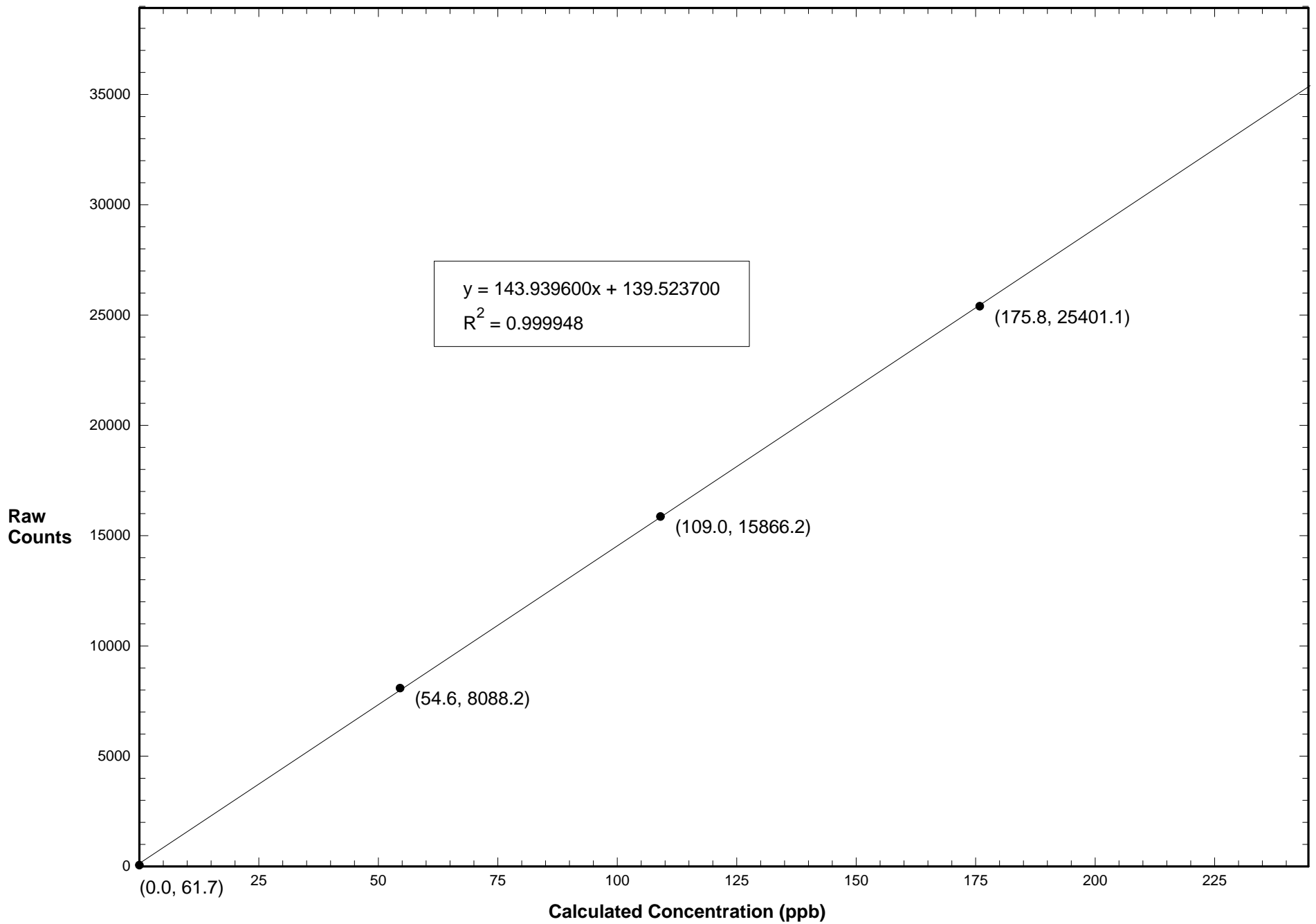
Comments: Shutdown cal to change range

Calibration Data Summary (Page 2)

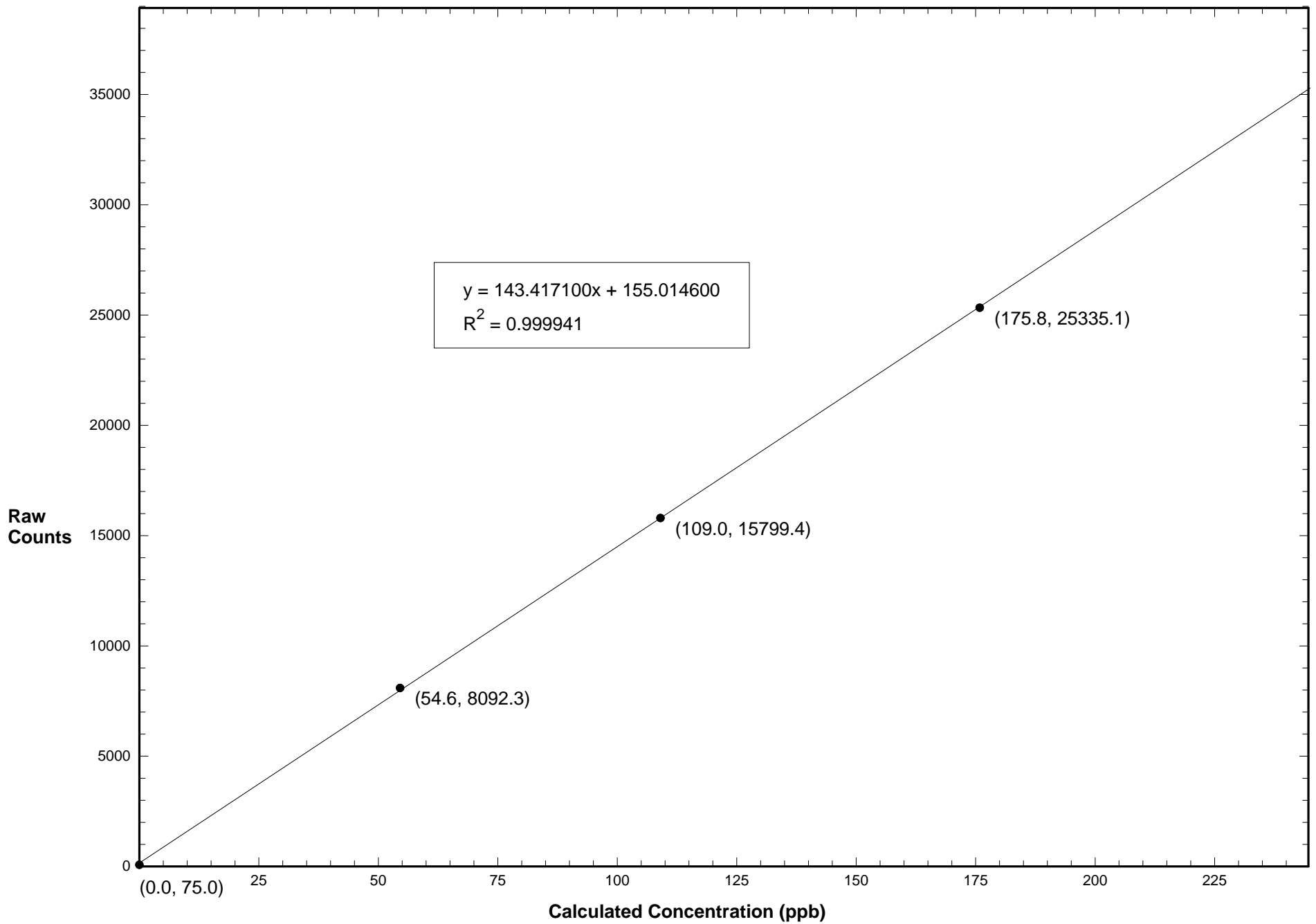
July 26, 2017 - Station 906

NO Flow Rate (LPM)	Dilution Flow Rate (LPM)	Calculated Concentration C _c (ppb)	Raw Count Output R _c	Indicated Concentration C _i (ppb)	Correction Factor C _c /C _i		
0.06660	4.478	175.8	25401.1	175.5	1.002		
0.04110	4.482	109.0	15866.2	109.3	0.998		
0.02070	4.532	54.6	8088.2	55.2	0.988		
0.00000	4.500	0.0	61.7	-0.5			
NO Calibration					Average Correction Factor:	0.996	
0.06660	4.478	175.8	25335.1	175.6	1.002		
0.04110	4.482	109.0	15799.4	109.1	1.000		
0.02070	4.532	54.6	8092.3	55.3	0.986		
0.00000	4.500	0.0	75.0	-0.6			
NO _x Calibration					Average Correction Factor:	0.996	
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
0.0	140.8	0.0	0.0	325.5	0.0	-1.#IND	-1.#IND
0.0	140.8	0.0	0.0	325.5	0.0	-1.#IND	-1.#IND
0.0	140.8	0.0	0.0	325.5	0.0	-1.#IND	-1.#IND
			0.0	325.5	0.0		
						Average Correction Factor:	-1.#IND
NO ₂ Gas Phase Titration						Average Converter Efficiency:	-1.#IND
Parameter	Correction Factor (Previous)	Correction Factor: (Current)	Percent Change of Correction Factor				
NO	0.999	1.002	0.3				
NO ₂	1.000	-1.#IND	-1.#IND				
NO _x	0.999	1.002	0.3				

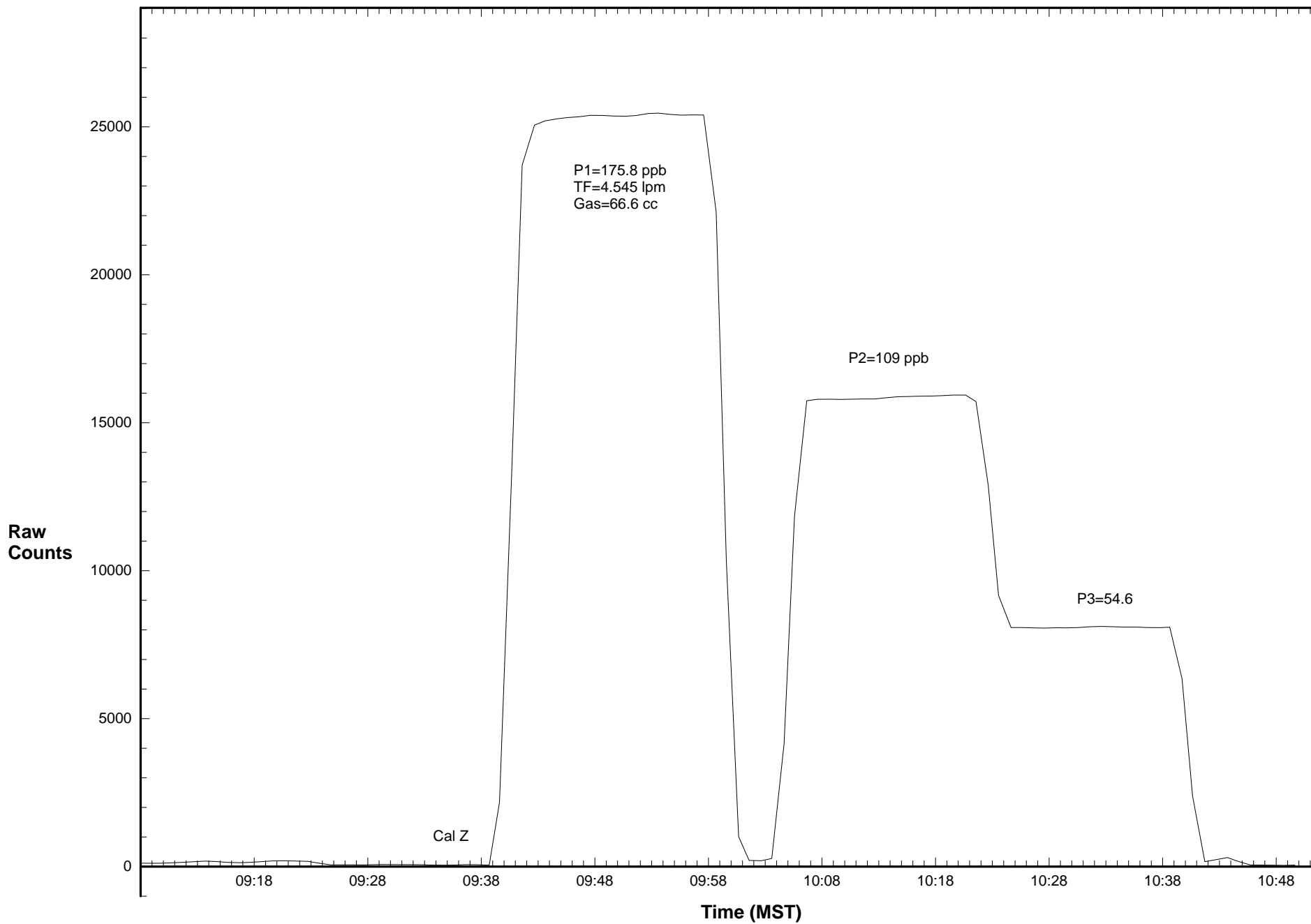
Station 906 NO July 26, 2017: Linear Regression



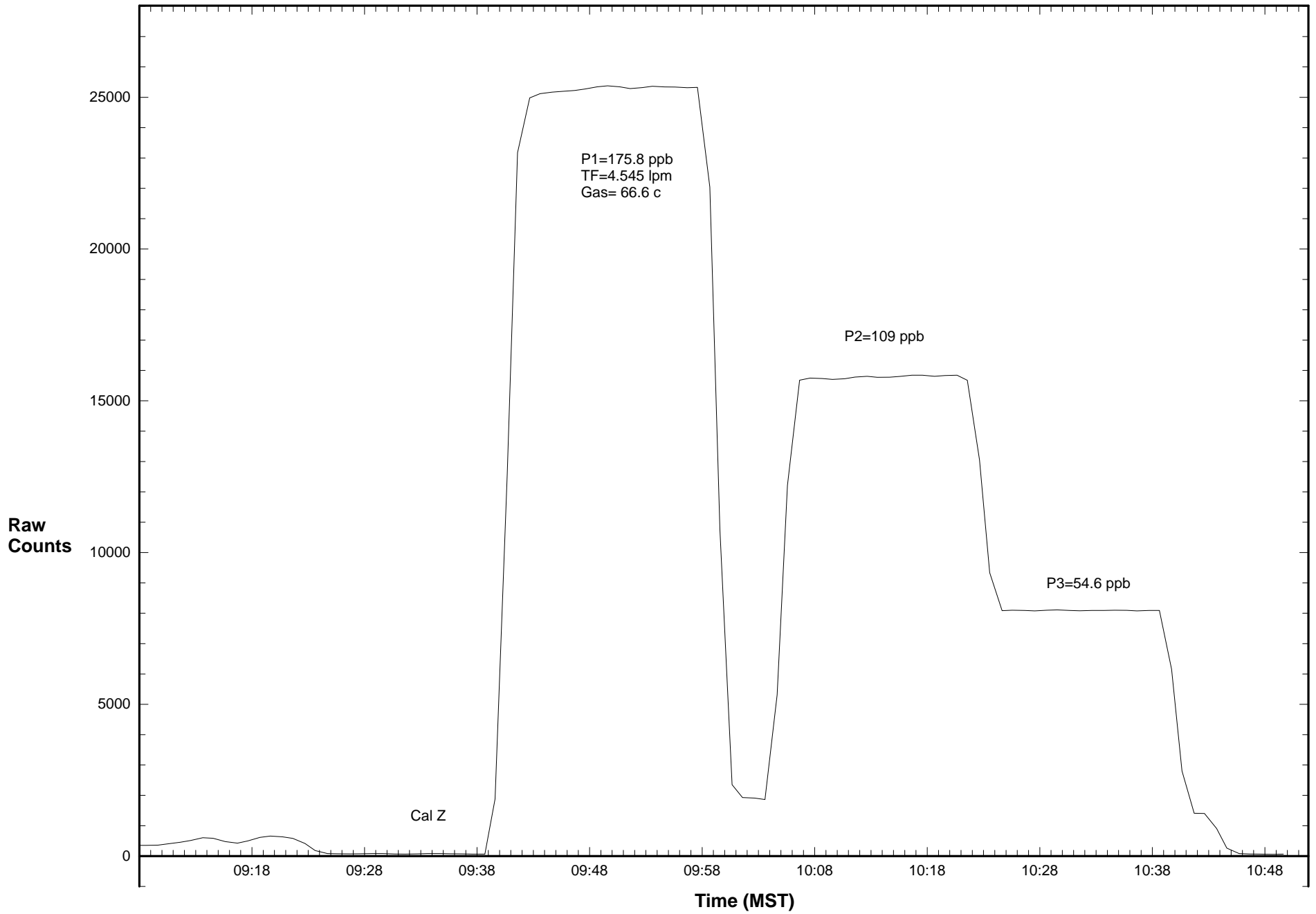
Station 906 NOX July 26, 2017: Linear Regression



Station 906 NO July 26, 2017: Calibration Graph



Station 906 NOX July 26, 2017: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 906, Hinton

Calibration Date: July 26, 2017

Parameter: NO/NO₂/NO_x

Instrument: Teco 42i

Serial Number: 0905034788

Previous Calibration Date: July 26, 2017

Calibration: Start up

Calibration Equipment: Sabio 2010 sn 05200311

Barometric Pressure: 26.73" Hg

Calibration Method: Standard Gas Dilution/GPT

Cylinder ID: SX17611

Temperature: 24.0° C

Cylinder Concentration: 25.4 ppm NO/NO_x

In Service: April 1/16;Exp Dec 2/17

Technician: J.McClintock

Instrument Settings	NO bkg ppb	NO _x bkg ppb	Pre-reactor bkg ppb	NO Coefficient	NO _x Coefficient	NO ₂ Coefficient	Monitoring Range
Previous	15.1	15.0	na	1.394	0.987	0.995	200 ppb
Current	15.0	15.0	na	1.340	0.993	0.995	500 ppb

NO	Final Zero: 0.3 ppb	Final Span: 160.1 ppb	As Found Correction Factor: NA
NO ₂	Final Zero: 0.0 ppb	Final Span: 0.7 ppb	As Found Correction Factor: NA
NO _x	Final Zero: -0.2 ppb	Final Span: 160.9 ppb	As Found Correction Factor: NA

