



**August 2017
Monthly Report**

**TOMAHAWK
STATION #901**

CONTINUOUS AIR MONITORING DATA

AUGUST 2017

Summary Report

Continuous air quality/meteorological monitoring measurements

West Central Airshed Society

WCAS / Tomahawk Station 901													August 2017		
Parameter	Calibration Hours	Number of Data	Percent Uptime	Mean	Min	Max	P10	Q1	Percentile			Exceedences		24 Hour Average Max (ppm)	
									Median	Q3	P90	1-hour	24-hour		
SO ₂ (ppb)	36	708	100.0	0.107	0.0	3.4	0.0	0.0	0.0	0.1	0.2	0	0	0.001	
O ₃ (ppb)	36	708	100.0	25.2	2.0	65.9	9.1	15.8	24.4	34.1	40.9	0	-	0.044	
NO (ppb)	36	708	100.0	0.2	0.0	7.5	0.0	0.0	0.1	0.1	0.5	-	-	-	
NO ₂ (ppb)	36	708	100.0	1.1	0.2	11.6	0.4	0.5	0.9	1.4	2.0	0	0	0.003	
NO _x (ppb)	36	708	100.0	1.4	0.2	14.3	0.4	0.6	1.0	1.7	2.4	-	-	-	
Particulate Matter 2.5 microns (μ/m ³)	0	744	100.0	10.5	0.2	277.7	1.3	3.0	5.7	8.5	26.6	7	2	59.3 ug/m3	
Wind Speed (kph)	0	744	100.0	7.8	0.1	30.3	2.6	4.3	6.7	10.3	14.6	-	-	-	
Temperature (°C)	0	743	99.9	15.2	3.7	26.9	8.9	11.2	14.4	19.3	22.7	-	-	-	
Relative Humidity (%)	0	743	99.9	70.3	28.0	96.3	40.9	52.6	74.6	88.1	93.0	-	-	-	
Photosynthetically Active Radiation (W/m ²)	0	744	100.0	79.7	0.1	324.1	1.6	2.6	29.4	149.5	243.4	-	-	-	
Std Dev Wind Direction (deg)	0	744	100.0	29.9	3.6	99.2	11.1	15.5	24.5	38.8	56.3	-	-	-	
Std Dev Wind Speed (kph)	0	744	100.0	2.4	0.5	19.8	1.0	1.3	2.1	2.9	4.2	-	-	-	



WCAS - Tomahawk
Summary of Hourly Averages

Sulphur Dioxide (SO₂) - ppb
August 2017

Maximum Value: 3.43 ppb on Aug 23 19:00		Maximum Daily Average: 0.57 ppb on Aug 23		Hours in Service: 744																													
Minimum Value: 0.0 ppb on Aug 1 10:00		Minimum Daily Average: 0.01 ppb on Aug 1		Hours of Data: 708																													
Maximum Diurnal Average: 0.31 ppb at hour 19		Minimum Diurnal Average: 0.04 ppb at hour 8		Hours of Missing Data: 36																													
Monthly Average: 0.107 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 0.1 P ₉₀ = 0.2 P ₉₉ = 2.1		Hours of Calibration: 36																													
				Percent Operational Time: 100.0																													
Day	Hourly Period Ending At																								Daily Average	Daily Maximum							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24									
1-Aug	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	0.01	0.05							
2-Aug	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.02	0.14							
3-Aug	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	0.0	0.1	0.9	1.0	0.6	0.2	0.0	0.0	0.0	0.0	0.14	0.96								
4-Aug	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	0.1	0.1	0.0	0.01	0.06								
5-Aug	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.05	0.21								
6-Aug	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	0.1	0.5	0.3	0.1	0.06	0.52								
7-Aug	0.1	0.1	Z	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.02	0.10								
8-Aug	0.6	1.7	Z	1.2	1.1	0.7	0.7	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.3	0.2	0.1	0.1	0.32	1.66								
9-Aug	0.0	0.0	Z	0.1	0.2	0.2	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.4	0.4	0.3	0.3	0.4	0.5	0.4	0.18	0.47								
10-Aug	0.3	0.1	Z	0.1	0.1	0.1	0.0	0.1	0.1	0.3	0.3	0.3	0.6	1.0	0.2	0.1	0.0	0.0	0.2	0.5	0.1	0.2	0.4	0.2	0.22	0.98							
11-Aug	0.1	0.1	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	2.4	0.5	2.7	0.3	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.30	2.68								
12-Aug	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.03	0.06								
13-Aug	0.0	0.0	Z	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.03	0.11								
14-Aug	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.05								
15-Aug	0.1	0.1	Z	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.03	0.13								
16-Aug	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.02	0.06								
17-Aug	0.0	0.0	Z	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	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.04	0.15								
18-Aug	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.03	0.11								
19-Aug	0.1	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	0.1	0.1	0.0	0.03	0.13								
20-Aug	0.0	0.1	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.02	0.09								
21-Aug	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	C	C	C	C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.05								
22-Aug	0.0	0.0	Z	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	0.1	0.7	0.5	0.4	0.3	0.09	0.67								
23-Aug	0.3	0.2	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.7	3.0	3.4	2.4	1.5	0.3	0.2	0.1	0.57	3.43								
24-Aug	0.1	0.1	Z	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	1.6	2.2	1.4	1.2	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.32	2.22								
25-Aug	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.03								
26-Aug	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.06	0.27								
27-Aug	0.0	0.0	Z	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.2	0.7	0.7	0.7	0.3	0.1	0.17	0.74								
28-Aug	0.1	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.2	1.0	2.9	0.4	0.1	0.1	0.1	0.1	0.25	2.92								
29-Aug	0.0	0.2	Z	0.0	0.1	0.0	0.0	0.1	0.4	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.0	0.0	0.0	0.0	0.1	0.10	0.39								
30-Aug	0.1	0.1	Z	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.3	0.4	1.2	0.4	0.1	0.1	0.0	0.0	0.15	1.16								
31-Aug	0.1	0.1	Z	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.02	0.07								
		0.07	0.10	--	0.07	0.06	0.05	0.04	0.04	0.05	0.05	0.06	0.18	0.15	0.20	0.09	0.06	0.10	0.24	0.31	0.17	0.14	0.10	0.08	0.05	Diurnal Average							
		0.62	1.66	--	1.21	1.08	0.74	0.74	0.21	0.39	0.27	0.31	2.42	2.22	2.68	1.24	0.32	0.92	2.96	3.43	2.44	1.48	0.52	0.47	0.36	Diurnal Maximum							
Z - zerospan		C - Calibration																															
Alberta Ambient Air Quality Objectives (AAAQO):		1-hr 172 ppb				24-hr 48 ppb																											



WCAS - Tomahawk
Summary of Hourly Averages

Ozone (O₃) - ppb
August 2017

Maximum Value: 65.87 ppb on Aug 9 18:00 Maximum Daily Average: 44.14 ppb on Aug 12																						Hours in Service: 744				
Minimum Value: 2.0 ppb on Aug 2 07:00 Minimum Daily Average: 14.70 ppb on Aug 1																						Hours of Data: 708				
Maximum Diurnal Average: 36.84 ppb at hour 16 Minimum Diurnal Average: 10.51 ppb at hour 7																						Hours of Missing Data: 36				
Monthly Average: 25.238 ppb Percentiles: P₁ = 2.5 P₁₀ = 9.1 Q₁ = 15.8 Median = 24.4 Q₃ = 34.1 P₉₀ = 40.9 P₉₉ = 57.1																						Hours of Calibration: 36				
																						Percent Operational Time: 100.0				
Day	Hourly Period Ending At																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Aug	17.0	12.1	Z	3.9	3.8	2.6	2.2	3.5	7.9	13.5	15.7	17.9	19.0	20.6	20.8	20.1	23.6	25.9	25.0	24.3	20.4	15.4	12.0	10.9	14.70	25.95
2-Aug	8.0	6.7	Z	2.8	2.4	2.1	2.0	2.4	4.7	12.4	20.4	29.5	35.3	37.8	37.1	35.8	36.3	36.6	37.8	36.4	31.3	30.0	29.8	30.7	22.09	37.79
3-Aug	28.3	28.7	Z	20.3	12.4	6.8	5.3	7.9	14.3	25.5	36.2	41.8	42.5	42.8	41.3	45.4	50.5	48.0	41.9	37.8	32.0	33.3	32.1	26.9	30.52	50.48
4-Aug	27.4	25.5	Z	20.7	21.5	19.9	16.4	18.1	19.8	20.1	18.3	18.8	17.0	19.1	24.6	21.2	25.8	20.8	22.4	22.5	17.5	13.8	12.7	11.4	19.80	27.38
5-Aug	8.9	7.9	Z	7.6	5.9	4.6	5.3	8.5	12.5	18.4	22.7	25.1	28.4	28.6	30.7	31.6	32.5	27.0	29.1	26.5	22.1	20.9	21.6	19.8	19.39	32.55
6-Aug	17.8	11.8	Z	6.7	7.0	3.5	2.5	3.8	8.8	19.5	33.7	37.3	38.1	37.8	37.7	38.6	38.7	39.5	39.0	31.9	34.1	29.6	24.8	18.4	24.39	39.45
7-Aug	16.9	13.8	Z	15.0	18.3	18.0	14.0	14.5	19.8	18.3	19.0	20.6	20.5	21.0	24.5	26.9	26.0	22.8	18.7	18.3	16.4	16.2	15.8	13.3	18.65	26.90
8-Aug	11.7	4.0	Z	4.1	7.7	9.2	12.1	17.0	20.4	22.4	25.3	28.1	30.9	31.9	33.4	34.0	34.5	36.0	35.2	28.0	25.2	18.9	20.8	24.4	22.40	36.01
9-Aug	24.5	24.1	Z	20.9	18.1	11.8	5.9	7.0	19.0	25.7	31.8	40.3	48.2	52.3	55.0	56.5	59.6	65.9	63.6	56.5	52.5	50.4	49.9	42.9	38.36	65.87
10-Aug	42.1	32.3	Z	19.3	15.1	22.1	7.2	11.7	25.5	41.7	54.7	57.0	56.2	57.3	60.8	53.3	45.8	45.1	44.2	38.2	41.4	39.7	34.3	35.0	38.26	60.80
11-Aug	34.5	35.4	Z	26.9	23.0	13.3	12.8	16.4	27.7	34.3	45.7	40.6	49.0	41.5	54.7	55.0	52.0	49.5	48.0	45.6	41.4	38.5	36.1	34.8	37.24	54.96
12-Aug	32.7	31.2	Z	31.5	32.8	31.7	31.4	34.5	38.3	43.2	47.1	50.2	53.2	55.4	56.9	58.2	57.7	57.0	53.3	48.8	48.2	45.0	40.1	37.0	44.14	58.23
13-Aug	35.7	34.2	Z	31.0	29.2	28.0	25.2	25.2	26.7	31.5	31.4	30.8	32.2	37.2	38.9	41.5	31.0	23.1	25.5	24.2	22.9	19.8	16.3	19.6	28.74	41.53
14-Aug	19.2	17.0	Z	12.4	10.4	10.8	12.9	16.0	19.5	24.2	24.2	27.9	31.9	33.8	34.8	34.5	32.2	29.6	29.1	25.0	20.9	20.6	17.0	14.0	22.52	34.82
15-Aug	15.6	16.5	Z	15.1	15.7	16.4	16.0	17.1	19.8	23.6	30.6	34.0	36.0	36.9	37.6	38.0	37.9	36.8	34.7	33.7	30.2	26.2	23.3	20.3	26.61	37.96
16-Aug	20.2	18.0	Z	6.5	5.7	5.3	2.8	4.2	11.3	17.9	23.9	32.0	38.1	39.1	38.5	34.8	36.4	33.7	32.1	32.0	24.7	19.1	20.9	13.7	22.21	39.12
17-Aug	10.1	11.4	Z	13.7	14.5	10.6	7.8	9.2	10.6	15.1	27.6	35.9	39.9	39.5	40.7	41.7	42.3	41.4	37.0	32.1	27.7	27.3	23.9	23.0	25.35	42.26
18-Aug	20.6	16.8	Z	12.5	12.3	11.9	13.1	12.1	15.9	17.4	24.5	34.3	42.1	44.0	40.1	31.2	28.3	29.2	31.4	30.9	34.9	31.3	28.2	24.7	25.56	44.04
19-Aug	23.7	24.5	Z	21.7	20.6	19.5	18.9	20.0	24.5	28.9	31.5	31.3	32.4	33.5	34.0	34.8	35.4	34.9	33.8	31.3	30.1	29.6	28.5	27.1	28.29	35.36
20-Aug	27.0	24.4	Z	14.9	13.3	12.3	11.3	9.7	9.0	9.4	27.8	34.1	35.9	34.1	34.2	35.9	33.1	33.0	32.4	30.4	28.8	25.6	22.9	16.7	24.19	35.93
21-Aug	15.1	12.6	Z	12.0	7.8	4.2	3.9	4.8	C	C	C	C	C	34.7	30.9	25.3	24.6	22.2	19.4	17.8	16.2	12.9	12.9	9.2	15.92	34.71
22-Aug	7.6	5.8	Z	5.0	4.2	3.2	2.4	4.9	8.6	15.0	20.1	20.8	21.0	21.5	22.3	23.9	25.1	25.5	26.3	22.7	26.5	28.7	29.2	26.5	17.26	29.21
23-Aug	24.4	23.9	Z	21.8	22.7	20.8	18.6	16.9	15.8	19.9	20.5	24.2	27.2	32.3	37.7	39.6	39.9	17.5	14.1	13.7	21.5	34.1	35.9	42.1	25.44	42.07
24-Aug	30.7	21.1	Z	15.3	10.9	11.2	6.5	7.0	7.7	11.9	18.3	17.2	14.6	23.7	27.6	36.1	33.3	33.7	33.5	32.5	30.2	26.2	20.1	18.6	21.21	36.07
25-Aug	20.4	19.7	Z	15.6	13.5	11.1	10.1	11.2	16.0	22.9	29.8	33.0	34.0	34.2	34.9	36.0	36.3	37.0	34.7	32.3	31.1	30.2	25.8	24.4	25.83	37.04
26-Aug	23.5	24.5	Z	10.1	6.1	4.0	4.0	5.3	11.4	21.0	23.6	32.6	38.2	39.9	40.5	40.5	40.5	41.0	37.2	34.6	33.8	32.1	30.3	26.9	26.17	41.00
27-Aug	21.7	17.7	Z	9.9	9.4	9.6	11.0	10.5	16.7	25.4	32.3	38.3	41.9	43.9	48.1	46.3	38.6	43.1	49.3	46.0	42.1	34.1	27.6	22.9	29.85	49.30
28-Aug	23.7	15.7	Z	14.1	13.0	12.8	11.5	9.2	16.4	19.9	20.1	20.7	22.0	24.2	32.7	34.7	33.8	28.9	18.2	27.3	25.3	21.1	23.6	19.9	21.24	34.73
29-Aug	12.9	13.7	Z	9.9	20.4	14.8	10.4	13.1	14.6	20.9	26.0	31.6	35.8	37.7	35.9	37.3	39.0	38.0	33.5	34.0	35.6	34.7	33.5	32.4	26.77	38.97
30-Aug	29.6	26.4	Z	21.8	19.9	18.2	14.3	13.0	12.5	12.6	11.4	13.1	12.4	13.7	18.4	22.0	23.3	19.2	20.1	18.1	12.4	8.6	6.1	7.8	16.30	29.64
31-Aug	6.7	6.2	Z	5.6	7.6	6.1	7.9	13.1	16.2	20.8	26.2	31.0	32.6	32.8	31.4	31.2	39.1	38.7	34.0	24.7	23.2	18.4	16.7	12.7	20.99	39.11
																								Diurnal Average		
																								Diurnal Maximum		
																								21.24 18.83 -- 14.47 13.71 12.15 10.51 11.86 16.39 21.77 27.35 31.00 33.55 34.94 36.67 36.84 36.55 34.86 33.37 30.91 29.05 26.84 24.93 22.84		
																								42.06 35.39 -- 31.46 32.81 31.68 31.45 34.53 38.27 43.16 54.70 57.03 56.16 57.32 60.80 58.23 59.58 65.87 63.56 56.45 52.47 50.45 49.87 42.86		
Z - zerospan C - Calibration																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 82.5 ppb 24-hr -- ppb																										



WCAS - Tomahawk
Eight Hour Running Averages

Ozone (O₃) - ppb
August 2017

Maximum Value: 57.71 ppb on Aug 9 21:00		Maximum Daily Average: 43.06 ppb on Aug 12		Hours in Service: 744																																												
Minimum Value: 3.3 ppb on Aug 2 09:00		Minimum Daily Average: 14.91 ppb on Aug 22		Hours of Data: 735																																												
Maximum Diurnal Average: 34.67 ppb at hour 20		Minimum Diurnal Average: 13.95 ppb at hour 9		Hours of Missing Data: 9																																												
Monthly Average: 25.004 ppb		Percentiles: P ₁ = 5.3 P ₁₀ = 11.6 Q ₁ = 16.8 Median = 24.2 Q ₃ = 32.1 P ₉₀ = 38.5 P ₉₉ = 55.1		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-Aug	22.5	20.3	19.1	16.0	13.7	11.1	8.6	6.4	5.2	5.4	6.6	8.4	10.3	12.5	14.9	16.9	18.9	20.4	21.6	22.4	22.6	21.9	20.8	19.7	15.26	22.58																						
2-Aug	17.7	15.3	14.0	10.9	8.3	6.4	5.0	3.8	3.3	4.1	6.1	9.5	13.6	18.0	22.4	26.6	30.6	33.6	35.8	36.6	36.1	35.2	34.2	33.6	19.20	36.63																						
3-Aug	32.6	31.6	30.7	28.4	25.8	22.4	18.9	15.7	13.7	13.2	16.1	18.8	22.5	27.0	31.5	36.2	40.7	43.6	44.3	43.8	42.5	41.3	40.1	37.8	29.97	44.27																						
4-Aug	34.9	32.1	30.7	28.3	26.8	24.9	22.6	21.4	20.3	19.5	19.4	18.6	18.5	19.5	19.9	20.6	20.7	21.2	21.7	21.8	21.1	19.6	18.4	22.55	34.92																							
5-Aug	16.3	14.6	13.5	11.4	9.7	8.4	7.4	7.0	7.5	9.0	10.7	12.9	15.7	18.7	21.8	24.7	27.2	28.3	29.1	29.3	28.5	27.5	26.4	24.9	17.94	29.29																						
6-Aug	23.1	21.2	20.1	17.2	15.1	12.6	9.9	7.6	6.3	7.4	10.7	14.5	18.4	22.7	27.1	31.5	35.2	37.7	38.3	37.7	37.2	36.1	34.5	32.0	23.09	38.34																						
7-Aug	29.3	26.1	24.2	21.8	19.6	17.9	16.4	15.8	16.2	16.9	17.1	17.8	18.1	18.5	19.8	21.3	22.1	22.7	22.6	22.3	21.8	21.2	20.1	18.5	20.34	29.28																						
8-Aug	16.7	14.3	13.7	11.6	10.4	9.4	8.9	9.4	10.6	13.3	14.8	17.8	20.7	23.5	26.2	28.3	30.1	31.8	33.0	33.0	32.3	30.7	29.1	27.9	20.72	33.01																						
9-Aug	26.6	25.1	23.7	22.7	21.7	20.7	18.5	16.1	15.3	15.5	17.5	20.0	23.7	28.8	34.9	41.1	46.2	51.2	55.2	57.2	57.7	57.5	56.8	55.1	33.69	57.71																						
10-Aug	53.0	48.8	46.6	41.3	36.0	31.9	25.9	21.4	19.0	20.4	24.7	29.4	34.5	38.9	45.6	50.8	53.3	53.8	52.5	50.1	48.3	46.1	42.7	40.4	39.81	53.77																						
11-Aug	39.0	37.8	36.9	35.3	32.7	28.9	25.8	23.2	22.2	22.1	25.0	26.7	30.0	33.5	38.7	43.6	46.6	48.5	48.8	49.4	48.5	48.1	45.8	43.2	36.68	49.40																						
12-Aug	40.8	38.5	37.2	35.2	33.9	33.0	32.3	32.3	33.1	34.8	36.3	38.6	41.2	44.2	47.3	50.3	52.7	54.5	55.2	55.1	54.4	53.1	51.0	48.4	43.06	55.23																						
13-Aug	45.6	42.8	41.3	38.7	36.0	33.6	31.5	29.8	28.5	28.1	28.5	28.5	28.9	30.0	31.7	33.8	34.3	33.3	32.5	31.7	30.5	28.4	25.5	22.8	32.34	45.63																						
14-Aug	21.3	20.6	19.9	18.2	16.4	15.1	14.6	14.1	14.1	15.2	16.3	18.2	20.9	23.8	26.5	28.8	30.4	31.1	31.7	31.4	30.0	28.4	26.1	23.6	22.37	31.75																						
15-Aug	21.5	19.9	18.5	17.1	16.4	15.7	15.6	16.1	16.7	17.7	19.3	21.7	24.2	26.8	29.5	32.1	34.3	36.0	36.5	36.4	35.7	34.4	32.6	30.4	25.20	36.48																						
16-Aug	28.2	25.8	24.6	20.7	17.2	14.2	11.3	9.0	7.7	7.7	9.7	12.9	16.9	21.2	25.6	29.5	32.6	34.6	35.6	35.6	33.9	31.4	29.2	26.6	22.56	35.58																						
17-Aug	23.3	20.5	18.8	16.2	14.8	13.6	11.7	11.0	11.1	11.6	13.6	16.4	19.6	23.2	27.3	31.4	35.3	38.6	39.8	39.3	37.8	36.3	34.2	31.8	24.05	39.78																						
18-Aug	29.1	26.1	24.5	21.7	19.5	17.3	15.7	14.2	13.5	13.6	15.0	17.7	21.4	25.4	28.8	31.2	32.7	34.2	35.1	34.6	33.8	32.2	30.7	29.9	24.91	35.06																						
19-Aug	29.3	28.7	28.3	27.0	25.0	23.3	21.9	21.3	21.4	22.0	23.2	24.4	25.9	27.6	29.5	31.4	32.7	33.5	33.8	33.8	33.5	33.0	32.3	31.3	28.09	33.78																						
20-Aug	30.3	29.0	28.3	25.9	23.6	21.1	18.6	16.1	13.6	11.4	13.5	15.9	18.7	21.4	24.3	27.6	30.6	33.5	34.1	33.6	32.7	31.7	30.3	27.9	24.73	34.09																						
21-Aug	25.6	23.1	21.7	19.1	16.1	13.1	10.3	8.6	7.5	Z	C	C	C	C	C	C	C	C	26.2	25.0	23.9	21.2	18.9	16.9	--	26.19																						
22-Aug	14.8	12.7	11.8	9.9	8.2	6.8	5.3	4.7	4.9	6.2	7.9	9.9	12.0	14.3	16.8	19.2	21.2	22.5	23.3	23.6	24.2	25.1	26.0	26.3	14.91	26.33																						
23-Aug	26.2	26.0	26.0	25.9	25.3	24.2	22.7	21.3	20.1	19.5	19.6	19.9	20.5	21.9	24.3	27.2	30.2	29.9	29.1	27.8	27.0	27.3	27.0	27.4	24.84	30.16																						
24-Aug	26.2	26.7	28.4	28.7	27.2	23.9	19.7	14.7	11.4	10.1	11.1	11.3	11.8	13.4	16.0	19.6	22.8	25.6	27.5	29.4	31.3	31.6	30.7	28.5	21.98	31.64																						
25-Aug	26.9	25.1	23.9	21.5	19.2	17.0	15.6	14.5	13.9	14.3	16.3	18.4	21.0	23.9	27.0	30.1	32.6	34.4	35.0	34.9	34.6	34.1	32.9	31.5	24.95	35.01																						
26-Aug	29.9	28.3	27.4	24.2	20.7	16.9	13.8	11.1	9.4	8.9	10.7	13.5	17.5	22.0	26.6	31.0	34.6	37.1	38.8	39.1	38.5	37.5	36.3	34.6	25.34	39.06																						
27-Aug	32.2	29.3	28.2	24.6	21.2	17.9	15.2	12.8	12.1	13.2	15.6	19.2	23.2	27.5	32.1	36.6	39.3	41.6	43.7	44.7	44.7	43.5	40.9	38.0	29.05	44.67																						
28-Aug	36.1	32.7	30.3	25.7	21.6	18.5	16.2	14.3	13.2	13.8	14.6	15.4	16.6	18.0	20.6	23.8	26.0	27.1	26.9	27.7	28.1	27.7	26.6	24.8	22.77	36.11																						
29-Aug	22.1	20.2	20.5	18.1	17.3	16.4	14.6	13.6	13.8	14.9	16.3	19.0	20.9	23.8	27.0	30.0	33.0	35.2	36.1	36.4	36.4	36.0	35.7	35.1	24.68	36.40																						
30-Aug	33.9	32.5	32.3	30.6	28.3	26.0	23.2	20.5	18.0	16.0	15.5	14.4	13.4	12.9	13.4	14.5	15.8	16.7	17.8	18.4	18.4	17.8	16.2	14.5	20.04	33.92																						
31-Aug	12.4	10.8	9.4	7.6	6.9	6.6	6.8	7.6	8.9	11.0	12.9	16.1	19.2	22.6	25.5	27.8	30.6	32.9	33.9	33.1	31.9	30.1	28.2	25.9	19.12	33.85																						
																								27.98	26.02	24.99	22.64	20.46	18.35	16.28	14.68	13.95	14.55	16.15	18.21	20.66	23.48	26.75	29.89	32.45	34.14	34.67	34.67	34.15	33.14	31.67	29.92	Diurnal Average
																								52.95	48.75	46.64	41.34	36.02	33.60	32.30	32.26	33.06	34.76	36.30	38.64	41.19	44.16	47.35	50.81	53.35	54.46	55.23	57.17	57.71	57.48	56.84	55.14	Diurnal Maximum
Z - zerospan		C - Calibration																																														



WCAS - Tomahawk
Summary of Hourly Averages

Nitrogen Oxide (NO) - ppb
August 2017

Maximum Value: 7.49 ppb on Aug 16 07:00		Maximum Daily Average: 0.56 ppb on Aug 24		Hours in Service: 744																							
Minimum Value: 0.0 ppb on Aug 19 22:00		Minimum Daily Average: 0.04 ppb on Aug 19		Hours of Data: 708																							
Maximum Diurnal Average: 0.58 ppb at hour 7		Minimum Diurnal Average: 0.04 ppb at hour 24		Hours of Missing Data: 36																							
Monthly Average: 0.193 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.1 Q ₃ = 0.1 P ₉₀ = 0.5 P ₉₉ = 2.2		Hours of Calibration: 36																							
				Percent Operational Time: 100.0																							
Day	Hourly Period Ending At																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Aug	0.0	0.0	Z	0.1	0.2	0.4	1.0	1.1	0.3	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.20	1.14	
2-Aug	0.1	0.1	Z	0.1	0.1	0.2	0.7	0.8	0.9	0.6	0.5	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.23	0.92	
3-Aug	0.0	0.0	Z	0.0	0.0	0.1	0.4	0.8	1.0	0.8	0.4	0.2	0.1	0.1	0.1	0.1	0.4	0.5	0.3	0.1	0.1	0.1	0.1	0.1	0.24	0.97	
4-Aug	0.0	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.07	0.11	
5-Aug	0.0	0.0	Z	0.0	0.0	0.1	0.5	0.7	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.4	0.4	0.2	0.1	0.1	0.1	0.1	0.18	0.69	
6-Aug	0.1	0.1	Z	0.1	0.1	0.2	0.7	0.8	0.8	0.8	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.19	0.79	
7-Aug	0.0	0.1	Z	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.08	0.16	
8-Aug	0.1	0.3	Z	0.2	0.1	0.2	0.4	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.14	0.35	
9-Aug	0.1	0.1	Z	0.0	0.1	0.1	0.6	1.6	0.9	0.7	0.6	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.26	1.65	
10-Aug	0.1	0.0	Z	0.0	0.0	0.1	0.4	0.5	0.3	0.2	0.1	0.1	0.3	0.5	0.1	0.1	0.1	0.1	0.2	0.2	0.0	0.0	0.0	0.0	0.15	0.54	
11-Aug	0.0	0.0	Z	0.0	0.0	0.1	0.7	0.8	0.5	0.4	0.2	2.2	0.4	2.2	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.36	2.24	
12-Aug	0.0	0.0	Z	0.0	0.0	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.09	0.24	
13-Aug	0.0	0.0	Z	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.11	0.26	
14-Aug	0.0	0.0	Z	0.0	0.0	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.06	0.18	
15-Aug	0.0	0.0	Z	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.04	0.14	
16-Aug	0.0	0.0	Z	0.1	0.1	0.1	7.5	1.9	1.2	0.8	0.5	0.3	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.56	7.49	
17-Aug	0.0	0.0	Z	0.0	0.0	0.1	0.4	0.5	0.6	0.5	0.2	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.13	0.57	
18-Aug	0.0	0.0	Z	0.1	0.0	0.1	0.3	0.6	0.4	0.6	0.5	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.1	0.17	0.61	
19-Aug	0.0	0.0	Z	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.04	0.15	
20-Aug	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.4	0.5	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	0.07	0.50	
21-Aug	0.0	0.0	Z	0.0	0.0	0.1	0.5	0.8	C	C	C	C	C	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.12	0.82	
22-Aug	0.1	0.1	Z	0.1	0.1	0.1	1.0	1.1	0.8	0.5	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.22	1.15	
23-Aug	0.0	0.0	Z	0.0	0.0	0.1	0.2	0.3	0.3	0.4	0.5	0.5	0.4	0.3	0.1	0.1	0.5	2.3	2.7	0.7	0.1	0.1	0.1	0.0	0.42	2.67	
24-Aug	0.0	0.0	Z	0.1	0.0	0.1	0.4	0.4	0.5	0.6	0.5	2.8	3.3	2.1	1.5	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.56	3.34	
25-Aug	0.0	0.0	Z	0.0	0.0	0.0	0.2	0.5	0.7	0.4	0.2	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.12	0.67	
26-Aug	0.0	0.0	Z	0.0	0.0	0.1	0.4	1.1	1.0	0.7	1.0	0.4	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.23	1.11	
27-Aug	0.2	0.0	Z	0.0	0.0	0.0	0.1	0.5	0.6	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.13	0.62	
28-Aug	0.1	0.1	Z	0.1	0.1	0.1	0.1	0.5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.8	2.0	0.1	0.1	0.0	0.0	0.0	0.21	2.02	
29-Aug	0.0	0.0	Z	0.1	0.0	0.4	0.6	0.8	0.8	0.5	0.3	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.21	0.80	
30-Aug	0.0	0.0	Z	0.1	0.1	0.1	0.2	0.2	0.4	0.3	0.3	0.2	0.2	0.7	0.9	0.7	0.7	1.0	0.3	0.1	0.1	0.1	0.1	0.1	0.30	1.01	
31-Aug	0.1	0.1	Z	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.08	0.14	
		0.05	0.05	--	0.05	0.05	0.10	0.58	0.58	0.47	0.37	0.27	0.31	0.23	0.25	0.15	0.10	0.12	0.21	0.24	0.09	0.05	0.05	0.04	0.04	Diurnal Average	
		0.17	0.26	--	0.20	0.20	0.42	7.49	1.86	1.19	0.81	1.02	2.80	3.34	2.22	1.54	0.65	0.73	2.29	2.67	0.66	0.13	0.09	0.10	0.07	Diurnal Maximum	
Z - zerospan		C - Calibration																									
Alberta Ambient Air Quality Objectives (AAAQO):		1-hr --- ppb		24-hr --- ppb																							



WCAS - Tomahawk
Summary of Hourly Averages

Nitrogen Dioxide (NO₂) - ppb
August 2017

Maximum Value: 11.64 ppb on Aug 23 19:00		Maximum Daily Average: 2.89 ppb on Aug 23		Hours in Service: 744																							
Minimum Value: 0.2 ppb on Aug 19 17:00		Minimum Daily Average: 0.29 ppb on Aug 19		Hours of Data: 708																							
Maximum Diurnal Average: 1.42 ppb at hour 22		Minimum Diurnal Average: 0.60 ppb at hour 16		Hours of Missing Data: 36																							
Monthly Average: 1.135 ppb		Percentiles: P ₁ = 0.2 P ₁₀ = 0.4 Q ₁ = 0.5 Median = 0.9 Q ₃ = 1.4 P ₉₀ = 2.0 P ₉₉ = 5.5		Hours of Calibration: 36																							
				Percent Operational Time: 100.0																							
Day	Hourly Period Ending At																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Aug	0.9	1.1	Z	1.5	1.4	1.5	1.3	1.4	0.9	0.6	1.0	0.9	0.6	0.4	0.4	0.4	0.3	0.3	0.3	0.4	0.5	1.3	1.7	1.3	0.88	1.66	
2-Aug	1.4	1.1	Z	1.1	1.0	0.8	0.5	0.4	0.5	0.7	0.9	0.9	0.6	0.6	0.6	0.5	0.5	0.4	0.6	0.6	0.8	0.8	0.8	0.9	0.73	1.45	
3-Aug	0.9	0.9	Z	1.3	1.1	1.0	0.7	0.9	1.3	1.6	1.4	0.9	0.7	0.6	0.5	0.7	2.2	2.5	2.3	1.1	1.2	0.9	0.7	0.6	1.13	2.48	
4-Aug	0.7	0.8	Z	0.6	0.7	0.7	0.7	0.6	0.6	0.5	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.5	0.6	0.6	0.50	0.80	
5-Aug	0.7	0.7	Z	0.7	1.1	1.1	0.9	0.8	0.6	0.5	0.5	0.4	0.3	0.3	0.3	0.4	0.8	1.7	1.3	1.5	1.4	1.1	0.9	0.8	0.82	1.71	
6-Aug	0.8	1.0	Z	0.9	0.8	0.8	0.5	0.4	0.7	1.2	0.8	0.6	0.4	0.4	0.3	0.3	0.3	0.3	0.4	1.2	1.0	3.7	2.9	1.6	0.93	3.67	
7-Aug	1.6	1.6	Z	1.7	0.8	0.7	0.6	0.5	0.5	0.4	0.5	0.4	0.4	0.3	0.4	0.7	0.6	0.6	0.5	0.5	0.7	0.8	0.9	0.9	0.72	1.71	
8-Aug	3.0	6.5	Z	5.9	4.8	3.4	2.7	1.2	0.7	0.5	0.6	0.5	0.5	0.5	0.4	0.4	0.4	0.5	0.6	0.9	1.4	3.4	2.0	1.0	1.82	6.55	
9-Aug	0.8	0.9	Z	1.3	1.8	1.7	0.9	1.3	1.5	1.5	1.5	1.0	0.8	0.8	0.8	0.7	0.9	1.3	1.9	1.6	1.5	2.0	1.8	1.8	1.30	1.99	
10-Aug	1.8	1.4	Z	1.3	1.8	1.3	1.1	1.2	0.9	1.0	1.0	0.9	1.8	2.7	1.0	0.7	0.5	0.6	1.2	1.9	0.7	1.4	2.2	1.4	1.30	2.71	
11-Aug	1.2	1.1	Z	1.2	1.5	1.5	2.3	1.7	1.4	1.3	0.8	4.4	1.5	5.1	1.0	0.6	0.5	0.6	0.5	0.6	0.7	0.8	0.7	0.7	1.37	5.11	
12-Aug	0.8	0.8	Z	1.0	0.8	1.3	1.6	1.0	0.9	0.7	0.7	0.6	0.7	0.7	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.8	1.0	0.82	1.64	
13-Aug	1.0	1.2	Z	1.3	1.2	1.2	1.2	1.2	1.2	1.2	1.4	1.4	1.1	1.2	1.1	1.0	1.7	2.1	1.7	1.4	1.3	1.1	1.2	0.9	1.27	2.11	
14-Aug	0.9	1.0	Z	1.1	1.0	1.0	0.8	0.6	0.5	0.4	0.4	0.4	0.5	0.4	0.4	0.4	0.5	0.6	0.7	1.2	1.6	0.7	1.0	1.1	0.75	1.56	
15-Aug	0.9	0.7	Z	0.6	0.6	0.6	0.5	0.5	0.4	0.4	0.3	0.2	0.3	0.3	0.4	0.4	0.4	0.4	0.5	0.5	0.7	0.8	1.1	1.8	0.57	1.79	
16-Aug	1.4	1.7	Z	1.0	0.9	0.8	2.1	1.4	1.6	1.5	1.4	1.2	0.6	0.6	0.6	0.7	0.6	0.6	0.6	0.8	1.7	2.2	1.6	1.9	1.19	2.18	
17-Aug	2.2	1.7	Z	1.1	1.0	1.8	1.6	1.4	1.5	1.3	0.7	0.4	0.7	0.5	0.5	0.5	0.5	0.6	0.7	1.5	1.9	1.9	2.3	2.0	1.23	2.25	
18-Aug	1.7	1.7	Z	2.2	2.3	2.1	2.7	2.3	1.7	1.8	1.5	1.1	1.0	0.8	1.0	0.9	0.8	0.6	0.4	0.5	0.5	0.5	0.6	0.6	1.27	2.75	
19-Aug	0.4	0.3	Z	0.4	0.4	0.5	0.6	0.4	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.4	0.29	0.59	
20-Aug	0.3	0.4	Z	1.2	1.3	1.4	1.5	1.4	1.3	1.2	0.5	0.3	0.2	0.3	0.5	0.5	0.5	0.6	0.6	0.4	0.6	0.8	0.8	1.4	0.78	1.49	
21-Aug	1.6	1.9	Z	1.9	2.1	2.2	1.3	0.7	C	C	C	C	C	0.6	0.6	0.5	0.4	0.7	0.9	1.2	1.7	2.1	1.5	2.0	1.32	2.18	
22-Aug	1.3	1.3	Z	1.0	1.3	1.8	1.8	1.3	1.0	0.8	0.5	0.3	0.2	0.2	0.3	0.3	0.3	0.3	0.4	1.2	2.4	1.8	1.4	1.3	0.98	2.39	
23-Aug	1.2	1.3	Z	1.0	0.9	1.1	1.6	1.6	1.3	1.3	1.6	1.6	1.5	1.3	1.0	0.8	3.2	10.7	11.6	10.7	7.5	1.5	1.4	0.7	2.89	11.64	
24-Aug	1.0	1.3	Z	1.9	2.0	1.6	1.6	1.3	1.4	1.4	1.2	3.0	5.0	3.2	3.5	1.1	0.3	0.3	0.3	0.3	0.3	0.4	0.5	0.7	1.46	5.03	
25-Aug	0.5	0.6	Z	1.1	1.1	1.1	1.2	0.8	1.0	0.8	0.5	0.3	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.6	1.5	0.6	0.6	0.5	0.63	1.50	
26-Aug	0.5	0.5	Z	1.5	1.7	1.5	1.1	0.9	1.0	1.2	1.7	1.1	0.4	0.4	0.4	0.3	0.3	0.4	0.5	0.8	1.1	1.3	1.3	1.6	0.93	1.71	
27-Aug	2.3	1.7	Z	1.9	1.8	1.6	1.0	1.0	1.2	1.0	0.9	0.7	0.7	0.7	0.9	0.7	0.8	1.0	2.3	2.7	3.0	2.5	2.1	1.9	1.50	2.96	
28-Aug	1.2	1.1	Z	0.6	0.6	0.7	0.7	0.8	0.3	0.2	0.2	0.3	0.3	0.3	0.7	0.7	0.9	2.6	6.8	1.7	1.3	1.8	1.1	1.2	1.13	6.77	
29-Aug	1.3	1.8	Z	2.3	1.6	2.4	2.7	2.2	1.7	1.0	0.8	0.6	0.6	0.6	0.5	0.5	0.5	0.6	1.3	0.7	0.6	0.7	0.8	0.8	1.15	2.67	
30-Aug	1.0	1.1	Z	1.1	1.1	1.4	2.9	2.9	2.2	2.0	2.5	1.9	2.1	2.1	1.7	1.9	2.5	4.1	2.7	2.5	3.6	4.2	4.8	2.7	2.40	4.80	
31-Aug	2.4	2.2	Z	2.2	1.7	1.5	1.4	0.9	0.8	0.7	0.7	0.4	0.5	0.6	0.6	0.6	0.6	0.7	0.8	1.3	1.3	1.7	1.3	1.7	1.17	2.44	
		1.22	1.33	--	1.41	1.37	1.35	1.36	1.13	1.03	0.97	0.90	0.91	0.83	0.88	0.69	0.60	0.75	1.20	1.42	1.34	1.41	1.42	1.35	1.21	Diurnal Average	
		2.99	6.55	--	5.91	4.82	3.38	2.93	2.86	2.18	2.04	2.45	4.35	5.03	5.11	3.52	1.91	3.20	10.70	11.64	10.66	7.46	4.19	4.80	2.74	Diurnal Maximum	
Z - zerospan		C - Calibration																									
Alberta Ambient Air Quality Objectives (AAAQO):		1-hr 159 ppb					24-hr 106 ppb																				



WCAS - Tomahawk
Summary of Hourly Averages

NOx (NO_x) - ppb
August 2017

Maximum Value: 14.33 ppb on Aug 23 19:00		Maximum Daily Average: 3.35 ppb on Aug 23		Hours in Service: 744																							
Minimum Value: 0.2 ppb on Aug 19 17:00		Minimum Daily Average: 0.33 ppb on Aug 19		Hours of Data: 708																							
Maximum Diurnal Average: 1.97 ppb at hour 7		Minimum Diurnal Average: 0.71 ppb at hour 16		Hours of Missing Data: 36																							
Monthly Average: 1.350 ppb		Percentiles: P ₁ = 0.2 P ₁₀ = 0.4 Q ₁ = 0.6 Median = 1.0 Q ₃ = 1.7 P ₉₀ = 2.4 P ₉₉ = 7.2		Hours of Calibration: 36																							
				Percent Operational Time: 100.0																							
Day	Hourly Period Ending At																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Aug	0.9	1.2	Z	1.6	1.6	1.9	2.2	2.6	1.1	0.7	1.3	1.1	0.7	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.5	1.4	1.8	1.4	1.09	2.59	
2-Aug	1.5	1.3	Z	1.2	1.0	1.0	1.2	1.2	1.5	1.3	1.5	1.2	0.8	0.8	0.7	0.5	0.5	0.5	0.6	0.7	0.9	0.9	0.9	0.9	0.98	1.54	
3-Aug	1.0	1.0	Z	1.4	1.2	1.2	1.1	1.8	2.3	2.4	1.8	1.1	0.8	0.7	0.6	0.8	2.6	3.0	2.7	1.2	1.3	1.0	0.8	0.7	1.40	2.96	
4-Aug	0.7	0.9	Z	0.7	0.7	0.8	0.8	0.7	0.7	0.6	0.6	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.4	0.4	0.5	0.5	0.7	0.7	0.57	0.88	
5-Aug	0.7	0.8	Z	0.7	1.2	1.3	1.4	1.5	1.0	0.7	0.6	0.5	0.4	0.4	0.3	0.5	0.9	2.1	1.6	1.8	1.5	1.2	1.0	0.9	1.00	2.13	
6-Aug	0.9	1.1	Z	1.0	0.8	0.9	1.2	1.2	1.6	2.0	1.1	0.8	0.5	0.4	0.4	0.4	0.4	0.4	1.3	1.1	3.7	3.0	1.7	1.14	3.73		
7-Aug	1.7	1.7	Z	1.8	0.8	0.8	0.7	0.6	0.6	0.5	0.6	0.5	0.4	0.4	0.5	0.8	0.7	0.8	0.7	0.5	0.8	0.9	0.9	1.0	0.81	1.81	
8-Aug	3.1	6.8	Z	6.1	4.9	3.6	3.1	1.4	1.0	0.7	0.8	0.7	0.6	0.5	0.5	0.5	0.5	0.5	0.7	1.0	1.5	3.5	2.1	1.1	1.97	6.82	
9-Aug	0.9	1.0	Z	1.3	1.9	1.8	1.5	3.0	2.4	2.3	2.1	1.2	1.0	1.0	0.9	0.7	1.1	1.4	2.1	1.7	1.6	2.1	1.9	1.9	1.59	2.97	
10-Aug	2.0	1.5	Z	1.4	1.9	1.4	1.6	1.8	1.2	1.2	1.1	1.1	2.2	3.2	1.1	0.8	0.6	0.6	1.3	2.1	0.8	1.4	2.3	1.5	1.48	3.25	
11-Aug	1.2	1.1	Z	1.2	1.6	1.6	3.0	2.6	1.9	1.7	1.0	6.6	1.9	7.3	1.2	0.7	0.6	0.6	0.6	0.7	0.8	0.8	0.8	0.8	1.75	7.34	
12-Aug	0.8	0.9	Z	1.0	0.9	1.3	1.9	1.2	1.1	0.9	0.9	0.8	0.8	0.8	0.7	0.7	0.7	0.6	0.7	0.8	0.8	0.8	0.9	1.1	0.91	1.90	
13-Aug	1.1	1.2	Z	1.4	1.3	1.2	1.3	1.3	1.4	1.5	1.7	1.7	1.4	1.5	1.3	1.2	1.8	2.2	1.9	1.5	1.3	1.2	1.3	0.9	1.41	2.23	
14-Aug	0.9	1.0	Z	1.2	1.1	1.1	0.9	0.8	0.6	0.5	0.6	0.5	0.5	0.5	0.4	0.5	0.5	0.7	0.8	1.3	1.7	0.8	1.1	1.1	0.83	1.65	
15-Aug	1.0	0.8	Z	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.4	0.3	0.3	0.3	0.5	0.4	0.4	0.5	0.5	0.5	0.7	0.8	1.2	1.9	0.63	1.85	
16-Aug	1.5	1.8	Z	1.0	1.0	0.9	9.7	3.3	2.8	2.3	2.0	1.5	0.7	0.7	0.7	0.7	0.6	0.7	0.9	1.8	2.3	1.6	1.9	1.78	9.66		
17-Aug	2.3	1.8	Z	1.1	1.0	1.9	2.0	2.0	2.2	1.8	0.9	0.5	0.8	0.5	0.5	0.6	0.6	0.7	0.8	1.6	2.0	2.0	2.3	2.1	1.38	2.33	
18-Aug	1.8	1.8	Z	2.3	2.4	2.2	3.1	2.9	2.2	2.5	2.0	1.3	1.1	0.9	1.1	1.0	0.9	0.7	0.5	0.5	0.6	0.6	0.6	0.6	1.46	3.11	
19-Aug	0.4	0.4	Z	0.5	0.4	0.5	0.7	0.6	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.4	0.33	0.70	
20-Aug	0.4	0.4	Z	1.3	1.3	1.5	1.6	1.5	1.7	1.7	0.6	0.4	0.3	0.3	0.6	0.5	0.5	0.6	0.6	0.5	0.6	0.8	0.9	1.4	0.87	1.72	
21-Aug	1.7	1.9	Z	1.9	2.2	2.3	1.8	1.6	C	C	C	C	C	0.7	0.7	0.5	0.5	0.7	0.9	1.3	1.8	2.1	1.6	2.1	1.47	2.35	
22-Aug	1.4	1.4	Z	1.1	1.5	1.9	2.9	2.5	1.8	1.3	0.7	0.4	0.3	0.3	0.3	0.4	0.4	0.4	0.5	1.3	2.5	1.9	1.5	1.4	1.22	2.87	
23-Aug	1.3	1.4	Z	1.1	1.0	1.2	1.9	1.9	1.7	1.7	2.2	2.2	1.9	1.6	1.1	1.0	3.7	13.0	14.3	11.4	7.6	1.6	1.5	0.7	3.35	14.33	
24-Aug	1.0	1.4	Z	2.0	2.1	1.7	2.0	1.8	2.0	2.0	1.7	5.8	8.4	5.4	5.1	1.4	0.4	0.4	0.4	0.3	0.3	0.4	0.6	0.8	2.06	8.41	
25-Aug	0.5	0.6	Z	1.1	1.1	1.1	1.5	1.4	1.7	1.3	0.7	0.4	0.3	0.3	0.3	0.3	0.4	0.4	0.3	0.7	1.6	0.6	0.6	0.5	0.77	1.68	
26-Aug	0.5	0.5	Z	1.5	1.8	1.6	1.5	2.0	2.0	2.0	2.7	1.6	0.5	0.5	0.4	0.4	0.4	0.5	0.6	0.8	1.2	1.3	1.3	1.6	1.19	2.73	
27-Aug	2.5	1.7	Z	2.0	1.9	1.6	1.1	1.5	1.9	1.4	1.1	0.9	0.9	0.7	1.0	0.8	0.9	1.1	2.5	2.8	3.0	2.5	2.2	2.0	1.66	3.03	
28-Aug	1.3	1.2	Z	0.7	0.7	0.7	0.8	1.3	0.4	0.3	0.3	0.4	0.3	0.4	0.8	0.9	1.1	3.5	8.8	1.8	1.3	1.9	1.1	1.3	1.36	8.82	
29-Aug	1.4	1.9	Z	2.4	1.7	2.9	3.3	3.1	2.5	1.6	1.2	0.8	0.8	0.7	0.6	0.7	0.6	0.7	1.4	0.8	0.6	0.7	0.8	0.9	1.39	3.27	
30-Aug	1.0	1.2	Z	1.2	1.2	1.5	3.1	3.1	2.6	2.4	2.8	2.2	2.4	2.8	2.7	2.6	3.3	5.1	3.1	2.7	3.7	4.3	4.9	2.8	2.74	5.10	
31-Aug	2.6	2.4	Z	2.3	1.8	1.7	1.6	1.0	0.9	0.9	0.9	0.5	0.6	0.6	0.6	0.7	0.7	0.8	0.9	1.4	1.4	1.8	1.4	1.7	1.28	2.55	
		1.29	1.41	--	1.49	1.44	1.48	1.97	1.73	1.53	1.36	1.19	1.25	1.08	1.15	0.86	0.71	0.88	1.43	1.68	1.45	1.49	1.49	1.42	1.28	Diurnal Average	
		3.08	6.82	--	6.12	4.91	3.59	9.66	3.28	2.81	2.50	2.84	6.60	8.41	7.34	5.11	2.64	3.73	13.02	14.33	11.35	7.62	4.30	4.93	2.84	Diurnal Maximum	
Z - zerospan		C - Calibration																									
Alberta Ambient Air Quality Objectives (AAAQO):		1-hr --- ppb					24-hr --- ppb																				



WCAS - Tomahawk
Summary of Hourly Averages

PM2.5 (PM_{2.5}) - µg/m³
August 2017

Maximum Value: 277.65 µg/m ³ on Aug 13 18:00																	Maximum Daily Average: 59.30 µg/m ³ on Aug 13										Hours in Service: 744	
Minimum Value: 0.2 µg/m ³ on Aug 19 22:00																	Minimum Daily Average: 0.68 µg/m ³ on Aug 19										Hours of Data: 744	
Maximum Diurnal Average: 18.62 µg/m ³ at hour 18																	Minimum Diurnal Average: 6.55 µg/m ³ at hour 12										Hours of Missing Data: 0	
Monthly Average: 10.467 µg/m ³																	Percentiles: P ₁ = 0.4 P ₁₀ = 1.3 Q ₁ = 3.0 Median = 5.7 Q ₃ = 8.5 P ₉₀ = 26.6 P ₉₉ = 99.3										Hours of Calibration: 0	
																											Percent Operational Time: 100.0	
Day	Hourly Period Ending At																								Daily Average	Daily Maximum		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24				
1-Aug	9.6	9.2	8.3	8.0	7.6	7.1	6.6	7.2	5.0	3.3	2.5	2.3	2.1	2.2	1.8	1.6	1.4	1.3	1.2	1.2	1.4	2.1	2.5	2.1	4.07	9.64		
2-Aug	2.5	2.5	2.2	2.7	3.5	4.9	4.8	3.7	4.1	2.9	2.4	2.6	2.5	2.5	2.5	2.2	2.9	3.2	3.8	4.7	5.3	5.7	6.3	3.45	6.27			
3-Aug	5.9	5.9	6.0	6.2	3.0	3.5	4.5	7.0	6.9	5.8	4.0	2.7	4.7	1.4	1.6	1.6	2.0	2.1	2.1	2.4	2.3	1.0	0.7	0.8	3.51	6.98		
4-Aug	0.7	0.6	0.7	0.9	1.1	1.2	1.2	0.8	0.7	0.8	0.9	0.7	0.6	0.6	0.7	0.7	0.4	0.4	0.4	0.3	0.3	0.5	0.5	0.6	0.68	1.20		
5-Aug	0.4	0.6	0.7	0.5	0.3	0.3	0.4	0.7	0.9	1.0	1.1	1.1	1.1	1.2	2.2	2.9	3.9	5.9	4.7	4.8	5.7	6.7	6.2	6.2	2.47	6.66		
6-Aug	2.7	2.2	2.6	2.8	2.8	3.3	3.1	3.5	5.4	4.9	3.0	2.4	2.9	3.6	4.2	3.6	3.8	5.0	5.5	6.2	6.3	7.3	7.6	7.0	4.22	7.59		
7-Aug	8.0	8.3	8.6	10.2	7.8	6.9	7.9	3.8	2.3	2.5	3.4	3.3	2.3	1.4	1.1	1.0	1.0	1.5	1.9	1.9	1.9	1.8	2.3	2.5	3.90	10.18		
8-Aug	5.9	8.1	8.0	7.3	8.4	9.1	10.4	10.3	8.1	6.5	5.5	5.5	6.2	6.0	5.6	5.8	6.2	5.5	4.5	4.3	3.8	3.5	3.2	3.2	6.29	10.38		
9-Aug	3.1	3.0	3.1	3.1	3.5	3.2	2.1	3.0	5.8	5.0	4.8	4.5	5.1	6.2	6.9	6.7	7.2	7.5	8.5	7.5	8.5	10.4	12.2	11.6	5.94	12.19		
10-Aug	12.0	10.1	9.4	5.9	10.9	10.3	10.1	11.5	10.7	10.5	10.0	8.5	8.5	8.8	7.9	8.1	5.9	5.9	6.8	6.9	5.9	4.3	5.2	5.3	8.30	11.95		
11-Aug	4.9	5.1	5.5	5.3	4.8	4.5	4.9	4.7	3.7	3.6	2.8	2.8	2.7	2.8	3.1	3.6	4.1	4.9	4.1	4.2	5.2	5.9	5.9	6.0	4.39	6.04		
12-Aug	5.9	5.7	5.9	6.1	5.6	5.3	5.0	4.7	4.7	4.2	4.3	4.9	5.5	6.8	7.3	7.6	7.8	8.0	7.6	8.2	8.1	8.5	9.1	6.45	9.10			
13-Aug	8.2	7.7	7.6	7.6	6.7	6.5	6.2	6.0	6.2	7.8	9.1	9.2	8.0	7.1	6.3	6.0	220.6	277.7	223.8	164.4	130.3	107.2	115.6	67.4	59.30	277.65		
14-Aug	45.9	51.6	53.5	52.7	46.0	28.6	14.9	9.2	6.5	4.3	6.6	12.1	21.7	20.5	16.7	12.7	12.1	13.6	10.0	7.8	6.6	8.5	13.1	14.9	20.41	53.48		
15-Aug	13.9	9.2	6.9	5.1	3.9	3.8	4.4	4.9	5.9	6.2	5.2	4.3	6.0	11.5	31.9	42.3	45.2	46.5	42.7	31.8	28.6	28.6	25.9	26.5	18.39	46.49		
16-Aug	26.6	27.2	25.9	22.3	20.5	18.1	18.3	17.2	17.0	15.3	14.9	14.5	25.6	29.1	35.4	37.7	37.6	36.8	38.8	41.5	42.0	42.2	43.2	38.5	28.59	43.19		
17-Aug	36.3	37.6	36.7	35.2	34.0	33.5	32.3	30.9	31.4	30.9	16.5	13.6	23.5	17.3	18.8	20.4	21.0	23.6	27.4	32.1	35.3	37.4	40.4	43.4	29.55	43.37		
18-Aug	43.7	41.7	38.8	40.6	40.3	39.2	39.7	40.3	40.4	38.1	36.3	32.4	28.9	27.7	61.0	52.9	50.2	36.1	15.3	10.5	4.2	3.6	3.8	4.3	32.09	61.04		
19-Aug	3.1	1.4	0.9	0.8	0.7	0.7	0.6	0.5	0.4	0.3	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.5	0.3	0.2	0.4	0.8	0.68	3.14		
20-Aug	1.2	1.4	1.0	1.3	1.4	1.7	1.9	2.0	2.7	2.5	2.6	2.0	1.4	5.4	25.2	25.3	13.6	19.0	15.1	5.9	6.2	6.8	7.5	7.4	6.69	25.26		
21-Aug	7.8	8.0	7.4	8.8	12.0	12.4	11.4	11.4	10.0	8.3	6.0	6.3	8.4	9.1	7.3	4.3	4.6	5.4	5.7	6.4	6.2	6.2	6.0	6.0	7.72	12.43		
22-Aug	5.5	5.3	4.9	4.7	4.8	4.7	4.7	5.2	5.0	5.1	3.7	3.0	2.9	3.3	3.1	3.3	3.2	3.1	3.6	4.4	5.9	6.8	7.0	6.9	4.59	6.97		
23-Aug	6.4	6.5	6.3	6.1	6.4	6.5	6.5	6.4	6.1	7.4	8.2	7.9	6.9	6.1	6.5	6.6	6.6	8.3	8.5	7.9	7.5	5.8	5.9	4.8	6.76	8.51		
24-Aug	5.4	6.1	6.4	7.0	6.6	6.3	6.3	6.7	7.3	6.9	6.3	6.5	6.1	6.1	6.1	5.3	2.7	2.2	2.4	2.6	3.0	3.6	3.7	3.7	5.22	7.30		
25-Aug	3.7	3.4	3.1	3.6	3.8	3.9	4.3	5.1	5.7	7.4	10.6	10.6	11.4	12.0	11.0	12.4	12.5	12.7	10.5	9.9	10.3	9.2	8.7	5.4	7.97	12.70		
26-Aug	4.6	4.5	6.4	9.0	10.4	11.6	11.2	11.4	9.6	6.5	4.8	3.3	3.6	3.5	3.4	3.2	2.9	2.9	2.7	2.5	2.5	2.7	2.7	3.1	5.37	11.56		
27-Aug	2.8	2.5	2.8	2.6	2.4	2.8	3.0	3.0	2.6	2.5	2.5	2.7	2.8	2.4	2.4	2.2	1.9	2.5	2.6	3.0	4.6	6.7	6.3	5.7	3.14	6.70		
28-Aug	5.2	5.2	5.3	4.7	4.6	4.6	5.1	4.4	2.1	1.1	1.0	1.2	1.4	1.7	1.7	2.0	2.7	3.9	5.6	4.1	3.9	5.4	5.4	5.5	3.66	5.57		
29-Aug	5.5	5.7	6.0	5.5	4.3	5.1	4.8	4.3	4.1	3.6	3.1	2.7	2.5	2.6	2.9	3.5	3.9	4.7	6.2	6.5	6.3	6.5	6.9	7.1	4.76	7.13		
30-Aug	7.0	7.0	7.5	7.2	8.0	9.0	9.3	9.2	8.8	8.4	8.2	7.1	8.0	8.1	6.9	5.8	5.2	5.2	4.7	4.9	4.8	4.0	4.5	4.6	6.81	9.33		
31-Aug	4.9	5.2	5.1	5.1	5.7	6.4	11.6	20.0	21.0	25.7	26.6	21.9	31.1	34.8	29.5	30.9	25.9	21.7	22.5	23.0	22.2	21.1	22.7	13.6	19.09	34.76		
9.66 9.63 9.47 9.32 9.09 8.54 8.32 8.36 8.10 7.72 7.02 6.55 7.90 8.14 10.37 10.42 16.74 18.62 16.11 13.58 12.42 11.91 12.59 10.66																								Diurnal Average				
45.88 51.64 53.48 52.75 45.97 39.19 39.70 40.33 40.36 38.14 36.31 32.37 31.05 34.76 61.04 52.88 220.60 277.65 223.79 164.39 130.26 107.17 115.59 67.39																								Diurnal Maximum				
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 80 µl/m ³ 24-hr 30 µl/m ³																												

**TOMAHAWK
STATION #901**

METEOROLOGICAL DATA

AUGUST 2017



WCAS - Tomahawk
Summary of Hourly Averages

External Temperature (ET) - C
August 2017

Maximum Value: 26.92 C on Aug 27 16:00 Maximum Daily Average: 19.21 C on Aug 12																							Hours in Service:	744		
Minimum Value: 3.7 C on Aug 26 06:00 Minimum Daily Average: 11.16 C on Aug 20																							Hours of Data:	743		
Maximum Diurnal Average: 21.53 C at hour 16 Minimum Diurnal Average: 9.20 C at hour 6																							Hours of Missing Data:	1		
Monthly Average: 15.216 C Percentiles: P ₁ = 5.6 P ₁₀ = 8.9 Q ₁ = 11.2 Median = 14.4 Q ₃ = 19.3 P ₉₀ = 22.7 P ₉₉ = 25.7																							Hours of Calibration:	0		
																							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-Aug	11.6	11.5	11.4	11.0	10.9	10.8	11.0	11.6	12.3	12.1	12.0	12.8	12.8	12.6	13.2	14.3	15.3	16.4	16.7	16.4	14.2	12.2	11.1	11.3	12.73	16.74
2-Aug	10.4	9.1	7.9	6.7	6.0	5.6	6.6	8.2	9.9	12.8	16.8	18.6	19.8	20.2	20.6	21.0	21.8	21.8	21.2	19.8	16.6	14.4	13.4	12.8	14.25	21.84
3-Aug	11.0	10.5	9.9	9.0	7.1	6.4	7.3	9.6	13.3	17.3	20.5	22.5	23.7	AF	25.4	25.3	25.2	24.7	22.9	19.7	17.3	15.5	13.3	12.9	16.09	25.44
4-Aug	12.5	12.6	12.9	12.8	12.5	12.4	12.4	12.6	12.8	13.2	13.7	15.0	14.8	16.4	16.7	16.6	13.8	13.6	14.1	14.6	13.7	12.6	11.6	10.7	13.54	16.69
5-Aug	10.6	10.4	10.1	9.1	8.4	7.5	8.2	10.6	12.8	15.8	17.1	18.3	19.8	19.6	21.0	19.9	18.2	14.8	17.2	16.6	14.4	12.6	12.1	11.2	14.01	21.04
6-Aug	11.0	8.7	8.0	7.4	7.0	7.0	7.6	9.4	11.7	15.5	19.2	20.7	22.2	23.4	24.0	24.1	24.7	23.8	23.4	20.6	18.0	15.7	14.6	12.9	15.85	24.69
7-Aug	11.7	11.2	11.0	12.4	13.8	13.4	13.6	13.9	14.7	14.0	14.0	14.4	15.1	16.4	17.3	17.4	18.2	16.9	15.3	14.5	12.9	12.9	12.7	12.2	14.15	18.16
8-Aug	12.1	11.2	9.9	10.0	10.7	10.6	11.1	11.6	13.1	14.8	16.6	17.7	19.2	20.2	21.3	21.7	21.8	22.0	21.5	19.9	16.3	14.4	13.3	13.1	15.60	22.02
9-Aug	12.0	11.3	11.0	9.8	9.3	7.6	7.0	9.8	14.2	17.4	19.6	21.7	23.1	23.0	23.6	24.9	24.6	24.7	22.6	23.1	19.2	16.7	15.5	13.5	16.88	24.90
10-Aug	12.9	11.8	10.4	9.8	9.9	9.4	8.9	11.1	16.1	20.1	22.3	23.6	24.0	24.2	25.4	25.7	25.6	25.2	24.8	22.5	19.6	15.5	13.8	12.6	17.70	25.67
11-Aug	11.6	11.2	10.1	9.6	9.2	8.1	9.2	12.9	16.2	18.8	21.0	22.3	23.8	24.1	24.1	24.2	24.0	23.6	22.7	20.6	17.7	16.3	15.5	15.0	17.16	24.19
12-Aug	14.2	13.2	12.0	12.6	12.9	12.4	13.4	15.8	18.3	20.6	22.3	23.6	24.7	25.3	25.9	26.0	26.2	25.7	24.0	21.7	20.4	19.0	16.4	14.5	19.21	26.20
13-Aug	13.8	13.1	12.5	11.9	11.4	10.5	10.7	12.6	14.8	16.7	17.8	18.5	19.4	20.3	21.0	20.4	18.9	17.0	15.0	14.4	14.1	13.2	12.8	12.1	15.12	20.98
14-Aug	11.7	11.5	11.3	10.9	9.9	9.7	10.0	12.2	13.9	15.2	15.3	17.2	18.7	19.1	19.1	19.1	17.7	15.4	15.2	14.0	13.3	12.2	10.5	9.3	13.85	19.09
15-Aug	10.0	10.8	10.2	10.0	9.5	9.2	9.1	10.9	13.1	14.8	16.6	17.6	18.7	18.9	19.8	20.2	20.3	20.5	19.8	17.1	14.2	12.1	10.8	10.5	14.36	20.45
16-Aug	9.8	9.2	8.9	8.6	8.9	8.4	8.0	9.7	13.0	15.6	17.5	19.3	21.2	22.2	20.6	18.9	20.6	19.8	19.3	17.5	14.8	12.6	12.0	10.6	14.47	22.15
17-Aug	10.1	10.5	10.6	10.5	10.0	9.0	9.2	11.1	13.0	14.9	18.5	20.2	20.9	21.3	22.0	22.7	22.5	22.0	20.1	18.2	16.1	15.2	14.3	14.0	15.71	22.68
18-Aug	12.9	11.3	10.7	10.4	9.5	9.1	9.3	11.0	13.6	16.1	18.0	20.1	22.9	24.9	21.2	20.6	19.5	18.6	16.5	13.8	10.2	9.6	9.5	9.7	14.53	24.86
19-Aug	8.9	8.3	7.9	6.8	6.3	5.9	6.3	8.4	11.1	13.4	14.5	15.3	16.2	17.1	18.2	19.2	19.4	19.2	18.2	15.6	14.4	13.7	12.7	11.5	12.85	19.42
20-Aug	10.4	10.1	8.0	7.8	7.5	8.1	8.3	8.5	9.7	10.8	14.2	14.0	13.6	13.4	14.9	16.5	14.1	14.7	14.9	13.1	10.5	8.8	8.5	7.5	11.16	16.49
21-Aug	7.5	7.0	7.3	8.0	7.9	7.4	7.6	9.3	12.1	15.3	16.2	17.3	19.0	19.3	19.3	19.4	19.2	18.0	17.1	16.5	15.8	15.1	14.8	14.4	13.79	19.40
22-Aug	14.3	13.8	13.3	13.3	12.7	12.0	11.8	13.1	15.8	18.8	21.1	22.2	23.0	24.0	24.6	25.1	25.2	25.0	23.9	20.4	18.4	17.1	16.2	15.4	18.35	25.16
23-Aug	15.3	14.4	13.5	12.3	12.4	12.8	12.8	14.2	15.4	16.9	17.8	19.8	21.1	22.8	24.2	25.0	23.7	21.0	20.7	18.6	17.5	17.2	17.6	17.5	17.69	24.97
24-Aug	14.3	13.8	13.7	13.6	13.0	12.7	12.6	13.3	14.5	15.5	17.0	19.3	19.3	22.1	22.7	19.7	12.8	12.4	11.4	11.3	10.3	9.0	8.7	8.6	14.24	22.69
25-Aug	9.0	8.1	6.7	5.6	4.5	4.1	4.5	6.8	10.1	13.5	16.0	17.6	18.6	19.3	19.8	20.3	20.9	21.5	21.1	18.0	15.3	12.7	10.3	8.9	13.04	21.49
26-Aug	7.2	6.6	5.9	4.9	4.4	3.7	3.9	6.3	9.8	13.7	16.6	19.0	20.6	21.6	22.2	22.3	22.7	22.6	21.5	19.2	17.1	15.7	14.6	12.9	13.96	22.70
27-Aug	10.9	10.4	9.0	8.6	8.4	8.1	8.0	10.0	13.4	17.1	20.6	23.0	24.8	25.7	26.2	26.9	25.6	25.3	24.5	21.2	17.1	15.8	15.8	14.6	17.12	26.92
28-Aug	13.7	13.0	13.3	12.5	11.4	10.7	10.7	13.0	16.9	19.2	20.0	21.0	22.0	22.8	23.1	22.8	23.3	22.8	21.8	19.2	16.4	14.6	14.4	13.3	17.16	23.27
29-Aug	13.1	13.5	13.6	13.4	13.1	12.6	12.4	14.1	15.6	18.0	19.6	21.5	22.6	23.4	23.7	24.0	24.1	23.6	21.9	19.4	18.3	17.3	16.1	15.0	17.90	24.07
30-Aug	13.3	11.8	11.0	10.1	9.3	8.7	8.0	8.3	10.5	12.6	14.2	15.5	16.4	18.8	20.9	22.1	22.5	22.1	20.2	16.5	14.7	13.5	12.8	13.3	14.45	22.48
31-Aug	12.8	12.4	11.8	11.8	12.2	11.2	11.5	13.7	15.7	17.2	19.1	20.4	21.4	21.5	21.7	20.9	17.9	14.9	15.3	13.0	11.6	10.1	9.6	8.6	14.84	21.72
11.63 11.04 10.44 10.04 9.67 9.20 9.38 11.08 13.46 15.73 17.60 19.03 20.11 20.79 21.41 21.53 20.98 20.31 19.50 17.65 15.50 13.98 13.07 12.27																							Diurnal Average			
15.32 14.42 13.68 13.65 13.75 13.35 13.60 15.75 18.27 20.57 22.33 23.62 24.79 25.69 26.25 26.92 26.20 25.70 24.76 23.10 20.40 18.99 17.58 17.53																							Diurnal Maximum			
AF - Analyzer Failure																										



WCAS - Tomahawk
Summary of Hourly Averages

Wind Speed (WS) - kph
August 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	3.3	3.0	1.9	2.1	2.9	2.8	2.1	5.1	16.1	17.5	8.3	5.7	10.5	8.1	7.6	6.7	5.9	7.7	7.9	6.5	5.1	3.8	4.5	5.7	2.76	17.52	
Dir	SW	S	SSE	SSE	ENE	NE	NNE	NNW	N	N	NE	NNE	NNW	NNW	NW	WNW	WSW	WSW	SW	SW	S	SSW	SW	NNW	N	NNW	
2 Spd	4.1	5.2	1.7	4.5	3.5	2.5	1.0	1.9	3.6	3.8	4.9	5.4	7.8	8.8	7.5	8.3	9.4	8.7	10.8	8.5	8.7	8.8	8.3	4.0	5.05	10.83	
Dir	SW	SW	SSE	SSW	SSW	SW	WSW	SSW	SW	S	S	S	S	SSE	SSE	SSE	SE	SSE	SE	SE	ESE	SE	SE	SSE	SSE	SE	
3 Spd	0.7	2.3	4.2	3.7	3.4	4.0	3.1	5.7	4.3	2.5	4.7	6.2	7.8	4.0	6.8	10.6	10.2	11.4	10.1	6.4	6.5	18.2	7.0	6.1	2.83	18.20	
Dir	SSW	E	SE	S	SSW	SSW	SSW	SSW	SSW	S	SSE	SE	SE	E	E	E	E	ESE	ESE	ENE	NE	NNW	NNW	SSW	ESE	NNW	
4 Spd	9.5	10.8	10.8	9.7	10.2	7.1	7.3	10.7	10.4	10.2	12.0	13.7	9.8	12.8	15.6	12.7	10.8	5.0	11.5	7.2	7.7	4.8	2.3	5.4	8.20	15.55	
Dir	WSW	WSW	W	NW	WNW	NW	NNW	NNW	NNW	NNW	NNW	NNW	WNW	NW	NNW	NNW	NNW	NW	NNW	NW	W	WNW	SW	W	NW	NNW	
5 Spd	3.0	3.5	2.8	3.4	5.0	4.4	5.0	4.6	4.7	1.8	1.1	2.5	2.3	1.4	5.0	3.2	4.5	6.0	4.9	4.0	4.6	2.2	5.0	2.9	1.35	6.00	
Dir	SW	W	NW	WSW	WSW	SSW	WSW	WNW	NW	NW	WNW	N	NNE	ENE	W	ENE	ENE	S	S	S	S	SSE	SSE	SSE	SW	S	
6 Spd	2.6	0.9	2.5	1.6	3.2	3.7	1.5	3.3	3.7	3.1	4.8	5.1	3.4	4.5	1.9	1.3	4.6	5.0	3.0	3.7	6.4	5.4	4.0	2.4	2.19	6.36	
Dir	SSE	ESE	SSW	SW	WSW	SW	SW	SW	SW	SW	S	SSW	SE	ESE	E	E	E	SSE	SSE	SE	ESE	SE	S	NNW	SSE	ESE	
7 Spd	5.8	3.0	6.3	12.9	13.5	6.2	8.8	7.1	5.8	11.8	5.8	6.2	4.7	4.6	4.7	6.3	7.0	13.5	11.7	7.7	4.5	4.8	3.5	3.4	5.99	13.54	
Dir	NNE	NE	N	NW	NNW	NNE	NNE	NE	N	NNW	N	NNW	NNW	NNE	E	NNE	NNE	NNE	NNE	NE	NE	ENE	ENE	ENE	NNE	NNE	
8 Spd	1.8	0.6	1.9	2.3	2.3	0.9	3.0	3.3	1.5	3.4	3.9	1.5	2.5	3.3	6.7	6.7	6.4	6.4	6.7	7.1	8.6	9.3	10.6	6.2	3.21	10.64	
Dir	ENE	ESE	SE	S	SW	SSE	SSW	SW	SSW	SSW	S	SSW	SE	ESE	ENE	E	E	E	E	E	E	E	E	E	SE	ESE	E
9 Spd	4.7	3.6	3.6	3.4	4.6	3.7	3.9	2.9	2.4	2.4	2.9	4.7	4.1	2.7	2.1	5.4	5.1	5.8	4.2	3.9	3.8	5.1	4.7	1.6	1.33	5.85	
Dir	SE	SSE	S	SSE	SSE	SSW	SW	WSW	SW	S	SSE	E	ENE	NE	NNE	E	NNE	NE	NE	NNE	NE	NNE	NE	SW	E	NE	
10 Spd	2.8	3.9	0.2	2.3	4.5	2.4	1.8	3.3	1.9	3.7	2.1	0.4	3.6	4.9	5.5	5.4	5.4	5.9	5.1	6.8	14.3	11.2	5.0	4.8	1.30	14.26	
Dir	NNW	NNW	W	WSW	W	NW	WSW	SW	WNW	NNW	NNW	NNE	NE	NNE	NE	NE	ENE	E	E	ESE	ESE	SE	SSE	SW	E	ESE	
11 Spd	4.2	4.2	1.6	3.3	4.6	5.5	2.1	1.6	5.1	3.0	7.2	11.4	11.7	13.5	13.4	12.9	15.8	16.2	13.6	11.0	9.9	9.9	10.5	9.2	7.76	16.20	
Dir	WSW	WSW	S	SE	SE	ESE	S	SE	SE	SE	SE	SE	SE	ESE	ESE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE
12 Spd	9.1	7.6	6.3	7.9	10.4	7.1	8.5	13.2	16.4	19.0	20.4	23.5	20.1	22.6	21.2	21.8	18.6	17.4	12.4	11.9	14.0	13.8	11.2	12.0	13.84	23.54	
Dir	SE	SE	SE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	S	S	S	S	SSE	SSE	SSE	SSE	SE	SE	SE	SE	ESE	SSE	SSE	
13 Spd	12.9	12.8	14.2	15.6	10.9	5.4	9.4	8.2	6.2	4.9	2.2	6.8	9.9	7.5	11.6	16.5	18.1	15.0	24.0	18.3	12.7	7.6	10.3	11.6	3.61	23.96	
Dir	E	E	ESE	ESE	ESE	SE	SE	SE	SSE	SSE	WSW	NW	NNW	NNW	NNW	NW	NNW	NW	NW	NNW	NNW	WNW	WNW	WNW	NNW	NW	
14 Spd	10.9	7.1	3.0	7.0	7.5	7.8	9.8	10.5	11.1	15.6	13.0	16.8	16.3	13.6	13.9	12.3	15.9	13.4	6.7	8.6	9.0	8.6	8.4	7.7	9.87	16.81	
Dir	WNW	W	W	WNW	WSW	W	NW	WNW	NW	NW	WNW	NW	NNW	NW	WNW	WNW	W	W	W	WSW	WNW	WNW	W	W	WNW	NW	
15 Spd	10.9	16.2	14.3	12.5	13.1	14.2	11.9	11.4	13.3	15.1	17.2	17.9	18.7	18.6	18.1	19.7	17.4	13.6	7.7	9.4	6.8	3.0	6.1	6.9	12.29	19.71	
Dir	NW	NW	NW	NW	NNW	NW	NW	WNW	WNW	WNW	NW	NW	NW	WNW	NW	WNW	WNW	NW	NW	NW	N	W	SW	SW	NW	WNW	
16 Spd	6.3	4.0	2.5	5.9	5.4	2.3	1.9	3.8	2.3	2.8	4.8	5.8	9.9	10.1	12.3	7.0	7.2	6.6	6.8	6.0	5.0	1.4	4.0	6.9	4.10	12.29	
Dir	SW	SW	SSW	SSW	SSW	SW	S	SSW	WSW	WSW	WSW	W	NW	NW	NW	WNW	WNW	WNW	NNW	NW	W	WNW	SW	SW	W	NW	
17 Spd	9.5	9.2	7.7	8.9	8.0	7.6	6.7	7.0	5.6	5.5	8.2	7.0	10.5	11.0	11.0	7.6	8.0	5.7	5.1	5.3	5.0	4.5	5.3	6.0	6.87	11.04	
Dir	WSW	WSW	WSW	WSW	WSW	SW	SW	SW	SW	SW	W	W	SW	WSW	WSW	SW	SW	SW	S	S	SSW	SSW	SSW	SW	SW	SW	WSW
18 Spd	4.5	5.5	6.5	7.2	6.9	7.4	5.6	6.1	7.0	4.0	10.1	12.8	12.4	15.0	19.2	19.1	21.2	16.0	13.2	22.1	19.9	3.1	7.4	10.1	4.03	22.11	
Dir	SW	SSW	S	SSW	SSW	SSW	S	SSW	SSW	SW	SW	SW	SW	NNW	N	N	N	N	N	NNW	NNW	SSW	W	W	NW	NNW	
19 Spd	11.8	16.6	19.9	13.4	14.8	11.9	9.5	12.1	19.1	23.3	26.8	24.7	25.3	24.8	24.1	20.8	20.1	18.4	18.1	10.2	11.8	11.1	12.8	9.3	16.86	26.85	
Dir	WNW	NW	NW	NW	NW	W	W	WNW	NW	NW	NW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	NW	NW	WNW	NW	
20 Spd	9.7	6.5	7.0	5.5	7.4	6.7	6.4	5.3	4.6	6.4	15.5	20.5	16.1	11.6	14.8	15.9	13.6	11.2	7.5	8.5	7.1	6.7	9.2	7.9	8.38	20.51	
Dir	WNW	W	SW	SW	SW	WSW	SW	SW	WSW	SW	WNW	WNW	WNW	WNW	W	W	NW	WNW	WNW	NW	WNW	WSW	WSW	WSW	W	WNW	
21 Spd	7.5	7.7	7.3	7.1	7.9	7.7	6.0	5.5	6.7	7.1	8.4	9.6	12.0	8.6	11.2	10.1	6.6	6.3	6.3	5.9	5.7	4.9	3.8	3.8	6.74	11.98	
Dir	WSW	SW	SW	SW	SW	SW	SW	SSW	SSW	S	SSW	SW	SW	SW	WSW	WNW	WSW	WSW	WSW	WSW	WSW	WSW	SW	SSW	SW	SW	
22 Spd	4.2	2.6	6.0	6.6	4.1	3.6	4.0	3.4	4.4	4.5	4.2	8.5	5.2	3.6	6.2	3.7	6.9	5.5	8.5	8.5	9.1	8.8	8.4	8.8	3.73	9.07	
Dir	SSW	SSW	SSW	SW	SW	WSW	SW	WSW	SW	WSW	WSW	W	WSW	W	SW	SSE	SE	SSE	SE	SE	SE	SE	SE	SSE	SE	S	SE



WCAS - Tomahawk
Summary of Hourly Averages

Wind Speed (WS) - kph
August 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	7.1	5.3	5.7	8.4	10.1	9.1	7.3	2.4	2.4	6.0	5.6	1.2	2.5	5.3	6.6	5.5	8.5	9.0	7.2	2.8	9.0	6.1	13.3	0.1	2.36	13.28		
Dir	SSE	SSE	SSE	ESE	SE	SE	SE	SSE	SW	SSW	SW	W	ESE	E	NE	ENE	NNE	NNW	NE	WNW	N	NNE	SSE	SW	ESE	SSE		
24 Spd	5.0	4.8	5.2	0.8	0.6	2.8	0.8	5.6	0.8	1.0	4.0	3.8	6.3	7.6	8.6	14.7	30.3	25.5	21.2	13.5	5.3	5.2	6.6	9.2	4.07	30.32		
Dir	NW	S	WSW	N	WSW	N	SW	NNE	E	SSE	S	S	SE	SE	SE	NW	NNW	NNW	NNW	NNW	NNW	NW	WSW	W	NW	NNW		
25 Spd	12.4	10.1	6.7	6.9	6.6	7.5	8.0	7.9	9.9	10.1	13.0	15.8	15.1	13.1	10.7	11.2	6.5	3.0	4.5	4.7	1.0	6.3	7.8	5.1	6.75	15.84		
Dir	W	WNW	WSW	WSW	SSW	SW	SW	SW	SW	SW	WSW	W	WNW	WNW	WNW	WNW	SSW	WSW	NW	N	ESE	NNW	NNW	NNW	W	W		
26 Spd	3.3	4.6	5.5	7.0	7.5	8.5	7.8	6.4	8.5	12.4	10.9	11.0	8.9	7.3	10.3	7.3	4.9	8.7	7.4	6.6	7.2	4.7	5.9	3.7	6.17	12.44		
Dir	W	W	WSW	SW	SW	SW	SW	SSW	SSW	SW	SW	SW	SW	SSW	SSW	SSW	S	SE	SE	SE	SE	SSW	SSW	SSW	SSW	SSW	SW	
27 Spd	2.4	6.4	4.8	5.5	5.7	4.8	5.6	7.0	5.8	4.2	3.7	2.4	2.0	4.6	4.2	3.3	4.7	6.3	6.9	5.9	9.3	9.4	7.5	6.2	0.45	9.36		
Dir	SSW	S	SSW	SSW	SW	WSW	WSW	SW	SW	WSW	SSW	S	SE	SE	SE	ESE	E	ENE	ENE	NE	N	N	N	N	S	N		
28 Spd	8.9	12.5	10.9	8.3	7.2	6.4	3.8	3.5	5.2	2.9	2.8	2.1	2.9	3.0	5.4	9.2	9.3	7.9	6.9	5.5	5.3	1.7	2.9	4.2	3.50	12.51		
Dir	N	N	N	N	N	NNW	NW	WNW	NNW	N	NNW	NE	NNE	E	ESE	E	E	E	E	E	ENE	ESE	SE	E	NE	N		
29 Spd	0.2	1.3	4.1	2.3	4.1	4.7	4.7	6.7	10.9	11.1	12.3	16.7	18.6	19.2	18.2	14.4	15.5	11.9	7.8	9.3	10.7	11.7	10.8	12.8	9.55	19.20		
Dir	NNW	S	SSE	SE	SSE	ESE	E	ESE	ESE	SE	SSE	SSE	SSE	SSE	S	S	SSE	SSE	SE	SSE	SE	SSE	SSE	SSE	SSE	SSE	SSE	
30 Spd	11.2	12.8	14.0	13.5	10.3	6.1	3.1	1.1	1.6	3.2	2.7	3.5	3.8	2.8	6.2	6.8	8.8	7.4	7.2	10.1	7.4	9.1	9.5	11.7	4.18	13.97		
Dir	SE	ESE	ESE	ESE	SE	SE	SE	S	SSE	SSE	S	S	ESE	ESE	ESE	ESE	ESE	E	NE	N	NNE	N	N	NNW	E	ESE		
31 Spd	9.7	4.3	4.8	7.3	7.5	4.1	5.9	7.9	9.7	12.1	15.9	18.2	16.7	13.8	11.3	9.6	18.9	4.0	5.3	8.0	3.4	4.8	4.7	4.4	7.16	18.86		
Dir	NNW	NW	NW	NW	NNW	WNW	NW	NNW	NNW	NNW	NNW	N	NNW	N	N	N	NNW	WSW	WSW	WSW	NW	SW	WSW	SW	NNW	NNW		
Spd	2.27	2.00	1.61	1.96	2.50	2.39	2.32	2.46	2.33	2.57	3.48	3.32	2.86	2.08	2.17	1.96	2.40	0.93	1.41	1.34	1.09	0.27	1.85	2.18	Diurnal Average			
Dir	W	WSW	SW	SW	SW	SW	SW	WSW	W	W	W	W	W	WNW	WNW	NW	NNW	NW	N	N	NE	S	SSW	SW	Diurnal Maximum			
Spd	12.91	16.64	19.90	15.57	14.78	14.22	11.92	13.19	19.12	23.27	26.85	24.71	25.30	24.82	24.05	21.81	30.32	25.48	23.96	22.11	19.86	18.20	13.28	12.82	Diurnal Maximum			
Dir	98.78	314.65	309.73	118.95	313.06	318.08	304.85	165.23	307.03	303.56	305.32	295.66	289.87	283.84	293.19	171.69	331.74	328.78	322.56	338.87	338.95	346.98	151.11	146.84	Diurnal Maximum			
Maximum Speed Value: 30.3 kph on Aug 24 17:00																				Minimum Speed Value: 0.1 kph on Aug 24 00:00				Hours in Service:				744
Maximum Daily Speed Average: 16.86 kph on Aug 19																				Minimum Daily Speed Average: 0.45 kph on Aug 6				Hours of Data:				744
Maximum Diurnal Speed Average: 3.48 kph at hour 11																				Minimum Diurnal Speed Average: 0.27 kph at hour 22				Hours of Missing Data:				0
Monthly Average Velocity: 1.604 kph 264.81 deg																				Speed Percentiles: P ₁ = 0.8 P ₁₀ = 2.6 Q ₁ = 4.3 Median = 6.7 Q ₃ = 10.3 P ₉₀ = 14.6 P ₉₉ = 23.4				Percent Operational Time:				100.0
All monthly, daily, and diurnal averages have been calculated using vector methods																												
Frequency Distribution																												
	Speed Range (kph)																											
Direction	0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total																					
North	13	39	21	6	0	0	79																					
NorthEast	18	21	1	0	0	0	40																					
East	21	34	7	0	0	0	62																					
SouthEast	31	59	26	1	0	0	117																					
South	55	25	9	6	0	0	95																					
SouthWest	67	79	5	0	0	0	151																					
West	21	47	18	2	0	0	88																					
NorthWest	16	35	48	12	1	0	112																					
Total	242	339	135	27	1	0	744																					



WCAS - Tomahawk
Summary of Hourly Averages

Relative Humidity (RH) - %
August 2017

Maximum Value: 96.28 % on Aug 6 08:00 Maximum Daily Average: 90.15 % on Aug 4 Minimum Value: 28.0 % on Aug 25 18:00 Minimum Daily Average: 52.23 % on Aug 19 Maximum Diurnal Average: 89.57 % at hour 7 Minimum Diurnal Average: 47.39 % at hour 15 Monthly Average: 70.258 % Percentiles: P ₁ = 29.6 P ₁₀ = 40.9 Q ₁ = 52.6 Median = 74.6 Q ₃ = 88.1 P ₉₀ = 93.0 P ₉₉ = 95.8																								Hours in Service:	744																								
																								Hours of Data:	743																								
																								Hours of Missing Data:	1																								
																								Hours of Calibration:	0																								
																								Percent Operational Time:	99.9																								
Day	Hourly Period Ending At																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Aug	85.9	87.6	89.6	91.4	92.3	93.1	93.5	93.0	91.0	88.7	89.5	87.9	86.5	88.3	85.9	81.8	75.3	66.7	64.5	65.2	76.2	86.0	91.9	92.3	85.17	93.53																							
2-Aug	92.9	94.0	94.5	95.0	95.4	95.6	95.9	96.0	96.1	95.0	71.3	60.3	52.6	49.8	48.2	46.4	44.5	43.7	46.4	53.3	67.4	74.2	78.1	81.2	73.66	96.06																							
3-Aug	89.3	92.4	92.7	93.1	93.7	94.6	95.5	95.4	85.8	69.0	56.9	47.6	41.8	AF	36.2	38.0	40.3	42.5	50.0	61.8	78.2	83.2	91.4	93.7	72.31	95.51																							
4-Aug	94.2	94.3	94.2	93.0	93.2	92.9	93.7	93.8	93.5	92.6	91.8	86.6	88.7	83.6	77.9	83.9	84.1	89.2	87.3	85.5	89.5	92.2	93.5	94.3	90.15	94.35																							
5-Aug	94.7	95.0	94.8	95.0	95.1	95.4	95.8	95.7	92.1	80.4	74.1	69.0	60.5	59.1	53.7	59.4	65.1	85.6	75.2	77.1	86.6	91.6	93.6	93.9	82.44	95.80																							
6-Aug	94.5	94.4	95.1	95.4	95.8	95.9	96.1	96.3	96.3	91.7	67.2	59.3	48.9	45.0	40.9	39.9	39.1	40.3	41.1	54.4	65.0	72.6	78.3	85.6	72.05	96.28																							
7-Aug	92.1	92.9	93.7	92.1	89.7	92.2	93.8	92.8	87.9	89.9	91.0	91.2	88.1	83.5	76.2	75.3	71.9	76.2	79.9	81.2	86.6	86.5	86.9	88.9	86.68	93.82																							
8-Aug	87.1	87.4	92.2	92.0	87.4	87.4	86.6	83.8	78.4	74.2	66.8	64.1	59.8	56.3	50.7	49.7	50.3	50.1	52.7	62.1	75.1	80.9	84.2	83.8	72.63	92.24																							
9-Aug	87.6	88.5	87.3	89.9	91.2	92.2	94.2	94.6	79.0	67.3	61.4	57.2	52.0	50.3	43.9	40.1	43.1	42.7	50.2	53.2	66.1	74.9	80.0	87.4	69.77	94.57																							
10-Aug	90.5	93.0	94.0	94.4	95.1	94.9	95.2	95.0	84.6	68.6	56.7	49.8	47.6	44.5	40.7	41.4	37.4	36.5	40.1	52.5	58.1	65.7	72.6	78.6	67.81	95.24																							
11-Aug	81.5	83.7	87.9	91.1	92.9	93.0	93.4	84.6	72.5	64.1	52.1	45.6	42.7	38.1	38.7	39.0	41.6	45.5	49.1	57.1	68.6	74.9	78.9	78.7	66.48	93.39																							
12-Aug	79.7	81.6	84.9	77.6	75.7	76.9	73.6	67.7	60.5	52.7	46.3	41.7	39.9	37.4	36.2	36.0	36.6	36.7	42.0	49.6	50.5	53.8	63.4	69.4	57.10	84.90																							
13-Aug	71.0	72.3	73.3	76.1	79.0	83.5	83.7	79.3	70.6	61.8	60.3	62.3	62.5	59.7	59.5	59.8	66.8	72.1	81.6	84.2	84.2	88.9	91.0	91.4	73.95	91.39																							
14-Aug	91.4	91.9	92.3	92.2	92.4	90.9	86.2	75.9	67.8	58.3	59.0	52.3	43.9	40.8	39.5	42.4	49.6	61.2	60.4	69.8	75.0	76.9	81.2	85.3	69.86	92.44																							
15-Aug	74.5	66.5	68.4	69.3	69.2	68.3	68.9	64.0	57.2	52.6	44.4	39.4	37.5	37.6	37.6	34.2	34.3	36.8	41.6	47.1	59.1	70.1	73.6	74.0	55.26	74.52																							
16-Aug	76.5	80.1	85.3	91.1	90.6	92.1	93.5	91.5	75.8	66.0	60.9	54.6	40.4	38.7	42.0	53.3	46.8	49.7	52.1	59.0	71.8	82.6	84.9	89.8	69.55	93.55																							
17-Aug	92.5	89.3	86.4	84.7	84.2	88.1	89.3	85.2	81.4	73.6	54.6	43.2	45.3	39.8	38.4	37.4	37.5	40.7	52.4	60.3	68.1	71.2	74.1	76.1	66.41	92.46																							
18-Aug	82.6	89.6	92.6	91.4	92.9	93.6	93.7	90.0	81.6	75.0	62.8	51.5	45.0	41.0	49.6	51.2	51.1	53.2	55.7	71.6	89.1	91.7	92.0	88.9	74.06	93.71																							
19-Aug	82.3	76.3	73.3	76.5	76.9	76.6	74.7	69.8	60.5	51.1	43.7	42.7	39.5	36.4	33.3	30.5	28.2	28.5	29.6	38.2	41.9	43.8	47.3	51.9	52.23	82.34																							
20-Aug	54.9	58.4	73.1	75.3	78.3	77.1	77.7	80.4	79.4	77.8	55.2	52.6	55.0	57.6	54.5	49.3	63.6	60.7	60.4	69.3	79.4	88.5	89.4	91.1	69.11	91.13																							
21-Aug	91.2	91.9	91.5	89.2	91.2	93.5	94.7	93.3	82.1	68.5	59.5	54.9	47.8	49.5	50.1	50.8	53.1	60.4	66.4	69.3	72.0	76.3	77.5	80.7	73.13	94.69																							
22-Aug	83.9	86.4	88.0	87.4	88.6	92.0	92.3	86.9	76.6	65.6	53.9	48.4	44.7	42.7	42.1	40.5	41.0	39.5	44.8	57.4	63.7	67.9	70.6	73.2	65.75	92.27																							
23-Aug	73.6	76.7	79.6	82.4	80.6	79.4	80.3	77.5	75.4	67.0	63.9	58.9	57.3	54.8	48.2	46.8	54.2	62.2	67.0	75.5	80.5	83.1	77.0	61.0	69.29	83.05																							
24-Aug	79.0	86.9	89.4	90.0	92.1	93.0	93.5	93.2	90.4	86.4	78.1	70.3	71.5	64.5	61.2	62.1	71.2	71.0	75.2	71.2	74.4	81.6	84.7	86.0	79.87	93.46																							
25-Aug	81.8	82.2	86.3	87.5	90.9	93.5	92.5	85.6	71.7	55.7	43.4	35.1	30.7	29.8	28.3	28.4	29.6	28.0	29.1	33.3	37.9	48.3	60.0	65.2	56.45	93.51																							
26-Aug	73.7	75.2	79.9	86.3	91.3	93.2	93.6	89.1	74.6	57.0	51.5	41.8	32.8	32.3	29.9	29.6	30.0	31.4	38.3	46.2	52.3	58.1	61.9	70.4	59.19	93.62																							
27-Aug	81.5	84.6	91.2	91.1	92.8	91.7	91.6	85.4	73.6	58.8	48.7	38.2	35.8	32.6	35.2	33.3	39.1	42.6	43.4	54.6	70.5	78.2	79.4	83.1	64.88	92.75																							
28-Aug	85.8	88.5	87.6	88.4	90.8	92.2	92.7	86.2	69.0	55.4	52.2	49.7	48.1	45.8	46.2	47.8	46.9	47.2	51.9	60.8	71.5	79.0	78.9	83.8	68.61	92.67																							
29-Aug	86.7	85.0	84.6	86.6	85.0	87.5	87.9	83.1	77.6	66.0	58.7	49.1	42.0	39.0	38.0	37.8	37.7	38.7	46.4	49.2	45.7	46.2	49.1	52.9	60.85	87.89																							
30-Aug	61.2	70.6	76.7	80.6	83.8	86.0	89.1	90.5	85.2	77.7	74.2	71.8	69.7	63.5	58.6	57.5	58.2	61.1	68.7	81.7	88.1	91.0	92.5	92.6	76.28	92.59																							
31-Aug	92.6	93.0	93.5	94.0	92.9	93.1	93.3	87.0	80.6	73.4	61.2	49.8	45.6	45.6	47.9	51.6	54.3	72.5	73.4	88.2	87.8	91.6	93.9	94.5	77.13	94.46																							
																								83.45	84.84	86.91	87.74	88.43	89.34	89.57	86.54	78.99	70.39	61.65	55.70	51.74	49.59	47.39	47.59	49.11	52.04	55.38	62.57	70.35	75.85	79.09	81.28	Diurnal Average	
																								94.71	94.95	95.09	95.42	95.76	95.92	96.12	96.28	96.27	95.00	91.80	91.16	88.70	88.28	85.88	83.93	84.08	89.18	87.33	88.16	89.48	92.24	93.90	94.46	Diurnal Maximum	
AF - Analyzer Failure																																																	



WCAS - Tomahawk
Summary of Hourly Averages

Photosynthetically Active Radiation (PAR) - W/m2
August 2017

Maximum Value: 324.07 W/m2 on Aug 8 13:00																								Hours in Service: 744		
Maximum Daily Average: 111.72 W/m2 on Aug 3																								Hours of Data: 744		
Minimum Value: 0.1 W/m2 on Aug 12 02:00																								Hours of Missing Data: 0		
Maximum Diurnal Average: 227.32 W/m2 at hour 13																								Hours of Calibration: 0		
Monthly Average: 79.723 W/m2																								Percent Operational Time: 100.0		
Percentiles: P₁ = 0.7 P₁₀ = 1.6 O₁ = 2.6 Median = 29.4 O₃ = 149.5 P₉₀ = 243.4 P₉₉ = 307.0																										
Day	Hourly Period Ending At																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Aug	1.8	1.8	1.6	1.6	1.5	2.8	9.1	14.2	41.2	31.4	30.4	39.1	37.0	45.5	59.7	88.1	100.3	122.9	92.4	47.3	7.6	1.8	1.7	1.7	32.61	122.94
2-Aug	1.7	1.6	1.3	1.4	1.5	7.6	37.6	66.6	100.8	229.8	249.2	262.3	295.2	259.2	204.0	200.6	213.2	162.7	100.7	44.3	8.2	1.7	1.6	1.6	102.26	295.15
3-Aug	1.6	1.5	1.4	1.3	1.3	5.6	42.0	88.3	165.9	219.3	262.1	295.1	308.4	311.5	312.4	227.7	199.3	149.9	71.3	7.8	2.4	1.8	1.8	1.7	111.72	312.39
4-Aug	1.9	1.8	1.9	1.8	1.6	1.9	4.6	13.0	26.5	25.0	52.6	100.9	62.9	139.9	126.4	139.8	24.3	42.0	26.2	40.3	6.4	2.0	2.0	2.0	35.32	139.86
5-Aug	2.0	2.0	2.0	2.0	2.0	7.2	39.2	80.1	103.4	205.6	188.7	183.7	228.3	145.4	273.4	97.0	104.3	73.8	109.2	38.7	7.0	1.8	1.7	1.7	79.17	273.40
6-Aug	1.6	1.6	1.6	1.7	1.7	5.7	36.5	87.8	133.3	212.2	256.1	289.9	307.7	311.2	260.9	234.0	209.4	154.8	81.3	24.1	6.2	2.0	1.9	2.0	109.37	311.23
7-Aug	1.9	1.9	1.9	1.9	1.6	2.4	5.9	41.0	37.7	32.4	28.5	49.9	49.5	119.5	132.5	128.1	115.6	87.1	51.7	29.1	5.2	1.7	1.7	1.8	38.78	132.48
8-Aug	1.7	1.7	1.6	1.8	1.8	4.3	14.9	35.1	92.8	186.1	276.9	284.7	324.1	315.5	292.9	252.7	204.9	151.0	90.8	35.9	5.6	1.8	1.8	1.8	107.60	324.07
9-Aug	1.8	1.8	1.7	1.8	1.8	6.0	36.7	93.0	160.7	210.2	252.8	286.3	304.3	176.9	201.8	237.2	169.6	130.9	55.0	39.3	6.5	1.5	1.7	1.7	99.21	304.32
10-Aug	1.7	1.7	1.6	1.7	1.6	5.2	28.0	62.9	147.4	203.8	253.1	289.5	225.3	196.7	269.8	246.9	209.7	150.9	100.5	40.4	10.4	2.0	1.9	1.5	102.25	289.54
11-Aug	1.5	1.4	1.4	1.4	1.4	4.8	35.9	92.4	151.0	205.5	245.9	278.0	292.5	291.0	274.8	242.8	197.9	143.5	85.5	32.6	4.5	1.5	1.5	1.4	107.91	292.49
12-Aug	0.3	0.1	1.0	1.0	1.0	4.4	38.6	94.0	151.8	202.0	243.5	275.9	289.9	288.3	271.1	238.9	193.6	118.5	48.4	13.9	2.7	1.5	1.4	1.4	103.46	289.89
13-Aug	1.4	1.2	1.2	1.2	1.2	3.1	18.0	51.2	84.7	121.4	120.4	139.3	175.6	177.6	205.1	159.7	35.1	5.7	15.0	7.2	1.5	1.0	1.2	1.3	55.43	205.05
14-Aug	1.7	1.9	2.0	2.0	1.5	2.8	29.4	81.9	118.7	123.5	170.2	259.5	278.1	274.8	236.6	187.8	115.0	55.6	26.0	6.8	1.7	1.1	1.1	1.0	82.53	278.14
15-Aug	1.0	1.1	1.1	1.1	1.1	3.4	28.9	75.3	131.3	188.2	233.1	265.9	278.9	215.6	237.9	215.0	162.1	109.1	57.2	15.0	1.9	0.6	0.6	0.6	92.75	278.89
16-Aug	0.6	0.7	0.6	0.8	0.7	2.1	19.6	62.6	114.9	168.4	179.5	199.6	240.0	194.3	76.4	81.9	115.9	64.9	39.8	14.2	2.4	1.6	1.7	1.6	66.04	240.02
17-Aug	1.6	1.8	1.8	1.9	1.6	3.2	26.8	36.8	54.8	94.8	219.5	254.6	257.3	224.9	231.3	211.0	148.5	78.1	29.4	11.4	1.3	0.8	1.0	1.4	78.98	257.25
18-Aug	1.5	1.6	1.3	1.4	1.1	2.1	16.3	55.2	74.0	96.9	150.7	182.8	254.6	231.4	81.2	116.9	127.2	76.3	15.4	3.3	0.7	0.7	1.0	0.9	62.27	254.58
19-Aug	0.9	1.0	0.8	1.0	1.3	3.1	31.0	85.0	143.9	195.9	241.3	265.6	289.8	281.6	263.4	234.7	187.0	120.6	71.2	13.2	2.2	1.8	1.7	1.7	101.65	289.76
20-Aug	1.7	1.8	1.7	1.9	1.9	2.0	3.7	12.5	28.9	55.0	129.2	119.3	80.3	54.0	133.4	183.5	47.3	79.4	38.4	11.3	2.6	1.8	1.8	1.9	41.48	183.53
21-Aug	1.9	2.0	1.8	1.7	1.6	2.8	27.5	71.2	140.1	183.2	104.2	189.1	238.2	165.8	133.4	119.0	70.5	26.1	19.4	8.6	4.1	3.9	3.9	3.9	63.49	238.21
22-Aug	3.9	3.8	3.7	3.8	3.7	4.6	21.2	62.6	110.2	188.2	236.3	271.6	261.5	253.8	274.5	234.5	187.8	129.3	65.7	15.3	4.7	4.1	4.1	3.9	98.02	274.47
23-Aug	3.5	3.5	3.4	3.3	3.3	4.0	15.3	42.2	82.8	121.9	147.1	167.2	179.1	248.3	252.8	219.6	101.8	31.8	39.5	8.7	3.4	3.0	2.7	2.6	70.44	252.84
24-Aug	2.6	2.6	2.6	2.7	2.6	2.7	7.5	30.3	34.1	62.1	115.1	212.2	137.8	253.7	166.2	115.1	126.4	63.5	25.3	5.3	2.9	2.9	3.0	3.1	57.60	253.71
25-Aug	3.3	3.2	3.3	3.5	3.4	4.2	26.0	79.3	138.8	190.7	235.8	268.6	262.1	255.5	245.2	219.9	188.0	124.6	64.8	16.6	3.9	3.7	3.7	3.7	97.99	268.57
26-Aug	3.8	3.8	3.8	3.9	3.8	4.2	26.1	79.1	136.3	188.3	230.9	264.1	281.0	278.7	260.8	191.9	151.1	125.1	60.8	15.1	3.6	3.4	3.3	3.3	96.92	281.01
27-Aug	3.3	3.3	3.2	3.3	3.2	3.8	23.4	75.6	134.4	186.0	234.5	271.1	287.8	217.4	202.3	183.1	82.4	91.8	56.3	11.8	3.3	3.3	3.2	3.1	87.11	287.80
28-Aug	3.1	2.6	3.0	3.3	3.2	3.6	20.9	69.4	133.0	186.7	233.8	249.2	274.2	275.6	251.9	188.3	169.4	112.4	53.2	11.8	2.9	2.7	3.1	3.0	94.17	275.60
29-Aug	3.1	3.1	2.9	3.1	3.3	3.5	11.1	29.7	87.9	174.8	208.9	252.8	268.3	267.5	244.2	199.2	152.7	94.5	42.3	8.6	2.8	2.8	2.9	3.0	86.37	268.30
30-Aug	3.0	3.0	2.9	3.0	3.2	3.5	7.6	21.3	46.3	51.5	62.5	68.3	57.0	141.9	192.4	161.4	128.3	77.0	32.1	7.0	3.0	3.1	3.2	3.2	45.24	192.44
31-Aug	3.1	2.5	2.3	2.5	2.6	2.7	6.7	39.7	74.7	93.9	173.7	202.6	220.6	204.5	192.2	127.0	49.5	61.5	36.7	7.3	3.1	3.0	3.2	3.3	63.29	220.57
2.08 2.05 2.01 2.08 2.03 3.84 22.46 59.02 102.65 149.51 186.01 217.37 227.32 219.91 211.64 183.31 138.31 97.27 54.89 19.11 4.02 2.14 2.16 2.15																								Diurnal Average		
3.89 3.83 3.83 3.89 3.77 7.63 42.01 93.97 165.89 229.81 276.91 295.13 324.07 315.53 312.39 252.66 213.21 162.74 109.22 47.30 10.44 4.12 4.09 3.90																								Diurnal Maximum		



WCAS - Tomahawk
Summary of Hourly Standard Deviations

Wind Speed (WS) - kph
August 2017

Maximum Value: 19.75 kph on Aug 24 16:00		Maximum Daily Average: 3.89 kph on Aug 19		Hours in Service: 744																							
Minimum Value: 0.5 kph on Aug 1 01:00		Minimum Daily Average: 1.58 kph on Aug 30		Hours of Data: 744																							
Maximum Diurnal Average: 4.04 kph at hour 16		Minimum Diurnal Average: 1.49 kph at hour 6		Hours of Missing Data: 0																							
Monthly Average: 2.414 kph		Percentiles: $P_1 = 0.7$ $P_{10} = 1.0$ $Q_1 = 1.3$ Median = 2.1 $Q_3 = 2.9$ $P_{90} = 4.2$ $P_{99} = 7.9$		Hours of Calibration: 0																							
				Percent Operational Time: 100.0																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Aug	0.5	1.0	1.5	1.4	1.0	2.6	2.7	3.3	4.1	4.5	3.8	2.8	3.1	2.0	2.3	2.0	1.9	2.9	2.6	1.8	1.5	0.8	0.6	1.0	2.16	4.49	
2-Aug	1.7	2.7	1.5	0.7	0.5	0.9	1.4	1.3	1.3	2.3	2.7	2.7	3.2	4.1	3.0	3.4	4.1	3.0	2.4	1.8	0.7	0.8	1.4	2.5	2.10	4.13	
3-Aug	0.9	1.0	0.9	0.7	0.8	0.7	1.3	1.1	1.5	2.1	2.6	2.9	3.8	4.7	3.9	3.6	2.9	2.5	2.0	2.3	3.8	11.9	6.5	1.8	2.76	11.90	
4-Aug	2.1	2.1	2.7	2.6	2.3	1.4	1.7	2.4	2.6	2.4	2.9	3.5	1.9	2.7	5.1	3.3	8.4	2.0	3.4	1.8	1.5	2.1	1.3	2.4	2.70	8.38	
5-Aug	1.0	2.1	2.3	0.7	1.4	0.9	1.3	1.5	1.8	2.0	1.7	2.3	3.0	2.2	2.9	3.2	5.4	2.5	1.5	1.3	1.3	1.4	1.8	1.0	1.94	5.42	
6-Aug	1.8	1.0	0.9	1.5	0.9	1.0	1.1	1.1	1.2	1.7	2.0	2.3	2.7	2.9	2.6	2.6	2.2	2.4	1.8	0.9	1.4	1.4	0.8	2.6	1.70	2.93	
7-Aug	1.3	2.1	2.4	5.3	3.4	2.5	2.7	2.9	2.8	2.9	2.6	1.7	1.2	2.3	1.9	2.5	2.9	3.9	3.9	2.0	1.7	2.1	1.2	1.1	2.47	5.26	
8-Aug	1.6	1.2	1.0	1.3	1.7	1.3	1.4	1.8	1.9	2.5	2.6	2.2	2.8	3.1	3.3	3.3	2.9	2.7	2.2	1.0	0.9	0.6	1.6	1.6	1.95	3.31	
9-Aug	1.0	1.3	1.0	0.8	0.8	0.9	0.9	1.1	1.8	2.1	2.2	2.8	2.8	2.9	2.3	2.9	3.5	2.4	1.6	0.8	1.2	0.8	0.8	0.8	1.65	3.50	
10-Aug	0.8	1.8	0.9	1.8	0.8	1.5	1.8	0.9	1.4	2.0	2.2	2.2	3.0	3.4	3.3	2.6	2.5	2.2	1.8	1.3	10.0	4.4	1.5	1.1	2.30	9.97	
11-Aug	1.2	1.0	1.3	1.1	2.2	2.3	1.2	1.9	1.8	2.7	2.2	2.8	3.3	3.6	3.6	3.5	3.6	4.0	3.0	2.2	1.2	1.1	1.7	1.3	2.24	3.96	
12-Aug	1.3	2.1	2.8	1.5	2.7	1.7	1.7	2.9	3.8	4.7	5.5	5.7	5.2	5.4	5.5	5.1	4.9	4.0	2.8	2.0	2.1	2.2	1.6	1.2	3.27	5.72	
13-Aug	1.5	1.0	1.2	1.3	2.7	1.8	1.6	1.8	1.6	2.2	2.4	3.5	3.2	3.4	3.6	3.8	4.4	3.8	7.6	4.4	4.5	1.1	2.6	2.1	2.79	7.59	
14-Aug	2.0	2.1	1.7	1.5	1.0	1.2	3.1	2.2	3.0	4.1	3.6	4.3	4.3	4.3	4.4	4.2	5.6	4.1	2.3	2.9	1.5	1.5	1.3	1.3	2.82	5.64	
15-Aug	2.8	3.3	2.9	2.8	2.6	2.8	2.7	2.3	3.4	3.7	4.6	5.0	5.4	4.9	5.5	5.5	4.0	4.7	1.5	2.0	1.4	1.7	1.5	0.9	3.25	5.47	
16-Aug	1.4	1.3	1.9	0.9	1.2	1.5	1.6	1.1	2.1	2.5	2.3	3.0	3.4	3.8	4.1	3.0	2.1	1.8	1.3	0.8	1.2	2.7	1.2	1.6	1.98	4.10	
17-Aug	1.0	1.0	1.3	1.0	1.4	1.0	2.1	1.6	1.4	1.8	3.9	3.9	3.8	3.7	4.0	4.1	3.4	2.1	1.1	0.8	0.8	1.1	0.8	1.1	2.00	4.11	
18-Aug	1.0	1.7	1.3	1.1	0.9	1.2	1.0	1.6	1.8	2.2	2.9	4.1	3.5	7.8	5.0	5.6	5.0	4.0	3.6	11.1	7.8	3.8	1.6	2.0	3.40	11.13	
19-Aug	3.2	3.2	3.6	3.5	2.7	2.8	1.8	3.1	4.6	5.6	6.9	6.1	5.7	5.5	5.2	5.1	4.9	4.4	4.6	1.9	2.1	2.0	2.5	2.2	3.89	6.89	
20-Aug	1.9	2.8	0.9	2.3	1.2	1.6	0.9	1.2	1.0	1.8	5.6	4.8	4.7	2.9	3.3	3.8	4.4	2.8	2.1	2.8	1.7	1.2	1.4	0.8	2.41	5.65	
21-Aug	0.9	1.1	0.9	0.9	1.1	1.0	1.0	1.3	1.8	2.3	2.6	3.0	3.4	3.2	2.8	2.8	2.0	1.2	1.1	0.9	0.8	0.8	0.6	0.8	1.60	3.40	
22-Aug	0.8	1.7	1.2	1.2	1.3	1.0	0.8	1.7	1.3	2.2	2.9	3.5	4.0	4.0	3.3	3.4	3.0	2.1	1.9	1.5	1.5	1.3	1.5	1.7	2.03	3.99	
23-Aug	1.3	1.1	1.7	2.5	1.8	1.8	1.7	1.9	1.5	2.3	2.2	2.0	1.9	2.7	2.7	3.1	2.4	2.7	2.9	2.2	2.4	4.2	11.4	2.6	2.62	11.45	
24-Aug	2.5	2.2	2.0	1.5	1.4	1.7	1.9	1.8	2.0	1.9	1.7	3.1	2.5	2.5	2.3	19.8	7.8	6.9	6.2	3.8	2.1	1.1	1.3	2.7	3.44	19.75	
25-Aug	2.3	2.0	1.3	1.1	1.1	1.4	1.4	1.8	2.4	2.5	4.1	5.1	4.6	4.6	4.2	4.0	3.5	2.8	1.7	2.0	1.1	2.8	1.1	2.4	2.55	5.08	
26-Aug	0.9	0.7	0.7	0.9	1.2	0.9	1.0	1.5	2.2	3.3	2.8	3.3	3.6	4.0	4.3	2.7	2.2	2.6	1.4	1.3	1.5	1.2	1.0	0.8	1.91	4.28	
27-Aug	1.3	1.4	2.6	2.0	1.2	1.3	1.5	1.3	1.4	2.0	2.1	2.0	2.3	2.4	2.5	2.8	1.5	2.4	1.9	1.3	1.1	1.2	1.2	1.4	1.76	2.80	
28-Aug	2.6	1.8	1.5	1.7	2.0	0.9	1.1	1.2	1.5	2.4	2.8	2.6	2.7	3.2	3.5	3.7	3.0	2.8	2.1	0.6	1.0	1.4	1.1	1.9	2.05	3.68	
29-Aug	1.9	1.4	1.5	0.7	0.8	1.0	1.1	1.4	2.2	2.6	3.2	4.1	4.4	5.0	4.7	4.9	4.9	4.2	2.3	2.1	2.6	3.0	2.2	2.4	2.68	4.97	
30-Aug	1.7	1.6	1.3	1.5	1.8	1.9	0.6	0.9	1.5	0.8	1.0	1.2	1.6	1.6	2.5	2.0	2.2	2.1	1.8	1.3	2.0	1.4	1.6	2.0	1.58	2.52	
31-Aug	2.4	3.3	2.0	1.5	2.1	1.7	1.8	2.5	3.2	3.6	4.2	3.7	3.8	4.4	3.7	3.2	8.9	2.9	1.7	1.2	2.8	1.0	1.0	1.4	2.84	8.89	
		1.57	1.74	1.64	1.59	1.55	1.49	1.55	1.75	2.13	2.64	3.05	3.30	3.38	3.66	3.59	4.04	3.89	3.06	2.52	2.07	2.16	2.07	1.86	1.63	Diurnal Average	
		3.19	3.34	3.62	5.26	3.41	2.82	3.12	3.25	4.55	5.61	6.89	6.06	5.70	7.80	5.52	19.75	8.89	6.92	7.59	11.13	9.97	11.90	11.45	2.70	Diurnal Maximum	



WCAS - Tomahawk
Summary of Hourly Standard Deviations

Wind Direction (WD) - deg
August 2017

Maximum Value: 99.16 deg on Aug 10 12:00 Maximum Daily Average: 47.76 deg on Aug 23																							Hours in Service: 744 Hours of Data: 744																									
Minimum Value: 3.6 deg on Aug 8 21:00 Minimum Daily Average: 12.50 deg on Aug 19 Maximum Diurnal Average: 41.02 deg at hour 12 Minimum Diurnal Average: 21.66 deg at hour 5 Monthly Average: 29.936 deg Percentiles: P₁ = 6.5 P₁₀ = 11.1 Q₁ = 15.5 Median = 24.5 Q₃ = 38.8 P₉₀ = 56.3 P₉₉ = 91.3																							Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0																									
Day	Hourly Period Ending At																								Daily Average	Daily Maximum																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																								
1-Aug	15.7	25.2	20.1	42.6	26.2	45.2	77.2	60.7	24.3	30.2	39.3	35.8	11.1	13.6	17.5	24.1	38.8	33.1	25.8	14.1	15.5	8.0	12.7	8.0	27.70	77.19																						
2-Aug	40.6	46.7	51.3	16.2	7.8	17.7	59.5	36.3	28.2	37.6	36.6	42.3	42.6	40.1	51.7	35.5	35.5	31.6	23.2	18.2	21.3	22.6	20.8	21.0	32.71	59.47																						
3-Aug	49.2	22.4	21.8	20.0	14.3	8.1	13.9	12.6	22.4	53.5	35.2	46.1	52.5	57.9	37.0	32.4	33.6	31.6	34.2	47.6	38.8	47.4	71.0	18.7	34.26	71.03																						
4-Aug	10.7	11.1	15.6	18.3	23.0	23.8	15.4	12.3	14.6	11.4	14.0	17.1	11.3	16.1	17.4	14.3	26.4	26.4	12.8	22.9	13.9	40.5	49.8	15.9	18.96	49.83																						
5-Aug	21.0	48.4	47.0	24.4	17.2	18.6	12.4	32.3	26.7	73.7	82.3	76.1	68.6	84.8	56.9	73.7	80.1	29.4	28.8	19.5	21.1	31.5	26.8	36.8	43.26	84.77																						
6-Aug	26.1	35.4	21.5	22.2	28.0	20.2	17.0	17.7	18.7	41.6	39.3	40.7	67.9	65.0	86.8	91.9	42.4	37.2	51.0	28.8	27.1	44.7	34.2	64.9	40.42	91.93																						
7-Aug	11.8	54.3	22.6	18.4	17.7	46.5	40.1	38.5	41.8	12.1	43.1	13.7	16.6	50.0	48.7	39.0	27.1	17.9	19.5	36.6	30.5	37.3	48.8	30.3	31.79	54.29																						
8-Aug	45.2	70.1	44.7	20.6	49.3	75.3	27.5	34.4	76.3	56.0	62.1	87.1	77.7	79.9	38.2	40.7	43.4	31.1	25.9	7.6	3.6	5.0	13.2	16.6	42.97	87.09																						
9-Aug	18.3	21.9	50.6	41.6	31.9	41.5	14.4	17.1	43.6	56.8	55.8	52.9	55.2	59.6	77.2	49.4	58.3	27.5	37.2	16.0	26.6	12.6	11.9	56.3	38.92	77.17																						
10-Aug	28.1	30.3	87.4	51.7	21.9	41.3	53.4	16.3	60.3	44.8	71.0	99.2	72.2	57.9	52.3	55.6	56.9	41.7	37.0	32.0	38.6	35.1	24.4	10.0	46.63	99.16																						
11-Aug	34.1	13.3	52.0	17.2	34.3	29.8	44.0	44.9	38.1	59.7	38.7	31.4	29.0	34.2	28.9	34.6	22.3	17.2	15.1	13.2	16.5	19.0	17.4	18.5	29.31	59.72																						
12-Aug	19.3	17.9	20.7	12.9	13.8	19.8	20.4	17.0	14.3	13.9	14.2	13.3	24.6	24.5	22.2	20.6	20.6	18.6	18.0	24.1	25.5	24.5	23.8	18.1	19.28	25.54																						
13-Aug	12.3	11.9	16.2	24.9	32.0	35.3	38.1	22.1	22.5	32.0	76.3	37.6	27.0	35.0	22.2	15.5	16.1	31.3	18.0	18.6	20.4	21.9	24.3	19.5	26.28	76.33																						
14-Aug	18.1	16.7	35.8	20.2	13.0	10.0	19.5	15.2	17.5	13.7	18.1	16.3	17.2	28.5	23.7	29.3	21.1	23.5	38.2	21.1	26.5	29.0	28.0	26.7	21.95	38.16																						
15-Aug	21.5	18.0	16.9	17.2	15.2	18.4	23.0	20.6	19.8	20.1	17.0	19.4	19.0	20.3	17.9	17.7	14.7	18.1	13.9	12.8	16.3	48.7	15.1	8.8	18.77	48.71																						
16-Aug	8.0	20.8	33.1	10.3	8.9	22.5	28.2	13.4	62.2	60.4	47.5	41.6	26.5	25.8	17.3	22.4	21.1	17.7	15.3	14.6	25.3	65.2	22.4	10.2	26.70	65.22																						
17-Aug	6.5	6.6	6.9	8.3	14.0	7.5	12.7	12.4	12.1	17.8	37.2	49.9	35.6	27.8	27.8	47.2	22.0	18.4	10.8	8.7	8.6	11.2	12.1	9.2	17.97	49.93																						
18-Aug	12.8	14.3	8.4	9.4	9.8	8.5	11.7	17.5	24.5	41.5	16.6	15.9	20.3	44.2	27.4	28.9	27.5	30.8	22.3	15.2	13.0	73.6	18.8	14.4	21.98	73.59																						
19-Aug	14.1	10.6	9.6	8.5	8.6	16.3	12.8	14.6	11.3	13.2	12.9	13.1	13.4	15.0	15.3	17.0	13.1	13.9	10.5	7.2	11.2	10.1	11.1	16.5	12.50	17.00																						
20-Aug	9.2	43.8	8.1	17.3	10.9	12.9	7.1	9.6	22.2	19.7	16.7	14.2	16.3	11.6	15.2	25.9	13.1	14.0	12.7	19.9	14.4	6.5	4.6	6.4	14.68	43.80																						
21-Aug	8.9	6.7	7.5	8.0	7.0	7.3	6.5	14.9	17.5	19.3	17.7	17.8	19.2	27.0	27.8	22.3	21.6	10.7	11.3	7.8	8.4	8.1	21.2	8.5	13.88	27.81																						
22-Aug	9.0	20.7	9.7	13.5	15.1	11.6	12.4	30.4	24.0	28.8	55.3	32.6	60.3	77.4	39.7	63.2	36.3	33.4	23.4	25.1	29.0	33.5	34.7	37.9	31.56	77.41																						
23-Aug	42.6	43.9	37.0	34.9	36.3	40.6	33.8	64.9	39.4	22.6	31.2	98.8	63.1	47.6	42.0	42.0	30.5	38.4	40.5	76.7	38.5	43.0	65.3	92.6	47.76	98.79																						
24-Aug	58.1	41.5	28.1	84.0	82.7	51.6	91.7	35.7	93.4	94.0	45.2	64.7	44.4	38.8	44.7	97.7	15.5	13.2	14.1	15.1	22.5	34.8	12.3	17.3	47.55	97.71																						
25-Aug	14.1	19.4	22.3	24.4	8.5	9.2	10.2	13.1	15.3	18.5	22.6	25.4	27.7	29.9	35.3	29.9	33.3	75.1	41.5	40.8	55.3	35.8	8.0	28.3	26.84	75.11																						
26-Aug	15.5	15.3	11.9	9.2	8.9	9.1	7.1	12.1	11.5	15.0	15.7	20.6	28.7	40.1	30.2	25.2	31.8	16.3	11.0	7.9	15.8	30.1	11.7	17.9	17.45	40.11																						
27-Aug	33.5	9.4	25.1	14.2	8.3	21.8	20.4	11.6	15.6	32.3	38.8	63.9	73.8	39.3	48.7	80.2	33.4	32.0	31.3	26.9	17.3	15.3	25.6	13.6	30.51	80.17																						
28-Aug	4.7	15.4	23.0	25.6	10.9	8.3	32.0	25.2	16.3	55.1	77.5	82.6	72.2	75.4	60.5	36.9	34.4	31.1	28.1	27.6	42.9	77.4	38.1	52.4	39.73	82.56																						
29-Aug	86.2	90.9	25.2	46.8	44.4	37.6	48.8	41.1	35.3	36.8	39.1	31.0	30.4	27.5	36.1	53.0	46.8	59.8	57.7	50.7	42.5	39.5	36.4	34.2	44.91	90.91																						
30-Aug	37.6	34.6	16.7	19.7	32.8	26.7	21.8	34.0	70.7	37.5	30.9	43.2	48.5	51.1	37.7	40.2	35.9	37.4	27.1	16.5	31.5	31.0	11.8	12.5	32.80	70.67																						
31-Aug	10.7	51.2	22.0	23.8	18.8	35.4	30.8	21.4	15.7	12.4	13.5	27.2	18.1	23.5	28.8	39.0	19.6	69.2	38.5	14.0	73.5	7.9	29.5	27.0	27.98	73.51																						
																							23.98	28.67	26.42	23.44	21.66	25.10	27.86	24.83	30.85	34.90	37.47	41.02	38.42	40.94	36.56	40.17	31.40	29.93	25.63	22.83	25.55	30.68	25.35	24.81	Diurnal Average	
																							86.22	90.91	87.36	83.96	82.71	75.26	91.70	64.94	93.41	93.98	82.35	99.16	77.69	84.77	86.83	97.71	80.06	75.11	57.71	76.65	73.51	77.39	71.03	92.57	Diurnal Maximum	

**VIOLET GROVE
STATION #902**

CONTINUOUS AIR MONITORING DATA

AUGUST 2017

Summary Report

Continuous air quality/meteorological monitoring measurements

West Central Airshed Society

WCAS / Violet Grove Station 902													August 2017		
Parameter	Calibration Hours	Number of Data	Percent Uptime	Mean	Min	Max	Percentile					Exceedences		24 Hour Average Max (ppm)	
							P10	Q1	Median	Q3	P90	1-hour	24-hour		
SO ₂ (ppb)	37	707	100.0	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.1	0	0	0.000	
O ₃ (ppb)	35	709	100.0	24.9	3.2	54.1	11.2	16.1	23.5	32.6	40.3	0	-	0.043	
NO (ppb)	37	707	100.0	0.1	0.0	1.2	0.0	0.0	0.0	0.1	0.3	-	-	-	
NO ₂ (ppb)	37	707	100.0	1.1	0.3	8.3	0.5	0.7	0.9	1.4	2.0	0	0	0.002	
NO _x (ppb)	37	707	100.0	1.2	0.3	8.4	0.5	0.7	1.0	1.5	2.3	-	-	-	
THC (ppm)	36	708	100.0	2.2	1.9	4.1	2.0	2.1	2.2	2.3	2.5	-	-	2.44	
Wind Speed (kph)	0	744	100.0	7.6	0.2	35.1	2.5	4.2	6.8	10.1	13.6	-	-	-	
Temperature (°C)	0	744	100.0	14.8	5.0	27.0	9.0	11.0	13.9	18.6	22.4	-	-	-	
Delta Temperature (°C)	0	744	100.0	-0.5	-3.0	1.6	-1.5	-1.0	-0.4	0.0	0.3	-	-	-	
Relative Humidity (%)	0	744	100.0	68.3	23.9	94.5	40.1	52.6	71.9	84.8	91.4	-	-	-	
Global Solar Radiation (W/m ²)	0	744	100.0	212.4	0.0	867.2	0.0	0.0	59.4	415.9	673.9	-	-	-	
Photosynthetically Active Radiation (µV)	0	744	100.0	76.5	0.0	307.8	0.0	0.7	23.4	149.2	239.6	-	-	-	
Std Dev Wind Direction (deg)	0	744	100.0	24.7	3.3	104.7	8.6	11.7	18.0	31.9	53.2	-	-	-	
Std Dev Wind Speed (kph)	0	744	100.0	2.6	0.4	10.0	1.2	1.6	2.2	3.2	4.4	-	-	-	



WCAS - Violet Grove
Summary of Hourly Averages

Sulphur Dioxide (SO₂) - ppb
August 2017

Maximum Value: 1.43 ppb on Aug 23 19:00		Maximum Daily Average: 0.24 ppb on Aug 28		Hours in Service: 744																													
Minimum Value: 0.0 ppb on Aug 1 13:00		Minimum Daily Average: 0.01 ppb on Aug 5		Hours of Data: 707																													
Maximum Diurnal Average: 0.10 ppb at hour 19		Minimum Diurnal Average: 0.02 ppb at hour 1		Hours of Missing Data: 37																													
Monthly Average: 0.037 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 0.0 P ₉₀ = 0.1 P ₉₉ = 0.4		Hours of Calibration: 37																													
				Percent Operational Time: 100.0																													
Day	Hourly Period Ending At																								Daily Average	Daily Maximum							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24									
1-Aug	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.05							
2-Aug	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	0.1	0.0	0.01	0.07							
3-Aug	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.03	0.12							
4-Aug	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	0.0	0.01	0.05							
5-Aug	0.0	Z	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.07							
6-Aug	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.3	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	0.02	0.26							
7-Aug	0.0	Z	0.0	0.0	0.0	0.0	0.0	C	C	C	C	C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--	0.01							
8-Aug	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	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.06							
9-Aug	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.02	0.05							
10-Aug	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.04	0.14							
11-Aug	0.0	Z	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	0.0	0.0	0.0	0.0	0.0	0.0	0.03	0.07							
12-Aug	0.0	Z	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.04	0.07							
13-Aug	0.0	Z	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.05	0.09							
14-Aug	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.05							
15-Aug	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	0.0	0.01	0.05							
16-Aug	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.03	0.13							
17-Aug	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.03	0.12							
18-Aug	0.0	Z	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	0.0	0.0	0.0	0.0	0.0	0.02	0.09							
19-Aug	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	0.0	0.01	0.02							
20-Aug	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	0.0	0.01	0.03							
21-Aug	0.0	Z	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	0.0	0.0	0.0	0.02	0.11							
22-Aug	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	0.1	0.0	0.02	0.08							
23-Aug	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	0.1	1.4	0.7	0.2	0.2	0.1	0.1	0.15	1.43							
24-Aug	0.1	Z	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.02	0.06							
25-Aug	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	0.0	0.02	0.04							
26-Aug	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	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	0.15							
27-Aug	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.5	0.2	0.1	0.1	0.06	0.46							
28-Aug	0.0	Z	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.5	0.9	0.7	1.2	1.0	0.3	0.2	0.1	0.1	0.24	1.18							
29-Aug	0.1	Z	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	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.05	0.12								
30-Aug	0.0	Z	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.3	0.1	0.1	0.1	0.1	0.08	0.32							
31-Aug	0.0	Z	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.02	0.06							
		0.02	--	0.02	0.02	0.02	0.02	0.03	0.03	0.05	0.04	0.03	0.02	0.03	0.02	0.02	0.02	0.04	0.05	0.10	0.10	0.07	0.04	0.03	0.02	Diurnal Average							
		0.06	--	0.06	0.11	0.07	0.07	0.10	0.09	0.26	0.13	0.11	0.08	0.09	0.09	0.06	0.07	0.54	0.86	1.43	1.18	1.03	0.33	0.17	0.12	Diurnal Maximum							
Z - zerospan		C - Calibration																															
Alberta Ambient Air Quality Objectives (AAAQO):		1-hr 172 ppb				24-hr 48 ppb																											



WCAS - Violet Grove
Summary of Hourly Averages

Ozone (O₃) - ppb
August 2017

Maximum Value: 54.10 ppb on Aug 9 12:00 Maximum Daily Average: 43.19 ppb on Aug 12 Minimum Value: 3.2 ppb on Aug 2 05:00 Minimum Daily Average: 16.43 ppb on Aug 1 Maximum Diurnal Average: 35.82 ppb at hour 14 Minimum Diurnal Average: 13.04 ppb at hour 6 Monthly Average: 24.929 ppb Percentiles: P ₁ = 5.6 P ₁₀ = 11.2 Q ₁ = 16.1 Median = 23.5 Q ₃ = 32.6 P ₉₀ = 40.3 P ₉₉ = 51.9																								Hours in Service:	744	
																								Hours of Data:	709	
																								Hours of Missing Data:	35	
																								Hours of Calibration:	35	
																								Percent Operational Time:	100.0	
Day	Hourly Period Ending At																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Aug	21.6	17.8	Z	9.5	6.4	8.4	7.7	9.5	13.2	16.0	17.0	20.0	21.8	22.0	22.9	24.0	24.7	21.2	16.8	16.5	14.9	13.1	11.6	16.43	24.74	
2-Aug	9.6	7.5	Z	5.7	3.2	3.5	7.3	15.9	22.2	27.5	30.0	30.6	31.4	33.5	34.1	35.1	34.8	32.8	28.7	18.4	19.7	19.8	25.1	22.8	21.69	35.12
3-Aug	23.4	22.2	Z	18.1	15.0	12.2	14.3	25.9	36.3	40.8	44.8	43.6	41.3	40.1	40.5	39.2	39.7	37.2	32.9	29.0	31.7	31.7	28.9	25.5	31.06	44.85
4-Aug	22.3	21.8	Z	20.2	16.4	15.0	15.6	20.5	22.7	20.1	19.3	19.1	20.0	22.1	21.6	24.7	21.5	21.6	18.9	18.1	16.0	13.7	11.4	11.7	18.87	24.74
5-Aug	10.8	11.3	Z	10.2	10.1	9.8	8.6	12.1	23.1	30.0	32.7	32.8	30.2	29.5	32.3	31.8	31.8	29.2	23.1	18.6	20.4	20.0	15.6	14.4	21.24	32.80
6-Aug	10.6	6.3	Z	5.9	4.7	7.6	11.1	19.9	30.5	32.1	36.5	37.6	39.5	40.5	40.4	41.9	42.2	37.3	21.4	22.6	22.2	25.3	23.4	17.6	25.10	42.24
7-Aug	22.2	11.2	Z	24.3	25.8	21.4	16.8	C	C	C	C	26.6	30.7	33.2	31.7	29.0	28.3	22.4	18.3	16.1	14.8	13.3	11.4	7.5	21.32	33.19
8-Aug	11.1	18.1	Z	17.2	16.8	15.0	14.6	19.0	23.4	24.0	27.2	30.1	34.3	36.7	36.9	37.9	36.6	32.9	26.5	20.0	18.8	20.8	20.2	22.5	24.38	37.95
9-Aug	19.3	14.1	Z	13.3	9.8	7.9	12.8	20.5	26.4	38.8	49.7	54.1	52.6	51.1	48.9	49.3	48.9	47.0	31.6	27.4	27.9	29.0	31.6	28.1	32.18	54.10
10-Aug	12.8	10.6	Z	7.9	7.5	12.9	21.4	35.5	53.3	49.4	44.3	40.3	42.0	45.6	47.5	48.7	48.4	43.2	37.8	29.6	37.9	34.6	35.4	34.5	33.97	53.34
11-Aug	33.0	33.6	Z	20.4	21.8	22.8	29.9	36.3	43.7	44.3	44.9	43.9	42.9	43.8	47.9	49.5	48.5	49.2	41.6	39.3	37.8	34.1	32.6	29.9	37.90	49.55
12-Aug	28.7	29.3	Z	30.7	28.9	28.8	32.5	37.7	44.4	47.7	50.0	51.6	52.2	53.6	53.7	53.5	49.8	47.8	43.5	44.4	47.2	45.7	45.0	46.8	43.19	53.69
13-Aug	46.9	44.3	Z	30.8	25.5	28.0	28.8	27.0	25.6	23.6	30.2	38.0	36.9	32.4	22.3	20.1	25.6	25.2	31.4	28.4	26.3	22.1	24.9	21.8	28.95	46.94
14-Aug	16.4	14.4	Z	12.8	10.8	11.5	12.7	15.1	22.3	27.8	30.5	31.9	32.5	30.4	29.5	30.0	29.5	24.4	18.1	16.2	14.0	13.0	12.0	12.2	20.35	32.46
15-Aug	11.1	13.2	Z	8.5	8.6	9.7	11.4	16.5	24.9	30.6	32.4	33.8	35.3	37.2	37.1	37.9	36.3	31.2	26.9	25.7	20.6	20.2	15.1	14.3	23.42	37.88
16-Aug	15.1	15.7	Z	9.6	7.3	6.0	8.2	15.5	23.3	33.5	38.4	39.2	38.9	29.9	23.9	25.3	25.2	15.9	12.3	11.5	12.9	15.2	13.2	11.9	19.48	39.24
17-Aug	12.8	10.7	Z	9.6	11.5	7.9	7.1	9.9	18.6	27.7	34.4	37.3	38.8	41.9	42.4	36.8	28.4	24.0	30.1	29.0	29.2	27.0	24.7	22.2	24.44	42.39
18-Aug	20.2	23.5	Z	17.8	12.0	14.0	18.2	17.1	25.5	27.8	32.6	38.7	40.6	36.9	28.7	28.2	27.7	24.9	31.6	30.1	30.7	25.9	21.7	21.2	25.89	40.59
19-Aug	22.3	20.3	Z	15.5	15.2	15.6	15.7	20.1	24.9	29.9	32.0	33.2	34.8	35.7	35.5	35.6	33.3	29.4	21.9	20.6	19.0	19.3	17.5	19.0	24.63	35.66
20-Aug	19.2	19.5	Z	16.9	13.4	10.8	11.9	13.4	15.7	29.9	36.1	36.8	36.7	36.5	32.6	30.3	29.8	23.3	19.4	13.0	11.5	8.7	14.8	18.0	21.67	36.78
21-Aug	18.3	12.0	Z	9.0	8.1	10.0	14.2	21.7	27.7	23.6	28.6	26.2	25.0	26.0	25.8	24.2	19.7	18.5	19.6	16.4	17.3	14.3	15.5	15.8	19.03	28.65
22-Aug	14.2	11.8	Z	7.7	7.1	7.3	8.6	12.4	18.3	20.4	22.9	21.8	21.7	21.1	23.0	26.5	27.4	24.0	21.6	17.2	17.7	19.2	19.6	18.4	17.82	27.40
23-Aug	17.1	17.6	Z	17.5	18.8	16.6	14.3	13.1	13.8	19.7	27.1	32.8	35.5	41.5	40.4	35.4	41.3	31.3	16.6	21.5	27.9	27.4	23.3	18.6	24.75	41.46
24-Aug	17.6	14.0	Z	6.8	5.0	4.8	7.1	8.6	12.7	21.3	23.8	32.7	36.2	38.2	33.2	32.2	31.1	31.0	26.5	19.8	20.4	21.6	21.3	20.3	21.14	38.22
25-Aug	20.5	21.3	Z	22.0	20.1	18.7	18.3	21.8	28.2	31.5	33.6	33.9	34.8	34.9	34.6	35.0	31.4	23.7	17.9	22.0	19.7	19.0	17.8	13.1	24.94	34.98
26-Aug	10.7	10.6	Z	10.3	12.2	14.7	18.4	23.0	25.2	30.4	35.7	38.6	40.9	40.5	40.8	40.3	37.8	32.5	31.6	36.4	36.2	34.5	29.3	27.6	28.61	40.92
27-Aug	24.5	23.7	Z	17.7	15.1	12.7	15.2	19.8	28.9	33.6	39.6	41.7	42.1	39.6	36.4	30.9	37.7	36.4	28.9	35.0	35.4	30.6	28.6	25.6	29.55	42.06
28-Aug	15.6	13.8	Z	13.3	11.4	9.9	13.1	15.6	20.5	22.3	23.8	27.2	31.2	30.6	30.1	31.3	35.6	31.6	27.9	19.5	17.8	19.9	21.2	20.3	21.90	35.64
29-Aug	21.2	23.5	Z	17.6	16.1	14.4	11.8	14.0	23.4	33.3	35.8	36.9	38.8	40.8	42.0	41.2	38.8	35.2	35.5	30.9	29.7	26.4	23.0	23.9	28.45	41.98
30-Aug	24.8	24.7	Z	19.9	19.1	18.6	15.3	13.5	14.3	13.4	12.7	17.4	30.0	30.7	30.9	28.6	26.2	22.8	18.2	12.2	11.4	10.6	8.3	6.6	18.70	30.89
31-Aug	5.7	6.1	Z	7.1	5.5	7.6	9.7	12.4	19.6	28.1	30.8	31.7	32.1	34.4	32.8	38.9	35.1	25.7	26.9	30.3	22.9	15.0	14.3	12.8	21.11	38.88
																								Diurnal Average	24.93	
																								Diurnal Maximum	54.10	

Z - zerospan C - Calibration
 Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 82.5 ppb 24-hr -- ppb



WCAS - Violet Grove
Eight Hour Running Averages

Ozone (O₃) - ppb
August 2017

Maximum Value: 51.52 ppb on Aug 12 18:00 Maximum Daily Average: 41.13 ppb on Aug 12 Minimum Value: 6.7 ppb on Aug 31 06:00 Minimum Daily Average: 17.08 ppb on Aug 1 Maximum Diurnal Average: 33.95 ppb at hour 18 Minimum Diurnal Average: 15.80 ppb at hour 8 Monthly Average: 24.643 ppb Percentiles: P ₁ = 7.9 P ₁₀ = 13.2 Q ₁ = 17.9 Median = 23.3 Q ₃ = 30.9 P ₉₀ = 37.0 P ₉₉ = 48.6																								Hours in Service:	744																								
																								Hours of Data:	736																								
																								Hours of Missing Data:	8																								
																								Hours of Calibration:	8																								
																								Percent Operational Time:	100.0																								
Day	Hourly Period Ending At																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Aug	19.6	19.0	19.4	19.1	17.3	15.3	13.2	11.6	10.4	10.1	11.0	12.3	14.1	15.8	17.6	19.2	20.6	21.7	22.2	21.8	21.3	20.4	19.3	17.9	17.08	22.21																							
2-Aug	16.1	13.9	12.9	11.3	9.4	7.7	6.9	7.5	9.3	12.2	14.4	17.5	21.0	24.8	28.1	30.5	32.1	32.8	32.6	31.1	29.6	27.9	26.8	25.3	20.07	32.78																							
3-Aug	23.8	22.5	21.6	21.6	20.9	19.8	18.3	18.7	20.6	23.2	25.9	29.1	32.4	35.9	39.2	40.8	41.3	40.8	39.3	37.5	36.3	35.2	33.8	32.1	29.62	41.26																							
4-Aug	29.9	28.0	27.3	26.0	23.8	21.4	19.5	18.8	18.9	18.6	18.7	18.6	19.0	19.9	20.7	21.2	21.0	21.2	21.2	21.1	20.5	19.5	18.2	16.6	21.24	29.90																							
5-Aug	15.3	14.0	13.3	12.2	11.3	10.8	10.4	10.4	12.2	14.9	17.1	19.9	22.4	24.9	27.8	30.3	31.4	31.3	30.1	28.3	27.1	25.9	23.8	21.6	20.28	31.40																							
6-Aug	19.0	16.1	15.1	13.3	11.1	9.3	8.7	9.4	12.3	16.0	18.5	22.5	26.9	31.0	34.6	37.4	38.9	39.5	37.6	35.8	33.6	31.7	29.5	26.5	23.92	39.51																							
7-Aug	24.0	20.7	20.6	20.9	21.4	20.8	19.9	20.3	Z	Z	C	C	C	C	C	C	29.9	28.9	27.5	26.2	24.2	21.8	19.2	16.5	--	29.93																							
8-Aug	14.4	13.8	13.2	13.3	13.6	13.9	14.3	16.0	17.7	18.6	19.6	21.3	23.4	26.2	29.0	31.3	33.0	34.1	34.0	32.7	30.8	28.8	26.7	24.8	22.69	34.09																							
9-Aug	22.6	20.3	19.4	18.4	17.2	15.3	14.2	14.0	15.0	18.5	22.4	27.5	32.9	38.3	42.8	46.4	49.2	50.2	47.9	44.6	41.5	38.7	36.6	34.0	30.32	50.19																							
10-Aug	29.4	24.9	23.9	21.1	18.2	15.9	14.5	15.5	21.3	26.9	29.0	33.1	37.4	41.5	44.7	46.4	45.8	45.0	44.2	42.9	42.3	41.0	39.5	37.7	32.59	46.39																							
11-Aug	35.8	34.5	34.1	32.8	30.5	28.8	28.0	28.3	29.8	31.3	33.0	36.0	38.6	41.2	43.5	45.1	45.7	46.3	45.9	45.3	44.7	43.5	41.6	39.1	37.63	46.32																							
12-Aug	36.6	34.2	33.1	31.9	30.6	29.8	29.8	30.9	33.2	35.8	37.6	40.2	43.1	46.2	48.9	50.8	51.5	51.5	50.7	49.8	49.2	48.2	47.1	46.3	41.13	51.52																							
13-Aug	45.9	45.5	45.8	43.8	40.7	38.2	35.9	33.1	30.0	27.0	27.4	28.3	29.8	30.3	29.5	28.6	28.6	28.8	29.0	27.8	26.4	25.2	25.5	25.7	32.37	45.90																							
14-Aug	24.5	23.2	22.0	19.8	17.6	16.1	14.3	13.4	14.2	16.1	17.9	20.3	23.0	25.4	27.5	29.4	30.3	29.8	28.3	26.3	24.0	21.8	19.7	17.4	21.78	30.26																							
15-Aug	15.1	13.7	13.1	12.0	11.2	10.7	10.7	11.3	13.3	15.7	17.8	21.0	24.3	27.8	31.0	33.7	35.1	35.2	34.5	33.5	31.6	29.5	26.7	23.8	22.18	35.17																							
16-Aug	21.1	19.2	18.1	15.8	13.9	11.9	10.9	11.1	12.2	14.8	17.7	21.4	25.4	28.4	30.3	31.5	31.8	29.6	26.3	22.9	19.6	17.8	16.4	14.8	20.12	31.78																							
17-Aug	13.2	12.6	12.6	12.3	12.1	11.1	10.2	9.9	10.8	13.2	15.8	19.3	22.7	27.0	31.4	34.7	36.0	35.5	35.0	33.9	32.7	30.9	28.6	26.8	22.01	35.97																							
18-Aug	25.8	25.7	25.1	23.5	21.0	19.2	18.3	17.5	18.3	18.9	20.6	23.2	26.8	29.7	31.0	32.4	32.7	32.3	32.2	31.1	29.9	28.5	27.6	26.7	25.75	32.66																							
19-Aug	26.0	25.5	24.6	22.5	20.3	18.8	18.0	17.8	18.2	19.6	21.1	23.3	25.8	28.3	30.8	32.7	33.8	33.7	32.4	30.9	28.9	26.8	24.6	22.5	25.28	33.77																							
20-Aug	20.7	19.5	19.2	18.6	17.9	16.6	15.8	15.0	14.5	16.0	18.5	21.0	23.9	27.1	29.7	31.8	33.6	32.8	30.7	27.7	24.6	21.1	18.9	17.3	22.20	33.60																							
21-Aug	15.9	14.5	13.8	13.2	12.7	12.9	12.8	13.3	14.7	16.3	17.9	20.0	22.1	24.1	25.6	25.9	24.9	24.3	23.1	21.9	20.9	19.5	18.2	17.1	18.57	25.90																							
22-Aug	16.4	15.6	15.0	13.8	12.3	11.3	10.4	9.9	10.5	11.7	13.1	14.9	16.7	18.4	20.2	21.9	23.1	23.5	23.4	22.8	22.3	22.1	21.7	20.7	17.15	23.54																							
23-Aug	19.4	18.6	18.1	18.2	18.3	18.0	17.2	16.4	16.0	16.3	17.6	19.5	21.6	24.7	28.0	30.8	34.2	35.7	34.4	32.9	32.0	30.2	28.1	26.0	23.84	35.67																							
24-Aug	23.0	20.9	21.5	19.4	16.1	12.9	10.5	9.1	8.4	9.5	11.3	14.5	18.4	22.6	25.8	28.8	31.1	32.3	32.6	31.0	29.1	27.0	25.5	24.0	21.05	32.64																							
25-Aug	22.7	21.5	20.7	21.1	21.0	20.6	20.2	20.4	21.5	22.9	24.3	25.7	27.6	29.6	31.6	33.3	33.7	32.7	30.8	29.3	27.4	25.4	23.3	20.6	25.33	33.70																							
26-Aug	18.0	16.4	16.1	14.5	13.4	12.8	12.9	14.3	16.3	19.2	21.3	24.8	28.4	31.6	34.4	36.6	38.1	38.4	37.9	37.6	37.0	36.3	34.8	33.2	26.00	38.38																							
27-Aug	31.6	30.5	30.3	27.6	24.6	21.5	19.5	18.4	19.0	20.4	22.8	25.8	29.2	32.6	35.2	36.6	37.7	38.1	36.7	35.9	35.0	33.9	32.9	32.3	29.51	38.05																							
28-Aug	29.5	26.7	26.3	23.2	19.8	16.9	14.7	13.2	13.9	15.2	16.2	18.0	20.5	23.1	25.2	27.1	29.0	30.2	30.7	29.7	28.1	26.7	25.6	24.2	23.08	30.70																							
29-Aug	22.4	21.4	20.5	20.2	20.0	19.2	17.9	17.0	17.3	18.7	20.8	23.2	26.1	29.4	33.1	36.5	38.4	38.7	38.6	37.9	36.8	35.0	32.6	30.4	27.17	38.68																							
30-Aug	28.7	27.4	26.2	24.6	23.1	22.0	20.9	19.4	17.9	16.3	15.9	15.5	16.9	18.4	20.4	22.2	23.7	24.9	25.6	24.9	22.6	20.1	17.3	14.5	21.24	28.70																							
31-Aug	12.0	9.9	8.7	8.0	7.1	6.7	6.9	7.7	9.7	12.9	15.1	18.2	21.5	24.9	27.7	31.0	33.0	32.7	32.2	32.0	30.9	28.4	26.1	22.9	19.42	32.98																							
																								23.18	21.61	21.02	19.80	18.34	16.98	15.99	15.80	16.58	18.23	20.02	22.54	25.40	28.29	30.84	32.84	33.84	33.95	33.15	31.84	30.35	28.67	26.98	25.14	Diurnal Average	
																								45.90	45.47	45.75	43.82	40.73	38.20	35.89	33.06	33.19	35.83	37.60	40.21	43.12	46.21	48.86	50.84	51.51	51.52	50.71	49.81	49.18	48.20	47.11	46.27	Diurnal Maximum	
Z - zerospan C - Calibration																																																	



