

**WEST CENTRAL AIRSHED
SOCIETY
January 2017
Monthly Report**

**TOMAHAWK
STATION #901**

CONTINUOUS AIR MONITORING DATA

JANUARY 2017

Summary Report

Continuous air quality/meteorological monitoring measurements

West Central Airshed Society

WCAS / Tomahawk Station 901													January 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	0.583	0.0	19.4	0.0	0.1	0.2	0.4	1.0	0	0	0.008	
O ₃ (ppb)	35	709	100.0	29.9	0.5	47.7	17.5	24.6	30.8	36.8	41.5	0	-	0.043	
NO (ppb)	36	708	100.0	0.7	0.0	13.5	0.0	0.0	0.1	0.4	2.4	-	-	-	
NO ₂ (ppb)	36	708	100.0	5.6	0.6	24.2	1.2	2.8	4.9	7.7	10.8	0	0	0.014	
NO _x (ppb)	36	708	100.0	6.4	0.6	31.7	1.2	2.9	5.2	9.2	12.5	-	-	-	
Particulate Matter 2.5 microns (μ/m ³)	0	744	100.0	5.0	1.3	23.3	1.9	2.5	3.8	6.5	9.9	0	0	12.47 ug/m3	
Wind Speed (kph)	0	703	94.5	9.4	0.1	37.0	2.8	5.1	8.3	11.7	17.0	-	-	-	
Temperature (°C)	0	744	100.0	-8.4	-25.3	8.5	-20.1	-16.0	-7.9	-1.5	2.8	-	-	-	
Relative Humidity (%)	0	744	100.0	72.2	32.0	93.7	51.9	61.5	75.1	83.5	90.6	-	-	-	
Photosynthetically Active Radiation (W/m ²)	0	744	100.0	13.6	0.0	140.9	0.0	0.0	0.0	14.9	52.0	-	-	-	
Std Dev Wind Direction (deg)	0	703	94.5	18.0	6.0	91.0	8.9	10.5	13.3	18.6	33.6	-	-	-	
Std Dev Wind Speed (kph)	0	703	94.5	2.0	0.2	8.5	0.8	1.2	1.7	2.4	3.7	-	-	-	



WCAS - Tomahawk
Summary of Hourly Averages

Sulphur Dioxide (SO₂) - ppb
January 2017

Maximum Value: 19.42 ppb on Jan 23 10:00		Maximum Daily Average: 7.79 ppb on Jan 23		Hours in Service: 744																									
Minimum Value: 0.0 ppb on Jan 1 01:00		Minimum Daily Average: 0.00 ppb on Jan 31		Hours of Data: 709																									
Maximum Diurnal Average: 0.87 ppb at hour 12		Minimum Diurnal Average: 0.24 ppb at hour 4		Hours of Missing Data: 35																									
Monthly Average: 0.583 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 0.2 Q ₃ = 0.4 P ₉₀ = 1.0 P ₉₉ = 10.1		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-Jan	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	0.07				
2-Jan	0.0	0.0	Z	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.02	0.12			
3-Jan	0.0	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	0.1	0.3	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.08	0.31				
4-Jan	0.3	0.2	Z	0.5	0.4	0.0	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.11	0.50				
5-Jan	0.3	0.3	Z	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.6	0.7	1.3	0.18	1.30				
6-Jan	1.4	0.6	Z	0.2	1.4	0.4	0.6	0.4	0.9	1.3	0.9	1.2	1.4	1.4	1.8	1.8	1.3	1.8	1.6	2.4	2.3	1.7	1.3	0.9	1.27	2.40			
7-Jan	0.8	0.7	Z	0.7	1.6	1.9	1.3	0.6	0.8	0.6	0.3	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.3	0.6	0.6	0.53	1.89			
8-Jan	0.3	0.3	Z	0.2	0.2	0.1	0.2	0.2	0.1	0.3	0.6	2.0	3.8	2.8	1.2	1.7	1.5	1.7	1.9	1.4	0.9	0.9	1.1	1.2	1.07	3.80			
9-Jan	0.9	1.6	Z	1.0	0.7	0.7	1.3	1.3	0.9	0.6	0.3	0.3	0.4	0.4	0.5	0.6	1.0	1.1	0.7	0.5	0.6	0.5	0.5	0.5	0.72	1.55			
10-Jan	0.8	0.5	Z	0.4	0.3	0.3	0.4	0.5	0.4	0.3	0.1	0.2	0.2	0.1	0.1	0.3	0.4	0.4	0.3	0.2	0.2	0.3	0.2	0.2	0.31	0.76			
11-Jan	0.1	0.2	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.2	0.3	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.14	0.28			
12-Jan	0.7	0.0	Z	0.0	0.0	0.1	0.3	0.2	0.2	0.2	0.3	0.8	0.3	0.4	0.5	0.4	0.3	0.2	0.3	0.4	0.4	0.3	0.2	0.4	0.30	0.85			
13-Jan	0.3	0.2	Z	0.2	0.2	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.4	0.4	0.3	0.3	0.2	0.2	0.1	0.1	0.24	0.41			
14-Jan	0.4	0.3	Z	0.1	0.0	0.1	0.0	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.2	0.3	0.3	0.3	0.3	0.18	0.36			
15-Jan	0.3	0.4	Z	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.3	0.3	0.0	0.1	0.5	0.3	0.2	0.1	0.1	0.1	0.26	0.49			
16-Jan	0.1	0.2	Z	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.2	0.2	0.10	0.25			
17-Jan	0.2	0.2	Z	0.2	0.2	0.1	0.3	0.2	0.2	0.2	0.4	0.2	0.2	0.1	0.1	0.1	0.2	1.2	1.1	0.1	0.1	0.1	0.1	0.2	0.27	1.21			
18-Jan	0.1	0.1	Z	0.1	0.2	0.2	0.2	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.9	0.3	1.1	1.2	0.8	0.8	0.6	0.3	0.2	0.34	1.16			
19-Jan	0.2	0.3	Z	0.2	0.1	0.1	0.1	0.3	0.2	0.1	0.3	0.3	0.3	0.4	0.3	0.4	0.3	0.3	0.3	0.4	0.3	0.3	0.4	0.3	0.27	0.40			
20-Jan	0.1	0.1	Z	0.0	0.1	0.0	0.1	0.0	0.1	0.1	C	C	C	C	0.8	0.4	0.3	0.6	0.9	1.0	0.7	0.9	1.2	0.8	0.44	1.20			
21-Jan	0.9	0.6	Z	0.3	0.1	0.1	0.0	0.2	0.3	0.2	0.2	0.1	0.3	0.2	0.2	0.3	0.2	0.1	0.0	0.1	0.1	0.1	0.2	0.1	0.23	0.92			
22-Jan	0.1	0.2	Z	0.1	0.3	0.2	0.4	0.6	1.5	0.8	0.3	0.1	0.1	0.7	1.3	1.0	1.9	4.4	7.4	6.4	4.8	4.5	4.2	2.1	1.89	7.39			
23-Jan	1.0	0.8	Z	1.3	2.2	5.9	12.1	10.5	15.5	19.4	18.0	17.9	11.2	8.5	6.8	5.7	6.7	9.2	7.5	7.2	6.3	3.2	1.4	0.9	7.79	19.42			
24-Jan	0.9	0.5	Z	0.7	0.5	0.5	0.6	0.4	0.2	0.4	0.4	0.4	0.3	0.3	0.2	0.3	0.3	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.34	0.92			
25-Jan	0.1	0.2	Z	0.0	0.1	0.1	0.0	0.1	0.1	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.3	0.7	0.4	0.22	0.67			
26-Jan	0.2	0.2	Z	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.2	0.2	0.2	0.3	0.1	0.2	0.1	0.0	0.0	0.0	0.14	0.29			
27-Jan	0.1	0.0	Z	0.0	0.1	0.1	0.1	0.1	0.2	0.4	0.3	0.3	0.3	0.2	0.4	0.3	0.6	0.4	0.3	0.2	0.2	0.6	0.6	0.5	0.28	0.62			
28-Jan	0.4	0.4	Z	0.4	0.4	0.3	0.4	0.4	0.3	0.1	0.2	0.1	0.1	0.2	0.1	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.3	0.23	0.44			
29-Jan	0.1	0.0	Z	0.1	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.0	0.2	0.1	0.0	0.1	0.0	0.04	0.16			
30-Jan	0.0	0.0	Z	0.2	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.02	0.17			
31-Jan	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			
		0.36	0.29	--	0.24	0.33	0.41	0.62	0.56	0.75	0.86	0.81	0.87	0.69	0.59	0.53	0.52	0.56	0.80	0.84	0.76	0.64	0.54	0.49	0.39	Diurnal Average			
		1.37	1.55	--	1.27	2.20	5.91	12.11	10.48	15.47	19.42	18.01	17.91	11.17	8.49	6.76	5.71	6.70	9.18	7.49	7.19	6.33	4.51	4.19	2.06	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
January 2017

Maximum Value: 47.73 ppb on Jan 29 18:00		Maximum Daily Average: 42.78 ppb on Jan 30		Hours in Service: 744																									
Minimum Value: 0.5 ppb on Jan 23 20:00		Minimum Daily Average: 12.14 ppb on Jan 23		Hours of Data: 709																									
Maximum Diurnal Average: 32.61 ppb at hour 15		Minimum Diurnal Average: 26.54 ppb at hour 9		Hours of Missing Data: 35																									
Monthly Average: 29.933 ppb		Percentiles: P ₁ = 7.2 P ₁₀ = 17.5 Q ₁ = 24.6 Median = 30.8 Q ₃ = 36.8 P ₉₀ = 41.5 P ₉₉ = 45.6		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-Jan	36.7	36.8	Z	38.1	38.5	37.9	37.6	37.6	38.3	38.0	37.6	37.5	37.9	37.7	37.6	37.7	37.3	37.0	36.7	36.6	37.0	36.2	33.3	32.2	37.03	38.52			
2-Jan	30.5	30.1	Z	26.8	26.7	24.9	21.2	20.4	17.5	18.2	18.7	20.5	22.2	26.3	26.3	27.5	28.4	25.6	27.1	30.0	30.2	28.7	27.5	29.0	25.41	30.54			
3-Jan	27.7	27.2	Z	21.5	23.3	18.6	14.8	11.7	10.2	12.3	16.6	20.6	24.0	25.2	25.9	25.7	28.2	34.4	34.4	34.0	35.4	34.6	34.4	34.3	25.00	35.35			
4-Jan	33.9	34.0	Z	35.1	35.6	36.9	37.3	37.2	37.0	35.7	38.0	38.5	39.4	40.4	40.3	41.8	42.1	41.7	40.1	37.3	32.0	30.6	30.1	30.9	36.78	42.12			
5-Jan	30.9	32.0	Z	32.9	32.3	32.5	32.2	32.5	32.5	31.8	30.9	32.2	30.4	30.9	31.4	30.4	28.4	28.2	30.7	31.1	31.2	28.9	28.3	25.1	30.76	32.87			
6-Jan	19.6	25.9	Z	28.3	25.8	26.7	26.2	26.3	25.2	24.8	26.7	27.2	27.4	28.4	29.3	30.0	29.5	29.5	30.2	31.0	31.0	31.1	31.5	30.9	27.93	31.46			
7-Jan	30.5	29.6	Z	26.5	25.7	23.4	21.6	22.2	21.2	23.6	28.2	27.7	30.7	31.6	32.4	32.5	32.6	32.1	31.6	30.8	30.3	30.0	29.0	30.7	28.47	32.64			
8-Jan	30.1	30.4	Z	31.9	31.9	31.8	32.1	32.3	31.6	30.7	29.4	28.2	27.0	28.7	29.7	29.6	28.6	26.7	22.7	24.0	23.7	24.3	24.2	23.9	28.41	32.31			
9-Jan	23.3	19.5	Z	24.1	25.5	26.4	26.8	25.7	24.2	23.3	24.6	26.6	28.0	30.8	31.1	31.4	31.2	30.8	31.4	31.4	32.3	32.5	32.9	32.9	28.11	32.95			
10-Jan	32.7	32.1	Z	30.1	28.0	26.9	30.2	31.4	35.0	36.6	37.5	37.0	38.8	40.9	40.5	38.8	38.4	37.6	36.9	35.9	33.5	28.8	27.3	29.9	34.13	40.88			
11-Jan	33.9	33.2	Z	34.4	38.9	41.3	42.8	43.5	43.5	43.9	43.3	44.3	44.4	44.5	45.0	44.9	43.5	43.0	43.3	43.7	43.4	44.0	43.8	43.7	42.19	45.00			
12-Jan	42.0	43.4	Z	41.8	41.5	41.3	39.0	37.1	37.0	35.1	30.7	29.1	31.5	32.3	33.1	31.5	28.0	25.7	28.2	27.5	25.2	21.9	21.0	20.5	32.36	43.37			
13-Jan	20.7	21.4	Z	21.1	21.1	18.5	17.1	17.1	17.8	19.8	22.9	27.5	32.3	34.4	35.2	34.3	34.8	35.2	33.4	28.0	21.9	20.5	20.9	21.3	25.09	35.21			
14-Jan	24.9	25.1	Z	24.6	24.9	25.2	25.6	27.2	27.9	30.6	32.2	34.7	37.2	38.3	38.3	37.1	35.8	33.7	32.0	28.5	30.1	31.4	33.1	33.2	30.93	38.33			
15-Jan	32.0	30.4	Z	37.7	29.5	31.9	34.2	33.2	32.6	33.5	36.9	38.7	39.4	38.9	41.7	43.9	45.2	43.4	39.5	41.8	34.8	30.2	29.1	31.5	36.08	45.16			
16-Jan	31.3	31.9	Z	31.1	31.6	33.3	33.6	33.1	35.6	36.6	36.5	37.3	37.7	39.7	40.5	40.0	38.4	37.5	36.5	35.7	37.2	35.0	35.4	36.4	35.74	40.53			
17-Jan	35.3	32.8	Z	33.5	33.6	30.3	27.3	25.9	24.7	24.2	24.9	22.9	24.6	23.1	21.9	18.2	20.4	16.8	13.0	20.7	15.4	16.4	18.1	19.9	23.65	35.35			
18-Jan	22.6	29.6	Z	28.8	32.2	32.2	30.3	29.8	28.4	30.9	32.6	29.3	31.9	28.7	34.3	33.2	30.7	28.7	31.7	30.5	29.0	23.8	26.3	32.0	29.89	34.29			
19-Jan	34.3	36.5	Z	34.4	33.7	33.4	33.3	31.4	30.8	29.7	30.4	31.9	28.0	27.1	28.9	27.3	25.8	24.0	27.7	29.8	28.3	30.4	34.0	34.4	30.68	36.51			
20-Jan	37.7	33.1	Z	33.5	30.8	30.1	30.5	28.7	26.4	28.4	C	C	C	C	34.1	35.1	33.0	31.5	27.8	28.3	28.9	28.5	24.7	21.9	30.17	37.69			
21-Jan	17.8	19.3	Z	18.6	17.5	14.8	14.6	15.2	16.1	17.4	19.2	19.8	19.1	20.8	21.6	21.9	20.2	19.0	18.8	18.6	18.3	17.8	17.4	17.3	18.32	21.93			
22-Jan	17.0	17.0	Z	16.1	17.1	16.5	16.7	16.4	15.0	18.2	22.0	24.9	24.7	23.6	23.5	25.3	23.6	19.2	14.4	14.4	14.6	15.1	19.3	21.5	18.98	25.34			
23-Jan	22.1	23.4	Z	24.6	23.9	18.4	10.2	10.9	4.1	5.8	9.9	11.5	13.7	14.6	14.4	13.4	10.1	4.0	2.1	0.5	3.6	10.6	13.3	14.2	12.14	24.61			
24-Jan	13.6	15.2	Z	13.8	11.3	9.3	8.8	7.5	5.6	7.2	8.9	11.9	16.3	23.6	24.6	22.6	20.9	19.1	20.8	20.3	21.4	20.6	20.1	16.0	15.62	24.64			
25-Jan	13.0	12.3	Z	7.2	8.5	9.6	8.9	8.2	8.3	11.0	14.8	19.1	22.5	25.5	28.3	30.5	31.5	31.7	32.1	30.3	23.6	19.7	19.2	20.4	18.96	32.14			
26-Jan	23.5	25.8	Z	31.2	32.2	29.4	28.8	25.0	21.8	22.7	26.6	29.7	33.2	35.8	36.7	37.0	36.5	36.8	38.2	40.7	40.9	40.9	40.8	41.2	32.85	41.19			
27-Jan	41.5	41.6	Z	39.6	37.9	37.1	36.4	32.8	28.7	28.2	30.7	31.2	32.5	34.6	34.6	34.5	35.3	31.6	33.7	40.8	47.0	46.9	46.2	45.7	36.91	47.02			
28-Jan	45.3	41.6	Z	42.2	40.9	36.1	37.8	37.9	33.8	35.7	37.5	38.7	40.5	39.4	37.9	37.3	36.6	36.9	35.8	36.5	37.4	40.4	38.0	38.7	38.39	45.34			
29-Jan	37.1	37.0	Z	33.5	30.5	28.6	27.7	27.4	25.7	26.0	28.2	29.0	29.4	28.8	28.7	29.2	40.1	47.7	36.1	37.3	40.8	46.2	45.8	44.9	34.18	47.73			
30-Jan	43.9	43.4	Z	42.1	40.1	40.6	42.3	42.2	42.6	42.7	43.4	43.5	43.5	43.5	43.6	43.6	43.6	43.4	43.2	43.1	42.8	42.3	42.5	42.2	42.78	43.89			
31-Jan	41.8	41.5	Z	40.6	40.5	41.9	44.2	44.0	43.5	43.0	43.6	43.2	41.1	39.7	39.3	38.9	37.4	36.9	37.1	36.8	36.6	35.9	36.2	37.3	40.05	44.24			
		29.92	30.09	--	29.87	29.41	28.57	28.08	27.48	26.54	27.28	28.78	29.81	30.98	31.92	32.61	32.42	32.13	31.27	30.56	30.84	30.25	29.81	29.79	30.12	Diurnal Average			
		45.34	43.39	--	42.24	41.52	41.88	44.24	44.04	43.53	43.88	43.57	44.27	44.37	44.51	45.00	44.91	45.16	47.73	43.32	43.71	47.02	46.90	46.16	45.65	Diurnal Maximum			
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
January 2017**

Maximum Value: 44.98 ppb on Jan 28 04:00		Maximum Daily Average: 42.90 ppb on Jan 30		Hours in Service: 744																																												
Minimum Value: 7.2 ppb on Jan 23 23:00		Minimum Daily Average: 13.65 ppb on Jan 23		Hours of Data: 737																																												
Maximum Diurnal Average: 31.59 ppb at hour 20		Minimum Diurnal Average: 28.17 ppb at hour 10		Hours of Missing Data: 7																																												
Monthly Average: 29.903 ppb		Percentiles: P ₁ = 9.0 P ₁₀ = 17.8 Q ₁ = 24.6 Median = 30.8 Q ₃ = 36.5 P ₉₀ = 41.1 P ₉₉ = 44.1		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-Jan	36.6	36.3	36.6	36.6	36.8	37.2	37.5	37.6	37.8	38.0	38.0	37.9	37.8	37.8	37.8	37.8	37.7	37.5	37.4	37.3	37.2	37.0	36.5	35.8	37.26	38.01																						
2-Jan	34.9	34.1	33.7	32.3	30.8	29.2	27.5	25.8	23.9	22.2	21.8	21.0	20.4	20.6	21.2	22.1	23.5	24.4	25.5	26.7	27.7	28.0	28.1	28.3	26.42	34.92																						
3-Jan	28.2	28.4	28.6	27.4	26.4	24.9	23.1	20.7	18.2	16.1	16.1	16.0	16.1	17.0	18.3	20.1	22.3	25.1	27.3	29.0	30.4	31.6	32.6	33.7	24.07	33.71																						
4-Jan	34.4	34.4	34.4	34.5	34.6	34.9	35.3	35.7	36.2	36.4	36.6	37.0	37.5	38.0	38.3	38.9	39.5	40.3	40.5	40.4	39.5	38.2	37.0	35.6	37.01	40.54																						
5-Jan	34.2	33.0	32.0	31.3	31.4	31.6	31.9	32.2	32.4	32.4	32.2	32.1	31.9	31.7	31.6	31.3	30.8	30.4	30.3	30.2	30.3	30.0	29.6	29.0	31.40	34.21																						
6-Jan	27.9	27.6	27.2	26.8	26.0	25.7	25.4	25.6	26.4	26.2	26.3	26.1	26.3	26.5	26.9	27.4	27.9	28.5	28.9	29.4	29.8	30.2	30.5	30.6	27.50	30.58																						
7-Jan	30.7	30.7	30.8	30.2	29.4	28.3	26.9	25.6	24.3	23.5	24.0	24.2	24.8	25.9	27.2	28.5	29.9	31.0	31.4	31.8	31.8	31.6	31.1	30.9	28.52	31.81																						
8-Jan	30.6	30.4	30.2	30.4	30.6	30.8	31.3	31.5	31.7	31.8	31.5	31.0	30.4	30.0	29.7	29.4	29.0	28.5	27.7	27.1	26.7	26.2	25.5	24.8	29.44	31.76																						
9-Jan	24.1	23.2	23.3	23.3	23.5	23.8	24.2	24.5	24.6	25.1	25.1	25.4	25.7	26.2	26.8	27.5	28.4	29.3	30.2	30.8	31.3	31.5	31.7	31.9	26.72	31.92																						
10-Jan	32.1	32.3	32.4	32.2	31.6	30.8	30.4	30.2	30.5	31.2	32.0	32.8	34.2	35.9	37.2	38.2	38.6	38.7	38.6	38.5	37.8	36.3	34.7	33.5	34.20	38.70																						
11-Jan	33.0	32.4	31.8	31.6	32.4	34.1	36.4	38.3	39.7	41.2	41.5	42.7	43.4	43.8	44.0	44.2	44.2	44.1	44.1	44.0	43.9	43.9	43.7	43.6	40.08	44.22																						
12-Jan	43.4	43.4	43.4	43.2	42.9	42.5	41.8	40.9	40.1	39.0	37.9	36.3	35.1	34.0	33.2	32.5	31.4	30.2	29.9	29.7	28.9	27.6	26.1	24.7	35.77	43.43																						
13-Jan	23.8	23.3	22.6	21.7	21.1	20.6	20.0	19.6	19.1	18.9	19.4	20.2	21.6	23.6	25.9	28.0	30.2	32.1	33.4	33.5	32.1	30.4	28.6	27.0	24.86	33.45																						
14-Jan	25.8	24.5	23.2	22.7	23.2	23.8	24.5	25.4	25.8	26.6	27.3	28.5	30.1	31.7	33.3	34.5	35.5	35.9	35.1	34.2	33.3	32.7	32.2	29.40	35.90																							
15-Jan	31.7	31.3	31.2	32.5	32.5	32.5	32.7	32.7	32.8	33.2	33.7	33.8	35.0	35.9	36.8	38.2	39.8	41.0	41.3	41.7	41.1	40.1	38.5	36.9	35.71	41.71																						
16-Jan	35.2	33.8	32.9	31.4	30.9	31.4	32.0	32.3	32.9	33.6	33.9	34.7	35.5	36.3	37.1	38.0	38.3	38.5	38.5	38.3	38.2	37.6	37.0	36.5	35.19	38.45																						
17-Jan	36.1	35.6	35.4	35.1	34.6	33.9	32.8	31.2	29.7	28.5	28.1	26.7	25.6	24.7	24.0	23.1	22.5	21.6	20.1	19.8	18.7	17.9	17.4	17.6	26.70	36.14																						
18-Jan	17.9	19.5	20.4	21.5	23.9	26.2	27.9	29.4	30.2	30.4	30.6	30.7	30.7	30.2	30.7	31.1	31.4	31.2	31.1	31.2	30.8	30.2	29.2	29.1	28.15	31.44																						
19-Jan	29.5	30.5	30.3	30.9	31.6	33.0	33.9	33.9	33.4	32.4	32.1	31.8	31.1	30.3	29.8	29.3	28.6	27.9	27.6	27.3	27.4	27.8	28.4	29.3	30.34	33.95																						
20-Jan	30.8	31.9	32.5	33.1	33.4	33.4	32.9	32.1	30.5	29.8	29.8	29.2	C	C	C	C	C	C	C	31.6	31.3	30.9	29.7	28.1	--	33.42																						
21-Jan	26.2	24.6	24.2	22.8	21.2	19.2	17.8	16.8	16.6	16.3	16.7	16.8	17.0	17.8	18.7	19.5	20.0	20.2	20.2	20.0	19.9	19.5	19.0	18.4	19.57	26.17																						
22-Jan	18.0	17.8	17.6	17.3	17.1	16.9	16.8	16.7	16.4	16.6	17.3	18.3	19.3	20.2	21.0	22.2	23.2	23.4	22.4	21.1	19.9	18.8	18.3	17.8	18.93	23.37																						
23-Jan	17.6	18.1	18.6	20.1	21.4	21.9	20.6	19.1	16.5	14.0	13.5	11.8	10.6	10.1	10.6	10.9	11.7	11.5	10.5	9.1	7.8	7.3	7.2	7.3	13.65	21.88																						
24-Jan	7.7	9.1	10.1	12.0	13.1	13.0	12.3	11.4	10.2	9.1	9.1	8.8	9.4	11.2	13.2	15.1	17.0	18.5	20.0	21.0	21.6	21.3	20.7	19.9	13.96	21.65																						
25-Jan	18.9	18.1	17.7	15.8	14.0	12.4	10.8	9.7	9.0	8.8	9.6	11.0	12.8	14.8	17.2	20.0	22.9	25.5	27.6	29.0	29.2	28.5	27.3	26.1	18.19	29.18																						
26-Jan	25.1	24.3	23.2	23.3	24.6	25.9	27.3	28.0	27.7	27.3	27.2	27.0	27.2	28.0	29.0	30.5	32.3	34.1	35.5	36.9	37.8	38.5	39.0	39.5	29.96	39.51																						
27-Jan	40.1	40.7	41.1	40.9	40.5	40.0	39.3	38.2	36.3	34.4	33.9	32.9	32.2	31.9	31.6	31.9	32.7	33.1	33.5	34.7	36.5	38.0	39.5	40.9	36.45	41.10																						
28-Jan	42.1	43.4	44.8	45.0	44.1	42.6	41.4	40.3	38.6	37.8	37.7	37.3	37.3	37.7	37.7	37.6	38.0	38.1	37.9	37.6	37.2	37.3	37.4	37.5	39.43	44.98																						
29-Jan	37.6	37.6	37.9	37.4	36.5	34.8	33.3	31.7	30.1	28.5	28.5	27.9	27.8	27.8	27.9	28.2	29.9	32.7	33.6	34.7	36.1	38.3	40.4	42.4	33.40	42.36																						
30-Jan	42.8	42.3	43.2	43.9	43.8	43.0	42.5	42.1	41.9	41.8	42.0	42.2	42.6	43.0	43.1	43.3	43.4	43.5	43.5	43.4	43.3	43.2	43.1	42.9	42.90	43.85																						
31-Jan	42.7	42.4	42.3	42.0	41.6	41.6	41.8	42.1	42.3	42.6	42.7	43.0	43.1	42.8	42.2	41.5	40.8	40.0	39.2	38.4	37.8	37.4	37.0	36.8	41.00	43.08																						
																								30.32	30.16	30.12	29.97	29.85	29.68	29.44	29.06	28.58	28.17	28.25	28.24	28.41	28.84	29.41	30.02	30.72	31.22	31.45	31.59	31.50	31.24	30.88	30.60	Diurnal Average
																								43.37	43.42	44.77	44.98	44.10	42.97	42.47	42.09	42.34	42.55	42.68	43.00	43.37	43.77	44.04	44.22	44.22	44.11	44.11	44.04	43.92	43.86	43.71	43.56	Diurnal Maximum
C - Calibration																																																



WCAS - Tomahawk
Summary of Hourly Averages

Nitrogen Oxide (NO) - ppb
January 2017

Maximum Value: 13.46 ppb on Jan 23 12:00		Maximum Daily Average: 3.49 ppb on Jan 23		Hours in Service: 744																						
Minimum Value: 0.0 ppb on Jan 1 01:00		Minimum Daily Average: 0.00 ppb on Jan 30		Hours of Data: 708																						
Maximum Diurnal Average: 2.89 ppb at hour 12		Minimum Diurnal Average: 0.03 ppb at hour 5		Hours of Missing Data: 36																						
Monthly Average: 0.718 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.1 Q ₃ = 0.4 P ₉₀ = 2.4 P ₉₉ = 8.8		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-Jan	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	0.0	0.01	0.08
2-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.1	1.2	3.3	4.1	3.8	3.2	2.7	1.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.88	4.06
3-Jan	0.1	0.1	Z	0.1	0.1	0.1	0.1	0.2	0.4	3.0	5.8	6.2	5.5	5.1	4.1	2.8	0.8	0.1	0.0	0.0	0.0	0.0	0.0	1.50	6.17	
4-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.3	0.3	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.09	0.33	
5-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.5	1.0	0.6	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.14	1.00	
6-Jan	0.1	0.1	Z	0.0	0.0	0.0	0.2	0.0	0.2	0.4	0.7	1.1	1.5	1.7	1.3	0.7	0.3	0.0	0.2	0.0	0.0	0.0	0.1	0.38	1.70	
7-Jan	0.0	0.0	Z	0.1	0.0	0.0	0.0	0.0	0.0	0.3	0.4	0.8	0.6	0.5	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.14	0.76	
8-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.6	1.4	2.9	2.0	1.1	1.0	0.4	0.3	0.1	0.0	0.0	0.1	0.1	0.45	2.87	
9-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.5	0.7	0.8	0.6	0.6	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.18	0.75	
10-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.04	0.24	
11-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.06	0.32	
12-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.1	0.8	4.7	9.2	6.9	5.6	4.2	3.2	1.1	0.1	0.0	0.0	0.0	0.1	0.0	1.57	9.15	
13-Jan	0.0	0.0	Z	0.0	0.0	0.1	0.1	0.1	0.2	2.1	5.8	5.4	5.1	4.4	3.5	2.4	0.8	0.1	0.1	0.1	0.1	0.1	0.1	1.34	5.75	
14-Jan	0.1	0.1	Z	0.1	0.1	0.1	0.1	0.0	0.1	0.6	1.5	2.1	2.4	2.0	1.6	0.9	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.54	2.37	
15-Jan	0.1	0.0	Z	0.0	0.1	0.1	0.1	0.0	0.1	0.4	1.0	1.4	1.6	2.4	1.5	0.7	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.43	2.35	
16-Jan	0.1	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.6	1.1	1.6	1.3	0.8	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.27	1.58	
17-Jan	0.0	0.0	Z	0.1	0.1	0.1	0.1	0.1	0.2	1.1	1.9	3.9	4.4	5.2	4.7	3.6	0.8	1.3	0.7	0.0	0.1	0.2	0.2	1.27	5.17	
18-Jan	0.2	0.1	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.4	1.1	2.5	2.1	3.7	2.3	1.6	0.6	0.1	0.0	0.0	0.0	0.0	0.0	0.64	3.70	
19-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.2	0.7	1.1	1.7	2.8	3.6	2.3	2.7	0.9	0.1	0.1	0.1	0.1	0.1	0.1	0.74	3.56	
20-Jan	0.1	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.3	1.0	C	C	C	C	C	3.2	1.0	0.2	0.3	0.2	0.2	0.1	0.1	0.41	3.21	
21-Jan	0.2	0.1	Z	0.1	0.0	0.0	0.0	0.1	0.2	2.3	4.0	5.3	6.4	3.6	2.1	1.1	0.4	0.0	0.0	0.0	0.0	0.0	0.0	1.12	6.44	
22-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.4	0.7	0.2	0.5	1.0	1.3	0.8	0.6	0.1	0.1	0.2	0.1	0.1	0.1	0.28	1.34	
23-Jan	0.1	0.0	Z	0.0	0.0	0.0	0.2	0.2	1.6	9.0	11.8	13.5	10.2	9.0	7.7	6.1	4.4	2.2	0.7	2.1	1.2	0.1	0.0	3.49	13.46	
24-Jan	0.0	0.0	Z	0.1	0.0	0.2	0.1	0.2	1.0	3.0	6.8	7.1	5.9	3.3	2.9	3.3	2.0	0.4	0.1	0.0	0.0	0.0	0.1	1.60	7.07	
25-Jan	0.1	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.7	4.4	8.2	8.8	8.7	6.8	4.7	2.7	1.0	0.2	0.0	0.0	0.1	0.1	0.1	2.05	8.83	
26-Jan	0.1	0.1	Z	0.0	0.0	0.0	0.0	0.0	0.2	1.6	3.0	3.2	2.6	2.0	1.9	1.7	0.9	0.2	0.2	0.1	0.1	0.1	0.1	0.80	3.17	
27-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.9	1.9	1.9	3.0	3.5	2.1	1.1	0.5	0.1	0.0	0.0	0.0	0.0	0.0	0.66	3.46	
28-Jan	0.0	0.0	Z	0.1	0.0	0.0	0.0	0.0	0.0	0.3	0.6	0.9	0.7	0.8	0.9	0.6	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.26	0.90	
29-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	1.1	3.1	3.0	3.4	2.9	2.5	1.8	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.80	3.42	
30-Jan	0.0	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	0.00	0.06	
31-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.05	0.18	
		0.05	0.03	--	0.03	0.03	0.04	0.05	0.06	0.18	1.16	2.34	2.89	2.84	2.51	1.93	1.44	0.60	0.19	0.08	0.10	0.08	0.05	0.05	Diurnal Average	
		0.23	0.09	--	0.08	0.10	0.22	0.22	0.25	1.57	8.95	11.77	13.46	10.22	8.97	7.74	6.12	4.40	2.23	0.68	2.07	1.24	0.18	0.22	0.25	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
January 2017

Maximum Value: 24.21 ppb on Jan 23 09:00		Maximum Daily Average: 13.94 ppb on Jan 23		Hours in Service: 744																													
Minimum Value: 0.6 ppb on Jan 10 14:00		Minimum Daily Average: 0.96 ppb on Jan 30		Hours of Data: 708																													
Maximum Diurnal Average: 6.89 ppb at hour 19		Minimum Diurnal Average: 4.59 ppb at hour 4		Hours of Missing Data: 36																													
Monthly Average: 5.628 ppb		Percentiles: P ₁ = 0.7 P ₁₀ = 1.2 Q ₁ = 2.8 Median = 4.9 Q ₃ = 7.7 P ₉₀ = 10.8 P ₉₉ = 19.5		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-Jan	1.6	1.4	Z	0.9	0.9	1.0	1.1	1.2	1.0	1.1	1.1	1.1	0.9	0.9	0.9	1.0	1.1	1.1	1.3	1.3	1.2	1.4	2.8	3.2	1.27	3.19							
2-Jan	3.8	3.7	Z	5.4	5.2	5.8	7.7	7.5	9.6	8.8	7.8	5.8	4.5	4.7	5.3	5.1	4.4	5.5	3.9	2.6	2.4	3.2	3.1	2.2	5.14	9.61							
3-Jan	2.3	3.1	Z	4.8	4.3	6.2	8.6	10.8	12.5	10.5	7.5	6.1	5.4	5.5	6.1	7.9	7.4	3.6	3.5	3.9	3.3	3.4	3.1	2.9	5.76	12.49							
4-Jan	3.1	2.8	Z	2.7	2.6	2.4	2.4	2.5	2.6	3.1	2.3	2.1	1.9	1.6	1.7	1.5	1.4	1.5	2.2	3.8	7.0	6.2	5.1	4.3	2.90	6.99							
5-Jan	4.1	3.6	Z	3.0	2.8	2.5	2.5	2.2	2.1	2.4	2.6	2.8	3.5	2.3	1.4	1.5	2.5	1.8	2.8	2.8	1.9	3.2	3.4	6.1	2.76	6.07							
6-Jan	10.9	5.6	Z	3.0	5.0	3.9	4.3	3.7	4.4	4.8	3.6	3.2	3.3	3.5	3.8	4.1	4.8	5.0	5.0	4.9	4.7	4.5	4.3	4.2	4.55	10.88							
7-Jan	4.2	4.1	Z	3.8	5.1	6.3	6.3	5.0	5.4	4.0	1.8	2.0	1.5	1.3	1.2	1.3	1.1	1.3	1.5	1.7	1.9	1.9	2.3	1.9	2.91	6.33							
8-Jan	3.0	2.7	Z	1.3	1.2	1.4	1.4	1.4	1.9	2.1	2.9	3.5	5.3	4.0	2.9	3.5	4.3	5.8	9.0	6.8	6.5	6.2	6.0	6.0	3.87	8.99							
9-Jan	5.9	10.1	Z	5.3	4.0	3.4	3.5	3.9	4.3	4.2	2.6	1.8	2.2	2.1	2.4	3.0	3.2	3.6	3.8	3.7	3.4	3.3	3.0	3.0	3.73	10.13							
10-Jan	3.0	3.4	Z	4.4	6.4	8.0	5.8	5.3	3.4	1.7	0.9	1.0	0.8	0.6	0.7	1.0	1.2	1.9	2.7	3.2	5.2	9.0	9.9	6.8	3.75	9.85							
11-Jan	3.3	3.5	Z	3.2	1.8	1.6	1.3	1.2	1.3	1.3	1.6	1.2	1.3	1.3	1.2	1.1	1.2	1.1	0.9	0.8	0.8	0.7	1.3	2.1	1.53	3.48							
12-Jan	3.2	1.7	Z	1.3	1.7	2.1	3.2	4.6	5.1	5.8	9.2	11.3	7.9	7.1	7.0	7.3	10.2	11.7	9.0	9.6	10.9	13.5	13.0	12.8	7.36	13.55							
13-Jan	11.8	11.1	Z	10.3	10.2	12.8	15.1	14.7	13.3	11.0	10.0	7.8	7.3	7.6	7.5	9.2	10.6	10.9	10.6	13.4	15.6	15.8	14.5	13.9	11.53	15.81							
14-Jan	11.0	10.7	Z	10.9	10.5	10.2	10.5	9.1	8.8	8.4	8.1	7.1	6.7	6.8	6.9	7.5	8.9	10.0	10.9	11.7	10.8	9.7	8.2	7.7	9.18	11.68							
15-Jan	6.6	6.8	Z	3.6	6.1	5.2	4.9	5.7	5.3	4.9	4.2	3.9	3.7	4.9	4.4	3.4	2.2	3.1	4.9	3.5	7.6	9.3	8.7	5.9	5.18	9.32							
16-Jan	5.7	5.5	Z	5.0	5.2	4.5	4.5	5.8	4.8	5.3	5.6	5.9	6.0	4.5	4.4	5.0	6.1	6.1	6.1	6.0	5.6	6.5	5.5	4.4	5.40	6.47							
17-Jan	4.7	4.7	Z	4.5	3.9	4.3	5.6	5.9	6.7	7.7	7.1	8.0	7.5	10.8	13.5	15.4	13.2	17.0	19.7	11.1	12.3	11.3	11.2	9.8	9.38	19.70							
18-Jan	8.5	5.6	Z	4.9	4.4	4.5	5.3	5.4	6.0	5.0	4.4	7.7	6.1	8.2	4.6	7.3	9.3	11.0	7.2	6.9	7.2	9.3	7.9	5.1	6.60	10.97							
19-Jan	4.7	4.1	Z	3.9	3.7	3.9	3.5	5.5	6.4	6.9	5.8	5.9	6.8	7.2	6.3	8.8	10.3	11.4	9.2	7.1	7.6	7.2	4.8	4.6	6.32	11.36							
20-Jan	4.4	5.1	Z	4.8	5.1	5.0	5.0	6.4	9.3	6.7	C	C	C	C	C	6.4	8.1	8.6	11.9	9.9	8.2	8.4	10.3	12.1	7.54	12.13							
21-Jan	15.5	12.3	Z	11.1	12.4	14.3	14.2	12.3	10.6	8.7	7.4	6.6	7.8	6.0	5.1	4.7	5.3	4.9	4.1	3.5	3.2	3.3	3.1	2.9	7.79	15.48							
22-Jan	2.8	2.7	Z	3.5	3.0	3.3	3.2	3.4	5.1	4.4	4.0	1.5	1.7	2.9	4.1	4.0	5.9	10.1	14.5	13.8	12.9	13.1	9.6	7.2	5.94	14.50							
23-Jan	6.3	5.6	Z	4.4	5.1	10.1	18.6	17.1	24.2	22.7	18.0	15.7	11.3	9.9	9.6	10.5	14.1	21.0	22.1	23.5	20.0	12.3	9.6	8.8	13.94	24.21							
24-Jan	9.1	7.7	Z	7.7	8.9	9.4	9.2	9.6	10.6	9.0	9.2	8.5	7.5	5.8	6.2	7.1	8.8	10.7	9.0	8.7	7.9	7.9	8.1	10.5	8.57	10.72							
25-Jan	12.9	13.7	Z	12.7	11.3	9.2	9.5	9.5	9.8	8.3	8.1	7.7	7.9	7.4	7.0	6.7	6.8	6.8	6.5	7.3	12.1	13.7	13.7	11.8	9.58	13.68							
26-Jan	9.3	7.1	Z	4.3	4.0	4.8	4.7	6.7	8.2	7.1	5.8	4.8	4.6	3.9	4.2	5.2	6.9	8.0	7.0	5.0	4.0	3.3	3.2	3.1	5.44	9.27							
27-Jan	3.1	2.5	Z	2.5	3.2	3.8	3.7	4.8	7.4	7.3	6.5	6.3	5.7	5.6	6.7	7.6	8.3	10.5	7.6	4.0	1.3	1.2	1.4	1.3	4.89	10.55							
28-Jan	1.4	2.4	Z	2.2	2.4	3.1	4.1	3.7	5.3	4.8	4.4	4.9	4.4	5.6	6.7	6.4	5.9	6.4	6.6	5.9	4.6	3.7	4.0	3.3	4.43	6.69							
29-Jan	3.9	5.7	Z	4.8	4.7	4.3	4.4	4.9	6.2	7.3	7.1	7.6	8.0	9.2	9.6	9.1	5.9	3.0	8.4	7.4	4.5	1.9	1.8	1.4	5.70	9.55							
30-Jan	1.3	1.3	Z	1.2	1.5	1.5	0.9	0.8	0.8	0.9	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.9	0.9	0.9	1.1	1.0	1.1	0.96	1.53							
31-Jan	1.2	1.2	Z	1.0	0.9	0.9	0.9	0.8	0.9	0.9	0.9	0.8	0.8	0.9	0.8	0.9	1.0	1.1	1.0	1.0	1.0	1.3	1.3	1.1	0.98	1.33							
		5.58	5.21	--	4.59	4.76	5.14	5.67	5.85	6.55	6.04	5.37	5.11	4.77	4.77	4.77	5.29	5.84	6.62	6.89	6.31	6.35	6.34	5.98	5.54	Diurnal Average							
		15.48	13.68	--	12.69	12.43	14.26	18.60	17.15	24.21	22.66	17.98	15.74	11.31	10.84	13.52	15.39	14.10	20.97	22.08	23.50	20.03	15.81	14.52	13.90	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
January 2017

Maximum Value: 31.73 ppb on Jan 23 10:00		Maximum Daily Average: 17.51 ppb on Jan 23		Hours in Service: 744																							
Minimum Value: 0.6 ppb on Jan 30 13:00		Minimum Daily Average: 0.92 ppb on Jan 30		Hours of Data: 708																							
Maximum Diurnal Average: 8.05 ppb at hour 12		Minimum Diurnal Average: 4.64 ppb at hour 4		Hours of Missing Data: 36																							
Monthly Average: 6.370 ppb		Percentiles: P ₁ = 0.7 P ₁₀ = 1.2 Q ₁ = 2.9 Median = 5.2 Q ₃ = 9.2 P ₉₀ = 12.5 P ₉₉ = 22.6		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-Jan	1.6	1.4	Z	0.9	0.9	1.1	1.2	1.2	1.0	1.1	1.1	1.2	1.0	0.9	0.9	1.0	1.1	1.1	1.3	1.3	1.2	1.3	2.8	3.2	1.30	3.19	
2-Jan	3.8	3.7	Z	5.4	5.2	5.9	7.7	7.6	9.7	10.1	11.1	9.9	8.3	7.9	8.0	6.3	4.7	5.6	4.0	2.6	2.5	3.3	3.2	2.3	6.04	11.12	
3-Jan	2.4	3.2	Z	4.8	4.4	6.3	8.7	11.0	12.9	13.5	13.3	12.3	11.0	10.6	10.2	10.7	8.3	3.7	3.5	3.9	3.3	3.4	3.1	3.0	7.28	13.51	
4-Jan	3.1	2.8	Z	2.7	2.7	2.4	2.4	2.5	2.6	3.3	2.6	2.5	2.3	1.9	2.0	1.6	1.4	1.5	2.2	3.8	7.0	6.2	5.1	4.4	3.01	7.01	
5-Jan	4.1	3.6	Z	3.0	2.8	2.5	2.5	2.3	2.1	2.5	3.0	3.4	4.6	2.9	1.7	1.7	2.6	1.7	2.7	2.8	2.0	3.2	3.5	6.1	2.92	6.11	
6-Jan	10.9	5.6	Z	3.1	5.0	4.0	4.6	3.8	4.6	5.2	4.4	4.4	4.9	5.2	5.2	4.8	5.1	5.1	5.1	4.9	4.8	4.6	4.3	4.2	4.94	10.94	
7-Jan	4.2	4.2	Z	3.8	5.1	6.3	6.4	5.0	5.5	4.4	2.3	2.8	2.1	1.9	1.5	1.4	1.1	1.3	1.5	1.8	2.0	2.0	2.4	1.9	3.07	6.37	
8-Jan	3.0	2.7	Z	1.4	1.2	1.4	1.4	1.4	1.9	2.3	3.5	4.9	8.2	6.0	4.1	4.6	4.8	6.1	9.1	6.8	6.5	6.3	6.0	6.0	4.33	9.09	
9-Jan	6.0	10.2	Z	5.3	4.0	3.4	3.5	3.9	4.3	4.6	3.1	2.5	3.0	2.7	3.0	3.4	3.3	3.6	3.8	3.7	3.4	3.3	3.0	3.0	3.91	10.16	
10-Jan	3.0	3.4	Z	4.4	6.4	8.0	5.7	5.3	3.4	1.8	1.0	1.2	1.0	0.7	0.8	1.1	1.2	1.9	2.7	3.2	5.2	9.0	9.9	6.9	3.79	9.87	
11-Jan	3.3	3.5	Z	3.2	1.8	1.6	1.3	1.2	1.3	1.4	2.0	1.5	1.6	1.7	1.4	1.2	1.1	1.0	0.8	0.8	0.8	0.6	1.3	2.1	1.59	3.49	
12-Jan	3.2	1.7	Z	1.3	1.8	2.1	3.2	4.8	5.2	6.7	13.9	20.6	14.8	12.8	11.2	10.5	11.3	11.8	9.0	9.6	10.9	13.5	13.1	12.8	8.95	20.62	
13-Jan	11.9	11.2	Z	10.3	10.2	12.9	15.2	14.8	13.4	13.2	15.8	13.2	12.5	12.0	11.1	11.6	11.4	11.0	10.7	13.4	15.6	15.9	14.6	14.0	12.86	15.87	
14-Jan	11.1	10.8	Z	11.0	10.6	10.2	10.6	9.1	8.9	9.1	9.6	9.2	9.1	8.9	8.6	8.5	9.3	10.1	10.9	11.7	10.9	9.8	8.3	7.8	9.75	11.74	
15-Jan	6.7	6.9	Z	3.7	6.2	5.3	5.0	5.8	5.4	5.3	5.2	5.4	5.4	7.4	6.0	4.1	2.3	3.0	4.8	3.6	7.7	9.5	8.9	6.0	5.63	9.45	
16-Jan	5.8	5.6	Z	5.0	5.2	4.4	4.4	5.8	4.7	5.4	6.2	7.1	7.6	5.9	5.3	5.4	6.2	6.0	6.0	6.0	5.6	6.4	5.5	4.4	5.65	7.64	
17-Jan	4.7	4.7	Z	4.6	4.0	4.5	5.7	6.0	6.9	8.8	9.1	11.9	12.0	16.1	18.2	19.0	14.0	18.2	20.3	11.1	12.5	11.4	11.4	10.1	10.66	20.31	
18-Jan	8.7	5.7	Z	4.8	4.4	4.4	5.4	5.3	6.0	5.4	5.5	10.3	8.3	12.0	6.9	8.9	9.9	11.1	7.1	6.7	7.1	9.2	7.9	5.1	7.23	11.97	
19-Jan	4.7	4.1	Z	3.9	3.8	3.9	3.5	5.6	6.6	7.7	6.9	7.7	9.6	10.8	8.7	11.5	11.2	11.5	9.3	7.2	7.7	7.4	4.9	4.7	7.09	11.52	
20-Jan	4.6	5.2	Z	4.8	5.0	4.8	4.7	6.0	9.0	7.1	C	C	C	C	C	10.2	9.6	9.3	12.6	10.5	8.7	8.8	10.7	12.5	8.01	12.62	
21-Jan	15.9	12.5	Z	11.2	12.5	14.4	14.3	12.5	10.8	11.1	11.4	11.9	14.3	9.6	7.2	5.8	5.8	5.0	4.1	3.5	3.3	3.3	3.2	3.0	8.98	15.88	
22-Jan	2.9	2.7	Z	3.6	3.1	3.4	3.3	3.5	5.2	4.8	4.7	1.8	2.2	4.0	5.5	4.9	6.5	10.3	14.7	14.0	13.1	13.2	9.8	7.3	6.28	14.66	
23-Jan	6.4	5.7	Z	4.4	5.1	10.2	18.9	17.5	25.9	31.7	29.9	29.4	21.6	18.9	17.4	16.7	18.6	23.3	22.9	25.7	21.4	12.5	9.7	8.9	17.51	31.73	
24-Jan	9.2	7.8	Z	7.9	9.0	9.7	9.4	10.0	11.6	12.1	16.0	15.6	13.3	9.2	9.2	10.4	10.8	11.2	9.1	8.9	8.0	8.0	8.2	10.7	10.24	15.99	
25-Jan	13.1	13.8	Z	12.8	11.5	9.4	9.7	9.7	10.5	12.8	16.4	16.6	16.7	14.2	11.8	9.5	7.9	7.0	6.6	7.4	12.3	13.9	13.8	12.0	11.71	16.69	
26-Jan	9.4	7.2	Z	4.4	4.0	4.8	4.8	6.8	8.5	8.8	8.9	8.1	7.3	6.0	6.2	7.0	7.8	8.4	7.2	5.2	4.1	3.5	3.3	3.2	6.30	9.42	
27-Jan	3.2	2.6	Z	2.5	3.2	3.8	3.7	4.9	7.5	8.2	8.5	8.3	8.8	9.1	8.9	8.8	8.9	10.8	7.7	4.1	1.3	1.2	1.4	1.4	5.60	10.76	
28-Jan	1.4	2.4	Z	2.3	2.5	3.2	4.2	3.7	5.4	5.2	5.0	5.8	5.2	6.4	7.6	7.1	6.6	6.5	6.5	5.9	4.7	3.7	4.1	3.4	4.73	7.62	
29-Jan	4.0	5.8	Z	4.9	4.7	4.4	4.4	4.9	6.3	8.4	10.2	10.7	11.5	12.2	12.1	11.0	6.4	3.0	8.4	7.4	4.4	1.8	1.8	1.4	6.52	12.17	
30-Jan	1.3	1.3	Z	1.3	1.6	1.5	0.8	0.7	0.7	0.8	0.7	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.9	1.1	1.0	1.1	0.92	1.61	
31-Jan	1.1	1.2	Z	1.0	0.9	0.8	0.9	0.8	0.9	1.0	1.1	1.0	0.9	1.1	1.0	1.0	1.1	1.1	1.0	1.0	1.1	1.4	1.4	1.1	1.04	1.40	
		5.65	5.26	--	4.64	4.80	5.19	5.72	5.91	6.73	7.21	7.75	8.05	7.66	7.32	6.74	6.79	6.49	6.83	6.99	6.43	6.45	6.41	6.05	5.61	Diurnal Average	
		15.88	13.85	--	12.85	12.53	14.38	18.86	17.46	25.88	31.73	29.90	29.36	21.65	18.91	18.22	19.00	18.58	23.29	22.87	25.69	21.37	15.87	14.59	13.99	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
January 2017

Maximum Value: 23.28 µg/m ³ on Jan 22 21:00																Maximum Daily Average: 12.47 µg/m ³ on Jan 23																Hours in Service: 744																	
Minimum Value: 1.3 µg/m ³ on Jan 3 14:00																Minimum Daily Average: 1.72 µg/m ³ on Jan 11																Hours of Data: 744																	
Maximum Diurnal Average: 5.85 µg/m ³ at hour 3																Minimum Diurnal Average: 3.96 µg/m ³ at hour 15																Hours of Missing Data: 0																	
Monthly Average: 5.001 µg/m ³																Percentiles: P ₁ = 1.4 P ₁₀ = 1.9 Q ₁ = 2.5 Median = 3.8 Q ₃ = 6.5 P ₉₀ = 9.9 P ₉₉ = 17.3																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-Jan	3.9	4.5	5.7	3.2	3.3	3.2	2.7	2.4	2.1	1.8	1.9	1.9	1.9	1.9	2.0	2.0	2.2	2.1	2.2	2.1	2.1	2.6	2.9	2.7	2.64	5.67																							
2-Jan	4.0	3.1	2.9	3.6	2.8	3.2	2.7	3.0	3.2	3.4	4.3	3.2	2.3	2.2	2.1	2.5	3.4	3.8	4.2	4.3	4.6	4.8	5.1	5.3	3.49	5.29																							
3-Jan	6.5	8.4	8.8	7.4	6.3	5.8	4.3	3.4	2.8	2.6	2.8	2.5	1.8	1.3	1.5	1.8	2.4	2.8	3.0	3.2	3.2	3.7	3.1	3.2	3.86	8.78																							
4-Jan	3.4	3.4	3.3	3.5	4.2	4.2	3.5	2.9	2.4	2.9	2.6	2.1	2.6	2.5	2.3	2.4	2.3	2.6	2.6	2.8	3.1	2.9	2.8	3.5	2.94	4.17																							
5-Jan	4.6	4.9	6.1	6.5	6.4	5.5	4.9	4.3	3.9	3.7	3.4	3.3	3.2	2.5	2.2	2.4	2.8	3.9	4.0	3.6	3.8	4.1	5.7	5.5	4.22	6.48																							
6-Jan	5.1	4.6	3.9	3.8	4.1	4.5	5.1	6.1	6.8	7.9	7.4	8.0	7.5	6.8	6.2	5.7	5.1	4.9	4.9	4.1	3.9	3.8	3.8	3.2	5.30	7.96																							
7-Jan	3.3	3.4	3.4	4.3	4.4	4.7	7.4	8.1	9.0	7.2	4.5	3.9	2.5	2.2	2.3	2.8	3.3	3.7	3.9	3.9	3.7	3.5	3.2	3.7	4.27	8.96																							
8-Jan	4.9	5.9	5.4	4.6	4.3	4.3	4.2	4.0	4.0	4.0	4.6	4.9	4.8	5.0	5.0	4.7	5.7	6.7	8.2	8.4	7.7	6.5	6.7	7.2	5.48	8.43																							
9-Jan	7.6	8.0	8.2	8.2	8.0	7.3	6.9	6.5	6.3	6.7	6.5	5.3	4.4	4.2	4.1	4.1	4.0	4.0	3.5	3.3	3.0	2.9	2.7	3.6	5.39	8.20																							
10-Jan	4.5	4.6	5.0	4.7	4.6	4.3	4.4	4.4	3.3	2.4	2.0	1.6	1.5	1.4	1.5	2.0	1.8	2.0	2.5	2.6	2.7	3.2	3.4	2.9	3.06	5.01																							
11-Jan	2.3	2.3	2.6	2.0	1.5	1.4	1.4	1.4	1.4	1.4	1.4	1.5	1.5	1.5	1.6	1.5	1.5	1.5	1.8	1.6	1.6	1.6	1.8	3.2	1.72	3.25																							
12-Jan	4.4	4.6	4.5	4.9	4.3	4.5	3.9	3.6	6.0	5.2	2.7	2.1	2.3	2.1	2.2	2.7	2.2	3.0	3.4	3.8	4.1	4.8	5.7	8.5	3.98	8.48																							
13-Jan	10.7	9.3	8.2	7.2	7.4	9.3	9.7	8.5	8.3	7.6	7.4	6.5	4.9	3.4	3.3	5.3	9.7	16.3	14.5	12.6	8.7	7.6	6.8	7.6	8.37	16.35																							
14-Jan	7.3	9.7	12.3	13.9	12.6	12.3	10.0	6.5	6.2	7.1	6.1	5.1	4.5	3.8	3.6	3.6	4.0	4.7	9.1	5.8	5.7	4.9	4.5	5.4	7.03	13.91																							
15-Jan	6.5	6.9	6.3	4.1	5.2	4.8	4.0	3.9	3.9	3.7	2.9	2.5	2.3	1.9	2.1	1.9	2.0	2.3	2.6	2.7	3.0	3.6	4.1	3.8	3.63	6.90																							
16-Jan	3.5	3.2	2.8	2.8	2.6	2.2	2.0	1.9	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	2.0	1.8	1.6	1.5	2.01	3.51																							
17-Jan	1.5	1.6	1.8	1.7	1.7	1.9	2.6	2.6	2.9	3.2	3.0	2.9	2.3	2.3	2.7	2.9	2.5	2.7	3.0	4.7	5.8	5.3	10.9	7.0	3.32	10.91																							
18-Jan	4.1	3.2	2.6	3.0	2.1	2.2	2.5	2.1	2.2	2.5	2.3	2.6	2.3	2.2	2.0	1.8	1.8	2.2	2.1	2.6	2.6	2.6	2.8	4.3	2.52	4.33																							
19-Jan	5.1	7.1	8.2	3.9	3.6	3.1	2.9	2.8	2.3	2.2	2.4	1.9	1.8	1.8	2.2	2.3	2.0	2.2	3.0	3.9	5.8	4.1	4.2	4.9	3.48	8.17																							
20-Jan	6.9	7.6	8.3	6.4	5.7	4.9	4.4	4.2	4.5	4.0	2.9	1.9	1.5	1.8	2.0	2.2	2.7	2.8	3.4	4.1	5.2	5.1	4.9	7.2	4.37	8.31																							
21-Jan	9.5	9.7	11.2	10.5	10.4	9.9	9.7	7.7	7.6	12.1	10.8	13.0	19.2	23.2	16.8	17.5	19.0	17.3	11.2	9.1	8.8	8.3	8.0	8.4	12.04	23.20																							
22-Jan	8.2	8.5	9.9	10.5	7.6	8.7	7.2	7.7	8.7	9.6	6.5	4.9	4.8	5.4	7.4	6.5	6.3	6.5	9.3	17.5	23.3	20.7	10.8	10.4	9.46	23.28																							
23-Jan	10.1	8.9	8.0	8.3	7.7	8.7	9.9	11.5	13.9	13.9	13.4	13.4	17.2	16.5	14.9	15.4	18.1	17.3	17.0	15.7	12.7	10.2	9.7	7.2	12.47	18.06																							
24-Jan	8.3	10.2	11.1	11.7	12.1	11.9	12.0	12.4	12.8	14.6	17.7	17.1	14.9	9.3	7.8	10.6	11.7	11.5	7.7	4.6	5.4	4.5	4.0	4.4	10.33	17.69																							
25-Jan	6.3	7.0	9.4	11.0	10.1	10.1	9.6	9.9	12.2	14.3	14.5	12.2	11.6	11.9	10.4	9.7	9.2	9.7	9.6	10.5	12.4	10.8	10.2	8.0	10.44	14.49																							
26-Jan	6.8	5.5	3.6	3.2	3.2	3.5	4.1	5.2	5.9	5.5	4.1	3.2	2.4	2.4	2.5	2.9	3.1	4.3	6.3	6.5	5.1	5.0	3.5	3.3	4.21	6.77																							
27-Jan	3.1	3.2	3.2	3.9	4.7	5.2	6.1	8.5	7.8	6.3	4.7	3.7	3.1	3.0	2.5	3.0	3.8	3.9	3.6	2.5	1.7	1.8	1.9	2.3	3.88	8.46																							
28-Jan	2.8	3.6	3.4	3.1	3.3	3.6	4.1	3.9	2.9	2.3	2.0	1.5	1.4	1.5	1.6	1.6	1.6	1.8	2.5	2.6	4.1	3.4	3.4	5.2	2.79	5.19																							
29-Jan	6.3	6.7	6.5	6.5	6.0	5.3	5.3	4.9	4.5	4.0	3.3	2.7	2.4	2.1	2.3	2.6	3.1	2.2	3.1	3.5	3.9	2.5	2.1	2.2	3.92	6.66																							
30-Jan	2.8	2.7	2.6	2.6	2.4	2.6	2.8	2.6	2.5	2.6	2.1	1.9	1.9	1.9	2.0	1.9	1.9	1.9	2.0	2.0	2.0	2.1	2.1	2.1	2.24	2.80																							
31-Jan	2.4	2.3	2.1	2.2	1.9	2.0	2.1	2.2	2.1	2.0	1.9	1.9	2.0	2.0	2.1	2.1	2.1	2.2	2.1	2.0	2.2	2.4	2.5	2.5	2.14	2.50																							
																								5.37	5.63	5.85	5.59	5.31	5.32	5.23	5.13	5.29	5.43	4.97	4.54	4.46	4.25	3.96	4.20	4.62	4.99	5.10	5.10	5.28	4.88	4.67	4.85	Diurnal Average	
																								10.66	10.19	12.27	13.91	12.59	12.28	11.96	12.38	13.92	14.58	17.69	17.10	19.15	23.20	16.84	17.55	19.05	17.32	16.97	17.47	23.28	20.70	10.91	10.43	Diurnal Maximum	
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 80 ul/m ³ 24-hr 30 ul/m ³																																																	

**TOMAHAWK
STATION #901**

METEOROLOGICAL DATA

JANUARY 2017



WCAS - Tomahawk
Summary of Hourly Averages

External Temperature (ET) - C
January 2017

Maximum Value: 8.54 C on Jan 18 15:00 Maximum Daily Average: 4.09 C on Jan 18 Minimum Value: -25.3 C on Jan 3 10:00 Minimum Daily Average: -20.91 C on Jan 8 Maximum Diurnal Average: -5.29 C at hour 16 Minimum Diurnal Average: -10.58 C at hour 9 Monthly Average: -8.427 C Percentiles: P ₁ = -23.7 P ₁₀ = -20.1 Q ₁ = -16.0 Median = -7.9 Q ₃ = -1.5 P ₉₀ = 2.8 P ₉₉ = 5.3																								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-Jan	-10.8	-10.4	-10.1	-11.2	-12.1	-12.7	-12.0	-11.1	-10.4	-10.4	-10.4	-10.2	-10.1	-9.7	-10.5	-11.2	-11.6	-12.9	-13.9	-14.2	-15.2	-16.0	-17.6	-18.2	-12.20	-9.74																							
2-Jan	-18.9	-19.1	-19.8	-20.5	-20.6	-21.9	-22.5	-23.5	-23.8	-23.8	-22.6	-20.4	-17.8	-15.4	-14.9	-16.0	-17.5	-18.4	-19.0	-19.4	-20.0	-20.1	-20.1	-20.0	-19.84	-14.89																							
3-Jan	-20.2	-20.0	-20.6	-20.7	-20.2	-20.7	-21.4	-23.2	-24.5	-25.3	-23.5	-21.4	-19.2	-18.0	-16.8	-16.2	-16.5	-15.4	-15.8	-15.7	-15.0	-14.8	-14.0	-13.7	-18.86	-13.72																							
4-Jan	-13.4	-14.0	-13.8	-13.4	-13.3	-12.4	-10.4	-9.5	-8.9	-8.6	-7.4	-6.7	-6.7	-6.3	-6.0	-6.0	-5.9	-5.8	-6.2	-6.6	-7.2	-7.3	-7.3	-7.0	-8.76	-5.84																							
5-Jan	-6.1	-5.2	-5.0	-4.9	-5.4	-5.7	-5.7	-5.8	-6.2	-6.3	-5.7	-5.6	-5.7	-6.0	-6.1	-6.5	-7.3	-8.8	-9.7	-10.3	-11.0	-12.2	-14.3	-14.9	-7.51	-4.95																							
6-Jan	-15.7	-15.9	-16.4	-16.8	-16.7	-16.7	-16.9	-16.8	-16.7	-16.3	-16.2	-16.0	-15.3	-15.1	-14.9	-14.8	-15.5	-16.7	-17.1	-16.9	-17.7	-17.0	-16.7	-16.7	-16.32	-14.78																							
7-Jan	-16.6	-16.8	-16.6	-16.7	-16.7	-16.7	-17.1	-17.1	-17.1	-17.0	-16.8	-16.5	-16.5	-16.3	-17.1	-17.4	-18.5	-18.5	-18.4	-18.5	-19.5	-19.6	-19.6	-20.4	-17.59	-16.29																							
8-Jan	-20.8	-20.9	-20.9	-20.9	-21.3	-21.0	-20.9	-20.7	-20.8	-20.6	-20.3	-19.8	-19.2	-19.0	-18.9	-18.9	-20.6	-22.0	-22.9	-23.6	-22.7	-21.9	-21.7	-21.6	-20.91	-18.88																							
9-Jan	-21.3	-20.9	-20.7	-20.7	-20.5	-20.4	-20.3	-20.3	-20.2	-19.9	-19.2	-18.5	-18.5	-18.6	-18.5	-18.6	-18.6	-18.6	-18.5	-18.5	-18.6	-18.8	-19.0	-19.6	-19.46	-18.45																							
10-Jan	-20.5	-21.5	-22.5	-23.1	-23.1	-22.6	-21.8	-20.8	-19.3	-17.7	-18.1	-19.0	-18.8	-18.8	-19.3	-19.5	-20.2	-21.8	-23.0	-23.0	-22.7	-21.9	-20.6	-19.3	-20.79	-17.69																							
11-Jan	-17.4	-18.9	-19.3	-17.2	-13.5	-11.8	-10.5	-10.1	-9.8	-9.0	-9.4	-7.7	-7.2	-6.9	-6.2	-6.3	-8.0	-9.2	-10.0	-11.0	-12.2	-12.1	-14.6	-18.6	-11.53	-6.20																							
12-Jan	-20.0	-21.3	-23.3	-23.5	-23.5	-23.7	-24.0	-24.5	-24.8	-23.4	-20.5	-18.6	-16.0	-11.6	-11.5	-12.5	-13.7	-15.7	-17.2	-17.4	-16.6	-16.1	-16.8	-17.1	-18.90	-11.54																							
13-Jan	-16.8	-16.6	-16.4	-17.5	-17.2	-17.5	-17.1	-17.6	-18.2	-17.6	-15.4	-12.9	-9.4	-7.3	-5.7	-5.1	-6.4	-7.1	-8.5	-10.2	-11.1	-10.7	-11.1	-11.5	-12.71	-5.09																							
14-Jan	-11.1	-11.4	-11.9	-11.5	-11.4	-11.5	-11.0	-10.7	-10.7	-8.2	-6.9	-5.1	-3.1	-1.8	-1.4	-1.1	-1.4	-1.7	-2.1	-2.1	-1.3	-0.8	-0.6	-1.5	-5.84	-0.62																							
15-Jan	-1.8	-2.2	-2.4	-1.6	-2.4	-2.3	-2.2	-1.9	-2.6	-2.4	-0.4	2.1	3.2	5.0	5.4	7.7	5.2	1.7	0.1	-0.5	-2.3	-3.7	-4.9	-4.9	-0.35	7.75																							
16-Jan	-5.4	-4.5	-5.1	-6.1	-5.6	-5.0	-5.1	-4.8	-3.9	-2.9	-2.3	-1.1	0.0	1.2	2.2	2.6	2.9	2.9	2.9	3.1	2.8	1.9	3.0	4.0	-0.94	4.01																							
17-Jan	4.4	3.0	2.5	3.9	2.5	0.8	0.8	0.6	0.7	0.9	0.9	1.1	3.4	5.0	5.4	4.5	4.0	3.1	2.0	1.9	-0.1	0.6	2.1	2.5	2.35	5.45																							
18-Jan	3.1	4.5	5.2	4.0	5.0	4.7	4.2	3.9	2.8	2.4	4.1	4.1	5.9	6.2	8.5	7.4	5.3	4.6	4.2	3.2	2.7	0.8	0.5	0.8	4.09	8.54																							
19-Jan	1.1	1.5	1.6	-0.5	-1.5	-1.2	-1.2	-0.3	0.7	0.2	0.2	1.8	2.7	3.0	3.2	3.5	3.0	1.4	2.2	0.7	0.0	0.9	0.1	-1.2	0.91	3.48																							
20-Jan	-1.3	-3.7	-4.3	-3.6	-4.6	-5.0	-4.6	-5.4	-6.3	-5.3	-4.4	-1.8	2.0	3.0	2.5	4.3	2.5	-0.6	-1.2	-2.8	-5.1	-5.4	-5.9	-6.8	-2.67	4.25																							
21-Jan	-8.2	-9.0	-8.2	-10.3	-10.8	-10.9	-11.9	-13.7	-14.8	-12.7	-11.1	-7.9	-7.4	-7.7	-7.6	-6.9	-6.6	-6.5	-6.6	-6.8	-7.0	-7.2	-7.3	-7.4	-8.94	-6.51																							
22-Jan	-7.6	-7.7	-7.7	-7.7	-7.7	-7.8	-7.9	-8.0	-8.0	-8.0	-8.3	-8.3	-8.2	-8.3	-8.7	-9.0	-9.4	-9.6	-9.6	-9.6	-9.6	-9.5	-9.6	-9.6	-8.56	-7.60																							
23-Jan	-9.6	-9.5	-9.5	-9.5	-9.5	-9.5	-9.5	-9.6	-9.6	-9.5	-9.1	-8.2	-7.8	-7.6	-7.2	-7.8	-8.2	-8.3	-8.3	-8.4	-8.3	-8.0	-7.9	-7.9	-8.68	-7.24																							
24-Jan	-7.8	-7.6	-7.4	-7.3	-7.4	-7.6	-7.7	-7.9	-8.2	-8.1	-7.3	-6.2	-4.9	-3.7	-3.1	-3.0	-4.4	-5.1	-5.8	-7.4	-7.0	-7.7	-9.1	-9.7	-6.73	-2.96																							
25-Jan	-10.5	-10.3	-11.6	-12.9	-13.3	-13.8	-14.3	-14.9	-15.1	-14.2	-12.3	-9.8	-7.5	-5.5	-3.1	-2.3	-2.0	-4.1	-4.2	-4.9	-6.2	-7.3	-7.9	-8.7	-9.04	-2.00																							
26-Jan	-8.5	-8.4	-7.6	-7.4	-7.5	-9.6	-9.6	-9.8	-10.5	-10.4	-7.5	-4.6	-1.2	0.7	3.0	4.0	3.3	1.6	0.1	0.1	-0.6	-1.4	-1.3	-1.7	-3.95	4.00																							
27-Jan	-1.8	-2.2	-3.2	-3.9	-4.5	-4.5	-5.0	-6.3	-6.0	-5.5	-4.4	-3.1	-1.9	0.5	1.5	1.7	2.0	1.8	1.7	3.7	5.6	5.1	4.4	4.1	-0.84	5.62																							
28-Jan	3.7	1.7	0.9	0.9	0.1	-2.4	-1.1	-1.0	-1.2	0.0	1.5	3.4	5.1	5.4	5.6	5.1	5.1	4.4	3.1	3.0	2.0	3.9	0.6	0.7	2.11	5.55																							
29-Jan	0.2	0.4	0.0	-1.8	-2.9	-2.8	-3.2	-3.1	-2.8	-1.7	0.1	1.2	2.6	3.8	4.2	3.9	5.4	6.6	4.0	4.2	4.2	4.2	2.8	2.0	1.31	6.62																							
30-Jan	1.2	1.1	0.8	0.6	1.0	1.1	0.9	0.0	-0.8	-1.2	-0.7	-0.6	-0.7	-1.0	-1.4	-1.8	-2.5	-3.5	-4.1	-4.5	-4.9	-5.0	-5.4	-1.52	1.15																								
31-Jan	-5.5	-6.1	-6.5	-6.6	-7.4	-8.2	-9.3	-10.2	-10.9	-10.9	-10.4	-9.0	-8.6	-7.9	-7.7	-7.9	-8.1	-8.3	-8.8	-9.3	-9.3	-9.6	-9.7	-9.8	-8.59	-5.54																							
																								-9.17	-9.42	-9.67	-9.95	-10.07	-10.29	-10.27	-10.45	-10.58	-10.11	-9.16	-7.92	-6.68	-5.76	-5.32	-5.29	-5.94	-6.79	-7.44	-7.79	-8.19	-8.29	-8.68	-9.01	Diurnal Average	
																								4.44	4.45	5.24	4.04	4.99	4.66	4.19	3.93	2.81	2.35	4.12	4.09	5.94	6.21	8.54	7.75	5.38	6.62	4.15	4.20	5.62	5.07	4.44	4.06	Diurnal Maximum	



WCAS - Tomahawk
Summary of Hourly Averages

Wind Speed (WS) - kph
January 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	8.3	8.8	12.0	13.4	12.5	15.1	13.8	12.7	12.4	16.0	16.0	12.3	19.8	17.1	14.4	10.4	10.1	8.6	9.7	8.7	8.9	8.7	7.2	7.9	11.04	19.81
Dir	NNW	NNW	NNW	NNW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NNW	NNW	NW	NW	NW	NW	WNW	WNW	W	WSW	SW	NW	NW
2 Spd	6.8	4.9	4.2	5.2	3.8	3.0	3.9	3.2	2.3	2.8	2.3	1.4	0.9	3.4	3.5	3.8	5.3	4.3	6.7	8.1	2.4	2.7	4.1	3.8	2.03	8.06
Dir	WSW	WSW	WSW	WSW	WSW	SW	WSW	WSW	WSW	SW	WSW	SW	NNW	NNW	N	N	N	N	N	N	NNW	WSW	SW	WSW	WNW	N
3 Spd	4.7	3.0	3.8	4.4	5.0	5.5	7.2	6.1	7.9	7.3	5.7	6.1	6.1	6.9	7.2	6.3	8.3	14.3	14.0	11.8	11.9	14.7	13.9	15.9	6.38	15.90
Dir	SW	WSW	WSW	WSW	WSW	SW	WSW	WSW	WSW	WSW	SW	SW	SW	SW	SW	WSW	WNW	WNW	WNW	NW	NW	NW	NW	NW	W	NW
4 Spd	16.7	11.8	14.4	13.1	13.2	14.8	14.8	12.4	4.4	5.1	10.3	9.7	11.7	11.5	10.4	12.2	10.5	6.5	5.6	5.9	6.3	5.2	5.6	5.7	8.75	16.74
Dir	NW	WNW	WNW	WNW	WNW	NW	NW	NW	WNW	WNW	NW	NW	NW	NW	NW	WNW	WNW	W	SW	SW	SW	SW	SW	WSW	WNW	NW
5 Spd	8.1	9.6	10.4	9.9	7.1	8.4	9.0	8.0	6.5	6.7	6.6	8.9	9.2	10.3	10.4	11.5	11.6	10.6	8.1	6.8	7.7	10.8	8.4	9.3	5.76	11.64
Dir	W	WNW	NNW	NNW	NW	WNW	NW	NW	NNW	N	N	NNE	NNE	N	N	N	NNE	NE	ENE	ENE	ENE	E	E	E	N	NNE
6 Spd	10.2	11.3	10.3	10.0	13.7	13.4	12.7	15.8	16.7	16.7	18.2	16.0	13.4	16.4	16.7	15.8	16.4	14.5	13.4	13.6	12.0	10.8	10.0	4.2	13.25	18.23
Dir	E	E	E	E	E	ESE	E	ESE	ESE	ESE	ESE	ESE	E	E	E	ESE	ESE	ESE	ESE	ESE	E	E	ESE	NE	ESE	ESE
7 Spd	0.8	1.3	2.5	4.3	9.2	6.0	10.0	11.7	13.3	16.2	19.0	18.5	21.1	18.4	13.8	14.5	10.3	9.7	8.6	8.9	7.7	8.2	10.3	8.8	9.55	21.09
Dir	E	ENE	W	W	NW	NW	NW	NW	NW	NNW	NNW	NNW	NW	NW	NNW	NNW	N	NNW	NNW	NNW	NNW	N	NE	NNE	NNW	NNW
8 Spd	7.7	8.5	5.6	5.3	5.5	3.1	1.0	1.3	4.3	5.8	7.1	8.3	9.5	11.5	12.8	13.7	9.1	9.1	6.3	7.0	6.3	6.5	3.0	2.5	3.93	13.74
Dir	NNE	N	N	NNW	NNW	NW	NNW	SE	SSE	SSE	SSE	SE	ESE	E	E	E	ENE	E	NE	N	NNE	NE	NE	WNW	ENE	E
9 Spd	9.3	9.9	3.8	5.3	4.6	6.4	7.5	5.2	5.4	6.3	11.7	12.0	11.7	14.1	13.3	11.5	12.5	11.1	14.4	14.8	13.9	13.7	13.1	12.1	9.84	14.75
Dir	N	N	NNW	NW	NW	NNW	NW	NW	NNW	NW	NNW	NNW	NW	NW	NNW	NW	NW	NW	NW	NNW	NW	NW	NW	NW	NW	NNW
10 Spd	10.0	7.2	8.5	8.2	8.7	9.2	11.5	11.6	15.5	26.4	27.9	31.5	24.5	26.9	25.5	17.8	8.7	1.1	6.0	9.2	6.9	8.7	9.1	8.8	10.86	31.54
Dir	WNW	W	WSW	SW	WSW	SW	SW	WSW	WNW	NW	NNW	NNW	NNW	NW	NW	NW	NW	W	WSW	WSW	SW	WSW	WSW	WSW	WNW	NNW
11 Spd	7.1	8.3	12.4	12.5	20.0	21.0	22.2	22.5	23.2	21.4	13.1	26.1	27.3	27.6	28.8	34.5	32.2	31.3	30.7	29.5	22.7	25.2	8.1	10.1	17.43	34.51
Dir	WSW	SW	WSW	WSW	W	W	W	W	W	WNW	W	WNW	NW	WNW	NW	NW	NNW	NNW	NNW	NNW	NNW	NNW	NE	E	NW	NW
12 Spd	6.8	5.9	9.7	5.5	5.8	5.0	6.1	4.7	4.1	4.8	2.6	3.1	1.2	2.6	4.4	5.1	2.8	2.5	4.3	7.8	8.3	9.8	8.7	9.4	4.00	9.84
Dir	ESE	SE	SE	ESE	SE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	S	SSW	S	SSE	SE	S	SW	SW	SW	SW	SW	WSW	S	SW
13 Spd	11.2	6.1	6.7	10.5	11.4	10.9	10.3	10.2	9.8	9.2	7.3	11.6	13.2	10.9	7.7	4.3	2.3	6.0	5.2	7.5	7.9	8.9	8.7	11.9	8.62	13.15
Dir	WSW	SW	SW	SW	SW	SW	SW	SW	SW	SSW	SSW	SSW	SW	SW	SSW	SW	WSW	SSW	SW	SW	SW	SW	SSW	SW	SW	SW
14 Spd	10.8	11.2	9.8	11.2	10.7	11.0	9.5	11.2	12.0	14.3	12.5	11.2	12.3	9.8	9.5	11.3	4.9	7.7	7.2	10.4	11.4	11.2	9.9	10.3	10.43	14.31
Dir	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SSW	SSW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	WSW	SW	SW	SW
15 Spd	10.6	10.2	6.1	3.7	6.6	9.2	10.2	8.7	6.2	6.1	7.9	3.1	5.1	3.5	6.7	0.7	5.4	4.9	5.6	5.1	7.9	9.2	7.4	9.0	5.86	10.56
Dir	SW	WSW	WNW	WSW	SW	WSW	WSW	SW	SW	SW	WSW	SW	SW	SSW	SSE	NW	NNW	SSW	SW	WSW	SW	WSW	SW	SW	SW	SW
16 Spd	8.4	7.4	8.2	9.4	12.3	11.9	11.2	11.4	12.9	12.1	13.0	14.5	13.2	11.5	12.2	9.7	6.6	7.5	7.2	4.1	4.9	8.4	9.9	7.0	9.53	14.49
Dir	SSW	SW	SSW	SW	SW	WSW	SW	WSW	SW	SW	SW	SW	SW	SW	WSW	WSW	SW	SW	SW	S	S	SSW	SW	WSW	SW	SW
17 Spd	8.2	9.8	2.2	5.1	6.9	7.9	8.1	7.6	6.9	7.0	6.7	7.2	3.9	1.9	0.7	1.7	6.0	5.1	4.3	5.6	6.4	4.4	5.1	5.6	3.65	9.82
Dir	WSW	SSW	W	WNW	WSW	SW	WSW	SW	SW	WSW	SW	SW	SSW	ENE	SE	E	E	N	N	WSW	WSW	SW	SSW	SW	SW	SSW
18 Spd	5.7	3.7	4.7	5.5	10.0	3.0	11.5	8.2	6.4	7.3	5.9	6.0	2.6	3.7	7.2	9.7	11.6	10.1	10.8	3.4	5.3	9.1	10.1	10.3	3.34	11.56
Dir	SW	SSW	S	WSW	SSW	SW	SW	SW	WSW	NW	W	SSE	ESE	ENE	E	E	E	ESE	ESE	ENE	SW	SW	SW	SW	SSW	E
19 Spd	9.2	5.8	3.3	4.4	9.5	3.2	3.9	5.7	4.2	0.6	4.8	5.0	2.2	4.3	1.9	2.7	3.6	2.6	3.3	6.8	4.4	4.9	5.8	5.9	1.73	9.53
Dir	SW	W	SSW	ESE	E	SSE	SSW	S	ESE	WSW	E	ESE	ESE	S	WSW	SSW	W	NNE	W	NNW	SSW	SW	WSW	SW	SSW	E
20 Spd	5.3	7.2	7.1	7.2	8.2	7.6	6.2	5.4	2.6	4.1	5.9	4.8	2.8	4.8	6.2	5.5	4.6	6.9	6.4	1.8	5.2	6.0	6.7	6.0	2.02	8.20
Dir	WSW	SSW	SW	WSW	SW	SSW	SSW	S	S	SSW	SW	SW	WSW	ESE	SE	E	NE	ENE	ESE	SSW	N	NE	E	E	S	SW
21 Spd	4.0	3.7	2.7	2.3	3.1	2.7	3.1	2.7	3.5	3.7	3.2	7.6	12.4	19.5	17.0	12.6	10.2	9.7	9.5	8.0	6.7	6.4	5.4	5.1	5.28	19.52
Dir	SE	WSW	SW	SW	SW	SW	WSW	NNE	WSW	WSW	NNW	NNW	NNW	NNW	N	N	N	NNW	N	NNW	NNW	N	N	N	NNW	NNW
22 Spd	3.9	4.1	3.8	3.0	2.3	2.9	2.8	2.4	2.1	2.6	3.8	3.3	3.0	3.1	3.9	4.5	3.6	3.5	3.6	3.5	3.6	3.6	3.7	3.4	2.60	4.52
Dir	NNW	N	N	NNE	NE	NNE	NNE	NE	NE	NE	ENE	ENE	ENE	E	E	E	ESE	E	ESE	ESE	ESE	E	E	ENE	ENE	E



WCAS - Tomahawk
Summary of Hourly Averages

Wind Speed (WS) - kph
January 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	2.7	3.0	2.9	2.4	2.2	2.3	1.7	1.6	1.5	1.1	AF	AF	AF	0.7	0.6	AF	1.0	AF	AF	AF	0.1	0.5	1.3	1.4	--	3.01		
Dir	E	E	E	E	E	ENE	E	E	ENE	ENE	AF	AF	AF	NNE	NNE	AF	SW	AF	AF	AF	WSW	WSW	SW	SW	--	E		
24 Spd	1.3	1.3	1.7	2.4	2.3	1.7	1.9	1.8	1.5	1.0	1.6	1.8	1.7	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	--	2.41		
Dir	S	SSW	SSW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	--	SW		
25 Spd	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	9.3	--	9.28		
Dir	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	WSW	--	WSW		
26 Spd	8.8	6.9	8.7	4.9	6.1	7.4	8.3	10.1	8.5	7.6	6.2	6.8	5.8	6.5	6.1	6.5	7.6	6.9	9.1	11.4	11.7	13.1	12.6	12.2	7.98	13.10		
Dir	W	W	W	W	WSW	WSW	WSW	WSW	WSW	WSW	SW	WSW	WSW	SW	SW	SSW	SW	SW	W	W	W	W	W	W	WSW	W		
27 Spd	11.4	10.1	11.0	10.5	12.0	11.9	10.9	11.0	9.7	9.6	10.2	11.3	9.8	10.5	10.9	9.0	10.0	11.3	9.2	6.9	15.9	16.7	11.7	9.4	10.48	16.65		
Dir	W	WSW	WSW	WSW	WSW	WSW	WSW	WSW	SW	SW	SW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	W	W	W	W	WSW	W		
28 Spd	8.3	3.8	8.1	3.8	6.3	9.7	12.3	11.1	11.5	11.0	11.5	12.6	13.5	7.8	6.8	7.6	7.1	8.4	8.9	7.4	10.8	13.1	6.0	6.0	7.95	13.47		
Dir	W	SSW	W	SW	S	SW	WSW	WSW	SW	SW	SW	SW	WSW	WSW	SW	SW	SW	WSW	WSW	W	NW	WNW	WSW	WNW	WSW	WSW		
29 Spd	8.7	7.9	5.7	3.8	7.3	8.7	8.1	8.5	9.2	8.4	8.6	8.3	5.5	4.6	2.2	3.2	11.1	12.1	7.4	6.6	11.9	15.7	19.8	24.5	7.17	24.51		
Dir	WSW	WSW	SW	WSW	SW	SW	SW	SW	SW	SW	SW	WSW	WSW	SSW	SW	WNW	WNW	W	WSW	W	NW	NW	NW	NW	W	NW		
30 Spd	16.8	11.7	10.7	13.8	17.0	23.7	27.9	25.1	26.2	24.5	32.8	34.0	34.4	37.0	33.6	33.2	28.4	23.0	19.4	23.8	25.7	23.7	25.8	24.9	24.54	37.02		
Dir	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	WNW	WNW	WNW	WNW	WNW	NW	NW		
31 Spd	22.5	22.5	19.8	20.7	24.3	26.1	25.5	22.0	21.9	17.7	18.5	24.3	20.3	16.4	19.5	16.6	15.6	17.9	16.6	11.7	13.3	14.1	14.3	16.9	18.86	26.10		
Dir	WNW	NW	NW	NW	NNW	NNW	NNW	NNW	NNW	NW	NNW	NNW	NNW	NNW	NNW	NNW	NW	NNW	NNW	NNW	NW	NW	NW	NW	NW	NNW		
Spd	4.84	3.99	4.13	4.29	4.76	5.65	6.17	5.57	5.14	5.22	5.21	5.30	5.99	5.59	4.57	4.57	4.41	3.77	3.99	4.76	5.07	5.44	4.26	5.01	Diurnal Average			
Dir	W	W	W	W	W	W	W	W	W	W	W	W	WNW	WNW	NW	NW	NW	NW	NW	NW	NW	WNW	WNW	W	W	Diurnal Maximum		
Spd	22.50	22.53	19.79	20.74	24.26	26.10	27.92	25.09	26.15	26.41	32.79	34.04	34.42	37.02	33.58	34.51	32.20	31.27	30.69	29.54	25.72	25.20	25.84	24.90	Diurnal Maximum			
Dir	300.27	308.50	312.66	315.84	329.88	331.50	303.22	302.89	314.21	318.54	307.90	307.63	309.53	309.45	316.02	314.21	331.23	332.64	335.77	341.35	298.86	347.00	299.10	300.50	Diurnal Maximum			
Maximum Speed Value: 37.0 kph on Jan 30 14:00																				Minimum Speed Value: 0.1 kph on Jan 23 21:00				Hours in Service:				744
Maximum Daily Speed Average: 24.54 kph on Jan 30																				Minimum Daily Speed Average: 1.73 kph on Jan 22				Hours of Data:				703
Maximum Diurnal Speed Average: 6.17 kph at hour 7																				Minimum Diurnal Speed Average: 3.77 kph at hour 18				Hours of Missing Data:				41
Monthly Average Velocity: 4.645 kph 285.44 deg										Speed Percentiles: P ₁ = 0.8 P ₁₀ = 2.8 Q ₁ = 5.1 Median = 8.3 Q ₃ = 11.7 P ₉₀ = 17.0 P ₉₉ = 32.6										Percent Operational Time:				94.5				
All monthly, daily, and diurnal averages have been calculated using vector methods																												
AF - Analyzer 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	16	35	5	4	1	0	61																					
NorthEast	11	13	1	0	0	0	25																					
East	29	23	21	0	0	0	73																					
SouthEast	12	12	1	0	0	0	25																					
South	22	8	0	0	0	0	30																					
SouthWest	54	152	41	0	0	0	247																					
West	19	47	17	8	0	0	91																					
NorthWest	6	28	70	34	13	0	151																					
Total	169	318	156	46	14	0	703																					



WCAS - Tomahawk
Summary of Hourly Averages

Relative Humidity (RH) - %
January 2017

Maximum Value: 93.75 % on Jan 24 18:00 Maximum Daily Average: 92.03 % on Jan 24 Minimum Value: 32.0 % on Jan 30 12:00 Minimum Daily Average: 47.11 % on Jan 30 Maximum Diurnal Average: 77.29 % at hour 6 Minimum Diurnal Average: 63.57 % at hour 15 Monthly Average: 72.187 % Percentiles: P ₁ = 36.9 P ₁₀ = 51.9 Q ₁ = 61.5 Median = 75.1 Q ₃ = 83.5 P ₉₀ = 90.6 P ₉₉ = 92.8																								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-Jan	88.5	88.2	86.7	81.4	82.1	82.7	81.3	79.4	74.6	72.8	70.9	66.9	65.0	61.7	62.4	67.7	78.3	75.4	75.8	75.4	77.2	80.7	86.5	86.9	77.02	88.51																							
2-Jan	85.2	83.7	82.9	82.4	81.8	80.6	79.7	78.4	77.9	78.0	78.6	80.1	81.1	79.4	77.5	80.0	81.1	82.2	81.9	82.2	81.2	81.5	81.5	81.4	80.84	85.18																							
3-Jan	81.7	81.2	80.6	80.9	81.2	80.6	80.1	79.0	77.6	76.5	76.0	75.8	71.7	66.6	62.5	61.5	67.9	74.6	77.9	80.6	80.9	81.5	79.3	78.7	76.46	81.71																							
4-Jan	78.1	79.3	81.0	81.7	83.7	85.8	85.0	84.8	84.9	84.6	82.1	79.6	79.0	78.4	77.2	78.9	77.2	78.4	80.8	82.5	85.2	87.8	88.7	88.8	82.23	88.83																							
5-Jan	87.5	85.3	86.7	86.8	88.2	90.0	91.0	91.2	91.4	91.8	89.9	86.8	85.4	84.2	83.3	84.8	86.5	86.5	87.9	88.5	87.8	87.7	87.2	87.1	87.65	91.81																							
6-Jan	86.9	85.9	85.3	85.0	85.2	85.2	84.0	83.6	83.6	83.7	82.6	82.1	81.3	80.2	81.0	81.4	82.0	83.5	84.4	83.9	84.4	84.4	84.0	83.8	83.64	86.86																							
7-Jan	83.8	83.7	84.0	84.0	82.8	82.9	81.6	80.0	80.0	79.2	75.4	71.9	67.2	66.4	69.2	71.5	72.9	75.1	76.1	80.1	80.4	80.6	78.5	77.0	77.68	84.05																							
8-Jan	77.5	77.9	78.2	78.3	78.5	79.0	78.7	78.5	78.5	79.1	77.7	75.7	73.7	73.1	73.1	71.4	75.8	79.2	80.2	79.7	79.8	79.7	79.6	79.7	77.61	80.16																							
9-Jan	80.3	80.1	80.1	80.1	80.0	80.0	80.1	79.9	80.3	80.4	79.5	77.0	76.6	75.2	75.9	77.5	78.3	79.3	79.1	78.7	77.4	77.2	74.8	74.0	78.42	80.36																							
10-Jan	75.8	77.0	79.5	79.0	78.2	77.4	76.1	76.7	76.4	67.7	63.8	60.0	55.4	54.8	56.5	58.6	60.8	66.9	73.5	72.7	71.4	73.2	73.7	75.5	70.01	79.46																							
11-Jan	75.6	79.4	81.4	80.0	71.3	67.6	66.2	64.4	63.6	62.3	60.8	54.5	55.7	57.8	59.7	57.1	55.5	60.0	61.1	60.0	62.4	60.0	64.3	69.9	64.61	81.39																							
12-Jan	73.8	76.5	77.5	76.3	76.5	78.6	80.9	79.5	78.2	78.1	72.4	63.0	54.7	46.8	54.0	51.9	52.6	58.9	64.5	68.3	70.2	74.6	77.8	80.5	69.42	80.92																							
13-Jan	79.5	79.2	78.6	79.1	78.6	78.9	79.4	79.5	79.2	77.3	70.5	65.2	56.3	51.9	47.7	45.7	50.3	53.3	58.8	65.4	70.0	70.6	71.0	71.3	68.21	79.51																							
14-Jan	68.6	68.5	70.6	69.2	68.8	69.6	68.2	68.4	69.8	65.4	64.3	60.7	56.3	53.9	53.7	54.1	55.8	57.7	59.6	62.1	62.0	60.4	59.7	62.9	62.93	70.63																							
15-Jan	62.8	64.7	65.4	63.4	66.1	65.9	66.0	65.0	68.8	67.8	60.6	51.6	48.0	42.8	41.6	34.1	39.7	50.8	57.9	59.1	65.6	70.4	76.0	76.2	59.60	76.18																							
16-Jan	75.3	68.9	68.1	72.5	66.1	63.7	64.3	62.7	59.9	58.4	57.4	55.0	53.3	51.1	48.8	50.0	49.6	50.6	52.3	51.3	54.2	61.2	58.8	59.0	58.86	75.27																							
17-Jan	60.1	64.8	68.5	65.4	70.4	76.2	75.5	76.5	76.5	75.0	75.0	73.0	63.5	58.9	58.3	63.0	65.7	68.6	72.5	72.8	79.5	78.1	72.2	71.4	70.06	79.52																							
18-Jan	67.7	61.8	58.0	63.4	59.5	60.1	61.5	61.4	66.0	65.8	57.3	58.5	52.8	52.3	45.0	47.4	55.6	58.0	60.9	66.2	67.5	73.3	71.5	64.1	60.66	73.30																							
19-Jan	60.3	57.4	55.4	65.5	70.7	70.7	71.3	68.2	65.1	67.0	66.4	61.4	58.9	59.1	59.2	57.7	59.1	65.6	59.0	62.3	63.8	59.8	60.3	63.4	62.82	71.26																							
20-Jan	58.1	69.6	72.6	67.7	71.2	73.5	71.5	73.7	77.8	73.7	67.2	55.4	42.4	41.4	43.2	36.9	42.3	53.5	57.0	64.6	71.6	72.6	76.6	82.0	63.17	81.98																							
21-Jan	85.9	91.1	91.4	90.2	91.2	90.1	89.8	88.1	87.7	87.9	86.9	84.1	85.9	88.3	91.7	92.6	93.0	93.0	92.9	92.7	92.6	92.5	92.4	92.2	90.18	93.05																							
22-Jan	91.9	91.8	91.9	91.9	91.8	91.7	91.7	91.6	91.5	91.4	91.2	90.9	90.7	90.5	91.0	90.9	90.9	90.7	90.8	90.5	90.5	90.7	90.6	90.5	91.16	91.95																							
23-Jan	90.5	90.6	90.7	90.6	90.5	90.4	90.3	90.2	90.2	90.4	90.4	90.4	90.5	90.1	90.7	91.0	90.8	90.9	91.1	91.4	91.4	91.7	92.0	90.67	91.98																								
24-Jan	92.0	92.0	92.1	92.3	92.1	91.9	91.9	91.7	91.4	91.3	91.5	91.7	91.9	92.0	90.3	93.0	93.7	93.7	92.9	93.1	92.0	91.2	91.0	92.03	92.03	93.75																							
25-Jan	90.6	90.4	89.0	88.3	88.0	87.5	87.1	86.5	86.3	86.3	87.2	87.6	87.7	85.7	78.9	71.4	70.4	81.1	81.9	83.9	88.3	91.7	91.7	91.0	85.76	91.73																							
26-Jan	90.2	89.6	87.6	86.5	86.7	90.5	89.1	88.1	87.3	85.3	79.4	72.8	64.7	60.8	52.2	47.9	50.3	56.7	59.8	57.6	58.6	60.6	60.7	60.7	71.83	90.50																							
27-Jan	60.3	61.1	63.1	65.3	66.7	66.6	68.9	72.3	72.0	70.3	66.6	63.3	59.5	51.9	50.2	51.2	51.0	52.8	54.5	48.7	42.6	43.7	46.5	48.2	58.23	72.35																							
28-Jan	47.8	54.6	56.4	56.2	58.6	67.4	63.2	63.3	66.1	63.7	60.1	55.6	50.5	49.7	50.1	51.4	49.6	50.0	54.8	51.7	52.5	41.2	52.8	50.3	54.91	67.39																							
29-Jan	50.2	47.8	49.7	57.5	62.8	63.3	64.6	62.3	61.5	57.7	52.4	51.6	48.2	46.8	44.6	51.9	45.7	43.2	51.3	49.7	52.2	58.7	73.9	76.9	55.19	76.91																							
30-Jan	78.7	75.3	70.7	67.8	64.8	56.5	45.1	41.7	37.4	37.4	32.1	32.0	33.7	36.1	37.6	36.9	35.7	37.4	38.6	39.8	44.8	47.1	49.9	53.7	47.11	78.73																							
31-Jan	59.8	74.5	82.1	74.7	80.9	71.2	70.3	66.3	66.5	68.7	63.5	59.1	61.6	63.8	62.0	66.2	67.2	63.0	64.6	66.5	68.3	74.7	79.3	77.5	68.84	82.10																							
																								75.65	76.52	76.96	76.88	77.26	77.29	76.59	75.90	75.75	74.68	71.93	68.82	65.90	64.26	63.57	63.62	65.32	68.09	70.15	71.01	72.49	73.53	74.93	75.41	Diurnal Average	
																								91.95	92.02	92.09	92.26	92.12	91.88	91.90	91.68	91.55	91.81	91.51	91.72	91.87	92.04	91.96	92.61	93.04	93.75	93.67	92.86	93.07	92.48	92.36	92.24	Diurnal Maximum	



WCAS - Tomahawk
Summary of Hourly Averages

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

Maximum Value: 140.86 W/m2 on Jan 30 14:00 Maximum Daily Average: 28.51 W/m2 on Jan 30																								Hours in Service:	744	
Minimum Value: 0.0 W/m2 on Jan 1 01:00 Minimum Daily Average: 1.98 W/m2 on Jan 9																								Hours of Data:	744	
Maximum Diurnal Average: 68.74 W/m2 at hour 13 Minimum Diurnal Average: 0.00 W/m2 at hour 1																								Hours of Missing Data:	0	
Monthly Average: 13.637 W/m2 Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 14.9 P ₉₀ = 52.0 P ₉₉ = 109.5																								Hours of Calibration:	0	
																								Percent Operational Time:	100.0	
Day	Hourly Period Ending At																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	23.7	53.2	53.2	82.0	32.5	17.6	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.21	81.98
2-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.2	26.4	53.9	60.1	63.0	46.1	22.0	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.70	62.97
3-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.3	26.5	35.0	43.5	41.8	35.2	20.5	2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.85	43.55
4-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.4	19.2	31.4	44.2	49.9	39.8	16.8	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.67	49.87
5-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.3	16.2	20.7	25.4	25.2	26.0	11.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.37	26.05
6-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.1	17.8	34.7	46.6	49.3	35.2	17.5	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.65	49.32
7-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.6	36.3	62.6	80.8	83.8	32.2	18.7	5.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.77	83.82
8-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.9	14.2	27.0	35.0	35.0	34.6	26.1	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.37	35.05
9-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.8	14.2	10.8	8.9	6.5	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.98	14.17
10-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	9.7	21.7	27.0	27.5	14.4	5.1	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.45	27.47
11-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	13.9	80.5	99.1	89.3	76.9	39.9	7.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.02	99.12
12-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.8	69.7	100.2	116.0	105.6	83.7	47.1	8.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22.89	116.03
13-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.0	64.9	91.1	110.9	90.5	79.3	33.8	6.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.66	110.89
14-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.3	27.1	52.6	70.4	58.8	44.0	18.7	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.89	70.38
15-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.3	56.9	78.3	104.8	100.4	81.6	48.3	9.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.52	104.82
16-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.8	20.9	38.8	58.4	65.8	45.3	18.6	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.64	65.85
17-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.9	24.4	51.1	72.1	51.3	34.4	15.1	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.97	72.10
18-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.3	30.5	46.5	59.0	64.9	96.6	44.7	7.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.01	96.63
19-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.5	24.2	38.9	57.1	59.9	52.6	39.4	5.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.80	59.85
20-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	23.1	63.0	92.1	109.7	108.3	86.9	54.3	13.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22.94	109.68
21-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.9	34.2	84.2	69.6	61.4	42.7	22.6	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.78	84.24
22-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.7	18.8	34.1	46.9	41.3	35.8	21.6	4.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.60	46.90
23-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.1	22.3	38.0	49.9	53.7	46.0	26.2	6.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.30	53.71
24-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.2	25.1	43.9	57.3	60.0	39.8	41.7	7.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.76	59.96
25-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.8	50.9	76.7	97.2	81.0	58.5	57.1	20.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.22	97.21
26-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22.6	65.9	95.2	95.8	100.4	99.6	64.6	19.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	23.47	100.36
27-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.0	47.4	46.3	88.8	119.2	59.0	22.4	5.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.56	119.19
28-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.0	29.7	42.7	40.0	33.6	24.0	15.7	15.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.83	42.69
29-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.6	75.3	64.0	70.4	45.9	37.0	25.0	9.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.31	75.29
30-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.1	76.6	114.0	126.4	140.9	111.7	72.5	24.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	28.51	140.86
31-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.8	67.5	125.2	104.5	87.1	62.0	30.4	12.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21.03	125.17
																								Diurnal Average		
																								Diurnal Maximum		



WCAS - Tomahawk
Summary of Hourly Standard Deviations

Wind Speed (WS) - kph
January 2017

Maximum Value: 8.53 kph on Jan 30 14:00		Maximum Daily Average: 5.36 kph on Jan 30		Hours in Service: 744																																													
Minimum Value: 0.2 kph on Jan 24 07:00		Minimum Daily Average: 0.66 kph on Jan 22		Hours of Data: 703																																													
Maximum Diurnal Average: 2.54 kph at hour 14		Minimum Diurnal Average: 1.65 kph at hour 5		Hours of Missing Data: 41																																													
Monthly Average: 2.027 kph		Percentiles: P ₁ = 0.4 P ₁₀ = 0.8 Q ₁ = 1.2 Median = 1.7 Q ₃ = 2.4 P ₉₀ = 3.7 P ₉₉ = 7.0		Hours of Calibration: 0																																													
				Percent Operational Time: 94.5																																													
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-Jan	1.7	1.5	3.9	3.5	2.6	2.1	2.3	2.1	2.7	3.2	3.9	3.0	4.0	3.7	3.1	2.7	2.1	1.2	1.5	1.3	1.2	0.9	0.7	1.0	2.33	4.04																							
2-Jan	1.4	0.9	0.6	0.7	0.7	0.5	0.7	1.0	1.0	1.0	1.0	1.4	1.0	1.0	0.6	1.2	2.5	1.7	2.2	1.7	1.9	1.1	0.9	0.8	1.13	2.46																							
3-Jan	0.7	1.6	1.5	0.9	1.1	1.1	1.5	0.8	1.0	1.0	0.9	0.9	1.0	1.5	1.1	0.9	2.9	2.4	3.2	2.6	2.5	2.9	2.9	3.3	1.68	3.25																							
4-Jan	4.7	2.9	2.5	2.1	2.2	2.2	2.4	2.6	2.4	2.6	1.9	3.3	3.0	2.6	4.0	2.5	2.8	1.7	1.2	0.9	0.8	0.7	0.6	0.8	2.23	4.70																							
5-Jan	1.4	1.7	1.9	1.9	1.3	1.1	1.3	1.2	1.0	0.7	1.9	2.3	2.1	2.1	2.4	1.7	2.5	2.9	1.9	1.5	1.2	2.2	1.3	1.1	1.69	2.87																							
6-Jan	1.1	1.5	1.1	1.0	2.2	2.1	2.1	2.2	3.4	2.6	2.8	2.6	2.4	2.2	2.1	2.1	2.4	1.6	1.4	2.1	0.9	1.4	1.2	1.7	1.93	3.44																							
7-Jan	1.4	1.5	1.5	1.3	2.2	1.1	2.3	2.2	2.3	3.1	3.1	3.7	3.9	3.1	2.8	2.6	3.4	1.4	1.4	1.5	1.1	1.7	3.2	2.2	2.25	3.85																							
8-Jan	1.8	1.3	0.9	1.1	1.1	0.7	1.3	1.1	1.1	1.1	1.6	1.7	1.7	2.0	2.4	2.7	1.8	1.2	1.0	1.2	1.1	1.2	2.8	1.8	1.48	2.81																							
9-Jan	1.8	1.6	1.5	1.3	1.1	1.8	1.9	1.4	1.4	1.1	2.8	2.4	2.6	2.7	3.4	2.8	2.6	2.1	2.8	3.2	2.8	2.4	2.6	2.2	2.18	3.44																							
10-Jan	1.9	2.7	1.2	0.9	1.3	1.7	2.0	2.2	5.3	5.6	6.0	6.3	5.0	5.4	4.9	5.3	2.5	1.5	1.7	1.0	0.7	1.5	1.1	1.3	2.87	6.33																							
11-Jan	2.9	1.4	1.7	2.0	3.2	3.1	3.5	3.8	3.4	4.6	3.1	5.1	5.5	5.4	6.3	7.3	6.2	6.5	6.1	6.4	4.7	5.0	3.0	2.0	4.25	7.30																							
12-Jan	1.6	1.8	1.8	0.7	0.9	0.8	1.0	0.9	1.0	1.1	1.0	1.2	1.2	1.8	1.3	2.0	1.6	1.0	2.1	1.4	1.2	1.2	2.0	1.9	1.35	2.13																							
13-Jan	1.4	2.5	1.7	1.4	1.3	1.6	1.2	1.4	1.4	1.7	2.4	1.7	2.9	4.2	1.7	2.1	1.5	1.1	1.5	0.9	0.9	1.1	1.2	2.8	1.73	4.19																							
14-Jan	2.0	2.0	1.5	1.9	1.4	1.2	2.1	2.0	2.2	2.3	2.3	1.8	1.7	1.9	1.8	1.4	3.1	1.2	1.1	1.5	3.0	1.8	2.2	1.5	1.88	3.13																							
15-Jan	1.4	1.4	2.2	1.5	0.9	1.5	2.0	1.4	1.1	1.4	2.1	1.4	1.0	1.9	1.1	1.9	2.1	2.1	1.2	1.6	1.5	1.3	1.1	1.1	1.51	2.18																							
16-Jan	2.2	2.2	1.7	2.0	1.4	2.1	1.7	1.4	1.9	1.5	1.8	2.2	2.0	2.1	1.7	2.6	1.5	2.0	1.6	1.3	1.6	1.2	1.5	2.0	1.80	2.59																							
17-Jan	2.5	1.8	2.2	1.9	1.5	1.2	1.5	1.5	1.4	1.7	1.4	1.7	2.2	1.8	1.9	3.6	2.0	1.2	3.6	3.3	2.0	1.7	2.1	1.9	1.99	3.57																							
18-Jan	0.9	2.1	1.3	3.5	1.6	2.4	2.6	1.4	1.3	2.7	2.4	2.1	1.7	1.4	1.9	1.2	2.2	2.2	1.5	2.5	1.9	1.4	1.3	2.0	1.90	3.53																							
19-Jan	1.6	2.6	3.3	2.8	2.8	1.5	2.1	1.1	1.8	1.6	3.6	1.9	1.6	1.4	1.4	1.1	2.4	2.3	1.8	3.7	2.2	1.2	0.9	0.8	1.98	3.71																							
20-Jan	2.2	0.9	1.0	1.1	1.7	1.0	2.4	1.7	1.0	0.8	0.9	1.2	1.0	2.7	1.8	1.1	0.8	1.4	2.5	1.3	1.4	1.1	1.6	1.3	1.42	2.67																							
21-Jan	2.2	1.2	1.3	2.3	1.7	1.2	1.6	1.8	1.4	0.8	1.2	1.6	2.4	3.1	3.4	2.1	1.8	1.8	1.4	1.4	1.3	1.3	0.9	1.0	1.67	3.42																							
22-Jan	0.8	0.7	0.6	0.8	0.8	0.6	0.7	0.6	0.5	0.9	0.7	0.6	0.6	0.6	0.7	0.6	0.6	1.1	0.6	0.6	0.6	0.5	0.5	0.6	0.66	1.07																							
23-Jan	0.5	0.5	0.5	0.4	0.4	0.4	0.5	0.6	0.5	0.6	AF	AF	AF	0.6	0.5	AF	0.7	AF	AF	AF	0.3	0.6	0.6	0.7	--	0.69																							
24-Jan	0.6	0.6	0.6	0.4	0.4	0.3	0.2	0.4	0.4	0.7	0.4	0.3	0.4	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	--	0.73																							
25-Jan	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	0.8	--	0.77																						
26-Jan	1.5	1.3	1.0	0.8	1.0	1.2	1.2	1.0	1.6	1.4	0.8	1.5	1.0	1.1	0.7	0.7	0.9	0.9	1.1	1.6	1.6	1.6	1.7	1.5	1.20	1.67																							
27-Jan	1.6	1.7	1.4	1.1	1.3	2.0	0.9	0.9	1.2	1.1	1.7	2.1	1.5	1.5	2.0	1.0	2.0	1.6	1.8	2.3	3.6	3.1	2.2	1.7	1.72	3.64																							
28-Jan	1.7	1.3	2.4	2.5	1.7	2.2	2.4	1.0	1.6	1.7	1.5	2.3	2.4	2.1	1.4	1.3	1.2	1.3	1.4	3.0	2.3	3.7	2.2	3.0	1.97	3.68																							
29-Jan	2.0	1.6	1.1	3.1	1.4	1.4	1.5	1.8	1.5	1.1	1.4	1.7	2.0	1.0	1.8	3.4	4.6	6.3	1.7	2.2	4.8	3.4	4.2	7.1	2.59	7.12																							
30-Jan	3.1	2.5	1.9	3.3	3.7	4.9	6.6	6.2	4.9	5.3	7.3	7.7	8.2	8.5	6.7	7.3	6.1	4.7	4.5	5.0	5.2	4.5	5.6	5.1	5.36	8.53																							
31-Jan	4.8	4.9	3.8	4.1	4.5	5.3	4.5	4.3	4.5	3.7	3.7	5.5	4.2	4.0	3.8	3.3	3.1	3.7	4.1	2.5	4.3	2.7	2.7	3.0	3.96	5.47																							
																								1.84	1.73	1.65	1.74	1.65	1.68	1.94	1.72	1.88	1.96	2.27	2.45	2.43	2.54	2.37	2.45	2.40	2.15	2.08	2.13	2.01	1.88	1.89	1.93	Diurnal Average	
																								4.84	4.93	3.92	4.10	4.47	5.33	6.57	6.18	5.28	5.60	7.32	7.71	8.19	8.53	6.68	7.34	6.25	6.46	6.08	6.36	5.18	5.03	5.56	7.12	Diurnal Maximum	
AF - Analyzer Failure																																																	
,Alberta Ambient Air Quality Objectives (AAAQO): 1-hr --- ul/m^3 24-hr 100 ul/m^3																																																	



WCAS - Tomahawk
Summary of Hourly Standard Deviations

Wind Direction (WD) - deg
January 2017

Maximum Value: 90.99 deg on Jan 17 15:00		Maximum Daily Average: 42.00 deg on Jan 19		Hours in Service:	744																																												
Minimum Value: 6.0 deg on Jan 13 07:00		Minimum Daily Average: 10.11 deg on Jan 31		Hours of Data:	703																																												
Maximum Diurnal Average: 22.62 deg at hour 4		Minimum Diurnal Average: 13.35 deg at hour 22		Hours of Missing Data:	41																																												
Monthly Average: 18.011 deg		Percentiles: P ₁ = 6.8 P ₁₀ = 8.9 Q ₁ = 10.5 Median = 13.3 Q ₃ = 18.6 P ₉₀ = 33.6 P ₉₉ = 71.0		Hours of Calibration:	0																																												
				Percent Operational Time:	94.5																																												
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-Jan	13.4	10.3	14.2	10.7	9.8	10.6	12.7	13.7	12.5	13.1	12.4	14.3	12.5	14.3	10.6	15.8	10.3	7.0	8.5	11.0	6.3	12.0	7.1	7.3	11.27	15.77																							
2-Jan	6.6	9.8	19.4	9.7	8.0	9.9	10.0	15.7	12.3	26.6	24.6	53.3	59.7	20.0	12.3	14.4	26.7	15.9	15.4	17.6	41.0	18.6	11.4	14.2	19.72	59.66																							
3-Jan	11.4	34.2	16.7	15.1	12.5	11.3	9.9	11.3	9.2	10.7	8.7	9.6	10.9	10.2	10.2	10.6	22.9	14.6	15.2	15.5	18.3	17.2	17.9	13.3	14.06	34.21																							
4-Jan	10.2	11.7	11.0	11.5	12.4	12.6	12.5	14.6	22.1	24.8	13.3	18.1	16.0	17.3	17.9	19.7	16.0	22.1	8.6	11.0	9.3	17.4	6.4	11.0	14.49	24.80																							
5-Jan	15.7	12.5	13.2	13.3	14.7	16.4	17.6	13.8	8.2	8.7	20.7	20.4	18.1	16.8	11.5	18.4	24.1	14.1	12.4	12.8	15.4	11.9	10.6	11.4	14.69	24.14																							
6-Jan	12.0	12.1	14.0	12.7	10.0	14.4	14.4	13.8	12.8	11.0	11.1	13.3	14.0	11.3	13.0	14.4	15.0	12.4	11.6	11.9	11.4	8.5	11.0	29.7	13.17	29.66																							
7-Jan	71.4	82.6	42.5	21.0	17.3	10.2	8.7	9.5	12.8	9.8	7.1	9.0	9.9	9.8	12.6	13.3	16.1	7.0	9.6	8.0	9.2	10.9	18.6	15.4	18.44	82.55																							
8-Jan	15.1	17.2	10.1	9.5	9.7	35.1	43.5	55.0	13.5	10.7	12.1	15.6	17.9	15.9	18.2	18.8	18.3	17.9	26.1	12.4	13.6	11.5	61.2	67.6	22.77	67.60																							
9-Jan	16.8	18.7	21.5	19.6	15.5	17.8	13.7	23.4	24.7	15.2	13.3	15.9	16.4	16.0	12.1	17.4	16.0	17.6	16.7	16.4	16.8	15.5	17.8	19.2	17.25	24.74																							
10-Jan	12.7	22.2	8.6	8.3	9.0	13.6	14.8	19.9	17.3	10.0	9.4	9.1	11.0	10.3	10.3	9.1	13.1	62.2	12.8	7.7	11.5	10.4	12.9	13.7	14.16	62.18																							
11-Jan	27.7	18.3	9.5	10.1	8.6	10.7	8.5	9.8	11.3	10.5	14.3	11.4	12.1	11.6	13.1	11.8	10.6	10.8	11.5	9.4	10.4	9.0	44.2	17.0	13.42	44.18																							
12-Jan	17.0	15.2	19.5	22.7	21.6	12.3	19.3	24.9	21.4	17.6	15.4	19.5	70.1	56.6	24.2	27.9	28.9	20.4	41.2	17.5	14.9	8.2	9.7	7.8	23.07	70.06																							
13-Jan	8.3	17.8	10.6	8.7	11.4	11.0	6.0	10.5	22.8	13.9	18.8	8.4	10.2	12.0	10.4	26.6	56.6	14.1	20.5	11.1	8.2	7.5	12.4	6.5	14.35	56.55																							
14-Jan	7.3	8.3	7.1	11.3	9.8	7.5	10.0	8.8	9.9	8.9	8.4	8.8	7.6	7.3	9.1	7.9	23.9	24.5	14.1	8.0	16.0	11.5	10.3	7.8	10.59	24.54																							
15-Jan	8.0	10.9	46.8	43.8	21.5	11.4	12.1	11.2	7.1	22.8	23.1	48.0	14.4	42.5	12.6	88.3	48.4	17.1	21.1	19.6	19.8	8.9	10.5	13.7	24.33	88.33																							
16-Jan	20.9	14.4	9.6	12.1	14.6	16.6	14.2	16.1	15.8	17.2	13.7	11.8	12.1	13.7	14.1	14.7	15.2	20.4	12.9	31.1	19.0	10.2	8.8	30.9	15.83	31.10																							
17-Jan	30.5	11.1	72.9	43.1	9.3	10.8	15.3	14.7	15.7	20.8	13.9	13.0	49.6	63.7	91.0	71.7	27.0	29.2	71.3	41.2	22.6	23.8	35.3	18.4	34.00	90.99																							
18-Jan	10.8	31.6	17.5	41.8	10.0	37.2	8.3	22.9	11.2	44.3	52.7	11.2	42.1	32.1	18.4	16.1	11.5	20.9	23.2	66.6	20.8	15.8	11.7	17.8	24.85	66.65																							
19-Jan	8.6	34.2	64.8	59.2	23.9	54.1	33.6	27.4	39.4	85.1	29.8	24.6	49.9	27.0	70.3	54.7	35.7	77.7	58.9	49.2	59.6	17.7	15.8	6.9	42.00	85.07																							
20-Jan	51.1	9.3	26.6	21.5	12.2	6.8	10.2	15.7	48.6	18.8	11.6	14.8	25.9	43.1	17.6	10.3	13.2	17.6	23.5	41.3	17.1	13.0	20.0	7.9	20.73	51.10																							
21-Jan	33.6	21.2	37.9	65.7	34.0	29.4	13.9	19.1	42.6	20.8	32.6	9.8	6.8	10.1	11.5	8.6	10.2	8.8	12.4	10.1	9.8	11.0	11.0	9.8	20.03	65.69																							
22-Jan	9.2	7.3	12.7	19.0	15.8	14.5	16.4	16.4	17.2	19.2	14.7	15.5	17.7	19.0	14.2	14.2	14.0	14.5	14.5	15.3	12.5	10.4	10.4	9.8	14.35	19.23																							
23-Jan	8.9	11.6	12.1	16.0	14.5	10.5	16.9	16.2	18.3	23.0	AF	AF	AF	19.9	15.4	AF	15.5	AF	AF	AF	76.4	29.2	26.1	18.6	--	76.44																							
24-Jan	15.9	18.1	11.7	11.4	18.0	17.6	12.8	16.6	11.8	15.3	12.9	10.9	11.3	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	18.12	--	18.12																						
25-Jan	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	9.4	--	9.41																						
26-Jan	9.8	8.8	9.2	8.4	15.6	15.4	8.9	10.9	12.2	11.8	11.6	10.6	11.2	8.5	11.0	7.4	10.7	15.8	9.2	8.0	9.0	8.8	9.3	10.5	10.53	15.80																							
27-Jan	10.0	10.5	9.9	10.7	11.8	12.9	12.3	10.5	10.5	11.8	12.4	11.7	13.9	11.0	9.6	10.9	12.3	12.4	14.5	19.3	9.8	10.2	14.2	16.2	12.05	19.33																							
28-Jan	10.3	29.7	18.3	58.3	33.6	15.9	10.0	10.9	12.5	9.6	10.4	12.1	11.9	18.5	16.8	12.4	13.7	15.0	12.0	38.0	25.5	17.7	19.9	46.4	19.98	58.30																							
29-Jan	14.4	9.4	19.0	58.9	15.0	10.8	9.2	14.7	16.8	12.8	12.1	12.3	25.3	20.1	61.3	63.8	33.7	19.2	20.7	21.6	33.3	17.9	19.2	10.1	22.98	63.82																							
30-Jan	10.9	10.6	11.5	14.2	13.0	10.4	12.2	16.7	14.3	12.9	11.5	11.5	12.4	13.4	13.2	12.6	11.6	10.2	10.0	9.9	9.9	10.1	9.7	9.7	11.76	16.75																							
31-Jan	10.5	10.5	9.9	10.2	8.4	8.4	8.2	7.5	7.9	8.5	9.5	9.5	9.8	11.7	11.4	12.5	11.5	11.8	9.2	9.3	12.1	12.5	13.4	8.5	10.11	13.40																							
																								16.96	18.00	20.28	22.62	14.72	15.86	13.86	16.41	17.10	18.21	15.95	15.66	20.71	20.12	19.80	22.30	20.09	19.69	19.20	19.67	19.30	13.35	16.78	16.23	Diurnal Average	
																								71.42	82.55	72.90	65.69	33.95	54.13	43.45	55.01	48.56	85.07	52.66	53.35	70.06	63.73	90.99	88.33	56.55	77.68	71.29	66.65	76.44	29.25	61.16	67.60	Diurnal Maximum	
AF - Analyzer Failure																																																	
,Alberta Ambient Air Quality Objectives (AAAQO): 1-hr --- ul/m^3 24-hr 100 ul/m^3																																																	

**VIOLET GROVE
STATION #902**

CONTINUOUS AIR MONITORING DATA

JANUARY 2017

Summary Report

Continuous air quality/meteorological monitoring measurements

West Central Airshed Society

WCAS / Violet Grove Station 902													January 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	0.4	0.0	10.4	0.0	0.1	0.2	0.4	0.7	0	0	0.003	
O ₃ (ppb)	35	709	100.0	30.9	6.4	47.1	17.9	24.3	32.2	37.8	41.5	0	-	0.044	
NO (ppb)	37	707	100.0	0.5	0.0	7.7	0.0	0.0	0.0	0.6	1.7	-	-	-	
NO ₂ (ppb)	37	707	100.0	5.8	0.8	19.3	2.2	3.3	5.0	7.5	10.3	0	0	0.009	
NO _x (ppb)	37	707	100.0	6.3	0.8	24.4	2.2	3.4	5.5	8.3	11.3	-	-	-	
THC (ppm)	39	705	100.0	2.4	2.1	8.1	2.2	2.3	2.4	2.5	2.7	-	-	2.94	
Wind Speed (kph)	0	736	98.9	9.4	0.3	33.2	3.0	5.4	8.7	12.6	16.1	-	-	-	
Temperature (°C)	0	744	100.0	-7.6	-24.0	12.8	-19.9	-14.6	-8.0	-0.1	4.5	-	-	-	
Delta Temperature (°C)	0	744	100.0	0.2	-3.7	1.4	-1.0	-0.3	0.4	0.8	0.9	-	-	-	
Relative Humidity (%)	0	744	100.0	65.9	24.6	94.2	42.8	51.0	68.7	79.6	89.0	-	-	-	
Global Solar Radiation (W/m ²)	0	744	100.0	36.1	0.0	498.3	0.0	0.0	0.2	34.1	134.4	-	-	-	
Photosynthetically Active Radiation (µV)	0	744	100.0	17.4	0.1	141.2	0.9	1.1	1.6	19.7	65.4	-	-	-	
Std Dev Wind Direction (deg)	0	736	98.9	18.7	3.8	92.5	7.0	9.6	13.0	23.1	38.2	-	-	-	
Std Dev Wind Speed (kph)	0	736	98.9	2.6	0.5	11.4	1.1	1.5	2.2	3.0	4.4	-	-	-	



WCAS - Violet Grove
Summary of Hourly Averages

Sulphur Dioxide (SO₂) - ppb
January 2017

Maximum Value: 10.39 ppb on Jan 22 18:00		Maximum Daily Average: 3.27 ppb on Jan 22		Hours in Service: 744																									
Minimum Value: 0.0 ppb on Jan 1 01:00		Minimum Daily Average: 0.04 ppb on Jan 29		Hours of Data: 709																									
Maximum Diurnal Average: 0.63 ppb at hour 15		Minimum Diurnal Average: 0.20 ppb at hour 1		Hours of Missing Data: 35																									
Monthly Average: 0.400 ppb		Percentiles: P₁ = 0.0 P₁₀ = 0.0 Q₁ = 0.1 Median = 0.2 Q₃ = 0.4 P₉₀ = 0.7 P₉₉ = 4.4		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-Jan	0.0	Z	0.2	0.0	0.1	0.0	0.0	0.0	0.1	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.1	0.2	0.2	0.1	0.3	0.1	0.10	0.34			
2-Jan	0.0	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.4	0.3	0.7	1.0	0.7	0.5	0.2	0.3	0.2	0.1	0.1	0.2	0.2	0.25	1.02			
3-Jan	0.2	Z	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.3	1.3	0.8	0.5	0.7	0.2	0.3	0.2	0.2	0.1	1.1	0.8	0.3	0.1	0.1	0.40	1.25			
4-Jan	0.1	Z	0.5	0.3	0.2	0.4	0.2	0.0	0.2	0.4	0.1	1.7	0.2	0.3	0.5	0.3	0.4	0.1	0.1	0.4	0.2	0.3	0.3	0.4	0.33	1.75			
5-Jan	0.4	Z	0.4	0.2	0.1	0.2	0.6	0.6	0.3	0.3	0.3	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.6	0.5	0.0	0.3	0.3	0.25	0.63			
6-Jan	0.3	Z	0.3	0.3	0.2	0.3	0.1	0.1	0.1	0.3	0.8	1.1	1.4	3.3	3.1	2.6	1.0	0.8	0.7	0.5	0.4	0.3	0.4	0.3	0.81	3.26			
7-Jan	0.5	Z	0.7	0.6	0.7	1.1	1.3	1.2	0.9	0.6	0.5	0.7	0.6	0.4	0.4	0.3	0.3	0.5	0.3	0.1	0.1	0.0	0.1	0.2	0.52	1.32			
8-Jan	0.2	Z	0.2	0.1	0.1	0.1	0.1	0.1	0.3	1.1	1.9	2.0	1.6	2.0	3.2	4.5	2.4	1.1	0.7	0.7	1.1	1.2	1.9	1.3	1.21	4.47			
9-Jan	1.2	Z	2.5	2.6	4.0	2.7	1.8	0.9	0.7	0.3	0.4	0.4	0.5	0.4	0.5	0.5	0.6	0.7	0.4	0.2	0.4	0.3	0.3	0.4	0.98	3.98			
10-Jan	0.2	Z	0.3	0.4	0.3	0.3	0.4	0.3	0.2	0.2	0.1	0.0	0.1	0.2	0.1	0.0	0.0	0.1	0.2	0.2	0.5	2.5	0.4	0.2	0.32	2.51			
11-Jan	0.1	Z	0.4	0.1	0.2	0.2	0.3	0.2	0.0	0.3	0.6	0.1	0.1	0.2	0.3	0.6	0.1	0.1	0.2	0.2	0.1	0.2	0.0	0.0	0.20	0.63			
12-Jan	0.1	Z	0.1	0.1	0.0	0.0	0.0	0.1	0.4	1.3	1.3	0.9	0.5	0.4	0.3	0.3	0.2	0.2	0.3	0.4	0.3	0.4	0.3	0.2	0.36	1.28			
13-Jan	0.3	Z	0.4	0.6	0.3	0.4	0.3	0.3	0.2	0.1	0.2	0.2	0.1	0.2	0.4	0.3	0.1	0.1	0.1	0.2	0.2	0.4	0.3	0.3	0.27	0.63			
14-Jan	0.2	Z	0.1	0.1	0.1	0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.2	0.1	0.1	0.0	0.09	0.25			
15-Jan	0.0	Z	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.2	0.1	0.1	0.2	0.3	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.09	0.27			
16-Jan	0.2	Z	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	0.1	0.1	0.0	0.1	0.0	0.1	0.4	0.3	0.1	0.10	0.42			
17-Jan	0.2	Z	0.1	0.1	0.3	0.2	0.1	0.2	0.1	0.1	0.2	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.1	0.13	0.27			
18-Jan	0.1	Z	0.2	0.4	0.3	0.2	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.2	0.1	0.0	0.1	0.1	0.11	0.40			
19-Jan	0.1	Z	0.2	0.1	0.1	0.0	0.0	0.2	0.2	0.1	0.3	0.4	0.4	0.5	0.3	0.2	0.2	0.9	0.7	0.3	0.1	0.1	0.1	0.1	0.24	0.87			
20-Jan	0.0	Z	0.1	0.0	0.1	0.0	0.1	0.1	0.2	0.3	0.3	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.8	0.6	0.6	0.5	0.5	0.4	0.24	0.81			
21-Jan	0.3	Z	0.3	0.5	0.3	0.4	0.3	0.2	0.2	0.2	0.2	0.2	0.5	0.5	0.5	0.4	0.4	0.3	0.3	0.3	0.1	0.1	0.1	0.1	0.28	0.55			
22-Jan	0.1	Z	0.2	0.2	0.4	1.1	2.5	5.2	6.8	4.6	3.2	4.5	4.0	2.1	5.7	2.5	3.8	10.4	9.0	2.3	2.0	2.2	1.4	0.9	3.27	10.39			
23-Jan	0.6	Z	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.4	0.5	0.6	0.4	0.3	0.3	0.2	0.3	0.3	0.4	0.5	0.28	0.63			
24-Jan	0.4	Z	0.4	0.4	0.4	0.3	0.3	0.2	0.3	0.3	0.4	C	C	C	C	0.5	0.6	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.30	0.57			
25-Jan	0.1	Z	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.2	0.1	0.0	0.1	0.2	0.3	0.5	0.2	0.3	0.15	0.52			
26-Jan	0.2	Z	0.3	0.4	0.3	0.3	0.3	0.2	0.3	1.3	2.5	0.5	0.5	0.6	0.6	0.5	0.2	0.6	0.5	0.4	0.8	0.4	0.1	0.5	0.55	2.54			
27-Jan	0.3	Z	0.3	0.4	0.4	0.4	0.6	0.5	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.3	0.3	0.1	0.1	0.1	0.0	0.22	0.59			
28-Jan	0.1	Z	0.2	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	0.1	0.2	0.4	0.3	0.2	0.0	0.0	0.1	0.09	0.35			
29-Jan	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	0.3	0.4	0.0	0.1	0.04	0.37			
30-Jan	0.0	Z	0.0	0.1	0.1	0.1	0.0	0.2	0.0	0.2	0.4	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	0.06	0.36			
31-Jan	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	0.1	0.1	0.0	0.1	0.7	0.2	0.2	0.1	0.2	0.09	0.72			
		0.20	--	0.29	0.28	0.31	0.31	0.34	0.38	0.41	0.44	0.52	0.51	0.42	0.47	0.63	0.52	0.40	0.60	0.54	0.37	0.35	0.38	0.28	0.24	Diurnal Average			
		1.16	--	2.47	2.63	3.98	2.70	2.53	5.20	6.80	4.58	3.22	4.49	4.00	3.26	5.72	4.47	3.83	10.39	8.97	2.35	2.02	2.51	1.85	1.25	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
January 2017