Results of Linear Regression			Slope	Intercept	R ²
NO	R _c vs C _c	Previous	143.939600	139.523700	0.999948
		Current	59.986350	-19.506740	0.999990
	C _i vs C _c	Current	1.000000	0.000040	0.999989
NO ₂	R _c vs C _c	Previous	NA	NA	NA
		Current	59.997930	12.161110	0.999999
	C _i vs C _c	Current	1.000000	-0.000080	0.999999
NO _x	R _c vs C _c	Previous	143.417100	155.014600	0.999948
		Current	59.884620	3.012950	0.999999
	C _i vs C _c	Current	1.000000	-0.000040	0.999999

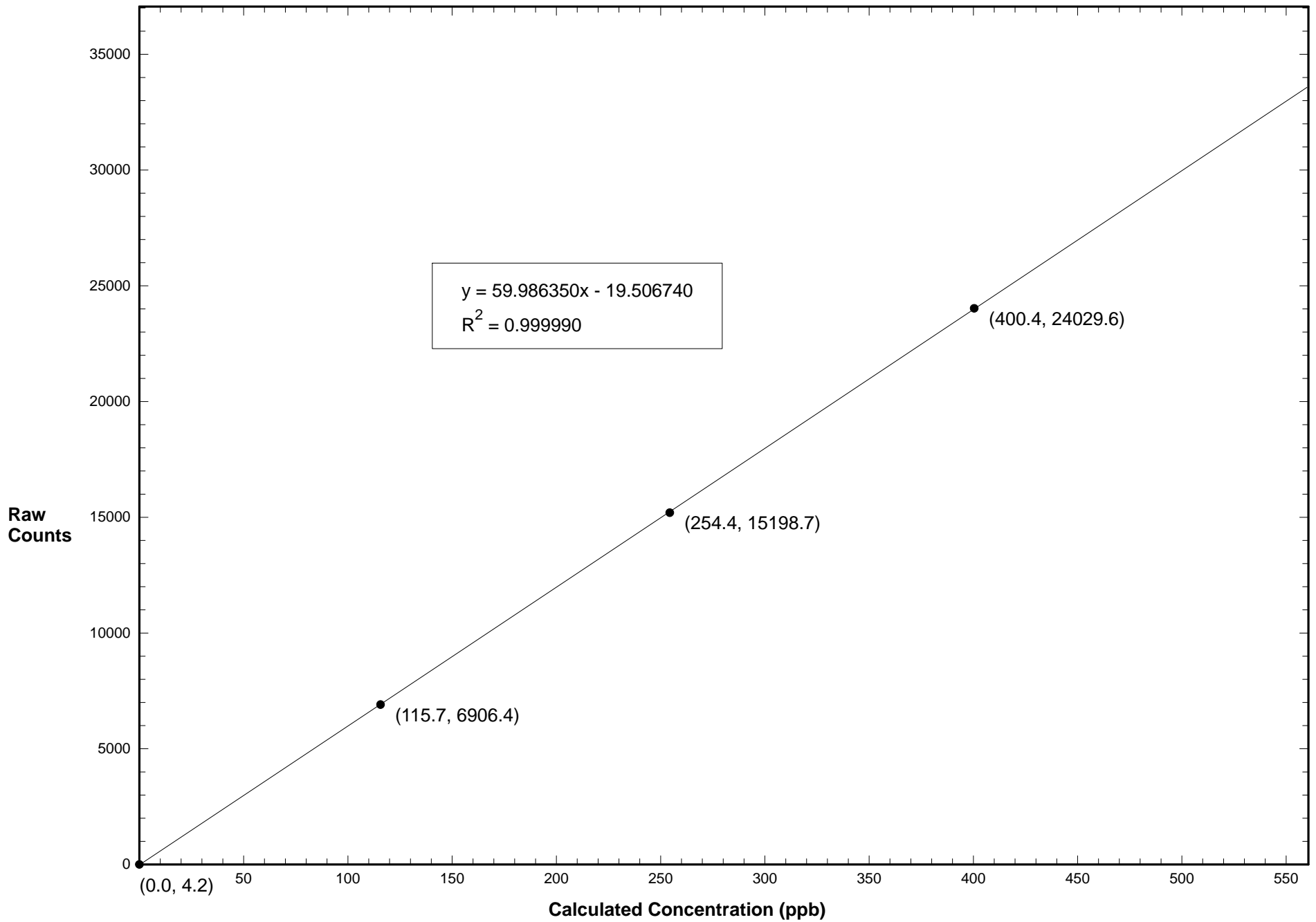
Comments: SF=0.521 lpm

Calibration Data Summary (Page 2)

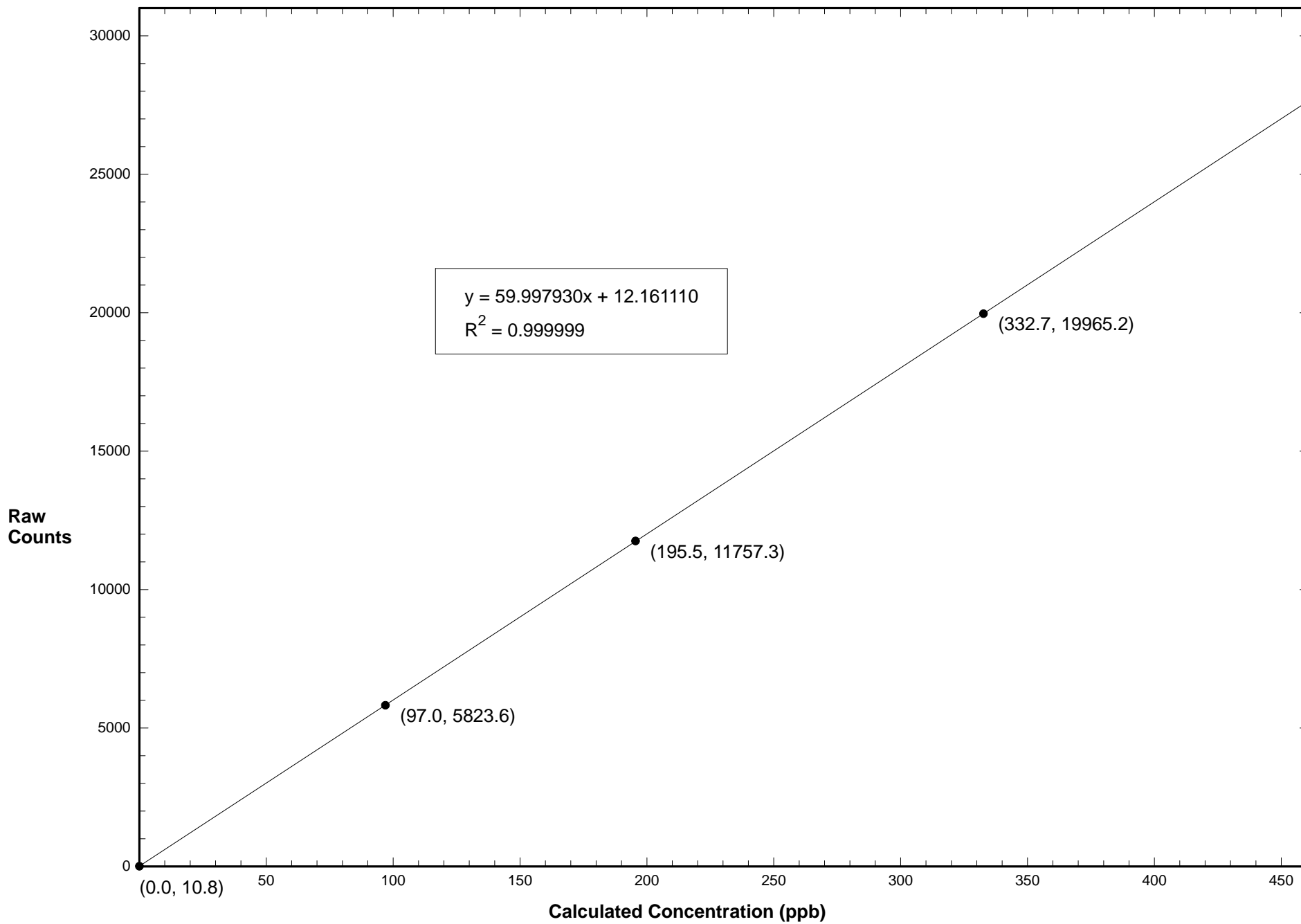
July 26, 2017 - Station 906

NO Flow Rate (LPM)	Dilution Flow Rate (LPM)	Calculated Concentration C _c (ppb)	Raw Count Output R _c	Indicated Concentration C _i (ppb)	Correction Factor C _c /C _i		
0.07290	4.552	400.4	24029.6	400.9	0.999		
0.04580	4.527	254.4	15198.7	253.7	1.003		
0.02070	4.525	115.7	6906.4	115.5	1.002		
0.00000	4.500	0.0	4.2	0.4			
NO Calibration					Average Correction Factor:	1.001	
0.07290	4.552	400.4	23986.7	400.5	1.000		
0.04580	4.527	254.4	15222.9	254.2	1.001		
0.02070	4.525	115.7	6942.0	115.9	0.998		
0.00000	4.500	0.0	-1.0	-0.1			
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
404.9	4314.7	72.3	332.7	19965.2	332.6	1.000	1.000
404.9	12541.0	209.4	195.5	11757.3	195.8	0.999	1.001
404.9	18453.8	308.0	97.0	5823.6	96.9	1.001	0.999
			0.0	10.8	0.0		
					Average Correction Factor:	1.000	
NO ₂ Gas Phase Titration					Average Converter Efficiency: 1.000		
Parameter	Correction Factor (Previous)	Correction Factor: (Current)	Percent Change of Correction Factor				
NO	1.002	0.999	-0.3				
NO ₂	0.000	1.000	0.0				
NO _x	1.002	1.000	-0.2				

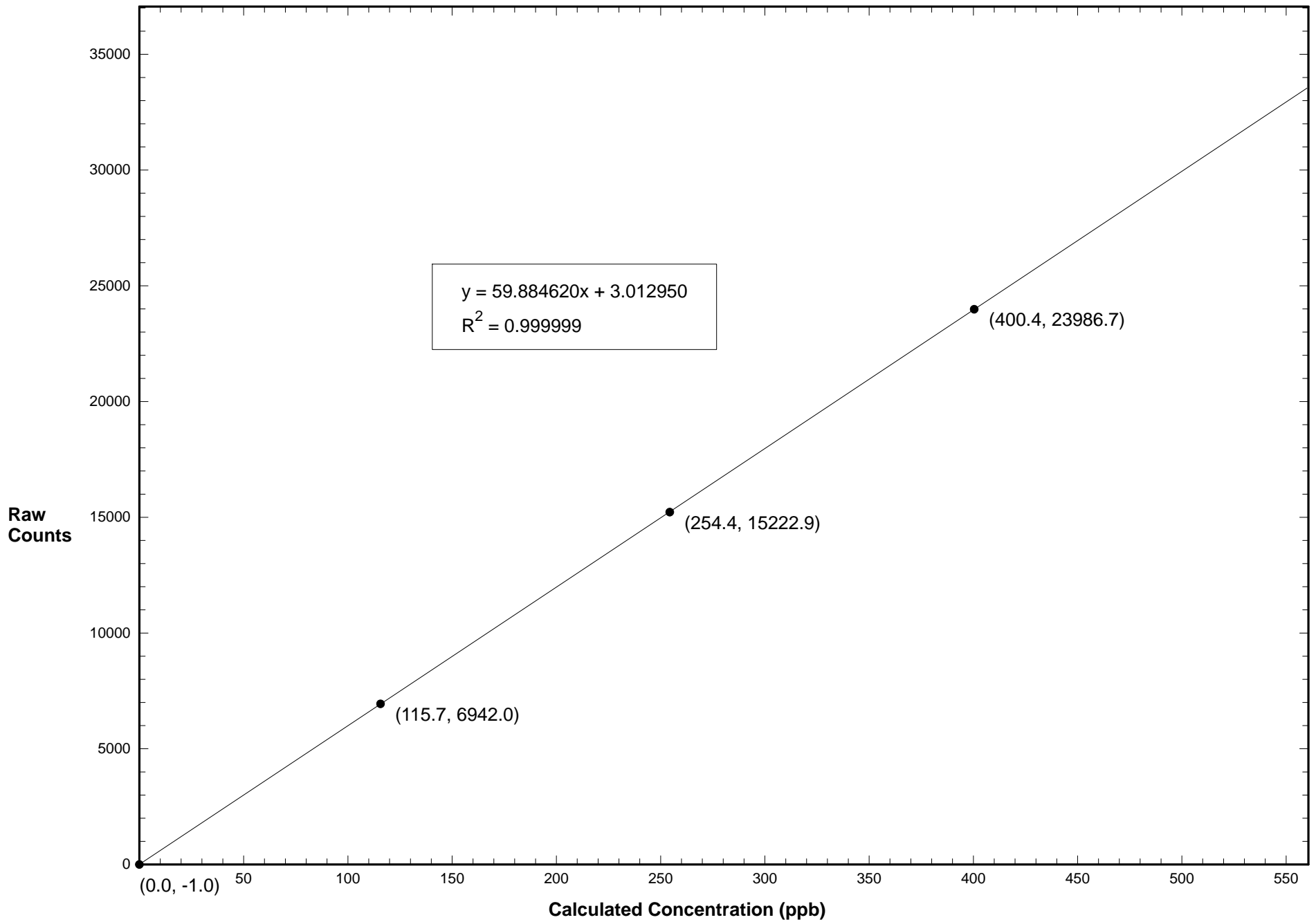
Station 906 NO July 26, 2017: Linear Regression



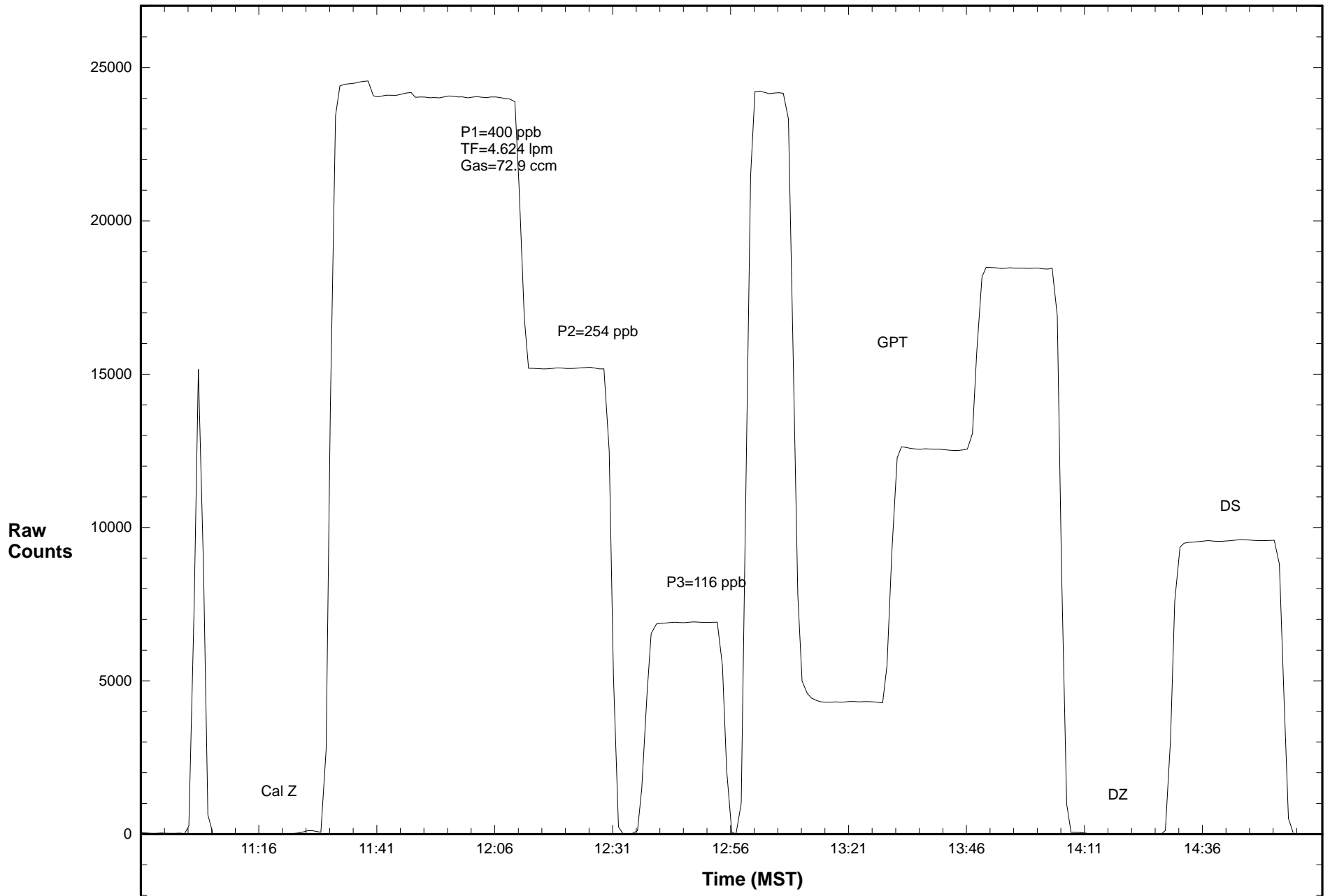
Station 906 NO2 July 26, 2017: Linear Regression