WCAS - Violet Grove
Summary of Hourly Averages

Nitrogen Oxide (NO) - ppb
August 2017

Maximum Value: 1.21 ppb on Aug 9 06:00		Maximum Daily Average: 0.21 ppb on Aug 16		Hours in Service: 744																							
Minimum Value: 0.0 ppb on Aug 1 01:00		Minimum Daily Average: 0.02 ppb on Aug 4		Hours of Data: 707																							
Maximum Diurnal Average: 0.44 ppb at hour 8		Minimum Diurnal Average: 0.00 ppb at hour 22		Hours of Missing Data: 37																							
Monthly Average: 0.092 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 0.1 P ₉₀ = 0.3 P ₉₉ = 0.9		Hours of Calibration: 37																							
				Percent Operational Time: 100.0																							
Day	Hourly Period Ending At																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Aug	0.0	Z	0.0	0.0	0.2	0.1	0.5	0.3	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.07	0.52	
2-Aug	0.0	Z	0.0	0.0	0.4	0.6	0.3	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.08	0.64	
3-Aug	0.0	Z	0.0	0.0	0.2	0.5	0.5	0.3	0.1	0.2	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.09	0.48	
4-Aug	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.02	0.09	
5-Aug	0.0	Z	0.0	0.0	0.1	0.5	0.8	0.9	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.13	0.90	
6-Aug	0.0	Z	0.0	0.0	0.4	0.7	0.4	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.10	0.75	
7-Aug	0.0	Z	0.0	0.0	0.0	0.0	0.1	C	C	C	C	C	C	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.0	--	0.08	
8-Aug	0.1	Z	0.0	0.0	0.0	0.1	0.3	0.4	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.06	0.39	
9-Aug	0.0	Z	0.0	0.0	0.2	1.2	1.0	0.9	0.9	0.3	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	0.20	1.21	
10-Aug	0.0	Z	0.0	0.0	0.3	0.6	0.7	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.10	0.71	
11-Aug	0.0	Z	0.0	0.0	0.0	0.1	0.3	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	0.0	0.0	0.04	0.25	
12-Aug	0.0	Z	0.0	0.0	0.0	0.1	0.2	0.1	0.1	0.0	0.0	0.0	0.6	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.06	0.55	
13-Aug	0.0	Z	0.0	0.0	0.0	0.0	0.2	0.2	0.4	0.3	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.08	0.38	
14-Aug	0.0	Z	0.0	0.0	0.1	0.2	0.4	0.5	0.2	0.1	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	0.07	0.48	
15-Aug	0.0	Z	0.0	0.0	0.1	0.4	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	0.0	0.0	0.0	0.0	0.0	0.08	0.62	
16-Aug	0.0	Z	0.0	0.2	0.3	0.9	1.1	1.0	0.7	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.21	1.14	
17-Aug	0.0	Z	0.0	0.0	0.0	0.4	0.2	0.4	0.4	0.2	0.1	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	0.07	0.41	
18-Aug	0.0	Z	0.0	0.1	0.4	0.4	0.2	0.5	0.2	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.11	0.46	
19-Aug	0.0	Z	0.0	0.0	0.0	0.3	0.4	0.3	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	0.0	0.05	0.41	
20-Aug	0.0	Z	0.0	0.0	0.0	0.2	0.5	0.5	1.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.11	0.98	
21-Aug	0.0	Z	0.0	0.0	0.1	0.5	0.4	0.4	0.3	0.1	0.1	0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.11	0.51	
22-Aug	0.0	Z	0.0	0.0	0.0	0.2	0.5	0.7	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.07	0.72	
23-Aug	0.0	Z	0.0	0.0	0.0	0.1	0.5	0.6	0.6	0.4	0.2	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.13	0.63	
24-Aug	0.0	Z	0.0	0.0	0.4	0.6	0.6	0.6	0.8	0.4	0.3	0.2	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.18	0.76	
25-Aug	0.0	Z	0.0	0.0	0.0	0.1	0.3	0.3	0.1	0.1	0.2	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.05	0.28	
26-Aug	0.0	Z	0.0	0.0	0.1	0.5	0.5	0.7	0.9	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.13	0.89	
27-Aug	0.0	Z	0.0	0.0	0.0	0.3	0.4	0.3	0.2	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	0.0	0.07	0.40	
28-Aug	0.0	Z	0.0	0.0	0.0	0.1	0.2	0.3	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.05	0.34	
29-Aug	0.0	Z	0.0	0.0	0.0	0.2	0.5	0.9	0.5	0.1	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	0.10	0.90	
30-Aug	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.7	0.3	0.3	0.3	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.12	0.65	
31-Aug	0.0	Z	0.0	0.0	0.0	0.2	0.4	0.4	0.3	0.1	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	0.07	0.43	
		0.00	--	0.00	0.02	0.11	0.33	0.43	0.44	0.32	0.14	0.08	0.06	0.05	0.03	0.02	0.05	0.02	0.02	0.01	0.00	0.00	0.00	0.00	0.00	Diurnal Average	
		0.06	--	0.04	0.20	0.43	1.21	1.14	1.00	0.98	0.44	0.31	0.65	0.55	0.32	0.28	0.43	0.15	0.14	0.10	0.06	0.05	0.01	0.06	0.06	Diurnal Maximum	
Z - zerospan		C - Calibration																									
Alberta Ambient Air Quality Objectives (AAAQO):		1-hr --- ppb		24-hr --- ppb																							



WCAS - Violet Grove
Summary of Hourly Averages

Nitrogen Dioxide (NO₂) - ppb
August 2017

Maximum Value: 8.31 ppb on Aug 23 19:00		Maximum Daily Average: 2.33 ppb on Aug 30		Hours in Service: 744																													
Minimum Value: 0.3 ppb on Aug 25 17:00		Minimum Daily Average: 0.66 ppb on Aug 25		Hours of Data: 707																													
Maximum Diurnal Average: 1.54 ppb at hour 5		Minimum Diurnal Average: 0.71 ppb at hour 13		Hours of Missing Data: 37																													
Monthly Average: 1.149 ppb		Percentiles: P ₁ = 0.4 P ₁₀ = 0.5 Q ₁ = 0.7 Median = 0.9 Q ₃ = 1.4 P ₉₀ = 2.0 P ₉₉ = 2.9		Hours of Calibration: 37																													
				Percent Operational Time: 100.0																													
Day	Hourly Period Ending At																								Daily Average	Daily Maximum							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24									
1-Aug	1.4	Z	1.6	1.5	2.1	1.6	2.0	1.3	1.1	0.9	0.9	0.7	0.7	0.7	0.6	0.8	0.6	0.6	0.8	0.9	0.8	0.8	0.8	0.9	1.06	2.08							
2-Aug	1.0	Z	1.2	1.4	0.8	0.6	0.6	0.6	0.8	0.6	0.5	0.4	0.4	0.5	0.5	0.5	0.5	0.6	0.7	1.2	1.1	2.3	1.4	1.5	0.86	2.27							
3-Aug	1.4	Z	1.4	1.5	1.6	1.3	1.1	1.2	1.0	1.3	1.0	0.7	0.5	0.6	0.8	0.8	0.7	0.9	1.6	1.5	0.8	0.8	0.7	0.8	1.03	1.58							
4-Aug	0.9	Z	1.5	1.5	2.0	1.5	0.9	0.8	0.6	0.5	0.5	0.4	0.5	0.5	0.5	0.6	0.6	0.5	0.5	0.5	0.6	1.1	2.0	1.2	0.87	2.02							
5-Aug	1.3	Z	1.2	1.2	1.1	1.3	1.5	1.2	0.9	0.6	0.6	0.5	0.4	0.5	0.5	0.5	0.7	0.7	0.6	0.8	0.8	0.9	1.1	1.0	0.87	1.54							
6-Aug	1.2	Z	0.9	0.9	1.1	1.1	0.8	0.9	0.8	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.9	0.8	0.7	0.6	0.8	2.6	0.83	2.56							
7-Aug	1.2	Z	0.9	0.9	0.9	0.8	0.7	C	C	C	C	C	C	0.6	0.6	0.6	0.6	0.6	0.6	0.8	0.7	0.7	0.9	0.7	--	1.16							
8-Aug	0.7	Z	0.6	0.6	0.7	0.9	2.0	1.7	0.9	0.8	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.7	1.2	1.0	1.0	1.1	1.0	1.3	0.89	1.98							
9-Aug	1.4	Z	1.2	1.2	1.3	1.8	1.6	1.8	2.1	1.5	1.1	1.0	0.9	0.7	0.7	0.7	0.8	0.8	0.8	0.8	0.9	1.0	1.2	1.2	1.17	2.14							
10-Aug	1.0	Z	1.9	2.4	2.5	2.1	2.2	1.9	1.4	1.0	0.8	0.7	0.7	0.6	0.7	0.7	0.8	0.8	1.0	1.2	1.4	0.9	1.0	0.9	1.23	2.50							
11-Aug	1.1	Z	1.3	1.1	1.1	1.2	1.4	1.5	1.1	0.9	0.6	0.6	0.5	0.5	0.5	0.6	0.6	0.7	0.7	0.9	0.9	1.5	1.3	1.4	0.96	1.48							
12-Aug	1.8	Z	1.5	1.1	1.2	1.1	1.1	1.0	0.8	0.7	0.7	0.7	1.1	0.7	0.7	1.1	0.9	0.9	1.1	1.3	1.0	1.0	0.9	0.9	1.01	1.78							
13-Aug	0.9	Z	0.9	0.9	0.8	1.2	1.7	1.9	2.1	1.7	1.5	1.1	1.1	1.6	2.7	2.8	2.0	1.7	1.0	0.8	0.9	1.0	0.9	1.0	1.41	2.83							
14-Aug	0.9	Z	1.0	1.1	1.5	1.6	1.3	1.2	0.8	0.6	0.6	0.6	0.6	0.5	0.6	0.6	0.5	0.8	1.6	1.2	1.1	1.1	1.0	1.1	0.95	1.62							
15-Aug	1.1	Z	1.3	1.7	1.4	1.2	1.0	0.8	0.5	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.6	0.8	0.6	0.7	0.8	1.0	0.8	0.9	0.79	1.68							
16-Aug	1.0	Z	1.2	1.6	1.8	1.8	1.8	2.0	1.8	0.9	0.7	0.7	0.9	1.4	1.1	0.8	0.6	0.8	1.7	1.4	0.7	1.0	2.0	2.1	1.30	2.14							
17-Aug	1.7	Z	3.1	1.9	1.3	1.4	1.1	1.3	1.4	1.1	0.8	0.9	0.8	0.8	0.8	1.0	0.8	1.1	0.8	0.9	1.8	1.2	2.0	2.9	1.35	3.12							
18-Aug	2.6	Z	2.3	2.9	4.5	3.3	1.9	2.6	1.2	1.7	1.4	1.0	1.0	1.2	1.2	0.9	0.9	1.0	0.7	0.6	0.5	0.7	0.9	0.9	1.57	4.54							
19-Aug	0.7	Z	0.8	1.1	1.2	1.0	0.9	0.7	0.6	0.5	0.4	0.4	0.3	0.3	0.3	0.4	0.5	0.6	0.9	1.2	1.0	1.2	1.5	1.2	0.76	1.52							
20-Aug	1.4	Z	1.2	1.7	1.5	2.2	2.4	1.9	2.2	0.9	0.5	0.5	0.5	0.6	0.7	0.8	0.7	1.0	0.7	0.8	0.9	0.6	0.7	1.0	1.10	2.35							
21-Aug	1.0	Z	1.1	1.2	1.2	1.2	1.0	1.3	1.3	0.8	1.0	1.1	1.2	0.9	0.8	0.8	0.8	0.7	0.6	0.7	0.9	1.0	0.8	1.5	1.00	1.48							
22-Aug	1.6	Z	2.0	1.7	1.1	1.2	1.3	1.3	0.7	0.6	0.6	0.5	0.4	0.4	0.4	0.5	0.6	0.8	0.7	0.7	0.9	0.8	1.0	1.3	0.93	2.03							
23-Aug	1.3	Z	1.7	1.3	1.2	1.7	2.3	2.1	1.6	1.5	1.2	1.2	1.0	1.2	1.3	1.4	1.4	2.0	8.3	4.8	2.7	2.5	2.0	1.6	2.05	8.31							
24-Aug	1.7	Z	1.7	1.6	2.4	2.5	2.1	1.5	1.5	1.3	1.3	0.9	0.6	0.5	0.5	0.5	0.5	0.5	0.8	0.5	0.6	0.7	0.9	0.7	1.17	2.50							
25-Aug	0.9	Z	0.9	0.7	0.7	0.7	0.8	0.7	0.5	0.5	0.5	0.4	0.3	0.7	0.3	0.3	0.3	0.4	1.0	0.6	1.6	0.7	0.7	0.8	0.66	1.57							
26-Aug	1.0	Z	2.9	2.5	2.6	2.0	1.3	1.4	1.8	0.9	0.5	0.4	0.5	0.4	0.4	0.5	0.6	0.6	0.9	0.7	1.0	1.1	2.5	2.1	1.24	2.87							
27-Aug	3.0	Z	1.3	1.4	1.5	1.3	1.2	1.1	1.1	1.1	0.9	0.8	0.7	0.5	0.6	1.0	1.3	0.9	1.8	2.6	3.2	2.2	1.9	1.3	1.42	3.20							
28-Aug	1.1	Z	1.0	1.0	1.2	0.8	0.9	0.9	0.5	0.5	0.5	0.6	0.6	0.7	0.7	0.7	1.8	2.8	3.1	4.7	4.7	2.8	1.8	1.7	1.53	4.71							
29-Aug	1.2	Z	1.2	1.3	2.0	2.1	2.2	1.6	1.3	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.8	0.9	1.0	0.9	1.0	1.2	1.3	1.13	2.18							
30-Aug	1.1	Z	1.2	1.6	1.5	1.6	2.2	2.7	2.6	2.8	3.1	2.2	1.7	1.9	2.1	2.0	2.2	2.2	3.4	4.3	3.1	2.8	2.7	2.5	2.33	4.32							
31-Aug	2.3	Z	2.3	1.9	2.1	2.0	2.0	1.8	1.3	0.8	0.7	0.7	0.8	0.9	0.8	0.9	0.7	0.7	1.0	1.3	1.4	1.7	1.0	0.9	1.30	2.30							
		1.32	--	1.43	1.43	1.54	1.49	1.46	1.42	1.22	0.97	0.84	0.74	0.71	0.74	0.77	0.81	0.82	0.92	1.33	1.33	1.28	1.22	1.27	1.33	Diurnal Average							
		2.95	--	3.12	2.86	4.54	3.34	2.35	2.73	2.64	2.81	3.10	2.15	1.65	1.94	2.72	2.83	2.17	2.83	8.31	4.81	4.71	2.82	2.71	2.94	Diurnal Maximum							
Z - zerospan		C - Calibration																															
Alberta Ambient Air Quality Objectives (AAAQO):		1-hr 159 ppb				24-hr 106 ppb																											



WCAS - Violet Grove
Summary of Hourly Averages

NOx (NO_x) - ppb
August 2017

Maximum Value: 8.37 ppb on Aug 23 19:00 Maximum Daily Average: 2.41 ppb on Aug 30																				Hours in Service: 744 Hours of Data: 707 Hours of Missing Data: 37 Hours of Calibration: 37 Percent Operational Time: 100.0																													
Minimum Value: 0.3 ppb on Aug 25 17:00 Minimum Daily Average: 0.70 ppb on Aug 25 Maximum Diurnal Average: 1.86 ppb at hour 7 Minimum Diurnal Average: 0.74 ppb at hour 13 Monthly Average: 1.216 ppb Percentiles: P ₁ = 0.4 P ₁₀ = 0.5 Q ₁ = 0.7 Median = 1.0 Q ₃ = 1.5 P ₉₀ = 2.3 P ₉₉ = 3.3																																																	
Day	Hourly Period Ending At																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Aug	1.5	Z	1.7	1.6	2.4	1.8	2.6	1.7	1.4	1.1	1.1	0.9	0.8	0.8	0.8	0.9	0.7	0.7	0.9	1.0	0.9	0.9	0.9	0.9	1.22	2.60																							
2-Aug	1.0	Z	1.1	1.5	1.1	1.2	0.9	0.8	0.9	0.6	0.5	0.4	0.4	0.5	0.5	0.5	0.5	0.6	0.7	1.2	1.1	2.2	1.4	1.4	0.91	2.24																							
3-Aug	1.4	Z	1.3	1.4	1.7	1.7	1.5	1.4	1.1	1.4	1.0	0.7	0.5	0.5	0.8	1.3	0.6	0.9	1.5	1.4	0.7	0.8	0.7	0.8	1.09	1.71																							
4-Aug	0.8	Z	1.5	1.4	1.9	1.5	1.0	0.8	0.6	0.5	0.6	0.5	0.5	0.6	0.5	0.6	0.6	0.5	0.5	0.4	0.6	1.0	2.0	1.2	0.88	1.99																							
5-Aug	1.3	Z	1.2	1.2	1.2	1.8	2.3	2.1	1.2	0.7	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.8	0.7	0.6	0.7	0.8	1.2	1.0	0.98	2.32																							
6-Aug	1.2	Z	0.9	0.9	1.5	1.9	1.2	1.2	1.0	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.9	0.7	0.7	0.6	0.8	2.6	0.91	2.61																							
7-Aug	1.1	Z	0.9	0.9	0.9	0.8	0.7	C	C	C	C	C	C	0.6	0.6	0.6	0.6	0.6	0.6	0.9	0.7	0.7	0.9	0.7	--	1.11																							
8-Aug	0.8	Z	0.5	0.6	0.7	1.0	2.3	2.1	0.9	0.9	0.8	0.6	0.6	0.6	0.6	0.6	0.6	0.7	1.2	1.0	1.0	1.1	1.0	1.3	0.93	2.28																							
9-Aug	1.4	Z	1.2	1.2	1.5	3.0	2.6	2.7	3.0	1.7	1.2	1.0	0.9	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.9	1.0	1.1	1.2	1.33	3.02																							
10-Aug	0.9	Z	1.9	2.3	2.8	2.7	2.9	2.2	1.5	1.0	0.7	0.7	0.6	0.6	0.6	0.7	0.8	0.7	0.9	1.1	1.4	0.9	0.9	0.9	1.30	2.91																							
11-Aug	1.1	Z	1.3	1.1	1.1	1.3	1.6	1.6	1.2	0.9	0.6	0.6	0.5	0.4	0.5	0.5	0.5	0.6	0.7	0.9	0.9	1.4	1.3	1.4	0.96	1.65																							
12-Aug	1.7	Z	1.4	1.1	1.2	1.2	1.3	1.1	0.8	0.7	0.7	0.7	1.6	0.7	0.7	1.2	1.0	0.9	1.1	1.3	1.0	1.0	0.8	0.9	1.05	1.74																							
13-Aug	0.9	Z	0.9	0.9	0.8	1.2	1.8	2.0	2.5	2.0	1.7	1.2	1.2	1.6	2.7	2.8	2.1	1.7	1.0	0.8	0.9	1.0	0.9	0.9	1.46	2.80																							
14-Aug	0.8	Z	1.0	1.0	1.6	1.7	1.7	1.6	1.0	0.7	0.6	0.6	0.6	0.5	0.6	0.6	0.5	0.8	1.6	1.2	1.1	1.0	1.0	1.1	0.99	1.73																							
15-Aug	1.0	Z	1.3	1.6	1.5	1.6	1.6	1.2	0.6	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.6	0.8	0.6	0.7	0.8	1.0	0.8	0.9	0.85	1.65																							
16-Aug	1.0	Z	1.2	1.7	2.0	2.7	2.9	2.9	2.4	1.0	0.7	0.7	0.9	1.4	1.2	0.8	0.6	0.8	1.8	1.4	0.7	0.9	1.9	2.1	1.46	2.94																							
17-Aug	1.7	Z	3.1	1.8	1.3	1.7	1.2	1.6	1.8	1.3	0.8	0.9	0.7	0.8	0.8	1.0	0.8	1.1	0.8	0.9	1.8	1.1	2.0	2.9	1.39	3.08																							
18-Aug	2.6	Z	2.3	3.0	4.9	3.7	2.1	3.0	1.4	2.0	1.6	1.0	1.0	1.2	1.2	0.9	0.9	1.0	0.7	0.6	0.5	0.6	0.9	0.8	1.65	4.91																							
19-Aug	0.7	Z	0.7	1.0	1.1	1.2	1.2	1.0	0.8	0.5	0.4	0.4	0.3	0.4	0.4	0.4	0.5	0.6	0.8	1.1	1.0	1.2	1.5	1.1	0.80	1.48																							
20-Aug	1.4	Z	1.2	1.6	1.5	2.4	2.8	2.3	3.2	1.1	0.5	0.5	0.6	0.6	0.7	0.8	0.8	1.0	0.7	0.7	0.9	0.5	0.7	1.0	1.18	3.16																							
21-Aug	0.9	Z	1.1	1.2	1.2	1.7	1.4	1.7	1.6	0.8	1.1	1.1	1.3	1.0	0.9	0.8	0.8	0.7	0.6	0.7	0.9	0.9	0.7	1.4	1.06	1.71																							
22-Aug	1.5	Z	2.0	1.7	1.1	1.4	1.7	2.0	0.8	0.6	0.6	0.5	0.4	0.3	0.4	0.5	0.5	0.8	0.7	0.7	0.9	0.7	1.0	1.2	0.95	2.00																							
23-Aug	1.2	Z	1.7	1.2	1.1	1.7	2.7	2.7	2.2	1.9	1.4	1.3	1.0	1.1	1.3	1.5	1.4	2.0	8.4	4.8	2.6	2.5	1.9	1.6	2.14	8.37																							
24-Aug	1.7	Z	1.7	1.6	2.8	3.1	2.7	2.1	2.2	1.8	1.5	1.5	1.0	0.6	0.5	0.5	0.5	0.5	0.8	0.5	0.6	0.7	0.9	0.6	1.33	3.11																							
25-Aug	0.9	Z	0.9	0.7	0.6	0.8	1.0	0.9	0.6	0.6	0.6	0.4	0.3	0.8	0.4	0.3	0.3	0.4	1.1	0.6	1.6	0.7	0.6	0.8	0.70	1.55																							
26-Aug	0.9	Z	2.8	2.5	2.6	2.4	1.8	2.1	2.7	1.1	0.5	0.4	0.5	0.4	0.4	0.5	0.5	0.6	0.9	0.6	1.0	1.0	2.4	2.1	1.34	2.83																							
27-Aug	2.9	Z	1.3	1.3	1.5	1.5	1.5	1.4	1.3	1.3	0.9	0.8	0.6	0.5	0.6	1.1	1.3	0.9	1.8	2.5	3.2	2.2	1.8	1.2	1.45	3.16																							
28-Aug	1.0	Z	1.0	1.0	1.1	0.9	1.1	1.2	0.6	0.6	0.5	0.5	0.6	0.7	0.7	0.7	1.9	2.9	3.1	4.7	4.7	2.8	1.8	1.6	1.55	4.69																							
29-Aug	1.1	Z	1.1	1.3	2.0	2.2	2.7	2.5	1.8	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.8	0.8	0.9	0.9	1.0	1.2	1.2	1.20	2.67																							
30-Aug	1.1	Z	1.2	1.6	1.5	1.6	2.3	2.8	2.8	2.9	3.3	2.8	1.9	2.2	2.3	2.2	2.3	2.2	3.4	4.3	3.1	2.7	2.7	2.5	2.41	4.31																							
31-Aug	2.3	Z	2.3	1.9	2.1	2.1	2.4	2.2	1.5	0.9	0.7	0.7	0.8	0.9	0.8	0.9	0.7	0.7	1.0	1.3	1.3	1.6	1.0	0.9	1.34	2.36																							
																								1.29	--	1.40	1.42	1.63	1.79	1.86	1.83	1.51	1.08	0.90	0.78	0.74	0.75	0.78	0.84	0.83	0.92	1.32	1.31	1.25	1.19	1.24	1.30	Diurnal Average	
																								2.90	--	3.08	2.99	4.91	3.67	2.91	3.05	3.16	2.92	3.27	2.77	1.90	2.23	2.71	2.80	2.28	2.92	8.37	4.79	4.69	2.77	2.68	2.90	Diurnal Maximum	
Z - zerospan C - Calibration																																																	
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr --- ppb 24-hr --- ppb																																																	



WCAS - Violet Grove
Summary of Hourly Averages

Total Hydrocarbon (THC) - ppm
August 2017

Maximum Value: 4.10 ppm on Aug 10 20:00		Maximum Daily Average: 2.44 ppm on Aug 9		Hours in Service: 744																											
Minimum Value: 1.9 ppm on Aug 22 14:00		Minimum Daily Average: 2.08 ppm on Aug 4		Hours of Data: 708																											
Maximum Diurnal Average: 2.38 ppm at hour 6		Minimum Diurnal Average: 2.09 ppm at hour 14		Hours of Missing Data: 36																											
Monthly Average: 2.242 ppm		Percentiles: P ₁ = 2.0 P ₁₀ = 2.0 O ₁ = 2.1 Median = 2.2 O ₃ = 2.3 P ₉₀ = 2.5 P ₉₉ = 3.0		Hours of Calibration: 36																											
				Percent Operational Time: 100.0																											
Day	Hourly Period Ending At																								Daily Average	Daily Maximum					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24							
1-Aug	2.1	2.1	2.2	Z	2.4	2.4	2.5	2.2	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.10	2.47					
2-Aug	2.2	2.2	2.2	Z	2.3	2.3	2.2	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.3	2.5	2.2	2.1	2.4	2.15	2.55					
3-Aug	2.3	2.3	2.2	Z	2.3	2.3	2.3	2.3	2.1	2.2	2.1	2.0	1.9	1.9	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.0	2.1	2.0	2.12	2.34					
4-Aug	2.0	2.5	2.1	Z	2.1	2.1	2.1	2.0	2.0	2.2	2.1	2.0	2.1	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.1	2.1	2.1	2.2	2.08	2.50					
5-Aug	2.2	2.2	2.2	Z	2.3	2.3	2.3	2.2	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.2	2.5	2.1	2.2	2.2	2.2	2.15	2.53					
6-Aug	2.2	2.3	2.3	Z	2.4	2.3	2.3	2.3	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.4	2.7	2.6	3.0	3.0	2.5	2.29	3.01						
7-Aug	2.2	2.6	2.2	Z	2.0	2.1	2.1	C	C	C	C	C	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.2	2.3	2.21	2.61					
8-Aug	2.3	2.2	2.2	Z	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	3.7	3.1	2.6	2.6	2.30	3.74					
9-Aug	2.5	2.5	3.0	Z	2.6	2.8	2.5	2.5	2.6	2.4	2.3	2.2	2.1	2.1	2.1	2.1	2.1	2.2	3.1	2.7	2.6	2.5	2.3	2.4	2.44	3.09					
10-Aug	2.7	2.7	2.6	Z	2.7	2.7	2.6	2.5	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	4.1	2.2	2.1	2.2	2.2	2.38	4.10					
11-Aug	2.2	2.3	2.3	Z	2.4	2.5	2.4	2.3	2.2	2.2	2.1	2.1	2.0	2.0	2.1	2.1	2.1	2.1	2.2	2.3	2.3	2.3	2.3	2.3	2.22	2.53					
12-Aug	2.3	2.3	2.3	Z	2.3	2.3	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.6	2.22	2.59						
13-Aug	2.3	2.4	2.5	Z	2.4	2.4	2.4	2.3	2.4	2.6	2.5	2.3	2.3	2.3	2.6	2.6	2.4	2.4	2.2	2.2	2.2	2.3	2.3	2.2	2.37	2.63					
14-Aug	2.3	2.3	2.2	Z	2.3	2.3	2.3	2.3	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.3	2.3	2.3	2.19	2.32					
15-Aug	2.3	2.3	2.3	Z	2.3	2.3	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.3	2.3	2.3	2.3	2.20	2.31					
16-Aug	2.2	2.3	2.3	Z	2.5	2.6	2.6	2.5	2.3	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.2	2.3	2.5	2.3	2.3	2.4	2.4	2.30	2.65					
17-Aug	2.3	2.4	2.4	Z	2.4	2.5	2.5	2.6	2.6	2.4	2.2	2.1	2.1	2.1	2.1	2.1	2.2	2.8	2.3	2.2	2.2	2.2	2.3	2.3	2.31	2.78					
18-Aug	2.3	2.3	2.3	Z	2.4	2.4	2.3	2.3	2.3	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.19	2.38					
19-Aug	2.1	2.2	2.1	Z	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.3	2.3	2.3	2.17	2.30					
20-Aug	2.2	2.3	2.3	Z	2.4	2.4	2.4	2.3	2.4	2.2	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.3	2.3	2.4	2.3	2.3	2.25	2.45					
21-Aug	2.3	2.4	2.4	Z	2.5	2.5	2.4	2.3	2.2	2.3	2.2	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.26	2.48					
22-Aug	2.2	2.2	2.4	Z	2.5	2.5	2.4	2.3	2.1	2.0	2.0	2.0	1.9	1.9	2.0	2.0	2.0	2.0	2.1	2.2	2.1	2.1	2.1	2.5	2.15	2.49					
23-Aug	2.1	2.2	2.2	Z	2.3	2.2	2.3	2.4	2.4	2.4	2.3	2.2	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.23	2.40					
24-Aug	2.3	2.4	2.5	Z	2.8	2.7	2.6	2.9	2.7	2.4	2.4	2.2	2.1	2.1	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.2	2.4	2.3	2.31	2.86					
25-Aug	2.3	2.4	2.3	Z	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.3	2.3	2.3	2.3	2.4	2.23	2.44					
26-Aug	2.5	2.5	2.5	Z	2.4	2.4	2.3	2.3	2.3	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.2	2.2	2.3	2.2	2.2	2.2	2.3	2.3	2.26	2.54					
27-Aug	2.3	2.3	2.3	Z	2.4	2.4	2.8	2.4	2.2	2.2	2.1	2.1	2.0	2.0	2.0	2.1	2.1	2.1	2.2	2.3	2.2	2.3	2.3	2.3	2.23	2.83					
28-Aug	2.4	2.3	2.3	Z	2.2	2.3	2.3	2.3	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.2	2.2	2.3	2.2	2.3	2.16	2.41					
29-Aug	2.5	2.5	2.4	Z	2.3	2.4	2.4	2.4	2.3	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.3	2.3	2.6	2.27	2.64					
30-Aug	2.3	2.2	2.2	Z	2.3	2.3	2.4	2.4	2.4	2.4	2.5	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.5	2.5	2.5	2.39	2.50					
31-Aug	2.5	2.6	2.6	Z	2.6	2.6	2.6	2.6	2.4	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.3	2.2	2.3	2.4	2.4	2.4	2.33	2.64					
		2.28	2.34	2.33	--	2.36	2.38	2.37	2.34	2.26	2.21	2.16	2.12	2.10	2.09	2.11	2.11	2.13	2.16	2.22	2.31	2.30	2.29	2.28	2.32	Diurnal Average					
		2.69	2.68	3.03	--	2.83	2.76	2.83	2.86	2.65	2.63	2.52	2.43	2.36	2.43	2.55	2.61	2.41	2.78	3.09	4.10	3.74	3.07	3.00	2.64	Diurnal Maximum					
Z - zerospan		C - Calibration																													
Alberta Ambient Air Quality Objectives (AAAQO):		1-hr 10 ppb						24-hr 3 ppb																							

**VIOLET GROVE
STATION #902**

METEOROLOGICAL DATA

AUGUST 2017



WCAS - Violet Grove
Summary of Hourly Averages

External Temperature (ET) - C
August 2017

Maximum Value: 26.96 C on Aug 27 14:00 Maximum Daily Average: 18.48 C on Aug 22																						Hours in Service: 744 Hours of Data: 744																											
Minimum Value: 5.0 C on Aug 26 04:00 Minimum Daily Average: 11.18 C on Aug 20 Maximum Diurnal Average: 21.05 C at hour 14 Minimum Diurnal Average: 9.39 C at hour 5 Monthly Average: 14.843 C Percentiles: P₁ = 5.9 P₁₀ = 9.0 Q₁ = 11.0 Median = 13.9 Q₃ = 18.6 P₉₀ = 22.4 P₉₉ = 25.2																						Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0																											
Day	Hourly Period Ending At																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Aug	13.7	13.4	12.7	11.6	11.1	11.4	11.6	11.0	10.7	10.4	11.1	11.8	11.9	12.4	12.9	14.3	14.7	14.9	13.7	11.2	10.5	9.9	9.5	9.2	11.89	14.91																							
2-Aug	8.7	7.9	7.4	6.7	6.1	8.5	11.3	14.2	16.3	17.9	18.8	19.7	20.5	21.4	21.1	21.4	21.1	20.2	17.6	13.6	12.0	11.2	10.9	10.2	14.37	21.39																							
3-Aug	9.3	8.9	8.7	8.5	9.1	11.2	14.5	18.4	20.1	21.5	23.0	24.2	25.1	25.4	25.1	24.5	23.2	20.2	15.9	14.6	12.3	11.4	10.7	11.0	16.53	25.37																							
4-Aug	10.9	10.6	10.5	10.2	10.1	10.0	10.3	10.5	11.3	11.0	12.2	13.3	13.5	15.2	16.5	13.3	12.9	12.4	12.2	11.1	10.9	10.7	10.7	10.2	11.69	16.48																							
5-Aug	9.5	8.8	8.5	8.1	8.1	8.9	10.5	13.3	15.0	17.9	19.1	20.4	19.0	19.8	21.7	20.5	17.7	15.6	15.1	12.3	12.2	12.0	11.2	10.0	13.96	21.68																							
6-Aug	9.7	8.7	8.6	8.4	8.3	10.9	13.0	16.3	18.8	20.5	21.7	22.8	23.5	24.2	24.4	24.1	23.3	21.0	17.7	15.6	14.3	13.8	13.2	13.7	16.51	24.41																							
7-Aug	13.5	11.7	11.9	11.7	11.3	11.7	12.9	14.0	13.9	14.2	14.8	15.0	16.6	18.7	18.1	16.8	16.9	15.5	13.1	11.5	10.2	9.4	9.6	10.2	13.46	18.75																							
8-Aug	10.5	10.5	10.5	10.6	10.8	11.3	11.5	13.3	14.2	16.1	18.5	19.8	21.4	21.9	22.1	22.3	21.9	20.6	17.6	14.5	12.4	12.1	10.6	9.8	15.20	22.32																							
9-Aug	9.3	8.6	8.0	7.8	7.8	9.4	12.6	15.6	19.1	21.2	22.7	22.6	23.4	24.4	24.4	24.1	23.2	22.3	18.9	14.8	14.1	13.5	13.1	11.7	16.36	24.42																							
10-Aug	11.2	10.9	10.8	10.4	10.2	11.9	15.1	18.9	22.3	23.5	24.1	24.0	23.5	25.2	25.0	24.5	23.8	22.4	19.8	16.7	15.0	12.5	12.4	12.2	17.76	25.16																							
11-Aug	11.7	12.5	12.1	9.9	10.0	12.5	15.8	18.6	20.1	21.1	22.4	22.9	23.8	23.9	24.0	23.6	22.7	21.2	18.1	15.0	14.1	13.3	12.7	12.1	17.26	24.03																							
12-Aug	11.8	11.4	11.1	11.1	10.6	13.2	16.2	18.8	20.8	22.6	23.7	24.3	24.8	25.6	25.7	24.9	23.2	21.0	18.4	17.5	17.5	16.5	16.1	16.6	18.46	25.66																							
13-Aug	16.2	14.6	12.4	11.3	10.5	12.1	13.9	15.3	16.0	17.2	18.7	19.5	19.7	18.5	17.0	14.7	12.6	12.5	12.1	12.0	11.9	11.0	11.1	11.2	14.25	19.71																							
14-Aug	11.0	10.1	9.1	8.8	9.0	10.0	10.7	12.0	14.4	16.0	16.8	17.6	18.4	16.7	14.1	13.9	14.7	13.2	11.7	11.2	10.2	9.4	9.1	8.6	12.36	18.35																							
15-Aug	7.7	8.0	7.0	5.9	5.6	6.4	8.6	12.0	14.3	15.6	16.6	17.2	18.1	19.4	19.1	19.0	18.0	15.5	14.0	13.5	12.2	11.4	9.5	9.4	12.67	19.36																							
16-Aug	9.7	11.0	11.0	8.6	7.5	8.4	10.4	13.7	16.6	19.0	20.8	21.7	20.8	15.8	16.6	17.3	17.4	16.1	14.6	12.3	12.3	12.3	12.2	11.9	14.08	21.71																							
17-Aug	12.0	10.5	9.6	9.7	10.7	10.3	10.8	12.2	15.6	18.1	19.0	20.0	21.2	21.8	22.6	20.4	18.1	17.1	16.3	16.1	15.7	15.0	13.9	13.2	15.41	22.62																							
18-Aug	12.3	12.6	11.9	11.3	10.8	12.0	12.9	13.2	16.7	18.4	20.7	23.6	22.8	20.2	17.8	16.8	15.1	13.6	10.4	8.6	8.2	8.4	8.0	7.5	13.91	23.57																							
19-Aug	6.8	5.7	5.6	5.0	5.2	6.6	8.0	10.3	12.2	13.7	14.9	15.7	16.9	17.6	18.3	17.9	17.3	15.1	12.9	12.1	10.3	9.7	9.6	9.3	11.54	18.26																							
20-Aug	9.6	9.4	9.1	9.2	8.5	8.8	9.7	10.7	12.6	13.8	13.3	13.9	14.8	15.5	14.5	13.9	14.3	12.7	11.2	8.8	7.3	7.9	9.1	10.0	11.18	15.49																							
21-Aug	10.1	9.3	8.7	8.1	7.8	9.7	12.7	16.0	15.9	14.3	16.7	15.9	16.7	17.8	17.8	17.9	16.9	15.8	15.3	15.0	14.4	14.4	14.4	14.7	14.01	17.85																							
22-Aug	14.4	13.9	13.0	13.1	12.4	12.7	13.7	17.1	21.1	22.2	22.5	23.5	24.3	25.1	25.4	24.7	23.9	21.8	18.8	17.0	16.1	16.4	15.8	14.6	18.48	25.37																							
23-Aug	13.4	12.8	11.6	11.2	11.5	12.2	13.7	14.8	16.5	19.4	21.4	22.3	23.4	23.7	22.2	21.3	21.8	19.1	17.6	16.6	16.0	14.5	14.2	13.8	16.88	23.74																							
24-Aug	13.4	13.3	12.5	12.3	12.1	12.0	12.7	13.5	17.4	18.9	20.4	21.5	22.3	23.4	14.7	11.4	11.0	10.7	9.7	8.3	8.0	8.2	8.3	7.5	13.49	23.39																							
25-Aug	6.9	7.0	7.5	6.2	6.0	7.3	9.1	12.4	15.0	16.6	17.0	17.8	18.8	20.0	19.8	20.6	18.7	16.6	12.2	10.5	10.1	9.0	8.7	7.1	12.54	20.60																							
26-Aug	6.1	6.1	6.1	5.0	5.9	8.1	10.1	13.4	15.6	17.8	19.5	21.0	21.6	22.5	23.8	23.4	21.9	19.3	15.8	17.0	16.3	15.3	14.6	13.7	15.00	23.85																							
27-Aug	13.3	12.6	10.9	10.4	9.6	10.9	14.0	17.6	20.8	22.3	24.1	25.5	26.5	27.0	26.1	24.2	24.4	22.3	18.5	16.9	16.0	14.7	13.8	13.5	18.15	26.96																							
28-Aug	12.1	11.6	10.9	10.6	10.8	11.7	14.0	16.8	19.0	20.0	20.8	21.1	22.1	22.7	22.5	22.3	21.3	19.4	16.5	15.1	14.4	14.7	14.1	13.7	16.59	22.68																							
29-Aug	12.1	12.0	10.5	10.1	10.8	11.9	12.8	15.7	18.6	20.0	20.7	21.4	22.2	22.9	23.4	23.6	22.6	20.4	18.0	15.6	14.6	13.4	12.1	13.6	16.62	23.57																							
30-Aug	14.6	14.5	13.2	11.4	11.2	11.7	11.7	12.4	14.0	14.9	15.6	19.1	22.4	23.5	23.0	22.0	20.4	17.5	15.3	13.9	13.8	13.1	12.6	12.0	15.58	23.50																							
31-Aug	11.6	11.9	12.1	12.1	11.7	12.3	13.2	13.6	15.4	17.7	19.0	19.9	20.9	20.4	19.1	13.0	14.7	13.0	12.6	12.0	10.8	9.2	9.7	8.3	13.93	20.92																							
																								11.07	10.67	10.12	9.52	9.39	10.51	12.20	14.37	16.46	17.87	19.06	19.96	20.66	21.05	20.61	19.76	19.02	17.39	15.22	13.58	12.71	12.08	11.66	11.30	Diurnal Average	
																								16.18	14.58	13.21	13.07	12.39	13.18	16.17	18.87	22.27	23.55	24.13	25.53	26.47	26.96	26.10	24.87	24.42	22.38	19.84	17.51	17.48	16.51	16.12	16.58	Diurnal Maximum	



WCAS - Violet Grove
Summary of Hourly Averages

Wind Speed (WS) - kph
August 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	8.6	6.9	6.0	3.2	2.4	2.4	7.6	10.3	9.5	9.4	6.2	9.5	10.9	9.2	4.5	5.5	7.3	7.0	5.2	6.5	7.6	8.2	6.7	7.1	2.65	10.92	
Dir	SSW	SSW	S	ESE	ENE	ESE	N	N	NNE	NE	N	NNW	NNW	NW	WNW	WSW	WSW	WSW	WSW	SW	SW	SW	WSW	WSW	WNW	NNW	
2 Spd	6.2	3.9	4.7	4.8	1.5	1.4	3.1	5.9	7.5	7.3	7.1	8.4	8.8	7.2	8.0	8.7	9.0	7.4	6.3	5.2	5.5	6.0	6.5	4.1	4.79	8.98	
Dir	WSW	SW	SW	WSW	SW	S	SW	S	SSE	SSE	SE	SE	SE	SE	SE	ESE	SE	SE	ESE	SE	SE	SE	SSE	SSE	SSE	SE	
3 Spd	1.7	2.3	3.0	3.4	2.5	3.8	2.3	2.5	6.3	7.3	6.6	6.6	6.3	8.9	11.5	11.1	10.2	7.6	10.2	6.9	16.3	2.3	4.6	11.6	2.80	16.34	
Dir	SE	S	S	S	SSW	SW	SW	SE	ESE	ESE	SE	SE	E	E	ENE	E	E	E	NE	N	N	NNW	WSW	WSW	E	N	
4 Spd	8.4	5.8	7.0	10.1	9.9	10.4	11.4	12.6	12.9	11.0	12.6	11.8	10.7	14.8	12.3	9.0	7.0	9.4	11.3	9.3	8.6	9.6	9.7	8.7	9.22	14.85	
Dir	WNW	WNW	WNW	WNW	WNW	WNW	NW	NNW	NW	NW	NW	WNW	WNW	WNW	NW	N	NW	NW	W	W	W	WSW	W	W	WNW	WNW	
5 Spd	6.4	5.5	8.6	7.8	7.8	7.8	6.0	5.6	3.8	1.5	0.6	2.9	4.5	2.6	4.5	9.2	10.5	6.9	3.6	4.3	5.5	5.9	2.1	0.4	1.29	10.48	
Dir	WSW	W	WSW	WSW	WSW	W	WSW	WNW	WNW	WNW	W	NE	NNE	NE	NE	ENE	E	SE	SSE	SSE	S	S	SW	SSW	SW	E	
6 Spd	1.3	0.4	1.5	2.3	1.2	2.2	4.5	3.7	7.1	6.4	3.2	3.0	1.6	3.7	3.7	4.4	4.3	5.1	4.0	5.1	5.3	6.6	5.8	5.6	3.04	7.14	
Dir	SW	WNW	S	SSE	S	SSW	SW	SSE	SSE	SSE	SE	SSE	ENE	NE	ESE	E	ESE	E	SE	SSE	SE	SSE	SSE	SSE	SE	SSE	
7 Spd	5.1	9.6	14.1	7.1	5.8	6.0	7.0	11.2	7.5	7.8	6.8	4.9	5.5	3.7	7.6	9.9	9.8	9.7	10.4	6.9	4.4	1.5	1.5	0.2	4.95	14.10	
Dir	SE	WNW	WNW	N	N	N	N	NNW	N	NNE	NE	NNE	NNE	NE	ENE	NE	NE	NE	NE	NE	NNE	E	E	ESE	NNE	WNW	
8 Spd	0.8	2.2	2.0	2.7	2.7	4.5	3.6	0.8	3.7	2.5	1.1	3.5	4.5	5.3	6.5	5.5	7.5	7.0	6.3	4.6	3.9	4.7	4.2	4.0	2.91	7.54	
Dir	SE	S	SSW	S	SSW	S	S	SSE	SSW	SSE	ESE	E	SE	ESE	E	E	E	E	E	ESE	SE	SSE	SSE	SSE	SE	E	
9 Spd	2.6	1.6	0.9	2.5	4.3	4.9	6.6	4.3	1.4	1.4	2.3	3.2	5.2	3.2	7.6	6.9	7.3	3.9	1.3	1.0	1.9	2.7	1.6	2.8	0.50	7.55	
Dir	SSE	SW	S	S	WSW	WSW	W	WNW	NNE	NE	ENE	ENE	NE	NE	NE	NE	NE	ESE	SSE	S	S	S	SSW	WSW	NE	NE	
10 Spd	3.8	6.2	8.2	7.3	7.6	7.5	5.9	4.6	1.5	1.8	3.8	4.4	6.1	6.1	7.8	9.7	9.2	7.1	5.1	6.9	14.2	9.0	6.6	2.9	0.58	14.18	
Dir	WSW	WSW	WSW	WSW	W	W	W	WNW	NW	NNW	N	NE	NNE	N	NE	NE	ENE	E	E	ESE	ESE	SE	S	SSE	ENE	ESE	
11 Spd	3.8	7.2	4.4	6.1	7.1	3.4	5.9	5.4	10.1	12.9	9.9	10.5	10.5	12.0	12.7	14.6	15.2	12.8	9.0	7.6	8.2	9.4	9.0	9.9	8.30	15.20	
Dir	S	SSW	SSW	SE	SSE	SE	SSE	SSE	SE	ESE	E	ESE	ESE	E	ESE	ESE	SE	ESE	SE	SE	SE	SE	SE	SE	SE	SE	SE
12 Spd	10.7	11.6	11.2	10.8	8.2	8.6	11.8	14.3	19.9	20.2	19.5	21.6	22.4	19.1	17.8	17.6	12.0	11.3	12.5	12.8	15.5	13.2	14.2	14.6	14.46	22.43	
Dir	SSE	SE	SSE	SE	SE	SE	SE	SE	SSE	SSE	SE	SE	SE	SE	SE	SE	SE	SE	ESE	SE	SE	SE	SSE	SSE	SE	SE	
13 Spd	12.4	5.3	2.8	2.7	3.5	7.5	10.4	5.8	6.2	11.9	14.0	14.4	15.0	16.5	15.8	14.8	22.6	22.0	8.9	6.2	8.7	9.2	10.6	10.9	6.51	22.64	
Dir	SSE	SSE	SE	SSE	S	SSE	S	SW	WSW	WNW	NW	NNW	NNW	NW	WNW	WSW	NW	NNW	WNW	W	WNW	W	W	WNW	WNW	NW	
14 Spd	10.2	10.3	10.8	9.7	7.3	9.2	8.6	11.1	13.5	13.7	14.7	10.9	5.6	6.5	16.6	9.7	7.3	7.8	8.5	10.1	10.1	10.0	10.1	11.2	9.18	16.58	
Dir	W	W	W	W	W	W	WNW	WNW	WNW	NW	NW	NNW	NW	WSW	W	WNW	WSW	WSW	WSW	WSW	WSW	W	W	W	W	W	
15 Spd	11.7	14.6	13.2	12.8	11.5	11.6	10.3	10.2	17.0	18.3	17.9	15.2	14.4	18.0	17.6	19.8	16.0	11.1	5.0	7.0	5.1	4.3	2.7	3.0	11.18	19.84	
Dir	W	WNW	W	W	W	W	W	W	WNW	WNW	WNW	WNW	WNW	NW	WNW	WNW	WNW	NW	W	SW	SW	SW	SSW	WSW	WNW	WNW	
16 Spd	2.5	3.3	4.1	2.0	2.8	2.9	9.1	9.0	7.5	6.7	3.6	4.2	5.0	6.4	1.2	3.0	2.7	3.6	2.7	2.1	4.2	5.6	8.1	9.6	3.87	9.58	
Dir	SSW	SSW	SSW	SSW	W	WSW	WSW	WSW	W	WSW	W	NNW	NNW	NW	SW	SSW	SW	WSW	WNW	SSW	SW	WSW	WSW	W	WSW	W	
17 Spd	6.4	5.8	3.6	5.3	6.5	3.0	3.8	5.4	4.2	6.5	11.5	9.1	6.0	4.1	3.0	4.8	4.8	5.4	6.8	8.7	10.2	11.6	8.5	8.9	5.91	11.57	
Dir	WSW	WSW	SW	SW	SW	SSW	WSW	WSW	WSW	SW	SW	SW	SW	WSW	WSW	S	S	S	S	S	SSW	SSW	SSW	SSW	SSW	SW	SSW
18 Spd	6.3	12.0	13.9	11.9	12.2	12.2	13.1	13.6	12.6	10.9	8.8	8.9	11.6	17.7	16.0	16.7	9.2	7.2	27.1	10.9	7.0	9.0	9.1	13.6	4.54	27.11	
Dir	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SW	W	NNW	NNE	NNE	NNE	N	NNW	NNW	NNW	WSW	WSW	W	WNW	W	NNW	
19 Spd	15.5	12.5	13.1	10.4	11.0	11.9	14.2	13.0	16.1	20.4	23.9	19.4	20.3	19.5	19.7	19.7	15.5	8.1	6.0	7.0	4.6	5.6	7.5	7.3	12.97	23.87	
Dir	WNW	WNW	W	W	W	WNW	WNW	WNW	WNW	WNW	NW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	W	W	W	WNW	W	SW	WNW	NW
20 Spd	9.8	6.7	9.4	9.3	3.8	2.5	2.8	7.0	5.9	15.3	17.1	13.4	9.6	5.7	7.0	6.0	3.1	2.9	3.6	1.6	0.8	2.8	4.8	5.7	4.41	17.08	
Dir	SW	SW	SSW	SW	SW	SW	SW	SW	W	NW	NW	NW	WNW	WNW	NW	NW	NNW	WNW	SW	WSW	S	SSW	SW	SW	W	NW	
21 Spd	7.4	5.3	3.2	2.7	3.8	3.2	5.5	5.7	7.9	6.3	9.8	7.0	4.8	4.5	2.5	1.5	3.2	4.7	5.2	4.4	4.7	4.0	5.3	7.8	4.67	9.80	
Dir	SW	SW	SW	WSW	WSW	S	S	S	SSW	SSW	SSW	SW	SW	SW	WSW	SSE	SSE	S	S	S	S	S	SW	SSW	SSW	SSW	SSW
22 Spd	7.8	7.2	6.8	9.5	7.7	5.9	9.1	6.9	1.5	2.5	2.9	3.5	4.1	5.3	6.3	9.5	9.4	7.3	8.5	8.4	10.7	13.7	16.1	10.8	3.63	16.09	
Dir	SSW	SW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	SW	WSW	SE	NE	ESE	E	E	E	E	ESE	SE	SE	SE	SSE	SSE	SSE	SSE	SSE



WCAS - Violet Grove
Summary of Hourly Averages

Wind Speed (WS) - kph
August 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	11.1	9.2	3.8	5.4	5.4	2.8	5.2	6.4	5.3	3.3	3.0	4.5	8.4	9.2	9.6	7.9	7.4	6.1	4.0	3.8	6.9	1.6	3.3	1.1	1.71	11.09	
Dir	SE	SSE	ESE	ESE	SSE	WSW	SW	WSW	W	NW	ENE	ENE	NE	NE	NE	N	NE	NNW	N	N	ENE	NNE	SW	SSW	ENE	SE	
24 Spd	5.4	1.4	0.5	2.0	2.5	2.6	1.5	0.9	2.6	5.4	5.0	9.7	13.6	8.3	35.1	29.5	22.0	12.4	3.1	2.9	5.9	10.3	9.1	8.5	3.36	35.13	
Dir	SSW	W	WSW	WSW	NW	W	W	WSW	E	SSE	SE	SE	SE	SSW	NW	NW	NNW	NNW	N	N	SSW	SW	WSW	WSW	WNW	NW	
25 Spd	9.2	9.8	11.4	9.4	11.0	11.7	11.6	9.3	7.9	5.8	11.2	4.9	5.7	10.6	8.5	6.0	4.7	1.5	0.5	1.6	1.8	2.8	4.7	4.4	6.16	11.71	
Dir	SW	SW	SW	SW	SSW	SSW	SSW	SSW	SW	WSW	W	W	W	WNW	W	WSW	SW	S	NNW	WSW	W	W	W	WSW	WSW	SSW	
26 Spd	4.9	4.9	6.3	5.2	8.3	11.0	12.1	11.7	12.5	10.3	7.8	5.5	6.1	5.9	5.5	6.1	8.3	6.5	7.2	10.7	12.1	9.9	8.7	7.6	6.76	12.49	
Dir	SW	WSW	WSW	WSW	SW	SW	SW	SSW	SSW	SSW	SSW	S	SSW	SSE	ESE	SE	SE	SE	SSE	S	SSW	SSW	SW	WSW	SSW	SSW	
27 Spd	8.8	9.4	5.1	7.2	3.4	0.8	2.0	3.3	2.9	4.2	1.0	2.6	4.4	4.2	4.7	6.6	6.0	5.3	2.9	3.0	2.8	2.7	2.9	5.2	0.64	9.36	
Dir	WSW	WSW	SW	WSW	SW	SSW	SSE	SSW	S	S	NE	ENE	E	ESE	NE	NE	ENE	ESE	NE	NE	NNW	W	W	WNW	SW	WSW	
28 Spd	10.2	5.8	4.4	3.5	6.0	7.0	5.6	3.6	0.2	3.3	1.8	5.2	6.5	7.3	8.9	9.8	10.6	6.3	3.4	3.6	5.5	5.0	4.1	5.9	2.32	10.57	
Dir	NW	N	N	WNW	W	WSW	W	W	SSW	NE	ESE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	E	ESE	ESE	SE	ESE	SE	NE	ENE	
29 Spd	4.8	5.9	3.6	3.9	6.3	7.6	7.3	8.1	12.1	20.5	20.9	21.7	19.9	19.9	19.0	17.8	12.8	9.4	10.7	9.1	10.7	8.5	4.6	12.2	11.26	21.73	
Dir	SSE	SE	SE	SE	SE	ESE	E	E	ESE	ESE	ESE	ESE	SE	ESE	ESE	ESE	ESE	E	ESE	ESE	ESE	ESE	SE	SSE	ESE	ESE	
30 Spd	14.5	11.5	6.4	3.7	4.8	2.0	3.2	2.0	3.9	2.9	2.1	4.8	4.5	7.4	10.0	8.9	6.6	4.1	1.5	2.3	4.9	6.8	6.6	2.1	1.73	14.50	
Dir	S	S	SSE	SSE	SSE	S	SSW	SSW	SW	S	SE	SE	ESE	E	ENE	ENE	NE	NNE	NE	N	W	WNW	WNW	NW	SE	S	
31 Spd	6.7	12.1	13.4	10.0	10.5	10.0	13.2	14.0	12.4	14.7	12.1	10.0	6.1	6.1	8.5	7.7	4.7	3.7	6.7	8.3	3.3	3.9	3.6	3.3	6.63	14.68	
Dir	WNW	WNW	WNW	W	W	WNW	WNW	WNW	NW	NNW	N	N	N	NNW	N	NW	WSW	SW	WSW	SW	WSW	W	WSW	WSW	WNW	NNW	
Spd	4.48	4.39	4.58	3.87	3.79	3.74	4.01	3.60	2.44	1.54	1.60	0.52	1.20	1.49	2.92	2.57	2.29	1.59	0.35	1.83	2.49	3.76	4.02	4.32	Diurnal Average		
Dir	SW	SW	WSW	SW	WSW	SW	WSW	WSW	WSW	WNW	N	NNE	N	N	NE	NE	ENE	ESE	S	S	SSW	SW	SW				
Spd	15.48	14.56	14.10	12.83	12.18	12.19	14.17	14.30	19.93	20.53	23.87	21.73	22.43	19.94	35.13	29.54	22.64	22.03	27.11	12.82	16.34	13.72	16.09	14.58	Diurnal Maximum		
Dir	291.02	286.48	292.20	263.82	204.50	202.35	293.78	145.18	149.36	120.71	309.10	121.17	133.18	120.02	318.66	317.48	318.60	333.52	328.58	135.60	2.72	143.99	153.50	158.70			
Maximum Speed Value: 35.1 kph on Aug 24 15:00																				Minimum Speed Value: 0.2 kph on Aug 8 00:00				Hours in Service: 744			
Maximum Daily Speed Average: 14.46 kph on Aug 12																				Minimum Daily Speed Average: 0.50 kph on Aug 9				Hours of Data: 744			
Maximum Diurnal Speed Average: 4.58 kph at hour 3																				Minimum Diurnal Speed Average: 0.35 kph at hour 19				Hours of Missing Data: 0			
Monthly Average Velocity: 1.643 kph 234.43 deg																				Speed Percentiles: P ₁ = 0.8 P ₁₀ = 2.5 Q ₁ = 4.2 Median = 6.8 Q ₃ = 10.1 P ₉₀ = 13.6 P ₉₉ = 21.6				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	15	24	8	0	0	0	47																				
NorthEast	19	29	1	0	0	0	49																				
East	17	38	5	0	0	0	60																				
SouthEast	33	61	24	12	0	0	130																				
South	55	28	11	0	0	0	94																				
SouthWest	59	68	13	0	0	0	140																				
West	36	82	27	4	0	0	149																				
NorthWest	9	26	30	8	2	0	75																				
Total	243	356	119	24	2	0	744																				



WCAS - Violet Grove
Summary of Hourly Averages

Delta Temperature (ET_D) - C
August 2017

Maximum Value: 1.55 C on Aug 3 19:00		Maximum Daily Average: 0.72 C on Aug 4		Hours in Service: 744																							
Minimum Value: -3.0 C on Aug 25 23:00		Minimum Daily Average: -1.38 C on Aug 6		Hours of Data: 744																							
Maximum Diurnal Average: -0.22 C at hour 6		Minimum Diurnal Average: -0.77 C at hour 14		Hours of Missing Data: 0																							
Monthly Average: -0.485 C		Percentiles: P ₁ = -2.1 P ₁₀ = -1.5 Q ₁ = -1.0 Median = -0.4 Q ₃ = 0.0 P ₉₀ = 0.3 P ₉₉ = 1.2		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-Aug	0.0	0.1	0.1	-0.1	0.2	0.1	0.2	0.2	0.3	0.4	0.2	0.1	0.0	0.0	0.0	-0.3	-0.1	-0.3	-0.7	-0.5	0.1	0.3	-0.1	-0.4	-0.02	0.40	
2-Aug	-0.6	-0.8	-1.2	-0.3	-0.6	-0.9	-1.0	-0.6	-0.8	-1.0	-1.0	-0.6	-0.8	-1.1	-1.0	-1.1	-1.2	-1.3	-1.6	-1.0	-0.9	-0.6	-0.2	-0.9	-0.89	-0.18	
3-Aug	-1.3	-1.8	-1.7	-0.2	-0.3	-0.7	-1.3	-1.7	-1.0	-0.8	-0.7	-0.9	-0.9	-1.0	-1.0	-0.8	-0.7	0.0	1.6	0.6	0.7	0.6	1.0	1.0	-0.48	1.55	
4-Aug	1.0	1.0	1.0	1.1	1.2	1.1	1.2	1.3	1.2	1.4	1.2	0.9	1.0	0.6	0.5	0.6	0.6	0.6	0.2	-0.1	-0.3	-0.2	0.0	-0.1	0.72	1.41	
5-Aug	-0.3	-0.3	-0.5	-0.4	-0.1	0.2	0.3	-0.4	-0.7	-1.6	-1.4	-1.7	-0.8	-1.1	-1.5	-1.1	-0.9	-0.4	1.0	-0.3	-0.2	0.0	-1.0	-1.4	-0.69	0.25	
6-Aug	-1.8	-1.3	-1.4	-1.4	-1.8	-0.9	-1.3	-0.9	-1.0	-1.2	-1.4	-1.6	-1.7	-1.8	-2.0	-1.9	-1.8	-1.1	-1.5	-1.6	-1.1	-0.3	-1.1	-1.2	-1.38	-0.31	
7-Aug	-0.3	-0.1	0.2	0.5	0.5	0.4	0.1	-0.2	-0.1	0.0	-0.3	-0.2	-0.7	-1.8	-1.0	-0.5	-0.7	-0.3	0.3	0.6	0.3	-0.2	-0.3	0.1	-0.15	0.60	
8-Aug	0.4	0.5	0.3	0.2	0.2	0.1	0.0	-0.7	-0.4	-1.3	-2.0	-1.5	-1.8	-1.7	-1.5	-1.7	-1.4	-1.1	-0.3	-0.8	-0.1	-0.9	-0.5	-0.2	-0.67	0.47	
9-Aug	-0.3	-1.1	-1.2	-1.6	-1.0	-0.6	-0.6	-1.0	-1.9	-1.9	-1.5	-1.1	-1.0	-1.8	-1.6	-1.5	-1.2	-1.7	-2.1	-1.2	-1.1	-1.5	-2.0	-2.1	-1.36	-0.26	
10-Aug	-1.9	-0.7	-0.5	-0.5	-0.5	-0.3	-0.6	-1.0	-1.9	-1.9	-1.7	-1.2	-0.7	-1.3	-1.3	-1.3	-1.2	-1.1	-1.1	-1.6	-0.1	0.0	0.5	0.4	-0.90	0.55	
11-Aug	0.3	0.6	0.1	-0.9	-0.3	-0.6	-1.0	-1.4	-0.6	-0.3	-0.4	-0.3	-0.5	-0.6	-0.7	-0.8	-0.9	-1.0	-1.3	-1.0	-1.2	-1.4	-1.1	-1.1	-0.69	0.55	
12-Aug	0.3	0.3	0.4	-0.3	-0.9	-0.5	-0.6	-0.7	-0.4	-0.3	-0.1	-0.1	0.0	-0.4	-0.6	-0.6	-0.7	-0.8	-1.5	-0.9	0.0	0.1	0.1	0.4	-0.33	0.41	
13-Aug	0.5	0.4	-1.3	-1.6	-1.8	-0.2	-0.3	-0.2	0.0	0.2	0.0	-0.3	-0.4	-0.1	0.1	0.2	0.6	0.5	0.4	0.2	0.2	0.1	0.2	0.3	-0.10	0.58	
14-Aug	0.2	0.0	0.0	0.0	0.1	0.0	0.2	0.1	0.1	-0.3	-0.1	-0.5	-0.9	-0.7	0.2	0.2	-0.1	0.0	-0.1	-0.1	-0.1	-0.2	-0.4	-0.4	-0.11	0.23	
15-Aug	-0.4	-0.2	-0.4	-0.2	-0.4	-0.1	0.0	0.0	0.3	0.6	0.6	0.5	0.3	0.1	0.2	0.0	-0.2	-0.1	-1.1	-1.2	-1.2	-1.5	-1.7	-1.8	-0.33	0.56	
16-Aug	-0.9	0.1	-0.4	-1.2	-0.9	-0.4	0.0	0.1	-0.2	-0.3	-0.7	-1.0	-0.9	0.4	0.1	-0.1	-0.3	-0.8	-0.6	-0.7	-2.3	-2.6	-1.3	-0.6	-0.64	0.40	
17-Aug	-1.0	-0.7	-1.2	-0.1	-0.2	0.0	0.1	0.2	-0.7	-0.4	0.0	-0.1	-0.7	-0.8	-1.4	-0.8	-0.3	0.0	-0.1	0.1	0.1	0.2	0.2	0.2	-0.31	0.24	
18-Aug	0.0	0.2	0.3	0.3	0.2	0.0	0.0	0.1	0.0	-0.1	-0.2	0.1	-0.4	-0.2	0.0	0.0	0.2	0.2	0.6	0.7	0.9	0.6	0.4	0.4	0.18	0.88	
19-Aug	-0.1	-0.2	-0.2	-0.3	-0.3	-0.4	0.0	0.0	0.3	0.5	0.4	0.6	0.6	0.4	0.3	0.0	-0.3	-0.8	-1.4	-1.6	-2.1	-1.0	-0.5	-0.3	-0.27	0.64	
20-Aug	-0.1	-0.1	0.0	-0.1	-0.1	0.0	0.2	0.2	0.0	0.0	-0.2	-0.2	-0.1	-0.5	-0.2	0.1	-0.2	-0.2	-0.8	-1.3	-0.1	-1.2	-1.0	-0.4	-0.26	0.23	
21-Aug	-0.1	0.0	0.2	0.2	-0.1	-0.5	-0.7	-1.1	-0.6	0.0	-0.3	-0.2	-0.2	-0.4	-0.3	-0.4	-0.2	-0.1	-0.1	-0.7	-1.0	-1.4	-0.5	0.1	-0.35	0.20	
22-Aug	0.0	0.0	-0.3	-0.4	-0.2	-0.1	0.2	-0.1	-1.4	-1.5	-1.0	-1.4	-1.5	-1.5	-1.8	-1.2	-1.2	-1.2	-1.1	-1.3	0.0	0.1	0.3	0.3	-0.68	0.35	
23-Aug	0.0	-0.1	-0.5	-0.4	0.2	-0.1	-0.2	-0.3	-0.4	-0.9	-1.4	-1.2	-1.2	-1.2	-0.5	-0.3	-0.6	-0.1	0.0	0.2	0.3	-0.2	-0.5	-0.7	-0.42	0.32	
24-Aug	0.0	0.0	-0.4	-0.2	0.1	0.2	0.4	0.0	-1.0	-0.7	-1.0	-0.5	-0.4	-0.7	-0.1	0.2	0.3	0.1	0.3	0.1	0.1	0.0	-0.1	-0.3	-0.15	0.40	
25-Aug	-0.3	-0.3	-0.3	-0.2	-0.1	-0.6	-0.5	-0.5	-0.3	-0.5	0.2	-0.5	-0.4	-0.1	-0.3	-0.8	-1.2	-1.7	-1.1	-1.1	-1.8	-1.5	-3.0	-1.7	-0.78	0.18	
26-Aug	-0.6	-1.2	-1.2	-0.3	-0.4	-1.0	-0.6	-0.5	-0.3	-0.3	-0.3	-0.9	-0.8	-1.4	-2.0	-1.9	-1.5	-1.4	0.0	0.0	0.2	-0.1	-1.0	-0.9	-0.77	0.20	
27-Aug	-2.3	-1.6	-1.0	-0.9	-0.6	-0.9	-1.2	-1.4	-1.6	-1.3	-1.5	-1.6	-1.6	-1.7	-1.1	-0.5	-1.1	-1.7	-1.5	-1.6	-0.6	-0.7	-1.0	-1.0	-1.25	-0.52	
28-Aug	0.2	0.4	0.1	-0.2	-0.7	-0.7	-0.6	-1.1	-1.9	-1.7	-1.5	-0.9	-1.2	-1.4	-1.2	-1.2	-0.9	-0.6	-0.6	-0.7	-1.0	-0.8	-1.0	-1.0	-0.84	0.41	
29-Aug	-0.2	-0.5	-0.5	-0.2	-0.9	0.0	0.0	-0.6	-0.4	-0.1	0.0	0.1	-0.1	-0.4	-0.6	-0.8	-0.9	-0.5	-0.1	-1.0	-1.3	-1.1	-0.5	0.4	-0.43	0.37	
30-Aug	0.4	0.4	0.6	0.5	0.7	0.5	0.2	0.0	-0.1	-0.3	-0.3	-0.7	-1.2	-1.2	-0.9	-0.8	-0.5	-0.3	-0.6	-0.8	-0.9	-0.2	0.0	-0.3	-0.24	0.69	
31-Aug	-0.2	0.1	0.1	0.0	-0.2	0.0	0.1	0.1	0.1	-0.2	-0.3	-0.5	-0.9	-0.7	-0.3	0.6	-0.2	0.0	-1.0	-0.2	-0.8	-1.6	-2.5	-1.9	-0.45	0.55	
		-0.30	-0.22	-0.34	-0.30	-0.30	-0.22	-0.24	-0.39	-0.50	-0.51	-0.55	-0.56	-0.64	-0.77	-0.70	-0.59	-0.60	-0.57	-0.58	-0.60	-0.49	-0.55	-0.61	-0.49	Diurnal Average	
		1.03	0.96	1.05	1.15	1.16	1.13	1.16	1.30	1.24	1.41	1.21	0.95	0.98	0.63	0.46	0.61	0.61	0.63	1.55	0.68	0.88	0.60	0.95	0.96	Diurnal Maximum	



WCAS - Violet Grove
Summary of Hourly Averages

Relative Humidity (RH) - %
August 2017

Maximum Value: 94.46 % on Aug 6 04:00 Maximum Daily Average: 89.04 % on Aug 4 Minimum Value: 23.9 % on Aug 25 16:00 Minimum Daily Average: 51.42 % on Aug 26 Maximum Diurnal Average: 85.70 % at hour 5 Minimum Diurnal Average: 45.83 % at hour 14 Monthly Average: 68.347 % Percentiles: P ₁ = 28.4 P ₁₀ = 40.1 Q ₁ = 52.6 Median = 71.9 Q ₃ = 84.8 P ₉₀ = 91.4 P ₉₉ = 94.1																								Hours in Service:	744																								
																								Hours of Data:	744																								
																								Hours of Missing Data:	0																								
																								Hours of Calibration:	0																								
																								Percent Operational Time:	100.0																								
Day	Hourly Period Ending At																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Aug	64.7	67.0	73.1	82.7	85.4	85.3	84.7	87.4	87.9	89.1	87.7	84.7	84.3	81.7	79.6	74.7	68.8	65.3	73.2	84.2	85.6	88.3	90.1	92.0	81.15	91.96																							
2-Aug	93.3	93.6	94.0	94.3	94.3	92.0	83.3	72.9	63.4	54.9	51.5	45.5	43.4	41.8	43.5	42.9	43.4	48.4	60.7	78.4	82.4	83.7	82.8	85.8	69.60	94.31																							
3-Aug	89.4	91.3	92.9	92.5	91.9	86.9	78.5	64.0	54.6	49.0	38.9	34.3	30.1	34.2	33.5	37.6	44.4	53.8	71.6	81.4	90.9	92.2	93.4	93.0	67.51	93.43																							
4-Aug	92.8	92.8	92.1	91.3	91.8	92.6	92.7	91.6	89.5	91.0	88.5	85.6	87.9	81.1	73.8	78.7	85.7	87.0	90.7	91.4	92.2	93.0	91.6	91.9	89.04	92.96																							
5-Aug	92.1	93.2	93.2	93.1	93.0	91.7	90.2	85.3	75.0	64.0	57.3	50.5	55.1	56.0	48.0	50.8	63.7	72.9	77.7	86.5	87.2	87.3	89.1	92.8	76.91	93.23																							
6-Aug	93.8	94.1	94.3	94.5	94.4	93.6	86.0	73.0	61.5	55.2	46.9	40.1	38.2	35.6	36.4	35.3	38.6	49.7	73.4	79.8	80.4	77.9	82.2	83.9	68.28	94.46																							
7-Aug	82.4	88.1	88.8	92.3	92.7	93.0	92.5	87.1	85.4	80.2	76.5	76.8	69.9	63.9	65.0	70.5	69.3	77.9	84.3	87.9	90.1	92.5	93.6	94.0	83.11	94.00																							
8-Aug	93.9	90.7	90.2	90.2	90.3	89.6	88.7	83.2	79.5	72.6	64.3	58.2	52.8	50.1	49.6	48.5	48.5	54.3	66.9	83.3	89.6	86.7	89.5	88.6	74.99	93.85																							
9-Aug	88.6	93.1	93.9	94.2	94.2	91.9	86.5	74.8	62.2	55.5	47.4	45.2	42.4	38.4	38.9	40.0	41.3	50.5	68.5	84.5	86.1	87.8	89.5	91.8	70.30	94.19																							
10-Aug	93.4	92.5	91.0	90.5	90.6	87.2	78.8	64.7	47.5	45.2	44.2	42.7	42.1	36.1	35.9	35.9	39.7	45.6	53.9	71.7	68.9	75.6	76.5	76.9	63.64	93.43																							
11-Aug	79.2	78.7	81.1	90.8	88.9	81.4	72.0	64.7	53.6	50.6	42.1	40.6	36.0	33.1	34.2	37.6	39.9	47.8	62.5	74.4	78.9	82.3	82.9	84.1	63.22	90.78																							
12-Aug	81.3	80.8	79.0	78.1	81.5	74.8	65.0	55.6	46.9	42.0	40.4	39.2	38.9	38.6	39.1	39.8	47.2	53.5	60.7	57.6	50.8	52.2	52.6	48.8	56.01	81.52																							
13-Aug	49.7	55.6	73.4	80.2	85.9	74.4	68.4	65.9	64.7	67.9	62.2	57.4	59.0	63.6	66.6	78.4	90.7	88.7	89.5	90.3	90.5	91.8	91.0	90.3	74.84	91.83																							
14-Aug	88.1	88.5	89.7	88.4	87.8	82.9	81.2	76.1	63.6	53.0	44.2	39.9	41.1	47.6	56.1	60.8	57.5	66.9	74.5	76.7	81.9	83.4	80.4	75.8	70.25	89.72																							
15-Aug	77.8	71.4	76.1	79.6	80.9	77.0	69.6	58.4	48.2	41.0	37.7	37.4	35.9	32.7	34.3	32.4	36.0	46.1	58.7	60.5	68.2	70.9	82.1	83.7	58.19	83.72																							
16-Aug	78.8	71.9	70.5	84.8	87.0	86.9	81.2	66.0	53.4	42.2	32.9	32.8	38.5	58.6	65.6	61.0	61.2	77.6	81.9	88.5	89.2	88.5	83.8	80.5	69.31	89.22																							
17-Aug	80.1	83.0	84.3	87.1	82.0	84.4	84.8	80.2	67.9	53.8	44.3	42.4	39.5	37.9	36.4	46.8	60.1	63.6	60.6	59.9	59.0	64.3	67.5	69.6	64.16	87.15																							
18-Aug	73.6	70.6	75.4	78.9	79.6	74.3	68.4	65.4	53.5	49.4	47.0	40.6	42.2	46.9	51.0	49.8	58.1	65.6	79.8	91.5	85.3	85.8	86.7	80.4	66.66	91.48																							
19-Aug	77.2	79.5	79.8	82.9	81.7	78.2	74.1	65.3	55.8	45.0	36.8	35.0	31.2	28.6	26.2	26.0	29.4	40.0	57.5	59.8	67.1	69.1	65.3	62.9	56.43	82.93																							
20-Aug	59.5	60.8	62.5	61.5	70.5	72.7	67.2	65.1	58.7	51.4	52.7	51.8	50.3	50.4	56.3	59.3	57.2	69.2	78.9	88.7	91.7	92.7	90.6	83.6	66.80	92.74																							
21-Aug	81.4	85.0	84.5	86.5	87.4	80.3	70.7	58.9	54.4	62.6	55.1	60.7	61.5	52.6	51.2	54.1	65.9	67.5	64.9	71.4	71.0	76.8	70.6	63.2	68.26	87.41																							
22-Aug	66.8	70.4	77.6	81.2	83.4	81.5	77.2	66.1	49.4	44.6	45.2	44.5	41.0	40.0	38.9	41.9	42.5	50.9	62.0	73.0	73.7	66.9	65.3	68.1	60.50	83.42																							
23-Aug	74.7	76.8	82.5	83.9	79.0	77.8	73.4	73.4	70.7	62.9	58.3	57.5	54.2	53.6	57.6	63.4	60.3	73.9	76.7	82.5	82.5	87.2	89.7	87.7	72.50	89.71																							
24-Aug	90.7	91.3	92.9	93.5	93.3	93.1	91.4	88.6	78.3	72.4	65.0	54.7	51.4	43.0	56.2	68.9	75.0	74.0	76.9	85.1	85.8	82.1	80.7	80.9	77.72	93.54																							
25-Aug	82.0	78.0	68.4	67.9	68.9	68.3	64.8	53.2	41.1	36.9	31.7	29.4	27.4	26.0	26.4	23.9	33.6	50.7	71.1	73.7	71.4	78.5	80.6	84.7	55.77	84.75																							
26-Aug	82.0	80.9	79.1	80.6	75.6	68.0	60.5	50.3	43.9	39.2	32.5	28.2	29.4	28.9	28.4	30.0	38.3	49.6	54.7	46.3	44.6	49.7	54.5	59.1	51.42	82.01																							
27-Aug	64.7	65.8	73.0	73.9	74.9	71.9	62.4	54.6	43.2	41.4	34.9	32.3	30.6	28.9	28.4	39.8	44.2	49.9	67.6	75.4	70.5	81.9	87.4	87.9	57.72	87.86																							
28-Aug	87.1	86.3	87.8	90.1	89.5	87.1	78.2	68.2	55.3	51.7	50.1	49.3	47.0	47.3	47.9	48.3	50.1	56.5	69.2	76.7	79.3	80.0	82.1	83.6	68.70	90.09																							
29-Aug	85.2	84.9	89.8	91.9	91.8	87.2	83.7	72.5	58.7	47.3	49.4	47.9	44.5	42.4	41.2	42.9	47.6	53.0	55.5	67.4	70.0	74.4	79.1	69.4	65.74	91.85																							
30-Aug	63.9	63.2	67.5	76.0	76.7	74.7	77.7	77.8	73.6	70.6	67.2	60.2	51.9	55.8	59.8	63.2	68.7	78.4	86.4	90.5	92.2	92.2	92.0	92.8	73.89	92.84																							
31-Aug	93.7	93.2	91.2	91.1	91.9	89.6	86.6	83.8	73.2	56.9	49.8	48.1	46.7	45.2	50.6	73.8	69.5	80.5	80.0	75.3	80.9	90.5	92.6	92.8	76.16	93.66																							
																								80.71	81.06	82.90	85.31	85.70	82.91	78.08	70.78	61.77	56.12	51.06	48.18	46.59	45.83	47.00	50.23	54.08	61.59	70.66	77.23	78.64	80.85	81.79	81.31	Diurnal Average	
																								93.85	94.07	94.33	94.46	94.41	93.57	92.67	91.55	89.55	90.98	88.49	85.57	87.94	81.74	79.64	78.73	90.67	88.74	90.65	91.48	92.25	92.96	93.57	94.00	Diurnal Maximum	



WCAS - Violet Grove
Summary of Hourly Averages

Global Solar Radiation (GSR) - W/m2
August 2017

Maximum Value: 867.20 W/m2 on Aug 2 12:00 Maximum Daily Average: 302.85 W/m2 on Aug 2																								Hours in Service:	744	
Minimum Value: 0.0 W/m2 on Aug 1 01:00 Minimum Daily Average: 78.05 W/m2 on Aug 1																								Hours of Data:	744	
Maximum Diurnal Average: 645.98 W/m2 at hour 12 Minimum Diurnal Average: 0.00 W/m2 at hour 1																								Hours of Missing Data:	0	
Monthly Average: 212.39 W/m2 Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 59.4 Q ₃ = 415.9 P ₉₀ = 673.9 P ₉₉ = 829.8																								Hours of Calibration:	0	
																								Percent Operational Time:	100.0	
Day	Hourly Period Ending At																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Aug	0.0	0.0	0.0	0.0	3.5	19.5	67.3	54.4	60.7	90.1	101.4	217.7	188.9	177.2	173.7	279.7	234.5	167.7	36.9	0.0	0.0	0.0	0.0	0.0	78.05	279.68
2-Aug	0.0	0.0	0.0	0.0	49.5	299.0	353.0	540.8	651.8	771.4	755.8	867.2	791.4	689.6	517.7	462.4	323.7	161.5	33.7	0.0	0.0	0.0	0.0	0.0	302.85	867.20
3-Aug	0.0	0.0	0.0	0.0	44.9	213.2	329.5	505.4	650.8	765.4	840.3	863.4	829.2	701.3	587.1	425.3	204.0	40.6	0.0	0.0	0.0	0.0	0.0	0.0	291.68	863.43
4-Aug	0.0	0.0	0.0	0.0	3.2	17.2	39.7	72.2	143.2	64.7	213.0	219.0	229.9	434.5	394.7	141.2	99.3	18.8	26.3	0.0	0.0	0.0	0.0	0.0	88.21	434.54
5-Aug	0.0	0.0	0.0	0.0	27.7	111.3	165.1	488.7	487.5	661.6	758.9	750.5	306.2	569.2	641.2	410.4	250.2	85.5	26.0	0.0	0.0	0.0	0.0	0.0	239.17	758.93
6-Aug	0.0	0.0	0.0	0.0	42.6	141.5	334.9	482.6	626.1	723.0	782.5	817.0	776.7	717.1	598.1	457.3	275.6	93.6	16.0	0.0	0.0	0.0	0.0	0.0	286.86	817.00
7-Aug	0.0	0.0	0.0	0.0	3.0	54.8	141.9	238.1	213.6	221.7	239.0	237.3	457.3	600.9	395.5	299.7	262.9	97.8	19.0	0.0	0.0	0.0	0.0	0.0	145.10	600.89
8-Aug	0.0	0.0	0.0	0.0	13.1	33.2	85.8	169.6	246.4	385.2	759.3	834.9	845.4	755.8	622.6	460.6	294.7	133.8	22.7	0.0	0.0	0.0	0.0	0.0	235.96	845.39
9-Aug	0.0	0.0	0.0	0.0	33.1	192.9	309.8	485.2	620.3	736.2	817.5	671.7	751.8	650.1	569.0	452.6	268.4	123.7	14.7	0.0	0.0	0.0	0.0	0.0	279.03	817.45
10-Aug	0.0	0.0	0.0	0.0	33.7	129.2	288.7	467.7	604.8	688.1	764.3	727.5	590.4	726.4	593.9	446.1	286.8	134.1	21.8	0.0	0.0	0.0	0.0	0.0	270.98	764.34
11-Aug	0.0	0.0	0.0	0.0	33.5	155.3	313.9	473.2	627.9	743.3	819.3	844.8	813.8	731.3	608.1	456.1	294.0	131.5	17.6	0.0	0.0	0.0	0.0	0.0	294.31	844.82
12-Aug	0.0	0.0	0.0	0.0	32.7	161.2	325.3	484.3	637.4	752.8	825.6	845.6	809.1	695.5	538.4	351.8	167.5	49.1	3.3	0.0	0.0	0.0	0.0	0.0	278.32	845.58
13-Aug	0.0	0.0	0.0	0.0	20.9	85.6	233.9	264.5	304.3	418.0	469.0	586.2	568.3	193.6	19.4	1.8	29.8	36.2	3.5	0.0	0.0	0.0	0.0	0.0	134.79	586.16
14-Aug	0.0	0.0	0.0	0.0	31.5	49.1	182.5	338.7	618.8	717.1	748.0	631.9	719.0	215.2	224.1	228.7	234.5	83.4	7.0	0.0	0.0	0.0	0.0	0.0	209.56	748.03
15-Aug	0.0	0.0	0.0	0.0	26.3	135.4	297.6	455.3	597.2	726.8	786.4	674.6	634.0	675.1	505.5	366.8	202.8	37.2	9.0	0.0	0.0	0.0	0.0	0.0	255.41	786.42
16-Aug	0.0	0.1	0.0	0.0	18.1	112.5	244.1	405.0	525.0	562.2	688.2	555.6	297.9	76.7	138.1	134.3	104.3	36.6	10.3	0.0	0.0	0.0	0.0	0.0	162.88	688.23
17-Aug	0.0	0.0	0.0	0.0	7.7	30.3	65.1	209.0	398.6	638.6	721.4	748.1	664.3	580.6	468.1	170.6	101.2	62.8	4.7	0.0	0.0	0.0	0.0	0.0	202.96	748.07
18-Aug	0.0	0.0	0.0	0.0	13.9	115.8	144.7	143.9	403.1	441.9	651.6	738.9	465.2	317.4	184.6	198.4	63.4	4.8	0.0	0.4	0.3	0.5	0.0	0.0	162.02	738.91
19-Aug	0.0	0.0	0.0	0.0	24.3	136.5	308.2	467.0	619.2	738.8	814.6	802.8	743.9	672.7	587.8	362.0	254.1	61.3	2.3	0.0	0.0	0.0	0.0	0.0	274.81	814.58
20-Aug	0.0	0.0	0.0	0.0	4.2	41.3	83.0	123.3	298.8	446.2	416.6	431.3	501.4	382.0	153.1	126.5	116.2	37.7	2.0	0.0	0.0	0.0	0.0	0.0	131.81	501.40
21-Aug	0.0	0.0	0.0	0.0	22.3	109.7	288.9	458.9	343.5	210.5	465.7	199.0	310.1	268.9	187.3	144.6	89.2	23.6	6.0	0.0	0.0	0.0	0.0	0.0	130.34	465.65
22-Aug	0.0	0.0	0.0	0.0	12.9	61.0	165.9	407.7	578.7	687.5	761.2	782.5	742.0	663.5	539.0	404.6	228.9	63.0	1.2	0.0	0.0	0.0	0.0	0.0	254.15	782.54
23-Aug	0.0	0.0	0.0	0.0	6.8	68.7	169.5	280.9	430.6	516.1	667.1	638.3	704.0	618.9	261.4	211.7	214.1	32.2	0.0	0.0	0.0	0.0	0.0	0.0	200.84	704.02
24-Aug	0.0	0.0	0.0	0.0	1.7	31.2	72.5	181.8	475.2	319.9	691.0	576.1	507.7	654.1	549.7	112.9	206.7	59.6	2.0	0.0	0.0	0.0	0.0	0.0	185.09	690.95
25-Aug	0.0	0.0	0.0	0.0	11.6	116.2	276.8	435.1	585.4	695.2	720.9	534.1	594.8	674.2	434.4	392.5	161.4	48.3	0.0	0.0	0.0	0.0	0.0	0.0	236.70	720.85
26-Aug	0.0	0.0	0.0	0.0	11.1	110.5	268.1	425.0	571.3	664.6	718.8	777.7	685.3	610.4	566.0	363.0	211.1	59.5	0.0	0.0	0.0	0.0	0.0	0.0	251.76	777.73
27-Aug	0.0	0.0	0.0	0.0	8.1	102.4	256.0	410.8	553.3	675.2	736.1	779.6	661.5	499.4	348.8	182.1	218.8	48.7	0.0	0.0	0.0	0.0	0.0	0.0	228.37	779.62
28-Aug	0.0	0.0	0.0	0.0	9.7	105.0	244.4	402.0	542.1	656.4	729.2	735.3	706.6	618.9	495.4	348.2	188.2	51.2	0.0	0.0	0.0	0.0	0.0	0.0	243.02	735.27
29-Aug	0.0	0.0	0.0	0.0	3.7	34.2	103.6	380.5	523.8	645.8	718.2	742.6	676.8	588.7	475.9	321.7	150.1	36.9	0.0	0.0	0.0	0.0	0.0	0.0	225.10	742.56
30-Aug	0.0	0.0	0.0	0.0	0.1	32.1	79.5	140.8	208.2	205.4	255.8	577.5	590.9	550.1	421.2	278.6	132.1	23.0	0.0	0.0	0.0	0.0	0.0	0.0	145.64	590.94
31-Aug	0.0	0.0	0.0	0.0	1.5	74.9	154.2	155.3	301.3	438.1	582.1	617.0	561.0	332.5	261.1	167.6	137.0	15.9	0.0	0.0	0.0	0.0	0.0	0.0	158.32	617.02
																								Diurnal Average		
																								Diurnal Maximum		



WCAS - Violet Grove
Summary of Hourly Averages

Photosynthetically Active Radiation (PAR) - W/m2
August 2017

Maximum Value: 307.80 W/m2 on Aug 3 12:00 Maximum Daily Average: 109.12 W/m2 on Aug 2																								Hours in Service: 744 Hours of Data: 744		
Minimum Value: 0.0 W/m2 on Aug 1 01:00 Minimum Daily Average: 30.16 W/m2 on Aug 1																								Hours of Missing Data: 0 Hours of Calibration: 0		
Maximum Diurnal Average: 227.00 W/m2 at hour 12 Minimum Diurnal Average: 0.71 W/m2 at hour 2																								Percent Operational Time: 100.0		
Monthly Average: 76.471 W/m2 Percentiles: P₁ = 0.0 P₁₀ = 0.0 Q₁ = 0.7 Median = 23.4 Q₃ = 149.2 P₉₀ = 239.6 P₉₉ = 284.6																										
Day	Hourly Period Ending At																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Aug	0.0	0.0	0.0	0.0	2.6	8.5	26.6	22.8	26.3	36.3	40.2	82.3	72.4	68.2	65.4	101.0	88.3	62.7	19.3	0.9	0.0	0.0	0.0	0.0	30.16	100.98
2-Aug	0.0	0.0	0.0	0.7	21.0	75.4	131.4	186.7	235.5	272.2	269.3	307.0	283.8	252.1	195.5	176.6	126.4	66.5	18.2	0.6	0.0	0.0	0.0	0.0	109.12	306.97
3-Aug	0.0	0.0	0.0	0.0	18.7	71.8	129.0	183.5	236.0	266.6	299.2	307.8	298.8	255.3	221.1	161.3	81.1	19.0	1.2	0.0	0.0	0.0	0.0	0.0	106.26	307.80
4-Aug	0.0	0.0	0.0	0.0	1.5	6.9	15.6	28.0	53.5	26.6	78.5	82.1	85.8	160.0	144.3	55.1	38.5	8.7	10.6	0.1	0.0	0.0	1.9	4.1	33.41	160.02
5-Aug	4.1	3.5	3.3	4.9	20.9	46.6	63.9	179.9	177.9	240.9	270.1	270.4	117.7	210.8	237.4	155.6	97.2	42.9	18.7	4.9	4.2	4.1	1.6	0.0	90.89	270.38
6-Aug	0.0	0.0	0.0	0.0	15.4	63.1	116.5	168.3	218.5	246.6	265.8	280.2	268.1	254.1	217.0	169.4	106.0	40.8	10.1	0.4	0.0	0.0	0.0	0.0	101.67	280.17
7-Aug	0.0	0.0	0.0	0.0	2.5	21.2	49.1	84.1	79.1	82.8	90.1	87.7	163.1	213.4	142.0	109.7	96.3	38.4	9.6	1.3	0.7	0.6	0.4	0.4	53.02	213.44
8-Aug	0.4	0.0	0.3	0.5	5.3	12.4	30.4	58.9	84.0	132.1	259.5	288.1	293.0	265.2	223.3	169.4	111.3	55.1	13.0	1.4	0.9	0.9	0.8	0.7	83.63	292.98
9-Aug	0.6	0.0	0.3	0.8	13.8	58.5	114.1	167.3	218.7	260.2	286.4	236.5	263.7	231.2	208.7	167.9	102.5	51.4	11.7	1.3	0.8	0.8	0.8	0.6	99.95	286.44
10-Aug	0.6	0.0	0.5	0.8	14.2	52.8	108.7	166.2	214.6	245.5	268.7	253.8	210.1	261.9	217.9	166.0	109.1	55.3	12.9	1.5	1.0	1.0	3.5	5.4	98.82	268.65
11-Aug	5.4	4.8	5.3	5.7	18.6	61.0	116.6	171.3	221.9	259.5	284.5	292.4	284.1	259.7	221.6	171.2	114.1	57.3	15.7	5.7	5.5	5.4	2.9	0.8	107.95	292.35
12-Aug	0.8	0.2	0.7	1.0	13.3	56.5	112.8	166.6	216.7	254.2	278.0	284.8	276.3	239.2	184.8	116.9	54.1	17.4	4.0	1.0	1.0	1.0	1.0	1.0	95.13	284.78
13-Aug	1.0	0.4	0.8	0.9	7.9	26.1	70.0	81.4	96.0	133.5	152.9	191.7	186.4	65.4	8.0	2.6	11.6	13.2	2.0	0.7	0.7	0.7	0.6	0.6	43.97	191.72
14-Aug	0.5	0.0	0.4	0.5	9.3	17.0	63.5	118.0	209.3	242.3	254.0	216.6	246.4	78.9	76.5	75.4	72.8	28.5	3.8	0.7	0.6	0.5	0.5	0.3	71.51	254.03
15-Aug	0.0	0.0	0.0	0.0	9.0	43.7	97.8	151.3	197.2	240.9	264.5	228.4	216.0	233.5	175.9	126.3	69.0	17.0	5.0	0.8	0.7	0.5	0.3	0.1	86.58	264.46
16-Aug	0.1	0.0	0.1	0.1	7.4	35.3	77.8	130.7	171.3	185.5	228.4	192.2	106.6	31.0	49.3	47.3	37.4	14.1	5.4	0.6	0.5	0.4	2.9	4.9	55.39	228.44
17-Aug	5.1	4.4	4.9	4.8	7.7	15.6	27.6	75.2	138.9	214.8	239.9	249.4	227.1	200.5	163.2	65.6	40.8	26.8	8.4	5.4	5.5	5.4	2.9	0.8	72.52	249.35
18-Aug	0.7	0.0	0.6	0.7	6.2	35.9	47.6	49.0	132.8	148.3	217.5	246.7	158.4	108.2	63.8	67.7	23.8	3.6	1.1	0.8	0.7	0.5	0.4	0.3	54.79	246.68
19-Aug	0.1	0.0	0.0	0.0	7.9	46.4	102.4	156.1	205.7	245.5	274.6	271.6	251.2	230.3	204.1	129.2	91.7	27.9	3.6	0.7	0.6	0.5	0.5	0.4	93.79	274.55
20-Aug	0.3	0.0	0.2	0.2	2.1	14.3	28.9	43.0	101.3	151.3	144.0	147.8	170.3	130.8	54.3	44.4	41.2	15.4	3.5	0.3	0.2	0.1	0.0	0.0	45.57	170.33
21-Aug	0.0	0.0	0.0	0.0	7.5	38.2	98.8	156.7	120.4	73.9	161.3	71.2	109.1	94.7	67.3	53.1	33.4	10.1	2.8	0.4	0.5	0.5	0.5	0.4	45.87	161.30
22-Aug	0.4	0.0	0.4	0.3	5.5	22.2	59.1	141.9	201.1	239.3	262.9	271.3	263.6	238.5	196.5	150.0	88.7	29.0	3.4	0.7	0.7	0.8	3.2	5.1	91.02	271.26
23-Aug	5.1	4.5	4.9	4.8	8.3	27.3	57.3	91.1	142.2	175.8	232.8	228.8	253.2	224.4	102.2	83.6	82.6	20.1	6.1	5.1	5.1	5.1	2.6	0.5	73.90	253.23
24-Aug	0.5	0.0	0.3	0.1	1.2	11.3	26.5	65.6	166.0	116.3	240.8	203.4	181.4	233.8	199.3	43.7	74.4	21.7	1.4	0.3	0.3	0.2	0.1	0.0	66.18	240.79
25-Aug	0.0	0.0	0.0	0.0	4.9	40.5	94.9	149.5	201.6	240.2	249.1	188.0	210.7	243.4	160.0	146.9	64.4	24.6	3.0	0.6	0.5	0.4	0.2	0.0	84.31	249.11
26-Aug	0.0	0.0	0.0	0.0	4.3	39.9	94.7	150.0	201.1	233.1	253.2	275.8	247.5	225.4	211.1	141.4	85.1	29.0	2.5	0.6	0.7	0.6	0.6	0.5	91.55	275.75
27-Aug	0.4	0.0	0.3	0.0	4.6	39.9	96.5	152.6	204.4	245.3	269.6	287.0	248.2	191.6	136.0	73.0	89.7	24.5	2.1	0.6	0.5	0.4	0.3	0.4	86.17	287.04
28-Aug	0.3	0.0	0.4	0.2	4.6	40.1	95.7	156.1	208.8	249.8	276.1	279.9	273.7	246.0	200.7	144.9	81.5	26.2	2.2	0.5	0.4	0.3	1.8	4.9	95.62	279.92
29-Aug	4.9	4.4	4.8	4.7	6.8	18.5	46.7	154.1	207.7	251.1	278.3	288.4	264.0	234.0	193.4	133.1	64.4	21.6	6.2	5.3	5.3	5.1	3.6	0.4	91.95	288.36
30-Aug	0.4	0.0	0.1	0.0	1.1	11.6	22.4	35.9	55.5	47.8	61.2	198.8	216.6	210.2	160.9	106.1	51.8	13.1	1.1	0.5	0.5	0.4	0.4	0.3	49.86	216.58
31-Aug	0.3	0.0	0.2	0.0	1.6	25.5	56.7	61.1	117.2	165.8	216.7	227.3	208.6	127.1	102.9	64.7	54.1	9.7	1.0	0.3	0.3	0.3	0.1	0.0	60.06	227.33
1.03 0.71 0.92 1.03 8.26 34.96 73.53 119.44 163.26 191.09 224.77 227.00 214.71 194.15 154.98 110.29 73.66 28.76 6.76 1.41 1.23 1.19 1.10 1.06																								Diurnal Average		
5.36 4.84 5.34 5.72 21.02 75.35 131.44 186.70 235.97 272.21 299.18 307.80 298.76 265.22 237.40 176.57 126.43 66.50 19.29 5.67 5.47 5.40 3.60 5.43																								Diurnal Maximum		



WCAS - Violet Grove
Summary of Hourly Standard Deviations

Wind Speed (WS) - kph
August 2017

Maximum Value: 9.99 kph on Aug 24 15:00		Maximum Daily Average: 4.24 kph on Aug 18		Hours in Service: 744																							
Minimum Value: 0.4 kph on Aug 2 20:00		Minimum Daily Average: 1.70 kph on Aug 6		Hours of Data: 744																							
Maximum Diurnal Average: 4.00 kph at hour 15		Minimum Diurnal Average: 1.66 kph at hour 22		Hours of Missing Data: 0																							
Monthly Average: 2.559 kph		Percentiles: P ₁ = 0.7 P ₁₀ = 1.2 Q ₁ = 1.6 Median = 2.2 Q ₃ = 3.2 P ₉₀ = 4.4 P ₉₉ = 7.6		Hours of Calibration: 0																							
				Percent Operational Time: 100.0																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Aug	2.2	2.0	1.9	1.5	2.5	1.7	3.7	4.0	4.4	2.5	3.1	3.4	3.0	3.3	2.2	2.0	2.3	1.9	1.4	1.7	1.3	2.0	1.4	0.8	2.34	4.38	
2-Aug	2.1	1.2	1.2	2.4	1.9	1.3	1.7	2.6	2.6	2.9	3.2	3.9	3.6	3.5	3.4	3.5	2.7	1.7	1.1	0.4	0.8	0.9	1.0	2.1	2.15	3.93	
3-Aug	1.2	1.3	1.4	1.2	1.2	1.7	1.5	2.9	2.4	2.3	3.2	3.3	3.2	3.2	3.1	3.2	2.7	2.5	4.9	7.7	8.3	3.0	4.3	2.7	3.01	8.30	
4-Aug	2.6	1.5	1.5	2.2	2.2	2.9	3.2	2.4	3.2	3.2	4.0	3.4	3.7	3.7	4.3	7.3	2.6	3.5	2.1	1.1	1.5	1.5	1.4	1.2	2.76	7.26	
5-Aug	1.3	0.7	0.8	0.7	1.2	1.5	1.8	1.9	2.2	2.3	2.3	2.8	2.8	2.6	4.2	5.1	4.4	2.5	1.5	0.9	1.2	1.2	1.6	0.8	2.01	5.08	
6-Aug	1.6	1.1	1.4	1.7	1.4	1.9	1.8	2.1	2.1	2.5	2.3	2.6	2.5	3.0	3.0	2.3	1.9	1.7	0.5	0.6	0.6	0.9	0.5	0.9	1.70	3.02	
7-Aug	2.5	4.7	3.8	7.7	4.5	3.4	3.0	3.6	3.6	2.9	2.7	2.5	3.5	3.4	4.5	3.2	2.8	3.1	3.3	1.6	2.7	1.7	1.6	0.8	3.21	7.72	
8-Aug	1.3	1.4	1.2	1.4	1.1	2.5	2.2	2.2	2.4	2.0	2.2	2.9	2.9	3.0	3.4	2.9	2.4	1.9	1.8	0.9	0.7	1.3	0.7	1.1	1.90	3.42	
9-Aug	1.7	1.4	0.9	1.9	1.9	1.0	1.5	2.1	2.1	2.0	2.6	3.0	3.4	3.0	3.8	2.9	2.7	2.0	0.8	0.9	0.8	1.0	1.4	1.0	1.90	3.79	
10-Aug	1.1	1.2	1.0	0.9	1.2	1.3	1.2	1.9	2.0	2.2	3.4	3.4	3.4	3.9	3.7	2.9	2.3	2.5	1.3	4.1	3.1	1.7	2.1	1.9	2.23	4.14	
11-Aug	2.1	3.4	4.3	2.1	2.3	1.7	1.7	2.1	2.6	3.1	3.7	2.7	3.6	3.8	3.4	3.8	2.9	2.8	1.8	0.7	0.6	1.0	0.9	0.9	2.42	4.29	
12-Aug	1.7	1.7	2.0	2.0	0.8	2.3	2.8	3.6	5.0	5.4	5.2	5.0	4.9	4.6	4.7	5.3	2.5	2.2	0.9	1.6	2.2	2.0	2.0	3.1	3.06	5.36	
13-Aug	3.0	2.3	1.0	1.5	1.5	2.3	3.1	2.0	3.9	4.0	4.9	4.5	5.2	5.1	5.3	6.6	6.7	5.9	3.4	2.2	2.3	1.9	1.8	1.8	3.43	6.67	
14-Aug	1.8	1.5	1.8	1.8	2.6	1.8	2.7	2.7	4.4	4.2	5.0	5.4	4.0	5.8	4.8	3.4	2.2	1.6	1.5	1.8	1.8	1.9	1.8	1.7	2.84	5.83	
15-Aug	1.9	2.7	2.4	2.1	1.6	1.6	2.1	3.1	4.1	5.4	5.3	5.4	4.4	5.9	5.8	4.7	4.6	2.8	1.3	1.7	1.3	1.7	2.1	1.2	3.13	5.86	
16-Aug	2.0	2.7	3.3	2.0	2.1	1.3	2.6	1.6	1.6	2.4	2.6	3.3	3.5	4.4	1.0	0.9	1.0	1.3	1.7	1.0	1.0	1.4	1.3	1.3	1.98	4.44	
17-Aug	1.1	1.5	1.9	2.2	1.6	1.7	1.9	1.9	1.9	4.2	3.7	3.1	3.3	3.1	2.9	1.2	0.8	1.0	1.6	2.3	2.3	2.9	1.9	1.9	2.18	4.15	
18-Aug	4.0	2.6	3.1	2.6	2.7	2.8	3.0	3.2	3.6	3.0	3.1	3.4	6.3	7.8	7.7	7.1	4.6	3.3	8.5	8.7	3.2	1.7	2.6	3.1	4.24	8.74	
19-Aug	3.7	3.6	2.6	1.6	1.8	2.5	3.0	3.7	4.4	5.8	7.0	6.0	5.6	5.1	5.0	5.4	4.9	3.8	1.7	0.8	1.4	0.8	1.1	2.4	3.49	6.97	
20-Aug	1.7	2.0	2.2	1.7	2.3	1.5	2.0	1.4	2.6	5.5	5.7	4.3	4.3	3.0	2.5	2.2	2.5	1.2	1.5	1.7	0.9	1.4	1.5	1.5	2.39	5.67	
21-Aug	1.7	2.2	1.7	1.4	1.6	2.5	1.6	2.8	2.6	2.1	2.6	1.9	2.0	1.8	1.6	1.4	1.0	1.2	1.2	1.1	1.3	1.2	1.5	1.8	1.74	2.82	
22-Aug	1.7	3.1	2.3	1.2	2.2	1.1	1.6	1.2	2.2	2.6	2.8	2.7	2.8	3.2	3.3	2.8	2.8	2.3	1.5	1.4	2.3	2.4	3.5	2.1	2.30	3.51	
23-Aug	1.5	1.7	2.6	1.8	1.8	2.0	1.7	1.5	1.9	3.0	2.5	2.5	3.0	3.5	2.6	3.2	2.4	3.8	3.2	2.7	3.3	2.1	2.3	2.9	2.49	3.84	
24-Aug	3.1	2.2	1.6	2.1	2.5	2.0	3.5	2.7	2.5	2.8	3.5	2.7	3.9	9.9	10.0	7.6	6.1	6.6	2.6	2.2	1.2	1.9	1.9	2.3	3.64	9.99	
25-Aug	1.8	1.8	2.1	1.6	2.0	2.2	2.5	2.4	2.5	3.4	4.5	3.9	3.4	4.9	3.9	3.1	2.1	2.2	1.5	1.4	2.2	2.0	0.9	1.8	2.50	4.89	
26-Aug	1.4	1.9	1.2	2.4	2.8	2.3	2.6	2.8	3.5	3.3	3.0	3.4	3.4	3.1	3.2	2.9	2.1	1.5	2.2	2.7	3.1	2.4	1.6	2.0	2.54	3.51	
27-Aug	2.2	1.3	2.3	1.7	3.1	1.3	1.4	1.7	1.6	2.0	1.9	2.3	2.5	2.7	1.7	1.4	1.7	1.4	1.6	2.4	1.0	2.1	1.4	1.4	1.83	3.10	
28-Aug	2.2	2.3	1.9	1.2	0.8	1.1	1.4	2.0	1.8	3.2	3.1	3.2	3.9	3.4	3.4	3.0	2.6	2.5	1.1	0.8	1.5	1.0	0.9	0.7	2.04	3.93	
29-Aug	0.8	1.2	1.5	1.3	0.7	0.9	1.6	2.0	5.2	4.6	4.9	4.8	4.8	4.7	4.6	4.0	3.2	2.2	2.4	1.5	1.7	1.6	1.9	3.9	2.74	5.17	
30-Aug	3.4	5.1	4.1	1.2	2.0	2.6	2.0	1.7	1.5	1.6	1.4	1.7	1.9	2.2	2.5	2.4	2.8	2.2	1.6	1.8	2.1	1.5	3.5	2.1	2.29	5.15	
31-Aug	1.8	1.6	1.8	1.6	1.4	2.5	2.4	2.6	3.3	4.0	4.7	4.9	3.2	3.2	8.6	7.9	1.0	1.6	1.5	1.9	2.4	1.3	1.4	1.6	2.85	8.56	
		2.01	2.09	2.03	1.90	1.91	1.91	2.21	2.39	2.90	3.23	3.55	3.50	3.62	4.00	4.00	3.73	2.82	2.48	2.03	2.01	1.93	1.66	1.74	1.75	Diurnal Average	
		4.05	5.15	4.29	7.72	4.45	3.44	3.70	3.97	5.17	5.81	6.97	6.04	6.35	9.89	9.99	7.94	6.67	6.59	8.49	8.74	8.30	3.01	4.29	3.87	Diurnal Maximum	



WCAS - Violet Grove
Summary of Hourly Standard Deviations

Wind Direction (WD) - deg
August 2017

Maximum Value: 104.66 deg on Aug 28 09:00																								Hours in Service: 744		
Maximum Daily Average: 41.20 deg on Aug 24																								Hours of Data: 744		
Minimum Value: 3.3 deg on Aug 11 20:00																								Hours of Missing Data: 0		
Maximum Diurnal Average: 39.76 deg at hour 11																								Hours of Calibration: 0		
Monthly Average: 24.731 deg																								Percent Operational Time: 100.0		
Minimum Daily Average: 9.84 deg on Aug 12																										
Minimum Diurnal Average: 17.69 deg at hour 1																										
Percentiles: P₁ = 4.8 P₁₀ = 8.6 Q₁ = 11.7 Median = 18.0 Q₃ = 31.9 P₉₀ = 53.2 P₉₉ = 87.0																										
Day	Hourly Period Ending At																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Aug	12.3	13.5	19.0	37.6	55.1	54.7	36.2	29.5	33.4	16.6	33.3	24.8	19.7	23.2	34.5	24.2	15.5	22.1	14.1	11.1	8.0	9.7	11.4	6.7	23.59	55.15
2-Aug	10.5	14.3	9.8	24.3	32.4	25.6	26.5	29.0	22.2	27.4	30.8	29.2	26.9	34.9	26.2	30.2	18.5	17.5	9.4	3.5	8.4	8.4	7.6	9.2	20.12	34.93
3-Aug	19.8	16.4	12.7	10.7	25.6	22.3	26.2	48.9	19.9	19.9	30.0	27.9	35.8	26.9	18.6	17.9	15.1	15.4	35.3	70.2	35.9	83.2	67.1	11.6	29.72	83.23
4-Aug	17.5	20.8	12.7	9.7	10.6	13.1	22.8	13.3	14.5	14.1	16.8	17.1	16.5	13.7	28.5	41.2	30.9	34.7	8.7	6.6	8.2	7.2	7.4	10.4	16.54	41.21
5-Aug	8.6	6.4	4.8	5.8	8.4	7.4	13.9	26.5	54.2	84.7	94.8	69.4	42.0	75.0	79.2	27.9	21.5	16.1	21.7	7.1	12.9	13.3	37.3	31.8	32.11	94.84
6-Aug	60.6	82.0	21.6	21.0	48.1	28.4	17.8	30.1	18.6	24.5	44.1	55.4	87.1	62.1	50.7	38.1	27.1	17.3	8.6	9.4	8.7	4.6	11.3	7.1	32.67	87.13
7-Aug	37.9	21.4	16.7	63.0	54.4	40.3	29.3	22.2	33.1	29.0	28.8	38.0	50.6	68.4	42.8	19.7	21.0	19.3	15.9	10.7	46.5	34.5	30.8	36.4	33.79	68.36
8-Aug	33.5	36.9	37.2	16.7	17.6	21.4	24.3	62.6	40.6	63.4	83.7	68.2	48.1	38.0	34.7	42.6	16.2	17.2	10.8	16.9	11.7	20.4	16.5	12.7	33.00	83.68
9-Aug	32.6	27.5	23.9	32.4	19.5	13.1	12.8	27.0	87.3	80.0	76.1	83.3	51.5	62.4	33.3	32.2	30.7	30.1	4.6	28.9	4.6	7.4	23.1	12.0	34.84	87.26
10-Aug	8.2	6.7	5.0	9.7	8.9	7.0	15.6	23.7	81.6	80.1	68.9	72.8	39.5	51.0	35.6	20.0	16.1	15.9	12.9	18.4	13.5	9.2	21.1	44.1	28.56	81.62
11-Aug	35.6	19.3	71.5	11.7	11.0	10.9	22.2	20.9	15.1	17.8	22.4	25.7	20.7	19.8	16.7	18.6	10.6	9.0	8.6	3.3	5.8	5.7	5.8	5.8	17.27	71.53
12-Aug	8.1	7.6	8.3	10.4	6.2	9.0	11.2	12.2	12.0	13.0	14.9	13.1	13.0	12.7	13.7	10.3	10.8	6.9	4.4	6.1	7.2	7.5	7.2	10.3	9.84	14.88
13-Aug	11.4	18.3	16.9	43.1	18.3	9.4	16.5	18.3	33.1	17.6	20.1	25.2	26.1	17.5	15.9	24.7	23.3	13.8	18.7	21.0	20.6	11.0	8.2	8.1	19.06	43.12
14-Aug	11.4	10.8	8.7	10.7	23.4	11.7	11.8	12.3	17.3	20.8	24.5	35.5	58.3	40.8	21.4	17.0	16.6	9.9	8.9	7.5	9.9	8.5	12.2	7.5	17.38	58.27
15-Aug	10.7	10.0	11.4	9.7	5.8	7.5	13.3	14.9	13.4	15.5	18.9	19.6	17.8	20.1	15.2	12.5	13.7	18.1	30.3	11.3	8.5	10.4	15.5	27.2	14.63	30.34
16-Aug	25.2	27.2	16.7	58.5	40.6	28.2	9.7	9.7	16.0	22.0	56.6	56.1	54.1	32.2	33.5	21.7	11.4	10.2	35.3	12.0	11.6	8.2	9.5	7.4	25.57	58.51
17-Aug	13.5	10.5	20.3	13.1	16.9	41.9	36.1	20.5	22.1	33.5	20.3	21.9	37.3	54.5	60.2	13.4	7.6	6.7	10.9	11.1	12.6	11.9	13.0	11.8	21.73	60.16
18-Aug	22.1	11.6	12.5	12.4	11.8	12.9	16.1	14.0	13.8	14.9	19.5	28.7	43.5	28.4	35.4	30.1	34.0	36.9	19.8	57.0	26.3	11.2	21.3	18.1	23.01	57.03
19-Aug	10.8	15.5	12.1	10.0	10.7	10.9	11.7	15.3	15.2	15.7	15.7	18.5	16.1	15.5	17.0	13.4	16.7	19.7	14.4	7.0	12.9	7.2	18.0	12.4	13.85	19.73
20-Aug	9.0	20.5	9.8	8.6	21.9	24.3	23.9	12.2	29.1	22.2	17.7	21.1	30.7	42.1	25.6	22.9	68.9	48.6	8.3	45.1	7.3	9.1	22.1	14.6	23.57	68.93
21-Aug	13.0	16.9	20.9	20.8	27.3	49.8	11.1	21.2	17.5	15.1	19.0	16.2	21.4	29.6	37.2	22.2	15.1	8.9	9.8	9.5	8.1	11.0	17.1	11.9	18.78	49.76
22-Aug	12.3	17.7	12.4	6.2	8.6	7.9	7.0	9.9	80.7	68.6	59.1	50.4	46.7	47.5	35.9	16.5	12.9	10.2	10.1	9.9	8.6	8.8	9.8	9.3	23.63	80.66
23-Aug	8.3	9.4	33.4	15.5	14.5	48.8	18.7	14.7	25.5	59.2	64.3	40.5	29.2	27.6	20.1	38.9	37.2	46.8	73.6	55.4	44.2	77.0	62.0	71.4	39.00	76.97
24-Aug	29.3	67.9	69.0	45.8	76.3	53.6	62.9	98.4	69.4	33.7	33.0	18.3	15.8	52.4	16.0	15.5	22.1	29.8	61.8	69.7	11.8	12.1	9.7	14.3	41.20	98.43
25-Aug	8.2	7.7	10.7	11.7	10.4	10.3	12.4	12.5	18.6	41.6	26.1	55.1	32.0	23.9	34.7	32.4	31.7	42.7	64.6	37.4	53.4	40.0	12.5	14.4	26.87	64.62
26-Aug	12.1	16.8	10.5	21.2	15.1	9.3	11.1	13.6	16.8	20.1	24.5	36.0	35.2	32.5	31.7	41.1	10.8	11.8	18.1	11.4	12.6	15.2	12.2	9.6	18.72	41.12
27-Aug	9.2	7.7	19.3	16.2	43.9	52.0	21.8	16.7	28.6	33.2	92.2	60.8	34.8	35.6	27.0	11.6	18.7	8.6	36.4	76.9	46.8	45.3	18.8	15.1	32.38	92.18
28-Aug	16.1	26.8	21.0	23.3	9.5	4.5	17.1	37.9	104.7	69.3	94.3	51.6	48.9	35.7	28.0	19.5	13.5	14.7	16.8	11.0	17.2	19.4	22.0	15.5	30.76	104.66
29-Aug	10.8	17.9	17.6	7.8	4.9	5.7	11.5	13.8	16.7	12.8	12.7	13.4	15.7	14.7	14.5	12.3	9.4	10.1	10.2	10.7	6.4	12.0	16.4	12.5	12.10	17.88
30-Aug	12.6	19.3	26.1	12.6	25.3	71.1	38.8	19.1	19.2	21.4	41.3	21.8	30.1	16.3	17.0	15.8	31.8	31.5	62.2	63.6	15.5	8.6	31.4	75.5	30.33	75.46
31-Aug	17.0	9.1	8.6	9.1	7.1	14.3	8.8	7.5	21.3	19.5	28.2	31.9	41.8	41.8	59.9	40.7	15.7	20.0	8.2	10.9	52.9	26.2	14.6	14.0	22.05	59.93
17.69 19.81 19.39 19.65 22.27 23.45 19.97 23.50 32.62 33.14 39.76 37.02 35.07 35.38 30.99 24.03 20.81 20.01 21.72 23.57 18.03 18.20 19.12 18.35																								Diurnal Average		
60.62 82.04 71.53 62.97 76.31 71.08 62.86 98.43 104.66 84.65 94.84 83.28 87.13 75.01 79.16 42.61 68.93 48.57 73.60 76.91 53.44 83.23 67.15 75.46																								Diurnal Maximum		

**CARROT CREEK
STATION #903**

CONTINUOUS AIR MONITORING DATA

AUGUST 2017

Summary Report

Continuous air quality/meteorological monitoring measurements

West Central Airshed Society

WCAS / Carrot Creek Station 903													August 2017		
Parameter	Calibration Hours	Number of Data	Percent Uptime	Mean	Min	Max	Percentile					Exceedences		24 Hour Average Max (ppm)	
							P10	Q1	Median	Q3	P90	1-hour	24-hour		
SO ₂ (ppb)	34	662	93.6	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0	0	0.000	
O ₃ (ppb)	34	662	93.6	18.5	0.0	50.6	1.7	7.8	15.9	29.1	36.7	0	-	0.031	
NO (ppb)	35	661	93.6	0.3	0.0	4.3	0.0	0.0	0.1	0.3	0.9	-	-	-	
NO ₂ (ppb)	35	661	93.6	1.2	0.2	5.0	0.5	0.7	1.1	1.6	2.2	0	0	0.002	
NO _x (ppb)	35	661	93.6	1.5	0.3	7.4	0.5	0.8	1.3	1.9	3.0	-	-	-	
Wind Speed (kph)	0	744	100.0	5.5	0.1	24.1	1.4	2.7	4.6	7.4	10.7	-	-	-	
Temperature (°C)	0	744	100.0	14.4	2.0	26.5	7.6	10.3	13.6	18.6	22.6	-	-	-	
Relative Humidity (%)	0	744	100.0	74.4	25.5	96.9	42.9	59.3	80.3	92.2	95.3	-	-	-	
Std Dev Wind Direction (deg)	0	744	100.0	32.7	4.6	101.9	12.2	16.3	25.7	43.0	68.1	-	-	-	
Std Dev Wind Speed (kph)	0	744	100.0	2.3	0.1	12.1	1.2	1.5	2.0	2.8	3.9	-	-	-	



WCAS - Carrot Creek
Summary of Hourly Averages

Sulphur Dioxide (SO₂) - ppb
August 2017

Maximum Value: 0.29 ppb on Aug 3 20:00		Maximum Daily Average: 0.04 ppb on Aug 29		Hours in Service: 744																																													
Minimum Value: 0.0 ppb on Aug 1 01:00		Minimum Daily Average: 0.00 ppb on Aug 4		Hours of Data: 662																																													
Maximum Diurnal Average: 0.02 ppb at hour 11		Minimum Diurnal Average: 0.00 ppb at hour 6		Hours of Missing Data: 82																																													
Monthly Average: 0.008 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 0.0 P ₉₀ = 0.0 P ₉₉ = 0.1		Hours of Calibration: 34																																													
				Percent Operational Time: 93.6																																													
Day	Hourly Period Ending At																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Aug	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	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																						
2-Aug	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	0.01																						
3-Aug	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	0.1	0.1	0.0	0.2	0.3	0.0	0.0	0.0	0.0	0.04	0.29																							
4-Aug	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00																							
5-Aug	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.06																							
6-Aug	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00																							
7-Aug	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00																							
8-Aug	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00																							
9-Aug	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00																							
10-Aug	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	0.1	0.02	0.08																							
11-Aug	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.2	0.3	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	0.04	0.27																							
12-Aug	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	C	C	C	C	0.0	0.0	0.0	0.0	0.0	0.01	0.07																							
13-Aug	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	0.01																							
14-Aug	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	0.01																							
15-Aug	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	0.04																							
16-Aug	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	T	T	T	T	0.0	0.0	0.0	0.0	0.01	0.07																							
17-Aug	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	T	T	T	T	T	T	T	T	T	T	T	--	0.03																							
18-Aug	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	T	T	T	T	T	T	0.0	0.0	0.0	0.0	0.0	--	0.03																							
19-Aug	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	T	T	T	T	T	T	T	0.0	0.0	0.0	0.0	--	0.02																							
20-Aug	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	0.01																							
21-Aug	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	T	0.0	0.0	0.0	0.0	0.00	0.00																							
22-Aug	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.0	T	T	T	T	T	T	T	T	T	T	T	T	T	T	--	0.13																							
23-Aug	T	T	T	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.04																							
24-Aug	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00																							
25-Aug	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	0.01																							
26-Aug	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.02																							
27-Aug	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.03																							
28-Aug	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.07																							
29-Aug	0.0	0.0	0.0	Z	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	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.04	0.14																							
30-Aug	0.1	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.11																							
31-Aug	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	0.04																							
																								0.01	0.00	0.00	--	0.00	0.00	0.00	0.00	0.01	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.00	0.00	0.01	Diurnal Average	
																								0.11	0.03	0.02	--	0.01	0.01	0.01	0.04	0.13	0.20	0.27	0.19	0.06	0.04	0.03	0.14	0.09	0.04	0.24	0.29	0.14	0.13	0.07	0.11	Diurnal Maximum	
Z - zerospan																								C - Calibration				T - Exceeds Temperature Limits																					
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb																																																	



WCAS - Carrot Creek
Summary of Hourly Averages

Ozone (O₃) - ppb
August 2017

Maximum Value: 50.59 ppb on Aug 11 12:00		Maximum Daily Average: 31.11 ppb on Aug 11		Hours in Service: 744																							
Minimum Value: 0.0 ppb on Aug 1 03:00		Minimum Daily Average: 10.91 ppb on Aug 1		Hours of Data: 662																							
Maximum Diurnal Average: 32.77 ppb at hour 15		Minimum Diurnal Average: 4.56 ppb at hour 7		Hours of Missing Data: 82																							
Monthly Average: 18.457 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 1.7 Q ₁ = 7.8 Median = 15.9 Q ₃ = 29.1 P ₉₀ = 36.7 P ₉₉ = 47.8		Hours of Calibration: 34																							
				Percent Operational Time: 93.6																							
Day	Hourly Period Ending At																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Aug	0.9	0.9	0.0	Z	1.1	6.7	7.8	8.1	12.6	12.6	12.3	15.7	16.8	20.1	21.2	22.3	21.9	22.8	20.2	11.9	10.8	3.8	0.5	0.0	10.91	22.79	
2-Aug	0.2	0.4	0.0	Z	0.0	0.0	0.3	3.3	7.4	14.7	21.9	26.0	27.6	28.0	29.1	31.7	32.5	32.0	30.4	29.4	26.9	20.7	15.5	11.5	16.93	32.46	
3-Aug	5.3	1.6	0.0	Z	0.0	1.4	2.8	6.6	15.4	27.9	34.8	42.3	40.8	39.7	37.7	47.1	45.7	41.7	48.1	38.7	27.9	23.1	17.8	17.6	24.52	48.06	
4-Aug	16.8	21.1	19.2	Z	14.0	11.6	10.8	10.8	13.8	15.9	19.1	23.2	22.8	21.7	23.8	24.7	24.8	25.4	20.1	15.2	12.3	9.2	7.5	13.3	17.26	25.37	
5-Aug	13.4	11.3	8.2	Z	3.8	3.7	3.6	6.1	10.0	16.7	26.7	30.4	34.0	35.6	36.3	37.9	29.0	27.3	27.5	28.4	21.8	17.7	9.3	4.0	19.25	37.85	
6-Aug	2.2	1.3	0.0	Z	1.0	0.7	1.4	5.0	13.6	19.7	29.6	33.6	35.9	37.7	38.1	39.5	39.9	39.7	37.3	31.0	26.3	23.0	17.9	12.0	21.15	39.93	
7-Aug	10.2	8.8	29.8	Z	21.4	18.6	12.9	14.7	11.9	15.7	21.3	24.5	30.0	33.4	33.5	24.3	22.3	23.4	16.1	15.0	13.3	11.9	9.3	10.8	18.83	33.53	
8-Aug	14.8	16.0	15.6	Z	11.8	11.4	10.6	10.2	10.9	13.0	14.3	15.0	18.9	23.7	27.7	31.9	32.0	30.8	28.3	25.8	20.3	8.1	3.3	0.9	17.19	32.03	
9-Aug	0.7	0.3	0.0	Z	0.1	0.6	1.0	4.7	7.0	11.9	22.6	35.3	44.3	43.5	43.6	42.4	41.2	40.4	40.7	36.4	24.8	6.4	4.6	5.7	19.93	44.30	
10-Aug	2.9	1.0	2.1	Z	2.7	1.3	1.6	5.8	15.1	25.1	32.0	33.9	35.3	39.5	43.5	45.4	44.9	45.6	44.5	40.3	30.1	27.3	25.2	28.2	24.94	45.60	
11-Aug	25.3	16.1	8.4	Z	0.7	0.7	1.3	13.3	23.0	36.1	49.9	50.6	44.6	42.8	41.5	41.4	41.9	44.2	45.1	44.7	42.2	37.2	32.6	32.1	31.11	50.59	
12-Aug	29.8	23.5	16.9	Z	11.0	5.7	2.8	13.8	24.8	34.0	45.8	47.8	49.0	50.4	50.5	C	C	C	C	41.3	40.0	36.7	32.1	30.8	30.88	50.48	
13-Aug	26.2	9.4	9.2	Z	1.1	0.6	1.4	7.5	12.9	14.0	21.8	25.1	23.0	22.3	23.7	23.0	19.2	20.4	25.0	29.4	20.1	14.6	13.6	6.9	16.10	29.39	
14-Aug	7.0	10.5	9.0	Z	7.0	5.4	4.4	5.8	8.0	15.8	23.4	27.5	30.5	29.4	27.4	23.7	23.2	25.6	16.5	11.2	8.7	9.3	9.3	10.5	15.18	30.52	
15-Aug	9.9	9.0	10.2	Z	7.8	7.0	5.9	9.6	12.3	17.6	26.7	31.4	33.2	34.6	34.6	34.9	33.7	34.7	29.5	24.8	11.1	10.8	7.7	10.6	19.46	34.85	
16-Aug	10.9	8.1	4.8	Z	1.8	1.9	1.1	2.0	7.7	11.4	20.7	27.8	34.7	30.8	15.4	10.2	T	T	T	T	18.7	9.5	12.6	14.0	12.86	34.73	
17-Aug	16.1	18.4	14.8	Z	12.6	10.8	9.4	10.7	10.7	21.4	31.3	35.2	T	T	T	T	T	T	T	T	T	T	T	T	--	35.21	
18-Aug	15.1	11.0	9.3	Z	1.5	0.2	0.4	0.7	3.6	10.5	18.2	29.0	T	T	T	T	T	T	T	25.1	19.7	19.4	19.6	19.5	--	28.99	
19-Aug	16.9	14.4	12.0	Z	11.7	12.1	11.6	13.4	18.6	24.8	29.2	30.9	31.6	32.7	T	T	T	T	T	T	26.0	22.1	20.3	14.6	--	32.70	
20-Aug	13.2	11.4	10.8	Z	9.2	8.5	8.2	6.7	10.7	22.9	23.1	24.9	30.5	31.6	28.1	25.1	30.2	31.5	30.7	19.7	8.7	10.1	10.6	7.8	18.00	31.56	
21-Aug	9.3	11.5	10.2	Z	8.9	5.9	4.1	6.2	14.2	25.5	28.6	25.5	25.4	22.2	21.8	19.6	15.2	14.7	T	9.6	7.8	4.3	3.1	0.4	13.36	28.55	
22-Aug	4.2	6.5	4.6	Z	2.0	2.1	2.4	4.0	9.6	14.2	T	T	T	T	T	T	T	T	T	T	T	T	T	T	--	14.21	
23-Aug	T	T	T	T	3.2	1.5	0.0	3.4	7.0	11.4	19.1	27.3	31.0	31.1	32.3	30.0	32.1	31.3	30.8	28.8	26.2	20.8	11.1	2.7	19.06	32.27	
24-Aug	0.7	1.3	0.7	Z	0.0	0.7	3.9	9.8	10.0	13.3	15.5	20.5	24.2	28.6	30.0	29.5	30.1	31.4	27.9	21.4	11.9	9.3	9.0	11.0	14.81	31.44	
25-Aug	12.7	11.5	12.1	Z	12.7	10.1	10.9	17.2	22.5	23.4	28.0	32.0	34.5	33.8	33.6	34.7	34.5	34.9	32.6	28.0	9.9	0.7	3.8	3.8	20.77	34.89	
26-Aug	6.8	7.3	6.9	Z	4.4	1.9	1.7	5.4	8.9	14.6	21.4	32.5	36.1	37.0	38.1	38.2	37.9	36.7	34.1	30.7	22.9	15.0	8.7	5.4	19.67	38.24	
27-Aug	6.4	11.1	7.2	Z	2.9	2.9	2.8	6.6	12.7	18.4	30.0	37.3	40.8	42.0	42.0	41.1	42.3	41.7	32.5	24.0	16.4	5.9	3.8	4.3	20.67	42.32	
28-Aug	2.6	0.6	0.1	Z	0.2	0.7	2.6	5.3	11.9	16.4	21.6	25.0	27.5	30.4	32.0	32.5	32.7	30.6	28.4	23.5	19.0	15.2	12.6	10.8	16.62	32.66	
29-Aug	8.6	7.6	7.2	Z	9.8	9.9	10.3	11.6	12.4	16.1	26.6	32.7	35.3	35.0	36.8	37.8	37.3	37.7	36.1	31.2	26.7	24.1	25.0	23.3	23.43	37.78	
30-Aug	21.6	13.8	3.8	Z	1.0	0.2	0.2	2.0	4.3	7.5	9.9	11.3	14.7	21.8	27.2	28.3	32.6	29.9	25.2	19.1	10.4	4.0	1.3	0.0	12.60	32.55	
31-Aug	0.7	0.7	1.7	Z	2.5	3.1	3.3	5.1	5.5	9.7	13.2	19.7	27.0	32.4	35.4	31.4	33.1	28.8	11.2	9.3	0.9	0.2	0.9	5.2	12.22	35.44	
		10.38	8.87	7.83	--	5.42	4.78	4.56	7.59	11.91	17.82	24.62	29.13	31.42	32.56	32.77	31.87	32.40	32.13	29.95	25.70	19.37	14.49	12.02	10.97	Diurnal Average	
		29.84	23.51	29.85	--	21.42	18.57	12.87	17.20	24.77	36.14	49.90	50.59	49.04	50.41	50.48	47.14	45.69	45.60	48.06	44.66	42.17	37.16	32.60	32.12	Diurnal Maximum	
Z - zerospan		C - Calibration										T - Exceeds Temperature Limits															
Alberta Ambient Air Quality Objectives (AAAQO):		1-hr 82.5 ppb					24-hr -- ppb																				



WCAS - Carrot Creek
Eight Hour Running Averages

Ozone (O₃) - ppb
August 2017

Maximum Value: 46.25 ppb on Aug 12 17:00 Maximum Daily Average: 29.47 ppb on Aug 11 Minimum Value: 0.0 ppb on Aug 2 06:00 Minimum Daily Average: 11.33 ppb on Aug 1 Maximum Diurnal Average: 31.28 ppb at hour 19 Minimum Diurnal Average: 7.12 ppb at hour 8 Monthly Average: 17.963 ppb Percentiles: P ₁ = 1.4 P ₁₀ = 4.8 Q ₁ = 9.8 Median = 16.8 Q ₃ = 25.0 P ₉₀ = 32.9 P ₉₉ = 42.9																								Hours in Service:	744																								
																								Hours of Data:	674																								
																								Hours of Missing Data:	70																								
																								Hours of Calibration:	7																								
																								Percent Operational Time:	91.5																								
Day	Hourly Period Ending At																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Aug	14.4	10.8	7.1	4.2	1.7	2.0	2.8	3.6	5.3	7.0	8.7	9.6	11.6	13.3	14.9	16.7	17.9	19.1	20.1	19.6	18.9	16.9	14.3	11.5	11.33	20.11																							
2-Aug	8.7	5.9	3.4	2.2	0.6	0.0	0.0	0.4	1.5	3.5	6.7	9.1	12.6	16.1	19.7	23.3	26.4	28.6	29.7	30.1	30.0	29.1	27.4	24.9	14.16	30.08																							
3-Aug	21.5	17.7	13.8	11.6	7.7	5.0	3.2	2.5	3.9	7.7	12.7	16.4	21.5	26.3	30.6	35.7	39.5	41.2	42.9	42.4	40.8	38.8	36.3	32.6	23.01	42.88																							
4-Aug	29.0	26.4	22.8	20.5	18.5	16.9	15.9	14.9	14.5	13.7	13.7	14.9	16.0	17.3	18.9	20.6	22.0	23.2	23.3	22.3	21.0	19.4	17.4	16.0	19.12	28.96																							
5-Aug	14.5	12.8	11.3	10.7	9.5	8.8	8.2	7.2	6.7	7.5	10.1	12.6	16.4	20.4	24.5	28.4	30.8	32.1	32.2	32.0	30.5	28.2	24.9	20.6	18.37	32.25																							
6-Aug	17.3	14.0	10.6	8.0	5.1	2.6	1.5	1.6	3.3	5.9	10.1	13.1	17.4	22.1	26.7	31.0	34.3	36.8	37.7	37.4	36.2	34.4	31.8	28.4	19.47	37.72																							
7-Aug	24.7	20.8	19.9	18.3	17.6	17.0	16.3	16.6	16.9	17.9	16.6	17.6	18.7	20.5	23.1	24.3	25.6	26.6	25.9	24.7	22.7	20.0	16.9	15.3	20.19	26.58																							
8-Aug	14.3	13.4	13.3	13.1	12.9	12.8	13.0	12.9	12.3	11.9	11.8	12.2	13.1	14.6	16.7	19.4	22.1	24.3	26.0	27.4	27.6	25.6	22.6	18.7	17.17	27.57																							
9-Aug	14.8	11.0	7.4	4.8	1.9	0.8	0.5	1.0	1.9	3.6	6.8	10.4	15.9	21.3	26.6	31.3	35.6	39.2	41.4	41.6	39.1	34.5	29.6	25.0	18.58	41.56																							
10-Aug	20.2	15.3	10.5	6.8	3.6	2.9	2.5	2.5	4.2	7.7	11.9	14.7	18.8	23.5	28.8	33.7	37.5	40.0	41.6	42.4	41.7	40.2	37.9	35.8	21.87	42.39																							
11-Aug	33.3	29.6	25.1	23.0	18.8	15.0	11.5	9.4	9.1	11.9	17.9	22.0	27.4	32.7	37.7	41.2	43.6	44.6	44.0	43.3	42.9	42.2	41.1	40.0	29.47	44.59																							
12-Aug	38.5	35.9	32.4	30.6	26.2	21.7	17.4	14.8	14.1	15.6	19.7	23.2	28.0	33.6	39.5	43.2	46.3	C	C	C	C	C	C	C	--	46.25																							
13-Aug	34.5	30.9	28.2	26.3	20.8	15.6	11.2	7.9	6.0	6.7	8.5	10.6	13.3	16.0	18.8	20.7	21.5	22.3	22.7	23.2	22.9	21.9	20.6	18.6	18.74	34.51																							
14-Aug	17.1	15.9	13.9	11.7	9.8	8.5	7.2	7.0	7.1	7.9	10.0	12.2	15.1	18.1	21.0	23.2	25.1	26.3	25.5	23.4	20.7	18.2	15.9	14.3	15.63	26.35																							
15-Aug	12.6	10.5	9.8	9.6	9.4	9.1	8.6	8.5	8.8	10.1	12.4	14.8	18.0	21.4	25.0	28.2	30.8	33.0	33.3	32.5	29.7	26.8	23.4	20.4	18.61	33.33																							
16-Aug	17.5	14.2	11.1	9.1	7.8	6.5	5.6	4.4	3.9	4.4	6.7	9.3	13.4	17.0	18.8	19.9	21.6	23.3	T	T	T	T	T	T	11.93	23.28																							
17-Aug	T	14.9	14.9	14.9	14.0	14.2	13.7	13.2	12.5	12.9	15.3	17.8	18.5	19.8	T	T	T	T	T	T	T	T	T	T	--	19.79																							
18-Aug	T	T	T	T	T	T	6.3	5.5	3.8	3.8	5.0	8.0	8.9	10.4	T	T	T	T	T	T	T	T	T	T	--	10.40																							
19-Aug	20.0	19.2	18.3	17.4	16.2	15.2	14.0	13.2	13.4	14.9	17.3	19.0	21.5	24.1	25.9	28.0	T	T	T	T	T	T	T	T	--	27.95																							
20-Aug	T	17.9	16.9	16.9	14.5	12.6	10.8	9.7	9.3	11.0	12.8	14.3	16.9	19.8	22.3	24.6	27.0	28.1	29.1	28.4	25.7	23.0	20.8	18.7	18.75	29.06																							
21-Aug	16.0	13.6	11.0	9.7	9.8	9.2	8.3	8.0	8.7	10.7	13.3	14.9	16.9	19.0	21.2	22.8	23.0	21.6	20.6	18.3	15.8	13.3	10.6	7.9	14.34	22.96																							
22-Aug	6.3	5.1	5.1	4.4	3.6	3.3	3.2	3.7	4.5	5.6	5.7	5.7	T	T	T	T	T	T	T	T	T	T	T	T	--	6.32																							
23-Aug	T	T	T	T	T	T	T	T	T	4.4	6.5	9.1	12.6	16.3	20.3	23.7	26.8	29.3	30.7	30.9	30.3	29.0	26.4	23.0	--	30.93																							
24-Aug	19.1	15.3	11.5	9.1	5.3	2.4	1.4	2.4	3.7	5.4	7.6	9.2	12.2	15.7	19.0	21.4	24.0	26.2	27.8	27.9	26.3	23.9	21.3	19.0	14.88	27.88																							
25-Aug	16.8	14.3	12.4	11.1	11.2	11.3	11.6	12.5	13.9	15.6	17.8	19.6	22.2	25.3	28.1	30.3	31.8	33.2	33.8	33.3	30.3	26.1	22.4	18.5	20.97	33.82																							
26-Aug	15.1	11.6	8.4	5.6	4.8	5.0	4.7	4.9	5.2	6.2	8.3	11.3	15.3	19.7	24.2	28.3	32.0	34.7	36.3	36.1	34.5	31.7	28.0	23.9	18.16	36.33																							
27-Aug	20.0	16.8	13.4	11.0	8.1	6.4	5.6	5.7	6.6	7.7	10.9	14.2	19.0	23.8	28.7	33.1	36.8	39.7	40.0	38.3	35.3	30.7	26.0	21.4	20.79	39.97																							
28-Aug	16.4	11.2	7.2	4.8	2.5	1.8	1.6	1.7	3.1	5.3	8.4	10.5	13.9	17.6	21.3	24.7	27.3	29.0	29.9	29.7	28.6	26.7	24.3	21.6	15.38	29.88																							
29-Aug	18.6	15.7	13.1	11.6	10.2	9.5	9.1	9.3	9.8	11.0	13.8	16.2	19.4	22.5	25.8	29.1	32.2	34.9	36.1	35.9	34.8	33.4	32.0	30.2	21.42	36.08																							
30-Aug	28.2	25.2	21.2	19.8	16.1	12.7	9.1	6.1	3.6	2.7	3.6	4.5	6.2	8.9	12.3	15.6	19.1	21.9	23.9	24.8	24.3	22.1	18.8	15.3	15.26	28.21																							
31-Aug	11.3	7.6	4.7	2.6	1.5	1.4	1.7	2.4	3.1	4.4	6.1	7.8	10.8	14.5	18.5	21.8	25.2	27.6	27.4	26.1	22.8	18.8	14.5	11.2	12.24	27.62																							
																								19.29	16.34	13.74	12.04	9.99	8.61	7.54	7.12	7.36	8.53	10.86	13.05	16.39	19.72	23.54	26.58	29.10	30.27	31.28	30.89	29.34	27.00	24.21	21.30	Diurnal Average	
																								38.48	35.90	32.37	30.61	26.16	21.66	17.41	16.63	16.88	17.87	19.69	23.21	27.96	33.55	39.51	43.18	46.25	44.59	43.99	43.25	42.95	42.25	41.14	39.98	Diurnal Maximum	
C - Calibration																								T - Exceeds Temperature Limits																									