Maximum Value: 47.10 ppb on Jan 28 19:00		Maximum Daily Average: 43.56 ppb on Jan 28		Hours in Service: 744																									
Minimum Value: 6.4 ppb on Jan 24 08:00		Minimum Daily Average: 15.03 ppb on Jan 22		Hours of Data: 709																									
Maximum Diurnal Average: 33.90 ppb at hour 15		Minimum Diurnal Average: 27.71 ppb at hour 8		Hours of Missing Data: 35																									
Monthly Average: 30.863 ppb		Percentiles: P ₁ = 8.5 P ₁₀ = 17.9 Q ₁ = 24.3 Median = 32.2 Q ₃ = 37.8 P ₉₀ = 41.5 P ₉₉ = 45.4		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-Jan	35.3	35.0	Z	36.7	37.5	36.2	35.3	35.1	34.3	33.3	35.1	36.0	36.5	36.0	36.3	35.8	33.9	31.3	31.8	31.3	30.8	28.5	24.8	26.5	33.62	37.45			
2-Jan	26.7	24.9	Z	20.6	24.5	23.9	19.3	14.8	18.6	17.8	18.9	20.5	22.1	22.2	24.0	24.5	21.3	20.9	19.2	17.9	23.2	23.7	20.7	16.9	21.18	26.70			
3-Jan	16.4	15.0	Z	9.5	8.5	9.4	11.2	17.5	16.5	22.5	26.1	26.6	28.0	29.2	29.9	30.1	32.9	33.0	34.5	32.6	31.9	32.0	31.1	31.3	24.17	34.47			
4-Jan	31.8	30.8	Z	33.6	33.3	34.1	34.4	35.1	35.1	33.8	34.7	35.0	37.3	38.3	37.6	37.8	37.1	37.9	35.8	33.7	30.6	32.2	30.4	30.1	34.38	38.29			
5-Jan	30.2	29.8	Z	30.3	30.1	28.6	28.1	25.1	22.4	16.9	24.6	26.4	27.9	29.7	30.9	30.1	23.4	25.7	25.4	26.1	27.2	28.4	27.7	24.8	26.95	30.87			
6-Jan	23.7	22.7	Z	21.9	23.4	23.6	23.7	22.2	20.8	20.2	20.4	22.3	23.0	23.8	25.6	27.4	30.3	30.1	29.2	28.5	26.7	25.6	26.6	25.0	24.64	30.34			
7-Jan	22.0	16.4	Z	17.7	17.5	19.2	17.8	16.6	17.6	17.4	20.8	24.3	25.5	26.2	27.1	27.7	29.2	28.2	28.8	29.9	28.5	28.3	27.7	28.0	23.58	29.87			
8-Jan	27.8	27.2	Z	30.3	29.8	29.7	29.5	29.2	28.6	25.6	25.0	25.0	25.5	24.9	22.8	19.5	14.7	19.2	21.2	21.2	22.3	23.6	19.5	21.7	24.52	30.35			
9-Jan	21.9	21.6	Z	21.0	19.2	18.1	17.7	17.4	19.4	19.7	23.9	24.5	23.6	24.2	23.4	24.6	23.6	22.5	25.2	27.2	27.7	29.1	28.7	29.7	23.21	29.75			
10-Jan	30.0	30.4	Z	31.9	32.3	31.1	31.5	32.3	31.8	34.4	36.6	38.8	38.5	37.8	37.6	37.5	36.3	34.4	32.2	32.3	31.8	32.2	32.2	32.6	33.76	38.75			
11-Jan	34.0	34.3	Z	35.9	36.5	39.0	40.3	41.0	41.6	41.9	42.4	42.3	42.9	42.8	42.0	42.4	41.8	41.1	40.6	40.7	41.0	39.9	38.2	36.2	39.94	42.88			
12-Jan	37.0	37.9	Z	35.2	39.2	37.2	36.3	35.4	35.3	36.4	36.6	35.4	34.9	34.8	33.8	32.5	30.5	29.0	30.9	27.6	27.8	26.0	25.0	27.5	33.14	39.17			
13-Jan	29.5	31.1	Z	32.6	30.5	30.4	25.5	28.8	28.4	30.2	33.0	35.9	37.7	38.7	42.6	35.9	34.6	33.4	31.9	32.3	30.8	26.0	27.6	29.0	32.02	42.59			
14-Jan	30.1	29.4	Z	31.5	30.9	33.4	34.5	35.3	34.4	35.2	35.3	37.1	37.5	40.3	37.2	35.9	35.7	32.5	33.2	35.4	35.4	39.5	41.3	40.8	35.30	41.26			
15-Jan	41.7	42.7	Z	42.6	39.8	40.2	41.1	39.3	40.2	39.1	36.1	37.3	40.6	44.8	45.6	45.4	41.3	41.9	40.0	40.9	39.0	40.2	40.8	40.6	40.91	45.60			
16-Jan	37.1	37.6	Z	36.8	36.9	36.4	38.7	33.9	34.8	34.5	32.0	37.7	39.8	40.1	39.8	39.0	39.1	43.5	40.5	39.2	40.1	39.1	39.3	38.8	38.02	43.51			
17-Jan	35.8	34.9	Z	27.9	28.2	27.0	26.4	23.8	29.9	32.0	31.5	30.8	34.4	33.9	33.8	33.2	32.9	36.4	38.0	38.5	39.3	40.0	40.0	40.1	33.42	40.09			
18-Jan	40.1	38.6	Z	32.4	30.9	32.6	34.8	34.3	36.6	36.7	37.6	39.4	39.3	40.1	46.3	40.4	39.0	43.7	28.9	36.7	38.8	39.7	40.2	37.8	37.60	46.32			
19-Jan	38.0	37.7	Z	32.7	33.4	32.5	31.8	34.1	35.6	30.4	32.4	33.0	30.0	23.8	31.1	26.6	30.4	37.7	39.2	40.0	39.7	41.0	38.2	39.5	34.30	41.01			
20-Jan	38.9	36.9	Z	37.1	37.1	33.8	21.4	22.6	28.1	32.0	35.4	38.7	37.4	39.8	38.5	34.4	32.7	27.1	30.7	33.8	34.6	34.4	31.3	27.9	33.24	39.84			
21-Jan	29.6	27.0	Z	24.3	21.1	18.6	13.8	8.4	10.8	14.6	16.4	17.2	19.8	20.8	24.5	21.9	21.0	20.5	21.8	21.8	19.9	19.2	18.8	17.7	19.53	29.60			
22-Jan	17.1	16.6	Z	16.5	15.8	14.3	11.7	8.0	7.2	12.2	15.9	14.3	14.2	18.5	17.9	20.6	18.0	9.2	10.8	19.3	18.2	15.5	16.0	18.1	15.03	20.60			
23-Jan	19.8	22.4	Z	23.2	23.2	23.8	24.0	22.5	22.1	20.1	19.6	20.5	20.8	20.1	19.3	19.1	18.1	14.7	13.1	12.5	13.3	17.1	17.8	17.3	19.32	24.05			
24-Jan	16.8	15.4	Z	10.5	10.5	8.7	6.9	6.4	8.0	12.4	17.7	C	C	C	C	23.6	25.9	24.2	20.2	21.2	20.5	19.9	17.6	22.0	16.23	25.89			
25-Jan	18.3	16.1	Z	7.6	13.0	12.5	10.4	16.1	15.5	19.8	23.7	28.0	32.3	34.0	33.6	33.4	35.6	34.9	30.8	34.6	35.6	32.2	27.8	28.7	24.98	35.62			
26-Jan	30.5	29.0	Z	26.0	27.9	31.4	32.4	31.8	32.2	32.2	35.3	35.3	38.1	41.1	44.9	46.7	42.8	40.1	42.1	41.8	39.4	40.1	41.6	38.9	36.59	46.74			
27-Jan	38.1	37.6	Z	35.3	35.1	36.6	34.2	37.2	35.3	33.6	32.1	35.9	37.0	37.4	36.7	36.2	37.6	35.7	35.5	39.5	42.4	44.8	45.3	44.3	37.54	45.28			
28-Jan	44.9	43.8	Z	38.6	40.0	42.1	43.7	45.6	44.5	43.2	42.3	43.3	42.0	43.3	45.3	44.3	44.4	45.5	47.1	46.8	44.6	42.6	42.9	41.2	43.56	47.10			
29-Jan	40.1	38.0	Z	31.2	30.5	31.3	31.8	30.3	35.1	31.5	30.3	26.1	26.9	24.1	27.1	36.9	32.9	31.8	34.8	32.4	27.8	33.0	41.7	45.4	32.65	45.41			
30-Jan	44.8	43.5	Z	41.0	38.4	36.6	37.1	37.3	40.6	41.2	41.7	43.8	44.3	44.1	43.7	43.2	43.3	43.1	42.9	42.9	41.8	41.3	42.0	42.2	41.78	44.85			
31-Jan	41.6	41.3	Z	40.1	40.1	39.8	40.8	41.7	41.6	42.1	43.6	42.1	40.6	39.7	38.0	37.8	37.4	36.6	35.8	35.4	34.4	35.7	35.4	38.1	39.12	43.56			
		31.27	30.50	--	28.79	28.88	28.77	27.93	27.71	28.48	28.80	30.21	31.78	32.61	33.15	33.90	33.05	32.18	31.79	31.36	32.06	31.78	31.96	31.56	31.57	Diurnal Average			
		44.92	43.83	--	42.61	40.13	42.07	43.71	45.57	44.45	43.17	43.56	43.84	44.30	44.84	46.32	46.74	44.37	45.45	47.10	46.78	44.57	44.77	45.28	45.41	Diurnal Maximum			
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
January 2017

Maximum Value: 45.14 ppb on Jan 28 21:00 Maximum Daily Average: 43.44 ppb on Jan 28																							Hours in Service: 744			
Minimum Value: 9.1 ppb on Jan 24 10:00 Minimum Daily Average: 15.48 ppb on Jan 22																							Hours of Data: 737			
Maximum Diurnal Average: 32.70 ppb at hour 20 Minimum Diurnal Average: 28.48 ppb at hour 10																							Hours of Missing Data: 7			
Monthly Average: 30.870 ppb Percentiles: P₁ = 12.2 P₁₀ = 18.9 Q₁ = 24.5 Median = 32.4 O₃ = 37.2 P₉₀ = 41.2 P₉₉ = 43.4																							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-Jan	35.0	34.9	34.6	35.6	36.1	36.1	35.9	35.8	35.7	35.5	35.4	35.3	35.2	35.2	35.3	35.4	35.4	35.1	34.7	34.1	33.4	32.5	31.0	29.9	34.72	36.10
2-Jan	29.0	28.2	27.6	26.1	25.2	24.5	23.8	22.1	20.9	19.9	19.8	19.8	19.5	19.3	19.9	21.1	21.4	21.8	21.8	21.5	21.6	21.8	21.4	20.5	22.44	28.96
3-Jan	19.9	19.1	19.1	17.9	15.8	13.8	12.4	12.5	12.5	13.6	15.2	17.3	19.7	22.2	24.5	26.1	28.2	29.5	30.5	31.3	31.8	32.1	32.3	32.4	22.08	32.41
4-Jan	32.3	32.0	31.6	31.8	32.0	32.3	32.8	33.3	33.8	34.2	34.3	34.4	34.9	35.5	35.9	36.2	36.5	37.0	37.1	37.0	36.1	35.4	34.5	33.5	34.34	37.12
5-Jan	32.6	31.6	31.0	30.5	30.5	29.9	29.6	28.9	27.8	25.9	25.8	25.3	25.0	25.1	25.5	26.1	26.2	27.3	27.4	27.4	27.3	27.1	26.8	26.1	27.78	32.63
6-Jan	26.1	25.7	25.8	25.2	24.6	24.0	23.4	23.0	22.6	22.2	22.0	22.1	22.0	22.1	22.3	22.9	24.1	25.4	26.5	27.3	27.7	27.9	28.1	27.8	24.62	28.06
7-Jan	26.7	25.0	24.4	22.9	21.5	20.6	19.4	18.2	17.5	17.7	18.1	18.9	19.9	20.8	21.9	23.3	24.8	26.1	27.1	27.8	28.2	28.4	28.5	28.6	23.18	28.57
8-Jan	28.4	28.3	28.2	28.3	28.5	28.7	28.9	29.1	29.2	29.0	28.5	27.8	27.3	26.7	25.8	24.6	22.9	22.1	21.6	21.1	20.7	20.6	20.2	20.4	25.70	29.20
9-Jan	21.3	21.6	21.7	21.7	21.2	20.4	20.2	19.6	19.2	18.9	19.6	20.0	20.5	21.3	22.0	22.9	23.4	23.8	23.9	24.3	24.8	25.4	26.1	26.7	22.10	26.72
10-Jan	27.5	28.5	29.0	29.7	30.3	30.6	31.0	31.3	31.6	32.2	32.7	33.6	34.4	35.2	36.0	36.6	37.2	37.2	36.7	35.9	35.0	34.3	33.6	33.0	33.04	37.20
11-Jan	32.7	32.7	32.8	33.3	34.0	34.9	36.1	37.3	38.4	39.4	39.8	40.6	41.4	41.9	42.1	42.3	42.3	42.2	42.0	41.8	41.6	41.2	40.7	39.9	38.81	42.33
12-Jan	39.3	38.9	38.7	37.9	37.6	37.3	37.0	36.9	36.6	36.4	36.5	36.5	35.9	35.6	35.3	35.0	34.4	33.4	32.7	31.7	30.9	29.8	28.7	28.0	35.05	39.32
13-Jan	27.9	28.2	27.8	28.5	28.9	29.5	29.6	29.8	29.6	29.5	29.9	30.3	31.2	32.3	34.4	35.3	36.1	36.5	36.3	35.9	35.0	33.4	31.6	30.7	31.59	36.47
14-Jan	30.1	29.6	29.3	29.2	29.2	30.3	31.3	32.2	32.8	33.6	33.8	34.5	35.3	36.2	36.5	36.6	36.8	36.4	36.2	36.0	35.7	35.6	36.1	36.7	33.76	36.77
15-Jan	37.5	38.7	39.5	40.6	41.2	41.3	41.3	41.0	40.8	40.3	39.8	39.1	39.2	39.8	40.4	41.1	41.3	41.6	42.1	42.6	42.4	41.8	41.2	40.6	40.63	42.57
16-Jan	40.0	39.5	39.4	38.9	38.6	38.0	37.7	36.8	36.4	36.0	35.5	35.6	35.9	36.4	36.6	37.2	37.7	38.9	39.9	40.1	40.2	40.0	40.0	40.0	38.14	40.17
17-Jan	39.5	38.5	38.2	36.6	34.9	33.1	31.3	29.1	28.3	27.9	28.3	28.7	29.5	30.3	31.3	32.4	32.8	33.4	34.2	35.2	35.8	36.5	37.3	38.2	33.38	39.54
18-Jan	39.1	39.3	39.5	38.6	37.4	36.4	35.6	34.8	34.3	34.0	34.5	35.4	36.4	37.4	38.8	39.6	39.9	40.7	39.6	39.3	39.2	39.2	38.4	38.1	37.73	40.73
19-Jan	38.0	37.2	38.4	37.8	37.0	36.0	34.8	34.3	34.0	32.9	32.9	32.9	32.5	31.4	31.3	30.4	29.7	30.6	31.5	32.4	33.6	35.7	36.6	38.2	34.17	38.39
20-Jan	39.3	39.2	39.2	38.8	38.4	37.4	35.0	32.6	31.0	30.3	30.9	31.1	31.2	31.9	34.1	35.5	36.1	35.5	34.9	34.3	34.0	33.3	32.4	31.6	34.49	39.29
21-Jan	31.2	31.1	31.2	29.9	27.9	25.7	23.2	20.4	17.7	16.0	16.0	15.1	14.9	15.2	16.6	18.2	19.5	20.2	20.9	21.5	21.5	21.3	20.6	20.1	21.50	31.22
22-Jan	19.6	19.1	18.7	18.0	17.4	16.7	15.7	14.3	12.9	12.2	12.7	12.4	12.2	12.7	13.5	15.1	16.5	16.1	15.4	16.1	16.6	16.2	16.0	15.6	15.48	19.59
23-Jan	15.9	17.5	18.5	19.0	19.7	20.9	22.1	22.7	23.0	22.7	22.3	22.0	21.7	21.2	20.6	20.2	19.7	19.0	18.2	17.2	16.3	15.9	15.7	15.5	19.48	23.03
24-Jan	15.3	15.4	15.7	15.5	15.1	13.9	12.3	10.7	9.5	9.1	10.1	10.1	10.0	C	C	C	C	C	C	C	22.6	22.2	21.6	21.4	--	22.58
25-Jan	20.5	19.5	19.4	17.4	16.4	15.3	14.3	13.4	13.0	13.6	14.8	17.4	19.8	22.5	25.4	27.6	30.1	31.9	32.8	33.7	34.1	33.8	33.1	32.5	23.01	34.06
26-Jan	31.9	31.1	31.2	30.0	28.9	28.8	29.4	29.9	30.1	30.5	31.1	32.3	33.6	34.8	36.3	38.2	39.5	40.5	41.4	42.2	42.4	42.2	41.8	40.8	34.96	42.37
27-Jan	40.3	39.9	39.6	38.7	38.1	37.6	36.5	36.3	35.9	35.3	34.9	35.0	35.2	35.3	35.6	35.5	35.8	36.1	36.5	37.0	37.6	38.6	39.6	40.6	37.16	40.65
28-Jan	41.6	42.6	43.6	43.4	43.1	42.7	42.5	42.7	42.6	42.5	42.5	43.1	43.3	43.5	43.7	43.5	43.5	43.8	44.4	44.8	45.1	45.1	44.8	44.4	43.44	45.14
29-Jan	43.9	42.9	42.3	40.1	38.1	36.5	34.9	33.3	32.6	31.7	31.5	30.9	30.4	29.5	28.9	29.7	29.5	29.5	30.1	30.8	31.0	32.1	33.9	35.0	33.71	43.86
30-Jan	36.5	37.9	38.4	39.6	41.1	41.6	41.0	39.8	39.2	38.9	39.3	39.6	40.3	41.3	42.1	42.8	43.2	43.4	43.5	43.4	43.1	42.8	42.6	42.4	41.00	43.55
31-Jan	42.2	42.0	41.9	41.5	41.3	41.0	40.9	40.8	40.8	40.9	41.2	41.5	41.5	41.5	41.2	40.7	40.2	39.5	38.5	37.7	36.9	36.4	36.1	36.1	40.08	42.23
																							Diurnal Average			
																							Diurnal Maximum			
																							C - Calibration			



WCAS - Violet Grove
Summary of Hourly Averages

Nitrogen Oxide (NO) - ppb
January 2017

Maximum Value: 7.73 ppb on Jan 21 12:00 Maximum Daily Average: 1.57 ppb on Jan 8																				Hours in Service: 744																												
Minimum Value: 0.0 ppb on Jan 1 04:00 Minimum Daily Average: 0.06 ppb on Jan 28																				Hours of Data: 707																												
Maximum Diurnal Average: 1.81 ppb at hour 13 Minimum Diurnal Average: 0.04 ppb at hour 21																				Hours of Missing Data: 37																												
Monthly Average: 0.526 ppb Percentiles: P₁ = 0.0 P₁₀ = 0.0 Q₁ = 0.0 Median = 0.0 Q₃ = 0.6 P₉₀ = 1.7 P₉₉ = 5.6																				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-Jan	0.4	Z	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.1	0.2	0.1	0.2	0.0	0.0	0.4	0.1	0.0	0.0	0.0	0.0	0.09	0.37																						
2-Jan	0.0	Z	0.0	0.1	0.0	0.0	0.0	0.1	0.1	1.9	3.6	4.3	5.6	6.7	4.3	2.0	1.0	0.0	0.5	0.0	0.0	0.0	0.2	0.0	1.32	6.68																						
3-Jan	0.0	Z	0.0	0.0	0.2	0.1	0.1	0.0	0.2	1.2	2.0	3.3	3.3	2.4	1.8	1.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.69	3.31																						
4-Jan	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.6	1.0	0.5	0.4	0.5	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.16	0.96																						
5-Jan	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	1.9	1.0	1.1	1.0	0.7	0.4	1.3	0.6	0.5	0.0	0.0	0.0	0.0	0.0	0.46	2.01																						
6-Jan	0.0	Z	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.8	2.0	2.7	2.8	2.4	2.0	1.3	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.64	2.78																						
7-Jan	0.0	Z	0.2	0.0	0.1	0.8	0.0	0.2	0.1	1.2	1.6	1.3	1.1	1.1	1.3	0.6	0.4	0.3	0.7	0.6	0.3	0.0	0.3	0.5	0.57	1.60																						
8-Jan	0.5	Z	0.5	0.6	0.0	0.3	0.0	0.0	0.0	0.5	1.4	2.2	3.0	3.5	5.6	5.2	5.0	1.1	2.0	1.1	0.5	1.1	1.4	0.7	1.57	5.63																						
9-Jan	0.1	Z	0.2	0.1	0.1	0.0	0.0	0.2	0.1	0.9	1.2	1.2	1.3	1.5	1.7	1.0	0.5	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.45	1.66																						
10-Jan	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.2	0.3	0.3	0.4	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.09	0.36																						
11-Jan	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.7	0.5	0.4	0.4	0.2	0.0	0.0	0.1	0.0	0.1	0.0	1.7	0.3	0.20	1.69																						
12-Jan	0.2	Z	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.2	0.6	1.4	2.2	2.3	2.2	1.5	0.5	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.52	2.26																						
13-Jan	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.9	2.0	1.8	1.6	1.9	2.1	1.8	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.55	2.09																						
14-Jan	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.9	1.1	1.5	0.8	1.0	0.7	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.28	1.49																						
15-Jan	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	1.3	1.2	0.6	0.3	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.17	1.26																						
16-Jan	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.2	1.0	1.2	1.0	0.6	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.24	1.21																						
17-Jan	0.0	Z	0.0	0.0	0.0	0.3	0.1	0.4	0.0	0.2	0.5	0.8	0.5	0.3	0.3	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.16	0.81																						
18-Jan	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.5	0.3	0.6	1.2	0.2	0.6	0.2	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.17	1.25																						
19-Jan	0.0	Z	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.6	0.4	0.7	1.5	6.3	2.3	3.4	0.4	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.70	6.29																						
20-Jan	0.0	Z	0.0	0.0	0.0	0.1	1.0	1.4	0.2	0.7	1.4	1.1	1.7	0.7	0.8	1.1	0.4	0.4	0.2	0.0	0.0	0.0	0.0	0.0	0.49	1.72																						
21-Jan	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.3	3.4	5.7	7.7	6.0	4.3	2.2	2.0	0.8	0.7	0.3	0.3	0.4	0.6	0.3	0.5	1.55	7.73																						
22-Jan	0.7	Z	0.3	0.6	0.5	0.7	0.9	1.2	0.9	1.9	1.8	3.3	3.9	2.2	3.8	1.3	1.4	0.6	0.3	0.1	0.0	0.3	0.4	0.0	1.17	3.87																						
23-Jan	0.3	Z	0.1	0.3	1.4	0.6	0.3	0.6	0.9	1.6	2.7	2.8	2.7	3.0	3.2	1.8	0.9	0.2	0.0	0.0	0.0	0.0	0.0	0.0	1.01	3.16																						
24-Jan	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.2	2.5	4.4	C	C	C	C	C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--	4.41																						
25-Jan	0.1	Z	0.0	0.2	0.0	0.0	0.0	0.0	0.2	1.8	2.6	2.6	1.7	1.6	1.6	1.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.61	2.60																						
26-Jan	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.1	1.3	2.0	2.1	1.8	1.2	0.8	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.43	2.12																						
27-Jan	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.2	0.9	1.1	1.1	0.6	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.25	1.19																						
28-Jan	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.06	0.34																						
29-Jan	0.0	Z	0.0	0.6	1.0	0.0	0.0	0.0	0.0	0.8	3.2	4.9	5.2	4.0	3.8	0.7	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	1.08	5.15																						
30-Jan	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.2	0.1	0.1	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.06	0.43																						
31-Jan	0.0	Z	0.0	0.0	0.0	0.2	0.2	0.1	0.3	0.3	0.2	0.3	0.6	0.3	0.2	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.14	0.56																						
																								0.07	--	0.05	0.11	0.11	0.10	0.09	0.14	0.13	0.86	1.55	1.75	1.81	1.77	1.49	1.02	0.52	0.15	0.16	0.08	0.04	0.07	0.14	0.07	Diurnal Average
																								0.66	--	0.47	0.68	1.37	0.83	1.01	1.39	0.95	3.38	5.67	7.73	6.01	6.68	5.63	5.17	5.00	1.09	1.97	1.12	0.49	1.05	1.69	0.67	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
January 2017

Maximum Value: 19.34 ppb on Jan 8 17:00																						Maximum Daily Average: 8.87 ppb on Jan 13										Hours in Service: 744	
Minimum Value: 0.8 ppb on Jan 1 05:00																						Minimum Daily Average: 2.14 ppb on Jan 30										Hours of Data: 707	
Maximum Diurnal Average: 7.11 ppb at hour 8																						Minimum Diurnal Average: 4.53 ppb at hour 13										Hours of Missing Data: 37	
Monthly Average: 5.778 ppb																						Percentiles: P₁ = 1.2 P₁₀ = 2.2 Q₁ = 3.3 Median = 5.0 Q₃ = 7.5 P₉₀ = 10.3 P₉₉ = 17.2										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-Jan	1.9	Z	1.4	0.9	0.8	1.4	2.0	1.7	2.3	2.5	1.5	1.2	1.0	1.2	1.2	1.4	1.8	3.4	3.0	3.7	2.7	4.1	8.3	5.7	2.40	8.29							
2-Jan	5.7	Z	4.6	11.2	6.3	5.6	9.7	13.4	9.2	9.4	8.9	7.1	6.9	8.3	7.9	7.4	10.4	9.1	11.7	12.5	8.4	6.3	7.4	9.3	8.56	13.44							
3-Jan	9.7	Z	16.2	14.7	17.3	16.7	18.6	10.8	13.7	9.0	5.2	5.3	5.0	4.4	4.5	4.8	4.8	5.1	3.7	5.4	5.2	4.0	4.6	4.3	8.39	18.61							
4-Jan	4.3	Z	4.7	4.2	4.0	4.1	3.7	3.5	4.0	5.5	4.4	4.5	2.8	2.6	2.9	3.4	4.2	2.7	3.8	4.5	7.5	5.2	4.7	4.4	4.15	7.54							
5-Jan	4.6	Z	4.6	3.8	3.8	4.7	5.2	7.7	8.6	14.7	6.9	3.9	3.3	3.8	3.0	3.1	9.6	7.1	5.3	4.7	4.9	3.1	3.4	5.5	5.45	14.74							
6-Jan	5.9	Z	6.8	6.1	5.4	5.4	4.9	5.9	7.1	6.8	6.8	4.9	5.3	5.9	6.0	6.2	4.9	4.7	5.1	4.9	6.0	6.4	4.8	4.9	5.70	7.10							
7-Jan	7.6	Z	15.5	10.1	8.2	7.5	8.0	9.1	8.3	7.9	5.2	3.4	2.8	2.9	3.0	2.9	2.9	4.2	3.3	2.4	3.5	2.9	3.5	3.1	5.57	15.50							
8-Jan	2.8	Z	2.3	2.4	3.0	3.3	3.0	3.1	2.9	5.0	5.2	5.1	4.7	5.5	8.6	12.8	19.3	15.2	11.1	10.7	9.3	7.5	11.1	8.2	7.05	19.34							
9-Jan	7.5	Z	7.9	7.5	8.7	9.2	9.7	10.4	7.8	7.0	3.6	3.6	4.9	4.8	6.8	6.9	8.5	9.8	7.8	6.6	7.2	6.1	6.9	5.6	7.16	10.43							
10-Jan	4.8	Z	4.9	4.3	4.3	5.1	4.7	4.6	5.5	3.0	1.6	1.3	1.4	1.4	1.6	1.9	2.8	2.8	5.5	6.5	6.9	5.9	5.1	4.8	3.94	6.87							
11-Jan	3.5	Z	3.1	3.7	4.2	2.4	2.2	2.2	2.3	2.0	2.0	2.6	2.1	2.2	2.7	2.6	2.7	2.1	1.9	1.8	1.4	2.2	4.3	5.5	2.68	5.54							
12-Jan	3.5	Z	3.1	4.9	2.2	4.0	3.1	3.0	3.0	3.0	3.2	4.0	4.8	5.1	6.1	7.0	8.2	9.3	7.4	10.2	9.9	10.7	11.8	11.9	6.06	11.86							
13-Jan	9.5	Z	8.2	6.5	8.0	8.4	11.7	11.2	9.3	8.2	7.1	5.4	4.6	5.7	9.3	12.1	7.7	8.2	8.4	8.8	10.4	13.8	11.5	10.0	8.87	13.75							
14-Jan	8.9	Z	9.7	8.1	8.3	7.1	6.2	5.8	6.4	6.3	7.1	6.6	6.2	5.4	6.6	9.3	10.3	12.3	10.8	8.2	7.0	4.1	3.9	4.0	7.33	12.28							
15-Jan	2.9	Z	2.6	2.9	3.3	3.0	3.1	4.4	3.8	4.2	6.1	4.2	2.7	2.1	1.7	1.9	3.9	3.1	3.4	2.9	2.9	3.6	3.1	3.1	3.26	6.13							
16-Jan	5.1	Z	4.7	4.8	5.0	5.7	3.8	8.4	7.0	7.9	11.6	7.0	5.6	5.1	5.3	5.5	6.3	2.9	4.3	4.6	3.2	3.3	3.0	2.9	5.36	11.59							
17-Jan	3.9	Z	6.7	9.0	6.1	6.2	6.0	9.9	4.1	3.9	3.8	4.2	2.8	2.8	3.9	4.2	4.7	2.5	2.1	2.2	1.9	1.6	2.0	1.8	4.19	9.88							
18-Jan	2.0	Z	2.6	6.0	6.8	4.7	3.0	3.0	2.4	3.0	3.9	2.6	2.6	4.0	1.8	5.2	4.6	2.1	12.4	5.7	4.0	3.2	2.4	4.0	4.01	12.36							
19-Jan	2.5	Z	2.7	5.5	4.0	5.0	5.0	4.5	3.2	6.0	4.1	4.4	6.2	13.2	7.9	12.3	6.4	4.9	4.1	4.3	4.8	3.6	5.0	2.6	5.32	13.17							
20-Jan	3.3	Z	4.6	4.2	3.7	6.9	18.1	15.0	8.5	7.9	6.2	3.9	4.8	2.6	3.4	5.5	6.2	13.8	11.2	7.2	7.1	7.0	7.5	8.3	7.25	18.13							
21-Jan	6.0	Z	7.4	7.8	8.3	9.5	13.4	18.4	15.7	11.9	10.8	11.7	9.4	8.6	5.9	6.6	6.3	6.4	5.1	4.4	3.8	3.5	3.3	3.9	8.18	18.36							
22-Jan	3.6	Z	3.0	3.5	4.0	5.4	7.9	11.6	12.5	9.0	5.9	6.3	6.0	4.8	8.2	5.6	8.3	18.7	16.7	7.6	8.3	9.9	9.5	7.5	7.98	18.67							
23-Jan	6.2	Z	3.9	3.6	4.2	3.7	3.7	5.3	5.7	7.5	8.1	7.1	6.1	6.5	7.2	5.6	6.4	9.9	9.5	9.2	8.5	7.2	7.3	7.2	6.49	9.85							
24-Jan	6.4	Z	9.3	8.8	8.2	9.7	11.4	12.5	12.2	11.3	10.9	C	C	C	C	C	C	5.8	7.6	6.8	7.2	8.4	11.4	6.9	--	12.46							
25-Jan	12.1	Z	10.5	17.2	10.9	12.3	13.6	10.7	11.0	7.0	5.5	5.1	4.4	4.1	4.8	5.4	4.4	5.0	6.6	5.5	5.9	9.9	13.8	9.5	8.49	17.21							
26-Jan	5.6	Z	6.2	8.9	7.8	6.0	5.8	6.1	6.7	9.3	7.0	5.6	5.3	5.3	4.9	4.4	3.6	4.5	3.9	4.6	6.3	4.1	3.4	4.7	5.66	9.31							
27-Jan	4.2	Z	5.2	7.0	7.5	5.9	5.4	3.2	3.7	5.2	6.4	4.5	3.8	4.0	4.4	4.8	5.2	7.1	6.5	4.7	3.4	2.3	2.9	3.5	4.82	7.47							
28-Jan	2.8	Z	5.5	6.4	6.8	5.0	3.7	1.7	2.3	2.7	4.0	3.8	4.4	3.3	2.5	2.9	3.2	2.8	2.7	2.3	3.9	5.6	3.9	3.7	3.74	6.79							
29-Jan	4.4	Z	6.0	7.8	8.4	6.3	5.1	7.0	6.1	8.1	10.3	14.2	12.9	16.0	15.0	8.3	8.8	9.7	8.3	9.8	10.6	7.4	3.6	2.2	8.53	16.05							
30-Jan	2.0	Z	1.8	2.1	2.5	3.0	2.9	4.6	2.5	2.5	2.5	1.3	1.2	1.2	1.5	1.6	1.6	1.8	1.7	1.5	2.6	2.9	2.2	1.7	2.14	4.61							
31-Jan	1.9	Z	2.0	2.5	2.2	1.8	1.7	1.5	1.7	1.6	1.5	1.6	1.9	2.0	2.0	2.4	2.4	2.4	2.8	2.8	3.4	2.9	3.1	1.9	2.17	3.41							
																								Diurnal Average									
																								Diurnal Maximum									
5.01 -- 5.72 6.34 5.94 5.97 6.65 7.11 6.43 6.43 5.72 4.87 4.53 4.82 5.02 5.47 6.02 6.43 6.39 5.72 5.75 5.44 5.77 5.25																								Diurnal Average									
12.05 -- 16.24 17.21 17.26 16.71 18.61 18.36 15.69 14.74 11.59 14.19 12.93 16.05 14.98 12.78 19.34 18.67 16.74 12.55 10.56 13.75 13.83 11.86																								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
January 2017

Maximum Value: 24.39 ppb on Jan 8 17:00		Maximum Daily Average: 9.87 ppb on Jan 2		Hours in Service: 744																							
Minimum Value: 0.8 ppb on Jan 1 05:00		Minimum Daily Average: 2.15 ppb on Jan 30		Hours of Data: 707																							
Maximum Diurnal Average: 7.28 ppb at hour 10		Minimum Diurnal Average: 5.03 ppb at hour 1		Hours of Missing Data: 37																							
Monthly Average: 6.270 ppb		Percentiles: P ₁ = 1.3 P ₁₀ = 2.2 Q ₁ = 3.4 Median = 5.5 Q ₃ = 8.3 P ₉₀ = 11.3 P ₉₉ = 19.0		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-Jan	2.3	Z	1.5	0.9	0.8	1.4	1.9	1.7	2.2	2.6	1.6	1.3	1.1	1.4	1.3	1.5	1.8	3.4	3.4	3.7	2.6	4.1	8.3	5.8	2.46	8.29	
2-Jan	5.7	Z	4.6	11.3	6.3	5.7	9.7	13.5	9.3	11.3	12.5	11.4	12.5	15.0	12.2	9.5	11.3	9.1	12.2	12.5	8.4	6.3	7.6	9.2	9.87	14.96	
3-Jan	9.6	Z	16.2	14.7	17.5	16.8	18.7	10.8	13.9	10.3	7.2	8.6	8.3	6.9	6.4	5.9	5.0	5.1	3.6	5.3	5.2	3.9	4.5	4.2	9.07	18.73	
4-Jan	4.2	Z	4.7	4.1	3.9	4.1	3.6	3.4	3.9	5.8	5.0	5.4	3.3	3.0	3.4	3.6	4.2	2.7	3.7	4.4	7.5	5.1	4.7	4.3	4.26	7.50	
5-Jan	4.5	Z	4.6	3.7	3.8	4.6	5.1	7.7	8.6	16.8	8.7	4.9	4.3	4.8	3.6	3.5	10.8	7.6	5.8	4.7	4.9	3.1	3.4	5.5	5.87	16.78	
6-Jan	5.9	Z	6.7	6.2	5.3	5.3	4.9	5.9	7.1	7.6	8.8	7.6	8.1	8.3	7.9	7.5	5.1	4.8	5.2	4.9	6.1	6.4	4.8	4.9	6.32	8.84	
7-Jan	7.5	Z	15.7	10.1	8.3	8.4	8.0	9.3	8.4	9.1	6.8	4.6	3.9	3.9	4.3	3.5	3.2	4.5	4.0	3.0	3.7	2.9	3.8	3.7	6.11	15.68	
8-Jan	3.3	Z	2.7	3.0	3.0	3.6	3.0	3.1	2.9	5.5	6.6	7.2	7.6	9.0	14.3	18.0	24.4	16.3	13.1	11.8	9.7	8.5	12.5	8.9	8.60	24.39	
9-Jan	7.5	Z	8.0	7.6	8.7	9.2	9.7	10.6	7.9	7.9	4.8	4.7	6.2	6.3	8.4	7.9	9.0	9.9	7.8	6.6	7.2	6.0	6.8	5.6	7.58	10.59	
10-Jan	4.7	Z	4.8	4.2	4.2	5.1	4.7	4.6	5.5	3.2	1.8	1.5	1.6	1.7	1.9	2.1	2.9	2.7	5.5	6.5	6.8	5.9	5.0	4.8	3.99	6.84	
11-Jan	3.5	Z	3.0	3.6	4.2	2.3	2.1	2.1	2.2	2.0	2.2	3.2	2.6	2.5	3.1	2.7	2.7	2.1	2.0	1.8	1.5	2.2	6.0	5.8	2.84	6.01	
12-Jan	3.6	Z	3.1	5.6	2.1	4.0	3.1	2.9	2.9	3.1	3.7	5.4	7.0	7.4	8.3	8.5	8.7	9.5	7.4	10.1	9.8	10.7	11.8	11.9	6.55	11.86	
13-Jan	9.5	Z	8.2	6.5	8.0	8.5	11.7	11.1	9.4	9.1	9.1	7.2	6.2	7.6	11.4	13.9	8.1	8.3	8.4	8.8	10.3	13.8	11.5	10.0	9.41	13.88	
14-Jan	8.9	Z	9.7	8.1	8.3	7.0	6.2	5.7	6.4	6.6	8.0	7.7	7.6	6.2	7.6	9.9	10.4	12.3	10.7	8.1	6.9	4.0	3.8	3.9	7.57	12.27	
15-Jan	2.9	Z	2.5	2.8	3.2	2.9	3.0	4.4	3.7	4.4	7.4	5.4	3.4	2.4	1.8	1.9	3.9	3.0	3.3	2.8	2.8	3.5	3.0	3.1	3.37	7.38	
16-Jan	5.0	Z	4.7	4.8	4.9	5.6	3.7	8.4	7.0	8.3	12.8	8.0	6.7	6.1	5.9	5.8	6.4	2.8	4.3	4.5	3.2	3.2	2.9	2.8	5.56	12.80	
17-Jan	3.9	Z	6.6	9.0	6.1	6.6	6.1	10.3	4.1	4.1	4.2	4.9	3.2	3.1	4.2	4.3	4.8	2.5	2.0	2.1	1.9	1.5	1.9	1.8	4.32	10.29	
18-Jan	2.0	Z	2.6	6.0	6.8	4.7	2.9	3.0	2.3	3.1	4.4	2.9	3.1	5.3	1.9	5.8	4.8	2.1	12.4	5.7	4.0	3.2	2.4	4.0	4.15	12.42	
19-Jan	2.5	Z	2.6	5.6	4.0	5.0	5.0	4.5	3.2	6.6	4.5	5.1	7.7	19.5	10.2	15.7	6.9	4.8	4.1	4.3	4.8	3.5	5.1	2.5	5.99	19.49	
20-Jan	3.2	Z	4.6	4.1	3.6	7.0	19.2	16.4	8.7	8.5	7.6	5.0	6.5	3.3	4.1	6.6	6.5	14.2	11.4	7.1	7.0	6.9	7.4	8.2	7.70	19.17	
21-Jan	5.9	Z	7.3	7.7	8.2	9.4	13.4	18.4	16.0	15.3	16.4	19.5	15.4	12.9	8.1	8.6	7.2	7.1	5.4	4.7	4.2	4.1	3.6	4.4	9.70	19.45	
22-Jan	4.2	Z	3.3	4.0	4.5	6.1	8.7	12.8	13.4	10.8	7.7	9.6	9.9	7.0	12.0	6.9	9.7	19.3	17.0	7.7	8.2	10.2	9.9	7.5	9.14	19.26	
23-Jan	6.5	Z	3.9	3.8	5.5	4.3	3.9	5.9	6.6	9.0	10.7	9.9	8.8	9.5	10.3	7.4	7.2	10.0	9.5	9.2	8.4	7.1	7.3	7.1	7.47	10.73	
24-Jan	6.4	Z	9.3	8.8	8.1	9.6	11.4	12.7	12.5	14.0	15.6	C	C	C	C	C	C	5.8	7.6	6.7	7.2	8.3	11.3	6.9	--	15.62	
25-Jan	12.1	Z	10.5	17.3	10.8	12.2	13.6	10.7	11.2	8.8	8.0	7.7	6.0	5.6	6.4	6.6	4.7	5.0	6.5	5.4	5.9	9.8	13.8	9.5	9.05	17.33	
26-Jan	5.6	Z	6.1	8.8	7.7	6.0	5.7	6.0	6.7	10.5	9.0	7.7	7.1	6.5	5.7	4.7	3.7	4.5	3.8	4.6	6.2	4.0	3.3	4.6	6.02	10.54	
27-Jan	4.2	Z	5.1	7.0	7.4	5.8	5.3	3.1	3.7	5.5	7.5	5.4	4.9	5.1	4.9	5.2	5.3	7.0	6.5	4.7	3.3	2.2	2.8	3.4	5.01	7.49	
28-Jan	2.8	Z	5.4	6.4	6.7	4.9	3.6	1.7	2.3	2.7	4.3	4.0	4.7	3.4	2.5	2.9	3.3	2.7	2.6	2.2	3.8	5.6	3.9	3.6	3.73	6.72	
29-Jan	4.3	Z	5.9	8.3	9.4	6.3	5.0	7.0	6.1	8.8	13.5	19.1	18.1	20.0	18.7	9.0	9.2	9.8	8.3	9.8	10.5	7.3	3.5	2.1	9.56	20.04	
30-Jan	1.9	Z	1.7	2.1	2.5	2.9	2.9	4.6	2.5	2.6	2.9	1.5	1.3	1.2	1.6	1.8	1.7	1.8	1.6	1.4	2.5	2.8	2.1	1.6	2.15	4.57	
31-Jan	1.8	Z	2.0	2.4	2.1	2.0	1.9	1.5	2.0	1.9	1.6	1.9	2.5	2.3	2.2	2.7	2.6	2.4	2.8	2.8	3.4	2.8	3.0	1.8	2.27	3.37	
		5.03	--	5.73	6.41	6.00	6.04	6.70	7.21	6.54	7.28	7.25	6.61	6.33	6.57	6.49	6.46	6.52	6.55	6.50	5.74	5.74	5.45	5.86	5.26	Diurnal Average	
		12.08	--	16.25	17.33	17.46	16.83	19.17	18.43	16.04	16.78	16.43	19.45	18.05	20.04	18.71	17.97	24.39	19.26	17.00	12.54	10.49	13.76	13.76	11.86	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
January 2017

Maximum Value: 8.10 ppm on Jan 15 17:00		Maximum Daily Average: 2.94 ppm on Jan 20		Hours in Service: 744																																												
Minimum Value: 2.1 ppm on Jan 30 14:00		Minimum Daily Average: 2.16 ppm on Jan 30		Hours of Data: 705																																												
Maximum Diurnal Average: 2.60 ppm at hour 17		Minimum Diurnal Average: 2.36 ppm at hour 21		Hours of Missing Data: 39																																												
Monthly Average: 2.443 ppm		Percentiles: P ₁ = 2.1 P ₁₀ = 2.2 Q ₁ = 2.3 Median = 2.4 Q ₃ = 2.5 P ₉₀ = 2.7 P ₉₉ = 3.6		Hours of Calibration: 39																																												
Percentiles: P ₁ = 2.1 P ₁₀ = 2.2 Q ₁ = 2.3 Median = 2.4 Q ₃ = 2.5 P ₉₀ = 2.7 P ₉₉ = 3.6		Percent Operational Time: 100.0																																														
Day	Hourly Period Ending At																								Daily Average	Daily Maximum																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																								
1-Jan	2.2	2.2	2.2	Z	2.2	2.2	2.2	2.2	2.3	2.3	2.2	2.2	2.1	2.2	2.2	2.1	2.2	2.2	2.2	2.3	2.3	2.4	2.4	2.4	2.24	2.41																						
2-Jan	2.4	2.4	2.4	Z	2.5	2.5	2.6	2.8	2.7	2.7	2.8	2.8	2.7	2.7	2.6	2.6	2.6	2.7	2.7	2.7	2.5	2.5	2.7	2.9	2.64	2.89																						
3-Jan	2.9	3.0	2.9	Z	3.0	3.0	2.9	2.8	2.8	2.7	2.6	2.6	2.6	2.5	2.6	2.5	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.60	3.04																						
4-Jan	2.3	2.3	2.3	Z	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.4	2.6	2.5	2.4	2.4	2.31	2.58																						
5-Jan	2.4	2.4	2.4	Z	2.3	2.4	2.5	2.5	2.4	2.4	2.4	2.3	2.2	2.2	2.2	2.2	2.4	2.4	2.3	2.3	2.3	2.3	2.3	2.3	2.33	2.46																						
6-Jan	2.3	2.3	2.4	Z	2.4	2.4	2.4	2.5	2.5	2.6	2.7	2.7	2.6	2.6	2.5	2.5	2.4	2.4	2.4	2.4	2.4	3.0	2.8	2.7	2.52	2.96																						
7-Jan	2.6	2.7	2.7	Z	2.7	2.5	2.5	2.5	2.5	2.6	2.4	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.2	2.38	2.74																						
8-Jan	2.2	2.2	2.2	Z	2.3	2.3	2.3	2.3	2.4	2.4	2.4	2.4	2.4	2.3	2.4	2.4	2.4	2.4	2.5	2.5	2.4	2.4	2.4	2.4	2.37	2.49																						
9-Jan	2.4	2.4	2.3	Z	2.3	2.3	2.3	2.4	2.4	2.4	2.4	2.3	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.3	2.37	2.41																						
10-Jan	2.3	2.4	2.3	Z	2.3	2.3	2.3	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.4	2.3	2.4	2.4	2.3	2.28	2.37																						
11-Jan	2.3	2.3	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	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.17	2.32																						
12-Jan	2.3	3.8	4.5	Z	2.2	2.2	2.3	2.3	2.4	2.4	2.4	2.3	2.4	2.4	2.4	2.4	2.5	2.5	2.5	2.5	2.5	2.6	2.5	2.5	2.56	4.45																						
13-Jan	2.5	2.5	2.6	Z	2.5	2.5	2.7	2.6	2.6	2.6	2.5	2.4	2.4	2.4	2.5	2.6	2.5	2.6	2.6	2.5	2.6	2.7	2.7	2.7	2.56	2.73																						
14-Jan	2.7	2.6	2.7	Z	2.6	2.5	2.5	2.4	2.5	2.5	2.5	2.5	2.5	2.4	2.5	2.4	2.4	2.4	2.5	2.4	2.5	2.3	2.3	2.3	2.47	2.70																						
15-Jan	2.3	2.3	2.3	Z	2.3	2.3	2.2	2.3	2.3	2.3	2.4	2.4	2.3	2.2	2.1	2.1	8.1	3.1	2.4	2.2	2.3	2.3	2.3	2.3	2.58	8.10																						
16-Jan	2.3	2.3	2.4	Z	2.3	2.4	2.4	2.5	2.5	2.5	2.5	2.5	2.4	2.4	2.4	2.4	2.4	2.2	2.3	2.3	2.3	2.3	2.2	2.2	2.36	2.51																						
17-Jan	2.4	2.3	2.4	Z	2.5	2.7	2.7	2.8	2.6	3.1	3.5	2.4	2.3	2.3	2.2	2.6	3.6	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.49	3.61																						
18-Jan	2.1	2.2	2.2	Z	2.3	2.2	2.2	2.3	2.2	2.2	2.2	2.2	2.3	2.3	2.2	2.4	2.6	2.3	2.5	2.3	2.2	2.2	2.2	2.2	2.25	2.64																						
19-Jan	2.2	2.2	2.2	Z	4.1	4.3	2.4	2.6	2.3	3.6	3.4	2.3	2.4	2.4	3.5	2.7	2.4	2.3	2.3	2.3	2.2	2.8	3.7	3.1	2.78	4.32																						
20-Jan	2.6	2.5	2.6	Z	2.4	2.4	2.5	3.5	3.5	2.6	2.4	2.3	2.3	2.2	2.3	2.5	2.8	5.1	6.8	3.7	2.5	2.5	2.7	2.8	2.94	6.80																						
21-Jan	2.7	2.7	3.4	Z	3.0	3.3	3.4	3.3	3.2	3.3	3.4	3.4	2.9	2.7	2.5	2.4	2.4	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.79	3.41																						
22-Jan	2.3	2.3	2.3	Z	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.4	2.4	2.4	2.31	2.38																						
23-Jan	2.4	2.3	2.3	Z	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.4	2.4	2.4	2.3	2.4	2.4	2.5	2.5	2.5	2.4	2.5	2.4	2.37	2.51																						
24-Jan	2.5	2.5	2.5	Z	2.7	2.7	2.8	2.8	2.8	2.9	2.8	C	C	C	C	C	C	C	C	2.5	2.6	2.7	2.6	2.5	--	2.87																						
25-Jan	2.5	2.5	2.7	Z	2.8	2.8	3.0	2.8	2.9	2.9	2.7	2.6	2.6	2.6	2.5	2.6	2.4	2.4	2.5	2.4	2.4	2.5	2.5	2.5	2.61	3.02																						
26-Jan	2.5	2.5	2.5	Z	2.5	2.4	2.4	2.5	2.4	2.4	2.4	2.5	2.5	2.5	2.4	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.40	2.54																						
27-Jan	2.3	2.3	2.3	Z	2.3	2.5	2.4	2.3	2.4	2.4	2.5	2.4	2.4	2.5	2.5	2.5	2.4	2.5	2.4	2.3	2.2	2.2	2.2	2.2	2.37	2.53																						
28-Jan	2.2	2.3	2.3	Z	2.3	2.3	2.2	2.1	2.2	2.2	2.3	2.2	2.2	2.3	2.2	2.2	2.2	2.2	2.2	2.1	2.2	2.2	2.2	2.3	2.22	2.32																						
29-Jan	2.3	2.3	2.4	Z	2.8	2.7	2.5	2.5	2.4	2.5	2.5	2.6	2.8	2.7	2.6	2.5	2.7	2.5	2.5	2.7	2.7	2.6	2.3	2.1	2.54	2.79																						
30-Jan	2.1	2.1	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	2.2	2.2	2.2	2.16	2.24																						
31-Jan	2.2	2.2	2.2	Z	2.2	2.2	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.2	2.2	2.19	2.26																						
																								2.38	2.44	2.50	--	2.48	2.51	2.45	2.50	2.49	2.51	2.50	2.41	2.38	2.36	2.38	2.37	2.60	2.46	2.50	2.39	2.36	2.40	2.41	2.39	Diurnal Average
																								2.95	3.80	4.45	--	4.09	4.32	3.38	3.47	3.48	3.58	3.53	3.41	2.91	2.72	3.47	2.75	8.10	5.11	6.80	3.70	2.72	2.96	3.66	3.11	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

JANUARY 2017



WCAS - Violet Grove
Summary of Hourly Averages

External Temperature (ET) - C
January 2017

Maximum Value: 12.76 C on Jan 18 15:00 Maximum Daily Average: 6.79 C on Jan 18																							Hours in Service:	744		
Minimum Value: -24.0 C on Jan 3 09:00 Minimum Daily Average: -21.50 C on Jan 8																							Hours of Data:	744		
Maximum Diurnal Average: -4.63 C at hour 15 Minimum Diurnal Average: -9.57 C at hour 7																							Hours of Missing Data:	0		
Monthly Average: -7.585 C Percentiles: P ₁ = -23.0 P ₁₀ = -19.9 Q ₁ = -14.6 Median = -8.0 Q ₃ = -0.1 P ₉₀ = 4.5 P ₉₉ = 8.8																							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-Jan	-11.1	-11.7	-11.1	-10.7	-12.7	-13.3	-13.6	-13.5	-13.0	-12.8	-12.1	-11.0	-11.0	-11.6	-11.7	-12.6	-13.8	-14.5	-14.7	-14.6	-15.8	-16.7	-17.3	-17.4	-13.27	-10.69
2-Jan	-18.1	-19.0	-19.3	-20.2	-20.7	-21.5	-22.8	-23.7	-23.0	-23.6	-21.9	-20.8	-19.5	-16.4	-16.4	-17.5	-19.4	-19.7	-18.9	-18.8	-18.8	-19.0	-19.3	-19.5	-19.91	-16.42
3-Jan	-20.3	-21.2	-22.1	-23.0	-22.8	-22.8	-22.9	-23.7	-24.0	-23.3	-23.0	-22.3	-19.9	-18.3	-16.7	-16.0	-16.1	-16.3	-15.8	-15.7	-15.6	-15.1	-15.0	-15.2	-19.46	-14.96
4-Jan	-14.5	-14.8	-14.8	-14.0	-14.5	-12.5	-11.3	-10.3	-9.9	-9.4	-8.8	-8.1	-7.4	-7.2	-7.3	-7.2	-7.3	-7.2	-7.2	-7.9	-7.6	-7.4	-7.4	-7.2	-9.64	-7.15
5-Jan	-6.7	-6.5	-6.3	-6.1	-6.2	-6.6	-6.5	-6.7	-7.0	-6.8	-6.3	-5.9	-5.8	-6.4	-6.7	-7.6	-8.6	-9.2	-9.6	-10.7	-11.4	-11.8	-13.1	-13.9	-8.02	-5.76
6-Jan	-14.6	-15.5	-16.3	-16.4	-16.6	-16.9	-17.3	-17.4	-17.4	-17.2	-16.7	-15.7	-15.1	-14.1	-13.4	-13.6	-14.3	-15.7	-16.2	-17.4	-18.2	-19.3	-19.2	-19.4	-16.41	-13.43
7-Jan	-18.4	-17.9	-17.4	-17.1	-16.9	-17.3	-18.2	-18.4	-18.8	-18.2	-17.5	-16.8	-16.9	-17.3	-17.5	-17.7	-18.2	-18.5	-18.8	-19.3	-20.2	-20.1	-20.1	-20.3	-18.24	-16.79
8-Jan	-20.5	-21.5	-21.9	-22.0	-22.0	-22.0	-22.0	-22.0	-22.0	-21.8	-21.4	-20.8	-20.0	-19.4	-18.7	-19.3	-20.7	-22.2	-22.7	-22.8	-22.7	-22.7	-22.5	-22.4	-21.50	-18.67
9-Jan	-22.2	-22.0	-21.9	-21.9	-21.8	-21.7	-21.6	-21.5	-21.4	-20.9	-19.7	-19.5	-19.9	-19.7	-19.9	-20.0	-20.1	-20.0	-19.8	-19.6	-19.7	-19.8	-20.0	-20.3	-20.61	-19.52
10-Jan	-21.5	-22.3	-22.8	-22.1	-22.2	-22.7	-22.7	-20.5	-19.5	-18.6	-18.8	-19.1	-19.1	-19.8	-19.3	-19.4	-20.0	-22.3	-21.6	-20.4	-19.5	-19.1	-18.6	-17.7	-20.40	-17.73
11-Jan	-16.9	-16.5	-15.9	-14.8	-13.7	-13.5	-12.3	-11.9	-11.0	-10.4	-9.5	-8.4	-7.3	-7.0	-7.7	-7.7	-8.4	-9.7	-10.8	-12.2	-13.0	-14.3	-16.1	-16.0	-11.87	-7.05
12-Jan	-17.6	-18.8	-19.1	-18.5	-17.9	-17.6	-17.6	-18.1	-17.9	-16.1	-14.4	-13.1	-11.3	-10.1	-8.7	-8.5	-9.9	-12.1	-12.0	-12.2	-11.7	-12.9	-12.0	-10.9	-14.13	-8.48
13-Jan	-11.1	-10.7	-12.4	-12.2	-12.7	-11.5	-13.8	-12.7	-13.2	-12.5	-10.1	-8.3	-6.8	-5.4	-3.6	-4.9	-5.0	-6.0	-6.2	-5.9	-6.5	-7.6	-8.1	-9.0	-9.01	-3.62
14-Jan	-9.2	-9.2	-10.1	-9.0	-9.2	-8.0	-7.7	-7.2	-7.0	-6.0	-5.4	-3.4	-2.2	-0.1	-1.0	-0.8	0.3	-0.1	-0.4	0.2	0.7	1.1	1.8	1.5	-3.75	1.83
15-Jan	1.7	2.2	2.1	2.3	0.2	0.4	1.1	0.6	1.0	0.1	0.3	1.9	4.5	6.0	6.6	6.4	3.7	0.8	0.2	1.6	-1.0	-0.5	-1.1	-1.0	1.67	6.60
16-Jan	-1.9	-1.9	-2.3	-3.0	-2.9	-2.9	-2.7	-2.9	-2.7	-2.1	-1.7	0.3	2.0	3.2	3.8	4.2	5.2	6.7	5.7	5.6	5.8	5.5	6.0	6.8	1.40	6.77
17-Jan	5.4	5.6	4.9	4.4	3.1	1.6	2.1	3.6	4.6	5.4	5.1	6.4	8.1	8.2	8.9	9.4	9.6	9.1	8.1	7.3	7.1	7.2	7.7	7.4	6.27	9.58
18-Jan	7.2	7.4	6.3	5.8	5.5	5.4	5.6	5.2	5.1	5.5	6.1	6.8	8.6	11.1	12.8	10.2	8.2	8.4	5.2	5.7	6.5	5.6	4.7	3.8	6.79	12.76
19-Jan	2.7	2.0	2.6	1.6	0.7	2.0	1.7	2.9	3.6	2.5	3.4	3.6	3.8	4.6	7.5	6.8	6.5	6.2	4.9	4.2	2.7	1.6	-0.2	-0.3	3.24	7.49
20-Jan	-0.6	-1.4	-1.7	-2.1	-2.4	-2.8	-5.2	-5.8	-4.6	-2.3	-0.5	0.7	2.4	3.1	5.3	3.8	2.3	-1.0	-1.5	-1.0	-0.9	-1.3	-2.9	-6.4	-1.12	5.26
21-Jan	-6.8	-7.8	-7.5	-7.0	-8.7	-9.4	-10.3	-11.3	-11.6	-11.4	-11.2	-9.5	-7.1	-6.2	-6.1	-6.7	-7.1	-7.4	-7.5	-7.6	-7.9	-8.1	-8.2	-8.4	-8.37	-6.09
22-Jan	-8.5	-8.5	-8.7	-8.8	-8.9	-9.0	-9.0	-8.9	-8.9	-8.9	-8.8	-8.7	-8.7	-8.7	-8.9	-9.3	-9.7	-9.9	-10.1	-10.4	-10.5	-10.6	-10.5	-10.4	-9.31	-8.50
23-Jan	-10.4	-10.4	-10.3	-10.3	-10.3	-10.3	-10.4	-10.5	-10.5	-10.3	-9.8	-9.7	-9.0	-8.5	-7.8	-8.3	-8.7	-8.9	-8.7	-8.7	-8.3	-8.3	-8.3	-8.2	-9.38	-7.85
24-Jan	-8.2	-8.3	-8.1	-8.3	-8.3	-8.4	-8.6	-8.4	-8.3	-7.7	-6.8	-5.8	-5.1	-4.3	-3.8	-3.8	-4.0	-5.0	-5.2	-5.3	-5.6	-5.9	-6.7	-7.4	-6.55	-3.85
25-Jan	-7.8	-8.7	-9.7	-10.7	-11.2	-11.8	-12.1	-12.1	-12.7	-11.3	-9.6	-5.9	-2.3	-2.8	-1.3	0.4	-0.5	-3.5	-4.2	-3.1	-3.1	-3.6	-4.0	-4.8	-6.50	0.37
26-Jan	-5.4	-5.8	-6.0	-6.2	-6.2	-5.8	-5.4	-5.8	-5.8	-4.3	-3.0	-2.3	0.0	2.6	4.7	4.6	3.9	2.4	2.1	1.6	0.1	-0.8	-1.1	-1.9	-1.82	4.72
27-Jan	-2.5	-2.7	-2.5	-2.3	-2.5	-3.2	-4.8	-4.3	-4.1	-4.2	-3.8	-2.0	0.3	3.0	2.5	2.0	2.8	2.8	3.1	3.9	3.8	3.8	4.5	4.3	-0.09	4.49
28-Jan	3.7	2.9	2.5	2.3	2.4	2.6	2.8	3.5	3.2	3.5	4.6	6.0	6.1	6.8	7.6	7.1	7.8	8.2	8.0	8.0	7.1	5.3	3.9	3.0	4.95	8.16
29-Jan	2.8	2.0	1.2	0.1	-2.2	-1.1	0.6	1.7	1.7	0.7	3.7	3.2	4.2	4.2	4.1	4.4	4.1	3.3	2.8	2.5	2.3	2.0	1.3	1.0	2.12	4.44
30-Jan	0.4	-0.1	0.3	0.0	-1.0	-1.8	-2.0	-2.3	-2.6	-2.5	-2.0	-1.5	-1.6	-1.9	-2.0	-2.6	-3.9	-4.6	-5.4	-6.1	-6.4	-6.5	-6.4	-6.7	-2.87	0.43
31-Jan	-7.1	-7.4	-7.3	-7.8	-8.3	-8.2	-9.6	-10.4	-10.9	-10.5	-10.3	-9.8	-8.9	-8.5	-8.8	-9.0	-9.2	-9.7	-9.9	-10.0	-10.2	-10.6	-10.8	-10.9	-9.33	-7.13
																							Diurnal Average			
																							Diurnal Maximum			



WCAS - Violet Grove
Summary of Hourly Averages

Wind Speed (WS) - kph
January 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	5.0	5.1	3.9	3.7	4.2	2.9	3.1	2.9	1.8	AF	AF	AF	AF	AF	AF	AF	2.5	1.7	AF	1.4	2.6	2.4	2.1	1.8	--	5.06	
Dir	E	E	E	E	ENE	ENE	ENE	ENE	NE	AF	AF	AF	AF	AF	AF	AF	W	WSW	AF	WSW	W	WSW	WSW	SW	--	E	
24 Spd	1.9	2.0	2.2	2.5	3.5	3.0	2.9	5.2	4.2	5.3	5.6	7.2	7.8	7.1	6.6	6.4	5.3	3.8	5.9	5.8	6.2	7.4	8.7	8.2	4.99	8.73	
Dir	SSW	S	SSW	SSW	SW	SW	WSW	WSW	WSW	WSW	WSW	W	W	W	WSW	W	W	W	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	
25 Spd	9.5	11.4	10.7	7.2	9.9	10.2	9.9	10.4	5.6	7.2	8.4	4.1	2.1	4.8	4.2	2.6	3.2	5.3	6.8	8.4	8.1	9.5	11.3	13.0	7.36	12.99	
Dir	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	SSW	WSW	W	SSW	SSW	SSW	SSW	SW	SW	WSW	WSW	W	W	WSW	W	
26 Spd	11.8	12.2	12.6	12.2	11.6	13.6	13.5	15.0	13.1	12.9	14.5	12.1	9.6	4.8	4.0	5.9	4.7	7.4	10.9	9.9	12.7	15.4	15.3	15.6	11.24	15.56	
Dir	W	W	W	W	W	W	W	W	W	WSW	WSW	W	W	W	W	W	WSW	WSW	W	WSW	W	W	W	W	W	W	
27 Spd	16.5	14.9	14.6	15.6	13.0	7.6	8.3	5.3	11.2	10.6	9.2	11.1	7.3	6.0	7.7	7.2	11.6	8.3	12.5	13.7	15.5	17.4	17.7	16.0	11.16	17.67	
Dir	WSW	WSW	WSW	WSW	WSW	WSW	SW	SSW	SW	SW	SW	SW	SW	SW	SW	SW	WSW	WSW	W	W	W	W	W	W	W	WSW	W
28 Spd	15.2	12.2	11.3	12.8	13.3	14.1	13.9	15.9	14.0	11.6	12.3	12.9	10.9	11.4	11.7	11.7	9.7	8.1	7.9	8.7	10.7	7.5	6.4	6.7	10.37	15.86	
Dir	W	W	W	WSW	WSW	WSW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	W	W	WNW	W	W	WNW	SW	SSW	WSW	SW	
29 Spd	7.9	3.6	0.6	1.9	2.1	2.9	4.1	4.8	5.7	3.1	3.1	1.4	0.7	1.1	2.8	1.9	2.3	4.1	2.9	6.4	9.0	10.3	14.3	16.9	3.14	16.90	
Dir	SSW	SW	SSW	W	S	S	SSW	SW	SSW	WSW	WSW	WSW	SSE	ENE	ESE	SW	SSW	S	WSW	WSW	W	W	NW	NW	WSW	NW	
30 Spd	16.7	14.4	21.9	16.6	12.2	11.5	13.5	17.5	22.4	22.8	23.2	28.5	30.6	25.5	25.0	20.4	18.4	17.3	17.1	19.5	24.3	24.9	25.8	22.4	20.14	30.60	
Dir	WNW	WNW	WNW	W	W	W	W	WNW	WNW	WNW	WNW	WNW	WNW	WNW	NW	NW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW
31 Spd	21.6	19.5	21.5	18.1	15.2	16.5	21.4	23.2	21.8	18.8	21.0	20.0	16.2	13.4	13.5	14.1	10.6	7.6	7.1	7.2	7.0	8.0	7.6	14.1	14.62	23.21	
Dir	WNW	WNW	WNW	WNW	WNW	NW	NNW	NNW	NNW	NNW	NNW	NNW	NW	NW	NW	NW	NW	NW	WNW	NW	WNW	WNW	WNW	NW	NW	NNW	
Spd	6.34	6.22	6.32	6.02	5.77	5.70	6.12	6.45	6.66	6.97	6.70	6.80	6.24	5.86	4.84	4.25	3.76	3.83	4.40	5.41	6.24	6.58	6.53	6.52	Diurnal Average		
Dir	W	WSW	W	WSW	WSW	WSW	WSW	WSW	WSW	WSW	W	W	W	WNW	W	W	W	W	W	WSW	W	W	W	W	W	Diurnal Maximum	
Spd	21.58	19.54	21.86	18.52	18.42	19.17	21.38	23.21	22.38	22.77	23.24	28.46	30.60	25.47	27.55	33.17	23.97	24.71	22.98	20.41	24.34	24.86	25.78	22.40	Diurnal Maximum		
Dir	296.09	295.58	291.60	256.71	263.05	262.73	337.00	328.22	293.45	286.11	295.60	297.29	297.58	300.14	290.95	293.70	298.90	319.48	323.16	289.46	293.16	292.08	295.43	298.79	Diurnal Maximum		
Maximum Speed Value: 33.2 kph on Jan 11 16:00																		Minimum Speed Value: 0.3 kph on Jan 2 19:00						Hours in Service:		744	
Maximum Daily Speed Average: 20.14 kph on Jan 30																		Minimum Daily Speed Average: 2.58 kph on Jan 2						Hours of Data:		736	
Maximum Diurnal Speed Average: 6.97 kph at hour 10																		Minimum Diurnal Speed Average: 3.76 kph at hour 17						Hours of Missing Data:		8	
Monthly Average Velocity: 5.789 kph 260.66 deg																		Speed Percentiles: P ₁ = 0.8 P ₁₀ = 3.0 Q ₁ = 5.4 Median = 8.7 Q ₃ = 12.6 P ₉₀ = 16.1 P ₉₉ = 25.2						Percent Operational Time:		98.9	
All monthly, daily, and diurnal averages have been calculated using vector methods																											
AF - Analyzer 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	18	9	0	0	0	0	27																				
NorthEast	9	11	0	0	0	0	20																				
East	13	37	3	0	0	0	53																				
SouthEast	14	16	3	0	0	0	33																				
South	19	32	14	0	0	0	65																				
SouthWest	44	76	65	2	0	0	187																				
West	31	111	85	9	0	0	236																				
NorthWest	8	33	44	27	3	0	115																				
Total	156	325	214	38	3	0	736																				



WCAS - Violet Grove
Summary of Hourly Averages

Delta Temperature (ET_D) - C
January 2017

Maximum Value: 1.37 C on Jan 12 18:00		Maximum Daily Average: 0.92 C on Jan 22		Hours in Service: 744																							
Minimum Value: -3.7 C on Jan 15 20:00		Minimum Daily Average: -0.98 C on Jan 15		Hours of Data: 744																							
Maximum Diurnal Average: 0.42 C at hour 9		Minimum Diurnal Average: -0.09 C at hour 13		Hours of Missing Data: 0																							
Monthly Average: 0.156 C		Percentiles: P ₁ = -2.7 P ₁₀ = -1.0 Q ₁ = -0.3 Median = 0.4 Q ₃ = 0.8 P ₉₀ = 0.9 P ₉₉ = 1.1		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-Jan	1.0	1.0	1.0	0.9	1.0	0.7	0.7	0.8	0.8	0.7	0.7	-0.1	0.2	0.5	0.6	0.7	-0.4	-0.2	-0.1	0.6	-1.6	-0.6	-0.3	0.2	0.36	1.00	
2-Jan	-0.4	-1.1	-0.6	-0.4	-0.8	-0.8	-0.7	0.1	0.2	0.3	0.2	0.0	-0.9	-2.5	-1.6	-1.1	-1.1	-0.9	0.4	0.5	0.7	0.6	0.5	0.5	-0.36	0.69	
3-Jan	0.0	-1.0	-0.9	-0.4	-0.2	0.4	0.2	0.4	0.2	-0.3	-0.8	-0.9	-1.2	-0.8	-1.1	-0.9	0.4	0.8	0.8	0.6	0.7	0.8	0.7	0.7	-0.08	0.81	
4-Jan	0.7	0.6	0.7	0.4	0.0	0.8	0.8	0.8	0.8	0.7	0.6	0.5	0.4	0.5	0.5	0.7	0.7	0.8	0.5	0.5	0.8	0.7	0.7	0.7	0.62	0.80	
5-Jan	0.8	0.8	0.8	0.8	0.7	0.6	0.7	0.8	0.6	0.6	0.5	0.3	0.2	0.4	0.3	0.6	0.8	0.7	0.8	0.8	0.8	0.7	0.6	0.6	0.64	0.84	
6-Jan	0.6	-0.2	0.5	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.5	0.4	0.7	0.8	0.4	0.4	-1.0	-0.6	-2.0	-1.5	-0.5	-0.2	-1.9	0.12	0.83	
7-Jan	-0.3	0.6	0.8	0.8	0.8	0.9	-0.3	0.6	0.5	0.5	0.6	0.4	0.4	0.6	0.5	0.6	0.8	0.9	0.9	0.9	0.9	0.8	0.9	0.8	0.62	0.93	
8-Jan	0.8	0.8	0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.7	0.6	0.6	0.2	0.5	0.4	0.4	0.5	0.7	0.7	0.7	0.9	0.9	0.8	0.8	0.72	0.89	
9-Jan	0.9	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.2	0.3	0.6	0.6	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.73	0.86	
10-Jan	0.2	-0.1	0.2	-0.6	0.5	1.0	1.0	0.7	0.8	0.7	0.4	0.4	0.3	0.6	0.3	0.6	0.3	-1.3	-1.1	0.4	0.7	0.7	0.7	0.5	0.34	1.04	
11-Jan	-0.1	-0.2	0.4	0.6	0.5	0.4	0.5	0.1	0.3	0.3	0.1	0.3	0.3	0.3	0.5	0.6	0.8	1.0	1.0	1.1	1.1	1.1	0.8	-0.4	0.47	1.13	
12-Jan	-2.2	-1.3	-2.8	-2.2	0.0	1.0	1.1	1.1	1.1	0.5	0.1	-0.4	-1.1	-1.0	-1.1	-0.8	0.6	1.4	1.2	0.9	0.5	0.1	-0.8	-0.5	-0.19	1.37	
13-Jan	-1.1	-0.7	-0.7	-0.6	-0.5	-1.5	0.1	0.0	0.5	0.0	-0.4	-0.2	-0.3	-0.2	-0.6	-0.1	0.6	1.1	1.3	1.2	1.1	0.9	0.1	0.8	0.02	1.32	
14-Jan	0.9	0.9	1.2	1.0	0.9	0.9	0.9	0.9	0.7	0.4	0.6	0.4	0.1	0.4	0.2	0.8	0.8	0.7	0.4	0.3	0.5	0.6	0.0	0.6	0.64	1.17	
15-Jan	0.3	0.2	-0.2	0.2	0.0	-0.4	0.0	0.3	0.2	-0.1	-1.4	-0.9	-1.0	-0.3	-0.9	-1.5	-3.0	-2.7	-3.3	-3.7	-3.1	-2.0	-0.9	0.9	-0.98	0.90	
16-Jan	1.0	1.1	0.7	1.0	1.1	1.0	1.0	1.0	1.0	0.8	0.8	0.6	0.3	0.1	0.6	0.7	0.8	0.9	0.8	0.8	1.1	0.8	0.9	0.7	0.82	1.08	
17-Jan	-0.5	-0.4	-0.2	-0.1	-0.8	-0.9	-2.0	-2.5	-2.7	-1.9	-0.3	0.3	0.1	0.0	0.0	0.1	-0.4	0.8	0.9	0.8	0.5	0.5	0.6	0.3	-0.32	0.90	
18-Jan	0.8	0.7	0.8	0.6	0.6	0.8	0.7	0.6	0.6	0.6	0.4	0.3	-0.4	-1.0	-0.8	-0.5	-0.3	0.2	-0.7	0.3	0.2	0.1	-0.3	-0.5	0.15	0.77	
19-Jan	-1.1	-0.5	0.3	-0.1	-0.2	-0.3	-0.1	0.3	0.8	-0.9	-0.1	0.4	-0.5	-0.2	-1.0	-1.2	-1.8	-0.4	-0.5	-1.1	-1.3	-1.1	-1.2	-2.9	-0.61	0.80	
20-Jan	-0.3	-0.6	-1.9	-0.2	0.9	0.6	-0.1	-1.0	-1.1	-0.5	-0.4	-0.1	-0.7	-0.3	-1.0	-0.8	-1.8	-0.3	-1.2	-0.5	0.4	1.2	-0.2	-0.5	-0.43	1.16	
21-Jan	-1.1	-1.6	-1.6	-0.7	-1.6	0.2	-0.2	-0.1	-0.3	-0.7	-0.3	0.5	0.3	0.4	0.6	0.7	0.8	0.9	0.9	0.9	0.8	0.9	0.9	0.9	0.06	0.88	
22-Jan	0.9	0.9	0.9	1.0	1.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.92	0.97	
23-Jan	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.8	0.7	0.5	0.5	0.2	0.0	-0.4	0.2	0.8	0.8	0.9	0.8	0.8	0.8	0.9	0.68	0.89	
24-Jan	0.9	0.9	0.9	0.9	0.8	0.8	0.8	0.7	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.4	0.5	-0.5	-1.2	-1.1	-0.6	-1.0	-1.2	-0.9	0.18	0.88	
25-Jan	-0.8	-0.4	0.0	-0.2	-0.1	-0.1	-0.5	-0.2	-0.5	-1.4	-0.9	-1.6	-2.1	-0.4	-0.2	-0.6	-0.9	0.4	0.3	0.0	-1.0	-0.2	-0.1	0.1	-0.47	0.42	
26-Jan	0.2	-0.1	-0.1	-0.1	-0.3	-0.3	-0.4	-0.1	-0.1	-0.2	-0.2	-0.2	-0.3	-0.6	-1.1	-0.6	-2.2	-2.2	-1.4	-0.6	-0.7	-0.4	-0.4	-0.2	-0.52	0.15	
27-Jan	0.0	0.0	0.2	0.1	0.2	0.4	0.0	0.9	0.5	0.6	0.4	0.4	-0.2	-0.4	0.2	0.4	0.1	0.1	-0.5	-0.6	-0.6	-0.6	-0.3	-0.8	0.02	0.88	
28-Jan	-0.9	-0.8	-0.6	-0.7	-0.4	-0.4	0.3	0.5	0.6	0.5	0.5	0.4	0.3	0.2	0.2	0.3	-0.3	-0.3	0.6	-1.8	-1.5	0.0	-1.1	-0.9	-0.23	0.56	
29-Jan	0.5	-0.6	-0.8	-1.6	-0.4	-1.9	-1.6	-1.6	0.7	-0.9	-2.0	-0.9	-0.9	-0.5	-0.3	-0.6	-0.5	-0.1	0.1	0.2	0.2	0.4	0.9	1.0	-0.47	1.01	
30-Jan	0.9	0.7	0.7	0.5	0.3	0.2	0.5	0.7	0.7	0.2	0.4	0.5	0.6	0.6	0.6	0.6	0.9	0.8	0.8	0.7	0.7	0.7	0.8	0.8	0.63	0.88	
31-Jan	0.8	0.8	0.8	0.8	0.8	0.9	0.8	1.0	1.0	0.4	0.5	0.6	0.5	0.5	0.7	0.8	0.9	1.0	0.9	0.9	0.9	0.9	0.9	1.0	0.79	0.99	
		0.13	0.07	0.10	0.16	0.27	0.30	0.27	0.35	0.42	0.18	0.11	0.14	-0.09	0.00	-0.05	0.08	0.02	0.18	0.17	0.14	0.13	0.31	0.20	0.16	Diurnal Average	
		1.04	1.08	1.17	1.00	1.06	1.05	1.09	1.09	1.14	0.94	0.94	0.93	0.92	0.95	0.93	0.94	0.93	1.37	1.32	1.18	1.10	1.16	0.90	1.01	Diurnal Maximum	



WCAS - Violet Grove
Summary of Hourly Averages

Relative Humidity (RH) - %
January 2017

Maximum Value: 94.18 % on Jan 21 23:00 Maximum Daily Average: 90.75 % on Jan 22																							Hours in Service: 744 Hours of Data: 744			
Minimum Value: 24.6 % on Jan 18 15:00 Minimum Daily Average: 40.59 % on Jan 28 Maximum Diurnal Average: 72.10 % at hour 7 Minimum Diurnal Average: 56.33 % at hour 15 Monthly Average: 65.863 % Percentiles: P₁ = 30.9 P₁₀ = 42.8 Q₁ = 51.0 Median = 68.7 Q₃ = 79.6 P₉₀ = 89.0 P₉₉ = 92.6																							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-Jan	85.9	87.2	85.1	78.8	79.2	80.9	80.2	79.9	79.8	80.5	71.8	63.0	60.3	62.0	60.9	66.5	75.3	82.7	82.3	79.0	82.2	83.6	82.3	81.2	77.10	87.17
2-Jan	80.5	79.8	79.6	78.6	77.9	76.9	75.9	75.7	75.9	75.0	76.0	75.4	74.2	73.2	74.4	76.7	79.3	78.5	80.1	79.6	79.8	79.2	79.1	78.5	77.48	80.46
3-Jan	78.2	78.2	77.9	76.9	76.8	76.5	75.8	75.3	75.4	73.9	70.5	70.4	68.5	65.8	64.6	66.5	73.8	76.4	77.2	78.8	79.6	79.8	79.7	80.7	74.89	80.69
4-Jan	79.3	79.0	78.7	81.0	83.5	84.1	84.1	83.7	83.1	80.5	77.5	77.4	78.6	79.0	78.6	80.6	81.4	81.9	82.2	84.7	85.7	88.0	88.7	88.4	82.08	88.66
5-Jan	86.9	87.5	87.7	87.7	89.5	91.3	91.1	91.2	90.8	91.0	89.4	87.5	84.7	85.2	83.6	82.5	86.3	88.5	88.9	88.0	88.3	86.9	86.6	87.0	87.83	91.28
6-Jan	85.8	84.2	84.4	83.5	83.2	82.6	82.0	82.1	82.0	82.1	81.9	79.3	78.0	77.1	76.3	78.0	77.8	80.5	79.9	81.6	81.4	80.4	80.2	78.8	80.97	85.82
7-Jan	80.2	81.0	80.1	81.0	81.6	78.7	81.6	79.5	79.0	78.1	76.9	72.4	69.8	69.7	69.6	70.7	70.8	72.6	75.6	74.9	77.4	78.8	78.6	78.2	76.52	81.59
8-Jan	78.1	77.2	73.4	73.1	73.1	73.0	73.9	74.5	75.9	76.0	73.8	72.1	66.8	64.5	62.8	66.3	72.5	77.7	78.5	77.7	77.9	77.6	77.6	77.8	73.82	78.50
9-Jan	78.4	77.2	76.4	76.1	76.6	76.5	76.5	76.6	76.8	75.9	72.3	71.9	71.8	72.3	74.0	74.1	75.0	75.7	75.8	75.6	74.9	74.8	73.0	71.9	74.99	78.36
10-Jan	75.0	75.8	74.6	74.3	72.7	72.8	71.5	71.6	75.1	72.0	60.4	53.4	51.1	53.3	51.2	52.6	57.2	68.9	70.1	66.7	66.1	67.3	69.0	70.1	66.37	75.81
11-Jan	71.7	73.2	72.6	68.4	67.2	67.4	65.7	65.3	62.8	60.7	56.2	51.8	49.6	51.6	56.2	59.0	60.6	51.7	53.6	57.2	56.7	61.4	68.3	73.1	61.75	73.19
12-Jan	79.4	80.5	79.5	79.2	77.1	74.1	75.5	77.1	76.0	71.5	67.5	63.9	57.6	52.2	47.5	46.7	51.3	57.9	58.9	59.9	59.4	64.3	64.6	60.0	65.91	80.46
13-Jan	63.1	59.8	64.6	65.0	65.8	64.3	67.0	62.7	62.6	60.2	52.9	48.4	44.9	41.1	38.1	41.8	41.3	44.6	45.1	44.3	45.7	50.3	54.4	55.1	53.46	67.04
14-Jan	55.5	55.0	57.7	55.5	56.7	54.2	55.2	54.4	55.0	53.5	52.4	48.3	46.9	42.8	48.2	45.4	44.1	46.6	50.9	52.1	48.9	45.6	43.7	43.6	50.51	57.66
15-Jan	43.3	43.2	45.3	44.6	56.4	55.2	51.1	53.2	52.0	53.5	55.1	49.5	41.8	33.4	31.8	32.0	45.6	57.5	62.9	60.2	65.6	53.6	49.4	42.9	49.13	65.60
16-Jan	45.6	44.5	46.3	47.2	46.4	47.2	47.1	47.9	48.5	48.7	48.7	44.9	41.5	39.2	38.2	38.4	36.7	34.6	39.1	42.4	44.9	46.9	47.3	47.0	44.12	48.69
17-Jan	58.7	55.3	58.7	60.3	67.3	74.4	78.9	74.7	69.7	60.1	54.4	47.7	43.2	44.3	41.1	39.7	41.6	38.3	41.5	44.3	45.5	44.5	42.1	43.6	52.90	78.90
18-Jan	42.4	42.3	46.3	48.9	49.2	47.9	47.0	48.5	47.0	44.4	42.0	40.4	37.0	30.2	24.6	33.4	40.1	33.9	53.8	46.2	39.3	41.9	45.9	47.9	42.52	53.83
19-Jan	54.7	56.2	51.4	57.5	63.6	59.3	62.4	55.2	48.0	60.8	58.3	51.8	56.6	50.3	40.3	44.2	49.7	40.9	41.3	39.2	43.4	44.2	51.4	62.4	51.79	63.62
20-Jan	53.5	56.6	60.6	56.4	52.3	53.1	64.2	71.7	67.9	52.2	44.9	42.9	43.8	40.9	33.4	39.9	47.0	52.8	56.4	50.3	43.8	42.8	52.8	69.7	52.08	71.72
21-Jan	74.2	78.8	80.6	74.1	81.3	78.7	83.3	82.6	81.6	79.5	80.6	78.6	78.1	77.4	76.3	76.3	80.4	85.3	88.2	89.7	89.1	93.3	94.2	93.4	82.33	94.18
22-Jan	92.9	92.7	92.9	92.7	92.4	92.1	91.6	91.4	91.2	91.0	90.7	90.5	90.5	90.3	90.1	90.1	89.8	89.7	89.5	89.3	89.1	89.1	89.2	89.2	90.75	92.95
23-Jan	89.2	89.3	89.2	89.3	89.3	89.2	89.1	89.1	89.0	89.2	89.3	89.3	89.8	89.7	89.5	89.8	90.2	90.2	90.3	90.3	90.9	91.2	91.2	91.1	89.78	91.23
24-Jan	91.0	91.0	91.1	91.0	90.6	90.3	90.0	89.1	89.0	88.3	86.9	83.6	83.2	84.2	82.5	83.5	82.3	87.1	91.7	92.1	92.6	92.5	91.1	91.3	88.58	92.57
25-Jan	88.7	88.2	87.5	88.1	87.4	84.8	86.3	83.6	83.4	81.3	80.1	74.7	61.1	63.0	58.9	51.1	52.4	59.7	60.3	56.9	64.6	65.7	67.7	70.2	72.74	88.70
26-Jan	71.7	72.9	73.4	74.1	74.9	74.6	73.8	74.1	74.0	68.5	63.6	63.2	58.3	49.2	42.5	42.2	46.0	54.8	52.0	49.3	55.0	57.4	57.2	59.0	61.74	74.91
27-Jan	59.6	59.5	58.6	57.4	57.1	57.0	63.0	57.5	57.6	56.7	56.7	49.8	44.5	37.6	40.1	42.5	41.6	43.0	48.3	48.3	48.8	49.0	46.2	47.6	51.16	63.00
28-Jan	48.9	49.6	52.2	50.8	48.3	48.3	45.3	44.7	45.8	46.3	43.7	40.0	40.4	38.3	33.3	33.7	34.4	30.9	25.9	31.7	32.1	31.3	38.2	40.0	40.59	52.21
29-Jan	34.8	44.1	47.6	56.8	59.2	59.0	55.8	49.6	37.1	50.3	44.4	46.9	48.3	50.2	49.5	51.2	53.5	53.5	53.3	51.8	53.0	55.3	60.7	77.1	51.79	77.11
30-Jan	76.3	77.6	67.7	72.1	76.8	79.6	72.7	57.2	43.6	39.1	33.2	27.2	26.8	27.7	28.8	32.1	32.9	32.2	34.9	38.2	42.9	47.1	46.3	49.4	48.44	79.58
31-Jan	52.2	55.7	64.1	75.3	81.0	71.2	77.5	69.9	68.3	66.1	62.2	61.9	60.2	59.3	59.5	58.5	63.1	68.3	69.5	71.0	75.7	76.5	80.5	75.5	67.62	80.95
69.54 70.10 70.52 70.83 72.07 71.45 72.10 70.63 69.15 67.96 64.97 61.87 59.61 57.91 56.33 57.61 60.45 62.48 64.45 64.23 65.17 65.82 67.01 68.45																							Diurnal Average			
92.87 92.74 92.95 92.66 92.40 92.07 91.56 91.37 91.18 90.96 90.70 90.52 90.47 90.33 90.14 90.10 90.16 90.17 91.71 92.12 92.57 93.29 94.18 93.43																							Diurnal Maximum			



WCAS - Violet Grove
Summary of Hourly Averages

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

Maximum Value: 498.27 W/m2 on Jan 25 14:00 Maximum Daily Average: 94.70 W/m2 on Jan 25																								Hours in Service:	744	
Minimum Value: 0.0 W/m2 on Jan 1 01:00 Minimum Daily Average: 6.72 W/m2 on Jan 9																								Hours of Data:	744	
Maximum Diurnal Average: 182.84 W/m2 at hour 13 Minimum Diurnal Average: 0.00 W/m2 at hour 2																								Hours of Missing Data:	0	
Monthly Average: 36.060 W/m2 Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.2 Q ₃ = 34.1 P ₉₀ = 134.4 P ₉₉ = 334.7																								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-Jan	0.0	0.0	0.3	0.0	0.0	0.0	0.1	0.0	0.5	8.1	32.2	105.1	128.3	130.7	73.3	56.1	6.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22.57	130.67
2-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	28.2	64.7	128.3	282.2	363.7	206.4	58.8	2.5	0.0	0.7	0.0	0.0	0.0	0.0	0.0	47.38	363.70
3-Jan	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.8	50.7	146.6	189.6	253.4	255.5	218.0	148.6	17.4	0.2	0.1	0.0	0.0	0.0	0.0	0.0	53.37	255.47
4-Jan	0.1	0.0	0.4	0.1	0.2	0.7	0.7	0.7	2.3	30.0	69.4	94.3	102.9	92.6	72.1	36.8	5.8	0.0	0.0	0.0	0.6	0.5	0.7	0.7	21.32	102.94
5-Jan	0.7	0.0	0.6	0.5	0.0	0.0	0.5	0.0	0.1	12.1	29.4	41.3	51.1	40.7	42.6	21.7	3.4	0.0	0.5	0.2	0.0	0.6	0.0	0.0	10.25	51.07
6-Jan	0.0	0.0	0.0	0.1	0.7	0.7	0.7	0.7	1.0	9.0	26.1	59.7	43.8	38.3	40.9	26.4	3.8	0.0	0.4	0.3	0.0	0.0	0.0	0.0	10.54	59.74
7-Jan	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.2	12.1	27.7	45.9	51.8	36.4	39.6	21.8	4.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.00	51.75
8-Jan	0.7	0.0	0.7	0.6	0.7	0.5	0.4	0.5	0.8	8.2	22.9	41.6	84.3	76.8	73.1	24.6	2.6	0.0	0.0	0.0	0.5	0.5	0.7	0.7	14.23	84.34
9-Jan	0.7	0.0	0.7	0.6	0.7	0.7	0.7	0.7	0.8	12.9	42.4	26.9	18.2	22.5	15.4	10.0	2.9	0.7	0.5	0.7	0.5	0.7	0.6	0.5	6.72	42.40
10-Jan	0.0	0.0	0.3	0.0	0.5	0.6	0.7	0.6	0.9	16.0	51.9	83.8	109.6	91.5	110.3	60.7	14.8	0.0	0.0	0.6	0.0	0.0	0.0	0.0	22.62	110.29
11-Jan	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.9	17.2	100.3	226.4	281.5	297.1	156.5	99.9	16.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	49.85	297.14
12-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	106.8	248.4	273.8	322.5	256.5	193.5	99.6	17.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	63.30	322.52
13-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	52.6	153.3	214.2	255.2	255.4	181.1	67.3	21.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.01	255.39
14-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.5	38.8	70.7	110.6	175.6	119.6	75.3	38.5	8.6	0.0	0.0	0.2	0.0	0.0	0.0	0.0	26.72	175.61
15-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	1.4	18.8	135.0	232.7	277.7	260.4	205.2	100.4	12.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	51.84	277.66
16-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	17.3	49.1	89.3	154.7	144.4	75.8	29.7	12.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	23.93	154.68
17-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	1.4	21.8	64.2	118.8	132.7	70.1	59.6	27.8	26.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21.79	132.69
18-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	27.0	88.1	129.1	230.2	325.5	217.3	59.6	17.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	45.61	325.45
19-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.6	49.7	98.5	131.1	170.2	196.5	101.1	22.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	32.88	196.50
20-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	61.0	170.6	251.1	293.2	280.1	224.6	129.4	29.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	60.09	293.19
21-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3	70.2	82.9	159.8	186.1	154.8	140.5	77.7	17.2	0.9	0.4	0.6	0.3	0.7	0.7	0.7	37.32	186.07
22-Jan	0.6	0.0	0.7	0.7	0.7	0.7	0.7	0.7	2.0	19.3	41.9	68.0	76.6	82.5	73.7	36.0	14.9	1.5	0.7	0.7	0.7	0.7	0.7	0.7	17.74	82.50
23-Jan	0.7	0.0	0.7	0.4	0.7	0.6	0.3	0.2	2.2	18.7	46.1	70.7	92.0	97.3	85.1	57.2	21.5	0.6	0.0	0.0	0.7	0.6	0.5	0.5	20.73	97.31
24-Jan	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	1.8	26.2	73.1	135.6	127.6	147.2	119.8	43.4	16.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	28.83	147.16
25-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.5	121.8	236.0	336.7	415.0	498.3	385.7	207.0	67.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	94.70	498.27
26-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.3	77.7	194.9	269.7	333.9	293.1	247.4	153.0	43.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	67.37	333.90
27-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	34.2	98.0	140.3	270.5	247.3	93.6	52.5	21.4	0.3	0.0	0.0	0.0	0.0	0.0	0.0	40.05	270.49
28-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.8	25.5	68.1	83.5	69.6	62.5	49.8	43.7	41.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.63	83.47
29-Jan	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	5.0	51.0	181.3	87.1	181.7	79.4	89.9	47.2	30.4	0.5	0.0	0.0	0.0	0.0	0.0	0.0	31.43	181.65
30-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.9	94.9	225.7	315.4	349.1	338.8	289.8	158.3	28.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	75.29	349.10
31-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.7	124.3	172.5	150.1	186.4	145.0	99.1	59.7	34.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0	40.76	186.35
																								Diurnal Average		
																								Diurnal Maximum		



WCAS - Violet Grove
Summary of Hourly Averages

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

Maximum Value: 141.19 W/m2 on Jan 18 14:00 Maximum Daily Average: 32.00 W/m2 on Jan 25																							Hours in Service: 744			
Minimum Value: 0.1 W/m2 on Jan 8 02:00 Minimum Daily Average: 5.47 W/m2 on Jan 9																							Hours of Data: 744			
Maximum Diurnal Average: 79.53 W/m2 at hour 13 Minimum Diurnal Average: 1.15 W/m2 at hour 2																							Hours of Missing Data: 0			
Monthly Average: 17.433 W/m2 Percentiles: P₁ = 0.3 P₁₀ = 0.9 Q₁ = 1.1 Median = 1.6 Q₃ = 19.7 P₉₀ = 65.4 P₉₉ = 118.9																							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-Jan	5.2	4.6	5.0	5.1	4.9	4.8	4.8	4.8	5.2	11.6	30.7	89.3	75.9	58.3	36.0	26.1	8.9	4.9	4.9	4.9	4.9	4.9	4.9	4.5	17.30	89.31
2-Jan	1.3	0.5	1.2	1.1	1.3	1.1	1.1	1.1	1.5	12.7	30.4	48.1	67.7	68.9	48.4	19.8	4.4	1.1	1.2	1.1	1.1	1.0	1.3	1.1	13.28	68.88
3-Jan	1.2	0.6	1.4	1.2	1.3	1.4	1.3	1.3	1.7	13.9	38.6	48.7	59.3	99.1	79.0	41.0	6.5	1.4	1.5	1.4	1.6	1.2	1.2	1.3	16.97	99.15
4-Jan	1.2	0.6	1.4	1.3	1.2	1.3	1.2	1.2	1.9	15.8	37.6	50.1	53.7	48.1	36.7	19.1	4.2	1.0	1.1	1.0	1.0	1.1	1.1	0.9	11.82	53.66
5-Jan	0.9	0.2	0.8	0.9	0.9	0.8	0.7	0.9	1.0	6.9	16.2	24.4	30.6	26.4	27.4	14.9	4.0	1.2	1.2	1.3	1.3	1.4	1.2	1.1	6.94	30.60
6-Jan	1.2	0.4	1.2	1.0	1.6	1.2	1.0	1.2	1.3	7.6	21.1	53.4	37.7	32.0	33.0	21.5	4.2	0.8	1.0	1.0	1.0	1.0	1.1	1.5	9.50	53.37
7-Jan	4.7	4.0	4.6	4.7	4.7	4.7	4.7	4.7	5.2	15.4	29.1	48.4	51.5	37.9	41.5	33.7	10.7	4.7	4.7	4.7	4.7	4.7	4.7	4.1	14.27	51.50
8-Jan	0.8	0.1	0.9	0.8	0.9	0.9	0.9	0.9	1.4	11.7	31.9	56.5	101.5	88.7	81.1	30.0	5.1	1.1	1.0	0.8	1.0	1.1	1.1	1.0	17.56	101.49
9-Jan	1.1	0.3	1.0	0.9	1.1	1.2	1.3	1.2	1.3	8.8	27.8	20.5	14.6	17.6	12.5	8.4	3.2	1.3	1.2	1.1	1.3	1.1	1.2	1.3	5.47	27.80
10-Jan	0.9	0.3	0.9	1.1	0.9	1.0	1.1	1.4	1.9	15.8	64.9	99.8	103.7	77.6	88.3	37.8	10.0	1.0	1.1	1.0	0.9	1.1	1.2	1.3	21.46	103.67
11-Jan	1.3	0.5	1.3	1.2	1.2	1.2	1.2	0.9	1.9	14.2	66.5	99.5	117.3	125.9	71.0	47.2	9.9	0.8	0.9	0.8	0.9	0.9	0.8	0.9	23.67	125.92
12-Jan	1.0	0.3	1.1	1.0	0.9	1.0	0.9	0.7	2.0	25.4	74.2	92.0	114.4	106.7	84.2	47.7	11.2	1.4	1.0	0.9	0.9	0.9	1.0	1.6	23.86	114.42
13-Jan	4.8	4.1	4.8	4.8	4.8	4.8	4.7	4.8	5.6	28.0	72.1	98.3	112.5	114.2	83.7	36.3	14.5	5.2	5.0	4.9	4.9	4.9	5.0	4.5	26.54	114.19
14-Jan	1.0	0.3	1.0	1.1	1.1	1.0	1.0	0.9	2.1	15.8	29.7	46.4	72.8	50.6	33.9	17.7	5.4	1.7	1.6	1.5	1.5	1.6	1.6	1.6	12.20	72.77
15-Jan	1.5	0.7	1.3	1.3	1.4	1.4	1.4	1.4	2.2	12.2	60.5	100.4	114.4	111.7	90.2	49.3	11.6	1.3	1.3	1.1	1.3	1.1	1.3	1.3	23.81	114.36
16-Jan	1.2	0.4	1.0	1.1	1.1	1.1	1.1	1.0	1.6	8.4	22.1	38.9	65.5	62.6	33.8	14.2	6.2	1.5	1.5	1.4	1.4	1.4	1.3	1.3	11.29	65.49
17-Jan	1.3	0.7	1.3	1.2	1.3	1.3	1.4	1.3	2.2	11.5	28.7	51.4	57.9	33.0	28.5	14.3	12.8	1.6	1.4	1.3	1.3	1.4	1.4	1.2	10.82	57.90
18-Jan	1.3	0.5	1.2	1.2	1.2	1.2	1.1	1.1	2.1	14.5	39.4	55.6	95.5	141.2	98.0	31.8	10.3	1.6	1.1	1.0	1.0	1.1	1.1	1.6	21.07	141.19
19-Jan	5.0	4.4	5.0	5.0	5.1	5.1	5.1	5.1	5.7	14.5	26.8	46.4	60.6	77.1	89.0	50.7	14.8	5.3	5.0	5.0	5.0	5.0	5.1	4.5	19.17	89.04
20-Jan	1.0	0.8	1.6	1.7	0.9	1.0	1.2	1.0	2.4	25.8	70.5	104.7	120.2	118.4	98.0	62.4	18.7	1.4	1.0	0.9	1.0	1.0	1.0	1.0	26.58	120.23
21-Jan	1.2	0.4	1.0	1.1	1.2	1.2	1.1	1.0	2.7	18.9	34.5	65.6	76.7	68.5	59.3	33.5	9.0	1.3	1.0	0.9	0.9	0.9	0.9	0.8	15.99	76.65
22-Jan	0.8	0.2	0.9	1.0	1.1	1.0	1.2	1.1	2.0	10.7	22.9	36.8	41.5	44.0	39.3	19.6	8.4	1.6	1.1	1.1	1.2	1.2	1.3	1.2	10.05	43.99
23-Jan	1.1	0.5	1.1	1.0	1.1	1.1	1.1	1.0	1.9	9.8	23.2	35.4	45.3	47.5	41.6	27.7	10.1	1.4	0.9	0.9	1.0	0.9	0.9	0.9	10.73	47.48
24-Jan	0.9	0.2	0.9	0.9	0.8	0.8	0.9	1.0	2.0	13.0	33.9	59.9	61.8	65.9	51.6	25.3	12.1	3.9	0.2	0.3	0.7	0.8	0.9	1.6	14.17	65.85
25-Jan	4.9	4.3	4.9	4.9	4.9	4.8	4.9	4.8	7.5	42.6	70.6	92.7	134.0	133.4	110.8	72.8	30.1	6.1	4.9	5.1	5.0	5.1	4.9	4.3	32.00	133.95
26-Jan	0.9	0.2	1.0	0.9	0.9	0.9	1.0	1.0	3.7	32.8	76.4	111.6	135.7	122.8	104.6	69.5	25.6	2.4	1.4	1.4	1.4	1.4	1.3	1.2	29.17	135.74
27-Jan	1.2	0.7	1.3	1.4	1.4	1.4	1.2	1.1	2.5	15.4	41.3	59.5	114.0	106.7	41.8	24.3	10.5	2.2	1.3	1.4	1.2	1.2	1.2	1.2	18.15	114.03
28-Jan	1.3	0.6	1.3	1.2	1.3	1.4	1.3	1.2	2.8	11.9	30.2	37.2	32.6	29.4	24.1	20.3	20.1	2.5	1.1	1.2	1.2	1.2	1.1	1.0	9.47	37.17
29-Jan	1.0	0.2	0.9	0.9	1.0	1.0	1.0	0.9	3.5	24.0	76.4	40.1	77.6	37.9	40.8	22.9	13.8	2.6	1.0	1.1	1.1	1.1	1.0	1.0	14.70	77.58
30-Jan	0.9	0.3	0.9	0.9	1.0	1.0	1.0	0.9	4.6	39.9	85.3	123.8	137.6	134.5	116.7	66.2	15.2	3.0	0.9	0.7	0.8	0.9	1.0	1.2	30.81	137.62
31-Jan	4.3	3.7	4.3	4.4	4.5	4.6	4.7	4.8	8.4	51.7	73.0	67.1	81.3	66.5	48.2	31.4	19.6	6.8	5.1	5.1	5.1	5.1	5.1	4.4	21.62	81.33
																								Diurnal Average		
																								Diurnal Maximum		



WCAS - Violet Grove
Summary of Hourly Standard Deviations

Wind Speed (WS) - kph
January 2017

Maximum Value: 11.37 kph on Jan 10 11:00		Maximum Daily Average: 6.21 kph on Jan 30		Hours in Service: 744																																													
Minimum Value: 0.5 kph on Jan 23 07:00		Minimum Daily Average: 0.97 kph on Jan 24		Hours of Data: 736																																													
Maximum Diurnal Average: 3.48 kph at hour 14		Minimum Diurnal Average: 2.00 kph at hour 2		Hours of Missing Data: 8																																													
Monthly Average: 2.583 kph		Percentiles: P ₁ = 0.7 P ₁₀ = 1.1 Q ₁ = 1.5 Median = 2.2 Q ₃ = 3.0 P ₉₀ = 4.4 P ₉₉ = 9.9		Hours of Calibration: 0																																													
				Percent Operational Time: 98.9																																													
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-Jan	3.4	2.5	5.3	6.6	4.6	3.1	1.9	3.6	1.7	2.1	5.2	4.5	6.1	5.3	6.2	4.0	0.9	2.0	1.7	2.0	0.9	1.1	1.1	1.0	3.21	6.65																							
2-Jan	1.2	0.8	0.8	0.9	1.2	1.0	1.0	0.8	1.2	0.9	1.8	1.4	1.2	1.8	1.1	1.7	1.3	1.0	0.9	1.5	1.4	1.0	1.9	1.1	1.21	1.86																							
3-Jan	1.5	1.2	0.8	1.0	1.3	1.4	1.7	1.8	1.3	1.4	2.4	1.7	1.6	1.6	1.6	1.2	3.4	2.6	3.3	2.6	3.4	2.6	2.3	1.8	1.89	3.44																							
4-Jan	3.0	2.5	2.2	3.3	1.7	2.0	2.1	1.6	1.6	2.1	2.2	2.6	3.5	3.9	3.7	3.5	1.9	1.9	1.2	1.0	1.6	2.1	1.5	1.2	2.24	3.91																							
5-Jan	1.5	1.5	1.8	2.1	1.7	0.9	0.8	1.9	0.8	0.8	2.5	4.0	4.2	3.0	2.8	3.3	1.5	1.4	1.9	1.9	2.1	2.0	1.5	1.5	1.97	4.24																							
6-Jan	1.3	1.2	1.4	1.2	2.1	2.4	2.4	2.5	2.7	2.2	2.2	2.6	2.1	2.4	2.3	2.2	2.2	1.8	1.7	1.3	2.0	1.0	0.9	0.9	1.88	2.74																							
7-Jan	1.3	1.2	1.5	1.8	3.9	4.4	1.2	1.7	1.1	1.7	2.5	4.1	5.5	3.8	3.0	4.6	3.8	2.1	2.9	3.1	2.2	1.9	2.4	2.6	2.67	5.49																							
8-Jan	3.3	1.9	2.5	2.0	1.1	1.9	0.9	0.8	1.1	1.2	1.5	1.5	2.1	1.7	2.2	1.7	1.4	1.4	1.6	1.4	1.4	2.4	2.3	2.1	1.73	3.33																							
9-Jan	2.8	2.5	2.4	3.0	2.1	1.4	2.0	1.6	2.8	3.1	4.5	4.6	3.9	3.9	3.1	3.0	3.7	2.6	3.5	4.4	2.8	2.6	2.3	2.9	2.99	4.63																							
10-Jan	1.4	1.8	2.1	1.3	1.5	1.9	3.3	4.1	3.3	9.4	11.4	10.0	9.7	10.0	7.4	5.8	3.0	1.3	1.8	2.6	2.5	2.5	2.5	2.5	4.30	11.37																							
11-Jan	1.2	2.8	2.3	2.2	2.3	2.3	2.2	1.7	6.2	3.4	3.3	5.8	6.7	7.3	5.5	8.0	9.8	10.2	9.6	8.7	5.8	5.1	2.8	3.5	4.95	10.17																							
12-Jan	1.6	1.0	1.6	0.9	2.0	2.0	2.3	2.0	2.4	3.7	3.6	3.0	2.2	2.3	1.8	1.6	2.5	2.1	4.2	2.4	3.6	1.5	1.4	2.0	2.24	4.22																							
13-Jan	2.4	1.6	3.1	2.9	3.0	2.0	2.7	3.6	2.5	2.4	2.3	2.7	2.9	2.2	2.1	2.6	1.9	3.5	3.4	2.7	2.6	2.2	2.9	3.3	2.65	3.56																							
14-Jan	2.4	2.5	3.5	3.6	2.8	3.3	3.2	3.5	3.3	3.5	2.7	2.8	2.7	3.6	2.1	2.2	2.3	2.8	1.9	2.0	2.6	3.0	1.7	2.2	2.75	3.61																							
15-Jan	2.0	2.2	2.4	3.0	1.7	2.4	2.7	2.3	3.0	1.9	1.3	2.2	2.5	3.2	2.9	2.1	1.5	1.4	1.4	1.4	1.6	1.9	2.4	2.3	2.16	3.18																							
16-Jan	2.9	2.7	2.1	2.3	2.3	2.7	3.4	2.8	2.7	2.6	2.6	3.0	2.9	5.0	3.1	3.2	3.5	2.8	2.5	2.5	3.0	2.6	3.2	2.7	2.88	5.00																							
17-Jan	2.3	1.5	2.9	2.0	1.7	2.0	2.3	2.1	2.0	1.3	2.5	2.4	2.0	2.5	2.0	1.8	2.3	2.7	3.0	3.1	2.7	3.6	2.8	3.1	2.36	3.57																							
18-Jan	2.5	2.9	2.5	2.4	2.7	3.0	2.8	2.5	2.0	2.3	3.0	2.8	2.4	3.8	3.1	3.0	1.9	1.7	1.6	5.8	3.1	2.4	2.6	3.1	2.75	5.80																							
19-Jan	1.4	3.1	4.1	4.4	1.9	4.0	3.3	3.4	1.8	1.8	1.4	2.5	2.7	1.7	2.3	1.6	3.9	1.9	2.2	1.5	2.6	2.3	2.5	0.9	2.47	4.38																							
20-Jan	3.2	2.8	2.2	3.3	4.0	3.7	1.9	2.1	1.9	3.0	3.4	2.5	2.4	3.4	1.3	1.1	1.2	1.2	0.7	1.5	3.1	2.3	2.0	1.2	2.31	3.96																							
21-Jan	1.3	1.1	1.0	1.3	1.9	1.4	0.8	1.3	1.5	1.2	0.8	1.6	3.4	4.5	5.5	3.6	3.9	3.7	3.1	2.8	3.2	2.9	2.7	2.4	2.38	5.51																							
22-Jan	2.4	2.4	1.6	1.6	1.5	1.4	1.0	1.1	1.4	1.2	1.3	1.2	1.3	1.0	1.3	1.7	1.6	1.6	1.4	1.4	1.3	1.3	1.2	0.9	1.42	2.40																							
23-Jan	1.1	1.2	0.9	0.9	0.8	0.7	0.5	0.7	1.0	AF	AF	AF	AF	AF	AF	AF	0.6	0.8	AF	0.8	0.8	0.9	1.0	0.7	--	1.16																							
24-Jan	0.8	0.7	0.8	0.8	1.1	1.0	0.7	1.2	0.9	0.8	0.9	1.7	1.4	1.1	1.0	0.8	1.2	0.7	0.6	0.7	1.0	1.4	1.0	0.9	0.97	1.71																							
25-Jan	1.2	1.1	1.7	2.3	1.2	2.5	0.9	1.5	1.4	1.1	1.1	2.0	1.8	1.4	0.9	1.0	1.5	1.2	2.2	1.3	1.2	1.9	1.4	1.6	1.48	2.55																							
26-Jan	1.6	1.2	1.3	1.2	1.5	1.3	1.0	1.7	2.0	2.3	2.2	1.9	2.2	1.6	2.1	1.3	0.8	2.0	1.8	1.8	2.5	1.7	1.9	2.0	1.70	2.51																							
27-Jan	2.0	2.7	2.2	2.3	2.0	2.1	1.4	4.1	2.2	2.2	1.8	2.3	3.4	1.9	2.1	2.5	2.4	2.5	2.0	2.9	1.9	1.9	2.2	1.3	2.26	4.12																							
28-Jan	1.3	1.3	1.7	1.6	1.8	2.0	2.3	2.5	2.3	3.6	2.8	3.2	2.6	2.2	2.7	2.9	3.3	3.7	2.6	1.4	1.8	3.3	2.4	2.6	2.41	3.71																							
29-Jan	3.0	2.2	2.6	1.9	2.3	1.4	1.2	1.8	3.5	1.9	2.6	1.7	1.8	1.9	2.6	1.6	1.6	2.0	1.8	1.8	4.6	2.6	7.2	8.2	2.65	8.16																							
30-Jan	6.4	2.6	7.4	2.8	1.8	1.9	2.4	2.9	6.3	3.8	7.4	10.2	10.8	10.5	11.0	9.9	8.0	6.8	4.8	6.4	5.2	5.8	6.9	7.0	6.21	11.00																							
31-Jan	5.6	5.5	5.4	5.0	4.7	8.1	7.6	6.0	5.6	8.0	7.2	6.6	6.0	6.0	6.5	6.5	5.5	3.6	3.8	3.1	3.1	4.3	3.9	5.9	5.56	8.10																							
																								2.24	2.00	2.40	2.33	2.13	2.32	2.08	2.29	2.38	2.57	3.01	3.30	3.47	3.48	3.18	3.01	2.72	2.49	2.50	2.50	2.50	2.40	2.41	2.43	Diurnal Average	
																								6.40	5.53	7.43	6.65	4.66	8.10	7.59	6.01	6.33	9.37	11.37	10.16	10.78	10.47	11.00	9.90	9.76	10.17	9.58	8.69	5.83	5.79	7.16	8.16	Diurnal Maximum	
AF - Analyzer Failure																																																	
,Alberta Ambient Air Quality Objectives (AAAQO): 1-hr --- ul/m^3 24-hr 100 ul/m^3																																																	



WCAS - Violet Grove
Summary of Hourly Standard Deviations

Wind Direction (WD) - deg
January 2017

Maximum Value: 92.51 deg on Jan 20 07:00																								Maximum Daily Average: 43.11 deg on Jan 29																								Hours in Service: 744	
Minimum Value: 3.8 deg on Jan 25 00:00																								Minimum Daily Average: 9.01 deg on Jan 26																								Hours of Data: 736	
Maximum Diurnal Average: 24.74 deg at hour 16																								Minimum Diurnal Average: 13.99 deg at hour 9																								Hours of Missing Data: 8	
Monthly Average: 18.693 deg																								Percentiles: P ₁ = 4.5 P ₁₀ = 7.0 Q ₁ = 9.6 Median = 13.0 Q ₃ = 23.1 P ₉₀ = 38.2 P ₉₉ = 75.0																								Hours of Calibration: 0	
																																																Percent Operational Time: 98.9	
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-Jan	49.4	39.6	26.5	27.5	23.7	12.5	6.2	12.9	8.9	12.4	25.6	21.2	24.4	24.1	22.8	23.5	16.9	24.6	13.9	10.4	7.5	6.5	5.4	7.7	18.92	49.39																							
2-Jan	5.9	4.7	6.1	4.4	6.6	10.3	22.0	23.1	17.0	8.8	20.0	16.5	11.5	66.6	20.0	62.8	62.0	51.5	88.1	49.4	38.6	23.3	33.3	43.3	28.99	88.09																							
3-Jan	41.6	9.0	8.0	6.6	5.6	8.6	8.6	9.4	7.5	9.9	12.2	9.2	5.8	5.9	5.7	8.0	7.5	7.4	7.7	6.0	9.9	9.6	7.8	7.5	9.37	41.57																							
4-Jan	11.5	7.0	6.2	13.1	8.1	6.1	7.4	6.4	7.2	8.0	8.6	9.8	23.8	27.8	18.2	17.2	25.6	14.1	8.6	11.7	12.1	8.8	6.0	7.3	11.70	27.83																							
5-Jan	7.6	6.6	9.3	12.9	11.5	4.7	5.7	21.7	28.5	19.0	50.9	43.8	48.9	32.2	20.4	37.6	15.2	8.6	21.1	10.4	10.0	10.6	9.5	8.4	18.96	50.87																							
6-Jan	8.5	10.0	8.5	9.0	9.9	11.1	10.8	10.0	10.0	10.0	10.8	11.4	9.6	9.1	8.6	8.7	8.2	10.1	8.4	4.8	8.1	13.0	13.7	23.2	10.23	23.16																							
7-Jan	25.5	37.5	18.6	19.0	23.1	27.7	9.0	8.4	4.6	7.0	13.0	32.2	26.1	15.7	14.3	28.9	21.6	12.2	60.3	53.5	38.3	27.4	33.4	38.0	24.80	60.33																							
8-Jan	62.7	15.0	10.6	21.7	31.7	51.3	17.4	15.6	12.3	9.3	11.2	13.8	13.9	10.2	15.1	10.9	12.0	16.3	14.0	33.4	19.2	57.5	64.5	27.4	23.62	64.47																							
9-Jan	20.9	60.7	25.3	28.4	38.2	9.7	13.8	9.5	22.1	23.0	24.9	32.9	17.5	20.8	10.9	8.5	11.7	9.0	13.5	16.2	9.6	9.0	7.7	11.2	18.96	60.68																							
10-Jan	21.7	8.2	13.7	11.0	20.5	15.1	20.6	15.1	10.5	28.3	31.7	23.5	29.5	26.6	30.9	28.2	26.0	10.8	15.6	13.4	16.4	11.7	7.1	11.3	18.64	31.67																							
11-Jan	5.2	8.5	8.5	6.7	6.0	6.4	7.5	6.5	8.1	11.3	10.5	13.8	13.7	13.4	9.7	12.2	20.1	22.3	20.4	27.7	17.1	29.5	52.7	76.6	17.27	76.59																							
12-Jan	80.6	7.9	11.6	7.8	8.8	11.3	11.6	11.1	9.8	12.4	15.1	21.7	21.9	21.1	17.8	14.4	22.6	29.5	29.1	8.8	15.5	11.7	14.1	11.8	17.82	80.55																							
13-Jan	10.7	11.7	11.0	8.9	15.5	15.5	11.1	24.3	13.4	8.0	9.7	11.0	12.2	10.2	15.7	41.7	9.2	19.2	10.6	10.5	10.2	8.6	14.9	14.8	13.68	41.71																							
14-Jan	9.3	9.9	25.6	10.8	9.9	11.2	10.1	10.0	9.4	9.4	11.2	9.6	9.9	12.4	72.1	10.9	12.4	18.1	18.2	11.8	10.0	11.1	9.1	8.9	14.21	72.10																							
15-Jan	9.1	12.3	7.1	37.4	33.9	12.6	10.3	16.8	8.5	11.9	9.8	10.5	9.2	7.0	16.1	19.9	17.5	32.5	12.1	24.4	26.1	9.5	11.2	10.4	15.67	37.37																							
16-Jan	10.9	10.5	9.2	12.3	10.9	11.2	12.7	10.8	10.4	11.0	10.7	11.0	11.9	24.4	11.7	11.6	12.1	11.2	13.2	18.0	15.0	12.5	12.0	15.7	12.54	24.42																							
17-Jan	22.3	9.8	26.1	36.3	54.1	45.5	36.0	64.7	15.4	14.1	20.3	11.9	13.0	13.0	12.1	13.1	12.9	12.4	13.4	12.7	11.2	16.3	11.6	13.1	21.31	64.74																							
18-Jan	14.8	13.0	15.7	12.1	12.4	11.3	10.0	11.2	10.4	9.2	13.1	14.2	70.6	49.4	26.0	41.8	24.6	31.1	35.2	30.4	12.6	10.4	19.3	8.8	21.15	70.63																							
19-Jan	9.9	13.0	30.8	59.7	17.9	32.6	15.0	33.9	19.2	31.4	11.3	18.8	42.3	30.5	78.4	68.3	21.8	16.0	11.7	6.4	16.2	63.0	52.8	27.2	30.33	78.41																							
20-Jan	30.0	60.3	60.7	47.4	54.0	29.5	92.5	29.6	28.7	19.1	23.1	18.4	12.5	8.0	60.8	18.0	7.3	14.6	11.2	16.4	10.2	11.2	44.0	42.3	31.24	92.51																							
21-Jan	45.1	26.5	23.4	8.7	26.8	11.1	11.4	8.2	7.6	7.3	10.8	9.4	37.7	33.6	52.9	48.9	49.5	49.0	46.7	41.9	45.9	45.1	37.4	59.2	31.01	59.16																							
22-Jan	49.3	35.3	13.2	10.7	13.5	11.4	14.3	11.7	13.1	14.0	15.0	12.5	13.7	11.9	12.0	12.7	12.4	13.0	11.9	12.1	11.5	12.5	10.2	11.4	14.97	49.31																							
23-Jan	11.7	11.9	12.0	12.9	10.4	16.6	16.0	16.1	32.3	AF	AF	AF	AF	AF	AF	AF	12.3	10.1	AF	24.1	16.2	18.0	28.9	27.3	--	32.25																							
24-Jan	27.7	17.3	22.3	23.1	17.6	18.4	13.2	7.5	8.7	6.7	6.7	8.6	9.3	7.4	10.2	10.2	10.4	15.1	5.1	4.8	6.4	5.0	5.6	3.8	11.29	27.74																							
25-Jan	4.0	4.3	4.5	8.8	5.1	5.9	5.4	4.6	12.4	7.2	7.3	21.9	47.7	20.2	19.7	25.9	17.4	11.5	11.3	13.6	6.8	9.8	6.5	5.7	11.98	47.68																							
26-Jan	6.0	4.9	5.2	4.7	5.4	4.5	4.4	4.6	6.7	7.4	7.8	6.5	14.6	16.5	16.9	14.7	22.0	16.7	10.4	9.6	8.8	6.5	5.3	6.2	9.01	21.95																							
27-Jan	6.6	7.6	7.6	6.9	7.7	15.6	10.5	28.8	13.1	12.7	13.9	10.5	19.8	13.8	13.8	14.2	7.8	20.3	8.4	6.1	5.4	5.0	4.7	4.1	11.04	28.84																							
28-Jan	4.5	6.4	5.5	5.6	7.0	7.4	8.8	8.7	8.7	13.9	12.6	11.4	12.1	10.8	10.2	11.3	20.0	28.7	17.7	8.5	14.0	35.6	21.9	14.4	12.74	35.62																							
29-Jan	22.4	44.6	87.3	63.5	59.9	13.4	14.4	20.0	38.7	43.8	48.6	50.6	64.2	88.5	60.8	69.4	63.5	32.1	46.2	19.7	14.3	19.4	23.5	25.7	43.11	88.47																							
30-Jan	17.7	9.5	13.8	11.6	6.5	8.5	14.7	7.7	11.3	8.7	16.1	17.9	18.1	23.9	23.3	24.2	23.4	19.9	14.5	11.3	10.3	11.6	13.3	17.4	14.81	24.17																							
31-Jan	12.4	15.4	13.6	13.6	16.1	31.1	26.9	16.2	19.2	28.8	20.8	23.2	24.1	27.2	28.5	24.5	25.9	24.4	28.6	21.0	21.3	25.7	25.8	21.7	22.34	31.09																							
21.46 17.38 17.66 18.16 18.66 15.75 15.43 15.66 13.99 14.14 16.77 17.59 22.98 22.73 24.52 24.74 20.38 19.75 20.90 17.71 15.31 17.90 19.78 19.73																								Diurnal Average																									
80.55 60.68 87.32 63.52 59.86 51.35 92.51 64.74 38.72 43.82 50.87 50.59 70.63 88.47 78.41 69.38 63.54 51.50 88.09 53.46 45.89 62.95 64.47 76.59																								Diurnal Maximum																									
AF - Analyzer Failure																																																	
,Alberta Ambient Air Quality Objectives (AAAQO): 1-hr --- ul/m^3 24-hr 100 ul/m^3																																																	

**CARROT CREEK
STATION #903**

CONTINUOUS AIR MONITORING DATA

JANUARY 2017

Summary Report

Continuous air quality/meteorological monitoring measurements

West Central Airshed Society

WCAS / Carrot Creek Station 903													January 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	0.5	0.0	12.2	0.0	0.0	0.1	0.3	0.8	0	0	0.003	
O ₃ (ppb)	35	709	100.0	26.4	0.2	44.3	10.2	18.9	27.4	35.3	40.0	0	-	0.041	
NO (ppb)	36	708	100.0	1.3	0.0	27.5	0.0	0.0	0.1	0.9	3.7	-	-	-	
NO ₂ (ppb)	36	708	100.0	7.7	0.6	40.0	1.6	3.8	6.3	10.0	14.4	0	0	0.016	
NO _x (ppb)	36	708	100.0	9.0	0.7	67.4	1.8	4.0	7.0	11.2	17.0	-	-	-	
Wind Speed (kph)	0	730	98.1	8.3	0.2	29.5	2.3	4.1	6.8	11.1	16.3	-	-	-	
Temperature (°C)	0	744	100.0	-8.7	-28.1	8.5	-19.9	-15.6	-8.5	-2.2	2.2	-	-	-	
Relative Humidity (%)	0	744	100.0	75.2	29.8	94.8	54.1	67.6	78.7	85.0	92.1	-	-	-	
Std Dev Wind Direction (deg)	0	730	98.1	23.3	4.9	95.0	9.2	13.6	16.9	26.1	48.1	-	-	-	
Std Dev Wind Speed (kph)	0	730	98.1	2.3	0.4	9.1	1.0	1.4	2.0	2.8	3.8	-	-	-	



WCAS - Carrot Creek
Summary of Hourly Averages

Ozone (O₃) - ppb
January 2017

Maximum Value: 44.30 ppb on Jan 11 15:00 Maximum Daily Average: 40.88 ppb on Jan 30																						Hours in Service: 744 Hours of Data: 709																											
Minimum Value: 0.2 ppb on Jan 2 20:00 Minimum Daily Average: 9.99 ppb on Jan 23 Maximum Diurnal Average: 32.30 ppb at hour 15 Minimum Diurnal Average: 23.62 ppb at hour 8 Monthly Average: 26.369 ppb Percentiles: P ₁ = 1.6 P ₁₀ = 10.2 Q ₁ = 18.9 Median = 27.4 Q ₃ = 35.3 P ₉₀ = 40.0 P ₉₉ = 43.7																						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-Jan	34.9	36.2	37.0	Z	37.5	37.1	36.4	32.6	33.3	35.2	36.1	36.2	36.4	36.1	35.1	34.4	34.4	35.6	31.1	22.3	23.8	23.8	24.8	24.9	32.84	37.49																							
2-Jan	24.4	24.1	24.3	Z	19.0	18.7	17.1	16.6	12.5	8.5	13.0	16.2	19.2	21.2	19.0	15.9	4.8	1.8	0.5	0.2	0.4	4.6	8.5	7.3	12.95	24.37																							
3-Jan	7.5	6.2	8.4	Z	14.7	14.1	16.1	19.1	22.7	25.3	27.4	28.9	29.1	30.3	30.2	30.7	30.4	33.3	34.3	29.6	25.6	26.4	26.8	26.8	23.64	34.26																							
4-Jan	25.9	27.5	30.7	Z	33.4	34.0	34.2	33.5	29.9	29.2	31.2	33.1	32.4	33.1	32.6	32.9	31.9	31.4	30.7	29.6	27.0	27.8	28.5	26.8	30.76	34.15																							
5-Jan	27.2	28.1	25.3	Z	28.3	28.7	27.0	24.7	25.8	23.2	22.7	25.7	33.2	33.6	33.1	33.9	35.7	32.0	27.0	24.2	30.6	30.4	28.8	26.8	28.52	35.66																							
6-Jan	27.4	24.6	19.7	Z	25.5	22.7	23.2	22.4	18.9	17.4	19.4	22.1	23.5	24.4	23.4	23.3	23.4	19.9	19.0	18.5	20.0	21.2	20.9	20.4	21.79	27.44																							
7-Jan	20.0	18.9	18.1	Z	17.8	21.6	22.7	24.1	25.3	25.2	26.4	27.9	31.8	31.7	30.9	29.0	28.7	26.9	28.0	30.6	30.3	29.0	21.4	18.6	25.44	31.81																							
8-Jan	20.3	20.3	14.8	Z	14.7	12.9	6.9	6.2	11.2	13.3	14.9	19.5	20.2	25.2	28.6	28.8	27.8	21.8	19.8	20.4	18.8	19.0	19.2	20.6	18.49	28.76																							
9-Jan	18.5	19.7	20.4	Z	22.4	23.0	22.2	20.9	21.7	24.0	27.3	29.1	29.8	30.8	31.9	33.3	32.0	30.6	31.8	31.9	32.4	32.0	31.2	29.6	27.24	33.27																							
10-Jan	27.7	28.8	29.9	Z	31.6	32.0	30.7	32.8	35.5	37.7	39.5	40.0	39.6	38.6	38.5	38.5	38.0	33.5	30.6	31.1	32.0	32.1	34.1	37.9	34.38	39.99																							
11-Jan	35.7	33.5	37.2	Z	40.1	39.0	37.8	38.3	38.1	37.1	38.9	41.6	43.1	43.6	44.3	43.9	42.7	41.9	42.0	41.7	40.8	40.5	38.3	22.9	39.26	44.30																							
12-Jan	22.8	28.6	29.8	Z	20.0	18.7	5.0	2.1	3.5	6.0	13.5	19.1	25.3	30.7	32.4	31.2	27.7	23.7	6.5	16.1	14.2	9.1	22.4	24.5	18.83	32.41																							
13-Jan	27.0	23.1	27.6	Z	30.6	30.1	31.4	34.6	33.5	31.1	28.7	28.5	33.6	36.5	40.1	40.5	18.4	4.8	1.0	9.6	23.1	25.0	22.2	18.7	26.08	40.46																							
14-Jan	27.1	29.6	30.2	Z	33.1	26.7	29.0	18.5	25.3	25.2	28.8	31.6	35.1	33.9	34.2	36.5	34.8	28.9	23.9	28.3	31.8	34.9	34.2	31.5	30.14	36.54																							
15-Jan	32.1	27.1	24.3	Z	33.6	34.0	33.0	35.4	37.1	37.9	38.3	39.3	41.2	42.1	43.8	43.2	39.1	32.2	21.8	18.4	29.5	34.8	34.9	35.2	34.28	43.84																							
16-Jan	34.7	34.8	36.5	Z	36.2	36.6	35.0	30.3	31.5	34.4	33.9	37.0	31.4	26.1	20.2	20.0	14.0	32.2	38.6	38.1	34.6	36.7	24.4	28.8	31.55	38.59																							
17-Jan	29.4	28.5	29.4	Z	21.3	23.3	27.6	24.4	17.7	23.2	25.5	25.0	22.0	21.8	18.9	9.7	7.8	2.6	2.5	4.2	9.9	13.9	13.5	10.3	17.93	29.38																							
18-Jan	9.6	6.8	5.7	Z	23.7	21.8	21.6	21.6	18.1	10.6	15.3	16.1	17.7	28.4	35.8	31.3	25.9	21.5	6.5	3.4	9.7	19.4	20.9	17.3	17.78	35.78																							
19-Jan	18.7	20.5	24.2	Z	26.1	22.7	23.5	25.8	18.1	12.8	14.1	12.3	21.4	26.3	26.5	24.3	24.5	22.9	23.3	30.4	24.9	17.9	17.7	12.7	21.36	30.37																							
20-Jan	14.9	20.0	18.8	Z	25.3	22.1	14.6	4.2	3.0	4.9	14.0	23.3	31.3	40.2	41.3	41.7	38.6	18.3	4.4	1.1	2.5	5.0	6.4	7.7	17.55	41.73																							
21-Jan	11.5	10.4	10.3	Z	11.4	8.5	6.0	3.3	6.6	5.6	12.0	16.2	20.1	20.9	22.0	22.0	21.0	17.6	19.8	19.7	19.8	19.2	18.6	18.1	14.80	22.03																							
22-Jan	18.3	17.5	17.7	Z	13.6	16.2	18.2	18.2	17.8	17.7	18.2	18.4	19.1	21.6	24.3	24.6	24.5	24.5	22.0	16.7	7.5	13.9	14.2	11.0	18.07	24.63																							
23-Jan	11.5	6.2	6.3	Z	9.6	10.8	9.0	9.7	10.0	10.8	13.0	13.7	14.8	15.0	13.9	12.6	10.5	9.1	8.7	8.7	7.9	6.8	6.3	4.8	9.99	15.01																							
24-Jan	1.4	0.3	2.5	Z	2.3	5.0	11.9	16.3	18.5	21.0	24.6	24.2	26.6	29.9	28.5	26.5	24.3	19.2	10.9	8.0	14.7	12.6	16.2	19.0	15.85	29.90																							
25-Jan	18.1	16.9	12.7	Z	11.0	12.7	8.8	9.6	12.3	16.2	20.1	24.4	32.8	37.3	35.4	35.0	33.1	32.1	29.4	26.5	29.2	32.2	31.9	31.8	23.89	37.33																							
26-Jan	33.0	34.6	35.9	Z	35.4	34.9	34.1	34.8	35.2	36.2	36.2	37.9	38.1	40.3	43.1	42.8	41.5	38.4	36.4	36.5	35.5	39.0	39.5	39.2	37.33	43.08																							
27-Jan	39.5	39.7	38.3	Z	39.6	38.6	36.5	35.7	C	C	C	C	38.0	38.3	38.3	38.8	42.7	43.9	43.5	43.7	42.7	40.9	41.9	42.5	40.17	43.91																							
28-Jan	41.8	41.3	40.9	Z	41.1	41.5	41.8	40.7	39.5	39.0	39.8	39.0	38.7	37.7	36.4	36.4	35.3	28.0	27.5	36.9	39.3	39.1	25.9	19.6	36.83	41.82																							
29-Jan	23.3	26.1	25.3	Z	24.1	20.9	20.6	15.7	31.6	24.7	36.6	41.5	40.6	39.3	41.0	36.6	42.0	41.9	39.0	41.9	43.8	43.7	42.2	41.8	34.09	43.79																							
30-Jan	41.7	39.5	37.7	Z	38.9	40.1	41.1	40.9	41.2	41.4	41.7	41.7	41.6	41.6	41.9	41.7	41.5	41.6	41.4	40.8	40.8	40.7	40.4	40.3	40.88	41.88																							
31-Jan	39.8	39.5	39.8	Z	38.1	39.4	38.9	39.1	39.4	40.2	39.0	37.6	35.7	36.2	35.6	35.6	34.9	34.0	34.4	35.0	34.9	35.5	35.7	36.0	37.14	40.16																							
																								24.70	24.47	24.50	--	25.81	25.43	24.58	23.62	23.83	23.83	26.34	28.23	30.44	32.03	32.30	31.47	29.42	26.65	23.75	24.01	25.10	26.04	25.55	24.30	Diurnal Average	
																								41.82	41.30	40.87	--	41.13	41.51	41.77	40.91	41.23	41.45	41.74	41.71	43.13	43.59	44.30	43.90	42.71	43.91	43.51	43.73	43.79	43.72	42.17	42.52	Diurnal Maximum	
Z - zerospan C - Calibration																																																	
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 82.5 ppb 24-hr -- ppb																																																	