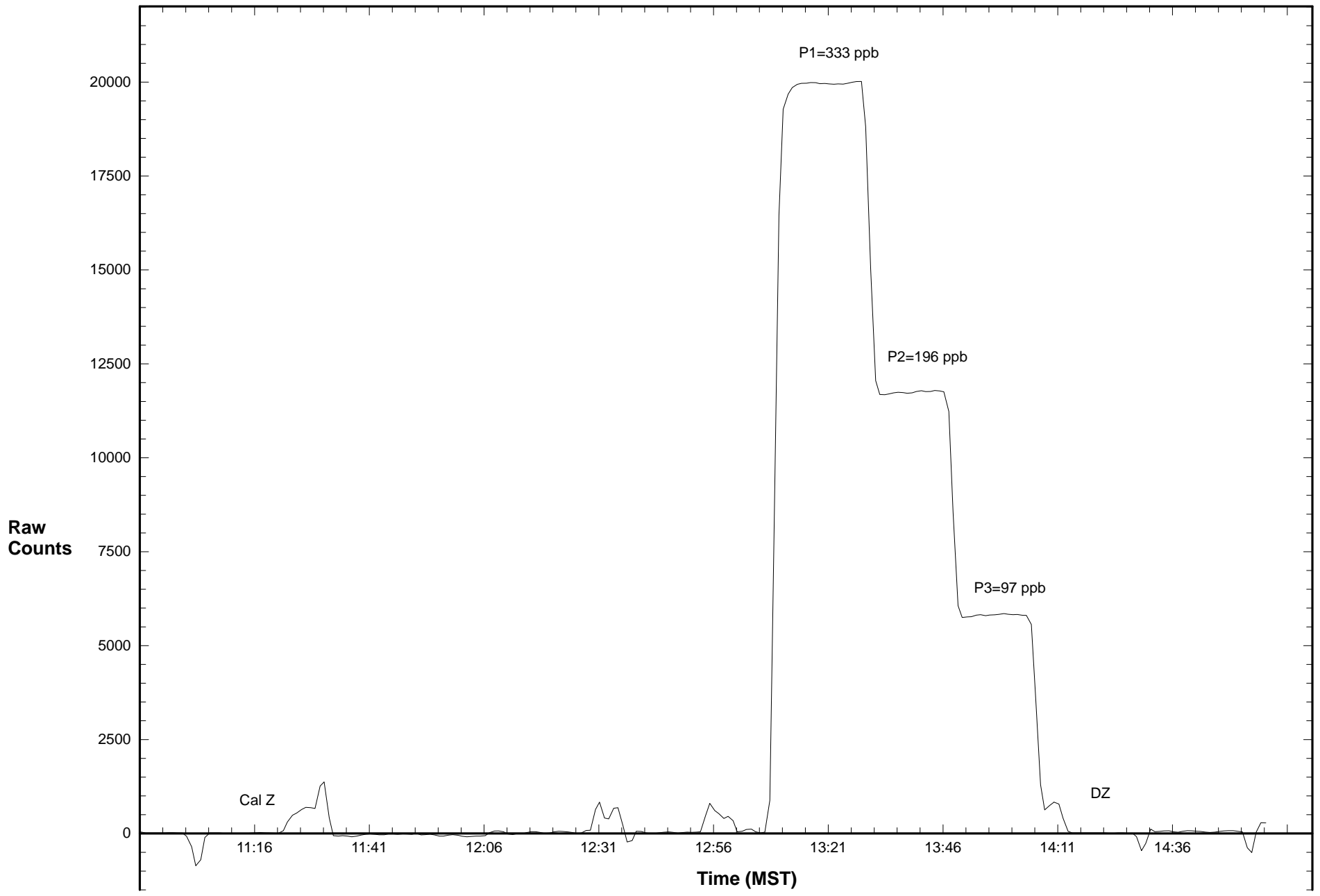
Station 906 NOX July 26, 2017: Linear Regression



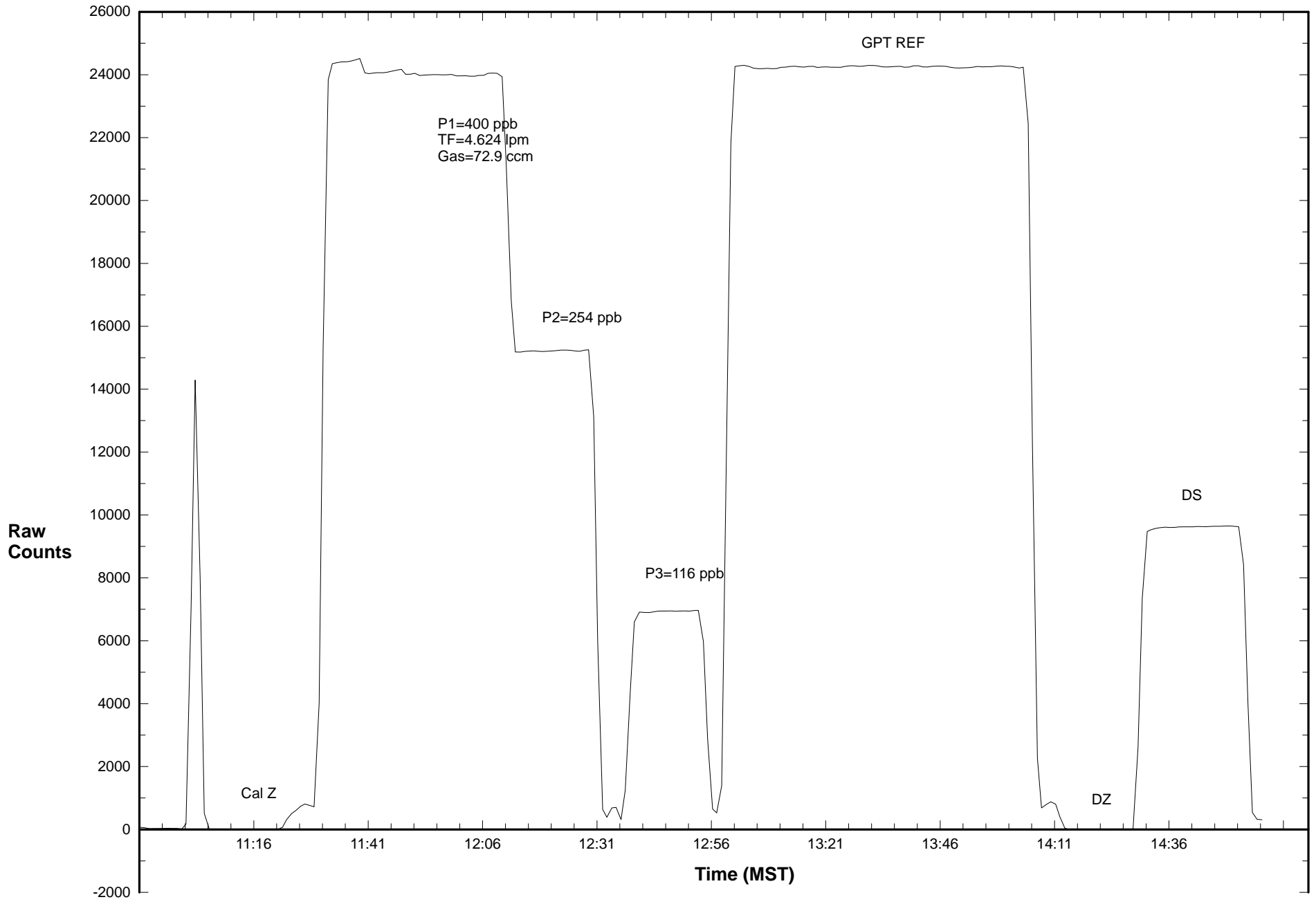
Station 906 NO July 26, 2017: Calibration Graph



Station 906 NO2 July 26, 2017: Calibration Graph



Station 906 NOX July 26, 2017: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 906, Hinton

Calibration Date: July 26, 2017

Parameter: SO₂

Instrument: Teco 43i

Serial Number: CM12499009

Previous Calibration Date: June 22, 2017

Calibration: Shutdown

Calibration Equipment: Sabio 2010 sn 05200311

Barometric Pressure: 26.73" Hg

Calibration Method: Standard Gas Dilution

Cylinder ID: FF27716

Temperature: 24.0° C

Cylinder Concentration: 5.8 ppm SO₂

In Service: June 2/16: Expiry Jan 20/19

Technician: J.McClintock

Instrument Settings	SO ₂ bkg ppb	SO ₂ Coefficient	Monitoring Range
Previous	28.4	1.075	100 ppb
Current	28.4	1.075	100 ppb

Final Zero: NA

Final Span: NA

As Found Correction Factor: NA

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
0.0666	4.478	85.0	26387.2	84.7	1.003
0.0411	4.482	52.7	16566.4	52.9	0.997
0.0207	4.532	26.4	8568.9	27.0	0.978
0.0000	4.500	0.0	108.9	-0.5	

Results of Linear Regression

R _c vs C _c	Slope	Intercept	R ²
Previous	302.550600	53.981090	0.999989
Current	308.536700	252.946900	0.999831
C _i vs C _c			
Current	1.000000	-0.000010	0.999832

Average Correction Factor: 0.993

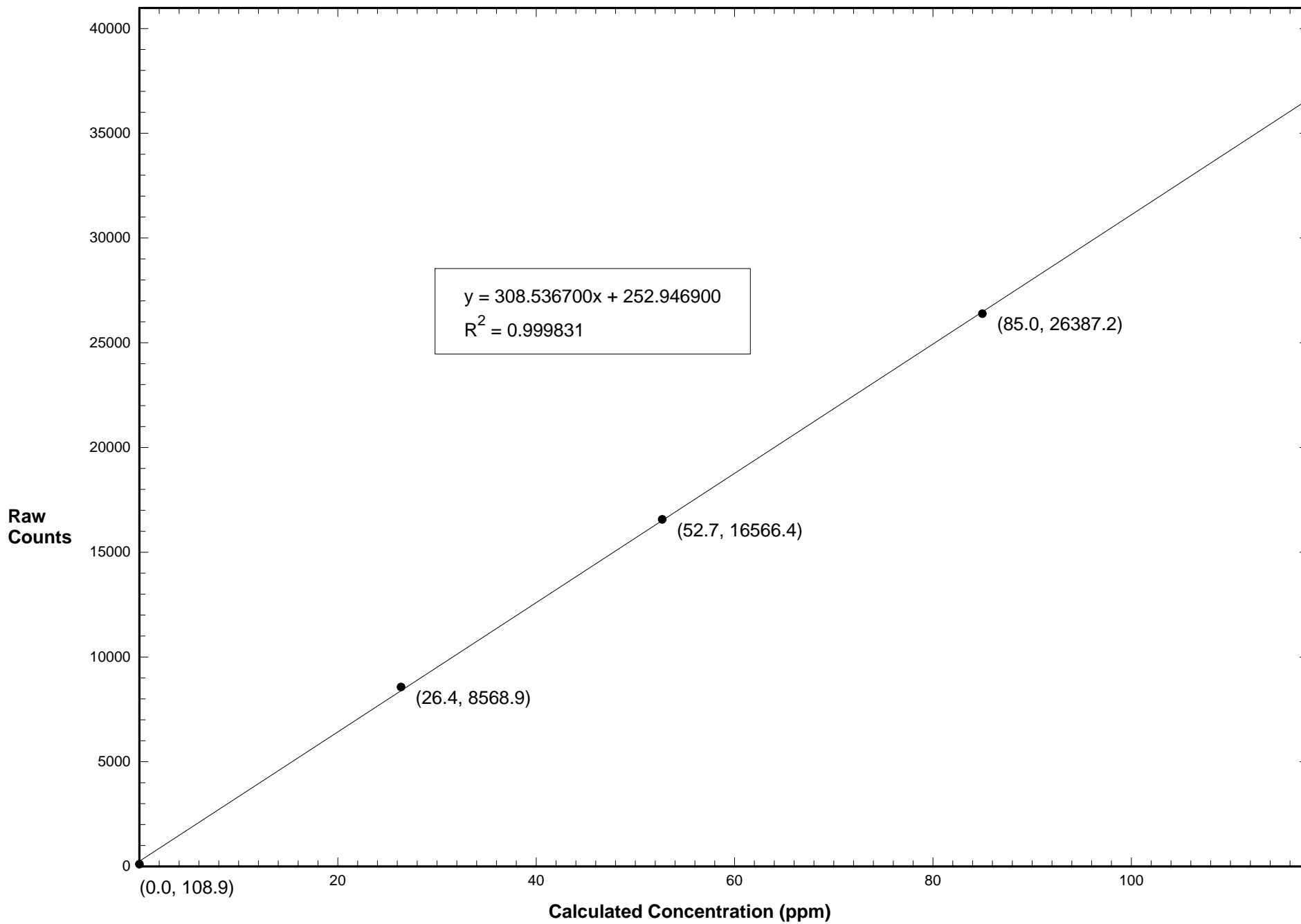
Previous Correction Factor: 0.999

Current Correction Factor: 1.003

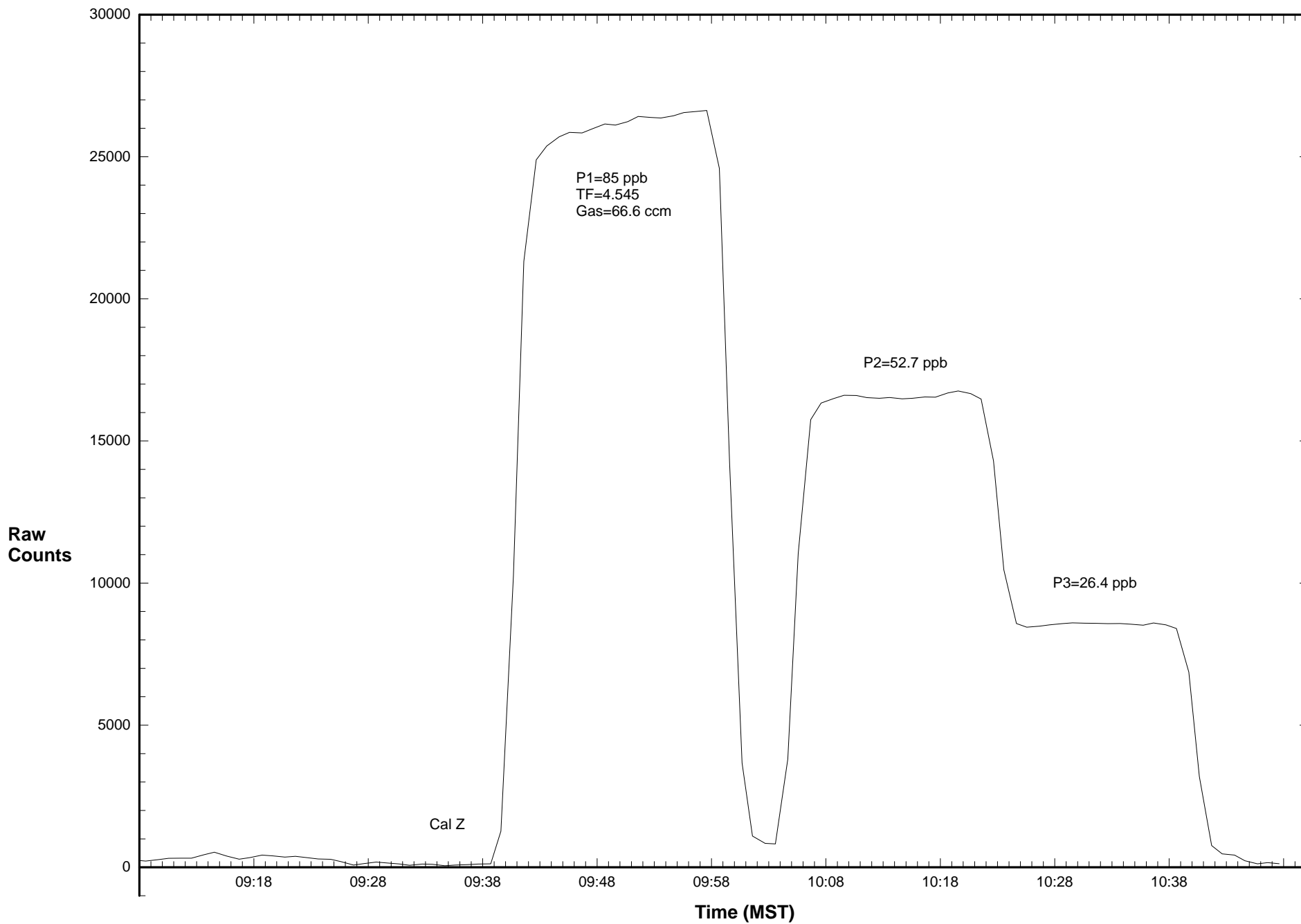
Percent Change of Correction Factor: 0.4

Comments: Shutdown cal to change range.