WCAS - Carrot Creek
Summary of Hourly Averages

Nitrogen Oxide (NO) - ppb
August 2017

Maximum Value: 4.32 ppb on Aug 18 08:00 Maximum Daily Average: 0.58 ppb on Aug 30 Minimum Value: 0.0 ppb on Aug 12 12:00 Minimum Daily Average: 0.06 ppb on Aug 4 Maximum Diurnal Average: 1.11 ppb at hour 8 Minimum Diurnal Average: 0.05 ppb at hour 18 Monthly Average: 0.301 ppb Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.1 Q ₃ = 0.3 P ₉₀ = 0.9 P ₉₉ = 2.8																								Hours in Service: 744 Hours of Data: 661 Hours of Missing Data: 83 Hours of Calibration: 35 Percent Operational Time: 93.6																									
Day	Hourly Period Ending At																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Aug	0.1	0.7	1.6	Z	0.6	0.1	0.1	0.2	0.1	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.3	1.0	2.2	0.34	2.19																							
2-Aug	1.0	0.4	1.0	Z	0.5	1.2	1.3	2.8	2.1	1.1	0.4	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.56	2.78																							
3-Aug	0.0	0.9	2.8	Z	1.4	0.4	0.6	1.7	1.4	0.7	0.3	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.47	2.84																							
4-Aug	0.0	0.0	0.0	Z	0.0	0.0	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.1	0.0	0.06	0.18																							
5-Aug	0.0	0.0	0.0	Z	0.1	0.2	0.5	1.1	1.1	0.7	0.2	0.2	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.20	1.15																							
6-Aug	0.0	0.1	0.7	Z	0.2	0.4	0.8	1.4	1.3	0.7	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.27	1.44																							
7-Aug	0.0	0.1	0.0	Z	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.2	0.07	0.28																							
8-Aug	0.0	0.0	0.0	Z	0.0	0.0	0.1	0.2	0.3	0.2	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.2	0.8	0.3	0.15	0.76																							
9-Aug	0.4	2.0	2.3	Z	0.5	0.5	1.7	1.5	1.1	0.8	0.5	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.2	0.1	0.53	2.31																							
10-Aug	0.3	0.7	0.1	Z	0.1	0.4	1.4	2.8	1.5	0.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.37	2.84																							
11-Aug	0.0	0.0	0.0	Z	0.5	0.9	2.1	1.1	0.9	0.3	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.29	2.11																							
12-Aug	0.0	0.0	0.0	Z	0.0	0.1	1.8	0.7	0.4	0.2	0.0	0.0	0.0	0.0	0.0	C	C	C	C	C	0.0	0.0	0.0	0.0	0.18	1.79																							
13-Aug	0.0	0.0	0.0	Z	0.4	0.6	0.5	0.5	0.3	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.17	0.65																							
14-Aug	0.1	0.0	0.0	Z	0.1	0.1	0.5	0.4	0.7	0.5	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.0	0.2	0.1	0.1	0.0	0.0	0.0	0.15	0.65																							
15-Aug	0.0	0.0	0.0	Z	0.0	0.1	0.9	0.9	0.9	0.6	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.18	0.93																							
16-Aug	0.0	0.0	0.1	Z	0.2	0.2	0.6	2.3	1.6	1.2	0.6	0.4	0.1	0.0	0.1	0.4	T	T	T	T	0.1	0.1	0.0	0.0	0.43	2.29																							
17-Aug	0.0	0.0	0.0	Z	0.0	0.0	0.1	0.2	0.3	0.3	0.1	0.1	T	T	T	T	T	T	T	T	T	T	T	T	--	0.35																							
18-Aug	0.1	0.1	0.1	Z	0.1	1.3	3.5	4.3	2.7	1.1	0.8	0.5	T	T	T	T	T	T	T	0.0	0.0	0.0	0.0	0.0	--	4.32																							
19-Aug	0.0	0.0	0.0	Z	0.0	0.0	0.3	0.6	0.4	0.1	0.0	0.0	0.0	0.0	T	T	T	T	T	T	0.0	0.0	0.0	0.0	--	0.64																							
20-Aug	0.0	0.0	0.0	Z	0.1	0.1	0.1	0.5	0.6	0.2	0.1	0.2	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.11	0.62																							
21-Aug	0.0	0.0	0.0	Z	0.0	0.1	0.4	1.5	0.9	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	T	0.1	0.1	0.1	0.1	0.9	0.25	1.51																							
22-Aug	0.2	0.1	0.1	Z	0.1	0.1	0.3	0.8	1.0	0.6	T	T	T	T	T	T	T	T	T	T	T	T	T	T	--	1.05																							
23-Aug	T	T	T	T	0.0	0.1	2.2	1.8	1.3	0.8	0.1	0.2	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.33	2.15																							
24-Aug	0.4	0.2	0.2	Z	1.7	1.1	0.3	0.2	0.3	0.3	0.3	0.2	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.0	0.27	1.70																							
25-Aug	0.0	0.0	0.0	Z	0.0	0.0	0.3	0.4	0.4	0.4	0.5	0.3	0.1	0.3	0.5	0.0	0.0	0.0	0.0	0.0	0.2	1.4	0.6	0.2	0.25	1.41																							
26-Aug	0.0	0.0	0.0	Z	0.1	0.1	1.3	2.6	3.0	1.4	0.9	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.44	3.03																							
27-Aug	0.0	0.0	0.1	Z	0.2	0.2	0.9	1.5	1.3	1.2	0.4	0.3	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.5	0.1	0.32	1.55																							
28-Aug	0.2	0.8	0.7	Z	0.8	0.7	0.2	0.5	0.4	0.3	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.25	0.85																							
29-Aug	0.1	0.1	0.1	Z	0.0	0.0	0.1	0.1	0.4	0.6	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.10	0.62																							
30-Aug	0.0	0.0	0.2	Z	0.3	1.0	1.2	0.7	1.2	1.0	0.6	0.5	1.3	0.9	0.3	0.2	0.2	0.1	0.1	0.0	0.0	0.1	0.8	2.7	0.58	2.70																							
31-Aug	1.0	0.6	0.4	Z	0.1	0.1	0.4	0.5	0.7	0.8	0.6	0.3	0.1	0.1	0.0	0.1	0.1	0.1	0.5	0.2	1.0	3.7	1.5	0.2	0.57	3.72																							
																								0.15	0.24	0.36	--	0.27	0.33	0.80	1.11	0.93	0.55	0.28	0.18	0.12	0.09	0.07	0.07	0.06	0.05	0.07	0.05	0.08	0.23	0.23	0.26	Diurnal Average	
																								1.02	2.02	2.84	--	1.70	1.34	3.50	4.32	3.03	1.39	0.89	0.53	1.34	0.90	0.51	0.44	0.17	0.15	0.45	0.18	1.04	3.72	1.54	2.70	Diurnal Maximum	
Z - zerospan C - Calibration T - Exceeds Temperature Limits																																																	
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr --- ppb 24-hr --- ppb																																																	



WCAS - Carrot Creek
Summary of Hourly Averages

Nitrogen Dioxide (NO₂) - ppb
August 2017

Maximum Value: 5.00 ppb on Aug 25 22:00		Maximum Daily Average: 1.91 ppb on Aug 30		Hours in Service: 744																							
Minimum Value: 0.2 ppb on Aug 26 14:00		Minimum Daily Average: 0.79 ppb on Aug 7		Hours of Data: 661																							
Maximum Diurnal Average: 2.03 ppb at hour 23		Minimum Diurnal Average: 0.64 ppb at hour 18		Hours of Missing Data: 83																							
Monthly Average: 1.226 ppb		Percentiles: P ₁ = 0.3 P ₁₀ = 0.5 Q ₁ = 0.7 Median = 1.1 Q ₃ = 1.6 P ₉₀ = 2.2 P ₉₉ = 3.8		Hours of Calibration: 35																							
				Percent Operational Time: 93.6																							
Day	Hourly Period Ending At																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Aug	1.6	1.5	1.3	Z	1.4	0.6	1.2	1.4	0.5	0.4	0.6	0.6	0.5	0.4	0.4	0.5	0.6	0.4	0.5	0.7	0.9	1.3	2.0	1.6	0.91	1.96	
2-Aug	1.6	1.0	0.7	Z	0.4	0.4	0.4	1.2	1.3	1.4	1.0	0.7	0.4	0.4	0.5	0.5	0.4	0.4	0.4	0.5	0.5	1.4	4.1	2.6	0.98	4.09	
3-Aug	1.8	2.1	1.8	Z	1.3	0.8	0.7	1.5	2.1	1.9	1.5	1.2	0.8	0.6	0.5	0.8	0.6	0.7	1.1	1.7	0.6	0.4	0.9	0.9	1.14	2.12	
4-Aug	1.3	1.4	1.4	Z	0.9	1.0	1.2	1.2	1.0	0.7	0.5	0.5	0.4	0.4	0.3	0.4	0.3	0.3	0.9	1.3	0.8	1.0	1.8	1.2	0.88	1.83	
5-Aug	1.4	1.8	1.7	Z	1.3	1.3	0.8	1.0	1.2	1.2	0.8	0.8	0.5	0.4	0.4	0.3	0.6	0.3	0.4	0.5	1.6	1.2	1.1	0.7	0.94	1.80	
6-Aug	0.6	0.8	0.9	Z	0.6	0.7	0.6	1.2	1.7	1.5	1.0	0.7	0.5	0.5	0.4	0.5	0.5	0.4	0.5	0.9	1.7	1.4	1.2	1.5	0.88	1.75	
7-Aug	1.5	1.6	0.9	Z	1.0	1.1	1.0	0.9	0.8	0.8	0.7	1.0	0.7	0.6	0.5	0.4	0.4	0.4	0.5	0.4	0.4	0.7	0.8	1.1	0.79	1.62	
8-Aug	0.4	0.4	0.6	Z	0.5	0.5	1.1	1.2	1.1	0.7	0.6	0.6	0.6	0.7	0.6	0.6	0.5	0.5	0.5	0.6	0.5	2.4	4.0	2.4	0.94	3.95	
9-Aug	1.9	1.8	0.9	Z	0.7	0.9	1.1	1.6	1.3	1.3	1.3	1.0	0.6	0.4	0.5	0.4	0.4	0.4	0.5	1.3	1.6	4.5	4.0	2.8	1.35	4.47	
10-Aug	1.6	1.9	1.5	Z	0.8	1.1	1.0	2.1	2.0	1.3	1.0	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.7	0.9	2.1	1.5	1.4	2.4	1.18	2.43	
11-Aug	1.3	1.0	1.7	Z	2.4	2.1	1.4	1.8	2.2	1.5	1.4	1.0	0.8	0.7	0.5	0.5	0.6	0.6	1.1	0.7	0.8	0.9	1.7	1.4	1.22	2.41	
12-Aug	1.3	1.6	1.5	Z	2.6	1.8	1.9	1.3	1.3	1.1	0.8	0.8	0.8	0.8	0.7	C	C	C	C	C	1.4	1.2	1.1	1.2	1.28	2.60	
13-Aug	1.5	2.3	1.8	Z	1.8	1.7	0.9	1.8	1.6	1.7	1.3	1.5	1.7	2.2	3.0	2.6	2.7	2.1	1.6	1.2	1.2	1.0	1.0	1.8	1.74	3.04	
14-Aug	1.5	1.0	1.2	Z	1.6	1.8	1.8	1.5	1.2	0.8	0.6	0.5	0.4	0.5	0.7	0.9	0.8	0.5	1.4	1.7	1.6	1.5	2.0	1.7	1.19	1.95	
15-Aug	1.6	1.6	1.3	Z	1.7	2.0	2.4	1.5	1.2	1.0	0.7	0.5	0.6	0.5	0.6	0.6	0.6	0.6	0.8	1.1	3.1	2.8	2.2	1.2	1.30	3.12	
16-Aug	1.2	1.2	2.0	Z	1.7	1.6	1.1	1.7	2.2	2.0	1.8	1.7	1.2	1.1	1.2	2.2	T	T	T	T	2.2	2.8	1.7	1.5	1.69	2.84	
17-Aug	1.2	1.3	1.2	Z	1.2	1.3	1.2	1.1	1.1	1.1	0.8	0.7	T	T	T	T	T	T	T	T	T	T	T	T	--	1.34	
18-Aug	1.8	2.2	3.2	Z	1.8	1.9	2.5	3.1	2.5	2.2	2.1	2.1	T	T	T	T	T	T	T	1.3	1.2	1.0	1.1	0.8	--	3.23	
19-Aug	1.0	0.9	1.2	Z	1.4	1.5	1.4	1.2	0.9	0.5	0.4	0.4	0.4	0.5	T	T	T	T	T	T	0.8	1.2	1.4	1.2	--	1.53	
20-Aug	1.1	0.9	0.9	Z	1.7	1.7	1.9	2.8	2.0	1.1	0.9	1.2	0.8	0.8	0.7	0.7	0.7	0.6	0.5	0.9	1.9	1.4	0.8	0.9	1.16	2.81	
21-Aug	0.7	0.9	1.4	Z	1.2	1.4	1.6	1.7	1.5	0.7	0.9	0.9	0.7	0.9	0.9	1.1	1.2	1.2	T	1.8	2.1	2.0	1.6	2.2	1.30	2.16	
22-Aug	1.7	1.4	1.9	Z	2.1	2.0	1.6	1.1	1.4	1.2	T	T	T	T	T	T	T	T	T	T	T	T	T	T	--	2.07	
23-Aug	T	T	T	T	1.6	2.3	2.1	2.1	2.2	1.8	1.4	1.5	0.9	0.6	0.7	0.7	0.8	1.0	0.8	1.1	0.9	1.2	2.5	3.2	1.48	3.23	
24-Aug	2.8	1.6	1.4	Z	1.3	2.1	1.9	1.5	1.3	1.3	1.2	1.0	0.8	0.8	0.5	0.3	0.4	0.4	0.5	0.5	1.8	1.4	1.4	0.7	1.17	2.83	
25-Aug	0.7	0.8	0.7	Z	0.6	1.1	2.0	1.0	0.9	0.8	0.7	0.6	0.4	0.5	0.2	0.3	0.3	0.3	0.3	0.7	3.1	5.0	3.0	2.3	1.15	5.00	
26-Aug	1.0	0.8	0.8	Z	1.8	1.3	1.5	2.1	2.3	1.5	1.4	0.7	0.4	0.2	0.2	0.3	0.3	0.4	0.5	0.8	1.1	1.8	3.0	2.5	1.16	3.02	
27-Aug	1.4	1.0	1.3	Z	1.3	1.8	2.1	1.8	1.7	1.7	1.3	1.2	0.9	0.6	0.5	0.5	0.8	0.8	0.7	1.5	1.6	3.8	4.3	2.4	1.52	4.26	
28-Aug	2.2	1.9	1.3	Z	1.3	1.2	0.7	0.8	0.8	0.8	0.6	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.9	1.5	2.9	1.9	1.00	2.95	
29-Aug	1.9	1.4	1.9	Z	0.8	0.5	0.6	0.5	0.8	1.1	0.7	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.8	1.5	1.6	1.1	0.91	1.88	
30-Aug	1.5	2.0	3.3	Z	1.3	1.2	1.1	1.0	2.3	2.6	2.4	2.1	2.7	2.2	1.5	1.5	1.5	1.2	1.7	1.5	1.9	2.6	2.7	2.2	1.91	3.32	
31-Aug	2.1	2.5	2.4	Z	1.7	2.2	2.3	1.8	1.9	2.1	1.9	1.5	0.7	0.9	0.7	0.8	0.7	0.9	2.1	1.6	2.3	2.5	2.4	1.0	1.69	2.55	
		1.44	1.43	1.46	--	1.35	1.39	1.39	1.49	1.50	1.28	1.08	0.95	0.74	0.70	0.68	0.72	0.69	0.64	0.79	1.01	1.46	1.83	2.03	1.68	Diurnal Average	
		2.83	2.51	3.32	--	2.60	2.28	2.52	3.08	2.45	2.55	2.38	2.14	2.69	2.22	3.04	2.62	2.70	2.05	2.08	1.78	3.12	5.00	4.26	3.23	Diurnal Maximum	
Z - zerospan		C - Calibration						T - Exceeds Temperature Limits																			
Alberta Ambient Air Quality Objectives (AAAQO):		1-hr 159 ppb						24-hr 106 ppb																			



WCAS - Carrot Creek
Summary of Hourly Averages

NOx (NO_x) - ppb
August 2017

Maximum Value: 7.35 ppb on Aug 18 08:00		Maximum Daily Average: 2.48 ppb on Aug 30		Hours in Service: 744																																																			
Minimum Value: 0.3 ppb on Aug 26 15:00		Minimum Daily Average: 0.89 ppb on Aug 7		Hours of Data: 661																																																			
Maximum Diurnal Average: 2.59 ppb at hour 8		Minimum Diurnal Average: 0.69 ppb at hour 18		Hours of Missing Data: 83																																																			
Monthly Average: 1.527 ppb		Percentiles: P ₁ = 0.3 P ₁₀ = 0.5 Q ₁ = 0.8 Median = 1.3 Q ₃ = 1.9 P ₉₀ = 3.0 P ₉₉ = 4.9		Hours of Calibration: 35																																																			
Percentiles: P ₁ = 0.3 P ₁₀ = 0.5 Q ₁ = 0.8 Median = 1.3 Q ₃ = 1.9 P ₉₀ = 3.0 P ₉₉ = 4.9		Percent Operational Time: 93.6																																																					
Day	Hourly Period Ending At																								Daily Average	Daily Maximum																													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																															
1-Aug	1.7	2.2	2.9	Z	2.0	0.7	1.3	1.6	0.6	0.5	0.7	0.7	0.6	0.4	0.5	0.6	0.8	0.5	0.5	0.8	1.0	1.6	3.0	3.8	1.25	3.77																													
2-Aug	2.6	1.4	1.8	Z	0.9	1.6	1.7	4.0	3.4	2.5	1.5	0.9	0.5	0.5	0.6	0.6	0.5	0.5	0.5	0.6	0.6	1.5	4.4	2.6	1.56	4.44																													
3-Aug	1.8	3.1	4.6	Z	2.7	1.2	1.4	3.2	3.5	2.6	1.8	1.3	0.9	0.6	0.6	0.8	0.7	0.8	1.2	1.7	0.7	0.5	1.0	0.9	1.63	4.64																													
4-Aug	1.4	1.4	1.4	Z	1.0	1.1	1.3	1.3	1.2	0.8	0.6	0.6	0.5	0.4	0.4	0.3	0.4	1.1	1.5	0.8	1.1	1.9	1.3	0.96	1.89																														
5-Aug	1.4	1.8	1.7	Z	1.4	1.5	1.3	2.1	2.4	1.9	1.1	1.0	0.6	0.5	0.4	0.3	0.7	0.4	0.5	0.6	1.7	1.3	1.2	0.8	1.14	2.37																													
6-Aug	0.7	1.0	1.6	Z	0.8	1.1	1.4	2.7	3.1	2.2	1.2	0.8	0.6	0.5	0.5	0.5	0.5	0.5	1.0	1.8	1.5	1.2	1.5	1.17	3.06																														
7-Aug	1.5	1.7	1.0	Z	1.1	1.2	1.1	1.0	0.9	0.9	0.8	1.3	0.9	0.7	0.5	0.4	0.4	0.5	0.5	0.4	0.5	0.7	0.8	1.3	0.89	1.70																													
8-Aug	0.5	0.5	0.7	Z	0.6	0.6	1.2	1.4	1.4	0.9	0.7	0.7	0.8	0.9	0.8	0.7	0.6	0.5	0.6	0.6	0.6	2.6	4.7	2.7	1.09	4.71																													
9-Aug	2.3	3.9	3.2	Z	1.2	1.4	2.7	3.1	2.4	2.1	1.8	1.2	0.7	0.5	0.5	0.4	0.5	0.4	0.6	1.4	1.7	4.5	4.2	2.8	1.89	4.54																													
10-Aug	1.9	2.6	1.6	Z	1.0	1.5	2.4	5.0	3.5	1.7	1.2	0.6	0.5	0.5	0.6	0.6	0.6	0.7	0.7	0.9	2.1	1.5	1.4	2.5	1.55	4.95																													
11-Aug	1.3	1.0	1.8	Z	2.9	3.0	3.5	2.8	3.1	1.8	1.5	1.1	0.8	0.8	0.6	0.6	0.7	0.6	1.2	0.8	0.9	0.9	1.7	1.4	1.52	3.54																													
12-Aug	1.3	1.7	1.5	Z	2.7	1.9	3.7	2.0	1.8	1.3	0.9	0.8	0.8	0.8	0.8	C	C	C	C	C	1.5	1.2	1.1	1.2	1.49	3.70																													
13-Aug	1.5	2.4	1.8	Z	2.3	2.4	1.4	2.3	1.9	2.0	1.5	1.6	1.8	2.2	3.1	2.7	2.8	2.1	1.6	1.3	1.3	1.0	1.0	1.8	1.90	3.09																													
14-Aug	1.5	1.1	1.3	Z	1.6	1.9	2.3	1.9	1.8	1.3	0.8	0.6	0.5	0.5	0.7	1.0	1.0	0.5	1.5	1.8	1.7	1.5	2.0	1.7	1.33	2.32																													
15-Aug	1.6	1.6	1.3	Z	1.7	2.0	3.2	2.4	2.1	1.6	0.9	0.6	0.6	0.5	0.6	0.6	0.7	0.6	0.9	1.1	3.2	2.8	2.2	1.2	1.48	3.24																													
16-Aug	1.2	1.2	2.0	Z	1.8	1.8	1.7	3.9	3.8	3.2	2.3	2.1	1.3	1.1	1.3	2.7	T	T	T	T	2.3	2.9	1.7	1.5	2.10	3.92																													
17-Aug	1.3	1.3	1.2	Z	1.2	1.4	1.3	1.3	1.4	1.5	0.9	0.7	T	T	T	T	T	T	T	T	T	T	T	T	--	1.45																													
18-Aug	1.9	2.2	3.3	Z	1.9	3.2	6.0	7.4	5.1	3.3	3.0	2.6	T	T	T	T	T	T	T	1.3	1.3	1.0	1.1	0.8	--	7.35																													
19-Aug	1.0	0.9	1.2	Z	1.4	1.5	1.6	1.8	1.3	0.6	0.4	0.4	0.4	0.5	T	T	T	T	T	T	0.8	1.3	1.4	1.3	--	1.83																													
20-Aug	1.1	0.9	0.9	Z	1.7	1.7	2.0	3.3	2.6	1.2	1.0	1.4	0.9	0.8	0.7	0.7	0.8	0.7	0.6	0.9	1.9	1.4	0.8	0.9	1.26	3.31																													
21-Aug	0.8	0.9	1.4	Z	1.2	1.5	2.0	3.2	2.3	0.9	1.0	1.0	0.8	1.0	1.0	1.2	1.4	1.3	T	1.9	2.2	2.1	1.6	3.0	1.54	3.16																													
22-Aug	2.0	1.5	1.9	Z	2.2	2.1	1.9	2.0	2.4	1.8	T	T	T	T	T	T	T	T	T	T	T	T	T	T	--	2.42																													
23-Aug	T	T	T	T	1.5	2.3	4.2	3.8	3.5	2.6	1.5	1.7	0.8	0.5	0.7	0.6	0.7	1.0	0.9	1.0	0.8	1.1	2.5	3.3	1.74	4.19																													
24-Aug	3.2	1.8	1.6	Z	3.0	3.2	2.2	1.7	1.5	1.5	1.5	1.2	1.0	0.9	0.5	0.3	0.5	0.4	0.6	0.5	2.0	1.5	1.4	0.8	1.43	3.19																													
25-Aug	0.7	0.8	0.8	Z	0.7	1.1	2.3	1.4	1.4	1.3	1.2	0.9	0.4	0.8	0.8	0.3	0.3	0.3	0.4	0.7	3.2	6.4	3.5	2.5	1.40	6.39																													
26-Aug	1.1	0.8	0.8	Z	1.9	1.4	2.7	4.7	5.3	2.9	2.2	0.9	0.4	0.3	0.3	0.3	0.3	0.5	0.6	0.8	1.1	1.8	3.1	2.6	1.60	5.27																													
27-Aug	1.4	1.0	1.4	Z	1.4	2.0	3.0	3.3	3.0	2.9	1.7	1.4	1.0	0.7	0.6	0.5	0.8	0.9	0.7	1.5	1.6	3.9	4.7	2.5	1.83	4.74																													
28-Aug	2.4	2.7	2.1	Z	2.1	1.8	1.0	1.3	1.1	1.0	0.7	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.4	1.0	1.5	3.1	2.0	1.25	3.15																													
29-Aug	1.9	1.5	1.9	Z	0.8	0.5	0.7	0.6	1.2	1.7	0.9	0.7	0.6	0.6	0.6	0.6	0.5	0.5	0.7	0.9	1.5	1.6	1.1	1.5	1.01	1.92																													
30-Aug	1.5	2.0	3.4	Z	1.6	2.2	2.3	1.6	3.5	3.5	3.0	2.6	4.0	3.1	1.8	1.8	1.6	1.3	1.8	1.5	1.9	2.6	3.5	4.9	2.48	4.93																													
31-Aug	3.1	3.1	2.8	Z	1.8	2.3	2.7	2.3	2.5	2.8	2.5	1.7	0.7	1.0	0.8	1.0	0.8	1.0	2.5	1.8	3.3	6.2	3.9	1.2	2.26	6.25																													
																								1.59	1.67	1.82	--	1.61	1.71	2.19	2.59	2.42	1.83	1.36	1.13	0.86	0.80	0.77	0.80	0.76	0.69	0.88	1.07	1.54	2.05	2.26	1.94	Diurnal Average							
																								3.19	3.85	4.64	--	2.97	3.21	5.98	7.35	5.27	3.53	3.01	2.61	4.01	3.12	3.09	2.67	2.76	2.13	2.52	1.91	3.34	6.39	4.74	4.93	Diurnal Maximum							
Z - zerospan																								C - Calibration				T - Exceeds Temperature Limits																											
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr --- ppb 24-hr --- ppb																																																							

**CARROT CREEK
STATION #903**

METEOROLOGICAL DATA

AUGUST 2017



WCAS - Carrot Creek
Summary of Hourly Averages

External Temperature (ET) - C
August 2017

Maximum Value: 26.54 C on Aug 12 15:00 Maximum Daily Average: 18.21 C on Aug 22																							Hours in Service: 744			
Minimum Value: 2.0 C on Aug 26 06:00 Minimum Daily Average: 10.74 C on Aug 20																							Hours of Data: 744			
Maximum Diurnal Average: 20.63 C at hour 17 Minimum Diurnal Average: 7.77 C at hour 6																							Hours of Missing Data: 0			
Monthly Average: 14.448 C Percentiles: P₁ = 4.0 P₁₀ = 7.6 Q₁ = 10.3 Median = 13.6 Q₃ = 18.6 P₉₀ = 22.6 P₉₉ = 25.1																							Hours of Calibration: 0			
																							Percent Operational Time: 100.0			
Day	Hourly Period Ending At																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Aug	11.0	10.8	11.0	11.1	11.1	11.1	10.8	11.0	11.3	11.4	11.4	11.9	13.2	13.9	14.9	15.0	15.9	17.5	16.5	15.2	14.4	11.6	10.5	9.2	12.57	17.51
2-Aug	8.2	7.4	6.2	5.6	5.0	5.3	6.6	9.6	13.3	15.7	17.5	18.9	19.5	20.4	20.7	21.6	21.8	21.8	21.2	19.6	17.2	14.9	13.2	11.5	14.27	21.79
3-Aug	9.2	7.9	6.8	6.5	5.9	5.9	7.9	11.8	15.2	18.0	20.5	22.4	23.9	24.8	24.3	24.6	24.4	23.4	22.1	17.5	13.5	13.3	13.3	13.3	15.68	24.80
4-Aug	13.1	12.5	12.3	12.2	12.0	11.9	12.1	12.5	13.2	13.3	14.4	15.4	16.3	16.8	18.6	18.4	19.5	16.1	15.7	15.2	14.4	12.8	12.2	11.3	14.28	19.51
5-Aug	10.4	9.8	8.9	8.0	7.6	7.6	8.9	11.8	13.7	15.6	17.4	19.0	20.2	21.2	21.9	22.3	19.8	19.7	20.2	19.1	16.6	14.0	12.0	10.5	14.85	22.33
6-Aug	9.4	8.2	7.3	7.0	6.6	6.3	8.5	11.3	15.1	17.8	20.0	21.4	22.7	23.2	23.5	24.0	24.1	24.0	22.9	21.8	19.1	16.6	14.5	13.1	16.18	24.13
7-Aug	13.0	13.4	13.7	12.9	12.6	11.8	11.9	12.6	12.9	13.5	14.1	15.2	16.7	17.3	17.9	17.1	16.5	17.2	15.3	14.6	13.1	11.9	10.8	11.4	14.07	17.89
8-Aug	11.8	11.5	11.4	11.2	11.2	11.0	11.1	11.4	12.0	12.8	13.5	14.3	15.7	17.4	19.1	20.4	21.0	21.3	20.8	19.3	16.4	13.1	11.2	10.6	14.57	21.32
9-Aug	9.0	8.2	7.4	7.6	7.4	7.4	7.7	9.6	11.0	12.8	16.9	20.7	22.7	23.4	24.1	24.3	24.5	24.6	23.4	22.3	18.3	14.2	12.4	12.2	15.50	24.55
10-Aug	10.8	9.7	9.6	9.0	8.4	7.8	9.0	13.2	16.3	18.8	21.4	22.4	23.6	24.1	24.6	25.2	25.7	24.8	24.4	22.6	19.3	17.1	16.0	15.0	17.46	25.71
11-Aug	12.8	10.5	9.2	8.3	7.6	7.5	8.9	13.4	17.2	19.8	21.9	23.0	23.7	24.2	24.6	24.8	24.7	24.1	23.5	21.5	18.7	16.4	15.0	14.7	17.33	24.77
12-Aug	13.9	11.8	9.8	9.7	8.3	6.7	7.6	12.7	15.7	19.6	22.0	23.6	24.8	25.9	26.5	26.3	25.6	24.5	22.8	20.7	19.4	17.3	15.3	14.4	17.71	26.54
13-Aug	13.2	10.0	9.3	8.5	7.2	6.8	7.2	10.2	12.3	13.7	15.5	17.2	18.0	19.0	18.6	17.8	16.7	14.3	13.4	13.0	12.3	11.6	12.2	11.1	12.87	18.98
14-Aug	11.7	11.7	10.2	9.4	9.1	9.3	9.9	10.2	11.1	13.5	15.2	16.7	17.4	17.2	16.0	16.5	16.8	16.9	13.7	12.5	12.3	10.9	9.2	8.9	12.76	17.38
15-Aug	8.8	8.0	7.3	6.8	6.1	5.7	6.2	8.9	10.9	13.6	16.3	17.0	18.0	19.1	19.1	19.6	19.7	19.4	16.6	15.0	11.7	11.1	9.8	10.0	12.70	19.73
16-Aug	10.8	10.4	10.0	8.6	7.3	6.2	6.5	9.3	12.6	14.4	16.5	18.7	19.2	18.5	17.3	17.0	18.8	18.3	17.5	15.9	14.1	11.1	11.4	10.8	13.38	19.20
17-Aug	10.8	11.2	10.3	9.5	8.5	9.3	10.1	11.6	13.1	17.0	18.6	19.9	21.0	21.6	22.0	22.8	23.1	21.1	19.3	17.0	15.6	14.4	14.0	12.7	15.61	23.13
18-Aug	11.4	10.5	10.2	8.4	7.3	6.1	8.2	9.6	11.3	13.6	16.3	20.1	22.1	19.6	17.9	16.2	16.3	15.5	12.3	10.7	10.3	9.4	8.8	7.2	12.46	22.06
19-Aug	6.2	5.2	4.5	3.9	3.9	4.2	5.0	7.4	10.3	12.7	14.4	15.4	16.2	17.5	18.3	18.9	18.1	17.7	16.6	14.4	12.2	9.7	9.2	8.6	11.27	18.86
20-Aug	8.6	8.3	8.2	8.1	8.1	8.2	8.3	9.0	10.5	12.0	11.6	12.0	13.6	15.0	12.5	13.0	15.3	16.2	15.2	13.0	9.4	8.0	7.3	6.2	10.74	16.23
21-Aug	6.9	8.1	8.7	8.2	8.2	7.9	8.0	10.7	13.9	16.5	16.8	17.4	18.0	18.0	17.9	17.8	17.2	17.4	16.8	15.8	14.9	13.8	13.6	13.4	13.58	18.02
22-Aug	13.6	13.3	13.1	12.6	11.5	10.7	11.5	13.7	17.3	19.1	20.5	22.1	22.9	23.5	24.5	24.8	25.0	24.2	23.0	21.4	18.8	17.6	17.1	15.2	18.21	24.98
23-Aug	13.4	13.0	12.4	11.8	11.0	9.9	9.7	12.5	14.2	16.1	18.7	21.1	23.3	24.2	24.9	23.5	22.4	21.6	20.8	19.3	17.2	15.1	13.3	12.5	16.75	24.91
24-Aug	11.5	10.9	10.5	10.1	9.2	10.5	11.2	12.6	13.2	13.4	13.7	15.2	17.6	20.1	13.6	12.2	12.6	12.6	11.7	11.1	9.4	7.9	7.3	6.8	11.87	20.12
25-Aug	5.8	4.8	4.7	4.5	3.7	2.6	4.0	7.7	11.0	13.3	15.5	17.2	18.2	19.3	20.2	20.4	19.8	20.3	19.1	15.2	10.8	7.6	6.5	5.4	11.57	20.38
26-Aug	5.1	4.7	4.0	4.2	3.3	2.0	3.0	6.8	10.5	14.3	17.7	19.7	21.1	22.5	23.0	23.9	24.5	23.3	21.6	19.5	16.1	13.2	11.0	9.8	13.54	24.50
27-Aug	9.1	10.0	8.8	8.1	6.6	6.4	8.2	12.0	15.0	17.3	20.0	22.6	24.2	24.8	25.7	25.4	25.2	25.2	22.7	19.2	16.5	15.6	13.7	12.9	16.46	25.71
28-Aug	11.9	10.7	9.9	9.3	8.7	8.5	9.3	12.5	15.7	17.2	18.6	19.8	21.0	21.5	22.3	22.6	22.9	22.1	21.1	18.9	16.6	15.5	15.6	15.2	16.13	22.92
29-Aug	14.5	14.0	14.0	13.5	12.2	11.4	11.1	12.1	14.6	16.9	19.4	20.8	21.9	22.3	22.8	22.9	22.8	22.5	21.4	18.9	16.5	15.0	14.2	13.3	17.04	22.94
30-Aug	12.1	9.8	7.9	6.6	6.0	5.2	5.1	7.1	9.7	11.8	13.6	15.1	17.8	20.8	21.9	22.5	21.9	21.0	19.2	17.0	14.7	12.6	11.5	11.0	13.42	22.52
31-Aug	11.0	11.0	10.5	9.7	9.6	9.8	10.1	11.6	12.7	14.4	15.7	16.7	18.0	20.0	19.7	13.5	17.1	18.2	15.9	14.2	11.5	8.9	7.3	6.9	13.08	20.03
																							Diurnal Average			
																							Diurnal Maximum			



WCAS - Carrot Creek
Summary of Hourly Averages

Wind Speed (WS) - kph
August 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	1.2	0.6	0.5	0.8	4.4	1.8	5.1	4.7	6.7	4.4	3.9	4.6	5.8	5.9	8.1	8.9	11.2	7.9	7.1	5.7	1.8	0.7	1.8	2.9	2.83	11.17
Dir	NNE	S	SSW	S	NNW	WNW	NW	NNW	N	NNW	WNW	W	W	WNW	WSW	WSW	SW	SW	SW	SSW	SSW	SSE	SSE	S	WSW	SW
2 Spd	1.9	1.7	2.9	2.4	1.1	2.9	2.3	2.7	1.8	2.4	5.4	4.9	6.8	6.7	5.4	4.8	5.5	8.2	9.4	9.5	7.4	2.6	1.5	0.2	2.77	9.46
Dir	S	SW	S	SSW	WSW	SSW	SSW	WSW	NE	ENE	E	ESE	ENE	E	E	E	ENE	NE	NE	NE	ENE	E	ESE	N	E	NE
3 Spd	0.2	1.5	2.3	1.9	2.7	4.6	3.6	4.2	3.3	0.9	3.3	4.6	3.7	5.1	7.2	11.5	10.9	8.5	12.0	8.6	11.8	4.3	7.6	8.9	1.18	12.01
Dir	NNW	SW	SSE	S	S	SSW	SSW	SSW	SW	NW	ENE	E	SE	ENE	NE	NE	NE	ENE	ENE	WNW	NNW	NNW	SW	WSW	NE	ENE
4 Spd	9.7	10.3	7.3	7.9	8.0	8.8	6.3	3.7	6.0	7.4	8.8	10.9	10.7	10.7	11.3	10.9	9.4	6.0	6.0	6.3	6.0	6.6	7.8	7.9	7.53	11.32
Dir	WSW	WSW	W	W	WSW	WSW	W	NW	WNW	WNW	WNW	WNW	WNW	W	WNW	W	WNW	WNW	SW	WSW	WSW	WSW	SW	WSW	W	WNW
5 Spd	7.2	5.6	3.6	5.5	4.7	3.2	4.8	4.7	4.6	3.8	3.9	2.1	3.8	6.5	9.8	6.5	6.4	5.0	2.7	2.6	0.4	1.5	1.25	9.82		
Dir	SW	SW	SW	SSW	SSW	SSW	SSW	SW	WSW	WSW	W	NW	S	W	SW	WNW	NNE	ENE	ENE	ESE	SE	ENE	NNE	SW	SW	NNE
6 Spd	0.7	0.5	2.5	1.7	2.4	3.0	2.1	1.9	0.4	3.2	3.1	2.9	3.0	2.0	4.1	2.2	1.6	3.4	5.4	2.3	3.1	4.5	1.2	3.2	1.03	5.41
Dir	NNE	SW	S	SSW	SW	SSW	WSW	SSW	NE	NE	E	ESE	SE	NNE	NNE	SE	SE	NE	NE	E	ESE	SE	SSE	NNW	ESE	NE
7 Spd	1.2	7.5	10.6	2.4	6.1	4.3	3.3	3.9	0.4	4.6	2.3	2.2	1.7	1.4	0.6	10.6	6.5	8.6	10.6	9.1	5.2	5.9	1.7	2.4	2.24	10.64
Dir	N	W	WNW	SSE	NNE	S	WSW	W	NE	NE	NE	ESE	ESE	SSW	WNW	NE	NE	NE	NE	NE	ENE	ENE	ENE	ENE	NE	NE
8 Spd	3.8	3.4	0.8	3.2	2.7	3.4	2.4	3.6	4.9	3.3	2.8	3.8	3.6	0.7	1.4	3.7	4.7	6.0	8.8	7.7	4.5	0.7	0.9	0.2	1.80	8.79
Dir	E	SE	ESE	S	SSE	S	SSE	S	S	SSE	SE	SSE	SSE	E	NE	NE	NE	ENE	NE	NE	NE	SSE	ESE	NNW	ESE	NE
9 Spd	0.3	1.3	1.9	2.9	2.8	3.6	3.6	6.3	5.5	4.5	1.1	1.9	1.1	1.1	3.1	3.9	4.9	3.9	5.9	1.8	1.3	2.4	3.4	0.5	0.80	6.29
Dir	WSW	S	S	SSW	SSW	SSW	SSW	WSW	WSW	WSW	WSW	SSW	SW	S	NNW	NNW	NNE	NE	ENE	ESE	ESE	SSE	SSE	S	SW	WSW
10 Spd	0.7	3.2	2.3	3.6	4.7	4.0	2.8	5.8	3.3	2.7	1.0	2.8	1.7	3.3	4.5	1.2	1.7	5.2	4.0	3.2	2.4	4.0	4.5	6.1	1.17	6.14
Dir	SW	S	S	SSW	S	SSW	SW	SW	WSW	WNW	SW	NNW	NE	NE	NE	NNW	S	E	E	E	ESE	ESE	E	SE	SSE	SE
11 Spd	2.0	1.2	1.7	2.5	3.1	0.9	0.9	3.6	3.7	4.2	7.0	9.2	9.9	9.2	9.4	9.8	9.4	10.4	5.6	5.9	6.5	3.8	3.5	5.0	4.86	10.38
Dir	NE	NW	S	S	S	SE	SSE	ENE	ENE	E	E	ESE	E	ESE	E	E	E	E	E	E	E	E	E	ENE	E	E
12 Spd	3.8	2.1	0.6	3.5	0.3	0.8	1.6	3.0	7.5	6.5	12.6	11.0	9.9	9.6	8.7	9.6	7.3	5.7	6.3	8.1	6.1	4.4	6.9	5.8	5.09	12.58
Dir	E	SE	NE	ENE	SW	NE	SW	NE	NE	E	SE	SE	E	ESE	E	E	E	E	ENE	ENE	ENE	NE	NE	NE	E	SE
13 Spd	4.1	2.1	0.3	1.0	2.6	1.7	1.8	1.6	5.6	6.0	6.8	4.7	4.2	6.0	11.4	12.1	9.4	7.3	3.6	4.9	5.3	6.5	9.4	6.6	4.06	12.14
Dir	ENE	ENE	S	S	S	S	SW	WNW	W	W	W	WNW	WNW	NW	WNW	WNW	W	WSW	NNW	NW	W	WSW	WSW	SW	W	WNW
14 Spd	7.6	9.9	8.5	7.6	6.3	6.3	4.9	6.1	8.6	11.2	11.2	11.1	12.7	10.6	9.6	6.9	6.1	12.7	5.7	3.0	3.3	6.4	8.2	9.0	7.41	12.69
Dir	SW	WSW	SW	WSW	SW	WSW	SW	SW	WSW	W	W	WNW	W	W	SW	SW	SSE	WSW	SW	SSW	SSW	WSW	WSW	WSW	WSW	W
15 Spd	8.8	8.4	6.3	4.9	10.7	9.0	10.5	12.5	16.3	13.9	13.1	15.4	15.9	16.3	13.0	12.3	14.8	14.8	8.6	5.8	4.4	3.9	5.8	5.2	9.73	16.32
Dir	WSW	SW	SW	SW	SW	SW	SW	WSW	WSW	WSW	WSW	WSW	W	W	W	W	WSW	W	WSW	WSW	S	S	S	S	WSW	W
16 Spd	4.7	1.2	3.4	3.9	3.7	3.3	1.7	2.8	7.5	5.0	5.5	7.6	5.9	4.0	0.7	1.5	3.9	3.1	4.0	7.2	5.1	4.1	5.1	4.4	3.74	7.62
Dir	SSW	WSW	SW	S	SSW	SSW	WSW	SSW	WSW	WSW	WSW	SW	W	W	SSW	SSW	WSW	WSW	SW	SW	WSW	S	SW	SSW	SW	SW
17 Spd	4.3	3.9	4.1	4.5	4.2	4.0	4.6	6.0	4.8	9.2	8.1	6.3	7.5	12.4	11.1	7.2	4.2	3.4	7.3	7.5	7.3	7.7	5.5	4.8	5.25	12.38
Dir	SSW	SSW	SSW	SW	S	S	S	S	SSW	SW	WSW	WSW	SW	WSW	W	WSW	SW	SSE	SSE	SSE	S	SSW	SSW	SSW	SSW	WSW
18 Spd	3.9	3.7	1.0	0.7	0.7	2.5	2.3	1.2	1.9	4.6	5.8	7.6	9.4	10.2	10.9	6.4	2.8	7.8	13.9	9.2	6.1	7.1	9.0	7.9	3.52	13.91
Dir	SSW	S	SSE	NNW	NNE	SSE	NNW	NW	WSW	WSW	WSW	W	NW	N	NNW	N	NNW	WNW	WNW	W	S	SW	WSW	WSW	WNW	WNW
19 Spd	6.7	6.9	9.1	7.8	8.7	10.4	9.5	10.1	9.5	15.0	18.9	19.4	19.2	16.7	18.2	18.5	18.1	14.2	13.8	8.8	9.0	6.0	7.0	5.7	11.25	19.44
Dir	WSW	SW	SW	SW	SW	WSW	WSW	WSW	W	W	W	WNW	W	W	W	W	W	W	W	W	WSW	SW	SW	SSW	W	WNW
20 Spd	3.6	4.1	3.7	5.2	5.3	4.2	4.1	3.5	5.2	9.5	10.7	12.4	14.1	15.5	7.6	3.9	6.6	6.7	6.2	2.0	4.0	3.5	5.7	5.3	5.31	15.50
Dir	S	SSW	SSW	SSW	SSW	S	SSW	SSW	WSW	W	WSW	SW	WSW	SW	WSW	WSW	W	WSW	NW	SW	S	SSW	SSW	S	SW	SW
21 Spd	4.8	5.9	6.8	5.3	3.0	1.0	0.7	0.5	2.7	7.4	5.4	8.1	6.1	8.0	7.5	4.8	4.1	3.4	3.2	2.4	2.7	0.9	0.2	1.4	3.65	8.11
Dir	S	S	SSW	SSW	SSW	WNW	SSW	SSE	S	SSW	S	SSW	SSW	SW	SW	SW	SSE	SSE	SSE	SE	SSE	W	NE	SSW	SSW	SSW
22 Spd	3.4	2.0	3.2	3.1	4.6	4.2	3.8	2.9	7.4	6.3	5.0	2.2	3.3	2.9	1.5	5.2	7.8	11.7	10.2	4.5	3.1	4.1	5.4	5.2	1.07	11.73
Dir	WSW	SW	SW	SW	SSW	S	SSW	SSW	SW	W	WSW	S	SE	N	ESE	NE	ENE	ENE	ENE	E	E	ENE	ENE	NE	ESE	ENE



WCAS - Carrot Creek
Summary of Hourly Averages

Wind Speed (WS) - kph
August 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	2.4	3.6	2.6	0.9	1.1	0.9	2.0	6.0	8.5	6.8	3.9	3.8	6.9	9.2	9.5	8.3	8.2	5.0	3.5	2.7	3.6	1.9	1.6	1.2	1.73	9.47	
Dir	ENE	NE	NE	NNW	W	S	SSW	WSW	WSW	W	W	NW	N	NNE	NNE	ENE	ENE	ENE	ENE	ENE	NNE	ENE	SSW	S	NNE	NNE	
24 Spd	2.5	1.9	1.3	0.8	2.4	4.5	5.5	5.2	6.3	2.8	2.5	1.4	5.3	5.1	24.1	15.3	11.5	12.1	5.9	3.9	4.5	4.6	3.0	4.4	3.10	24.06	
Dir	S	SSW	SE	NNW	SSW	SW	WNW	ENE	SW	SW	S	WSW	NE	NNE	WNW	WNW	NW	WNW	WNW	WSW	ESE	SW	SW	SW	W	WNW	
25 Spd	7.1	8.2	11.1	13.7	6.7	5.3	8.9	12.1	15.6	14.4	17.8	18.8	15.1	16.8	18.8	18.4	12.8	10.4	6.6	2.9	0.8	2.5	3.5	4.8	9.08	18.79	
Dir	S	SSW	S	S	SSW	WSW	SSW	SSW	SW	WSW	WSW	WSW	W	WSW	WSW	WSW	W	W	W	WNW	SSW	SSE	S	S	SW	WSW	
26 Spd	4.6	2.6	4.3	4.8	3.5	2.0	2.5	3.5	2.7	0.7	1.1	3.8	2.9	5.3	7.5	7.3	2.6	6.8	6.3	3.8	2.7	1.4	2.4	3.8	2.65	7.50	
Dir	S	SSW	SSW	SSW	W	WSW	SW	WSW	WSW	WNW	WSW	W	SSW	SSW	WSW	WSW	S	SE	SE	SE	SE	NW	SSE	SSW	SSW	SSW	WSW
27 Spd	5.0	5.7	3.7	3.7	5.5	5.4	4.4	2.1	2.8	3.4	1.6	1.7	2.3	3.2	1.8	1.7	6.2	5.6	8.2	4.3	0.9	2.6	3.1	1.4	0.66	8.20	
Dir	S	SSW	WSW	SW	SSW	SW	SW	S	W	WSW	NNW	E	ESE	NNE	ENE	E	ENE	ENE	NE	N	WSW	S	SSE	NW	S	NE	
28 Spd	0.1	1.8	2.6	3.4	3.5	3.9	4.7	5.2	6.2	3.0	2.6	3.0	2.8	2.3	0.8	4.3	2.7	6.6	8.4	6.4	4.8	4.3	1.8	1.8	1.59	8.41	
Dir	SW	S	S	S	S	S	SSW	S	SSW	S	SW	SSE	SSE	NE	N	NE	ENE	NE	ENE	ENE	ENE	ENE	ESE	ENE	ESE	ENE	
29 Spd	1.5	3.6	3.9	9.1	5.0	4.5	5.5	7.5	10.7	10.4	11.1	14.1	11.9	13.6	13.6	13.5	13.9	11.0	8.6	7.6	7.3	7.5	9.1	9.2	8.59	14.08	
Dir	ESE	NNE	NE	NE	NE	NE	NE	ENE	ENE	ENE	E	ENE	ENE	E	E	ENE	ENE	E	ENE	NE	NE	NE	NE	NE	ENE	ENE	
30 Spd	5.5	1.2	1.5	2.0	1.5	2.6	3.6	3.5	4.7	5.1	4.4	2.2	2.0	2.4	6.0	6.2	8.1	8.1	5.2	6.5	2.0	1.2	1.1	1.9	0.94	8.14	
Dir	NE	NNE	S	S	SSW	S	SSW	SSW	WSW	W	W	WSW	ENE	ENE	NNE	NE	NE	NE	ENE	NE	N	WSW	SW	S	NE	NE	
31 Spd	3.1	2.9	5.5	6.1	6.2	7.1	6.4	5.1	3.3	3.1	3.8	3.2	3.9	6.0	8.0	1.7	2.8	0.6	1.8	0.4	1.5	2.4	3.8	6.1	2.39	8.01	
Dir	SW	SW	SW	SSW	SSW	SW	SSW	SSW	SW	WNW	NW	NNW	WNW	NW	NW	SSE	S	SSW	S	NW	S	SSE	S	SSW	SW	NW	
Spd	1.93	2.60	2.70	2.86	2.85	3.19	3.04	2.79	3.49	3.40	2.99	2.66	2.01	2.15	3.08	1.83	0.90	1.22	1.87	0.86	0.89	1.23	1.80	1.74	Diurnal Average		
Dir	SSW	SW	SW	SSW	SW	SW	SW	SW	WSW	WSW	WSW	WSW	W	WNW	WNW	NW	N	NNE	NE	NE	ESE	S	SSW	SSW	Diurnal Maximum		
Spd	9.74	10.27	11.08	13.74	10.69	10.44	10.53	12.45	16.32	15.01	18.86	19.44	19.18	16.78	24.06	18.48	18.11	14.76	13.91	9.46	11.76	7.73	9.43	9.24	Diurnal Maximum		
Dir	241.01	251.45	185.84	188.41	232.67	241.76	230.44	239.94	248.75	267.17	279.45	288.43	273.00	253.19	289.81	275.80	265.44	265.36	289.39	40.47	340.49	195.32	256.43	50.51	Diurnal Maximum		
Maximum Speed Value: 24.1 kph on Aug 24 15:00																		Minimum Speed Value: 0.1 kph on Aug 28 01:00						Hours in Service: 744			
Maximum Daily Speed Average: 11.25 kph on Aug 19																		Minimum Daily Speed Average: 0.66 kph on Aug 6						Hours of Data: 744			
Maximum Diurnal Speed Average: 3.49 kph at hour 9																		Minimum Diurnal Speed Average: 0.86 kph at hour 20						Hours of Missing Data: 0			
Monthly Average Velocity: 1.549 kph 236.35 deg																		Speed Percentiles: P ₁ = 0.3 P ₁₀ = 1.4 Q ₁ = 2.7 Median = 4.6 Q ₃ = 7.4 P ₉₀ = 10.7 P ₉₉ = 18.2						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	21	7	1	0	0	0	29																				
NorthEast	45	58	3	0	0	0	106																				
East	37	32	8	0	0	0	77																				
SouthEast	37	4	2	0	0	0	43																				
South	127	28	2	0	0	0	157																				
SouthWest	75	74	12	0	0	0	161																				
West	37	59	32	3	0	0	131																				
NorthWest	25	12	3	0	0	0	40																				
Total	404	274	63	3	0	0	744																				



WCAS - Carrot Creek
Summary of Hourly Averages

Relative Humidity (RH) - %
August 2017

Maximum Value: 96.89 % on Aug 9 06:00 Maximum Daily Average: 88.14 % on Aug 7 Minimum Value: 25.5 % on Aug 25 18:00 Minimum Daily Average: 59.91 % on Aug 19 Maximum Diurnal Average: 93.30 % at hour 6 Minimum Diurnal Average: 50.86 % at hour 14 Monthly Average: 74.440 % Percentiles: P ₁ = 29.5 P ₁₀ = 42.9 Q ₁ = 59.3 Median = 80.3 Q ₃ = 92.2 P ₉₀ = 95.3 P ₉₉ = 96.7																								Hours in Service:	744																							
																								Hours of Data:	744																							
																								Hours of Missing Data:	0																							
																								Hours of Calibration:	0																							
																								Percent Operational Time:	100.0																							
Day	Hourly Period Ending At																								Daily Average	Daily Maximum																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																								
1-Aug	94.1	94.7	94.8	94.5	91.3	88.4	91.9	93.2	92.3	92.7	93.0	92.6	87.7	81.9	79.8	77.4	74.7	64.5	70.2	83.0	84.4	93.2	94.7	95.4	87.51	95.40																						
2-Aug	95.9	96.1	96.3	96.5	96.6	96.8	96.0	92.4	81.5	74.6	66.1	56.0	50.1	47.4	47.5	45.6	44.0	44.2	47.4	55.2	64.4	74.5	80.6	87.4	72.21	96.77																						
3-Aug	93.8	95.3	95.8	96.1	96.2	96.2	95.0	88.4	77.6	66.3	60.6	55.2	45.4	39.9	40.4	42.7	39.7	43.4	48.3	69.7	93.4	94.3	95.3	94.7	73.49	96.20																						
4-Aug	93.8	92.8	93.4	93.9	94.8	95.2	94.9	94.8	92.8	91.4	87.2	81.2	76.8	75.5	67.3	67.2	59.9	74.0	81.5	86.8	89.8	93.2	93.5	92.2	85.99	95.18																						
5-Aug	92.9	93.2	94.9	95.6	96.2	96.4	95.3	90.2	85.2	77.9	68.2	62.9	55.3	48.4	45.1	39.5	57.8	59.4	57.1	60.0	72.7	84.6	92.7	94.6	75.66	96.37																						
6-Aug	95.5	95.9	96.3	96.5	96.6	96.5	95.7	92.3	82.2	73.3	62.9	55.7	46.9	42.3	41.9	39.7	38.9	39.5	45.3	54.7	63.6	73.2	83.3	87.9	70.69	96.57																						
7-Aug	88.8	88.5	88.5	92.2	94.3	94.9	95.9	95.1	95.5	94.6	91.1	85.7	79.3	73.4	70.5	79.6	84.2	79.8	85.6	86.4	89.9	92.5	94.3	94.9	88.14	95.86																						
8-Aug	93.6	93.8	90.8	91.9	93.3	95.5	95.5	94.8	93.2	90.7	88.6	85.5	79.8	72.7	67.0	61.5	58.5	55.7	61.6	67.4	79.8	92.7	94.2	95.6	83.07	95.60																						
9-Aug	95.8	96.3	96.6	96.8	96.8	96.9	96.8	96.7	96.5	96.0	81.8	64.5	45.0	42.0	41.4	39.9	38.9	38.1	43.7	52.4	71.8	89.4	92.2	94.4	75.03	96.89																						
10-Aug	93.9	95.2	95.3	95.3	95.3	95.7	95.0	89.3	79.0	69.8	61.6	49.1	44.9	44.1	41.2	41.2	41.0	42.1	42.8	49.5	63.3	70.1	73.9	75.9	68.52	95.68																						
11-Aug	85.1	92.8	94.7	95.5	95.9	96.0	93.6	83.7	73.9	66.6	59.1	51.5	46.4	42.6	40.5	40.5	38.1	36.8	39.7	44.3	56.4	69.3	77.3	79.4	66.66	96.01																						
12-Aug	82.2	88.6	94.7	93.7	95.3	95.8	95.6	83.6	73.3	59.4	46.9	45.8	44.2	42.1	41.1	42.0	45.4	49.2	52.8	61.1	63.0	70.0	77.6	78.3	67.58	95.85																						
13-Aug	82.0	92.8	94.7	95.1	95.6	95.8	95.8	91.9	87.5	83.1	75.2	70.0	70.2	66.7	62.6	66.0	71.6	88.8	94.3	94.9	94.6	95.1	93.5	95.4	85.56	95.83																						
14-Aug	95.2	92.2	93.6	93.8	93.4	93.2	92.7	91.2	88.2	74.2	62.1	52.1	49.9	49.7	58.6	61.0	62.7	49.2	67.3	75.9	78.3	82.0	82.3	79.4	75.75	95.19																						
15-Aug	78.8	81.6	81.0	81.5	84.9	84.9	82.8	73.4	66.4	58.6	49.0	45.3	43.0	38.1	39.0	37.6	40.0	37.0	51.3	62.5	81.0	80.6	85.1	84.0	64.47	85.10																						
16-Aug	80.7	84.7	87.6	91.2	92.2	93.7	93.7	89.2	77.6	71.9	61.6	52.7	46.2	53.6	75.6	78.7	60.0	65.9	78.9	76.4	74.0	87.5	83.2	80.7	76.57	93.70																						
17-Aug	78.3	76.1	78.6	79.9	85.1	86.6	87.0	84.7	81.2	62.0	49.2	44.4	41.8	38.1	35.8	36.1	38.3	57.3	60.2	68.3	73.4	79.3	78.9	82.9	65.99	87.02																						
18-Aug	86.0	88.2	87.9	93.6	95.0	95.4	94.3	91.4	88.5	78.0	66.9	56.6	47.5	48.6	53.7	63.3	66.5	61.4	81.4	93.4	93.3	92.4	87.8	85.1	79.00	95.42																						
19-Aug	86.9	88.3	90.7	91.8	90.0	87.5	85.7	80.0	68.1	56.6	44.7	39.0	37.9	33.9	30.3	27.8	29.7	31.6	32.8	45.1	53.0	62.0	67.0	77.4	59.91	91.77																						
20-Aug	75.9	79.7	80.3	79.4	80.6	80.3	80.1	78.5	73.8	63.2	71.1	71.7	62.6	59.9	73.6	77.9	63.7	57.2	58.0	74.2	88.5	91.6	91.0	93.5	75.26	93.54																						
21-Aug	91.5	89.6	88.2	89.0	88.8	90.4	91.0	81.5	70.6	58.8	58.5	59.7	57.4	59.3	59.6	62.5	70.3	71.2	75.1	81.3	82.8	87.7	89.4	90.6	76.88	91.52																						
22-Aug	87.9	87.4	87.8	89.7	92.1	93.4	91.2	85.6	69.5	61.8	55.9	49.0	46.8	42.8	40.2	40.9	40.2	44.2	50.2	56.9	65.6	68.7	69.7	78.7	66.50	93.45																						
23-Aug	85.8	87.1	89.3	91.0	93.9	94.9	95.5	93.1	86.3	79.9	70.1	61.7	53.2	49.1	46.5	58.0	64.6	66.6	70.8	77.0	82.8	88.8	93.4	94.8	78.10	95.51																						
24-Aug	95.6	96.0	96.1	96.1	96.4	96.6	96.7	96.8	96.6	96.1	94.7	87.3	77.9	69.6	77.0	79.0	74.4	70.5	73.8	80.9	88.6	91.2	89.5	87.4	87.70	96.78																						
25-Aug	86.3	88.1	87.6	87.2	87.3	89.9	83.5	71.1	57.0	51.7	43.5	37.0	32.9	29.8	28.2	26.5	27.3	25.5	31.4	48.9	73.5	86.2	87.6	89.6	60.73	89.91																						
26-Aug	90.3	90.7	89.4	88.0	90.5	94.0	91.5	82.3	70.5	59.3	50.1	39.9	34.1	30.3	29.5	29.5	28.8	33.0	40.1	49.1	66.4	79.1	85.4	88.5	63.76	94.04																						
27-Aug	90.5	85.7	89.0	89.6	92.6	92.2	88.4	76.2	64.2	58.5	49.6	42.7	38.5	38.1	35.1	36.4	40.0	40.4	54.2	68.7	82.0	85.5	90.5	91.5	67.51	92.63																						
28-Aug	93.6	93.9	94.4	94.8	95.2	95.8	95.5	89.1	77.1	69.1	62.0	56.2	53.4	52.4	50.1	49.3	47.3	50.6	57.0	67.2	76.6	80.5	80.8	82.3	73.51	95.84																						
29-Aug	85.7	87.4	86.9	89.1	90.6	92.0	91.4	88.1	83.1	74.2	58.9	53.5	51.2	49.2	45.4	45.3	46.0	46.4	50.4	59.4	68.6	72.9	72.6	73.1	69.22	91.99																						
30-Aug	76.4	86.4	92.4	94.2	94.9	95.0	95.3	94.0	89.3	83.4	77.3	73.2	66.2	60.3	58.1	59.3	60.5	64.4	72.9	83.5	91.0	95.0	95.8	95.7	81.43	95.75																						
31-Aug	95.9	96.1	96.2	96.2	96.4	96.4	96.2	95.1	92.3	85.0	79.0	70.4	60.6	54.8	55.7	85.8	70.7	67.4	86.5	90.3	94.7	94.9	95.4	94.1	85.26	96.39																						
																								Diurnal Average	88.66	90.17	91.09	91.92	92.84	93.30	92.57	87.99	81.00	73.50	66.02	59.62	53.97	50.86	50.90	52.83	52.37	53.40	60.08	68.53	77.45	83.80	86.09	87.60
																								Diurnal Maximum	95.93	96.29	96.60	96.77	96.80	96.89	96.82	96.78	96.60	96.13	94.70	92.63	87.75	81.90	79.77	85.81	84.20	88.81	94.30	94.93	94.67	95.08	95.75	95.70



WCAS - Carrot Creek
Summary of Hourly Standard Deviations

Wind Speed (WS) - kph
August 2017

Maximum Value: 12.13 kph on Aug 24 15:00		Maximum Daily Average: 3.20 kph on Aug 19		Hours in Service: 744																							
Minimum Value: 0.1 kph on Aug 9 01:00		Minimum Daily Average: 1.59 kph on Aug 21		Hours of Data: 744																							
Maximum Diurnal Average: 3.98 kph at hour 15		Minimum Diurnal Average: 1.58 kph at hour 6		Hours of Missing Data: 0																							
Monthly Average: 2.333 kph		Percentiles: P ₁ = 0.7 P ₁₀ = 1.2 Q ₁ = 1.5 Median = 2.0 Q ₃ = 2.8 P ₉₀ = 3.9 P ₉₉ = 5.8		Hours of Calibration: 0																							
				Percent Operational Time: 100.0																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Aug	1.1	1.1	1.1	1.4	3.6	2.5	2.0	2.2	2.6	2.0	2.4	1.5	2.1	1.9	2.4	2.5	2.6	2.5	2.0	1.0	2.1	1.0	1.4	2.0	1.95	3.57	
2-Aug	1.5	1.7	2.2	1.8	1.3	1.0	0.9	1.6	1.9	2.2	2.6	3.2	4.0	3.4	4.0	3.9	3.7	3.3	2.2	2.1	2.8	1.8	1.3	1.2	2.31	4.02	
3-Aug	0.4	1.2	1.5	1.5	1.4	1.0	1.1	1.6	2.4	1.7	2.5	3.0	2.5	2.8	2.6	3.1	3.3	1.8	3.1	10.9	5.6	3.2	2.0	2.4	2.60	10.87	
4-Aug	2.2	2.4	2.0	1.8	1.7	1.8	2.2	1.6	2.1	1.9	2.4	3.6	3.8	3.3	3.9	3.2	3.7	5.0	2.6	1.6	1.4	2.9	2.5	2.5	2.54	5.03	
5-Aug	1.5	2.1	1.5	1.0	1.6	1.4	1.0	1.7	1.9	2.2	2.4	3.2	2.5	3.2	3.2	3.3	5.4	2.7	2.4	2.5	1.6	1.0	0.7	1.6	2.16	5.45	
6-Aug	0.9	1.1	1.1	1.4	1.0	0.9	1.1	1.3	1.3	2.6	2.5	2.7	2.6	2.2	2.9	2.4	2.0	1.9	1.8	2.0	2.0	1.2	1.2	2.5	1.77	2.90	
7-Aug	2.1	5.2	5.5	2.8	3.3	2.5	1.1	2.0	1.8	1.4	1.8	2.1	1.8	1.7	2.4	2.9	2.5	3.0	3.6	2.3	1.8	1.3	2.0	1.8	2.45	5.48	
8-Aug	1.9	2.3	1.6	2.3	2.4	1.7	1.7	2.9	2.0	2.2	2.0	2.3	2.7	2.5	2.3	2.8	2.9	3.0	1.9	1.7	1.9	0.9	1.0	0.3	2.06	3.04	
9-Aug	0.1	1.2	1.4	0.9	1.0	0.8	0.7	1.8	1.8	2.1	1.9	1.5	2.5	2.4	4.0	3.3	3.0	3.0	2.2	1.8	1.2	1.6	1.6	0.9	1.78	3.97	
10-Aug	1.8	1.5	1.4	1.9	1.2	1.0	1.3	2.2	1.6	2.2	2.2	2.7	2.6	2.9	3.4	2.6	2.4	2.7	2.1	2.3	1.5	1.6	3.4	2.6	2.14	3.44	
11-Aug	3.6	1.4	1.1	1.0	1.0	1.0	1.0	2.0	1.9	2.3	3.0	4.3	4.5	4.6	4.6	4.4	4.8	5.0	4.0	3.0	2.3	2.0	1.8	2.2	2.79	5.00	
12-Aug	2.6	1.7	1.0	3.7	1.5	1.3	1.5	2.6	1.9	3.7	4.7	4.8	4.7	4.7	4.8	4.1	3.5	3.2	2.4	1.6	2.6	1.5	1.4	1.7	2.79	4.83	
13-Aug	1.6	1.5	0.7	1.5	1.2	1.6	1.7	1.4	1.6	2.4	2.3	1.5	1.4	3.5	3.8	3.1	2.8	2.2	1.8	2.6	2.3	1.9	2.5	1.1	2.01	3.78	
14-Aug	2.2	2.7	2.4	2.2	3.2	2.6	1.3	2.6	2.5	3.1	3.8	4.6	4.2	3.7	4.8	2.7	1.5	3.5	2.2	1.7	1.0	3.1	1.2	1.6	2.69	4.77	
15-Aug	2.5	1.7	2.1	3.1	2.2	1.9	2.0	3.6	3.4	3.2	4.1	5.3	5.1	5.3	4.2	3.7	4.3	4.3	2.7	0.8	1.0	0.7	1.3	1.3	2.91	5.29	
16-Aug	1.3	1.3	1.0	1.2	1.5	2.0	1.8	1.4	2.7	2.5	2.0	2.1	2.5	1.7	1.3	1.5	2.0	1.0	1.3	1.6	1.3	1.0	1.0	1.5	1.59	2.72	
17-Aug	1.4	2.6	1.1	2.1	1.7	1.7	1.6	1.3	1.9	3.0	2.7	3.6	4.8	3.9	3.3	3.7	2.0	1.6	1.7	1.1	1.4	1.4	1.8	1.2	2.18	4.85	
18-Aug	0.8	1.8	1.1	0.9	1.0	1.7	1.9	2.6	1.6	2.1	1.8	4.5	4.1	4.2	4.6	2.6	1.7	3.0	4.3	3.3	2.2	2.4	2.7	2.1	2.46	4.65	
19-Aug	2.4	1.5	1.4	2.0	1.6	1.7	1.6	2.0	3.1	3.9	5.2	6.3	5.8	5.1	5.1	5.9	5.6	4.8	3.7	2.6	2.1	1.5	0.8	1.3	3.20	6.30	
20-Aug	2.8	2.0	3.7	1.8	2.1	1.5	2.2	2.7	3.4	2.9	2.5	2.9	3.2	4.1	6.5	1.6	3.0	3.2	2.9	1.4	1.4	2.3	0.8	1.4	2.60	6.52	
21-Aug	1.7	1.5	1.6	1.5	2.2	1.5	1.1	0.9	3.0	2.2	2.6	2.0	1.9	1.8	2.0	1.2	1.3	1.1	1.1	1.3	1.3	1.0	0.7	1.5	1.59	3.01	
22-Aug	1.9	1.8	0.9	1.5	0.8	1.5	1.6	1.9	2.2	2.1	2.3	2.7	3.0	2.4	2.8	3.0	3.2	3.8	2.4	2.5	2.1	2.0	2.8	2.0	2.21	3.76	
23-Aug	1.8	1.8	2.0	1.3	1.4	1.3	1.4	2.2	1.9	2.2	2.1	2.2	3.1	3.3	3.4	2.5	3.2	3.0	2.7	5.6	2.0	1.3	1.8	1.8	2.31	5.55	
24-Aug	2.0	1.5	1.4	2.0	1.7	2.7	3.3	2.8	2.6	2.0	2.3	2.3	3.2	3.4	12.1	6.1	4.2	4.0	2.9	1.9	2.1	2.3	2.9	2.0	3.07	12.13	
25-Aug	2.2	1.8	2.3	1.7	4.1	2.0	2.9	2.4	3.8	2.8	4.0	5.0	4.5	5.4	5.0	5.4	4.4	3.8	2.7	1.5	1.2	1.2	1.7	1.4	3.04	5.42	
26-Aug	1.2	1.4	1.5	1.8	2.0	1.8	1.7	1.5	1.4	1.3	1.7	3.0	2.2	5.8	4.1	3.2	2.9	2.5	1.5	1.3	1.5	2.9	1.9	2.2	2.18	5.77	
27-Aug	2.0	1.6	2.2	2.4	1.5	1.1	2.2	1.1	2.0	2.1	2.0	2.0	2.6	2.6	2.2	2.2	2.4	2.1	2.1	3.0	1.5	1.6	1.5	2.3	2.01	2.98	
28-Aug	1.4	1.6	1.8	1.1	1.3	1.7	1.8	2.7	1.9	1.8	1.9	2.1	2.3	2.2	2.8	3.2	3.1	3.0	2.6	1.3	2.1	1.9	1.9	1.3	2.03	3.19	
29-Aug	1.7	2.0	4.0	1.9	1.3	1.1	1.6	1.8	3.1	3.1	5.0	5.6	5.8	6.0	5.7	5.6	5.7	5.1	2.6	1.5	1.4	1.6	1.7	1.8	3.19	5.97	
30-Aug	1.7	1.3	1.1	1.6	1.3	1.5	1.1	1.4	1.5	1.9	1.6	1.8	1.9	2.3	2.1	1.9	1.8	2.3	1.8	1.3	1.6	1.4	1.4	1.5	1.63	2.30	
31-Aug	1.2	1.7	1.3	1.5	1.1	1.2	1.3	2.5	2.3	1.8	2.0	1.7	2.8	3.2	7.4	3.2	2.7	1.6	1.6	1.6	1.1	1.4	1.9	2.0	2.09	7.41	
		1.73	1.81	1.78	1.76	1.74	1.58	1.59	2.01	2.23	2.35	2.65	3.10	3.25	3.40	3.98	3.24	3.15	3.00	2.42	2.28	1.86	1.66	1.72	1.71	Diurnal Average	
		3.61	5.20	5.48	3.72	4.05	2.67	3.26	3.64	3.78	3.90	5.15	6.30	5.85	5.97	12.13	6.14	5.68	5.06	4.28	10.87	5.61	3.24	3.41	2.56	Diurnal Maximum	



WCAS - Carrot Creek
Summary of Hourly Standard Deviations

Wind Direction (WD) - deg
August 2017

Maximum Value: 101.90 deg on Aug 8 14:00 Maximum Daily Average: 46.44 deg on Aug 6																						Hours in Service: 744 Hours of Data: 744				
Minimum Value: 4.6 deg on Aug 25 04:00 Minimum Daily Average: 13.38 deg on Aug 15 Maximum Diurnal Average: 43.80 deg at hour 14 Minimum Diurnal Average: 21.48 deg at hour 19 Monthly Average: 32.673 deg Percentiles: P ₁ = 7.2 P ₁₀ = 12.2 Q ₁ = 16.3 Median = 25.7 Q ₃ = 43.0 P ₉₀ = 68.1 P ₉₉ = 92.1																						Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0				
Day	Hourly Period Ending At																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Aug	29.4	68.1	72.8	87.2	30.9	58.7	28.4	32.4	26.5	29.2	38.6	22.7	21.2	21.1	25.7	28.8	15.8	23.9	20.7	8.2	83.3	27.0	41.4	41.4	36.82	87.16
2-Aug	25.1	47.7	51.1	40.3	42.0	15.2	17.1	26.4	62.9	55.0	40.5	47.4	37.4	37.5	43.9	48.5	52.7	25.6	16.5	12.5	21.7	30.6	40.3	88.0	38.58	87.97
3-Aug	61.1	42.5	22.3	34.9	25.1	18.0	13.0	24.1	49.7	82.0	62.3	47.7	53.6	37.7	25.8	18.4	17.5	15.7	12.8	84.9	31.3	45.9	21.5	16.2	36.00	84.90
4-Aug	11.9	12.4	16.3	11.6	10.0	10.1	26.1	20.3	16.0	14.4	16.1	19.8	18.8	22.7	22.0	21.6	20.4	41.8	23.4	19.6	14.6	9.5	15.4	11.8	17.78	41.81
5-Aug	8.2	17.9	23.4	6.6	10.9	13.5	9.7	21.3	28.8	37.8	47.0	71.9	64.5	94.8	72.0	33.7	30.1	18.2	20.3	23.0	30.1	18.5	62.3	74.2	34.95	94.78
6-Aug	32.5	86.1	21.8	33.9	24.2	12.8	21.2	27.1	86.4	45.8	50.1	59.2	56.3	70.8	62.4	75.1	80.8	54.8	13.7	41.0	29.5	21.2	41.2	66.6	46.44	86.37
7-Aug	58.7	26.6	19.1	83.1	36.0	58.0	31.1	55.5	87.2	19.7	42.3	60.9	59.0	73.3	94.0	16.2	20.6	17.4	15.7	13.8	17.9	10.4	36.3	30.6	40.98	94.03
8-Aug	35.6	26.2	58.7	29.9	41.0	24.2	34.5	22.3	27.4	37.9	53.3	31.6	54.6	101.9	85.8	66.8	57.6	34.0	14.3	10.8	13.3	44.4	32.2	58.4	41.53	101.90
9-Aug	7.6	26.5	26.9	18.0	24.5	8.7	10.5	19.1	18.6	28.1	92.9	48.9	79.6	82.0	69.2	71.8	48.1	55.0	24.2	41.0	34.8	9.6	17.7	59.4	38.44	92.85
10-Aug	90.4	18.3	42.3	26.4	11.6	10.6	19.0	15.9	48.9	67.3	90.4	76.7	82.4	67.8	51.7	90.5	82.5	34.0	32.1	35.9	24.3	13.3	34.3	29.4	45.66	90.49
11-Aug	72.6	49.0	23.8	21.3	12.7	44.0	47.4	30.0	29.4	31.4	32.8	32.8	32.1	33.7	30.0	30.8	31.1	27.7	35.1	27.4	22.2	26.0	25.6	24.6	32.23	72.56
12-Aug	32.7	46.7	43.6	48.7	83.2	71.8	35.6	58.9	15.9	38.5	21.1	26.7	31.2	32.0	34.7	28.4	28.6	29.3	21.9	10.9	23.6	25.7	14.3	13.7	34.07	83.15
13-Aug	14.0	26.1	54.6	31.0	19.2	39.3	76.8	54.0	23.0	24.3	27.2	28.4	21.0	27.6	17.2	14.3	15.8	21.7	35.0	39.4	26.2	11.1	12.3	9.6	27.89	76.84
14-Aug	9.8	13.0	17.5	12.5	16.4	13.8	14.1	17.2	14.4	18.0	19.2	24.8	27.2	21.3	23.9	28.1	13.7	11.2	14.1	25.9	13.4	19.9	5.5	7.5	16.76	28.12
15-Aug	11.0	8.3	10.3	13.6	7.2	9.7	9.3	15.2	10.5	13.4	21.5	18.7	22.8	18.5	18.9	18.9	14.4	14.7	11.6	8.8	14.0	14.4	5.3	10.3	13.38	22.85
16-Aug	16.8	35.7	20.7	16.7	27.7	54.4	49.4	16.3	17.9	29.4	21.8	18.6	27.2	23.3	25.2	46.4	32.6	39.6	17.0	24.1	29.1	16.0	18.2	19.0	26.81	54.43
17-Aug	19.4	27.3	17.2	25.2	16.3	10.0	16.6	10.2	19.6	16.5	23.2	41.4	43.2	20.6	20.5	38.1	30.5	20.6	8.2	9.0	11.1	13.8	22.0	11.9	20.52	43.15
18-Aug	18.1	13.7	26.8	45.0	69.7	29.7	84.0	76.4	65.1	31.0	20.2	42.5	35.5	27.2	26.6	28.2	56.6	22.8	15.4	17.9	32.3	23.3	15.6	17.1	35.03	83.95
19-Aug	14.4	10.7	9.4	8.7	10.7	11.8	10.5	11.6	15.8	15.0	19.9	18.1	18.4	20.0	17.9	16.6	15.0	15.1	14.7	15.4	16.7	10.7	12.2	19.1	14.52	20.00
20-Aug	51.3	22.4	80.1	14.8	9.7	13.4	20.3	40.5	29.7	16.7	15.4	13.9	14.7	13.4	46.2	45.0	28.6	32.0	27.4	45.7	16.1	38.6	11.2	15.0	27.60	80.15
21-Aug	12.8	7.2	6.7	15.2	44.3	75.3	78.9	79.2	57.8	19.4	22.5	15.3	20.1	17.5	12.9	11.6	14.8	13.0	15.9	27.9	23.4	76.0	86.3	43.0	33.21	86.29
22-Aug	42.7	47.5	28.2	16.5	13.6	12.5	17.6	18.2	19.1	24.8	38.2	80.9	66.8	64.6	87.4	45.4	27.8	16.7	12.2	28.1	39.7	24.3	26.8	15.9	33.99	87.44
23-Aug	26.4	15.1	43.1	46.0	67.3	51.7	32.6	17.7	11.2	24.8	34.1	47.2	32.3	26.7	25.3	18.6	20.2	44.9	77.0	78.6	46.6	50.5	59.6	70.6	40.35	78.64
24-Aug	52.1	50.6	74.3	82.2	55.7	47.1	44.3	48.0	23.6	36.4	67.3	73.5	39.4	45.7	27.6	18.9	19.9	24.9	28.8	56.7	35.3	45.4	48.5	20.9	44.47	82.21
25-Aug	10.6	9.7	6.2	4.6	39.3	16.8	20.5	14.7	13.4	13.3	13.3	17.0	19.2	22.2	20.2	16.4	17.1	24.6	26.9	25.7	65.5	29.6	13.4	12.4	19.70	65.53
26-Aug	9.5	26.6	15.3	21.4	27.9	42.8	14.7	22.8	40.5	92.4	78.9	48.5	62.6	74.8	36.1	27.3	67.9	17.6	11.8	14.0	41.0	84.8	48.0	21.5	39.53	92.45
27-Aug	15.3	20.0	23.5	38.4	13.2	14.7	23.1	20.2	41.8	37.6	68.1	72.2	73.1	56.2	67.1	74.5	28.0	25.1	14.6	23.1	84.7	15.5	21.5	75.2	39.45	84.73
28-Aug	86.4	54.2	34.0	13.2	15.6	17.2	17.0	12.0	14.6	43.2	60.4	67.1	62.0	71.7	101.1	57.7	91.3	25.9	14.9	10.6	22.0	32.8	54.0	35.0	42.25	101.13
29-Aug	57.0	30.1	65.4	10.3	13.5	14.1	12.7	13.0	14.6	21.0	28.3	24.4	28.9	26.8	26.2	23.7	23.1	25.1	17.6	11.8	9.6	11.3	10.2	11.0	22.07	65.41
30-Aug	13.5	42.1	15.9	13.8	34.2	24.5	16.1	12.8	24.6	17.2	24.4	71.6	55.1	67.3	24.0	24.5	17.7	13.0	17.1	14.2	56.5	87.6	71.6	62.3	34.23	87.60
31-Aug	44.6	23.7	21.1	11.9	12.2	9.3	15.0	30.7	35.3	49.0	35.7	39.8	37.9	36.9	40.1	84.2	55.8	80.2	34.8	98.5	41.0	22.7	29.8	13.0	37.63	98.48
31.99 30.71 32.01 28.49 27.93 27.54 27.97 28.51 31.94 33.25 39.58 42.27 41.88 43.80 41.35 37.71 34.73 27.94 21.48 29.17 31.33 29.37 30.79 32.40																								Diurnal Average		
90.44 86.13 80.15 87.16 83.15 75.33 83.95 79.21 87.19 92.45 92.85 80.94 82.41 101.90 101.13 90.49 91.27 80.24 76.98 98.48 84.73 87.60 86.29 87.97																								Diurnal Maximum		

**STEEPER
STATION #905**

CONTINUOUS AIR MONITORING DATA

AUGUST 2017

Summary Report

Continuous air quality/meteorological monitoring measurements

West Central Airshed Society

WCAS / Steeper Station 905													August 2017		
Parameter	Calibration			Percent Uptime	Mean	Min	Max	Percentile					Exceedences		24 Hour Average Max (ppm)
	Number of Hours	Data						P10	Q1	Median	Q3	P90	1-hour	24-hour	
SO ₂ (ppb)	35	709		100.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0	0	0.000
O ₃ (ppb)	35	709		100.0	28.9	6.5	57.6	16.4	22.1	29.9	35.4	40.2	0	-	0.044
NO (ppb)	36	708		100.0	0.1	0.0	2.8	0.0	0.0	0.0	0.0	0.1	-	-	-
NO ₂ (ppb)	36	708		100.0	0.2	0.0	3.7	0.0	0.0	0.1	0.3	0.6	0	0	0.001
NO _x (ppb)	36	708		100.0	0.3	0.0	3.9	0.0	0.1	0.2	0.4	0.7	-	-	-
CO (ppm)	38	706		100.0	0.2	0.1	2.6	0.2	0.2	0.2	0.3	0.4	0	0	0.001
Particulate Matter 2.5 microns (µ/m ³)	0	743		99.9	13.0	0.0	443.8	0.0	1.6	4.8	13.7	34.6	10	4	66.71 ug/m3
Wind Speed (kph)	0	744		100.0	6.4	0.1	18.7	2.5	3.9	5.9	8.5	10.8	-	-	-
Temperature (°C)	0	744		100.0	13.8	2.4	27.2	7.6	9.5	13.2	17.5	21.4	-	-	-
Relative Humidity (%)	0	744		100.0	64.3	20.6	98.4	36.7	49.9	62.0	79.9	94.8	-	-	-
Std Dev Wind Direction (deg)	0	744		100.0	2.5	0.8	9.4	1.4	1.7	2.3	2.9	3.9	-	-	-
Std Dev Wind Speed (kph)	0	744		100.0	29.6	7.9	102.9	11.6	13.5	21.9	41.4	60.6	-	-	-



WCAS - Steeper
Summary of Hourly Averages

Ozone (O₃) - ppb
August 2017

Maximum Value: 57.57 ppb on Aug 30 13:00 Maximum Daily Average: 43.65 ppb on Aug 30 Minimum Value: 6.5 ppb on Aug 2 05:00 Minimum Daily Average: 19.06 ppb on Aug 1 Maximum Diurnal Average: 34.27 ppb at hour 15 Minimum Diurnal Average: 22.35 ppb at hour 8 Monthly Average: 28.915 ppb Percentiles: P ₁ = 9.0 P ₁₀ = 16.4 Q ₁ = 22.1 Median = 29.9 Q ₃ = 35.4 P ₉₀ = 40.2 P ₉₉ = 53.0																								Hours in Service:	744																							
																								Hours of Data:	709																							
																								Hours of Missing Data:	35																							
																								Hours of Calibration:	35																							
																								Percent Operational Time:	100.0																							
Day	Hourly Period Ending At																								Daily Average	Daily Maximum																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																								
1-Aug	30.3	23.2	19.0	Z	11.1	14.6	17.6	17.3	15.5	14.2	15.8	18.6	21.1	20.4	18.9	20.1	22.8	22.4	24.3	24.2	23.2	21.7	12.6	9.5	19.06	30.30																						
2-Aug	8.4	8.1	8.3	Z	6.5	8.0	8.3	10.3	11.9	21.6	25.4	27.4	29.1	29.3	29.9	33.6	34.3	33.9	32.7	32.6	31.8	31.5	28.3	20.0	22.23	34.31																						
3-Aug	16.9	17.9	17.0	Z	15.2	15.1	15.8	17.2	19.6	24.5	28.0	29.8	31.2	34.1	32.2	32.2	32.8	30.5	30.6	29.2	24.6	23.9	21.2	26.4	24.60	34.14																						
4-Aug	29.9	28.3	24.4	Z	25.4	23.1	21.4	18.6	17.8	18.5	19.7	20.4	21.5	21.1	22.0	21.1	21.5	18.1	17.9	16.2	16.1	23.6	27.8	22.2	21.59	29.89																						
5-Aug	16.2	12.1	10.9	Z	9.6	9.4	9.7	11.7	19.3	25.4	28.1	30.6	30.3	30.1	30.6	31.6	31.0	31.2	31.9	32.3	34.2	33.1	24.6	17.2	23.54	34.25																						
6-Aug	11.8	14.0	14.1	Z	12.7	13.5	13.0	14.3	19.1	22.4	29.0	31.7	33.6	37.7	38.5	35.7	34.8	35.4	36.7	37.5	34.8	35.4	31.5	27.1	26.72	38.49																						
7-Aug	21.9	27.6	30.1	Z	33.4	38.5	31.6	24.8	25.8	36.4	40.7	38.1	36.4	35.2	34.8	33.4	31.8	29.9	27.9	25.2	25.4	23.1	19.7	22.5	30.17	40.67																						
8-Aug	20.2	13.2	9.0	Z	8.0	9.5	10.4	9.5	10.2	12.4	15.7	17.1	20.8	30.0	32.7	36.1	37.8	39.1	41.1	41.5	38.4	32.2	28.0	22.9	23.29	41.47																						
9-Aug	23.3	22.4	22.5	Z	20.0	19.6	19.6	20.1	26.0	C	C	C	C	38.1	37.6	36.8	38.3	41.1	41.5	39.9	38.0	40.2	29.9	24.8	30.52	41.49																						
10-Aug	23.2	21.7	20.7	Z	18.8	18.3	18.6	20.6	26.9	37.9	40.9	45.5	45.8	46.2	47.1	44.3	43.8	44.1	44.7	42.8	41.2	42.1	40.2	34.3	35.20	47.11																						
11-Aug	31.0	29.8	28.4	Z	24.0	23.7	21.7	24.3	33.6	39.7	41.1	41.8	43.5	44.5	44.4	46.3	46.2	47.0	46.2	45.1	43.7	44.3	44.0	42.5	38.12	47.01																						
12-Aug	35.9	31.6	27.5	Z	25.0	24.7	25.9	27.2	26.5	24.6	20.6	26.0	15.9	17.7	18.7	18.3	21.7	33.7	38.1	42.4	48.4	39.3	20.8	26.0	27.69	48.36																						
13-Aug	27.1	30.8	31.5	Z	35.0	35.7	33.7	33.1	33.6	29.2	27.2	29.3	31.8	34.9	33.1	31.3	25.3	21.9	23.0	27.3	31.8	26.4	24.6	23.5	29.62	35.71																						
14-Aug	22.7	19.5	16.5	Z	13.7	10.8	24.2	25.6	21.3	22.0	27.4	27.8	29.9	30.1	29.2	29.0	25.7	25.8	23.8	22.4	23.6	22.8	17.4	17.6	22.99	30.08																						
15-Aug	15.2	14.5	13.2	Z	14.0	13.9	14.2	16.4	22.5	29.4	36.9	38.5	38.8	40.0	40.1	39.0	36.2	35.2	31.3	33.1	33.4	31.8	28.7	34.1	28.27	40.14																						
16-Aug	35.8	32.9	33.2	Z	32.3	31.3	33.3	31.3	26.1	25.1	29.5	31.9	29.3	29.6	33.5	33.4	33.8	35.0	36.2	33.8	28.8	29.8	25.4	22.1	31.03	36.22																						
17-Aug	21.3	22.2	24.7	Z	24.2	25.8	25.3	23.9	27.5	35.6	36.9	39.3	42.4	43.5	44.9	45.3	43.3	41.0	38.1	36.5	35.1	37.0	37.4	37.7	34.30	45.33																						
18-Aug	36.3	37.7	38.3	Z	36.8	34.5	36.5	39.3	37.3	33.4	37.0	33.4	34.0	33.7	31.9	28.3	25.5	19.7	16.6	26.6	24.8	21.7	23.6	17.9	30.64	39.34																						
19-Aug	22.1	22.1	22.7	Z	23.3	24.8	26.2	26.8	27.8	33.5	34.4	35.7	35.9	35.8	35.7	36.7	37.5	35.3	33.2	33.1	32.6	34.0	36.5	38.0	31.48	37.97																						
20-Aug	36.6	37.9	37.2	Z	35.5	32.8	29.6	29.8	27.7	22.2	31.7	32.9	33.8	33.5	34.3	34.0	37.2	39.6	39.1	37.5	35.0	35.1	32.2	35.3	33.93	39.56																						
21-Aug	34.6	34.5	28.0	Z	24.7	25.4	26.0	22.1	16.5	12.4	18.3	16.5	22.4	23.3	21.0	22.9	22.8	21.7	17.9	20.2	21.8	21.7	18.6	17.8	22.22	34.55																						
22-Aug	14.8	17.5	19.2	Z	15.4	12.9	11.5	13.1	13.0	14.3	18.9	21.0	22.8	23.7	22.7	21.1	21.7	21.0	20.0	22.3	25.8	26.4	24.3	19.2	19.25	26.42																						
23-Aug	16.7	19.2	20.2	Z	22.9	18.9	17.4	15.6	17.3	21.0	24.3	29.5	32.4	35.0	33.8	33.8	30.0	31.3	30.2	29.1	29.8	29.6	25.7	29.0	25.76	34.96																						
24-Aug	23.8	19.2	16.8	Z	18.8	16.2	14.6	14.6	21.4	24.3	31.9	35.4	43.3	43.8	39.6	40.6	39.1	38.2	38.6	36.1	33.8	30.0	30.6	31.7	29.66	43.77																						
25-Aug	30.4	31.6	33.1	Z	31.9	32.8	32.6	30.3	29.0	33.7	34.3	35.6	35.6	35.4	35.7	34.0	34.5	33.7	33.1	32.1	31.1	32.5	33.9	34.3	33.09	35.68																						
26-Aug	35.6	35.3	35.7	Z	35.5	36.6	36.0	34.1	33.1	35.7	38.0	37.3	36.1	37.9	38.6	37.1	36.8	36.9	35.7	30.3	34.0	33.9	31.5	32.3	35.38	38.57																						
27-Aug	30.5	29.2	28.8	Z	30.8	28.9	28.5	26.5	28.0	34.1	35.6	34.9	34.7	34.4	32.5	31.6	32.2	31.3	30.5	30.6	34.6	31.4	30.3	23.5	31.01	35.60																						
28-Aug	20.1	20.6	22.4	Z	17.7	16.6	16.6	15.6	20.7	22.7	25.4	27.8	27.7	29.0	30.1	28.8	29.6	29.7	28.2	28.3	24.3	26.6	28.4	32.9	24.78	32.92																						
29-Aug	34.1	27.1	20.1	Z	13.5	10.5	9.0	9.0	13.1	16.6	22.6	29.4	32.0	34.4	36.3	37.5	38.4	39.4	40.3	39.2	38.5	40.3	33.3	22.9	27.72	40.34																						
30-Aug	22.6	26.6	29.8	Z	35.4	35.4	36.5	37.0	37.4	34.2	39.9	47.5	57.6	49.9	56.1	56.5	53.3	48.9	46.9	53.5	53.1	54.0	48.6	43.4	43.65	57.57																						
31-Aug	42.5	40.5	37.3	Z	36.0	36.3	33.5	32.8	31.4	31.3	32.1	41.4	43.1	44.6	46.2	40.7	36.6	44.5	47.5	42.9	41.9	43.0	38.8	35.5	39.14	47.48																						
																								25.54	24.80	23.88	--	22.81	22.52	22.54	22.35	23.77	26.28	29.57	31.74	33.09	34.09	34.27	33.91	33.43	33.44	33.03	33.02	32.70	32.20	28.98	27.23	Diurnal Average
																								42.47	40.54	38.25	--	36.78	38.53	36.55	39.34	37.38	39.70	41.10	47.46	57.57	49.88	56.06	56.50	53.33	48.90	47.48	53.45	53.14	53.96	48.55	43.36	Diurnal Maximum
Z - zerospan C - Calibration																																																
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 82.5 ppb 24-hr -- ppb																																																



WCAS - Steeper
Eight Hour Running Averages

Ozone (O₃) - ppb
August 2017

Maximum Value: 52.83 ppb on Aug 30 20:00 Maximum Daily Average: 40.95 ppb on Aug 30 Minimum Value: 8.2 ppb on Aug 2 07:00 Minimum Daily Average: 18.62 ppb on Aug 22 Maximum Diurnal Average: 33.56 ppb at hour 20 Minimum Diurnal Average: 23.24 ppb at hour 9 Monthly Average: 28.700 ppb Percentiles: P ₁ = 10.7 P ₁₀ = 18.1 Q ₁ = 21.9 Median = 29.8 Q ₃ = 34.4 P ₉₀ = 38.2 P ₉₉ = 49.3																								Hours in Service:	744		
																								Hours of Data:	736		
																								Hours of Missing Data:	8		
																								Hours of Calibration:	8		
																								Percent Operational Time:	100.0		
Day	Hourly Period Ending At																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Aug	30.9	29.8	28.4	28.1	25.3	23.0	21.0	19.0	16.9	15.6	15.1	15.6	16.8	17.6	17.7	18.1	19.0	20.0	21.1	21.8	22.0	22.2	21.4	20.1	21.10	30.86	
2-Aug	18.3	16.5	14.5	13.1	10.7	8.8	8.2	8.3	8.8	10.7	13.1	14.9	17.7	20.4	23.1	26.0	28.8	30.4	31.3	31.9	32.3	32.5	32.3	30.6	20.14	32.53	
3-Aug	28.5	26.5	24.5	23.4	21.0	18.6	16.9	16.4	16.8	17.8	19.3	20.6	22.6	25.0	27.1	29.0	30.6	31.4	31.7	31.6	30.8	29.5	28.1	27.4	24.79	31.68	
4-Aug	27.0	26.8	26.0	25.5	25.6	25.5	25.5	24.4	22.7	21.3	20.6	20.6	20.1	19.9	20.0	20.3	20.7	20.7	20.5	19.9	19.2	19.6	20.3	20.4	22.22	27.03	
5-Aug	19.8	19.0	18.2	18.4	17.5	15.5	12.9	11.4	11.8	13.7	16.2	18.0	20.6	23.2	25.8	28.3	29.7	30.5	30.9	31.1	31.6	32.0	31.3	29.4	22.37	32.01	
6-Aug	27.0	24.9	22.7	21.3	18.2	15.4	13.8	13.4	14.4	15.6	17.7	19.5	22.1	25.1	28.3	31.0	32.9	34.5	35.5	36.2	36.4	36.1	35.2	34.2	25.47	36.39	
7-Aug	32.6	31.6	30.7	29.8	29.6	30.0	30.0	29.7	30.3	31.5	33.0	33.7	34.0	33.6	34.0	35.1	35.8	35.0	33.4	31.8	30.4	28.9	27.0	25.7	31.56	35.84	
8-Aug	24.2	22.1	19.8	19.0	16.5	14.6	13.2	11.4	10.0	9.8	10.8	11.6	13.2	15.7	18.5	21.9	25.3	28.7	31.8	34.9	37.1	37.4	36.8	35.1	21.65	37.37	
9-Aug	33.3	31.2	28.9	27.1	24.5	22.7	21.5	21.1	21.5	21.3	Z	C	C	C	C	C	C	C	C	38.9	39.0	38.9	39.2	38.2	36.7	--	39.18
10-Aug	34.8	32.4	29.8	28.4	25.6	22.5	20.9	20.3	20.8	23.1	26.0	28.4	31.8	35.3	38.9	41.8	43.9	44.7	45.2	44.8	44.3	43.8	42.9	41.6	33.83	45.18	
11-Aug	40.0	38.3	36.2	35.3	32.8	30.2	27.5	26.1	26.5	27.9	29.7	31.2	33.7	36.3	39.1	41.9	43.4	44.3	45.0	45.4	45.4	45.4	45.3	44.9	37.17	45.42	
12-Aug	43.6	41.7	39.3	38.5	35.8	33.0	30.5	28.3	26.9	25.9	25.0	25.1	24.0	23.1	22.2	21.1	20.4	21.6	23.8	25.8	29.9	32.6	32.8	33.8	29.36	43.60	
13-Aug	34.5	34.1	33.3	32.0	30.1	29.6	31.4	32.4	33.3	33.1	32.5	32.1	31.7	31.6	31.5	31.3	30.3	29.4	28.8	28.6	28.6	27.5	26.5	25.5	30.82	34.49	
14-Aug	25.2	24.9	24.0	23.6	21.0	18.7	18.7	19.0	18.8	19.2	20.7	21.6	23.6	26.0	26.7	27.1	27.6	28.1	27.7	27.0	26.2	25.3	23.8	22.4	23.62	28.11	
15-Aug	21.1	19.7	18.3	17.7	16.4	15.1	14.6	14.5	15.5	17.7	21.0	23.2	26.3	29.6	32.8	35.6	37.4	38.1	37.4	37.4	36.7	36.0	35.0	33.6	33.0	26.10	38.09
16-Aug	32.9	32.6	32.9	32.8	32.7	32.6	33.3	32.9	31.5	30.4	29.8	30.1	29.7	29.5	29.5	29.8	30.8	32.0	32.8	33.1	33.0	33.1	32.0	30.6	31.69	33.28	
17-Aug	29.1	27.5	26.0	24.9	24.3	23.7	23.7	23.9	24.8	26.7	28.5	29.8	32.1	34.3	36.8	39.4	41.4	42.1	42.2	41.9	41.0	40.2	39.2	38.3	32.57	42.22	
18-Aug	37.4	37.0	37.0	37.1	37.3	36.9	36.8	37.1	37.2	36.6	36.4	36.0	35.7	35.6	35.0	33.6	32.1	30.4	27.9	27.0	25.9	24.4	23.3	22.0	33.16	37.39	
19-Aug	21.6	21.9	22.7	22.1	21.9	22.4	22.7	24.0	24.8	26.5	28.1	29.1	30.6	32.0	33.2	34.4	35.7	35.9	35.7	35.4	35.0	34.8	34.9	35.0	29.19	35.89	
20-Aug	34.9	35.2	35.7	36.1	36.5	36.3	35.4	34.2	32.9	30.7	29.9	30.3	30.1	30.1	30.7	31.3	32.5	34.6	35.6	36.1	36.3	36.5	36.2	36.4	33.93	36.51	
21-Aug	36.0	35.4	34.0	33.5	32.1	30.7	29.8	27.9	25.3	22.2	20.8	20.2	20.0	19.7	19.1	19.2	20.0	21.1	21.1	21.5	21.5	21.3	21.0	20.3	24.73	36.04	
22-Aug	19.3	18.8	19.0	18.8	17.9	16.6	15.6	14.9	14.7	14.2	14.2	15.0	16.0	17.3	18.7	19.7	20.8	21.6	21.8	21.9	22.3	22.6	22.8	22.6	18.62	22.83	
23-Aug	22.0	21.7	21.8	21.7	21.3	20.2	19.2	18.7	18.8	19.0	19.6	20.9	22.0	24.1	26.1	28.4	30.0	31.3	32.0	31.9	31.6	31.0	29.9	29.3	24.68	32.00	
24-Aug	28.6	27.0	25.4	24.8	23.3	21.4	19.8	17.7	17.4	18.1	20.3	22.1	25.2	28.6	31.8	35.0	37.2	39.0	39.8	39.9	38.7	37.0	35.9	34.8	28.69	39.90	
25-Aug	33.7	32.8	32.1	31.6	31.3	31.7	32.0	31.8	31.6	31.9	32.1	32.5	33.0	33.3	33.7	34.1	34.8	34.8	34.7	34.3	33.7	33.3	33.1	33.2	32.97	34.84	
26-Aug	33.3	33.5	33.8	34.1	34.7	35.3	35.6	35.5	35.2	35.2	35.6	35.8	36.0	36.3	36.7	37.2	37.3	37.0	36.2	35.9	35.4	34.5	33.9	35.41	37.33		
27-Aug	33.1	32.2	31.3	31.4	31.0	30.3	29.8	29.0	28.6	29.3	30.3	30.9	31.4	32.1	32.6	33.2	33.8	33.4	32.8	32.2	32.2	31.8	31.6	30.5	31.45	33.75	
28-Aug	29.0	27.7	26.7	26.1	23.7	21.6	19.6	18.5	18.6	18.9	19.3	20.4	21.6	23.2	24.9	26.5	27.7	28.5	28.9	28.9	28.5	28.2	28.0	28.5	24.73	29.04	
29-Aug	29.1	28.7	27.7	27.6	26.1	23.8	21.0	17.6	14.6	13.1	13.5	15.5	17.8	20.8	24.2	27.7	30.9	33.7	36.0	37.2	38.0	38.7	38.4	36.5	26.60	38.73	
30-Aug	34.6	33.0	31.7	30.6	30.1	29.4	29.9	31.9	34.0	35.1	36.5	37.9	40.7	42.5	44.9	47.4	49.4	51.2	52.1	52.8	52.3	52.8	51.8	50.2	40.95	52.83	
31-Aug	48.8	47.8	46.6	45.6	43.2	40.6	38.5	37.0	35.4	34.1	33.3	34.3	35.2	36.3	37.9	38.9	39.5	41.2	43.1	43.3	43.1	42.9	42.0	41.3	40.41	48.85	
																								Diurnal Average	30.46		
																								Diurnal Maximum	48.85		
																								Z - zerospan			
																								C - Calibration			



WCAS - Steeper
Summary of Hourly Averages

Nitrogen Oxide (NO) - ppb
August 2017

Maximum Value: 2.84 ppb on Aug 3 14:00		Maximum Daily Average: 0.19 ppb on Aug 3		Hours in Service: 744																																													
Minimum Value: 0.0 ppb on Aug 24 16:00		Minimum Daily Average: 0.01 ppb on Aug 27		Hours of Data: 708																																													
Maximum Diurnal Average: 0.15 ppb at hour 14		Minimum Diurnal Average: 0.03 ppb at hour 24		Hours of Missing Data: 36																																													
Monthly Average: 0.058 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 0.0 P ₉₀ = 0.1 P ₉₉ = 0.5		Hours of Calibration: 36																																													
				Percent Operational Time: 100.0																																													
Day	Hourly Period Ending At																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Aug	0.0	0.0	0.0	Z	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.05	0.18																							
2-Aug	0.0	0.0	0.0	Z	0.0	0.1	0.3	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.07	0.28																							
3-Aug	0.0	0.0	0.0	Z	0.0	0.1	0.1	0.3	0.2	0.1	0.1	0.1	0.0	2.8	0.1	0.0	0.0	0.0	0.1	0.0	0.2	0.0	0.0	0.0	0.19	2.84																							
4-Aug	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	0.03	0.04																							
5-Aug	0.0	0.0	0.0	Z	0.0	0.0	0.1	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.05	0.18																							
6-Aug	0.0	0.0	0.0	Z	0.0	0.0	0.1	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.06	0.17																							
7-Aug	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.04	0.11																							
8-Aug	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.1	0.1	0.1	0.4	0.2	0.1	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.11	1.08																							
9-Aug	0.0	0.0	0.0	Z	0.0	0.0	0.1	0.2	0.1	C	C	C	C	C	0.1	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.06	0.23																							
10-Aug	0.0	0.0	0.0	Z	0.0	0.0	0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.05	0.25																							
11-Aug	0.0	0.0	0.0	Z	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.06	0.33																							
12-Aug	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.07	0.16																							
13-Aug	0.1	0.0	0.1	Z	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.3	0.2	0.1	0.1	0.1	0.0	0.11	0.26																							
14-Aug	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	0.5	0.6	0.1	0.1	0.0	0.0	0.0	0.6	0.0	0.0	0.11	0.64																							
15-Aug	0.0	0.0	0.0	Z	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	0.7	0.1	0.0	0.1	0.0	0.0	0.07	0.65																							
16-Aug	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.04	0.06																							
17-Aug	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.1	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.0	0.0	0.0	0.08	0.24																							
18-Aug	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.05	0.08																							
19-Aug	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	0.03	0.04																							
20-Aug	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.04	0.10																							
21-Aug	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.1	0.4	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.06	0.36																							
22-Aug	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.04	0.08																							
23-Aug	0.0	0.0	0.0	Z	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.04	0.11																							
24-Aug	0.0	0.0	0.0	Z	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	0.0	0.0	0.5	0.0	0.0	0.04	0.54																							
25-Aug	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	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.03	0.42																							
26-Aug	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	0.1	0.7	0.0	0.0	0.0	0.0	0.03	0.65																							
27-Aug	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.04																							
28-Aug	0.0	0.0	0.0	Z	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.04	0.10																							
29-Aug	0.0	0.0	0.0	Z	0.0	0.0	0.1	0.2	0.2	0.3	0.4	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.08	0.39																							
30-Aug	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.03	0.05																							
31-Aug	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.04	0.26																							
																								0.03	0.03	0.03	--	0.03	0.03	0.06	0.09	0.09	0.07	0.08	0.07	0.05	0.15	0.10	0.07	0.05	0.05	0.06	0.06	0.04	0.04	0.04	0.03	Diurnal Average	
																								0.06	0.05	0.05	--	0.05	0.06	0.27	0.28	0.36	0.35	0.41	0.21	0.18	2.84	1.08	0.64	0.18	0.26	0.65	0.65	0.24	0.54	0.57	0.06	Diurnal Maximum	
Z - zerospan C - Calibration																																																	
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr --- ppb 24-hr --- ppb																																																	



WCAS - Steeper
Summary of Hourly Averages

Nitrogen Dioxide (NO₂) - ppb
August 2017

Maximum Value: 3.71 ppb on Aug 13 12:00		Maximum Daily Average: 0.68 ppb on Aug 13		Hours in Service: 744																													
Minimum Value: 0.0 ppb on Aug 1 19:00		Minimum Daily Average: 0.00 ppb on Aug 4		Hours of Data: 708																													
Maximum Diurnal Average: 0.33 ppb at hour 12		Minimum Diurnal Average: 0.16 ppb at hour 15		Hours of Missing Data: 36																													
Monthly Average: 0.236 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.1 Q ₃ = 0.3 P ₉₀ = 0.6 P ₉₉ = 1.4		Hours of Calibration: 36																													
				Percent Operational Time: 100.0																													
Day	Hourly Period Ending At																								Daily Average	Daily Maximum							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24									
1-Aug	0.3	0.2	0.2	Z	0.8	0.3	0.3	0.1	0.1	0.2	0.1	0.3	0.1	0.4	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.16	0.78							
2-Aug	0.1	0.2	0.2	Z	0.7	0.5	0.5	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.0	0.13	0.70							
3-Aug	0.0	0.1	0.7	Z	0.8	0.6	0.6	0.6	0.3	0.0	0.2	0.1	0.0	0.9	0.1	0.0	0.1	0.2	0.2	0.3	0.3	0.0	0.0	0.0	0.26	0.94							
4-Aug	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	0.04							
5-Aug	0.0	0.0	0.0	Z	0.3	0.3	0.3	0.1	0.1	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.0	0.09	0.33							
6-Aug	0.0	0.0	0.2	Z	0.5	0.4	0.3	0.3	0.1	0.1	0.2	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.4	0.2	0.2	0.1	0.14	0.54							
7-Aug	0.1	0.2	0.1	Z	0.1	0.1	0.2	0.9	0.4	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.7	0.6	0.4	0.20	0.85								
8-Aug	0.4	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.6	0.1	0.1	0.09	0.57							
9-Aug	0.3	0.8	0.8	Z	0.7	0.6	0.6	0.4	0.1	C	C	C	C	C	0.0	0.0	0.0	0.0	0.0	0.1	0.4	0.0	0.0	0.27	0.79								
10-Aug	0.0	0.0	0.5	Z	0.7	0.7	0.7	0.5	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.16	0.70								
11-Aug	0.2	0.1	0.1	Z	0.8	0.6	0.6	0.5	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.2	0.2	0.1	0.1	0.2	0.3	0.4	0.4	0.24	0.80							
12-Aug	0.3	0.3	0.6	Z	0.7	0.6	0.6	0.7	1.1	1.3	1.4	1.2	1.3	0.9	0.6	0.4	0.2	0.2	0.0	0.1	0.2	0.1	0.1	0.0	0.56	1.42							
13-Aug	0.1	0.2	0.3	Z	0.5	0.7	1.0	1.1	0.9	1.4	2.5	3.7	2.1	0.0	0.0	0.0	0.4	0.5	0.4	0.0	0.0	0.0	0.0	0.68	3.71								
14-Aug	0.0	0.0	0.1	Z	0.3	0.1	0.0	0.0	0.0	0.0	0.1	0.2	0.3	0.4	1.3	0.6	0.4	0.3	0.2	0.2	0.1	0.1	0.8	0.1	0.24	1.27							
15-Aug	0.0	0.1	0.1	Z	0.1	0.2	0.1	0.2	0.2	0.1	0.2	0.2	0.2	0.1	0.2	0.2	0.3	0.4	1.5	0.6	0.3	0.4	0.4	0.2	0.28	1.46							
16-Aug	0.2	0.2	0.1	Z	0.0	0.0	0.1	0.2	0.2	0.3	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.2	0.6	0.4	0.4	0.1	0.16	0.61							
17-Aug	0.0	0.0	0.3	Z	0.1	0.3	0.2	0.4	0.9	0.6	0.7	0.6	0.5	0.5	0.5	0.8	1.0	0.6	0.4	0.3	0.9	0.2	0.2	0.2	0.44	0.97							
18-Aug	0.2	0.3	0.3	Z	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.0	0.1	0.7	0.7	0.4	0.5	0.1	0.1	0.1	0.0	0.0	0.20	0.72							
19-Aug	0.0	0.0	0.2	Z	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.1	0.2	0.2	0.3	0.2	0.1	0.1	0.1	0.11	0.27							
20-Aug	0.1	0.1	0.2	Z	0.2	0.8	0.4	0.6	0.5	0.5	0.4	0.4	0.5	0.5	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.28	0.77							
21-Aug	0.0	0.1	0.0	Z	0.0	0.0	0.0	0.1	0.6	0.7	0.4	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.10	0.66							
22-Aug	0.0	0.0	0.0	Z	0.1	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.3	0.3	0.1	0.0	0.0	0.08	0.32							
23-Aug	0.1	0.3	0.6	Z	0.7	0.7	0.6	0.3	0.1	0.2	0.2	0.5	0.3	0.2	0.2	0.2	0.3	0.1	0.1	0.2	0.4	0.6	0.3	0.3	0.33	0.70							
24-Aug	0.1	0.1	0.3	Z	0.1	0.3	0.3	0.3	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.6	0.1	0.1	0.17	1.02							
25-Aug	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.2	0.3	0.0	0.1	0.1	0.1	0.1	0.1	0.4	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.10	0.40							
26-Aug	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	0.1	0.1	0.0	0.0	0.10	1.64							
27-Aug	0.0	0.1	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.7	1.2	0.8	0.4	0.16	1.25							
28-Aug	0.4	0.4	0.9	Z	0.6	0.7	0.6	0.3	0.4	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.6	0.8	1.0	0.40	0.99							
29-Aug	1.2	1.3	0.5	Z	0.4	0.5	0.6	0.5	0.4	0.7	0.8	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.7	0.4	0.4	0.2	0.51	1.34							
30-Aug	0.2	0.1	0.1	Z	0.1	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.2	0.1	0.4	0.6	0.7	0.3	0.2	0.1	0.1	1.3	0.26	1.29							
31-Aug	0.8	0.5	0.5	Z	0.7	0.5	0.5	0.5	0.5	0.8	0.4	0.3	0.2	0.2	0.2	0.5	0.3	1.0	0.1	0.1	0.5	0.2	0.2	0.1	0.42	0.96							
		0.17	0.18	0.26	--	0.33	0.31	0.30	0.30	0.27	0.27	0.31	0.33	0.24	0.19	0.16	0.17	0.16	0.18	0.17	0.20	0.24	0.29	0.23	0.17	Diurnal Average							
		1.18	1.34	0.94	--	0.80	0.77	0.97	1.06	1.06	1.45	2.53	3.71	2.15	0.94	1.27	0.76	0.97	0.96	1.46	1.64	0.86	1.25	0.79	1.29	Diurnal Maximum							
Z - zerospan		C - Calibration																															
Alberta Ambient Air Quality Objectives (AAAQO):		1-hr 159 ppb				24-hr 106 ppb																											



WCAS - Steeper
Summary of Hourly Averages

NOx (NO_x) - ppb
August 2017

Maximum Value: 3.89 ppb on Aug 13 12:00		Maximum Daily Average: 0.77 ppb on Aug 13		Hours in Service: 744																																													
Minimum Value: 0.0 ppb on Aug 4 02:00		Minimum Daily Average: 0.05 ppb on Aug 4		Hours of Data: 708																																													
Maximum Diurnal Average: 0.45 ppb at hour 12		Minimum Diurnal Average: 0.24 ppb at hour 1		Hours of Missing Data: 36																																													
Monthly Average: 0.335 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 0.2 Q ₃ = 0.4 P ₉₀ = 0.7 P ₉₉ = 1.6		Hours of Calibration: 36																																													
Percent Operational Time: 100.0																																																	
Day	Hourly Period Ending At																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Aug	0.4	0.3	0.3	Z	0.9	0.4	0.5	0.3	0.3	0.3	0.3	0.6	0.3	0.6	0.4	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.31	0.92																							
2-Aug	0.2	0.3	0.4	Z	0.8	0.7	0.8	0.6	0.2	0.1	0.2	0.1	0.1	0.1	0.2	0.1	0.2	0.1	0.1	0.1	0.2	0.4	0.3	0.2	0.29	0.83																							
3-Aug	0.1	0.2	0.8	Z	0.9	0.8	0.8	1.0	0.6	0.2	0.4	0.2	0.2	3.0	0.3	0.2	0.2	0.3	0.3	0.4	0.5	0.2	0.1	0.0	0.52	3.01																							
4-Aug	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.05	0.18																							
5-Aug	0.0	0.0	0.1	Z	0.4	0.5	0.4	0.4	0.3	0.4	0.4	0.2	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.3	0.2	0.1	0.21	0.46																							
6-Aug	0.0	0.0	0.4	Z	0.7	0.5	0.5	0.5	0.4	0.3	0.4	0.2	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.5	0.4	0.3	0.2	0.28	0.67																							
7-Aug	0.2	0.3	0.2	Z	0.2	0.2	0.4	1.1	0.6	0.2	0.2	0.3	0.3	0.2	0.3	0.2	0.2	0.3	0.2	0.2	0.2	0.8	0.7	0.5	0.35	1.06																							
8-Aug	0.6	0.1	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.2	0.8	0.4	0.2	0.2	0.3	0.1	0.1	0.1	0.1	0.2	0.4	0.7	0.3	0.2	0.21	0.79																							
9-Aug	0.4	0.9	0.9	Z	0.8	0.8	0.8	0.7	0.3	C	C	C	C	C	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.4	0.0	0.0	0.35	0.92																							
10-Aug	0.0	0.0	0.6	Z	0.7	0.7	0.8	0.7	0.3	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.20	0.82																							
11-Aug	0.3	0.2	0.2	Z	0.9	0.7	0.7	0.6	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.2	0.3	0.2	0.1	0.2	0.2	0.3	0.4	0.4	0.29	0.87																							
12-Aug	0.3	0.3	0.6	Z	0.7	0.6	0.6	0.7	1.1	1.4	1.6	1.3	1.5	1.0	0.7	0.6	0.3	0.3	0.1	0.1	0.3	0.2	0.2	0.1	0.64	1.55																							
13-Aug	0.1	0.2	0.3	Z	0.5	0.7	1.0	1.1	1.0	1.6	2.7	3.9	2.3	0.1	0.1	0.0	0.5	0.8	0.6	0.0	0.0	0.0	0.0	0.77	3.89																								
14-Aug	0.0	0.0	0.2	Z	0.3	0.1	0.0	0.0	0.0	0.0	0.1	0.2	0.4	0.4	1.8	1.2	0.4	0.4	0.3	0.2	0.2	1.4	0.1	0.35	1.77																								
15-Aug	0.1	0.2	0.2	Z	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.3	0.3	0.2	0.2	0.3	0.3	0.4	2.1	0.7	0.4	0.5	0.4	0.3	0.36	2.12																							
16-Aug	0.2	0.2	0.2	Z	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.2	0.1	0.2	0.1	0.1	0.0	0.0	0.0	0.2	0.6	0.4	0.5	0.1	0.20	0.65																							
17-Aug	0.1	0.1	0.3	Z	0.1	0.3	0.2	0.5	1.1	0.7	0.8	0.8	0.6	0.5	0.6	0.8	1.1	0.7	0.5	0.4	1.1	0.2	0.2	0.2	0.52	1.11																							
18-Aug	0.2	0.3	0.3	Z	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.1	0.1	0.2	0.7	0.8	0.5	0.5	0.2	0.1	0.1	0.1	0.0	0.25	0.80																							
19-Aug	0.0	0.1	0.2	Z	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.3	0.2	0.2	0.1	0.1	0.13	0.29																							
20-Aug	0.1	0.1	0.2	Z	0.2	0.8	0.4	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.3	0.3	0.2	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.32	0.80																							
21-Aug	0.1	0.1	0.1	Z	0.1	0.1	0.0	0.2	0.9	0.8	0.5	0.4	0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.16	0.92																							
22-Aug	0.0	0.0	0.0	Z	0.1	0.3	0.2	0.2	0.2	0.2	0.0	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.3	0.1	0.1	0.12	0.35																							
23-Aug	0.2	0.3	0.6	Z	0.7	0.7	0.6	0.4	0.2	0.2	0.2	0.6	0.4	0.3	0.2	0.3	0.3	0.2	0.2	0.2	0.4	0.6	0.3	0.4	0.37	0.73																							
24-Aug	0.2	0.2	0.4	Z	0.2	0.3	0.4	0.4	0.5	0.2	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.1	0.1	0.1	1.6	0.7	0.2	0.2	0.25	1.63																							
25-Aug	0.1	0.1	0.1	Z	0.1	0.1	0.1	0.3	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.9	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.23	0.92																							
26-Aug	0.1	0.1	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.2	2.4	0.2	0.2	0.1	0.1	0.24	2.40																							
27-Aug	0.2	0.2	0.2	Z	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.8	1.4	0.9	0.5	0.27	1.37																							
28-Aug	0.5	0.5	1.1	Z	0.8	0.8	0.7	0.5	0.6	0.3	0.4	0.5	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.7	0.9	1.1	0.54	1.10																							
29-Aug	1.3	1.5	0.6	Z	0.5	0.6	0.8	0.7	0.7	1.1	1.3	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.4	0.5	0.8	0.5	0.5	0.3	0.69	1.45																							
30-Aug	0.3	0.3	0.2	Z	0.2	0.2	0.2	0.2	0.3	0.3	0.4	0.4	0.4	0.5	0.3	0.3	0.6	0.8	0.8	0.5	0.3	0.2	0.2	1.4	0.40	1.41																							
31-Aug	0.9	0.6	0.6	Z	0.8	0.6	0.7	0.6	0.7	1.0	0.6	0.5	0.3	0.3	0.3	0.6	0.5	1.3	0.2	0.2	0.6	0.3	0.3	0.2	0.56	1.32																							
																								0.24	0.25	0.33	--	0.40	0.39	0.41	0.44	0.41	0.39	0.44	0.45	0.34	0.34	0.27	0.28	0.24	0.26	0.28	0.30	0.33	0.38	0.32	0.24	Diurnal Average	
																								1.29	1.45	1.08	--	0.92	0.81	1.02	1.15	1.11	1.62	2.68	3.89	2.32	3.01	1.77	1.22	1.08	1.32	2.12	2.40	1.11	1.63	1.37	1.41	Diurnal Maximum	
Z - zerospan C - Calibration																																																	
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr --- ppb 24-hr --- ppb																																																	



WCAS - Steeper
Summary of Hourly Averages

Carbon Monoxide (CO) - ppm
August 2017

Maximum Value: 2.62 ppm on Aug 13 12:00		Maximum Daily Average: 0.61 ppm on Aug 13		Hours in Service: 744																																													
Minimum Value: 0.1 ppm on Aug 19 14:00		Minimum Daily Average: 0.14 ppm on Aug 25		Hours of Data: 706																																													
Maximum Diurnal Average: 0.32 ppm at hour 12		Minimum Diurnal Average: 0.21 ppm at hour 5		Hours of Missing Data: 38																																													
Monthly Average: 0.243 ppm		Percentiles: P ₁ = 0.1 P ₁₀ = 0.2 Q ₁ = 0.2 Median = 0.2 Q ₃ = 0.3 P ₉₀ = 0.4 P ₉₉ = 0.7		Hours of Calibration: 38																																													
				Percent Operational Time: 100.0																																													
Day	Hourly Period Ending At																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Aug	0.2	0.2	0.2	Z	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.20	0.25																						
2-Aug	0.2	0.2	0.2	Z	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.18	0.20																						
3-Aug	0.2	0.2	0.2	Z	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.20	0.23																						
4-Aug	0.2	0.2	0.2	Z	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.20	0.20																						
5-Aug	0.2	0.2	0.2	Z	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.19	0.20																						
6-Aug	0.2	0.2	0.2	Z	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.21	0.24																						
7-Aug	0.2	0.2	0.2	Z	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.22	0.25																						
8-Aug	0.2	0.2	0.2	Z	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.22	0.27																						
9-Aug	0.2	0.2	0.2	Z	0.2	0.2	0.2	0.2	0.2	C	C	C	C	C	C	C	C	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	--	0.22																						
10-Aug	0.2	0.2	0.2	Z	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.19	0.22																						
11-Aug	0.2	0.2	0.2	Z	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.20	0.22																						
12-Aug	0.2	0.2	0.2	Z	0.2	0.2	0.2	0.3	0.4	0.5	0.5	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.29	0.55																						
13-Aug	0.3	0.3	0.3	Z	0.3	0.3	0.4	0.4	0.4	0.7	1.8	2.6	1.7	0.3	0.3	0.3	0.3	0.4	0.5	0.4	0.4	0.6	0.5	0.5	0.5	0.61	2.62																						
14-Aug	0.5	0.5	0.4	Z	0.3	0.3	0.3	0.2	0.2	0.3	0.3	0.4	0.5	0.4	0.4	0.4	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.33	0.47																						
15-Aug	0.2	0.2	0.2	Z	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.32	0.51																						
16-Aug	0.3	0.3	0.3	Z	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.3	0.32	0.43																							
17-Aug	0.3	0.3	0.3	Z	0.3	0.4	0.4	0.4	0.6	0.6	0.5	0.5	0.5	0.6	0.7	0.8	0.7	0.6	0.5	0.5	0.4	0.4	0.4	0.4	0.48	0.80																							
18-Aug	0.4	0.4	0.4	Z	0.4	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.2	0.5	0.5	0.4	0.4	0.3	0.3	0.3	0.3	0.2	0.33	0.54																							
19-Aug	0.2	0.2	0.2	Z	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.14	0.21																							
20-Aug	0.2	0.2	0.2	Z	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.4	0.4	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.25	0.36																							
21-Aug	0.2	0.2	0.2	Z	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.21	0.23																							
22-Aug	0.2	0.2	0.2	Z	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.19	0.21																							
23-Aug	0.2	0.2	0.2	Z	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.22	0.26																							
24-Aug	0.2	0.2	0.2	Z	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.17	0.23																							
25-Aug	0.1	0.1	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.14	0.15																							
26-Aug	0.1	0.1	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.15	0.16																							
27-Aug	0.1	0.1	0.1	Z	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.17	0.22																							
28-Aug	0.2	0.2	0.2	Z	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.20	0.22																							
29-Aug	0.2	0.2	0.2	Z	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.22	0.29																							
30-Aug	0.2	0.2	0.2	Z	0.2	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.32	0.42																							
31-Aug	0.2	0.3	0.3	Z	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.26	0.38																							
																								0.22	0.22	0.22	--	0.21	0.21	0.21	0.22	0.23	0.26	0.30	0.32	0.29	0.24	0.24	0.26	0.26	0.26	0.25	0.24	0.24	0.24	0.23	0.22	Diurnal Average	
																								0.45	0.45	0.43	--	0.37	0.36	0.37	0.42	0.55	0.66	1.77	2.62	1.71	0.52	0.56	0.71	0.80	0.67	0.57	0.54	0.47	0.58	0.52	0.47	Diurnal Maximum	
Z - zerospan C - Calibration																																																	
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 13000 ppb 24-hr 5000 ppb																																																	



WCAS - Steeper
Summary of Hourly Averages

PM2.5 (PM_{2.5}) - µg/m³
August 2017

Maximum Value: 443.82 µg/m ³ on Aug 13 12:00		Maximum Daily Average: 66.71 µg/m ³ on Aug 17		Hours in Service: 744																						
Minimum Value: 0.0 µg/m ³ on Aug 1 11:00		Minimum Daily Average: 0.37 µg/m ³ on Aug 19		Hours of Data: 743																						
Maximum Diurnal Average: 26.95 µg/m ³ at hour 12		Minimum Diurnal Average: 7.51 µg/m ³ at hour 24		Hours of Missing Data: 1																						
Monthly Average: 12.967 µg/m ³		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 1.6 Median = 4.8 Q ₃ = 13.7 P ₉₀ = 34.6 P ₉₉ = 64.7		Hours of Calibration: 0																						
				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-Aug	13.7	13.6	13.7	15.5	16.8	16.2	4.5	1.8	1.5	0.5	0.0	0.0	0.0	0.3	0.5	0.2	1.0	0.3	0.0	0.9	1.3	1.8	1.5	0.9	4.43	16.75
2-Aug	0.3	0.0	0.0	1.2	1.1	1.7	1.9	4.3	3.1	M	2.7	0.1	1.5	1.0	0.9	0.5	3.6	1.6	1.3	2.1	4.9	3.7	2.0	2.3	1.81	4.90
3-Aug	2.3	3.0	3.8	3.3	3.1	2.9	2.9	3.9	5.9	2.9	7.8	1.9	1.5	5.9	6.8	5.5	5.1	7.7	5.7	11.7	4.6	1.0	0.4	0.0	4.15	11.71
4-Aug	0.0	0.3	0.6	2.1	3.1	2.8	2.8	2.8	3.1	2.3	1.5	2.4	2.2	1.4	1.1	0.8	0.8	2.0	0.8	0.6	0.0	0.0	0.0	0.0	1.40	3.11
5-Aug	0.0	0.0	0.0	0.2	0.5	1.3	1.4	15.5	4.5	3.8	2.5	2.9	2.9	4.0	4.2	2.7	3.7	5.6	4.3	5.5	4.3	6.4	5.3	4.8	3.60	15.45
6-Aug	5.4	4.2	4.3	4.7	4.8	5.1	4.7	6.1	6.8	8.5	7.9	3.8	3.9	5.6	7.3	6.3	6.2	5.3	6.1	5.9	6.8	7.7	7.9	6.5	5.92	8.45
7-Aug	11.8	7.6	0.0	0.0	0.0	0.0	3.2	3.5	1.3	0.0	1.4	4.8	3.7	2.5	4.4	3.2	3.6	3.9	1.4	2.1	1.1	3.0	2.4	1.1	2.74	11.78
8-Aug	1.1	0.1	1.3	0.6	2.7	1.7	4.5	9.0	5.0	6.8	7.0	6.7	6.1	0.0	3.7	6.7	1.1	1.9	3.0	4.8	8.9	8.7	1.3	3.0	3.98	8.96
9-Aug	4.1	4.8	5.5	4.9	5.1	5.0	5.4	6.6	8.6	9.3	3.5	5.1	0.0	1.9	1.3	3.6	2.7	2.7	3.6	5.0	10.1	7.9	5.1	4.5	4.83	10.06
10-Aug	4.6	4.7	5.2	5.3	5.6	5.5	5.6	5.9	5.7	6.7	6.6	6.4	4.9	4.1	4.3	5.2	4.6	4.2	4.3	4.2	4.6	3.5	3.3	3.2	4.92	6.68
11-Aug	4.2	4.1	4.3	4.6	5.9	5.7	6.2	6.3	6.4	4.6	4.8	6.0	4.0	4.0	3.9	4.7	6.6	5.4	5.6	4.5	5.7	3.9	3.9	3.9	4.97	6.61
12-Aug	3.8	5.1	6.3	6.8	6.9	9.5	14.3	25.5	48.1	73.7	76.9	31.2	18.9	16.2	12.8	15.6	12.5	9.1	6.4	5.6	5.8	10.5	16.2	15.3	18.87	76.93
13-Aug	21.0	27.7	29.4	30.9	33.9	36.0	37.0	38.0	38.7	76.5	280.7	443.8	303.1	0.0	0.0	0.0	0.0	5.1	22.1	13.0	15.1	17.7	6.8	4.2	61.70	443.82
14-Aug	4.4	3.4	2.7	3.9	4.9	6.6	7.6	6.7	6.8	7.5	14.6	37.3	62.6	61.5	55.4	52.1	44.6	39.0	29.9	21.8	15.3	13.9	12.7	11.6	21.94	62.61
15-Aug	10.8	12.4	14.3	14.6	14.6	14.0	12.9	13.4	20.1	19.3	21.2	21.8	23.9	23.6	27.4	36.1	48.6	62.2	69.5	66.8	61.6	60.3	54.0	41.6	31.88	69.50
16-Aug	35.0	35.0	32.4	30.0	29.7	29.4	28.3	31.2	31.3	36.4	30.1	26.4	29.5	26.4	30.9	28.1	24.3	18.0	19.4	27.3	43.9	38.8	34.8	25.9	30.11	43.93
17-Aug	24.0	25.4	32.8	35.9	41.2	47.7	48.7	58.4	83.8	83.3	73.4	65.7	70.2	72.8	82.2	110.1	140.1	110.2	86.6	78.3	61.6	56.9	58.0	53.8	66.71	140.05
18-Aug	50.7	55.7	57.2	50.1	48.5	40.3	31.4	24.2	21.5	22.9	18.9	24.7	21.0	16.2	18.8	53.5	61.1	34.7	24.0	0.0	0.0	0.0	0.0	0.0	28.14	61.09
19-Aug	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	1.8	0.5	1.0	0.0	1.0	2.3	0.37	2.32
20-Aug	5.6	6.8	16.7	11.2	21.0	19.2	13.6	10.5	21.2	21.8	26.8	41.9	34.6	26.7	20.7	18.6	11.5	8.6	8.5	9.2	12.7	7.9	7.5	6.3	16.22	41.95
21-Aug	6.8	8.9	7.5	7.9	7.5	6.8	7.0	5.7	14.1	5.6	0.0	12.2	0.0	5.0	6.8	0.7	4.4	5.4	7.2	0.0	1.4	1.9	2.6	0.8	5.25	14.08
22-Aug	1.6	1.8	2.5	0.8	1.2	0.9	2.9	4.1	7.6	0.3	0.0	1.6	2.3	0.0	10.1	1.6	0.0	1.6	5.3	0.0	1.1	1.6	1.9	0.2	2.13	10.13
23-Aug	0.0	0.0	0.6	1.0	4.8	11.8	7.5	7.2	12.0	5.9	4.0	9.3	3.4	3.4	6.1	15.5	5.7	1.0	3.9	1.1	4.8	1.1	1.3	1.9	4.72	15.46
24-Aug	0.6	2.8	0.6	0.2	3.3	10.1	10.3	7.5	7.3	0.0	0.0	0.0	0.0	6.2	0.0	0.0	0.0	0.0	0.0	1.4	0.0	0.3	0.0	0.0	2.11	10.34
25-Aug	0.0	0.0	0.0	0.0	2.0	2.0	4.0	6.1	6.4	2.5	1.0	2.5	3.3	2.1	3.4	3.8	6.0	5.6	6.3	7.0	6.2	4.0	4.0	3.2	3.39	6.96
26-Aug	2.1	2.6	2.0	1.5	1.7	1.7	1.7	2.8	3.6	1.1	0.9	4.7	0.0	0.6	0.0	2.0	1.4	0.5	3.1	2.1	0.4	1.1	1.1	0.3	1.63	4.73
27-Aug	0.1	0.9	0.8	0.9	1.5	2.0	2.8	3.5	12.3	0.0	0.1	1.6	1.8	0.0	0.2	0.1	0.5	2.4	4.6	2.6	15.7	11.6	5.5	1.4	3.04	15.68
28-Aug	1.6	4.1	17.4	4.4	1.6	4.5	10.8	5.5	3.5	2.9	4.4	4.6	3.2	4.1	4.3	4.9	4.8	2.6	2.4	4.9	3.3	3.7	3.7	4.3	4.65	17.38
29-Aug	4.3	1.0	1.3	2.0	3.7	3.2	5.1	6.4	8.5	16.9	11.8	9.1	7.6	6.0	6.4	5.6	4.8	2.2	1.3	3.3	4.7	5.1	5.2	1.3	5.28	16.95
30-Aug	0.5	3.2	7.4	11.3	16.5	21.7	27.9	35.4	40.7	59.6	35.4	38.7	41.3	45.2	26.0	27.5	44.6	51.9	23.1	34.1	20.5	23.1	23.7	25.4	28.52	59.64
31-Aug	25.5	26.0	25.2	25.8	27.3	27.5	27.3	31.0	34.4	32.4	35.8	17.8	23.9	18.7	23.1	57.6	32.2	5.6	14.6	10.2	0.9	1.1	4.0	3.0	22.12	57.56
																								Diurnal Average		
7.93 8.55 9.53 9.09 10.33 11.06 11.11 12.54 15.32 17.14 21.99 26.95 21.97 11.79 12.04 15.25 15.68 13.12 12.13 10.86 10.59 9.94 8.94 7.51																								Diurnal Maximum		
50.68 55.71 57.16 50.09 48.49 47.66 48.72 58.35 83.84 83.27 280.67 443.82 303.13 72.82 82.24 110.08 140.05 110.20 86.56 78.31 61.60 60.34 58.02 53.81																										
M - Maintenance																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 80 ul/m ³ 24-hr 30 ul/m ³																										

**STEEPER
STATION #905**

METEOROLOGICAL DATA

AUGUST 2017



WCAS - Steeper
Summary of Hourly Averages

External Temperature (ET) - C
August 2017

Maximum Value: 27.20 C on Aug 30 16:00		Maximum Daily Average: 18.29 C on Aug 30		Hours in Service: 744																							
Minimum Value: 2.4 C on Aug 15 04:00		Minimum Daily Average: 9.19 C on Aug 19		Hours of Data: 744																							
Maximum Diurnal Average: 19.28 C at hour 15		Minimum Diurnal Average: 8.35 C at hour 6		Hours of Missing Data: 0																							
Monthly Average: 13.776 C		Percentiles: P ₁ = 3.3 P ₁₀ = 7.6 Q ₁ = 9.5 Median = 13.2 Q ₃ = 17.5 P ₉₀ = 21.4 P ₉₉ = 25.4		Hours of Calibration: 0																							
				Percent Operational Time: 100.0																							
Day	Hourly Period Ending At																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Aug	11.3	9.4	8.2	8.2	7.6	8.5	8.7	8.4	8.4	8.9	8.9	9.1	10.2	10.1	10.3	11.0	13.4	14.7	13.5	12.9	11.7	10.6	8.2	7.1	9.97	14.70	
2-Aug	6.4	5.8	5.4	4.8	4.5	4.5	4.9	6.9	11.8	15.8	17.5	18.3	19.5	20.0	20.8	21.4	21.5	20.5	18.6	17.2	15.6	14.9	13.5	11.0	13.38	21.52	
3-Aug	9.7	9.5	9.3	8.9	8.7	8.5	9.1	11.2	16.3	21.2	21.7	21.9	22.4	23.6	24.2	23.3	21.4	19.8	19.8	14.7	11.2	10.9	10.6	10.0	15.33	24.18	
4-Aug	9.2	8.3	7.4	8.1	8.5	8.7	8.9	9.0	9.3	9.5	9.6	10.0	10.7	11.2	12.4	13.8	14.3	13.1	13.0	12.7	11.8	10.8	9.8	9.2	10.38	14.26	
5-Aug	8.6	8.1	7.4	6.7	6.3	6.3	7.0	8.6	12.5	14.6	14.4	16.4	17.4	17.7	18.3	19.1	18.8	18.1	16.9	16.0	15.0	14.2	12.2	10.0	12.94	19.05	
6-Aug	8.6	8.3	8.1	7.8	7.4	7.4	7.4	9.0	13.5	17.6	19.5	20.0	20.7	21.4	21.7	22.4	22.2	20.7	19.4	18.0	16.6	16.3	15.5	14.0	15.16	22.39	
7-Aug	12.8	11.0	10.2	10.2	10.6	11.3	11.0	11.0	11.9	14.5	16.1	16.6	16.8	18.2	18.3	17.4	17.0	15.5	15.2	14.3	12.8	12.2	12.0	11.6	13.68	18.27	
8-Aug	10.6	9.2	8.2	7.1	6.5	6.2	6.5	7.3	10.2	13.7	15.6	16.2	17.9	19.3	20.0	21.1	21.2	20.1	18.3	17.4	16.1	14.5	12.5	10.7	13.60	21.19	
9-Aug	10.0	9.5	9.0	8.4	8.0	7.6	7.9	9.8	14.3	18.9	20.3	21.0	22.2	22.5	22.7	21.9	21.2	21.4	19.8	18.5	17.1	16.7	14.0	12.2	15.63	22.73	
10-Aug	11.2	10.3	9.9	9.4	8.8	8.5	8.7	10.7	15.2	19.9	21.3	21.5	22.2	23.0	23.8	24.0	23.7	22.4	20.6	18.7	17.1	17.5	16.1	13.6	16.59	24.05	
11-Aug	12.4	11.3	10.3	9.6	9.4	8.8	8.4	10.6	18.0	20.7	22.8	23.7	24.2	24.6	25.2	25.2	24.7	23.3	21.5	19.5	17.3	16.4	15.6	14.6	17.43	25.22	
12-Aug	11.8	11.0	10.6	10.4	10.1	9.9	10.5	12.3	13.4	15.0	17.6	19.4	19.3	18.3	19.4	21.0	22.0	21.1	20.3	19.2	18.6	16.6	14.8	14.0	15.70	21.97	
13-Aug	13.3	13.3	12.8	12.6	12.9	13.3	13.0	13.5	14.4	15.8	16.5	16.8	14.3	11.8	11.9	13.2	13.4	13.4	13.0	11.4	10.4	8.6	8.1	7.9	12.73	16.76	
14-Aug	7.9	7.8	7.6	7.1	6.8	6.4	6.3	6.3	7.6	10.3	13.4	12.3	13.0	14.1	13.0	12.1	12.9	13.4	11.3	9.8	8.8	7.9	6.8	5.7	9.53	14.07	
15-Aug	4.6	3.9	3.2	2.4	2.7	2.5	2.6	4.4	8.7	12.6	14.3	15.9	16.5	15.2	17.0	17.6	16.8	15.8	14.9	13.3	11.7	11.3	10.4	10.9	10.38	17.64	
16-Aug	11.4	9.9	9.5	7.8	7.6	6.7	8.3	10.2	10.6	14.1	15.9	16.9	15.7	17.6	16.3	16.5	17.3	18.4	16.9	15.1	13.0	12.4	10.2	8.3	12.78	18.41	
17-Aug	7.3	6.7	7.4	6.6	6.2	6.8	7.0	7.8	10.6	15.3	16.7	19.2	20.0	21.1	22.0	21.0	20.1	19.7	17.8	17.0	15.6	15.3	14.6	14.5	14.01	22.03	
18-Aug	14.0	13.9	13.5	14.0	12.2	11.6	12.6	14.1	14.7	16.4	16.9	18.8	18.0	17.1	17.3	13.7	12.3	9.9	9.5	7.4	6.9	6.7	6.5	5.3	12.65	18.85	
19-Aug	5.0	4.3	3.9	3.5	3.0	3.4	3.4	5.1	7.9	10.3	12.1	13.3	14.9	15.3	15.0	14.8	15.1	14.1	11.9	11.3	8.8	7.6	8.1	8.4	9.19	15.32	
20-Aug	7.9	8.1	8.8	6.5	7.7	7.8	7.1	7.4	8.1	9.1	10.9	11.5	13.6	13.4	13.0	12.4	15.1	13.3	12.7	11.8	11.1	9.7	8.1	8.7	10.15	15.09	
21-Aug	8.8	9.4	8.1	8.4	8.1	8.8	9.7	10.5	12.6	12.2	12.1	13.1	17.0	18.3	17.2	17.3	17.0	16.0	14.6	14.6	14.4	14.4	12.5	11.5	12.77	18.26	
22-Aug	10.0	11.5	13.0	12.5	11.4	10.5	10.9	12.1	13.8	16.5	20.2	21.1	22.4	23.3	23.0	23.0	23.1	21.4	20.1	19.8	18.5	17.3	15.8	14.9	16.93	23.26	
23-Aug	14.0	14.4	14.4	13.8	14.4	13.0	12.8	12.9	15.6	17.1	18.9	20.4	22.0	21.4	21.1	21.0	20.4	20.1	17.7	16.1	15.0	14.9	13.3	13.5	16.59	22.00	
24-Aug	12.0	10.9	10.7	10.5	11.0	10.5	10.7	11.2	12.2	16.8	19.7	20.0	20.6	19.6	13.4	11.6	12.2	13.9	12.8	10.3	8.2	7.1	7.4	7.0	12.52	20.62	
25-Aug	5.8	5.4	5.3	5.4	5.3	5.3	5.7	6.9	8.8	12.7	14.5	15.6	16.1	19.1	18.4	17.9	18.7	17.4	15.1	12.5	10.2	9.5	9.3	9.2	11.26	19.12	
26-Aug	9.3	8.8	8.5	8.3	7.9	8.7	8.8	9.2	11.6	16.3	18.7	18.9	19.7	22.2	23.5	24.2	23.6	21.9	20.0	17.3	15.6	14.8	13.2	12.7	15.16	24.15	
27-Aug	11.6	11.0	10.6	10.6	10.8	10.2	10.6	11.5	16.3	21.1	23.0	23.6	24.7	25.5	24.8	25.4	26.4	22.3	22.8	21.3	18.5	17.3	15.8	13.6	17.89	26.39	
28-Aug	12.2	11.2	11.7	11.3	9.5	9.3	9.3	11.8	13.8	17.4	19.0	19.4	20.1	21.4	21.8	20.9	21.4	20.1	18.5	16.9	15.1	14.1	13.2	12.9	15.51	21.77	
29-Aug	12.9	11.2	9.5	8.8	8.5	7.9	7.6	7.6	10.1	15.1	16.8	19.2	20.6	21.8	22.5	22.7	22.4	20.9	18.8	16.7	15.4	15.7	13.6	11.5	14.91	22.74	
30-Aug	10.7	10.7	10.5	10.6	11.2	10.8	10.8	11.6	13.3	18.0	24.0	25.6	25.7	24.8	26.9	27.2	26.0	22.9	21.8	22.3	21.2	20.0	16.7	15.6	18.29	27.20	
31-Aug	14.2	12.8	11.1	9.9	9.5	9.2	8.7	9.4	10.6	12.1	16.7	20.7	20.4	20.9	22.6	18.0	16.8	16.8	16.3	14.6	13.8	12.9	10.7	8.9	14.06	22.58	
		10.18	9.57	9.17	8.72	8.49	8.35	8.54	9.63	12.13	15.14	16.95	17.96	18.67	19.15	19.28	19.10	19.11	18.14	16.89	15.44	13.97	13.19	11.91	10.94	Diurnal Average	
		14.18	14.38	14.41	14.05	14.37	13.33	12.99	14.14	18.03	21.23	23.96	25.60	25.66	25.49	26.88	27.20	26.39	23.31	22.76	22.34	21.20	20.01	16.69	15.64	Diurnal Maximum	