WCAS - Carrot Creek
Eight Hour Running Averages

Ozone (O₃) - ppb
January 2017

Maximum Value: 42.89 ppb on Jan 11 20:00 Maximum Daily Average: 41.11 ppb on Jan 30																							Hours in Service: 744 Hours of Data: 736				
Minimum Value: 3.2 ppb on Jan 24 06:00 Minimum Daily Average: 10.97 ppb on Jan 23 Maximum Diurnal Average: 29.71 ppb at hour 18 Minimum Diurnal Average: 24.21 ppb at hour 10 Monthly Average: 26.253 ppb Percentiles: P ₁ = 4.5 P ₁₀ = 12.2 Q ₁ = 19.4 Median = 27.0 Q ₃ = 34.2 P ₉₀ = 39.5 P ₉₉ = 42.1																							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-Jan	37.2	37.0	37.0	36.8	36.6	36.4	36.3	35.9	35.7	35.6	35.5	35.6	35.4	35.3	35.1	35.4	35.5	35.6	34.9	33.2	31.6	30.1	28.8	27.6	34.76	37.25	
2-Jan	26.3	24.9	24.0	24.3	23.6	22.9	21.8	20.6	18.9	16.7	15.1	15.2	15.2	15.5	15.8	15.7	14.7	13.9	12.3	10.3	8.0	5.9	4.6	3.5	16.24	26.33	
3-Jan	3.9	4.4	5.4	6.1	8.2	9.5	10.6	12.3	14.5	17.2	19.9	21.0	22.8	24.9	26.6	28.1	29.0	30.0	30.9	31.0	30.5	30.0	29.6	29.1	19.82	30.97	
4-Jan	28.6	27.9	27.4	27.1	28.2	29.3	30.3	31.3	31.9	32.1	32.2	32.3	32.2	32.1	31.9	31.8	32.1	32.3	32.3	31.8	31.2	30.5	30.0	29.2	30.66	32.33	
5-Jan	28.6	28.2	27.5	27.2	27.4	27.6	27.4	27.0	26.8	26.2	25.8	25.8	26.4	27.0	27.8	28.9	30.1	31.2	31.8	31.6	31.3	30.9	30.3	29.4	28.43	31.77	
6-Jan	28.4	27.5	26.6	26.9	26.2	25.1	24.3	23.6	22.4	21.4	21.4	21.5	21.2	21.4	21.4	21.6	22.1	22.4	22.4	21.9	21.5	21.1	20.8	20.4	23.06	28.40	
7-Jan	20.0	19.9	19.8	19.9	19.6	19.7	19.9	20.5	21.2	22.1	23.3	23.9	25.6	26.9	27.9	28.5	29.0	29.2	29.4	29.7	29.5	29.2	28.0	26.7	24.56	29.72	
8-Jan	25.7	24.8	23.2	22.1	19.9	17.6	15.5	13.7	12.4	11.4	11.4	12.5	13.1	14.7	17.4	20.2	22.3	23.3	24.0	24.1	23.9	23.1	21.9	20.9	19.13	25.66	
9-Jan	19.8	19.5	19.6	19.5	20.0	20.5	21.0	21.0	21.5	22.1	23.1	23.8	24.7	25.7	26.9	28.5	29.8	30.6	31.2	31.5	31.8	32.0	31.9	31.4	25.31	31.99	
10-Jan	30.9	30.7	30.4	30.2	30.1	30.1	30.0	30.5	31.6	32.9	34.2	35.0	36.0	36.8	37.8	38.5	38.8	38.3	37.2	36.1	35.1	34.3	33.8	33.7	33.86	38.80	
11-Jan	33.4	33.4	34.2	34.6	35.8	36.8	37.3	37.4	37.7	38.2	38.5	38.9	39.2	39.8	40.6	41.3	41.9	42.5	42.9	42.9	42.6	42.2	41.5	38.8	38.85	42.89	
12-Jan	36.4	34.7	33.2	32.0	29.0	25.9	21.1	18.2	15.4	12.2	9.8	11.0	11.7	13.2	16.6	20.2	23.2	25.5	24.6	24.2	22.8	20.1	18.9	18.0	21.57	36.36	
13-Jan	17.9	17.9	20.5	21.1	23.5	26.5	27.8	29.2	30.1	31.3	31.4	31.1	31.4	32.2	33.3	34.1	32.2	28.9	25.4	23.1	21.8	20.3	18.1	15.3	26.02	34.07	
14-Jan	16.4	19.5	23.2	25.1	26.5	26.8	27.8	27.7	27.5	26.8	26.7	27.3	27.5	28.4	29.1	31.3	32.5	33.0	32.4	32.0	31.6	31.7	31.7	31.0	28.06	32.99	
15-Jan	30.7	30.5	30.5	30.9	31.1	31.0	30.8	31.4	32.1	33.6	35.6	36.1	37.0	38.1	39.4	40.4	40.6	39.9	37.9	35.2	33.8	32.9	31.7	30.7	34.24	40.62	
16-Jan	30.2	30.5	32.3	34.3	35.3	35.6	35.6	34.9	34.4	34.3	34.0	34.3	33.7	32.4	30.6	29.3	27.1	26.8	27.4	27.6	28.0	29.3	29.8	30.9	31.61	35.55	
17-Jan	32.9	32.4	31.2	30.3	28.4	26.4	26.9	26.3	24.6	23.9	23.3	23.5	23.6	23.4	22.3	20.5	19.2	16.7	13.8	11.2	9.7	8.7	8.0	8.1	21.46	32.86	
18-Jan	8.3	8.8	9.2	10.0	11.9	13.1	14.2	15.8	17.1	17.6	19.0	18.6	17.9	18.7	20.5	21.7	22.7	24.0	22.9	21.3	20.3	19.2	17.3	15.6	16.91	24.01	
19-Jan	14.7	14.6	16.8	18.7	21.0	21.5	21.8	23.0	23.0	21.9	20.4	19.4	18.8	19.3	19.7	19.5	20.3	21.5	22.7	24.9	25.4	24.3	23.2	21.8	20.75	25.39	
20-Jan	20.6	20.2	19.7	18.1	18.2	18.8	18.4	17.1	15.4	13.3	12.6	13.9	14.7	16.9	20.3	25.0	29.4	31.1	29.9	27.1	23.5	19.1	14.8	10.5	19.52	31.08	
21-Jan	7.1	6.1	6.9	7.7	8.9	9.4	9.4	8.8	8.1	7.4	7.6	8.7	9.8	11.3	13.3	15.7	17.5	19.0	19.9	20.4	20.3	20.1	19.7	19.2	12.60	20.38	
22-Jan	18.9	18.9	18.6	18.5	17.6	17.1	17.1	17.1	17.0	17.1	17.1	17.3	18.0	18.6	19.4	20.2	21.0	21.9	22.4	22.2	20.7	19.7	18.5	16.8	18.82	22.37	
23-Jan	15.2	12.9	10.9	10.1	10.4	10.0	9.2	9.0	8.8	9.5	10.4	10.8	11.5	12.0	12.6	13.0	13.0	12.8	12.3	11.7	10.8	9.8	8.8	7.9	10.97	15.17	
24-Jan	6.7	5.6	4.8	4.3	3.5	3.2	4.0	5.7	8.1	11.1	14.2	15.5	18.5	21.6	23.7	25.0	25.7	25.5	23.8	21.7	20.2	18.1	16.5	15.6	14.29	25.71	
25-Jan	14.8	14.5	14.8	15.7	15.2	15.2	14.2	12.8	12.0	11.9	13.0	14.4	17.1	20.2	23.5	26.7	29.3	31.3	32.4	32.7	32.2	31.6	31.2	30.8	21.15	32.69	
26-Jan	30.8	31.1	31.9	32.7	33.5	33.9	34.3	34.7	35.0	35.2	35.3	35.6	35.9	36.6	37.7	38.7	39.5	39.8	39.8	39.7	39.3	39.2	38.7	38.3	36.13	39.82	
27-Jan	38.0	38.2	38.4	38.7	39.2	39.2	38.8	38.3	38.1	Z	Z	C	C	C	C	C	C	40.0	40.5	40.9	41.5	41.8	42.3	42.7	--	42.73	
28-Jan	42.6	42.3	42.0	41.7	41.5	41.6	41.6	41.3	41.0	40.6	40.5	40.3	40.0	39.5	38.8	38.3	37.8	37.8	36.4	34.9	34.6	34.7	34.9	33.5	31.4	38.82	42.62
29-Jan	29.9	29.7	29.4	28.4	26.2	23.6	22.8	22.3	23.5	23.3	24.9	26.9	29.0	31.3	33.9	36.5	37.8	39.9	40.2	40.3	40.7	41.2	41.4	42.0	31.88	42.04	
30-Jan	42.0	41.7	41.5	41.5	40.8	40.3	40.1	40.0	39.9	40.2	40.8	40.9	41.2	41.4	41.5	41.6	41.7	41.7	41.6	41.5	41.4	41.3	41.1	40.9	41.11	41.99	
31-Jan	40.7	40.5	40.3	40.2	39.8	39.6	39.4	39.2	39.2	39.3	39.1	39.0	38.7	38.3	37.8	37.4	36.8	36.1	35.5	35.2	35.1	35.0	35.0	35.0	38.00	40.72	
25.08 24.79 24.88 24.99 25.07 24.97 24.82 24.73 24.67 24.21 24.53 25.00 25.60 26.45 27.44 28.44 29.09 29.71 29.34 28.76 28.09 27.34 26.50 25.60																							Diurnal Average				
42.62 42.30 41.97 41.72 41.49 41.57 41.56 41.30 40.97 40.64 40.77 40.88 41.22 41.42 41.52 41.62 41.90 42.50 42.88 42.89 42.59 42.21 42.27 42.73																							Diurnal Maximum				
Z - zerospan C - Calibration																											



WCAS - Carrot Creek
Summary of Hourly Averages

Nitrogen Oxide (NO) - ppb
January 2017

Maximum Value: 27.53 ppb on Jan 20 20:00		Maximum Daily Average: 5.54 ppb on Jan 20		Hours in Service: 744																							
Minimum Value: 0.0 ppb on Jan 1 01:00		Minimum Daily Average: 0.02 ppb on Jan 30		Hours of Data: 708																							
Maximum Diurnal Average: 3.72 ppb at hour 12		Minimum Diurnal Average: 0.05 ppb at hour 5		Hours of Missing Data: 36																							
Monthly Average: 1.261 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.1 Q ₃ = 0.9 P ₉₀ = 3.7 P ₉₉ = 15.3		Hours of Calibration: 36																							
				Percent Operational Time: 100.0																							
Day	Hourly Period Ending At																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.1	0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.05	0.25	
2-Jan	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.3	4.6	7.1	9.7	6.4	6.2	8.1	6.8	13.0	5.5	5.0	13.6	13.4	2.9	0.2	0.4	4.49	13.62	
3-Jan	0.3	0.6	0.2	Z	0.0	0.6	0.2	0.1	0.1	1.0	2.6	3.4	3.7	3.2	2.9	1.1	0.3	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.90	3.71	
4-Jan	0.1	0.1	0.1	Z	0.1	0.0	0.0	0.1	0.2	0.6	1.5	1.6	2.3	1.7	1.4	0.8	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.50	2.30	
5-Jan	0.1	0.1	0.1	Z	0.1	0.1	0.2	0.1	0.1	0.5	1.2	1.4	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.19	1.43	
6-Jan	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.1	1.3	3.1	2.9	2.4	2.4	2.0	1.2	0.3	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.71	3.14	
7-Jan	0.0	0.0	0.1	Z	0.0	0.0	0.0	0.0	0.0	0.2	0.6	0.8	0.3	0.4	0.4	0.6	0.2	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.17	0.76	
8-Jan	0.1	0.0	0.1	Z	0.1	0.1	0.9	0.4	0.1	0.7	3.0	3.6	3.2	1.4	0.8	0.7	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.69	3.61	
9-Jan	0.1	0.1	0.1	Z	0.0	0.0	0.1	0.1	0.1	0.3	0.7	0.9	0.8	0.7	0.6	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.22	0.91	
10-Jan	0.1	0.1	0.1	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.3	0.2	0.2	0.2	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.08	0.31	
11-Jan	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.2	0.8	1.3	0.8	0.5	0.4	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.19	1.31	
12-Jan	0.1	0.1	0.0	Z	0.1	0.3	3.7	6.3	4.9	17.5	16.5	16.1	8.4	4.5	3.4	2.5	1.2	0.2	13.2	0.4	1.8	7.1	0.1	0.1	4.72	17.54	
13-Jan	0.1	0.1	0.1	Z	0.1	0.0	0.0	0.0	0.1	1.0	3.9	6.7	3.5	2.6	1.6	0.9	5.4	6.1	9.9	3.1	0.3	0.1	0.1	0.3	2.00	9.93	
14-Jan	0.1	0.1	0.1	Z	0.0	0.1	0.1	3.0	0.2	0.8	2.1	3.3	2.0	2.9	1.4	0.5	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.76	3.27	
15-Jan	0.0	0.1	0.1	Z	0.0	0.0	0.3	0.0	0.0	0.4	1.0	1.4	1.4	1.4	0.9	0.9	0.5	0.1	0.2	0.2	0.0	0.0	0.0	0.0	0.41	1.45	
16-Jan	0.0	0.0	0.0	Z	0.0	0.1	0.1	0.3	0.2	0.4	0.9	0.7	3.6	2.2	3.8	2.4	5.6	0.6	0.2	0.1	0.1	0.1	0.2	0.1	0.94	5.62	
17-Jan	0.1	0.1	0.1	Z	0.1	0.1	0.1	0.1	0.3	0.5	0.9	2.6	5.3	5.0	4.7	8.8	7.0	9.0	24.7	12.9	0.7	0.3	0.2	0.4	3.66	24.71	
18-Jan	0.3	0.4	0.6	Z	0.1	0.1	0.1	0.1	0.2	5.7	7.1	7.2	8.1	3.4	1.4	1.6	0.8	0.2	1.9	3.1	1.9	0.2	0.1	0.2	1.95	8.14	
19-Jan	0.2	0.2	0.1	Z	0.1	0.3	0.1	0.2	0.2	2.2	5.3	13.5	9.5	5.8	6.0	4.1	1.5	0.3	0.1	0.1	0.1	0.2	0.3	0.5	2.22	13.47	
20-Jan	0.3	0.2	0.1	Z	0.0	0.1	0.3	2.4	7.5	20.1	14.3	6.5	3.5	1.8	1.6	0.9	0.5	2.8	15.6	27.5	9.8	5.0	3.1	3.5	5.54	27.53	
21-Jan	0.4	0.3	0.3	Z	0.1	0.4	1.0	3.2	1.7	8.5	7.6	7.6	4.9	3.8	2.1	0.8	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	1.88	8.53	
22-Jan	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.4	0.5	0.4	0.3	0.3	0.2	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.13	0.50	
23-Jan	0.1	0.1	0.2	Z	0.2	0.1	0.1	0.1	0.3	2.3	4.1	6.6	6.5	6.4	8.2	6.3	3.2	0.6	0.1	0.1	0.1	0.2	0.1	0.2	2.01	8.17	
24-Jan	3.7	6.4	1.5	Z	0.3	0.3	0.2	0.1	0.2	1.7	2.6	4.8	3.6	2.0	2.2	3.4	2.7	0.5	1.1	1.8	0.6	0.6	0.1	0.1	1.77	6.37	
25-Jan	0.1	0.1	0.1	Z	0.1	0.1	0.3	0.5	0.6	2.6	5.2	5.1	3.1	2.1	2.9	2.1	1.1	0.2	0.1	0.1	0.0	0.1	0.1	1.16	5.17		
26-Jan	0.1	0.1	0.0	Z	0.0	0.0	0.0	0.1	0.1	0.6	1.8	2.0	2.3	2.0	1.4	1.3	0.7	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.56	2.25	
27-Jan	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	C	C	C	C	C	1.5	1.1	0.7	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.26	1.52	
28-Jan	0.1	0.0	0.0	Z	0.0	0.0	0.0	0.1	0.1	0.2	0.3	0.4	0.6	0.7	1.0	1.6	1.0	0.4	0.1	0.0	0.0	0.0	0.3	0.1	0.30	1.56	
29-Jan	0.1	0.0	0.0	Z	0.0	0.0	0.0	0.3	0.1	1.4	1.2	1.0	1.1	0.8	0.5	1.5	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.36	1.55	
30-Jan	0.0	0.0	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	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.02	0.09	
31-Jan	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.4	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.06	0.41	
		0.21	0.30	0.13	--	0.05	0.10	0.26	0.57	0.59	2.54	3.22	3.72	2.95	2.15	1.98	1.70	1.53	0.90	2.35	2.06	0.96	0.56	0.18	0.21	Diurnal Average	
		3.74	6.37	1.52	--	0.28	0.64	3.73	6.28	7.46	20.09	16.53	16.08	9.50	6.40	8.17	8.78	13.03	9.04	24.71	27.53	13.39	7.09	3.06	3.48	Diurnal Maximum	
Z - zerospan		C - Calibration																									
Alberta Ambient Air Quality Objectives (AAAQO):		1-hr --- ppb				24-hr --- ppb																					



WCAS - Carrot Creek
Summary of Hourly Averages

Nitrogen Dioxide (NO₂) - ppb
January 2017

Maximum Value: 39.99 ppb on Jan 13 19:00 Maximum Daily Average: 16.49 ppb on Jan 20																				Hours in Service: 744 Hours of Data: 708																													
Minimum Value: 0.6 ppb on Jan 30 13:00 Minimum Daily Average: 1.02 ppb on Jan 30 Maximum Diurnal Average: 12.57 ppb at hour 19 Minimum Diurnal Average: 4.60 ppb at hour 14 Monthly Average: 7.707 ppb Percentiles: P ₁ = 0.8 P ₁₀ = 1.6 Q ₁ = 3.8 Median = 6.3 Q ₃ = 10.0 P ₉₀ = 14.4 P ₉₉ = 29.5																				Hours of Missing Data: 36 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-Jan	2.3	2.1	2.6	Z	1.0	1.0	1.6	3.8	3.0	2.2	1.1	1.0	1.2	1.0	1.5	2.6	2.8	1.5	5.3	11.6	7.7	6.6	5.4	4.7	3.21	11.61																							
2-Jan	5.1	6.0	5.7	Z	6.6	6.0	7.8	6.4	12.0	16.5	11.1	11.1	9.1	8.3	10.7	14.1	26.6	29.0	28.7	28.8	26.0	17.9	13.7	14.9	14.01	29.01																							
3-Jan	13.7	12.1	10.2	Z	8.4	11.4	12.2	10.1	9.0	8.0	6.3	5.4	5.3	4.8	5.4	5.7	6.5	5.0	4.1	7.1	9.8	8.4	7.7	8.4	8.04	13.73																							
4-Jan	9.1	7.7	5.4	Z	4.3	4.1	4.0	5.0	9.2	9.8	7.4	5.6	6.7	5.9	6.4	6.1	7.4	7.1	7.8	8.4	10.5	9.0	8.1	9.0	7.13	10.47																							
5-Jan	7.9	7.0	8.4	Z	5.8	5.9	8.1	10.1	7.8	6.5	6.5	5.4	1.6	1.2	1.4	1.1	1.5	1.8	3.6	4.5	1.1	1.6	2.5	4.1	4.58	10.10																							
6-Jan	3.3	5.3	8.9	Z	4.6	6.7	6.2	6.7	10.2	11.8	9.3	6.2	4.8	4.0	5.2	5.5	6.4	11.9	13.1	13.2	11.4	9.7	9.6	10.0	8.00	13.25																							
7-Jan	9.3	9.8	9.5	Z	7.5	5.4	4.4	3.9	3.2	3.4	2.7	2.2	1.2	1.2	1.6	3.5	4.0	5.1	3.3	1.7	2.1	2.1	8.8	12.1	4.70	12.06																							
8-Jan	7.9	6.6	8.7	Z	6.6	7.6	14.1	14.6	7.7	5.0	6.4	6.3	5.1	2.9	2.1	2.9	4.2	9.9	11.7	10.7	12.3	11.7	11.1	8.6	8.03	14.64																							
9-Jan	11.0	9.8	8.4	Z	4.5	4.1	4.9	5.6	5.5	4.5	3.6	3.1	2.5	2.4	2.6	2.6	3.4	4.4	3.7	3.8	3.6	3.9	4.2	5.9	4.70	10.99																							
10-Jan	8.5	7.5	7.0	Z	5.0	4.9	6.1	5.0	2.5	1.7	1.0	0.8	1.2	1.0	1.1	1.3	1.9	6.8	9.7	7.9	6.4	6.8	4.9	1.6	4.37	9.66																							
11-Jan	3.4	5.6	3.7	Z	2.6	3.8	4.9	4.2	4.7	6.2	4.6	2.4	1.8	1.6	1.4	1.3	1.4	2.0	1.8	1.8	2.6	2.1	2.7	16.1	3.60	16.11																							
12-Jan	15.7	9.1	5.9	Z	14.5	13.5	26.1	29.8	23.4	22.2	16.3	14.7	8.6	6.5	6.8	7.8	10.5	13.6	30.3	17.0	19.0	22.3	10.0	7.0	15.25	30.27																							
13-Jan	5.7	6.2	5.3	Z	5.7	5.9	5.6	5.5	6.9	7.2	10.2	11.1	6.5	5.7	5.0	5.3	25.4	38.8	40.0	29.4	10.2	6.3	9.1	12.7	11.74	39.99																							
14-Jan	6.3	5.7	5.0	Z	4.5	9.0	6.2	15.8	11.5	10.4	10.5	10.8	6.7	9.4	7.6	5.9	6.8	9.5	9.3	8.4	5.9	4.2	4.4	4.8	7.76	15.80																							
15-Jan	4.8	7.2	8.0	Z	4.7	5.6	8.7	5.6	5.5	5.7	4.2	4.0	3.6	3.8	3.4	5.0	7.4	11.0	19.2	19.1	9.3	5.1	3.5	3.7	6.88	19.24																							
16-Jan	3.5	3.4	3.7	Z	4.7	4.4	5.6	10.0	7.2	6.8	6.8	4.8	9.9	7.9	15.9	16.8	25.2	13.0	6.2	5.8	6.6	4.5	12.6	7.6	8.38	25.19																							
17-Jan	7.4	5.7	6.0	Z	10.4	9.1	6.7	6.9	9.9	4.7	4.0	6.3	9.9	12.3	14.0	21.8	21.1	27.5	26.4	22.2	11.6	10.0	10.1	10.6	11.95	27.50																							
18-Jan	9.2	10.4	15.6	Z	5.9	6.8	7.4	7.6	8.7	13.5	8.9	10.4	10.5	6.2	4.3	7.7	9.9	11.9	27.7	28.3	21.7	10.7	8.0	9.1	11.32	28.32																							
19-Jan	9.0	8.4	7.4	Z	6.6	11.2	6.7	8.5	11.9	13.5	12.1	15.3	10.0	8.0	10.3	12.3	14.1	16.7	16.3	10.6	15.2	14.7	15.6	17.0	11.80	17.03																							
20-Jan	18.8	14.4	7.8	Z	7.8	9.7	14.3	23.8	21.7	20.4	14.0	8.2	5.9	4.5	4.7	4.4	6.3	22.3	37.1	39.8	34.7	25.7	17.5	15.5	16.49	39.79																							
21-Jan	10.2	11.6	12.2	Z	5.6	7.4	9.5	11.9	9.1	9.7	7.5	6.9	4.9	4.8	4.1	2.5	3.1	6.3	2.5	2.2	1.9	2.2	2.3	2.0	6.11	12.20																							
22-Jan	2.3	2.6	1.9	Z	5.3	2.2	1.7	1.7	1.9	1.6	1.5	1.4	1.5	1.4	1.8	2.0	2.9	3.7	5.5	11.2	21.9	13.7	12.6	15.4	5.11	21.95																							
23-Jan	15.0	21.8	21.2	Z	15.7	13.9	15.5	14.3	13.5	12.4	10.0	9.4	8.1	7.6	9.3	10.0	11.6	13.8	13.6	12.6	12.7	12.2	11.2	11.0	12.89	21.84																							
24-Jan	14.4	14.3	10.7	Z	10.1	10.5	11.7	9.7	9.9	9.8	8.1	9.5	7.7	4.9	6.4	9.4	13.1	16.4	19.7	21.5	12.0	11.6	8.0	6.9	11.13	21.54																							
25-Jan	6.5	6.5	7.6	Z	8.4	7.9	10.7	12.2	10.8	8.3	7.4	6.5	4.3	3.8	5.4	6.4	8.9	9.7	10.6	10.9	9.1	6.8	6.4	7.0	7.92	12.24																							
26-Jan	6.3	4.6	3.6	Z	3.8	4.3	5.1	4.9	5.0	4.6	5.2	4.5	4.8	4.1	4.2	5.0	6.5	7.7	8.2	7.1	8.4	5.4	4.4	4.1	5.29	8.42																							
27-Jan	3.8	3.7	4.8	Z	3.4	4.2	4.4	4.4	C	C	C	C	C	4.6	4.8	5.0	3.1	2.8	2.4	1.7	2.8	3.8	3.0	2.5	3.62	4.98																							
28-Jan	2.9	3.0	3.3	Z	2.5	2.5	2.7	3.7	4.4	5.0	4.2	4.3	4.7	5.5	6.0	7.7	8.4	13.4	11.5	6.4	5.1	4.8	13.7	13.7	6.06	13.72																							
29-Jan	8.6	6.2	4.8	Z	3.0	4.7	7.8	16.4	5.9	7.0	5.0	5.0	5.3	4.4	4.3	8.1	4.1	4.3	7.6	4.4	2.1	2.1	1.8	1.1	5.41	16.45																							
30-Jan	1.0	1.9	2.2	Z	1.4	1.1	0.7	0.9	0.7	0.9	0.8	0.7	0.6	0.6	0.7	0.8	1.1	0.9	0.9	1.1	1.1	1.2	1.1	1.0	1.02	2.16																							
31-Jan	1.2	1.3	0.9	Z	1.1	1.1	1.3	1.4	1.2	0.8	1.4	1.2	1.1	1.9	1.6	1.3	1.8	2.7	2.1	2.1	2.0	2.4	1.7	1.7	1.54	2.70																							
																								7.56	7.34	6.98	--	5.87	6.32	7.51	8.73	8.13	7.99	6.61	6.15	5.17	4.60	5.16	6.20	8.30	10.66	12.57	11.66	9.89	8.04	7.60	8.07	Diurnal Average	
																								18.77	21.84	21.23	--	15.75	13.93	26.09	29.81	23.44	22.17	16.35	15.26	10.51	12.34	15.92	21.83	26.60	38.76	39.99	39.79	34.74	25.74	17.52	17.03	Diurnal Maximum	
Z - zerospan C - Calibration																								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
January 2017

Maximum Value: 67.35 ppb on Jan 20 20:00 Maximum Daily Average: 22.05 ppb on Jan 20																						Hours in Service: 744 Hours of Data: 708				
Minimum Value: 0.7 ppb on Jan 30 09:00 Minimum Daily Average: 1.04 ppb on Jan 30 Maximum Diurnal Average: 14.93 ppb at hour 19 Minimum Diurnal Average: 5.92 ppb at hour 5 Monthly Average: 8.973 ppb Percentiles: P ₁ = 0.8 P ₁₀ = 1.8 Q ₁ = 4.0 Median = 7.0 Q ₃ = 11.2 P ₉₀ = 17.0 P ₉₉ = 42.8																						Hours of Missing Data: 36 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-Jan	2.3	2.1	2.5	Z	1.0	1.0	1.6	3.8	3.0	2.3	1.2	1.2	1.5	1.2	1.7	2.8	2.8	1.5	5.3	11.7	7.7	6.6	5.4	4.7	3.25	11.65
2-Jan	5.0	6.0	5.7	Z	6.6	6.1	7.9	6.4	12.3	21.1	18.2	20.9	15.5	14.6	18.8	21.0	39.7	34.5	33.8	42.5	39.5	20.9	13.9	15.3	18.53	42.46
3-Jan	14.0	12.7	10.5	Z	8.5	12.1	12.4	10.2	9.1	9.0	8.9	8.8	9.0	8.0	8.3	6.8	6.8	5.0	4.1	7.1	9.9	8.5	7.8	8.5	8.96	14.01
4-Jan	9.2	7.8	5.5	Z	4.3	4.1	4.0	5.1	9.4	10.4	8.9	7.2	9.0	7.6	7.8	7.0	7.7	7.2	7.9	8.5	10.6	9.2	8.2	9.1	7.63	10.55
5-Jan	8.0	7.1	8.4	Z	5.8	6.0	8.3	10.2	7.8	7.0	7.7	6.9	1.9	1.4	1.5	1.1	1.5	1.8	3.6	4.5	1.0	1.6	2.4	4.1	4.76	10.20
6-Jan	3.2	5.3	9.0	Z	4.6	6.7	6.2	6.7	10.3	13.1	12.5	9.1	7.2	6.4	7.2	6.7	6.7	12.0	13.3	13.3	11.5	9.7	9.6	10.0	8.71	13.30
7-Jan	9.4	9.9	9.6	Z	7.6	5.4	4.4	3.9	3.2	3.6	3.3	3.0	1.5	1.6	2.0	4.1	4.2	5.1	3.3	1.7	2.0	2.1	8.9	12.2	4.87	12.20
8-Jan	8.0	6.6	8.8	Z	6.7	7.7	15.0	15.0	7.8	5.7	9.4	9.9	8.2	4.4	2.9	3.6	4.4	10.0	11.7	10.8	12.4	11.8	11.1	8.7	8.72	15.00
9-Jan	11.1	9.9	8.5	Z	4.5	4.1	5.0	5.7	5.6	4.8	4.3	4.1	3.2	3.1	3.2	2.9	3.6	4.4	3.7	3.8	3.6	3.9	4.2	5.9	4.92	11.14
10-Jan	8.5	7.6	7.1	Z	5.0	5.0	6.2	5.0	2.5	1.8	1.2	1.0	1.5	1.2	1.3	1.5	2.0	6.8	9.7	8.0	6.4	6.8	4.9	1.5	4.46	9.72
11-Jan	3.4	5.6	3.7	Z	2.6	3.7	4.9	4.2	5.0	7.0	6.0	3.2	2.3	2.0	1.5	1.4	1.4	2.0	1.7	1.7	2.5	2.1	2.7	16.2	3.77	16.20
12-Jan	15.8	9.2	5.9	Z	14.6	13.7	29.9	36.1	28.3	39.8	33.0	30.8	17.0	11.0	10.2	10.3	11.7	13.9	43.5	17.5	20.8	29.4	10.2	7.1	19.99	43.48
13-Jan	5.8	6.3	5.4	Z	5.7	5.9	5.7	5.5	7.0	8.2	14.1	17.9	10.1	8.3	6.6	6.3	30.9	44.9	50.0	32.5	10.5	6.3	9.2	13.1	13.74	49.97
14-Jan	6.4	5.7	5.0	Z	4.5	9.1	6.3	18.9	11.7	11.1	12.6	14.1	8.7	12.4	9.0	6.5	7.0	9.6	9.4	8.5	6.0	4.2	4.4	4.8	8.53	18.86
15-Jan	4.9	7.3	8.1	Z	4.7	5.7	9.0	5.6	5.5	6.1	5.2	5.5	5.0	5.3	4.3	5.8	7.9	11.2	19.4	19.3	9.4	5.1	3.4	3.7	7.29	19.41
16-Jan	3.5	3.4	3.7	Z	4.7	4.4	5.7	10.2	7.4	7.2	7.8	5.5	13.5	10.0	19.7	19.2	30.8	13.6	6.4	5.9	6.8	4.5	12.7	7.7	9.33	30.84
17-Jan	7.5	5.8	6.1	Z	10.5	9.3	6.8	7.0	10.2	5.2	4.9	8.9	15.2	17.4	18.7	30.7	28.2	36.6	51.2	35.1	12.3	10.3	10.4	11.0	15.63	51.17
18-Jan	9.4	10.8	16.2	Z	5.9	6.9	7.5	7.7	8.9	19.2	16.0	17.6	18.7	9.6	5.7	9.3	10.7	12.1	29.6	31.5	23.6	10.9	8.1	9.4	13.28	31.49
19-Jan	9.2	8.6	7.5	Z	6.7	11.5	6.8	8.7	12.1	15.7	17.5	28.8	19.5	13.9	16.3	16.4	15.6	17.1	16.4	10.7	15.2	14.9	15.9	17.5	14.02	28.79
20-Jan	19.0	14.7	7.9	Z	7.8	9.8	14.6	26.2	29.2	40.5	28.4	14.7	9.4	6.4	6.2	5.3	6.8	25.1	52.7	67.4	44.6	30.8	20.6	19.0	22.05	67.35
21-Jan	10.5	11.8	12.5	Z	5.7	7.8	10.4	15.1	10.9	18.3	15.0	14.6	9.8	8.7	6.3	3.3	3.5	6.5	2.5	2.2	1.9	2.2	2.3	2.0	7.99	18.30
22-Jan	2.3	2.6	1.9	Z	5.3	2.2	1.7	1.7	1.9	1.7	1.8	1.8	2.0	1.8	2.1	2.2	3.1	3.7	5.5	11.2	22.1	13.8	12.7	15.4	5.24	22.08
23-Jan	15.1	22.0	21.4	Z	15.9	14.1	15.6	14.4	13.7	14.7	14.1	16.1	14.7	14.1	17.4	16.3	14.8	14.4	13.7	12.7	12.8	12.3	11.3	11.2	14.90	22.00
24-Jan	18.2	20.6	12.3	Z	10.4	10.8	11.9	9.8	10.1	11.5	10.7	14.3	11.4	6.8	8.6	12.8	15.8	16.9	20.8	23.4	12.6	12.2	8.1	7.0	12.91	23.41
25-Jan	6.6	6.6	7.8	Z	8.6	8.0	11.0	12.8	11.4	10.9	12.6	11.6	7.4	5.9	8.3	8.5	10.0	9.9	10.7	11.0	9.1	6.8	6.5	7.1	9.10	12.78
26-Jan	6.4	4.6	3.6	Z	3.8	4.3	5.1	4.9	5.1	5.2	7.0	6.5	7.1	6.0	5.6	6.3	7.2	7.9	8.3	7.2	8.5	5.5	4.4	4.1	5.85	8.52
27-Jan	3.8	3.7	4.8	Z	3.4	4.1	4.4	4.4	C	C	C	C	C	6.1	5.9	5.6	3.4	3.0	2.5	1.8	2.9	3.9	3.0	2.6	3.86	6.11
28-Jan	2.9	3.1	3.3	Z	2.5	2.5	2.7	3.7	4.5	5.1	4.5	4.6	5.3	6.2	7.1	9.3	9.4	13.8	11.6	6.5	5.1	4.8	14.0	13.9	6.37	14.02
29-Jan	8.7	6.2	4.8	Z	3.0	4.6	7.9	16.8	6.0	8.4	6.2	6.0	6.4	5.2	4.8	9.6	4.4	4.3	7.7	4.4	2.1	2.1	1.8	1.1	5.76	16.78
30-Jan	1.0	1.9	2.1	Z	1.4	1.1	0.7	0.9	0.7	0.9	0.9	0.8	0.7	0.7	0.8	0.9	1.2	0.9	0.9	1.1	1.1	1.2	1.1	1.0	1.04	2.14
31-Jan	1.2	1.3	1.0	Z	1.1	1.1	1.3	1.4	1.2	0.8	1.5	1.4	1.3	2.3	1.8	1.5	1.9	2.7	2.1	2.1	2.0	2.4	1.7	1.6	1.61	2.73
																								Diurnal Average		
																								Diurnal Maximum		
7.76 7.63 7.11 -- 5.92 6.41 7.77 9.29 8.73 10.55 9.84 9.89 8.14 6.76 7.15 7.91 9.84 11.56 14.93 13.73 10.86 8.61 7.78 8.28 19.03 22.00 21.40 -- 15.89 14.06 29.85 36.14 29.20 40.53 32.95 30.80 19.53 17.40 19.68 30.66 39.71 44.87 52.68 67.35 44.57 30.78 20.62 19.04																										
Z - zerospan C - Calibration Alberta Ambient Air Quality Objectives (AAAQO): 1-hr --- ppb 24-hr --- ppb																										

**CARROT CREEK
STATION #903**

METEOROLOGICAL DATA

JANUARY 2017



WCAS - Carrot Creek
Summary of Hourly Averages

External Temperature (ET) - C
January 2017

Maximum Value: 8.50 C on Jan 18 15:00 Maximum Daily Average: 3.40 C on Jan 28 Minimum Value: -28.1 C on Jan 12 09:00 Minimum Daily Average: -21.93 C on Jan 8 Maximum Diurnal Average: -5.06 C at hour 16 Minimum Diurnal Average: -10.46 C at hour 7 Monthly Average: -8.658 C Percentiles: P ₁ = -26.0 P ₁₀ = -19.9 Q ₁ = -15.6 Median = -8.5 Q ₃ = -2.2 P ₉₀ = 2.2 P ₉₉ = 6.0																								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-Jan	-9.4	-9.5	-10.4	-12.2	-12.1	-11.4	-11.4	-11.8	-11.4	-11.2	-12.9	-11.2	-10.6	-10.7	-10.6	-11.2	-11.8	-13.4	-16.0	-18.4	-19.1	-19.1	-19.8	-20.8	-13.18	-9.38																							
2-Jan	-20.3	-19.8	-20.0	-21.5	-20.9	-19.9	-19.6	-19.6	-19.4	-19.3	-19.2	-18.6	-18.2	-17.1	-16.7	-17.2	-19.1	-20.2	-20.3	-19.9	-19.7	-19.7	-20.0	-22.3	-19.53	-16.70																							
3-Jan	-23.8	-25.4	-23.7	-22.8	-23.4	-23.6	-23.9	-24.3	-24.8	-23.4	-22.7	-20.8	-19.1	-18.2	-17.2	-15.0	-14.4	-13.6	-13.5	-15.8	-16.3	-15.6	-16.0	-15.9	-19.72	-13.52																							
4-Jan	-16.1	-15.4	-13.6	-12.1	-10.6	-9.9	-9.4	-9.1	-8.8	-9.1	-8.8	-7.9	-7.2	-6.7	-6.5	-6.1	-6.2	-7.3	-6.7	-6.4	-6.3	-6.2	-5.9	-5.9	-8.68	-5.91																							
5-Jan	-5.6	-5.2	-5.9	-5.9	-5.8	-5.8	-5.8	-5.9	-6.0	-6.2	-6.2	-5.4	-5.4	-5.4	-5.6	-5.7	-6.2	-6.8	-7.9	-8.7	-9.9	-10.7	-11.3	-11.9	-6.87	-5.20																							
6-Jan	-12.7	-13.3	-13.6	-13.7	-14.2	-15.1	-15.5	-15.6	-16.1	-16.5	-16.2	-15.5	-14.8	-14.1	-13.9	-13.8	-14.3	-15.2	-15.5	-15.7	-15.8	-15.8	-15.8	-15.7	-14.95	-12.67																							
7-Jan	-15.5	-15.5	-15.7	-16.6	-16.4	-16.3	-16.2	-16.3	-16.7	-17.4	-17.7	-17.5	-17.5	-17.2	-17.1	-17.1	-17.5	-17.8	-18.0	-18.6	-19.5	-20.6	-21.2	-21.0	-17.54	-15.45																							
8-Jan	-21.0	-21.9	-23.7	-26.0	-27.0	-27.2	-26.4	-25.2	-24.2	-23.3	-21.8	-20.2	-20.0	-19.3	-19.0	-19.1	-19.4	-19.8	-19.9	-20.2	-20.4	-20.5	-20.5	-20.5	-21.93	-18.96																							
9-Jan	-20.6	-20.5	-20.3	-20.1	-19.8	-19.9	-20.0	-20.1	-20.2	-20.2	-20.2	-19.8	-19.3	-19.1	-18.7	-18.3	-18.4	-18.5	-18.5	-18.7	-18.9	-19.0	-19.8	-22.5	-19.64	-18.35																							
10-Jan	-23.3	-22.7	-22.7	-22.6	-22.7	-20.7	-19.6	-18.7	-17.3	-19.0	-19.7	-19.9	-19.9	-19.4	-19.1	-18.9	-20.2	-20.7	-21.4	-19.3	-18.0	-16.0	-14.7	-14.6	-19.62	-14.62																							
11-Jan	-15.9	-14.5	-13.0	-13.0	-12.6	-12.7	-13.5	-13.9	-12.9	-13.1	-12.2	-10.6	-8.4	-7.1	-6.4	-7.0	-7.9	-9.0	-9.9	-10.3	-11.5	-13.7	-16.0	-19.6	-11.85	-6.37																							
12-Jan	-21.0	-21.8	-22.7	-24.7	-25.0	-25.9	-26.9	-27.5	-28.1	-27.5	-24.0	-20.0	-16.8	-14.3	-12.8	-11.7	-12.9	-14.2	-17.5	-18.0	-18.1	-20.1	-17.7	-17.4	-20.28	-11.67																							
13-Jan	-16.9	-19.3	-17.5	-16.0	-15.6	-15.7	-15.2	-12.6	-12.9	-14.9	-13.8	-11.1	-8.7	-5.3	-3.8	-3.3	-6.9	-10.0	-13.4	-12.9	-11.0	-11.3	-11.6	-12.4	-12.16	-3.28																							
14-Jan	-11.2	-10.9	-11.5	-11.8	-10.6	-12.3	-11.9	-13.1	-10.4	-9.7	-7.8	-4.0	-3.4	-1.3	-0.3	-0.7	-1.3	-2.5	-2.7	-1.4	-1.5	-0.4	-2.1	-2.2	-6.04	-0.32																							
15-Jan	-1.7	-3.3	-4.2	-0.8	-1.7	-1.6	-1.1	-2.3	-1.6	-1.4	-0.2	0.0	2.0	3.7	4.0	6.0	2.0	-2.2	-3.7	-4.8	-4.3	-4.0	-4.4	-5.4	-1.29	5.99																							
16-Jan	-4.5	-3.4	-3.2	-3.3	-3.2	-2.4	-3.6	-3.6	-3.0	-1.7	-1.4	-0.2	1.5	1.5	0.6	0.6	0.8	3.9	4.4	3.6	2.7	3.4	1.7	1.5	-0.30	4.36																							
17-Jan	1.5	0.6	1.6	1.5	0.3	0.6	1.5	1.0	-0.9	-0.3	1.5	3.4	4.1	5.3	5.5	3.7	3.3	1.7	0.1	-0.5	0.2	1.7	1.8	1.0	1.66	5.48																							
18-Jan	0.8	-0.2	0.2	0.9	1.9	1.6	1.6	1.1	-0.2	-2.5	0.4	2.8	3.6	7.3	8.5	6.9	4.9	2.6	2.1	0.0	0.1	0.7	-0.2	-2.8	1.75	8.50																							
19-Jan	-2.5	-2.4	-1.3	-1.5	-1.2	-0.6	-1.0	0.7	-0.4	-1.9	-2.9	-3.3	0.4	2.3	2.9	2.3	2.7	2.7	1.9	2.9	1.8	-2.0	-2.4	-4.7	-0.31	2.87																							
20-Jan	-5.9	-5.6	-7.2	-5.9	-5.2	-6.0	-7.2	-8.0	-9.8	-9.6	-6.3	-2.7	1.8	3.3	5.2	6.0	2.6	-2.6	-4.5	-6.1	-7.3	-8.6	-10.0	-10.9	-4.60	6.03																							
21-Jan	-11.9	-12.8	-13.1	-13.9	-14.0	-15.2	-15.7	-15.9	-16.2	-16.1	-12.5	-9.6	-6.6	-4.8	-5.1	-6.1	-6.7	-7.4	-7.9	-8.3	-8.6	-8.7	-8.8	-9.0	-10.62	-4.79																							
22-Jan	-9.2	-9.2	-9.2	-9.0	-9.0	-8.9	-8.6	-8.7	-8.7	-8.7	-8.4	-8.3	-8.2	-8.2	-8.5	-8.6	-8.8	-9.0	-9.1	-9.2	-9.3	-9.4	-9.5	-9.5	-8.88	-8.15																							
23-Jan	-9.6	-9.7	-9.7	-9.7	-9.8	-9.8	-9.8	-9.8	-9.8	-9.6	-9.2	-8.7	-7.7	-7.6	-7.9	-7.9	-7.9	-8.0	-8.1	-8.1	-8.1	-8.5	-9.0	-9.7	-8.89	-7.59																							
24-Jan	-9.7	-10.1	-9.9	-9.6	-9.8	-9.2	-7.1	-6.8	-6.9	-6.8	-6.1	-5.2	-4.4	-3.6	-3.0	-2.2	-3.3	-5.1	-6.3	-8.3	-8.9	-10.5	-10.5	-10.2	-7.23	-2.20																							
25-Jan	-11.1	-12.5	-14.4	-14.9	-15.7	-15.3	-16.8	-16.1	-16.2	-15.8	-13.4	-9.7	-5.9	-3.5	-1.6	-0.8	-1.2	-2.7	-2.8	-3.5	-4.8	-3.8	-4.1	-3.7	-8.76	-0.83																							
26-Jan	-3.5	-3.4	-3.0	-3.3	-3.6	-3.8	-4.4	-4.7	-4.6	-4.0	-3.0	-1.4	0.0	1.7	3.0	3.5	1.8	0.0	-0.6	-2.0	-2.4	-1.8	-1.7	-2.2	-1.81	3.46																							
27-Jan	-2.7	-3.0	-3.0	-3.9	-3.9	-3.9	-4.6	-4.3	-4.0	-3.7	-1.7	-0.3	2.2	3.5	3.2	4.0	4.9	5.5	4.9	4.4	4.0	2.9	3.9	4.0	0.36	5.52																							
28-Jan	3.2	2.6	3.1	2.6	2.3	2.2	3.8	4.3	4.6	4.7	5.3	5.2	5.0	6.1	5.4	6.6	7.2	3.2	1.8	3.2	3.2	2.7	-2.2	-4.3	3.40	7.19																							
29-Jan	-5.6	-4.6	-5.5	-5.6	-6.0	-6.8	-6.9	-7.4	-3.7	-4.6	-0.2	3.1	3.7	3.3	4.7	4.4	4.6	3.6	2.6	3.9	3.8	2.9	1.9	1.2	-0.55	4.66																							
30-Jan	0.6	0.3	0.9	0.0	0.5	0.1	-0.3	-1.0	-1.2	-1.5	-1.4	-1.3	-1.4	-1.8	-2.0	-2.3	-2.8	-3.7	-4.3	-5.3	-5.5	-5.3	-5.5	-5.8	-2.08	0.92																							
31-Jan	-5.8	-5.8	-6.0	-6.9	-7.2	-8.3	-8.7	-9.0	-9.2	-9.3	-8.9	-8.4	-8.3	-8.1	-7.9	-8.0	-8.3	-8.8	-9.1	-9.5	-9.3	-9.2	-9.3	-9.4	-8.28	-5.75																							
																								-10.02	-10.26	-10.26	-10.41	-10.39	-10.43	-10.46	-10.45	-10.36	-10.44	-9.40	-7.98	-6.69	-5.66	-5.17	-5.06	-5.83	-6.94	-7.73	-8.14	-8.34	-8.58	-9.06	-9.74	Diurnal Average	
																								3.18	2.60	3.14	2.57	2.26	2.17	3.77	4.26	4.56	4.66	5.27	5.21	5.03	7.32	8.50	6.87	7.19	5.52	4.88	4.36	3.99	3.45	3.89	4.04	Diurnal Maximum	



WCAS - Carrot Creek
Summary of Hourly Averages

Wind Speed (WS) - kph
January 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	6.3	13.3	9.8	6.0	8.4	9.5	11.0	11.2	10.6	9.5	8.4	10.6	10.6	9.0	9.9	8.9	5.7	6.0	5.4	6.4	6.5	6.6	5.7	5.8	7.01	13.34	
Dir	NNW	NW	NW	NW	WNW	WNW	WNW	W	WNW	NNW	W	WNW	NW	NW	NW	NNW	NW	NW	W	SW	SW	SW	SW	SSW	WNW	NW	
2 Spd	5.8	5.2	4.1	4.9	1.1	1.1	1.7	1.1	1.0	1.3	2.6	2.8	5.0	3.7	2.8	3.0	3.2	0.7	0.6	2.4	2.4	3.8	3.7	3.5	2.12	5.84	
Dir	SW	SSW	SW	SSW	SSE	WNW	SW	N	N	NNW	WSW	W	NW	W	NW	SW	SSW	S	SSW	SSW	SSW	SW	SW	SSW	SW	SW	
3 Spd	3.9	4.0	3.2	2.4	2.3	5.3	6.6	5.9	4.9	9.1	9.3	10.3	6.8	11.4	13.3	13.1	11.9	11.3	10.9	12.5	11.8	12.7	14.6	15.1	8.05	15.13	
Dir	SW	SW	SSW	SW	SW	W	SW	SSW	SW	W	W	W	W	W	W	WNW	WNW	WNW	WNW	WNW	W	W	WNW	WNW	W	WNW	
4 Spd	11.9	16.8	14.1	16.1	18.0	19.0	17.4	16.7	15.2	12.8	9.5	10.0	7.5	8.7	10.2	8.4	9.9	9.2	8.3	11.1	13.3	11.7	11.5	11.3	12.24	19.04	
Dir	WNW	WNW	W	W	WSW	W	W	W	W	W	W	WSW	WSW	WSW	W	W	W	W	WSW	WSW	W	W	W	W	W	W	
5 Spd	11.9	10.6	9.1	6.1	7.0	8.4	7.7	6.0	3.9	2.8	2.3	4.1	6.5	4.6	6.1	5.0	4.9	6.9	9.2	9.7	12.2	9.8	11.2	10.8	1.28	12.17	
Dir	W	W	W	W	WSW	W	W	W	WNW	NW	NW	N	N	N	NNE	NNE	NE	E	ESE	E	E	E	E	E	N	E	
6 Spd	10.6	8.5	11.4	11.6	13.5	13.1	13.2	12.1	11.8	10.3	10.8	12.1	11.7	10.8	9.1	9.9	9.6	11.1	9.1	8.0	5.4	3.2	3.1	2.7	9.35	13.53	
Dir	E	E	E	E	E	E	E	E	E	E	E	E	E	E	ESE	E	E	E	ENE	E	ENE	ENE	NE	NNE	NNW	E	E
7 Spd	1.4	4.0	4.1	5.6	6.2	7.9	9.5	10.1	9.9	11.9	10.5	11.1	12.1	10.9	9.3	8.1	5.4	1.9	3.4	6.5	3.4	1.0	0.5	0.3	5.88	12.11	
Dir	WNW	WNW	WNW	WNW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NNW	NNW	NW	NNE	NE	NE	NNE	SSW	NNE	NW	NW	
8 Spd	0.3	0.3	1.1	2.2	2.8	1.4	1.7	0.6	0.3	0.2	1.3	4.3	7.3	8.4	10.3	8.2	8.2	7.4	7.7	6.4	5.8	3.4	2.8	3.3	2.95	10.33	
Dir	N	WNW	S	SSW	SSW	SSW	SSW	NNE	NNW	NW	E	E	NE	ENE	ENE	E	ENE	ENE	NE	NE	NE	NE	N	NW	ENE	ENE	
9 Spd	4.5	3.9	6.4	3.8	4.4	6.1	6.0	6.8	7.5	9.1	8.7	9.2	9.1	9.9	9.9	9.1	10.2	10.8	9.1	9.0	12.4	11.0	8.2	13.3	8.02	13.31	
Dir	NNW	NW	WNW	NW	NW	NW	NW	WNW	NW	WNW	WNW	WNW	NW	NW	NW	NW	NW	NW	NW	NW	WNW	WNW	WNW	W	NW	W	
10 Spd	13.1	10.1	9.5	9.5	9.1	18.9	21.0	13.5	18.9	21.4	19.2	18.1	17.5	16.5	14.7	10.3	6.7	4.4	6.7	9.4	10.3	14.9	17.3	13.6	11.32	21.40	
Dir	W	WNW	W	SW	SW	WSW	W	WNW	NNW	NNW	NNW	NW	NNW	NW	NW	NW	W	W	WSW	SW	WSW	W	W	WNW	WNW	NNW	
11 Spd	14.4	17.6	23.9	25.3	28.9	29.5	27.7	23.6	22.7	19.8	20.5	26.1	18.4	19.0	22.9	23.7	21.7	22.8	15.9	14.4	8.1	3.8	1.5	2.2	17.21	29.50	
Dir	W	W	W	W	W	W	WNW	W	W	W	W	WNW	WNW	NW	NW	NW	NW	NNW	NNW	NNW	NNW	NNW	E	S	WNW	W	
12 Spd	3.8	4.7	3.7	3.9	0.4	0.5	1.9	1.7	1.9	1.7	2.7	3.9	4.7	7.6	8.1	9.2	7.1	2.5	3.6	4.7	5.2	8.4	8.9	8.6	3.83	9.21	
Dir	S	S	S	S	S	SW	S	SSW	WSW	SSW	WSW	W	W	WNW	W	W	W	WSW	SW	WSW	SSW	SW	WSW	SW	WSW	WSW	
13 Spd	8.1	7.6	10.8	7.8	7.2	8.5	8.6	5.7	5.9	5.1	5.1	5.4	7.8	2.0	1.1	0.5	3.2	2.8	4.0	5.8	5.8	5.4	5.1	5.0	4.90	10.81	
Dir	SW	SW	SW	SSW	SSW	SSW	SSW	SSW	SSW	SW	W	WNW	WNW	WNW	S	ESE	SSE	S	S	SSW	SW	SSW	SSW	SW	SW	SW	
14 Spd	5.5	3.7	5.0	10.0	4.8	7.3	3.9	2.5	2.0	2.9	5.8	2.3	6.5	4.3	2.6	4.3	0.4	3.1	6.0	6.2	17.3	15.5	10.7	2.6	5.42	17.31	
Dir	WSW	SW	WSW	SW	WSW	WSW	WSW	SW	SW	W	SW	SW	WSW	SW	SSW	SSW	ESE	SW	SW	SSW	SW	SW	SW	SSW	SW	SW	
15 Spd	3.1	3.6	4.8	9.0	3.0	8.3	10.6	10.9	13.0	16.1	8.8	15.0	11.8	7.1	9.1	2.5	7.4	7.3	5.2	6.0	4.9	5.5	5.2	10.6	6.70	16.10	
Dir	NW	WSW	SSW	W	SSE	WSW	WSW	W	W	W	W	W	W	W	W	SW	SW	S	SSW	SSW	SW	SSW	SSW	SSW	WSW	W	
16 Spd	5.4	2.6	8.6	10.9	7.8	8.0	5.3	4.9	5.4	5.1	3.2	5.2	3.4	1.4	0.9	2.1	5.4	9.0	7.7	6.8	4.6	10.5	4.7	7.7	4.87	10.89	
Dir	SSW	SSW	SW	SSW	SW	SW	SSW	SW	SW	SW	SW	SSW	SW	N	WNW	SE	S	S	S	S	SW	SW	NW	W	SW	SSW	
17 Spd	6.1	8.7	4.3	4.2	3.8	3.8	5.2	8.7	7.6	9.6	6.3	4.2	2.4	5.1	3.3	3.6	3.5	0.7	2.9	4.4	10.0	4.6	0.8	2.0	4.55	10.03	
Dir	SSW	SSW	WSW	SSE	S	S	SSW	SSW	SSW	SSW	SSW	SSW	WSW	S	S	S	SSW	SSE	S	SSW	SSW	SSW	SSW	SSW	SSW	SSW	
18 Spd	1.5	1.1	4.6	7.4	9.9	6.9	6.3	5.7	5.2	4.8	5.2	2.5	1.0	2.2	5.8	5.0	3.9	3.4	2.1	2.7	11.7	7.0	4.4	6.2	2.81	11.68	
Dir	W	NNE	W	W	WSW	SW	SW	SW	SW	SSW	SSW	S	NNW	E	E	ENE	NE	ENE	SE	W	SW	WSW	WSW	SW	SW	SW	
19 Spd	8.4	5.5	5.4	8.0	2.2	2.7	3.2	6.1	3.6	1.9	4.3	4.7	7.5	12.4	10.0	10.6	11.1	9.9	8.7	7.6	6.0	5.1	3.6	4.9	4.76	12.44	
Dir	SW	SW	WSW	SSW	SE	SE	ENE	ESE	WNW	NW	W	SW	W	W	W	W	W	WSW	WSW	W	WSW	SSW	S	S	WSW	W	
20 Spd	4.2	5.3	8.6	3.8	0.8	2.8	2.4	0.6	3.4	3.9	3.8	4.8	3.1	3.9	0.3	0.5	0.4	1.7	1.9	2.1	1.9	2.3	3.4	1.9	2.15	8.60	
Dir	S	S	SSW	SSW	N	WSW	S	WNW	S	S	SSW	SW	WSW	WNW	NW	NNE	SSW	NE	S	S	SSW	SW	SW	SE	SSW	SSW	
21 Spd	2.8	1.9	1.9	4.2	4.0	5.0	4.7	3.8	4.3	3.5	5.1	6.3	4.7	3.3	4.9	6.9	5.1	5.7	3.0	3.1	2.5	1.9	2.3	4.2	1.60	6.92	
Dir	WSW	S	WSW	SSW	SW	SW	SSW	SW	SW	SW	WNW	WNW	W	NNW	N	NNE	N	N	N	N	N	N	N	N	NE	WNW	NNE
22 Spd	4.6	4.2	3.5	2.7	3.6	3.6	6.1	6.8	7.1	6.8	6.2	6.7	7.3	7.1	7.4	7.5	7.6	6.5	5.5	6.0	6.2	6.5	6.4	5.9	5.69	7.56	
Dir	NE	NE	NE	NNE	NNE	ENE	E	E	E	E	E	E	E	E	ENE	ENE	ENE	ENE	E	ENE	ENE	ENE	ENE	E	ENE	ENE	ENE



WCAS - Carrot Creek
Summary of Hourly Averages

Wind Speed (WS) - kph
January 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	5.7	5.6	4.6	4.5	4.3	3.2	2.7	2.0	AF	1.9	1.7	AF	AF	AF	AF	AF	4.0	2.7	2.7	AF	AF	AF	AF	AF	--	5.73		
Dir	E	E	ENE	ENE	ENE	ENE	E	E	AF	ESE	ESE	AF	AF	AF	AF	AF	NW	NW	WNW	AF	AF	AF	AF	AF	--	E		
24 Spd	AF	1.3	1.9	AF	AF	2.8	4.5	4.9	4.7	6.0	5.8	5.2	8.6	10.3	5.6	5.6	6.3	5.3	2.8	5.0	5.4	4.4	5.4	3.0	4.68	10.28		
Dir	AF	S	SSW	AF	AF	WSW	WSW	WSW	WSW	WSW	WSW	WSW	W	WSW	W	WSW	WSW	WSW	SSW	SSW	SSW	SSW	SW	WSW	WSW	WSW		
25 Spd	5.3	6.7	4.6	6.4	5.1	6.5	5.2	7.2	6.8	7.9	6.8	5.1	9.1	9.8	8.0	7.0	3.9	4.8	4.1	4.6	9.2	11.5	13.7	17.0	6.88	16.96		
Dir	SW	WSW	SSW	SW	WSW	SW	SSW	SW	SSW	SSW	SW	SW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	SW	W	W	W	W	WSW	W		
26 Spd	16.3	14.1	17.1	16.1	14.7	15.8	16.0	10.3	13.7	12.3	14.9	11.6	9.0	9.9	9.0	12.2	13.1	12.3	13.7	13.4	14.1	15.1	18.9	18.4	13.57	18.91		
Dir	W	W	W	W	W	W	W	W	WSW	WSW	WSW	WSW	WSW	WSW	SW	WSW	WSW	WSW	W	W	W	W	WSW	W	W	WSW		
27 Spd	17.3	16.3	13.7	13.4	11.4	11.4	8.6	6.0	7.9	8.6	6.1	9.5	13.2	11.8	15.0	14.2	22.0	28.0	28.6	29.4	15.5	11.2	14.6	19.0	13.91	29.36		
Dir	W	W	W	WSW	W	WSW	SW	SSW	SSW	SSW	SW	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W		
28 Spd	22.3	20.7	20.0	13.5	19.5	14.6	19.8	20.4	18.5	14.1	14.4	11.1	12.0	8.4	9.0	7.3	5.1	4.5	5.9	9.0	9.5	4.4	2.7	5.2	11.50	22.32		
Dir	W	W	W	W	W	WSW	W	WSW	WSW	WSW	WSW	WSW	W	WNW	W	W	NW	SW	SW	W	W	WNW	S	SSW	W	W		
29 Spd	7.4	3.2	5.0	4.1	4.5	6.0	3.4	3.9	2.2	6.0	11.3	7.9	4.1	5.8	1.8	8.1	9.0	12.9	12.5	13.2	9.6	14.3	14.9	13.9	5.50	14.86		
Dir	SSW	S	SSW	S	SSW	SSW	SSE	S	SSW	SSW	WSW	W	SSW	SSW	SSE	WSW	W	W	WSW	W	NW	WNW	NW	NW	WSW	NW		
30 Spd	11.1	17.0	18.6	15.5	14.5	16.3	21.8	21.7	25.0	24.5	23.6	29.0	29.3	27.0	25.6	20.1	21.2	17.4	18.6	15.3	18.4	20.7	18.8	17.2	19.80	29.31		
Dir	WNW	W	W	W	WNW	WNW	WNW	NW	NW	NW	WNW	NW	NW	NW	NW	NW	NW	NW	NW	NW	WNW	WNW	WNW	NW	WNW	NW		
31 Spd	16.1	17.7	16.7	17.3	16.2	14.4	11.2	12.1	9.9	6.5	7.5	9.4	14.8	14.9	12.4	11.2	10.5	7.5	9.5	9.3	8.8	7.8	5.8	6.1	11.16	17.73		
Dir	NW	NW	NW	NW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NW	NW	NW	NW	NW	NW	NW	NW	NW	WNW	NW	NNW	NNW	NW	NW		
Spd	5.22	5.28	5.93	5.68	5.19	6.04	5.73	4.87	5.31	5.12	5.45	6.10	6.12	5.59	5.32	4.47	4.41	3.81	3.74	4.47	4.85	5.08	4.88	5.12	Diurnal Average			
Dir	W	W	W	WSW	W	W	W	W	W	W	W	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	W	W	W	W	W	Diurnal Maximum			
Spd	22.32	20.70	23.87	25.26	28.95	29.50	27.73	23.60	24.98	24.47	23.60	29.00	29.31	27.02	25.59	23.73	22.03	27.96	28.56	29.36	18.38	20.70	18.91	19.01	Diurnal Maximum			
Dir	275.72	273.60	269.90	278.08	277.87	280.80	283.66	279.75	308.23	304.55	302.20	304.33	312.82	315.15	317.89	320.56	272.24	270.50	271.68	276.24	295.58	300.66	254.91	282.26	Diurnal Maximum			
Maximum Speed Value: 29.5 kph on Jan 11 06:00																				Minimum Speed Value: 0.2 kph on Jan 8 10:00				Hours in Service:				744
Maximum Daily Speed Average: 19.80 kph on Jan 30																				Minimum Daily Speed Average: 1.28 kph on Jan 2				Hours of Data:				730
Maximum Diurnal Speed Average: 6.12 kph at hour 13																				Minimum Diurnal Speed Average: 3.74 kph at hour 19				Hours of Missing Data:				14
Monthly Average Velocity: 5.034 kph 274.08 deg										Speed Percentiles: P ₁ = 0.4 P ₁₀ = 2.3 Q ₁ = 4.1 Median = 6.8 Q ₃ = 11.1 P ₉₀ = 16.3 P ₉₉ = 27.5										Percent Operational Time:				98.1				
All monthly, daily, and diurnal averages have been calculated using vector methods																												
AF - Analyzer 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	8	3	0	0	0	34																					
NorthEast	18	8	0	0	0	0	26																					
East	14	41	12	0	0	0	67																					
SouthEast	7	1	0	0	0	0	8																					
South	55	17	0	0	0	0	72																					
SouthWest	67	101	8	0	0	0	176																					
West	31	78	82	19	4	0	214																					
NorthWest	25	50	39	17	2	0	133																					
Total	240	304	144	36	6	0	730																					



WCAS - Carrot Creek
Summary of Hourly Averages

Relative Humidity (RH) - %
January 2017

Maximum Value: 94.76 % on Jan 24 20:00 Maximum Daily Average: 93.45 % on Jan 22																						Hours in Service: 744 Hours of Data: 744																									
Minimum Value: 29.8 % on Jan 30 11:00 Minimum Daily Average: 46.14 % on Jan 30 Maximum Diurnal Average: 80.49 % at hour 1 Minimum Diurnal Average: 65.34 % at hour 15 Monthly Average: 75.232 % Percentiles: P₁ = 34.9 P₁₀ = 54.1 Q₁ = 67.6 Median = 78.7 Q₃ = 85.0 P₉₀ = 92.1 P₉₉ = 94.4																						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-Jan	91.4	90.8	87.9	86.6	86.0	83.5	82.2	84.9	84.4	77.1	76.6	73.6	68.0	71.4	75.2	79.1	76.1	75.8	81.8	86.5	87.1	85.9	85.3	84.4	81.73	91.41																					
2-Jan	84.3	83.9	83.7	82.0	82.7	83.3	83.5	83.5	83.6	83.4	83.1	82.4	81.7	80.8	80.6	83.4	85.0	84.7	83.6	83.4	83.5	83.4	84.0	83.5	83.21	84.96																					
3-Jan	82.0	80.5	80.6	80.9	81.1	82.0	80.5	80.3	79.3	77.1	76.2	74.3	72.1	71.4	73.0	77.4	79.8	81.1	82.4	84.3	86.3	85.8	85.3	85.0	79.95	86.34																					
4-Jan	85.2	83.7	84.2	84.6	84.9	84.9	84.1	82.3	80.2	81.4	80.9	79.5	78.7	78.7	81.1	81.3	82.3	84.2	86.9	89.2	88.6	88.6	88.0	88.7	83.84	89.23																					
5-Jan	89.6	88.9	89.5	90.1	92.4	93.3	94.0	94.2	94.5	94.6	94.3	93.0	90.1	89.8	90.7	91.2	91.5	93.0	92.2	92.3	90.7	91.2	91.0	90.4	91.77	94.57																					
6-Jan	90.0	89.6	89.5	89.3	88.5	87.6	87.3	87.2	86.7	86.4	86.3	86.3	86.1	84.7	85.2	85.2	86.0	86.8	87.1	87.2	87.1	87.0	86.9	87.0	87.12	90.01																					
7-Jan	87.1	87.2	86.9	86.7	86.1	84.3	82.9	82.6	81.9	78.6	76.2	75.1	72.4	71.5	72.0	74.5	78.8	82.9	83.3	81.6	81.9	83.1	82.6	82.5	80.94	87.19																					
8-Jan	82.0	81.7	81.1	79.6	77.9	77.4	77.3	78.5	79.2	79.9	80.8	80.9	80.9	80.1	78.2	78.3	79.8	80.9	81.6	82.3	82.7	82.7	82.6	82.8	80.39	82.83																					
9-Jan	82.5	81.9	82.2	82.4	82.7	82.6	82.5	82.5	82.4	82.3	82.1	81.7	81.1	81.1	81.3	82.8	83.0	83.4	83.3	83.1	83.1	82.7	81.6	80.6	82.29	83.36																					
10-Jan	80.0	80.1	79.8	79.5	79.3	79.3	81.5	83.3	78.6	71.4	70.6	67.7	64.5	64.7	64.2	62.4	66.7	72.7	76.9	76.1	76.2	75.5	75.3	75.7	74.25	83.29																					
11-Jan	79.8	78.6	75.0	72.6	72.4	73.0	72.8	72.0	71.7	70.5	67.7	66.7	61.4	60.9	62.3	55.0	50.4	55.1	57.0	60.3	62.8	70.8	77.5	83.2	67.89	83.17																					
12-Jan	85.5	85.1	84.1	81.2	81.1	80.2	78.3	77.2	76.3	76.0	75.1	76.3	74.1	73.3	68.1	65.2	69.9	78.2	82.9	86.4	86.3	84.3	80.9	82.7	78.70	86.37																					
13-Jan	80.2	82.3	83.2	82.6	80.6	79.7	77.8	72.5	71.2	75.9	72.6	65.3	59.5	50.7	46.5	47.2	62.6	72.6	80.4	83.8	82.9	83.2	81.8	83.2	73.26	83.77																					
14-Jan	77.2	75.6	75.9	78.0	76.4	78.7	80.4	85.2	83.0	82.1	79.2	68.4	68.3	63.0	60.9	65.4	70.2	77.0	77.6	71.9	70.3	66.5	71.2	73.2	73.99	85.15																					
15-Jan	71.2	76.6	80.8	66.8	71.2	71.1	68.9	72.3	68.8	68.2	63.1	61.9	55.2	47.9	44.7	37.6	48.8	66.5	71.3	74.0	71.9	68.5	70.0	69.3	65.28	80.77																					
16-Jan	68.3	64.7	62.5	63.5	62.5	61.3	65.8	67.6	66.7	65.6	66.1	65.6	60.8	63.4	64.3	68.0	70.9	55.5	50.5	53.3	58.4	60.5	66.9	69.8	63.44	70.92																					
17-Jan	71.2	75.9	72.4	74.5	79.2	78.1	75.2	75.6	82.1	80.4	74.3	67.1	64.8	62.2	63.0	73.4	75.3	81.4	87.2	87.4	84.6	79.3	79.8	83.8	76.19	87.43																					
18-Jan	84.4	87.7	86.3	82.7	75.6	77.6	76.5	77.5	81.4	87.8	76.3	68.9	66.2	51.6	44.8	49.9	58.8	68.4	70.6	80.6	79.9	76.1	79.7	86.2	73.98	87.78																					
19-Jan	83.1	80.5	76.2	75.2	75.3	74.4	77.0	68.6	73.3	80.4	83.1	82.8	68.0	62.0	58.5	60.6	58.0	56.1	59.3	55.1	56.0	71.4	72.1	79.2	70.25	83.15																					
20-Jan	81.2	77.6	82.5	82.4	77.8	78.8	81.3	85.6	88.1	87.7	73.3	62.0	46.7	40.9	34.4	31.8	42.6	63.6	69.5	73.6	77.6	82.3	84.5	86.5	70.52	88.10																					
21-Jan	87.7	88.7	89.5	89.0	90.1	89.6	89.5	89.7	89.3	87.5	84.8	83.8	76.1	68.0	70.3	74.7	77.2	79.1	85.7	89.3	93.3	94.6	94.2	94.6	85.68	94.61																					
22-Jan	94.6	94.2	93.9	93.6	93.7	93.8	94.1	93.9	93.8	93.7	93.6	93.6	93.5	93.3	93.2	93.2	93.1	93.1	93.0	92.9	92.8	92.8	92.7	92.7	93.45	94.57																					
23-Jan	92.7	92.6	92.5	92.4	92.4	92.4	92.3	92.2	92.2	92.3	92.4	92.6	92.9	92.8	93.0	92.8	93.3	93.7	93.6	93.5	93.5	93.2	92.8	92.4	92.77	93.73																					
24-Jan	92.4	92.2	92.3	92.3	92.1	92.9	93.5	93.1	92.5	91.7	90.3	89.0	87.2	85.8	85.6	84.5	82.6	89.3	93.8	94.8	94.7	93.0	94.0	92.7	90.93	94.76																					
25-Jan	92.1	90.4	89.3	89.2	89.0	88.1	86.8	87.5	86.9	87.3	87.2	86.9	78.6	65.6	59.3	57.8	60.5	65.2	67.2	70.2	73.4	70.4	72.0	71.2	78.00	92.06																					
26-Jan	70.4	70.8	70.1	70.6	71.1	71.4	72.8	72.5	71.6	68.2	64.6	60.5	59.6	54.2	50.5	49.4	54.4	59.9	61.1	65.5	66.2	63.9	63.6	64.7	64.49	72.81																					
27-Jan	65.9	66.0	65.6	66.7	66.2	65.5	68.6	69.4	67.5	63.7	57.2	54.1	47.5	48.1	51.6	49.5	47.5	43.7	45.4	47.9	46.4	51.7	49.8	48.0	56.40	69.39																					
28-Jan	51.6	54.0	51.9	52.7	54.3	54.6	52.2	52.5	52.6	54.1	52.7	53.1	54.7	47.7	52.1	44.4	39.2	53.2	54.4	42.2	39.7	39.6	61.4	69.4	51.43	69.41																					
29-Jan	73.4	70.3	74.1	73.9	75.6	77.9	77.1	77.9	67.4	68.3	58.0	52.0	48.6	54.2	46.7	51.8	52.1	56.3	58.5	53.2	53.0	73.0	83.4	82.2	64.97	83.41																					
30-Jan	79.5	75.6	70.3	73.2	58.9	50.4	39.7	36.8	35.3	32.1	29.8	30.7	34.9	35.8	33.5	34.2	35.4	35.8	38.9	44.3	46.5	48.0	52.0	55.8	46.14	79.48																					
31-Jan	58.7	58.7	59.2	76.3	73.7	72.2	72.7	72.5	69.2	67.9	66.5	67.1	62.2	59.5	60.6	63.5	67.1	76.7	75.5	79.7	74.7	70.2	72.9	78.1	68.97	79.65																					
																						80.49	80.21	79.77	79.71	79.07	78.70	78.36	78.43	77.80	77.22	74.67	72.35	68.92	66.28	65.34	65.99	68.36	72.46	74.60	75.67	75.88	76.74	78.57	79.99	Diurnal Average	
																						94.57	94.19	93.85	93.56	93.70	93.75	94.08	94.21	94.49	94.57	94.30	93.56	93.48	93.33	93.22	93.23	93.31	93.73	93.84	94.76	94.68	94.59	94.22	94.61	Diurnal Maximum	



WCAS - Carrot Creek
Summary of Hourly Standard Deviations

Wind Speed (WS) - kph
January 2017

Maximum Value: 9.12 kph on Jan 30 12:00 Maximum Daily Average: 5.34 kph on Jan 30																				Hours in Service: 744 Hours of Data: 730																													
Minimum Value: 0.4 kph on Jan 8 10:00 Minimum Daily Average: 1.21 kph on Jan 2 Maximum Diurnal Average: 2.69 kph at hour 13 Minimum Diurnal Average: 1.82 kph at hour 1 Monthly Average: 2.261 kph Percentiles: P ₁ = 0.6 P ₁₀ = 1.0 Q ₁ = 1.4 Median = 2.0 Q ₃ = 2.8 P ₉₀ = 3.8 P ₉₉ = 7.0																				Hours of Missing Data: 14 Hours of Calibration: 0 Percent Operational Time: 98.1																													
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-Jan	2.0	3.9	2.8	1.7	2.5	2.0	2.1	2.3	2.5	3.4	2.1	2.8	2.7	2.9	2.9	2.6	1.6	1.4	1.4	1.0	1.0	1.6	1.0	1.2	2.14	3.93																							
2-Jan	0.8	1.1	1.6	1.7	1.4	1.8	2.0	0.9	0.9	1.3	1.0	0.9	1.3	1.1	1.1	1.5	1.1	0.9	1.0	1.6	0.8	0.9	0.9	1.4	1.21	1.98																							
3-Jan	0.5	0.7	1.0	1.7	1.1	2.1	1.2	1.9	2.8	1.9	1.5	2.2	3.0	1.4	2.4	1.7	2.3	2.0	2.0	1.7	2.3	3.6	2.5	3.0	1.94	3.65																							
4-Jan	2.4	3.0	2.9	2.8	2.3	2.8	2.4	2.4	2.1	1.6	2.0	2.0	1.9	1.9	2.8	1.6	1.2	1.6	1.5	1.5	1.5	1.7	1.5	1.1	2.02	3.01																							
5-Jan	1.1	1.5	0.9	3.0	1.9	1.0	1.0	0.9	1.3	1.1	0.7	1.6	2.5	2.1	2.1	2.2	1.2	2.8	2.7	3.0	3.5	2.4	2.7	2.6	1.92	3.48																							
6-Jan	2.0	2.2	2.7	2.6	3.1	2.8	3.0	3.1	2.7	2.4	2.8	2.9	2.9	3.3	2.2	3.0	2.3	2.2	1.9	2.2	2.1	1.5	1.4	0.9	2.43	3.34																							
7-Jan	0.9	1.3	1.4	1.9	1.9	1.8	2.4	3.0	3.1	2.9	2.3	3.0	3.2	2.9	2.6	2.2	2.4	0.9	2.6	1.6	2.8	0.9	0.7	0.6	2.05	3.16																							
8-Jan	0.4	0.6	1.0	2.1	1.8	1.2	1.8	0.7	0.4	0.4	1.3	1.1	1.6	2.1	2.4	2.2	2.3	1.9	1.6	1.7	2.2	1.9	1.2	1.2	1.47	2.41																							
9-Jan	1.2	1.2	1.6	1.2	1.3	1.3	1.4	1.6	1.5	2.1	2.3	1.9	2.3	2.6	2.2	2.1	2.4	2.7	2.5	2.1	2.4	2.9	2.1	2.4	1.97	2.88																							
10-Jan	1.8	1.8	3.3	2.0	1.9	5.6	2.8	4.3	7.3	6.5	5.2	4.6	4.9	4.5	3.7	3.3	1.6	1.3	1.0	2.2	1.6	2.6	4.4	3.0	3.38	7.34																							
11-Jan	2.1	2.8	2.8	3.8	4.3	4.1	3.8	3.2	3.1	3.7	3.8	3.7	4.7	4.2	6.6	6.9	5.9	7.0	6.0	5.0	4.6	2.9	1.7	2.2	4.12	6.99																							
12-Jan	0.7	1.1	1.3	1.4	1.0	0.8	0.6	0.8	1.0	0.9	1.3	1.6	2.5	1.8	1.4	1.6	1.1	1.4	2.1	1.7	1.9	1.4	1.9	1.4	1.37	2.55																							
13-Jan	1.8	1.3	2.2	3.6	2.3	2.0	2.1	2.2	2.0	1.8	1.4	1.8	1.6	2.0	1.0	0.8	1.8	1.4	1.7	1.4	1.6	1.2	1.4	1.2	1.73	3.60																							
14-Jan	1.8	1.4	2.1	4.0	1.8	2.1	1.6	2.3	2.8	1.8	3.0	1.6	2.3	1.8	2.2	3.1	1.1	2.2	1.4	2.2	3.3	2.2	2.9	1.9	2.21	4.00																							
15-Jan	2.5	1.5	1.9	3.6	1.8	3.2	2.6	1.9	3.4	2.3	5.2	2.1	3.0	2.0	3.4	1.0	1.8	3.3	1.0	1.7	3.0	3.4	3.1	2.3	2.54	5.23																							
16-Jan	2.3	1.8	4.3	1.8	1.7	2.9	1.5	2.2	1.4	4.3	3.5	4.3	1.5	2.0	1.5	1.9	2.9	2.0	2.0	2.2	2.3	3.5	2.0	3.0	2.45	4.34																							
17-Jan	3.1	3.6	3.5	1.9	1.5	2.3	3.9	3.4	3.5	4.7	3.4	2.4	1.7	2.7	2.3	2.0	2.5	2.0	2.3	3.0	3.5	2.7	1.8	1.7	2.73	4.74																							
18-Jan	2.0	1.7	2.6	2.5	3.2	2.3	3.4	1.8	1.5	1.3	1.7	2.0	1.9	1.7	2.8	1.4	1.6	2.5	2.0	2.0	2.7	4.0	2.1	2.5	2.21	4.02																							
19-Jan	3.1	3.0	2.3	1.9	2.5	2.1	2.8	2.6	3.3	2.2	2.5	2.1	2.5	2.2	3.0	4.5	1.7	1.4	0.7	1.7	1.9	1.1	2.1	1.3	2.27	4.49																							
20-Jan	2.7	2.0	1.4	2.8	1.5	1.7	1.9	1.3	1.6	1.2	1.9	1.7	1.4	2.1	0.6	1.0	0.9	1.3	1.5	1.2	1.2	2.1	1.1	2.0	1.59	2.81																							
21-Jan	1.5	1.2	1.5	1.0	1.0	0.9	1.3	1.0	1.8	1.4	2.0	1.1	2.8	2.9	2.0	2.8	1.7	1.8	1.5	1.2	1.1	1.0	1.0	0.8	1.51	2.90																							
22-Jan	1.0	1.1	0.8	0.8	0.8	1.4	1.4	1.7	1.5	1.6	1.7	1.8	1.8	1.6	1.6	1.7	1.8	1.5	1.3	1.3	1.3	1.4	1.4	1.4	1.41	1.84																							
23-Jan	1.3	1.4	1.0	1.0	0.9	0.7	0.7	0.8	AF	0.9	0.9	AF	AF	AF	AF	AF	1.1	0.9	0.7	AF	AF	AF	AF	AF	--	1.40																							
24-Jan	AF	1.5	0.8	AF	AF	0.6	1.8	1.2	1.0	1.8	0.9	1.0	3.2	1.6	2.3	1.5	1.4	1.3	1.4	1.2	0.8	0.9	1.9	1.3	1.40	3.15																							
25-Jan	1.5	1.6	1.5	1.6	1.7	1.1	1.7	0.9	1.2	1.2	1.5	0.7	4.5	1.5	1.5	2.3	1.1	1.0	1.2	0.9	2.0	2.4	2.1	2.0	1.61	4.46																							
26-Jan	1.8	1.8	2.4	2.5	2.8	3.1	2.2	4.7	3.5	2.8	2.1	2.6	1.4	2.3	2.0	1.5	2.1	2.2	1.9	1.2	1.7	1.9	3.6	2.2	2.34	4.65																							
27-Jan	1.9	1.6	3.3	3.2	1.5	2.6	3.0	1.7	1.2	1.9	4.0	5.2	2.3	3.4	1.5	3.1	4.3	4.0	4.8	6.1	4.4	3.4	2.8	3.2	3.10	6.08																							
28-Jan	2.7	2.0	3.0	2.9	2.2	3.4	2.2	2.7	3.9	1.4	1.7	2.6	1.7	1.9	2.5	2.4	1.4	3.2	1.7	2.1	1.6	2.7	2.2	1.5	2.31	3.86																							
29-Jan	1.4	1.5	2.1	1.7	1.2	0.9	1.6	2.3	1.6	1.7	3.0	1.8	1.2	2.5	1.5	3.8	1.5	1.7	2.7	5.7	2.6	3.5	4.3	4.5	2.35	5.71																							
30-Jan	2.3	2.9	3.8	2.5	3.3	4.2	5.6	7.0	6.7	6.3	6.8	9.1	8.1	7.2	7.4	5.7	6.5	5.2	5.2	3.6	4.6	5.0	4.6	4.5	5.34	9.12																							
31-Jan	3.9	4.9	4.9	4.6	4.5	4.8	3.5	3.7	3.6	2.5	2.4	3.4	4.3	4.1	3.4	3.2	2.6	1.8	2.4	2.3	3.2	2.6	1.7	1.3	3.31	4.87																							
																								1.82	1.91	2.22	2.33	2.02	2.26	2.23	2.27	2.49	2.29	2.45	2.52	2.69	2.54	2.50	2.47	2.10	2.15	2.06	2.20	2.32	2.32	2.15	1.98	Diurnal Average	
																								3.88	4.87	4.87	4.64	4.50	5.61	5.63	7.00	7.34	6.50	6.76	9.12	8.12	7.17	7.38	6.92	6.46	6.99	5.98	6.08	4.63	5.03	4.64	4.54	Diurnal Maximum	
AF - Analyzer Failure																																																	
,Alberta Ambient Air Quality Objectives (AAAQO): 1-hr --- ul/m^3 24-hr 100 ul/m^3																																																	



WCAS - Carrot Creek
Summary of Hourly Standard Deviations

Wind Direction (WD) - deg
January 2017

Maximum Value: 94.97 deg on Jan 2 19:00 Maximum Daily Average: 47.23 deg on Jan 20																						Hours in Service: 744 Hours of Data: 730				
Minimum Value: 4.9 deg on Jan 26 20:00 Minimum Daily Average: 9.27 deg on Jan 26 Maximum Diurnal Average: 27.69 deg at hour 15 Minimum Diurnal Average: 17.57 deg at hour 21 Monthly Average: 23.284 deg Percentiles: P ₁ = 6.2 P ₁₀ = 9.2 Q ₁ = 13.6 Median = 16.9 Q ₃ = 26.1 P ₉₀ = 48.1 P ₉₉ = 88.3																						Hours of Missing Data: 14 Hours of Calibration: 0 Percent Operational Time: 98.1				
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-Jan	19.1	14.8	12.2	17.4	16.0	14.6	11.3	13.1	17.6	19.2	16.7	16.3	15.5	15.8	15.0	16.2	15.1	16.6	22.8	12.2	8.4	9.5	9.7	10.3	14.81	22.82
2-Jan	11.8	10.8	19.9	13.8	75.1	86.6	81.2	42.1	65.1	58.9	16.4	24.1	15.5	29.0	36.2	37.9	19.3	70.3	95.0	23.5	21.0	12.1	18.0	29.1	38.03	94.97
3-Jan	15.5	15.7	20.0	43.3	33.6	21.5	14.9	12.4	38.7	15.6	14.9	14.3	12.2	10.1	11.9	12.0	14.3	15.7	16.3	13.8	11.2	14.0	14.9	16.9	17.65	43.32
4-Jan	15.6	17.3	17.2	18.2	16.6	17.1	17.2	16.6	12.6	11.8	16.0	17.0	18.5	15.3	14.5	13.7	14.3	13.3	16.0	12.8	11.1	11.5	11.3	9.2	14.78	18.48
5-Jan	12.1	13.9	12.3	34.7	19.4	13.2	14.5	9.1	23.9	18.8	17.7	19.7	21.5	23.1	16.9	22.0	14.4	15.6	13.3	12.7	14.4	14.9	13.0	13.0	16.83	34.68
6-Jan	13.3	14.3	13.9	15.2	13.9	15.2	14.3	15.7	15.7	16.3	15.2	14.6	16.1	15.5	14.7	17.2	17.2	13.3	15.4	15.7	22.3	25.3	29.6	21.3	16.71	29.58
7-Jan	35.4	19.3	19.5	13.1	17.5	17.1	16.9	15.8	15.0	15.5	19.4	18.9	14.3	16.9	15.9	15.1	14.6	17.9	33.2	11.6	25.9	31.5	79.5	25.8	21.89	79.47
8-Jan	29.2	48.0	72.9	28.4	35.9	38.7	27.9	34.0	27.2	60.6	46.1	20.1	16.2	16.7	15.0	16.1	16.6	18.8	15.8	13.1	13.5	43.1	35.2	15.2	29.34	72.87
9-Jan	16.1	19.5	14.7	20.3	22.7	16.4	13.3	17.2	15.6	15.3	18.1	19.0	19.1	17.1	19.9	18.5	15.0	15.9	19.5	20.2	18.3	19.0	19.1	15.7	17.72	22.67
10-Jan	14.9	18.4	20.5	21.8	11.5	21.7	18.2	18.4	16.8	14.7	15.1	14.8	14.8	15.7	16.2	16.2	17.8	29.3	20.9	21.6	19.6	14.3	16.3	17.5	17.79	29.34
11-Jan	17.6	15.4	16.1	17.0	19.2	21.5	21.6	22.4	22.4	20.6	19.5	12.1	15.7	15.6	17.2	16.5	14.8	15.2	16.7	17.7	17.1	51.4	50.2	59.5	22.21	59.52
12-Jan	11.9	12.0	13.8	19.7	87.5	78.4	22.0	27.8	38.0	38.8	30.3	17.7	36.2	16.5	13.5	8.9	16.7	33.0	29.6	24.5	14.9	23.4	18.7	8.7	26.76	87.47
13-Jan	12.3	9.5	10.3	21.5	19.8	12.0	14.5	27.2	25.0	23.2	34.2	19.8	14.5	73.4	72.4	79.5	14.5	17.3	11.9	21.5	23.5	20.1	40.0	32.3	27.09	79.47
14-Jan	25.5	30.9	22.3	18.7	26.1	19.3	43.8	62.5	69.5	52.3	46.0	59.3	22.0	27.4	61.5	37.7	83.0	57.4	14.6	13.5	7.6	6.6	9.7	48.2	36.06	82.97
15-Jan	50.8	53.2	29.6	26.6	35.1	33.9	18.6	13.6	15.0	9.4	38.7	8.5	10.5	23.5	24.5	25.9	28.2	26.7	16.0	20.6	51.4	45.4	33.4	9.6	27.03	53.17
16-Jan	32.5	49.6	15.2	14.2	18.0	31.4	42.5	41.2	25.4	45.3	76.6	61.0	46.9	71.3	81.5	68.9	26.5	9.8	9.4	9.8	25.7	31.2	29.8	28.7	37.18	81.50
17-Jan	19.7	45.0	70.0	29.7	27.1	23.9	39.9	18.7	27.3	15.7	23.3	30.0	56.0	19.5	66.4	55.3	52.9	78.1	62.8	54.4	28.6	24.2	94.9	69.6	43.04	94.86
18-Jan	72.2	90.2	44.9	27.5	20.3	22.7	33.2	19.9	10.6	25.8	22.1	42.8	88.7	55.0	19.5	29.8	38.8	26.1	47.8	64.9	19.0	52.2	28.6	37.0	39.15	90.19
19-Jan	17.1	40.8	34.5	27.2	77.0	50.4	71.7	44.4	51.2	86.3	21.2	39.2	34.9	13.6	21.4	20.7	9.3	6.7	6.2	18.2	13.6	27.4	26.3	23.8	32.64	86.26
20-Jan	16.8	16.9	7.4	48.3	67.5	54.3	76.8	92.0	36.0	26.6	32.9	20.3	39.9	49.8	79.1	92.2	89.2	54.5	53.0	19.4	28.7	51.0	24.5	56.7	47.23	92.23
21-Jan	39.4	36.4	40.3	19.6	21.3	15.9	12.3	20.1	24.7	38.0	22.9	12.6	33.8	50.9	22.9	24.0	24.1	28.0	30.7	22.3	21.0	29.1	25.9	9.5	26.06	50.87
22-Jan	9.0	11.0	8.2	11.1	9.2	23.0	15.1	14.1	14.1	14.6	15.5	16.6	15.6	14.8	14.0	13.8	14.6	15.7	16.5	13.3	13.7	13.3	13.3	14.1	13.93	23.01
23-Jan	14.6	16.6	14.8	13.1	14.5	16.4	14.7	14.6	AF	22.2	20.4	AF	AF	AF	AF	AF	17.9	25.3	15.4	AF	AF	AF	AF	AF	--	25.34
24-Jan	AF	39.8	14.9	AF	AF	17.4	11.3	9.3	13.5	14.0	8.5	11.0	16.0	7.3	10.9	8.4	9.1	10.0	27.7	6.6	6.9	7.3	8.9	19.7	13.26	39.78
25-Jan	7.8	14.1	12.4	18.9	14.7	12.1	26.5	6.3	10.0	7.2	6.2	11.4	26.1	7.6	7.5	6.4	10.7	9.2	12.4	12.3	8.4	7.2	6.0	5.8	11.14	26.48
26-Jan	6.0	8.1	6.4	6.4	8.3	7.0	6.4	17.7	11.9	12.1	11.1	13.3	15.1	9.0	13.9	7.1	10.3	6.2	6.2	4.9	6.4	10.3	11.0	7.2	9.27	17.70
27-Jan	7.0	7.9	9.8	9.2	8.7	20.0	16.3	16.8	9.2	13.7	37.0	40.7	11.6	8.0	5.5	8.6	6.6	6.5	6.3	6.9	12.4	8.8	9.0	9.5	12.34	40.69
28-Jan	6.5	5.9	7.1	8.1	5.9	8.9	7.8	10.0	10.9	8.7	8.4	13.1	9.0	10.3	13.7	17.6	26.0	40.5	20.3	24.2	9.5	42.4	68.3	16.7	16.67	68.31
29-Jan	7.2	24.7	13.0	30.0	17.2	8.9	22.7	31.2	46.6	14.2	15.2	23.5	11.9	52.7	79.9	33.6	10.6	7.4	6.4	20.4	16.4	17.3	13.6	14.8	22.47	79.89
30-Jan	11.4	11.8	15.0	11.9	12.7	14.9	15.2	14.7	15.0	16.4	16.5	17.2	15.3	13.2	13.7	14.8	14.1	14.2	16.3	16.3	17.6	18.6	17.2	16.6	15.03	18.58
31-Jan	17.1	16.5	14.4	12.8	14.4	19.5	16.9	17.9	20.2	22.5	18.8	17.8	15.6	14.5	15.5	15.7	14.5	13.9	14.7	17.7	18.7	15.0	16.2	17.2	16.58	22.54
19.52 24.13 20.76 20.60 26.21 24.96 25.15 23.77 24.82 24.98 23.25 22.22 23.30 24.30 27.69 25.67 22.29 23.50 22.88 18.88 17.57 23.24 26.40 22.64																								Diurnal Average		
72.20 90.19 72.87 48.29 87.47 86.56 81.18 92.00 69.53 86.26 76.55 60.98 88.69 73.42 81.50 92.23 89.21 78.06 94.97 64.87 51.44 52.16 94.86 69.62																								Diurnal Maximum		
AF - Analyzer Failure																										
,Alberta Ambient Air Quality Objectives (AAAQO): 1-hr --- ul/m^3 24-hr 100 ul/m^3																										

**STEEPER
STATION #905**

CONTINUOUS AIR MONITORING DATA

JANUARY 2017

**STEEPER
STATION #905**

METEOROLOGICAL DATA

JANUARY 2017

**WEYERHAEUSER – DRAYTON VALLEY
STATION #911**

CONTINUOUS AIR MONITORING DATA

JANUARY 2017

Weyerhaeuser / Drayton Valley Station 911													January 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	709	95.3	7.5	1.2	48.3	2.2	3.5	5.9	9.2	14.3	0	0	17.8	
Wind Speed (kph)	0	736	98.9	3.6	0.1	16.2	1.1	1.9	3.0	4.3	6.6	-	-	-	
Temperature ($^{\circ}\text{C}$)	0	744	100.0	-7.4	-24.0	9.5	-19.4	-14.2	-7.6	-0.4	4.6	-	-	-	
Std Dev Wind Direction (deg)	0	736	98.9	21.5	5.8	98.7	9.6	12.8	17.0	23.2	39.3	-	-	-	
Std Dev Wind Speed (kph)	0	736	98.9	1.1	0.2	5.0	0.5	0.6	0.8	1.3	2.0	-	-	-	



WCAS - Drayton Valley
Summary of Hourly Averages

PM2.5 (PM_{2.5}) - µg/m³
January 2017

Maximum Value: 48.29 µg/m ³ on Jan 25 00:00		Maximum Daily Average: 17.84 µg/m ³ on Jan 24		Hours in Service: 744																																													
Minimum Value: 1.2 µg/m ³ on Jan 11 07:00		Minimum Daily Average: 1.83 µg/m ³ on Jan 30		Hours of Data: 709																																													
Maximum Diurnal Average: 9.75 µg/m ³ at hour 18		Minimum Diurnal Average: 5.72 µg/m ³ at hour 6		Hours of Missing Data: 35																																													
Monthly Average: 7.463 µg/m ³		Percentiles: P ₁ = 1.5 P ₁₀ = 2.2 Q ₁ = 3.5 Median = 5.9 Q ₃ = 9.2 P ₉₀ = 14.3 P ₉₉ = 26.2		Hours of Calibration: 0																																													
				Percent Operational Time: 95.3																																													
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-Jan	2.6	3.4	4.6	1.7	1.7	1.6	1.9	2.2	2.0	1.8	1.8	1.9	1.8	1.8	1.9	1.9	2.6	2.6	2.3	2.1	2.6	2.2	4.6	1.9	2.32	4.62																							
2-Jan	8.8	4.8	9.6	4.8	6.4	1.4	7.9	5.4	7.8	3.8	6.3	5.6	5.1	4.8	4.0	4.1	5.0	5.8	6.4	7.1	7.6	8.0	9.0	8.0	6.14	9.61																							
3-Jan	8.0	16.5	10.5	18.2	4.6	4.0	2.8	3.1	2.9	3.5	3.9	4.3	3.0	3.9	3.3	3.3	3.7	4.2	4.2	5.2	4.0	3.0	3.2	3.1	5.27	18.22																							
4-Jan	2.8	2.7	2.9	4.2	5.4	5.1	5.5	5.3	4.5	3.5	4.2	4.1	3.3	3.4	3.5	3.5	4.2	5.6	4.7	5.2	7.6	6.2	5.5	4.0	4.46	7.58																							
5-Jan	3.9	4.2	4.5	4.8	4.8	4.9	7.0	7.9	8.3	7.7	6.6	7.5	5.8	3.6	3.7	3.5	3.2	3.6	5.3	4.8	4.1	4.3	5.1	7.0	5.25	8.27																							
6-Jan	7.2	7.5	7.3	6.2	4.6	4.2	5.1	6.6	8.2	8.7	8.8	8.9	8.8	8.5	6.5	5.6	5.8	5.7	7.2	7.8	7.8	8.2	11.1	12.1	7.43	12.07																							
7-Jan	9.7	13.0	16.8	10.2	7.7	7.3	AF	AF	AF	7.0	6.3	5.8	4.9	4.5	4.4	4.5	4.5	4.5	3.9	4.4	4.5	4.2	4.2	4.2	6.50	16.75																							
8-Jan	3.8	4.7	5.4	5.2	4.9	4.6	3.8	3.8	5.1	5.8	6.0	5.3	4.8	5.2	4.6	5.7	6.4	7.8	8.4	8.8	9.4	9.2	7.9	8.7	6.05	9.36																							
9-Jan	7.5	7.7	7.2	7.6	6.9	6.3	7.3	8.4	8.2	8.4	7.6	7.0	6.2	5.8	5.4	5.6	5.9	5.2	4.9	4.1	3.6	3.3	3.2	3.5	6.12	8.44																							
10-Jan	3.4	4.6	3.8	4.8	4.0	4.3	3.9	3.8	2.7	2.1	2.0	2.3	2.2	2.0	1.8	1.9	2.6	6.6	8.2	8.9	9.4	7.6	3.1	2.9	4.13	9.39																							
11-Jan	2.1	1.7	1.5	1.6	1.8	1.4	1.2	1.6	1.9	1.9	2.0	2.2	1.8	1.9	2.2	2.7	2.4	2.2	2.4	2.3	2.3	2.2	2.4	2.4	2.00	2.73																							
12-Jan	6.3	2.6	2.7	2.5	2.6	6.4	5.5	7.4	16.6	3.5	2.8	2.3	2.5	3.9	5.9	4.7	5.2	10.3	10.9	16.7	13.9	18.1	26.8	16.9	8.22	26.85																							
13-Jan	15.2	10.8	9.1	8.8	7.8	9.0	14.5	9.1	14.6	18.3	11.2	8.5	7.7	6.7	19.5	41.2	43.4	47.0	44.9	23.9	13.2	8.2	7.9	8.5	17.05	47.04																							
14-Jan	11.5	12.2	12.8	12.6	9.1	11.2	11.1	6.3	6.5	6.0	5.1	6.6	6.0	7.2	8.1	6.2	5.9	8.4	10.0	10.9	10.5	8.2	8.0	8.0	8.56	12.83																							
15-Jan	6.5	7.7	3.6	3.0	4.9	8.0	6.0	7.7	4.2	3.7	6.4	6.0	5.0	3.6	3.1	3.3	3.3	7.6	10.3	16.1	22.8	13.8	9.7	8.1	7.26	22.78																							
16-Jan	4.9	3.9	3.5	3.1	3.5	3.3	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	--	4.91																							
17-Jan	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	--	14.04																							
18-Jan	3.4	3.2	3.7	3.0	3.3	2.8	2.4	3.8	3.1	3.2	4.1	3.5	2.8	3.2	2.8	6.8	8.0	8.7	7.7	7.7	5.0	2.9	2.5	4.8	4.26	8.66																							
19-Jan	2.3	2.2	2.3	2.0	2.1	1.7	2.3	3.9	10.8	4.9	3.2	10.0	6.0	5.2	5.2	5.7	8.3	10.7	8.4	8.3	8.5	7.7	11.9	17.2	6.29	17.22																							
20-Jan	30.7	13.7	15.9	9.8	7.9	5.3	4.8	5.4	15.0	4.9	6.2	3.8	3.2	2.9	2.8	2.8	8.9	8.0	16.6	16.1	18.5	9.0	7.6	7.2	9.45	30.74																							
21-Jan	11.3	12.3	12.4	11.1	11.7	16.4	8.8	10.1	18.6	38.5	18.2	9.1	14.3	17.4	14.2	14.4	15.5	15.5	17.1	14.0	10.7	9.9	9.2	8.8	14.14	38.46																							
22-Jan	8.6	7.6	7.5	6.9	8.2	10.0	13.0	11.0	7.8	7.7	8.5	8.4	8.5	8.1	7.5	6.8	5.9	6.4	7.3	10.8	19.9	26.2	24.5	17.5	10.61	26.21																							
23-Jan	13.8	11.2	10.7	9.8	8.9	7.4	7.0	8.2	10.2	10.6	10.4	11.3	10.4	10.1	9.8	10.5	12.3	12.4	9.4	11.6	11.4	11.9	12.6	13.2	10.63	13.83																							
24-Jan	14.1	14.4	14.6	15.1	13.4	13.5	14.7	20.5	24.6	30.1	29.5	21.8	13.0	11.5	12.7	14.3	13.8	15.3	16.0	14.3	10.6	16.1	16.0	48.3	17.84	48.29																							
25-Jan	23.2	16.5	13.8	9.1	6.3	5.7	9.1	11.8	17.4	22.8	23.2	20.6	17.8	14.5	12.5	11.3	12.2	11.4	9.1	9.6	9.3	10.4	12.3	6.1	13.15	23.16																							
26-Jan	3.2	3.1	2.9	2.8	3.9	5.9	AF	10.2	10.4	6.0	7.2	12.5	9.9	8.1	7.5	11.5	24.1	26.3	11.1	5.4	5.6	5.8	8.6	12.8	8.90	26.30																							
27-Jan	6.8	3.6	4.5	10.1	11.3	9.6	12.3	11.2	12.6	9.0	8.2	5.9	8.6	5.3	5.1	4.8	5.4	6.9	7.6	6.5	6.0	4.2	4.9	4.5	7.30	12.61																							
28-Jan	3.8	4.2	3.8	4.1	3.4	2.8	2.2	2.2	3.6	3.8	3.1	2.8	2.6	3.4	5.3	3.1	4.7	10.8	7.8	4.2	3.8	3.5	3.6	5.8	4.10	10.78																							
29-Jan	4.6	4.2	3.9	8.7	7.2	4.7	6.4	7.9	6.8	7.5	7.5	6.5	9.1	17.2	29.0	24.7	16.7	12.3	8.1	7.1	5.7	5.0	3.2	2.8	9.03	29.01																							
30-Jan	2.6	2.2	2.1	2.0	1.9	1.7	1.6	1.8	1.8	2.1	1.8	2.2	2.2	1.7	1.5	1.5	1.6	1.9	2.1	1.6	1.5	1.7	1.5	1.4	1.83	2.57																							
31-Jan	1.5	1.5	1.5	1.4	1.4	1.4	2.4	2.9	2.9	2.2	2.5	2.5	2.4	2.3	3.0	2.6	4.0	10.8	8.8	4.0	3.2	5.1	7.3	3.8	3.38	10.75																							
																								7.80	6.93	6.85	6.50	5.73	5.72	6.31	6.76	8.53	8.25	7.39	6.82	6.21	6.11	6.75	7.63	8.38	9.75	9.46	8.46	8.20	7.92	7.99	8.52	Diurnal Average	
																								30.74	16.55	16.75	18.22	13.37	16.43	14.73	20.54	24.64	38.46	29.45	21.79	17.82	17.36	29.01	41.16	43.45	47.04	44.90	23.91	22.78	26.21	26.85	48.29	Diurnal Maximum	
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

JANUARY 2017



WCAS - Drayton Valley
Summary of Hourly Averages

External Temperature (ET) - C
January 2017

Maximum Value: 9.50 C on Jan 18 14:00		Maximum Daily Average: 5.95 C on Jan 18		Hours in Service: 744																							
Minimum Value: -24.0 C on Jan 3 09:00		Minimum Daily Average: -20.85 C on Jan 8		Hours of Data: 744																							
Maximum Diurnal Average: -4.45 C at hour 16		Minimum Diurnal Average: -9.40 C at hour 7		Hours of Missing Data: 0																							
Monthly Average: -7.362 C		Percentiles: P ₁ = -22.4 P ₁₀ = -19.4 Q ₁ = -14.2 Median = -7.6 Q ₃ = -0.4 P ₉₀ = 4.6 P ₉₉ = 7.3		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-Jan	-10.1	-10.7	-10.2	-10.1	-11.4	-12.1	-12.1	-11.4	-11.1	-11.5	-11.2	-10.8	-10.7	-10.6	-10.9	-11.2	-12.0	-12.5	-12.8	-13.4	-15.0	-15.8	-16.3	-16.3	-12.09	-10.08	
2-Jan	-17.2	-18.2	-19.1	-20.2	-20.9	-20.9	-22.8	-22.8	-22.1	-21.5	-20.1	-19.5	-18.0	-15.4	-15.1	-15.9	-17.0	-17.6	-17.4	-17.7	-18.1	-18.5	-18.8	-19.0	-18.91	-15.14	
3-Jan	-19.4	-19.7	-19.8	-20.4	-21.0	-20.9	-21.7	-22.9	-24.0	-23.7	-21.9	-20.5	-19.5	-17.1	-15.4	-13.8	-14.8	-15.3	-14.5	-14.4	-14.5	-14.1	-14.1	-18.24	-13.76		
4-Jan	-13.3	-14.0	-14.0	-13.6	-13.4	-12.6	-10.8	-9.8	-9.3	-9.0	-8.5	-7.6	-7.0	-6.6	-6.3	-6.4	-6.4	-6.7	-6.7	-7.1	-7.4	-7.4	-7.0	-6.2	-9.05	-6.23	
5-Jan	-5.8	-5.7	-5.5	-5.1	-5.3	-6.0	-5.7	-5.7	-5.8	-5.8	-5.6	-5.4	-5.6	-6.1	-6.5	-6.9	-7.4	-8.1	-9.3	-9.9	-10.6	-11.5	-12.5	-13.4	-7.30	-5.12	
6-Jan	-14.0	-14.7	-15.6	-16.0	-16.3	-16.7	-16.9	-17.0	-17.0	-16.9	-16.5	-15.4	-14.2	-14.0	-12.7	-12.7	-13.4	-14.3	-14.8	-15.4	-16.1	-16.6	-18.0	-17.9	-15.55	-12.68	
7-Jan	-18.5	-17.6	-17.9	-16.9	-16.4	-16.0	-16.8	-17.6	-17.5	-17.1	-16.8	-16.3	-16.3	-16.5	-16.6	-16.7	-17.3	-17.8	-18.1	-18.5	-19.1	-19.4	-19.3	-19.4	-17.53	-15.98	
8-Jan	-20.8	-21.0	-21.2	-21.3	-21.2	-21.3	-21.3	-21.3	-21.2	-21.1	-20.8	-20.1	-19.2	-18.5	-17.8	-18.7	-20.0	-21.1	-21.6	-22.1	-22.4	-22.4	-22.2	-21.9	-20.85	-17.83	
9-Jan	-21.6	-21.3	-21.2	-21.1	-21.0	-20.9	-20.8	-20.7	-20.5	-20.1	-19.6	-19.2	-19.1	-19.0	-18.9	-18.9	-19.0	-18.9	-18.7	-18.7	-18.8	-18.9	-19.1	-19.4	-19.81	-18.73	
10-Jan	-20.6	-21.9	-22.6	-22.8	-22.1	-22.1	-22.3	-20.5	-18.6	-17.9	-18.3	-18.8	-18.8	-19.3	-19.1	-19.0	-19.1	-20.6	-22.3	-21.9	-20.9	-20.2	-17.7	-16.4	-20.16	-16.42	
11-Jan	-16.8	-16.4	-14.9	-14.2	-12.8	-11.7	-10.5	-9.9	-9.5	-9.4	-8.6	-7.7	-6.7	-7.0	-6.8	-6.5	-7.2	-8.6	-10.2	-10.9	-11.5	-12.1	-13.4	-14.8	-10.74	-6.48	
12-Jan	-17.7	-18.9	-19.4	-20.0	-20.3	-21.2	-20.8	-20.5	-20.0	-18.6	-16.1	-14.1	-12.6	-10.9	-9.3	-8.8	-9.4	-11.3	-11.6	-12.1	-12.4	-13.0	-13.2	-13.9	-15.26	-8.79	
13-Jan	-13.9	-14.1	-13.6	-15.8	-15.2	-15.4	-15.8	-15.4	-15.9	-14.9	-11.9	-10.8	-7.8	-5.9	-4.6	-4.4	-5.1	-6.9	-7.3	-7.1	-9.0	-7.9	-8.3	-9.5	-10.69	-4.35	
14-Jan	-9.2	-8.9	-9.2	-10.0	-10.2	-9.8	-9.5	-9.2	-8.8	-7.4	-5.2	-3.8	-2.5	-1.4	-0.7	-0.7	-0.8	-0.4	-0.2	-0.3	-0.3	-0.6	-1.4	-1.9	-4.68	-0.15	
15-Jan	-2.3	-2.0	1.2	2.4	-0.2	-1.1	-1.8	-0.3	2.1	1.9	1.7	2.5	4.8	6.6	7.0	7.5	6.1	2.9	0.3	-0.9	-1.9	-3.6	-3.8	-3.9	1.06	7.46	
16-Jan	-3.2	-3.1	-2.8	-4.1	-4.3	-4.1	-4.4	-3.5	-3.8	-2.4	-1.7	-1.4	0.1	1.7	2.5	3.1	3.8	4.4	5.1	5.3	4.3	3.9	5.0	6.1	0.27	6.14	
17-Jan	6.0	4.2	3.6	4.0	4.8	3.0	1.4	2.0	2.1	2.0	3.2	4.2	6.7	6.8	7.8	7.4	8.4	4.2	3.8	6.2	6.6	6.8	7.1	6.7	4.97	8.43	
18-Jan	6.3	5.9	5.9	5.6	5.7	5.8	6.0	5.7	5.2	5.2	5.9	7.2	8.0	9.5	7.6	8.0	6.3	4.9	4.0	3.1	5.3	5.9	5.5	4.2	5.95	9.50	
19-Jan	4.3	4.5	4.2	2.2	1.8	3.5	2.7	1.8	2.1	2.8	3.8	2.8	4.1	5.1	5.7	7.1	5.9	5.8	6.4	4.9	3.7	2.0	0.0	-1.2	3.59	7.06	
20-Jan	-2.3	-1.8	-2.3	-2.8	-3.4	-2.8	-2.8	-3.8	-5.0	-3.2	-2.1	0.0	3.4	5.8	5.2	5.3	3.7	1.4	-1.0	-2.4	-2.7	-2.7	-3.9	-3.8	-0.99	5.78	
21-Jan	-5.5	-7.0	-7.3	-8.2	-8.2	-8.9	-9.1	-10.3	-11.4	-11.2	-9.6	-7.4	-6.6	-6.3	-6.3	-6.8	-6.8	-6.9	-6.8	-6.8	-7.0	-7.3	-7.5	-7.6	-7.78	-5.48	
22-Jan	-7.7	-7.8	-8.0	-8.1	-8.2	-8.2	-8.2	-8.2	-8.3	-8.3	-8.2	-8.2	-8.2	-8.4	-8.6	-9.0	-9.4	-9.5	-9.6	-9.8	-10.0	-9.9	-9.9	-9.9	-8.73	-7.68	
23-Jan	-9.9	-9.8	-9.7	-9.7	-9.7	-9.8	-9.9	-9.9	-9.9	-9.9	-9.6	-9.2	-8.8	-8.4	-8.0	-8.0	-8.2	-8.1	-8.1	-8.2	-7.9	-7.8	-7.7	-7.7	-8.91	-7.71	
24-Jan	-7.7	-7.6	-7.5	-7.5	-7.6	-7.7	-7.8	-7.9	-8.0	-7.6	-6.8	-5.5	-4.2	-3.3	-2.9	-2.8	-3.2	-4.1	-4.9	-5.5	-6.3	-6.9	-7.0	-7.2	-6.15	-2.75	
25-Jan	-8.9	-9.7	-10.5	-10.6	-11.0	-11.2	-11.8	-12.0	-12.5	-11.6	-9.8	-7.7	-5.6	-3.5	-1.6	-0.2	-0.1	-1.8	-2.5	-3.1	-2.8	-3.9	-4.5	-3.8	-6.70	-0.08	
26-Jan	-2.9	-3.0	-2.8	-2.8	-4.8	-5.7	-5.5	-5.9	-5.9	-4.3	-2.6	-1.4	2.1	4.4	6.3	6.1	5.1	2.5	2.4	2.3	1.7	1.0	0.2	-0.1	-0.57	6.29	
27-Jan	-0.2	-0.6	-1.8	-3.4	-3.5	-4.1	-4.4	-4.2	-4.2	-4.3	-3.4	-2.7	-0.6	2.2	3.0	3.0	2.3	1.6	2.0	3.6	4.0	4.4	4.9	5.0	-0.05	5.02	
28-Jan	4.5	4.7	4.5	4.2	3.6	2.3	1.5	2.2	2.6	2.9	3.8	5.0	5.3	5.9	6.2	7.0	6.3	4.8	6.3	7.3	6.8	5.6	4.7	2.3	4.59	7.29	
29-Jan	1.5	2.1	1.4	-0.1	-1.6	-1.3	-1.0	-1.0	-0.4	0.6	2.9	3.0	5.4	5.0	5.3	4.8	4.2	4.0	3.8	3.5	3.9	4.6	3.2	1.9	2.33	5.44	
30-Jan	1.1	1.1	0.9	1.4	1.2	0.5	0.4	-0.4	-0.8	-1.2	-1.0	-0.8	-0.9	-1.1	-1.3	-1.9	-2.7	-3.7	-4.3	-4.6	-5.1	-5.4	-5.4	-5.6	-1.65	1.43	
31-Jan	-5.8	-6.1	-6.6	-6.9	-6.9	-7.6	-9.0	-9.6	-10.4	-10.6	-9.7	-8.8	-8.5	-8.2	-8.0	-8.2	-8.4	-8.7	-8.9	-9.3	-9.6	-10.0	-10.0	-10.0	-8.59	-5.83	
		-8.11	-8.35	-8.45	-8.77	-9.03	-9.20	-9.40	-9.35	-9.28	-8.84	-7.88	-7.04	-5.85	-4.99	-4.55	-4.45	-5.02	-6.00	-6.38	-6.58	-6.87	-7.16	-7.44	-7.70	Diurnal Average	
		6.31	5.91	5.89	5.60	5.65	5.76	6.05	5.67	5.19	5.16	5.92	7.17	7.98	9.50	7.77	8.04	8.43	5.84	6.38	7.29	6.80	6.76	7.06	6.68	Diurnal Maximum	



WCAS - Drayton Valley
Summary of Hourly Averages

Wind Speed (WS) - kph
January 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	1.7	1.2	1.1	1.3	1.2	1.1	1.1	0.8	0.8	0.8	0.5	0.5	0.6	0.4	0.4	1.1	AF	AF	AF	AF	AF	AF	1.5	0.65	2.38
Dir	E	E	E	E	ENE	ENE	ENE	ENE	ENE	NE	NNE	NE	NNE	NE	NNE	W	WSW	AF	AF	AF	AF	AF	AF	WSW	ENE	E
24 Spd	1.8	2.2	2.7	2.4	1.9	1.7	2.0	1.7	1.7	1.4	1.6	1.6	1.2	1.2	2.0	1.7	1.5	0.8	0.9	1.0	AF	AF	1.3	1.54	2.73	
Dir	SW	SW	WSW	SW	SW	SW	WSW	SW	SW	SW	SW	SW	WNW	WSW	WSW	WSW	WSW	SW	SSW	S	AF	AF	SSW	SW	WSW	
25 Spd	1.3	1.6	2.0	2.3	2.1	2.3	2.3	2.6	2.6	2.3	3.0	3.5	3.9	3.8	3.4	2.8	2.4	1.5	1.7	1.0	1.1	1.8	2.1	2.17	3.85	
Dir	S	S	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SW	SW	SW	SW	SW	SW	SW	SW	WSW	SW	SW	SSW	SW	NW	SW	SW	
26 Spd	5.0	3.4	4.2	3.7	2.2	2.6	2.8	3.3	3.5	3.0	4.2	4.1	3.0	2.2	2.5	3.1	3.2	2.4	3.3	2.7	3.9	4.4	5.5	2.71	5.54	
Dir	NW	NNW	NW	NW	SW	SW	SSW	SW	WSW	SW	WSW	SW	WNW	WNW	WNW	W	W	WSW	WNW	W	WNW	NW	NW	W	NW	
27 Spd	4.4	4.0	2.6	2.6	2.1	3.2	3.2	2.5	2.9	3.7	4.0	3.7	2.9	3.8	3.5	2.9	3.3	2.9	4.1	3.2	5.2	5.2	4.4	2.92	5.21	
Dir	NW	NW	WNW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	WSW	WSW	WSW	W	WNW	WNW	NW	WNW	WNW	W	NW	
28 Spd	4.6	5.4	5.0	4.5	4.6	4.2	5.0	4.4	4.7	4.6	4.0	4.1	3.6	4.4	3.0	2.8	2.0	2.1	4.1	4.0	4.8	3.9	1.6	3.06	5.41	
Dir	WNW	WNW	NW	WNW	WNW	W	WSW	WSW	WSW	SW	SW	SW	SW	WSW	SW	SSW	WSW	WNW	NW	NW	NNW	NNW	NW	W	WNW	
29 Spd	2.1	2.4	2.2	1.4	2.4	2.2	2.7	2.0	2.9	2.2	1.8	2.2	0.6	0.9	0.2	1.0	0.2	1.6	0.7	1.7	4.5	5.8	9.1	1.03	10.55	
Dir	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SW	SW	SSW	SSW	NW	SSW	WSW	NNW	NW	NNW	NNW	W	NNW	
30 Spd	7.6	5.9	4.9	7.3	6.8	6.3	8.5	9.2	12.0	10.8	12.9	16.2	14.8	15.0	12.7	10.6	10.4	7.9	8.2	9.3	10.8	10.3	10.4	9.89	16.16	
Dir	NNW	NW	NW	NW	NW	NNW	NW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NW	NW	NNW	NNW	
31 Spd	10.6	10.6	10.1	7.1	9.6	9.3	9.0	9.1	9.4	9.4	9.5	8.1	8.5	7.5	6.1	6.0	6.0	4.6	5.0	4.9	4.0	4.5	5.4	7.48	10.60	
Dir	NNW	NNW	NNW	NNW	NNW	N	N	N	N	N	N	N	N	N	NNW	N	N	N	N	N	N	NNW	NNW	N	NNW	
Spd	1.42	1.34	1.52	1.34	1.29	1.19	1.45	1.44	1.69	1.51	1.74	1.97	2.02	2.03	1.81	1.65	1.43	1.24	1.52	1.54	1.71	1.66	1.79	Diurnal Average		
Dir	WNW	WNW	WNW	WNW	WNW	WNW	W	W	WNW	WNW	WNW	WNW	NW	NW	NW	NW	NNW	NNW	NW	NW	NW	NW	NW	Diurnal Maximum		
Spd	10.59	10.60	10.12	7.97	9.62	9.28	9.59	9.63	12.01	10.96	12.88	16.16	14.79	14.95	12.71	14.79	13.58	11.42	8.95	10.40	10.77	10.28	10.43	Diurnal Maximum		
Dir	334.46	336.55	334.18	3.08	347.26	359.36	318.25	319.27	328.60	341.61	335.43	335.77	338.21	335.73	343.97	327.90	342.37	355.52	358.91	351.09	326.81	322.03	324.58	Diurnal Maximum		
Maximum Speed Value: 16.2 kph on Jan 30 12:00		Minimum Speed Value: 0.1 kph on Jan 21 02:00																			Hours in Service: 744					
Maximum Daily Speed Average: 9.89 kph on Jan 30		Minimum Daily Speed Average: 0.22 kph on Jan 23																			Hours of Data: 736					
Maximum Diurnal Speed Average: 2.03 kph at hour 14		Minimum Diurnal Speed Average: 1.19 kph at hour 6																			Hours of Missing Data: 8					
Monthly Average Velocity: 1.524 kph 305.05 deg		Speed Percentiles: P ₁ = 0.3 P ₁₀ = 1.1 Q ₁ = 1.9 Median = 3.0 Q ₃ = 4.3 P ₉₀ = 6.6 P ₉₉ = 12.6																			Percent Operational Time: 98.9					
All monthly, daily, and diurnal averages have been calculated using vector methods																										
AF - Analyzer 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	57	50	7	0	0	0	114																			
NorthEast	50	0	0	0	0	0	50																			
East	62	0	0	0	0	0	62																			
SouthEast	9	0	0	0	0	0	9																			
South	55	1	0	0	0	0	56																			
SouthWest	261	3	0	0	0	0	264																			
West	58	4	0	0	0	0	62																			
NorthWest	59	51	9	0	0	0	119																			
Total	611	109	16	0	0	0	736																			



WCAS - Drayton Valley
Summary of Hourly Standard Deviations

Wind Speed (WS) - kph
January 2017

Maximum Value: 5.03 kph on Jan 30 12:00		Maximum Daily Average: 3.07 kph on Jan 30		Hours in Service: 744																						
Minimum Value: 0.2 kph on Jan 25 21:00		Minimum Daily Average: 0.45 kph on Jan 23		Hours of Data: 736																						
Maximum Diurnal Average: 1.29 kph at hour 14		Minimum Diurnal Average: 0.90 kph at hour 7		Hours of Missing Data: 8																						
Monthly Average: 1.077 kph		Percentiles: P ₁ = 0.3 P ₁₀ = 0.5 Q ₁ = 0.6 Median = 0.8 Q ₃ = 1.3 P ₉₀ = 2.0 P ₉₉ = 3.7		Hours of Calibration: 0																						
				Percent Operational Time: 98.9																						
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-Jan	1.1	0.9	1.7	2.3	1.6	1.9	1.4	1.5	1.4	1.3	1.7	1.7	2.0	2.0	2.0	1.3	1.0	0.9	1.5	1.4	0.3	0.6	0.5	0.4	1.35	2.29
2-Jan	0.4	0.6	0.5	0.5	0.6	0.4	0.5	0.4	0.6	0.4	0.5	0.5	0.6	0.7	0.7	0.7	0.8	0.8	0.7	0.7	0.4	0.4	0.7	0.7	0.58	0.80
3-Jan	0.4	0.4	0.4	0.5	0.4	0.6	0.5	0.5	0.4	0.4	0.5	0.6	0.6	0.9	0.6	1.0	1.6	1.7	1.8	1.9	1.6	1.6	1.5	1.5	0.91	1.94
4-Jan	2.0	1.3	1.6	1.8	1.6	1.1	1.1	0.9	1.1	1.1	0.8	0.8	1.4	1.5	1.7	1.8	1.3	0.3	0.5	0.5	0.3	0.3	0.4	0.7	1.08	2.03
5-Jan	0.7	1.0	0.8	1.2	1.0	0.6	0.8	0.5	0.4	1.0	1.0	0.9	1.3	1.3	1.0	1.0	1.3	1.4	1.4	1.2	1.1	1.1	0.6	0.7	0.96	1.36
6-Jan	0.8	0.8	0.8	0.8	1.0	1.3	1.1	1.2	1.4	1.3	1.2	1.0	1.2	1.3	1.9	1.5	1.2	1.2	1.1	0.9	0.9	0.8	0.5	0.7	1.08	1.93
7-Jan	0.6	0.8	0.6	1.2	1.4	1.7	1.6	0.8	1.0	1.2	1.4	1.8	1.6	1.6	1.3	1.6	1.5	1.3	1.3	1.0	0.8	0.8	1.0	1.2	1.21	1.84
8-Jan	1.3	1.2	1.2	0.9	0.8	1.0	0.8	0.5	0.6	0.6	0.8	0.8	1.0	1.1	1.5	1.3	1.1	1.0	0.8	0.8	0.8	1.1	1.1	0.9	0.96	1.50
9-Jan	1.1	1.0	0.8	0.9	0.8	1.0	0.8	0.8	1.0	1.3	1.4	1.5	1.3	1.4	1.7	1.5	1.4	1.8	2.0	1.8	1.6	1.7	1.7	1.4	1.32	1.95
10-Jan	1.0	1.0	0.6	0.5	0.7	0.8	1.2	1.9	2.1	3.1	3.4	3.4	3.4	2.8	3.0	1.9	2.1	0.5	0.4	0.5	0.6	0.6	1.6	1.6	1.61	3.41
11-Jan	1.1	1.0	1.6	1.7	2.0	2.9	2.7	2.7	3.0	2.2	2.8	3.2	3.8	3.0	3.4	3.8	3.7	3.4	2.8	3.0	2.0	1.5	1.2	1.0	2.48	3.77
12-Jan	1.2	0.8	0.5	0.5	0.4	0.5	0.3	0.4	0.5	0.5	0.6	1.0	1.1	0.9	0.8	0.8	0.8	0.7	0.6	0.7	0.8	0.8	0.5	0.5	0.68	1.24
13-Jan	0.7	0.9	0.6	0.6	0.8	0.7	0.7	0.8	1.4	0.9	0.7	0.8	1.2	0.9	0.9	1.0	0.9	0.5	0.5	0.6	0.6	0.5	0.6	0.6	0.76	1.40
14-Jan	0.8	0.6	1.0	0.7	0.8	0.7	0.6	1.0	0.9	0.8	1.0	1.1	0.9	0.8	0.6	0.7	0.7	0.7	0.8	0.6	0.7	0.4	0.7	0.7	0.76	1.13
15-Jan	0.7	0.6	0.9	1.6	0.9	0.8	0.8	0.6	0.9	0.9	0.7	0.8	0.5	1.6	1.4	0.7	0.4	0.5	0.7	0.5	0.5	0.9	0.8	0.8	0.81	1.62
16-Jan	0.8	0.9	1.0	0.6	0.5	0.7	0.5	0.6	0.7	0.7	0.9	0.7	0.7	0.9	0.8	0.6	0.6	0.8	0.8	0.8	0.8	0.7	0.8	0.9	0.74	0.98
17-Jan	1.1	1.0	1.2	1.2	1.1	0.6	0.7	0.6	0.7	0.7	0.5	0.6	0.5	0.5	0.6	0.4	0.8	2.3	1.2	0.7	0.9	0.5	0.7	1.3	0.85	2.27
18-Jan	0.8	0.6	0.6	1.0	0.9	0.9	0.7	0.8	1.0	0.8	1.3	1.5	0.6	1.4	0.9	1.5	1.6	1.7	1.2	1.1	1.6	1.3	1.6	1.1	1.10	1.66
19-Jan	1.1	1.5	1.5	0.9	0.9	1.3	0.9	1.3	0.6	0.5	1.3	0.7	0.6	0.7	0.7	0.7	0.6	2.8	2.2	1.4	1.2	1.3	0.9	0.5	1.09	2.77
20-Jan	0.6	0.6	0.6	0.5	0.6	0.7	0.5	0.4	0.6	0.5	0.6	0.8	0.9	1.0	0.5	0.7	0.5	0.7	0.7	0.5	0.4	0.7	0.5	0.5	0.62	1.05
21-Jan	0.5	0.3	0.4	0.3	0.4	0.4	0.5	0.6	0.3	0.5	0.9	0.7	0.8	1.6	1.9	1.5	1.4	1.3	1.3	1.0	0.8	1.1	1.0	0.9	0.84	1.93
22-Jan	0.8	0.9	0.9	1.0	0.8	0.7	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.8	0.7	1.0	0.8	0.7	0.6	0.7	0.8	0.7	0.7	0.7	0.74	0.99
23-Jan	0.6	0.6	0.5	0.4	0.6	0.5	0.4	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.4	AF	AF	AF	AF	AF	AF	0.5	0.45	0.65
24-Jan	0.6	0.6	0.7	0.6	0.5	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.7	0.5	0.5	0.7	0.7	0.5	0.6	0.2	AF	AF	0.4	0.3	0.46	0.69
25-Jan	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.5	0.4	0.4	0.7	0.9	0.8	0.7	0.6	0.5	0.3	0.4	0.4	0.2	0.4	0.4	1.1	0.47	1.08
26-Jan	0.9	0.9	0.9	1.0	0.6	0.5	0.5	0.5	0.5	0.8	0.8	0.7	1.3	0.9	1.0	0.9	0.7	0.4	1.1	0.8	1.3	1.5	1.4	1.5	0.89	1.52
27-Jan	1.4	1.5	0.6	0.8	0.7	0.5	0.4	0.7	0.7	0.7	0.8	1.0	0.9	0.7	0.9	0.6	0.7	0.9	1.1	1.2	1.8	1.5	1.4	1.2	0.95	1.78
28-Jan	1.5	1.9	1.5	1.3	1.3	1.1	0.9	0.7	0.9	0.7	1.0	0.9	0.9	0.8	0.7	0.7	0.6	0.8	1.0	0.7	1.0	1.6	1.6	0.7	1.03	1.89
29-Jan	0.4	0.6	0.6	0.8	0.8	0.5	0.8	1.0	0.6	0.6	0.8	0.5	0.6	0.6	0.8	1.1	1.0	0.8	0.5	0.6	4.0	2.0	3.2	3.3	1.11	3.99
30-Jan	2.0	1.9	2.2	2.7	3.2	2.3	2.5	2.9	3.3	3.2	3.8	5.0	4.4	4.1	4.5	3.1	2.9	2.3	2.5	2.6	3.0	3.1	3.0	3.4	3.07	5.03
31-Jan	3.0	3.0	3.0	2.2	3.2	2.9	2.6	2.6	2.7	2.6	2.7	2.3	2.7	2.2	1.8	1.6	1.7	1.3	1.5	1.3	1.0	1.2	1.6	1.8	2.20	3.18
																								Diurnal Average		
																								Diurnal Maximum		
0.98 0.97 0.97 1.01 0.99 0.97 0.90 0.93 1.00 1.00 1.15 1.22 1.27 1.29 1.28 1.18 1.14 1.14 1.12 1.01 1.10 1.06 1.08 1.07																										
2.99 3.02 3.02 2.67 3.19 2.94 2.72 2.87 3.33 3.17 3.82 5.03 4.39 4.10 4.48 3.75 3.72 3.36 2.83 2.99 3.99 3.14 3.24 3.37																										
AF - Analyzer Failure ,Alberta Ambient Air Quality Objectives (AAAQO): 1-hr --- ul/m^3 24-hr 100 ul/m^3																										