Station 906 SO2 July 26, 2017: Linear Regression



Station 906 SO2 July 26, 2017: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 906, Hinton

Calibration Date: July 26, 2017

Parameter: SO₂

Instrument: Teco 43i

Serial Number: CM12499009

Previous Calibration Date: July 26, 2017

Calibration: Start up

Calibration Equipment: Sabio 2010 sn 05200311

Barometric Pressure: 26.73" Hg

Calibration Method: Standard Gas Dilution

Cylinder ID: SX17611

Temperature: 24.0° C

Cylinder Concentration: 25.4 ppm SO₂

In Service: April 1/16;Exp Dec 2/17

Technician: J.McClintock

Instrument Settings	SO ₂ bkg ppb	SO ₂ Coefficient	Monitoring Range
Previous	28.4	1.075	100 ppb
Current	28.6	1.022	500 ppb

Final Zero: 0.4 ppm

Final Span: 73.6 ppm

As Found Correction Factor: NA

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
0.0729	4.552	400.4	24086.7	401.1	0.998
0.0458	4.527	254.4	15205.8	253.5	1.004
0.0207	4.525	115.7	6887.0	115.2	1.004
0.0000	4.500	0.0	-8.6	0.6	

Results of Linear Regression

R _c vs C _c	Slope	Intercept	R ²
Previous	308.536700	252.946900	0.999831
Current	60.167010	-46.305890	0.999980
C _i vs C _c			
Current	1.000000	0.000040	0.999979

Average Correction Factor: 1.002

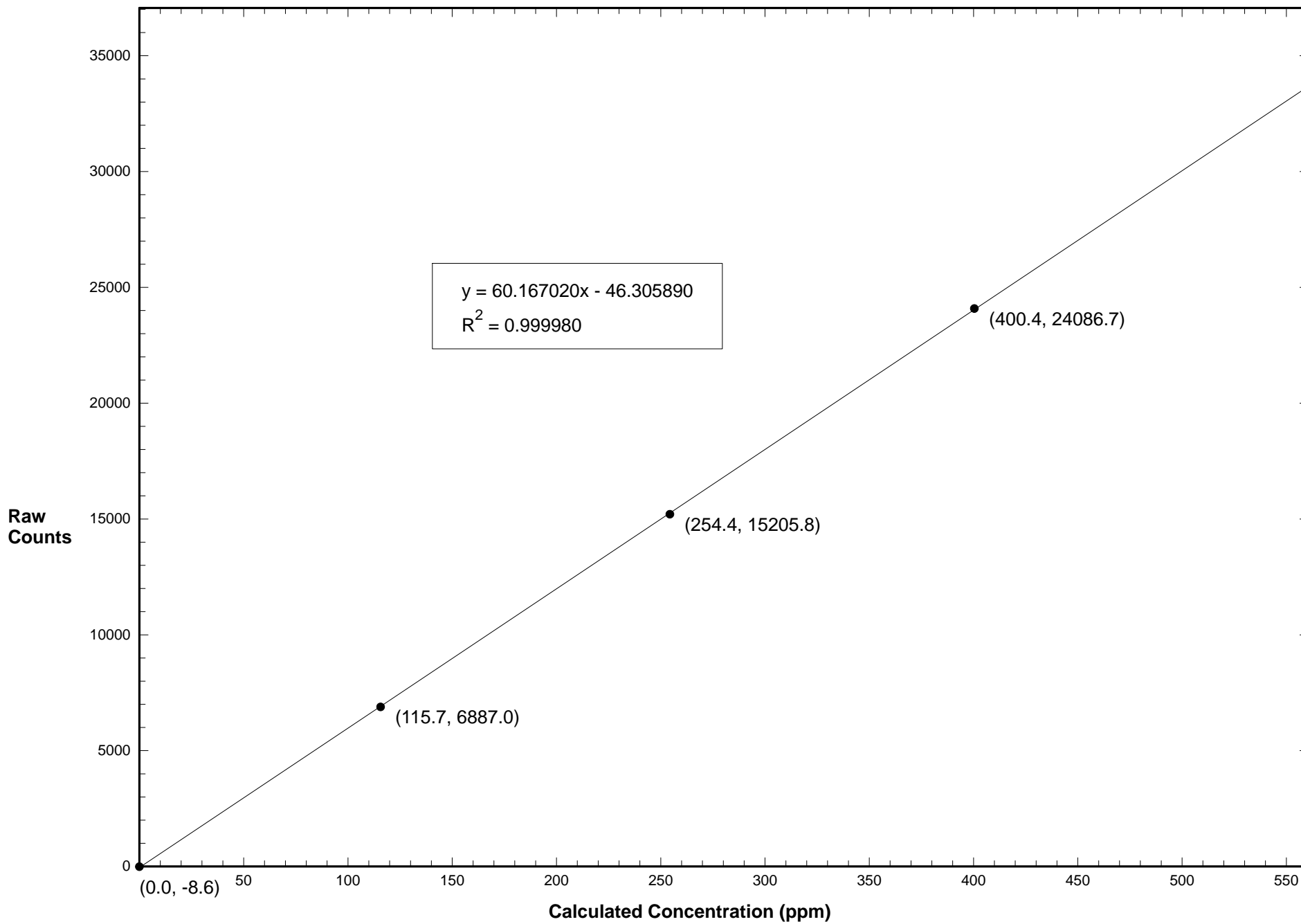
Previous Correction Factor: 1.003

Current Correction Factor: 0.998

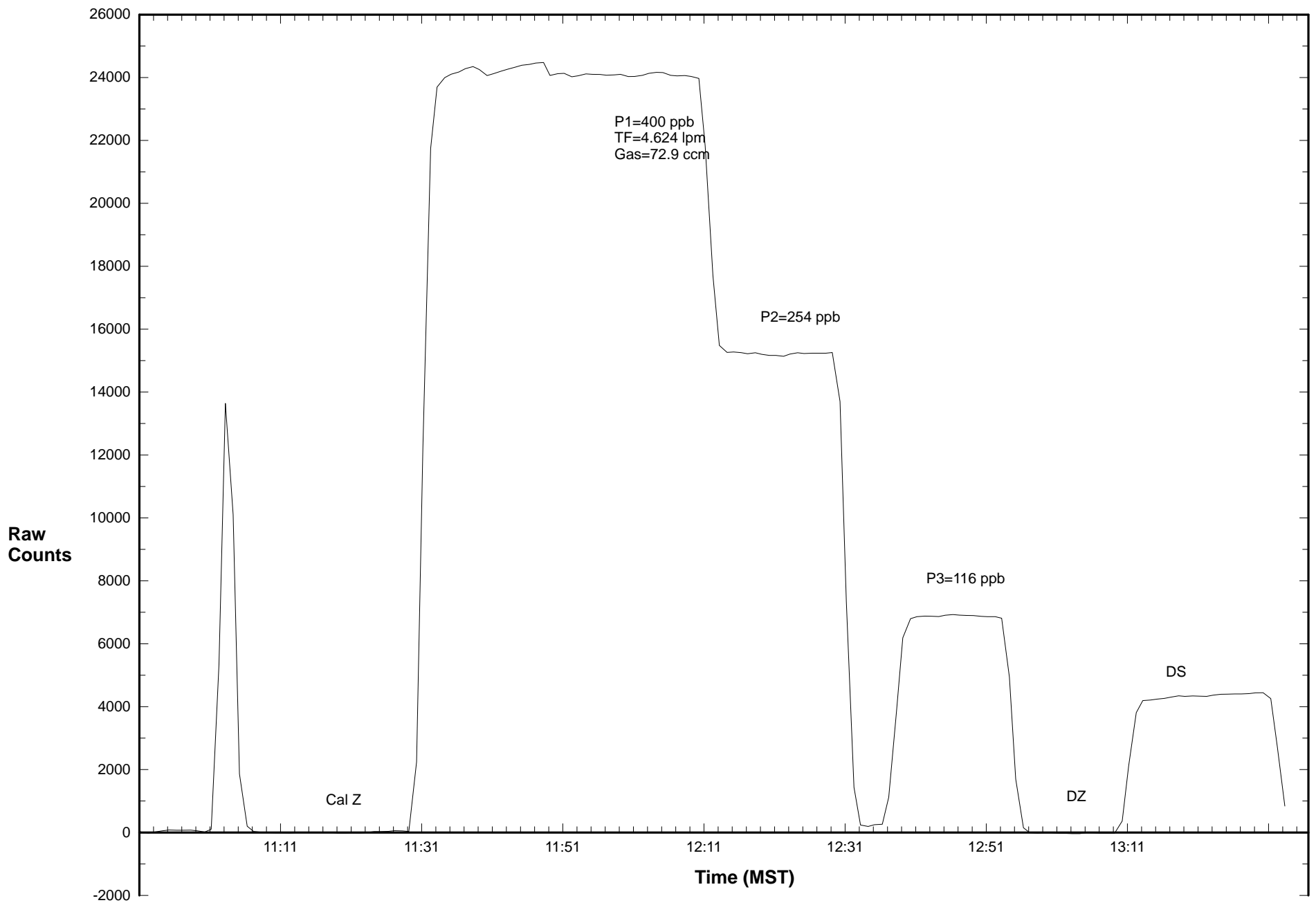
Percent Change of Correction Factor: -0.5

Comments: SF=0.358 lpm

Station 906 SO2 July 26, 2017: Linear Regression



Station 906 SO2 July 26, 2017: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 906, Hinton

Calibration Date: July 26, 2017

Parameter: H₂S

Instrument: TECO 45C

Serial Number: 5600312

Previous Calibration Date: June 22, 2017

Calibration: Routine

Calibration Equipment: Sabio 2010 sn 05200311

Barometric Pressure: 26.73" Hg

Calibration Method: Standard Gas Dilution

Permeation Device ID: DT0014794 / 10.50 ppm H₂S Temperature: 24.0° C

Permeation Rate: 0 ng/min

In Service: 10/21/2016 EXP 10/04/2019

Technician: J.McClintock

Instrument Settings

Zero Pot

Span Pot

Monitoring Range

Previous

18.4

1.352

200 ppb

Current

18.8

1.336

100 ppb

Final Zero: 0.9 ug/m³

Final Span: 54.6 ug/m³

As Found Correction Factor: NA

Calibration
System Flow
Rate (LPM)

Calculated
Concentration
C_c (ug/m³)

Raw Count
Output
R_c

Indicated
Concentration
C_i (ug/m³)

Correction
Factor
C_c/C_i

0.046	79.3	23924.2	79.5	0.998
0.031	53.4	15987.3	53.3	1.003
0.016	27.1	7987.3	26.8	1.011
0.000	0.0	-53.4	0.2	

Results of Linear Regression

R _c vs C _c	Slope	Intercept	R ²
Previous	149.781800	82.860530	0.999772
Current	302.463400	-124.688500	0.999945
C _i vs C _c			
Current	1.000000	-0.000010	0.999944

Average Correction Factor: 1.004

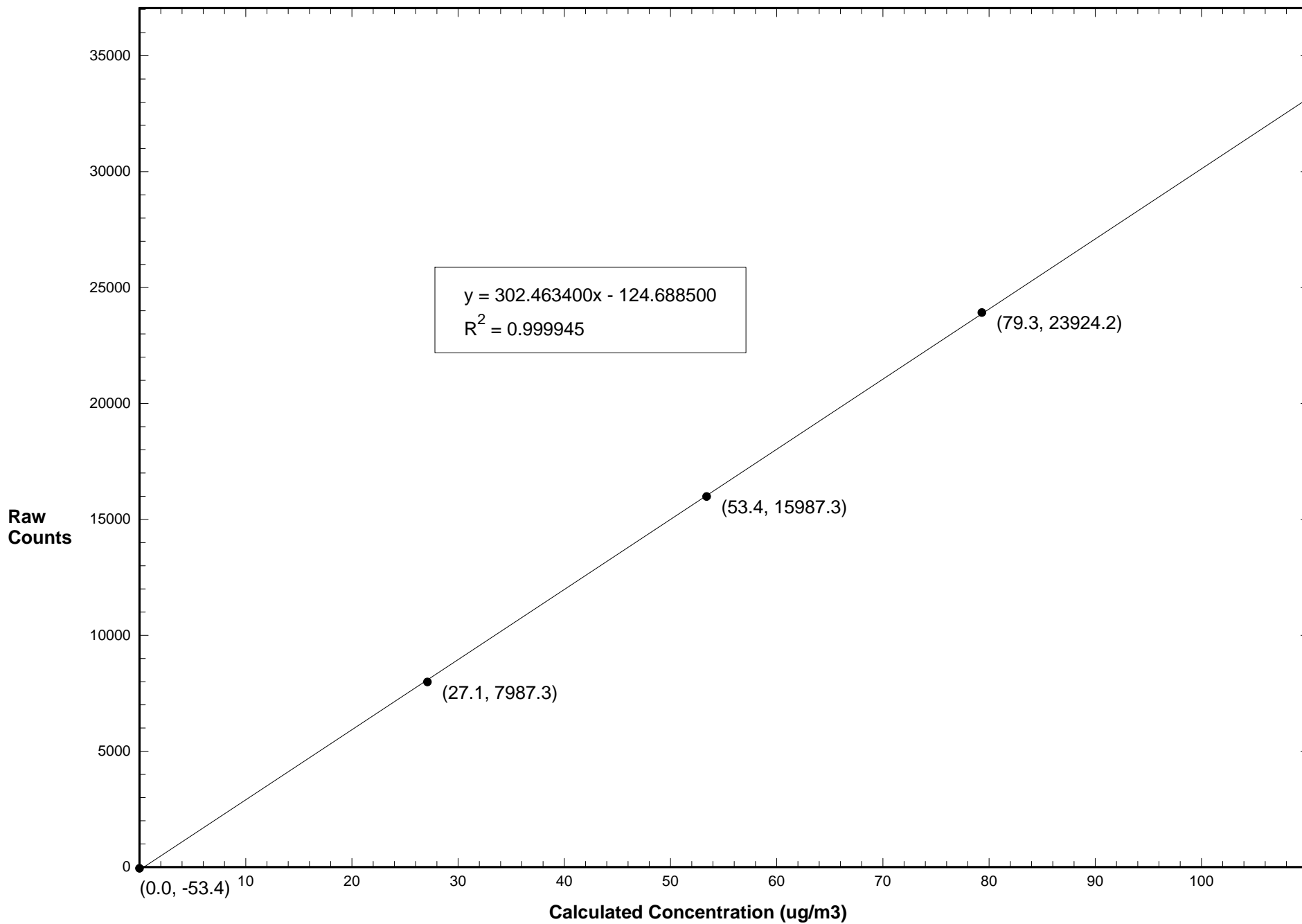
Previous Correction Factor: 0.997

Current Correction Factor: 0.998

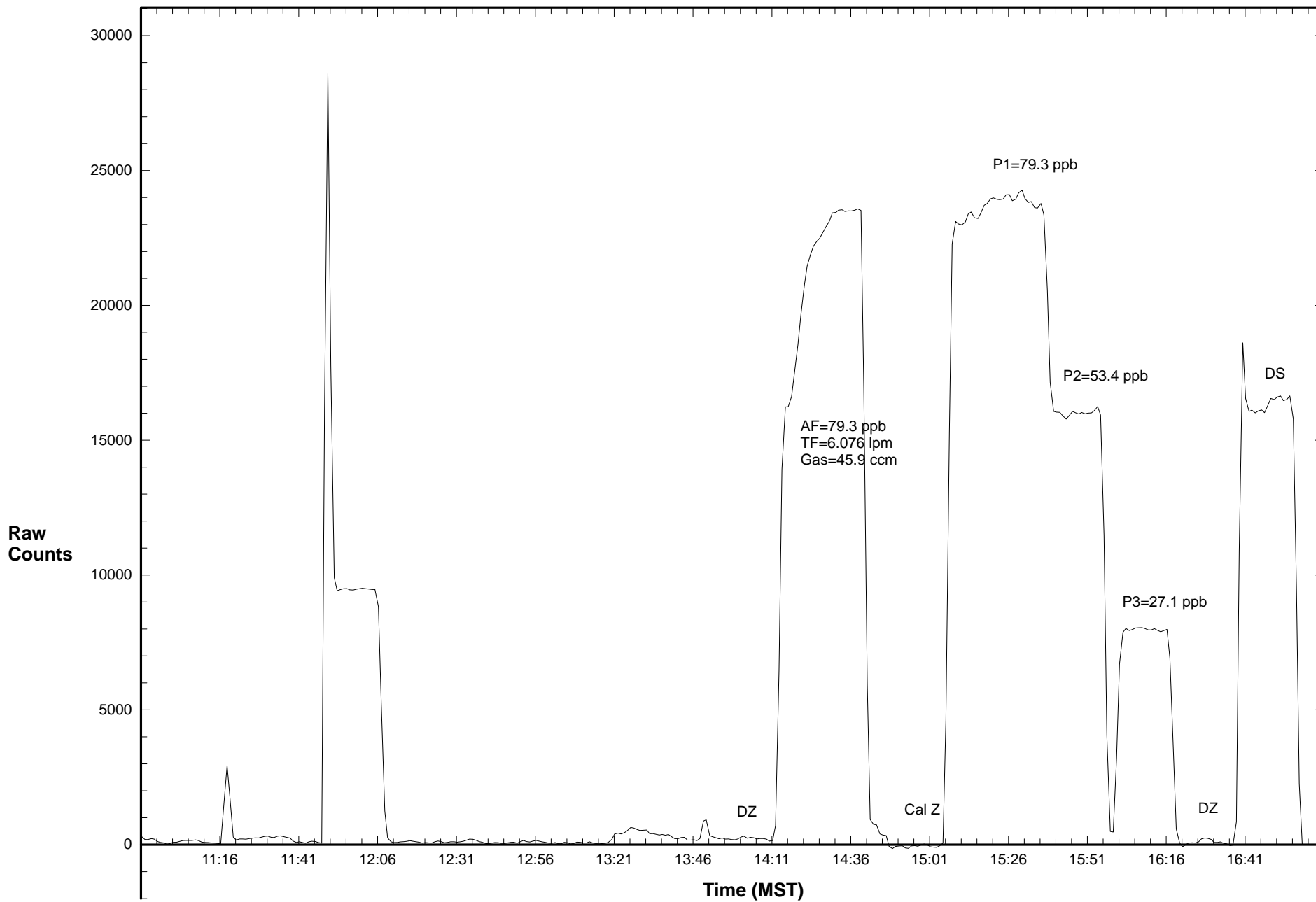
Percent Change of
Correction Factor: 0.1

Comments: New pump installed as old one had seized . Range change and new span perm tube installed .SF=0.344 lpm

Station 906 H2S July 26, 2017: Linear Regression



Station 906 H2S July 26, 2017: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 906, Hinton

Calibration Date: July 26, 2017

Parameter: O₃

Instrument: Teco 49i

Serial Number: 1150790050

Previous Calibration Date: July 26, 2017

Calibration: Routine

Calibration Equipment: 2B Tech 306 sn#145

Barometric Pressure: 26.73" Hg

Calibration Method: Certified Ozone Generator April 28/17

Temperature: 24.0° C

Technician: J.McClintock

Instrument Settings	Background	Coefficient	Monitoring Range
Previous	0.0	1.017	500 ppb
Current	0.1	0.982	500 ppb

Final Zero: 0.1 ppb

Final Span: 357.5 ppb

As Found Correction Factor: 0.971

Calibration System Flow Rate (LPM)	Calculated Concentration C _c (ppb)	Raw Count Output R _c	Indicated Concentration C _i (ppb)	Correction Factor C _c /C _i
3.000	422.0	25324.4	422.2	0.999
3.000	266.0	15932.0	265.7	1.001
3.000	106.0	6340.0	105.9	1.001
3.000	0.0	1.2	0.2	

Results of Linear Regression

R _c vs C _c	Slope	Intercept	R ²
Previous	60.100220	95.861240	0.999930
Current	60.006890	-11.968000	0.999998
C _i vs C _c			
Current	1.000000	0.000022	0.999998