WCAS - Steeper
Summary of Hourly Averages

Wind Speed (WS) - kph
August 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	2.4	5.4	7.6	6.4	6.3	3.4	3.6	2.5	1.9	2.2	3.9	3.5	2.4	4.9	4.9	1.5	2.5	2.0	1.5	1.9	3.3	3.5	6.2	9.0	0.47	9.05
Dir	S	SSW	SSW	SSW	SSW	NW	NW	NW	WNW	N	NNE	NNE	NNE	NNE	NNE	NE	NNE	E	ENE	ENE	NE	SSE	SSW	SSW	SSW	SSW
2 Spd	10.0	10.2	10.4	10.7	9.8	11.5	10.6	4.8	2.7	0.5	4.2	4.7	4.8	7.0	6.8	4.9	6.6	4.4	3.7	4.7	4.1	4.0	3.9	8.0	1.79	11.54
Dir	SSW	SSW	SSW	SSW	SSW	SSW	SSW	S	S	NNE	NE	NE	NE	NNE	NNE	NE	NNE	NE	NE	NE	NE	E	SSW	SSW	S	SSW
3 Spd	12.0	12.3	13.6	14.1	13.8	13.5	12.6	10.1	2.3	3.3	7.5	8.9	8.2	6.1	6.6	6.4	6.9	5.4	4.7	11.6	2.6	2.4	5.3	7.0	1.86	14.14
Dir	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	NNE	NNE	NNE	NNE	NE	NE	NE	NE	NE	NE	NNE	WNW	W	SW	SSW	S	SSW
4 Spd	8.5	8.3	7.1	6.9	5.2	6.2	4.1	3.7	2.5	2.0	5.0	3.2	2.2	1.8	3.9	4.4	2.6	3.7	4.4	6.0	5.9	3.6	4.8	11.1	3.46	11.14
Dir	SSW	SSW	SSW	SW	SW	SW	WSW	WNW	W	NW	NNE	N	N	WNW	WSW	WSW	WSW	WSW	SW	SW	SW	NE	SSW	SSW	SW	SSW
5 Spd	10.3	9.0	9.5	9.9	10.8	9.9	9.2	6.2	2.4	1.3	4.5	4.6	4.2	5.1	6.2	5.3	5.8	4.9	4.9	3.0	3.7	3.5	4.8	7.2	1.70	10.81
Dir	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SW	NW	NNE	NNE	NNE	NNE	NNE	NNE	NNE	NE	NE	ENE	E	ESE	SSW	SSW	S	SSW
6 Spd	9.9	11.0	12.0	12.6	13.5	13.7	12.5	9.8	2.5	5.4	6.1	7.4	6.6	6.7	7.5	7.4	6.6	6.1	4.2	3.6	4.4	4.4	1.0	1.6	1.61	13.75
Dir	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	NNE	NE	NNE	NNE	NNE	NE	NNE	NE	NE	NE	NE	ENE	E	E	SW	SSE	SSW
7 Spd	2.7	3.0	2.5	5.0	4.4	3.1	4.5	5.4	2.8	0.4	2.6	5.1	5.4	8.2	8.9	9.3	9.3	6.2	5.6	3.3	2.1	3.5	4.1	3.8	3.01	9.31
Dir	W	NNW	SSW	S	SSW	SSW	NE	NE	NE	S	NE	NNE	NNE	NNE	NNE	NNE	NNE	NE	NE	NE	ENE	ENE	ENE	ESE	NE	NNE
8 Spd	0.8	4.1	5.8	7.3	7.1	6.3	5.5	5.5	1.8	4.8	7.0	7.9	7.3	7.0	7.3	5.3	5.2	4.7	5.8	2.8	3.9	2.0	5.0	11.5	0.83	11.54
Dir	SE	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	NNE	NNE	NNE	NE	NE	NNE	NNE	NE	NE	NE	NE	NE	ENE	SSW	SSW	E	SSW
9 Spd	11.3	12.8	11.0	11.3	11.1	10.5	9.7	7.0	2.8	1.3	4.2	4.9	4.1	5.3	7.1	8.0	5.1	5.3	5.3	2.6	4.3	2.2	6.7	7.6	2.00	12.85
Dir	SSW	SSW	SSW	SSW	SSW	SSW	SSW	S	SSW	WNW	N	NNE	NNW	N	NNE	NNE	NNE	NNE	NE	NE	ENE	E	SSW	SSW	SSW	SSW
10 Spd	9.1	12.0	11.9	10.4	10.9	10.6	10.0	7.6	3.8	1.9	3.3	4.9	5.1	4.8	3.6	5.9	6.3	6.2	6.0	4.9	4.0	5.9	6.0	6.1	2.29	12.04
Dir	SSW	SSW	SSW	SSW	SSW	SSW	SSW	S	S	N	NE	NNE	NNE	NE	NE	NNE	NE	NNE	NE	NE	ENE	SE	SSE	SSW	SSE	SSW
11 Spd	7.6	7.6	8.8	11.2	11.6	9.7	9.7	5.3	1.4	3.3	3.2	4.8	5.6	7.0	6.4	6.7	6.6	6.3	4.8	5.2	4.3	1.1	3.7	4.3	2.51	11.59
Dir	SSW	SSW	SSW	SSW	SSW	SSW	SSW	S	ESE	ESE	E	NE	NE	NE	NE	NE	NE	ENE	E	E	ENE	SE	SE	S	SE	SSW
12 Spd	6.8	10.7	11.4	10.0	12.1	12.5	12.0	11.6	6.5	4.3	2.7	3.3	4.6	6.2	5.4	5.5	4.3	4.5	3.7	5.5	3.8	6.2	11.2	12.7	3.68	12.73
Dir	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	S	SSW	E	NE	NE	NE	NE	NE	NE	ENE	NE	NNE	E	SSW	SSW	SSW	S	SSW
13 Spd	12.9	12.1	12.4	12.6	11.3	10.8	9.8	9.7	5.0	6.8	4.7	6.9	4.8	4.5	3.0	1.6	2.6	4.4	6.3	7.9	5.2	4.0	7.1	8.6	3.04	12.88
Dir	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	NNE	NNE	N	NNE	SW	SSW	SSW	S	NNE	NNE	NNE	NNE	N	W	SW	SSW	SSW	SSW
14 Spd	5.5	8.0	7.8	7.5	6.5	10.0	12.1	9.0	8.6	7.6	5.9	3.8	8.8	9.5	2.7	3.8	3.9	5.8	6.3	5.5	5.3	5.3	5.9	7.3	6.43	12.08
Dir	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SW	WSW	SW	SW	W	WNW	WSW	WSW	SW	SW	SW	SSW	SSW	SSW	SW	SSW
15 Spd	8.8	7.8	8.3	7.8	9.3	9.3	9.6	8.8	7.0	3.9	6.3	5.4	7.2	8.3	8.9	9.1	5.4	6.4	8.3	7.2	6.5	6.8	7.4	6.1	7.07	9.58
Dir	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SW	W	WSW	WSW	WSW	WSW	WSW	WSW	WSW	SW	SW	SW	SSW	SSW	SSW	SSW	SW	SSW
16 Spd	5.0	4.9	4.3	5.7	4.9	4.9	4.3	4.0	5.1	3.6	1.3	2.1	3.3	3.6	6.2	11.4	10.6	11.5	9.2	0.9	4.8	2.7	5.3	7.9	4.27	11.51
Dir	SSW	SSW	SSW	SSW	SSW	SSW	SSW	S	SSW	SSW	NNW	NNW	SW	WSW	WSW	SW	SW	SW	SW	W	NE	E	SSW	SSW	SW	SW
17 Spd	8.7	9.7	8.0	7.2	10.7	10.5	10.4	7.5	3.6	2.8	2.5	2.5	4.8	4.4	3.7	9.6	10.4	11.6	9.8	7.9	5.0	5.6	5.2	5.2	6.25	11.64
Dir	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	S	NNE	NNE	W	WSW	WSW	WSW	SW	SW	SW	SW	SW	SW	SSW	SSW	SSW	SSW	SW
18 Spd	6.7	7.4	8.9	4.1	3.0	6.7	7.3	9.5	11.4	7.9	3.3	4.1	2.6	2.6	1.2	11.5	8.1	2.3	2.3	2.8	4.2	6.4	4.0	6.1	2.71	11.55
Dir	SSW	SSW	SSW	S	S	SSW	SSW	SSW	SW	SW	WSW	SW	W	WNW	NNE	NE	NNE	N	NNE	N	NNE	SSW	SW	SW	SW	NE
19 Spd	8.2	8.4	7.3	7.4	8.6	10.3	8.5	10.2	8.5	11.4	10.8	10.4	11.9	13.3	16.2	15.7	18.2	14.2	10.4	7.8	8.7	7.3	5.2	4.2	10.04	18.16
Dir	SW	SW	SSW	SW	SW	SW	SW	SW	SW	SW	SW	WSW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SSW	SSW	SSW	SW	SW
20 Spd	3.4	3.1	2.9	5.7	2.9	3.7	2.0	2.0	1.6	1.5	1.9	1.0	4.3	5.6	4.5	4.5	8.9	10.3	8.0	4.1	1.7	4.0	5.1	5.1	3.04	10.30
Dir	S	S	S	SSW	S	NE	SSE	SSE	SSW	N	NNE	NNW	SW	WSW	WSW	WSW	WSW	SW	SW	WSW	NW	SSW	SSW	SSW	SW	SW
21 Spd	3.3	3.0	4.5	3.0	3.3	3.6	3.7	2.6	0.4	3.1	3.5	1.3	0.4	1.7	3.4	3.5	4.6	3.4	5.9	1.2	0.1	1.0	4.4	4.8	2.04	5.92
Dir	SSW	SSW	SSW	S	SSW	SSW	SSW	S	ESE	NE	ENE	ENE	WSW	W	WSW	WSW	WSW	SW	SW	SW	ESE	SE	SSW	SSW	SSW	SW
22 Spd	6.6	6.6	1.5	2.2	1.5	4.5	4.3	3.3	3.3	3.0	2.5	5.5	4.5	2.6	3.0	3.6	3.9	4.0	2.9	4.8	7.0	5.6	8.2	8.3	1.99	8.30
Dir	SSW	SSW	SSW	S	S	SSW	S	SSE	SE	S	NE	NNE	N	NE	ENE	NE	ENE	ENE	NE	SE	SE	SSE	SSW	SSW	SSE	SSW



WCAS - Steeper
Summary of Hourly Averages

Wind Speed (WS) - kph
August 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	7.2	6.6	8.5	9.2	5.5	2.2	5.1	7.2	3.8	2.7	1.0	4.2	6.1	5.7	5.0	3.0	3.4	5.0	4.9	4.4	4.0	4.0	2.4	1.1	0.67	9.17
Dir	SSW	SSW	SSW	SSW	SSW	WNW	SW	SSW	WSW	WSW	WNW	NNE	NE	NE	NE	ENE	ENE	NE	NE	NE	NE	ESE	NNE	ESE	SSE	SSW
24 Spd	5.6	10.0	11.3	11.3	6.0	1.5	2.7	6.7	4.2	2.2	6.2	10.2	17.7	7.6	16.2	18.7	10.6	5.5	9.4	8.7	11.5	11.7	11.0	7.2	8.62	18.69
Dir	SSW	SSW	SSW	SSW	SW	N	SW	SW	SSW	SSW	SSW	SW	SSW	SW	SW	SW	SW	WSW	WSW	SW	SW	SW	SW	SW	SW	SW
25 Spd	8.9	8.9	7.6	9.2	10.1	8.6	9.2	8.0	8.9	11.2	12.5	9.7	7.4	10.1	12.7	12.8	16.0	14.8	14.1	12.9	10.6	8.4	8.7	9.8	10.35	16.01
Dir	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SSW	SSW	SSW	SW	SW
26 Spd	9.2	8.6	7.3	7.5	7.5	8.6	7.9	8.3	6.3	5.8	5.6	4.9	5.4	9.0	7.6	9.8	15.2	17.3	14.2	10.4	8.7	9.1	9.8	7.4	8.66	17.31
Dir	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SSW	SSW	SSW	SSW	SSW	SSW
27 Spd	7.5	7.1	6.9	5.2	5.8	7.9	7.5	7.2	1.3	3.5	1.9	2.9	2.1	1.5	4.3	9.6	13.0	10.2	9.4	2.7	6.3	3.1	2.8	7.9	3.91	13.05
Dir	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSE	NNE	WNW	N	NNW	NW	W	SW	SW	SW	SW	WSW	NE	NNE	SSW	SSW	SW	SW
28 Spd	10.2	10.4	1.8	2.9	3.7	3.6	2.9	1.2	3.0	2.7	5.0	7.4	8.1	6.0	7.2	8.4	7.8	5.2	4.8	5.2	4.3	4.2	4.3	3.7	2.69	10.36
Dir	SSW	SSW	ENE	NE	S	S	S	E	ESE	ENE	NE	NNE	NNE	NE	NNE	NE	NE	NE	NE	NE	NE	ENE	ENE	ESE	ENE	SSW
29 Spd	4.0	3.3	5.1	6.6	6.1	6.2	8.4	6.8	3.4	2.6	7.1	6.4	7.3	6.6	6.4	6.0	5.2	5.7	5.0	5.0	3.7	1.4	4.7	6.4	1.67	8.39
Dir	SE	SSE	SSW	SSW	SSW	SSW	SSW	SSW	SSW	NNE	NNE	NE	NE	NE	NE	ENE	ENE	ENE	ENE	ENE	ENE	SSE	SSW	SSW	ESE	SSW
30 Spd	10.9	13.2	10.9	10.1	9.9	9.2	8.2	7.5	7.2	3.4	1.8	4.9	3.7	5.3	10.5	7.7	0.6	6.2	3.9	3.2	3.3	8.5	10.7	8.0	6.04	13.24
Dir	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	S	S	SW	SW	SW	SW	SW	WNW	NNE	ENE	SSW	SW	SW	SSW	SSW	SSW	SSW
31 Spd	5.9	6.4	7.9	7.8	7.1	7.5	9.3	9.9	6.7	7.2	3.3	4.3	4.7	7.4	10.4	7.3	2.1	9.8	6.2	3.9	1.8	2.2	4.5	5.3	4.66	10.39
Dir	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	WSW	WSW	WSW	SW	NNE	NNW	SW	SW	NNE	ENE	SSE	SSW	SSW	SSW	SSW
Spd	7.21	7.90	7.78	7.77	7.66	7.17	7.08	5.96	3.33	1.04	0.99	1.67	1.07	1.20	1.26	1.12	1.04	1.27	1.20	0.13	0.82	2.64	4.90	6.43	Diurnal Average	
Dir	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SW	N	N	NW	NW	WNW	WNW	W	WSW	SW	S	SE	S	SSW	SSW	Diurnal Maximum	
Spd	12.88	13.24	13.56	14.14	13.75	13.75	12.56	11.63	11.40	11.38	12.48	10.42	17.67	13.35	16.22	18.69	18.16	17.31	14.17	12.92	11.46	11.70	11.24	12.73	Diurnal Maximum	
Dir	201.14	198.98	200.94	201.58	199.50	201.14	198.76	198.42	216.55	234.61	227.33	236.70	208.87	229.69	226.97	223.48	229.54	222.00	220.43	218.15	215.49	215.62	203.98	203.77		
Maximum Speed Value: 18.7 kph on Aug 24 16:00		Minimum Speed Value: 0.1 kph on Aug 21 21:00														Hours in Service: 744										
Maximum Daily Speed Average: 10.35 kph on Aug 25		Minimum Daily Speed Average: 0.47 kph on Aug 21														Hours of Data: 744										
Maximum Diurnal Speed Average: 7.90 kph at hour 2		Minimum Diurnal Speed Average: 0.13 kph at hour 20														Hours of Missing Data: 0										
Monthly Average Velocity: 3.198 kph 206.06 deg		Speed Percentiles: P ₁ = 0.9 P ₁₀ = 2.5 Q ₁ = 3.9 Median = 5.9 Q ₃ = 8.5 P ₉₀ = 10.8 P ₉₉ = 15.8														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	32	10	1	0	0	0	43																			
NorthEast	76	82	1	0	0	0	159																			
East	30	2	0	0	0	0	32																			
SouthEast	16	3	0	0	0	0	19																			
South	59	134	34	0	0	0	227																			
SouthWest	44	141	36	0	0	0	221																			
West	29	2	0	0	0	0	31																			
NorthWest	12	0	0	0	0	0	12																			
Total	298	374	72	0	0	0	744																			



WCAS - Steeper
Summary of Hourly Averages

Relative Humidity (RH) - %
August 2017

Maximum Value: 98.40 % on Aug 8 07:00 Maximum Daily Average: 93.66 % on Aug 4 Minimum Value: 20.6 % on Aug 30 16:00 Minimum Daily Average: 43.47 % on Aug 30 Maximum Diurnal Average: 77.81 % at hour 6 Minimum Diurnal Average: 48.09 % at hour 15 Monthly Average: 64.298 % Percentiles: P ₁ = 26.2 P ₁₀ = 36.7 Q ₁ = 49.9 Median = 62.0 Q ₃ = 79.9 P ₉₀ = 94.8 P ₉₉ = 98.2																								Hours in Service:	744																								
																								Hours of Data:	744																								
																								Hours of Missing Data:	0																								
																								Hours of Calibration:	0																								
																								Percent Operational Time:	100.0																								
Day	Hourly Period Ending At																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Aug	81.4	88.3	91.1	90.7	91.3	90.9	90.2	94.9	97.0	97.1	96.2	96.2	90.8	91.2	91.0	87.4	75.3	68.5	69.6	72.0	76.4	81.9	91.7	93.9	87.28	97.06																							
2-Aug	93.9	94.0	94.2	94.8	94.9	94.7	92.1	87.4	74.3	59.0	53.1	46.9	43.0	42.3	38.5	33.2	35.6	38.8	43.9	47.7	59.2	62.1	66.0	73.5	65.13	94.86																							
3-Aug	76.6	77.8	79.4	80.4	80.0	80.3	77.4	71.1	60.4	44.9	47.7	43.3	39.3	36.1	36.4	39.9	45.3	52.9	52.9	75.4	96.3	96.9	97.4	97.7	66.07	97.73																							
4-Aug	97.9	98.1	98.2	96.4	95.5	96.6	97.2	97.9	98.2	98.3	98.2	98.3	97.4	95.4	91.9	85.7	80.9	87.7	86.2	87.2	89.9	89.1	90.5	94.9	93.66	98.28																							
5-Aug	96.5	96.8	96.5	96.4	95.5	94.3	92.1	87.4	75.9	71.6	71.2	61.2	56.3	55.3	53.4	49.5	50.6	53.3	55.7	59.8	61.5	64.5	75.3	84.4	73.13	96.82																							
6-Aug	88.3	87.3	86.3	86.8	87.1	86.5	86.0	81.3	67.2	61.8	57.4	51.9	46.5	43.0	43.3	44.3	46.7	50.4	53.1	56.7	57.6	63.6	69.8		64.43	88.33																							
7-Aug	76.6	94.0	95.4	93.3	89.4	80.1	85.1	90.5	88.6	73.9	66.8	67.6	68.5	64.8	65.5	67.6	69.9	77.8	76.4	80.5	85.8	89.3	91.1	91.8	80.43	95.36																							
8-Aug	94.9	96.7	97.3	97.7	98.1	98.2	98.4	96.8	87.8	79.7	76.8	77.4	72.1	62.7	58.2	49.6	46.2	47.6	51.0	54.5	62.6	77.2	77.8	77.1	76.51	98.40																							
9-Aug	76.3	76.6	77.7	79.1	80.0	80.7	79.8	74.3	63.2	54.3	48.1	44.4	33.7	33.7	34.9	39.1	40.7	39.2	43.1	49.1	55.1	55.6	64.8	71.0	58.11	80.69																							
10-Aug	73.5	76.4	77.4	78.7	80.8	81.4	80.8	74.6	61.8	50.2	47.6	43.8	39.6	35.4	33.5	35.7	37.0	39.8	43.9	48.1	49.6	46.3	51.5	61.6	56.22	81.38																							
11-Aug	65.5	70.2	74.4	77.0	78.2	81.6	83.9	77.5	56.7	46.8	41.6	41.3	36.9	33.4	31.1	32.0	36.4	39.0	42.2	48.6	56.6	58.5	60.8	64.3	55.61	83.86																							
12-Aug	75.5	78.3	78.8	78.0	76.8	74.2	68.2	60.6	57.4	56.3	59.5	57.8	65.9	71.5	69.1	65.7	63.1	62.5	64.8	65.4	63.0	73.7	83.5	79.3	68.69	83.45																							
13-Aug	73.2	65.3	63.5	61.4	58.4	55.8	58.9	60.5	61.2	69.4	67.1	65.1	81.1	96.2	96.3	92.5	93.6	95.2	94.9	97.0	97.6	97.3	97.6	98.0	79.04	98.02																							
14-Aug	98.1	97.9	97.9	97.6	97.3	97.7	97.3	96.9	95.2	86.6	68.7	63.2	53.7	49.8	52.2	53.8	53.2	50.8	58.1	63.2	60.2	63.1	69.0	72.7	74.75	98.12																							
15-Aug	77.9	80.0	82.6	86.1	83.5	83.9	83.0	77.2	64.9	51.1	43.8	40.4	39.4	40.6	37.5	36.8	40.7	44.9	50.1	52.9	56.4	56.6	60.3	55.2	59.42	86.13																							
16-Aug	52.3	57.5	57.8	64.7	64.4	67.9	61.9	60.6	65.1	60.8	52.9	47.9	54.0	50.8	49.7	50.2	47.8	44.3	46.3	54.3	71.0	71.6	79.4	80.9	58.93	80.93																							
17-Aug	81.0	80.7	76.0	78.6	79.5	76.8	75.9	74.5	66.1	50.5	49.2	38.2	34.2	31.7	29.8	31.7	36.3	38.8	44.1	47.7	48.6	46.9	48.9	48.8	54.76	81.05																							
18-Aug	51.8	52.1	52.5	48.8	55.8	58.6	55.6	52.0	54.3	53.8	48.1	48.0	47.9	46.9	48.1	66.7	76.5	94.2	97.0	97.1	97.8	98.0	97.8	97.4	66.54	98.05																							
19-Aug	95.9	96.8	94.2	92.4	90.8	84.9	82.7	73.7	66.6	51.6	44.3	38.5	36.0	34.8	35.1	34.5	32.9	36.7	44.5	47.2	54.4	55.2	49.9	47.9	59.22	96.82																							
20-Aug	51.3	50.6	51.3	60.5	55.9	56.7	60.9	61.2	62.6	68.1	60.0	63.8	57.1	56.4	55.5	57.7	48.7	51.9	54.3	57.8	61.6	65.7	71.7	67.2	58.68	71.74																							
21-Aug	66.4	65.3	72.9	74.0	75.6	73.0	69.7	71.1	69.7	76.9	71.2	71.3	52.6	49.4	56.5	53.6	55.2	59.3	74.2	67.4	64.9	64.7	74.1	76.4	66.89	76.88																							
22-Aug	81.5	75.9	70.7	73.1	77.0	81.4	80.3	77.7	75.5	65.7	49.8	48.9	44.6	41.9	45.3	49.1	46.2	51.7	55.6	54.6	58.9	62.3	68.4	71.1	62.79	81.45																							
23-Aug	70.5	63.5	60.8	61.7	58.3	69.4	74.7	77.4	71.3	68.5	61.4	58.6	53.1	52.9	54.9	59.0	65.4	62.9	73.5	79.7	84.2	84.3	88.4	84.7	68.29	88.37																							
24-Aug	90.1	93.8	90.3	86.7	80.6	90.5	96.0	95.1	91.8	66.9	38.1	32.3	28.1	32.6	50.4	51.1	47.9	39.9	40.6	50.6	60.0	63.4	59.6	60.7	64.06	96.02																							
25-Aug	64.7	63.6	60.4	57.5	57.9	56.2	55.0	54.0	53.1	38.0	33.6	29.8	29.6	25.9	27.6	28.5	27.7	30.5	36.4	44.8	52.0	52.3	52.6	53.6	45.22	64.72																							
26-Aug	52.8	55.4	56.4	57.7	59.1	56.1	56.8	58.3	55.2	41.4	35.3	35.6	36.7	29.7	27.0	26.7	27.4	29.9	34.4	42.5	45.6	47.6	52.9	53.3	44.74	59.10																							
27-Aug	56.8	58.3	60.3	60.1	60.8	63.6	63.4	63.2	53.6	39.2	32.5	32.2	30.4	28.2	28.9	29.4	26.2	33.2	33.6	35.4	52.6	58.9	66.1	68.0	47.29	67.99																							
28-Aug	69.6	73.3	81.4	87.1	84.6	87.3	92.3	85.0	78.1	63.2	58.8	58.2	55.3	50.9	49.3	53.1	52.5	56.1	61.7	69.6	78.1	82.2	86.2	87.3	70.89	92.25																							
29-Aug	87.0	92.5	95.5	95.8	95.9	96.4	96.7	96.0	90.8	76.2	73.3	66.1	61.2	57.2	55.0	54.3	55.2	58.3	63.1	69.8	73.7	72.3	82.1	89.3	77.24	96.72																							
30-Aug	87.5	77.2	70.8	64.8	57.3	58.0	55.5	53.1	50.7	48.2	36.4	30.5	23.5	30.3	21.9	20.6	26.2	39.7	45.1	31.7	26.7	24.2	31.0	32.4	43.47	87.54																							
31-Aug	36.3	42.9	48.6	52.8	56.1	58.3	61.8	62.1	62.1	59.1	52.1	34.3	30.5	26.4	23.0	46.4	49.1	33.6	33.1	40.4	40.5	41.9	50.7	56.6	45.78	62.11																							
																								75.54	76.68	77.12	77.76	77.30	77.81	77.72	75.62	70.21	62.22	56.15	52.68	49.65	48.30	48.09	49.17	49.48	51.79	55.50	59.53	64.43	66.49	70.99	72.94	Diurnal Average	
																								98.12	98.14	98.20	97.72	98.08	98.19	98.40	97.93	98.22	98.25	98.20	98.28	97.40	96.24	96.27	92.50	93.61	95.18	96.99	97.09	97.82	98.05	97.81	98.02	Diurnal Maximum	



WCAS - Steeper
Summary of Hourly Standard Deviations

Wind Speed (WS) - kph
August 2017

Maximum Value: 9.37 kph on Aug 24 15:00 Maximum Daily Average: 4.14 kph on Aug 24																				Hours in Service: 744 Hours of Data: 744 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0																													
Minimum Value: 0.8 kph on Aug 1 21:00 Minimum Daily Average: 1.57 kph on Aug 21 Maximum Diurnal Average: 3.63 kph at hour 16 Minimum Diurnal Average: 1.95 kph at hour 21 Monthly Average: 2.528 kph Percentiles: P₁ = 1.0 P₁₀ = 1.4 Q₁ = 1.7 Median = 2.3 Q₃ = 2.9 P₉₀ = 3.9 P₉₉ = 6.8																																																	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Aug	1.4	1.1	2.0	1.8	2.4	2.6	3.0	2.2	1.5	1.5	2.1	1.9	1.8	1.6	1.6	1.3	1.6	1.7	1.6	1.7	0.8	1.6	1.5	2.3	1.78	3.03																							
2-Aug	2.1	2.3	2.2	2.2	2.2	2.5	2.4	2.5	1.3	1.8	2.6	2.3	2.5	3.5	3.3	2.6	3.0	2.1	1.4	1.6	1.2	2.1	1.8	2.2	2.24	3.50																							
3-Aug	2.4	2.8	3.1	3.4	3.5	3.3	2.9	2.2	2.2	3.1	3.1	3.4	3.3	2.9	3.0	2.5	3.1	1.8	2.5	6.8	3.0	2.7	2.8	2.3	3.00	6.81																							
4-Aug	1.9	1.6	1.4	2.2	2.5	2.9	2.5	2.7	2.1	2.2	2.9	2.0	1.7	1.8	2.5	2.4	2.3	1.7	2.1	1.4	1.4	3.6	3.3	2.0	2.21	3.55																							
5-Aug	2.5	2.2	2.2	2.3	2.5	2.3	2.4	1.5	1.3	1.8	2.2	2.7	2.7	2.7	3.4	3.4	3.0	2.4	2.5	1.3	1.7	2.1	2.0	2.0	2.30	3.43																							
6-Aug	2.2	2.3	2.8	2.9	3.0	3.0	2.8	2.0	2.5	2.0	2.7	3.2	2.9	2.8	2.9	3.6	2.9	2.6	1.4	1.1	1.1	2.7	2.0	1.8	2.47	3.64																							
7-Aug	2.5	3.4	2.1	1.6	1.3	1.5	1.3	1.5	1.7	1.6	2.0	2.7	3.1	3.4	3.6	3.5	3.5	3.0	2.5	2.3	1.1	0.9	1.2	2.0	2.22	3.61																							
8-Aug	1.3	1.1	1.8	1.6	1.8	1.4	1.3	1.5	1.3	2.4	2.6	3.0	2.8	2.7	3.2	2.7	2.4	2.3	2.2	1.2	0.9	1.3	1.9	2.7	1.97	3.16																							
9-Aug	2.3	2.9	2.4	2.5	2.6	2.3	2.3	1.6	1.8	1.9	3.2	3.2	2.8	3.6	3.7	3.4	3.3	2.7	2.1	1.2	1.1	1.7	1.8	1.7	2.42	3.68																							
10-Aug	2.0	2.5	2.8	2.4	2.4	2.5	2.5	2.0	1.2	2.4	2.4	2.8	3.4	3.2	2.2	3.0	2.9	2.7	2.6	1.3	2.0	3.4	3.0	1.9	2.48	3.40																							
11-Aug	1.4	1.7	1.7	2.3	2.5	2.1	1.8	2.0	2.2	2.8	2.5	2.3	2.6	2.5	2.6	2.4	2.2	2.4	2.4	2.4	2.5	2.3	4.3	2.5	2.36	4.27																							
12-Aug	1.8	1.7	2.4	2.2	2.7	3.0	3.0	2.9	2.8	2.1	1.4	1.5	1.7	1.7	1.3	1.7	1.8	2.0	1.8	1.6	2.5	2.4	2.6	2.8	2.14	3.01																							
13-Aug	3.0	3.1	3.5	3.2	3.0	3.2	2.8	2.5	3.3	3.4	2.7	2.9	4.7	2.4	1.9	1.3	2.7	2.0	2.4	2.9	3.6	3.4	2.4	2.2	2.85	4.66																							
14-Aug	1.7	1.4	2.1	2.2	2.2	2.6	3.5	2.4	1.9	2.3	2.9	3.3	4.8	4.9	2.7	2.7	3.6	2.5	1.7	1.6	1.4	1.3	1.8	1.8	2.51	4.94																							
15-Aug	2.2	1.7	2.0	1.8	2.4	2.2	2.2	1.7	1.7	2.6	4.0	4.2	5.1	4.9	5.1	5.5	3.3	3.4	2.9	2.3	1.5	1.7	1.3	1.2	2.79	5.46																							
16-Aug	1.2	1.5	1.4	1.5	1.6	1.3	1.4	1.0	1.6	2.0	1.5	2.1	1.8	2.7	3.8	5.1	4.7	5.6	5.5	2.0	1.0	1.4	1.6	2.1	2.31	5.61																							
17-Aug	1.9	2.1	2.6	1.7	2.7	2.8	3.2	2.7	1.8	1.6	1.8	2.5	3.5	3.3	3.1	5.0	3.8	4.0	3.6	2.4	4.0	2.5	2.1	1.5	2.75	4.98																							
18-Aug	2.3	2.6	3.0	2.4	1.9	2.5	3.3	2.1	2.6	3.6	1.9	2.2	2.3	2.6	2.1	4.5	3.7	2.5	2.1	3.7	2.5	1.8	2.2	3.9	2.67	4.48																							
19-Aug	2.7	2.8	2.0	1.5	3.2	3.7	2.1	3.1	4.1	5.9	5.4	6.2	5.5	6.6	7.2	7.1	7.3	6.1	5.3	3.5	2.7	1.9	1.5	1.5	4.12	7.34																							
20-Aug	1.7	1.3	1.6	1.8	1.5	1.2	1.5	1.7	1.5	2.0	1.6	1.3	3.3	4.2	3.6	3.6	4.6	5.2	4.0	2.7	1.5	1.5	1.5	1.5	2.32	5.23																							
21-Aug	1.3	1.4	1.8	1.2	1.4	1.2	1.0	1.3	0.9	1.4	1.2	1.3	1.5	2.6	2.1	2.6	3.2	1.9	1.8	1.3	1.2	1.2	1.3	1.6	1.57	3.17																							
22-Aug	1.4	2.3	1.5	1.8	1.9	1.9	1.4	2.1	2.5	2.2	2.4	3.0	3.2	2.0	1.9	1.9	2.0	1.7	1.1	3.2	4.3	4.2	1.8	1.8	2.23	4.31																							
23-Aug	2.2	2.5	1.9	2.9	1.9	2.3	1.8	1.9	2.1	1.7	1.5	2.6	2.8	2.6	2.1	2.5	1.6	2.0	1.6	1.3	1.0	1.6	1.6	2.1	2.01	2.86																							
24-Aug	2.6	2.5	2.6	2.9	3.9	3.5	2.0	2.0	2.3	2.5	3.8	4.9	7.5	5.9	9.4	8.0	7.0	4.5	5.0	4.3	3.4	3.0	2.9	3.2	4.14	9.37																							
25-Aug	2.0	2.1	1.9	2.6	2.3	1.8	2.2	2.3	3.2	4.9	5.1	5.9	5.5	6.2	5.4	5.1	6.1	5.4	4.9	3.3	2.3	1.7	1.7	2.0	3.58	6.23																							
26-Aug	2.0	1.4	2.0	1.6	1.6	1.8	1.6	1.5	1.1	2.4	3.0	2.4	4.7	5.1	4.0	5.5	6.1	6.0	5.0	3.3	2.0	1.7	2.2	1.9	2.91	6.10																							
27-Aug	1.6	1.6	2.1	1.7	2.6	1.8	1.8	1.5	1.9	2.3	1.9	2.1	2.5	2.4	3.5	5.6	5.4	4.0	3.5	2.8	2.1	1.9	2.0	2.3	2.54	5.62																							
28-Aug	2.2	2.1	2.7	1.8	1.1	1.1	1.6	1.6	2.5	2.3	2.7	3.2	3.4	2.6	2.9	3.1	3.0	1.9	1.5	1.4	1.3	1.9	1.7	2.4	2.17	3.40																							
29-Aug	2.0	1.3	1.4	1.6	1.7	1.8	1.8	1.9	1.1	2.1	2.8	2.5	2.8	2.8	2.7	2.2	2.0	2.5	2.3	1.7	2.1	1.7	2.3	2.1	2.05	2.83																							
30-Aug	2.8	2.8	2.6	2.3	2.3	2.1	2.0	1.7	1.7	1.8	2.0	2.3	2.9	3.0	4.6	4.1	3.2	3.6	1.5	1.9	2.3	3.5	2.2	3.0	2.59	4.64																							
31-Aug	1.4	1.7	1.9	1.9	1.7	1.5	2.2	2.7	1.4	1.6	1.5	5.1	4.1	5.1	5.6	4.7	2.6	3.9	2.1	4.8	1.0	1.4	1.7	1.9	2.65	5.56																							
																								2.00	2.06	2.17	2.12	2.27	2.25	2.19	2.00	1.97	2.39	2.55	2.93	3.34	3.37	3.46	3.63	3.45	3.14	2.70	2.40	1.95	2.13	2.06	2.14	Diurnal Average	
																								2.97	3.37	3.50	3.38	3.91	3.71	3.49	3.09	4.06	5.89	5.38	6.23	7.53	6.56	9.37	8.05	7.34	6.05	5.55	6.81	4.31	4.21	4.27	3.86	Diurnal Maximum	



WCAS - Steeper
Summary of Hourly Standard Deviations

Wind Direction (WD) - deg
August 2017

Maximum Value: 102.90 deg on Aug 7 10:00 Maximum Daily Average: 42.67 deg on Aug 20																							Hours in Service:	744		
Minimum Value: 7.9 deg on Aug 8 06:00 Minimum Daily Average: 18.97 deg on Aug 12																							Hours of Data:	744		
Maximum Diurnal Average: 48.04 deg at hour 10 Minimum Diurnal Average: 14.77 deg at hour 2																							Hours of Missing Data:	0		
Monthly Average: 29.605 deg Percentiles: P ₁ = 9.0 P ₁₀ = 11.6 Q ₁ = 13.5 Median = 21.9 Q ₃ = 41.4 P ₉₀ = 60.6 P ₉₉ = 84.8																							Hours of Calibration:	0		
																							Percent Operational Time:	100.0		
Day	Hourly Period Ending At																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Aug	25.4	12.1	11.8	12.8	39.0	58.0	45.5	45.2	55.2	38.2	24.3	18.5	37.5	13.0	12.2	50.8	47.5	67.7	66.9	45.8	16.4	39.8	11.8	10.8	33.59	67.75
2-Aug	11.3	12.0	11.1	11.5	12.0	11.9	10.9	50.1	28.1	98.4	37.6	36.9	37.9	29.3	25.5	38.7	22.3	23.5	19.0	15.5	15.3	42.8	37.5	10.7	27.07	98.44
3-Aug	10.6	12.0	12.3	12.9	12.3	12.9	13.1	12.0	85.6	71.5	19.8	18.7	21.0	26.8	23.3	19.8	17.0	11.7	22.5	28.4	62.7	63.7	37.0	19.3	26.95	85.64
4-Aug	11.5	11.9	13.6	23.6	30.8	33.1	47.8	46.5	55.4	64.4	31.2	36.2	44.1	60.2	42.9	36.9	53.4	33.0	26.1	14.4	13.3	74.2	65.8	11.4	36.74	74.16
5-Aug	12.1	12.3	12.2	11.5	12.6	14.0	12.5	14.6	47.3	60.7	29.9	33.1	38.3	39.0	29.2	37.7	35.3	20.3	14.8	13.5	31.6	41.8	34.6	12.4	25.89	60.75
6-Aug	12.0	12.6	12.4	12.4	11.8	11.8	11.4	10.7	79.6	20.3	20.7	20.7	21.1	23.7	18.5	22.8	20.3	19.1	17.1	16.0	13.6	43.0	86.8	87.1	26.05	87.06
7-Aug	52.3	55.4	77.6	22.3	14.8	15.6	9.3	9.0	24.3	102.9	54.6	34.7	31.4	30.9	19.0	17.4	18.9	17.1	16.4	12.5	9.3	12.4	18.0	40.0	29.83	102.90
8-Aug	64.8	12.6	10.3	9.7	9.0	7.9	12.1	10.3	64.3	26.3	18.7	19.4	20.5	21.9	24.4	33.5	21.5	20.9	12.1	12.8	10.3	65.8	14.9	11.7	22.32	65.77
9-Aug	11.7	12.1	12.1	12.9	14.0	13.8	15.2	15.5	53.3	66.6	47.3	38.4	50.2	44.6	29.7	21.3	33.2	29.5	15.3	11.9	12.3	55.3	12.3	10.8	26.64	66.58
10-Aug	11.5	11.0	12.7	13.9	13.3	14.1	14.9	14.9	23.7	66.2	41.3	43.6	56.8	55.6	48.6	26.3	21.5	18.3	19.7	19.0	36.3	35.1	34.5	15.8	27.86	66.21
11-Aug	10.1	11.0	10.7	11.5	11.4	11.8	11.8	25.2	89.4	64.6	48.9	31.1	28.1	23.0	23.8	22.4	22.7	28.8	36.8	34.2	39.5	100.7	81.4	38.0	34.04	100.71
12-Aug	9.4	8.7	11.6	13.4	13.1	13.1	13.9	14.3	16.5	45.0	42.6	13.9	10.5	8.8	13.7	15.8	24.0	30.7	25.1	15.3	47.6	25.2	11.6	11.4	18.97	47.56
13-Aug	12.3	13.6	14.1	13.3	15.4	15.2	15.6	13.6	84.6	28.0	38.6	17.9	86.7	47.4	59.9	53.2	68.4	16.2	12.3	14.7	37.9	59.3	27.3	12.6	32.42	86.74
14-Aug	12.0	9.3	12.0	11.8	12.1	12.3	14.2	13.5	13.2	15.8	35.9	50.8	32.3	32.1	69.0	48.3	50.7	45.9	23.7	16.9	17.3	12.1	12.1	14.0	24.47	68.99
15-Aug	14.1	13.5	14.2	14.2	12.9	14.0	12.6	10.6	16.5	45.6	43.2	49.7	43.5	41.9	36.7	38.3	43.3	36.0	18.4	18.3	12.0	12.7	10.2	8.9	24.22	49.73
16-Aug	11.6	15.7	16.9	11.9	12.1	13.8	17.0	13.2	12.9	56.2	61.4	59.7	34.7	55.4	41.9	25.1	26.3	27.4	28.2	84.8	16.6	51.7	18.4	13.6	30.27	84.83
17-Aug	11.5	12.1	15.1	11.1	13.0	14.3	14.7	15.3	62.4	30.0	37.8	62.9	50.6	58.7	61.1	31.0	19.5	19.2	17.6	17.3	67.5	27.7	17.3	17.6	29.39	67.52
18-Aug	16.9	15.6	15.8	41.5	59.8	25.6	28.6	12.9	9.9	26.5	38.2	40.2	59.0	63.5	78.1	17.1	25.2	41.6	47.7	83.1	50.5	14.7	39.2	54.0	37.71	83.13
19-Aug	22.6	14.0	15.2	13.9	23.9	18.9	11.2	15.3	28.1	30.5	32.2	38.6	28.1	27.5	22.2	24.0	24.6	24.8	23.6	27.3	17.3	13.2	19.8	15.6	22.17	38.56
20-Aug	24.8	17.5	26.5	13.2	59.8	14.0	61.2	61.5	76.0	83.5	58.2	72.3	58.8	46.9	52.0	52.3	35.9	31.0	32.1	58.0	50.8	14.3	12.4	10.9	42.67	83.50
21-Aug	17.8	14.8	14.5	31.6	26.2	19.6	11.0	19.4	77.3	9.0	16.5	58.4	98.6	81.5	41.3	52.0	46.1	45.2	14.9	68.2	85.7	66.2	11.3	17.0	39.33	98.60
22-Aug	9.6	11.2	74.6	57.6	71.2	17.2	20.3	47.3	50.8	50.6	54.9	32.1	43.6	55.3	44.0	25.0	30.4	28.1	18.0	41.7	37.4	49.2	13.6	13.1	37.37	74.57
23-Aug	13.2	19.1	12.5	14.1	36.4	51.8	21.9	11.0	43.6	46.8	70.9	31.8	25.2	22.7	22.7	70.8	28.0	21.1	20.4	18.0	18.5	33.8	51.6	85.5	32.97	85.54
24-Aug	29.8	12.1	12.2	13.5	60.8	77.8	69.1	12.5	41.8	77.2	46.0	22.1	21.4	54.7	28.8	19.5	58.5	58.7	36.6	29.8	13.6	12.0	13.3	24.4	35.26	77.80
25-Aug	12.1	12.1	15.1	13.4	12.5	13.2	12.1	15.5	20.1	25.0	23.9	36.9	53.5	46.2	23.1	21.2	19.8	19.3	18.5	13.5	10.7	11.0	11.3	12.2	19.68	53.47
26-Aug	11.6	10.1	11.5	9.8	8.5	10.3	11.0	10.2	9.7	24.2	33.9	33.8	64.5	36.6	40.0	35.2	21.9	18.4	17.9	14.4	11.9	11.0	12.0	12.4	20.04	64.54
27-Aug	11.2	13.0	15.3	15.4	36.9	10.2	12.7	11.8	79.5	25.7	63.0	53.0	65.9	75.8	57.4	31.7	21.7	21.9	19.7	69.4	8.0	29.7	68.1	12.3	34.56	79.52
28-Aug	11.7	11.1	61.1	53.5	14.6	16.5	51.5	62.3	57.3	57.7	32.0	22.5	21.0	22.1	20.8	19.1	16.9	19.7	20.9	16.1	16.6	32.5	28.6	40.1	30.26	62.27
29-Aug	33.3	33.2	14.0	13.4	12.8	13.5	11.4	11.0	25.3	60.3	19.0	22.3	19.8	22.1	22.9	24.0	28.7	31.4	29.2	27.8	46.8	73.3	53.4	12.3	27.54	73.31
30-Aug	11.2	11.3	11.6	12.3	13.0	12.9	13.8	14.5	16.4	58.7	68.6	29.1	62.7	35.7	22.9	36.2	95.3	30.4	40.2	42.1	50.9	29.9	13.2	20.2	31.37	95.27
31-Aug	15.2	15.2	14.9	18.6	17.2	11.2	15.1	11.5	13.7	13.1	34.1	64.7	63.5	49.0	32.3	48.0	63.2	21.6	18.4	65.0	20.6	49.5	20.4	26.9	30.12	65.03
																							Diurnal Average	29.605		
																							Diurnal Maximum	102.90		

**WEYERHAEUSER – DRAYTON VALLEY
STATION #911**

CONTINUOUS AIR MONITORING DATA

AUGUST 2017

Weyerhaeuser / Drayton Valley Station 911												August 2017		24 Hour Average Max ($\mu\text{g}/\text{m}^3$)
Parameter	Calibration Hours	Number of Data	Percent Uptime	Mean	Min	Max	Percentile					Exceedences		
							P10	Q1	Median	Q3	P90	1-hour	24-hour	
Particulate Matter 2.5 microns (μm^3)	0	658	88.4	16.7	0.4	434.1	3.0	4.9	8.4	14.9	35.0	16	4	92.3
Wind Speed (kph)	0	744	100.0	3.0	0.1	12.5	0.9	1.6	2.5	3.9	5.7	-	-	-
Temperature ($^{\circ}\text{C}$)	0	744	100.0	15.7	4.6	26.7	10.0	12.4	15.1	19.2	22.2	-	-	-
Std Dev Wind Direction (deg)	0	744	100.0	31.2	7.3	100.6	12.5	17.4	24.7	39.6	61.6	-	-	-
Std Dev Wind Speed (kph)	0	744	100.0	1.2	0.2	6.8	0.5	0.7	1.1	1.5	2.0	-	-	-



WCAS - Drayton Valley
Summary of Hourly Averages

PM2.5 (PM_{2.5}) - µg/m³
August 2017

Maximum Value: 434.07 µg/m ³ on Aug 13 17:00		Maximum Daily Average: 92.30 µg/m ³ on Aug 13		Hours in Service: 744																							
Minimum Value: 0.4 µg/m ³ on Aug 19 18:00		Minimum Daily Average: 0.82 µg/m ³ on Aug 19		Hours of Data: 658																							
Maximum Diurnal Average: 26.44 µg/m ³ at hour 17		Minimum Diurnal Average: 10.59 µg/m ³ at hour 11		Hours of Missing Data: 86																							
Monthly Average: 16.719 µg/m ³		Percentiles: P ₁ = 0.5 P ₁₀ = 3.0 Q ₁ = 4.9 Median = 8.4 Q ₃ = 14.9 P ₉₀ = 35.0 P ₉₉ = 142.2		Hours of Calibration: 0																							
				Percent Operational Time: 88.4																							
Day	Hourly Period Ending At																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Aug	10.0	11.1	10.0	9.4	10.1	12.5	9.5	8.4	7.2	3.7	3.1	2.9	2.6	2.5	2.4	2.7	2.5	2.4	2.7	3.4	3.6	4.2	5.7	5.9	5.76	12.47	
2-Aug	5.7	4.9	3.9	4.4	3.2	2.4	3.2	4.8	4.0	3.3	3.1	3.0	2.8	3.1	3.2	3.7	3.9	4.0	4.4	5.2	6.1	6.8	7.5	8.9	4.39	8.86	
3-Aug	9.7	11.0	13.1	10.1	10.0	8.9	9.1	10.3	10.1	8.4	M	M	4.7	4.9	4.8	5.6	5.8	5.5	5.9	9.3	10.5	7.9	3.6	4.3	7.88	13.06	
4-Aug	4.2	3.2	4.5	8.9	5.8	7.1	7.1	6.7	5.3	4.9	4.8	19.5	8.5	8.0	7.0	6.4	4.1	5.7	4.3	7.5	4.9	6.4	5.9	6.4	6.54	19.48	
5-Aug	7.6	5.6	4.5	8.0	6.6	5.6	5.3	5.6	4.2	4.1	3.6	3.5	3.4	3.3	4.7	4.9	5.5	9.9	8.8	9.2	11.6	13.3	24.5	32.6	8.18	32.61	
6-Aug	11.0	11.9	34.7	8.4	4.3	4.8	7.3	7.1	8.0	5.7	4.3	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	--	34.68	
7-Aug	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	6.2	5.8	5.9	5.2	4.1	3.2	2.5	4.0	4.7	30.6	43.9	32.9	23.9	--	43.90	
8-Aug	24.6	62.3	65.7	48.6	33.2	12.6	11.7	16.2	17.3	15.5	14.6	14.0	11.1	9.3	9.3	10.3	9.9	9.3	9.3	8.4	9.5	10.0	9.4	7.4	18.72	65.73	
9-Aug	7.1	10.3	13.8	7.2	9.4	6.6	6.6	8.2	7.4	7.1	10.6	12.7	12.7	12.8	11.3	10.2	8.8	8.9	7.8	8.4	11.0	13.6	13.3	13.3	9.97	13.80	
10-Aug	12.2	14.5	15.7	21.2	22.1	23.2	19.9	22.9	20.6	15.9	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	--	23.19	
11-Aug	AF	AF	AF	AF	AF	AF	AF	AF	5.7	7.6	5.0	2.7	2.9	3.3	3.7	3.3	3.1	4.3	5.4	5.8	6.6	6.4	7.8	9.1	--	9.12	
12-Aug	9.7	9.4	9.9	9.8	8.5	7.6	7.1	7.3	6.9	6.7	6.4	6.3	6.8	7.1	7.6	10.2	9.8	10.1	9.2	9.5	9.7	11.9	8.7	10.2	8.60	11.87	
13-Aug	6.6	6.8	7.5	7.8	8.5	7.9	8.9	10.4	10.2	12.3	14.0	14.5	12.8	10.4	12.6	145.1	434.1	420.5	285.5	223.8	203.9	181.6	108.9	60.6	92.30	434.07	
14-Aug	50.9	57.3	48.2	24.0	18.5	AF	AF	AF	19.9	18.7	19.2	32.0	34.2	36.0	28.9	21.6	21.3	16.2	11.5	10.2	13.0	20.2	25.5	33.2	26.69	57.27	
15-Aug	26.4	14.9	10.9	6.6	4.6	5.7	6.7	8.5	13.0	12.2	9.7	9.5	9.7	29.3	35.0	29.8	31.2	29.2	29.0	28.2	29.6	31.7	35.8	36.6	20.16	36.58	
16-Aug	36.9	37.5	33.9	33.0	29.6	28.3	28.4	26.0	23.2	23.8	21.8	29.8	41.3	40.6	39.1	35.7	34.3	33.8	33.7	34.4	35.9	43.2	44.6	51.6	34.19	51.58	
17-Aug	50.1	43.2	37.3	41.2	41.9	41.3	40.7	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	88.1	88.3	88.9	96.0	--	96.00
18-Aug	101.7	109.6	105.4	97.1	76.4	71.2	67.8	64.6	58.5	47.9	40.4	37.5	29.1	27.7	67.8	70.6	50.1	32.2	16.7	12.5	5.9	4.2	4.0	4.2	50.13	109.57	
19-Aug	4.1	1.0	0.6	0.5	0.5	0.8	0.9	0.8	0.5	0.5	0.4	1.0	0.5	0.6	0.6	0.7	0.4	0.4	0.4	1.4	0.7	0.7	0.9	0.9	0.82	4.10	
20-Aug	1.2	1.6	1.6	1.8	2.0	2.5	3.0	3.6	3.4	3.6	4.4	4.2	6.5	12.7	16.3	18.7	22.5	33.5	32.6	AF	AF	AF	AF	AF	9.25	33.50	
21-Aug	AF	AF	AF	AF	AF	AF	AF	25.6	28.8	21.1	16.2	21.5	23.5	23.5	17.6	8.3	8.6	9.6	10.4	11.8	11.9	12.2	9.6	12.5	--	28.76	
22-Aug	10.1	10.6	9.0	10.0	10.2	9.9	14.2	17.9	15.9	11.8	6.7	5.5	5.5	6.1	6.1	5.3	5.1	4.7	5.2	5.9	6.3	6.2	6.0	6.0	8.34	17.88	
23-Aug	6.0	6.2	6.1	6.4	6.5	7.0	9.6	13.3	10.6	8.9	8.9	8.9	8.9	8.8	9.6	10.9	11.5	11.8	13.0	13.2	14.4	11.8	11.9	11.8	9.82	14.44	
24-Aug	13.4	15.7	16.2	15.2	14.5	15.6	AF	AF	AF	AF	10.1	10.6	11.3	10.2	9.8	8.3	1.1	1.4	1.4	1.3	1.4	1.7	2.6	1.7	8.17	16.19	
25-Aug	2.9	8.7	9.4	8.5	9.0	6.0	5.9	6.4	4.5	5.2	5.2	5.5	5.7	5.3	4.9	4.4	4.8	3.7	3.2	4.2	7.5	5.5	3.8	6.6	5.69	9.37	
26-Aug	4.7	4.3	9.4	6.1	6.4	7.4	7.7	6.9	6.4	5.1	3.3	3.7	3.9	5.2	4.5	3.6	3.7	4.3	4.6	6.1	11.1	11.0	11.9	17.3	6.62	17.34	
27-Aug	9.5	7.0	6.4	6.9	6.6	6.6	9.0	8.7	8.0	AF	AF	AF	7.3	4.1	3.1	2.8	3.8	4.9	4.4	5.1	5.9	6.1	5.9	6.0	6.11	9.52	
28-Aug	6.0	5.8	6.0	4.4	2.6	3.6	4.7	4.0	1.8	0.6	0.6	0.7	0.9	1.4	1.7	2.0	2.2	2.9	4.7	7.4	7.7	7.5	7.8	7.7	3.95	7.82	
29-Aug	6.2	7.4	7.0	6.8	8.1	7.0	5.8	6.2	5.3	4.6	3.0	3.0	3.0	3.4	3.4	3.9	4.2	5.1	5.6	4.7	4.4	4.0	4.1	4.8	5.04	8.13	
30-Aug	5.3	5.7	6.0	8.5	10.4	12.1	11.5	9.9	9.7	11.3	14.2	AF	AF	AF	10.9	9.9	10.8	10.9	9.5	9.5	9.3	21.6	27.0	26.3	11.93	27.04	
31-Aug	25.7	20.4	20.8	19.4	20.4	31.7	49.9	50.1	50.0	50.3	41.5	33.5	41.9	56.0	58.8	56.1	33.9	29.8	30.9	31.8	31.4	35.1	34.0	33.2	36.94	58.78	
16.77 18.14 18.48 15.73 13.92 13.19 13.90 13.86 13.10 11.88 10.59 11.69 11.38 12.65 13.92 17.82 26.44 25.63 20.15 17.89 21.15 22.05 19.73 19.24																								Diurnal Average			
101.71 109.57 105.41 97.14 76.36 71.19 67.80 64.56 58.47 50.31 41.49 37.54 41.89 55.95 67.80 145.08 434.07 420.53 285.54 223.76 203.88 181.63 108.90 96.00																								Diurnal Maximum			
M - Maintenance AF - Analyzer Failure																											
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 80 ul/m ³ 24-hr 30 ul/m ³																											

**WEYERHAEUSER – DRAYTON VALLEY
STATION #911**

METEOROLOGICAL DATA

AUGUST 2017



WCAS - Drayton Valley
Summary of Hourly Averages

External Temperature (ET) - C
August 2017

Maximum Value: 26.66 C on Aug 27 16:00 Maximum Daily Average: 19.98 C on Aug 12																						Hours in Service: 744 Hours of Data: 744																											
Minimum Value: 4.6 C on Aug 19 06:00 Minimum Daily Average: 12.02 C on Aug 20 Maximum Diurnal Average: 20.94 C at hour 16 Minimum Diurnal Average: 10.57 C at hour 7 Monthly Average: 15.739 C Percentiles: P₁ = 6.5 P₁₀ = 10.0 Q₁ = 12.4 Median = 15.1 Q₃ = 19.2 P₉₀ = 22.2 P₉₉ = 25.2																						Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0																											
Day	Hourly Period Ending At																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Aug	13.8	13.5	13.5	13.0	12.5	12.9	12.2	12.5	12.6	11.9	11.4	11.6	12.1	12.2	12.9	13.4	14.7	15.4	15.4	15.5	14.3	12.4	11.4	11.1	13.00	15.45																							
2-Aug	10.5	10.0	9.1	8.3	7.8	7.1	6.6	8.0	11.6	14.2	16.2	17.6	18.7	19.6	20.3	20.6	21.0	21.0	20.9	20.0	18.0	16.7	15.4	13.8	14.70	21.02																							
3-Aug	12.8	12.1	11.1	10.7	9.4	8.9	9.2	11.7	14.7	18.2	19.7	21.4	22.7	23.7	24.4	24.4	24.5	24.0	23.4	21.1	19.0	15.7	13.3	12.8	17.04	24.49																							
4-Aug	12.6	12.8	13.0	12.9	12.6	12.6	12.4	12.4	12.4	12.9	13.4	13.6	14.3	14.7	16.5	17.7	15.4	14.2	14.3	14.3	13.8	12.9	12.2	11.8	13.57	17.74																							
5-Aug	11.4	11.6	11.1	10.0	9.1	8.5	8.6	10.2	12.7	14.8	16.7	17.7	19.0	19.2	20.1	20.2	20.3	16.1	17.1	16.9	15.3	13.8	12.8	12.2	14.39	20.33																							
6-Aug	12.1	11.2	10.7	9.3	8.9	8.5	9.1	10.8	13.7	16.7	18.5	20.5	21.4	22.6	22.7	23.0	23.0	23.0	22.7	20.0	18.8	17.6	15.4	14.6	16.46	23.03																							
7-Aug	13.5	14.2	13.3	13.6	13.5	13.0	12.9	13.4	14.0	14.2	14.3	15.1	15.3	14.9	16.6	17.3	16.4	16.4	16.5	14.7	13.8	12.7	12.6	12.4	14.36	17.32																							
8-Aug	12.2	11.9	11.7	11.5	11.3	11.3	11.6	12.4	12.7	13.5	14.6	16.5	18.1	19.4	20.6	20.7	21.0	21.3	20.9	19.7	17.6	16.4	15.6	14.6	15.72	21.26																							
9-Aug	12.9	11.7	11.2	10.5	9.9	8.8	9.2	11.6	14.5	18.1	19.6	20.6	21.8	22.8	23.3	23.1	23.6	23.4	23.3	21.7	19.3	17.8	16.6	15.0	17.10	23.64																							
10-Aug	14.7	14.2	13.0	11.7	11.5	11.2	12.7	14.2	17.4	20.1	22.0	22.3	23.2	24.0	24.4	24.4	24.2	23.9	23.7	22.5	19.9	17.3	15.4	14.4	18.42	24.41																							
11-Aug	13.7	12.9	12.6	12.5	11.4	10.9	11.5	14.2	15.9	18.0	19.8	21.3	22.2	23.2	23.4	23.5	23.4	23.3	22.5	21.3	19.0	18.0	17.1	17.0	17.86	23.52																							
12-Aug	15.7	15.6	14.6	14.6	15.0	14.7	14.6	16.2	18.2	20.2	21.7	23.0	24.0	24.6	25.2	25.6	25.7	25.3	24.1	22.2	20.8	19.8	19.4	18.8	19.98	25.70																							
13-Aug	18.1	18.6	18.1	17.1	15.8	14.2	12.8	13.4	14.5	16.3	17.5	18.1	19.0	19.1	20.1	19.3	18.3	15.9	14.2	14.1	13.9	13.6	13.0	12.3	16.14	20.06																							
14-Aug	12.4	12.6	12.4	11.7	10.7	9.8	10.9	12.1	13.4	13.9	15.4	16.2	17.5	17.8	18.4	18.2	15.2	14.6	15.3	14.8	13.2	12.8	12.2	11.6	13.88	18.38																							
15-Aug	11.2	10.5	9.8	9.6	9.3	8.3	8.4	10.0	11.8	14.1	15.7	16.9	17.7	18.5	19.3	19.7	19.9	20.0	19.6	17.3	16.5	13.3	12.4	11.8	14.24	20.04																							
16-Aug	10.5	10.9	10.5	11.1	10.9	10.1	9.7	10.3	12.4	16.0	18.5	20.4	21.5	21.5	20.5	19.0	19.5	18.8	18.6	18.1	15.8	14.1	13.0	12.6	15.18	21.48																							
17-Aug	12.5	13.3	13.3	12.4	11.2	10.5	10.4	11.2	12.2	14.6	18.1	19.4	20.1	20.9	21.6	22.4	22.5	21.4	20.2	19.1	17.4	16.3	15.5	14.5	16.29	22.47																							
18-Aug	13.7	13.8	12.6	11.7	11.2	10.9	10.8	12.3	14.0	14.7	18.1	20.4	22.7	24.5	21.5	20.4	18.3	17.7	16.5	14.1	10.3	9.9	9.9	9.9	15.00	24.52																							
19-Aug	9.2	8.8	7.7	8.0	6.3	4.6	5.5	8.1	10.3	12.5	14.0	15.1	16.0	17.2	18.3	18.9	19.4	19.1	18.4	16.5	14.8	14.0	12.7	11.1	12.77	19.39																							
20-Aug	10.6	9.7	9.7	10.1	9.8	9.6	9.5	9.8	10.3	11.9	14.1	13.7	13.9	14.6	15.1	15.3	15.0	14.7	15.0	14.4	12.2	10.7	9.6	9.1	12.02	15.32																							
21-Aug	9.6	9.9	10.1	9.9	9.4	8.9	8.6	9.5	12.4	15.5	16.3	16.6	18.2	17.8	18.2	18.7	18.3	17.9	17.5	17.0	16.3	15.8	15.0	15.0	14.26	18.65																							
22-Aug	14.9	14.4	14.1	13.9	13.4	13.0	12.7	13.4	16.0	19.3	21.3	22.1	23.1	23.5	24.2	24.3	24.4	24.3	23.8	21.5	20.0	19.2	18.9	17.8	18.90	24.42																							
23-Aug	17.4	16.8	15.8	14.9	14.1	13.3	12.8	13.6	15.1	16.4	18.1	19.4	21.0	22.0	22.6	23.0	22.2	22.1	21.5	20.1	18.8	17.7	17.5	16.1	18.01	23.05																							
24-Aug	15.0	14.8	14.3	14.4	14.1	14.0	14.4	14.4	15.0	15.7	17.8	18.4	20.4	21.8	22.6	19.6	13.9	12.0	12.3	11.7	11.1	10.6	9.8	9.7	14.91	22.64																							
25-Aug	9.7	9.1	8.0	6.9	6.5	6.7	5.4	7.2	10.5	14.2	16.4	17.4	18.3	19.2	19.6	20.4	21.1	21.3	20.9	18.0	15.3	14.1	13.1	10.4	13.73	21.32																							
26-Aug	9.8	9.2	7.6	6.5	6.7	5.8	5.8	7.1	10.9	14.3	16.5	18.7	20.5	21.3	22.0	22.4	22.8	22.5	21.9	19.6	17.7	16.6	15.3	14.1	14.81	22.84																							
27-Aug	14.5	13.6	12.4	11.0	10.5	10.2	9.7	11.4	14.0	17.3	20.6	22.6	24.6	25.7	26.1	26.7	25.4	24.9	24.6	22.5	20.6	19.5	18.6	17.5	18.51	26.66																							
28-Aug	16.4	16.3	15.7	15.2	14.2	13.4	12.1	13.8	16.5	18.3	19.1	19.6	20.8	21.3	21.9	22.1	22.2	22.0	21.3	19.6	17.6	16.6	16.3	15.7	17.84	22.24																							
29-Aug	16.1	15.4	13.8	13.4	13.2	12.6	13.0	12.7	13.7	16.3	19.1	20.8	21.7	22.2	22.7	23.3	23.6	23.4	22.4	20.7	18.9	17.3	16.2	15.2	17.82	23.63																							
30-Aug	14.7	15.7	15.3	13.1	12.0	10.5	11.1	11.8	11.7	12.8	14.3	15.3	16.8	19.2	21.0	21.5	21.8	21.4	20.2	18.4	16.9	15.8	14.7	13.8	15.84	21.80																							
31-Aug	13.5	13.5	12.9	12.9	13.3	13.7	13.7	14.8	15.6	16.6	18.2	19.2	20.1	20.8	20.6	19.9	16.1	15.6	14.7	13.5	12.9	11.7	11.1	9.8	15.19	20.75																							
																								13.08	12.86	12.22	11.69	11.14	10.59	10.57	11.76	13.58	15.60	17.33	18.44	19.57	20.32	20.86	20.94	20.43	19.90	19.47	18.09	16.44	15.18	14.26	13.44	Diurnal Average	
																								18.13	18.62	18.09	17.12	15.76	14.66	14.55	16.18	18.20	20.18	22.00	23.02	24.62	25.70	26.11	26.66	25.70	25.29	24.57	22.53	20.84	19.79	19.41	18.82	Diurnal Maximum	



WCAS - Drayton Valley
Summary of Hourly Averages

Wind Speed (WS) - kph
August 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	1.4	1.2	1.4	1.9	0.8	1.1	2.1	1.3	4.5	6.3	4.0	2.5	3.8	3.9	3.8	3.5	2.3	3.6	3.1	2.9	2.1	1.3	1.9	2.1	1.04	6.34
Dir	SSW	SSW	SW	SSW	SSW	E	ENE	NNE	N	NNE	NE	NE	N	N	N	NNW	W	W	W	W	W	SW	SW	SW	NNW	NNE
2 Spd	1.7	1.4	2.1	1.9	1.9	2.1	2.9	3.0	2.8	3.7	3.4	2.5	3.9	3.1	3.6	2.6	3.3	3.8	3.4	3.0	2.4	2.3	0.5	0.4	2.30	3.91
Dir	SW	SSW	SSW	SSW	SSW	SSW	SW	SW	SW	SSW	SSW	SSE	SSE	S	S	S	S	S	SSE	SSE	SE	SE	SW	W	S	SSE
3 Spd	1.1	1.4	2.0	2.0	2.1	2.6	2.9	2.9	2.0	1.7	2.8	2.5	2.3	2.4	3.1	3.3	3.7	3.0	2.2	2.4	1.5	7.5	5.5	1.0	0.86	7.55
Dir	SW	SSW	SW	SSW	SW	SW	SW	SW	SW	S	S	SSE	SE	ESE	E	E	ENE	E	ESE	ENE	ESE	NNE	NNE	SSW	SE	NNE
4 Spd	3.6	4.0	3.1	3.5	2.9	4.6	4.9	4.7	4.6	4.6	4.7	6.1	5.5	6.5	6.6	6.3	7.0	2.2	4.7	3.0	2.4	2.7	1.3	1.1	3.79	7.03
Dir	W	W	NW	NW	NW	NW	NNW	N	N	N	N	NNW	NNW	NNW	NNW	N	NNE	NNW	N	NW	WNW	NW	WNW	NW	NNW	NNE
5 Spd	1.1	1.7	1.5	1.1	1.4	1.7	1.3	1.4	1.5	1.5	0.8	1.5	1.0	2.1	1.5	2.7	2.9	3.3	2.6	2.4	1.6	0.9	0.8	0.4	0.21	3.29
Dir	NW	NW	WNW	SW	SSW	SSW	SSW	WSW	W	NW	W	ENE	NNW	ENE	N	NE	E	ESE	SSE	S	SE	S	SW	SSW	SSE	ESE
6 Spd	0.3	0.4	0.7	0.7	1.3	1.3	1.8	2.9	2.9	2.6	3.2	1.7	2.2	0.6	1.6	1.6	1.9	1.7	1.5	1.3	1.1	1.5	0.3	0.5	1.04	3.18
Dir	S	SSW	SSW	S	SSW	SSW	SSW	SW	SW	SSW	SSW	SSW	S	SSW	ESE	ESE	ESE	ESE	ESE	ESE	ESE	SE	SW	NNW	S	SSW
7 Spd	0.4	1.7	0.6	6.4	5.7	1.8	3.9	3.9	3.1	4.7	3.7	3.6	3.2	2.6	0.2	2.5	2.5	2.2	3.5	3.2	2.5	1.4	1.9	1.6	2.42	6.42
Dir	NW	ENE	NNW	NNW	NNW	NNE	NNE	NE	NNE	N	NNE	NNE	NNE	NE	WNW	E	ENE	NE	NE	ENE	NE	NE	NE	E	NNE	NNW
8 Spd	1.3	1.5	0.8	1.2	1.6	2.1	1.4	1.8	2.7	1.1	1.6	0.5	1.1	1.5	1.4	1.9	2.2	2.2	2.8	2.7	0.9	1.9	3.0	2.0	0.75	2.96
Dir	E	E	S	WSW	SW	WSW	SW	SSW	SSW	SW	SW	W	S	SSW	S	E	E	E	ENE	ENE	ESE	E	E	SE	SE	E
9 Spd	1.0	1.0	0.2	0.2	0.1	1.1	1.6	2.2	1.4	0.4	0.6	1.5	1.4	1.1	1.1	1.9	2.4	2.5	1.6	1.3	0.7	0.5	0.2	0.5	0.45	2.47
Dir	S	SSW	SSE	NE	SSW	SSW	SSW	SW	SW	SW	ESE	E	E	NE	ENE	NE	ENE	ENE	ENE	ESE	NE	NNE	NE	NNW	ESE	ENE
10 Spd	0.9	1.1	0.3	0.5	0.4	0.3	1.6	1.3	1.2	0.4	0.2	1.1	1.4	2.2	2.2	2.9	3.3	2.8	2.1	1.2	0.9	2.8	2.2	2.0	0.55	3.29
Dir	NNW	NNW	NNW	SSW	SW	WSW	NW	SSW	SSW	SSE	SW	ESE	NNE	NNE	NNE	NE	NE	E	ENE	E	SE	ESE	SSE	SW	ENE	NE
11 Spd	2.1	2.2	2.9	1.6	1.3	0.3	0.8	1.7	1.8	2.1	3.1	4.2	3.2	3.0	3.2	4.8	5.0	4.0	4.3	3.0	2.5	3.5	4.4	4.7	2.59	5.03
Dir	SSW	SW	SW	SSW	SSE	S	SE	SSE	SSW	SSW	SSE	SSE	ESE	SE	ESE	SSE	SSE	SSE	SSE	SSE	SE	SSE	SSE	S	SSE	SSE
12 Spd	3.6	4.0	3.7	5.8	6.2	5.3	5.5	5.3	6.1	9.0	8.4	9.9	9.4	9.7	9.2	9.7	7.9	7.4	5.1	2.7	3.4	4.1	4.2	4.2	6.15	9.85
Dir	S	S	SSW	S	S	S	S	S	S	S	S	S	S	S	S	S	SSE	SSE	SSE	SE	SSE	SSE	S	SSE	S	S
13 Spd	3.7	5.7	4.1	4.8	3.5	2.1	0.6	3.2	4.0	3.5	3.1	4.7	4.9	4.4	5.9	7.9	7.2	5.8	9.4	7.1	2.1	2.8	4.0	4.9	1.70	9.42
Dir	SSE	S	SSE	SSE	SSE	SSE	S	SSW	SW	SW	NW	NNW	NNE	N	N	NNW	NNW	WNW	N	N	NNW	NW	NW	NW	NW	N
14 Spd	3.2	3.4	2.6	3.2	2.3	1.5	4.0	4.4	4.9	5.0	6.7	7.7	6.1	4.6	5.0	4.3	7.3	4.2	3.2	3.6	3.3	4.1	3.6	3.2	3.88	7.71
Dir	NW	NW	WNW	NW	WSW	W	NNW	NNW	NNW	NW	NNW	NNW	NNW	N	NNW	WNW	NW	NW	WNW	W	W	WNW	WNW	NW	NW	NNW
15 Spd	5.3	5.8	5.4	4.9	5.4	2.9	4.6	6.0	5.4	4.7	6.0	6.0	6.5	6.9	5.7	8.9	5.7	3.8	6.0	3.7	3.9	1.8	1.4	0.9	4.56	8.95
Dir	NW	NNW	NNW	NNW	NW	NW	NW	NW	NW	NW	NNW	NW	NW	NW	NNW	NNW	NNW	NW	NNW	N	N	SSW	SSW	SSW	NW	NNW
16 Spd	1.0	0.7	2.2	1.9	1.9	1.2	2.0	2.7	3.6	2.4	2.0	1.7	3.0	2.8	5.1	3.6	2.7	2.2	2.1	2.7	1.4	1.0	1.0	0.7	1.26	5.14
Dir	SW	SSW	SSW	SSW	SSW	SSW	SSW	SW	WSW	W	WNW	WNW	NNW	NW	NNW	NNW	NW	W	WNW	NNW	NNW	SSW	SSW	SSW	W	NNW
17 Spd	0.8	1.4	0.7	0.6	1.6	1.9	2.4	2.1	2.0	1.6	3.9	5.6	5.8	4.2	3.9	2.8	2.1	3.4	2.6	2.2	2.0	2.5	2.8	2.5	2.29	5.80
Dir	W	NNW	W	WSW	SSW	SW	SW	SW	SW	WSW	W	WSW	WSW	WSW	WSW	W	WSW	SW	SSW	SSW	SSW	SSW	SSW	SW	WSW	WSW
18 Spd	2.9	2.3	2.6	2.6	2.8	3.4	3.2	3.8	4.9	5.1	5.1	5.3	4.5	3.9	8.3	9.1	9.4	7.1	4.3	8.3	8.1	1.7	2.8	2.7	1.30	9.40
Dir	SW	SW	SW	SSW	SSW	SSW	SSW	SW	SW	SW	SW	SW	WSW	NW	NNE	NNE	NNE	NNE	N	N	N	NW	W	WNW	NW	NNE
19 Spd	2.0	4.7	4.0	5.9	2.3	2.2	1.8	5.5	6.9	7.1	9.5	9.6	9.5	9.0	7.8	8.1	8.1	7.9	7.1	3.4	3.6	4.2	3.3	3.4	5.48	9.63
Dir	WNW	NNW	NW	NNW	W	SW	WNW	NNW	NNW	NNW	NNW	NNW	NW	NW	NW	NW	NW	NW	NNW	NNW	NNW	NNW	NNW	N	NW	NNW
20 Spd	3.0	1.9	1.3	1.5	1.9	1.6	1.3	0.8	2.1	1.3	6.7	9.0	8.1	6.0	4.7	3.6	4.1	2.8	3.1	1.5	0.7	0.6	1.5	1.8	1.99	8.98
Dir	NNW	SW	WSW	SW	SW	SW	SSW	SSW	SW	W	NNW	NNW	NNW	NNW	NW	NW	NNW	NNW	NNW	WNW	N	SSW	S	SSW	NW	NNW
21 Spd	1.7	1.5	1.7	2.2	2.0	1.6	2.1	3.0	3.4	3.5	3.8	4.4	4.9	4.2	3.2	2.3	1.9	1.2	1.8	2.1	1.4	1.3	0.6	1.1	2.17	4.88
Dir	SSW	SSW	SSW	SW	SW	SSW	SSW	SW	SW	SW	SW	SW	WSW	W	W	W	W	W	SW	SW	SW	S	SSW	SSW	SW	WSW
22 Spd	1.5	2.0	2.4	1.6	1.8	1.3	1.1	1.5	1.7	2.0	1.4	2.4	2.0	1.3	0.7	2.3	2.0	2.1	2.2	1.7	2.2	2.5	5.2	3.6	1.40	5.17
Dir	SSW	SSW	SW	WSW	SW	SSW	SSW	SW	SW	SW	WNW	WSW	WSW	WSW	SW	SE	ESE	ESE	SE	SE	SE	SE	S	SSW	SSW	S



WCAS - Drayton Valley
Summary of Hourly Averages

Wind Speed (WS) - kph
August 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	4.5	4.7	3.2	3.0	2.8	2.5	1.5	1.0	2.9	2.6	2.0	2.2	1.2	2.4	3.1	2.7	2.2	3.9	2.5	4.1	2.7	2.5	2.2	1.2	0.72	4.73	
Dir	SSW	S	SSE	ESE	SE	SSE	SSW	NW	WSW	WSW	WNW	NE	NE	ENE	ENE	ENE	NE	NNE	NNE	NNE	N	NE	E	N	ENE	S	
24 Spd	0.4	1.5	1.6	0.1	0.3	1.2	1.1	0.7	0.6	0.9	1.8	2.6	1.9	2.9	5.0	7.0	12.5	9.5	6.9	4.5	2.3	0.9	2.5	3.6	1.21	12.45	
Dir	WSW	SSW	SW	NNE	SSW	NNW	ENE	NE	NE	SE	S	SSW	SSE	SSE	S	NNW	N	N	N	N	NNE	NW	W	WNW	NNW	N	
25 Spd	3.7	3.2	2.2	3.2	3.9	3.7	3.2	4.1	4.8	5.1	5.0	4.6	4.1	2.7	3.1	1.9	2.6	3.2	2.4	0.5	0.8	2.0	1.9	0.2	2.28	5.14	
Dir	WNW	W	WSW	SW	SW	WSW	SW	SW	SW	WSW	W	WNW	WNW	WSW	SW	W	W	W	N	ENE	N	NE	NNE	WNW	W	WSW	
26 Spd	0.8	0.1	1.8	1.8	2.3	2.5	2.6	3.4	4.4	5.0	5.6	4.9	3.4	3.5	2.5	2.0	2.1	3.5	4.3	2.7	2.2	2.8	2.5	2.4	2.71	5.60	
Dir	NNW	ENE	SSW	SSW	SSW	SSW	SSW	SW	SW	SW	SW	SW	WSW	SW	SW	SW	SW	S	S	S	SSW	SSW	SW	SW	SSW	SW	
27 Spd	1.9	2.4	2.5	2.6	2.7	2.1	0.8	2.5	3.8	3.2	2.1	1.7	0.6	0.9	2.2	1.4	2.2	2.5	2.5	2.2	1.9	2.0	2.4	1.6	0.73	3.78	
Dir	SW	SSW	SSW	SSW	SSW	SSW	SSW	SW	SW	WSW	SW	SSW	ESE	ESE	SSE	SE	ENE	ENE	E	ENE	NE	NE	NNE	NNE	S	SW	
28 Spd	1.2	3.8	5.8	5.0	3.2	2.1	1.2	2.2	2.2	1.3	1.0	0.8	1.1	1.7	1.9	2.0	2.1	2.5	2.8	1.4	0.9	0.9	1.4	0.3	1.57	5.82	
Dir	NNE	NNE	NNE	NNE	NNE	NNE	NNW	NNW	NNW	NNE	NNE	NE	NE	SE	SE	E	E	E	ENE	ENE	ENE	E	E	SE	NE	NNE	
29 Spd	0.8	1.4	0.6	0.9	1.7	0.3	1.8	3.6	3.1	2.6	4.2	7.5	6.0	5.7	4.7	4.0	3.4	3.3	2.8	3.0	2.4	3.0	2.1	1.6	2.66	7.49	
Dir	SE	SSW	SE	ESE	E	E	ESE	E	E	E	SSE	SSE	SSE	SSE	SE	SE	SE	SE	SE	SE	ESE	ESE	ESE	ESE	SE	SSE	
30 Spd	3.0	4.0	3.4	1.3	0.9	1.9	2.8	3.0	2.3	2.3	2.2	1.5	1.8	1.5	2.1	2.7	2.6	2.6	2.8	2.7	2.2	2.5	2.6	4.0	0.71	4.04	
Dir	ESE	SSE	SSE	S	S	S	SSW	SSW	SW	SW	SW	S	SSW	SE	ENE	ENE	ENE	ENE	NE	NE	NE	NNE	N	N	ESE	NNW	
31 Spd	2.1	2.7	3.2	4.2	3.3	2.8	2.6	4.7	6.0	5.5	6.0	6.0	5.3	3.9	4.6	4.2	6.8	1.7	2.2	1.4	1.3	1.1	0.6	1.0	2.72	6.81	
Dir	N	NNW	NNW	NNW	NNW	NW	NW	NNW	NNW	NNW	N	NNE	NNE	NNE	NNE	NNE	N	WSW	SW	WSW	WSW	SSW	NNW	SSW	N	N	
Spd	0.79	0.87	0.92	0.68	1.05	1.12	0.84	1.09	1.45	1.32	1.18	1.00	0.99	0.79	0.72	1.29	1.60	0.62	0.86	0.74	0.51	0.19	0.21	0.59	Diurnal Average		
Dir	WSW	WSW	WSW	WSW	SW	SW	SW	WSW	WSW	W	WNW	WNW	NW	NNW	N	N	NNE	NNE	NNE	NNE	NNE	E	SSW	WSW	Diurnal Maximum		
Spd	5.35	5.78	5.82	6.42	6.19	5.28	5.54	6.02	6.89	8.98	9.48	9.85	9.53	9.65	9.17	9.66	12.45	9.50	9.42	8.31	8.11	7.55	5.51	4.91	Diurnal Maximum		
Dir	325.35	327.89	26.08	345.09	189.38	185.94	176.68	319.69	333.71	181.16	333.90	178.80	317.86	175.90	178.19	171.79	350.61	358.80	355.53	3.84	5.67	16.18	26.44	317.11	Diurnal Maximum		
Maximum Speed Value: 12.5 kph on Aug 24 17:00																		Minimum Speed Value: 0.1 kph on Aug 26 02:00						Hours in Service:		744	
Maximum Daily Speed Average: 6.15 kph on Aug 12																		Minimum Daily Speed Average: 0.21 kph on Aug 9						Hours of Data:		744	
Maximum Diurnal Speed Average: 1.60 kph at hour 17																		Minimum Diurnal Speed Average: 0.19 kph at hour 22						Hours of Missing Data:		0	
Monthly Average Velocity: 0.493 kph 284.38 deg																		Speed Percentiles: P ₁ = 0.2 P ₁₀ = 0.9 Q ₁ = 1.6 Median = 2.5 Q ₃ = 3.9 P ₉₀ = 5.7 P ₉₉ = 9.5						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	63	22	1	0	0	0	86																				
NorthEast	58	9	0	0	0	0	67																				
East	64	0	0	0	0	0	64																				
SouthEast	69	3	0	0	0	0	72																				
South	90	19	0	0	0	0	109																				
SouthWest	177	4	0	0	0	0	181																				
West	54	4	0	0	0	0	58																				
NorthWest	67	40	0	0	0	0	107																				
Total	642	101	1	0	0	0	744																				



WCAS - Drayton Valley
Summary of Hourly Standard Deviations

Wind Speed (WS) - kph
August 2017

Maximum Value: 6.82 kph on Aug 24 16:00		Maximum Daily Average: 2.01 kph on Aug 19		Hours in Service: 744																							
Minimum Value: 0.2 kph on Aug 10 02:00		Minimum Daily Average: 0.74 kph on Aug 21		Hours of Data: 744																							
Maximum Diurnal Average: 1.93 kph at hour 16		Minimum Diurnal Average: 0.75 kph at hour 6		Hours of Missing Data: 0																							
Monthly Average: 1.209 kph		Percentiles: P ₁ = 0.3 P ₁₀ = 0.5 Q ₁ = 0.7 Median = 1.1 Q ₃ = 1.5 P ₉₀ = 2.0 P ₉₉ = 3.3		Hours of Calibration: 0																							
				Percent Operational Time: 100.0																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Aug	0.3	0.3	0.4	0.6	0.5	0.7	1.1	1.3	1.8	2.1	2.2	1.3	1.3	1.2	1.2	1.2	1.2	1.3	1.2	0.9	0.6	0.6	0.4	0.4	0.99	2.18	
2-Aug	0.3	0.4	0.5	0.4	0.5	0.5	0.6	0.8	0.7	1.2	1.4	1.5	1.8	1.7	1.8	1.9	1.8	1.9	1.3	1.4	0.8	0.8	0.7	0.7	1.05	1.88	
3-Aug	0.4	0.4	0.5	0.3	0.5	0.5	0.5	0.6	0.6	1.1	1.1	1.3	1.5	1.5	1.8	1.7	1.8	1.8	1.4	1.5	1.3	2.7	2.8	1.3	1.20	2.78	
4-Aug	1.5	1.4	1.2	1.1	1.2	1.5	1.6	1.3	1.4	1.4	1.4	1.8	1.5	2.1	2.2	2.1	3.3	1.3	2.0	1.1	1.1	1.0	0.6	0.9	1.50	3.33	
5-Aug	0.7	0.9	0.8	0.4	0.5	0.3	0.4	0.5	0.7	0.9	0.8	1.0	1.1	1.4	1.0	1.5	1.6	1.8	1.1	0.9	0.5	0.6	0.5	0.4	0.84	1.83	
6-Aug	0.4	0.4	0.4	0.6	0.3	0.4	0.6	0.6	0.9	1.0	1.1	1.2	1.3	1.3	1.3	1.1	1.2	1.1	0.9	0.4	0.4	0.8	0.4	0.3	0.77	1.35	
7-Aug	0.4	1.4	1.0	2.7	2.5	1.7	1.2	1.6	1.4	1.6	1.5	1.7	1.3	1.1	0.8	1.7	1.4	1.1	1.8	1.4	1.3	0.9	0.9	1.0	1.39	2.66	
8-Aug	0.8	0.9	1.0	0.7	1.1	0.9	0.9	0.8	1.0	1.3	1.1	1.1	1.2	1.3	1.6	1.6	1.5	1.5	1.5	1.3	0.7	0.5	0.5	0.9	1.06	1.61	
9-Aug	0.5	0.3	0.3	0.3	0.5	0.3	0.3	0.6	0.6	0.6	0.8	1.1	1.1	1.3	1.4	1.4	1.5	1.4	1.1	0.7	0.6	0.4	0.3	0.4	0.74	1.46	
10-Aug	0.3	0.2	0.5	0.4	0.4	0.4	0.9	0.4	0.6	0.6	0.8	1.3	1.2	1.8	1.9	1.6	1.7	1.5	1.4	1.2	0.5	2.2	1.3	0.5	1.00	2.22	
11-Aug	0.5	0.5	0.4	0.7	0.6	0.4	0.6	0.8	0.7	0.9	1.3	1.8	1.6	1.9	1.8	2.0	2.1	1.9	1.7	1.3	0.9	1.3	1.6	1.8	1.21	2.07	
12-Aug	1.1	1.2	1.2	1.2	1.5	1.2	1.2	1.4	1.6	2.5	2.4	2.7	2.8	2.5	2.5	2.6	2.2	1.9	2.0	1.1	1.4	1.4	1.2	1.2	1.75	2.76	
13-Aug	1.2	1.5	1.5	1.4	1.2	1.2	0.6	1.3	1.1	1.2	2.4	2.0	1.8	1.7	2.1	2.4	2.7	2.1	2.8	2.7	1.1	1.1	1.4	1.7	1.67	2.83	
14-Aug	1.4	1.5	1.2	1.7	0.7	0.8	1.2	1.4	1.5	1.6	1.9	2.3	2.2	1.9	1.9	2.0	2.6	1.6	1.0	1.0	1.1	1.5	1.3	1.5	1.53	2.64	
15-Aug	1.3	1.4	1.3	1.5	1.4	1.3	1.7	1.6	2.0	1.7	2.4	2.4	2.3	2.7	2.3	2.7	2.1	1.6	1.8	1.2	1.1	0.7	0.3	0.7	1.65	2.73	
16-Aug	0.5	1.0	0.5	0.4	0.4	0.5	0.3	0.8	0.9	1.0	1.1	1.2	1.8	1.5	1.9	1.0	1.1	0.7	0.7	0.8	1.0	0.6	0.7	0.5	0.87	1.95	
17-Aug	0.5	1.0	0.5	0.5	0.3	0.7	0.5	0.5	1.0	1.0	1.3	1.8	1.9	1.6	1.7	1.7	1.5	1.0	0.5	0.6	0.5	0.5	0.5	0.5	0.93	1.89	
18-Aug	0.6	0.6	0.6	0.6	0.5	0.6	0.6	0.9	1.5	1.5	1.2	1.4	1.6	2.6	2.8	3.0	3.0	2.5	2.0	4.8	2.6	1.7	0.9	0.8	1.62	4.83	
19-Aug	1.8	2.4	1.7	1.9	1.0	0.4	1.4	1.8	2.0	2.5	2.7	3.2	3.5	3.3	2.9	2.9	2.7	2.4	2.2	1.6	1.0	1.3	1.1	0.7	2.01	3.47	
20-Aug	0.8	0.5	0.6	0.7	0.6	0.5	0.5	0.4	0.6	0.7	3.4	2.6	2.4	1.8	1.7	1.4	1.2	1.0	1.0	0.9	0.8	0.6	0.3	0.3	1.05	3.43	
21-Aug	0.5	0.6	0.5	0.5	0.5	0.5	0.7	0.7	0.8	1.1	1.1	1.4	1.5	1.2	1.0	0.8	0.8	0.5	0.6	0.6	0.6	0.3	0.5	0.3	0.74	1.48	
22-Aug	0.5	0.4	0.6	0.5	0.9	0.5	0.6	0.6	0.6	0.8	1.3	1.6	1.5	1.5	1.1	1.6	1.3	1.1	1.0	0.8	0.9	1.0	1.3	1.1	0.96	1.60	
23-Aug	1.3	1.0	1.2	0.9	1.0	1.0	0.8	1.0	1.3	0.9	1.0	1.3	1.1	1.4	1.5	1.5	1.5	1.9	1.5	1.6	1.5	1.6	1.3	0.8	1.24	1.92	
24-Aug	0.9	1.1	0.9	0.6	0.5	0.9	0.8	0.8	1.0	0.9	1.2	1.7	1.4	1.7	2.1	6.8	4.5	3.2	2.7	1.7	1.0	1.0	0.9	1.3	1.65	6.82	
25-Aug	1.0	1.0	0.8	0.7	0.6	0.9	0.7	1.1	1.4	1.5	1.8	1.8	2.0	2.1	1.7	1.7	1.7	1.3	1.2	0.6	0.6	1.9	1.3	0.5	1.24	2.10	
26-Aug	0.4	0.5	0.5	0.4	0.4	0.5	0.5	0.7	1.1	1.3	1.6	1.5	1.7	1.7	1.5	1.6	1.1	1.4	1.2	0.8	0.6	0.7	0.4	0.4	0.95	1.71	
27-Aug	0.7	0.6	0.7	0.5	0.5	0.5	0.6	0.9	0.8	0.9	1.0	1.2	0.9	0.9	1.3	1.1	1.1	1.3	1.4	1.2	0.9	1.0	1.1	0.6	0.90	1.39	
28-Aug	0.5	1.9	1.5	1.5	0.8	1.2	0.7	1.0	1.0	1.1	1.0	1.2	1.3	1.5	1.5	1.4	1.5	1.4	1.5	1.0	0.8	0.6	0.7	0.4	1.12	1.93	
29-Aug	0.6	0.7	0.5	0.4	0.7	0.6	0.8	0.9	1.1	1.2	3.0	2.4	2.6	2.7	2.5	2.0	2.0	1.7	1.6	1.6	1.4	1.4	1.3	0.9	1.44	3.03	
30-Aug	1.1	1.4	1.2	1.1	0.7	0.6	0.5	0.6	0.6	0.7	0.8	0.7	0.6	0.8	1.0	1.4	1.6	1.5	1.3	1.4	1.0	0.9	0.8	1.5	0.99	1.63	
31-Aug	1.2	1.2	1.1	2.0	1.5	1.2	1.2	1.4	1.6	1.7	1.8	2.1	2.0	1.5	1.7	2.4	3.4	1.2	0.6	0.4	0.6	0.9	0.5	0.5	1.41	3.42	
		0.78	0.93	0.81	0.88	0.78	0.75	0.79	0.94	1.09	1.24	1.55	1.66	1.67	1.72	1.73	1.93	1.89	1.54	1.42	1.24	0.94	1.04	0.90	0.79	Diurnal Average	
		1.81	2.36	1.66	2.66	2.47	1.69	1.65	1.78	1.99	2.52	3.43	3.16	3.47	3.30	2.87	6.82	4.45	3.18	2.83	4.83	2.61	2.68	2.78	1.75	Diurnal Maximum	



WCAS - Drayton Valley
Summary of Hourly Standard Deviations

Wind Direction (WD) - deg
August 2017

Maximum Value: 100.61 deg on Aug 7 15:00 Maximum Daily Average: 52.47 deg on Aug 24																						Hours in Service: 744 Hours of Data: 744																											
Minimum Value: 7.3 deg on Aug 11 03:00 Minimum Daily Average: 15.24 deg on Aug 12 Maximum Diurnal Average: 43.55 deg at hour 14 Minimum Diurnal Average: 20.44 deg at hour 8 Monthly Average: 31.176 deg Percentiles: P₁ = 9.4 P₁₀ = 12.5 Q₁ = 17.4 Median = 24.7 Q₃ = 39.6 P₉₀ = 61.6 P₉₉ = 89.5																						Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0																											
Day	Hourly Period Ending At																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Aug	8.3	9.8	11.0	11.6	58.2	62.9	27.8	65.3	22.7	21.3	27.7	31.2	22.3	21.8	20.0	22.5	27.7	22.8	20.1	21.7	16.7	30.3	12.3	12.4	25.35	65.30																							
2-Aug	14.7	18.5	9.9	11.9	10.8	12.3	11.9	14.1	20.4	21.2	29.1	47.3	36.6	45.5	45.9	55.1	39.3	30.0	27.8	24.7	19.9	23.6	67.5	52.5	28.77	67.47																							
3-Aug	22.1	22.7	12.2	10.3	9.8	9.2	9.3	10.1	22.7	40.0	27.9	45.9	46.8	46.3	43.0	41.8	32.6	41.4	37.4	39.9	54.2	24.3	27.0	90.2	31.96	90.18																							
4-Aug	25.6	16.1	20.0	16.5	21.4	14.9	17.7	20.8	20.2	21.4	19.3	18.1	18.0	18.8	18.1	19.3	22.2	46.6	24.0	24.3	29.0	17.7	37.2	52.8	23.34	52.79																							
5-Aug	34.1	25.9	34.1	27.9	17.7	10.3	10.2	25.0	29.2	46.9	68.5	59.1	77.9	50.7	59.5	43.9	39.7	39.4	30.1	21.9	20.0	20.0	35.8	55.5	36.81	77.93																							
6-Aug	86.8	46.8	28.2	43.0	22.2	17.3	14.4	15.0	18.1	27.8	27.2	54.9	48.6	95.0	67.4	63.4	52.5	42.9	36.4	14.7	29.2	28.9	41.9	56.0	40.78	95.01																							
7-Aug	41.9	51.4	81.1	19.2	21.2	68.7	17.5	21.3	31.1	21.6	24.7	29.4	26.7	28.4	100.6	43.9	44.5	29.5	30.1	27.3	26.7	40.5	30.7	29.6	36.98	100.61																							
8-Aug	40.5	42.2	86.8	57.7	41.9	26.3	33.6	26.6	23.5	81.3	43.0	85.5	80.1	67.2	78.9	60.6	50.5	51.9	31.1	26.9	37.1	15.0	11.3	26.9	46.93	86.76																							
9-Aug	22.9	18.6	67.6	52.7	88.9	18.1	17.0	13.7	33.3	78.1	81.9	56.1	58.2	84.5	74.3	54.7	47.1	39.8	52.1	25.2	46.2	36.5	64.5	19.3	47.97	88.94																							
10-Aug	11.1	16.6	68.7	51.0	67.3	57.4	21.5	20.8	30.2	88.1	88.9	77.8	73.6	63.5	58.6	35.7	35.6	37.4	45.6	58.0	48.8	39.2	31.4	14.6	47.55	88.93																							
11-Aug	22.7	12.6	7.3	26.9	31.7	73.9	34.3	19.4	36.8	31.1	33.2	28.1	38.5	40.9	41.2	24.2	24.7	27.1	24.6	22.7	21.0	21.6	21.0	25.5	28.79	73.89																							
12-Aug	18.6	15.2	14.0	10.8	11.7	11.3	10.5	12.6	14.1	14.5	16.9	15.1	15.8	15.5	16.3	14.9	16.9	13.8	17.4	22.2	22.8	16.9	13.7	14.4	15.24	22.79																							
13-Aug	19.4	11.8	25.7	16.9	18.3	32.2	64.2	13.3	14.7	25.4	59.5	27.0	24.3	28.8	25.3	17.7	22.5	33.3	26.7	25.6	38.1	26.6	17.4	17.0	26.32	64.24																							
14-Aug	20.6	20.1	28.2	28.5	19.5	32.6	17.2	19.1	19.2	17.6	20.3	19.9	22.2	34.6	27.9	37.6	23.4	20.2	23.8	14.2	17.7	18.1	20.0	19.5	22.59	37.65																							
15-Aug	12.6	12.9	12.3	14.1	12.7	19.5	15.2	13.6	17.8	23.3	23.5	22.2	22.5	24.1	28.6	17.8	21.2	25.3	16.4	21.1	21.5	28.9	11.0	71.4	21.23	71.44																							
16-Aug	15.4	69.5	11.5	9.4	8.9	14.9	14.4	13.8	18.0	32.4	40.3	54.6	52.8	45.1	20.1	18.7	33.2	16.7	25.5	14.6	50.3	25.9	62.1	40.4	29.53	69.47																							
17-Aug	46.6	35.6	33.5	45.8	13.4	13.5	15.5	14.0	26.1	32.8	20.5	21.0	18.6	29.5	34.8	46.1	63.3	16.8	12.3	12.8	11.6	10.0	9.8	10.2	24.75	63.26																							
18-Aug	11.3	10.7	11.1	9.8	11.1	11.1	11.0	12.1	13.9	12.4	13.4	19.7	22.7	51.6	21.1	19.3	19.1	22.5	24.4	28.5	26.2	69.1	17.3	18.2	20.32	69.14																							
19-Aug	42.5	34.2	18.7	20.9	38.9	11.6	34.7	14.7	15.4	17.2	17.2	23.5	21.3	21.6	23.9	21.8	19.0	16.3	16.3	16.3	15.9	18.3	15.0	16.6	21.34	42.53																							
20-Aug	21.1	20.7	28.0	35.2	25.6	21.3	21.0	32.3	12.8	40.4	29.0	19.6	16.8	20.4	22.2	23.7	22.3	24.4	18.3	33.3	78.9	73.9	14.6	11.3	27.80	78.92																							
21-Aug	13.3	25.0	13.3	11.7	10.3	15.7	10.5	11.0	15.2	24.4	21.9	18.7	24.4	20.6	23.3	33.4	15.5	31.9	18.7	11.7	14.8	14.1	35.1	9.3	18.50	35.12																							
22-Aug	12.9	10.9	17.8	18.0	18.9	15.6	24.3	11.4	23.1	30.6	70.2	46.7	61.8	82.1	90.9	49.7	48.8	35.3	28.9	27.1	26.3	26.3	13.7	17.3	33.69	90.89																							
23-Aug	13.9	14.8	22.1	20.9	23.6	28.0	21.3	54.0	20.1	23.7	44.3	36.7	73.4	43.0	37.9	42.9	43.5	34.5	48.2	25.1	52.6	59.7	43.1	64.5	37.15	73.38																							
24-Aug	93.1	65.0	48.2	96.8	86.2	55.7	65.1	66.5	84.6	58.4	47.3	52.8	59.4	42.6	25.8	74.7	26.3	28.7	26.4	24.8	23.6	67.4	17.8	22.4	52.47	96.80																							
25-Aug	14.9	18.6	28.2	10.4	11.1	19.8	10.1	12.2	15.6	20.7	21.4	26.5	34.5	50.9	37.2	68.5	44.6	31.7	41.2	68.0	36.3	20.4	60.4	78.5	32.58	78.52																							
26-Aug	15.9	86.0	9.7	13.9	13.8	11.6	11.7	10.8	11.6	16.3	18.8	22.4	38.5	37.4	48.7	62.1	43.9	30.9	17.1	19.2	19.2	11.4	9.2	12.9	24.70	85.98																							
27-Aug	27.6	11.9	10.5	10.5	10.3	14.5	46.4	12.0	12.5	19.5	32.9	63.0	83.8	73.9	32.8	62.5	31.3	25.5	30.2	30.1	29.9	27.9	22.1	19.3	30.88	83.76																							
28-Aug	18.2	16.3	16.2	15.9	14.3	23.2	24.6	15.1	36.3	68.1	78.7	87.7	84.2	68.7	69.3	59.1	51.2	36.7	26.6	56.5	46.8	39.3	25.7	71.1	43.75	87.68																							
29-Aug	40.5	36.3	42.0	23.3	23.1	94.8	46.7	13.6	19.4	32.1	39.3	17.9	26.7	30.6	32.3	34.0	36.4	33.8	31.6	29.4	34.2	27.1	37.3	34.1	34.02	94.76																							
30-Aug	25.3	21.4	17.0	51.0	37.4	11.2	11.8	13.3	15.4	14.1	18.9	39.3	27.5	37.8	34.7	36.9	37.9	35.7	26.9	30.0	29.6	20.8	15.6	16.2	26.06	50.96																							
31-Aug	58.0	23.9	23.0	17.8	19.2	26.6	23.1	16.3	14.2	17.8	23.7	23.1	24.8	28.6	22.3	33.1	36.5	59.5	20.8	17.8	37.3	47.6	50.3	15.0	28.34	59.50																							
																								28.14	27.16	27.67	26.15	26.43	27.61	23.05	20.44	22.84	32.92	36.43	38.42	41.40	43.55	41.38	39.99	34.62	31.69	27.64	26.95	31.70	30.56	28.77	32.73	Diurnal Average	
																								93.07	85.98	86.76	96.80	88.94	94.76	65.06	66.55	84.58	88.07	88.93	87.68	84.17	95.01	100.61	74.71	63.26	59.50	52.13	67.97	78.92	73.93	67.47	90.18	Diurnal Maximum	

**WEYERHAEUSER - EDSON
STATION #912**

CONTINUOUS AIR MONITORING DATA

AUGUST 2017

Summary Report

Continuous air quality/meteorological monitoring measurements

West Central Airshed Society

Weyerhaeuser / Edson Station 912												August 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	
SO ₂ (ppb)	34	688	97.0	0.0	0.0	0.5	0.0	0.0	0.0	0.1	0.1	0	0	0.000
O ₃ (ppb)	34	688	97.0	20.4	0.3	55.3	3.5	9.5	19.7	30.4	38.0	0	-	0.038
NO (ppb)	35	687	97.0	0.9	0.0	13.9	0.1	0.1	0.2	0.6	2.7	-	-	-
NO ₂ (ppb)	35	687	97.0	1.2	0.0	6.5	0.1	0.3	0.8	1.7	2.8	0	0	0.003
NOx (ppb)	35	687	97.0	2.0	0.0	17.1	0.1	0.4	1.0	2.6	5.4	-	-	-
Particulate Matter 2.5 microns (μm ³)	0	722	97.0	12.5	0.0	383.6	0.0	1.6	4.9	10.9	32.3	12	4	32.3 ug/m3
Wind Speed (kph)	0	722	97.0	5.4	0.1	25.0	0.6	2.1	4.6	7.8	11.3	-	-	-
Temperature (°C)	0	722	97.0	15.2	3.0	26.4	8.8	11.3	14.5	18.9	22.9	-	-	-
Std Dev Wind Direction (deg)	0	722	97.0	30.9	0.3	96.5	10.9	15.4	25.3	40.9	61.3	-	-	-
Std Dev Wind Speed (kph)	0	722	97.0	2.6	0.0	11.8	1.3	1.9	2.5	3.2	4.2	-	-	-



WCAS - Edson
Eight Hour Running Averages

Ozone (O₃) - ppb
August 2017

Maximum Value: 49.76 ppb on Aug 12 19:00 Maximum Daily Average: 30.75 ppb on Aug 11 Minimum Value: 1.8 ppb on Aug 2 08:00 Minimum Daily Average: 12.21 ppb on Aug 21 Maximum Diurnal Average: 32.18 ppb at hour 19 Minimum Diurnal Average: 8.28 ppb at hour 9 Monthly Average: 19.906 ppb Percentiles: P ₁ = 2.9 P ₁₀ = 6.4 Q ₁ = 11.8 Median = 19.0 O ₃ = 27.2 P ₉₀ = 34.1 P ₉₉ = 45.2																								Hours in Service:	744	
																								Hours of Data:	711	
																								Hours of Missing Data:	33	
																								Hours of Calibration:	8	
																								Percent Operational Time:	96.6	
Day	Hourly Period Ending At																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Aug	23.9	21.2	19.0	17.5	16.2	15.2	14.3	14.0	13.8	13.6	13.4	13.8	15.2	15.8	16.1	16.6	17.8	19.5	20.9	21.2	20.3	18.9	17.5	15.5	17.12	23.86
2-Aug	13.1	10.2	7.6	6.0	3.6	2.4	1.9	1.8	1.8	3.1	5.2	7.6	11.3	15.1	18.7	22.3	25.8	28.6	30.3	30.9	30.2	29.3	28.2	26.9	15.09	30.89
3-Aug	25.2	22.2	18.9	17.4	14.2	11.1	8.4	5.9	4.8	6.5	11.6	15.3	20.4	25.4	30.0	34.4	37.8	39.0	38.6	37.2	34.9	32.2	29.5	27.8	22.86	39.03
4-Aug	25.9	24.3	22.0	20.9	19.2	17.9	17.6	16.7	16.1	15.7	16.1	16.9	18.1	19.5	20.7	21.6	22.4	23.3	23.6	23.2	22.5	21.9	20.8	19.4	20.26	25.88
5-Aug	17.3	14.4	11.6	10.5	8.3	5.8	3.9	2.5	2.6	5.1	9.1	12.4	17.2	21.5	25.4	29.1	32.4	34.1	34.2	33.0	30.9	29.1	27.5	25.4	18.46	34.17
6-Aug	22.3	19.2	16.0	14.5	11.5	8.7	6.0	3.7	2.9	3.5	6.7	10.2	14.6	19.3	24.2	29.3	34.0	37.5	38.7	38.4	37.7	36.2	33.9	31.3	20.84	38.71
7-Aug	28.6	27.5	27.2	26.5	25.5	24.4	23.1	21.8	21.5	20.1	18.3	19.4	20.3	22.1	24.2	26.1	27.0	27.7	28.1	27.1	24.9	22.0	19.5	17.8	23.77	28.55
8-Aug	16.2	14.2	12.3	11.3	11.7	12.1	12.4	12.3	12.6	13.8	15.0	15.5	15.9	17.2	19.1	21.1	23.7	25.5	27.1	28.2	28.8	28.4	27.6	26.1	18.67	28.75
9-Aug	23.9	21.3	18.2	16.9	13.5	10.5	7.8	5.4	3.7	3.4	7.0	11.3	17.3	23.5	28.7	33.6	38.2	42.1	43.2	42.0	39.9	36.9	33.6	30.1	23.00	43.17
10-Aug	26.4	22.4	18.0	16.0	11.9	8.3	6.2	5.2	4.6	6.2	10.1	13.6	18.1	22.9	27.6	32.0	36.0	38.4	39.1	38.6	37.6	36.5	35.4	33.3	22.69	39.13
11-Aug	31.4	29.3	26.9	26.0	22.8	19.1	15.2	13.0	12.3	13.5	17.0	21.3	26.6	32.3	37.5	42.2	45.2	46.9	46.8	45.3	43.8	42.1	41.3	40.2	30.75	46.93
12-Aug	38.8	36.9	34.8	34.1	31.9	29.7	26.9	24.3	22.8	21.8	Z	C	C	C	C	C	C	C	49.8	48.2	46.9	44.9	42.8	40.4	--	49.76
13-Aug	38.2	36.8	35.8	35.3	32.5	28.4	23.8	20.1	17.5	15.4	12.3	11.8	12.5	14.6	16.6	17.8	18.7	19.3	20.9	22.3	20.8	18.6	17.2	15.6	21.78	38.20
14-Aug	14.1	11.9	10.1	8.7	7.8	7.6	6.9	6.3	5.6	7.0	8.5	10.8	13.8	16.5	19.8	23.1	25.6	27.1	28.1	27.5	26.2	24.4	22.3	20.4	15.83	28.11
15-Aug	18.6	16.2	13.4	12.1	9.7	7.9	6.2	4.5	3.4	4.7	8.1	11.0	14.9	19.2	23.2	27.0	30.8	32.9	33.4	33.3	31.7	28.0	24.1	20.2	18.10	33.35
16-Aug	16.4	13.0	9.9	7.0	4.2	3.5	3.2	3.2	3.0	3.0	3.6	5.9	9.1	11.7	13.6	16.3	19.2	21.2	22.6	21.9	21.0	20.6	20.7	19.4	12.23	22.58
17-Aug	17.5	15.5	14.0	13.6	11.8	9.7	7.7	6.2	5.5	6.6	9.6	13.0	17.3	22.1	27.2	32.4	36.6	38.6	38.7	37.8	35.8	31.7	27.8	23.4	20.84	38.72
18-Aug	19.2	15.5	12.4	9.8	7.1	6.0	4.3	3.4	3.0	4.4	6.6	10.1	13.2	16.6	19.0	21.3	23.9	25.7	26.6	26.1	24.1	22.6	22.7	22.8	15.26	26.56
19-Aug	22.0	20.2	17.7	15.8	15.0	13.6	11.3	9.6	10.0	12.0	15.1	17.1	20.1	23.4	26.9	29.9	31.5	32.3	32.3	31.9	31.1	29.9	27.9	25.3	21.75	32.30
20-Aug	21.9	18.6	16.1	14.5	11.7	9.3	7.9	7.1	7.8	10.6	12.7	14.8	17.9	21.1	23.4	25.9	28.6	29.6	30.4	30.4	29.3	27.3	25.3	22.5	19.36	30.44
21-Aug	19.0	15.3	12.5	10.1	7.8	6.0	4.6	4.9	5.3	6.8	8.2	9.3	10.4	12.4	14.9	17.0	18.7	18.8	17.7	17.0	16.5	15.3	13.5	11.4	12.21	18.95
22-Aug	9.3	7.9	7.0	6.4	4.9	3.6	2.9	2.7	2.9	3.9	6.0	7.9	10.9	14.0	17.1	19.9	22.3	23.9	24.7	24.8	23.9	22.9	21.9	20.7	13.02	24.75
23-Aug	19.3	18.1	16.8	16.1	15.4	13.8	11.7	9.9	8.7	8.3	9.0	11.8	14.1	17.0	20.2	23.4	26.0	28.2	29.9	29.9	PF	PF	PF	PF	16.73	29.87
24-Aug	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	--	29.45
25-Aug	18.9	15.9	13.4	11.8	10.8	11.1	9.8	9.2	9.2	10.4	13.2	15.6	18.5	21.3	25.2	28.5	31.3	33.4	33.9	33.6	32.5	30.4	28.4	25.3	20.48	33.92
26-Aug	22.5	18.9	15.1	12.9	10.2	8.7	7.0	6.8	6.8	8.6	11.5	14.3	18.5	22.8	27.0	30.7	33.9	36.2	37.6	36.7	35.9	33.1	30.0	27.0	21.36	37.59
27-Aug	23.3	19.8	16.4	15.0	10.8	8.9	7.1	5.9	5.7	6.4	8.9	12.5	17.4	22.6	27.9	32.5	36.7	40.2	41.4	40.3	38.2	35.4	31.9	29.1	22.26	41.37
28-Aug	26.2	23.1	20.7	19.5	16.9	14.4	12.2	9.6	7.9	8.3	9.6	11.8	14.4	17.7	21.5	25.6	29.3	31.0	31.8	31.3	30.3	28.9	26.9	24.7	20.57	31.76
29-Aug	22.1	19.3	16.8	15.9	14.3	12.9	12.3	11.7	11.6	12.6	14.4	16.7	19.6	22.6	25.6	28.7	31.8	34.3	35.5	35.5	34.9	33.8	32.7	31.2	22.77	35.53
30-Aug	29.6	28.0	26.7	25.9	23.7	21.4	18.2	14.6	11.2	8.1	5.6	5.8	5.7	6.7	9.3	12.5	15.7	18.6	21.1	23.4	24.0	23.8	22.2	19.6	17.55	29.60
31-Aug	16.8	13.8	11.0	9.1	7.2	5.6	4.3	3.8	3.8	4.1	6.4	8.9	12.7	17.1	21.7	26.2	31.0	35.7	38.5	39.9	40.2	38.1	35.5	33.2	19.36	40.16
22.25 19.70 17.28 15.90 13.73 11.92 10.16 8.87 8.28 8.91 10.31 12.63 15.72 19.11 22.49 25.75 28.68 30.68 32.18 31.97 30.81 28.98 27.11 24.93																								Diurnal Average		
38.84 36.92 35.78 35.32 32.46 29.69 26.85 24.30 22.77 21.77 18.30 21.32 26.55 32.33 37.45 42.20 45.25 46.93 49.76 48.22 46.89 44.89 42.76 40.43																								Diurnal Maximum		
Z - zerospan			C - Calibration				PF - Power Failure																			



WCAS - Edson
Summary of Hourly Averages

Nitrogen Oxide (NO) - ppb
August 2017

Maximum Value: 13.95 ppb on Aug 3 08:00		Maximum Daily Average: 1.89 ppb on Aug 30		Hours in Service: 744																																																			
Minimum Value: 0.0 ppb on Aug 19 01:00		Minimum Daily Average: 0.16 ppb on Aug 8		Hours of Data: 687																																																			
Maximum Diurnal Average: 4.62 ppb at hour 8		Minimum Diurnal Average: 0.11 ppb at hour 21		Hours of Missing Data: 57																																																			
Monthly Average: 0.871 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.1 Q ₁ = 0.1 Median = 0.2 Q ₃ = 0.6 P ₉₀ = 2.7 P ₉₉ = 9.1		Hours of Calibration: 35																																																			
				Percent Operational Time: 97.0																																																			
Day	Hourly Period Ending At																								Daily Average	Daily Maximum																													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																															
1-Aug	0.1	0.1	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.4	0.1	0.2	0.5	0.4	0.3	0.1	0.1	0.2	0.2	0.1	0.3	1.1	0.22	1.05																													
2-Aug	0.3	0.3	0.3	Z	0.7	1.7	4.8	9.2	7.9	5.1	1.4	0.5	0.6	0.5	0.3	0.3	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1	1.51	9.25																													
3-Aug	0.1	0.1	0.8	Z	0.3	1.0	3.2	13.9	5.4	3.5	1.1	0.2	0.2	0.3	0.4	0.4	0.5	1.3	0.2	0.1	0.1	0.1	0.1	0.1	1.45	13.95																													
4-Aug	0.1	0.1	0.1	Z	0.1	0.1	0.1	0.1	0.2	1.4	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.17	1.37																													
5-Aug	0.9	2.2	0.9	Z	1.0	1.9	1.8	2.8	2.7	1.5	0.6	0.3	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.79	2.84																													
6-Aug	0.1	0.1	1.5	Z	0.2	0.5	1.4	7.7	5.1	3.4	1.3	0.6	0.2	0.2	0.1	0.3	0.2	0.4	0.1	0.1	0.1	0.1	0.2	0.1	1.04	7.75																													
7-Aug	0.1	0.1	0.1	Z	0.1	0.1	0.2	0.3	0.4	0.2	0.2	0.3	0.5	0.6	0.2	0.1	0.1	0.1	0.2	0.1	0.1	0.3	0.1	0.5	0.22	0.55																													
8-Aug	0.1	0.1	0.2	Z	0.1	0.1	0.2	0.3	0.2	0.3	0.3	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.3	0.1	0.1	0.1	0.1	0.1	0.16	0.34																													
9-Aug	0.1	0.0	0.0	Z	1.4	3.9	5.7	8.7	6.3	5.5	1.4	0.5	0.3	0.3	0.2	0.2	0.1	0.4	0.1	0.1	0.1	0.1	0.1	0.1	1.55	8.68																													
10-Aug	0.1	0.1	0.1	Z	0.2	1.2	2.8	3.5	5.8	3.1	1.7	0.5	0.2	0.3	0.4	0.1	0.2	0.1	0.1	0.3	0.2	0.2	0.1	0.1	0.92	5.75																													
11-Aug	0.1	0.1	0.1	Z	0.1	0.5	5.8	12.0	1.9	0.8	0.4	1.4	1.2	0.9	1.4	1.0	1.6	1.2	1.4	0.5	0.1	0.1	0.1	0.1	1.43	11.99																													
12-Aug	0.1	0.1	0.1	Z	0.1	0.2	0.3	0.7	1.0	C	C	C	C	C	0.3	0.2	0.2	0.3	0.1	0.1	0.2	0.1	0.1	0.1	0.24	1.02																													
13-Aug	0.1	0.1	0.1	Z	0.0	0.4	1.8	1.2	0.5	0.7	1.3	2.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.43	2.24																													
14-Aug	0.1	0.4	0.1	Z	0.1	0.2	0.6	1.6	1.5	0.6	0.4	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.0	0.2	0.0	0.0	0.29	1.61																													
15-Aug	0.0	0.3	2.0	Z	1.1	1.4	3.5	6.3	6.3	1.7	0.4	0.1	0.1	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.4	1.4	1.6	1.20	6.33																													
16-Aug	0.4	0.1	0.3	Z	0.8	2.0	2.8	7.0	7.8	5.1	4.2	1.5	0.5	0.3	1.0	0.8	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.4	1.56	7.85																													
17-Aug	0.1	0.1	0.1	Z	0.1	0.3	1.1	4.9	3.7	2.7	1.2	0.3	0.2	0.1	0.1	0.1	0.3	1.0	0.2	0.1	0.1	0.2	0.1	1.2	0.80	4.95																													
18-Aug	0.7	1.0	0.1	Z	2.0	2.1	6.3	10.3	12.1	3.1	2.3	0.2	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.0	0.3	0.1	0.0	0.0	1.81	12.14																													
19-Aug	0.0	0.9	0.1	Z	0.1	1.2	2.1	2.4	0.4	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.35	2.35																													
20-Aug	0.8	0.1	0.1	Z	0.1	0.1	0.2	0.6	0.9	0.2	0.2	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.5	0.9	0.25	0.93																												
21-Aug	0.1	0.2	0.1	Z	0.1	1.9	5.8	9.6	6.0	2.2	0.2	1.0	1.3	0.7	0.3	0.2	0.3	0.4	0.6	0.2	0.1	0.1	0.2	0.2	1.38	9.58																													
22-Aug	0.1	0.1	0.7	Z	1.6	0.4	1.3	4.6	5.0	2.4	1.0	0.3	0.2	0.3	0.2	0.1	0.1	0.4	0.1	0.2	0.6	0.2	0.1	0.1	0.87	5.04																													
23-Aug	0.1	0.1	0.1	Z	0.1	0.1	1.4	4.7	6.8	3.4	2.2	0.5	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	--	6.80																													
24-Aug	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	0.1	0.0	0.1	0.1	0.1	0.0	0.3	0.1	0.0	--	0.28																													
25-Aug	0.1	0.1	0.1	Z	0.1	0.1	4.4	3.5	3.5	2.9	0.5	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.3	0.1	0.72	4.38																													
26-Aug	0.1	0.6	1.3	Z	0.1	0.2	0.7	2.3	2.7	3.0	1.8	0.3	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.63	2.96																													
27-Aug	0.1	0.1	0.1	Z	0.3	0.3	1.5	3.2	5.6	4.9	1.9	0.4	0.2	0.2	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.88	5.60																													
28-Aug	0.1	0.1	0.1	Z	0.1	0.1	2.0	7.7	8.8	0.7	0.6	0.2	0.2	0.3	0.7	0.2	0.2	0.6	0.5	0.1	0.1	0.1	0.1	0.1	1.03	8.84																													
29-Aug	0.1	0.1	0.2	Z	0.1	0.1	0.1	0.4	0.6	0.7	0.8	2.7	2.9	3.0	2.6	2.3	1.4	0.6	0.9	0.1	0.1	0.1	0.1	0.1	0.87	3.00																													
30-Aug	0.0	0.0	0.0	Z	0.0	0.1	1.0	6.1	12.1	7.1	3.0	4.8	4.3	2.5	0.6	0.3	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	1.89	12.13																													
31-Aug	0.1	0.2	0.3	Z	0.1	0.3	0.8	2.7	3.5	2.8	0.4	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.52	3.49																													
																								0.17	0.26	0.33	--	0.38	0.75	2.13	4.62	4.16	2.39	1.08	0.70	0.51	0.42	0.37	0.28	0.25	0.28	0.22	0.12	0.11	0.13	0.17	0.26	Diurnal Average							
																								0.87	2.21	2.04	--	1.96	3.87	6.29	13.95	12.14	7.09	4.18	4.78	4.32	3.00	2.61	2.31	1.58	1.25	1.43	0.47	0.58	0.45	1.44	1.55	Diurnal Maximum							
Z - zerospan																								C - Calibration				PF - Power Failure																											
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr --- ppb 24-hr --- ppb																																																							



WCAS - Edson
Summary of Hourly Averages

Nitrogen Dioxide (NO₂) - ppb
August 2017

Maximum Value: 6.54 ppb on Aug 15 22:00		Maximum Daily Average: 2.05 ppb on Aug 30		Hours in Service: 744																																																			
Minimum Value: 0.0 ppb on Aug 1 13:00		Minimum Daily Average: 0.28 ppb on Aug 8		Hours of Data: 687																																																			
Maximum Diurnal Average: 2.13 ppb at hour 9		Minimum Diurnal Average: 0.47 ppb at hour 17		Hours of Missing Data: 57																																																			
Monthly Average: 1.164 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.1 Q ₁ = 0.3 Median = 0.8 Q ₃ = 1.7 P ₉₀ = 2.8 P ₉₉ = 4.5		Hours of Calibration: 35																																																			
Percentiles: P ₁ = 0.0 P ₁₀ = 0.1 Q ₁ = 0.3 Median = 0.8 Q ₃ = 1.7 P ₉₀ = 2.8 P ₉₉ = 4.5		Percent Operational Time: 97.0																																																					
Day	Hourly Period Ending At																								Daily Average	Daily Maximum																													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																															
1-Aug	1.4	0.4	0.3	Z	0.1	0.2	0.4	0.1	0.0	0.1	0.2	0.3	0.0	0.4	0.3	0.3	0.0	0.0	0.1	0.6	1.4	1.7	1.6	2.1	0.53	2.06																													
2-Aug	1.0	0.4	0.1	Z	0.3	1.0	1.2	1.7	1.4	2.2	1.0	0.4	0.4	0.2	0.3	0.2	0.0	0.0	0.2	0.3	0.5	0.9	0.6	0.3	0.64	2.24																													
3-Aug	0.2	0.1	1.4	Z	1.2	0.8	1.2	3.1	3.2	3.7	2.8	0.8	0.4	0.4	0.8	0.8	1.1	2.8	0.8	0.0	0.0	0.0	0.1	0.4	1.14	3.72																													
4-Aug	1.1	0.3	0.0	Z	0.6	0.8	0.3	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	1.1	0.30	1.27																													
5-Aug	1.7	3.5	1.9	Z	1.4	1.2	0.9	1.1	1.1	1.3	0.8	0.7	0.3	0.0	0.0	0.0	0.2	0.1	0.2	0.3	0.6	1.2	1.2	1.4	0.92	3.54																													
6-Aug	0.6	0.1	1.3	Z	0.5	0.3	0.5	1.1	1.0	1.8	2.0	1.5	0.4	0.2	0.1	0.5	0.2	0.5	0.1	0.7	0.4	1.6	1.9	0.7	0.78	1.99																													
7-Aug	0.0	0.5	0.0	Z	0.3	0.3	1.1	1.4	1.0	0.4	0.2	0.4	0.8	0.9	0.2	0.0	0.0	0.0	0.0	0.1	0.4	1.2	0.4	0.7	0.44	1.36																													
8-Aug	0.4	0.7	0.6	Z	0.2	0.0	0.6	0.6	0.1	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.3	0.0	0.2	0.9	0.4	0.2	0.28	0.87																													
9-Aug	0.2	0.4	0.4	Z	0.6	0.8	1.5	2.1	2.0	2.5	1.9	1.1	0.9	0.9	0.5	0.0	0.1	0.7	0.2	0.7	0.7	2.1	4.0	2.2	1.15	3.99																													
10-Aug	0.6	0.5	0.4	Z	1.2	1.5	1.3	1.7	2.9	3.5	3.2	1.0	0.2	0.4	0.3	0.0	0.1	0.0	0.0	1.7	1.9	2.7	0.9	0.9	1.18	3.50																													
11-Aug	0.6	0.4	0.3	Z	0.5	1.1	1.8	3.3	2.3	1.1	1.1	2.7	2.6	1.3	2.0	1.4	1.9	1.8	2.3	1.4	0.6	0.9	0.6	0.7	1.42	3.33																													
12-Aug	0.3	0.5	0.5	Z	0.6	0.7	0.7	1.1	1.4	C	C	C	C	C	1.2	1.3	1.6	2.5	1.0	0.7	1.2	0.7	0.6	0.5	0.96	2.50																													
13-Aug	0.4	0.5	0.7	Z	0.5	1.7	2.3	2.7	1.7	1.9	3.7	4.0	2.6	2.3	2.5	2.8	1.4	1.0	0.7	0.6	0.5	0.9	0.7	0.5	1.59	4.02																													
14-Aug	0.7	1.6	0.4	Z	0.8	0.9	1.6	1.4	1.4	0.6	0.3	0.1	0.1	0.3	0.2	0.0	0.1	0.1	0.1	0.3	0.8	1.2	0.7	0.6	0.62	1.65																													
15-Aug	0.6	1.2	2.7	Z	2.8	2.8	2.4	2.3	2.1	1.4	0.6	0.1	0.1	0.2	0.2	0.6	0.1	0.2	0.3	0.3	1.8	6.5	4.8	4.9	1.70	6.54																													
16-Aug	3.1	1.9	2.1	Z	1.8	1.5	1.2	1.9	2.3	4.0	3.6	2.7	2.3	2.5	3.7	2.4	0.6	0.7	0.9	2.1	1.3	0.7	0.8	1.4	1.97	4.02																													
17-Aug	1.8	2.5	2.9	Z	1.3	1.7	2.1	3.0	2.4	2.7	2.0	0.8	0.5	0.3	0.4	0.6	1.3	3.7	1.8	0.9	1.1	4.0	1.5	2.2	1.79	3.96																													
18-Aug	2.6	3.1	2.2	Z	2.8	2.3	3.0	2.9	3.5	3.9	3.3	0.6	0.7	0.9	0.9	0.6	0.4	0.3	0.3	0.1	3.0	1.9	0.3	0.3	1.72	3.87																													
19-Aug	0.4	1.7	1.8	Z	1.4	2.7	2.9	1.7	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.4	0.7	2.9	0.75	2.93																													
20-Aug	4.7	3.2	3.3	Z	3.2	3.4	2.5	2.8	2.2	0.7	0.7	0.4	0.6	0.4	1.0	0.3	0.1	0.0	0.1	0.1	0.2	0.8	1.4	3.0	1.52	4.68																													
21-Aug	1.8	1.6	1.7	Z	2.8	2.9	3.1	3.5	3.9	1.9	1.0	2.0	2.6	1.4	0.7	0.6	0.9	1.1	2.2	1.2	0.8	0.6	1.4	1.6	1.78	3.87																													
22-Aug	1.0	0.8	1.6	Z	2.4	1.3	1.2	1.7	2.5	1.6	1.0	0.2	0.2	0.4	0.3	0.1	0.1	0.4	0.2	0.9	2.2	0.7	0.9	0.8	0.99	2.49																													
23-Aug	0.8	0.7	0.7	Z	0.6	0.7	2.3	2.5	4.1	3.4	2.9	1.0	0.2	0.2	0.3	0.5	0.6	PF	PF	PF	PF	PF	PF	PF	--	4.09																													
24-Aug	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	0.0	0.0	0.4	0.4	0.2	0.5	4.5	2.2	0.9	--	4.49																													
25-Aug	1.3	1.4	1.2	Z	1.3	0.6	3.2	3.2	2.8	2.7	0.6	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.7	3.3	2.7	2.8	1.22	3.34																													
26-Aug	1.7	1.9	2.5	Z	3.1	3.1	2.2	2.4	2.4	2.9	1.9	0.5	0.2	0.2	0.1	0.2	0.4	0.4	1.0	0.9	0.9	0.9	0.8	0.9	1.36	3.07																													
27-Aug	0.9	1.0	1.0	Z	1.7	2.2	1.8	2.3	3.1	3.8	2.7	1.1	0.9	0.6	0.7	0.5	0.3	0.5	0.6	0.5	0.3	0.3	1.4	0.3	1.24	3.81																													
28-Aug	0.3	0.1	0.0	Z	0.5	2.0	2.6	2.2	3.4	0.7	0.7	0.3	0.2	0.3	0.9	0.4	0.5	0.8	0.9	0.8	1.3	0.6	1.6	1.4	0.98	3.40																													
29-Aug	1.5	1.3	1.6	Z	0.7	0.4	0.8	0.9	0.8	0.7	0.9	2.6	2.9	3.6	2.9	2.3	1.5	0.8	1.5	0.6	1.2	1.5	0.9	1.1	1.43	3.60																													
30-Aug	1.1	1.0	0.9	Z	0.9	0.9	2.4	3.0	4.3	4.5	4.2	4.3	4.8	4.4	2.2	1.4	1.0	1.0	1.0	1.0	0.6	0.6	0.7	0.7	2.05	4.84																													
31-Aug	0.5	0.7	0.8	Z	1.3	2.1	2.9	4.3	4.4	3.7	1.2	0.7	0.4	0.4	0.3	0.2	0.0	0.0	0.0	0.1	0.1	1.0	1.6	1.2	1.21	4.43																													
																								1.11	1.14	1.18	--	1.24	1.41	1.73	2.07	2.13	2.06	1.55	1.05	0.87	0.80	0.77	0.57	0.47	0.66	0.58	0.57	0.84	1.48	1.29	1.28	Diurnal Average							
																								4.68	3.54	3.35	--	3.18	3.43	3.18	4.26	4.43	4.50	4.20	4.35	4.84	4.44	3.68	2.79	1.93	3.75	2.29	2.06	3.02	6.54	4.81	4.86	Diurnal Maximum							
Z - zerospan																								C - Calibration				PF - Power Failure																											
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 159 ppb 24-hr 106 ppb																																																							



WCAS - Edson
Summary of Hourly Averages

PM2.5 (PM_{2.5}) - µg/m³
August 2017

Maximum Value: 383.59 µg/m ³ on Aug 13 16:00 Maximum Daily Average: 103.15 µg/m ³ on Aug 13																							Hours in Service:	744																							
Minimum Value: 0.0 µg/m ³ on Aug 1 10:00 Minimum Daily Average: 0.48 µg/m ³ on Aug 19																							Hours of Data:	722																							
Maximum Diurnal Average: 24.13 µg/m ³ at hour 14 Minimum Diurnal Average: 6.06 µg/m ³ at hour 3																							Hours of Missing Data:	22																							
Monthly Average: 12.506 µg/m ³ Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 1.6 Median = 4.9 Q ₃ = 10.9 P ₉₀ = 32.3 P ₉₉ = 93.2																							Hours of Calibration:	0																							
																							Percent Operational Time:	97.0																							
Day	Hourly Period Ending At																								Daily Average	Daily Maximum																					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																							
1-Aug	8.5	6.3	0.1	3.6	2.4	2.2	0.9	0.4	0.8	0.0	0.5	0.0	0.7	2.0	2.1	0.1	0.0	0.0	2.0	3.0	2.0	0.0	2.0	0.7	1.68	8.51																					
2-Aug	0.0	0.0	0.0	0.0	0.1	1.5	2.2	5.0	31.9	10.4	5.3	0.0	0.0	0.0	2.6	1.4	1.6	0.2	4.5	4.9	2.0	1.3	1.2	1.2	3.23	31.91																					
3-Aug	0.2	0.0	0.8	0.0	0.0	2.1	7.1	11.2	12.2	7.4	17.3	13.2	0.0	0.3	10.9	2.8	9.2	8.3	4.7	8.4	4.2	3.5	1.3	0.0	5.22	17.35																					
4-Aug	0.6	0.0	0.0	1.7	2.3	3.8	1.8	0.3	1.4	3.5	1.4	0.1	1.0	0.7	2.4	0.9	1.9	2.0	4.5	0.0	0.0	0.0	0.0	0.0	1.27	4.50																					
5-Aug	0.0	0.0	0.0	1.0	0.0	2.6	10.5	0.0	6.9	4.2	2.4	5.1	5.7	2.0	1.5	0.7	6.0	11.1	2.9	3.5	1.3	2.1	2.6	1.9	3.09	11.14																					
6-Aug	1.4	0.3	1.1	0.0	0.0	2.8	7.5	4.9	8.2	8.9	10.8	13.6	0.0	3.0	4.6	8.9	5.8	7.0	10.7	7.8	6.8	10.2	8.8	10.5	5.97	13.65																					
7-Aug	10.7	4.8	0.0	1.5	0.0	0.0	3.0	1.1	2.7	2.7	1.6	2.1	4.4	0.1	5.1	0.0	2.6	0.2	0.0	6.8	0.0	0.0	0.0	0.9	2.10	10.75																					
8-Aug	0.0	0.9	0.3	0.0	0.0	0.0	1.1	1.7	0.5	1.1	4.2	3.4	2.6	3.3	3.8	4.3	5.3	5.1	7.1	3.9	2.4	1.7	2.2	1.5	2.34	7.08																					
9-Aug	0.0	0.0	0.0	0.0	0.0	4.5	8.1	10.9	9.6	16.0	5.2	5.8	4.9	7.4	4.7	0.0	6.8	6.0	8.6	12.0	3.7	7.1	6.2	5.5	5.54	16.03																					
10-Aug	2.5	4.9	3.4	5.2	4.5	8.1	10.9	12.4	17.2	16.5	13.4	8.2	0.0	3.9	0.0	1.5	7.0	2.5	8.8	12.6	6.6	1.6	7.1	9.2	7.00	17.25																					
11-Aug	5.4	5.4	5.1	0.5	2.8	3.9	14.1	15.8	12.8	13.7	14.1	4.8	5.7	6.9	7.7	9.9	14.1	8.6	11.5	5.6	5.6	3.8	3.6	3.5	7.70	15.83																					
12-Aug	3.7	3.5	3.5	3.1	2.3	3.4	5.2	3.4	5.9	8.2	7.5	5.2	10.9	13.9	3.0	8.6	8.0	14.0	7.2	8.2	7.8	8.3	6.9	6.6	6.59	13.99																					
13-Aug	6.3	6.2	6.1	5.2	5.0	5.6	7.4	8.1	7.7	9.4	16.4	38.6	324.3	350.0	333.6	383.6	201.5	156.1	119.6	101.6	114.5	109.6	90.0	69.6	103.15	383.59																					
14-Aug	26.8	19.9	12.4	8.8	10.3	7.4	8.6	7.5	6.1	5.7	5.8	4.5	15.0	26.1	21.6	16.8	14.6	8.5	11.3	17.3	27.4	26.5	11.3	1.7	13.41	27.37																					
15-Aug	1.1	1.0	2.4	1.2	2.7	4.1	6.7	10.9	13.7	12.5	15.4	20.5	25.7	24.0	24.3	24.5	24.2	30.9	35.6	30.3	34.0	38.9	34.8	33.9	18.88	38.90																					
16-Aug	32.3	32.1	31.9	29.1	29.2	28.6	32.3	33.2	40.0	43.1	44.7	44.0	45.6	44.3	46.6	45.8	47.3	45.9	40.2	41.7	34.9	28.5	28.0	29.1	37.43	47.32																					
17-Aug	30.5	27.9	25.9	23.9	33.3	37.0	38.6	39.6	38.6	35.1	26.4	16.5	18.9	27.8	33.3	33.9	40.7	43.5	40.5	41.3	45.4	47.9	38.7	43.4	34.53	47.94																					
18-Aug	43.2	48.4	56.7	61.0	62.5	57.7	57.0	59.5	63.0	58.3	57.6	41.2	58.2	79.3	86.3	61.5	25.2	20.8	13.3	0.7	6.8	1.7	0.0	0.0	42.50	86.32																					
19-Aug	0.0	0.0	0.0	0.0	0.0	0.0	0.6	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0	1.0	0.0	4.4	3.1	0.48	4.40																					
20-Aug	4.6	2.7	0.0	1.1	2.5	1.8	2.9	3.7	7.0	6.5	8.3	4.9	7.6	16.5	22.5	21.7	4.6	0.0	3.7	0.8	2.9	1.3	2.0	5.7	5.63	22.47																					
21-Aug	3.6	3.1	3.9	7.1	9.8	12.2	12.6	11.5	11.5	10.0	11.7	10.7	12.9	10.1	9.1	9.5	12.2	10.9	10.4	4.6	3.3	9.2	7.1	8.7	8.99	12.89																					
22-Aug	7.1	6.1	6.0	6.1	5.7	4.9	4.4	7.8	7.3	9.0	0.0	0.0	6.0	2.6	3.8	2.4	1.9	6.9	2.9	5.2	1.1	1.1	0.5	2.9	4.24	9.00																					
23-Aug	2.3	2.1	1.6	2.1	1.9	2.0	3.6	8.2	12.0	13.0	13.5	1.1	4.4	0.0	9.4	8.6	5.7	PF	PF	PF	PF	PF	PF	PF	--	13.46																					
24-Aug	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	0.0	0.9	5.0	8.5	0.0	0.0	0.0	0.0	0.0	--	8.52																					
25-Aug	0.0	0.0	0.0	0.0	0.0	0.2	2.5	3.6	6.1	4.5	3.6	0.0	1.5	1.7	1.3	0.7	2.8	1.2	3.9	1.6	4.9	9.2	4.8	5.1	2.46	9.16																					
26-Aug	4.4	3.4	4.5	3.0	4.5	5.5	6.1	5.8	7.3	8.5	7.5	2.2	1.8	2.0	3.6	1.5	2.6	3.7	18.3	13.7	24.5	8.5	4.2	4.3	6.31	24.49																					
27-Aug	3.5	3.0	2.7	4.7	1.5	5.0	5.0	5.0	9.6	11.7	11.6	1.8	9.4	7.7	8.4	4.2	8.4	6.2	11.8	6.8	7.4	4.9	4.9	0.7	6.08	11.79																					
28-Aug	4.2	1.8	1.8	0.4	3.5	5.1	5.9	10.7	16.2	3.2	1.5	2.7	5.0	2.5	5.9	4.6	6.8	6.6	9.8	6.6	6.0	4.9	4.4	3.0	5.14	16.17																					
29-Aug	4.0	4.0	3.6	3.1	0.8	0.0	0.0	3.6	5.1	5.5	5.7	8.0	12.4	9.9	9.2	10.1	6.8	3.3	3.2	3.3	2.9	0.0	0.0	0.0	4.35	12.37																					
30-Aug	0.0	0.0	1.8	1.6	0.3	0.2	2.2	5.2	20.0	17.7	16.8	17.4	20.7	33.0	20.3	20.5	15.6	10.5	14.4	14.0	13.3	8.3	3.2	3.3	10.85	33.02																					
31-Aug	3.8	3.9	6.3	10.4	12.6	16.4	24.6	33.9	33.3	39.1	28.4	26.7	35.4	42.9	27.1	19.4	0.0	0.0	0.5	1.9	0.0	5.9	2.1	1.3	15.66	42.87																					
																							7.04	6.38	6.06	6.18	6.69	7.61	9.78	10.88	13.82	12.85	11.95	10.08	21.35	24.13	23.83	22.85	15.81	14.17	14.04	12.27	12.42	11.53	9.40	8.57	Diurnal Average
																							43.25	48.35	56.74	61.02	62.47	57.67	56.96	59.48	63.04	58.28	57.57	43.98	324.28	349.98	333.55	383.59	201.45	156.13	119.56	101.60	114.52	109.59	89.99	69.62	Diurnal Maximum
PF - Power Failure																																															
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 80 ul/m^3 24-hr 30 ul/m^3																																															

**WEYERHAEUSER - EDSON
STATION #912**

METEOROLOGICAL DATA

AUGUST 2017



WCAS - Edson
Summary of Hourly Averages

External Temperature (ET) - C
August 2017

Maximum Value: 26.38 C on Aug 12 15:00 Maximum Daily Average: 18.69 C on Aug 22																								Hours in Service: 744			
Minimum Value: 3.0 C on Aug 25 07:00 Minimum Daily Average: 11.33 C on Aug 20																								Hours of Data: 722			
Maximum Diurnal Average: 21.07 C at hour 17 Minimum Diurnal Average: 9.00 C at hour 6																								Hours of Missing Data: 22			
Monthly Average: 15.171 C Percentiles: P₁ = 4.6 P₁₀ = 8.8 Q₁ = 11.3 Median = 14.5 Q₃ = 18.9 P₉₀ = 22.9 P₉₉ = 25.9																								Hours of Calibration: 0			
Percent Operational Time: 97.0																											
Day	Hourly Period Ending At																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Aug	14.6	13.6	13.5	13.0	12.6	11.8	11.6	11.7	11.7	11.5	11.8	12.7	13.5	13.3	13.7	14.9	16.4	16.9	16.0	15.5	14.3	12.3	11.5	10.9	13.30	16.95	
2-Aug	9.7	8.6	7.7	6.5	6.0	6.1	6.4	7.0	8.5	12.1	16.0	18.2	20.0	20.8	21.9	22.4	22.5	22.4	21.9	20.2	17.7	16.2	15.2	14.0	14.50	22.50	
3-Aug	12.9	10.5	9.9	8.8	8.0	7.5	8.9	11.3	14.2	17.8	21.0	22.2	23.6	24.9	25.1	24.8	24.3	23.7	22.2	15.4	14.1	13.9	13.7	13.0	16.31	25.14	
4-Aug	12.7	12.4	12.0	11.7	11.8	12.0	12.2	12.4	13.0	13.3	14.3	15.1	15.6	16.6	18.2	18.6	18.5	17.6	17.2	16.4	14.7	12.9	11.9	11.3	14.26	18.60	
5-Aug	10.4	9.8	9.0	8.8	8.7	8.1	9.1	11.0	13.5	16.3	18.2	20.0	20.3	20.5	22.1	22.2	22.7	21.9	20.8	19.4	17.2	16.2	15.3	13.8	15.64	22.65	
6-Aug	11.8	10.6	10.0	9.2	8.3	7.5	8.3	9.2	11.0	15.2	18.4	21.0	22.6	23.6	24.2	24.8	24.8	24.2	23.4	21.9	19.7	18.4	18.1	16.8	16.79	24.78	
7-Aug	15.9	13.9	13.5	13.2	12.7	12.1	12.4	12.6	13.3	13.9	14.5	15.6	16.9	17.7	17.6	18.1	19.3	18.3	18.4	16.6	14.5	13.7	12.9	12.8	15.02	19.33	
8-Aug	12.5	12.1	11.9	11.8	11.6	11.6	11.7	12.1	12.5	13.3	14.0	14.6	15.4	17.1	18.6	19.9	20.9	21.4	21.1	19.1	17.4	16.4	15.6	14.7	15.30	21.39	
9-Aug	13.8	12.3	10.5	9.4	8.4	8.0	8.7	9.8	11.3	15.1	19.7	21.8	23.4	24.1	24.2	24.8	24.7	24.8	24.5	21.8	19.7	17.8	15.7	14.1	17.02	24.82	
10-Aug	12.8	12.3	11.1	10.7	10.6	10.1	11.1	13.1	15.4	18.7	22.2	23.1	24.1	24.6	25.2	25.6	25.7	26.3	25.1	22.3	20.2	19.4	17.6	15.8	18.46	26.25	
11-Aug	15.2	14.1	13.2	11.4	10.4	9.7	10.6	13.5	15.7	18.0	21.1	23.7	24.7	25.3	25.9	26.1	25.9	25.3	24.4	22.0	19.1	17.5	16.9	16.1	18.57	26.11	
12-Aug	14.7	13.4	12.5	12.2	11.5	11.0	11.2	12.7	14.7	16.9	19.4	22.4	24.7	26.0	26.4	26.2	25.5	24.5	22.8	21.5	20.0	18.4	17.4	16.5	18.44	26.38	
13-Aug	15.4	14.5	13.7	12.3	10.8	9.8	10.5	12.7	13.5	14.7	16.3	17.7	19.4	19.3	17.3	16.1	14.4	13.9	13.7	13.5	12.7	12.7	12.8	12.5	14.17	19.42	
14-Aug	11.8	10.5	9.5	9.1	9.1	9.3	9.3	9.4	10.9	13.5	14.4	16.1	16.6	16.3	17.7	18.0	17.5	17.6	17.1	15.5	12.6	10.8	10.3	9.8	13.03	17.99	
15-Aug	8.6	6.6	5.9	5.0	4.8	4.4	5.1	6.7	9.3	14.0	15.6	17.1	18.2	19.2	19.4	19.1	20.2	19.2	17.9	16.8	14.6	12.9	12.2	12.3	12.72	20.17	
16-Aug	12.4	11.9	10.8	8.9	7.8	6.8	7.6	9.0	10.3	13.3	14.7	17.7	18.4	16.5	17.5	18.6	18.7	17.9	17.5	16.7	14.7	12.7	11.6	11.0	13.46	18.66	
17-Aug	10.8	9.7	9.1	8.7	9.5	10.1	10.5	10.8	12.1	15.8	18.4	20.2	20.9	22.1	23.0	23.3	22.8	22.0	20.5	18.6	17.0	15.5	13.8	12.3	15.72	23.28	
18-Aug	11.6	11.0	10.2	9.3	9.1	8.3	9.4	10.1	11.4	14.5	18.1	21.7	20.4	18.2	15.0	15.8	15.6	14.1	11.3	10.4	9.8	9.2	8.4	7.4	12.52	21.66	
19-Aug	6.4	5.6	4.7	4.8	4.0	4.1	4.2	7.0	10.7	13.2	15.0	16.0	17.0	18.1	18.5	18.2	18.2	17.3	16.2	14.5	11.9	9.4	9.2	9.4	11.40	18.51	
20-Aug	9.0	8.8	9.1	8.8	8.8	8.6	8.5	8.6	9.8	11.7	10.8	11.6	13.4	14.1	13.9	14.2	16.3	16.7	15.7	14.5	11.4	10.0	8.8	8.8	11.33	16.70	
21-Aug	9.1	9.3	9.9	10.2	9.7	9.3	9.8	10.7	12.3	14.3	14.7	15.2	15.8	16.5	17.3	18.1	17.8	17.7	17.4	16.6	16.2	15.7	14.9	14.4	13.87	18.08	
22-Aug	13.9	14.0	13.5	13.3	12.8	12.4	12.3	13.9	15.7	18.4	20.2	22.1	23.1	24.1	24.8	25.5	25.5	24.7	23.5	21.3	20.0	18.9	18.2	16.5	18.69	25.55	
23-Aug	15.5	14.8	14.4	14.1	13.6	12.4	12.2	13.6	15.9	18.0	20.3	23.3	24.2	24.7	24.4	23.5	22.2	PF	PF	PF	PF	PF	PF	PF	--	24.73	
24-Aug	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	13.9	13.0	12.4	13.3	12.0	9.3	8.6	7.9	6.6	--	13.92
25-Aug	6.0	5.0	4.7	4.7	4.2	3.1	3.0	6.1	8.9	12.8	15.8	17.6	18.7	19.0	19.4	19.7	20.2	19.8	17.8	16.2	13.3	11.3	9.3	8.1	11.86	20.20	
26-Aug	7.7	5.6	4.7	5.3	5.0	4.7	5.1	6.9	9.6	13.3	17.3	19.9	21.7	22.9	23.5	24.4	25.0	24.6	22.3	20.5	19.9	15.4	13.5	12.8	14.65	25.03	
27-Aug	11.6	10.6	10.1	9.5	8.2	8.6	9.3	11.4	14.0	18.0	21.1	22.9	24.5	25.5	25.9	25.8	26.3	25.8	22.7	20.9	19.8	18.0	16.4	16.4	17.63	26.25	
28-Aug	15.8	15.1	13.7	11.8	11.2	11.2	11.1	11.8	14.5	17.3	19.4	20.2	21.0	21.7	22.7	23.1	23.2	22.6	21.5	19.0	17.7	17.0	16.5	16.5	17.32	23.16	
29-Aug	15.8	14.9	14.4	14.0	13.2	12.4	12.3	13.0	14.4	16.8	19.2	21.7	22.3	23.0	23.7	23.8	23.5	22.7	21.4	19.4	18.0	16.7	15.8	14.7	17.80	23.82	
30-Aug	13.8	12.7	12.0	11.1	9.0	8.0	7.4	8.2	10.0	12.0	14.2	17.2	20.5	20.5	20.9	21.1	21.0	19.2	18.6	18.2	17.1	16.3	15.5	13.7	14.93	21.12	
31-Aug	12.9	12.3	12.3	11.8	11.7	11.0	10.7	11.4	12.6	14.1	16.1	18.2	20.2	21.8	17.3	19.8	21.0	20.3	19.1	16.7	14.9	10.9	9.8	9.4	14.85	21.79	
12.17 11.21 10.59 9.98 9.43 9.00 9.35 10.59 12.37 14.93 17.08 18.89 20.03 20.59 20.85 20.99 21.07 20.53 19.51 17.78 15.97 14.50 13.55 12.74																								Diurnal Average			
15.88 15.05 14.43 14.11 13.61 12.39 12.36 13.92 15.92 18.73 22.21 23.72 24.68 25.95 26.38 26.18 26.25 26.25 25.12 22.34 20.19 19.35 18.20 16.77																								Diurnal Maximum			
PF - Power Failure																											