WCAS - Drayton Valley
Summary of Hourly Standard Deviations

Wind Direction (WD) - deg
January 2017

Maximum Value: 98.75 deg on Jan 29 17:00		Maximum Daily Average: 44.58 deg on Jan 19		Hours in Service: 744																																													
Minimum Value: 5.8 deg on Jan 12 07:00		Minimum Daily Average: 10.70 deg on Jan 14		Hours of Data: 736																																													
Maximum Diurnal Average: 26.43 deg at hour 18		Minimum Diurnal Average: 17.28 deg at hour 21		Hours of Missing Data: 8																																													
Monthly Average: 21.452 deg		Percentiles: P ₁ = 7.8 P ₁₀ = 9.6 Q ₁ = 12.8 Median = 17.0 Q ₃ = 23.2 P ₉₀ = 39.3 P ₉₉ = 83.9		Hours of Calibration: 0																																													
				Percent Operational Time: 98.9																																													
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-Jan	17.8	17.8	18.6	24.2	17.3	15.4	14.5	14.2	15.4	14.0	14.7	16.1	16.6	20.8	21.9	21.3	20.6	12.2	12.9	14.0	14.4	16.1	20.2	28.4	17.48	28.44																							
2-Jan	9.4	44.3	61.4	64.2	54.7	50.7	27.5	30.8	32.9	43.1	64.1	31.7	18.4	69.2	41.2	31.1	19.7	21.8	22.9	18.8	27.2	16.9	71.7	25.4	37.47	71.69																							
3-Jan	20.5	15.6	37.6	19.7	55.9	58.0	12.5	9.2	7.8	8.5	12.1	9.3	9.0	15.3	16.4	21.6	13.8	12.8	11.4	13.8	14.6	11.3	10.7	13.6	17.96	57.97																							
4-Jan	15.7	11.4	11.6	12.4	13.2	11.8	31.6	28.7	13.9	13.0	18.4	15.1	20.2	19.4	15.9	23.4	37.8	13.3	14.5	20.0	10.6	7.7	18.3	23.0	17.54	37.81																							
5-Jan	19.3	20.7	12.7	20.7	21.0	12.0	13.4	17.1	15.9	16.8	17.0	15.8	23.2	19.5	19.1	18.2	20.1	24.4	14.8	18.0	16.0	21.2	19.5	16.4	18.04	24.42																							
6-Jan	15.7	17.7	17.1	19.1	14.8	14.9	19.0	15.6	19.4	18.5	22.1	28.7	25.3	19.9	30.8	15.4	12.5	18.6	18.3	9.8	11.9	39.3	80.1	56.0	23.36	80.08																							
7-Jan	93.7	89.1	42.9	18.1	13.7	15.9	20.1	13.5	14.7	16.3	20.9	18.3	19.2	20.0	17.6	21.0	19.5	15.8	17.6	18.1	16.0	17.5	17.0	22.4	24.95	93.70																							
8-Jan	17.8	20.8	19.8	22.0	36.0	37.5	38.1	18.3	13.4	14.3	14.5	19.0	26.8	27.6	26.8	17.9	14.6	16.9	21.2	16.2	16.1	14.4	24.5	59.6	23.08	59.61																							
9-Jan	18.1	17.2	21.1	17.5	14.5	15.8	15.7	15.0	19.0	14.5	18.4	14.3	13.9	14.0	13.9	13.3	11.9	11.7	15.8	14.1	12.8	12.1	14.2	13.6	15.11	21.11																							
10-Jan	22.6	34.3	15.7	13.9	14.0	10.8	16.5	31.3	13.5	16.6	19.7	25.9	22.8	22.2	20.4	19.7	17.0	73.8	27.0	16.4	12.5	22.9	20.7	19.6	22.08	73.83																							
11-Jan	18.2	12.6	17.1	16.6	16.1	18.0	14.6	13.2	15.0	18.5	16.7	13.9	15.6	14.7	13.3	12.4	22.1	25.2	26.7	21.5	19.5	24.1	14.9	27.1	17.82	27.14																							
12-Jan	53.9	24.4	9.2	29.8	14.6	9.5	5.8	8.2	7.0	8.3	9.2	10.6	12.2	12.7	19.6	15.7	17.3	10.0	11.3	10.4	12.1	25.0	11.7	10.2	14.95	53.86																							
13-Jan	11.3	15.5	17.6	8.9	14.8	9.3	12.4	11.1	34.6	23.2	11.7	10.1	10.9	10.3	11.0	22.4	11.3	47.9	11.4	13.3	7.4	8.2	9.5	9.7	14.75	47.88																							
14-Jan	9.0	9.4	9.8	8.4	8.6	8.8	8.8	8.4	11.9	8.3	12.6	12.1	9.2	9.6	10.6	12.7	13.8	19.6	16.6	9.0	12.7	10.1	8.1	8.6	10.70	19.64																							
15-Jan	9.7	15.9	24.5	45.4	64.0	30.6	19.2	34.4	16.6	14.0	30.9	20.7	20.0	28.2	14.5	16.9	72.5	51.7	85.4	42.2	12.9	18.0	10.9	10.6	29.58	85.44																							
16-Jan	8.4	9.1	13.7	9.3	10.5	11.3	11.2	8.8	7.7	10.2	14.5	9.0	8.9	9.3	9.9	10.1	9.8	8.8	12.4	13.5	22.2	17.2	12.3	12.1	11.25	22.18																							
17-Jan	32.3	15.8	12.5	31.3	75.0	59.2	25.7	36.6	17.7	32.2	18.4	11.4	16.1	21.4	17.7	19.4	42.2	65.8	21.5	20.0	18.0	11.5	9.5	20.7	27.16	75.00																							
18-Jan	8.0	9.3	9.0	10.4	9.4	11.1	13.3	13.3	20.5	11.4	22.3	41.5	22.3	54.6	9.8	33.6	34.0	32.8	39.5	62.8	14.4	13.8	15.2	17.3	22.06	62.78																							
19-Jan	12.1	19.3	62.8	79.1	39.7	22.2	56.2	45.7	50.1	73.0	34.2	17.3	28.4	38.5	26.4	45.0	59.1	81.6	17.0	16.7	57.9	54.8	61.5	71.5	44.58	81.56																							
20-Jan	17.7	36.7	32.0	9.8	8.9	17.8	14.5	58.1	64.2	20.3	13.9	12.1	35.5	35.5	15.5	36.9	9.8	27.9	87.8	17.4	12.1	11.9	23.9	40.9	27.55	87.78																							
21-Jan	40.9	87.2	44.9	12.1	18.5	11.2	40.5	34.2	25.8	60.6	20.0	18.8	18.9	19.6	19.7	20.1	18.2	18.7	19.1	20.6	17.7	19.3	19.3	17.8	26.81	87.24																							
22-Jan	16.9	16.8	24.0	23.9	25.9	25.1	27.2	22.3	19.4	23.2	28.2	29.5	28.1	25.7	24.2	28.3	31.9	28.4	18.3	19.2	26.8	19.8	14.9	15.6	23.48	31.93																							
23-Jan	14.0	18.0	23.2	25.5	24.6	23.8	26.0	24.6	37.5	31.5	28.7	48.8	42.1	60.3	49.7	68.3	22.3	AF	AF	AF	AF	AF	AF	24.2	32.95	68.28																							
24-Jan	21.1	15.2	13.6	17.0	20.9	17.3	12.2	12.8	10.6	9.5	9.7	12.7	40.5	31.3	18.6	20.2	31.3	29.1	21.7	12.8	AF	AF	9.3	10.9	18.11	40.49																							
25-Jan	9.4	9.1	9.6	9.2	8.2	7.9	9.2	8.2	10.1	9.8	8.1	10.0	10.3	10.3	10.0	11.4	9.2	10.2	14.1	16.5	19.3	10.2	13.1	23.7	11.13	23.72																							
26-Jan	9.0	9.3	9.7	11.6	23.6	8.1	9.0	8.0	9.5	15.7	11.2	9.2	39.0	33.3	21.2	16.7	12.8	11.2	17.2	20.0	18.9	17.1	11.9	15.2	15.35	39.04																							
27-Jan	16.9	21.8	22.6	16.4	25.7	9.3	8.3	15.3	16.1	9.6	9.5	13.9	17.5	14.7	12.5	13.2	10.8	14.5	23.2	25.8	14.9	16.1	16.0	13.3	15.74	25.79																							
28-Jan	15.7	16.5	16.0	16.3	13.0	14.8	9.2	7.4	10.3	8.9	15.0	11.3	12.3	8.8	13.0	15.5	40.8	30.9	21.6	11.4	12.7	20.1	71.5	36.9	18.74	71.50																							
29-Jan	14.0	12.6	17.7	52.3	20.2	13.3	13.0	19.3	11.0	17.0	25.9	15.9	59.0	45.9	90.3	71.0	98.7	22.8	44.3	19.1	18.8	14.6	19.9	19.3	31.49	98.75																							
30-Jan	13.8	14.3	18.2	17.1	19.3	15.6	15.0	12.6	13.2	16.8	15.8	16.2	17.1	17.8	23.7	20.1	18.4	15.6	14.5	12.8	13.8	13.4	14.4	15.2	16.04	23.74																							
31-Jan	14.5	15.9	15.8	17.8	18.8	25.9	26.0	24.1	26.4	25.5	25.5	23.7	24.8	23.3	19.7	21.6	17.4	18.8	19.2	20.3	17.0	14.7	15.8	16.0	20.35	26.37																							
																								19.91	22.37	22.00	22.58	23.72	19.77	18.91	20.00	19.39	20.09	19.49	18.16	22.06	24.96	21.77	23.69	25.53	26.43	23.97	18.82	17.28	17.90	22.68	23.06	Diurnal Average	
																								93.70	89.12	62.78	79.06	75.00	59.25	56.21	58.09	64.20	72.96	64.12	48.82	58.97	69.25	90.35	70.99	98.75	81.56	87.78	62.78	57.95	54.83	80.08	71.46	Diurnal Maximum	
AF - Analyzer Failure																																																	
,Alberta Ambient Air Quality Objectives (AAAQO): 1-hr --- ul/m^3 24-hr 100 ul/m^3																																																	

**WEYERHAEUSER - EDSON
STATION #912**

CONTINUOUS AIR MONITORING DATA

JANUARY 2017

Summary Report

Continuous air quality/meteorological monitoring measurements

West Central Airshed Society

Weyerhaeuser / Edson Station 912												January 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)	32	664	93.6	0.5	0.0	6.3	0.0	0.1	0.3	0.6	1.0	0	0	0.001
O ₃ (ppb)	33	663	93.6	21.5	0.3	46.6	3.6	11.1	21.3	30.9	39.3	0	-	0.039
NO (ppb)	34	662	93.6	7.5	0.0	117.6	0.0	0.2	0.8	7.9	21.8	-	-	-
NO ₂ (ppb)	34	662	93.6	14.5	0.6	46.3	2.3	4.0	13.6	22.6	29.5	0	0	0.030
NOx (ppb)	34	662	93.6	21.9	0.6	161.9	2.5	4.3	15.5	31.4	50.2	-	-	-
Particulate Matter 2.5 microns (µm ³)	4	692	93.6	5.6	0.0	29.3	0.1	1.0	3.3	8.1	14.7	0	0	14.7 ug/m3
Wind Speed (kph)	0	734	98.7	6.9	0.1	24.5	2.3	4.2	6.3	8.6	12.0	-	-	-
Temperature (°C)	0	744	100.0	-8.4	-27.0	9.4	-20.0	-15.1	-8.5	-1.7	2.8	-	-	-
Std Dev Wind Direction (deg)	0	734	98.7	21.0	6.0	99.0	8.7	10.9	15.3	23.0	39.0	-	-	-
Std Dev Wind Speed (kph)	0	734	98.7	2.3	0.6	8.4	1.2	1.5	1.9	2.6	3.8	-	-	-



WCAS - Edson
Summary of Hourly Averages

Sulphur Dioxide (SO₂) - ppb
January 2017

Maximum Value: 6.31 ppb on Jan 23 06:00		Maximum Daily Average: 2.62 ppb on Jan 23		Hours in Service: 744																									
Minimum Value: 0.0 ppb on Jan 1 06:00		Minimum Daily Average: 0.03 ppb on Jan 1		Hours of Data: 664																									
Maximum Diurnal Average: 0.61 ppb at hour 5		Minimum Diurnal Average: 0.32 ppb at hour 19		Hours of Missing Data: 80																									
Monthly Average: 0.509 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 0.3 Q ₃ = 0.6 P ₉₀ = 1.0 P ₉₉ = 4.6		Hours of Calibration: 32																									
				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-Jan	0.1	0.1	0.2	Z	0.1	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	0.03	0.17		
2-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--	--		
3-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--	0.55		
4-Jan	0.6	0.5	1.2	Z	0.8	0.8	0.6	0.4	0.5	0.3	0.2	0.4	0.3	0.2	0.4	0.5	0.4	0.7	0.6	0.9	0.4	0.4	0.3	0.4	0.51	1.23			
5-Jan	0.7	0.5	0.4	Z	0.4	0.4	0.4	0.3	0.4	0.2	0.2	0.3	0.3	0.1	0.2	0.2	0.3	0.6	0.2	0.1	0.0	0.0	0.0	0.0	0.26	0.67			
6-Jan	0.2	0.2	0.3	Z	1.2	0.5	0.3	0.3	0.1	0.9	1.7	1.6	1.0	0.8	0.7	0.6	0.5	0.8	1.3	2.0	2.3	3.0	2.9	2.3	1.11	3.00			
7-Jan	1.5	1.0	0.6	Z	0.4	0.3	0.3	0.3	0.3	0.2	0.1	0.1	0.1	0.1	0.0	0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.9	0.4	0.30	1.48			
8-Jan	0.2	0.0	0.1	Z	0.1	0.1	0.1	0.3	0.0	0.1	0.1	0.0	0.1	0.2	0.1	0.0	0.1	0.1	0.2	0.2	0.3	0.8	1.3	1.7	0.27	1.68			
9-Jan	0.9	0.4	0.6	Z	1.4	0.5	0.3	0.2	0.2	0.3	0.4	0.4	0.5	0.5	0.3	0.2	0.2	0.1	0.0	0.0	0.1	0.1	0.1	0.0	0.34	1.38			
10-Jan	0.0	0.1	0.3	Z	0.3	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.3	0.4	0.2	0.2	0.1	0.1	0.13	0.40			
11-Jan	0.4	0.9	1.0	Z	0.3	0.5	0.2	0.1	0.2	0.1	0.1	0.1	0.2	0.3	0.3	0.2	0.1	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.29	0.96			
12-Jan	0.3	0.1	0.1	Z	0.0	0.1	0.6	0.8	0.4	0.7	1.0	1.1	0.7	0.6	2.1	1.6	0.7	0.4	0.2	0.4	0.4	0.4	0.2	0.4	0.58	2.07			
13-Jan	0.7	0.7	0.8	Z	0.6	1.0	1.7	1.1	0.2	0.4	0.1	0.2	1.4	0.4	0.2	0.7	0.4	0.3	0.2	0.2	0.2	0.0	0.5	0.3	0.53	1.67			
14-Jan	0.7	0.7	0.1	Z	0.3	0.5	1.2	1.3	0.4	1.3	1.1	0.7	0.9	0.7	0.8	0.8	0.9	0.8	0.7	1.0	1.0	0.7	0.3	0.8	0.77	1.31			
15-Jan	0.4	0.3	0.5	Z	0.5	0.8	1.0	0.7	0.4	0.6	0.8	0.9	1.0	1.2	0.0	0.0	0.1	0.0	0.0	0.0	0.3	0.0	0.1	0.1	0.42	1.24			
16-Jan	0.2	0.2	0.1	Z	0.1	0.2	0.3	0.8	0.3	0.5	0.5	0.5	0.8	1.0	1.2	1.1	0.7	0.4	0.2	0.2	0.2	0.5	0.6	0.7	0.49	1.20			
17-Jan	0.4	0.5	0.4	Z	0.5	0.6	0.5	0.6	0.5	0.4	0.4	0.4	0.5	0.8	0.6	0.3	0.5	0.3	0.2	0.2	0.5	0.5	0.6	0.6	0.48	0.85			
18-Jan	0.7	0.7	0.7	Z	0.7	0.6	0.6	0.5	0.9	0.9	0.8	0.6	0.6	0.7	0.4	0.4	0.3	0.3	0.3	0.4	0.3	0.5	0.7	0.8	0.58	0.95			
19-Jan	0.4	0.6	0.6	Z	0.4	0.3	0.7	0.5	0.5	0.9	1.1	1.1	0.9	1.5	2.9	1.9	1.8	0.2	0.1	0.7	0.4	0.3	0.2	0.3	0.80	2.85			
20-Jan	0.3	0.6	0.2	Z	0.3	0.7	0.5	0.6	0.4	0.4	1.0	0.6	0.3	0.2	0.2	0.3	0.3	0.3	0.2	0.3	0.2	0.2	0.1	0.1	0.37	1.02			
21-Jan	0.2	0.3	0.2	Z	0.3	0.2	0.1	0.3	0.5	0.5	1.4	1.1	0.6	0.3	0.3	0.5	0.9	1.8	1.7	1.8	1.2	1.0	0.6	0.3	0.70	1.79			
22-Jan	0.1	0.1	0.0	Z	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.2	0.3	0.6	0.4	0.2	0.5	0.3	0.5	0.5	0.7	1.7	5.3	5.3	0.75	5.29			
23-Jan	4.3	4.6	4.9	Z	6.1	6.3	5.6	4.2	3.4	3.0	C	C	C	1.7	1.3	1.1	1.0	0.9	0.9	0.8	0.6	0.6	0.5	0.6	2.62	6.31			
24-Jan	0.6	0.3	0.3	Z	0.4	0.2	0.3	0.4	0.5	0.5	0.6	0.9	0.7	1.4	2.2	1.5	1.0	0.5	0.1	0.3	0.2	0.1	0.0	0.0	0.58	2.23			
25-Jan	0.0	0.1	0.5	Z	1.5	1.3	0.5	0.1	0.4	1.6	1.3	0.9	0.7	0.6	0.5	0.8	0.8	0.5	0.3	0.4	0.4	0.4	0.5	0.4	0.63	1.56			
26-Jan	0.6	1.4	0.7	Z	0.3	0.3	0.2	0.3	0.4	0.4	0.6	0.7	1.0	1.3	1.2	0.9	0.8	0.6	0.2	0.3	0.3	0.6	0.7	0.4	0.62	1.40			
27-Jan	0.3	1.0	0.6	Z	0.5	0.3	0.2	0.1	0.3	0.3	0.2	0.2	0.6	0.3	0.3	0.5	0.2	0.0	0.1	0.1	0.0	0.1	0.1	0.1	0.28	0.99			
28-Jan	0.0	0.0	0.0	Z	0.1	0.3	0.1	0.1	0.2	0.2	0.3	0.1	0.1	0.3	0.5	0.9	0.3	0.0	0.1	0.0	0.1	0.1	0.0	0.2	0.18	0.86			
29-Jan	0.1	0.2	0.2	Z	0.0	0.1	0.3	0.1	0.3	0.3	0.3	0.3	0.5	0.5	0.2	0.2	0.4	0.1	0.2	0.1	0.2	0.2	0.1	0.2	0.20	0.50			
30-Jan	0.1	0.1	0.3	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	0.1	0.0	0.1	0.0	0.0	0.1	0.05	0.33			
31-Jan	0.1	0.1	0.0	Z	0.1	0.1	0.1	0.2	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	0.3	0.3	0.2	0.17	0.35			
		0.52	0.56	0.55	--	0.61	0.60	0.57	0.51	0.41	0.53	0.52	0.49	0.51	0.56	0.61	0.55	0.46	0.37	0.32	0.41	0.39	0.45	0.60	0.60	Diurnal Average			
		4.31	4.63	4.86	--	6.12	6.31	5.62	4.15	3.36	3.01	1.71	1.62	1.36	1.69	2.85	1.92	1.75	1.79	1.75	1.98	2.31	3.00	5.26	5.29	Diurnal Maximum			
Z - zerospan		C - Calibration				UO - Unstable Operation																							
Alberta Ambient Air Quality Objectives (AAAQO):		1-hr 172 ppb		24-hr 48 ppb																									



WCAS - Edson
Summary of Hourly Averages

Ozone (O₃) - ppb
January 2017

Maximum Value: 46.64 ppb on Jan 28 18:00		Maximum Daily Average: 41.56 ppb on Jan 30		Hours in Service: 744																																													
Minimum Value: 0.3 ppb on Jan 18 03:00		Minimum Daily Average: 6.36 ppb on Jan 23		Hours of Data: 663																																													
Maximum Diurnal Average: 27.43 ppb at hour 18		Minimum Diurnal Average: 16.03 ppb at hour 9		Hours of Missing Data: 81																																													
Monthly Average: 21.499 ppb		Percentiles: P ₁ = 0.8 P ₁₀ = 3.6 Q ₁ = 11.1 Median = 21.3 Q ₃ = 30.9 P ₉₀ = 39.3 P ₉₉ = 45.6		Hours of Calibration: 33																																													
				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-Jan	35.7	37.9	38.4	Z	31.5	24.8	27.5	30.4	31.5	31.3	29.8	31.1	31.9	33.3	33.7	35.3	34.8	31.1	29.9	29.7	20.3	13.1	10.4	UC	29.71	38.40																							
2-Jan	UC	UC	UC	UC	UC	UC	UC	UC	UC	UC	UC	UC	UC	UC	UC	UC	UC	UC	UC	UC	UC	UC	UC	UC	--	--																							
3-Jan	UC	UC	UC	UC	UC	UC	UC	UC	UC	UC	UC	UC	UC	UC	UC	UC	UC	UC	UC	UC	UC	UC	UC	UC	--	9.33																							
4-Jan	5.4	22.4	24.8	Z	17.6	23.7	30.1	24.7	11.5	11.4	30.3	24.7	24.8	32.8	28.2	25.4	25.0	15.4	20.2	32.1	31.5	31.4	29.6	22.7	23.72	32.83																							
5-Jan	19.5	19.2	23.6	Z	27.3	29.9	31.8	30.4	28.9	25.7	23.2	22.9	29.5	32.5	35.5	35.8	32.2	33.4	32.6	29.9	24.6	31.4	27.6	27.1	28.13	35.76																							
6-Jan	26.6	26.0	23.7	Z	18.2	22.7	22.3	20.4	21.7	19.6	19.0	19.9	21.0	22.3	21.2	20.0	18.1	17.9	18.8	18.4	19.0	18.6	18.6	18.5	20.53	26.63																							
7-Jan	16.9	12.6	10.8	Z	18.3	16.6	22.1	23.5	24.1	26.2	26.7	27.1	27.7	28.2	27.5	26.9	27.0	26.4	26.5	26.6	26.9	25.2	27.4	27.2	23.83	28.20																							
8-Jan	26.1	25.3	25.0	Z	19.3	11.5	2.2	0.9	21.1	21.0	19.2	19.1	20.1	20.9	21.3	23.1	24.4	25.3	24.5	25.7	26.0	23.9	23.4	23.4	20.55	26.14																							
9-Jan	24.0	23.8	22.0	Z	21.7	20.3	20.3	17.1	17.3	18.8	22.5	26.0	26.6	28.1	29.7	29.8	29.9	28.7	28.2	29.2	28.5	29.2	29.9	27.6	25.19	29.94																							
10-Jan	22.2	8.9	5.2	Z	4.5	12.3	12.7	29.5	36.6	34.9	37.3	37.0	36.4	36.4	36.8	35.5	32.5	13.7	17.6	10.3	18.5	28.3	34.3	35.0	25.07	37.32																							
11-Jan	22.3	21.0	30.9	Z	37.4	37.2	36.5	36.3	36.4	37.3	38.0	38.5	38.5	39.2	38.7	39.5	39.0	38.7	38.4	38.2	37.9	37.3	34.1	25.1	35.49	39.46																							
12-Jan	8.0	15.8	15.8	Z	11.6	7.9	1.6	1.0	1.0	2.8	5.3	10.8	15.9	21.5	23.6	20.6	13.5	17.8	9.8	7.6	7.8	30.0	23.7	1.5	11.95	29.97																							
13-Jan	2.0	2.1	2.5	Z	8.3	9.5	6.8	9.3	9.7	4.9	18.4	26.7	22.9	21.5	25.1	23.3	24.5	34.2	19.6	4.4	22.4	14.9	1.8	5.2	13.90	34.15																							
14-Jan	15.7	19.9	22.5	Z	11.1	19.1	12.1	6.5	15.2	6.4	14.6	14.4	14.5	9.9	11.0	9.9	11.9	20.7	3.6	1.8	1.5	2.0	15.7	4.0	11.48	22.49																							
15-Jan	3.9	12.7	6.3	Z	3.4	6.6	1.1	1.3	9.7	24.3	27.9	22.6	32.8	36.2	44.8	44.8	41.0	40.1	37.6	41.6	24.3	26.8	14.4	27.9	23.15	44.84																							
16-Jan	32.9	24.1	20.5	Z	19.9	17.2	29.8	19.5	12.6	6.2	7.0	9.2	13.9	21.5	5.0	3.3	3.4	13.4	21.5	19.2	12.6	4.2	1.0	1.2	13.88	32.91																							
17-Jan	4.1	7.5	2.5	Z	3.3	15.5	8.5	12.7	13.2	9.0	9.1	13.5	11.2	5.9	5.0	14.1	9.2	9.6	8.1	13.4	3.8	3.0	1.1	0.8	8.00	15.53																							
18-Jan	0.8	0.8	0.3	Z	0.4	0.8	1.0	2.3	1.0	1.8	6.2	9.8	14.3	18.6	23.9	20.6	28.3	23.1	19.4	19.7	4.7	6.7	4.8	0.8	9.14	28.35																							
19-Jan	4.0	2.5	5.9	Z	5.3	4.4	1.9	1.8	3.1	1.7	3.4	5.9	12.7	14.8	14.2	13.5	19.7	39.1	37.0	17.7	18.6	10.6	26.5	29.9	12.78	39.11																							
20-Jan	23.1	26.7	28.6	Z	24.1	11.3	4.3	7.3	11.8	11.0	18.2	18.2	27.7	29.5	32.3	32.9	36.3	32.3	25.9	20.2	22.3	18.2	14.7	7.6	21.06	36.26																							
21-Jan	2.1	0.8	3.6	Z	0.6	0.6	0.6	0.5	0.8	3.1	5.3	6.9	18.5	25.1	25.3	24.3	22.6	21.5	21.2	21.3	20.7	20.4	19.0	19.2	12.34	25.29																							
22-Jan	18.3	17.8	16.7	Z	13.5	14.1	13.5	13.5	13.3	14.0	14.7	16.0	16.2	16.2	16.7	18.2	16.9	19.1	20.9	20.6	20.2	17.9	9.8	9.9	16.01	20.94																							
23-Jan	12.2	10.0	8.3	Z	4.4	3.2	2.7	5.0	5.4	7.1	C	C	C	C	11.8	12.9	10.7	7.7	5.6	5.2	4.5	2.2	1.4	0.5	6.36	12.95																							
24-Jan	0.8	1.2	1.2	Z	1.7	3.5	2.5	3.0	1.8	6.3	9.8	11.3	17.5	24.1	26.2	26.3	19.2	15.1	14.1	11.1	8.2	10.3	8.9	12.1	10.26	26.33																							
25-Jan	10.4	8.6	6.5	Z	5.5	3.9	6.0	6.0	4.8	7.6	14.9	19.2	20.3	24.4	25.2	21.6	16.6	15.6	13.3	20.2	22.3	14.7	23.6	29.8	14.83	29.79																							
26-Jan	19.1	25.7	23.1	Z	7.9	1.9	7.1	3.5	6.4	18.0	18.4	23.0	28.1	29.6	33.2	34.1	31.5	40.4	41.9	43.5	41.5	41.6	40.5	41.3	26.15	43.53																							
27-Jan	42.4	40.9	41.3	Z	30.9	23.2	24.6	17.9	4.7	15.4	18.2	24.6	28.8	29.8	14.8	34.2	40.6	43.7	44.1	44.0	43.7	41.5	44.4	39.7	31.89	44.39																							
28-Jan	42.6	43.2	43.8	Z	42.8	34.5	28.4	26.7	25.4	24.0	19.6	29.7	31.4	27.2	23.1	18.9	25.1	46.6	46.2	45.6	45.9	46.2	39.9	18.5	33.71	46.64																							
29-Jan	19.4	26.5	26.7	Z	20.6	13.6	35.7	36.4	13.8	41.6	39.4	33.6	24.9	28.3	30.1	35.4	46.6	45.9	44.5	44.1	44.6	42.9	42.0	40.2	33.77	46.57																							
30-Jan	36.5	35.7	34.0	Z	40.3	41.3	41.5	40.7	42.9	43.9	43.7	43.9	43.9	43.9	44.3	43.9	43.6	43.2	42.5	42.2	41.3	41.1	41.0	40.6	41.56	44.26																							
31-Jan	40.3	40.1	39.1	Z	38.5	38.3	37.9	38.7	39.1	38.1	36.9	36.1	35.4	36.4	36.6	36.5	36.8	35.8	35.3	34.6	36.1	36.7	38.0	36.1	37.28	40.31																							
																								18.53	19.31	19.10	--	16.90	16.18	16.31	16.09	16.03	17.70	20.60	22.20	24.54	26.36	25.69	26.22	26.24	27.43	25.83	24.77	23.46	22.85	22.32	20.10	Diurnal Average	
																								42.63	43.23	43.83	--	42.83	41.27	41.54	40.74	42.89	43.87	43.70	43.90	43.89	43.85	44.76	44.84	46.57	46.64	46.15	45.61	45.94	46.22	44.39	41.31	Diurnal Maximum	
Z - zerospan C - Calibration UO - Unstable Operation Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 82.5 ppb 24-hr -- ppb																																																	



WCAS - Edson
Eight Hour Running Averages

Ozone (O₃) - ppb
January 2017

Maximum Value: 43.87 ppb on Jan 30 17:00		Maximum Daily Average: 41.67 ppb on Jan 30		Hours in Service: 744																						
Minimum Value: 0.7 ppb on Jan 18 07:00		Minimum Daily Average: 8.29 ppb on Jan 18		Hours of Data: 737																						
Maximum Diurnal Average: 25.25 ppb at hour 19		Minimum Diurnal Average: 16.20 ppb at hour 10		Hours of Missing Data: 7																						
Monthly Average: 20.815 ppb		Percentiles: P ₁ = 1.3 P ₁₀ = 6.1 Q ₁ = 12.0 Median = 20.1 Q ₃ = 28.7 P ₉₀ = 37.6 P ₉₉ = 43.4		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-Jan	36.1	36.3	36.4	36.5	35.7	34.1	32.9	32.3	31.7	30.8	29.5	29.7	29.8	30.9	31.6	32.3	32.7	32.6	32.7	32.5	31.0	28.5	25.6	23.2	31.89	36.49
2-Jan	21.2	19.8	17.0	15.2	12.6	12.3	11.8	9.5	7.0	4.7	4.6	4.9	5.7	5.5	5.9	7.2	8.1	9.8	10.8	11.3	10.6	12.0	12.3	12.9	10.54	21.21
3-Jan	13.9	13.6	13.1	13.4	13.4	11.8	10.4	9.5	8.4	7.3	7.8	8.6	10.7	13.1	15.4	17.0	18.6	20.4	20.6	20.6	20.6	18.6	17.5	15.9	14.18	20.63
4-Jan	13.9	13.9	15.2	15.2	14.9	16.7	19.1	21.2	22.1	20.5	21.3	21.8	22.6	23.8	23.6	23.6	25.3	25.8	24.6	25.5	26.3	26.1	26.3	26.0	21.47	26.32
5-Jan	25.3	25.8	26.2	25.3	24.7	24.5	24.8	25.9	27.3	28.2	28.2	27.5	27.8	28.1	28.6	29.2	29.7	30.6	31.8	32.7	32.1	31.0	30.0	28.9	28.10	32.68
6-Jan	28.2	27.3	26.2	25.7	24.8	24.6	23.8	22.8	22.1	21.2	20.5	20.5	20.8	20.8	20.6	20.6	20.1	19.9	19.9	19.7	19.5	19.0	18.7	18.5	21.91	28.25
7-Jan	18.3	17.7	16.7	16.4	16.3	16.0	16.5	17.2	18.3	20.2	22.5	23.1	24.2	25.7	26.4	26.8	27.2	27.2	27.2	27.1	27.0	26.6	26.6	26.6	22.40	27.18
8-Jan	26.5	26.4	26.2	26.2	25.1	23.1	19.5	15.8	15.0	14.4	13.6	14.3	14.4	15.6	17.9	20.7	21.1	21.7	22.3	23.2	23.9	24.3	24.5	24.6	20.85	26.52
9-Jan	24.5	24.3	24.0	23.8	23.2	22.7	22.2	21.3	20.4	19.7	19.7	20.5	21.1	22.1	23.3	24.8	26.4	27.7	28.4	28.8	29.0	29.1	29.2	28.9	24.38	29.17
10-Jan	27.9	25.5	22.6	21.7	18.2	15.8	13.4	13.6	15.7	19.4	24.0	25.6	29.6	32.6	35.6	36.4	35.8	33.2	30.7	27.4	25.2	24.2	23.8	23.8	25.07	36.36
11-Jan	22.5	23.4	25.1	27.2	29.9	31.2	31.5	31.7	33.7	36.0	37.0	37.2	37.3	37.6	37.8	38.2	38.6	38.7	38.8	38.8	38.7	38.5	37.9	36.1	34.30	38.81
12-Jan	32.2	29.4	26.5	24.9	21.1	16.9	12.3	8.8	7.8	6.0	4.5	5.3	5.8	7.5	10.2	12.7	14.2	16.1	16.7	16.3	15.3	16.3	16.4	14.0	14.87	32.21
13-Jan	12.5	10.6	9.7	9.9	10.0	7.1	4.7	5.8	6.9	7.3	9.6	11.7	13.5	15.0	17.3	19.1	20.9	24.6	24.7	21.9	21.9	21.0	18.1	15.9	14.15	24.71
14-Jan	14.8	13.0	13.3	14.6	13.0	13.6	15.1	15.3	15.2	13.3	12.1	12.4	12.8	11.7	11.6	12.0	11.6	13.4	12.0	10.4	8.8	7.8	8.4	7.7	12.24	15.27
15-Jan	6.7	5.7	6.0	6.6	6.9	7.5	5.4	5.0	5.9	7.5	10.6	12.1	15.8	19.5	25.0	30.4	34.3	36.3	37.5	39.9	38.8	37.6	33.8	31.7	19.44	39.88
16-Jan	30.7	28.7	26.6	24.4	23.8	22.4	24.6	23.4	20.5	17.9	16.0	15.2	14.4	14.9	11.9	9.8	8.7	9.6	11.4	12.7	12.5	10.4	9.9	9.6	17.08	30.71
17-Jan	9.7	8.9	6.6	4.8	3.4	5.0	6.1	7.7	9.0	9.2	10.2	10.6	11.6	10.4	9.9	10.1	9.6	9.7	9.6	9.6	8.6	8.3	7.8	6.1	8.44	11.58
18-Jan	5.1	4.0	3.0	1.5	1.0	0.7	0.7	0.9	1.0	1.1	1.9	2.9	4.6	6.9	9.7	12.0	15.4	18.1	19.8	21.0	19.8	18.3	15.9	13.5	8.29	21.00
19-Jan	10.4	7.8	6.2	4.2	4.3	4.0	3.6	3.7	3.6	3.4	3.1	3.4	4.4	5.6	7.2	8.6	10.7	15.4	19.6	21.1	21.8	21.3	22.8	24.9	10.05	24.88
20-Jan	25.3	23.8	22.7	23.4	24.2	24.3	21.1	17.9	16.3	14.0	12.6	13.3	13.7	16.0	19.5	22.7	25.8	28.4	29.4	29.6	29.0	27.5	25.3	22.2	22.00	29.62
21-Jan	17.9	14.0	11.2	9.9	6.8	4.3	2.3	1.3	1.1	1.4	1.6	2.3	4.5	7.6	10.7	13.7	16.4	18.7	20.7	22.5	22.7	22.2	21.4	20.7	11.48	22.75
22-Jan	20.2	19.7	19.2	18.9	17.8	16.9	16.2	15.4	14.6	14.1	13.8	14.1	14.4	14.7	15.1	15.7	16.1	16.7	17.5	18.1	18.6	18.8	18.0	16.9	16.73	20.18
23-Jan	16.3	15.2	13.6	12.6	10.4	8.3	7.2	6.5	5.6	5.2	4.6	4.6	C	C	C	C	C	C	C	9.0	8.4	7.6	6.3	4.7	--	16.35
24-Jan	3.5	2.7	2.1	1.7	1.3	1.5	1.6	2.0	2.1	2.8	4.1	5.0	6.9	9.5	12.5	15.4	17.6	18.7	19.2	19.2	18.0	16.3	14.2	12.4	8.76	19.22
25-Jan	11.3	10.5	9.5	9.3	8.9	8.0	7.6	6.7	5.9	5.8	7.0	8.5	10.4	12.9	15.3	17.3	18.7	19.7	19.5	19.7	19.9	18.7	18.5	19.5	12.87	19.92
26-Jan	19.8	21.1	22.3	22.6	20.6	18.7	16.4	12.6	10.8	9.7	9.0	10.8	13.3	16.8	20.0	23.9	27.0	29.8	32.7	35.3	37.0	38.5	39.4	40.3	22.85	40.28
27-Jan	41.6	41.7	41.6	41.4	39.8	37.2	34.9	31.6	26.2	22.6	19.3	19.9	19.7	20.5	19.3	21.3	25.8	29.3	32.6	35.0	36.9	38.3	42.0	42.7	31.72	42.71
28-Jan	43.0	42.9	42.9	42.7	42.6	41.6	39.3	37.4	35.0	32.2	28.8	28.9	27.4	26.5	25.9	24.9	24.9	27.7	31.0	33.0	34.8	37.2	39.3	39.3	34.55	42.97
29-Jan	38.5	36.0	33.6	31.9	28.2	23.6	23.0	25.5	24.7	26.9	28.7	29.3	29.9	31.7	31.0	30.9	35.0	35.5	36.2	37.5	39.9	41.8	43.2	43.8	32.77	43.84
30-Jan	42.6	41.3	40.0	39.4	38.8	38.6	38.5	38.6	39.5	40.7	42.0	42.3	42.7	43.0	43.4	43.8	43.9	43.8	43.6	43.4	43.1	42.8	42.3	41.9	41.67	43.87
31-Jan	41.5	41.1	40.7	40.5	40.1	39.7	39.3	39.0	38.8	38.5	38.2	38.0	37.6	37.3	37.2	36.9	36.6	36.3	36.1	35.9	36.0	36.1	36.2	36.2	38.08	41.52
22.65 21.68 20.84 20.38 19.42 18.47 17.60 16.98 16.52 16.20 16.34 16.91 18.25 19.46 20.65 21.93 23.23 24.52 25.25 25.11 25.02 24.67 24.25 23.53																								Diurnal Average		
42.97 42.91 42.88 42.72 42.59 41.59 39.30 38.99 39.50 40.66 42.05 42.28 42.73 43.05 43.39 43.78 43.87 43.78 43.64 43.42 43.10 42.75 43.24 43.84																								Diurnal Maximum		
C - Calibration																										



WCAS - Edson
Summary of Hourly Averages

Nitrogen Oxide (NO) - ppb
January 2017

Maximum Value: 117.57 ppb on Jan 12 11:00		Maximum Daily Average: 28.20 ppb on Jan 12		Hours in Service: 744																																													
Minimum Value: 0.0 ppb on Jan 6 23:00		Minimum Daily Average: 0.11 ppb on Jan 31		Hours of Data: 662																																													
Maximum Diurnal Average: 16.61 ppb at hour 11		Minimum Diurnal Average: 1.24 ppb at hour 18		Hours of Missing Data: 82																																													
Monthly Average: 7.497 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.2 Median = 0.8 Q ₃ = 7.9 P ₉₀ = 21.8 P ₉₉ = 75.3		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-Jan	0.0	0.0	0.0	Z	0.0	0.1	0.1	0.0	0.0	0.2	1.2	1.4	1.1	0.4	0.3	0.1	0.1	0.1	0.1	0.1	0.2	3.0	2.0	UO	0.48	2.96																							
2-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--	--																							
3-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--	5.05																							
4-Jan	8.9	0.1	0.1	Z	0.8	0.4	0.1	0.4	2.0	4.8	1.5	4.5	6.1	1.8	3.2	3.5	1.1	2.3	0.7	0.1	0.1	0.1	0.0	0.1	1.86	8.89																							
5-Jan	0.2	0.2	0.1	Z	0.0	0.1	0.0	0.0	0.0	0.3	1.1	1.9	0.6	0.4	0.3	0.2	0.2	0.0	0.0	0.0	0.8	1.3	0.2	0.1	0.35	1.87																							
6-Jan	0.1	0.0	0.2	Z	0.2	0.1	0.9	0.6	0.8	1.1	4.4	5.6	7.0	3.3	2.8	1.8	1.6	0.1	0.1	0.0	0.0	0.0	0.0	0.0	1.34	7.03																							
7-Jan	0.0	0.0	0.2	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.4	0.7	0.7	0.6	0.6	0.5	0.2	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.19	0.73																							
8-Jan	0.0	0.0	0.0	Z	0.1	3.8	15.8	33.7	0.9	0.6	1.7	3.2	3.7	3.7	2.8	1.0	0.3	0.0	0.0	0.0	0.0	0.1	0.0	0.0	3.10	33.69																							
9-Jan	0.0	0.0	0.0	Z	0.0	0.1	0.0	0.1	0.1	0.5	1.0	1.3	1.6	1.3	0.9	0.6	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.34	1.56																							
10-Jan	0.3	3.6	9.9	Z	12.9	5.8	11.3	3.6	0.0	0.0	0.1	0.2	0.3	0.3	0.3	0.5	0.4	4.2	1.9	2.9	0.3	0.0	0.0	0.0	2.56	12.95																							
11-Jan	0.4	0.4	0.1	Z	0.0	0.0	0.1	0.0	0.0	0.1	0.3	0.4	0.8	0.7	0.5	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.22	1.00																							
12-Jan	15.4	0.7	0.2	Z	4.9	4.3	71.1	87.4	44.2	73.1	117.6	67.1	39.1	16.9	12.4	11.1	9.0	0.3	2.8	5.4	10.0	11.6	7.1	37.1	28.20	117.57																							
13-Jan	54.5	47.2	76.0	Z	21.5	7.6	2.6	5.1	8.9	32.2	11.1	8.9	20.4	19.9	12.5	6.9	2.6	0.1	9.6	7.6	0.2	1.7	54.5	33.8	19.37	75.98																							
14-Jan	0.7	0.1	0.0	Z	4.1	0.9	3.6	4.2	1.7	9.6	7.1	15.9	20.4	45.0	30.8	30.9	13.9	0.8	27.7	82.0	87.0	22.7	0.3	42.0	19.63	86.99																							
15-Jan	20.4	7.9	26.8	Z	27.1	8.7	42.2	22.0	5.2	1.7	5.0	15.2	5.3	6.0	0.4	0.2	0.2	0.1	0.1	0.1	0.4	0.6	1.9	0.1	8.60	42.20																							
16-Jan	0.1	0.3	0.4	Z	1.1	0.5	0.1	0.8	3.1	12.5	17.5	24.6	20.3	6.4	39.7	38.0	42.7	15.9	0.2	0.6	2.3	23.1	40.2	21.8	13.58	42.75																							
17-Jan	11.7	0.6	13.9	Z	22.5	6.9	6.5	4.8	6.8	11.6	21.6	17.5	17.8	42.8	37.0	4.6	18.6	3.9	4.1	0.8	39.7	13.8	50.0	38.4	17.23	49.96																							
18-Jan	32.0	14.8	39.5	Z	22.8	19.6	21.8	23.0	35.9	60.7	39.6	15.8	21.0	19.7	12.3	5.7	0.9	0.3	0.6	15.0	6.9	3.6	3.7	41.6	19.87	60.69																							
19-Jan	6.1	10.0	7.9	Z	6.0	2.7	28.1	32.7	38.0	95.4	97.7	72.7	15.5	17.0	27.0	22.4	6.1	0.2	0.1	1.9	0.3	9.8	4.6	0.2	21.84	97.67																							
20-Jan	0.7	0.2	0.2	Z	0.2	2.1	11.9	2.4	5.9	8.9	10.9	22.3	6.0	5.7	5.7	4.8	0.9	0.2	0.2	0.2	0.1	0.2	0.3	0.8	3.95	22.35																							
21-Jan	19.3	20.8	5.3	Z	32.1	12.6	18.3	26.0	57.3	31.7	46.1	66.0	14.2	1.0	0.8	0.7	0.5	0.2	0.1	0.1	0.0	0.1	0.1	0.0	15.36	65.96																							
22-Jan	0.1	0.2	0.1	Z	0.8	0.1	0.2	0.3	0.3	0.6	2.3	2.0	2.2	2.4	1.6	1.2	3.2	0.9	0.6	0.2	0.1	0.1	0.4	0.5	0.89	3.18																							
23-Jan	0.1	0.3	0.5	Z	0.3	0.9	1.0	1.1	0.9	4.1	C	C	C	C	C	4.5	3.1	1.3	0.5	0.4	0.4	1.7	5.4	22.0	2.69	21.97																							
24-Jan	18.5	9.7	8.2	Z	5.8	1.8	3.6	4.9	19.6	12.2	17.2	33.9	24.9	15.6	11.8	8.1	7.1	1.4	0.9	13.4	9.4	0.5	1.0	0.3	10.00	33.91																							
25-Jan	0.3	0.6	1.6	Z	7.2	6.3	3.1	2.2	4.7	18.7	22.1	22.6	23.6	17.2	15.2	16.5	11.8	1.7	0.5	0.5	0.3	3.5	1.7	0.2	7.92	23.60																							
26-Jan	0.8	0.5	0.3	Z	4.1	13.5	2.2	12.5	10.3	6.2	16.9	14.6	12.9	14.4	8.9	6.9	4.7	0.4	0.2	0.2	0.2	0.2	0.2	0.2	5.71	16.90																							
27-Jan	0.2	0.2	0.2	Z	0.7	0.4	0.3	2.8	18.2	14.1	12.9	14.1	6.4	5.3	12.3	12.3	6.5	1.0	0.2	0.2	0.2	0.2	0.2	0.2	4.72	18.21																							
28-Jan	0.2	0.1	0.1	Z	0.2	0.2	0.2	0.2	0.8	2.6	4.5	2.2	2.8	5.8	10.0	17.4	14.1	0.2	0.2	0.2	0.1	0.1	0.5	4.4	2.91	17.38																							
29-Jan	2.4	0.3	0.3	Z	3.4	5.4	0.2	0.3	21.8	0.6	1.8	3.9	12.5	7.9	4.1	2.1	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.1	2.97	21.84																							
30-Jan	0.1	0.2	0.2	Z	0.1	0.0	0.0	0.0	0.1	0.6	1.0	0.8	0.3	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.17	1.01																							
31-Jan	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.2	0.5	0.3	0.3	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.11	0.54																							
																								6.68	4.11	6.63	--	6.17	3.61	8.46	9.35	9.92	13.96	16.61	15.70	10.29	9.36	9.10	7.00	5.19	1.24	1.78	4.56	5.49	3.38	6.02	8.63	Diurnal Average	
																								54.49	47.24	75.98	--	32.07	19.56	71.08	87.40	57.31	95.36	117.57	72.70	39.11	45.03	39.69	37.99	42.75	15.91	27.74	81.96	86.99	23.10	54.53	42.05	Diurnal Maximum	
Z - zerospan																								C - Calibration				UO - Unstable Operation																					
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr --- ppb 24-hr --- ppb																																																	



WCAS - Edson
Summary of Hourly Averages

Nitrogen Dioxide (NO₂) - ppb
January 2017

Maximum Value: 46.32 ppb on Jan 13 03:00		Maximum Daily Average: 29.64 ppb on Jan 14		Hours in Service: 744																																													
Minimum Value: 0.6 ppb on Jan 1 03:00		Minimum Daily Average: 2.50 ppb on Jan 30		Hours of Data: 662																																													
Maximum Diurnal Average: 18.87 ppb at hour 9		Minimum Diurnal Average: 10.36 ppb at hour 18		Hours of Missing Data: 82																																													
Monthly Average: 14.493 ppb		Percentiles: P ₁ = 0.9 P ₁₀ = 2.3 Q ₁ = 4.0 Median = 13.6 Q ₃ = 22.6 P ₉₀ = 29.5 P ₉₉ = 42.9		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-Jan	0.9	0.7	0.6	Z	6.0	12.5	8.2	5.3	3.9	3.1	4.9	3.5	2.7	1.7	1.5	1.3	2.0	4.7	6.2	5.9	14.2	21.9	24.8	UO	6.21	24.78																							
2-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--	--																							
3-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--	29.67																							
4-Jan	33.8	12.6	10.7	Z	18.3	12.8	6.4	12.7	28.5	28.6	8.6	14.5	15.2	6.1	11.1	14.7	14.7	25.0	18.2	5.0	5.1	4.6	5.6	12.6	14.15	33.85																							
5-Jan	15.7	15.4	9.1	Z	7.7	5.7	3.8	4.7	5.1	6.5	8.3	7.2	2.3	1.8	1.6	1.5	3.4	2.5	2.6	2.3	4.0	3.8	2.2	2.7	5.22	15.71																							
6-Jan	2.7	2.8	4.7	Z	8.6	5.2	6.0	7.7	6.2	8.0	8.8	8.1	6.9	4.7	5.4	6.7	8.6	8.8	8.7	10.4	10.1	10.6	10.4	9.4	7.37	10.64																							
7-Jan	9.2	12.7	13.7	Z	6.7	8.0	5.1	4.5	3.8	2.4	2.5	2.1	1.8	1.7	2.2	2.8	3.0	4.0	3.9	3.5	3.1	4.2	3.4	3.5	4.69	13.69																							
8-Jan	2.4	2.6	3.0	Z	7.5	16.3	24.7	27.1	5.4	4.7	5.7	5.3	4.3	4.5	4.9	3.6	3.3	3.6	3.8	2.8	3.3	5.9	5.9	5.7	6.79	27.08																							
9-Jan	4.6	3.8	4.5	Z	4.9	6.4	6.0	8.5	8.2	8.0	5.6	4.1	4.2	3.7	3.8	4.1	4.2	5.6	6.0	5.3	5.9	4.9	4.3	6.2	5.35	8.51																							
10-Jan	13.5	30.1	35.1	Z	36.7	24.4	24.8	8.6	1.2	1.0	0.8	0.7	1.0	0.9	1.1	2.2	5.7	26.6	21.8	31.9	21.2	9.1	2.3	1.6	13.13	36.69																							
11-Jan	16.5	18.9	8.1	Z	1.8	2.1	2.9	3.3	3.3	2.8	2.3	2.0	2.3	2.3	2.4	1.6	1.8	1.6	1.5	1.5	1.3	1.5	3.8	14.5	4.35	18.87																							
12-Jan	36.3	24.2	21.8	Z	23.1	25.5	40.3	41.0	38.7	38.1	44.5	31.0	21.8	15.4	15.2	19.9	29.4	22.2	28.0	29.3	31.4	15.1	15.4	34.8	27.93	44.51																							
13-Jan	41.9	43.4	46.3	Z	31.3	29.1	31.8	27.9	28.4	36.3	19.5	14.0	21.7	22.5	19.6	19.2	17.4	8.9	26.4	41.3	18.7	21.7	43.0	37.5	28.17	46.32																							
14-Jan	23.2	18.0	14.3	Z	27.7	19.6	27.8	34.0	22.4	34.6	28.4	27.2	28.0	33.5	32.6	36.8	32.8	20.3	40.5	43.7	41.8	38.4	20.7	35.3	29.64	43.69																							
15-Jan	34.1	21.9	32.0	Z	38.7	31.8	43.1	41.1	32.2	17.1	14.2	20.2	9.0	9.6	1.6	1.2	3.4	3.0	4.2	3.1	20.9	16.6	29.7	13.9	19.23	43.10																							
16-Jan	8.9	16.1	20.4	Z	18.4	22.4	10.3	21.6	28.3	36.8	34.7	34.5	29.9	20.9	42.3	43.1	39.5	23.8	13.8	17.2	21.3	30.7	35.3	34.5	26.30	43.15																							
17-Jan	29.5	24.4	28.2	Z	31.7	20.7	25.4	21.1	19.8	22.6	21.4	19.3	23.2	34.2	28.8	14.3	22.1	20.8	20.4	15.0	24.9	23.9	26.1	24.3	23.57	34.18																							
18-Jan	24.4	22.0	24.4	Z	23.9	23.7	24.0	23.3	29.9	27.5	18.4	15.5	15.8	16.5	14.6	15.1	8.1	10.8	13.4	16.2	28.3	25.2	26.7	32.2	20.86	32.19																							
19-Jan	24.4	29.0	24.9	Z	20.7	20.5	24.1	24.5	23.4	31.8	34.8	27.5	13.6	15.4	22.1	27.0	20.4	3.7	4.1	25.2	21.1	27.7	17.1	11.9	21.53	34.83																							
20-Jan	18.4	13.9	11.0	Z	11.8	25.6	32.7	28.4	22.9	21.8	17.0	19.4	9.9	9.9	12.1	12.3	7.7	9.6	13.2	17.8	13.4	16.1	17.4	22.1	16.71	32.68																							
21-Jan	27.0	29.5	24.0	Z	26.2	24.4	23.0	23.6	25.5	19.6	21.1	23.3	8.4	1.7	2.1	2.6	3.1	3.0	3.0	3.3	3.4	3.2	3.5	2.8	13.35	29.50																							
22-Jan	2.8	2.7	2.9	Z	6.1	5.5	5.9	5.5	5.2	4.5	4.5	2.9	3.7	4.3	4.1	3.4	6.6	5.0	4.4	5.7	5.7	7.5	16.3	16.0	5.70	16.33																							
23-Jan	12.4	14.3	16.1	Z	21.4	22.9	23.3	19.0	17.4	15.5	C	C	C	C	C	10.1	12.5	15.0	16.7	16.9	16.6	17.9	18.0	19.8	17.00	23.34																							
24-Jan	20.4	18.9	17.4	Z	15.7	14.2	17.5	20.0	24.6	21.3	20.2	26.9	22.3	16.3	15.5	16.3	22.4	22.4	19.2	21.1	24.8	19.2	19.4	14.9	19.60	26.93																							
25-Jan	16.9	20.9	22.6	Z	24.6	23.8	20.2	23.0	27.6	28.7	23.9	20.6	19.3	18.0	18.9	24.0	27.3	25.7	24.9	18.6	16.3	25.1	15.5	8.5	21.52	28.68																							
26-Jan	19.6	11.3	13.6	Z	27.5	35.4	29.0	35.6	35.3	20.2	23.7	22.2	18.2	19.8	15.9	17.4	17.7	6.4	5.0	4.4	5.5	4.2	4.7	4.0	17.24	35.63																							
27-Jan	3.4	3.7	3.9	Z	13.8	19.7	16.3	24.4	41.1	27.9	24.3	19.2	13.9	12.7	28.8	15.0	10.5	4.9	4.0	3.9	4.4	6.8	3.6	6.9	13.62	41.11																							
28-Jan	3.9	3.0	2.8	Z	3.8	11.6	15.3	15.7	20.6	22.4	26.3	13.5	14.0	18.5	22.5	30.1	25.8	3.7	4.4	4.0	2.5	2.5	6.0	26.2	13.01	30.12																							
29-Jan	21.2	18.5	18.1	Z	23.8	33.0	9.4	7.7	34.3	6.6	7.5	13.5	24.3	20.5	16.0	12.6	2.4	3.3	4.1	3.2	2.2	2.7	2.3	1.9	12.57	34.33																							
30-Jan	3.7	4.5	6.3	Z	2.2	2.2	2.3	3.8	2.4	2.1	2.5	1.9	1.7	1.5	1.4	1.8	1.7	2.2	2.1	2.3	2.4	2.2	2.2	2.4	2.50	6.33																							
31-Jan	2.5	2.5	2.6	Z	2.3	1.9	1.6	1.8	1.8	2.0	1.8	1.8	2.4	2.2	2.4	2.5	2.7	3.4	3.9	4.2	3.1	3.0	2.3	3.3	2.51	4.18																							
																								16.35	15.25	15.28	--	17.00	17.48	17.64	18.12	18.87	17.33	15.57	14.35	12.21	11.46	12.52	12.53	12.43	10.36	11.32	12.58	13.00	12.97	13.38	15.14	Diurnal Average	
																								41.92	43.40	46.32	--	38.71	35.38	43.10	41.08	41.11	38.11	44.51	34.52	29.94	34.18	42.27	43.15	39.48	26.64	40.49	43.69	41.81	38.38	42.97	37.49	Diurnal Maximum	
Z - zerospan																								C - Calibration				UO - Unstable Operation																					
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 159 ppb 24-hr 106 ppb																																																	



WCAS - Edson
Summary of Hourly Averages

NOx (NO_x) - ppb
January 2017

Maximum Value: 161.86 ppb on Jan 12 11:00																						Maximum Daily Average: 55.75 ppb on Jan 12																						Hours in Service: 744	
Minimum Value: 0.6 ppb on Jan 1 03:00																						Minimum Daily Average: 2.59 ppb on Jan 31																						Hours of Data: 662	
Maximum Diurnal Average: 32.11 ppb at hour 11																						Minimum Diurnal Average: 11.59 ppb at hour 18																						Hours of Missing Data: 82	
Monthly Average: 21.939 ppb																						Percentiles: P ₁ = 1.2 P ₁₀ = 2.5 Q ₁ = 4.3 Median = 15.5 Q ₃ = 31.4 P ₉₀ = 50.2 P ₉₉ = 121.8																						Hours of Calibration: 34	
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-Jan	0.9	0.7	0.6	Z	6.0	12.6	8.3	5.3	3.9	3.3	6.1	4.9	3.8	2.1	1.8	1.5	2.1	4.8	6.2	6.0	14.4	24.9	26.8	UO	6.69	26.83																			
2-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--	--																		
3-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--	34.67																		
4-Jan	42.6	12.8	10.8	Z	19.1	13.2	6.5	13.1	30.5	33.4	10.1	19.1	21.4	7.9	14.3	18.2	15.8	27.3	18.9	5.0	5.2	4.6	5.6	12.7	16.01	42.64																			
5-Jan	16.0	15.7	9.2	Z	7.7	5.8	3.8	4.7	5.1	6.7	9.5	9.1	2.8	2.2	1.9	1.7	3.6	2.5	2.6	2.3	4.7	5.1	2.4	2.8	5.55	15.99																			
6-Jan	2.8	2.8	4.8	Z	8.8	5.3	6.8	8.3	6.9	9.1	13.2	13.7	14.0	8.0	8.2	8.5	10.2	9.0	8.8	10.5	10.1	10.7	10.4	9.4	8.70	13.96																			
7-Jan	9.2	12.7	13.9	Z	6.7	8.1	5.1	4.5	3.7	2.5	2.9	2.8	2.4	2.3	2.8	3.3	3.2	4.0	3.8	3.5	3.1	4.2	3.4	3.7	4.87	13.89																			
8-Jan	2.3	2.6	3.0	Z	7.6	20.1	40.4	60.7	6.2	5.3	7.4	8.4	8.0	8.1	7.7	4.6	3.6	3.6	3.8	2.7	3.3	6.0	5.9	5.6	9.86	60.69																			
9-Jan	4.6	3.8	4.5	Z	4.9	6.4	6.0	8.6	8.3	8.5	6.6	5.3	5.8	5.0	4.7	4.7	4.4	5.6	5.9	5.3	5.9	4.8	4.3	6.2	5.66	8.58																			
10-Jan	13.8	33.7	44.9	Z	49.5	30.2	36.1	12.2	1.1	1.0	0.8	0.9	1.3	1.2	1.3	2.7	6.1	30.7	23.7	34.7	21.4	9.1	2.3	1.5	15.66	49.54																			
11-Jan	16.9	19.3	8.1	Z	1.8	2.1	2.9	3.3	3.3	2.9	2.6	2.3	3.1	3.0	2.9	1.8	1.8	1.5	1.4	1.4	1.3	1.4	3.7	15.5	4.53	19.28																			
12-Jan	51.6	24.9	22.0	Z	27.9	29.8	104.2	128.2	82.7	111.1	161.9	97.9	60.8	32.3	27.6	31.0	38.4	22.5	30.8	34.7	41.3	26.7	22.4	71.7	55.75	161.86																			
13-Jan	96.3	90.5	122.2	Z	52.8	36.6	34.3	32.9	37.2	68.5	30.5	22.9	42.0	42.4	32.1	26.1	20.0	9.0	36.0	48.8	19.0	23.4	97.4	71.2	47.49	122.16																			
14-Jan	23.9	18.1	14.4	Z	31.8	20.5	31.4	38.1	24.1	44.2	35.4	43.0	48.3	78.5	63.3	67.6	46.7	21.2	68.1	125.5	127.3	61.0	21.1	77.2	49.16	127.32																			
15-Jan	54.5	29.8	58.8	Z	65.8	40.4	85.2	63.0	37.4	18.8	19.2	35.3	14.3	15.6	2.0	1.4	3.6	3.0	4.3	3.2	21.3	17.1	31.6	14.0	27.80	85.20																			
16-Jan	8.9	16.4	20.9	Z	19.4	22.9	10.4	22.4	31.3	49.2	52.1	59.0	50.2	27.3	81.9	81.1	82.1	39.7	14.1	17.8	23.5	53.7	75.4	56.3	39.84	82.10																			
17-Jan	41.1	25.0	42.1	Z	54.1	27.6	31.9	26.0	26.6	34.1	42.9	36.8	40.9	76.9	65.7	18.9	40.6	24.7	24.5	15.8	64.5	37.6	75.5	62.6	40.73	76.91																			
18-Jan	56.2	36.8	63.8	Z	46.6	43.2	45.8	46.2	65.5	88.1	57.9	31.2	36.7	36.2	26.8	20.8	8.9	11.2	14.1	31.1	35.2	28.8	30.4	73.7	40.67	88.09																			
19-Jan	30.5	39.0	32.8	Z	26.7	23.2	52.2	57.1	61.4	127.0	132.3	100.0	29.0	32.4	49.0	49.3	26.5	3.9	4.2	27.0	21.4	37.4	21.7	12.1	43.31	132.29																			
20-Jan	19.2	14.1	11.2	Z	12.1	27.7	44.5	30.8	28.8	30.7	27.8	41.7	15.9	15.6	17.8	17.0	8.6	9.8	13.4	18.1	13.6	16.3	17.7	22.8	20.67	44.47																			
21-Jan	46.3	50.2	29.3	Z	58.2	36.9	41.2	49.6	82.7	51.2	67.1	89.1	22.6	2.7	2.8	3.3	3.5	3.1	3.0	3.3	3.4	3.2	3.5	2.8	28.65	89.11																			
22-Jan	2.8	2.8	3.0	Z	7.0	5.7	6.1	5.8	5.5	5.0	6.8	4.8	5.9	6.7	5.6	4.5	9.8	5.9	5.0	5.8	5.8	7.6	16.8	16.5	6.57	16.75																			
23-Jan	12.5	14.6	16.7	Z	21.7	23.8	24.3	20.0	18.4	19.5	C	C	C	C	C	14.7	15.7	16.4	17.4	17.4	17.1	19.7	23.4	41.7	19.72	41.70																			
24-Jan	38.7	28.6	25.5	Z	21.4	16.0	21.0	24.8	44.0	33.5	37.3	60.7	47.0	31.8	27.3	24.5	29.4	23.8	20.0	34.4	34.2	19.7	20.4	15.2	29.54	60.67																			
25-Jan	17.2	21.5	24.2	Z	31.7	30.0	23.3	25.1	32.1	47.2	45.8	43.1	42.7	35.1	34.0	40.3	38.9	27.3	25.3	19.1	16.6	28.5	17.2	8.6	29.35	47.20																			
26-Jan	20.4	11.8	13.9	Z	31.4	48.7	31.1	47.9	45.4	26.3	40.5	36.6	31.0	34.1	24.8	24.3	22.3	6.7	5.2	4.6	5.7	4.4	4.9	4.1	22.87	48.70																			
27-Jan	3.5	3.8	4.0	Z	14.4	20.0	16.6	27.1	59.1	41.9	37.1	33.2	20.3	18.0	41.0	27.2	17.0	5.8	4.2	4.0	4.5	7.0	3.7	7.0	18.28	59.13																			
28-Jan	4.1	3.1	2.8	Z	3.9	11.8	15.5	15.9	21.4	24.9	30.7	15.7	16.8	24.3	32.4	47.3	39.8	3.9	4.5	4.2	2.6	2.6	6.5	30.5	15.88	47.33																			
29-Jan	23.5	18.7	18.3	Z	27.2	38.2	9.6	8.0	56.0	7.1	9.2	17.4	36.7	28.3	20.1	14.7	2.7	3.5	4.3	3.3	2.3	2.8	2.4	2.0	15.50	56.01																			
30-Jan	3.8	4.6	6.5	Z	2.2	2.2	2.4	3.8	2.5	2.6	3.5	2.7	2.0	1.7	1.5	1.9	1.8	2.2	2.1	2.3	2.3	2.2	2.1	2.4	2.65	6.47																			
31-Jan	2.4	2.5	2.6	Z	2.3	1.9	1.6	1.8	1.7	2.2	1.9	1.9	2.9	2.5	2.7	2.7	2.8	3.4	3.8	4.2	3.1	3.0	2.3	3.3	2.59	4.16																			
22.99 19.34 21.89 -- 23.14 21.07 25.81 27.43 28.72 31.23 32.11 29.99 22.45 20.78 21.57 19.50 17.58 11.59 13.08 17.10 18.42 16.32 19.35 23.73																								Diurnal Average																					
96.28 90.54 122.16 -- 65.76 48.70 104.22 128.19 82.71 126.95 161.86 100.03 60.76 78.46 81.88 81.09 82.10 39.73 68.13 125.47 127.32 60.99 97.37 77.21																								Diurnal Maximum																					
Z - zerospan C - Calibration UO - Unstable Operation																																													
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr --- ppb 24-hr --- ppb																																													



WCAS - Edson
Summary of Hourly Averages

PM2.5 (PM_{2.5}) - µg/m³
January 2017

Maximum Value: 29.26 µg/m ³ on Jan 25 03:00		Maximum Daily Average: 15.88 µg/m ³ on Jan 23		Hours in Service: 744																																													
Minimum Value: 0.0 µg/m ³ on Jan 1 13:00		Minimum Daily Average: 0.34 µg/m ³ on Jan 30		Hours of Data: 692																																													
Maximum Diurnal Average: 6.71 µg/m ³ at hour 9		Minimum Diurnal Average: 4.12 µg/m ³ at hour 18		Hours of Missing Data: 52																																													
Monthly Average: 5.602 µg/m ³		Percentiles: P ₁ = 0.0 P ₁₀ = 0.1 Q ₁ = 1.0 Median = 3.3 Q ₃ = 8.1 P ₉₀ = 14.7 P ₉₉ = 23.7		Hours of Calibration: 4																																													
				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-Jan	1.5	0.6	0.2	0.6	0.7	0.8	0.5	1.4	2.7	1.7	0.8	1.6	0.0	0.0	0.0	0.0	0.4	0.7	0.0	0.0	0.6	2.1	3.9	UO	0.91	3.89																							
2-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--	--																						
3-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	5.6	5.64																							
4-Jan	5.4	3.5	1.8	1.6	1.8	1.2	0.0	0.1	1.3	1.8	0.8	0.7	2.3	4.1	1.3	1.8	3.2	6.1	4.9	3.6	4.9	5.1	4.7	5.3	2.81	6.12																							
5-Jan	5.2	4.6	3.8	2.8	0.5	0.0	0.0	0.0	0.3	1.1	1.6	1.6	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.6	0.3	0.7	1.01	5.16																							
6-Jan	0.7	1.4	1.5	2.7	5.3	3.3	3.0	2.8	3.0	3.8	4.6	4.2	4.2	4.8	5.8	6.2	6.5	6.0	5.7	5.4	5.8	5.3	6.5	5.7	4.34	6.54																							
7-Jan	5.0	6.2	7.7	6.2	4.8	4.0	2.8	2.3	1.4	1.4	1.1	0.0	0.3	0.0	0.6	1.2	0.8	0.6	0.5	1.1	1.4	1.4	2.3	2.9	2.34	7.75																							
8-Jan	2.4	2.9	3.2	3.2	2.5	3.0	5.1	4.9	2.4	2.1	1.6	1.1	1.1	0.3	1.6	2.8	2.2	3.1	2.8	1.7	3.6	3.5	2.3	3.2	2.60	5.09																							
9-Jan	2.2	3.1	6.5	4.3	4.0	3.5	3.0	3.8	3.9	3.6	3.2	3.6	2.6	1.9	2.7	2.5	1.3	1.5	1.7	3.0	2.6	0.8	1.1	0.6	2.79	6.53																							
10-Jan	0.6	1.9	3.2	2.4	3.6	3.3	3.6	3.1	1.1	2.3	1.4	0.2	0.0	0.0	0.0	0.0	0.0	0.8	0.8	3.1	0.5	0.4	0.0	0.0	1.34	3.65																							
11-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.9	2.8	5.1	5.9	4.8	1.4	2.1	1.3	1.8	1.3	1.7	1.7	1.5	1.7	1.43	5.88																							
12-Jan	4.8	2.8	2.2	2.3	1.7	2.1	6.6	8.1	6.7	7.6	12.8	21.2	12.4	6.2	10.1	8.2	7.0	12.4	13.4	15.7	16.2	5.4	3.7	13.1	8.45	21.23																							
13-Jan	11.9	10.7	17.5	8.8	6.9	7.8	11.2	14.9	17.4	19.8	18.3	16.0	12.8	13.8	14.8	13.3	7.9	0.0	3.2	16.2	0.8	0.1	7.8	6.4	10.76	19.81																							
14-Jan	5.4	8.1	9.8	13.0	15.1	13.5	11.5	9.6	11.3	11.1	5.3	7.0	7.4	9.1	8.9	4.9	6.0	2.1	13.3	18.3	13.6	6.0	1.9	5.3	9.07	18.31																							
15-Jan	2.9	0.7	3.1	0.7	0.0	6.0	7.0	4.1	1.3	0.6	0.9	2.1	0.0	0.0	0.0	0.0	0.3	0.2	0.0	0.0	1.0	0.7	2.9	0.3	1.45	6.97																							
16-Jan	0.0	0.0	0.3	0.6	0.0	1.8	0.8	2.2	3.2	5.8	7.4	7.1	3.4	1.9	5.9	9.5	12.1	6.7	0.0	1.6	3.8	5.5	9.3	8.9	4.07	12.09																							
17-Jan	11.8	12.2	11.6	13.4	8.5	0.5	7.3	2.5	3.3	2.7	2.1	1.2	2.2	12.2	11.2	2.0	2.4	1.2	2.1	0.9	6.8	3.9	4.5	6.9	5.55	13.37																							
18-Jan	4.7	3.1	4.8	3.8	3.2	3.0	7.6	11.5	10.4	9.7	16.1	12.9	10.6	5.9	2.6	3.5	1.9	3.2	6.2	27.5	13.9	9.7	7.2	12.0	8.12	27.46																							
19-Jan	7.4	6.5	7.3	9.6	13.6	22.4	24.1	20.9	14.3	23.6	19.7	17.7	16.5	6.5	6.7	7.5	3.5	2.1	0.2	3.5	1.3	3.6	0.0	0.0	9.95	24.08																							
20-Jan	1.4	1.6	0.0	0.9	5.2	9.1	13.7	15.9	15.7	14.8	10.3	13.6	22.7	14.7	16.5	11.7	6.9	7.9	8.5	8.6	10.9	12.7	11.9	6.9	10.09	22.71																							
21-Jan	7.5	10.8	9.4	6.7	9.2	7.8	8.3	9.1	11.1	12.4	13.5	13.2	6.0	1.7	4.7	7.9	5.1	2.1	2.3	3.5	3.0	8.7	5.3	12.3	7.57	13.55																							
22-Jan	13.3	8.9	7.0	5.7	3.3	3.3	3.5	4.0	5.8	5.8	5.8	4.1	4.5	5.1	5.3	5.3	7.5	6.1	4.0	3.3	4.1	5.6	6.7	7.0	5.62	13.32																							
23-Jan	7.0	8.4	10.2	11.6	11.9	13.0	14.0	12.7	12.6	14.2	C	C	C	C	15.8	14.6	16.5	17.9	20.9	24.3	22.4	23.2	22.6	23.8	15.88	24.26																							
24-Jan	23.3	22.2	20.5	20.1	22.7	18.7	17.8	17.8	17.9	19.0	19.0	26.3	17.1	14.7	16.3	19.0	20.5	5.8	2.6	6.6	6.5	3.1	4.4	3.6	15.23	26.34																							
25-Jan	8.2	23.6	29.3	22.9	24.4	15.2	5.6	3.6	8.9	13.6	12.3	7.3	3.3	3.6	10.6	13.3	13.9	16.2	12.4	7.6	4.8	10.0	17.0	15.0	12.60	29.26																							
26-Jan	11.9	4.4	4.5	4.6	7.4	10.6	18.5	17.1	18.8	2.4	13.0	16.7	20.6	23.5	13.6	10.1	11.0	5.2	3.8	13.0	19.5	0.3	0.3	0.3	10.47	23.52																							
27-Jan	0.2	0.7	0.5	1.3	2.2	1.5	0.5	1.0	2.4	2.1	1.9	1.2	1.2	1.6	4.6	3.1	5.4	2.2	4.3	3.4	0.2	0.8	0.8	2.7	1.91	5.43																							
28-Jan	0.0	0.0	0.0	1.3	1.3	2.7	1.1	1.3	6.7	0.7	1.1	0.6	0.9	3.6	5.8	7.9	7.9	6.9	6.6	9.6	0.0	1.5	4.0	18.9	3.76	18.90																							
29-Jan	12.6	0.1	0.5	0.3	1.0	8.7	12.3	3.9	10.1	0.9	1.4	0.2	1.7	1.5	2.5	3.0	0.4	0.0	0.0	2.0	1.2	2.3	1.5	0.4	2.85	12.63																							
30-Jan	0.0	3.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.1	0.1	0.0	0.5	0.1	0.4	0.7	0.6	0.5	0.0	0.3	0.3	0.3	0.34	3.62																							
31-Jan	0.3	0.8	1.4	0.3	0.6	0.9	0.4	0.5	0.6	0.6	0.8	0.7	0.0	0.2	0.7	0.2	0.1	0.4	0.7	0.9	1.5	1.7	1.0	1.2	0.68	1.67																							
																								5.43	5.30	5.79	5.24	5.58	5.78	6.54	6.18	6.71	6.39	6.35	6.61	5.69	5.09	6.00	5.55	5.28	4.12	4.25	6.44	5.26	4.33	4.69	5.90	Diurnal Average	
																								23.31	23.63	29.26	22.86	24.43	22.42	24.08	20.91	18.76	23.62	19.71	26.34	22.71	23.52	16.53	18.97	20.48	17.92	20.90	27.46	22.45	23.23	22.61	23.80	Diurnal Maximum	
C - Calibration																								UO - Unstable Operation																									
Alberta Ambient Air Quality Objectives (AAQO): 1-hr 80 ul/m ³ 24-hr 30 ul/m ³																																																	

**WEYERHAEUSER - EDSON
STATION #912**

METEOROLOGICAL DATA

JANUARY 2017



WCAS - Edson
Summary of Hourly Averages

External Temperature (ET) - C
January 2017

Maximum Value: 9.42 C on Jan 28 18:00		Maximum Daily Average: 5.00 C on Jan 28		Hours in Service: 744																						
Minimum Value: -27.0 C on Jan 8 05:00		Minimum Daily Average: -22.17 C on Jan 8		Hours of Data: 744																						
Maximum Diurnal Average: -4.80 C at hour 16		Minimum Diurnal Average: -10.74 C at hour 9		Hours of Missing Data: 0																						
Monthly Average: -8.412 C		Percentiles: P₁ = -25.4 P₁₀ = -20.0 Q₁ = -15.1 Median = -8.5 Q₃ = -1.7 P₉₀ = 2.8 P₉₉ = 7.0		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-Jan	-9.5	-9.9	-10.4	-12.2	-12.7	-13.0	-13.4	-13.3	-13.6	-13.6	-12.6	-11.5	-10.5	-10.7	-10.4	-10.9	-12.4	-15.0	-15.3	-16.7	-18.2	-18.7	-19.1	-20.4	-13.50	-9.45
2-Jan	-20.2	-19.8	-20.8	-20.9	-20.8	-21.2	-23.0	-23.9	-24.4	-25.4	-23.9	-20.2	-19.3	-18.5	-17.7	-17.5	-17.3	-17.4	-17.6	-18.0	-17.3	-18.4	-20.0	-20.03	-17.32	
3-Jan	-22.1	-23.4	-22.9	-22.0	-23.3	-24.3	-25.2	-25.5	-25.8	-26.2	-25.4	-22.7	-19.2	-15.8	-15.3	-14.3	-14.3	-14.3	-13.7	-14.2	-14.8	-15.7	-16.6	-16.8	-19.74	-13.75
4-Jan	-17.8	-16.9	-14.7	-13.3	-12.5	-11.4	-10.7	-10.8	-10.9	-10.6	-9.8	-9.3	-7.9	-7.4	-7.0	-6.9	-7.3	-7.3	-7.2	-7.0	-7.1	-6.8	-6.5	-6.4	-9.73	-6.40
5-Jan	-6.3	-6.9	-7.4	-6.7	-6.4	-6.4	-6.4	-6.5	-6.5	-6.5	-6.2	-5.5	-5.1	-5.3	-5.5	-5.8	-6.5	-7.2	-7.4	-7.6	-8.4	-9.3	-10.5	-11.2	-6.97	-5.07
6-Jan	-12.0	-12.5	-12.8	-13.4	-13.6	-14.0	-14.4	-15.2	-15.6	-15.9	-16.0	-16.1	-15.7	-15.2	-14.4	-14.1	-14.0	-14.4	-14.7	-15.1	-15.3	-15.4	-15.3	-15.1	-14.60	-11.95
7-Jan	-15.3	-15.6	-16.1	-16.8	-16.4	-16.8	-16.6	-16.7	-17.4	-17.8	-17.9	-17.6	-17.2	-16.9	-16.9	-16.9	-17.4	-18.1	-18.7	-19.1	-19.4	-20.1	-20.8	-21.5	-17.66	-15.27
8-Jan	-23.2	-24.0	-24.8	-26.2	-27.0	-26.2	-25.3	-24.5	-23.4	-23.1	-22.1	-21.5	-20.3	-19.7	-19.9	-19.9	-19.9	-19.8	-19.9	-20.0	-20.1	-20.3	-20.5	-20.4	-22.17	-19.73
9-Jan	-20.3	-20.1	-19.9	-20.0	-20.3	-20.4	-20.5	-20.5	-20.6	-20.7	-20.6	-20.1	-19.5	-19.0	-18.5	-18.4	-18.5	-18.7	-18.8	-18.9	-18.9	-18.8	-19.6	-21.9	-19.73	-18.40
10-Jan	-23.0	-23.7	-24.0	-24.1	-24.2	-23.0	-20.9	-17.9	-17.1	-18.9	-19.7	-19.1	-18.7	-18.4	-17.7	-17.4	-18.1	-19.8	-20.5	-18.6	-17.1	-15.5	-13.8	-14.1	-19.39	-13.79
11-Jan	-15.1	-14.2	-13.8	-14.0	-13.8	-14.5	-14.9	-14.2	-13.4	-12.9	-11.6	-10.5	-8.9	-7.4	-7.0	-6.6	-7.7	-8.8	-9.7	-10.2	-10.9	-12.6	-15.0	-15.7	-11.81	-6.59
12-Jan	-16.8	-17.2	-20.7	-21.6	-23.6	-24.2	-24.5	-24.8	-25.2	-25.4	-23.5	-21.2	-18.4	-15.2	-12.3	-10.9	-10.9	-12.3	-15.5	-15.6	-15.0	-9.5	-11.6	-16.2	-18.01	-9.49
13-Jan	-14.9	-15.6	-16.6	-16.3	-17.0	-16.6	-15.5	-16.7	-17.4	-17.8	-15.4	-12.0	-9.5	-7.3	-4.4	-3.6	-5.1	-6.7	-7.1	-8.7	-8.7	-10.0	-10.5	-9.9	-11.80	-3.57
14-Jan	-8.9	-9.2	-9.6	-11.0	-10.7	-8.9	-8.7	-8.6	-8.3	-7.2	-5.3	-5.5	-4.9	-4.1	-2.8	-1.7	-1.0	-1.2	-1.9	-3.3	-4.5	-3.7	-3.2	-4.5	-5.78	-1.02
15-Jan	-4.7	-4.6	-4.9	-4.1	-3.8	-3.2	-3.2	-3.7	-4.2	-3.3	-1.5	0.2	2.8	5.2	6.3	6.2	4.0	0.9	-1.3	0.9	-0.7	-1.7	-2.8	-2.6	-0.99	6.33
16-Jan	-1.6	-2.3	-2.0	-2.9	-3.8	-3.9	-2.8	-2.4	-2.2	-1.5	-1.6	-0.9	0.6	2.2	1.5	1.2	1.4	1.8	1.7	0.5	-1.1	-1.3	-1.3	-1.0	-0.91	2.22
17-Jan	-1.0	-1.0	-2.4	-1.7	-0.9	2.8	1.9	2.3	1.8	1.2	0.8	3.5	4.0	4.0	3.7	4.7	4.4	3.7	2.0	1.0	0.1	1.5	0.1	-0.1	1.52	4.68
18-Jan	-0.9	-0.3	-0.7	-0.4	-0.9	-1.2	-1.5	-2.0	-2.8	-3.6	-1.1	0.7	3.2	5.8	7.7	6.1	6.3	4.7	3.3	3.9	1.7	0.6	-0.8	-2.0	1.07	7.70
19-Jan	-2.2	-2.6	-2.8	-3.3	-3.5	-3.1	-3.2	-2.7	-2.4	-3.4	-3.0	-1.1	-0.5	1.0	5.2	7.2	5.5	4.1	3.3	2.7	0.9	-0.6	2.1	0.7	-0.07	7.19
20-Jan	-0.4	-0.4	-0.7	-2.1	-2.0	-2.1	-3.1	-3.0	-3.8	-4.9	-3.5	-0.8	1.6	2.0	4.4	4.1	3.8	0.0	-3.2	-4.5	-4.9	-5.7	-7.1	-8.8	-1.89	4.38
21-Jan	-9.7	-8.9	-9.7	-11.5	-11.6	-12.2	-13.4	-13.9	-14.7	-12.9	-10.7	-7.2	-4.3	-4.6	-5.4	-6.6	-7.5	-8.5	-9.0	-9.1	-9.0	-8.9	-9.2	-9.4	-9.50	-4.29
22-Jan	-9.5	-9.3	-9.3	-9.2	-9.2	-9.4	-9.4	-9.3	-9.3	-9.1	-8.8	-8.6	-8.4	-8.3	-8.2	-8.4	-8.5	-8.8	-9.1	-9.3	-9.4	-9.4	-9.5	-9.5	-9.05	-8.20
23-Jan	-9.6	-9.7	-9.8	-9.9	-9.9	-10.0	-10.0	-10.0	-10.1	-10.0	-9.6	-9.0	-7.9	-7.8	-7.4	-8.2	-8.3	-8.3	-8.1	-8.1	-8.4	-8.9	-9.2	-9.4	-9.07	-7.41
24-Jan	-9.2	-8.9	-8.7	-8.8	-8.8	-8.9	-9.0	-8.9	-10.1	-9.7	-8.8	-6.9	-5.1	-3.7	-2.5	-1.8	-1.8	-3.5	-5.2	-6.2	-6.5	-8.0	-9.4	-9.7	-7.09	-1.79
25-Jan	-9.9	-10.8	-11.5	-12.4	-12.7	-13.6	-14.5	-14.4	-14.3	-13.4	-11.6	-9.6	-7.1	-4.1	-2.0	-0.6	-0.3	-2.1	-4.2	-5.1	-5.3	-5.8	-5.8	-5.8	-8.21	-0.27
26-Jan	-5.4	-5.8	-6.5	-7.1	-8.3	-9.7	-9.7	-9.5	-8.5	-8.1	-6.2	-3.9	-1.2	1.3	3.5	4.5	3.2	1.4	0.0	-0.1	-0.9	-0.9	-1.4	-1.7	-3.38	4.50
27-Jan	-1.1	-2.1	-1.8	-1.9	-2.8	-3.6	-4.1	-4.2	-5.0	-4.8	-3.9	-1.6	0.3	1.4	1.8	5.2	6.2	5.7	5.0	4.5	4.2	4.9	5.2	3.4	0.45	6.20
28-Jan	3.9	4.2	4.6	4.9	5.0	3.0	1.4	1.3	3.6	4.4	4.5	4.7	5.5	5.7	6.4	7.1	8.9	9.4	8.4	7.2	6.4	6.2	3.1	0.5	5.00	9.42
29-Jan	-0.9	1.5	0.9	-0.4	-0.7	-0.2	0.8	0.3	-0.5	3.4	4.0	3.7	4.5	5.2	5.6	6.2	6.2	5.6	4.8	4.6	4.2	2.6	1.8	1.0	2.68	6.24
30-Jan	0.1	-0.2	0.2	0.8	-0.2	-0.4	-1.1	-1.6	-1.9	-1.8	-1.6	-1.7	-1.4	-1.6	-1.3	-2.5	-2.8	-3.5	-4.5	-5.3	-5.6	-5.6	-5.7	-5.7	-2.29	0.81
31-Jan	-5.9	-6.1	-6.6	-7.2	-7.0	-7.4	-8.0	-8.3	-8.9	-8.9	-8.9	-8.6	-8.4	-8.0	-8.4	-8.3	-8.5	-8.7	-8.9	-8.9	-8.9	-8.8	-8.8	-9.0	-8.14	-5.91
																								Diurnal Average		
																								Diurnal Maximum		



WCAS - Edson
Summary of Hourly Averages

Wind Speed (WS) - kph
January 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	6.6	7.6	6.9	2.9	4.2	4.2	4.6	4.7	6.9	5.4	6.9	6.9	7.6	6.3	5.7	7.2	3.1	4.1	6.6	5.3	6.6	2.9	6.0	5.9	4.89	7.63	
Dir	N	N	N	WNW	WNW	W	WNW	W	WNW	WNW	WNW	W	WNW	NW	NNW	NW	NW	WNW	WNW	WNW	W	W	WNW	WNW	WNW	N	
2 Spd	6.6	6.4	5.6	6.3	7.2	5.9	3.0	5.8	5.5	1.9	3.2	0.8	1.7	1.5	0.6	0.5	1.1	0.9	0.9	1.1	0.8	2.7	1.4	3.9	2.63	7.17	
Dir	WNW	WNW	W	W	WSW	W	WSW	W	WNW	W	W	W	ENE	ENE	ENE	ENE	W	WNW	NNW	W	NW	NNW	WNW	WNW	W	WSW	
3 Spd	3.6	3.1	6.4	6.9	7.0	7.9	8.3	9.0	10.3	11.8	12.0	12.2	10.4	9.7	8.5	8.3	7.9	5.8	5.2	5.2	8.3	6.6	7.3	10.0	7.88	12.19	
Dir	WNW	WNW	W	WNW	W	W	W	W	W	W	W	W	W	W	WSW	W	W	WNW	WNW	WNW	W	W	W	W	W	W	
4 Spd	8.1	8.2	9.7	10.7	12.0	10.6	11.4	10.9	9.5	9.8	9.6	9.4	5.9	8.8	8.5	8.7	7.3	6.8	6.8	7.5	7.9	8.9	6.9	7.3	8.69	12.01	
Dir	W	W	W	W	W	W	W	WSW	WSW	WSW	W	W	WSW	W	W	W	W	WSW	W	W	W	WNW	W	W	W	W	
5 Spd	9.0	8.0	5.7	7.1	8.9	9.4	9.7	7.3	4.4	2.4	2.1	0.7	4.7	7.9	5.6	5.3	3.4	4.7	6.0	9.7	15.0	17.1	16.7	18.0	2.16	17.97	
Dir	W	W	W	W	W	W	W	W	W	WNW	WNW	WNW	N	NNE	N	NNE	NNE	NNE	NNE	NE	E	E	E	E	N	E	
6 Spd	18.2	15.3	17.5	15.8	17.6	18.9	18.0	17.1	16.8	16.4	15.6	15.6	14.6	14.2	12.1	12.2	9.7	10.3	10.2	10.8	8.4	7.6	2.8	0.4	12.94	18.93	
Dir	E	ENE	ENE	ENE	ENE	ENE	E	ENE	E	ENE	E	E	E	ENE	ENE	ENE	ENE	NE	ENE	ENE	NE	NE	NNE	NW	ENE	ENE	
7 Spd	0.6	2.1	2.6	4.5	5.3	4.9	7.4	6.7	7.1	6.7	5.9	6.5	7.2	5.8	6.4	4.4	4.0	2.1	4.2	4.0	4.3	2.4	5.8	6.0	3.74	7.41	
Dir	WSW	WSW	W	WNW	WNW	WNW	WNW	WNW	WNW	NW	WNW	WNW	WNW	NW	WNW	NNW	N	NNW	NNE	NNE	NNE	NE	NE	NE	NW	WNW	
8 Spd	1.6	0.9	0.4	0.5	1.4	0.8	0.6	1.2	6.3	5.4	5.2	5.6	8.1	9.1	10.7	9.7	12.0	10.8	9.2	9.1	7.6	5.7	5.6	1.3	4.98	11.96	
Dir	NNE	WNW	WNW	WNW	W	ENE	SW	ENE	NNE	NE	ENE	ENE	NE	NE	NE	NE	NE	NE	NE	NE	ENE	ENE	NNE	NNE	NE	NE	
9 Spd	1.3	2.4	4.4	3.4	2.6	4.5	3.5	4.1	4.3	5.4	6.5	7.5	7.2	7.2	6.8	9.3	8.9	8.4	5.0	4.9	6.1	5.9	3.8	2.0	5.11	9.35	
Dir	N	WNW	WNW	NW	NNW	WNW	WNW	WNW	WNW	W	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	W	WNW	WNW	WNW	WNW	WNW	
10 Spd	3.6	3.2	3.4	5.1	7.3	8.3	8.1	9.0	11.0	14.2	6.4	6.7	8.5	8.3	10.2	8.8	4.3	0.7	1.0	3.8	4.7	6.2	8.9	6.6	5.57	14.15	
Dir	WSW	WSW	W	W	WSW	WSW	W	WNW	NW	N	NNW	NW	NW	NW	NW	WNW	W	S	WSW	WSW	WNW	WNW	NW	WNW	WNW	N	
11 Spd	5.7	10.2	13.1	11.2	14.3	13.9	13.1	10.8	11.2	14.9	12.8	16.5	17.2	14.1	16.1	17.7	12.5	10.9	6.5	5.9	5.7	3.7	3.4	3.1	10.44	17.72	
Dir	WSW	WSW	W	WNW	WNW	WNW	WNW	W	WNW	W	WNW	WNW	WNW	WNW	WNW	WNW	NW	NW	NW	NW	N	N	WNW	W	WNW	WNW	
12 Spd	4.8	5.6	4.2	5.2	2.2	0.7	0.1	2.2	3.4	4.5	5.3	6.0	8.5	8.4	6.0	7.2	6.5	3.6	3.0	5.0	7.3	8.9	3.6	0.2	4.57	8.86	
Dir	WNW	WNW	W	W	W	WNW	WNW	WNW	WNW	W	W	W	W	W	W	W	W	WNW	W	WNW	WNW	WNW	WNW	WSW	W	WNW	
13 Spd	5.5	6.2	7.2	7.6	7.3	8.9	10.7	8.9	4.2	6.4	10.6	7.8	7.7	5.9	5.7	5.3	1.9	2.7	3.9	3.6	4.5	4.2	3.7	5.6	6.01	10.71	
Dir	W	W	W	W	W	W	WNW	WNW	WSW	W	WNW	WNW	W	W	WNW	WNW	WNW	W	WNW	W	WNW	W	WNW	W	WNW	W	
14 Spd	6.3	5.5	8.1	5.7	7.8	9.3	7.3	7.0	6.0	5.3	6.1	7.0	5.5	0.6	6.3	5.9	5.5	3.5	4.3	3.4	4.1	5.6	5.3	3.6	5.54	9.28	
Dir	WNW	WNW	WNW	W	W	W	W	W	W	W	W	W	W	SSE	WNW	W	W	W	W	W	W	W	WNW	W	W	W	
15 Spd	4.3	2.1	1.7	2.0	2.5	2.3	5.0	4.4	5.0	6.3	6.9	3.0	1.6	3.5	10.2	9.2	5.9	3.7	2.5	9.4	8.1	6.8	4.4	5.0	4.76	10.19	
Dir	W	WNW	W	WSW	W	W	W	WNW	WNW	W	W	WSW	WNW	WNW	WNW	W	W	WNW	W	W	W	W	W	WNW	W	WNW	
16 Spd	6.9	3.7	6.2	5.0	3.9	5.3	6.5	7.3	5.8	6.8	6.6	10.3	5.0	4.2	2.8	5.8	5.0	1.1	4.2	4.4	5.2	6.5	6.6	5.2	5.38	10.30	
Dir	WNW	W	WNW	WNW	W	W	W	W	W	W	W	W	W	WNW	W	W	W	W	WNW	WNW	W	W	W	W	W	W	
17 Spd	6.8	7.3	1.5	4.0	4.3	2.6	0.6	2.1	1.6	1.9	2.3	4.0	4.9	4.9	2.9	1.9	2.2	3.5	2.8	2.6	5.1	7.4	3.1	5.9	3.29	7.36	
Dir	W	WNW	WSW	W	W	SW	ESE	ENE	WNW	W	WSW	W	WNW	W	WSW	WNW	WNW	W	WNW	WNW	W	WNW	W	W	W	WNW	
18 Spd	2.3	3.9	5.4	7.9	6.8	6.2	6.1	6.4	5.3	4.7	4.5	4.3	1.6	1.3	4.6	2.8	8.1	6.2	4.9	4.0	5.3	6.2	5.6	6.3	3.30	8.11	
Dir	W	WNW	W	WNW	W	W	W	W	W	W	W	WNW	NE	ESE	ENE	ENE	NE	N	N	NNW	W	WNW	WNW	W	WNW	NE	
19 Spd	6.6	7.9	7.0	6.7	6.6	8.4	4.4	1.9	0.6	4.4	5.5	3.8	5.8	7.5	5.0	1.7	6.0	5.0	2.8	1.8	2.9	2.9	12.5	4.1	4.61	12.50	
Dir	W	W	W	W	W	WNW	NE	N	NE	W	W	WSW	WSW	W	WSW	WSW	W	W	W	W	W	W	W	WSW	W	W	
20 Spd	3.3	1.2	4.6	5.1	3.4	3.9	3.6	7.5	7.9	4.8	6.4	4.4	3.2	2.8	2.1	3.1	5.8	2.8	3.1	0.5	1.5	3.0	2.5	1.5	2.62	7.89	
Dir	W	WSW	W	WNW	WNW	W	W	WNW	WNW	W	W	SSW	S	W	W	ENE	NE	NNE	W	WNW	W	W	WNW	W	WNW	WNW	
21 Spd	3.8	3.9	6.2	2.3	3.6	5.1	5.0	4.6	4.2	6.0	5.8	4.1	1.7	6.7	9.0	11.1	11.6	11.8	9.0	8.7	5.3	4.0	7.5	6.2	3.08	11.77	
Dir	W	WNW	WNW	W	W	W	W	W	W	WNW	W	WSW	NNW	NNE	NE	NE	NE	NNE	NNE	NNE	NE	ENE	ENE	NE	N	NE	
22 Spd	5.7	6.2	5.8	6.4	8.1	8.4	8.3	8.1	7.7	8.2	9.3	10.5	11.0	9.4	9.9	11.5	10.2	10.5	11.8	11.1	10.0	9.2	9.2	8.3	8.85	11.83	
Dir	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	E	E	E	E	E	E	E	E	E	E	ENE	ENE	ENE	E	E	ENE	ENE



WCAS - Edson
Summary of Hourly Averages

Wind Speed (WS) - kph
January 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	7.6	7.2	7.2	6.3	6.2	7.1	4.8	4.0	2.7	2.1	2.1	AF	AF	AF	AF	AF	4.6	2.6	4.2	AF	AF	AF	AF	AF	--	7.56	
Dir	E	E	ENE	ENE	ENE	ENE	ENE	ENE	NE	NE	NE	AF	AF	AF	AF	AF	WSW	W	W	AF	AF	AF	AF	AF	--	E	
24 Spd	4.6	6.1	6.4	7.0	6.7	6.9	7.7	7.2	7.3	7.2	7.0	8.8	10.7	8.3	6.8	6.6	5.2	3.7	4.1	4.9	6.4	4.8	5.6	6.4	6.39	10.67	
Dir	W	W	W	W	W	W	W	W	W	W	W	W	WSW	WSW	WSW	W	W	WNW	WNW	WNW	WNW	WNW	WNW	WNW	W	WSW	
25 Spd	8.0	7.3	8.0	6.8	7.6	8.8	7.6	8.5	8.4	8.4	9.3	10.0	8.4	8.7	7.5	7.6	5.0	3.8	4.1	5.0	5.3	6.5	7.2	6.2	7.23	9.99	
Dir	WNW	WNW	WNW	W	WNW	W	W	WNW	WNW	WNW	W	W	W	W	W	W	W	WNW	WNW	W	W	W	WNW	WNW	W	W	
26 Spd	8.5	6.4	7.5	8.6	6.0	5.7	4.0	6.3	8.6	7.4	8.2	7.9	7.8	6.4	8.5	8.6	6.6	7.3	6.8	9.9	7.5	7.1	7.3	8.6	7.30	9.90	
Dir	W	W	W	W	W	W	WNW	WNW	WNW	W	W	W	W	W	W	W	W	WNW	WNW	WNW	WNW	W	W	W	W	WNW	
27 Spd	8.7	4.3	9.7	2.3	5.1	4.8	4.2	5.5	4.5	6.9	6.1	8.2	9.4	5.6	0.9	15.5	22.0	21.8	18.4	14.7	17.7	18.5	18.6	9.9	10.03	21.97	
Dir	W	W	W	WNW	W	W	WSW	W	W	W	W	W	W	WNW	WNW	WNW	W	W	W	W	W	W	W	WSW	W	W	
28 Spd	11.5	11.2	14.4	16.0	13.8	5.2	4.0	1.8	9.4	11.6	9.6	6.1	4.5	1.3	2.0	5.0	5.2	9.9	9.7	10.0	9.6	8.7	2.8	1.2	7.37	15.96	
Dir	W	W	W	W	W	W	WNW	W	W	WSW	WSW	WSW	WNW	N	W	W	W	W	WNW	WNW	WNW	WNW	W	SSW	W	W	
29 Spd	1.3	4.7	3.2	5.2	2.2	3.6	3.3	3.4	5.1	9.5	6.8	3.6	2.2	4.0	3.3	5.8	14.0	20.7	17.2	12.2	7.7	8.7	8.4	6.5	6.43	20.65	
Dir	S	W	WNW	W	W	W	W	W	W	WNW	W	W	W	WNW	W	WNW	W	W	W	WNW	NW	NW	NW	NW	WNW	W	
30 Spd	6.0	5.1	8.6	14.4	9.6	10.1	13.2	15.2	18.3	23.1	22.4	24.5	21.9	18.8	19.8	16.0	11.5	13.6	13.5	16.4	13.9	14.6	14.9	13.3	14.79	24.47	
Dir	W	W	W	WNW	WNW	NW	WNW	WNW	WNW	WNW	WNW	WNW	NW	NW	NW	NW	NW	NW	NW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	
31 Spd	14.0	12.1	11.1	13.1	9.0	7.3	6.2	9.0	8.8	5.3	10.5	8.8	6.4	10.7	10.9	8.0	7.2	4.5	5.6	4.7	3.7	2.8	3.7	4.0	7.28	14.02	
Dir	WNW	NW	NW	WNW	NW	NNW	N	N	N	NW	NW	NW	NW	NW	WNW	WNW	NW	NW	WNW	WNW	NW	WNW	NW	WNW	NW	WNW	
Spd	3.80	3.90	4.64	4.98	4.65	4.42	4.04	4.43	4.73	5.15	5.41	5.20	4.57	4.25	4.12	4.49	3.91	4.01	3.91	4.04	3.77	3.94	3.85	3.22	Diurnal Average		
Dir	WNW	WNW	WNW	WNW	W	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	NW	NW	NW	NW	WNW	WNW	WNW	WNW	Diurnal Maximum		
Spd	18.16	15.26	17.54	15.96	17.62	18.93	18.02	17.11	18.28	23.14	22.37	24.47	21.86	18.77	19.85	17.72	21.97	21.81	18.38	16.35	17.66	18.53	18.59	17.97	Diurnal Maximum		
Dir	80.52	76.95	75.22	261.64	77.67	77.51	80.40	73.93	300.25	299.93	296.59	299.49	303.90	304.71	307.31	301.58	269.80	265.23	269.26	301.04	265.24	264.11	264.81	80.69	Diurnal Maximum		
Maximum Speed Value: 24.5 kph on Jan 30 12:00 Maximum Daily Speed Average: 14.79 kph on Jan 30 Maximum Diurnal Speed Average: 5.41 kph at hour 11																				Minimum Speed Value: 0.1 kph on Jan 12 07:00 Minimum Daily Speed Average: 2.16 kph on Jan 2 Minimum Diurnal Speed Average: 3.22 kph at hour 24				Hours in Service: 744 Hours of Data: 734 Hours of Missing Data: 10			
Monthly Average Velocity: 4.268 kph 293.23 deg All monthly, daily, and diurnal averages have been calculated using vector methods																				Speed Percentiles: P ₁ = 0.6 P ₁₀ = 2.3 Q ₁ = 4.2 Median = 6.3 Q ₃ = 8.6 P ₉₀ = 12.0 P ₉₉ = 19.7				Percent Operational Time: 98.7			
AF - Analyzer 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	17	15	1	0	0	0	33																				
NorthEast	16	34	4	0	0	0	54																				
East	9	23	23	0	0	0	55																				
SouthEast	1	0	0	0	0	0	1																				
South	4	0	0	0	0	0	4																				
SouthWest	8	0	0	0	0	0	8																				
West	164	267	30	3	0	0	464																				
NorthWest	28	58	24	5	0	0	115																				
Total	247	397	82	8	0	0	734																				



WCAS - Edson
Summary of Hourly Standard Deviations

Wind Speed (WS) - kph
January 2017

Maximum Value: 8.43 kph on Jan 30 13:00		Maximum Daily Average: 5.71 kph on Jan 30		Hours in Service: 744																																													
Minimum Value: 0.6 kph on Jan 12 07:00		Minimum Daily Average: 1.36 kph on Jan 24		Hours of Data: 734																																													
Maximum Diurnal Average: 2.66 kph at hour 16		Minimum Diurnal Average: 1.94 kph at hour 7		Hours of Missing Data: 10																																													
Monthly Average: 2.253 kph		Percentiles: P ₁ = 0.7 P ₁₀ = 1.2 Q ₁ = 1.5 Median = 1.9 Q ₃ = 2.6 P ₉₀ = 3.8 P ₉₉ = 7.0		Hours of Calibration: 0																																													
				Percent Operational Time: 98.7																																													
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-Jan	2.7	3.6	4.4	1.6	1.2	1.0	1.2	1.4	2.1	1.8	1.7	1.9	2.8	2.8	3.1	3.3	1.8	1.6	2.0	1.6	1.3	2.7	1.3	1.7	2.12	4.43																							
2-Jan	1.5	1.6	1.1	1.4	1.6	3.6	1.9	1.0	3.0	1.8	1.1	1.0	1.1	1.1	0.7	1.2	1.2	1.0	1.2	1.3	1.3	1.9	1.2	1.4	1.46	3.57																							
3-Jan	1.3	2.2	1.7	1.5	1.4	1.7	1.5	2.2	2.3	1.8	1.7	1.6	1.7	2.2	2.2	2.7	3.3	2.1	1.4	1.3	2.7	1.8	1.8	1.1	1.88	3.25																							
4-Jan	1.6	1.5	2.2	2.1	2.0	2.3	2.4	2.2	1.5	1.6	2.1	2.0	2.5	2.2	1.7	2.3	1.6	1.2	1.6	2.2	1.9	2.7	1.5	1.3	1.92	2.71																							
5-Jan	1.8	1.7	1.1	1.6	1.2	1.9	1.9	2.1	2.1	1.8	1.0	0.7	1.7	2.2	2.2	1.8	1.4	1.0	1.3	2.3	2.6	3.5	2.1	2.4	1.81	3.49																							
6-Jan	2.5	1.6	2.1	2.1	2.5	2.5	3.0	2.3	2.2	2.4	2.6	2.6	1.9	2.2	1.5	2.1	2.2	1.7	1.9	2.0	1.7	1.8	1.9	0.7	2.07	2.96																							
7-Jan	0.7	1.4	1.3	1.4	2.3	1.9	2.2	2.2	2.4	2.9	2.0	2.4	2.7	2.8	2.0	2.2	2.6	1.1	1.0	1.2	1.1	1.9	1.1	1.0	1.82	2.91																							
8-Jan	1.8	1.0	0.7	0.9	1.6	1.4	0.9	2.4	1.7	1.6	0.9	1.1	1.6	1.8	2.2	2.2	2.2	2.1	1.7	2.0	1.6	2.8	1.1	2.0	1.64	2.78																							
9-Jan	1.4	1.6	1.7	1.9	2.1	1.7	1.6	1.8	1.7	1.9	2.1	2.4	2.4	2.5	2.6	2.8	3.2	2.6	1.6	2.0	2.1	2.1	3.0	2.0	2.11	3.19																							
10-Jan	2.0	1.9	2.1	1.5	1.7	2.0	3.2	5.0	5.7	6.3	3.7	4.1	4.4	4.5	5.3	3.5	2.5	0.9	1.2	1.6	1.6	2.0	3.2	2.9	3.04	6.29																							
11-Jan	2.0	1.8	3.5	4.5	4.2	4.6	4.4	3.8	3.8	4.3	5.2	4.2	4.5	5.2	6.1	7.1	5.5	5.2	5.2	3.4	4.3	2.4	1.8	0.8	4.09	7.14																							
12-Jan	1.4	1.3	1.4	1.6	1.6	1.4	0.6	1.1	1.4	1.5	0.9	1.2	2.2	2.1	2.0	1.7	1.5	1.8	1.7	1.3	2.1	3.8	3.6	1.5	1.69	3.80																							
13-Jan	2.0	2.2	1.6	1.6	1.6	2.0	2.4	2.4	2.1	1.7	1.9	2.5	1.7	1.1	1.5	1.7	1.5	1.5	1.3	1.4	1.9	1.4	1.6	1.9	1.77	2.51																							
14-Jan	1.9	1.9	2.1	1.5	1.9	2.8	2.2	1.8	2.9	2.2	2.5	1.9	2.2	1.7	2.2	1.7	1.2	1.7	1.1	1.0	1.4	1.3	1.5	1.2	1.83	2.85																							
15-Jan	1.7	1.7	1.7	1.3	2.0	1.5	1.0	1.3	2.3	2.6	2.3	2.4	1.6	3.6	4.1	3.7	2.3	1.5	1.7	2.9	2.0	1.6	1.4	1.9	2.08	4.06																							
16-Jan	2.1	2.1	2.0	2.8	1.8	2.0	1.8	1.9	1.6	1.9	3.7	2.2	1.4	2.7	1.6	1.9	1.4	1.4	1.8	2.0	2.3	1.7	2.2	2.0	2.02	3.75																							
17-Jan	1.9	1.8	2.6	3.2	3.1	2.8	1.3	2.5	2.2	1.3	1.5	1.6	1.1	1.4	2.2	1.5	1.7	2.0	2.1	2.0	2.0	2.8	2.8	3.0	2.11	3.23																							
18-Jan	3.0	2.8	1.9	2.3	2.0	2.9	1.7	1.4	1.9	1.6	1.3	2.8	2.5	2.0	2.7	2.2	1.5	3.2	4.4	3.3	1.9	1.9	1.7	1.7	2.29	4.45																							
19-Jan	1.6	1.6	2.3	1.3	2.2	2.3	3.2	2.4	2.9	2.8	2.2	2.3	4.3	2.5	1.5	1.6	2.9	1.9	2.0	1.8	1.4	2.0	3.2	2.8	2.29	4.31																							
20-Jan	1.9	1.7	1.4	1.4	2.1	2.7	1.3	2.2	2.4	2.1	1.6	2.9	2.6	1.7	1.5	1.5	2.2	3.0	2.2	1.9	1.3	2.0	1.5	1.5	1.94	2.96																							
21-Jan	1.2	3.1	1.6	2.0	2.2	1.4	1.2	1.0	0.9	1.2	0.8	0.7	2.2	3.2	2.6	2.3	2.5	2.5	2.2	1.6	1.8	2.7	1.7	1.2	1.81	3.20																							
22-Jan	1.3	1.2	1.1	1.6	1.3	1.4	1.3	1.2	1.0	1.5	1.9	1.7	1.6	1.5	1.8	1.8	2.2	1.8	1.9	1.8	1.6	1.6	1.6	1.5	1.56	2.19																							
23-Jan	1.3	1.2	1.2	1.1	0.9	1.0	0.9	0.6	1.0	0.8	0.6	AF	AF	AF	AF	AF	1.2	1.6	1.9	AF	AF	AF	AF	AF	--	1.90																							
24-Jan	1.0	1.3	1.3	1.0	1.3	1.3	1.4	1.7	1.4	1.5	1.4	1.7	1.6	1.7	1.2	1.6	1.2	0.7	1.1	1.7	1.6	1.3	1.1	1.4	1.36	1.75																							
25-Jan	1.6	1.2	1.6	1.4	1.6	1.7	1.8	1.5	1.6	1.8	1.8	1.7	1.7	1.7	1.5	1.4	1.5	1.3	1.5	1.7	1.6	1.2	1.9	1.5	1.57	1.92																							
26-Jan	2.0	1.8	1.5	2.1	2.2	1.1	1.3	1.5	2.2	1.6	2.1	2.3	2.6	1.6	2.7	2.9	2.0	2.4	2.2	3.5	2.6	3.0	2.8	3.3	2.22	3.47																							
27-Jan	3.5	2.3	4.3	2.4	1.3	1.2	1.2	1.3	1.5	2.0	1.8	3.0	2.4	1.5	1.4	6.5	5.5	4.8	6.3	3.8	3.3	5.6	3.6	4.6	3.12	6.52																							
28-Jan	4.1	3.2	3.5	3.1	3.7	2.2	1.6	2.1	2.4	2.2	3.0	2.6	1.2	2.1	1.7	2.2	5.3	3.4	3.3	3.5	3.3	3.0	2.8	1.5	2.80	5.33																							
29-Jan	1.9	1.1	1.2	1.8	1.4	2.0	1.5	1.5	1.7	5.4	5.4	1.5	1.6	0.9	1.6	2.8	4.7	4.6	4.2	4.0	3.8	4.4	4.5	3.3	2.78	5.44																							
30-Jan	1.9	2.3	3.4	5.5	3.7	3.8	4.9	4.9	6.6	8.1	7.5	8.2	8.4	7.1	7.8	6.6	5.9	5.8	5.9	5.8	5.9	6.4	5.5	5.2	5.71	8.43																							
31-Jan	5.3	5.1	4.4	4.1	4.0	3.7	3.3	3.8	3.8	2.8	3.6	3.8	3.2	4.0	3.6	3.0	4.1	3.2	2.8	1.8	1.9	1.6	1.8	1.8	3.36	5.26																							
																								2.00	1.97	2.08	2.06	2.05	2.12	1.94	2.09	2.32	2.41	2.32	2.37	2.45	2.46	2.49	2.66	2.56	2.27	2.32	2.26	2.20	2.50	2.22	2.00	Diurnal Average	
																								5.26	5.11	4.44	5.51	4.23	4.65	4.86	4.99	6.64	8.15	7.45	8.20	8.43	7.08	7.77	7.14	5.86	5.79	6.29	5.80	5.92	6.37	5.47	5.18	Diurnal Maximum	
AF - Analyzer Failure																																																	
,Alberta Ambient Air Quality Objectives (AAAQO): 1-hr --- ul/m^3 24-hr 100 ul/m^3																																																	



WCAS - Edson
Summary of Hourly Standard Deviations

Wind Direction (WD) - deg
January 2017

Maximum Value: 98.99 deg on Jan 19 09:00		Maximum Daily Average: 45.19 deg on Jan 17		Hours in Service: 744																																													
Minimum Value: 6.0 deg on Jan 6 02:00		Minimum Daily Average: 9.19 deg on Jan 25		Hours of Data: 734																																													
Maximum Diurnal Average: 26.66 deg at hour 14		Minimum Diurnal Average: 16.32 deg at hour 11		Hours of Missing Data: 10																																													
Monthly Average: 20.981 deg		Percentiles: P ₁ = 6.6 P ₁₀ = 8.7 Q ₁ = 10.9 Median = 15.3 Q ₃ = 23.0 P ₉₀ = 39.0 P ₉₉ = 87.3		Hours of Calibration: 0																																													
				Percent Operational Time: 98.7																																													
Day	Hourly Period Ending At																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Jan	24.4	23.7	27.7	26.4	14.6	10.9	12.1	12.6	12.3	15.8	9.1	13.8	22.0	30.8	33.4	26.5	32.9	16.3	13.2	14.9	12.8	47.0	9.6	8.3	19.63	47.04																							
2-Jan	8.8	9.2	16.3	17.5	15.1	29.1	20.8	10.6	12.0	21.7	15.2	46.5	24.6	26.7	33.2	90.0	32.1	35.3	22.8	47.2	46.5	23.5	23.7	11.3	26.66	90.03																							
3-Jan	14.5	26.8	11.0	10.2	10.3	10.9	11.5	10.6	10.0	7.2	7.7	8.7	12.5	12.2	14.4	13.3	14.3	14.6	11.5	11.8	13.7	11.5	9.6	6.4	11.89	26.83																							
4-Jan	12.3	9.7	8.9	10.4	8.0	10.6	11.3	16.4	8.2	11.0	10.4	11.8	25.9	10.9	13.7	14.6	8.6	11.8	15.3	12.4	11.0	12.0	10.6	10.1	11.91	25.94																							
5-Jan	9.4	13.4	6.1	11.0	7.8	9.2	7.5	11.1	26.7	15.0	9.5	24.2	22.0	14.5	22.4	14.0	16.3	14.6	12.0	20.8	9.5	10.1	6.8	7.3	13.39	26.74																							
6-Jan	6.8	6.0	6.2	7.7	7.1	6.7	8.1	6.8	7.5	7.3	8.6	8.6	9.2	6.0	8.7	8.5	16.8	8.7	10.9	8.7	11.1	11.7	19.1	36.0	10.12	36.01																							
7-Jan	39.5	17.2	20.1	13.5	16.8	13.3	11.9	14.9	16.5	20.4	17.1	18.0	18.2	31.0	15.0	37.9	27.2	18.0	7.6	17.1	14.3	23.6	7.8	6.6	18.48	39.54																							
8-Jan	51.5	22.1	54.5	49.4	63.9	80.9	78.0	94.9	19.5	22.3	14.7	10.9	10.1	12.5	10.2	9.8	8.4	8.7	9.2	10.5	10.7	17.5	11.2	26.0	29.48	94.91																							
9-Jan	23.4	14.8	15.1	32.6	34.1	16.4	17.1	15.3	16.6	14.4	14.7	15.6	16.6	18.0	16.8	12.2	16.3	13.5	16.1	15.7	14.4	17.6	27.4	23.7	18.27	34.11																							
10-Jan	23.8	24.9	44.2	25.1	13.6	15.5	15.4	22.0	32.5	26.8	35.4	35.5	25.3	29.6	26.9	18.4	16.9	45.6	48.1	20.9	19.2	14.6	17.3	19.7	25.71	48.06																							
11-Jan	15.1	10.6	10.3	14.0	14.3	15.3	13.8	14.8	14.2	13.1	22.5	11.3	13.0	17.4	18.5	19.4	20.0	25.2	43.3	39.8	39.4	41.3	30.7	15.7	20.54	43.28																							
12-Jan	10.1	7.9	12.2	8.5	20.1	61.0	82.4	16.1	9.2	12.5	7.4	10.6	10.8	12.6	14.8	9.4	14.0	13.1	48.6	11.9	15.0	21.2	83.6	95.9	25.38	95.94																							
13-Jan	21.4	30.7	11.0	10.8	16.7	7.9	11.6	12.8	36.9	22.0	9.3	15.2	8.6	10.2	13.3	14.0	32.7	22.7	13.9	13.4	16.8	15.4	20.3	21.5	17.04	36.88																							
14-Jan	12.0	12.9	11.4	25.5	10.9	14.5	12.5	13.0	39.6	26.9	16.4	15.9	18.4	92.1	19.9	14.4	18.1	21.7	17.3	21.6	24.2	13.4	13.4	22.1	21.16	92.10																							
15-Jan	14.7	38.2	80.4	22.1	69.1	70.8	15.3	14.0	20.4	10.5	14.7	68.1	77.9	81.1	16.6	16.4	13.9	14.8	20.6	13.5	11.5	14.1	16.9	13.5	31.21	81.11																							
16-Jan	13.8	22.2	15.3	33.8	34.2	17.5	11.8	11.0	15.8	19.4	33.5	8.1	20.3	51.7	26.7	15.6	18.0	57.3	14.7	20.0	17.0	13.0	20.8	32.5	22.66	57.27																							
17-Jan	25.8	14.7	80.6	70.6	35.7	79.3	75.6	66.5	65.6	32.3	41.4	20.9	16.9	17.0	49.4	67.3	73.4	22.7	42.0	41.1	23.0	19.1	71.0	32.7	45.19	80.65																							
18-Jan	89.9	58.6	26.3	13.1	20.2	28.5	23.7	20.1	17.6	25.4	20.7	32.2	88.5	55.6	37.2	38.3	12.9	39.8	65.7	62.2	16.7	15.3	21.9	21.5	35.49	89.95																							
19-Jan	15.5	9.7	21.0	17.1	21.3	15.4	76.8	71.1	99.0	48.8	17.3	38.9	59.8	22.4	23.2	30.4	16.4	13.8	26.2	38.8	18.8	25.7	12.1	30.8	32.10	98.99																							
20-Jan	48.4	55.7	16.7	13.1	69.5	16.2	24.3	9.4	11.6	40.6	14.3	29.8	29.4	22.6	67.9	32.9	19.7	78.8	16.9	80.7	24.5	38.6	13.6	15.7	32.95	80.70																							
21-Jan	10.2	11.4	8.9	34.9	45.9	12.3	10.6	6.7	12.6	9.5	8.8	8.6	67.8	34.5	24.3	11.3	11.8	13.2	13.1	15.3	14.5	15.2	8.5	14.4	17.69	67.84																							
22-Jan	13.6	9.5	8.9	9.8	7.7	8.0	7.4	7.4	7.9	8.3	11.4	10.0	8.7	10.5	8.9	10.9	10.5	9.4	9.6	8.3	8.9	9.7	9.0	10.4	9.37	13.58																							
23-Jan	10.5	10.6	9.6	9.4	9.0	8.0	8.9	9.5	11.8	11.8	13.7	AF	AF	AF	AF	AF	15.8	22.8	19.6	AF	AF	AF	AF	AF	--	22.76																							
24-Jan	12.9	12.1	9.9	8.8	11.4	10.5	9.9	10.9	8.6	11.3	8.5	7.4	8.5	13.1	10.4	9.4	10.6	8.0	8.2	12.2	9.1	8.5	8.7	8.4	9.89	13.10																							
25-Jan	9.9	8.4	10.3	8.9	10.8	8.4	8.7	9.6	10.1	9.3	7.8	8.2	8.3	9.2	8.4	7.3	10.2	9.9	11.6	8.6	8.6	6.8	11.2	10.2	9.19	11.59																							
26-Jan	8.9	11.0	6.3	9.1	8.9	8.5	9.7	7.8	10.2	11.1	8.9	16.7	18.3	14.7	11.7	13.7	15.9	15.5	15.6	14.2	14.2	16.2	13.4	17.3	12.41	18.32																							
27-Jan	19.5	30.2	11.9	59.7	20.4	15.5	11.1	15.2	10.7	11.2	16.4	13.5	12.4	12.7	50.0	16.2	10.3	10.2	10.7	10.7	8.1	12.2	9.7	14.7	17.21	59.71																							
28-Jan	12.8	12.3	11.2	11.3	12.9	16.4	14.7	53.4	11.2	9.6	17.3	19.7	13.5	69.1	70.2	16.3	28.6	13.8	16.1	14.6	15.6	16.2	42.5	55.0	23.94	70.24																							
29-Jan	72.8	16.3	13.3	10.0	22.1	25.2	13.7	15.3	17.1	18.2	38.9	22.3	21.1	17.9	33.5	16.0	13.8	9.9	10.6	17.6	26.9	26.5	27.5	29.2	22.33	72.83																							
30-Jan	16.3	19.7	23.7	16.3	19.4	18.4	15.2	16.4	17.1	15.3	15.2	15.6	17.0	19.5	21.0	20.6	25.7	22.2	22.0	15.3	16.9	16.8	17.0	18.3	18.36	25.71																							
31-Jan	18.4	20.7	19.9	14.9	31.3	31.1	27.8	26.8	22.0	31.3	19.0	25.3	31.4	23.5	16.4	19.6	30.5	39.8	22.6	22.7	23.6	31.3	29.5	19.3	24.93	39.76																							
																								22.16	19.08	20.30	20.18	22.69	22.32	21.91	20.74	20.36	18.07	16.32	19.73	24.57	26.66	24.57	21.49	19.76	21.66	20.50	22.08	17.22	18.85	20.81	21.81	Diurnal Average	
																								89.95	58.59	80.65	70.61	69.46	80.93	82.43	94.91	98.99	48.85	41.39	68.14	88.52	92.10	70.24	90.03	73.38	78.78	65.67	80.70	46.48	47.04	83.64	95.94	Diurnal Maximum	
AF - Analyzer Failure																																																	
,Alberta Ambient Air Quality Objectives (AAAQO): 1-hr --- ul/m^3 24-hr 100 ul/m^3																																																	

**BRETON
STATION #913**

CONTINUOUS AIR MONITORING DATA

JANUARY 2017

Summary Report

Continuous air quality/meteorological monitoring measurements

West Central Airshed Society

WCAS / Breton Station 913													January 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	0.4	0.0	10.6	0.0	0.1	0.1	0.4	0.9	0	0	0.003	
O ₃ (ppb)	35	708	99.9	28.5	3.6	44.4	15.0	22.2	29.5	35.5	39.8	0	-	0.040	
NO (ppb)	36	708	100.0	0.5	0.0	7.9	0.0	0.0	0.1	0.4	1.4	-	-	-	
NO ₂ (ppb)	36	708	100.0	4.5	0.7	16.1	1.6	2.4	3.6	5.9	8.7	0	0	0.011	
NO _x (ppb)	36	708	100.0	5.0	0.9	20.6	1.7	2.6	4.1	6.7	9.7	-	-	-	
Wind Speed (kph)	0	642	86.3	7.1	0.1	32.7	1.8	3.2	5.2	9.1	15.5	-	-	-	
Temperature (°C)	0	744	100.0	-7.4	-27.8	12.6	-20.0	-15.2	-7.6	-0.3	5.6	-	-	-	
Relative Humidity (%)	0	744	100.0	66.3	23.9	92.5	39.1	52.0	70.3	79.9	89.2	-	-	-	
Std Dev Wind Direction (deg)	0	642	86.3	24.6	4.8	100.6	10.7	12.2	17.0	28.4	52.1	-	-	-	
Std Dev Wind Speed (kph)	0	642	86.3	2.2	0.0	8.2	1.0	1.4	1.8	2.7	3.9	-	-	-	



WCAS - Breton
Summary of Hourly Averages

Sulphur Dioxide (SO₂) - ppb
January 2017

Maximum Value: 10.56 ppb on Jan 22 07:00		Maximum Daily Average: 2.62 ppb on Jan 22		Hours in Service: 744																							
Minimum Value: 0.0 ppb on Jan 1 20:00		Minimum Daily Average: 0.03 ppb on Jan 30		Hours of Data: 709																							
Maximum Diurnal Average: 0.66 ppb at hour 17		Minimum Diurnal Average: 0.19 ppb at hour 23		Hours of Missing Data: 35																							
Monthly Average: 0.391 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 0.1 Q ₃ = 0.4 P ₉₀ = 0.9 P ₉₉ = 4.8		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-Jan	0.0	0.1	Z	0.1	0.0	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.03	0.09	
2-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.3	0.3	0.3	0.2	0.2	0.3	0.3	0.2	0.2	0.1	0.1	0.13	0.34	
3-Jan	0.1	0.1	Z	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.4	0.5	0.6	0.6	0.5	0.4	0.3	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.22	0.61	
4-Jan	0.2	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	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.11	0.19	
5-Jan	0.2	0.2	Z	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.1	0.2	1.0	0.1	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.3	0.4	0.5	0.21	1.00
6-Jan	0.2	0.2	Z	0.1	0.2	0.2	0.2	0.8	1.0	1.0	1.7	2.3	2.1	1.5	1.6	1.2	0.8	0.7	0.5	0.4	0.4	0.4	0.3	0.3	0.79	2.32	
7-Jan	0.3	0.4	Z	0.3	0.4	0.9	1.5	0.9	0.6	0.8	0.6	0.3	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	2.2	0.46	2.22		
8-Jan	1.5	1.6	Z	1.3	0.7	0.5	0.5	0.5	0.8	1.2	4.9	3.8	2.7	3.0	2.0	1.3	1.1	1.4	1.3	0.9	0.7	0.6	0.6	0.6	1.46	4.89	
9-Jan	0.7	0.6	Z	0.6	0.7	0.7	0.7	0.8	0.9	1.0	1.5	1.0	0.8	0.3	0.2	0.3	0.4	0.4	0.3	0.4	0.4	0.2	0.2	0.2	0.58	1.45	
10-Jan	0.2	0.2	Z	0.1	0.1	0.2	0.2	0.6	0.2	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	0.0	0.0	0.09	0.60	
11-Jan	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	0.2	0.4	0.7	0.06	0.72	
12-Jan	0.0	0.0	Z	0.0	0.1	0.1	0.1	0.2	0.2	0.2	0.4	0.8	1.0	0.9	1.2	1.8	2.0	1.3	0.9	0.7	0.5	0.4	0.2	0.2	0.57	2.01	
13-Jan	0.1	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.6	0.8	0.7	0.6	0.7	0.7	0.6	0.5	0.5	0.5	0.6	0.37	0.79	
14-Jan	1.0	0.6	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.2	0.2	0.4	0.2	0.1	0.16	0.98	
15-Jan	0.0	0.1	Z	0.4	0.1	0.1	0.3	0.4	0.3	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.17	0.36	
16-Jan	0.1	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.2	0.4	0.3	0.2	0.2	0.14	0.42	
17-Jan	0.2	0.2	Z	0.0	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.09	0.20	
18-Jan	0.0	0.4	Z	0.3	0.4	0.3	0.1	0.0	0.3	1.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.1	0.2	0.2	0.0	0.2	0.4	0.20	0.96	
19-Jan	0.6	1.1	Z	0.3	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.4	0.5	0.7	0.6	0.4	0.4	0.3	0.2	0.1	0.0	0.0	0.0	0.31	1.13	
20-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.3	0.4	0.3	0.4	0.3	0.2	0.4	0.3	0.2	0.2	0.2	0.2	0.2	0.17	0.37	
21-Jan	0.2	0.2	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.4	0.5	0.6	1.4	7.2	2.7	1.4	4.5	4.8	2.1	0.6	2.2	1.30	7.23	
22-Jan	3.0	2.3	Z	10.5	7.5	7.3	10.6	1.1	1.1	0.5	2.4	2.4	0.3	0.1	0.1	0.3	2.2	3.7	2.6	1.1	0.4	0.3	0.2	0.1	2.62	10.56	
23-Jan	0.1	0.1	Z	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.4	0.9	1.6	1.6	0.9	0.8	0.5	0.3	0.34	1.61	
24-Jan	0.2	0.5	Z	0.4	0.3	0.3	0.3	0.3	0.5	0.6	0.6	0.5	0.4	0.4	0.3	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.0	0.29	0.63	
25-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.4	0.3	0.2	1.1	1.4	0.5	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.23	1.42	
26-Jan	0.1	0.1	Z	0.1	0.1	0.1	0.2	0.1	0.2	0.2	0.2	0.2	0.4	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.2	0.1	0.1	0.1	0.21	0.40	
27-Jan	0.1	0.1	Z	0.1	0.2	0.2	0.2	0.3	0.3	0.2	0.4	0.3	0.1	0.6	0.8	0.4	0.4	0.5	0.5	0.3	0.2	0.1	0.1	0.1	0.28	0.76	
28-Jan	0.1	0.1	Z	0.1	0.1	0.2	0.1	0.1	0.7	0.3	0.4	0.0	0.0	0.1	0.6	1.7	1.5	0.6	0.1	0.1	0.1	0.1	0.0	0.0	0.31	1.72	
29-Jan	0.0	0.0	Z	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.1	C	C	C	C	0.1	0.1	0.2	0.0	0.1	0.06	0.16	
30-Jan	0.0	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	0.03	0.05	
31-Jan	0.1	0.1	Z	0.1	0.1	0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.1	0.1	0.06	0.13	
		0.30	0.31	--	0.51	0.39	0.39	0.52	0.24	0.27	0.29	0.50	0.48	0.41	0.36	0.40	0.46	0.66	0.52	0.42	0.43	0.38	0.26	0.19	0.32	Diurnal Average	
		3.04	2.25	--	10.49	7.52	7.29	10.56	1.07	1.13	1.25	4.89	3.78	2.65	2.98	1.98	1.78	7.23	3.71	2.65	4.47	4.82	2.15	0.60	2.22	Diurnal Maximum	
Z - zerospan		C - Calibration																									
Alberta Ambient Air Quality Objectives (AAAQO):		1-hr 172 ppb					24-hr 48 ppb																				



WCAS - Breton
Eight Hour Running Averages

Ozone (O₃) - ppb
January 2017

Maximum Value: 42.91 ppb on Jan 30 04:00 Maximum Daily Average: 40.47 ppb on Jan 30 Minimum Value: 6.6 ppb on Jan 21 10:00 Minimum Daily Average: 12.27 ppb on Jan 21 Maximum Diurnal Average: 31.05 ppb at hour 19 Minimum Diurnal Average: 26.09 ppb at hour 10 Monthly Average: 28.439 ppb Percentiles: P ₁ = 8.0 P ₁₀ = 15.1 Q ₁ = 22.6 Median = 29.3 Q ₃ = 35.2 P ₉₀ = 39.3 P ₉₉ = 42.2																								Hours in Service:	744	
																								Hours of Data:	737	
																								Hours of Missing Data:	7	
																								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-Jan	34.9	34.6	34.4	34.0	33.9	33.6	33.3	33.1	33.4	33.8	33.9	34.0	34.0	34.0	34.1	34.1	33.7	32.7	31.8	30.9	30.1	29.2	28.4	27.4	32.80	34.91
2-Jan	27.2	27.3	27.3	26.8	26.0	25.1	23.8	22.4	20.3	18.6	18.1	17.6	17.4	17.4	17.7	18.3	19.1	19.5	19.8	19.1	18.1	17.3	16.3	15.2	20.65	27.32
3-Jan	14.7	14.2	13.8	13.4	12.9	12.2	11.8	11.6	10.9	10.7	11.5	12.9	14.9	17.5	19.9	22.0	23.7	24.9	25.8	26.4	26.5	26.3	26.4	26.6	17.98	26.57
4-Jan	27.1	28.0	28.5	28.9	29.3	29.2	29.3	29.2	29.3	29.0	29.1	29.5	30.3	31.0	31.5	32.3	33.0	33.9	34.3	34.5	34.4	34.3	34.1	33.5	30.98	34.52
5-Jan	32.7	31.9	31.7	30.7	29.7	28.7	27.2	26.1	24.3	23.2	23.2	23.4	23.6	23.9	24.6	25.0	26.1	26.5	26.8	26.5	26.2	25.6	24.8	24.4	26.54	32.69
6-Jan	24.1	24.1	23.9	23.6	23.0	22.5	22.1	21.4	20.9	20.3	20.4	20.2	20.7	21.7	23.1	24.7	26.0	27.1	28.3	29.3	29.7	29.7	29.5	29.2	24.40	29.70
7-Jan	29.1	28.7	28.5	27.6	26.0	24.3	22.6	21.1	19.6	18.1	18.4	18.4	19.1	20.3	21.5	22.8	24.1	25.6	26.6	27.0	27.3	27.4	27.2	26.7	24.08	29.09
8-Jan	26.3	26.0	25.7	25.5	25.5	25.5	25.5	25.9	25.9	25.8	25.1	24.8	24.8	24.9	24.9	24.9	24.8	24.5	24.4	23.9	22.9	21.8	20.6	19.4	24.55	26.35
9-Jan	18.3	17.8	17.5	17.2	17.2	17.2	17.3	17.5	17.9	18.4	18.8	19.4	19.8	20.5	21.4	22.2	23.1	23.8	24.2	24.8	25.5	26.1	26.7	27.2	20.83	27.23
10-Jan	27.4	27.5	27.9	28.0	28.0	28.1	28.2	28.2	28.4	29.0	29.6	30.4	31.2	32.1	33.0	33.8	34.2	34.6	34.5	34.0	33.6	33.0	32.2	31.6	30.77	34.64
11-Jan	31.6	31.5	31.5	31.6	32.0	32.8	33.9	34.8	35.7	36.9	37.3	38.3	39.2	39.6	39.9	40.2	40.3	40.3	40.2	40.1	39.9	39.7	39.6	39.5	36.94	40.34
12-Jan	39.6	39.6	39.7	39.3	38.7	38.0	37.1	36.1	34.8	33.8	34.0	33.8	33.9	34.0	34.1	34.3	34.3	34.1	33.3	32.4	31.4	30.0	28.4	27.1	34.65	39.67
13-Jan	25.9	25.0	24.4	23.8	23.5	23.7	24.2	24.7	25.0	25.6	26.0	27.3	28.9	30.6	32.2	33.6	35.1	36.2	36.9	36.7	36.0	35.1	34.5	34.1	29.54	36.87
14-Jan	34.0	34.1	34.1	34.6	35.4	35.6	35.5	35.2	35.2	35.6	36.3	37.0	37.6	38.7	40.0	41.2	41.9	42.2	42.2	42.1	41.8	41.4	41.0	40.4	38.05	42.23
15-Jan	40.0	39.9	39.7	39.5	39.0	38.6	37.8	37.5	37.1	36.7	36.4	36.2	36.6	36.9	37.6	38.2	38.7	38.9	38.9	38.4	37.5	36.8	36.0	35.2	37.83	39.98
16-Jan	34.8	34.1	34.0	34.7	34.8	35.2	35.3	35.9	35.8	36.7	37.2	37.4	38.1	38.6	39.3	39.4	39.8	39.6	39.3	39.1	38.7	38.4	38.3	38.2	37.20	39.76
17-Jan	38.0	37.7	37.6	37.1	36.4	35.1	33.4	31.7	30.4	29.0	28.5	27.8	27.7	28.2	29.1	30.0	30.7	31.4	32.3	33.2	33.9	34.4	35.0	35.5	32.67	38.00
18-Jan	35.8	36.5	37.1	37.0	36.6	35.9	35.3	34.7	34.5	34.1	34.2	34.5	35.2	36.0	37.1	37.1	37.3	37.4	37.1	36.2	35.4	35.5	35.4	36.0	35.91	37.39
19-Jan	36.1	36.0	36.4	36.6	36.4	35.1	33.4	31.7	30.6	29.6	29.5	29.2	28.9	28.8	28.5	28.9	28.7	28.8	28.0	27.3	26.7	25.6	25.4	24.7	30.46	36.56
20-Jan	24.2	23.9	24.0	24.1	23.6	23.7	23.8	23.7	23.4	22.6	22.4	22.7	23.6	24.7	25.7	27.2	28.8	30.5	31.5	31.3	30.3	29.1	27.3	25.0	25.72	31.48
21-Jan	22.5	19.9	18.6	16.4	14.5	12.4	10.6	8.7	7.1	6.6	7.0	7.4	8.5	9.9	11.1	12.5	13.3	13.8	14.1	13.7	12.5	11.6	11.2	10.6	12.27	22.50
22-Jan	10.6	10.3	10.0	9.8	9.8	9.2	8.0	8.4	9.4	10.8	11.9	13.7	15.6	17.4	19.3	20.2	20.5	19.7	19.0	18.6	18.2	18.1	18.2	18.4	14.38	20.49
23-Jan	18.9	20.1	20.9	21.7	22.1	22.3	22.5	22.5	22.4	22.2	22.1	21.9	21.8	21.6	21.4	21.2	20.8	19.9	18.5	17.0	15.3	13.6	12.4	11.3	19.78	22.51
24-Jan	10.7	10.7	10.7	11.0	11.0	11.0	10.4	9.5	8.2	7.1	7.5	7.6	8.3	9.8	12.1	14.5	16.8	18.5	19.8	20.6	20.9	20.3	18.8	17.3	13.04	20.87
25-Jan	16.1	14.9	14.1	13.0	12.5	12.6	13.0	13.3	13.6	14.1	14.4	15.9	18.1	20.5	23.2	26.0	28.7	31.1	32.4	32.3	31.1	29.5	27.4	25.3	20.55	32.36
26-Jan	23.5	21.8	21.1	21.6	22.7	23.6	24.5	25.5	25.4	25.8	26.6	27.6	28.7	30.3	32.2	34.2	37.0	39.0	39.3	39.3	39.0	37.9	36.7	35.6	29.96	39.33
27-Jan	34.6	34.0	33.9	34.1	34.0	34.3	34.0	33.6	32.9	31.9	31.8	31.0	30.8	31.3	32.3	32.9	33.5	34.0	33.9	34.3	34.5	33.8	33.2	32.9	33.24	34.58
28-Jan	32.8	32.9	33.3	33.9	34.0	34.3	34.6	34.9	35.2	35.9	36.4	37.0	37.8	38.8	39.5	40.1	40.5	40.7	40.3	39.4	38.4	36.9	35.7	34.7	36.59	40.68
29-Jan	33.4	32.1	31.5	30.7	30.3	30.2	29.5	28.8	28.6	28.6	28.9	29.4	29.9	31.2	33.0	33.8	34.7	C	C	C	C	C	C	C	--	34.66
30-Jan	42.7	42.6	42.6	42.9	42.3	41.3	40.4	39.5	38.9	38.5	38.7	38.8	39.1	39.6	40.0	40.4	40.6	40.7	40.6	40.5	40.4	40.2	40.0	39.9	40.47	42.91
31-Jan	39.8	39.7	39.7	39.4	39.1	38.9	39.0	39.4	39.6	39.9	40.2	40.8	41.3	41.3	40.9	40.2	39.4	38.5	37.4	36.2	35.1	34.6	34.0	33.6	38.67	41.32
28.63 28.31 28.20 28.01 27.75 27.43 27.01 26.67 26.28 26.09 26.30 26.64 27.27 28.11 29.04 29.88 30.63 30.94 31.05 30.84 30.38 29.77 29.16 28.55																								Diurnal Average		
42.69 42.59 42.59 42.91 42.28 41.31 40.39 39.54 39.64 39.87 40.17 40.76 41.28 41.32 40.90 41.22 41.94 42.20 42.23 42.13 41.81 41.39 40.98 40.41																								Diurnal Maximum		
C - Calibration																										