Average Correction Factor: 1.001

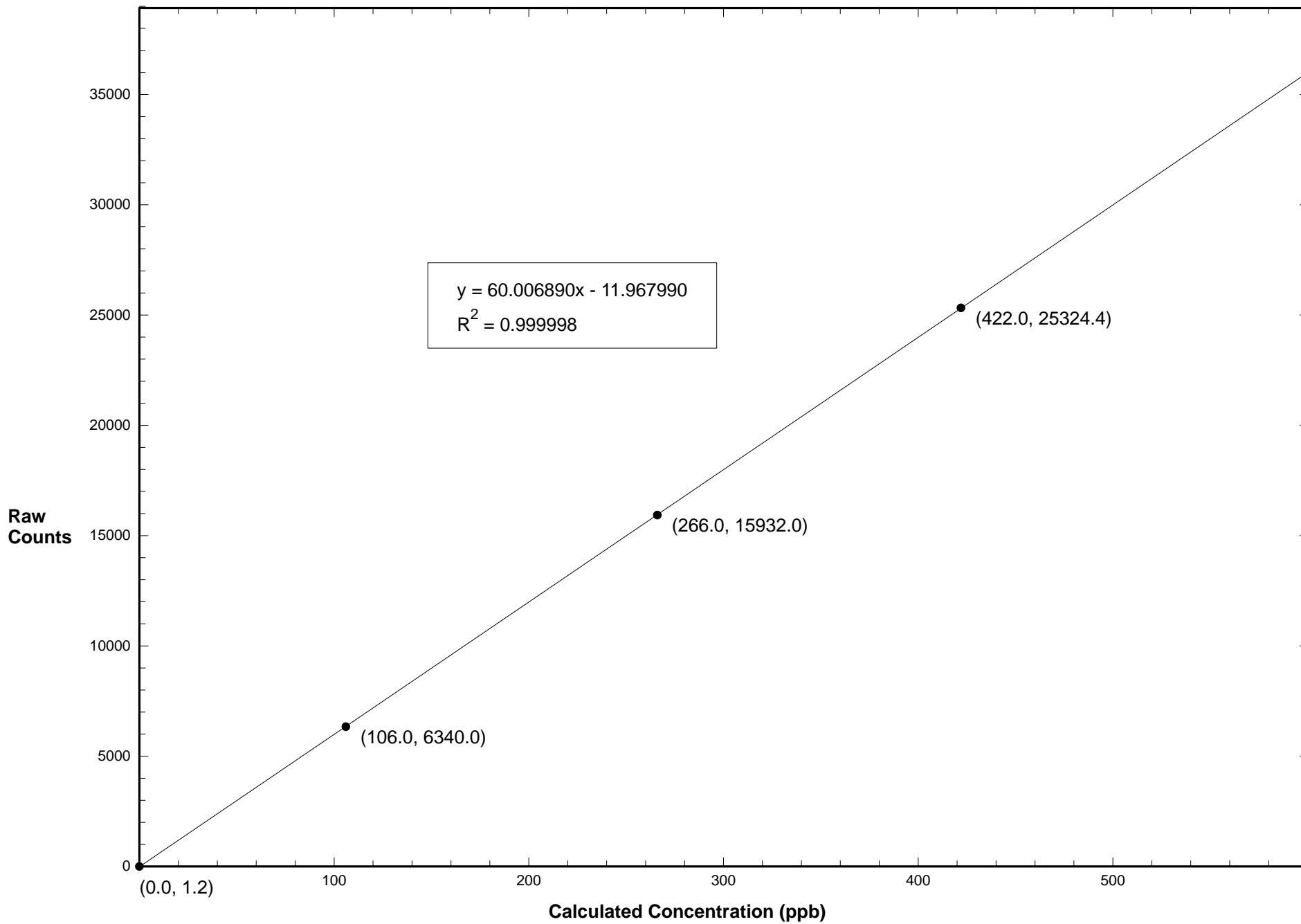
Previous Correction Factor: 1.002

Current Correction Factor: 0.999

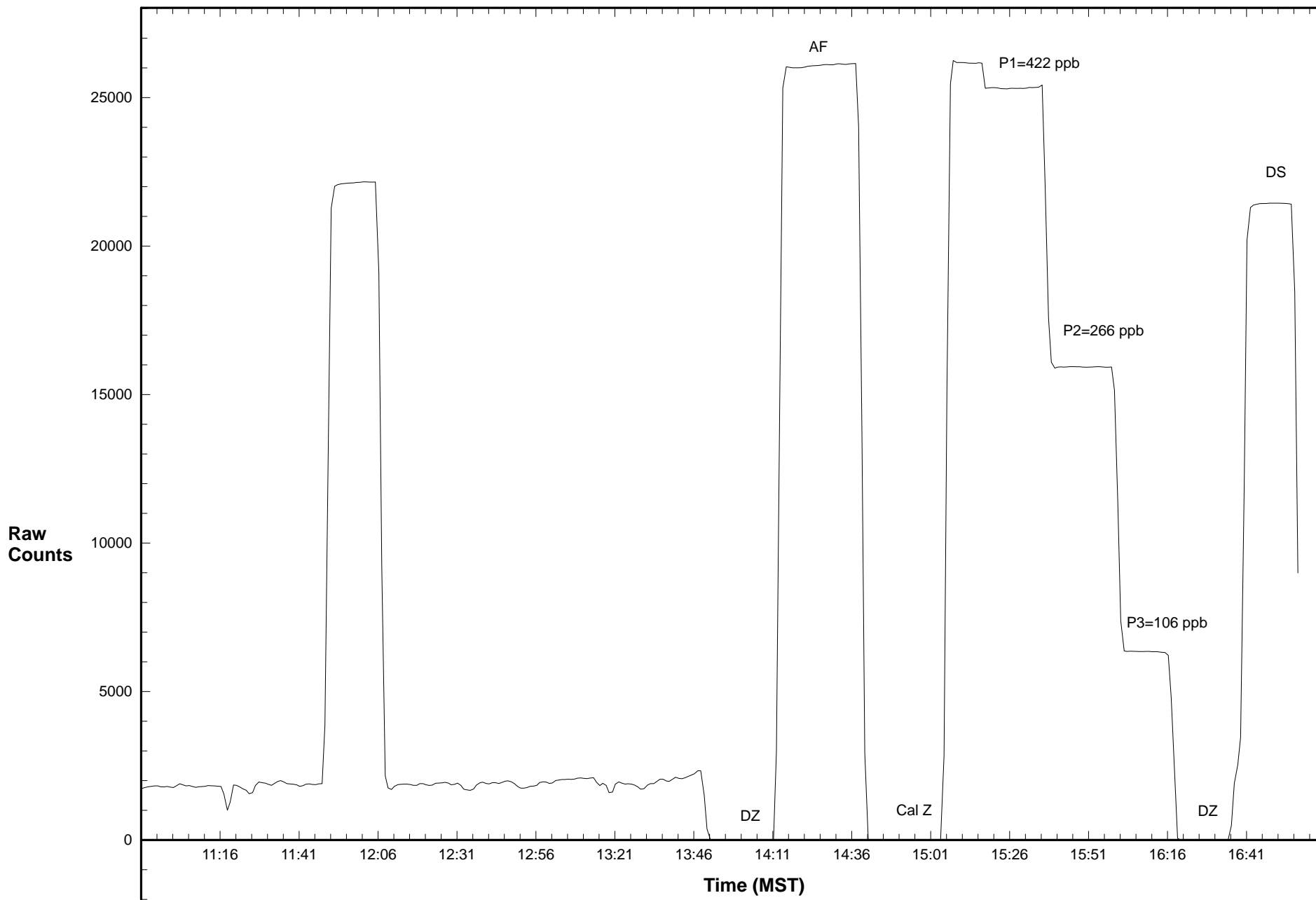
Percent Change of Correction Factor: -0.3

Comments: SF=1.216 lpm

Station 906 O3 July 26, 2017: Linear Regression



Station 906 O3 July 26, 2017: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 906, Hinton

Calibration Date: July 26, 2017

Parameter: TRS

Instrument: Teco 43C

Serial Number: 43CTL-60324-326

Previous Calibration Date: July 3, 2017

Calibration: Routine

Calibration Equipment: Sabio 2010 sn 05200311

Barometric Pressure: 26.73" Hg

Calibration Method: Standard Gas Dilution

Permeation Device ID: DT0014794 / 10.50 ppm H₂S Temperature: 24.0° C

Permeation Rate: 0 ng/min

In Service: 10/21/2016 EXP 10/04/2019

Technician: J.McClintock

Instrument Settings	H ₂ S bkg ppb	H ₂ S Coefficient	Monitoring Range
Previous	1.88	0.814	100 ppb
Current	1.72	0.806	100 ppb

Final Zero: 0.1 ppb

Final Span: 64.6 ppb

As Found Correction Factor: 1.021

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
0.046	79.3	23882.5	79.5	0.998
0.031	53.4	15975.3	53.2	1.004
0.016	27.1	8123.9	27.1	1.000
0.000	0.0	-11.9	0.1	

Results of Linear Regression

R _c vs C _c	Slope	Intercept	R ²
Previous	301.349100	39.115770	0.999942
Current	300.969600	-33.899240	0.999980
C _i vs C _c			
Current	1.000000	0.000000	0.999980

Average Correction Factor: 1.001

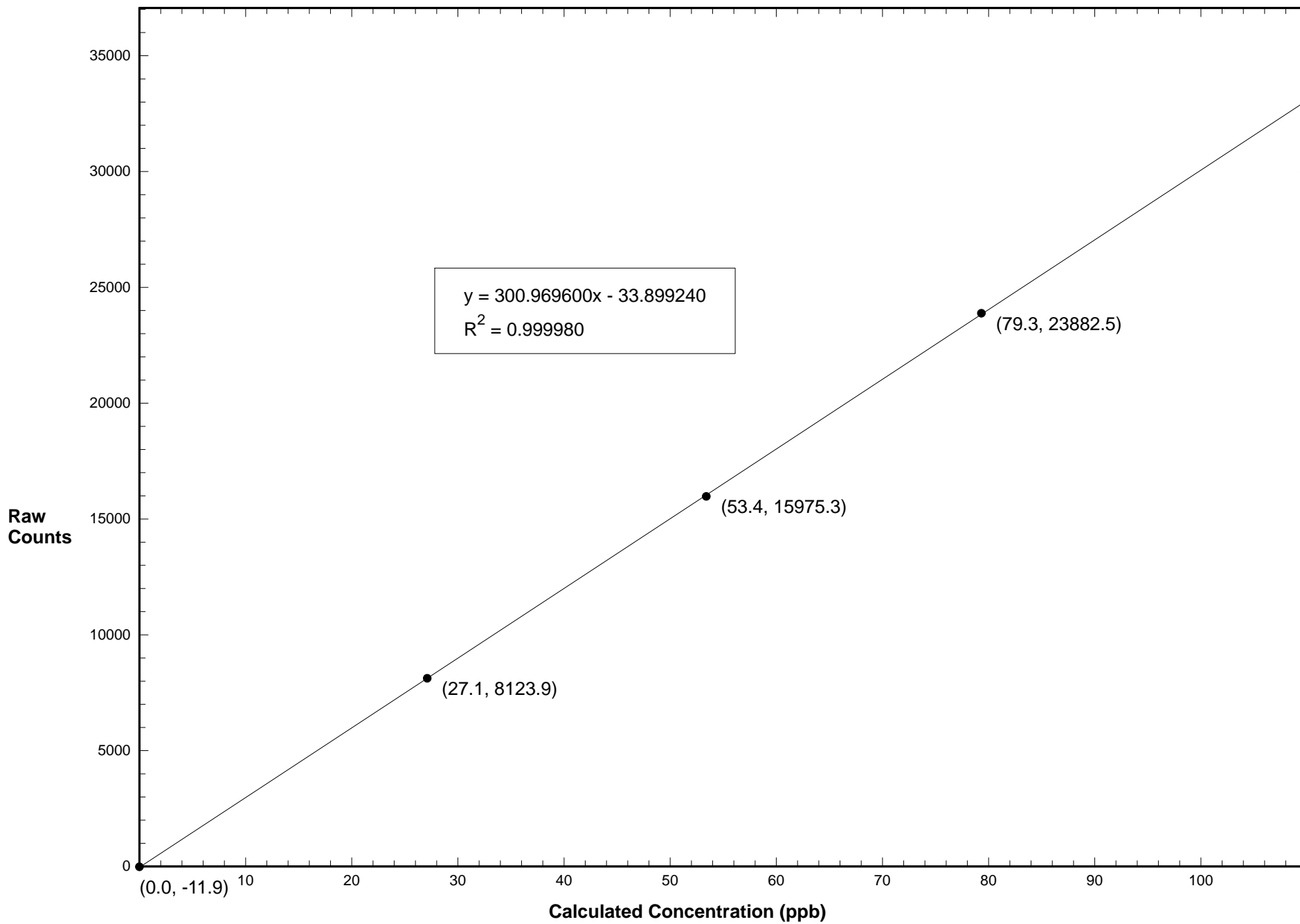
Previous Correction Factor: 1.001

Current Correction Factor: 0.998

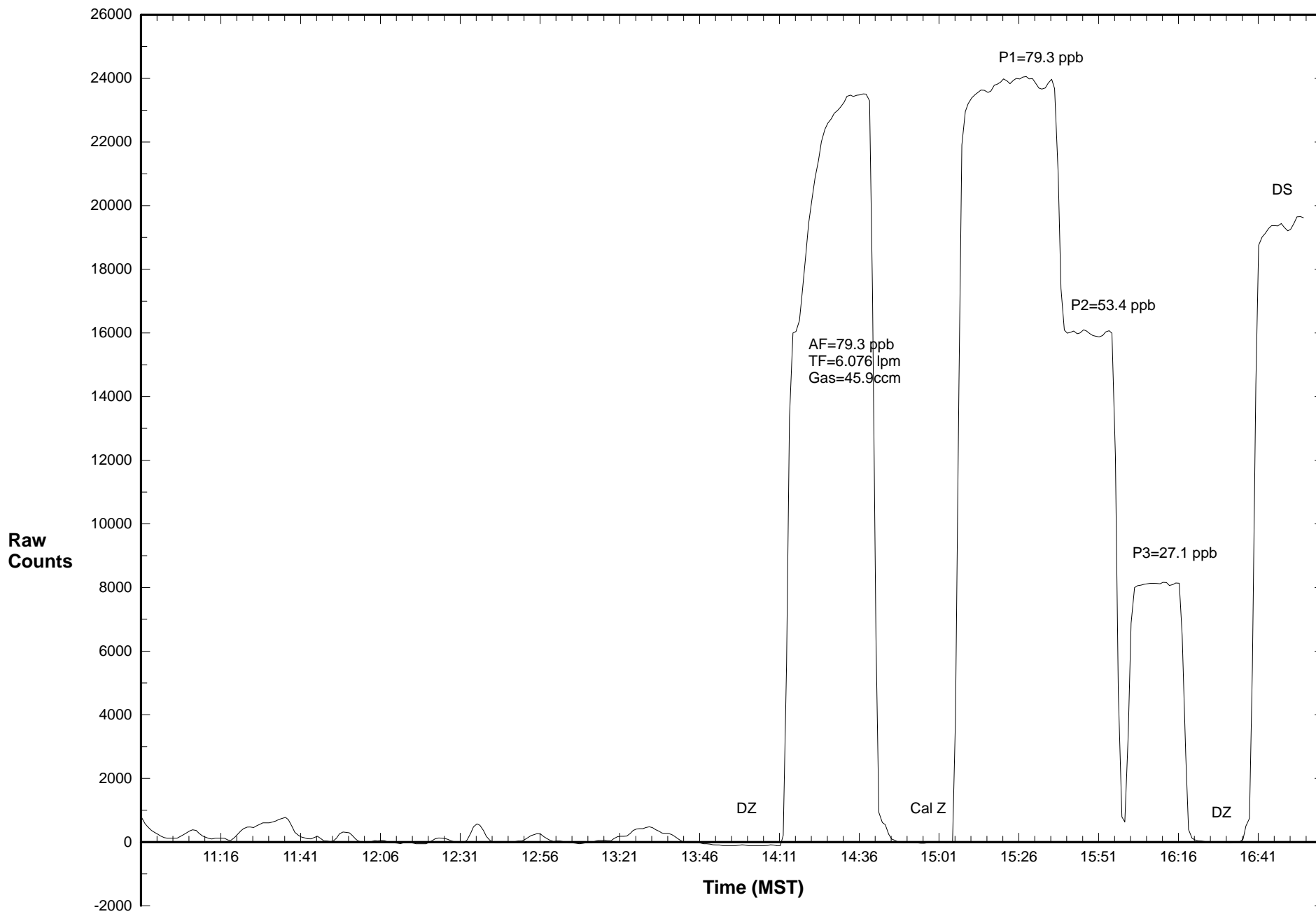
Percent Change of Correction Factor: -0.3