WCAS - Edson Summary of Hourly Averages

Wind Speed (WS) - kph August 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	1.3	2.8	7.8	4.8	13.5	9.4	7.7	13.5	7.2	2.3	2.1	1.9	2.7	4.1	8.0	9.8	9.0	8.9	4.7	0.8	0.2	1.4	0.6	0.9	1.58	13.54	
Dir	NE	NE	NNE	N	NNE	NE	NNE	NNE	NNE	NW	W	N	ENE	SW	SW	SW	SW	SW	SW	SW	SSW	WNW	N	N	NNW	NNE	
2 Spd	0.1	1.4	0.4	1.5	3.2	2.3	4.7	3.5	3.0	2.5	6.3	8.8	7.1	7.5	6.1	9.2	9.8	10.9	12.3	11.0	9.1	8.6	8.1	6.6	4.17	12.33	
Dir	WNW	NW	NW	WNW	W	WNW	W	WSW	SW	ESE	E	ENE	E	E	E	E	ENE	ENE	ENE	ENE	ENE	NE	NNE	NNE	ENE	ENE	
3 Spd	5.5	0.1	1.6	2.1	2.4	3.7	3.0	4.0	5.3	2.8	0.8	4.2	5.6	7.7	11.6	11.9	10.7	10.5	9.1	25.0	16.1	1.8	3.8	5.5	3.08	24.98	
Dir	N	NNE	WNW	WNW	WNW	WNW	W	SW	WSW	W	ESE	ENE	ENE	E	E	E	E	E	E	ENE	NNE	NNE	N	W	W	NE	NNE
4 Spd	5.1	3.5	4.3	3.2	5.5	5.2	3.2	2.4	1.8	1.9	4.7	4.2	4.5	3.3	5.1	5.7	8.7	4.9	1.1	0.6	4.5	4.3	6.2	5.7	3.70	8.67	
Dir	W	WNW	W	W	WNW	WNW	NW	NNW	NNW	NW	N	NNW	NW	NNW	WNW	W	W	WNW	E	N	WNW	W	W	W	WNW	W	
5 Spd	4.8	2.0	0.2	3.8	3.6	1.7	4.3	5.3	2.3	1.3	1.2	0.8	1.2	1.1	0.1	6.3	2.6	14.0	11.9	10.9	7.0	3.5	0.8	0.5	1.12	14.04	
Dir	WSW	W	W	W	W	W	W	WSW	WSW	SW	WSW	E	WSW	N	WNW	E	E	E	E	E	ENE	ENE	E	SSW	E	E	
6 Spd	0.3	0.3	1.5	2.3	2.6	2.8	2.7	4.8	5.0	0.9	0.8	4.4	4.9	3.1	1.9	4.6	7.1	9.5	9.7	7.5	2.9	1.3	0.1	5.8	1.77	9.73	
Dir	E	ENE	ENE	WNW	WNW	W	W	SW	SW	S	E	E	ENE	ENE	E	ESE	E	E	E	ENE	NE	ENE	W	N	ENE	E	
7 Spd	12.1	7.8	8.3	2.4	4.9	1.1	0.3	0.5	1.7	0.7	0.9	0.2	2.4	2.0	4.8	2.7	8.9	12.0	9.1	11.1	9.9	9.3	8.9	5.5	3.66	12.11	
Dir	N	NW	N	E	WNW	SSW	S	SSE	S	ENE	E	SSW	ESE	SSE	NE	ENE	ENE	ENE	E	ENE	E	ENE	ENE	ESE	ENE	N	
8 Spd	5.6	5.7	5.8	3.3	4.0	3.8	1.9	0.9	0.9	1.9	1.3	5.6	5.3	6.3	7.0	8.2	9.1	10.1	9.9	8.8	9.8	9.2	9.2	10.0	5.34	10.12	
Dir	ENE	ENE	ENE	SE	ENE	ENE	ENE	ESE	SW	SW	E	E	ENE	ENE	ENE	ENE	ENE	ENE	ENE	NE	NE	NE	NE	NNE	ENE	ENE	
9 Spd	7.5	3.0	0.1	0.2	0.2	2.2	2.5	3.2	6.4	5.4	2.4	1.2	0.4	2.4	4.5	7.7	7.7	8.1	7.2	6.1	2.3	0.3	0.3	0.2	1.32	8.12	
Dir	N	N	W	WNW	W	W	W	WSW	SW	SSW	SSE	S	SE	E	E	NE	ENE	E	E	ENE	NE	N	W	NE	ENE	E	
10 Spd	0.2	0.7	0.2	2.2	5.3	4.7	7.3	4.1	5.7	1.5	2.2	4.0	8.3	7.3	8.7	8.9	8.1	6.5	10.1	6.8	6.3	0.4	1.6	6.4	2.13	10.07	
Dir	W	WNW	W	WNW	WNW	W	W	W	WSW	SW	E	E	ENE	E	E	E	ENE	E	E	ENE	ENE	SE	W	NE	ENE	E	
11 Spd	5.9	9.3	7.2	0.1	0.2	0.2	0.2	0.7	5.3	8.1	9.2	12.5	14.4	13.8	12.6	12.7	15.4	17.8	16.9	13.1	10.4	10.7	8.8	8.5	7.50	17.77	
Dir	NE	NNE	NNE	ESE	ESE	ESE	ESE	ESE	E	E	E	ESE	ESE	SE	SE	SE	ESE	ESE	ESE	E	ENE	ENE	ENE	ENE	E	ESE	
12 Spd	11.6	13.5	11.8	13.1	11.3	12.0	10.9	7.1	6.4	6.0	5.3	6.9	7.8	10.7	10.8	9.6	6.3	8.2	10.6	12.4	15.1	16.2	15.5	14.6	8.76	16.17	
Dir	NE	NE	NNE	NNE	NE	NE	NNE	ENE	E	ENE	ENE	E	ESE	ESE	ESE	SE	SE	ESE	ENE	ENE	NE	NNE	NNE	NNE	ENE	ENE	
13 Spd	13.6	11.5	8.5	2.4	0.6	0.7	0.8	1.1	0.3	2.8	1.1	0.2	1.0	4.5	5.0	5.6	3.4	5.9	3.4	4.0	1.5	1.4	2.9	3.3	2.15	13.59	
Dir	NE	NE	NNE	NNE	WNW	WNW	NNE	WSW	N	WSW	SW	SW	NNW	NW	WNW	WNW	N	NNE	NE	NNE	N	WNW	WNW	WSW	N	NE	
14 Spd	5.6	3.7	2.3	4.1	2.4	2.5	3.5	8.1	4.2	5.3	6.2	9.2	6.7	2.9	5.1	8.4	5.5	6.5	5.2	2.5	0.7	2.9	3.6	5.3	4.55	9.21	
Dir	W	WSW	W	W	W	W	WSW	WSW	W	W	W	W	WNW	WSW	W	WNW	WNW	WNW	W	W	WNW	W	W	WNW	W	W	
15 Spd	3.8	1.1	1.5	3.4	6.0	6.6	8.0	6.8	7.4	7.0	8.7	8.6	10.5	11.0	9.6	9.8	8.7	4.7	1.3	0.9	0.4	0.5	2.1	0.7	5.20	11.00	
Dir	W	W	WNW	W	W	W	WSW	WSW	WSW	WSW	W	W	WNW	W	W	W	WNW	WNW	NW	NNW	WNW	W	W	WNW	W	W	
16 Spd	2.5	0.1	0.2	0.7	2.2	1.8	5.7	8.2	5.4	6.1	4.1	3.1	0.4	0.2	0.4	0.3	0.7	0.4	0.2	0.3	0.4	0.4	0.1	0.8	1.71	8.18	
Dir	WNW	NE	W	WNW	W	W	W	WSW	WSW	WSW	WSW	WSW	NNW	WNW	W	W	NNE	NW	NW	W	WNW	W	WNW	WNW	W	WSW	
17 Spd	1.8	0.5	0.3	3.4	4.8	5.8	6.1	7.0	6.1	6.8	7.5	6.0	9.0	5.8	4.2	3.5	3.9	2.9	0.2	0.8	1.9	2.3	1.9	0.9	3.36	8.99	
Dir	WNW	WSW	WSW	WNW	WNW	W	W	W	W	WSW	WSW	SW	WSW	W	WNW	SW	S	SSE	SSW	NW	WNW	W	WNW	WNW	WSW	WSW	
18 Spd	1.2	3.6	2.6	1.3	0.1	1.2	1.0	0.9	1.4	6.8	5.4	5.8	8.5	17.7	9.3	4.4	4.1	2.9	5.1	3.5	3.0	3.3	2.8	2.7	2.13	17.66	
Dir	W	W	W	WNW	NNE	WSW	NW	SW	WSW	WSW	WSW	N	NNE	NE	NE	NE	N	NW	WNW	NW	WSW	WNW	W	WNW	NNW	NE	
19 Spd	0.9	0.2	0.8	4.0	3.4	2.4	3.8	3.9	4.6	6.1	7.7	10.8	9.1	9.5	8.9	11.3	10.4	6.6	2.0	2.9	1.2	0.2	0.9	1.5	4.51	11.28	
Dir	W	WNW	WNW	W	W	WSW	WSW	W	WNW	WNW	NW	WNW	WNW	WNW	NW	WNW	WNW	NW	NW	WNW	WNW	W	W	W	WNW	WNW	
20 Spd	2.2	2.4	5.8	6.0	5.8	5.6	6.6	5.8	2.3	3.9	4.1	9.8	10.6	11.6	3.0	2.7	5.7	4.9	1.3	1.5	0.3	1.7	0.8	1.9	3.89	11.64	
Dir	W	W	WNW	WNW	WNW	W	WNW	WNW	WNW	NW	W	W	WSW	WSW	W	NNW	N	NW	NNW	NNW	WNW	W	W	W	WNW	WSW	
21 Spd	0.4	0.6	4.3	6.0	4.2	0.4	0.1	0.1	0.1	4.6	2.2	2.8	3.5	2.5	1.1	0.3	2.1	1.1	0.2	0.2	2.4	4.1	0.1	0.2	0.99	6.04	
Dir	W	WNW	WNW	WNW	WNW	E	ENE	SSE	SW	SW	WSW	WSW	SW	SW	WSW	SE	ENE	ENE	NE	NE	NNE	N	WSW	WNW	W	WNW	
22 Spd	1.5	3.4	3.8	1.9	6.1	7.3	4.5	5.7	7.2	5.6	5.0	2.0	1.2	4.5	5.6	9.0	13.2	13.8	14.9	10.9	7.0	7.6	8.3	12.4	2.34	14.93	
Dir	WNW	WNW	W	WNW	WNW	WNW	WNW	W	WSW	WSW	WSW	W	WSW	ENE	ENE	E	ENE	E	E	E	E	ENE	ENE	NE	NE	NE	E



WCAS - Edson
Summary of Hourly Averages

Wind Speed (WS) - kph
August 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	13.8	15.2	12.3	11.2	5.7	0.5	3.1	0.9	7.0	5.7	4.8	4.6	6.9	8.7	11.9	11.4	10.2	PF	PF	PF	PF	PF	PF	PF	--	15.22	
Dir	NNE	NNE	NNE	NNE	N	WNW	WNW	W	WSW	WSW	WSW	NE	NE	ENE	E	E	ENE	PF	PF	PF	PF	PF	PF	PF	--	NNE	
24 Spd	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	9.4	5.8	4.6	3.1	1.4	0.4	0.3	0.1	0.6	--	9.36	
Dir	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	NNW	NW	NNW	NNW	WNW	W	WSW	WNW	WSW	--	NNW	
25 Spd	3.1	2.3	3.5	5.3	3.3	1.3	2.3	4.5	6.9	6.8	10.6	9.7	10.9	14.9	13.4	9.7	6.7	5.1	3.0	2.7	1.2	2.4	0.9	3.3	5.08	14.87	
Dir	WSW	WNW	W	W	W	W	WSW	W	WSW	WSW	WSW	W	W	WSW	W	WNW	NW	NNW	NNW	NNW	WNW	WNW	NW	WNW	W	WSW	
26 Spd	5.3	2.5	2.6	6.5	5.8	7.0	6.8	6.7	6.2	5.6	3.4	2.6	2.8	2.2	1.3	5.6	5.5	2.4	2.8	1.7	4.1	3.2	1.9	3.2	3.37	6.96	
Dir	WNW	WSW	W	WNW	W	WNW	W	W	W	WSW	SSW	WSW	SSW	SW	W	WSW	WSW	WSW	N	NE	NNW	WNW	W	WNW	W	WNW	
27 Spd	2.5	3.8	5.2	0.3	1.1	3.6	2.7	6.3	5.3	0.9	4.6	5.3	1.8	5.2	6.4	9.0	8.9	7.6	8.2	11.8	10.2	1.2	0.8	5.6	2.14	11.84	
Dir	W	W	W	WSW	W	W	W	WSW	WSW	SW	E	ESE	E	ENE	ENE	ENE	ENE	E	NE	NE	N	N	N	N	NE	NE	
28 Spd	11.5	10.0	1.1	0.5	3.9	5.8	3.9	3.8	6.0	4.5	3.0	4.7	5.2	6.2	7.0	7.4	8.7	11.6	10.2	8.3	10.5	9.8	9.2	8.4	3.97	11.59	
Dir	NNE	NE	NE	WNW	WNW	WNW	W	WSW	WSW	SW	SE	ENE	ENE	ENE	ESE	E	E	E	E	NE	NE	NE	NE	NE	ENE	E	
29 Spd	6.9	3.8	9.8	13.6	12.9	12.5	12.4	11.7	11.9	14.6	17.8	19.2	18.9	19.8	16.6	18.4	18.3	17.2	15.4	13.4	12.6	15.0	16.0	12.5	12.34	19.83	
Dir	NNE	NNE	NE	NE	NE	NE	NE	ENE	ENE	ENE	E	SE	ESE	ESE	SE	ESE	ESE	E	E	ENE	ENE	NE	NE	NE	ENE	ESE	
30 Spd	12.5	12.2	10.6	7.5	0.7	0.3	1.6	1.9	2.4	5.4	3.2	2.7	1.2	3.5	4.8	5.4	6.5	8.9	9.5	10.2	9.9	5.0	3.3	1.1	3.89	12.45	
Dir	NE	NE	NNE	NNE	WNW	WNW	WNW	WSW	WSW	WSW	WSW	SSW	ESE	E	ENE	NE	NE	NNE	NNE	NNE	NNE	NNE	NE	WNW	NNE	NE	
31 Spd	1.5	2.4	4.2	7.0	6.7	5.8	6.4	6.4	4.6	3.6	5.1	3.3	3.4	0.4	7.8	4.6	5.9	4.3	3.6	1.0	2.9	3.0	3.0	4.5	3.07	7.76	
Dir	WNW	WNW	W	WNW	WNW	W	WNW	W	W	W	NE	ENE	WSW	ESE	NNW	N	NNW	NNW	NW	WNW	NNE	W	WNW	WNW	NW	NNW	
Spd	3.06	2.71	2.68	2.14	2.55	2.10	2.57	2.45	2.49	2.11	0.59	0.34	0.72	1.53	1.82	2.13	3.23	4.39	4.82	5.04	4.28	2.84	2.33	2.53	Diurnal Average		
Dir	N	N	N	NNW	NW	NNW	NW	W	WSW	WSW	ESE	ENE	E	E	ENE	ENE	ENE	ENE	NE	NE	NNE	NNE	NNE	NNE	Diurnal Maximum		
Spd	13.81	15.22	12.29	13.58	13.49	12.54	12.40	13.54	11.91	14.62	17.81	19.21	18.90	19.83	16.60	18.43	18.29	17.77	16.94	24.98	16.13	16.17	16.01	14.60	Diurnal Maximum		
Dir	28.31	25.32	25.25	44.45	15.04	54.41	54.83	30.42	57.64	67.77	85.43	130.35	120.56	108.29	124.51	111.25	102.08	113.65	108.87	13.62	15.74	32.21	44.87	33.16	Diurnal Maximum		
Maximum Speed Value: 25.0 kph on Aug 3 20:00																		Minimum Speed Value: 0.1 kph on Aug 9 03:00						Hours in Service:		744	
Maximum Daily Speed Average: 12.34 kph on Aug 29																		Minimum Daily Speed Average: 0.99 kph on Aug 21						Hours of Data:		722	
Maximum Diurnal Speed Average: 5.04 kph at hour 20																		Minimum Diurnal Speed Average: 0.34 kph at hour 12						Hours of Missing Data:		22	
Monthly Average Velocity: 1.428 kph 24.331 deg																		Speed Percentiles: P ₁ = 0.1 P ₁₀ = 0.6 Q ₁ = 2.1 Median = 4.6 Q ₃ = 7.8 P ₉₀ = 11.3 P ₉₉ = 17.5						Percent Operational Time:		97.0	
All monthly, daily, and diurnal averages have been calculated using vector methods																											
PF - Power Failure																											
Frequency Distribution																											
Speed Range (kph)																											
Direction	0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total																				
North	34	19	5	1	0	0	59																				
NorthEast	27	50	32	0	0	0	109																				
East	39	69	23	1	0	0	132																				
SouthEast	12	5	9	1	0	0	27																				
South	11	0	0	0	0	0	11																				
SouthWest	43	16	0	0	0	0	59																				
West	175	87	5	0	0	0	267																				
NorthWest	43	15	0	0	0	0	58																				
Total	384	261	74	3	0	0	722																				



WCAS - Edson
Summary of Hourly Standard Deviations

Wind Speed (WS) - kph
August 2017

Maximum Value: 11.76 kph on Aug 3 20:00 Maximum Daily Average: 3.65 kph on Aug 19 Minimum Value: 0.0 kph on Aug 16 14:00 Minimum Daily Average: 1.42 kph on Aug 16 Maximum Diurnal Average: 3.86 kph at hour 15 Minimum Diurnal Average: 1.89 kph at hour 23 Monthly Average: 2.633 kph Percentiles: P ₁ = 0.0 P ₁₀ = 1.3 Q ₁ = 1.9 Median = 2.5 Q ₃ = 3.2 P ₉₀ = 4.2 P ₉₉ = 6.4																								Hours in Service:	744																								
																								Hours of Data:	722																								
																								Hours of Missing Data:	22																								
																								Hours of Calibration:	0																								
																								Percent Operational Time:	97.0																								
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Aug	1.9	2.7	2.7	2.9	3.5	3.6	6.0	3.6	4.4	2.1	1.7	2.7	2.6	1.9	2.3	2.7	2.8	3.0	4.0	1.3	0.2	1.5	1.8	2.1	2.67	6.03																							
2-Aug	0.0	1.8	1.1	1.4	1.6	1.4	2.1	1.6	1.7	1.8	3.4	4.5	5.1	4.9	5.1	4.0	3.7	2.7	2.8	2.2	1.5	1.4	2.1	3.2	2.55	5.11																							
3-Aug	4.6	0.0	1.9	1.8	1.9	1.4	1.3	1.1	1.6	2.3	1.7	3.2	2.7	3.3	3.9	3.0	2.4	2.4	6.4	11.8	5.3	1.8	2.2	2.4	2.94	11.76																							
4-Aug	2.3	2.2	2.1	2.3	2.3	2.0	2.6	2.6	2.4	2.3	4.4	4.4	3.8	3.6	4.2	4.3	4.8	4.5	2.8	1.7	3.1	2.9	2.7	2.1	3.02	4.81																							
5-Aug	2.1	2.5	0.0	1.5	2.3	1.7	1.8	2.6	2.6	2.2	2.2	2.8	2.8	3.0	3.4	2.9	3.1	5.8	2.4	1.6	1.8	2.0	1.2	1.0	2.30	5.82																							
6-Aug	0.3	0.5	1.7	1.6	1.3	1.8	2.5	1.5	1.9	1.8	1.9	3.9	3.2	3.7	2.8	4.2	3.9	2.7	2.1	1.2	3.0	2.2	0.2	6.1	2.34	6.07																							
7-Aug	4.2	4.9	4.7	3.8	3.9	1.8	0.8	1.4	2.5	1.5	1.7	1.2	3.4	2.9	4.6	3.5	6.1	2.5	2.4	3.5	2.8	1.7	2.1	3.0	2.95	6.05																							
8-Aug	2.9	2.9	3.1	2.2	2.9	2.8	2.6	2.0	1.6	2.3	2.2	4.2	3.2	3.5	3.5	3.3	2.8	2.4	2.1	1.7	0.9	1.0	1.6	1.9	2.48	4.17																							
9-Aug	4.4	3.5	0.3	0.0	0.5	2.3	2.4	3.0	1.8	1.5	2.4	2.3	2.0	3.1	4.6	4.2	4.0	2.7	1.6	1.7	3.1	0.9	0.9	0.9	2.26	4.59																							
10-Aug	0.9	1.7	0.3	2.7	2.0	2.7	3.1	2.4	1.5	1.9	2.2	3.6	4.2	4.0	4.3	3.2	3.3	2.1	1.8	1.0	1.9	1.3	2.3	5.5	2.50	5.54																							
11-Aug	3.7	2.5	3.0	0.3	0.0	0.0	0.0	1.4	3.0	2.4	3.1	3.7	4.2	4.9	4.9	4.3	4.7	4.3	4.0	2.5	1.9	1.5	1.9	1.6	2.67	4.93																							
12-Aug	2.0	1.9	2.4	2.2	1.8	1.6	2.0	2.4	2.7	3.0	3.5	4.0	3.5	4.0	3.3	2.6	2.1	2.1	1.6	1.7	2.5	2.2	1.5	1.3	2.41	3.99																							
13-Aug	1.4	1.9	1.6	3.1	1.5	1.8	1.9	2.5	1.2	2.9	1.9	0.5	2.1	3.5	3.8	4.2	3.3	3.1	2.4	3.0	2.4	2.1	2.1	2.8	2.38	4.24																							
14-Aug	3.0	2.4	2.1	2.2	2.6	2.9	3.0	2.2	3.2	3.1	3.0	4.3	3.7	2.7	3.4	4.9	3.3	4.4	3.5	2.7	1.4	2.6	2.5	3.3	3.01	4.89																							
15-Aug	2.9	1.9	2.3	2.6	2.0	1.6	1.8	1.6	1.6	2.8	3.8	5.1	5.8	5.5	6.0	6.4	5.0	4.1	2.1	1.8	1.1	1.6	2.9	1.6	3.08	6.40																							
16-Aug	2.8	0.3	0.0	1.8	2.7	2.5	2.0	2.0	2.4	2.6	2.7	2.5	0.9	0.0	0.7	0.9	1.4	0.9	0.6	0.7	1.0	1.0	0.0	1.7	1.42	2.78																							
17-Aug	2.2	1.4	0.8	2.3	2.0	2.2	2.3	2.7	2.8	2.2	2.8	3.6	3.7	4.1	3.6	3.3	3.2	2.9	0.5	1.9	2.9	2.9	2.6	2.0	2.53	4.11																							
18-Aug	2.2	2.8	2.7	2.5	0.6	2.2	2.0	1.5	2.4	2.4	2.9	5.6	4.0	4.5	3.2	2.7	3.8	3.3	3.9	4.0	3.1	2.7	2.4	2.7	2.92	5.57																							
19-Aug	1.7	2.8	1.8	2.8	3.0	2.8	3.4	2.8	3.1	4.2	4.9	5.9	5.6	6.2	5.7	6.0	6.5	5.0	2.9	2.9	2.0	0.4	2.4	2.8	3.65	6.51																							
20-Aug	2.9	2.7	2.3	2.4	2.3	2.9	2.1	2.6	2.5	3.3	3.5	4.1	3.5	3.7	3.7	3.6	4.6	3.6	2.4	2.1	0.7	2.3	1.7	2.3	2.84	4.61																							
21-Aug	1.1	1.4	2.4	2.2	2.6	1.3	0.2	0.1	0.5	2.9	2.8	2.6	2.9	2.6	1.9	1.3	2.6	1.9	0.7	0.8	3.1	3.5	0.1	0.5	1.75	3.55																							
22-Aug	2.3	2.7	2.4	2.1	2.4	1.9	2.9	2.9	2.7	2.3	2.8	2.6	2.7	3.3	3.2	3.6	2.9	2.7	2.8	1.9	2.1	1.6	1.8	2.9	2.56	3.59																							
23-Aug	1.5	1.3	1.8	1.6	4.0	1.3	2.8	1.9	2.3	2.6	2.2	4.9	4.3	3.2	2.6	2.9	3.9	PF	PF	PF	PF	PF	PF	PF	2.66	4.85																							
24-Aug	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	5.9	4.8	3.4	3.7	2.1	0.9	1.0	0.0	1.5	2.58	5.87																							
25-Aug	2.7	1.7	2.3	2.1	2.3	1.6	2.4	2.4	2.4	2.1	4.0	5.1	5.3	5.4	6.4	6.2	4.6	3.8	3.0	2.5	1.9	2.3	2.2	3.0	3.24	6.37																							
26-Aug	2.5	2.5	1.9	2.3	2.4	2.2	2.3	2.1	3.1	2.3	2.5	3.3	3.5	3.6	2.7	4.5	2.9	2.9	3.0	2.3	2.0	2.5	2.6	3.2	2.70	4.48																							
27-Aug	2.6	3.1	3.2	1.1	2.0	2.6	2.8	2.2	2.3	1.8	2.1	3.1	2.9	3.1	4.1	1.5	2.0	2.1	3.6	1.3	2.7	2.3	3.1	3.8	2.56	4.13																							
28-Aug	2.0	2.4	2.1	1.0	2.6	1.9	2.0	1.5	1.4	2.2	3.7	3.7	2.9	3.4	4.1	3.4	4.1	2.6	1.9	1.1	1.3	1.4	1.4	1.8	2.33	4.08																							
29-Aug	3.0	3.5	2.1	2.3	2.3	2.2	2.2	2.2	2.5	3.1	4.0	5.7	6.4	4.7	4.8	4.7	4.3	3.7	2.6	1.8	2.1	2.5	2.6	2.2	3.22	6.44																							
30-Aug	1.8	1.4	1.4	3.9	1.8	0.8	2.3	2.2	2.3	1.8	3.0	2.2	1.7	2.9	2.7	2.5	2.2	1.5	2.2	1.6	1.8	3.2	3.3	2.0	2.18	3.86																							
31-Aug	2.3	2.9	3.2	1.8	2.1	2.7	2.4	2.4	2.8	3.2	2.7	4.1	2.7	2.3	6.4	4.2	3.2	3.4	3.7	1.5	2.9	2.8	2.2	2.0	2.90	6.36																							
																								2.35	2.20	1.98	2.09	2.18	2.01	2.27	2.11	2.30	2.43	2.86	3.65	3.51	3.59	3.86	3.71	3.62	3.08	2.64	2.27	2.11	1.98	1.89	2.44	Diurnal Average	
																								4.62	4.88	4.65	3.86	4.03	3.61	6.03	3.59	4.37	4.25	4.92	5.90	6.44	6.21	6.37	6.40	6.51	5.82	6.43	11.76	5.35	3.55	3.27	6.07	Diurnal Maximum	
PF - Power Failure																																																	



WCAS - Edson
Summary of Hourly Standard Deviations

Wind Direction (WD) - deg
August 2017

Maximum Value: 96.54 deg on Aug 5 12:00 Maximum Daily Average: 44.78 deg on Aug 5																								Hours in Service:	744	
Minimum Value: 0.3 deg on Aug 11 07:00 Minimum Daily Average: 12.83 deg on Aug 29																								Hours of Data:	722	
Maximum Diurnal Average: 45.66 deg at hour 12 Minimum Diurnal Average: 21.28 deg at hour 21																								Hours of Missing Data:	22	
Monthly Average: 30.883 deg Percentiles: P₁ = 6.0 P₁₀ = 10.9 Q₁ = 15.4 Median = 25.3 Q₃ = 40.9 P₉₀ = 61.3 P₉₉ = 90.8																								Hours of Calibration:	0	
																								Percent Operational Time:	97.0	
Day	Hourly Period Ending At																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Aug	76.3	57.4	20.4	42.8	15.3	21.7	44.8	11.6	37.7	39.5	36.3	72.8	67.0	27.1	16.6	20.1	23.7	21.3	30.0	40.1	26.5	56.2	72.5	74.3	39.67	76.33
2-Aug	43.9	81.2	47.4	11.2	18.1	17.0	19.9	30.1	47.8	53.3	29.1	22.4	41.3	45.4	51.8	26.0	23.7	17.7	12.0	11.9	10.4	7.8	18.5	39.6	30.32	81.22
3-Aug	57.3	72.0	33.9	13.3	11.4	9.3	27.0	17.4	20.2	55.7	78.4	36.7	25.3	26.5	22.9	14.4	11.3	12.0	37.2	30.9	20.7	71.3	31.4	24.5	31.71	78.37
4-Aug	21.7	26.4	20.5	20.7	19.0	21.3	36.3	46.4	44.2	40.8	41.1	49.5	42.9	57.4	43.4	33.8	27.6	59.4	91.3	42.3	17.4	16.8	15.8	17.5	35.57	91.29
5-Aug	16.4	35.3	42.5	13.8	43.7	27.0	17.9	14.0	30.8	50.0	52.7	96.5	92.1	86.9	95.5	33.9	75.4	35.2	10.4	7.9	10.2	37.2	79.6	69.8	44.78	96.54
6-Aug	0.5	17.2	45.6	21.1	8.5	12.8	16.4	14.0	21.4	46.9	55.0	59.2	35.5	66.2	67.9	58.6	40.5	15.0	10.4	15.3	10.5	56.4	93.1	49.9	34.92	93.09
7-Aug	32.2	37.6	37.3	85.1	30.8	38.7	79.5	66.7	54.4	56.0	29.2	77.7	60.9	66.5	33.8	35.5	24.7	14.2	14.2	9.8	12.7	8.1	9.8	25.8	39.22	85.15
8-Aug	17.9	11.6	12.4	52.9	37.5	15.5	42.5	55.1	38.3	40.4	31.1	19.4	24.9	37.0	27.1	23.8	18.4	16.0	14.1	8.5	7.0	6.7	9.9	9.3	24.06	55.14
9-Aug	47.5	60.5	79.8	24.5	12.4	10.1	16.9	20.3	16.0	28.1	57.5	82.7	90.5	61.4	55.1	49.7	35.0	20.8	11.4	13.9	22.8	68.6	65.3	62.5	42.23	90.54
10-Aug	71.9	49.5	14.1	22.7	11.5	13.5	16.5	28.8	17.1	72.1	57.4	51.7	21.2	28.6	26.8	18.3	25.9	15.3	8.9	11.7	11.8	76.1	25.2	34.7	30.48	76.08
11-Aug	23.1	13.2	15.9	69.9	0.6	3.5	0.3	27.4	15.8	16.7	19.4	24.6	18.7	25.5	27.8	22.5	23.6	17.0	11.6	11.7	14.0	8.3	20.8	19.0	18.79	69.88
12-Aug	11.9	9.5	15.6	12.9	8.4	8.9	9.4	16.7	18.4	25.3	35.0	32.2	40.7	22.8	24.8	19.7	22.8	20.4	9.5	8.1	8.7	5.9	6.4	5.7	16.66	40.71
13-Aug	5.6	6.7	6.9	63.9	82.0	72.4	73.0	91.1	77.8	20.0	24.0	36.2	38.4	38.3	35.0	35.7	71.2	20.7	20.1	25.3	29.0	18.3	20.5	16.7	38.71	91.06
14-Aug	16.4	28.5	15.6	15.4	17.0	29.0	24.5	12.9	23.8	32.4	30.9	28.6	33.1	34.1	43.5	36.5	33.0	32.1	30.3	31.9	31.9	28.1	33.5	25.8	27.86	43.51
15-Aug	21.3	15.7	13.8	12.7	10.9	9.4	10.6	12.0	14.2	23.6	26.1	34.2	30.1	27.1	36.6	40.0	31.7	44.3	30.3	19.8	18.3	23.0	33.4	20.8	23.31	44.29
16-Aug	13.1	65.6	23.3	28.8	24.6	17.7	13.5	12.3	18.6	17.8	25.6	40.8	46.4	27.3	28.8	46.4	44.7	31.4	34.0	46.4	18.6	15.5	42.8	33.2	29.88	65.61
17-Aug	39.8	41.2	37.0	17.3	12.8	13.4	14.6	17.4	17.3	18.9	24.1	48.7	27.1	49.3	45.3	40.4	47.8	34.4	51.7	26.0	33.0	49.3	29.4	30.2	31.93	51.66
18-Aug	28.1	13.4	18.8	80.1	79.4	28.7	80.9	61.7	27.5	15.1	24.9	53.9	20.7	11.0	12.4	42.3	49.5	51.3	40.9	52.9	40.1	40.6	44.1	44.0	40.09	80.89
19-Aug	56.4	79.6	41.2	31.7	26.7	41.4	13.3	22.9	35.9	36.9	43.9	33.5	39.6	38.6	36.8	28.6	35.5	37.1	42.9	42.0	44.4	20.2	27.3	47.1	37.65	79.56
20-Aug	22.3	26.8	12.8	12.2	12.2	19.2	15.4	17.6	51.4	42.2	46.2	19.4	18.8	17.1	48.9	50.9	45.0	38.1	41.0	28.7	24.8	21.3	25.5	18.4	28.19	51.38
21-Aug	12.5	11.4	15.9	12.2	13.8	92.1	50.2	60.4	74.1	23.7	17.6	13.8	14.9	24.5	38.0	83.4	22.6	19.2	50.8	52.8	39.4	50.0	36.3	16.7	35.26	92.15
22-Aug	19.8	14.2	14.6	14.5	10.9	11.0	16.9	16.4	15.5	24.1	32.3	75.5	90.1	43.7	36.6	21.3	13.0	10.0	8.5	12.3	18.8	14.1	16.7	10.7	23.40	90.15
23-Aug	8.0	6.1	7.2	12.7	33.1	36.8	13.9	23.9	14.8	18.8	22.6	86.0	39.7	27.3	15.9	12.8	18.6	PF	PF	PF	PF	PF	PF	PF	23.43	86.03
24-Aug	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	38.8	48.9	45.1	45.9	35.8	29.5	43.9	34.0	32.3	39.36	48.93
25-Aug	39.8	18.5	19.2	17.5	20.9	46.0	18.6	24.0	19.2	22.6	30.3	29.6	24.4	25.8	33.6	36.9	33.3	29.6	27.2	31.8	47.8	70.7	28.7	29.73	70.68	
26-Aug	11.4	38.7	21.3	13.0	12.7	13.8	14.2	16.7	22.1	22.6	42.6	55.4	68.4	91.0	78.1	41.4	36.9	43.4	34.7	66.2	35.9	28.5	73.9	40.1	38.45	90.99
27-Aug	22.6	14.9	16.4	67.9	19.9	14.6	21.6	12.2	15.1	73.9	21.4	37.5	79.4	28.4	25.3	10.1	13.4	13.3	12.1	7.5	8.5	52.1	63.3	42.8	28.93	79.42
28-Aug	13.4	12.1	49.4	15.4	7.8	11.5	14.3	23.9	17.0	50.3	73.7	39.5	48.4	40.2	36.5	35.1	22.4	12.4	10.8	7.1	8.6	11.2	11.9	17.4	24.60	73.66
29-Aug	14.7	25.8	6.8	9.0	8.7	8.4	8.7	10.0	10.7	14.5	13.1	21.7	22.7	13.9	21.8	18.3	15.1	10.8	9.5	8.9	9.2	8.4	8.8	8.6	12.83	25.77
30-Aug	7.6	7.0	7.9	22.0	50.8	14.1	13.5	14.5	10.1	17.4	25.2	32.3	69.0	18.8	13.4	14.5	16.3	14.1	22.2	16.3	15.1	15.5	67.0	27.8	22.18	69.01
31-Aug	28.1	28.8	27.7	10.6	11.8	13.0	12.2	15.6	35.4	61.4	40.1	56.8	64.6	92.0	45.1	70.7	35.5	36.5	57.3	23.3	29.0	37.9	21.6	16.5	36.30	92.02
																								Diurnal Average		
																								Diurnal Maximum		
26.71 30.88 24.71 28.26 22.44 23.06 25.24 27.13 28.70 35.25 35.97 45.66 44.75 39.95 37.25 34.09 31.96 26.39 27.79 24.75 21.28 31.50 36.97 30.35																										
76.33 81.22 79.79 85.15 82.04 92.15 80.89 91.06 77.82 73.92 78.37 96.54 92.11 92.02 95.47 83.37 75.36 59.38 91.29 66.18 44.39 76.08 93.09 74.31																										
PF - Power Failure																										

**BRETON
STATION #913**

CONTINUOUS AIR MONITORING DATA

AUGUST 2017

Summary Report

Continuous air quality/meteorological monitoring measurements

West Central Airshed Society

WCAS / Breton Station 913													August 2017		
Parameter	Calibration Hours	Number of Data	Percent Uptime	Mean	Min	Max	Percentile					Exceedences		24 Hour Average Max (ppm)	
							P10	Q1	Median	Q3	P90	1-hour	24-hour		
SO ₂ (ppb)	35	709	100.0	0.1	0.0	1.9	0.0	0.0	0.0	0.0	0.2	0	0	0.001	
O ₃ (ppb)	35	709	100.0	22.0	0.0	62.0	4.0	11.0	20.7	32.8	38.9	0	-	0.043	
NO (ppb)	36	708	100.0	0.1	0.0	4.2	0.0	0.0	0.0	0.1	0.4	-	-	-	
NO ₂ (ppb)	36	708	100.0	1.0	0.3	5.6	0.4	0.6	0.8	1.3	1.9	0	0	0.002	
NO _x (ppb)	36	708	100.0	1.2	0.3	7.0	0.5	0.6	0.9	1.4	2.3	-	-	-	
Wind Speed (kph)	0	744	100.0	5.9	0.1	30.5	1.0	2.2	4.3	8.6	12.4	-	-	-	
Temperature (°C)	0	744	100.0	15.6	2.4	29.5	8.4	11.5	14.9	19.9	23.7	-	-	-	
Relative Humidity (%)	0	744	100.0	66.1	19.6	93.0	35.9	47.5	71.3	85.7	91.0	-	-	-	
Std Dev Wind Direction (deg)	0	744	100.0	35.1	6.3	99.3	15.4	19.1	28.1	45.7	70.2	-	-	-	
Std Dev Wind Speed (kph)	0	744	100.0	2.6	0.0	10.7	1.1	1.4	2.2	3.4	4.6	-	-	-	



WCAS - Breton
Summary of Hourly Averages

Sulphur Dioxide (SO₂) - ppb
August 2017

Maximum Value: 1.87 ppb on Aug 10 19:00 Minimum Value: 0.0 ppb on Aug 3 02:00 Maximum Diurnal Average: 0.18 ppb at hour 16 Monthly Average: 0.080 ppb		Maximum Daily Average: 0.56 ppb on Aug 10 Minimum Daily Average: 0.00 ppb on Aug 15 Minimum Diurnal Average: 0.01 ppb at hour 24 Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 0.0 P ₉₀ = 0.2 P ₉₉ = 1.5		Hours in Service: 744 Hours of Data: 709 Hours of Missing Data: 35 Hours of Calibration: 35 Percent Operational Time: 100.0																						
Day	Hourly Period Ending At																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Aug	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.5	0.7	0.7	0.4	0.6	0.8	0.6	0.3	0.4	0.4	0.2	0.1	0.1	0.0	0.0	0.27	0.84
2-Aug	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.4	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	0.04	0.37
3-Aug	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	0.02	0.03
4-Aug	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.06
5-Aug	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.1	C	C	C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.05
6-Aug	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
7-Aug	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.6	0.2	0.9	0.5	0.4	0.2	0.2	0.2	1.5	0.7	0.6	0.6	0.3	0.1	0.4	0.3	0.1	0.34	1.52
8-Aug	0.2	0.2	Z	0.5	0.3	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.08	0.48
9-Aug	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.0	0.05	0.23
10-Aug	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.5	1.8	1.7	1.6	1.6	1.4	0.8	1.9	0.9	0.2	0.0	0.0	0.0	0.56	1.87
11-Aug	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	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.07
12-Aug	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	0.01	0.04
13-Aug	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.03	0.10
14-Aug	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
15-Aug	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
16-Aug	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.09
17-Aug	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.08
18-Aug	0.0	0.0	Z	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.4	0.2	0.6	0.4	0.3	0.0	0.0	0.0	0.0	0.12	0.57
19-Aug	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
20-Aug	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
21-Aug	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	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.10
22-Aug	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	0.1	0.1	0.01	0.10
23-Aug	0.1	0.1	Z	0.1	0.1	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1.1	1.5	0.9	0.6	0.6	0.4	0.0	0.28	1.48
24-Aug	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.10
25-Aug	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	0.03
26-Aug	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.02	0.11
27-Aug	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.02	0.14
28-Aug	0.0	0.1	Z	0.1	0.0	0.0	0.0	0.0	0.0	0.3	0.9	1.3	0.5	0.7	1.3	1.1	0.6	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.32	1.32
29-Aug	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	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.05	0.14
30-Aug	0.1	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.08	0.19
31-Aug	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.6	0.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.09	1.14
																								Diurnal Average		
																								Diurnal Maximum		
0.02 0.02 -- 0.03 0.02 0.01 0.02 0.04 0.04 0.11 0.12 0.14 0.13 0.16 0.15 0.18 0.12 0.13 0.16 0.10 0.05 0.05 0.04 0.01 0.19 0.22 -- 0.48 0.32 0.24 0.18 0.63 0.20 0.93 0.86 1.32 1.76 1.70 1.55 1.55 1.37 1.08 1.87 0.95 0.64 0.57 0.43 0.10																										
Z - zerospan C - Calibration Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb																										



WCAS - Breton
Summary of Hourly Averages

Ozone (O₃) - ppb
August 2017

Maximum Value: 62.03 ppb on Aug 10 17:00		Maximum Daily Average: 42.51 ppb on Aug 12		Hours in Service: 744																									
Minimum Value: 0.0 ppb on Aug 2 04:00		Minimum Daily Average: 9.64 ppb on Aug 1		Hours of Data: 709																									
Maximum Diurnal Average: 36.17 ppb at hour 16		Minimum Diurnal Average: 8.41 ppb at hour 7		Hours of Missing Data: 35																									
Monthly Average: 22.035 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 4.0 Q ₁ = 11.0 Median = 20.7 O ₃ = 32.8 P ₉₀ = 38.9 P ₉₉ = 54.4		Hours of Calibration: 35																									
				Percent Operational Time: 100.0																									
Day	Hourly Period Ending At																								Daily Average	Daily Maximum			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24					
1-Aug	2.2	2.2	Z	3.2	1.9	2.8	2.7	3.7	6.3	8.2	8.1	7.7	13.3	8.9	11.9	15.5	20.1	20.7	20.1	19.7	13.5	12.5	8.9	7.9	9.64	20.70			
2-Aug	3.5	1.3	Z	0.0	0.0	0.0	0.1	3.3	8.1	20.7	26.8	28.9	28.7	30.0	30.5	32.5	34.1	34.8	34.9	32.3	25.7	23.7	14.1	10.5	18.46	34.95			
3-Aug	9.3	7.1	Z	7.1	2.6	3.6	3.9	6.7	11.4	18.5	29.0	34.6	35.4	36.4	37.0	39.8	41.8	41.3	40.0	37.5	33.1	32.5	32.3	28.1	24.75	41.80			
4-Aug	22.7	24.8	Z	19.4	18.9	17.8	15.9	15.5	17.2	18.5	18.7	17.6	16.8	19.7	23.3	20.3	22.6	19.4	15.9	12.2	9.6	8.8	6.7		17.29	24.83			
5-Aug	3.5	3.0	Z	0.0	0.6	1.7	2.7	7.9	12.1	C	C	C	C	30.2	31.2	31.8	31.4	20.8	18.5	17.1	15.4	10.9	5.2	3.4	13.02	31.82			
6-Aug	1.8	1.7	Z	0.3	0.0	0.0	1.0	4.9	14.2	28.2	33.0	32.2	34.7	35.6	35.4	35.2	35.1	33.5	22.1	18.2	18.5	8.0	5.8		18.88	35.57			
7-Aug	4.1	2.9	Z	1.9	7.3	16.6	17.0	8.2	12.7	13.0	14.8	18.8	24.1	25.3	24.8	20.5	23.1	21.9	19.0	15.8	13.4	10.8	11.1	10.9	14.69	25.32			
8-Aug	10.5	8.2	Z	10.5	10.7	13.7	14.2	16.4	18.1	18.9	22.7	27.7	30.7	30.9	27.7	28.5	32.7	36.5	34.6	30.4	25.9	20.0	16.4	16.8	21.85	36.49			
9-Aug	15.4	13.9	Z	11.5	10.2	8.4	9.0	15.2	20.4	29.7	35.5	47.5	51.9	51.8	52.2	52.3	49.3	53.4	51.0	33.2	35.5	30.6	23.6	15.3	31.16	53.35			
10-Aug	7.6	4.9	Z	0.4	0.1	0.0	0.0	2.0	20.4	41.3	50.4	53.4	47.3	46.3	50.8	59.3	62.0	60.9	35.9	33.9	34.0	38.9	34.0	30.0	31.04	62.03			
11-Aug	27.2	20.7	Z	11.7	11.8	11.6	7.0	10.3	20.8	34.5	43.4	44.8	44.7	47.2	49.2	50.2	47.7	47.4	46.5	41.4	37.2	30.7	23.7	18.8	31.67	50.24			
12-Aug	22.8	23.1	Z	31.8	34.1	33.6	31.0	32.6	38.0	41.0	45.2	49.8	52.2	54.0	55.2	55.4	55.6	54.7	50.5	45.8	43.4	41.8	41.7	44.5	42.51	55.56			
13-Aug	44.2	41.8	Z	36.6	35.6	33.0	30.3	27.0	28.8	29.3	29.8	31.9	34.4	36.1	39.8	41.5	36.1	19.5	18.4	29.4	23.8	17.4	13.4	14.3	30.11	44.19			
14-Aug	18.2	18.4	Z	11.6	10.4	9.4	6.5	11.0	15.6	21.7	24.6	27.0	29.3	29.7	31.1	32.2	30.9	27.7	23.5	21.2	18.8	14.8	14.0	15.3	20.13	32.23			
15-Aug	13.9	11.1	Z	8.8	8.6	8.3	8.0	8.9	14.0	19.8	25.8	30.1	31.3	32.6	33.7	34.4	36.4	35.3	32.7	25.3	20.2	18.1	14.6	9.8	20.94	36.42			
16-Aug	6.0	4.6	Z	5.3	5.2	5.0	2.3	2.7	12.4	19.9	27.3	33.8	38.1	38.1	39.0	33.1	26.6	21.4	17.9	7.8	8.2	7.3	5.4	5.4	16.21	38.97			
17-Aug	5.2	5.8	Z	1.6	2.3	0.8	0.6	1.4	4.2	7.5	14.3	31.8	36.6	38.4	39.4	40.8	41.5	40.8	33.1	28.9	25.4	21.2	16.0	13.4	19.61	41.54			
18-Aug	23.0	27.1	Z	21.7	26.7	13.3	14.1	15.2	21.0	21.5	30.9	37.9	41.4	44.0	45.8	40.4	28.4	23.1	22.0	22.2	33.5	32.4	23.9	24.8	27.57	45.76			
19-Aug	21.3	18.1	Z	17.0	13.0	11.9	10.6	12.3	18.5	23.6	28.5	30.3	30.6	32.1	32.5	34.1	34.2	34.3	32.2	28.8	18.3	15.4	10.7	8.9	22.49	34.26			
20-Aug	7.8	7.1	Z	5.0	11.1	7.3	6.5	5.2	7.2	11.7	24.8	30.6	34.4	35.1	35.4	34.1	34.0	30.4	26.5	23.7	18.6	13.9	11.2	8.3	18.70	35.38			
21-Aug	7.8	4.9	Z	6.5	8.4	8.7	5.8	8.5	15.3	27.6	32.8	33.9	38.5	33.6	31.7	26.4	22.2	14.6	12.1	8.7	11.9	11.0	7.9	7.4	16.79	38.52			
22-Aug	4.2	3.0	Z	3.5	2.9	2.6	1.4	2.3	6.1	12.6	20.0	20.5	21.0	21.0	21.9	22.8	22.7	22.6	21.4	18.6	17.0	13.8	14.7	13.0	13.46	22.76			
23-Aug	19.0	20.2	Z	18.1	18.6	18.7	17.2	16.9	16.4	20.3	22.0	25.4	26.6	28.6	35.0	40.3	42.0	38.2	31.9	29.1	26.6	19.3	25.0	35.1	25.67	42.04			
24-Aug	21.9	16.5	Z	7.3	3.0	2.0	0.4	2.9	4.6	13.3	18.5	20.4	31.3	36.8	33.6	40.6	33.4	33.8	32.4	28.3	22.4	19.4	15.6		20.50	40.64			
25-Aug	18.6	18.4	Z	14.0	12.2	15.3	17.7	17.8	21.0	27.6	32.1	33.3	34.7	35.6	37.5	38.6	35.7	34.2	32.6	24.9	25.3	17.0	15.9	11.4	24.85	38.56			
26-Aug	7.0	5.7	Z	1.9	1.2	1.9	3.0	6.3	13.4	21.2	30.3	33.9	37.2	38.1	39.2	40.0	39.3	40.6	37.3	32.5	27.5	23.8	22.0	19.3	22.72	40.55			
27-Aug	18.1	18.6	Z	14.7	14.8	10.7	10.9	11.3	18.1	24.7	34.3	37.5	37.6	38.6	40.1	39.1	39.4	35.1	30.8	28.3	26.1	22.2	12.9	6.1	24.80	40.09			
28-Aug	9.1	10.1	Z	14.7	7.1	2.9	0.0	2.4	10.7	14.9	17.6	18.6	27.2	29.6	28.1	33.0	37.6	36.3	30.6	26.3	22.7	19.9	13.8	9.8	18.38	37.56			
29-Aug	5.4	7.8	Z	8.0	6.2	4.0	3.6	8.4	20.2	25.4	29.6	32.4	34.3	34.2	36.0	38.0	39.5	38.3	37.2	34.1	33.6	32.4	30.7	28.2	24.67	39.52			
30-Aug	24.8	22.1	Z	19.1	16.9	16.0	15.9	15.4	14.5	13.6	13.4	14.6	18.9	25.8	25.5	31.1	36.2	35.7	28.9	23.9	19.3	13.8	9.5	4.4	19.97	36.18			
31-Aug	3.0	2.6	Z	1.3	1.0	0.7	1.6	0.0	4.1	14.0	21.9	28.8	35.2	32.8	37.6	36.3	33.2	39.3	37.7	29.6	27.6	22.7	14.4	11.0	18.98	39.29			
		13.20	12.18	--	10.15	9.79	9.10	8.41	9.77	14.96	21.38	26.87	30.56	33.30	33.98	35.12	36.17	35.57	33.91	30.46	26.48	23.87	20.63	16.88	14.84	Diurnal Average			
		44.19	41.79	--	36.63	35.65	33.55	30.98	32.61	38.00	41.26	50.37	53.36	52.17	54.03	55.24	59.33	62.03	60.94	50.99	45.77	43.35	41.81	41.69	44.54	Diurnal Maximum			
Z - zerospan		C - Calibration																											
Alberta Ambient Air Quality Objectives (AAAQO):		1-hr 82.5 ppb		24-hr -- ppb																									



WCAS - Breton
Eight Hour Running Averages

Ozone (O₃) - ppb
August 2017

Maximum Value: 53.81 ppb on Aug 10 18:00		Maximum Daily Average: 39.89 ppb on Aug 12		Hours in Service: 744																						
Minimum Value: 0.9 ppb on Aug 2 08:00		Minimum Daily Average: 9.23 ppb on Aug 1		Hours of Data: 737																						
Maximum Diurnal Average: 33.60 ppb at hour 19		Minimum Diurnal Average: 10.35 ppb at hour 8		Hours of Missing Data: 7																						
Monthly Average: 21.610 ppb		Percentiles: P ₁ = 1.7 P ₁₀ = 6.8 Q ₁ = 12.7 Median = 20.5 O ₃ = 30.4 P ₉₀ = 36.0 P ₉₉ = 50.9		Hours of Calibration: 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-Aug	13.6	10.6	8.5	5.9	4.2	3.2	2.7	2.7	3.2	4.1	4.6	5.1	6.6	7.3	8.5	10.0	11.7	13.3	14.8	16.3	16.3	16.7	16.4	15.4	9.23	16.74
2-Aug	13.3	10.9	9.6	6.7	4.7	2.8	1.6	0.9	1.6	4.3	7.2	10.8	14.5	18.3	22.1	25.8	29.0	30.8	31.8	32.2	31.9	31.1	29.0	26.3	16.56	32.23
3-Aug	23.2	19.7	17.5	13.9	10.6	7.8	6.3	5.8	6.1	7.7	10.4	13.8	17.9	22.0	26.2	30.3	34.1	36.9	38.3	38.7	38.4	37.9	37.3	35.8	22.35	38.67
4-Aug	33.4	31.4	30.2	27.6	25.5	23.4	21.1	19.3	18.3	17.2	17.3	17.3	17.1	17.0	17.4	18.4	19.0	19.7	19.8	19.4	18.7	17.8	16.5	14.4	20.72	33.45
5-Aug	12.3	9.9	8.5	6.2	4.5	3.4	2.5	2.7	3.9	4.1	4.1	C	C	C	C	C	C	C	27.3	25.9	24.5	22.1	18.9	15.3	--	27.31
6-Aug	11.6	9.2	7.9	5.5	3.3	1.7	1.1	1.3	3.1	6.9	10.2	14.1	18.5	22.9	27.2	31.0	33.6	34.5	34.6	33.3	31.2	29.2	25.8	22.1	17.50	34.56
7-Aug	18.2	14.1	11.4	8.5	6.9	6.7	7.9	8.3	9.5	11.0	11.4	13.5	15.6	16.7	17.7	19.2	20.5	21.7	22.2	21.8	20.5	18.7	16.9	15.7	14.78	22.19
8-Aug	14.2	12.5	11.5	10.8	10.4	10.8	11.3	12.0	13.1	14.6	15.6	17.8	20.3	22.4	24.1	25.6	27.5	29.7	31.2	31.5	30.9	29.5	28.1	26.7	20.09	31.49
9-Aug	24.5	21.7	19.8	17.1	14.9	13.2	12.2	12.0	12.7	14.9	17.5	22.0	27.2	32.6	38.0	42.7	46.3	49.2	51.2	49.4	47.3	44.7	41.1	36.5	29.52	51.16
10-Aug	31.3	25.2	21.5	16.8	11.8	7.3	3.8	1.9	3.8	9.0	14.1	20.8	26.7	32.6	39.0	46.1	51.3	53.8	52.0	49.6	47.9	47.0	44.9	41.2	29.13	53.81
11-Aug	36.9	31.8	31.2	28.1	24.9	21.0	17.1	14.3	13.4	15.4	18.9	23.0	27.1	31.6	36.8	41.8	45.2	46.8	47.2	46.8	45.9	43.8	40.6	36.7	31.93	47.21
12-Aug	33.6	30.5	28.2	26.9	26.4	26.8	27.9	29.8	32.0	34.6	35.9	38.2	40.4	43.0	46.0	48.9	51.1	52.8	53.4	52.9	51.8	50.3	48.6	47.2	39.89	53.43
13-Aug	45.8	44.2	43.3	42.0	40.9	39.6	38.0	35.5	33.3	31.5	31.3	30.7	30.6	30.9	32.1	34.0	34.9	33.6	32.2	31.9	30.6	28.3	25.0	21.6	34.24	45.82
14-Aug	19.3	19.2	19.3	16.7	14.8	13.7	12.7	12.2	11.8	12.3	13.9	15.8	18.1	20.7	23.8	26.4	28.3	29.1	28.9	28.2	26.9	25.0	22.9	20.8	20.04	29.06
15-Aug	18.7	16.6	15.6	13.8	12.4	11.4	10.6	9.6	9.7	10.9	12.8	15.4	18.3	21.3	24.5	27.7	30.5	32.5	33.3	32.7	31.3	29.5	27.1	24.1	20.43	33.33
16-Aug	20.2	16.4	14.1	11.2	9.1	7.2	5.5	4.5	5.4	7.5	10.0	13.6	17.7	21.8	26.4	30.2	32.0	32.2	31.0	27.7	24.0	20.2	16.0	12.5	17.35	32.18
17-Aug	9.8	7.9	6.4	5.6	4.7	3.8	3.1	2.5	2.4	2.6	4.1	7.9	12.1	16.8	21.7	26.6	31.3	35.5	37.8	37.4	36.1	33.9	31.0	27.5	17.02	37.81
18-Aug	25.2	23.5	22.1	21.1	21.3	20.2	19.9	20.2	19.9	19.1	20.6	22.6	24.4	28.3	32.2	35.4	36.3	36.5	35.4	33.4	32.4	31.0	28.2	26.3	26.46	36.48
19-Aug	25.4	24.8	25.2	24.4	21.5	18.6	16.7	14.9	14.5	15.3	16.9	18.6	20.8	23.3	26.1	28.8	30.8	32.1	32.6	32.4	30.8	28.7	26.0	22.8	23.83	32.56
20-Aug	19.5	16.1	13.8	10.4	9.4	8.3	7.7	7.2	7.1	7.7	9.9	13.1	16.0	19.5	23.1	26.7	30.0	32.4	32.6	31.7	29.7	27.1	24.0	20.8	18.49	32.56
21-Aug	17.5	14.4	12.6	10.2	8.7	8.0	7.2	7.2	8.3	11.5	14.2	17.6	21.4	24.5	27.7	30.0	30.8	29.2	26.6	23.5	20.2	17.3	14.4	12.0	17.29	30.84
22-Aug	9.7	8.3	7.7	7.0	5.7	4.5	3.6	2.9	3.1	4.5	6.4	8.6	10.8	13.1	15.7	18.2	20.3	21.6	21.7	21.5	21.0	20.1	19.2	18.0	12.22	21.73
23-Aug	17.5	17.2	16.6	16.5	16.7	17.4	17.8	18.4	18.0	18.5	19.4	20.4	21.7	23.9	26.8	30.0	32.3	33.5	34.0	34.0	34.0	32.8	31.6	30.9	23.50	33.96
24-Aug	28.4	25.7	24.8	21.7	18.3	15.8	12.3	7.7	5.2	4.8	6.5	8.1	11.7	16.0	20.2	24.9	28.5	31.0	32.9	34.4	34.0	32.2	30.5	27.3	20.96	34.40
25-Aug	25.5	23.6	22.1	19.5	17.2	16.2	16.0	16.3	16.6	17.9	19.7	22.1	24.9	27.5	30.0	32.6	34.4	35.2	35.3	34.2	33.1	30.7	28.0	24.6	25.13	35.28
26-Aug	21.0	17.5	15.3	12.0	8.6	6.4	4.6	3.8	4.8	7.0	9.9	13.9	18.4	22.9	27.5	31.7	34.9	37.3	38.2	38.0	36.8	35.0	32.9	30.3	21.19	38.20
27-Aug	27.6	24.9	23.1	20.6	18.8	16.9	15.3	14.2	14.2	15.0	17.4	20.3	23.2	26.6	30.3	33.8	36.4	37.7	37.3	36.1	34.7	32.7	29.3	25.1	25.48	37.74
28-Aug	21.3	18.2	16.4	14.5	11.8	9.0	7.1	6.6	6.8	7.5	8.8	9.3	11.8	15.1	18.6	22.4	25.8	28.5	30.1	31.1	30.5	29.3	27.5	24.6	18.03	31.08
29-Aug	20.6	17.0	15.1	12.5	10.1	7.8	6.4	6.2	8.3	10.8	13.2	16.2	19.7	23.5	27.6	31.3	33.7	35.3	36.2	36.4	36.4	36.1	35.5	34.3	22.09	36.45
30-Aug	32.4	30.4	29.4	27.3	24.9	22.6	20.4	18.6	17.1	15.9	15.6	15.0	15.3	16.5	17.7	19.7	22.4	25.1	27.1	28.2	28.3	26.8	24.8	21.5	22.63	32.41
31-Aug	17.3	13.2	10.9	7.7	5.1	3.2	2.1	1.5	1.6	3.2	5.6	9.0	13.3	17.3	21.8	26.3	30.0	33.1	35.1	35.2	34.3	33.0	30.1	26.9	17.37	35.21
22.23 19.57 18.06 15.76 13.82 12.22 11.05 10.35 10.60 11.84 13.63 16.46 19.36 22.46 25.79 29.10 31.69 33.31 33.60 33.09 31.94 30.28 28.00 25.33																								Diurnal Average		
45.82 44.21 43.31 42.00 40.90 39.64 38.02 35.51 33.31 34.58 35.91 38.16 40.42 42.98 46.01 48.86 51.35 53.81 53.43 52.93 51.83 50.30 48.61 47.24																								Diurnal Maximum		
C - Calibration																										



WCAS - Breton
Summary of Hourly Averages

Nitrogen Oxide (NO) - ppb
August 2017

Maximum Value: 4.23 ppb on Aug 28 07:00																								Hours in Service: 744																									
Maximum Daily Average: 0.67 ppb on Aug 28																								Hours of Data: 708																									
Minimum Value: 0.0 ppb on Aug 1 02:00																								Hours of Missing Data: 36																									
Minimum Daily Average: 0.02 ppb on Aug 12																								Hours of Calibration: 36																									
Maximum Diurnal Average: 0.46 ppb at hour 8																								Percent Operational Time: 100.0																									
Minimum Diurnal Average: 0.01 ppb at hour 2																																																	
Monthly Average: 0.148 ppb																																																	
Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 0.1 P ₉₀ = 0.4 P ₉₉ = 1.4																																																	
Day	Hourly Period Ending At																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Aug	0.0	0.0	Z	0.0	0.0	0.0	0.1	0.3	0.4	1.3	1.2	1.4	0.5	0.7	1.0	0.6	0.3	0.3	0.3	0.1	0.1	0.0	0.0	0.0	0.38	1.40																							
2-Aug	0.0	0.0	Z	0.0	0.0	0.2	0.7	0.9	1.4	0.6	0.1	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	0.18	1.40																							
3-Aug	0.0	0.0	Z	0.0	0.2	0.1	0.2	0.4	0.8	0.6	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.11	0.82																							
4-Aug	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.07	0.20																							
5-Aug	0.0	0.0	Z	0.1	0.0	0.2	0.5	0.5	0.4	C	C	C	C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.09	0.50																							
6-Aug	0.0	0.0	Z	0.0	0.0	0.1	0.2	0.3	0.3	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.05	0.30																							
7-Aug	0.0	0.0	Z	0.1	0.0	0.0	0.0	1.1	0.3	1.5	0.6	0.6	0.3	0.2	0.2	2.1	0.7	0.6	0.4	0.2	0.0	0.0	0.0	0.0	0.39	2.14																							
8-Aug	0.0	0.0	Z	0.0	0.0	0.0	0.1	0.1	0.2	0.3	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	0.05	0.29																							
9-Aug	0.0	0.0	Z	0.0	0.0	0.5	0.4	0.7	0.6	0.4	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	0.13	0.68																							
10-Aug	0.0	0.0	Z	0.0	0.1	0.4	0.2	0.7	0.6	0.2	0.0	0.2	1.3	1.1	0.8	0.6	0.4	0.2	0.9	0.3	0.0	0.0	0.0	0.0	0.35	1.26																							
11-Aug	0.0	0.0	Z	0.1	0.0	0.0	1.0	0.2	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.09	1.04																							
12-Aug	0.0	0.0	Z	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	0.0	0.0	0.0	0.0	0.0	0.0	0.02	0.09																							
13-Aug	0.0	0.0	Z	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.07	0.23																							
14-Aug	0.0	0.0	Z	0.0	0.0	0.1	0.5	0.5	0.3	0.1	0.1	0.1	0.0	0.1	0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.10	0.48																							
15-Aug	0.0	0.0	Z	0.0	0.0	0.1	0.2	0.6	0.5	0.2	0.1	0.1	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.09	0.55																							
16-Aug	0.0	0.0	Z	0.0	0.0	0.0	0.6	1.3	0.7	0.5	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.7	0.1	0.0	0.0	0.0	0.20	1.30																							
17-Aug	0.0	0.0	Z	0.0	0.0	0.0	0.1	0.6	0.3	0.4	0.7	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.11	0.72																							
18-Aug	0.0	0.0	Z	0.0	0.0	0.2	0.0	0.1	0.2	0.2	0.2	0.1	0.1	0.0	0.1	0.2	0.1	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.09	0.33																							
19-Aug	0.0	0.0	Z	0.0	0.0	0.0	0.1	0.2	0.3	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.07	0.29																							
20-Aug	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.1	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	0.04	0.23																							
21-Aug	0.0	0.0	Z	0.0	0.0	0.0	0.1	0.2	0.5	0.2	0.0	0.1	0.0	0.0	0.1	0.0	0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.08	0.52																							
22-Aug	0.0	0.0	Z	0.0	0.0	0.0	0.5	0.3	0.8	0.5	0.1	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	0.11	0.85																							
23-Aug	0.0	0.0	Z	0.0	0.0	0.0	0.1	0.1	0.2	0.1	0.2	0.2	0.1	0.1	0.1	0.0	0.1	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.09	0.30																							
24-Aug	0.0	0.0	Z	0.0	0.1	0.3	0.7	0.4	0.8	0.3	0.4	0.2	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.16	0.80																							
25-Aug	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7	0.0	0.11	1.69																							
26-Aug	0.1	0.0	Z	0.0	0.0	0.0	0.1	0.3	0.7	0.3	0.1	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	0.08	0.74																							
27-Aug	0.0	0.0	Z	0.0	0.0	0.0	0.1	0.2	0.3	0.3	0.1	0.0	0.0	1.3	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.14	1.32																							
28-Aug	0.0	0.0	Z	0.0	0.3	1.9	4.2	2.2	0.5	0.7	1.1	1.6	0.3	0.5	1.1	0.6	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.67	4.23																							
29-Aug	0.7	0.0	Z	0.0	0.0	0.0	0.1	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.07	0.70																							
30-Aug	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.2	0.4	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.2	0.2	0.11	0.39																							
31-Aug	0.1	0.1	Z	0.1	0.2	0.5	0.2	1.2	1.5	0.3	0.5	0.5	0.1	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.28	1.46																							
																								0.03	0.01	--	0.02	0.04	0.16	0.37	0.46	0.45	0.35	0.25	0.23	0.13	0.19	0.13	0.17	0.08	0.08	0.09	0.06	0.02	0.06	0.02	0.02	Diurnal Average	
																								0.70	0.06	--	0.14	0.35	1.93	4.23	2.25	1.46	1.48	1.23	1.64	1.26	1.32	1.07	2.14	0.66	0.57	0.94	0.71	0.14	1.69	0.25	0.33	Diurnal Maximum	
Z - zerospan C - Calibration																																																	
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr --- ppb 24-hr --- ppb																																																	



WCAS - Breton
Summary of Hourly Averages

Nitrogen Dioxide (NO₂) - ppb
August 2017

Maximum Value: 5.59 ppb on Aug 10 19:00		Maximum Daily Average: 2.10 ppb on Aug 23		Hours in Service: 744																							
Minimum Value: 0.3 ppb on Aug 19 14:00		Minimum Daily Average: 0.50 ppb on Aug 6		Hours of Data: 708																							
Maximum Diurnal Average: 1.27 ppb at hour 20		Minimum Diurnal Average: 0.82 ppb at hour 15		Hours of Missing Data: 36																							
Monthly Average: 1.031 ppb		Percentiles: P ₁ = 0.3 P ₁₀ = 0.4 Q ₁ = 0.6 Median = 0.8 Q ₃ = 1.3 P ₉₀ = 1.9 P ₉₉ = 4.2		Hours of Calibration: 36																							
				Percent Operational Time: 100.0																							
Day	Hourly Period Ending At																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Aug	1.2	1.2	Z	1.0	0.9	0.9	1.1	1.3	1.4	2.2	2.8	2.4	1.7	2.8	2.4	2.0	1.3	1.5	1.4	1.1	2.1	1.2	0.9	1.1	1.56	2.79	
2-Aug	1.1	1.0	Z	0.9	1.0	0.8	0.6	0.8	1.5	1.3	0.8	0.7	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.8	0.9	0.8	0.7	0.78	1.46	
3-Aug	0.8	0.9	Z	1.2	1.3	1.0	0.8	0.8	1.4	1.4	1.1	0.6	0.5	0.6	0.5	0.6	0.7	0.7	0.8	0.9	1.0	1.1	1.1	0.8	0.90	1.41	
4-Aug	0.6	0.6	Z	1.0	0.8	0.8	0.9	1.0	1.0	1.0	1.1	0.7	0.6	0.5	0.5	0.5	0.5	0.5	0.8	0.7	1.2	1.3	0.9	0.8	0.80	1.28	
5-Aug	0.7	0.7	Z	0.6	0.7	1.1	1.0	0.9	0.9	C	C	C	C	C	0.6	0.8	0.9	1.0	0.7	0.6	0.7	0.8	0.6	0.5	0.76	1.14	
6-Aug	0.5	0.6	Z	0.6	0.6	0.5	0.4	0.5	0.7	0.6	0.4	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.6	0.6	0.6	0.5	0.5	0.50	0.73	
7-Aug	0.5	0.5	Z	0.6	1.0	0.9	1.0	3.4	1.1	2.5	1.9	1.6	1.1	1.1	0.9	3.1	2.0	2.0	1.8	0.9	0.8	1.9	1.4	0.8	1.42	3.39	
8-Aug	1.3	1.4	Z	1.9	1.8	1.4	1.0	0.9	0.8	0.6	0.6	0.5	0.4	0.3	0.4	0.4	0.4	0.5	0.5	0.9	1.1	0.6	0.6	0.6	0.82	1.92	
9-Aug	0.7	0.8	Z	1.5	1.7	1.8	1.6	1.6	1.3	1.3	1.1	0.9	0.7	0.7	0.6	0.6	0.6	0.7	0.7	0.8	1.4	2.0	2.1	0.9	1.13	2.06	
10-Aug	0.7	0.6	Z	0.5	0.5	0.5	0.3	0.6	1.5	1.3	0.8	1.5	4.6	4.1	3.7	3.3	2.7	1.9	5.6	3.3	1.8	0.8	0.8	0.8	1.85	5.59	
11-Aug	0.7	0.7	Z	0.9	0.9	0.7	1.3	0.6	1.0	0.7	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.64	1.32	
12-Aug	0.7	1.0	Z	1.0	0.7	0.7	0.7	0.7	0.5	0.5	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.4	0.5	0.4	0.4	0.6	1.0	1.2	0.64	1.23	
13-Aug	1.1	1.2	Z	1.7	1.5	1.4	1.4	1.2	1.4	1.4	1.4	1.3	1.3	1.2	1.2	1.2	2.5	2.2	1.3	1.5	1.3	1.5	1.3	1.42	2.53		
14-Aug	0.9	0.9	Z	0.9	1.0	1.4	1.5	1.0	0.8	0.5	0.4	0.5	0.5	0.5	0.5	0.6	0.6	0.6	1.0	0.9	1.2	1.2	0.9	1.0	0.84	1.47	
15-Aug	1.1	1.1	Z	1.0	1.0	1.1	0.9	1.0	0.8	0.6	0.5	0.4	0.4	0.4	0.4	0.5	0.6	0.7	0.9	1.0	0.8	0.8	0.7	0.7	0.76	1.12	
16-Aug	0.9	0.9	Z	0.7	0.7	0.8	0.8	1.0	1.5	1.4	1.2	1.0	0.8	0.8	0.9	1.1	1.1	1.3	1.7	3.4	2.2	1.2	1.2	1.0	1.21	3.36	
17-Aug	0.9	0.9	Z	0.6	0.6	0.6	0.5	0.7	0.8	1.3	1.5	1.0	0.7	0.6	0.6	0.7	0.7	0.8	0.8	1.0	1.3	1.3	1.0	1.0	0.87	1.52	
18-Aug	1.2	1.4	Z	1.1	1.3	2.1	1.2	1.1	1.4	1.4	1.4	1.0	0.8	0.6	0.9	2.2	1.4	2.3	2.2	2.4	0.5	0.4	0.5	0.5	1.27	2.43	
19-Aug	0.8	0.6	Z	0.5	0.8	0.7	0.6	0.6	0.6	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.8	3.2	1.4	0.7	0.7	0.65	3.19	
20-Aug	0.6	0.6	Z	0.6	0.7	0.6	0.6	0.6	0.6	0.6	0.8	0.6	0.6	0.4	0.4	0.4	0.6	0.6	0.9	1.1	1.4	0.9	1.3	0.7	0.7	0.71	1.43
21-Aug	0.7	0.6	Z	0.7	0.8	0.8	0.7	0.8	1.2	0.8	0.6	0.7	0.7	0.6	0.6	0.6	0.7	1.9	1.6	1.4	0.9	0.8	0.8	0.7	0.86	1.90	
22-Aug	0.6	0.6	Z	0.6	0.6	0.7	0.8	0.7	1.3	0.9	0.6	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.6	0.9	1.0	0.57	1.29	
23-Aug	1.0	1.0	Z	1.4	1.6	1.5	1.4	1.5	1.5	0.9	1.1	1.2	1.1	1.1	1.0	1.0	1.3	3.9	5.5	4.6	4.2	5.0	4.4	1.0	2.10	5.50	
24-Aug	1.7	1.6	Z	1.5	1.6	1.3	1.5	1.0	1.2	0.9	1.3	1.1	0.8	0.6	0.7	0.8	0.4	0.3	0.4	0.5	0.7	0.8	0.8	0.7	0.97	1.74	
25-Aug	0.6	0.6	Z	1.1	1.1	0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.3	0.4	0.4	0.5	0.4	0.4	0.6	0.9	0.7	2.7	1.2	1.0	0.73	2.71	
26-Aug	1.4	0.7	Z	0.6	0.5	0.5	0.5	0.6	1.2	0.8	0.6	0.5	0.5	0.3	0.3	0.3	0.3	0.4	0.4	0.5	0.6	0.6	0.7	0.7	0.59	1.35	
27-Aug	0.7	0.9	Z	0.9	1.0	0.9	1.0	0.8	1.0	1.1	0.6	0.4	0.4	0.8	0.4	0.6	0.4	0.4	0.8	1.6	2.0	2.5	3.2	3.4	1.12	3.36	
28-Aug	1.8	1.7	Z	1.9	2.6	3.0	2.8	1.4	0.8	1.1	1.6	2.0	0.9	1.3	2.3	1.9	1.1	0.6	0.5	1.0	0.7	0.8	0.8	0.7	1.45	3.02	
29-Aug	1.5	0.7	Z	0.6	0.6	0.6	0.6	0.8	0.7	0.5	0.5	0.5	0.5	0.4	0.5	0.4	0.5	0.5	0.5	0.4	0.5	0.6	0.8	0.9	0.61	1.53	
30-Aug	1.2	1.5	Z	1.7	2.3	2.5	2.3	2.1	1.8	1.9	2.1	1.6	1.6	1.6	1.4	1.5	1.8	2.2	1.8	1.8	2.0	1.8	1.6	1.6	1.81	2.52	
31-Aug	2.2	2.5	Z	2.2	2.2	2.4	1.9	1.8	1.8	1.3	1.8	1.9	0.8	2.8	0.8	0.8	1.2	0.8	0.9	2.5	0.8	0.8	1.0	0.7	1.56	2.75	
		0.98	0.96	--	1.03	1.10	1.13	1.05	1.05	1.10	1.07	1.00	0.90	0.82	0.90	0.82	0.94	0.84	1.03	1.23	1.27	1.21	1.23	1.12	0.93	Diurnal Average	
		2.20	2.51	--	2.19	2.55	3.02	2.79	3.39	1.79	2.48	2.79	2.40	4.57	4.15	3.75	3.31	2.74	3.93	5.59	4.56	4.23	5.03	4.35	3.36	Diurnal Maximum	
Z - zerospan		C - Calibration																									
Alberta Ambient Air Quality Objectives (AAAQO):		1-hr 159 ppb					24-hr 106 ppb																				



WCAS - Breton
Summary of Hourly Averages

NOx (NO_x) - ppb
August 2017

Maximum Value: 7.05 ppb on Aug 28 07:00		Maximum Daily Average: 2.23 ppb on Aug 10		Hours in Service: 744																													
Minimum Value: 0.3 ppb on Aug 22 17:00		Minimum Daily Average: 0.56 ppb on Aug 6		Hours of Data: 708																													
Maximum Diurnal Average: 1.57 ppb at hour 9		Minimum Diurnal Average: 0.93 ppb at hour 17		Hours of Missing Data: 36																													
Monthly Average: 1.193 ppb		Percentiles: P ₁ = 0.3 P ₁₀ = 0.5 Q ₁ = 0.6 Median = 0.9 Q ₃ = 1.4 P ₉₀ = 2.3 P ₉₉ = 5.0		Hours of Calibration: 36																													
				Percent Operational Time: 100.0																													
Day	Hourly Period Ending At																								Daily Average	Daily Maximum							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24									
1-Aug	1.2	1.2	Z	1.1	0.9	1.0	1.3	1.6	1.9	3.6	4.0	3.8	2.2	3.5	3.5	2.6	1.6	1.8	1.7	1.2	2.2	1.2	0.9	1.1	1.96	4.04							
2-Aug	1.1	1.1	Z	0.9	1.0	1.0	1.3	1.8	2.9	2.0	0.9	0.8	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.8	0.8	0.7	0.7	0.97	2.91							
3-Aug	0.8	0.9	Z	1.2	1.5	1.1	1.0	1.3	2.2	2.0	1.2	0.7	0.6	0.6	0.6	0.7	0.7	0.7	0.8	0.8	1.0	1.1	1.2	0.8	1.01	2.22							
4-Aug	0.6	0.6	Z	1.1	0.8	0.9	0.9	1.2	1.2	1.1	1.3	0.9	0.7	0.6	0.5	0.6	0.6	0.6	0.9	0.8	1.3	1.3	0.9	0.9	0.88	1.32							
5-Aug	0.7	0.7	Z	0.7	0.7	1.3	1.5	1.4	1.4	C	C	C	C	C	0.5	0.8	0.9	1.0	0.6	0.6	0.7	0.7	0.6	0.5	0.84	1.50							
6-Aug	0.5	0.5	Z	0.6	0.6	0.6	0.6	0.8	1.0	0.6	0.5	0.5	0.6	0.4	0.4	0.4	0.4	0.4	0.7	0.6	0.6	0.5	0.5	0.56	1.00								
7-Aug	0.5	0.5	Z	0.8	1.0	0.9	1.0	4.6	1.4	4.0	2.6	2.3	1.4	1.3	1.1	5.3	2.7	2.6	2.2	1.1	0.9	1.9	1.4	0.8	1.85	5.33							
8-Aug	1.4	1.4	Z	2.0	1.8	1.4	1.1	1.0	1.0	0.9	0.8	0.6	0.4	0.4	0.4	0.4	0.5	0.5	0.5	1.0	1.1	0.6	0.6	0.6	0.89	1.96							
9-Aug	0.7	0.8	Z	1.5	1.8	2.4	2.1	2.3	2.0	1.7	1.3	1.0	0.8	0.7	0.7	0.6	0.7	0.7	0.7	0.9	1.4	2.0	2.1	1.0	1.29	2.35							
10-Aug	0.8	0.7	Z	0.6	0.6	0.9	0.6	1.3	2.1	1.5	0.9	1.7	5.9	5.3	4.6	4.0	3.2	2.1	6.6	3.6	1.8	0.8	0.8	0.8	2.23	6.57							
11-Aug	0.7	0.7	Z	1.0	0.9	0.8	2.4	0.9	1.3	0.8	0.5	0.4	0.4	0.4	0.5	0.5	0.5	0.6	0.7	0.6	0.6	0.7	0.7	0.8	0.75	2.39							
12-Aug	0.7	1.0	Z	1.0	0.7	0.7	0.8	0.8	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6	1.0	1.2	0.68	1.24								
13-Aug	1.1	1.3	Z	1.7	1.5	1.4	1.5	1.3	1.6	1.7	1.6	1.4	1.4	1.4	1.3	1.3	2.6	2.3	1.4	1.5	1.4	1.6	1.3	1.51	2.63								
14-Aug	1.0	0.9	Z	0.9	1.0	1.6	2.0	1.5	1.1	0.7	0.5	0.6	0.6	0.6	0.5	0.7	0.7	0.6	1.1	1.0	1.2	1.2	0.9	1.0	0.95	1.98							
15-Aug	1.1	1.1	Z	1.0	1.0	1.2	1.1	1.6	1.3	0.9	0.6	0.5	0.4	0.5	0.5	0.6	0.6	0.8	0.9	1.0	0.8	0.8	0.7	0.7	0.86	1.55							
16-Aug	0.9	0.9	Z	0.7	0.7	0.8	1.5	2.4	2.2	1.9	1.4	1.1	0.9	0.8	0.9	1.2	1.2	1.4	1.8	4.1	2.3	1.2	1.2	1.0	1.42	4.09							
17-Aug	0.9	0.9	Z	0.6	0.7	0.6	0.6	1.3	1.1	1.7	2.3	1.2	0.7	0.7	0.6	0.8	0.7	0.8	0.8	1.0	1.3	1.3	1.0	1.0	0.99	2.27							
18-Aug	1.2	1.4	Z	1.1	1.3	2.4	1.3	1.2	1.6	1.6	1.6	1.0	0.9	0.6	1.0	2.4	1.5	2.7	2.4	2.5	0.5	0.5	0.5	0.6	1.38	2.68							
19-Aug	0.8	0.7	Z	0.5	0.8	0.7	0.8	0.8	0.9	0.6	0.4	0.4	0.4	0.3	0.4	0.3	0.4	0.3	0.4	0.9	3.4	1.4	0.7	0.7	0.73	3.36							
20-Aug	0.6	0.6	Z	0.6	0.7	0.6	0.6	0.6	0.8	1.1	0.8	0.8	0.5	0.5	0.4	0.6	0.6	1.0	1.1	1.5	0.9	1.3	0.7	0.7	0.76	1.47							
21-Aug	0.7	0.6	Z	0.7	0.8	0.8	0.8	1.0	1.8	1.0	0.7	0.8	0.8	0.6	0.7	0.6	0.8	2.2	1.7	1.4	0.9	0.8	0.8	0.7	0.95	2.16							
22-Aug	0.6	0.6	Z	0.6	0.6	0.7	1.3	1.0	2.2	1.4	0.7	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.4	0.4	0.4	0.6	0.9	1.0	0.69	2.16							
23-Aug	1.0	1.0	Z	1.4	1.6	1.5	1.5	1.6	1.7	1.1	1.3	1.3	1.3	1.1	1.1	1.4	4.3	5.7	4.7	4.3	5.1	4.4	1.0	2.21	5.72								
24-Aug	1.8	1.6	Z	1.6	1.7	1.7	2.3	1.4	2.0	1.2	1.7	1.3	0.9	0.7	0.7	0.9	0.5	0.4	0.4	0.5	0.7	0.9	0.8	0.7	1.14	2.26							
25-Aug	0.6	0.6	Z	1.1	1.1	0.9	0.9	0.9	0.7	0.6	0.4	0.4	0.3	0.4	0.4	0.6	0.4	0.4	0.6	0.9	0.7	4.4	1.3	1.0	0.86	4.42							
26-Aug	1.4	0.7	Z	0.6	0.6	0.6	0.6	1.0	1.9	1.2	0.8	0.6	0.5	0.4	0.4	0.3	0.4	0.4	0.4	0.5	0.6	0.6	0.7	0.7	0.69	1.93							
27-Aug	0.7	0.9	Z	0.9	1.0	0.9	1.2	1.0	1.4	1.4	0.7	0.4	0.4	2.1	0.4	1.0	0.4	0.4	0.8	1.6	2.0	2.5	3.5	3.7	1.28	3.71							
28-Aug	1.9	1.7	Z	1.9	2.9	5.0	7.0	3.7	1.3	1.9	2.7	3.7	1.3	1.8	3.4	2.5	1.3	0.7	0.6	1.0	0.7	0.8	0.8	0.7	2.14	7.05							
29-Aug	2.3	0.7	Z	0.7	0.6	0.6	0.7	1.0	0.9	0.6	0.5	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.8	0.9	0.69	2.25							
30-Aug	1.2	1.5	Z	1.7	2.3	2.6	2.3	2.2	1.9	2.2	2.4	2.1	1.9	1.8	1.7	1.7	2.0	2.4	1.8	1.8	2.0	1.8	1.6	1.8	1.94	2.57							
31-Aug	2.3	2.6	Z	2.3	2.4	3.0	2.2	2.9	3.3	1.6	2.4	2.4	0.9	3.7	0.8	0.9	1.2	0.8	0.9	2.6	0.9	0.8	1.0	0.8	1.86	3.70							
		1.03	0.98	--	1.06	1.15	1.30	1.44	1.53	1.57	1.43	1.26	1.14	0.97	1.11	0.97	1.13	0.93	1.13	1.33	1.34	1.24	1.30	1.14	0.96	Diurnal Average							
		2.33	2.60	--	2.27	2.92	4.97	7.05	4.58	3.26	4.01	4.04	3.82	5.88	5.31	4.63	5.33	3.17	4.26	6.57	4.65	4.29	5.11	4.41	3.71	Diurnal Maximum							
Z - zerospan		C - Calibration																															
Alberta Ambient Air Quality Objectives (AAAQO):		1-hr --- ppb				24-hr --- ppb																											

**BRETON
STATION #913**

METEOROLOGICAL DATA

AUGUST 2017



WCAS - Breton
Summary of Hourly Averages

External Temperature (ET) - C
August 2017

Maximum Value: 29.51 C on Aug 27 17:00 Maximum Daily Average: 20.10 C on Aug 12																								Hours in Service:	744	
Minimum Value: 2.4 C on Aug 26 06:00 Minimum Daily Average: 11.43 C on Aug 20																								Hours of Data:	744	
Maximum Diurnal Average: 22.02 C at hour 15 Minimum Diurnal Average: 9.31 C at hour 6																								Hours of Missing Data:	0	
Monthly Average: 15.591 C Percentiles: P ₁ = 4.3 P ₁₀ = 8.4 Q ₁ = 11.5 Median = 14.9 Q ₃ = 19.9 P ₉₀ = 23.7 P ₉₉ = 26.6																								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-Aug	11.1	11.2	11.3	11.5	11.4	11.5	11.8	12.5	13.6	14.6	13.7	12.9	13.4	13.0	13.6	14.3	14.3	14.5	15.3	15.1	13.7	10.8	9.9	9.6	12.69	15.28
2-Aug	8.0	6.8	6.4	5.7	5.6	5.0	6.4	10.3	14.7	17.2	18.8	19.2	19.9	20.7	21.4	21.8	22.1	22.0	21.6	21.0	16.0	13.0	12.3	10.9	14.44	22.10
3-Aug	10.5	9.8	9.5	8.4	7.2	6.9	8.3	12.1	16.0	19.6	22.2	23.8	25.0	25.8	26.2	26.1	25.9	25.2	23.5	20.7	18.4	16.3	14.4	13.4	17.29	26.17
4-Aug	12.6	12.5	12.7	12.7	12.8	12.8	12.6	12.9	13.2	13.4	13.8	14.5	14.9	15.5	17.0	17.0	15.4	15.9	14.6	14.7	14.1	12.8	11.1	10.1	13.73	16.99
5-Aug	8.8	8.4	7.8	8.1	8.7	9.3	11.1	13.1	14.3	15.8	17.7	18.5	19.8	20.3	19.9	19.0	15.6	14.2	15.0	16.4	14.5	12.3	11.3	10.5	13.77	20.35
6-Aug	9.5	8.9	8.1	7.4	7.1	7.0	8.2	11.3	15.6	19.4	21.6	21.3	22.7	23.4	24.0	23.3	24.3	24.2	23.9	20.0	15.9	14.2	13.7	12.6	16.15	24.32
7-Aug	11.6	10.7	10.5	10.6	11.9	13.3	13.5	13.9	14.7	15.4	15.4	15.7	16.5	16.4	16.2	17.2	17.8	17.7	16.7	15.0	13.2	13.2	13.1	12.8	14.30	17.83
8-Aug	12.7	12.5	12.4	12.2	12.0	11.7	12.0	13.1	14.0	16.3	18.0	18.7	20.3	21.4	20.6	21.8	22.5	22.7	21.6	20.5	16.8	14.5	12.8	12.2	16.39	22.73
9-Aug	11.5	10.8	10.3	9.8	9.3	8.7	9.2	12.9	15.1	18.5	21.3	22.9	23.9	24.6	25.7	25.7	23.9	24.3	23.9	21.8	17.8	15.1	13.7	12.8	17.23	25.68
10-Aug	11.5	10.7	9.4	8.6	7.9	7.5	8.4	11.0	15.3	18.9	21.5	23.7	23.7	24.1	24.3	24.5	24.7	24.3	23.5	22.8	18.6	15.9	14.1	12.3	16.96	24.66
11-Aug	11.8	10.7	10.0	9.5	8.8	8.2	9.5	12.8	17.0	20.8	22.1	22.8	23.3	24.2	24.4	24.7	24.5	24.1	23.3	22.3	18.4	15.6	14.5	13.7	17.38	24.66
12-Aug	13.4	13.6	14.4	14.2	14.2	13.7	14.0	16.9	19.5	21.5	23.1	24.2	25.1	26.1	26.6	26.7	26.9	26.4	25.3	22.5	19.8	18.2	17.8	18.3	20.10	26.94
13-Aug	17.7	16.6	15.8	15.1	14.9	13.8	13.4	14.6	16.6	18.8	20.6	21.7	20.8	20.6	20.7	20.6	19.0	16.7	15.8	15.1	14.4	13.8	13.4	13.1	16.83	21.67
14-Aug	12.4	11.8	11.3	11.0	10.9	10.6	10.1	12.4	13.6	14.9	15.8	16.8	17.6	18.5	18.6	19.3	18.7	16.7	15.3	14.5	13.4	12.2	10.2	10.4	14.03	19.27
15-Aug	10.7	9.8	9.0	7.8	7.8	7.3	7.4	10.2	12.5	14.7	16.4	17.3	18.1	18.8	19.3	19.7	20.4	19.9	19.8	15.9	12.1	11.0	10.1	9.2	13.55	20.41
16-Aug	8.1	7.4	7.5	7.9	8.1	8.0	7.9	9.8	13.9	16.6	19.2	20.7	22.0	21.9	21.7	19.6	18.6	18.5	18.1	16.3	15.0	13.5	12.0	11.0	14.31	22.05
17-Aug	9.6	8.6	7.9	6.9	7.0	6.3	7.1	9.8	11.7	14.3	16.3	19.5	21.0	21.9	22.8	22.9	23.2	22.7	19.8	18.1	16.4	14.9	13.6	11.9	14.75	23.18
18-Aug	12.9	13.4	13.4	11.5	12.1	9.8	9.9	11.7	15.8	18.4	21.8	23.8	25.1	26.5	25.8	22.0	20.2	18.8	17.4	16.2	12.8	9.9	9.5	9.8	16.19	26.51
19-Aug	9.4	8.8	8.1	7.0	5.5	3.7	4.4	8.3	10.7	12.9	14.7	15.6	16.5	17.4	18.5	19.2	19.6	19.5	18.9	16.7	12.4	10.7	7.9	7.7	12.25	19.57
20-Aug	7.9	8.0	7.8	7.8	8.5	7.9	8.1	8.9	10.4	13.1	15.6	15.6	15.0	15.6	15.6	15.7	16.2	15.2	14.4	13.9	9.6	8.2	7.8	7.6	11.43	16.18
21-Aug	8.4	8.4	8.7	9.0	8.9	8.2	7.9	10.8	14.2	17.3	17.6	18.4	20.1	20.8	20.0	19.9	19.5	18.6	17.8	16.6	15.8	15.2	14.5	13.8	14.60	20.85
22-Aug	13.5	13.1	13.2	12.8	12.4	12.0	12.1	12.8	15.7	18.9	21.4	22.6	23.8	24.6	25.5	25.9	27.0	25.7	24.6	21.4	19.3	17.5	17.0	15.4	18.67	26.97
23-Aug	15.1	14.8	14.3	14.1	14.3	14.4	14.1	15.3	16.8	18.9	20.4	22.1	22.4	22.9	24.0	25.0	24.6	23.1	21.4	19.7	19.0	18.1	17.6	17.5	18.75	25.01
24-Aug	15.2	14.1	13.1	12.4	11.9	11.4	11.6	12.8	14.4	16.5	18.8	19.8	22.8	24.8	23.7	19.0	16.5	13.6	12.4	11.2	10.8	10.3	9.5	8.9	14.81	24.77
25-Aug	8.6	8.3	7.5	6.8	6.0	6.5	7.3	9.3	12.5	15.5	17.3	18.4	19.0	19.8	20.5	21.1	21.0	21.3	21.2	17.7	13.5	11.1	8.5	6.4	13.55	21.31
26-Aug	5.4	4.3	3.5	3.1	2.7	2.4	2.8	6.1	12.0	16.4	18.9	20.2	21.4	22.1	22.7	23.6	24.2	25.0	23.5	20.0	16.4	14.3	12.9	11.8	13.98	24.98
27-Aug	10.4	10.0	8.6	8.4	8.5	7.6	7.9	10.9	16.6	21.4	24.1	25.6	26.7	27.5	28.8	28.9	29.5	25.8	24.3	21.0	18.9	16.3	14.9	14.4	18.21	29.51
28-Aug	14.1	13.2	13.4	14.1	11.5	10.0	9.8	11.8	15.0	18.1	20.1	20.8	21.7	23.1	23.5	23.7	23.5	23.2	22.0	18.8	16.2	14.0	12.6	12.8	16.95	23.66
29-Aug	11.7	11.5	11.3	10.5	10.1	9.6	9.9	12.9	17.5	19.8	20.9	22.3	22.8	23.3	24.5	24.7	25.1	24.6	23.0	20.4	19.0	17.9	16.8	15.7	17.75	25.12
30-Aug	16.1	15.7	15.2	14.4	13.6	13.0	12.6	12.8	13.9	16.3	18.0	20.3	22.3	23.9	24.8	25.2	25.6	24.3	22.1	18.8	16.8	14.6	13.2	12.2	17.74	25.59
31-Aug	12.7	12.4	12.0	11.5	11.0	10.8	10.6	10.7	13.7	16.4	18.8	20.2	21.1	21.4	21.6	21.1	19.5	17.5	16.2	14.3	11.9	9.7	7.8	6.8	14.57	21.63
11.39 10.86 10.46 10.02 9.75 9.31 9.67 11.76 14.53 17.12 18.90 20.00 20.93 21.65 22.02 21.90 21.61 20.84 19.87 18.04 15.51 13.71 12.53 11.80																								Diurnal Average		
17.73 16.58 15.82 15.12 14.91 14.39 14.10 16.86 19.49 21.55 24.13 25.63 26.74 27.54 28.76 28.86 29.51 26.45 25.30 22.82 19.78 18.16 17.75 18.31																								Diurnal Maximum		



WCAS - Breton
Summary of Hourly Averages

Wind Speed (WS) - kph
August 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	3.9	3.8	3.9	2.8	2.9	1.7	2.8	1.5	1.3	11.9	15.4	11.3	6.0	9.9	7.6	7.8	8.5	6.1	8.5	5.2	1.9	0.5	1.8	1.7	2.66	15.40	
Dir	SSE	SSE	SSE	SSE	SSE	SE	NE	ESE	NNE	N	NNE	NNE	NE	N	N	N	NNW	NNW	WNW	W	WSW	S	SSE	SSE	N	NNE	
2 Spd	1.7	1.1	2.9	3.2	3.4	3.3	2.6	3.1	2.0	7.5	6.2	4.7	5.7	7.3	9.7	8.2	8.1	9.0	9.7	3.8	0.8	1.4	2.8	3.0	4.50	9.72	
Dir	SE	SE	SSE	SE	SSE	SSE	SSE	S	S	S	SSE	S	SSE	S	S	SSW	S	S	S	SSE	ESE	SSE	SSE	SSE	S	S	
3 Spd	3.2	3.3	3.9	3.8	2.2	2.8	3.5	3.0	2.2	1.8	3.0	5.4	2.5	1.7	0.9	7.9	6.6	8.3	12.1	13.9	13.5	8.4	15.1	2.1	3.06	15.12	
Dir	SSE	SSE	SSE	SSE	SSE	SSE	SSE	S	S	SSE	S	S	SE	ESE	SSW	E	ESE	E	E	ENE	NNE	NE	N	NNW	E	N	
4 Spd	5.6	6.3	3.9	4.1	5.1	6.4	9.4	9.8	9.7	11.4	12.3	14.1	11.4	10.6	15.0	15.1	8.5	10.3	5.4	4.4	3.3	2.4	0.2	0.4	6.99	15.12	
Dir	SSW	WNW	WNW	WNW	WNW	NW	NNW	NNW	NNW	NNW	N	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NW	NW	WNW	WNW	SW	S	NNW	NNW	
5 Spd	0.8	0.3	0.3	2.7	2.0	0.5	1.1	3.7	5.1	4.3	4.3	4.6	5.2	7.2	3.0	9.5	12.9	1.1	4.4	3.9	1.8	1.3	2.8	2.6	0.33	12.88	
Dir	S	ESE	E	SSE	SE	NE	W	W	NW	NNW	NW	NNW	NNW	N	NE	SSE	E	SW	S	SSE	SSE	SSE	SSE	SSE	E	E	
6 Spd	2.7	3.5	2.2	3.1	2.6	3.3	4.1	2.4	0.7	3.3	2.0	4.0	1.6	3.7	1.5	5.6	5.0	6.0	5.5	6.3	1.7	0.9	2.3	1.5	1.80	6.26	
Dir	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSW	SSE	ESE	N	ENE	ENE	NE	NNE	NE	ENE	ENE	ENE	ESE	SE	SSE	SSE	E	E	
7 Spd	2.9	2.4	2.5	0.8	11.9	11.7	3.1	17.2	11.6	10.8	12.1	10.3	10.8	10.8	12.4	6.8	9.0	10.0	12.2	13.4	7.7	7.5	7.9	6.2	7.91	17.19	
Dir	SSE	SSE	SSE	N	NNW	N	N	NNE	NNE	NNE	N	NNE	NNE	NNE	NNE	NE	NE	NNE	NNE	NNE	NNE	NE	NE	NE	NNE	NNE	
8 Spd	6.0	2.8	2.8	0.4	3.3	2.1	1.0	2.1	2.0	1.3	1.1	1.3	1.1	1.9	7.6	6.4	6.9	5.6	8.3	4.4	2.0	2.8	5.8	5.8	1.99	8.28	
Dir	NNE	NNE	ENE	ENE	W	SSW	SW	S	SSW	ESE	ESE	ESE	SSE	SSE	NNE	E	E	ESE	E	ESE	SE	SSE	SSE	SSE	ESE	E	
9 Spd	4.7	3.7	3.3	4.3	4.5	3.3	2.6	2.1	4.3	1.4	1.0	8.8	7.2	3.0	3.5	0.1	5.4	6.4	5.1	5.9	9.3	1.6	1.2	0.4	1.45	9.26	
Dir	S	SSE	SSE	SSE	SSE	S	S	SSW	W	ESE	S	S	SSW	S	S	S	NE	NE	NE	NNE	NNE	NNE	SE	SSE	SE	NNE	
10 Spd	0.8	0.9	0.5	1.5	0.1	0.2	0.2	0.3	3.0	4.0	3.8	1.2	4.4	5.0	8.6	9.1	9.7	10.1	8.4	6.0	14.6	8.9	2.5	2.3	2.90	14.65	
Dir	SSE	SSE	SSE	SSE	S	SE	S	SSE	WNW	NW	N	NE	NNE	N	N	NNE	NNE	NNE	NNE	NE	ENE	ESE	S	SSW	NE	ENE	
11 Spd	2.4	3.5	4.1	2.7	2.0	2.0	0.5	1.5	0.8	1.5	7.9	7.3	12.2	8.0	9.1	7.6	7.7	7.0	7.0	3.3	2.9	2.3	2.8	4.2	3.87	12.22	
Dir	SSE	SSE	SSE	SSE	ESE	SE	SSE	S	W	SE	ENE	ENE	ENE	SE	SSE	SE	ESE	SE	SSE	SE	ESE	SE	SE	SSE	ESE	ENE	
12 Spd	5.2	9.0	10.4	8.5	4.9	6.0	6.5	6.1	13.7	15.0	17.6	20.0	23.8	23.6	24.4	24.9	22.0	17.9	7.6	5.8	7.6	7.8	9.9	9.3	12.72	24.93	
Dir	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	S	S	S	S	S	S	S	S	S	S	S	SSE	SSE	SSE	SSE	SSE	SSE	SSE	S
13 Spd	14.4	13.5	11.6	12.0	9.4	7.2	6.4	4.7	9.6	12.1	7.1	5.8	9.8	11.9	11.4	13.6	14.1	19.4	18.0	16.7	4.6	3.2	6.1	8.7	2.41	19.41	
Dir	SSE	S	SSE	SSE	SSE	SSE	SSE	S	S	S	SSW	NW	N	NNW	NNW	NNW	NW	NW	NNW	NW	NW	WNW	NW	NW	WNW	NW	
14 Spd	7.7	5.0	1.5	2.7	3.3	4.2	1.1	6.3	9.3	11.0	15.3	16.3	14.4	10.3	9.9	9.5	11.3	13.2	5.6	5.1	2.2	2.0	0.2	2.2	6.41	16.29	
Dir	NW	NNW	SW	W	WNW	NW	WSW	NW	NNW	NNW	N	N	NNW	NNW	NNW	NW	NW	NW	WNW	WNW	W	SW	SW	WNW	NW	N	
15 Spd	6.2	6.1	5.6	2.4	3.9	2.8	0.8	3.6	10.0	12.2	13.8	16.0	15.5	15.6	15.4	12.8	15.0	10.1	5.7	1.0	1.7	1.0	3.1	4.2	6.62	16.04	
Dir	NW	NNW	NW	W	W	W	WSW	WNW	NW	NW	NW	NW	NW	NW	WNW	WNW	NNW	NNW	NNW	WNW	SSE	SSE	SSE	SSE	NW	NW	
16 Spd	3.7	4.1	3.8	3.9	4.0	3.8	2.6	2.2	4.0	5.4	4.7	7.2	8.8	11.9	10.3	9.0	3.4	2.4	1.0	0.1	1.2	0.1	0.4	1.0	1.11	11.93	
Dir	SSE	SSE	SSE	SSE	SSE	SSE	SSE	S	WSW	WSW	WNW	NW	NNW	N	NNW	N	NW	SSW	NNE	N	NW	W	SSE	SSE	NW	N	
17 Spd	0.5	0.1	0.3	2.6	1.9	2.5	1.5	1.1	1.0	0.8	4.1	4.3	9.6	8.8	7.6	9.1	6.4	6.3	1.6	2.6	3.0	3.2	3.4	3.3	2.01	9.62	
Dir	S	SE	SE	SSE	SSE	SSE	SSE	SSE	SE	WNW	WNW	NW	W	W	WNW	WNW	W	W	SSW	SSE	SSE	SSE	SSE	SSE	WSW	W	
18 Spd	3.8	4.9	2.7	3.4	3.7	3.3	3.9	5.6	4.9	5.9	9.9	11.1	10.2	9.6	17.3	22.3	19.2	16.0	13.6	14.1	30.5	12.0	3.7	4.3	3.35	30.48	
Dir	SSE	SSE	SE	SSE	SSE	SSE	SSE	SSE	S	S	SSW	SW	SW	W	N	NNE	NNE	N	N	N	N	N	WSW	NW	N	N	
19 Spd	4.4	5.3	5.5	3.8	2.9	0.1	0.2	1.9	10.8	16.3	20.8	20.6	20.7	21.5	18.0	18.5	15.6	15.8	10.4	6.8	1.1	0.9	0.4	1.3	8.99	21.51	
Dir	NW	NW	NW	WNW	W	SSE	WSW	SW	NW	NNW	NNW	NW	NW	NW	NW	NW	NW	NW	NW	NNW	NW	NNW	SE	SSE	NW	NW	
20 Spd	2.5	0.7	1.7	2.5	2.4	2.4	2.0	2.3	2.8	0.6	6.8	16.4	17.7	13.9	10.8	5.6	7.7	7.9	5.5	4.0	3.2	0.3	1.2	1.7	3.16	17.70	
Dir	SE	SSE	SSE	SE	SE	SSE	SE	SSE	S	S	NW	NNW	NNW	NNW	NNW	NW	NW	NNW	NNW	NW	N	SSE	SSE	SSE	NNW	NNW	
21 Spd	2.9	1.1	3.2	3.0	0.5	1.3	1.5	2.9	4.4	7.5	7.9	9.8	10.5	9.6	9.4	9.1	7.4	1.1	0.3	1.0	0.4	0.4	2.1	2.8	2.51	10.54	
Dir	SE	SSE	SSE	SE	SSE	SSE	SSE	SSE	S	SW	SW	SW	SW	W	W	WNW	NNW	NNW	SSW	S	SW	S	SE	SSE	SW	SW	
22 Spd	2.7	2.0	2.6	2.8	1.2	0.6	0.7	0.8	2.9	3.6	4.3	5.2	4.5	3.5	2.0	0.9	2.1	9.0	7.1	4.6	4.0	2.8	4.8	5.8	0.98	9.04	
Dir	SSE	SSE	SSE	SSE	SE	SSE	S	SE	WSW	WNW	NW	WNW	WNW	W	NW	W	E	E	E	ESE	ESE	SE	SSE	SSE	SSE	E	



WCAS - Breton
Summary of Hourly Averages

Wind Speed (WS) - kph
August 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	4.8	6.2	5.1	4.2	3.6	7.6	10.7	12.0	4.8	5.0	6.0	4.5	6.6	8.8	9.4	11.0	11.5	12.3	9.6	7.2	5.8	5.5	11.2	3.7	1.28	12.31
Dir	SSE	SSE	SSE	SE	SSE	SSE	SSE	SSE	S	WSW	S	SW	NNW	N	NNE	NNE	NNE	N	NNW	ENE	N	NNW	N	SSW	NE	N
24 Spd	4.1	1.2	2.1	1.2	0.7	0.6	0.9	0.9	0.5	1.9	1.6	3.3	4.0	1.2	1.8	7.5	29.7	25.1	18.1	10.3	7.1	4.2	0.5	2.8	3.52	29.66
Dir	WNW	E	NW	NE	WNW	ESE	NNW	S	WSW	W	NNE	WSW	SE	ESE	ESE	S	NNW	N	N	N	N	NW	WNW	SW	NNW	NNW
25 Spd	2.0	2.7	2.2	4.6	4.0	4.2	3.7	4.7	5.1	9.8	11.2	9.8	9.4	5.1	5.5	6.8	7.4	4.8	4.1	2.9	1.5	1.1	0.5	1.0	3.29	11.19
Dir	SW	SW	SSE	SSE	SSE	SSE	S	SSW	SW	W	W	WNW	WNW	NW	WSW	WSW	SW	SW	SW	S	SE	SSW	NNW	SE	WSW	W
26 Spd	0.3	0.3	1.9	3.4	3.1	3.5	4.1	3.6	4.1	5.7	11.4	11.4	10.4	7.9	8.2	3.3	2.5	4.0	5.0	5.2	5.5	4.3	4.1	3.4	4.11	11.41
Dir	S	SE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSW	SW	SW	SSW	SW	WSW	SSW	S	SE	S	SSE	SSE	SSE	SSE	SSE	S	SW
27 Spd	2.8	3.4	2.3	3.8	4.9	2.9	1.4	2.3	2.1	2.2	3.5	2.6	1.4	2.7	1.3	2.7	0.2	7.0	10.4	7.7	0.9	0.6	0.9	1.8	0.92	10.43
Dir	SE	SSE	SE	SSE	SSE	SSE	SSE	SSE	S	SW	WSW	W	WNW	W	W	SSW	S	ENE	NE	ENE	SSE	N	WNW	NW	SE	NE
28 Spd	2.0	2.1	7.5	5.2	0.9	0.3	1.6	1.7	6.3	3.7	5.0	7.1	3.9	3.0	4.4	7.5	8.6	9.2	9.3	9.7	3.5	0.2	1.3	1.7	3.15	9.67
Dir	NW	NNW	N	N	NNW	N	NW	WNW	NW	NW	NE	NE	NNE	E	E	ENE	ENE	ENE	ENE	ENE	E	E	SE	SE	NE	ENE
29 Spd	0.5	3.1	2.0	1.6	1.8	1.8	1.4	1.6	4.3	9.4	13.5	9.3	11.4	13.6	9.7	12.2	9.8	8.7	6.6	6.3	6.5	7.2	7.5	6.9	6.06	13.63
Dir	SSE	SE	SSE	SSE	SSE	SSE	SE	ESE	SE	SSE	SSE	SE	ESE	ESE	SE	ESE	ESE	ESE	ESE	ESE	ESE	SSE	SSE	SSE	SE	ESE
30 Spd	10.2	4.0	11.3	14.2	12.5	11.6	8.2	5.1	4.5	0.7	0.5	2.4	2.9	3.8	7.2	9.1	7.5	8.1	9.2	6.3	1.9	0.4	0.9	3.4	4.22	14.22
Dir	SSE	SE	SSE	S	SSE	SSE	SSE	SSE	SSE	NNW	SE	E	SE	ESE	E	ENE	E	E	E	E	N	WNW	E	NW	SE	S
31 Spd	5.0	6.3	3.5	1.2	1.1	1.0	1.2	1.2	3.5	9.2	12.8	13.7	15.8	14.3	13.4	14.2	14.6	16.1	5.3	1.9	1.5	1.6	0.2	0.9	5.87	16.06
Dir	NNW	NW	NW	WNW	WNW	NW	NNW	NW	NW	NNW	N	N	N	N	NNE	N	NNE	N	W	NW	SSE	NNE	SW	SSE	N	N
Spd	1.72	1.45	1.95	2.55	1.73	1.73	1.61	1.16	1.30	1.79	2.05	2.88	2.66	3.30	3.33	2.68	3.99	4.15	2.99	2.82	2.26	0.71	0.93	1.47	Diurnal Average	
Dir	S	SSE	SSE	SSE	S	SSE	SSE	S	WSW	WNW	NW	NW	NNW	NNW	NNW	N	N	NNE	NNE	NE	NE	E	SE	S		
Spd	14.45	13.52	11.60	14.22	12.48	11.71	10.69	17.19	13.74	16.30	20.82	20.65	23.85	23.57	24.41	24.93	29.66	25.06	18.14	16.69	30.48	11.99	15.12	9.32	Diurnal Maximum	
Dir	165.94	168.56	166.82	168.95	166.14	0.08	165.68	20.39	170.82	330.10	327.17	323.21	171.88	170.94	176.31	177.57	343.69	354.02	350.80	342.01	356.78	353.29	0.30	161.05		
Maximum Speed Value: 30.5 kph on Aug 18 21:00																		Minimum Speed Value: 0.1 kph on Aug 17 02:00						Hours in Service: 744		
Maximum Daily Speed Average: 12.72 kph on Aug 12																		Minimum Daily Speed Average: 0.33 kph on Aug 27						Hours of Data: 744		
Maximum Diurnal Speed Average: 4.15 kph at hour 18																		Minimum Diurnal Speed Average: 0.71 kph at hour 22						Hours of Missing Data: 0		
Monthly Average Velocity: 0.553 kph 359.48 deg																		Speed Percentiles: P ₁ = 0.2 P ₁₀ = 1.0 Q ₁ = 2.2 Median = 4.3 Q ₃ = 8.6 P ₉₀ = 12.4 P ₉₉ = 23.3						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	15	31	39	2	2	0	89																			
NorthEast	15	37	6	1	0	0	59																			
East	18	21	7	0	0	0	46																			
SouthEast	139	18	0	0	0	0	157																			
South	108	48	15	6	0	0	177																			
SouthWest	32	11	3	0	0	0	46																			
West	34	21	2	0	0	0	57																			
NorthWest	48	40	20	5	0	0	113																			
Total	409	227	92	14	2	0	744																			



WCAS - Breton
Summary of Hourly Averages

Relative Humidity (RH) - %
August 2017

Maximum Value: 93.03 % on Aug 31 08:00 Maximum Daily Average: 85.97 % on Aug 4 Minimum Value: 19.6 % on Aug 27 17:00 Minimum Daily Average: 48.41 % on Aug 12 Maximum Diurnal Average: 85.58 % at hour 7 Minimum Diurnal Average: 41.59 % at hour 15 Monthly Average: 66.122 % Percentiles: P ₁ = 22.6 P ₁₀ = 35.9 Q ₁ = 47.5 Median = 71.3 O ₃ = 85.7 P ₉₀ = 91.0 P ₉₉ = 92.9																								Hours in Service:	744																								
																								Hours of Data:	744																								
																								Hours of Missing Data:	0																								
																								Hours of Calibration:	0																								
																								Percent Operational Time:	100.0																								
Day	Hourly Period Ending At																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Aug	87.2	86.1	86.1	85.6	86.9	86.5	85.9	83.3	79.5	76.8	81.3	87.9	85.1	86.4	81.8	76.9	76.1	73.2	70.5	70.4	75.9	87.2	90.1	91.0	82.39	90.98																							
2-Aug	91.2	91.7	92.0	92.2	92.3	92.5	92.5	91.0	77.4	59.8	51.9	50.2	46.2	42.7	39.8	37.3	38.2	37.8	40.4	45.3	63.6	75.3	82.4	87.2	67.12	92.54																							
3-Aug	88.5	89.7	90.2	90.6	90.9	91.6	91.7	86.1	73.0	61.4	50.7	38.7	33.9	33.3	31.5	35.4	35.1	36.9	47.6	56.9	65.9	80.2	85.1	88.3	65.55	91.70																							
4-Aug	90.3	90.6	90.9	91.2	90.9	90.5	91.0	91.3	90.5	90.0	88.3	86.1	83.9	81.7	75.1	71.2	77.3	72.2	82.1	83.6	84.0	88.7	90.4	91.4	85.97	91.37																							
5-Aug	92.0	92.3	92.5	92.7	92.8	92.9	92.8	89.9	82.0	77.0	66.5	60.2	54.9	50.7	53.2	58.3	73.3	85.9	86.1	80.6	85.4	89.6	91.1	92.0	80.20	92.91																							
6-Aug	92.1	92.5	92.5	92.7	92.8	92.9	92.9	92.5	83.4	61.2	48.3	50.8	43.4	42.3	38.6	40.0	37.8	38.3	41.6	62.6	75.0	81.1	87.5	89.5	69.27	92.89																							
7-Aug	90.8	91.3	91.8	91.9	90.7	88.5	88.6	90.5	88.7	82.6	81.0	78.6	74.3	74.3	75.9	70.4	67.7	68.7	73.3	79.7	85.7	85.2	85.2	86.5	82.58	91.91																							
8-Aug	85.8	87.4	84.3	81.0	81.6	80.8	80.8	76.9	72.5	64.8	59.2	55.3	46.1	43.0	53.1	49.9	47.6	44.3	45.5	50.0	65.0	77.3	83.0	83.7	66.63	87.42																							
9-Aug	84.3	86.3	86.1	85.7	86.0	86.5	86.5	73.0	67.4	57.1	51.6	42.9	38.2	38.1	35.4	34.4	44.0	42.6	45.9	61.5	71.7	79.3	85.6	89.4	64.97	89.37																							
10-Aug	90.5	91.3	91.5	92.0	92.2	92.3	92.6	92.5	84.5	66.9	50.1	40.4	40.1	38.9	38.0	37.1	37.4	40.1	40.4	48.0	63.9	61.3	69.4	78.4	65.41	92.56																							
11-Aug	80.8	84.8	86.7	87.5	89.0	90.2	89.9	83.1	67.3	52.7	42.1	36.4	36.9	34.8	34.6	33.6	36.9	41.4	43.6	48.7	62.9	75.4	81.1	84.8	62.71	90.16																							
12-Aug	81.1	76.2	68.0	67.3	64.9	66.4	67.5	60.8	52.2	45.6	40.4	36.2	31.5	28.1	28.1	28.9	27.7	28.4	33.1	41.0	47.6	51.1	48.2	41.3	48.41	81.14																							
13-Aug	43.2	47.7	50.0	52.9	54.5	60.2	63.8	63.2	57.4	52.8	50.5	50.9	55.9	57.9	57.8	57.4	62.6	74.1	75.9	73.8	80.1	86.3	89.1	89.5	62.81	89.54																							
14-Aug	89.7	90.0	90.6	91.3	91.0	89.2	88.3	79.6	68.8	57.2	50.3	45.7	43.0	40.1	38.0	35.9	40.7	50.6	59.6	64.2	68.1	73.7	79.1	78.5	66.81	91.31																							
15-Aug	74.6	74.2	74.7	78.1	77.3	77.1	77.7	68.6	58.3	49.2	42.4	37.2	35.3	32.5	31.2	31.8	29.6	32.2	36.5	54.8	69.8	72.8	78.3	82.7	57.37	82.72																							
16-Aug	86.2	87.6	87.4	85.8	85.0	85.3	86.6	82.3	66.3	56.5	48.4	40.0	30.2	30.3	32.8	44.3	55.8	62.4	63.9	73.3	80.3	84.9	89.2	90.5	68.14	90.48																							
17-Aug	91.2	91.6	91.9	92.1	92.4	92.3	92.6	92.6	91.1	82.6	69.8	46.2	38.4	32.2	30.0	30.0	30.7	32.8	48.1	56.7	63.4	68.8	73.9	80.4	67.15	92.60																							
18-Aug	71.2	67.5	68.0	76.4	75.4	82.6	82.6	80.4	70.9	64.5	46.7	36.5	30.4	24.8	29.5	45.6	49.4	50.7	56.7	56.1	68.5	85.7	90.0	86.8	62.38	89.96																							
19-Aug	84.9	82.7	75.0	76.6	83.0	85.0	86.9	75.0	63.5	53.0	41.1	36.2	33.4	28.8	28.6	25.0	24.4	22.9	25.5	31.5	48.2	59.7	76.3	78.5	55.24	86.90																							
20-Aug	78.6	78.0	82.3	82.4	75.1	79.6	81.5	80.7	76.9	64.8	45.7	43.7	46.6	47.0	46.5	47.6	48.6	54.2	59.8	62.4	76.5	85.3	88.0	89.9	67.56	89.89																							
21-Aug	89.1	87.6	87.4	86.6	86.1	86.9	89.3	83.1	68.0	52.0	46.5	44.7	38.3	36.0	39.6	41.4	43.7	54.1	62.9	71.3	70.2	72.6	76.5	78.5	66.35	89.34																							
22-Aug	80.9	83.2	81.5	82.2	84.6	85.6	86.3	85.5	74.4	63.3	46.9	40.5	37.7	35.5	33.4	31.5	29.9	35.2	40.9	51.6	58.6	67.8	69.9	76.0	60.95	86.33																							
23-Aug	72.3	72.3	73.3	72.8	71.3	70.6	72.3	69.7	66.6	57.6	53.1	49.4	50.6	52.0	51.4	50.4	52.8	57.8	63.6	71.9	75.8	80.9	78.3	68.9	64.82	80.94																							
24-Aug	83.5	85.9	90.1	90.7	91.5	92.0	92.4	92.4	91.5	82.5	71.7	70.7	56.9	45.2	52.7	59.8	54.8	61.9	64.2	69.4	72.9	75.4	79.9	82.9	75.46	92.42																							
25-Aug	81.6	83.0	84.1	86.9	86.7	83.0	75.5	68.7	56.5	39.6	28.1	24.8	22.5	22.6	22.1	22.5	23.9	24.6	26.3	43.2	52.1	64.5	72.0	82.4	53.22	86.92																							
26-Aug	87.7	90.0	91.2	91.8	91.9	92.3	92.0	86.9	65.9	51.0	37.3	30.7	27.7	24.5	23.4	22.2	23.2	23.9	29.6	42.1	56.4	64.5	68.5	71.1	57.74	92.32																							
27-Aug	75.0	74.3	79.1	80.2	78.6	82.1	83.0	75.9	58.9	44.8	31.4	24.9	26.3	24.0	19.8	20.8	19.6	36.4	46.6	59.9	63.9	72.4	80.2	84.9	55.95	84.92																							
28-Aug	84.7	87.2	86.5	81.0	89.3	90.9	91.7	91.7	78.5	64.0	50.2	48.3	45.5	43.0	41.5	41.9	42.8	43.7	49.0	61.9	71.7	79.1	86.3	86.4	68.20	91.72																							
29-Aug	88.3	90.1	90.3	90.3	90.9	91.3	91.7	87.8	61.4	49.6	40.0	37.2	37.6	37.2	34.9	34.7	34.5	36.8	39.1	44.9	45.4	47.2	51.0	57.4	58.72	91.65																							
30-Aug	61.6	65.1	66.6	69.9	72.0	72.1	73.0	72.9	71.5	65.1	60.7	57.3	52.6	48.0	50.4	52.3	49.1	51.5	61.8	72.5	80.0	86.7	90.5	91.8	66.45	91.78																							
31-Aug	92.3	92.6	92.7	92.7	92.9	93.0	93.0	93.0	92.7	78.8	61.9	49.3	42.7	40.5	40.5	42.8	50.1	51.7	59.5	67.9	77.3	82.2	87.9	90.1	73.26	93.03																							
																								82.95	83.57	83.72	84.23	84.53	85.25	85.58	81.96	72.82	62.09	52.70	47.67	44.07	41.82	41.59	42.30	44.03	47.33	52.24	59.92	68.58	75.56	80.13	82.29	Diurnal Average	
																								92.32	92.58	92.74	92.75	92.91	93.01	93.00	93.03	92.73	89.96	88.27	87.86	85.07	86.38	81.77	76.89	77.34	85.92	86.09	83.55	85.69	89.63	91.11	92.03	Diurnal Maximum	



WCAS - Breton
Summary of Hourly Standard Deviations

Wind Speed (WS) - kph
August 2017

Maximum Value: 10.72 kph on Aug 10 21:00		Maximum Daily Average: 4.39 kph on Aug 12		Hours in Service: 744																							
Minimum Value: 0.0 kph on Aug 10 07:00		Minimum Daily Average: 1.75 kph on Aug 16		Hours of Data: 744																							
Maximum Diurnal Average: 4.02 kph at hour 14		Minimum Diurnal Average: 1.55 kph at hour 6		Hours of Missing Data: 0																							
Monthly Average: 2.584 kph		Percentiles: P ₁ = 0.4 P ₁₀ = 1.1 Q ₁ = 1.4 Median = 2.2 Q ₃ = 3.4 P ₉₀ = 4.6 P ₉₉ = 7.6		Hours of Calibration: 0																							
				Percent Operational Time: 100.0																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Aug	1.3	1.2	1.5	1.6	1.5	1.3	2.7	2.9	2.4	3.7	3.6	2.6	4.0	2.0	1.9	2.2	2.3	2.0	2.4	1.9	1.2	1.0	1.2	1.3	2.07	4.00	
2-Aug	1.2	1.5	1.3	1.6	1.2	1.2	1.0	1.3	1.5	3.3	3.9	3.9	3.7	4.7	4.4	4.6	4.6	3.8	2.9	2.2	0.9	1.3	1.7	1.6	2.47	4.66	
3-Aug	1.7	1.2	1.3	1.2	1.1	1.3	1.5	2.0	1.4	2.0	3.1	3.3	3.8	3.2	3.3	5.7	3.6	3.3	3.4	2.0	2.6	4.8	6.0	1.7	2.69	6.02	
4-Aug	2.3	2.4	1.9	1.4	1.5	1.5	2.5	2.3	2.2	2.9	2.9	4.0	3.1	2.9	4.5	4.7	3.0	3.3	1.6	1.5	1.6	1.1	0.9	1.0	2.37	4.72	
5-Aug	1.4	0.9	0.8	1.5	1.4	0.8	1.1	1.6	2.0	2.4	2.5	3.0	3.8	4.3	4.6	4.5	8.0	1.5	2.0	1.9	1.7	1.2	1.0	1.5	2.31	8.04	
6-Aug	1.5	1.4	1.6	1.2	1.0	1.3	1.5	1.7	1.0	2.1	2.9	2.4	3.1	4.0	3.0	3.1	3.2	2.4	1.9	1.0	2.3	1.2	1.7	1.8	2.01	3.98	
7-Aug	1.7	2.2	2.0	2.1	5.1	2.6	3.4	3.6	3.5	2.4	2.8	2.4	2.8	2.2	2.3	2.5	3.6	2.4	3.5	2.9	1.5	1.4	1.6	1.2	2.58	5.12	
8-Aug	2.0	2.1	2.4	1.9	2.2	2.1	1.5	1.4	2.7	1.9	2.2	2.6	2.5	3.2	3.6	3.4	3.4	3.0	2.5	1.9	1.7	1.9	1.4	1.8	2.30	3.58	
9-Aug	2.1	1.6	1.5	1.5	1.3	1.8	2.3	1.3	2.0	1.9	2.6	4.7	4.8	4.3	4.4	0.0	2.9	2.7	1.2	1.4	0.6	2.5	1.4	0.7	2.15	4.81	
10-Aug	0.8	1.1	0.9	1.3	0.0	0.4	0.0	0.5	2.2	2.1	2.2	2.8	4.0	4.9	4.0	3.6	4.2	2.9	3.1	1.6	10.7	7.1	1.4	1.7	2.65	10.72	
11-Aug	1.2	1.3	1.4	1.1	1.9	1.6	0.9	1.2	1.1	3.1	3.1	3.8	4.1	4.8	5.3	3.8	4.0	3.8	3.2	2.2	1.6	1.6	1.7	2.1	2.50	5.29	
12-Aug	2.7	3.8	3.4	3.1	2.7	3.0	2.8	3.5	5.2	4.8	6.3	6.6	7.6	7.5	6.7	5.9	6.2	5.6	4.9	2.8	2.6	2.2	2.3	3.3	4.39	7.58	
13-Aug	3.8	3.2	3.4	3.3	2.7	2.8	3.2	1.6	2.4	2.4	3.3	3.7	3.5	2.8	3.1	3.8	5.4	5.2	4.4	7.8	2.6	2.1	1.7	2.5	3.36	7.78	
14-Aug	2.0	1.2	1.2	1.3	1.9	1.3	1.9	3.0	2.6	3.3	4.2	3.9	4.3	4.6	3.6	3.0	4.4	4.7	1.9	1.8	1.4	1.1	0.3	1.3	2.50	4.69	
15-Aug	1.7	1.5	1.2	1.8	0.7	0.8	1.1	2.9	3.2	3.6	4.4	5.2	4.9	4.5	4.6	4.2	4.9	4.0	2.7	1.6	1.7	1.3	1.0	1.3	2.70	5.22	
16-Aug	1.3	1.5	1.3	1.1	1.4	1.2	1.1	1.5	2.4	2.1	3.0	2.9	3.5	3.4	3.3	3.0	1.7	1.3	0.9	0.0	1.2	0.9	0.8	1.3	1.75	3.50	
17-Aug	0.9	0.3	0.9	1.7	1.3	1.4	1.1	1.1	1.7	2.1	2.2	2.6	3.5	3.8	4.1	4.4	3.6	1.9	1.6	0.9	1.2	1.4	1.4	1.4	1.94	4.40	
18-Aug	1.4	1.9	1.5	1.4	1.6	1.2	1.0	1.6	2.1	1.9	4.7	3.7	3.4	4.3	7.0	5.2	4.8	4.7	2.9	5.0	7.7	8.0	2.0	2.0	3.38	8.02	
19-Aug	2.6	4.6	2.7	1.5	1.9	0.4	0.6	1.9	4.3	5.3	5.6	6.7	6.6	6.7	5.2	5.7	4.8	4.2	3.0	3.2	1.5	1.7	0.8	2.0	3.48	6.73	
20-Aug	1.5	1.2	1.5	1.2	1.6	1.3	1.3	1.1	1.2	0.9	4.7	4.5	5.0	5.0	4.2	3.1	2.6	2.1	1.3	1.0	0.9	0.8	1.3	1.3	2.11	5.01	
21-Aug	1.5	1.5	1.0	1.1	0.7	1.3	1.3	1.8	1.4	3.8	2.5	3.3	3.7	3.9	3.0	3.1	2.7	1.5	1.0	1.6	0.7	0.9	1.4	1.5	1.93	3.90	
22-Aug	1.3	1.4	1.4	1.7	1.1	0.9	1.2	1.1	1.6	2.1	2.6	3.3	3.5	4.1	3.7	2.3	3.7	3.5	3.8	1.6	1.8	1.8	2.4	2.2	2.25	4.14	
23-Aug	2.6	2.8	2.3	2.5	2.4	3.0	2.5	2.8	4.6	1.8	1.9	2.4	1.8	2.2	2.4	2.9	3.0	2.6	2.4	4.8	4.6	4.7	5.1	5.5	3.07	5.48	
24-Aug	3.6	1.9	2.6	1.9	1.1	3.2	2.9	1.9	1.7	2.3	1.8	2.1	2.4	3.4	2.5	9.3	10.5	7.1	5.0	4.1	3.9	1.7	0.8	1.8	3.31	10.53	
25-Aug	1.8	1.2	1.7	1.4	1.7	1.2	2.0	2.7	2.7	3.3	3.6	3.6	4.4	4.5	5.1	3.6	3.3	1.8	1.1	1.5	1.3	1.4	1.9	1.6	2.44	5.15	
26-Aug	0.7	0.8	1.1	1.5	1.2	1.0	1.2	1.3	1.7	3.4	4.2	4.1	4.1	3.5	3.9	3.3	2.9	2.4	2.6	1.5	2.6	1.2	1.8	1.3	2.22	4.15	
27-Aug	1.5	1.0	1.4	1.3	1.5	1.4	1.6	1.2	1.3	1.5	2.5	3.4	2.7	4.1	3.5	3.6	0.5	2.5	1.4	4.8	2.0	0.9	1.3	1.7	2.03	4.79	
28-Aug	2.0	1.5	3.7	2.8	1.3	0.5	1.4	2.4	1.9	2.1	3.5	3.4	3.3	3.8	3.6	4.4	3.8	2.5	1.8	0.9	3.1	0.6	1.5	2.4	2.43	4.43	
29-Aug	1.0	1.7	1.3	1.3	1.4	1.4	1.3	2.0	2.6	5.1	6.3	5.1	5.5	6.5	5.7	6.0	4.9	4.4	3.6	2.7	3.0	4.3	3.2	2.7	3.46	6.50	
30-Aug	3.5	2.4	4.0	3.2	3.1	2.9	2.8	2.1	1.5	1.3	1.2	2.0	2.2	1.9	4.1	2.4	3.0	2.6	2.9	2.9	2.3	1.6	1.8	2.4	2.51	4.07	
31-Aug	3.1	2.1	2.6	2.5	1.6	1.9	1.8	1.6	2.6	3.1	2.9	3.6	4.6	3.7	3.5	3.6	5.1	6.6	2.0	1.4	1.6	1.5	1.2	1.4	2.74	6.63	
		1.86	1.76	1.83	1.74	1.65	1.55	1.69	1.90	2.28	2.72	3.33	3.60	3.88	4.02	4.00	3.90	4.02	3.30	2.54	2.34	2.39	2.11	1.74	1.84	Diurnal Average	
		3.79	4.56	4.00	3.34	5.12	3.24	3.44	3.58	5.17	5.32	6.32	6.73	7.58	7.53	6.97	9.32	10.53	7.08	5.04	7.78	10.72	8.02	6.02	5.48	Diurnal Maximum	



WCAS - Breton
Summary of Hourly Standard Deviations

Wind Direction (WD) - deg
August 2017

Maximum Value: 99.25 deg on Aug 28 22:00 Maximum Daily Average: 60.49 deg on Aug 24 Minimum Value: 6.3 deg on Aug 28 20:00 Minimum Daily Average: 19.36 deg on Aug 13 Maximum Diurnal Average: 42.68 deg at hour 22 Minimum Diurnal Average: 22.71 deg at hour 19 Monthly Average: 35.122 deg Percentiles: P ₁ = 10.7 P ₁₀ = 15.4 Q ₁ = 19.1 Median = 28.1 Q ₃ = 45.7 P ₉₀ = 70.2 P ₉₉ = 89.6																								Hours in Service:	744																								
																								Hours of Data:	744																								
																								Hours of Missing Data:	0																								
																								Hours of Calibration:	0																								
																								Percent Operational Time:	100.0																								
Day	Hourly Period Ending At																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Aug	17.3	18.1	16.4	31.7	25.3	48.8	77.7	69.0	87.4	16.6	13.3	18.8	31.2	14.2	16.6	23.5	17.0	22.3	17.1	20.8	24.5	49.7	31.8	19.6	30.37	87.42																							
2-Aug	19.9	34.0	24.2	17.2	17.6	21.0	28.1	15.6	46.1	31.0	38.6	56.0	40.7	38.3	29.4	35.0	35.0	27.8	14.9	24.3	57.9	25.6	29.7	31.7	30.81	57.87																							
3-Aug	31.5	24.0	21.8	16.6	20.2	19.3	23.6	22.6	25.3	68.1	61.9	39.3	72.5	59.9	78.9	47.9	33.6	21.3	14.8	12.3	19.6	49.0	23.0	75.6	36.78	78.91																							
4-Aug	20.5	37.5	15.5	18.5	27.1	13.7	14.3	11.9	13.6	12.0	12.9	14.9	17.2	15.8	18.4	18.7	17.6	14.3	16.5	20.7	26.0	19.7	75.9	73.5	22.78	75.94																							
5-Aug	69.0	86.8	63.0	34.1	27.2	37.3	63.4	30.6	39.3	50.0	46.0	50.7	58.7	38.4	72.9	27.1	39.1	75.6	23.9	25.1	58.8	26.8	32.7	23.1	45.81	86.83																							
6-Aug	23.0	19.2	55.8	22.1	22.8	27.5	18.4	36.1	56.5	34.6	61.5	38.7	67.6	72.7	72.1	37.0	40.6	29.3	14.9	12.0	59.0	21.2	30.2	54.3	38.63	72.66																							
7-Aug	33.6	68.6	40.8	77.5	13.7	15.2	87.8	11.5	16.1	14.7	17.8	16.0	15.8	15.6	12.1	38.3	34.1	18.1	12.6	12.3	17.7	10.7	10.2	12.2	25.95	87.79																							
8-Aug	11.9	19.2	33.1	79.3	35.5	64.2	78.0	47.1	85.1	72.1	89.8	83.9	89.6	82.3	35.1	33.3	37.7	38.5	18.0	22.5	34.1	34.5	11.3	16.7	48.03	89.76																							
9-Aug	19.8	23.2	21.8	18.3	15.8	61.3	43.8	54.8	35.0	73.6	86.4	35.8	39.1	59.9	49.2	74.0	45.4	35.1	17.0	13.6	9.0	58.9	72.6	59.0	42.60	86.44																							
10-Aug	19.1	50.8	81.8	64.8	75.0	45.7	27.8	45.6	29.3	34.3	30.7	64.0	47.8	47.3	33.8	20.3	25.2	20.1	11.8	10.0	13.2	36.3	35.9	40.6	37.96	81.76																							
11-Aug	21.6	22.2	18.1	23.2	53.7	45.2	68.8	32.1	55.0	81.9	29.0	39.7	21.7	43.6	38.2	37.8	36.6	35.3	30.2	33.5	25.8	25.7	31.1	29.7	36.65	81.92																							
12-Aug	27.7	20.5	18.4	21.8	34.7	29.2	24.3	32.8	18.4	16.4	19.6	18.7	17.3	16.8	15.3	14.3	14.9	14.5	25.7	25.7	19.5	16.2	13.6	19.9	20.68	34.71																							
13-Aug	14.7	13.3	14.2	14.2	15.9	20.4	22.9	16.4	12.5	15.0	25.0	53.1	18.1	16.3	20.5	24.0	17.1	15.4	14.5	14.8	33.6	27.2	12.4	13.1	19.36	53.14																							
14-Aug	10.5	24.4	63.6	51.3	28.8	25.8	58.9	28.1	17.6	17.6	16.6	19.1	24.6	29.1	29.5	25.9	27.7	16.0	22.4	15.4	27.7	30.2	48.6	34.2	28.90	63.60																							
15-Aug	12.2	14.3	14.3	24.7	11.8	11.7	29.5	23.3	17.4	18.9	21.9	20.2	21.4	20.7	20.6	23.5	20.6	15.0	28.1	79.6	60.5	40.5	21.3	17.9	24.58	79.59																							
16-Aug	18.8	18.4	20.2	17.6	17.3	18.1	23.0	33.1	27.5	28.1	53.2	31.4	27.8	20.1	21.0	17.2	38.5	22.8	46.9	65.4	23.0	90.7	90.1	50.9	34.21	90.71																							
17-Aug	68.9	90.8	65.9	29.1	35.3	33.8	41.3	40.5	67.0	77.8	38.7	48.2	26.5	33.8	42.7	36.2	35.0	24.2	33.4	17.3	19.8	20.9	24.8	17.2	40.38	90.81																							
18-Aug	18.6	20.9	28.1	23.3	23.8	21.0	18.1	14.8	18.9	17.1	18.9	22.0	22.5	32.8	26.6	12.8	11.6	15.4	17.4	16.2	22.9	24.3	41.8	31.1	21.70	41.84																							
19-Aug	26.8	38.2	26.9	50.9	42.2	82.0	85.3	46.0	18.4	17.4	16.6	19.7	18.4	21.0	19.6	21.0	20.4	17.5	13.8	11.0	45.4	67.3	60.9	47.3	34.75	85.31																							
20-Aug	28.7	32.9	54.6	39.0	50.8	36.0	19.3	31.6	14.5	59.1	37.8	18.1	18.7	19.9	20.3	25.2	20.7	17.7	17.4	13.6	16.9	58.2	46.3	36.7	30.59	59.13																							
21-Aug	19.0	31.8	16.6	18.4	20.2	44.4	30.6	25.7	28.4	32.3	20.7	19.1	30.9	38.5	22.5	28.9	17.3	25.6	87.1	47.2	55.6	54.0	22.6	25.1	31.77	87.10																							
22-Aug	24.9	55.4	36.9	31.3	28.4	28.2	43.5	26.8	31.4	43.0	46.2	54.9	60.3	69.0	83.6	74.1	61.5	21.9	26.8	21.5	23.0	31.4	23.7	21.5	40.38	83.59																							
23-Aug	31.6	26.3	25.6	34.2	41.2	22.5	12.5	13.0	77.5	27.1	28.4	38.8	21.9	18.2	21.8	19.9	18.8	16.6	26.2	71.9	71.5	63.9	47.4	65.3	35.09	77.51																							
24-Aug	62.9	85.5	88.8	82.6	64.4	83.8	96.3	92.3	95.8	80.9	74.0	62.1	41.6	77.8	65.6	72.4	31.9	18.0	14.8	25.9	31.4	35.7	41.8	25.3	60.49	96.28																							
25-Aug	40.7	39.5	46.0	23.4	30.1	16.7	33.7	41.3	37.5	19.3	24.9	30.3	42.9	71.1	65.4	43.9	26.2	25.9	22.0	29.0	40.7	68.6	84.7	53.6	39.89	84.72																							
26-Aug	84.1	84.6	35.1	28.7	18.5	16.2	18.9	20.7	17.4	38.0	21.9	26.4	28.8	35.0	42.1	68.1	73.8	35.4	22.1	15.6	22.2	17.4	21.9	22.2	33.96	84.56																							
27-Aug	21.0	20.6	29.8	19.2	16.8	24.2	48.4	19.1	39.1	45.8	42.4	57.6	64.6	70.5	74.5	94.5	54.8	7.8	11.6	48.8	83.2	58.3	77.7	55.9	45.26	94.49																							
28-Aug	75.7	33.1	22.8	33.6	35.5	24.5	27.0	22.7	19.2	43.2	55.9	32.6	58.3	70.6	72.5	35.4	28.4	15.0	10.6	6.3	52.1	99.3	57.4	69.0	41.70	99.25																							
29-Aug	58.7	20.5	28.5	32.4	41.4	25.6	34.5	48.1	35.6	26.1	27.6	37.2	33.5	29.8	37.7	29.9	29.1	28.1	30.9	26.0	27.7	29.1	23.8	22.8	31.86	58.69																							
30-Aug	15.8	40.9	18.7	11.2	13.6	13.2	16.2	25.3	18.4	87.5	92.1	43.5	50.0	39.9	38.0	17.0	29.7	16.4	15.6	41.4	73.4	76.5	90.1	54.1	39.11	92.10																							
31-Aug	21.3	22.7	41.3	82.9	64.7	82.4	63.0	50.8	52.3	14.1	17.5	18.5	18.6	18.3	20.0	16.9	14.9	19.2	25.1	27.8	50.1	55.2	83.3	25.4	37.77	83.26																							
																								31.28	36.71	35.12	34.61	31.26	34.17	41.25	33.21	37.21	39.15	38.32	36.45	37.05	39.90	39.24	35.29	30.80	23.41	22.71	26.69	36.97	42.68	42.54	36.91	Diurnal Average	
																								84.09	90.81	88.84	82.88	74.98	83.81	96.28	92.34	95.76	87.48	92.10	83.90	89.62	82.30	83.59	94.49	73.81	75.55	87.10	79.59	83.17	99.25	90.12	75.58	Diurnal Maximum	

**HINTON WEST
STATION #915**

CONTINUOUS AIR MONITORING DATA

AUGUST 2017

Summary Report

Continuous air quality/meteorological monitoring measurements

West Central Airshed Society

WCAS / Hinton West Station 915													August 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		
H ₂ S (ppb)	32	639	90.2	0.6	0.0	13.0	0.0	0.0	0.0	0.4	1.5	4	0	0.002	
SO ₂ (ppb)	32	639	90.2	0.5	0.0	9.4	0.0	0.1	0.3	0.6	1.2	0	-	0.002	
O ₃ (ppb)	32	639	90.2	19.4	0.2	50.7	1.9	7.3	19.0	31.9	36.6	0	0	0.032	
NO (ppb)	33	638	90.2	4.5	0.0	52.8	0.2	0.5	1.0	3.5	15.1	-	-	-	
NO ₂ (ppb)	33	638	90.2	6.1	0.8	31.0	1.7	2.8	5.1	8.5	12.0	0	0	0.010	
NO _x (ppb)	33	638	90.2	10.6	1.0	62.0	2.3	3.6	6.6	12.9	24.9	-	-	-	
Particulate Matter 2.5 microns (µm ³)	0	672	90.3	17.3	0.0	210.6	3.0	6.1	9.7	17.4	45.8	11	5	62.01 ug/m3	
Wind Speed (kph)	0	673	90.5	4.4	0.0	17.6	0.6	1.1	2.8	6.8	11.2	-	-	-	
Temperature (°C)	0	673	90.5	15.4	2.6	28.5	8.6	10.9	14.7	19.8	23.5	-	-	-	
Relative Humidity (%)	0	673	90.5	63.5	20.3	96.4	29.9	43.2	67.6	84.5	91.8	-	-	-	
Std Dev Wind Direction (deg)	0	673	90.5	47.6	11.0	102.1	19.9	23.6	43.1	68.2	85.1	-	-	-	
Std Dev Wind Speed (kph)	0	673	90.5	2.4	0.1	6.9	1.0	1.3	1.8	3.2	4.6	-	-	-	



WCAS - Hinton West
Summary of Hourly Averages

Sulphur Dioxide (SO₂) - ppb
August 2017

Maximum Value: 9.42 ppb on Aug 22 15:00																	Maximum Daily Average: 1.63 ppb on Aug 5																	Hours in Service: 744	
Minimum Value: 0.0 ppb on Aug 10 09:00																	Minimum Daily Average: 0.07 ppb on Aug 19																	Hours of Data: 639	
Maximum Diurnal Average: 1.45 ppb at hour 15																	Minimum Diurnal Average: 0.10 ppb at hour 24																	Hours of Missing Data: 105	
Monthly Average: 0.549 ppb																	Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 0.3 Q ₃ = 0.6 P ₉₀ = 1.2 P ₉₉ = 5.8																	Hours of Calibration: 32	
																																		Percent Operational Time: 90.2	
Day	Hourly Period Ending At																								Daily Average	Daily Maximum									
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24											
1-Aug	0.5	0.2	0.3	0.3	Z	1.7	0.5	0.3	0.2	0.1	0.1	0.1	0.4	0.1	0.9	0.2	0.3	1.0	1.1	0.1	0.1	0.2	0.2	0.2	0.39	1.75									
2-Aug	0.2	0.2	0.4	0.5	Z	1.2	1.7	1.9	1.5	1.0	3.7	5.2	2.1	0.7	5.3	1.6	2.9	0.8	0.4	0.3	0.3	0.3	0.4	0.4	1.43	5.30									
3-Aug	0.3	0.3	0.3	0.6	Z	1.1	1.3	0.7	0.6	0.5	0.5	0.6	5.2	9.3	3.2	0.7	0.8	0.9	0.7	0.6	0.3	0.3	0.2	0.2	1.27	9.30									
4-Aug	0.2	0.2	0.2	0.2	Z	0.3	0.4	0.4	0.3	0.4	0.4	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.22	0.39									
5-Aug	0.3	0.4	0.3	0.3	Z	0.5	0.5	0.5	0.4	0.2	5.3	1.9	3.4	5.2	8.0	2.8	2.7	2.9	0.3	0.3	0.4	0.3	0.3	0.2	1.63	8.03									
6-Aug	0.3	0.3	0.2	0.2	Z	0.4	0.5	0.5	0.2	0.2	0.2	2.1	4.1	7.2	5.7	0.8	0.6	0.4	PF	PF	PF	PF	PF	PF	--	7.16									
7-Aug	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	--	--									
8-Aug	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	--	0.53									
9-Aug	0.3	0.4	0.4	0.7	Z	1.3	M	M	0.5	0.5	1.0	1.8	1.4	1.5	0.5	0.2	0.1	0.2	0.2	0.4	0.5	0.4	0.3	0.1	0.61	1.85									
10-Aug	0.1	0.2	0.3	0.3	Z	0.8	1.0	0.8	0.0	C	C	C	C	0.6	0.9	1.1	1.6	0.6	0.4	0.3	0.3	0.0	0.1	0.0	0.50	1.63									
11-Aug	0.0	0.0	0.0	0.0	Z	0.4	1.1	1.8	1.0	1.2	6.2	5.9	0.8	0.6	0.8	0.8	0.8	0.9	1.0	0.8	0.5	0.6	0.4	0.2	1.12	6.21									
12-Aug	0.1	0.0	0.0	0.0	Z	0.4	0.6	0.4	0.4	0.7	0.4	0.6	0.5	0.6	0.6	0.5	0.6	0.6	0.6	0.3	0.2	0.1	0.0	0.0	0.37	0.66									
13-Aug	0.1	0.1	0.1	0.1	Z	0.4	0.7	0.7	0.6	0.5	0.9	1.0	0.9	0.3	0.3	0.5	0.3	0.3	0.2	0.3	0.3	0.4	0.4	0.3	0.42	1.02									
14-Aug	0.3	0.3	0.2	0.2	Z	0.3	0.4	0.4	0.4	0.2	0.2	0.2	0.3	0.3	0.4	0.4	0.3	0.2	0.1	0.0	0.0	0.1	0.1	0.1	0.23	0.42									
15-Aug	0.0	0.3	0.0	0.0	Z	1.4	1.5	1.4	0.4	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.0	0.28	1.48									
16-Aug	0.0	0.2	0.0	0.1	Z	0.5	1.3	0.9	0.8	0.8	0.3	0.2	0.3	0.2	0.2	0.2	0.2	0.1	0.3	0.3	0.1	0.0	0.0	0.0	0.31	1.31									
17-Aug	0.0	0.0	0.1	0.0	Z	0.8	1.5	1.4	0.7	0.1	0.0	0.2	0.2	0.3	0.3	0.3	0.3	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.29	1.50									
18-Aug	0.0	0.1	0.0	0.0	Z	0.4	0.5	0.6	0.8	1.0	0.9	0.3	0.2	0.2	0.6	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.25	0.97									
19-Aug	0.1	0.0	0.0	0.0	Z	0.0	0.1	0.4	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.07	0.36									
20-Aug	0.0	0.0	0.0	0.0	Z	0.1	0.5	0.4	0.5	0.4	0.3	6.6	2.4	0.7	0.3	0.2	0.2	0.1	0.2	0.2	0.1	0.0	0.0	0.0	0.58	6.64									
21-Aug	0.2	0.0	0.0	0.3	Z	0.5	0.7	1.1	0.5	0.3	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	0.17	1.07									
22-Aug	0.0	0.0	0.1	0.0	Z	1.6	1.8	1.1	0.6	0.1	0.8	5.0	1.0	3.3	9.4	0.9	0.2	0.2	0.3	0.3	0.5	0.2	0.0	0.0	1.20	9.42									
23-Aug	0.0	0.1	0.1	0.2	Z	1.4	1.8	0.8	0.6	0.5	0.3	0.4	2.1	0.7	0.4	0.3	0.7	0.4	0.3	0.3	0.1	0.0	0.1	0.0	0.50	2.09									
24-Aug	0.0	0.0	0.2	0.2	Z	0.3	0.9	0.6	0.5	0.5	0.4	1.1	0.2	0.2	0.0	0.0	0.0	0.1	0.5	0.0	0.0	0.0	0.0	0.0	0.25	1.06									
25-Aug	0.0	0.0	0.0	0.0	Z	0.0	0.4	0.3	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.07	0.38									
26-Aug	0.0	0.0	0.1	0.0	Z	0.4	0.4	0.3	0.2	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.2	0.11	0.42									
27-Aug	0.1	0.1	0.2	0.1	Z	0.3	0.5	0.8	1.0	0.5	0.7	0.3	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.27	0.99									
28-Aug	0.0	0.1	0.0	0.0	Z	0.5	1.1	1.3	0.5	1.4	2.6	1.9	1.6	0.8	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	--	2.63									
29-Aug	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	0.2	0.6	0.8	1.0	1.1	1.2	1.8	1.2	1.1	0.7	0.4	0.2	0.1	0.0	--	1.78									
30-Aug	0.0	0.0	0.0	0.0	Z	0.5	1.1	1.4	1.1	0.2	0.0	0.0	0.0	0.0	0.7	1.1	1.8	1.2	0.7	0.4	0.1	0.0	0.0	0.0	0.46	1.85									
31-Aug	0.0	0.1	0.0	0.0	Z	0.5	0.5	0.9	0.9	0.6	0.8	0.2	0.1	0.2	0.0	0.0	0.0	0.0	0.9	2.1	0.0	0.0	0.0	0.0	0.34	2.10									
																								Diurnal Average											
																								Diurnal Maximum											
0.11 0.12 0.12 0.15 -- 0.65 0.86 0.82 0.56 0.45 0.95 1.31 1.03 1.20 1.45 0.53 0.61 0.46 0.37 0.30 0.17 0.14 0.12 0.10																																			
0.46 0.39 0.43 0.67 -- 1.75 1.83 1.87 1.55 1.35 6.21 6.64 5.22 9.30 9.42 2.83 2.86 2.88 1.14 2.10 0.50 0.61 0.53 0.38																																			
Z - zerospan C - Calibration M - Maintenance PF - Power Failure																																			
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb																																			