WCAS - Breton
Summary of Hourly Averages

Nitrogen Oxide (NO) - ppb
January 2017

Maximum Value: 7.93 ppb on Jan 21 12:00		Maximum Daily Average: 2.23 ppb on Jan 21		Hours in Service: 744																						
Minimum Value: 0.0 ppb on Jan 1 06:00		Minimum Daily Average: 0.07 ppb on Jan 1		Hours of Data: 708																						
Maximum Diurnal Average: 1.78 ppb at hour 12		Minimum Diurnal Average: 0.04 ppb at hour 24		Hours of Missing Data: 36																						
Monthly Average: 0.503 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.1 Q ₃ = 0.4 P ₉₀ = 1.4 P ₉₉ = 5.2		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-Jan	0.1	0.1	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.3	0.2	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.07	0.26
2-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.2	0.5	1.9	4.3	3.8	5.3	5.8	4.6	3.5	0.9	0.1	0.9	0.6	1.1	0.1	0.3	0.1	1.47	5.78
3-Jan	0.1	1.0	Z	0.1	0.2	0.1	0.1	0.1	0.2	2.2	4.8	5.0	4.5	2.2	2.4	1.7	0.8	1.3	0.3	0.2	1.1	0.3	0.1	0.1	1.26	5.03
4-Jan	0.2	0.0	Z	0.2	0.1	0.2	0.3	0.2	0.2	0.9	1.5	1.0	0.7	0.8	1.0	0.5	0.2	0.2	0.1	0.1	0.0	0.1	0.0	0.0	0.37	1.51
5-Jan	0.1	0.1	Z	0.1	0.1	0.1	0.4	0.1	1.9	1.9	1.9	0.6	0.7	0.4	0.4	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.40	1.93
6-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.5	1.3	1.7	1.7	1.6	1.1	0.6	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.38	1.73
7-Jan	0.0	0.0	Z	0.0	0.1	0.2	0.2	0.4	0.6	1.5	1.6	1.2	1.3	1.2	0.8	0.5	0.4	0.2	0.1	0.1	0.1	0.2	0.1	0.0	0.47	1.55
8-Jan	0.1	0.1	Z	0.1	0.1	0.0	0.1	0.0	0.0	0.3	2.8	2.6	2.0	2.0	1.7	1.0	0.4	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.61	2.85
9-Jan	0.1	0.1	Z	0.1	0.2	0.1	0.2	0.5	0.4	1.2	2.6	2.1	1.4	0.9	1.0	0.7	0.3	0.2	0.3	0.2	0.2	0.1	0.1	0.1	0.58	2.65
10-Jan	0.1	0.1	Z	0.1	0.1	0.0	0.0	0.1	0.2	0.4	0.4	0.4	0.6	0.4	0.3	0.2	0.2	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.18	0.55
11-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.7	0.5	0.3	0.4	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.14	0.65
12-Jan	0.0	0.0	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.7	1.0	1.5	1.9	2.1	1.9	1.5	0.6	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.54	2.09
13-Jan	0.1	0.1	Z	0.1	0.1	0.1	0.1	0.0	0.1	0.6	1.2	1.7	1.4	1.3	1.2	0.8	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.39	1.67
14-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.3	0.3	0.3	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.08	0.32
15-Jan	0.0	0.1	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.2	1.3	0.9	0.9	1.2	1.0	0.5	0.3	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.29	1.34
16-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.6	0.8	0.9	1.0	0.7	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.20	1.02
17-Jan	0.0	0.0	Z	0.0	0.1	0.0	0.2	0.0	0.0	0.3	0.5	0.6	0.3	0.3	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.12	0.58
18-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.0	0.2	0.3	0.2	0.1	0.2	0.3	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.08	0.40
19-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.2	0.0	0.2	0.5	0.9	1.2	1.1	5.1	1.4	0.4	0.0	0.3	0.0	0.0	0.1	0.0	0.0	0.50	5.11
20-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.1	1.4	3.1	3.7	3.2	3.0	2.6	1.2	0.4	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.82	3.69
21-Jan	0.1	0.1	Z	0.1	0.1	0.1	0.1	1.8	0.8	3.2	5.2	7.9	7.2	6.7	6.5	4.7	4.5	0.6	0.5	0.3	0.3	0.3	0.1	0.1	2.23	7.93
22-Jan	0.1	0.2	Z	3.0	0.2	0.2	2.1	0.0	0.0	0.2	1.0	1.1	0.4	0.4	1.0	1.0	0.8	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.53	3.02
23-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.6	1.4	1.2	1.3	1.3	0.9	0.6	0.4	0.4	0.7	0.2	0.2	0.1	0.1	0.43	1.43
24-Jan	0.1	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.4	2.3	3.7	4.5	4.7	4.5	2.4	2.1	1.1	0.2	0.0	0.1	0.0	0.0	0.0	0.0	1.15	4.69
25-Jan	0.0	0.0	Z	0.3	0.0	0.0	0.0	0.0	0.1	1.4	3.0	4.0	3.0	1.8	1.3	1.1	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.73	4.02
26-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.1	0.0	0.7	2.4	1.1	1.5	1.9	1.3	0.8	0.6	0.4	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.49	2.35
27-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.2	0.1	0.1	0.3	1.1	3.1	1.6	1.0	0.8	0.5	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.39	3.13
28-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.3	1.1	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.11	1.10
29-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.1	0.4	0.8	0.8	0.7	0.5	0.4	C	C	C	C	C	0.0	0.0	0.0	0.0	0.22	0.80
30-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.3	0.2	0.2	0.1	0.2	0.2	0.1	0.2	0.1	0.1	0.0	0.0	0.0	0.1	0.11	0.34
31-Jan	0.0	0.0	Z	0.1	0.0	0.1	0.0	0.1	0.1	0.2	0.3	0.4	0.4	0.4	0.3	0.5	0.4	0.2	0.2	0.1	0.0	0.1	0.0	0.1	0.18	0.52
		0.04	0.07	--	0.15	0.05	0.05	0.13	0.14	0.23	0.83	1.54	1.78	1.66	1.44	1.37	0.93	0.49	0.16	0.13	0.10	0.12	0.06	0.04	0.04	Diurnal Average
		0.17	0.97	--	3.02	0.21	0.23	2.06	1.82	1.90	3.19	5.20	7.93	7.17	6.73	6.49	4.66	4.50	1.27	0.92	0.75	1.13	0.29	0.25	0.13	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
January 2017

Maximum Value: 16.05 ppb on Jan 21 17:00		Maximum Daily Average: 10.51 ppb on Jan 21		Hours in Service: 744																																													
Minimum Value: 0.7 ppb on Jan 30 13:00		Minimum Daily Average: 1.34 ppb on Jan 30		Hours of Data: 708																																													
Maximum Diurnal Average: 5.86 ppb at hour 19		Minimum Diurnal Average: 3.08 ppb at hour 14		Hours of Missing Data: 36																																													
Monthly Average: 4.469 ppb		Percentiles: P₁ = 0.9 P₁₀ = 1.6 Q₁ = 2.4 Median = 3.6 Q₃ = 5.9 P₉₀ = 8.7 P₉₉ = 12.9		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-Jan	3.2	4.1	Z	1.5	0.9	0.9	1.0	1.2	1.0	1.1	0.9	1.0	0.9	0.8	0.9	1.2	4.1	8.4	5.2	2.8	2.7	2.2	2.0	1.9	2.17	8.39																							
2-Jan	2.3	2.3	Z	2.6	3.2	3.8	4.7	7.1	8.1	6.5	6.0	4.2	5.1	5.9	6.9	9.1	10.3	9.6	11.3	13.1	12.5	10.3	10.4	9.8	7.18	13.05																							
3-Jan	7.9	9.7	Z	9.8	11.1	9.0	8.9	9.3	9.6	8.6	7.2	6.1	5.2	3.4	4.3	5.5	8.6	10.9	8.7	7.2	8.2	5.2	4.0	4.0	7.49	11.08																							
4-Jan	3.8	2.7	Z	3.9	4.0	4.7	4.7	7.0	5.8	8.5	6.1	3.4	2.2	2.1	2.7	2.8	2.8	3.2	3.1	2.2	2.2	2.1	2.3	3.1	3.72	8.53																							
5-Jan	3.2	3.5	Z	3.6	3.5	3.0	7.5	7.1	13.7	9.7	5.7	2.3	2.2	1.4	1.8	2.3	2.5	3.3	2.5	2.2	2.6	3.9	6.0	4.6	4.27	13.71																							
6-Jan	3.6	3.3	Z	2.9	3.9	4.6	5.7	6.6	5.6	4.8	4.7	4.2	3.5	3.3	3.2	3.4	3.8	4.0	4.0	4.1	4.3	5.1	3.9	4.1	4.20	6.56																							
7-Jan	3.4	4.2	Z	5.5	7.9	9.3	7.8	6.8	6.3	6.7	4.2	2.5	2.5	2.3	2.0	1.8	2.1	2.1	1.5	2.5	3.0	2.4	2.4	4.7	4.08	9.31																							
8-Jan	2.8	3.2	Z	3.2	2.7	3.1	3.2	2.9	3.1	3.7	8.7	6.1	4.5	4.8	3.9	3.6	5.0	8.1	9.4	8.7	9.0	8.9	8.9	8.9	5.49	9.40																							
9-Jan	9.2	8.9	Z	8.5	7.0	7.7	7.8	7.3	6.3	5.7	5.1	4.3	3.6	2.6	3.0	4.0	3.9	4.6	5.7	5.0	3.9	3.5	3.8	3.9	5.46	9.25																							
10-Jan	3.3	4.9	Z	4.2	3.8	3.3	3.9	5.3	4.6	3.3	1.4	1.1	1.1	0.9	0.8	1.0	2.7	7.0	2.6	2.9	3.1	2.5	3.2	3.1	3.05	7.01																							
11-Jan	2.5	3.3	Z	3.1	2.5	1.6	1.4	1.8	1.8	1.8	1.8	1.7	1.4	1.2	1.4	1.4	1.6	1.3	1.1	1.0	1.7	1.3	1.6	2.1	1.76	3.28																							
12-Jan	1.2	1.2	Z	1.8	2.8	3.5	3.5	4.3	5.8	5.5	3.5	3.5	3.5	3.5	3.9	4.4	5.7	7.5	9.3	8.7	9.0	9.6	10.5	9.0	5.47	10.48																							
13-Jan	7.8	7.0	Z	6.0	5.5	5.2	4.7	4.6	5.4	4.1	3.1	4.0	3.3	3.3	3.7	4.5	5.9	6.8	6.7	6.4	6.5	6.0	4.8	4.3	5.20	7.78																							
14-Jan	4.7	4.5	Z	3.1	2.6	3.4	3.7	3.6	3.5	2.8	2.4	2.0	1.9	1.9	1.9	2.4	2.9	2.9	2.7	2.4	2.8	2.9	2.6	2.3	2.87	4.72																							
15-Jan	2.5	2.3	Z	3.5	4.7	4.3	4.9	2.9	3.3	2.7	5.0	3.1	2.7	3.3	3.2	3.5	4.4	2.6	4.4	3.1	2.8	2.8	3.3	3.4	3.42	4.97																							
16-Jan	3.4	2.9	Z	1.6	2.0	2.4	3.0	3.5	3.4	3.4	3.3	4.0	3.6	3.7	4.7	6.0	6.9	6.4	5.2	4.8	4.8	3.4	2.8	2.2	3.80	6.88																							
17-Jan	2.7	2.5	Z	1.7	3.5	5.2	5.7	3.0	3.3	3.9	3.1	2.5	2.1	2.2	2.7	2.5	2.5	4.3	4.0	1.9	1.8	1.4	1.7	1.3	2.84	5.68																							
18-Jan	2.6	2.2	Z	2.9	2.7	2.7	2.0	2.5	1.8	2.3	2.2	1.6	1.5	1.7	1.4	2.5	3.0	4.8	5.7	5.8	4.7	1.3	1.5	2.1	2.67	5.80																							
19-Jan	3.1	3.3	Z	2.1	2.0	2.7	4.6	5.6	4.0	4.9	4.2	4.1	3.9	3.7	10.3	7.5	7.4	6.2	8.9	6.5	4.7	5.1	4.0	3.4	4.88	10.27																							
20-Jan	3.1	2.9	Z	2.7	3.1	2.5	2.7	4.1	5.4	7.8	6.5	6.2	5.5	5.8	6.4	5.3	5.1	5.8	7.2	9.7	9.3	8.8	9.2	9.9	5.86	9.94																							
21-Jan	11.9	13.6	Z	12.9	13.3	12.9	12.0	13.4	12.3	7.8	5.9	7.3	8.2	9.3	9.3	9.9	16.1	11.6	9.3	12.4	12.1	7.5	4.9	7.7	10.51	16.05																							
22-Jan	8.5	6.7	Z	12.4	11.6	11.0	12.9	3.6	3.5	2.3	3.7	3.5	1.7	1.8	3.5	4.5	6.9	10.6	9.8	7.3	5.2	3.6	3.0	2.6	6.09	12.91																							
23-Jan	2.5	2.2	Z	2.2	2.1	2.0	1.9	2.0	2.2	2.1	2.5	3.7	3.0	3.1	3.6	3.6	4.6	7.2	10.5	12.1	11.1	11.2	8.7	7.8	4.86	12.14																							
24-Jan	7.3	6.6	Z	8.0	7.6	7.9	8.2	8.9	10.1	8.6	7.4	6.9	7.3	7.1	6.2	7.0	7.2	7.4	7.3	6.4	5.9	5.4	5.5	5.4	7.20	10.08																							
25-Jan	5.2	5.0	Z	6.2	4.8	4.3	4.3	4.7	5.4	5.0	4.5	5.5	5.1	3.8	3.7	4.5	3.9	4.0	7.2	9.7	9.3	8.7	7.5	6.9	5.62	9.65																							
26-Jan	5.9	5.3	Z	4.0	4.3	4.7	5.9	5.6	14.6	10.2	3.7	3.6	4.2	3.5	3.1	3.2	5.3	4.1	8.1	4.9	3.5	4.4	3.3	2.9	5.15	14.60																							
27-Jan	3.2	2.9	Z	2.9	2.7	3.4	6.9	5.6	4.4	3.9	4.7	8.6	4.6	2.9	3.2	4.3	4.4	6.9	7.3	7.1	5.5	6.2	4.9	3.8	4.80	8.60																							
28-Jan	3.2	3.5	Z	2.4	2.3	2.6	3.0	3.2	4.1	3.2	2.9	2.3	1.9	1.8	2.7	3.1	3.3	3.3	3.8	3.3	3.8	2.8	2.4	2.2	2.92	4.08																							
29-Jan	2.1	2.2	Z	2.3	2.1	1.9	2.0	2.4	2.6	2.6	2.3	2.1	2.0	1.9	1.7	C	C	C	C	C	3.7	2.5	2.1	1.9	2.25	3.73																							
30-Jan	1.2	1.3	Z	1.6	1.6	1.9	2.0	1.9	1.8	1.3	1.0	0.8	0.7	0.8	0.9	0.9	1.2	1.6	1.5	1.5	1.1	1.4	1.5	1.3	1.34	1.98																							
31-Jan	1.1	1.0	Z	1.3	0.9	0.9	0.8	1.0	1.2	1.3	1.4	1.2	1.0	1.1	1.1	1.8	2.3	2.9	2.2	1.7	2.0	1.6	1.5	1.8	1.44	2.92																							
																								4.15	4.16	--	4.20	4.29	4.41	4.88	4.80	5.29	4.71	4.04	3.66	3.22	3.08	3.51	3.96	4.93	5.70	5.86	5.59	5.26	4.68	4.27	4.24	Diurnal Average	
																								11.90	13.59	--	12.87	13.33	12.88	12.91	13.41	14.60	10.24	8.69	8.60	8.19	9.35	10.27	9.94	16.05	11.59	11.30	13.05	12.49	11.17	10.43	9.94	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
January 2017

Maximum Value: 20.58 ppb on Jan 21 17:00		Maximum Daily Average: 12.76 ppb on Jan 21		Hours in Service: 744																							
Minimum Value: 0.9 ppb on Jan 31 07:00		Minimum Daily Average: 1.46 ppb on Jan 30		Hours of Data: 708																							
Maximum Diurnal Average: 6.03 ppb at hour 19		Minimum Diurnal Average: 4.21 ppb at hour 1		Hours of Missing Data: 36																							
Monthly Average: 5.016 ppb		Percentiles: P ₁ = 1.0 P ₁₀ = 1.7 Q ₁ = 2.6 Median = 4.1 Q ₃ = 6.7 P ₉₀ = 9.7 P ₉₉ = 15.3		Hours of Calibration: 36																							
				Percent Operational Time: 100.0																							
Day	Hourly Period Ending At																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	3.3	4.2	Z	1.6	0.9	1.0	1.0	1.3	1.1	1.2	1.0	1.2	1.2	1.0	1.1	1.4	4.4	8.5	5.3	2.8	2.7	2.3	2.0	1.9	2.27	8.51	
2-Jan	2.3	2.3	Z	2.7	3.2	3.8	4.7	7.4	8.6	8.4	10.3	8.1	10.3	11.7	11.5	12.6	11.2	9.7	12.3	13.7	13.6	10.5	10.7	9.9	8.68	13.66	
3-Jan	8.0	10.7	Z	9.9	11.3	9.2	9.1	9.4	9.8	10.9	12.0	11.1	9.7	5.7	6.7	7.3	9.5	12.2	9.0	7.5	9.3	5.6	4.2	4.1	8.79	12.25	
4-Jan	4.1	2.8	Z	4.2	4.2	4.9	5.1	7.3	6.1	9.5	7.7	4.5	2.9	2.9	3.7	3.4	3.0	3.4	3.2	2.3	2.2	2.2	2.4	3.1	4.14	9.48	
5-Jan	3.3	3.6	Z	3.7	3.7	3.2	7.9	7.2	15.6	11.6	7.6	3.0	3.0	1.7	2.2	2.6	2.7	3.4	2.6	2.3	2.6	3.9	6.1	4.7	4.71	15.63	
6-Jan	3.7	3.3	Z	3.0	4.0	4.7	5.8	6.6	5.6	5.3	6.0	6.0	5.3	5.0	4.4	4.0	4.0	4.0	4.1	4.1	4.4	5.2	4.0	4.2	4.64	6.65	
7-Jan	3.5	4.3	Z	5.6	8.1	9.5	8.0	7.2	6.9	8.3	5.8	3.8	3.9	3.6	2.8	2.3	2.5	2.3	1.6	2.7	3.1	2.6	2.6	4.8	4.59	9.54	
8-Jan	2.9	3.3	Z	3.3	2.8	3.2	3.3	3.0	3.2	4.1	11.6	8.8	6.6	6.9	5.7	4.7	5.4	8.2	9.5	8.8	9.1	9.0	9.1	9.0	6.14	11.55	
9-Jan	9.4	9.0	Z	8.7	7.2	7.9	8.0	7.9	6.8	7.0	7.8	6.5	5.1	3.5	4.1	4.8	4.3	4.8	6.0	5.3	4.2	3.7	3.9	4.1	6.09	9.38	
10-Jan	3.4	5.1	Z	4.3	4.0	3.4	4.0	5.4	4.9	3.8	1.8	1.5	1.7	1.4	1.1	1.2	2.9	7.6	2.5	2.8	3.1	2.4	3.2	3.1	3.24	7.57	
11-Jan	2.4	3.2	Z	3.1	2.5	1.5	1.5	1.8	1.9	2.0	2.3	2.4	1.9	1.6	1.8	1.7	1.8	1.4	1.2	1.1	1.8	1.4	1.6	2.2	1.92	3.24	
12-Jan	1.3	1.3	Z	1.9	2.9	3.6	3.6	4.4	6.0	6.3	4.6	5.1	5.5	6.1	6.4	7.2	8.1	9.4	8.8	9.1	9.8	10.6	9.1	8.3	6.06	10.63	
13-Jan	7.9	7.1	Z	6.1	5.6	5.3	4.9	4.6	5.6	4.7	4.4	5.7	4.8	4.6	4.9	5.4	6.2	6.9	6.8	6.5	6.6	6.1	4.8	4.4	5.65	7.91	
14-Jan	4.8	4.5	Z	3.2	2.7	3.5	3.7	3.7	3.6	2.9	2.7	2.4	2.2	2.3	2.2	2.7	3.0	2.9	2.7	2.4	2.8	2.9	2.7	2.3	2.99	4.75	
15-Jan	2.6	2.3	Z	3.6	4.7	4.3	5.0	3.0	3.3	2.9	6.4	4.1	3.6	4.6	4.3	4.0	4.8	2.6	4.5	3.1	2.9	2.9	3.3	3.5	3.75	6.37	
16-Jan	3.4	2.9	Z	1.7	2.1	2.4	3.1	3.5	3.5	3.6	3.7	4.6	4.4	4.6	5.8	6.8	7.1	6.5	5.2	4.9	4.8	3.4	2.8	2.2	4.05	7.13	
17-Jan	2.6	2.5	Z	1.6	3.7	5.3	5.9	3.0	3.3	4.3	3.7	3.1	2.5	2.6	3.0	2.6	2.5	4.3	4.0	2.0	1.8	1.5	1.7	1.4	2.98	5.89	
18-Jan	2.6	2.2	Z	2.9	2.7	2.8	2.0	2.6	1.8	2.5	2.6	1.8	1.6	1.9	1.7	3.0	3.1	4.8	5.8	5.9	4.7	1.3	1.5	2.1	2.78	5.87	
19-Jan	3.2	3.4	Z	2.2	2.0	2.7	4.7	5.9	4.0	5.2	4.7	5.1	5.1	4.9	15.4	9.0	7.8	6.3	9.2	6.6	4.8	5.2	4.0	3.5	5.43	15.40	
20-Jan	3.2	2.9	Z	2.8	3.1	2.6	2.8	4.1	5.6	9.3	9.6	9.9	8.7	8.8	9.0	6.5	5.5	5.9	7.2	9.8	9.4	8.9	9.3	10.0	6.73	10.05	
21-Jan	12.0	13.7	Z	13.0	13.5	13.0	12.1	15.3	13.1	11.1	11.1	15.2	15.3	16.1	15.8	14.6	20.6	12.3	9.8	12.7	12.4	7.8	5.1	7.9	12.76	20.58	
22-Jan	8.7	6.9	Z	15.4	11.9	11.3	15.0	3.7	3.6	2.5	4.7	4.7	2.1	2.3	4.6	5.5	7.8	10.8	9.9	7.4	5.3	3.7	3.0	2.7	6.67	15.44	
23-Jan	2.6	2.2	Z	2.2	2.2	2.1	2.0	2.0	2.2	2.3	3.2	5.2	4.3	4.6	5.0	4.6	5.3	7.7	10.9	12.9	11.3	11.4	8.9	8.0	5.34	12.91	
24-Jan	7.4	6.8	Z	8.2	7.7	8.0	8.3	9.0	10.5	10.9	11.1	11.4	12.0	11.7	8.7	9.2	8.4	7.6	7.4	6.5	5.9	5.5	5.6	5.5	8.41	11.99	
25-Jan	5.3	5.1	Z	6.5	4.9	4.4	4.4	4.8	5.6	6.4	7.5	9.5	8.1	5.7	5.1	5.7	4.3	4.1	7.3	9.7	9.4	8.8	7.6	7.0	6.41	9.73	
26-Jan	5.9	5.3	Z	4.1	4.4	4.8	6.0	5.7	15.3	12.6	4.9	5.2	6.2	4.8	3.9	3.8	5.7	4.1	8.6	4.9	3.6	4.5	3.4	3.0	5.69	15.33	
27-Jan	3.3	2.9	Z	2.9	2.8	3.5	7.1	5.7	4.5	4.3	5.9	11.8	6.3	4.0	4.1	4.8	4.6	6.9	7.4	7.2	5.6	6.4	5.0	3.8	5.25	11.76	
28-Jan	3.2	3.6	Z	2.5	2.4	2.7	3.1	3.3	4.2	3.4	3.2	2.6	3.0	2.0	3.0	3.3	3.5	3.3	3.9	3.4	3.9	2.8	2.4	2.3	3.08	4.16	
29-Jan	2.1	2.2	Z	2.5	2.2	2.1	2.2	2.7	3.0	3.3	3.4	3.3	3.1	2.9	2.6	C	C	C	C	C	3.5	2.4	1.9	1.8	2.63	3.50	
30-Jan	1.1	1.2	Z	1.6	1.6	1.9	2.0	2.0	2.1	1.5	1.4	1.0	0.9	0.9	1.1	1.1	1.3	1.9	1.6	1.6	1.2	1.4	1.6	1.4	1.46	2.09	
31-Jan	1.2	1.1	Z	1.3	1.0	1.0	0.9	1.1	1.4	1.5	1.7	1.6	1.4	1.5	1.5	2.4	2.7	3.2	2.4	1.8	2.0	1.7	1.5	1.9	1.65	3.22	
		4.21	4.26	--	4.39	4.38	4.50	5.06	4.99	5.57	5.60	5.63	5.49	4.94	4.58	4.94	4.94	5.47	5.91	6.03	5.72	5.41	4.77	4.35	4.31	Diurnal Average	
		12.00	13.72	--	15.44	13.49	13.03	15.00	15.25	15.63	12.63	12.04	15.24	15.33	16.05	15.79	14.59	20.58	12.25	12.25	13.66	13.64	11.36	10.71	10.05	Diurnal Maximum	
Z - zerospan		C - Calibration																									
Alberta Ambient Air Quality Objectives (AAAQO):		1-hr --- ppb					24-hr --- ppb																				

**BRETON
STATION #913**

METEOROLOGICAL DATA

JANUARY 2017



WCAS - Breton
Summary of Hourly Averages

External Temperature (ET) - C
January 2017

Maximum Value: 12.59 C on Jan 18 15:00 Maximum Daily Average: 8.24 C on Jan 18 Minimum Value: -27.8 C on Jan 2 09:00 Minimum Daily Average: -20.56 C on Jan 10 Maximum Diurnal Average: -3.09 C at hour 15 Minimum Diurnal Average: -10.08 C at hour 7 Monthly Average: -7.381 C Percentiles: P ₁ = -25.5 P ₁₀ = -20.0 Q ₁ = -15.2 Median = -7.6 Q ₃ = -0.3 P ₉₀ = 5.6 P ₉₉ = 10.1																								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-Jan	-10.4	-10.7	-10.0	-9.9	-10.7	-11.9	-11.9	-11.7	-11.4	-10.7	-10.5	-10.3	-10.2	-10.3	-10.5	-11.2	-12.1	-13.2	-14.0	-14.4	-14.2	-15.7	-15.5	-16.8	-12.01	-9.91
2-Jan	-17.7	-19.6	-21.5	-22.9	-24.5	-25.5	-26.7	-26.9	-27.8	-26.4	-24.3	-18.8	-15.8	-14.3	-15.9	-14.9	-16.2	-17.1	-17.4	-17.7	-18.3	-18.6	-19.0	-19.6	-20.32	-14.30
3-Jan	-19.7	-20.0	-20.9	-22.1	-23.2	-23.5	-24.8	-25.4	-27.0	-26.6	-21.9	-17.9	-15.5	-16.8	-16.2	-16.0	-16.7	-17.3	-17.3	-17.2	-16.3	-15.5	-14.9	-14.4	-19.46	-14.44
4-Jan	-13.9	-13.7	-14.4	-15.1	-14.7	-14.3	-12.4	-11.2	-10.1	-9.1	-8.5	-7.5	-7.1	-7.0	-7.0	-6.7	-6.7	-7.7	-8.2	-8.3	-8.1	-7.3	-7.3	-7.1	-9.72	-6.69
5-Jan	-7.1	-6.0	-5.4	-5.3	-5.3	-5.4	-5.7	-5.8	-6.0	-6.1	-5.8	-5.7	-5.8	-6.0	-6.2	-6.5	-7.2	-8.5	-10.2	-10.6	-11.3	-12.2	-13.5	-14.0	-7.56	-5.26
6-Jan	-14.9	-15.6	-15.7	-15.9	-15.6	-15.5	-15.7	-15.9	-15.6	-15.4	-15.2	-14.2	-12.2	-10.7	-10.4	-11.9	-12.7	-13.2	-13.7	-14.3	-15.2	-14.8	-14.3	-14.1	-14.28	-10.42
7-Jan	-13.9	-15.4	-15.9	-15.6	-15.5	-15.7	-16.0	-15.8	-16.4	-16.8	-16.2	-16.1	-16.2	-16.2	-16.6	-16.6	-17.3	-17.7	-18.0	-18.3	-18.9	-19.3	-19.2	-19.9	-16.81	-13.94
8-Jan	-20.5	-20.7	-20.7	-20.7	-20.7	-20.5	-20.4	-20.4	-20.3	-20.0	-19.3	-18.5	-17.6	-17.2	-16.6	-16.6	-19.9	-21.3	-22.0	-22.4	-22.9	-22.9	-22.1	-22.1	-20.27	-16.61
9-Jan	-21.3	-21.7	-21.7	-21.5	-21.5	-21.3	-21.0	-20.8	-20.6	-20.2	-19.3	-19.1	-18.6	-18.5	-18.3	-18.5	-18.6	-18.6	-18.6	-18.5	-18.4	-18.6	-18.7	-19.1	-19.71	-18.29
10-Jan	-19.7	-20.8	-21.7	-22.5	-23.0	-22.1	-21.2	-20.0	-18.7	-18.1	-17.5	-18.1	-18.9	-18.6	-19.2	-19.1	-19.4	-22.0	-24.3	-26.0	-24.9	-21.3	-19.3	-17.0	-20.56	-17.05
11-Jan	-15.3	-16.0	-16.6	-16.3	-13.9	-11.2	-10.1	-9.9	-9.5	-8.7	-7.9	-7.3	-6.0	-6.2	-6.0	-5.8	-6.5	-8.4	-9.3	-10.1	-11.4	-12.6	-15.8	-17.7	-10.78	-5.81
12-Jan	-20.0	-21.8	-22.4	-23.5	-24.3	-23.9	-24.1	-23.7	-23.2	-21.1	-12.6	-11.1	-10.5	-9.4	-8.1	-8.7	-10.4	-12.7	-14.5	-15.6	-16.3	-17.6	-19.7	-19.6	-17.30	-8.15
13-Jan	-20.5	-20.7	-20.5	-20.5	-20.7	-20.5	-20.3	-20.1	-21.1	-18.8	-14.9	-7.7	-2.1	-1.5	-1.3	-1.4	-3.9	-6.1	-8.5	-10.6	-11.3	-11.9	-11.6	-11.5	-12.84	-1.28
14-Jan	-8.2	-7.7	-5.8	-8.2	-7.2	-10.6	-11.1	-11.2	-7.7	-3.6	-1.0	1.2	3.0	4.5	5.0	4.7	3.9	3.9	2.9	3.3	3.2	3.4	3.1	0.7	-1.64	4.96
15-Jan	2.0	3.7	5.1	4.9	4.0	3.1	0.6	-1.3	-0.3	0.8	2.1	5.4	5.2	5.8	7.5	8.5	5.8	-0.1	-3.1	-3.6	-4.1	-4.8	-5.8	-5.8	1.48	8.46
16-Jan	-3.0	-6.1	-2.8	-3.6	-7.5	-5.7	-6.3	-2.7	-3.8	-0.7	1.8	1.4	3.6	5.7	6.4	5.6	4.8	5.1	5.5	5.9	6.0	8.5	10.0	10.5	1.62	10.51
17-Jan	9.5	8.8	8.8	8.4	8.7	5.0	2.8	1.8	2.4	2.1	2.8	7.4	11.4	11.9	11.5	11.2	10.3	8.2	8.6	9.7	9.3	9.5	9.9	8.7	7.86	11.85
18-Jan	8.3	8.7	8.2	7.1	7.2	7.2	8.6	8.8	8.5	8.7	9.3	10.6	11.3	10.4	12.6	9.2	8.6	6.4	5.6	4.7	5.9	8.3	7.2	6.4	8.24	12.59
19-Jan	4.9	3.1	2.5	0.9	1.6	2.3	1.8	1.7	1.9	1.6	3.4	4.6	6.8	8.7	8.7	7.4	5.4	4.1	2.3	-0.2	-1.3	-2.9	-3.1	-3.9	2.59	8.69
20-Jan	-4.6	-4.5	-5.5	-6.0	-6.2	-6.1	-5.5	-5.6	-6.4	-5.4	-1.2	1.9	6.4	8.4	8.8	9.0	6.1	1.4	-1.0	-2.5	-3.8	-4.5	-5.0	-6.0	-1.58	8.96
21-Jan	-6.0	-7.4	-9.1	-10.5	-10.0	-10.3	-11.1	-12.0	-12.7	-10.9	-7.4	-5.6	-5.4	-5.3	-5.8	-6.4	-7.0	-6.8	-6.4	-6.0	-5.9	-6.0	-6.3	-6.3	-7.79	-5.34
22-Jan	-6.4	-6.6	-6.7	-6.9	-7.0	-7.2	-7.2	-7.4	-7.6	-7.8	-7.8	-7.7	-7.7	-7.8	-8.1	-8.3	-8.5	-8.8	-8.7	-8.7	-8.8	-8.7	-8.5	-8.5	-7.81	-6.45
23-Jan	-8.5	-8.6	-8.6	-8.5	-8.6	-8.7	-8.8	-8.9	-9.1	-9.1	-8.9	-8.5	-8.1	-7.6	-7.1	-7.2	-7.6	-7.8	-7.9	-8.1	-8.1	-8.0	-7.7	-7.5	-8.23	-7.14
24-Jan	-7.5	-7.5	-7.5	-7.8	-8.1	-8.2	-8.3	-8.4	-7.8	-7.2	-5.7	-4.3	-2.6	-2.4	-2.1	-1.1	-1.0	-5.1	-6.5	-7.4	-8.7	-10.4	-11.0	-12.3	-6.61	-1.00
25-Jan	-12.7	-14.0	-14.2	-14.8	-15.3	-14.8	-14.8	-15.2	-15.4	-13.0	-9.0	-2.6	-0.2	1.1	1.5	3.0	2.2	-2.3	-3.4	-4.7	-5.9	-6.9	-8.7	-9.4	-7.89	3.03
26-Jan	-9.7	-10.3	-10.1	-9.6	-7.3	-8.6	-8.5	-8.7	-7.2	-6.0	-1.6	2.6	2.9	3.7	5.0	5.6	5.9	2.9	1.1	-1.3	-2.2	-3.0	-4.1	-3.5	-3.00	5.87
27-Jan	-2.8	-3.4	-3.6	-4.4	-4.4	-3.6	-2.6	-3.2	-4.0	-4.7	-2.3	0.0	2.5	4.8	5.4	4.7	4.0	3.2	2.3	3.9	4.4	2.8	2.3	2.8	0.18	5.39
28-Jan	1.7	0.2	-0.9	-0.3	-2.2	-3.1	-1.0	1.1	2.8	3.7	6.2	8.4	9.2	9.7	9.7	9.6	9.3	7.2	4.4	2.5	1.1	-0.9	-1.2	-2.1	3.13	9.72
29-Jan	-3.1	-2.7	-2.7	-2.1	-1.9	-2.9	-3.3	-3.2	-2.5	-1.2	0.3	2.8	4.7	7.1	6.9	7.3	5.6	4.5	3.3	3.2	4.8	5.6	5.1	3.4	1.62	7.29
30-Jan	2.1	1.9	1.6	1.3	1.6	1.4	0.7	0.3	-0.3	-0.4	-0.1	0.0	-0.1	-0.3	-1.1	-1.4	-2.1	-3.3	-4.0	-4.5	-4.6	-4.7	-4.7	-4.8	-1.06	2.14
31-Jan	-5.2	-5.5	-5.8	-6.2	-6.5	-7.5	-8.2	-9.3	-9.6	-10.0	-10.3	-10.1	-9.1	-8.6	-8.4	-7.9	-7.9	-8.2	-8.5	-8.7	-9.0	-9.1	-9.6	-9.7	-8.29	-5.24
																								Diurnal Average		
																								Diurnal Maximum		



WCAS - Breton
Summary of Hourly Averages

Wind Speed (WS) - kph
January 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	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	--	--		
Dir	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	--	--		
24 Spd	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	1.6	1.8	2.6	3.0	3.0	--	3.05		
Dir	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	SSE	SE	SE	SE	SSE	--	SSE		
25 Spd	2.4	1.2	3.0	2.4	1.4	3.9	3.7	4.1	3.9	0.4	1.7	1.8	4.1	4.0	6.1	2.4	0.8	1.1	4.5	3.8	4.1	1.3	1.4	AF	2.50	6.05		
Dir	SE	SSE	SSE	SSE	SE	SE	SE	SE	SE	SE	SSE	SSE	S	S	SSW	WSW	S	SE	SE	SE	SE	SE	SSE	AF	SSE	SSW		
26 Spd	AF	AF	AF	AF	AF	AF	AF	AF	1.4	2.1	AF	AF	9.5	10.0	8.6	8.7	3.9	2.2	1.8	0.2	2.2	0.6	2.4	2.2	--	10.05		
Dir	AF	AF	AF	AF	AF	AF	AF	AF	W	W	AF	AF	WNW	WNW	WNW	W	W	S	WSW	SSE	SE	WSW	S	WSW	--	WNW		
27 Spd	2.5	1.7	1.1	1.8	2.6	1.2	4.2	2.5	0.4	3.7	3.9	1.2	1.9	8.5	8.7	4.8	3.8	4.2	1.5	4.1	4.9	2.7	3.5	2.1	2.16	8.69		
Dir	WNW	SW	WNW	SSW	SSE	WSW	W	WSW	S	SE	SE	S	SW	WSW	WSW	WSW	SSW	SSE	SW	WNW	WNW	S	WSW	SSW	SW	WSW		
28 Spd	2.7	3.0	3.7	4.1	4.1	2.7	5.7	5.2	4.4	3.9	2.9	3.1	5.8	0.9	3.1	1.8	2.9	1.9	1.2	0.6	0.5	2.1	3.2	2.3	2.37	5.83		
Dir	SE	S	SSE	SE	SE	SE	SSE	SSE	SE	S	S	S	S	WSW	WSW	W	WSW	SSW	SSW	NW	N	ESE	SE	SE	SSE	S		
29 Spd	2.8	3.1	4.3	5.3	5.5	3.7	5.5	5.6	5.1	5.0	4.6	4.3	2.1	1.7	5.5	2.8	1.6	1.3	1.4	1.5	9.8	15.5	16.7	24.1	0.68	24.06		
Dir	SSE	SE	SSE	SE	SE	SE	SE	SSE	SE	SE	SSE	SSE	SE	NE	NNE	NE	SSW	ENE	WNW	WNW	NNW	NW	NW	NNW	N	NNW		
30 Spd	18.9	15.4	8.8	9.9	12.4	12.2	13.3	16.9	16.7	20.0	22.8	30.1	32.1	31.5	29.5	26.7	23.4	18.2	15.5	11.6	18.9	19.7	20.5	22.8	19.11	32.15		
Dir	NNW	NW	WNW	WNW	WNW	NW	NW	NW	NW	NW	NW	NW	NNW	NW	NNW	NNW	NNW	NNW	NNW	NW	NW	NW	NW	NW	NW	NNW		
31 Spd	24.0	23.8	21.6	15.2	21.7	21.8	27.2	21.5	21.6	22.2	22.8	20.9	23.8	21.4	16.6	16.0	15.9	12.4	12.5	14.0	9.7	15.1	13.1	13.2	18.35	27.16		
Dir	NW	NW	NNW	NW	NNW	NNW	N	NNW	NNW	NNW	N	N	N	N	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	N		
Spd	1.67	1.40	0.68	0.65	1.14	1.13	1.46	1.40	1.32	1.73	2.66	3.09	4.49	5.37	5.11	4.46	2.71	1.69	1.89	1.12	1.32	1.87	1.70	1.72	Diurnal Average			
Dir	NW	NW	WNW	WNW	NW	NW	NW	NW	NW	NW	NW	NW	NNW	NW	NNW	NW	N	NNW	NNW	NNW	NNW	NW	WNW	NW	Diurnal Maximum			
Spd	23.98	23.76	21.62	15.19	21.70	21.78	27.16	21.54	21.62	22.21	29.01	30.05	32.15	31.55	29.52	27.47	29.87	30.24	32.73	26.31	18.93	19.73	20.46	24.06	Diurnal Maximum			
Dir	321.85	323.44	326.76	325.45	340.45	347.79	351.71	347.06	343.83	347.55	331.21	325.12	327.96	323.13	336.93	317.00	336.41	351.18	345.15	350.74	313.25	308.97	311.33	332.59	Diurnal Maximum			
Maximum Speed Value: 32.7 kph on Jan 11 19:00																				Minimum Speed Value: 0.1 kph on Jan 10 18:00				Hours in Service:				744
Maximum Daily Speed Average: 19.11 kph on Jan 30																				Minimum Daily Speed Average: 0.68 kph on Jan 25				Hours of Data:				642
Maximum Diurnal Speed Average: 5.37 kph at hour 14																				Minimum Diurnal Speed Average: 0.65 kph at hour 4				Hours of Missing Data:				102
Monthly Average Velocity: 2.131 kph 324.24 deg										Speed Percentiles: P ₁ = 0.4 P ₁₀ = 1.8 Q ₁ = 3.2 Median = 5.2 Q ₃ = 9.1 P ₉₀ = 15.5 P ₉₉ = 29.7										Percent Operational Time:				86.3				
All monthly, daily, and diurnal averages have been calculated using vector methods																												
AF - Analyzer 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	15	24	23	16	2	0	80																					
NorthEast	16	7	4	0	0	0	27																					
East	11	3	1	0	0	0	15																					
SouthEast	146	72	1	0	0	0	219																					
South	46	23	5	0	0	0	74																					
SouthWest	27	18	2	0	0	0	47																					
West	25	14	1	0	0	0	40																					
NorthWest	22	53	43	16	6	0	140																					
Total	308	214	80	32	8	0	642																					



WCAS - Breton
Summary of Hourly Averages

Relative Humidity (RH) - %
January 2017

Maximum Value: 92.50 % on Jan 24 13:00 Maximum Daily Average: 90.29 % on Jan 24 Minimum Value: 23.9 % on Jan 20 16:00 Minimum Daily Average: 41.63 % on Jan 18 Maximum Diurnal Average: 73.47 % at hour 6 Minimum Diurnal Average: 53.33 % at hour 15 Monthly Average: 66.270 % Percentiles: P ₁ = 28.2 P ₁₀ = 39.1 Q ₁ = 52.0 Median = 70.3 Q ₃ = 79.9 P ₉₀ = 89.2 P ₉₉ = 91.5																								Hours in Service: 744 Hours of Data: 744 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0		
Day	Hourly Period Ending At																								Daily 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-Jan	86.3	86.8	84.3	84.1	78.4	81.5	81.7	80.9	79.6	75.6	72.8	68.0	63.8	62.9	63.0	71.6	74.6	76.3	79.7	79.4	81.3	81.9	84.0	81.6	77.51	86.83
2-Jan	82.2	82.1	80.4	78.2	76.7	75.4	74.0	73.2	71.9	72.3	71.9	69.6	63.4	60.9	70.6	68.4	73.2	78.1	79.3	80.4	79.3	79.2	78.5	78.8	74.92	82.17
3-Jan	78.5	78.1	77.5	76.9	76.1	75.3	74.5	75.5	74.0	72.9	68.7	60.8	54.1	57.1	56.2	57.5	62.4	69.5	75.1	79.1	80.0	80.3	80.3	80.0	71.68	80.30
4-Jan	79.0	78.6	80.1	82.4	82.8	84.8	84.7	84.9	84.9	84.2	82.7	80.3	77.5	76.1	75.5	77.0	76.3	77.7	81.7	84.0	85.0	84.3	85.8	87.1	81.57	87.06
5-Jan	88.0	87.3	86.0	86.8	89.0	88.8	89.5	90.0	90.4	90.5	89.3	86.6	84.6	83.7	83.8	85.1	86.2	86.3	85.9	86.3	86.2	85.6	84.5	85.2	86.90	90.54
6-Jan	84.0	83.9	84.1	83.3	83.2	83.3	82.4	81.1	80.9	79.7	77.9	76.1	72.5	67.9	66.6	70.9	74.1	75.7	76.3	76.4	78.5	77.7	80.3	81.5	78.26	84.13
7-Jan	81.2	79.8	79.9	79.6	78.4	78.4	79.9	77.0	76.4	78.7	73.9	71.0	69.1	67.1	66.5	67.0	69.8	70.3	71.0	74.3	76.6	78.6	79.5	76.7	75.03	81.16
8-Jan	74.4	72.1	72.3	72.2	71.0	71.6	71.5	71.8	71.9	70.9	69.0	67.0	64.6	61.8	59.8	56.6	66.6	71.2	73.9	74.9	75.6	75.6	74.7	75.8	70.29	75.84
9-Jan	74.6	74.9	75.7	76.2	76.2	76.8	77.1	77.4	77.4	77.0	73.9	74.2	74.1	74.1	74.3	77.2	78.0	77.8	77.7	77.8	77.4	77.0	76.1	74.2	76.12	78.02
10-Jan	74.0	76.3	76.4	76.1	75.3	75.1	73.4	72.8	73.0	70.4	61.5	58.6	55.2	51.4	52.1	53.1	54.7	60.6	69.4	72.0	72.8	71.1	70.2	69.5	67.30	76.45
11-Jan	67.9	70.3	72.7	72.9	68.8	61.5	59.7	59.6	58.4	57.5	55.2	50.6	47.0	50.9	52.3	53.3	50.7	51.8	54.0	58.3	60.0	59.6	65.7	66.3	59.38	72.95
12-Jan	71.6	75.4	75.5	76.0	75.8	76.5	76.5	76.8	76.8	77.0	64.6	56.5	52.7	48.3	43.3	43.9	49.1	55.9	61.7	66.3	67.3	69.0	72.5	74.4	65.98	77.03
13-Jan	75.5	77.1	77.9	79.0	79.3	79.6	79.6	79.7	77.2	77.2	66.6	52.3	35.5	34.2	34.1	34.7	41.6	47.0	54.9	60.5	63.0	62.0	60.0	59.9	62.02	79.72
14-Jan	50.8	49.2	44.5	51.6	50.7	60.0	63.6	67.1	56.6	48.9	42.5	39.1	36.3	33.3	33.1	34.8	38.2	39.0	42.4	40.1	40.7	40.4	41.0	50.1	45.59	67.14
15-Jan	47.1	41.9	37.2	37.9	40.9	44.0	53.5	63.3	60.7	54.7	50.2	38.2	39.0	36.6	30.4	26.8	32.7	50.6	62.3	66.1	67.3	68.5	68.5	66.4	49.38	68.50
16-Jan	54.3	61.1	50.0	48.6	64.7	59.7	61.7	50.3	53.6	47.2	41.6	45.8	40.3	35.7	34.2	37.0	41.5	42.6	43.9	44.4	45.9	41.8	39.3	39.0	46.85	64.75
17-Jan	43.0	46.1	46.1	48.4	46.9	60.6	69.4	75.2	72.0	71.4	67.7	50.6	36.5	34.8	35.2	35.9	38.5	46.0	43.8	39.2	40.7	40.3	38.4	42.6	48.71	75.16
18-Jan	43.6	43.7	46.3	50.9	50.0	48.7	40.9	38.8	39.0	38.0	35.4	31.1	30.0	32.9	28.3	43.0	42.0	49.8	52.9	56.6	48.8	33.8	36.1	38.3	41.63	56.60
19-Jan	43.4	49.7	54.2	63.3	60.2	57.7	60.2	60.4	60.2	62.5	55.3	54.1	48.2	41.0	37.1	40.3	48.8	54.2	60.5	69.9	69.2	73.0	72.0	74.8	57.09	74.84
20-Jan	75.4	74.6	77.8	78.6	78.6	79.2	75.3	73.4	74.9	71.8	53.4	43.9	31.8	27.4	25.9	23.9	30.0	43.8	53.0	60.3	65.7	67.9	70.5	75.3	59.69	79.21
21-Jan	77.2	79.9	83.6	85.8	88.3	88.2	88.6	87.7	86.7	85.6	74.9	72.8	69.5	71.3	76.5	81.4	89.9	90.8	91.1	91.5	91.6	91.4	91.3	91.3	84.46	91.59
22-Jan	91.2	91.1	90.9	90.8	90.7	90.5	90.5	90.4	90.2	90.1	90.1	90.2	90.1	90.1	89.8	89.7	89.4	89.2	89.2	89.2	89.2	89.2	89.4	89.4	90.04	91.18
23-Jan	89.4	89.3	89.3	89.3	89.2	89.2	89.0	89.1	89.0	89.0	89.2	89.3	89.5	89.9	89.9	89.8	89.8	89.9	89.8	89.7	89.5	89.5	90.0	90.5	89.51	90.47
24-Jan	90.5	90.5	90.5	90.1	89.7	89.6	89.4	89.4	89.8	90.2	91.1	91.8	92.5	92.2	91.6	90.8	91.8	91.8	91.1	90.5	89.3	88.3	87.8	86.7	90.29	92.50
25-Jan	86.4	85.2	85.3	84.6	84.1	84.7	84.7	84.0	84.2	86.1	87.8	91.9	76.4	58.5	45.0	37.1	44.0	58.5	69.0	73.8	77.5	79.0	80.0	82.5	75.43	91.93
26-Jan	82.1	83.0	84.2	86.2	82.2	82.3	83.3	85.2	81.8	76.3	61.3	45.8	46.3	44.9	41.3	39.8	37.9	46.4	52.0	59.7	64.4	62.9	69.2	66.9	65.23	86.15
27-Jan	61.3	64.3	62.3	66.2	64.6	62.3	57.8	58.1	59.7	64.2	56.6	48.3	41.5	33.1	31.3	34.0	36.8	41.2	46.6	43.0	42.9	48.1	49.9	48.9	50.96	66.21
28-Jan	53.9	59.7	62.5	58.3	64.8	68.1	61.4	52.9	48.2	46.9	40.8	36.2	34.3	32.7	31.6	30.4	30.4	35.0	45.0	50.0	54.4	61.4	60.6	62.4	49.25	68.10
29-Jan	66.2	65.6	65.5	63.9	61.8	65.7	68.2	66.0	63.0	57.2	52.1	44.9	43.2	37.3	38.5	36.8	45.7	50.9	53.0	52.8	49.4	44.9	46.1	66.1	54.35	68.17
30-Jan	70.6	71.1	68.0	66.7	61.8	58.6	54.7	49.1	36.8	31.1	28.2	25.2	26.3	26.4	33.2	33.2	33.6	37.0	38.1	38.2	37.3	39.6	42.7	45.8	43.89	71.14
31-Jan	50.7	57.4	65.3	72.7	71.3	79.6	67.1	65.8	63.7	63.7	63.2	61.8	55.3	58.3	62.1	61.4	62.1	67.5	66.1	64.2	65.1	65.7	73.9	78.6	65.11	79.64
70.79 71.82 71.82 72.83 72.63 73.47 73.03 72.48 71.06 69.65 64.82 60.41 56.17 53.95 53.33 54.27 57.44 62.01 65.50 67.38 68.13 67.99 68.99 70.53																								Diurnal Average		
91.18 91.11 90.95 90.83 90.69 90.55 90.54 90.36 90.35 90.54 91.09 91.93 92.50 92.20 91.63 90.76 91.79 91.84 91.14 91.51 91.59 91.42 91.29 91.29																								Diurnal Maximum		



WCAS - Breton
Summary of Hourly Standard Deviations

Wind Speed (WS) - kph
January 2017

Maximum Value: 8.23 kph on Jan 30 12:00																	Maximum Daily Average: 5.03 kph on Jan 30										Hours in Service: 744																					
Minimum Value: 0.0 kph on Jan 10 18:00																	Minimum Daily Average: 1.28 kph on Jan 20										Hours of Data: 642																					
Maximum Diurnal Average: 2.82 kph at hour 15																	Minimum Diurnal Average: 1.76 kph at hour 4										Hours of Missing Data: 102																					
Monthly Average: 2.249 kph																	Percentiles: P ₁ = 0.6 P ₁₀ = 1.0 Q ₁ = 1.4 Median = 1.8 Q ₃ = 2.7 P ₉₀ = 3.9 P ₉₉ = 7.0										Hours of Calibration: 0																					
																											Percent Operational Time: 86.3																					
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-Jan	1.0	1.4	2.6	3.1	3.5	1.6	1.5	1.5	1.7	2.5	3.4	3.3	3.5	4.2	3.7	4.5	1.1	AF	AF	AF	AF	AF	AF	AF	--	4.53																						
2-Jan	AF	AF	AF	1.4	1.3	1.0	1.4	1.3	1.7	1.2	1.5	1.0	1.0	2.0	1.0	1.0	AF	0.8	AF	2.3	AF	AF	AF	AF	--	2.32																						
3-Jan	AF	AF	AF	AF	AF	AF	AF	AF	AF	0.8	AF	1.0	AF	2.5	2.4	2.0	1.1	1.4	1.6	1.6	1.4	1.6	1.3	1.2	--	2.52																						
4-Jan	1.7	1.1	1.2	1.2	1.3	1.5	1.7	1.0	1.9	1.2	1.2	3.1	3.0	2.9	2.6	2.9	2.1	2.5	AF	AF	AF	AF	AF	1.85	3.08																							
5-Jan	AF	AF	1.4	1.2	1.7	1.1	0.7	0.8	1.0	0.8	0.7	2.7	2.4	2.3	2.0	1.4	1.8	2.4	3.9	1.0	2.1	1.2	3.9	1.5	1.73	3.90																						
6-Jan	1.1	2.6	2.2	1.6	1.8	2.2	3.0	2.7	2.9	3.3	3.6	2.9	2.8	2.7	4.5	4.2	3.4	3.0	2.8	2.8	2.0	2.9	4.2	2.5	2.82	4.47																						
7-Jan	2.5	1.5	2.4	1.7	1.3	2.7	2.7	2.9	2.6	2.4	3.2	2.6	3.6	3.1	2.6	3.0	3.2	2.5	1.9	1.9	1.8	0.9	1.1	3.4	2.40	3.61																						
8-Jan	2.0	2.4	2.8	1.6	1.6	AF	AF	AF	1.2	1.6	2.1	3.0	2.8	3.1	3.5	3.7	3.0	1.4	1.1	1.1	0.9	AF	1.6	1.4	2.10	3.72																						
9-Jan	1.8	1.4	0.6	1.8	1.1	1.0	1.1	1.2	1.5	1.5	2.8	1.8	2.1	2.1	2.6	2.9	2.6	2.8	2.3	2.6	2.8	2.9	2.5	2.0	2.00	2.92																						
10-Jan	3.2	1.2	1.8	2.2	1.2	1.2	1.3	1.9	3.7	5.1	6.5	6.4	7.0	6.2	5.8	4.8	5.9	0.0	1.5	1.4	1.2	1.5	1.5	2.3	3.12	7.03																						
11-Jan	3.7	1.7	1.6	1.4	3.9	4.6	4.3	4.4	3.7	4.0	2.9	3.8	6.8	5.9	6.5	6.7	7.1	6.5	7.4	6.9	3.5	3.4	3.0	2.4	4.42	7.35																						
12-Jan	2.3	2.3	2.1	1.4	1.1	1.6	1.0	1.4	1.2	1.7	4.4	3.7	2.6	2.7	2.1	2.2	1.5	1.9	2.3	1.4	1.3	2.4	1.8	1.5	1.99	4.40																						
13-Jan	1.4	0.9	2.1	1.6	1.8	1.2	1.5	1.5	1.8	2.2	2.0	1.4	2.4	1.7	1.8	2.4	0.9	1.9	1.0	0.9	1.2	1.7	1.8	1.3	1.60	2.43																						
14-Jan	1.6	1.7	1.2	1.9	2.1	2.8	2.4	1.6	2.2	2.0	2.0	2.3	2.3	1.9	1.8	1.4	1.4	2.1	2.1	1.8	1.9	1.6	2.6	1.3	1.91	2.81																						
15-Jan	1.6	2.7	2.1	1.9	1.4	1.2	1.5	1.6	2.4	1.4	2.7	2.4	3.0	2.1	2.8	1.9	0.9	2.1	2.2	1.3	1.4	2.2	1.6	1.1	1.90	3.04																						
16-Jan	1.8	2.8	1.8	1.4	1.6	1.8	1.6	1.5	1.1	1.7	1.5	1.7	1.1	1.8	2.2	2.2	2.3	1.9	2.2	3.1	2.1	4.6	4.6	3.6	2.16	4.58																						
17-Jan	2.8	3.3	1.3	1.4	1.8	4.0	3.2	3.3	1.3	1.8	1.4	1.5	1.8	1.8	1.8	3.0	2.2	1.8	1.9	2.7	2.9	2.9	1.9	2.0	2.24	3.99																						
18-Jan	1.4	2.5	2.7	2.4	2.3	2.2	3.3	2.8	3.0	2.9	3.0	3.8	1.8	2.3	3.9	2.9	3.7	2.4	1.6	2.2	3.2	2.8	2.1	2.4	2.66	3.94																						
19-Jan	1.5	2.0	2.7	3.5	1.6	1.6	1.9	2.2	1.9	1.6	1.3	1.8	1.0	1.5	1.5	1.8	1.2	1.3	1.5	1.1	2.2	1.8	1.6	1.7	1.75	3.48																						
20-Jan	1.5	1.4	1.3	1.4	1.5	1.3	1.5	1.6	1.6	1.4	0.9	1.3	1.2	1.9	1.1	1.1	1.3	1.1	1.7	1.2	0.7	0.7	1.1	1.0	1.28	1.93																						
21-Jan	1.3	2.0	1.3	1.6	1.2	1.5	1.6	AF	AF	AF	1.3	2.2	1.9	2.1	1.9	2.3	2.5	1.5	1.2	2.3	2.0	1.2	1.3	1.0	1.67	2.47																						
22-Jan	1.2	0.9	0.9	0.8	0.7	0.8	0.7	1.0	0.8	0.4	0.8	0.7	0.6	0.6	0.5	0.8	1.3	AF	AF	AF	AF	AF	AF	AF	--	1.26																						
23-Jan	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	--	--																						
24-Jan	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	--	1.77																						
25-Jan	1.6	1.6	1.2	1.7	1.4	1.0	0.8	0.9	0.7	0.7	1.4	1.4	1.4	1.8	1.4	1.9	1.0	1.5	1.0	1.3	1.0	1.1	1.5	AF	1.29	1.93																						
26-Jan	AF	AF	AF	AF	AF	AF	AF	AF	1.4	1.8	AF	AF	3.0	2.0	2.0	1.8	2.4	1.1	1.5	0.6	0.9	1.4	1.8	1.9	--	3.03																						
27-Jan	1.8	1.6	1.4	1.5	1.6	1.6	1.5	1.4	1.0	1.1	1.2	1.8	2.3	2.6	2.7	1.5	1.0	1.7	1.7	2.8	3.3	1.9	1.8	1.7	1.78	3.28																						
28-Jan	0.9	0.9	0.9	0.8	0.8	1.2	1.1	1.4	1.0	2.0	1.8	1.8	1.6	1.9	2.5	1.8	2.2	2.0	1.9	1.6	1.6	1.3	1.9	1.9	1.53	2.45																						
29-Jan	1.3	2.2	1.4	1.2	1.4	1.4	1.5	1.2	2.2	1.5	1.2	1.3	1.8	2.2	4.0	2.2	2.4	2.6	1.7	1.8	4.3	5.8	5.3	5.2	2.39	5.80																						
30-Jan	5.3	3.7	2.7	2.4	3.6	3.2	3.4	5.1	4.2	5.2	5.8	8.2	7.5	7.3	6.8	6.6	5.8	4.3	3.9	4.0	6.0	4.6	4.9	6.3	5.03	8.23																						
31-Jan	5.8	6.4	4.7	3.3	5.9	6.0	6.6	4.4	4.5	5.1	5.0	4.7	5.2	5.2	3.6	3.9	3.4	3.0	3.4	3.3	2.2	2.7	3.0	2.7	4.33	6.61																						
																								2.08	2.09	1.87	1.76	1.87	1.97	2.04	2.03	2.01	2.10	2.44	2.63	2.77	2.79	2.82	2.72	2.45	2.13	2.21	2.10	2.14	2.23	2.33	2.17	Diurnal Average
																								5.82	6.42	4.73	3.48	5.86	6.02	6.61	5.06	4.52	5.17	6.49	8.23	7.50	7.33	6.78	6.68	7.11	6.54	7.35	6.86	5.98	5.80	5.26	6.29	Diurnal Maximum
AF - Analyzer Failure																																																
,Alberta Ambient Air Quality Objectives (AAAQO): 1-hr --- ul/m^3 24-hr 100 ul/m^3																																																



WCAS - Breton
Summary of Hourly Standard Deviations

Wind Direction (WD) - deg
January 2017

Maximum Value: 100.60 deg on Jan 14 19:00																								Hours in Service: 744		
Minimum Value: 4.8 deg on Jan 5 10:00																								Hours of Data: 642		
Maximum Diurnal Average: 32.26 deg at hour 4																								Hours of Missing Data: 102		
Monthly Average: 24.561 deg																								Hours of Calibration: 0		
Minimum Daily Average: 12.42 deg on Jan 31																								Percent Operational Time: 86.3		
Minimum Diurnal Average: 19.68 deg at hour 15																										
Percentiles: P ₁ = 7.9 P ₁₀ = 10.7 Q ₁ = 12.2 Median = 17.0 Q ₃ = 28.4 P ₉₀ = 52.1 P ₉₉ = 89.7																										
Day	Hourly Period Ending At																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	11.5	27.1	13.2	12.0	12.3	11.7	14.2	12.1	13.5	11.7	12.3	10.8	12.0	11.8	12.0	12.4	10.8	AF	AF	AF	AF	AF	AF	AF	--	27.10
2-Jan	AF	AF	AF	46.0	11.9	17.6	23.0	43.2	43.1	88.4	52.9	95.6	32.8	67.6	11.1	19.9	AF	7.0	AF	25.5	AF	AF	AF	AF	--	95.58
3-Jan	AF	AF	AF	AF	AF	AF	AF	AF	AF	13.3	AF	25.3	AF	8.8	10.0	8.9	7.3	13.8	15.9	24.6	9.4	8.4	8.6	8.1	--	25.32
4-Jan	9.7	10.7	7.5	10.2	7.9	9.7	12.9	15.0	15.0	8.3	17.7	10.8	13.2	17.1	16.4	12.6	14.1	24.4	AF	AF	AF	26.8	AF	AF	13.69	26.79
5-Jan	AF	AF	11.8	9.5	10.7	13.9	12.1	13.2	8.7	4.8	11.2	12.2	13.0	12.2	12.4	13.8	8.4	12.4	14.8	11.9	6.7	8.9	58.3	19.7	13.66	58.26
6-Jan	17.3	17.5	16.4	18.5	22.2	21.8	29.2	21.0	23.5	23.4	19.4	19.6	21.3	20.3	20.3	17.6	13.8	14.8	12.7	11.9	18.6	19.8	25.0	35.6	20.07	35.60
7-Jan	46.9	22.7	35.5	67.3	12.8	12.2	10.6	12.7	12.6	12.2	11.7	10.8	11.7	11.6	10.7	12.2	13.8	9.8	10.6	10.7	10.2	8.5	10.5	16.2	16.85	67.26
8-Jan	9.5	10.8	10.7	12.3	11.4	AF	AF	AF	14.2	12.9	23.0	18.7	20.6	18.9	25.7	22.7	17.8	17.8	19.6	16.7	20.7	AF	50.0	26.6	19.03	49.97
9-Jan	16.3	20.5	37.2	23.4	15.2	25.8	13.2	16.5	19.0	15.1	12.5	11.6	13.0	10.7	12.4	11.6	10.4	11.7	11.1	11.5	12.0	12.0	10.7	12.3	15.23	37.17
10-Jan	36.2	21.8	53.0	39.5	61.7	22.3	22.4	28.2	16.4	12.7	11.3	12.1	11.2	12.6	11.4	11.2	12.7	86.3	19.0	31.4	25.3	49.5	65.1	47.6	30.03	86.31
11-Jan	16.6	22.6	19.3	39.1	19.7	12.0	12.0	11.2	11.4	11.8	11.9	12.2	14.2	12.2	13.5	12.8	16.1	12.8	13.2	14.5	16.9	27.1	17.2	39.2	17.06	39.15
12-Jan	30.2	27.2	14.3	11.7	11.1	10.2	9.3	10.4	11.5	14.1	15.8	13.4	12.1	13.5	14.8	10.4	10.1	9.4	28.5	13.4	12.0	70.3	18.0	31.9	17.66	70.32
13-Jan	34.7	42.2	24.5	35.9	25.5	26.6	24.7	43.0	21.9	45.5	31.2	14.9	17.9	18.3	14.5	10.9	10.4	15.8	10.2	11.3	11.5	25.0	21.2	14.2	22.99	45.45
14-Jan	26.9	42.7	20.8	18.7	64.6	39.3	23.7	14.3	36.1	24.2	24.5	36.3	25.7	21.3	22.6	28.4	22.8	29.5	100.6	24.8	71.8	24.5	43.8	19.4	33.64	100.60
15-Jan	56.8	47.8	28.4	24.0	34.5	31.2	82.8	49.2	96.6	67.5	31.2	52.3	15.3	12.1	25.4	28.5	83.4	29.1	37.8	14.1	11.7	14.5	23.7	14.4	38.02	96.60
16-Jan	27.0	53.0	17.4	96.9	11.9	12.5	22.8	12.6	17.6	27.1	20.5	15.4	15.9	16.4	14.6	12.2	11.4	13.2	23.7	12.5	14.1	34.0	18.6	18.4	22.49	96.95
17-Jan	20.9	24.6	35.8	75.8	21.3	52.9	78.4	33.5	14.1	22.6	12.3	39.4	21.6	23.9	29.8	40.3	17.3	15.1	45.1	22.7	19.7	30.0	24.5	33.7	31.48	78.42
18-Jan	17.0	51.0	44.1	38.6	18.8	34.4	21.1	36.1	41.8	59.6	64.6	40.5	62.8	35.8	39.9	34.7	41.2	24.2	21.7	38.7	49.3	22.1	42.3	28.6	37.87	64.60
19-Jan	24.8	78.5	62.6	45.8	15.5	20.4	20.4	75.7	14.7	37.4	22.3	19.5	76.3	60.6	27.7	15.0	57.8	18.1	98.1	39.1	69.7	81.9	57.7	39.8	44.98	98.11
20-Jan	28.0	22.4	14.9	20.8	20.4	15.6	11.9	11.1	11.5	11.9	13.2	9.9	17.1	18.9	16.1	12.9	19.0	15.0	21.8	9.8	8.2	6.8	8.7	10.2	14.83	28.00
21-Jan	12.2	22.8	77.5	39.1	10.4	21.0	19.6	AF	AF	AF	40.0	18.8	9.8	9.3	10.3	11.8	15.0	10.8	10.4	12.7	11.9	15.1	11.6	11.4	19.12	77.50
22-Jan	12.0	11.4	9.4	13.9	16.7	14.3	17.2	17.0	13.1	11.8	18.5	15.4	16.1	17.9	12.2	13.4	11.9	AF	AF	AF	AF	AF	AF	AF	--	18.49
23-Jan	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	--	--
24-Jan	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	--	18.04
25-Jan	15.3	15.9	17.1	68.3	31.1	10.4	11.3	9.1	10.0	20.6	18.4	11.1	15.9	31.7	19.5	33.0	27.2	9.5	11.6	13.0	10.2	14.3	21.4	AF	19.38	68.30
26-Jan	AF	AF	AF	AF	AF	AF	AF	AF	34.2	74.3	AF	AF	12.8	9.6	12.8	10.7	29.6	31.6	59.8	67.8	49.1	81.9	39.4	45.2	--	81.93
27-Jan	56.8	57.7	74.0	50.4	39.1	71.6	22.4	27.7	54.2	12.1	17.2	65.2	67.2	17.5	17.2	18.2	24.2	14.2	68.3	33.9	26.7	58.8	16.7	66.1	40.73	73.96
28-Jan	21.4	33.3	15.0	16.1	12.6	14.9	15.2	19.4	16.2	32.2	40.3	44.7	18.4	90.0	48.6	59.9	73.0	65.6	49.0	86.7	92.5	63.4	36.4	34.0	41.61	92.51
29-Jan	40.8	27.2	20.7	13.2	16.3	22.0	16.8	11.9	28.3	15.5	18.2	17.6	36.7	70.9	65.1	63.7	72.4	80.8	64.8	64.2	23.4	18.8	13.9	13.4	34.86	80.75
30-Jan	13.5	12.8	11.1	12.2	13.5	13.0	14.4	13.3	12.8	13.1	13.6	13.1	12.5	13.7	11.5	11.4	12.3	11.4	10.6	12.1	13.6	12.7	12.5	13.2	12.67	14.42
31-Jan	11.7	13.3	11.9	11.9	15.1	10.6	13.2	10.8	11.3	11.5	15.2	15.3	17.0	13.6	12.2	12.3	11.3	11.9	12.5	11.0	13.2	10.9	11.0	9.7	12.42	16.96
24.55 29.50 27.08 32.26 20.89 21.84 22.11 22.73 23.08 25.56 22.26 24.37 22.64 24.10 19.68 20.11 24.13 22.81 31.65 24.62 24.86 29.23 26.19 24.94																								Diurnal Average		
56.84 78.48 77.50 96.95 64.59 71.60 82.81 75.69 96.60 88.43 64.60 95.58 76.29 89.98 65.14 63.71 83.38 86.31 100.60 86.69 92.51 81.93 65.07 66.15																								Diurnal Maximum		
AF - Analyzer Failure																										
,Alberta Ambient Air Quality Objectives (AAAQO): 1-hr --- ul/m^3 24-hr 100 ul/m^3																										

**HINTON WEST
STATION #915**

CONTINUOUS AIR MONITORING DATA

JANUARY 2017

Summary Report

Continuous air quality/meteorological monitoring measurements

West Central Airshed Society

WCAS / Hinton West Station 915													January 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)	35	709	100.0	0.3	0.0	8.0	0.0	0.0	0.1	0.2	0.8	0	0	0.002	
SO ₂ (ppb)	37	707	100.0	0.2	0.0	2.8	0.0	0.1	0.2	0.3	0.5	0	-	0.001	
O ₃ (ppb)	35	709	100.0	29.7	0.9	47.4	9.9	18.6	35.0	40.9	44.2	0	0	0.046	
NO (ppb)	38	706	100.0	3.5	0.0	99.8	0.0	0.3	1.1	2.8	7.6	-	-	-	
NO ₂ (ppb)	38	706	100.0	7.3	0.2	35.9	1.1	2.0	4.5	10.3	18.0	0	0	0.020	
NO _x (ppb)	38	706	100.0	10.7	0.4	133.1	1.3	2.4	5.7	13.3	26.1	-	-	-	
Particulate Matter 2.5 microns (µ/m ³)	0	742	99.7	5.4	0.0	25.4	2.5	3.3	4.2	6.2	10.4	0	0	12.18 ug/m3	
Wind Speed (kph)	0	744	100.0	9.7	0.2	31.2	1.5	3.8	8.5	14.7	19.7	-	-	-	
Temperature (°C)	0	744	100.0	-6.4	-27.2	11.9	-18.7	-14.8	-6.9	1.7	6.6	-	-	-	
Relative Humidity (%)	0	744	100.0	63.9	18.7	94.8	41.8	48.9	65.8	79.1	85.6	-	-	-	
Std Dev Wind Direction (deg)	0	744	100.0	30.1	8.7	103.2	15.9	17.7	20.6	33.0	64.4	-	-	-	
Std Dev Wind Speed (kph)	0	744	100.0	3.8	0.6	11.9	1.3	1.9	3.1	5.6	6.8	-	-	-	



WCAS - Hinton West
Summary of Hourly Averages

Sulphur Dioxide (SO₂) - ppb
January 2017

Maximum Value: 2.81 ppb on Jan 20 10:00 Maximum Daily Average: 0.80 ppb on Jan 20																				Hours in Service: 744 Hours of Data: 707 Hours of Missing Data: 37 Hours of Calibration: 37 Percent Operational Time: 100.0						
Minimum Value: 0.0 ppb on Jan 1 10:00 Minimum Daily Average: 0.01 ppb on Jan 31 Maximum Diurnal Average: 0.35 ppb at hour 10 Minimum Diurnal Average: 0.16 ppb at hour 6 Monthly Average: 0.241 ppb Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 0.2 Q ₃ = 0.3 P ₉₀ = 0.5 P ₉₉ = 1.2																										
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-Jan	0.1	0.0	0.1	0.3	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.2	0.1	0.0	0.0	0.1	0.2	0.4	0.8	0.8	0.5	0.4	0.18	0.81
2-Jan	0.6	0.6	0.3	0.1	Z	0.1	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.2	0.3	0.2	0.5	0.9	0.7	0.6	1.2	0.8	0.5	0.5	0.44	1.18
3-Jan	0.5	0.4	0.5	0.2	Z	0.5	0.3	0.5	0.5	0.5	0.4	0.4	0.4	0.3	0.3	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.35	0.55
4-Jan	0.2	0.1	0.2	0.1	Z	0.2	0.1	0.3	0.4	0.2	0.2	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.1	0.1	0.23	0.43
5-Jan	0.1	0.1	0.1	0.1	Z	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.3	0.5	0.3	0.2	0.2	0.1	0.2	0.17	0.52
6-Jan	0.1	0.1	0.2	0.4	Z	0.3	0.2	0.3	0.4	0.4	0.3	0.4	0.4	0.4	0.4	0.5	0.4	0.4	0.3	0.4	0.6	0.6	0.8	0.8	0.39	0.82
7-Jan	0.9	0.7	0.7	0.4	Z	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.6	0.4	0.2	0.1	0.1	0.1	0.1	0.2	0.3	0.3	0.2	0.32	0.95
8-Jan	0.2	0.2	0.2	0.1	Z	0.4	0.8	1.1	0.8	1.0	0.9	1.0	0.9	0.7	1.1	1.3	1.1	0.6	0.4	0.4	0.5	0.3	0.4	0.3	0.64	1.32
9-Jan	0.3	0.3	0.2	0.2	Z	0.2	0.3	0.4	0.6	0.3	0.4	0.3	0.3	0.2	0.2	0.3	0.4	0.3	0.3	0.3	0.4	0.2	0.2	0.3	0.29	0.60
10-Jan	0.3	0.4	0.5	0.2	Z	0.1	0.1	0.2	0.3	0.2	0.2	0.1	0.4	0.3	0.2	0.3	0.3	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.23	0.47
11-Jan	0.1	0.1	0.0	0.0	Z	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.3	0.2	0.1	0.2	0.2	0.2	0.3	0.1	0.12	0.31
12-Jan	0.1	1.0	0.6	0.4	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	0.16	1.00
13-Jan	0.1	0.1	0.1	0.0	Z	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.06	0.10
14-Jan	0.0	0.0	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	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.10	0.22
15-Jan	0.2	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	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.19	0.26
16-Jan	0.1	0.1	0.1	0.1	Z	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.21	0.30
17-Jan	0.3	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	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.27	0.30
18-Jan	0.3	0.2	0.2	0.2	Z	0.2	0.2	0.3	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.4	0.3	0.3	0.26	0.39
19-Jan	0.2	0.2	0.2	0.2	Z	0.3	0.4	1.3	2.4	1.9	1.8	1.5	1.1	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.65	2.40
20-Jan	0.2	0.2	0.2	0.2	Z	0.3	0.8	1.1	1.2	2.8	2.0	0.7	0.7	0.4	0.7	0.4	0.4	0.3	0.7	0.9	0.9	1.1	1.2	0.8	0.80	2.81
21-Jan	0.3	0.3	0.3	0.4	Z	0.4	0.4	0.3	1.2	0.6	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.23	1.15
22-Jan	0.1	0.1	0.1	0.0	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	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.11	0.16
23-Jan	0.1	0.1	0.1	0.1	Z	0.2	0.2	0.2	0.2	0.5	0.5	0.2	0.2	0.1	0.1	0.1	0.1	0.4	0.8	0.5	0.7	0.5	0.4	0.3	0.28	0.81
24-Jan	0.2	0.2	0.1	0.0	Z	0.0	0.0	0.0	0.1	C	C	C	C	C	C	0.5	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	--	0.52
25-Jan	0.0	0.0	0.0	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	0.2	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.07	0.19
26-Jan	0.0	0.0	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	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.07	0.19
27-Jan	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	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	0.11	0.24
28-Jan	0.2	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	0.20	0.22
29-Jan	0.2	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	0.1	0.1	0.1	0.17	0.21
30-Jan	0.1	0.1	0.1	0.1	Z	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.04	0.13
31-Jan	0.0	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	0.01	0.04
																								Diurnal Average		
																								Diurnal Maximum		
0.19 0.21 0.18 0.16 -- 0.16 0.19 0.26 0.33 0.35 0.32 0.26 0.25 0.22 0.24 0.25 0.25 0.26 0.24 0.24 0.28 0.26 0.24 0.21																										
0.95 1.00 0.74 0.45 -- 0.46 0.78 1.30 2.40 2.81 1.99 1.51 1.07 0.68 1.13 1.32 1.07 0.87 0.81 0.89 1.18 1.14 1.24 0.82																										
Z - zerospan C - Calibration Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb																										



WCAS - Hinton West
Summary of Hourly Averages

Ozone (O₃) - ppb
January 2017

Maximum Value: 47.35 ppb on Jan 29 11:00																								Maximum Daily Average: 45.70 ppb on Jan 28																								Hours in Service: 744	
Minimum Value: 0.9 ppb on Jan 19 08:00																								Minimum Daily Average: 9.22 ppb on Jan 23																								Hours of Data: 709	
Maximum Diurnal Average: 33.44 ppb at hour 14																								Minimum Diurnal Average: 26.85 ppb at hour 9																								Hours of Missing Data: 35	
Monthly Average: 29.652 ppb																								Percentiles: P ₁ = 1.5 P ₁₀ = 9.9 Q ₁ = 18.6 Median = 35.0 Q ₃ = 40.9 P ₉₀ = 44.2 P ₉₉ = 46.8																								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-Jan	33.4	35.9	33.1	35.6	Z	36.3	33.3	33.8	34.0	31.5	29.2	32.8	33.6	30.6	33.3	32.6	27.6	16.2	13.0	15.0	3.7	9.4	5.6	6.5	25.91	36.27																							
2-Jan	10.0	10.0	25.7	26.9	Z	24.9	13.8	16.0	15.6	16.1	19.0	20.8	23.5	30.4	26.7	21.2	10.7	3.8	4.6	11.7	2.9	4.5	8.0	8.4	15.46	30.44																							
3-Jan	11.4	14.6	5.6	20.6	Z	11.8	19.5	16.2	15.1	17.6	20.9	24.5	23.8	23.9	25.9	22.0	24.3	26.7	31.3	22.9	22.3	21.1	22.9	24.9	20.43	31.27																							
4-Jan	24.3	27.7	20.5	22.1	Z	20.0	19.8	20.0	20.0	23.7	23.4	26.1	26.9	27.1	29.0	27.2	25.0	23.6	24.1	31.7	30.1	32.6	35.7	35.4	25.91	35.71																							
5-Jan	36.0	35.6	36.1	36.4	Z	35.7	35.5	34.2	33.8	34.4	33.3	32.8	29.9	27.6	20.1	17.8	11.8	3.2	12.3	21.7	20.1	22.2	27.5	26.8	27.16	36.36																							
6-Jan	22.1	21.9	20.5	19.7	Z	19.2	18.3	17.3	14.2	14.7	17.4	19.8	20.7	20.5	19.3	18.3	15.6	12.9	13.6	7.6	4.9	5.0	3.0	1.6	15.13	22.09																							
7-Jan	1.5	1.9	1.7	10.9	Z	22.8	22.3	21.1	14.3	19.8	25.3	27.3	27.3	25.3	27.0	24.8	26.2	25.2	23.7	22.5	8.8	12.2	15.1	15.0	18.33	27.28																							
8-Jan	11.9	17.0	9.7	10.4	Z	2.8	2.0	1.3	2.4	3.8	8.5	10.4	14.2	20.5	19.6	17.4	5.7	7.8	9.9	10.9	10.7	13.5	15.0	14.6	10.44	20.55																							
9-Jan	14.7	12.7	16.4	16.5	Z	16.9	15.3	14.7	14.8	18.5	19.6	22.5	24.3	27.8	28.7	28.6	28.3	27.9	22.4	25.7	22.7	33.2	34.2	21.3	22.07	34.16																							
10-Jan	22.3	17.9	12.7	24.9	Z	29.6	29.1	28.6	22.0	27.1	35.4	37.7	33.7	35.0	36.7	27.2	27.1	25.2	29.3	28.9	30.9	33.9	34.5	35.3	28.91	37.70																							
11-Jan	35.9	37.1	36.7	37.0	Z	37.3	36.8	37.1	36.3	37.1	37.7	38.7	38.6	38.8	38.4	38.0	35.9	36.0	35.8	35.2	34.9	31.3	30.1	35.2	36.35	38.78																							
12-Jan	31.6	10.9	7.8	18.7	Z	32.1	37.4	37.8	37.9	37.8	38.9	39.9	41.1	41.8	41.8	41.5	42.3	42.8	43.4	43.1	42.6	43.1	43.0	42.5	36.51	43.43																							
13-Jan	41.0	41.5	41.8	40.9	Z	39.3	39.0	40.0	39.8	40.5	40.9	40.8	41.5	41.5	41.6	41.0	41.3	40.8	41.0	41.9	42.6	43.5	43.6	44.0	41.30	43.97																							
14-Jan	43.3	43.3	43.0	43.4	Z	43.1	43.1	42.4	43.0	42.9	41.9	42.4	43.8	43.8	44.6	44.9	45.3	44.4	44.4	44.4	42.7	45.3	45.6	45.7	43.77	45.67																							
15-Jan	45.0	44.0	45.9	45.5	Z	44.8	44.7	44.4	41.9	42.6	42.4	42.9	43.4	43.7	44.1	43.9	44.1	44.2	44.6	44.7	44.2	44.2	43.9	43.9	44.04	45.94																							
16-Jan	44.5	44.7	44.1	44.1	Z	43.1	42.7	44.0	44.1	44.2	44.6	44.9	43.8	44.4	44.0	44.6	44.9	44.7	43.7	43.1	42.8	42.5	42.4	42.5	43.85	44.89																							
17-Jan	42.0	41.4	40.3	40.1	Z	39.2	39.0	38.4	37.5	37.1	35.0	36.8	37.4	38.6	38.4	38.3	38.9	39.2	39.7	38.8	39.8	39.6	38.4	38.4	38.80	41.99																							
18-Jan	38.0	37.2	38.3	38.0	Z	38.2	36.9	36.3	36.5	36.2	40.3	41.0	40.0	40.8	41.2	41.1	35.8	37.7	36.5	31.8	35.2	21.1	36.4	38.7	37.09	41.21																							
19-Jan	39.4	39.9	37.3	30.6	Z	12.8	7.1	0.9	1.1	2.4	3.4	7.4	21.5	37.9	40.1	41.4	41.6	42.0	42.4	39.1	39.0	36.8	43.2	42.4	28.25	43.18																							
20-Jan	40.4	24.1	29.6	30.3	Z	8.7	2.3	1.4	2.9	1.5	6.2	10.6	12.3	23.9	20.5	34.5	35.3	33.8	13.6	4.4	2.0	1.5	1.6	2.8	14.97	40.38																							
21-Jan	8.0	4.3	5.2	2.8	Z	4.9	7.4	11.0	1.2	8.3	13.2	12.4	12.9	18.0	19.5	20.1	21.0	20.5	17.4	15.2	15.5	16.0	15.3	16.6	12.46	21.00																							
22-Jan	15.6	15.0	15.1	13.7	Z	14.5	13.2	13.0	11.9	12.0	11.6	10.5	11.9	13.1	14.5	14.4	12.7	9.4	10.0	9.7	10.8	10.7	12.6	13.5	12.59	15.58																							
23-Jan	12.5	13.0	13.0	10.9	Z	6.6	4.7	2.7	4.6	2.0	5.0	15.1	18.0	18.7	15.9	14.4	15.0	9.4	2.4	3.6	3.9	4.3	8.1	8.3	9.22	18.71																							
24-Jan	12.9	11.2	25.6	30.4	Z	19.7	31.1	31.6	31.3	C	C	C	C	31.4	34.6	35.4	35.5	33.3	33.0	34.4	34.7	34.6	35.0	35.1	30.04	35.47																							
25-Jan	35.0	35.3	35.7	36.8	Z	36.8	36.2	35.7	36.2	36.5	36.9	37.4	38.1	38.9	39.7	39.0	38.5	36.8	35.7	35.6	35.9	35.6	35.9	35.8	36.69	39.69																							
26-Jan	36.2	36.7	37.0	37.4	Z	36.8	36.9	36.7	36.1	36.0	37.0	38.2	39.0	40.9	41.5	40.8	40.4	40.4	39.8	39.0	40.4	40.9	41.2	41.9	38.75	41.94																							
27-Jan	41.7	41.7	36.7	40.8	Z	40.9	39.9	39.3	40.2	42.5	42.6	43.7	43.1	43.6	42.4	42.8	42.5	41.5	41.9	42.2	44.3	44.2	43.5	44.0	42.01	44.34																							
28-Jan	44.7	44.9	44.8	44.9	Z	44.7	45.2	45.0	44.4	44.0	44.3	44.5	45.7	46.7	47.1	47.2	46.9	46.6	46.8	46.6	46.5	46.5	46.5	46.5	45.70	47.21																							
29-Jan	46.8	46.8	46.8	46.8	Z	47.0	46.0	46.3	46.0	45.9	47.4	47.1	46.6	46.7	46.3	46.1	45.8	45.1	44.5	43.7	35.4	35.9	37.4	38.2	44.54	47.35																							
30-Jan	33.7	41.3	41.5	42.5	Z	38.7	32.2	37.5	37.5	36.4	39.7	41.1	40.8	40.7	39.9	39.8	38.1	36.6	28.9	32.3	31.1	32.2	34.5	37.9	37.17	42.55																							
31-Jan	37.9	38.4	38.0	38.3	Z	37.1	35.1	33.3	35.8	35.7	35.1	35.7	35.1	33.9	33.9	35.7	34.6	33.9	33.2	33.8	37.3	38.3	32.6	33.3	35.48	38.43																							
29.47 28.64 28.59 30.25 -- 28.58 27.93 27.68 26.85 27.62 29.21 30.86 31.75 33.44 33.43 32.96 31.57 30.04 29.11 29.08 27.70 28.26 29.43 29.58																								Diurnal Average																									
46.81 46.79 46.82 46.83 -- 47.01 45.95 46.25 45.97 45.93 47.35 47.14 46.56 46.67 47.11 47.21 46.94 46.61 46.77 46.58 46.50 46.52 46.51 46.53																								Diurnal Maximum																									
Z - zerospan C - Calibration																																																	
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 82.5 ppb 24-hr -- ppb																																																	



WCAS - Hinton West
Eight Hour Running Averages

Ozone (O₃) - ppb
January 2017

Maximum Value: 46.80 ppb on Jan 28 21:00		Maximum Daily Average: 45.80 ppb on Jan 29		Hours in Service: 744																							
Minimum Value: 3.4 ppb on Jan 7 03:00		Minimum Daily Average: 10.01 ppb on Jan 23		Hours of Data: 736																							
Maximum Diurnal Average: 31.67 ppb at hour 19		Minimum Diurnal Average: 28.22 ppb at hour 10		Hours of Missing Data: 8																							
Monthly Average: 29.596 ppb		Percentiles: P ₁ = 4.5 P ₁₀ = 11.4 Q ₁ = 18.1 Median = 34.4 Q ₃ = 40.3 P ₉₀ = 44.1 P ₉₉ = 46.7		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-Jan	32.7	33.1	33.3	33.7	34.1	34.9	34.7	34.5	34.6	33.9	33.4	33.0	33.1	32.3	32.3	32.2	31.4	29.5	27.4	25.2	21.5	18.8	15.4	12.1	29.88	34.88	
2-Jan	9.9	9.2	10.7	12.2	13.4	15.7	16.8	18.2	19.0	19.9	18.9	18.0	18.7	19.4	21.0	21.7	21.1	19.5	17.7	16.6	14.0	10.8	8.4	6.8	15.74	21.69	
3-Jan	6.9	8.3	8.4	9.5	10.4	11.5	13.1	14.2	14.8	15.2	17.4	17.9	18.7	20.2	21.0	21.7	22.9	24.0	25.3	25.1	24.9	24.6	24.2	24.6	17.70	25.32	
4-Jan	24.6	24.7	23.3	23.2	23.4	23.2	22.7	22.0	21.4	20.9	21.3	21.9	22.5	23.4	24.5	25.4	26.1	26.0	26.1	26.8	27.2	27.9	28.7	29.8	24.46	29.77	
5-Jan	31.1	32.6	34.2	34.7	35.4	35.8	35.8	35.6	35.3	35.2	34.8	34.2	33.7	32.7	30.8	28.7	26.0	22.1	19.4	18.0	16.8	16.1	17.1	18.2	28.93	35.84	
6-Jan	19.5	21.8	22.9	22.6	23.0	22.5	21.2	19.9	18.7	17.7	17.2	17.3	17.7	17.8	18.0	18.1	18.3	18.0	17.6	16.1	14.1	12.1	10.1	8.0	17.92	22.96	
7-Jan	6.3	4.9	3.4	3.8	3.7	6.2	8.9	11.7	13.6	16.1	19.5	21.8	22.5	22.8	23.4	23.9	25.4	26.0	25.8	25.2	22.9	21.3	19.8	18.6	16.56	26.03	
8-Jan	16.8	15.8	14.0	12.5	13.0	11.7	9.8	7.9	6.5	4.6	4.5	4.5	5.7	7.9	10.1	12.1	12.5	13.0	13.2	13.3	12.8	11.9	11.4	11.0	10.68	16.78	
9-Jan	12.1	12.8	13.6	14.3	14.8	15.2	15.3	15.3	15.3	16.2	16.6	17.5	18.3	19.7	21.4	23.1	24.8	26.0	26.3	26.7	26.5	27.2	27.9	27.0	19.74	27.88	
10-Jan	26.2	25.0	23.8	23.7	23.8	23.3	22.5	23.6	23.5	24.9	28.1	29.9	30.4	31.1	32.0	31.9	32.5	32.2	31.5	30.4	30.0	29.9	29.6	30.6	27.93	32.48	
11-Jan	31.7	33.2	34.1	35.1	35.8	36.2	36.6	36.8	36.9	36.9	37.1	37.3	37.5	37.6	37.8	38.0	37.9	37.8	37.5	37.1	36.6	35.7	34.7	34.3	36.26	37.95	
12-Jan	33.8	30.6	27.1	25.1	23.6	23.8	24.8	25.2	26.1	29.9	34.4	37.4	37.9	39.1	39.6	40.1	40.6	41.3	41.8	42.2	42.4	42.6	42.7	42.9	34.78	42.86	
13-Jan	42.7	42.5	42.3	42.0	42.0	41.4	40.8	40.5	40.3	40.2	40.1	40.1	40.2	40.5	40.8	41.0	41.1	41.2	41.2	41.3	41.5	41.7	42.0	42.3	41.24	42.70	
14-Jan	42.6	42.9	43.1	43.3	43.4	43.4	43.3	43.1	43.0	43.0	42.8	42.7	42.8	42.9	43.1	43.4	43.7	43.9	44.2	44.5	44.3	44.5	44.6	44.7	43.48	44.73	
15-Jan	44.7	44.6	44.8	45.0	45.3	45.2	45.1	44.9	44.5	44.3	43.8	43.4	43.4	43.2	43.2	43.1	43.4	43.6	43.9	44.1	44.2	44.2	44.2	44.2	44.17	45.29	
16-Jan	44.3	44.3	44.3	44.2	44.2	44.0	43.9	43.9	43.8	43.8	43.8	44.0	43.9	44.1	44.3	44.3	44.4	44.5	44.4	44.1	44.0	43.8	43.6	43.3	44.05	44.49	
17-Jan	43.0	42.6	42.1	41.8	41.6	41.1	40.6	40.1	39.4	38.8	38.0	37.6	37.6	37.5	37.4	37.4	37.6	37.8	38.4	38.7	38.9	39.1	39.1	39.1	39.38	42.96	
18-Jan	39.0	38.7	38.6	38.5	38.3	38.1	37.8	37.5	37.3	37.2	37.5	37.9	38.2	38.5	39.0	39.6	39.5	39.7	39.3	38.1	37.5	35.0	34.4	34.2	37.90	39.74	
19-Jan	34.6	34.9	35.0	34.8	34.8	33.6	29.4	24.0	18.5	13.2	8.3	5.0	7.1	10.2	14.3	19.4	24.5	29.4	34.3	38.3	40.4	40.3	40.7	40.8	26.91	40.82	
20-Jan	40.7	38.4	36.8	35.7	35.2	31.2	25.4	19.5	14.2	11.0	7.6	4.8	5.7	7.6	9.9	14.1	18.1	22.1	23.1	22.3	21.0	18.2	15.8	11.9	20.44	40.66	
21-Jan	8.5	4.8	3.7	3.5	3.8	4.2	5.1	6.2	5.3	5.8	7.0	8.3	8.9	10.5	12.1	13.2	15.7	17.2	17.7	18.1	18.4	18.1	17.6	17.2	10.45	18.39	
22-Jan	16.5	15.8	15.5	15.3	15.3	15.1	14.8	14.3	13.8	13.3	12.8	12.4	12.3	12.2	12.3	12.5	12.6	12.3	12.1	12.0	11.8	11.5	11.3	11.2	13.30	16.51	
23-Jan	11.2	11.6	12.0	12.1	12.3	11.7	10.6	9.0	7.9	6.3	5.2	5.8	7.3	8.9	10.3	11.7	13.0	13.9	13.6	12.2	10.4	8.6	7.6	6.9	10.01	13.93	
24-Jan	6.6	6.8	9.7	13.1	14.4	16.6	19.9	23.2	25.8	28.3	Z	Z	C	C	C	C	C	C	33.9	33.9	34.0	34.4	34.5	34.5	--	34.49	
25-Jan	34.4	34.6	35.0	35.3	35.4	35.7	35.8	35.9	36.1	36.3	36.4	36.5	36.7	37.0	37.4	37.8	38.1	38.2	38.0	37.8	37.5	37.1	36.6	36.2	36.49	38.15	
26-Jan	35.9	35.9	36.1	36.3	36.4	36.5	36.7	36.8	36.8	36.7	36.7	36.8	37.1	37.6	38.2	38.7	39.2	39.8	40.1	40.2	40.4	40.4	40.4	40.5	37.92	40.50	
27-Jan	40.7	40.8	40.4	40.7	40.7	40.7	40.5	40.2	39.9	40.1	40.9	41.3	41.5	41.9	42.2	42.6	42.9	42.8	42.7	42.5	42.7	42.7	42.9	43.0	41.55	43.01	
28-Jan	43.3	43.7	44.1	44.4	44.4	44.5	44.7	44.9	44.9	44.7	44.7	44.6	44.7	45.0	45.2	45.5	45.8	46.1	46.4	46.7	46.8	46.8	46.7	46.6	45.22	46.80	
29-Jan	46.6	46.6	46.6	46.7	46.7	46.8	46.7	46.6	46.5	46.4	46.5	46.5	46.5	46.5	46.5	46.5	46.5	46.5	46.4	46.0	45.6	44.2	42.8	41.7	40.7	45.80	46.76
30-Jan	39.2	38.7	38.4	38.2	38.6	39.0	38.3	38.2	38.7	38.0	37.8	37.6	38.0	38.2	39.2	39.5	39.6	39.6	38.2	37.1	35.9	34.9	34.2	33.9	37.89	39.60	
31-Jan	33.9	34.1	35.3	36.0	36.7	37.4	37.5	36.9	36.6	36.2	35.8	35.4	35.4	35.0	34.8	35.1	35.0	34.7	34.5	34.3	34.5	35.1	34.9	34.6	35.40	37.53	
29.03 28.86 28.80 28.95 29.16 29.24 29.01 28.73 28.36 28.22 28.29 28.38 28.80 29.38 30.07 30.74 31.33 31.62 31.67 31.43 30.92 30.27 29.77 29.35																								Diurnal Average			
46.61 46.63 46.63 46.67 46.69 46.76 46.68 46.64 46.52 46.40 46.47 46.52 46.52 46.48 46.52 46.50 46.48 46.38 46.44 46.69 46.80 46.78 46.71 46.62																								Diurnal Maximum			
Z - zerospan		C - Calibration																									



WCAS - Hinton West
Summary of Hourly Averages

Hydrogen Sulphide (H2S) - ppb
January 2017

Maximum Value: 8.12 ppb on Jan 19 12:00		Maximum Daily Average: 1.57 ppb on Jan 20		Hours in Service: 744																													
Minimum Value: 0 ppb on Jan 1 01:00		Minimum Daily Average: 0.02 ppb on Jan 28		Hours of Data: 709																													
Maximum Diurnal Average: 0.55 ppb at hour 10		Minimum Diurnal Average: 0.11 ppb at hour 4		Hours of Missing Data: 35																													
Monthly Average: 0.295 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.1 Q ₃ = 0.2 P ₉₀ = 0.8 P ₉₉ = 3.4		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-Jan	0	0	0	0	Z	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	1	1	0.26	1.34							
2-Jan	1	1	0	0	Z	0	1	1	1	1	1	0	0	0	0	0	1	2	1	1	2	2	1	1	0.75	2.32							
3-Jan	1	0	1	0	Z	1	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.30	1.24							
4-Jan	0	0	0	0	Z	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.21	0.62							
5-Jan	0	0	0	0	Z	0	0	0	0	0	0	0	0	0	1	1	1	2	1	0	0	0	0	0	0.32	1.87							
6-Jan	0	0	0	0	Z	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0.29	1.26							
7-Jan	2	1	1	0	Z	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.21	1.57							
8-Jan	0	0	0	0	Z	1	1	2	1	2	2	2	3	1	0	0	1	1	0	0	0	0	0	0	0.73	2.61							
9-Jan	0	0	0	0	Z	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0.14	0.73							
10-Jan	0	1	1	0	Z	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.32	1.00							
11-Jan	0	0	0	0	Z	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0.09	0.52							
12-Jan	0	3	2	1	Z	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.30	2.53							
13-Jan	0	0	0	0	Z	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.03	0.20							
14-Jan	0	0	0	0	Z	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.10	0.21							
15-Jan	0	0	0	0	Z	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.09	0.23							
16-Jan	0	0	0	0	Z	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.11	0.27							
17-Jan	0	0	0	0	Z	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.03	0.13							
18-Jan	0	0	0	0	Z	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.04	0.26							
19-Jan	0	0	0	0	Z	1	2	4	5	4	5	8	4	0	0	0	0	0	0	0	0	0	0	0	1.39	8.12							
20-Jan	0	0	0	0	Z	2	2	3	3	5	4	1	1	0	1	0	0	0	1	2	2	3	3	3	1.57	5.43							
21-Jan	1	1	0	1	Z	1	1	1	2	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0.55	2.49							
22-Jan	0	0	0	0	Z	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.05	0.17							
23-Jan	0	0	0	0	Z	0	0	1	0	1	1	0	0	0	0	0	0	1	2	1	1	1	1	1	0.51	1.76							
24-Jan	0	1	0	0	Z	0	0	0	0	C	C	C	C	1	1	1	0	1	0	0	0	0	0	0	0.36	0.89							
25-Jan	0	0	0	0	Z	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.08	0.24							
26-Jan	0	0	0	0	Z	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.04	0.18							
27-Jan	0	0	0	0	Z	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.05	0.18							
28-Jan	0	0	0	0	Z	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.02	0.16							
29-Jan	0	0	0	0	Z	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.09	0.24							
30-Jan	0	0	0	0	Z	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.12	0.31							
31-Jan	0	0	0	0	Z	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.03	0.24							
		0.16	0.23	0.21	0.11	--	0.39	0.33	0.41	0.53	0.55	0.48	0.48	0.37	0.14	0.12	0.13	0.21	0.27	0.28	0.23	0.35	0.31	0.26	0.25	Diurnal Average							
		1.57	2.53	1.90	1.17	--	1.82	2.13	3.58	4.75	5.43	4.82	8.12	4.03	0.89	0.82	0.77	1.35	1.87	1.76	1.56	2.32	2.81	2.98	3.13	Diurnal Maximum							
Z - zerospan		C - Calibration																															
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
January 2017

Maximum Value: 99.83 ppb on Jan 20 10:00		Maximum Daily Average: 19.64 ppb on Jan 20		Hours in Service: 744																																													
Minimum Value: 0.0 ppb on Jan 1 01:00		Minimum Daily Average: 0.04 ppb on Jan 28		Hours of Data: 706																																													
Maximum Diurnal Average: 8.85 ppb at hour 10		Minimum Diurnal Average: 1.15 ppb at hour 4		Hours of Missing Data: 38																																													
Monthly Average: 3.472 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.3 Median = 1.1 Q ₃ = 2.8 P ₉₀ = 7.6 P ₉₉ = 37.6		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-Jan	0.0	0.0	0.0	0.0	Z	0.1	0.3	0.2	0.1	0.4	1.3	1.0	1.0	4.9	1.7	1.5	1.5	2.9	2.0	2.7	11.6	11.8	5.5	3.5	2.36	11.85																							
2-Jan	8.8	7.7	1.2	0.7	Z	0.7	5.7	4.4	2.9	5.0	6.6	6.6	5.7	4.0	5.9	5.1	12.9	22.5	10.7	3.0	32.9	15.9	4.4	4.4	7.73	32.95																							
3-Jan	2.6	0.9	9.7	1.0	Z	9.1	4.1	7.0	7.8	6.7	7.1	6.7	6.2	6.2	4.1	6.3	4.3	3.8	0.9	1.6	1.7	1.7	1.3	3.8	4.55	9.67																							
4-Jan	1.3	0.6	2.1	1.1	Z	2.7	2.4	1.8	10.8	2.2	3.9	4.5	7.1	4.9	3.7	4.0	2.6	1.8	1.9	0.9	0.8	0.4	0.4	0.3	2.72	10.81																							
5-Jan	0.2	0.3	0.1	0.1	Z	0.1	0.6	2.8	1.7	1.5	2.2	3.8	3.9	4.6	6.4	6.0	5.1	9.6	2.3	0.5	1.2	0.3	0.3	0.3	2.35	9.65																							
6-Jan	0.8	0.4	1.2	1.2	Z	1.9	1.5	0.9	2.0	4.4	4.7	7.6	6.2	6.2	6.7	5.0	2.7	2.1	1.1	3.7	7.9	10.1	15.8	17.0	4.84	17.02																							
7-Jan	23.1	13.0	13.0	1.4	Z	0.4	0.7	2.7	3.1	3.1	1.2	1.4	1.5	2.7	1.8	2.6	0.7	0.5	0.5	0.4	4.3	3.5	1.1	0.7	3.62	23.09																							
8-Jan	2.0	0.6	1.6	0.8	Z	7.3	21.2	34.2	21.2	28.8	22.4	28.5	24.0	8.3	7.9	6.8	24.1	8.4	2.6	1.2	4.2	0.5	0.6	0.2	11.19	34.19																							
9-Jan	0.2	0.7	0.9	0.5	Z	0.6	3.0	3.1	12.3	4.0	6.8	3.2	3.9	2.8	3.5	4.5	3.2	3.2	3.1	2.7	5.0	1.9	1.0	2.9	3.17	12.27																							
10-Jan	1.5	7.1	9.8	2.1	Z	0.9	1.2	3.3	4.8	3.4	2.7	1.5	4.2	4.4	3.2	6.0	5.1	3.8	1.5	1.4	1.1	0.7	0.5	0.2	3.07	9.81																							
11-Jan	0.4	0.2	0.1	0.4	Z	0.4	1.0	1.3	2.9	4.2	1.7	2.0	1.9	2.2	2.3	1.5	4.4	1.2	0.8	1.5	0.9	1.4	6.3	0.5	1.71	6.29																							
12-Jan	2.7	36.3	18.1	10.7	Z	0.9	1.0	1.1	1.3	1.5	1.6	1.4	1.4	1.5	1.7	1.7	1.3	1.0	0.8	0.5	0.5	0.6	0.4	0.3	3.84	36.34																							
13-Jan	0.5	0.3	0.4	0.3	Z	0.7	1.5	1.1	1.8	1.0	1.0	1.5	1.6	1.6	1.1	1.9	1.3	1.0	0.8	0.5	0.3	0.0	0.1	0.0	0.88	1.87																							
14-Jan	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.2	0.2	0.3	0.8	0.4	0.4	0.2	0.4	0.3	0.2	0.0	0.5	0.1	0.3	0.0	0.0	0.1	0.20	0.83																							
15-Jan	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.4	0.2	0.2	0.1	0.2	0.2	0.3	0.2	0.0	0.1	0.0	0.09	0.40																							
16-Jan	0.2	0.0	0.0	0.0	Z	0.0	0.1	0.5	1.0	1.0	1.0	0.7	0.8	0.8	0.9	1.7	0.5	0.4	0.2	0.1	0.3	0.3	0.1	0.0	0.46	1.71																							
17-Jan	0.0	0.0	0.0	0.0	Z	0.0	0.3	0.6	0.4	0.7	0.5	0.8	0.6	0.6	0.9	1.0	0.6	0.4	0.2	0.3	0.3	0.1	0.2	0.1	0.37	1.02																							
18-Jan	0.3	0.2	0.0	0.0	Z	0.1	0.7	2.9	1.4	1.9	0.7	0.9	0.9	1.3	0.8	0.8	1.9	0.5	1.7	2.2	1.3	1.9	1.0	0.3	1.03	2.94																							
19-Jan	0.0	0.1	0.3	0.8	Z	3.2	5.9	38.3	76.3	59.9	56.0	42.0	18.7	1.5	0.7	0.6	1.0	0.5	0.3	1.7	0.4	0.5	0.3	0.3	13.46	76.34																							
20-Jan	0.1	0.6	0.5	0.4	Z	3.0	24.6	37.3	39.1	99.8	62.6	17.3	14.8	6.0	12.0	2.0	2.2	1.9	14.9	16.6	18.2	29.1	32.6	15.9	19.64	99.83																							
21-Jan	1.3	4.3	2.3	10.2	Z	9.3	10.5	9.1	39.1	14.0	3.1	2.2	3.7	1.1	0.7	0.4	0.3	0.5	0.8	1.8	1.9	0.9	1.9	0.1	5.19	39.07																							
22-Jan	0.2	0.5	0.7	0.3	Z	0.3	1.3	0.3	1.2	0.9	2.1	2.7	2.3	1.8	1.2	1.1	1.3	1.0	1.7	1.4	1.0	1.1	0.5	0.3	1.10	2.75																							
23-Jan	1.6	1.1	0.3	1.8	Z	1.7	1.6	4.2	2.7	13.2	15.0	2.9	3.8	2.1	3.4	3.2	2.4	11.8	24.7	12.0	15.9	8.5	5.3	5.1	6.27	24.73																							
24-Jan	1.6	4.9	0.7	0.4	Z	1.9	1.0	1.5	1.5	C	C	C	C	C	C	C	0.6	1.3	0.6	0.8	0.5	0.0	0.0	0.1	--	4.90																							
25-Jan	0.0	0.4	0.2	0.1	Z	0.2	0.7	1.7	1.2	2.5	1.9	1.8	2.8	1.6	1.0	1.2	1.4	0.7	0.7	0.7	0.1	0.5	0.1	0.0	0.93	2.81																							
26-Jan	0.1	0.0	0.0	0.0	Z	0.4	0.6	0.6	0.7	1.2	1.2	0.9	2.0	0.9	1.1	1.9	1.0	0.8	0.2	0.6	0.3	0.0	0.1	0.3	0.64	2.05																							
27-Jan	0.1	0.0	0.4	0.0	Z	0.0	0.1	0.7	0.6	0.4	0.6	1.5	0.6	0.7	1.0	0.7	3.5	0.6	1.0	0.9	0.1	2.2	3.1	1.8	0.90	3.45																							
28-Jan	0.0	0.0	0.0	0.1	Z	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.0	0.0	0.0	0.04	0.28																							
29-Jan	0.0	0.0	0.0	0.0	Z	0.1	0.2	0.1	0.0	0.3	0.1	0.2	0.4	0.3	0.5	0.3	0.1	0.1	0.1	0.2	1.7	0.4	0.9	0.3	0.28	1.70																							
30-Jan	0.5	0.0	0.0	0.0	Z	0.1	2.0	2.4	4.4	2.5	1.5	1.4	2.0	2.1	3.7	2.4	2.6	1.3	3.0	3.1	2.4	1.7	3.8	1.8	1.95	4.43																							
31-Jan	1.6	1.0	0.7	1.5	Z	1.1	1.4	1.5	0.6	0.5	1.5	0.8	1.1	2.1	2.4	2.3	2.2	2.3	1.1	0.8	0.7	0.1	0.7	0.7	1.25	2.38																							
																								1.66	2.62	2.08	1.15	--	1.52	3.07	5.35	7.84	8.85	7.06	4.87	4.13	2.60	2.70	2.44	2.93	2.78	2.62	2.08	3.82	3.11	2.85	1.97	Diurnal Average	
																								23.09	36.34	18.08	10.68	--	9.29	24.63	38.34	76.34	99.83	62.61	41.96	23.97	8.29	12.04	6.78	24.06	22.49	24.73	16.61	32.95	29.09	32.64	17.02	Diurnal Maximum	
Z - zerospan C - Calibration																								Alberta Ambient Air Quality Objectives (AAAQO): 1-hr --- ppb 24-hr --- ppb																									



WCAS - Hinton West
Summary of Hourly Averages

Nitrogen Dioxide (NO₂) - ppb
January 2017

Maximum Value: 35.88 ppb on Jan 20 10:00		Maximum Daily Average: 19.99 ppb on Jan 20		Hours in Service: 744																																													
Minimum Value: 0.2 ppb on Jan 28 06:00		Minimum Daily Average: 0.68 ppb on Jan 28		Hours of Data: 706																																													
Maximum Diurnal Average: 9.71 ppb at hour 21		Minimum Diurnal Average: 4.44 ppb at hour 14		Hours of Missing Data: 38																																													
Monthly Average: 7.259 ppb		Percentiles: P ₁ = 0.5 P ₁₀ = 1.1 Q ₁ = 2.0 Median = 4.5 Q ₃ = 10.3 P ₉₀ = 18.0 P ₉₉ = 30.3		Hours of Calibration: 38																																													
Percentiles: P ₁ = 0.5 P ₁₀ = 1.1 Q ₁ = 2.0 Median = 4.5 Q ₃ = 10.3 P ₉₀ = 18.0 P ₉₉ = 30.3		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-Jan	3.0	2.3	4.8	3.3	Z	2.3	5.2	4.3	2.9	4.5	6.9	3.3	2.2	5.8	3.5	4.8	9.9	19.8	19.4	17.1	29.5	23.7	23.0	21.6	9.70	29.54																							
2-Jan	17.5	21.0	7.1	6.3	Z	8.1	24.2	18.0	18.4	17.3	14.9	12.6	9.3	4.5	9.5	12.3	23.0	29.9	30.0	21.9	32.7	26.8	22.4	21.6	17.80	32.74																							
3-Jan	17.0	13.2	25.1	11.0	Z	21.1	12.7	17.3	17.7	15.3	12.1	10.2	8.7	10.1	8.3	13.0	10.5	9.2	4.8	12.2	12.9	13.3	11.1	10.3	12.92	25.11																							
4-Jan	9.5	5.6	13.5	10.8	Z	13.6	14.0	14.1	13.9	11.5	12.0	10.1	10.9	11.1	9.5	10.8	13.9	14.5	14.2	7.3	7.9	5.6	2.8	3.3	10.46	14.52																							
5-Jan	2.2	2.1	1.9	1.7	Z	1.7	2.6	4.6	3.9	3.8	4.6	5.5	10.4	10.0	16.2	18.9	23.3	31.8	20.3	11.0	11.4	10.3	6.2	5.4	9.13	31.80																							
6-Jan	7.2	5.2	6.3	7.6	Z	8.1	8.9	9.1	11.2	11.5	9.0	7.8	6.6	6.6	8.1	9.0	10.7	13.2	12.1	17.9	19.8	19.5	19.2	19.9	11.06	19.87																							
7-Jan	19.1	17.6	19.5	13.3	Z	5.5	5.8	7.9	14.2	10.2	5.2	3.3	3.4	5.5	3.8	6.3	5.5	6.7	8.2	8.8	21.1	15.3	10.3	10.3	9.85	21.11																							
8-Jan	16.9	11.3	17.0	13.7	Z	20.8	22.7	24.8	23.8	22.9	16.7	16.5	15.1	9.0	8.9	11.8	23.3	20.2	17.3	15.6	15.2	12.1	10.5	10.3	16.36	24.76																							
9-Jan	10.8	12.5	9.1	9.5	Z	9.7	12.0	12.2	16.3	7.8	7.9	5.1	5.2	4.3	5.6	6.6	7.1	9.0	14.4	11.9	15.8	6.1	4.7	14.4	9.48	16.25																							
10-Jan	10.8	14.5	20.1	7.3	Z	3.7	4.4	6.9	14.8	12.7	7.0	4.1	7.1	6.1	5.7	10.8	10.3	11.9	8.0	9.3	7.3	4.2	3.3	2.9	8.39	20.07																							
11-Jan	2.8	2.1	2.2	2.3	Z	2.0	2.2	2.3	3.6	2.4	2.2	1.9	2.3	3.2	4.1	3.8	5.7	5.2	5.0	4.9	5.1	8.1	10.3	3.7	3.80	10.27																							
12-Jan	6.9	29.7	30.1	21.0	Z	7.2	3.0	2.9	3.2	3.8	2.6	2.6	2.2	2.0	2.2	2.9	2.6	2.0	1.8	2.0	2.0	1.9	1.7	1.7	5.99	30.13																							
13-Jan	2.5	2.1	2.1	2.7	Z	3.9	3.3	3.9	3.7	2.6	2.0	2.1	2.3	1.9	2.2	2.9	2.6	2.7	2.4	2.2	2.2	1.2	1.3	0.9	2.42	3.93																							
14-Jan	0.9	0.9	1.0	0.7	Z	1.2	1.2	1.9	1.4	1.4	2.9	2.5	1.5	2.2	1.8	2.1	1.7	2.2	1.5	1.6	3.0	1.0	0.8	0.7	1.57	3.03																							
15-Jan	0.7	1.2	0.8	0.9	Z	0.6	0.4	0.9	1.8	1.2	1.2	0.8	0.7	1.6	1.0	1.5	1.1	1.5	1.3	1.2	1.1	1.1	1.0	0.8	1.07	1.76																							
16-Jan	0.9	0.8	0.7	0.7	Z	0.8	1.2	1.8	3.0	2.4	1.6	1.3	1.1	1.6	2.6	2.1	1.9	1.8	2.0	1.4	1.2	1.3	1.3	0.8	1.49	2.99																							
17-Jan	0.7	0.8	1.2	0.8	Z	0.3	0.6	1.1	1.4	1.1	2.5	2.1	1.5	0.9	1.4	1.6	1.3	1.3	0.9	1.6	1.2	1.2	1.1	0.6	1.19	2.55																							
18-Jan	1.4	1.7	0.7	0.7	Z	0.7	2.1	3.1	3.5	4.3	1.3	1.6	2.2	1.9	1.8	2.1	5.9	3.4	4.6	9.0	4.4	13.5	2.3	1.1	3.19	13.52																							
19-Jan	1.1	1.2	2.7	5.8	Z	16.0	23.2	31.0	31.8	29.3	28.7	28.8	18.7	2.1	1.4	1.6	1.8	1.9	2.5	4.7	4.9	5.9	2.6	2.6	10.88	31.78																							
20-Jan	4.3	13.1	8.8	7.2	Z	22.0	29.4	32.1	29.9	35.9	30.6	21.5	20.8	11.2	16.7	5.0	5.8	5.6	22.4	28.8	30.4	29.5	26.6	22.2	19.99	35.88																							
21-Jan	15.7	18.4	17.4	21.0	Z	21.2	23.0	19.2	25.7	21.0	15.2	11.5	10.1	6.2	5.5	4.6	4.3	5.0	6.9	8.2	7.7	6.6	7.5	5.4	12.48	25.69																							
22-Jan	5.8	5.8	5.2	6.1	Z	5.7	6.8	6.3	7.4	6.2	6.0	6.9	5.7	5.5	5.2	5.7	6.8	8.6	9.0	9.6	8.1	8.8	7.6	6.7	6.76	9.60																							
23-Jan	8.4	7.4	7.4	8.8	Z	12.4	14.2	16.2	14.2	17.6	14.6	4.8	5.6	4.5	7.6	9.8	8.8	14.4	20.4	16.9	16.4	16.2	12.8	11.7	11.79	20.36																							
24-Jan	10.6	15.2	6.2	2.6	Z	12.0	3.7	3.4	4.4	C	C	C	C	C	C	C	4.6	6.1	5.7	4.1	4.7	3.6	3.2	2.9	--	15.24																							
25-Jan	4.2	3.4	2.8	2.3	Z	2.4	2.9	3.5	3.2	3.3	2.9	2.6	2.5	2.2	1.3	2.5	2.4	3.2	3.6	3.4	3.0	2.8	2.2	2.0	2.81	4.19																							
26-Jan	1.7	1.4	1.3	1.2	Z	2.0	2.3	2.7	2.2	2.9	1.7	1.1	1.7	1.9	2.0	2.2	2.5	2.8	2.9	3.6	2.5	1.8	1.5	0.7	2.03	3.64																							
27-Jan	1.5	1.4	4.4	1.4	Z	1.6	2.3	3.4	2.8	1.4	1.4	0.8	1.4	1.8	2.6	1.9	1.5	3.0	2.8	2.8	1.2	1.0	1.2	3.2	2.03	4.44																							
28-Jan	0.8	0.6	0.7	0.6	Z	0.2	0.3	0.3	0.8	0.8	0.7	0.9	0.5	0.5	0.7	0.4	0.5	0.9	0.8	1.2	0.9	1.0	0.7	0.8	0.68	1.17																							
29-Jan	0.6	0.6	0.6	0.7	Z	1.0	2.0	1.4	1.8	1.8	1.0	1.1	1.3	1.4	1.8	1.7	1.6	2.0	2.0	1.7	10.0	8.1	5.9	4.0	2.35	9.99																							
30-Jan	5.9	2.0	1.2	0.8	Z	2.9	10.3	5.5	6.4	7.7	3.6	2.2	2.5	2.6	4.0	3.5	4.9	6.5	15.5	11.2	12.9	10.6	8.5	4.5	5.90	15.50																							
31-Jan	4.3	3.5	3.7	3.5	Z	4.6	6.3	8.1	4.0	3.6	4.2	3.4	3.7	5.2	5.7	5.1	6.8	7.6	8.3	7.1	4.5	3.1	8.4	6.0	5.24	8.42																							
																								6.31	7.05	7.28	5.68	--	6.94	8.17	8.72	9.46	8.95	7.43	5.97	5.57	4.44	5.02	5.56	6.86	8.19	8.73	8.39	9.71	8.55	7.16	6.55	Diurnal Average	
																								19.15	29.66	30.13	21.01	--	22.01	29.45	32.13	31.78	35.88	30.56	28.76	20.79	11.17	16.71	18.87	23.34	31.80	30.04	28.77	32.74	29.52	26.56	22.21	Diurnal Maximum	
Z - zerospan C - Calibration																																																	
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 159 ppb 24-hr 106 ppb																																																	



WCAS - Hinton West
Summary of Hourly Averages

NOx (NO_x) - ppb
January 2017

Maximum Value: 133.14 ppb on Jan 20 10:00 Maximum Daily Average: 39.43 ppb on Jan 20 Minimum Value: 0.4 ppb on Jan 29 02:00 Minimum Daily Average: 1.03 ppb on Jan 28 Maximum Diurnal Average: 17.71 ppb at hour 10 Minimum Diurnal Average: 6.77 ppb at hour 4 Monthly Average: 10.686 ppb Percentiles: P ₁ = 0.6 P ₁₀ = 1.3 Q ₁ = 2.4 Median = 5.7 Q ₃ = 13.3 P ₉₀ = 26.1 P ₉₉ = 68.5																								Hours in Service:	744																								
																								Hours of Data:	706																								
																								Hours of Missing Data:	38																								
																								Hours of Calibration:	38																								
																								Percent Operational Time:	100.0																								
Day	Hourly Period Ending At																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Jan	3.1	2.3	5.0	3.5	Z	2.4	5.5	4.5	3.0	4.9	8.2	4.3	3.3	10.8	5.1	6.4	11.5	22.8	21.5	20.0	41.3	35.7	28.6	25.3	12.13	41.32																							
2-Jan	26.4	28.8	8.2	7.0	Z	8.9	30.0	22.5	21.4	22.3	21.6	19.3	15.0	8.3	15.4	17.5	36.0	52.5	41.0	25.1	65.8	42.9	27.0	26.2	25.62	65.82																							
3-Jan	19.7	14.2	35.0	12.1	Z	30.3	16.9	24.4	25.7	22.1	19.2	16.9	14.9	16.4	12.4	19.5	14.9	13.2	5.8	13.9	14.6	15.2	12.5	14.1	17.56	34.95																							
4-Jan	10.9	6.2	15.6	12.0	Z	16.4	16.5	16.0	24.8	13.8	16.0	14.7	18.1	16.1	13.3	14.8	16.7	16.5	16.3	8.2	8.8	6.0	3.2	3.7	13.24	24.77																							
5-Jan	2.4	2.5	2.1	1.8	Z	2.3	3.2	7.3	5.5	5.2	6.7	9.1	14.2	14.4	22.5	24.7	28.2	41.3	22.3	11.2	12.2	10.2	6.0	5.2	11.33	41.30																							
6-Jan	7.4	5.0	6.9	8.2	Z	9.3	9.8	9.4	12.6	15.3	13.1	14.8	12.2	12.1	14.2	13.5	12.9	14.9	12.6	21.1	27.2	29.1	34.5	36.4	15.32	36.38																							
7-Jan	41.7	30.0	32.1	14.3	Z	5.3	6.1	10.1	16.9	12.8	6.0	4.3	4.6	7.8	5.3	8.6	5.9	7.0	8.5	9.1	25.4	18.7	11.4	10.9	13.17	41.71																							
8-Jan	18.8	12.0	18.7	14.5	Z	28.2	43.9	59.0	45.1	51.8	39.2	44.9	39.0	17.3	16.8	18.6	47.5	28.6	20.0	16.9	19.5	12.7	11.2	10.6	27.60	58.98																							
9-Jan	11.1	13.2	10.1	10.1	Z	10.3	15.1	15.4	28.7	12.0	13.8	8.5	9.2	7.3	9.4	10.7	10.1	12.0	17.4	14.5	20.7	7.9	5.5	17.1	12.61	28.66																							
10-Jan	12.3	21.5	29.8	9.4	Z	4.6	5.7	10.2	19.6	16.1	9.7	5.6	11.4	10.4	8.8	16.7	15.3	15.7	9.4	10.7	8.3	5.0	3.9	3.2	11.44	29.78																							
11-Jan	3.1	2.3	2.3	2.7	Z	2.3	3.4	3.6	6.4	6.5	3.8	3.9	4.3	5.6	6.3	5.4	8.7	6.3	5.7	6.5	5.9	9.5	16.4	4.2	5.44	16.42																							
12-Jan	9.6	65.8	47.8	31.6	Z	8.0	4.0	3.9	4.4	5.3	4.0	3.7	3.3	3.6	3.7	4.2	3.6	2.9	2.5	2.3	2.4	2.0	1.5	1.5	9.63	65.78																							
13-Jan	2.4	1.9	2.1	2.4	Z	4.1	4.4	4.4	4.9	3.1	2.5	3.1	3.5	3.1	2.9	4.4	3.6	3.5	2.9	2.5	2.3	1.2	1.3	0.8	2.92	4.91																							
14-Jan	0.8	0.8	1.0	0.7	Z	1.1	1.3	2.1	1.8	2.0	3.8	2.9	2.0	2.5	2.3	2.4	1.9	2.3	2.0	1.8	3.4	1.0	0.8	0.8	1.80	3.79																							
15-Jan	0.7	1.2	0.8	0.9	Z	1.1	0.9	1.6	2.5	1.9	2.0	1.7	1.5	2.1	1.2	1.7	1.2	1.8	1.4	1.5	1.3	1.1	1.1	0.8	1.38	2.51																							
16-Jan	1.1	0.7	0.6	0.6	Z	1.4	2.0	2.7	4.0	3.4	2.5	1.9	1.9	2.4	3.6	3.7	2.4	2.1	2.2	1.4	1.5	1.5	1.4	0.7	1.98	3.96																							
17-Jan	0.6	0.9	1.1	0.7	Z	0.7	1.0	1.7	1.8	1.8	3.0	2.9	2.1	1.6	2.3	2.6	1.9	1.7	1.1	1.9	1.5	1.3	1.3	0.8	1.59	3.00																							
18-Jan	1.8	1.8	0.8	0.7	Z	0.8	2.8	5.8	4.9	6.2	2.0	2.5	3.1	3.2	2.7	2.9	7.8	3.9	6.3	11.2	5.8	15.3	3.2	1.4	4.22	15.34																							
19-Jan	1.1	1.3	3.0	6.6	Z	19.2	29.0	69.2	107.8	89.0	84.4	70.6	37.3	3.6	2.1	2.2	2.8	2.4	2.8	6.3	5.3	6.3	2.9	2.8	24.26	107.80																							
20-Jan	4.4	13.6	9.2	7.6	Z	25.0	54.0	69.3	68.9	133.1	92.9	38.7	35.5	17.2	28.7	6.9	7.9	7.5	37.3	45.3	48.5	58.5	59.0	38.0	39.43	133.14																							
21-Jan	17.0	22.7	19.7	31.2	Z	30.4	33.4	28.3	64.6	34.9	18.2	13.7	13.8	7.2	6.2	5.3	4.6	5.6	7.7	10.0	9.6	7.7	9.3	5.4	17.67	64.57																							
22-Jan	6.0	6.2	5.9	6.4	Z	5.9	8.0	6.6	8.6	7.1	8.1	9.6	8.0	7.3	6.4	6.8	8.2	9.6	10.7	11.0	9.2	9.9	8.1	7.0	7.85	10.95																							
23-Jan	10.1	8.6	7.7	10.6	Z	14.1	15.8	20.3	16.8	30.6	29.4	7.6	9.2	6.4	10.7	12.8	10.8	25.8	44.6	28.5	31.8	24.2	17.5	16.3	17.83	44.59																							
24-Jan	11.6	19.5	6.4	2.7	Z	13.4	4.2	4.4	5.4	C	C	C	C	C	C	C	5.7	7.9	6.8	5.3	5.6	4.0	3.5	3.3	--	19.54																							
25-Jan	4.4	4.0	3.4	2.5	Z	2.6	3.7	5.3	4.4	5.9	4.9	4.5	5.3	3.9	2.3	3.7	3.8	4.0	4.4	4.2	3.2	3.3	2.3	2.1	3.82	5.94																							
26-Jan	1.8	1.4	1.3	1.4	Z	2.5	2.9	3.3	2.9	4.1	3.0	2.8	4.1	2.9	3.2	3.8	3.5	3.6	3.2	4.2	2.8	1.8	1.6	0.8	2.74	4.23																							
27-Jan	1.6	1.3	4.9	1.4	Z	1.7	2.4	4.2	3.5	1.9	2.0	2.3	2.1	2.6	3.6	2.6	4.6	3.5	3.8	3.7	1.3	2.4	4.2	4.8	2.88	4.87																							
28-Jan	0.7	0.5	0.8	0.6	Z	0.7	0.8	0.9	1.5	1.7	1.3	1.5	1.5	1.1	1.4	1.1	1.1	1.1	0.8	1.3	1.0	0.9	0.7	0.7	1.03	1.66																							
29-Jan	0.5	0.4	0.5	0.6	Z	1.0	2.1	1.5	1.9	2.1	1.1	1.3	1.6	1.6	2.3	2.0	1.7	2.1	2.1	1.9	11.7	8.6	6.8	4.3	2.59	11.72																							
30-Jan	6.4	2.1	1.2	0.9	Z	3.0	12.4	7.9	10.9	10.2	5.1	3.5	4.5	4.7	7.6	5.9	7.5	7.7	18.4	14.2	15.1	12.2	12.2	6.0	7.82	18.39																							
31-Jan	5.6	4.3	4.1	4.7	Z	5.4	7.5	9.4	4.4	3.8	5.5	4.0	4.7	7.2	7.9	7.3	8.9	9.8	9.3	7.8	5.2	3.1	9.0	6.6	6.34	9.83																							
																								7.90	9.58	9.28	6.77	--	8.47	11.24	14.04	17.27	17.71	14.44	10.84	9.71	7.02	7.69	7.96	9.72	10.96	11.31	10.42	13.49	11.59	9.93	8.44	Diurnal Average	
																								41.71	65.78	47.80	31.59	--	30.39	53.95	69.26	107.80	133.14	92.87	70.60	39.02	17.29	28.70	24.75	47.49	52.50	44.59	45.26	65.82	58.46	59.04	38.00	Diurnal Maximum	
Z - zerospan C - Calibration																																																	
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr --- ppb 24-hr --- ppb																																																	