Comments: SF=0.341 lpm

Station 906 TRS July 26, 2017: Linear Regression



Station 906 TRS July 26, 2017: Calibration Graph



WEST CENTRAL AIRSHED SOCIETY

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

**AMS 906
HINTON
JULY 2017**

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
July 2017

Maximum Value: 31.32 C on Jul 15 16:00		Maximum Daily Average: 22.47 C on Jul 7		Hours in Service: 744																							
Minimum Value: 2.9 C on Jul 4 05:00		Minimum Daily Average: 12.05 C on Jul 24		Hours of Data: 744																							
Maximum Diurnal Average: 23.50 C at hour 16		Minimum Diurnal Average: 9.42 C at hour 6		Hours of Missing Data: 0																							
Monthly Average: 16.738 C		Percentiles: P₁ = 4.8 P₁₀ = 9.5 Q₁ = 12.3 Median = 16.1 Q₃ = 21.5 P₉₀ = 25.2 P₉₉ = 29.2		Hours of Calibration: 0																							
				Percent Operational Time: 100.0																							
Day	Hourly Period Ending At																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jul	13.5	12.9	12.9	12.6	12.2	12.1	12.8	12.8	13.4	14.2	16.3	18.3	18.5	21.5	23.1	24.1	21.6	20.2	16.5	16.1	16.7	15.4	14.1	12.9	16.02	24.07	
2-Jul	11.5	10.6	10.2	9.4	8.6	8.5	10.0	14.6	17.2	19.3	21.8	23.5	24.8	25.4	25.9	26.0	26.2	26.3	25.5	23.9	21.2	18.5	17.7	14.8	18.39	26.34	
3-Jul	13.3	12.6	12.2	11.7	11.4	10.8	11.0	12.7	15.2	17.3	16.4	17.6	16.4	15.9	18.7	20.1	20.6	20.5	20.3	17.9	16.6	15.2	12.4	9.7	15.27	20.60	
4-Jul	7.6	6.1	4.8	3.7	2.9	3.4	5.2	6.7	8.7	12.6	16.3	20.7	22.7	24.1	24.6	25.2	25.4	24.8	23.5	21.6	18.7	16.9	14.2	11.8	14.68	25.45	
5-Jul	9.5	7.9	6.6	5.6	4.8	4.8	7.5	11.2	13.2	17.6	20.5	21.7	23.1	24.4	25.1	25.6	24.8	23.8	24.4	23.2	21.7	19.3	16.5	14.8	16.56	25.57	
6-Jul	13.0	11.6	10.2	9.4	8.5	8.8	10.9	13.9	17.2	19.8	21.4	23.6	25.2	26.5	27.2	28.0	27.8	27.5	26.6	25.0	23.5	21.9	20.9	19.5	19.51	28.03	
7-Jul	19.2	17.9	15.7	14.0	13.0	12.5	14.2	17.3	20.0	21.8	23.9	25.3	25.5	27.8	29.5	30.2	29.9	29.6	28.4	27.5	26.8	25.1	23.6	20.5	22.47	30.22	
8-Jul	19.6	17.5	15.4	13.8	12.1	11.5	12.3	14.9	17.4	19.9	22.6	24.6	26.1	26.6	27.3	27.5	27.5	26.8	25.2	24.0	22.5	20.7	19.8	18.6	20.59	27.50	
9-Jul	17.6	15.9	14.3	13.4	13.0	12.9	14.8	16.0	17.2	19.1	21.0	22.0	22.8	24.7	26.5	28.4	29.1	28.9	27.9	26.3	22.8	20.6	18.2	16.7	20.42	29.11	
10-Jul	16.8	15.3	14.6	13.4	12.4	11.6	11.7	13.0	14.3	16.0	17.6	19.2	20.5	21.7	22.3	22.5	21.9	21.0	19.5	18.2	15.1	13.2	13.1	12.9	16.57	22.52	
11-Jul	12.5	12.3	12.5	12.1	11.8	10.5	10.4	10.8	11.9	12.3	12.3	12.5	13.2	13.6	15.0	16.3	16.3	15.9	15.8	15.4	14.7	14.2	13.9	13.3	13.31	16.32	
12-Jul	11.7	10.9	10.4	10.0	9.9	10.5	11.3	11.9	12.3	13.5	13.9	15.8	17.5	20.4	22.8	23.9	24.0	25.0	25.3	21.1	18.2	16.7	14.8	14.0	16.08	25.27	
13-Jul	14.5	14.3	13.3	13.1	13.1	12.9	12.2	13.3	16.9	19.5	21.2	22.5	23.3	26.1	26.2	27.5	24.0	22.8	21.3	19.3	18.4	17.5	15.9	13.9	18.47	27.46	
14-Jul	13.1	11.8	10.3	9.1	8.1	7.5	9.1	12.1	15.7	19.5	22.2	24.3	25.9	26.6	27.5	27.6	27.8	27.5	27.2	26.1	24.4	22.1	19.9	17.3	19.27	27.82	
15-Jul	15.0	13.5	12.0	10.8	9.8	9.3	11.0	15.1	18.4	21.3	24.9	28.2	28.9	29.1	31.0	31.3	29.3	28.1	28.0	27.0	24.1	20.6	16.8	14.2	20.74	31.32	
16-Jul	16.3	14.9	13.0	12.3	11.4	11.1	12.2	14.3	13.6	14.3	11.8	10.1	13.5	16.9	16.2	15.7	17.1	16.7	16.0	14.4	13.7	12.9	12.6	11.8	13.87	17.10	
17-Jul	11.1	10.2	10.4	9.2	8.8	8.9	9.4	11.1	13.4	14.0	15.9	16.2	16.0	16.9	18.6	18.8	18.1	17.6	16.8	16.1	16.2	15.0	12.9	10.4	13.84	18.77	
18-Jul	8.4	6.9	5.7	4.8	4.2	3.7	5.2	8.9	12.7	15.2	17.3	19.2	20.5	21.7	22.6	23.1	23.2	22.6	21.4	19.9	18.1	16.1	13.7	11.7	14.45	23.17	
19-Jul	10.1	8.9	7.6	6.4	5.9	5.5	5.6	7.2	9.9	13.1	16.3	19.3	21.5	23.3	25.0	25.9	26.3	25.5	24.8	22.1	19.9	18.0	16.0	14.3	15.77	26.25	
20-Jul	13.0	11.3	10.5	10.2	10.3	10.8	11.1	12.4	16.5	20.9	22.7	23.7	22.7	16.0	12.4	14.4	16.3	16.4	15.0	14.5	13.7	13.8	13.7	13.3	14.81	23.66	
21-Jul	12.9	12.4	11.7	10.8	9.9	9.7	9.6	9.8	10.6	12.1	15.3	17.6	19.3	20.5	20.6	21.8	21.9	21.0	19.9	18.3	17.6	16.4	15.6	13.2	15.34	21.87	
22-Jul	11.5	10.8	10.0	9.2	8.9	8.8	10.9	13.6	15.2	18.7	20.6	21.1	22.1	23.4	22.6	22.4	21.6	21.2	21.5	20.9	19.2	17.7	17.5	16.0	16.90	23.42	
23-Jul	14.1	13.4	13.1	12.4	12.1	11.9	12.7	13.9	15.5	16.8	18.3	18.8	19.1	17.2	14.5	11.8	9.7	10.6	11.3	10.7	10.2	9.7	9.2	8.6	13.15	19.12	
24-Jul	8.5	8.5	7.8	7.9	8.0	7.9	8.2	9.9	10.6	10.8	12.3	12.6	14.5	15.0	15.5	16.7	17.6	17.8	17.1	16.1	14.2	11.8	10.4	9.6	12.05	17.83	
25-Jul	8.9	7.8	7.0	6.4	6.1	6.1	6.9	9.0	11.5	14.2	16.5	18.2	20.0	22.1	23.0	24.4	24.9	25.3	24.5	23.1	20.2	17.8	15.5	13.5	15.53	25.29	
26-Jul	12.0	10.3	9.1	8.3	7.0	6.4	8.1	13.0	16.9	20.1	22.3	24.1	25.4	26.6	28.0	29.2	29.1	28.4	26.4	24.1	23.0	20.1	16.8	14.5	18.72	29.20	
27-Jul	12.8	11.8	11.1	10.5	9.8	9.8	10.7	12.3	15.1	17.0	20.3	22.0	24.6	24.9	24.1	22.0	16.1	17.0	16.6	16.5	16.8	15.4	14.1	12.8	16.00	24.88	
28-Jul	11.5	10.8	10.1	9.0	7.9	7.2	8.2	10.5	14.2	16.9	18.7	20.4	21.4	22.0	23.6	23.4	22.1	20.9	20.0	19.4	17.6	16.2	14.9	13.0	15.83	23.58	
29-Jul	11.6	11.4	10.7	10.4	10.3	10.1	10.6	12.9	15.3	18.2	20.1	21.9	23.8	25.8	26.8	26.7	27.3	27.0	26.3	24.5	23.0	21.5	19.0	16.9	18.83	27.27	
30-Jul	17.8	17.2	16.1	14.7	14.1	13.3	13.5	14.5	15.0	16.2	18.6	21.6	23.9	24.4	25.0	24.8	21.4	22.3	20.9	19.8	18.1	16.8	15.2	13.5	18.29	25.04	
31-Jul	12.9	12.7	12.8	13.1	13.2	13.0	13.0	14.2	15.4	16.5	18.2	19.2	20.4	21.1	22.1	23.1	23.2	22.0	21.4	20.0	18.9	16.8	15.2	13.5	17.16	23.23	
		12.96	11.94	11.03	10.26	9.66	9.42	10.33	12.38	14.53	16.74	18.62	20.19	21.39	22.33	23.01	23.50	22.97	22.61	21.78	20.42	18.90	17.22	15.63	13.92	Diurnal Average	
		19.55	17.86	16.06	14.74	14.06	13.29	14.83	17.29	20.02	21.83	24.87	28.17	28.88	29.08	30.96	31.32	29.90	29.57	28.41	27.48	26.80	25.06	23.61	20.55	Diurnal Maximum	



WCAS - Hinton
Summary of Hourly Averages

Wind Speed (WS) - kph
July 2017

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	0.5	0.7	0.9	1.2	0.3	0.5	3.4	1.1	0.2	1.0	1.6	1.2	1.1	3.3	4.0	4.4	2.2	3.6	3.3	2.3	3.6	1.1	0.8	3.0	0.16	4.40
Dir	E	WSW	WSW	WSW	NNE	NW	SW	S	SE	NW	WSW	NW	W	NNE	NE	NE	NNE	N	SSW	E	SSW	WSW	WSW	SSW	WNW	NE
2 Spd	1.5	1.2	2.1	0.3	0.3	1.2	0.7	0.5	2.1	1.1	3.4	4.5	6.7	8.3	10.2	9.3	3.3	1.7	1.6	5.4	3.9	1.8	3.7	2.7	1.91	10.21
Dir	SSW	S	SSW	ESE	NE	ENE	NW	WNW	WNW	WNW	NE	ENE	E	ESE	ESE	SE	ESE	W	WNW	ENE	ENE	ENE	NNE	NE	E	ESE
3 Spd	0.8	1.1	2.3	1.5	0.2	0.6	0.6	0.9	1.9	2.7	3.7	6.0	1.7	3.0	6.3	7.9	6.0	4.0	3.5	2.9	2.0	1.2	0.5	1.4	0.73	7.90
Dir	NW	S	SSE	SSE	N	S	ENE	NNE	N	NNE	N	ENE	NNE	NNE	SW	SW	WSW	WNW	WNW	WNW	NW	SSW	ESE	S	W	SW
4 Spd	0.9	0.8	1.1	0.4	0.2	1.5	0.5	1.1	1.2	0.4	1.3	1.2	3.9	5.8	6.4	5.3	3.9	2.4	1.8	0.4	2.2	3.1	0.2	0.2	0.89	6.36
Dir	E	ENE	ENE	NNE	NW	W	NNW	NW	W	SE	E	NNW	SW	SW	SW	WSW	W	WSW	NNW	NNE	ENE	SSW	SSE	WSW	SW	
5 Spd	0.4	0.6	0.3	0.3	0.4	0.4	0.6	0.5	2.1	3.6	3.4	4.3	5.2	4.5	5.8	5.8	4.7	5.6	5.7	7.4	5.4	4.5	1.7	0.6	2.93	7.42
Dir	E	NE	NNW	NNE	ENE	NNW	NNW	NNE	NE	NE	NNE	NE	NE	ENE	NE	ENE	NE	NNE	NE	ENE	ENE	ENE	ENE	ESE	NE	ENE
6 Spd	0.4	0.4	0.5	0.5	0.6	1.0	0.2	0.9	0.4	1.9	2.0	4.0	5.2	5.3	5.4	4.7	7.1	5.7	6.8	7.2	5.1	2.0	2.4	1.4	2.65	7.15
Dir	NNE	NE	W	W	W	S	N	NNW	W	NE	ENE	ENE	NE	ENE	NE	NE	E	ENE	ENE	ENE	ENE	ENE	E	E	ENE	ENE
7 Spd	1.7	2.1	1.1	1.0	0.2	1.1	0.8	1.0	2.0	1.3	2.0	3.3	5.7	5.1	6.7	12.5	15.2	15.1	10.4	10.3	13.3	5.2	6.1	1.4	2.84	15.17
Dir	E	ESE	ENE	NE	NW	W	WNW	ENE	ENE	N	NNE	NNE	E	NE	E	ESE	SE	SE	ESE	S	SSW	SW	SW	N	SE	SE
8 Spd	3.6	0.8	2.8	1.3	0.2	0.5	0.8	1.0	1.4	0.8	3.4	4.2	4.6	5.5	4.3	5.3	4.7	5.8	5.8	4.7	2.9	2.3	3.1	2.2	2.35	5.84
Dir	NE	SE	SSW	SSW	ENE	E	WNW	WNW	NW	NW	ENE	NE	NE	NE	NE	NE	NE	NE	ENE	ENE	NE	E	E	ENE	NE	NE
9 Spd	1.2	0.2	0.8	0.5	1.2	1.1	0.5	1.2	1.2	1.4	1.3	1.1	1.7	3.1	3.5	4.9	4.1	4.3	9.9	5.7	2.3	1.2	0.7	1.4	0.75	9.87
Dir	SE	SE	NE	N	SW	WNW	N	WNW	W	W	NNW	NNE	NNE	NE	ENE	SW	W	W	SW	SW	NNE	ENE	ESE	N	WSW	SW
10 Spd	4.3	3.9	1.3	0.4	0.2	0.3	0.5	1.6	1.8	2.8	3.5	4.2	5.5	4.8	5.9	6.5	6.6	7.9	7.8	4.5	2.5	1.8	0.4	0.5	2.88	7.94
Dir	NE	ENE	ENE	W	N	NW	N	NE	NNE	N	NNE	NE	E	ENE	NE	NE	NE	ENE	ENE	NE	N	W	W	W	NE	ENE
11 Spd	0.4	1.4	3.1	1.1	0.8	1.0	0.6	0.5	0.7	0.5	0.9	1.2	1.7	2.1	2.2	2.0	3.1	4.2	3.2	2.0	1.0	1.3	2.0	2.9	1.27	4.18
Dir	NNW	WNW	ENE	NE	NE	ENE	N	W	SW	NNW	N	NE	N	NE	NNE	NE	NE	ESE	ENE	NE	NE	ENE	ENE	E	NE	ESE
12 Spd	1.5	1.2	2.0	2.7	2.5	2.7	2.2	2.7	3.0	2.3	3.0	2.9	4.6	4.7	4.1	7.0	12.0	8.4	4.6	7.7	4.8	1.1	1.1	1.3	2.59	12.01
Dir	NNE	NE	E	ENE	ENE	E	ESE	NE	NE	NNE	NE	NE	NE	NE	NE	ESE	SE	SE	SSW	ENE	NE	E	ENE	NNE	ENE	SE
13 Spd	3.2	3.0	2.6	1.8	1.9	3.0	1.9	0.9	0.9	0.6	1.0	0.6	2.5	3.7	4.1	4.7	3.3	2.7	4.5	3.1	1.5	1.3	0.6	1.0	0.80	4.71
Dir	ENE	ENE	ENE	NE	ENE	NE	NE	SSE	W	NNW	SSE	S	WSW	SSW	W	W	NNE	NNE	N	NNE	NNE	ENE	ESE	NE	NNE	W
14 Spd	0.3	0.4	0.4	0.3	0.6	0.2	0.7	1.0	1.4	3.5	4.0	4.6	3.9	4.3	4.2	5.8	7.2	9.0	11.3	10.6	4.3	3.2	2.7	0.9	2.94	11.27
Dir	NE	ENE	NE	NNE	ENE	N	NE	NNE	NNW	NNE	NE	ENE	NE	ENE	ESE	E	ESE	SE	ESE	ESE	E	ENE	ENE	E	E	ESE
15 Spd	0.5	0.7	0.1	0.4	0.8	1.2	1.9	0.6	1.2	0.8	0.8	1.5	2.5	5.1	3.6	4.4	4.0	5.9	4.0	5.8	3.2	1.6	1.1	0.7	1.59	5.92
Dir	WSW	W	N	WSW	W	WSW	WNW	W	NW	N	NNW	NNW	SSE	SSW	WSW	W	W	SW	WSW	SW	SW	SSW	ENE	ESE	WSW	SW
16 Spd	3.3	0.3	0.5	2.9	1.7	1.3	2.3	0.4	1.2	1.6	2.3	6.1	10.1	10.5	9.9	9.1	9.2	5.5	3.8	2.8	3.0	2.5	2.1	1.5	3.16	10.46
Dir	NNE	NW	NW	SW	SW	WSW	SW	SE	NE	N	WNW	SW	SSW	SW	SW	SW	SW	WSW	WSW	W	W	WNW	W	W	WSW	SW
17 Spd	1.4	1.4	2.0	0.8	0.4	0.3	0.2	1.1	1.8	2.7	4.7	2.7	2.7	1.5	1.7	1.5	1.5	1.5	0.3	0.1	2.0	0.7	0.8	0.6	0.86	4.71
Dir	W	W	W	W	ESE	SE	NW	W	WNW	WSW	WSW	W	WNW	WNW	WNW	NNW	NNW	NNW	NNW	ENE	E	NE	E	ESE	W	WSW
18 Spd	0.8	0.2	1.0	1.2	2.0	1.8	1.2	2.1	2.0	3.6	6.9	6.3	2.7	2.2	3.6	3.2	3.9	3.9	5.7	2.5	3.0	2.4	1.8	1.5	0.46	6.91
Dir	E	NNW	W	WSW	WSW	W	WNW	WNW	W	WSW	SSW	SSW	SSE	SSE	NE	NE	ENE	ENE	ENE	NE	ENE	ENE	NE	ENE	E	SSW
19 Spd	0.2	1.4	0.4	0.9	2.2	2.6	0.8	0.8	0.8	1.8	1.9	1.5	0.7	2.1	2.3	1.2	0.9	2.1	5.3	2.3	1.3	1.0	0.7	1.5	0.28	5.33
Dir	W	WSW	WSW	WSW	SW	WSW	W	W	WNW	WNW	WNW	WNW	NW	SSE	SSW	NW	WSW	NE	ESE	ENE	E	ENE	ENE	SSW	WSW	ESE
20 Spd	2.3	0.6	0.5	0.9	0.9	0.9	0.9	0.5	1.7	2.2	3.2	2.5	2.1	10.4	0.6	1.7	1.6	1.2	1.9	0.9	0.8	2.3	2.3	1.8	1.56	10.39
Dir	SSW	SW	W	W	W	ESE	W	W	WNW	WSW	SW	W	WSW	SSW	SSE	SSW	W	NW	WSW	WSW	SW	SSW	SW	W	SW	SSW
21 Spd	2.7	4.3	5.4	3.4	4.5	3.2	4.5	4.5	5.1	5.6	7.4	11.2	11.1	9.7	8.9	8.0	5.1	7.0	9.8	5.9	5.0	3.3	4.7	0.2	5.77	11.24
Dir	WSW	S	SSW	SW	SW	SW	SW	SW	SW	SW	SW	SSW	SW	SW	SW	SW	WSW	SW	SW	SW	SW	SW	SW	SSW	SW	SSW
22 Spd	0.5	1.0	0.4	0.9	0.8	0.4	1.6	0.7	0.8	4.3	6.7	5.9	4.5	10.2	12.4	11.1	11.7	11.8	12.2	8.7	1.8	1.1	2.5	1.6	4.04	12.44
Dir	ENE	ENE	ESE	ENE	ENE	ENE	ENE	NE	NNW	SW	SW	SW	WSW	SW	SW	SW	SW	SW	SW	SW	W	SW	S	ESE	SW	SW