WCAS - Hinton West
Summary of Hourly Averages

Ozone (O₃) - ppb
August 2017

Maximum Value: 50.73 ppb on Aug 11 18:00																								Hours in Service: 744			
Maximum Daily Average: 32.28 ppb on Aug 11																								Hours of Data: 639			
Minimum Value: 0.2 ppb on Aug 30 06:00																								Hours of Missing Data: 105			
Minimum Daily Average: 12.40 ppb on Aug 21																								Hours of Calibration: 32			
Maximum Diurnal Average: 32.58 ppb at hour 17																								Percent Operational Time: 90.2			
Minimum Diurnal Average: 2.84 ppb at hour 7																											
Monthly Average: 19.430 ppb																											
Percentiles: P ₁ = 0.5 P ₁₀ = 1.9 Q ₁ = 7.3 Median = 19.0 Q ₃ = 31.9 P ₉₀ = 36.6 P ₉₉ = 46.0																											
Day	Hourly Period Ending At																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Aug	11.1	12.3	8.9	7.1	Z	12.0	14.1	12.9	11.4	10.5	9.6	13.2	16.0	19.1	22.6	24.6	25.8	26.7	25.4	24.6	16.7	8.8	5.9	3.1	14.90	26.69	
2-Aug	3.2	2.3	0.5	0.6	Z	0.5	1.0	1.9	5.0	13.3	26.2	28.5	31.2	29.9	33.2	35.3	34.8	33.2	32.3	32.8	28.7	25.9	20.9	15.1	18.98	35.32	
3-Aug	11.1	9.1	5.6	1.7	Z	0.8	2.7	10.1	15.6	21.5	28.3	32.6	38.0	36.1	33.4	30.7	31.4	29.2	31.4	29.8	24.0	22.2	27.8	23.9	21.61	37.99	
4-Aug	13.1	11.2	17.7	14.0	Z	12.4	7.5	6.0	10.5	8.2	9.8	16.1	17.4	15.1	19.0	22.3	22.6	22.6	23.4	21.0	18.4	13.6	8.2	5.4	14.58	23.40	
5-Aug	1.9	3.8	4.2	3.8	Z	1.7	2.0	3.3	5.8	13.7	22.6	31.6	34.3	38.1	34.1	35.0	35.0	35.2	35.7	33.7	26.9	19.3	24.0	21.1	20.29	38.07	
6-Aug	12.8	8.2	5.0	4.8	Z	1.3	2.0	4.3	11.3	17.1	23.6	31.5	35.1	36.7	35.8	35.0	34.3	33.7	PF	PF	PF	PF	PF	PF	--	36.75	
7-Aug	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	--	--	
8-Aug	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	--	24.38	
9-Aug	8.6	4.1	3.8	0.5	Z	0.5	M	M	11.8	15.6	26.5	38.7	38.8	38.6	38.3	37.5	38.7	37.6	40.6	36.3	17.3	12.3	9.9	11.5	22.26	40.65	
10-Aug	9.9	7.6	5.8	4.1	Z	0.5	1.4	3.8	12.3	19.5	34.7	42.7	C	C	C	C	46.7	45.4	41.2	40.1	40.5	31.7	28.0	23.5	23.13	46.72	
11-Aug	17.7	13.3	8.8	7.6	Z	1.1	1.8	3.0	15.1	37.2	44.2	46.1	44.6	44.5	46.4	47.5	47.7	50.7	50.5	47.7	43.0	41.8	42.3	39.5	32.28	50.73	
12-Aug	36.3	30.3	19.9	14.0	Z	1.2	1.2	1.8	1.4	3.8	9.7	13.1	18.7	21.8	19.0	19.2	24.6	27.9	28.7	26.3	20.4	17.5	13.4	12.2	16.61	36.27	
13-Aug	6.8	3.4	3.6	1.1	Z	2.6	0.4	0.9	3.6	7.6	22.2	25.5	36.4	28.4	25.9	31.9	24.9	26.2	24.7	22.7	20.2	17.3	9.3	12.5	15.57	36.37	
14-Aug	13.6	14.5	13.3	12.3	Z	4.3	6.0	2.7	6.6	13.6	20.2	26.3	29.8	28.0	27.9	25.6	26.1	25.7	23.5	21.2	12.3	8.6	5.4	5.1	16.21	29.80	
15-Aug	3.5	1.0	2.2	1.9	Z	0.8	1.0	3.2	8.1	16.1	26.2	33.6	33.7	33.4	35.1	36.0	36.5	34.8	33.7	20.6	12.6	10.3	8.4	9.8	17.51	36.55	
16-Aug	3.2	3.1	7.5	2.5	Z	1.0	0.9	2.2	7.2	12.2	24.4	31.8	33.0	34.1	34.4	34.5	34.4	33.4	33.4	24.4	20.4	17.4	17.3	14.8	9.3	17.54	34.48
17-Aug	11.0	10.0	3.9	7.6	Z	0.8	1.0	1.8	7.6	15.8	26.3	38.9	41.0	43.3	44.5	43.2	42.3	42.9	41.0	37.4	33.2	33.5	22.2	18.9	24.70	44.54	
18-Aug	13.8	6.0	8.9	6.5	Z	2.0	2.4	3.2	4.2	15.3	34.5	32.7	32.6	33.1	27.5	19.7	13.5	12.8	22.1	22.6	21.4	23.5	16.4	9.2	16.69	34.48	
19-Aug	5.2	7.9	6.1	13.8	Z	13.4	9.3	10.8	17.5	31.9	36.2	36.6	36.7	35.9	34.9	35.6	34.7	32.2	29.6	26.6	15.0	12.9	10.8	10.2	21.90	36.74	
20-Aug	7.5	8.3	8.3	4.6	Z	1.4	1.0	1.3	2.8	3.9	15.2	29.0	31.5	32.3	24.9	24.5	15.4	16.2	7.5	5.4	10.4	13.9	11.7	8.9	12.43	32.27	
21-Aug	3.6	2.6	0.9	0.9	Z	1.1	1.0	2.3	5.8	11.1	18.1	18.5	20.8	22.4	22.6	21.6	21.9	21.9	21.4	20.1	18.4	15.6	6.0	6.6	12.40	22.60	
22-Aug	1.9	1.1	0.5	0.3	Z	0.8	0.6	1.5	3.3	9.8	16.0	23.9	27.3	27.0	30.2	26.1	23.4	21.8	19.8	16.1	19.0	14.0	8.8	8.6	13.12	30.17	
23-Aug	4.9	3.6	1.8	1.6	Z	0.4	1.0	6.3	2.2	4.2	9.0	19.2	31.4	32.6	33.2	36.1	39.5	32.0	28.2	23.0	20.4	14.2	6.7	9.0	15.67	39.47	
24-Aug	8.1	3.5	1.4	0.8	Z	2.1	0.7	3.4	12.0	22.8	30.6	35.7	38.1	33.5	32.5	32.2	34.2	31.6	29.8	30.4	23.4	29.0	27.9	18.8	20.98	38.09	
25-Aug	30.0	27.8	32.7	32.3	Z	29.8	10.4	21.4	31.8	32.6	33.3	33.3	33.9	34.5	34.3	34.4	34.6	34.7	34.7	34.0	33.8	33.4	32.4	30.9	31.35	34.75	
26-Aug	20.9	10.9	6.4	3.6	Z	1.3	3.0	8.1	23.3	29.8	33.2	35.3	36.3	36.0	36.8	37.2	37.0	37.4	35.9	34.2	31.6	19.0	14.8	9.0	23.52	37.36	
27-Aug	5.5	7.3	2.7	3.8	Z	1.1	1.4	2.5	4.2	22.9	36.2	34.6	34.3	34.6	33.4	31.9	31.4	31.1	31.6	30.6	20.8	13.7	9.7	7.4	18.81	36.18	
28-Aug	7.3	3.9	3.6	2.5	Z	0.4	1.2	2.1	9.7	22.2	25.6	26.3	28.3	29.2	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	--	29.22	
29-Aug	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	20.2	26.4	31.6	35.9	37.6	39.1	41.1	40.4	41.0	39.5	30.1	31.2	29.6	25.8	--	41.11	
30-Aug	26.2	15.9	7.8	4.7	Z	0.2	0.3	0.6	1.7	6.7	12.4	14.4	17.2	24.3	33.2	34.0	39.1	36.3	24.1	19.4	7.9	8.5	8.8	10.8	15.42	39.10	
31-Aug	9.5	4.4	6.9	5.6	Z	1.3	1.3	1.5	3.7	17.6	31.2	40.1	42.3	42.0	37.2	36.6	40.8	31.7	36.3	37.2	38.3	26.8	23.5	22.2	23.39	42.31	
11.00 8.49 7.10 5.88 -- 3.46 2.84 4.56 9.13 16.29 24.34 29.52 31.79 32.16 32.15 32.13 32.58 31.62 30.32 27.91 23.04 20.01 16.41 14.23																								Diurnal Average			
36.27 30.30 32.73 32.32 -- 29.79 14.13 21.37 31.75 37.23 44.21 46.10 44.62 44.53 46.38 47.54 47.69 50.73 50.51 47.67 43.03 41.80 42.33 39.51																								Diurnal Maximum			
Z - zerospan C - Calibration M - Maintenance PF - Power Failure																											
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 82.5 ppb 24-hr -- ppb																											



WCAS - Hinton West
Eight Hour Running Averages

Ozone (O₃) - ppb
August 2017

Maximum Value: 47.46 ppb on Aug 11 20:00																								Hours in Service: 744			
Maximum Daily Average: 30.14 ppb on Aug 25																								Hours of Data: 655			
Minimum Value: 1.0 ppb on Aug 22 08:00																								Hours of Missing Data: 89			
Maximum Diurnal Average: 31.36 ppb at hour 19																								Hours of Calibration: 12			
Monthly Average: 18.876 ppb																								Percent Operational Time: 89.7			
Minimum Daily Average: 11.71 ppb on Aug 21																											
Minimum Diurnal Average: 5.99 ppb at hour 9																											
Percentiles: P ₁ = 1.8 P ₁₀ = 4.8 Q ₁ = 9.5 Median = 18.2 Q ₃ = 27.5 P ₉₀ = 33.6 P ₉₉ = 45.4																											
Day	Hourly Period Ending At																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Aug	26.2	23.2	19.9	16.6	15.3	13.5	12.3	11.2	11.3	11.0	11.1	12.0	12.5	13.4	14.4	15.9	17.7	19.7	21.7	23.1	23.2	21.9	19.8	17.1	16.83	26.18	
2-Aug	14.3	11.3	8.1	5.1	3.5	2.3	1.6	1.4	1.7	3.3	6.9	10.9	13.5	17.1	21.2	25.3	29.1	31.5	32.3	32.8	32.5	32.0	30.5	28.0	16.52	32.85	
3-Aug	25.0	22.0	18.6	14.8	12.8	9.2	6.6	5.9	6.5	8.3	11.5	15.9	18.7	23.1	27.0	29.5	31.5	32.5	32.9	32.5	30.8	29.0	28.3	27.5	20.85	32.86	
4-Aug	25.2	22.9	21.2	19.2	18.5	17.1	14.3	11.7	11.3	10.9	9.8	10.1	11.0	11.3	12.7	14.8	16.3	18.1	19.8	20.4	20.5	20.3	19.0	16.9	16.39	25.17	
5-Aug	14.3	12.0	9.6	7.4	5.9	4.1	3.3	3.0	3.5	4.9	7.5	11.5	14.4	18.9	22.9	26.9	30.5	33.2	34.9	35.1	34.2	31.9	30.6	28.9	17.89	35.14	
6-Aug	26.1	22.7	18.9	15.3	13.6	11.0	7.9	5.5	5.3	6.5	9.2	13.0	15.8	20.2	24.4	28.3	31.1	33.2	34.6	35.1	PF	PF	PF	PF	18.88	35.10	
7-Aug	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	--	--	
8-Aug	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	--	--	
9-Aug	PF	PF	10.4	9.0	9.0	5.6	4.6	Z	Z	Z	Z	Z	22.0	28.3	29.8	30.7	34.1	36.8	38.6	38.3	35.6	32.3	28.8	25.5	--	38.60	
10-Aug	21.9	18.2	13.8	9.8	8.7	7.0	5.8	4.7	5.1	6.8	10.9	16.4	16.4	19.1	C	C	C	C	C	C	C	40.9	39.1	37.1	--	40.94	
11-Aug	33.5	29.5	25.5	21.4	18.7	14.3	10.6	7.6	7.3	10.7	15.7	21.2	24.1	29.6	35.1	40.7	44.8	46.5	47.3	47.5	47.3	46.9	46.4	45.4	29.89	47.46	
12-Aug	44.0	41.4	37.6	33.4	32.0	26.2	20.3	14.9	10.0	6.2	4.7	4.6	6.3	8.9	11.1	13.3	16.2	19.2	21.6	23.3	23.5	22.9	22.2	21.4	20.23	43.98	
13-Aug	19.2	16.1	13.0	9.8	8.3	6.1	4.3	2.7	2.2	2.8	5.5	9.0	12.4	15.6	18.8	22.7	25.3	27.7	28.0	27.6	25.6	24.2	22.1	19.7	15.37	27.98	
14-Aug	18.3	16.9	15.4	14.1	13.3	11.4	11.0	9.5	8.5	8.4	9.4	11.4	13.7	16.7	19.4	22.3	24.7	26.2	26.6	26.0	23.8	21.4	18.6	16.0	16.79	26.62	
15-Aug	13.2	10.1	7.4	5.0	4.0	2.8	2.2	2.0	2.6	4.8	8.2	12.7	15.3	19.4	23.7	27.8	31.3	33.7	34.6	33.0	30.4	27.5	24.1	20.9	16.52	34.62	
16-Aug	16.7	12.7	9.4	7.2	6.4	5.1	4.0	2.9	3.5	4.8	7.2	11.4	14.1	18.2	22.4	26.4	29.8	32.5	32.5	31.1	29.1	27.0	24.6	21.4	16.69	32.49	
17-Aug	18.5	15.6	13.0	11.4	10.6	8.2	6.2	5.2	4.7	5.5	8.7	13.2	16.6	22.0	27.4	32.6	36.9	40.3	42.1	42.0	41.0	39.8	37.0	33.9	22.18	42.15	
18-Aug	30.4	25.7	21.7	17.9	15.7	11.2	8.4	6.1	4.7	6.1	9.7	13.5	15.9	19.7	22.9	25.0	26.1	25.8	24.3	23.0	21.6	20.4	19.0	17.7	18.01	30.35	
19-Aug	16.7	16.0	14.0	12.9	11.7	10.3	9.3	9.5	11.2	14.7	19.0	22.2	24.0	26.9	30.1	33.2	35.3	35.4	34.5	33.3	30.6	27.7	24.7	21.5	21.86	35.36	
20-Aug	18.1	15.1	12.4	9.7	8.9	7.3	5.9	4.6	4.0	3.3	4.3	7.8	10.8	14.6	17.6	20.5	22.1	23.6	22.7	19.7	17.1	14.8	13.1	11.2	12.89	23.63	
21-Aug	9.7	8.0	7.2	6.6	6.1	4.2	2.7	1.8	2.1	3.3	5.8	8.3	9.8	12.5	15.2	17.6	19.6	21.0	21.4	21.6	21.3	20.4	18.4	16.5	11.71	21.58	
22-Aug	14.0	11.4	8.8	6.3	4.6	2.5	1.7	1.0	1.2	2.4	4.6	8.0	10.4	13.7	17.4	20.4	23.0	24.5	24.9	24.0	22.9	21.3	18.6	16.4	12.66	24.94	
23-Aug	14.1	11.9	9.6	7.8	6.2	4.3	3.1	2.8	2.4	2.5	3.5	6.0	9.2	13.2	17.3	21.0	25.6	29.1	31.5	32.0	30.6	28.3	25.0	21.6	14.95	31.98	
24-Aug	17.7	14.1	10.8	8.0	6.2	4.5	3.7	2.9	3.4	6.2	10.3	15.3	18.2	22.1	26.1	29.7	32.4	33.6	33.5	32.8	31.0	30.4	29.8	28.1	18.78	33.55	
25-Aug	27.6	27.1	27.5	27.7	28.4	28.5	26.0	26.3	26.6	27.3	27.4	27.5	28.3	28.9	31.9	33.5	33.9	34.1	34.3	34.4	34.4	34.2	34.0	33.6	30.14	34.41	
26-Aug	31.9	28.9	25.3	21.5	19.8	15.2	11.0	7.7	8.1	10.8	14.6	19.1	21.3	25.6	29.9	33.5	35.2	36.1	36.5	36.4	35.8	33.6	30.9	27.4	24.83	36.49	
27-Aug	23.4	19.7	15.5	11.7	8.9	6.3	4.4	3.5	3.3	5.5	10.3	14.7	17.2	21.3	25.3	29.0	32.4	33.4	32.9	32.4	30.7	28.0	25.1	22.0	19.04	33.43	
28-Aug	19.0	15.6	12.1	8.6	6.9	5.0	3.8	3.0	3.4	6.0	9.1	12.5	14.5	18.1	20.5	23.5	PF	PF	PF	PF	PF	PF	PF	PF	--	23.55	
29-Aug	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	31.8	33.1	34.0	36.6	38.3	38.1	37.5	36.5	34.8	--	38.26
30-Aug	33.0	29.9	25.8	21.4	20.2	15.8	11.6	8.0	4.5	3.2	3.8	5.2	6.7	9.7	13.8	18.0	22.7	26.4	27.8	28.4	27.3	25.3	22.3	19.4	17.91	32.98	
31-Aug	15.7	11.7	9.5	7.8	7.8	6.7	5.7	4.4	3.5	5.4	8.9	13.8	17.4	22.5	27.0	31.3	36.0	37.7	38.4	38.0	37.5	35.6	33.9	32.1	20.34	38.37	
21.76 18.88 15.79 13.13 11.85 9.49 7.57 6.29 5.99 7.09 9.54 12.86 15.37 18.95 22.41 25.90 28.77 30.59 31.36 31.18 29.85 28.73 26.76 24.52																								Diurnal Average			
43.98 41.43 37.60 33.39 32.01 28.46 25.97 26.35 26.60 27.28 27.36 27.50 28.30 29.57 35.15 40.72 44.79 46.48 47.26 47.46 47.26 46.92 46.41 45.41																								Diurnal Maximum			
Z - zerospan			C - Calibration				PF - Power Failure																				



WCAS - Hinton West
Summary of Hourly Averages

Hydrogen Sulphide (H2S) - ppb
August 2017

Maximum Value: 12.91 ppb on Aug 12 11:00		Maximum Daily Average: 1.92 ppb on Aug 18		Hours in Service: 744																																													
Minimum Value: 0 ppb on Aug 1 08:00		Minimum Daily Average: 0.04 ppb on Aug 9		Hours of Data: 639																																													
Maximum Diurnal Average: 2.04 ppb at hour 10		Minimum Diurnal Average: 0.04 ppb at hour 22		Hours of Missing Data: 105																																													
Monthly Average: 0.588 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 0.4 P ₉₀ = 1.5 P ₉₉ = 6.8		Hours of Calibration: 32																																													
				Percent Operational Time: 90.2																																													
Day	Hourly Period Ending At																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Aug	0	0	0	0	Z	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.08	0.68																						
2-Aug	0	0	0	0	Z	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.20	1.22																						
3-Aug	0	0	0	0	Z	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.10	0.68																						
4-Aug	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	0.04	0.22																						
5-Aug	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	0.07	0.27																						
6-Aug	0	0	0	0	Z	0	0	0	0	0	0	0	1	0	0	0	0	0	0	PF	PF	PF	PF	PF	PF	--	0.51																						
7-Aug	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	--	--																						
8-Aug	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	--	0.05																						
9-Aug	0	0	0	0	Z	1	M	M	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.04	0.73																						
10-Aug	0	0	0	0	Z	1	1	1	0	0	0	0	C	C	C	C	0	0	0	0	0	0	0	0	0	0.13	0.74																						
11-Aug	0	0	0	0	Z	1	1	2	1	5	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.62	5.20																						
12-Aug	0	0	0	0	Z	1	1	1	1	5	13	6	1	0	0	0	0	0	0	0	0	0	0	0	0	1.23	12.91																						
13-Aug	0	0	0	0	Z	0	1	1	2	2	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0.34	1.68																						
14-Aug	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	0.05	0.35																						
15-Aug	0	0	0	0	Z	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.20	1.32																						
16-Aug	0	0	0	0	Z	2	2	1	1	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.51	3.36																						
17-Aug	0	0	0	0	Z	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.21	1.46																						
18-Aug	0	3	1	1	Z	5	5	4	5	11	6	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1.92	11.15																						
19-Aug	0	0	0	0	Z	0	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.42	3.74																						
20-Aug	0	1	2	1	Z	1	1	2	2	3	3	1	1	1	1	0	1	1	1	1	1	1	0	0	0	1.10	2.92																						
21-Aug	1	1	1	2	Z	6	6	5	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.16	6.19																						
22-Aug	3	3	2	1	Z	11	4	2	2	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1.22	10.52																						
23-Aug	0	0	0	0	Z	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0.21	1.46																						
24-Aug	0	0	0	0	Z	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.15	1.10																						
25-Aug	0	0	0	0	Z	0	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.21	3.17																						
26-Aug	0	2	2	1	Z	7	5	6	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	6	1.55	7.10																						
27-Aug	3	1	2	1	Z	2	4	8	3	9	3	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1.66	8.80																						
28-Aug	2	1	1	1	Z	1	3	3	5	6	1	0	0	0	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	--	5.57																						
29-Aug	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	--	0.00																						
30-Aug	0	0	0	0	Z	1	1	2	3	0	0	0	0	0	3	1	0	0	0	0	0	0	0	0	1	0.60	3.24																						
31-Aug	0	0	0	0	Z	1	1	1	4	11	7	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1.13	10.52																						
																								0.38	0.46	0.40	0.29	--	1.71	1.94	1.86	1.31	2.04	1.35	0.38	0.15	0.07	0.20	0.10	0.11	0.05	0.07	0.06	0.08	0.04	0.18	0.32	Diurnal Average	
																								2.90	2.98	2.24	1.67	--	10.52	5.98	7.77	5.24	11.15	12.91	5.81	1.30	0.79	2.88	1.21	1.14	0.76	1.02	0.90	0.83	0.49	2.95	6.13	Diurnal Maximum	
Z - zerospan																								C - Calibration				M - Maintenance				PF - Power Failure																	
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb																																																	



WCAS - Hinton West
Summary of Hourly Averages

Nitrogen Oxide (NO) - ppb
August 2017

Maximum Value: 52.83 ppb on Aug 22 07:00																						Maximum Daily Average: 9.19 ppb on Aug 22																						Hours in Service: 744					
Minimum Value: 0.0 ppb on Aug 3 23:00																						Minimum Daily Average: 1.19 ppb on Aug 25																						Hours of Data: 638					
Maximum Diurnal Average: 23.35 ppb at hour 7																						Minimum Diurnal Average: 0.69 ppb at hour 17																						Hours of Missing Data: 106					
Monthly Average: 4.491 ppb																						Percentiles: P ₁ = 0.0 P ₁₀ = 0.2 Q ₁ = 0.5 Median = 1.0 Q ₃ = 3.5 P ₉₀ = 15.1 P ₉₉ = 44.5																						Hours of Calibration: 33					
																						Percent Operational Time: 90.2																											
Day	Hourly Period Ending At																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Aug	4.7	1.3	1.3	2.9	Z	1.5	0.4	1.1	1.7	1.2	2.2	1.9	2.6	0.9	1.2	0.7	0.3	0.9	0.5	0.9	0.6	1.9	3.1	2.4	1.57	4.70																							
2-Aug	1.8	2.1	7.5	7.5	Z	29.2	45.0	43.2	29.1	8.1	3.3	3.0	0.9	0.6	0.9	0.6	0.7	0.4	0.3	0.1	0.7	0.1	1.4	0.3	8.13	45.02																							
3-Aug	1.4	0.3	1.4	4.2	Z	20.9	21.8	8.0	4.3	4.3	1.3	0.5	0.9	1.4	0.5	0.6	0.6	1.1	0.2	0.2	0.2	1.3	0.0	0.0	3.27	21.80																							
4-Aug	0.3	0.5	0.0	0.4	Z	1.5	4.1	3.6	2.1	4.2	3.8	3.4	1.4	1.1	0.9	0.8	0.3	0.9	0.8	0.6	1.0	2.3	0.5	2.7	1.61	4.19																							
5-Aug	3.5	3.7	1.0	2.3	Z	6.5	7.4	7.5	5.5	1.4	1.9	0.3	1.2	0.6	0.9	0.8	0.3	0.4	0.1	0.5	0.1	0.3	0.2	0.5	2.02	7.47																							
6-Aug	2.8	1.3	0.9	0.3	Z	4.7	8.2	7.8	3.0	1.6	0.8	1.1	1.0	1.0	0.8	0.7	0.3	0.3	PF	PF	PF	PF	PF	PF	--	8.22																							
7-Aug	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	--	--																							
8-Aug	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	0.7	8.4	2.6	--	8.41																							
9-Aug	0.5	1.7	3.4	8.7	Z	27.0	M	M	4.7	5.4	2.1	1.0	0.6	0.7	0.5	0.6	0.3	0.6	0.1	0.5	0.7	1.4	1.3	0.5	2.97	27.00																							
10-Aug	0.1	2.3	3.8	2.8	Z	19.2	29.6	27.1	7.3	C	C	C	C	C	0.5	0.3	0.7	0.2	0.9	0.2	0.0	0.0	0.1	0.0	5.28	29.62																							
11-Aug	0.1	0.2	2.2	0.8	Z	12.0	33.3	48.0	19.2	4.1	4.1	1.9	0.2	0.2	0.2	0.3	0.2	0.3	0.1	0.0	0.1	0.0	0.0	0.0	5.54	48.02																							
12-Aug	0.0	0.0	0.3	0.0	Z	11.5	16.1	9.2	7.5	11.0	4.7	2.6	0.5	0.2	1.2	1.2	0.9	0.4	0.1	0.2	0.3	0.9	0.6	0.8	3.05	16.10																							
13-Aug	0.4	1.7	0.4	3.4	Z	7.7	18.1	16.5	8.6	7.0	1.3	1.0	0.4	0.7	1.4	1.4	1.7	1.0	0.3	0.1	0.7	0.3	1.9	0.2	3.32	18.12																							
14-Aug	0.6	0.0	0.1	0.1	Z	4.5	6.6	9.7	8.0	1.3	1.5	1.4	1.0	0.9	1.2	0.8	0.9	1.8	0.8	0.9	2.1	3.4	1.7	1.9	2.22	9.69																							
15-Aug	1.1	11.1	3.9	4.3	Z	43.1	45.7	39.3	10.9	2.5	1.6	0.5	0.5	0.7	0.8	1.0	0.5	0.5	0.8	4.0	3.7	2.9	2.0	0.3	7.91	45.65																							
16-Aug	2.4	4.0	0.8	3.2	Z	18.8	38.2	24.8	22.6	18.5	4.3	0.5	0.7	0.5	0.6	0.6	0.4	0.5	1.2	0.9	1.7	1.3	0.3	1.9	6.46	38.21																							
17-Aug	0.1	0.2	3.9	0.9	Z	21.9	43.7	38.4	19.5	5.4	3.0	0.9	0.6	0.4	0.6	0.5	0.5	0.3	0.1	0.2	0.7	0.4	0.2	0.7	6.22	43.68																							
18-Aug	0.3	0.8	0.7	1.7	Z	14.9	15.6	16.8	22.1	19.2	3.8	0.5	0.5	0.8	0.5	1.6	1.4	1.2	0.6	0.8	0.7	0.8	0.4	1.5	4.67	22.10																							
19-Aug	2.6	0.2	0.6	0.4	Z	1.3	8.2	9.2	4.9	0.9	0.7	0.5	0.5	0.5	0.9	0.8	0.3	0.3	1.3	0.8	0.9	2.6	2.8	1.4	1.86	9.23																							
20-Aug	1.8	0.1	0.0	2.0	Z	5.5	15.6	15.1	15.4	12.5	5.6	1.9	3.2	0.5	0.5	0.6	1.9	1.7	7.1	6.1	3.5	0.8	1.4	1.8	4.55	15.60																							
21-Aug	7.6	4.7	5.0	11.2	Z	17.6	22.8	31.0	15.3	8.0	2.7	1.4	0.9	0.7	0.7	1.0	0.8	0.7	0.5	0.7	0.3	0.7	2.9	0.5	6.00	30.98																							
22-Aug	3.0	4.6	9.6	6.3	Z	52.6	52.8	31.4	22.5	7.6	3.9	3.1	0.8	1.2	1.2	1.1	1.6	1.2	0.3	0.4	1.2	2.7	1.7	0.6	9.19	52.83																							
23-Aug	0.7	1.3	4.2	5.5	Z	43.8	46.0	20.1	15.6	15.4	9.2	4.8	2.0	0.6	0.7	0.4	0.4	1.0	0.5	0.7	0.1	0.2	3.8	0.2	7.71	45.95																							
24-Aug	1.4	1.9	5.9	8.0	Z	12.2	26.3	15.2	9.2	3.4	1.8	2.0	1.1	1.1	1.5	1.3	0.6	0.8	0.4	0.7	0.7	0.4	0.4	0.8	4.23	26.34																							
25-Aug	0.0	0.1	0.0	0.1	Z	0.5	13.3	5.3	0.9	0.6	0.4	0.5	0.9	0.3	0.7	0.9	0.9	0.5	0.2	0.4	0.1	0.1	0.3	0.4	1.19	13.31																							
26-Aug	0.5	1.6	2.3	2.9	Z	14.4	13.1	9.3	2.7	0.6	0.4	1.0	0.3	0.4	0.8	0.5	0.7	0.2	0.3	0.2	0.4	0.6	0.4	1.4	2.39	14.39																							
27-Aug	1.2	0.6	4.2	1.5	Z	10.2	13.1	24.5	29.1	7.2	2.8	0.3	0.8	0.3	0.3	0.3	0.3	0.1	0.3	0.1	1.6	0.4	0.9	1.2	4.41	29.14																							
28-Aug	0.1	2.6	0.6	0.7	Z	18.3	32.3	39.0	16.0	6.1	2.2	1.3	0.9	0.7	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	--	39.05																							
29-Aug	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	1.8	1.0	0.8	0.4	0.3	0.4	0.4	0.4	0.1	0.0	0.3	0.1	0.2	0.0	--	1.76																							
30-Aug	0.0	0.1	0.1	1.7	Z	19.8	36.5	44.1	33.4	6.9	3.2	2.3	3.5	2.9	3.6	2.0	1.1	1.1	2.3	1.3	3.1	0.9	2.1	2.9	7.60	44.07																							
31-Aug	0.9	3.6	0.5	1.3	Z	15.7	16.4	28.4	25.9	7.0	3.4	1.2	0.7	1.0	1.1	1.5	0.6	3.5	0.4	0.4	0.5	0.1	0.4	0.1	4.98	28.43																							
																								1.43	1.88	2.30	3.04	--	16.31	23.35	21.25	13.11	6.35	2.78	1.49	1.05	0.77	0.89	0.83	0.69	0.80	0.77	0.81	0.96	0.98	1.40	0.99	Diurnal Average	
																								7.57	11.08	9.62	11.23	--	52.62	52.83	48.02	33.41	19.18	9.23	4.81	3.54	2.91	3.59	2.00	1.86	3.52	7.13	6.08	3.74	3.41	8.41	2.90	Diurnal Maximum	
Z - zerospan C - Calibration M - Maintenance PF - Power Failure																																																	
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr --- ppb 24-hr --- ppb																																																	



WCAS - Hinton West
Summary of Hourly Averages

Nitrogen Dioxide (NO₂) - ppb
August 2017

Maximum Value: 31.01 ppb on Aug 18 10:00 Maximum Daily Average: 9.96 ppb on Aug 30																						Hours in Service: 744 Hours of Data: 638				
Minimum Value: 0.8 ppb on Aug 25 15:00 Minimum Daily Average: 2.62 ppb on Aug 25 Maximum Diurnal Average: 9.23 ppb at hour 7 Minimum Diurnal Average: 3.22 ppb at hour 14 Monthly Average: 6.115 ppb Percentiles: P ₁ = 1.0 P ₁₀ = 1.7 Q ₁ = 2.8 Median = 5.1 Q ₃ = 8.5 P ₉₀ = 12.0 P ₉₉ = 18.0																						Hours of Missing Data: 106 Hours of Calibration: 33 Percent Operational Time: 90.2				
Day	Hourly Period Ending At																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Aug	13.9	8.3	8.9	6.6	Z	8.9	6.0	4.9	4.9	4.6	5.0	3.7	5.6	2.4	2.3	1.7	1.4	2.3	2.2	3.6	6.3	9.2	7.1	6.6	5.50	13.86
2-Aug	5.0	4.0	5.4	4.7	Z	3.6	4.6	6.3	8.2	5.6	5.5	4.9	2.9	1.9	2.9	2.1	2.5	2.3	1.9	2.2	6.2	7.0	8.8	6.8	4.58	8.82
3-Aug	8.7	5.2	5.9	10.6	Z	10.5	9.4	7.0	5.2	6.2	3.7	2.9	3.9	5.0	3.4	3.3	4.1	7.8	4.4	2.4	4.9	3.9	1.2	2.7	5.31	10.56
4-Aug	2.8	2.6	1.1	2.6	Z	4.7	4.7	3.9	3.4	4.1	4.9	3.4	2.5	1.6	0.9	1.6	1.3	2.4	1.5	2.2	2.8	2.1	2.7	4.6	2.79	4.94
5-Aug	4.7	2.4	2.1	2.6	Z	3.3	3.5	2.7	2.5	1.4	3.0	1.3	2.5	2.5	2.7	1.7	1.5	1.9	1.4	4.3	4.8	9.9	4.7	4.5	3.13	9.89
6-Aug	6.0	3.7	3.9	1.9	Z	5.2	3.5	3.7	2.6	2.3	1.8	3.2	3.4	3.3	2.6	1.7	1.5	2.1	PF	PF	PF	PF	PF	PF	--	5.95
7-Aug	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	--	--
8-Aug	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	7.6	15.3	11.2	--	15.29
9-Aug	8.0	7.5	4.6	7.0	Z	5.6	M	M	4.3	6.0	2.9	2.8	2.1	1.9	2.0	2.6	2.0	3.4	1.8	6.1	16.4	13.3	12.0	7.1	5.68	16.36
10-Aug	6.1	6.3	6.9	7.3	Z	9.7	9.4	10.4	7.5	C	C	C	C	C	1.8	2.4	3.5	2.1	5.0	4.5	1.9	6.5	7.1	5.1	5.74	10.42
11-Aug	6.4	7.0	9.8	8.5	Z	13.8	13.2	14.0	15.8	13.9	14.8	8.7	2.4	1.7	1.7	1.8	1.8	2.5	2.1	2.1	3.7	3.4	3.2	3.2	6.75	15.81
12-Aug	4.4	4.5	5.4	3.1	Z	13.3	10.9	9.9	10.3	16.4	20.0	17.9	7.8	5.6	6.3	5.6	4.1	3.9	3.4	5.6	7.1	7.1	6.4	8.4	8.15	20.02
13-Aug	6.1	5.5	3.7	4.6	Z	5.2	5.5	6.4	8.9	10.1	10.0	8.3	4.5	7.7	8.4	7.5	6.9	4.6	4.3	3.5	2.8	1.7	5.2	1.8	5.80	10.11
14-Aug	2.0	1.7	1.6	1.3	Z	3.8	3.9	5.4	4.0	2.4	2.9	2.2	2.8	3.4	2.3	3.0	2.1	2.3	2.9	4.2	7.4	7.3	6.1	4.4	3.46	7.39
15-Aug	4.7	7.7	6.8	5.1	Z	7.3	7.0	9.2	7.0	3.1	2.2	1.8	2.2	2.7	2.3	2.5	2.8	3.7	5.4	13.5	14.6	12.6	10.3	7.7	6.17	14.63
16-Aug	12.2	11.7	5.9	9.6	Z	12.2	10.4	9.7	14.3	18.7	12.2	2.9	2.9	2.4	2.4	2.6	2.4	3.4	6.5	7.3	8.2	7.5	5.8	8.7	7.82	18.72
17-Aug	4.4	4.8	9.2	6.4	Z	10.9	10.8	10.6	11.8	9.1	8.3	3.0	3.2	4.2	4.2	4.0	3.7	3.5	2.5	3.2	4.2	3.8	8.8	8.3	6.21	11.79
18-Aug	9.3	11.7	9.1	11.5	Z	13.8	14.9	14.2	16.0	31.0	13.3	2.0	1.8	2.4	5.3	8.2	8.7	7.0	4.1	3.6	3.8	3.0	2.1	5.0	8.78	31.01
19-Aug	6.6	3.4	3.6	1.9	Z	4.8	6.0	7.2	4.8	2.0	1.6	1.4	1.3	1.5	1.7	1.9	1.4	1.4	3.3	5.4	9.0	10.4	11.7	8.3	4.37	11.67
20-Aug	8.6	6.3	6.3	9.0	Z	11.3	10.7	9.8	8.6	9.2	10.6	7.6	7.9	4.5	5.5	5.2	11.3	8.7	14.0	14.3	12.6	8.1	7.9	7.5	8.93	14.29
21-Aug	14.4	15.7	16.1	12.9	Z	10.8	13.2	13.1	17.7	10.3	3.5	3.0	1.7	1.8	1.6	2.1	1.9	1.7	1.4	2.4	3.0	4.3	9.2	6.1	7.31	17.70
22-Aug	9.4	9.2	8.5	7.5	Z	8.4	7.7	8.3	9.9	6.0	4.8	5.9	3.0	3.5	3.7	2.6	1.2	3.0	2.6	5.5	3.9	8.6	8.7	5.9	5.98	9.87
23-Aug	5.6	5.7	5.9	7.6	Z	8.7	9.6	8.3	7.1	8.0	7.3	8.2	7.2	3.8	3.6	3.5	3.9	4.9	4.0	8.4	7.0	8.6	12.5	9.1	6.89	12.49
24-Aug	8.0	7.3	6.2	5.2	Z	5.9	8.9	8.8	7.1	7.1	5.2	6.4	2.2	3.2	4.2	3.4	2.6	3.9	5.6	6.1	8.0	4.2	4.2	7.1	5.69	8.86
25-Aug	1.6	3.3	1.0	1.1	Z	3.2	18.5	10.2	1.6	1.3	1.4	1.8	1.4	1.0	0.8	1.0	1.1	1.0	1.1	1.5	1.3	1.2	1.7	2.2	2.62	18.49
26-Aug	6.6	12.3	11.8	13.9	Z	15.6	14.7	11.3	4.3	1.4	1.3	1.2	1.1	1.2	1.6	1.2	0.9	0.8	1.2	1.6	2.3	9.9	10.8	13.7	6.12	15.64
27-Aug	14.6	9.4	13.6	10.9	Z	12.1	10.8	11.9	11.4	14.4	8.8	1.2	1.6	1.2	1.5	1.4	1.5	1.3	3.7	5.5	8.6	12.0	10.6	9.0	7.70	14.62
28-Aug	7.0	8.0	6.3	5.7	Z	6.8	8.3	10.4	14.5	12.0	5.7	3.5	2.9	2.3	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	--	14.55
29-Aug	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	3.5	3.1	3.3	2.6	2.5	2.6	2.8	3.5	3.2	4.1	11.5	7.8	5.8	6.1	--	11.45
30-Aug	3.6	4.8	5.1	4.7	Z	7.7	6.4	7.6	6.4	9.1	6.9	7.2	10.0	10.3	18.2	11.0	11.2	13.3	17.0	17.5	17.5	12.8	10.7	10.0	9.96	18.24
31-Aug	7.3	10.5	8.8	10.4	Z	17.2	16.8	16.0	16.9	18.5	13.0	4.9	5.1	4.5	5.7	7.0	3.6	13.7	6.7	5.5	4.0	8.2	6.1	5.3	9.38	18.47
																								Diurnal Average		
																								Diurnal Maximum		
7.07 6.81 6.55 6.58 -- 8.73 9.23 8.94 8.46 8.67 6.58 4.43 3.54 3.22 3.64 3.40 3.35 4.02 4.20 5.41 6.80 7.21 7.38 6.65																								Diurnal Average		
14.62 15.71 16.09 13.90 -- 17.23 18.49 15.99 17.70 31.01 20.02 17.93 9.99 10.32 18.24 10.95 11.25 13.68 17.00 17.46 17.50 13.26 15.29 13.66																								Diurnal Maximum		
Z - zerospan C - Calibration M - Maintenance PF - Power Failure Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 159 ppb 24-hr 106 ppb																										



WCAS - Hinton West
Summary of Hourly Averages

PM2.5 (PM_{2.5}) - µg/m³
August 2017

Maximum Value: 210.63 µg/m ³ on Aug 13 11:00 Maximum Daily Average: 62.01 µg/m ³ on Aug 17																						Hours in Service: 744 Hours of Data: 672				
Minimum Value: 0.0 µg/m ³ on Aug 18 20:00 Minimum Daily Average: 2.70 µg/m ³ on Aug 19 Maximum Diurnal Average: 27.32 µg/m ³ at hour 11 Minimum Diurnal Average: 12.20 µg/m ³ at hour 2 Monthly Average: 17.332 µg/m ³ Percentiles: P ₁ = 0.0 P ₁₀ = 3.0 Q ₁ = 6.1 Median = 9.7 Q ₃ = 17.4 P ₉₀ = 45.8 P ₉₉ = 94.3																						Hours of Missing Data: 72 Hours of Calibration: 0 Percent Operational Time: 90.3				
Day	Hourly Period Ending At																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Aug	14.7	13.6	13.7	15.4	14.6	11.7	8.0	5.1	5.8	4.4	4.2	2.9	5.9	3.2	2.4	2.2	1.3	4.1	4.4	4.7	8.0	6.3	4.7	4.1	6.89	15.37
2-Aug	4.0	3.3	4.8	5.1	5.5	9.6	15.3	11.2	11.0	7.5	13.0	M	1.4	3.0	1.8	2.4	7.2	5.8	5.8	5.9	6.5	8.3	10.1	7.9	6.80	15.34
3-Aug	6.7	6.5	6.8	6.6	7.1	8.4	11.1	8.7	9.0	8.9	8.0	6.8	9.2	6.9	11.9	12.0	9.2	12.4	19.1	9.1	10.4	2.8	1.9	4.2	8.48	19.05
4-Aug	1.6	2.9	6.6	5.2	4.8	6.0	6.6	7.5	7.5	8.4	6.5	4.7	5.1	5.0	2.9	3.1	6.9	3.8	2.1	2.3	4.2	3.9	2.4	3.1	4.71	8.40
5-Aug	3.7	1.8	4.3	3.2	2.9	4.4	6.0	6.4	7.3	5.9	6.6	3.5	8.1	10.2	9.3	7.2	6.3	8.7	8.2	9.7	11.1	12.8	11.0	9.4	7.00	12.81
6-Aug	8.4	7.0	7.5	6.8	7.7	8.8	12.7	11.4	10.3	10.5	8.9	15.0	10.2	9.0	10.0	9.0	9.3	10.1	PF	PF	PF	PF	PF	PF	9.60	15.04
7-Aug	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	--	--
8-Aug	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	--	--
9-Aug	7.9	8.1	8.0	9.3	9.9	11.6	17.3	12.5	12.8	12.3	8.8	2.9	6.8	7.7	6.9	6.4	5.2	10.7	7.2	11.5	17.5	10.4	10.5	9.0	9.64	17.54
10-Aug	9.2	9.3	10.4	9.8	10.7	14.3	15.8	15.3	14.3	12.0	15.2	3.0	5.6	6.6	1.2	5.5	8.0	7.6	8.9	6.7	9.8	10.1	11.2	9.3	9.58	15.80
11-Aug	10.0	11.1	16.3	11.9	11.8	13.4	15.6	17.9	20.8	40.1	34.3	20.7	6.4	5.0	4.5	4.0	6.7	9.2	9.0	8.8	8.0	8.5	8.3	7.3	12.90	40.09
12-Aug	7.6	7.2	7.7	7.7	9.8	11.7	11.7	11.6	13.1	22.1	46.4	35.0	19.5	19.3	21.6	18.3	15.3	15.0	15.8	16.4	16.0	14.1	12.8	11.9	16.14	46.40
13-Aug	11.7	11.0	12.3	14.2	19.9	20.4	23.0	24.6	26.3	50.6	210.6	210.1	94.5	9.7	9.5	11.6	9.3	14.8	34.6	62.4	22.4	14.6	17.0	10.1	39.39	210.63
14-Aug	7.7	6.1	7.5	9.2	10.5	11.2	12.2	12.6	13.1	21.4	41.3	63.1	68.0	67.7	60.3	58.1	43.7	32.8	29.0	21.3	16.4	13.3	12.8	15.3	27.28	68.02
15-Aug	16.4	17.8	18.5	16.2	17.1	17.4	20.5	20.2	18.6	27.9	33.0	35.0	39.9	44.6	44.2	45.0	48.2	72.4	86.0	86.5	76.9	72.2	70.1	61.8	41.94	86.51
16-Aug	58.9	52.4	43.0	45.4	46.1	47.4	49.8	47.0	52.9	61.2	51.7	44.8	44.9	44.6	48.2	48.2	44.3	38.4	46.6	42.4	39.6	35.1	37.5	34.7	46.04	61.20
17-Aug	33.3	34.2	33.6	35.1	37.1	35.6	38.7	40.7	45.0	53.9	69.4	69.9	76.1	103.3	122.5	117.9	94.9	82.4	69.3	63.0	64.9	60.5	58.4	48.7	62.01	122.53
18-Aug	48.9	53.9	44.3	46.4	58.3	55.5	54.8	54.3	56.8	97.7	50.6	10.0	10.3	11.4	67.5	62.5	59.7	36.5	1.1	0.0	0.0	0.0	0.6	36.71	97.73	
19-Aug	1.9	0.0	0.7	1.5	0.0	0.0	5.5	4.4	3.0	0.0	0.0	0.0	0.7	0.3	2.2	1.1	4.7	5.2	3.0	6.2	6.0	6.9	6.5	5.1	2.70	6.90
20-Aug	6.5	9.5	8.9	11.8	11.0	12.3	14.1	14.7	19.2	17.6	23.7	21.0	29.9	33.8	33.2	30.5	36.9	28.7	36.8	23.8	13.5	10.6	12.3	13.5	19.73	36.87
21-Aug	15.0	14.7	15.6	14.8	16.8	14.5	18.3	20.1	16.1	14.4	8.6	9.5	8.7	6.2	8.6	9.3	8.1	9.0	8.5	6.8	8.5	8.3	9.7	7.6	11.57	20.11
22-Aug	11.5	9.1	9.7	7.9	10.3	14.8	10.7	11.0	10.8	9.6	9.6	14.7	5.0	0.7	5.3	4.5	4.5	7.2	13.2	9.2	5.3	7.6	7.8	4.5	8.51	14.75
23-Aug	4.4	4.0	4.4	5.6	5.8	8.3	8.0	9.5	6.6	11.5	10.5	8.0	17.3	5.8	6.5	12.1	14.3	9.1	5.6	9.3	7.2	5.8	6.0	4.3	7.91	17.30
24-Aug	2.7	2.4	3.0	7.7	10.2	8.1	12.8	10.7	14.5	19.1	11.8	2.1	0.0	4.8	0.0	0.0	7.3	2.0	0.0	2.2	2.1	2.1	3.1	5.37	19.13	
25-Aug	0.0	1.3	1.3	3.4	4.8	8.1	13.7	7.1	6.7	6.4	5.0	4.9	4.1	3.8	4.7	5.2	6.1	7.5	7.9	8.2	8.2	7.5	7.4	6.8	5.84	13.67
26-Aug	7.7	9.0	9.9	9.0	13.4	11.3	10.6	11.5	7.0	5.3	5.9	2.2	2.9	4.7	2.9	4.3	3.7	4.1	5.6	4.8	5.3	7.3	10.9	11.6	7.12	13.39
27-Aug	9.3	5.0	8.7	5.4	6.6	8.7	9.5	15.9	13.5	32.6	19.9	0.0	2.6	2.7	3.1	2.8	2.8	3.5	19.6	14.3	15.3	12.0	11.6	10.2	9.82	32.65
28-Aug	9.8	11.2	9.0	9.7	11.8	7.4	15.9	15.8	29.6	28.7	13.4	7.3	7.4	5.3	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	--	29.62
29-Aug	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	12.5	15.8	15.7	12.1	7.9	7.2	8.8	8.0	7.3	9.1	9.1	7.8	6.8	4.6	--	15.77
30-Aug	4.3	1.3	2.0	3.0	4.1	7.2	9.8	19.6	17.3	13.8	16.8	20.7	24.1	29.3	58.1	47.3	46.4	56.6	50.7	53.4	48.3	33.6	29.5	28.5	26.08	58.11
31-Aug	27.4	28.0	29.4	28.2	28.2	33.3	34.4	34.2	43.1	48.2	45.7	30.1	34.8	27.4	42.1	11.6	9.5	8.1	4.4	1.4	2.8	9.6	4.4	3.5	23.74	48.20
																						Diurnal Average				
12.54 12.20 12.43 12.70 14.17 15.05 17.23 17.20 18.29 23.29 27.32 23.70 19.49 17.04 21.40 19.62 18.62 18.53 18.96 18.41 16.42 14.43 14.08 12.52																						Diurnal Maximum				
58.89 53.91 44.25 46.43 58.34 55.45 54.84 54.33 56.82 97.73 210.63 210.11 94.54 103.25 122.53 117.90 94.88 82.43 86.02 86.51 76.89 72.25 70.13 61.80																										
M - Maintenance PF - Power Failure Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 80 ul/m ³ 24-hr 30 ul/m ³																										

**HINTON WEST
STATION #915**

METEOROLOGICAL DATA

AUGUST 2017



WCAS - Hinton West
Summary of Hourly Averages

External Temperature (ET) - C
August 2017

Maximum Value: 28.48 C on Aug 11 17:00 Maximum Daily Average: 19.36 C on Aug 11																								Hours in Service: 744																									
Minimum Value: 2.6 C on Aug 15 06:00 Minimum Daily Average: 10.88 C on Aug 20																								Hours of Data: 673																									
Maximum Diurnal Average: 21.55 C at hour 17 Minimum Diurnal Average: 8.66 C at hour 6																								Hours of Missing Data: 71																									
Monthly Average: 15.362 C Percentiles: P₁ = 4.5 P₁₀ = 8.6 Q₁ = 10.9 Median = 14.7 Q₃ = 19.8 P₉₀ = 23.5 P₉₉ = 27.1																								Hours of Calibration: 0																									
Percent Operational Time: 90.5																																																	
Day	Hourly Period Ending At																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Aug	13.5	12.9	12.4	12.1	12.9	12.7	12.6	12.7	12.0	11.3	11.3	12.5	13.3	12.6	14.7	16.5	17.5	18.0	17.7	17.3	15.3	13.0	11.1	9.6	13.56	17.96																							
2-Aug	8.5	7.5	6.6	5.9	5.1	4.7	7.0	8.8	11.5	14.6	16.6	19.0	21.5	22.5	23.5	24.2	24.7	24.4	23.8	22.6	20.8	18.9	17.0	14.0	15.57	24.68																							
3-Aug	12.1	10.9	9.5	8.6	7.8	7.3	9.6	12.9	15.6	18.7	21.4	23.8	25.3	26.6	26.7	25.5	25.2	24.6	21.0	16.6	14.8	14.0	13.1	12.3	16.84	26.66																							
4-Aug	10.9	10.2	10.6	10.9	11.1	11.2	10.8	11.5	12.3	12.8	13.0	13.7	14.2	15.6	16.5	16.9	16.9	17.3	15.8	14.9	13.8	12.3	11.1		13.28	17.29																							
5-Aug	10.0	9.7	9.4	9.3	8.4	8.4	9.2	10.7	13.3	16.4	18.6	19.9	20.7	21.5	21.8	22.6	22.7	23.1	22.7	21.9	19.5	16.9	16.4	15.1	16.18	23.05																							
6-Aug	12.5	10.5	9.2	8.2	7.4	6.9	8.1	10.6	14.1	17.2	19.9	21.6	23.3	24.4	25.2	25.4	25.4	24.6	PF	PF	PF	PF	PF	PF	16.36	25.44																							
7-Aug	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	--	--																							
8-Aug	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	--	17.84																							
9-Aug	12.6	11.4	10.4	9.5	8.8	8.2	9.3	12.0	15.5	18.2	21.2	23.1	23.7	24.1	24.1	24.4	24.4	24.5	25.2	24.0	20.6	17.3	15.6	14.0	17.60	25.23																							
10-Aug	12.6	11.5	10.7	9.9	9.1	8.7	10.0	12.8	15.9	19.1	22.2	23.6	25.2	26.0	26.5	27.1	27.2	27.0	26.4	25.1	22.8	20.3	18.5	16.3	18.93	27.21																							
11-Aug	14.1	12.5	11.3	10.1	9.2	8.1	9.6	12.9	14.9	17.6	20.4	24.1	26.0	27.0	27.7	28.3	28.5	27.9	26.7	25.3	23.1	21.5	20.0	18.0	19.36	28.48																							
12-Aug	16.2	13.9	11.8	10.6	9.4	8.7	9.1	9.9	10.9	12.6	14.7	16.6	17.8	19.1	19.9	20.9	21.7	22.6	23.1	22.0	19.8	18.0	15.9	14.6	15.82	23.05																							
13-Aug	13.0	11.9	11.3	10.7	11.5	11.0	10.9	11.4	13.0	16.2	19.0	19.5	17.6	14.2	14.4	15.1	15.4	15.0	14.9	14.4	12.0	11.1	11.0	10.3	13.55	19.47																							
14-Aug	10.4	10.3	9.8	9.2	8.9	8.5	9.0	8.6	9.7	11.3	13.5	15.1	16.5	16.3	16.1	15.3	16.0	15.8	15.3	14.8	13.5	11.7	8.8	7.0	12.14	16.53																							
15-Aug	5.7	4.7	4.7	3.6	2.7	2.6	3.1	6.4	9.3	11.8	15.6	17.4	17.3	17.5	18.8	19.8	19.7	18.9	18.7	17.4	15.2	13.9	12.6	11.9	12.05	19.82																							
16-Aug	11.0	9.2	7.6	6.4	5.8	5.7	6.6	8.0	11.4	14.5	17.4	19.1	19.6	20.5	20.1	20.5	20.4	20.1	19.4	18.2	17.0	15.5	13.4	11.3	14.12	20.54																							
17-Aug	9.8	8.9	7.7	7.4	7.6	7.5	7.8	8.9	11.3	14.2	17.8	20.5	21.8	22.6	23.4	22.7	22.8	23.2	22.5	21.3	19.8	19.1	16.1	14.4	15.80	23.40																							
18-Aug	13.9	11.9	10.7	9.8	9.6	9.6	10.1	10.6	12.1	15.4	20.8	23.0	23.0	23.3	18.0	15.0	13.6	12.7	10.7	11.0	9.8	9.0	7.6	6.6	13.25	23.27																							
19-Aug	6.2	6.3	5.4	6.3	6.2	5.8	5.7	8.2	11.5	14.2	15.6	16.6	17.4	17.6	17.7	18.1	18.0	17.0	16.0	15.0	11.1	9.6	9.3	8.4	11.79	18.07																							
20-Aug	7.6	7.6	7.8	7.5	7.9	7.5	7.5	7.8	8.7	9.4	10.8	12.5	14.1	14.8	13.9	14.7	14.3	14.1	14.0	13.5	12.7	11.0	10.7	10.6	10.88	14.75																							
21-Aug	10.6	10.4	10.2	10.0	10.0	9.8	10.1	11.4	13.1	14.5	15.5	16.3	18.7	20.8	20.6	19.7	20.0	19.5	19.2	19.2	18.1	17.2	14.4	12.5	15.08	20.83																							
22-Aug	12.6	12.0	11.5	11.0	10.5	11.1	10.9	12.7	14.2	17.6	20.0	22.2	23.6	25.8	26.3	27.7	28.1	26.5	25.2	23.5	22.3	20.7	17.7	16.0	18.74	28.15																							
23-Aug	14.3	13.4	12.6	12.6	12.1	11.3	11.8	14.4	13.1	14.7	17.2	20.3	21.6	22.3	22.5	22.8	23.2	22.3	20.6	19.1	17.9	16.4	15.1	14.8	16.93	23.16																							
24-Aug	14.0	12.4	11.3	10.9	11.2	11.9	12.1	13.3	15.1	17.2	19.2	21.7	22.7	15.2	13.6	15.1	16.4	15.6	15.0	15.1	12.2	12.2	11.6	8.6	14.31	22.70																							
25-Aug	10.2	9.6	10.8	10.8	11.2	11.5	8.7	11.6	14.0	15.0	16.0	16.1	17.8	19.0	19.4	19.6	19.3	19.0	18.3	17.2	15.9	15.2	14.5	13.9	14.78	19.64																							
26-Aug	10.7	8.9	7.0	6.0	5.3	4.8	5.1	9.2	13.2	15.3	18.2	20.0	22.1	22.1	24.0	24.8	25.0	24.9	23.9	22.4	20.4	17.0	15.9	14.7	15.86	25.01																							
27-Aug	12.3	11.3	11.1	10.4	10.5	10.2	10.0	10.4	13.0	16.8	23.0	25.4	26.0	27.0	27.0	27.1	27.0	26.6	25.5	23.6	21.4	18.8	16.4	14.7	18.57	27.12																							
28-Aug	13.3	12.4	11.5	10.6	11.1	11.4	11.0	12.7	15.9	17.3	19.2	20.7	21.8	22.8	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	--	22.81																							
29-Aug	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	15.0	17.7	20.8	22.7	24.0	24.7	25.0	24.6	23.6	22.0	20.1	18.5	17.2	16.1	--	24.95																							
30-Aug	15.2	12.6	10.6	9.5	8.6	8.1	7.6	8.5	10.6	11.9	13.6	15.2	16.9	18.6	20.4	22.6	24.1	24.3	23.6	21.8	18.3	16.2	14.5	13.7	15.28	24.30																							
31-Aug	12.4	10.9	10.7	10.1	10.0	9.2	9.6	9.7	10.8	14.1	17.4	20.5	22.0	22.9	21.7	21.2	21.0	20.0	19.0	18.7	17.9	14.3	11.9	10.6	15.28	22.93																							
																								11.65	10.56	9.80	9.21	8.93	8.66	9.03	10.68	12.71	15.00	17.39	19.23	20.42	20.83	20.99	21.36	21.55	21.20	20.35	19.21	17.32	15.67	14.08	12.68	Diurnal Average	
																								16.20	13.89	12.62	12.58	12.93	12.65	12.58	14.45	15.91	19.12	23.04	25.38	26.02	27.00	27.71	28.25	28.48	27.87	26.70	25.29	23.11	21.49	20.01	18.00	Diurnal Maximum	
PF - Power Failure																																																	



WCAS - Hinton West

Summary of Hourly Averages

Wind Speed (WS) - kph
August 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	2.9	0.3	0.8	1.4	3.5	1.7	1.9	1.5	1.8	0.7	2.4	0.6	1.3	7.9	3.3	3.4	1.2	2.7	6.3	6.2	5.0	1.7	1.2	1.2	1.96	7.87				
Dir	NE	NW	SSW	SW	NE	NE	NNE	W	WNW	W	ENE	SSW	NE	NE	ENE	ENE	ESE	ENE	NE	NE	NE	ENE	ENE	NE	NE	NE				
2 Spd	0.9	1.1	0.7	0.9	0.7	0.8	0.6	1.2	1.5	1.3	1.6	4.9	1.1	5.6	7.8	6.6	7.7	10.7	10.5	10.3	8.3	6.5	4.3	2.6	3.81	10.66				
Dir	NE	NE	NE	NE	ENE	NE	NE	NW	WNW	W	N	NE	NNE	NE	NE	NE	NE	NE	ENE	NE	NE	NE	NNE	NE	NE	NE				
3 Spd	0.4	1.2	1.0	0.2	0.6	0.3	1.7	2.8	2.6	2.4	2.7	0.7	3.2	5.9	7.4	12.8	9.2	6.6	5.0	4.7	0.5	5.1	6.4	2.6	1.45	12.84				
Dir	E	NE	NE	NNE	NE	SSW	WSW	W	WSW	WNW	W	W	ENE	ENE	NE	NE	NE	NE	NE	NE	N	SW	SSW	SW	NE	NE				
4 Spd	1.0	2.7	3.8	4.0	4.2	3.6	4.4	4.2	5.0	3.0	3.4	3.3	4.5	7.1	8.8	7.7	3.1	4.3	6.8	5.4	5.3	3.6	1.2	1.8	4.08	8.79				
Dir	SSE	S	SSW	SW	SSW	SW	SW	WSW	SSW	SW	SW	SSW	SW	SW	SW	SW	SSW	SW	WSW	SW	SW	S	SSE	SW	SW	SW				
5 Spd	0.9	1.7	2.0	2.8	3.0	3.4	2.9	3.3	3.0	2.9	0.4	2.1	3.5	3.1	3.8	3.0	6.3	6.4	7.1	7.3	3.7	4.7	6.3	2.8	1.29	7.35				
Dir	SE	SW	SW	WSW	WSW	WSW	WSW	W	W	WSW	WSW	E	WNW	NE	NNE	NE	NE	ENE	ENE	ENE	ENE	NE	NE	ENE	NE	ENE				
6 Spd	0.5	0.7	0.8	0.6	0.8	0.1	1.0	1.9	3.0	2.0	2.4	4.7	7.0	5.4	7.7	8.6	9.0	PF	PF	PF	PF	PF	PF	PF	2.35	9.04				
Dir	SSE	E	ENE	NE	ENE	SSE	SW	W	W	W	W	NE	NE	NE	NE	NE	NE	PF	PF	PF	PF	PF	PF	PF	NE	NE				
7 Spd	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	--	--				
Dir	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	--	--				
8 Spd	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	--	--				
Dir	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	6.8	1.1	2.0	--	6.75	NE
9 Spd	0.1	0.0	0.4	0.8	0.5	0.8	1.1	3.0	3.1	4.2	2.2	3.3	6.0	5.9	3.0	6.4	3.9	2.5	4.6	7.6	2.8	1.2	1.3	1.1	1.66	7.60				
Dir	NE	ENE	NE	NE	NE	NE	WNW	WSW	W	W	WNW	ENE	ENE	ENE	ESE	ENE	ENE	NE	NE	ENE	ENE	ENE	ENE	ENE	NE	NE				
10 Spd	1.1	0.6	0.8	0.2	0.2	0.8	0.5	1.6	1.9	1.5	1.9	7.1	4.3	3.9	3.7	4.9	4.9	8.5	10.7	9.7	7.1	1.1	4.2	1.1	3.02	10.74				
Dir	NE	NE	ENE	SE	E	ENE	SW	W	NNW	WNW	NE	NE	NE	ENE	NE	NE	ENE	NE	NE	NE	E	NE	ENE	ESE	NE	NE				
11 Spd	0.6	1.8	0.7	1.1	1.0	0.6	0.8	0.6	2.1	3.6	1.6	3.9	12.0	10.6	12.9	11.3	11.4	13.1	12.8	9.0	7.5	9.8	9.4	7.0	5.78	13.05				
Dir	E	NE	E	ENE	ENE	NE	NE	NW	NW	NE	N	NE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	NE	NE	NE	ENE	ENE	ENE				
12 Spd	5.5	1.5	0.2	1.3	1.7	0.9	0.6	1.0	1.5	3.2	2.7	3.6	5.7	5.4	9.4	9.0	11.8	11.0	7.9	4.7	3.9	3.6	2.6	0.2	4.03	11.76				
Dir	ENE	ENE	ESE	ENE	ENE	ENE	NNE	NNW	NE	NE	NE	ENE	NE	NE	NE	NE	NE	NE	NE	ENE	ENE	ENE	NE	ESE	NE	NE				
13 Spd	1.0	0.2	0.0	0.2	2.3	0.4	0.7	3.6	1.2	1.1	2.8	3.3	11.1	1.6	2.1	3.9	5.3	7.6	6.6	4.4	3.1	5.3	3.2	3.5	0.52	11.09				
Dir	NE	ENE	N	WSW	SW	NNE	NE	NE	ENE	SSW	SW	SW	SW	ENE	NE	ENE	NE	ENE	NE	NE	S	S	SW	SSW	ESE	SW				
14 Spd	5.0	6.6	6.1	6.1	2.9	3.0	3.7	1.9	3.0	5.3	6.3	7.8	9.7	9.8	12.1	12.0	10.0	9.4	6.5	4.8	0.2	1.5	1.5	1.4	5.20	12.10				
Dir	SSW	SSW	SSW	S	SSW	SW	SW	SW	SSW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	WSW	SSE	E	ENE	NE	SW	SW				
15 Spd	1.3	0.2	2.6	1.4	0.6	2.4	0.8	3.3	3.1	6.7	10.6	13.2	11.8	10.7	12.2	10.4	7.8	8.8	7.7	0.1	1.3	1.3	1.4	0.7	4.44	13.23				
Dir	NE	ESE	SW	SSW	SW	SW	WSW	WSW	WNW	SW	SW	SW	SW	SW	SW	SW	SW	SW	WSW	N	ESE	ENE	ENE	ENE	SW	SW				
16 Spd	1.2	0.9	1.0	1.5	1.4	0.8	0.8	0.9	0.8	2.2	3.3	9.0	14.5	13.2	12.1	11.8	12.2	8.3	4.3	3.8	3.0	2.3	1.1	0.9	2.63	14.53				
Dir	ENE	ENE	ENE	ENE	ENE	E	WNW	WNW	ENE	NNE	SSW	SW	SW	SW	SW	SW	SW	SW	SW	WSW	NE	E	ENE	S	SW	SW				
17 Spd	1.2	0.9	0.4	0.8	0.5	0.6	0.7	1.1	2.0	1.9	2.1	10.9	11.9	12.8	12.6	12.7	13.1	9.0	13.2	10.8	4.0	6.0	0.4	2.5	4.95	13.19				
Dir	ENE	SW	SE	S	SSW	N	N	W	WSW	W	W	SW	SW	SW	SW	SW	SW	SW	SW	SW	SSW	E	ENE	ENE	SW	SW				
18 Spd	2.0	2.8	0.5	1.0	1.8	0.7	2.9	1.2	1.1	2.6	6.6	13.7	13.7	11.9	12.8	9.8	1.4	4.9	2.6	1.4	3.2	4.1	6.2	1.1	0.51	13.67				
Dir	ENE	ENE	ENE	ENE	NE	ENE	NE	WSW	NNE	NE	WSW	WSW	SW	WSW	NE	ENE	NE	NE	ENE	S	S	SSW	S	NE	SSW	WSW				
19 Spd	2.7	0.9	1.6	5.5	5.1	2.2	1.3	3.5	5.9	10.1	12.9	13.3	14.0	13.9	13.7	9.7	12.9	13.6	7.9	3.5	0.9	1.0	1.1	0.8	5.95	14.00				
Dir	SW	SSW	ESE	SSW	SSW	SSW	SSW	WSW	SW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	SW	SW	W	WSW	ESE	ENE	ENE	SW	WSW				
20 Spd	1.7	2.1	2.2	0.4	0.8	1.1	0.4	0.4	1.3	2.3	1.9	1.9	1.8	3.7	3.6	1.8	2.8	1.7	1.2	0.8	1.0	0.8	1.1	1.1	1.23	3.74				
Dir	ENE	ENE	ENE	SE	ENE	ENE	SSE	NNE	NE	W	NE	NNE	NNE	NNE	ENE	ENE	ENE	E	ENE	ENE	SSE	E	E	NE	ENE	NNE				
21 Spd	0.2	0.3	0.3	1.5	1.2	1.6	1.1	1.7	0.6	1.9	6.1	5.2	8.8	12.8	13.8	11.0	9.9	12.6	11.3	10.2	5.5	3.0	2.0	0.9	4.26	13.85				
Dir	ESE	SSW	NE	ENE	NE	ENE	ENE	NE	WSW	WSW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	NE	ENE	SW	SW				
22 Spd	1.4	1.2	1.2	0.9	0.6	0.3	0.2	1.7	2.5	1.3	0.5	2.4	2.6	0.9	5.1	1.5	9.5	5.3	3.8	6.9	5.0	2.6	1.4	0.9	0.56	9.55				
Dir	ENE	E	ENE	ENE	NE	ESE	WSW	WSW	W	W	N	NE	NNE	NW	NE	W	WSW	SW	ENE	NE	NE	ENE	E	E	NE	WSW				



WCAS - Hinton West Summary of Hourly Averages

Wind Speed (WS) - kph August 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	0.4	0.4	0.0	1.0	0.4	0.2	1.4	4.0	4.7	3.8	2.4	2.1	5.6	7.8	10.0	9.5	8.2	11.5	11.5	10.3	6.8	2.8	4.0	4.7	3.23	11.54	
Dir	E	ENE	NNE	SW	NNW	SW	WSW	WSW	WSW	WSW	WSW	NNE	NE	NE	NE	NE	ENE	NE	ENE	ENE	ENE	ENE	NE	NE	NE	ENE	
24 Spd	0.5	0.3	0.5	0.9	0.8	0.4	0.1	1.8	1.6	1.4	1.2	0.8	9.2	9.6	6.3	4.5	3.2	2.7	1.8	4.7	2.5	4.8	3.7	1.6	1.72	9.60	
Dir	WSW	SSW	E	E	WSW	S	N	SW	NW	NNE	NNE	NNW	WSW	W	WSW	WNW	WNW	ENE	NNE	WSW	SW	SW	SW	E	W	W	
25 Spd	5.2	4.2	8.3	10.4	12.1	9.0	1.2	8.3	15.1	16.0	15.1	15.7	12.0	15.3	16.7	15.5	17.6	15.4	15.5	13.4	12.6	9.4	7.6	6.0	11.50	17.57	
Dir	SW	SW	SW	SW	SW	WSW	WNW	WSW	SW	SW	SW	SW	WSW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	
26 Spd	0.5	1.0	2.3	2.2	1.4	2.9	2.9	0.8	7.4	10.7	8.5	8.5	8.6	11.5	11.4	14.3	14.1	15.9	13.6	9.4	5.1	0.8	2.4	0.8	5.15	15.91	
Dir	S	ENE	ENE	ENE	ENE	ENE	ENE	NNW	SW	SW	SSW	SW	SW	SW	SW	SW	SW	SW	SW	SSW	E	ENE	ENE	ENE	SW	SW	
27 Spd	1.3	1.3	1.1	2.0	0.8	0.8	1.0	0.4	0.7	1.8	3.5	13.6	13.6	10.8	10.5	10.1	9.4	10.5	1.0	7.6	5.1	1.4	1.0	1.1	2.34	13.61	
Dir	ENE	ENE	ENE	ENE	ENE	NE	NE	NNE	N	NE	WSW	SW	SW	WSW	SW	SW	SW	SW	S	ENE	ENE	ENE	ENE	ENE	SW	SW	
28 Spd	1.5	1.6	0.7	0.6	0.3	0.6	1.3	1.3	1.0	2.1	3.0	6.3	7.7	8.9	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	--	8.92	
Dir	ENE	ENE	SW	ENE	NNW	NNW	ENE	W	NNE	NE	ENE	NE	NE	NE	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	--	NE	
29 Spd	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	9.3	10.4	9.7	9.6	12.0	13.1	11.6	11.6	9.9	7.6	6.3	6.0	8.9	8.0	--	13.08
Dir	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	NE	ENE	ENE	ENE	ENE	--	ENE
30 Spd	4.8	0.4	0.7	0.7	0.8	0.7	0.1	1.1	1.8	2.4	2.4	0.7	0.6	2.4	4.4	4.6	4.3	4.2	4.2	4.4	2.0	0.2	1.1	0.7	1.27	4.76	
Dir	ENE	S	ENE	ENE	NE	NE	NE	WSW	WSW	WSW	SW	SW	NE	ENE	NE	NE	NE	ENE	NE	ENE	ENE	SE	ESE	S	ENE	ENE	
31 Spd	0.5	1.7	1.0	0.2	1.1	0.9	0.7	0.3	3.7	1.9	1.8	1.6	0.9	7.4	2.4	1.4	1.7	1.4	4.5	2.8	1.3	2.2	1.8	1.6	0.33	7.41	
Dir	NNW	ENE	ENE	WSW	W	NNE	E	W	NE	NNE	NE	SW	SE	WSW	WNW	WSW	S	ENE	NE	SE	WNW	ENE	E	ENE	NE	WSW	
Spd	0.65	0.43	0.48	0.69	0.52	0.30	0.19	1.54	1.83	2.11	2.22	2.36	2.66	2.02	0.96	0.61	1.14	0.84	1.23	1.64	1.23	1.03	1.33	1.14	Diurnal Average		
Dir	E	SE	S	SSW	SSW	SW	W	W	WSW	WSW	SW	SW	SW	WSW	SW	SSW	SSW	SE	ENE	ENE	E	ESE	E	ENE	Diurnal Maximum		
Spd	5.53	6.62	8.35	10.43	12.08	9.02	4.35	8.29	15.10	16.02	15.11	15.67	14.53	15.25	16.73	15.52	17.57	15.91	15.52	13.45	12.64	9.80	9.38	8.05	Diurnal Maximum		
Dir	63.09	202.46	231.69	226.89	229.56	239.67	228.87	242.32	230.91	232.16	229.06	231.84	233.10	229.28	224.34	229.10	223.15	224.36	223.35	224.80	225.33	52.09	54.00	62.23	Diurnal Maximum		
Maximum Speed Value: 17.6 kph on Aug 25 17:00																		Minimum Speed Value: 0.0 kph on Aug 9 02:00						Hours in Service: 744			
Maximum Daily Speed Average: 11.50 kph on Aug 25																		Minimum Daily Speed Average: 0.33 kph on Aug 20						Hours of Data: 673			
Maximum Diurnal Speed Average: 2.66 kph at hour 13																		Minimum Diurnal Speed Average: 0.19 kph at hour 7						Hours of Missing Data: 71			
Monthly Average Velocity: 0.530 kph 207.70 deg																		Speed Percentiles: P ₁ = 0.1 P ₁₀ = 0.6 Q ₁ = 1.1 Median = 2.8 Q ₃ = 6.8 P ₉₀ = 11.2 P ₉₉ = 15.5						Percent Operational Time: 90.5			
All monthly, daily, and diurnal averages have been calculated using vector methods																											
PF - Power Failure																											
Frequency Distribution																											
		Speed Range (kph)																									
Direction	0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total																				
North	23	0	0	0	0	0	23																				
NorthEast	177	70	7	0	0	0	254																				
East	71	9	8	0	0	0	88																				
SouthEast	14	0	0	0	0	0	14																				
South	27	9	0	0	0	0	36																				
SouthWest	70	62	52	0	0	0	184																				
West	53	4	1	0	0	0	58																				
NorthWest	16	0	0	0	0	0	16																				
Total	451	154	68	0	0	0	673																				



WCAS - Hinton West
Summary of Hourly Averages

Relative Humidity (RH) - %
August 2017

Maximum Value: 96.44 % on Aug 4 02:00 Maximum Daily Average: 86.65 % on Aug 13 Minimum Value: 20.3 % on Aug 11 16:00 Minimum Daily Average: 36.40 % on Aug 25 Maximum Diurnal Average: 87.16 % at hour 6 Minimum Diurnal Average: 40.72 % at hour 16 Monthly Average: 63.506 % Percentiles: P ₁ = 23.8 P ₁₀ = 29.9 Q ₁ = 43.2 Median = 67.6 Q ₃ = 84.5 P ₉₀ = 91.8 P ₉₉ = 95.6																								Hours in Service:	744																								
																								Hours of Data:	673																								
																								Hours of Missing Data:	71																								
																								Hours of Calibration:	0																								
																								Percent Operational Time:	90.5																								
Day	Hourly Period Ending At																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Aug	73.0	75.6	77.0	78.7	72.8	75.9	76.6	76.9	85.3	93.5	94.0	86.3	79.5	82.9	70.1	62.6	55.6	53.7	54.3	55.6	67.6	78.3	85.6	89.7	75.06	94.04																							
2-Aug	92.4	93.6	94.8	95.8	95.6	95.8	86.0	80.7	73.6	64.5	59.3	52.1	35.5	33.1	27.1	23.7	26.1	29.8	31.9	36.1	41.7	49.2	57.7	70.6	60.29	95.85																							
3-Aug	78.4	81.6	86.0	89.1	90.4	91.5	80.1	68.1	58.4	49.0	40.3	34.5	30.7	24.6	23.8	30.0	30.7	35.9	53.0	69.9	83.8	87.6	88.1	91.6	62.38	91.64																							
4-Aug	95.9	96.4	94.1	94.2	91.0	90.6	92.5	91.8	89.9	90.2	90.1	84.2	82.5	84.7	77.8	71.8	71.9	73.2	68.9	72.4	76.5	83.5	89.2	91.8	85.21	96.44																							
5-Aug	94.2	93.4	93.0	92.2	93.4	93.9	89.2	85.2	78.2	67.6	59.8	47.4	45.8	42.0	40.7	36.3	34.3	33.4	34.6	37.9	48.9	59.9	63.0	70.1	63.94	94.17																							
6-Aug	80.4	86.5	90.4	92.6	94.0	94.8	88.8	79.7	67.8	58.1	48.2	45.4	39.9	32.0	30.4	30.5	31.5	34.4	PF	PF	PF	PF	PF	PF	62.52	94.80																							
7-Aug	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	--	--																							
8-Aug	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	--	85.47																							
9-Aug	90.9	93.5	93.7	94.2	95.0	95.3	88.9	78.8	68.1	60.6	50.4	35.8	34.3	33.4	32.0	31.9	32.0	32.9	31.6	36.6	52.9	64.8	70.1	75.7	61.40	95.31																							
10-Aug	80.9	84.6	87.1	89.3	91.0	91.9	85.5	73.9	63.8	53.7	44.4	36.6	26.7	28.0	25.5	24.4	24.8	25.9	27.6	29.2	40.5	47.5	53.2	60.5	54.03	91.89																							
11-Aug	69.1	75.1	79.5	82.9	85.9	89.3	82.4	69.7	63.6	56.9	48.3	40.8	34.2	27.8	23.9	20.3	21.7	25.7	28.9	32.2	38.2	43.2	49.3	56.1	51.88	89.33																							
12-Aug	62.0	71.0	79.8	83.7	87.4	90.0	88.1	84.5	82.3	78.4	70.1	61.7	58.0	55.6	57.4	58.5	58.9	57.5	57.5	62.3	72.4	78.6	85.0	89.0	72.07	90.02																							
13-Aug	92.4	93.7	94.8	95.3	93.9	93.3	93.9	92.2	87.5	76.6	61.3	59.9	64.1	89.5	91.7	86.3	87.5	88.0	87.8	80.4	86.9	92.7	95.0	94.9	86.65	95.31																							
14-Aug	93.5	92.4	92.2	92.1	92.9	93.9	93.9	94.9	90.3	81.8	70.7	56.8	42.9	43.1	42.9	46.0	41.4	40.6	43.3	44.2	54.5	64.9	76.9	81.6	69.49	94.89																							
15-Aug	85.6	89.5	87.9	89.7	92.6	91.9	89.8	78.0	69.5	62.0	45.7	35.3	35.6	32.6	30.7	30.3	32.8	33.0	41.5	54.1	60.6	66.6	69.2	60.00	92.56																								
16-Aug	74.3	80.1	83.5	87.3	89.6	90.0	87.0	82.2	68.3	60.4	48.1	39.6	37.7	35.6	36.4	35.7	36.4	37.0	46.4	54.0	57.6	61.5	68.7	76.5	61.42	90.01																							
17-Aug	79.6	82.3	86.3	86.1	85.0	86.2	85.5	82.1	70.7	61.3	51.9	34.9	29.1	27.5	26.0	26.9	27.1	26.9	28.5	32.1	36.9	38.9	51.2	58.6	54.23	86.31																							
18-Aug	62.8	73.5	76.2	79.7	80.1	82.7	81.1	79.5	75.7	64.1	41.3	28.5	27.9	26.6	54.1	73.5	86.9	92.1	89.5	86.1	85.1	78.3	85.2	91.4	70.92	92.13																							
19-Aug	95.3	92.7	96.2	85.6	83.0	82.2	85.5	75.9	63.1	39.3	28.5	26.0	23.9	23.0	24.2	23.7	26.3	30.2	33.5	38.0	58.0	62.0	64.7	70.1	55.45	96.24																							
20-Aug	74.2	76.2	74.9	78.1	76.7	80.2	82.1	82.9	83.6	84.5	77.0	65.3	58.1	56.5	63.5	60.8	65.6	66.0	70.4	74.3	72.3	74.1	75.5	78.2	72.96	84.50																							
21-Aug	79.2	79.7	82.4	86.0	86.5	88.9	87.4	83.0	72.4	65.8	58.4	55.7	48.4	40.8	41.8	45.9	44.8	47.3	49.4	49.2	52.6	56.5	70.2	77.9	64.60	88.88																							
22-Aug	80.6	83.6	85.4	87.7	90.2	90.2	88.6	80.6	74.9	61.5	53.1	47.5	42.1	32.4	30.6	28.0	28.0	31.4	39.7	47.4	49.6	55.9	68.0	74.5	60.48	90.19																							
23-Aug	81.1	84.0	86.1	85.4	86.9	89.2	86.0	75.1	79.3	75.4	66.4	55.2	51.7	50.0	47.5	50.3	52.0	56.2	61.1	69.0	75.1	81.6	86.7	87.7	71.62	89.23																							
24-Aug	88.7	93.0	94.8	94.9	94.2	92.4	91.9	87.3	79.3	70.5	59.5	44.5	30.5	53.4	53.7	49.0	41.5	47.9	49.3	39.1	50.9	49.2	50.6	64.7	65.45	94.94																							
25-Aug	53.0	54.0	45.7	45.0	43.3	42.5	57.1	44.7	35.5	32.7	30.4	29.9	26.8	24.2	24.0	24.1	24.5	25.8	27.6	30.5	33.9	36.8	39.6	42.3	36.40	57.10																							
26-Aug	55.6	64.7	73.4	77.4	81.4	84.8	83.6	69.2	52.2	44.9	37.5	32.7	28.0	27.9	25.2	23.9	24.1	24.3	26.6	29.9	34.5	46.8	53.0	58.7	48.35	84.81																							
27-Aug	68.2	71.7	74.5	76.5	75.6	78.3	80.8	80.8	71.7	58.1	36.0	27.4	26.5	25.1	25.2	25.1	24.8	25.4	31.8	42.1	51.1	61.2	70.3	77.0	53.55	80.84																							
28-Aug	82.4	86.5	88.7	91.5	89.1	84.0	87.1	79.8	71.4	66.5	60.3	54.5	50.4	45.3	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	--	91.52																							
29-Aug	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	78.6	69.1	59.7	53.9	49.6	46.6	45.0	45.9	48.3	53.1	59.8	65.2	70.4	73.8	--	78.58																							
30-Aug	76.9	86.1	92.1	93.6	94.8	95.8	95.4	92.3	84.9	81.4	71.9	65.0	57.7	51.4	50.0	46.3	43.7	47.7	55.1	60.9	77.0	83.1	83.1	82.1	73.68	95.83																							
31-Aug	84.5	88.8	87.2	87.1	83.3	85.0	83.1	82.6	80.7	65.2	49.7	35.8	32.5	23.7	27.5	27.2	27.1	28.9	30.3	30.2	30.6	44.5	54.2	59.5	55.38	88.77																							
																								79.47	83.00	84.92	86.13	86.27	87.16	85.65	79.73	72.93	65.17	56.25	47.87	42.79	41.70	41.26	40.72	40.87	42.74	45.91	49.42	57.15	63.43	69.62	74.98	Diurnal Average	
																								95.92	96.44	96.24	95.78	95.61	95.85	95.41	94.89	90.29	93.52	94.04	86.26	82.53	89.46	91.66	86.34	87.52	92.13	89.50	86.09	86.89	92.69	94.97	94.94	Diurnal Maximum	
PF - Power Failure																																																	



WCAS - Hinton West
Summary of Hourly Standard Deviations

Wind Speed (WS) - kph
August 2017

Maximum Value: 6.87 kph on Aug 13 13:00		Maximum Daily Average: 4.85 kph on Aug 25		Hours in Service: 744																							
Minimum Value: 0.1 kph on Aug 9 02:00		Minimum Daily Average: 1.41 kph on Aug 8		Hours of Data: 673																							
Maximum Diurnal Average: 3.88 kph at hour 15		Minimum Diurnal Average: 1.30 kph at hour 2		Hours of Missing Data: 71																							
Monthly Average: 2.356 kph		Percentiles: P ₁ = 0.6 P ₁₀ = 1.0 Q ₁ = 1.3 Median = 1.8 Q ₃ = 3.2 P ₉₀ = 4.6 P ₉₉ = 6.2		Hours of Calibration: 0																							
				Percent Operational Time: 90.5																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Aug	1.9	1.1	1.3	1.3	2.9	1.8	1.9	1.5	1.6	1.4	1.2	1.2	1.7	2.5	2.7	2.8	2.6	2.4	2.3	2.4	2.2	1.0	1.2	0.9	1.82	2.90	
2-Aug	0.9	1.0	0.9	1.0	0.9	0.8	0.7	1.1	1.4	1.6	2.1	2.7	2.7	3.3	3.8	3.6	4.5	4.1	3.6	3.4	2.8	2.3	1.8	1.0	2.17	4.54	
3-Aug	0.9	1.1	0.9	0.5	0.8	0.6	1.3	1.3	1.6	1.6	2.0	1.8	2.7	3.3	3.2	4.0	3.6	2.2	3.8	5.0	2.9	2.3	3.7	1.5	2.19	5.03	
4-Aug	1.4	1.9	2.6	1.7	1.7	1.6	1.7	1.5	1.5	1.6	1.4	1.3	1.6	2.2	2.8	2.8	3.0	2.8	2.9	1.7	1.7	2.5	1.7	1.4	1.96	3.00	
5-Aug	1.2	1.3	1.7	1.2	1.0	1.1	1.4	1.4	1.4	2.0	1.9	2.8	2.4	3.6	3.2	3.1	3.6	3.8	2.6	2.0	1.3	3.4	2.3	1.8	2.15	3.76	
6-Aug	0.9	0.7	0.8	0.7	0.7	0.6	1.1	1.3	1.5	1.6	1.8	3.1	3.7	3.5	3.8	3.9	3.3	2.6	PF	PF	PF	PF	PF	PF	1.98	3.93	
7-Aug	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	--	--	
8-Aug	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	1.9	1.2	1.1	1.41	1.85	
9-Aug	0.5	0.1	0.7	0.8	0.7	1.0	1.1	1.6	1.8	2.1	2.1	2.9	3.7	3.8	2.0	3.7	2.3	1.6	2.6	2.4	1.6	0.9	1.1	1.4	1.77	3.84	
10-Aug	0.8	0.8	0.8	0.7	0.6	1.0	1.1	1.1	1.2	1.5	2.6	2.7	3.2	3.1	3.8	3.4	3.4	3.4	3.2	2.9	2.9	1.3	1.9	1.6	2.04	3.84	
11-Aug	1.0	1.0	1.3	0.9	1.2	0.6	0.7	0.8	1.3	1.7	2.2	5.4	3.9	4.5	5.0	4.7	4.4	5.1	5.1	3.8	2.7	4.0	4.1	1.9	2.81	5.42	
12-Aug	2.1	1.2	0.5	0.9	0.7	0.8	1.1	1.1	1.3	0.8	1.1	1.5	1.7	1.7	3.0	3.0	3.3	3.0	2.7	1.8	1.4	1.3	0.9	0.6	1.57	3.34	
13-Aug	1.1	0.8	0.7	0.9	1.5	1.3	1.2	3.5	2.2	1.5	1.6	1.5	6.9	2.2	1.7	1.6	2.4	2.2	2.3	3.8	2.1	2.5	1.7	1.8	2.04	6.87	
14-Aug	1.8	2.4	1.9	2.4	2.0	2.4	2.5	1.2	1.8	1.9	2.9	2.7	4.2	4.0	4.1	4.3	4.0	3.8	2.7	1.8	1.2	1.1	1.1	1.0	2.47	4.30	
15-Aug	1.0	0.4	0.9	1.2	0.9	1.0	1.2	1.6	1.5	3.5	4.7	4.8	4.7	4.3	5.0	4.6	3.7	3.3	3.5	1.6	1.0	1.1	1.0	1.5	2.41	4.97	
16-Aug	1.1	1.3	1.1	1.5	0.9	1.3	1.1	1.3	1.5	1.6	3.4	4.0	5.5	5.5	4.9	4.3	4.4	4.2	2.0	1.5	2.2	1.2	1.7	1.3	2.45	5.55	
17-Aug	1.3	1.3	1.1	1.4	1.3	1.3	1.0	1.4	1.3	1.4	2.0	4.6	4.7	5.0	5.3	4.5	4.8	3.6	5.1	4.0	2.9	2.7	1.6	1.2	2.71	5.30	
18-Aug	1.6	1.4	1.6	1.6	1.4	1.7	2.4	1.9	1.3	1.2	6.6	6.1	6.2	5.6	5.5	4.2	1.6	2.1	2.9	2.4	2.1	2.8	2.9	2.3	2.89	6.56	
19-Aug	2.2	2.5	2.1	2.7	3.4	2.0	2.3	2.0	2.8	5.3	5.4	5.6	6.1	6.4	6.3	4.9	5.6	6.1	4.0	2.2	1.4	1.3	0.8	1.1	3.51	6.36	
20-Aug	1.3	1.3	1.4	2.1	1.9	1.3	1.6	1.6	1.8	1.5	1.4	1.5	2.0	2.1	2.1	1.5	1.2	1.2	1.0	1.0	1.2	1.1	1.0	0.9	1.46	2.12	
21-Aug	0.9	0.6	0.6	1.2	0.9	1.4	1.1	1.1	1.1	2.3	2.2	3.0	3.9	4.6	5.4	3.8	3.7	4.7	4.5	3.8	2.7	2.1	1.2	1.1	2.41	5.44	
22-Aug	0.9	1.3	1.0	1.0	0.9	0.7	1.0	1.3	1.2	1.2	1.8	2.3	2.2	2.4	2.9	3.4	4.2	2.8	1.7	2.7	3.1	1.8	1.4	1.2	1.84	4.24	
23-Aug	1.0	0.6	1.6	1.5	1.2	1.0	1.8	1.5	1.8	1.4	1.3	2.0	2.0	2.7	3.1	3.1	2.8	4.0	3.9	3.5	3.0	1.3	1.7	2.2	2.09	3.99	
24-Aug	1.4	1.3	1.1	1.3	1.4	1.5	1.1	0.9	1.3	1.7	1.9	2.3	6.3	5.5	3.7	3.0	2.8	2.5	2.3	2.7	3.1	2.2	2.3	1.2	2.29	6.31	
25-Aug	3.6	3.4	3.4	3.6	4.6	5.2	2.0	6.6	5.8	6.2	6.0	6.1	5.1	5.8	6.2	6.2	6.4	5.8	5.6	4.6	4.1	3.8	2.8	3.5	4.85	6.60	
26-Aug	1.6	1.8	1.8	1.7	1.2	1.0	1.1	1.3	4.6	4.3	4.4	5.4	5.9	5.5	5.1	5.5	5.4	6.0	5.2	3.3	3.0	1.2	1.7	1.5	3.31	5.99	
27-Aug	1.3	1.3	1.4	1.9	1.6	1.5	1.3	1.1	1.4	1.5	4.1	6.1	5.5	4.6	4.3	3.9	3.5	3.4	3.1	2.8	2.3	1.2	1.1	1.0	2.55	6.08	
28-Aug	1.4	1.3	1.1	0.9	0.6	1.3	1.1	1.1	1.4	1.6	2.3	3.3	3.7	3.6	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	1.77	3.73	
29-Aug	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	3.2	3.9	4.3	4.0	4.0	4.5	4.6	4.4	3.6	3.3	2.2	2.1	3.1	2.2	3.52	4.58	
30-Aug	3.4	0.8	0.7	0.8	0.7	1.1	0.9	1.2	1.3	1.9	1.3	1.0	1.0	1.7	2.0	1.5	1.7	1.3	1.3	2.4	1.8	2.0	1.9	1.3	1.46	3.35	
31-Aug	1.2	2.4	2.1	1.6	1.7	1.2	1.2	1.3	1.3	1.8	1.6	2.0	2.9	4.0	3.7	2.1	2.6	2.0	2.4	3.6	2.4	1.5	1.8	1.7	2.09	4.00	
		1.42	1.30	1.31	1.39	1.41	1.37	1.36	1.59	1.78	2.05	2.64	3.24	3.81	3.83	3.88	3.65	3.56	3.37	3.20	2.83	2.27	1.93	1.81	1.48	Diurnal Average	
		3.63	3.42	3.36	3.62	4.57	5.23	2.45	6.60	5.81	6.15	6.56	6.08	6.87	6.36	6.25	6.21	6.41	6.12	5.63	5.03	4.09	3.98	4.11	3.50	Diurnal Maximum	
PF - Power Failure																											



WCAS - Hinton West
Summary of Hourly Standard Deviations

Wind Direction (WD) - deg
August 2017

Maximum Value: 102.09 deg on Aug 24 12:00 Maximum Daily Average: 71.81 deg on Aug 31																							Hours in Service:	744																								
Minimum Value: 11.0 deg on Aug 2 02:00 Minimum Daily Average: 20.47 deg on Aug 29																							Hours of Data:	673																								
Maximum Diurnal Average: 65.71 deg at hour 7 Minimum Diurnal Average: 29.37 deg at hour 18																							Hours of Missing Data:	71																								
Monthly Average: 47.590 deg Percentiles: P ₁ = 14.7 P ₁₀ = 19.9 Q ₁ = 23.6 Median = 43.1 Q ₃ = 68.2 P ₉₀ = 85.1 P ₉₉ = 96.8																							Hours of Calibration:	0																								
																							Percent Operational Time:	90.5																								
Day	Hourly Period Ending At																								Daily Average	Daily Maximum																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																								
1-Aug	31.6	92.1	96.2	59.3	74.6	67.9	60.7	71.2	60.2	86.8	34.5	73.0	83.8	17.8	63.6	72.0	91.3	62.9	21.2	28.8	18.4	23.5	23.2	14.8	55.40	96.25																						
2-Aug	25.6	11.0	68.3	25.1	60.8	21.1	42.1	70.1	73.4	73.4	82.5	41.0	95.6	53.1	36.8	38.3	51.3	23.6	20.4	16.2	20.6	29.3	33.2	19.7	43.01	95.63																						
3-Aug	57.7	63.0	13.6	72.2	72.0	86.0	46.1	41.0	39.7	66.1	55.2	91.4	66.5	51.6	31.6	15.5	17.4	17.2	62.3	80.7	100.5	34.6	45.4	45.3	53.02	100.51																						
4-Aug	69.2	69.6	37.1	27.9	33.4	34.4	20.0	19.5	16.4	45.7	27.1	27.7	22.7	19.7	21.2	23.6	69.0	30.7	25.5	19.1	20.2	56.1	75.6	61.4	36.38	75.60																						
5-Aug	65.9	63.2	69.0	31.8	22.2	21.8	23.6	24.5	30.6	54.9	97.8	89.7	57.5	83.8	64.5	76.5	32.8	33.8	22.5	18.1	15.0	24.7	21.0	60.4	46.06	97.84																						
6-Aug	59.7	43.6	54.8	12.4	18.5	81.9	79.1	39.1	39.4	56.6	56.9	48.6	39.2	49.7	54.9	44.7	23.5	17.2	PF	PF	PF	PF	PF	PF	PF	45.55	81.88																					
7-Aug	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	--	--																					
8-Aug	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	36.74	61.65																					
9-Aug	71.9	90.3	81.5	35.2	40.8	41.5	50.9	30.7	32.1	28.0	64.8	74.0	49.3	50.0	39.6	39.6	40.7	33.1	43.6	14.5	22.0	46.3	68.5	56.7	47.73	90.33																						
10-Aug	20.6	40.6	52.8	66.0	66.0	83.3	88.8	50.9	37.6	64.8	95.7	27.8	67.4	71.2	83.0	54.7	48.8	29.7	16.7	16.3	22.7	71.2	25.2	77.8	53.32	95.72																						
11-Aug	61.8	42.6	78.5	50.8	67.3	25.4	42.2	72.9	44.7	38.7	77.1	83.9	22.1	26.6	21.7	23.7	25.5	23.0	21.6	25.6	24.4	24.3	24.6	13.0	40.08	83.89																						
12-Aug	17.3	48.1	54.4	25.8	28.5	60.6	81.4	60.9	34.9	20.2	23.5	22.9	19.9	18.8	14.6	17.5	15.9	17.2	16.4	22.7	20.2	18.0	26.0	81.5	31.96	81.52																						
13-Aug	73.0	85.2	89.1	81.9	56.1	90.9	78.3	37.7	90.4	80.5	39.1	25.5	20.9	83.3	50.1	22.8	20.3	17.4	18.8	61.3	61.7	31.0	48.0	20.4	53.49	90.86																						
14-Aug	18.9	18.3	19.2	20.2	47.5	43.8	52.2	57.1	31.5	24.8	31.2	23.8	24.0	25.0	21.1	20.9	21.5	21.9	20.8	25.2	92.3	44.5	44.0	59.4	33.71	92.31																						
15-Aug	48.2	73.3	21.4	50.3	80.3	31.5	86.0	23.7	37.0	34.3	24.6	22.8	22.6	24.3	22.3	25.2	38.8	19.6	23.2	93.6	54.4	69.1	47.5	84.9	44.12	93.58																						
16-Aug	37.1	81.4	59.9	56.6	46.5	75.7	81.6	63.1	94.5	43.1	87.4	24.3	20.9	23.2	22.0	23.0	20.5	25.3	38.9	26.5	51.9	42.0	81.3	73.1	49.99	94.45																						
17-Aug	65.9	81.7	88.7	79.2	85.3	79.1	67.7	71.8	43.8	52.5	66.7	26.3	24.7	22.7	23.4	20.9	19.6	21.8	20.0	18.6	35.8	26.1	96.8	45.9	49.37	96.80																						
18-Aug	60.3	35.4	95.1	81.7	59.3	97.7	66.4	90.2	62.9	27.5	64.9	22.8	23.3	26.6	35.0	22.2	64.9	26.6	77.0	83.5	51.4	56.5	23.3	86.2	55.86	97.68																						
19-Aug	67.1	96.9	57.0	38.9	49.3	81.7	84.9	38.9	27.0	28.5	24.1	24.6	24.9	24.0	24.0	28.1	23.5	21.9	26.1	50.0	53.7	79.8	39.1	77.5	45.49	96.90																						
20-Aug	45.8	29.5	47.7	97.3	92.4	76.2	92.0	96.7	82.5	39.4	53.9	51.4	70.6	44.5	27.0	54.9	24.8	53.6	39.5	61.2	65.1	55.6	60.0	55.0	59.02	97.26																						
21-Aug	90.1	69.5	89.8	54.4	35.6	45.5	47.3	37.9	87.0	73.1	21.8	29.5	24.3	22.0	22.3	19.3	20.5	20.6	20.0	19.6	19.6	41.1	36.6	74.7	42.59	90.10																						
22-Aug	45.3	66.0	45.8	61.6	69.6	82.8	87.6	56.9	34.3	62.4	95.9	64.0	70.1	92.2	47.7	88.1	27.4	30.6	30.9	18.0	56.6	56.0	52.5	63.0	58.56	95.91																						
23-Aug	76.7	22.3	67.7	87.0	79.3	85.5	42.2	23.2	21.1	22.6	37.3	81.0	23.5	22.4	18.6	19.4	20.4	18.7	18.3	15.1	19.1	25.1	24.9	34.8	37.76	87.03																						
24-Aug	79.3	80.7	92.8	86.0	83.0	89.7	97.8	28.8	65.0	77.6	85.4	102.1	35.7	35.0	31.7	50.1	55.4	78.3	87.3	32.7	94.9	42.9	57.2	51.7	67.55	102.09																						
25-Aug	33.4	63.7	23.4	19.2	19.9	29.6	89.0	34.9	21.6	21.5	22.5	22.5	26.2	23.6	21.2	21.9	20.9	21.6	19.9	18.6	18.0	19.8	21.6	25.8	27.51	89.00																						
26-Aug	89.0	89.8	60.5	66.0	64.2	28.1	19.8	75.6	47.6	20.4	37.4	31.8	39.6	23.6	27.7	24.1	24.4	21.6	20.7	17.9	48.4	75.3	55.7	86.1	45.64	89.78																						
27-Aug	65.2	69.4	80.1	63.0	84.9	90.2	80.0	78.0	90.6	57.5	74.8	24.9	23.0	27.1	22.6	23.5	21.8	20.1	92.1	15.6	18.9	29.1	54.7	41.7	52.05	92.07																						
28-Aug	39.1	57.9	61.0	59.4	54.0	69.6	63.6	55.2	68.1	61.3	58.1	46.3	33.8	25.8	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	53.80	69.56																					
29-Aug	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	21.6	25.6	25.5	25.6	22.8	21.5	22.6	20.9	20.3	18.8	17.0	16.7	15.5	12.3	20.47	25.63																					
30-Aug	54.0	57.5	37.9	24.1	25.9	71.2	77.9	85.1	49.4	62.3	33.0	69.3	72.8	59.6	30.0	21.6	24.3	15.6	16.0	25.6	62.3	96.0	73.8	77.8	50.96	95.99																						
31-Aug	87.2	69.8	94.2	96.8	80.0	73.9	90.4	94.2	17.6	46.8	68.2	74.4	83.8	34.9	93.4	88.8	92.9	77.9	38.7	63.5	76.7	50.4	61.9	66.9	71.81	96.76																						
																							55.60	61.15	62.06	54.64	57.05	63.08	65.71	54.64	49.32	48.98	53.90	47.34	41.87	38.19	35.51	35.80	35.02	29.37	32.54	33.60	43.03	42.90	46.38	53.58	Diurnal Average	
																							90.10	96.90	96.25	97.26	92.43	97.68	97.85	96.65	94.45	86.83	97.84	102.09	95.63	92.24	93.43	88.82	92.86	78.34	92.07	93.58	100.51	95.99	96.80	86.17	Diurnal Maximum	
PF - Power Failure																																																

CALIBRATIONS

Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 901, Tomahawk

Calibration Date: August 21, 2017

Parameter: NO/NO₂/NO_x

Instrument: Teco 42i

Serial Number: 0708721217

Previous Calibration Date: July 19, 2017

Calibration: Routine

Calibration Equipment: Sabio 2010 #05200311

Barometric Pressure: 27.44" Hg

Calibration Method: Standard Gas Dilution/GPT

Cylinder ID: SX17611

Temperature: 21.6° C

Cylinder Concentration: 25.4 ppm NO/NO_x

In Service: April 1/16; Expiry 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	14.4	14.5	na	1.373	1.003	1.000	500 ppb
Current	14.7	14.8	na	1.403	0.999	1.000	500 ppb

NO	Final Zero: -0.3 ppb	Final Span: 205.9 ppb	As Found Correction Factor: 0.994
NO ₂	Final Zero: -0.6 ppb	Final Span: -0.4 ppb	As Found Correction Factor: NA
NO _x	Final Zero: -0.6 ppb	Final Span: 206.2 ppb	As Found Correction Factor: 0.990

Results of Linear Regression			Slope	Intercept	R ²
NO	R _c vs C _c	Previous	59.939080	-16.438350	0.999998
		Current	60.007080	23.372530	0.999963
	C _i vs C _c	Current	1.000000	0.000040	0.999963
NO ₂	R _c vs C _c	Previous	59.966510	-16.723020	0.999998
		Current	60.037780	34.474590	0.999992
	C _i vs C _c	Current	1.000000	0.000040	0.999993
NO _x	R _c vs C _c	Previous	60.161940	5.572713	0.999998
		Current	60.229350	38.441300	0.999952
	C _i vs C _c	Current	1.000000	-0.000007	0.999952

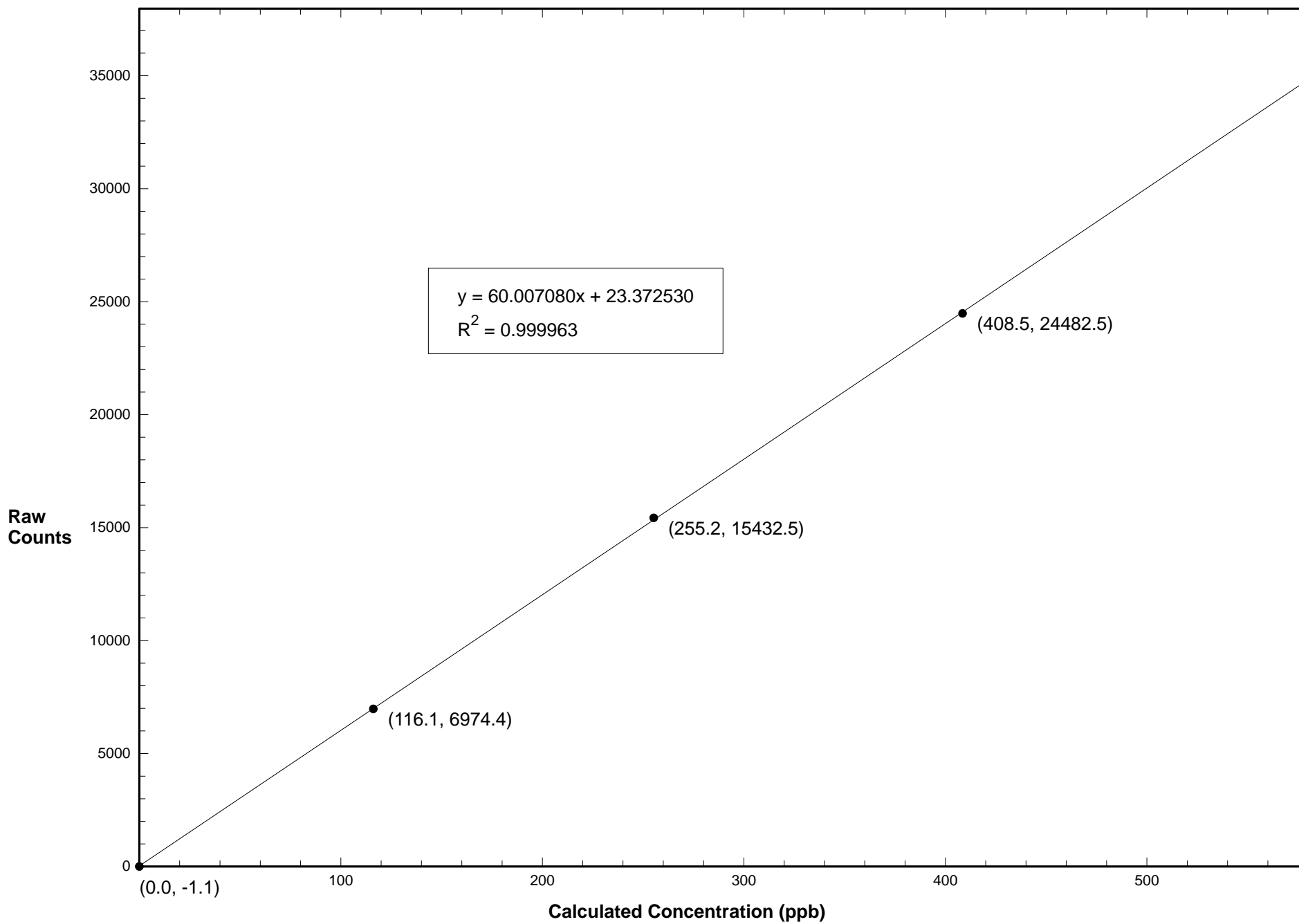
Comments: SF= 0.619 lpm

Calibration Data Summary (Page 2)

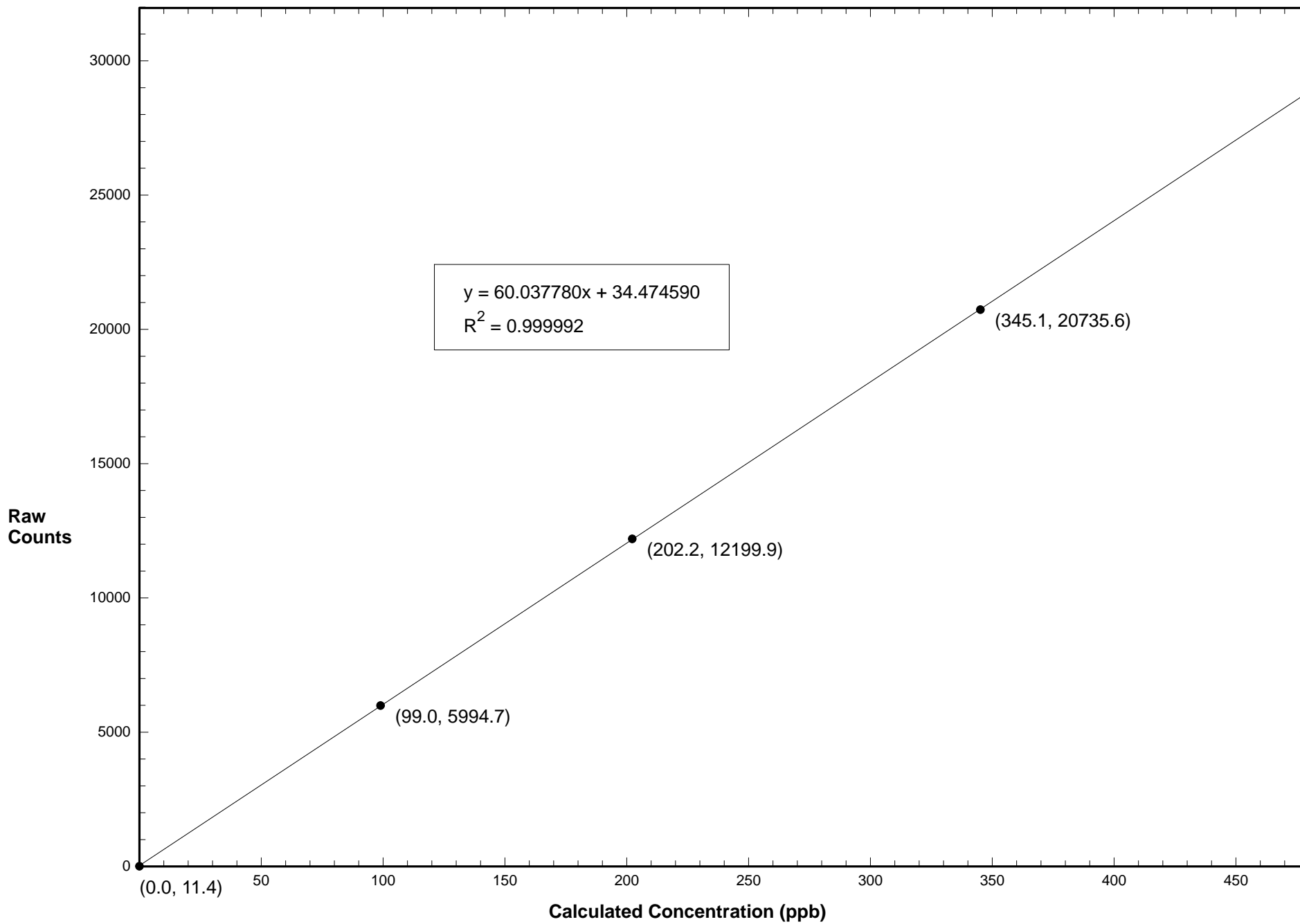
August 21, 2017 - Station 901

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		
0.07350	4.497	408.5	24482.5	407.6	1.002		
0.04600	4.532	255.2	15432.5	256.8	0.994		
0.02080	4.530	116.1	6974.4	115.8	1.002		
0.00000	4.500	0.0	-1.1	-0.4			
NO Calibration					Average Correction Factor:	0.999	
0.07350	4.497	408.5	24579.2	407.5	1.003		
0.04600	4.532	255.2	15515.5	257.0	0.993		
0.02080	4.530	116.1	7022.9	116.0	1.001		
0.00000	4.500	0.0	4.3	-0.6			
NO _x Calibration					Average Correction Factor:	0.999	
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
408.1	3805.3	63.0	345.1	20735.6	344.8	1.001	0.999
408.1	12378.4	205.9	202.2	12199.9	202.6	0.998	1.002
408.1	18576.6	309.2	99.0	5994.7	99.3	0.997	1.003
			0.0	11.4	-0.4		
					Average Correction Factor:	0.999	
NO ₂ Gas Phase Titration					Average Converter Efficiency:	1.001	
Parameter	Correction Factor (Previous)	Correction Factor: (Current)	Percent Change of Correction Factor				
NO	1.001	1.002	0.1				
NO ₂	1.003	1.001	-0.2				
NO _x	1.000	1.003	0.3				

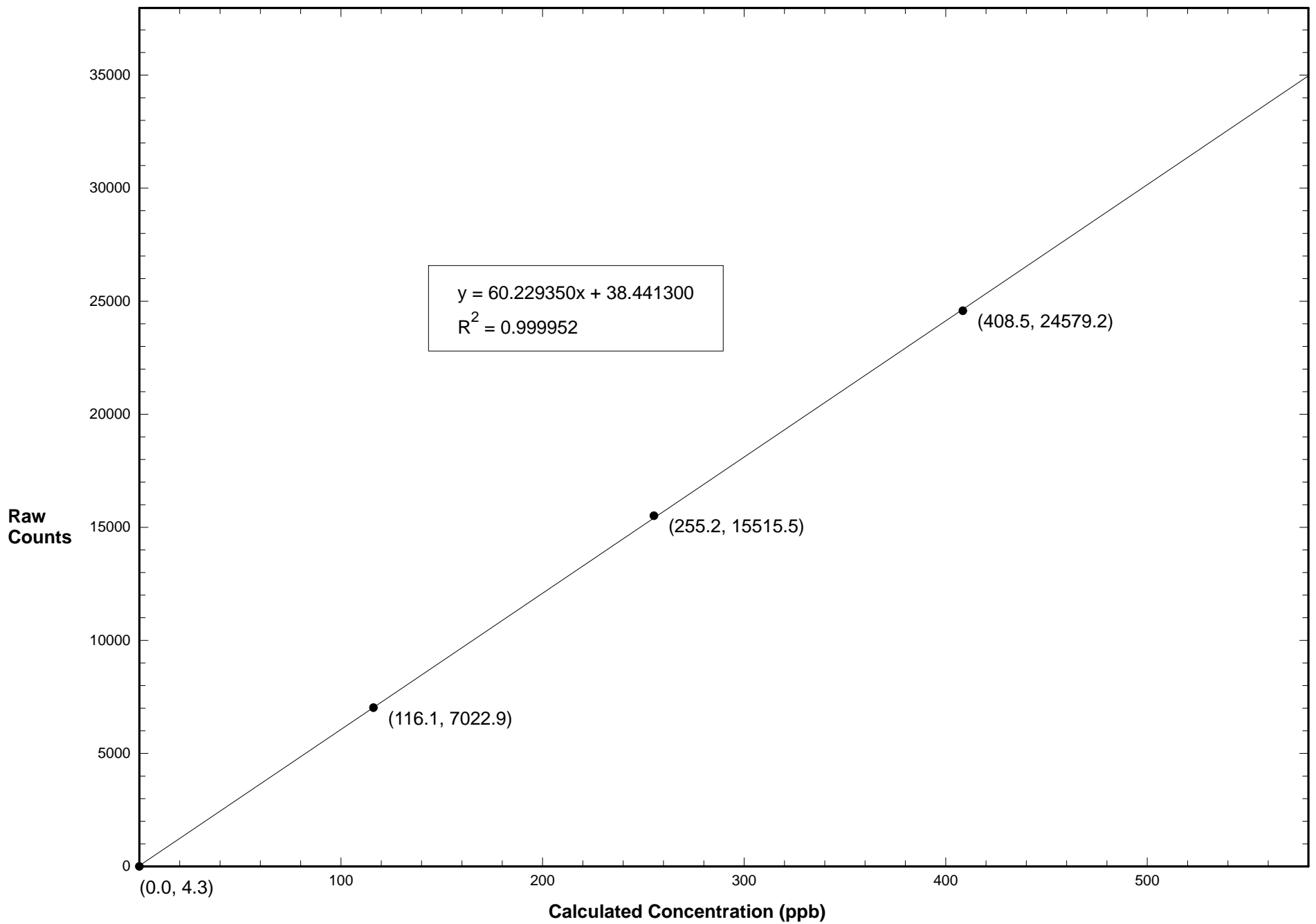
Station 901 NO August 21, 2017: Linear Regression



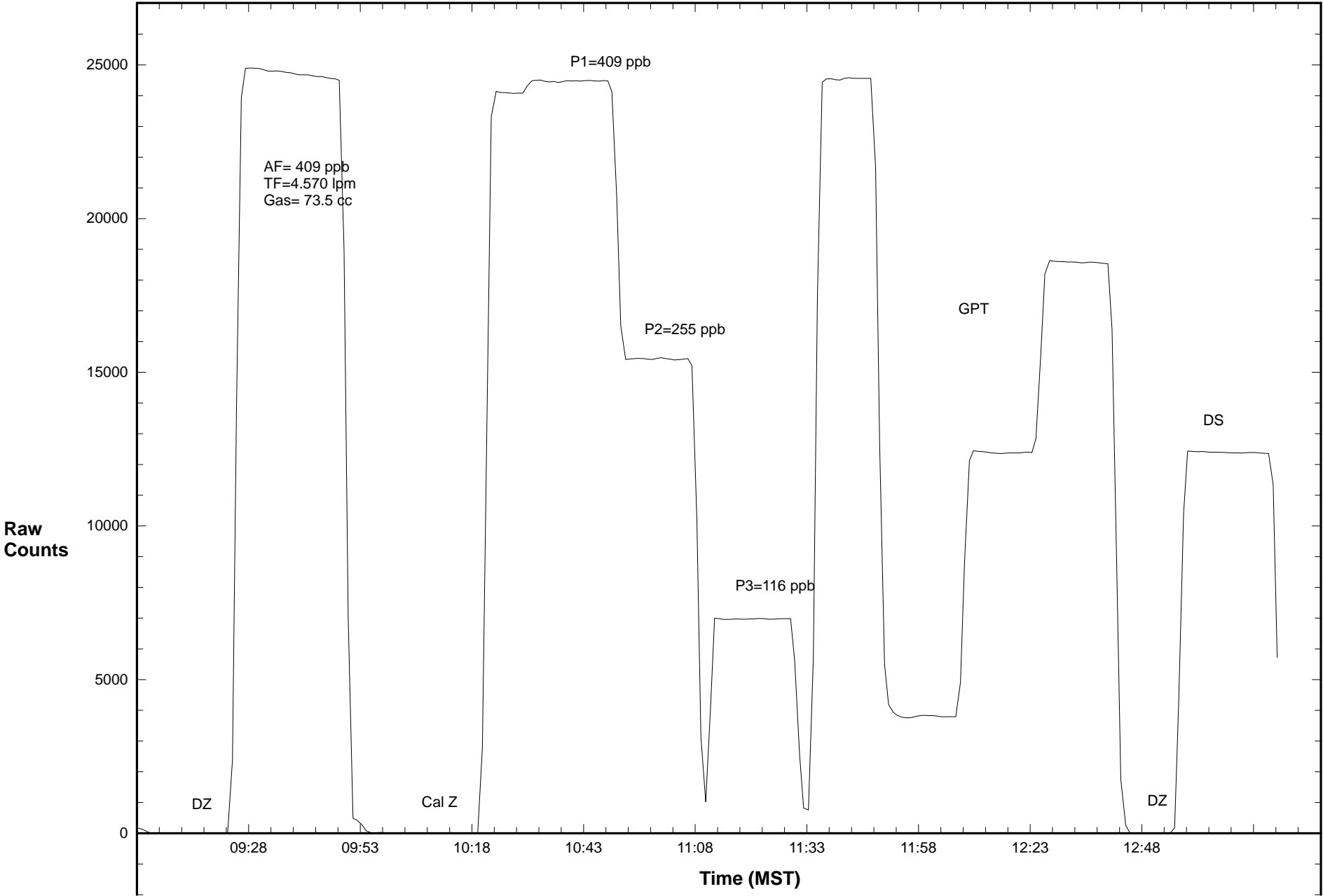
Station 901 NO2 August 21, 2017: Linear Regression



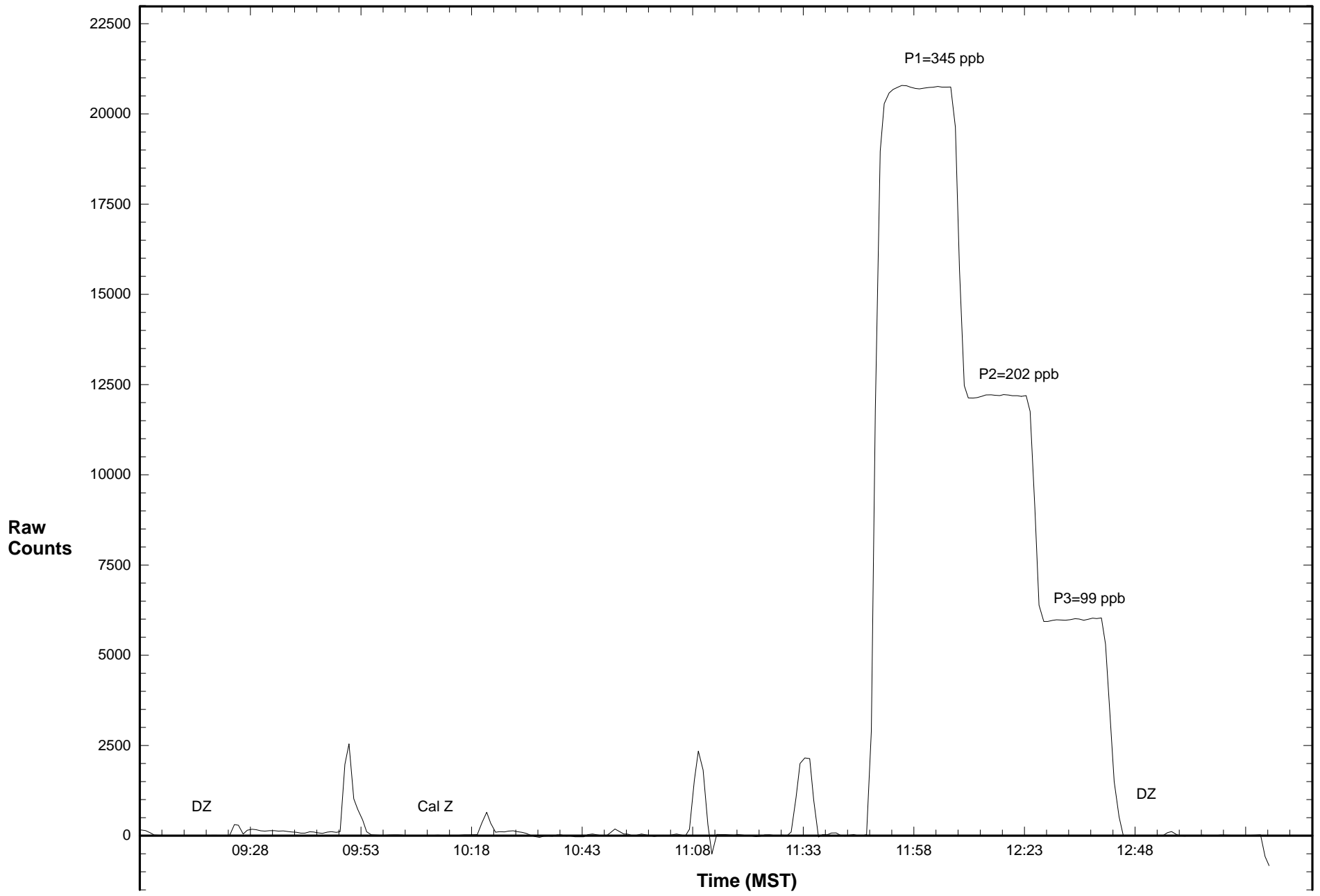
Station 901 NOX August 21, 2017: Linear Regression



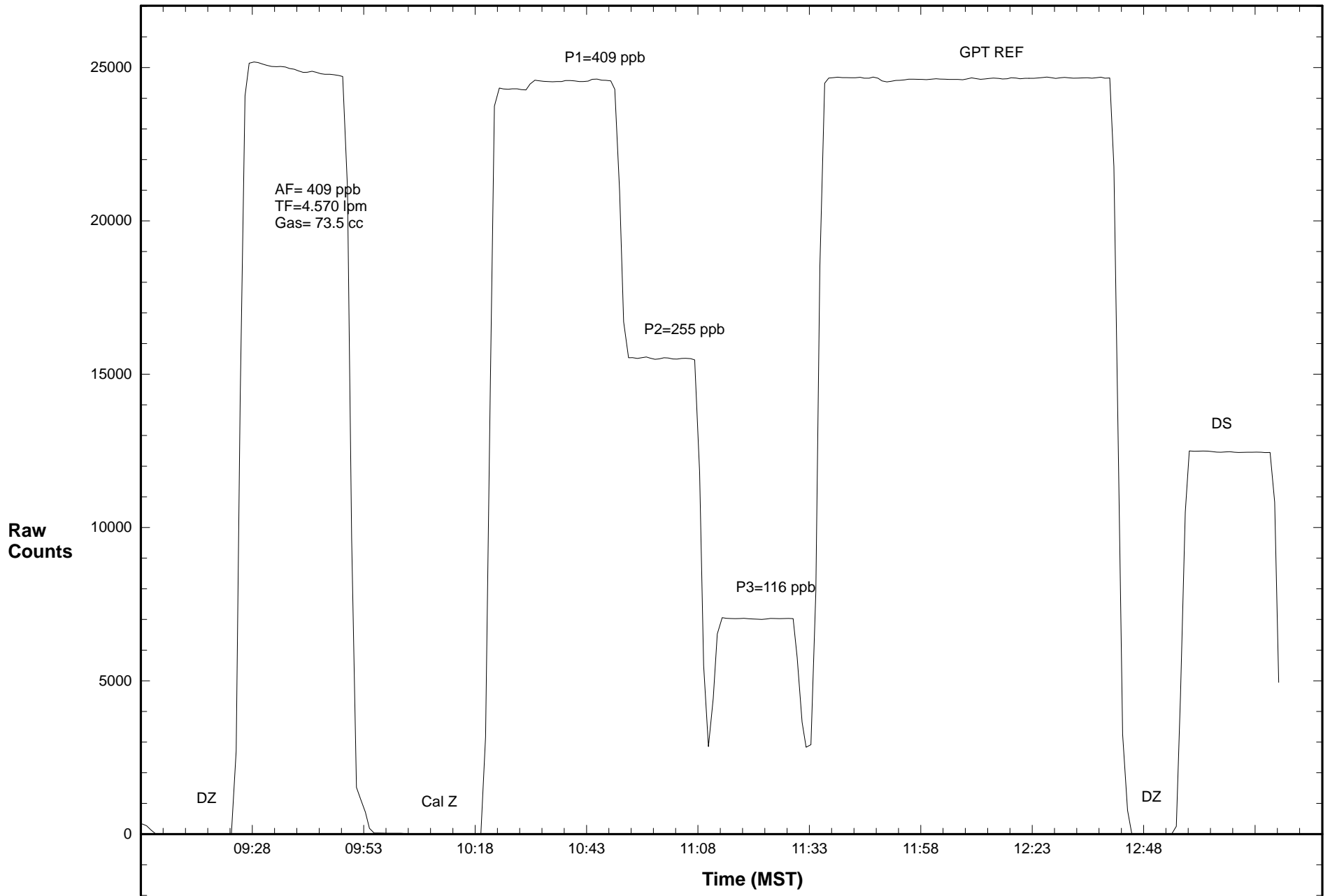
Station 901 NO August 21, 2017: Calibration Graph



Station 901 NO2 August 21, 2017: Calibration Graph



Station 901 NOX August 21, 2017: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 901, Tomahawk

Calibration Date: August 21, 2017

Parameter: O₃

Instrument: Teco 49i

Serial Number: 0708721220

Previous Calibration Date: July 19, 2017

Calibration: Routine

Calibration Equipment: 2B Tech Model 306 SN#145

Barometric Pressure: 27.44" Hg

Calibration Method: Certified Ozone Generator; 04.28.17

Temperature: 21.6° C

Technician: J.McClintock

Instrument Settings	Background	Coefficient	Monitoring Range
Previous	-0.3	1.028	500 ppb
Current	-0.2	1.011	500 ppb

Final Zero: -0.4 ppb

Final Span: 206.2 ppb

As Found Correction Factor: 0.988

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	25351.8	422.0	1.000
3.000	266.0	15968.8	265.7	1.001
3.000	106.0	6414.7	106.5	0.995
3.000	0.0	0.7	-0.3	

Results of Linear Regression

R _c vs C _c	Slope	Intercept	R ²
Previous	59.835200	85.972490	0.999945
Current	60.024430	19.151170	0.999996
C _i vs C _c			
Current	1.000000	0.000030	0.999995

Average Correction Factor: 0.999

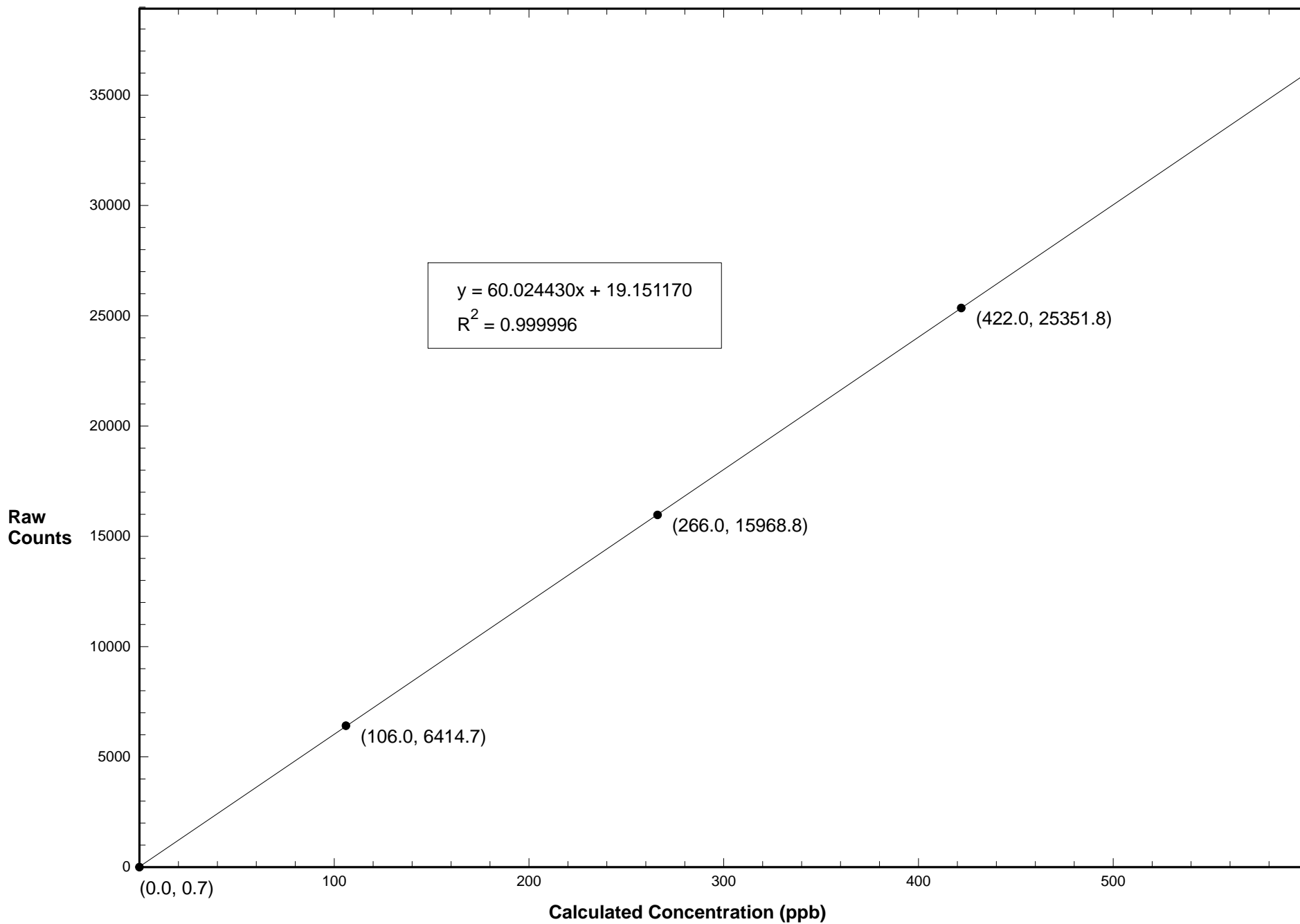
Previous Correction Factor: 1.002

Current Correction Factor: 1.000

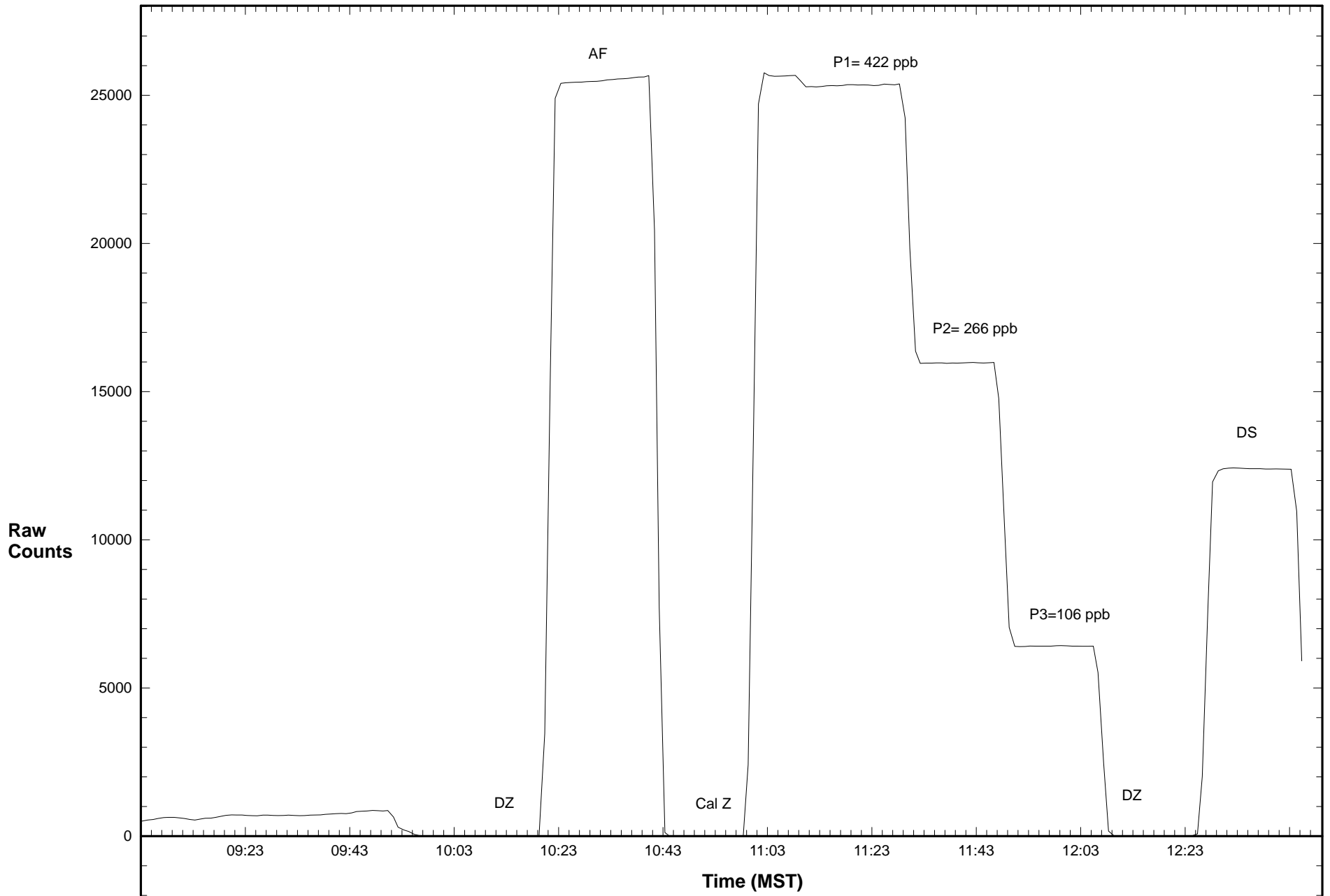
Percent Change of Correction Factor: -0.2

Comments: SF=1.419 lpm

Station 901 O3 August 21, 2017: Linear Regression



Station 901 O3 August 21, 2017: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 901, Tomahawk

Calibration Date: August 21, 2017

Parameter: SO₂

Instrument: Teco 43i

Serial Number: 0708721218

Previous Calibration Date: July 19, 2017

Calibration: Routine

Calibration Equipment: Sabio 2010 #05200311

Barometric Pressure: 27.44" Hg

Calibration Method: Standard Gas Dilution

Cylinder ID: SX17611

Temperature: 21.6° C

Cylinder Concentration: 25.4 ppm SO₂

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

Technician: J.McClintock

Instrument Settings	SO ₂ bkg ppb	SO ₂ Coefficient	Monitoring Range
Previous	15.1	0.924	500 ppb
Current	15.8	0.925	500 ppb

Final Zero: -1.0 ppb

Final Span: 91.4 ppb

As Found Correction Factor: 0.994

SO ₂ 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
0.0735	4.497	408.5	24544.4	407.1	1.003
0.0460	4.532	255.2	15550.4	257.6	0.991
0.0208	4.530	116.1	7030.1	115.9	1.001
0.0000	4.500	0.0	10.6	-0.8	

Results of Linear Regression

R _c vs C _c	Slope	Intercept	R ²
Previous	60.158450	22.495700	0.999998
Current	60.153110	56.705280	0.999912
C _i vs C _c			
Current	1.000000	-0.000007	0.999913

Average Correction Factor: 0.999

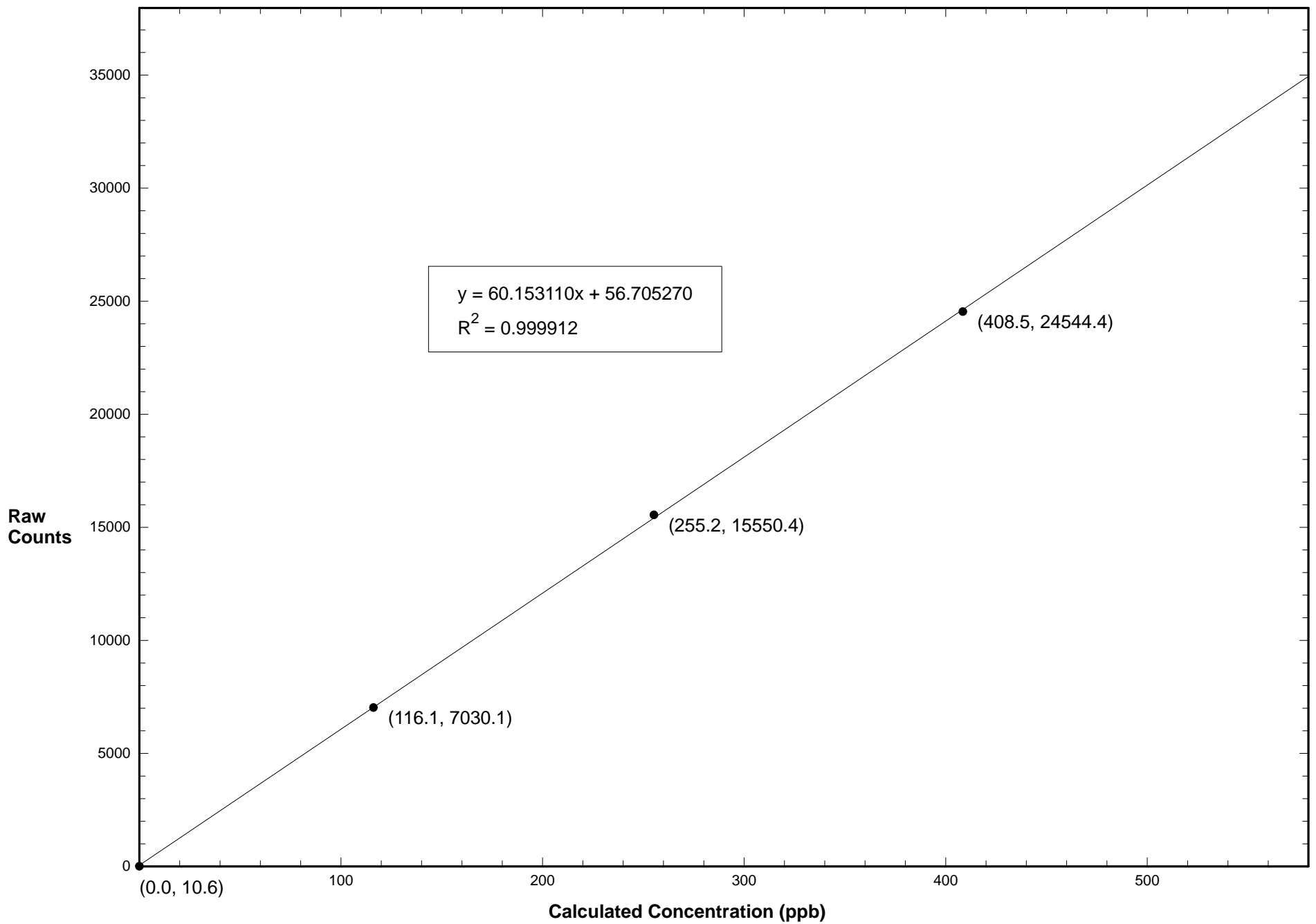
Previous Correction Factor: 1.001

Current Correction Factor: 1.003

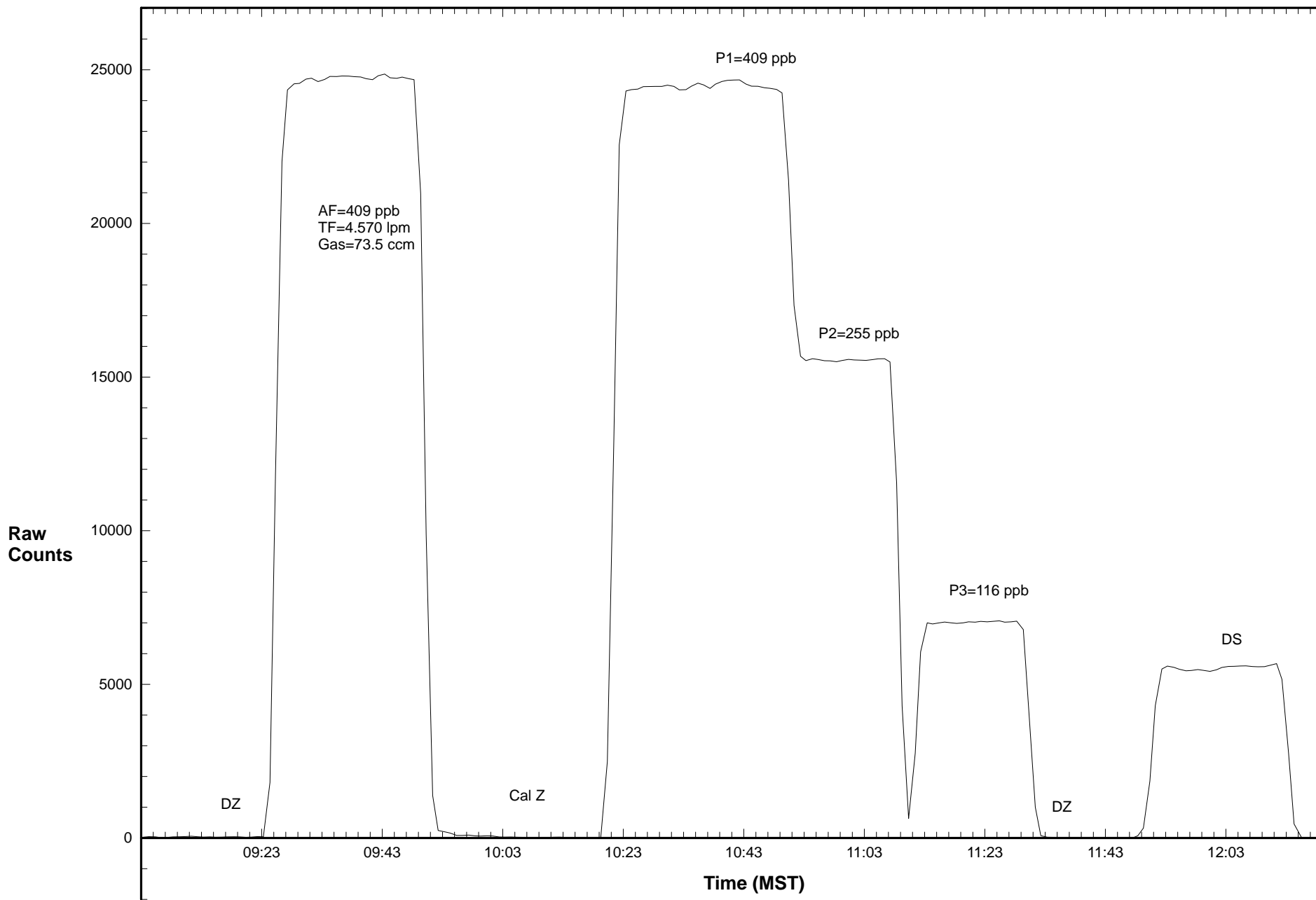
Percent Change of Correction Factor: 0.2