WCAS - Hinton West
Summary of Hourly Averages

PM2.5 (PM_{2.5}) - µg/m³
January 2017

Maximum Value: 25.41 µg/m ³ on Jan 21 23:00		Maximum Daily Average: 12.18 µg/m ³ on Jan 23		Hours in Service: 744																																													
Minimum Value: 0.0 µg/m ³ on Jan 17 13:00		Minimum Daily Average: 2.73 µg/m ³ on Jan 16		Hours of Data: 742																																													
Maximum Diurnal Average: 6.84 µg/m ³ at hour 22		Minimum Diurnal Average: 4.13 µg/m ³ at hour 5		Hours of Missing Data: 2																																													
Monthly Average: 5.367 µg/m ³		Percentiles: P ₁ = 1.4 P ₁₀ = 2.5 Q ₁ = 3.3 Median = 4.2 Q ₃ = 6.2 P ₉₀ = 10.4 P ₉₉ = 16.7		Hours of Calibration: 0																																													
				Percent Operational Time: 99.7																																													
Day	Hourly Period Ending At																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Jan	6.7	3.8	5.0	4.6	5.9	2.9	3.3	3.7	3.5	3.5	4.0	2.8	2.3	2.3	2.6	3.4	3.1	6.4	6.5	8.1	12.9	15.0	6.4	6.0	5.20	14.96																							
2-Jan	8.6	6.4	3.5	2.9	3.3	2.9	4.5	5.0	5.0	4.9	5.9	5.3	3.8	3.3	4.3	4.5	5.6	9.6	12.7	8.7	7.2	10.0	9.4	10.2	6.15	12.67																							
3-Jan	6.2	5.4	6.0	4.0	3.1	3.3	3.4	3.2	4.6	6.2	4.3	7.4	4.4	4.0	3.8	3.5	3.9	5.4	3.2	4.4	3.8	3.7	5.1	3.3	4.40	7.40																							
4-Jan	3.2	3.5	3.4	3.5	2.5	2.5	3.1	3.6	3.8	3.3	4.4	4.6	3.7	10.3	11.9	10.6	5.5	3.3	3.1	3.2	3.7	3.3	2.5	2.2	4.37	11.89																							
5-Jan	1.5	1.5	1.8	2.1	2.0	1.9	2.4	2.6	3.0	2.6	3.1	3.2	3.0	3.4	4.2	5.0	4.5	6.5	7.7	5.3	4.0	4.2	5.2	3.2	3.51	7.75																							
6-Jan	3.6	3.3	4.1	4.3	4.0	4.6	5.3	6.6	8.1	9.5	8.2	7.7	7.6	9.5	11.7	13.3	11.1	12.5	12.3	15.3	14.8	14.3	14.1	14.4	9.17	15.28																							
7-Jan	13.7	11.7	12.6	10.3	5.8	5.7	6.3	5.6	6.1	4.5	3.5	2.2	2.7	4.7	4.1	3.9	3.4	2.7	4.9	4.2	5.6	5.8	6.8	5.8	5.95	13.72																							
8-Jan	7.3	5.2	6.5	6.1	5.2	4.8	6.1	5.7	6.3	6.6	6.6	8.3	17.9	9.0	5.0	8.0	12.1	13.1	15.5	16.3	14.3	10.3	7.5	8.0	8.83	17.90																							
9-Jan	8.0	8.0	7.1	5.6	6.0	5.4	6.4	6.9	7.3	6.9	6.3	5.9	5.3	5.4	5.5	6.4	5.8	5.8	7.2	6.4	5.6	5.0	6.4	5.4	6.25	8.01																							
10-Jan	6.6	7.4	4.5	4.6	3.8	4.6	4.0	4.2	5.2	5.8	4.0	3.2	4.8	3.9	3.3	4.3	3.1	3.9	4.9	4.2	3.3	2.6	2.0	1.7	4.17	7.41																							
11-Jan	1.7	1.5	2.3	2.0	2.8	2.2	1.7	2.7	2.6	2.5	2.8	2.8	4.2	4.3	4.6	6.9	6.1	4.6	4.1	3.7	3.4	3.8	3.6	2.5	3.31	6.93																							
12-Jan	2.1	3.6	4.3	3.2	3.1	2.3	1.0	2.6	2.7	2.7	2.5	2.5	2.4	2.4	4.8	4.2	3.5	4.0	3.8	4.1	3.9	4.1	3.9	4.0	3.23	4.76																							
13-Jan	3.8	3.4	4.3	4.5	4.2	4.1	3.8	3.6	3.4	4.4	3.4	3.1	3.3	2.9	3.5	4.0	3.8	3.0	2.9	3.4	2.5	2.8	3.8	3.0	3.54	4.46																							
14-Jan	3.3	3.0	3.8	3.1	2.6	3.5	2.9	3.5	2.9	4.5	3.8	2.5	1.6	3.2	4.4	3.9	4.9	3.9	2.8	2.7	2.7	1.9	3.2	3.3	3.25	4.86																							
15-Jan	3.1	3.3	4.9	3.8	3.3	3.2	3.4	3.1	3.7	2.8	3.3	2.5	2.0	1.8	2.6	3.5	3.7	3.8	3.6	3.6	3.5	3.3	3.4	3.8	3.29	4.88																							
16-Jan	3.6	2.0	3.3	3.4	2.7	3.7	3.9	1.5	3.0	2.8	2.5	2.8	1.7	5.2	2.2	2.0	1.9	2.4	2.1	1.6	2.0	2.9	3.6	2.7	2.73	5.18																							
17-Jan	3.4	3.4	3.5	3.6	2.0	3.3	2.5	2.8	5.1	2.6	3.2	2.4	0.0	2.2	3.9	3.6	2.4	1.3	1.9	3.3	2.2	4.2	1.7	2.4	2.78	5.11																							
18-Jan	0.7	1.1	1.4	3.5	0.8	2.2	2.5	4.2	3.0	1.9	2.2	2.6	2.1	2.1	3.3	3.6	4.2	3.6	2.5	5.4	3.8	4.4	2.9	3.7	2.82	5.41																							
19-Jan	1.6	3.0	2.4	2.8	3.4	6.5	8.0	10.4	10.4	10.6	12.5	20.8	13.8	0.0	2.7	2.6	3.0	3.4	2.7	4.1	4.1	5.8	3.4	3.2	5.88	20.79																							
20-Jan	2.8	5.6	4.4	5.1	6.1	5.6	4.7	6.6	6.3	9.7	7.0	5.4	6.3	5.8	7.3	2.7	4.8	5.1	10.8	12.5	11.2	11.7	14.0	12.0	7.23	13.99																							
21-Jan	4.3	4.1	4.9	5.0	4.3	3.8	3.8	4.2	6.8	7.9	9.8	8.8	8.9	7.2	7.4	7.7	7.5	8.4	10.7	16.1	14.9	25.0	25.4	19.6	9.44	25.41																							
22-Jan	14.3	11.1	11.0	9.8	9.3	11.5	10.7	10.4	9.7	8.7	8.5	8.3	7.5	8.5	9.9	10.9	11.0	13.1	18.1	20.9	17.7	15.2	14.9	13.8	11.86	20.90																							
23-Jan	11.4	10.6	10.7	10.5	11.1	11.8	11.9	13.0	13.8	14.8	14.9	9.9	9.1	9.0	11.0	11.7	10.1	15.3	20.0	16.2	13.7	13.2	9.3	9.3	12.18	19.98																							
24-Jan	7.3	5.5	3.8	2.7	3.2	3.8	2.7	2.4	2.2	4.1	5.4	4.3	5.4	M	M	4.1	4.7	5.1	3.8	3.4	3.5	3.1	2.5	3.3	3.93	7.26																							
25-Jan	2.5	2.9	2.8	3.2	3.1	2.6	3.0	2.5	3.8	3.6	3.5	4.0	5.0	5.1	4.5	5.0	4.7	4.9	4.7	4.5	3.9	3.8	3.7	4.3	3.82	5.14																							
26-Jan	3.2	3.3	3.5	3.2	3.9	4.4	4.2	5.3	3.0	4.4	4.3	4.1	4.9	10.5	5.8	6.6	7.6	7.6	6.2	6.7	6.5	4.7	5.1	4.9	5.16	10.49																							
27-Jan	6.3	5.7	7.5	4.2	3.9	5.1	3.7	3.9	5.3	7.1	5.7	9.0	7.1	7.2	8.2	5.2	6.1	7.8	4.2	4.0	5.7	4.9	5.1	4.7	5.74	8.97																							
28-Jan	4.0	5.5	5.5	5.1	4.4	3.0	7.6	8.6	9.5	8.9	3.4	3.1	4.3	5.0	4.3	4.4	5.0	4.2	3.9	3.7	3.6	4.1	4.8	6.5	5.09	9.54																							
29-Jan	5.1	4.0	4.3	4.0	4.2	4.2	4.2	4.0	4.4	3.9	3.5	3.2	3.1	3.1	4.1	2.7	2.5	3.9	3.7	3.8	5.4	6.2	6.0	2.8	4.02	6.21																							
30-Jan	4.8	2.3	3.0	2.8	4.0	3.6	4.7	4.5	4.9	3.7	4.7	3.5	3.1	4.4	4.0	4.0	4.0	4.8	6.4	5.2	5.6	5.5	4.1	4.2	4.25	6.42																							
31-Jan	4.3	3.8	4.7	4.2	4.0	4.1	4.9	5.2	5.1	4.2	4.3	4.3	3.2	4.1	4.0	4.0	4.0	4.6	4.8	5.6	7.0	7.2	5.8	5.6	4.71	7.24																							
																								5.13	4.68	4.86	4.44	4.13	4.29	4.53	4.91	5.31	5.47	5.21	5.17	4.98	5.00	5.30	5.37	5.28	5.94	6.50	6.80	6.52	6.84	6.31	5.80	Diurnal Average	
																								14.27	11.74	12.61	10.51	11.07	11.75	11.94	13.04	13.79	14.84	14.94	20.79	17.90	10.49	11.89	13.31	12.12	15.31	19.98	20.90	17.69	24.97	25.41	19.61	Diurnal Maximum	
M - Maintenance																																																	
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 80 ul/m ³ 24-hr 30 ul/m ³																																																	

**HINTON WEST
STATION #915**

METEOROLOGICAL DATA

JANUARY 2017



WCAS - Hinton West
Summary of Hourly Averages

External Temperature (ET) - C
January 2017

Maximum Value: 11.88 C on Jan 28 15:00		Maximum Daily Average: 8.07 C on Jan 28		Hours in Service: 744																																													
Minimum Value: -27.2 C on Jan 8 10:00		Minimum Daily Average: -22.02 C on Jan 8		Hours of Data: 744																																													
Maximum Diurnal Average: -3.87 C at hour 16		Minimum Diurnal Average: -8.03 C at hour 9		Hours of Missing Data: 0																																													
Monthly Average: -6.382 C		Percentiles: P ₁ = -25.6 P ₁₀ = -18.7 Q ₁ = -14.8 Median = -6.9 Q ₃ = 1.7 P ₉₀ = 6.6 P ₉₉ = 8.9		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-Jan	-9.6	-10.0	-9.9	-9.9	-10.4	-10.7	-10.9	-11.1	-11.6	-12.0	-12.2	-11.5	-11.1	-10.5	-9.6	-10.7	-12.0	-14.3	-16.5	-17.8	-18.0	-18.2	-19.3	-19.6	-12.81	-9.60																							
2-Jan	-19.2	-18.5	-18.1	-17.8	-18.2	-18.2	-18.5	-18.4	-18.5	-18.6	-18.2	-17.7	-16.5	-14.7	-14.2	-14.8	-16.5	-18.0	-18.3	-18.2	-18.5	-20.3	-22.2	-23.5	-18.15	-14.16																							
3-Jan	-24.6	-25.6	-25.8	-24.5	-25.5	-25.9	-25.2	-24.7	-25.2	-24.8	-24.2	-22.7	-21.0	-19.4	-18.4	-17.6	-17.6	-17.2	-16.5	-16.8	-16.5	-17.3	-18.0	-16.6	-21.32	-16.51																							
4-Jan	-17.4	-17.0	-16.9	-17.3	-16.5	-16.4	-16.7	-16.4	-15.9	-15.2	-14.6	-13.6	-12.8	-11.9	-11.2	-10.9	-10.6	-10.5	-10.0	-9.2	-9.1	-8.8	-8.9	-8.8	-13.20	-8.81																							
5-Jan	-8.9	-9.0	-8.9	-8.8	-8.7	-8.8	-8.6	-8.7	-8.6	-8.5	-7.9	-7.4	-7.0	-6.8	-6.9	-6.6	-7.1	-7.4	-7.4	-7.7	-8.2	-8.6	-8.8	-9.0	-8.09	-6.65																							
6-Jan	-9.1	-9.5	-10.7	-11.3	-11.8	-12.2	-12.7	-13.2	-13.8	-14.3	-14.8	-14.5	-13.5	-12.8	-12.5	-13.0	-13.9	-14.8	-15.1	-16.1	-16.5	-16.0	-16.3	-16.3	-13.52	-9.15																							
7-Jan	-16.0	-15.9	-15.6	-15.3	-15.6	-16.1	-16.3	-16.4	-17.0	-17.6	-17.7	-17.4	-17.0	-16.7	-15.9	-16.6	-17.5	-18.1	-18.4	-18.8	-20.4	-22.6	-23.8	-23.5	-17.76	-15.30																							
8-Jan	-22.3	-22.1	-23.0	-24.3	-24.1	-24.9	-25.8	-26.7	-26.7	-27.2	-26.4	-23.9	-20.1	-19.1	-17.3	-17.7	-18.9	-19.1	-19.4	-19.6	-19.8	-19.9	-20.0	-20.3	-22.02	-17.28																							
9-Jan	-20.6	-20.7	-20.9	-21.2	-21.3	-21.4	-21.3	-21.3	-21.3	-21.2	-21.0	-20.6	-20.0	-19.9	-19.3	-19.0	-18.9	-18.7	-18.7	-18.7	-18.6	-18.6	-19.0	-21.5	-20.16	-18.56																							
10-Jan	-22.7	-23.0	-23.9	-21.2	-20.0	-19.6	-19.3	-18.5	-18.0	-17.0	-17.7	-17.6	-17.1	-15.5	-14.2	-14.6	-16.0	-16.8	-16.8	-16.2	-16.3	-16.5	-16.9	-17.1	-18.02	-14.22																							
11-Jan	-17.1	-17.2	-17.9	-18.2	-18.3	-18.1	-18.3	-18.3	-18.5	-18.3	-17.6	-16.2	-15.0	-13.1	-12.2	-12.1	-12.0	-12.7	-13.1	-13.1	-13.0	-13.7	-14.5	-14.9	-15.55	-11.98																							
12-Jan	-15.7	-17.4	-18.9	-18.3	-18.6	-17.0	-15.7	-15.6	-15.1	-14.8	-13.5	-11.8	-9.1	-7.0	-6.1	-5.3	-5.2	-5.5	-5.4	-5.8	-6.4	-6.3	-6.8	-7.3	-11.19	-5.17																							
13-Jan	-8.1	-8.0	-7.6	-7.9	-9.2	-8.5	-8.6	-7.9	-7.8	-8.3	-7.8	-6.9	-5.4	-4.6	-4.2	-4.0	-3.9	-4.4	-4.5	-3.4	-2.9	-2.8	-2.7	-2.8	-5.93	-2.68																							
14-Jan	-3.5	-3.6	-3.9	-3.7	-3.7	-3.3	-3.2	-2.8	-2.0	-1.8	-1.3	-0.8	1.1	2.0	3.5	4.7	5.5	4.7	4.3	4.2	3.5	4.2	4.3	4.3	0.53	5.49																							
15-Jan	3.0	2.1	4.1	3.6	2.4	2.4	1.7	1.8	-0.1	0.1	0.5	2.0	3.6	4.7	4.8	4.7	4.0	3.4	3.3	3.2	2.7	2.5	2.4	2.1	2.71	4.83																							
16-Jan	2.6	2.5	1.8	1.7	1.3	1.4	1.5	3.2	5.3	5.2	4.8	5.3	4.7	6.2	7.6	8.3	7.7	7.0	7.2	7.8	8.3	8.7	9.0	8.8	5.34	8.98																							
17-Jan	8.5	8.0	7.4	7.4	7.6	7.8	7.6	7.3	7.2	7.0	6.8	7.7	7.7	8.7	8.7	8.8	8.1	8.3	8.6	8.8	9.2	7.8	6.3	5.6	7.80	9.25																							
18-Jan	6.4	6.8	6.8	6.5	6.4	6.5	6.4	6.4	6.4	6.5	7.3	8.2	8.5	8.4	7.7	7.9	6.8	6.6	6.9	5.3	5.4	2.8	5.0	5.6	6.56	8.48																							
19-Jan	5.5	5.5	4.9	3.0	0.9	-0.2	0.2	-1.0	-2.1	-2.2	-1.5	1.1	5.6	8.6	7.9	7.3	6.6	5.9	5.7	5.1	4.5	4.0	4.4	4.0	3.49	8.56																							
20-Jan	3.4	-0.4	-0.6	0.2	-2.6	-2.9	-3.2	-3.9	-3.9	-4.0	-2.3	-0.3	0.3	2.9	4.4	5.1	4.4	2.0	-0.6	-2.7	-3.0	-2.9	-3.5	-4.8	-0.79	5.12																							
21-Jan	-6.1	-7.0	-7.5	-8.1	-7.3	-7.8	-7.8	-8.0	-9.0	-7.8	-6.2	-5.9	-5.8	-5.9	-6.4	-7.0	-7.6	-8.1	-8.5	-8.9	-9.2	-9.6	-9.8	-9.6	-7.70	-5.76																							
22-Jan	-9.3	-9.2	-9.2	-9.2	-9.3	-9.2	-9.0	-9.0	-8.8	-8.7	-8.3	-7.9	-7.6	-7.2	-7.0	-6.9	-7.0	-7.6	-7.8	-7.9	-8.1	-8.1	-8.1	-8.2	-8.28	-6.91																							
23-Jan	-8.4	-8.6	-8.7	-8.7	-8.7	-8.7	-8.7	-8.6	-8.7	-8.6	-8.0	-7.2	-6.4	-5.8	-5.4	-5.0	-4.8	-5.3	-5.8	-7.0	-7.9	-7.9	-7.2	-7.2	-7.39	-4.84																							
24-Jan	-6.4	-6.0	-5.4	-6.0	-6.8	-8.0	-7.5	-7.8	-8.0	-8.5	-8.1	-6.0	-3.2	-1.3	-0.3	0.1	0.0	-1.4	-2.2	-2.6	-2.9	-3.4	-3.7	-3.9	-4.56	0.14																							
25-Jan	-4.4	-4.6	-4.9	-5.0	-5.3	-5.3	-5.6	-6.0	-6.0	-5.9	-5.4	-4.0	-2.2	-0.4	0.5	0.9	0.5	-0.3	-0.7	-1.0	-1.3	-1.5	-1.9	-2.3	-3.01	0.91																							
26-Jan	-2.5	-2.8	-3.2	-3.5	-3.8	-4.1	-4.1	-4.2	-4.5	-4.6	-3.8	-2.1	-0.5	1.0	1.9	1.6	1.4	0.6	0.6	0.1	0.6	0.6	0.6	0.8	-1.42	1.94																							
27-Jan	0.9	1.0	0.3	0.2	0.2	0.6	0.4	0.5	1.0	2.2	2.6	4.1	4.1	4.4	3.9	4.5	4.4	3.9	3.5	3.8	4.7	4.8	4.9	5.2	2.76	5.24																							
28-Jan	5.5	5.7	5.7	6.0	6.1	6.6	7.3	7.2	7.0	6.6	6.7	8.1	9.6	10.8	11.9	11.9	11.0	9.7	9.2	8.7	8.3	8.0	7.9	8.2	8.07	11.88																							
29-Jan	8.2	8.1	8.1	8.1	7.8	7.4	6.6	6.0	5.5	5.9	7.1	7.2	7.0	6.4	5.7	5.0	4.5	4.0	3.8	3.8	2.7	2.0	2.1	1.6	5.61	8.22																							
30-Jan	0.5	1.7	0.8	0.5	-0.5	-1.7	-1.6	-1.5	-2.3	-2.5	-1.9	-1.4	-1.0	-1.7	-1.8	-1.8	-2.1	-3.7	-4.6	-5.2	-5.5	-5.4	-5.3	-5.4	-2.23	1.71																							
31-Jan	-5.8	-6.2	-6.6	-6.9	-7.1	-7.2	-7.5	-7.6	-8.1	-8.7	-8.7	-8.6	-8.2	-7.6	-7.5	-7.1	-7.2	-7.5	-7.9	-8.0	-8.0	-8.0	-8.1	-8.2	-7.60	-5.77																							
																								-6.88	-7.14	-7.36	-7.42	-7.77	-7.86	-7.88	-7.91	-8.03	-7.98	-7.52	-6.52	-5.42	-4.44	-3.93	-3.87	-4.32	-5.01	-5.33	-5.61	-5.81	-6.15	-6.39	-6.60	Diurnal Average	
																								8.49	8.10	8.10	8.06	7.82	7.83	7.63	7.31	7.18	6.98	7.34	8.23	9.65	10.81	11.88	11.87	11.05	9.72	9.22	8.81	9.25	8.71	8.98	8.81	Diurnal Maximum	



WCAS - Hinton West
Summary of Hourly Averages

Wind Speed (WS) - kph
January 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	8.0	7.7	7.4	6.9	6.1	5.2	3.3	3.1	4.1	2.8	1.0	3.5	3.5	2.2	2.0	1.6	1.3	0.8	1.5	1.0	2.3	2.4	2.6	4.3	1.68	8.00	
Dir	NE	NE	NE	NNE	NNE	NE	NE	NE	NE	NE	ENE	SW	SSW	WNW	NE	NNE	N	N	S	SE	SW	SW	WSW	SW	NNE	NE	
24 Spd	3.8	3.8	4.4	10.1	13.1	5.4	11.0	10.9	10.3	5.8	4.3	4.9	2.9	5.8	8.0	10.2	8.7	8.5	9.0	8.7	9.3	7.1	8.4	6.8	7.33	13.06	
Dir	SW	WSW	SW	SSW	SSW	WSW	SW	SW	SW	WSW	WSW	WSW	W	SW	SW	SSW	SW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SW	SW	
25 Spd	5.8	8.3	7.7	8.9	10.0	11.2	11.6	12.9	13.6	13.8	13.6	13.1	14.0	14.1	16.7	16.7	15.7	13.3	12.4	12.7	11.9	12.3	12.2	12.7	12.21	16.72	
Dir	SW	SW	SW	SW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SW	SSW	SSW	SSW	SW	SW	SW	SW	SW	SW	SW	SSW	SSW	
26 Spd	13.1	14.0	13.9	13.0	12.4	12.7	14.1	13.2	14.2	13.5	14.3	17.2	13.4	14.3	15.3	14.3	12.0	12.3	10.5	8.9	11.8	12.0	11.1	14.4	13.09	17.17	
Dir	SW	SW	SW	SW	SW	SW	SW	SW	SW	SSW	SW	SSW	SSW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SSW	SW	SW	
27 Spd	10.5	9.8	4.8	11.1	9.0	10.2	8.8	11.0	12.9	20.3	20.5	20.1	17.8	21.0	15.8	17.5	16.4	12.4	11.4	14.7	22.0	20.3	16.8	20.4	14.73	21.97	
Dir	SW	SW	WSW	SW	SW	SW	SW	SSW	SW	SW	SW	SW	SSW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	
28 Spd	19.6	24.7	18.1	24.8	24.6	22.9	25.7	26.1	25.5	22.0	20.8	18.3	19.9	21.2	18.8	20.9	20.8	19.7	21.2	21.9	23.4	21.8	20.5	21.4	21.80	26.15	
Dir	SW	SW	SW	SW	SW	SW	SW	SW	WSW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	
29 Spd	20.5	19.5	17.9	16.2	15.9	14.2	12.1	12.7	12.8	12.5	20.6	19.9	16.8	14.9	14.2	15.7	14.9	14.7	15.4	15.6	3.6	3.4	3.9	3.6	13.75	20.62	
Dir	SW	SW	SW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	SW	SW	SW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	SW	SW	WSW	SW	WSW	SW	
30 Spd	3.9	12.3	10.4	17.4	15.0	4.9	5.7	7.1	8.7	8.2	13.3	16.9	15.9	16.3	16.7	16.2	9.9	10.9	6.3	5.1	4.9	4.6	5.6	6.4	9.81	17.44	
Dir	SW	WSW	SW	SW	SW	SW	WSW	W	W	WSW	WSW	WSW	W	W	W	W	W	WSW	WSW	W	WSW	W	W	W	WSW	SW	
31 Spd	5.8	5.5	5.1	7.3	6.7	6.0	3.9	3.6	3.0	2.7	4.1	2.9	2.2	3.8	2.6	5.1	4.2	4.4	5.3	4.4	2.4	1.0	3.6	2.8	3.82	7.29	
Dir	W	W	WSW	W	W	WSW	W	WSW	NW	NW	WSW	SW	SW	W	WSW	WNW	W	W	WSW	WSW	WNW	SSW	WSW	SSW	W	W	
Spd	6.14	6.09	6.55	7.19	6.96	7.14	7.67	7.72	7.12	7.07	7.20	8.39	7.84	8.63	8.55	8.29	7.71	7.30	6.74	6.22	6.62	6.36	6.99	7.37	Diurnal Average		
Dir	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	Diurnal Maximum	
Spd	23.73	24.70	19.90	24.78	24.61	24.32	31.25	29.50	25.49	22.03	20.76	22.72	23.09	27.93	30.12	26.47	27.52	22.52	21.17	21.93	25.97	25.42	26.06	25.75	Diurnal Maximum		
Dir	208.25	223.82	250.70	228.08	224.29	239.02	235.31	234.53	236.82	233.92	228.05	212.07	239.71	233.05	238.03	242.79	233.00	228.53	227.50	229.79	227.35	235.50	237.62	234.42			
Maximum Speed Value: 31.2 kph on Jan 17 07:00		Minimum Speed Value: 0.2 kph on Jan 20 21:00																		Hours in Service: 744							
Maximum Daily Speed Average: 21.80 kph on Jan 28		Minimum Daily Speed Average: 0.33 kph on Jan 7																		Hours of Data: 744							
Maximum Diurnal Speed Average: 8.63 kph at hour 14		Minimum Diurnal Speed Average: 6.09 kph at hour 2																		Hours of Missing Data: 0							
Monthly Average Velocity: 7.237 kph 224.23 deg		Speed Percentiles: P ₁ = 0.4 P ₁₀ = 1.5 Q ₁ = 3.8 Median = 8.5 Q ₃ = 14.7 P ₉₀ = 19.7 P ₉₉ = 25.8																		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	13	0	0	0	0	0	13																				
NorthEast	49	61	13	0	0	0	123																				
East	23	0	0	0	0	0	23																				
SouthEast	11	0	0	0	0	0	11																				
South	14	21	4	1	0	0	40																				
SouthWest	78	115	183	83	3	0	462																				
West	31	23	8	1	0	0	63																				
NorthWest	9	0	0	0	0	0	9																				
Total	228	220	208	85	3	0	744																				



WCAS - Hinton West
Summary of Hourly Averages

Relative Humidity (RH) - %
January 2017

Maximum Value: 94.75 % on Jan 22 20:00																								Hours in Service: 744		
Maximum Daily Average: 89.00 % on Jan 22																								Hours of Data: 744		
Minimum Value: 18.7 % on Jan 28 16:00																								Hours of Missing Data: 0		
Minimum Daily Average: 31.53 % on Jan 28																								Hours of Calibration: 0		
Maximum Diurnal Average: 68.08 % at hour 6																								Percent Operational Time: 100.0		
Minimum Diurnal Average: 56.78 % at hour 15																										
Monthly Average: 63.880 %																										
Percentiles: P ₁ = 21.1 P ₁₀ = 41.8 Q ₁ = 48.9 Median = 65.8 Q ₃ = 79.1 P ₉₀ = 85.6 P ₉₉ = 92.9																										
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-Jan	83.1	84.3	82.7	72.1	72.1	70.7	72.1	71.7	73.4	74.6	74.1	68.5	68.5	63.8	61.4	62.9	66.9	76.2	81.9	84.3	84.7	83.4	83.7	83.0	75.00	84.66
2-Jan	83.1	81.0	80.5	78.7	80.0	80.8	81.5	81.7	81.6	81.6	80.8	79.8	79.5	74.4	73.9	77.7	81.2	83.6	83.3	82.8	82.9	82.6	81.3	80.0	80.60	83.64
3-Jan	78.4	77.6	78.0	78.2	77.0	77.3	76.9	76.4	75.9	75.9	74.6	72.8	74.3	74.2	72.0	71.6	69.2	69.2	64.9	71.0	69.8	71.5	73.6	68.0	73.81	78.43
4-Jan	71.7	70.9	71.4	72.4	71.3	71.5	71.9	72.4	72.9	72.6	73.8	79.6	83.1	83.1	83.3	85.6	87.1	88.3	89.3	86.3	84.9	83.3	86.8	86.9	79.18	89.31
5-Jan	83.4	81.1	79.0	78.4	78.3	80.7	82.0	84.7	86.8	86.9	85.8	86.2	87.6	87.0	89.5	89.9	91.7	92.7	93.2	92.4	92.7	92.3	92.0	91.6	86.92	93.17
6-Jan	91.6	90.2	89.8	89.3	89.1	89.0	88.6	88.1	87.4	86.6	85.6	83.1	80.7	79.3	79.3	80.7	81.5	84.0	84.7	85.3	86.1	84.6	84.4	85.2	85.60	91.57
7-Jan	85.5	85.5	85.0	81.5	73.5	74.7	75.6	69.8	74.7	73.1	71.5	69.5	68.3	71.0	65.6	69.6	70.1	69.7	74.6	76.0	80.3	80.3	79.4	79.8	75.20	85.50
8-Jan	80.4	80.3	79.2	78.3	78.6	78.1	77.6	76.7	77.0	76.1	77.0	77.5	72.5	69.5	62.4	64.9	74.1	76.2	78.8	79.7	80.8	80.2	77.8	79.1	76.39	80.84
9-Jan	78.6	79.2	79.1	78.9	79.7	78.7	79.2	79.1	79.2	79.1	78.5	78.0	77.1	78.5	79.0	79.5	80.6	81.1	81.4	81.1	80.3	78.0	77.8	79.8	79.23	81.39
10-Jan	79.9	79.1	78.7	79.1	76.8	75.3	75.2	77.3	78.6	77.9	73.5	67.7	65.8	64.6	60.4	66.2	69.7	71.5	71.5	70.6	70.2	69.7	69.8	69.4	72.43	79.88
11-Jan	68.8	67.5	67.9	67.3	67.0	66.0	65.8	65.2	65.2	64.9	62.7	58.4	56.0	54.5	57.8	59.6	62.3	62.8	64.2	64.9	64.2	67.9	68.5	67.9	64.05	68.81
12-Jan	69.4	75.3	80.1	76.8	75.4	72.1	67.2	66.8	65.8	65.2	61.5	56.8	50.1	45.2	43.8	43.2	42.8	44.3	44.0	45.4	47.3	46.8	48.7	50.2	57.68	80.13
13-Jan	52.7	52.3	50.6	52.4	57.8	55.2	55.0	52.9	52.9	53.7	52.3	50.2	46.3	44.8	44.8	45.1	45.5	47.9	48.1	45.1	43.4	41.9	41.3	41.4	48.89	57.79
14-Jan	43.9	44.8	45.9	45.9	46.9	46.8	46.9	47.5	46.3	45.7	45.4	44.8	41.1	40.9	39.0	38.6	38.3	39.5	39.5	40.1	42.3	39.4	39.0	38.6	42.79	47.51
15-Jan	41.4	45.3	44.9	48.7	55.9	54.1	56.3	55.3	61.3	59.0	55.2	47.9	42.1	38.7	38.1	38.0	40.0	41.8	40.7	41.0	43.0	43.9	44.3	45.7	46.77	61.26
16-Jan	43.9	44.3	46.6	47.7	49.5	50.0	50.0	45.0	39.2	39.5	42.4	44.3	47.4	46.8	44.4	43.3	46.3	49.0	50.1	49.9	49.1	48.3	47.8	49.6	46.43	50.12
17-Jan	51.3	52.9	55.6	55.6	53.8	52.9	54.6	56.4	57.8	58.5	60.3	55.6	53.7	48.3	50.2	50.3	53.1	50.8	48.9	47.3	45.0	53.6	61.6	65.7	53.90	65.70
18-Jan	59.6	56.5	55.5	56.0	55.4	54.1	52.0	50.9	49.7	48.6	45.7	43.7	44.2	44.3	46.3	46.2	49.5	48.9	46.5	53.1	52.3	62.8	52.9	52.5	51.14	62.79
19-Jan	51.9	52.4	54.6	62.2	71.1	75.5	74.1	80.3	83.2	82.4	80.6	72.6	52.1	34.4	37.0	39.2	41.4	43.4	42.4	43.9	45.7	47.3	43.2	44.7	56.48	83.15
20-Jan	47.2	63.0	65.3	63.4	75.8	77.4	77.7	80.6	79.6	82.1	75.3	67.3	66.5	57.9	52.0	43.8	42.1	51.8	62.8	72.3	74.0	74.2	77.7	81.8	67.16	82.06
21-Jan	83.2	86.2	86.8	88.4	85.9	86.2	84.7	83.6	87.8	82.9	81.5	83.3	81.3	79.2	78.9	79.5	78.6	77.9	78.0	80.9	83.0	85.7	87.7	87.1	83.26	88.36
22-Jan	86.1	86.6	87.2	86.8	87.4	89.2	90.3	90.3	88.5	88.2	87.1	86.4	85.3	83.9	84.3	85.4	87.2	91.9	94.1	94.8	94.7	94.0	93.4	92.8	89.00	94.75
23-Jan	92.7	93.0	93.0	92.7	92.7	92.5	92.4	92.1	91.8	91.5	89.8	81.1	73.6	69.9	69.3	68.0	68.0	71.5	75.7	79.3	81.7	81.9	80.1	81.2	83.15	93.03
24-Jan	78.5	77.1	72.4	72.3	74.0	78.8	74.7	74.2	74.3	75.2	73.7	65.8	56.7	49.9	47.0	45.6	46.5	51.8	55.4	56.5	57.5	59.5	60.8	61.4	64.15	78.77
25-Jan	62.7	62.6	62.8	62.0	62.4	61.8	62.3	62.6	62.1	61.3	58.7	54.1	49.0	46.1	44.9	46.2	49.3	53.7	56.3	56.9	58.0	59.1	60.2	61.3	57.35	62.80
26-Jan	61.9	62.2	62.9	63.3	63.9	64.9	64.8	64.8	65.3	65.1	62.2	56.8	51.9	48.4	46.8	48.9	50.7	54.0	53.9	55.2	52.5	52.1	51.7	50.1	57.26	65.34
27-Jan	49.7	48.8	51.4	51.9	51.5	49.2	50.1	50.0	48.7	43.9	43.0	39.0	40.4	40.7	42.0	41.0	42.8	45.4	46.6	45.3	42.9	42.6	42.9	42.2	45.49	51.88
28-Jan	42.2	42.7	43.1	42.4	43.2	43.1	41.8	41.4	41.1	40.9	36.9	31.4	26.9	23.9	20.3	18.7	19.4	20.9	21.1	21.3	22.2	23.1	23.5	25.4	31.53	43.23
29-Jan	28.9	30.3	29.9	30.4	32.2	36.0	40.1	45.4	45.5	39.8	34.7	35.8	37.1	43.0	49.5	54.0	55.1	55.8	56.4	54.6	58.9	63.2	66.9	74.1	45.73	74.05
30-Jan	76.5	50.5	55.9	51.9	61.1	66.6	54.6	42.6	41.2	31.8	31.0	25.2	21.0	22.3	20.7	20.6	22.6	26.8	30.7	30.4	31.7	33.2	33.6	39.7	38.42	76.51
31-Jan	44.5	49.1	52.4	57.4	61.2	61.3	65.1	66.1	66.1	61.2	63.2	67.5	71.3	74.5	76.2	69.1	64.6	66.7	75.6	76.5	65.9	65.8	72.0	74.2	65.31	76.50
66.20 66.22 66.72 66.52 67.76 68.08 67.77 67.48 67.76 66.64 65.12 62.27 59.72 57.51 56.78 57.21 58.73 60.94 62.40 63.36 63.49 64.26 64.66 65.50																								Diurnal Average		
92.67 93.01 93.03 92.74 92.68 92.53 92.38 92.14 91.84 91.51 89.79 86.39 87.59 87.00 89.55 89.94 91.72 92.71 94.11 94.75 94.74 94.05 93.35 92.84																								Diurnal Maximum		



WCAS - Hinton West
Summary of Hourly Standard Deviations

Wind Speed (WS) - kph
January 2017

Maximum Value: 11.87 kph on Jan 17 07:00		Maximum Daily Average: 8.44 kph on Jan 17		Hours in Service: 744																							
Minimum Value: 0.6 kph on Jan 7 23:00		Minimum Daily Average: 1.42 kph on Jan 23		Hours of Data: 744																							
Maximum Diurnal Average: 4.33 kph at hour 14		Minimum Diurnal Average: 3.28 kph at hour 22		Hours of Missing Data: 0																							
Monthly Average: 3.768 kph		Percentiles: P ₁ = 0.7 P ₁₀ = 1.3 Q ₁ = 1.9 Median = 3.1 Q ₃ = 5.6 P ₉₀ = 6.8 P ₉₉ = 9.5		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-Jan	2.3	2.9	2.4	3.4	2.7	1.7	1.2	2.0	1.9	1.5	2.1	1.7	1.5	2.0	2.5	1.8	1.4	1.2	1.0	1.4	1.1	1.5	1.3	0.9	1.81	3.36	
2-Jan	2.0	1.6	1.5	1.8	1.7	1.8	1.6	1.5	1.9	1.6	1.5	1.6	1.8	2.6	2.3	1.4	1.3	1.1	1.0	1.1	1.5	0.9	0.9	1.0	1.54	2.62	
3-Jan	0.8	0.9	1.3	1.5	1.7	1.2	1.3	1.7	1.2	1.6	2.4	2.7	2.2	2.6	2.9	2.7	2.8	2.8	2.9	2.6	3.1	2.6	1.9	3.4	2.11	3.38	
4-Jan	2.7	2.3	2.0	2.4	3.2	3.3	2.4	2.8	2.6	2.6	2.7	2.5	2.5	2.2	2.4	2.1	2.2	2.2	2.5	4.1	2.8	2.7	3.2	3.5	2.67	4.07	
5-Jan	3.8	3.8	4.1	3.9	4.2	4.1	4.2	3.9	3.3	3.0	3.2	2.6	2.7	3.4	1.5	1.2	0.7	0.6	1.8	1.4	1.5	1.7	2.2	2.4	2.71	4.18	
6-Jan	2.8	2.9	3.2	3.2	2.7	2.9	3.2	3.1	3.5	3.2	3.1	3.0	2.8	3.0	2.8	3.0	2.8	2.7	2.6	1.7	1.3	0.7	1.4	1.0	2.60	3.46	
7-Jan	1.1	1.2	0.8	1.3	1.4	1.4	2.1	2.5	1.3	1.8	1.4	1.4	1.5	1.2	2.1	2.4	1.6	2.2	1.4	1.5	0.7	0.8	0.6	0.9	1.45	2.47	
8-Jan	1.2	1.3	1.4	1.4	1.1	1.1	1.2	1.2	1.5	2.1	1.5	1.5	1.3	1.0	1.2	0.9	1.4	1.9	2.4	2.1	1.9	1.9	2.2	2.0	1.53	2.43	
9-Jan	1.7	1.7	1.8	1.5	1.5	1.3	1.6	1.5	1.2	1.4	1.5	1.5	1.7	1.5	1.4	1.9	1.7	1.7	1.2	1.7	1.9	1.6	2.2	1.5	1.59	2.24	
10-Jan	1.7	1.4	1.7	3.9	3.9	3.5	3.3	3.8	3.1	2.9	3.7	2.4	2.0	1.6	2.7	2.2	2.5	2.3	2.4	2.7	2.8	3.2	4.2	4.5	2.85	4.54	
11-Jan	4.5	6.0	5.2	4.6	5.7	6.0	5.3	5.8	6.1	6.2	6.5	6.1	5.3	5.2	4.0	3.7	3.4	3.3	3.6	2.6	2.6	1.6	2.3	2.5	4.50	6.54	
12-Jan	2.4	1.7	1.6	1.7	3.1	5.7	4.8	4.9	5.2	4.4	5.7	5.4	5.6	6.1	5.8	5.0	6.3	6.4	6.4	5.8	5.7	5.6	6.1	5.3	4.86	6.43	
13-Jan	4.3	4.4	4.5	4.6	3.1	3.7	3.7	4.1	4.4	6.2	6.3	6.3	6.7	6.0	6.2	5.7	5.7	5.2	6.1	5.7	4.9	5.9	6.4	6.5	5.27	6.71	
14-Jan	7.5	7.2	6.3	7.1	6.6	5.6	5.3	4.9	5.6	6.1	4.1	4.1	4.2	3.5	4.6	4.9	5.6	5.9	5.8	5.9	5.1	6.7	6.6	5.9	5.63	7.54	
15-Jan	6.0	5.8	6.1	5.3	5.3	4.9	5.8	6.5	4.7	4.5	5.4	5.4	5.4	5.9	6.9	6.5	7.9	7.9	7.4	6.8	6.4	6.7	6.8	6.0	6.10	7.94	
16-Jan	5.6	5.7	6.2	6.7	6.4	6.5	5.3	6.5	8.4	5.8	6.6	7.6	6.0	8.9	6.7	5.6	6.0	6.6	6.0	7.5	7.7	7.6	8.3	8.5	6.78	8.91	
17-Jan	9.3	9.4	8.7	9.5	10.1	10.0	11.9	11.0	9.3	7.0	4.8	10.7	9.6	10.7	9.8	9.5	9.2	7.1	7.3	5.3	6.8	7.1	3.7	4.7	8.44	11.87	
18-Jan	5.9	3.8	8.4	5.2	6.2	6.3	5.1	5.4	5.1	4.1	4.8	6.2	6.5	8.4	7.0	6.5	4.9	4.7	5.3	4.4	3.3	1.5	5.8	4.9	5.40	8.42	
19-Jan	3.1	4.1	3.5	2.0	2.0	2.3	2.2	1.4	1.5	1.8	1.4	1.5	4.8	7.0	9.1	7.6	6.9	5.6	5.0	5.2	5.4	3.9	5.2	2.6	3.96	9.09	
20-Jan	3.8	0.8	2.3	2.4	1.0	2.0	1.2	1.4	1.3	0.8	1.6	1.2	1.1	1.8	1.6	2.8	2.4	2.2	2.3	1.2	0.7	0.8	0.7	0.9	1.60	3.76	
21-Jan	0.8	0.7	0.7	0.7	1.5	1.2	1.3	1.3	0.8	1.2	0.9	2.1	2.3	2.7	2.3	2.4	2.7	2.9	2.9	2.7	2.7	2.8	2.5	2.2	1.85	2.89	
22-Jan	2.0	2.4	2.6	2.1	2.5	2.4	2.4	2.4	2.3	2.4	2.5	2.0	2.6	2.6	2.8	2.7	2.6	2.4	2.6	2.7	2.7	2.6	2.0	2.3	2.44	2.80	
23-Jan	1.9	2.4	1.8	1.8	1.7	1.8	0.9	0.9	1.1	1.0	1.5	2.2	2.2	1.8	1.4	1.0	1.0	0.8	1.0	0.9	1.7	1.1	1.1	1.1	1.42	2.39	
24-Jan	1.2	1.9	2.0	3.5	3.9	3.5	4.0	4.0	3.7	3.0	1.7	1.8	1.7	2.8	3.0	3.4	3.3	2.4	2.8	2.7	2.8	2.7	2.6	2.9	2.80	3.96	
25-Jan	2.4	2.7	2.8	3.0	3.2	3.4	4.0	4.2	4.1	4.5	4.3	4.4	4.4	4.7	5.2	4.8	5.0	4.2	4.2	4.1	4.0	4.2	3.9	4.4	4.00	5.22	
26-Jan	4.7	4.8	4.7	4.8	4.5	4.1	4.6	4.4	5.0	4.9	5.0	5.6	4.9	4.8	5.2	4.8	4.4	4.2	3.4	2.8	3.8	3.8	3.9	4.8	4.50	5.65	
27-Jan	3.9	3.7	4.6	4.6	4.1	4.5	4.2	5.5	5.7	6.7	7.1	7.2	6.2	7.3	5.0	6.9	6.5	4.0	3.8	5.6	7.5	7.2	6.9	7.0	5.66	7.46	
28-Jan	7.5	8.6	8.2	8.3	8.6	8.1	9.3	9.2	9.1	7.5	6.6	6.3	7.4	7.4	7.2	7.3	7.3	6.7	6.3	6.7	6.8	6.8	6.8	7.6	7.57	9.29	
29-Jan	6.8	6.3	6.9	6.8	6.8	6.4	5.6	5.9	6.0	5.2	9.5	7.8	6.7	6.6	6.3	6.7	6.3	6.6	7.0	5.8	1.7	1.3	2.9	2.5	5.85	9.46	
30-Jan	3.4	5.8	4.7	7.1	7.1	3.1	2.9	4.6	5.3	4.0	5.7	6.9	6.8	6.6	7.2	7.4	5.5	5.2	3.0	2.6	2.4	2.3	3.0	3.4	4.83	7.42	
31-Jan	3.0	3.1	2.7	3.5	3.2	3.1	2.9	1.5	2.5	2.5	2.7	2.0	1.9	2.5	2.9	3.7	3.0	2.9	1.9	1.9	3.1	1.8	1.5	1.2	2.53	3.67	
		3.55	3.59	3.70	3.86	3.89	3.77	3.69	3.87	3.83	3.60	3.80	3.99	3.95	4.33	4.25	4.14	4.01	3.73	3.65	3.52	3.43	3.28	3.53	3.49	Diurnal Average	
		9.31	9.35	8.70	9.54	10.15	10.00	11.87	11.05	9.31	7.54	9.46	10.69	9.57	10.68	9.75	9.51	9.18	7.87	7.41	7.54	7.70	7.61	8.31	8.54	Diurnal Maximum	
,Alberta Ambient Air Quality Objectives (AAAQO): 1-hr --- ul/m ³ 24-hr 100 ul/m ³																											



WCAS - Hinton West
Summary of Hourly Standard Deviations

Wind Direction (WD) - deg
January 2017

Maximum Value: 103.15 deg on Jan 20 09:00 Maximum Daily Average: 61.05 deg on Jan 1																							Hours in Service: 744 Hours of Data: 744			
Minimum Value: 8.7 deg on Jan 7 23:00 Minimum Daily Average: 15.08 deg on Jan 22 Maximum Diurnal Average: 36.33 deg at hour 9 Minimum Diurnal Average: 24.00 deg at hour 16 Monthly Average: 30.063 deg Percentiles: P₁ = 12.9 P₁₀ = 15.9 Q₁ = 17.7 Median = 20.6 Q₃ = 33.0 P₉₀ = 64.4 P₉₉ = 92.0																							Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0			
Day	Hourly Period Ending At																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	33.7	33.3	71.7	48.2	46.0	63.4	44.6	54.6	80.8	100.7	56.8	20.6	28.5	81.2	68.1	32.1	69.1	62.0	63.1	75.4	87.6	72.7	89.1	82.0	61.05	100.71
2-Jan	54.0	40.8	22.4	24.6	16.9	22.3	21.3	38.0	34.6	21.1	28.9	25.2	23.2	24.6	36.0	36.6	46.7	59.3	54.8	40.9	93.8	59.0	44.6	79.5	39.55	93.80
3-Jan	68.3	47.5	56.3	22.1	54.4	17.6	14.7	27.8	17.0	27.5	24.2	22.8	23.3	23.4	23.5	22.1	18.0	20.6	19.8	19.2	22.7	23.2	20.9	24.7	27.56	68.33
4-Jan	19.6	18.7	26.3	21.6	22.9	22.6	17.4	19.9	19.8	17.4	18.2	20.5	20.2	20.4	20.6	17.3	20.9	20.1	21.4	23.9	17.9	20.6	16.9	19.7	20.19	26.29
5-Jan	17.4	17.6	18.3	17.9	17.3	17.6	16.1	16.8	17.3	17.3	17.4	17.5	23.2	29.7	28.9	66.2	23.9	37.9	22.4	13.5	16.1	12.8	16.2	15.1	21.44	66.22
6-Jan	13.7	13.2	14.1	14.2	12.8	13.1	12.8	14.3	13.4	14.1	13.2	13.5	14.1	15.3	14.5	13.8	13.9	13.3	14.8	33.1	91.4	14.7	77.0	72.0	22.93	91.41
7-Jan	81.5	97.6	61.0	66.6	77.3	58.2	87.9	93.7	59.9	58.6	59.7	55.8	87.8	86.3	78.5	38.3	60.2	43.2	14.5	20.4	14.5	12.9	8.7	23.3	56.10	97.60
8-Jan	15.7	53.0	50.3	59.5	74.6	48.6	85.4	77.5	82.5	92.4	81.6	46.3	32.3	22.9	54.3	22.8	22.0	20.2	14.7	16.4	15.0	15.1	14.2	15.8	43.04	92.37
9-Jan	11.5	15.7	54.3	48.2	36.8	45.5	37.9	35.9	16.1	16.7	16.0	17.8	19.2	16.1	18.4	18.9	23.1	26.6	26.9	37.6	25.8	16.2	16.1	69.6	27.78	69.61
10-Jan	27.7	24.2	43.0	24.2	23.2	20.8	18.3	21.4	92.0	73.0	89.1	58.9	37.8	34.5	28.1	21.0	22.1	26.6	22.3	24.3	19.1	16.4	18.2	16.5	33.44	91.98
11-Jan	16.6	16.1	17.5	17.1	17.6	17.3	16.8	18.1	17.2	18.0	16.5	17.0	17.8	27.4	23.8	21.0	25.7	19.5	18.0	18.8	18.4	22.3	19.6	17.1	18.96	27.37
12-Jan	21.6	31.4	43.4	23.1	38.3	30.7	19.7	18.5	18.9	20.5	20.6	18.0	20.8	19.9	18.5	17.4	16.6	16.9	17.6	17.5	17.2	16.2	16.9	18.8	21.62	43.38
13-Jan	21.8	22.1	24.5	62.0	71.8	25.3	28.3	20.3	17.5	19.5	17.5	17.6	17.7	16.9	17.1	19.0	18.2	17.0	18.5	19.1	18.2	18.4	18.1	17.5	23.50	71.77
14-Jan	16.5	17.7	19.2	18.0	22.2	26.5	25.6	26.2	20.4	19.9	20.3	19.4	19.9	20.5	20.3	20.3	22.7	23.6	19.6	18.8	23.2	21.5	19.3	24.9	21.11	26.49
15-Jan	29.1	41.4	19.4	21.1	18.9	19.3	20.2	18.9	24.9	20.1	19.8	17.4	19.3	19.4	21.2	19.1	17.8	17.9	18.5	17.9	17.7	18.1	18.2	17.8	20.56	41.42
16-Jan	18.9	18.2	17.6	16.7	17.8	17.2	18.4	23.6	41.6	22.2	21.9	20.8	18.0	27.7	23.6	19.7	19.5	18.7	18.4	17.2	15.9	16.4	17.5	17.3	20.21	41.65
17-Jan	20.8	22.6	23.4	24.3	22.9	22.0	19.6	19.3	21.9	24.4	81.1	37.7	21.2	20.3	18.4	19.9	16.9	17.7	21.0	56.2	32.9	44.1	55.9	17.2	28.40	81.10
18-Jan	21.2	73.1	30.2	25.5	24.0	19.3	20.1	16.5	15.9	18.5	19.4	18.0	20.6	19.6	19.3	19.8	76.7	66.7	59.4	41.2	23.1	60.3	21.5	34.4	31.83	76.74
19-Jan	45.1	28.9	34.0	76.8	57.6	90.2	88.1	86.0	92.8	64.9	58.2	84.4	58.2	23.3	20.4	19.4	18.4	17.9	17.9	32.3	45.0	70.9	42.0	17.4	49.59	92.81
20-Jan	25.7	24.4	41.2	81.4	76.8	79.7	88.0	87.8	103.2	75.0	33.0	35.9	36.4	70.0	45.7	20.4	20.8	17.9	75.7	52.0	84.1	80.9	74.5	78.6	58.71	103.15
21-Jan	28.1	72.1	36.1	93.9	56.1	81.4	70.8	59.9	73.5	27.5	66.5	41.5	60.6	55.9	24.3	15.7	15.9	16.0	15.1	14.9	15.3	13.7	13.5	17.3	41.06	93.95
22-Jan	15.2	15.5	15.5	14.0	12.5	15.1	14.2	14.2	16.6	15.1	16.0	15.2	14.8	15.5	13.3	15.6	15.4	15.6	14.9	13.0	13.7	13.3	15.5	22.0	15.08	22.01
23-Jan	16.1	14.1	13.8	13.9	15.4	14.6	18.3	11.3	14.4	16.5	61.9	60.4	48.1	64.3	53.4	43.4	51.8	47.7	47.7	59.2	28.7	31.0	26.2	15.6	32.83	64.32
24-Jan	20.3	27.7	26.3	16.1	17.6	25.9	18.6	18.5	18.3	22.6	21.9	21.9	40.5	27.7	22.9	16.9	19.4	18.3	16.7	17.1	16.0	19.3	16.9	22.6	21.25	40.53
25-Jan	22.6	20.1	20.7	18.9	19.2	17.4	17.2	17.6	17.0	16.9	17.7	17.4	17.6	18.8	17.6	16.8	17.5	18.5	18.8	17.5	19.1	18.8	17.8	18.8	18.35	22.65
26-Jan	19.3	19.1	18.5	19.2	19.2	17.7	18.1	17.9	18.7	21.0	17.5	18.0	19.2	19.0	18.4	19.1	18.8	17.6	17.0	16.8	17.0	18.3	19.5	17.7	18.43	20.97
27-Jan	20.5	20.5	56.6	23.8	23.7	24.5	25.7	27.5	22.2	19.5	19.5	19.5	20.0	20.1	19.4	20.0	18.2	17.0	17.8	18.7	19.1	18.6	20.8	19.1	22.18	56.62
28-Jan	20.2	18.3	22.4	17.5	19.3	19.5	19.8	18.6	17.7	16.7	16.5	16.9	20.2	18.7	20.3	18.0	18.6	18.2	16.7	17.1	15.8	16.4	18.6	19.3	18.38	22.40
29-Jan	17.9	18.3	19.8	20.6	22.0	22.7	23.4	23.9	23.1	22.8	20.8	20.1	20.5	24.8	23.2	22.1	22.2	23.5	22.8	22.1	40.9	27.8	52.9	41.8	25.01	52.94
30-Jan	43.5	24.9	25.7	20.6	20.4	31.7	25.2	33.9	32.7	24.7	21.9	20.8	22.7	23.3	21.6	22.4	25.9	22.6	24.1	31.4	26.8	28.4	29.3	29.5	26.42	43.53
31-Jan	31.7	41.9	34.2	29.2	25.4	31.9	42.9	31.7	64.6	64.7	58.5	54.6	57.4	44.2	84.7	48.9	43.7	36.4	24.6	32.5	69.0	78.8	28.9	28.4	45.38	84.72
26.96 30.65 31.55 32.28 32.29 31.61 32.11 32.58 36.33 32.57 33.94 28.77 29.07 30.69 29.62 24.00 27.11 26.28 25.66 27.62 31.65 29.59 28.56 30.04																							Diurnal Average			
81.47 97.60 71.72 93.95 77.33 90.21 88.06 93.66 103.15 100.71 89.05 84.36 87.76 86.30 84.72 66.22 76.74 66.65 75.69 75.44 93.80 80.95 89.08 82.02																							Diurnal Maximum			
,Alberta Ambient Air Quality Objectives (AAAQO): 1-hr --- ul/m^3 24-hr 100 ul/m^3																										

CALIBRATIONS

Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 901, Tomahawk
 Calibration Date: January 20, 2017
 Parameter: NO/NO₂/NO_x

Instrument: Teco 42i	Serial Number: 0708721217	Previous Calibration Date: December 27, 2016
Calibration: Routine	Calibration Equipment: Sabio 2010 SN - 08600312	Barometric Pressure: 26.70" Hg
Calibration Method: Standard Gas Dilution/ GPT	Cylinder ID: FF13698	Temperature: 21.0° C
Cylinder Concentration: 12.5 ppm NO/12.6 ppm NO _x	In Service: 01/14/2015 EXP 10/13/2017	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	12.5	12.8	NA	1.178	0.995	1.000	200 ppb
Current	12.8	13.5	NA	1.126	1.006	1.000	200 ppb

NO	Final Zero: -0.2 ppb	Final Span: 144.5 ppb	As Found Correction Factor: 1.020
NO ₂	Final Zero: -0.5 ppb	Final Span: 0.1 ppb	As Found Correction Factor: NA
NO _x	Final Zero: -0.6 ppb	Final Span: 144.7 ppb	As Found Correction Factor: 1.015

Results of Linear Regression			Slope	Intercept	R ²
NO	R _c vs C _c	Previous	149.339600	2.597878	0.999994
		Current	149.307900	37.451810	0.999971
	C _i vs C _c	Current	1.000000	0.000019	0.999971
NO ₂	R _c vs C _c	Previous	146.703500	-162.159000	0.999994
		Current	149.923300	19.872290	0.999987
	C _i vs C _c	Current	1.000000	0.000006	0.999987
NO _x	R _c vs C _c	Previous	147.851000	44.589680	0.999994
		Current	149.793600	42.400420	0.999945
	C _i vs C _c	Current	1.000000	-0.000002	0.999945

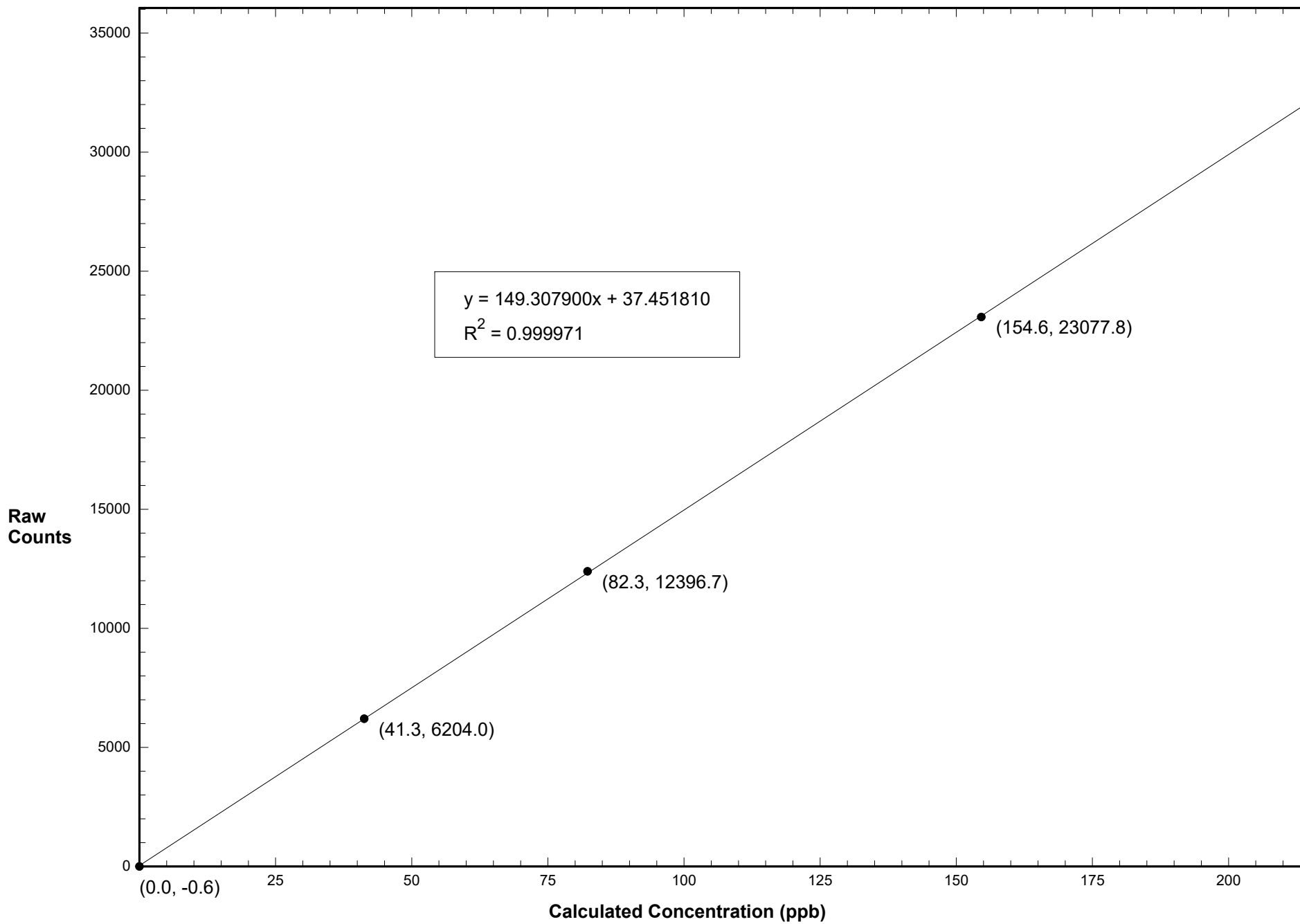
Comments: SAMPLE FLOW: 0.607 LPM

Calibration Data Summary (Page 2)

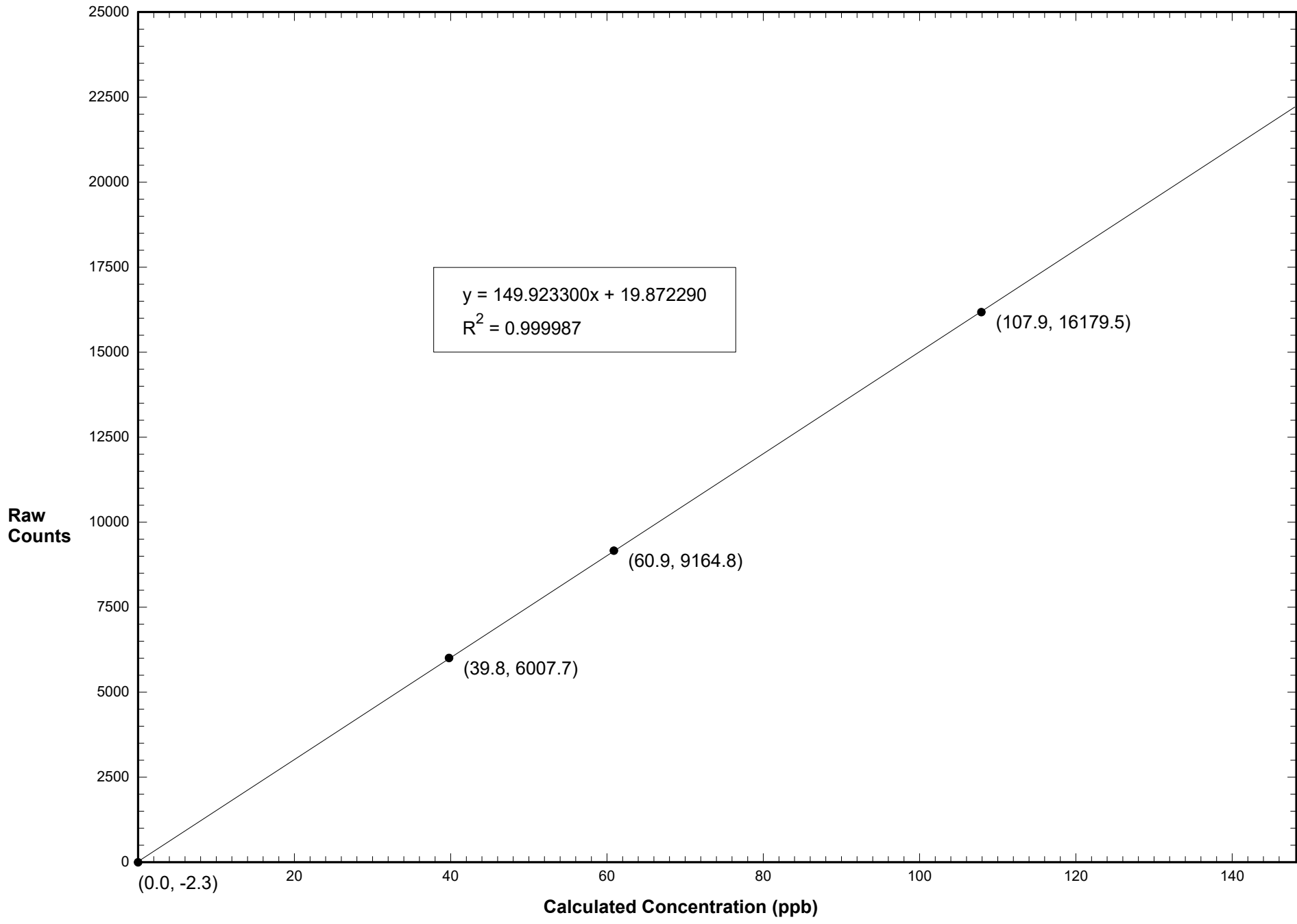
January 20, 2017 - Station 901

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		
0.07508	5.996	154.6	23077.8	154.3	1.002		
0.04003	6.041	82.3	12396.7	82.8	0.994		
0.01997	6.029	41.3	6204.0	41.3	0.999		
0.00000	6.000	0.0	-0.6	-0.3			
NO Calibration					Average Correction Factor:	0.998	
0.07508	5.996	155.8	23327.4	155.4	1.002		
0.04003	6.041	82.9	12566.5	83.6	0.992		
0.01997	6.029	41.6	6284.8	41.7	0.998		
0.00000	6.000	0.0	-12.6	-0.4			
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
154.9	7050.6	47.0	107.9	16179.5	107.8	1.001	0.999
154.9	14073.2	94.0	60.9	9164.8	61.0	0.998	1.002
154.9	17221.6	115.1	39.8	6007.7	39.9	0.996	1.004
			0.0	-2.3	-0.1		
					Average Correction Factor:	0.998	
NO ₂ Gas Phase Titration					Average Converter Efficiency: 1.002		
Parameter	Correction Factor (Previous)	Correction Factor: (Current)	Percent Change of Correction Factor				
NO	1.001	1.002	0.1				
NO ₂	1.000	1.001	0.1				
NO _x	1.002	1.002	0.0				

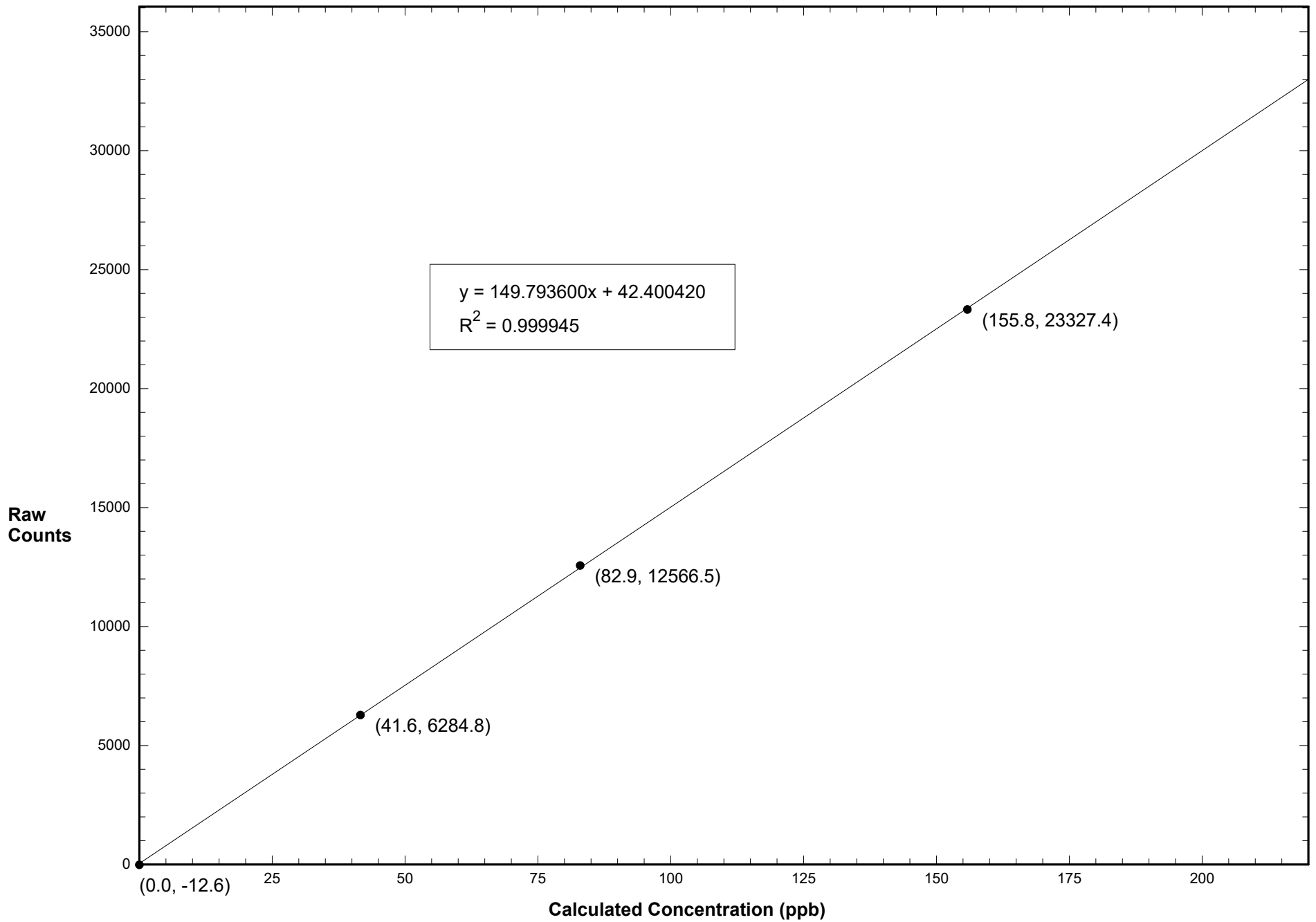
Station 901 NO January 20, 2017: Linear Regression



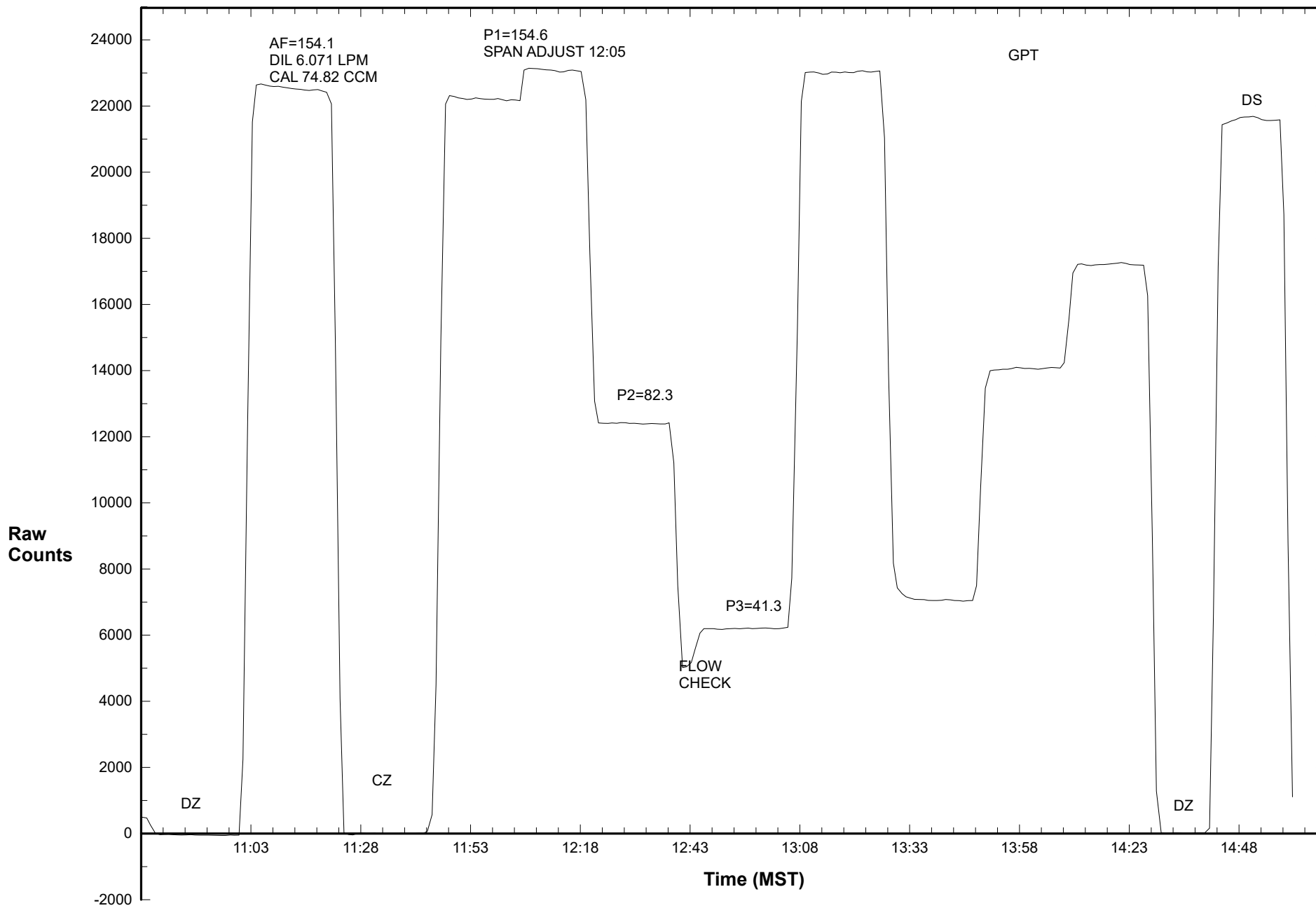
Station 901 NO2 January 20, 2017: Linear Regression



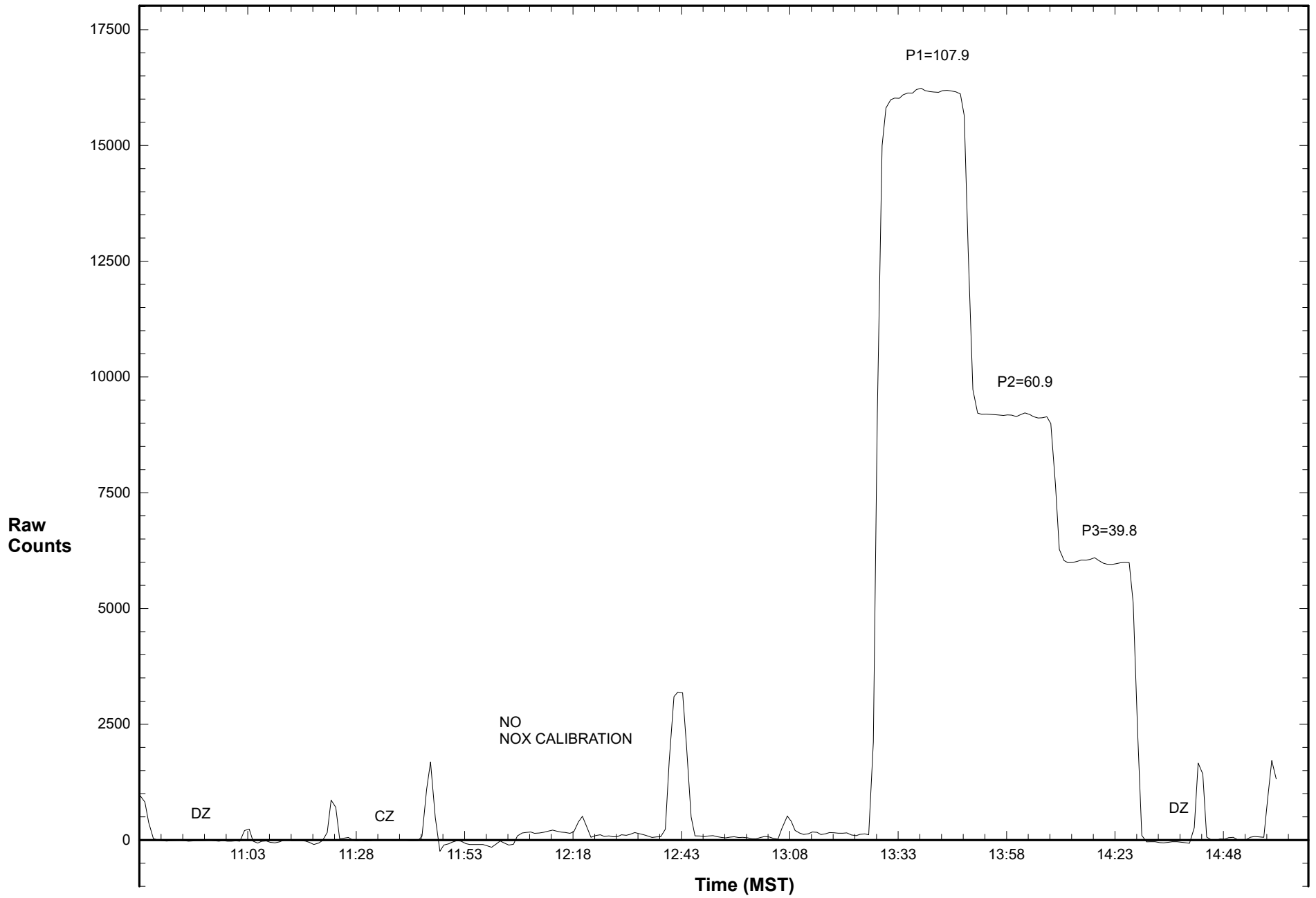
Station 901 NOX January 20, 2017: Linear Regression



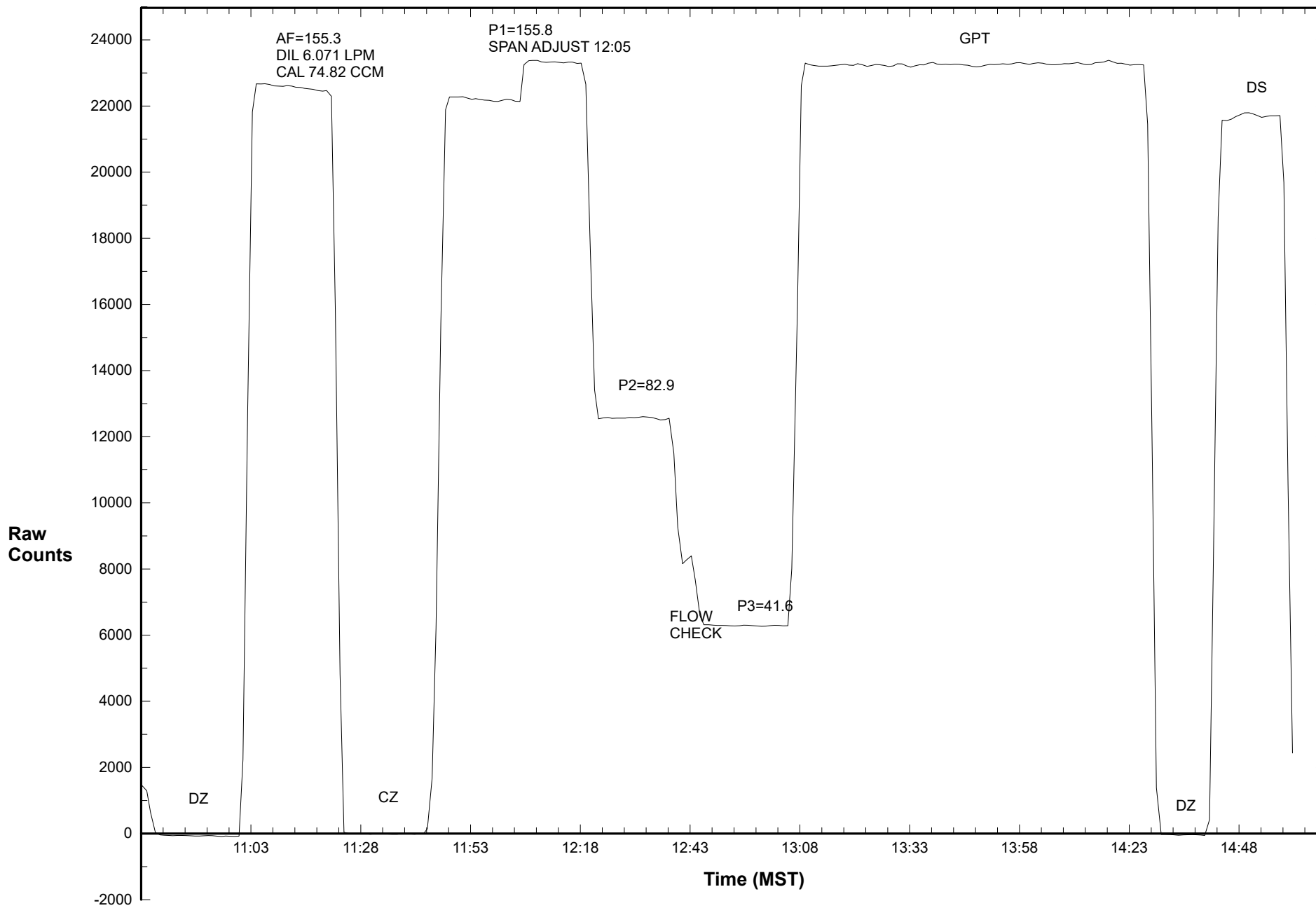
Station 901 NO January 20, 2017: Calibration Graph



Station 901 NO2 January 20, 2017: Calibration Graph



Station 901 NOX January 20, 2017: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 901, Tomahawk
 Calibration Date: January 20, 2017
 Parameter: O₃

Instrument: Teco 49i

Serial Number: 0708721220

Previous Calibration Date: December 27, 2016

Calibration: Routine

Calibration Equipment: 2B Tech Model 306 SN#142

Barometric Pressure: 26.70" Hg

Calibration Method: Certified Ozone Generator

Temperature: 21.0° C

Technician: L. Burns

Instrument Settings	Background	Coefficient	Monitoring Range
Previous	-0.2	1.049	500 ppb
Current	-0.2	1.029	500 ppb

Final Zero: -0.7 ppb

Final Span: 247.3 ppb

As Found Correction Factor: 0.951

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	23822.7	398.3	1.002
3.000	215.0	12945.3	215.9	0.996
3.000	105.0	6369.3	105.7	0.993
3.000	0.0	6.8	-1.0	

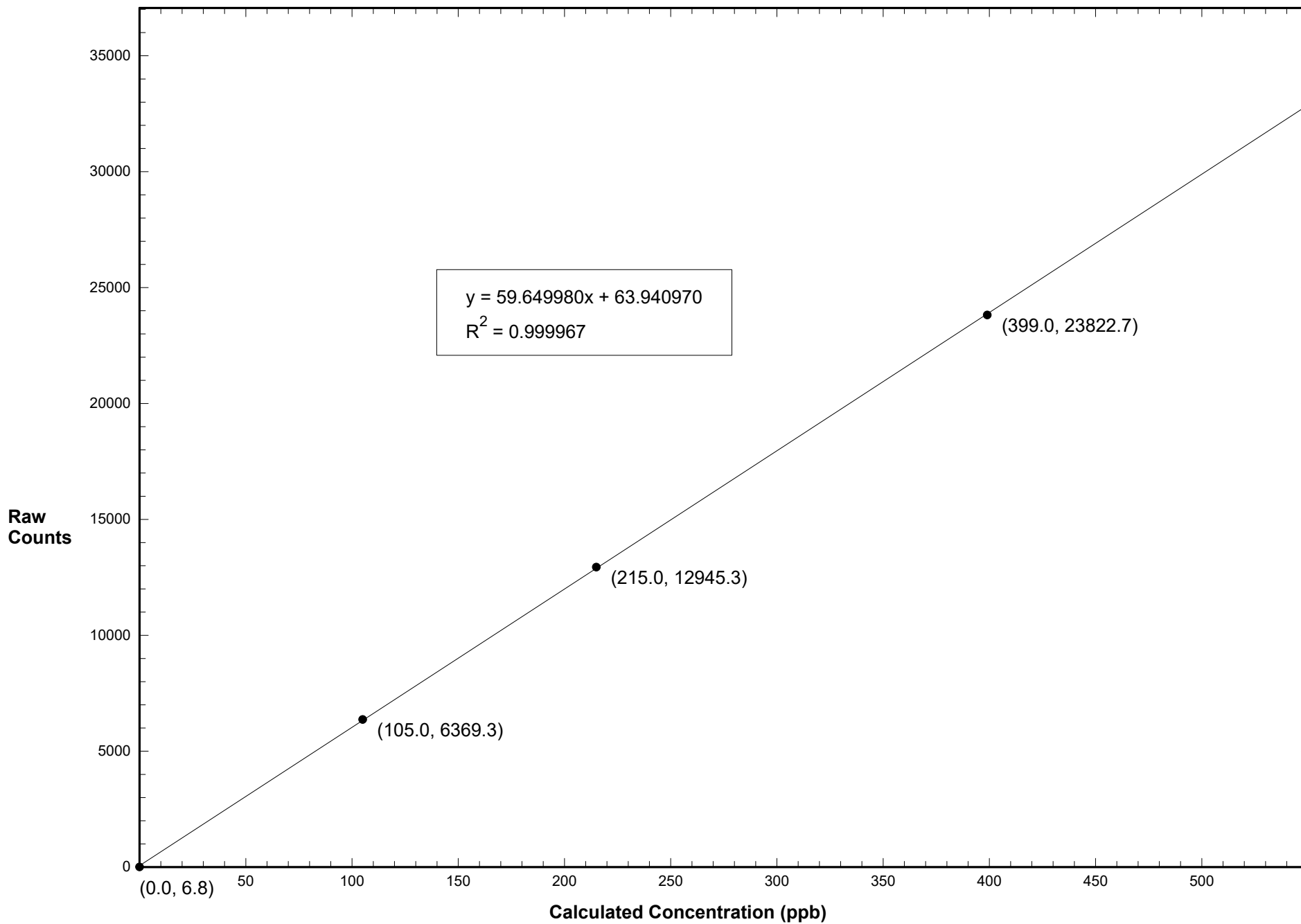
Results of Linear Regression

R _c vs C _c	Slope	Intercept	R ²
Previous	59.832950	39.327300	0.999964
Current	59.649980	63.940970	0.999967
C _i vs C _c			
Current	1.000000	-0.000070	0.999968

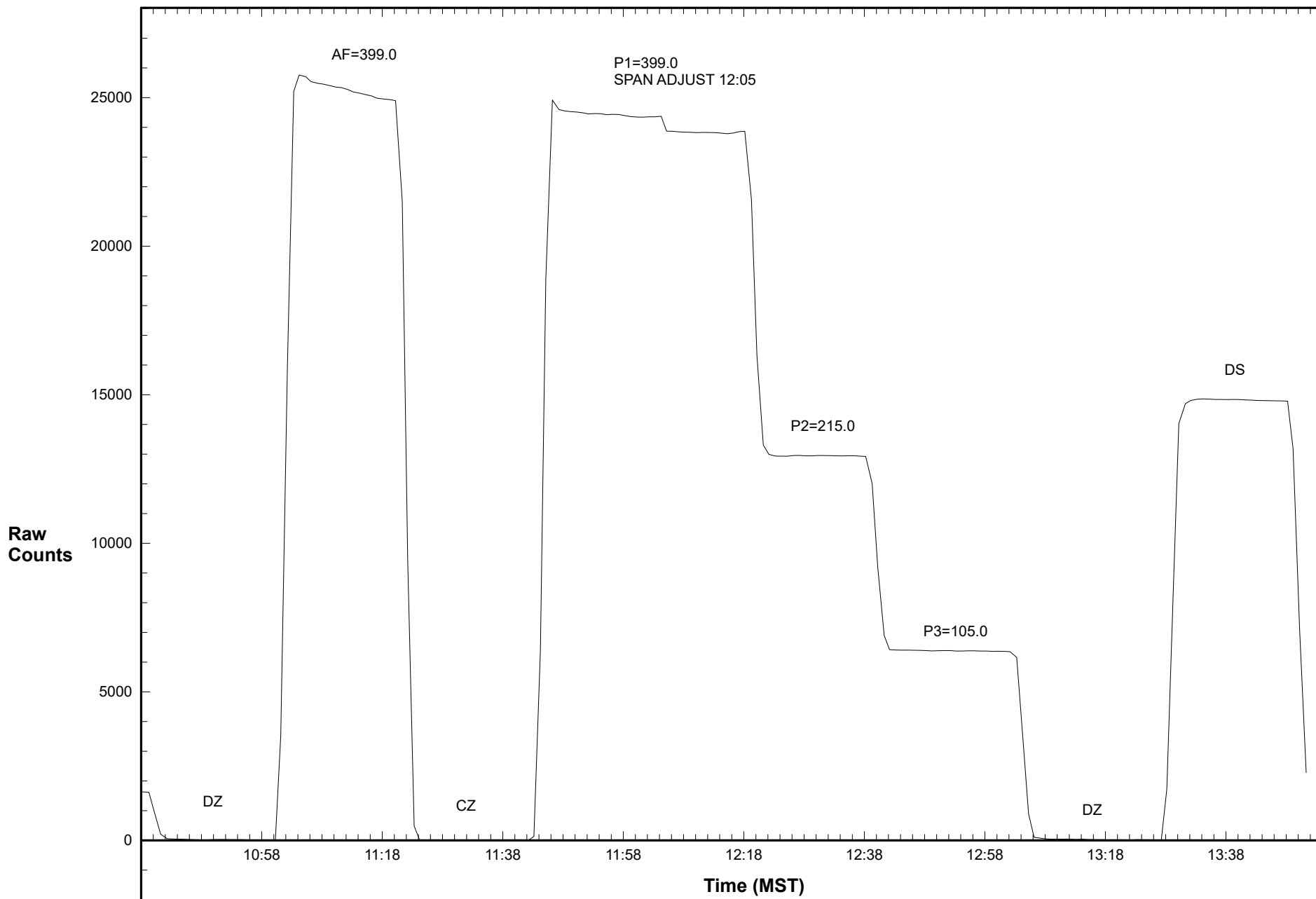
Average Correction Factor: 0.997
 Previous Correction Factor: 1.002
 Current Correction Factor: 1.002
 Percent Change of Correction Factor: 0.0

Comments: SAMPLE FLOWS: 0.688 AND 0.697 LPM

Station 901 O3 January 20, 2017: Linear Regression



Station 901 O3 January 20, 2017: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 901, Tomahawk
 Calibration Date: January 20, 2017
 Parameter: SO₂

Instrument: Teco 43i	Serial Number: 0708721218	Previous Calibration Date: December 27, 2016
Calibration: Routine	Calibration Equipment: Sabio 2010 SN - 08600312	Barometric Pressure: 26.70" Hg
Calibration Method: Standard Gas Dilution	Cylinder ID: FF13698	Temperature: 21.0° C
Cylinder Concentration: 6.31 ppm SO ₂	In Service: 01/14/2015 EXP 10/13/2017	Technician: L. Burns

Instrument Settings	SO ₂ bkg ppb	SO ₂ Coefficient	Monitoring Range
Previous	16.7	0.953	100 ppb
Current	17.3	0.992	100 ppb

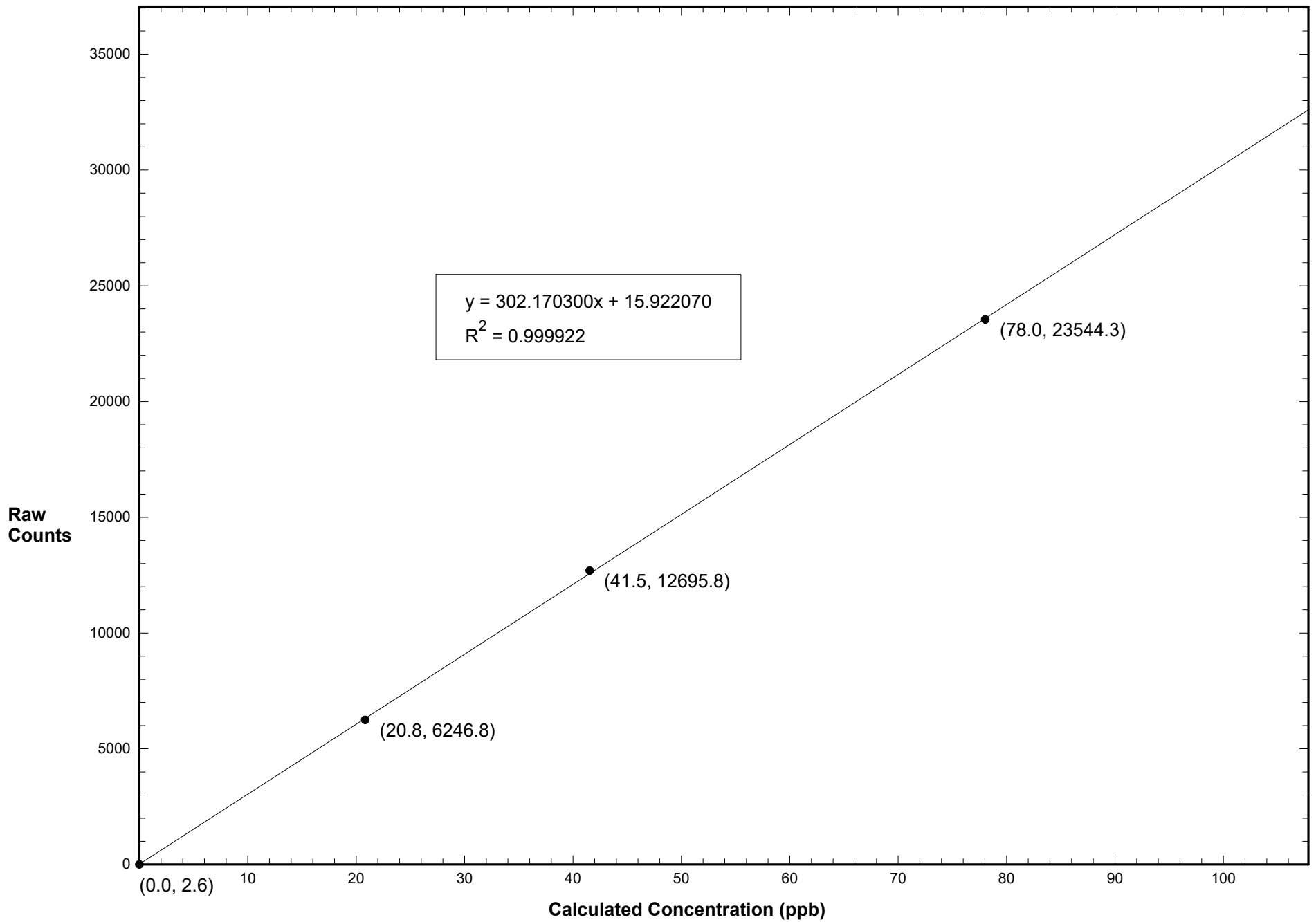
Final Zero: -0.3 ppb Final Span: 67.8 ppb As Found Correction Factor: 1.027

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
0.0751	5.996	78.0	23544.3	77.9	1.002
0.0400	6.041	41.5	12695.8	42.0	0.990
0.0200	6.029	20.8	6246.8	20.6	1.010
0.0000	6.000	0.0	2.6	0.0	

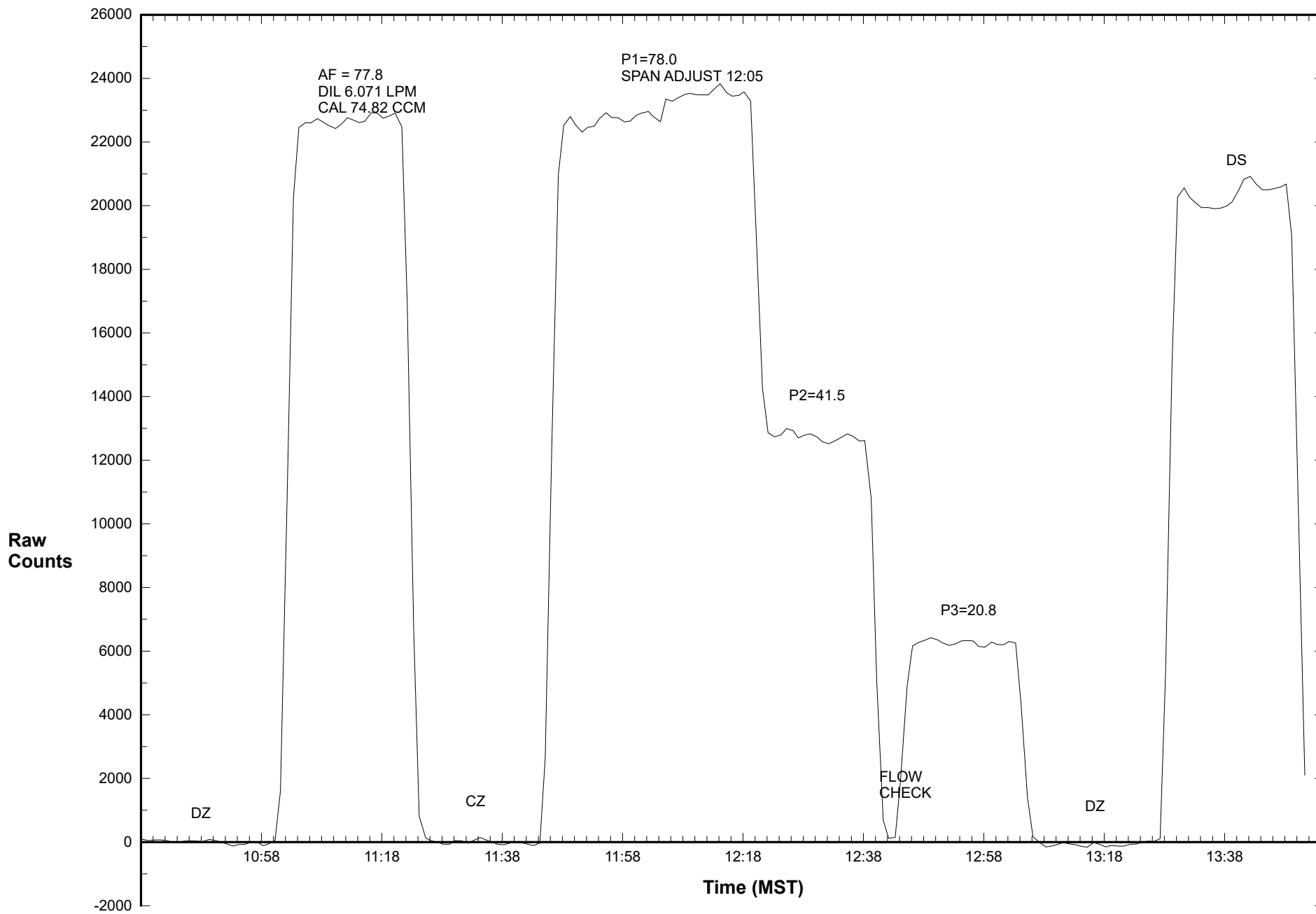
Results of Linear Regression				Average Correction Factor:	1.001
R _c vs C _c	Slope	Intercept	R ²	Previous Correction Factor:	1.002
Previous	300.576600	-23.576600	0.999740	Current Correction Factor:	1.002
Current	302.170300	15.922070	0.999922	Percent Change of Correction Factor:	0.0
C _i vs C _c					
Current	1.000000	-0.000009	0.999923		

Comments: SAMPLE FLOW: 0.407 LPM

Station 901 SO2 January 20, 2017: Linear Regression



Station 901 SO2 January 20, 2017: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 902, Violet Grove

Calibration Date: January 24, 2017

Parameter: NO/NO₂/NO_x

Instrument: Teco 42i

Serial Number: 0708721428

Previous Calibration Date: December 29 2016

Calibration: Routine

Calibration Equipment: SABIO 2010 sn 04300810

Barometric Pressure: 26.70" Hg

Calibration Method: Standard Gas Dilution/GPT

Cylinder ID: FF 27662

Temperature: 22.0° C

Cylinder Concentration: 11.9 ppm NO 12.0 ppm NO_x

In Service: June 2 2016 exp: Jan 20 2019

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	13.0	13.8	NA	1.032	1.005	1.000	200 ppb
Current	12.6	13.3	NA	1.008	1.009	1.000	200 ppb

NO	Final Zero: 0.1 ppb	Final Span: 119.6 ppb	As Found Correction Factor: 0.983
NO ₂	Final Zero: -0.1 ppb	Final Span: 1.1 ppb	As Found Correction Factor: NA
NO _x	Final Zero: -0.4 ppb	Final Span: 120.4 ppb	As Found Correction Factor: 0.982

Results of Linear Regression			Slope	Intercept	R ²
NO	R _c vs C _c	Previous	150.172500	63.479410	0.999939
		Current	149.830500	13.550480	0.999997
	C _i vs C _c	Current	1.000000	0.000000	0.999997
NO ₂	R _c vs C _c	Previous	149.775800	35.687840	0.999939
		Current	149.255400	-48.086540	0.999979
	C _i vs C _c	Current	1.000000	-0.000011	0.999979
NO _x	R _c vs C _c	Previous	149.976600	95.439750	0.999939
		Current	150.039500	8.027528	0.999997
	C _i vs C _c	Current	1.000000	0.000000	0.999998

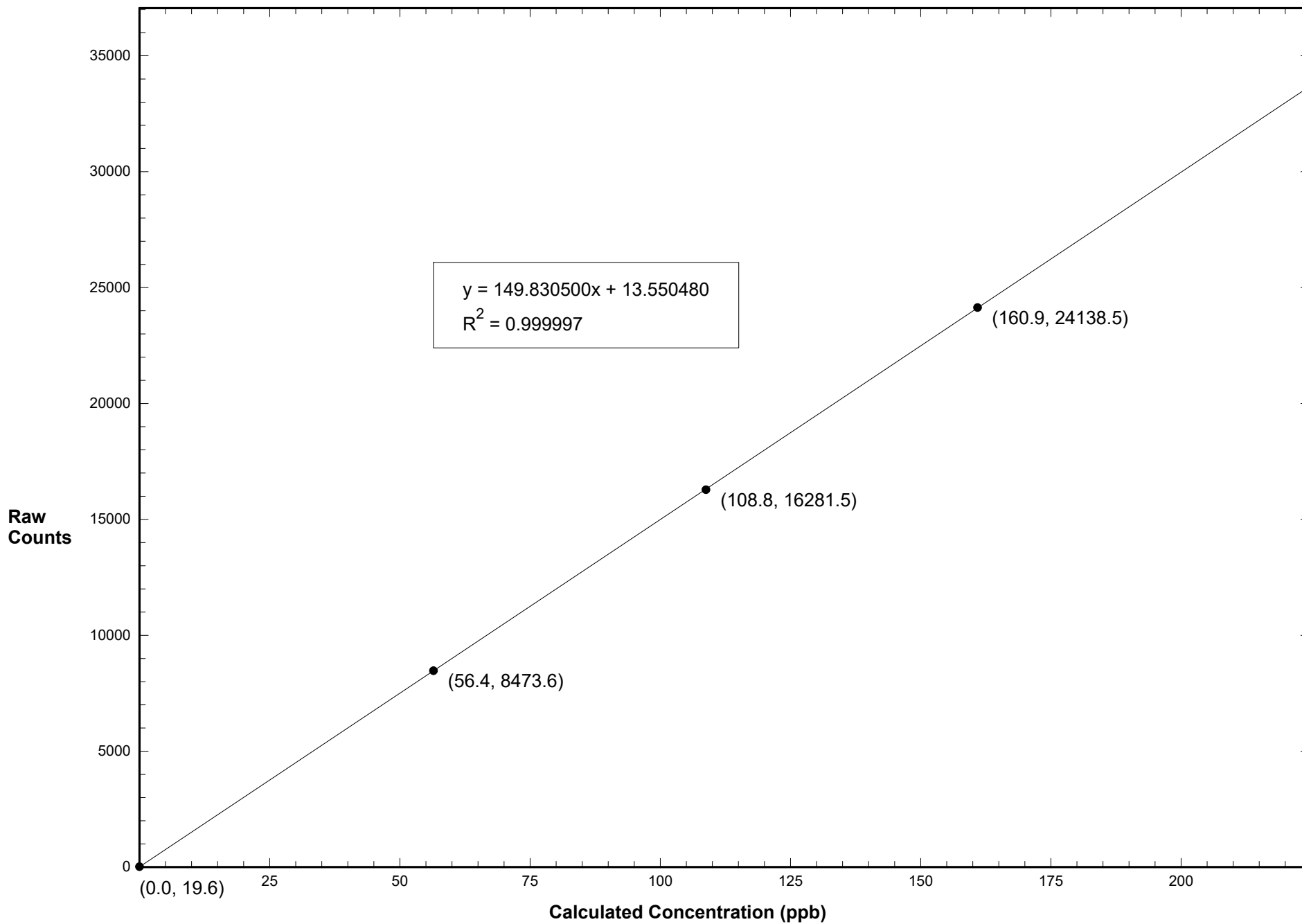
Comments: Sample flow: 0.435 (measured with flow meter. Flow sensor on Analyzer not working)

Calibration Data Summary (Page 2)

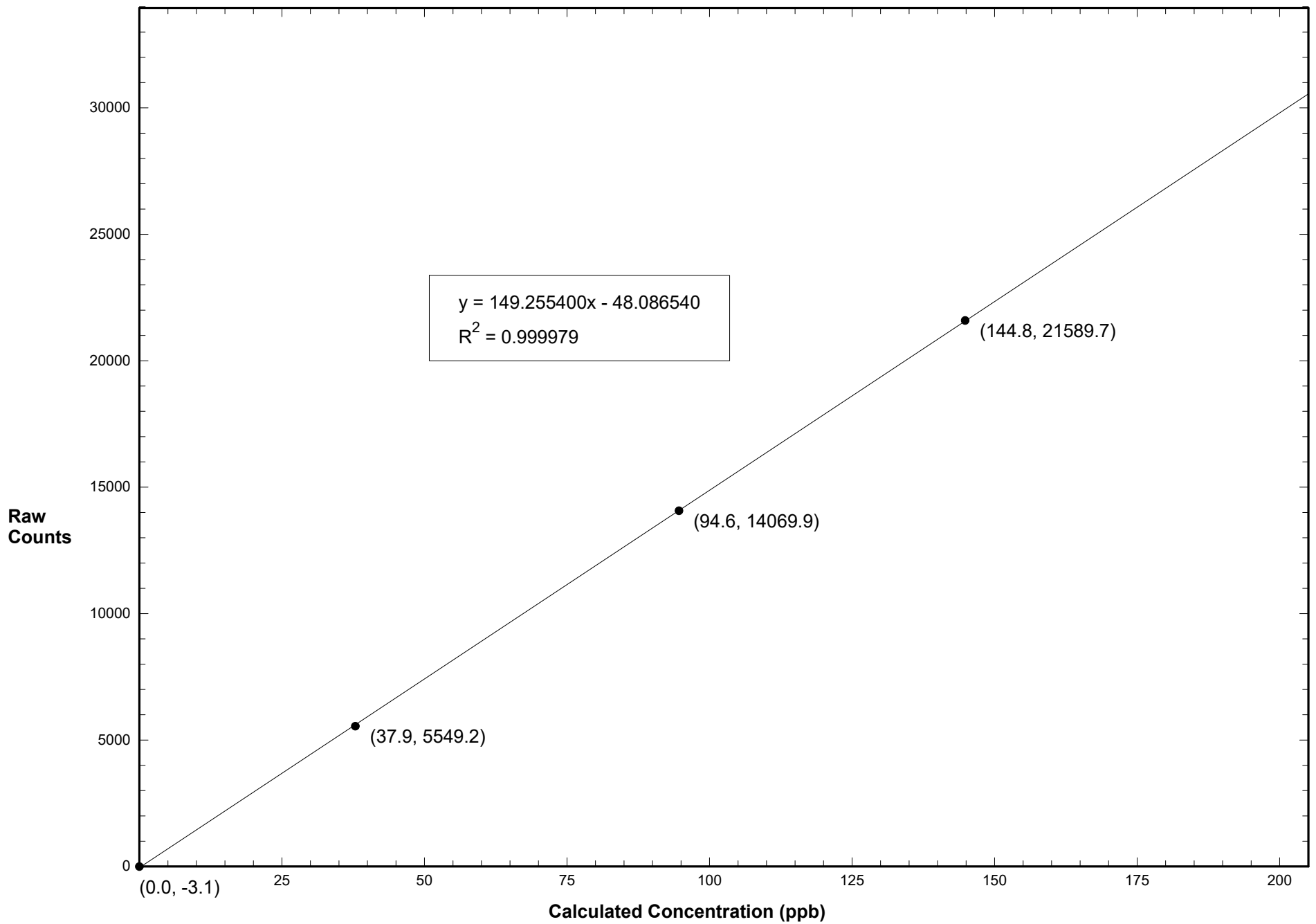
January 24, 2017 - Station 902

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		
0.06220	4.538	160.9	24138.5	161.0	0.999		
0.04182	4.534	108.8	16281.5	108.6	1.002		
0.02160	4.533	56.4	8473.6	56.5	0.999		
0.00000	4.569	0.0	19.6	0.0			
NO Calibration					Average Correction Factor:	1.000	
0.06220	4.538	162.3	24362.9	162.3	1.000		
0.04182	4.534	109.7	16440.0	109.5	1.001		
0.02160	4.533	56.9	8561.7	57.0	0.998		
0.00000	4.569	0.0	5.8	0.0			
NO _x Calibration					Average Correction Factor:	1.000	
Reference Concentration NO (ppb)	Raw Count Output NO	Calculated Concentration NO (ppb)	Calculated Concentration NO ₂ , C _c (ppb)	Raw Count Output R_c	Indicated Concentration C_i (ppb)	Correction Factor C_c/C_i	Converter Efficiency C_i/C_c
162.1	2599.2	17.3	144.8	21589.7	145.0	0.999	1.001
162.1	10120.4	67.5	94.6	14069.9	94.6	1.001	0.999
162.1	18623.9	124.2	37.9	5549.2	37.5	1.010	0.990
			0.0	-3.1	0.3		
						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	1.003	0.999	-0.4				
NO ₂	0.999	0.999	0.0				
NO _x	1.004	1.000	-0.4				

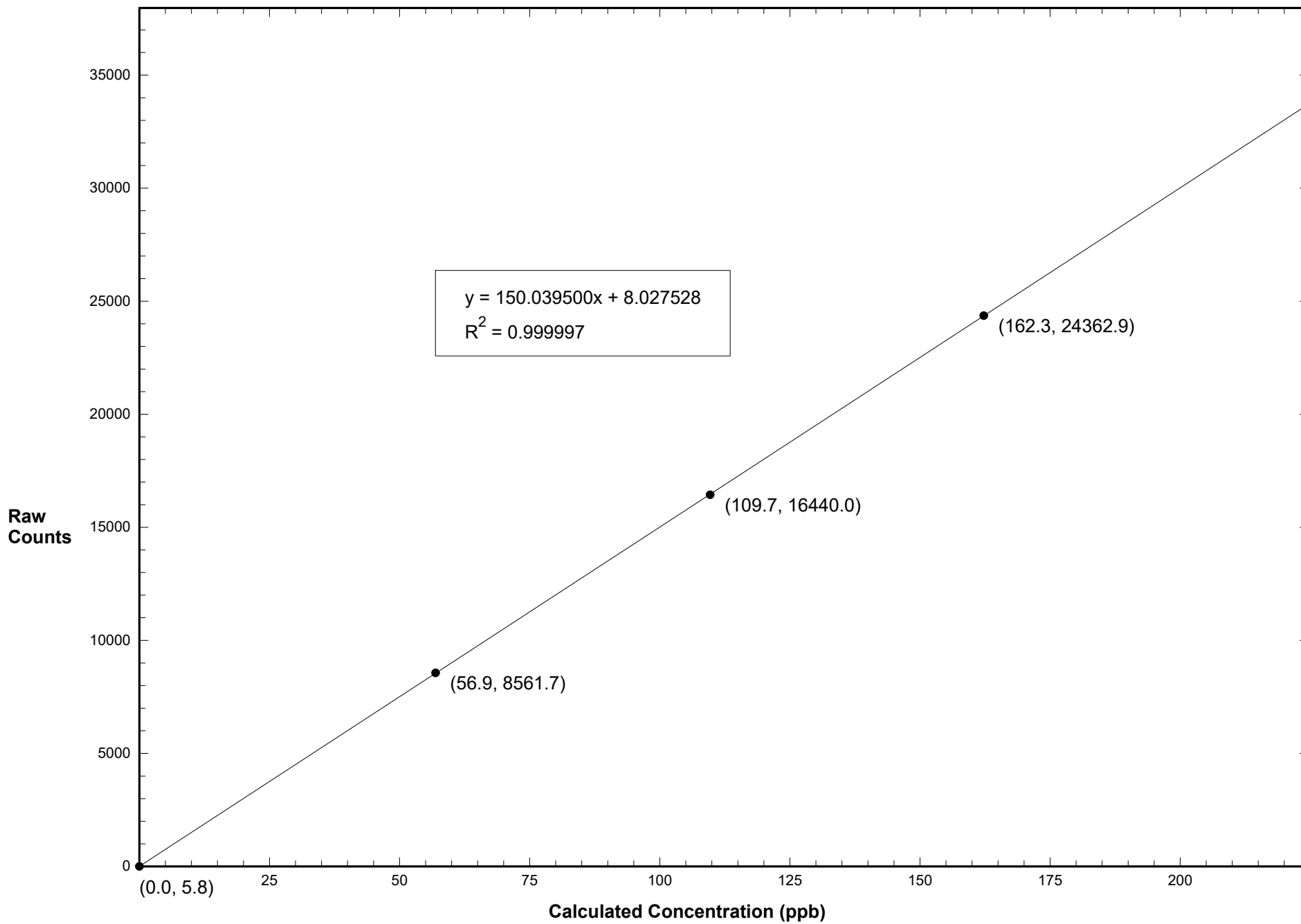
Station 902 NO January 24, 2017: Linear Regression



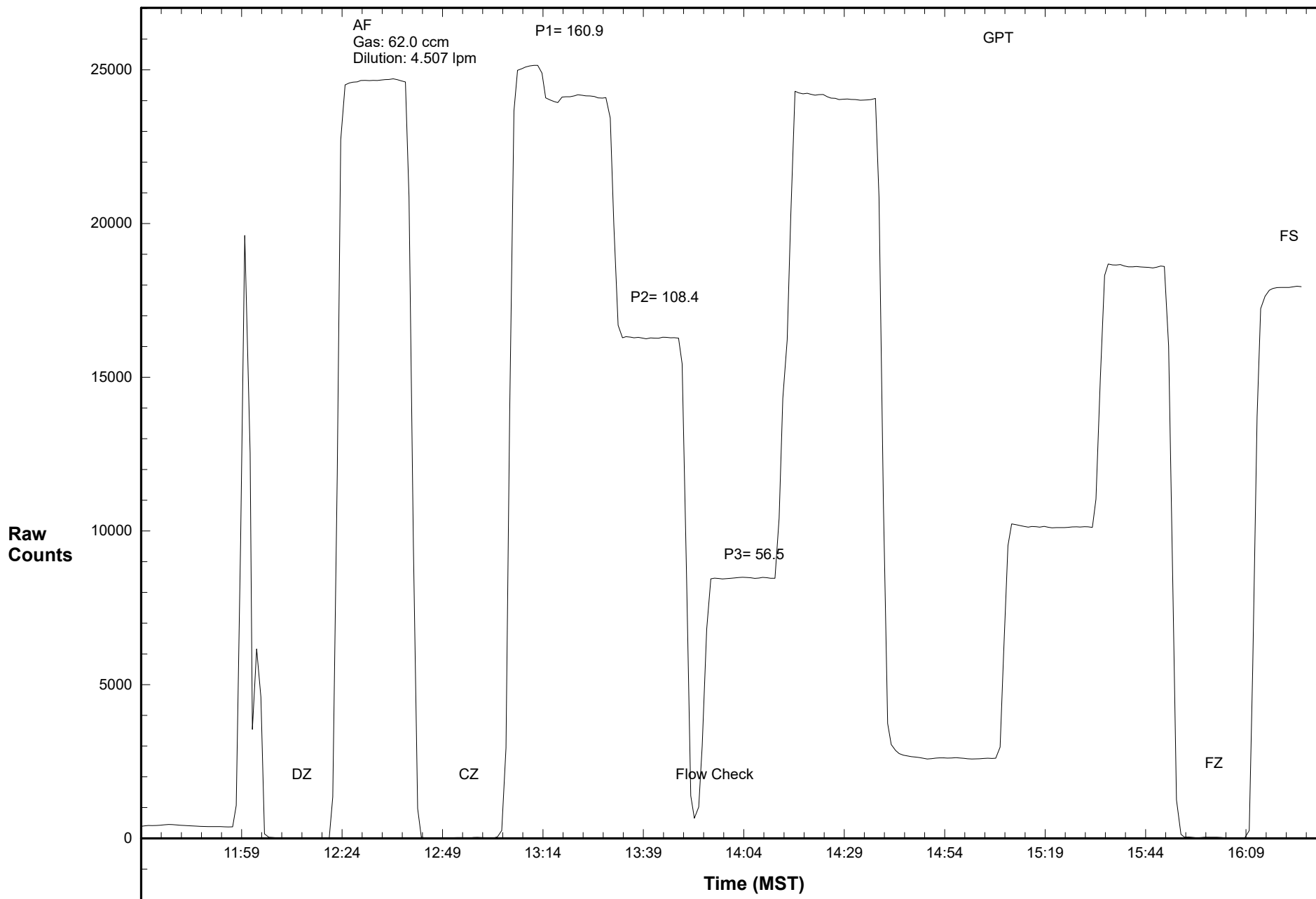
Station 902 NO2 January 24, 2017: Linear Regression



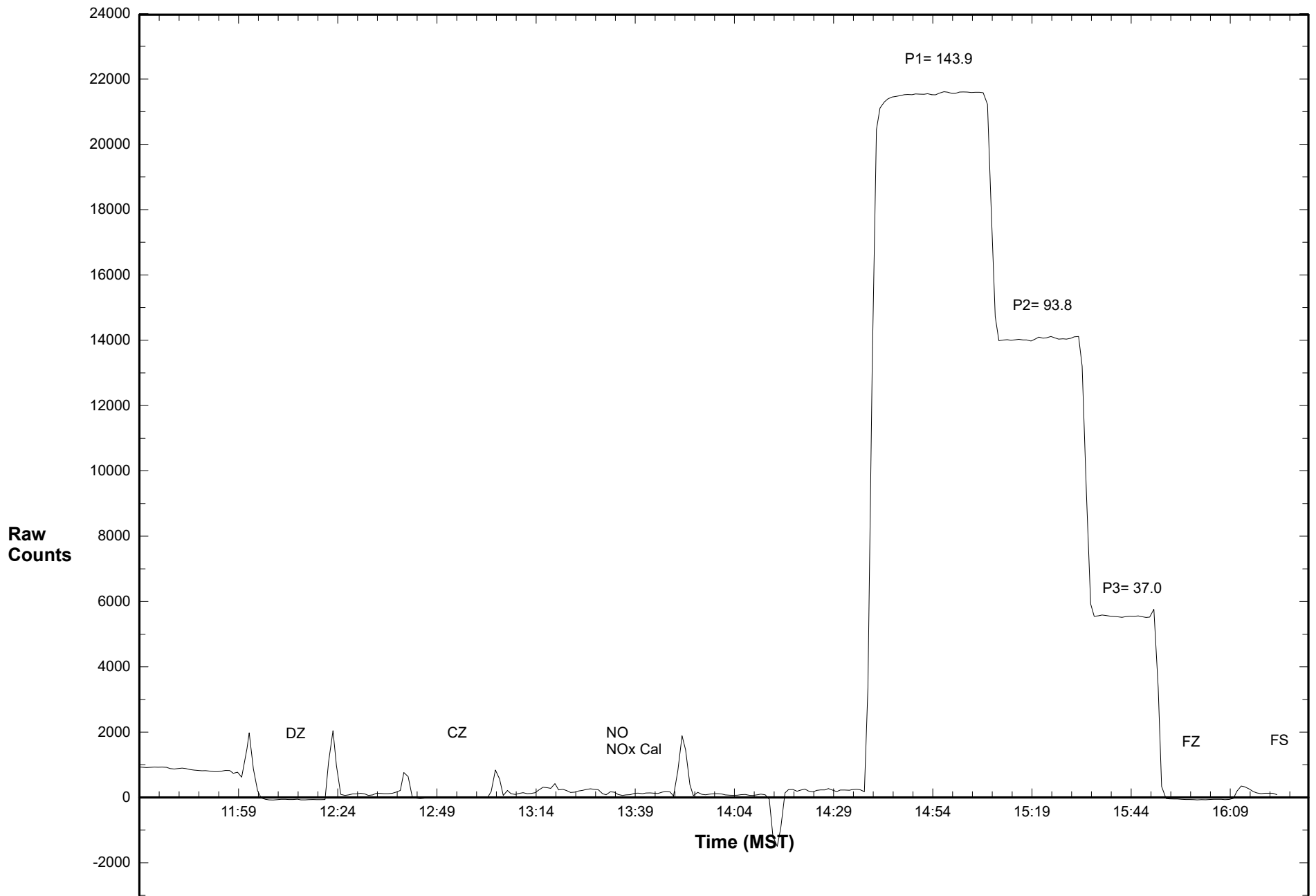
Station 902 NOX January 24, 2017: Linear Regression



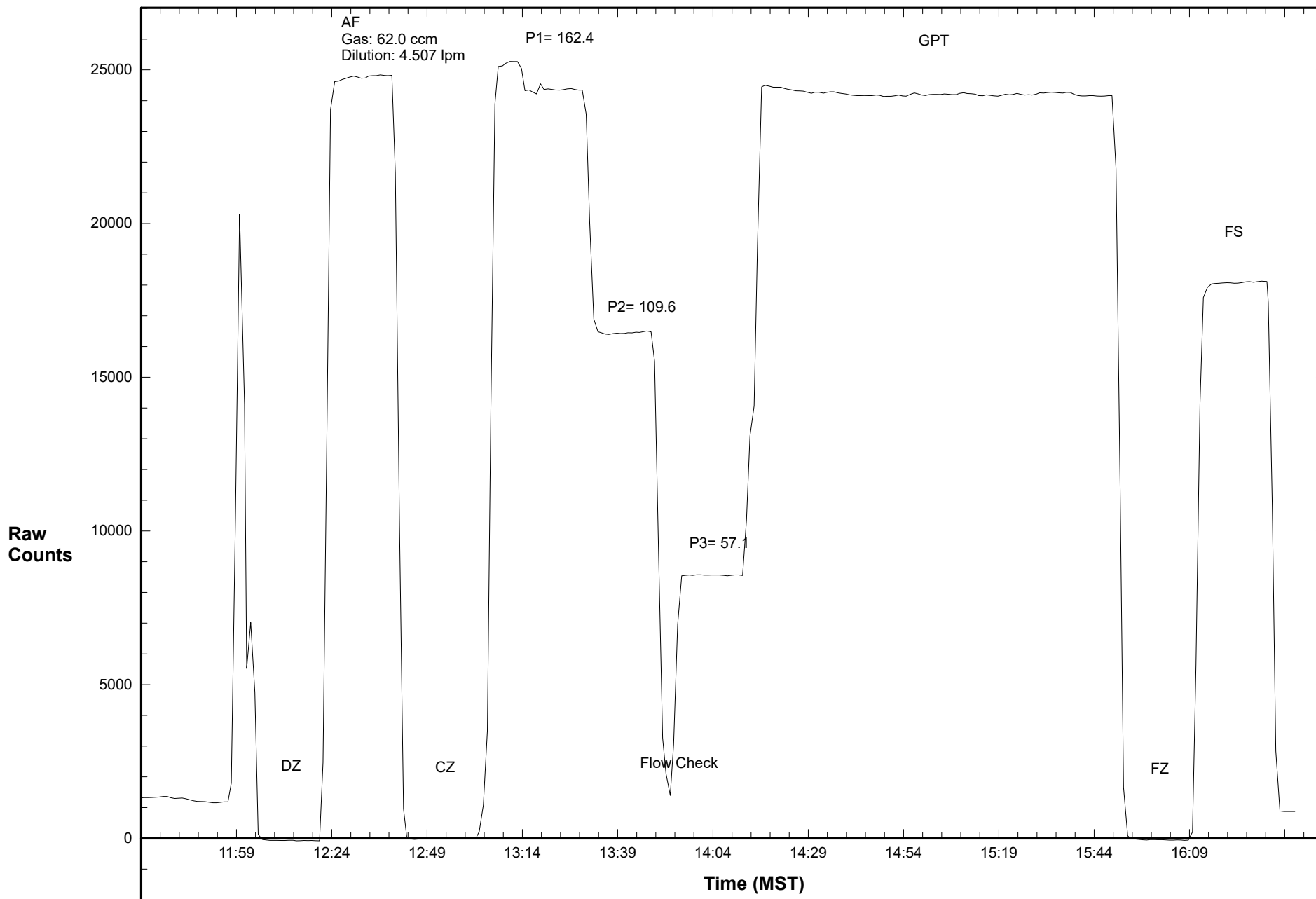
Station 902 NO January 24, 2017: Calibration Graph



Station 902 NO2 January 24, 2017: Calibration Graph



Station 902 NOX January 24, 2017: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 902, Violet Grove

Calibration Date: January 24, 2017

Parameter: O₃

Instrument: Teco 49 i

Serial Number: 0905034790

Previous Calibration Date: December 29 2016

Calibration: Routine

Calibration Equipment: 2B Technology 306 sn 135

Barometric Pressure: 26.70" Hg

Calibration Method: Certified Ozone Generator

Temperature: 22.0° C

Technician: Dean Yustak

Instrument Settings	Background	Coefficient	Monitoring Range
Previous	-0.0	0.995	500 ppb
Current	0.0	1.027	500 ppb

Final Zero: -0.7 ppb

Final Span: 269.3 ppb

As Found Correction Factor: 1.013

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	24187.3	403.1	1.000
3.000	254.0	15210.8	253.2	1.003
3.000	100.1	6131.5	101.6	0.985
3.000	0.0	-0.5	-0.8	

Results of Linear Regression

R _c vs C _c	Slope	Intercept	R ²
Previous	60.101070	50.268960	0.999969
Current	59.877970	48.873540	0.999962
C _i vs C _c			
Current	1.000000	-0.000077	0.999962

Average Correction Factor: 0.996

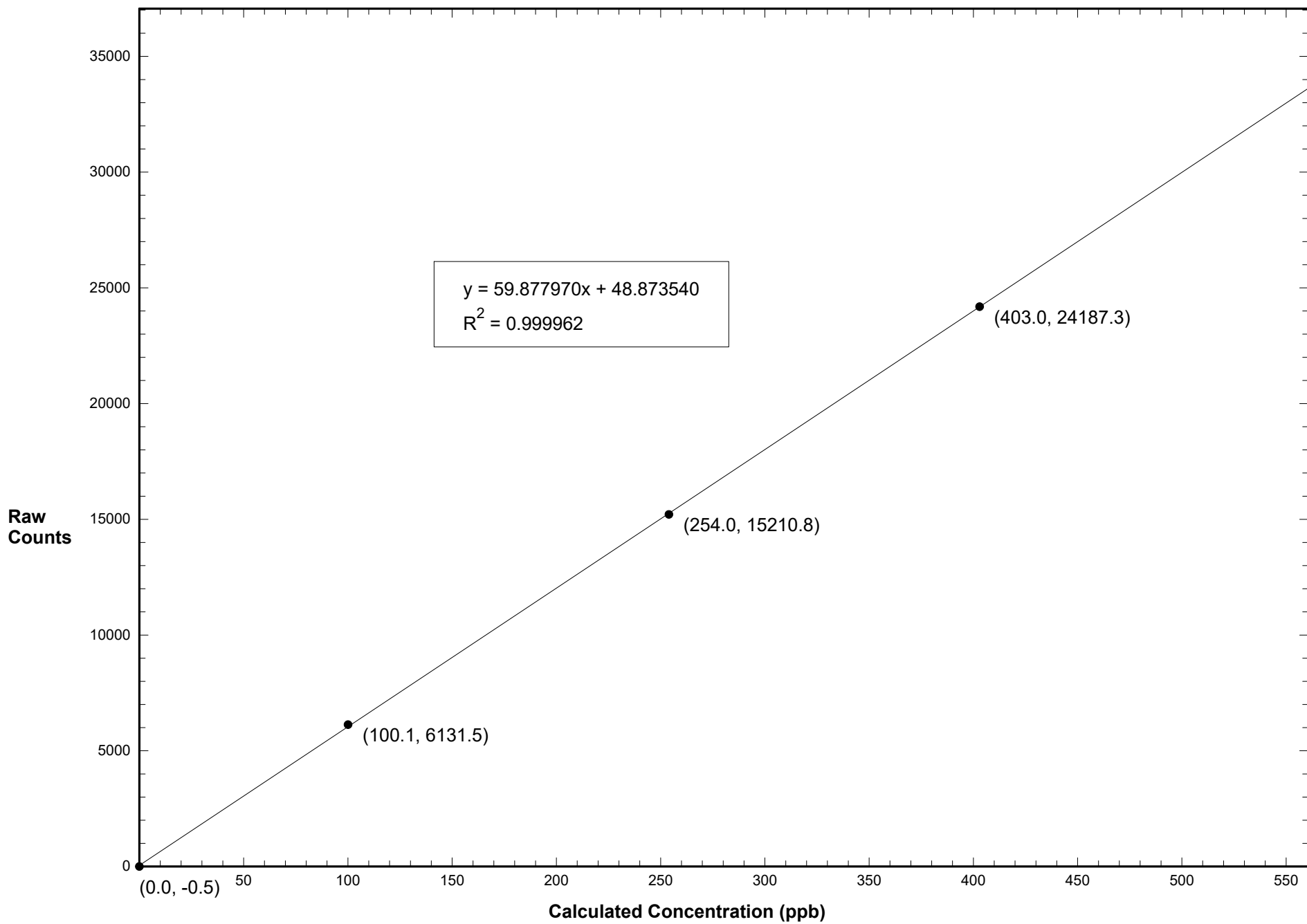
Previous Correction Factor: 1.002

Current Correction Factor: 1.000

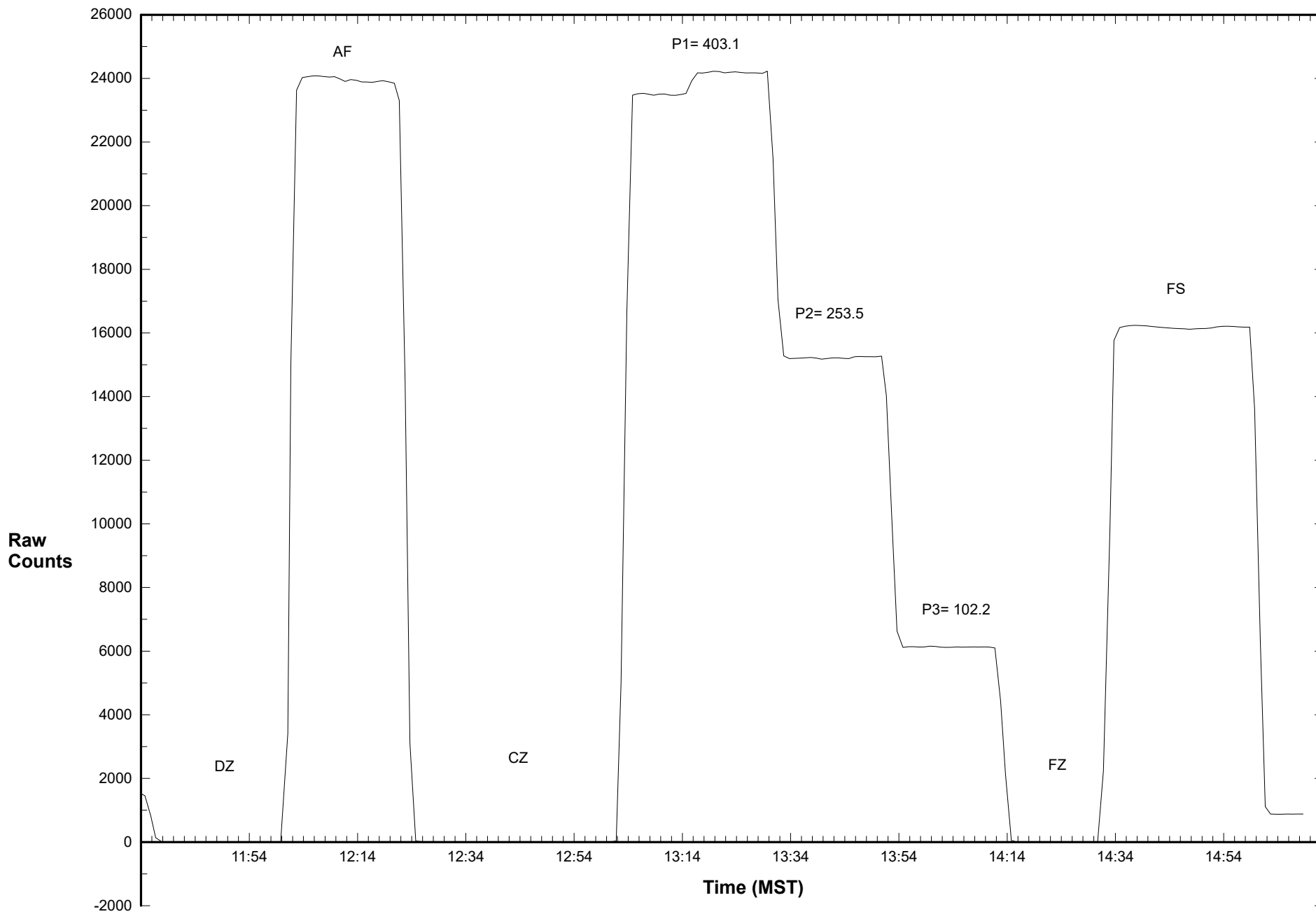
Percent Change of Correction Factor: -0.2