WCAS - Hinton
Summary of Hourly Averages

Wind Speed (WS) - kph
July 2017

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	1.0	1.1	0.7	2.0	0.7	1.1	1.1	2.3	3.0	4.2	4.6	7.2	5.7	5.7	3.6	1.2	1.2	2.6	1.0	0.9	0.4	1.0	0.3	0.5	1.65	7.19
Dir	ESE	SSW	NE	ENE	SE	E	NE	NE	NE	NE	NE	NE	NE	NNE	NW	ENE	SE	NNW	WSW	WNW	WSW	SE	WSW	NE	NE	
24 Spd	1.2	1.1	1.2	1.0	1.6	1.3	2.0	4.3	1.4	3.7	3.2	5.0	4.8	5.4	5.0	1.6	3.4	0.9	0.9	1.9	0.5	0.0	0.9	2.8	1.85	5.43
Dir	ESE	SSW	SW	SW	SSW	W	SSW	SSW	WSW	SW	WSW	SW	SW	SSW	SW	S	S	SE	NE	E	ENE	SSE	S	SSW	SSW	SSW
25 Spd	1.8	0.2	0.5	0.3	0.2	0.2	0.3	0.9	1.2	2.6	2.0	1.8	4.2	2.0	2.3	3.1	2.8	3.6	3.1	3.1	1.5	1.6	0.3	0.2	0.30	4.17
Dir	S	SSE	SW	SW	NNW	NNW	NW	NW	WNW	WSW	W	W	SSW	NW	NE	NE	NE	NE	NE	ENE	ENE	ESE	SSW	W	NNE	SSW
26 Spd	2.2	0.7	1.6	1.8	0.6	1.2	0.8	1.6	2.5	2.2	3.2	3.7	3.6	3.9	2.8	3.0	1.9	2.7	6.3	1.6	2.9	2.2	0.8	0.3	1.08	6.25
Dir	WSW	SW	SW	WSW	W	W	WNW	W	W	W	SW	SW	SW	SW	S	WSW	WSW	SE	SE	NE	E	ENE	E	S	SSW	SSW
27 Spd	0.3	0.7	0.2	0.5	0.8	0.9	1.0	2.5	1.3	1.2	1.2	1.4	3.5	7.0	5.1	4.0	7.0	5.8	1.4	1.8	3.4	0.9	0.1	1.0	1.30	6.98
Dir	N	SW	NW	WSW	W	SW	W	S	WNW	S	WSW	ENE	ENE	ENE	ENE	NE	ENE	ENE	N	NE	E	ESE	NNE	SSW	ENE	ENE
28 Spd	0.5	0.3	0.9	0.6	1.1	0.1	0.6	0.5	1.2	1.6	1.7	1.1	1.4	2.4	0.9	1.3	3.9	3.1	1.2	1.2	0.6	0.3	0.5	1.3	0.39	3.93
Dir	E	S	SW	SW	SW	S	S	WNW	WNW	WNW	WNW	NW	NNW	NNE	N	N	NE	ENE	ENE	SE	ENE	E	SSE	SW	N	NE
29 Spd	0.4	0.5	0.4	0.3	0.4	0.3	0.3	0.8	1.7	0.8	0.3	3.3	4.6	4.2	4.9	6.0	9.0	9.3	9.7	5.4	3.7	4.2	1.4	1.7	2.39	9.67
Dir	SE	ENE	NNE	NE	NNE	N	NE	NNW	NW	WSW	SSW	NE	NE	NNE	NE	ENE	SE	ESE	ESE	E	ESE	ENE	ENE	ESE	E	ESE
30 Spd	4.0	3.1	0.7	2.8	3.4	1.3	0.8	0.5	1.1	1.7	2.0	2.1	1.1	3.2	2.1	1.8	7.4	7.7	5.7	3.4	0.8	1.6	1.0	1.5	1.56	7.65
Dir	E	NNE	NNW	SSW	SSW	WSW	WSW	N	E	NE	ENE	E	E	NE	WNW	NNW	ENE	ENE	ENE	ENE	NE	NE	ENE	NE	ENE	ENE
31 Spd	0.8	0.3	0.3	0.5	1.3	0.8	0.8	1.9	1.9	4.8	5.2	3.7	4.4	4.2	4.9	3.1	3.3	3.3	2.8	3.1	4.3	3.6	1.2	0.5	2.20	5.17
Dir	ENE	N	W	W	SW	W	NE	NE	NNE	NE	ENE	E	E	ENE	ESE	ENE	E	NE	NE	NE	ENE	ENE	E	NE	ENE	ENE
Spd	0.47	0.22	0.27	0.29	0.42	0.28	0.33	0.26	0.79	0.57	0.27	0.44	0.60	0.79	0.62	0.78	1.52	1.79	1.52	1.27	0.89	0.66	0.46	0.28	Diurnal Average	
Dir	ENE	ESE	S	SW	SW	W	WNW	NW	NW	NW	ENE	ESE	ESE	ESE	SE	ESE	ESE	ESE	E	E	E	E	ESE	ESE	Diurnal Maximum	
Spd	4.31	4.26	5.36	3.37	4.51	3.16	4.47	4.49	5.11	5.61	7.36	11.24	11.07	10.46	12.44	12.48	15.17	15.11	12.19	10.56	13.32	5.17	6.14	3.02	Diurnal Maximum	
Dir	36.74	188.53	212.97	229.92	224.07	226.76	220.44	223.53	226.90	221.75	222.71	211.21	214.89	222.52	219.52	119.23	127.74	124.96	218.80	121.26	211.21	235.58	214.09	202.42	Diurnal Maximum	
Maximum Speed Value: 15.2 kph on Jul 7 17:00																			Minimum Speed Value: 0.0 kph on Jul 24 22:00					Hours in Service:		744
Maximum Daily Speed Average: 5.77 kph on Jul 21																			Minimum Daily Speed Average: 0.16 kph on Jul 28					Hours of Data:		744
Maximum Diurnal Speed Average: 1.79 kph at hour 18																			Minimum Diurnal Speed Average: 0.22 kph at hour 2					Hours of Missing Data:		0
Monthly Average Velocity: 0.381 kph 105.53 deg																			Speed Percentiles: P ₁ = 0.2 P ₁₀ = 0.5 Q ₁ = 0.9 Median = 1.9 Q ₃ = 3.9 P ₉₀ = 5.8 P ₉₉ = 11.8					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	54	0	0	0	0	0	54																			
NorthEast	170	35	0	0	0	0	205																			
East	85	14	0	0	0	0	99																			
SouthEast	30	12	5	0	0	0	47																			
South	35	4	0	0	0	0	39																			
SouthWest	84	38	8	0	0	0	130																			
West	111	0	0	0	0	0	111																			
NorthWest	59	0	0	0	0	0	59																			
Total	628	103	13	0	0	0	744																			



WCAS - Hinton
Summary of Hourly Averages

Relative Humidity (RH) - %
July 2017

Maximum Value: 95.19 % on Jul 28 06:00																								Hours in Service: 744		
Maximum Daily Average: 76.60 % on Jul 23																								Hours of Data: 744		
Minimum Value: 8.6 % on Jul 9 19:00																								Hours of Missing Data: 0		
Minimum Daily Average: 41.68 % on Jul 15																								Hours of Calibration: 0		
Maximum Diurnal Average: 85.42 % at hour 6																								Percent Operational Time: 100.0		
Minimum Diurnal Average: 31.55 % at hour 16																										
Monthly Average: 56.971 %																										
Percentiles: P ₁ = 12.8 P ₁₀ = 25.3 Q ₁ = 35.7 Median = 58.4 Q ₃ = 77.8 P ₉₀ = 88.3 P ₉₉ = 93.9																										
Day	Hourly Period Ending At																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jul	79.1	83.6	86.0	85.9	85.7	87.8	85.7	89.4	91.5	92.4	82.3	71.6	68.8	56.4	47.0	42.2	53.7	58.5	69.9	74.1	72.4	81.4	90.1	88.6	76.01	92.39
2-Jul	88.0	89.8	90.0	91.7	92.9	94.0	92.5	75.8	64.5	57.5	43.8	37.9	34.4	30.9	31.2	32.6	33.5	26.3	29.8	40.3	51.1	61.3	63.6	70.8	59.35	94.01
3-Jul	72.8	75.9	81.1	86.8	89.0	91.2	93.5	90.2	78.1	62.8	60.9	52.7	64.8	70.0	39.5	27.0	25.2	23.8	22.5	25.3	30.9	30.3	43.9	58.9	58.21	93.53
4-Jul	69.4	75.1	80.4	86.9	92.2	91.6	85.4	78.6	69.1	48.5	40.0	30.1	22.3	17.9	16.3	16.0	16.3	19.4	20.9	25.5	37.4	31.3	43.9	57.6	48.84	92.18
5-Jul	69.4	76.4	82.2	85.5	89.7	90.2	78.2	62.0	57.4	42.4	29.7	26.6	24.8	25.9	24.5	24.7	26.3	27.7	26.8	29.4	35.2	44.2	55.8	62.4	49.90	90.24
6-Jul	70.4	76.1	81.7	87.1	89.6	88.4	78.3	66.8	54.7	47.3	46.6	44.1	38.9	33.9	29.1	26.4	27.1	28.2	31.0	37.1	43.8	50.7	54.1	59.1	53.76	89.58
7-Jul	60.0	65.4	74.1	81.0	86.8	88.9	81.0	68.9	60.0	53.6	49.5	47.6	45.5	38.8	29.6	18.8	20.0	25.3	32.4	21.8	13.5	16.2	18.9	33.3	47.12	88.95
8-Jul	54.4	59.7	67.0	71.9	79.0	81.8	78.7	68.5	60.3	49.8	39.3	33.4	27.5	25.0	23.3	24.4	25.1	26.2	30.6	37.0	43.0	50.5	54.1	59.8	48.76	81.84
9-Jul	64.8	73.0	79.2	83.3	86.0	85.3	76.4	68.5	62.2	48.7	43.8	41.3	44.5	45.8	42.4	15.3	10.3	9.4	8.6	12.2	33.7	52.5	62.3	68.0	50.72	86.05
10-Jul	55.6	47.8	46.4	54.9	58.7	64.4	67.2	63.2	57.8	49.1	41.5	36.0	30.4	30.4	31.8	34.1	38.2	39.6	42.7	46.1	65.6	77.7	78.9	80.2	51.58	80.17
11-Jul	77.9	79.3	71.3	66.7	70.6	86.5	91.5	90.2	83.7	86.4	86.9	84.5	84.0	72.5	64.7	60.5	60.9	59.5	61.0	61.8	67.5	72.7	74.1	76.4	74.64	91.53
12-Jul	82.0	87.1	88.3	89.6	90.3	88.8	85.3	83.3	79.6	74.5	73.5	66.7	62.2	55.2	48.2	39.4	34.6	30.4	19.9	44.5	55.7	65.1	73.7	77.4	66.47	90.28
13-Jul	75.7	77.3	81.6	82.5	83.2	83.3	87.6	85.0	69.2	61.2	56.1	51.8	47.1	24.3	17.2	13.4	30.5	35.6	42.2	50.3	52.0	54.0	60.6	68.8	57.94	87.56
14-Jul	70.4	77.3	83.3	88.4	90.6	91.9	87.0	75.2	64.4	51.9	38.8	29.9	25.3	22.7	20.3	20.3	19.9	21.6	23.6	26.3	32.6	40.2	48.2	58.8	50.38	91.86
15-Jul	69.0	75.7	79.8	84.6	88.3	88.0	80.3	65.4	47.9	35.7	27.3	17.7	14.1	13.4	11.0	10.2	12.8	13.0	13.0	12.5	19.6	27.4	41.9	51.7	41.68	88.25
16-Jul	52.8	54.0	62.2	63.7	67.8	70.9	66.9	56.1	59.8	57.1	62.7	74.0	53.7	31.8	32.2	31.3	26.9	25.9	26.5	31.4	34.0	38.2	39.3	42.8	48.42	73.98
17-Jul	44.8	48.7	46.2	50.7	54.3	60.1	62.0	56.5	41.8	38.9	31.6	31.7	33.1	35.0	27.6	30.4	32.9	35.9	40.7	44.1	39.9	39.4	50.5	64.1	43.37	64.07
18-Jul	72.2	77.9	83.7	86.7	89.0	89.8	82.7	65.1	50.6	40.9	32.1	23.1	22.3	21.0	20.9	21.0	22.0	24.5	31.3	38.1	44.6	52.2	61.5	69.7	50.96	89.81
19-Jul	76.4	81.9	86.1	88.3	90.4	90.3	90.3	87.7	74.9	60.1	47.8	39.0	32.9	26.8	21.4	19.2	18.0	21.7	25.0	36.4	45.4	53.4	61.0	65.1	55.82	90.41
20-Jul	66.2	73.2	76.5	76.9	76.1	74.6	75.9	71.1	55.0	37.8	30.1	25.9	27.2	58.3	88.6	84.6	74.3	70.4	69.9	69.1	67.7	64.0	63.3	63.6	64.17	88.55
21-Jul	60.7	69.1	72.7	80.0	88.8	90.4	90.3	90.6	88.4	82.7	66.9	52.4	43.4	38.1	36.2	31.7	30.8	31.1	31.6	36.9	38.9	42.9	46.2	58.2	58.30	90.57
22-Jul	68.1	72.5	77.4	81.4	84.4	86.3	76.5	66.5	65.9	44.7	35.5	34.3	33.4	29.2	30.5	31.7	33.6	34.7	33.7	35.0	43.4	48.8	49.6	58.5	52.31	86.33
23-Jul	66.8	70.7	80.3	85.8	87.7	90.2	88.4	82.4	68.5	62.3	57.1	54.6	55.5	56.4	67.5	71.6	80.6	78.4	80.3	85.5	90.1	91.6	92.6	93.3	76.60	93.26
24-Jul	93.2	90.6	91.1	92.1	93.3	93.3	92.2	78.9	83.0	79.6	73.8	69.4	58.2	56.3	53.6	49.1	43.6	49.0	58.1	65.8	72.6	82.5	83.9	82.0	74.39	93.32
25-Jul	83.1	87.6	92.2	93.5	94.0	94.4	94.2	90.5	75.9	59.0	52.9	49.8	39.9	34.0	27.2	24.7	23.2	22.8	24.0	28.3	41.4	50.2	57.4	65.7	58.58	94.44
26-Jul	73.3	77.9	82.0	84.9	89.3	91.9	86.0	62.1	45.9	36.0	28.2	24.7	21.0	15.3	15.0	14.0	15.6	16.1	22.2	33.6	36.6	45.6	60.3	70.0	47.82	91.93
27-Jul	75.5	77.6	79.6	79.7	81.0	80.4	77.8	71.7	64.1	56.2	44.7	39.5	32.7	37.6	37.6	52.2	79.8	72.7	80.7	83.2	73.8	79.4	85.9	91.0	68.10	90.96
28-Jul	91.3	93.4	94.1	94.4	94.9	95.2	94.8	87.6	70.0	57.7	51.0	45.6	39.1	37.8	29.9	27.9	34.2	38.2	42.3	46.3	58.1	67.8	71.1	75.5	64.09	95.19
29-Jul	79.6	80.5	85.7	87.8	88.7	89.2	87.5	74.1	63.1	49.9	41.7	41.3	40.9	36.4	32.1	30.3	26.8	29.5	33.6	38.0	42.8	48.2	58.1	66.6	56.35	89.19
30-Jul	58.8	58.5	63.1	68.8	71.1	75.5	76.0	73.2	71.9	67.7	56.9	43.6	31.1	32.3	26.3	25.6	49.8	48.8	53.2	57.3	65.1	70.7	76.0	83.5	58.54	83.50
31-Jul	86.8	87.8	87.1	84.4	76.1	73.2	75.9	71.0	60.9	44.8	31.6	30.8	31.0	29.6	27.5	27.2	26.6	32.7	34.4	37.6	40.9	49.6	57.0	65.9	52.93	87.84
	71.24	74.88	78.46	81.48	83.85	85.42	82.78	74.71	65.81	56.05	48.54	43.60	39.67	36.75	33.88	31.55	33.97	34.74	37.49	42.29	48.04	54.20	60.56	67.33		Diurnal Average
	93.22	93.35	94.05	94.41	94.90	95.19	94.80	90.57	91.49	92.39	86.93	84.52	84.03	72.45	88.55	84.63	80.64	78.44	80.75	85.55	90.07	91.56	92.63	93.26		Diurnal Maximum