Comments: SF= 0.408 lpm

Station 901 SO2 August 21, 2017: Linear Regression



Station 901 SO2 August 21, 2017: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 902, Violet Grove

Calibration Date: August 7, 2017

Parameter: NO/NO₂/NO_x

Instrument: Teco 42i

Serial Number: 0708721428

Previous Calibration Date: July 31, 2017

Calibration: Routine

Calibration Equipment: Sabio 2010 SN 08600312

Barometric Pressure: 27.24" Hg

Calibration Method: Standard Gas Dilution/GPT

Cylinder ID: SX17611

Temperature: 21.8° C

Cylinder Concentration: 25.4 ppm NO/25.5 ppm NO_x

In Service: 4/1/2016 EXP 12/2/2017

Technician: L. Burns

Instrument Settings	NO bkg ppb	NO _x bkg ppb	Pre-reactor bkg ppb	NO Coefficient	NO _x Coefficient	NO ₂ Coefficient	Monitoring Range
Previous	12.9	13.1	NA	1.051	1.000	1.000	500 ppb
Current	13.4	13.7	NA	1.092	1.005	1.000	500 ppb

NO	Final Zero: 0.8 ppb	Final Span: 124.4 ppb	As Found Correction Factor: 1.033
NO ₂	Final Zero: -0.5 ppb	Final Span: 0.6 ppb	As Found Correction Factor: NA
NO _x	Final Zero: 0.7 ppb	Final Span: 125.5 ppb	As Found Correction Factor: 1.036

Results of Linear Regression			Slope	Intercept	R ²
NO	R _c vs C _c	Previous	59.909670	31.308680	0.999988
		Current	59.931510	-1.658005	0.999992
	C _i vs C _c	Current	1.000000	-0.000003	0.999992
NO ₂	R _c vs C _c	Previous	59.746810	1.971892	0.999988
		Current	59.925240	37.341700	0.999973
	C _i vs C _c	Current	1.000000	-0.000068	0.999973
NO _x	R _c vs C _c	Previous	59.999680	34.468460	0.999988
		Current	60.126990	-6.250155	0.999989
	C _i vs C _c	Current	1.000000	0.000003	0.999989

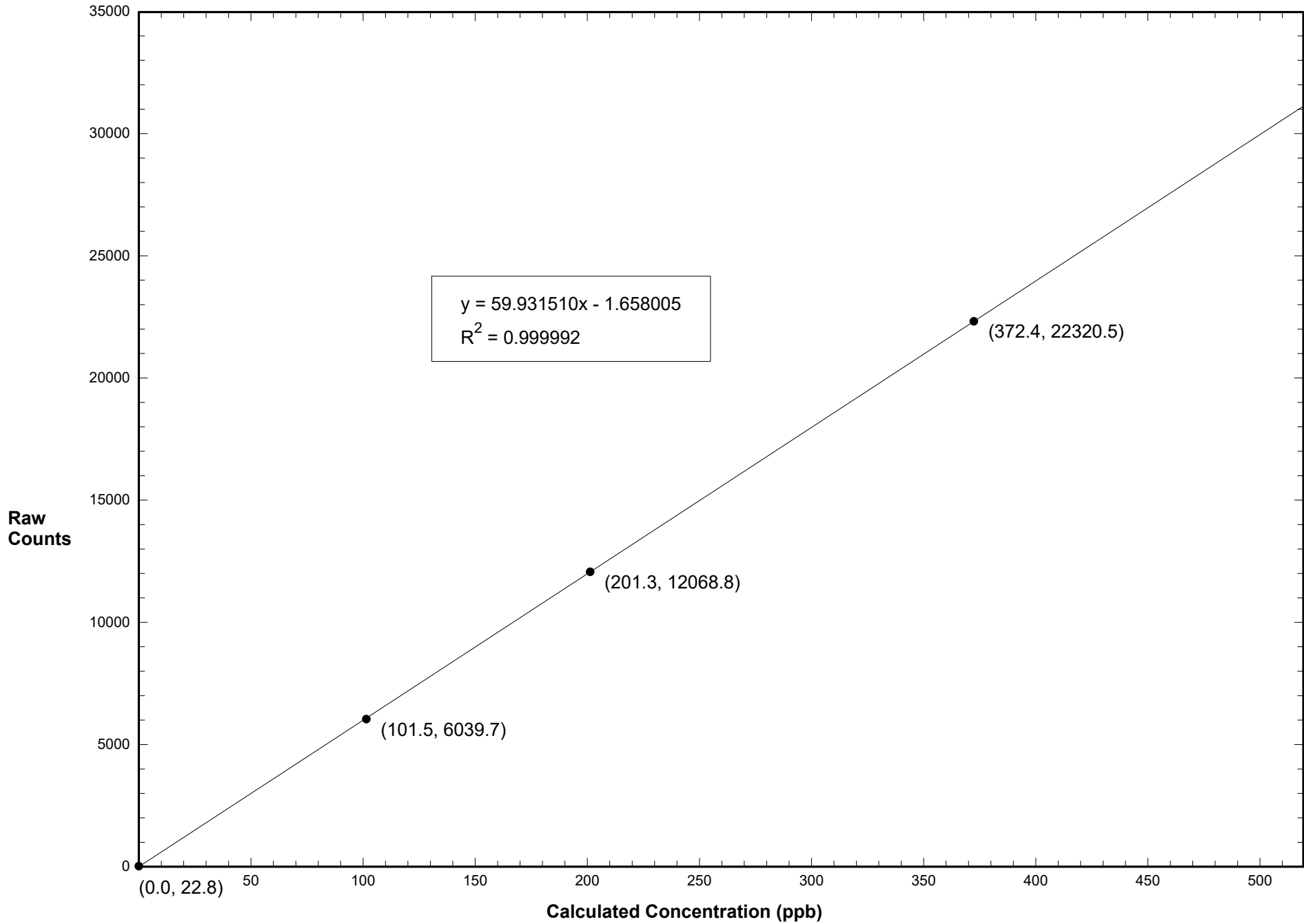
Comments: SAMPLE FLOW= 0.428 LPM

Calibration Data Summary (Page 2)

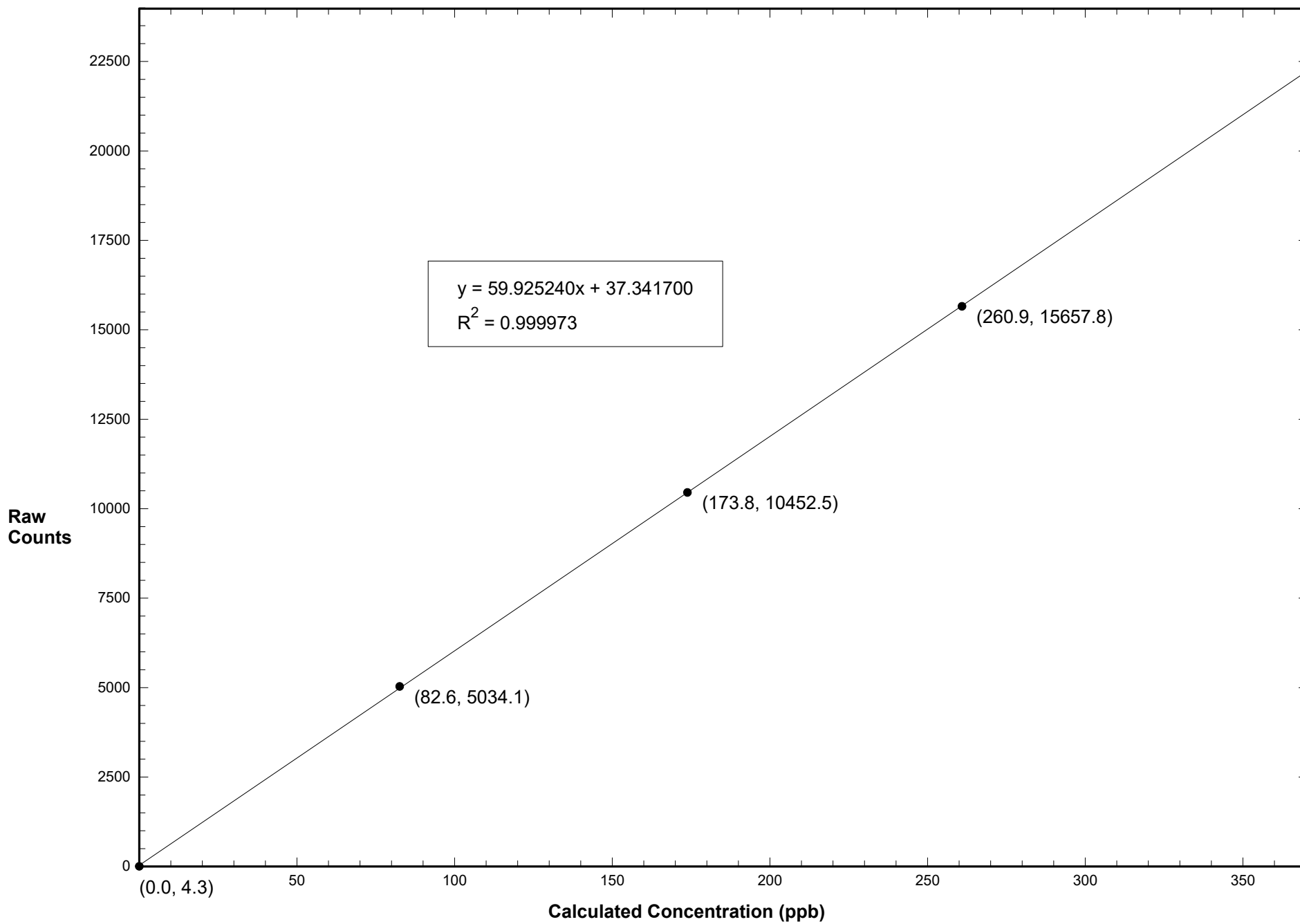
August 7, 2017 - Station 902

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		
0.07619	5.121	372.4	22320.5	372.5	1.000		
0.04071	5.097	201.3	12068.8	201.4	0.999		
0.02030	5.062	101.5	6039.7	100.8	1.006		
0.00000	5.000	0.0	22.8	0.4			
NO Calibration					Average Correction Factor:	1.002	
0.07619	5.121	373.8	22471.3	373.8	1.000		
0.04071	5.097	202.1	12164.0	202.4	0.998		
0.02030	5.062	101.9	6073.9	101.1	1.007		
0.00000	5.000	0.0	16.0	0.4			
NO _x Calibration					Average Correction Factor:	1.002	
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
379.8	7122.9	118.9	260.9	15657.8	260.7	1.001	0.999
379.8	12341.0	205.9	173.8	10452.5	173.8	1.000	1.000
379.8	17811.3	297.2	82.6	5034.1	83.4	0.990	1.010
			0.0	4.3	-0.6		
					Average Correction Factor:	0.997	
NO ₂ Gas Phase Titration					Average Converter Efficiency:	1.003	
Parameter	Correction Factor (Previous)	Correction Factor: (Current)	Percent Change of Correction Factor				
NO	1.001	1.000	-0.1				
NO ₂	1.000	1.001	0.1				
NO _x	1.002	1.000	-0.2				

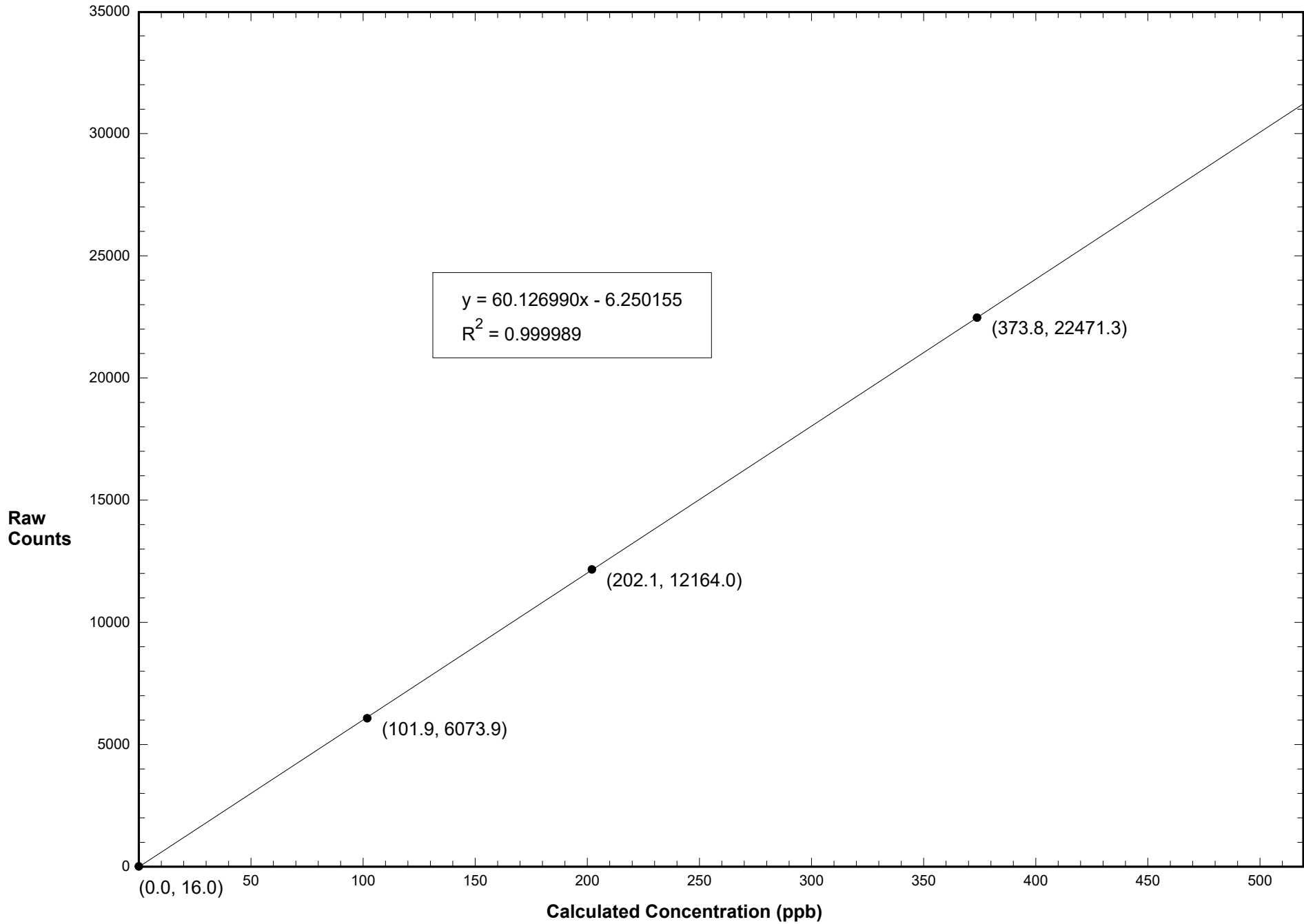
Station 902 NO August 7, 2017: Linear Regression



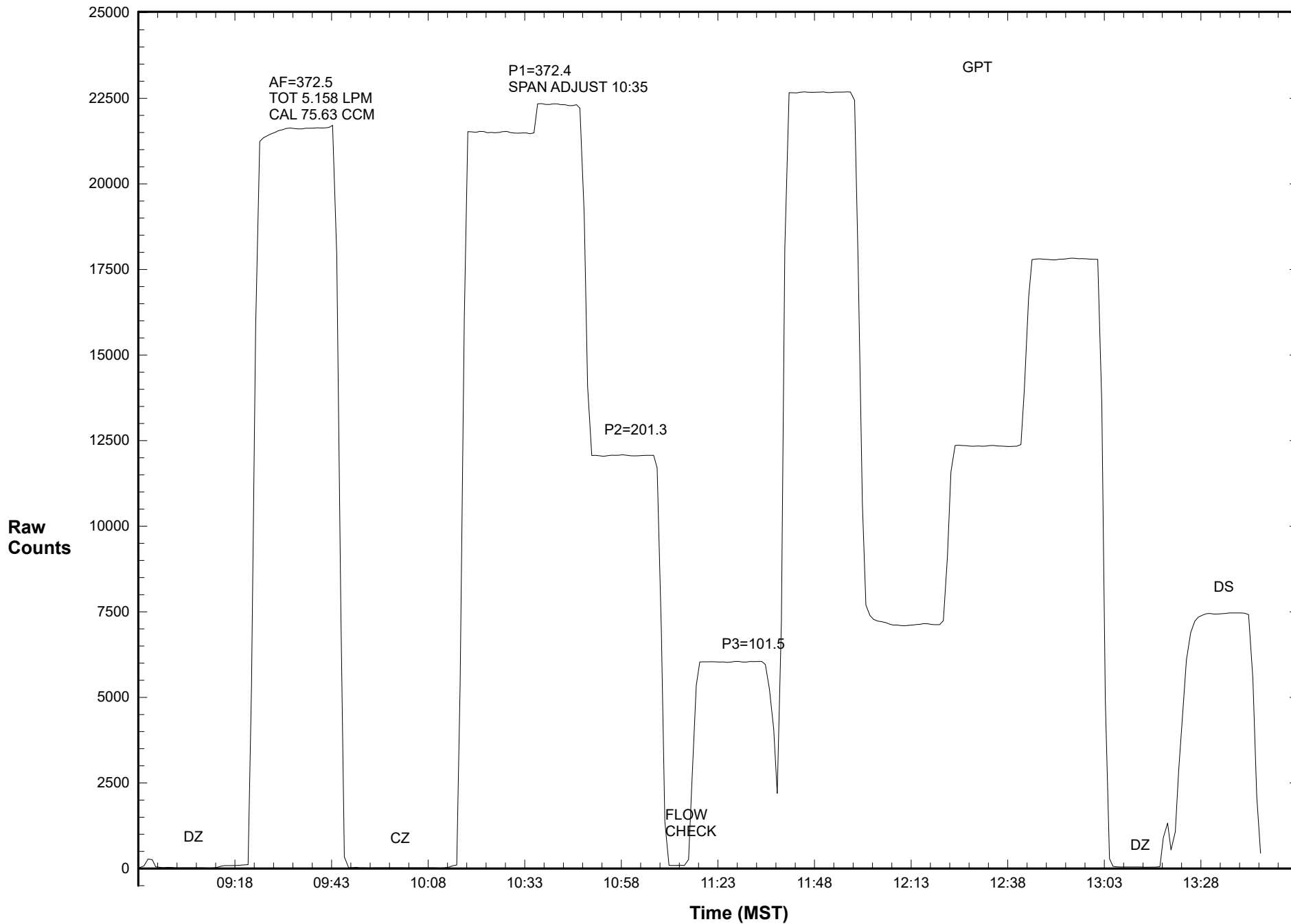
Station 902 NO2 August 7, 2017: Linear Regression



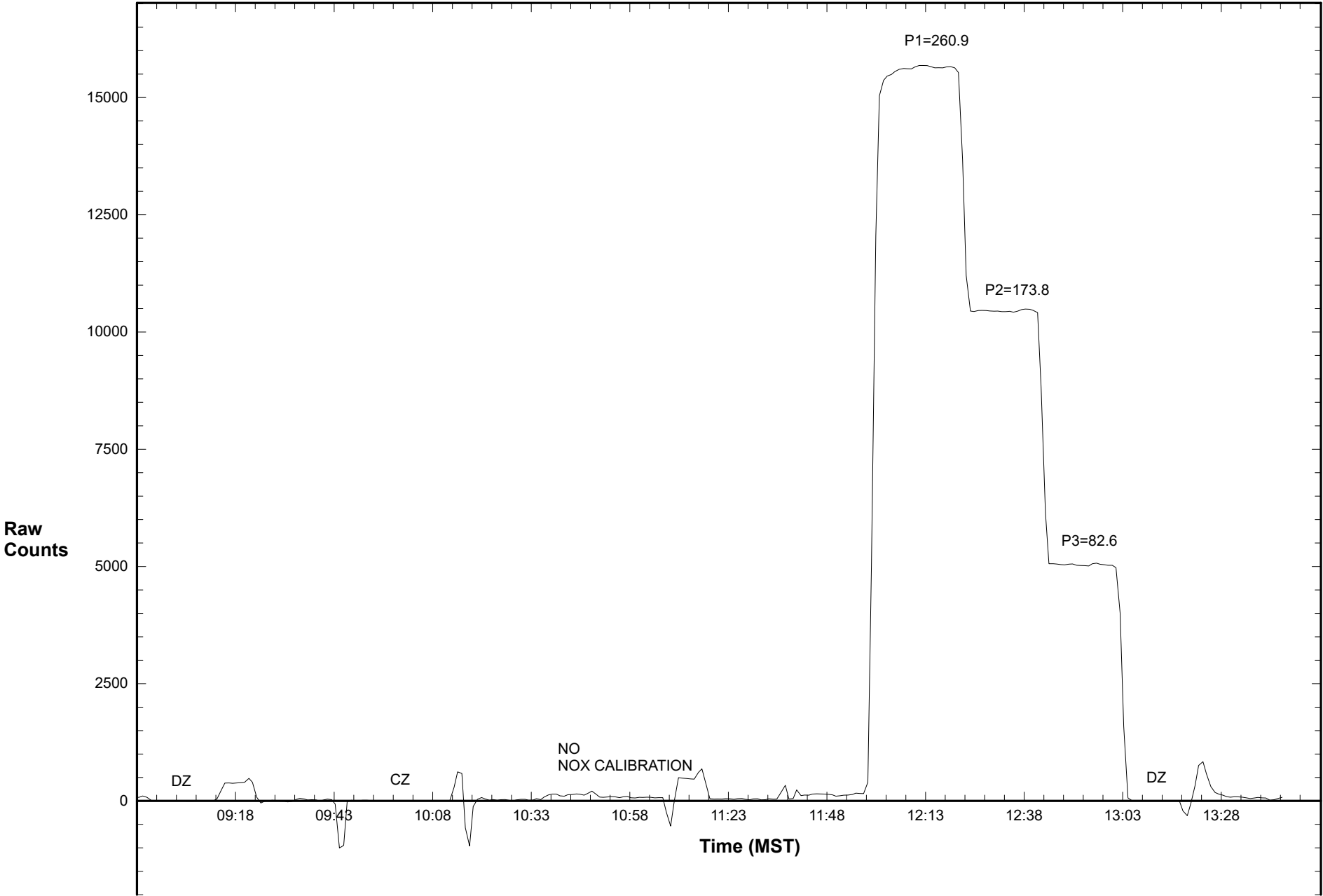
Station 902 NOX August 7, 2017: Linear Regression



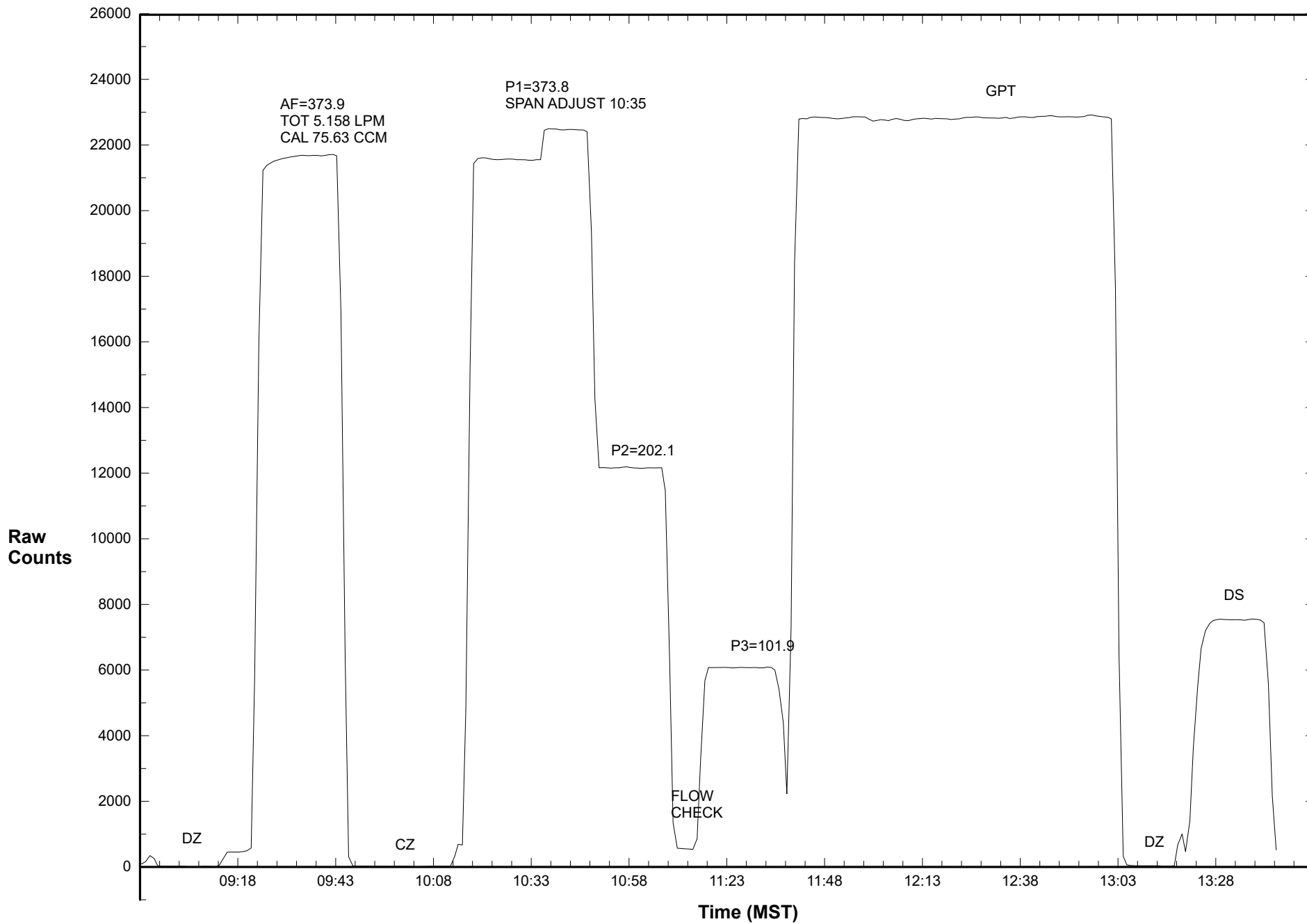
Station 902 NO August 7, 2017: Calibration Graph



Station 902 NO2 August 7, 2017: Calibration Graph



Station 902 NOX August 7, 2017: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 902, Violet Grove

Calibration Date: August 7, 2017

Parameter: O₃

Instrument: Teco 49i

Serial Number: 0905034790

Previous Calibration Date: July 31, 2017

Calibration: Routine

Calibration Equipment: 2B Tech Model 306 SN 142

Barometric Pressure: 27.24" Hg

Calibration Method: Certified Ozone Generator

Temperature: 21.8° C

Technician: L. Burns

Instrument Settings	Background	Coefficient	Monitoring Range
Previous	-0.2	1.010	500 ppb
Current	-0.2	1.013	500 ppb

Final Zero: -1.2 ppb

Final Span: 256.3 ppb

As Found Correction Factor: 0.989

Calibration System Flow Rate (LPM)	Calculated Concentration C _c (ppb)	Raw Count Output R _c	Indicated Concentration C _i (ppb)	Correction Factor C _c /C _i
3.000	399.0	23978.3	398.6	1.001
3.000	215.0	12970.9	215.0	1.000
3.000	105.0	6474.8	106.7	0.984
3.000	0.0	5.3	-1.2	

Results of Linear Regression

R _c vs C _c	Slope	Intercept	R ²
Previous	59.919010	46.404830	0.999965
Current	59.964200	78.761990	0.999949
C _i vs C _c			
Current	1.000000	-0.000044	0.999949

Average Correction Factor: 0.995

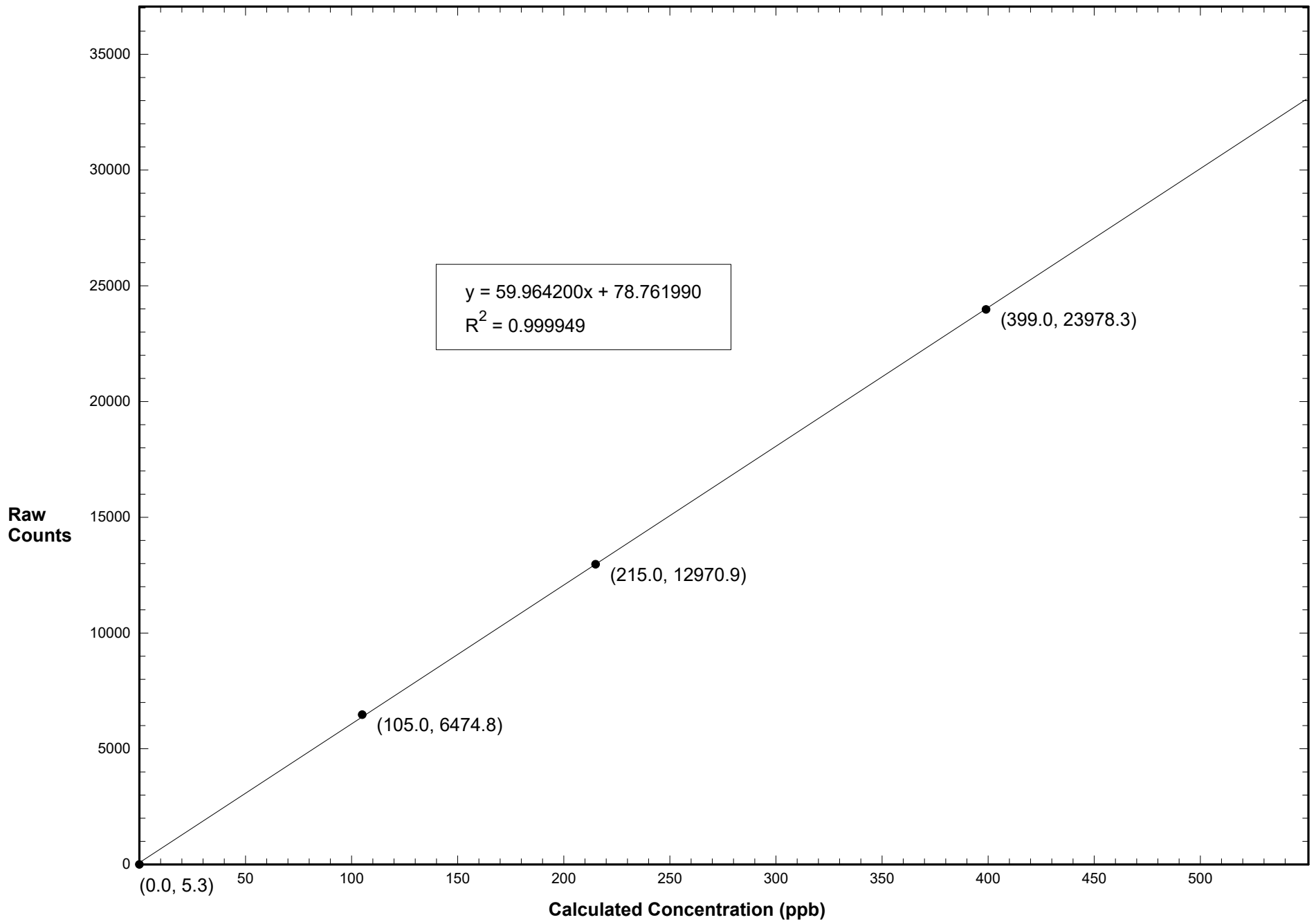
Previous Correction Factor: 0.999

Current Correction Factor: 1.001

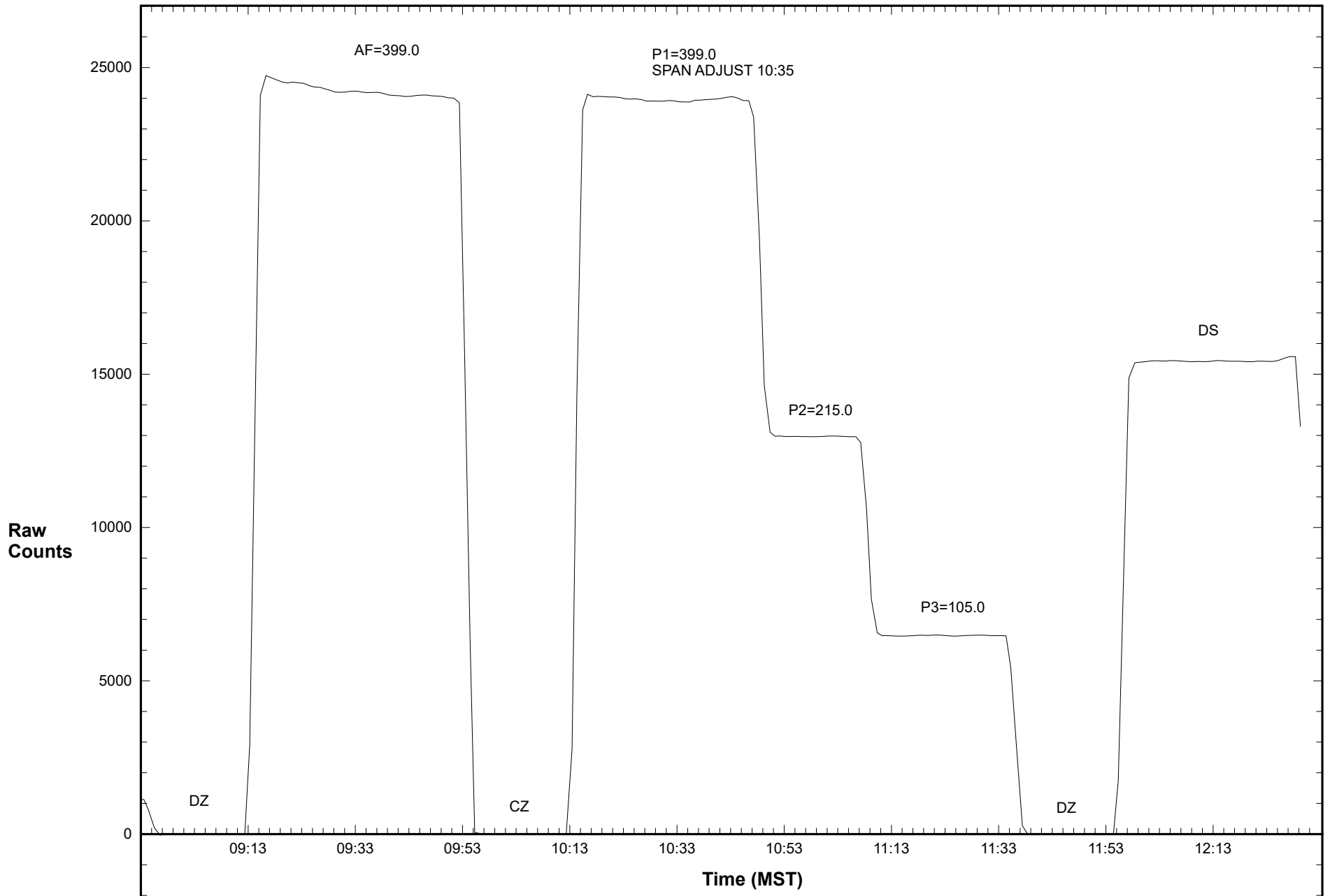
Percent Change of Correction Factor: 0.2

Comments: SAMPLE FLOWS= 0.691 AND 0.707 LPM

Station 902 O3 August 7, 2017: Linear Regression



Station 902 O3 August 7, 2017: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 902, Violet Grove

Calibration Date: August 7, 2017

Parameter: SO₂

Instrument: Teco 43i

Serial Number: 0700419949

Previous Calibration Date: July 31, 2017

Calibration: Routine

Calibration Equipment: Sabio 2010 SN 08600312

Barometric Pressure: 27.24" Hg

Calibration Method: Standard Gas Dilution

Cylinder ID: SX17611

Temperature: 21.8° C

Cylinder Concentration: 25.4 ppm SO₂

In Service: 4/1/2016 EXP 12/2/2017

Technician: L. Burns

Instrument Settings	SO ₂ bkg ppb	SO ₂ Coefficient	Monitoring Range
Previous	6.0	0.952	500 ppb
Current	6.0	0.957	500 ppb

Final Zero: -0.4 ppb

Final Span: 59.1 ppb

As Found Correction Factor: 1.010

SO ₂ 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
0.0762	5.121	372.4	22299.6	371.9	1.001
0.0407	5.097	201.3	12136.9	202.2	0.995
0.0203	5.062	101.5	6096.2	101.3	1.001
0.0000	5.000	0.0	7.0	-0.3	

Results of Linear Regression

R _c vs C _c	Slope	Intercept	R ²
Previous	60.058100	44.165260	0.999949
Current	59.889430	27.417770	0.999984
C _i vs C _c			
Current	1.000000	0.000070	0.999983

Average Correction Factor: 0.999

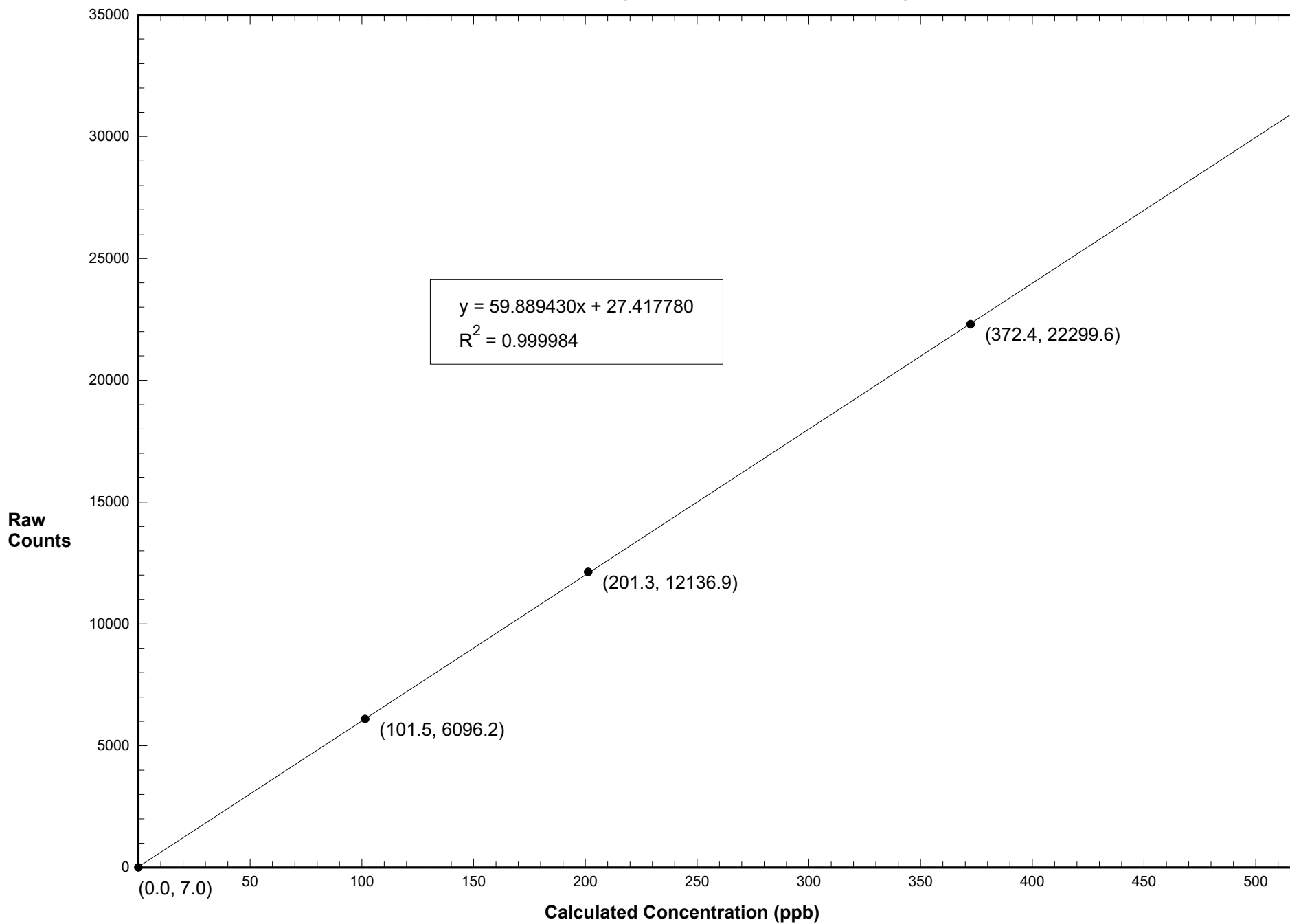
Previous Correction Factor: 1.003

Current Correction Factor: 1.001

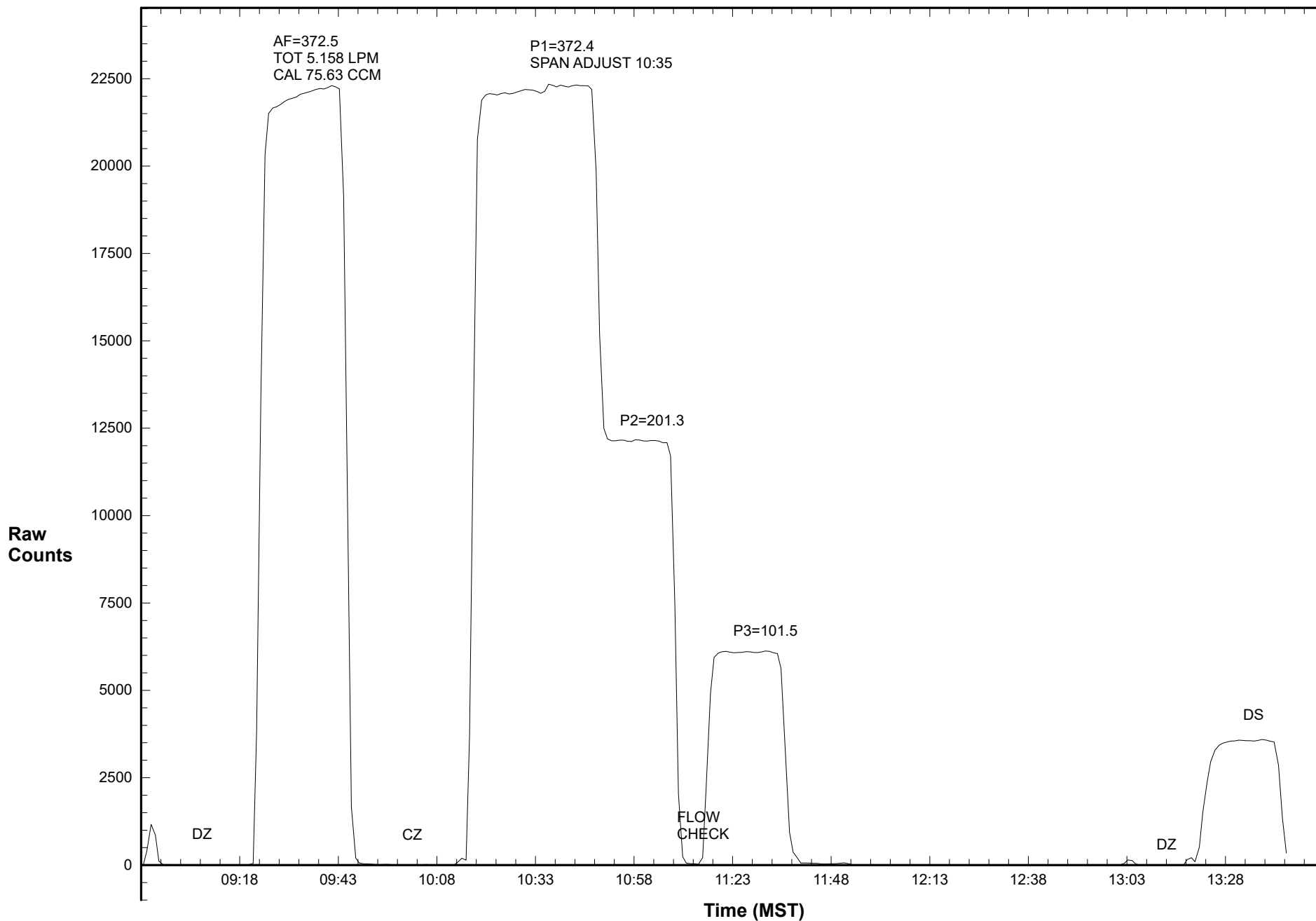
Percent Change of Correction Factor: -0.2

Comments: SAMPLE FLOW= 0.392 LPM

Station 902 SO2 August 7, 2017: Linear Regression



Station 902 SO2 August 7, 2017: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 902, Violet Grove

Calibration Date: August 7, 2017

Parameter: THC

Instrument: Teco 51i-LT

Serial Number: 1415561633

Previous Calibration Date: July 31, 2017

Calibration: Routine

Calibration Method: Standard Gas Dilution

Barometric Pressure: 27.24" Hg

Gas Concentration 1: 400 ppm CH4

Cylinder ID: CC72570

Temperature: 21.8° C

Gas Concentration 2: 100 ppm C3H8

In Service: 7/26/2017 EXP 4/26//2022

Technician: L. Burns

Instrument Settings	Zero Pot	Span Pot	Monitoring Range
Previous	1.69	4.176	20 ppm
Current	1.64	4.310	20 ppm

Final Zero: 0.11 ppm

Final Span: 12.72 ppm

As Found Correction Factor: 1.036

Certified Concentration C_c (ppm)	Raw Count Output R_c	Indicated Concentration C_i (ppm)	Correction Factor C_c/C_i
13.11	19664.7	13.09	1.002
8.42	12707.8	8.43	0.999
4.26	6579.3	4.32	0.985
0.00	56.9	-0.05	

Results of Linear Regression

R_c vs C_c	Slope	Intercept	R^2
Previous	1499.547000	54.945190	1.000000
Current	1493.072000	126.245300	0.999926
C_i vs C_c			
Current	1.000000	-0.000001	0.999926

Average Correction Factor: 0.995

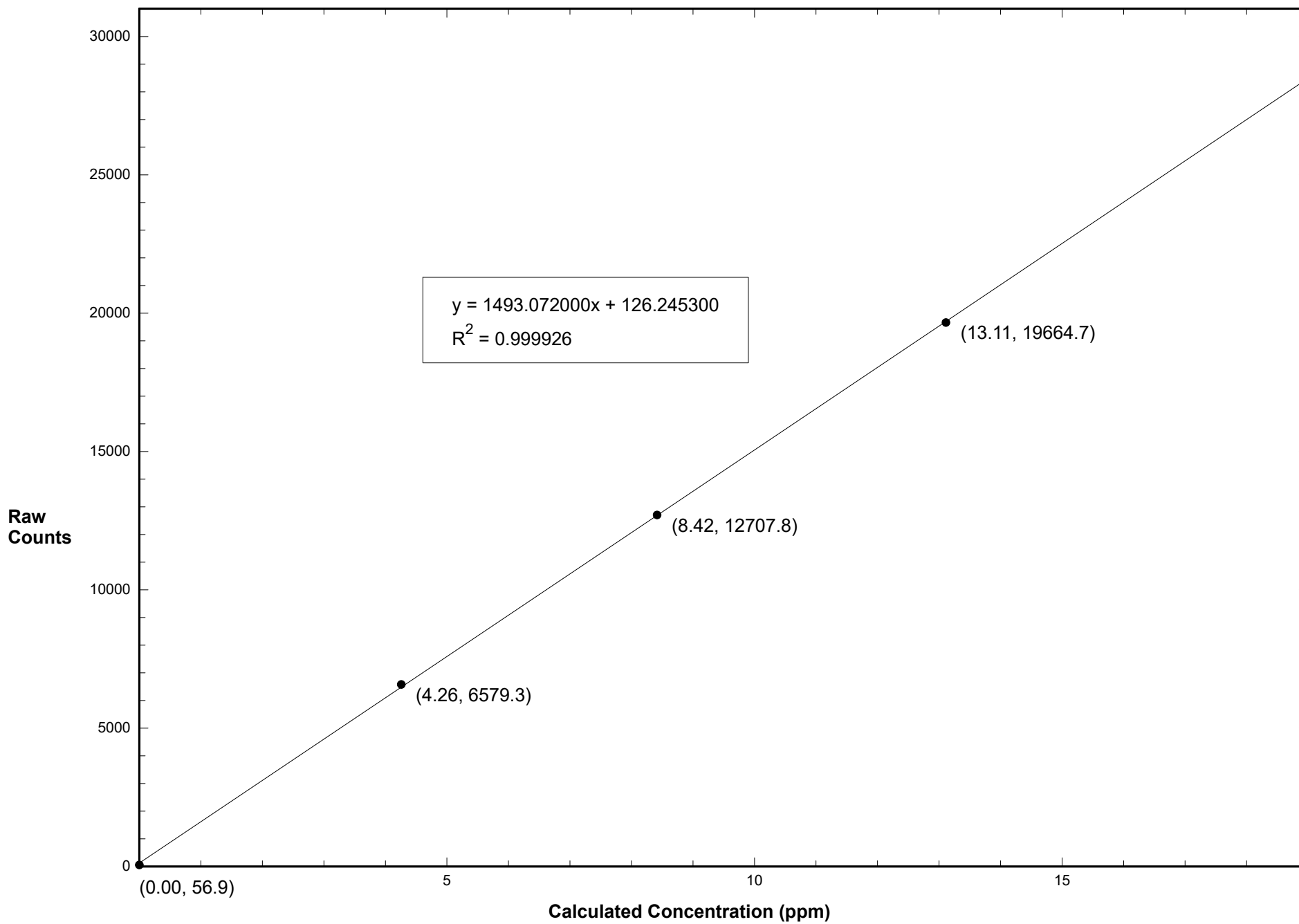
Previous Correction Factor: 1.000

Current Correction Factor: 1.002

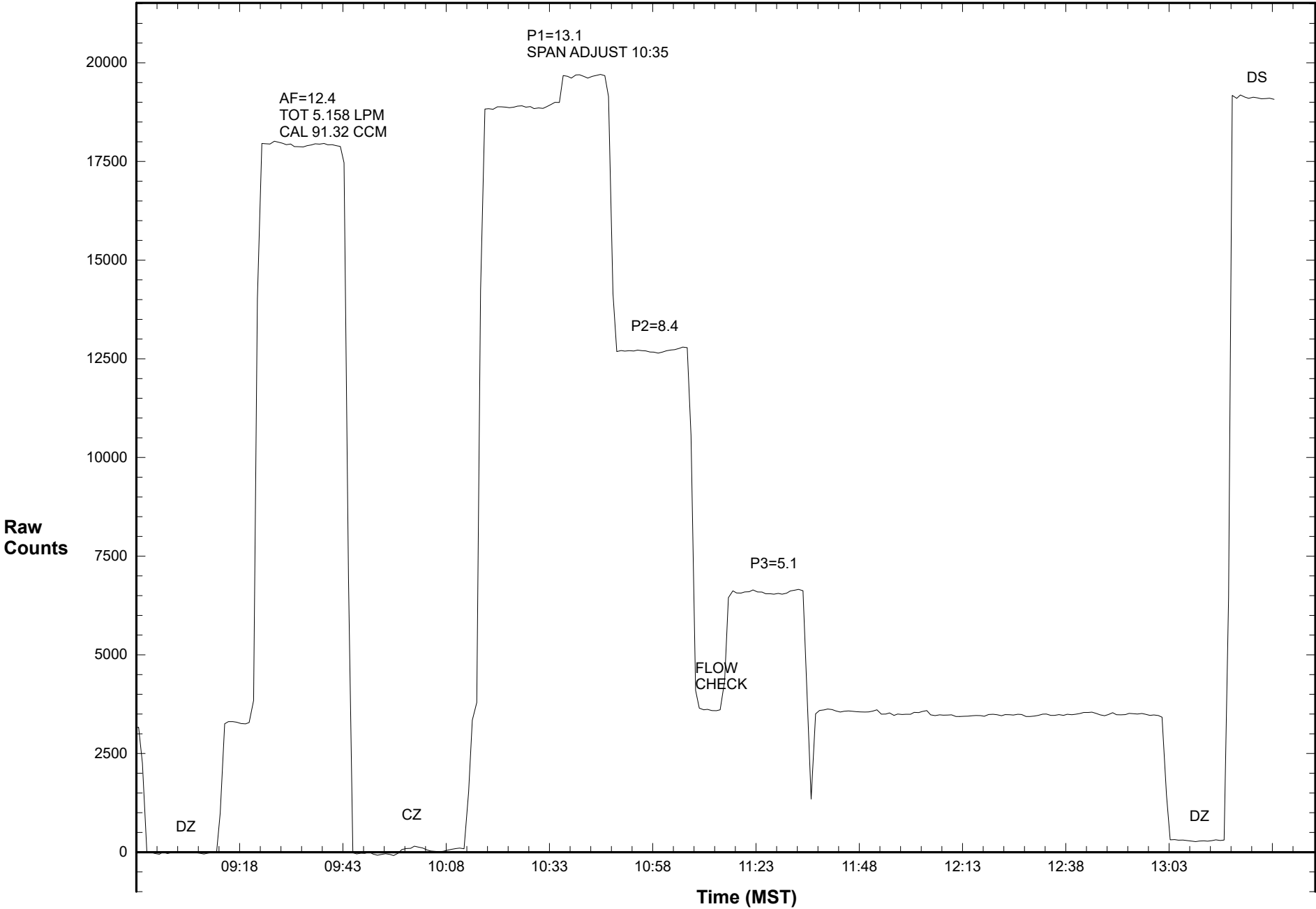
Percent Change of
Correction Factor: 0.2

Comments: SAMPLE PRESSURE= 9.2 psi

Station 902 THC August 7, 2017: Linear Regression



Station 902 THC August 7, 2017: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 903, Carrot Creek

Calibration Date: August 12, 2017

Parameter: NO/NO₂/NO_x

Instrument: Teco 42i

Serial Number: 1136451324

Previous Calibration Date: July 30 2017

Calibration: Routine

Calibration Equipment: Sabio 2010 SN-04300810

Barometric Pressure: 26.90" Hg

Calibration Method: Std. Gas Dilution/GPT

Cylinder ID: SX17611

Temperature: 23.0° C

Cylinder Concentration: 25.4 ppm NO & NO_x

In Service: Apr 1 2016 Exp: Dec 2 2017

Technician: Dean Yustak

Instrument Settings	NO bkg ppb	NO _x bkg ppb	Pre-reactor bkg ppb	NO Coefficient	NO _x Coefficient	NO ₂ Coefficient	Monitoring Range
Previous	8.2	8.7	na	1.167	0.999	0.995	500 ppb
Current	7.9	8.1	na	1.146	1.001	1.000	500 ppb

NO	Final Zero: -0.7 ppb	Final Span: 132.9 ppb	As Found Correction Factor: 0.963
NO ₂	Final Zero: -0.4 ppb	Final Span: -0.1 ppb	As Found Correction Factor: NA
NO _x	Final Zero: -0.7 ppb	Final Span: 132.7 ppb	As Found Correction Factor: 0.969

Results of Linear Regression			Slope	Intercept	R ²
NO	R _c vs C _c	Previous	60.126370	-22.607380	0.999996
		Current	60.016720	37.059180	0.999961
	C _i vs C _c	Current	1.000000	0.000027	0.999961
NO ₂	R _c vs C _c	Previous	60.063100	4.740229	0.999996
		Current	59.938590	27.402990	0.999986
	C _i vs C _c	Current	1.000000	0.000023	0.999986
NO _x	R _c vs C _c	Previous	60.218570	-42.888220	0.999996
		Current	60.052250	32.439370	0.999959
	C _i vs C _c	Current	1.000000	0.000027	0.999960

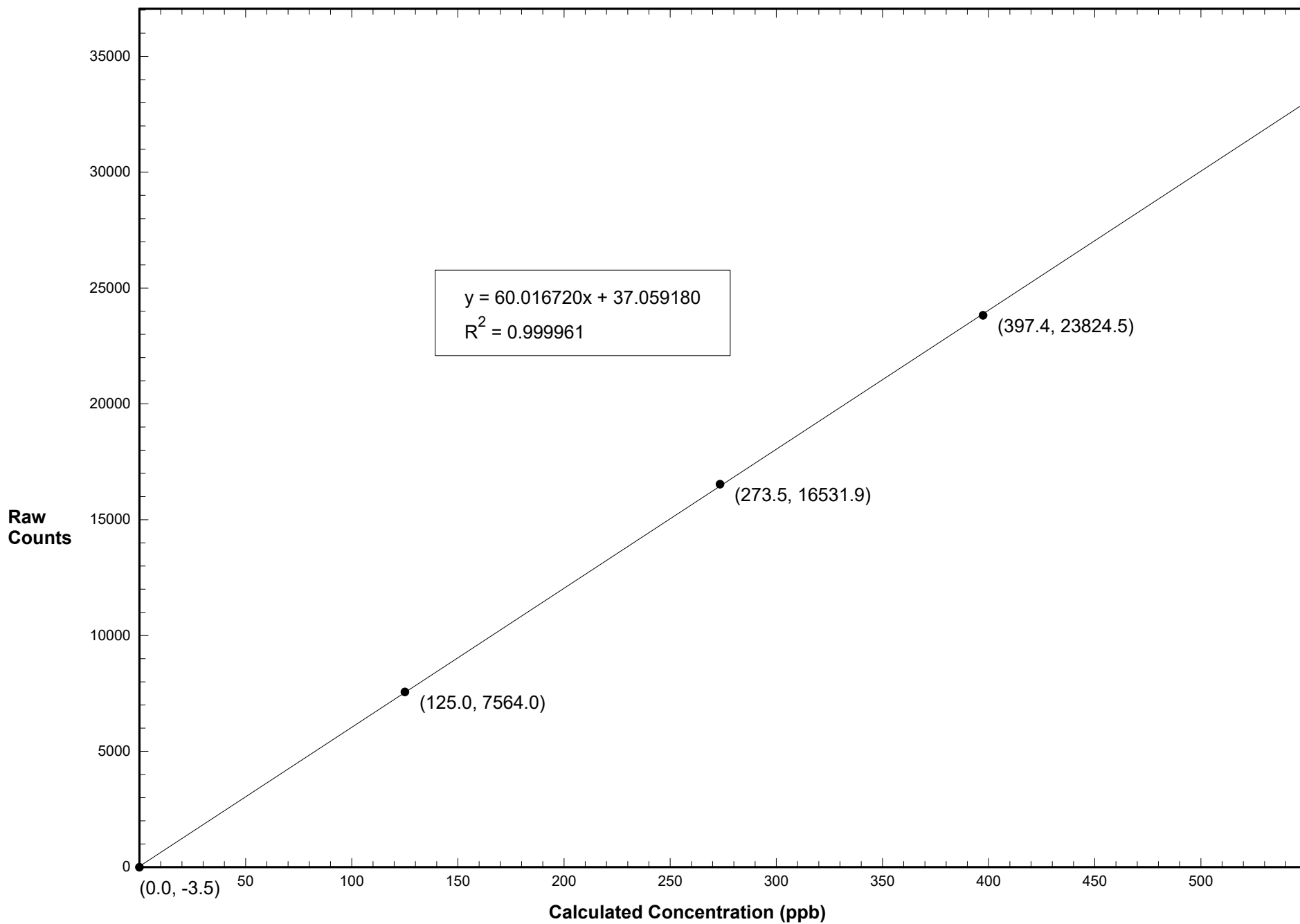
Comments: Sample Flow: 0.670 lpm

Calibration Data Summary (Page 2)

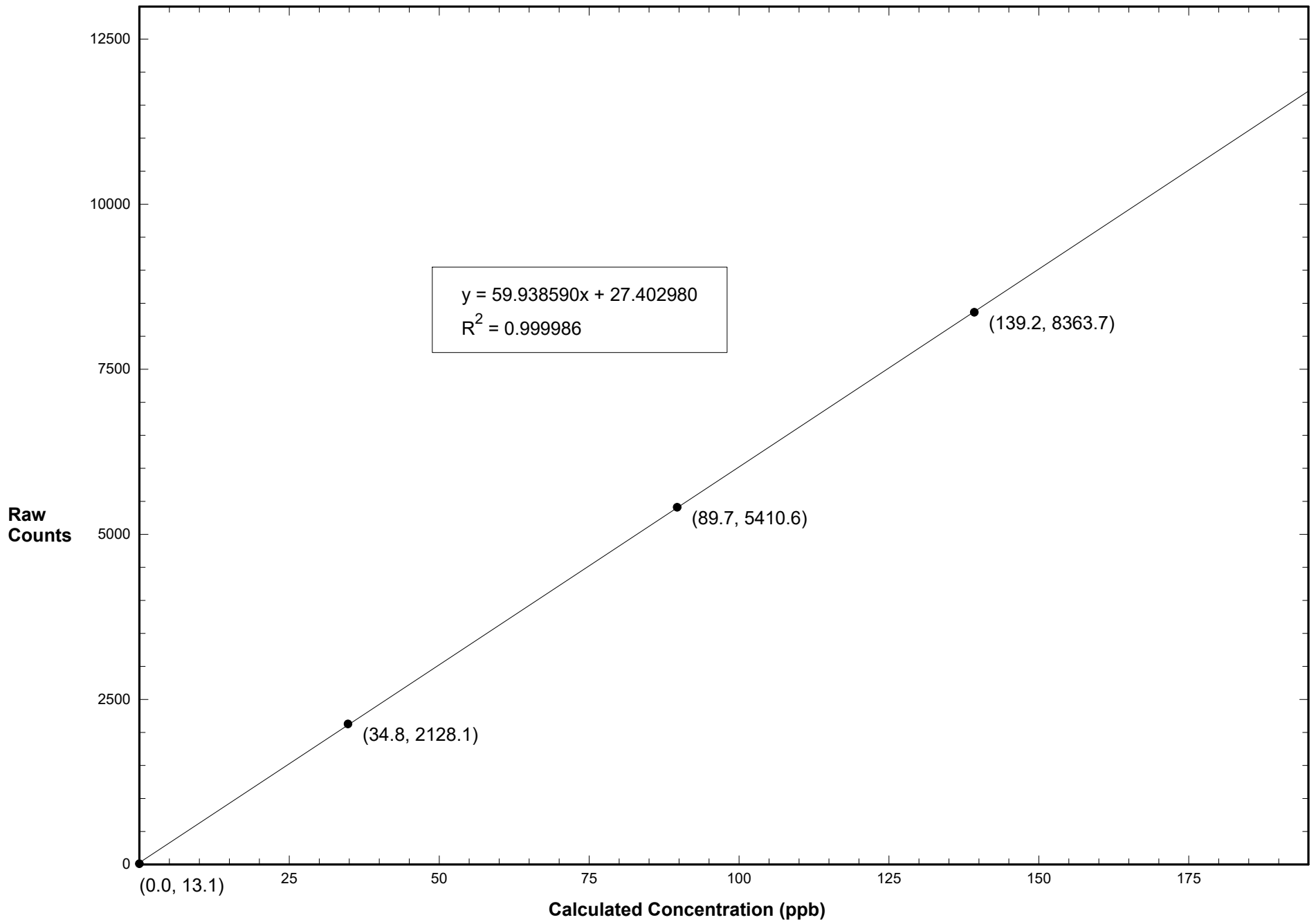
August 12, 2017 - Station 903

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		
0.07510	4.725	397.4	23824.5	396.3	1.003		
0.05170	4.750	273.5	16531.9	274.8	0.995		
0.02350	4.750	125.0	7564.0	125.4	0.997		
0.00000	4.675	0.0	-3.5	-0.7			
NO Calibration					Average Correction Factor:	0.998	
0.07510	4.725	397.4	23832.7	396.3	1.003		
0.05170	4.750	273.5	16542.6	274.9	0.995		
0.02350	4.750	125.0	7555.7	125.3	0.998		
0.00000	4.675	0.0	-4.3	-0.6			
NO _x Calibration					Average Correction Factor:	0.999	
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
400.4	15710.3	261.1	139.2	8363.7	139.1	1.001	0.999
400.4	18684.1	310.7	89.7	5410.6	89.8	0.999	1.001
400.4	21978.3	365.6	34.8	2128.1	35.0	0.993	1.007
			0.0	13.1	-0.2		
						Average Correction Factor:	0.997
NO ₂ Gas Phase Titration						Average Converter Efficiency:	1.003
Parameter	Correction Factor (Previous)	Correction Factor: (Current)	Percent Change of Correction Factor				
NO	1.000	1.003	0.3				
NO ₂	0.999	1.001	0.2				
NO _x	0.999	1.003	0.4				

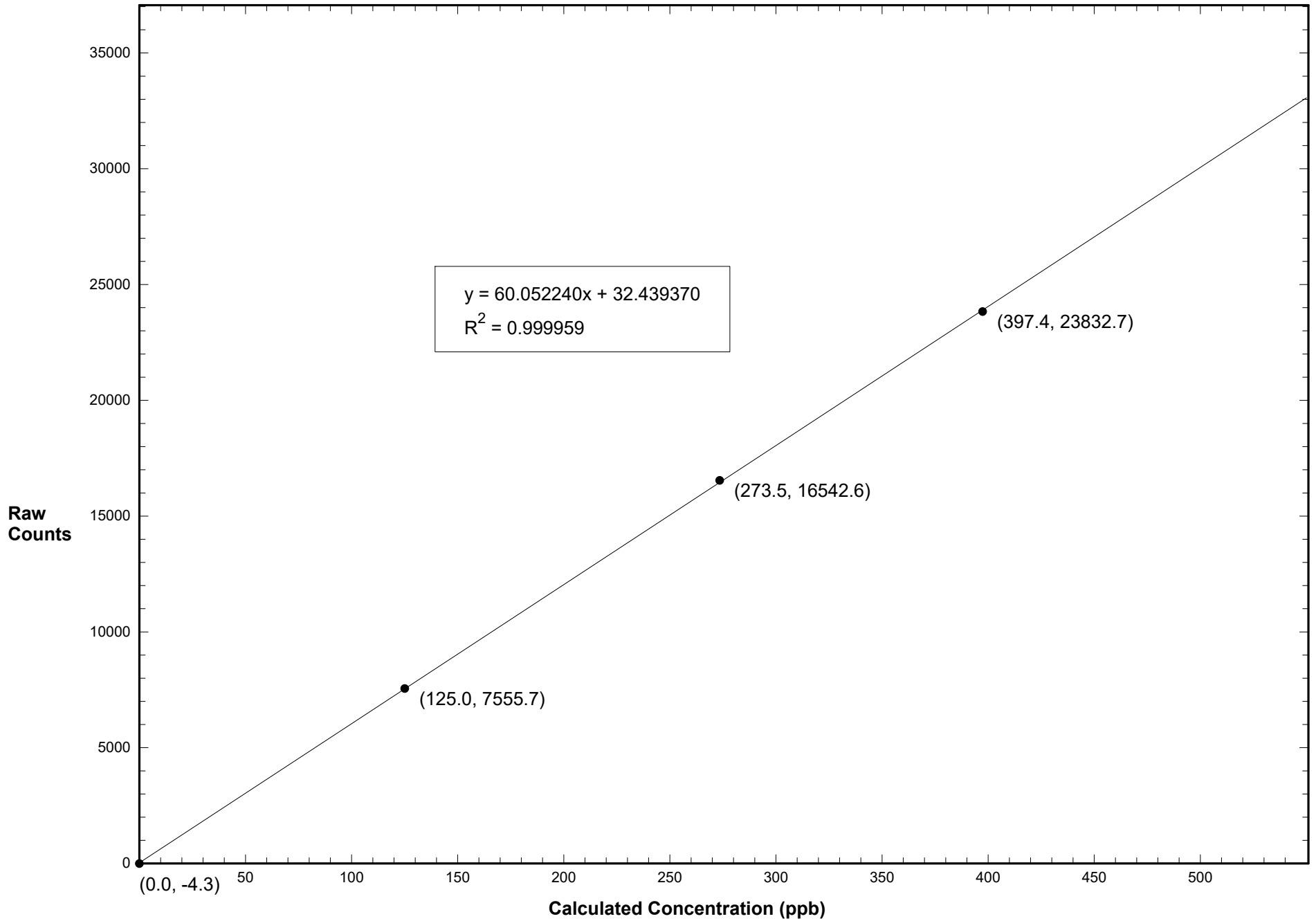
Station 903 NO August 12, 2017: Linear Regression



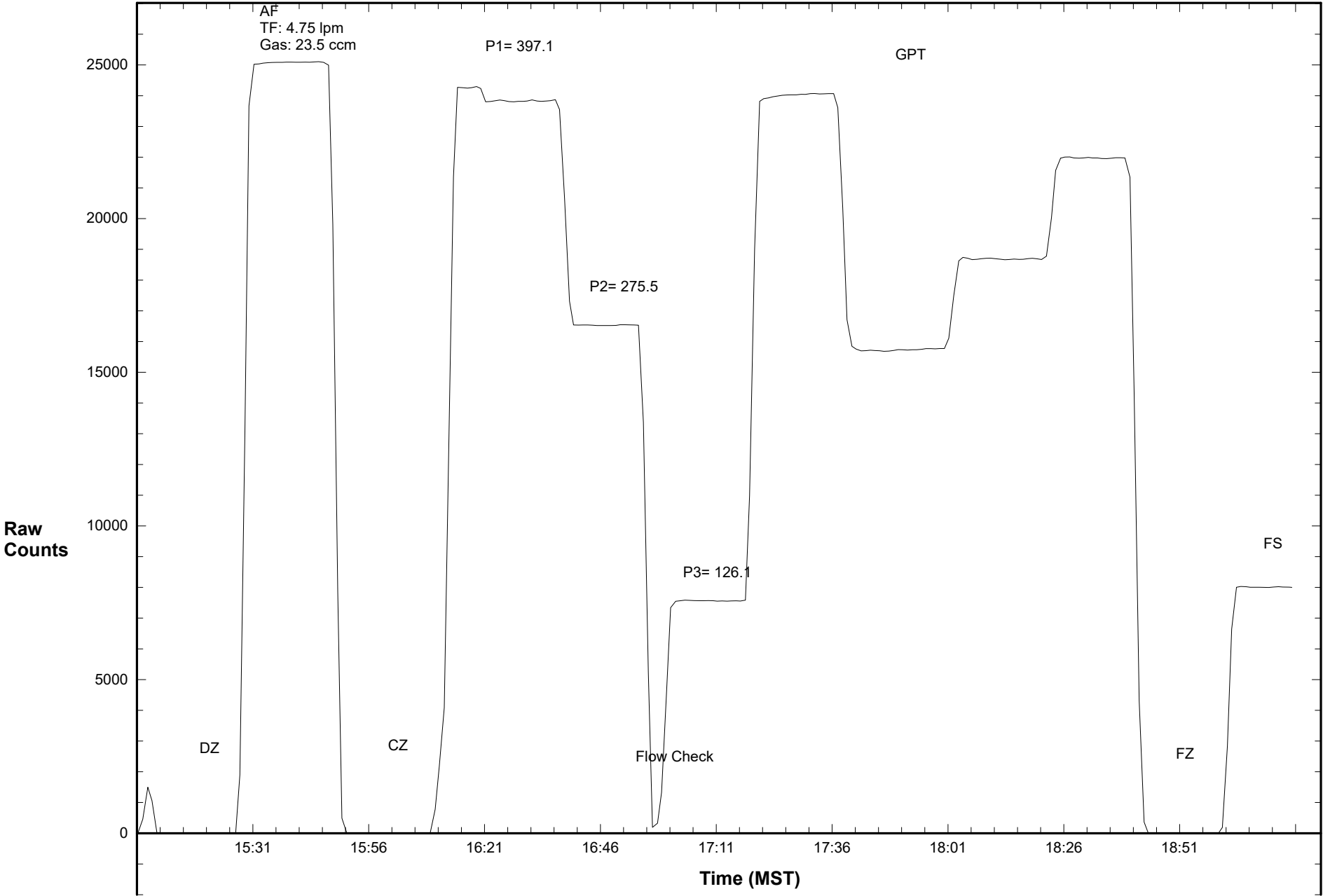
Station 903 NO2 August 12, 2017: Linear Regression



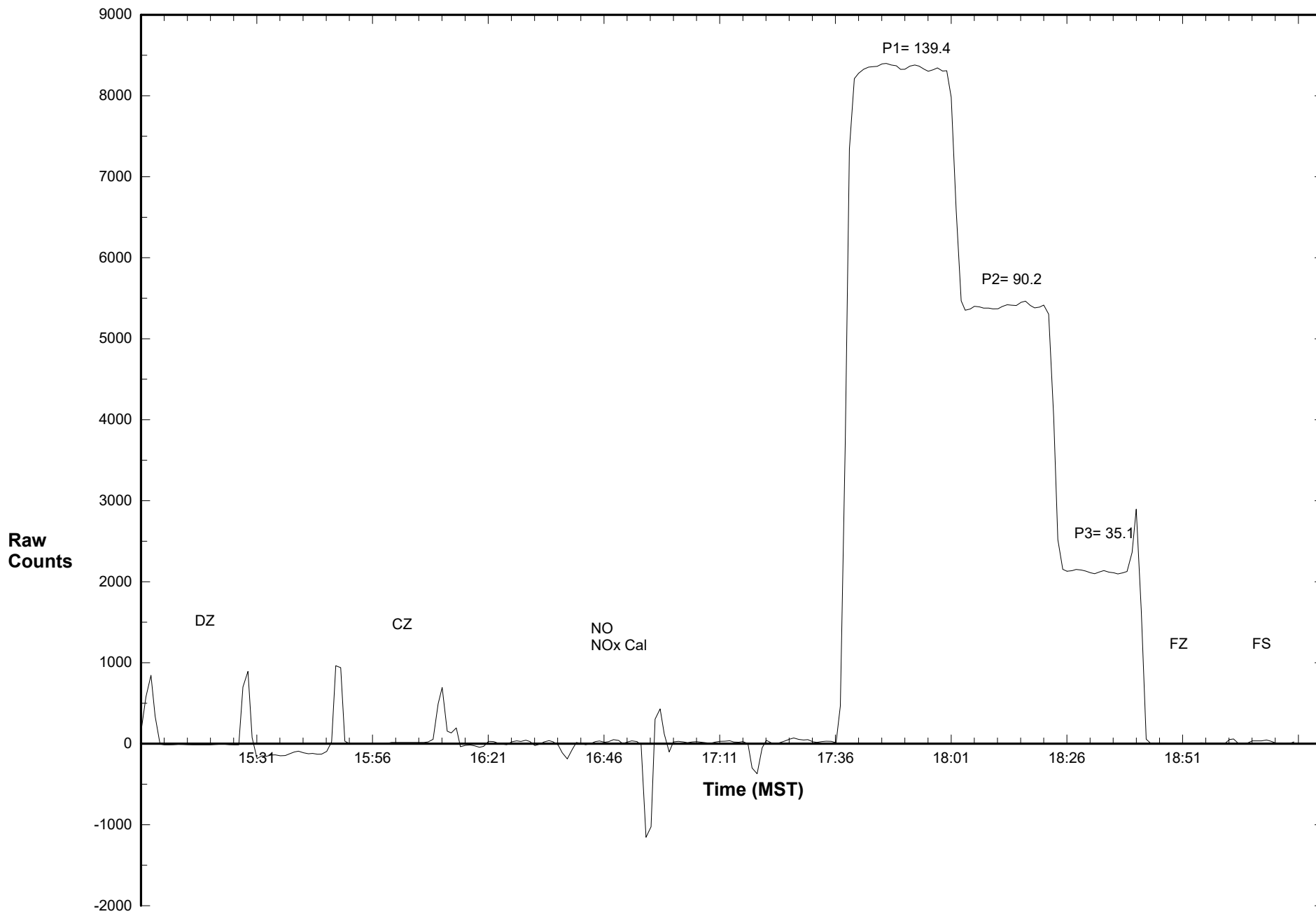
Station 903 NOX August 12, 2017: Linear Regression



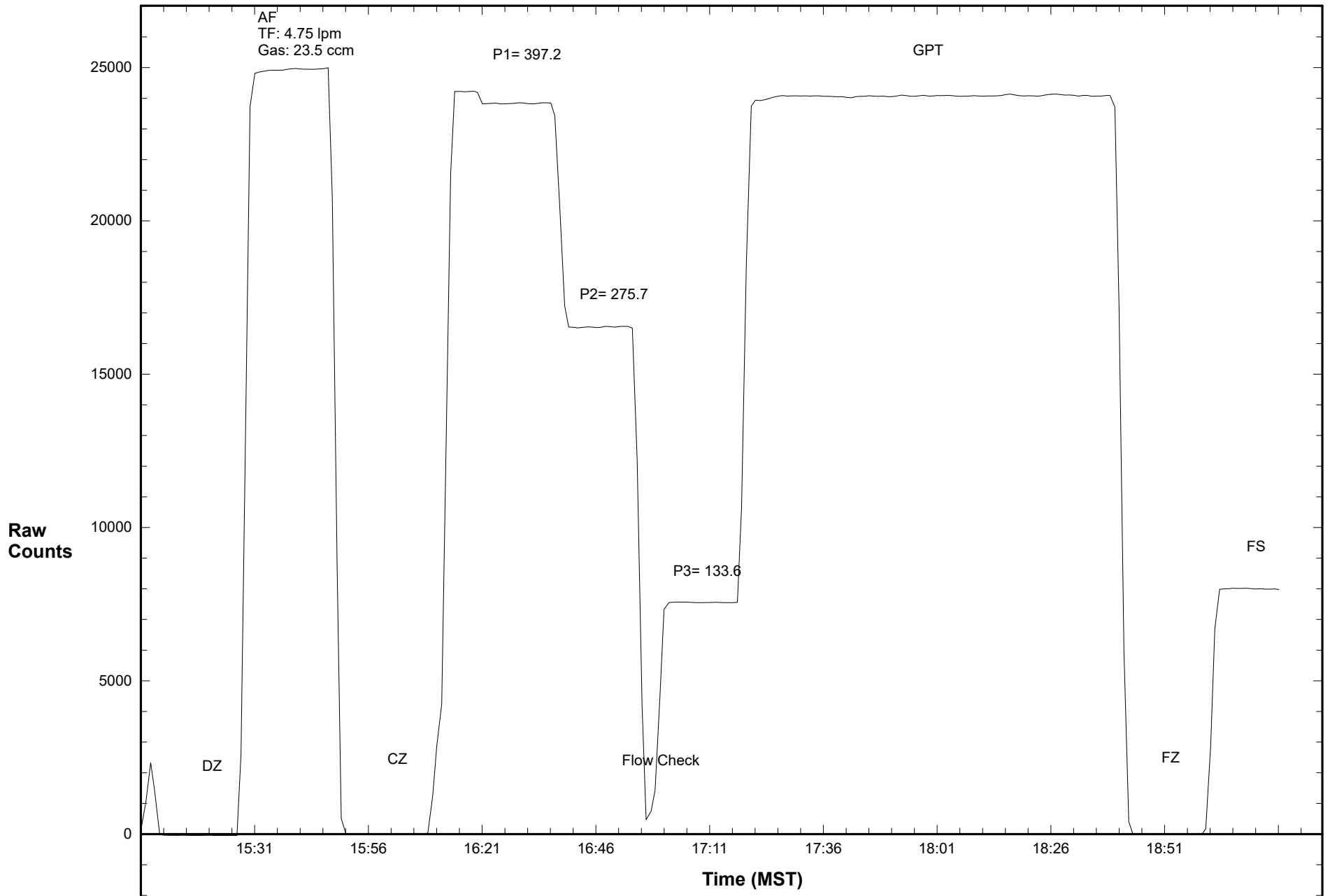
Station 903 NO August 12, 2017: Calibration Graph



Station 903 NO2 August 12, 2017: Calibration Graph



Station 903 NOX August 12, 2017: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 903, Carrot Creek

Calibration Date: August 12, 2017

Parameter: O₃

Instrument: Teco 49C

Serial Number: 0432409136

Previous Calibration Date: July 30 2017

Calibration: Routine

Calibration Equipment: 2B TECH 306 sn# 135

Barometric Pressure: 26.90" Hg

Calibration Method: Certified Ozone Generator In Service: Jan 16/17

Temperature: 23.0° C

Technician: Dean Yustak

Instrument Settings	Background	Coefficient	Monitoring Range
Previous	-0.1	1.001	500 ppb
Current	-0.1	1.007	500 ppb

Final Zero: -0.5 ppb

Final Span: 165.6 ppb

As Found Correction Factor: 1.001

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	403.0	24214.9	402.6	1.001
3.000	254.0	15298.9	254.0	1.000
3.000	100.1	6153.7	101.5	0.986
3.000	0.0	-0.9	-1.1	

Results of Linear Regression

R _c vs C _c	Slope	Intercept	R ²
Previous	59.992100	-5.881396	0.999998
Current	59.981520	63.647570	0.999964
C _i vs C _c			
Current	1.000000	0.000039	0.999964

Average Correction Factor: 0.996

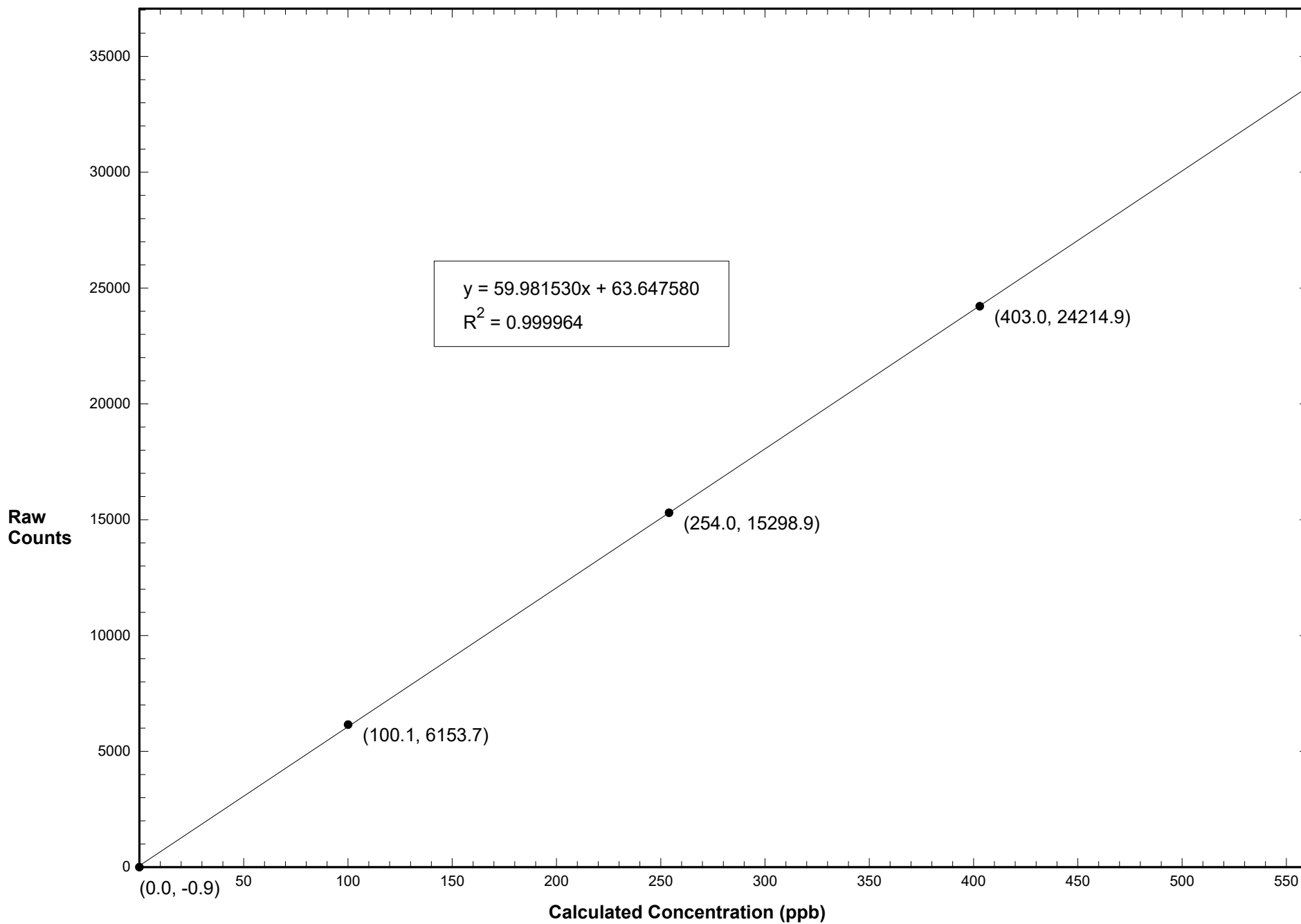
Previous Correction Factor: 0.999

Current Correction Factor: 1.001

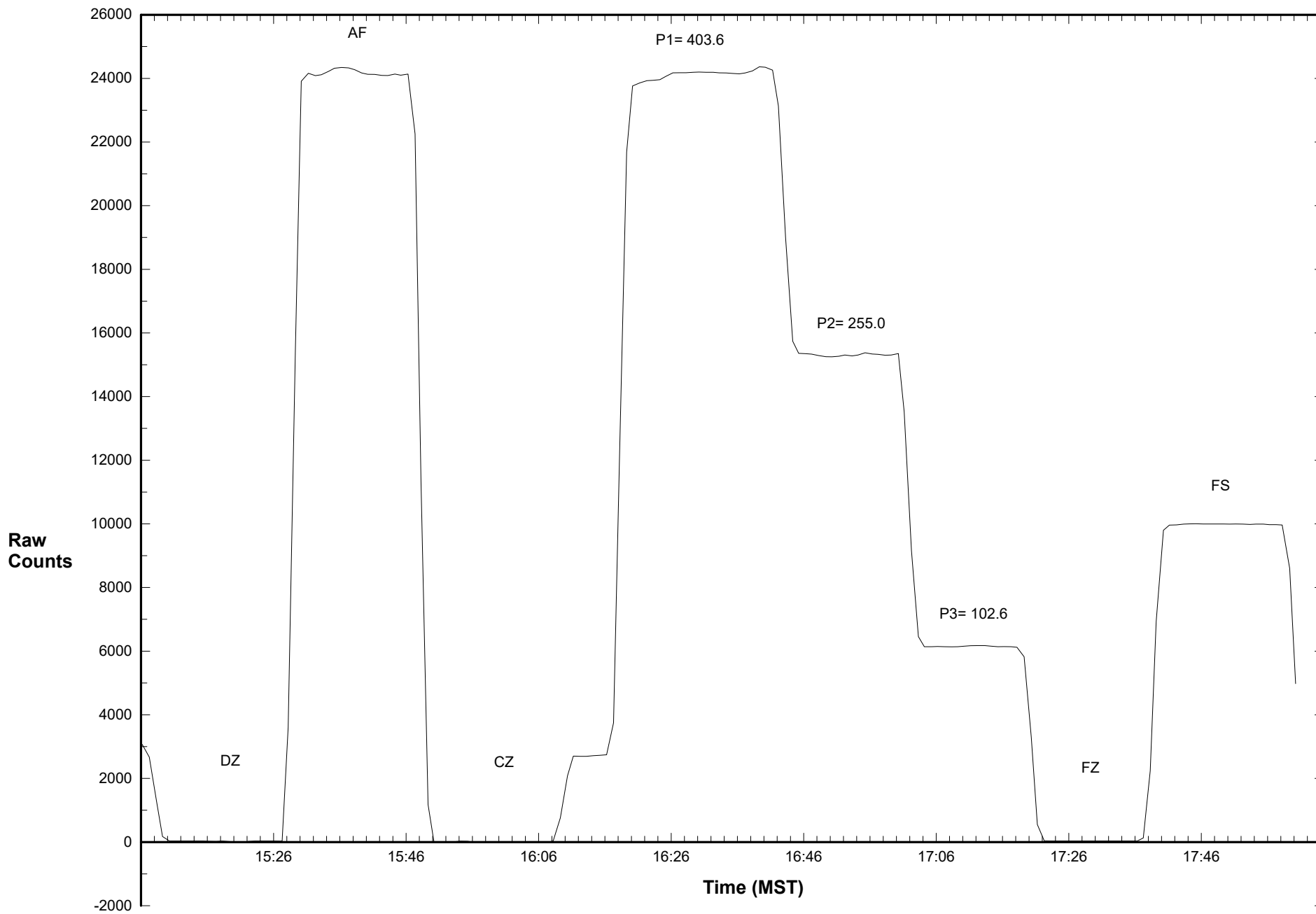
Percent Change of Correction Factor: 0.2

Comments: Sample Flow: 0.687 & 0.688 lpm

Station 903 O3 August 12, 2017: Linear Regression



Station 903 O3 August 12, 2017: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 903, Carrot Creek

Calibration Date: August 12, 2017

Parameter: SO₂

Instrument: Teco 43i

Serial Number: 0905034789

Previous Calibration Date: July 30 2017

Calibration: Routine

Calibration Equipment: Sabio 2010 SN-04300810

Barometric Pressure: 26.70" Hg

Calibration Method: Standard Gas Dilution

Cylinder ID: SX17611

Temperature: 23.0° C

Cylinder Concentration: 25.4 ppm SO₂

In Service: Apr 1 2016 Exp: Dec 2 2017

Technician: Dean Yustak

Instrument Settings

SO₂ bkg ppb

SO₂ Coefficient

Monitoring Range

Previous

7.6

0.939

500 ppb

Current

7.5

0.926

500 ppb

Final Zero: -0.3 ppb

Final Span: 61.2 ppb

As Found Correction Factor: 0.993

SO₂ 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

0.0751

4.725

397.4

23851.8

397.2

1.001

0.0517

4.750

273.5

16450.8

273.8

0.999

0.0235

4.750

125.0

7540.7

125.2

0.999

0.0000

4.675

0.0

18.3

-0.2

Results of Linear Regression

R_c vs C_c

Slope

Intercept

R²

Previous

60.178590

-10.224680

1.000000

Current

59.980690

30.402130

0.999998

C_i vs C_c

Current

1.000000

-0.000035

0.999998

Average Correction Factor:

0.999

Previous Correction Factor:

1.000

Current Correction Factor:

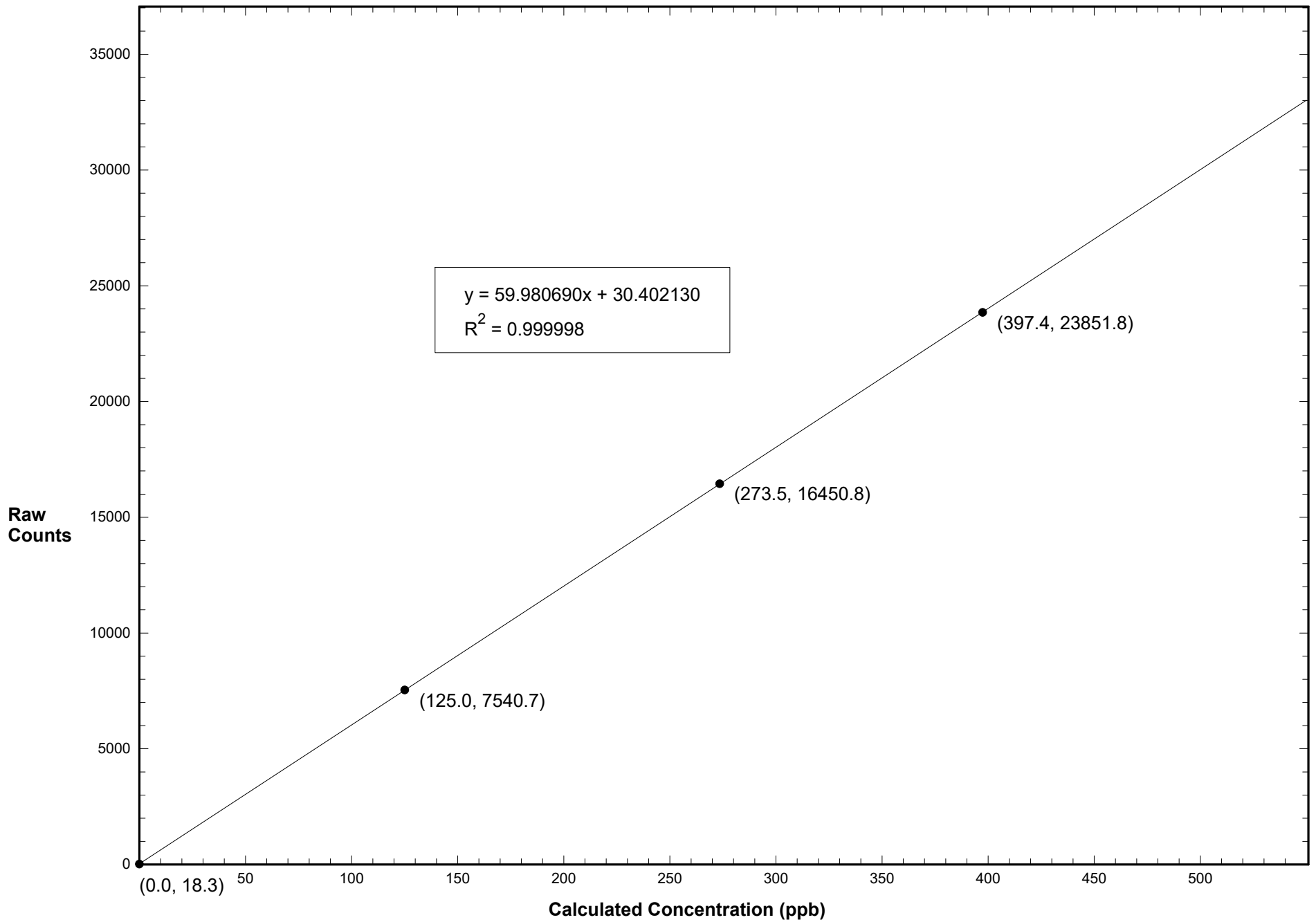
1.001

Percent Change of
Correction Factor:

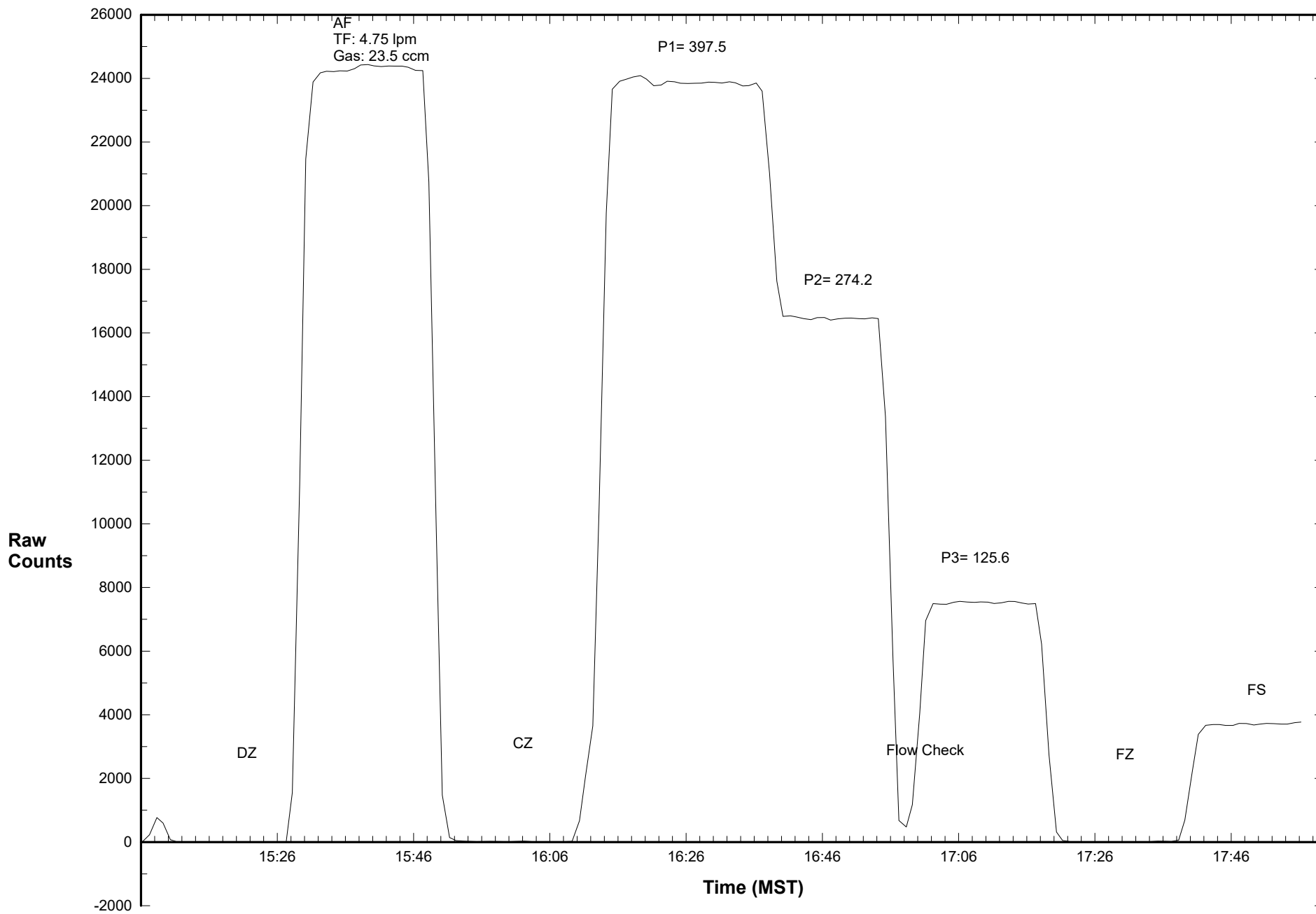
0.1

Comments: Sample Flow: 0.434 lpm

Station 903 SO2 August 12, 2017: Linear Regression



Station 903 SO2 August 12, 2017: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 905, Steeper 905

Calibration Date: August 9, 2017

Parameter: CO

Instrument: Teco 48i

Serial Number: 1235356077

Previous Calibration Date: July 28 2017

Calibration: Routine

Calibration Equipment: SABIO 2010 sn# 04300810

Barometric Pressure: 25.40" Hg

Calibration Method: Standard Gas Dilution

Cylinder ID: DT0017726 Feb 28/17 : Exp Feb 28/20

Temperature: 20.0° C

Cylinder Concentration: 2492 ppm CO

Technician: Dean Yustak

Instrument Settings	Zero Pot	Span Pot	Monitoring Range
Previous	3.446	1.058	50 ppm
Current	3.415	1.044	50 ppm

Final Zero: -0.1 ppm

Final Span: 31.4 ppm

As Found Correction Factor: 0.981

CO 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
0.0655	5.035	32.0	19206.2	32.0	1.000
0.0410	5.030	20.1	12095.4	20.2	0.998
0.0209	5.030	10.3	6093.5	10.2	1.012
0.0000	5.025	0.0	1.2	0.1	

Results of Linear Regression

R_c vs C_c	Slope	Intercept	R^2
Previous	600.986900	-30.569950	0.999986
Current	600.988400	-40.037030	0.999960
C_i vs C_c			
Current	1.000000	0.000001	0.999959

Average Correction Factor: 1.003

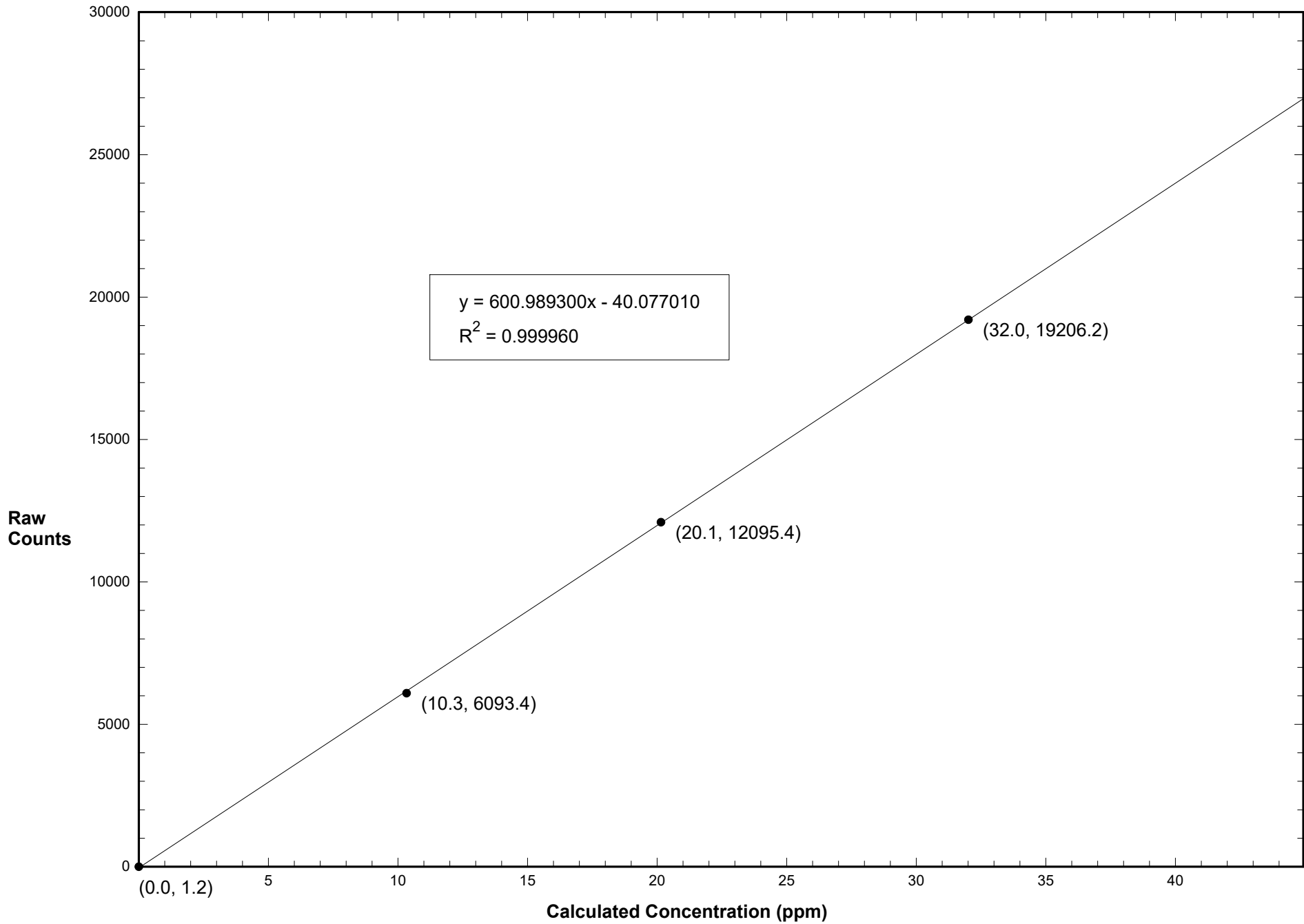
Previous Correction Factor: 0.999

Current Correction Factor: 1.000

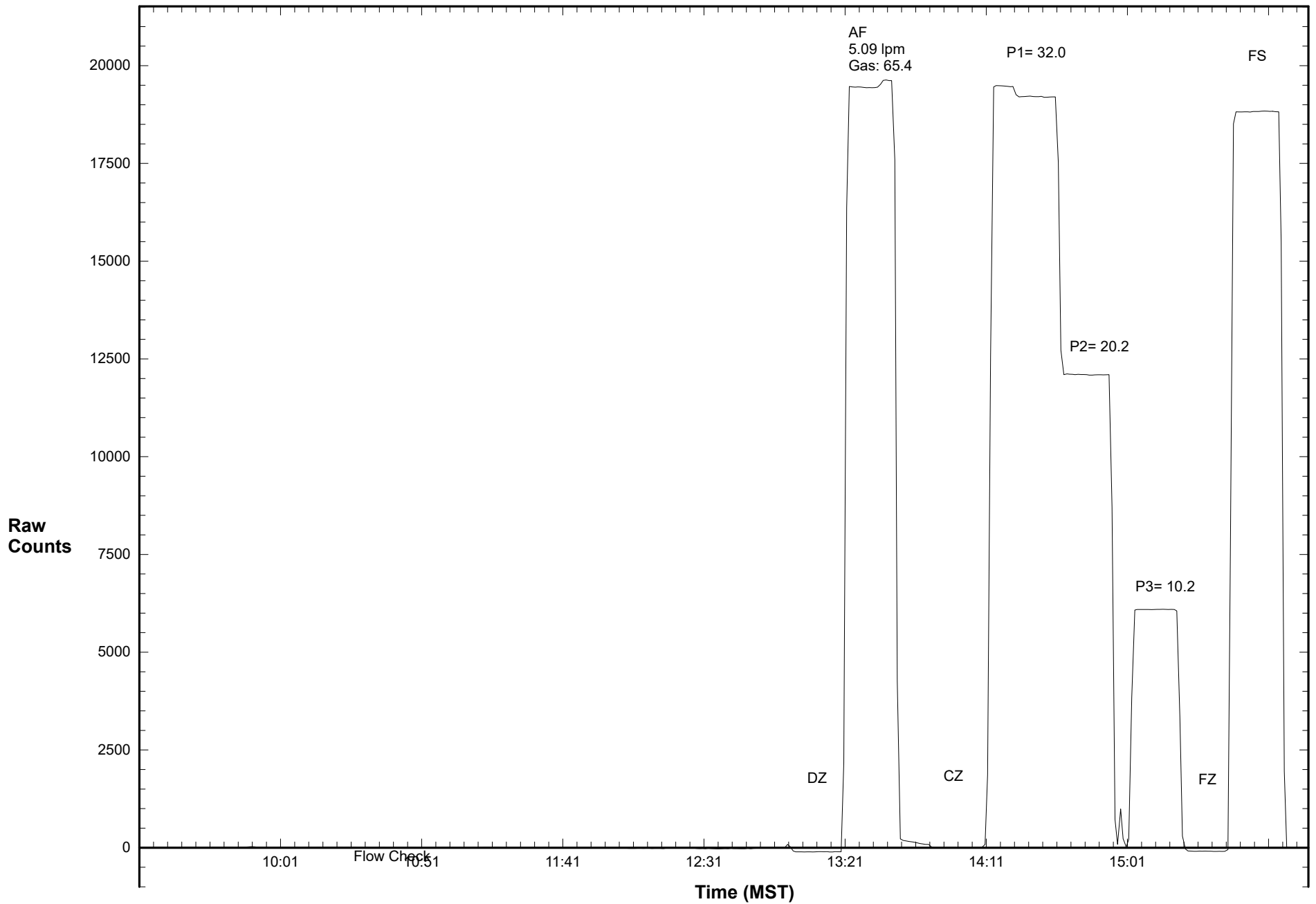
Percent Change of Correction Factor: 0.1

Comments: Sample Flow: 0.970 lpm

Station 905 CO August 9, 2017: Linear Regression



Station 905 CO August 9, 2017: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 905, Steeper 905

Calibration Date: August 9, 2017

Parameter: NO/NO₂/NO_x

Instrument: Teco 42i

Serial Number: 1327059403

Previous Calibration Date: July 28 2017

Calibration: Routine

Calibration Equipment: SABIO 2010 sn# 04300810

Barometric Pressure: 25.40" Hg

Calibration Method: Standard Gas Dilution/ GPT

Cylinder ID: SX17611

Temperature: 20.0° C

Cylinder Concentration: 25.4 NO/NO_x

In Service: April 1 2016 : Exp Dec 2 2017

Technician: Dean Yustak

Instrument Settings	NO bkg ppb	NO _x bkg ppb	Pre-reactor bkg ppb	NO Coefficient	NO _x Coefficient	NO ₂ Coefficient	Monitoring Range
Previous	4.7	5.5	NA	1.189	1.001	1.002	500 ppb
Current	5.0	5.1	NA	1.252	0.997	1.002	500ppb

NO	Final Zero: -0.7 ppb	Final Span: 154.7 ppb	As Found Correction Factor: 1.046
NO ₂	Final Zero: -0.6 ppb	Final Span: -1.2 ppb	As Found Correction Factor: NA
NO _x	Final Zero: -0.7 ppb	Final Span: 154.3 ppb	As Found Correction Factor: 1.046

Results of Linear Regression			Slope	Intercept	R ²
NO	R _c vs C _c	Previous	59.946750	48.205960	0.999980
		Current	60.005870	35.428120	0.999971
	C _i vs C _c	Current	1.000000	-0.000007	0.999970
NO ₂	R _c vs C _c	Previous	59.642320	60.592230	0.999980
		Current	59.552650	33.173100	0.999879
	C _i vs C _c	Current	1.000000	0.000014	0.999878
NO _x	R _c vs C _c	Previous	59.960830	50.263600	0.999980
		Current	59.864400	27.468150	0.999981
	C _i vs C _c	Current	1.000000	-0.000034	0.999981

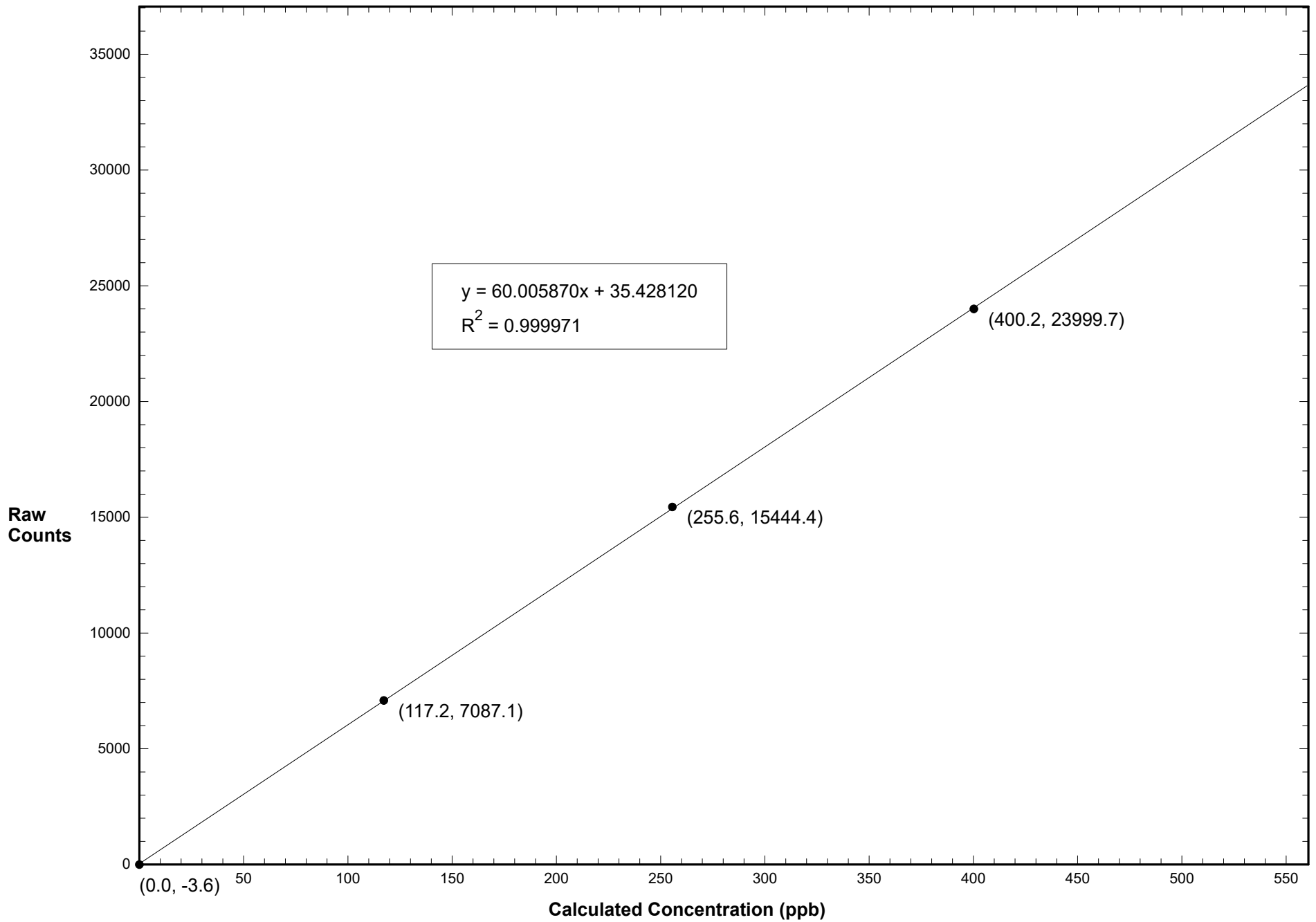
Comments: Sample Flow: 0.481 lpm

Calibration Data Summary (Page 2)

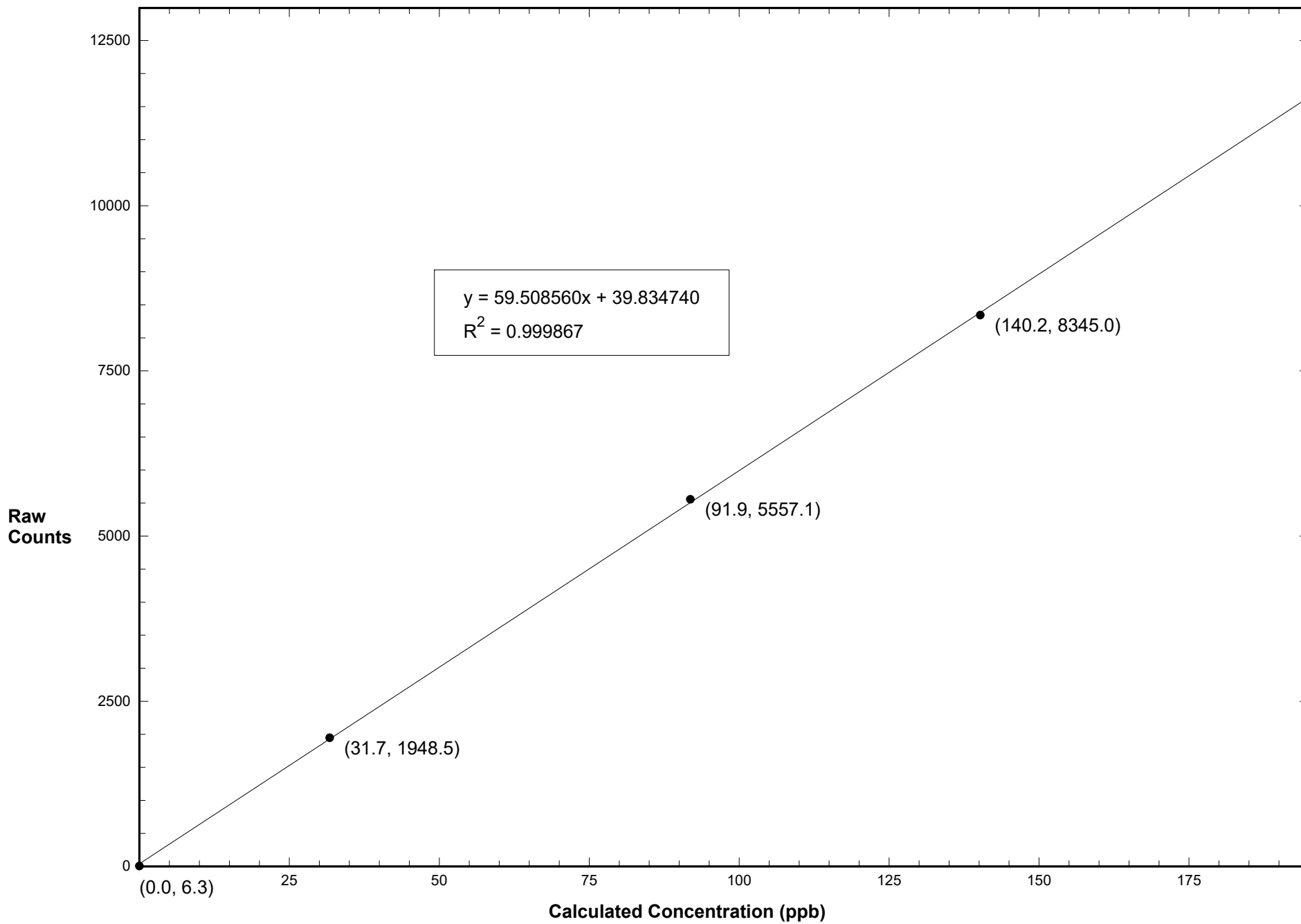
August 9, 2017 - Station 905

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		
0.07260	4.535	400.2	23999.7	399.4	1.002		
0.04612	4.537	255.6	15444.4	256.8	0.995		
0.02100	4.530	117.2	7087.1	117.5	0.997		
0.00000	4.528	0.0	-3.6	-0.7			
NO Calibration					Average Correction Factor:	0.998	
0.07260	4.535	400.2	23945.5	399.5	1.002		
0.04612	4.537	255.6	15388.0	256.6	0.996		
0.02100	4.530	117.2	7053.9	117.4	0.999		
0.00000	4.528	0.0	-1.0	-0.5			
NO _x Calibration					Average Correction Factor:	0.999	
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
399.7	15609.7	259.5	140.2	8345.0	139.6	1.004	0.996
399.7	18510.0	307.9	91.9	5557.1	92.8	0.990	1.010
399.7	22107.7	367.8	31.9	1944.5	32.1	0.994	1.006
			0.0	6.3	-0.5		
					Average Correction Factor:	0.996	
NO ₂ Gas Phase Titration					Average Converter Efficiency: 1.004		
Parameter	Correction Factor (Previous)	Correction Factor: (Current)	Percent Change of Correction Factor				
NO	1.001	1.002	0.1				
NO ₂	0.997	1.004	0.8				
NO _x	1.002	1.002	0.0				

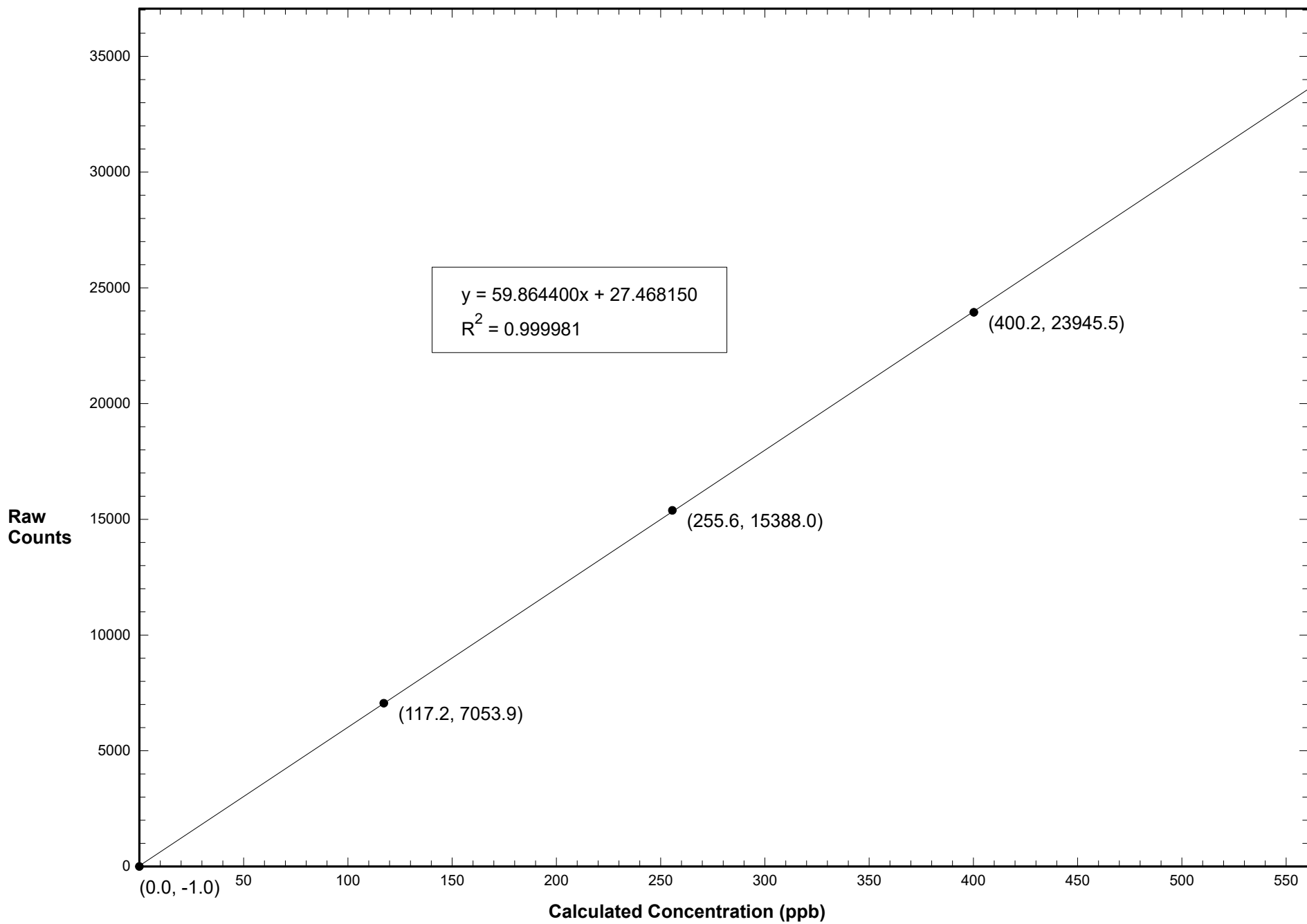
Station 905 NO August 9, 2017: Linear Regression



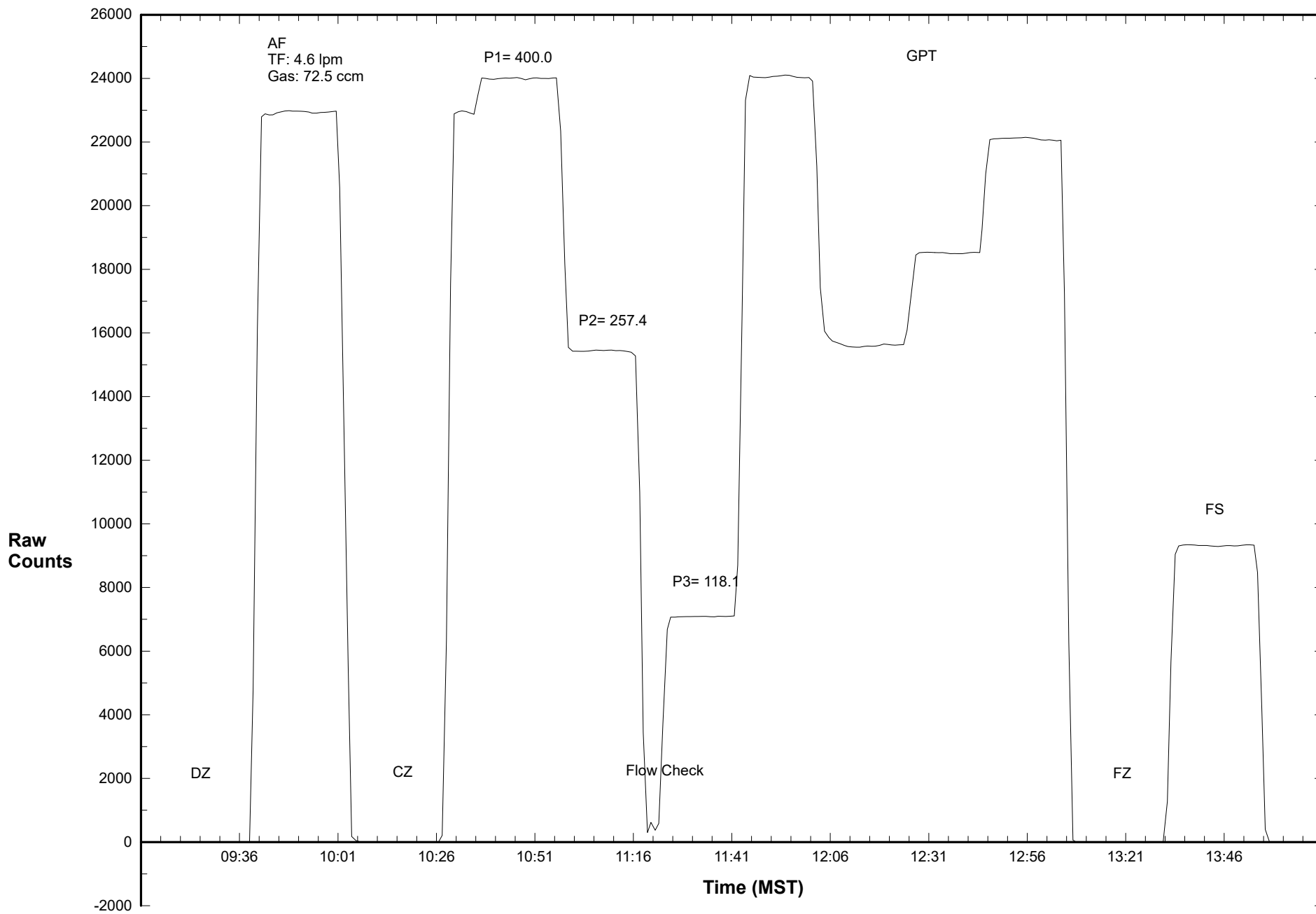
Station 905 NO2 August 9, 2017: Linear Regression



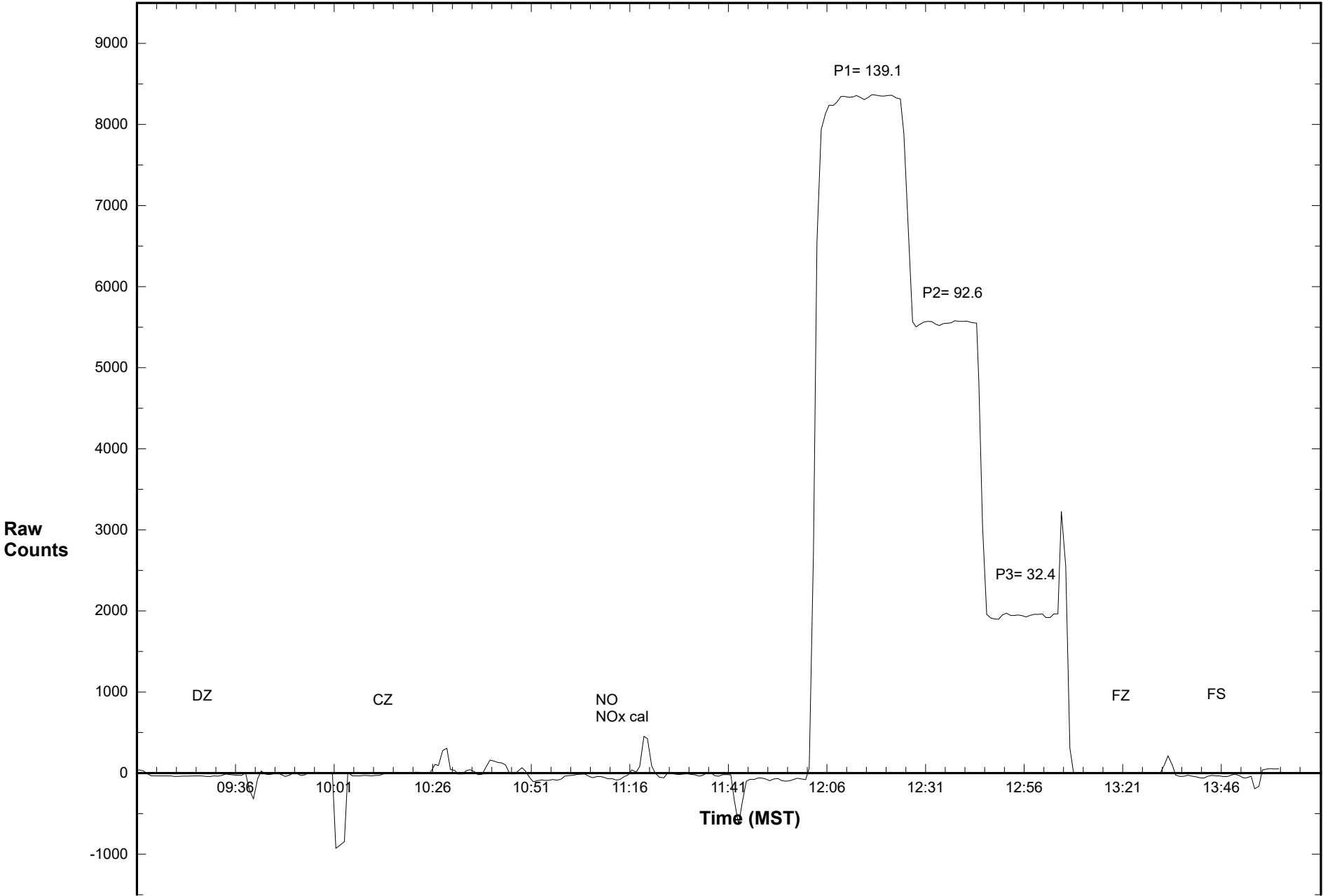
Station 905 NOX August 9, 2017: Linear Regression



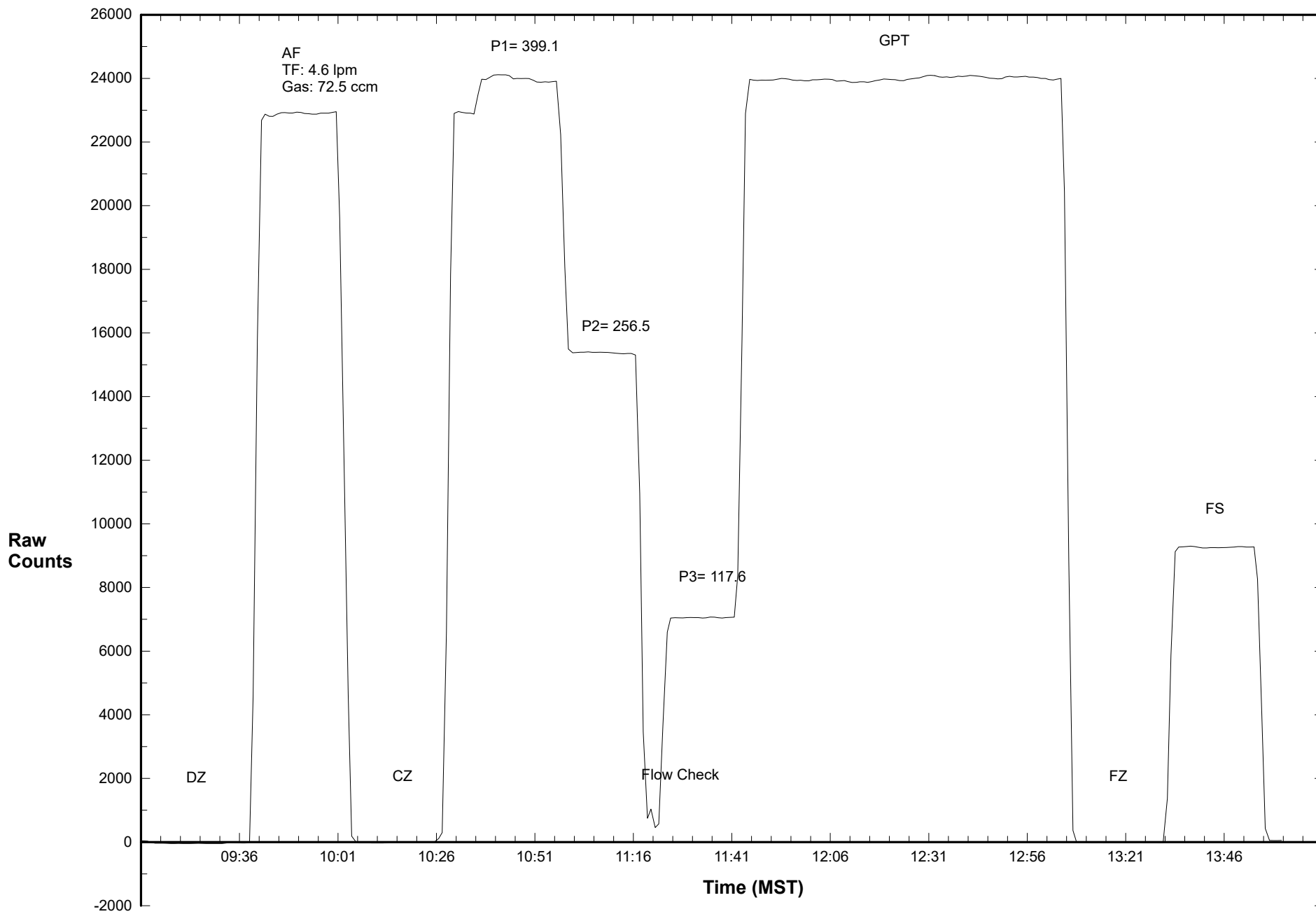
Station 905 NO August 9, 2017: Calibration Graph



Station 905 NO2 August 9, 2017: Calibration Graph



Station 905 NOX August 9, 2017: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 905, Steeper 905

Calibration Date: August 9, 2017

Parameter: O₃

Instrument: Teco 49i

Serial Number: 1407861290

Previous Calibration Date: July 28 2017

Calibration: Routine

Calibration Equipment: Model 2B SN 135

Barometric Pressure: 25.40" Hg

Calibration Method: Certified Ozone Calibrator April 20 2017

Temperature: 20.0° C

Technician: Dean Yustak

Instrument Settings	Background	Coefficient	Monitoring Range
Previous	-0.1	1.029	500 ppb
Current	-0.1	1.068	500ppb

Final Zero: -0.9 ppb

Final Span: 337.7 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
3.000	403.0	24141.6	402.9	1.000
3.000	254.0	15215.7	253.5	1.002
3.000	100.1	6152.8	101.8	0.984
3.000	0.0	11.5	-1.1	

Results of Linear Regression

R _c vs C _c	Slope	Intercept	R ²
Previous	59.964920	46.587810	0.999982
Current	59.732520	74.528140	0.999956
C _i vs C _c			
Current	1.000000	-0.000032	0.999956

Average Correction Factor: 0.995

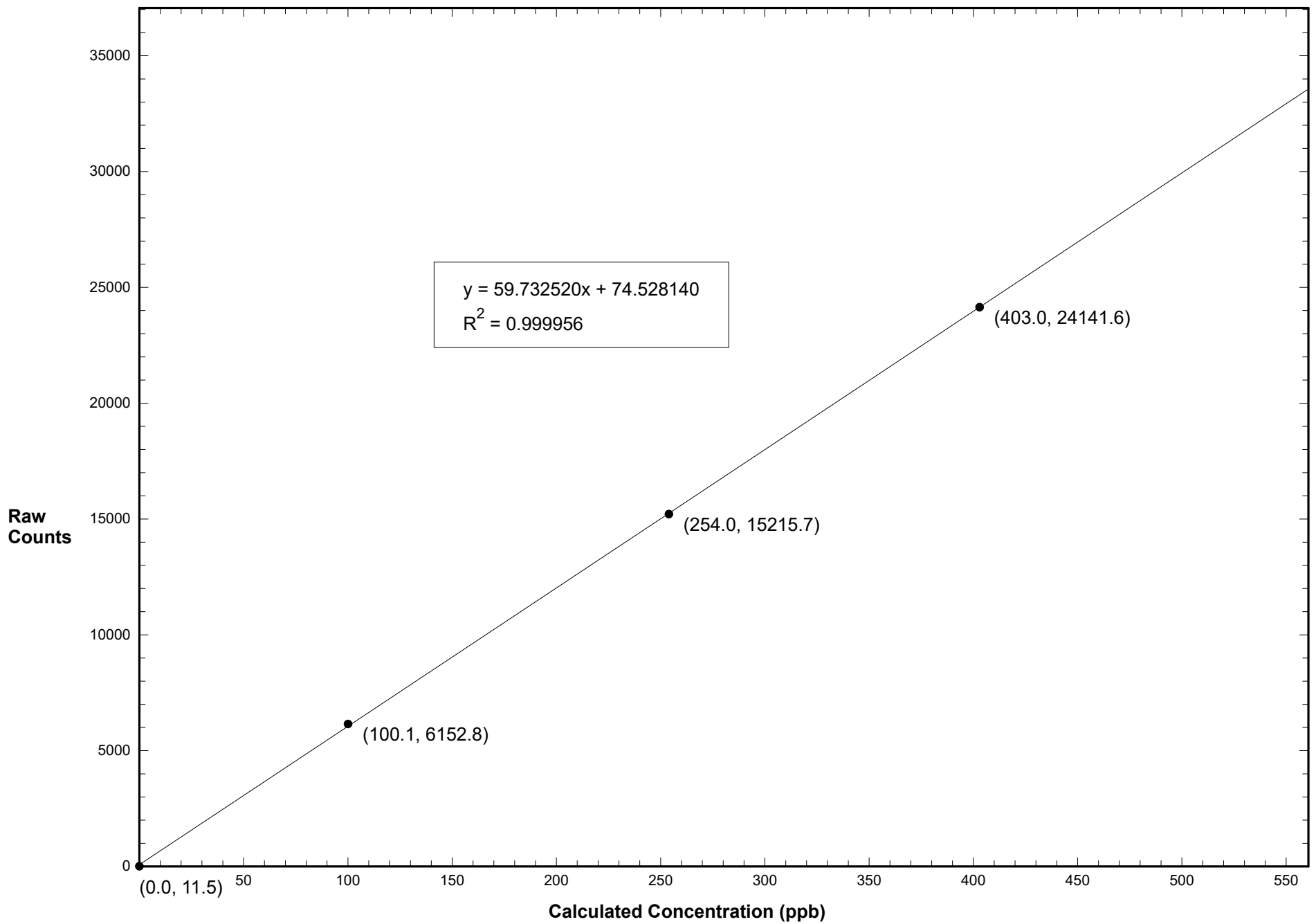
Previous Correction Factor: 1.000

Current Correction Factor: 1.000

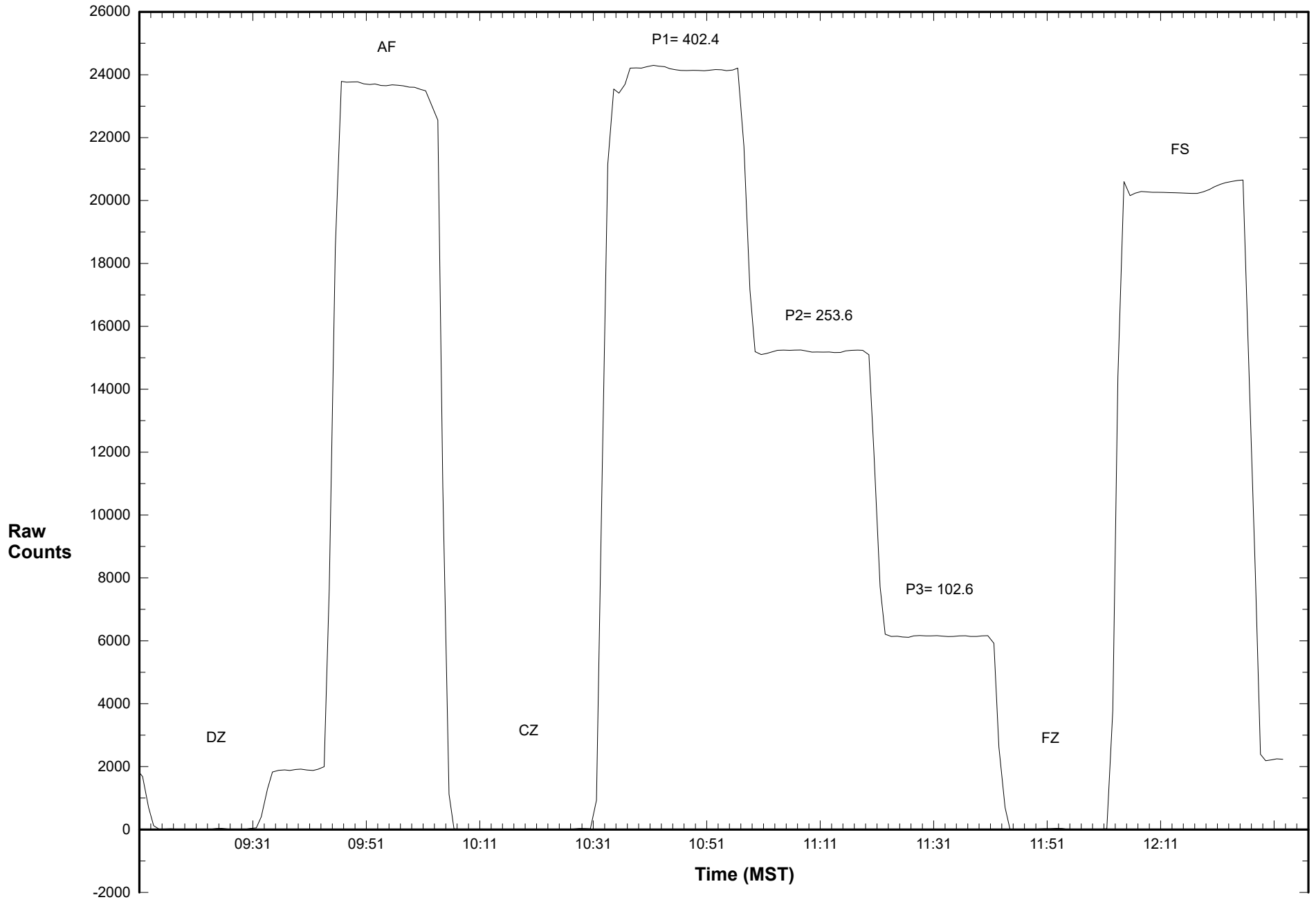
Percent Change of Correction Factor: 0.0

Comments: Sample Flows: 0.745 & 0.698 lpm

Station 905 O3 August 9, 2017: Linear Regression



Station 905 O3 August 9, 2017: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 905, Steeper 905

Calibration Date: August 9, 2017

Parameter: SO₂

Instrument: Teco 43i

Serial Number: 1106047299

Previous Calibration Date: July 28 2017

Calibration: Routine

Calibration Equipment: SABIO 2010 sn# 04300810

Barometric Pressure: 25.40" Hg

Calibration Method: Standard Gas Dilution

Cylinder ID: SX17611

Temperature: 20.0° C

Cylinder Concentration: 25.4 PPM SO₂

In Service: April 1 2016 : Exp Dec 2 2017

Technician: Dean Yustak

Instrument Settings	SO ₂ bkg ppb	SO ₂ Coefficient	Monitoring Range
Previous	9.0	1.051	500 ppb
Current	8.8	1.032	500 ppb

Final Zero: -0.2 ppb

Final Span: 69.2 ppb

As Found Correction Factor: 0.987

SO ₂ 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
0.0726	4.535	400.2	23969.0	399.8	1.001
0.0461	4.537	255.6	15378.8	256.5	0.996
0.0210	4.530	117.2	6991.5	116.6	1.005
0.0000	4.528	0.0	2.6	0.1	

Results of Linear Regression

R _c vs C _c	Slope	Intercept	R ²
Previous	60.105110	-34.812150	0.999988
Current	59.957230	-1.596276	0.999985
C _i vs C _c			
Current	1.000000	0.000034	0.999985