Comments: Sample flows: 0.729 & 0.726 Lpm

Station 902 O3 January 24, 2017: Linear Regression



Station 902 O3 January 24, 2017: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 902, Violet Grove

Calibration Date: January 24, 2017

Parameter: SO₂

Instrument: Teco 43i

Serial Number: 0700419949 (AMU 1746)

Previous Calibration Date: December 29 2016

Calibration: Routine

Calibration Equipment: SABIO 2010 sn 04300810

Barometric Pressure: 26.70" Hg

Calibration Method: Standard Gas Dilution

Cylinder ID: FF 27662

Temperature: 22.0° C

Cylinder Concentration: 5.92 ppm SO₂

In Service: June 2 2016 exp: Jan 20 2019

Technician: Dean Yustak

Instrument Settings	SO ₂ bkg ppb	SO ₂ Coefficient	Monitoring Range
Previous	6.8	0.988	100 ppb
Current	6.5	0.985	100 ppb

Final Zero: 0.0 ppb

Final Span: 57.9 ppb

As Found Correction Factor: 1.008

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
0.0622	4.538	80.0	24059.2	80.1	0.999
0.0418	4.534	54.1	16210.7	54.0	1.002
0.0216	4.533	28.1	8447.3	28.1	0.999
0.0000	4.507	0.0	20.3	0.0	

Results of Linear Regression

R _c vs C _c	Slope	Intercept	R ²
Previous	301.024400	-79.559630	0.999958
Current	300.109800	13.008880	0.999993
C _i vs C _c			
Current	1.000000	0.000000	0.999993

Average Correction Factor: 1.000

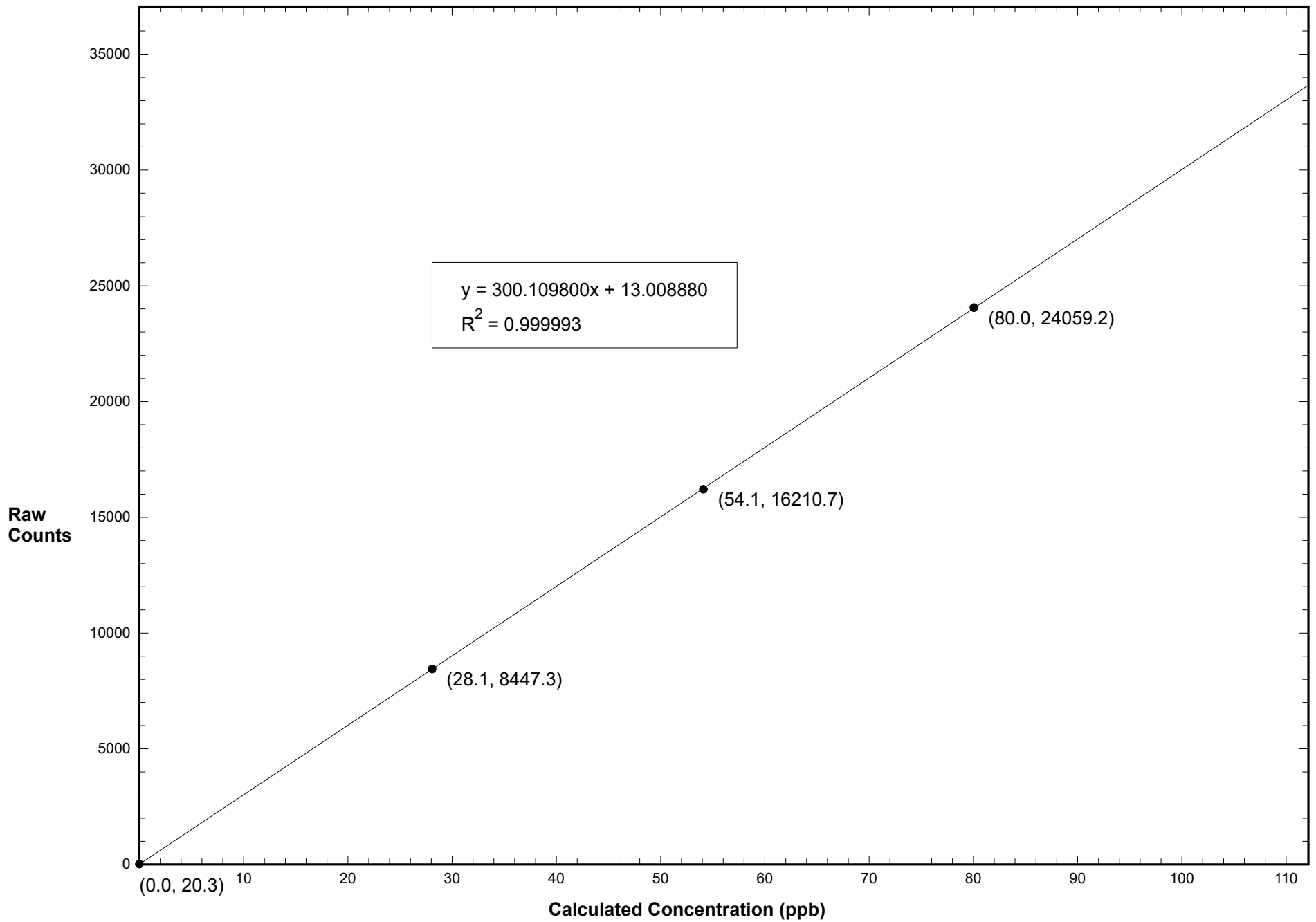
Previous Correction Factor: 0.998

Current Correction Factor: 0.999

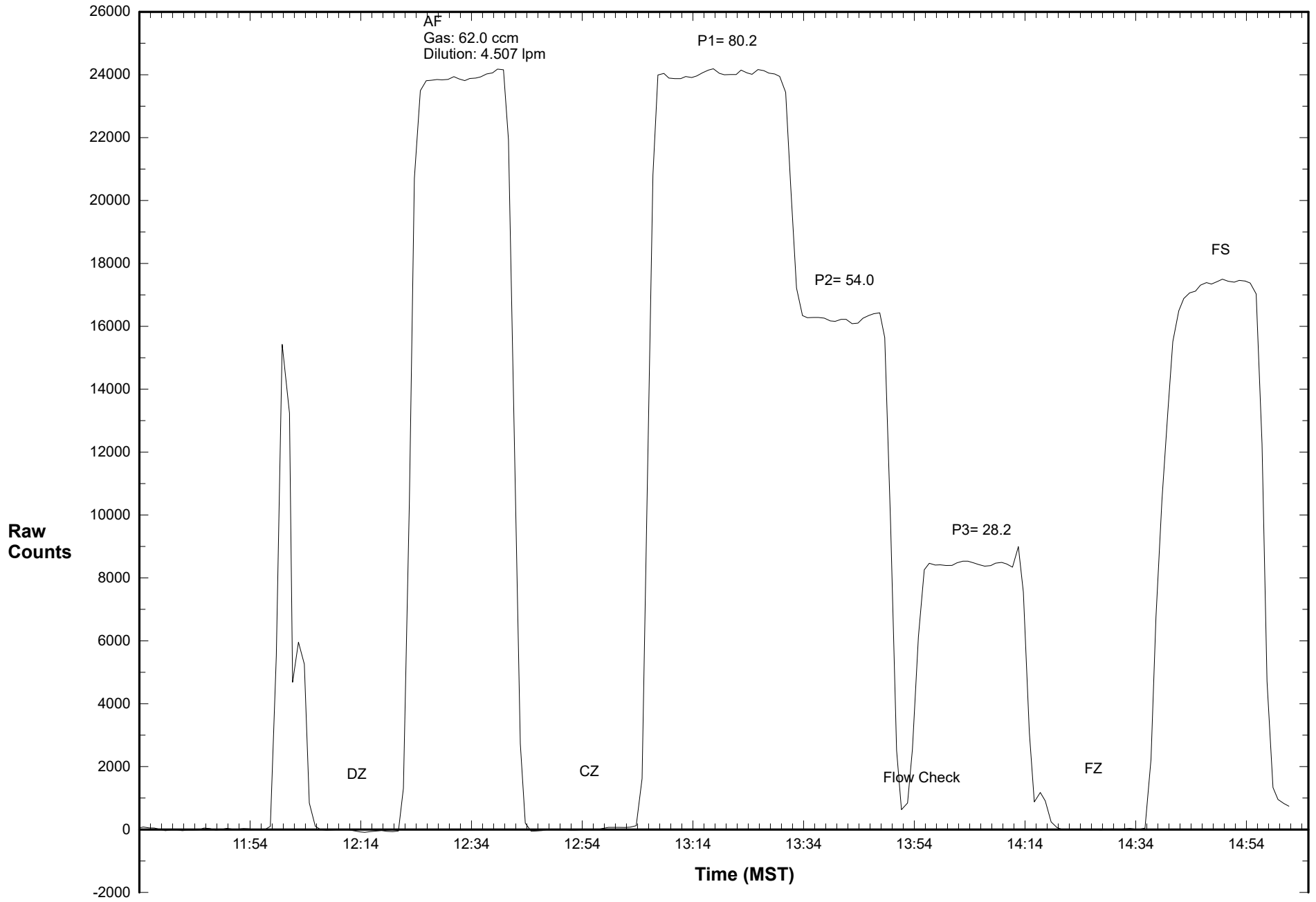
Percent Change of Correction Factor: 0.1

Comments: Sample Flow: 0.377 lpm

Station 902 SO2 January 24, 2017: Linear Regression



Station 902 SO2 January 24, 2017: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 902, Violet Grove

Calibration Date: January 24, 2017

Parameter: THC

Instrument: Teco 51i

Serial Number: 1415561633

Previous Calibration Date: December 29 2016

Calibration: Routine

Calibration Method: Standard Gas Dilution

Barometric Pressure: 26.70" Hg

Gas Concentration 1: 717 ppm CH4

Cylinder ID: FF 27662

Temperature: 22.0° C

Gas Concentration 2:

In Service: Aug 23 2010 Exp: May 07 2013

Technician: Dean Yustak

Instrument Settings

Zero Pot

Span Pot

Monitoring Range

Previous

1.45

4.371

20 ppm

Current

1.30

4.309

20 ppm

Final Zero: 0.02 ppm

Final Span: 13.81 ppm

As Found Correction Factor: 0.991

Certified Concentration
C_c (ppm)

Raw Count Output
R_c

Indicated Concentration
C_i (ppm)

Correction Factor
C_c/C_i

17.75

26689.5

17.75

1.000

12.01

18093.9

12.02

1.000

6.21

9343.7

6.18

1.005

0.00

107.3

0.02

Results of Linear Regression

R_c vs C_c

Slope

Intercept

R²

Previous

1511.842000

-117.182600

0.999954

Current

1498.738000

81.482930

0.999993

C_i vs C_c

Current

1.000000

0.000001

0.999993

Average Correction Factor: 1.001

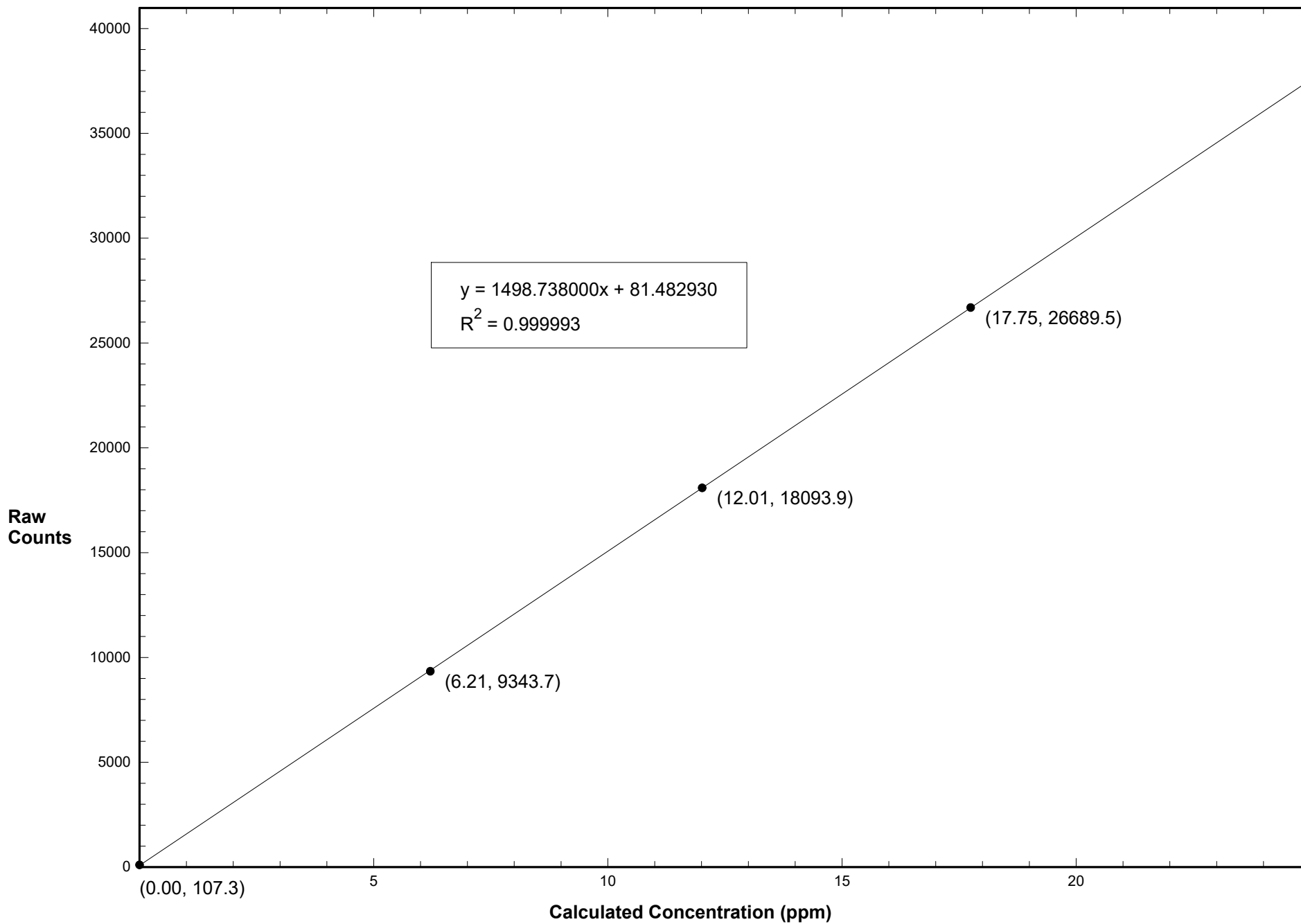
Previous Correction Factor: 0.999

Current Correction Factor: 1.000

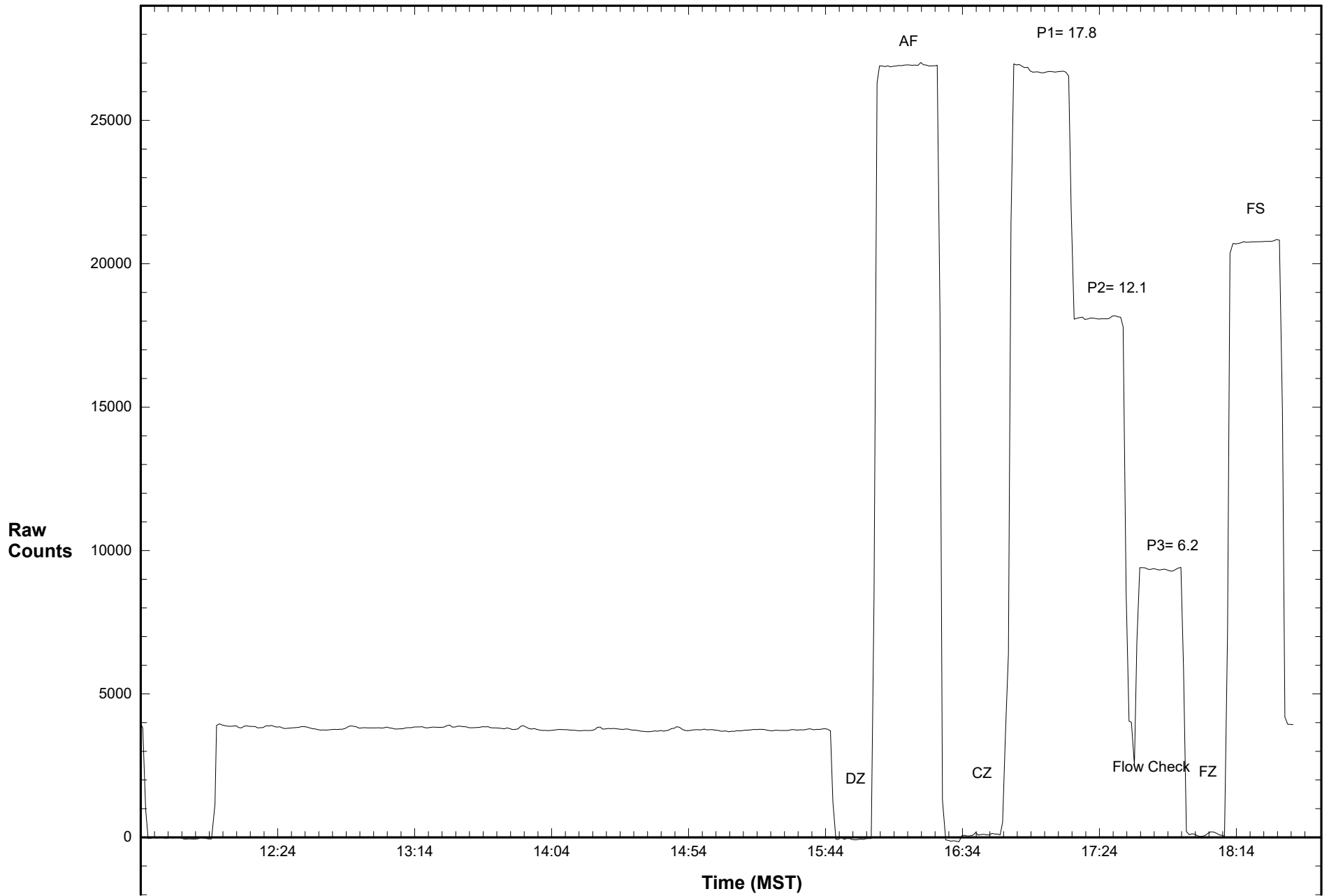
Percent Change of
Correction Factor: 0.1

Comments: Comments: Sample inlet flow: 1.18 lpm

Station 902 THC January 24, 2017: Linear Regression



Station 902 THC January 24, 2017: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 903, Carrot Creek

Calibration Date: January 27, 2017

Parameter: NO/NO₂/NO_x

Instrument: Teco 42i

Serial Number: 1136451324

Previous Calibration Date: December 21, 2016

Calibration: Routine

Calibration Equipment: Sabio 2010 sn 05200311

Barometric Pressure: 27.20" Hg

Calibration Method: Standard Gas Dilution/GPT

Cylinder ID: FF 27716

Temperature: 21.4° C

Cylinder Concentration: 12.0 ppm NO NO_x

In Service: June 6,,2016;Expiry Jan 20,2019

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	7.3	8.0	*	1.063	1.008	0.995	200 ppb
Current	7.3	7.9	*	1.068	1.003	0.995	200 ppb

NO	Final Zero: 0.2 ppb	Final Span: 133.1 ppb	As Found Correction Factor: 0.983
NO ₂	Final Zero: -0.1 ppb	Final Span: 0.2 ppb	As Found Correction Factor: 0.998
NO _x	Final Zero: 0.0 ppb	Final Span: 133.0 ppb	As Found Correction Factor: 0.976

Results of Linear Regression			Slope	Intercept	R ²
NO	R _c vs C _c	Previous	149.882800	37.943560	0.999953
		Current	149.611300	-9.546292	0.999998
	C _i vs C _c	Current	1.000000	-0.000020	0.999998
NO ₂	R _c vs C _c	Previous	149.703500	7.766440	0.999953
		Current	149.786900	-17.310720	0.999989
	C _i vs C _c	Current	1.000000	-0.000008	0.999989
NO _x	R _c vs C _c	Previous	149.796500	53.729000	0.999953
		Current	149.905600	-11.631420	0.999997
	C _i vs C _c	Current	1.000000	0.000020	0.999996

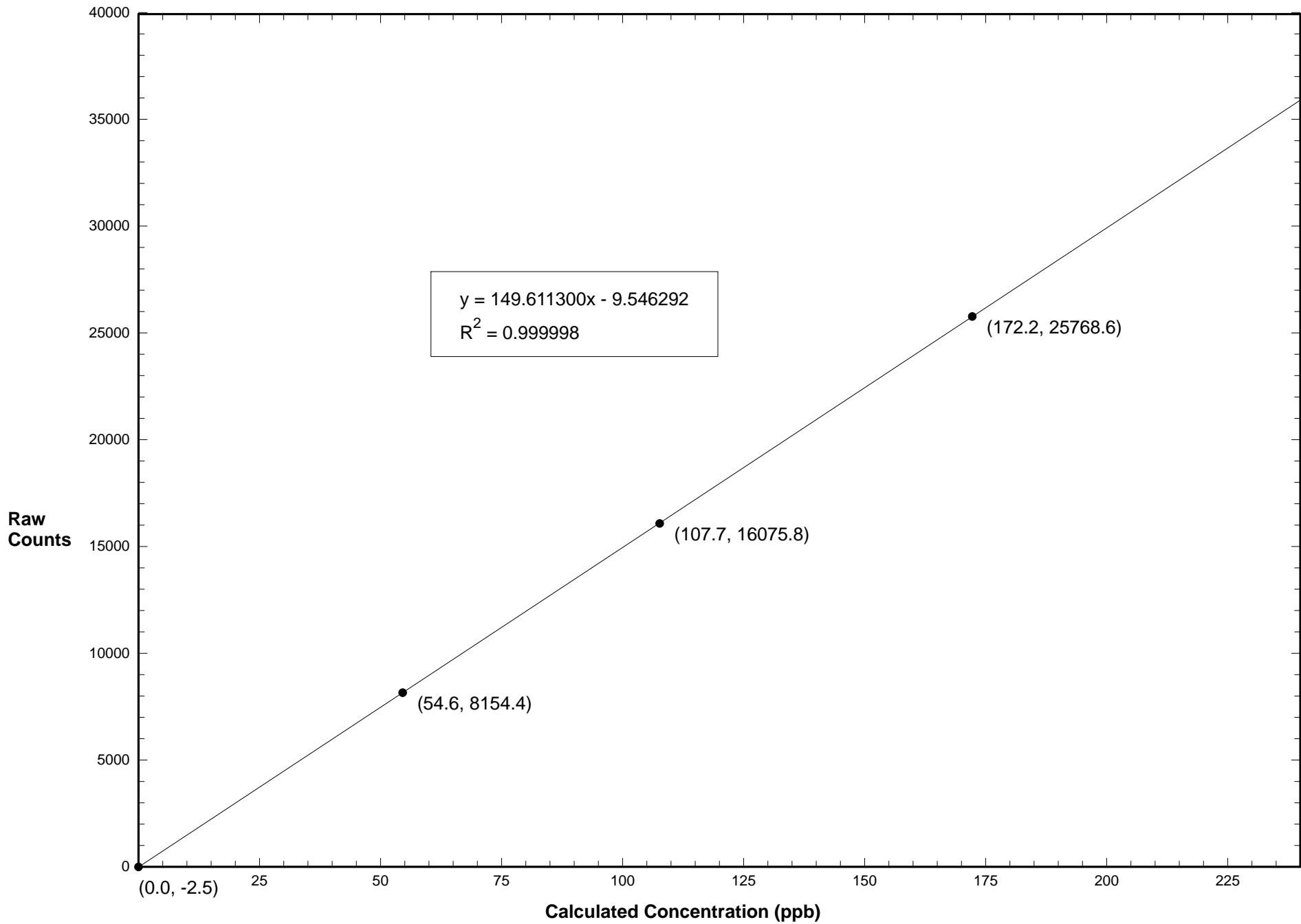
Comments: Sample Inlet =0.622 lpm

Calibration Data Summary (Page 2)

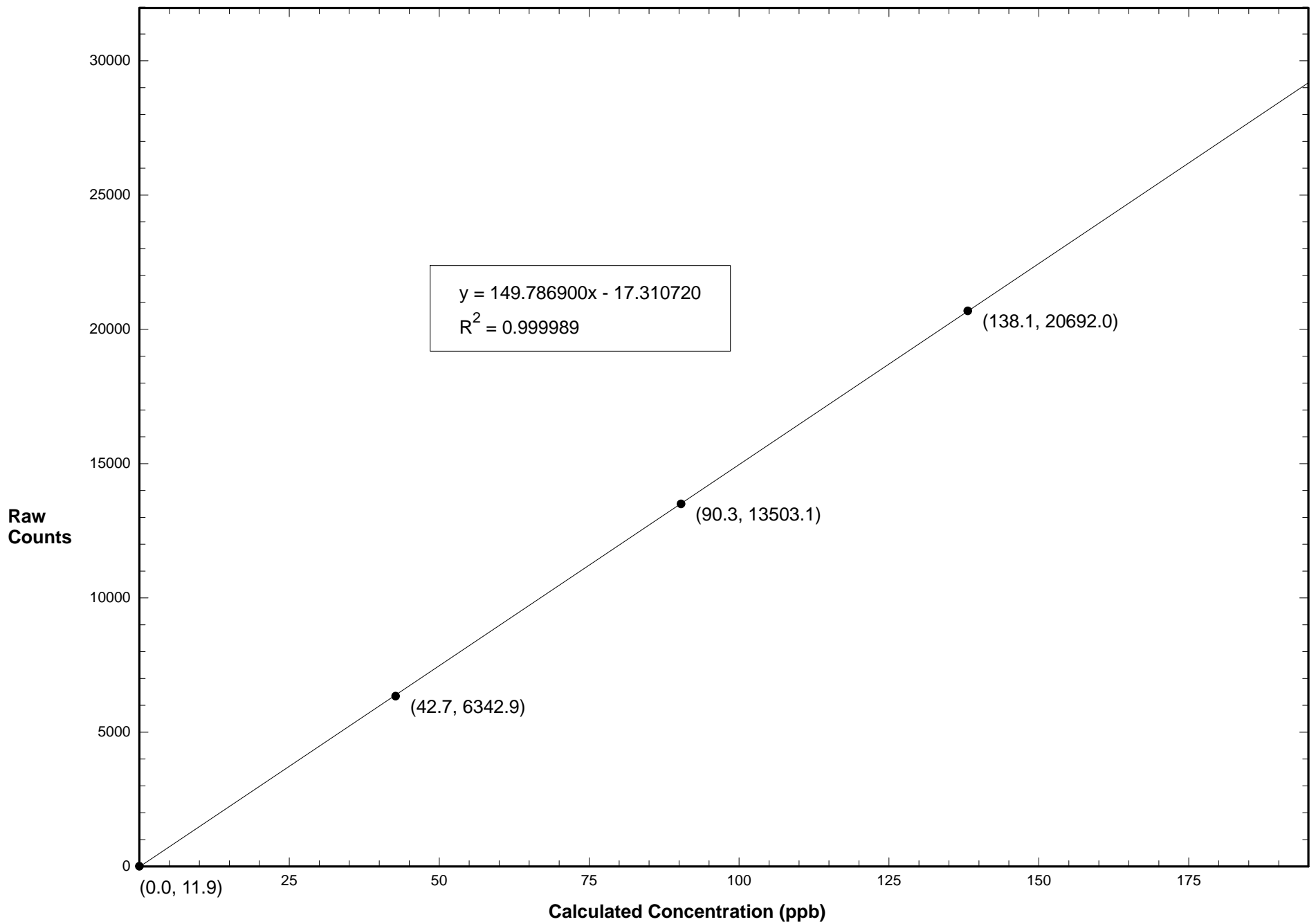
January 27, 2017 - Station 903

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		
0.06580	4.519	172.2	25768.6	172.3	0.999		
0.04100	4.529	107.7	16075.8	107.5	1.001		
0.02070	4.532	54.6	8154.4	54.6	1.000		
0.00000	4.500	0.0	-2.5	0.0			
NO Calibration					Average Correction Factor:	1.000	
0.06580	4.519	172.2	25822.3	172.3	0.999		
0.04100	4.529	107.7	16098.2	107.5	1.002		
0.02070	4.532	54.6	8166.5	54.6	1.000		
0.00000	4.500	0.0	-0.6	0.1			
NO _x Calibration					Average Correction Factor:	1.000	
Reference Concentration NO (ppb)	Raw Count Output NO	Calculated Concentration NO (ppb)	Calculated Concentration NO ₂ , C _c (ppb)	Raw Count Output R _c	Indicated Concentration C _i (ppb)	Correction Factor C _c /C _i	Converter Efficiency C _i /C _c
171.3	4944.0	33.1	138.1	20692.0	138.3	0.999	1.001
171.3	12098.8	80.9	90.3	13503.1	90.3	1.001	0.999
171.3	19221.0	128.5	42.7	6342.9	42.5	1.006	0.994
			0.0	11.9	0.2		
					Average Correction Factor:	1.002	
NO ₂ Gas Phase Titration					Average Converter Efficiency: 0.998		
Parameter	Correction Factor (Previous)	Correction Factor: (Current)	Percent Change of Correction Factor				
NO	0.998	0.999	0.1				
NO ₂	0.997	0.999	0.2				
NO _x	1.001	0.999	-0.2				

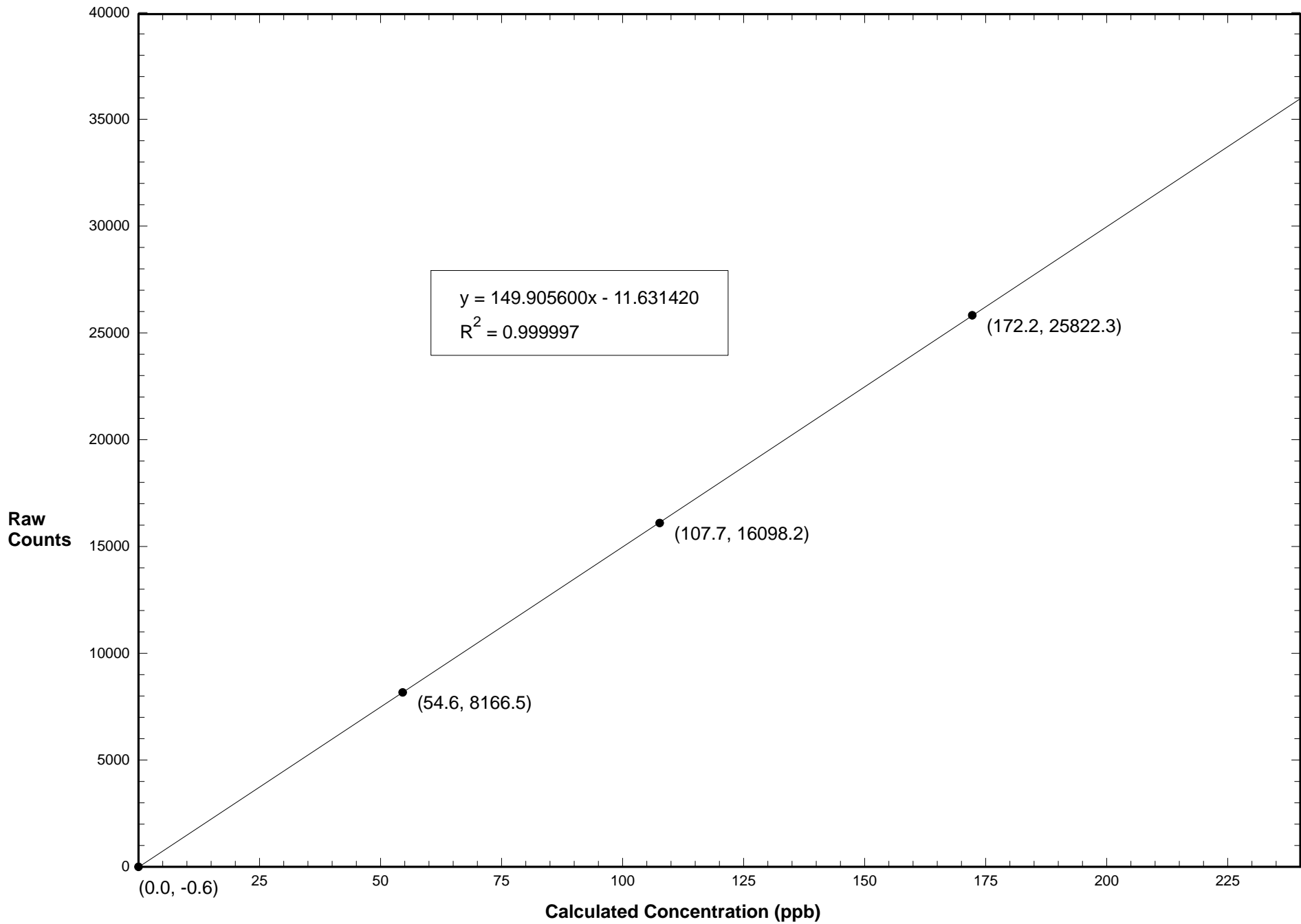
Station 903 NO January 27, 2017: Linear Regression



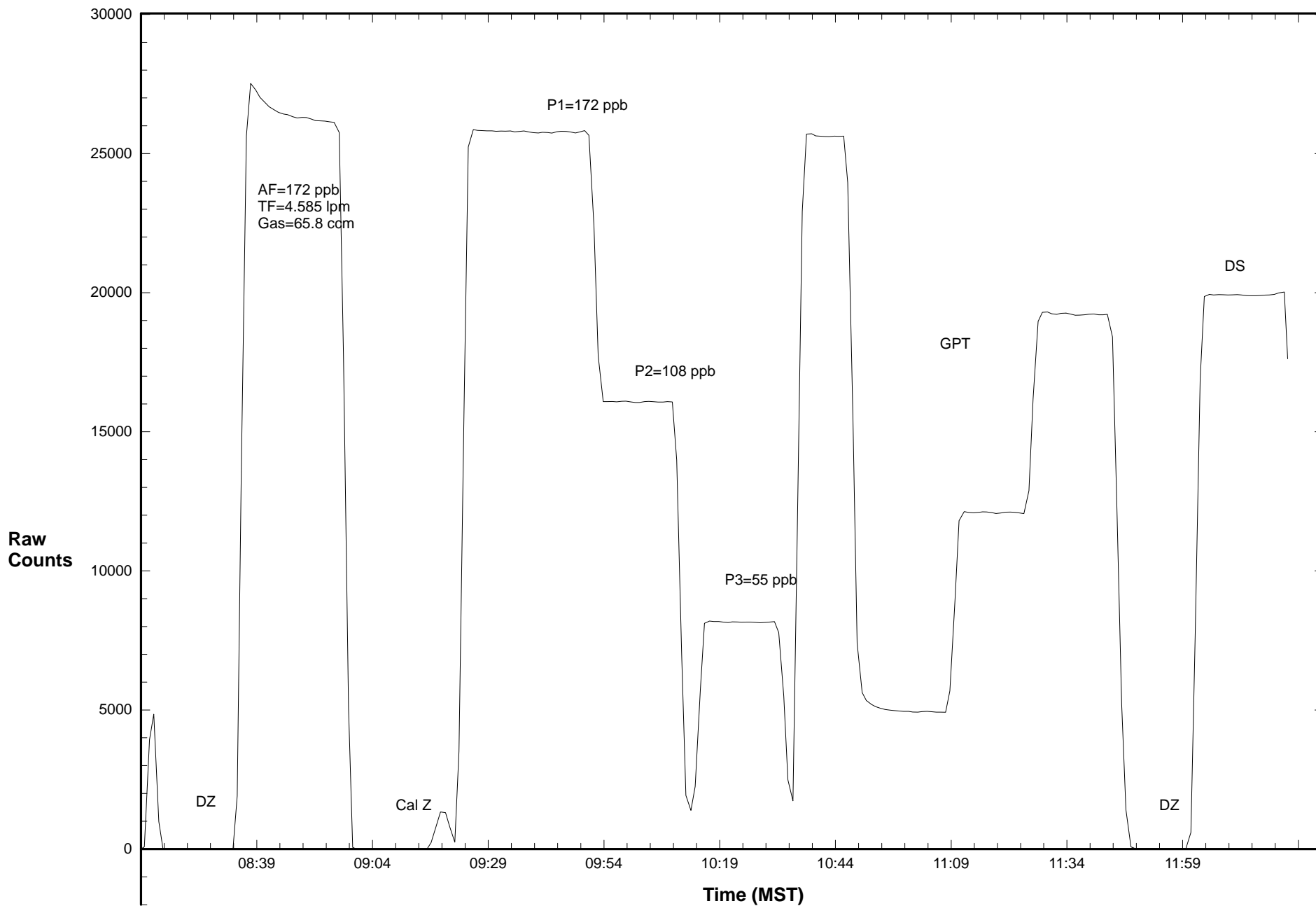
Station 903 NO2 January 27, 2017: Linear Regression



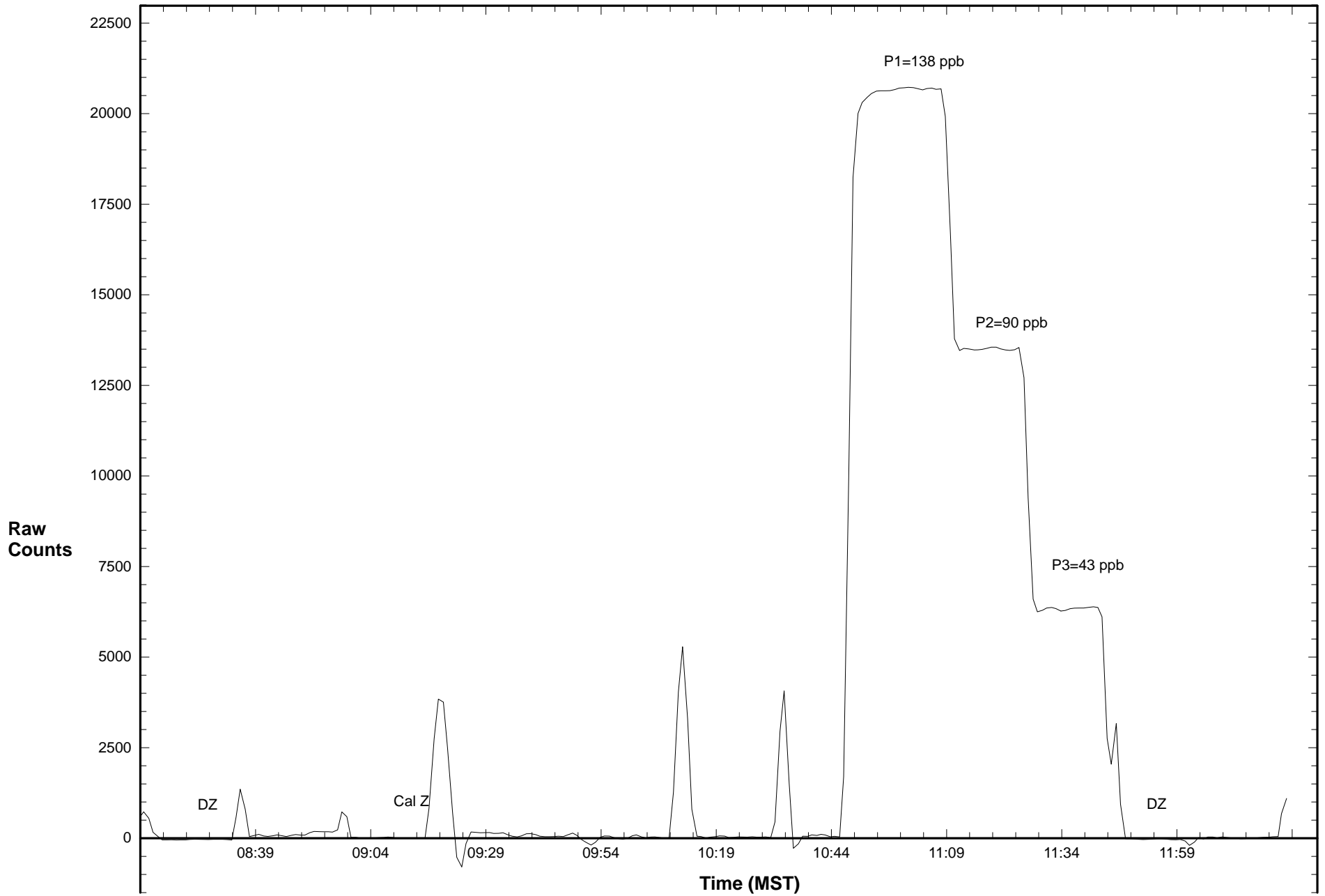
Station 903 NOX January 27, 2017: Linear Regression



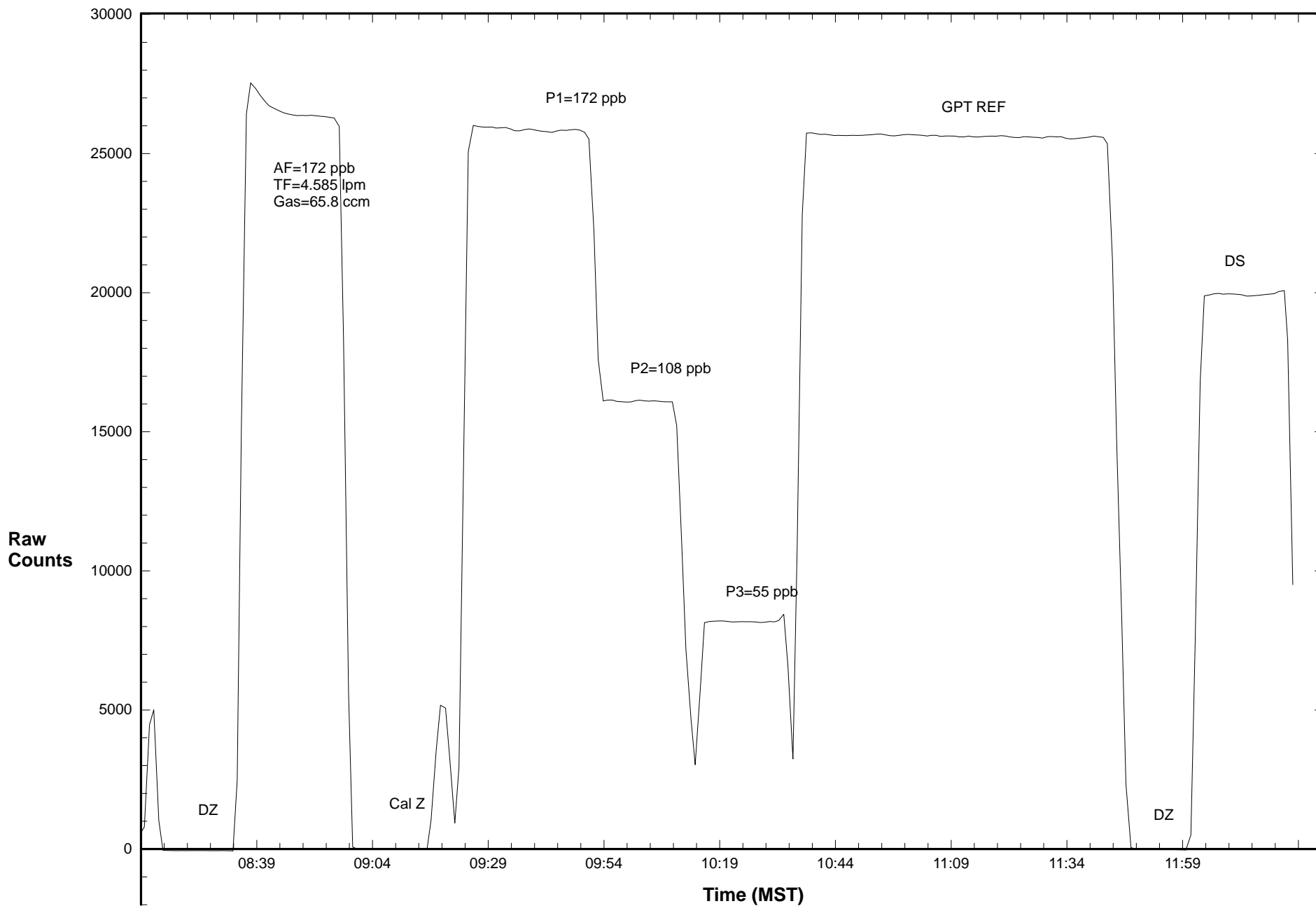
Station 903 NO January 27, 2017: Calibration Graph



Station 903 NO2 January 27, 2017: Calibration Graph



Station 903 NOX January 27, 2017: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 903, Carrot Creek

Calibration Date: January 27, 2017

Parameter: O₃

Instrument: Teco 49C

Serial Number: 0432409136

Previous Calibration Date: December 21, 2016

Calibration: Routine

Calibration Equipment: 2B TECH 306 sn# 145

Barometric Pressure: 27.20" Hg

Calibration Method: Certified Ozone Generator April 1, 2016

Temperature: 21.4° C

Technician: J.McClintock

Instrument Settings	Background	Coefficient	Monitoring Range
Previous	0.4	1.038	500 ppb
Current	0.0	0.987	500 ppb

Final Zero: -0.1 ppb

Final Span: 168.3 ppb

As Found Correction Factor: 0.944

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	409.0	24513.0	408.6	1.001
3.000	256.0	15404.5	256.5	0.998
3.000	102.0	6163.4	102.3	0.997
3.000	0.0	7.9	-0.4	

Results of Linear Regression

R _c vs C _c	Slope	Intercept	R ²
Previous	60.041480	84.717080	0.999951
Current	59.912470	33.982890	0.999992
C _i vs C _c			
Current	1.000000	0.000046	0.999992

Average Correction Factor: 0.999

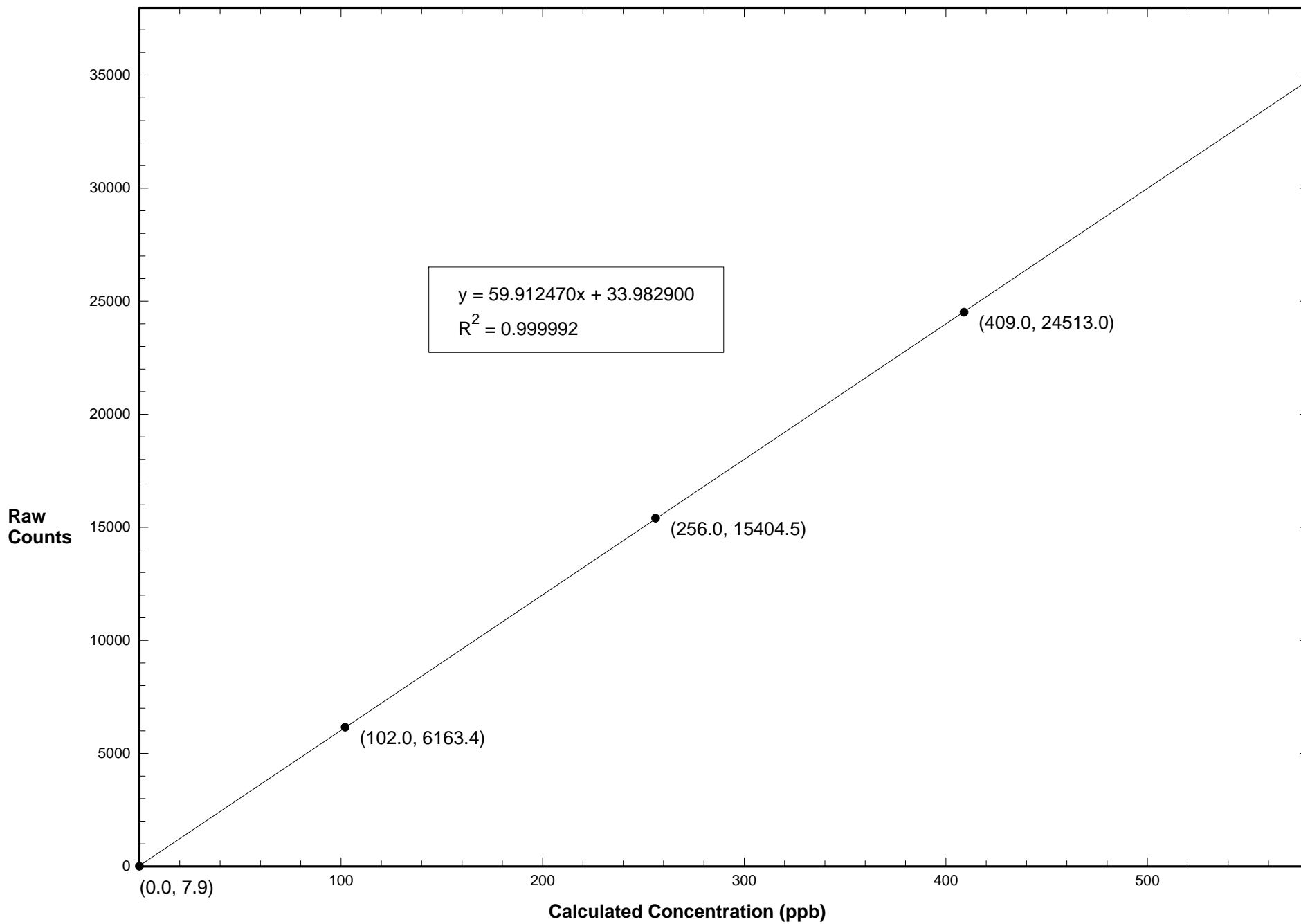
Previous Correction Factor: 1.002

Current Correction Factor: 1.001

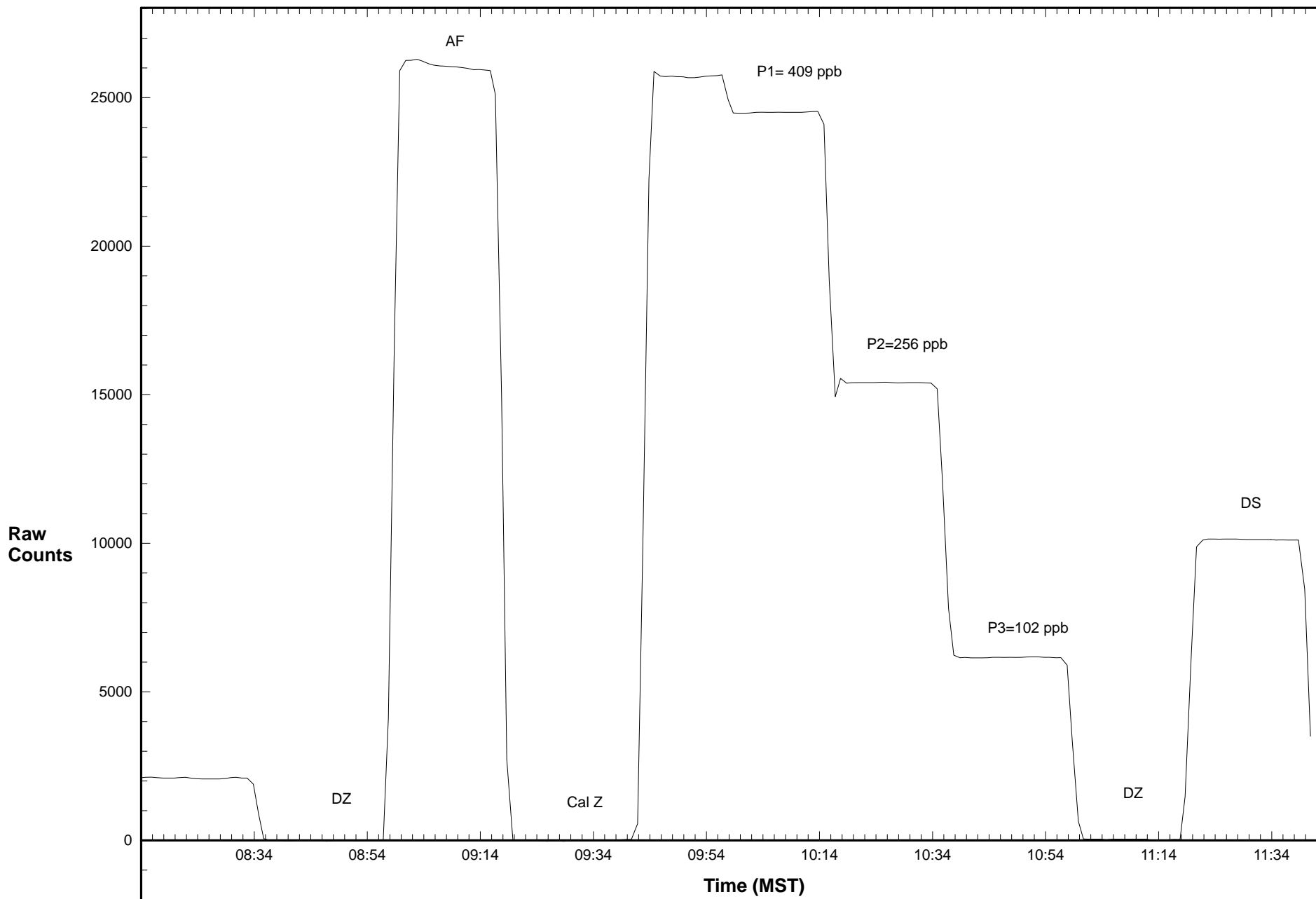
Percent Change of Correction Factor: -0.1

Comments: Sample Flow =1.344 lpm

Station 903 O3 January 27, 2017: Linear Regression



Station 903 O3 January 27, 2017: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 903, Carrot Creek

Calibration Date: January 27, 2017

Parameter: SO₂

Instrument: 43i	Serial Number: 0905034789	Previous Calibration Date: December 21,2016
Calibration: Routine	Calibration Equipment: Sabio 2010 sn05200311	Barometric Pressure: 27.20" Hg
Calibration Method: Standard Gas Dilution	Cylinder ID: FF 27716	Temperature: 21.4° C
Cylinder Concentration: 5.8 ppm SO ₂	In Service: June 6,2016; Expiry Jan 20,2019	Technician: J.McClintock

Instrument Settings	SO ₂ bkg ppb	SO ₂ Coefficient	Monitoring Range
Previous	8.6	0.990	100 ppb
Current	8.4	0.933	100 ppb

Final Zero: 0.3 ppb Final Span: 62.6 ppb As Found Correction Factor: 0.950

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
0.0658	4.519	83.2	24975.7	83.4	0.998
0.0410	4.529	52.0	15495.0	51.8	1.005
0.0207	4.532	26.4	7875.0	26.4	0.999
0.0000	4.500	0.0	-15.6	0.1	

Results of Linear Regression

R _c vs C _c	Slope	Intercept	R ²
Previous	298.533900	97.623430	0.999997
Current	299.997900	-40.473450	0.999975
C _i vs C _c			
Current	1.000000	0.000010	0.999976

Average Correction Factor: 1.001

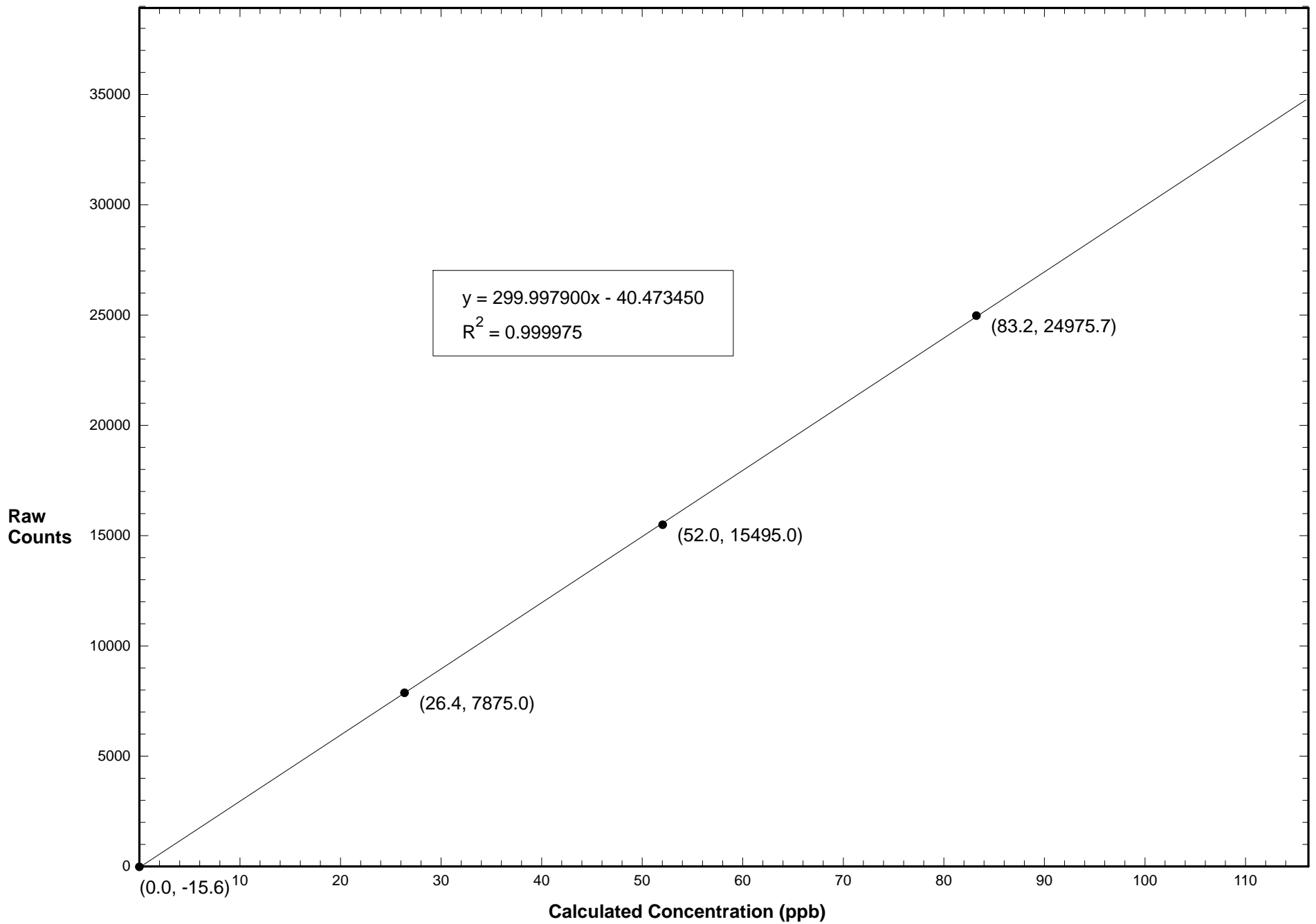
Previous Correction Factor: 1.000

Current Correction Factor: 0.998

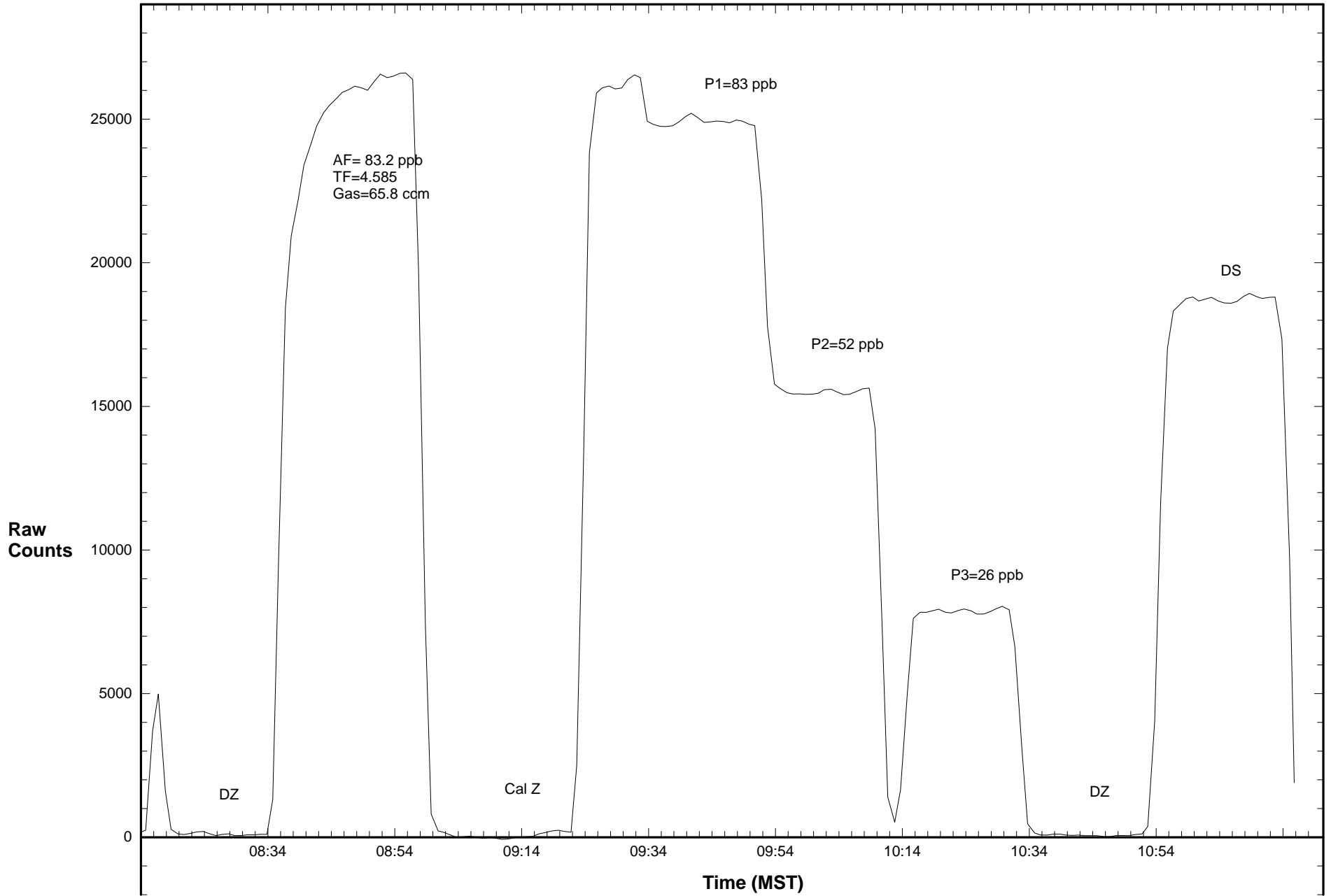
Percent Change of Correction Factor: -0.2

Comments: Sample Flow=0.411 lpm

Station 903 SO2 January 27, 2017: Linear Regression



Station 903 SO2 January 27, 2017: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 905, Steeper

Calibration Date: January 26, 2017

Parameter: CO

Instrument: Teco 48 CTL

Serial Number: 0523012614

Previous Calibration Date: December 8, 2016

Calibration: Shutdown/Start up

Calibration Equipment: Sabio 2010 # 05200311

Barometric Pressure: 25.31" Hg

Calibration Method: Standard Gas Dilution

Cylinder ID: FF23225

Temperature: 24.0° C

Cylinder Concentration: 2611 ppm CO

Technician: J.McClintock

Instrument Settings

Zero Pot

Span Pot

Monitoring Range

Previous

11.679

1.114

50 ppm

Current

50 ppm

Final Zero: NA

Final Span: NA

As Found Correction Factor: 0.994

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

0.0752

5.972

32.5

19709.4

32.3

1.005

0.0512

6.014

22.0

13721.6

22.2

0.992

0.0257

6.027

11.1

7204.7

11.2

0.989

0.0000

6.000

0.0

457.1

-0.1

Results of Linear Regression

R_c vs C_c

Slope

Intercept

R²

Previous

589.409200

336.833500

0.999918

Current

593.647000

540.276100

0.999842

C_i vs C_c

Current

1.000000

-0.000007

0.999842

Average Correction Factor:

0.995

Previous Correction Factor:

0.999

Current Correction Factor:

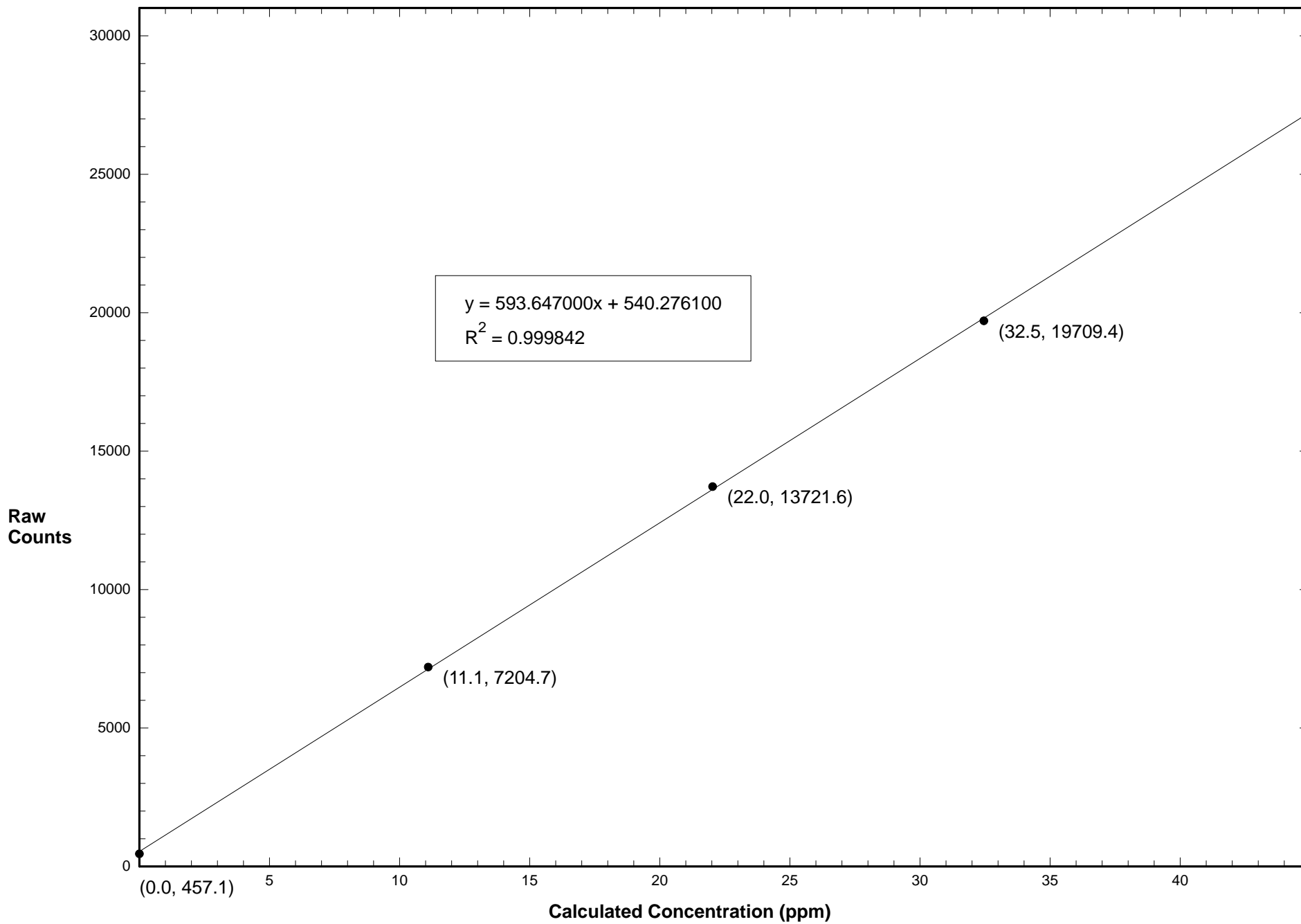
1.005

Percent Change of
Correction Factor:

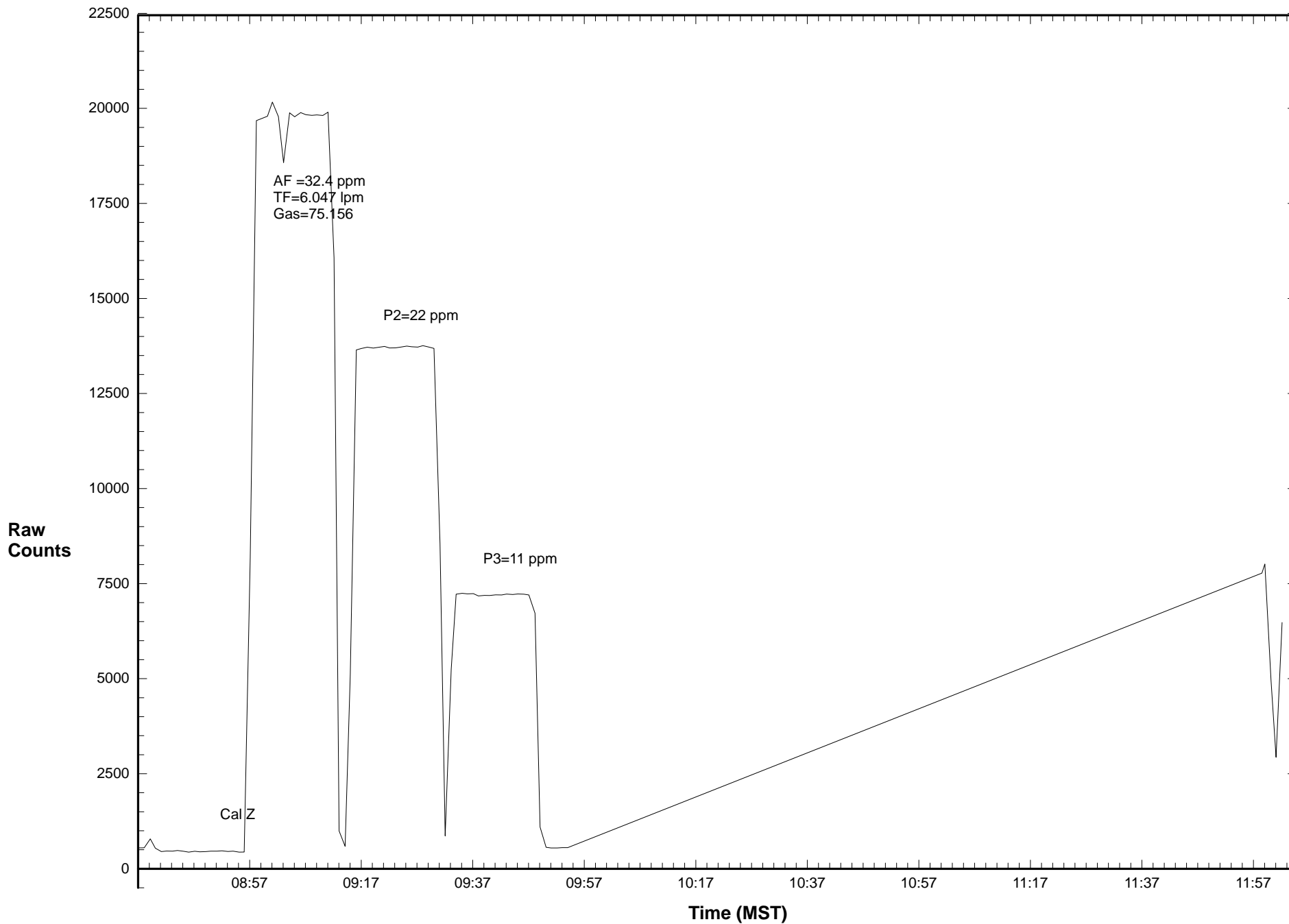
0.6

Comments:

Station 905 CO January 26, 2017: Linear Regression



Station 905 CO January 26, 2017: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 905, Steeper

Calibration Date: January 26, 2017

Parameter: CO

Instrument: Teco 48 CTL

Serial Number: 0523012614

Previous Calibration Date: December 8, 2016

Calibration: Shutdown/Start up

Calibration Equipment: Sabio 2010 # 05200311

Barometric Pressure: 25.31" Hg

Calibration Method: Standard Gas Dilution

Cylinder ID: FF23225

Temperature: 24.0° C

Cylinder Concentration: 2611 ppm CO

Technician: J.McClintock

Instrument Settings	Zero Pot	Span Pot	Monitoring Range
Previous	11.679	1.114	50 ppm
Current	0.456	1.007	50 ppm

Final Zero: -0.7 ppm

Final Span: 29.9 ppm

As Found Correction Factor: NA

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
0.0750	5.868	33.0	19849.5	33.2	0.993
0.0510	5.859	22.5	13436.4	22.3	1.012
0.0250	5.866	11.1	6809.2	11.0	1.010
0.0000	6.000	0.0	457.1	0.2	

Results of Linear Regression

R _c vs C _c	Slope	Intercept	R ²
Previous	589.409200	336.833500	0.999918
Current	587.353900	364.119700	0.999732
C _i vs C _c			
Current	1.000000	-0.000003	0.999733

Average Correction Factor: 1.005

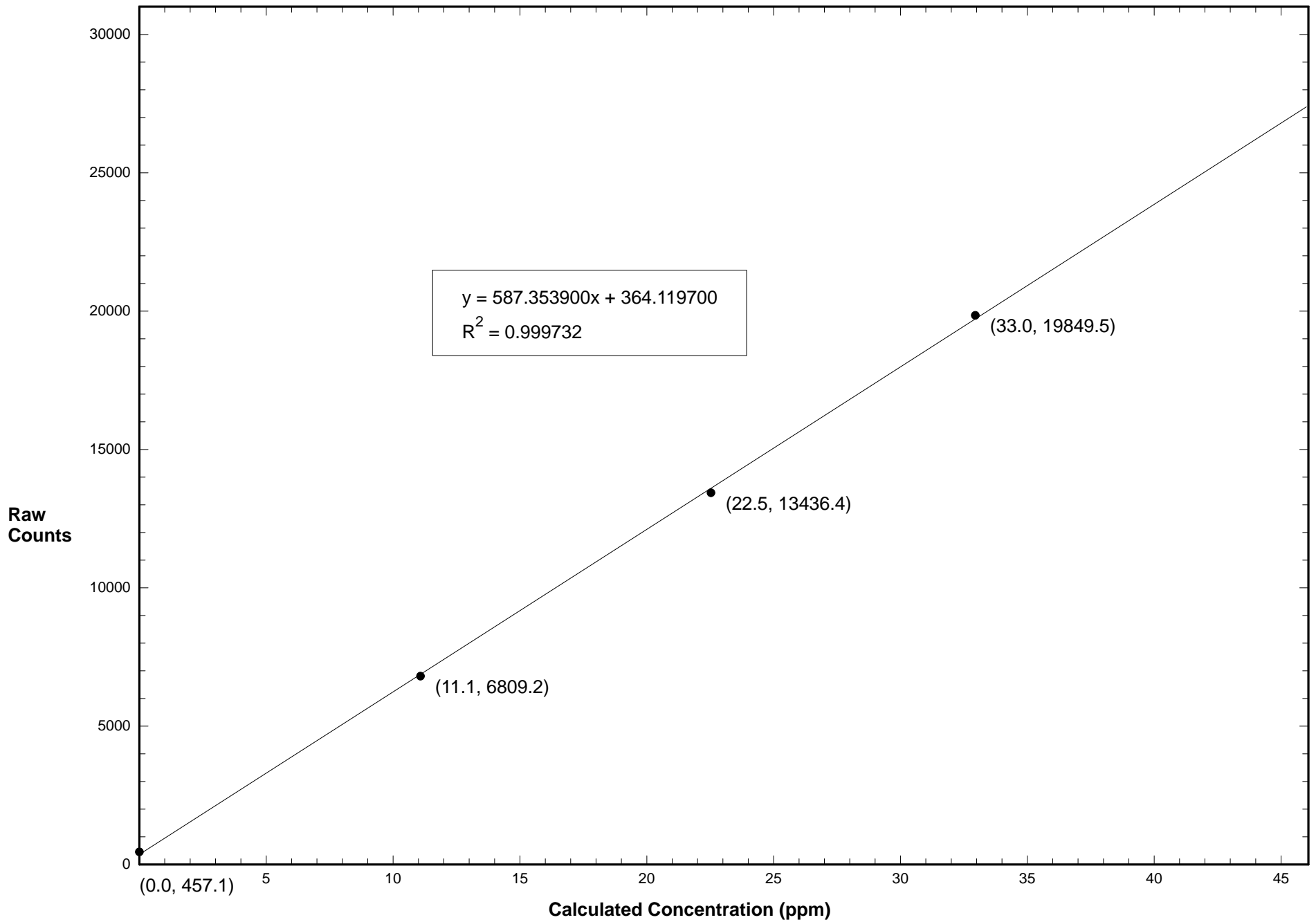
Previous Correction Factor: 0.999

Current Correction Factor: 0.993

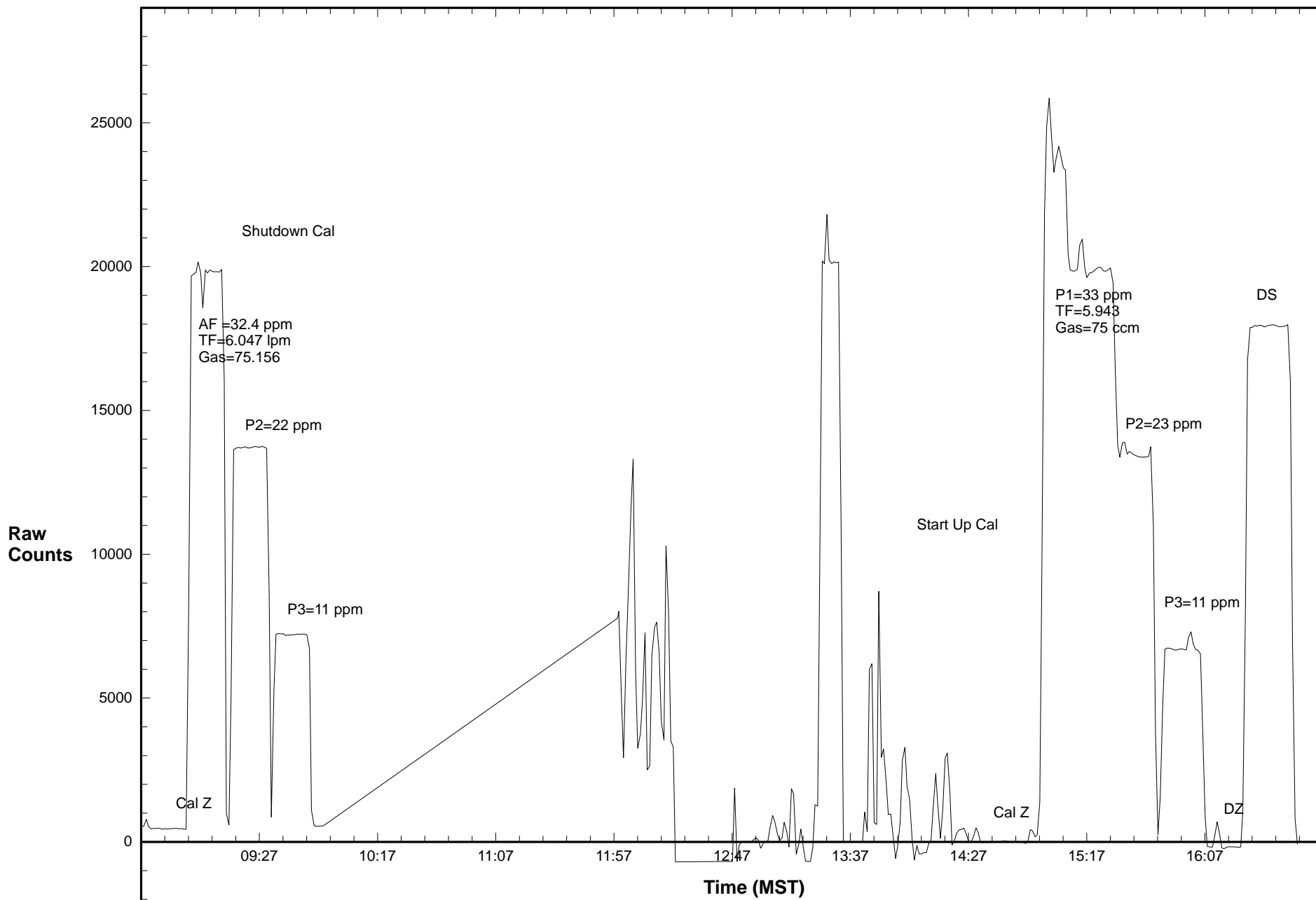
Percent Change of Correction Factor: -0.6

Comments: Install new filter wheel ,check front optical mirrors, leak check Sample Flow =0.894 lpm

Station 905 CO January 26, 2017: Linear Regression



Station 905 CO January 26, 2017: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 905, Steeper

Calibration Date: January 26, 2017

Parameter: NO/NO₂/NO_x

Instrument: TECO 42i

Serial Number: 1327059403

Previous Calibration Date: December 8, 2016

Calibration: Routine

Calibration Equipment: Sabio 2010 # 05200311

Barometric Pressure: 25.31" Hg

Calibration Method: Standard Gas Dilution/GPT

Cylinder ID: FF23225

Temperature: 25.0° C

Cylinder Concentration: 11.9 ppm NO/NO_x

In Service: Dec 10 /13

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	4.0	4.5	na	1.053	1.012	1.002	200 ppb
Current	4.5	4.9	na	1.127	1.008	1.002	200 ppb

NO	Final Zero: -0.7 ppb	Final Span: 153.8 ppb	As Found Correction Factor: 1.039
NO ₂	Final Zero: -0.5 ppb	Final Span: 0.6 ppb	As Found Correction Factor: 0.997
NO _x	Final Zero: -1.2 ppb	Final Span: 153.8 ppb	As Found Correction Factor: 1.041

Results of Linear Regression			Slope	Intercept	R ²
NO	R _c vs C _c	Previous	149.941600	55.199710	0.999943
		Current	149.350100	91.169720	0.999815
	C _i vs C _c	Current	1.000000	-0.000045	0.999816
NO ₂	R _c vs C _c	Previous	150.590400	84.663340	0.999943
		Current	150.521600	36.513080	0.999953
	C _i vs C _c	Current	1.000000	-0.000018	0.999954
NO _x	R _c vs C _c	Previous	151.539400	35.840180	0.999943
		Current	149.895500	111.159400	0.999784
	C _i vs C _c	Current	1.000000	-0.000022	0.999784

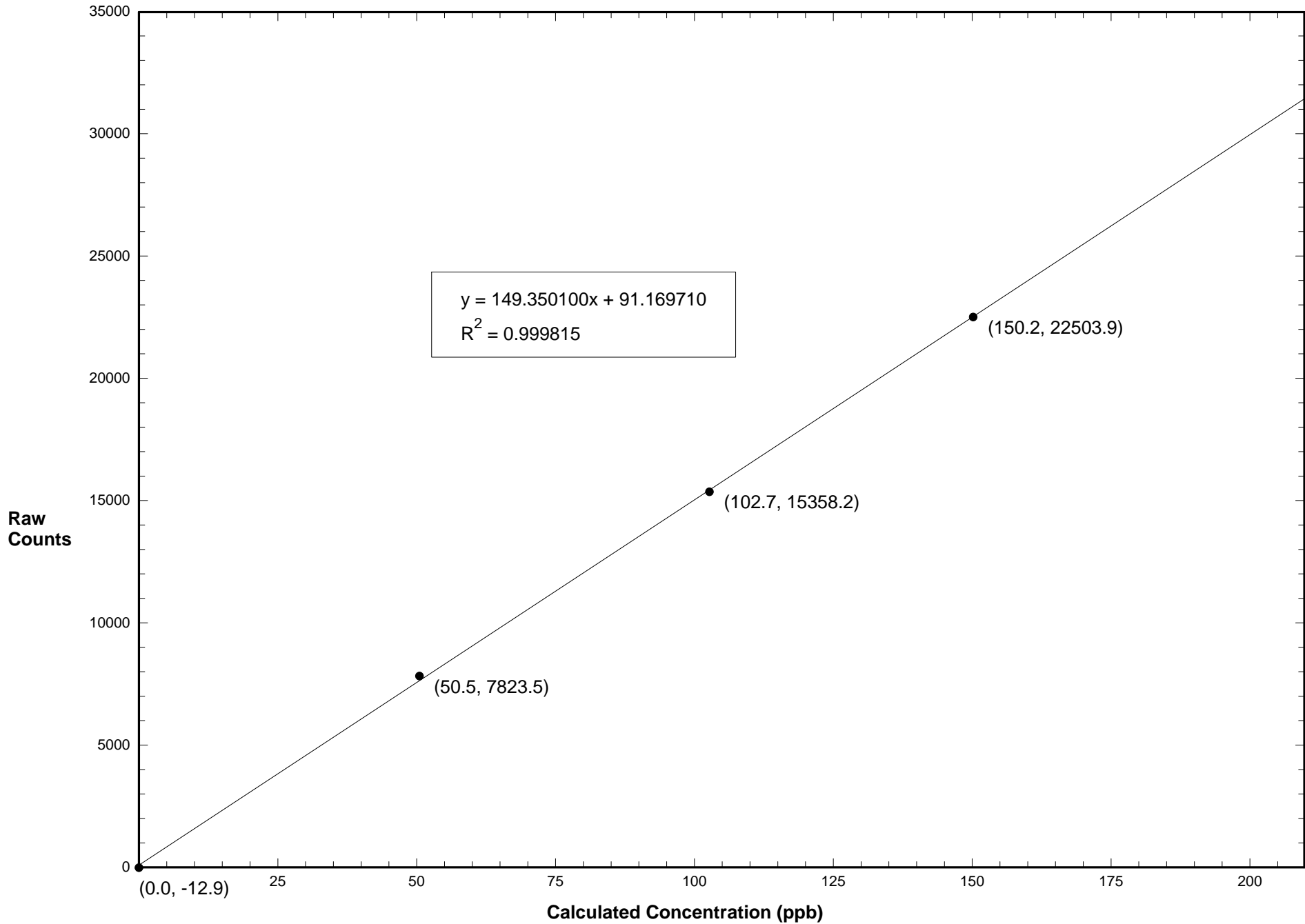
Comments: Sample Inlet= 0.536 lpm

Calibration Data Summary (Page 2)

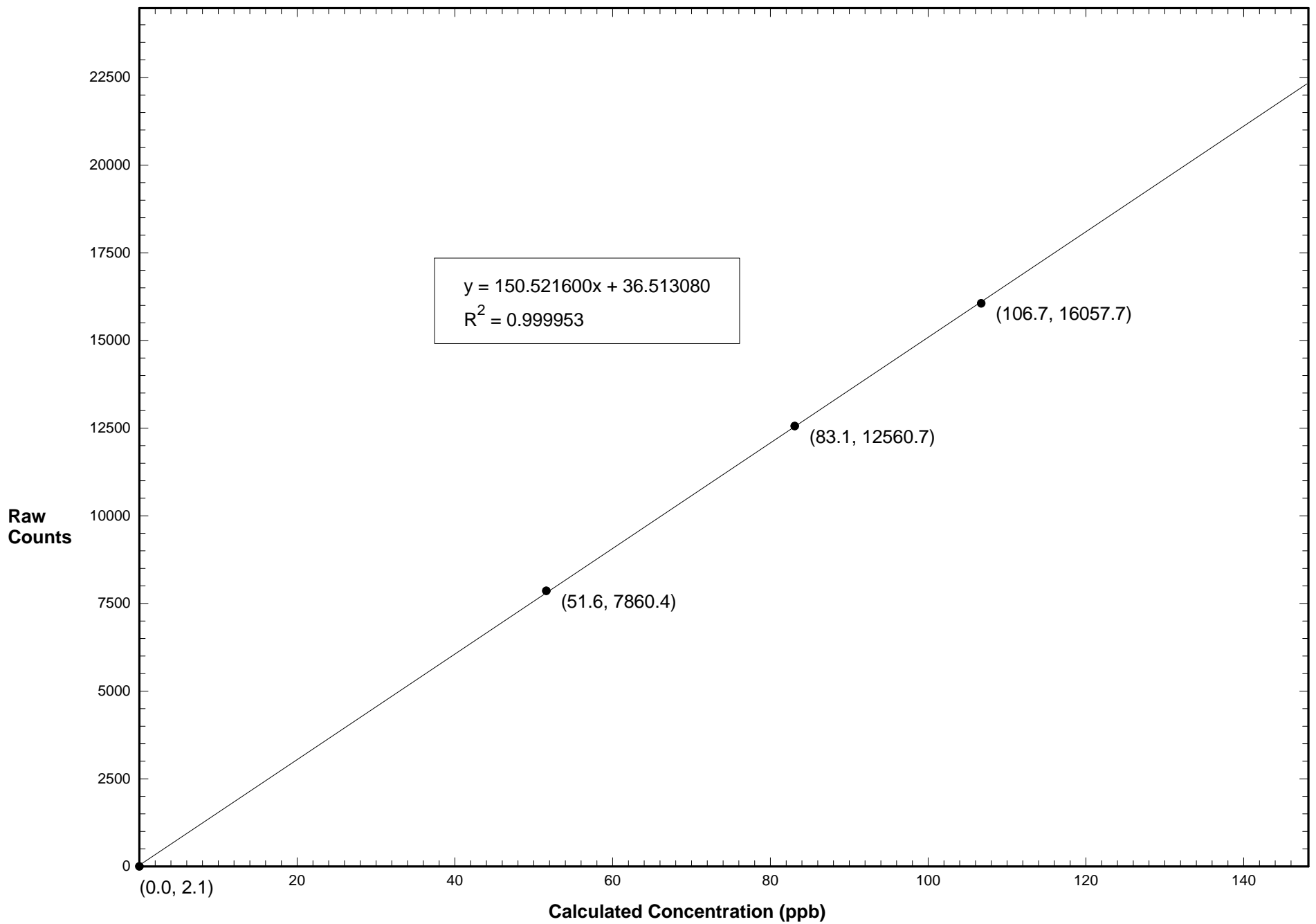
January 26, 2017 - Station 905

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		
0.07500	5.868	150.2	22503.9	150.1	1.001		
0.05100	5.859	102.7	15358.2	102.2	1.005		
0.02500	5.866	50.5	7823.5	51.8	0.975		
0.00000	6.000	0.0	-12.9	-0.7			
NO Calibration					Average Correction Factor:	0.994	
0.07500	5.868	150.2	22578.7	149.9	1.002		
0.05100	5.859	102.7	15465.9	102.4	1.002		
0.02500	5.866	50.5	7887.1	51.9	0.973		
0.00000	6.000	0.0	-13.6	-0.8			
NO _x Calibration					Average Correction Factor:	0.993	
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
150.4	6608.0	43.6	106.7	16057.7	106.4	1.003	0.997
150.4	10138.0	67.3	83.1	12560.7	83.2	0.999	1.001
150.4	14842.1	98.8	51.6	7860.4	52.0	0.992	1.008
			0.0	2.1	-0.2		
					Average Correction Factor:	0.998	
NO ₂ Gas Phase Titration					Average Converter Efficiency: 1.002		
Parameter	Correction Factor (Previous)	Correction Factor: (Current)	Percent Change of Correction Factor				
NO	0.997	1.001	0.4				
NO ₂	0.993	1.003	1.0				
NO _x	0.998	1.002	0.4				

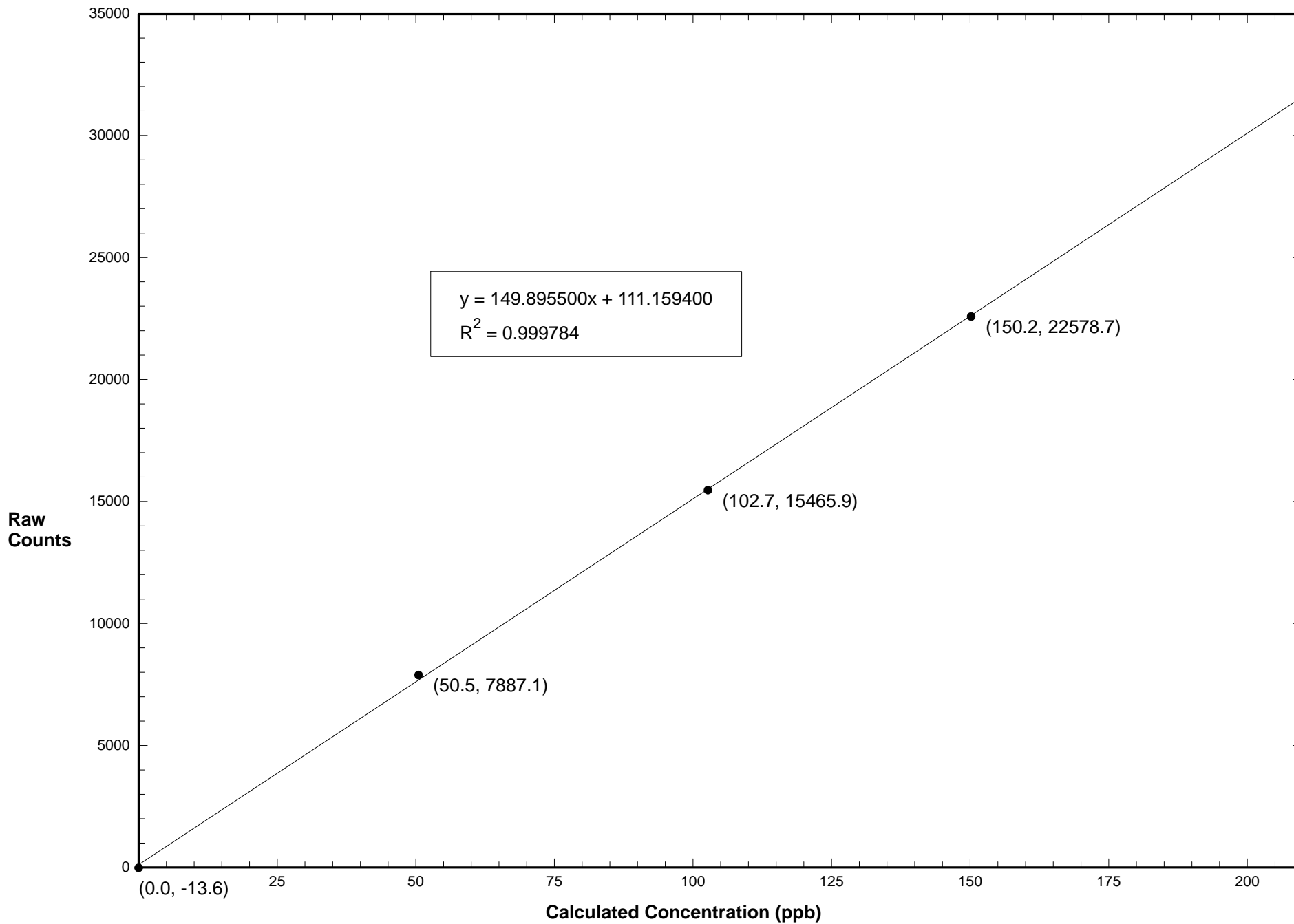
Station 905 NO January 26, 2017: Linear Regression



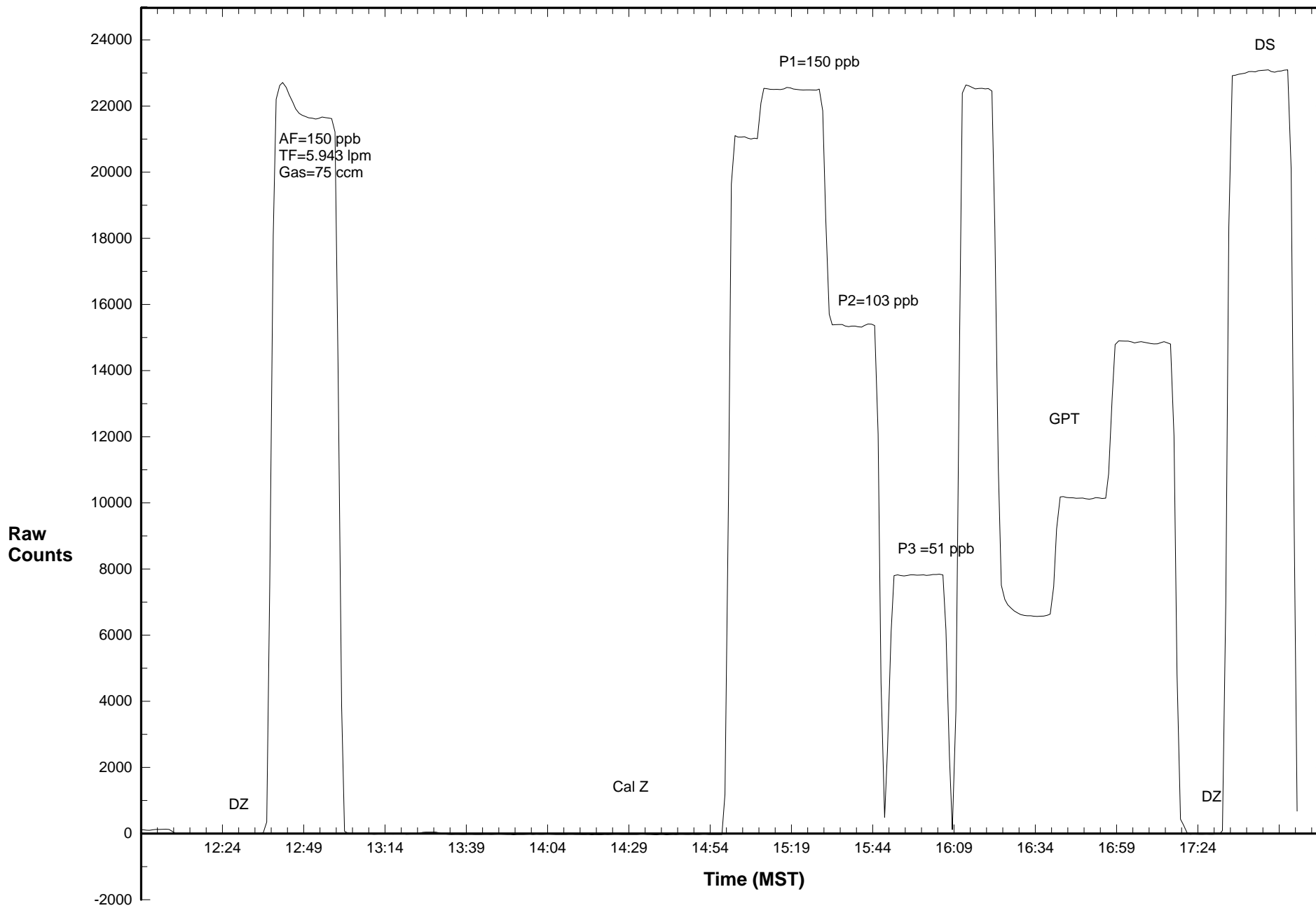
Station 905 NO2 January 26, 2017: Linear Regression



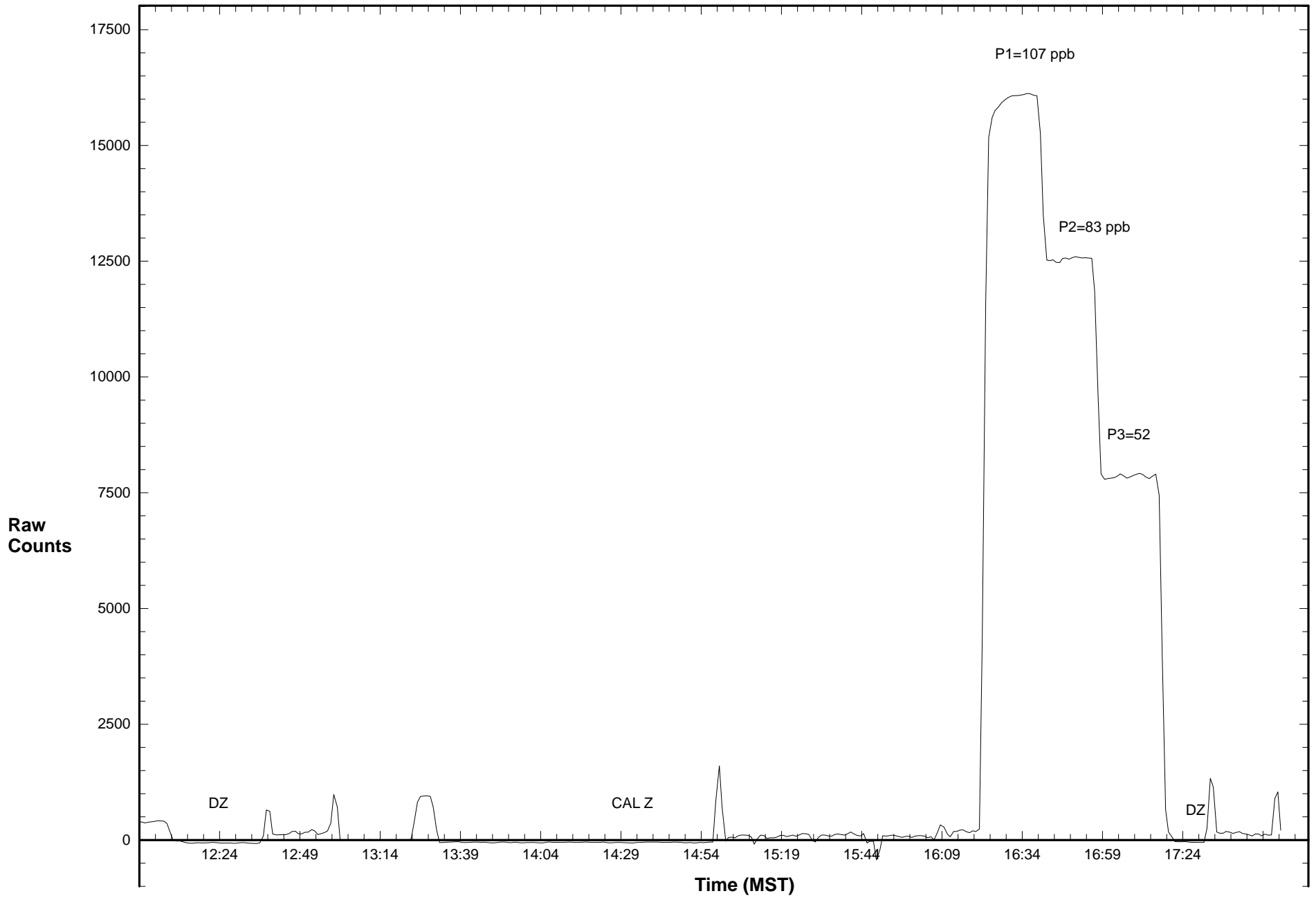
Station 905 NOX January 26, 2017: Linear Regression



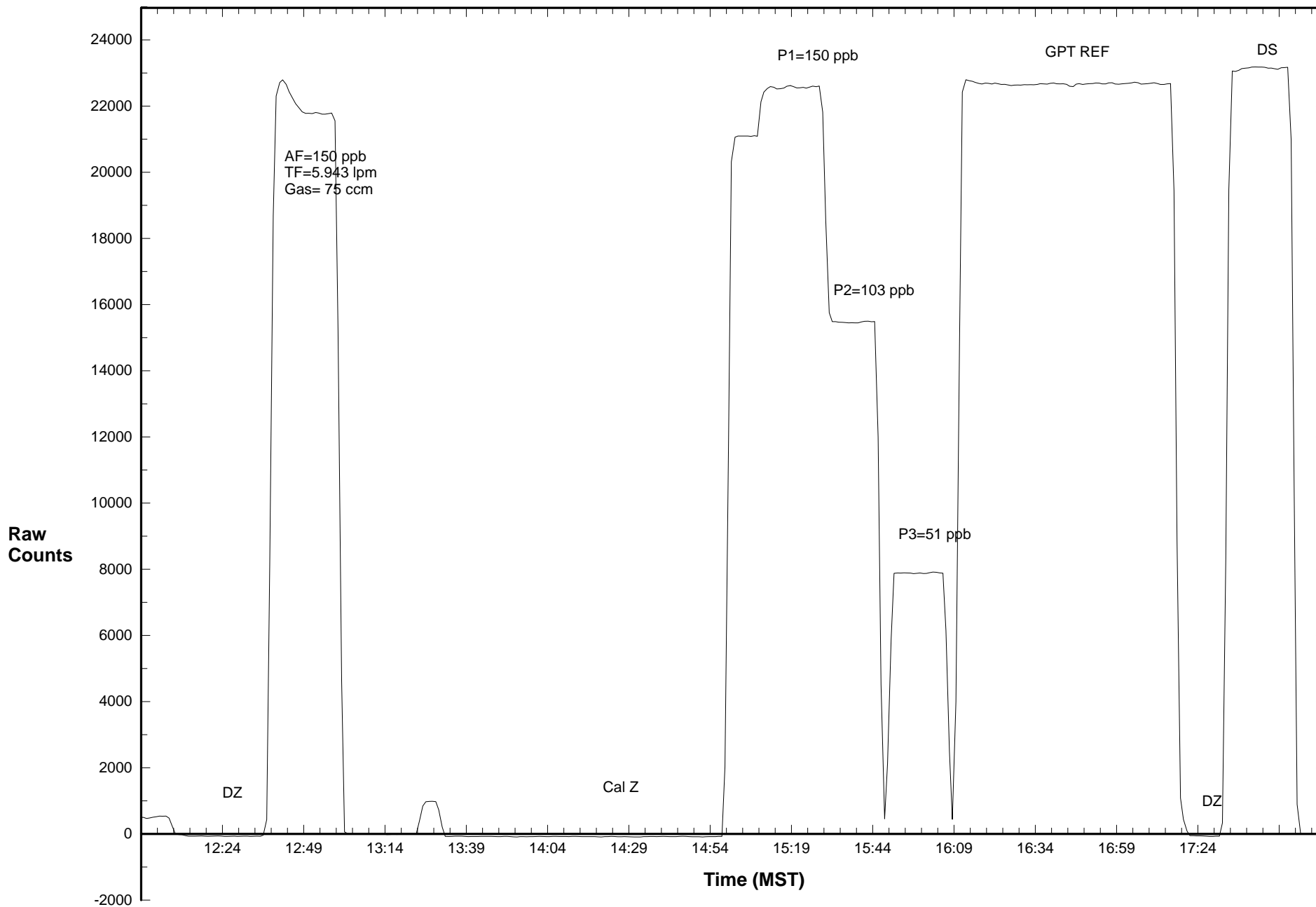
Station 905 NO January 26, 2017: Calibration Graph



Station 905 NO2 January 26, 2017: Calibration Graph



Station 905 NOX January 26, 2017: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 905, Steeper

Calibration Date: January 26, 2017

Parameter: O₃

Instrument: Teco 49i

Serial Number: 1407861290

Previous Calibration Date: December 8, 2016

Calibration: Routine

Calibration Equipment: 2B Tech Model 306 SN145

Barometric Pressure: 25.31" Hg

Calibration Method: Certified Ozone Generator April 1,2016

Temperature: 25.0° C

Technician: J.McClintock

Instrument Settings	Background	Coefficient	Monitoring Range
Previous	0.1	1.043	500 ppb
Current	0.2	1.013	500 ppb

Final Zero: -0.6 ppb

Final Span: 355.7 ppb

As Found Correction Factor: 0.962

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	409.0	24623.1	408.2	1.002
3.000	256.0	15524.2	257.1	0.996
3.000	102.0	6214.9	102.4	0.996
3.000	0.0	12.8	-0.7	

Results of Linear Regression

R _c vs C _c	Slope	Intercept	R ²
Previous	60.321320	93.166130	0.999946
Current	60.183380	53.586900	0.999976
C _i vs C _c			
Current	1.000000	-0.000039	0.999976

Average Correction Factor: 0.998

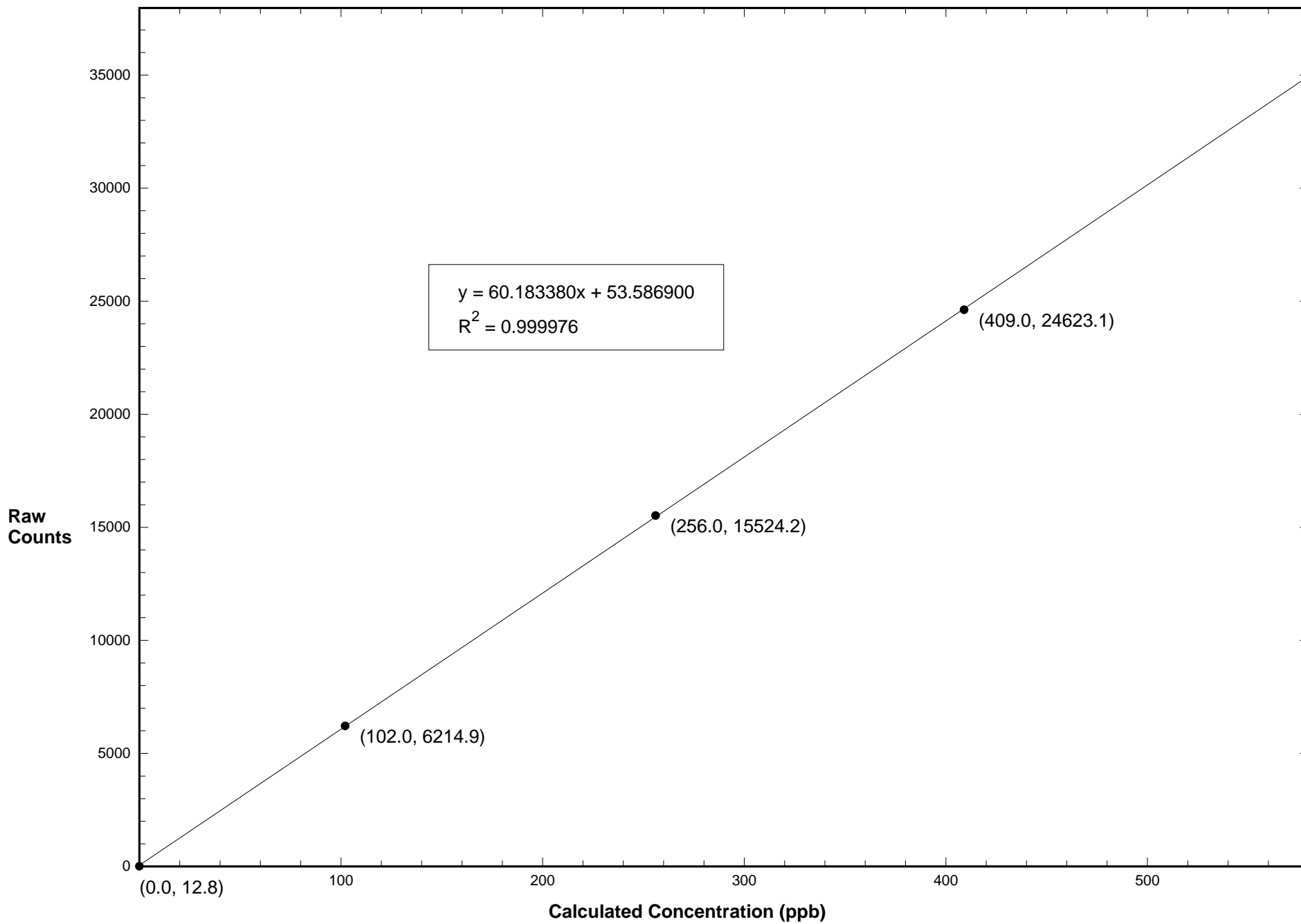
Previous Correction Factor: 1.002

Current Correction Factor: 1.002

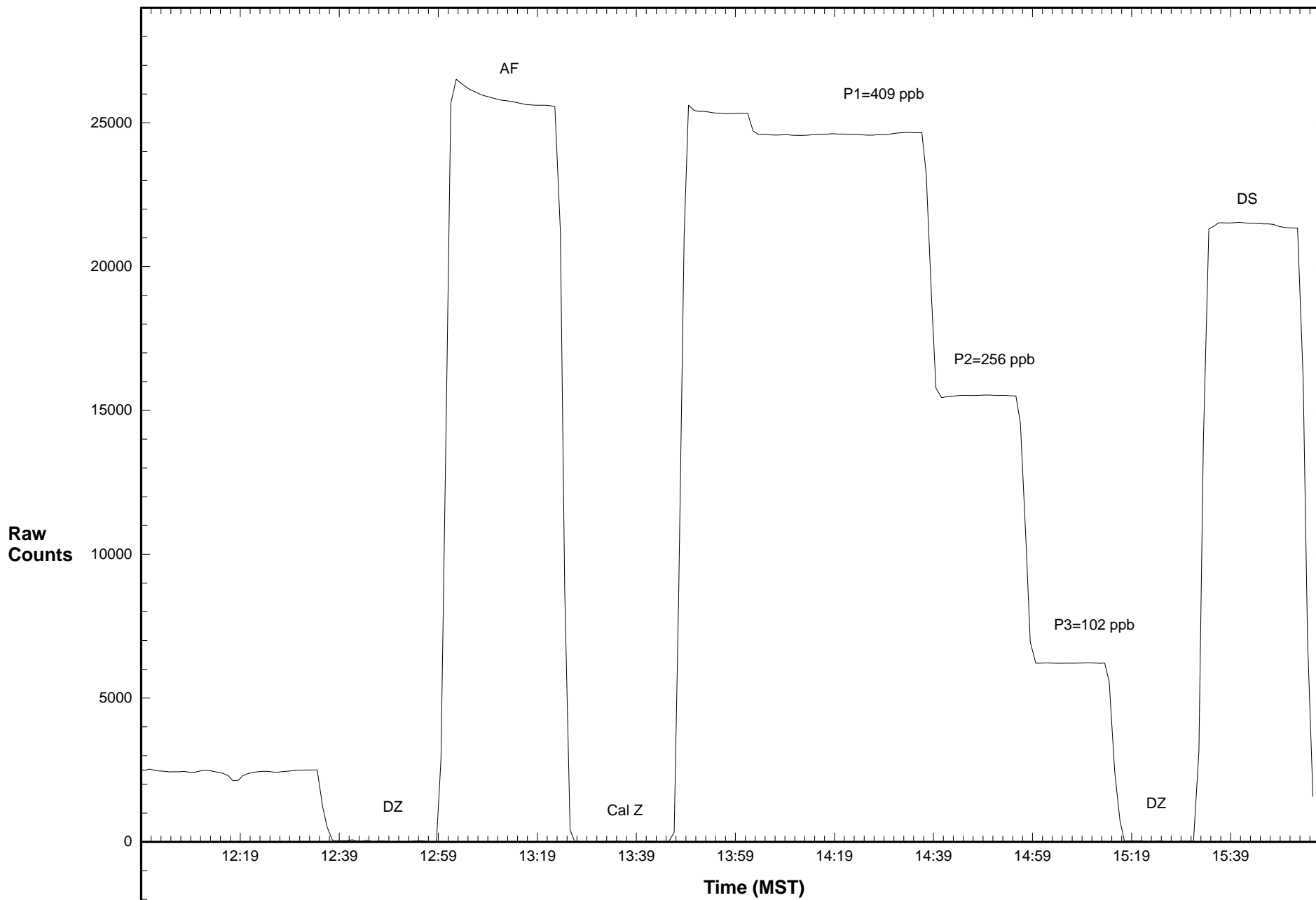
Percent Change of Correction Factor: 0.0

Comments: Sample Flow = 1.260 lpm

Station 905 O3 January 26, 2017: Linear Regression



Station 905 O3 January 26, 2017: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 905, Steeper

Calibration Date: January 26, 2017

Parameter: SO₂

Instrument: Teco 43C

Serial Number: 43CTL-68293-365

Previous Calibration Date: December 8, 2016

Calibration: Routine

Calibration Equipment: Sabio 2010 # 05200311

Barometric Pressure: 25.31" Hg

Calibration Method: Standard Gas Dilution

Cylinder ID: FF23225

Temperature: 25.0° C

Cylinder Concentration: 5.96 ppm SO₂

In Service: Dec 10 /13

Technician: J.McClintock

Instrument Settings	SO ₂ bkg ppb	SO ₂ Coefficient	Monitoring Range
Previous	2.94	1.102	100 ppb
Current	3.07	1.127	100 ppb

Final Zero: -0.1 ppb

Final Span: 66.9 ppb

As Found Correction Factor: 1.060

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
0.0750	5.868	75.2	22618.6	75.5	0.996
0.0510	5.859	51.4	15259.9	50.9	1.010
0.0250	5.866	25.3	7656.3	25.5	0.991
0.0000	6.000	0.0	13.0	0.0	

Results of Linear Regression

R _c vs C _c	Slope	Intercept	R ²
Previous	300.722100	16.124690	0.999975
Current	299.488100	10.982580	0.999875
C _i vs C _c			
Current	1.000000	-0.000011	0.999876

Average Correction Factor: 0.999

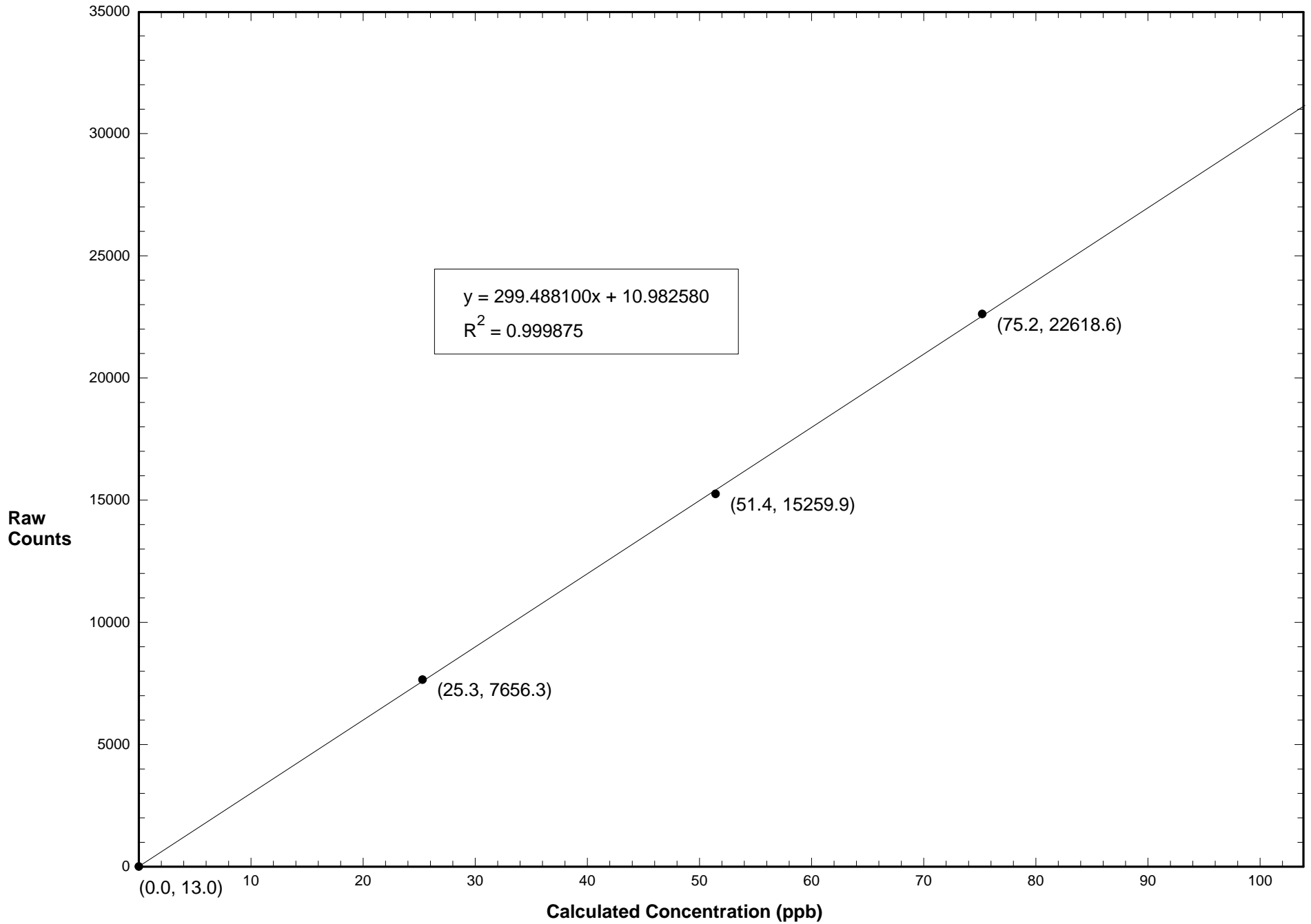
Previous Correction Factor: 1.000

Current Correction Factor: 0.996

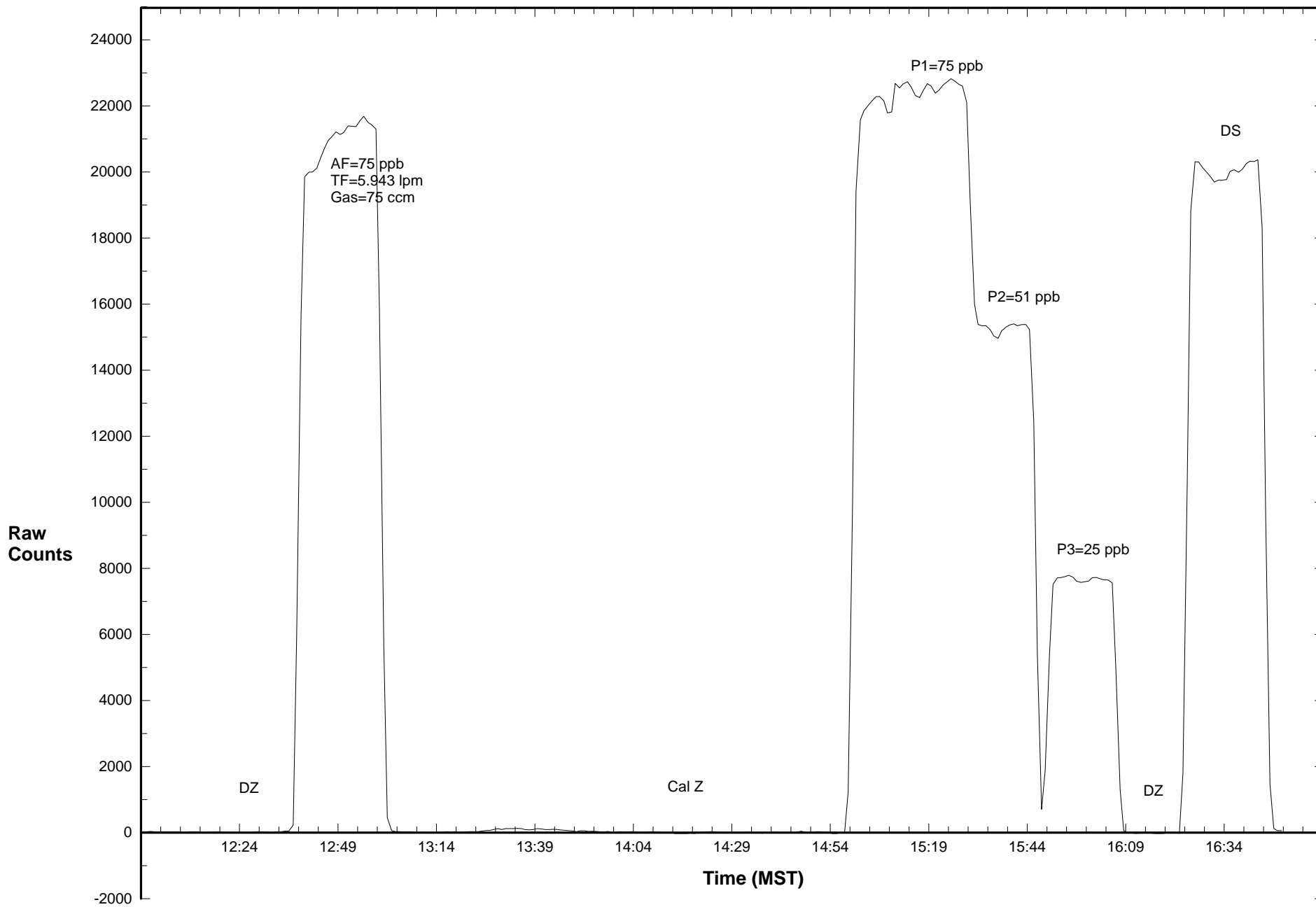
Percent Change of Correction Factor: -0.4

Comments: Sample Flow = 0.445 lpm

Station 905 SO2 January 26, 2017: Linear Regression



Station 905 SO2 January 26, 2017: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 912, Edson

Calibration Date: January 23, 2017

Parameter: NO/NO₂/NO_x

Instrument: Teco 42i

Serial Number: 1150790047

Previous Calibration Date: December 6 ,2016

Calibration: Routine

Calibration Equipment: Sabio 2010 #05200311

Barometric Pressure: 26.85" Hg

Calibration Method: Standard Gas Dilution/GPT

Cylinder ID: FF27716

Temperature: 21.0° C

Cylinder Concentration: 12.0 ppm NO/NO_x

In Service: June 2, 2016: Expiry Jan 20,2019

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	14.7	15.1	na	1.537	1.000	1.000	200 ppb
Current	15.2	15.9	na	1.559	1.003	1.000	200 ppb

NO	Final Zero: -0.6 ppb	Final Span: 159.3 ppb	As Found Correction Factor: 1.004
NO ₂	Final Zero: -0.9 ppb	Final Span: -0.4 ppb	As Found Correction Factor: 1.006
NO _x	Final Zero: -1.0 ppb	Final Span: 158.9 ppb	As Found Correction Factor: 1.007

Results of Linear Regression			Slope	Intercept	R ²
NO	R _c vs C _c	Previous	149.764800	63.052350	0.999965
		Current	149.022400	60.454440	0.999980
	C _i vs C _c	Current	1.000000	0.000021	0.999980
NO ₂	R _c vs C _c	Previous	150.342000	66.202750	0.999965
		Current	149.234600	55.513790	0.999960
	C _i vs C _c	Current	1.000000	0.000004	0.999960
NO _x	R _c vs C _c	Previous	150.435700	94.476910	0.999965
		Current	149.776000	45.434760	0.999980
	C _i vs C _c	Current	1.000000	-0.000021	0.999980

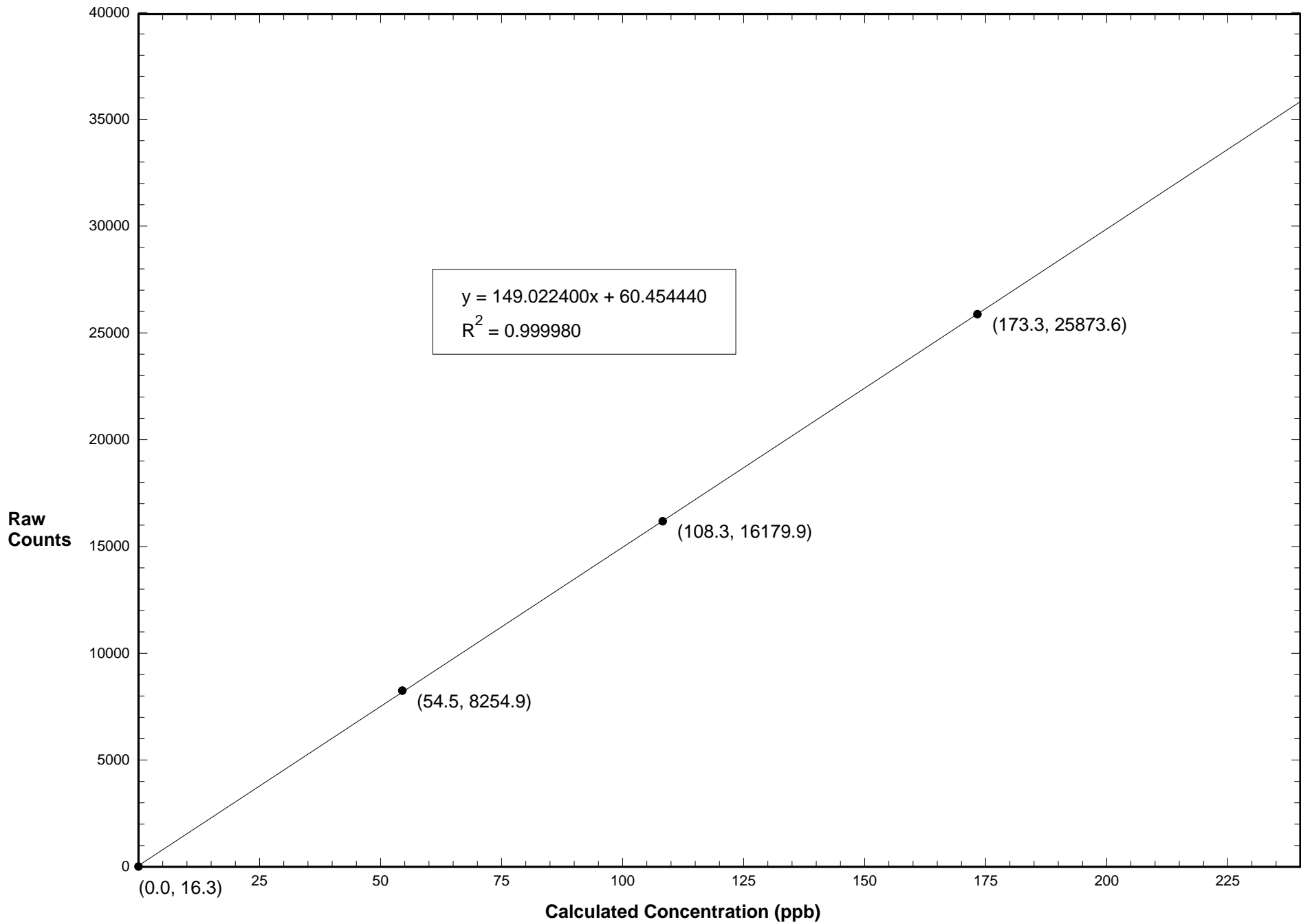
Comments: Sample Flow =0.434 lpm

Calibration Data Summary (Page 2)