WCAS - Hinton
Summary of Hourly Standard Deviations

Wind Speed (WS) - kph
July 2017

Maximum Value: 8.45 kph on Jul 20 14:00		Maximum Daily Average: 3.67 kph on Jul 21		Hours in Service: 744																							
Minimum Value: 0.2 kph on Jul 25 05:00		Minimum Daily Average: 1.46 kph on Jul 28		Hours of Data: 744																							
Maximum Diurnal Average: 3.93 kph at hour 16		Minimum Diurnal Average: 1.17 kph at hour 5		Hours of Missing Data: 0																							
Monthly Average: 2.315 kph		Percentiles: P₁ = 0.5 P₁₀ = 1.0 Q₁ = 1.3 Median = 1.9 Q₃ = 3.1 P₉₀ = 4.1 P₉₉ = 6.9		Hours of Calibration: 0																							
				Percent Operational Time: 100.0																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jul	1.0	1.0	1.2	1.3	0.8	0.8	2.3	2.2	1.7	1.1	1.6	1.5	1.5	2.8	2.8	3.1	2.4	3.1	4.1	3.3	2.1	1.3	1.1	2.2	1.94	4.09	
2-Jul	1.4	1.2	1.4	0.7	0.4	1.3	1.2	1.0	1.9	1.7	2.5	3.4	3.5	3.9	4.4	4.4	3.2	1.9	2.2	3.1	3.2	1.6	3.2	3.4	2.33	4.43	
3-Jul	1.7	1.8	2.9	1.9	1.3	2.3	1.5	1.3	1.7	2.2	2.9	3.5	2.7	2.5	6.0	7.1	5.7	3.2	2.7	2.5	1.9	3.0	1.4	2.1	2.75	7.13	
4-Jul	1.3	1.4	1.5	1.1	0.8	1.2	0.7	0.9	1.1	1.7	1.9	1.7	4.5	5.7	6.2	4.6	4.1	2.6	2.4	1.6	2.2	3.2	1.2	1.1	2.27	6.18	
5-Jul	0.8	0.7	0.5	0.4	0.7	0.6	1.0	1.2	1.8	2.4	2.8	3.0	3.3	3.5	3.7	4.1	3.9	4.2	4.1	3.3	2.8	1.9	1.5	1.1	2.23	4.22	
6-Jul	0.9	0.6	0.8	0.7	1.0	1.6	1.0	1.1	1.5	1.9	2.1	2.6	3.1	3.1	3.3	3.4	3.7	3.4	3.2	3.4	2.4	1.8	1.6	2.0	2.09	3.68	
7-Jul	3.1	2.2	1.1	1.0	1.2	1.1	0.9	1.6	1.7	1.8	2.1	2.6	3.3	3.4	4.7	5.4	5.7	6.4	5.6	8.0	7.4	5.2	2.8	2.4	3.37	8.01	
8-Jul	3.2	1.2	1.6	1.9	0.4	0.8	0.8	1.1	1.3	1.4	2.4	2.8	3.3	3.6	3.2	4.0	4.1	3.6	2.4	2.6	2.7	2.5	2.3	1.9	2.29	4.06	
9-Jul	1.8	1.1	1.0	1.6	1.2	1.2	1.0	1.5	1.5	2.2	1.5	1.6	2.1	2.4	2.8	5.1	4.2	4.3	5.4	5.4	2.2	1.7	1.1	2.1	2.33	5.41	
10-Jul	3.4	2.4	2.0	0.7	0.8	0.6	0.6	1.5	1.7	2.2	2.9	3.4	3.7	3.4	4.0	4.3	4.7	4.1	3.6	3.4	2.9	1.1	1.1	1.0	2.48	4.67	
11-Jul	0.8	1.3	2.4	1.4	1.1	1.2	0.7	0.8	1.0	0.6	0.9	1.4	1.3	1.7	1.7	2.2	2.2	2.6	2.1	2.0	1.1	1.5	1.6	1.3	1.46	2.60	
12-Jul	1.3	1.4	1.4	1.4	1.4	2.6	1.8	1.8	2.0	1.9	1.9	2.7	2.8	3.3	2.8	6.2	5.2	4.0	4.1	4.6	3.8	1.6	1.3	1.2	2.59	6.16	
13-Jul	1.6	1.6	1.6	1.5	1.8	2.1	2.3	1.9	1.6	1.9	2.0	2.0	2.8	4.5	4.0	4.8	3.4	2.6	3.6	2.5	2.2	1.5	1.1	1.2	2.33	4.78	
14-Jul	0.6	0.7	0.6	0.4	0.8	0.4	1.0	1.4	1.4	2.8	3.0	3.2	2.9	3.3	3.7	4.2	3.4	4.7	4.4	4.3	3.3	2.3	1.7	1.2	2.33	4.72	
15-Jul	0.9	1.1	0.6	0.9	1.1	1.3	1.4	1.2	1.6	1.6	1.6	1.6	2.6	4.2	3.9	4.3	3.9	5.3	4.9	4.4	2.6	1.6	1.8	2.3	2.37	5.34	
16-Jul	3.5	1.6	1.1	2.1	1.8	1.2	1.7	1.8	3.2	1.7	3.6	3.8	5.4	6.2	7.4	6.9	7.7	6.1	4.3	2.8	3.4	2.4	2.2	1.6	3.48	7.73	
17-Jul	1.8	1.7	2.1	1.0	1.3	1.7	1.0	1.6	2.0	3.1	4.8	2.8	2.6	1.4	1.7	1.6	1.2	1.5	0.6	1.2	2.5	1.6	1.2	1.2	1.80	4.75	
18-Jul	1.1	1.0	1.3	1.1	1.3	1.1	1.2	1.7	2.0	2.7	3.5	3.5	3.3	3.3	3.0	2.7	2.5	3.1	2.8	2.3	2.3	2.0	1.3	1.2	2.12	3.53	
19-Jul	1.0	1.1	0.8	1.0	1.3	1.6	0.9	0.8	0.9	1.3	1.6	1.7	1.7	1.9	2.7	2.9	2.7	2.1	5.3	1.9	1.3	1.3	1.3	1.2	1.68	5.26	
20-Jul	1.5	1.0	0.9	1.1	1.2	1.6	1.3	1.0	1.5	2.7	3.2	2.9	2.8	8.4	3.6	3.2	1.9	1.6	2.0	1.7	1.6	2.6	2.1	2.0	2.22	8.45	
21-Jul	2.5	2.3	2.3	2.2	2.3	2.6	2.1	2.8	3.1	3.3	4.2	4.9	5.9	5.9	4.9	5.4	5.2	5.7	6.6	4.8	3.6	2.1	2.7	0.8	3.67	6.61	
22-Jul	1.2	1.2	1.1	1.1	1.3	1.2	1.5	1.2	1.1	5.0	6.0	5.5	4.8	7.8	7.2	6.0	6.3	6.5	6.7	5.1	2.2	1.6	1.9	1.3	3.53	7.85	
23-Jul	1.6	1.9	1.2	2.0	1.6	1.3	1.5	1.7	2.3	2.5	3.7	4.7	3.9	3.8	3.1	2.9	3.9	3.4	1.1	1.2	1.1	1.2	1.2	1.3	2.25	4.66	
24-Jul	2.0	2.0	1.6	1.4	2.0	1.4	3.2	4.8	1.8	2.8	2.9	3.9	4.0	3.8	3.4	2.3	2.4	1.8	1.1	1.3	1.0	0.7	1.3	1.5	2.26	4.84	
25-Jul	1.2	0.5	0.7	0.6	0.2	0.3	0.5	0.8	1.3	2.3	1.9	1.8	3.3	1.8	2.2	2.3	2.5	2.5	2.5	2.2	1.5	2.3	1.8	1.3	1.60	3.33	
26-Jul	1.2	0.9	1.2	1.2	0.7	1.1	1.0	1.5	2.0	1.9	2.5	3.0	2.8	3.2	3.4	3.1	2.5	2.4	2.6	1.6	2.5	2.1	1.2	1.1	1.95	3.41	
27-Jul	1.0	1.5	1.2	1.0	1.2	1.2	1.3	2.2	1.4	1.9	2.1	2.2	2.9	3.9	3.6	3.6	4.1	4.2	1.4	1.7	2.9	2.5	1.6	1.4	2.18	4.17	
28-Jul	1.2	1.1	1.2	1.0	1.3	0.8	1.2	1.2	1.5	1.5	1.5	1.5	1.5	1.9	1.8	1.7	3.1	2.7	1.3	1.4	0.9	0.9	1.1	1.5	1.46	3.12	
29-Jul	1.2	0.7	0.8	0.5	0.6	0.5	0.5	1.0	1.4	1.7	1.8	2.5	2.9	2.9	3.1	3.5	4.0	4.6	4.6	3.5	3.6	3.4	1.6	1.5	2.18	4.63	
30-Jul	3.2	2.8	1.7	2.4	1.8	1.3	1.3	1.0	1.4	1.4	2.1	2.1	2.6	3.3	2.4	3.6	3.5	4.0	3.0	1.8	1.1	1.6	1.2	1.3	2.16	4.03	
31-Jul	1.2	0.7	0.9	0.8	1.2	1.2	1.1	1.4	1.9	3.1	3.3	2.5	3.5	3.0	3.3	2.8	2.6	2.8	2.1	2.9	3.1	1.8	1.5	0.8	2.05	3.49	
		1.62	1.35	1.31	1.21	1.17	1.26	1.28	1.51	1.68	2.15	2.60	2.78	3.14	3.67	3.67	3.93	3.73	3.58	3.32	2.96	2.50	1.99	1.62	1.53	Diurnal Average	
		3.52	2.79	2.89	2.42	2.26	2.61	3.15	4.84	3.21	4.97	6.02	5.47	5.95	8.45	7.39	7.13	7.73	6.53	6.66	8.01	7.44	5.20	3.21	3.37	Diurnal Maximum	



WCAS - Hinton
Summary of Hourly Standard Deviations

Wind Direction (WD) - deg
July 2017

Maximum Value: 103.58 deg on Jul 16 08:00 Maximum Daily Average: 66.73 deg on Jul 3																							Hours in Service:	744		
Minimum Value: 16.8 deg on Jul 12 00:00 Minimum Daily Average: 38.42 deg on Jul 21																							Hours of Data:	744		
Maximum Diurnal Average: 62.83 deg at hour 2 Minimum Diurnal Average: 44.56 deg at hour 19																							Hours of Missing Data:	0		
Monthly Average: 55.034 deg Percentiles: P₁ = 22.1 P₁₀ = 31.4 Q₁ = 41.3 Median = 52.3 Q₃ = 67.8 P₉₀ = 84.3 P₉₉ = 98.5																							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-Jul	57.7	62.0	64.3	50.7	63.0	73.1	37.1	85.7	91.5	41.5	53.6	59.0	59.0	48.1	44.5	41.1	59.4	53.1	75.3	94.3	44.0	53.1	57.9	29.7	58.28	94.28
2-Jul	34.0	34.5	31.8	83.1	38.1	34.8	84.3	80.6	48.3	85.9	52.3	53.2	38.1	33.3	25.6	28.1	81.3	53.9	66.4	34.7	38.9	56.1	52.2	78.0	51.97	85.89
3-Jul	82.2	93.8	95.2	81.5	81.2	96.0	81.6	68.1	42.6	45.0	42.8	40.5	78.6	48.3	57.3	53.4	55.6	52.4	48.7	46.8	54.2	87.7	81.3	86.5	66.73	96.05
4-Jul	74.7	80.2	75.4	76.8	74.8	25.3	46.8	23.7	46.3	96.6	73.8	84.8	61.3	62.8	56.6	55.3	57.4	57.0	61.5	84.6	49.4	43.0	99.6	92.5	65.01	99.57
5-Jul	58.4	30.5	44.5	25.6	53.5	26.7	86.4	88.6	52.5	42.5	49.6	47.1	40.7	49.5	43.0	45.8	48.9	49.2	45.9	26.1	26.3	26.2	41.5	63.2	46.33	88.63
6-Jul	58.0	49.0	69.5	49.6	74.2	89.3	88.4	63.3	85.6	64.9	79.2	44.9	37.2	38.9	42.1	45.7	35.6	37.1	28.5	25.5	24.1	49.0	33.1	71.4	53.51	89.26
7-Jul	79.4	54.7	43.1	42.4	84.8	29.8	47.0	84.7	53.0	70.7	64.3	46.6	33.3	42.5	48.0	25.7	24.9	25.1	51.0	54.4	29.7	51.6	23.5	70.8	49.21	84.84
8-Jul	51.8	63.9	49.2	71.9	72.3	64.4	45.4	53.7	56.0	89.3	39.7	44.9	43.3	41.8	46.8	44.2	50.7	38.4	22.1	29.4	52.4	68.2	45.5	59.4	51.87	89.35
9-Jul	77.8	101.6	67.8	70.7	31.8	31.3	85.3	48.5	58.3	63.2	52.8	73.1	53.4	47.9	48.6	72.9	55.8	57.1	30.8	49.2	58.2	47.6	75.2	72.0	59.62	101.55
10-Jul	49.2	29.7	84.3	57.9	84.7	64.1	37.1	33.0	45.9	47.2	49.3	53.9	47.7	48.1	43.6	41.6	44.2	31.5	25.0	48.1	71.6	33.6	71.5	59.7	50.10	84.67
11-Jul	65.8	29.8	38.3	49.9	71.5	62.9	38.1	52.0	53.8	44.1	33.0	43.9	33.5	46.0	45.4	64.5	43.4	40.5	37.9	45.2	44.8	58.4	35.5	16.8	45.62	71.49
12-Jul	51.3	59.6	28.6	22.6	22.8	44.5	44.0	36.4	39.0	46.1	37.8	64.4	37.2	46.2	45.2	65.0	24.6	36.1	70.1	28.9	39.1	76.9	71.0	21.5	44.12	76.90
13-Jul	21.2	40.9	24.6	29.8	41.1	32.8	66.7	83.8	84.8	95.3	95.5	85.2	58.7	82.4	55.6	58.5	66.4	61.2	50.8	48.2	73.5	55.4	65.6	37.2	58.96	95.54
14-Jul	38.1	51.7	33.5	51.9	32.4	52.6	64.4	70.9	57.8	48.0	52.5	46.9	50.7	52.0	64.3	44.9	39.0	27.8	22.1	22.6	47.4	44.3	40.7	63.5	46.68	70.95
15-Jul	59.1	73.6	86.3	81.9	67.8	56.0	35.2	100.7	64.3	76.5	84.3	58.4	75.5	57.4	59.4	56.4	56.0	51.4	64.2	47.9	37.6	33.9	72.6	85.0	64.23	100.72
16-Jul	56.3	92.1	62.0	41.0	57.9	48.5	47.6	103.6	81.3	65.0	78.7	40.5	23.3	36.9	46.1	45.2	51.6	58.7	58.4	50.4	58.2	47.7	52.5	45.1	56.19	103.58
17-Jul	48.1	46.4	44.8	50.0	92.4	92.4	75.3	50.2	55.3	65.9	57.2	55.5	49.0	41.8	60.3	48.5	35.4	43.1	54.2	96.7	65.7	73.9	74.0	72.7	60.36	96.74
18-Jul	56.5	96.4	49.5	23.8	26.4	19.1	48.6	40.2	56.7	48.7	33.4	43.6	76.2	91.9	57.9	62.4	39.6	45.3	24.8	48.0	48.4	46.4	38.4	33.3	48.14	96.36
19-Jul	97.0	29.0	64.4	55.4	29.3	25.8	36.1	32.1	36.8	39.7	48.7	66.1	83.7	71.6	67.9	83.9	93.5	46.2	52.2	48.5	43.2	51.6	41.3	41.1	53.55	97.05
20-Jul	46.8	63.6	61.3	26.2	62.6	86.1	78.9	62.7	35.5	66.4	55.1	70.6	61.9	62.0	100.7	80.0	47.7	52.6	51.7	71.6	86.9	84.3	58.5	48.3	63.41	100.71
21-Jul	49.1	34.3	23.9	32.6	26.1	33.4	25.4	32.0	33.2	31.0	32.2	25.5	31.4	36.4	34.5	45.9	59.4	48.9	40.4	45.7	37.4	33.5	33.5	96.6	38.42	96.59
22-Jul	87.4	69.6	85.2	63.1	77.0	75.2	52.3	66.1	63.1	83.3	52.5	56.5	58.0	51.1	32.7	31.9	27.9	28.5	31.0	37.9	56.6	64.3	71.2	64.1	57.77	87.41
23-Jul	78.7	90.4	76.7	48.0	95.4	60.3	58.3	41.3	47.3	35.6	47.9	40.3	45.9	42.5	57.5	94.9	91.1	81.3	65.0	71.4	88.4	56.6	89.7	90.2	66.45	95.37
24-Jul	91.6	83.3	67.9	53.4	64.8	50.7	52.1	61.5	61.2	40.7	50.9	48.5	51.5	42.1	36.0	91.8	66.5	76.1	60.1	29.8	70.1	84.7	84.3	45.9	61.05	91.77
25-Jul	18.8	85.0	37.6	61.8	47.5	66.0	32.0	29.9	36.2	48.3	50.3	49.6	53.6	50.6	52.3	62.3	55.0	42.8	44.3	30.5	39.9	80.7	99.1	101.1	53.13	101.05
26-Jul	26.0	38.6	65.3	21.4	23.2	23.6	41.9	43.2	42.6	53.3	54.1	56.4	54.3	61.6	84.2	61.6	68.4	58.0	18.2	52.4	53.3	53.6	65.5	87.7	50.34	87.68
27-Jul	77.6	86.4	100.7	69.1	83.6	73.0	57.4	79.9	65.4	84.0	71.1	71.4	59.0	33.8	46.2	55.6	35.3	37.4	49.3	47.2	58.7	74.3	82.0	85.2	65.98	100.69
28-Jul	81.3	90.7	62.5	69.9	38.9	86.0	87.8	82.5	59.2	53.5	55.5	68.9	61.6	43.0	77.0	53.3	46.6	47.9	33.7	50.8	67.0	60.7	83.3	63.8	63.56	90.72
29-Jul	85.3	35.5	53.4	30.9	44.2	45.8	51.1	47.9	49.9	79.7	98.8	49.0	43.8	44.3	41.9	41.0	32.3	34.3	31.3	38.9	64.7	52.0	65.7	74.0	51.49	98.79
30-Jul	57.8	68.2	76.8	41.7	28.9	36.5	70.7	59.5	62.1	42.8	70.1	66.6	97.5	74.4	61.1	70.7	28.6	29.2	25.4	26.8	42.1	36.8	47.7	40.6	52.61	97.46
31-Jul	64.4	82.9	89.5	70.2	35.9	51.1	41.4	37.1	40.1	33.5	37.5	53.0	57.2	49.5	47.4	70.0	56.3	48.3	41.3	56.6	40.2	28.2	65.3	35.7	51.36	89.45
																							Diurnal Average			
																							Diurnal Maximum			

WEST CENTRAL AIRSHED SOCIETY

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

**END OF REPORT
JULY 2017**