Average Correction Factor: 1.001

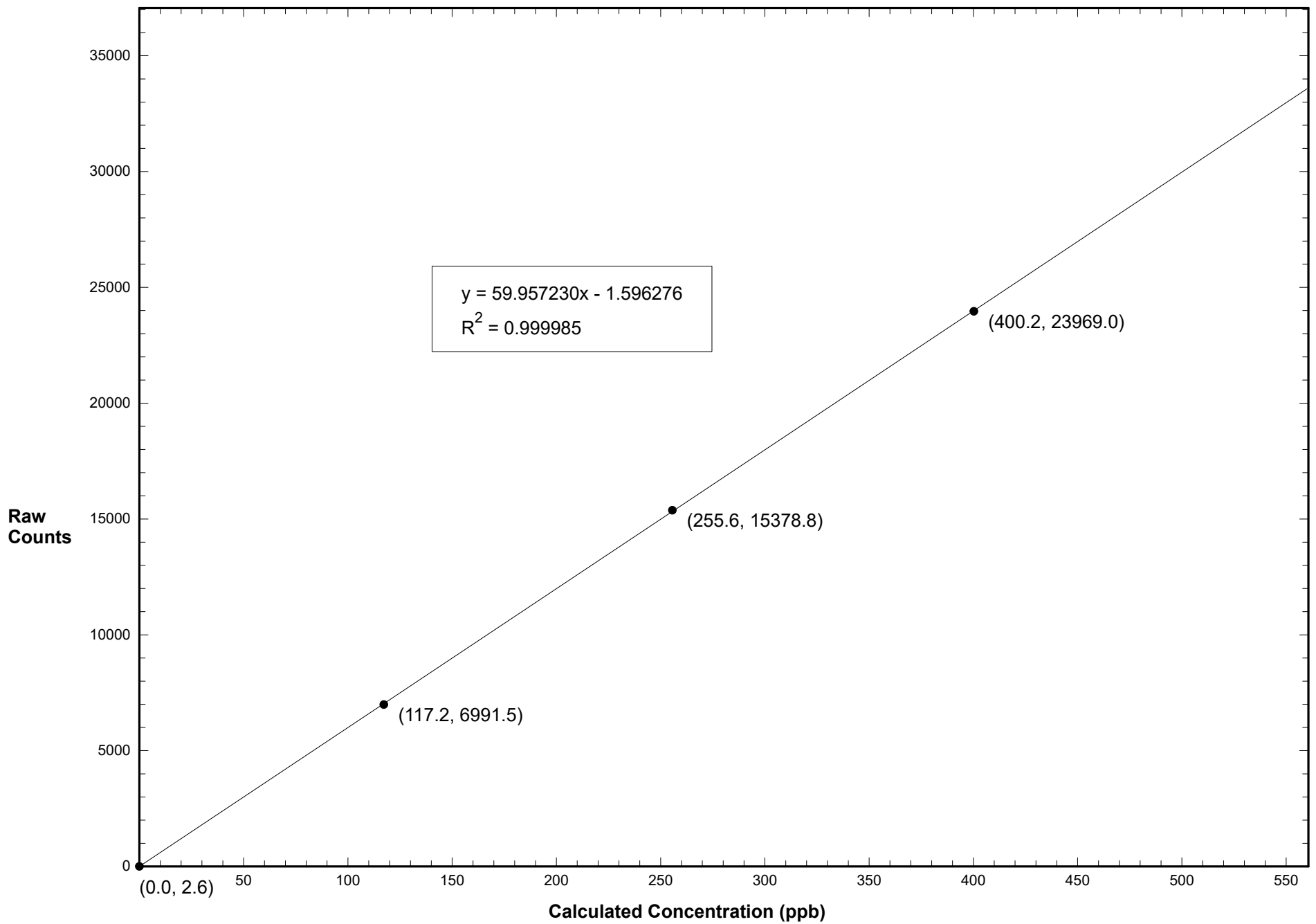
Previous Correction Factor: 0.999

Current Correction Factor: 1.001

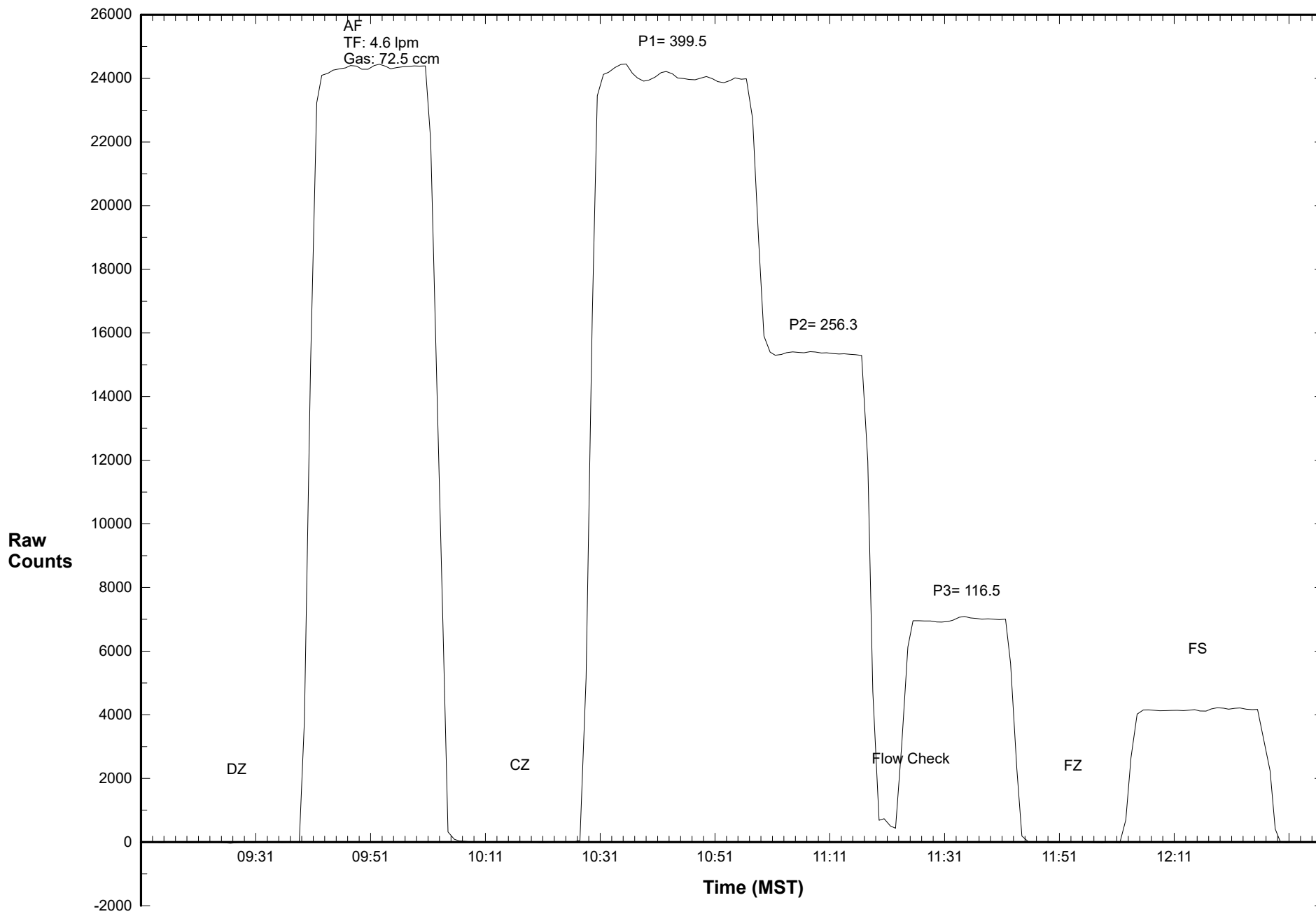
Percent Change of Correction Factor: 0.2

Comments: Sample Flow: 0.442 lpm

Station 905 SO2 August 9, 2017: Linear Regression



Station 905 SO2 August 9, 2017: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 912, Edson

Calibration Date: August 12, 2017

Parameter: NO/NO₂/NO_x

Instrument: Teco 42i

Serial Number: 1150790047

Previous Calibration Date: July 29 2017

Calibration: Routine

Calibration Equipment: SABIO 2010 sn 04300810

Barometric Pressure: 26.80" Hg

Calibration Method: Standard Gas Dilution/GPT

Cylinder ID: SX17611

Temperature: 21.0° C

Cylinder Concentration: 25.4 ppm SO₂

In Service: Feb 28 2017 Exp: Dec 2 2017

Technician: Dean Yustak

Instrument Settings	NO bkg ppb	NO _x bkg ppb	Pre-reactor bkg ppb	NO Coefficient	NO _x Coefficient	NO ₂ Coefficient	Monitoring Range
Previous	15.5	16.2	NA	1.606	1.001	1.000	500 ppb
Current	15.5	15.8	NA	1.604	0.998	1.000	500 ppb

NO	Final Zero: 0.5 ppb	Final Span: 280.0 ppb	As Found Correction Factor: 1.009
NO ₂	Final Zero: 0.3 ppb	Final Span: -0.3 ppb	As Found Correction Factor: NA
NO _x	Final Zero: 0.6 ppb	Final Span: 279.6 ppb	As Found Correction Factor: 1.010

Results of Linear Regression			Slope	Intercept	R ²
NO	R _c vs C _c	Previous	59.970020	-37.346180	0.999933
		Current	60.268710	-34.166270	0.999975
	C _i vs C _c	Current	1.000000	0.000015	0.999975
NO ₂	R _c vs C _c	Previous	60.004310	21.879650	0.999933
		Current	60.138850	-20.136900	0.999948
	C _i vs C _c	Current	1.000000	-0.000008	0.999948
NO _x	R _c vs C _c	Previous	60.217300	-43.697750	0.999933
		Current	60.344390	-43.671220	0.999968
	C _i vs C _c	Current	1.000000	0.000081	0.999968

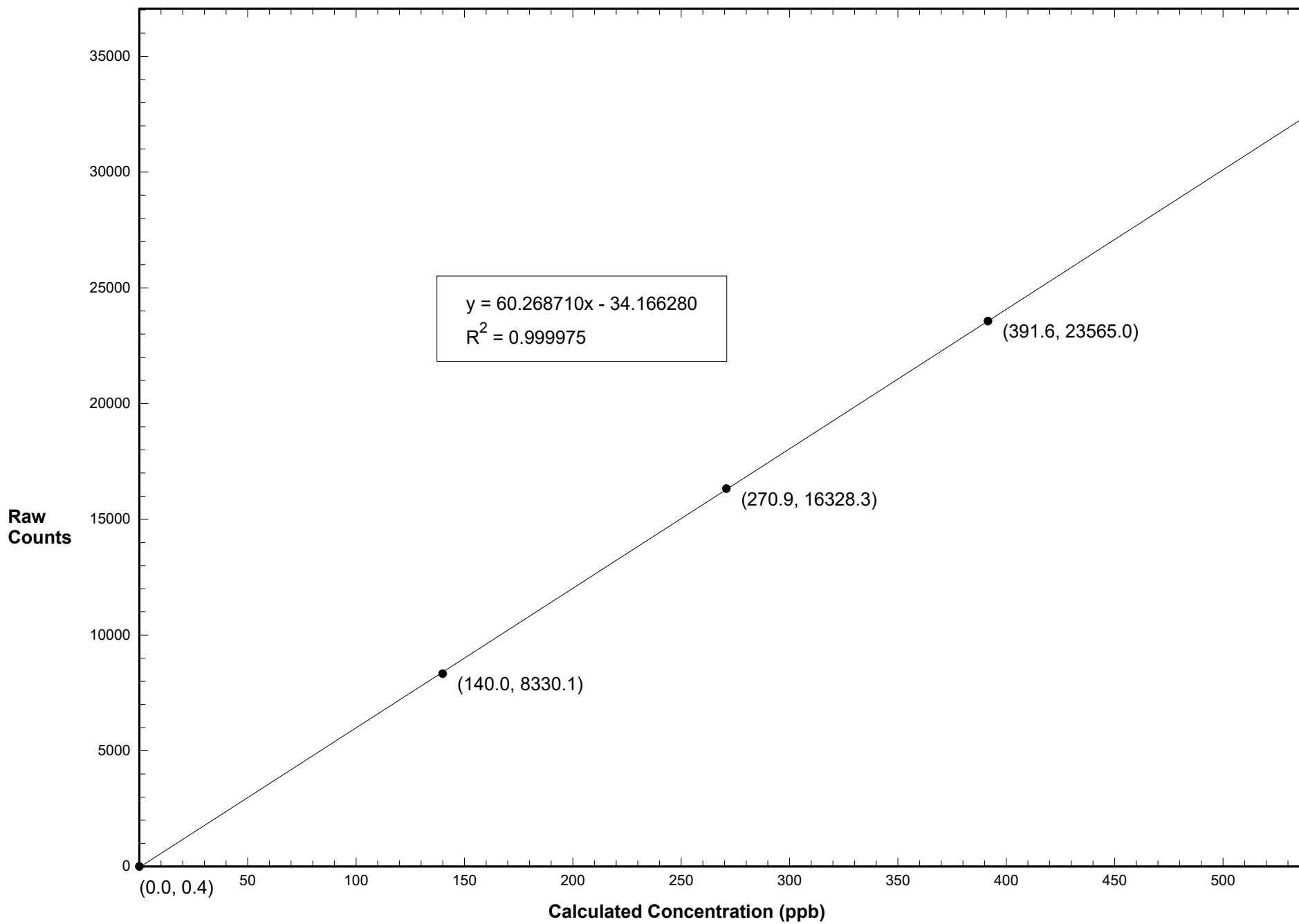
Comments: Sample Flow: 0.370 lpm

Calibration Data Summary (Page 2)

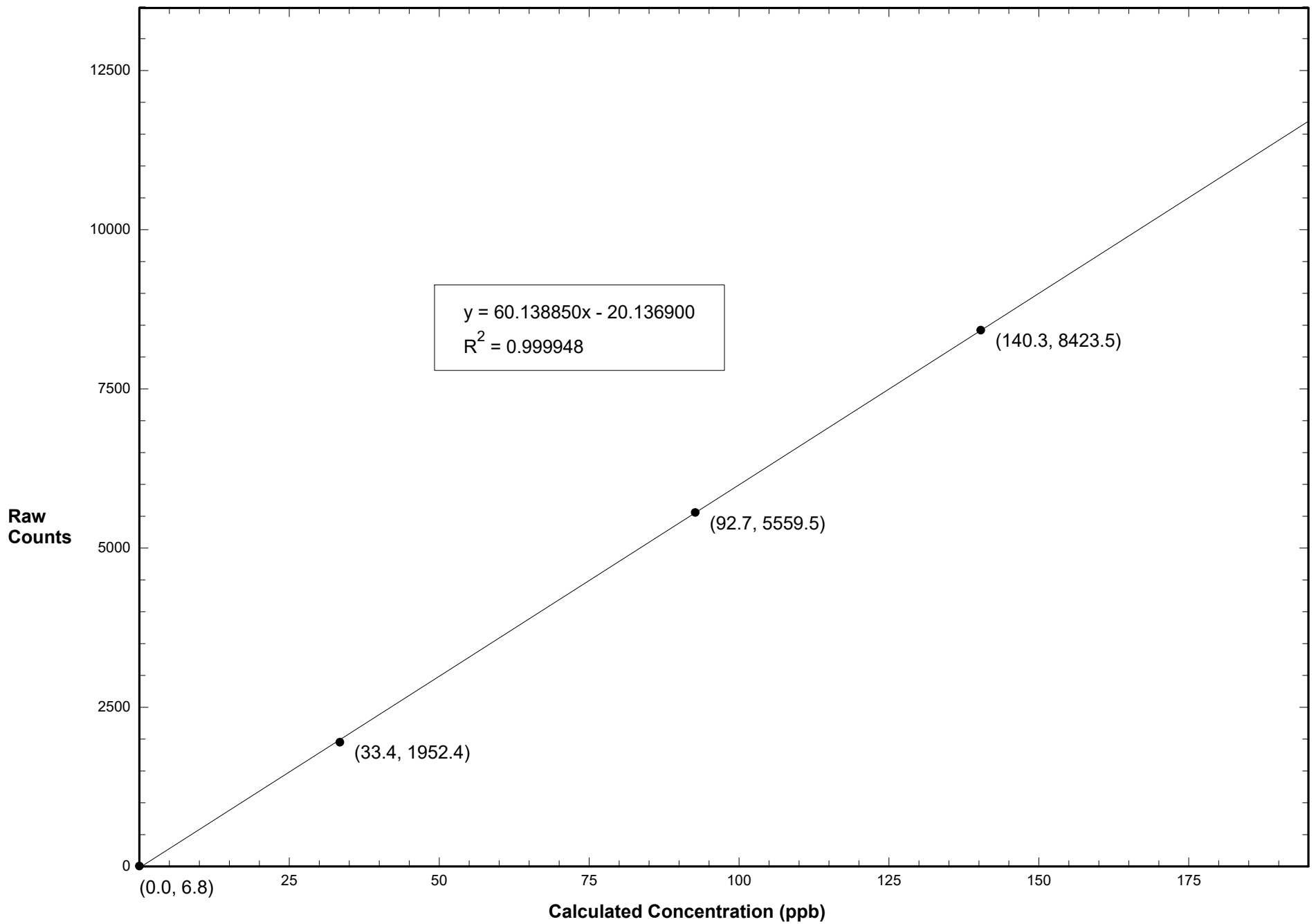
August 12, 2017 - Station 912

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		
0.07500	4.790	391.6	23565.0	391.6	1.000		
0.05120	4.750	270.9	16328.3	271.5	0.998		
0.02610	4.710	140.0	8330.1	138.8	1.009		
0.00000	4.697	0.0	0.4	0.6			
NO Calibration					Average Correction Factor:	1.002	
0.07500	4.790	391.6	23606.1	391.9	0.999		
0.05120	4.750	270.9	16314.8	271.1	0.999		
0.02610	4.710	140.0	8319.9	138.6	1.010		
0.00000	4.697	0.0	5.7	0.8			
NO _x Calibration					Average Correction Factor:	1.003	
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
391.0	15073.8	250.7	140.3	8423.5	140.4	0.999	1.001
391.0	17944.2	298.3	92.7	5559.5	92.8	0.999	1.001
391.0	21515.6	357.6	33.4	1952.4	32.8	1.019	0.981
			0.0	6.8	0.4		
					Average Correction Factor:	1.006	
NO ₂ Gas Phase Titration					Average Converter Efficiency: 0.994		
Parameter	Correction Factor (Previous)	Correction Factor: (Current)	Percent Change of Correction Factor				
NO	0.997	1.000	0.3				
NO ₂	1.001	0.999	-0.2				
NO _x	0.997	0.999	0.2				

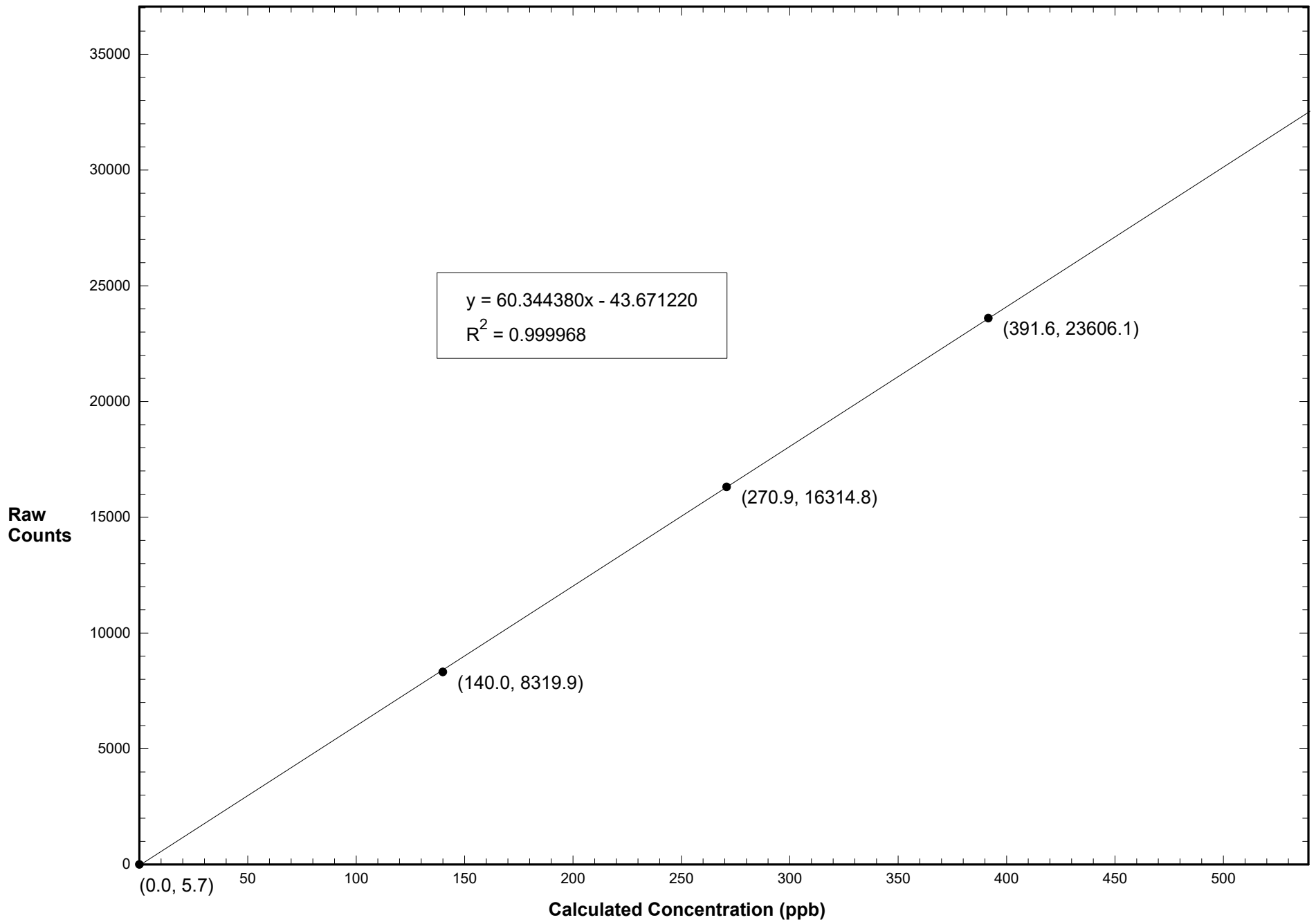
Station 912 NO August 12, 2017: Linear Regression



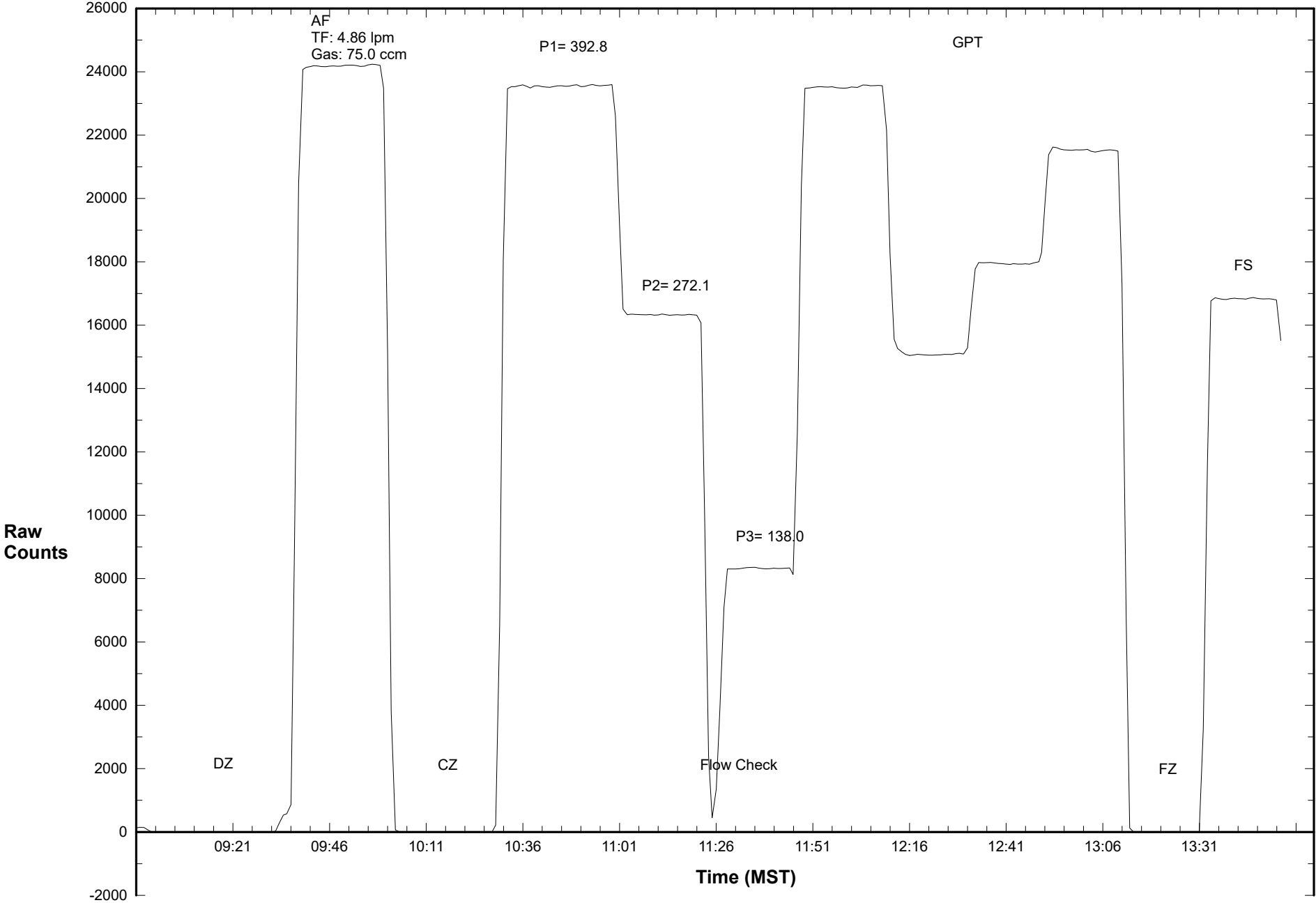
Station 912 NO2 August 12, 2017: Linear Regression



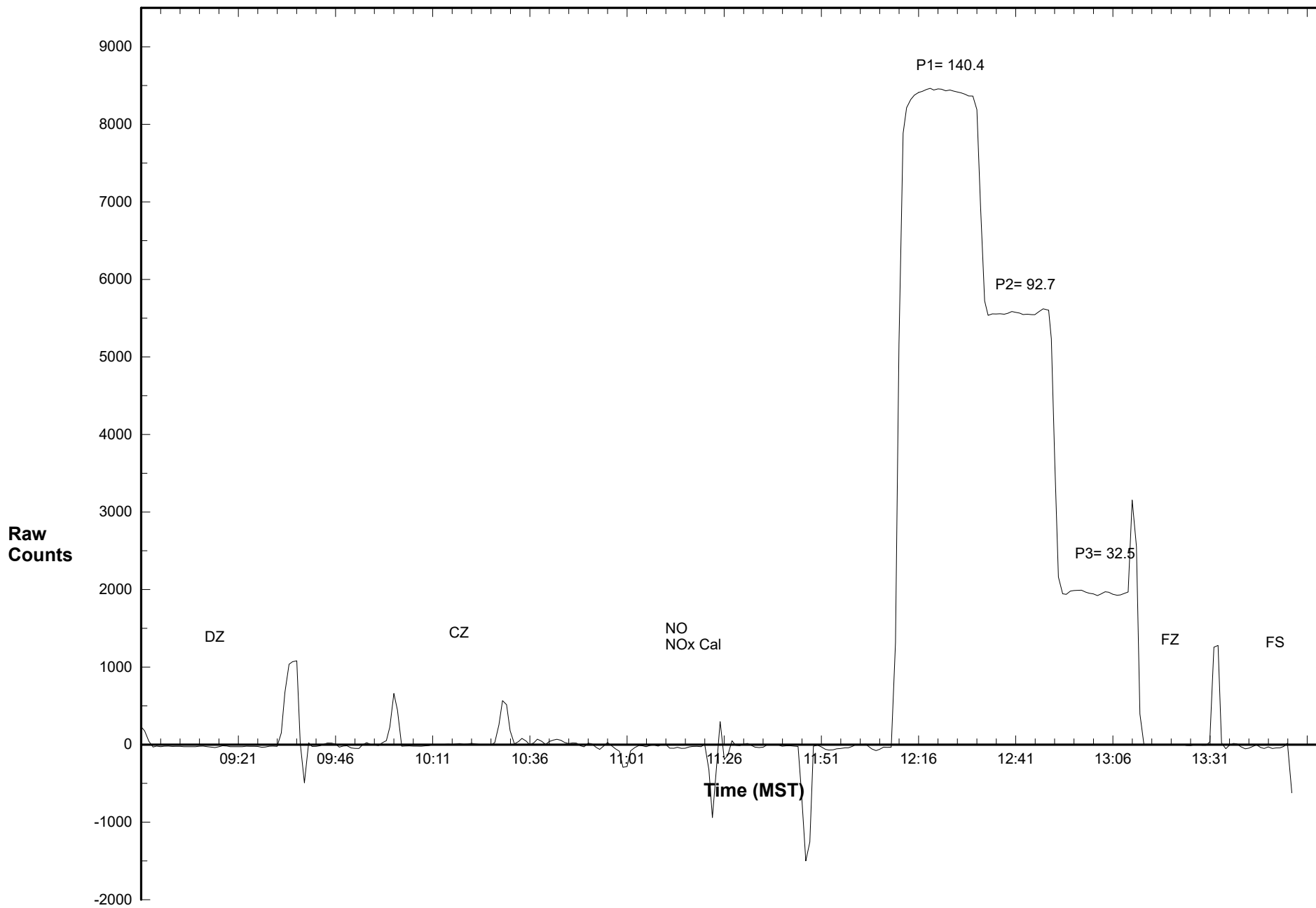
Station 912 NOX August 12, 2017: Linear Regression



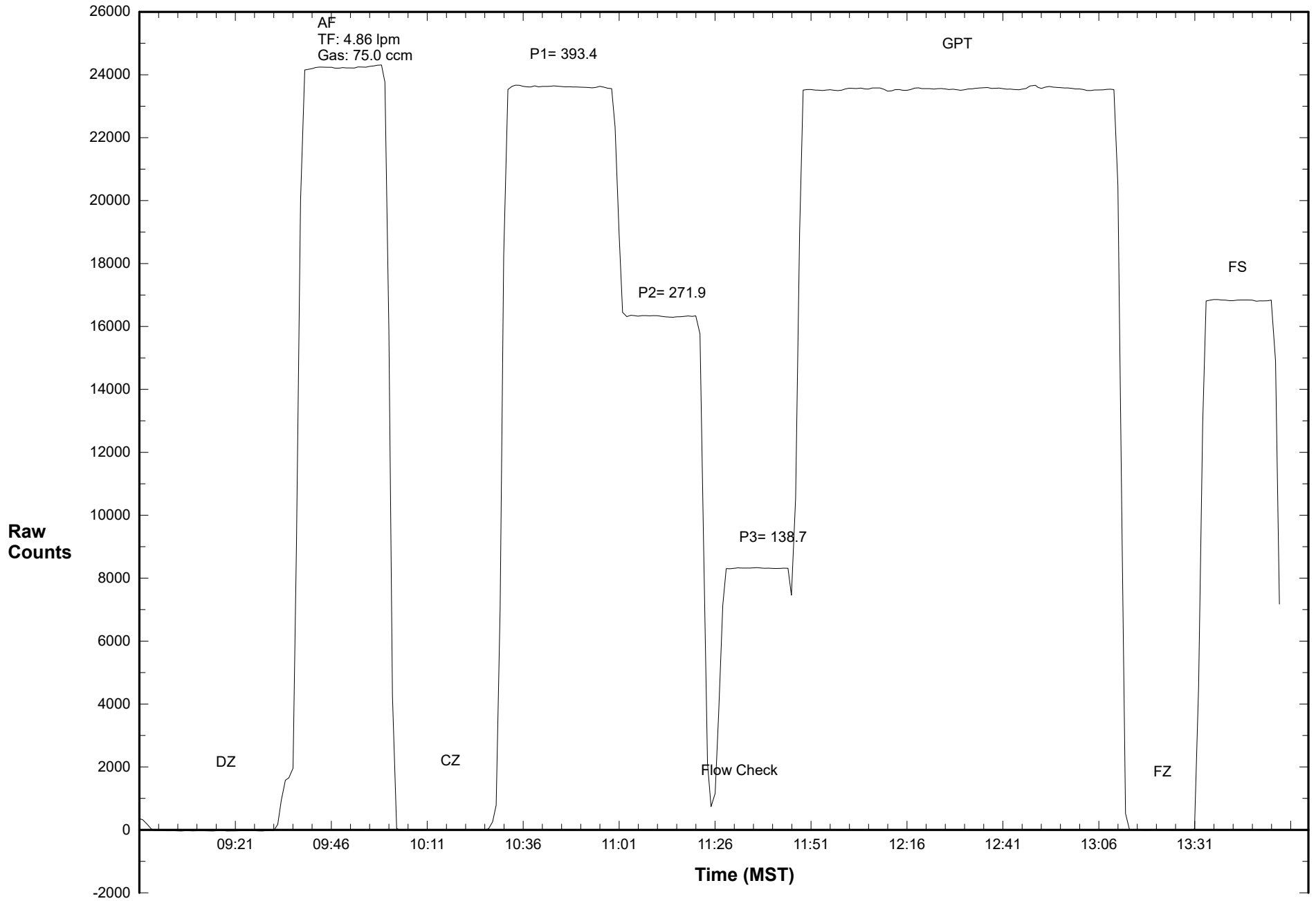
Station 912 NO August 12, 2017: Calibration Graph



Station 912 NO2 August 12, 2017: Calibration Graph



Station 912 NOX August 12, 2017: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 912, Edson

Calibration Date: August 12, 2017

Parameter: O₃

Instrument: Teco 49c

Serial Number: 49c-69993-364

Previous Calibration Date: July 13 2017

Calibration: Routine

Calibration Equipment: 2B Tech 306 sn 135

Barometric Pressure: 26.80" Hg

Calibration Method: Standard Gas Dilution In Service: Jan 16/17

Temperature: 21.0° C

Technician: Dean Yustak

Instrument Settings	Background	Coefficient	Monitoring Range
Previous	-0.2	1.003	500 ppb
Current	-0.6	1.010	500 ppb

Final Zero: -1.0 ppb

Final Span: 236.8 ppb

As Found Correction Factor: 1.008

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	403.0	24103.5	403.0	1.000
3.000	254.0	15185.7	253.5	1.002
3.000	100.1	6124.3	101.5	0.986
3.000	0.0	15.0	-0.9	

Results of Linear Regression

R _c vs C _c	Slope	Intercept	R ²
Previous	59.963340	-5.498575	1.000000
Current	59.644890	67.839120	0.999966
C _i vs C _c			
Current	1.000000	-0.000063	0.999967

Average Correction Factor: 0.996

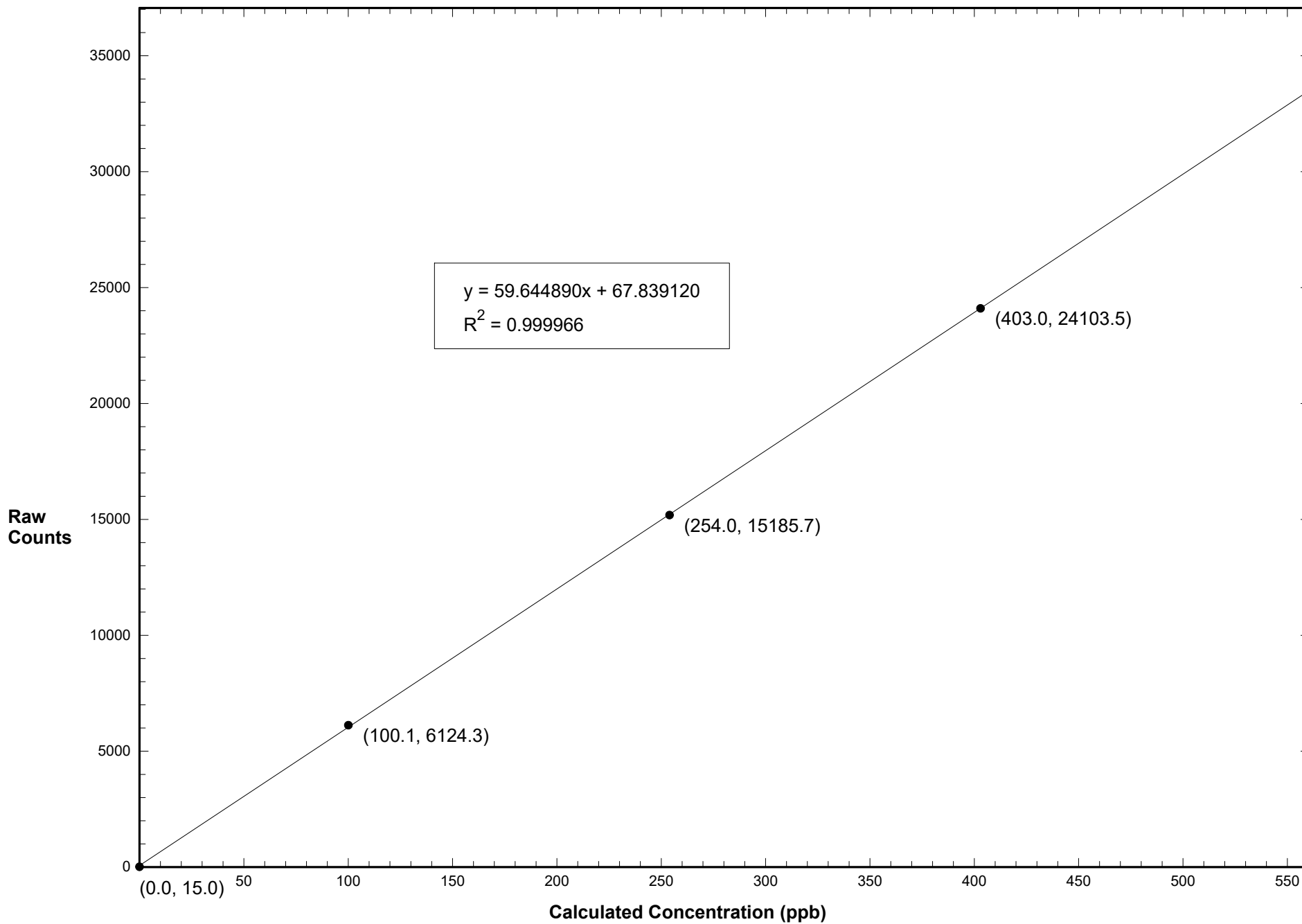
Previous Correction Factor: 1.000

Current Correction Factor: 1.000

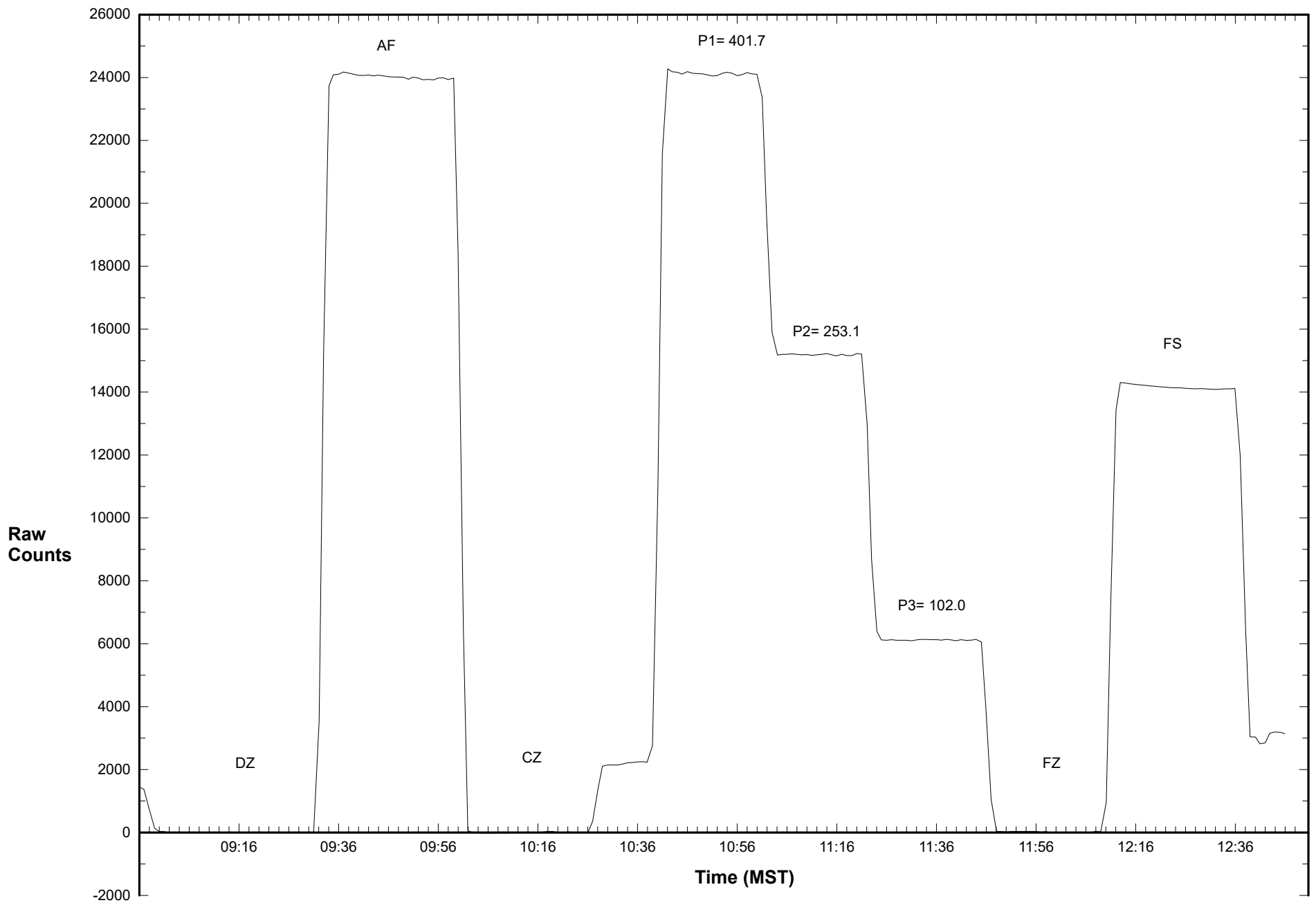
Percent Change of Correction Factor: 0.0

Comments: Sample Flows: 0.812 & 0.834 lpm

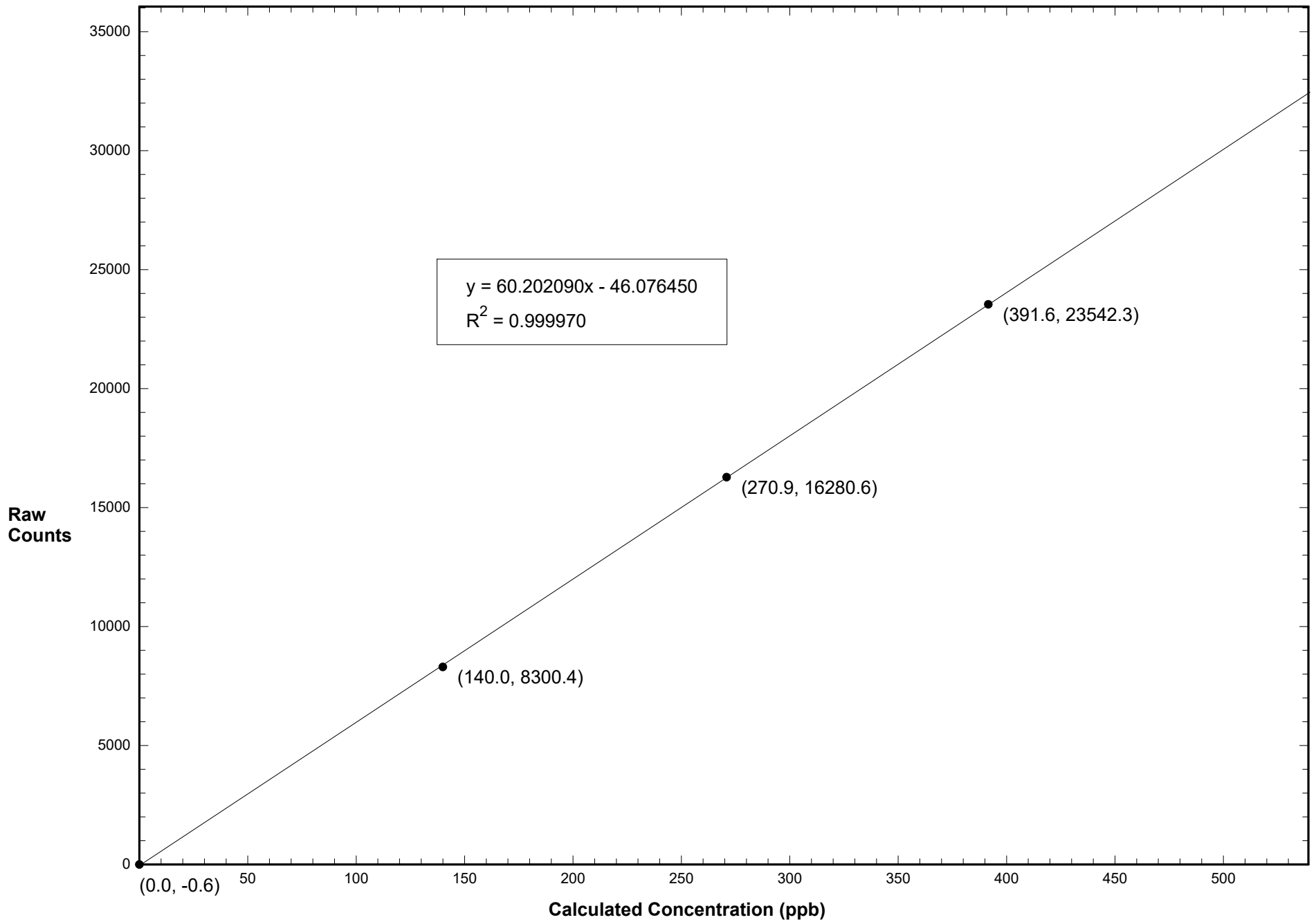
Station 912 O3 August 12, 2017: Linear Regression



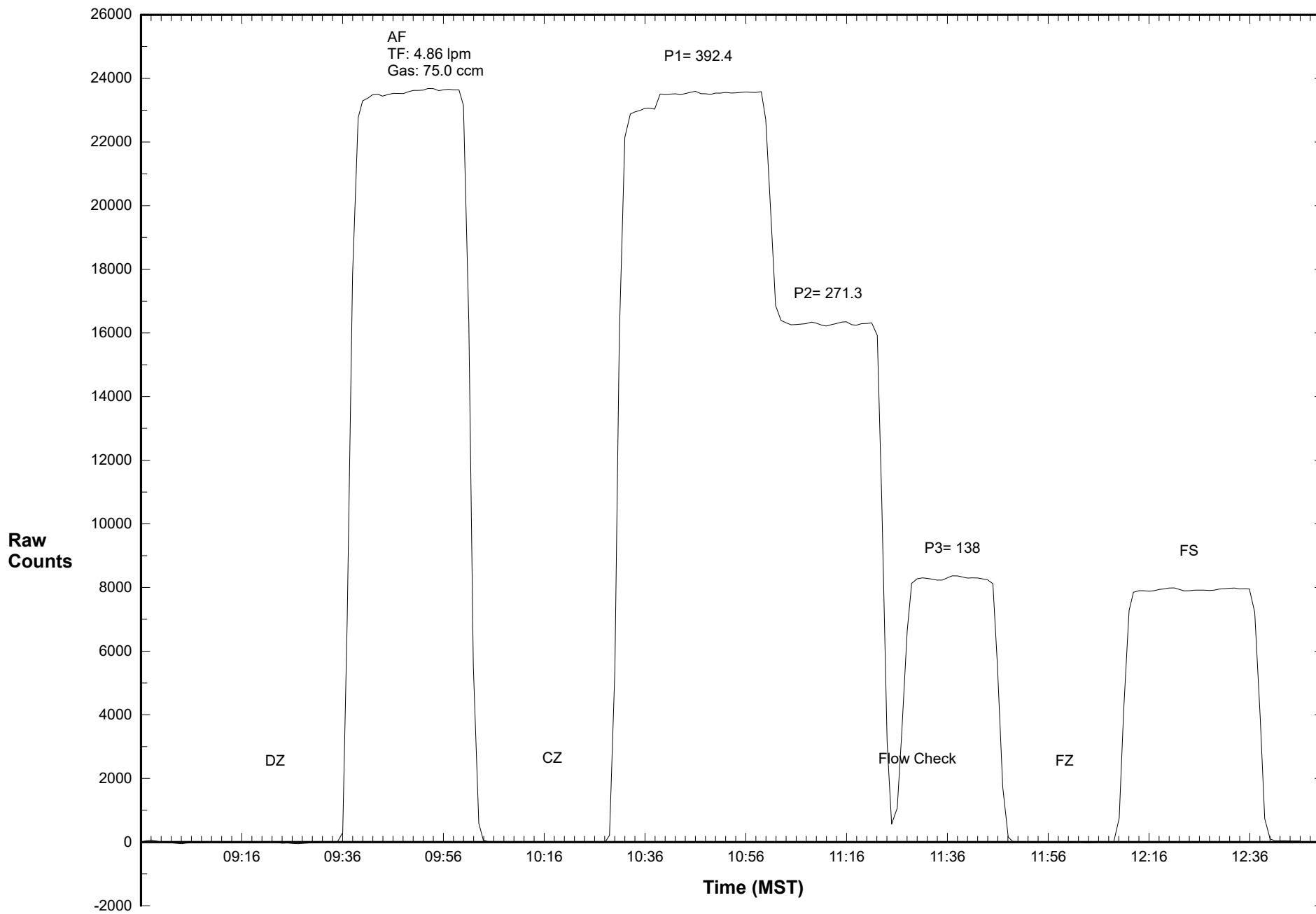
Station 912 O3 August 12, 2017: Calibration Graph



Station 912 SO2 August 12, 2017: Linear Regression



Station 912 SO2 August 12, 2017: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 913, Breton

Calibration Date: August 5, 2017

Parameter: NO/NO₂/NO_x

Instrument: Teco 42i

Serial Number: 1004840575

Previous Calibration Date: July 24, 2017

Calibration: Routine

Calibration Equipment: Sabio 2010 SN 08600312

Barometric Pressure: 27.44" Hg

Calibration Method: Standard Gas Dilution / GPT

Cylinder ID: SX17611

Temperature: 21.7° C

Cylinder Concentration: 25.4 ppm NO/25.5 ppm NO_x

In Service: 4/1/2016 EXP 12/2/2017

Technician: L. Burns

Instrument Settings	NO bkg ppb	NO _x bkg ppb	Pre-reactor bkg ppb	NO Coefficient	NO _x Coefficient	NO ₂ Coefficient	Monitoring Range
Previous	10.1	10.1	NA	1.656	1.001	0.996	500 ppb
Current	10.7	11.1	NA	1.719	1.004	0.996	500 ppb

NO	Final Zero: -0.9 ppb	Final Span: 400.5 ppb	As Found Correction Factor: 1.037
NO ₂	Final Zero: -0.3 ppb	Final Span: 1.2 ppb	As Found Correction Factor: NA
NO _x	Final Zero: -0.8 ppb	Final Span: 402.3 ppb	As Found Correction Factor: 1.041

Results of Linear Regression			Slope	Intercept	R ²
NO	R _c vs C _c	Previous	60.042630	37.671230	0.999985
		Current	59.953640	53.302220	0.999959
	C _i vs C _c	Current	1.000000	-0.000004	0.999959
NO ₂	R _c vs C _c	Previous	60.442080	-20.560500	0.999985
		Current	60.084430	12.089790	0.999999
	C _i vs C _c	Current	1.000000	-0.000019	0.999999
NO _x	R _c vs C _c	Previous	59.962110	46.570860	0.999985
		Current	59.883900	34.307720	0.999979
	C _i vs C _c	Current	1.000000	0.000034	0.999979

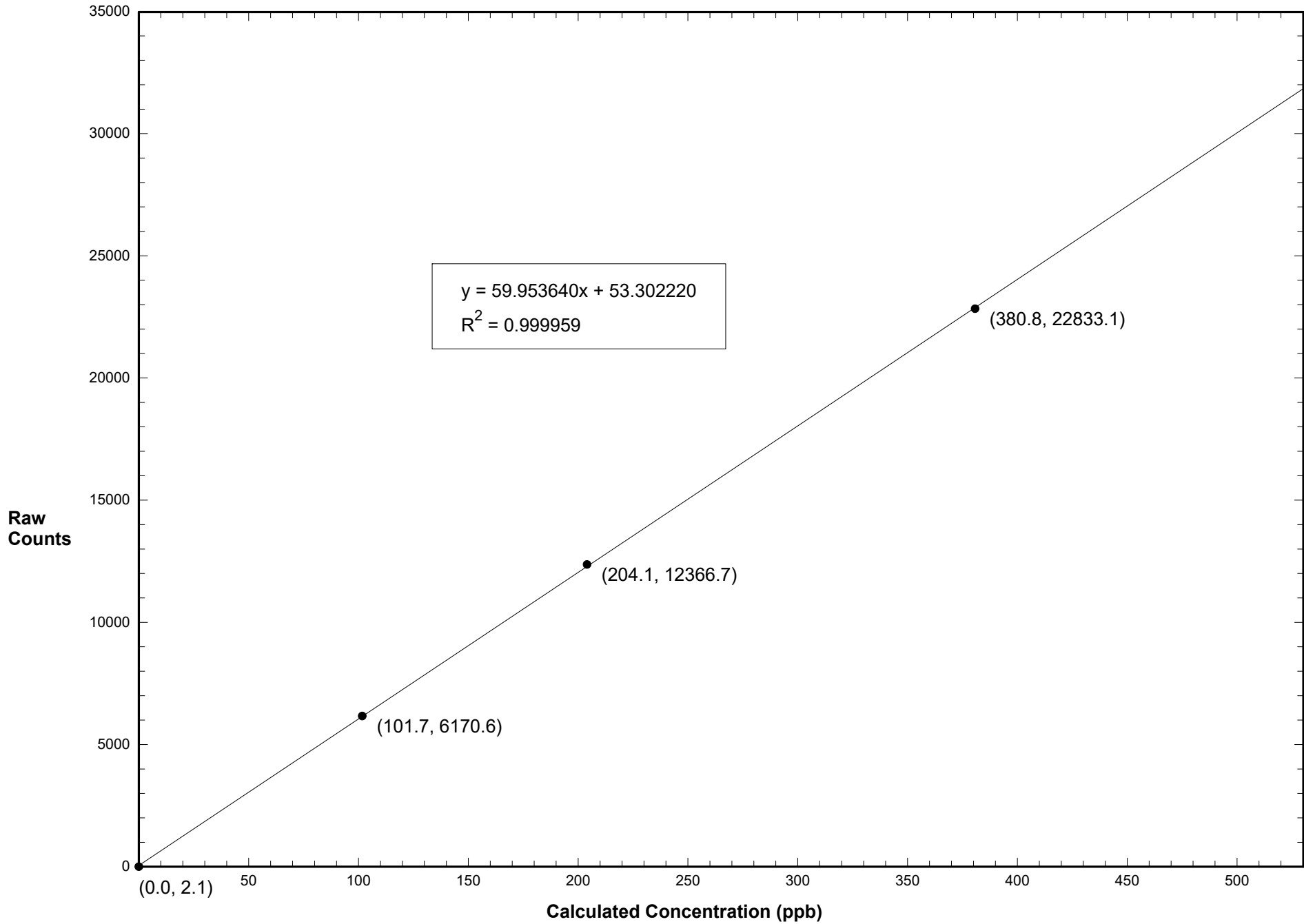
Comments: SAMPLE FLOW = 0.752 LPM

Calibration Data Summary (Page 2)

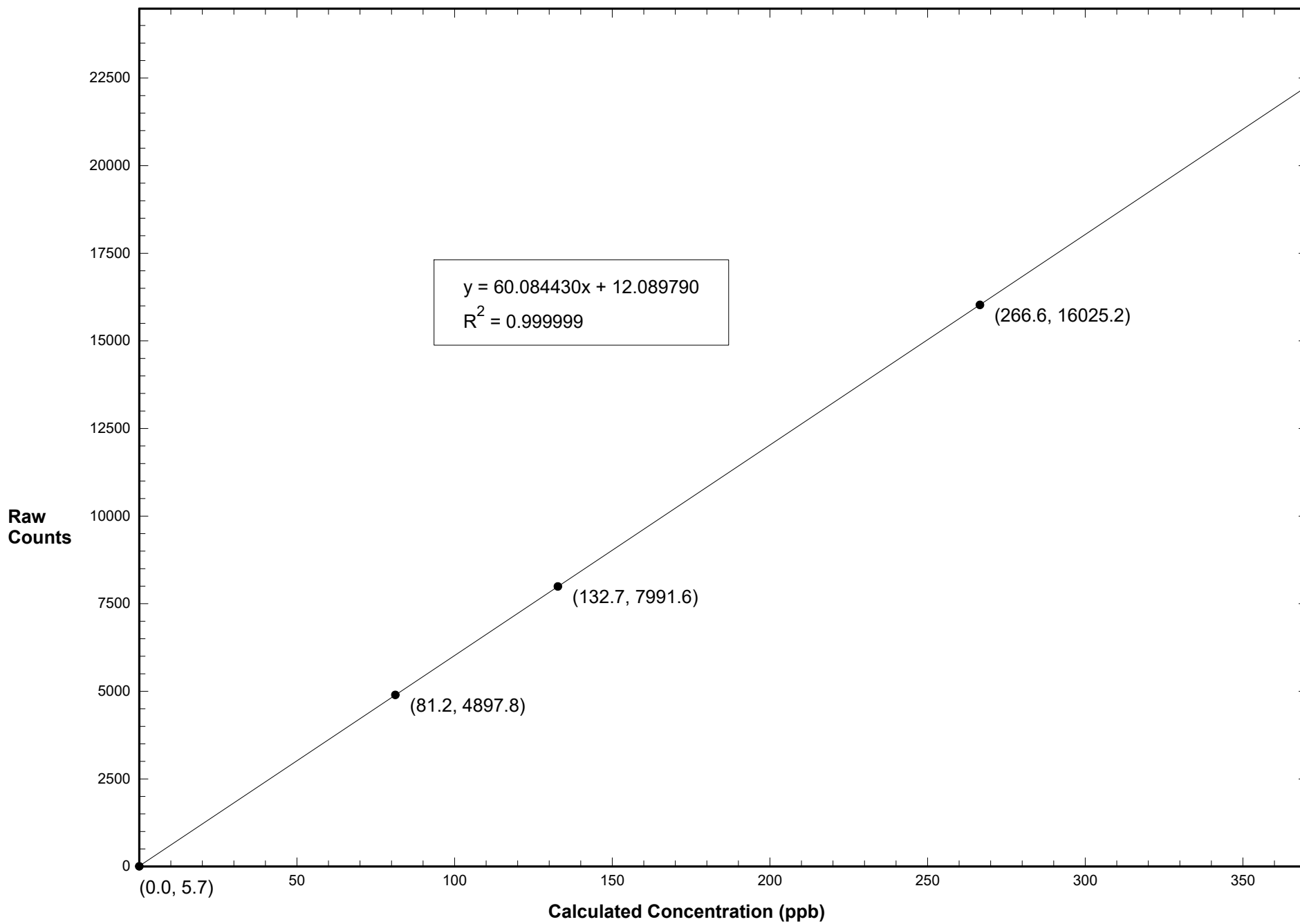
August 5, 2017 - Station 913

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		
0.07629	5.013	380.8	22833.1	380.0	1.002		
0.04064	5.018	204.1	12366.7	205.4	0.994		
0.02019	5.022	101.7	6170.6	102.0	0.997		
0.00000	5.000	0.0	2.1	-0.9			
NO Calibration					Average Correction Factor:	0.997	
0.07629	5.013	382.3	22890.5	381.7	1.002		
0.04064	5.018	204.9	12363.1	205.9	0.995		
0.02019	5.022	102.1	6156.2	102.2	0.999		
0.00000	5.000	0.0	0.7	-0.6			
NO _x Calibration					Average Correction Factor:	0.998	
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
381.5	6944.0	114.9	266.6	16025.2	266.5	1.000	1.000
381.5	14968.2	248.8	132.7	7991.6	132.8	0.999	1.001
381.5	18057.3	300.3	81.2	4897.8	81.3	0.999	1.001
			0.0	5.7	-0.1		
					Average Correction Factor:	0.999	
NO ₂ Gas Phase Titration					Average Converter Efficiency: 1.001		
Parameter	Correction Factor (Previous)	Correction Factor: (Current)	Percent Change of Correction Factor				
NO	1.001	1.002	0.1				
NO ₂	1.000	1.000	0.0				
NO _x	1.001	1.002	0.1				

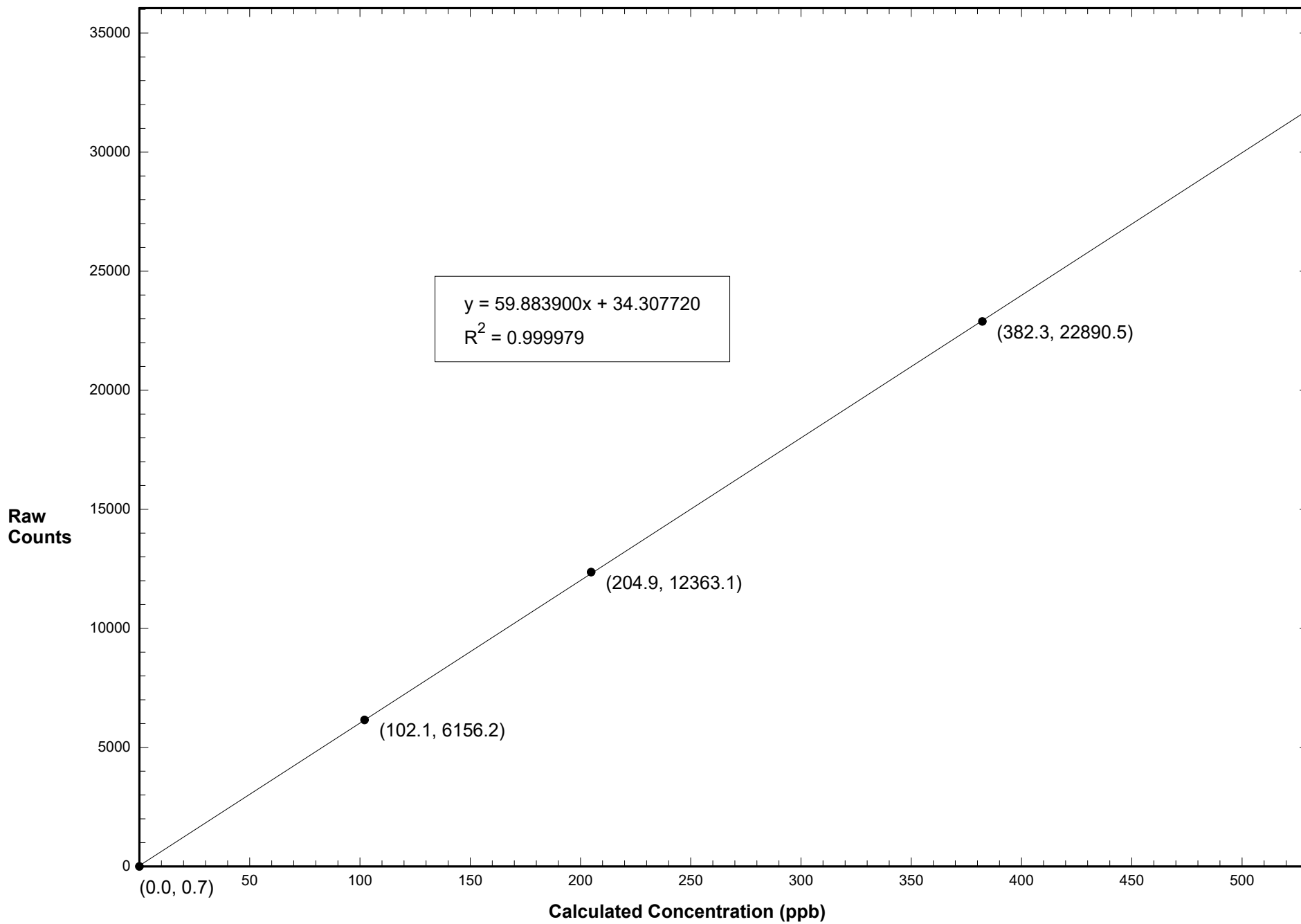
Station 913 NO August 5, 2017: Linear Regression



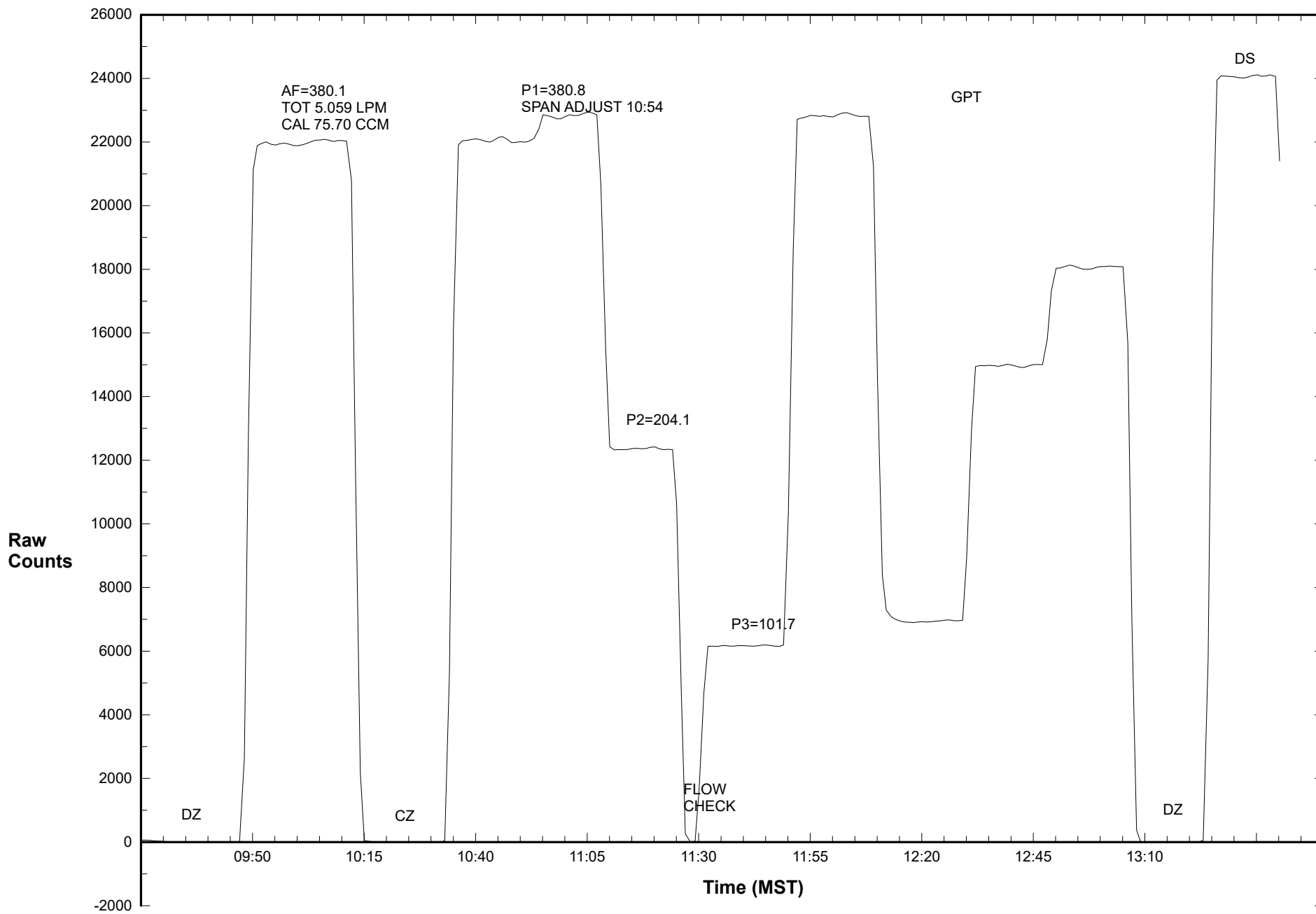
Station 913 NO2 August 5, 2017: Linear Regression



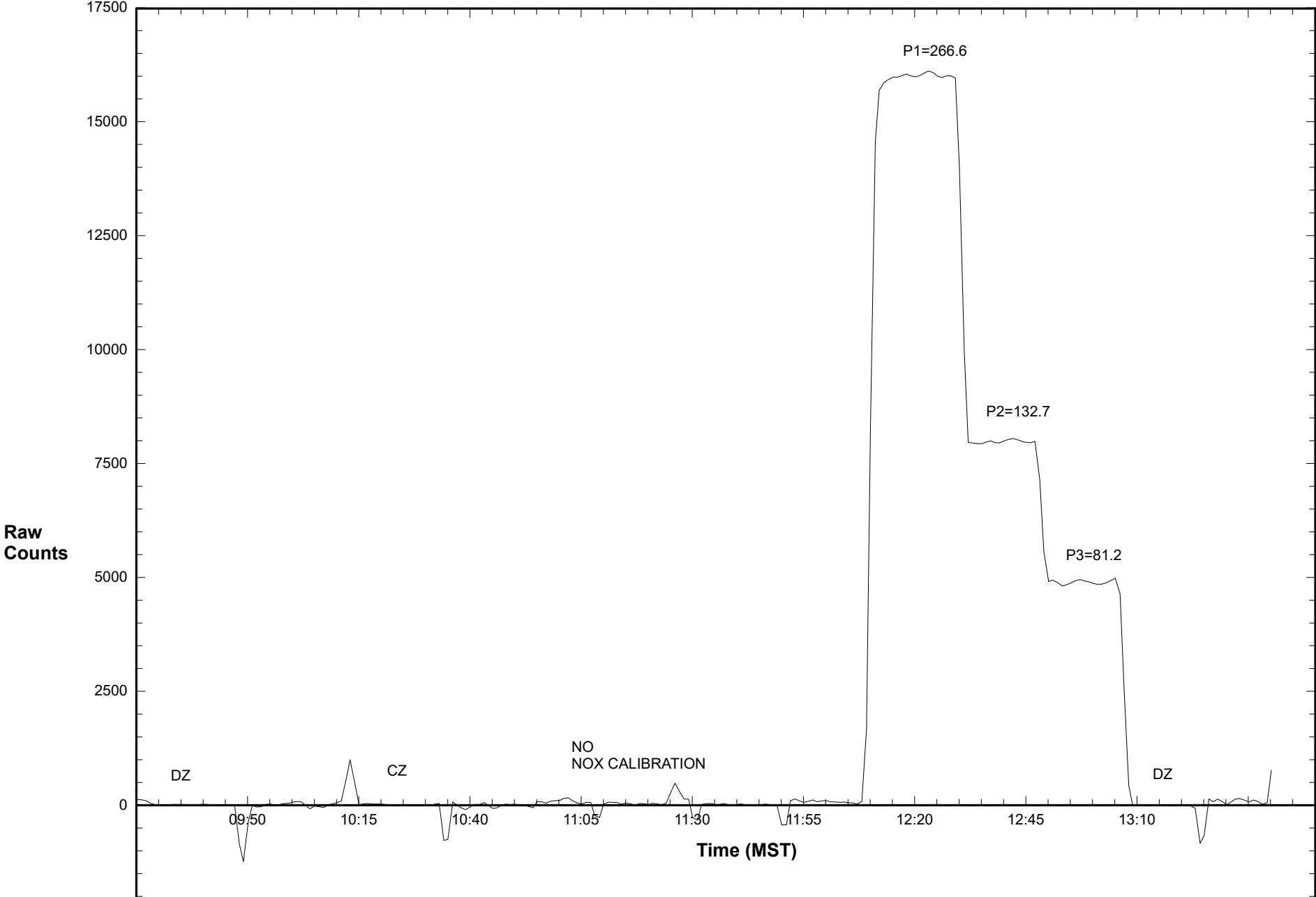
Station 913 NOX August 5, 2017: Linear Regression



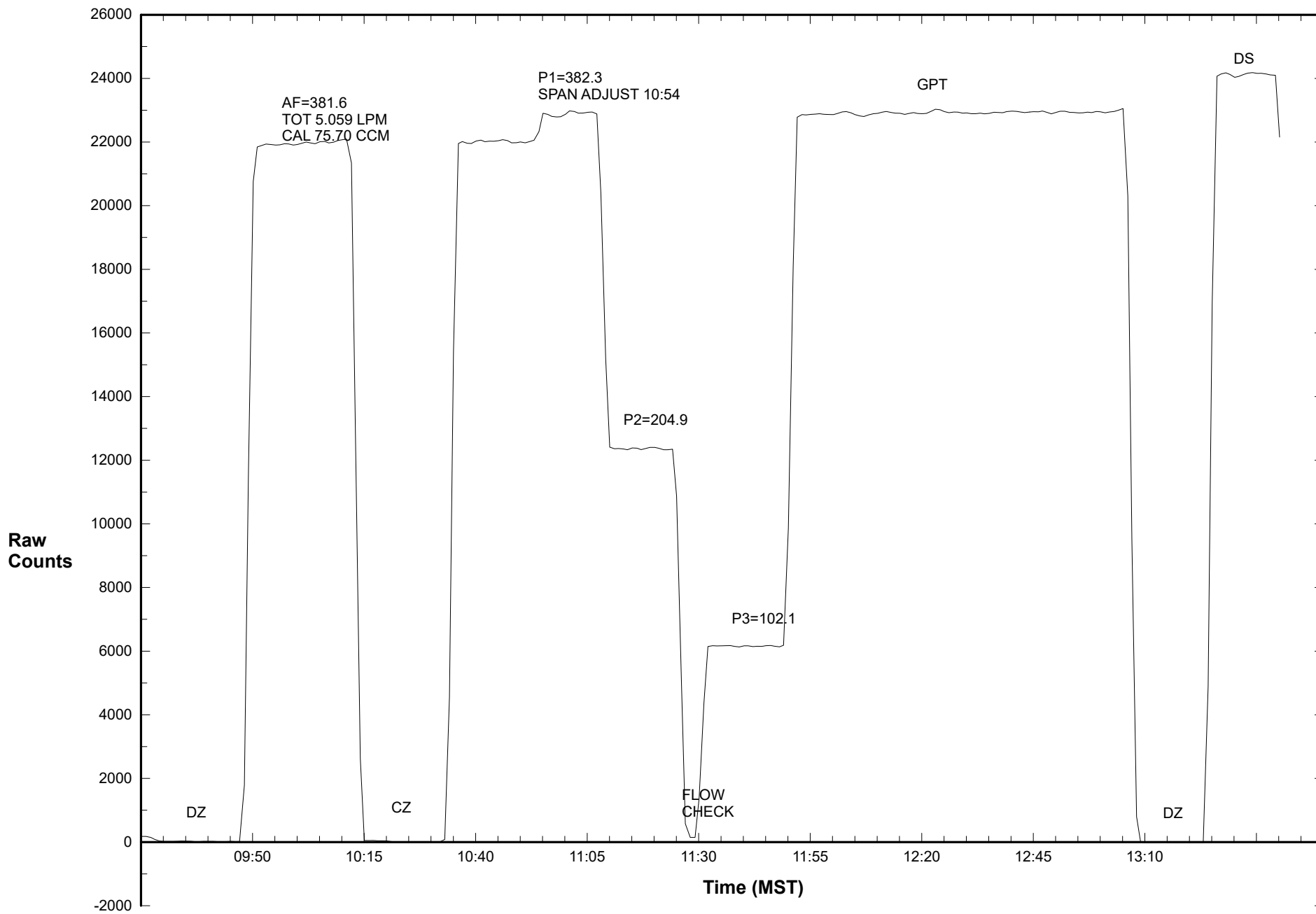
Station 913 NO August 5, 2017: Calibration Graph



Station 913 NO2 August 5, 2017: Calibration Graph



Station 913 NOX August 5, 2017: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 913, Breton

Calibration Date: August 5, 2017

Parameter: O₃

Instrument: Teco 49i

Serial Number: 1106047298

Previous Calibration Date: July 24, 2017

Calibration: Routine

Calibration Equipment: 2B Tech Model 306 SN 142

Barometric Pressure: 27.44" Hg

Calibration Method: Certified Ozone Generator

Temperature: 21.7° C

Technician: L. Burns

Instrument Settings	Background	Coefficient	Monitoring Range
Previous	-0.2	0.987	500 ppb
Current	-0.2	1.019	500 ppb

Final Zero: -1.5 ppb

Final Span: 200.9 ppb

As Found Correction Factor: 1.022

Calibration System Flow Rate (LPM)	Calculated Concentration C _c (ppb)	Raw Count Output R _c	Indicated Concentration C _i (ppb)	Correction Factor C _c /C _i
3.000	399.0	23864.6	398.5	1.001
3.000	215.0	12915.7	215.0	1.000
3.000	105.0	6465.7	106.9	0.983
3.000	0.0	10.3	-1.4	

Results of Linear Regression

R _c vs C _c	Slope	Intercept	R ²
Previous	59.847200	45.696810	0.999969
Current	59.653540	91.351440	0.999937
C _i vs C _c			
Current	1.000000	-0.000011	0.999937

Average Correction Factor: 0.995

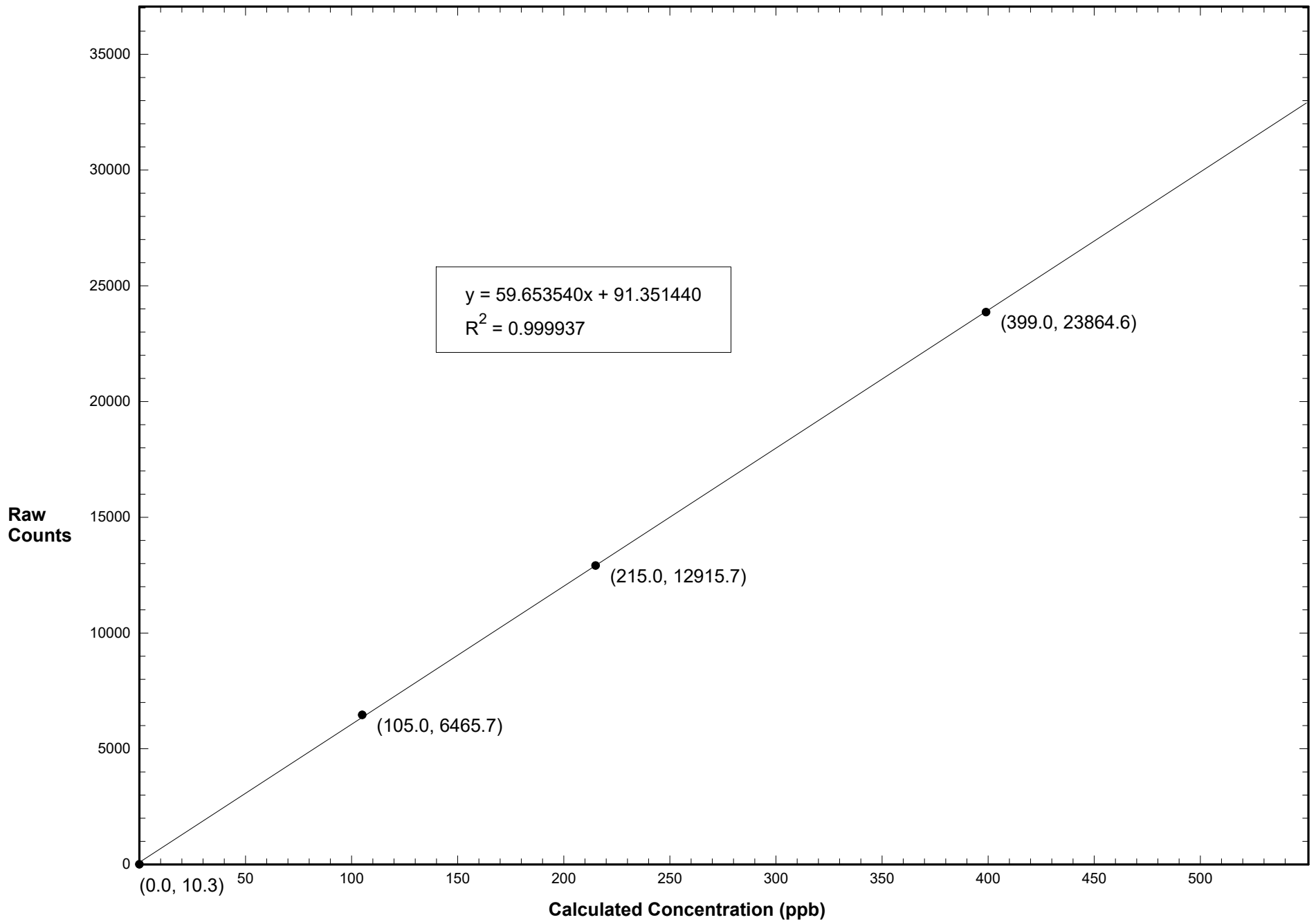
Previous Correction Factor: 1.000

Current Correction Factor: 1.001

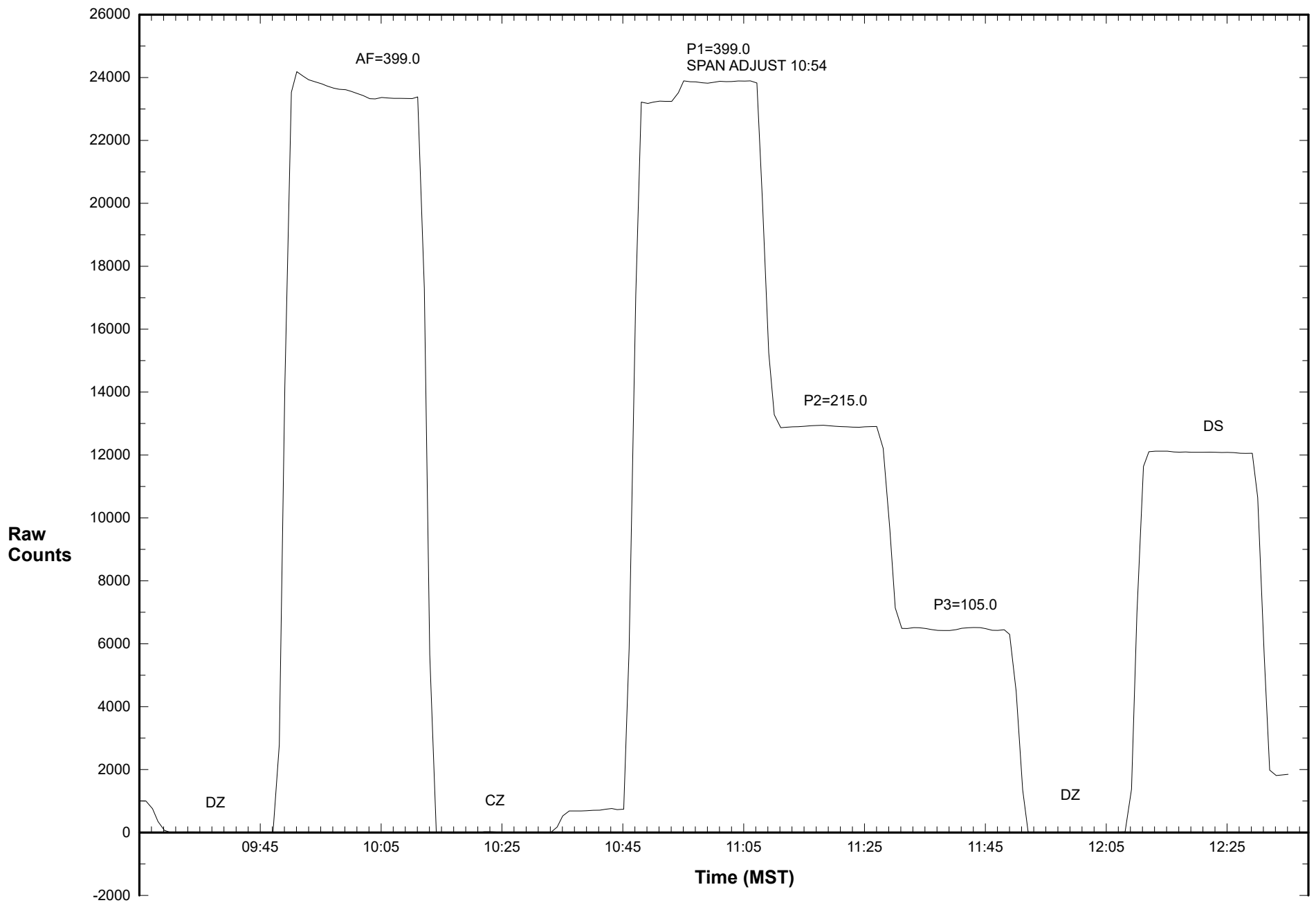
Percent Change of Correction Factor: 0.1

Comments: SAMPLE FLOWS = 0.727 AND 0.771 LPM

Station 913 O3 August 5, 2017: Linear Regression



Station 913 O3 August 5, 2017: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 913, Breton
 Calibration Date: August 5, 2017
 Parameter: SO₂

Instrument: Teco 43CTL	Serial Number: 0333803283	Previous Calibration Date: July 24, 2017
Calibration: Routine	Calibration Equipment: Sabio 2010 SN 08600312	Barometric Pressure: 27.44" Hg
Calibration Method: Standard Gas Dilution	Cylinder ID: SX17611	Temperature: 21.7° C
Cylinder Concentration: 25.4 ppm SO ₂	In Service: 4/1/2016 EXP 12/2/2017	Technician: L. Burns

Instrument Settings	SO ₂ bkg ppb	SO ₂ Coefficient	Monitoring Range
Previous	3.28	1.012	500 ppb
Current	3.64	1.034	500 ppb

Final Zero: 0.1 ppb Final Span: 189.9 ppb As Found Correction Factor: 1.019

SO ₂ 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
0.0763	5.013	380.8	22862.7	380.6	1.000
0.0406	5.018	204.1	12285.0	204.4	0.998
0.0202	5.022	101.7	6123.2	101.8	1.000
0.0000	5.000	0.0	3.3	-0.2	

Results of Linear Regression			
R _c vs C _c	Slope	Intercept	R ²
Previous	60.073840	1.655647	0.999974
Current	60.037680	14.302540	0.999998
C _i vs C _c			
Current	1.000000	-0.000034	0.999998

Average Correction Factor: 0.999

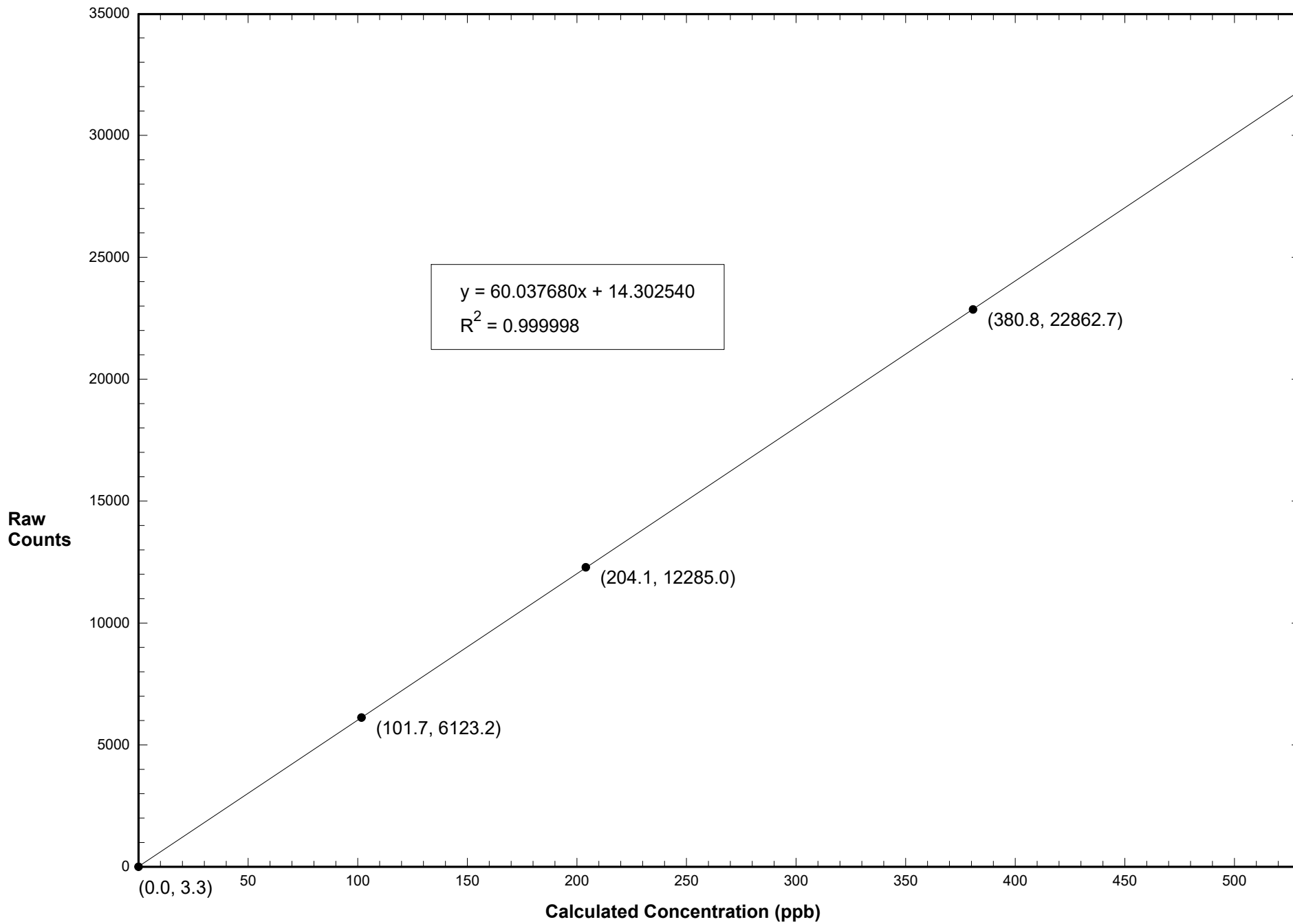
Previous Correction Factor: 1.001

Current Correction Factor: 1.000

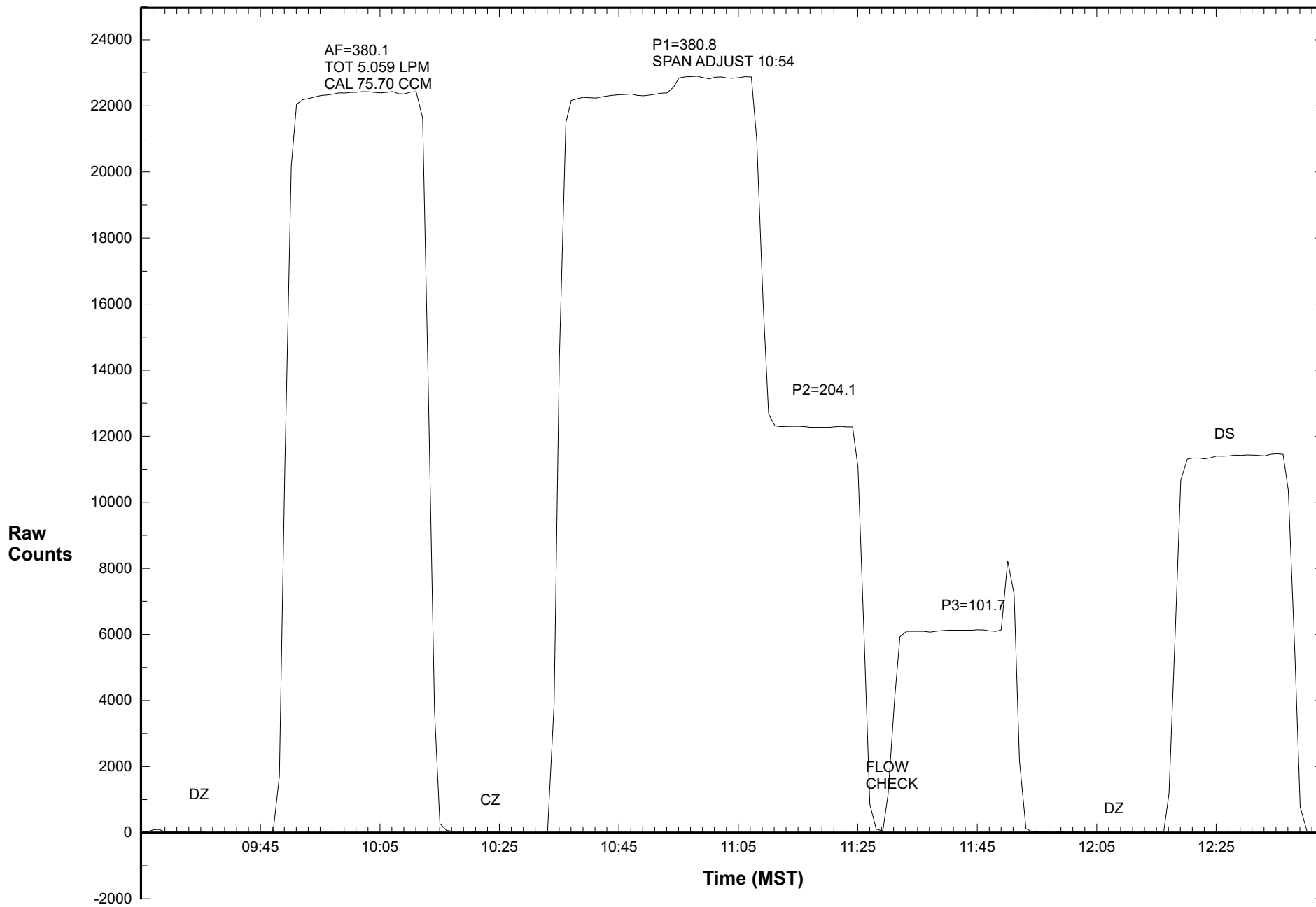
Percent Change of Correction Factor: -0.1

Comments: SAMPLE FLOW = 0.422 LPM

Station 913 SO2 August 5, 2017: Linear Regression



Station 913 SO2 August 5, 2017: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 915, Hinton West

Calibration Date: August 10, 2017

Parameter: H₂S

Instrument: Teco 43ctl

Serial Number: 43CTL-61218-330

Previous Calibration Date: July 27 2017

Calibration: Routine

Calibration Equipment: SABIO 2010 sn # 04300810

Barometric Pressure: 26.70" Hg

Calibration Method: Std.Gas Dilution

Permeation Device ID:

Temperature: 20.5° C

Permeation Rate: 0 ng/min

In Service: Feb 28 2017 Exp: Feb 28 2020

Technician: Dean Yustak

Instrument Settings

H₂S bkg ppb

H₂S Coefficient

Monitoring Range

Previous

5.84

1.124

100 ppb

Current

5.86

1.113

100 ppb

Final Zero: 0.4 ppb

Final Span: 86.4 ppb

As Found Correction Factor: 0.984

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

0.047	80.3	24113.0	80.4	0.999
0.026	45.4	13612.2	45.5	0.998
0.013	23.2	6719.4	22.7	1.023
0.000	0.0	-6.5	0.3	

Results of Linear Regression

R _c vs C _c	Slope	Intercept	R ²
Previous	301.062900	-9.938707	0.999998
Current	301.403600	-107.966200	0.999883
C _i vs C _c			
Current	1.000000	0.000000	0.999884

Average Correction Factor: 1.007

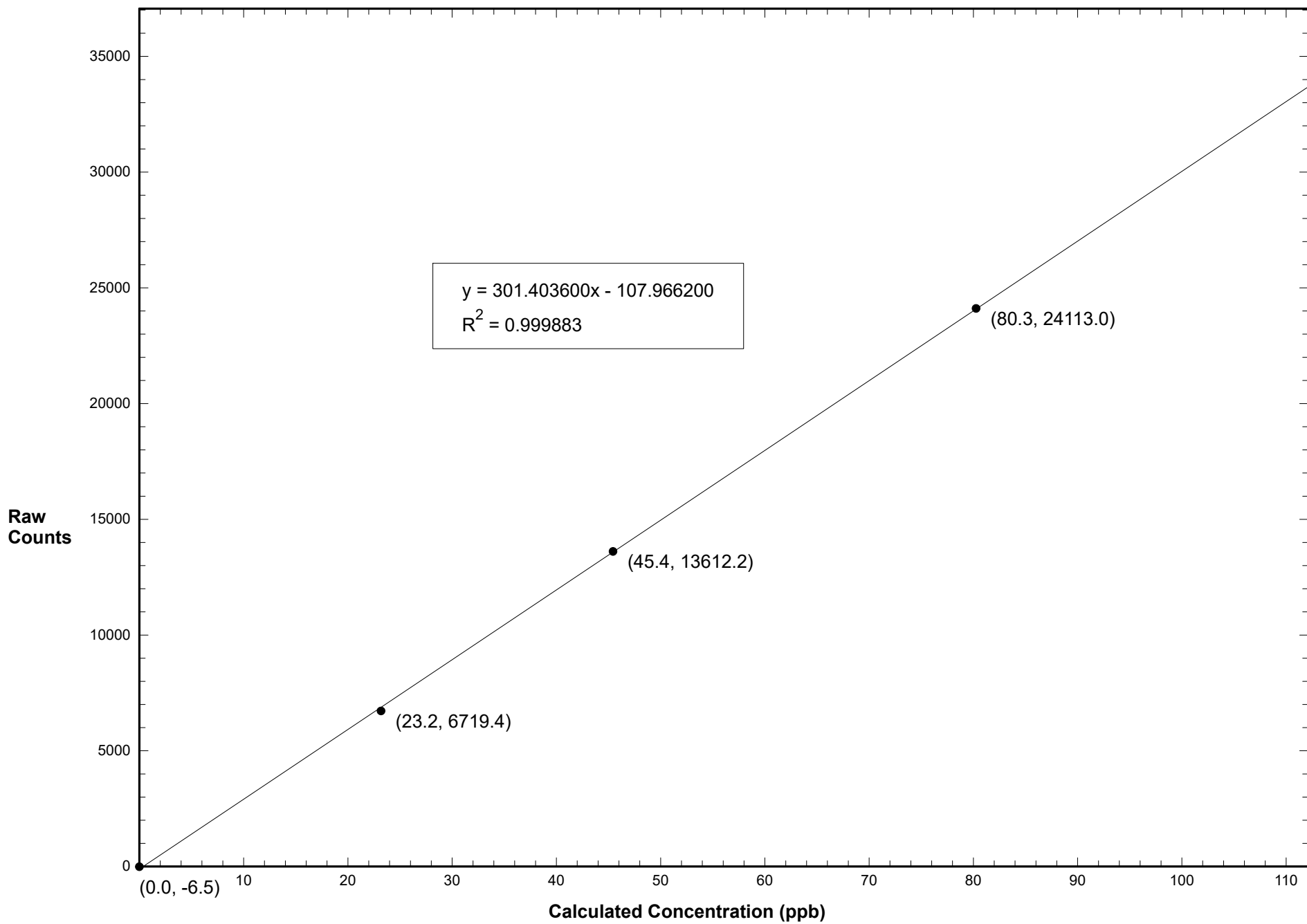
Previous Correction Factor: 1.001

Current Correction Factor: 0.999

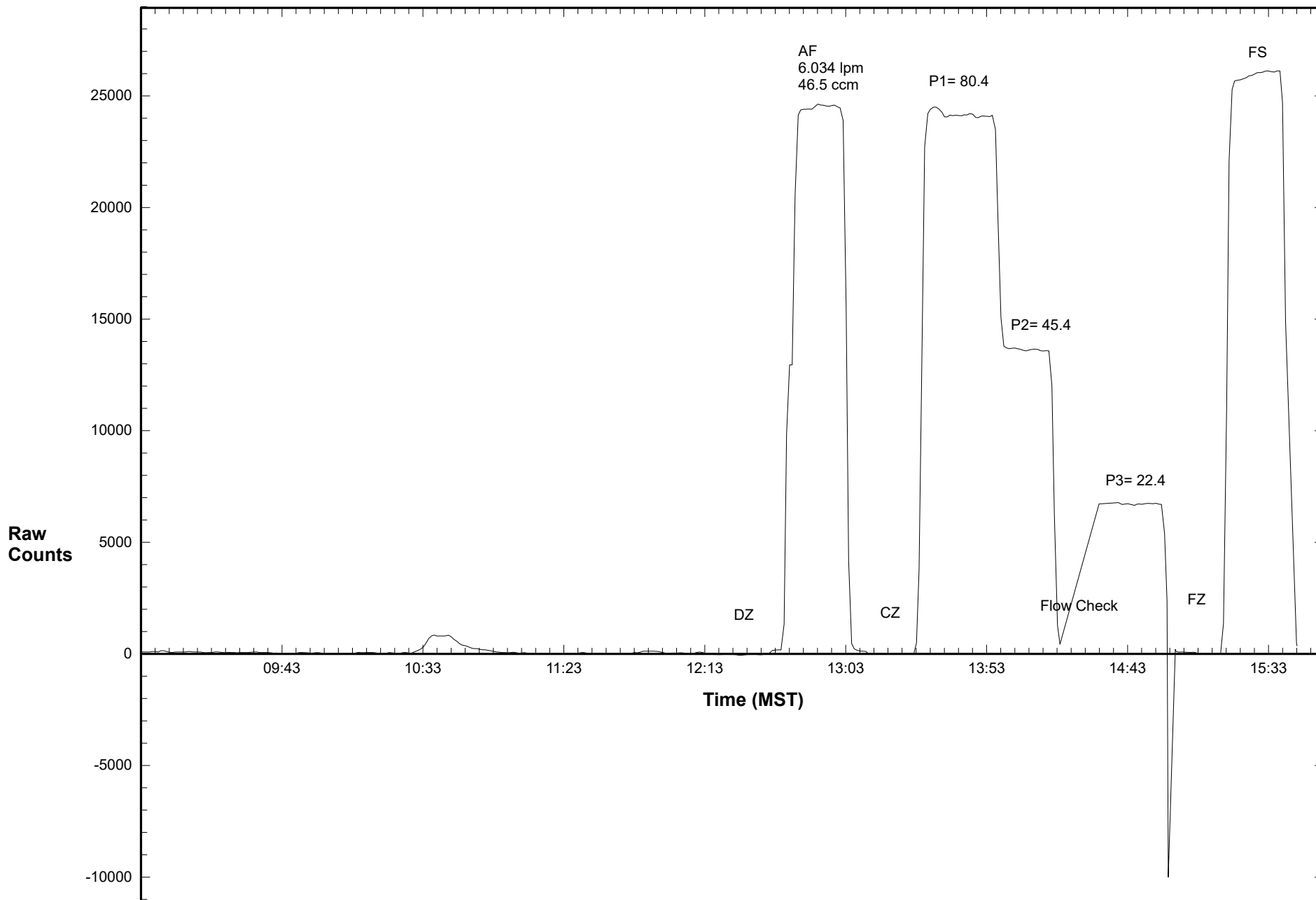
Percent Change of
Correction Factor: -0.2

Comments: Sample Flow: 0.346 lpm

Station 915 H2S August 10, 2017: Linear Regression



Station 915 H2S August 10, 2017: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 915, Hinton West

Calibration Date: August 10, 2017

Parameter: NO/NO₂/NO_x

Instrument: Teco 42 CTL

Serial Number: 0333603260

Previous Calibration Date: July 27 2017

Calibration: Routine

Calibration Equipment: SABIO 2010 sn # 04300810

Barometric Pressure: 26.70" Hg

Calibration Method: Std.Gas Dilution / GPT

Cylinder ID: DT0017726

Temperature: 20.5° C

Cylinder Concentration: 12.5 ppm NO & NO_x

In Service: Feb 28 2017 Exp: Feb 28 2020

Technician: Dean Yustak

Instrument Settings	NO bkg ppb	NO _x bkg ppb	Pre-reactor bkg ppb	NO Coefficient	NO _x Coefficient	NO ₂ Coefficient	Monitoring Range
Previous	4.54	5.28	4.45	1.593	1.026	1.000	200 ppb
Current	6.56	6.80	6.49	1.260	1.027	1.000	200 ppb

NO	Final Zero: 0.4 ppb	Final Span: 159.3 ppb	As Found Correction Factor: 0.954
NO ₂	Final Zero: 0.2 ppb	Final Span: 1.2 ppb	As Found Correction Factor: NA
NO _x	Final Zero: 0.3 ppb	Final Span: 160.0 ppb	As Found Correction Factor: 0.952

Results of Linear Regression			Slope	Intercept	R ²
NO	R _c vs C _c	Previous	150.202100	-77.456230	0.999942
		Current	149.818300	-55.236610	0.999979
	C _i vs C _c	Current	1.000000	-0.000042	0.999980
NO ₂	R _c vs C _c	Previous	149.937200	118.958000	0.999942
		Current	149.204700	-24.511320	0.999982
	C _i vs C _c	Current	1.000000	0.000000	0.999983
NO _x	R _c vs C _c	Previous	150.260200	-82.905930	0.999942
		Current	149.696200	-44.157110	0.999983
	C _i vs C _c	Current	1.000000	0.000022	0.999982

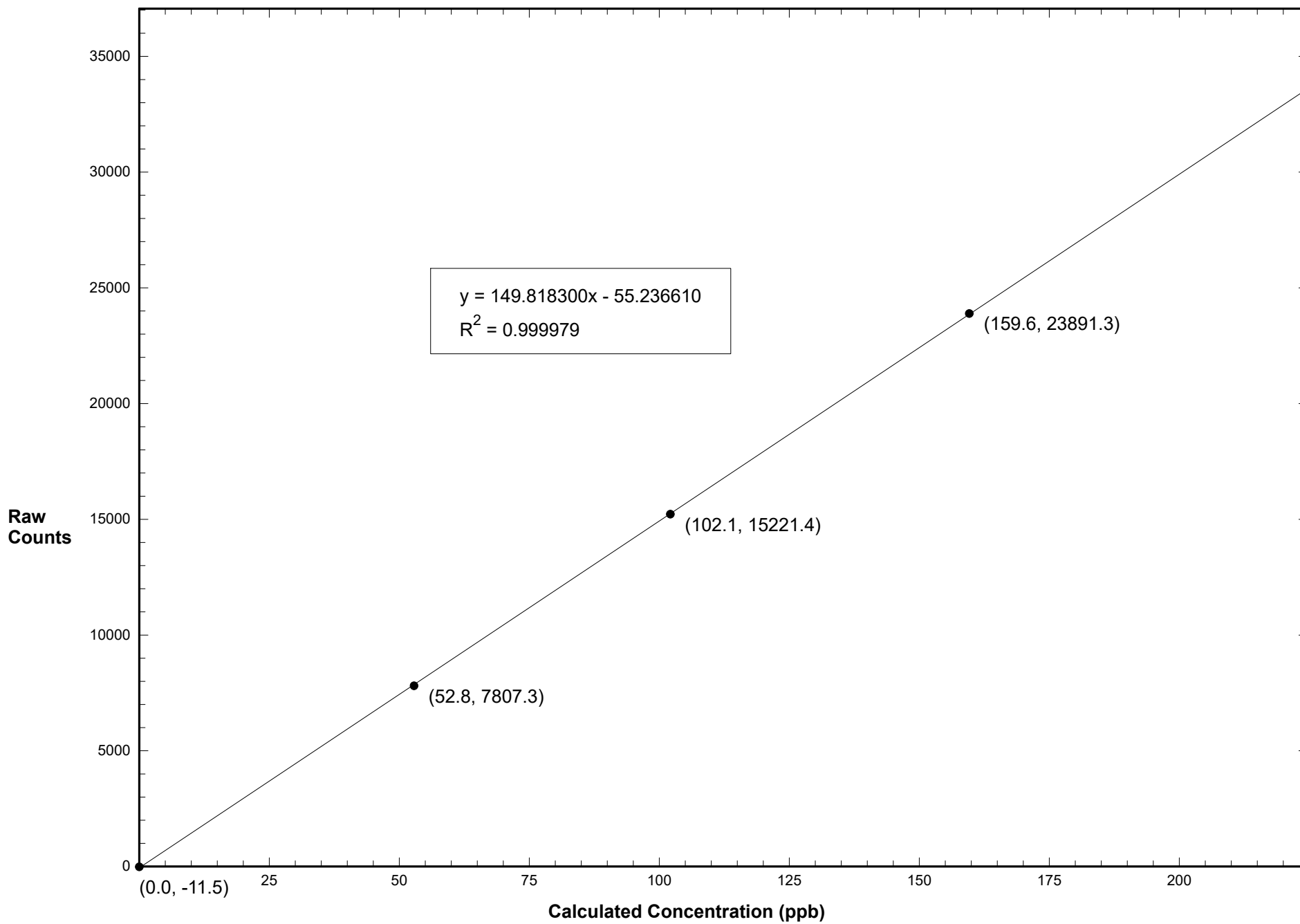
Comments: Sample Flows: 1.035, 1.026, 0.963 lpm

Calibration Data Summary (Page 2)

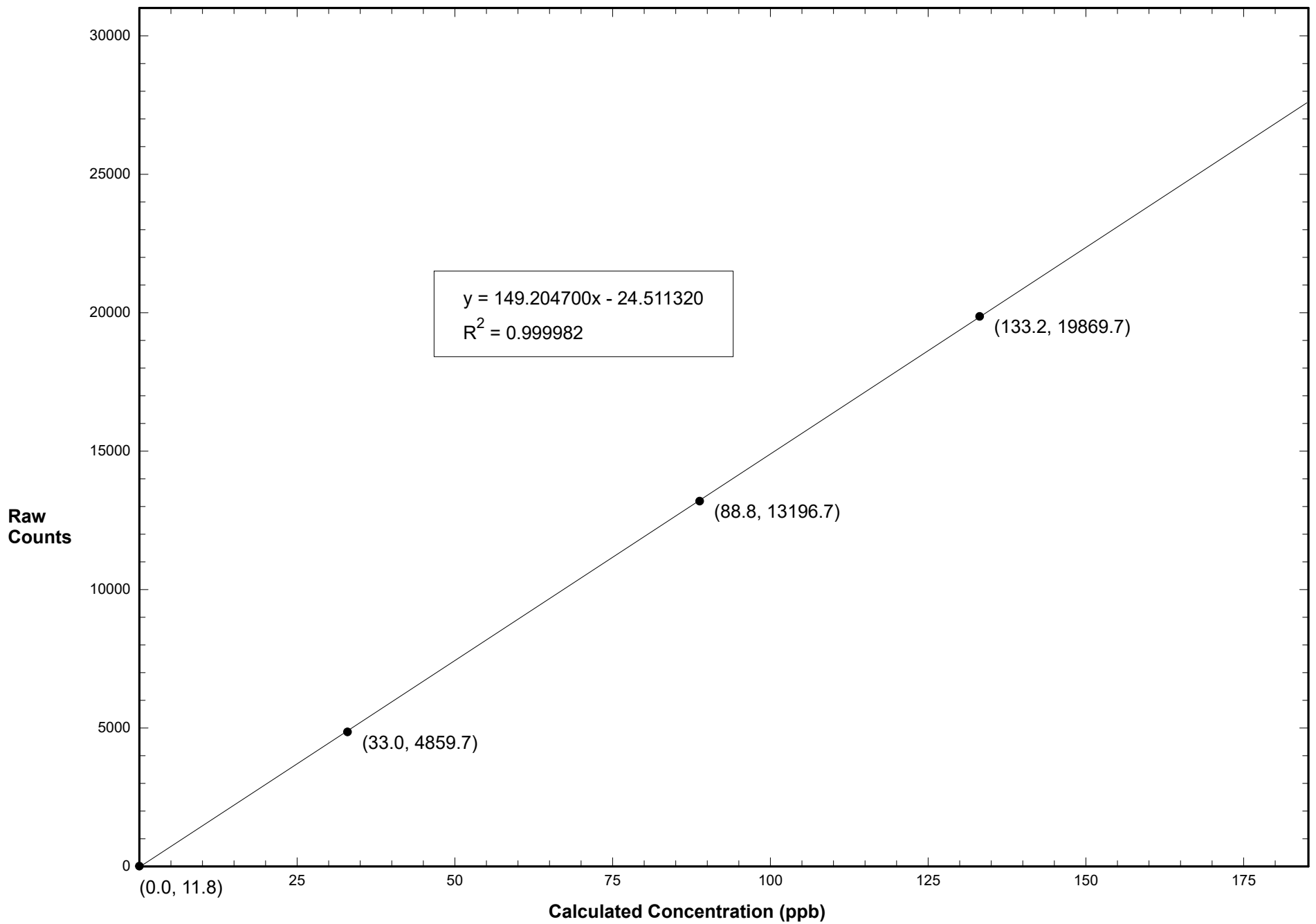
August 10, 2017 - Station 915

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		
0.06510	5.033	159.6	23891.3	159.8	0.999		
0.04160	5.050	102.1	15221.4	102.0	1.002		
0.02140	5.042	52.8	7807.3	52.5	1.007		
0.00000	5.029	0.0	-11.5	0.3			
NO Calibration					Average Correction Factor:	1.002	
0.06510	5.033	159.6	23869.5	159.7	0.999		
0.04160	5.050	102.1	15244.4	102.1	1.000		
0.02140	5.042	52.8	7805.2	52.4	1.008		
0.00000	5.029	0.0	-4.7	0.3			
NO _x Calibration					Average Correction Factor:	1.002	
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
159.4	3871.7	26.2	133.2	19869.7	133.3	0.999	1.001
159.4	10519.8	70.6	88.8	13196.7	88.6	1.002	0.998
159.4	18880.0	126.4	33.0	4859.7	32.7	1.008	0.993
			0.0	11.8	0.2		
					Average Correction Factor:	1.003	
NO ₂ Gas Phase Titration					Average Converter Efficiency: 0.997		
Parameter	Correction Factor (Previous)	Correction Factor: (Current)	Percent Change of Correction Factor				
NO	0.997	0.999	0.2				
NO ₂	1.004	0.999	-0.5				
NO _x	0.997	0.999	0.2				

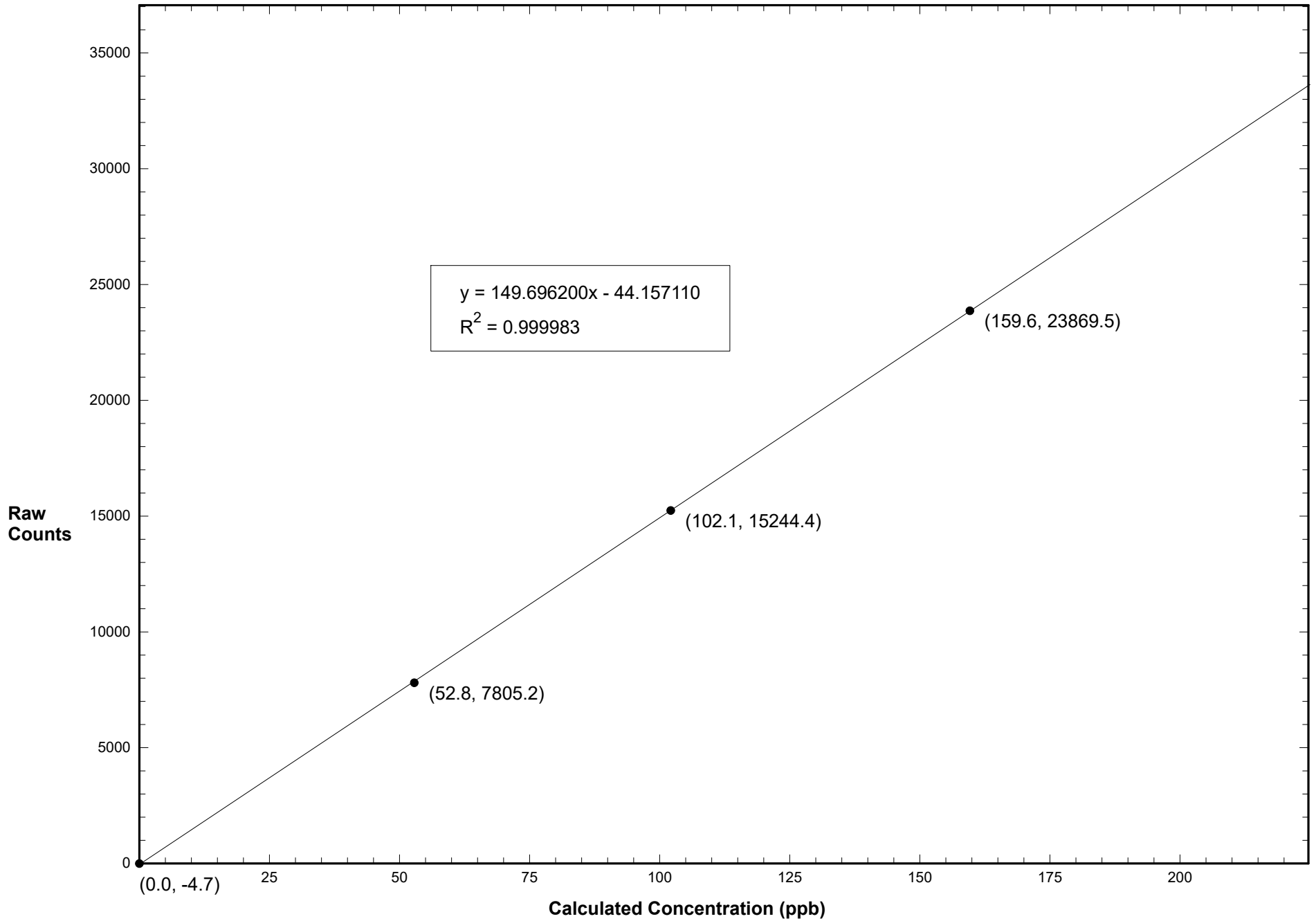
Station 915 NO August 10, 2017: Linear Regression



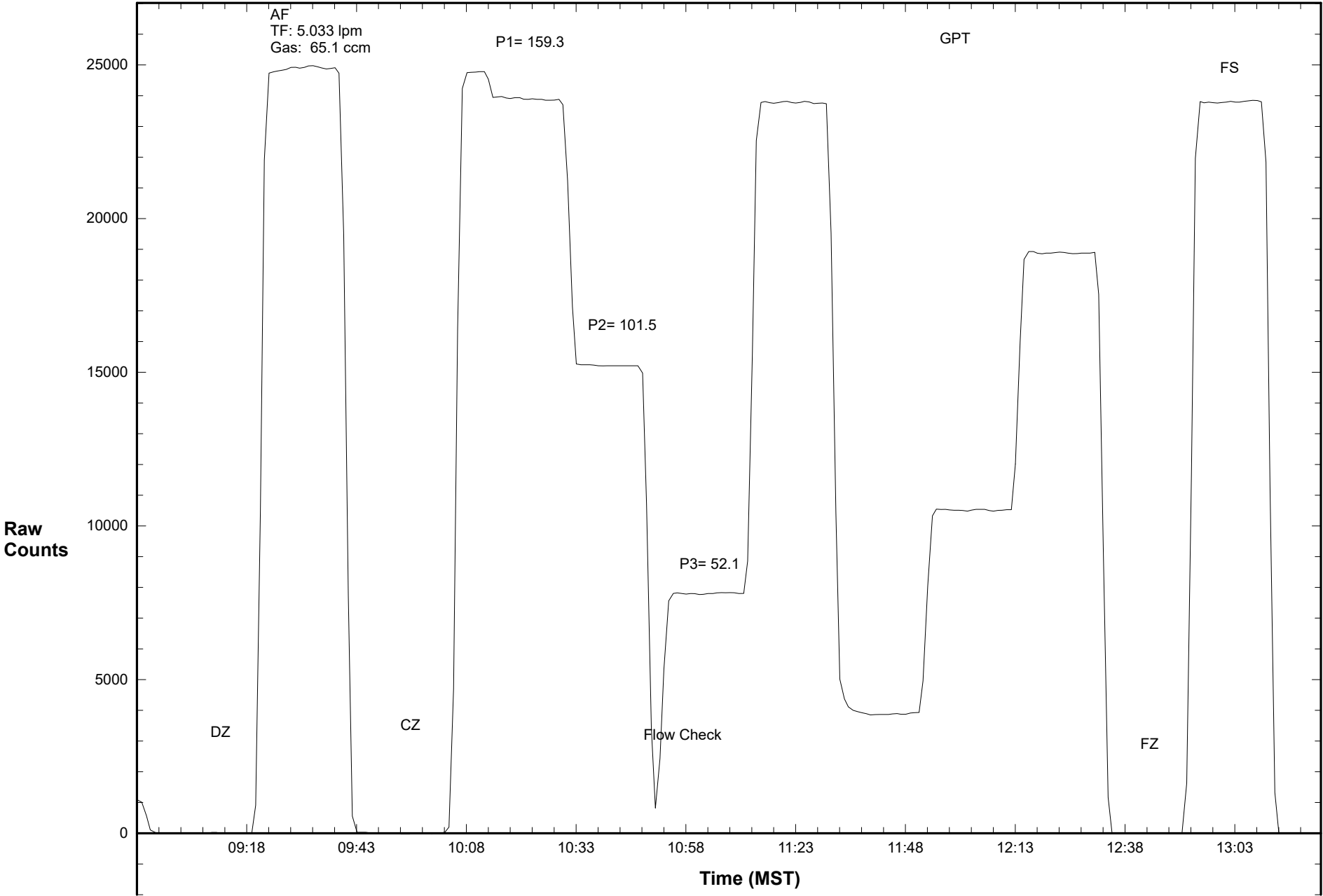
Station 915 NO2 August 10, 2017: Linear Regression



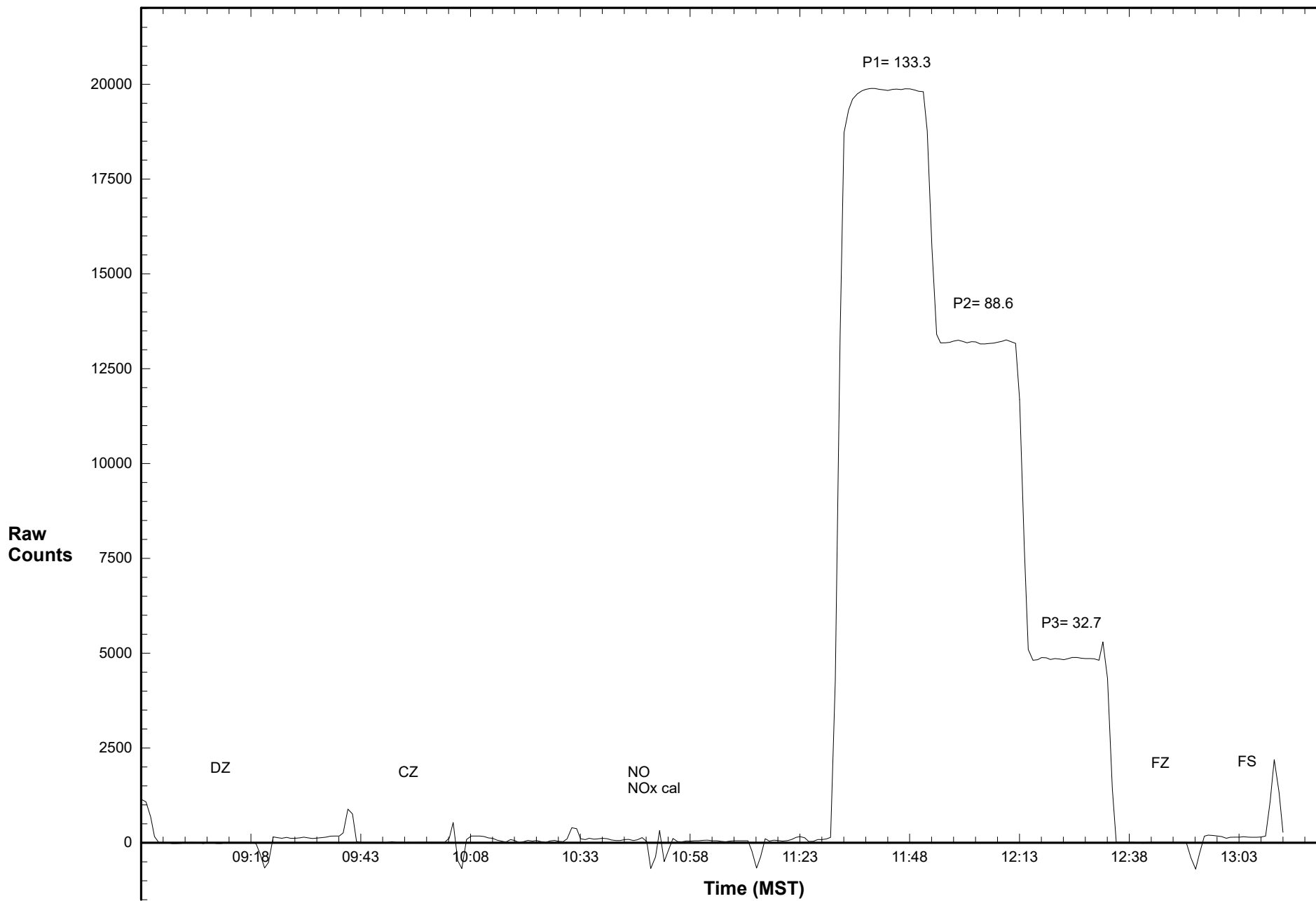
Station 915 NOX August 10, 2017: Linear Regression



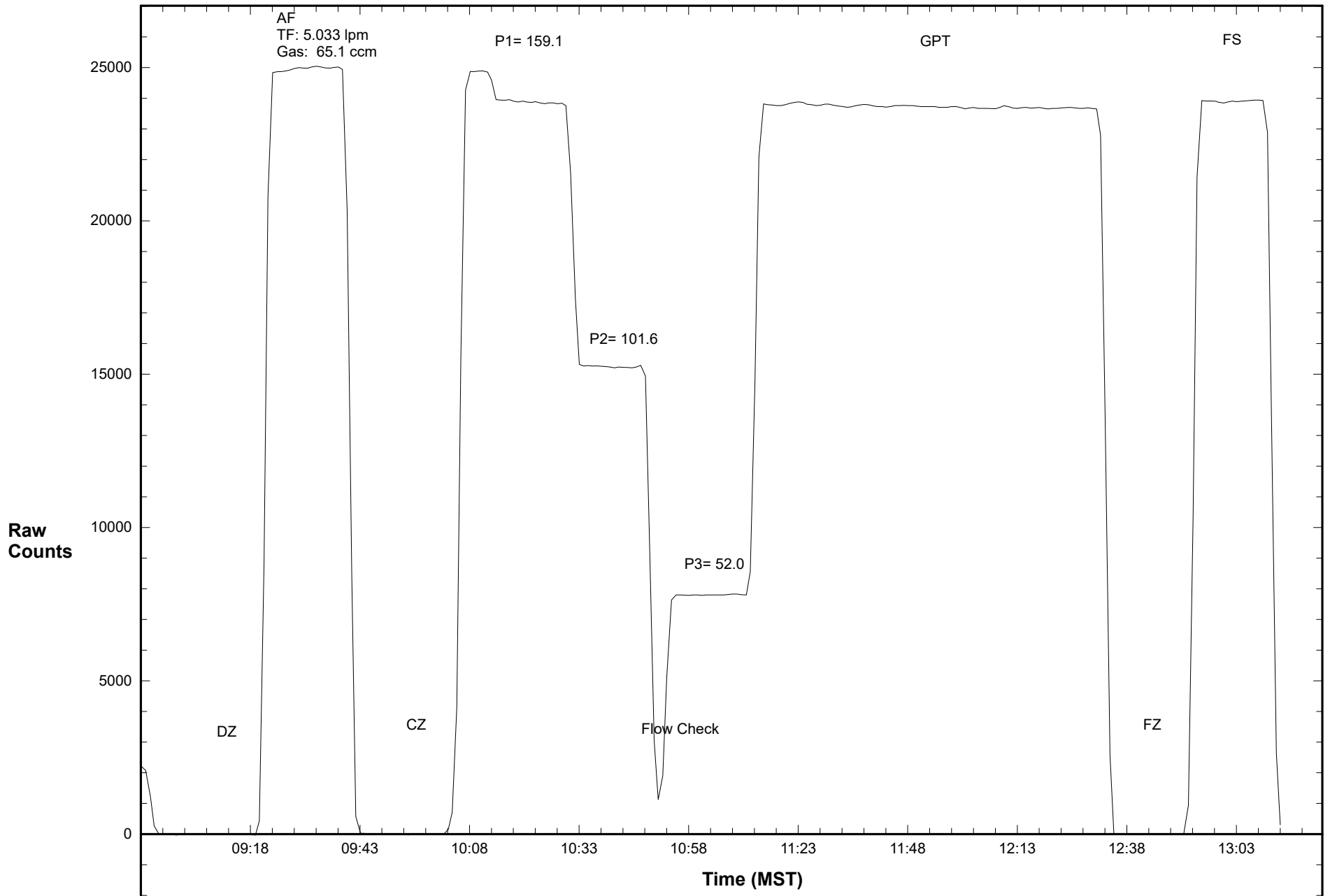
Station 915 NO August 10, 2017: Calibration Graph



Station 915 NO2 August 10, 2017: Calibration Graph



Station 915 NOX August 10, 2017: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 915, Hinton West

Calibration Date: August 10, 2017

Parameter: O₃

Instrument: Teco 49c

Serial Number: 49C-53975-298

Previous Calibration Date: July 27 2017

Calibration: Routine

Calibration Equipment: 2B Tech 306 SN-135

Barometric Pressure: 26.70" Hg

Calibration Method: Certified Ozone Generator In Service: Jan 16/17

Temperature: 20.5° C

Technician: Dean Yustak

Instrument Settings	Background	Coefficient	Monitoring Range
Previous	-0.3	1.080	500 ppb
Current	0.0	1.094	500 ppb

Final Zero: -1.1 ppb

Final Span: 362.4 ppb

As Found Correction Factor: 1.009

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	403.0	24246.2	403.0	1.000
3.000	254.0	15271.8	253.5	1.002
3.000	100.1	6143.2	101.5	0.987
3.000	0.0	0.8	-0.8	

Results of Linear Regression

R _c vs C _c	Slope	Intercept	R ²
Previous	60.017380	0.824563	0.999998
Current	60.040780	51.281640	0.999970
C _i vs C _c			
Current	1.000000	-0.000032	0.999970

Average Correction Factor: 0.996

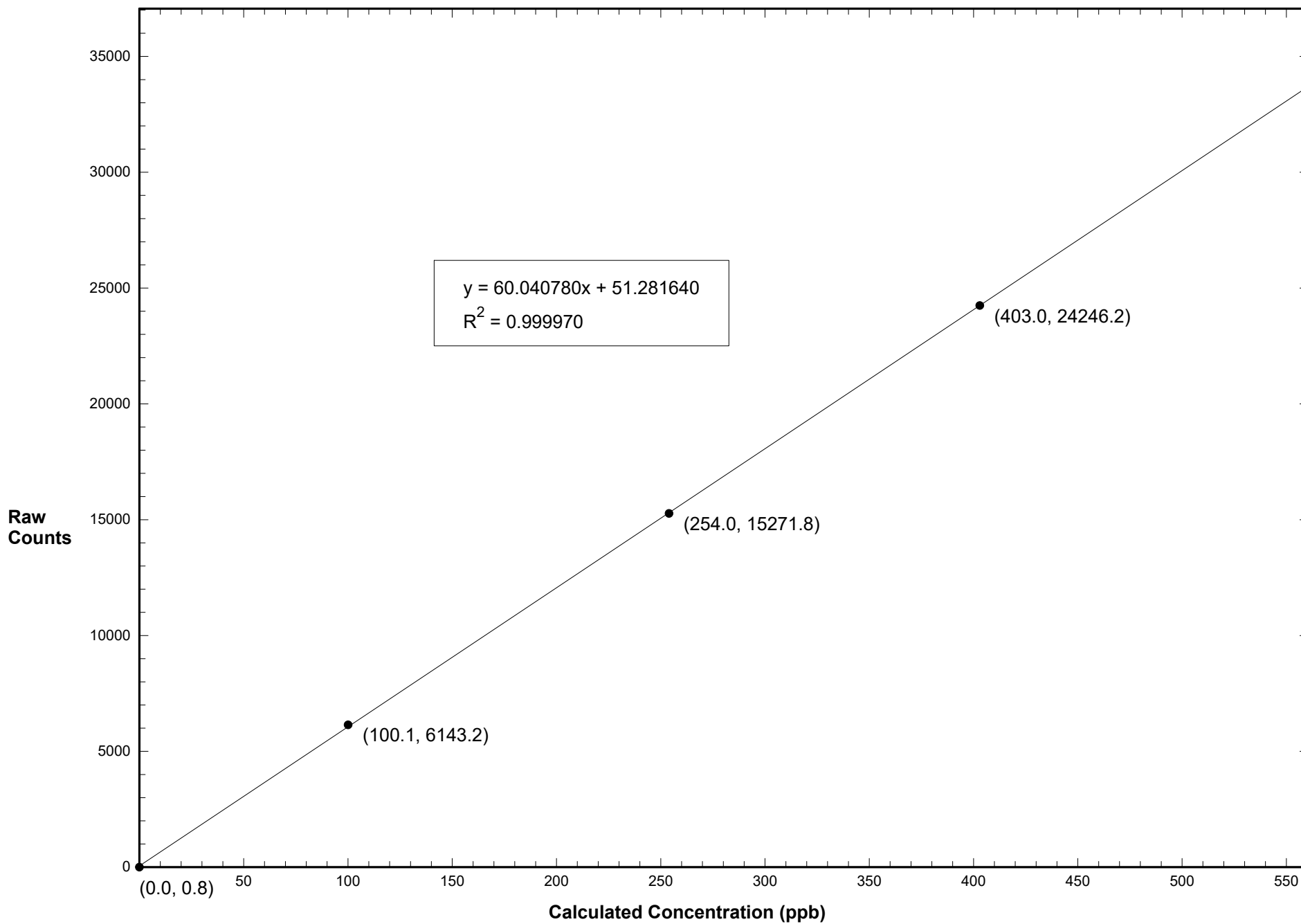
Previous Correction Factor: 0.999

Current Correction Factor: 1.000

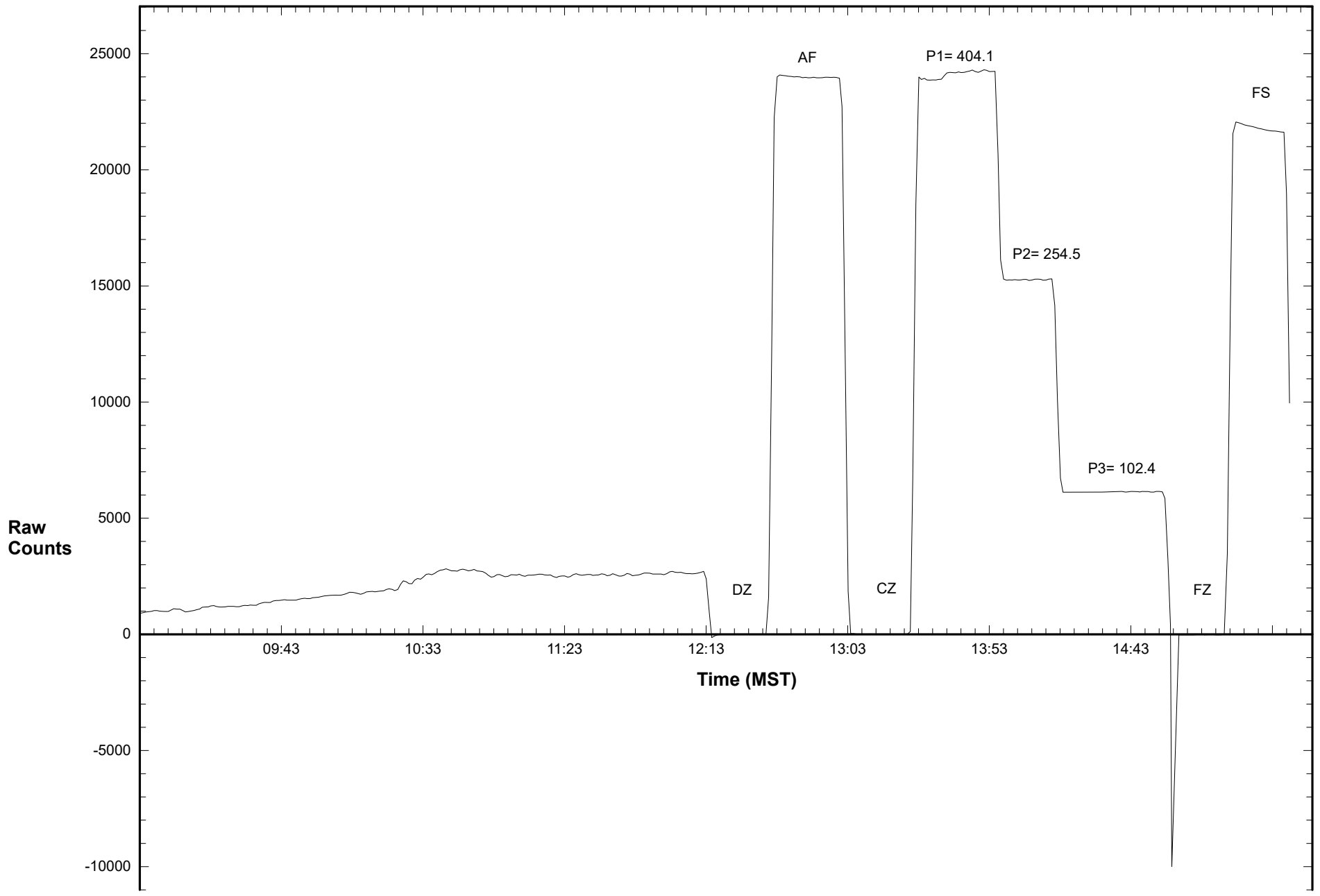
Percent Change of Correction Factor: 0.1

Comments: Sample Flows: 0.751 & 0.792 lpm

Station 915 O3 August 10, 2017: Linear Regression



Station 915 O3 August 10, 2017: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 915, Hinton West

Calibration Date: August 10, 2017

Parameter: SO₂

Instrument: Teco 43c

Serial Number: 43CTL-78655-389

Previous Calibration Date: July 27 2017

Calibration: Routine

Calibration Equipment: SABIO 2010 sn # 04300810

Barometric Pressure: 26.70" Hg

Calibration Method: Std.Gas Dilution

Cylinder ID: DT0017726

Temperature: 20.5° C

Cylinder Concentration: 12.5 ppm NO & NO_x

In Service: Feb 28 2017 Exp: Feb 28 2020

Technician: Dean Yustak

Instrument Settings	SO ₂ bkg ppb	SO ₂ Coefficient	Monitoring Range
Previous	4.08	1.222	100 ppb
Current	3.08	1.212	100 ppb

Final Zero: 0.0 ppm

Final Span: 81.1 ppm

As Found Correction Factor: 0.992

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
0.0651	5.033	76.2	22836.6	76.1	1.002
0.0416	5.050	48.8	14730.4	49.1	0.993
0.0214	5.042	25.2	7514.0	25.1	1.006
0.0000	5.029	0.0	-30.9	0.0	

Results of Linear Regression

R _c vs C _c	Slope	Intercept	R ²
Previous	298.618000	-26.749080	0.999995
Current	300.515300	-24.991750	0.999953
C _i vs C _c			
Current	1.000000	0.000011	0.999952

Average Correction Factor: 1.000

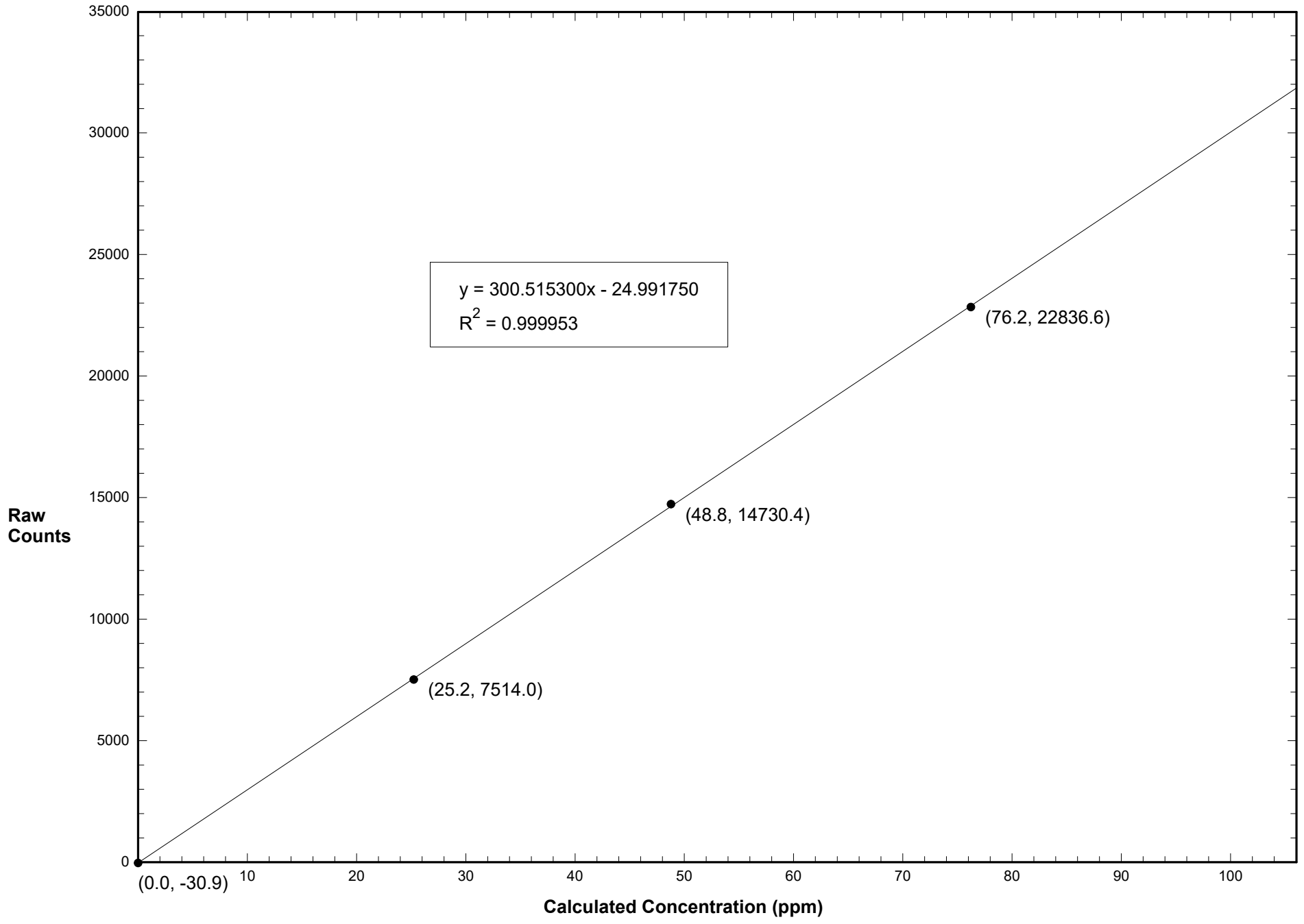
Previous Correction Factor: 1.000

Current Correction Factor: 1.002

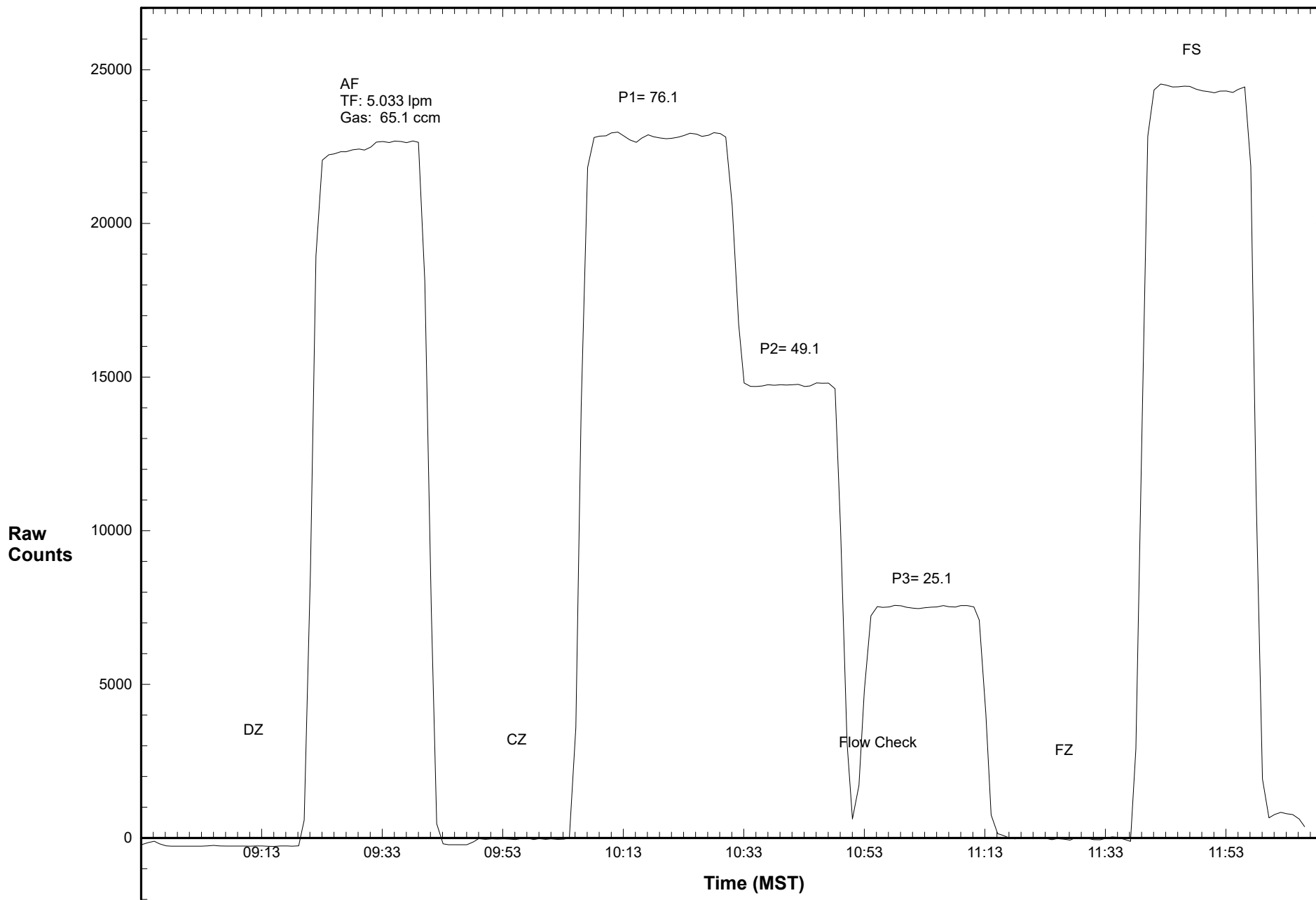
Percent Change of Correction Factor: 0.2

Comments: Sample Flow: 0.474 lpm

Station 915 SO2 August 10, 2017: Linear Regression



Station 915 SO2 August 10, 2017: Calibration Graph



WEST CENTRAL AIRSHED SOCIETY

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

**END OF REPORT
AUGUST 2017**