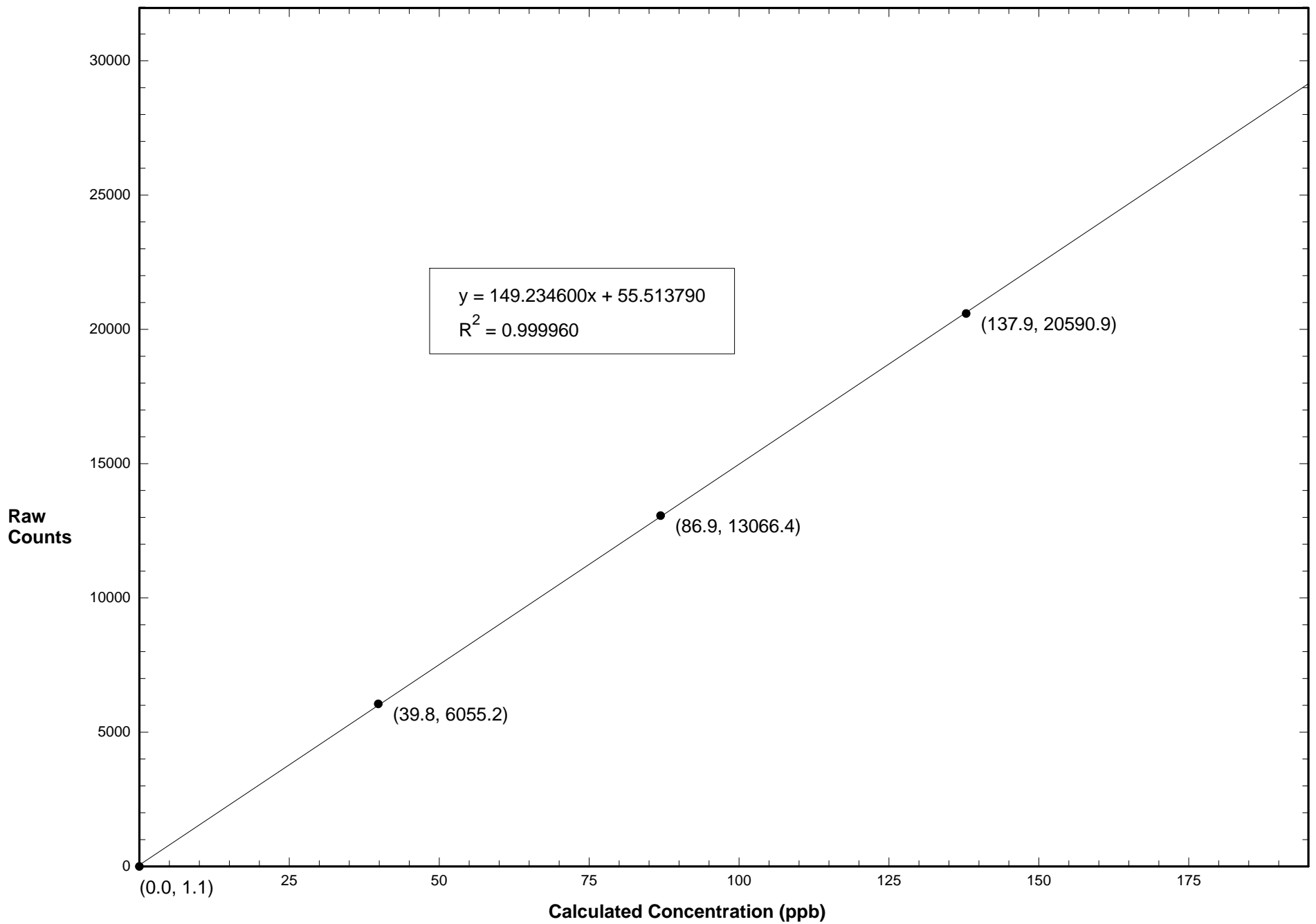
January 23, 2017 - Station 912

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		
0.06600	4.504	173.3	25873.6	173.2	1.001		
0.04100	4.503	108.3	16179.9	108.2	1.001		
0.02060	4.515	54.5	8254.9	55.0	0.991		
0.00000	4.500	0.0	16.3	-0.3			
NO Calibration					Average Correction Factor:	0.998	
0.06600	4.504	173.3	26011.2	173.4	1.000		
0.04100	4.503	108.3	16214.6	108.0	1.003		
0.02060	4.515	54.5	8274.3	54.9	0.992		
0.00000	4.500	0.0	17.8	-0.2			
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
171.7	5095.5	33.8	137.9	20590.9	137.6	1.002	0.998
171.7	12691.7	84.8	86.9	13066.4	87.2	0.997	1.003
171.7	19707.4	131.8	39.8	6055.2	40.2	0.991	1.009
			0.0	1.1	-0.4		
					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	0.998	1.001	0.3				
NO ₂	0.997	1.002	0.5				
NO _x	0.997	1.000	0.3				

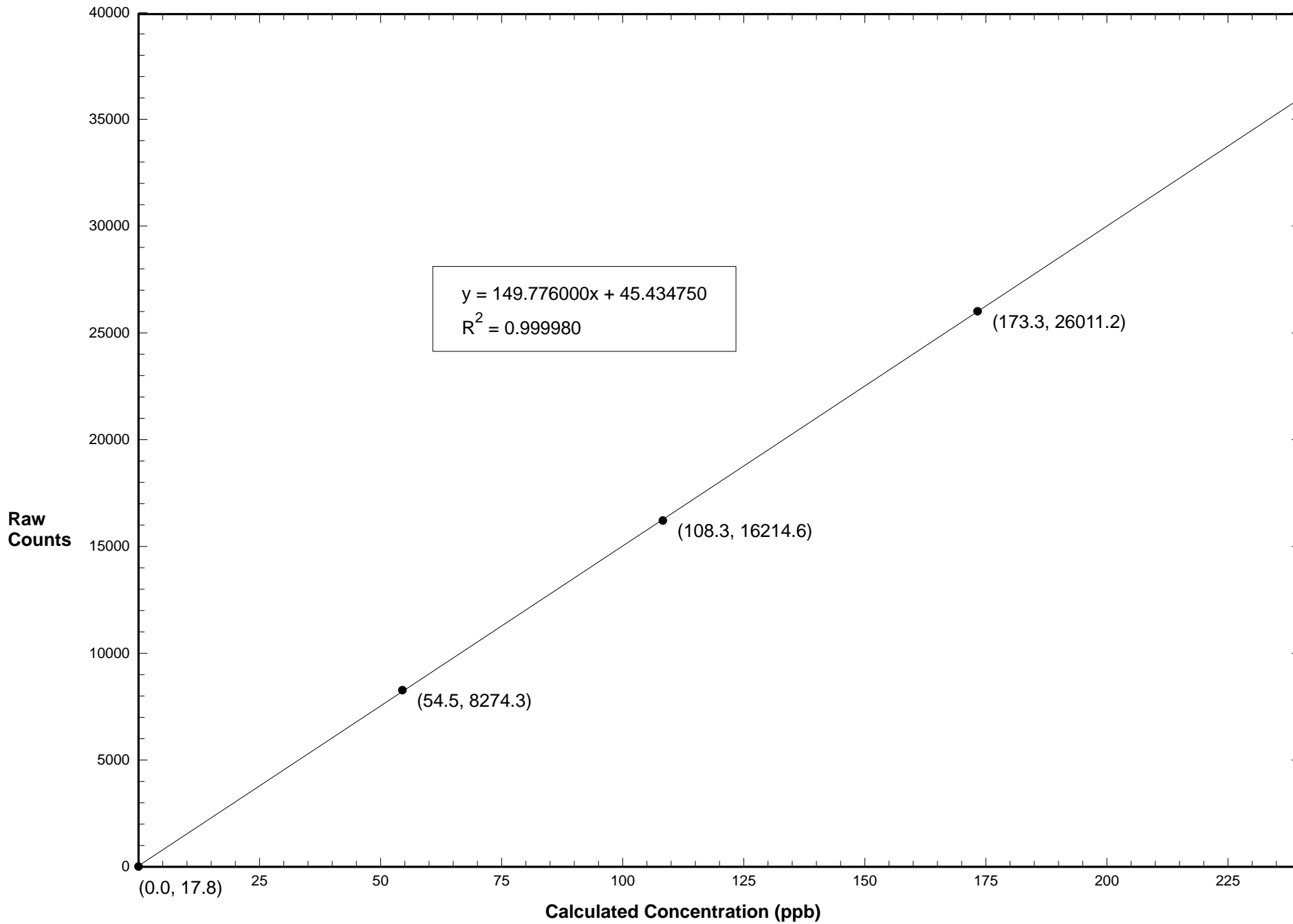
Station 912 NO January 23, 2017: Linear Regression



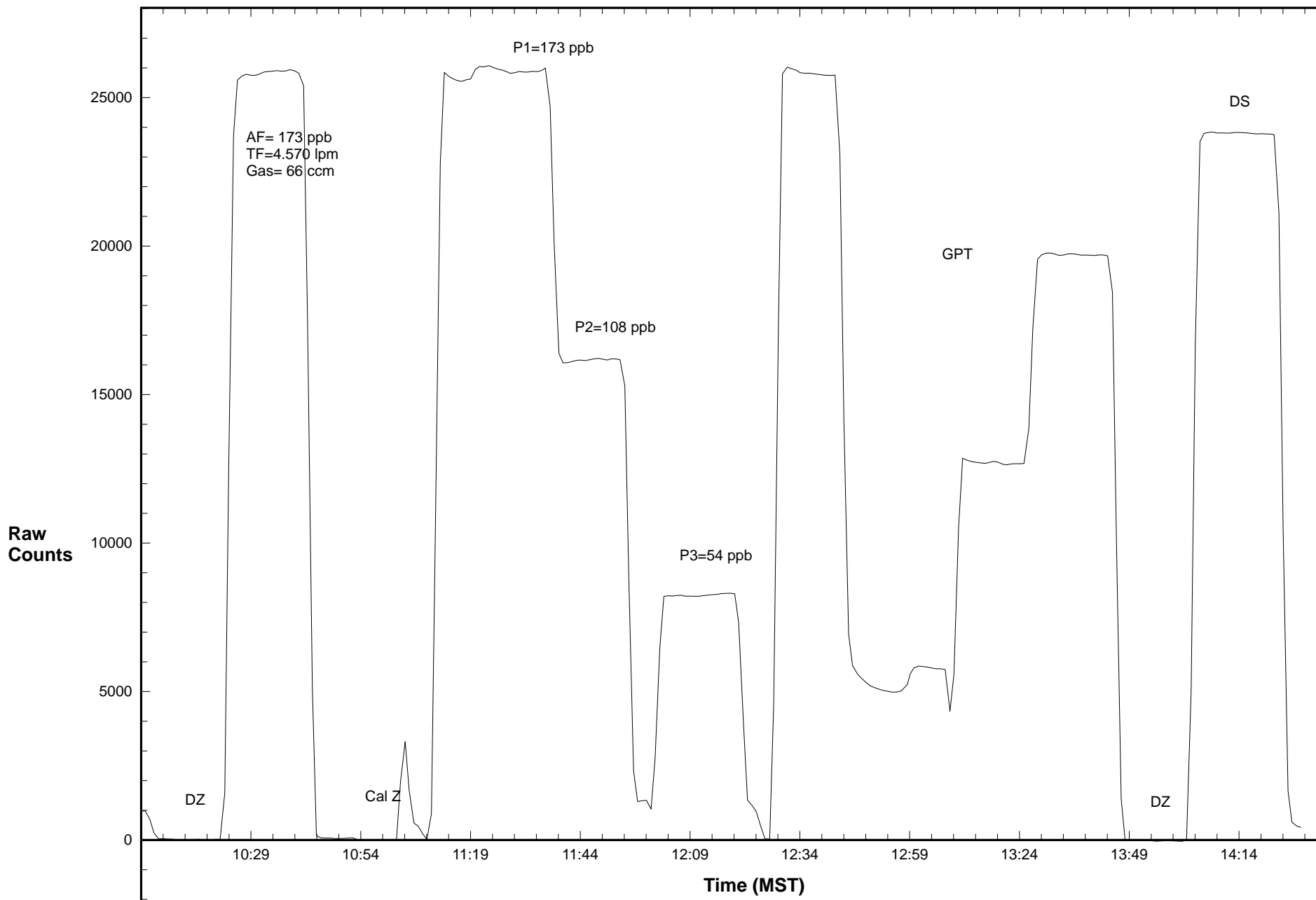
Station 912 NO2 January 23, 2017: Linear Regression



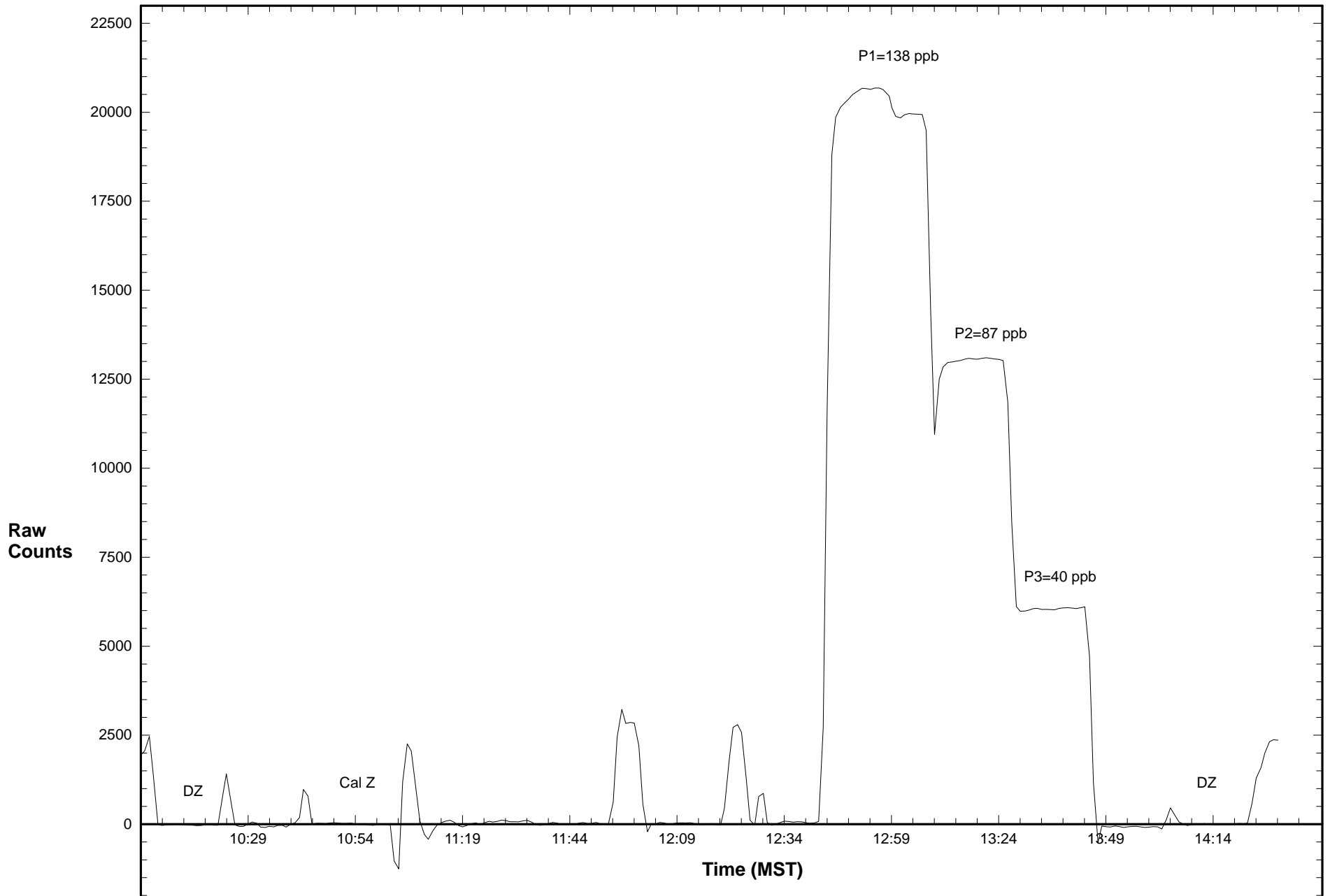
Station 912 NOX January 23, 2017: Linear Regression



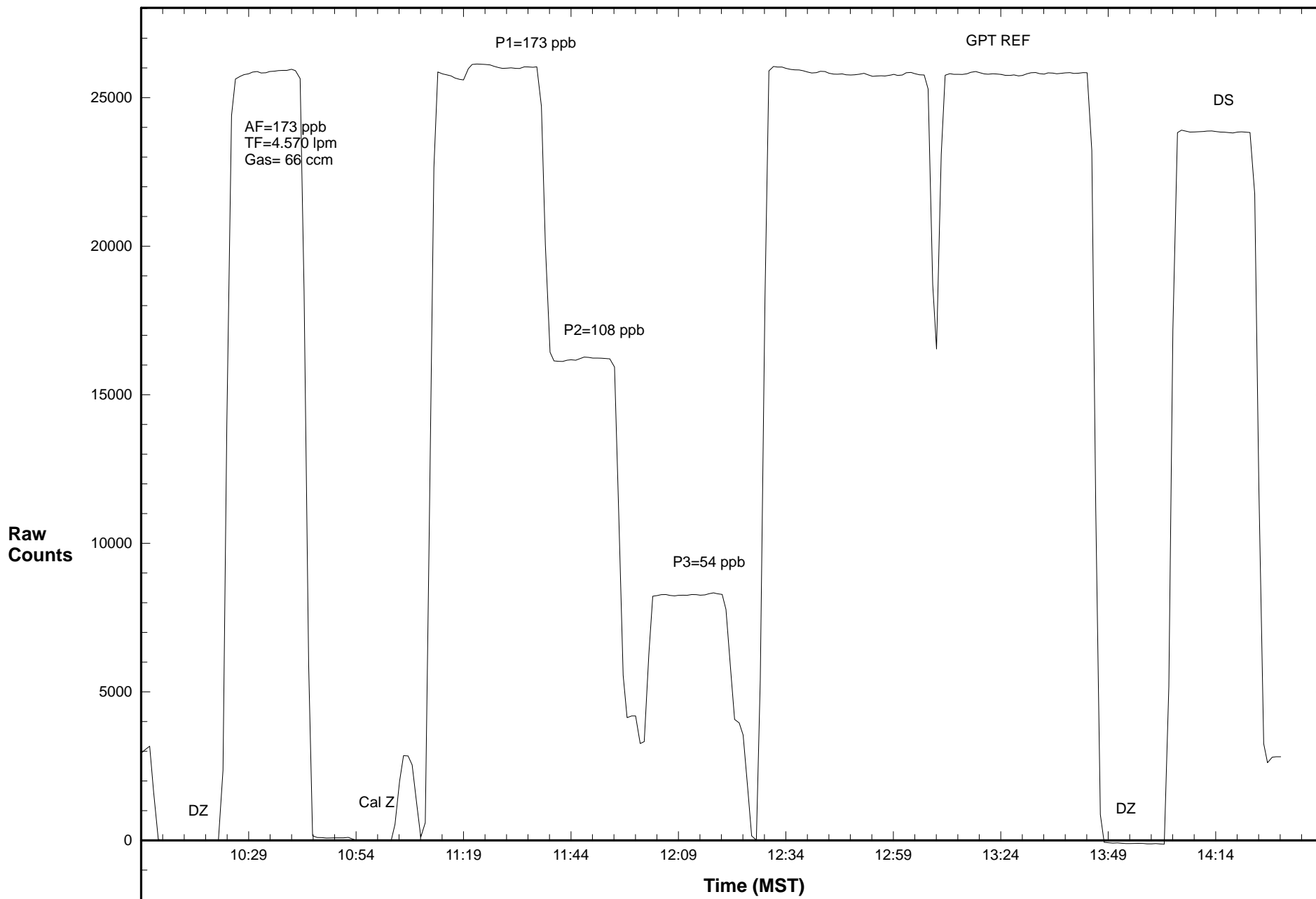
Station 912 NO January 23, 2017: Calibration Graph



Station 912 NO2 January 23, 2017: Calibration Graph



Station 912 NOX January 23, 2017: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 912, Edson

Calibration Date: January 23, 2017

Parameter: O₃

Instrument: Teco 49i

Serial Number: 1136451325

Previous Calibration Date: December 6 ,2016

Calibration: Routine

Calibration Equipment: 2B Tech Model 306 #145

Barometric Pressure: 26.85" Hg

Calibration Method: Certified Ozone Generator /April 1,2016

Temperature: 21.0° C

Technician: J.McClintock

Instrument Settings	Background	Coefficient	Monitoring Range
Previous	-0.1	1.050	500 ppb
Current	-0.2	1.132	500 ppb

Final Zero: -1.7 ppb

Final Span: 380.1 ppb

As Found Correction Factor: 1.079

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	409.0	24501.1	407.3	1.004
3.000	256.0	15574.1	258.2	0.991
3.000	102.0	6286.9	103.2	0.988
3.000	0.0	2.4	-1.7	

Results of Linear Regression

R _c vs C _c	Slope	Intercept	R ²
Previous	59.674980	120.696900	0.999887
Current	59.894610	106.332600	0.999872
C _i vs C _c			
Current	1.000000	0.000070	0.999871

Average Correction Factor: 0.995

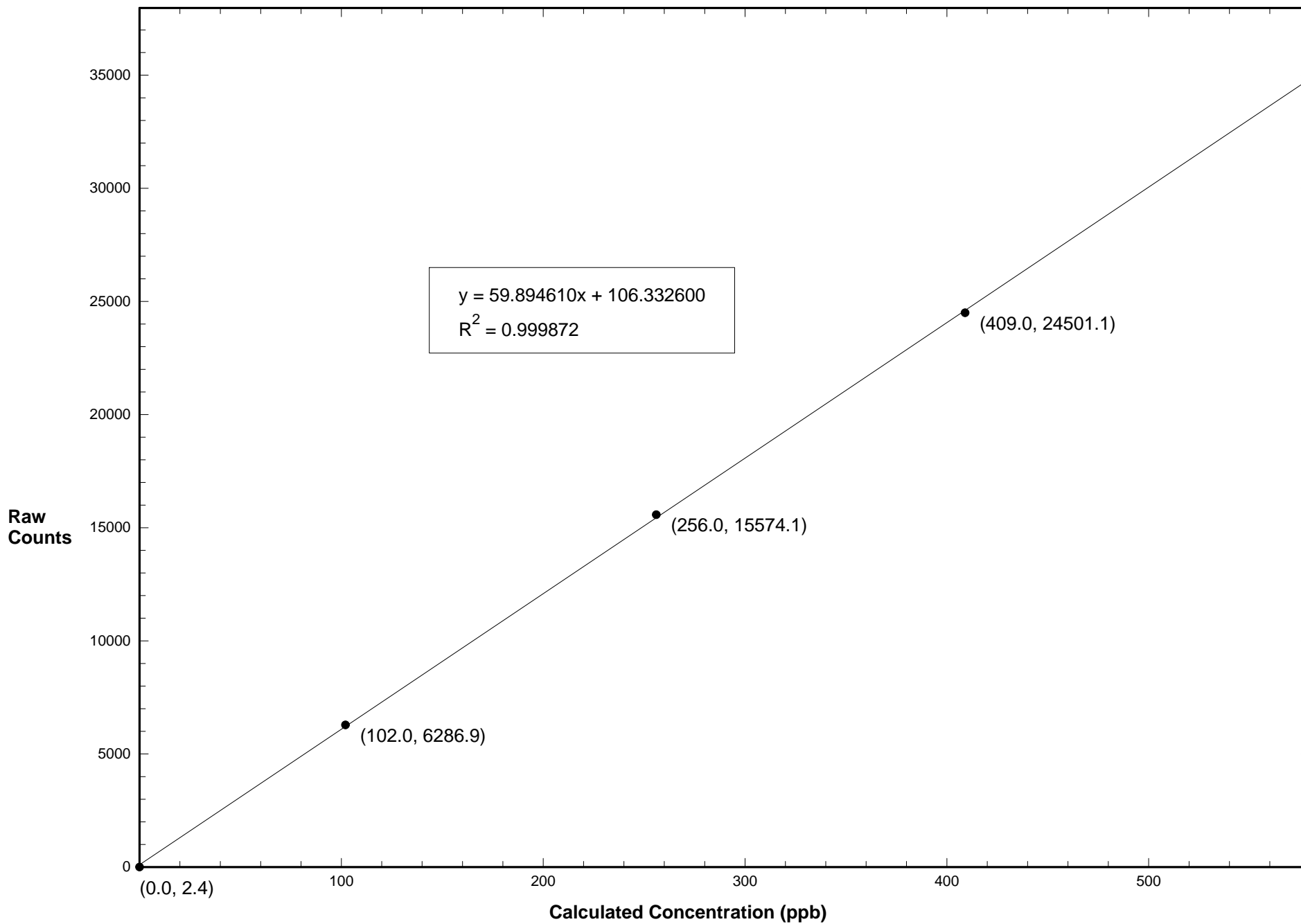
Previous Correction Factor: 1.003

Current Correction Factor: 1.004

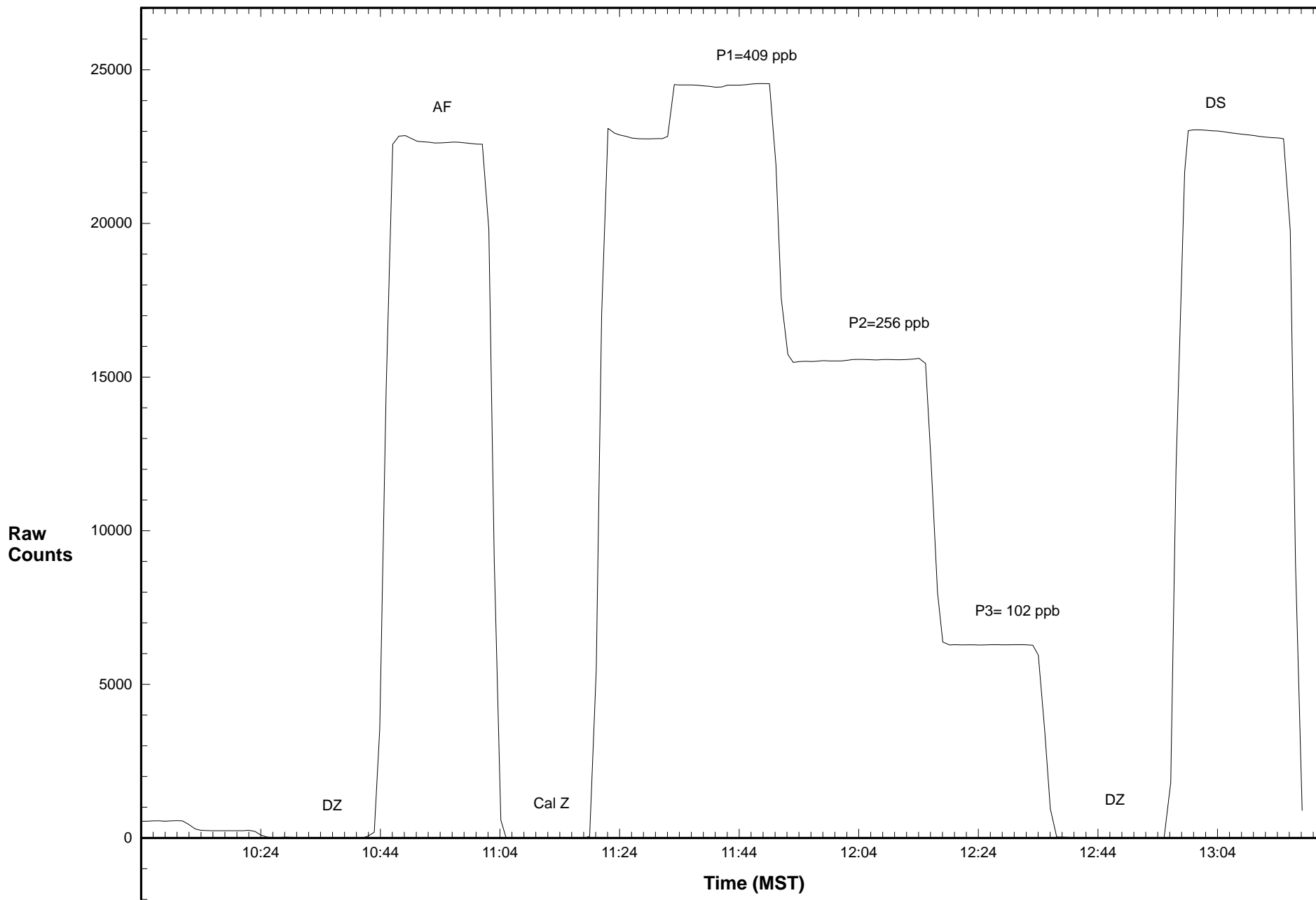
Percent Change of Correction Factor: 0.1

Comments: Sample Flow =1.308 lpm

Station 912 O3 January 23, 2017: Linear Regression



Station 912 O3 January 23, 2017: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 912, Edson

Calibration Date: January 23, 2017

Parameter: SO₂

Instrument: Teco 43CTL

Serial Number: 0333803283

Previous Calibration Date: December 6 ,2016

Calibration: Routine

Calibration Equipment: Sabio 2010 #05200311

Barometric Pressure: 26.85" Hg

Calibration Method: Standard Gas Dilution

Cylinder ID: FF27716

Temperature: 21.0° C

Cylinder Concentration: 5.8 ppm SO₂

In Service: June 2, 2016: Expiry Jan 20,2019

Technician: J.McClintock

Instrument Settings	SO ₂ bkg ppb	SO ₂ Coefficient	Monitoring Range
Previous	31.3	1.118	100 ppb
Current	31.9	1.129	100 ppb

Final Zero: 0.3 ppb

Final Span: 76.0 ppb

As Found Correction Factor: 0.991

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
0.0660	4.504	83.8	25289.8	84.0	0.997
0.0410	4.503	52.3	15653.0	52.1	1.005
0.0206	4.515	26.3	7792.7	26.1	1.010
0.0000	4.500	0.0	3.8	0.3	

Results of Linear Regression

R _c vs C _c	Slope	Intercept	R ²
Previous	297.195000	44.236040	0.999991
Current	302.022800	-80.079870	0.999931
C _i vs C _c			
Current	1.000000	0.000000	0.999931

Average Correction Factor: 1.004

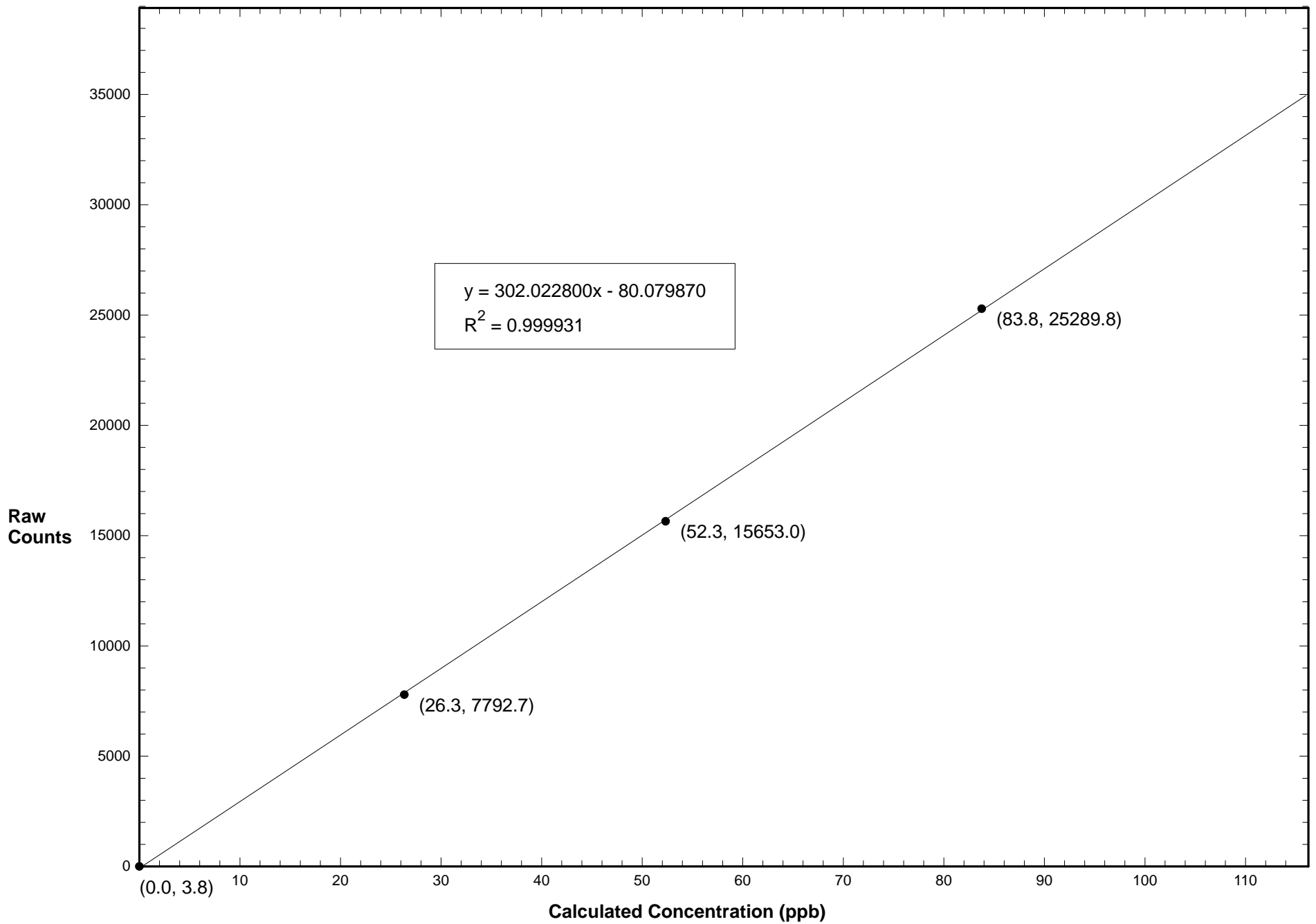
Previous Correction Factor: 1.001

Current Correction Factor: 0.997

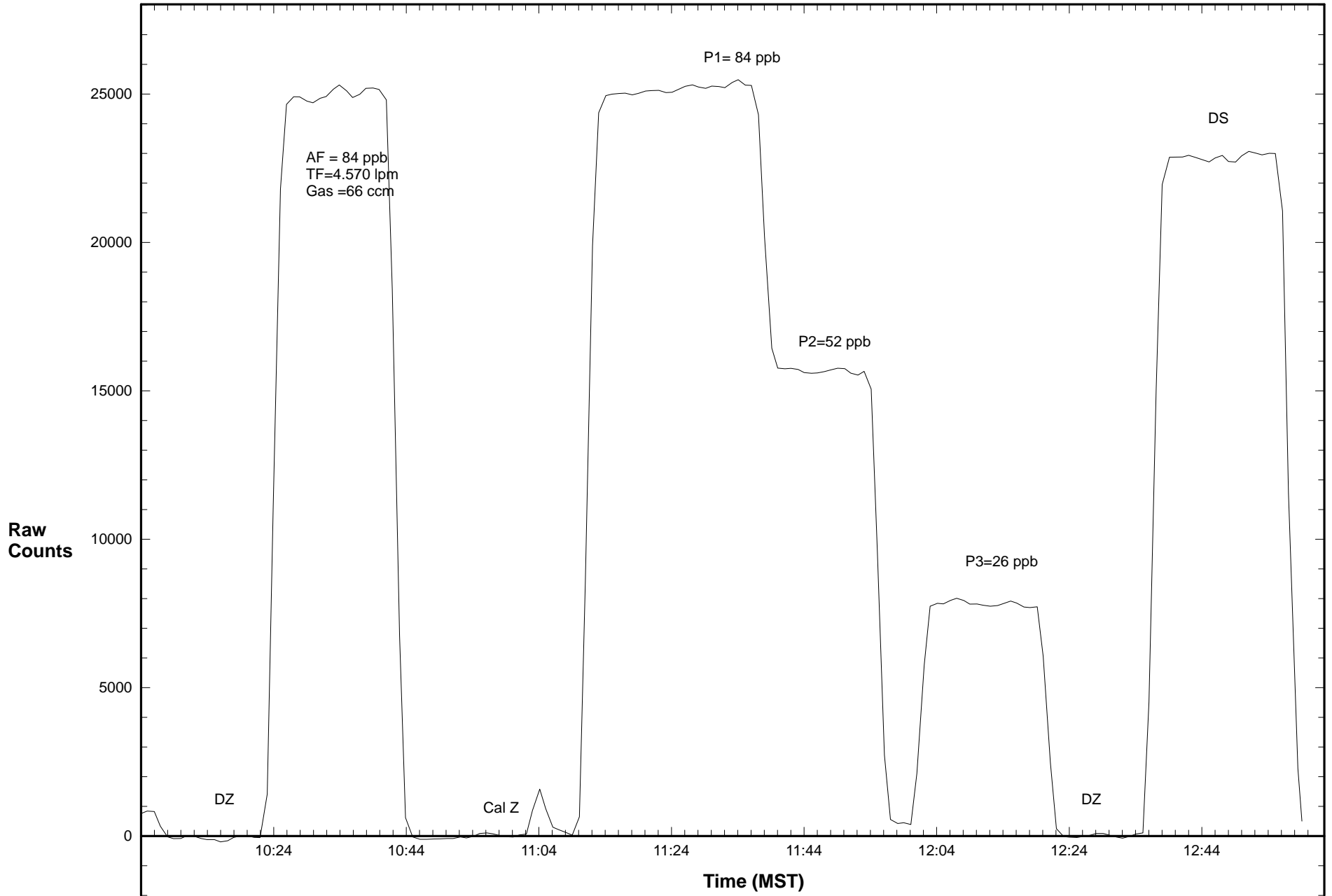
Percent Change of Correction Factor: -0.4

Comments: Sample Flow=0.373 lpm

Station 912 SO2 January 23, 2017: Linear Regression



Station 912 SO2 January 23, 2017: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 913, Breton

Calibration Date: January 29, 2017

Parameter: SO₂

Instrument: Teco 43c

Serial Number: 0333803283

Previous Calibration Date: November 24 2016

Calibration: Routine

Calibration Equipment: Sabio 2010 SN 04300810

Barometric Pressure: 26.90" Hg

Calibration Method: Standard Gas Dilution

Cylinder ID: FF27662

Temperature: 22.5° C

Cylinder Concentration: 5.92 ppm SO₂

In Service: June 2 2016 Exp: Jan 20 2019

Technician: Dean Yustak

Instrument Settings	SO ₂ bkg ppb	SO ₂ Coefficient	Monitoring Range
Previous	3.30	1.049	100 ppb
Current	3.63	1.075	100 ppb

Final Zero: 0.0 ppb

Final Span: 50.2 ppb

As Found Correction Factor: 0.999

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
0.0638	4.990	74.7	22620.0	74.7	1.000
0.0414	4.994	48.6	14716.8	48.6	1.000
0.0211	5.000	24.8	7520.3	24.8	0.999
0.0000	5.027	0.0	-1.9	0.0	

Results of Linear Regression

R _c vs C _c	Slope	Intercept	R ²
Previous	299.213100	87.708180	0.999957
Current	302.669300	0.519631	1.000000
C _i vs C _c			
Current	1.000000	-0.000011	1.000000

Average Correction Factor: 1.000

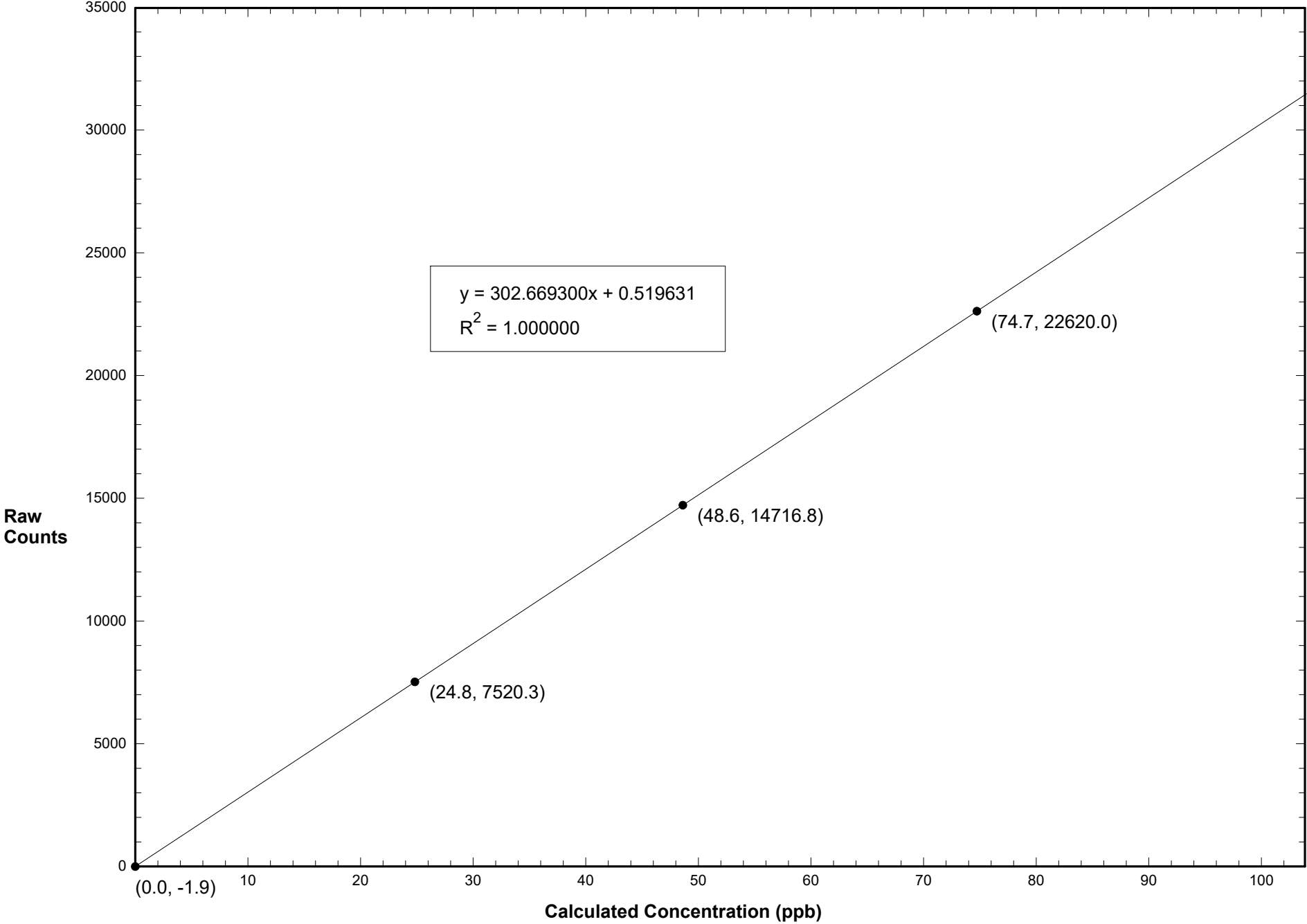
Previous Correction Factor: 1.002

Current Correction Factor: 1.000

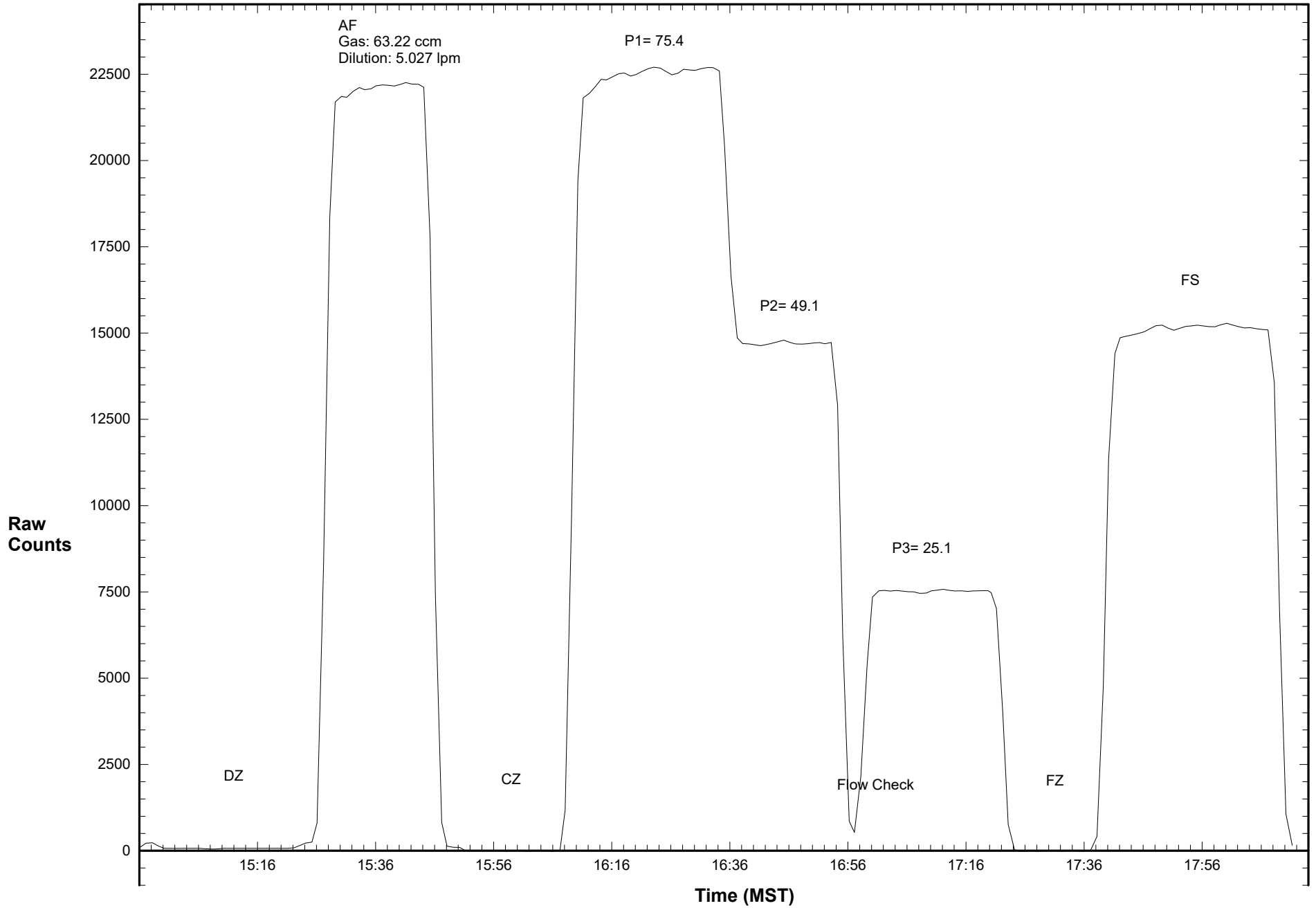
Percent Change of Correction Factor: -0.2

Comments: Sample Flow 0.416 lpm

Station 913 SO2 January 29, 2017: Linear Regression



Station 913 SO2 January 29, 2017: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 913, Breton

Calibration Date: January 29, 2017

Parameter: NO/NO₂/NO_x

Instrument: Teco 42i

Serial Number: 0708721217

Previous Calibration Date: December 5 2016

Calibration: Routine

Calibration Equipment: Sabio 2010 SN 11100113

Barometric Pressure: 26.90" Hg

Calibration Method: Standard Gas Dilution / GPT

Cylinder ID: FF27662

Temperature: 22.5° C

Cylinder Concentration: 11.9 ppm NO 12.0 ppm NO_x

In Service: June 2 2016 Exp: Jan 20 2019

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	9.2	10.2	na	1.518	1.005	0.996	200 ppb
Current	9.2	9.6	na	1.510	1.008	0.996	200 ppb

NO	Final Zero: -0.4 ppb	Final Span: 107.0 ppb	As Found Correction Factor: 0.995
NO ₂	Final Zero: 0.3 ppb	Final Span: 1.6 ppb	As Found Correction Factor: NA
NO _x	Final Zero: -0.6 ppb	Final Span: 108.1 ppb	As Found Correction Factor: 1.001

Results of Linear Regression			Slope	Intercept	R ²
NO	R _c vs C _c	Previous	150.577700	57.068580	0.999967
		Current	148.417600	63.975130	0.999946
	C _i vs C _c	Current	1.000000	0.000023	0.999945
NO ₂	R _c vs C _c	Previous	151.569400	68.771700	0.999967
		Current	149.226300	-67.402980	0.999929
	C _i vs C _c	Current	1.000000	-0.000008	0.999929
NO _x	R _c vs C _c	Previous	151.450600	43.588500	0.999967
		Current	148.188300	59.493200	0.999958
	C _i vs C _c	Current	1.000000	0.000002	0.999957

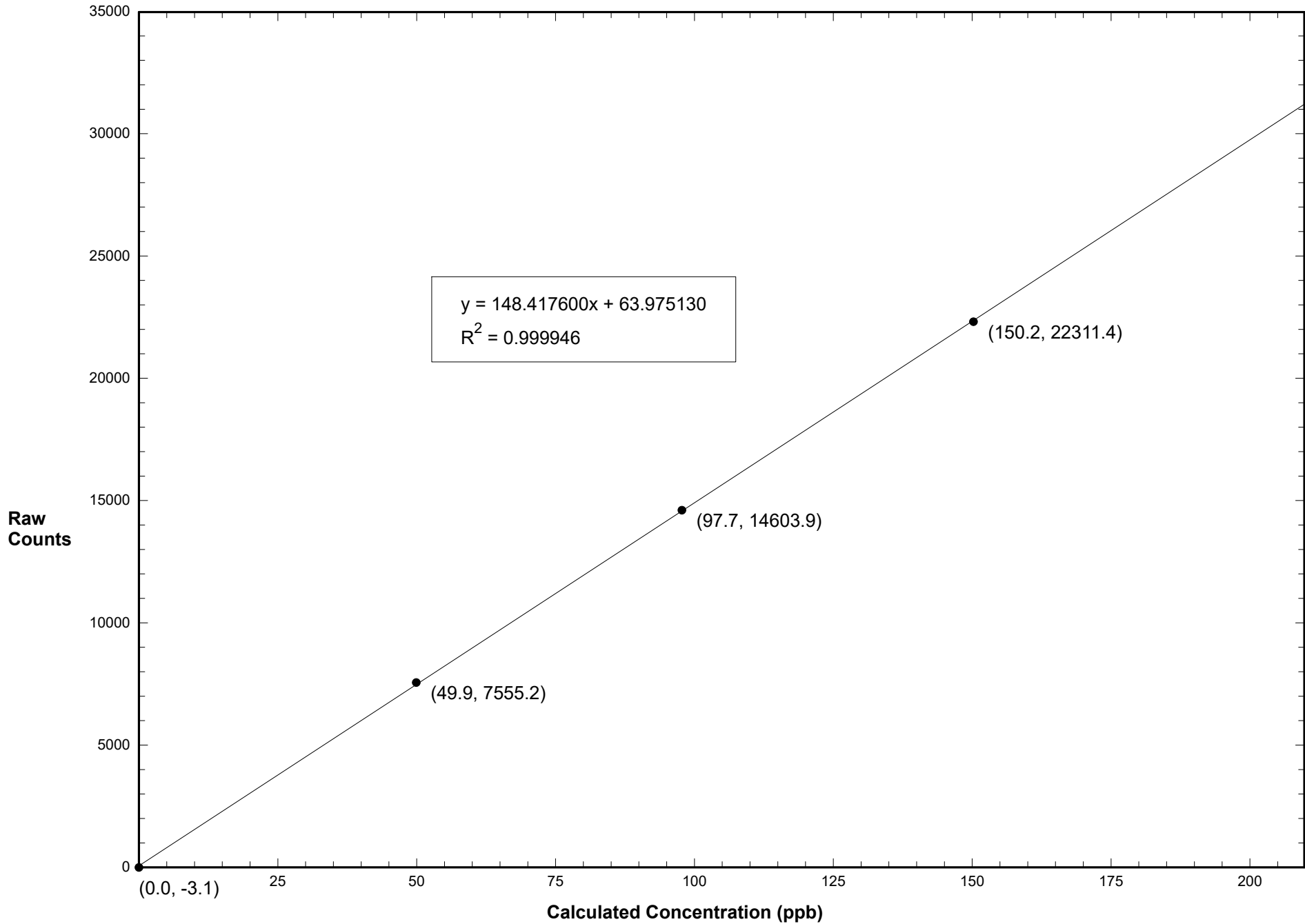
Comments: Sample Flow: 0.702 lpm

Calibration Data Summary (Page 2)

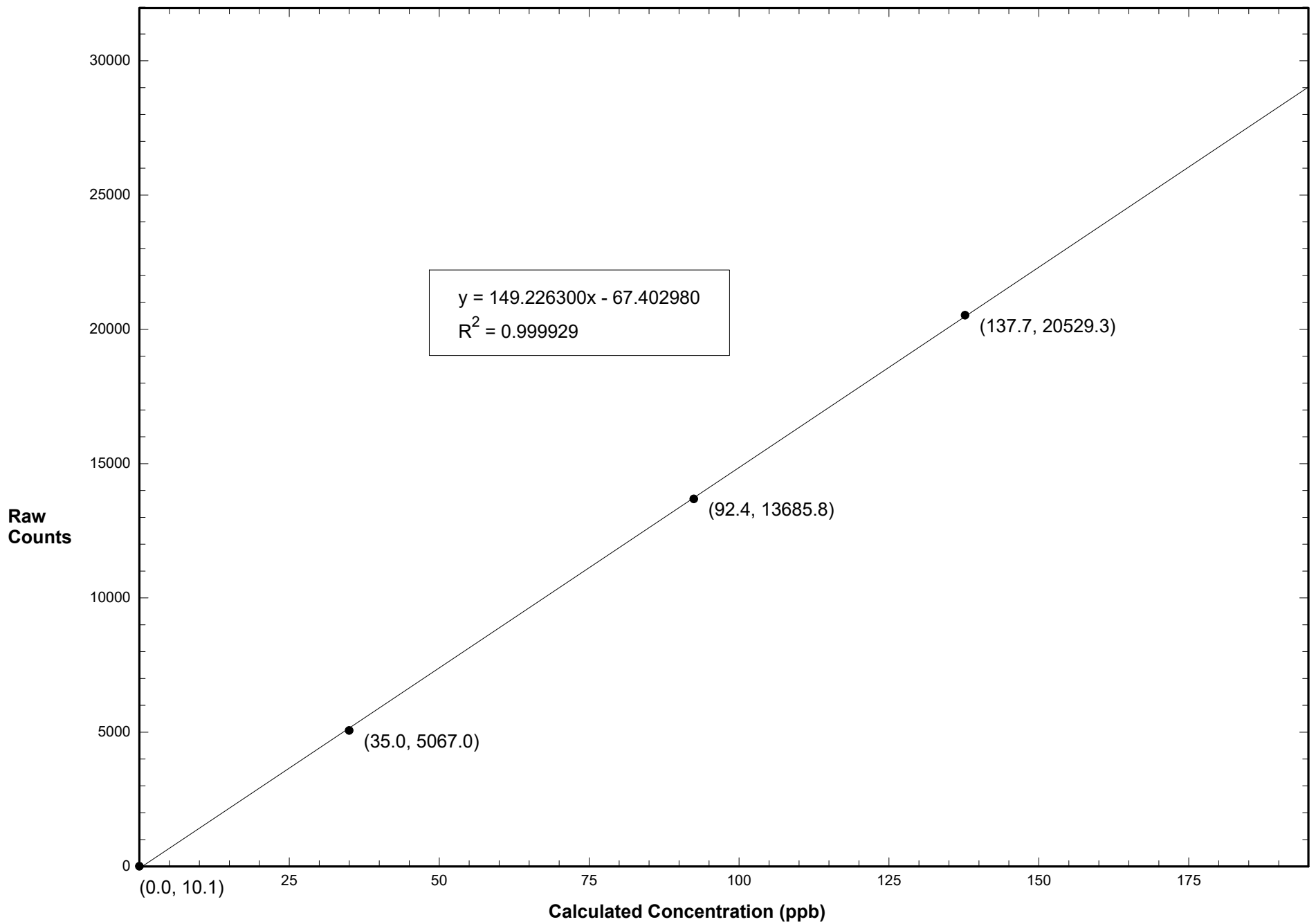
January 29, 2017 - Station 913

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		
0.06380	4.990	150.2	22311.4	149.9	1.002		
0.04136	4.994	97.7	14603.9	98.0	0.998		
0.02106	5.000	49.9	7555.2	50.5	0.989		
0.00000	5.027	0.0	-3.1	-0.5			
NO Calibration					Average Correction Factor:	0.996	
0.06380	4.990	151.5	22460.9	151.2	1.002		
0.04136	4.994	98.6	14704.2	98.8	0.997		
0.02106	5.000	50.3	7586.6	50.8	0.991		
0.00000	5.027	0.0	0.4	-0.4			
NO _x Calibration					Average Correction Factor:	0.997	
Reference Concentration NO (ppb)	Raw Count Output NO	Calculated Concentration NO (ppb)	Calculated Concentration NO ₂ , C _c (ppb)	Raw Count Output R _c	Indicated Concentration C _i (ppb)	Correction Factor C _c /C _i	Converter Efficiency C _i /C _c
151.9	2167.2	14.2	137.7	20529.3	138.0	0.998	1.002
151.9	8881.5	59.4	92.4	13685.8	92.2	1.003	0.997
151.9	17411.1	116.9	35.0	5067.0	34.4	1.017	0.984
			0.0	10.1	0.5		
					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	1.002	1.002	0.0				
NO ₂	1.002	0.998	-0.4				
NO _x	1.001	1.002	0.1				

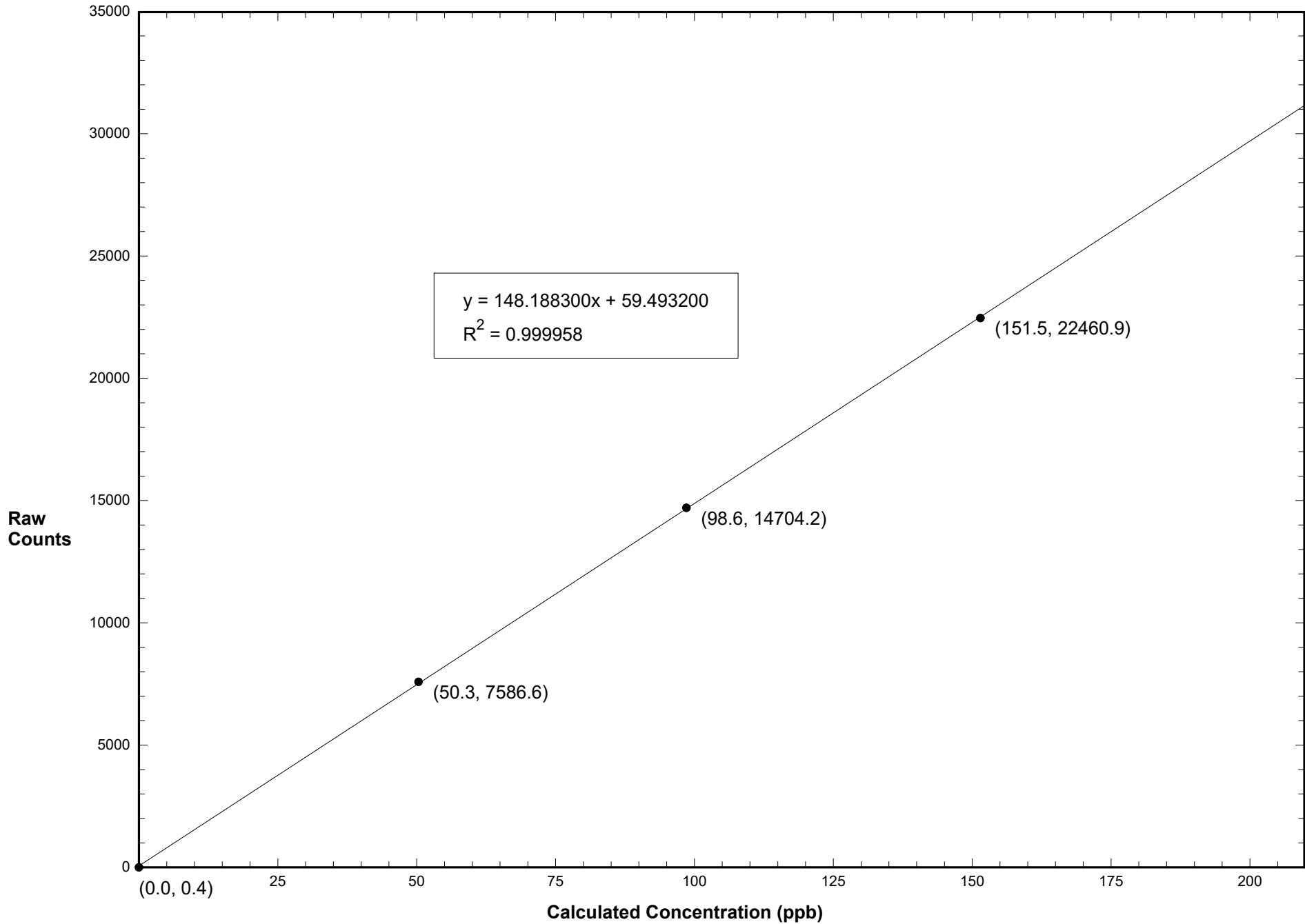
Station 913 NO January 29, 2017: Linear Regression



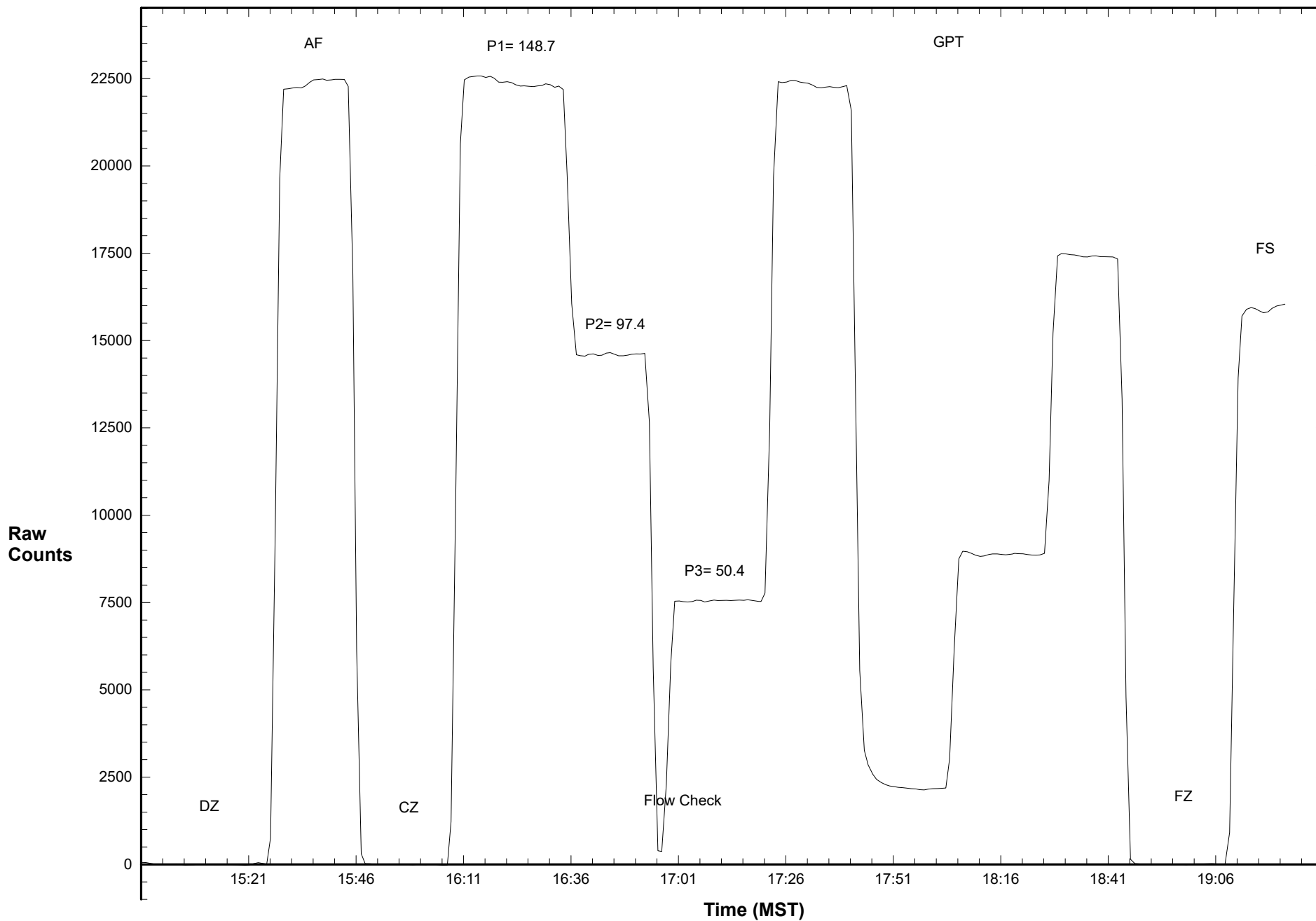
Station 913 NO2 January 29, 2017: Linear Regression



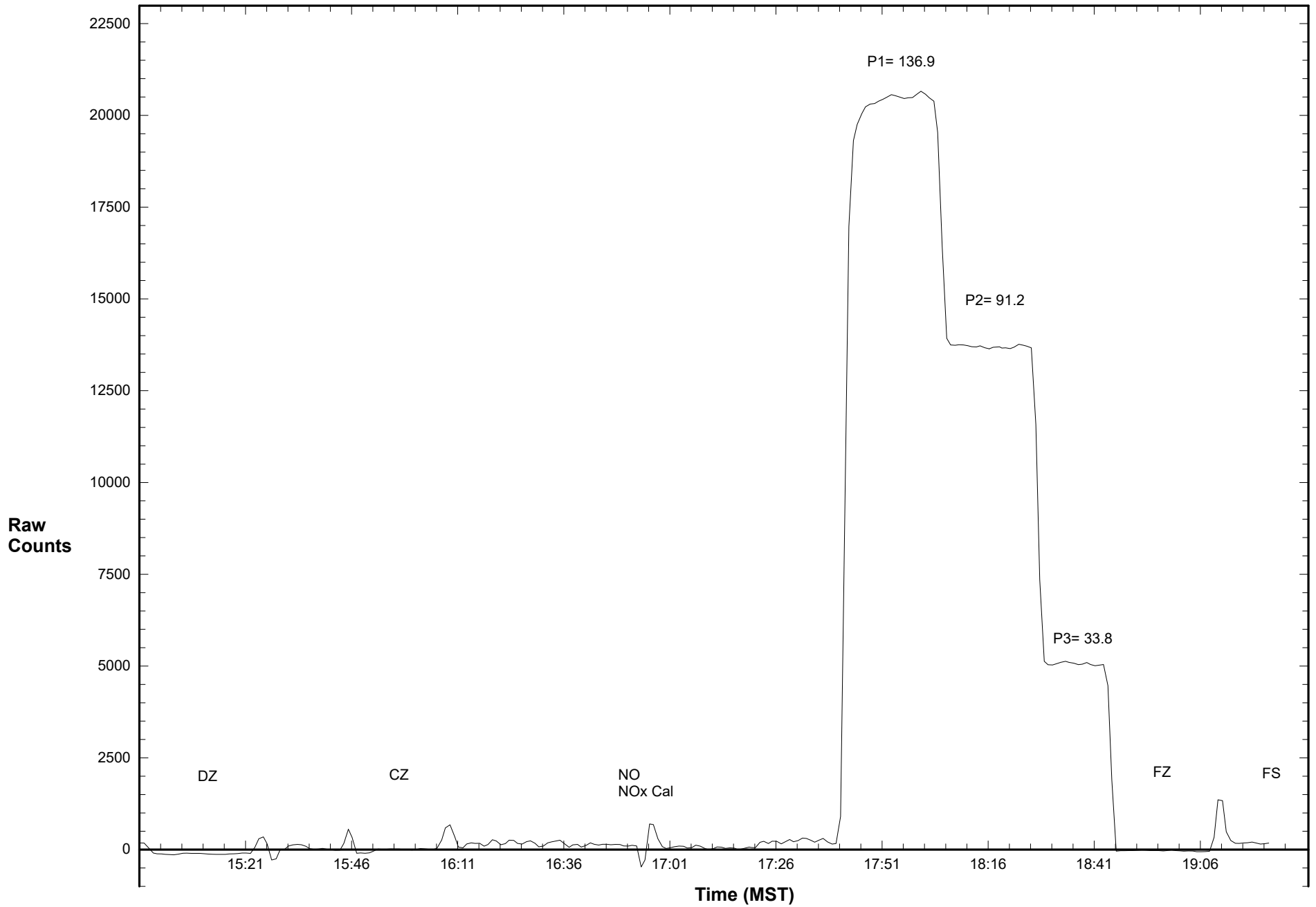
Station 913 NOX January 29, 2017: Linear Regression



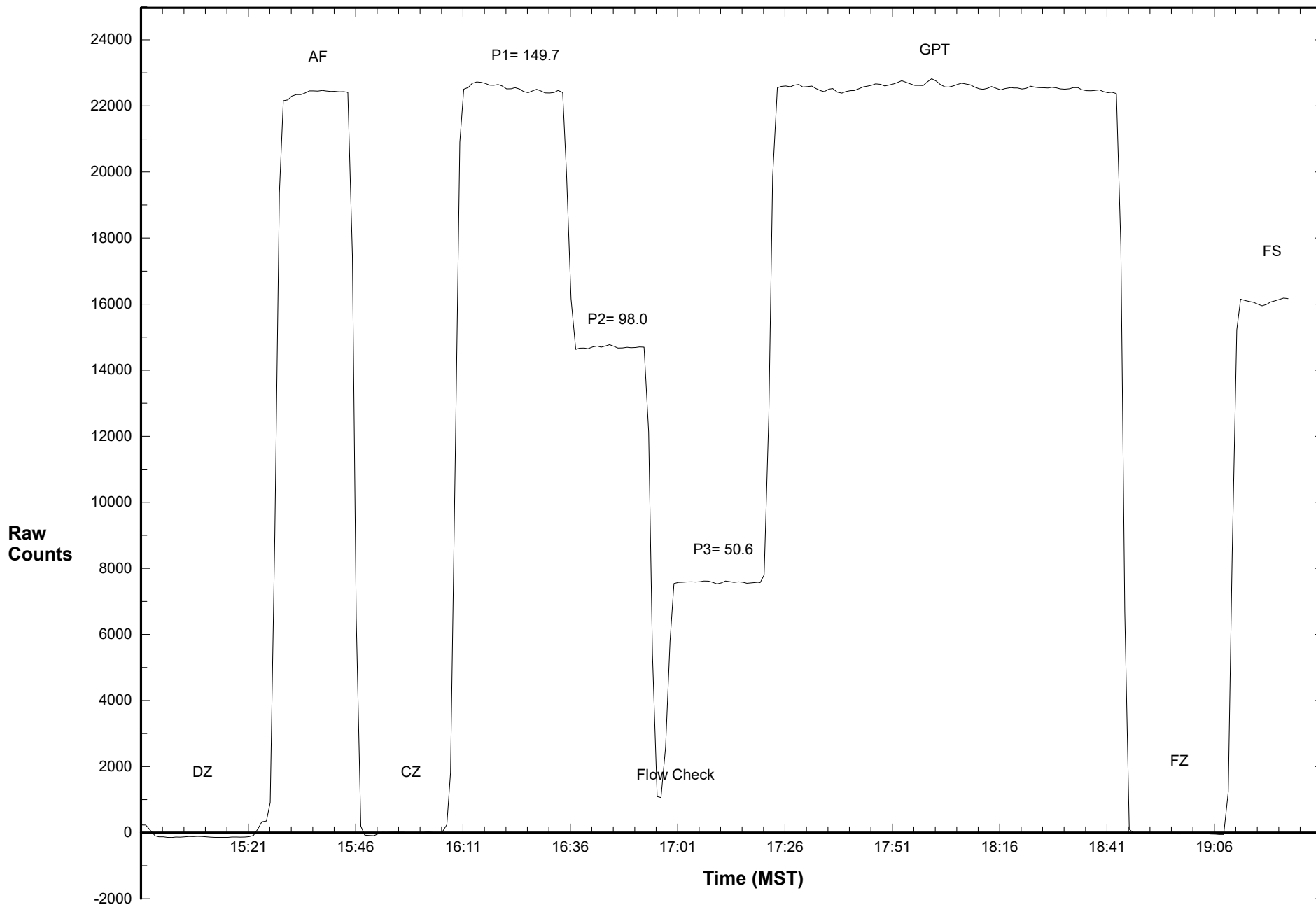
Station 913 NO January 29, 2017: Calibration Graph



Station 913 NO2 January 29, 2017: Calibration Graph



Station 913 NOX January 29, 2017: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 913, Breton

Calibration Date: January 29, 2017

Parameter: O₃

Instrument: Teco 49i

Serial Number: 1106047298

Previous Calibration Date: December 5 2016

Calibration: Routine

Calibration Equipment: 2B model 306 SN-135

Barometric Pressure: 26.90" Hg

Calibration Method: Certified Ozone Generator

Temperature: 22.5° C

Technician: Dean Yustak

Instrument Settings	Background	Coefficient	Monitoring Range
Previous	0.995	-0.1	500 ppb
Current	1.015	0.1	500 ppb

Final Zero: -0.5 ppb

Final Span: 210.6 ppb

As Found Correction Factor: 1.012

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	24118.7	403.4	0.999
3.000	254.0	15126.9	252.8	1.005
3.000	100.1	6095.0	101.5	0.987
3.000	0.0	4.5	-0.6	

Results of Linear Regression

R _c vs C _c	Slope	Intercept	R ²
Previous	59.927450	65.915830	0.999971
Current	59.688060	38.817320	0.999959
C _i vs C _c			
Current	1.000000	0.000000	0.999959

Average Correction Factor: 0.997

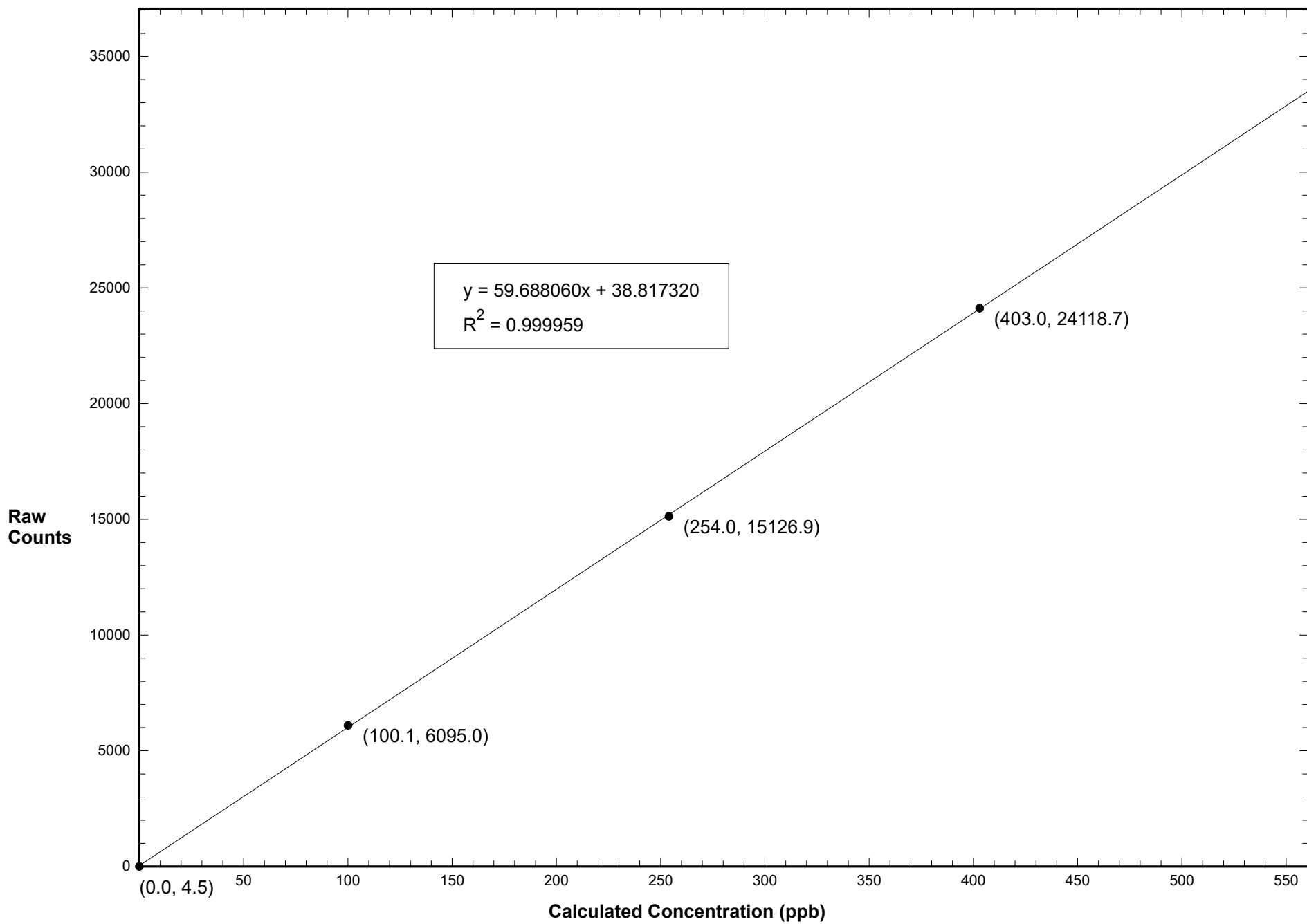
Previous Correction Factor: 1.001

Current Correction Factor: 0.999

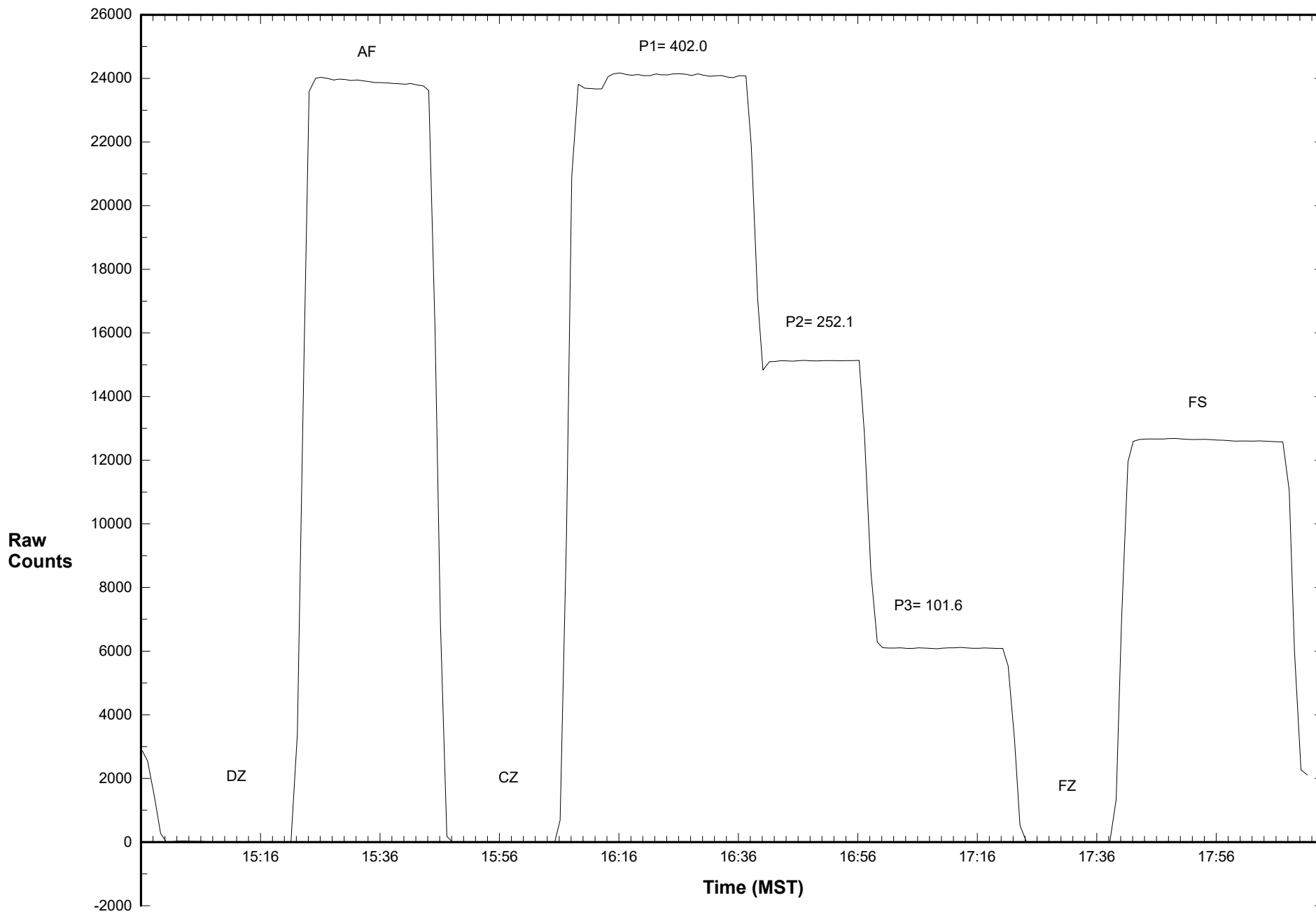
Percent Change of Correction Factor: -0.2

Comments:

Station 913 O3 January 29, 2017: Linear Regression



Station 913 O3 January 29, 2017: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 915, Hinton West

Calibration Date: January 24, 2017

Parameter: H₂S

Instrument: TECO 43CTL

Serial Number: 43CTL-61218-330

Previous Calibration Date: December 9, 2016

Calibration: Routine

Calibration Equipment: SABIO 2010 #05200311

Barometric Pressure: 26.49" Hg

Calibration Method: Standard Gas Dilution

Permeation Device ID: DT0014794 10.5 ppm H₂S

Temperature: 21.0° C

Permeation Rate: 0 ng/min

In Service: Oct.21/16: Exp.Oct.4/19

Technician: J.McClintock

Instrument Settings

H₂S bkg ppb

H₂S Coefficient

Monitoring Range

Previous

7.35

1.213

200 ppb

Current

6.58

1.170

200 ppb

Final Zero: 0.1 ppb

Final Span: 127.6 ppb

As Found Correction Factor: 0.971

Calibration
System Flow
Rate (LPM)

Calculated
Concentration
C_c (ppb)

Raw Count
Output
R_c

Indicated
Concentration
C_i (ppb)

Correction
Factor
C_c/C_i

0.076

156.0

23516.9

155.8

1.001

0.051

104.8

15851.7

105.0

0.997

0.026

53.1

8012.6

53.1

1.000

0.000

0.0

-19.0

-0.1

Results of Linear Regression

R_c vs C_c

Slope

Intercept

R²

Previous

150.837600

-9.464446

0.999867

Current

150.981100

-8.088612

0.999992

C_i vs C_c

Current

1.000000

0.000001

0.999992

Average Correction Factor:

1.000

Previous Correction Factor:

1.002

Current Correction Factor:

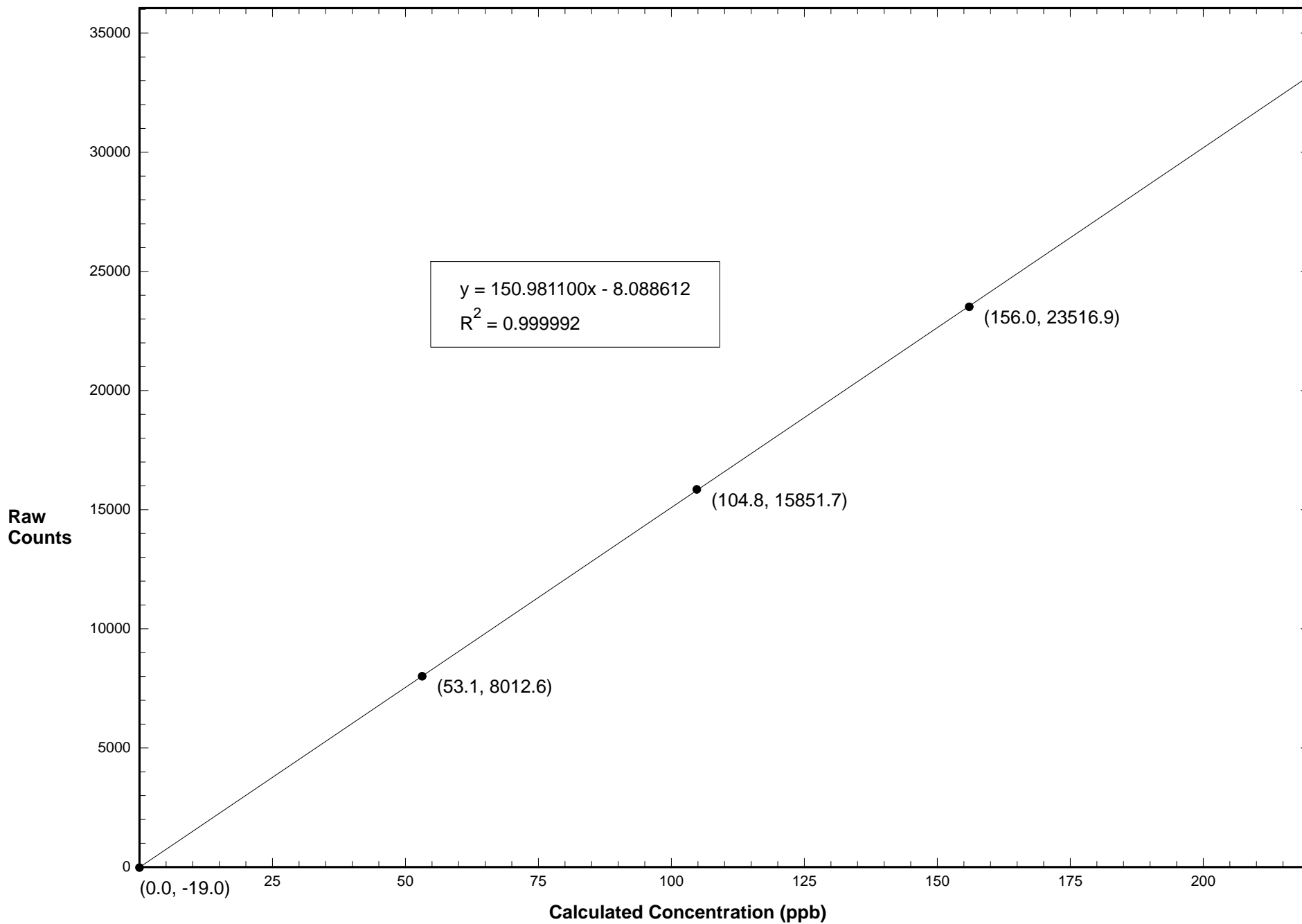
1.001

Percent Change of
Correction Factor:

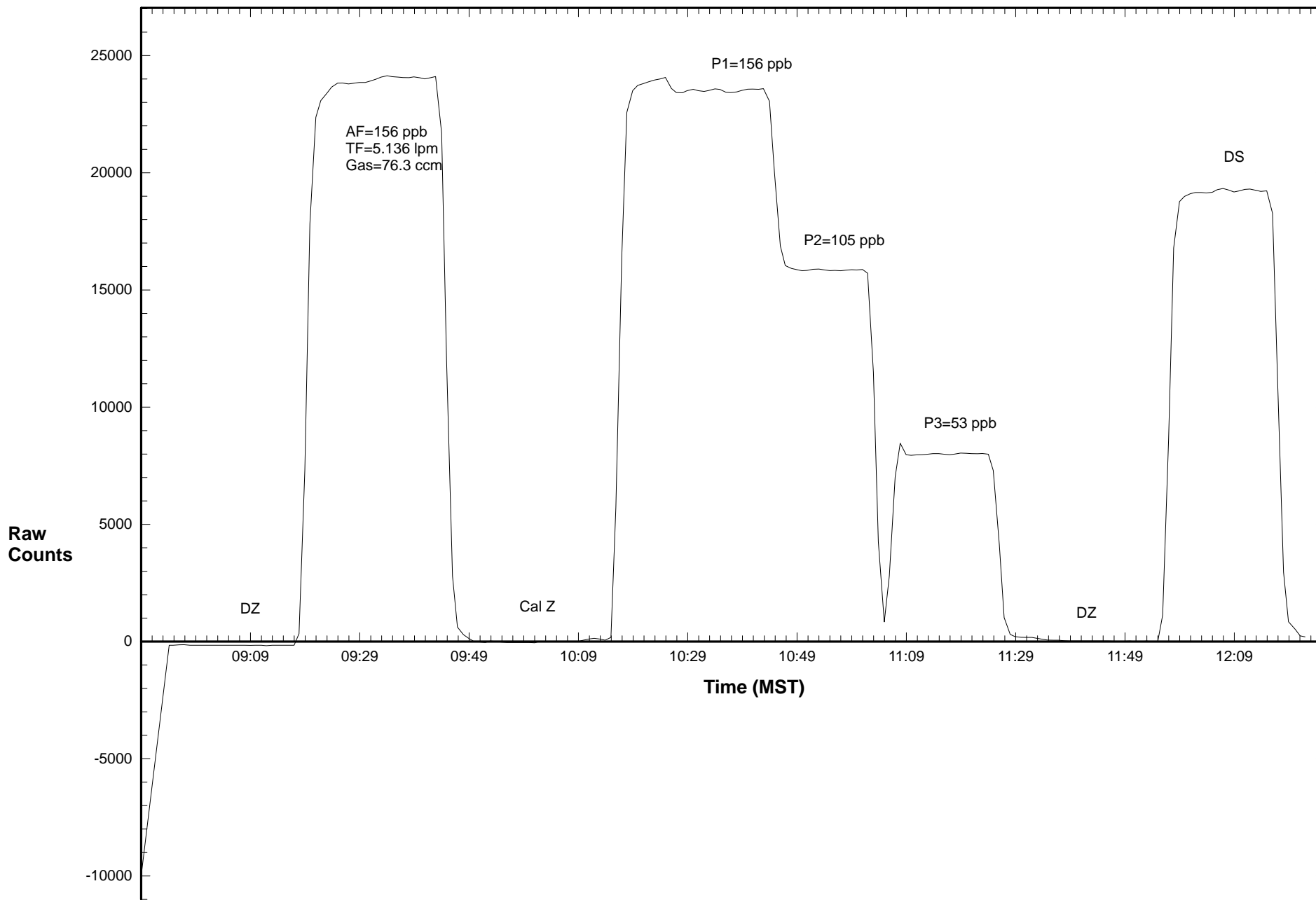
-0.1

Comments: Sample Flow= 0.393 lpm

Station 915 H2S January 24, 2017: Linear Regression



Station 915 H2S January 24, 2017: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 915, Hinton West

Calibration Date: January 24, 2017

Parameter: NO/NO₂/NO_x

Instrument: TECO 42C

Serial Number: 42C-78596-389

Previous Calibration Date: December 9, 2016

Calibration: Routine

Calibration Equipment: SABIO 2010 #05200311

Barometric Pressure: 26.49" Hg

Calibration Method: Standard Gas Dilution/GPT

Cylinder ID: FF27716

Temperature: 22.0° C

Cylinder Concentration: 12.0 ppm NO/NO_x

In Service: June6/16 Exp. Jan 20/19

Technician: J.McClintock

Instrument Settings	NO bkg ppb	NO _x bkg ppb	Pre-reactor bkg ppb	NO Coefficient	NO _x Coefficient	NO ₂ Coefficient	Monitoring Range
Previous	5.72	6.72	5.65	1.289	1.092	1.000	200 ppb
Current	7.84	8.16	7.72	1.419	1.016	1.000	200 ppb

NO	Final Zero: -0.1 ppb	Final Span: 166.4 ppb	As Found Correction Factor: 1.099
NO ₂	Final Zero: -0.4 ppb	Final Span: 0.1 ppb	As Found Correction Factor: 1.010
NO _x	Final Zero: -0.1 ppb	Final Span: 166.5 ppb	As Found Correction Factor: 1.106

Results of Linear Regression			Slope	Intercept	R ²
NO	R _c vs C _c	Previous	150.591400	-75.269320	0.999865
		Current	150.732800	22.460510	0.999980
	C _i vs C _c	Current	1.000000	-0.000021	0.999980
NO ₂	R _c vs C _c	Previous	152.433600	80.899240	0.999865
		Current	150.884000	18.541500	0.999973
	C _i vs C _c	Current	1.000000	-0.000021	0.999974
NO _x	R _c vs C _c	Previous	151.121100	119.062100	0.999865
		Current	150.469600	51.168130	0.999987
	C _i vs C _c	Current	1.000000	0.000000	0.999987

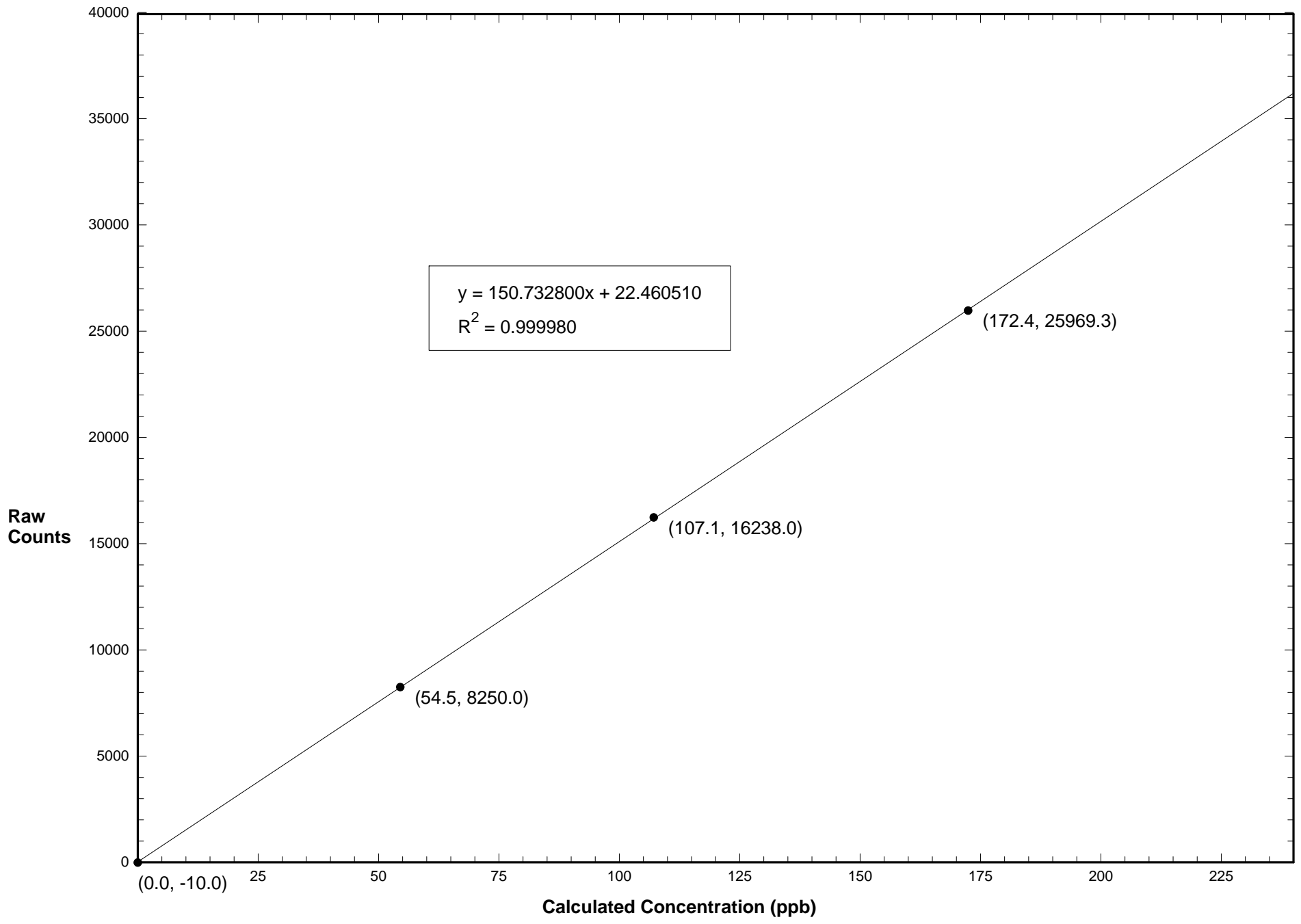
Comments: Sample Flow = 1.041lpm

Calibration Data Summary (Page 2)

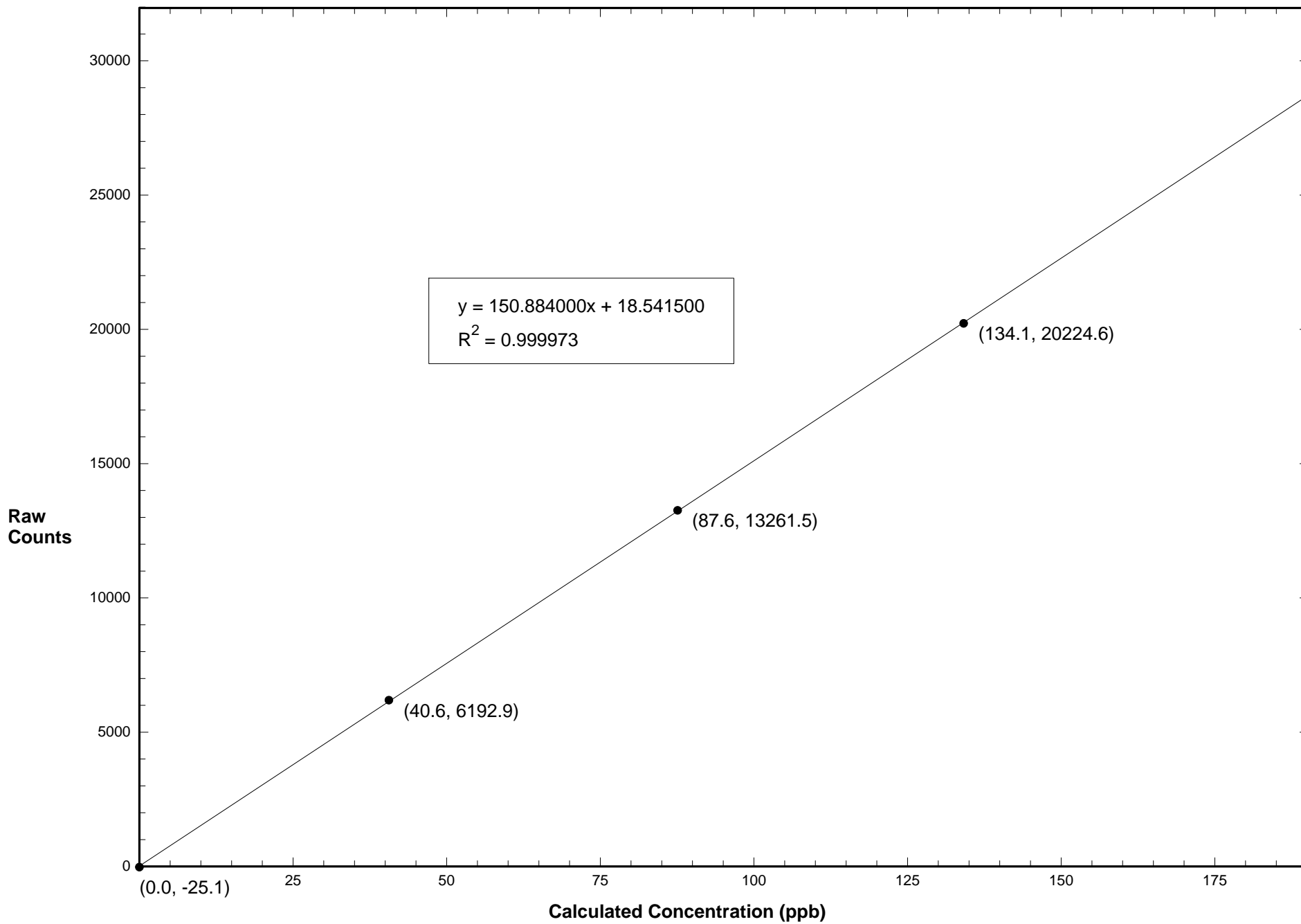
January 24, 2017 - Station 915

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		
0.06630	4.548	172.4	25969.3	172.1	1.002		
0.04100	4.551	107.1	16238.0	107.6	0.996		
0.02075	4.547	54.5	8250.0	54.6	0.999		
0.00000	4.500	0.0	-10.0	-0.2			
NO Calibration					Average Correction Factor:	0.999	
0.06630	4.548	172.4	25964.2	172.2	1.001		
0.04100	4.551	107.1	16231.0	107.5	0.996		
0.02075	4.547	54.5	8242.5	54.4	1.001		
0.00000	4.500	0.0	36.5	-0.1			
NO _x Calibration					Average Correction Factor:	1.000	
Reference Concentration NO (ppb)	Raw Count Output NO	Calculated Concentration NO (ppb)	Calculated Concentration NO ₂ , C _c (ppb)	Raw Count Output R _c	Indicated Concentration C _i (ppb)	Correction Factor C _c /C _i	Converter Efficiency C _i /C _c
171.6	5664.2	37.4	134.1	20224.6	133.9	1.002	0.998
171.6	12681.2	84.0	87.6	13261.5	87.8	0.998	1.002
171.6	19763.4	131.0	40.6	6192.9	40.9	0.992	1.008
			0.0	-25.1	-0.3		
					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	1.007	1.002	-0.5				
NO ₂	0.996	1.002	0.6				
NO _x	0.997	1.001	0.4				

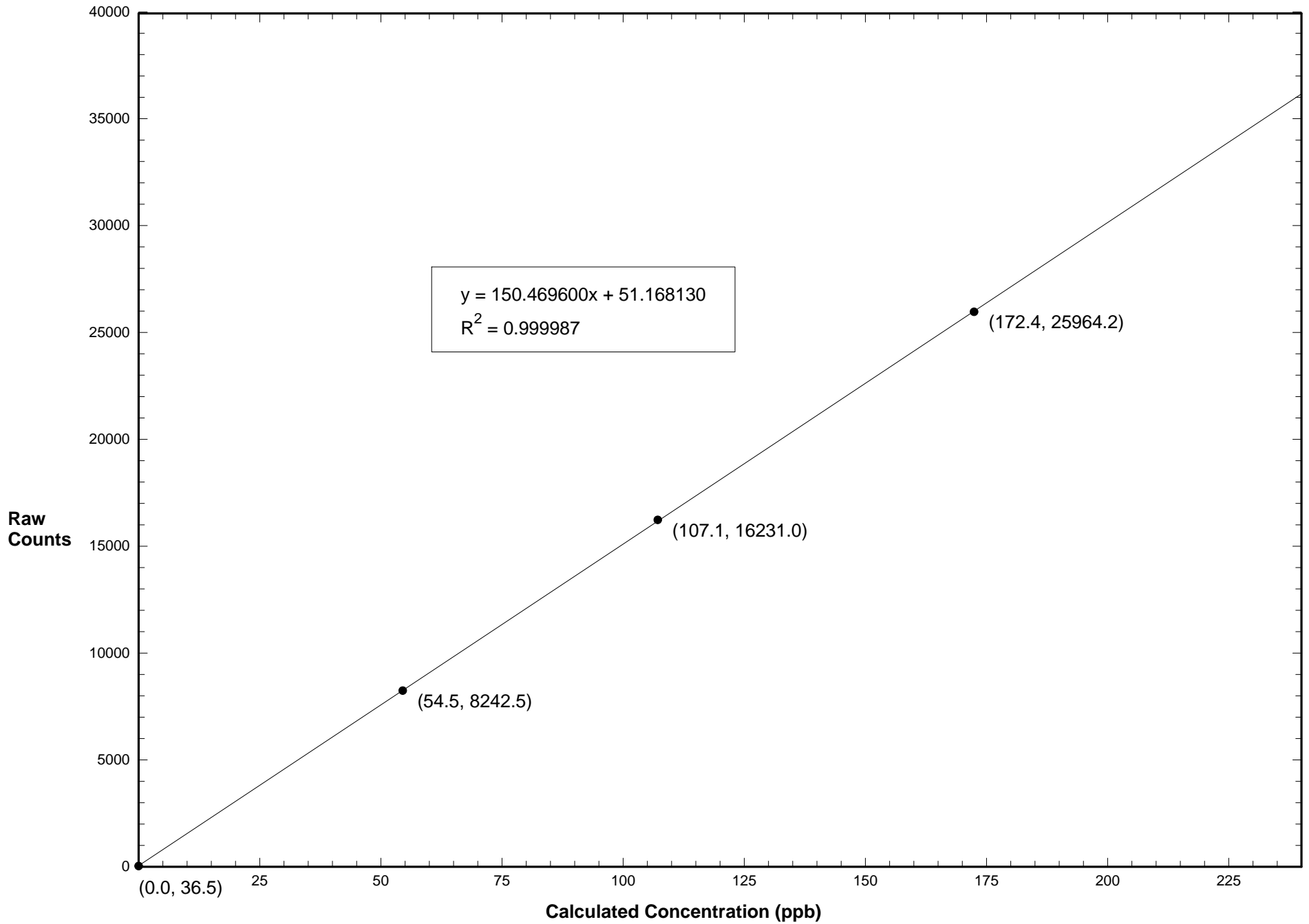
Station 915 NO January 24, 2017: Linear Regression



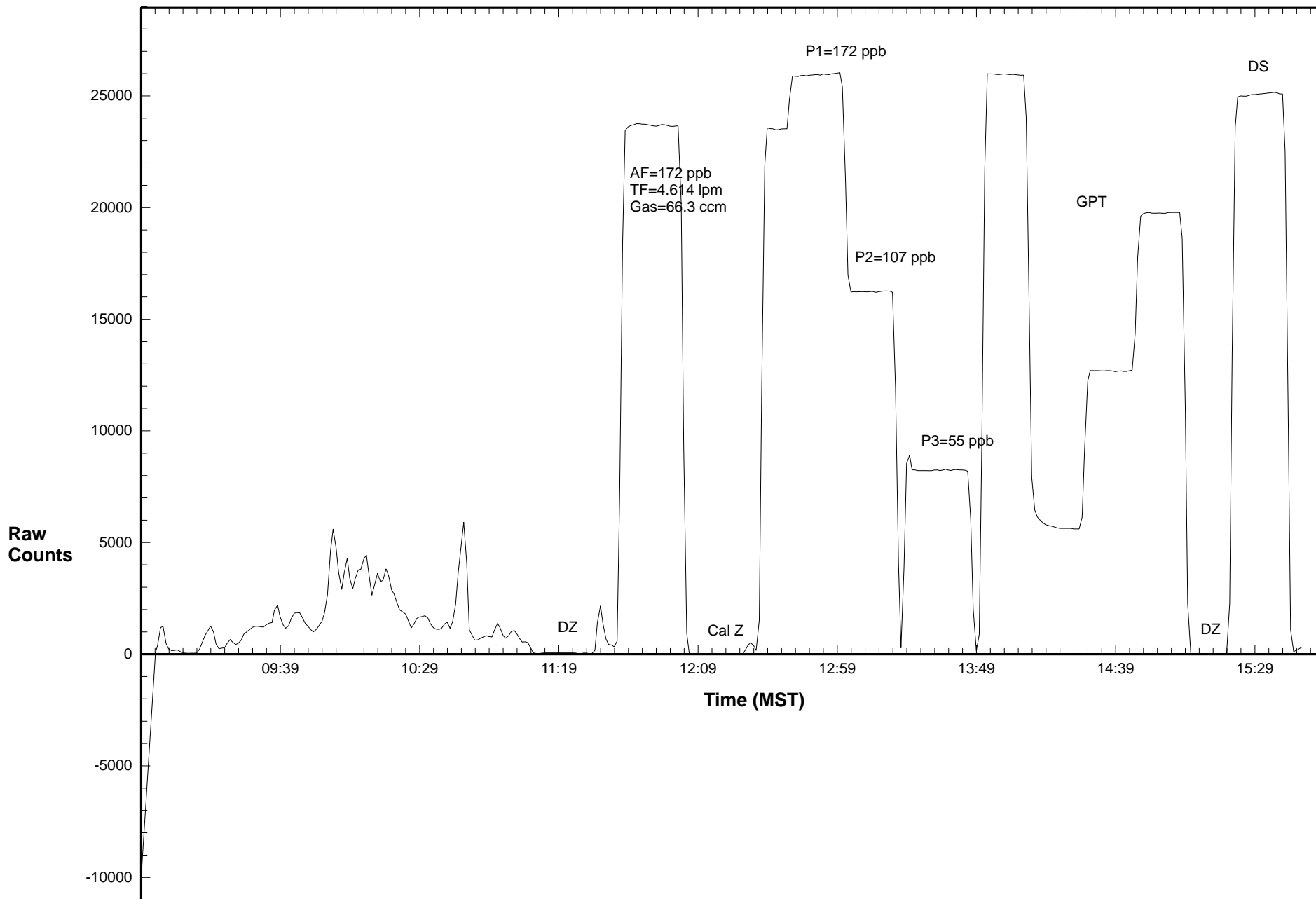
Station 915 NO2 January 24, 2017: Linear Regression



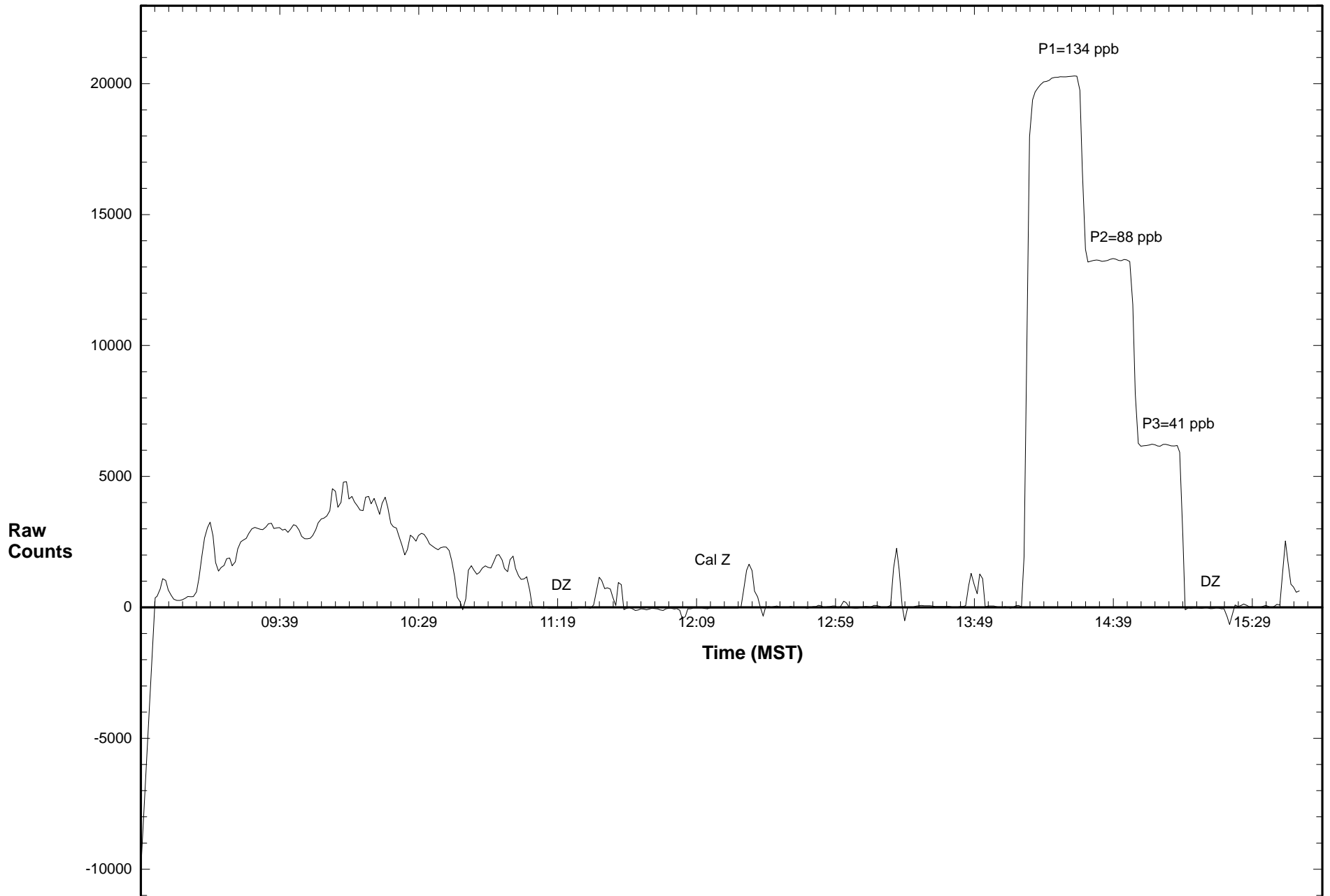
Station 915 NOX January 24, 2017: Linear Regression



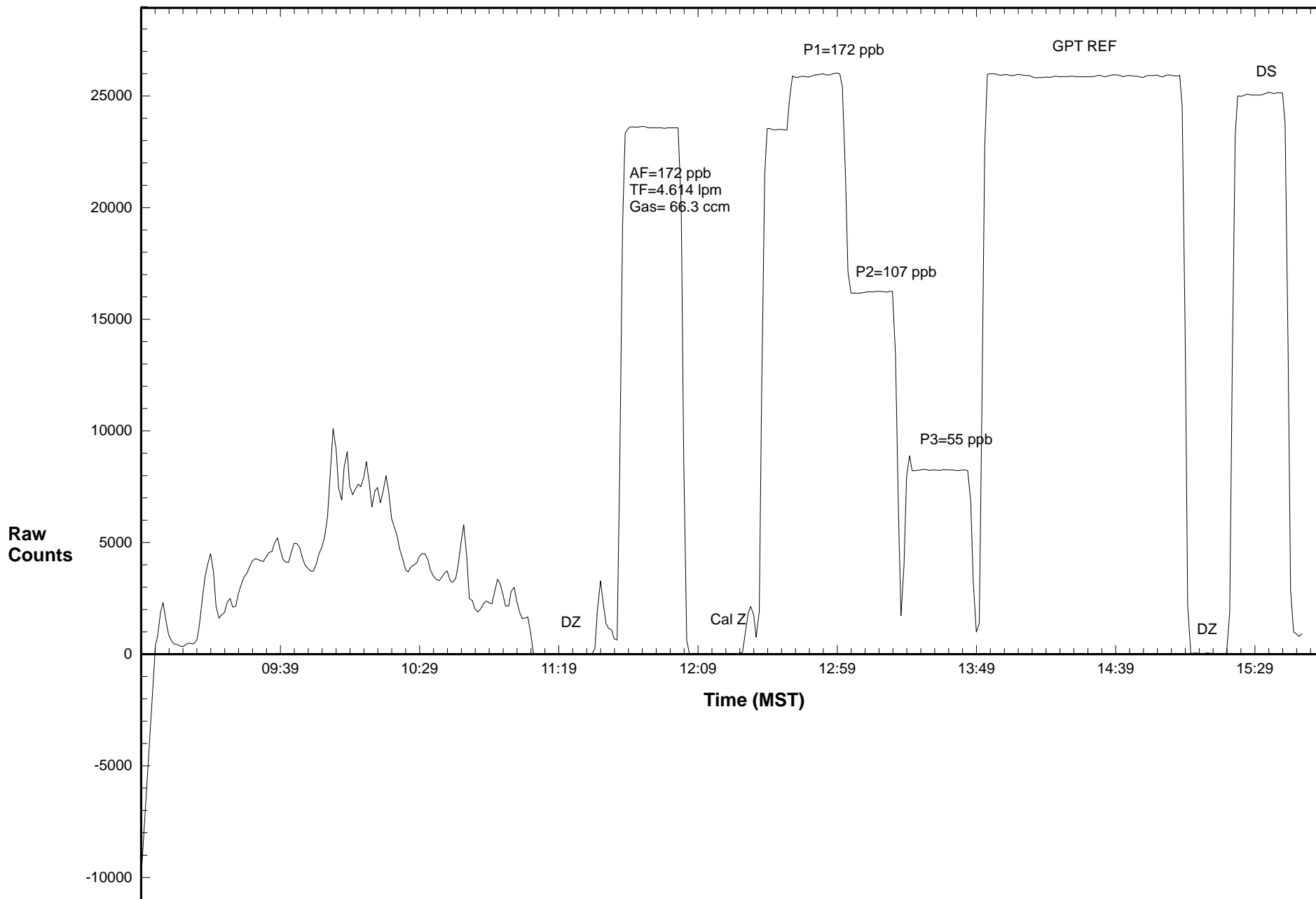
Station 915 NO January 24, 2017: Calibration Graph



Station 915 NO2 January 24, 2017: Calibration Graph



Station 915 NOX January 24, 2017: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 915, Hinton West

Calibration Date: January 24, 2017

Parameter: O₃

Instrument: TECO 49C

Serial Number: 49C-53975-298

Previous Calibration Date: December 9, 2016

Calibration: Routine

Calibration Equipment: 2B Tech Model 306 #145

Barometric Pressure: 26.49" Hg

Calibration Method: Certified Ozone Generator April 1,2016

Temperature: 21.0° C

Technician: J.McClintock

Instrument Settings	Background	Coefficient	Monitoring Range
Previous	-0.2	1.085	500 ppb
Current	-0.3	1.060	500 ppb

Final Zero: 0.0 ppb

Final Span: 363.8 ppb

As Found Correction Factor: 0.966

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	409.0	24570.5	408.5	1.001
3.000	256.0	15458.5	256.8	0.997
3.000	102.0	6157.5	102.0	1.000
3.000	0.0	5.1	-0.3	

Results of Linear Regression

R _c vs C _c	Slope	Intercept	R ²
Previous	60.128310	52.985710	0.999991
Current	60.089550	25.728620	0.999989
C _i vs C _c			
Current	1.000000	-0.000039	0.999988

Average Correction Factor: 0.999

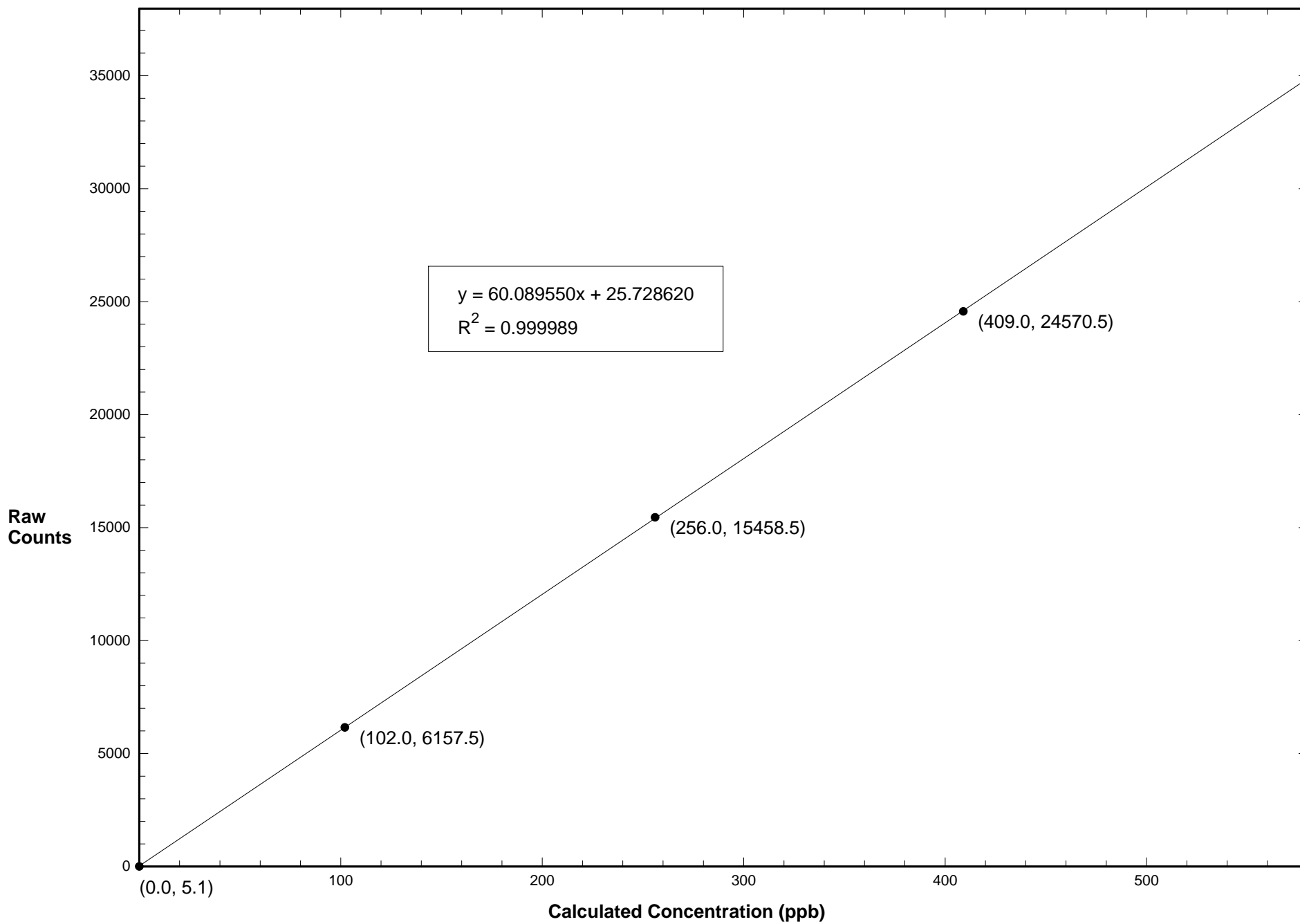
Previous Correction Factor: 1.000

Current Correction Factor: 1.001

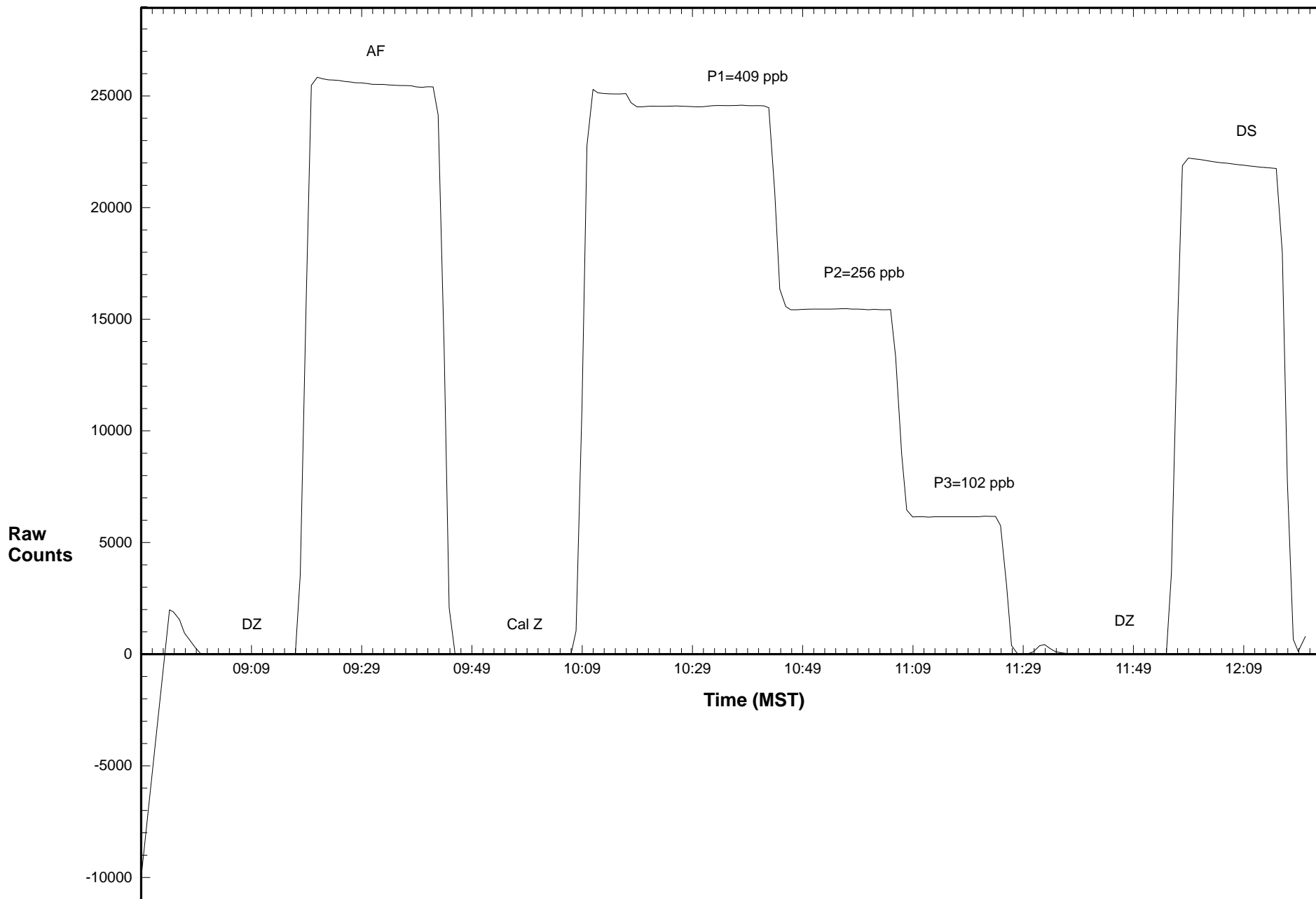
Percent Change of Correction Factor: 0.1

Comments: Sample Flow = 1.121 lpm

Station 915 O3 January 24, 2017: Linear Regression



Station 915 O3 January 24, 2017: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 915, Hinton West

Calibration Date: January 24, 2017

Parameter: SO₂

Instrument: TECO 43CTL

Serial Number: 43CTL-78655-389

Previous Calibration Date: December 9, 2016

Calibration: Routine

Calibration Equipment: SABIO 2010 #05200311

Barometric Pressure: 26.49" Hg

Calibration Method: Standard Gas Dilution

Cylinder ID: FF27716

Temperature: 22.0° C

Cylinder Concentration: 5.8 ppm SO₂

In Service: June6/16 Exp. Jan 20/19

Technician: J.McClintock

Instrument Settings	SO ₂ bkg ppb	SO ₂ Coefficient	Monitoring Range
Previous	4.73	1.282	100 ppb
Current	3.77	1.246	100 ppb

Final Zero: 0.3 ppm

Final Span: 81.4 ppm

As Found Correction Factor: 0.974

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
0.0663	4.548	83.3	25026.2	83.4	0.999
0.0410	4.551	51.8	15491.6	51.7	1.001
0.0208	4.547	26.3	7786.1	26.1	1.008
0.0000	4.500	0.0	-28.9	0.2	

Results of Linear Regression

R _c vs C _c	Slope	Intercept	R ²
Previous	299.765700	-77.199840	0.999978
Current	300.875200	-77.130790	0.999978
C _i vs C _c			
Current	1.000000	0.000000	0.999979

Average Correction Factor: 1.003

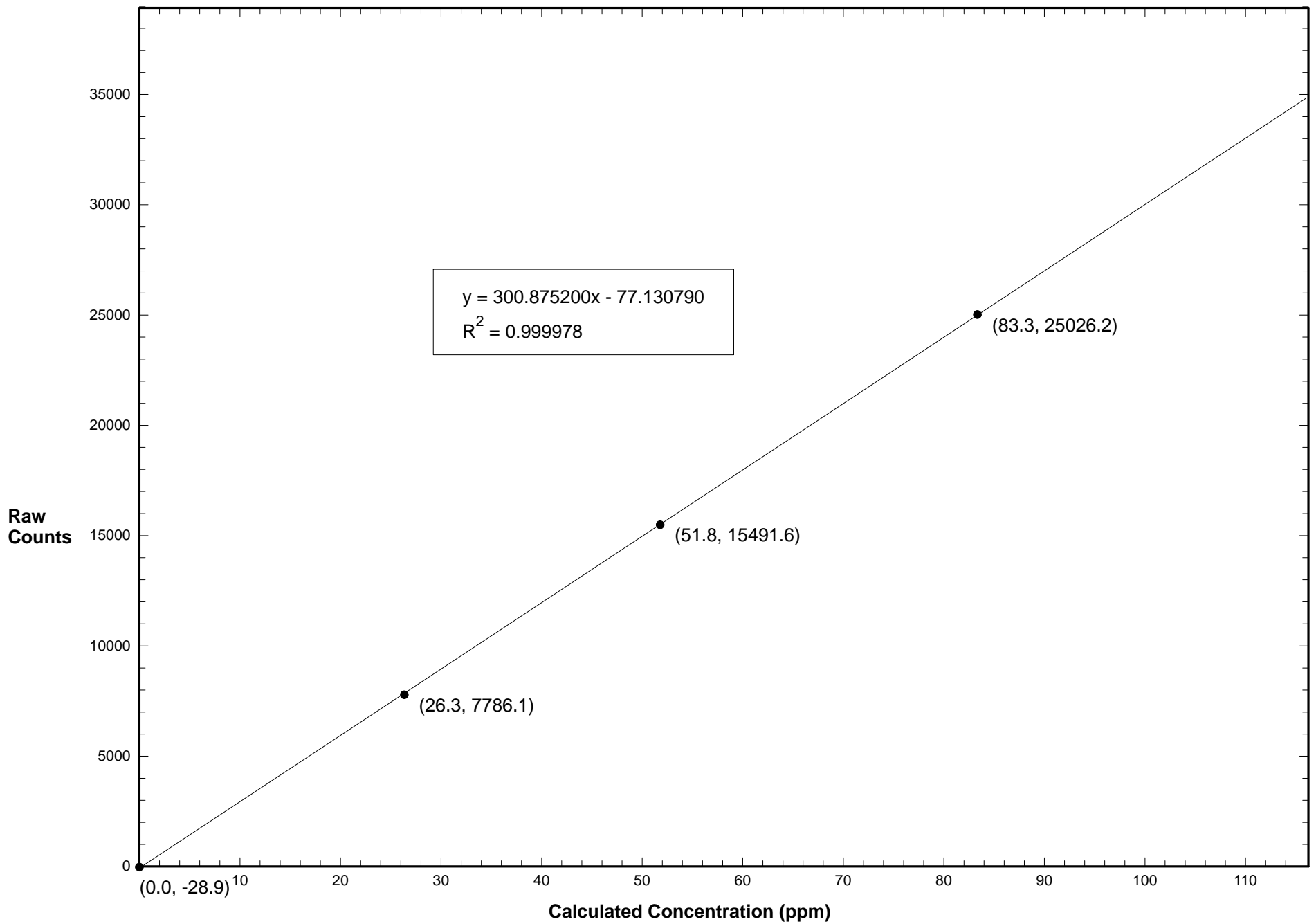
Previous Correction Factor: 1.000

Current Correction Factor: 0.999

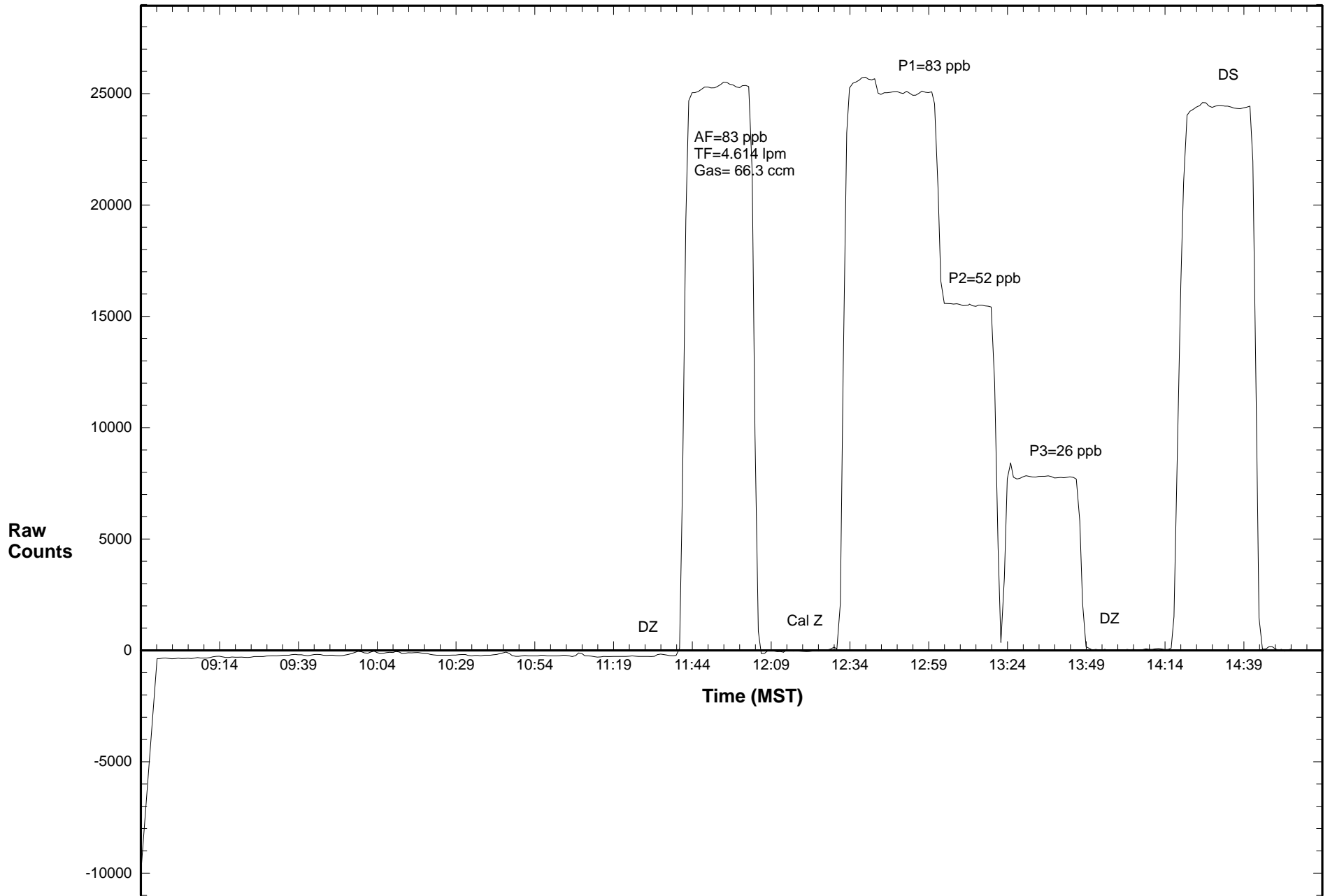
Percent Change of Correction Factor: -0.1

Comments: Sample Flow =0.396 lpm

Station 915 SO2 January 24, 2017: Linear Regression



Station 915 SO2 January 24, 2017: Calibration Graph



WEST CENTRAL AIRSHED SOCIETY

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

**END OF REPORT
JANUARY 2017**